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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*ISCJB **01** 00:00:03.4±0.2,5048N±001×731E±002,h8km±2km,Error ellipse: s-maj=2.2km s-min=2.1km az=127.9*
*BGR **01** 00:00:05.9±0.2,5053N×727E,h5km,ML2.2/5,Error ellipse: s-maj=3.3km s-min=2.2km az=132.0*
*CSEM **01** 00:00:06.2±0.1,5051N×721E,h4km,ML2.9/13,Error ellipse: s-maj=1.4km s-min=1.0km az=80.0*
*UCC **01** 00:00:06.7±0.9,5048N×7.16E,h13km±3km,ML2.2*
*BNS **01** 00:00:06.2±1.1,5052N×723E,h3km,ML2.0*
*LDG **01** 00:00:06.1±0.1,5051N×723E,h4km,Md2.9/1,Ml2.9/16, Error ellipse: s-maj=1.2km s-min=0.7km az=82.0*
*NEIC **01** 00:00:06.1,5051N×723E,h4km,ML2.9(LDG),After LDG.*
*STR **01** 00:00:11.1±0.5,5024N×753E,h10km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 01 00:00:05.0±0.2,**5050N**±001×**724E**±002,**h12**km±2km,**n92**, σ1.**07**/179,**11C-1D,Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STB	Steinbach	0.27	291⇑	ePg	Pg	00 00 11.4	+0.7
STB				eSg	Sg	00 00 14.7	+0.2
	336nm,0.5s						
BGG	Burgeitz	0.30	168⇑	ePg	Pg	00 00 12.7	+1.6
BGG				eSg	Sg	00 00 16.8	+1.5
	100nm,0.2s						
HILG	Hillesheim	0.41	240⇓	ePg	Pg	00 00 14.3	+1.0
HILG				eSg	Sg	00 00 19.7	+0.9
	153nm,0.4s						
BNS	Bensberg	0.47	355	ePg	Pg	00 00 14.8	+0.6
BNS				eSg	Sg	00 00 20.5	0.0
	491nm,0.2s						
HOBG	Hohbusch	0.49	7⇑	ePg	Pg	00 00 15.1	+0.5
HOBG				eSg	Sg	00 00 20.8	-0.3
	182nm,0.1s						
KLL	Kalltalsperre	0.61	284⇑	ePg	Pg	00 00 17.1	+0.2
KLL				eSg	Sg	00 00 26.2	+1.2
	54nm,0.6s						
DREG	Dreilaegerbach	0.66	285	ePg	Pg	00 00 18.5	+0.6
DREG				eSg	Sg	00 00 27.8	+1.1
	101nm,0.3s						
MEM	Membach	0.80	278	⇑P	Pg	00 00 20.6	+0.2
MEM				S	Sg	00 00 29.9	-0.9
RUP	Ruppelstein	0.81	188	ePg	Pg	00 00 21.6	+1.0
	SNR=4.2						
RUP	Ruppelstein	0.81	188	Pg	Pg	00 00 21.6	+1.0
	SNR=4.2						
RUP				Sg	Sg	00 00 32.5	+1.3
TNS	Taunus Mts	0.82	109	ePg	Pg	00 00 21.9	+1.1
	SNR=26						
TNS				eSg	Sg	00 00 31.4	-0.2
	SNR=3.4						
TNS	Taunus Mts	0.82	109	Pg	Pg	00 00 21.9	+1.0
	SNR=26						
TNS				Sg	Sg	00 00 31.4	-0.2
	SNR=3.4						
LAUG	Laupendahl	0.87	348⇑	ePg	Pg	00 00 22.6	+0.7
LAUG				eSg	Sg	00 00 34.2	+0.9
HGN	Heimansgroeve	0.88	288	ePg	Pg	00 00 22.2	+0.3
	11nm,0.1s,baz=90						
HGN				eSg	Sg	00 00 32.6	-0.8
RODG	Roetgen-Dahlhe	0.93	314	ePg	Pg	00 00 24.2	+1.2
BUG	Bochum--Univer	0.94	1	ePg	Pg	00 00 23.6	+0.4
	SNR=5.9						
BUG				eSg	Sg	00 00 35.8	+0.3
	SNR=12						
BEBN	Eben Emael	1.04	287	⇑P	Pb	00 00 25.4	+0.6
BEBN				S	Sb	00 00 36.6	-1.9
	comp=E,31nm,0.3s						
WLF	Walferdange	1.09	220	ePg	Pg	00 00 26.3	+0.3
	SNR=12						
WLF				eSg	Sg	00 00 39.9	-0.3
	SNR=7.4						
WLF	Walferdange	1.09	220	⇑P	Pb	00 00 26.1	+0.4
WLF				S	Sb	00 00 39.9	0.0
	comp=N,38nm,0.5s						
WLF	Walferdange	1.09	220	P	Pb	00 00 26.1	+0.4
BCLA	Clavier	1.24	267	⇑P	Pn	00 00 29.2	+1.1
BCLA				S	Sb	00 00 43.5	-0.8
	comp=E,36nm,0.2s						
BCLA	Clavier	1.24	267	P	Pn	00 00 29.1	+1.0
TOD	Tromm	1.35	131	Pg	Pg	00 00 31.2	+0.3
WTSB	Winterswijk	1.50	349	ePg	Pg	00 00 33.2	-0.6
	comp=E,5.7nm,0.3s						
WTSB				eSg	Sg	00 00 51.6	-1.6
LANF	Langenberg	1.56	166	Pg	Pg	00 00 34.6	-0.4
LANF				Sg	Sg	00 00 53.1	-2.2
LANF	Langenberg	1.56	166	ePn	Pn	00 00 34.5	+2.0
	SNR=2.6						
GIVF	Givet	1.60	257	eP	Pn	00 00 34.8	+1.8
GIVF	Givet	1.60	257	ePg	Pg	00 00 35.4	-0.3
GIVF				eSn	Sn	00 00 53.5	-0.1
	comp=E,65nm,0.3s						
GIVF	Givet	1.60	257	ePn	Pn	00 00 33.4	+0.4
GIVF				ePg	Pg	00 00 35.4	-0.3
GIVF				eSn	Sn	00 00 53.5	-0.1
GIVF	Givet	1.60	257	eP	Pn	00 00 34.8	+1.8
GIVF	Givet	1.60	257	ePg	Pg	00 00 35.4	-0.3
GIVF				eSn	Sn	00 00 53.5	-0.1
	comp=E,33nm,0.3s						
DOU	Dourbes	1.74	258	⇑P	Pn	00 00 36.0	+1.0
DOU				S	Sn	00 00 56.6	-0.5
	comp=N,21nm,0.2s						
DOU	Dourbes	1.74	258	P	Pn	00 00 36.0	+1.0
UBBA	Unterbreizbach	1.79	79	ePg	Pg	00 00 38.4	-0.8
	SNR=4.5						
UBBA				eSg	Sg	00 01 01.1	-1.4
	SNR=4.4						
IBBN	Ibbenburen	1.84	10	ePg	Pg	00 00 39.5	-0.8
	SNR=3.6						
IBBN				eSg	Sg	00 01 02.9	-1.3
	SNR=6.1						
SNF	Seneffe	1.89	271	⇑P	Pn	00 00 38.6	+1.6
BAIF	Baives	2.00	258	ePg	Pg	00 00 42.8	-0.5
BAIF				eSn	Sn	00 01 02.8	-0.5
	comp=N,36nm,0.3s						
BAIF	Baives	2.00	258	ePn	Pn	00 00 39.0	+0.5
BAIF				ePg	Pg	00 00 42.8	-0.5
BAIF				eSn	Sn	00 01 02.8	-0.5
BAIF	Baives	2.00	258	ePg	Pg	00 00 42.8	-0.5
BAIF				eSn	Sn	00 01 02.8	-0.5
	comp=N,18nm,0.3s						
GTTG	Gvttingen	2.01	58	ePg	Pg	00 00 43.5	-0.2
	SNR=3.9						
CDF	Champ du Feu	2.09	179	ePn	Pn	00 00 41.2	+1.5
	SNR=1.0						
CDF				eSn	Sn	00 01 05.1	-0.5
CDF				eSg	Sg	00 01 12.6	+0.5
	comp=N,8.6nm,0.3s,SNR=1.0						
CDF	Champ du Feu	2.09	179	ePn	Pn	00 00 41.2	+1.5
	SNR=1.0						
CDF				eSn	Sn	00 01 05.1	-0.5
CDF				eSg	Sg	00 01 12.6	+0.5
	comp=N,4.3nm,0.3s,SNR=1.0						
WLS	Welschbruch	2.09	178	ePn	Pn	00 00 41.5	+1.7
	SNR=2.8						
WLS	Welschbruch	2.09	178	Pn	Pn	00 00 41.6	+1.9
RFYF	Reffroy	2.20	212	ePn	Pn	00 00 41.7	+0.5
RFYF				eSg	Sg	00 01 15.8	+0.2
	comp=N,30nm,0.3s						
RFYF	Reffroy	2.20	212	ePn	Pn	00 00 41.7	+0.5
RFYF				eSg	Sg	00 01 15.8	+0.2
	comp=N,15nm,0.3s						
BFO	Black Forest	2.28	161	ePn	Pn	00 00 44.4	+2.0
	SNR=2.6						
BFO				eSn	Sn	00 01 10.7	+0.2
	SNR=2.0						
ECH	Echery	2.29	181	Pn	Pn	00 00 43.7	+1.2
ECH				Sg	Sg	00 01 17.4	-1.1
ECH	Echery	2.29	181	ePn	Pn	00 00 44.3	+1.9
	SNR=2.8						
LIBD	Limburg	2.36	174	ePn	Pn	00 00 44.2	+0.7
	SNR=1.3						
CLZ	Clausthal	2.39	54	ePn	Pn	00 00 43.6	-0.2
	SNR=1.8						
CLZ				ePg	Pg	00 00 49.6	-1.2
	SNR=5.3						
CLZ				eSg	Sg	00 01 20.9	-0.8
	SNR=2.1						
THEF	They Montfort	2.42	200	ePg	Pg	00 00 51.2	-0.1
	SNR=2.0						
THEF	They Montfort	2.42	200	Pn	Pn	00 00 47.1	+2.8
MEZF	Maizieres J'vi	2.46	216	ePn	Pn	00 00 45.9	+1.1
	baz=32						
MEZF	Maizieres J'vi	2.46	216	ePg	Pg	00 00 51.5	-0.6
	baz=34						
MEZF				eSn	Sn	00 01 13.8	-0.9
MEZF				eSg	Sg	00 01 23.6	-0.3
	comp=N,4.6nm,0.2s						
MEZF	Maizieres J'vi	2.46	216	ePn	Pn	00 00 45.9	+1.1
MEZF				ePg	Pg	00 00 51.5	-0.6
MEZF				eSn	Sn	00 01 13.8	-0.9
MEZF				eSg	Sg	00 01 23.6	-0.3
MEZF	Maizieres J'vi	2.46	216	ePg	Pg	00 00 51.5	-0.6
	baz=34						
MEZF				eSn	Sn	00 01 13.8	-0.9
MEZF				eSg	Sg	00 01 23.6	-0.3
	comp=N,2.3nm,0.2s						
HAU	Haudompre	2.56	194	ePn	Pn	00 00 47.1	+0.8
	SNR=1.0						
HAU				eSn	Sn	00 01 16.2	-1.1
HAU				eSg	Sg	00 01 26.9	-0.5
	SNR=1.0						
MOF	Molkenrain	2.65	182	ePn	Pn	00 00 49.3	+1.8
	SNR=2.9						
FELD	Feldberg im Sc	2.67	169	ePn	Pn	00 00 49.4	+1.6
	SNR=2.1						
HINF	Hinteralfeld	2.70	186	ePg	Pg	00 00 56.3	-0.4
HINF				eSn	Sn	00 01 19.7	-0.9
HINF				eSg	Sg	00 01 30.7	-0.9
	comp=N,5.3nm,0.3s						
HINF	Hinteralfeld	2.70	186	ePn	Pn	00 00 48.6	+0.5
HINF				ePg	Pg	00 00 56.3	-0.4
HINF				eSn	Sn	00 01 19.7	-0.9
HINF				eSg	Sg	00 01 30.7	-0.9
HINF	Hinteralfeld	2.70	186	ePg	Pg	00 00 56.3	-0.4
HINF				eSn	Sn	00 01 19.7	-0.9
HINF				eSg	Sg	00 01 30.7	-0.9
	comp=N,2.7nm,0.3s						
SFTF	Sexfontaines	2.71	213	ePn	Pn	00 00 48.9	+0.6
	baz=31						
SFTF	Sexfontaines	2.71	213	ePg	Pg	00 00 56.3	-0.6
	baz=32						
SFTF				eSg	Sg	00 01 31.6	-0.5
	comp=N,6.3nm,0.2s						
SFTF	Sexfontaines	2.71	213	ePn	Pn	00 00 48.9	+0.6
SFTF				ePg	Pg	00 00 56.3	-0.6
SFTF				eSg	Sg	00 01 31.6	-0.5
SFTF	Sexfontaines	2.71	213	ePg	Pg	00 00 56.3	-0.6
	baz=32						
SFTF				eSg	Sg	00 01 31.6	-0.5
	comp=N,3.2nm,0.2s						
MOX	Moxa	2.79	85	eSg	Sg	00 01 33.3	-1.4
	SNR=1.7						
MOX	Moxa	2.79	85	eSG	Sg	00 01 33.4	-1.3
NEUB	Neuenburg	2.96	74	eSg	Sg	00 01 38.5	-1.6
	SNR=1.8						
LOMF	Lomont	3.16	185	ePn	Pn	00 00 56.2	+1.7
	SNR=2.3						
WERD	Werda	3.24	89	ePn	Pn	00 00 56.9	+1.4
	SNR=2.1						
WERD				eSg	Sg	00 01 48.4	-0.6
	SNR=2.3						
GUNZ	Gunzen	3.26	90	eSg	Sg	00 01 48.4	-1.2
	SNR=1.9						
TANN	Tannenbergstha	3.34	89	ePn	Pn	00 00 58.2	+1.3
	SNR=2.0						
TANN				eSg	Sg	00 01 51.6	-0.6
	SNR=2.3						
CLL	Collm	3.74	75	ePg	Pg	00 01 14.9	-1.7
	SNR=1.8						
CLL				eSg	Sg	00 02 06.0	+1.0
CLL	Collm	3.74	75	ePg	Pg	00 01 15.0	-1.6
CLL				eSg	Sg	00 02 06.0	+1.0
	comp=Z,5.0nm,0.6s						
LOR	Lormes	3.93	216	ePn	Pn	00 01 05.1	+0.1
	baz=33						
LOR				eSn	Sn	00 01 49.0	-2.0
LOR				eSg	Sg	00 02 09.4	-1.7
	comp=Z,7.3nm,0.4s						
LOR	Lormes	3.93	216	ePn	Pn	00 01 05.1	+0.1
	baz=33						
LOR				eSn	Sn	00 01 49.0	-2.0
LOR				eSg	Sg	00 02 09.4	-1.7
	comp=Z,3.7nm,0.4s						
HYF	Humbligny	4.43	225	ePn	Pn	00 01 11.9	-0.1
SMF	Signal de Mont	4.47	212	ePn	Pn	00 01 11.9	-0.6
AVF	Avril sur Loir	4.52	216	ePn	Pn	00 01 13.3	+0.2
AVF				eSn	Sn	00 02 02.4	-3.2
AVF				eSg	Sg	00 02 27.8	-2.2
	comp=Z,0.9nm,0.2s						
AVF	Avril sur Loir	4.52	216	ePn	Pn	00 01 13.3	+0.2
AVF				eSn	Sn	00 02 02.4	-3.2
AVF				eSg	Sg	00 02 27.8	-2.2
	comp=Z,0.4nm,0.2s						
BGF	Bois d'Agland	4.91	218	ePn	Pn	00 01 18.8	+0.3
BGF				eSn	Sn	00 02 11.8	-3.3
BGF				eSg	Sg	00 02 41.4	-1.1
	comp=Z,11nm,0.5s						
BGF	Bois d'Agland	4.91	218	ePn	Pn	00 01 18.8	+0.3
BGF				eSn	Sn	00 02 11.8	-3.3
BGF				eSg	Sg	00 02 41.4	-1.1
	comp=Z,5.4nm,0.5s						
LDF	La Druitiere	5.16	251	ePn	Pn	00 01 21.7	-0.2
LDF				eSn	Sn	00 02 18.5	-2.9
LDF				eSg	Sg	00 02 47.2	-3.4
	comp=Z,1.6nm,0.2s						
LDF	La Druitiere	5.16	251	ePn	Pn	00 01 21.7	-0.2
LDF				eSn	Sn	00 02 18.5	-2.9
LDF				eSg	Sg	00 02 47.2	-3.4
	comp=Z,0.8nm,0.2s						
FLN	La Foliniere	5.31	254	ePn	Pn	00 01 23.7	-0.3
FLN				eSn	Sn	00 02 22.0	-3.1
FLN				eSg	Sg	00 02 51.3	-4.2
	comp=Z,2.4nm,0.2s						
FLN	La Foliniere	5.31	254	ePn	Pn	00 01 23.7	-0.3
FLN				eSn	Sn	00 02 22.0	-3.1
FLN				eSg	Sg	00 02 51.3	-4.2
	comp=Z,1.2nm,0.2s						
GRR	Gorron	5.69	251	ePn	Pn	00 01 28.7	-0.5
GRR				eSn	Sn	00 02 31.2	-3.2
	comp=Z,1.5nm,0.2s						
GRR	Gorron	5.69	251	ePn	Pn	00 01 28.7	-0.5
GRR				eSn	Sn	00 02 31.2	-3.2
	comp=Z,0.8nm,0.2s						
MFF	Saint Martin d	6.26	234	ePn	Pn	00 01 37.1	0.0
RJF	Les Rejaudoux	6.46	219	ePn	Pn	00 01 39.8	-0.1

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*NEIC **01** 00:02:53.9,3689N×2143E,h8km,MD3.5(ATH),After ATH.*
*CSEM **01** 00:02:56.0±0.9,3702N×2153E,h2km,MD3.5,Error ellipse: s-maj=27.1km s-min=13.3km az=30.0*
ATH 01 00:02:53.8,3689N×2141E,h8km±4km,**MD3.5**/3, **Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RLS	Riolos of Patr	1.17	2	ePB	Pb	00 03 15.7	-0.5
VLI	Veliai	1.24	98	ePB	Pb	00 03 17.3	-0.1
VLS	Valsamata	1.44	333	ePG	Pn	00 03 20.8	+0.6
VLS				eSB	Sb	00 03 41.3	+1.9
VLS	Valsamata	1.44	333	ePg	Pn	00 03 20.8	+0.6
VLS				eSb	Sb	00 03 41.7	+2.3
EVR	Evrytania	2.05	9	ePG	Pg	00 03 31.6	-1.5
EVR	Evrytania	2.05	9	ePg	Pg	00 03 31.5	-1.6
LKR	Lokris	2.16	35	ePN	Pb	00 03 32.0	-1.2
SLCN	Sala Consilina	5.71	309	Pn	Pn	00 04 23.0	+4.1
	12nm,0.5s						
FG2	Serracapriola	6.89	317	Pn	Pn	00 04 36.8	+1.7
	18nm,0.2s						

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*NIED **01** 00:04:00,4640N×15370E,h17km,Mw4.8 Best double couple: Mo1.62000×10^16 NP1:φs150.00000°,δ69.00000°,λ30.00000°. NP2:φs49.00000°,δ62.00000°,λ156.00000°.*
*IDC **01** 00:04:10.4±0.6,4636N×15326E,h0km,mb4.5/19, mb1 4.6/20,mb1mx4.5/23,mbtmp4.4/20,ML3.5/1,MS4.3/21, Ms1 4.3/21,ms1mx4.1/33,Error ellipse: s-maj=17.8km s-min=15.4km az=146.0*
*SKHL **01** 00:04:11.3±2.3,4637N×15373E,h50km±4km,mb5.6/5, mbh5.3/4,Ms4.7/8,msh5.3/2*
*ISCJB **01** 00:04:13.9±0.2,4647N±004×153.18E±004,h25km, mb5.0/141,MS4.3/114,Error ellipse: s-maj=6.0km s-min=2.4km az=122.5*
*BJI **01** 00:04:13.6,4655N×15335E,h27km,mB5.1,mb4.9,Ms4.6, Msz4.4*
*SZGRF **01** 00:04:14.2,4598N×15454E,h33km,mb5.0,East of Kuril Islands, Russia*
*GCMT **01** 00:04:15.6±0.4,4648N×15370E,h16km±1km,MW4.9/65, Moment Tensor Solution. s20,c25; s65,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.00±.22; Mθθ-1.24±.14; Mφφ-1.76±.13; Mrθ-0.54±.46; Mθφ-1.32±.07; Mφr0.28±.36; Best double couple: Mo2.97900×10^16 NP1:φs29.00000°,δ45.00000°,λ75.00000°. NP2: φs230.00000°,δ47.00000°,λ104.00000°. Principal axes: T 3.1090, Plg80.0000°, Azm213.0000°; N -0.2610, Plg10.0000°, Azm40.0000°; P -2.8480, Plg1.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 00:04:15.2±1.3,4668N×153.14E,h28km,mb5.2/67, MS4.2/37 Error ellipse: s-maj=8.1km s-min=4.4km az=109.0*
*NEIC **01** 00:04:15.6±1.1,4660N×153.10E,h22km±7km,mb5.1/84, MS4.3/81,Error ellipse: s-maj=10.6km s-min=5.7km az=171.0*
ISC 01 00:04:16.2±0.2,**4658N**±004×**15314E**±004,**h26**km, **h26**km±2.7km**:pP-P,n530,**σ1.**30**/484,**mb5.0**/141,**MS4.3**/114, **25C-18D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KUR	Kuril'sk	3.92	252⇓	iP	Pn	00 05 12.7	-2.0
KUR				iP		00 05 12.7	
KUR				AMB	AMB	00 05 14.4	
	2µm,1.2s						
KUR				AMB	AMB	00 05 15.0	
	150nm,0.6s						
KUR				AMB	AMB	00 05 15.0	
	90nm,0.6s						
KUR				AMB	AMB	00 05 15.0	
	680nm,0.6s						
KUR				eS	Sn	00 06 00.5	+0.6
KUR				A		00 06 13.0	
	570nm,0.9s						
KUR				A		00 06 13.0	
	1µm,0.9s						
KUR				A		00 06 24.0	
	6µm,2.4s						
KUR				A		00 06 24.0	
	2µm,2.4s						
SKR	Severo-Kuril's	4.55	25	eP	Pn	00 05 19.0	-4.4
SKR				AMB	AMB	00 05 22.6	
	80nm,0.5s						
SKR				AMB	AMB	00 05 22.6	
	150nm,0.5s						
SKR				sP		00 05 39.0	
SKR				eS	Sn	00 06 08.0	-7.4
SKR				A		00 06 18.7	
	5µm,8.0s						
SKR				A		00 06 18.7	
	3µm,8.0s						
SKR				A		00 06 18.7	
	300nm,0.6s						
SKR				A		00 06 18.7	
	150nm,0.6s						
SKR				A		00 06 18.7	
	80nm,0.6s						
SKR				A		00 06 18.7	
	5µm,8.0s						
SKR				A		00 06 18.7	
	2µm,8.0s						
SKR				AMS	AMS	00 07 10.0	
	3µm,14.0s						
SKR				AMS	AMS	00 07 10.0	
	8µm,14.0s						
SKR				AMS	AMS	00 07 10.0	
	5µm,14.0s						
SKR				AMS	AMS	00 07 10.0	
	8µm,14.0s						
SKR				AMS	AMS	00 07 10.0	
	5µm,14.0s						
YUK	Yuzh-Kuril'sk	5.73	246	eP	Pn	00 05 39.1	-0.5
YUK				AMB	AMB	00 05 46.5	
	180nm,0.4s						
YUK				AMB	AMB	00 05 46.5	
	130nm,0.4s						
YUK				AMB	AMB	00 05 46.5	
	250nm,0.4s						
YUK				AMB	AMB	00 05 56.0	
	3µm,1.7s						
YUK				A		00 06 53.0	
	520nm,0.5s						
YUK				A		00 06 53.0	
	260nm,0.5s						
YUK				A		00 06 58.0	
	3µm,1.4s						
YUK				A		00 06 58.0	
	4µm,1.4s						
YUK				AMS	AMS	00 08 35.0	
	2µm,15.0s						
YUK				AMS	AMS	00 08 35.0	
	3µm,15.0s						
YUK				AMS	AMS	00 08 35.0	
	3µm,18.0s						
NEM2	Nemuro 2	6.16	241	P	Pn	00 05 43.8	-1.6
NEM2				eS	Sn	00 06 51.3	-3.6
JRA	Rausu	6.25	248	P	Pn	00 05 47.7	+1.0
JRA				eS	Sn	00 07 00.6	+3.4
JNK	Nakash	6.67	246	P	Pn	00 05 51.6	-0.9
JNK				eS	Sn	00 07 08.8	+1.1
JAK	Akkeshi	7.00	242	eS	Sn	00 07 13.7	-1.9
JTKR	Abashiri--Toko	7.02	251	P	Pn	00 05 58.0	+0.8
YSS	Yuzh-Sakhalins	7.14	277⇑	iPN	Pn	00 06 04.5	+5.5
YSS				pmax	pmax		
	comp=Z,110nm,1.3s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s						
YSS				MLR	MLR		
	comp=N,2µm,16.0s						
YSS				MLR	MLR		
	comp=E,2µm,16.0s						
YSS	Yuzh-Sakhalins	7.14	277	ePn	Pn	00 06 03.2	+4.2
	comp=E,39nm,0.8s						
JMP	Maruseppu	7.36	253	P	Pn	00 06 03.4	+1.4
PET	Petropavlovsk	7.37	27	eP	Pn	00 05 56.8	-5.2
PET				AMB	AMB	00 06 14.5	
	comp=E,40nm,1.0s						
PET				eS	Sn	00 07 19.6	-5.1
PET				A		00 07 25.0	
	comp=E,120nm,0.7s						
PET				AMS	AMS	00 10 06.6	
	comp=E,2µm,14.0s						
PET				AMS	AMS	00 10 46.8	
	comp=E,2µm,14.0s						
PET	Petropavlovsk	7.37	27	ePN	Pn	00 06 10.5	+8.5
PET				pmax	pmax		
	comp=Z,121nm,1.2s						
PET				MLR	MLR		
	comp=Z,1µm,14.0s						
PET				MLR	MLR		
	comp=Z,1µm,18.0s						
PET	Petropavlovsk	7.37	27	ePn	Pn	00 06 01.3	-0.7
	comp=Z,194nm,1.3s						
PET				eSn	Sn	00 07 19.7	-5.0
JAR	Ashorobuto	7.42	247	P	Pn	00 06 01.8	-0.9
JAR				eS	Sn	00 07 28.3	+2.3
JSE	Soyaes	7.56	261	P	Pn	00 06 09.9	+5.2
JOB	Onbets	7.58	244	P	Pn	00 06 04.5	-0.4
JOB				eS	Sn	00 07 28.4	-1.5
JKK2	Kamakawa 2	7.82	253	P	Pn	00 06 09.4	+1.1
ASAJ	Asahikawa	7.83	255	Pn	Pn	00 06 10.6	+2.3
	comp=Z,1.9nm,0.3s,baz=96,slow=15,SNR=18						
ASAJ	Asahikawa	7.83	255	P	Pn	00 06 11.0	+2.7
ASAJ	Asahikawa	7.83	255	PN	Pn	00 06 10.6	+2.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UGL	Uglegorsk	7.86	293	eP	Pn	00 06 14.7	+5.9
UGL				AMB	AMB	00 06 18.0	
	comp=Z,900nm,2.0s						
UGL				AMB	AMB	00 06 18.0	
	comp=Z,600nm,1.5s						
UGL				sP		00 06 35.7	
UGL				AMS	AMS	00 09 42.0	
	comp=Z,1µm,16.0s						
UGL				AMS	AMS	00 09 42.0	
	comp=Z,3µm,16.0s						
UGL				AMS	AMS	00 09 42.0	
	comp=Z,3µm,16.0s						
UGL	Uglegorsk	7.86	293	ePN	Pn	00 06 14.7	+5.9
UGL				pmax	pmax		
	comp=Z,600nm,1.5s						

UGL				pmax	pmax	
	comp=Z,900nm,2.0s					
UGL				MLR	MLR	
	comp=N,1μm,16.0s					
UGL				MLR	MLR	
	comp=E,3μm,16.0s					
UGL				MLR	MLR	
	comp=Z,3μm,16.0s					
JWK2	**Keihoku**	**7.94 265**		P	**Pn**	**00 06 16.4 +6.5**
JCH	**Churui**	**8.03 244**		P	**Pn**	**00 06 09.1 -2.0**
JCH				*e*S	**Sn**	**00 07 37.0 -4.0**
TYV	**Tymovskoe**	**8.15 306**		*e*P	**Pn**	**00 06 17.0 +4.3**
TYV				AMS	AMS	00 10 16.0
	comp=Z,2μm,18.0s					
TYV				AMS	AMS	00 10 16.0
	comp=Z,4μm,18.0s					
TYV				AMS	AMS	00 10 16.0
	comp=Z,4μm,18.0s					
JAB	**Ashibetsu**	**8.32 252**		P	**Pn**	**00 06 17.3 +2.2**
JEM	**Erimo**	**8.49 241**		*e*S	**Sn**	**00 07 48.0 -4.4**
JBT2	**Biratori 2**	**8.57 248**		P	**Pn**	**00 06 18.6 +0.1**
JNBK	**Urakawa-nobuka**	**8.59 244**		P	**Pn**	**00 06 18.4 -0.4**
JNBK				*e*S	**Sn**	**00 07 53.8 -1.0**
JEW	**Eniwo**	**9.13 250**		P	**Pn**	**00 06 29.3 +3.1**
OKH	**Okha**	**9.57 320**		*e*P	**Pn**	**00 06 37.8 +5.6**
OKH				AMS	AMS	00 11 07.8
	comp=Z,5μm,15.0s					
OKH				AMS	AMS	00 11 07.8
	comp=Z,3μm,15.0s					
OKH				AMS	AMS	00 11 07.8
	comp=Z,4μm,15.0s					
JNB	**Noboribetsu**	**9.57 249**		P	**Pn**	**00 06 31.8 -0.5**
JNB				*e*S	**Sn**	**00 08 17.0 -1.9**
JKB	**Kayabe**	**9.88 246**		P	**Pn**	**00 06 34.2 -2.2**
JKB				*e*S	**Sn**	**00 08 20.8 -5.6**
JSH	**Shimam**	**10.13 252**		P	**Pn**	**00 06 41.3 +1.3**
JYM2	**Yakumo 2**	**10.18 249**		P	**Pn**	**00 06 40.2 -0.4**
NKL	**Nikolayevsk**	**10.38 314**		*i* P	**Pn**	**00 06 45.0 +1.7**
NKL				AMB	AMB	00 06 51.0
	comp=Z,50nm,1.3s					
NKL				AMB	AMB	00 06 51.0
	comp=Z,170nm,1.3s					
NKL				AMB	AMB	00 06 51.0
	comp=Z,900nm,7.0s					
NKL				AMB	AMB	00 06 51.0
	comp=Z,1μm,7.0s					
NKL				AMB	AMB	00 06 51.0
	comp=Z,1μm,7.0s					
NKL				AMS	AMS	00 11 24.0
	comp=Z,2μm,17.0s					
NKL				AMS	AMS	00 11 24.0
	comp=Z,2μm,17.0s					
NKL				AMS	AMS	00 11 24.0
	comp=Z,2μm,17.0s					
JSR	**Shiriuchi**	**10.46 246**		*e*S	**Sn**	**00 08 35.1 -5.5**
JANG	**Nango**	**10.48 238**		P	**Pn**	**00 06 40.6 -4.1**
JTM	**Tenmabayashi**	**10.48 241**		P	**Pn**	**00 06 41.7 -3.1**
JTM				*e*S	**Sn**	**00 08 33.6 -7.7**
JTH	**Tanohata**	**10.56 235**		*e*S	**Sn**	**00 08 31.2 -12**
JOSM	**Okushiri--Mats**	**10.77 250**		P	**Pn**	**00 06 47.8 -0.9**
OFUJ	**Ofunato**	**11.27 232**		*e*S	**Sn**	**00 08 50.6 -10**
TEY	**Ternei**	**11.65 268**		*e*P	**Pn**	**00 07 04.0 +3.3**
TEY				AMB	AMB	00 07 12.0
	comp=Z,700nm,6.0s					
TEY				AMB	AMB	00 07 12.0
	comp=Z,1μm,9.0s					
TEY				AMS	AMS	00 12 13.0
	comp=Z,1μm,14.0s					
JIO	**Ouri**	**11.89 231**		*e*S	**Sn**	**00 09 03.4 -12**
MA2	**Magadan**	**13.09 355**		*e*PN	**Pn**	**00 07 21.5 +1.1**
MA2				*e*S	**Sn**	**00 09 56.6 +11**
MA2				pmax	pmax	
	comp=Z,20nm,0.8s					
MA2				MLR	MLR	
	comp=Z,2μm,13.1s					
MA2	**Magadan**	**13.09 355**		*e*Pn	**Pn**	**00 07 20.9 +0.5**
	comp=Z,38nm,1.1s					
EKMR	**Ekimchan**	**14.53 304**		*e*P	**Pn**	**00 07 42.5 +2.4**
EKMR				AMB	AMB	00 07 55.3
	comp=Z,12nm,0.6s					
KLR	**Kul'dur**	**14.58 288**		*e*P	**Pn**	**00 07 42.1 +1.3**
KLR				*e*P		00 07 42.5
KLR				AMB	AMB	00 07 44.2
	comp=Z,57nm,1.6s					
KLR				AMB	AMB	00 07 44.2
	comp=Z,40nm,1.6s					
KLR				AMB	AMB	00 07 54.0
	comp=Z,800nm,9.5s					
KLR				AMB	AMB	00 07 54.0
	comp=Z,1μm,9.5s					
KLR				AMS	AMS	00 12 41.5
	comp=Z,1μm,18.0s					
KLR				AMS	AMS	00 14 16.5
	comp=Z,2μm,17.0s					
KLR				AMS	AMS	00 14 16.5
	comp=Z,2μm,17.0s					
MAJO	**Matsushiro**	**15.00 233**		*e*P	**Pn**	**00 07 45.1 -1.2**
MAT	**Matsushiro**	**15.00 233**		P	**Pn**	**00 07 45.7 -0.6**
MAT				*e*S	**Sn**	**00 10 43.0 +11**
MJAR	**Matsushiro Arr**	**15.00 233**		Pn	**Pn**	**00 07 41.5 -4.9**
	comp=Z,0.2nm,0.3s,baz=30,slow=11,SNR=17					
VLA	**Vladivostok**	**15.46 265**		P	**Pn**	**00 07 53.0 +0.6**
VLA				pmax	pmax	
	comp=Z,38nm,1.5s					
VLA				MLR	MLR	
	comp=Z,1μm,19.4s					
SEY	**Seymchan**	**16.39 359⇑**		*e*P	**Pn**	**00 08 05.8 +1.4**
MDJ	**Mudanjiang**	**16.59 272**		P	**Pn**	**00 08 08.3 +1.4**
MDJ				AP	pP	00 08 12.4 -3.9
MDJ				S	**Sn**	**00 11 11.5 +1.3**
MDJ				AMB	AMB	
	comp=Z,48nm,1.0s					
MDJ				AMB	AMB	
	comp=Z,192nm,3.5s					
MDJ				LR	LR	
	comp=N,234nm,14.1s					
MDJ				LR	LR	
	comp=E,723nm,16.1s					
MDJ				LR	LR	
	comp=Z,1μm,17.1s					
MDJ	**Mudanjiang**	**16.59 272**		*e*P	**Pn**	**00 08 08.3 +1.4**
	comp=Z,67nm,1.1s					
BMKR	**Bomnak**	**17.36 307**		*e*P	**Pn**	**00 08 16.4 -0.1**
BMKR				AMB	AMB	00 08 24.6
	comp=Z,35nm,1.0s					
YASR	**Yasnyy**	**17.47 302**		*e*P	**Pn**	**00 08 17.2 -0.8**
YASR				AMB	AMB	00 08 21.2
	comp=Z,2.0nm,0.8s					
YASR				AMB	AMB	00 08 21.2
	comp=Z,10.0nm,0.8s					
YASR				AMB	AMB	00 08 21.2
	comp=Z,18nm,0.8s					
ZEA	**Zeya**	**18.00 303**		*e*P	**Pn**	**00 08 22.0 -2.5**
ZEA				AMB	AMB	00 08 30.0
	comp=Z,500nm,8.0s					
ZEA				AMB	AMB	00 08 30.0
	comp=Z,700nm,8.0s					
ZEA				AMS	AMS	00 16 22.0
	comp=Z,400nm,15.0s					
ZEA				AMS	AMS	00 16 22.0
	comp=Z,800nm,15.0s					
ZEA				AMS	AMS	00 16 22.0
	comp=Z,1μm,15.0s					
KROS	**Kirovskiy**	**18.32 305**		*e*P	**Pn**	**00 08 26.7 -1.7**
KROS				AMB	AMB	00 08 30.7
	comp=Z,4.0nm,0.7s					
KROS				AMB	AMB	00 08 30.7
	comp=Z,15nm,0.7s					
CN2	**Changchun**	**19.68 272**		*e*P	**Pn**	**00 08 42.4 -2.3**
CN2				*e*S	**Sn**	**00 12 15.2 -10**
CN2				AMB	AMB	
	comp=Z,10.0nm,1.0s					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,800nm,17.0s					
CN2				LR	LR	
	comp=E,600nm,17.0s					
CN2				LR	LR	
	comp=Z,1μm,15.0s					
CLNS	**Chul'man**	**20.14 311**		*e*P	**P**	**00 08 51.1 +2.8**
CLNS				*e*		00 09 07.2
CLNS				*e*		00 12 57.0
CLNS				*e*SS		00 13 13.8
CLNS				pmax	pmax	
	comp=Z,39nm,1.5s					
CLNS				pmax	pmax	
	comp=N,38nm,1.4s					
CLNS				pmax	pmax	
	comp=E,22nm,1.2s					
CLNS				MLR	MLR	
	comp=E,1μm,16.0s,MS4.5					
CLNS				MLR	MLR	
	comp=Z,2μm,16.0s,MS4.6					
CLNS				MLR	MLR	
	comp=N,800nm,15.0s,MS4.5					
YAK	**Yakutsk**	**20.47 328**		*e*P	**P**	**00 08 53.3 +1.4**
YAK				*e**PP		00 09 01.8
YAK				*e*		00 09 08.3
YAK				*e*SS		00 13 06.1
YAK				pmax	pmax	
	comp=Z,35nm,1.2s					
YAK				pmax	pmax	
	comp=N,14nm,1.3s					
YAK				pmax	pmax	
	comp=E,24nm,1.5s					
YAK				MLR	MLR	
	comp=Z,674nm,13.0s,MS4.2					
YAK				MLR	MLR	
	comp=N,697nm,16.0s,MS4.2					
YAK				MLR	MLR	
	comp=E,630nm,16.0s,MS4.2					
YAK	**Yakutsk**	**20.47 328**		*e*P	**P**	**00 08 52.3 +0.5**
	comp=E,84nm,1.1s					
YAK				LR	LR	
	comp=Z,563nm,19.0s,MS4.0					
KS15	**Wonju Array Si**	**20.80 253**		*e*pP	pP	00 08 58.0 -4.7
INCN	**Inchon**	**21.61 255**		*e*P	**P**	**00 09 04.5 +0.5**
INCN				LR	LR	
	comp=Z,597nm,19.0s,MS4.0					
HIA	**Hailar**	**22.44 289**		*e*P	**P**	**00 09 11.5 -1.5**
HIA				pmax	pmax	
	comp=Z,11nm,0.8s					
HIA				MLR	MLR	
	comp=Z,849nm,19.0s					
HIA	**Hailar**	**22.44 289**		*e*P	**P**	**00 09 11.5 -1.5**
	comp=Z,11nm,0.8s,mb4.3					
HIA				LR	LR	
	comp=Z,849nm,19.0s,MS4.2					
BILL	**Bilibino**	**22.55 13**		*e*P	**P**	**00 09 14.2 0.0**
BILL				*i*		00 09 44.5
BILL				*i* S	**S**	**00 13 16.9 -3.4**
BILL				pmax	pmax	
	comp=Z,38nm,1.1s,mb4.7					
BILL				MLR	MLR	
	comp=Z,700nm,16.0s,MS4.2					
BILL	**Bilibino**	**22.55 13**		PFAKE		00 09 20.0 +5.8
BILL				LR	LR	
	comp=Z,585nm,21.0s,MS4.0					
DL2	**Dalian**	**24.26 263**		P	**P**	**00 09 32.7 +1.6**
DL2				S	**S**	**00 13 52.6 +4.4**
DL2				XS	sS	00 14 00.9 -0.1
DL2				AMB	AMB	
	comp=Z,30nm,0.8s,mb4.8					
DL2				AMB	AMB	
	comp=Z,210nm,5.8s					
DL2				LR	LR	
	comp=N,190nm,13.1s,MS3.9					
DL2				LR	LR	
	comp=E,200nm,12.9s,MS3.9					
DL2				LR	LR	
	comp=Z,250nm,14.8s,MS3.8					
BOD	**Bodaibo**	**26.11 310**		*e*P	**P**	**00 09 46.6 -1.3**
BOD				pmax	pmax	
	comp=Z,18nm,1.4s,mb4.4					
CIT	**Chita**	**26.14 297**		*e*P	**P**	**00 09 48.0 -0.1**
UNV	**Unalaska Valle**	**26.53 59**		PFAKE		00 10 00.0 +8.3
UNV				LR	LR	
	comp=Z,1μm,19.0s,MS4.5					
BJI	**Beijing**	**27.50 270**		*e*P	**P**	**00 10 01.8 +1.5**
BJI				AMB	AMB	
	comp=Z,14nm,1.1s,mb4.4					
BJI				AMB	AMB	
	comp=Z,346nm,5.5s					
BJI				LR	LR	
	comp=N,569nm,16.8s,MS4.5					
BJI				LR	LR	
	comp=E,868nm,15.8s,MS4.5					
BJI				LR	LR	
	comp=Z,709nm,17.2s,MS4.3					
BJT	**Baijiatuau**	**27.51 270**		*e*P	**P**	**00 10 03.1 +2.6**
BJT				pmax	pmax	
	comp=Z,8.0nm,0.6s					
BJT				MLR	MLR	
	comp=Z,608nm,19.0s					
BJT	**Baijiatuau**	**27.51 270**		*e*P	**P**	**00 10 03.1 +2.6**
	comp=Z,8.4nm,0.6s,mb4.5					
BJT				LR	LR	
	comp=Z,608nm,19.0s,MS4.2					
TNA	**Tin City**	**28.16 34**		PFAKE		00 10 20.0 +14
TNA				LR	LR	
	comp=Z,309nm,19.0s,MS3.9					
SSE	**Sheshan**	**29.06 249**		*e*P	**P**	**00 10 13.9 -0.4**
SSE				AP	pP	00 10 20.4 -1.6
SSE				XP	sP	00 10 22.9 -2.4
SSE				S	**S**	**00 15 06.2 +2.1**
SSE				XS	sS	00 15 16.5 -0.5
SSE				SCS	ScS	00 20 53.8 -1.9
SSE				AMB	AMB	
	comp=Z,23nm,0.7s,mb5.0					
SSE				AMB	AMB	
	comp=Z,42nm,3.5s					
SSE				LR	LR	
	comp=N,232nm,20.0s,MS3.8					
SSE				LR	LR	
	comp=E,49nm,20.0s,MS3.8					
SSE				LR	LR	
	comp=Z,221nm,18.5s,MS3.8					
NJ2	**Nanjing**	**29.97 253**		*e*P	**P**	**00 10 22.9 +0.6**
NJ2				AP	pP	00 10 32.3 +2.2
NJ2				XP	sP	00 10 35.6 +2.3
NJ2				PP	PP	00 11 20.1 -10
NJ2				S	**S**	**00 15 17.0 -1.4**
NJ2				XS	sS	00 15 34.0 +2.7
NJ2				AMB	AMB	
	comp=Z,20nm,0.9s,mb4.8					
NJ2				AMB	AMB	
	comp=Z,710nm,4.9s					
HHC	**Hu-ho-hao-te**	**30.32 274**		*e*P	**P**	**00 10 25.4 -0.1**
HHC				PP	PP	00 11 23.3 -11
HHC				PCP	PcP	00 13 30.1 +4.8
HHC				S	**S**	**00 15 21.8 -2.2**
HHC				SCS	ScS	00 21 00.7 -1.0
HHC				AMB	AMB	
	comp=Z,43nm,0.9s,mb5.2					
HHC				AMB	AMB	
	comp=Z,247nm,3.6s					
HHC				LR	LR	
	comp=N,422nm,13.7s,MS4.5					
HHC				LR	LR	
	comp=E,716nm,14.9s,MS4.5					
HHC				LR	LR	
	comp=Z,683nm,15.3s,MS4.4					
SONM	**Songino Array**	**31.41 290**		P	**P**	**00 10 34.9 -0.1**
	comp=Z,2.6nm,0.9s,mb4.0,baz=69,slow=9.6,SNR=15					
SONM				PcP	PcP	00 13 27.0 -1.2
	comp=Z,1.3nm,1.0s,baz=45,slow=4.3,SNR=3.6					
SONM				LR	LR	00 24 15.9
	comp=Z,843nm,18.5s,MS4.4,baz=84,slow=38					
SONM	**Songino Array**	**31.41 290**		P	**P**	**00 10 34.9 -0.1**
SONM						00 13 27.0
SONM				pmax	pmax	
	comp=Z,30nm,0.9s					
SONM				MLR	MLR	
	comp=Z,843nm,18.5s					
TLY	**Talaya**	**32.27 298**		*e*P	**P**	**00 10 42.6 0.0**
TLY				*e*		00 11 59.0
TLY				pmax	pmax	
	comp=Z,21nm,1.3s,mb4.8					
TLY				MLR	MLR	
	comp=Z,1μm,16.0s,MS4.7					
TLY	**Talaya**	**32.27 298**		*e*P	**P**	**00 10 43.3 +0.6**
TLY				LR	LR	
	comp=Z,133nm,19.0s,MS3.6					
TTA	**Tatalina**	**32.53 41**		*e*P	**P**	**00 10 46.3 +1.4**
TTA				*e**PP	pP	00 10 54.1 +1.4
SVW2	**Sparrevohn**	**32.60 45**		*e*P	**P**	**00 10 46.1 +0.7**
ZAK	**Zakamensk**	**32.77 295**		*e*P	**P**	**00 10 46.6 -0.4**
ZAK				*e*		00 13 30.7
ZAK				pmax	pmax	
	comp=Z,8.0nm,1.2s,mb4.5					
GUMO	**Guam**	**33.62 195**		LR	LR	00 23 38.6
	comp=Z,213nm,19.0s,MS3.9,baz=4.8,slow=35					
IMA2	**Indian Mountai**	**33.93 36**		*e*P	**P**	**00 10 55.6 -1.5**
KDAK	**Kodiak Island**	**34.19 51**		P	**P**	**00 10 56.5 -2.8**
	comp=Z,10.0nm,0.9s,baz=327,slow=1.9,SNR=5.3					
KDAK				LR	LR	00 23 03.6
	comp=Z,17μm,21.9s,baz=144,slow=33					
XAN	**Xi'an**	**35.52 265**		P	**P**	**00 11 11.9 +1.1**
XAN				AP	pP	00 11 16.8 -1.9
XAN				AMB	AMB	
	comp=Z,15nm,2.5s,mb4.5					
PMR	**Palmer**	**35.71 44**		*e*P	**P**	**00 11 13.6 +1.2**
PMR				MLR	MLR	
	comp=Z,327nm,21.0s,MS4.1					
MCK	**McKinley**	**35.77 40**		*e*P	**P**	**00 11 11.7 -1.2**
MCK				pmax	pmax	
	comp=Z,12nm,1.1s,mb4.7					
MCK				MLR	MLR	
	comp=Z,171nm,20.0s,MS3.8					
MCK	**McKinley**	**35.77 40**		*e*P	**P**	**00 11 11.7 -1.2**
	comp=Z,12nm,1.1s,mb4.7					
MCK				LR	LR	
	comp=Z,171nm,20.0s,MS3.8					
COLA	**College**	**36.26 38**		*e*P	**P**	**00 11 15.7 -1.4**
COLA				pmax	pmax	
	comp=Z,39nm,1.1s,mb5.2					
COLA				MLR	MLR	
	comp=Z,258nm,20.0s,MS4.0					
COLA	**College**	**36.26 38**		*e*P	**P**	**00 11 15.7 -1.4**
	comp=Z,39nm,1.1s,mb5.2					
COLA				LR	LR	
	comp=Z,258nm,20.0s,MS4.0					
DIV	**Divide**	**37.35 44**		PFAKE		00 11 40.0 +14
DIV				LR	LR	
	comp=Z,2μm,20.0s,MS4.8					
LZH	**Lanzhou**	**37.91 272**		*e*P	**P**	**00 11 33.0 +1.8**
LZH				AP	pP	00 11 37.0 -2.1
LZH				XP	sP	00 11 40.0 -2.3
LZH				PP	PP	00 13 04.3 +6.3
LZH				*e*S	**S**	**00 17 28.0 +6.8**
LZH				XS	sS	00 17 35.3 +1.1
LZH				SS	SS	00 19 55.0 -13
LZH				AMB	AMB	
	comp=Z,83nm,1.5s,mb5.2					
LZH				AMB	AMB	
	comp=Z,125nm,4.0s					
LZH				LR	LR	
	comp=E,2μm,14.9s					
LZH				LR	LR	
	comp=Z,2μm,15.8s,MS5.0					
LZH	**Lanzhou**	**37.91 272**		*e*P	**P**	**00 11 33.0 +1.8**
LZH				*SP	sP	00 11 40.0 -2.3
LZH						00 13 04.3
LZH				*e*S	**S**	**00 17 28.0 +6.8**
LZH				SS	SS	00 19 55.0 -13
LZH	**Lanzhou**	**37.91 272**		*e*P	**P**	**00 11 33.0 +1.8**
LZH				pP	pP	00 11 37.0 -2.1
LZH				sP	sP	00 11 40.0 -2.3
LZH				PP	PP	00 13 04.3 +6.3
LZH				PcP	PcP	00 13 37.0 -10
LZH				*e*S	**S**	**00 17 28.0 +6.8**
LZH				sS	sS	00 17 35.3 +1.1
LZH				SS	SS	00 19 55.0 -13
GTA	**Gaotai**	**39.02 279**		P	**P**	**00 11 42.0 +1.5**
GTA				AP	pP	00 11 46.9 -1.5
GTA				XP	sP	00 11 49.6 -2.0
GTA				PP	PP	00 13 15.8 +5.7
GTA				PCP	PcP	00 13 51.8 +1.4
GTA				S	**S**	**00 17 41.6 +3.7**
GTA				XS	sS	00 17 50.3 -0.6
GTA				AMB	AMB	
	comp=Z,29nm,1.2s,mb4.9					
GTA				AMB	AMB	
	comp=Z,164nm,5.7s					
GTA				LR	LR	
	comp=N,375nm,18.3s,MS4.3					
GTA				LR	LR	
	comp=E,304nm,19.0s,MS4.3					
GTA				LR	LR	
	comp=Z,350nm,16.7s,MS4.3					
EGAK	**Eagle**	**39.12 38**		*e*P	**P**	**00 11 39.1 -2.2**
EGAK				*e*		00 13 13.1
DAWY	**Dawson**	**39.96 39**		*e*P	**P**	**00 11 49.2 +0.9**
CD2	**Chengdu**	**40.88 265**		*e*P	**P**	**00 11 54.8 -1.2**
CD2				PP	PP	00 13 32.1 +1.6
CD2				S	**S**	**00 18 11.1 +5.3**
CD2				AMB	AMB	
	comp=Z,20nm,1.1s,mb4.7					
CD2				AMB	AMB	
	comp=Z,60nm,5.2s					
CD2				LR	LR	
	comp=N,200nm,15.6s,MS4.2					
CD2				LR	LR	
	comp=E,230nm,16.8s,MS4.2					
CD2				LR	LR	
	comp=Z,360nm,10.8s					
GYA	**Guiyang**	**41.70 258⇑**		*i*P	**P**	**00 12 03.5 +0.8**
GYA				AP	pP	00 12 07.8 -2.8
GYA				XP	sP	00 12 10.7 -3.1
GYA				PP	PP	00 13 42.6 +3.3
GYA				SCP	ScP	00 17 51.4 +4.0
GYA				S	**S**	**00 18 17.7 -0.2**
GYA				SCS	ScS	00 22 05.6 +1.5
GYA				AMB	AMB	
	comp=Z,40nm,1.3s,mb4.9					
GYA				AMB	AMB	
	comp=Z,360nm,5.9s					
GYA				LR	LR	
	comp=N,440nm,7.2s					
GYA				LR	LR	
	comp=E,270nm,6.6s					
GYA				LR	LR	
	comp=Z,600nm,7.0s					
INK	**Inuvik**	**41.78 32**		P	**P**	**00 12 01.9 -1.4**
	comp=Z,7.5nm,1.0s,mb4.3,baz=273,slow=5.4,SNR=7.8					
INK	**Inuvik**	**41.78 32**		P	**P**	**00 12 01.9 -1.5**
INK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
INK	**Inuvik**	**41.78 32**		*e*P	**P**	**00 12 02.7 -0.7**
	comp=Z,549nm,1.1s,mb6.1					
ZAL	**Zalesovo**	**42.74 306**		P	**P**	**00 12 10.6 -0.6**
	comp=Z,1.8nm,0.4s,mb4.1,baz=36,slow=6.3,SNR=12					
ZAL				PcP	PcP	00 14 02.2 -0.3
	comp=Z,2.1nm,0.9s,baz=46,slow=2.5,SNR=6.4					
ZAL				LR	LR	00 31 58.6
	comp=Z,1μm,18.2s,MS4.9,baz=37,slow=39					
ZAL	**Zalesovo**	**42.74 306**		P	**P**	**00 12 10.6 -0.6**
ZAL						00 14 02.2
ZAL				pmax	pmax	
	comp=Z,20nm,0.4s					
ZAL				MLR	MLR	
	comp=Z,1μm,18.2s					
ZAL	**Zalesovo**	**42.74 306**		P	**P**	**00 12 10.6 -0.6**
ZAL				PcP	PcP	00 14 02.2 -0.3
ZAL				LR	LR	00 31 58.6
NVS	**Novosibirsk**	**43.31 308**		*e*P	**P**	**00 12 13.3 -2.5**
NVS				pmax	pmax	
	comp=Z,25nm,1.9s,mb4.6					
NVS				pmax	pmax	
	comp=E,17nm,1.7s					
WMQ	**Urumqi**	**45.01 291⇓**		*i*P	**P**	**00 12 30.8 +1.4**
WMQ				AP	pP	00 12 35.0 -2.4
WMQ				XP	sP	00 12 38.0 -2.6
WMQ				PCP	PcP	00 14 13.6 +3.5
WMQ				PPP		00 14 57.6
WMQ				S	**S**	**00 19 07.6 +1.3**
WMQ				SCS	ScS	00 22 25.6 +0.8
WMQ				AMB	AMB	
	comp=Z,13nm,1.1s,mb4.7					
WMQ				AMB	AMB	
	comp=Z,114nm,4.6s					
WMQ				LR	LR	
	comp=N,613nm,14.2s,MS4.9					
WMQ				LR	LR	
	comp=E,685nm,14.2s,MS4.9					
WMQ				LR	LR	
	comp=Z,1μm,16.0s,MS4.9					
KMI	**Kunming**	**45.23 260**		⇑P	**P**	**00 12 32.1 +0.9**
KMI				AP	pP	00 12 36.1 -3.1
KMI				PCP	PcP	00 14 12.8 +1.9
KMI				PP	PP	00 14 18.1 +1.0
KMI				PPP		00 14 58.1
KMI				S	**S**	**00 19 08.7 -0.9**
KMI				SS	SS	00 22 20.6 -12
KMI				SSS		00 23 20.5

KMI AMB AMB
comp=Z,22nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,346nm,3.2s
KMI LR LR
comp=Z,189nm,22.2s,MS4.0
KMI Kunming 45.23 260 ⇑P **P 00 12 32.1 +0.9**
KMI pP pP 00 12 36.1 -3.1
KMI sP sP 00 12 37.6 -4.8
KMI PcP PcP 00 14 12.8 +1.9
KMI PP PP 00 14 18.1 +1.0
KMI PPP 00 14 58.1
KMI S **S 00 19 08.7 -0.9**
KMI sS sS 00 19 16.7 -6.1
KMI SS SS 00 22 20.6 -12
KMI SSS 00 23 20.5
DLBC Dease Lake 45.70 46 P **P 00 12 36.0 +1.2**
comp=Z,6.1nm,0.9s,mb4.5,baz=268,slow=8.4,SNR=6.6
MKAR Makanchi Array 47.03 298 P **P 00 12 44.6 -0.8**
comp=Z,15nm,0.8s,mb4.9,baz=64,slow=8.2,SNR=78
MKAR PcP PcP 00 14 17.4 +0.2
comp=Z,1.4nm,0.7s,baz=48,slow=4.3,SNR=2.8
MKAR Makanchi Array 47.03 298 P **P 00 12 44.6 -0.8**
MKAR 00 14 17.4
MKAR pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 47.47 304 P **P 00 12 47.2 -1.6**
comp=Z,129nm,1.0s,mb5.8,SNR=10
LSA Lhasa 50.30 273 P **P 00 13 13.1 +2.6**
LSA Lhasa 50.30 273 *e*P **P 00 13 13.3 +2.8**
LSA pmax pmax
comp=Z,11nm,0.7s,mb5.0
LSA MLR MLR
comp=Z,282nm,19.0s,MS4.3
LSA Lhasa 50.30 273 *e*P **P 00 13 13.2 +2.8**
comp=Z,11nm,0.7s,mb5.0
LSA LR LR
comp=Z,282nm,19.0s,MS4.3
BVAR Borovoye Array 50.98 310 LR LR 00 38 02.1
comp=Z,643nm,18.0s,MS4.7,baz=318,slow=40
YKW3 Yellowknife Ar 51.01 37 *e*P **P 00 13 17.3 +1.5**
YKW3 *e*pP pP 00 13 25.4 +1.5
BRVK Borovoye 51.02 310 *e*P **P 00 13 13.6 -2.3**
BRVK LR LR
comp=Z,180nm,19.0s,MS4.1
YKA Yellowknife Ar 51.05 37 P **P 00 13 13.9 -2.2**
comp=Z,14nm,1.0s,mb4.8,baz=296,slow=7.1,SNR=11
YKA LR LR 00 37 48.3
comp=Z,114nm,19.5s,MS3.9,baz=235,slow=39
YKA Yellowknife Ar 51.05 37 P **P 00 13 13.9 -2.2**
YKA pmax pmax
comp=Z,14nm,1.0s
YKA MLR MLR
comp=Z,114nm,19.5s
ZRNK Zerenda 51.75 310 *e*P **P 00 13 20.0 -1.4**
ZRNK *e* 00 14 33.7
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZRNK Zerenda 51.75 310 *e*P **P 00 13 20.0 -1.3**
comp=Z,8.5nm,0.9s,mb4.7
ZRNK *e*PcP PcP 00 14 33.7 -0.7
CHTO Chiang Mai 52.10 257 *e*P **P 00 13 24.6 +0.6**
CHTO pmax pmax
comp=Z,38nm,1.6s,mb5.1
CHTO MLR MLR
comp=Z,426nm,19.0s,MS4.5
CHTO Chiang Mai 52.10 257 *e*P **P 00 13 24.6 +0.7**
comp=Z,38nm,1.6s,mb5.1
CHTO LR LR
comp=Z,426nm,19.0s,MS4.5
KBS Kingsbay 52.66 351 PFAKE 00 13 40.0 +12
KBS LR LR
comp=Z,176nm,21.0s,MS4.1
SPB4 Spitsbergen Ar 52.78 350 P **P 00 13 26.3 -2.8**
TKM2 Tokmak 2 53.09 296 P **P 00 13 32.0 +0.7**
SNR=7.2
USP Ospenovka 53.58 297 P **P 00 13 35.6 +0.7**
SNR=22
KBK Karagaybulak 53.63 296 P **P 00 13 36.7 +1.4**
SNR=5.9
FRU Bishkek 53.74 297 *e*P **P 00 13 37.0 +0.9**
AAK Ala-Archa 53.93 296 P **P 00 13 39.2 +1.8**
SNR=11
AAK Ala-Archa 53.93 296 ⇑*i*P **P 00 13 36.3 -1.1**
AAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
AAK Ala-Archa 53.93 296 *e*P **P 00 13 36.6 -0.8**
AAK LR LR
comp=Z,177nm,19.0s,MS4.1
EKS2 Erkin-Say 54.35 297 P **P 00 13 41.8 +1.2**
SNR=16
AML Almayashu 54.70 296 P **P 00 13 45.1 +2.0**
SNR=8.6
KSH Kashi 54.73 293 *e*P **P 00 13 45.6 +2.3**
KSH *e*AP pP 00 13 50.0 -1.5
KSH *e*XP sP 00 13 53.4 -1.2
KSH *e*PCP PcP 00 14 49.4 +3.7
KSH *e*PP PP 00 15 49.8 +3.8
KSH *e*PPP 00 17 01.2
KSH *e*SCP ScP 00 18 45.1 +2.7
KSH *e*PCS PcS 00 18 48.5 +3.1
KSH *e*S **S 00 21 23.1 +1.0**
KSH *e*PS 00 21 39.0
KSH *e*SCS ScS 00 23 31.6 +0.8
KSH *e*SS SS 00 25 06.2 +0.9
KSH LR LR
comp=Z,391nm,12.4s,MS4.7
GUN Gumba 55.03 275 *e*P **P 00 13 47.4 +1.9**
comp=Z,24nm,0.6s,mb5.4
ARU Arti 55.15 318 P **P 00 13 45.6 -0.7**
comp=Z,84nm,0.7s,mb5.9,SNR=6.5
ARU Arti 55.15 318 ⇑*i*P **P 00 13 45.6 -0.7**
ARU *e* 00 14 46.1
ARU *e* 00 15 46.5
ARU *e*S **S 00 21 28.2 +0.5**
ARU *e* 00 23 33.3
ARU *e*SS SS 00 25 11.8 0.0
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU MLR MLR
comp=N,300nm,17.0s,MS4.5
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.4
ARU MLR MLR
comp=E,100nm,16.0s,MS4.5
ARU Arti 55.15 318 *e*P **P 00 13 45.1 -1.2**
comp=E,11nm,0.8s,mb4.9
ARU LR LR
comp=Z,84nm,19.0s,MS3.8
KKN Kakani 55.52 275 *e*P **P 00 13 50.7 +1.7**
comp=Z,103nm,1.1s,mb5.8
PKI Pulchoki 55.57 275 *e*P **P 00 13 50.2 +0.8**
comp=Z,52nm,1.0s,mb5.5
DMN Daman 55.76 275 *e*P **P 00 13 52.1 +1.4**
comp=Z,109nm,1.1s,mb5.8
GKN Gorkha 55.83 276 *e*P **P 00 13 52.1 +0.9**
comp=Z,101nm,0.8s,mb5.9
HNR Honiara 56.09 172 LR LR 00 38 18.3
comp=Z,140nm,18.9s,MS4.1,baz=359,slow=37
EDM Edmonton 56.42 46 *e*P **P 00 13 56.7 +1.3**
EDM *e**PP pP 00 14 05.0 +1.4
KOLN Koldanda 56.69 277 *e*P **P 00 13 58.5 +1.2**
comp=Z,88nm,1.0s,mb5.7
DAG Danmarks Havn 56.81 358 ⇑*i*P **P 00 13 57.3 -0.9**
comp=Z,12nm,0.8s,mb5.0
DAG Danmarks Havn 56.81 358 ⇑*i*P **P 00 13 57.3 -0.9**
DAG pmax pmax
comp=Z,12nm,0.8s,mb5.0
HAWA Hanford 56.98 56 PFAKE 00 14 10.0 +11
HAWA LR LR
comp=Z,144nm,19.0s,MS4.1
NEW Newport 57.26 53 P **P 00 14 01.3 -0.1**
comp=Z,2.4nm,1.0s,mb4.2,baz=302,slow=9.5,SNR=2.1
NEW Newport 57.26 53 P **P 00 14 01.3 -0.1**
NEW LR LR
comp=Z,165nm,21.0s,MS4.1
KEV Kevo 57.51 341 PFAKE 00 14 10.0 +6.9
KEV LR LR
comp=Z,247nm,19.0s,MS4.3
BOK Bokaro 57.67 271 *e*P **P 00 14 05.5 +1.2**
BOK AMb AMB 00 14 08.8
comp=Z,41nm,1.6s,mb5.2
YBH Yreka Blue Hor 57.80 62 *e*P **P 00 14 09.0 +3.8**
YBH pmax pmax
comp=Z,14nm,1.6s
YBH Yreka Blue Hor 57.80 62 *e*P **P 00 14 09.0 +3.8**
comp=Z,14nm,1.6s,mb4.7
ARCES ARCESS Array B 58.02 341 P **P 00 14 06.1 -0.6**
comp=Z,3.9nm,0.9s,mb4.4,baz=42,slow=5.6,SNR=6.1
ARCES LR LR 00 46 52.1
comp=Z,246nm,18.2s,MS4.4,baz=29,slow=44
ARCES ARCESS Array B 58.02 341 P **P 00 14 06.1 -0.6**
ARCES LR LR 00 46 52.0
BSMT Bassoo Peak 58.77 52 *e*P **P 00 14 12.3 +0.3**
BSMT *e*pP pP 00 14 24.2 +4.0
AKTO Aktyubinsk 58.85 312 LR LR 00 42 11.8
comp=Z,712nm,18.1s,MS4.8,baz=232,slow=39
BMO Blue Mountains 59.15 56 *e*P **P 00 14 15.1 +0.5**
comp=Z,14nm,1.5s,mb4.8
MOD Modoc 59.16 60 PFAKE 00 14 30.0 +15
MOD LR LR
comp=Z,97nm,19.0s,MS4.0
FUNA Funafuti 59.59 150 PFAKE 00 14 30.0 +12
FUNA LR LR
comp=Z,3μm,19.0s
WVOR Wild Horse Val 59.83 59 PFAKE 00 14 30.0 +11
WVOR LR LR
comp=Z,197nm,19.0s,MS4.3
MSO Missoula 59.85 52 *e*P **P 00 14 19.4 0.0**
comp=Z,11nm,1.3s,mb4.7
NIL Nilore 59.98 288 P **P 00 14 22.1 +1.8**
comp=Z,90nm,0.7s,mb5.9,SNR=6.5
CHMT Chamberlain Mo 60.17 52 *e*P **P 00 14 21.6 0.0**
NDI New Delhi 60.45 282 *e*P **P 00 14 23.0 -0.6**
NDI *e*P 00 14 23.9
NDI AMb AMB 00 14 27.2
comp=Z,51nm,1.3s,mb5.4
SUMG Summit 60.87 4 *e*P **P 00 14 26.6 +0.3**
comp=Z,53nm,1.0s,mb5.6
LRM Limekiln Ridge 61.28 53 *e*P **P 00 14 30.4 +1.2**
LRM *e*pP pP 00 14 42.7 +5.3
EGMT Eagleton 61.35 49 PFAKE 00 14 40.0 +10
EGMT LR LR
comp=Z,202nm,21.0s,MS4.2
CMB Columbia Colle 61.46 64 *e*P **P 00 14 29.1 -1.3**
CMB MLR MLR
comp=Z,120nm,19.0s,MS4.1
JOF Joensuu 61.49 334 *e*p **P 00 14 29.1 -1.5**
HLID Hailey 61.59 56 *e*P **P 00 14 32.4 +1.1**
HLID LR LR
comp=Z,167nm,20.0s,MS4.2
SAO San Andreas Ge 61.59 66 PFAKE 00 14 40.0 +8.7
SAO LR LR
comp=Z,131nm,19.0s,MS4.1
BOZ Bozeman (W) 61.84 52 *e*P **P 00 14 32.3 -0.7**
BOZ pmax pmax
comp=Z,15nm,1.3s,mb5.0
BOZ MLR MLR
comp=Z,232nm,19.0s,MS4.4
BOZ Bozeman (W) 61.84 52 *e*P **P 00 14 32.2 -0.7**
comp=Z,15nm,1.3s,mb5.0
BOZ LR LR
comp=Z,232nm,19.0s,MS4.4
BMN Battle Mountai 61.90 60 PFAKE 00 14 50.0 +17
BMN LR LR
comp=Z,155nm,22.0s,MS4.1
QLMT Earthquake Lak 62.46 53 *e*pP pP 00 14 50.7 +5.3
YMR Madison River 62.82 53 PFAKE 00 14 50.0 +10
YMR LR LR
comp=Z,562nm,19.0s,MS4.8
LKWY Lake 63.20 53 PFAKE 00 14 50.0 +8.0
LKWY LR LR
comp=Z,175nm,21.0s,MS4.2
IMW Indian Meadow 63.33 54 *e*P **P 00 14 45.1 +2.3**
comp=Z,13nm,1.2s,mb4.9
TPH Tonopah 63.38 62 PFAKE 00 15 00.0 +17
TPH LR LR
comp=Z,127nm,19.0s,MS4.1
RLMT Red Lodge 63.46 52 *e*P **P 00 14 44.0 +0.3**
VIS Vishakhapatnam 63.52 268 *e*x x 00 14 25.8
MOOW Moose Ponds 63.53 54 *e*P **P 00 14 46.1 +1.9**
comp=Z,16nm,1.5s,mb4.8
TPAW Teton Pass 63.58 54 *e*P **P 00 14 47.1 +2.5**
KAF Kangasniemi 63.60 335 *e*p **P 00 14 43.0 -1.7**
comp=Z,17nm,0.8s,mb5.1,baz=37,slow=6.2
KAF Kangasniemi 63.60 335 *e*P **P 00 14 43.0 -1.7**
KAF pmax pmax
comp=Z,17nm,0.8s,mb5.1
AJM Ajmer 63.62 281 *e*P **P 00 14 45.0 +0.2**
AJM AMb AMB 00 14 49.0
comp=Z,31nm,1.2s,mb5.2
LOHW Long Hollow 63.70 54 *e*pP pP 00 14 51.7 -1.9
REDW Red Top Meadow 63.72 54 *e*P **P 00 14 47.5 +2.0**
BHPL Bhopal 63.86 277 *e*P **P 00 14 46.9 +0.5**
BHPL AMb AMB 00 14 50.1
comp=Z,55nm,1.8s,mb5.3
DGMT Dagmar 63.91 46 PFAKE 00 15 00.0 +13
DGMT LR LR
comp=Z,228nm,20.0s,MS4.3
AHID Auburn Hatcher 63.97 55 PFAKE 00 15 00.0 +13
AHID LR LR
comp=Z,114nm,19.0s,MS4.1
LAO LASA Array 64.05 49 PFAKE 00 15 00.0 +12
LAO LR LR
comp=Z,255nm,21.0s,MS4.4
FIA1 FINESS Array S 64.20 335 *e*P **P 00 14 47.1 -1.6**
FINES FINESS Array B 64.20 335 P **P 00 14 47.3 -1.3**
comp=Z,15nm,0.8s,mb5.1,baz=46,slow=8.2,SNR=54
FINES LR LR 00 46 50.6
comp=Z,338nm,18.7s,MS4.6,baz=25,slow=40
FINES FINESS Array B 64.20 335 *i*P **P 00 14 48.4 -0.2**
FINES pmax pmax
comp=Z,15nm,0.8s
DAC Darwin (Calif) 64.30 64 PFAKE 00 15 00.0 +11
DAC LR LR
comp=Z,145nm,19.0s,MS4.2
HWUT Hardware Ranch 64.45 56 PFAKE 00 15 00.0 +10
HWUT LR LR
comp=Z,178nm,22.0s,MS4.2
MOS Moscow 64.59 326 *e*P **P 00 14 49.3 -1.9**
DUG Dugway 64.65 58 *e*P **P 00 14 53.2 +1.6**
DUG pmax pmax
comp=Z,12nm,1.4s,mb4.7
DUG MLR MLR
comp=Z,125nm,19.0s,MS4.1
DUG Dugway 64.65 58 *e*P **P 00 14 53.2 +1.7**
comp=Z,12nm,1.4s,mb4.7
DUG LR LR
comp=Z,125nm,19.0s,MS4.1
BW06 Boulder Array 64.83 54 *e*P **P 00 14 54.7 +2.0**
BW06 LR LR
comp=Z,112nm,20.0s,MS4.1
PDAR Pinedale Array 64.83 54 P **P 00 14 52.2 -0.6**
comp=Z,2.0nm,0.8s,mb4.2,baz=314,slow=2.6,SNR=10
PDAR Pinedale Array 64.83 54 P **P 00 14 52.2 -0.6**
MPU Maple Canyon 65.45 57 PFAKE 00 15 10.0 +13
MPU LR LR
comp=Z,620nm,21.0s,MS4.8
OBN Obninsk 65.46 326 *c i*P **P 00 14 56.0 -0.8**
OBN *e* 00 15 07.4
OBN *e* 00 17 17.2
OBN pmax pmax
comp=Z,60nm,2.0s,mb5.3
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
OBN Obninsk 65.46 326 *e*P **P 00 14 56.0 -0.8**
comp=Z,11nm,0.8s,mb4.9
OBN LR LR
comp=Z,74nm,22.0s,MS3.8
SHPR Sheep Range 65.64 62 *e*P **P 00 15 00.6 +2.5**
MVU Marysvale 66.10 59 PFAKE 00 15 10.0 +9.0
MVU LR LR
comp=Z,233nm,19.0s,MS4.4
MSU Marysvale 66.12 59 *e*P **P 00 15 02.6 +1.5**
ULM Lac du Bonnet 66.64 41 P **P 00 15 03.7 -0.7**
comp=Z,3.3nm,0.9s,mb4.3,baz=104,slow=2.3,SNR=3.8
ULM Lac du Bonnet 66.64 41 P **P 00 15 03.7 -0.7**
ULM LR LR
comp=Z,287nm,19.0s,MS4.5
SRU San Rafael 66.69 57 *e*P **P 00 15 06.1 +1.4**
RSSD Black Hills 66.92 50 *e*P **P 00 15 05.4 -0.8**
VRSR Storozhevoye 67.24 321 *e*P **P 00 15 08.0 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 67.38 321 *e*P **P 00 15 08.5 -0.6**
VORD pmax pmax
comp=Z,20nm,1.5s,mb4.9
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=E,20nm,0.8s
PV10 Paradox Valley 68.04 57 *e*P **P 00 15 12.8 -0.5**
WRA Warramunga Arr 68.36 199 P **P 00 15 12.2 -3.1**
comp=E,1.6nm,0.8s,mb4.1,baz=16,slow=6.5,SNR=9.9
WRA LR LR 00 43 30.6
comp=E,60nm,20.7s,MS3.8,baz=345,slow=35
NB2 NORSAR Subarra 68.39 341 P **P 00 15 14.5 -1.0**
comp=Z,17nm,0.8s,mb5.1,baz=30,slow=6.5
NB2 NORSAR Subarra 68.39 341 P **P 00 15 14.5 -1.0**
NB2 pmax pmax
comp=Z,17nm,0.8s,mb5.1
NOA NORSAR Array B 68.39 341 P **P 00 15 14.3 -1.2**
comp=Z,13nm,0.8s,mb5.0,baz=27,slow=6.3,SNR=50
NOA LR LR 00 51 55.8
comp=Z,216nm,18.1s,MS4.4,baz=25,slow=42
WUAZ Wupatki 68.59 61 PFAKE 00 15 30.0 +13
WUAZ LR LR
comp=Z,128nm,21.0s,MS4.1
HFS Hagfors 68.62 340 LR LR 00 47 50.7
comp=Z,175nm,19.4s,MS4.3,baz=119,slow=38
NAO01 NORSAR Array S 68.64 341 *e*P **P 00 15 16.7 -0.3**
comp=Z,15nm,1.1s,mb4.8
SMCO Snowmass 68.68 55 *e*P **P 00 15 18.6 +1.3**
MDRS Chennai 68.88 267 *ex* x 00 14 15.9
ISCO Idaho Springs 69.02 54 *e*P **P 00 15 21.1 +1.7**
ISCO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ISCO MLR MLR
comp=Z,182nm,20.0s,MS4.3
ISCO Idaho Springs 69.02 54 *e*P **P 00 15 21.1 +1.7**
comp=Z,7.6nm,1.1s,mb4.5
ISCO LR LR
comp=Z,182nm,20.0s,MS4.3
MVCO Mesa Verde 69.15 58 *e*P **P 00 15 20.6 +0.4**
POO Poona 69.49 276 *e*P **P 00 15 21.0 -1.3**
GOF Gofitskoye 69.96 315 ⇓*i*P **P 00 15 19.7 -5.5**
GOF pmax pmax
comp=Z,80nm,1.7s,mb5.4
KONO Kongsberg 70.00 341 ⇑*e*P **P 00 15 24.4 -1.1**
KONO Kongsberg 70.00 341 PFAKE 00 15 40.0 +15
KONO LR LR
comp=Z,270nm,21.0s,MS4.5
KAD Karad 70.11 274 *e*P **P 00 15 26.8 +0.6**
KAD AMb AMB 00 15 34.4
comp=Z,42nm,1.9s,mb5.0
SDCO Great Sand Dun 70.51 56 PFAKE 00 15 40.0 +11
SDCO LR LR
comp=Z,113nm,19.0s,MS4.1
KIV Kislovodsk 70.93 314 *e*P **P 00 15 31.6 +0.5**
KIV *e*S S 00 24 44.2 -0.9
KIV pmax pmax
comp=Z,24nm,0.7s,mb5.2
KIV MLR MLR
comp=Z,501nm,18.0s,MS4.8
KIV Kislovodsk 70.93 314 *e*P **P 00 15 31.8 +0.6**
comp=Z,39nm,1.3s,mb5.2
KIV LR LR
comp=Z,81nm,19.0s,MS4.0
ECSD EROS,Sioux Fal 70.99 46 *e*P **P 00 15 28.7 -2.8**
TUC Tucson 71.14 63 PFAKE 00 15 40.0 +7.6
TUC LR LR
comp=Z,74nm,19.0s,MS4.0
SUW Suwalki 71.15 331 *e*P **P 00 15 31.6 -0.9**
ZEI Tsey 71.19 313 *e*P **P 00 15 32.5 -0.2**
ZEI *e**PP pP 00 15 41.9 +0.8
ZEI *e* 00 18 12.7
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AKASG Malin Array Be 71.70 326 P **P 00 15 34.5 -1.2**
comp=Z,17nm,0.8s,mb5.0,baz=33,slow=6.1,SNR=70
AKASG LR LR 00 50 59.4
comp=Z,154nm,18.5s,MS4.3,baz=30,slow=39
AKASG Malin Array Be 71.70 326 P **P 00 15 34.5 -1.3**
AKASG pmax pmax
comp=Z,17nm,0.8s
AKASG MLR MLR
comp=Z,154nm,18.5s
AKBB Malin Array Si 71.70 326 *e*P **P 00 15 35.2 -0.6**
ANMO Albuquerque 71.90 58 PFAKE 00 15 50.0 +13
ANMO LR LR
comp=Z,208nm,19.0s,MS4.4
AS31 Alice Springs 72.06 199 *e*P **P 00 15 37.9 0.0**
ASAR Alice Springs 72.06 199 P **P 00 15 34.4 -3.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=14,slow=4.8,SNR=20
ASAR LR LR 00 49 58.6
comp=Z,84nm,18.0s,MS4.0,baz=248,slow=38
ASAR Alice Springs 72.06 199 P **P 00 15 34.4 -3.5**
ASAR pmax pmax
comp=Z,30nm,0.8s
ASAR MLR MLR
comp=Z,84nm,18.0s
GNI Garni 72.65 310 LR LR 00 52 45.1
comp=Z,264nm,18.4s,MS4.5,baz=7.9,slow=40
GNI Garni 72.65 310 *e*P **P 00 15 40.4 -1.1**
GNI pmax pmax
comp=Z,16nm,0.8s
GNI MLR MLR
comp=Z,291nm,19.0s
GNI Garni 72.65 310 *e*P **P 00 15 40.4 -1.1**
comp=Z,16nm,0.8s,mb5.0
GNI LR LR
comp=Z,291nm,19.0s,MS4.6
ANN Anapa 72.81 318 *e*P **P 00 15 41.4 -1.1**
ANN *e*S S 00 25 07.9 +1.1
ANN pmax pmax
comp=Z,71nm,1.7s,mb5.3
ANN MLR MLR
comp=Z,201nm,13.0s,MS4.6
SCHQ Schefferville 73.45 23 LR LR 00 48 22.6
comp=Z,107nm,18.7s,MS4.2,baz=77,slow=36
SCHQ Schefferville 73.45 23 PFAKE 00 16 00.0 +14
SCHQ LR LR
comp=Z,440nm,20.0s,MS4.7
GKP Gorka Klasztor 73.66 334 *e*P **P 00 15 47.7 +0.3**
SIM Simferopol' 74.21 320 P **P 00 15 52.3 +1.7**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,300nm,17.0s,MS4.7
LVV L'vov 74.35 329 *e*P **P 00 15 52.1 +0.6**
LVV MLR MLR
comp=N,200nm,16.0s,MS4.7
LVV MLR MLR
comp=E,200nm,16.0s,MS4.7
LVV MLR MLR
comp=Z,200nm,16.0s,MS4.5
KIS Kishinev 74.83 324 *e*P **P 00 15 52.0 -2.3**
KIS MLR MLR
comp=Z,600nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,16.0s
KWP Kalwaria 74.98 329 *e*P **P 00 15 56.1 +1.0**
IAS Iasi 75.17 325 P **P 00 15 56.9 +0.7**
OJC Ojcow 75.48 331 *e*P **P 00 15 58.2 +0.2**
STHS Stebnicka Huta 75.67 330 *e*P **P 00 15 59.4 +0.3**
STHS *e*PCP PcP 00 16 11.1 -0.7
STHS Stebnicka Huta 75.67 330 *e*P **P 00 15 59.5 +0.4**
STHS *e* 00 16 11.1
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
STHS Stebnicka Huta 75.67 330 *e*P **P 00 15 59.5 +0.4**
comp=Z,7.6nm,0.9s,mb4.6
STHS *e* 00 16 11.1
KOLS Kolonicke sedl 75.72 329 *e*P **P 00 15 59.9 +0.5**
BURAR Bucovina Array 75.74 327 ⇓P **P 00 15 59.0 -0.5**
UZH Uzhgorod 75.97 329 *e*P **P 00 16 01.0 +0.2**
UZH pmax pmax
comp=Z,27nm,1.2s,mb5.0
NIE Niedzica 75.99 330 *e*P **P 00 16 01.2 +0.3**
CRVS Cervenica-Dubn 76.03 329 *e*P **P 00 16 01.6 +0.5**
OKC Ostrava-Krasne 76.35 332 *e*P **P 00 16 03.2 +0.3**
OKC *e*pP pP 00 16 14.5 +3.1
OKC AMS AMS 00 53 40.0
comp=Z,300nm,21.9s
OKC Ostrava-Krasne 76.35 332 *e*P **P 00 16 03.2 +0.3**
OKC *e*pP pP 00 16 14.5 +3.1
UPC Upice 76.44 333 *e*P **P 00 16 02.9 -0.6**
WMOK Wichita Mounta 76.44 54 *e*P **P 00 16 03.0 -0.5**
WMOK pmax pmax
comp=Z,14nm,1.6s,mb4.6
WMOK MLR MLR

comp=Z,218nm,20.0s,MS4.5
WMOK Wichita Mounta 76.44 54 *e*P **P 00 16 03.0 -0.4**
comp=Z,14nm,1.6s,mb4.6
WMOK LR LR
comp=Z,218nm,20.0s,MS4.5
DPC Dobruska-Polom 76.48 333 *e*P **P 00 16 04.2 +0.5**
DPC *e*pP pP 00 16 14.9 +2.8
DPC AMS AMS 00 54 20.0
comp=Z,600nm,16.3s
VRI Vrincioaia 76.59 325 ⇑P **P 00 16 04.7 +0.4**
MORC Moravsky Berou 76.60 332 ⇑P **P 00 16 04.1 -0.3**
CLL Collm 76.62 336 *i* P **P 00 16 04.1 -0.4**
CLL *e**PP pP 00 16 08.0 -5.0
CLL pmax pmax
comp=Z,22nm,0.8s,mb5.1
CLL Collm 76.62 336 *i* P **P 00 16 04.1 -0.4**
comp=Z,22nm,0.8s,mb5.1
CLL *e*pP pP 00 16 08.0 -5.0
CLL Collm 76.62 336 *i* P **P 00 16 04.1 -0.4**
comp=Z,22nm,0.8s,mb5.1
CLL *e*pP pP 00 16 08.0 -5.0
CLL *e*PcP PcP 00 16 17.0 +1.1
CLL LmV 00 54 00.0
comp=Z,200nm,18.9s
PLOR Plostina 76.64 325 ⇑P **P 00 16 05.1 +0.5**
KECS Kecovo 76.73 330 *e*P **P 00 16 04.8 -0.3**
KECS *e* 00 16 16.2
KECS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS Kecovo 76.73 330 *e*P **P 00 16 04.8 -0.3**
comp=Z,5.4nm,1.0s,mb4.4
KECS *e* 00 16 16.2
BRG Berggiesshubel 76.74 335 *i* P **P 00 16 05.5 +0.4**
comp=Z,9.0nm,1.4s,mb4.5
BRG *e* 00 16 26.6
comp=Z,5.1nm,1.3s
BRG
comp=N,175nm,16.8s
BRG
comp=E,119nm,18.5s
BRG
comp=Z,295nm,20.5s
BRG Berggiesshubel 76.74 335 *i* P **P 00 16 05.5 +0.4**
comp=Z,9.0nm,1.4s,mb4.5
BRG *e* 00 16 26.6
BRG LR LR
comp=Z,290nm,20.5s,MS4.6
PVCC Panska Ves 76.86 334 *e*P **P 00 16 06.1 +0.3**
PVCC *e*pP pP 00 16 14.6 +0.3
PVCC AMS AMS 00 54 00.0
comp=Z,500nm,20.0s
TIRR Tirgusor 77.06 323 ⇓P **P 00 16 08.7 +1.8**
MLR Muntele Rosu 77.21 325 P **P 00 16 08.7 +0.9**
MLR Muntele Rosu 77.21 325 ⇓P **P 00 16 08.8 +1.0**
MALT Malatya 77.28 313 *e*P **P 00 16 09.3 +1.1**
MALT pmax pmax
comp=Z,29nm,1.4s,mb5.0
MALT Malatya 77.28 313 *e*P **P 00 16 09.3 +1.1**
comp=Z,29nm,1.4s,mb5.0
ISR Istrita 77.28 324 ⇑P **P 00 16 10.0 +1.8**
VYHS Vyhne 77.28 331 *e*P **P 00 16 08.2 0.0**
VYHS *e* 00 16 19.3
VYHS pmax pmax
comp=Z,48nm,2.5s,mb5.0
VYHS Vyhne 77.28 331 *e*P **P 00 16 08.2 0.0**
comp=Z,48nm,2.5s,mb5.0
VYHS *e* 00 16 19.3
VRAC Vranov 77.31 333 ⇑P **P 00 16 09.5 +1.1**
PRU Pruhonice 77.35 334 *e*P **P 00 16 08.8 +0.2**
PRU *e*pP pP 00 16 19.9 +2.9
PRU AMS AMS 00 54 20.0
comp=Z,500nm,19.5s
DRGR 77.36 328 ⇓P **P 00 16 09.3 +0.6**
PSZ Piszkesteto 77.42 330⇑*e*P **P 00 16 09.3 +0.3**
SNX Sinaia 77.50 325 ⇑P **P 00 16 11.8 +2.4**
VOIR 77.61 325 ⇓P **P 00 16 11.1 +1.1**
MOX Moxa 77.61 336 *e*P **P 00 16 09.8 -0.3**
MOX
comp=Z,14nm,1.1s,mb4.8
MOX
comp=Z,300nm,18.0s
MOX Moxa 77.61 336 *e*P **P 00 16 09.8 -0.3**
MOX pmax pmax
comp=Z,12nm,1.1s,mb4.7
MOX MLR MLR
comp=Z,14µm,18.0s
TREC Trest 77.67 333 *e*P **P 00 16 10.8 +0.4**
SMOL Smolenice 77.73 332 *e*P **P 00 16 11.6 +0.9**
MTUR Matau 77.78 325 ⇑P **P 00 16 12.8 +1.8**
PSN Preselentsi 77.78 323 P **P 00 16 12.1 +1.1**
PSN Preselentsi 77.78 323 P **P 00 16 12.1 +1.1**
BHD Baghdad 77.91 306 *ex* x 00 16 13.5
CCM Cathedral Cave 77.93 47 PFAKE 00 16 20.0 +8.2
CCM LR LR
comp=Z,119nm,22.0s,MS4.2
BUD Budapest 78.09 330⇑*e*P **P 00 16 12.1 -0.6**
ZST Bratislava 78.12 332 *e*P **P 00 16 13.7 +0.8**
comp=Z,11nm,1.1s,mb4.7
ZST LR LR
comp=Z,400nm,15.9s,MS4.8
KHC Kasperske Hory 78.40 334 *e*P **P 00 16 14.9 +0.5**
KHC *e*pP pP 00 16 25.9 +3.0
KHC AMS AMS 00 55 00.0
comp=Z,500nm,18.4s
KHC Kasperske Hory 78.40 334⇑*e*P **P 00 16 13.8 -0.6**
PRD Provadia 78.51 323 *e*P **P 00 16 16.2 +1.2**
PRD Provadia 78.51 323 *e*P **P 00 16 16.2 +1.2**
GZR Gura Zlata 78.52 327 ⇓P **P 00 16 14.9 -0.2**
BR131 Keskin Array S 78.53 317 *e*P **P 00 16 15.8 +0.7**
comp=Z,8.0nm,1.0s,mb4.6
BR131 LR LR
comp=Z,128nm,19.0s,MS4.3
BRTR Keskin Array B 78.53 317 P **P 00 16 15.7 +0.5**
comp=Z,4.3nm,0.8s,mb4.4,baz=74,slow=3.9,SNR=21
BRTR Keskin Array B 78.53 317 P **P 00 16 15.7 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
GRA1 Grafenberg Arr 78.58 336 *e*P **P 00 16 16.2 +0.8**
comp=Z,27nm,1.2s,mb5.0
GRF Grafenberg Arr 78.58 336 *e*P **P 00 16 16.2 +0.8**
comp=Z,27nm,1.2s,mb5.0
GRF Grafenberg Arr 78.58 336 *e*P **P 00 16 16.2 +0.8**
GRF pmax pmax
comp=Z,27nm,1.2s,mb5.0
GRF Grafenberg Arr 78.58 336 *e*P **P 00 16 16.2 +0.8**
GRF pmax pmax
comp=Z,27nm,1.2s,mb5.0
GEC2 GERESS Array S 78.61 334 *e*P **P 00 16 13.9 -1.7**
GERES GERESS Array B 78.61 334 P **P 00 16 15.6 0.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=33,slow=4.9,SNR=21
GERES LR LR 00 55 28.7
comp=Z,477nm,18.0s,MS4.9,baz=215,slow=39
GERES GERESS Array B 78.61 334 P **P 00 16 15.6 0.0**
GERES pmax pmax
comp=Z,20nm,0.6s
GERES MLR MLR
comp=Z,477nm,18.0s
SOP Sopron 78.74 332⇓*e*P **P 00 16 17.5 +1.2**
CONA Conrad Observa 78.75 332 *i* P **P 00 16 17.5 +1.1**
comp=Z,14nm,1.3s,mb4.8,SNR=12
BZS Buzias 78.77 328 ⇑P **P 00 16 16.2 -0.2**
MIB Mutribah 78.77 301 *e*P **P 00 16 17.4 +0.9**
MIB AMb AMB 00 16 19.9
comp=Z,54nm,0.8s,mb5.5
STKA Stephens Creek 78.79 190 LR LR 00 47 43.5
comp=Z,141nm,21.3s,MS4.3,baz=322,slow=33
ANTO Ankara 78.81 317 PFAKE 00 16 30.0 +13
ANTO LR LR
comp=Z,151nm,20.0s,MS4.3
ZIMR 78.96 324 P **P 00 16 17.8 +0.3**
JCT Junction City 79.00 57 *e*P **P 00 16 19.5 +1.8**
JCT pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
JCT MLR MLR
comp=Z,126nm,20.0s,MS4.2
JCT Junction City 79.00 57 *e*P **P 00 16 19.5 +1.8**
comp=Z,5.1nm,0.7s,mb4.6
JCT LR LR
comp=Z,126nm,20.0s,MS4.2
SZH Strazhica 79.06 324 P **P 00 16 17.9 -0.2**
SZH Strazhica 79.06 324 P **P 00 16 17.9 -0.2**
RST Umm Al-Ruwaisa 79.19 302 *e*P **P 00 16 19.5 +0.7**
RST AMb AMB 00 16 22.0
comp=Z,54nm,0.9s,mb5.5
NAY Al-Naaiem 79.23 301 *e*P **P 00 16 19.9 +0.9**
NAY AMb AMB 00 16 21.5
comp=Z,24nm,1.1s,mb5.0
MOA Molln 79.33 333 *i* P **P 00 16 20.1 +0.6**
comp=Z,8.9nm,1.4s,mb4.5,SNR=8.2
PVL Pavlikeni 79.34 324 P **P 00 16 19.7 +0.1**
PVL Pavlikeni 79.34 324 P **P 00 16 19.7 +0.1**
JMB Yambol 79.45 323 *e*P **P 00 16 21.1 +0.9**
ARSA Arzberg 79.46 332 *i* P **P 00 16 21.0 +0.8**
comp=Z,9.3nm,1.4s,mb4.5,SNR=6.3
SNF Seneffe 79.61 340 P **P 00 16 22.6 +1.5**
RAR Rarotonga 79.76 136 PFAKE 00 16 30.0 +8.1
RAR LR LR
comp=Z,2.0nm,22.0s
GIVF Givet 79.86 340 *e*P **P 00 16 19.6 -2.8**
comp=Z,76nm,1.5s,mb5.1
GIVF Givet 79.86 340 *e*P **P 00 16 19.6 -2.8**
GIVF pmax pmax
comp=Z,38nm,1.5s,mb5.1
GIVF Givet 79.86 340 *e*P **P 00 16 19.6 -2.8**
comp=Z,38nm,1.5s,mb5.1
RAO Raoul Island 79.89 155 PFAKE 00 16 30.0 +7.4
RAO LR LR
comp=Z,413nm,20.0s,MS4.8
STU Stuttgart 79.98 337 *e*P **P 00 16 22.6 -0.5**
STU pmax pmax
comp=Z,26nm,1.3s,mb5.0
STU Stuttgart 79.98 337 *e*P **P 00 16 22.6 -0.5**
comp=Z,26nm,1.3s,mb5.0
BAIF Baives 80.05 340 *e*P **P 00 16 20.8 -2.6**
comp=Z,52nm,1.4s,mb5.0
BAIF Baives 80.05 340 *e*P **P 00 16 20.8 -2.6**
BAIF pmax pmax
comp=Z,26nm,1.4s,mb5.0
BAIF Baives 80.05 340 *e*P **P 00 16 20.8 -2.6**
comp=Z,26nm,1.4s,mb5.0
ACSO Alum Creek Sta 80.13 40 PFAKE 00 16 40.0 +16
ACSO LR LR
comp=Z,187nm,20.0s,MS4.4
PERS Pernice 80.13 332 *e*P **P 00 16 23.3 -0.6**
WCI Wyandotte Cave 80.21 43 *e*P **P 00 16 24.7 +0.4**
WCI pmax pmax
comp=Z,31nm,1.4s,mb5.0
WCI Wyandotte Cave 80.21 43 *e*P **P 00 16 24.6 +0.3**
comp=Z,31nm,1.4s,mb5.0
DIM Dimitrovgrad 80.23 323 P **P 00 16 25.3 +0.9**
KBA Koelnbreinsper 80.30 333⇓*i*P **P 00 16 25.5 +0.8**
comp=Z,47nm,1.2s,mb5.3,SNR=22
KBA Koelnbreinsper 80.30 333⇓*i*P **P 00 16 25.6 +0.8**
KBA pmax pmax
comp=Z,47nm,1.2s,mb5.3
PGB Panagyurishte 80.37 324 P **P 00 16 25.9 +0.7**
PGB Panagyurishte 80.37 324 P **P 00 16 25.9 +0.7**
PLD Plovdiv 80.53 324 P **P 00 16 27.4 +1.4**
PLD Plovdiv 80.53 324 P **P 00 16 27.4 +1.4**
WATA Walderalm 80.60 335⇑*i*P **P 00 16 27.2 +0.8**
comp=Z,25nm,1.3s,mb5.0,SNR=6.8
WATA Walderalm 80.60 335⇑*i*P **P 00 16 27.2 +0.8**
WATA pmax pmax
comp=Z,25nm,1.3s,mb5.0
BFO Black Forest 80.61 337 P **P 00 16 26.4 -0.1**
comp=Z,68nm,0.9s,mb5.6,SNR=5.6
WTTA Wattenberg 80.65 335⇓*i*P **P 00 16 27.4 +0.8**
comp=Z,30nm,1.6s,mb5.0,SNR=9.4
WTTA Wattenberg 80.65 335⇓*i*P **P 00 16 27.4 +0.7**
WTTA pmax pmax
comp=Z,30nm,1.6s,mb5.0
DIVS Divcibare 80.66 328 *e*P **P 00 16 30.8 +4.1**
VTS Vitosha 80.72 325 *e*P **P 00 16 26.9 -0.2**
VTS Vitosha 80.72 325 *i* P **P 00 16 27.4 +0.4**
VTS Vitosha 80.72 325 *i* P **P 00 16 27.4 +0.4**
MOTA Moosalm 80.73 335⇓*i*P **P 00 16 27.8 +0.7**
comp=Z,28nm,1.3s,mb5.0,SNR=12
MOTA Moosalm 80.73 335⇓*i*P **P 00 16 27.8 +0.7**
MOTA pmax pmax
comp=Z,29nm,1.3s,mb5.0
CRES Cresnjev 80.74 332 *e*P **P 00 16 26.1 -1.1**
SQTA Sankt Quirin 80.81 335⇓*i*P **P 00 16 28.5 +0.9**
comp=Z,27nm,1.3s,mb5.0,SNR=9.1
SQTA Sankt Quirin 80.81 335⇓*i*P **P 00 16 28.5 +0.9**
SQTA pmax pmax
comp=Z,27nm,1.3s,mb5.0
CDF Champ du Feu 80.82 338 *e*P **P 00 16 25.1 -2.5**
comp=Z,68nm,1.4s,mb5.1
CDF Champ du Feu 80.82 338 *e*P **P 00 16 25.1 -2.5**
CDF pmax pmax
comp=Z,34nm,1.4s,mb5.1
CDF Champ du Feu 80.82 338 *e*P **P 00 16 25.1 -2.5**
comp=Z,34nm,1.4s,mb5.1
TAOE Nuku Hiva Isla 80.86 113 *e*LR LR 00 40 50.1
comp=Z,788nm,28.5s
RZN Rozhen 80.87 324 P **P 00 16 27.4 -0.5**
RZN Rozhen 80.87 324 P **P 00 16 27.4 -0.5**
PTCC Patocco-Chiusa 80.90 333 P **P 00 16 26.3 -1.7**
comp=Z,5.4nm,0.8s,mb4.5
BOJS Bojanci 81.09 331 *e*P **P 00 16 28.2 -0.8**
JAVS Javornik 81.13 332 *e*P **P 00 16 27.9 -1.4**
JAVS *e* 00 16 40.9
WVT Waverly 81.14 46 *e*P **P 00 16 27.2 -2.1**
WVT pmax pmax
comp=Z,11nm,1.3s,mb4.6
WVT Waverly 81.14 46 *e*P **P 00 16 27.2 -2.0**
comp=Z,11nm,1.3s,mb4.6
DAVA Damuels 81.14 336⇑*i*P **P 00 16 29.5 +0.3**
comp=Z,18nm,1.4s,mb4.8
MEZF Maizieres J'vi 81.30 339 *e*P **P 00 16 27.8 -2.3**
comp=Z,44nm,1.0s,mb5.0
MEZF Maizieres J'vi 81.30 339 *e*P **P 00 16 27.8 -2.3**
comp=Z,44nm,1.0s,mb5.3
HAU Haudompre 81.43 338 *e*P **P 00 16 28.1 -2.7**
HAU *e*MLR MLR
comp=Z,253nm,18.8s
HAU Haudompre 81.43 338 *e*P **P 00 16 28.1 -2.7**
HAU LR LR
comp=Z,250nm,18.8s,MS4.6
HINF Hinteralfeld 81.48 338 *e*P **P 00 16 28.1 -3.0**
comp=Z,34nm,1.3s,mb4.8
HINF Hinteralfeld 81.48 338 *e*P **P 00 16 28.1 -3.0**
HINF pmax pmax
comp=Z,17nm,1.3s,mb4.8
HINF Hinteralfeld 81.48 338 *e*P **P 00 16 28.1 -3.0**
comp=Z,17nm,1.3s,mb4.8
OXF Oxford 81.62 48 PFAKE 00 16 40.0 +8.2
OXF LR LR
comp=Z,156nm,20.0s,MS4.4
HKT Hockley 81.67 55 PFAKE 00 16 40.0 +7.9
HKT LR LR
comp=Z,150nm,19.0s,MS4.4
BRMO Bormio 81.73 335 P **P 00 16 33.6 +1.2**
SRS Serrai 81.81 324 *e*P **P 00 16 32.0 -0.8**
STIP Stip 81.88 325 *i* P **P 00 16 33.4 +0.2**
PLAL Pickwick Lake 81.92 47 PFAKE 00 16 40.0 +6.6
PLAL LR LR
comp=Z,177nm,19.0s,MS4.5
SKO Skopje 81.94 326 *e*P **P 00 16 33.1 -0.4**
SKO Skopje 81.94 326 *i* P **P 00 16 32.8 -0.7**
PPT Papeete 82.04 126 *e*LR LR 00 41 26.4
comp=Z,368nm,25.5s,baz=322
PPT Papeete 82.04 126 LR LR 00 52 29.6
comp=Z,170nm,18.1s,MS4.5,baz=338,slow=35
VAY Valandovo 82.05 325 *e*P **P 00 16 34.2 +0.1**
VAY Valandovo 82.05 325 *i* P **P 00 16 33.2 -0.8**
SOH Sokhos 82.15 324 *e*P **P 00 16 35.1 +0.4**
FLN La Foliniere 82.30 343 *e*P **P 00 16 32.5 -2.9**
comp=Z,120nm,1.5s,mb5.3
FLN La Foliniere 82.30 343 *e*P **P 00 16 32.5 -2.9**
FLN pmax pmax
comp=Z,60nm,1.5s,mb5.3
FLN La Foliniere 82.30 343 *e*P **P 00 16 32.5 -2.9**
comp=Z,60nm,1.5s,mb5.3
LDF La Druitiere 82.39 342 *e*P **P 00 16 33.1 -2.8**
comp=Z,44nm,1.4s,mb4.9
LDF La Druitiere 82.39 342 *e*P **P 00 16 33.1 -2.8**
LDF pmax pmax
comp=Z,22nm,1.4s,mb4.9
LDF La Druitiere 82.39 342 *e*P **P 00 16 33.1 -2.8**
comp=Z,22nm,1.4s,mb4.9
GRG Griva 82.42 325 *e*P **P 00 16 36.0 -0.1**
HORT Hortiatis 82.45 324 *e*P **P 00 16 36.2 0.0**
PLG Polygyros 82.49 324 *e*P **P 00 16 35.5 -0.9**
GRR Gorron 82.73 343 *e*P **P 00 16 34.9 -2.8**
comp=Z,95nm,1.5s,mb5.3
GRR Gorron 82.73 343 *e*P **P 00 16 34.9 -2.8**
GRR pmax pmax
comp=Z,48nm,1.5s,mb5.3
GRR Gorron 82.73 343 *e*P **P 00 16 34.9 -2.8**
comp=Z,48nm,1.5s,mb5.3
LOR Lormes 82.74 339 *e*P **P 00 16 35.1 -2.6**
comp=Z,126nm,1.6s,mb5.4
LOR *e*MLR MLR
comp=Z,238nm,22.5s
LOR Lormes 82.74 339 *e*P **P 00 16 35.1 -2.6**
LOR pmax pmax
comp=Z,63nm,1.6s,mb5.4
LOR MLR MLR
comp=Z,240nm,22.5s,MS4.5
LOR Lormes 82.74 339 *e*P **P 00 16 35.1 -2.6**
comp=Z,63nm,1.6s,mb5.4
LOR LR LR
comp=Z,240nm,22.5s,MS4.5
BIA Bitola 82.80 325 *i* P **P 00 16 37.3 -0.7**
OHR Ohrid 82.92 326 *i* P **P 00 16 38.0 -0.6**
FNA Florina 82.98 325 *e*P **P 00 16 37.3 -1.6**
WES Weston 83.02 32 PFAKE 00 16 50.0 +11
WES LR LR
comp=Z,1µm,22.0s,MS5.3
ROSF Rostrenen 83.25 344 *e*P **P 00 16 37.7 -2.6**
comp=Z,117nm,1.4s,mb5.4
ROSF Rostrenen 83.25 344 *e*P **P 00 16 37.7 -2.6**
ROSF pmax pmax
comp=Z,59nm,1.4s,mb5.4
ROSF Rostrenen 83.25 344 *e*P **P 00 16 37.7 -2.6**
comp=Z,59nm,1.4s,mb5.4
AVF Avril sur Loir 83.31 340 *e*P **P 00 16 38.1 -2.5**
comp=Z,49nm,1.1s,mb5.2
AVF Avril sur Loir 83.31 340 *e*P **P 00 16 38.1 -2.5**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.2
AVF Avril sur Loir 83.31 340 *e*P **P 00 16 38.1 -2.5**
comp=Z,25nm,1.1s,mb5.2
SMF Signal de Mont 83.33 339 *e*P **P 00 16 38.3 -2.4**
comp=Z,170nm,1.5s,mb5.5
SMF Signal de Mont 83.33 339 *e*P **P 00 16 38.3 -2.4**
SMF pmax pmax
comp=Z,85nm,1.5s,mb5.5
SMF Signal de Mont 83.33 339 *e*P **P 00 16 38.3 -2.4**
comp=Z,85nm,1.5s,mb5.5
AOS Alonnisos 83.33 323 *e*P **P 00 16 41.3 +0.5**
RSM Repubblica di 83.40 333 P **P 00 16 42.2 +1.1**
RSM pmax pmax
comp=Z,81nm,1.4s,mb5.6
RSM Repubblica di 83.40 333 P **P 00 16 42.2 +1.1**
comp=Z,81nm,1.4s,mb5.6
XOR Xorichti 83.45 323 *e*P **P 00 16 41.1 -0.3**
FSSB Fossombrone 83.51 332 P **P 00 16 42.3 +0.6**
comp=Z,12nm,0.6s,mb5.2
LPL La Plagne 83.63 337 *e*P **P 00 16 40.8 -1.5**
LPG La Plagne 83.64 337 *e*P **P 00 16 40.9 -1.5**
comp=Z,60nm,1.3s,mb5.3
LPG La Plagne 83.64 337 *e*P **P 00 16 40.9 -1.5**
LPG pmax pmax
comp=Z,30nm,1.3s,mb5.3
LPG La Plagne 83.64 337 *e*P **P 00 16 40.9 -1.5**
comp=Z,30nm,1.3s,mb5.3
BGF Bois d'Agland 83.65 340 *e*P **P 00 16 38.7 -3.7**
comp=Z,73nm,1.4s,mb5.3
BGF Bois d'Agland 83.65 340 *e*P **P 00 16 38.7 -3.7**
BGF pmax pmax
comp=Z,37nm,1.4s,mb5.3
BGF Bois d'Agland 83.65 340 *e*P **P 00 16 38.7 -3.7**
comp=Z,36nm,1.4s,mb5.3
BADI Badiali 83.84 333 P **P 00 16 46.5 +3.1**
comp=Z,56nm,2.2s,mb5.3
SNTG Esanatoglia 83.84 332 P **P 00 16 44.1 +0.7**
comp=Z,3.6nm,0.1s,mb5.5
MURB Monte Urbino 83.97 332 P **P 00 16 44.4 +0.4**
comp=Z,38nm,1.3s,mb5.4
TCF Toulx Ste Croi 84.05 340 *e*P **P 00 16 42.2 -2.3**
comp=Z,50nm,1.3s,mb5.2
TCF Toulx Ste Croi 84.05 340 *e*P **P 00 16 42.2 -2.3**
TCF pmax pmax
comp=Z,25nm,1.3s,mb5.2
TCF Toulx Ste Croi 84.05 340 *e*P **P 00 16 42.2 -2.3**
comp=Z,25nm,1.3s,mb5.2
BNI Bardonecchia 84.08 337 *e*P **P 00 16 43.4 -1.2**
BNI pmax pmax
comp=Z,11nm,1.2s,mb4.9
BNI Bardonecchia 84.08 337 *e*P **P 00 16 43.4 -1.2**
comp=Z,11nm,1.2s,mb4.9
FGMS Monte Sant'Ang 84.20 329 P **P 00 16 44.9 -0.3**
comp=Z,10nm,0.7s,mb5.1
CBN Corbin 84.24 38 PFAKE 00 17 00.0 +15
CBN LR LR
comp=Z,133nm,20.0s,MS4.3
MBDF Montbardon 84.35 337 *e*P **P 00 16 43.8 -2.2**
comp=Z,45nm,1.5s,mb5.1
MBDF Montbardon 84.35 337 *e*P **P 00 16 43.8 -2.2**
MBDF pmax pmax
comp=Z,23nm,1.5s,mb5.1
MBDF Montbardon 84.35 337 *e*P **P 00 16 43.8 -2.2**
comp=Z,22nm,1.5s,mb5.1
RGNG Rignano Grg 84.36 329 P **P 00 16 45.5 -0.5**
ORIF Oris-en-Rattie 84.42 337 *e*P **P 00 16 44.5 -1.8**
comp=Z,26nm,1.0s,mb5.0
ORIF Oris-en-Rattie 84.42 337 *e*P **P 00 16 44.5 -1.8**
ORIF *e*MLR MLR
comp=Z,209nm,23.0s
ORIF Oris-en-Rattie 84.42 337 *e*P **P 00 16 44.5 -1.8**
ORIF pmax pmax
comp=Z,13nm,1.0s,mb5.0
ORIF Oris-en-Rattie 84.42 337 *e*P **P 00 16 44.5 -1.8**
comp=Z,13nm,1.0s,mb5.0
AQU L'Aquila 84.50 331 *e*P **P 00 16 45.8 -0.9**
AQU pmax pmax
comp=Z,12nm,0.9s,mb5.0
AQU L'Aquila 84.50 331 *e*P **P 00 16 45.8 -0.9**
comp=Z,12nm,0.9s,mb5.0
FIAM Fiamignano 84.67 331 P **P 00 16 47.5 -0.1**
VIVF Saint-Julien-I 84.79 338 *e*P **P 00 16 46.2 -2.0**
comp=Z,95nm,1.7s,mb5.3
VIVF Saint-Julien-I 84.79 338 *e*P **P 00 16 46.2 -2.0**
VIVF pmax pmax
comp=Z,48nm,1.7s,mb5.3
VIVF Saint-Julien-I 84.79 338 *e*P **P 00 16 46.2 -2.0**
comp=Z,48nm,1.7s,mb5.3
RNI2 Rionero Sannit 84.83 330 P **P 00 16 51.6 +3.2**
comp=Z,64nm,1.9s,mb5.4
MRLC Muro Lucano 85.20 329 P **P 00 16 41.8 -8.5**
CAF Calviac 85.37 340 *e*P **P 00 16 48.3 -2.8**
comp=Z,98nm,1.7s,mb5.4
CAF Calviac 85.37 340 *e*P **P 00 16 48.3 -2.8**
CAF pmax pmax
comp=Z,49nm,1.7s,mb5.4
CAF Calviac 85.37 340 *e*P **P 00 16 48.3 -2.8**
comp=Z,49nm,1.7s,mb5.4
SMRF Simiane la Rot 85.37 337 *e*P **P 00 16 49.3 -1.8**
comp=Z,71nm,1.6s,mb5.2
SMRF Simiane la Rot 85.37 337 *e*P **P 00 16 49.3 -1.8**
comp=Z,71nm,1.6s,mb5.2
FRF La Foret Royal 85.46 336 *e*P **P 00 16 48.9 -2.7**
comp=Z,82nm,1.5s,mb5.3
FRF La Foret Royal 85.46 336 *e*P **P 00 16 48.9 -2.7**
FRF pmax pmax
comp=Z,41nm,1.5s,mb5.3
FRF La Foret Royal 85.46 336 *e*P **P 00 16 48.9 -2.7**
comp=Z,41nm,1.5s,mb5.3
NWAO Narrogin (SRO) 85.52 210 *e*P **P 00 16 53.6 +1.8**
NWAO pmax pmax
comp=Z,76nm,1.6s
NWAO Narrogin (SRO) 85.52 210 *e*P **P 00 16 53.6 +1.7**
comp=Z,76nm,1.6s,mb5.7
LMR La Mourre 85.71 336 *e*P **P 00 16 50.5 -2.3**
comp=Z,76nm,1.4s,mb5.4
LMR La Mourre 85.71 336 *e*P **P 00 16 50.5 -2.3**
LMR pmax pmax
comp=Z,38nm,1.4s,mb5.4
LMR La Mourre 85.71 336 *e*P **P 00 16 50.5 -2.3**
comp=Z,38nm,1.4s,mb5.4
LASF Ste Croix 85.73 338 *e*P **P 00 16 49.1 -3.8**
comp=Z,48nm,1.3s,mb5.3
TBI Tubuai 86.78 129 *e*LR LR 00 43 38.4
comp=Z,228nm,25.8s
MTLF Montolieu 86.83 339 *e*P **P 00 16 54.5 -3.8**
SLNA Salina 87.38 329 P **P 00 17 00.3 -0.7**
DWPF Disney 90.79 46 PFAKE 00 17 30.0 +13
DWPF LR LR
comp=Z,164nm,19.0s,MS4.5
ESDC Sonseca Array 91.72 343 P **P 00 17 19.8 -1.6**
comp=Z,0.7nm,0.8s,mb4.1,baz=17,slow=3.8,SNR=3.3
ESDC LR LR 01 04 31.9
comp=Z,182nm,18.7s,MS4.5,baz=305,slow=39
KEST Kesra 91.83 331 P **P 00 17 22.2 +0.4**
comp=Z,1.4nm,0.9s,mb4.3,baz=317,slow=4.6,SNR=5.5
KEST LR LR 01 02 49.4
comp=Z,81nm,18.4s,MS4.2,baz=80,slow=38

RKT	Rikitea	94.89	119	eLR	LR	00 47 21.5	
	comp=Z,314nm,31.2s						
JTS	JuntasAbangare	103.31	59	PFAKE		00 18 30.0	+16
JTS				LR	LR		
	comp=Z,21nm,19.0s,MS3.7						
SJG	San Juan	106.50	39	PFAKE		00 22 50.0	+11
SJG				LR	LR		
	comp=Z,98nm,21.0s,MS4.3						
KMBO	Kilima Mbogo	108.38	289	PFAKE		00 22 50.0	+7.8
KMBO				LR	LR		
	comp=Z,121nm,21.0s,MS4.4						
SDV	Santo Domingo	112.40	48	PFAKE		00 23 00.0	+10
SDV				LR	LR		
	comp=Z,169nm,21.0s,MS4.6						
TORD	Torodi Ar. Bea	115.25	329	PKP	PKiKP	00 22 52.2	-3.0
	comp=Z,0.4nm,0.7s,baz=17,slow=2.1,SNR=4.7						
CASY	Casey	117.18	198	PFAKE		00 23 10.0	+11
CASY				LR	LR		
	comp=Z,240nm,20.0s,MS4.8						
MSKU	Masuku	123.04	309	PFAKE		00 23 20.0	+10
MSKU				LR	LR		
	comp=Z,2.0nm,20.0s						
DBIC	Dimbokro	123.48	334	PFAKE		00 23 20.0	+9.0
DBIC				LR	LR		
	comp=Z,207nm,21.0s,MS4.8						
VNDA	Vanda	123.95	178	PFAKE		00 23 20.0	+8.1
VNDA				LR	LR		
	comp=Z,163nm,20.0s,MS4.7						
LSZ	Lusaka	124.82	286	PFAKE		00 23 30.0	+16
LSZ				LR	LR		
	comp=Z,204nm,19.0s,MS4.8						
SAML	Samuel	131.37	51	PFAKE		00 23 40.0	+14
SAML				LR	LR		
	comp=Z,59nm,19.0s,MS4.3						
LPAZ	La Paz	134.40	62	PFAKE		00 23 40.0	+8.2
LPAZ				LR	LR		
	comp=Z,96nm,19.0s,MS4.5						
QSPA	South Pole Qui	136.32	180	PFAKE		00 23 50.0	+15
QSPA				LR	LR		
	comp=Z,88nm,20.0s,MS4.5						
BDFB	Brasilia	144.46	37	PKP	PKPdf	00 23 49.4	-0.7
	comp=Z,5.4nm,1.1s,baz=27,slow=5.0,SNR=3.7						
BDFB	Brasilia	144.46	37	PKIKP	PKPdf	00 23 49.4	-0.7
BDFB				pmax	pmax		
	comp=Z,50nm,1.2s						
PLCA	Paso Flores	148.17	95	PKPbc	PKPbc	00 23 56.6	-3.0
	comp=Z,3.6nm,0.8s,baz=245,slow=3.1,SNR=7.8						
PLCA	Paso Flores	148.17	95	PKIKP	PKPdf	00 23 56.6	+0.2
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CPUP	Villa Florida	148.53	61	PKPbc	PKPbc	00 23 59.5	-1.0
	comp=Z,4.1nm,0.9s,baz=294,slow=4.6,SNR=7.5						
CPUP	Villa Florida	148.53	61	PKP2	PKPbc	00 23 59.6	-1.0
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	Sanae	152.40	196	PKPbc	PKPbc	00 24 07.3	-2.5
	comp=Z,0.5nm,0.7s,baz=192,slow=9.3,SNR=3.1						
SNAA	Sanae	152.40	196	PKIKP	PKPbc	00 24 07.3	-2.5
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 01 00:12:16.7±6.4, 4681N×15283E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/22, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=149.8km s-min=35.9km az=133.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.68	253	Pn	Pn	00 14 08.3	-1.6
	0.4nm,0.3s,baz=59,slow=18,SNR=2.5						
MJAR	Matsushiro Arr	14.96	232	Pn	Pn	00 15 50.8	+1.3
	0.1nm,0.3s,baz=31,slow=10,SNR=5.6						
MKAR	Makanchi Array	46.74	297	P	P	00 20 47.6	0.0
	0.3nm,0.3s,baz=70,slow=6.8,SNR=6.2						
FINES	FINESS Array B	63.90	335	P	P	00 22 51.1	-0.2
	0.4nm,0.4s,baz=36,slow=6.3,SNR=13						
NOA	NORSAR Array B	68.11	341	P	P	00 23 17.4	-0.9
	0.7nm,0.7s,baz=25,slow=6.1,SNR=3.8						
HFS	Hagfors	68.33	339	P	P	00 23 19.1	-0.7
	0.6nm,0.4s,baz=81,slow=8.9,SNR=3.8						

*CSEM **01** 00:15:53.0±0.2, 4089N×28.12E, h15km, MD2.8, Error ellipse: s-maj=8.3km s-min=2.2km az=171.0*
ISK 01 00:15:53.4, 4088N×2809E, h28km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	Marmara Adasi	0.47	233	PG	Pb	00 16 03.8	+0.6
MFT	Murefte	0.62	261	PG	Pb	00 16 06.4	+0.7
RKY	Sarkoy-Tekirda	0.72	254	PG	Pb	00 16 08.0	+0.6
RKY				SG	Sb	00 16 18.1	+1.2
ISK	Istanbul-Kandi	0.76	76	eP	Pb	00 16 08.1	+0.1
KLYT	Kilyos	0.81	63	PG	Pb	00 16 09.3	+0.4
GEMT	Gemlik	0.95	118	PG	Pn	00 16 11.5	+0.7
YLV	Yalova	1.02	108	PG	Pn	00 16 11.8	-0.1
YLV				SG	Sn	00 16 25.9	+0.6
CANB	Canakkale	1.17	223	PN	Pn	00 16 15.1	+1.2
HRT	Hereke	1.20	92	PN	Pn	00 16 15.1	+0.8
ADVT	Abdulvahap	1.33	109	ePN	Pn	00 16 17.3	+1.2
EDRB	Edirne	1.40	314	ePN	Pn	00 16 18.2	+1.2
ALN	Alexandroupoli	1.55	271	eP	Pn	00 16 21.6	+2.4
ALN	Alexandroupoli	1.55	271	eP	Pn	00 16 21.5	+2.4

*ISCJB **01** 00:17:01.4±0.2, 5047N±001×728E±002, h10km±2km, Error ellipse: s-maj=2.3km s-min=2.1km az=178.2*
*STR **01** 00:17:03.7±0.9, 5053N×720E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 00:17:03.8±0.1, 5051N×724E, h4km, Md3.1/1, Ml3.0/19, Error ellipse: s-maj=1.1km s-min=0.8km az=86.0*
*NEIC **01** 00:17:03.8, 5051N×724E, h4km, ML2.6(STR), ML3.0(LDG), After LDG.*
*CSEM **01** 00:17:03.7±0.1, 5051N×724E, h5km, ML3.1/15, Error ellipse: s-maj=0.9km s-min=0.7km az=92.0*
*BGR **01** 00:17:03.6±0.6, 5052N×729E, h5km, ML2.5/2, Error ellipse: s-maj=6.7km s-min=3.3km az=66.0*
*BNS **01** 00:17:04.0±1.0, 5051N×722E, h3km, ML2.2*
*UCC **01** 00:17:04.3±0.8, 5048N×717E, h10km±3km, ML2.2*
ISC 01 00:17:02.7±0.2, 5049N±001×722E±002, h14km±2km, n85, $\sigma 1^{s}08$/191, 4C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STB	Steinbach	0.27	293⇑	ePg	Pg	00 17 09.1	+0.6
STB				eSg	Sg	00 17 12.3	+0.1
	477nm,0.1s						
BGG	Burgeitz	0.29	166	ePg	Pg	00 17 10.3	+1.5
BGG				eSg	Sg	00 17 14.3	+1.2
	131nm,0.1s						
HILG	Hillesheim	0.40	241⇓	ePg	Pg	00 17 11.9	+1.1
HILG				eSg	Sg	00 17 17.1	+0.9
HILG	Hillesheim	0.40	241	Pg	Pg	00 17 11.9	+1.1
HILG				Sg	Sg	00 17 17.1	+0.9
BNS	Bensberg	0.48	356	ePg	Pg	00 17 12.5	+0.3
BNS				eSg	Sg	00 17 18.3	-0.3
	669nm,0.1s						
HOBG	Hohbusch	0.50	8⇑	ePg	Pg	00 17 12.7	+0.1
HOBG				eSg	Sg	00 17 18.4	-0.9
KLL	Kalltalsperre	0.60	285	ePg	Pg	00 17 14.8	+0.2
KLL				eSg	Sg	00 17 23.4	+0.8
	72nm,0.4s						
DREG	Dreilaegerbach	0.66	286	ePg	Pg	00 17 16.1	+0.6
DREG				eSg	Sg	00 17 25.4	+1.2
	122nm,0.6s						
MEM	Membach	0.79	279	P	Pg	00 17 18.3	+0.3
MEM				S	Sg	00 17 27.5	-0.8
MEM	Membach	0.79	279	P	Pg	00 17 18.2	+0.2
RUP	Ruppelstein	0.80	188	Pg	Pg	00 17 19.8	+1.6
TNS	Taunus Mts	0.83	108	ePg	Pg	00 17 19.6	+0.8
TNS				eSg	Sg	00 17 29.6	-0.1
	SNR=1.9						
TNS	Taunus Mts	0.83	108	ePg	Pg	00 17 19.3	+0.5
TNS				eSg	Sg	00 17 29.1	-0.6
HGN	Heimansgroeve	0.87	289	ePg	Pg	00 17 19.8	+0.3
	36nm,0.2s,baz=100						
HGN				eSg	Sg	00 17 30.0	-0.9
LAUG	Laupendahl	0.88	349	ePg	Pg	00 17 20.2	+0.4
LAUG				eSg	Sg	00 17 31.8	+0.5
RODG	Roetgen-Dahlhe	0.93	315	ePg	Pg	00 17 21.8	+1.0
RODG				eSg	Sg	00 17 33.9	+0.9
BUG	Bochum--Univer	0.95	2	ePg	Pg	00 17 25.6	+4.4
	SNR=4.9						
BUG				eSg	Sg	00 17 33.3	-0.3
	SNR=4.9						
BUG	Bochum--Univer	0.95	2	ePg	Pg	00 17 21.3	+0.1
BUG				eSg	Sg	00 17 33.3	-0.3
BEBN	Eben Emael	1.03	288	⇑P	Pb	00 17 22.9	+0.6
WLF	Walferdange	1.08	220	ePg	Pg	00 17 23.8	+0.3
WLF				eSg	Sg	00 17 38.7	+1.2
WLF	Walferdange	1.08	220	P	Pb	00 17 23.9	+0.8
WLF				S	Sb	00 17 37.5	+0.6
	comp=N,47nm,0.4s						
BCLA	Clavier	1.23	267	⇑P	Pn	00 17 26.8	+1.4
BCLA				S	Sb	00 17 41.1	-0.3
	comp=E,45nm,0.2s						
BCLA	Clavier	1.23	267	P	Pn	00 17 26.7	+1.3
TOD	Tromm	1.35	130	Pg	Pg	00 17 29.3	+0.6
WTSB	Winterswijk	1.50	350	ePg	Pg	00 17 30.4	-1.2
	comp=E,7.6nm,0.2s						
WTSB				eSg	Sg	00 17 50.4	-0.8
LANF	Langenberg	1.56	166	Pg	Pg	00 17 31.6	-1.1
LANF				Sg	Sg	00 17 53.2	+0.3
GIVF	Givet	1.59	257	eP	Pn	00 17 33.0	+2.6
	SNR=1.0						
GIVF	Givet	1.59	257	ePg	Pg	00 17 33.6	+0.4
	SNR=1.0						
GIVF				eSn	Sn	00 17 51.2	+0.6
	comp=E,70nm,0.2s,SNR=1.0						
GIVF	Givet	1.59	257	ePn	Pn	00 17 31.3	+0.9
GIVF				ePg	Pg	00 17 33.6	+0.4
GIVF	Givet	1.59	257	eP	Pn	00 17 33.0	+2.6
	SNR=1.0						
GIVF	Givet	1.59	257	ePg	Pg	00 17 33.6	+0.4
	SNR=1.0						
GIVF				eSn	Sn	00 17 51.2	+0.6
	comp=E,35nm,0.2s,SNR=1.0						
DOU	Dourbes	1.73	258	P	Pn	00 17 33.5	+1.2
UBBA	Unterbreizbach	1.80	78	ePn	Pn	00 17 33.3	+0.1
UBBA				ePg	Pg	00 17 36.1	-1.2
UBBA				eSg	Sg	00 17 59.2	-1.5
	SNR=2.3						
IBBN	Ibbenburen	1.85	10	ePg	Pg	00 17 36.8	-1.4
IBBN				eSg	Sg	00 18 01.0	-1.3
	SNR=5.1						
BAIF	Baives	1.98	259	ePg	Pg	00 17 40.5	-0.3
	SNR=1.0						
BAIF				eSn	Sn	00 18 00.6	+0.2
	comp=E,46nm,0.3s						
BAIF	Baives	1.98	259	ePn	Pn	00 17 36.9	+1.1
BAIF				ePg	Pg	00 17 40.5	-0.3
BAIF				eSn	Sn	00 18 00.6	+0.2
BAIF	Baives	1.98	259	ePg	Pg	00 17 40.5	-0.3
	SNR=1.0						
BAIF				eSn	Sn	00 18 00.6	+0.2
	comp=E,23nm,0.3s						
CDF	Champ du Feu	2.08	179	ePn	Pn	00 17 38.5	+1.4
CDF				eSn	Sn	00 18 03.0	+0.2
CDF				eSg	Sg	00 18 10.2	+0.6
	comp=E,27nm,0.5s						
CDF	Champ du Feu	2.08	179	ePn	Pn	00 17 38.5	+1.4
CDF				eSn	Sn	00 18 03.0	+0.2
CDF				eSg	Sg	00 18 10.2	+0.6
	comp=E,13nm,0.5s						
WLS	Welschbruch	2.08	178	Pg	Pn	00 17 39.6	+2.5
WLS				Sg	Sg	00 18 08.1	-1.5
RFYF	Reffroy	2.18	212	ePn	Pn	00 17 39.5	+0.9
	baz=27						
RFYF				eSn	Sn	00 18 05.1	-0.2
RFYF				eSg	Sg	00 18 13.5	+0.6
	comp=E,31nm,0.3s						
RFYF	Reffroy	2.18	212	ePn	Pn	00 17 39.5	+0.9
RFYF				eSn	Sn	00 18 05.1	-0.2
RFYF				eSg	Sg	00 18 13.5	+0.6
	comp=E,16nm,0.3s						
ECH	Echery	2.28	181	Pg	Pn	00 17 42.1	+2.3
ECH				Sg	Sg	00 18 15.0	-0.9
BFO	Black Forest	2.28	161	eSg	Sg	00 18 16.3	+0.3
	SNR=2.2						
CLZ	Clausthal	2.40	54	ePn	Pn	00 17 41.2	-0.4
CLZ				ePg	Pg	00 17 46.9	-1.9
CLZ				eSg	Sg	00 18 18.4	-1.5
	SNR=1.4						
CLZ	Clausthal	2.40	54	ePn	Pn	00 17 41.0	-0.5
MEZF	Maizieres J'vi	2.44	216	ePn	Pn	00 17 43.6	+1.5
	baz=32,SNR=1.0						
MEZF	Maizieres J'vi	2.44	216	ePg	Pg	00 17 49.4	-0.2
	baz=35						
MEZF				eSn	Sn	00 18 11.7	0.0
MEZF				eSg	Sg	00 18 21.2	0.0
	comp=E,12nm,0.2s,SNR=1.0						
MEZF	Maizieres J'vi	2.44	216	ePn	Pn	00 17 43.6	+1.5
MEZF				ePg	Pg	00 17 49.4	-0.2
MEZF				eSn	Sn	00 18 11.7	0.0
MEZF				eSg	Sg	00 18 21.2	0.0
MEZF	Maizieres J'vi	2.44	216	ePg	Pg	00 17 49.4	-0.2
MEZF				eSn	Sn	00 18 11.7	0.0
MEZF				eSg	Sg	00 18 21.2	0.0
	comp=E,6.2nm,0.2s,SNR=1.0						
HAU	Haudompre	2.55	193	ePg	Pg	00 17 51.5	-0.2
HAU				eSn	Sn	00 18 14.0	-0.4
HAU				eSg	Sg	00 18 24.5	-0.3
	comp=E,13nm,0.2s,SNR=1.0						
HAU	Haudompre	2.55	193	ePn	Pn	00 17 44.8	+1.2
HAU				ePg	Pg	00 17 51.5	-0.2
HAU				eSn	Sn	00 18 14.0	-0.4
HAU				eSg	Sg	00 18 24.5	-0.3
HAU	Haudompre	2.55	193	ePg	Pg	00 17 51.5	-0.2
HAU				eSn	Sn	00 18 14.0	-0.4
HAU				eSg	Sg	00 18 24.5	-0.3
	comp=E,6.3nm,0.2s,SNR=1.0						
MOF	Molkenrain	2.64	181	Pg	Pn	00 17 46.9	+2.1
HINF	Hinteralfeld	2.69	185	ePg	Pg	00 17 54.1	-0.1
HINF				eSn	Sn	00 18 17.5	-0.3
	SNR=1.0						
HINF				eSg	Sg	00 18 28.4	-0.7
	comp=E,7.0nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	2.69	185	ePn	Pn	00 17 46.3	+0.8
HINF				ePg	Pg	00 17 54.1	-0.1
HINF				eSn	Sn	00 18 17.5	-0.3
HINF				eSg	Sg	00 18 28.4	-0.7
HINF	Hinteralfeld	2.69	185	ePg	Pg	00 17 54.1	-0.1
HINF				eSn	Sn	00 18 17.5	-0.3
	SNR=1.0						
HINF				eSg	Sg	00 18 28.4	-0.7
	comp=E,3.5nm,0.2s,SNR=1.0						
SFTF	Sexfontaines	2.70	213	ePn	Pn	00 17 46.8	+1.2
	baz=39						
SFTF	Sexfontaines	2.70	213	ePg	Pg	00 17 53.9	-0.5
	baz=38						
SFTF				eSn	Sn	00 18 17.9	-0.1
SFTF				eSg	Sg	00 18 29.4	0.0
	comp=E,16nm,0.4s						
SFTF	Sexfontaines	2.70	213	ePn	Pn	00 17 46.8	+1.2
SFTF				ePg	Pg	00 17 53.9	-0.5
SFTF				eSn	Sn	00 18 17.9	-0.1
SFTF				eSg	Sg	00 18 29.4	0.0
SFTF	Sexfontaines	2.70	213	ePg	Pg	00 17 53.9	-0.5
SFTF				eSn	Sn	00 18 17.9	-0.1
SFTF				eSg	Sg	00 18 29.4	0.0
	comp=E,8.1nm,0.4s						
MOX	Moxa	2.81	85	ePn	Pn	00 17 49.1	+2.0
MOX				ePg	Pg	00 17 56.2	-0.3
MOX				eSg	Sg	00 18 30.9	-2.0
	SNR=1.8						
MOX	Moxa	2.81	85	ePN	Pn	00 17 49.1	+2.0
MOX				ePG	Pg	00 17 56.2	-0.3
MOX				eSG	Sg	00 18 31.0	-1.9
CLL	Collm	3.75	75	eSg	Sg	00 19 07.0	+3.8
LOR	Lormes	3.91	216	ePn	Pn	00 18 02.9	+0.5
	baz=36,SNR=1.0						
LOR				eSn	Sn	00 18 46.7	-1.3
	SNR=1.0						
LOR				eSg	Sg	00 19 07.1	-1.3
	comp=E,5.5nm,0.2s,SNR=1.0						
LOR	Lormes	3.91	216	ePn	Pn	00 18 02.9	+0.5
	SNR=1.0						
LOR				eSn	Sn	00 18 46.7	-1.3
	SNR=1.0						
LOR				eSg	Sg	00 19 07.1	-1.3
	comp=E,2.8nm,0.2s,SNR=1.0						
BRG	Berggiesshubel	4.29	82	SG	Sg	00 19 21.7	+1.2
	comp=E,5.1nm,0.4s						
HYF	Humbligny	4.42	225	ePn	Pn	00 18 09.8	+0.5
HYF				eSn	Sn	00 18 57.2	-3.3
HYF				eSg	Sg	00 19 23.3	-1.4
SMF	Signal de Mont	4.45	212	ePn	Pn	00 18 09.8	0.0
SMF				eSn	Sn	00 19 00.0	-1.4
	SNR=1.0						
SMF				eSg	Sg	00 19 24.4	-1.3
	comp=E,2.6nm,0.2s,SNR=1.0						
SMF	Signal de Mont	4.45	212	ePn	Pn	00 18 09.8	0.0
SMF				eSn	Sn	00 19 00.0	-1.4
	SNR=1.0						
SMF				eSg	Sg	00 19 24.4	-1.3
	comp=E,1.3nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	4.50	216	ePn	Pn	00 18 11.0	+0.5
AVF				eSn	Sn	00 19 00.5	-2.1
AVF				eSg	Sg	00 19 25.8	-1.5
	comp=E,2.1nm,0.3s						
AVF	Avril sur Loir	4.50	216	ePn	Pn	00 18 11.0	+0.5
AVF				eSn	Sn	00 19 00.5	-2.1
AVF				eSg	Sg	00 19 25.8	-1.5
	comp=E,1.0nm,0.3s						
BGF	Bois d'Agland	4.89	218	ePn	Pn	00 18 16.4	+0.6
	SNR=1.0						
BGF				eSn	Sn	00 19 10.3	-1.9
	SNR=1.0						
BGF				eSg	Sg	00 19 38.2	-1.6
	comp=E,14nm,0.5s						
BGF	Bois d'Agland	4.89	218	ePn	Pn	00 18 16.4	+0.6
	SNR=1.0						
BGF				eSn	Sn	00 19 10.3	-1.9
	SNR=1.0						
BGF				eSg	Sg	00 19 38.2	-1.6
	comp=E,6.8nm,0.5s						
LPG	La Plagne	5.00	184	ePn	Pn	00 18 19.2	+1.9
LPG				eSg	Sg	00 19 42.0	-1.4
	comp=E,0.8nm,0.3s						
LPG	La Plagne	5.00	184	ePn	Pn	00 18 19.2	+1.9
LPG				eSg	Sg	00 19 42.0	-1.4
	comp=E,0.4nm,0.3s						
LDF	La Druitiere	5.14	251	ePn	Pn	00 18 19.5	+0.2
LDF				eSn	Sn	00 19 16.3	-2.1
LDF				eSg	Sg	00 19 44.5	-3.4
	comp=E,3.9nm,0.4s						
LDF	La Druitiere	5.14	251	ePn	Pn	00 18 19.5	+0.2
LDF				eSn	Sn	00 19 16.3	-2.1
LDF				eSg	Sg	00 19 44.5	-3.4
	comp=E,2.0nm,0.4s						
FLN	La Foliniere	5.30	254	ePn	Pn	00 18 21.7	+0.3
FLN				eSn	Sn	00 19 19.7	-2.5
FLN				eSg	Sg	00 19 49.2	-3.6
	comp=E,3.3nm,0.3s						
FLN	La Foliniere	5.30	254	ePn	Pn	00 18 21.7	+0.3
FLN				eSn	Sn	00 19 19.7	-2.5
FLN				eSg	Sg	00 19 49.2	-3.6
	comp=E,1.6nm,0.3s						
TCF	Toulx Ste Croi	5.37	220	ePn	Pn	00 18 22.4	+0.1
GRR	Gorron	5.68	251	ePn	Pn	00 18 26.6	0.0
GRR				eSn	Sn	00 19 28.8	-2.7
	comp=E,3.0nm,0.3s						
GRR	Gorron	5.68	251	ePn	Pn	00 18 26.6	0.0
GRR				eSn	Sn	00 19 28.8	-2.7
	comp=E,1.5nm,0.3s						
MFF	Saint Martin d	6.25	234	ePn	Pn	00 18 34.6	+0.2
MFF				eSn	Sn	00 19 42.6	-3.0
CAF	Calviac	6.56	214	ePn	Pn	00 18 38.9	+0.1

*NEIC **01** 00:18:01.8±4.6, 1781S×17803W, h556km±50km, mb4.9/4, Error ellipse: s-maj=34.2km s-min=22.0km az=122.0*
*ISCJB **01** 00:18:03.5±3.1, 178S±03×1782W±02, h593km±41km, mb4.5/7, Error ellipse: s-maj=43.7km s-min=24.2km az=122.6*
*IDC **01** 00:18:06.0±3.5, 1834S×17800W, h603km±44km, mb3.4/3, mb1 3.6/3, mb1mx3.1/13, mbtmp4.4/3, Error ellipse: s-maj=106.4km s-min=24.6km az=153.0*
ISC 01 00:18:04.3±3.3, 178S±03×1781W±02, h586km±41km, n15, $\sigma 0^{s}47$/12, mb4.5/7, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	22.90	288	eP	P	00 22 23.9	-0.7
	40nm,0.5s,mb5.3						
CTAO	Charters Tower	33.77	260	eP	P	00 23 59.3	+0.6
	15nm,1.3s,mb4.5						
TAU	Tasmania Unive	38.53	222	eP	P	00 24 37.6	-0.1
	174nm,2.0s,mb5.2						
TAU				ePcP	PcP	00 26 32.0	-2.9
STKA	Stephens Creek	38.96	241	P	P	00 24 40.5	-0.7
	2.0nm,0.6s,mb3.8,baz=83,slow=9.7,SNR=7.8						
WB2	Warramunga Arr	44.95	259	eP	P	00 25 28.4	+0.3
WB2				PP	PP	00 27 26.1	+2.5
WRA	Warramunga Arr	44.96	259	P	P	00 25 28.8	+0.6
	3.8nm,0.6s,mb4.1,baz=95,slow=7.8,SNR=18						
AS31	Alice Springs	45.12	254⇑	eP	P	00 25 29.9	+0.5
ASAR	Alice Springs	45.12	254	P	P	00 25 29.8	+0.4
	4.0nm,0.5s,mb4.2,baz=94,slow=7.3,SNR=70						
ASAR				PcP	PcP	00 26 56.8	-0.4
	0.5nm,0.5s,baz=100,slow=4.2,SNR=4.3						
ASAR				S	S	00 31 26.7	-0.2
	0.6nm,0.7s,baz=93,slow=14,SNR=6.2						
MBWA	Marble Bar	58.41	256	eP	P	00 27 04.1	-0.6
	0.6nm,0.4s						
NWAO	Narrogin (SRO)	59.54	242	P	P	00 27 12.1	-0.1
	48nm,1.5s,mb4.5						
ARUT	Antelope Range	82.07	46	eP	P	00 29 24.3	+0.1
FINES	FINESS Array B	133.16	344	PKP	PKPdf	00 36 14.2	+0.1
	1.1nm,0.9s,baz=20,slow=6.1,SNR=4.3						
AKASG	Malin Array Be	140.60	333	PKhKP		00 36 22.6	
	0.2nm,0.2s,baz=36,slow=3.7,SNR=4.9						
CLL	Collm	145.42	348	i PKPbc	PKPbc	00 36 39.1	+1.5
	comp=Z,4.0nm,0.6s						
GERES	GERESS Array B	147.58	345	PKPbc	PKPbc	00 36 44.7	+1.2
	comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=6.7						

CASC 01 00:22:53.1±1.5, 1288N×8876W, h36km±999km, MD3.6, ML3.3, 1C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.72	40	eP	x	00 23 20.5	
VSM				eS	x	00 23 31.9	
BLLM	Bellamira	0.76	42⇓	eP	x	00 23 20.6	
BLLM				eS	x	00 23 31.5	
LFRS	El Faro	0.80	338⇓	eP	x	00 23 21.1	
LFRS				eS	x	00 23 31.9	
LCBS	La Ceiba	0.80	344⇓	eP	x	00 23 21.1	
LCBS				eS	x	00 23 32.3	
LBRS	Las Brisas	0.90	342	eP	x	00 23 22.9	
LBRS				eS	x	00 23 36.1	
SNET	Serv Nac Est T	0.93	330	eP	x	00 23 09.1	
SNET				eS	x	00 23 21.6	
LFU	La Fuente	0.94	338⇓	eP	x	00 23 23.0	
LFU				eS	x	00 23 35.9	
CNCH	Conchagua	0.98	66⇓	eP	x	00 23 23.6	
CNCH				eS	x	00 23 37.9	
BOQS	Boqueron	0.99	329⇑	eP	x	00 23 23.9	
BOQS				eS	x	00 23 37.8	
SBLS	San Blas	1.28	319	eP	x	00 23 28.2	
SBLS				eS	x	00 23 45.7	
SNJE	San Jose	1.29	320	eP	x	00 23 28.3	
SNJE				eS	x	00 23 45.5	
RTR	El Retiro	1.33	320	eP	x	00 23 28.9	
RTR				eS	x	00 23 46.4	
RBDL	Robledal	1.53	324	eP	x	00 23 31.1	
RBDL				eS	x	00 23 49.9	
CRIN	San Cristobal	1.67	96	eP	Pn	00 23 19.9	0.0
CRIN				eS	Sn	00 23 41.1	+1.0
LEON	Leon	1.88	104	eP	Pn	00 23 22.6	-0.1
LEON				eS	Sn	00 23 44.6	-0.4
TELN	Telica	1.90	98	eP	Pn	00 23 24.0	+1.1
CNGN	Cerro Negro	2.04	100	eP	Pn	00 23 25.9	+0.9
MIRN	Miramar	2.04	102	eP	Pn	00 23 25.1	+0.2
MOMJ	Momotombo	2.21	102	eP	Pn	00 23 27.5	+0.2
MOMJ				eS	Sn	00 23 54.5	+1.1
COPN	Copaltepe	2.22	108⇓	eP	Pn	00 23 27.4	-0.1
COPN				eS	Sn	00 23 54.0	+0.3
MGAN	Managua	2.56	106	i	Sn	00 24 05.7	+3.9
	comp=N,185nm,0.1s						

JMA 01 00:25:28.5, 4196N×13943E, h8km±1km, M3.5, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.13	15	⇓P	Pg	00 25 31.3	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JOSM				eS	Sg	00 25 33.5	+0.3
JYM2	Yakumo 2	0.72	77	P	Pg	00 25 42.1	-0.2
JYM2				eS	Sg	00 25 52.1	+0.4
JSH	Shimam	0.82	34	⇓P	Pg	00 25 44.0	-0.3
JSH				eS	Sg	00 25 55.1	+0.1
JSR	Shiriuchi	0.85	120	⇓P	Pg	00 25 44.5	-0.4
JSR				eS	Sg	00 25 55.7	-0.4
JSI2	Shiura 2	1.17	140	⇓P	Pg	00 25 49.3	-1.6
JSI2				eS	Sg	00 26 04.8	-1.2
JKB	Kayabe	1.20	93	P	Pb	00 25 50.3	-1.1
JKB				eS	Sg	00 26 06.4	-0.6

*ISCJB **01** 00:35:38.5±5.5, 464N±02×1537E±03, h9km±32km, mb3.9/12, Error ellipse: s-maj=37.0km s-min=15.2km az=82.9*

*IDC **01** 00:35:39.1±1.6, 4641N×15367E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.6/1, Error ellipse: s-maj=42.5km s-min=28.5km az=105.0*

*NEIC **01** 00:35:41.1±1.4, 4658N×15381E, h10km, mb4.6/2, Error ellipse: s-maj=36.3km s-min=16.1km az=119.0*

*MOS **01** 00:35:43.4±1.5, 4664N×15354E, h33km, mb4.3/9, Error ellipse: s-maj=20.9km s-min=13.6km az=89.9*

ISC 01 00:35:42.8±4.4, **465N**±02×**1537E**±03, **h26**km±28km, **n33**, σ**0.84**/32, **mb3.9**/12, **2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SKR	Severo-Kuril's	4.52	20	ePN	Pn	00 36 49.5	0.0
SKR				e		00 37 45.7	
ASAJ	Asahikawa	8.17	257	Pn	Pn	00 37 39.7	+0.1
	0.8nm,0.3s,baz=88,slow=22,SNR=5.7						
ASAJ	Asahikawa	8.17	257	PN	Pn	00 37 39.7	+0.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	15.23	235	Pn	Pn	00 39 20.6	+4.6
	comp=Z,0.1nm,0.3s,baz=42,slow=10,SNR=6.4						
INCN	Inchon	21.94	256	P	P	00 40 34.1	-0.1
	comp=Z,15nm,0.3s,mb4.9						
SONM	Songino Array	31.80	290	P	P	00 42 06.4	+1.3
	comp=Z,0.3nm,0.5s,mb3.4,baz=57,slow=10,SNR=3.2						
MKAR	Makanchi Array	47.43	298	P	P	00 44 13.9	-1.1
	comp=Z,1.9nm,0.8s,mb4.1,baz=61,slow=8.7,SNR=9.7						
MKAR	Makanchi Array	47.43	298	P	P	00 44 13.9	-1.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	51.35	310	P	P	00 44 43.9	-1.1
	comp=Z,0.3nm,0.3s,mb3.6,baz=67,slow=11,SNR=5.3						
ARCES	ARCESS Array B	58.26	341	P	P	00 45 35.1	+0.1
	comp=Z,1.6nm,0.8s,mb4.1,baz=11,slow=7.4,SNR=4.2						
ARCES	ARCESS Array B	58.26	341	P	P	00 45 35.1	+0.1
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KAF	Kangasniemi	63.87	335	ep	P	00 46 12.5	-0.6
FINES	FINESS Array B	64.47	335	P	P	00 46 17.2	+0.1
	comp=Z,1.7nm,0.6s,mb4.3,baz=37,slow=7.2,SNR=19						
FINES	FINESS Array B	64.47	335	P	P	00 46 17.2	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	64.47	335	P	P	00 46 17.2	+0.1
NB2	NORSAR Subarra	68.63	341	P	P	00 46 43.8	+0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=26,slow=6.5						
NB2	NORSAR Subarra	68.63	341	P	P	00 46 43.8	+0.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	68.63	341	P	P	00 46 44.1	+0.5
	comp=Z,2.2nm,0.8s,mb4.2,baz=27,slow=6.3,SNR=9.7						
NOA	NORSAR Array B	68.63	341	P	P	00 46 44.1	+0.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	68.87	340	P	P	00 46 45.3	+0.3
	comp=Z,2.3nm,0.6s,mb4.3,baz=54,slow=3.8,SNR=8.2						
HFS	Hagfors	68.87	340	P	P	00 46 45.3	+0.2
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	72.01	327	P	P	00 47 04.3	0.0
	comp=Z,0.6nm,0.3s,mb4.0,baz=32,slow=5.9,SNR=9.2						
AKASG	Malin Array Be	72.01	327	P	P	00 47 04.3	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	Malin Array Si	72.01	327	P	P	00 46 56.3	-8.0
ASAR	Alice Springs	72.06	199	P	P	00 47 04.4	-0.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=14,slow=5.6,SNR=4.5						
ASAR	Alice Springs	72.06	199	P	P	00 47 04.4	-0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	Bucovina Array	76.05	327	⇑iP	P	00 47 28.3	+0.4
MLR	Muntele Rosu	77.53	325	⇓iP	P	00 47 34.1	-2.1
VOIR		77.92	326	⇑iP	P	00 47 30.0	-8.4
BRTR	Keskin Array B	78.87	317	P	P	00 47 45.4	+1.7
	comp=Z,0.7nm,0.8s,mb3.6,baz=58,slow=4.7,SNR=3.9						
BRTR	Keskin Array B	78.87	317	P	P	00 47 45.4	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	78.89	334	P	P	00 47 44.4	+0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=38,slow=6.8,SNR=5.0						
CASY	Casey	117.18	198	ePdif	Pdif	00 50 40.6	-1.3

KRSC 01 00:51:04, 5057N×15777E, h5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
RUS	Russkaya	1.92	14	eP	Pn	00 51 38.9	+1.5
RUS				eS	Sn	00 52 03.7	+1.8
GRL	Gorelyy	1.99	5	eP	Pn	00 51 39.9	+1.6
GRL				eS	Sn	00 52 06.1	+2.4
PET	Petropavlovsk	2.52	12	eP	Pn	00 51 47.7	+2.1
PET				eS	Sn	00 52 18.3	+1.7
AVH	Avacha	2.77	12	eP	Pn	00 51 50.6	+1.7
AVH				eS	Sn	00 52 23.2	+0.5
NLC	Nalytchevo	2.78	20	eP	Pn	00 51 51.4	+2.2
NLC				eS	Sn	00 52 25.2	+2.1
SPN	Mys Shipunski	2.89	28	eP	Pn	00 51 52.7	+2.0
SPN				eS	Sn	00 52 27.0	+1.2
GNL	Ganaly	3.13	2	eP	Pn	00 51 56.5	+2.5
GNL				eS	Sn	00 52 33.7	+1.9
KII	Karymskiy	3.62	16	eS	Sn	00 52 44.8	+1.0
MKZ	Mys Kozlova	4.67	30	eP	Pn	00 52 17.4	+2.3
MKZ				eS	Sn	00 53 10.8	+1.2
KBTR	Krutoberegovo	6.40	26	eP	Pn	00 52 41.4	+2.4

IDC 01 00:58:33.7±2.6, **4637N**×**15376E, h0**km, **mb3.8**/4, **mb1 3.8**/5, **mb1mx3.6**/21, **mbtmp3.8**/5, **ML3.1**/1, **Error ellipse: s-maj=67.1km s-min=41.0km az=167.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ASAJ	Asahikawa	8.20	258	Pn	Pn	01 00 35.3	+1.5
	0.3nm,0.3s,baz=180,slow=14,SNR=3.6						
MKAR	Makanchi Array	47.51	298	P	P	01 07 09.2	-1.4
	0.9nm,0.9s,baz=57,slow=7.6,SNR=6.3						
FINES	FINESS Array B	64.57	335	P	P	01 09 12.3	-0.4
	0.8nm,0.5s,baz=36,slow=6.7,SNR=12						
NB2	NORSAR Subarra	68.73	341	P	P	01 09 39.3	+0.1
	comp=Z,0.6nm,0.6s,baz=27,slow=6.5						
NOA	NORSAR Array B	68.73	341	P	P	01 09 39.6	+0.4
	comp=Z,1.1nm,0.8s,baz=26,slow=6.3,SNR=5.2						
AKASG	Malin Array Be	72.11	327	P	P	01 09 59.4	-0.5
	comp=Z,0.4nm,0.3s,baz=34,slow=5.9,SNR=6.1						
CPUP	Villa Florida	148.26	62	PKPbc	PKPbc	01 18 20.8	-0.9
	comp=Z,0.6nm,0.5s,baz=297,slow=4.5,SNR=4.3						

*IDC **01** 01:01:21.8±12.0, 071N×9683E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=583.7km s-min=25.6km az=55.0*

*ISCJB **01** 01:01:26.5±2.5, 101N±010×973E±02, h36km±23km, mb3.6/5, Error ellipse: s-maj=30.4km s-min=15.9km az=178.9*

*NEIC **01** 01:01:27.7±0.9, 099N×9736E, h30km, mb4.2/1, Error ellipse: s-maj=25.0km s-min=13.3km az=91.0*

ISC 01 01:01:29.2±1.8, **101N**±009×**973E**±02, **h43**km±18km, **n11**, σ**0.84**/11, **mb3.6**/5, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KULM	Kulim	5.40	38	ePn	Pn	01 02 46.8	-0.3
COCO	West Island	13.13	182	ePn	Pn	01 04 33.1	+0.2
	114nm,0.6s						
WRA	Warramunga Arr	41.84	122	P	P	01 09 15.6	+0.8
	0.5nm,0.8s,mb3.2,baz=303,slow=8.9,SNR=5.9						
WRA	Warramunga Arr	41.84	122	P	P	01 09 15.6	+0.8
ASAR	Alice Springs	43.19	127	P	P	01 09 26.7	+0.9
	0.2nm,0.4s,mb3.2,baz=293,slow=7.8,SNR=4.1						
AS31	Alice Springs	43.19	127	P	P	01 09 25.6	-0.1
MKAR	Makanchi Array	47.45	346	P	P	01 09 59.7	+0.2
	0.2nm,0.4s,mb3.4,baz=160,slow=7.5,SNR=4.9						
MKAR	Makanchi Array	47.45	346	P	P	01 09 59.7	+0.2
STKA	Stephens Creek	53.14	132	eP	P	01 10 39.9	-2.7
ZAL	Zalesovo	53.75	351	P	P	01 10 47.2	+0.2
	1.6nm,0.4s,mb4.3,baz=79,slow=5.0,SNR=3.0						
MAW	Mawson	72.56	193	eP	P	01 12 51.3	-0.4
	2.5nm,1.0s,mb4.1						

*NIED **01** 01:28:00, 4640N×15360E, h11km, Mw4.4 Best double couple: M0 4.73000×10^15 NP1:φs69.00000°, δ83.00000°, λ102.00000°. NP2:φs189.00000°, δ14.00000°, λ30.00000°.*

*IDC **01** 01:28:19.9±0.6, 4636N×15315E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/23, mbtmp4.2/18, ML3.8/1, MS3.9/9, Ms1 3.9/9, ms1mx3.5/31, Error ellipse: s-maj=17.5km s-min=17.1km az=144.0*

*ISCJB **01** 01:28:20.0±1.6, 4632N±006×15335E±008, h15km±11km, mb4.6/69, MS4.0/12, Error ellipse: s-maj=11.9km s-min=6.6km az=107.6*

*BJI **01** 01:28:19.8, 4656N×15389E, h32km, mB4.5, mb4.4, Ms4.3, Msz4.0*

*NEIC **01** 01:28:21.5±0.3, 4632N×15336E, h10km, mb4.7/34, Error ellipse: s-maj=8.6km s-min=5.9km az=133.0*

*JMA **01** 01:28:21.7±0.8, 4645N×15356E, h30km, M4.7*

*MOS **01** 01:28:23.9±1.2, 4630N×15328E, h38km, mb4.8/40, Error ellipse: s-maj=9.2km s-min=5.6km az=108.0*

*SZGRF **01** 01:28:29.0, 4635N×15198E, h33km, mb4.8, Kuril Islands, Russia*

ISC 01 01:28:24.3±1.6, **4638N**±006×**15334E**±007, **h26**km±11km, **h29**km±3.9km**:pP-P, n238,** σ**1.18**/237, **mb4.6**/69, **MS4.0**/12, **15C-20D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KUR	Kuril'sk	4.00	255	⇓iPN	Pn	01 29 22.0	-1.8
KUR				eS	Sn	01 30 09.0	-0.8
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,230nm,0.6s						
KUR				pmax	pmax		
	comp=Z,160nm,0.6s						
KUR				smax			
	comp=N,290nm,0.6s						
KUR				smax			
	comp=E,460nm,0.6s						
SKR	Severo-Kuril's	4.68	22	ePN	Pn	01 29 28.0	-5.2
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
YUK	Yuzh-Kuril'sk	5.78	249	ePN	Pn	01 29 49.3	+1.0
YUK				eS	Sn	01 30 54.0	+0.2
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,2µm,1.0s						
NEM2	Nemuro 2	6.18	244	P	Pn	01 29 52.2	-1.7
NEM2				eS	Sn	01 30 59.2	-4.5
JRA	Rausu	6.30	250	P	Pn	01 29 56.8	+1.3
JNK	Nakash	6.72	249	P	Pn	01 30 01.7	+0.4
JAK	Akkeshi	7.03	244	eS	Sn	01 31 20.3	-4.2
JTKR	Abashiri--Toko	7.09	254	P	Pn	01 30 07.7	+1.4
YSS	Yuzh-Sakhalins	7.31	278	ePN	Pn	01 30 13.0	+3.7
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
JMP	Maruseppu	7.44	255	P	Pn	01 30 12.7	+1.6
JOB	Onbets	7.62	246	P	Pn	01 30 13.4	-0.1
JOB				eS	Sn	01 31 35.7	-3.3
JKK2	Kamakawa 2	7.90	255	P	Pn	01 30 19.5	+2.1
ASAJ	Asahikawa	7.91	257	Pn	Pn	01 30 19.4	+1.8
	comp=E,1.8nm,0.3s,baz=95,slow=19,SNR=11						
ASAJ				LR	LR	01 33 13.4	
	comp=E,209nm,20.9s,baz=156,slow=38						
ASAJ	Asahikawa	7.91	257	PN	Pn	01 30 19.4	+1.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,209nm,20.9s						
JCH	Churui	8.06	246	P	Pn	01 30 18.9	-0.8
JCH				eS	Sn	01 31 44.9	-5.1
UGL	Uglegorsk	8.07	294	ePN	Pn	01 30 24.0	+4.3
UGL				e		01 31 57.0	
UGL				pmax	pmax		
	comp=Z,51nm,0.7s						
UGL				MLR	MLR		
	comp=N,400nm,16.0s						
UGL				MLR	MLR		
	comp=E,550nm,16.0s						
UGL				MLR	MLR		
	comp=Z,500nm,16.0s						
JFR	Furan	8.29	251	P	Pn	01 30 25.5	+2.7
JAB	Ashibetsu	8.39	254	P	Pn	01 30 26.4	+2.2
JEM	Erimo	8.52	243	P	Pn	01 30 26.5	+0.6
ERM	Erimo	8.52	243	ePN	Pn	01 30 26.1	+0.2
ERM				pmax	pmax		
	comp=Z,58nm,0.9s						
ERM	Erimo	8.52	243	ePn	Pn	01 30 26.1	+0.2
	comp=Z,58nm,0.9s						
JBT2	Biratori 2	8.62	249	P	Pn	01 30 27.6	+0.3
JNBK	Urakawa-nobuka	8.62	245	P	Pn	01 30 25.9	-1.4
JEW	Eniwo	9.19	252	P	Pn	01 30 36.6	+1.5
JNB	Noboribetsu	9.63	250	P	Pn	01 30 41.3	+0.2
JKB	Kayabe	9.92	247	P	Pn	01 30 43.9	-1.2
JKB				eS	Sn	01 32 28.2	-7.4
JSH	Shimam	10.21	253	P	Pn	01 30 50.2	+1.2
JYM2	Yakumo 2	10.23	250	P	Pn	01 30 49.2	-0.2
JANG	Nango	10.49	239	P	Pn	01 30 48.7	-4.2
JANG				eS	Sn	01 32 39.2	-10
JSR	Shiriuchi	10.50	247	P	Pn	01 30 51.3	-1.8
JTM	Tenmabayashi	10.51	242	P	Pn	01 30 50.8	-2.4
JTM				eS	Sn	01 32 39.5	-10
JOSM	Okushiri--Mats	10.84	252	P	Pn	01 30 57.0	-0.6
OFUJ	Ofunato	11.26	234	P	Pn	01 31 00.1	-3.3
MA2	Magadan	13.30	354	ePN	Pn	01 31 32.7	+1.3
MA2				pmax	pmax		
	comp=Z,20nm,0.7s						
MA2	Magadan	13.30	354	ePn	Pn	01 31 32.2	+0.8
	comp=Z,15nm,0.7s						
KLR	Kul'dur	14.78	289	eP	Pn	01 31 50.3	-1.2
MAJO	Matsushiro	14.99	234	eP	Pn	01 31 53.0	-1.3
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAJO	Matsushiro	14.99	234	ePn	Pn	01 31 53.0	-1.3
	comp=Z,7.3nm,0.6s						
MJAR	Matsushiro Arr	14.99	234	Pn	Pn	01 31 52.7	-1.6
	comp=Z,0.4nm,0.3s,baz=24,slow=13,SNR=6.2						
MJAR	Matsushiro Arr	14.99	234	Pn	Pn	01 31 52.7	-1.6
MDJ	Mudanjiang	16.73	273	P	Pn	01 32 16.7	-0.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,67nm,4.1s						
MDJ	Mudanjiang	16.73	273	ePn	Pn	01 32 17.1	+0.3
YAK	Yakutsk	20.72	328	eP	P	01 33 01.8	-0.8
	comp=Z,16nm,0.4s						
SNY	Shenyang	21.78	269	⇑P	P	01 33 17.1	+3.0
SNY				AP		01 33 26.1	
SNY				XP	sP	01 33 30.3	+5.6
SNY				PP		01 33 45.6	
SNY				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.5						
SNY				AMB	AMB		
	comp=Z,60nm,4.3s						
SNY				LR	LR		
	comp=N,175nm,9.6s						
SNY				LR	LR		
	comp=E,259nm,13.1s						
SNY				LR	LR		
	comp=Z,209nm,16.8s,MS3.6						
HIA	Hailar	22.64	290	iP	P	01 33 19.5	-3.6
BILL	Bilibino	22.72	13	eP	P	01 33 22.1	-1.9
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
BOD	Bodaibo	26.34	310	eP	P	01 33 55.0	-3.0
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BJT	Baijiatuau	27.65	270	eP	P	01 34 08.0	-1.8
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BJT	Baijiatuau	27.65	270	eP	P	01 34 08.0	-1.7
	comp=Z,4.5nm,0.6s,mb4.3						
NJ2	Nanjing	30.04	254	eP	P	01 34 29.4	-1.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
SONM	Songino Array	31.61	290	P	P	01 34 43.4	-1.4
	comp=Z,0.7nm,0.6s,mb3.6,baz=53,slow=8.3,SNR=6.7						
SONM				LR	LR	01 48 39.8	
	comp=Z,182nm,18.8s,MS3.8,baz=167,slow=39						
SONM	Songino Array	31.61	290	P	P	01 34 43.4	-1.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,183nm,18.8s						
ZAK	Zakamensk	32.98	296	eP	P	01 34 55.4	-1.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
GUMO	Guam	33.46	195	eP	P	01 34 59.5	-1.6
GUMO				e		01 35 10.9	
GUMO				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
GUMO	Guam	33.46	195	eP	P	01 34 59.5	-1.5
	comp=Z,778nm,1.7s						
GUMO				e		01 35 10.9	
COLA	College	36.33	38	iP	P	01 35 25.5	-0.3
LZH	Lanzhou	38.06	272	eP	P	01 35 42.2	+1.7
LZH				AP	pP	01 35 49.8	+1.4
LZH				XP	sP	01 35 52.2	+0.5
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.8						
LZH	Lanzhou	38.06	272	eP	P	01 35 42.2	+1.7
	comp=Z,25nm,1.2s,mb4.8						
LZH				pP	pP	01 35 49.8	+1.4
LZH				sP	sP	01 35 52.2	+0.5
GTA	Gaotai	39.19	280	eP	P	01 35 51.1	+1.1
GTA				AP	pP	01 35 55.9	-2.0
GTA				XP	sP	01 35 58.8	-2.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.1						
GYA	Guiyang	41.79	258	P	P	01 36 14.0	+2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
INK	Inuvik	41.88	32	P	P	01 36 11.0	-1.2
	comp=Z,2.2nm,0.6s,mb4.0,baz=298,slow=4.4,SNR=5.5						
INK	Inuvik	41.88	32	P	P	01 36 11.0	-1.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	41.88	32	P	P	01 36 11.0	-1.2
ZAL	Zalesovo	42.97	306	P	P	01 36 19.1	-2.0
	comp=Z,1.3nm,0.5s,mb3.9,baz=52,slow=8.9,SNR=5.6						
ZAL	Zalesovo	42.97	306	P	P	01 36 19.1	-2.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	47.25	298	P	P	01 36 53.7	-1.4
	comp=Z,5.1nm,0.8s,mb4.5,baz=64,slow=8.2,SNR=43						
MKAR	Makanchi Array	47.25	298	P	P	01 36 53.7	-1.4
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	Makanchi Array	47.25	298	P	P	01 36 53.7	-1.4
YKA	Yellowknife Ar	51.13	37	P	P	01 37 24.7	0.0
	comp=Z,2.1nm,0.6s,mb4.3,baz=295,slow=7.1,SNR=8.4						
YKA	Yellowknife Ar	51.13	37	P	P	01 37 24.7	0.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	51.13	37	P	P	01 37 24.7	-0.1
BVAR	Borovoye Array	51.21	310	P	P	01 37 24.3	-1.1
	comp=Z,3.8nm,0.8s,mb4.4,baz=51,slow=7.6,SNR=21						
BVAR	Borovoye Array	51.21	310	P	P	01 37 24.3	-1.1
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZRNK	Zerenda	51.98	310	eP	P	01 37 29.6	-1.6
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	Zerenda	51.98	310	eP	P	01 37 29.6	-1.6
	comp=Z,4.4nm,0.6s,mb4.6						
AAK	Ala-Archa	54.14	297	eP	P	01 37 45.5	-1.5
AAK				e*PP	pP	01 37 54.7	-0.5
AAK				e*SP	sP	01 37 58.9	+0.5
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AAK	Ala-Archa	54.14	297	eP	P	01 37 45.5	-1.6
	comp=Z,4.9nm,0.9s,mb4.4						
AAK				epP	pP	01 37 54.7	-0.6
AAK				esP	sP	01 37 58.9	+0.5
GUN	Gumba	55.19	275	eP	P	01 37 56.3	+1.6
	comp=Z,9.2nm,0.4s,mb5.1						
ARU	Arti	55.39	318	⇑iP	P	01 37 53.9	-2.2
ARU				e		01 38 53.2	
ARU				e		01 39 56.2	
ARU				eS	S	01 45 36.2	-2.7
ARU				eSS	SS	01 49 15.9	-7.7
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	Arti	55.39	318	eP	P	01 37 54.4	-1.7
	comp=Z,3.9nm,0.4s,mb4.8						
KKN	Kakani	55.68	276	eP	P	01 38 00.6	+2.4
	comp=Z,28nm,0.7s,mb5.4						
PKI	Pulchoki	55.73	275	eP	P	01 38 00.2	+1.7
	comp=Z,7.8nm,0.6s,mb4.9						
GKN	Gorkha	55.99	276	eP	P	01 38 02.1	+1.7
	comp=Z,25nm,0.6s,mb5.4						
KOLN	Koldanda	56.85	277	eP	P	01 38 08.4	+1.9
	comp=Z,14nm,0.6s,mb5.1						
KEV	Kevo	57.74	341	ep	P	01 38 11.0	-1.8
	comp=Z,1.8nm,0.4s,mb4.5						
KEV	Kevo	57.74	341	eP	P	01 38 11.0	-1.8
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ARCES	ARCESS Array B	58.25	341	P	P	01 38 14.8	-1.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=22,slow=7.1,SNR=12						
ARCES				LR	LR	02 06 07.0	
	comp=Z,81nm,18.3s,MS3.9,baz=201,slow=39						
ARCES	ARCESS Array B	58.25	341	P	P	01 38 14.8	-1.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,81nm,18.3s						
AKTO	Aktyubinsk	59.09	312	LR	LR	02 06 18.4	
	comp=Z,248nm,18.3s,MS4.4,baz=100,slow=39						
SUMG	Summit	61.06	4	eP	P	01 38 35.9	+0.2
	comp=Z,20nm,0.8s,mb5.3						
JOF	Joensuu	61.73	334	ep	P	01 38 39.3	-1.0
	comp=Z,0.9nm,0.3s,mb4.4						
JOF	Joensuu	61.73	334	eP	P	01 38 39.3	-1.0
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
NVAR	Mina Array Bea	62.47	62	P	P	01 38 47.0	+1.8
	comp=Z,0.3nm,0.5s,mb3.6,baz=297,slow=8.0,SNR=3.1						
TPAW	Teton Pass	63.59	54	eP	P	01 38 53.5	+0.9
	comp=Z,12nm,1.5s,mb4.7						
KAF	Kangasniemi	63.84	335	ep	P	01 38 52.7	-1.6
	comp=Z,6.2nm,0.6s,mb4.8,baz=37,slow=6.2						
KAF	Kangasniemi	63.84	335	eP	P	01 38 52.7	-1.6
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
FINES	FINESS Array B	64.44	335	P	P	01 38 57.3	-1.0
	comp=Z,8.8nm,0.6s,mb5.0,baz=40,slow=7.7,SNR=101						
FINES				LR	LR	02 10 00.4	
	comp=Z,85nm,19.1s,MS4.0,baz=165,slow=39						
FINES	FINESS Array B	64.44	335	P	P	01 38 57.3	-1.0
FINES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,85nm,19.1s						
PDAR	Pinedale Array	64.84	54	P	P	01 39 01.4	+0.5
	comp=Z,0.4nm,0.5s,mb3.7,baz=288,slow=3.6,SNR=4.0						
OBN	Obninsk	65.70	326	eP	P	01 39 05.0	-1.5
OBN				eSS	SS	01 52 00.1	-5.1
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						

WRA Warramunga Arr 68.22 199 P P 01 39 20.6 -1.8
comp=Z,3.3nm,0.8s,mb4.4,baz=19,slow=6.7,SNR=16
WRA Warramunga Arr 68.22 199 P P 01 39 20.6 -1.8
WRA pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 68.63 341 P P 01 39 24.5 -0.5
comp=Z,8.1nm,0.6s,mb4.8,baz=28,slow=6.5
NB2 NORSAR Subarra 68.63 341 P P 01 39 24.5 -0.5
NB2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
NOA NORSAR Array B 68.63 341 P P 01 39 24.4 -0.7
comp=Z,7.5nm,0.6s,mb4.8,baz=28,slow=6.3,SNR=50
NOA LR LR 02 15 48.2
comp=Z,46nm,19.2s,MS3.7,baz=20,slow=42
SMCO Snowmass 68.69 55 *e*P P 01 39 23.3 -2.1
KIV Kislovodsk 71.17 314 *e*P P 01 39 41.4 +0.8
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KIV MLR MLR
comp=Z,149nm,18.0s,MS4.3
ASAR Alice Springs 71.91 199 P P 01 39 45.4 +0.3
comp=Z,2.2nm,0.8s,mb4.2,baz=17,slow=6.2,SNR=21
ASAR Alice Springs 71.91 199 P P 01 39 45.4 +0.3
ASAR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 71.94 326 P P 01 39 44.7 -0.6
comp=Z,11nm,0.6s,mb5.0,baz=34,slow=6.2,SNR=46
AKASG LR LR 02 13 30.7
comp=Z,69nm,19.1s,MS3.9,baz=275,slow=38
AKASG Malin Array Be 71.94 326 P P 01 39 44.7 -0.6
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG MLR MLR
comp=Z,69nm,19.1s
AKASG Malin Array Be 71.94 326 P P 01 39 44.7 -0.6
AKASG LR LR 02 13 30.7
AKBB Malin Array Si 71.94 326 *e*P P 01 39 44.3 -1.0
AKBB *e**PP pP 01 39 55.0 +1.3
GNI Garni 72.89 311 LR LR 02 15 09.7
comp=Z,78nm,19.8s,MS4.0,baz=243,slow=39
GNI Garni 72.89 311 *i* P P 01 39 50.3 -0.6
GNI pmax pmax
comp=Z,12nm,1.3s
GNI Garni 72.89 311 *e*P P 01 39 52.1 +1.2
comp=Z,8.6nm,0.9s,mb4.7
KWP Kalwaria 75.22 329 *e*P P 01 40 05.2 +0.6
OJC Ojcow 75.72 331 *e*P P 01 40 07.4 0.0
STHS Stebnicka Huta 75.91 330 *e*P P 01 40 09.3 +0.8
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
STHS Stebnicka Huta 75.91 330 *e*P P 01 40 09.3 +0.8
comp=Z,4.2nm,0.7s,mb4.5
KOLS Kolonicke sedl 75.96 329 *e*P P 01 40 09.0 +0.2
BURAR Bucovina Array 75.98 327⇑*i*P P 01 40 09.6 +0.7
BURAR Bucovina Array 75.98 327 ⇓P P 01 40 09.1 +0.2
NIE Niedzica 76.23 331 *e*P P 01 40 11.0 +0.7
CRVS Cervenica-Dubn 76.27 330 *e*P P 01 40 10.5 -0.1
UPC Upice 76.68 334 *e*P P 01 40 13.1 +0.2
DPC Dobruska-Polom 76.72 333 *e*P P 01 40 13.5 +0.4
MORC Moravsky Berou 76.84 332⇓*i*P P 01 40 14.4 +0.6
MORC Moravsky Berou 76.84 332 ⇑P P 01 40 14.0 +0.3
CLL Collm 76.87 336⇑*i*P P 01 40 13.4 -0.5
CLL pmax pmax
comp=Z,14nm,0.6s,mb5.1
CLL Collm 76.87 336⇑*i*P P 01 40 13.4 -0.5
comp=Z,14nm,0.6s,mb5.1
KECS Kecovo 76.97 330 *e*P P 01 40 14.2 -0.3
KECS *e*PCP PcP 01 40 25.1 -0.4
KECS Kecovo 76.97 330 *e*P P 01 40 14.2 -0.3
KECS *e* 01 40 25.2
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 76.97 330 *e*P P 01 40 14.2 -0.3
comp=Z,2.4nm,0.8s,mb4.2
KECS *e* 01 40 25.2
BRG Berggiesshubel 76.98 335 *i* P P 01 40 15.0 +0.4
comp=Z,0.9nm,0.6s,mb3.9
BRG Berggiesshubel 76.98 335 *i* P P 01 40 15.0 +0.4
BRG pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
PVCC Panska Ves 77.10 334 *e*P P 01 40 15.2 -0.1
TIRR Tirgusor 77.30 323⇑*i*P P 01 40 17.1 +0.7
MLR Muntele Rosu 77.46 325⇓*i*P P 01 40 17.9 +0.7
MLR Muntele Rosu 77.46 325 ⇑P P 01 40 18.0 +0.7
MALT Malatya 77.52 313 *e*P P 01 40 18.8 +1.2
MALT pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MALT Malatya 77.52 313 *e*P P 01 40 18.8 +1.2
comp=Z,1.4nm,0.6s,mb4.1
ISR Istrita 77.53 325⇑*i*P P 01 40 19.1 +1.5
ISR Istrita 77.53 325 ⇓P P 01 40 18.9 +1.3
VYHS Vyhne 77.53 331 *e*P P 01 40 17.8 +0.2
VYHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
VYHS Vyhne 77.53 331 *e*P P 01 40 17.8 +0.2
comp=Z,2.4nm,0.8s,mb4.2
VRAC Vranov 77.55 333⇓*i*P P 01 40 17.1 -0.7
VRAC Vranov 77.55 333 ⇑P P 01 40 17.0 -0.7
PRU Pruhonice 77.59 334 *e*P P 01 40 18.1 +0.1
DRGR 77.61 328⇓*i*P P 01 40 18.6 +0.5
DRGR 77.61 328 ⇓P P 01 40 18.2 +0.1
SNX Sinaia 77.74 325⇓*i*P P 01 40 20.1 +1.3
MOX Moxa 77.85 336 *e*P P 01 40 19.5 +0.1
VOIR 77.85 326⇑*i*P P 01 40 20.7 +1.2
VOIR 77.85 326 ⇑P P 01 40 20.7 +1.3
TREC Trest 77.91 333 *e*P P 01 40 20.2 +0.4
SMOL Smolenice 77.97 332 *e*P P 01 40 21.3 +1.2
ZST Bratislava 78.36 332 *e*P P 01 40 23.9 +1.6
KHC Kasperske Hory 78.64 334 *e*P P 01 40 24.0 +0.2
KHC Kasperske Hory 78.64 334 *i* P P 01 40 23.2 -0.6
GZR Gura Zlata 78.77 327⇑*i*P P 01 40 24.7 +0.2
GZR Gura Zlata 78.77 327 ⇓P P 01 40 24.4 -0.2
BRTR Keskin Array B 78.77 317 P P 01 40 24.2 -0.3
comp=Z,1.1nm,0.7s,mb3.9,baz=35,slow=4.5,SNR=5.2
BRTR Keskin Array B 78.77 317 P P 01 40 24.2 -0.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GRA1 Grafenberg Arr 78.82 336 *e*P P 01 40 25.2 +0.4
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.82 336 *e*P P 01 40 25.2 +0.4
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.82 336 *e*P P 01 40 25.2 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 78.82 336 *e*P P 01 40 25.2 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 78.86 334 P P 01 40 25.1 +0.1
comp=Z,2.1nm,0.6s,mb4.2,baz=40,slow=5.1,SNR=25
GERES GERESS Array B 78.86 334 P P 01 40 25.1 +0.1
GERES pmax pmax
comp=Z,2.0nm,0.6s
UMR Umm Al-Rimmam 78.95 301 *e*P P 01 40 27.3 +1.8
UMR AMb AMB 01 40 28.3
comp=Z,37nm,0.8s,mb5.4
MIB Mutribah 78.99 302 *e*P P 01 40 27.5 +1.8
MIB AMb AMB 01 40 28.5
comp=Z,35nm,0.7s,mb5.4
BZS Buzias 79.01 328⇑*i*P P 01 40 26.1 +0.3
BZS Buzias 79.01 328 P P 01 40 26.2 +0.4
SZH Strazhica 79.30 324 *e*P P 01 40 27.4 0.0
RST Umm Al-Ruwaisa 79.41 302 *e*P P 01 40 29.6 +1.5
RST AMb AMB 01 40 30.6
comp=Z,34nm,0.7s,mb5.4
QRN Al-Qurain 79.42 301 *e*P P 01 40 30.3 +2.2
QRN AMb AMB 01 40 31.1
comp=Z,29nm,0.8s,mb5.3
NAY Al-Naaiem 79.45 301 *e*P P 01 40 29.9 +1.6
NAY AMb AMB 01 40 31.1
comp=Z,9.8nm,0.9s,mb4.7
MOA Molln 79.57 333⇓*i*P P 01 40 29.2 +0.3
comp=Z,4.4nm,0.9s,mb4.4
PVL Pavlikeni 79.59 324 *e*P P 01 40 29.1 +0.1
JMB Yambol 79.69 323 *e*P P 01 40 30.6 +1.0
BAIF Baives 80.28 340 *e*P P 01 40 31.9 -0.9
comp=Z,15nm,1.0s,mb4.6
BAIF Baives 80.28 340 *e*P P 01 40 31.9 -0.9
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BAIF Baives 80.28 340 *e*P P 01 40 31.9 -0.9
comp=Z,7.6nm,1.0s,mb4.6
GROS Grobnik 80.40 332 *i* P P 01 40 33.5 +0.1
DIM Dimitrovgrad 80.48 323 *e*P P 01 40 34.4 +0.6
KBA Koelnbreinsper 80.54 334⇓*i*P P 01 40 35.2 +1.1
comp=Z,17nm,0.8s,mb5.0
KBA Koelnbreinsper 80.54 334⇓*i*P P 01 40 35.2 +1.1
KBA pmax pmax
comp=Z,17nm,0.8s,mb5.0
GOLS Golise 80.76 332 *i* P P 01 40 35.4 +0.1
WTTA Wattenberg 80.89 335⇓*i*P P 01 40 36.9 +0.9
comp=Z,10nm,0.5s,mb5.0
WTTA Wattenberg 80.89 335⇓*i*P P 01 40 36.9 +0.9
WTTA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VTS Vitosha 80.96 325 *e*P P 01 40 37.0 +0.6
VTS Vitosha 80.96 325⇑*i*P P 01 40 37.3 +0.9
VTS Vitosha 80.96 325 ⇓P P 01 40 37.2 +0.8
MOTA Moosalm 80.97 335⇓*i*P P 01 40 37.0 +0.5
comp=Z,7.6nm,1.0s,mb4.6
MOTA Moosalm 80.97 335⇓*i*P P 01 40 37.0 +0.5
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CRES Cresnjev 80.98 332 *e*P P 01 40 35.5 -1.0
SQTA Sankt Quirin 81.06 335⇓*i*P P 01 40 37.6 +0.7
comp=Z,4.6nm,1.0s,mb4.4
SQTA Sankt Quirin 81.06 335⇓*i*P P 01 40 37.6 +0.7
SQTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MEZF Maizieres J'vi 81.54 339 *e*P P 01 40 38.9 -0.5
HAU Haudompre 81.67 338 *e*P P 01 40 39.2 -1.0
LOR Lormes 82.98 340 *e*P P 01 40 46.1 -0.9
comp=Z,16nm,1.0s,mb4.7
LOR Lormes 82.98 340 *e*P P 01 40 46.1 -0.9
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
LOR Lormes 82.98 340 *e*P P 01 40 46.1 -0.9
comp=Z,8.1nm,1.0s,mb4.7
AVF Avril sur Loir 83.55 340 *e*P P 01 40 49.2 -0.7
comp=Z,16nm,1.1s,mb4.8
AVF Avril sur Loir 83.55 340 *e*P P 01 40 49.2 -0.7
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
AVF Avril sur Loir 83.55 340 *e*P P 01 40 49.2 -0.7
comp=Z,7.9nm,1.0s,mb4.8
SMF Signal de Mont 83.56 339 *e*P P 01 40 49.4 -0.6
comp=Z,32nm,1.1s,mb5.0
SMF Signal de Mont 83.56 339 *e*P P 01 40 49.4 -0.6
SMF pmax pmax
comp=Z,16nm,1.1s,mb5.1
SMF Signal de Mont 83.56 339 *e*P P 01 40 49.4 -0.6
comp=Z,16nm,1.1s,mb5.1
LPL La Plagne 83.87 337 *e*P P 01 40 51.8 +0.2
LPG La Plagne 83.88 337 *e*P P 01 40 51.8 +0.1
comp=Z,11nm,1.0s,mb4.6
LPG La Plagne 83.88 337 *e*P P 01 40 51.8 +0.1
LPG pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
LPG La Plagne 83.88 337 *e*P P 01 40 51.8 +0.1
comp=Z,5.4nm,1.0s,mb4.6
TCF Toulx Ste Croi 84.29 340 *e*P P 01 40 53.1 -0.6
MFF Saint Martin d 84.52 342 *e*P P 01 40 54.3 -0.6
MBDF Montbardon 84.59 337 *e*P P 01 40 55.1 -0.1
ORIF Oris-en-Rattie 84.65 337 *e*P P 01 40 55.7 +0.1
comp=Z,8.1nm,0.7s,mb4.6
ORIF Oris-en-Rattie 84.65 337 *e*P P 01 40 55.7 +0.1
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 84.65 337 *e*P P 01 40 55.7 +0.1
comp=Z,4.1nm,0.7s,mb4.7
VIVF Saint-Julien-l 85.03 338 *e*P P 01 40 57.3 -0.1
comp=Z,7.3nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.03 338 *e*P P 01 40 57.3 -0.1
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.03 338 *e*P P 01 40 57.3 -0.1
comp=Z,3.7nm,0.9s,mb4.5
CAF Calviac 85.61 340 *e*P P 01 40 58.9 -1.4
comp=Z,13nm,1.0s,mb4.8
CAF Calviac 85.61 340 *e*P P 01 40 58.9 -1.4
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CAF Calviac 85.61 340 *e*P P 01 40 58.9 -1.4
comp=Z,6.6nm,1.0s,mb4.8
LMR La Mourre 85.95 336 *e*P P 01 41 01.5 -0.5
comp=Z,22nm,1.1s,mb5.0
LMR La Mourre 85.95 336 *e*P P 01 41 01.5 -0.5
LMR pmax pmax
comp=Z,11nm,1.1s,mb5.0
LMR La Mourre 85.95 336 *e*P P 01 41 01.5 -0.5
comp=Z,11nm,1.1s,mb5.0
KEST Kesra 92.07 331 P P 01 41 31.4 +0.4
comp=Z,1.1nm,0.8s,mb4.2,baz=287,slow=5.2,SNR=5.0
ATD Arta Tunnel 95.41 293 LR LR 02 24 44.4
comp=Z,70nm,19.1s,MS4.2,baz=119,slow=36
TORD Torodi Ar. Bea 115.49 329 PKP PKPdf 01 47 02.2 -1.6
comp=Z,0.4nm,0.9s,baz=37,slow=1.8,SNR=4.4
TORD Torodi Ar. Bea 115.49 329 PKP PKPdf 01 47 02.2 -1.6
PLCA Paso Flores 148.01 96 PKPbc PKPbc 01 48 06.7 -0.6
comp=Z,4.1nm,0.7s,baz=222,slow=4.0,SNR=13
PLCA Paso Flores 148.01 96 PKP2 PKPbc 01 48 06.7 -0.6
PLCA pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 148.51 61 PKPbc PKPbc 01 48 08.1 -0.5
comp=Z,2.0nm,0.5s,baz=314,slow=2.1,SNR=12
CPUP Villa Florida 148.51 61 PKP2 PKPab 01 48 08.1 -3.9
CPUP pmax pmax
comp=Z,2.0nm,0.5s
VNA3 Neumayer Olymp 153.77 192 *e*PKPdf PKPdf 01 48 09.9 -3.1
VNA3 *e* 01 48 23.7
VNA3 *e* 01 49 05.9
VNA3 *e* 01 49 08.8

IDC 01 01:43:36.3±6.8**, 4694N**×**15293E, h0**km**, mb3.7**/3**, mb1 3.7**/5**, mb1mx3.4**/22**, mbtmp3.6**/5**, ML3.1**/2**, Error ellipse: s-maj=157.6km s-min=38.0km az=131.0, Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAJ Asahikawa 7.78 252 Pn Pn 01 45 30.4 -0.4
0.4nm,0.3s,baz=75,slow=20,SNR=2.6
MJAR Matsushiro Arr 15.09 232 Pn Pn 01 47 10.9 +0.2
0.0nm,0.3s,baz=32,slow=11,SNR=4.5
MKAR Makanchi Array 46.74 297 P P 01 52 06.9 -0.2
0.2nm,0.5s,baz=66,slow=9.7,SNR=4.5
FINES FINESS Array B 63.81 335 P P 01 54 09.7 -0.6
0.7nm,0.6s,baz=47,slow=6.1,SNR=4.5
NB2 NORSAR Subarra 68.01 341 P P 01 54 37.0 -0.3
comp=Z,1.9nm,1.0s,baz=26,slow=6.5
NOA NORSAR Array B 68.01 341 P P 01 54 36.9 -0.4
comp=Z,0.9nm,0.8s,baz=27,slow=6.2,SNR=4.5

ISCJB 01 01:53:49.3±0.8, 176N±0.1×403E±02, h10km, mb3.4/6, Error ellipse: s-maj=24.0km s-min=14.2km az=143.9
IDC 01 01:53:49.3±1.3, 1756N×4026E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=28.6km s-min=27.1km az=3.0
NEIC 01 01:53:51.2±0.8, 1757N×4021E, h10km, mb3.7/1, Error ellipse: s-maj=24.2km s-min=14.3km az=72.0
ISC 01 01:53:51.5±0.8**, 176N**±01×**402E**±02**, h10**km**, n10, σ1**§**03**/9**, mb3.4**/6**, Red Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATD Arta Tunnel 6.53 157 Pn Pn 01 55 28.4 +0.9
0.4nm,0.3s,baz=350,slow=18,SNR=2.7
ATD LR LR 01 57 32.0
comp=Z,73nm,20.8s,baz=110,slow=34
KMBO Kilima Mbogo 18.83 189 LR LR 02 05 15.8
comp=Z,116nm,19.1s,baz=284,slow=36
MALT Malatya 20.71 356 *e*P P 01 58 32.9 +1.0
3.9nm,1.0s
BRTR Keskin Array B 22.79 347 P P 01 58 55.6 +1.5
0.5nm,0.7s,mb3.0,baz=159,slow=11,SNR=3.8
TORD Torodi Ar. Bea 37.39 269 P P 02 01 03.5 -0.9
1.8nm,0.9s,mb3.9,baz=79,slow=8.2,SNR=9.7
TORD Torodi Ar. Bea 37.39 269 P P 02 01 03.5 -0.9
GERES GERESS Array B 37.89 331 P P 02 01 09.2 +0.6
0.5nm,0.7s,mb3.4,baz=134,slow=7.6,SNR=17
MKAR Makanchi Array 45.18 40 P P 02 02 07.2 -1.3
0.2nm,0.5s,mb3.2,baz=225,slow=6.5,SNR=3.8
NOA NORSAR Array B 48.07 341 P P 02 02 29.8 -1.2
0.5nm,0.7s,mb3.6,baz=136,slow=7.4,SNR=3.4
SONM Songino Array 61.20 45 P P 02 04 05.9 -0.5
0.4nm,0.9s,mb3.6,baz=226,slow=5.8,SNR=2.7

IDC 01 02:03:06.5±5.6, 3582N×7056E, h49km±50km, mb3.7/8, mb1 3.8/11, mb1mx3.5/24, mbtmp4.0/11, ML3.7/3, Error ellipse: s-maj=34.6km s-min=22.9km az=10.0
MOS 01 02:03:09.2±0.9, 36.17N×7073E, h72km, mb4.4/8, Error ellipse: s-maj=24.9km s-min=8.7km az=97.5
NEIC 01 02:03:10.7±2.3, 36.13N×7059E, h73km±21km, mb4.0/4, Error ellipse: s-maj=20.9km s-min=12.8km az=55.0
ISCJB 01 02:03:12.0±0.6, 3620N±003×7093E±007, h104km±7km, mb3.9/12, Error ellipse: s-maj=9.9km s-min=4.3km az=154.1
NNC 01 02:03:20.7±2.7, 37.12N×7003E, h25km±62km, mb3.9, mpv3.8, Error ellipse: s-maj=63.8km s-min=11.7km az=1.0
ISC 01 02:03:12.8±0.6**, 3616N**±003×**7083E**±007**, h101**km±7km**, n70, σ1**§**22**/85**, mb3.9**/12**, 7C-7D, Hindu Kush region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CEP Cherat 2.49 159 ⇓P Pn 02 03 54.6 +2.9
CEP S Sn 02 04 23.0 +1.4
CHCP Chirah Chowk 3.20 141 P Pn 02 04 04.4 +3.3
THW Thamme Wali 3.44 167 ⇑P Pn 02 04 06.4 +2.1
SBDP Sheikh Budin 3.85 180 ⇓P Pn 02 04 10.5 +0.7
SARP Sargodha 4.49 160 P Pn 02 04 19.6 +1.0
THN Thein Dam 5.49 131 *e*P Pn 02 04 34.8 +2.7
THN *e*x x 02 05 39.4
AML Almayashu 6.37 20 P Pn 02 04 44.1 +0.1
SNR=26
UCH Uchtor 6.71 24 P Pn 02 04 49.0 +0.4
SNR=12
KZA Kyzart 6.84 29 P Pn 02 04 50.4 0.0
SNR=8.1
EKS2 Erkin-Say 6.89 18 P Pn 02 04 50.8 -0.2
SNR=12
SDNR Sundarnagar 6.90 130 *e*P Pn 02 04 53.0 +1.7
SDNR *e*S Sn 02 06 06.6 -1.7
KK31 Karatay Array 6.94 358 Pn Pn 02 04 49.9 -1.9
9.6nm,0.4s,baz=198,slow=14,SNR=126
KK31 Sn Sn 02 06 01.7 -7.5
12nm,0.3s,baz=177,slow=14,SNR=4.0
AAK Ala-Archa 7.06 23 P Pn 02 04 53.8 +0.3
SNR=9.5
AAK Ala-Archa 7.06 23 *e*PN Pn 02 04 52.3 -1.1
AAK pmax pmax
comp=Z,18nm,0.6s
AAK Ala-Archa 7.06 23 *e*Pn Pn 02 04 52.3 -1.2
comp=Z,18nm,0.6s
AAK *e*Sn Sn 02 06 08.0 -4.2
ULHL Ulahol 7.39 33 P Pn 02 04 58.5 +0.6
SNR=5.7
CHMS Chumysh 7.47 23 P Pn 02 04 59.0 -0.1
SNR=9.6
USP Ospenovka 7.64 21 P Pn 02 05 01.4 +0.1
SNR=16
TKM2 Tokmak 2 7.70 27 P Pn 02 05 02.4 +0.4
SNR=12
TKM2 Tokmak 2 7.70 27 ⇑Pn Pn 02 05 01.5 -0.5
comp=Z,1.1nm,0.6s
TKM2 ⇓Sn Sn 02 06 26.7 -0.8
comp=Z,5.5nm,0.8s
KLP Kalpa 7.70 125 *e*P Pn 02 05 02.4 +0.2
KLP *e*S Sn 02 06 24.4 -3.4
KLP *e*x x 02 06 34.6
comp=E,191nm,0.4s
KLP *e*x x 02 06 36.4
comp=N,161nm,0.5s
KHET Khetri 9.10 151 *e*P Pn 02 05 19.4 -1.7
KHET *e*S Sn 02 06 55.4 -6.2
KHET *e*x x 02 06 57.7
comp=E,27nm,0.4s
KHET *e*x x 02 06 58.1
comp=N,44nm,0.3s
NDI New Delhi 9.20 142 *e*P Pn 02 05 21.0 -1.5
NDI *e*x x 02 07 01.0
SONA Sohna 9.49 144 *e*P Pn 02 05 26.4 -0.1
SONA *e*S Sn 02 07 04.9 -6.5
SONA *e*x x 02 07 08.8
comp=E,35nm,0.3s
SONA *e*x x 02 07 08.8
comp=N,25nm,0.4s
MK02 Makanchi Array 13.64 35 ⇓Pn Pn 02 06 25.5 +3.6
comp=N,2.0nm,0.8s
MK02 ⇑Sn Sn 02 08 54.5 +2.5
comp=N,1.8nm,0.8s
MKAR Makanchi Array 13.65 35 P Pn 02 06 23.4 +1.4
comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=16
KOLN Koldanda 13.68 124 *e*P Pn 02 06 21.0 -1.4
comp=N,13nm,0.4s
KOLN *e*S Sn 02 08 47.4 -5.5
GKN Gorkha 14.24 121 *e*P Pn 02 06 28.4 -1.3
comp=N,30nm,0.6s
DMN Daman 14.81 121 *e*P Pn 02 06 36.4 -0.5
comp=N,27nm,0.6s
KKN Kakani 14.82 120 *e*P Pn 02 06 36.2 -0.9
comp=N,12nm,0.4s
PKI Pulchoki 15.04 121 *e*P Pn 02 06 39.2 -0.7
comp=N,21nm,0.5s
GUN Gumba 15.17 119 *e*P Pn 02 06 40.3 -1.2
comp=N,12nm,0.5s
AB31 Akbulak array 15.32 332 ⇓Pn Pn 02 06 39.0 -4.3
comp=N,6.4nm,0.5s,baz=156,slow=11,SNR=106
AB31 Sn Sn 02 09 16.5 -16
comp=N,3.5nm,0.5s,baz=151,slow=23,SNR=9.9
JIRN Jiri 15.54 119 *e*P Pn 02 06 46.1 0.0
VOSK Vostochnaya 16.57 0 ⇑Pn Pn 02 06 59.4 +0.5
comp=N,2.9nm,0.7s
VOSK ⇓Sn Sn 02 09 51.1 -11
comp=N,3.0nm,1.1s
ZRNK Zerenda 16.84 356 ⇑Pn Pn 02 07 04.0 +1.8
comp=N,4.7nm,0.8s
ZRNK ⇓Sn Sn 02 09 57.0 -12
comp=N,2.0nm,0.7s
ZRNK Zerenda 16.84 356 *e*P Pn 02 07 00.9 -1.4
ZRNK pmax pmax
comp=Z,7.0nm,0.8s
ZRNK Zerenda 16.84 356 *e*P Pn 02 07 00.9 -1.4
comp=Z,6.8nm,0.8s
BVA0 Borovoye Array 16.87 359 P Pn 02 07 02.5 -0.1
comp=Z,0.5nm,0.8s,baz=176,slow=11,SNR=12
BVAR Borovoye Array 16.87 359 P Pn 02 07 01.4 -1.2
comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=7.6
BRVK Borovoye 16.91 359 *e*P Pn 02 07 02.2 -0.8
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 16.91 359 *e*P Pn 02 07 02.2 -0.8
comp=Z,3.1nm,0.6s
AKTK Aktyubinsk 17.01 331 P Pn 02 07 02.1 -2.2
AKTK S S 02 09 55.3 -19
AKTO Aktyubinsk 17.01 331 ⇑Pn Pn 02 07 02.0 -2.3
comp=Z,0.3nm,0.9s
AKTO ⇑Sn Sn 02 09 56.6 -17
comp=Z,0.6nm,1.4s
AKTO Aktyubinsk 17.01 331 P Pn 02 07 02.1 -2.2
comp=Z,0.3nm,0.3s,baz=146,slow=13,SNR=35
AKTO S S 02 09 55.3 -19
comp=Z,0.1nm,0.3s,baz=333,slow=17,SNR=4.8
HYB Hyderabad 19.88 158 *i* P Pn 02 07 38.5 0.0
HYB Hyderabad 19.88 158 *e*P Pn 02 07 38.5 0.0
NVS Novosibirsk 20.55 21 *e*P P 02 07 43.6 +0.4
ARU Arti 21.91 342 *e*P P 02 07 58.6 +0.9
ARU *e*S S 02 11 54.4 +0.7
ARU *e*SS 02 12 17.2
ARU Arti 21.91 342 *e*P P 02 07 58.8 +1.1
comp=Z,10nm,1.1s,mb4.1
SONM Songino Array 28.65 55 P P 02 09 02.7 +3.0
comp=Z,0.8nm,0.8s,mb3.4,baz=251,slow=9.1,SNR=5.7
SONM Songino Array 28.65 55 P P 02 09 02.7 +2.9
SONM pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 30.11 320 *e*P P 02 09 13.8 +1.1
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
JOF Joensuu 36.10 330 *e*p P 02 10 05.4 +0.7
comp=Z,2.2nm,0.4s,mb4.4
JOF Joensuu 36.10 330 *e*P P 02 10 05.4 +0.7
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FINES FINESS Array B 37.69 326 P P 02 10 18.6 +0.4
comp=Z,2.4nm,0.8s,mb4.1,baz=120,slow=14,SNR=9.7
FINES FINESS Array B 37.69 326 P P 02 10 18.7 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 37.84 327 *e*p P 02 10 20.1 +0.6
comp=Z,6.2nm,0.9s,mb4.4,baz=112,slow=8.4
KAF Kangasniemi 37.84 327 *e*P P 02 10 20.1 +0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
ARCES	ARCESS Array B	41.41	338	P	P	02 10 50.0	+0.9
	comp=Z,1.5nm,0.6s,mb4.0,baz=116,slow=8.4,SNR=16						
ARCES	ARCESS Array B	41.41	338	P	P	02 10 50.0	+0.9
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	44.57	323	P	P	02 11 14.4	-0.2
	comp=Z,1.5nm,0.5s,mb4.0,baz=99,slow=7.9						
NOA	NORSAR Array B	44.57	323	P	P	02 11 14.7	+0.1
	comp=Z,1.5nm,0.6s,mb3.9,baz=98,slow=7.8,SNR=3.7						
NOA	NORSAR Array B	44.57	323	P	P	02 11 14.7	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TORD	Torodi Ar. Bea	65.57	269	P	P	02 13 44.1	-1.5
	comp=Z,1.6nm,0.5s,mb4.1,baz=49,slow=6.0,SNR=62						
INK	Inuvik	74.27	9	P	P	02 14 39.6	+0.8
	comp=Z,1.7nm,0.8s,mb3.8,baz=2.0,slow=7.3,SNR=5.2						
INK	Inuvik	74.27	9	P	P	02 14 39.6	+0.8
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	81.60	3	P	P	02 15 19.9	+0.5
	comp=Z,0.7nm,0.7s,mb3.6,baz=352,slow=5.4,SNR=4.5						
YKA	Yellowknife Ar	81.60	3	P	P	02 15 19.9	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	81.93	122	P	P	02 15 20.9	-0.2
	comp=Z,0.2nm,0.5s,mb3.2,baz=326,slow=4.8,SNR=5.3						

*IDC **01** 02:07:55.7±4.5, 4696N×15291E, h0^{km}, mb4.0/7, mb1 4.0/9, mb1mx3.8/21, mbtmp4.0/9, ML3.2/2, Error ellipse: s-maj=101.9km s-min=31.9km az=138.0*
*NEIC **01** 02:07:58.0±0.9, 4709N×15291E, h10^{km}, mb4.0/4, Error ellipse: s-maj=22.2km s-min=8.8km az=127.0*
*BJI **01** 02:07:57.1, 4644N×15328E, h36^{km}, mB4.5, mb4.2*
*ISCJB **01** 02:07:59.4±3.0, 470N±01×1529E±02, h32^{km}±24^{km}, mb4.3/18, Error ellipse: s-maj=33.3km s-min=11.0km az=90.3*
*MOS **01** 02:08:00.0±0.6, 4711N×15272E, h33^{km}, mb4.3/11, Error ellipse: s-maj=20.6km s-min=14.6km az=89.0*
*SZGRF **01** 02:08:05.8, 4801N×15404E, h33^{km}, mb4.4, Kuril Islands, Russia*

ISC 01 02:08:00.7±3.1**, 470N**±02×**1529E**±02**, h31**^{km}±24^{km}**, n47,** σ**0**^{s}**80**/47**, mb4.3**/18**, 2C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.24	29	ePN	Pn	02 09 03.1	0.0
SKR				e		02 09 51.7	
ASAJ	Asahikawa	7.80	252	Pn	Pn	02 09 48.8	-3.3
	0.3nm,0.3s,baz=78,slow=21,SNR=8.8						
MAJO	Matsushiro	15.14	232	eP	Pn	02 11 33.0	+0.7
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAJO	Matsushiro	15.14	232	ePn	Pn	02 11 33.0	+0.7
	comp=Z,3.6nm,0.7s						
MAT	Matsushiro	15.14	232	P	Pn	02 11 33.0	+0.7
MJAR	Matsushiro Arr	15.14	232	Pn	Pn	02 11 31.7	-0.6
	comp=Z,0.1nm,0.3s,baz=38,slow=9.3,SNR=8.9						
MDJ	Mudanjiang	16.43	270	P	Pn	02 11 50.1	+1.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,62nm,3.6s						
SONM	Songino Array	31.12	289	P	P	02 14 16.6	+0.1
	comp=Z,0.5nm,0.8s,mb3.4,baz=72,slow=9.3,SNR=3.4						
SONM	Songino Array	31.12	289	P	P	02 14 16.6	+0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	Zakamensk	32.44	295	eP	P	02 14 27.5	-0.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.8						
EGAK	Eagle	38.88	39	eP	P	02 15 22.6	-0.7
GYA	Guiyang	41.64	257	P	P	02 15 44.8	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
MKAR	Makanchi Array	46.70	297	P	P	02 16 26.2	-0.4
	comp=Z,2.5nm,0.9s,mb4.2,baz=64,slow=8.2,SNR=15						
MKAR	Makanchi Array	46.70	297	P	P	02 16 26.3	-0.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	Borovoye Array	50.59	309	P	P	02 16 56.0	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=60,slow=8.8,SNR=5.0						
BVAR	Borovoye Array	50.59	309	P	P	02 16 56.0	-0.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	50.63	309	eP	P	02 16 56.8	0.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	Borovoye	50.63	309	eP	P	02 16 56.8	0.0
	comp=Z,2.7nm,0.7s,mb4.3						
ZRNK	Zerenda	51.35	310	eP	P	02 17 01.7	-0.6
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	51.35	310	eP	P	02 17 01.7	-0.6
	comp=Z,0.9nm,0.5s,mb4.0						
GUN	Gumba	54.84	275	eP	P	02 17 26.8	-1.2
KKN	Kakani	55.33	275	eP	P	02 17 31.2	-0.3
	comp=Z,10nm,0.7s,mb5.0						
PKI	Pulchoki	55.38	275	eP	P	02 17 31.1	-0.8
	comp=Z,5.9nm,0.7s,mb4.7						
DMN	Daman	55.56	275	eP	P	02 17 33.5	+0.3
	comp=Z,16nm,0.9s,mb5.0						
GKN	Gorkha	55.63	276	eP	P	02 17 34.2	+0.5
	comp=Z,14nm,0.6s,mb5.2						
KOLN	Koldanda	56.49	276	eP	P	02 17 40.6	+0.8
	comp=Z,15nm,0.9s,mb5.0						
FINES	FINESS Array B	63.74	335	P	P	02 18 29.1	-0.4
	comp=Z,2.4nm,0.8s,mb4.3,baz=31,slow=5.6,SNR=10						
FINES	FINESS Array B	63.74	335	P	P	02 18 29.1	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	67.93	341	P	P	02 18 56.6	+0.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=27,slow=6.5						
NOA	NORSAR Array B	67.93	341	P	P	02 18 56.7	+0.2
	comp=Z,1.4nm,0.6s,mb4.1,baz=28,slow=6.3,SNR=12						
NOA	NORSAR Array B	67.93	341	P	P	02 18 56.7	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	67.93	341	P	P	02 18 56.7	+0.2
AKASG	Malin Array Be	71.25	326	P	P	02 19 16.0	-0.9
	comp=Z,3.8nm,0.7s,mb4.4,baz=33,slow=6.1,SNR=17						
AKASG	Malin Array Be	71.25	326	P	P	02 19 16.0	-1.0
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	Malin Array Be	71.25	326	P	P	02 19 16.0	-0.9
BURAR	Bucovina Array	75.29	326	⇓iP	P	02 19 41.3	+0.5
MLR	Muntele Rosu	76.77	325	⇓iP	P	02 19 50.4	+1.2
DRGR		76.92	327	⇑iP	P	02 19 50.3	+0.2
SNX	Sinaia	77.05	325	⇓iP	P	02 19 52.2	+1.4
VOIR		77.17	325	⇑iP	P	02 19 53.1	+1.7
BRTR	Keskin Array B	78.11	317	P	P	02 19 56.5	-0.1
	comp=Z,0.9nm,0.8s,mb3.7,baz=65,slow=7.0,SNR=4.1						
BRTR	Keskin Array B	78.11	317	P	P	02 19 56.6	-0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GRA1	Grafenberg Arr	78.12	336	eP	P	02 19 56.7	-0.1
	comp=Z,4.0nm,1.1s,mb4.3						
GRF	Grafenberg Arr	78.12	336	eP	P	02 19 56.7	-0.1
	comp=Z,4.0nm,1.1s,mb4.3						
GRF	Grafenberg Arr	78.12	336	eP	P	02 19 56.7	-0.1
GRF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
GERES	GERESS Array B	78.16	334	P	P	02 19 57.0	0.0
	comp=Z,0.5nm,0.7s,mb3.6,baz=8.1,slow=2.8,SNR=5.2						
GERES	GERESS Array B	78.16	334	P	P	02 19 57.0	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **01** 02:09:10.2±4.8, 4657N×15289E, h0^{km}, mb4.0/7, mb1 4.0/9, mb1mx3.8/21, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=108.1km s-min=31.5km az=139.0*
*NEIC **01** 02:09:13.3±2.3, 4670N×15256E, h10^{km}, mb4.1/2, Error ellipse: s-maj=52.4km s-min=11.0km az=120.0*
*ISCJB **01** 02:09:14.3±2.0, 466N±02×1527E±04, h33^{km}, mb4.2/11, Error ellipse: s-maj=45.9km s-min=11.8km az=70.5*

ISC 01 02:09:15.5±2.1**, 466N**±02×**1529E**±04**, h35**^{km}**, n26,** σ**0**^{s}**98**/26**, mb4.2**/11**, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.65	255	Pn	Pn	02 11 04.7	+0.3
	0.9nm,0.3s,baz=97,slow=17,SNR=3.7						
ERM	Erimo	8.34	240	ePn	Pn	02 11 11.3	-2.6
MAJO	Matsushiro	14.86	233	ePn	Pn	02 12 44.2	+1.2
MJAR	Matsushiro Arr	14.86	233	Pn	Pn	02 12 40.5	-2.5
	baz=37,slow=11,SNR=3.4						
MJAR	Matsushiro Arr	14.86	233	Pn	Pn	02 12 40.5	-2.5
SONM	Songino Array	31.21	290	P	P	02 15 31.3	-0.1
	0.2nm,0.6s,mb3.1,baz=78,slow=8.3,SNR=2.6						
MKAR	Makanchi Array	46.85	297	P	P	02 17 41.6	-0.4
	2.2nm,0.7s,mb4.2,baz=69,slow=8.1,SNR=10						
BVAR	Borovoye Array	50.81	309	P	P	02 18 12.2	-0.2
	0.3nm,0.4s,mb3.6,baz=55,slow=6.0,SNR=3.8						
ZRNK	Zerenda	51.58	310	P	P	02 18 17.7	-0.4
	0.8nm,0.4s,mb4.0						
AAK	Ala-Archa	53.74	296	eP	P	02 18 33.7	-0.4
	2.7nm,0.8s,mb4.2						
GUN	Gumba	54.84	275	eP	P	02 18 42.9	+0.8
KKN	Kakani	55.33	275	eP	P	02 18 46.3	+0.7
	11nm,0.7s,mb5.0						
PKI	Pulchoki	55.38	275	eP	P	02 18 46.5	+0.5
DMN	Daman	55.56	275	eP	P	02 18 48.2	+0.9
GKN	Gorkha	55.63	276	eP	P	02 18 48.5	+0.7
KOLN	Koldanda	56.49	276	eP	P	02 18 54.6	+0.6
	15nm,0.8s,mb5.0						
ARCES	ARCESS Array B	57.92	341	P	P	02 19 04.2	+0.1
	2.1nm,1.0s,mb4.1,baz=30,slow=7.2,SNR=5.5						
KAF	Kangasniemi	63.49	335	ep	P	02 19 39.2	-2.8
FINES	FINESS Array B	64.09	335	P	P	02 19 46.2	+0.3
	2.2nm,0.6s,mb4.4,baz=39,slow=7.3,SNR=10						
NB2	NORSAR Subarra	68.30	341	P	P	02 20 12.9	0.0
	comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=6.5						
NOA	NORSAR Array B	68.30	341	P	P	02 20 13.2	+0.3
	comp=Z,0.6nm,0.6s,mb3.8,baz=27,slow=6.4,SNR=4.2						
AKASG	Malin Array Be	71.56	326	P	P	02 20 32.6	-0.4
	comp=Z,2.3nm,0.4s,mb4.4,baz=34,slow=6.3,SNR=12						
BURAR	Bucovina Array	75.60	326	⇓iP	P	02 20 55.5	-1.2
MLR	Muntele Rosu	77.07	325	⇑iP	P	02 21 06.9	+1.9
DRGR		77.23	327	⇓iP	P	02 21 05.4	-0.5
GERES	GERESS Array B	78.50	334	P	P	02 21 13.4	+0.4
	baz=45,slow=4.0,SNR=5.5						

WEL 01 02:17:00.0±0.1**, 3980S**×**17505E, h38**^{km}±2^{km}**, ML3.5**/18**, 8C-1D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.07	308	⇑PN	Pn	02 17 05.9	-0.3
WAZ				⇑PN	Pn	02 17 05.9	-0.3
WAZ				SN	Sn	02 17 11.0	+0.5
WAZ				SN	Sn	02 17 11.0	+0.5
MTVZ	Mangateitei	0.52	38	⇑PN	Pn	02 17 10.6	-0.4
MTVZ				SN	Sn	02 17 19.4	+0.7
PKVZ	Pokaka	0.55	24	⇑PN	Pn	02 17 11.0	-0.4
TRVZ	Turoa	0.63	38	PN	Pn	02 17 12.1	-0.3
WNVZ	Wahianoa	0.63	42	⇑PN	Pn	02 17 12.2	-0.3
DRZ	Dome Shelter	0.65	38	PN	Pn	02 17 12.6	-0.1
FWVZ	Far West T-bar	0.66	36	⇓PN	Pn	02 17 12.5	-0.4
MOVZ	Moawhango	0.67	55	⇑PN	Pn	02 17 12.3	-0.6
TUVZ	Tukino	0.70	42	⇑PN	Pn	02 17 13.3	-0.1
WPVZ	Whakapapa	0.70	33	PN	Pn	02 17 13.0	-0.4
VRZ	Vera Road	0.71	341	PN	Pn	02 17 13.3	-0.2
RAEZ	Rainy Point	0.72	315	PN	Pn	02 17 14.2	+0.5
TSZ	Takapari Road	0.75	111	PN	Pn	02 17 13.7	-0.4
NGZ	Ngauruhoe	0.75	35	PN	Pn	02 17 13.7	-0.4
TWVZ	Taurewa	0.78	23	PN	Pn	02 17 13.8	-0.7
OTVZ	Oturere	0.79	37	PN	Pn	02 17 14.4	-0.3
WTVZ	West Tongariro	0.80	32	PN	Pn	02 17 14.2	-0.5
KRVZ	Karewarewa	0.83	33	PN	Pn	02 17 14.6	-0.6
NEZ	North Egmont	0.91	305	PN	Pn	02 17 16.8	+0.6
MRZ	Mangatainoka R	0.95	155	PN	Pn	02 17 16.6	-0.3
KATZ	Kakaramea	0.96	32	PN	Pn	02 17 16.9	-0.1
PKE	Pukeiti	1.02	306	PN	Pn	02 17 18.7	+1.0
RITZ	Rihia Road	1.03	38	PN	Pn	02 17 18.6	+0.7
KIW	Kapiti Island	1.07	186	⇑PN	Pn	02 17 17.5	-1.0
KIW				SN	Sn	02 17 30.9	-1.3
RATZ	Rangitukua	1.08	31	PN	Pn	02 17 18.9	+0.2
TIWZ	Tintock	1.17	147	PN	Pn	02 17 20.3	+0.5
WATZ	Wairara	1.21	26	PN	Pn	02 17 20.9	+0.5
HATZ	Hinemaiaia	1.21	42	PN	Pn	02 17 20.5	+0.1
BFZ	Birch Farm	1.27	134	PN	Pn	02 17 21.3	0.0
BKZ	Black Stump Fm	1.28	61	PN	Pn	02 17 21.8	+0.5
HIZ	Hauiti	1.29	353	PN	Pn	02 17 21.9	+0.4
CAW	Cannon Point	1.31	179	PN	Pn	02 17 21.4	-0.4
DUWZ	D'Urville Isla	1.33	220	PN	Pn	02 17 21.0	-1.1
MTW	Mount Morrison	1.41	166	PN	Pn	02 17 23.6	+0.5
MRW	Makara Radio	1.46	190	PN	Pn	02 17 23.3	-0.5
WEL	Wellington	1.50	188	PN	Pn	02 17 24.1	-0.3
TCW	Tory Channel	1.54	202	PN	Pn	02 17 23.9	-0.9
SNZO	South Karori	1.54	190	PN	Pn	02 17 24.3	-0.6
PAWZ	Paruwai Farm	1.61	170	PN	Pn	02 17 26.7	+0.8
BHW	Baring Head	1.62	185	PN	Pn	02 17 25.8	-0.2
MSWZ	Moikau Station	1.62	175	PN	Pn	02 17 25.9	-0.2
TRWZ	Traveller	1.67	163	PN	Pn	02 17 27.6	+0.8
TUWZ	Tuamarina	1.84	207	PN	Pn	02 17 27.8	-1.3
NNZ	Nelson	1.91	221	PN	Pn	02 17 29.9	-0.1
BSWZ	Blackbirch Sta	2.12	205	PN	Pn	02 17 32.5	-0.4
KNZ	Kokohu	2.17	70	PN	Pn	02 17 34.9	+1.2
THZ	Tophouse	2.55	219	PN	Pn	02 17 39.1	+0.2
KHZ	Kahutara	2.86	203	PN	Pn	02 17 42.0	-1.0
DSZ	Denniston Nort	3.14	231	PN	Pn	02 17 46.5	-0.5
ODZ	Otahua Downs	6.18	210	PN	Pn	02 18 25.4	-3.3

*IDC **01** 02:21:04.3±2.9, 4654N×15282E, h0^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.7/21, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=74.7km s-min=28.6km az=165.0*
*NEIC **01** 02:21:07.5±1.2, 4684N×15274E, h10^{km}, mb4.0/2, Error ellipse: s-maj=30.0km s-min=15.8km az=137.0*
*ISCJB **01** 02:21:09.0±1.3, 468N±02×1526E±02, h33^{km}, mb3.9/12, Error ellipse: s-maj=31.4km s-min=12.1km az=89.5*
*MOS **01** 02:21:12.4±1.0, 4708N×15195E, h34^{km}, mb4.2/9, Error ellipse: s-maj=19.4km s-min=16.5km az=79.7*

ISC 01 02:21:10.8±1.3**, 468N**±02×**1527E**±02**, h35**^{km}**, n27,** σ**0**^{s}**84**/27**, mb3.9**/12**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.52	29	ePN	Pn	02 22 10.0	-6.7
YUK	Yuzh-Kuril'sk	5.52	242	PN	Pn	02 22 30.5	+0.1
YUK				pmax	pmax		
	comp=Z,110nm,0.5s						
ASAJ	Asahikawa	7.56	253	Pn	Pn	02 22 57.5	-1.0
	comp=Z,0.4nm,0.3s,baz=100,slow=22,SNR=5.3						
MJAR	Matsushiro Arr	14.86	232	Pn	Pn	02 24 39.2	+1.0
	comp=Z,0.2nm,0.3s,baz=37,slow=7.9,SNR=7.1						
SONM	Songino Array	31.02	289	P	P	02 27 25.0	-0.1
	comp=Z,0.2nm,0.7s,mb3.1,baz=58,slow=8.7,SNR=2.3						
MKAR	Makanchi Array	46.64	297	P	P	02 29 34.8	-0.9
	comp=Z,1.3nm,0.7s,mb3.9,baz=67,slow=9.3,SNR=9.3						
MKAR	Makanchi Array	46.64	297	P	P	02 29 34.8	-0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	46.64	297	P	P	02 29 34.8	-0.9
BVAR	Borovoye Array	50.59	309	P	P	02 30 05.8	-0.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=43,slow=7.9,SNR=5.5						
BVAR	Borovoye Array	50.59	309	P	P	02 30 05.8	-0.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	Zerenda	51.36	310	eP	P	02 30 11.8	0.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZRNK	Zerenda	51.36	310	eP	P	02 30 11.8	0.0
	comp=Z,1.1nm,0.8s,mb3.8						
AAK	Ala-Archa	53.53	296	eP	P	02 30 27.5	-0.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	Ala-Archa	53.53	296	eP	P	02 30 27.5	-0.5
	comp=Z,2.0nm,0.8s,mb4.1						
ARCES	ARCESS Array B	57.71	341	P	P	02 30 57.8	-0.1
	comp=Z,1.1nm,0.8s,mb3.9,baz=28,slow=9.6,SNR=2.8						
ARCES	ARCESS Array B	57.71	341	P	P	02 30 57.8	-0.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	63.87	335	P	P	02 31 39.8	0.0
	comp=Z,1.6nm,0.7s,mb4.2,baz=27,slow=6.7,SNR=13						
FINES	FINESS Array B	63.87	335	P	P	02 31 39.8	0.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	64.98	54	P	P	02 31 45.6	-1.5
	comp=Z,0.1nm,0.3s,mb3.3,baz=327,slow=4.8,SNR=1.8						
NB2	NORSAR Subarra	68.09	341	P	P	02 32 06.9	0.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=30,slow=6.5						
NOA	NORSAR Array B	68.09	341	P	P	02 32 07.0	+0.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=28,slow=6.5,SNR=4.2						
AKASG	Malin Array Be	71.33	326	P	P	02 32 27.0	0.0
	comp=Z,2.1nm,0.5s,mb4.3,baz=33,slow=6.2,SNR=15						
AKASG	Malin Array Be	71.33	326	P	P	02 32 27.0	+0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EKA	Eskdalemuir Ar	76.22	346	P	P	02 32 57.4	+1.8
	comp=Z,0.9nm,0.9s,mb3.7,baz=22,slow=4.7,SNR=3.8						
EKA	Eskdalemuir Ar	76.22	346	P	P	02 32 57.4	+1.8
EKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	GERESS Array B	78.28	334	P	P	02 33 08.7	+1.6
	comp=Z,1.7nm,0.6s,mb4.2,baz=52,slow=5.4,SNR=25						
GERES	GERESS Array B	78.28	334	P	P	02 33 08.7	+1.6
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						

*NIED **01** 02:23:00, 4630N×15330E, h5^{km}, Mw5.2 Best double couple: $M_0$6.78000×10^{16} NP1:ϕ_s220.00000°, δ63.00000°, λ127.00000°. NP2:ϕ_s341.00000°, δ45.00000°, λ40.00000°.*
*BGS **01** 02:23:57.8, 4592N×15359E, h10^{km}, mb5.1*
*IDC **01** 02:23:57.7±0.4, 4621N×15293E, h0^{km}, mb4.7/28, mb1 4.8/29, mb1mx4.8/31, mbtmp4.7/29, ML4.0/1, MS4.8/20, Ms1 4.8/20, ms1mx4.6/29, Error ellipse: s-maj=14.2km s-min=11.3km az=120.0*
*SKHL **01** 02:23:58.6±0.3, 4600N×15360E, h50^{km}±8^{km}, mb5.5/12, mbh5.7/6, mbv5.9/8, ms5.3/8, msh5.7/4*
*BJI **01** 02:23:58.1, 4646N×15304E, h11^{km}, mB5.4, mb5.1, Ms5.1, Msz5.0*
*GCMT **01** 02:23:59.9±0.1, 4625N×15324E, h13^{km}, MW5.3/99, Moment Tensor Solution. s64,c123; s99,c183; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81±.02; $M_{\theta\theta}$-0.12±.01; $M_{\phi\phi}$-0.70±.01; $M_{r\theta}$0.16±.03; $M_{\theta\phi}$-0.43±.01; $M_{\phi r}$0.66±.04; Best double couple: $M_0$1.10500×10^{17} NP1:ϕ_s219.00000°, δ27.00000°, λ108.00000°. NP2:ϕ_s19.00000°, δ64.00000°, λ81.00000°. Principal axes: T 1.0590, Plg70.0000°, Azm270.0000°; N 0.0910, Plg8.0000°, Azm23.0000°; P -1.1500, Plg19.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 02:23:59.9±0.2, 4621N×15298E, h10^{km}, mb5.2/135, MS4.8/115 Error ellipse: s-maj=5.0km s-min=2.9km az=167.0*
*JMA **01** 02:23:59.4±0.8, 4635N×15327E, h30^{km}, M5.3*
*ISCJB **01** 02:24:00.2±0.1, 4607N±003×15308E±002, h26^{km}, mb5.1/216, MS4.9/173, Error ellipse: s-maj=3.8km s-min=1.6km az=152.2*
*MOS **01** 02:24:01.9±1.1, 4627N×15297E, h32^{km}, mb5.3/89, MS5.1/57, Error ellipse: s-maj=7.8km s-min=3.8km az=110.2*
*SZGRF **01** 02:24:09.1, 4668N×15161E, h33^{km}, mb5.3, Kuril Islands, Russia*

ISC 01 02:24:02.7±0.1**, 4625N**±003×**15300E**±002**, h28**^{km}**, h28**^{km}±2.5^{km}**:pP-P, n1021,** σ**0**^{s}**97**/970**, mb5.1**/216**, MS4.9**/173**, 130C-93D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.73	256	⇓iP	Pn	02 24 57.0	-1.5
KUR				i P		02 24 57.0	
KUR				AMB	AMB	02 24 57.6	
	4µm,1.0s						
KUR				AMB	AMB	02 24 58.0	
	530nm,0.5s						
KUR				AMB	AMB	02 24 58.0	
	310nm,0.5s						
KUR				AMB	AMB	02 24 58.0	
	2µm,0.5s						
KUR				i S	Sn	02 25 41.0	-0.5
KUR				A		02 25 51.0	
	4µm,0.9s						
KUR				A		02 25 51.0	
	3µm,0.9s						
KUR				A		02 25 51.0	
	15µm,5.0s						
KUR				A		02 25 51.0	
	10µm,5.0s						
KUR				AMS	AMS	02 26 24.0	
	28µm,15.0s						
KUR				AMS	AMS	02 26 24.0	
	30µm,15.0s						
KUR				AMS	AMS	02 26 24.0	
	33µm,15.0s						
KUR	Kuril'sk	3.73	256	⇑iPN	Pn	02 24 57.0	-1.5
KUR				eS	Sn	02 25 45.0	+3.5
KUR				pmax	pmax		
	comp=N,780nm,0.8s						
KUR				pmax	pmax		
	comp=E,490nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3µm,0.8s						
KUR				pmax	pmax		
	comp=Z,4µm,1.0s						
KUR				smax			
	comp=N,4µm,0.9s						
KUR				smax			
	comp=E,4µm,0.9s						
KUR				smax			
	comp=N,22µm,2.0s						
KUR				smax			
	comp=E,10µm,2.0s						
KUR				MLR	MLR		
	comp=N,27µm,14.0s						
KUR				MLR	MLR		
	comp=E,27µm,14.0s						
KUR				MLR	MLR		
	comp=Z,40µm,14.0s						
KUR	Kuril'sk	3.73	256	⇑iP	Pn	02 24 57.5	-1.0
SKR	Severo-Kuril's	4.90	24	eP	Pn	02 25 10.1	-4.4
SKR				AMB	AMB	02 25 17.7	
	comp=Z,310nm,0.5s						
SKR				AMB	AMB	02 25 17.7	
	comp=Z,250nm,0.5s						
SKR				AMB	AMB	02 25 17.7	
	comp=Z,540nm,0.5s						
SKR				AMB	AMB	02 25 18.0	
	comp=Z,2µm,3.0s						
SKR				AMB	AMB	02 25 18.0	
	comp=Z,2µm,3.0s						
SKR				eS	Sn	02 26 03.5	-6.8
SKR				A		02 26 12.0	
	comp=Z,5µm,6.0s						
SKR				A		02 26 12.0	
	comp=Z,18µm,6.0s						
SKR				A		02 26 12.0	
	comp=Z,8µm,6.0s						
SKR				A		02 26 28.7	
	comp=Z,5µm,6.0s						
SKR				A		02 26 28.7	
	comp=Z,20µm,6.0s						
SKR				A		02 26 28.7	
	comp=Z,10µm,6.0s						
SKR				A		02 26 28.7	
	comp=Z,3µm,1.0s						
SKR				A		02 26 28.7	
	comp=Z,2µm,1.0s						
SKR				A		02 26 28.7	
	comp=Z,1µm,1.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,15µm,24.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,15µm,24.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,10µm,24.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,15µm,24.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,15µm,24.0s						
SKR				AMS	AMS	02 26 44.0	
	comp=Z,10µm,24.0s						
SKR				AMS	AMS	02 27 20.0	
	comp=Z,6µm,16.0s						
SKR				AMS	AMS	02 27 20.0	
	comp=Z,20µm,16.0s						
SKR				AMS	AMS	02 27 20.0	
	comp=Z,9µm,16.0s						
SKR				AMS	AMS	02 27 20.0	
	comp=Z,10µm,16.0s						

SKR				AMS	AMS	02 27 20.0
	comp=Z,21μm,16.0s					
SKR				AMS	AMS	02 27 20.0
	comp=Z,9μm,16.0s					
YUK	**Yuzh-Kuril'sk**	**5.51 249**	*e*P	**Pn**	**02 25 24.0**	**+1.1**
YUK				AMB	AMB	02 25 28.0
	comp=Z,380nm,0.5s					
YUK				AMB	AMB	02 25 28.0
	comp=Z,360nm,0.5s					
YUK				AMB	AMB	02 25 28.0
	comp=Z,490nm,0.5s					
YUK				AMB	AMB	02 25 30.2
	comp=Z,1μm,0.7s					
YUK				AMB	AMB	02 25 30.2
	comp=Z,2μm,0.7s					
YUK			*e*S	**Sn**	**02 26 26.0**	**+0.7**
YUK			A		02 26 39.0	
	comp=Z,6μm,1.7s					
YUK			A		02 26 39.0	
	comp=Z,7μm,1.7s					
YUK			A		02 26 56.5	
	comp=Z,3μm,0.6s					
YUK			A		02 26 56.5	
	comp=Z,1μm,0.6s					
YUK			AMS	AMS	02 27 46.0	
	comp=Z,13μm,20.0s					
YUK			AMS	AMS	02 27 46.0	
	comp=Z,16μm,14.0s					
YUK			AMS	AMS	02 27 46.0	
	comp=Z,5μm,14.0s					
YUK	**Yuzh-Kuril'sk**	**5.51 249**	*e*PN	**Pn**	**02 25 24.0**	**+1.1**
YUK			pmax	pmax		
	comp=Z,490nm,0.4s					
YUK			pmax	pmax		
	comp=N,380nm,0.5s					
YUK			pmax	pmax		
	comp=E,360nm,0.5s					
YUK			pmax	pmax		
	comp=Z,2μm,0.8s					
YUK			pmax	pmax		
	comp=E,1μm,0.6s					
YUK			MLR	MLR		
	comp=Z,13μm,20.0s					
YUK			MLR	MLR		
	comp=N,16μm,15.0s					
YUK			MLR	MLR		
	comp=E,5μm,13.0s					
NEM2	**Nemuro 2**	**5.91 243**	P	**Pn**	**02 25 26.8**	**-1.6**
NEM2			*e*S	**Sn**	**02 26 32.1**	**-3.1**
JRA	**Rausu**	**6.03 250**	P	**Pn**	**02 25 31.3**	**+1.2**
JNK	**Nakash**	**6.45 249**	P	**Pn**	**02 25 36.0**	**+0.2**
JNK			*e*S	**Sn**	**02 26 48.7**	**+0.2**
JAK	**Akkeshi**	**6.75 244**	P	**Pn**	**02 25 38.8**	**-1.2**
JAK			*e*S	**Sn**	**02 26 52.0**	**-4.0**
JTKR	**Abashiri--Toko**	**6.82 254**	P	**Pn**	**02 25 42.4**	**+1.5**
YSS	**Yuzh-Sakhalins**	**7.09 279**	*e*P	**Pn**	**02 25 47.5**	**+2.9**
YSS			AMB	AMB	02 25 50.3	
	comp=E,80nm,0.9s					
YSS			pP		02 26 01.0	
YSS			sP		02 26 02.5	
YSS			*e*S	**Sn**	**02 27 04.0**	**-0.3**
YSS			AMS	AMS	02 28 26.0	
	comp=E,14μm,16.0s					
YSS			AMS	AMS	02 28 26.0	
	comp=E,12μm,16.0s					
YSS	**Yuzh-Sakhalins**	**7.09 279**	*e*PN	**Pn**	**02 25 47.5**	**+2.9**
YSS			pmax	pmax		
	comp=E,80nm,0.9s					
YSS			pmax	pmax		
	comp=Z,80nm,0.9s					
YSS			MLR	MLR		
	comp=E,12μm,16.0s					
YSS			MLR	MLR		
	comp=Z,14μm,16.0s					
YSS	**Yuzh-Sakhalins**	**7.09 279**	*e*Pn	**Pn**	**02 25 47.4**	**+2.8**
	comp=Z,98nm,0.8s					
JMP	**Maruseppu**	**7.17 255**	P	**Pn**	**02 25 47.5**	**+1.7**
JAR	**Ashorobuto**	**7.20 249**	P	**Pn**	**02 25 46.8**	**+0.7**
JAR			*e*S	**Sn**	**02 27 06.9**	**0.0**
JOB	**Onbets**	**7.35 246**	P	**Pn**	**02 25 47.4**	**-0.7**
JOB			*e*S	**Sn**	**02 27 08.1**	**-2.4**
JSE	**Soyaes**	**7.42 264**	P	**Pn**	**02 25 52.5**	**+3.4**
JKK2	**Kamakawa 2**	**7.64 256**	P	**Pn**	**02 25 54.0**	**+1.9**
ASAJ	**Asahikawa**	**7.65 258**	Pn	**Pn**	**02 25 54.6**	**+2.4**
	comp=Z,3.1nm,0.3s,baz=93,slow=18,SNR=38					
ASAJ			LR	LR	02 28 47.2	
	comp=Z,8μm,18.2s,baz=79,slow=38					
ASAJ	**Asahikawa**	**7.65 258**	P	**Pn**	**02 25 54.9**	**+2.6**
ASAJ	**Asahikawa**	**7.65 258**	PN	**Pn**	**02 25 54.7**	**+2.4**
ASAJ			pmax	pmax		
	comp=Z,3.0nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,8μm,18.2s					
PET	**Petropavlovsk**	**7.71 26**	*e*P	**Pn**	**02 25 53.0**	**-0.1**
PET			AMB	AMB	02 26 03.2	
	comp=Z,110nm,1.0s					
PET			*i* S	**Sn**	**02 27 14.3**	**-5.2**
PET			A		02 27 35.4	
	comp=Z,5μm,4.4s					
PET			A		02 27 37.5	
	comp=Z,3μm,4.3s					
PET			A		02 27 38.1	
	comp=Z,400nm,0.9s					
PET			A		02 27 38.1	
	comp=Z,460nm,0.9s					
PET	**Petropavlovsk**	**7.71 26**	*e*P	**Pn**	**02 25 53.2**	**+0.1**
JCH	**Churui**	**7.79 246**	P	**Pn**	**02 25 53.2**	**-1.0**
JCH			*e*S	**Sn**	**02 27 17.2**	**-4.3**
JWK2	**Keihoku**	**7.82 267**	P	**Pn**	**02 25 59.5**	**+4.9**
UGL	**Uglegorsk**	**7.91 295**	*e*P	**Pn**	**02 26 00.5**	**+4.7**
UGL			AMB	AMB	02 26 02.0	
	comp=Z,420nm,0.8s					
UGL			AMB	AMB	02 26 08.0	
	comp=Z,1μm,8.0s					
UGL			AMB	AMB	02 26 08.0	
	comp=Z,2μm,8.0s					
UGL			AMB	AMB	02 26 08.0	
	comp=Z,2μm,6.0s					
UGL			*e*S	**Sn**	**02 27 30.0**	**+5.7**
UGL			A		02 27 35.5	
	comp=Z,120nm,0.6s					
UGL			A		02 27 35.5	
	comp=Z,140nm,0.6s					
UGL			AMS	AMS	02 28 44.4	
	comp=Z,3μm,17.0s					
UGL			AMS	AMS	02 28 53.1	
	comp=Z,3μm,15.0s					
UGL			AMS	AMS	02 29 06.0	
	comp=Z,3μm,17.0s					
UGL			AMS	AMS	02 29 06.0	
	comp=Z,11μm,17.0s					
UGL			AMS	AMS	02 29 06.0	
	comp=Z,14μm,17.0s					
UGL	**Uglegorsk**	**7.91 295**	*e*PN	**Pn**	**02 26 00.5**	**+4.7**
UGL			S	**Sn**	**02 27 30.0**	**+5.7**
UGL			pmax	pmax		
	comp=Z,420nm,0.8s					
UGL			pmax	pmax		
	comp=N,1μm,8.0s					
UGL			pmax	pmax		
	comp=E,2μm,8.0s					
UGL			pmax	pmax		
	comp=Z,2μm,8.0s					
UGL			smax			
	comp=N,120nm,0.6s					
UGL			smax			
	comp=E,140nm,0.6s					
UGL			MLR	MLR		
	comp=N,3μm,17.0s					
UGL			MLR	MLR		
	comp=E,11μm,17.0s					
UGL			MLR	MLR		
	comp=Z,14μm,17.0s					
JFR	**Furan**	**8.03 251**	P	**Pn**	**02 25 58.2**	**+0.8**
JSS	**Shosan**	**8.07 261**	P	**Pn**	**02 26 01.3**	**+3.3**
JAB	**Ashibetsu**	**8.13 254**	P	**Pn**	**02 26 01.1**	**+2.3**
JEM	**Erimo**	**8.24 243**	P	**Pn**	**02 26 00.8**	**+0.4**
JEM			*e*S	**Sn**	**02 27 28.5**	**-4.1**
ERM	**Erimo**	**8.24 243**	Pn	**Pn**	**02 26 00.7**	**+0.3**
	comp=Z,1μm,0.6s,SNR=22					
ERM	**Erimo**	**8.24 243**	*e*PN	**Pn**	**02 26 00.1**	**-0.3**
ERM			pmax	pmax		
	comp=Z,171nm,0.6s					
ERM	**Erimo**	**8.24 243**	*e*Pn	**Pn**	**02 26 00.1**	**-0.3**
	comp=Z,171nm,0.6s					
ERM			*e*Sn	**Sn**	**02 27 29.0**	**-3.6**

TYV	**Tymovskoe**	**8.27 308**	*e*P	**Pn**	**02 26 04.0**	**+3.3**
TYV			AMB	AMB	02 26 14.0	
	comp=Z,2μm,10.0s					
TYV			AMB	AMB	02 26 14.0	
	comp=Z,2μm,10.0s					
TYV			AMB	AMB	02 26 14.0	
	comp=Z,2μm,9.0s					
TYV			AMB	AMB	02 26 15.0	
	comp=Z,483nm,1.0s					
TYV			AMB	AMB	02 26 15.0	
	comp=Z,99nm,0.8s					
TYV			AMS	AMS	02 29 24.0	
	comp=Z,14μm,17.0s					
TYV			AMS	AMS	02 29 24.0	
	comp=Z,20μm,17.0s					
TYV			AMS	AMS	02 29 24.0	
	comp=Z,24μm,17.0s					
JBT2	**Biratori 2**	**8.35 249**	P	**Pn**	**02 26 01.9**	**0.0**
JNBK	**Urakawa-nobuka**	**8.35 245**	P	**Pn**	**02 26 00.6**	**-1.3**
JEW	**Eniwo**	**8.92 252**	P	**Pn**	**02 26 10.9**	**+1.2**
JNB	**Noboribetsu**	**9.36 250**	P	**Pn**	**02 26 15.6**	**-0.1**
JSK	**Shakotan**	**9.36 256**	P	**Pn**	**02 26 16.4**	**+0.7**
JKB	**Kayabe**	**9.65 247**	P	**Pn**	**02 26 17.7**	**-2.0**
OKH	**Okha**	**9.77 322**	*e*P	**Pn**	**02 26 23.4**	**+2.1**
OKH			*e*P		02 26 23.5	
OKH			AMB	AMB	02 26 24.0	
	comp=Z,3μm,5.0s					
OKH			AMB	AMB	02 26 26.0	
	comp=Z,200nm,0.9s					
OKH			AMS	AMS	02 31 07.4	
	comp=Z,14μm,14.0s					
OKH			AMS	AMS	02 31 07.4	
	comp=Z,9μm,14.0s					
OKH			AMS	AMS	02 31 07.4	
	comp=Z,14μm,14.0s					
OKH	**Okha**	**9.77 322**	*e*PN	**Pn**	**02 26 23.4**	**+2.1**
OKH			*e*S	**Sn**	**02 28 20.2**	**+10**
OKH			pmax	pmax		
	comp=Z,3μm,5.0s					
JSH	**Shimam**	**9.94 253**	P	**Pn**	**02 26 24.4**	**+0.8**
JYM2	**Yakumo 2**	**9.96 250**	P	**Pn**	**02 26 23.4**	**-0.6**
JANG	**Nango**	**10.22 239**	P	**Pn**	**02 26 23.2**	**-4.3**
JANG			*e*S	**Sn**	**02 28 09.2**	**-12**
JSR	**Shiriuchi**	**10.23 247**	P	**Pn**	**02 26 25.7**	**-1.9**
JTM	**Tenmabayashi**	**10.23 242**	P	**Pn**	**02 26 25.3**	**-2.4**
JTH	**Tanohata**	**10.29 236**	P	**Pn**	**02 26 24.3**	**-4.2**
JTH			*e*S	**Sn**	**02 28 10.5**	**-12**
NKL	**Nikolayevsk**	**10.54 315**	*i* P	**Pn**	**02 26 31.0**	**-0.9**
NKL			AMB	AMB	02 26 37.4	
	comp=Z,150nm,1.1s					
NKL			AMB	AMB	02 26 37.4	
	comp=Z,130nm,1.0s					
NKL			AMB	AMB	02 26 39.0	
	comp=Z,1μm,7.0s					
NKL			AMB	AMB	02 26 39.0	
	comp=Z,2μm,7.0s					
NKL			AMB	AMB	02 26 39.0	
	comp=Z,2μm,7.0s					
NKL			AMS	AMS	02 32 25.0	
	comp=Z,6μm,17.0s					
NKL			AMS	AMS	02 32 25.0	
	comp=Z,16μm,15.0s					
NKL			AMS	AMS	02 32 25.0	
	comp=Z,21μm,15.0s					
JOSM	**Okushiri--Mats**	**10.57 252**	P	**Pn**	**02 26 30.9**	**-1.4**
OFUJ	**Ofunato**	**10.99 233**	P	**Pn**	**02 26 34.2**	**-3.8**
OFUJ			*e*S	**Sn**	**02 28 27.9**	**-12**
JRG	**Rokugo**	**11.36 237**	P	**Pn**	**02 26 40.3**	**-2.9**
TEY	**Ternei**	**11.54 270**	*e*P	**Pn**	**02 26 47.0**	**+1.4**
TEY			AMB	AMB	02 26 56.0	
	comp=Z,3μm,9.0s					
TEY			AMB	AMB	02 26 56.0	
	comp=Z,2μm,6.0s					
TEY			AMS	AMS	02 31 21.0	
	comp=Z,6μm,16.0s					
TEY			AMS	AMS	02 31 21.0	
	comp=Z,4μm,16.0s					
TEY			AMS	AMS	02 31 21.0	
	comp=Z,8μm,16.0s					
JIO	**Ouri**	**11.61 232**	P	**Pn**	**02 26 42.3**	**-4.2**
JIO			*e*S	**Sn**	**02 28 43.1**	**-12**
GRNR	**Gornyy**	**11.88 298**	*e*P	**Pn**	**02 26 51.0**	**+0.7**
GRNR			AMB	AMB	02 26 53.0	
	comp=Z,60nm,1.0s					
JFY	**Yanaizu**	**13.26 233**	P	**Pn**	**02 27 06.1**	**-3.0**
MA2	**Magadan**	**13.42 355**	*e*PN	**Pn**	**02 27 12.5**	**+1.3**
MA2			*e*S	**Sn**	**02 29 46.5**	**+7.1**
MA2			MLR	MLR		
	comp=Z,6μm,12.9s					
MA2	**Magadan**	**13.42 355**	*e*P	**Pn**	**02 27 13.0**	**+1.8**
KLR	**Kul'dur**	**14.60 290**	*e*P	**Pn**	**02 27 27.0**	**-0.3**
KLR			*e*		02 30 12.0	
KLR			pmax	pmax		
	comp=E,60nm,1.2s					
KLR			pmax	pmax		
	comp=Z,43nm,1.2s					
KLR			pmax	pmax		
	comp=E,2μm,11.0s					
KLR			pmax	pmax		
	comp=Z,2μm,11.0s					
KLR			MLR	MLR		
	comp=E,7μm,15.0s					
KLR			MLR	MLR		
	comp=Z,9μm,15.0s					
EKMR	**Ekimchan**	**14.64 305**	*e*P	**Pn**	**02 27 28.5**	**+0.6**
EKMR			AMB	AMB	02 27 35.0	
	comp=Z,40nm,0.7s					
MJAR	**Matsushiro Arr**	**14.71 234**	Pn	**Pn**	**02 27 25.7**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=28,slow=14,SNR=23					
MJAR	**Matsushiro Arr**	**14.71 234**	P	**Pn**	**02 27 25.7**	**-3.2**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MAJO	**Matsushiro**	**14.72 234**	*e*P	**Pn**	**02 27 25.7**	**-3.2**
MAT	**Matsushiro**	**14.72 234**	P	**Pn**	**02 27 25.2**	**-3.7**
MAT			S	**Sn**	**02 30 10.0**	**-1.0**
VLA	**Vladivostok**	**15.33 266**	*e*P	**Pn**	**02 27 36.0**	**-1.0**
VLA			pmax	pmax		
	comp=Z,58nm,0.8s					
VLA			MLR	MLR		
	comp=Z,6μm,21.0s					
VLA	**Vladivostok**	**15.33 266**	*i* P	**Pn**	**02 27 35.1**	**-1.9**
MDJ	**Mudanjiang**	**16.50 273**	P	**Pn**	**02 27 52.3**	**+0.1**
MDJ			AP	pP	02 28 00.7	-1.3
MDJ			XP	sP	02 28 03.4	-2.2
MDJ			S	**Sn**	**02 30 54.9**	**+0.5**
MDJ			PCS	PcS	02 36 16.0	-2.4
MDJ			AMB	AMB		
	comp=Z,88nm,0.8s					
MDJ			AMB	AMB		
	comp=Z,589nm,7.0s					
MDJ			LR	LR		
	comp=N,984nm,16.1s					
MDJ			LR	LR		
	comp=E,3μm,18.2s					
MDJ			LR	LR		
	comp=Z,5μm,16.1s					
MDJ	**Mudanjiang**	**16.50 273**	*e*Pn	**Pn**	**02 27 52.5**	**+0.3**
JHJ	**Hachijo jima 2**	**16.56 222**	LR	LR	02 33 26.8	
	comp=Z,673nm,19.1s,baz=77,slow=34					
SEY	**Seymchan**	**16.73 359⇑**	*e*P	**Pn**	**02 27 53.7**	**-1.3**
BMKR	**Bomnak**	**17.48 308**	*e*P	**Pn**	**02 28 02.4**	**-2.0**
BMKR			AMB	AMB	02 28 06.7	
	comp=Z,20nm,0.5s					
YASR	**Yasnyy**	**17.57 303**	*e*P	**Pn**	**02 28 02.4**	**-3.1**
YASR			AMB	AMB	02 28 07.6	
	comp=Z,5.0nm,0.7s					
YASR			AMB	AMB	02 28 07.6	
	comp=Z,20nm,0.7s					
YASR			AMB	AMB	02 28 07.6	
	comp=Z,30nm,0.7s					
ZEA	**Zeya**	**18.10 304**	*e*P	**Pn**	**02 28 10.0**	**-2.0**
ZEA			AMB	AMB	02 28 17.0	
	comp=Z,600nm,7.0s					
ZEA			AMB	AMB	02 28 17.0	
	comp=Z,2μm,7.0s					
ZEA			AMB	AMB	02 28 17.0	
	comp=Z,2μm,7.0s					
ZEA			*e*S	**Sn**	**02 31 38.0**	**+4.8**
ZEA			A		02 31 46.0	
	comp=Z,500nm,10.0s					
ZEA			AMS	AMS	02 35 39.0	
	comp=Z,2μm,15.0s					
ZEA			AMS	AMS	02 35 39.0	
	comp=Z,5μm,15.0s					
ZEA			AMS	AMS	02 35 39.0	

	comp=Z,6μm,15.0s					
KROS	**Kirovskiy**	**18.44 306**	*e*P	**Pn**	**02 28 12.5**	**-3.7**
KROS			AMB	AMB	02 28 17.6	
	comp=Z,30nm,0.8s					
KROS			pP	pP	02 28 24.3	+0.9
CN2	**Changchun**	**19.59 273**	*e*P	**Pn**	**02 28 26.0**	**-4.0**
CN2			*e*S	**Sn**	**02 32 00.1**	**-9.0**
CN2			AMB	AMB		
	comp=Z,70nm,0.7s					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,3μm,16.0s					
CN2			LR	LR		
	comp=E,4μm,16.0s					
CN2			LR	LR		
	comp=Z,4μm,17.0s					
CLNS	**Chul'man**	**20.29 312**	*e*P	**P**	**02 28 37.5**	**+1.3**
CLNS			*e*		02 28 45.7	
CLNS			*e*SS		02 32 27.4	
CLNS			*e*		02 33 05.2	
CLNS			pmax	pmax		
	comp=Z,72nm,0.8s					
CLNS			pmax	pmax		
	comp=N,67nm,0.7s					
CLNS			pmax	pmax		
	comp=E,36nm,0.9s					
CLNS			MLR	MLR		
	comp=N,4μm,16.0s,MS5.2					
CLNS			MLR	MLR		
	comp=E,7μm,16.0s,MS5.2					
CLNS			MLR	MLR		
	comp=Z,10μm,16.0s,MS5.3					
KS15	**Wonju Array Si**	**20.61 254**	*e*Pn	**P**	**02 28 40.8**	**+1.2**
YAK	**Yakutsk**	**20.70 328**	*e*P	**P**	**02 28 40.1**	**-0.6**
YAK			*e*		02 28 55.1	
YAK			*e*S	**S**	**02 32 25.9**	**-4.6**
YAK			*e*SS		02 32 53.3	
YAK			pmax	pmax		
	comp=Z,33nm,0.7s					
YAK			pmax	pmax		
	comp=N,15nm,1.3s					
YAK			pmax	pmax		
	comp=E,32nm,1.8s					
YAK			smax			
	comp=N,584nm,5.0s					
YAK			smax			
	comp=Z,157nm,4.6s					
YAK			smax			
	comp=E,313nm,4.1s					
YAK			MLR	MLR		
	comp=N,3μm,20.0s,MS4.8					
YAK			MLR	MLR		
	comp=E,3μm,20.0s,MS4.8					
YAK			MLR	MLR		
	comp=Z,4μm,20.0s,MS4.8					
YAK	**Yakutsk**	**20.70 328**	PFAKE		02 28 50.0	+9.3
YAK			LR	LR		
	comp=Z,3μm,20.0s,MS4.7					
INCN	**Inchon**	**21.42 255**	P	**P**	**02 28 53.9**	**+5.4**
	SNR=5.7					
INCN	**Inchon**	**21.42 255**	*e*P	**P**	**02 28 50.6**	**+2.2**
	comp=Z,56nm,0.8s,mb4.9					
INCN			*e*pP		02 28 51.5	
INCN			LR	LR		
	comp=Z,2μm,20.0s,MS4.5					
SNY	**Shenyang**	**21.54 269**	⇓P	**P**	**02 28 49.5**	**-0.2**
SNY			AP		02 28 53.5	
SNY			XP	sP	02 28 56.5	-4.3
SNY			S	**S**	**02 32 37.8**	**-9.2**
SNY			AMB	AMB		
	comp=Z,25nm,0.5s,mb4.9					
SNY			AMB	AMB		
	comp=Z,1μm,9.6s					
SNY			LR	LR		
	comp=N,1μm,15.0s,MS4.9					
SNY			LR	LR		
	comp=E,3μm,16.8s,MS4.9					
SNY			LR	LR		
	comp=Z,4μm,17.4s,MS4.9					
HIA	**Hailar**	**22.46 290**	*e*P	**P**	**02 28 57.4**	**-2.1**
HIA			MLR	MLR		
	comp=Z,4μm,19.0s					
BILL	**Bilibino**	**22.90 13**	*e*P	**P**	**02 29 03.2**	**-1.0**
BILL			*i*		02 29 27.1	
BILL			*i* S	**S**	**02 33 13.8**	**+1.5**
BILL			pmax	pmax		
	comp=Z,24nm,1.0s,mb4.6					
BILL			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7					
DL2	**Dalian**	**24.12 264⇑**	*i*P	**P**	**02 29 14.4**	**-1.7**
DL2			S	**S**	**02 33 32.7**	**+0.5**
DL2			AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7					
DL2			AMB	AMB		
	comp=Z,510nm,6.6s					
DL2			LR	LR		
	comp=N,920nm,16.0s,MS4.4					
DL2			LR	LR		
	comp=E,590nm,17.8s,MS4.4					
DL2			LR	LR		
	comp=Z,710nm,13.2s,MS4.3					
CIT	**Chita**	**26.20 297**	*e*P	**P**	**02 29 34.2**	**-0.8**
BOD	**Bodaibo**	**26.25 310⇑**	*i*P	**P**	**02 29 33.2**	**-2.2**
BOD			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4					
UNV	**Unalaska Valle**	**26.79 59**	PFAKE		02 29 50.0	+10
UNV			LR	LR		
	comp=Z,4μm,19.0s,MS5.0					
BJI	**Beijing**	**27.39 270**	*e*P	**P**	**02 29 48.6**	**+2.9**
BJI			XP	sP	02 30 00.0	+2.7
BJI			AMB	AMB		
	comp=Z,32nm,0.8s,mb4.9					
BJI			AMB	AMB		
	comp=Z,957nm,7.8s					
BJI			LR	LR		
	comp=N,1μm,17.4s,MS4.7					
BJI			LR	LR		
	comp=E,1μm,17.4s,MS4.7					
BJI			LR	LR		
	comp=Z,4μm,17.5s,MS5.0					
BJI	**Beijing**	**27.39 270**	*e*P	**P**	**02 29 48.6**	**+2.9**
	comp=Z,32nm,0.8s,mb4.9					
BJI			sP	sP	02 30 00.0	+2.7
BJI			S	**S**	**02 34 36.5**	**+12**
BJI			LR	LR		
	comp=Z,4μm,17.5s,MS5.0					
BJT	**Baijiatuau**	**27.41 270**	*e*P	**P**	**02 29 48.7**	**+2.8**
BJT			pmax	pmax		
	comp=Z,29nm,0.8s					
BJT			MLR	MLR		
	comp=Z,5μm,19.0s					
BJT	**Baijiatuau**	**27.41 270**	*e*P	**P**	**02 29 48.7**	**+2.8**
	comp=Z,29nm,0.8s,mb4.9					
BJT			LR	LR		
	comp=Z,5μm,19.0s,MS5.1					
TNA	**Tin City**	**28.50 33**	PFAKE		02 30 10.0	+14
TNA			LR	LR		
	comp=Z,657nm,19.0s,MS4.2					
TIA	**Tai'an**	**28.57 262**	*e*P	**P**	**02 29 55.8**	**-0.4**
SSE	**Sheshan**	**28.85 250**	*e*P	**P**	**02 29 59.8**	**+1.1**
SSE			AP	pP	02 30 08.9	+2.1
SSE			S	**S**	**02 34 46.0**	**-1.0**
SSE			XS	sS	02 35 00.3	-0.2
SSE			SCS	ScS	02 40 44.3	+3.4
SSE			AMB	AMB		
	comp=Z,26nm,0.6s,mb5.1					
SSE			AMB	AMB		
	comp=Z,91nm,3.9s					
SSE			LR	LR		
	comp=N,717nm,18.0s,MS4.7					
SSE			LR	LR		
	comp=E,1μm,17.9s,MS4.7					
SSE			LR	LR		
	comp=Z,2μm,19.2s,MS4.6					
SSE	**Sheshan**	**28.85 250**	*e*P	**P**	**02 29 59.8**	**+1.1**
	comp=Z,26nm,0.6s,mb5.1					
SSE			pP	pP	02 30 08.9	+2.1
SSE			S	**S**	**02 34 46.0**	**-1.0**
SSE			sS	sS	02 35 00.3	-0.2
SSE			ScS	ScS	02 40 44.3	+3.4
SSE			LR	LR		
	comp=Z,2μm,19.2s,MS4.6					
HHC	**Hu-ho-hao-te**	**30.25 275**	*e*P	**P**	**02 30 11.5**	**+0.4**
HHC			AP	pP	02 30 16.1	-3.2
HHC			XP	sP	02 30 19.1	-3.6

HHC PP PP 02 31 08.1 -12
HHC PCP PcP 02 33 12.2 +0.8
HHC S **S** **02 35 07.2 -1.9**
HHC XS sS 02 35 17.1 -5.5
HHC SS SS 02 36 43.2 -35
HHC SCP ScP 02 36 56.2 +4.5
HHC SCS ScS 02 40 47.1 -0.4
HHC AMB AMB
comp=Z,53nm,0.7s,mb5.4
HHC AMB AMB
comp=Z,507nm,8.2s
HHC LR LR
comp=N,2μm,15.5s,MS5.0
HHC LR LR
comp=E,3μm,17.3s,MS5.0
HHC LR LR
comp=Z,4μm,16.7s,MS5.1
BTO Baotou 31.42 275 *e*P **P** **02 30 19.0 -2.4**
SONM Songino Array 31.43 290 P **P** **02 30 20.4 -1.1**
comp=Z,4.7nm,0.6s,mb4.5,baz=74,slow=8.4,SNR=24
SONM PcP PcP 02 33 13.6 -0.9
comp=Z,2.4nm,0.8s,baz=143,slow=2.0,SNR=3.9
SONM LR LR 02 44 04.9
comp=Z,4μm,18.7s,MS5.1,baz=74,slow=38
SONM Songino Array 31.43 290 P **P** **02 30 20.4 -1.1**
SONM 02 33 13.6
SONM pmax pmax
comp=Z,50nm,0.6s
SONM MLR MLR
comp=Z,4μm,18.7s
TLY Talaya 32.34 298 *e*P **P** **02 30 28.7 -0.8**
TLY *e*SS SS 02 37 54.7 -6.4
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,6μm,16.0s,MS5.4
TLY Talaya 32.34 298 *i* P **P** **02 30 28.4 -1.1**
TLY LR LR
comp=Z,1μm,19.0s,MS4.6
ZAK Zakamensk 32.82 296 *e*P **P** **02 30 32.8 -0.9**
ZAK *e* 02 33 18.0
ZAK pmax pmax
comp=Z,50nm,0.9s,mb5.4
TTA Tatalina 32.85 41 *e*P **P** **02 30 34.1 +0.1**
SVW2 Sparrevohn 32.91 44 *e*P **P** **02 30 34.9 +0.4**
TATO Taipei 32.93 241 PFAKE 02 30 50.0 +15
TATO LR LR
comp=Z,2μm,22.0s,MS4.7
WHN Wuhan 33.73 256 ⇑P **P** **02 30 41.5 -0.2**
WHN S **S** **02 36 06.0 +2.7**
WHN AMB AMB
comp=Z,40nm,0.6s,mb5.5
WHN LR LR
comp=Z,4μm,17.5s,MS5.2
MOY Mondy 33.97 299 *e*P **P** **02 30 44.0 +0.3**
IMA2 Indian Mountai 34.26 36 *e*P **P** **02 30 45.9 -0.4**
KDAK Kodiak Island 34.48 50 P **P** **02 30 46.4 -1.9**
comp=Z,14nm,0.7s,mb5.0,baz=270,slow=6.4,SNR=11
KDAK Kodiak Island 34.48 50 *e*P **P** **02 30 47.1 -1.1**
comp=Z,26nm,0.7s,mb5.3
KDAK LR LR
comp=Z,415nm,22.0s,MS4.1
QZH Quanzhou 34.74 244 P **P** **02 30 53.5 +3.1**
QZH S **S** **02 36 25.3 +6.4**
QZH LR LR
comp=N,3μm,15.9s,MS5.2
QZH LR LR
comp=E,3μm,15.9s,MS5.2
QZH LR LR
comp=Z,2μm,28.7s
XAN Xi'an 35.40 266 P **P** **02 30 56.2 +0.1**
XAN AP pP 02 31 02.0 -2.3
XAN AMB AMB
comp=Z,15nm,0.9s,mb4.9
PMR Palmer 36.02 44 *e*P **P** **02 31 02.2 +0.8**
comp=Z,17nm,1.0s,mb4.9
PMR LR LR
comp=Z,1μm,21.0s,MS4.6
MCK McKinley 36.09 40 *e*P **P** **02 31 00.9 -1.1**
comp=Z,9.8nm,1.0s,mb4.7
MCK LR LR
comp=Z,632nm,19.0s,MS4.4
COLA College 36.58 38 ⇓*i*P **P** **02 31 05.4 -0.8**
COLA College 36.58 38 *e*P **P** **02 31 05.8 -0.4**
comp=Z,33nm,1.0s,mb5.1
COLA LR LR
comp=Z,820nm,20.0s,MS4.5
DIV Divide 37.66 44 *e*P **P** **02 31 15.5 +0.1**
comp=Z,70nm,0.8s,mb5.4
DIV LR LR
comp=Z,4μm,21.0s,MS5.1
LZH Lanzhou 37.83 272 *e*P **P** **02 31 18.0 +1.2**
LZH AP pP 02 31 26.0 +0.9
LZH XP sP 02 31 30.5 +2.1
LZH PP PP 02 32 45.1 +1.7
LZH *e*S **S** **02 37 09.0 +2.9**
LZH XS sS 02 37 20.0 +0.3
LZH AMB AMB
comp=Z,83nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,354nm,5.8s
LZH LR LR
comp=N,2μm,15.8s
LZH LR LR
comp=Z,3μm,17.0s,MS5.2
LZH Lanzhou 37.83 272 *e*P **P** **02 31 18.0 +1.2**
LZH *PP pP 02 31 26.0 +0.9
LZH *SP sP 02 31 30.5 +2.1
LZH 02 32 45.1
LZH 02 33 38.9
LZH *e*S **S** **02 37 09.0 +2.9**
LZH *SS sS 02 37 20.0 +0.3
LZH pmax pmax
comp=Z,83nm,1.1s,mb5.4
LZH MLR MLR
comp=Z,3μm,17.0s,MS5.2
MENT Mentasta 38.47 41 *e*P **P** **02 31 22.6 +0.4**
GTA Gaotai 38.97 280 P **P** **02 31 27.4 +1.0**
GTA AP pP 02 31 34.7 0.0
GTA XP sP 02 31 38.0 -0.1
GTA PP PP 02 33 00.4 +4.5
GTA PCP PcP 02 33 37.3 +0.8
GTA S **S** **02 37 22.0 -1.4**
GTA XS sS 02 37 36.1 -0.9
GTA SS SS 02 40 06.3 -9.4
GTA AMB AMB
comp=Z,34nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,412nm,9.1s
GTA LR LR
comp=N,2μm,16.0s,MS5.1
GTA LR LR
comp=E,1μm,16.0s,MS5.1
GTA LR LR
comp=Z,2μm,17.5s,MS5.0
EGAK Eagle 39.45 38 *e*P **P** **02 31 29.3 -1.1**
DAWY Dawson 40.28 39 *e*P **P** **02 31 37.1 -0.2**
CD2 Chengdu 40.76 266 P **P** **02 31 41.2 -0.1**
CD2 AP pP 02 31 48.6 -1.0
CD2 XP sP 02 31 52.0 -1.0
CD2 PP PP 02 33 19.0 +3.6
CD2 PCP PcP 02 33 42.6 +0.4
CD2 PCS PcS 02 37 32.2 -0.8
CD2 S **S** **02 37 50.8 +0.7**
CD2 XS sS 02 38 02.8 -1.0
CD2 SS SS 02 40 47.0 -4.4
CD2 SCS ScS 02 41 42.6 -2.0
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,380nm,5.9s
CD2 LR LR
comp=N,860nm,16.2s,MS4.8
CD2 LR LR
comp=E,640nm,15.6s,MS4.8
CD2 LR LR
comp=Z,860nm,18.6s,MS4.6
GYA Guiyang 41.53 258 ⇑*i*P **P** **02 31 48.3 +0.7**
GYA AP pP 02 31 55.7 -0.2
GYA XP sP 02 31 59.1 -0.2
GYA SCP ScP 02 37 31.3 -1.5
GYA S **S** **02 38 06.7 +5.1**
GYA SCS ScS 02 41 47.0 -2.2
GYA AMB AMB
comp=Z,60nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,480nm,7.2s
GYA LR LR
comp=N,1μm,17.4s,MS5.0
GYA LR LR
comp=E,1μm,16.2s,MS5.0
GYA LR LR
comp=Z,1μm,19.3s,MS4.8
INK Inuvik 42.12 32 P **P** **02 31 52.3 -0.2**
comp=Z,7.9nm,0.5s,mb4.6,baz=277,slow=9.8,SNR=32
INK Inuvik 42.12 32 *e*P **P** **02 31 52.4 -0.1**
comp=Z,662nm,0.7s
NVS Novosibirsk 43.43 308 *e*P **P** **02 31 59.6 -3.5**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.7
NVS pmax pmax
comp=E,27nm,1.8s
SIT Sitka 43.76 49 PFAKE 02 32 20.0 +14
SIT LR LR
comp=Z,1μm,21.0s,MS4.8
QIZ Qiongzhong 44.58 247 P **P** **02 32 09.7 -2.6**
QIZ S **S** **02 38 46.8 +0.5**
QIZ AMB AMB
comp=Z,49nm,1.8s,mb5.0
QIZ LR LR
comp=N,931nm,22.0s
WMQ Urumqi 45.04 292 *e*P **P** **02 32 15.4 -0.5**
WMQ AP pP 02 32 23.0 -1.3
WMQ XP sP 02 32 26.0 -1.7
WMQ PCP PcP 02 33 57.0 +0.5
WMQ PPP 02 34 42.0
WMQ PCS PcS 02 37 49.0 -1.2
WMQ S **S** **02 38 52.0 -0.9**
WMQ XS sS 02 39 04.0 -2.7
WMQ SCS ScS 02 42 08.0 -3.1
WMQ AMB AMB
comp=Z,16nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,318nm,6.6s
WMQ LR LR
comp=N,2μm,16.4s,MS5.4
WMQ LR LR
comp=E,3μm,14.6s,MS5.4
WMQ LR LR
comp=Z,2μm,16.4s,MS5.1
KMI Kunming 45.07 260 ⇑P **P** **02 32 17.0 +0.8**
KMI AP pP 02 32 25.8 +1.2
KMI XP sP 02 32 29.0 +1.1
KMI PCP PcP 02 33 59.2 +2.6
KMI PP PP 02 34 03.5 +1.7
KMI PPP 02 34 44.4
KMI S **S** **02 38 55.0 +1.5**
KMI XS sS 02 39 07.1 -0.2
KMI SS SS 02 42 07.5 -8.5
KMI SSS 02 43 06.6
KMI AMB AMB
comp=Z,18nm,0.9s,mb4.9
KMI AMB AMB
comp=Z,828nm,5.9s
KMI LR LR
comp=N,2μm,15.6s,MS5.2
KMI LR LR
comp=E,1μm,16.2s,MS5.2
KMI LR LR
comp=Z,1μm,17.3s,MS4.9
KMI Kunming 45.07 260 ⇑P **P** **02 32 17.0 +0.8**
KMI *PP pP 02 32 25.8 +1.2
KMI *SP sP 02 32 29.0 +1.1
KMI 02 33 59.2
KMI 02 34 03.5
KMI PPP 02 34 44.4
KMI S **S** **02 38 55.0 +1.5**
KMI *SS sS 02 39 07.1 -0.2
KMI SS SS 02 42 07.5 -8.5
KMI SSS 02 43 06.6
KMI pmax pmax
comp=Z,18nm,0.9s,mb4.9
KMI MLR MLR
comp=Z,1μm,17.3s,MS4.9
KMI Kunming 45.07 260 ⇑P **P** **02 32 17.0 +0.8**
comp=Z,18nm,0.9s,mb4.9
KMI pP pP 02 32 25.8 +1.2
KMI sP sP 02 32 29.0 +1.1
KMI PcP PcP 02 33 59.2 +2.6
KMI PP PP 02 34 03.5 +1.7
KMI PPP 02 34 44.4
KMI S **S** **02 38 55.0 +1.5**
KMI sS sS 02 39 07.1 -0.2
KMI SS SS 02 42 07.5 -8.5
KMI SSS 02 43 06.6
KMI LR LR
comp=Z,1μm,17.3s,MS4.9
DAV Davao City (W) 45.62 220 PFAKE 02 32 30.0 +9.5
DAV LR LR
comp=Z,997nm,19.0s,MS4.8
DLBC Dease Lake 46.00 45 P **P** **02 32 24.0 +0.5**
comp=Z,8.4nm,0.9s,mb4.7,baz=289,slow=7.8,SNR=9.4
DLBC Dease Lake 46.00 45 P **P** **02 32 24.0 +0.4**
MKAR Makanchi Array 47.10 298 P **P** **02 32 31.1 -1.0**
comp=Z,22nm,0.8s,mb5.1,baz=64,slow=8.5,SNR=131
MKAR Makanchi Array 47.10 298 P **P** **02 32 31.2 -1.0**
MKAR pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 47.58 304 P **P** **02 32 34.2 -1.7**
comp=Z,247nm,0.8s,SNR=32
LSA Lhasa 50.22 273 P **P** **02 32 57.0 +0.8**
LSA Lhasa 50.22 273 *e*P **P** **02 32 59.0 +2.9**
LSA LR LR
comp=Z,1μm,19.0s,MS5.0
ALE Alert 50.25 6 P **P** **02 32 55.2 -1.2**
comp=Z,146nm,0.7s,mb6.1,SNR=10
BVAR Borovoye Array 51.12 310 P **P** **02 33 01.8 -1.1**
comp=Z,8.9nm,0.5s,mb5.0,baz=49,slow=7.6,SNR=44
BVAR PcP PcP 02 34 18.0 -0.3
comp=Z,4.3nm,0.7s,baz=64,slow=3.4,SNR=3.6
BVAR LR LR 02 56 35.9
comp=Z,3μm,18.3s,MS5.4,baz=50,slow=38
BVAR Borovoye Array 51.12 310 P **P** **02 33 01.8 -1.1**
BVAR 02 34 18.0
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BVAR MLR MLR
comp=Z,3μm,18.3s
BRVK Borovoye 51.16 310 P **P** **02 33 02.8 -0.4**
comp=Z,161nm,0.5s,mb6.2,SNR=14
BRVK Borovoye 51.16 310 P **P** **02 33 02.2 -1.0**
SNR=10
BRVK Borovoye 51.16 310 P **P** **02 33 02.3 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BRVK Borovoye 51.16 310 *e*P **P** **02 33 02.2 -1.1**
comp=Z,16nm,0.6s,mb5.1
BRVK LR LR
comp=Z,861nm,20.0s,MS4.8
RES Resolute Bay 51.34 18 *e*P **P** **02 33 03.9 -0.7**
comp=Z,1μm,1.2s
YKW3 Yellowknife Ar 51.34 36 *e*P **P** **02 33 06.0 +1.4**
YKA Yellowknife Ar 51.38 36 P **P** **02 33 04.1 -0.7**
comp=Z,8.4nm,1.0s,mb4.6,baz=296,slow=7.4,SNR=9.7
YKA LR LR 02 56 06.4
comp=Z,442nm,19.6s,MS4.5,baz=15,slow=38
YKA Yellowknife Ar 51.38 36 P **P** **02 33 04.1 -0.8**
YKA pmax pmax
comp=Z,80nm,1.0s
YKA MLR MLR
comp=Z,442nm,19.6s
YKA Yellowknife Ar 51.38 36 P **P** **02 33 04.1 -0.7**
YKA LR LR 02 56 06.4
ZRNK Zerenda 51.89 310 P **P** **02 33 07.1 -1.6**
ZRNK pmax pmax
comp=Z,15nm,0.7s,mb5.0
ZRNK Zerenda 51.89 310 *e*P **P** **02 33 07.0 -1.7**
comp=Z,15nm,0.6s,mb5.1
CHTO Chiang Mai 51.92 257 *e*P **P** **02 33 09.8 +0.8**
CHTO pmax pmax
comp=Z,20nm,0.9s,mb5.0
CHTO MLR MLR
comp=Z,1μm,19.0s,MS4.9
CHTO Chiang Mai 51.92 257 *e*P **P** **02 33 09.8 +0.8**
comp=Z,20nm,0.9s,mb5.0
CHTO LR LR
comp=Z,1μm,19.0s,MS4.9
AAA Alma-Ata 52.12 296 *e*P **P** **02 33 12.1 +1.7**
AAA *e*S **S** **02 40 34.4 +1.6**
AAA pmax pmax
comp=Z,400nm,6.7s
AAA smax
comp=N,350nm,10.9s
AAA MLR MLR
comp=Z,4μm,14.9s,MS5.5
CM31 Chiang Mai Arr 52.17 257 PFAKE 02 33 20.0 +9.2
CM31 LR LR
comp=Z,589nm,19.0s,MS4.6
KBS Kingsbay 52.98 351 *e*P **P** **02 33 15.9 -0.9**
KBS *e*S **S** **02 40 47.6 +3.1**
KBS AMS AMS 02 56 35.1
comp=Z,348nm,18.6s,MS4.4
KBS Kingsbay 52.98 351 *e*P **P** **02 33 14.9 -1.9**
KBS LR LR
comp=Z,350nm,18.6s,MS4.4
TKM2 Tokmak 2 53.15 296 P **P** **02 33 18.3 +0.3**
SNR=14
CHMS Chumysh 53.63 297 P **P** **02 33 21.4 -0.1**
SNR=6.5
USP Ospenovka 53.64 297 P **P** **02 33 21.7 +0.1**
SNR=36
FRU Bishkek 53.80 297 *e*P **P** **02 33 23.0 +0.2**
FRU pmax pmax
comp=Z,35nm,1.0s,mb5.2
FRU MLR MLR
comp=Z,4μm,17.0s,MS5.6
KZA Kyzart 53.82 296 P **P** **02 33 24.6 +1.6**
SNR=8.5
AAK Ala-Archa 53.99 297 P **P** **02 33 23.9 -0.3**
comp=Z,212nm,0.7s,mb6.2,SNR=24
AAK Ala-Archa 53.99 297 P **P** **02 33 24.3 +0.1**
SNR=27
AAK Ala-Archa 53.99 297 P **P** **02 33 23.8 -0.3**
SNR=12
AAK Ala-Archa 53.99 297 *e*P **P** **02 33 23.1 -1.1**
AAK pmax pmax
comp=Z,29nm,0.8s,mb5.3
AAK MLR MLR
comp=Z,757nm,19.0s,MS4.8
AAK Ala-Archa 53.99 297 *e*P **P** **02 33 23.1 -1.1**
comp=Z,28nm,0.8s,mb5.2
AAK LR LR
comp=Z,757nm,19.0s,MS4.8
A05A Maple Falls 54.39 54 ⇑P **P** **02 33 26.7 -0.4**
baz=54
EKS2 Erkin-Say 54.42 297 P **P** **02 33 27.5 +0.2**
SNR=39
C04A Brinnon 54.56 56 ⇑P **P** **02 33 28.9 +0.5**
baz=54
GNW Green Mountain 54.73 56 *e*P **P** **02 33 30.2 +0.6**
AML Almayashu 54.76 296 P **P** **02 33 30.6 +0.8**
SNR=18
B05A Bryant 54.77 55 ⇑P **P** **02 33 30.0 +0.1**
baz=54
KSH Kashi 54.77 293 ⇑P **P** **02 33 32.6 +2.7**
KSH *e*AP pP 02 33 41.3 +2.9
KSH *e*XP sP 02 33 44.4 +2.7
KSH *e*PCP PcP 02 34 36.4 +4.3
KSH *e*PPP 02 36 49.3
KSH *e*SCP ScP 02 38 31.4 +2.8
KSH *e*S **S** **02 41 11.1 +2.3**
KSH *e*XS sS 02 41 22.0 -0.9
KSH *e*PS 02 41 32.6
KSH *e*SCS ScS 02 43 17.2 0.0
KSH *e*SS SS 02 44 52.2 +0.2
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=Z,4μm,14.4s,MS5.6
E03A Lebam 54.85 57 ⇓P **P** **02 33 30.6 +0.1**
baz=55
JIRN Jiri 54.91 275 *e*P **P** **02 33 32.3 +1.4**
comp=Z,10nm,0.2s,mb5.4
GUN Gumba 54.97 275 *e*P **P** **02 33 32.9 +1.6**
comp=Z,62nm,0.7s,mb5.7
B06A Marblemount 54.98 54 ⇑P **P** **02 33 31.9 +0.5**
baz=55
C05A Tolt Reservoir 55.31 55 ⇓P **P** **02 33 33.8 +0.1**
baz=55
ARU Arti 55.33 318 P **P** **02 33 32.9 -1.0**
comp=Z,174nm,0.4s,SNR=13
ARU Arti 55.33 318 ⇑*i*P **P** **02 33 32.1 -1.8**
ARU *e*S **S** **02 41 15.2 -1.1**
ARU pmax pmax
comp=Z,15nm,0.7s,mb5.1
ARU MLR MLR
comp=N,1μm,18.0s,MS5.3
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.3
ARU MLR MLR
comp=E,2μm,17.0s,MS5.3
ARU Arti 55.33 318 *e*P **P** **02 33 31.9 -2.0**
ARU LR LR
comp=Z,652nm,19.0s,MS4.7
D05A Enumclaw 55.41 56 ⇑P **P** **02 33 35.0 +0.5**
baz=55
KKN Kakani 55.45 276 *e*P **P** **02 33 36.0 +1.2**
comp=Z,88nm,0.7s,mb5.9
PKI Pulchoki 55.50 275 *e*P **P** **02 33 36.3 +1.2**
comp=Z,47nm,0.8s,mb5.6
BJO Bjornoya 55.64 346 AMS AMS 03 02 55.7
comp=Z,1μm,17.2s,MS5.0
DMN Daman 55.69 276 *e*P **P** **02 33 38.0 +1.5**
comp=Z,154nm,0.9s,mb6.0
GKN Gorkha 55.77 276 *e*P **P** **02 33 38.2 +1.2**
comp=Z,116nm,0.7s,mb6.0
HNR Honiara 55.77 172 PFAKE 02 33 50.0 +13
HNR LR LR
comp=Z,780nm,20.0s,MS4.8
B07A Winthrop 55.78 53 ⇓P **P** **02 33 35.9 -1.2**
baz=56
F04A Amboy 55.85 57 ⇓P **P** **02 33 36.5 -1.1**
baz=56
E05A Randle 55.89 56 ⇑P **P** **02 33 35.9 -2.0**
baz=56
H03A Soap Creek Ran 56.03 59 ⇑P **P** **02 33 35.2 -3.7**
baz=56
D06A Cle Elum 56.06 55 ⇓P **P** **02 33 38.0 -1.2**
baz=56
COR Corvallis 56.08 59 PFAKE 02 33 50.0 +11
COR LR LR
comp=Z,783nm,19.0s,MS4.8
I02A Mapleton 56.09 60 ⇓P **P** **02 33 37.9 -1.4**
baz=56
G04A Mulino 56.22 58 ⇓P **P** **02 33 38.6 -1.7**
baz=56
C07A Waterville 56.23 54 ⇓P **P** **02 33 39.6 -0.8**
baz=56
A09A Danville 56.34 52 ⇑P **P** **02 33 40.5 -0.6**
baz=56,SNR=17
E06A Yakima 56.35 56 ⇑P **P** **02 33 41.3 +0.1**
baz=56
K01A Sixes 56.37 61 ⇓P **P** **02 33 41.6 +0.2**
baz=56
I03A Eugene 56.43 59 ⇓P **P** **02 33 42.1 +0.3**
baz=56
F05A White Salmon 56.44 57 ⇑P **P** **02 33 41.9 0.0**
baz=56
J02A Umpqua 56.60 60 ⇑P **P** **02 33 43.2 +0.2**
baz=56,SNR=8.2
KOLN Koldanda 56.63 277 *e*P **P** **02 33 44.7 +1.5**
comp=Z,97nm,0.7s,mb5.9
HOOD Mount Hood Mea 56.64 57 *e*P **P** **02 33 43.9 +0.6**
H04A Detroit Lake 56.68 58 P **P** **02 33 43.6 +0.1**
baz=56,SNR=12
EDM Edmonton 56.72 46 *e*P **P** **02 33 42.8 -1.1**
C08A Higginbotham F 56.75 54 ⇓P **P** **02 33 44.4 +0.3**
baz=56
G05A Wamic 56.88 57 ⇑P **P** **02 33 44.1 -0.8**
baz=57,SNR=5.7
B09A Rice 56.89 53 ⇑P **P** **02 33 44.1 -1.0**
baz=57
F06A Goldendale 56.89 56 ⇑P **P** **02 33 45.2 +0.1**
baz=57
A10A Northport 56.90 52 ⇓P **P** **02 33 44.6 -0.5**
baz=57
J03A Ideyld Park 56.96 60 ⇑P **P** **02 33 45.9 +0.4**
baz=57
E07A Sunnyside 56.98 55 ⇑P **P** **02 33 45.6 -0.1**
baz=57
K02A Glendale 56.99 61 ⇓P **P** **02 33 45.6 -0.1**
baz=57
M01C Crescent City 57.13 62 ⇑P **P** **02 33 45.2 -1.5**
baz=57
DAG Danmarks Havn 57.15 358 ⇑*i*P **P** **02 33 45.3 -1.6**
comp=Z,22nm,1.2s,mb5.1
DAG Danmarks Havn 57.15 358 ⇑*e*P **P** **02 33 45.3 -1.6**

DAG pmax pmax
comp=Z,22nm,1.2s,mb5.1
DAG Danmarks Havn 57.15 358⇑eP P 02 33 45.3 -1.6
comp=Z,22nm,1.2s,mb5.1
C09A Chrisman Ranch 57.17 53 ⇑P P 02 33 46.4 -0.6
baz=57
LVZ Lovozero 57.20 337 P P 02 33 37.0 -10
LVZ S S 02 41 29.6 -11
LVZ MLR MLR
comp=E,1μm,17.0s,MS5.1
LVZ MLR MLR
comp=Z,2μm,17.0s,MS5.2
LVZ MLR MLR
comp=N,781nm,18.0s,MS5.1
D08A Wollman Farm, 57.23 54 ⇓P P 02 33 46.2 -1.2
baz=57
H05A Madras 57.27 58 ⇓P P 02 33 46.9 -0.8
baz=57
L02A Cave Junction 57.27 61 ⇑P P 02 33 48.0 +0.3
baz=57
G06A Carlson Farm, 57.28 57 ⇓P P 02 33 47.5 -0.3
baz=57
F07A Phinny Hill Vi 57.31 56 ⇓P P 02 33 47.7 -0.3
baz=57
B10A Chitwood Farm, 57.47 52 ⇓P P 02 33 49.1 0.0
baz=57
NEW Newport 57.55 52 P P 02 33 50.2 +0.5
comp=N,11nm,1.2s,mb4.8,baz=323,slow=6.8,SNR=6.2
NEW Newport 57.55 52 PFAKE 02 34 00.0 +10
NEW LR LR
comp=Z,541nm,20.0s,MS4.7
D09A Jones Farm, Ri 57.57 54 ⇑P P 02 33 49.1 -0.8
baz=57
BOK Bokaro 57.58 271 eP P 02 33 50.4 +0.4
BOK AMb AMB 02 34 08.1
comp=Z,35nm,1.3s,mb5.2
C10A Spilker Farm, 57.70 53 ⇓P P 02 33 50.6 -0.2
baz=58
H06A Lindquist Farm 57.74 57 ⇓P P 02 33 50.6 -0.4
baz=58,SNR=8.2
KEV Kevo 57.79 341 eP P 02 33 49.4 -2.0
comp=Z,4.8nm,0.6s,mb4.7
KEV LR LR
comp=Z,1μm,20.0s,MS5.1
G07A Ruggs Ranch, H 57.82 56 ⇑P P 02 33 50.9 -0.7
baz=58
A12A Yaak River Ran 57.96 51 ⇓P P 02 33 51.3 -1.3
baz=58
E09A Wood Farm, Sta 57.98 55 ⇑P P 02 33 52.0 -0.7
baz=58,SNR=13
F08A Pendleton 58.03 56 ⇑P P 02 33 53.0 -0.1
baz=58
J05A Fort Rock 58.04 59 ⇓P P 02 33 53.7 +0.6
baz=58,SNR=5.2
YBH Yreka Blue Hor 58.05 61 PFAKE 02 34 10.0 +17
YBH LR LR
comp=Z,480nm,21.0s,MS4.6
YBH Yreka Blue Hor 58.05 61 ⇓P P 02 33 53.9 +0.6
baz=58
M02C Callahan 58.16 62 ⇓P P 02 33 54.3 +0.3
baz=58
G08A Pilot Rock 58.22 56 ⇓P P 02 33 53.9 -0.5
baz=58,SNR=11
N02C Big Bar 58.22 63 ⇑P P 02 33 54.7 +0.2
baz=58
B12A Libby 58.27 51 ⇓P P 02 33 54.7 0.0
baz=58
I06A Prineville 58.27 58 ⇓P P 02 33 54.7 -0.1
baz=58
H07A Lands Inn, Kim 58.27 57 ⇓P P 02 33 55.0 +0.2
baz=58
L04A Klamath Falls 58.29 61 ⇓P P 02 33 55.3 +0.4
baz=58
O01C Eel River Cons 58.30 63 ⇓P P 02 33 55.8 +0.8
baz=58
ARCES ARCESS Array B 58.30 341 P P 02 33 53.8 -1.2
comp=Z,3.6nm,0.4s,mb4.7,baz=31,slow=7.3,SNR=36
ARCES LR LR 03 01 60.0
comp=Z,1μm,20.2s,MS5.1,baz=31,slow=39
ARCES ARCESS Array B 58.30 341 P P 02 33 53.8 -1.2
ARCES pmax pmax
comp=Z,4.0nm,0.4s
ARCES MLR MLR
comp=Z,1μm,20.3s
ARE0 ARCESS Array S 58.30 341 eP P 02 33 54.4 -0.6
M04C Macdoel 58.55 61 ⇓P P 02 33 56.9 +0.2
baz=58
K05A Summer Lake 58.57 59 ⇑P P 02 33 56.9 0.0
baz=58,SNR=8.9
F09A S2 Ranch, Elgi 58.58 55 ⇑P P 02 33 57.3 +0.4
baz=58
I07A Izee 58.60 58 ⇑P P 02 33 57.2 +0.1
baz=58
A13A Flathead Natio 58.63 50 ⇓P P 02 33 56.2 -1.0
baz=58,SNR=7.4
M03C McCloud 58.68 62 ⇑P P 02 33 57.8 +0.2
baz=58
AB31 Akbulak array 58.69 310⇑eP P 02 33 56.6 -1.1
J06A Christmas Vall 58.71 59 P P 02 33 58.1 +0.3
baz=58,SNR=14
KIPM Iron Peak 58.71 64 eP P 02 33 57.9 0.0
C12A Trout Creek 58.77 52 ⇑P P 02 33 58.0 -0.2
baz=58
F10A Beach Ranch, E 58.81 55 ⇑P P 02 33 58.4 -0.1
baz=59,SNR=9.6
WALA Waterton Lakes 58.82 50 eP P 02 33 57.6 -1.0
comp=Z,22nm,1.1s,mb5.1
WDC Whiskeytown Da 58.83 62 eP P 02 33 58.4 -0.2
comp=Z,17nm,1.1s,mb5.0
WDC LR LR
comp=Z,463nm,19.0s,MS4.6
WDC Whiskeytown Da 58.83 62 ⇑P P 02 33 58.1 -0.5
baz=59,SNR=6.8
H08A Prairie City 58.83 57 ⇓P P 02 33 58.6 -0.1
baz=59,SNR=7.4
K06A Valley Falls 58.91 59 P P 02 33 59.6 +0.4
baz=59,SNR=15
O02C Red Bluff 58.92 63 P P 02 34 00.2 +1.0
baz=59,SNR=6.8
B13A Whitefish 58.93 51 P P 02 33 59.5 +0.1
baz=59,SNR=9.9
P01C Double 8 Ranch 59.00 64 ⇓P P 02 33 59.7 -0.1
baz=59
L05A Lakeview 59.01 60 P P 02 34 00.7 +0.8
baz=59,SNR=10
BSMT Bassoo Peak 59.06 52 eP P 02 34 01.2 +0.9
THN Thein Dam 59.10 286 eP P 02 34 01.1 +0.5
J07A Hines 59.13 58 ⇓P P 02 34 00.1 -0.6
baz=59
KTK1 Kautokeino 59.22 341 eP P 02 34 01.1 -0.3
M05C Lookout 59.22 61 ⇓P P 02 34 01.2 -0.2
baz=59
I08A Drewsey 59.25 57 ⇑P P 02 34 01.9 +0.3
baz=59
GASB Alder Springs 59.27 63 ⇓P P 02 34 02.0 +0.3
baz=59,SNR=5.8
C13A Hot Springs 59.28 52 ⇓P P 02 34 02.0 +0.2
baz=59
H09A Durkee 59.33 56 ⇑P P 02 34 02.4 +0.3
baz=59
HATC Hat Creek Radi 59.35 62 ⇑P P 02 34 01.4 -0.9
baz=59
MOD Modoc 59.41 60 eP P 02 34 02.8 +0.1
comp=Z,15nm,1.0s,mb5.0
MOD LR LR
comp=Z,300nm,20.0s,MS4.4
MOD Modoc 59.41 60 ⇓P P 02 34 02.3 -0.4
baz=59
BMO Blue Mountains 59.42 56 eP P 02 34 02.2 -0.6
comp=Z,7.2nm,0.8s,mb4.8
BMO LR LR
comp=Z,546nm,22.0s,MS4.6
HOPS Hopland 59.44 64 epP pP 02 34 15.9 +4.4
HOPS LR LR
comp=Z,690nm,22.0s,MS4.7
HOPS Hopland 59.44 64 ⇑P P 02 34 02.8 -0.1
baz=59
O03C Acorn Hollow, 59.49 63 ⇑P P 02 34 03.1 -0.1
baz=59
K07A Rock Creek Ran 59.57 59 P P 02 34 04.2 +0.4
baz=59,SNR=14
J08A Circle Bar Ran 59.63 58 P P 02 34 04.5 +0.3
baz=59,SNR=7.8
TRO Tromso 59.64 343 eP P 02 34 01.9 -2.4
TRO AMS AMS 03 04 32.8
comp=Z,803nm,18.8s,MS4.9
I09A Lost Marbles R 59.70 57 ⇑P P 02 34 04.4 -0.3
baz=60

M06C Likely Place G 59.72 61 ⇓P P 02 34 05.0 +0.2
baz=60
O04C Chester 59.88 62 ⇑P P 02 34 05.4 -0.5
baz=60
MNRC McLaughlin Nat 59.91 64 ⇓P P 02 34 06.2 +0.1
baz=60,SNR=5.4
L07A Adell 59.92 59 ⇓P P 02 34 05.8 -0.4
baz=60
ORR Orenburg 59.94 315⇓eP P 02 34 05.1 -1.2
ORR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ORR MLR MLR
comp=Z,9μm,17.0s,MS6.0
NIL Nilore 59.99 289 P P 02 34 08.3 +1.6
comp=Z,166nm,0.7s,mb6.2,SNR=5.8
K08A Mann Creek Ran 60.00 58 ⇓P P 02 34 06.5 -0.2
baz=60,SNR=9.8
J09A Fry Pan Ranch, 60.06 57 P P 02 34 07.5 +0.4
baz=60,SNR=11
ORV Oroville 60.08 63 P P 02 34 06.5 -0.8
baz=60,SNR=12
WVOR Wild Horse Val 60.09 59 eP P 02 34 07.2 -0.2
comp=Z,22nm,1.0s,mb5.1
WVOR LR LR
comp=Z,435nm,20.0s,MS4.6
SUTB Sutter Butte 60.10 63 ⇓P P 02 34 07.0 -0.5
baz=60
MSO Missoula 60.13 52 PFAKE 02 34 20.0 +12
MSO LR LR
comp=Z,244nm,20.0s,MS4.3
O05C Quincy 60.20 62 ⇓P P 02 34 08.0 -0.1
baz=60
CVS Carmenet Viney 60.22 64 ⇑P P 02 34 09.9 +1.7
baz=60
OHCM Honcut 60.23 63 eP P 02 34 07.2 -1.1
FARB Farallon Islan 60.27 65 ⇓P P 02 34 08.2 -0.4
baz=60
Q03C Winters 60.32 64 ⇓P P 02 34 09.8 +0.8
baz=60
N06A Buffalo Meadow 60.38 61 P P 02 34 09.5 +0.1
baz=60,SNR=8.6
M07A Soldier Meadow 60.40 60 P P 02 34 09.9 +0.5
baz=60,SNR=28
L08A Fields 60.41 59 P P 02 34 10.2 +0.6
baz=60,SNR=10
NDI New Delhi 60.42 282 eP P 02 34 08.0 -1.7
NDI AMb AMB 02 34 11.6
comp=Z,60nm,0.8s,mb5.7
CHMT Chamberlain Mo 60.46 52 eP P 02 34 09.6 -0.3
K09A Rome 60.47 58 ⇑P P 02 34 08.9 -1.1
baz=60
BEKR Beckwourth 60.60 62 P P 02 34 10.8 -0.1
baz=60,SNR=9.0
O06A Flanigan 60.74 61 P P 02 34 11.6 -0.2
baz=60,SNR=9.2
KULM Kulim 60.78 245 eP P 02 34 13.1 +1.0
P05C Yuba Gap, Truc 60.79 63 ⇑P P 02 34 11.2 -0.9
baz=61
M08A Happy Creek Ra 60.84 59 ⇑P P 02 34 12.3 -0.2
baz=61
L09A Wilkinson Ranc 60.91 59 ⇓P P 02 34 12.8 -0.2
baz=61
LAVA Lava Cap Winer 61.04 63 P P 02 34 13.4 -0.4
baz=61,SNR=8.5
SUMG Summit 61.21 4 eP P 02 34 14.8 -0.2
comp=Z,56nm,0.8s,mb5.7
WCN Washoe City 61.31 62 ⇑P P 02 34 16.0 +0.3
baz=61
O07A Toulon 61.32 61 P P 02 34 16.4 +0.7
baz=61,SNR=8.3
N08A GE Springer Mi 61.39 60 ⇑P P 02 34 16.1 -0.1
baz=61
M09A Marrel Ranch, 61.41 59 ⇑P P 02 34 15.3 -1.0
baz=61
S04C Ingram Canyon, 61.44 65 ⇓P P 02 34 16.5 0.0
baz=61
R05C Kirkwood Meado 61.48 63 ⇑P P 02 34 16.8 -0.1
baz=61
LRM Limekiln Ridge 61.57 52 eP P 02 34 17.8 +0.4
EGMT Eagleton 61.65 49 eP P 02 34 17.7 -0.3
comp=Z,28nm,1.1s,mb5.3
EGMT LR LR
comp=Z,587nm,20.0s,MS4.7
EGMT Eagleton 61.65 49 ⇓P P 02 34 17.5 -0.4
baz=61
CMB Columbia Colle 61.70 64 PFAKE 02 34 30.0 +12
CMB LR LR
comp=Z,558nm,22.0s,MS4.7
CMB Columbia Colle 61.70 64 P P 02 34 18.0 -0.3
baz=62,SNR=12
N09A Rock Creek Ran 61.71 59 P P 02 34 18.7 +0.3
baz=62,SNR=11
FCC Fort Churchill 61.73 33 eP P 02 34 18.7 +0.2
FCC pmax pmax
comp=Z,15nm,1.0s,mb5.1
FCC Fort Churchill 61.73 33 eP P 02 34 18.7 +0.2
comp=Z,15nm,1.0s,mb5.1
JOF Joensuu 61.75 334 ep P 02 34 16.3 -2.3
comp=Z,9.0nm,0.6s,mb5.1
JOF Joensuu 61.75 334 eP P 02 34 16.3 -2.3
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
DLMT Dillon 61.77 53 eP P 02 34 20.1 +1.4
comp=Z,12nm,1.0s,mb5.0
PACP Pacheco Peak 61.77 65 ⇑P P 02 34 18.8 0.0
baz=62
SAO San Andreas Ge 61.82 65 eP P 02 34 20.7 +1.6
comp=Z,4.9nm,0.7s,mb4.8
HLID Hailey 61.86 55 PFAKE 02 34 30.0 +11
HLID LR LR
comp=Z,425nm,20.0s,MS4.6
HLID Hailey 61.86 55 P P 02 34 19.6 +0.2
baz=62,SNR=11
M10A I.L. Ranch, Tu 61.88 58 P P 02 34 20.1 +0.6
baz=62,SNR=15
MCMT McKenzie Canyo 61.96 54 eP P 02 34 20.4 +0.3
LOF Lofoten 61.97 344 eP P 02 34 20.9 +0.8
R06C Coleville 61.98 63 P P 02 34 20.6 +0.4
baz=62,SNR=18
WAKR Walker 62.00 63 eP P 02 34 20.6 +0.3
P08A Dixie Valley 62.09 61 ⇑P P 02 34 21.7 +0.8
baz=62
BOZ Bozeman (W) 62.12 52 PFAKE 02 34 30.0 +8.8
BOZ LR LR
comp=Z,399nm,20.0s,MS4.6
BOZ Bozeman (W) 62.12 52 P P 02 34 21.5 +0.4
baz=62,SNR=11
BMN Battle Mountai 62.15 60 PFAKE 02 34 30.0 +8.7
BMN LR LR
comp=Z,346nm,20.0s,MS4.5
S05C Merced 62.16 64 ⇓P P 02 34 21.4 0.0
baz=62
LRV Little Rabbit 62.30 65 eP P 02 34 22.6 +0.3
JMIC Jan Mayen 62.32 353 eP P 02 34 19.2 -3.2
JMIC AMS AMS 02 59 39.5
comp=Z,277nm,20.0s,MS4.4
JMIC Jan Mayen 62.32 353 eP P 02 34 17.7 -4.8
JMIC LR LR
comp=Z,280nm,20.0s,MS4.4
O09A Fish Creek Ran 62.33 60 P P 02 34 23.1 +0.5
baz=62,SNR=11
M11A Holland Ranch, 62.38 58 ⇓P P 02 34 22.3 -0.6
baz=62
V03C Hunter Liggett 62.41 66 ⇑P P 02 34 23.6 +0.5
baz=62
R07C Lee Vining 62.49 63 ⇑P P 02 34 23.6 0.0
baz=62
O10A Cortez Mining, 62.67 59 ⇑P P 02 34 24.7 -0.1
baz=62
Q08A Gabbs 62.70 61 ⇓P P 02 34 24.5 -0.5
baz=62
NVAR Mina Array Bea 62.74 62 P P 02 34 25.1 -0.1
comp=Z,9.5nm,0.7s,mb5.0,baz=283,slow=7.8,SNR=51
QLMT Earthquake Lak 62.75 53 eP P 02 34 25.5 +0.2
P09A Austin 62.75 60 ⇑P P 02 34 25.6 +0.3
baz=62
T06C Millerton Lake 62.76 64 ⇓P P 02 34 24.5 -0.9
baz=63
KCC Kaiser Creek 62.80 64 ⇓P P 02 34 24.4 -1.3
baz=63
V04C Ramage Ranch, 62.89 66 ⇑P P 02 34 28.5 +2.2
baz=63
PKD Parkfield 62.90 65 ⇑P P 02 34 26.0 -0.4
baz=63
M12A Wells 62.91 58 ⇓P P 02 34 26.6 +0.2
baz=63
R08A Mina 62.91 62 ⇓P P 02 34 25.9 -0.5
baz=63

MLAC Mammoth Lakes 62.91 63 ⇑P P 02 34 25.5 -0.9
baz=63
GCMT Greycliff 63.10 51 eP P 02 34 28.1 +0.4
YMR Madison River 63.11 53 eP P 02 34 29.9 +2.1
comp=Z,16nm,0.8s,mb5.2
ELK Elko 63.14 58 epP pP 02 34 44.4 +7.8
ELK LR LR
comp=Z,446nm,19.0s,MS4.7
Q09A Carvers 63.17 61 ⇑P P 02 34 29.4 +1.2
baz=63
N12A Clover Valley, 63.19 58 ⇓P P 02 34 28.9 +0.7
baz=63
YNR Norris Junctio 63.23 53 eP P 02 34 32.6 +4.1
MTUM Tungsten Hills 63.25 63 eP P 02 34 28.4 -0.3
O11A Cowboy Ranch, 63.27 59 P P 02 34 29.1 +0.3
baz=63,SNR=6.0
PTRM Twissleman Ran 63.29 66 eP P 02 34 28.7 -0.2
YFT Old Faithful 63.31 53 eP P 02 34 29.8 +0.7
V05C Boulder Hill, 63.35 65 ⇑P P 02 34 32.0 +2.6
baz=63
HELL Mitchell Peak, 63.39 64 P P 02 34 29.0 -0.6
baz=63,SNR=20
S08C White Mtn Res 63.41 63 P P 02 34 30.1 +0.4
baz=63,SNR=7.6
VIS Vishakhapatnam 63.41 268 eP P 02 34 31.1 +1.4
VIS AMb AMB 02 34 34.4
comp=Z,45nm,1.0s,mb5.6
MOR8 Moi Rana 63.48 343 eP P 02 34 27.7 -2.5
LKWY Lake 63.48 53 epP pP 02 34 47.2 +8.3
LKWY LR LR
comp=Z,540nm,22.0s,MS4.7
RCTC Rector, Farmer 63.49 64 ⇑P P 02 34 31.1 +0.9
baz=63
P11A Circle Ranch, 63.58 60 ⇓P P 02 34 32.0 +1.2
baz=63
AJM Ajmer 63.59 281 eP P 02 34 31.8 +0.9
AJM AMb AMB 02 34 45.3
comp=Z,40nm,0.8s,mb5.5
R09A Tonopah 63.61 62 P P 02 34 31.1 0.0
baz=63,SNR=25
TPH Tonopah 63.62 62 PFAKE 02 34 40.0 +8.9
TPH LR LR
comp=Z,435nm,20.0s,MS4.6
TIN Tinemaha 63.65 63 ⇓P P 02 34 31.7 +0.4
baz=63
DCID1 Drake Creek 63.67 54 eP P 02 34 31.6 +0.2
N13A Wendover, West 63.67 58 ⇓P P 02 34 30.4 -1.0
baz=63
O12A Currie 63.73 59 P P 02 34 32.0 +0.2
baz=64,SNR=20
RLMT Red Lodge 63.75 51 eP P 02 34 32.8 +0.9
PSI Prapat 63.79 244 P P 02 34 32.8 +0.6
comp=Z,7.1nm,1.0s,mb4.7,baz=289,slow=3.3,SNR=3.5
PSI Prapat 63.79 244 P P 02 34 32.8 +0.6
PSI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BHPL Bhopal 63.80 277 eP P 02 34 32.3 0.0
BHPL AMb AMB 02 34 48.1
comp=Z,59nm,1.1s,mb5.5
S09A Goldfield 63.84 62 P P 02 34 32.6 0.0
baz=64,SNR=12
KAF Kangasniemi 63.87 335 ep P 02 34 30.5 -2.2
comp=Z,13nm,0.8s,mb5.0,baz=38,slow=6.3
KAF Kangasniemi 63.87 335 eP P 02 34 30.5 -2.2
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.0
VES Vestal, Richgr 63.89 65 ⇑P P 02 34 31.6 -1.3
baz=64
HVU Hansel Valley 63.92 56 eP P 02 34 34.4 +1.3
comp=Z,23nm,1.1s,mb5.1
PKM Peak Mountain 64.02 66 ⇑P P 02 34 32.1 -1.6
baz=64
R10A Warm Springs 64.05 61 ⇑P P 02 34 34.3 +0.4
baz=64
Q11A Duckwater 64.09 60 ⇑P P 02 34 34.1 -0.1
baz=64
P12A McGill 64.14 59 ⇑P P 02 34 34.4 -0.1
baz=64
DGMT Dagmar 64.21 46 PFAKE 02 34 50.0 +15
DGMT LR LR
comp=Z,956nm,21.0s,MS5.0
GRAC Grapevine Rang 64.22 63 P P 02 34 35.3 +0.3
baz=64,SNR=7.8
AHID Auburn Hatcher 64.24 54 PFAKE 02 34 50.0 +15
AHID LR LR
comp=Z,347nm,19.0s,MS4.6
BGU Big Grassy Mou 64.32 57 eP P 02 34 36.0 +0.3
LAO LASA Array 64.35 49 eP P 02 34 35.6 -0.3
comp=Z,19nm,0.9s,mb5.1
LAO LR LR
comp=Z,856nm,20.0s,MS4.9
ISA Isabella 64.38 65 eP P 02 34 35.3 -0.8
comp=Z,14nm,1.1s,mb4.9
ISA LR LR
comp=Z,73nm,19.0s,MS3.9
ISA Isabella 64.38 65 ⇑P P 02 34 35.7 -0.4
baz=64
SPUT South Promonto 64.41 56 eP P 02 34 37.1 +0.8
PUL Pulkovo 64.45 332 P P 02 34 33.1 -3.4
PUL S S 02 43 06.4 -7.1
PUL MLR MLR
comp=Z,1μm,19.0s,MS5.1
PUL MLR MLR
comp=N,781nm,20.0s,MS5.0
PUL MLR MLR
comp=E,466nm,17.0s,MS5.0
TRCR Troy Canyon 64.45 61 eP P 02 34 37.7 +1.2
Q12A Willow Creek R 64.46 60 ⇑P P 02 34 37.0 +0.3
baz=64
FIA1 FINESS Array S 64.46 335 eP P 02 34 35.0 -1.6
FINES FINESS Array B 64.46 335 P P 02 34 35.5 -1.2
comp=E,15nm,0.6s,mb5.2,baz=40,slow=7.7,SNR=88
FINES LR LR 03 05 54.3
comp=E,1μm,20.0s,MS5.0,baz=36,slow=39
FINES FINESS Array B 64.46 335 P P 02 34 35.5 -1.1
FINES pmax pmax
comp=Z,15nm,0.6s
FINES MLR MLR
comp=Z,1μm,20.0s
ARVC Arvin 64.50 65 ⇑P P 02 34 37.4 +0.5
baz=64
DAC Darwin (Calif) 64.54 64 PFAKE 02 34 50.0 +13
DAC LR LR
comp=Z,432nm,20.0s,MS4.6
HWUT Hardware Ranch 64.72 56 PFAKE 02 34 50.0 +12
HWUT LR LR
comp=Z,405nm,19.0s,MS4.6
MPMC Manual Prospec 64.74 64 P P 02 34 38.3 -0.1
baz=64,SNR=27
MOS Moscow 64.81 326 eP pP 02 34 52.4 +4.8
FURC Furnace Creek, 64.87 63 P P 02 34 39.0 -0.3
baz=65,SNR=31
OSI Osito Adit 64.89 66 ⇑P P 02 34 40.0 +0.5
baz=65
DUG Dugway 64.91 58 PFAKE 02 34 50.0 +10
DUG LR LR
comp=Z,384nm,19.0s,MS4.6
DUG Dugway 64.91 58 P P 02 34 39.8 +0.2
baz=65,SNR=21
LRMC Laurel Mountai 64.99 64 ⇑P P 02 34 40.1 +0.1
baz=65
NOQ North Oquirrh 65.02 57 eP P 02 34 41.0 +0.7
comp=Z,40nm,0.9s,mb5.4
BW06 Boulder Array 65.11 54 eP P 02 34 40.9 0.0
comp=Z,16nm,0.9s,mb5.0
BW06 LR LR
comp=Z,431nm,21.0s,MS4.6
PDAR Pinedale Array 65.11 54 P P 02 34 40.8 -0.1
comp=Z,8.8nm,0.8s,mb4.9,baz=286,slow=2.1,SNR=42
PDAR LR LR 03 02 16.1
comp=Z,294nm,21.1s,MS4.5,baz=335,slow=35
TCUT Toone Canyon 65.13 56 eP P 02 34 41.1 +0.1
EDW2 Edwards Air Fo 65.19 65 P P 02 34 41.1 -0.2
baz=65,SNR=8.1
CTU Camp Tracy 65.21 57 eP P 02 34 44.8 +3.3
SNCC San Nicolas Is 65.26 67 PFAKE 02 34 50.0 +8.2
SNCC LR LR
comp=Z,597nm,20.0s,MS4.8
DECC Green Verdugo 65.38 66 ⇓P P 02 34 41.8 -0.8
baz=65
NSS Namsos 65.42 343 eP P 02 34 40.6 -2.2
NSS epP pP 02 34 44.5 -7.2
NSS AMS AMS 03 07 25.4
comp=Z,1μm,20.2s,MS5.1
NLU North Lily Min 65.50 57 eP P 02 34 43.2 -0.2

MWC	Mount Wilson	65.56	66	epP	pP	02 34 57.2	+4.7
SHOC	Shoshone	65.59	63	⇓P	P	02 34 44.9	+0.9
	baz=65						
GSC	Goldstone	65.65	64	P	P	02 34 44.4	0.0
	baz=65,SNR=7.3						
SFJD	Kangerlussuaq	65.66	10	iP	P	02 34 52.9	+8.5
SFJD				iS	S	02 43 19.5	-8.9
SFJD							
	comp=Z,810nm,17.0s						
SFJD	Kangerlussuaq	65.66	10	eP	P	02 34 52.9	+8.5
SFJD				iS	S	02 43 19.5	-8.9
SFJD				LR	LR		
	comp=Z,810nm,17.0s,MS5.0						
DAU	Daniels Canyon	65.68	56	eP	P	02 34 44.6	+0.1
OBN	Obninsk	65.68	326	P	P	02 34 43.5	-1.0
	comp=Z,157nm,0.6s,mb6.2,SNR=5.0						
OBN	Obninsk	65.68	326	⇑eP	P	02 34 43.5	-1.0
OBN				eS	S	02 43 26.3	-2.4
OBN				eSS	SS	02 47 39.3	-3.7
OBN				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.3						
OBN	Obninsk	65.68	326	PFAKE		02 35 00.0	+15
OBN				LR	LR		
	comp=Z,374nm,20.0s,MS4.6						
MPU	Maple Canyon	65.72	57	eP	P	02 34 45.6	+0.9
	comp=Z,15nm,0.9s,mb5.0						
MPU				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
BFSC	Mount Baldy St	65.81	65	⇑P	P	02 34 45.5	+0.1
	baz=66						
U11A	Corn Creek	65.81	62	⇑P	P	02 34 45.8	+0.4
	baz=66						
SHPR	Sheep Range	65.89	62	eP	P	02 34 46.0	+0.1
ARUT	Antelope Range	66.10	60	eP	P	02 34 46.8	-0.5
TUQ	Turquoise Mtn.	66.11	63	⇓P	P	02 34 47.0	-0.4
	baz=66						
V11A	Goodsprings	66.16	63	⇓P	P	02 34 46.8	-0.8
	baz=66						
BBRC	Big Bear Sol-O	66.26	65	⇑P	P	02 34 49.6	+1.4
	baz=66						
HEC	Hector,Ludlow	66.26	64	⇑P	P	02 34 47.4	-0.8
	baz=66						
CTA	Charters Tower	66.30	187	P	P	02 34 48.5	0.0
	comp=Z,2.1nm,0.5s,mb4.4,baz=270,slow=5.1,SNR=2.3						
CTA	Charters Tower	66.30	187	P	P	02 34 48.5	0.0
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTAO	Charters Tower	66.30	187	PFAKE		02 35 00.0	+11
CTAO				LR	LR		
	comp=Z,781nm,19.0s,MS4.9						
CCUT	Cedar City	66.30	60	eP	P	02 34 48.2	-0.3
U12A	Valley of Fire	66.32	62	⇓P	P	02 34 49.1	+0.4
	baz=66						
MVU	Marysvale	66.36	59	PFAKE		02 35 00.0	+11
MVU				LR	LR		
	comp=Z,450nm,20.0s,MS4.7						
MSU	Marysvale	66.38	59	eP	P	02 34 49.4	+0.4
TMUT	Trail Mountain	66.44	57	eP	P	02 34 49.7	+0.3
MURC	Murrieta	66.51	66	⇑P	P	02 34 49.6	-0.3
	baz=66						
V12A	Nelson	66.59	62	⇑P	P	02 34 51.7	+1.3
	baz=66						
ABKT	Ailbek	66.79	301	P	P	02 34 52.6	+0.9
	comp=Z,134nm,0.6s,mb6.2,SNR=5.1						
ABKT	Ailbek	66.79	301	P	P	02 34 52.9	+1.2
W12A	Cal Nev Ari	66.86	63	⇓P	P	02 34 53.0	+0.9
	baz=67						
HYB	Hyderabad	66.93	271	iP	P	02 34 52.0	-0.5
HYB	Hyderabad	66.93	271	eP	P	02 34 52.0	-0.5
ULM	Lac du Bonnet	66.96	41	P	P	02 34 52.8	+0.1
	comp=Z,2.8nm,0.7s,mb4.4,baz=321,slow=5.9,SNR=4.2						
ULM				LR	LR	03 07 41.5	
	comp=Z,402nm,18.8s,MS4.7,baz=328,slow=39						
ULM	Lac du Bonnet	66.96	41	eP	P	02 34 52.2	-0.5
	comp=Z,5.3nm,0.7s,mb4.7						
ULM				LR	LR		
	comp=Z,433nm,21.0s,MS4.7						
SRU	San Rafael	66.96	57	eP	P	02 34 53.0	+0.2
	comp=Z,37nm,0.8s,mb5.5						
PFO	Pinyon Flat Ob	66.97	65	epP	pP	02 35 04.8	+3.2
PFO				LR	LR		
	comp=Z,81nm,20.0s,MS3.9						
PFO	Pinyon Flat Ob	66.97	65	⇑P	P	02 34 54.2	+1.4
	baz=67						
BELC	Belle Mtn.	67.00	64	⇑P	P	02 34 51.8	-1.2
	baz=67						
109C	Camp Elliot, M	67.04	66	⇑P	P	02 34 53.8	+0.6
	baz=67						
RWWY	Rawlins	67.13	53	eP	P	02 34 55.5	+1.6
	comp=Z,21nm,1.0s,mb5.1						
RSSD	Black Hills	67.21	50	eP	P	02 34 53.6	-0.7
	comp=Z,17nm,0.9s,mb5.1						
IRM	Iron Mountain	67.43	64	P	P	02 34 55.5	-0.2
	baz=67,SNR=9.1						
VRSR	Storozhevoye	67.45	321	eP	P	02 34 55.1	-0.7
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
VRSR				pmax	pmax		
	comp=N,20nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4						
VRSR				MLR	MLR		
	comp=N,2μm,20.0s,MS5.4						
VRSR				MLR	MLR		
	comp=E,1μm,17.0s,MS5.4						
BAR	Barrett	67.45	66	epP	pP	02 35 07.4	+2.8
MONP	Monument Peak	67.47	66	⇓P	P	02 34 54.8	-1.2
	baz=67						
BC3	Big Chuckw Mtn	67.57	64	⇓P	P	02 34 56.7	+0.1
	baz=67						
VORD	Divnogorie	67.58	321	eP	P	02 34 55.5	-1.2
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
W13A	Hualapai Mount	67.59	62	⇑P	P	02 34 56.4	-0.4
	baz=67						
AFI	Afiamalu	67.76	143	PFAKE		02 35 10.0	+12
AFI				LR	LR		
	comp=Z,950nm,20.0s,MS5.0						
X13A	Yucca	67.96	63	P	P	02 34 58.8	-0.3
	baz=68,SNR=11						
PDMCI	Parker Dam,Lak	67.97	63	⇓P	P	02 34 59.2	+0.1
	baz=68						
WB2	Warramunga Arr	68.01	199	eP	P	02 34 58.0	-1.3
W14A	Seligman	68.01	62	P	P	02 34 59.5	+0.1
	baz=68,SNR=21						
WRA	Warramunga Arr	68.01	199	P	P	02 34 58.0	-1.4
	comp=Z,4.4nm,0.8s,mb4.5,baz=17,slow=6.6,SNR=16						
WRA				LR	LR	03 03 15.9	
	comp=Z,194nm,18.8s,MS4.4,baz=30,slow=35						
Y12C	Blythe	68.09	64	⇑P	P	02 34 59.6	-0.3
	baz=68						
PV10	Paradox Valley	68.31	57	eP	P	02 35 01.6	+0.3
GLA	Glamis	68.36	65	eP	P	02 35 01.3	-0.3
GLA	Glamis	68.36	65	⇑P	P	02 35 01.7	+0.1
	baz=68						
Y13A	Salome	68.48	63	⇓P	P	02 35 02.9	+0.5
	baz=68						
W15A	Williams	68.53	61	⇓P	P	02 35 03.1	+0.5
	baz=68						
X14A	Yava	68.62	62	P	P	02 35 04.0	+0.8
	baz=68,SNR=11						
FITZ	Fitzroy Crossi	68.66	208	eP	P	02 35 02.9	-0.6
	comp=Z,13nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	68.66	208	P	P	02 35 02.5	-1.0
	comp=Z,4.9nm,0.8s,mb4.5,baz=112,slow=2.7,SNR=8.7						
NB2	NORSAR Subarra	68.68	341	P	P	02 35 02.5	-1.1
	comp=Z,10nm,0.6s,mb4.9,baz=28,slow=6.5						
NB2	NORSAR Subarra	68.68	341	P	P	02 35 02.5	-1.1
NB2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
NOA	NORSAR Array B	68.68	341	P	P	02 35 02.5	-1.0
	comp=Z,7.6nm,0.5s,mb4.9,baz=28,slow=6.4,SNR=48						
NOA				LR	LR	03 09 55.0	
	comp=Z,1μm,18.1s,MS5.1,baz=5.0,slow=40						
NOA	NORSAR Array B	68.68	341	P	P	02 35 02.6	-1.0
NOA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,1μm,18.2s						
PV01	Paradox Valley	68.75	57	eP	P	02 35 05.0	+1.0
WUAZ	Wupatki	68.85	61	eP	P	02 35 05.3	+0.7
	comp=Z,12nm,0.9s,mb4.8						
WUAZ				LR	LR		
	comp=Z,340nm,22.0s,MS4.5						
WUAZ	Wupatki	68.85	61	⇓P	P	02 35 05.1	+0.4
	baz=69						
Y14A	Wickenburg	68.91	63	P	P	02 35 04.8	-0.2
	baz=69,SNR=10						
NAO01	NORSAR Array S	68.93	341	eP	P	02 35 03.7	-1.4
	comp=Z,13nm,0.8s,mb4.9						
SMCO	Snowmass	68.96	55	eP	P	02 35 05.6	+0.3
	comp=Z,21nm,0.8s,mb5.1						
X15A	Humboldt	69.01	62	P	P	02 35 06.1	+0.5
	baz=69,SNR=16						
BORG	Borgarnes	69.26	357	P	P	02 35 06.0	-1.1
	comp=Z,13nm,0.7s,mb5.0,baz=19,slow=1.3,SNR=9.4						
BORG	Borgarnes	69.26	357	eP	P	02 35 06.0	-1.2
	comp=Z,26nm,0.8s,mb5.2						
ISCO	Idaho Springs	69.30	54	eP	P	02 35 09.4	+2.0
	comp=Z,14nm,0.9s,mb4.9						
ISCO				LR	LR		
	comp=Z,460nm,20.0s,MS4.7						
Z14A	Wintersburg	69.33	63	⇑P	P	02 35 07.7	+0.1
	baz=69						
MAK	Makhachkala	69.34	311	iP	P	02 35 06.6	-1.1
MAK				i		02 35 29.2	
MAK				ePPP		02 39 20.7	
MAK				i		02 44 46.8	
MAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
MAK				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.8						
MVCO	Mesa Verde	69.41	58	eP	P	02 35 08.0	-0.2
MVCO	Mesa Verde	69.41	58	⇓P	P	02 35 07.2	-0.9
	baz=69,SNR=12						
POO	Poona	69.43	276	⇑iP	P	02 35 07.0	-1.2
	comp=Z,50nm,1.0s,mb5.4						
KAD	Karad	70.03	274	eP	P	02 35 12.2	+0.3
KAD				AMb	AMB	02 35 18.9	
	comp=Z,26nm,0.9s,mb5.1						
GOF	Gofitskoye	70.12	315	eP	P	02 35 08.0	-4.5
115A	Sonoran Desert	70.22	63	⇑P	P	02 35 12.8	-0.3
	baz=70						
KONO	Kongsberg	70.29	341	eP	P	02 35 11.5	-2.0
KONO	Kongsberg	70.29	341	⇑eP	P	02 35 12.9	-0.6
KONO	Kongsberg	70.29	341	eP	P	02 35 13.5	0.0
	comp=Z,19nm,0.8s,mb5.1						
KONO				LR	LR		
	comp=Z,9μm,18.3s						
116A	Eloy	70.64	63	⇑P	P	02 35 15.8	+0.1
	baz=70						
SDCO	Great Sand Dun	70.78	55	eP	P	02 35 18.5	+2.0
	comp=Z,5.0nm,0.7s,mb4.5						
SDCO				LR	LR		
	comp=Z,421nm,20.0s,MS4.7						
KIV	Kislovodsk	71.09	314	P	P	02 35 19.5	+1.1
	comp=Z,294nm,0.7s,SNR=8.4						
KIV	Kislovodsk	71.09	314	P	P	02 35 20.1	+1.6
	SNR=7.3						
KIV	Kislovodsk	71.09	314c	iP	P	02 35 18.9	+0.5
KIV				e		02 35 38.8	
KIV				eS	S	02 44 33.7	+0.6
KIV				eSS	SS	02 49 06.9	+0.2
KIV				pmax	pmax		
	comp=Z,141nm,2.7s,mb5.4						
KIV				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.4						
KIV				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.6						
KIV	Kislovodsk	71.09	314	eP	P	02 35 19.8	+1.3
	comp=Z,36nm,0.8s,mb5.3						
KIV				LR	LR		
	comp=Z,637nm,19.0s,MS4.9						
ECSD	EROS,Sioux Fal	71.29	46	eP	P	02 35 18.0	-1.6
ZEI	Tsey	71.34	313	eP	P	02 35 20.3	+0.4
ZEI				e*PP	pP	02 35 32.8	+4.1
ZEI				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
TUC	Tucson	71.38	63	eP	P	02 35 19.4	-0.8
	comp=Z,6.9nm,0.9s,mb4.6						
TUC				LR	LR		
	comp=Z,298nm,21.0s,MS4.5						
SUW	Suwalki	71.40	331	eP	P	02 35 19.3	-1.0
SUW				ePcP	PcP	02 35 35.8	-4.0
SUW				L		03 10 06.1	
	comp=Z,1.5nm,18.6s						
SUW	Suwalki	71.40	331	eP	P	02 35 19.3	-1.0
SUW				ePcP	PcP	02 35 35.8	-4.0
AS31	Alice Springs	71.70	198	eP	P	02 35 21.4	-0.6
ASAR	Alice Springs	71.70	198	P	P	02 35 21.8	-0.3
	comp=Z,3.5nm,0.7s,mb4.4,baz=12,slow=6.1,SNR=18						
ASAR				LR	LR	03 05 44.9	
	comp=Z,375nm,19.6s,MS4.7,baz=8.0,slow=35						
LRW	Lerwick	71.90	347	eP	P	02 35 23.2	-0.1
LRW				AMb	AMB	02 35 33.5	
	comp=Z,54nm,1.7s,mb5.2						
AKASG	Malin Array Be	71.92	326	P	P	02 35 22.0	-1.4
	comp=Z,50nm,0.7s,mb5.6,baz=33,slow=6.1,SNR=198						
AKASG				LR	LR	03 10 49.5	
	comp=Z,1μm,18.9s,MS5.1,baz=25,slow=39						
AKASG	Malin Array Be	71.92	326	iP	P	02 35 22.3	-1.1
AKASG				pmax	pmax		
	comp=Z,50nm,0.7s						
AKBB	Malin Array Si	71.92	326	eP	P	02 35 22.1	-1.3
LAZ	Ladron	72.14	59	eP	P	02 35 24.8	+0.1
ANMO	Albuquerque	72.17	58	eP	P	02 35 26.3	+1.4
	comp=Z,12nm,1.0s,mb4.8						
ANMO				LR	LR		
	comp=Z,318nm,21.0s,MS4.6						
PALK	Pallekele	72.55	262	PFAKE		02 35 40.0	+13
PALK				LR	LR		
	comp=Z,169nm,20.0s,MS4.3						
GNI	Garni	72.80	310	eP	P	02 35 28.8	+0.2
GNI	Garni	72.80	310	P	P	02 35 29.4	+0.7
	comp=Z,19nm,0.7s,mb5.1,baz=257,slow=1.7,SNR=12						
GNI	Garni	72.80	310	P	P	02 35 30.6	+1.9
	SNR=11						
GNI	Garni	72.80	310	P	P	02 35 29.4	+0.8
GNI				pmax	pmax		
	comp=Z,19nm,0.7s						
GNI	Garni	72.80	310	eP	P	02 35 30.9	+2.2
	comp=Z,43nm,0.8s,mb5.4						
GNI				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
BSD	Bornholm Skovb	72.99	336	iP	P	02 35 28.4	-1.3
	comp=Z,18nm,0.9s,mb5.0						
BSD				e		02 36 06.5	
BSD							
	comp=Z,880nm,19.0s						
BSD	Bornholm Skovb	72.99	336	iP	P	02 35 28.4	-1.3
BSD				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
BSD				MLR	MLR		
	comp=Z,880nm,19.0s,MS5.1						
BSD	Bornholm Skovb	72.99	336	iP	P	02 35 28.4	-1.3
	comp=Z,18nm,0.9s,mb5.0						
BSD				e		02 36 06.5	
ANN	Anapa	73.00	318	eP	P	02 35 29.0	-0.8
ANN				eS	S	02 44 55.6	+0.6
ANN				pmax	pmax		
	comp=Z,54nm,1.7s,mb5.2						
COP	Copenhagen	73.15	338	iP	P	02 35 30.7	0.0
	comp=Z,16nm,0.7s,mb5.1						
COP				eS	S	02 45 00.7	+4.0
COP				e		02 45 37.0	
COP							
	comp=Z,300nm,20.0s						
COP	Copenhagen	73.15	338	iP	P	02 35 30.7	0.0
COP				eS	S	02 45 00.7	+4.0
COP				e		02 45 37.0	
COP				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
COP				MLR	MLR		
	comp=Z,310nm,20.0s,MS4.6						
CBKS	Cedar Bluff	73.23	51	PFAKE		02 35 40.0	+8.8
CBKS				LR	LR		
	comp=Z,562nm,19.0s,MS4.9						
MUD	Monsted U'grnd	73.27	340	iP	P	02 35 31.2	-0.2
	comp=Z,13nm,0.7s,mb5.0						
MUD				i		02 35 42.0	
MUD				eS	S	02 45 00.2	+2.1
MUD							
	comp=Z,960nm,17.0s						
MUD	Monsted U'grnd	73.27	340	iP	P	02 35 31.2	-0.2
MUD				i		02 35 42.0	
MUD				eS	S	02 45 00.2	+2.1
MUD				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
MUD				MLR	MLR		
	comp=Z,960nm,17.0s,MS5.2						
MUD	Monsted U'grnd	73.27	340	iP	P	02 35 31.2	-0.2
	comp=Z,13nm,0.7s,mb5.0						
MUD				i		02 35 42.0	
MUD				eS	S	02 45 00.2	+2.1
OBR	Brabster	73.66	347	eP	P	02 35 33.2	-0.5
SCHQ	Schefferville	73.81	23	LR	LR	03 07 20.4	
	comp=Z,351nm,21.9s,MS4.6,baz=355,slow=35						
SCHQ	Schefferville	73.81	23	PFAKE		02 35 50.0	+15
SCHQ				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ORE	Reay	73.82	348	eP	P	02 35 33.2	-1.4
CLDR	Caldiran	73.96	310	eP	P	02 35 38.5	+3.0
SCIA	State Center	74.33	45	eP	P	02 35 36.5	-1.1
SIM	Simferopol'	74.40	320	P	P	02 35 36.9	-1.1
SIM				eS	S	02 45 12.0	+1.2
SIM				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3						
SIM				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.5						
LVV	L'vov	74.58	329	eP	P	02 35 38.5	-0.6
LVV				e		02 35 52.9	
LVV				e		02 38 32.5	
LVV				eS	S	02 45 10.3	-2.5
LVV				i		02 45 35.1	
LVV				e		02 45 48.5	
LVV				MLR	MLR		
	comp=Z,700nm,18.0s,MS5.0						
LVV				MLR	MLR		
	comp=N,400nm,17.0s,MS4.9						
LVV				MLR	MLR		
	comp=E,400nm,17.0s,MS4.9						
MCD	Coleburn Disti	74.67	347	eP	P	02 35 39.5	-0.1
KSU1	Kansas State U	74.69	49	eP	P	02 35 39.1	-0.6
EZM	Erzurum	74.74	312	eP	P	02 35 42.4	+2.4
SEMD	Semdilli	74.95	308	eP	P	02 35 42.7	+1.5
JFWS	Jewell Farm	74.99	43	PFAKE		02 35 50.0	+8.5
JFWS				LR	LR		
	comp=Z,759nm,20.0s,MS5.0						
KIS	Kishinev	75.05	324	eP	P	02 35 38.0	-3.8
KIS				eS	S	02 45 10.0	-8.0
KIS				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5						
KIS				MLR	MLR		
	comp=Z,2μm,16.0s						
KIS	Kishinev	75.05	324	eP	P	02 35 38.0	-3.8
KIS				eS	S	02 45 10.0	-8.0
KIS				LRM		03 11 45.0	
	comp=Z,2μm,16.0s						
KAC	Achnashellach	75.05	348	eP	P	02 35 41.3	-0.5
MNTX	Cornudas Mount	75.09	60	eP	P	02 35 42.0	0.0
	comp=Z,5.7nm,0.8s,mb4.5						
MNTX				LR	LR		
	comp=Z,274nm,19.0s,MS4.6						
HKR	Hakkari	75.20	309	eP	P	02 35 44.0	+1.3
KWP	Kalwaria	75.22	329	eP	P	02 35 42.9	+0.1
KWP				L		03 11 53.9	
	comp=Z,1.9nm,17.5s						
KPL	Plockton	75.26	348	eP	P	02 35 41.5	-1.5
KPL				AMb	AMB	02 35 51.5	
	comp=Z,40nm,1.9s,mb5.0						
GDL2	Guadalupe Moun	75.34	59	eP	P	02 35 45.4	+1.9
KSB	Sheil Bridge	75.35	348	eP	P	02 35 43.0	-0.6
IAS	Iasi	75.39	325	P	P	02 35 43.6	-0.2
CUKT	Cukurca	75.52	309	eP	P	02 35 45.4	+0.8
EZC	Erzincan	75.65	313	eP	P	02 35 46.0	+0.7
KAR1	Arisaig	75.69	348	eP	P	02 35 45.4	-0.1
OJC	Ojcow	75.72	331	eP	P	02 35 45.5	-0.2
STHS	Stebnicka Huta	75.91	330	eP	P	02 35 46.8	+0.1
STHS				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
STHS	Stebnicka Huta	75.91	330	eP	P	02 35 46.8	+0.1
	comp=Z,26nm,0.9s,mb5.2						
BTMT	Batman	75.95	311	eP	P	02 35 49.2	+2.2
BINT	Bingol	75.96	312	eP	P	02 35 49.0	+2.0
KOLS	Kolonicke sedl	75.96	329	eP	P	02 35 46.7	-0.3
SIRT	Sirnak	75.96	310	eP	P	02 35 48.4	+1.4
BURAR	Bucovina Array	75.97	327	⇑iP	P	02 35 47.2	+0.1
BURAR	Bucovina Array	75.97	327	⇑P	P	02 35 47.2	+0.2
EAB	Aberfoyle	76.18	347	eP	P	02 35 47.1	-1.2
UZH	Uzhgorod	76.20	329	⇑iP	P	02 35 50.0	+1.6
UZH				i		02 36 03.0	
UZH				iS	S	02 45 34.0	+3.2
UZH				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.1						
NIE	Niedzica	76.23	330	eP	P	02 35 48.9	+0.3
EDI	Edinburgh	76.25	346	eP	P	02 35 49.0	+0.3
EDI				AMb	AMB	02 35 55.5	
	comp=Z,35nm,1.9s,mb5.0						
CRVS	Cervenica-Dubn	76.27	329	eP	P	02 35 48.5	-0.3
KSP	Ksiaz	76.32	333	eP	P	02 35 48.8	-0.3
KSP				L		03 14 21.6	
	comp=Z,3.1nm,18.8s						
KSP	Ksiaz	76.32	333	eP	P	02 35 48.6	-0.5
KSP				eS	S	02 45 28.0	-4.0
KSP				LR	LR		
	comp=Z,3μm,19.2s,MS5.7						
EAU	Auchinoon	76.36	347	eP	P	02 35 48.7	-0.6
DIKM	Dikmen	76.43	317	eP	P	02 35 49.5	-0.2
XSO	Sourhope Farm	76.50	346	eP	P	02 35 50.7	+0.6
PTK	Pertek	76.51	313	eP	P	02 35 50.6	+0.5
PGBU	Glenifferbraes	76.56	347	eP	P	02 35 50.0	-0.4
PGBU				AMb	AMB	02 36 02.4	
	comp=Z,46nm,1.6s,mb5.2						
OKC	Ostrava-Krasne	76.60	332	eP	P	02 35 50.3	-0.3
OKC				AMS	AMS	03 14 00.0	
	comp=Z,1μm,16.6s						
UPC	Upice	76.70	333	eP	P	02 35 51.0	-0.2
WMOK	Wichita Mounta	76.72	53	eP	P	02 35 52.6	+1.3
	comp=Z,13nm,1.1s,mb4.8						
WMOK				LR	LR		
	comp=Z,362nm,22.0s,MS4.7						
DPC	Dobruska-Polom	76.74	333	eP	P	02 35 51.3	-0.1
DPC				AMS	AMS	03 13 50.0	
	comp=Z,2μm,17.7s						
VRI	Vrincioaia	76.81	325	⇑iP	P	02 35 55.0	+3.2
VRI	Vrincioaia	76.81	325	P	P	02 35 53.0	+1.2
VRI	Vrincioaia	76.81	325	⇑P	P	02 35 55.0	+3.2
ESK	Eskdalemuir	76.83	346	eP	P	02 35 52.4	+0.4
ESK				AMb	AMB	02 36 00.1	
	comp=Z,25nm,1.2s,mb5.0						
ESK	Eskdalemuir	76.83	346	eP	P	02 35 52.1	+0.1
ESK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
ESK				MLR	MLR		
	comp=Z,156nm,19.0s,MS4.3						
ESK	Eskdalemuir	76.83	346	eP	P	02 35 52.1	+0.1
	comp=Z,13nm,0.9s,mb4.8						
ESK				LR	LR		
	comp=Z,156nm,19.0s,MS4.3						
MORC	Moravsky Berou	76.85	332	⇑iP	P	02 35 52.3	+0.2
MORC	Moravsky Berou	76.85	332	eP	P	02 35 51.8	-0.3
MORC				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.3						
MORC	Moravsky Berou	76.85	332	eP	P	02 35 51.8	-0.2
	comp=Z,220nm,0.6s						
PLOR	Plostina	76.85	325	⇓iP	P	02 35 55.7	+3.6
CLL	Collm	76.89	336	⇑iP	P	02 35 51.5	-0.8
CLL				e*PP	pP	02 36 03.0	+1.8
CLL				eS	S	02 45 38.0	-0.3
CLL				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
CLL	Collm	76.89	336	⇑iP	P	02 35 51.5	-0.8
	comp=Z,31nm,0.8s,mb5.3						
CLL				epP	pP	02 36 03.0	+1.8
CLL				eS	S	02 45 38.0	-0.3
CLL	Collm	76.89	336	⇑iP	P	02 35 51.5	-0.8
	comp=Z,31nm,0.8s,mb5.3						
CLL				LmV		02 14 00.0	
	comp=Z,1μm,18.5s						
CLL				ipP	pP	02 35 54.7	-6.5
CLL				isP	sP	02 35 56.4	-8.0
CLL				ePcP	PcP	02 36 03.0	-0.4
CLL				epPcP		02 36 05.0	
CLL				eS	S	02 45 38.0	-0.3
CLL				eSKSac	SKSac	02 46 06.0	+3.4
SVSK	Karacayir	76.93	315	eP	P	02 35 52.7	+0.2
ECK	Cauldkaine Hil	76.95	346	eP	P	02 35 51.8	-0.9
KECS	Kecovo	76.97	330	eP	P	02 35 52.5	-0.2
KECS				e		02 36 06.5	

KECS pmax pmax
comp=Z,11nm,1.0s,mb4.7
KECS Kecovo 76.97 330 *e*P **P 02 35 52.5 -0.2**
comp=Z,11nm,1.0s,mb4.7
KECS *e* 02 36 06.5
HATD Hatta, Dubai 76.98 292 ⇑P **P 02 35 53.7 +0.9**
SNR=5.6
BRG Berggiesshubel 77.00 335 *i* P **P 02 35 52.2 -0.7**
comp=Z,3.3nm,0.8s,mb4.3
BRG *e* 02 36 05.8
comp=Z,6.2nm,1.0s
BRG
comp=N,462nm,18.4s
BRG
comp=E,509nm,17.7s
BRG
comp=Z,851nm,18.2s
BRG Berggiesshubel 77.00 335 *i* P **P 02 35 52.2 -0.7**
BRG *e* 02 36 05.8
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRG MLR MLR
comp=N,6μm,18.4s,MS6.0
BRG MLR MLR
comp=E,462nm,17.7s,MS6.0
BRG MLR MLR
comp=Z,509nm,18.2s,MS4.9
BRG Berggiesshubel 77.00 335 *i* P **P 02 35 52.2 -0.7**
comp=Z,3.3nm,0.8s,mb4.3
BRG *e* 02 36 05.8
BRG LR LR
comp=Z,850nm,18.2s,MS5.1
HOQ Hoqain 77.09 291 ⇓P **P 02 35 56.0 +2.5**
SNR=14
XAL Allendale 77.10 346 *e*P **P 02 35 54.0 +0.5**
PVCC Panska Ves 77.12 334 *e*P **P 02 35 53.5 -0.1**
PVCC AMS AMS 03 13 00.0
comp=Z,1μm,17.0s
WIT Witteveen 77.20 340 *e*P **P 02 35 55.2 +1.2**
TIRR Tirgusor 77.27 323 ⇑*i*P **P 02 35 53.5 -0.9**
TIRR Tirgusor 77.27 323 ⇑P **P 02 35 53.5 -0.9**
MLR Muntele Rosu 77.43 325 ⇓*i*P **P 02 35 55.5 +0.2**
MLR Muntele Rosu 77.43 325 ⇓P **P 02 35 55.5 +0.2**
ISR Istrita 77.50 324 ⇑*i*P **P 02 35 56.7 +1.0**
ISR Istrita 77.50 324 ⇑P **P 02 35 56.6 +1.0**
CKE Keswick 77.52 346 *e*P **P 02 35 55.6 -0.2**
VYHS Vyhne 77.53 331 *i* P **P 02 35 55.9 0.0**
VYHS *e* pP 02 36 05.9 +1.2
VYHS pmax pmax
comp=Z,11nm,1.2s,mb4.7
VYHS Vyhne 77.53 331 *i* P **P 02 35 55.9 0.0**
comp=Z,11nm,1.2s,mb4.7
VYHS *e* pP 02 36 05.9 +1.2
VRAC Vranov 77.56 332 ⇑*i*P **P 02 35 56.5 +0.4**
VRAC Vranov 77.56 332 P **P 02 35 56.3 +0.2**
VRAC Vranov 77.56 332 ⇑P **P 02 35 56.5 +0.4**
DRGR 77.60 328 ⇓*i*P **P 02 35 56.4 +0.1**
DRGR 77.60 328 ⇓P **P 02 35 56.4 +0.1**
PRU Pruhonice 77.61 334 *e*P **P 02 35 55.8 -0.5**
PRU *e*PCP PcP 02 36 06.3 -0.1
PRU AMS AMS 03 13 40.0
comp=Z,2μm,17.4s
PSZ Piszkesteto 77.66 330 *e*P **P 02 35 57.2 +0.6**
SNX Sinaia 77.71 325 ⇓*i*P **P 02 35 58.1 +1.2**
SNX Sinaia 77.71 325 ⇓P **P 02 35 58.1 +1.2**
VOIR 77.83 325 ⇑*i*P **P 02 35 59.4 +1.8**
VOIR 77.83 325 ⇑P **P 02 35 59.4 +1.9**
MOX Moxa 77.88 336 *e*P **P 02 35 57.5 -0.3**
comp=Z,24nm,1.2s,mb5.0
MOX *e*S S 02 45 58.0 +9.0
MOX LR LR
comp=Z,700nm,21.0s,MS5.0
URFA Urfa 77.90 312 *e*P **P 02 35 53.8 -4.1**
TREC Trest 77.92 333 *e*P **P 02 35 57.6 -0.5**
TREC AMS AMS 03 15 10.0
comp=Z,2μm,19.7s
WTSB Winterswijk 77.94 339 *e*P **P 02 35 57.6 -0.6**
comp=Z,36nm,0.8s,mb5.3
SMOL Smolenice 77.98 332 *e*P **P 02 35 58.8 +0.4**
SMOL *e*PCP PcP 02 36 10.0 +1.9
PSN Preselentsi 77.99 322 *e*P **P 02 36 01.3 +2.8**
CCM Cathedral Cave 78.24 47 *e*P **P 02 35 57.4 -2.4**
CCM pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CCM MLR MLR
comp=Z,605nm,21.0s,MS4.9
CCM Cathedral Cave 78.24 47 *e*P **P 02 35 57.4 -2.4**
comp=Z,10nm,1.1s,mb4.7
CCM LR LR
comp=Z,605nm,21.0s,MS4.9
LHO Holmfirth 78.30 345 *e*P **P 02 35 59.4 -0.7**
BNN Bunyan 78.31 315 *e*P **P 02 36 01.3 +1.0**
BUD Budapest 78.33 330 *e*P **P 02 36 01.7 +1.4**
ZST Bratislava 78.36 332 *e*P **P 02 36 01.0 +0.5**
comp=Z,13nm,0.8s,mb4.9
ZST LR LR
comp=Z,800nm,20.5s,MS5.0
STKA Stephens Creek 78.44 190 P **P 02 35 59.9 -1.0**
comp=Z,2.4nm,1.0s,mb4.1,baz=14,slow=12,SNR=2.8
STKA LR LR 03 07 50.0
comp=Z,294nm,18.6s,MS4.6,baz=280,slow=34
STKA Stephens Creek 78.44 190 *e*P **P 02 36 00.7 -0.3**
AAM Ann Arbor 78.48 39 PFAKE
AAM LR LR
comp=Z,639nm,19.0s,MS5.0
KBI1 Birley Grange 78.52 345 *e*P **P 02 36 00.0 -1.3**
AEU East Anglia Un 78.58 343 *e*P **P 02 36 00.4 -1.3**
KHC Kasperske Hory 78.66 334 *e*P **P 02 36 02.1 0.0**
KHC *e*PCP PcP 02 36 12.4 +1.4
KHC AMS AMS 03 14 20.0
comp=Z,2μm,16.0s
KHC Kasperske Hory 78.66 334 ⇑*e*P **P 02 36 01.6 -0.5**
BR131 Keskin Array S 78.70 317 *e*P **P 02 36 03.8 +1.4**
comp=Z,22nm,1.0s,mb5.0
BR131 LR LR
comp=Z,1μm,19.0s,MS5.2
BRTR Keskin Array B 78.70 317 P **P 02 36 02.4 0.0**
comp=Z,8.5nm,0.8s,mb4.7,baz=66,slow=4.2,SNR=10
BRTR LR LR 03 16 53.9
comp=Z,1μm,18.5s,MS5.3,baz=211,slow=40
PRD Provadia 78.71 323 *e*P **P 02 36 02.6 +0.2**
GZR Gura Zlata 78.75 327 ⇑*i*P **P 02 36 02.5 -0.1**
GZR Gura Zlata 78.75 327 ⇑P **P 02 36 02.5 -0.1**
KWE Weaver Farm 78.80 345 *e*P **P 02 36 02.8 -0.2**
UMR Umm Al-Rimmam 78.82 301 *e*P **P 02 36 03.6 +0.6**
UMR AMb AMB 02 36 05.7
comp=Z,110nm,0.7s,mb5.9
KMRS Kahramanmaras 78.83 313 *e*P **P 02 36 03.8 +0.7**
GRA1 Grafenberg Arr 78.85 336 *e*P **P 02 36 03.0 -0.2**
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 78.85 336 *e*P **P 02 36 03.0 -0.2**
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 78.85 336 *e*P **P 02 36 03.0 -0.2**
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 78.85 336 *e*P **P 02 36 03.0 -0.2**
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
MIB Mutribah 78.86 301 *e*P **P 02 36 04.1 +0.8**
MIB AMb AMB 02 36 06.0
comp=Z,166nm,0.8s,mb6.0
GEC2 GERESS Array S 78.87 334 *e*P **P 02 36 02.5 -0.8**
GERES GERESS Array B 78.87 334 P **P 02 36 01.1 -2.2**
comp=Z,4.3nm,0.7s,mb4.5,baz=251,slow=8.3,SNR=53
GERES LR LR 03 14 51.5
comp=Z,2μm,18.2s,MS5.4,baz=23,slow=39
GERES GERESS Array B 78.87 334 P **P 02 36 01.1 -2.2**
GERES pmax pmax
comp=Z,40nm,0.7s
GERES MLR MLR
comp=Z,2μm,18.2s
ANTO Ankara 78.99 317 ⇑*i*P **P 02 36 05.1 +1.1**
ANTO Ankara 78.99 317 *e*P **P 02 36 03.7 -0.3**
ANTO pmax pmax
comp=Z,15nm,0.8s,mb5.0
ANTO MLR MLR
comp=Z,957nm,19.0s,MS5.2
ANTO Ankara 78.99 317 *e*P **P 02 36 03.7 -0.3**
comp=Z,15nm,0.8s,mb5.0
ANTO LR LR
comp=Z,957nm,19.0s,MS5.2
SOP Sopron 78.99 332 ⇑*e*P **P 02 36 05.2 +1.2**
BZS Buzias 79.00 328 ⇓*i*P **P 02 36 04.1 +0.1**
BZS Buzias 79.00 328 P **P 02 36 03.8 -0.2**
BZS Buzias 79.00 328 ⇓P **P 02 36 04.1 +0.1**

CONA Conrad Observa 79.00 332 *i* P **P 02 36 04.4 +0.4**
comp=Z,12nm,0.9s,mb4.8,SNR=10
KBD Kabd 79.11 301 *e*P **P 02 36 05.5 +0.9**
KBD AMb AMB 02 36 07.6
comp=Z,249nm,0.9s,mb6.2
SBD1 Bryn Du 79.16 346 *e*P **P 02 36 04.2 -0.7**
HGN Heimansgroeve 79.27 339 *e*P **P 02 36 04.8 -0.6**
comp=Z,35nm,1.2s,mb5.2
HGN Heimansgroeve 79.27 339 *e*S S 02 46 16.5 +13
JCT Junction City 79.27 57 *e*P **P 02 36 05.1 -0.4**
comp=Z,21nm,1.0s,mb5.0
JCT LR LR
comp=Z,404nm,19.0s,MS4.8
SZH Strazhica 79.27 324 *e*P **P 02 36 05.9 +0.4**
RST Umm Al-Ruwaisa 79.28 301 *e*P **P 02 36 05.9 +0.3**
RST AMb AMB 02 36 08.1
comp=Z,129nm,0.8s,mb5.9
BEBN Eben Emael 79.30 340 P **P 02 36 07.1 +1.5**
NAY Al-Naaiem 79.32 301 *e*P **P 02 36 06.2 +0.4**
NAY AMb AMB 02 36 08.5
comp=Z,44nm,0.8s,mb5.5
RDF Al-Radifah 79.37 301 *e*P **P 02 36 07.0 +0.9**
RDF AMb AMB 02 36 09.1
comp=Z,109nm,0.8s,mb5.8
KOZT Kozan 79.39 314 *e*P **P 02 36 07.7 +1.6**
MEM Membach 79.39 339 P **P 02 36 06.0 -0.2**
HLM1 Long Mynd 79.46 345 *e*P **P 02 36 07.1 +0.5**
PVL Pavlikeni 79.56 324 *e*P **P 02 36 06.9 -0.2**
MOA Molln 79.58 333 *i* P **P 02 36 07.3 +0.1**
comp=Z,16nm,0.8s,mb5.0,SNR=24
TOD Tromm 79.59 337 *e*P **P 02 36 08.5 +1.2**
RAO Raoul Island 79.63 154 PFAKE
RAO LR LR 02 36 20.0 +13
comp=Z,1μm,20.0s,MS5.3
JMB Yambol 79.66 323 *e*P **P 02 36 07.5 -0.2**
JMB Yambol 79.66 323 *e*P **P 02 36 07.6 0.0**
ARSA Arzberg 79.71 332 *i* P **P 02 36 07.9 0.0**
comp=Z,20nm,1.1s,mb5.0,SNR=13
MIAR Mount Ida 79.71 50 *e*P **P 02 36 08.8 +0.9**
comp=Z,12nm,0.9s,mb4.8
MIAR LR LR
comp=Z,813nm,22.0s,MS5.0
BCLA Clavier 79.74 340 P **P 02 36 06.8 -1.2**
SKP1 Kophill 79.84 344 *e*P **P 02 36 08.0 -0.6**
SNF Seneffe 79.90 340 P **P 02 36 08.5 -0.4**
KARA Karaisali 79.94 314 *e*P **P 02 36 06.3 -2.9**
HTR Trewern Hill 79.95 345 *e*P **P 02 36 09.0 -0.2**
MCH1 Michaelchurch 79.98 345 *e*P **P 02 36 08.6 -0.8**
MCH1 *e*P 02 36 08.6
MCH1 AMb AMB 02 36 20.9
comp=Z,40nm,1.7s,mb5.1
PARMO Parma 80.06 47 *e*P **P 02 36 08.8 -1.0**
GIVF Givet 80.15 340 *e*P **P 02 36 09.5 -0.8**
comp=Z,40nm,1.1s,mb5.0
GIVF Givet 80.15 340 *e*P **P 02 36 09.5 -0.8**
GIVF pmax pmax
comp=Z,20nm,1.1s,mb5.0
GIVF Givet 80.15 340 *e*P **P 02 36 09.5 -0.8**
comp=Z,20nm,1.1s,mb5.0
KOGS Kog 80.17 331 *e*P **P 02 36 10.5 +0.1**
DOU Dourbes 80.21 340 P **P 02 36 12.0 +1.5**
WLF Walferdange 80.23 339 P **P 02 36 10.6 -0.1**
SWN1 Swindon 80.23 344 *e*P **P 02 36 10.7 0.0**
STU Stuttgart 80.25 337 *e*P **P 02 36 10.9 +0.1**
STU pmax pmax
comp=Z,23nm,0.8s,mb5.2
STU Stuttgart 80.25 337 *e*P **P 02 36 10.9 +0.1**
comp=Z,23nm,0.8s,mb5.2
HGH Gray Hill 80.29 345 *e*P **P 02 36 10.2 -0.9**
BAIF Baives 80.33 340 *e*P **P 02 36 10.5 -0.8**
PERS Pernice 80.38 332 *e*P **P 02 36 11.0 -0.5**
LANF Langenberg 80.43 338 *e*P **P 02 36 13.3 +1.5**
DIM Dimitrovgrad 80.44 323 *e*P **P 02 36 12.2 +0.4**
ACSO Alum Creek Sta 80.45 40 PFAKE
ACSO LR LR 02 36 20.0 +8.1
comp=Z,731nm,19.0s,MS5.0
WCI Wyandotte Cave 80.53 43 *e*P **P 02 36 11.3 -1.0**
WCI MLR MLR
comp=Z,570nm,20.0s,MS4.9
KBA Koelnbreinsper 80.56 333 *i* P **P 02 36 13.0 +0.6**
comp=Z,70nm,0.7s,mb5.7,SNR=48
KBA Koelnbreinsper 80.56 333 *i* P **P 02 36 13.0 +0.6**
KBA pmax pmax
comp=Z,70nm,0.7s,mb5.7
PGB Panagyurishte 80.59 324 *e*P **P 02 36 13.5 +0.9**
OBKA Obir 80.68 332 ⇑*i*P **P 02 36 12.7 -0.4**
comp=Z,12nm,0.8s,mb4.8,SNR=12
PLD Plovdiv 80.74 324 *e*P **P 02 36 14.9 +1.5**
KDZ Kurdzhali 80.82 323 *e*P **P 02 36 14.3 +0.4**
TAOE Nuku Hiva Isla 80.82 113 *e*LR LR 03 00 44.4
comp=Z,3μm,29.6s,baz=329
WATA Walderalm 80.86 335 ⇓*i*P **P 02 36 14.3 +0.2**
comp=Z,26nm,1.0s,mb5.1,SNR=33
WATA Walderalm 80.86 335 ⇓*i*P **P 02 36 14.3 +0.2**
WATA pmax pmax
comp=Z,26nm,1.0s,mb5.1
BFO Black Forest 80.89 337 P **P 02 36 13.7 -0.5**
comp=Z,150nm,0.8s,mb6.0,SNR=8.1
DIVS Divcibare 80.89 328 *e*P **P 02 36 13.5 -0.8**
WTTA Wattenberg 80.91 334 *i* P **P 02 36 14.7 +0.3**
comp=Z,44nm,0.6s,mb5.6,SNR=48
WTTA Wattenberg 80.91 334 *i* P **P 02 36 14.7 +0.4**
WTTA pmax pmax
comp=Z,44nm,0.6s,mb5.6
NCB Newcomb 80.92 32 PFAKE
NCB LR LR 02 36 30.0 +16
comp=Z,639nm,19.0s,MS5.0
VTS Vitosha 80.94 325 *e*P **P 02 36 16.6 +2.1**
VTS Vitosha 80.94 325 *i* P **P 02 36 14.4 -0.1**
VTS Vitosha 80.94 325 ⇓*i*P **P 02 36 15.0 +0.5**
CRES Cresnjev 80.98 331 *e*P **P 02 36 14.1 -0.6**
MOTA Moosalm 81.00 335 ⇓*i*P **P 02 36 14.9 +0.1**
comp=Z,24nm,0.9s,mb5.1,SNR=42
MOTA Moosalm 81.00 335 ⇓*i*P **P 02 36 14.9 +0.1**
MOTA pmax pmax
comp=Z,24nm,0.9s,mb5.1
HEX Exmoor 81.02 345 *e*P **P 02 36 14.6 -0.3**
WLS Welschbruch 81.07 338 *e*P **P 02 36 16.7 +1.5**
SQTA Sankt Quirin 81.08 335 ⇑*i*P **P 02 36 15.4 +0.1**
comp=Z,20nm,0.9s,mb5.0,SNR=28
SQTA Sankt Quirin 81.08 335 ⇑*i*P **P 02 36 15.4 +0.2**
SQTA pmax pmax
comp=Z,20nm,0.9s,mb5.0
RZN Rozhen 81.08 323 *e*P **P 02 36 16.3 +1.0**
CDF Champ du Feu 81.09 338 *e*P **P 02 36 15.1 -0.2**
comp=Z,53nm,0.8s,mb5.2
CDF Champ du Feu 81.09 338 *e*P **P 02 36 15.1 -0.2**
CDF pmax pmax
comp=Z,26nm,0.8s,mb5.2
CDF Champ du Feu 81.09 338 *e*P **P 02 36 15.1 -0.2**
comp=Z,26nm,0.8s,mb5.2
PTCC Patocco-Chiusa 81.15 333 P **P 02 36 14.4 -1.2**
comp=Z,10nm,0.5s,mb5.0
FVI Forni Avoltri 81.16 333 P **P 02 36 16.3 +0.6**
FVI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FVI Forni Avoltri 81.16 333 P **P 02 36 16.3 +0.6**
comp=Z,6.2nm,0.5s,mb4.8
ALN Alexandroupoli 81.18 322 *e*P **P 02 36 15.6 -0.2**
NATX Nacogdoches 81.23 53 *e*P **P 02 36 18.3 +2.2**
comp=Z,54nm,1.0s,mb5.4
NATX LR LR
comp=Z,417nm,21.0s,MS4.8
ECH Echery 81.30 338 *e*P **P 02 36 17.6 +1.2**
GMNA Gemona 81.30 333 P **P 02 36 15.9 -0.5**
comp=Z,64nm,0.7s,mb5.7
BOJS Bojanci 81.34 331 *e*P **P 02 36 15.8 -0.8**
FELD Feldberg im Sc 81.39 337 *e*P **P 02 36 18.0 +1.1**
DAVA Damuels 81.40 336 ⇑*i*P **P 02 36 17.7 +0.7**
comp=Z,25nm,0.8s,mb5.2,SNR=6.8
WVT Waverly 81.44 46 *e*P **P 02 36 16.4 -0.8**
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WVT MLR MLR
comp=Z,506nm,19.0s,MS4.9
WVT Waverly 81.44 46 *e*P **P 02 36 16.4 -0.8**
comp=Z,5.5nm,0.8s,mb4.5
WVT LR LR
comp=Z,506nm,19.0s,MS4.9
LBNH Lisbon 81.53 31 PFAKE
LBNH LR LR 02 36 30.0 +12
comp=Z,527nm,19.0s,MS4.9
MEZF Maizieres J'vi 81.58 339 *e*P **P 02 36 17.8 -0.1**
comp=Z,46nm,0.7s,mb5.2
MEZF Maizieres J'vi 81.58 339 *e*P **P 02 36 17.8 -0.1**

comp=Z,46nm,0.7s,mb5.5
THEF They Montfort 81.60 338 *e*P **P 02 36 19.3 +1.3**
MOF Molkenrain 81.65 338 *e*P **P 02 36 19.1 +0.8**
HAU Haudompre 81.71 338 *e*P **P 02 36 18.1 -0.5**
comp=Z,37nm,0.8s,mb5.0
HAU *e*MLR MLR
comp=Z,1μm,18.0s
HAU Haudompre 81.71 338 *e*P **P 02 36 18.1 -0.5**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,1μm,18.0s,MS5.4
HAU Haudompre 81.71 338 *e*P **P 02 36 18.1 -0.5**
comp=Z,18nm,0.8s,mb5.1
HAU LR LR
comp=Z,1μm,18.0s,MS5.4
APPI Appiano 81.74 334 P **P 02 36 19.3 +0.6**
HINF Hinteralfeld 81.75 338 *e*P **P 02 36 18.0 -0.8**
comp=Z,28nm,0.9s,mb4.9
HINF Hinteralfeld 81.75 338 *e*P **P 02 36 18.0 -0.8**
HINF pmax pmax
comp=Z,14nm,0.9s,mb4.9
HINF Hinteralfeld 81.75 338 *e*P **P 02 36 18.0 -0.8**
comp=Z,14nm,0.9s,mb4.9
BINY Binghamton 81.75 35 PFAKE 02 36 30.0 +11
BINY LR LR
comp=Z,702nm,19.0s,MS5.0
OXF Oxford 81.92 48 *e*pP pP 02 36 33.0 +4.4
OXF LR LR
comp=Z,482nm,21.0s,MS4.8
PPT Papeete 81.93 126 *e*S S 02 46 26.0 -5.7
comp=Z,528nm,24.8s
PPT *e*LR LR 03 01 16.0
comp=Z,2μm,24.2s,baz=327
PPT Papeete 81.93 126 LR LR 03 08 00.3
comp=Z,671nm,18.4s,MS5.0,baz=304,slow=32
HKT Hockley 81.94 55 PFAKE 02 36 30.0 +10
HKT LR LR
comp=Z,407nm,19.0s,MS4.8
BRMO Bormio 82.00 335 P **P 02 36 21.1 +1.0**
comp=Z,21nm,0.8s,mb5.1
CTI Castel Tesino 82.00 334 P **P 02 36 19.5 -0.6**
CTI pmax pmax
comp=Z,34nm,1.1s,mb5.2
CTI Castel Tesino 82.00 334 P **P 02 36 19.5 -0.6**
comp=Z,34nm,1.1s,mb5.2
SRS Serrai 82.02 324 *e*P **P 02 36 19.8 -0.4**
STIP Stip 82.10 325 *e*P **P 02 36 19.8 -0.9**
STIP Stip 82.10 325 *i* P **P 02 36 19.5 -1.2**
SKO Skopje 82.16 326 *e*P **P 02 36 21.9 +0.9**
SKO Skopje 82.16 326 *i* P **P 02 36 21.8 +0.9**
LOMF Lomont 82.19 338 *e*P **P 02 36 17.4 -3.7**
PLAL Pickwick Lake 82.22 46 *e*P **P 02 36 22.1 +0.8**
comp=Z,7.3nm,0.9s,mb4.6
PLAL LR LR
comp=Z,500nm,21.0s,MS4.9
VAY Valandovo 82.26 325 *e*P **P 02 36 19.9 -1.6**
VAY Valandovo 82.26 325 *i* P **P 02 36 19.1 -2.4**
MCWV Mont Chateau 82.30 38 PFAKE 02 36 30.0 +8.3
MCWV LR LR
comp=Z,757nm,21.0s,MS5.0
TUE Stuetta 82.30 336 P **P 02 36 23.7 +2.0**
SSPA Standing Stone 82.31 37 PFAKE 02 36 30.0 +8.3
SSPA LR LR
comp=Z,523nm,22.0s,MS4.9
MABI Malga Bissina 82.33 335 P **P 02 36 22.8 +0.9**
SOH Sokhos 82.37 324 *e*P **P 02 36 22.0 -0.1**
LOS Limnos 82.39 322 *e*P **P 02 36 28.3 +6.1**
JRS Jersey 82.50 344 *e*P **P 02 36 22.4 -0.3**
OUR Ouranopolis 82.52 323 *e*P **P 02 36 22.1 -0.8**
FLN La Foliniere 82.59 343 *e*P **P 02 36 22.6 -0.6**
comp=Z,50nm,0.9s,mb5.2
FLN *e*MLR MLR
comp=Z,1μm,20.2s
FLN La Foliniere 82.59 343 *e*P **P 02 36 22.6 -0.6**
FLN pmax pmax
comp=Z,25nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,1μm,20.3s,MS5.2
FLN La Foliniere 82.59 343 *e*P **P 02 36 22.6 -0.6**
comp=Z,25nm,0.9s,mb5.2
FLN LR LR
comp=Z,1μm,20.3s,MS5.2
GRG Griva 82.64 325 *e*P **P 02 36 23.6 +0.1**
HORT Hortiatis 82.66 324 *e*P **P 02 36 23.3 -0.3**
LDF La Druitiere 82.68 342 *e*P **P 02 36 22.8 -0.9**
THE Thessaloniki 82.69 324 *e*P **P 02 36 23.4 -0.3**
PLG Polygyros 82.71 324 *e*P **P 02 36 23.1 -0.7**
BIA Bitola 83.02 325 *e*P **P 02 36 23.2 -2.2**
BIA Bitola 83.02 325 *i* P **P 02 36 23.3 -2.1**
LOR Lormes 83.02 339 *e*P **P 02 36 25.1 -0.3**
comp=Z,54nm,0.8s,mb5.3
LOR *e*MLR MLR
comp=Z,1μm,22.2s
LOR Lormes 83.02 339 *e*P **P 02 36 25.1 -0.3**
LOR pmax pmax
comp=Z,27nm,0.8s,mb5.3
LOR MLR MLR
comp=Z,1μm,22.3s,MS5.2
LOR Lormes 83.02 339 *e*P **P 02 36 25.1 -0.3**
comp=Z,27nm,0.8s,mb5.3
LOR LR LR
comp=Z,1μm,22.3s,MS5.2
GRR Gorron 83.03 343 *e*P **P 02 36 25.0 -0.5**
comp=Z,34nm,0.7s,mb5.2
GRR Gorron 83.03 343 *e*P **P 02 36 25.0 -0.5**
GRR pmax pmax
comp=Z,17nm,0.7s,mb5.2
GRR Gorron 83.03 343 *e*P **P 02 36 25.0 -0.5**
comp=Z,17nm,0.7s,mb5.2
OHR Ohrid 83.14 326 *e*P **P 02 36 26.5 +0.4**
OHR Ohrid 83.14 326 *i* P **P 02 36 23.0 -3.0**
HRV Harvard--Oak R 83.17 32 PFAKE 02 36 40.0 +14
HRV LR LR
comp=Z,270nm,20.0s,MS4.6
OG01 Vacheresse 83.17 337 *e*P **P 02 36 26.1 -0.1**
FNA Florina 83.20 325 *e*P **P 02 36 25.8 -0.6**
TIR Tirane 83.30 326 *e*P **P 02 36 27.1 +0.2**
HYF Humbligny 83.31 340 *e*P **P 02 36 27.0 +0.1**
LIT Litokhoron 83.33 324 *e*P **P 02 36 26.1 -0.9**
WES Weston 83.36 31 PFAKE 02 36 40.0 +13
WES LR LR
comp=Z,641nm,19.0s,MS5.0
AOS Alonnisos 83.54 323 *e*P **P 02 36 27.3 -0.8**
ROSF Rostrenen 83.55 344 *e*P **P 02 36 27.7 -0.5**
comp=Z,49nm,0.9s,mb5.3
ROSF Rostrenen 83.55 344 *e*P **P 02 36 27.7 -0.5**
ROSF pmax pmax
comp=Z,25nm,0.9s,mb5.3
ROSF Rostrenen 83.55 344 *e*P **P 02 36 27.7 -0.5**
comp=Z,25nm,0.9s,mb5.3
AVF Avril sur Loir 83.59 340 *e*P **P 02 36 28.2 -0.2**
comp=Z,39nm,0.9s,mb5.2
AVF Avril sur Loir 83.59 340 *e*P **P 02 36 28.2 -0.2**
AVF pmax pmax
comp=Z,19nm,0.9s,mb5.2
AVF Avril sur Loir 83.59 340 *e*P **P 02 36 28.2 -0.2**
comp=Z,19nm,0.9s,mb5.2
SMF Signal de Mont 83.61 339 *e*P **P 02 36 28.3 -0.2**
comp=Z,85nm,1.0s,mb5.5
SMF Signal de Mont 83.61 339 *e*P **P 02 36 28.3 -0.2**
SMF pmax pmax
comp=Z,42nm,1.0s,mb5.5
SMF Signal de Mont 83.61 339 *e*P **P 02 36 28.3 -0.2**
comp=Z,42nm,1.0s,mb5.5
RSM Repubblica di 83.65 332 P **P 02 36 29.6 +0.9**
RSM pmax pmax
comp=Z,63nm,1.0s,mb5.7
RSM Repubblica di 83.65 332 P **P 02 36 29.6 +0.9**
comp=Z,63nm,1.0s,mb5.7
XOR Xorichti 83.66 323 *e*P **P 02 36 28.3 -0.4**
ZCCA Zocca 83.73 334 P **P 02 36 30.9 +1.8**
comp=Z,48nm,1.2s,mb5.5
FSSB Fossombrone 83.76 332 P **P 02 36 29.5 +0.3**
comp=Z,26nm,0.6s,mb5.5
RSL Roselend 83.78 337 *e*P **P 02 36 29.2 -0.1**
GSCL Gusciola 83.86 334 P **P 02 36 30.7 +1.0**
comp=Z,24nm,0.8s,mb5.4
SEI Scarperia 83.89 333 P **P 02 36 31.2 +1.3**
comp=Z,139nm,0.7s,mb6.2
CING Cingoli 83.90 332 P **P 02 36 30.4 +0.4**
LPL La Plagne 83.90 337 *e*P **P 02 36 30.6 +0.6**
comp=Z,16nm,0.6s,mb5.0
LPL La Plagne 83.90 337 *e*P **P 02 36 30.6 +0.6**
LPL pmax pmax

comp=Z,8.0nm,0.6s,mb5.0
LPL La Plagne 83.90 337 *e*P **P 02 36 30.6 +0.6**
comp=Z,8.1nm,0.6s,mb5.0
ELN Prospectdale 83.91 40 *e*P **P 02 36 29.1 -0.9**
VMG Vicchio 83.91 333 P **P 02 36 31.5 +1.5**
comp=Z,69nm,0.8s,mb5.8
LPG La Plagne 83.92 337 *e*P **P 02 36 30.7 +0.7**
comp=Z,37nm,0.8s,mb5.3
LPG La Plagne 83.92 337 *e*P **P 02 36 30.7 +0.7**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.3
LPG La Plagne 83.92 337 *e*P **P 02 36 30.7 +0.7**
comp=Z,19nm,0.8s,mb5.3
BGF Bois d'Agland 83.93 340 *e*P **P 02 36 29.9 -0.2**
comp=Z,12nm,0.5s,mb4.9
BGF Bois d'Agland 83.93 340 *e*P **P 02 36 29.9 -0.2**
BGF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
BGF Bois d'Agland 83.93 340 *e*P **P 02 36 29.9 -0.2**
comp=Z,5.8nm,0.5s,mb5.0
CRE Caprese Michel 84.09 333 P **P 02 36 31.3 +0.4**
CRE pmax pmax
comp=Z,14nm,0.6s,mb5.3
CRE Caprese Michel 84.09 333 P **P 02 36 31.3 +0.4**
comp=Z,14nm,0.6s,mb5.3
SNTG Esanatoglia 84.09 332 P **P 02 36 31.1 +0.1**
comp=Z,17nm,0.8s,mb5.2
MEV Metsovon 84.11 325 *e*P **P 02 36 33.6 +2.5**
BDI Bagni Di Lucca 84.11 334 P **P 02 36 31.8 +0.8**
MURB Monte Urbino 84.22 332 P **P 02 36 32.5 +0.9**
PLDF La Plantade 84.29 339 *e*P **P 02 36 32.0 0.0**
AGG Agios Georgios 84.31 324 *e*P **P 02 36 31.2 -0.8**
TCF Toulx Ste Croi 84.33 340 *e*P **P 02 36 32.2 0.0**
comp=Z,34nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.33 340 *e*P **P 02 36 32.2 0.0**
TCF pmax pmax
comp=Z,17nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.33 340 *e*P **P 02 36 32.2 0.0**
comp=Z,17nm,0.9s,mb5.2
AGO Saint Agoulin 84.34 339 *e*P **P 02 36 32.7 +0.5**
BNI Bardonecchia 84.35 337 P **P 02 36 32.4 +0.2**
BNI pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
CSNT Castellina Chi 84.43 333 P **P 02 36 33.5 +0.8**
comp=Z,13nm,0.6s,mb5.2
FGMS Monte Sant'Ang 84.44 329 P **P 02 36 32.0 -0.7**
comp=Z,13nm,0.6s,mb5.2
TERO Teramo 84.44 331 P **P 02 36 32.6 -0.1**
CBN Corbin 84.56 38 PFAKE 02 36 40.0 +6.7
CBN LR LR
comp=Z,484nm,20.0s,MS4.9
MFF Saint Martin d 84.57 342 *e*P **P 02 36 33.1 -0.3**
comp=Z,56nm,1.0s,mb5.4
MFF Saint Martin d 84.57 342 *e*P **P 02 36 33.1 -0.3**
MFF pmax pmax
comp=Z,28nm,1.0s,mb5.3
MFF Saint Martin d 84.57 342 *e*P **P 02 36 33.1 -0.3**
comp=Z,28nm,1.0s,mb5.3
RGNG Rignano Grg 84.60 329 P **P 02 36 32.8 -0.7**
MBDF Montbardon 84.62 337 *e*P **P 02 36 33.5 -0.1**
comp=Z,18nm,0.5s,mb5.1
MBDF Montbardon 84.62 337 *e*P **P 02 36 33.5 -0.1**
MBDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
MBDF Montbardon 84.62 337 *e*P **P 02 36 33.5 -0.1**
comp=Z,8.9nm,0.5s,mb5.2
PYM Petit Puy Mans 84.65 339 *e*P **P 02 36 32.7 -1.1**
IGT Igoumenitsa 84.68 325 *e*P **P 02 36 33.5 -0.5**
ORIF Óris-en-Rattie 84.69 337 *e*P **P 02 36 34.5 +0.5**
comp=Z,40nm,0.7s,mb5.4
ORIF *e*MLR MLR
comp=Z,983nm,23.0s
ORIF Oris-en-Rattie 84.69 337 *e*P **P 02 36 34.5 +0.5**
ORIF pmax pmax
comp=Z,20nm,0.7s,mb5.4
ORIF Oris-en-Rattie 84.69 337 *e*P **P 02 36 34.5 +0.5**
comp=Z,20nm,0.7s,mb5.4
AQU L'Aquila 84.75 331⇑*i*P **P 02 36 35.4 +1.1**
GRFL Gerfalco 84.82 333 P **P 02 36 36.0 +1.4**
comp=Z,7.1nm,0.6s,mb5.0
FIAM Fiamignano 84.92 331 P **P 02 36 34.9 -0.2**
FG5 Orsara di Pugl 85.06 329 P **P 02 36 36.2 +0.4**
FG5 pmax pmax
comp=Z,20nm,0.7s,mb5.4
FG5 Orsara di Pugl 85.06 329 P **P 02 36 36.2 +0.4**
comp=Z,20nm,0.7s,mb5.3
VIVF Saint-Julien-I 85.06 338 *e*P **P 02 36 36.2 +0.4**
comp=Z,31nm,0.8s,mb5.2
VIVF Saint-Julien-I 85.06 338 *e*P **P 02 36 36.2 +0.4**
VIVF pmax pmax
comp=Z,15nm,0.8s,mb5.2
VIVF Saint-Julien-I 85.06 338 *e*P **P 02 36 36.2 +0.4**
comp=Z,15nm,0.8s,mb5.2
FG4 Candela 85.10 329 P **P 02 36 36.0 0.0**
FG4 pmax pmax
comp=Z,44nm,0.7s,mb5.7
FG4 Candela 85.10 329 P **P 02 36 36.0 0.0**
comp=Z,44nm,0.7s,mb5.7
TOUF Mont Tournerai 85.14 336 *e*P **P 02 36 37.7 +1.5**
LUCF Luceram 85.23 336 *e*P **P 02 36 37.9 +1.2**
SGG Gregorio Mates 85.27 330 P **P 02 36 38.4 +1.5**
MVIF Mont Vial 85.28 336 *e*P **P 02 36 38.6 +1.7**
REVF Revere 85.36 336 *e*P **P 02 36 38.4 +1.1**
RJF Les Rejaudoux 85.42 340 *e*P **P 02 36 37.4 -0.3**
comp=Z,47nm,1.1s,mb5.2
RJF *e*MLR MLR
comp=Z,1μm,22.2s
RJF Les Rejaudoux 85.42 340 *e*P **P 02 36 37.4 -0.3**
RJF pmax pmax
comp=Z,24nm,1.1s,mb5.2
RJF MLR MLR
comp=Z,1μm,22.3s,MS5.2
RJF Les Rejaudoux 85.42 340 *e*P **P 02 36 37.4 -0.3**
comp=Z,24nm,1.1s,mb5.2
RJF LR LR
comp=Z,1μm,22.3s,MS5.2
TOLF Tolfa 85.47 332 P **P 02 36 37.0 -0.9**
SMRF Simiane la Rot 85.64 337 *e*P **P 02 36 39.4 +0.7**
comp=Z,46nm,1.2s,mb5.3
SMRF Simiane la Rot 85.64 337 *e*P **P 02 36 39.4 +0.7**
comp=Z,46nm,1.2s,mb5.6
CAF Calviac 85.65 340 *e*P **P 02 36 39.0 +0.2**
comp=Z,23nm,0.8s,mb5.2
CAF Calviac 85.65 340 *e*P **P 02 36 39.0 +0.2**
CAF pmax pmax
comp=Z,12nm,0.8s,mb5.2
CAF Calviac 85.65 340 *e*P **P 02 36 39.0 +0.2**
comp=Z,12nm,0.8s,mb5.2
FRF La Foret Royal 85.73 336 *e*P **P 02 36 38.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
FRF La Foret Royal 85.73 336 *e*P **P 02 36 38.9 -0.3**
FRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
FRF La Foret Royal 85.73 336 *e*P **P 02 36 38.9 -0.3**
comp=Z,14nm,0.9s,mb5.2
TAVF Tavernes 85.84 337 *e*P **P 02 36 41.0 +1.3**
PRAF Pradon 85.91 337 *e*P **P 02 36 41.7 +1.6**
LFF La Frestale 85.95 341 *e*P **P 02 36 39.6 -0.7**
comp=Z,25nm,0.7s,mb5.3
LFF La Frestale 85.95 341 *e*P **P 02 36 39.6 -0.7**
LFF pmax pmax
comp=Z,13nm,0.7s,mb5.3
LFF La Frestale 85.95 341 *e*P **P 02 36 39.6 -0.7**
comp=Z,13nm,0.7s,mb5.3
LMR La Mourre 85.98 336 *e*P **P 02 36 40.3 -0.1**
comp=Z,41nm,1.0s,mb5.3
LMR La Mourre 85.98 336 *e*P **P 02 36 40.3 -0.1**
LMR pmax pmax
comp=Z,21nm,1.0s,mb5.3
LMR La Mourre 85.98 336 *e*P **P 02 36 40.3 -0.1**
comp=Z,20nm,1.0s,mb5.3
LASF Ste Croix 86.00 338 *e*P **P 02 36 40.3 -0.2**
comp=Z,27nm,0.9s,mb5.2
TBI Tubuai 86.64 129 *e*SKSac SKSac 02 47 01.4 -7.1
comp=Z,455nm,26.5s
TBI *e*LR LR 03 03 16.7
comp=Z,922nm,34.2s,baz=325
GRI Girifalco 86.80 327 P **P 02 36 44.8 +0.4**
GRI pmax pmax
comp=Z,11nm,0.5s,mb5.3
GRI Girifalco 86.80 327 P **P 02 36 44.8 +0.4**
comp=Z,11nm,0.5s,mb5.3
MTLF Montolieu 87.11 339 *e*P **P 02 36 45.1 -0.8**
comp=Z,9.2nm,0.7s,mb4.8
MTLF Montolieu 87.11 339 *e*P **P 02 36 45.1 -0.8**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MTLF Montolieu 87.11 339 *e*P **P 02 36 45.1 -0.8**
comp=Z,4.6nm,0.7s,mb4.8
SOI Samo 87.60 327 P **P 02 36 48.3 0.0**
SOI pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
SOI Samo 87.60 327 P **P 02 36 48.3 0.0**
comp=Z,8.8nm,0.6s,mb5.2
SLNA Salina 87.61 328 P **P 02 36 50.1 +1.7**
comp=Z,12nm,0.4s,mb5.5
EPF Esparros 87.85 340 *e*P **P 02 36 49.1 -0.4**
comp=Z,7.3nm,0.6s,mb4.8
EPF Esparros 87.85 340 *e*P **P 02 36 49.1 -0.4**
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
EPF Esparros 87.85 340 *e*P **P 02 36 49.1 -0.4**
comp=Z,3.7nm,0.6s,mb4.8
SJPF Ste Jean 88.13 341 *e*P **P 02 36 51.1 +0.3**
ETSF Etsaut 88.18 341 *e*P **P 02 36 50.2 -0.9**
comp=Z,9.1nm,0.6s,mb4.9
ETSF Etsaut 88.18 341 *e*P **P 02 36 50.2 -0.9**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
ETSF Etsaut 88.18 341 *e*P **P 02 36 50.2 -0.9**
comp=Z,4.6nm,0.6s,mb4.9
SNZO South Karori 89.30 164 PFAKE 02 37 10.0 +14
SNZO LR LR
comp=Z,563nm,19.0s,MS5.0
DWPF Disney 91.10 46 PFAKE 02 37 20.0 +15
DWPF LR LR
comp=Z,386nm,19.0s,MS4.9
ESDC Sonseca Array 92.01 342 P **P 02 37 07.4 -1.5**
comp=Z,1.1nm,0.7s,mb4.3,baz=3.4,slow=4.1,SNR=7.6
ESDC LR LR 03 26 07.9
comp=Z,481nm,19.9s,MS4.9,baz=345,slow=40
ESLA Sonseca Array 92.01 342 PFAKE 02 37 20.0 +11
ESLA LR LR
comp=Z,7μm,21.0s
KEST Kesra 92.07 331 P **P 02 37 10.5 +1.3**
comp=Z,2.3nm,0.8s,mb4.6,baz=309,slow=1.4,SNR=12
KEST LR LR 03 26 58.0
comp=Z,205nm,18.1s,MS4.6,baz=177,slow=41
RKT Rikitea 94.82 118 *e*PS PS 02 49 50.3 -3.0
comp=Z,208nm,29.0s
RKT Rikitea 94.82 118 *e*SKSac SKSac 02 47 49.7 -5.8
comp=Z,265nm,33.5s
RKT *e*SS SS 02 54 56.0 -2.2
comp=Z,133nm,25.5s
RKT *e*LR LR 03 07 14.3
comp=Z,1μm,33.2s,baz=323
MSEY Mahe Island 98.56 272 PFAKE 02 37 50.0 +11
MSEY LR LR
comp=Z,102nm,20.0s,MS4.3
MDT Midelt 98.74 341 P **P 02 37 38.1 -1.6**
comp=Z,1.4nm,1.0s,mb4.5,baz=0.0,slow=5.1,SNR=2.8
JTS JuntasAbangare 103.57 59 PFAKE 02 38 10.0 +8.9
JTS LR LR
comp=Z,64nm,21.0s,MS4.1
SJG San Juan 106.82 39 PFAKE 02 42 40.0 +14
SJG LR LR
comp=Z,233nm,20.0s,MS4.7
SDV Santo Domingo 112.70 48 PFAKE 02 42 50.0 +13
SDV LR LR
comp=Z,142nm,22.0s,MS4.5
TORD Torodi Ar. Bea 115.48 329 PKP PKPdf 02 42 40.0 -1.9
comp=Z,0.9nm,0.7s,baz=10,slow=2.7,SNR=11
CASY Casey 116.83 198 PFAKE 02 42 50.0 +5.5
CASY LR LR
comp=Z,380nm,20.0s,MS5.0
VNDA Vanda 123.61 178 PKP PKPdf 02 42 54.1 -3.5
comp=Z,0.7nm,1.0s,baz=308,slow=6.0,SNR=3.2
VNDA Vanda 123.61 178 PKIKP PKPdf 02 42 54.1 -3.5
VNDA pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 123.61 178 *e*PKPdf PKPdf 02 42 56.5 -1.0
VNDA LR LR
comp=Z,258nm,21.0s,MS4.9
DBIC Dimbokro 123.74 333 PKP PKPdf 02 42 56.4 -1.4
comp=Z,2.5nm,0.7s,baz=291,slow=7.0,SNR=5.6
DBIC Dimbokro 123.74 333 PKIKP PKPdf 02 42 56.4 -1.4
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 123.74 333 *e*PKPdf PKPdf 02 42 57.4 -0.4
DBIC LR LR
comp=Z,389nm,21.0s,MS5.0
SBA Scott Base 124.12 177 PFAKE 02 43 10.0 +11
SBA LR LR
comp=Z,368nm,19.0s,MS5.1
LSZ Lusaka 124.81 285 *e*PKIKP PKPdf 02 43 00.1 +0.2
LSZ MLR MLR
comp=Z,642nm,19.0s,MS5.3
NNA Nana 125.91 67 PFAKE 02 43 10.0 +8.0
NNA LR LR
comp=Z,53nm,20.0s,MS4.2
MAW Mawson 131.73 211 PKP PKPdf 02 43 08.6 -4.4
comp=Z,0.4nm,0.4s,baz=342,slow=9.6,SNR=2.5
MAW Mawson 131.73 211 PKP PKPdf 02 43 08.6 -4.4
MAW LR LR
comp=Z,296nm,20.0s,MS5.0
LBTB Lobatse 133.25 278 *e*PKIKP PKPdf 02 43 16.8 +0.9
LBTB MLR MLR
comp=Z,522nm,20.0s,MS5.2
TSUM Tsumeb 134.63 291 PFAKE 02 43 30.0 +12
TSUM LR LR
comp=Z,481nm,19.0s,MS5.2
LPAZ La Paz 134.64 63 PFAKE 02 43 30.0 +11
LPAZ LR LR
comp=Z,242nm,19.0s,MS4.9
BOSA Boshof 135.77 275 PFAKE 02 43 30.0 +9.4
BOSA LR LR
comp=Z,456nm,19.0s,MS5.2
QSPA South Pole Qui 135.98 180 *e*P PKPdf 02 43 18.7 -2.3
QSPA LR LR
comp=Z,260nm,19.0s,MS5.0
LVC Limon Verde 138.81 70 PFAKE 02 43 40.0 +14
LVC LR LR
comp=Z,308nm,20.0s,MS5.0
SYO Syowa Base 140.44 211⇑*e*X PKPdf 02 43 36.8 +7.6
BDFB Brasilia 144.79 37 PKP PKPdf 02 43 34.6 -2.3
comp=Z,6.3nm,1.0s,baz=7.3,slow=4.6,SNR=5.1
BDFB Brasilia 144.79 37 PKP PKPdf 02 43 34.6 -2.3
BDFB LR LR
comp=Z,324nm,19.0s,MS5.1
PLCA Paso Flores 148.24 96 PKPbc PKPbc 02 43 44.9 -1.2
comp=Z,12nm,0.9s,baz=263,slow=6.0,SNR=16
PLCA Paso Flores 148.24 96 PKP2 PKPbc 02 43 44.9 -1.2
PLCA pmax pmax
comp=Z,12nm,0.9s
PLCA Paso Flores 148.24 96 *e*PKPbc PKPbc 02 43 45.3 -0.8
PLCA LR LR
comp=Z,516nm,22.0s,MS5.3
CPUP Villa Florida 148.78 61 PKPbc PKPbc 02 43 46.1 -1.4
comp=Z,7.4nm,0.9s,baz=296,slow=3.2,SNR=12
CPUP Villa Florida 148.78 61 PKP2 PKPbc 02 43 46.1 -1.4
CPUP pmax pmax
comp=Z,7.0nm,0.9s
CPUP Villa Florida 148.78 61 *e*PKPbc PKPbc 02 43 47.0 -0.4
NVL N'lazarevskaya 149.14 204 *e*PKP2 PKPbc 02 43 49.1 +0.7
NVL pmax pmax
comp=Z,33nm,1.6s
MAIT Maitri 149.16 204 *e*PKPdf PKPdf 02 43 46.9 +2.7
SNAA Sanae 152.05 196 PKPbc PKPbc 02 43 52.0 -3.3
comp=Z,0.8nm,0.6s,baz=192,slow=12,SNR=4.2
SNAA Sanae 152.05 196 PKIKP PKPdf 02 43 52.0 +3.3
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 152.05 196 PKPbc PKPbc 02 43 52.0 -3.3
SNAA *e*PKPab PKPab 02 44 04.5 -0.3
PMSA Palmer Station 152.61 146 PFAKE 02 44 00.0 +10
PMSA LR LR
comp=Z,590nm,19.0s,MS5.4
TRQA Tornquist 152.98 85 PFAKE 02 44 00.0 +10
TRQA LR LR
comp=Z,504nm,20.0s,MS5.3

IDC 01 02:33:29.3±3.8, 960S×11977E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=198.5km s-min=27.6km az=60.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.19**	**147**	Pn	Pn	02 35 56.7	-0.1
	0.6nm,0.3s,baz=340,slow=9.3,SNR=24						
WRA	**Warramunga Arr**	**17.43**	**128**	P		02 37 34.1	+0.3
	0.2nm,0.3s,baz=303,slow=13,SNR=8.1						
WRA				S	Sn	02 40 37.6	-11
	0.2nm,0.3s,baz=302,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**19.45**	**138**	P	Pn	02 37 57.9	-0.6
	0.3nm,0.3s,baz=316,slow=11,SNR=14						
ASAR				S	Sn	02 41 26.5	-11
	0.1nm,0.3s,baz=315,slow=22,SNR=6.1						
SONM	**Songino Array**	**58.40**	**349**	P	P	02 43 26.6	+0.1
	0.2nm,0.5s,baz=171,slow=8.2,SNR=3.2						

IDC 01 02:35:49.8±4.3, 1724N×4061E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, MS3.8/2, Ms1 3.8/2, ms1mx3.4/19, Error ellipse: s-maj=92.1km s-min=32.4km az=138.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**18.55**	**191**	LR	LR	02 47 18.8	
	comp=Z,250nm,19.3s,baz=273,slow=37						
BRTR	**Keskin Array B**	**23.21**	**346**	P	P	02 40 59.2	+0.8
	0.5nm,0.8s,baz=168,slow=9.7,SNR=3.0						
AKTO	**Aktyubinsk**	**35.94**	**19**	P	P	02 42 51.9	-0.1
	0.5nm,0.4s,baz=222,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**37.73**	**269**	P	P	02 43 07.8	+0.5
	1.8nm,0.9s,baz=85,slow=9.6,SNR=9.9						
GERES	**GERESS Array B**	**38.37**	**331**	P	P	02 43 12.0	-0.6
	0.6nm,0.8s,baz=132,slow=6.0,SNR=5.9						
DBIC	**Dimbokro**	**45.60**	**262**	LR	LR	03 02 03.8	
	comp=Z,119nm,21.6s,baz=91,slow=34						

IDC 01 02:38:02.1±4.6, 1726N×4030E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=99.1km s-min=33.2km az=136.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**23.12**	**347**	P	P	02 43 10.8	+1.0
	1.3nm,1.1s,baz=153,slow=13,SNR=4.4						
AKTO	**Aktyubinsk**	**36.02**	**19**	P	P	02 45 04.9	0.0
	0.4nm,0.3s,baz=164,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**37.44**	**269**	P	P	02 45 17.6	+0.5
	1.3nm,0.6s,baz=83,slow=7.2,SNR=11						
GERES	**GERESS Array B**	**38.20**	**331**	P	P	02 45 22.8	-0.7
	0.5nm,0.7s,baz=134,slow=7.7,SNR=4.8						

*ISCJB **01** 02:39:31.1±1.7, 2233S±006×678W±02, h69km±26km, mb4.0/3, Error ellipse: s-maj=35.3km s-min=9.2km az=8.0*
*IDC **01** 02:39:33.2±2.5, 2226S×68.15W, h88km±31km, mb3.8/3, mb1 3.6/5, mb1mx3.4/18, mbtmp3.9/5, Error ellipse: s-maj=82.4km s-min=19.3km az=94.0*
*NEIC **01** 02:39:33.5±1.1, 2224S×6792W, h84km±19km, mb4.1/2, Error ellipse: s-maj=33.6km s-min=10.9km az=91.0*
ISC 01 02:39:33.5±1.1, 2229S±005×679W±02, h75km±20km, n13, σ0=99/14, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.98**	**250**	*e*Pg	**Pn**	**02 39 51.8**	**-0.3**
LVC				*e*Sg	**Sn**	**02 40 05.2**	**-0.6**
LPAZ	**La Paz**	**5.97**	**358**	P	**Pn**	**02 40 59.9**	**+0.6**
	1.9nm,0.3s,baz=198,slow=7.8,SNR=47						
ARE	**Arequipa**	**6.70**	**329**	*e*P	**Pn**	**02 41 11.0**	**+1.7**
ARE				*e*S	**Sn**	**02 42 32.0**	**+7.8**
CFAA	**Coronel Fontan**	**9.29**	**182**	P	**Pn**	**02 41 44.3**	**-0.3**
	0.1nm,0.3s,baz=353,slow=13,SNR=15						
CFAA				S	**Sn**	**02 43 27.2**	**-0.1**
	0.1nm,0.3s,baz=205,slow=14,SNR=2.9						
SAML	**Samuel**	**14.02**	**20**	*e*Pn	**Pn**	**02 42 46.7**	**-1.8**
	5.4nm,1.4s						
TRQA	**Tornquist**	**16.53**	**163**	*e*Pn	**Pn**	**02 43 22.7**	**+2.1**
	5.6nm,0.8s						
SNAA	**Sanae**	**61.24**	**161**	P	**P**	**02 49 40.2**	**-0.4**
	0.9nm,0.6s,mb4.0,baz=260,slow=13,SNR=4.6						
SNAA	**Sanae**	**61.24**	**161**	*e*P	**P**	**02 49 40.4**	**-0.2**
	2.1nm,0.7s,mb4.3						
DBIC	**Dimbokro**	**68.08**	**73**	P	**P**	**02 50 25.6**	**+0.5**
	1.9nm,0.5s,mb4.2,baz=225,slow=8.6,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**76.75**	**70**	*e*P	**P**	**02 51 15.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.75**	**70**	P	**P**	**02 51 16.3**	**-0.4**
	0.6nm,0.3s,mb3.8,baz=259,slow=5.6,SNR=26						
MKAR	**Makanchi Array**	**145.71**	**37**	PKPbc	PKPbc	02 59 01.3	-2.5
	0.9nm,0.7s,baz=298,slow=2.6,SNR=5.9						
MKAR	**Makanchi Array**	**145.71**	**37**	PKPbc	PKPbc	02 59 01.3	-2.5

PRE 01 02:44:58.2±1.3, 2080S×3318E, h5km, ML3.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.32**	**242**	*e*P	Pn	02 45 52.6	+1.9
MSNA				*e*S	Sn	02 46 32.0	+1.5
MSNA				AML	AML	02 46 49.7	
	comp=Z,45nm,0.7s						
SLR	**Silverton**	**6.66**	**222**	*e*S	Sn	02 47 49.9	-3.1
SLR				AML	AML	02 48 33.0	
	comp=Z,11nm,0.4s						
POGA	**Pongola**	**6.69**	**192**	*e*P	Pn	02 46 37.1	0.0
POGA				*e*S	Sn	02 47 50.7	-3.0
POGA				AML	AML	02 48 26.8	
	comp=Z,7.0nm,0.6s						
KSR	**Koster**	**7.65**	**228**	*e*P	Pn	02 46 51.5	+1.2
KSR				*e*S	Sn	02 48 13.7	-3.7
KSR				AML	AML	02 48 47.6	
	comp=Z,2.7nm,0.4s						
LBTB	**Lobatse**	**8.15**	**238**	*e*P	Pn	02 46 58.1	+1.0
LBTB				*e*S	Sn	02 48 26.3	-3.4
LBTB				AML	AML	02 49 24.4	
	comp=Z,5.0nm,0.5s						
BOSA	**Boshof**	**10.60**	**221**	*e*P	Pn	02 47 32.1	+1.4
BOSA				*e*S	Sn	02 49 24.7	-5.0
BOSA				AML	AML	02 50 46.4	
	comp=Z,2.1nm,0.7s						

IDC 01 02:51:59.0±9.6, 4730N×15234E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=226.0km s-min=43.4km az=138.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.52**	**249**	Pn	Pn	02 53 50.0	+0.1
	0.6nm,0.3s,baz=194,slow=27,SNR=4.8						
MKAR	**Makanchi Array**	**46.22**	**297**	P	P	03 00 25.4	-0.4
	0.6nm,0.7s,baz=55,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**63.32**	**334**	P	P	03 02 29.8	0.0
	0.7nm,0.6s,baz=35,slow=7.0,SNR=6.1						
NOA	**NORSAR Array B**	**67.54**	**341**	P	P	03 02 56.3	-0.7
	0.5nm,0.7s,baz=28,slow=6.5,SNR=3.7						
AKASG	**Malin Array Be**	**70.80**	**326**	P	P	03 03 16.3	-1.0
	0.2nm,0.4s,baz=27,slow=6.3,SNR=2.9						
GERES	**GERESS Array B**	**77.73**	**333**	P	P	03 03 57.8	+0.1
	0.1nm,0.3s,baz=27,slow=4.5,SNR=2.8						

*IDC **01** 02:51:59.5±1.6, 4632N×15298E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/21, mbtmp4.0/10, Error ellipse: s-maj=43.8km s-min=24.4km az=2.0*
*ISCJB **01** 02:52:00.4±0.8, 466N±01×1529E±01, h10km, mb4.0/11, Error ellipse: s-maj=21.6km s-min=6.1km az=111.3*
*MOS **01** 02:52:00.4±1.5, 4597N×15272E, h33km, mb4.4/7, Error ellipse: s-maj=30.2km s-min=19.7km az=111.0*
*NEIC **01** 02:52:02.8±1.4, 4656N×15279E, h10km, mb4.0/1, Error ellipse: s-maj=36.8km s-min=10.3km az=129.0*
ISC 01 02:52:02.0±0.9, 466N±01×1529E±02, h10km, n35, σ0=83/35, mb4.0/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.79**	**251**⇑*i*PN	**Pn**	**02 52 53.2**	**-7.3**
KUR				*e*S	**Sn**	**02 53 44.0**	**-1.1**
KUR				pmax	pmax		
	comp=Z,30nm,0.5s						
KUR				smax			
	comp=N,530nm,1.0s						
KUR				smax			
	comp=E,570nm,1.0s						
SKR	**Severo-Kuril's**	**4.62**	**26**	*e*PN	**Pn**	**02 53 11.4**	**-0.6**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.60**	**246**	*e*PN	**Pn**	**02 53 26.5**	**+1.1**
YUK				*e*S	**Sn**	**02 54 30.0**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YUK				pmax	pmax		
	comp=N,110nm,0.3s						
YUK				smax			
	comp=E,110nm,0.5s						
YUK				smax			
	comp=N,250nm,0.6s						
YSS	Yuzh-Sakhalins	7.01	277	*e*PN	Pb	02 53 59.0	-4.9
ASAJ	Asahikawa	7.69	255	Pn	Pn	02 53 57.0	+3.0
	comp=N,0.9nm,0.3s,baz=77,slow=18,SNR=5.6						
ASAJ	Asahikawa	7.69	255	PN	Pn	02 53 57.1	+3.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	Erimo	8.36	241	*e*PN	Pn	02 54 04.0	+0.7
MJAR	Matsushiro Arr	14.88	233	Pn	Pn	02 55 30.7	-1.7
	baz=32,slow=15,SNR=4.7						
INK	Inuvik	41.87	32	P	P	02 59 53.2	+0.9
	comp=Z,1.6nm,0.8s,mb3.7,baz=285,slow=5.8,SNR=5.9						
INK	Inuvik	41.87	32	P	P	02 59 53.2	+0.9
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	41.87	32	P	P	02 59 53.2	+0.9
MKAR	Makanchi Array	46.92	297	P	P	03 00 32.4	-0.4
	comp=Z,0.4nm,0.6s,mb3.6,baz=96,slow=8.2,SNR=4.5						
MKAR	Makanchi Array	46.92	297	P	P	03 00 32.4	-0.4
BRVK	Borovoye	50.93	310	*e*P	P	03 01 03.1	-0.4
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	Borovoye	50.93	310	*e*P	P	03 01 03.1	-0.4
	comp=Z,1.8nm,0.5s,mb4.3						
ARCES	ARCESS Array B	57.99	341	P	P	03 01 55.0	+0.2
	comp=Z,3.0nm,1.2s,mb4.2,baz=32,slow=7.1,SNR=5.2						
ARCES	ARCESS Array B	57.99	341	P	P	03 01 55.0	+0.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
NVAR	Mina Array Bea	62.62	62	P	P	03 02 26.1	-0.4
	comp=Z,0.6nm,0.7s,mb3.9,baz=292,slow=8.6,SNR=5.3						
KAF	Kangasniemi	63.56	335	*e*p	P	03 02 32.5	-0.3
FINES	FINESS Array B	64.16	335	P	P	03 02 36.5	-0.2
	comp=Z,0.9nm,0.4s,mb4.2,baz=43,slow=6.5,SNR=20						
FINES	FINESS Array B	64.16	335	P	P	03 02 36.5	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	64.16	335	P	P	03 02 36.5	-0.2
PDAR	Pinedale Array	64.95	54	P	P	03 02 41.6	-0.2
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=3.2,SNR=4.9						
OBN	Obninsk	65.39	326	*e*P	P	03 02 40.4	-4.4
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NB2	NORSAR Subarra	68.36	341	P	P	03 02 56.7	-7.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.5						
NOA	NORSAR Array B	68.36	341	P	P	03 03 04.0	+0.4
	comp=Z,0.6nm,0.4s,mb3.9,baz=28,slow=6.3,SNR=4.7						
NOA	NORSAR Array B	68.36	341	P	P	03 03 04.0	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	68.36	341	P	P	03 03 04.0	+0.4
AKASG	Malin Array Be	71.64	326	P	P	03 03 23.7	-0.1
	comp=Z,2.6nm,0.4s,mb4.5,baz=35,slow=6.2,SNR=15						
AKASG	Malin Array Be	71.64	326	P	P	03 03 23.7	-0.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	Malin Array Be	71.64	326	P	P	03 03 23.7	-0.1
GERES	GERESS Array B	78.57	334	P	P	03 04 04.4	+0.7
	comp=Z,0.3nm,0.5s,mb3.4,baz=43,slow=6.0,SNR=4.8						
GERES	GERESS Array B	78.57	334	P	P	03 04 04.4	+0.7
PLCA	Paso Flores	148.31	95	PKPbc	PKPbc	03 11 46.3	-2.2
	comp=Z,1.4nm,0.8s,baz=329,slow=2.0,SNR=3.3						
PLCA	Paso Flores	148.31	95	PKP2	PKPbc	03 11 46.3	-2.2
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **01** 02:57:18.1±3.2, 46.1N±03×1538E±05, h33km, mb3.9/4, Error ellipse: s-maj=65.1km s-min=10.6km az=78.3*
*IDC **01** 02:57:24.9±10.0, 4733N×15250E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=250.3km s-min=42.8km az=137.0*
*MOS **01** 02:57:25.1±0.8, 4708N×15275E, h33km, mb4.1/4, Error ellipse: s-maj=44.1km s-min=28.1km az=71.3*
ISC 01 02:57:14.4±6.3**, 459N**±03×**1542E**±05**, h9**km±38km**, n12, σ0s83**/13**, mb3.9**/4**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.91	14	*e*PN	Pn	02 58 28.0	-0.3
SKR				*e*S	Sn	02 59 25.5	+0.2
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,220nm,1.0s						
SKR				smax			
	comp=E,220nm,1.0s						
SKR				smax			
	comp=Z,200nm,1.0s						
ASAJ	Asahikawa	8.45	262	Pn	Pn	02 59 17.6	+0.7
	comp=Z,0.5nm,0.3s,baz=78,slow=19,SNR=3.3						
ASAJ	Asahikawa	8.45	262	PN	Pn	02 59 17.6	+0.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	48.01	298	P	P	03 05 51.9	-1.8
	comp=Z,0.7nm,0.8s,mb3.8,baz=68,slow=9.7,SNR=5.0						
MKAR	Makanchi Array	48.01	298	P	P	03 05 51.9	-1.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	65.10	335	P	P	03 07 55.3	-0.1
	comp=Z,1.4nm,0.9s,mb4.0,baz=37,slow=8.0,SNR=7.7						
FINES	FINESS Array B	65.10	335	P	P	03 07 55.3	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	NORSAR Subarra	69.25	342	P	P	03 08 22.3	+0.6
	comp=Z,2.6nm,1.0s,mb4.1,baz=26,slow=6.5						
NOA	NORSAR Array B	69.25	342	P	P	03 08 22.9	+1.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.2,SNR=3.9						
NOA	NORSAR Array B	69.25	342	P	P	03 08 22.9	+1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	72.65	327	P	P	03 08 42.5	+0.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=24,slow=5.5,SNR=9.4						
AKASG	Malin Array Be	72.65	327	P	P	03 08 42.5	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*FUNV **01** 03:00:18.3, 1085N×6127W, h17km, MW2.9*
*ISCJB **01** 03:00:20.3±0.6, 1072N±003×6142W±004, h63km±6km, Error ellipse: s-maj=7.0km s-min=4.6km az=71.1*
*NEIC **01** 03:00:22.6, 1084N×6143W, h35km, MD3.2(TRN), After TRN.*
*TRN **01** 03:00:22.6, 1084N×6143W, h35km, MD3.2*
ISC 01 03:00:21.5±0.6**, 1073N**±003×**6142W**±004**, h54**km±6km**, n27, σ0s86**/42**, 4C-3D, Trinidad**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.09	170	⇑*i*P	Pn	03 00 29.3	-0.5
TRN				*e*S	Sn	03 00 34.4	-1.2
TCE	Chacachacare	0.33	264	⇑*i*P	Pn	03 00 31.4	+0.2
TCE				*e*S	Sn	03 00 37.8	-0.4
TBH	Brigand Hill	0.42	126	⇑*i*P	Pn	03 00 32.7	+0.5
TBH				*e*S	Sn	03 00 41.8	+1.9
TPR	Prospect	0.78	54	⇓*i*P	Pn	03 00 36.3	0.0
TPR				*e*S	Sn	03 00 47.3	+0.1
GUIV	Guiria	0.80	264	*e*P	Pn	03 00 36.6	0.0
GUIV				*e*S	Sn	03 00 47.9	+0.2
BOT	Bacolet	0.81	58	*e*P	Pn	03 00 36.7	-0.1
GRW	Mount Saint Ca	1.44	351	⇑*e*P	Pn	03 00 44.8	-0.4
GRHS	Sauteurs	1.50	352	⇓*i*P	Pn	03 00 45.6	-0.4
GRHS				*e*S	Sn	03 01 02.8	-1.7
GRHS	Sauteurs	1.50	352	⇓*i*P	Pn	03 00 45.6	-0.4
GRHS				*e*S	Sn	03 01 02.8	-1.7
GRIC	Isle de Caille	1.55	354	*e*P	Pn	03 00 46.3	-0.4
GRIC				*e*S	Sn	03 01 05.8	0.0
GRSS	Sisters	1.57	353	*e*P	Pn	03 00 47.2	+0.3
GRSS				*e*S	Sn	03 01 07.4	+1.3
GUNV	Guanoco	1.60	249	*e*P	Pn	03 00 48.7	+1.3
GUNV				*e*S	Sn	03 01 10.6	+3.6
GRCU	Cariacou	1.73	359	*e*P	Pn	03 00 48.8	-0.3
GRCU	Cariacou	1.73	359	*e*P	Pn	03 00 49.6	+0.4
GRCU				*e*S	Sn	03 01 10.9	+0.8
GRCU	Cariacou	1.73	359	*e*P	Pn	03 00 49.6	+0.4
GRCU				*e*S	Sn	03 01 10.9	+0.8
CRUV	Carupano	1.79	268	*e*P	Pn	03 00 49.2	-0.8
CRUV				*e*S	Sn	03 01 12.7	+1.2
ITEV	Isla Los Testi	1.79	290	*e*P	Pn	03 00 48.6	-1.4
ITEV				*e*S	Sn	03 01 12.0	+0.4
ORIV	Oritupano	2.56	230	*e*P	Pn	03 01 01.1	+0.6
ORIV				*e*S	Sn	03 01 31.9	+1.3
PCRV	Puerto La Cruz	3.21	260	*e*P	Pn	03 01 09.1	-0.3
GURV	El Guri	3.38	209	*e*P	Pn	03 01 11.1	-0.6
PRGV	PARIAGUAN	3.74	239	*e*P	Pn	03 01 16.5	-0.1
CUPV	Cœpira	4.35	262	*e*P	Pn	03 01 25.3	+0.2
LUEV	Luepa	4.86	180	*e*P	Pn	03 01 30.7	-1.3
MERV	Las Mercedes	5.03	253	*e*P	Pn	03 01 33.8	-0.5
PHG	Guadaloupe-2	5.25	358	*e*P	Pn	03 01 38.1	+0.6
LZG	Guadaloupe-1	5.39	356	*e*P	Pn	03 01 39.8	+0.6
BAUV	El Baul	6.76	255	*e*P	Pn	03 01 56.4	-1.8

*MDD **01** 03:00:41.0±1.3, 3925N×1034W, h30km±24km, mbLg2.0/10, Error ellipse: s-maj=18.7km s-min=6.1km az=80.0, PRXIMO*
INMG 01 03:00:41.5±1.1**, 3924N**×**1027W, h20**km±4km**, ML1.8, 1C, Error ellipse: s-maj=5.8km s-min=2.2km az=82.0, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	0.82	110	*e*P	Pb	03 00 56.1	-1.0
PMAFR				*e*S	Sb	03 01 07.5	-0.2
PLOU	Loures	0.94	112	*e*P	Pb	03 00 58.2	-0.9
PLOU				*e*S	Sb	03 01 10.9	-0.3
PLOU							
	19nm,0.2s						
PTOM	Tomar	1.49	75	*e*P	Pn	03 01 05.0	-2.1
PTOM				*e*S	Sn	03 01 24.2	-1.8
PTOM							
	8.3nm,0.1s						
MOE	Montemor	1.66	115	*e*P	Pn	03 01 08.0	-1.5
MOE				*e*S	Sn	03 01 27.7	-2.5
PTEO	Sao Teotonio	2.08	144	*e*Pn	Pn	03 01 14.1	-1.2
PTEO				*e*Sn	Sn	03 01 37.5	-3.2
PTEO							
	6.4nm,0.3s						
PESTR	Estremoz	2.12	99	*e*Pn	Pn	03 01 14.1	-1.7
PESTR				*e*Sn	Sn	03 01 38.7	-2.9
PBEJ	Beja	2.24	122	*e*Pn	Pn	03 01 15.3	-2.2
PBEJ				*e*Sn	Sn	03 01 41.5	-3.0
PBEJ							
	1.5nm,0.1s						
PBEJ							
	1.4nm,0.2s						
PCBR	Castelo Branco	2.24	74	*e*Pn	Pn	03 01 16.0	-1.5
PCBR				*e*Sn	Sn	03 01 41.5	-3.1
PCBR							
	2.8nm,0.1s						
PVIS	Viseu	2.34	50	*e*Pn	Pn	03 01 17.4	-1.5
PVIS				*e*Sn	Sn	03 01 43.8	-3.3
PVIS							
	11nm,0.1s						
MTE	Manteigas	2.40	60	*e*Sn	Sn	03 01 45.6	-2.8
MTE							
	6.3nm,0.2s						
MTE	Manteigas	2.40	60	Sn	Sn	03 01 45.6	-2.8
	3.2nm,0.2s						
EBAD	Badajoz	2.58	100	P	Pn	03 01 20.1	-2.0
	0.5nm,0.1s,SNR=14						
EBAD				S	Sn	03 01 49.9	-3.1
	1.9nm,0.3s,SNR=11						
EGRO	El Granado	2.77	127	P	Pn	03 01 22.9	-1.9
	0.9nm,0.4s,SNR=13						
EGRO				S	Sn	03 01 53.8	-3.9
	3.6nm,0.7s						
PVRL	Vila Real	2.82	43	*e*Pn	Pn	03 01 23.6	-1.8
PVRL				*e*Sn	Sn	03 01 55.5	-3.3
PVRL							
	4.2nm,0.1s						
PCAB	Cabril	3.00	34	*e*Pn	Pn	03 01 26.3	-1.6
PCAB				*e*Sn	Sn	03 01 59.5	-3.8
PCAB							
	4.1nm,0.1s						
EMIN	Mina Concepcio	3.18	116	P	Pn	03 01 29.0	-1.4
	1.2nm,0.7s,SNR=16						
EMIN				S	Sn	03 02 03.4	-4.4
	2.0nm,0.6s						
PBRG	Braganca	3.71	45	*e*Pn	Pn	03 01 35.8	-1.9
PBRG				*e*Sn	Sn	03 02 17.0	-3.9
PBRG							
	2.2nm,0.1s						
ECAL	Calabor	3.81	44	P	Pn	03 01 37.6	-1.4
	0.0nm,0.0s,SNR=7.9						
ECAL				S	Sn	03 02 19.3	-3.9
	1.8nm,0.8s,SNR=7.9						
EMAZ	Mazaricos	3.83	14	P	Pn	03 01 36.7	-2.7
	0.0nm,0.0s,SNR=7.9						
EMAZ				S	Sn	03 02 18.8	-5.0
	1.7nm,0.5s,SNR=7.9						
ESPR	Espera	4.21	123	P	Pn	03 01 43.2	-1.4
	0.1nm,0.2s,SNR=4.9						
ESPR				S	Sn	03 02 28.5	-4.7
	4.4nm,0.9s						
EADA	Adamuz	4.58	102	⇑P	Pn	03 01 48.3	-1.4
	0.4nm,0.1s,SNR=18						
EADA				S	Sn	03 02 37.7	-4.6
	17nm,1.3s						
EPON	Pontenova	4.71	29	P	Pn	03 01 49.5	-1.9
	0.4nm,0.1s,SNR=11						
EPON				S	Sn	03 02 38.3	-7.2
	92nm,1.6s						
ESDC	Sonseca Array	4.90	83	P	Pn	03 01 52.8	-1.3
	1.1nm,0.2s,baz=262,slow=13,SNR=19						
ESDC				S	Sn	03 02 45.9	-4.3
	0.3nm,0.3s,baz=264,slow=24,SNR=7.8						
GUD	Guadarrama	4.91	71	S	Sn	03 02 45.2	-5.0
	SNR=7.9						

*ISCJB **01** 03:03:17.4±0.7, 5769N±009×1549W±0.1, h89km±9km, mb3.7/4, Error ellipse: s-maj=17.0km s-min=8.1km az=105.1*
*IDC **01** 03:03:19.1±2.7, 5765N×15483W, h89km±31km, mb3.3/5, mb1 3.4/6, mb1mx3.2/20, mbtmp3.6/6, Error ellipse: s-maj=81.6km s-min=33.7km az=165.0*
*NEIC **01** 03:03:20.1, 5759N×15486W, h64km, ML3.1(AEIC), After AEIC.*
ISC 01 03:03:18.6±0.7**, 5766N**±009×**1549W**±01**, h87**km±9km**, n24, σ0s61**/26**, mb3.7**/4**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.25	83	P	Pn	03 03 41.2	+0.3
	12nm,0.3s,baz=265,slow=5.2,SNR=254						
KDAK				S	Sn	03 03 57.7	-0.1
	42nm,0.3s,baz=143,slow=20,SNR=70						
KDAK	Kodiak Island	1.25	83	P	Pn	03 03 41.1	+0.1
CHGN	Chignik	2.36	236	*e*P	Pn	03 03 54.8	-0.6
SVW2	Sparrevohn	3.47	354	*e*P	Pn	03 04 10.9	+0.5
SLKM	Skilak Lake	3.74	38	P	Pn	03 04 14.2	+0.2
SDPT	Sand Point	3.86	236	*e*P	Pn	03 04 15.7	0.0
RC01	Rabbit Creek A	4.34	35	P	Pn	03 04 22.5	+0.4
RC01				S	Sn	03 05 09.9	-1.6
PMR	Palmer	4.91	34	P	Pn	03 04 30.1	+0.1
KNK	Knik Glacier	4.99	38	P	Pn	03 04 31.0	0.0
EYAK	Cordova Ski Ar	5.53	55	P	Pn	03 04 37.6	-0.8
DIV	Divide	5.82	49	P	Pn	03 04 42.3	+0.1
RAGM	Ragged Mountai	5.95	58	P	Pn	03 04 44.1	+0.1
BMRM	Bremner River	6.23	53	P	Pn	03 04 47.3	-0.5
TRF	Thorofare Moun	6.24	19	P	Pn	03 04 48.2	+0.1
MENT	Mentasta	7.67	42	*e*Pn	Pn	03 05 08.2	+0.7
DAWY	Dawson	9.90	43	*e*P	Pn	03 05 38.6	+0.7
INK	Inuvik	14.33	33	P	Pn	03 06 38.0	+0.8
	0.1nm,0.3s,baz=246,slow=18,SNR=4.0						
INK	Inuvik	14.33	33	P	Pn	03 06 38.0	+0.8
YKA	Yellowknife Ar	20.41	59	P	P	03 07 49.2	+0.7
	1.1nm,0.8s,baz=273,slow=9.4,SNR=4.7						
YKA	Yellowknife Ar	20.41	59	P	P	03 07 49.2	+0.6
SONM	Songino Array	55.37	306	P	P	03 12 44.2	+0.6
	0.7nm,0.5s,mb3.9,baz=47,slow=7.2,SNR=7.6						
FINES	FINESS Array B	61.24	359	P	P	03 13 23.5	-0.9
	0.7nm,0.9s,mb3.7,baz=12,slow=9.8,SNR=4.3						
AKASG	Malin Array Be	71.95	357	P	P	03 14 31.6	-1.0
	0.9nm,0.6s,mb3.8,baz=7.3,slow=5.9,SNR=4.7						
GERES	GERESS Array B	73.45	8	P	P	03 14 41.8	+0.4
	0.3nm,0.6s,mb3.3,baz=2.9,slow=5.3,SNR=6.0						

*MOS **01** 03:05:13.8±1.0, 4578N×15430E, h33km, mb4.2/4, Error ellipse: s-maj=42.2km s-min=28.1km az=90.3*
*IDC **01** 03:05:20.3±2.1, 4702N×15320E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=66.2km s-min=24.8km az=177.0*
*ISCJB **01** 03:05:22.7±2.4, 467N±02×1532E±02, h37km±18km, mb3.8/6, Error ellipse: s-maj=36.0km s-min=12.4km az=98.4*
ISC 01 03:05:25.7±2.1**, 468N**±02×**1531E**±02**, h47**km±15km**, n12, σ0s42**/13**, mb3.8**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.39	26	*e*P	Pn	03 06 29.2	-0.6
SKR				*e*S	Sn	03 07 20.1	+0.4
SKR				pmax	pmax		
	comp=N,130nm,0.9s						
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,50nm,0.5s						
SKR				smax			
	comp=Z,70nm,0.5s						
ASAJ	Asahikawa	7.86	254	Pn	Pn	03 07 17.4	+0.2
	comp=Z,0.4nm,0.3s,baz=171,slow=15,SNR=3.9						
MKAR	Makanchi Array	46.93	297	P	P	03 13 52.1	+0.5
	comp=Z,0.3nm,0.4s,mb3.6,baz=64,slow=9.8,SNR=4.1						
NVAR	Mina Array Bea	62.43	62	P	P	03 15 44.0	+0.1
	comp=Z,0.6nm,0.7s,mb3.8,baz=296,slow=4.0,SNR=7.3						
FINES	FINESS Array B	64.02	335	P	P	03 15 53.9	-0.5
	comp=Z,0.6nm,0.7s,mb3.7,baz=47,slow=8.4,SNR=6.1						
FINES	FINESS Array B	64.02	335	P	P	03 15 53.9	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	64.74	54	P	P	03 15 59.4	+0.3
	comp=Z,0.7nm,0.8s,mb3.8,baz=327,slow=2.5,SNR=7.7						
NB2	NORSAR Subarra	68.21	341	P	P	03 16 22.2	+0.9
	comp=Z,1.2nm,0.7s,mb4.0,baz=26,slow=6.5						
NOA	NORSAR Array B	68.21	341	P	P	03 16 20.8	-0.5
	comp=Z,0.6nm,0.6s,mb3.8,baz=28,slow=6.3,SNR=3.8						
NOA	NORSAR Array B	68.21	341	P	P	03 16 20.8	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	71.53	326	P	P	03 16 41.4	-0.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=35,slow=6.4,SNR=6.0						
AKASG	Malin Array Be	71.53	326	P	P	03 16 41.4	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **01** 03:25:39.8±0.4, 1180N×9500E, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.3/24, mbtmp4.2/21, ML3.7/1, MS4.0/7, Ms1 4.0/7, ms1mx3.8/22, Error ellipse: s-maj=20.7km s-min=11.6km az=56.0*
*ISCJB **01** 03:25:42.0±0.3, 1174N±004×9502E±004, h27km, mb4.6/69, MS4.3/13, Error ellipse: s-maj=6.0km s-min=4.9km az=36.6*
*MOS **01** 03:25:42.9±1.2, 1175N×9501E, h33km, mb5.1/36, Error ellipse: s-maj=11.7km s-min=5.7km az=112.3*
*GCMT **01** 03:25:43.9±0.3, 1188N×9523E, h12km, MW4.9/59, Moment Tensor Solution. s22,c24; s59,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.35±.09; $M_{\theta\theta}$0.87±.08; $M_{\phi\phi}$1.48±.10; $M_{r\theta}$1.12±.36; $M_{\theta\phi}$1.29±.07; $M_{\phi r}$0.05±.34; Best double couple: $M_0$2.67300×10^{16} NP1:ϕ_s21.00000°,δ39.00000°,λ-118.00000°. NP2: ϕ_s236.00000°,δ56.00000°,λ-69.00000°. Principal axes: T 2.6150, Plg9.0000°, Azm311.0000°; N 0.1170, Plg17.0000°, Azm44.0000°; P -2.7320, Plg70.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 03:25:43.9±0.3, 1178N×9496E, mb4.8/42 Error ellipse: s-maj=10.9km s-min=6.6km az=59.0*
*BJI **01** 03:25:44.0, 1155N×9540E, h37km, mB5.0, mb4.6, Ms4.7, Msz4.5*
*SZGRF **01** 03:25:44.8, 1205N×9554E, h33km, mb4.8, Andaman Islands, India, region*
ISC 01 03:25:44.3±0.3**, 1176N**±004×**9502E**±003**, h28**km**, h28**km±.8km**:pP-P, n206, σ1s10**/189**, mb4.6**/69**, MS4.3**/13**, 7C-7D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.23	268	*e*P	x	03 26 07.6	
PBA				*e*S	x	03 26 43.5	
PBA				*e*x	x	03 26 45.2	
	comp=N,2μm,0.6s						
PBA				*e*x	x	03 26 45.3	
	comp=E,2μm,0.6s						
CHTO	Chiang Mai	7.97	28	*e*P	Pn	03 27 38.6	+0.4
KULM	Kulim	8.50	139	*e*Pn	Pn	03 27 44.7	-0.8
KULM				*e*Sn	Sn	03 29 16.9	-3.7
PSI	Prapat	9.71	156	Pn	Pn	03 28 02.9	+0.9
	comp=E,0.6nm,0.3s,baz=348,slow=18,SNR=2.8						
PSI				LR	LR	03 32 15.2	
	comp=E,532nm,21.1s,baz=304,slow=40						
PSI	Prapat	9.71	156	Pn	Pn	03 28 02.9	+0.9
PSI				LR	LR	03 32 15.2	
CAL	Calcutta	12.48	330	*e*x	x	03 28 01.2	
CAL				*e*x	x	03 31 59.9	
VIS	Vishakhapatnam	12.76	299	*e*P	Pn	03 28 43.6	-0.2
VIS				*e*S	Sn	03 30 58.2	-6.7
BOK	Bokaro	14.79	325	*e*P	Pn	03 29 11.3	-0.1
BOK				AMb	AMB	03 29 20.8	
	comp=Z,31nm,1.3s						
BOK				*e*x	x	03 31 47.9	
KMI	Kunming	15.17	28	P	Pn	03 29 22.8	+6.3
KMI				XP	sP	03 29 34.3	+1.9
KMI				AMB	AMB		
	comp=Z,25nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,11.5s						
KMI				LR	LR		
	comp=E,1μm,10.8s						
KMI				LR	LR		
	comp=Z,1μm,11.5s						
KMI	Kunming	15.17	28	P	Pn	03 29 22.8	+6.3
	comp=Z,25nm,1.3s						
KMI				sP	sP	03 29 34.3	+1.9
KMI				PP		03 29 35.9	
KMI				PPP		03 29 43.9	
KMI				S	Sn	03 32 20.6	+17
QIZ	Qiongzhong	16.01	61	P	Pn	03 29 29.0	+1.6
QIZ				S	Sn	03 32 24.9	+0.8
QIZ				LR	LR		
	comp=N,702nm,19.0s						
HYB	Hyderabad	16.89	291	*i* P	Pn	03 29 42.0	+3.4
HYB				*e*S	Sn	03 32 47.0	+1.5
HYB	Hyderabad	16.89	291	*e*P	Pn	03 29 42.0	+3.4
KOD	Kodaikanal	17.30	267	*e*x	Pn	03 29 45.0	+1.3
PKI	Pulchoki	18.13	332	*e*P	Pn	03 29 54.4	+0.4
	comp=N,249nm,1.2s						
GUN	Gumba	18.21	333	*e*P	Pn	03 29 55.6	+0.7
	comp=N,215nm,1.2s						
LSA	Lhasa	18.21	349	P	Pn	03 29 56.0	+1.0
LSA	Lhasa	18.21	349	*e*P	Pn	03 29 57.0	+2.0
LSA				pmax	pmax		
	comp=Z,48nm,1.1s						
LSA	Lhasa	18.21	349	*e*Pn	Pn	03 29 57.0	+2.1
	comp=Z,48nm,1.1s						
GYA	Guiyang	18.28	35	⇓*i*P	Pn	03 29 56.6	+0.8
GYA				AMB	AMB		
	comp=Z,40nm,1.2s						
GYA				AMB	AMB		
	comp=Z,350nm,5.4s						
DMN	Daman	18.30	331	*e*P	Pn	03 29 56.8	+0.7
	comp=Z,289nm,1.4s						
KKN	Kakani	18.38	332	*e*P	Pn	03 29 57.6	+0.6
	comp=Z,138nm,1.2s						
GKN	Gorkha	18.86	330	*e*P	Pn	03 30 02.6	-0.2
KOLN	Koldanda	19.19	328	*e*P	Pn	03 30 07.0	+0.2
	comp=Z,410nm,1.6s						
BHPL	Bhopal	20.27	307	*e*P	P	03 30 16.3	-1.3
BHPL				AMb	AMB	03 30 35.8	
	comp=Z,151nm,2.3s						
CD2	Chengdu	20.70	22	⇓*i*P	P	03 30 23.1	+0.8
CD2				XP	sP	03 30 33.5	+0.1
CD2				PP		03 30 45.4	
CD2				AMB	AMB		

comp=Z,40nm,1.2s
CD2 AMB AMB
comp=Z,60nm,4.2s
CD2 LR LR
comp=N,980nm,11.4s
CD2 LR LR
comp=Z,610nm,12.0s,MS4.2
KAD Karad 20.90 288 *e*P **P 03 30 24.5 +0.1**
KAD AMb AMB 03 30 38.9
comp=Z,154nm,1.4s
POO Poona 21.50 291 ⇑*ix* x 03 30 34.5
comp=Z,80nm,1.0s
KKM Kota Kinabalu 21.69 103 *e*P pP 03 30 40.6 +0.1
NDI New Delhi 23.66 318 *e*P **P 03 30 51.2 -2.2**
NDI *e*x x 03 33 19.0
AJM Ajmer 24.13 310 *e*P **P 03 30 57.9 +0.1**
AJM AMb AMB 03 31 09.4
comp=Z,70nm,1.3s,mb5.0
LZH Lanzhou 25.50 17 *e*P **P 03 31 10.5 +0.3**
LZH AP pP 03 31 19.5 +1.2
LZH XP sP 03 31 22.5 +0.7
LZH AMB AMB
comp=Z,38nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,162nm,4.6s
LZH LR LR
comp=N,2μm,14.4s
LZH LR LR
comp=Z,2μm,15.1s,MS4.8
LZH Lanzhou 25.50 17 *e*P **P 03 31 10.5 +0.3**
LZH *PP pP 03 31 19.5 +1.2
LZH *SP sP 03 31 22.5 +0.7
LZH *SS sS 03 36 41.6 +52
LZH pmax pmax
comp=Z,38nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,2μm,15.1s,MS4.8
LZH Lanzhou 25.50 17 *e*P **P 03 31 10.5 +0.3**
comp=Z,38nm,1.0s,mb4.9
LZH pP pP 03 31 19.5 +1.2
LZH sP sP 03 31 22.5 +0.7
LZH PP 03 32 21.4
LZH *e*S 03 36 26.2
LZH sS sS 03 36 41.6 +52
LZH *e*SS PcS 03 38 26.5 +4.6
LZH LR LR
comp=Z,2μm,15.1s,MS4.8
XAN Xi'an 25.55 28 P **P 03 31 09.5 -1.2**
XAN AP pP 03 31 18.5 -0.3
XAN AMB AMB
comp=Z,21nm,0.9s,mb4.7
WHN Wuhan 25.89 41 ⇓*i*P **P 03 31 13.3 -0.5**
GTA Gaotai 27.87 8 *e*P **P 03 31 32.4 +0.9**
GTA AMB AMB
comp=Z,13nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,132nm,4.9s
GTA LR LR
comp=N,382nm,11.4s,MS4.4
GTA LR LR
comp=E,340nm,11.0s,MS4.4
GTA LR LR
comp=Z,392nm,12.5s,MS4.2
NJ2 Nanjing 29.82 44 *e*P **P 03 31 49.5 +0.6**
NJ2 AP pP 03 31 59.1 +2.0
NJ2 XP sP 03 32 03.2 +2.7
NJ2 PP PP 03 32 47.4 -9.0
NJ2 S **S 03 36 43.0 -0.8**
NJ2 XS sS 03 37 00.0 +2.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,320nm,4.2s
NJ2 LR LR
comp=N,910nm,10.9s,MS4.8
NJ2 LR LR
comp=E,1μm,15.9s,MS4.8
NJ2 LR LR
comp=Z,6μm,14.6s,MS5.4
WMQ Urumqi 32.57 350 *e*P **P 03 32 21.8 +8.7**
WMQ AP pP 03 32 29.0 +7.7
WMQ XP sP 03 32 32.5 +7.8
WMQ AMB AMB
comp=Z,12nm,1.4s,mb4.6
WMQ AMB AMB
comp=Z,87nm,5.4s
WMQ LR LR
comp=N,944nm,21.6s,MS4.6
WMQ LR LR
comp=E,996nm,20.5s,MS4.6
WMQ LR LR
comp=Z,1μm,22.2s,MS4.5
AAK Ala-Archa 35.56 334 *e*P **P 03 32 39.5 +0.4**
AAK *e**PP pP 03 32 47.5 +0.2
AAK pmax pmax
comp=Z,14nm,1.1s,mb4.8
AAK Ala-Archa 35.56 334 *e*P **P 03 32 39.5 +0.4**
comp=Z,14nm,1.1s,mb4.8
AAK *e*pP pP 03 32 47.5 +0.2
FRU Bishkek 35.67 334 *e*P **P 03 32 46.5 +6.5**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
MKAR Makanchi Array 36.54 345 P **P 03 32 47.5 +0.1**
comp=Z,2.6nm,0.8s,mb4.1,baz=152,slow=8.2,SNR=8.3
SONM Songino Array 37.21 13 P **P 03 32 53.4 +0.3**
comp=Z,7.7nm,1.1s,mb4.5,baz=196,slow=8.7,SNR=33
ZAK Zakamensk 39.10 8 ⇓*i*P **P 03 33 09.6 +0.5**
TLY Talaya 40.42 8 *e*P **P 03 33 20.9 +0.9**
TLY *e**PP pP 03 33 28.6 +0.2
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
TLY Talaya 40.42 8 *e*P **P 03 33 20.9 +0.9**
comp=Z,6.1nm,0.9s,mb4.3
TLY *e*pP pP 03 33 28.6 +0.2
IRK Irkutsk 41.06 9 *e*P **P 03 33 23.4 -1.9**
IRK pmax pmax
comp=Z,30nm,2.2s,mb4.5
CN2 Changchun 41.32 34 *e*P **P 03 33 27.9 +0.5**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
FITZ Fitzroy Crossi 42.35 134 *e*P **P 03 33 36.3 +0.4**
comp=Z,2.7nm,0.6s,mb4.0
FITZ *e* 03 35 31.0
FITZ Fitzroy Crossi 42.35 134 P **P 03 33 35.3 -0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=306,slow=5.9,SNR=9.2
FITZ PcP PcP 03 35 29.8 +0.8
comp=Z,2.8nm,0.6s,baz=343,slow=5.2,SNR=8.6
HIA Hailar 42.63 24 *e*P **P 03 33 38.5 +0.3**
HIA *e**PP pP 03 33 46.5 -0.1
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 42.63 24 *e*P **P 03 33 38.5 +0.3**
comp=Z,27nm,1.1s,mb4.9
HIA *e*pP pP 03 33 46.5 -0.1
CIT Chita 42.87 17 *e*P **P 03 33 39.8 -0.2**
CIT pmax pmax
comp=Z,34nm,1.7s,mb4.8
BVAR Borovoye Array 45.65 339 P **P 03 34 01.9 -0.4**
comp=Z,0.4nm,0.3s,mb3.8,baz=160,slow=8.9,SNR=3.2
BVAR Borovoye Array 45.65 339 P **P 03 34 01.9 -0.4**
BRVK Borovoye 45.71 339 *e*P **P 03 34 02.5 -0.3**
BRVK *e**PP pP 03 34 10.3 -0.9
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRVK Borovoye 45.71 339 *e*P **P 03 34 02.5 -0.3**
comp=Z,13nm,1.0s,mb4.8
BRVK *e*pP pP 03 34 10.3 -0.9
MJAR Matsushiro Arr 45.97 50 P **P 03 34 04.0 -0.9**
comp=Z,0.4nm,0.3s,mb3.8,baz=239,slow=9.7,SNR=6.0
MJAR PcP PcP 03 35 41.0 -0.3
comp=Z,1.9nm,0.8s,baz=253,slow=3.7,SNR=6.2
MJAR LR LR 03 54 33.1
comp=Z,133nm,20.3s,MS3.9,baz=250,slow=38
MJAR Matsushiro Arr 45.97 50 P **P 03 34 04.0 -0.9**
MJAR 03 35 41.0
MJAR Matsushiro Arr 45.97 50 P **P 03 34 04.0 -0.9**
MJAR PcP PcP 03 35 41.0 -0.3
MJAR LR LR 03 54 33.1
ZRNK Zerenda 46.07 338 *e*P **P 03 34 05.5 -0.2**
ZRNK *e**PP pP 03 34 13.9 -0.2
ZRNK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZRNK Zerenda 46.07 338 *e*P **P 03 34 05.5 -0.2**
comp=Z,14nm,0.9s,mb4.9
ZRNK *e*pP pP 03 34 13.9 -0.3

KLR Kul'dur 48.13 32 *e*P **P 03 34 18.0 -3.7**
BOD Bodaibo 48.19 14 *e*P **P 03 34 22.0 -0.2**
BOD pmax pmax
comp=Z,17nm,1.4s,mb4.9
AKTK Aktyubinsk 49.02 329 P **P 03 34 28.0 -0.5**
AKTO Aktyubinsk 49.02 329 P **P 03 34 28.0 -0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=136,slow=10,SNR=4.8
WRA Warramunga Arr 49.91 129 P **P 03 34 35.7 +0.4**
comp=Z,12nm,1.0s,mb4.9,baz=307,slow=8.4,SNR=42
WRA PcP PcP 03 35 56.6 +1.2
comp=Z,2.3nm,0.9s,baz=321,slow=2.8,SNR=6.9
WRA LR LR 03 59 14.5
comp=Z,146nm,20.7s,MS4.0,baz=310,slow=40
WRA Warramunga Arr 49.91 129 P **P 03 34 35.7 +0.4**
WRA 03 35 56.6
AS31 Alice Springs 51.82 133 *e*P **P 03 34 50.2 +0.4**
ASAR Alice Springs 51.82 133 P **P 03 34 50.3 +0.6**
comp=Z,6.1nm,0.7s,mb4.7,baz=311,slow=6.6,SNR=57
ASAR PcP PcP 03 36 02.7 +0.2
comp=Z,2.2nm,1.0s,baz=313,slow=3.7,SNR=4.3
ASAR LR LR 03 56 44.2
comp=Z,219nm,22.0s,MS4.1,baz=319,slow=36
ASAR Alice Springs 51.82 133 P **P 03 34 50.3 +0.6**
ASAR 03 36 02.7
GNI Garni 52.43 312 *c i*P **P 03 34 56.6 +2.4**
GNI pmax pmax
comp=Z,21nm,1.1s
GNI Garni 52.43 312 *e*P **P 03 34 54.8 +0.5**
comp=Z,111nm,1.4s,mb5.6
ARU Arti 52.70 335 ⇓*i*P **P 03 34 57.4 +1.1**
ARU *e*PPP 03 38 03.3
ARU *e*S **S 03 42 24.5 +2.2**
ARU *e*SS SS 03 45 58.4 -2.5
ARU pmax pmax
comp=Z,20nm,1.4s,mb4.8
ARU Arti 52.70 335 *e*P **P 03 34 56.6 +0.3**
comp=Z,38nm,1.5s,mb5.1
ARU *e*pP pP 03 35 04.2 -0.6
ZEI Tsey 53.87 315 *e*P **P 03 35 05.6 +0.8**
ZEI *e**PP pP 03 35 14.9 +1.5
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV Kislovodsk 55.09 316 *e*P **P 03 35 18.7 +5.0**
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,126nm,17.0s,MS4.1
KIV Kislovodsk 55.09 316 *e*P **P 03 35 13.4 -0.4**
comp=Z,30nm,1.2s,mb5.2
KMBO Kilima Mbogo 58.78 261 LR LR 03 59 59.7
comp=Z,147nm,18.5s,MS4.1,baz=280,slow=35
VOR Voronezh 59.95 324 P **P 03 35 49.0 +1.0**
VOR pmax pmax
comp=Z,30nm,1.8s,mb5.0
BR131 Keskin Array S 60.62 309 *e*P **P 03 35 51.6 -0.9**
comp=Z,4.7nm,0.6s,mb4.8
BR131 *e*pP pP 03 35 59.8 -1.4
BRTR Keskin Array B 60.62 309 P **P 03 35 51.6 -0.9**
comp=Z,2.9nm,0.9s,mb4.4,baz=127,slow=7.4,SNR=10
STKA Stephens Creek 62.21 136 *e*P **P 03 36 04.5 +1.2**
comp=Z,7.6nm,0.8s,mb4.9
STKA Stephens Creek 62.21 136 P **P 03 36 03.8 +0.5**
comp=Z,7.6nm,0.7s,mb4.9,baz=303,slow=6.0,SNR=14
MOS Moscow 62.26 327 *e*P pP 03 36 10.9 -1.4
MOS pmax pmax
comp=Z,100nm,1.9s,mb5.6
OBN Obninsk 62.60 327 *de*P **P 03 36 05.5 -0.4**
OBN *e* pP 03 36 14.0 -0.6
OBN *e* 03 38 33.1
OBN *e*S **S 03 44 32.4 +0.3**
OBN *e*SS SS 03 48 39.0 +2.4
OBN pmax pmax
comp=Z,23nm,1.9s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
SEY Seymchan 65.06 25 *e*P **P 03 36 21.0 -1.1**
AKASG Malin Array Be 65.69 320 P **P 03 36 24.9 -1.3**
comp=Z,0.6nm,0.5s,mb3.9,baz=84,slow=5.2,SNR=8.2
BURAR Bucovina Array 67.80 317 ⇑*i*P pP 03 36 48.1 -0.3
DRGR 69.41 316 ⇑*i*P **P 03 36 50.2 +0.5**
KWP Kalwaria 69.68 319 *e*P **P 03 36 51.3 0.0**
KWP pmax pmax
comp=Z,23nm,1.4s,mb4.9
KWP Kalwaria 69.68 319 *e*P **P 03 36 51.3 0.0**
comp=Z,23nm,1.4s,mb4.9
FINES FINESS Array B 69.72 331 P **P 03 36 51.0 -0.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=102,slow=9.5,SNR=13
KAF Kangasniemi 69.76 332 *ep* **P 03 36 56.3 +4.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=101,slow=5.7
KAF Kangasniemi 69.76 332 *e*P **P 03 36 56.3 +4.5**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
UZH Uzhgorod 69.85 318 *e*P **P 03 36 53.2 +0.8**
UZH pmax pmax
comp=Z,22nm,1.2s,mb5.0
CRVS Cervenica-Dubn 70.42 318 *e*P **P 03 36 56.6 +0.7**
STHS Stebnicka Huta 70.61 318 *e*P **P 03 37 01.5 +4.5**
STHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
STHS Stebnicka Huta 70.61 318 *e*P **P 03 37 01.5 +4.5**
comp=Z,2.3nm,1.0s,mb4.1
KECS Kecovo 71.04 317 *e*P **P 03 37 03.2 +3.6**
KECS pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
KECS Kecovo 71.04 317 *e*P **P 03 37 03.2 +3.6**
comp=Z,3.1nm,1.3s,mb4.1
NIE Niedzica 71.21 318 *e*P **P 03 37 01.7 +1.0**
OJC Ojcow 71.60 319 *e*P **P 03 37 03.8 +0.8**
OJC Ojcow 71.60 319 *e*P **P 03 37 03.8 +0.8**
ARCES ARCESS Array B 71.94 340 P **P 03 37 04.3 -0.7**
comp=Z,1.9nm,0.8s,mb4.0,baz=94,slow=7.3,SNR=5.9
ARCES ARCESS Array B 71.94 340 P **P 03 37 04.3 -0.7**
VYHS Vyhne 72.14 317 *e*P **P 03 37 06.2 0.0**
BILL Bilibino 72.18 22 ⇑*i*P **P 03 37 06.3 -0.2**
BILL *i* pP 03 37 12.6 -2.7
BILL pmax pmax
comp=Z,19nm,1.4s,mb4.8
OKC Ostrava-Krasne 72.64 319 *e*P **P 03 37 09.6 +0.3**
MORC Moravsky Berou 73.03 319 ⇑*i*P **P 03 37 12.7 +1.1**
MORC Moravsky Berou 73.03 319 *e*P **P 03 37 12.1 +0.5**
MORC *e**PP pP 03 37 20.3 -0.1
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 73.03 319 *e*P **P 03 37 12.1 +0.5**
comp=Z,9.9nm,1.0s,mb4.7
MORC *e*pP pP 03 37 20.3 -0.1
ZST Bratislava 73.28 317 *e*P **P 03 37 13.8 +0.8**
ZST pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ZST Bratislava 73.28 317 *e*P **P 03 37 13.8 +0.8**
comp=Z,8.2nm,1.2s,mb4.5
DPC Dobruska-Polom 73.83 319 *e*P **P 03 37 17.2 +0.9**
UPC Upice 74.03 319 *e*P **P 03 37 17.9 +0.4**
TREC Trest 74.36 318 *e*P **P 03 37 19.3 -0.1**
PERS Pernice 74.63 315 *e*P **P 03 37 20.9 0.0**
PRU Pruhonice 74.97 319 *e*P **P 03 37 23.1 +0.2**
LJU Ljubljana 75.05 315 *e*P **P 03 37 23.5 +0.1**
BRG Berggiesshubel 75.35 320 *e*P **P 03 37 25.7 +0.6**
comp=Z,3.7nm,1.0s,mb4.2
BRG *e* pP 03 37 33.5 -0.4
comp=Z,5.4nm,1.0s
BRG *e* 03 37 40.7
comp=Z,7.8nm,1.4s
GEC2 GERESS Array S 75.54 318 *e*P **P 03 37 26.5 +0.3**
GEC2 *e**PP pP 03 37 34.4 -0.6
GERES GERESS Array B 75.54 318 P **P 03 37 26.6 +0.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=87,slow=5.5,SNR=14
KHC Kasperske Hory 75.61 318 *e*P **P 03 37 26.5 -0.1**
CLL Collm 75.94 320 *e*P **P 03 37 32.0 +3.6**
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CLL Collm 75.94 320 *e*P **P 03 37 32.0 +3.6**
comp=Z,9.0nm,0.9s,mb4.7
CLL Collm 75.94 320 *e*P **P 03 37 28.0 -0.4**
comp=Z,9.0nm,0.9s,mb4.7
CLL *e*pP pP 03 37 36.0 -1.3
NB2 NORSAR Subarra 76.80 330 P **P 03 37 31.1 -2.2**
comp=Z,10nm,1.1s,mb4.7,baz=88,slow=5.9
NB2 NORSAR Subarra 76.80 330 P **P 03 37 31.1 -2.2**
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NOA NORSAR Array B 76.80 330 P **P 03 37 31.7 -1.6**
comp=Z,1.3nm,1.0s,mb3.8,baz=90,slow=5.8,SNR=3.1
MOX Moxa 76.83 319 *e*P **P 03 37 34.5 +1.0**
comp=Z,12nm,1.6s,mb4.6

MOX Moxa 76.83 319 *e*P **P 03 37 34.5 +1.0**
MOX pmax pmax
comp=Z,12nm,1.6s,mb4.6
GRA1 Grafenberg Arr 77.13 319 *e*P **P 03 37 35.8 +0.6**
comp=Z,11nm,1.3s,mb4.6
GRF Grafenberg Arr 77.13 319 *e*P **P 03 37 35.8 +0.6**
comp=Z,11nm,1.3s,mb4.6
GRF Grafenberg Arr 77.13 319 *e*P **P 03 37 35.8 +0.6**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.6
GRF Grafenberg Arr 77.13 319 *e*P **P 03 37 35.8 +0.6**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.6
BOSA Boshof 78.38 237 P **P 03 37 41.0 -1.1**
comp=Z,6.8nm,0.8s,mb4.6,baz=86,slow=6.9,SNR=7.2
BOSA Boshof 78.38 237 *e*P **P 03 37 44.1 +1.9**
BOSA pmax pmax
comp=Z,18nm,1.1s,mb4.9
BOSA Boshof 78.38 237 *e*P **P 03 37 44.1 +1.9**
comp=Z,18nm,1.1s,mb4.9
KEST Kesra 79.75 304 P **P 03 37 50.3 +0.6**
comp=Z,1.8nm,1.0s,mb4.0,baz=34,slow=3.6,SNR=4.0
CDF Champ du Feu 79.82 317 *e*P **P 03 37 47.6 -2.4**
comp=Z,20nm,1.2s,mb4.6
CDF Champ du Feu 79.82 317 *e*P **P 03 37 47.6 -2.4**
CDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CDF Champ du Feu 79.82 317 *e*P **P 03 37 47.6 -2.4**
comp=Z,9.8nm,1.2s,mb4.6
HAU Haudompre 80.48 317 *e*P **P 03 37 51.1 -2.5**
comp=Z,24nm,0.9s,mb4.8
HAU Haudompre 80.48 317 *e*P **P 03 37 51.1 -2.5**
HAU pmax pmax
comp=Z,12nm,0.9s,mb4.8
HAU Haudompre 80.48 317 *e*P **P 03 37 51.1 -2.5**
comp=Z,12nm,0.9s,mb4.8
LPG La Plagne 80.52 315 *e*P **P 03 37 52.0 -1.8**
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 80.52 315 *e*P **P 03 37 52.0 -1.8**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPG La Plagne 80.52 315 *e*P **P 03 37 52.0 -1.8**
comp=Z,8.1nm,0.8s,mb4.7
LPL La Plagne 80.53 315 *e*P **P 03 37 52.1 -1.7**
comp=Z,28nm,1.0s,mb4.8
LPL La Plagne 80.53 315 *e*P **P 03 37 52.1 -1.7**
LPL pmax pmax
comp=Z,14nm,1.0s,mb4.8
LPL La Plagne 80.53 315 *e*P **P 03 37 52.1 -1.7**
comp=Z,14nm,1.0s,mb4.8
FRF La Foret Royal 80.83 313 *e*P **P 03 37 53.4 -2.1**
comp=Z,27nm,1.0s,mb4.8
FRF La Foret Royal 80.83 313 *e*P **P 03 37 53.4 -2.1**
FRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
FRF La Foret Royal 80.83 313 *e*P **P 03 37 53.4 -2.1**
comp=Z,13nm,1.0s,mb4.8
LMR La Mourre 80.96 312 *e*P **P 03 37 54.1 -2.1**
comp=Z,27nm,1.1s,mb4.8
LMR La Mourre 80.96 312 *e*P **P 03 37 54.1 -2.1**
LMR pmax pmax
comp=Z,13nm,1.1s,mb4.8
LMR La Mourre 80.96 312 *e*P **P 03 37 54.1 -2.1**
comp=Z,13nm,1.1s,mb4.8
BAIF Baives 81.61 319 *e*P **P 03 37 57.7 -1.9**
TSUM Tsumeb 82.23 249 *e*P **P 03 38 05.2 +2.3**
comp=Z,4.2nm,1.2s,mb4.2
LOR Lormes 82.25 317 *e*P **P 03 38 00.6 -2.4**
comp=Z,22nm,1.0s,mb4.7
LOR Lormes 82.25 317 *e*P **P 03 38 00.6 -2.4**
LOR pmax pmax
comp=Z,11nm,1.0s,mb4.7
LOR Lormes 82.25 317 *e*P **P 03 38 00.6 -2.4**
comp=Z,11nm,1.0s,mb4.8
SMF Signal de Mont 82.36 316 *e*P **P 03 38 01.2 -2.4**
comp=Z,32nm,1.1s,mb4.9
SMF Signal de Mont 82.36 316 *e*P **P 03 38 01.2 -2.4**
SMF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 82.36 316 *e*P **P 03 38 01.2 -2.4**
comp=Z,16nm,1.1s,mb4.9
MAW Mawson 82.49 192 P **P 03 38 04.5 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=33,slow=9.9,SNR=7.8
AVF Avril sur Loir 82.67 316 *e*P **P 03 38 02.8 -2.4**
BGF Bois d'Agland 83.05 316 *e*P **P 03 38 05.1 -2.1**
comp=Z,42nm,1.2s,mb5.0
BGF Bois d'Agland 83.05 316 *e*P **P 03 38 05.1 -2.1**
BGF pmax pmax
comp=Z,21nm,1.2s,mb5.0
BGF Bois d'Agland 83.05 316 *e*P **P 03 38 05.1 -2.1**
comp=Z,21nm,1.2s,mb5.0
SUR Sutherland 83.25 235 *e*P **P 03 38 11.3 +3.1**
comp=Z,17nm,0.8s,mb5.1
TCF Toulx Ste Croi 83.53 316 *e*P **P 03 38 07.8 -1.8**
comp=Z,46nm,1.3s,mb5.2
TCF Toulx Ste Croi 83.53 316 *e*P **P 03 38 07.8 -1.8**
TCF pmax pmax
comp=Z,23nm,1.3s,mb5.2
TCF Toulx Ste Croi 83.53 316 *e*P **P 03 38 07.8 -1.8**
comp=Z,23nm,1.3s,mb5.2
RJF Les Rejaudoux 84.19 315 *e*P **P 03 38 11.3 -1.7**
comp=Z,21nm,0.9s,mb5.0
RJF Les Rejaudoux 84.19 315 *e*P **P 03 38 11.3 -1.7**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
RJF Les Rejaudoux 84.19 315 *e*P **P 03 38 11.3 -1.7**
comp=Z,10nm,0.9s,mb5.0
LDF La Druitiere 84.65 318 *e*P **P 03 38 13.2 -2.1**
IMA2 Indian Mountai 87.72 22 *e*P **P 03 38 30.6 +0.2**
IMA2 *e*pP pP 03 38 38.4 -1.0
SYO Syowa Base 89.35 197 ⇓*i*P **P 03 38 39.8 +1.7**
SYO Syowa Base 89.35 197 ⇑*i*P pP 03 38 47.4 +0.3
ESDC Sonseca Array 89.38 310 P **P 03 38 39.4 +1.2**
comp=Z,0.1nm,0.3s,mb3.6,baz=59,slow=4.3,SNR=2.9
TORD Torodi Ar. Bea 90.55 283 P **P 03 38 44.6 +0.8**
comp=Z,1.6nm,1.0s,mb4.3,baz=61,slow=4.4,SNR=8.4
TORD LR LR 04 20 58.3
comp=Z,103nm,19.4s,MS4.3,baz=135,slow=37
MCK McKinley 90.57 24 *e*P **P 03 38 43.7 -0.1**
MCK *e**PP pP 03 38 51.8 -1.1
MCK pmax pmax
comp=Z,12nm,1.1s,mb5.1
MCK McKinley 90.57 24 *e*P **P 03 38 43.7 -0.1**
comp=Z,12nm,1.1s,mb5.1
MCK *e*pP pP 03 38 51.8 -1.0
INK Inuvik 93.04 16 *e*P **P 03 38 55.0 -0.3**
comp=Z,306nm,1.2s
DAWY Dawson 93.94 21 *e*P **P 03 38 59.8 +0.4**
DAWY *e*pP pP 03 39 07.4 -1.1
DBIC Dimbokro 98.25 279 LR LR 04 22 22.9
comp=Z,113nm,20.7s,MS4.3,baz=118,slow=35
NVAR Mina Array Bea 121.16 30 PKP PKPdf 03 44 35.5 +1.1
comp=Z,0.9nm,0.8s,baz=277,slow=4.1,SNR=6.7
PDAR Pinedale Array 121.25 21 PKP PKPdf 03 44 34.1 -0.5
comp=Z,1.1nm,1.1s,baz=1.9,slow=4.5,SNR=6.8
MSU Marysvale 123.90 26 *e*PKIKP PKPdf 03 44 41.9 +2.2
SMCO Snowmass 125.34 21 *e*PKPdf PKPdf 03 44 44.3 +1.9
ANMO Albuquerque 129.28 23 *e*PKIKP PKPdf 03 44 51.5 +1.6
TUC Tucson 129.71 29 *e*PKIKP PKPdf 03 44 52.9 +2.1
JCT Junction City 135.65 18 *e*PKIKP PKPdf 03 45 03.6 +1.6
BDFB Brasilia 143.91 260 PKP PKPdf 03 45 18.3 +1.4
comp=Z,3.8nm,0.8s,baz=127,slow=6.3,SNR=5.4
CPD Cerro la Pandu 144.92 327 *e*PKIKP PKPdf 03 45 19.1 +0.4
TRQA Tornquist 146.71 214 *e*PKPbc PKPbc 03 45 24.9 +1.5
PLCA Paso Flores 148.47 201 PKPbc PKPbc 03 45 27.4 -0.8
comp=Z,2.4nm,1.0s,baz=225,slow=1.4,SNR=2.5
PLCA Paso Flores 148.47 201 *e*PKPbc PKPbc 03 45 30.0 +1.7
CPUP Villa Florida 150.20 237 PKP PKPdf 03 45 29.6 +2.1
comp=Z,3.2nm,0.7s,baz=337,slow=6.4,SNR=3.0
CPUP PKPbc PKPbc 03 45 34.0 +1.5
comp=Z,4.7nm,0.8s,baz=78,slow=4.7,SNR=11
CPUP PKPab PKPab 03 45 40.7 +2.0
comp=Z,14nm,1.0s,baz=67,slow=3.2,SNR=12
CPUP Villa Florida 150.20 237 *e*PKPdf PKPdf 03 45 29.1 +1.6
CPUP *e*PKPbc PKPbc 03 45 33.9 +1.3
CPUP *e*PKPab PKPab 03 45 41.6 +2.9
LPAZ La Paz 163.04 253 PKP PKPdf 03 45 46.4 +2.5
comp=Z,1.3nm,1.2s,baz=13,slow=6.9,SNR=3.9
LPAZ PKPab PKPab 03 46 35.9 +2.1
comp=Z,1.1nm,1.0s,baz=63,slow=18,SNR=2.0
LPAZ La Paz 163.04 253 *e*PKPdf PKPdf 03 45 46.8 +2.8
LPAZ *e*PKPab PKPab 03 46 35.9 +2.2

SZGRF ***01*** *03:27:46.4, 939N×9751E, h33km, mb4.5, Nicobar*

Islands, India, region

*IDC **01** 03:27:59.7±0.5, 1176N×9501E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/22, mbtmp4.1/18, MS3.8/2, Ms1 3.8/2, ms1mx3.5/23, Error ellipse: s-maj=29.0km s-min=13.8km az=54.0*

*BJI **01** 03:28:01.8, 1133N×9526E, h36km, mB5.0, mb4.7, Ms4.9, Msz4.6*

*ISCJB **01** 03:28:01.7±0.4, 1167N±007×9495E±005, h24km, mb4.5/41, MS3.8/3, Error ellipse: s-maj=9.5km s-min=7.6km az=25.9*

*NEIC **01** 03:28:03.6±0.2, 1168N×9492E, mb4.7/25, Error ellipse: s-maj=9.3km s-min=6.2km az=57.0*

*MOS **01** 03:28:03.6±0.9, 1180N×9499E, h33km, mb5.0/24, Error ellipse: s-maj=16.9km s-min=6.6km az=115.9*

ISC 01 03:28:04.0±0.4**, 1169N**±007×**9492E**±006**, h25**km**, h25**km±1.2km**:pP-P, n121,** σ0ˢ**78**/104**, mb4.5**/41**, MS3.8**/3**, 1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.13	269⇓	eP	Pn	03 28 27.0	-11
PBA				eS	Sn	03 29 02.6	-0.9
KMI	Kunming	15.28	28	P	Pn	03 31 40.5	+2.7
KMI				AP	pP	03 31 44.3	-5.1
KMI				XP	sP	03 31 46.9	-5.7
KMI				PP		03 31 51.0	
KMI				PPP		03 31 56.4	
KMI				S	Sn	03 34 20.0	-6.2
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,178nm,3.8s						
KMI				LR	LR		
	comp=N,1µm,10.8s						
KMI				LR	LR		
	comp=E,1µm,11.2s						
KMI				LR	LR		
	comp=Z,1µm,10.8s						
KMI	Kunming	15.28	28	P	Pn	03 31 40.5	+2.7
	comp=Z,6.0nm,1.2s						
KMI				pP	pP	03 31 44.3	-5.1
KMI				sP	sP	03 31 46.9	-5.7
KMI				PP		03 31 51.0	
KMI				PPP		03 31 56.4	
KMI				S	Sn	03 34 20.0	-6.2
KMI				sS	sS	03 34 26.7	-27
KMI				SS		03 34 38.8	
KMI				SSS		03 34 50.9	
LSA	Lhasa	18.26	349	eP	Pn	03 32 15.5	0.0
LSA				pmax	pmax		
	comp=Z,22nm,0.9s						
LSA	Lhasa	18.26	349	ePn	Pn	03 32 15.5	0.0
	comp=Z,22nm,0.9s						
LSA				epPn		03 32 22.6	
CD2	Chengdu	20.80	22	eP	P	03 32 44.8	+1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
WMQ	Urumqi	32.62	350	eP	P	03 34 33.0	-0.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,109nm,4.6s						
WMQ				LR	LR		
	comp=Z,208nm,22.0s,MS3.8						
AAK	Ala-Archa	35.58	334	eP	P	03 34 59.4	+0.2
AAK				e*PP	pP	03 35 06.9	+0.1
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AAK	Ala-Archa	35.58	334	eP	P	03 34 59.4	+0.1
	comp=Z,10nm,1.1s,mb4.7						
AAK				epP	pP	03 35 06.9	0.0
MKAR	Makanchi Array	36.58	345	P	P	03 35 08.0	+0.2
	comp=Z,2.8nm,1.0s,mb4.1,baz=146,slow=8.0,SNR=3.7						
SONM	Songino Array	37.29	13	P	P	03 35 13.2	-0.7
	comp=Z,4.3nm,0.9s,mb4.3,baz=194,slow=8.4,SNR=8.8						
SONM				LR	LR	03 53 10.9	
	comp=Z,141nm,19.1s,MS3.8,baz=5.9,slow=41						
TLY	Talaya	40.50	8	eP	P	03 35 41.4	+0.7
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
TLY	Talaya	40.50	8	eP	P	03 35 41.4	+0.7
	comp=Z,7.1nm,0.8s,mb4.3						
CN2	Changchun	41.43	34	eP	P	03 35 48.0	-0.4
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	42.38	134	P	P	03 35 55.3	-0.8
	comp=Z,1.6nm,0.9s,mb3.7,baz=321,slow=14,SNR=2.3						
FITZ				PcP	PcP	03 37 49.6	+0.4
	comp=Z,1.4nm,0.6s,baz=37,slow=5.1,SNR=4.4						
HIA	Hailar	42.74	24	eP	P	03 35 58.7	-0.3
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	Hailar	42.74	24	eP	P	03 35 58.7	-0.3
	comp=Z,8.6nm,0.7s,mb4.6						
BVAR	Borovoye Array	45.67	339	P	P	03 36 20.8	-1.8
	comp=Z,0.5nm,0.4s,mb3.8,baz=126,slow=7.3,SNR=2.8						
BVAR				PcP	PcP	03 38 00.4	+0.1
	comp=Z,0.9nm,0.7s,baz=188,slow=4.1,SNR=3.5						
BVAR	Borovoye Array	45.67	339	P	P	03 36 20.8	-1.8
BVAR				PcP	PcP	03 38 00.4	+0.1
BRVK	Borovoye	45.74	339	eP	P	03 36 25.3	+2.2
BRVK				e*PP	pP	03 36 30.7	-0.1
BRVK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
BRVK	Borovoye	45.74	339	eP	P	03 36 25.3	+2.2
	comp=Z,15nm,1.2s,mb4.8						
BRVK				epP	pP	03 36 30.7	-0.1
MJAR	Matsushiro Arr	46.09	50	PcP	PcP	03 38 00.6	-1.2
	comp=Z,1.5nm,1.0s,baz=252,slow=3.7,SNR=5.1						
ZRNK	Zerenda	46.10	338	eP	P	03 36 25.7	-0.2
ZRNK				e*PP	pP	03 36 33.0	-0.7
ZRNK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
ZRNK	Zerenda	46.10	338	eP	P	03 36 25.7	-0.2
	comp=Z,11nm,1.1s,mb4.7						
ZRNK				epP	pP	03 36 33.0	-0.7
BOD	Bodaibo	48.28	14	eP	P	03 36 41.6	-1.3
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
AKTK	Aktyubinsk	49.03	329	P	P	03 36 48.0	-0.7
AKTO	Aktyubinsk	49.03	329	P	P	03 36 48.0	-0.7
	comp=Z,1.3nm,0.9s,mb4.0,baz=144,slow=12,SNR=3.2						
WRA	Warramunga Arr	49.94	129	P	P	03 36 55.3	-0.3
	comp=Z,5.0nm,0.8s,mb4.6,baz=307,slow=8.3,SNR=7.1						
AS31	Alice Springs	51.85	133	eP	P	03 37 10.0	0.0
ASAR	Alice Springs	51.85	133	P	P	03 37 10.3	+0.3
	comp=Z,2.9nm,0.7s,mb4.3,baz=310,slow=6.8,SNR=11						
ARU	Arti	52.72	336	eP	P	03 37 15.9	-0.6
ARU				e*PP	pP	03 37 23.7	-0.6
ARU				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
ARU	Arti	52.72	336	eP	P	03 37 15.9	-0.6
	comp=Z,25nm,1.5s,mb4.9						
ARU				epP	pP	03 37 23.7	-0.6
BR131	Keskin Array S	60.58	309	eP	P	03 38 11.7	-0.7
	comp=Z,4.6nm,0.8s,mb4.7						
BR131				epP	pP	03 38 18.9	-1.4
BRTR	Keskin Array B	60.58	309	P	P	03 38 12.1	-0.3
	comp=Z,2.6nm,0.7s,mb4.5,baz=119,slow=7.5,SNR=9.0						
STKA	Stephens Creek	62.23	136	P	P	03 38 22.4	-1.0
	comp=Z,3.7nm,0.9s,mb4.5,baz=299,slow=7.6,SNR=6.3						
STKA	Stephens Creek	62.23	136	eP	P	03 38 23.6	+0.2
MOS	Moscow	62.27	327	eP	pP	03 38 31.3	-0.4
OBN	Obninsk	62.61	327	eP	P	03 38 26.5	+0.5
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
MA2	Magadan	63.05	28	eP	P	03 38 28.2	-0.8
MA2				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
MA2	Magadan	63.05	28	eP	P	03 38 28.2	-0.8
	comp=Z,14nm,0.8s,mb5.1						
AKASG	Malin Array Be	65.68	321	P	P	03 38 45.1	-1.0
	comp=Z,0.6nm,0.5s,mb3.9,baz=82,slow=6.5,SNR=4.0						
JOF	Joensuu	67.77	334	ep	P	03 38 58.9	-0.6
HNR	Honiara	67.96	105	LR	LR	04 07 33.5	
	comp=Z,67nm,20.7s,MS3.9,baz=358,slow=35						
KWP	Kalwaria	69.66	319	eP	P	03 39 11.2	-0.1
KWP				e*PP	pP	03 39 18.7	-0.6
KWP				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
KWP	Kalwaria	69.66	319	eP	P	03 39 11.2	-0.1
	comp=Z,16nm,1.1s,mb4.8						
KWP				epP	pP	03 39 18.7	-0.6
FINES	FINESS Array B	69.73	331	P	P	03 39 11.7	0.0
	comp=Z,1.7nm,0.6s,mb4.1,baz=111,slow=5.3,SNR=6.8						
KAF	Kangasniemi	69.78	332	ep	P	03 39 10.4	-1.6
CRVS	Cervenica-Dubn	70.41	318	eP	P	03 39 16.7	+0.9
OJC	Ojcow	71.59	319	eP	P	03 39 23.2	+0.2
ARCES	ARCESS Array B	71.96	340	P	P	03 39 24.8	-0.4
	comp=Z,3.6nm,1.1s,mb4.2,baz=91,slow=6.3,SNR=4.4						
VYHS	Vyhne	72.12	317	eP	P	03 39 26.5	+0.3
MORC	Moravsky Berou	73.02	319	eP	P	03 39 32.0	+0.5
MORC				e*PP	pP	03 39 39.4	-0.2
MORC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MORC	Moravsky Berou	73.02	319	eP	P	03 39 32.0	+0.5
	comp=Z,9.0nm,1.1s,mb4.6						
MORC				epP	pP	03 39 39.4	-0.2
ZST	Bratislava	73.26	317	eP	P	03 39 34.2	+1.2
DPC	Dobruska-Polom	73.82	319	epP	pP	03 39 43.6	-0.8
UPC	Upice	74.02	319	eP	P	03 39 37.8	+0.4
TREC	Trest	74.35	318	epP	pP	03 39 46.6	-0.9
PVCC	Panska Ves	74.94	319	eP	P	03 39 47.4	+4.6
PRU	Pruhonice	74.96	319	eP	P	03 39 43.5	+0.6
GEC2	GERESS Array S	75.53	318	eP	P	03 39 46.5	+0.4
GEC2				e*PP	pP	03 39 53.9	-0.4
GERES	GERESS Array B	75.53	318	P	P	03 39 46.8	+0.7
	comp=Z,2.5nm,0.7s,mb4.2,baz=89,slow=5.4,SNR=12						
KHC	Kasperske Hory	75.60	318	eP	P	03 39 46.8	+0.2
CLL	Collm	75.92	320	eP	pP	03 39 55.0	-1.6
CLL				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8						
CLL	Collm	75.92	320	eP	pP	03 39 55.0	-1.6
	comp=Z,19nm,1.6s						
CLL	Collm	75.92	320	epP	pP	03 39 56.0	-0.6
NB2	NORSAR Subarra	76.81	330	P	P	03 39 52.3	-1.2
	comp=Z,7.6nm,1.2s,mb4.5,baz=91,slow=5.9						
NB2	NORSAR Subarra	76.81	330	P	P	03 39 52.3	-1.2
NB2				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
NOA	NORSAR Array B	76.81	330	P	P	03 39 52.3	-1.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=94,slow=6.0,SNR=3.4						
MOX	Moxa	76.82	320	eP	pP	03 40 02.0	+0.3
GRA1	Grafenberg Arr	77.12	319	eP	P	03 39 55.3	+0.1
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.12	319	eP	P	03 39 55.3	+0.1
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.12	319	eP	P	03 39 55.3	+0.1
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.12	319	eP	P	03 39 55.3	+0.1
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BOSA	Boshof	78.26	237	P	P	03 40 02.6	+1.1
	comp=Z,5.9nm,0.8s,mb4.5,baz=74,slow=7.2,SNR=6.5						
BOSA	Boshof	78.26	237	eP	P	03 40 03.4	+1.8
BOSA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BOSA	Boshof	78.26	237	eP	P	03 40 03.4	+1.8
	comp=Z,9.2nm,1.0s,mb4.7						
KEST	Kesra	79.71	304	P	P	03 40 09.9	+0.4
	comp=Z,0.5nm,0.8s,mb3.5,baz=352,slow=9.4,SNR=4.1						
CDF	Champ du Feu	79.81	317	eP	P	03 40 09.7	-0.3
	comp=Z,6.3nm,0.9s,mb4.2						
CDF	Champ du Feu	79.81	317	eP	P	03 40 09.7	-0.3
CDF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CDF	Champ du Feu	79.81	317	eP	P	03 40 09.7	-0.3
	comp=Z,3.2nm,0.9s,mb4.2						
HAU	Haudompre	80.47	317	eP	P	03 40 13.2	-0.4
LPG	La Plagne	80.49	315	eP	P	03 40 14.2	+0.5
	comp=Z,20nm,1.0s,mb4.7						
LPG	La Plagne	80.49	315	eP	P	03 40 14.2	+0.5
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LPG	La Plagne	80.49	315	eP	P	03 40 14.2	+0.5
	comp=Z,9.9nm,1.0s,mb4.7						
LPL	La Plagne	80.50	315	eP	P	03 40 14.3	+0.5
	comp=Z,29nm,1.1s,mb4.8						
LPL	La Plagne	80.50	315	eP	P	03 40 14.3	+0.5
LPL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
LPL	La Plagne	80.50	315	eP	P	03 40 14.3	+0.5
	comp=Z,15nm,1.1s,mb4.8						
FRF	La Foret Royal	80.81	313	eP	P	03 40 15.5	+0.1
	comp=Z,44nm,1.2s,mb5.0						
FRF	La Foret Royal	80.81	313	eP	P	03 40 15.5	+0.1
FRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
FRF	La Foret Royal	80.81	313	eP	P	03 40 15.5	+0.1
	comp=Z,22nm,1.2s,mb5.0						
LMR	La Mourre	80.94	312	eP	P	03 40 16.3	+0.2
BAIF	Baives	81.60	319	eP	P	03 40 19.9	+0.3
	comp=Z,55nm,1.3s,mb5.0						
BAIF	Baives	81.60	319	eP	P	03 40 19.9	+0.3
BAIF				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
BAIF	Baives	81.60	319	eP	P	03 40 19.9	+0.3
	comp=Z,27nm,1.3s,mb5.0						
LOR	Lormes	82.24	317	eP	P	03 40 22.6	-0.4
	comp=Z,24nm,1.2s,mb4.7						
LOR	Lormes	82.24	317	eP	P	03 40 22.6	-0.4
LOR				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
LOR	Lormes	82.24	317	eP	P	03 40 22.6	-0.4
	comp=Z,12nm,1.2s,mb4.7						
SMF	Signal de Mont	82.34	316	eP	P	03 40 23.2	-0.3
AVF	Avril sur Loir	82.65	316	eP	P	03 40 24.8	-0.3
TCF	Toulx Ste Croi	83.51	316	eP	P	03 40 29.9	+0.3
	comp=Z,36nm,1.2s,mb5.1						
TCF	Toulx Ste Croi	83.51	316	eP	P	03 40 29.9	+0.3
TCF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
TCF	Toulx Ste Croi	83.51	316	eP	P	03 40 29.9	+0.3
	comp=Z,18nm,1.2s,mb5.1						
RJF	Les Rejaudoux	84.17	315	eP	P	03 40 33.3	+0.4
LDF	La Druitiere	84.64	318	eP	P	03 40 35.4	+0.1
ESDC	Sonseca Array	89.35	310	P	P	03 40 59.9	+1.7
	comp=Z,0.4nm,0.7s,mb3.9,baz=347,slow=5.3,SNR=2.9						
TORD	Torodi Ar. Bea	90.47	283	P	P	03 41 04.7	+1.3
	comp=Z,2.0nm,1.1s,mb4.4,baz=75,slow=4.2,SNR=6.1						
MCK	McKinley	90.67	24	eP	P	03 41 03.9	-0.5
MCK				e*PP	pP	03 41 12.7	+0.1
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
MCK	McKinley	90.67	24	eP	P	03 41 03.9	-0.5
	comp=Z,2.9nm,0.8s,mb4.7						
MCK				epP	pP	03 41 12.7	0.0
INK	Inuvik	93.14	16	eP	P	03 41 15.3	-0.5
DAWY	Dawson	94.04	21	eP	P	03 41 19.8	-0.1
NVAR	Mina Array Bea	121.26	30	PKP	PKPdf	03 46 55.9	+1.2
	comp=Z,1.0nm,0.7s,baz=270,slow=4.0,SNR=8.5						
PDAR	Pinedale Array	121.35	21	PKP	PKPdf	03 46 54.5	-0.4
	comp=Z,0.2nm,0.7s,baz=298,slow=3.2,SNR=3.8						
MSU	Marysvale	124.00	26	ePKIKP	PKPdf	03 47 01.8	+1.9
TUC	Tucson	129.81	29	ePKIKP	PKPdf	03 47 12.5	+1.5
JCT	Junction City	135.75	18	ePKIKP	PKPdf	03 47 21.8	-0.4
BDFB	Brasilia	143.80	259	PKP	PKPdf	03 47 37.0	+0.2
	comp=Z,3.4nm,0.7s,baz=144,slow=4.3,SNR=4.7						
CPD	Cerro la Pandu	144.92	327	ePKIKP	PKPdf	03 47 39.2	+0.4
TRQA	Tornquist	146.60	214	ePKPbc	PKPbc	03 47 45.0	+1.8
PLCA	Paso Flores	148.37	201	PKPbc	PKPbc	03 47 49.5	+1.4
	comp=Z,1.7nm,0.8s,baz=153,slow=3.7,SNR=3.4						
CPUP	Villa Florida	150.08	237	PKPbc	PKPbc	03 47 53.9	+1.5
	comp=Z,0.9nm,0.4s,baz=66,slow=5.7,SNR=4.4						
CPUP	Villa Florida	150.08	237	ePKPdf	PKPdf	03 47 48.7	+1.4
CPUP				ePKPbc	PKPbc	03 47 53.9	+1.6

IDC 01 03:38:49.0±20.0**, 2105S**×**17584W, h0**km**, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.7**/14**, mbtmp3.8**/3**, 1D, Error ellipse: s-maj=511.4km s-min=52.8km az=123.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.36	257	P	P	03 47 17.5	+0.6
	0.9nm,0.8s,baz=98,slow=7.9,SNR=9.6						
WRA	Warramunga Arr	46.53	262	P	P	03 47 18.3	+0.2
	1.1nm,0.8s,baz=102,slow=8.7,SNR=8.0						
MJAR	Matsushiro Arr	71.86	322	P	P	03 50 13.7	-0.1
	1.1nm,0.7s,baz=153,slow=7.8,SNR=5.5						
SYO	Syowa Base	86.62	192⇓	eP	P	03 51 32.2	-2.1

*LDG **01** 03:40:04.5±0.1, 43.16N×087W, h12km, Md1.4/2, Ml0.9/1, Error ellipse: s-maj=1.8km s-min=1.1km az=19.0*

*STR **01** 03:40:04.9±0.1, 43.15N×082W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 01 03:40:03.6±0.7**, 4320N**×**088W, h19**km±4km**, mbLg0.6**/2**, Error ellipse: s-maj=6.4km s-min=2.3km az=18.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.04	286	Pg	Pg	03 40 07.2	+0.3
ORDF				Sg	Sg	03 40 08.9	-0.3
ORDF	Ordiarp	0.04	286	P	Pg	03 40 07.2	+0.3
ORDF				S	Sg	03 40 08.9	-0.2
ATE	Arette	0.18	131	P	Pg	03 40 08.1	-0.2
ATE				S	Sg	03 40 10.5	-1.0
LARF	Larrau	0.18	205	Pg	Pg	03 40 08.3	0.0
LARF				Sg	Sg	03 40 10.8	-0.7
LARF	Larrau	0.18	205	P	Pg	03 40 08.3	0.0
LARF				S	Sg	03 40 10.8	-0.7
SJPF	Ste Jean	0.27	250	ePg	Pg	03 40 10.1	+0.5
SJPF				eSg	Sg	03 40 13.8	+0.1
	4.1nm,0.3s						
SJPF	Ste Jean	0.27	250	Pg	Pg	03 40 10.1	+0.5
SJPF				Lg		03 40 13.8	
	2.0nm,0.3s						
ETSF	Etsaut	0.39	142	ePg	Pg	03 40 11.4	-0.3
ETSF				eSg	Sg	03 40 16.7	-0.4
	1.8nm,0.2s						
ETSF	Etsaut	0.39	142	Pg	Pg	03 40 11.4	-0.3
ETSF				Lg		03 40 16.7	
	0.9nm,0.2s						
EALK	Alkurruntz	0.46	272	Pg	Pg	03 40 10.3	-2.6
	SNR=7.9						
EALK				Lg		03 40 20.0	
	1.5nm,0.2s,SNR=7.9						
ELIZ	Elizondo	0.47	266	Pg	Pg	03 40 10.8	-2.4
	SNR=4.0						
ELIZ				Lg		03 40 18.8	
	0.4nm,0.2s,SNR=4.0						
EPF	Esparros	0.91	100	eSg	Sg	03 40 33.3	-0.1
	0.4nm,0.2s						
EPF	Esparros	0.91	100	Lg		03 40 33.3	
	0.2nm,0.2s						
EBIE	Bielsa	0.91	124	Pg	Pg	03 40 21.2	-0.2
	SNR=4.0						
EBIE				Lg		03 40 32.8	
	0.2nm,0.1s,SNR=7.9						

IDC 01 03:58:26.1±1.4**, 5375S**×**2470E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, Error ellipse: s-maj=48.2km s-min=36.5km az=83.0, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	21.59	203	P	P	04 03 17.1	-0.3
	1.0nm,0.7s,baz=79,slow=16,SNR=6.3						
TORD	Torodi Ar. Bea	69.47	336	P	P	04 09 36.1	-0.1
	0.5nm,0.8s,baz=168,slow=6.9,SNR=3.3						
ASAR	Alice Springs	81.84	119	P	P	04 10 47.5	+0.5
	0.7nm,0.9s,baz=207,slow=6.0,SNR=4.6						
WRA	Warramunga Arr	85.13	117	P	P	04 11 03.6	-0.4
	0.4nm,0.9s,baz=204,slow=3.6,SNR=5.0						

*NIED **01** 04:28:00, 4620N×15330E, h8km, Mw5.2 Best double couple: M₀6.20000×10^16 NP1:φs202.00000°, δ56.00000°, λ84.00000°. NP2:φs33.00000°, δ35.00000°, λ99.00000°.*

*ISCJB **01** 04:28:33.6±0.7, 4606N±003×15312E±002, h3km±4km, mb5.0/184, MS4.9/70, Error ellipse: s-maj=4.9km s-min=1.9km az=152.2*

*IDC **01** 04:28:34.4±0.5, 4611N×15304E, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.7/26, mbtmp4.6/24, MS4.7/29, Ms1 4.7/29, ms1mx4.6/42, Error ellipse: s-maj=15.9km s-min=14.0km az=156.0*

*SKHL **01** 04:28:35.2±0.5, 4610N×15340E, h52km±17km, mb5.3/10, mbh5.8/7, mbv5.9/10, ms5.2/10, msh5.5/4*

*BJI **01** 04:28:35.1, 4627N×15307E, h13km, mB5.3, mb4.9, Ms5.0, Msz4.8*

*NEIC **01** 04:28:36.6±0.2, 4616N×15305E, h10km, mb5.0/108, Error ellipse: s-maj=6.0km s-min=3.1km az=173.0*

*GCMT **01** 04:28:36.6±0.2, 4620N×15328E, h12km, MW5.2/91, Moment Tensor Solution. s55,c103; s91,c183; Duration: 1ˢ0 Moment tensor: Scale 10^17Nm; Mrr0.72±.02; Mθθ-0.23±.01; Mφφ-0.48±.01; Mrθ0.16±.03; Mθφ-0.47±.01; Mφr0.32±.04; Best double couple: M₀0.86200×10^17 NP1:φs223.00000°, δ33.00000°, λ100.00000°. NP2:φs32.00000°, δ58.00000°, λ84.00000°. Principal axes: T 0.8040, Plg77.0000°, Azm283.0000°; N 0.1160, Plg5.0000°, Azm35.0000°; P -0.9200, Plg12.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*JMA **01** 04:28:36.6±0.8, 4619N×15333E, h30km, M5.1*

*MOS **01** 04:28:37.9±1.0, 4622N×15301E, h29km, mb5.1/99, MS4.9/37, Error ellipse: s-maj=6.7km s-min=4.3km az=106.3*

*BGS **01** 04:28:38.7, 4640N×15289E, h10km, mb5.1*

*SZGRF **01** 04:28:43.2, 47.14N×15506E, h33km, mb5.2, East of Kuril Islands, Russia*

ISC 01 04:28:37.6±0.8**, 4622N**±003×**15304E**±002**, h14**km±5km**, h14**km±1.8km**:pP-P, n828,** σ1ˢ**00**/846**, mb5.0**/184**, MS4.9**/70**, 139C-92D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.76	257⇓	iP	Pn	04 29 34.0	-1.0
KUR				iP		04 29 34.0	
KUR				AMB	AMB	04 29 35.0	
	610nm,0.5s						
KUR				AMB	AMB	04 29 35.0	
	170nm,0.5s						
KUR				AMB	AMB	04 29 35.0	
	2µm,0.5s						
KUR				AMB	AMB	04 29 38.0	
	3µm,4.0s						
KUR				AMB	AMB	04 29 38.0	
	8µm,4.0s						
KUR				AMB	AMB	04 29 38.0	
	6µm,4.0s						
KUR				iS	Sn	04 30 18.5	-0.5
KUR				A		04 30 20.0	
	1µm,0.5s						
KUR				A		04 30 20.0	
	760nm,0.5s						
KUR				A		04 30 27.0	
	19µm,6.0s						
KUR				A		04 30 27.0	
	8µm,6.0s						
KUR				AMS	AMS	04 31 02.0	
	27µm,14.0s						
KUR				AMS	AMS	04 31 02.0	
	19µm,14.0s						
KUR	Kuril'sk	3.76	257⇓	iPN	Pn	04 29 34.0	-1.0
KUR				eS	Sn	04 30 18.0	-1.0
KUR				pmax	pmax		
	comp=N,610nm,0.5s						
KUR				pmax	pmax		
	comp=E,170nm,0.5s						
KUR				pmax	pmax		
	comp=Z,213nm,0.5s						
KUR				pmax	pmax		
	comp=N,3µm,4.0s						
KUR				pmax	pmax		
	comp=E,8µm,4.0s						
KUR				smax			
	comp=N,1µm,0.5s						
KUR				smax			
	comp=E,760nm,0.5s						
SKR	Severo-Kuril's	4.91	23	eP	Pn	04 29 47.3	-3.6
SKR				AMB	AMB	04 29 50.0	
	comp=E,2µm,5.0s						
SKR				AMB	AMB	04 29 52.5	
	comp=E,580nm,1.0s						
SKR				AMB	AMB	04 29 52.5	
	comp=E,1µm,1.0s						
SKR				AMB	AMB	04 29 52.5	
	comp=E,370nm,0.4s						
SKR				eS	Sn	04 30 41.0	-6.5
SKR				A		04 30 52.0	
	comp=E,4µm,4.0s						
SKR				A		04 30 52.0	
	comp=E,4µm,4.0s						
SKR				A		04 30 52.0	
	comp=E,12µm,8.0s						
SKR				A		04 30 52.0	

	comp=E,6μm,8.0s					
SKR			A		04 30 52.0	
	comp=E,13μm,8.0s					
SKR			A		04 30 52.0	
	comp=E,6μm,8.0s					
SKR			A		04 30 52.0	
	comp=E,670nm,1.0s					
SKR			A		04 30 52.0	
	comp=E,640nm,0.6s					
SKR			A		04 30 52.0	
	comp=E,570nm,0.6s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,8μm,13.0s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,20μm,13.0s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,8μm,13.0s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,10μm,13.0s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,20μm,13.0s					
SKR			AMS	AMS	04 32 12.0	
	comp=E,9μm,13.0s					
YUK	**Yuzh-Kuril'sk**	**5.53 249**	P	**Pn**	**04 30 00.5 +1.1**	
YUK			AMB	AMB	04 30 04.5	
	comp=E,380nm,0.5s					
YUK			AMB	AMB	04 30 04.5	
	comp=E,270nm,0.5s					
YUK			AMB	AMB	04 30 04.5	
	comp=E,620nm,0.5s					
YUK			AMB	AMB	04 30 05.0	
	comp=E,3μm,1.0s					
YUK			*e*S	**Sn**	**04 31 03.0 +0.2**	
YUK			A		04 31 19.5	
	comp=E,1μm,0.5s					
YUK			A		04 31 19.5	
	comp=E,540nm,0.5s					
YUK			A		04 31 26.0	
	comp=E,5μm,1.3s					
YUK			A		04 31 26.0	
	comp=E,6μm,1.3s					
YUK			AMS	AMS	04 31 53.0	
	comp=E,12μm,19.0s					
YUK			AMS	AMS	04 31 53.0	
	comp=E,9μm,19.0s					
NEM2	**Nemuro 2**	**5.93 244**	P	**Pn**	**04 30 03.7 -1.2**	
NEM2			*e*S	**Sn**	**04 31 07.5 -5.0**	
JRA	**Rausu**	**6.05 251**	P	**Pn**	**04 30 08.4 +1.8**	
JNK	**Nakash**	**6.47 249**	P	**Pn**	**04 30 13.3 +1.0**	
JNK			*e*S	**Sn**	**04 31 25.6 -0.4**	
JAK	**Akkeshi**	**6.77 245**	P	**Pn**	**04 30 15.7 -0.8**	
JAK			*e*S	**Sn**	**04 31 28.7 -4.7**	
JTKR	**Abashiri--Toko**	**6.85 254**	P	**Pn**	**04 30 19.3 +1.8**	
YSS	**Yuzh-Sakhalins**	**7.13 280**	⇓*i*P	**Pn**	**04 30 26.5 +5.2**	
YSS			AMB	AMB	04 30 29.5	
	comp=E,90nm,1.0s					
YSS			sP		04 30 47.0	
YSS			*e*S	**Sn**	**04 31 48.0 +5.9**	
YSS			A		04 31 52.0	
	comp=E,70nm,0.8s					
YSS			AMS	AMS	04 33 04.0	
	comp=E,7μm,16.0s					
YSS			AMS	AMS	04 33 04.0	
	comp=E,9μm,16.0s					
YSS	**Yuzh-Sakhalins**	**7.13 280**	⇓*i*PN	**Pn**	**04 30 26.5 +5.2**	
YSS			*e*S	**Sn**	**04 31 48.0 +5.9**	
YSS			pmax	pmax		
	comp=Z,90nm,1.0s					
YSS			smax			
	comp=N,70nm,0.8s					
YSS			MLR	MLR		
	comp=E,7μm,16.0s					
YSS			MLR	MLR		
	comp=Z,9μm,16.0s					
JMP	**Maruseppu**	**7.20 256**	P	**Pn**	**04 30 24.4 +2.1**	
JAR	**Ashorobuto**	**7.22 249**	P	**Pn**	**04 30 23.6 +1.0**	
JAR			*e*S	**Sn**	**04 31 43.4 -1.0**	
JOB	**Onbets**	**7.37 247**	P	**Pn**	**04 30 24.8 +0.2**	
JOB			*e*S	**Sn**	**04 31 43.4 -4.5**	
JSE	**Soyaes**	**7.45 264**	P	**Pn**	**04 30 29.8 +4.1**	
JKK2	**Kamakawa 2**	**7.66 256**	P	**Pn**	**04 30 31.0 +2.4**	
ASAJ	**Asahikawa**	**7.68 258**	Pn	**Pn**	**04 30 31.7 +2.8**	
	comp=Z,5.9nm,0.3s,baz=87,slow=19,SNR=36					
ASAJ	**Asahikawa**	**7.68 258**	P	**Pn**	**04 30 31.8 +2.9**	
ASAJ	**Asahikawa**	**7.68 258**	PN	**Pn**	**04 30 31.7 +2.8**	
ASAJ			pmax	pmax		
	comp=Z,6.0nm,0.3s					
PET	**Petropavlovsk**	**7.72 26**	*e*P	**Pn**	**04 30 28.1 -1.4**	
PET			AMB	AMB	04 30 30.9	
	comp=Z,290nm,5.6s					
PET			AMB	AMB	04 30 37.0	
	comp=Z,60nm,0.6s					
PET			*e*S	**Sn**	**04 31 53.2 -3.5**	
PET			A		04 32 05.4	
	comp=Z,180nm,0.8s					
PET			A		04 32 12.4	
	comp=Z,4μm,4.1s					
PET			AMS	AMS	04 34 32.6	
	comp=Z,4μm,13.0s					
PET			AMS	AMS	04 34 36.3	
	comp=Z,5μm,12.0s					
PET	**Petropavlovsk**	**7.72 26**	*e*PN	**Pn**	**04 30 36.1 +6.6**	
PET			MLR	MLR		
	comp=Z,3μm,18.0s					
PET			MLR	MLR		
	comp=Z,3μm,20.0s					
JCH	**Churui**	**7.81 246**	P	**Pn**	**04 30 30.7 0.0**	
JCH			*e*S	**Sn**	**04 31 54.6 -4.3**	
JWK2	**Keihoku**	**7.85 267**	P	**Pn**	**04 30 36.4 +5.2**	
UGL	**Uglegorsk**	**7.94 295**	*e*P	**Pn**	**04 30 37.8 +5.3**	
UGL			AMB	AMB	04 30 40.0	
	comp=Z,92nm,0.5s					
UGL			AMB	AMB	04 30 43.5	
	comp=Z,2μm,5.0s					
UGL			AMB	AMB	04 30 43.5	
	comp=Z,2μm,5.0s					
UGL			AMB	AMB	04 30 43.5	
	comp=Z,3μm,5.0s					
UGL			*e*S	**Sn**	**04 32 08.8 +6.6**	
UGL			A		04 32 11.5	
	comp=Z,74nm,0.7s					
UGL			A		04 32 11.5	
	comp=Z,100nm,0.7s					
UGL			AMS	AMS	04 33 44.0	
	comp=Z,3μm,17.0s					
UGL			AMS	AMS	04 33 44.0	
	comp=Z,7μm,17.0s					
UGL			AMS	AMS	04 33 44.0	
	comp=Z,8μm,17.0s					
UGL	**Uglegorsk**	**7.94 295**	*e*PN	**Pn**	**04 30 37.8 +5.3**	
UGL			S	**Sn**	**04 32 08.8 +6.6**	
UGL			pmax	pmax		
	comp=Z,92nm,0.5s					
UGL			pmax	pmax		
	comp=N,2μm,5.0s					
UGL			pmax	pmax		
	comp=E,2μm,5.0s					
UGL			pmax	pmax		
	comp=Z,3μm,5.0s					
UGL			smax			
	comp=N,74nm,0.7s					
UGL			smax			
	comp=E,100nm,0.7s					
UGL			MLR	MLR		
	comp=Z,8μm,17.0s					
UGL			MLR	MLR		
	comp=N,3μm,16.0s					
UGL			MLR	MLR		
	comp=E,7μm,16.0s					
JFR	**Furan**	**8.05 251**	P	**Pn**	**04 30 35.3 +1.3**	
JSS	**Shosan**	**8.10 261**	P	**Pn**	**04 30 38.6 +4.0**	
JAB	**Ashibetsu**	**8.15 254**	P	**Pn**	**04 30 38.1 +2.7**	
JEM	**Erimo**	**8.26 243**	P	**Pn**	**04 30 37.0 +0.1**	
JEM			*e*S	**Sn**	**04 32 04.4 -5.6**	
ERM	**Erimo**	**8.26 243**	Pn	**Pn**	**04 30 38.0 +1.1**	
	comp=E,789nm,0.5s,SNR=30					
ERM	**Erimo**	**8.26 243**	*e*Pn	**Pn**	**04 30 37.0 +0.1**	
	comp=E,135nm,0.6s					
ERM			*e*Sn	**Sn**	**04 32 09.2 -0.8**	
TYV	**Tymovskoe**	**8.31 308**	*e*P	**Pn**	**04 30 41.0 +3.5**	
TYV			AMB	AMB	04 30 45.2	
	comp=E,22nm,0.8s					
TYV			AMB	AMB	04 30 45.2	
	comp=E,60nm,0.8s					
TYV			AMB	AMB	04 30 50.0	
	comp=E,2μm,9.0s					
TYV			AMB	AMB	04 30 50.0	
	comp=E,2μm,9.0s					
TYV			AMB	AMB	04 30 50.0	
	comp=E,2μm,9.0s					
TYV			AMS	AMS	04 34 11.0	
	comp=E,7μm,16.0s					
TYV			AMS	AMS	04 34 11.0	
	comp=E,12μm,16.0s					
TYV			AMS	AMS	04 34 11.0	
	comp=E,16μm,16.0s					
JNBK	**Urakawa-nobuka**	**8.37 246**	P	**Pn**	**04 30 37.3 -1.1**	
JNBK			*e*S	**Sn**	**04 32 09.0 -3.7**	
JBT2	**Biratori 2**	**8.37 250**	P	**Pn**	**04 30 38.4 0.0**	
JHR	**Hokuryu**	**8.40 257**	P	**Pn**	**04 30 41.9 +3.1**	
JEW	**Eniwo**	**8.94 252**	P	**Pn**	**04 30 46.7 +0.4**	
JNB	**Noboribetsu**	**9.38 251**	P	**Pn**	**04 30 52.4 +0.1**	
JNB			*e*S	**Sn**	**04 32 34.8 -2.7**	
JSK	**Shakotan**	**9.39 257**	P	**Pn**	**04 30 54.5 +2.2**	
JKB	**Kayabe**	**9.67 248**	P	**Pn**	**04 30 55.2 -1.0**	
JKB			*e*S	**Sn**	**04 32 38.1 -6.5**	
OKH	**Okha**	**9.81 322**	*e*P	**Pn**	**04 31 00.0 +1.9**	
OKH			AMB	AMB	04 31 04.0	
	comp=E,3μm,5.0s					
OKH			AMS	AMS	04 35 12.2	
	comp=E,11μm,15.0s					
OKH			AMS	AMS	04 35 12.2	
	comp=E,8μm,15.0s					
OKH			AMS	AMS	04 35 12.2	
	comp=E,11μm,15.0s					
JSH	**Shimam**	**9.96 254**	P	**Pn**	**04 31 01.8 +1.6**	
JYM2	**Yakumo 2**	**9.98 250**	P	**Pn**	**04 31 00.7 +0.2**	
JANG	**Nango**	**10.23 239**	P	**Pn**	**04 31 00.7 -3.2**	
JANG			*e*S	**Sn**	**04 32 47.9 -10**	
JSR	**Shiriuchi**	**10.25 247**	P	**Pn**	**04 31 02.5 -1.6**	
JTM	**Tenmabayashi**	**10.25 242**	P	**Pn**	**04 31 02.2 -2.0**	
JTM			*e*S	**Sn**	**04 32 49.4 -9.5**	
JTH	**Tanohata**	**10.30 236**	P	**Pn**	**04 31 00.9 -4.0**	
JTH			*e*S	**Sn**	**04 32 48.1 -12**	
NKL	**Nikolayevsk**	**10.58 315**	*i*P	**Pn**	**04 31 09.5 +0.8**	
NKL			AMB	AMB	04 31 15.0	
	comp=E,1μm,5.0s					
NKL			AMB	AMB	04 31 15.0	
	comp=E,2μm,5.0s					
NKL			AMB	AMB	04 31 15.0	
	comp=E,2μm,5.0s					
NKL			AMB	AMB	04 31 20.0	
	comp=E,50nm,1.0s					
NKL			AMB	AMB	04 31 20.0	
	comp=E,80nm,1.0s					
NKL			AMS	AMS	04 35 53.0	
	comp=E,10μm,16.0s					
NKL			AMS	AMS	04 35 53.0	
	comp=E,6μm,16.0s					
NKL			AMS	AMS	04 35 53.0	
	comp=E,14μm,16.0s					
JOSM	**Okushiri--Mats**	**10.59 252**	P	**Pn**	**04 31 08.5 -0.3**	
OFUJ	**Ofunato**	**11.00 234**	P	**Pn**	**04 31 11.4 -3.0**	
OFUJ			*e*S	**Sn**	**04 33 05.7 -11**	
JRG	**Rokugo**	**11.38 238**	P	**Pn**	**04 31 16.2 -3.4**	
JRG			*e*S	**Sn**	**04 33 15.1 -11**	
TEY	**Ternei**	**11.58 270**	*e*P	**Pn**	**04 31 23.0 +0.7**	
TEY			AMB	AMB	04 31 32.0	
	comp=E,3μm,9.0s					
TEY			AMB	AMB	04 31 32.0	
	comp=E,2μm,5.0s					
TEY			AMS	AMS	04 36 07.0	
	comp=E,4μm,16.0s					
TEY			AMS	AMS	04 36 07.0	
	comp=E,3μm,16.0s					
TEY			AMS	AMS	04 36 07.0	
	comp=E,5μm,16.0s					
JIO	**Ouri**	**11.62 232**	P	**Pn**	**04 31 18.8 -4.0**	
JIO			*e*S	**Sn**	**04 33 19.7 -13**	
JYA	**Atsumi**	**12.45 237**	P	**Pn**	**04 31 30.5 -3.7**	
JYA			*e*S	**Sn**	**04 33 36.2 -16**	
JFK	**Kawauchi**	**12.66 230**	P	**Pn**	**04 31 35.2 -2.0**	
JFY	**Yanaizu**	**13.27 233**	P	**Pn**	**04 31 42.8 -2.7**	
MA2	**Magadan**	**13.45 355**	*d i*PN	**Pn**	**04 31 49.8 +1.9**	
MA2			*e*S	**Sn**	**04 34 24.6 +7.5**	
	comp=Z,20nm,0.7s					
MA2			pmax	pmax		
	comp=Z,5μm,11.9s					
MA2			MLR	MLR		
	comp=Z,21nm,0.6s					
MA2	**Magadan**	**13.45 355**	*e*Pn	**Pn**	**04 31 49.8 +1.9**	
KLR	**Kul'dur**	**14.64 290**	*e*P	**Pn**	**04 32 03.7 -0.4**	
KLR			*e*P		04 32 04.0	
KLR			AMB	AMB	04 32 05.2	
	comp=Z,57nm,1.6s					
KLR			AMB	AMB	04 32 05.2	
	comp=Z,42nm,1.6s					
KLR			AMB	AMB	04 32 16.5	
	comp=Z,1μm,10.0s					
KLR			AMB	AMB	04 32 16.5	
	comp=Z,2μm,10.0s					
KLR			AMS	AMS	04 38 17.0	
	comp=Z,5μm,15.0s					
KLR			AMS	AMS	04 38 17.0	
	comp=Z,6μm,15.0s					
KLR	**Kul'dur**	**14.64 290**	*e*P	**Pn**	**04 32 03.7 -0.4**	
KLR			*e*		04 34 53.0	
KLR			pmax	pmax		
	comp=E,57nm,1.6s					
KLR			pmax	pmax		
	comp=Z,42nm,1.6s					
KLR			pmax	pmax		
	comp=E,1μm,10.0s					
KLR			pmax	pmax		
	comp=Z,2μm,10.0s					
KLR			MLR	MLR		
	comp=E,5μm,15.0s					
KLR			MLR	MLR		
	comp=E,6μm,15.0s					
EKMR	**Ekimchan**	**14.68 305**	*e*P	**Pn**	**04 32 05.5 +0.8**	
EKMR			AMB	AMB	04 32 19.6	
	comp=Z,16nm,0.6s					
MJAR	**Matsushiro Arr**	**14.73 234**	Pn	**Pn**	**04 32 02.1 -3.3**	
	comp=Z,0.6nm,0.3s,baz=27,slow=14,SNR=17					
MJAR	**Matsushiro Arr**	**14.73 234**	P	**Pn**	**04 32 02.1 -3.2**	
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MAJO	**Matsushiro**	**14.73 234**	*e*P	**Pn**	**04 32 02.5 -2.8**	
MAT	**Matsushiro**	**14.73 234**	P	**Pn**	**04 32 01.9 -3.4**	
MAT			S	**Sn**	**04 34 46.0 -2.3**	
VLA	**Vladivostok**	**15.36 266**	*e*P	**Pn**	**04 32 13.0 -0.8**	
VLA			pmax	pmax		
	comp=Z,23nm,0.8s					
VLA			MLR	MLR		
	comp=Z,3μm,15.4s					
MDJ	**Mudanjiang**	**16.53 273**	P	**Pn**	**04 32 30.2 +1.3**	
MDJ			AP	pP	04 32 36.1 +0.6	
MDJ			XP	sP	04 32 38.4 +1.0	
MDJ			S	**Sn**	**04 35 34.0 +1.8**	
MDJ			SS		04 35 54.2	
MDJ			AMB	AMB		
	comp=Z,36nm,0.8s					
MDJ			AMB	AMB		
	comp=Z,531nm,4.3s					
MDJ			LR	LR		
	comp=N,712nm,14.7s					
MDJ			LR	LR		
	comp=E,2μm,18.3s					
MDJ			LR	LR		
	comp=Z,3μm,16.5s					
MDJ	**Mudanjiang**	**16.53 273**	*e*Pn	**Pn**	**04 32 30.0 +1.1**	
JHJ	**Hachijo jima 2**	**16.57 222**	LR	LR	04 38 13.4	
	comp=Z,556nm,18.9s,baz=101,slow=35					
BMKR	**Bomnak**	**17.52 308**	*e*P	**Pn**	**04 32 39.2 -2.1**	
BMKR			AMB	AMB	04 32 42.5	
	comp=Z,17nm,0.5s					
YASR	**Yasnyy**	**17.61 303**	*e*P	**Pn**	**04 32 40.5 -1.9**	
YASR			AMB	AMB	04 32 43.6	
	comp=Z,3.0nm,0.4s					
YASR			AMB	AMB	04 32 43.6	
	comp=Z,11nm,0.4s					
YASR			AMB	AMB	04 32 43.6	
	comp=Z,190nm,0.4s					
ZEA	**Zeya**	**18.14 304**	*e*P	**Pn**	**04 32 46.0 -3.0**	
ZEA			AMB	AMB	04 32 53.0	
	comp=Z,600nm,7.0s					
ZEA			AMB	AMB	04 32 53.0	
	comp=Z,1μm,7.0s					
ZEA			AMB	AMB	04 32 53.0	
	comp=Z,2μm,7.0s					
ZEA			A		04 36 33.0	
	comp=Z,600nm,9.0s					
ZEA			A		04 36 33.0	
	comp=Z,500nm,9.0s					
ZEA			A		04 36 33.0	
	comp=Z,1μm,9.0s					
ZEA			AMS	AMS	04 40 15.0	
	comp=Z,2μm,15.0s					
ZEA			AMS	AMS	04 40 15.0	
	comp=Z,3μm,15.0s					
ZEA			AMS	AMS	04 40 15.0	
	comp=Z,3μm,15.0s					
KROS	**Kirovskiy**	**18.48 306**	*e*P	**Pn**	**04 32 50.9 -2.2**	
KROS			AMB	AMB	04 32 58.3	
	comp=Z,16nm,0.7s					
KROS			AMB	AMB	04 32 58.3	
	comp=Z,21nm,0.7s					
CN2	**Changchun**	**19.62 273**	*e*P	**Pn**	**04 33 03.2 -3.7**	
CN2			*e*S	**Sn**	**04 36 37.0 -10**	
CN2			AMB	AMB		
	comp=Z,30nm,0.8s					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,2μm,16.0s					
CN2			LR	LR		
	comp=E,2μm,16.0s					
CN2			LR	LR		
	comp=Z,3μm,17.0s					
CLNS	**Chul'man**	**20.33 312**	*e*P	**P**	**04 33 13.4 +0.2**	
CLNS			*e*		04 33 31.7	
CLNS			*e*SS		04 37 46.8	
CLNS			pmax	pmax		
	comp=Z,45nm,1.3s					
CLNS			pmax	pmax		
	comp=N,37nm,0.9s					
CLNS			pmax	pmax		
	comp=E,28nm,1.1s					
CLNS			pmax	pmax		
	comp=Z,33nm,0.8s					
CLNS			pmax	pmax		
	comp=N,30nm,0.9s					
CLNS			pmax	pmax		
	comp=E,32nm,1.1s					
CLNS			MLR	MLR		
	comp=N,3μm,16.0s,MS5.0					
CLNS			MLR	MLR		
	comp=E,5μm,16.0s,MS5.0					
CLNS			MLR	MLR		
	comp=Z,7μm,16.0s,MS5.1					
KS15	**Wonju Array Si**	**20.63 254**	*e*Pn	**P**	**04 33 19.0 +2.5**	
YAK	**Yakutsk**	**20.74 328**	*e*P	**P**	**04 33 17.9 +0.2**	
YAK			*e**PP		04 33 27.4	
YAK			*e*		04 33 48.8	
YAK			*e*S	**S**	**04 37 11.7 +2.8**	
YAK			*e*SS		04 37 33.4	
YAK			pmax	pmax		
	comp=Z,33nm,0.9s					
YAK			pmax	pmax		
	comp=N,10.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,5.0nm,0.7s					
YAK			smax			
	comp=N,132nm,2.2s					
YAK			smax			
	comp=Z,41nm,1.8s					
YAK			smax			
	comp=E,172nm,2.8s					
YAK			MLR	MLR		
	comp=E,2μm,20.0s,MS4.6					
YAK			MLR	MLR		
	comp=Z,3μm,20.0s,MS4.6					
YAK			MLR	MLR		
	comp=N,2μm,17.0s,MS4.6					
YAK	**Yakutsk**	**20.74 328**	*e*P	**P**	**04 33 17.0 -0.7**	
	comp=N,70nm,0.7s					
INCN	**Inchon**	**21.45 255**	*e*P	**P**	**04 33 28.1 +2.8**	
SNY	**Shenyang**	**21.57 269**	⇑P	**P**	**04 33 26.9 +0.2**	
SNY			AP		04 33 30.9	
SNY			XP	sP	04 33 33.7 +1.1	
SNY			S	**S**	**04 37 28.1 +2.9**	
SNY			AMB	AMB		
	comp=Z,23nm,0.5s,mb4.9					
SNY			AMB	AMB		
	comp=Z,764nm,9.6s					
SNY			LR	LR		
	comp=N,693nm,10.8s,MS4.8					
SNY			LR	LR		
	comp=E,2μm,15.6s,MS4.8					
SNY			LR	LR		
	comp=Z,3μm,15.6s,MS4.8					
BILL	**Bilibino**	**22.92 13**	⇓*i*P	**P**	**04 33 40.6 -0.4**	
BILL			*i*		04 33 49.1	
BILL			*e*		04 34 06.0	
BILL			*i* S	**S**	**04 37 51.6 +1.1**	
BILL			pmax	pmax		
	comp=Z,70nm,1.6s,mb4.8					
BILL			MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7					
DL2	**Dalian**	**24.15 264**	⇑*i*P	**P**	**04 33 53.4 +0.3**	
DL2			S	**S**	**04 38 10.6 0.0**	
DL2			AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7					
DL2			AMB	AMB		
	comp=Z,530nm,5.0s					
DL2			LR	LR		
	comp=N,610nm,15.2s,MS4.3					
DL2			LR	LR		
	comp=E,400nm,15.1s,MS4.3					
DL2			LR	LR		
	comp=Z,550nm,14.4s,MS4.2					
CIT	**Chita**	**26.24 297**	*e*P	**P**	**04 34 10.5 -1.6**	
CIT			pmax	pmax		
	comp=Z,30nm,2.4s,mb4.4					
BOD	**Bodaibo**	**26.29 310**	*e*P	**P**	**04 34 10.5 -2.0**	
BOD			pmax	pmax		
	comp=Z,16nm,1.5s,mb4.3					
BJI	**Beijing**	**27.43 270**	*e*P	**P**	**04 34 23.4 +0.6**	
BJI			S	**S**	**04 39 04.2 +1.6**	
BJI			AMB	AMB		
	comp=Z,20nm,1.6s,mb4.4					
BJI			AMB	AMB		
	comp=Z,916nm,5.7s					
BJI			LR	LR		
	comp=N,1μm,17.6s,MS4.9					
BJI			LR	LR		
	comp=E,2μm,16.6s,MS4.9					
BJI			LR	LR		
	comp=Z,2μm,17.7s,MS4.7					
BJI	**Beijing**	**27.43 270**	*e*P	**P**	**04 34 23.4 +0.6**	
	comp=Z,20nm,1.6s,mb4.4					
BJI			sP	sP	04 34 26.8 -2.1	
BJI			S	**S**	**04 39 04.2 +1.6**	
BJI			LR	LR		
	comp=Z,2μm,17.7s,MS4.7					
BJT	**Baijiatuau**	**27.44 270**	*e*P	**P**	**04 34 23.6 +0.7**	
BJT			pmax	pmax		
	comp=Z,23nm,0.8s					
BJT	**Baijiatuau**	**27.44 270**	*e*P	**P**	**04 34 23.6 +0.8**	
	comp=Z,23nm,0.8s,mb4.8					
SSE	**Sheshan**	**28.87 250**	*e*P	**P**	**04 34 33.9 -1.7**	
SSE			AP	pP	04 34 37.6 -2.4	
SSE			S	**S**	**04 39 23.3 -2.0**	
SSE			SCS	ScS	04 45 18.6 -0.8	
SSE			AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2					
SSE			AMB	AMB		
	comp=Z,148nm,3.7s					
SSE			LR	LR		
	comp=N,432nm,17.6s,MS4.5					
SSE			LR	LR		
	comp=E,1μm,17.5s,MS4.5					
SSE			LR	LR		
	comp=Z,1μm,16.1s,MS4.5					
SSE	**Sheshan**	**28.87 250**	*e*P	**P**	**04 34 33.9 -1.7**	
	comp=Z,39nm,0.7s,mb5.2					
SSE			pP	pP	04 34 37.6 -2.4	
SSE			S	**S**	**04 39 23.3 -2.0**	
SSE			sS	sS	04 39 28.2 -4.3	
SSE			ScS	ScS	04 45 18.6 -0.8	
SSE			LR	LR		
	comp=Z,1μm,16.1s,MS4.5					
NJ2	**Nanjing**	**29.80 254**	*e*P	**P**	**04 34 45.4 +1.5**	
NJ2			AP	pP	04 34 55.4 +7.2	
NJ2			XP	sP	04 34 59.0 +9.0	
NJ2			PP	PP	04 35 43.5 -7.6	
NJ2			S	**S**	**04 39 40.0 +0.1**	

NJ2				XS	sS	04 39 55.0	+7.9
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,420nm,4.4s						
NJ2				LR	LR		
	comp=N,4µm,15.1s,MS5.3						
NJ2				LR	LR		
	comp=E,4µm,14.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,5µm,16.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**30.29**	**275**	*e*P	**P**	**04 34 48.8**	**+0.6**
HHC				AP	pP	04 34 53.6	+1.0
HHC				XP	sP	04 34 56.4	+2.1
HHC				PP	PP	04 35 46.0	-11
HHC				PCP	PcP	04 37 49.9	+1.5
HHC				S	**S**	**04 39 47.0**	**-0.6**
HHC				SS	SS	04 41 27.7	-29
HHC				SCP	ScP	04 41 30.2	-0.1
HHC				SCS	ScS	04 45 24.8	-1.3
HHC				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2						
HHC				AMB	AMB		
	comp=Z,347nm,6.3s						
HHC				LR	LR		
	comp=N,2µm,15.1s,MS4.9						
HHC				LR	LR		
	comp=E,1µm,15.9s,MS4.9						
HHC				LR	LR		
	comp=Z,2µm,16.9s,MS4.9						
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**04 34 58.3**	**-0.3**
	comp=Z,1.8nm,0.4s,mb4.2,baz=75,slow=8.6,SNR=15						
SONM				PcP	PcP	04 37 51.4	-0.1
	comp=Z,1.3nm,0.6s,baz=78,slow=2.5,SNR=4.2						
SONM				LR	LR	04 50 08.7	
	comp=Z,2µm,18.4s,MS4.7,baz=75,slow=41						
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**04 34 58.3**	**-0.3**
SONM						04 37 51.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,2µm,18.4s						
IRK	**Irkutsk**	**31.91**	**299**	*e*P	**P**	**04 35 04.2**	**+1.7**
IRK				*e*		04 36 27.2	
IRK				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.6						
TLY	**Talaya**	**32.38**	**298**	*e*P	**P**	**04 35 05.7**	**-0.9**
TLY				*e*		04 36 15.7	
TLY				*e*S	**S**	**04 40 26.9**	**+6.6**
TLY				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
TLY				MLR	MLR		
	comp=Z,4µm,17.0s,MS5.2						
TLY	**Talaya**	**32.38**	**298**	*e*P	**P**	**04 35 05.9**	**-0.8**
TTA	**Tatalina**	**32.85**	**41**	*e*P	**P**	**04 35 10.5**	**-0.2**
TTA				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
TTA	**Tatalina**	**32.85**	**41**	*e*P	**P**	**04 35 10.8**	**+0.1**
ZAK	**Zakamensk**	**32.86**	**296**	⇑*i*P	**P**	**04 35 10.1**	**-0.7**
ZAK				*e*		04 37 55.1	
SVW2	**Sparrevohn**	**32.90**	**44**	*e*P	**P**	**04 35 11.6**	**+0.4**
WHN	**Wuhan**	**33.75**	**256**	*e*P	**P**	**04 35 18.8**	**+0.2**
IMA2	**Indian Mountai**	**34.26**	**36**	*e*P	**P**	**04 35 23.1**	**+0.1**
KDAK	**Kodiak Island**	**34.48**	**50**	P	**P**	**04 35 23.6**	**-1.3**
	comp=Z,9.7nm,0.7s,mb4.8,baz=300,slow=4.9,SNR=12						
KDAK	**Kodiak Island**	**34.48**	**50**	*e*P	**P**	**04 35 23.4**	**-1.5**
	comp=Z,9.9nm,0.6s,mb4.9						
XAN	**Xi'an**	**35.42**	**266**	P	**P**	**04 35 33.6**	**+0.5**
XAN				AP	pP	04 35 35.4	-2.1
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
SLKM	**Skilak Lake**	**35.53**	**45**	*e*P	**P**	**04 35 33.2**	**-0.8**
PMR	**Palmer**	**36.02**	**44**	*e*P	**P**	**04 35 37.6**	**-0.5**
PMR				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
PMR				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.3						
PMR	**Palmer**	**36.02**	**44**	*e*P	**P**	**04 35 37.6**	**-0.5**
	comp=Z,30nm,1.4s,mb5.0						
PMR				LR	LR		
	comp=Z,500nm,17.0s,MS4.3						
MCK	**McKinley**	**36.09**	**40**	*e*P	**P**	**04 35 38.4**	**-0.4**
MCK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
MCK	**McKinley**	**36.09**	**40**	*e*P	**P**	**04 35 38.4**	**-0.4**
	comp=Z,18nm,1.0s,mb4.9						
COLA	**College**	**36.58**	**38**	*e*P	**P**	**04 35 42.6**	**-0.4**
COLA				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
COLA	**College**	**36.58**	**38**	*e*P	**P**	**04 35 42.6**	**-0.4**
	comp=Z,23nm,0.8s,mb5.1						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**04 35 55.0**	**+1.2**
LZH				AP	pP	04 35 58.0	-0.2
LZH				XP	sP	04 36 00.5	+0.5
LZH				PCP	PcP	04 38 13.2	+3.2
LZH				*e*S	**S**	**04 41 47.0**	**+2.4**
LZH				XS	sS	04 41 56.0	+4.1
LZH				AMB	AMB		
	comp=Z,125nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,687nm,5.6s						
LZH				LR	LR		
	comp=N,2µm,13.2s						
LZH				LR	LR		
	comp=Z,3µm,14.9s,MS5.2						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**04 35 55.0**	**+1.2**
LZH				*SP	sP	04 36 00.5	+0.5
LZH						04 38 13.2	
LZH				*e*S	**S**	**04 41 47.0**	**+2.4**
LZH				*SS	sS	04 41 56.0	+4.1
LZH				SS	SS	04 44 14.0	-17
LZH				pmax	pmax		
	comp=Z,125nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,3µm,14.9s,MS5.2						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**04 35 55.0**	**+1.2**
	comp=Z,125nm,1.5s,mb5.4						
LZH				pP	pP	04 35 58.0	-0.2
LZH				sP	sP	04 36 00.5	+0.5
LZH				PP	PP	04 37 32.0	+12
LZH				PcP	PcP	04 38 13.2	+3.2
LZH				*e*S	**S**	**04 41 47.0**	**+2.4**
LZH				sS	sS	04 41 56.0	+4.1
LZH				SS	SS	04 44 14.0	-17
LZH				LR	LR		
	comp=Z,3µm,14.9s,MS5.2						
MENT	**Mentasta**	**38.47**	**41**	*e*P	**P**	**04 35 59.4**	**+0.5**
GTA	**Gaotai**	**39.01**	**280**	*e*P	**P**	**04 36 04.6**	**+1.1**
GTA				AP	pP	04 36 08.8	+0.9
GTA				XP	sP	04 36 11.9	+2.2
GTA				PP	PP	04 37 38.4	+5.5
GTA				PCP	PcP	04 38 15.4	+1.8
GTA				S	**S**	**04 42 05.7**	**+3.8**
GTA				XS	sS	04 42 12.9	+3.7
GTA				SCS	ScS	04 46 11.2	-1.5
GTA				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,443nm,9.1s						
GTA				LR	LR		
	comp=N,911nm,20.2s,MS4.8						
GTA				LR	LR		
	comp=E,1µm,16.4s,MS4.8						
GTA				LR	LR		
	comp=Z,2µm,16.7s,MS4.9						
EGAK	**Eagle**	**39.45**	**38**	*e*P	**P**	**04 36 06.0**	**-1.2**
DAWY	**Dawson**	**40.28**	**39**	*e*P	**P**	**04 36 14.6**	**+0.5**
CD2	**Chengdu**	**40.79**	**266**	P	**P**	**04 36 17.3**	**-1.0**
CD2				AP	pP	04 36 21.8	-0.9
CD2				XP	sP	04 36 24.8	+0.3
CD2				PP	PP	04 37 56.5	+4.2
CD2				PCP	PcP	04 38 18.9	-0.4
CD2				S	**S**	**04 42 27.6**	**-1.0**
CD2				XS	sS	04 42 35.0	-0.9
CD2				SS	SS	04 45 23.6	-6.0
CD2				SCS	ScS	04 46 20.0	-3.2
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
CD2				AMB	AMB		
	comp=Z,300nm,9.6s						
CD2				LR	LR		
	comp=N,550nm,16.8s						
CD2				LR	LR		
	comp=Z,480nm,14.4s,MS4.5						

GYA	**Guiyang**	**41.55**	**258**	⇑*i*P	**P**	**04 36 25.2**	**+0.6**
GYA				AP	pP	04 36 29.8	+0.8
GYA				XP	sP	04 36 32.4	+1.6
GYA				PP	PP	04 38 05.6	+5.0
GYA				SCP	ScP	04 42 10.4	-1.0
GYA				S	**S**	**04 42 43.5**	**+3.5**
GYA				SCS	ScS	04 46 25.7	-2.1
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,240nm,8.1s						
GYA				LR	LR		
	comp=N,1µm,16.4s,MS5.0						
GYA				LR	LR		
	comp=E,740nm,17.0s,MS5.0						
GYA				LR	LR		
	comp=Z,750nm,16.4s,MS4.7						
INK	**Inuvik**	**42.12**	**32**	P	**P**	**04 36 29.4**	**+0.1**
	comp=Z,12nm,0.5s,mb4.8,baz=298,slow=6.9,SNR=97						
INK	**Inuvik**	**42.12**	**32**	*e*P	**P**	**04 36 29.3**	**0.0**
INK				pmax	pmax		
	comp=Z,31nm,1.0s						
INK	**Inuvik**	**42.12**	**32**	*e*P	**P**	**04 36 29.4**	**+0.1**
	comp=Z,1µm,1.0s						
NVS	**Novosibirsk**	**43.47**	**308**	*e*P	**P**	**04 36 38.3**	**-1.9**
QIZ	**Qiongzhong**	**44.60**	**247**	P	**P**	**04 36 48.2**	**-1.0**
QIZ				S	**S**	**04 43 25.9**	**+1.3**
QIZ				LR	LR		
	comp=N,621nm,20.4s,MS4.6						
QIZ				LR	LR		
	comp=E,518nm,20.4s,MS4.6						
WMQ	**Urumqi**	**45.07**	**292**	*e*P	**P**	**04 36 53.2**	**+0.2**
WMQ				AP	pP	04 36 57.5	0.0
WMQ				XP	sP	04 37 00.0	+0.7
WMQ				PCP	PcP	04 38 34.5	+0.9
WMQ				PPP		04 39 19.5	
WMQ				S	**S**	**04 43 31.0**	**-0.6**
WMQ				XS	sS	04 43 38.0	-0.9
WMQ				SS	SS	04 46 44.0	-10
WMQ				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,249nm,6.6s						
WMQ				LR	LR		
	comp=N,2µm,15.7s,MS5.2						
WMQ				LR	LR		
	comp=E,2µm,15.5s,MS5.2						
WMQ				LR	LR		
	comp=Z,1µm,16.6s,MS4.9						
KMI	**Kunming**	**45.10**	**260**	⇑P	**P**	**04 36 54.3**	**+1.1**
KMI				AP	pP	04 36 57.1	-0.6
KMI				XP	sP	04 36 58.3	-1.2
KMI				PCP	PcP	04 38 36.8	+3.1
KMI				PP	PP	04 38 40.3	+1.6
KMI				PPP		04 39 21.2	
KMI				S	**S**	**04 43 31.6**	**-0.3**
KMI				SS	SS	04 46 45.1	-9.1
KMI				SSS		04 47 43.6	
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,342nm,4.8s						
KMI				LR	LR		
	comp=N,1µm,15.8s,MS5.1						
KMI				LR	LR		
	comp=E,1µm,16.0s,MS5.1						
KMI				LR	LR		
	comp=Z,962nm,16.2s,MS4.8						
KMI	**Kunming**	**45.10**	**260**	⇑P	**P**	**04 36 54.3**	**+1.1**
KMI				*SP	sP	04 36 58.3	-1.2
KMI						04 38 36.8	
KMI						04 38 40.3	
KMI				PPP		04 39 21.2	
KMI				S	**S**	**04 43 31.6**	**-0.3**
KMI				*SS	sS	04 43 37.6	-1.7
KMI				SS	SS	04 46 45.1	-9.1
KMI				SSS		04 47 43.6	
KMI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
KMI				MLR	MLR		
	comp=Z,960nm,16.2s,MS4.8						
KMI	**Kunming**	**45.10**	**260**	⇑P	**P**	**04 36 54.3**	**+1.1**
	comp=Z,14nm,1.1s,mb4.7						
KMI				pP	pP	04 36 57.1	-0.6
KMI				sP	sP	04 36 58.3	-1.2
KMI				PcP	PcP	04 38 36.8	+3.1
KMI				PP	PP	04 38 40.3	+1.6
KMI				PPP		04 39 21.2	
KMI				S	**S**	**04 43 31.6**	**-0.3**
KMI				sS	sS	04 43 37.6	-1.7
KMI				SS	SS	04 46 45.1	-9.1
KMI				SSS		04 47 43.6	
KMI				LR	LR		
	comp=Z,960nm,16.2s,MS4.8						
MKAR	**Makanchi Array**	**47.14**	**298**	P	**P**	**04 37 08.5**	**-0.8**
	comp=Z,9.9nm,0.7s,mb4.8,baz=69,slow=7.5,SNR=55						
MKAR	**Makanchi Array**	**47.14**	**298**	P	**P**	**04 37 08.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURK	**Kurchatov**	**47.62**	**304**	P	**P**	**04 37 11.1**	**-1.9**
	comp=Z,152nm,0.6s,SNR=19						
LSA	**Lhasa**	**50.26**	**274**	P	**P**	**04 37 32.0**	**-1.2**
LSA	**Lhasa**	**50.26**	**274**	*e*P	**P**	**04 37 36.3**	**+3.1**
LSA				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.3						
LSA	**Lhasa**	**50.26**	**274**	*e*P	**P**	**04 37 36.3**	**+3.1**
	comp=Z,15nm,0.5s,mb5.3						
ALE	**Alert**	**50.27**	**6**	P	**P**	**04 37 32.9**	**-0.5**
	comp=Z,102nm,0.7s,mb6.0,SNR=7.2						
VOSK	**Vostochnaya**	**50.98**	**309**	*i* P	**P**	**04 37 37.4**	**-1.3**
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**04 37 38.7**	**-1.3**
	comp=Z,6.0nm,0.4s,mb4.8,baz=34,slow=6.9,SNR=42						
BVAR				LR	LR	05 01 04.1	
	comp=Z,2µm,18.3s,MS5.2,baz=320,slow=38						
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**04 37 38.7**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,2µm,18.3s						
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**04 37 38.7**	**-1.3**
BVAR				LR	LR	05 01 04.0	
BRVK	**Borovoye**	**51.20**	**310**	P	**P**	**04 37 39.4**	**-0.9**
	comp=Z,133nm,0.6s,mb6.0,SNR=12						
BRVK	**Borovoye**	**51.20**	**310**	*e*P	**P**	**04 37 38.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
BRVK	**Borovoye**	**51.20**	**310**	*e*P	**P**	**04 37 38.9**	**-1.4**
	comp=Z,11nm,0.5s,mb5.1						
YKW3	**Yellowknife Ar**	**51.34**	**36**	*e*P	**P**	**04 37 42.0**	**+0.6**
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**04 37 40.9**	**-0.8**
	comp=Z,9.6nm,0.9s,mb4.7,baz=299,slow=7.5,SNR=18						
YKA				PcP	PcP	04 38 55.1	-1.2
	comp=Z,1.2nm,0.5s,baz=303,slow=3.6,SNR=6.1						
YKA				LR	LR	05 02 45.5	
	comp=Z,233nm,18.8s,MS4.2,baz=110,slow=40						
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**04 37 40.9**	**-0.8**
YKA						04 38 55.1	
YKA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,233nm,18.8s						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**04 37 44.3**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**04 37 44.3**	**-1.5**
	comp=Z,9.5nm,0.4s,mb5.1						
CHTO	**Chiang Mai**	**51.95**	**257**	*e*P	**P**	**04 37 46.7**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**51.95**	**257**	*e*P	**P**	**04 37 46.7**	**+0.7**
	comp=Z,14nm,1.0s,mb4.8						
KBS	**Kingsbay**	**53.01**	**351**	*e*P	**P**	**04 37 51.7**	**-2.2**
KBS				*e*S	**S**	**04 45 22.5**	**-0.6**
KBS				AMS	AMS	05 05 02.9	
	comp=Z,228nm,17.4s,MS4.3						
KBS	**Kingsbay**	**53.01**	**351**	*e*P	**P**	**04 37 49.9**	**-3.9**
KBS				LR	LR		
	comp=Z,230nm,17.4s,MS4.3						
TKM2	**Tokmak 2**	**53.19**	**296**	P	**P**	**04 37 55.7**	**+0.6**
	SNR=8.1						
USP	**Ospenovka**	**53.68**	**297**	P	**P**	**04 37 58.9**	**+0.1**
	SNR=24						
FRU	**Bishkek**	**53.84**	**297**	*e*P	**P**	**04 38 01.0**	**+1.0**
FRU				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.3						

KZA	**Kyzart**	**53.86**	**296**	P	**P**	**04 38 01.6**	**+1.5**
	SNR=7.7						
AAK	**Ala-Archa**	**54.03**	**297**	P	**P**	**04 38 00.1**	**-1.2**
	comp=Z,73nm,0.7s,mb5.7,SNR=8.1						
AAK	**Ala-Archa**	**54.03**	**297**	P	**P**	**04 38 01.6**	**+0.3**
	SNR=9.3						
AAK	**Ala-Archa**	**54.03**	**297**	⇑*e*P	**P**	**04 37 59.9**	**-1.4**
AAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**54.03**	**297**	*e*P	**P**	**04 38 00.3**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
A05A	**Maple Falls**	**54.38**	**54**	⇑P	**P**	**04 38 03.2**	**-0.6**
	baz=54						
EKS2	**Erkin-Say**	**54.46**	**297**	P	**P**	**04 38 04.8**	**+0.4**
	SNR=17						
C04A	**Brinnon**	**54.55**	**56**	⇑P	**P**	**04 38 04.8**	**-0.3**
	baz=54						
GNW	**Green Mountain**	**54.72**	**56**	*e*P	**P**	**04 38 07.9**	**+1.5**
B05A	**Bryant**	**54.76**	**55**	⇑P	**P**	**04 38 06.5**	**-0.1**
	baz=54						
AML	**Almayashu**	**54.80**	**297**	P	**P**	**04 38 08.0**	**+1.1**
	SNR=6.5						
KSH	**Kashi**	**54.81**	**293**	⇑P	**P**	**04 38 08.8**	**+1.8**
KSH				*e*AP	pP	04 38 14.4	+2.8
KSH				*e*XP	sP	04 38 16.3	+3.0
KSH				*e*PCP	PcP	04 39 12.3	+3.0
KSH				*e*PP	PP	04 40 12.7	+3.0
KSH				*e*SCP	ScP	04 43 09.0	+1.7
KSH				*e*S	**S**	**04 45 46.9**	**-0.5**
KSH				*e*XS	sS	04 45 55.0	+0.1
KSH				*e*PS		04 46 05.2	
KSH				*e*SCS	ScS	04 47 54.5	-1.4
KSH				*e*SS	SS	04 49 29.3	-1.3
KSH				AMB	AMB		
	comp=Z,105nm,1.0s,mb5.8						
KSH				LR	LR		
	comp=N,2µm,17.6s						
KSH				LR	LR		
	comp=E,1µm,10.9s						
KSH				LR	LR		
	comp=Z,545nm,11.1s						
JIRN	**Jiri**	**54.94**	**275**	*e*P	**P**	**04 38 09.7**	**+1.8**
	comp=Z,8.9nm,0.2s,mb5.4						
B06A	**Marblemount**	**54.97**	**54**	⇑P	**P**	**04 38 07.8**	**-0.4**
	baz=55						
GUN	**Gumba**	**55.00**	**275**	*e*P	**P**	**04 38 09.9**	**+1.5**
	comp=Z,34nm,0.4s,mb5.7						
C05A	**Tolt Reservoir**	**55.30**	**55**	⇑P	**P**	**04 38 09.1**	**-1.4**
	baz=55						
ARU	**Arti**	**55.37**	**318**	P	**P**	**04 38 09.0**	**-2.0**
	comp=Z,170nm,0.5s,SNR=9.4						
ARU	**Arti**	**55.37**	**318**	⇓*i*P	**P**	**04 38 09.2**	**-1.8**
ARU				*e*		04 39 10.0	
ARU				*e*PPP		04 41 23.3	
ARU				*e*S	**S**	**04 45 53.0**	**-1.9**
ARU				*e*		04 47 57.3	
ARU				*e*SS	SS	04 49 42.1	+2.7
ARU				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
ARU				MLR	MLR		
	comp=E,1µm,18.0s,MS5.2						
ARU				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
ARU				MLR	MLR		
	comp=N,1µm,17.0s,MS5.2						
ARU	**Arti**	**55.37**	**318**	*e*P	**P**	**04 38 09.0**	**-2.0**
	comp=N,12nm,0.4s,mb5.3						
D05A	**Enumclaw**	**55.40**	**56**	⇓P	**P**	**04 38 10.7**	**-0.6**
	baz=55						
KKN	**Kakani**	**55.49**	**276**	*e*P	**P**	**04 38 13.5**	**+1.6**
	comp=N,44nm,0.6s,mb5.7						
PKI	**Pulchoki**	**55.54**	**275**	*e*P	**P**	**04 38 13.6**	**+1.4**
	comp=N,12nm,0.5s,mb5.2						
PMG	**Port Moresby**	**55.62**	**187**	LR	LR	04 58 35.1	
	comp=N,416nm,19.4s,MS4.5,baz=228,slow=32						
BJO	**Bjornoya**	**55.67**	**346**	AMS	AMS	05 08 01.0	
	comp=Z,944nm,16.4s,MS5.0						
DMN	**Daman**	**55.72**	**276**	*e*P	**P**	**04 38 15.3**	**+1.7**
	comp=Z,33nm,0.6s,mb5.5						
HNR	**Honiara**	**55.74**	**172**	LR	LR	05 03 18.3	
	comp=Z,446nm,18.3s,MS4.6,baz=0.3,slow=38						
B07A	**Winthrop**	**55.77**	**54**	⇑P	**P**	**04 38 12.2**	**-1.7**
	baz=56						
GKN	**Gorkha**	**55.80**	**276**	*e*P	**P**	**04 38 15.6**	**+1.5**
	comp=Z,34nm,0.5s,mb5.7						
F04A	**Amboy**	**55.84**	**57**	⇓P	**P**	**04 38 13.7**	**-0.7**
	baz=56						
E05A	**Randle**	**55.87**	**56**	⇓P	**P**	**04 38 13.7**	**-1.0**
	baz=56						
H03A	**Soap Creek Ran**	**56.02**	**59**	⇓P	**P**	**04 38 15.5**	**-0.1**
	baz=56						
D06A	**Cle Elum**	**56.05**	**55**	⇓P	**P**	**04 38 15.7**	**-0.3**
	baz=56						
KK31	**Karatay Array**	**56.21**	**299**	*i* P	**P**	**04 38 16.6**	**-0.5**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
C07A	**Waterville**	**56.22**	**54**	⇑P	**P**	**04 38 16.5**	**-0.6**
	baz=56						
A09A	**Danville**	**56.33**	**52**	P	**P**	**04 38 17.9**	**0.0**
	baz=56,SNR=17						
E06A	**Yakima**	**56.33**	**56**	⇑P	**P**	**04 38 15.4**	**-2.5**
	baz=56						
I03A	**Eugene**	**56.42**	**59**	⇑P	**P**	**04 38 18.3**	**-0.2**
	baz=56						
F05A	**White Salmon**	**56.42**	**57**	⇑P	**P**	**04 38 18.7**	**+0.1**
	baz=56						
J02A	**Umpqua**	**56.58**	**60**	⇑P	**P**	**04 38 18.2**	**-1.5**
	baz=56						
HOOD	**Mount Hood Mea**	**56.62**	**57**	*e*P	**P**	**04 38 22.0**	**+2.0**
KOLN	**Koldanda**	**56.66**	**277**	*e*P	**P**	**04 38 21.8**	**+1.5**
	comp=Z,70nm,0.9s,mb5.7						
H04A	**Detroit Lake**	**56.67**	**58**	⇓P	**P**	**04 38 19.2**	**-1.1**
	baz=56,SNR=10.0						
EDM	**Edmonton**	**56.72**	**46**	*e*P	**P**	**04 38 20.1**	**-0.6**
G05A	**Wamic**	**56.87**	**57**	⇑P	**P**	**04 38 21.0**	**-0.7**
	baz=57						
B09A	**Rice**	**56.88**	**53**	⇓P	**P**	**04 38 20.5**	**-1.3**
	baz=57,SNR=6.5						
F06A	**Goldendale**	**56.88**	**57**	⇓P	**P**	**04 38 21.5**	**-0.3**
	baz=57						
A10A	**Northport**	**56.89**	**52**	⇓P	**P**	**04 38 20.7**	**-1.3**
	baz=57,SNR=6.4						
J03A	**Ideyld Park**	**56.94**	**60**	⇓P	**P**	**04 38 22.5**	**+0.2**
	baz=57						
E07A	**Sunnyside**	**56.97**	**55**	⇑P	**P**	**04 38 22.1**	**-0.4**
	baz=57						
K02A	**Glendale**	**56.97**	**61**	⇓P	**P**	**04 38 22.3**	**-0.2**
	baz=57						
C09A	**Chrisman Ranch**	**57.16**	**53**	⇑P	**P**	**04 38 23.4**	**-0.4**
	baz=57						
DAG	**Danmarks Havn**	**57.17**	**358**	⇑*i*P	**P**	**04 38 23.6**	**-0.3**
	comp=Z,22nm,1.2s,mb5.1						
DAG	**Danmarks Havn**	**57.17**	**358**	⇑*i*P	**P**	**04 38 23.6**	**-0.3**
DAG				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
D08A	**Wollman Farm,**	**57.22**	**54**	⇓P	**P**	**04 38 23.0**	**-1.3**
	baz=57						
HAWA	**Hanford**	**57.25**	**55**	*e*P	**P**	**04 38 23.6**	**-0.8**
	comp=Z,8.2nm,0.9s,mb4.8						
L02A	**Cave Junction**	**57.25**	**61**	⇑P	**P**	**04 38 23.4**	**-1.0**
	baz=57						
H05A	**Madras**	**57.25**	**58**	⇓P	**P**	**04 38 24.2**	**-0.3**
	baz=57						
G06A	**Carlson Farm,**	**57.27**	**57**	⇓P	**P**	**04 38 23.8**	**-0.8**
	baz=57						
F07A	**Phinny Hill Vi**	**57.30**	**56**	⇑P	**P**	**04 38 24.0**	**-0.8**
	baz=57,SNR=5.0						
I05A	**Bend**	**57.51**	**58**	⇑P	**P**	**04 38 25.1**	**-1.1**
	baz=57						
NEW	**Newport**	**57.53**	**52**	LR	LR	05 00 29.6	
	comp=Z,376nm,21.9s,MS4.5,baz=233,slow=33						
NEW	**Newport**	**57.53**	**52**	P	**P**	**04 38 26.5**	**0.0**
NEW				pmax	pmax		
	comp=Z,12nm,1.0s						
NEW	**Newport**	**57.53**	**52**	*e*P	**P**	**04 38 26.5**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.8						
D09A	**Jones Farm, Ri**	**57.56**	**54**	⇑P	**P**	**04 38 25.8**	**-0.8**
	baz=57						
BOK	**Bokaro**	**57.61**	**272**	*e*P	**P**	**04 38 26.4**	**-0.6**
BOK				AMb	AMB	04 38 29.9	
	comp=Z,30nm,1.0s,mb5.3						
C10A	**Spilker Farm,**	**57.69**	**53**	P	**P**	**04 38 27.5**	**0.0**
	baz=57,SNR=7.1						
H06A	**Lindquist Farm**	**57.73**	**57**	⇑P	**P**	**04 38 28.4**	**+0.6**
	baz=58,SNR=5.9						
APA	**Apatity**	**57.80**	**337**	⇑*i*P	**P**	**04 38 28.3**	**0.0**
APA				pmax	pmax		

comp=Z,43nm,1.4s,mb5.3
APA MLR MLR
G07A Ruggs Ranch, H 57.81 56 ⇑P P 04 38 28.1 -0.3
baz=58
KEV Kevo 57.83 341 ep P 04 38 26.1 -2.4
comp=Z,3.1nm,0.4s,mb4.7
KEV Kevo 57.83 341 eP P 04 38 26.1 -2.4
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
KHMM Horse Mountain 57.91 63 eP P 04 38 30.2 +1.1
LGTI Lohaghat 57.92 280 eP P 04 38 30.0 +0.9
A12A Yaak River Ran 57.95 51 ⇑P P 04 38 29.3 -0.1
baz=58
E09A Wood Farm, Sta 57.97 55 P P 04 38 29.4 -0.1
baz=58,SNR=12
F08A Pendleton 58.02 56 ⇓P P 04 38 30.4 +0.5
baz=58
J05A Fort Rock 58.03 59 ⇑P P 04 38 30.6 +0.6
baz=58,SNR=9.2
YBH Yreka Blue Hor 58.04 61 eP P 04 38 31.0 +1.0
YBH Yreka Blue Hor 58.04 61 ⇑P P 04 38 30.3 +0.3
baz=58
K04A Chilquin 58.12 60 ⇓P P 04 38 29.1 -1.5
baz=58
M02C Callahan 58.15 62 ⇑P P 04 38 31.5 +0.7
baz=58
N02C Big Bar 58.20 63 ⇓P P 04 38 30.2 -1.0
baz=58
G08A Pilot Rock 58.20 56 ⇑P P 04 38 30.0 -1.2
baz=58,SNR=11
I06A Prineville 58.26 58 ⇑P P 04 38 31.7 +0.2
baz=58,SNR=8.3
B12A Libby 58.26 51 ⇓P P 04 38 29.7 -1.8
baz=58
H07A Lands Inn, Kim 58.26 57 ⇑P P 04 38 31.2 -0.3
baz=58
L04A Klamath Falls 58.28 61 ⇓P P 04 38 31.0 -0.6
baz=58
O01C Eel River Cons 58.28 63 ⇑P P 04 38 32.5 +0.8
baz=58
ARCES ARCESS Array B 58.34 341 P P 04 38 31.4 -0.7
comp=Z,2.2nm,0.4s,mb4.5,baz=30,slow=7.4,SNR=32
ARCES LR LR 05 09 31.2
comp=Z,973nm,18.0s,MS5.0,baz=30,slow=42
M04C Macdoel 58.54 61 ⇑P P 04 38 34.2 +0.7
baz=58
K05A Summer Lake 58.56 60 ⇓P P 04 38 33.4 -0.2
baz=58,SNR=8.0
F09A S2 Ranch, Elgi 58.56 55 ⇓P P 04 38 32.9 -0.8
baz=58
I07A Izee 58.59 58 ⇓P P 04 38 33.6 -0.3
baz=58,SNR=6.5
A13A Flathead Natio 58.62 51 ⇓P P 04 38 32.7 -1.4
baz=58,SNR=11
M03C McCloud 58.66 62 ⇑P P 04 38 35.1 +0.7
baz=58
KIPM Iron Peak 58.69 64 eP P 04 38 35.0 +0.4
J06A Christmas Vall 58.69 59 P P 04 38 35.3 +0.8
baz=58,SNR=8.3
AB31 Akbulak array 58.73 310 eP P 04 38 33.9 -0.9
C12A Trout Creek 58.76 52 ⇓P P 04 38 32.8 -2.2
baz=58,SNR=6.6
F10A Beach Ranch, E 58.80 55 ⇑P P 04 38 35.4 +0.1
baz=59
WALA Waterton Lakes 58.81 50 eP P 04 38 35.5 0.0
comp=Z,9.2nm,0.6s,mb5.0
WDC Whiskeytown Da 58.82 62 eP P 04 38 35.5 +0.1
WDC pmax pmax
comp=Z,11nm,1.1s,mb4.8
WDC Whiskeytown Da 58.82 62 eP P 04 38 35.5 +0.1
comp=Z,11nm,1.1s,mb4.8
WDC Whiskeytown Da 58.82 62 ⇓P P 04 38 35.3 -0.1
baz=59
H08A Prairie City 58.82 57 ⇑P P 04 38 35.6 +0.1
baz=59,SNR=11
K06A Valley Falls 58.90 59 ⇓P P 04 38 35.8 -0.2
baz=59,SNR=10
O02C Red Bluff 58.90 63 ⇓P P 04 38 36.3 +0.3
baz=59,SNR=7.6
B13A Whitefish 58.92 51 ⇓P P 04 38 35.2 -0.9
baz=59,SNR=19
P01C Double 8 Ranch 58.98 64 ⇑P P 04 38 35.6 -0.9
baz=59
L05A Lakeview 58.99 60 ⇑P P 04 38 37.7 +1.1
baz=59,SNR=5.6
AKTK Aktyubinsk 59.04 312 P P 04 38 36.5 -0.6
AKTK LR LR 05 06 24.8
AKTO Aktyubinsk 59.04 312 P P 04 38 36.5 -0.6
comp=Z,3.0nm,0.5s,mb4.6,baz=57,slow=5.1,SNR=10.0
AKTO LR LR 05 06 24.8
comp=Z,4μm,19.0s,MS5.5,baz=54,slow=38
AKTO Aktyubinsk 59.04 312 i P P 04 38 35.8 -1.2
BSMT Bassoo Peak 59.05 52 eP P 04 38 37.7 +0.6
J07A Hines 59.12 58 ⇑P P 04 38 38.1 +0.6
baz=59
THN Thein Dam 59.14 286 eP P 04 38 38.6 +0.9
M05C Lookout 59.21 61 ⇑P P 04 38 38.0 -0.2
baz=59,SNR=7.8
I08A Drewsey 59.24 57 ⇓P P 04 38 37.6 -0.7
baz=59,SNR=7.9
GASB Alder Springs 59.26 63 ⇑P P 04 38 39.7 +1.2
baz=59,SNR=11
KTK1 Kautokeino 59.26 341 eP P 04 38 39.4 +0.9
KTK1 AMb AMB 04 38 43.0
comp=Z,43nm,1.6s,mb5.2
C13A Hot Springs 59.27 52 ⇑P P 04 38 38.1 -0.5
baz=59,SNR=5.7
H09A Durkee 59.32 56 ⇓P P 04 38 39.4 +0.5
baz=59
HATC Hat Creek Radi 59.34 62 ⇓P P 04 38 39.3 +0.3
baz=59
MOD Modoc 59.40 60 eP P 04 38 38.8 -0.7
comp=Z,8.5nm,1.2s,mb4.7
MOD Modoc 59.40 60 ⇑P P 04 38 38.8 -0.6
baz=59
HOPS Hopland 59.43 64 eP P 04 38 41.3 +1.6
HOPS Hopland 59.43 64 ⇑P P 04 38 39.2 -0.5
baz=59
O03C Acorn Hollow, 59.47 63 ⇓P P 04 38 40.7 +0.8
baz=59
K07A Rock Creek Ran 59.56 59 ⇑P P 04 38 39.5 -1.1
baz=59,SNR=9.4
J08A Circle Bar Ran 59.62 58 ⇓P P 04 38 41.1 +0.2
baz=59,SNR=7.2
TRO Tromso 59.67 343 eP P 04 38 38.2 -3.2
TRO eS S 04 46 53.0 +1.5
TRO AMS AMS 05 09 18.4
comp=Z,636nm,18.6s,MS4.8
I09A Lost Marbles R 59.68 57 ⇓P P 04 38 41.1 -0.3
baz=59,SNR=8.3
M06C Likely Place G 59.70 61 ⇑P P 04 38 41.8 +0.3
baz=60
O04C Chester 59.86 62 ⇑P P 04 38 43.0 +0.3
baz=60,SNR=5.4
MNRC McLaughlin Nat 59.89 64 ⇑P P 04 38 43.2 +0.4
baz=60,SNR=6.9
ELFS Eagle Lake Fie 59.90 61 ⇓P P 04 38 44.1 +1.2
baz=60
L07A Adell 59.90 59 ⇑P P 04 38 42.3 -0.6
baz=60,SNR=9.0
K08A Mann Creek Ran 59.98 58 ⇓P P 04 38 44.1 +0.6
baz=60
J09A Fry Pan Ranch, 60.05 57 P P 04 38 45.0 +1.0
baz=60,SNR=16
ORV Oroville 60.07 63 P P 04 38 43.6 -0.4
baz=60,SNR=7.6
WVOR Wild Horse Val 60.07 59 eP P 04 38 44.2 +0.1
WVOR pmax pmax
comp=Z,12nm,0.8s,mb5.0
WVOR Wild Horse Val 60.07 59 eP P 04 38 44.2 +0.1
comp=Z,12nm,0.8s,mb5.0
MSO Missoula 60.12 52 eP P 04 38 44.5 0.0
O05C Quincy 60.18 62 ⇓P P 04 38 44.3 -0.6
baz=60
CVS Carmenet Viney 60.20 64 ⇑P P 04 38 46.7 +1.7
baz=60
FARB Farallon Islan 60.25 65 ⇓P P 04 38 46.6 +1.3
baz=60
N06A Buffalo Meadow 60.37 61 ⇓P P 04 38 45.5 -0.6
baz=60,SNR=7.3
M07A Soldier Meadow 60.38 60 ⇓P P 04 38 46.0 -0.2
baz=60,SNR=14
L08A Fields 60.39 59 P P 04 38 47.0 +0.7
baz=60,SNR=11
K09A Rome 60.45 58 ⇓P P 04 38 47.3 +0.6
baz=60,SNR=7.4

NDI New Delhi 60.46 282 eP P 04 38 46.0 -0.8
NDI eP 04 38 46.0
NDI eP pP 04 38 48.3 -3.1
NDI AMb AMB 04 38 52.9
comp=Z,55nm,1.5s,mb5.4
O06A Flanigan 60.73 61 ⇑P P 04 38 48.4 -0.1
baz=60,SNR=6.9
P05C Yuba Gap, Truc 60.77 63 ⇓P P 04 38 49.2 +0.3
baz=61
M08A Happy Creek Ra 60.82 59 ⇑P P 04 38 50.3 +1.1
baz=61
N07B Gerlach 60.87 60 ⇓P P 04 38 49.4 -0.2
baz=61
L09A Wilkinson Ranc 60.90 59 ⇓P P 04 38 49.5 -0.2
baz=61
JRSC Jasper Ridge 60.91 65 ⇓P P 04 38 50.7 +0.9
baz=61
P06A Stead Airport, 60.98 62 ⇑P P 04 38 50.6 +0.3
baz=61
LAVA Lava Cap Winer 61.02 63 ⇑P P 04 38 50.9 +0.4
baz=61
BNLO Ben Lomond (Sa 61.12 65 ⇑P P 04 38 53.4 +2.2
baz=61
SUMG Summit 61.23 4 eP P 04 38 52.5 +0.5
comp=Z,65nm,0.9s,mb5.8
PAHR Pah Rah Range 61.27 62 eP P 04 38 52.9 +0.6
comp=Z,11nm,1.0s,mb5.0
WCN Washoe City 61.29 62 ⇑P P 04 38 54.1 +1.6
baz=61
O07A Toulon 61.30 61 ⇑P P 04 38 51.1 -1.4
baz=61,SNR=7.7
N08A GE Springer Mi 61.37 60 ⇑P P 04 38 52.4 -0.6
baz=61,SNR=7.2
M09A Marrel Ranch, 61.39 59 ⇑P P 04 38 54.2 +1.1
baz=61
S04C Ingram Canyon, 61.42 65 ⇓P P 04 38 55.0 +1.7
baz=61
R05C Kirkwood Meado 61.46 63 ⇑P P 04 38 53.5 -0.1
baz=61
LRM Limekiln Ridge 61.56 52 eP P 04 38 54.4 +0.2
EGMT Eagleton 61.64 49 ⇓P P 04 38 53.8 -0.9
baz=61,SNR=9.6
CMB Columbia Colle 61.68 64 eP P 04 38 55.3 +0.2
comp=Z,8.6nm,0.9s,mb4.9
CMB Columbia Colle 61.68 64 ⇓P P 04 38 55.0 0.0
baz=62,SNR=13
N09A Rock Creek Ran 61.70 59 ⇓P P 04 38 55.0 -0.2
baz=62,SNR=8.9
PACP Pacheco Peak 61.75 65 ⇑P P 04 38 54.7 -0.9
baz=62
DLMT Dillon 61.76 53 eP P 04 38 56.7 +1.1
comp=Z,7.2nm,0.6s,mb5.0
JOF Joensuu 61.79 334 ep P 04 38 54.9 -0.8
comp=Z,7.6nm,0.5s,mb5.1
JOF Joensuu 61.79 334 eP P 04 38 54.9 -0.8
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
HLID Hailey 61.85 55 eP P 04 38 55.9 -0.3
comp=Z,4.9nm,0.8s,mb4.7
HLID Hailey 61.85 55 ⇑P P 04 38 55.9 -0.3
baz=62,SNR=14
M10A I.L. Ranch, Tu 61.87 58 ⇑P P 04 38 56.5 +0.2
baz=62,SNR=11
MCMT McKenzie Canyo 61.95 54 eP P 04 38 56.8 0.0
R06C Coleville 61.96 63 ⇑P P 04 38 56.4 -0.5
baz=62,SNR=12
WAKR Walker 61.98 63 eP P 04 38 57.7 +0.6
LOF Lofoten 62.00 344 eP P 04 38 57.7 +0.5
LOF AMb AMB 04 39 01.9
comp=Z,96nm,1.4s,mb5.7
P08A Dixie Valley 62.08 61 ⇑P P 04 38 57.6 -0.1
baz=62
BOZ Bozeman (W) 62.12 52 P P 04 38 57.4 -0.6
BOZ pmax pmax
comp=Z,12nm,0.6s,mb5.2
BOZ Bozeman (W) 62.12 52 eP P 04 38 57.9 0.0
comp=Z,12nm,0.6s,mb5.2
BOZ Bozeman (W) 62.12 52 ⇑P P 04 38 56.7 -1.3
baz=62,SNR=39
BMN Battle Mountai 62.14 60 eP P 04 38 58.8 +0.7
comp=Z,9.4nm,0.6s,mb5.1
O09A Fish Creek Ran 62.32 60 ⇓P P 04 38 58.7 -0.6
baz=62,SNR=8.9
JMIC Jan Mayen 62.35 353 e P 04 39 04.1 +4.6
M11A Holland Ranch, 62.37 58 ⇑P P 04 39 00.3 +0.7
baz=62,SNR=7.2
N10A Dunphy 62.38 59 ⇑P P 04 38 59.6 -0.2
baz=62
V03C Hunter Liggett 62.40 66 ⇓P P 04 38 59.9 +0.1
baz=62
R07C Lee Vining 62.48 63 ⇑P P 04 39 00.8 +0.4
baz=62
O10A Cortez Mining, 62.66 59 ⇑P P 04 39 02.3 +0.7
baz=62
Q08A Gabbs 62.68 61 ⇑P P 04 39 01.2 -0.5
baz=62
NVAR Mina Array Bea 62.72 62 P P 04 39 02.2 +0.2
comp=Z,4.5nm,0.7s,mb4.7,baz=297,slow=7.9,SNR=35
P09A Austin 62.73 60 ⇑P P 04 39 02.4 +0.3
baz=62
QLMT Earthquake Lak 62.74 53 eP P 04 39 03.1 +1.0
T06C Millerton Lake 62.74 64 ⇑P P 04 39 00.8 -1.3
baz=62
N11A Elko Archery C 62.78 59 ⇓P P 04 39 02.7 +0.2
baz=62
KCC Kaiser Creek 62.79 64 ⇓P P 04 39 02.9 +0.4
baz=63
PKD Parkfield 62.88 65 ⇓P P 04 39 04.9 +1.9
baz=63
M12A Wells 62.89 58 ⇓P P 04 39 03.8 +0.6
baz=63,SNR=9.6
MLAC Mammoth Lakes 62.90 63 ⇑P P 04 39 05.3 +2.1
baz=63
R08A Mina 62.90 62 ⇓P P 04 39 03.5 +0.4
baz=63
GCMT Greycliff 63.09 51 eP P 04 39 04.9 +0.4
YMR Madison River 63.10 53 eP P 04 39 04.8 +0.2
comp=Z,45nm,1.4s,mb5.4
Q09A Carvers 63.16 61 ⇑P P 04 39 05.7 +0.8
baz=63
N12A Clover Valley, 63.17 58 ⇑P P 04 39 06.5 +1.5
baz=63
YNR Norris Junctio 63.22 53 eP P 04 39 07.4 +2.1
MTUM Tungsten Hills 63.24 63 eP P 04 39 06.4 +1.0
O11A Cowboy Ranch, 63.26 59 ⇑P P 04 39 06.3 +0.7
baz=63
V05C Boulder Hill, 63.34 65 ⇑P P 04 39 06.2 +0.1
baz=63
HELL Mitchell Peak, 63.38 64 P P 04 39 05.9 -0.5
baz=63,SNR=15
S08C White Mtn Res 63.39 63 P P 04 39 06.9 +0.4
baz=63,SNR=7.2
VIS Vishakhapatnam 63.44 268 eP P 04 39 08.2 +1.4
VIS AMb AMB 04 39 09.5
comp=Z,26nm,1.4s,mb5.2
RCTC Rector, Farmer 63.47 64 ⇓P P 04 39 07.6 +0.6
baz=63
MOR8 Moi Rana 63.51 343 eP P 04 39 04.9 -2.4
MOR8 AMb AMB 04 39 07.1
comp=Z,55nm,1.3s,mb5.4
MOR8 Moi Rana 63.51 343 eP P 04 39 05.2 -2.1
P11A Circle Ranch, 63.56 60 ⇑P P 04 39 07.3 -0.4
baz=63
R09A Tonopah 63.60 62 P P 04 39 07.9 +0.1
baz=63,SNR=17
AJM Ajmer 63.62 281 eP P 04 39 08.5 +0.5
AJM AMb AMB 04 39 14.3
comp=Z,42nm,1.7s,mb5.2
SMMC Simmler 63.62 66 ⇑P P 04 39 08.6 +0.6
baz=63
N13A Wendover, West 63.66 58 ⇓P P 04 39 08.3 +0.1
baz=63
O12A Currie 63.71 59 P P 04 39 09.0 +0.4
baz=64,SNR=11
MOOW Moose Ponds 63.80 53 eP P 04 39 10.1 +0.9
S09A Goldfield 63.83 62 P P 04 39 09.4 0.0
baz=64,SNR=9.8
BHPL Bhopal 63.83 277 eP P 04 39 09.6 +0.2
VES Vestal, Richgr 63.87 65 ⇑P P 04 39 08.7 -1.0
baz=64
KAF Kangasniemi 63.90 335 ep P 04 39 08.3 -1.5
comp=Z,3.9nm,0.5s,mb4.7,baz=36,slow=6.2
KAF Kangasniemi 63.90 335 eP P 04 39 08.3 -1.5
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
HVU Hansel Valley 63.91 56 eP P 04 39 09.6 -0.3
HVU pmax pmax

comp=Z,11nm,0.9s,mb4.9
HVU Hansel Valley 63.91 56 eP P 04 39 09.6 -0.3
comp=Z,11nm,0.9s,mb4.9
LOHW Long Hollow 63.97 53 eP P 04 39 10.7 +0.4
PKM Peak Mountain 64.00 66 ⇓P P 04 39 12.2 +1.7
baz=64
R10A Warm Springs 64.03 61 ⇑P P 04 39 10.7 0.0
baz=64,SNR=5.8
Q11A Duckwater 64.07 60 ⇓P P 04 39 10.9 -0.1
baz=64
P12A McGill 64.12 59 ⇓P P 04 39 11.7 +0.4
baz=64
GRAC Grapevine Rang 64.20 63 ⇓P P 04 39 11.3 -0.5
baz=64
BGU Big Grassy Mou 64.30 57 eP P 04 39 12.6 +0.1
LAO LASA Array 64.34 49 eP P 04 39 13.1 +0.3
ISA Isabella 64.36 65 eP P 04 39 12.1 -0.8
ISA Isabella 64.36 65 ⇑P P 04 39 11.7 -1.2
baz=64
TRCR Troy Canyon 64.43 61 eP P 04 39 13.4 +0.1
Q12A Willow Creek R 64.44 60 ⇑P P 04 39 13.6 +0.2
baz=64
ARVC Arvin 64.48 65 ⇑P P 04 39 14.7 +1.1
baz=64
PUL Pulkovo 64.48 332 P P 04 39 11.5 -2.1
FIA1 FINESS Array S 64.50 335 eP P 04 39 12.5 -1.2
FINES FINESS Array B 64.50 335 P P 04 39 12.4 -1.3
comp=Z,9.5nm,0.4s,mb5.1,baz=38,slow=7.4,SNR=200
FINES LR LR 05 10 21.2
comp=Z,924nm,20.1s,MS5.0,baz=166,slow=39
FINES FINESS Array B 64.50 335 P P 04 39 12.5 -1.2
FINES pmax pmax
comp=Z,10.0nm,0.4s
FINES MLR MLR
comp=Z,924nm,20.1s
DAC Darwin (Calif) 64.52 64 eP P 04 39 13.8 -0.1
HWUT Hardware Ranch 64.71 56 eP P 04 39 15.6 +0.4
comp=Z,9.3nm,0.6s,mb5.0
MPMC Manual Prospec 64.72 64 ⇓P P 04 39 15.3 +0.1
baz=64,SNR=12
MOS Moscow 64.85 326 eP P 04 39 14.1 -1.9
MOS pmax pmax
comp=Z,200nm,2.5s,mb5.7
FURC Furnace Creek, 64.85 63 P P 04 39 16.1 +0.1
baz=65,SNR=18
OSI Osito Adit 64.88 66 ⇑P P 04 39 17.3 +1.1
baz=65
DUG Dugway 64.90 58 P P 04 39 16.7 +0.3
DUG pmax pmax
comp=Z,16nm,0.9s,mb5.0
DUG Dugway 64.90 58 eP P 04 39 16.7 +0.3
DUG Dugway 64.90 58 P P 04 39 16.7 +0.4
baz=65,SNR=18
NOQ North Oquirrh 65.01 57 eP P 04 39 17.6 +0.5
BW06 Boulder Array 65.10 54 eP P 04 39 17.7 0.0
PDAR Pinedale Array 65.10 54 P P 04 39 17.4 -0.3
comp=Z,4.8nm,0.7s,mb4.7,baz=248,slow=2.5,SNR=42
TCUT Toone Canyon 65.12 56 eP P 04 39 17.8 0.0
EDW2 Edwards Air Fo 65.17 65 ⇓P P 04 39 18.7 +0.6
baz=65,SNR=7.7
CTU Camp Tracy 65.20 57 eP P 04 39 17.6 -0.7
SNCC San Nicolas Is 65.24 67 ⇑P P 04 39 19.6 +1.0
baz=65
DECC Green Verdugo 65.36 66 ⇓P P 04 39 18.7 -0.6
baz=65
NSS Namsos 65.46 343 eP P 04 39 18.1 -1.9
SHOC Shoshone 65.58 63 ⇑P P 04 39 20.1 -0.7
baz=65
GSC Goldstone 65.64 64 eP P 04 39 22.4 +1.3
GSC Goldstone 65.64 64 ⇓P P 04 39 20.7 -0.4
baz=65,SNR=5.3
DAU Daniels Canyon 65.67 56 eP P 04 39 22.4 +1.1
OBN Obninsk 65.72 326c iP P 04 39 20.2 -1.5
OBN e 04 39 29.9
OBN pmax pmax
comp=Z,40nm,1.9s,mb5.1
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.1
BFSC Mount Baldy St 65.79 65 ⇓P P 04 39 22.8 +0.6
baz=66
U11A Corn Creek 65.79 62 ⇑P P 04 39 22.7 +0.5
baz=66
SHPR Sheep Range 65.88 62 eP P 04 39 23.4 +0.7
ARUT Antelope Range 66.08 60 eP P 04 39 23.8 -0.2
TUQ Turquoise Mtn. 66.10 63 ⇑P P 04 39 23.7 -0.4
baz=66
V11A Goodsprings 66.14 63 ⇓P P 04 39 23.7 -0.7
baz=66
BBRC Big Bear Sol-O 66.24 65 ⇓P P 04 39 25.9 +0.9
baz=66
HEC Hector,Ludlow 66.24 64 ⇑P P 04 39 25.4 +0.3
baz=66
CTA Charters Tower 66.28 187 LR LR 05 08 20.8
comp=Z,477nm,19.1s,MS4.7,baz=43,slow=36
CCUT Cedar City 66.29 60 eP P 04 39 25.6 +0.3
U12A Valley of Fire 66.30 62 ⇓P P 04 39 25.9 +0.5
baz=66
MSU Marysvale 66.37 59 eP P 04 39 26.7 +0.9
TMUT Trail Mountain 66.42 57 eP P 04 39 25.9 -0.3
MURC Murrieta 66.49 66 ⇑P P 04 39 26.3 -0.3
baz=66
V12A Nelson 66.57 62 ⇑P P 04 39 27.4 +0.3
baz=66,SNR=6.4
ABKT Ailbek 66.83 301 P P 04 39 30.7 +1.9
comp=Z,116nm,0.8s,mb6.0,SNR=5.4
ABKT Ailbek 66.83 301 P P 04 39 30.0 +1.2
W12A Cal Nev Ari 66.84 63 ⇓P P 04 39 27.7 -1.2
baz=67
SRU San Rafael 66.94 57 eP P 04 39 29.7 +0.2
ULM Lac du Bonnet 66.95 41 P P 04 39 28.5 -1.1
comp=Z,2.4nm,0.6s,mb4.4,baz=317,slow=6.1,SNR=7.7
ULM LR LR 05 11 58.4
comp=Z,281nm,18.8s,MS4.5,baz=306,slow=39
PFO Pinyon Flat Ob 66.96 65 ⇑P P 04 39 30.7 +1.1
baz=67
HYB Hyderabad 66.96 271 i P P 04 39 29.5 -0.1
HYB Hyderabad 66.96 271 eP P 04 39 29.5 -0.1
BELC Belle Mtn. 66.99 64 ⇑P P 04 39 30.4 +0.6
baz=67
109C Camp Elliot, M 67.02 66 ⇑P P 04 39 30.4 +0.4
baz=67
VOR Voronezh 67.11 322 eP P 04 39 29.5 -1.1
VOR pmax pmax
comp=Z,50nm,1.7s,mb5.3
RWWY Rawlins 67.12 53 eP P 04 39 30.1 -0.6
comp=Z,16nm,1.0s,mb5.0
RSSD Black Hills 67.20 50 P P 04 39 30.7 -0.5
RSSD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
RSSD Black Hills 67.20 50 eP P 04 39 30.7 -0.5
IRM Iron Mountain 67.41 64 P P 04 39 32.5 0.0
baz=67,SNR=10
MONP Monument Peak 67.45 66 ⇓P P 04 39 32.2 -0.6
baz=67
VRSR Storozhevoye 67.48 321 eP P 04 39 32.8 -0.2
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.8s
VRSR MLR MLR
comp=Z,2μm,18.0s,MS5.3
VRSR MLR MLR
comp=N,740nm,20.0s,MS5.2
VRSR MLR MLR
comp=E,1μm,19.0s,MS5.2
BC3 Big Chuckw Mtn 67.56 64 ⇑P P 04 39 34.1 +0.6
baz=67
W13A Hualapai Mount 67.58 62 ⇑P P 04 39 33.9 +0.3
baz=67
VORD Divnogorie 67.62 321 eP P 04 39 32.4 -1.4
VORD pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
AFI Afiamalu 67.72 143 LR LR 05 03 54.4
comp=E,431nm,19.3s,MS4.7,baz=338,slow=31
DVTC Desert V Tower 67.81 66 ⇓P P 04 39 33.9 -1.1
baz=68
SWSC Sam W. Stewart 67.81 65 ⇓P P 04 39 35.7 +0.7
baz=68
X13A Yucca 67.94 63 ⇑P P 04 39 35.7 -0.2
baz=68,SNR=9.4

PDMCI Parker Dam,Lak 67.95 63 ⇓P P 04 39 35.7 -0.2
baz=68
W14A Seligman 67.99 62 P P 04 39 36.4 +0.2
baz=68,SNR=12
WRA Warramunga Arr 68.00 199 P P 04 39 34.5 -1.7
comp=E,2.7nm,0.8s,mb4.3,baz=16,slow=6.7,SNR=10
WRA LR LR 05 09 03.1
comp=E,280nm,20.5s,MS4.5,baz=340,slow=36
WRA Warramunga Arr 68.00 199 P P 04 39 34.5 -1.7
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA MLR MLR
comp=Z,280nm,20.5s
Y12C Blythe 68.07 64 ⇑P P 04 39 37.1 +0.4
baz=68
PV10 Paradox Valley 68.30 57 eP P 04 39 38.9 +0.8
GLA Glamis 68.35 65 eP P 04 39 39.7 +1.3
GLA Glamis 68.35 65 ⇑P P 04 39 37.3 -1.1
baz=68
Y13A Salome 68.46 63 ⇑P P 04 39 39.0 -0.1
baz=68
W15A Williams 68.52 61 ⇑P P 04 39 41.0 +1.6
baz=68
X14A Yava 68.61 62 ⇓P P 04 39 41.1 +1.1
baz=68,SNR=8.9
FITZ Fitzroy Crossi 68.65 208 eP P 04 39 39.4 -0.9
comp=Z,6.7nm,0.9s,mb4.6
NB2 NORSAR Subarra 68.71 341 P P 04 39 39.9 -0.8
comp=Z,48nm,1.4s,mb5.2,baz=28,slow=6.5
NB2 NORSAR Subarra 68.71 341 P P 04 39 39.9 -0.8
NB2 pmax pmax
comp=Z,48nm,1.4s,mb5.2
NOA NORSAR Array B 68.71 341 P P 04 39 39.8 -0.9
comp=Z,8.1nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=44
NOA LR LR 05 14 23.2
comp=Z,702nm,18.2s,MS4.9,baz=35,slow=40
NOA NORSAR Array B 68.71 341 P P 04 39 39.8 -0.9
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA MLR MLR
comp=Z,702nm,18.2s
PV01 Paradox Valley 68.73 57 eP P 04 39 40.7 -0.1
WUAZ Wupatki 68.83 61 eP P 04 39 42.7 +1.3
comp=Z,8.3nm,0.8s,mb4.7
WUAZ Wupatki 68.83 61 P P 04 39 42.7 +1.3
baz=69,SNR=5.6
Y14A Wickenburg 68.89 63 ⇑P P 04 39 42.1 +0.4
baz=69,SNR=7.6
SMCO Snowmass 68.95 55 eP P 04 39 42.4 +0.2
comp=Z,15nm,0.9s,mb4.9
NAO01 NORSAR Array S 68.96 341 eP P 04 39 42.0 -0.2
X15A Humboldt 69.00 62 ⇓P P 04 39 43.5 +1.1
baz=69,SNR=16
DZM Mont Dzumac 69.05 167 LR LR 05 07 54.8
comp=Z,945nm,18.6s,MS5.1,baz=209,slow=34
BORG Borgarnes 69.28 357 P P 04 39 43.4 -0.8
comp=Z,16nm,0.8s,mb5.0,baz=165,slow=1.1,SNR=4.6
ISCO Idaho Springs 69.29 54 P P 04 39 44.8 +0.5
ISCO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ISCO Idaho Springs 69.29 54 eP P 04 39 44.8 +0.5
comp=Z,7.8nm,0.7s,mb4.8
Z14A Wintersburg 69.31 63 ⇑P P 04 39 45.0 +0.6
baz=69
MAK Makhachkala 69.38 311 i P P 04 39 42.6 -2.2
MAK e 04 40 04.3
MAK i 04 42 16.9
MAK eSS SS 04 53 11.6 -6.7
MAK pmax pmax
comp=Z,79nm,1.7s,mb5.4
MAK MLR MLR
comp=E,5μm,17.0s,MS5.9
MAK MLR MLR
comp=Z,3μm,17.0s,MS5.6
MAK MLR MLR
comp=N,4μm,21.0s,MS5.9
MVCO Mesa Verde 69.40 58 eP P 04 39 44.9 0.0
MVCO Mesa Verde 69.40 58 P P 04 39 45.2 +0.3
baz=69,SNR=9.4
POO Poona 69.46 276 ex x 04 39 33.0
KAD Karad 70.06 274 eP P 04 39 49.7 +0.7
KAD AMb AMB 04 39 55.2
comp=Z,41nm,1.4s,mb5.2
115A Sonoran Desert 70.20 63 ⇓P P 04 39 50.5 +0.7
baz=70
KONO Kongsberg 70.32 341 eP P 04 39 48.9 -1.7
KONO eS S 04 49 02.6 +0.2
KONO Kongsberg 70.32 341 eP P 04 39 49.6 -1.0
KONO Kongsberg 70.32 341 eP P 04 39 50.4 -0.2
comp=Z,7.9nm,0.6s,mb4.8
BER Bergen 70.54 344 eP P 04 39 51.3 -0.6
BER eS S 04 49 04.1 -0.9
BER AMS AMS 05 17 45.2
comp=Z,606nm,17.5s,MS4.9
116A Eloy 70.62 63 ⇓P P 04 39 52.3 -0.1
baz=70
SDCO Great Sand Dun 70.77 55 eP P 04 39 53.5 +0.1
KIV Kislovodsk 71.13 314 P P 04 39 57.1 +1.6
comp=Z,152nm,1.1s,mb5.8,SNR=7.0
KIV Kislovodsk 71.13 314c iP P 04 39 56.1 +0.6
KIV ePPP 04 44 14.6
KIV eS S 04 49 10.8 -1.0
KIV eSS SS 04 53 45.7 +0.4
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.5
KIV Kislovodsk 71.13 314 eP P 04 39 56.8 +1.2
ECSD EROS,Sioux Fal 71.29 46 eP P 04 39 54.9 -1.6
TUC Tucson 71.36 63 P P 04 39 57.1 +0.2
TUC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TUC Tucson 71.36 63 eP P 04 39 57.1 +0.1
ZEI Tsey 71.38 313 eP P 04 39 56.9 -0.1
ZEI e*PP pP 04 40 05.9 +4.2
ZEI pmax pmax
comp=Z,13nm,0.9s,mb4.9
SUW Suwalki 71.44 331 eP P 04 39 56.9 -0.5
AS31 Alice Springs 71.69 198 eP P 04 39 58.3 -0.6
ASAR Alice Springs 71.69 198 P P 04 39 58.0 -0.9
comp=Z,2.2nm,0.8s,mb4.2,baz=12,slow=5.9,SNR=30
ASAR LR LR 05 10 11.6
comp=Z,278nm,21.9s,MS4.5,baz=5.2,slow=35
AKASG Malin Array Be 71.96 326 P P 04 39 59.7 -0.9
comp=Z,23nm,0.4s,mb5.4,baz=34,slow=6.3,SNR=82
AKASG LR LR 05 15 25.7
comp=Z,762nm,18.2s,MS5.0,baz=25,slow=39
AKASG Malin Array Be 71.96 326 P P 04 39 59.7 -0.8
AKASG pmax pmax
comp=Z,23nm,0.4s
AKASG MLR MLR
comp=Z,762nm,18.2s
AKASG Malin Array Be 71.96 326 P P 04 39 59.7 -0.9
AKASG LR LR 05 15 25.7
LAZ Ladron 72.13 59 eP P 04 40 02.0 +0.5
ANMO Albuquerque 72.15 58 P P 04 40 01.9 +0.2
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 72.15 58 eP P 04 40 01.9 +0.3
GNI Garni 72.84 310 eP P 04 40 06.5 +0.7
BSD Bornholm Skovb 73.02 336 i P P 04 40 05.3 -1.6
comp=Z,13nm,0.9s,mb4.8
BSD Bornholm Skovb 73.02 336 i P P 04 40 05.3 -1.6
BSD pmax pmax
comp=Z,13nm,0.9s,mb4.9
ANN Anapa 73.04 318 eP P 04 40 04.5 -2.5
ANN eS S 04 49 30.2 -3.5
ANN pmax pmax
comp=Z,42nm,1.1s,mb5.3
COP Copenhagen 73.19 338 i P P 04 40 06.9 -0.9
comp=Z,12nm,0.8s,mb4.9
COP pmax pmax
comp=Z,280nm,20.0s
COP Copenhagen 73.19 338 eP P 04 40 06.9 -0.9
COP pmax pmax
comp=Z,12nm,0.8s,mb4.9
COP MLR MLR
comp=Z,280nm,20.0s,MS4.5
COP Copenhagen 73.19 338 eP P 04 40 06.9 -0.9
comp=Z,12nm,0.8s,mb4.9
COP LR LR
comp=Z,290nm,20.0s,MS4.6
MUD Monsted U'grnd 73.31 340 i P P 04 40 09.3 +0.8
comp=Z,14nm,0.9s,mb4.9
MUD i 04 40 22.9
MUD pmax pmax
comp=Z,14nm,0.9s,mb4.9
MUD MLR MLR
comp=Z,660nm,17.0s,MS5.0
MUD Monsted U'grnd 73.31 340 i P P 04 40 09.3 +0.8
comp=Z,14nm,0.9s,mb4.9
MUD i 04 40 22.9
OBR Brabster 73.69 347 eP P 04 40 10.8 0.0
SCHQ Schefferville 73.82 23 P P 04 40 10.6 -0.9
comp=Z,2.4nm,0.7s,mb4.2,baz=276,slow=9.2,SNR=3.0
SCHQ LR LR 05 15 38.4
comp=Z,271nm,19.8s,MS4.5,baz=166,slow=38
ORE Reay 73.85 348 eP P 04 40 11.7 0.0
SCIA State Center 74.32 45 eP P 04 40 13.5 -1.0
SIM Simferopol' 74.44 320ceP P 04 40 16.7 +1.5
SIM pmax pmax
comp=Z,18nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,2μm,18.0s,MS5.4
LVV L'vov 74.62 329 eP P 04 40 15.9 -0.3
LVV e 04 40 24.1
LVV MLR MLR
comp=E,200nm,17.0s,MS4.6
LVV MLR MLR
comp=Z,600nm,17.0s,MS5.0
LVV MLR MLR
comp=N,200nm,16.0s,MS4.6
MCD Coleburn Disti 74.70 347 eP P 04 40 16.4 -0.3
ERZM Erzurum 74.78 312 i P P 04 40 19.6 +2.4
MNTX Cornudas Mount 75.07 60 eP P 04 40 18.3 -0.5
comp=N,10nm,1.1s,mb4.7
KIS Kishinev 75.08 324 eP P 04 40 16.0 -2.9
KIS MLR MLR
comp=Z,1μm,17.0s,MS5.2
KIS MLR MLR
comp=N,1μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KWP Kalwaria 75.25 329 eP P 04 40 20.4 +0.5
GDL2 Guadalupe Moun 75.33 59 eP P 04 40 21.7 +1.4
KELT Kelkit 75.67 314 i P P 04 40 23.4 +1.1
OJC Ojcow 75.76 331 eP P 04 40 22.7 -0.1
STHS Stebnicka Huta 75.95 330 eP P 04 40 24.3 +0.4
STHS pmax pmax
comp=Z,16nm,1.2s,mb4.8
STHS Stebnicka Huta 75.95 330 eP P 04 40 24.3 +0.4
comp=Z,16nm,1.2s,mb4.8
KOLS Kolonicke sedl 75.99 329 eP P 04 40 24.0 -0.1
BURAR Bucovina Array 76.00 327⇑iP P 04 40 24.3 +0.1
BURAR Bucovina Array 76.00 327 P P 04 40 24.6 +0.4
ESY Stoneypath 76.19 346 eP P 04 40 25.6 +0.3
EAB Aberfoyle 76.21 347 eP P 04 40 23.0 -2.3
UZH Uzhgorod 76.24 329⇑iP P 04 40 25.0 -0.5
UZH i 04 40 44.4
UZH eS S 04 50 08.0 -1.5
UZH MLR MLR
comp=Z,700nm,18.0s,MS5.0
NIE Niedzica 76.27 330 eP P 04 40 26.0 +0.3
EDI Edinburgh 76.28 346 eP P 04 40 20.0 -5.8
EDI AMb AMB 04 40 20.8
comp=Z,28nm,1.6s,mb4.9
CRVS Cervenica-Dubn 76.31 329 eP P 04 40 25.7 -0.2
KSP Ksiaz 76.35 333 eP P 04 40 25.8 -0.4
KSP e 04 40 36.5
KSP MLR MLR
comp=Z,2μm,19.9s,MS5.5
EAU Auchinoon 76.40 347 eP P 04 40 24.9 -1.5
PGBU Glenifferbraes 76.59 347 eP P 04 40 26.7 -0.8
PGBU AMb AMB 04 40 31.4
comp=Z,15nm,1.8s,mb4.6
OKC Ostrava-Krasne 76.64 332 eP P 04 40 27.6 -0.2
WMOK Wichita Mounta 76.71 54 P P 04 40 26.9 -1.3
WMOK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WMOK Wichita Mounta 76.71 54 eP P 04 40 27.0 -1.2
comp=Z,7.1nm,0.8s,mb4.7
UPC Upice 76.73 333 eP P 04 40 28.4 +0.1
DPC Dobruska-Polom 76.77 333 eP P 04 40 28.0 -0.6
BOYT Boyabat 76.82 317 i P P 04 40 30.2 +1.4
EKA Eskdalemuir Ar 76.84 346 P P 04 40 28.2 -0.7
comp=Z,3.9nm,0.5s,mb4.6,baz=21,slow=5.0,SNR=35
EKA Eskdalemuir Ar 76.84 346 P P 04 40 28.3 -0.6
EKA pmax pmax
comp=Z,4.0nm,0.5s
VRI Vrincioaia 76.85 325⇑iP P 04 40 30.2 +1.2
VRI Vrincioaia 76.85 325 P P 04 40 30.3 +1.3
ESK Eskdalemuir 76.86 346 eP P 04 40 30.0 +0.9
ESK AMb AMB 04 40 38.9
comp=Z,32nm,1.6s,mb5.0
MORC Moravsky Berou 76.88 332⇑iP P 04 40 29.5 +0.3
MORC Moravsky Berou 76.88 332 eP P 04 40 28.8 -0.4
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MORC Moravsky Berou 76.88 332 eP P 04 40 28.8 -0.4
comp=Z,9.4nm,0.8s,mb4.8
PLOR Plostina 76.89 325⇓iP P 04 40 33.5 +4.3
CLL Collm 76.93 336 eP P 04 40 29.0 -0.4
CLL pmax pmax
comp=Z,24nm,0.7s,mb5.2
CLL MLR MLR
comp=Z,800nm,20.2s,MS5.0
CLL Collm 76.93 336 eP P 04 40 29.0 -0.4
comp=Z,24nm,0.7s,mb5.2
CLL LR LR
comp=Z,800nm,20.2s,MS5.0
CLL Collm 76.93 336 eP P 04 40 29.0 -0.4
comp=Z,24nm,0.7s,mb5.2
CLL LmV 04 17 00.0
comp=Z,800nm,20.2s
CLL i PcP PcP 04 40 39.3 -1.2
CLL esPcP 04 40 44.0
KECS Kecovo 77.01 330 eP P 04 40 28.5 -1.4
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 77.01 330 eP P 04 40 28.5 -1.4
comp=Z,4.7nm,0.9s,mb4.4
MARD Mardin 77.02 311 i P P 04 40 30.1 +0.1
BRG Berggiesshubel 77.04 335 eP P 04 40 31.0 +1.0
comp=Z,7.7nm,1.2s,mb4.5
BRG Berggiesshubel 77.04 335 eP P 04 40 31.0 +1.0
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ELZG Elazig 77.05 313 i P P 04 40 32.3 +2.2
PVCC Panska Ves 77.16 334 eP P 04 40 30.2 -0.5
WIT Witteveen 77.23 340 eP P 04 40 30.8 -0.4
TIRR Tirgusor 77.30 323⇓iP P 04 40 31.5 0.0
BALT Daday 77.44 318 i P P 04 40 33.8 +1.5
MLR Muntele Rosu 77.47 325 LR LR 05 22 31.1
comp=Z,783nm,18.2s,MS5.1,baz=61,slow=42
MLR Muntele Rosu 77.47 325⇑iP P 04 40 33.8 +1.3
MLR Muntele Rosu 77.47 325 P P 04 40 33.2 +0.7
CTKT Corum 77.49 317 i P P 04 40 34.3 +1.8
ISR Istrita 77.53 324⇑iP P 04 40 34.9 +2.1
CKE Keswick 77.55 346 eP P 04 40 33.3 +0.4
VYHS Vyhne 77.56 331 eP P 04 40 33.1 +0.1
VRAC Vranov 77.60 333 LR LR 05 18 02.3
comp=Z,943nm,20.7s,MS5.1,baz=21,slow=38
VRAC Vranov 77.60 333⇑iP P 04 40 33.1 -0.1
VRAC Vranov 77.60 333 P P 04 40 33.7 +0.5
DRGR 77.63 328⇑iP P 04 40 34.5 +1.1
DRGR 77.63 328 P P 04 40 33.7 +0.3
XDE Dent Fell 77.69 346 eP P 04 40 33.8 +0.1
PSZ Piszkesteto 77.69 330⇑eP P 04 40 34.0 +0.3
SNX Sinaia 77.75 325⇓iP P 04 40 35.3 +1.3
VOIR 77.87 325⇑iP P 04 40 35.3 +0.6
MOX Moxa 77.91 336 eP P 04 40 34.6 -0.3
comp=Z,21nm,1.1s,mb5.0
MOX
comp=Z,500nm,20.0s
WTSB Winterswijk 77.98 339 eP P 04 40 34.7 -0.6
comp=Z,17nm,0.8s,mb5.0
SMOL Smolenice 78.02 332 eP P 04 40 36.4 +0.9
BHD Baghdad 78.06 306 ex x 04 40 36.5
ATAB Bozova 78.19 312 i P P 04 40 38.5 +2.0
CCM Cathedral Cave 78.23 47 eP P 04 40 34.1 -2.6
CCM pmax pmax
comp=Z,11nm,1.0s,mb4.7
CCM Cathedral Cave 78.23 47 eP P 04 40 34.1 -2.6
comp=Z,11nm,1.0s,mb4.7
ELDT Eldivan 78.24 317 i P P 04 40 38.3 +1.6
LHO Holmfirth 78.33 345 eP P 04 40 37.6 +0.3
BUD Budapest 78.37 330⇑eP P 04 40 38.1 +0.6
ZST Bratislava 78.40 332 eP P 04 40 38.4 +0.8
ZST Bratislava 78.40 332 eP P 04 40 38.4 +0.8
comp=Z,14nm,1.1s,mb4.8
ZST LR LR
comp=Z,500nm,19.8s,MS4.8
STKA Stephens Creek 78.42 190 LR LR 05 14 56.0
comp=Z,362nm,20.4s,MS4.7,baz=22,slow=36
GZT Gaziantep 78.65 313 i P P 04 40 40.0 +1.0
BR131 Keskin Array S 78.74 317 eP P 04 40 40.5 +1.0
BRTR Keskin Array B 78.74 317 P P 04 40 39.9 +0.3
comp=Z,11nm,1.1s,mb4.7,baz=64,slow=2.9,SNR=21
BRTR LR LR 05 21 30.9
comp=Z,787nm,18.1s,MS5.1,baz=216,slow=40
PRD Provadia 78.75 323 i P P 04 40 39.7 +0.1
GZR Gura Zlata 78.79 327⇑iP P 04 40 40.7 +0.9
GZR Gura Zlata 78.79 327 P P 04 40 40.7 +0.9
SGKT Sivrigoynuk 78.81 318 i P P 04 40 40.9 +1.0
GRA1 Grafenberg Arr 78.88 336 eP P 04 40 40.1 -0.2
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 78.88 336 eP P 04 40 40.1 -0.2
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 78.88 336 eP P 04 40 40.1 -0.2
GRF pmax pmax
comp=Z,26nm,1.1s,mb5.1
GRF Grafenberg Arr 78.88 336 eP P 04 40 40.1 -0.2
GRF pmax pmax
comp=Z,26nm,1.1s,mb5.1
GEC2 GERESS Array S 78.91 334 eP P 04 40 40.1 -0.3
GERES GERESS Array B 78.91 334 P P 04 40 40.2 -0.3
comp=Z,2.1nm,0.5s,mb4.3,baz=34,slow=4.7,SNR=28
GERES LR LR 05 19 37.8
comp=Z,1μm,18.2s,MS5.3,baz=24,slow=39
GERES GERESS Array B 78.91 334 P P 04 40 40.2 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,1μm,18.2s
ANTO Ankara 79.03 317 eP P 04 40 41.5 +0.4
ANTO pmax pmax
comp=Z,16nm,1.1s,mb4.9
ANTO Ankara 79.03 317 eP P 04 40 41.5 +0.4
comp=Z,16nm,1.1s,mb4.8
SOP Sopron 79.03 332⇑eP P 04 40 41.7 +0.6
BZS Buzias 79.03 328⇑iP P 04 40 42.6 +1.5
BZS Buzias 79.03 328 P P 04 40 41.1 0.0
CONA Conrad Observa 79.04 332⇑iP P 04 40 41.4 +0.2
comp=Z,13nm,1.2s,mb4.7,SNR=14
SBD1 Bryn Du 79.19 346 eP P 04 40 41.4 -0.6
JCT Junction City 79.26 57 eP P 04 40 40.5 -1.8
JCT pmax pmax
comp=Z,15nm,1.0s,mb4.9
JCT Junction City 79.26 57 eP P 04 40 40.5 -1.9
comp=Z,15nm,1.1s,mb4.8
HGN Heimansgroeve 79.30 339 eP P 04 40 42.3 -0.3
comp=Z,6.4nm,1.3s,mb4.4
BEBN Eben Emael 79.33 340 P P 04 40 42.5 -0.3
MEM Membach 79.42 339 P P 04 40 43.9 +0.6
HLM1 Long Mynd 79.50 345 eP P 04 40 43.1 -0.5
RAR Rarotonga 79.55 136 LR LR 05 12 46.6
comp=Z,709nm,18.4s,MS5.0,baz=292,slow=33
MOA Molln 79.62 333⇑iP P 04 40 45.4 +1.0
comp=Z,8.1nm,0.9s,mb4.6,SNR=6.4
UCC Uccle 79.64 340 P P 04 40 45.9 +1.4
MIAR Mount Ida 79.70 50 eP P 04 40 43.8 -1.0
MIAR pmax pmax
comp=Z,11nm,0.9s,mb4.8
MIAR Mount Ida 79.70 50 eP P 04 40 43.8 -1.0
comp=Z,11nm,0.9s,mb4.8
ARSA Arzberg 79.75 332⇑iP P 04 40 45.3 +0.3
comp=Z,18nm,1.2s,mb4.9,SNR=9.5
BCLA Clavier 79.77 340 P P 04 40 45.5 +0.4
SKP1 Kophill 79.87 344 eP P 04 40 45.5 -0.2
SNF Seneffe 79.93 340 P P 04 40 45.2 -0.8
HTR Trewern Hill 79.98 345 eP P 04 40 46.8 +0.5
MCH1 Michaelchurch 80.02 345 eP P 04 40 46.4 -0.1
MCH1 AMb AMB 04 40 48.4
comp=Z,47nm,1.8s,mb5.1
GIVF Givet 80.18 340 eP P 04 40 46.1 -1.3
ESKT Eskisehir 80.21 318 i P P 04 40 48.0 +0.5
DOU Dourbes 80.24 340 P P 04 40 48.8 +1.1
SWN1 Swindon 80.26 344 eP P 04 40 48.2 +0.5
STU Stuttgart 80.28 337 eP P 04 40 48.7 +0.8
STU pmax pmax
comp=Z,21nm,0.9s,mb5.1
STU Stuttgart 80.28 337 eP P 04 40 48.7 +0.8
comp=Z,21nm,0.9s,mb5.1
HGH Gray Hill 80.33 345 eP P 04 40 48.8 +0.6
BAIF Baives 80.37 340 eP P 04 40 47.2 -1.2
KDHN Kadinhani 80.42 317 i P P 04 40 48.0 -0.6
PERS Pernice 80.42 332 eP P 04 40 48.3 -0.3
WCI Wyandotte Cave 80.52 43 eP P 04 40 48.1 -1.1
WCI pmax pmax
comp=Z,33nm,1.4s,mb5.1
WCI Wyandotte Cave 80.52 43 eP P 04 40 48.1 -1.1
comp=Z,32nm,1.4s,mb5.1
KBA Koelnbreinsper 80.59 333 i P P 04 40 50.3 +0.7
comp=Z,56nm,0.9s,mb5.5,SNR=51
KBA Koelnbreinsper 80.59 333 i P P 04 40 50.3 +0.7
KBA pmax pmax
comp=Z,56nm,0.9s,mb5.5
PGB Panagyurishte 80.62 324 i P P 04 40 49.5 -0.3
PLD Plovdiv 80.78 324 i P P 04 40 49.0 -1.6
TAOE Nuku Hiva Isla 80.78 113 eLR LR 05 05 34.8
comp=Z,2μm,29.8s,baz=327
WATA Walderalm 80.90 335⇓iP P 04 40 52.0 +0.8
comp=Z,33nm,1.2s,mb5.1,SNR=22
WATA Walderalm 80.90 335⇓iP P 04 40 52.0 +0.8
WATA pmax pmax
comp=Z,33nm,1.2s,mb5.1
BFO Black Forest 80.92 337 P P 04 40 51.3 0.0
comp=Z,103nm,1.2s,mb5.6,SNR=8.6
WTTA Wattenberg 80.95 335⇑iP P 04 40 52.1 +0.6
comp=Z,30nm,0.5s,mb5.5,SNR=35
WTTA Wattenberg 80.95 335⇑iP P 04 40 52.1 +0.6
WTTA pmax pmax
comp=Z,30nm,0.5s,mb5.5
VTS Vitosha 80.98 325 i P P 04 40 51.9 +0.3
VTS Vitosha 80.98 325⇑iP P 04 40 52.4 +0.8
VTS Vitosha 80.98 325 P P 04 40 52.1 +0.5
CRES Cresnjev 81.02 331 eP P 04 40 51.4 -0.5
MOTA Moosalm 81.03 335⇑iP P 04 40 52.1 +0.2
comp=Z,34nm,1.2s,mb5.2
MOTA Moosalm 81.03 335⇑iP P 04 40 52.1 +0.2
MOTA pmax pmax
comp=Z,34nm,1.2s,mb5.2
SQTA Sankt Quirin 81.11 335⇑iP P 04 40 52.8 +0.5
comp=Z,21nm,1.1s,mb5.0,SNR=12
SQTA Sankt Quirin 81.11 335⇑iP P 04 40 52.8 +0.4
SQTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
CDF Champ du Feu 81.13 338 eP P 04 40 51.6 -0.8
comp=Z,19nm,0.6s,mb4.9
CDF Champ du Feu 81.13 338 eP P 04 40 51.6 -0.8
CDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CDF Champ du Feu 81.13 338 eP P 04 40 51.6 -0.8
comp=Z,9.4nm,0.6s,mb4.9
GDZ Gediz 81.19 319 i P P 04 40 53.0 +0.3
NATX Nacogdoches 81.22 53 eP P 04 40 52.7 -0.3
comp=Z,16nm,0.8s,mb5.0
GMNA Gemona 81.34 333 P P 04 40 54.3 +0.7
comp=Z,38nm,0.6s,mb5.5
BOJS Bojanci 81.37 331 eP P 04 40 52.9 -0.9
CEY Cerknica 81.44 332 eP P 04 40 53.1 -1.0
WVT Waverly 81.44 46 eP P 04 40 52.7 -1.4
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WVT Waverly 81.44 46 eP P 04 40 52.7 -1.4
comp=Z,6.3nm,0.8s,mb4.6
DAVA Damuels 81.44 336⇑iP P 04 40 55.5 +1.4
comp=Z,13nm,1.2s,mb4.8
MMB Musomiste 81.61 324 i P P 04 40 55.3 +0.3
MEZF Maizieres J'vi 81.61 339 eP P 04 40 54.1 -0.9
comp=Z,25nm,0.7s,mb4.9
MEZF Maizieres J'vi 81.61 339 eP P 04 40 54.1 -0.9
comp=Z,25nm,0.7s,mb5.2
KNDS Knezji Dol 81.64 332 eP P 04 40 54.2 -1.0
HAU Haudompre 81.74 338 eP P 04 40 54.6 -1.1
comp=Z,24nm,0.9s,mb4.8
HAU eMLR MLR
comp=Z,1μm,18.0s
HAU Haudompre 81.74 338 eP P 04 40 54.6 -1.1
HAU pmax pmax
comp=Z,12nm,0.9s,mb4.8

HAU MLR MLR
comp=Z,1μm,18.0s,MS5.2
HAU Haudompre 81.74 338 *e*P **P 04 40 54.6 -1.1**
comp=Z,12nm,0.9s,mb4.8
HAU LR LR
comp=Z,1μm,18.0s,MS5.2
HINF Hinteralfeld 81.79 338 *e*P **P 04 40 55.7 -0.2**
PPT Papeete 81.89 126 *e*S S 04 50 57.5 -12
comp=Z,565nm,26.8s
PPT *e*LR LR 05 06 10.5
comp=Z,1μm,25.0s,baz=326
PPT Papeete 81.89 126 LR LR 05 13 42.2
comp=Z,544nm,18.4s,MS5.0,baz=310,slow=33
OXF Oxford 81.91 48 *e*P **P 04 40 56.5 -0.1**
OXF pmax pmax
comp=Z,23nm,1.1s,mb5.0
OXF Oxford 81.91 48 *e*P **P 04 40 56.5 -0.1**
comp=Z,23nm,1.1s,mb5.0
BRMO Bormio 82.03 335 P **P 04 40 58.4 +1.2**
comp=Z,6.8nm,0.6s,mb4.8
CTI Castel Tesino 82.03 334 P **P 04 40 56.8 -0.4**
CTI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
CTI Castel Tesino 82.03 334 P **P 04 40 56.8 -0.4**
comp=Z,6.4nm,0.5s,mb4.8
AKHS Akhisar 82.11 320 *i*P **P 04 40 56.5 -1.1**
STIP Stip 82.14 325 *i*P **P 04 40 58.0 +0.2**
SKO Skopje 82.20 326 *i*P **P 04 40 58.8 +0.7**
PLAL Pickwick Lake 82.22 47 *e*P **P 04 40 56.7 -1.5**
comp=Z,6.7nm,1.0s,mb4.5
VAY Valandovo 82.30 325 *i*P **P 04 40 57.4 -1.3**
FLN La Foliniere 82.62 343 *e*P **P 04 40 59.3 -1.0**
FLN *e*MLR MLR
comp=Z,830nm,20.2s
FLN La Foliniere 82.62 343 *e*P **P 04 40 59.3 -1.0**
FLN LR LR
comp=Z,830nm,20.3s,MS5.1
LDF La Druitiere 82.71 342 *e*P **P 04 40 59.7 -1.1**
ASF Jabal al Asfar 83.00 310 P **P 04 41 03.0 +0.8**
comp=Z,4.5nm,0.8s,mb4.6,baz=218,slow=2.5,SNR=5.6
ASF Jabal al Asfar 83.00 310 P **P 04 41 03.0 +0.7**
ASF pmax pmax
comp=Z,5.0nm,0.8s
BIA Bitola 83.06 325 *i*P **P 04 41 02.2 -0.4**
LOR Lormes 83.06 339 *e*P **P 04 41 01.6 -0.9**
comp=Z,24nm,0.6s,mb5.1
LOR *e*MLR MLR
comp=Z,894nm,22.5s
LOR Lormes 83.06 339 *e*P **P 04 41 01.6 -0.9**
LOR pmax pmax
comp=Z,12nm,0.6s,mb5.1
LOR MLR MLR
comp=Z,890nm,22.5s,MS5.1
LOR Lormes 83.06 339 *e*P **P 04 41 01.6 -0.9**
comp=Z,12nm,0.6s,mb5.1
LOR LR LR
comp=Z,890nm,22.5s,MS5.1
GRR Gorron 83.06 343 *e*P **P 04 41 01.6 -1.0**
AYDN Tasoluk 83.08 319 *i*P **P 04 41 03.9 +1.2**
HYF Humbligny 83.35 340 *e*P **P 04 41 03.6 -0.5**
AVF Avril sur Loir 83.62 340 *e*P **P 04 41 04.7 -0.8**
comp=Z,18nm,0.6s,mb5.1
AVF Avril sur Loir 83.62 340 *e*P **P 04 41 04.7 -0.8**
AVF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
AVF Avril sur Loir 83.62 340 *e*P **P 04 41 04.7 -0.8**
comp=Z,8.9nm,0.6s,mb5.1
SMF Signal de Mont 83.64 339 *e*P **P 04 41 04.8 -0.8**
comp=Z,138nm,1.2s,mb5.7
SMF Signal de Mont 83.64 339 *e*P **P 04 41 04.8 -0.8**
SMF pmax pmax
comp=Z,69nm,1.2s,mb5.7
SMF Signal de Mont 83.64 339 *e*P **P 04 41 04.8 -0.8**
comp=Z,69nm,1.2s,mb5.7
RSM Repubblica di 83.69 333 P **P 04 41 06.1 +0.3**
RSM pmax pmax
comp=Z,42nm,1.1s,mb5.5
RSM Repubblica di 83.69 333 P **P 04 41 06.1 +0.3**
comp=Z,42nm,1.1s,mb5.5
FSSB Fossombrone 83.79 332 P **P 04 41 06.1 -0.3**
comp=Z,16nm,0.5s,mb5.4
GSCL Gusciola 83.89 334 P **P 04 41 08.9 +2.1**
comp=Z,21nm,1.1s,mb5.2
SEI Scarperia 83.92 333 P **P 04 41 09.6 +2.6**
comp=Z,62nm,0.7s,mb5.8
LPL La Plagne 83.94 337 *e*P **P 04 41 07.3 +0.2**
comp=Z,11nm,0.5s,mb5.0
LPL La Plagne 83.94 337 *e*P **P 04 41 07.3 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
LPL La Plagne 83.94 337 *e*P **P 04 41 07.3 +0.2**
comp=Z,5.4nm,0.5s,mb4.9
VMG Vicchio 83.95 333 P **P 04 41 09.8 +2.7**
comp=Z,20nm,0.6s,mb5.4
LPG La Plagne 83.95 337 *e*P **P 04 41 07.5 +0.3**
comp=Z,32nm,1.0s,mb5.1
LPG La Plagne 83.95 337 *e*P **P 04 41 07.5 +0.3**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.1
LPG La Plagne 83.95 337 *e*P **P 04 41 07.5 +0.3**
comp=Z,16nm,1.0s,mb5.1
BGF Bois d'Agland 83.97 340 *e*P **P 04 41 06.5 -0.7**
comp=Z,7.8nm,0.6s,mb4.8
BGF Bois d'Agland 83.97 340 *e*P **P 04 41 06.5 -0.7**
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
BGF Bois d'Agland 83.97 340 *e*P **P 04 41 06.5 -0.7**
comp=Z,3.9nm,0.6s,mb4.7
CRE Caprese Michel 84.12 333 P **P 04 41 09.7 +1.7**
CRE pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
CRE Caprese Michel 84.12 333 P **P 04 41 09.7 +1.7**
comp=Z,4.1nm,0.5s,mb4.8
SNTG Esanatoglia 84.13 332 P **P 04 41 07.9 -0.2**
comp=Z,9.5nm,0.9s,mb4.9
TCF Toulx Ste Croi 84.37 340 *e*P **P 04 41 08.6 -0.7**
comp=Z,27nm,0.9s,mb5.1
TCF Toulx Ste Croi 84.37 340 *e*P **P 04 41 08.6 -0.7**
TCF pmax pmax
comp=Z,14nm,0.9s,mb5.1
TCF Toulx Ste Croi 84.37 340 *e*P **P 04 41 08.6 -0.7**
comp=Z,14nm,0.9s,mb5.1
BNI Bardonecchia 84.38 337 *e*P **P 04 41 10.6 +1.3**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
BNI Bardonecchia 84.38 337 *e*P **P 04 41 10.6 +1.3**
comp=Z,8.4nm,0.8s,mb4.9
CSNT Castellina Chi 84.47 333 P **P 04 41 10.6 +0.8**
comp=Z,5.9nm,0.4s,mb5.1
FGMS Monte Sant'Ang 84.47 329 P **P 04 41 09.6 -0.2**
comp=Z,8.5nm,0.5s,mb5.1
TERO Teramo 84.48 331 P **P 04 41 09.8 0.0**
MFF Saint Martin d 84.61 342 *e*P **P 04 41 09.8 -0.7**
comp=Z,12nm,0.5s,mb5.0
MFF Saint Martin d 84.61 342 *e*P **P 04 41 09.8 -0.7**
MFF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
MFF Saint Martin d 84.61 342 *e*P **P 04 41 09.8 -0.7**
comp=Z,5.9nm,0.5s,mb5.0
RGNG Rignano Grg 84.64 329 P **P 04 41 10.4 -0.2**
MBDF Montbardon 84.66 337 *e*P **P 04 41 10.3 -0.4**
comp=Z,9.1nm,0.5s,mb4.8
MBDF Montbardon 84.66 337 *e*P **P 04 41 10.3 -0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
MBDF Montbardon 84.66 337 *e*P **P 04 41 10.3 -0.4**
comp=Z,4.6nm,0.5s,mb4.9
ORIF Oris-en-Rattie 84.72 337 *e*P **P 04 41 11.2 +0.1**
comp=Z,17nm,0.6s,mb5.1
ORIF *e*MLR MLR
comp=Z,730nm,23.0s
ORIF Oris-en-Rattie 84.72 337 *e*P **P 04 41 11.2 +0.1**
ORIF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 84.72 337 *e*P **P 04 41 11.2 +0.1**
comp=Z,8.4nm,0.6s,mb5.0
AQU L'Aquila 84.78 331 ⇓*i*P **P 04 41 14.5 +3.1**
AQU L'Aquila 84.78 331 *e*P **P 04 41 10.9 -0.5**
AQU pmax pmax
comp=Z,15nm,0.8s,mb5.2
AQU L'Aquila 84.78 331 *e*P **P 04 41 10.9 -0.4**
comp=Z,15nm,0.8s,mb5.2
FG5 Orsara di Pugl 85.09 329 P **P 04 41 12.9 0.0**
FG5 pmax pmax
comp=Z,21nm,0.8s,mb5.3
FG5 Orsara di Pugl 85.09 329 P **P 04 41 12.9 0.0**
comp=Z,21nm,0.8s,mb5.3
VIVF Saint-Julien-I 85.10 338 *e*P **P 04 41 12.8 -0.2**
comp=Z,16nm,0.8s,mb4.9
VIVF Saint-Julien-I 85.10 338 *e*P **P 04 41 12.8 -0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
VIVF Saint-Julien-I 85.10 338 *e*P **P 04 41 12.8 -0.2**
comp=Z,7.9nm,0.8s,mb4.9
MIDA Miranda 85.13 330 P **P 04 41 13.0 -0.1**
VVLD Villa Vallelon 85.14 331 P **P 04 41 12.7 -0.5**
RJF Les Rejaudoux 85.46 340 *e*P **P 04 41 14.3 -0.5**
comp=Z,33nm,1.3s,mb5.0
RJF *e*MLR MLR
comp=Z,674nm,22.2s
RJF Les Rejaudoux 85.46 340 *e*P **P 04 41 14.3 -0.5**
RJF pmax pmax
comp=Z,17nm,1.3s,mb5.0
RJF MLR MLR
comp=Z,670nm,22.3s,MS5.0
RJF Les Rejaudoux 85.46 340 *e*P **P 04 41 14.3 -0.5**
comp=Z,17nm,1.3s,mb5.0
RJF LR LR
comp=Z,670nm,22.3s,MS5.0
RFI Roccamonfina 85.52 330 P **P 04 41 16.5 +1.4**
comp=Z,9.7nm,1.2s,mb4.9
SMRF Simiane la Rot 85.68 337 *e*P **P 04 41 15.7 -0.1**
CAF Calviac 85.69 340 *e*P **P 04 41 15.9 0.0**
comp=Z,29nm,1.0s,mb5.2
CAF Calviac 85.69 340 *e*P **P 04 41 15.9 0.0**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.2
CAF Calviac 85.69 340 *e*P **P 04 41 15.9 0.0**
comp=Z,15nm,1.0s,mb5.2
FRF La Foret Royal 85.77 336 *e*P **P 04 41 15.6 -0.7**
LMR La Mourre 86.01 336 *e*P **P 04 41 16.9 -0.6**
comp=Z,19nm,0.8s,mb5.1
LMR La Mourre 86.01 336 *e*P **P 04 41 16.9 -0.6**
LMR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
LMR La Mourre 86.01 336 *e*P **P 04 41 16.9 -0.6**
comp=Z,9.7nm,0.8s,mb5.1
LASF Ste Croix 86.04 338 *e*P **P 04 41 17.8 +0.2**
TBI Tubuai 86.60 129 *e*LR LR 05 08 09.5
comp=Z,783nm,34.8s,baz=326
GRI Girifalco 86.84 327 P **P 04 41 21.6 0.0**
GRI pmax pmax
comp=Z,44nm,1.3s,mb5.5
GRI Girifalco 86.84 327 P **P 04 41 21.6 0.0**
comp=Z,44nm,1.3s,mb5.5
VAE Valguarnera 88.77 328 LR LR 05 26 59.8
comp=Z,677nm,18.2s,MS5.1,baz=77,slow=39
ESDC Sonseca Array 92.04 342 P **P 04 41 46.5 +0.5**
comp=Z,0.1nm,0.3s,baz=18,slow=5.2,SNR=4.8
ESDC LR LR 05 30 53.7
comp=Z,478nm,19.0s,MS5.0,baz=5.0,slow=41
ESDC Sonseca Array 92.04 342 P **P 04 41 46.5 +0.5**
ESDC LR LR 05 30 53.7
KEST Kesra 92.11 331 P **P 04 41 46.8 +0.4**
comp=Z,1.2nm,0.5s,mb4.5,baz=351,slow=3.9,SNR=10
KEST LR LR 05 27 14.3
comp=Z,162nm,18.1s,MS4.5,baz=340,slow=38
RKT Rikitea 94.78 119 *e*PS PS 04 54 22.5 -6.9
comp=Z,199nm,29.2s
RKT Rikitea 94.78 119 *e*SS SS 04 59 27.7 -8.0
comp=Z,182nm,28.2s
RKT *e*LR LR 05 12 05.4
comp=Z,775nm,33.5s,baz=326
TORD Torodi Ar. Bea 115.52 329 PKP PKPdf 04 47 18.2 -0.8
comp=Z,0.5nm,0.5s,baz=18,slow=1.4,SNR=15
TORD PP PP 04 48 11.9 -8.9
comp=Z,0.3nm,0.5s,baz=14,slow=7.8,SNR=4.3
VNDA Vanda 123.59 178 PKP PKPdf 04 47 30.6 -3.9
comp=Z,0.5nm,0.8s,baz=332,slow=4.5,SNR=4.6
VNDA Vanda 123.59 178 PKIKP PKPdf 04 47 30.7 -3.8
VNDA pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 123.78 333 PKP PKPdf 04 47 34.2 -0.6
comp=Z,6.7nm,1.1s,baz=358,slow=2.8,SNR=4.3
DBIC Dimbokro 123.78 333 PKIKP PKPdf 04 47 34.3 -0.6
DBIC pmax pmax
comp=Z,7.0nm,1.1s
LPAZ La Paz 134.63 63 PKP PKPdf 04 47 56.6 +1.1
comp=Z,0.7nm,0.6s,baz=316,slow=2.6,SNR=6.3
LPAZ La Paz 134.63 63 PKIKP PKPdf 04 47 56.7 +1.2
LPAZ pmax pmax
comp=Z,10.0nm,0.6s
LPAZ La Paz 134.63 63 *e*PKPdf PKPdf 04 47 57.1 +1.6
BDFB Brasilia 144.79 37 PKP PKPdf 04 48 12.1 -1.8
comp=Z,4.4nm,0.6s,baz=285,slow=3.9,SNR=12
BDFB Brasilia 144.79 37 PKIKP PKPdf 04 48 12.1 -1.8
BDFB pmax pmax
comp=Z,4.0nm,0.6s
PLCA Paso Flores 148.20 96 PKPbc PKPbc 04 48 22.5 -0.5
comp=Z,6.8nm,0.9s,baz=266,slow=4.3,SNR=7.0
PLCA Paso Flores 148.20 96 PKP2 PKPbc 04 48 22.5 -0.5
PLCA pmax pmax
comp=Z,7.0nm,0.9s
CPUP Villa Florida 148.77 61 PKPbc PKPbc 04 48 23.4 -1.1
comp=Z,2.9nm,0.6s,baz=311,slow=2.5,SNR=13
CPUP Villa Florida 148.77 61 *e*PKPbc PKPdf 04 48 23.0 +2.4
CPUP *e*PKPdf PKPbc 04 48 23.7 -0.8
MAIT Maitri 149.16 204 *e*PKPdf PKPdf 04 48 23.3 +2.1
SNAA Sanae 152.03 196 PKPbc PKPbc 04 48 28.3 -4.0
comp=Z,0.9nm,0.6s,baz=188,slow=12,SNR=4.6
SNAA Sanae 152.03 196 *e*PKPdf PKPdf 04 48 23.3 -2.4
SNAA PKPbc PKPbc 04 48 28.3 -4.0
TRQA Tornquist 152.95 85 *e*PKPdf PKPbc 04 48 32.6 -1.8

IDC 01 04:39:33.2±27.0, 4618N×15353E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.8/4, Error ellipse: s-maj=631.5km s-min=86.7km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.46**	**298**	P	P	04 48 09.3	-0.3
	0.7nm,0.8s,baz=61,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**64.68**	**335**	P	P	04 50 12.2	-0.6
	0.5nm,0.4s,baz=32,slow=7.0,SNR=14						
NOA	**NORSAR Array B**	**68.86**	**341**	P	P	04 50 39.3	-0.3
	0.5nm,0.6s,baz=27,slow=6.2,SNR=3.8						
AKASG	**Malin Array Be**	**72.18**	**327**	P	P	04 50 59.5	-0.3
	0.9nm,0.5s,baz=34,slow=6.2,SNR=5.2						

NIED ***01*** *04:52:00, 4660N×15320E, h14km, Mw4.6 Best double couple: M0 8.30000×1015 NP1:φ0=224.00000°, δ85.00000°, λ163.00000°. NP2:φ0=316.00000°, δ73.00000°, λ5.00000°.*
IDC ***01*** *04:52:32.9±0.8, 4624N×15291E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.2/23, mbtmp4.1/17, Error ellipse: s-maj=25.1km s-min=17.8km az=178.0*
ISCJB ***01*** *04:52:33.9±0.3, 4627N±005×15301E±004, h10km, mb4.6/93, MS4.4/1, Error ellipse: s-maj=7.8km s-min=3.2km az=130.5*
BJI ***01*** *04:52:33.2, 4649N×15324E, h15km, mB5.2, mb4.4, Ms4.4, Msz4.3*
NEIC ***01*** *04:52:35.8±0.3, 4631N×15305E, h10km, mb4.8/56, Error ellipse: s-maj=10.1km s-min=5.3km az=170.0*
MOS ***01*** *04:52:36.6±1.5, 4633N×15294E, h27km, mb5.1/41, Error ellipse: s-maj=8.8km s-min=6.2km az=97.8*
SKHL ***01*** *04:52:37.2±0.9, 4605N×15327E, h35km±3km, mb5.1/5, Ms4.4/2*
ISC 01 04:52:34.8±2.0, 4640N±005×15300E±005, h3km±12km, n247, σ1§05/250, mb4.6/93, MS4.4/1, 16C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**254**	⇓*i*PN	**Pn**	**04 53 32.0**	**-1.9**
KUR				pmax	pmax		
	comp=Z,1μm,1.0s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR	**Severo-Kuril's**	**4.76**	**25**	*e*P	**Pn**	**04 53 46.5**	**-0.9**
SKR				AMB	AMB	04 53 50.0	
	comp=Z,60nm,0.5s						
SKR				AMB	AMB	04 53 50.0	
	comp=Z,80nm,0.5s						
SKR				*e*S	**Sn**	**04 54 39.1**	**-4.0**
SKR	**Severo-Kuril's**	**4.76**	**25**	*e*	**Sn**	**04 54 39.1**	**-4.0**
YUK	**Yuzh-Kuril'sk**	**5.57**	**247**	*e*P	**Pn**	**04 53 59.5**	**+0.9**
YUK				AMB	AMB	04 54 03.2	
	comp=Z,110nm,0.4s						
YUK				AMB	AMB	04 54 03.2	
	comp=Z,220nm,0.4s						
YUK				A		04 55 19.5	
	comp=Z,770nm,0.5s						
YUK				A		04 55 19.5	
	comp=Z,400nm,0.5s						
YUK				A		04 55 38.0	
	comp=Z,4μm,1.0s						
YUK				A		04 55 38.0	
	comp=Z,4μm,1.0s						
YUK				AMS	AMS	04 56 17.0	
	comp=Z,2μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**247**	PN	**Pn**	**04 53 59.5**	**+0.9**
YUK				S	**Sn**	**04 55 09.0**	**+5.8**
YUK				pmax	pmax		
	comp=Z,220nm,0.3s						
YUK				pmax	pmax		
	comp=E,110nm,0.5s						
YUK				smax			
	comp=N,770nm,0.5s						
YUK				smax			
	comp=E,400nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,16.0s						
NEM2	**Nemuro 2**	**5.98**	**242**	P	**Pn**	**04 54 01.7**	**-2.6**
NEM2				*e*S	**Sn**	**04 55 07.2**	**-6.1**
JRA	**Rausu**	**6.09**	**249**	P	**Pn**	**04 54 06.4**	**+0.7**
JNK	**Nakash**	**6.51**	**247**	P	**Pn**	**04 54 11.5**	**0.0**
JAK	**Akkeshi**	**6.83**	**243**	*e*S	**Sn**	**04 55 28.7**	**-5.4**
JTKR	**Abashiri--Toko**	**6.87**	**253**	P	**Pn**	**04 54 17.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	*e*S	**Pb**	**04 54 40.8**	**+2.5**
JMP	**Maruseppu**	**7.22**	**254**	P	**Pn**	**04 54 22.4**	**+1.2**
JOB	**Onbets**	**7.41**	**245**	P	**Pn**	**04 54 23.2**	**-0.7**
JOB				*e*S	**Sn**	**04 55 43.2**	**-5.3**
JKK2	**Kamakawa 2**	**7.68**	**254**	P	**Pn**	**04 54 28.9**	**+1.3**
ASAJ	**Asahikawa**	**7.69**	**256**	Pn	**Pn**	**04 54 29.9**	**+2.2**
	comp=Z,1.6nm,0.3s,baz=96,slow=14,SNR=14						
ASAJ	**Asahikawa**	**7.69**	**256**	P	**Pn**	**04 54 29.5**	**+1.8**
ASAJ	**Asahikawa**	**7.69**	**256**	PN	**Pn**	**04 54 29.9**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.86**	**245**	P	**Pn**	**04 54 28.8**	**-1.2**
JCH				*e*S	**Sn**	**04 55 53.2**	**-6.3**
JAB	**Ashibetsu**	**8.18**	**253**	P	**Pn**	**04 54 36.4**	**+2.0**
JEM	**Erimo**	**8.32**	**242**	P	**Pn**	**04 54 35.9**	**-0.4**
ERM	**Erimo**	**8.32**	**242**	*e*PN	**Pn**	**04 54 36.1**	**-0.2**
ERM				pmax	pmax		
	comp=Z,55nm,0.6s						
ERM	**Erimo**	**8.32**	**242**	*e*Pn	**Pn**	**04 54 36.1**	**-0.3**
	comp=Z,55nm,0.6s						
JBT2	**Biratori 2**	**8.41**	**248**	P	**Pn**	**04 54 37.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**8.42**	**244**	P	**Pn**	**04 54 37.7**	**0.0**
JSH	**Shimam**	**9.99**	**253**	P	**Pn**	**04 54 59.8**	**+0.6**
JYM2	**Yakumo 2**	**10.02**	**249**	P	**Pn**	**04 54 58.7**	**-1.0**
JTM	**Tenmabayashi**	**10.31**	**241**	P	**Pn**	**04 55 00.1**	**-3.6**
JOSM	**Okushiri--Mats**	**10.62**	**251**	P	**Pn**	**04 55 06.4**	**-1.5**
GRNR	**Gornyy**	**11.81**	**298**	*e*P	**Pn**	**04 55 26.0**	**+1.8**
KLR	**Kul'dur**	**14.55**	**289**	*e*P	**Pn**	**04 56 02.0**	**+0.4**
MAJO	**Matsushiro**	**14.81**	**234**	*e*P	**Pn**	**04 56 04.0**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,47nm,0.8s						
MAJO	**Matsushiro**	**14.81**	**234**	*e*Pn	**Pn**	**04 56 04.0**	**-1.1**
	comp=Z,47nm,0.8s						
MJAR	**Matsushiro Arr**	**14.81**	**234**	Pn	**Pn**	**04 56 00.7**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=7.5						
VLA	**Vladivostok**	**15.34**	**265**	*e*P	**Pn**	**04 56 12.3**	**0.0**
MDJ	**Mudanjiang**	**16.50**	**272**	P	**Pn**	**04 56 27.4**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,69nm,4.0s						
MDJ	**Mudanjiang**	**16.50**	**272**	*e*Pn	**Pn**	**04 56 27.4**	**+0.2**
SEY	**Seymchan**	**16.57**	**359**	*e*P	**Pn**	**04 56 29.4**	**+1.2**
BMKR	**Bomnak**	**17.39**	**307**	*e*P	**Pn**	**04 56 39.4**	**+1.0**
YASR	**Yasnyy**	**17.49**	**302**	*e*P	**Pn**	**04 56 38.8**	**-0.9**
YASR				AMB	AMB	04 56 50.8	
	comp=Z,1.0nm,0.6s						
YASR				AMB	AMB	04 56 50.8	
	comp=Z,9.0nm,0.6s						
YASR				AMB	AMB	04 56 50.8	
	comp=Z,18nm,0.6s						
CN2	**Changchun**	**19.59**	**272**	*e*P	**Pn**	**04 57 03.6**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
DL2	**Dalian**	**24.14**	**263**	P	**P**	**04 57 52.0**	**0.0**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CIT	**Chita**	**26.13**	**297**	*e*P	**P**	**04 58 08.7**	**-1.4**
BOD	**Bodaibo**	**26.15**	**310**	*e*P	**P**	**04 58 07.8**	**-2.5**
BOD				pmax	pmax		
	comp=Z,40nm,1.3s,mb4.8						
SONM	**Songino Array**	**31.38**	**290**	P	**P**	**04 58 54.1**	**-2.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=74,slow=8.7,SNR=6.8						
SONM				PcP	PcP	05 01 48.9	-1.6
	comp=Z,0.4nm,0.7s,baz=121,slow=3.6,SNR=2.9						
ZAK	**Zakamensk**	**32.76**	**295**	*e*P	**P**	**04 59 07.8**	**-1.2**
XAN	**Xi'an**	**35.41**	**266**	P	**P**	**04 59 31.5**	**-0.5**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
COLA	**College**	**36.46**	**38**	*e*P	**P**	**04 59 40.6**	**-0.4**
COLA				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.4						
COLA	**College**	**36.46**	**38**	*e*P	**P**	**04 59 40.6**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.3						
LZH	**Lanzhou**	**37.82**	**272**	*e*P	**P**	**04 59 53.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,282nm,4.2s						
LZH	**Lanzhou**	**37.82**	**272**	*e*P	**P**	**04 59 53.5**	**+0.9**
	comp=Z,39nm,1.2s,mb5.0						
EGAK	**Eagle**	**39.32**	**38**	*e*P	**P**	**05 00 04.0**	**-1.1**
CD2	**Chengdu**	**40.77**	**265**	P	**P**	**05 00 17.0**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA	**Guiyang**	**41.56**	**258**	⇑*i*P	**P**	**05 00 23.3**	**-0.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,510nm,9.3s						
INK	**Inuvik**	**41.99**	**32**	P	**P**	**05 00 26.1**	**-1.1**
	comp=Z,4.2nm,1.1s,mb4.0,baz=301,slow=4.9,SNR=5.9						
WMQ	**Urumqi**	**44.98**	**292**	*e*P	**P**	**05 00 53.0**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
KMI	**Kunming**	**45.10**	**260**	P	**P**	**05 00 53.1**	**+0.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
KMI	**Kunming**	**45.10**	**260**	P	**P**	**05 00 53.1**	**+0.8**
	comp=Z,8.0nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**47.03**	**298**	P	**P**	**05 01 05.9**	**-1.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=64,slow=8.5,SNR=28						
BVAR	**Borovoye Array**	**51.02**	**310**	P	**P**	**05 01 36.3**	**-1.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=50,slow=8.0,SNR=11						
BRVK	**Borovoye**	**51.06**	**310**	*e*P	**P**	**05 01 36.4**	**-2.0**
YKA	**Yellowknife Ar**	**51.25**	**37**	P	**P**	**05 01 38.6**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=295,slow=5.8,SNR=3.3						
AAK	**Ala-Archa**	**53.92**	**297**	*i*P	**P**	**05 01 58.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
GUN	**Gumba**	**54.95**	**275**	*e*P	**P**	**05 02 08.1**	**+1.0**
	comp=Z,52nm,1.0s,mb5.5						
ARU	**Arti**	**55.22**	**318**	⇑*i*P	**P**	**05 02 07.3**	**-1.7**
ARU				*e*S	**S**	**05 09 49.7**	**-3.5**
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KKN	**Kakani**	**55.44**	**275**	*e*P	**P**	**05 02 11.3**	**+0.6**
	comp=Z,56nm,0.9s,mb5.6						
PKI	**Pulchoki**	**55.49**	**275**	*e*P	**P**	**05 02 11.4**	**+0.4**
	comp=Z,32nm,1.0s,mb5.3						
DMN	**Daman**	**55.68**	**275**	*e*P	**P**	**05 02 13.0**	**+0.7**
	comp=Z,82nm,0.9s,mb5.8						
GKN	**Gorkha**	**55.75**	**276**	*e*P	**P**	**05 02 13.4**	**+0.5**
	comp=Z,82nm,0.8s,mb5.8						
EDM	**Edmonton**	**56.61**	**46**	*e*P	**P**	**05 02 17.6**	**-1.4**
KOLN	**Koldanda**	**56.61**	**277**	*e*P	**P**	**05 02 19.4**	**+0.4**
	comp=Z,86nm,0.9s,mb5.8						
DAG	**Danmarks Havn**	**56.99**	**358**	⇑*i*P	**P**	**05 02 21.7**	**0.0**
	comp=Z,14nm,1.2s,mb4.9						
DAG	**Danmarks Havn**	**56.99**	**358**	⇑*i*P	**P**	**05 02 21.7**	**0.0**
DAG				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
HAWA	**Hanford**	**57.17**	**55**	*e*P	**P**	**05 02 22.2**	**-0.8**
	comp=Z,1.4nm,0.9s,mb4.0						
BOK	**Bokaro**	**57.58**	**271**	*e*P	**P**	**05 02 26.3**	**+0.4**
BOK				AMb	AMB	05 02 31.7	
	comp=Z,9.5nm,1.2s,mb4.7						

ARCES ARCESS Array B 58.16 341 P **P** **05 02 29.2 -0.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=41,slow=8.1,SNR=5.1
AKTK Aktyubinsk 58.90 312 P **P** **05 02 33.7 -1.4**
AKTO Aktyubinsk 58.90 312 P **P** **05 02 33.7 -1.4**
comp=Z,1.6nm,0.5s,mb4.3,baz=74,slow=7.4,SNR=6.7
WVOR Wild Horse Val 60.01 59 *e*P **P** **05 02 42.2 -0.5**
comp=Z,1.0nm,0.7s,mb4.0
OHCM Honcut 60.15 63 *e*P **P** **05 02 44.5 +0.7**
CHMT Chamberlain Mo 60.36 52 *e*P **P** **05 02 47.0 +1.8**
NDI New Delhi 60.40 282 *e*P **P** **05 02 44.9 -0.5**
NDI *e*P pP 05 02 45.0 -1.2
NDI AMb AMB 05 02 46.5
comp=Z,21nm,1.2s,mb5.0
JOF Joensuu 61.61 334 *e*p **P** **05 02 52.6 -1.1**
comp=Z,4.9nm,0.5s,mb4.9
CMB Columbia Colle 61.63 64 *e*P **P** **05 02 52.5 -1.3**
comp=Z,0.9nm,0.9s,mb3.9
DLMT Dillon 61.67 53 *e*P **P** **05 02 53.0 -1.2**
comp=Z,0.6nm,0.8s,mb3.8
BOZ Bozeman (W) 62.03 52 *e*P **P** **05 02 56.6 +0.1**
comp=Z,0.8nm,0.5s,mb4.1
QLMT Earthquake Lak 62.65 53 *e*P **P** **05 02 59.1 -1.6**
NVAR Mina Array Bea 62.66 62 P **P** **05 03 00.4 -0.4**
comp=Z,1.1nm,0.7s,mb4.1,baz=287,slow=8.6,SNR=11
GCMT Greycliff 63.00 51 *e*P **P** **05 03 05.0 +2.0**
VIS Vishakhapatnam 63.41 268 *e*P **P** **05 03 06.3 +0.6**
VIS AMb AMB 05 03 09.2
comp=Z,21nm,1.4s,mb5.1
IMW Indian Meadow 63.52 53 *e*P **P** **05 03 05.2 -1.2**
comp=Z,0.5nm,0.4s,mb3.9
FLWY Flagg Ranch 63.53 53 *e*P **P** **05 03 06.3 -0.2**
comp=Z,0.8nm,0.4s,mb4.1
MOOW Moose Ponds 63.72 53 *e*P **P** **05 03 07.5 -0.3**
comp=Z,0.7nm,0.8s,mb3.7
KAF Kangasniemi 63.73 335 *e*p **P** **05 03 06.5 -1.3**
comp=Z,14nm,0.8s,mb5.0,baz=37,slow=6.2
KAF Kangasniemi 63.73 335 *e*P **P** **05 03 06.5 -1.3**
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.0
TPAW Teton Pass 63.77 54 *e*P **P** **05 03 08.4 +0.3**
comp=Z,2.5nm,0.9s,mb4.2
BHPL Bhopal 63.78 277 *e*P **P** **05 03 08.6 +0.4**
HVU Hansel Valley 63.83 56 *e*P **P** **05 03 08.7 +0.2**
comp=Z,0.7nm,0.4s,mb4.0
LOHW Long Hollow 63.88 54 *e*P **P** **05 03 08.3 -0.5**
comp=Z,1.0nm,0.8s,mb3.9
SNOW Snow King Moun 63.90 54 *e*P **P** **05 03 09.5 +0.5**
comp=Z,1.4nm,0.6s,mb4.2
REDW Red Top Meadow 63.91 54 *e*P **P** **05 03 08.5 -0.5**
comp=Z,4.1nm,1.2s,mb4.3
FIA1 FINESS Array S 64.32 335 *e*P **P** **05 03 10.3 -1.5**
FINES FINESS Array B 64.32 335 P **P** **05 03 10.4 -1.3**
comp=Z,3.9nm,0.7s,mb4.6,baz=46,slow=8.2,SNR=18
TRCR Troy Canyon 64.37 61 *e*P **P** **05 03 12.6 +0.6**
DAC Darwin (Calif) 64.47 64 *e*P **P** **05 03 11.3 -1.4**
comp=Z,0.8nm,0.7s,mb3.9
DUG Dugway 64.83 58 *e*P **P** **05 03 15.4 +0.4**
DUG pmax pmax
comp=Z,20nm,1.0s,mb5.1
DUG Dugway 64.83 58 *e*P **P** **05 03 15.4 +0.4**
comp=Z,1.7nm,1.0s,mb4.0
BW06 Boulder Array 65.02 54 *e*P **P** **05 03 16.5 +0.2**
comp=Z,1.0nm,0.8s,mb3.9
PDAR Pinedale Array 65.02 54 P **P** **05 03 15.8 -0.5**
comp=Z,1.3nm,0.9s,mb4.0,baz=329,slow=1.7,SNR=6.4
NLU North Lily Min 65.41 57 *e*P **P** **05 03 20.4 +1.6**
OBN Obninsk 65.55 326 *e*P **P** **05 03 18.7 -1.0**
OBN *e*SS SS 05 16 14.5 -4.7
OBN pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN *e* PP 05 05 40.9 -3.0
OBN *e*SS SS 05 16 14.5 -4.7
OBN Obninsk 65.55 326 *e*S PcP 05 03 50.1 -1.3
MPU Maple Canyon 65.63 57 *e*P **P** **05 03 20.4 +0.1**
comp=Z,3.5nm,0.9s,mb4.4
CCUT Cedar City 66.22 60 *e*P **P** **05 03 23.7 -0.3**
SRU San Rafael 66.87 57 *e*P **P** **05 03 27.8 -0.4**
SRU pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
SRU San Rafael 66.87 57 *e*P **P** **05 03 27.8 -0.4**
comp=Z,0.9nm,0.4s,mb4.2
RWWY Rawlins 67.03 53 *e*P **P** **05 03 30.1 +0.8**
comp=Z,2.5nm,0.7s,mb4.3
RSSD Black Hills 67.11 50 *e*P **P** **05 03 30.0 +0.3**
RSSD pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
RSSD Black Hills 67.11 50 *e*P **P** **05 03 30.0 +0.3**
comp=Z,1.9nm,0.8s,mb4.2
WB2 Warramunga Arr 68.16 199 *e*P **P** **05 03 37.8 +1.4**
NB2 NORSAR Subarra 68.53 341 P **P** **05 03 37.8 -0.9**
comp=Z,12nm,0.8s,mb4.9,baz=31,slow=6.5
NB2 NORSAR Subarra 68.53 341 P **P** **05 03 37.8 -0.9**
NB2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
NOA NORSAR Array B 68.53 341 P **P** **05 03 37.4 -1.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=27,slow=6.3,SNR=12
SMCO Snowmass 68.87 55 *e*P **P** **05 03 41.4 +0.7**
comp=Z,1.1nm,0.7s,mb3.9
MVCO Mesa Verde 69.33 58 *e*P **P** **05 03 44.4 +0.7**
GOF Gofitskoye 70.02 315 *e*P **P** **05 03 39.3 -8.6**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
KAD Karad 70.02 274 *e*P **P** **05 03 48.8 +0.9**
KAD AMb AMB 05 03 53.2
comp=Z,9.6nm,0.9s,mb4.7
KIV Kislovodsk 70.99 314 *i* P **P** **05 03 52.4 -1.4**
KIV pmax pmax
comp=Z,18nm,1.4s,mb4.8
ZEI Tsey 71.24 313 *e*P **P** **05 03 54.8 -0.5**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SUW Suwalki 71.27 331 *e*P **P** **05 03 54.5 -1.0**
AKASG Malin Array Be 71.79 326 P **P** **05 03 57.5 -1.2**
comp=Z,8.0nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=40
ASAR Alice Springs 71.85 198 P **P** **05 03 56.7 -2.3**
comp=Z,0.5nm,0.7s,baz=8.5,slow=5.6,SNR=4.5
LAZ Ladron 72.06 59 *e*P **P** **05 04 01.9 +1.6**
ANMO Albuquerque 72.08 58 *e*P **P** **05 04 00.5 +0.1**
GNI Garni 72.70 310 *i* P **P** **05 04 05.9 +1.8**
GNI pmax pmax
comp=Z,26nm,1.6s
GNI Garni 72.70 310 *i* P **P** **05 04 05.9 +1.8**
GNI pmax pmax
comp=Z,26nm,1.6s
MNTX Cornudas Mount 75.01 60 *e*P **P** **05 04 18.5 +0.8**
KWP Kalwaria 75.08 329 *e*P **P** **05 04 18.6 +0.5**
OJC Ojcow 75.59 331 *e*P **P** **05 04 20.5 -0.5**
OJC Ojcow 75.59 331 *e*P **P** **05 04 20.5 -0.5**
STHS Stebnicka Huta 75.78 330 *e*P **P** **05 04 22.6 +0.5**
STHS Stebnicka Huta 75.78 330 *e*P **P** **05 04 22.6 +0.5**
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
STHS Stebnicka Huta 75.78 330 *e*P **P** **05 04 22.6 +0.5**
comp=Z,9.2nm,1.1s,mb4.6
KOLS Kolonicke sedl 75.82 329 *e*P **P** **05 04 21.8 -0.5**
BURAR Bucovina Array 75.84 327 ⇓*i*P **P** **05 04 22.4 0.0**
UZH Uzhgorod 76.07 329 *e*P **P** **05 04 23.2 -0.5**
NIE Niedzica 76.10 330 *e*P **P** **05 04 25.3 +1.4**
NIE Niedzica 76.10 330 *e*P **P** **05 04 25.3 +1.4**
CRVS Cervenica-Dubn 76.14 329 *e*P **P** **05 04 24.7 +0.6**
CFR Carcaliu 76.67 323 ⇓*i*P **P** **05 04 26.3 -0.9**
MORC Moravsky Berou 76.71 332 ⇓*i*P **P** **05 04 26.6 -0.8**
CLL Collm 76.75 336 *i* P **P** **05 04 26.6 -1.0**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 76.75 336 *i* P **P** **05 04 26.6 -1.0**
comp=Z,6.0nm,0.8s,mb4.6
HARR Harsova 77.15 323 ⇓*i*P **P** **05 04 30.1 +0.2**
MLR Muntele Rosu 77.31 325 ⇑*i*P **P** **05 04 31.8 +1.1**
VYHS Vyhne 77.39 331 *e*P **P** **05 04 31.2 0.0**
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VYHS Vyhne 77.39 331 *e*P **P** **05 04 31.2 0.0**
comp=Z,4.6nm,0.9s,mb4.4
VRAC Vranov 77.42 332 ⇑*i*P **P** **05 04 31.3 -0.1**
DRGR 77.47 328 ⇑*i*P **P** **05 04 29.9 -1.7**
SNX Sinaia 77.59 325 ⇓*i*P **P** **05 04 33.4 +1.1**
VOIR 77.70 325 ⇑*i*P **P** **05 04 33.8 +0.9**
BRTR Keskin Array B 78.59 317 P **P** **05 04 37.4 -0.5**
comp=Z,1.7nm,1.0s,mb3.9,baz=97,slow=2.9,SNR=7.1
GZR Gura Zlata 78.62 327 ⇑*i*P **P** **05 04 37.5 -0.5**
GRA1 Grafenberg Arr 78.70 336 *e*P **P** **05 04 38.0 -0.5**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.70 336 *e*P **P** **05 04 38.0 -0.5**
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.70 336 *e*P **P** **05 04 38.0 -0.5**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 78.70 336 *e*P **P** **05 04 38.0 -0.5**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GEC2 GERESS Array S 78.73 334 *e*P **P** **05 04 38.2 -0.5**
GERES GERESS Array B 78.73 334 P **P** **05 04 38.3 -0.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=35,slow=4.9,SNR=12
BZS Buzias 78.87 328 ⇑*i*P **P** **05 04 39.4 0.0**
BAIF Baives 80.19 340 *e*P **P** **05 04 47.0 +0.4**
comp=Z,76nm,1.5s,mb5.1
BAIF Baives 80.19 340 *e*P **P** **05 04 47.0 +0.4**
BAIF pmax pmax
comp=Z,38nm,1.5s,mb5.1
BAIF Baives 80.19 340 *e*P **P** **05 04 47.0 +0.4**
comp=Z,38nm,1.5s,mb5.1
PERS Pernice 80.25 332 *e*P **P** **05 04 46.4 -0.5**
KBA Koelnbreinsper 80.42 333 ⇑*i*P **P** **05 04 47.8 0.0**
KBA pmax pmax
comp=Z,12nm,0.8s,mb4.9
KBA Koelnbreinsper 80.42 333 ⇑*i*P **P** **05 04 47.8 0.0**
comp=Z,12nm,0.8s,mb4.9
WATA Walderalm 80.72 335 ⇑*i*P **P** **05 04 51.1 +1.6**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WATA Walderalm 80.72 335 ⇑*i*P **P** **05 04 51.1 +1.6**
comp=Z,5.9nm,0.9s,mb4.5
GCIS Gornji Cirnik 80.76 331 *e*P **P** **05 04 48.7 -0.9**
WTTA Wattenberg 80.77 334 ⇑*i*P **P** **05 04 50.7 +1.0**
comp=Z,11nm,0.7s,mb4.9
WTTA Wattenberg 80.77 334 ⇑*i*P **P** **05 04 50.7 +1.0**
WTTA pmax pmax
comp=Z,11nm,0.7s,mb4.9
VTS Vitosha 80.81 325 ⇓*i*P **P** **05 04 50.4 +0.5**
MOTA Moosalm 80.86 335 ⇓*i*P **P** **05 04 50.4 +0.2**
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MOTA Moosalm 80.86 335 ⇓*i*P **P** **05 04 50.4 +0.2**
comp=Z,4.9nm,1.0s,mb4.4
CDF Champ du Feu 80.95 338 *e*P **P** **05 04 51.1 +0.4**
comp=Z,34nm,0.9s,mb5.0
CDF Champ du Feu 80.95 338 *e*P **P** **05 04 51.1 +0.4**
CDF pmax pmax
comp=Z,17nm,0.9s,mb5.0
CDF Champ du Feu 80.95 338 *e*P **P** **05 04 51.1 +0.4**
comp=Z,17nm,0.9s,mb5.0
MEZF Maizieres J'vi 81.43 339 *e*P **P** **05 04 54.1 +0.9**
comp=Z,28nm,0.8s,mb5.0
MEZF Maizieres J'vi 81.43 339 *e*P **P** **05 04 54.1 +0.9**
comp=Z,28nm,0.8s,mb5.2
HAU Haudompre 81.57 338 *e*P **P** **05 04 54.2 +0.3**
comp=Z,24nm,1.0s,mb4.8
HAU Haudompre 81.57 338 *e*P **P** **05 04 54.2 +0.3**
HAU pmax pmax
comp=Z,12nm,1.0s,mb4.8
HAU Haudompre 81.57 338 *e*P **P** **05 04 54.2 +0.3**
comp=Z,12nm,1.0s,mb4.8
HINF Hinteralfeld 81.61 338 *e*P **P** **05 04 54.5 +0.3**
FLN La Foliniere 82.44 343 *e*P **P** **05 04 59.0 +0.5**
comp=Z,28nm,0.9s,mb4.9
FLN La Foliniere 82.44 343 *e*P **P** **05 04 59.0 +0.5**
FLN pmax pmax
comp=Z,14nm,0.9s,mb4.9
FLN La Foliniere 82.44 343 *e*P **P** **05 04 59.0 +0.5**
comp=Z,14nm,0.9s,mb4.9
LOR Lormes 82.88 339 *e*P **P** **05 05 01.4 +0.6**
comp=Z,45nm,0.9s,mb5.2
LOR Lormes 82.88 339 *e*P **P** **05 05 01.4 +0.6**
LOR pmax pmax
comp=Z,22nm,0.9s,mb5.2
LOR Lormes 82.88 339 *e*P **P** **05 05 01.4 +0.6**
comp=Z,22nm,0.9s,mb5.2
GRR Gorron 82.88 343 *e*P **P** **05 05 01.6 +0.8**
comp=Z,59nm,1.0s,mb5.3
GRR Gorron 82.88 343 *e*P **P** **05 05 01.6 +0.8**
GRR pmax pmax
comp=Z,29nm,1.0s,mb5.3
GRR Gorron 82.88 343 *e*P **P** **05 05 01.6 +0.8**
comp=Z,29nm,1.0s,mb5.3
HYF Humbligny 83.17 340 *e*P **P** **05 05 03.5 +1.2**
AVF Avril sur Loir 83.44 340 *e*P **P** **05 05 04.5 +0.8**
comp=Z,72nm,1.2s,mb5.3
AVF Avril sur Loir 83.44 340 *e*P **P** **05 05 04.5 +0.8**
AVF pmax pmax
comp=Z,36nm,1.2s,mb5.3
AVF Avril sur Loir 83.44 340 *e*P **P** **05 05 04.5 +0.8**
comp=Z,36nm,1.2s,mb5.3
SMF Signal de Mont 83.46 339 *e*P **P** **05 05 04.7 +0.9**
comp=Z,98nm,1.3s,mb5.4
SMF Signal de Mont 83.46 339 *e*P **P** **05 05 04.7 +0.9**
SMF pmax pmax
comp=Z,49nm,1.3s,mb5.4
SMF Signal de Mont 83.46 339 *e*P **P** **05 05 04.7 +0.9**
comp=Z,49nm,1.3s,mb5.4
LPL La Plagne 83.76 337 *e*P **P** **05 05 06.9 +1.5**
comp=Z,13nm,0.7s,mb4.9
LPL La Plagne 83.76 337 *e*P **P** **05 05 06.9 +1.5**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
LPL La Plagne 83.76 337 *e*P **P** **05 05 06.9 +1.5**
comp=Z,6.5nm,0.7s,mb4.9
LPG La Plagne 83.77 337 *e*P **P** **05 05 07.0 +1.6**
comp=Z,24nm,0.9s,mb5.0
LPG La Plagne 83.77 337 *e*P **P** **05 05 07.0 +1.6**
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.0
LPG La Plagne 83.77 337 *e*P **P** **05 05 07.0 +1.6**
comp=Z,12nm,0.9s,mb5.0
BGF Bois d'Agland 83.78 340 *e*P **P** **05 05 06.5 +1.0**
comp=Z,25nm,1.0s,mb5.0
BGF Bois d'Agland 83.78 340 *e*P **P** **05 05 06.5 +1.0**
BGF pmax pmax
comp=Z,12nm,1.0s,mb5.0
BGF Bois d'Agland 83.78 340 *e*P **P** **05 05 06.5 +1.0**
comp=Z,12nm,1.0s,mb5.0
TCF Toulx Ste Croi 84.19 340 *e*P **P** **05 05 08.6 +1.0**
comp=Z,34nm,1.0s,mb5.1
TCF Toulx Ste Croi 84.19 340 *e*P **P** **05 05 08.6 +1.0**
TCF pmax pmax
comp=Z,17nm,1.0s,mb5.1
TCF Toulx Ste Croi 84.19 340 *e*P **P** **05 05 08.6 +1.0**
comp=Z,17nm,1.0s,mb5.1
MFF Saint Martin d 84.42 342 *e*P **P** **05 05 10.2 +1.4**
comp=Z,32nm,0.9s,mb5.1
MFF Saint Martin d 84.42 342 *e*P **P** **05 05 10.2 +1.4**
MFF pmax pmax
comp=Z,16nm,0.9s,mb5.2
MFF Saint Martin d 84.42 342 *e*P **P** **05 05 10.2 +1.4**
comp=Z,16nm,0.9s,mb5.2
MBDF Montbardon 84.48 337 *e*P **P** **05 05 09.9 +0.9**
comp=Z,8.4nm,0.6s,mb4.7
MBDF Montbardon 84.48 337 *e*P **P** **05 05 09.9 +0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MBDF Montbardon 84.48 337 *e*P **P** **05 05 09.9 +0.9**
comp=Z,4.2nm,0.6s,mb4.8
ORIF Oris-en-Rattie 84.54 337 *e*P **P** **05 05 10.9 +1.5**
comp=Z,18nm,0.7s,mb5.0
ORIF Oris-en-Rattie 84.54 337 *e*P **P** **05 05 10.9 +1.5**
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 84.54 337 *e*P **P** **05 05 10.9 +1.5**
comp=Z,9.1nm,0.7s,mb5.0
VIVF Saint-Julien-l 84.92 338 *e*P **P** **05 05 12.7 +1.4**
comp=Z,29nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.92 338 *e*P **P** **05 05 12.7 +1.4**
VIVF pmax pmax
comp=Z,14nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.92 338 *e*P **P** **05 05 12.7 +1.4**
comp=Z,14nm,1.1s,mb5.0
CAF Calviac 85.51 340 *e*P **P** **05 05 16.1 +1.9**
comp=Z,16nm,0.8s,mb5.0
CAF Calviac 85.51 340 *e*P **P** **05 05 16.1 +1.9**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
CAF Calviac 85.51 340 *e*P **P** **05 05 16.1 +1.9**
comp=Z,8.1nm,0.8s,mb5.0
FRF La Foret Royal 85.59 336 *e*P **P** **05 05 15.1 +0.5**
comp=Z,79nm,1.6s,mb5.4
FRF La Foret Royal 85.59 336 *e*P **P** **05 05 15.1 +0.5**
FRF pmax pmax
comp=Z,39nm,1.6s,mb5.4
FRF La Foret Royal 85.59 336 *e*P **P** **05 05 15.1 +0.5**
comp=Z,39nm,1.6s,mb5.4
LFF La Frestale 85.80 341 *e*P **P** **05 05 17.5 +1.8**
comp=Z,21nm,0.7s,mb5.2
LFF La Frestale 85.80 341 *e*P **P** **05 05 17.5 +1.8**
LFF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
LFF La Frestale 85.80 341 *e*P **P** **05 05 17.5 +1.8**
comp=Z,10nm,0.7s,mb5.2
LMR La Mourre 85.84 336 *e*P **P** **05 05 16.7 +0.9**
comp=Z,28nm,1.1s,mb5.1
LMR La Mourre 85.84 336 *e*P **P** **05 05 16.7 +0.9**
LMR pmax pmax
comp=Z,14nm,1.1s,mb5.1
LMR La Mourre 85.84 336 *e*P **P** **05 05 16.7 +0.9**
comp=Z,14nm,1.1s,mb5.1
KEST Kesra 91.94 331 P **P** **05 05 44.7 0.0**
comp=Z,0.7nm,0.8s,mb4.0,baz=138,slow=14,SNR=3.1
PLCA Paso Flores 148.25 96 PKPbc PKPbc 05 12 20.0 -2.4
comp=Z,2.2nm,0.8s,baz=249,slow=4.8,SNR=4.1
CPUP Villa Florida 148.70 61 PKPbc PKPbc 05 12 20.8 -2.7
comp=Z,0.3nm,0.4s,baz=284,slow=7.1,SNR=3.5

BJI ***01*** *04:52:42.4, 46.40N×153.00E, h10km, mB5.0, mb5.0, Ms4.8, Msz4.7*
IDC ***01*** *04:52:43.1±0.6, 46.31N×153.02E, h0km, mb4.5/19, mb1 4.6/19, mb1mx4.5/24, mbtmp4.5/19, MS4.2/2, Ms1 4.2/2, ms1mx3.4/28, Error ellipse: s-maj=19.0km s-min=15.9km az=173.0*
SZGRF ***01*** *04:52:44.9, 47.04N×152.30E, h32km, mb5.1, Kuril Islands, Russia*
GCMT ***01*** *04:52:45.5±0.4, 46.26N×153.14E, h17km±1km, MW4.9/55, Moment Tensor Solution. s22,c28; s55,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.51±.20; Mθθ-1.13±.14; Mφφ-1.38±.12; Mrθ-1.00±.36; Mrφ-1.77±.08; Mθφ0.67±.28; Best double couple: M0=3.05200×10^16 NP1:φs20.00000°, δ48.00000°, λ56.00000°. NP2: φs246.00000°, δ52.00000°, λ122.00000°. Principal axes: T 3.0670, Plg65.0000°, Azm219.0000°; N -0.0300, Plg25.0000°, Azm45.0000°; P -3.0370, Plg2.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***01*** *04:52:45.5±0.3, 46.38N×152.99E, h10km, mb4.9/59 Error ellipse: s-maj=9.8km s-min=4.5km az=169.0*
ISCJB ***01*** *04:52:46.5±0.3, 46.40N±006×152.98E±004, h28km, mb4.7/88, MS4.3/7, Error ellipse: s-maj=8.4km s-min=3.6km az=155.6*
MOS ***01*** *04:52:46.7±1.1, 46.46N×152.96E, h28km, mb5.0/34, Error ellipse: s-maj=8.6km s-min=6.4km az=96.3*
ISC 01 04:52:46.7±1.9, 4651N±005×15295E±004, h14km±12km, h16km±.6km:pP-P, n279, σ1902/277, mb4.8/88, MS4.3/7, 6C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,480nm,0.7s						
KUR	**Kuril'sk**	**3.77**	**252**	S	**Sn**	**04 54 26.0**	**-2.5**
SKR	**Severo-Kuril's**	**4.68**	**26**	*e*PN	**Pn**	**04 53 57.4**	**+0.6**
SKR				*e*S		04 54 08.5	
SKR				*e*SS	**Sn**	**04 54 48.0**	**-2.9**
SKR	**Severo-Kuril's**	**4.68**	**26**	pP	**Pn**	**04 53 57.4**	**+0.6**
SKR				A	**Sn**	**04 54 48.0**	**-2.9**
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.68**	**26**	A	**Sn**	**04 54 48.0**	**-2.9**
	comp=E,170nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	*e*PN	**Pn**	**04 54 25.0**	**-4.0**
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	*e*PN	**Pn**	**04 54 34.5**	**+5.5**
YSS	**Yuzh-Sakhalins**	**7.02**	**277**	*e*Pn	**Pn**	**04 54 25.1**	**-3.9**
	comp=Z,6.3nm,0.3s						
PET	**Petropavlovsk**	**7.50**	**27**	*e*P	**Pn**	**04 54 33.3**	**-2.2**
PET				AMB	AMB	04 54 51.1	
	comp=Z,53nm,0.6s						
PET				*e*S	**Sn**	**04 55 59.7**	**-0.5**
PET				A		04 56 08.5	
	comp=Z,130nm,0.6s						
PET				A		04 56 09.1	
	comp=Z,100nm,0.6s						
PET				AMS	AMS	04 57 27.4	
	comp=Z,870nm,13.0s						
ASAJ	**Asahikawa**	**7.68**	**256**	Pn	**Pn**	**04 54 39.1**	**+1.1**
	comp=Z,6.0nm,0.3s,baz=86,slow=14,SNR=18						
ASAJ	**Asahikawa**	**7.68**	**256**	PN	**Pn**	**04 54 39.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
UGL	**Uglegorsk**	**7.77**	**293**	*e*P	**Pn**	**04 54 36.0**	**-3.2**
UGL				AMB	AMB	04 54 36.5	
	comp=Z,65nm,0.7s						
UGL				pP		04 54 45.8	
TYV	**Tymovskoe**	**8.09**	**306**	*e*P	**Pn**	**04 54 39.0**	**-4.6**
TYV				AMB	AMB	04 54 51.8	
	comp=Z,48nm,0.8s						
TYV				AMB	AMB	04 54 51.8	
	comp=Z,67nm,0.8s						
ERM	**Erimo**	**8.34**	**241**	*e*PN	**Pn**	**04 54 46.8**	**-0.2**
NKL	**Nikolayevsk**	**10.34**	**314**	*e*P	**Pn**	**04 55 17.3**	**+2.8**
NKL				AMS	AMS	05 00 10.0	
	comp=Z,2μm,16.0s						
NKL				AMS	AMS	05 00 10.0	
	comp=Z,1μm,16.0s						
NKL				AMS	AMS	05 00 10.0	
	comp=Z,2μm,16.0s						
MA2	**Magadan**	**13.16**	**355**	*e*PN	**Pn**	**04 55 53.2**	**+0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MA2	**Magadan**	**13.16**	**355**	*e*PN	**Pn**	**04 55 53.2**	**+0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MJAR	**Matsushiro Arr**	**14.84**	**233**	Pn	**Pn**	**04 56 09.9**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=33,slow=11,SNR=20						
MJAR	**Matsushiro Arr**	**14.84**	**233**	P	**Pn**	**04 56 09.9**	**-6.1**
MJAR	**Matsushiro Arr**	**14.84**	**233**	Pn	**Pn**	**04 56 09.9**	**-6.1**
MAJO	**Matsushiro**	**14.84**	**233**	*e*P	**Pn**	**04 56 10.5**	**-5.5**
MAJO	**Matsushiro**	**14.84**	**233**	*e*Pn	**Pn**	**04 56 10.5**	**-5.5**
MAJO				*e*P		04 56 20.3	
MAT	**Matsushiro**	**14.84**	**233**	P	**Pn**	**04 56 10.1**	**-5.9**
VLA	**Vladivostok**	**15.32**	**265**	*e*P	**Pn**	**04 56 21.3**	**-1.0**
VLA				pmax	pmax		
	comp=Z,30nm,0.9s						
MDJ	**Mudanjiang**	**16.46**	**272**	*e*Pn	**Pn**	**04 56 38.4**	**+1.3**
	comp=Z,31nm,0.8s						
CLNS	**Chul'man**	**20.09**	**311**	*e*P	**P**	**04 57 22.6**	**+2.8**
CLNS				*e*		04 57 31.7	
CLNS				*e*S	**S**	**05 00 56.9**	**-8.2**
CLNS				*e*SS		05 01 23.6	
CLNS				*e*		05 01 41.2	
CLNS				pmax	pmax		
	comp=N,50nm,0.9s						
CLNS				pmax	pmax		
	comp=E,24nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,50nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,28nm,0.7s						
CLNS				pmax	pmax		
	comp=N,32nm,0.8s						
CLNS				smax			
	comp=N,9.0nm,0.8s						
CLNS				smax			
	comp=Z,8.0nm,0.7s						
CLNS				smax			
	comp=E,11nm,0.9s						
CLNS				MLR	MLR		
	comp=N,500nm,15.0s,MS4.3						
CLNS				MLR	MLR		
	comp=Z,900nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,800nm,14.0s,MS4.3						
CLNS	**Chul'man**	**20.09**	**311**	*e*P	**P**	**04 57 22.6**	**+2.8**
CLNS				*e*		04 57 31.7	
CLNS				*e*S	**S**	**05 00 56.9**	**-8.2**
CLNS				*e*SS		05 01 23.6	
CLNS				*e*		05 01 41.2	
CLNS				pmax	pmax		
	comp=N,50nm,0.9s						

CLNS pmax pmax
comp=E,24nm,0.9s
CLNS pmax pmax
comp=Z,50nm,0.9s
CLNS smax
comp=N,9.0nm,0.8s
CLNS smax
comp=Z,8.0nm,0.7s
CLNS smax
comp=E,11nm,0.9s
CLNS MLR MLR
comp=N,500nm,15.0s,MS4.3
CLNS MLR MLR
comp=Z,900nm,15.0s,MS4.2
CLNS MLR MLR
comp=E,800nm,14.0s,MS4.3
YAK Yakutsk 20.47 328 *e*P **P 04 57 23.3 -0.5**
YAK *e**PP 04 57 29.6
YAK *e* 04 57 37.4
YAK *e*S **S 05 01 20.3 +7.8**
YAK *e*SS 05 01 50.9
YAK pmax pmax
comp=Z,15nm,0.6s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.6s
YAK MLR MLR
comp=E,602nm,18.0s
YAK MLR MLR
comp=Z,543nm,18.0s,MS4.0
YAK MLR MLR
comp=N,265nm,11.0s
YAK Yakutsk 20.47 328 *e*P **P 04 57 23.3 -0.5**
YAK *e* 04 57 37.4
YAK *e*SS 05 01 50.9
YAK pmax pmax
comp=Z,15nm,0.6s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.6s
YAK MLR MLR
comp=E,602nm,18.0s
YAK MLR MLR
comp=Z,543nm,18.0s,MS4.0
YAK MLR MLR
comp=N,265nm,11.0s
YAK Yakutsk 20.47 328 *e*P **P 04 57 24.1 +0.3**
comp=N,35nm,0.7s
SNY Shenyang 21.52 268 ⇓P **P 04 57 35.1 0.0**
SNY AMB AMB
comp=Z,19nm,1.1s,mb4.4
BILL Bilibino 22.66 13 *e*P **P 04 57 42.4 -4.9**
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.4
BILL Bilibino 22.66 13 *e*P **P 04 57 42.4 -4.9**
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.4
BOD Bodaibo 26.06 310 *e*P **P 04 58 18.0 -1.5**
BOD Bodaibo 26.06 310 *e* **P 04 58 18.0 -1.5**
BJI Beijing 27.36 270 *e*P **P 04 58 33.4 +2.1**
BJI AMB AMB
comp=Z,29nm,0.9s,mb4.8
BJI Beijing 27.36 270 *e*P **P 04 58 33.4 +2.1**
comp=Z,29nm,0.9s,mb4.8
BJT Baijiatuau 27.38 270 *e*P **P 04 58 31.7 +0.3**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 27.38 270 *e*P **P 04 58 31.7 +0.3**
comp=Z,18nm,0.8s,mb4.6
SONM Songino Array 31.31 290 P **P 04 59 05.3 -1.0**
comp=Z,1.9nm,0.7s,mb4.0,baz=75,slow=9.1,SNR=9.3
SONM PcP PcP 05 01 59.0 -1.3
comp=Z,1.4nm,1.1s,baz=101,slow=2.1,SNR=4.1
TLY Talaya 32.19 298 *e*P **P 04 59 12.7 -1.4**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TLY Talaya 32.19 298 *e*P **P 04 59 12.7 -1.4**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TLY Talaya 32.19 298 *e*P **P 04 59 12.7 -1.4**
comp=Z,10.0nm,0.8s,mb4.7
ZAK Zakamensk 32.68 295 *e*P **P 04 59 17.7 -0.6**
ZAK Zakamensk 32.68 295 *e* **P 04 59 17.7 -0.6**
SVW2 Sparrevohn 32.74 45 *e*P **P 04 59 20.0 +1.0**
WHN Wuhan 33.76 256 ⇑P **P 04 59 26.5 -1.3**
IMA2 Indian Mountai 34.07 36 *e*P **P 04 59 30.3 -0.2**
XAN Xi'an 35.38 265 AP **P 04 59 41.6 -0.2**
PMR Palmer 35.85 44 *e*P **P 04 59 47.3 +1.4**
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
PMR Palmer 35.85 44 *e*P **P 04 59 47.3 +1.5**
comp=Z,7.8nm,0.6s,mb4.8
MCK McKinley 35.91 40 *e*P **P 04 59 46.0 -0.3**
MCK pmax pmax
comp=Z,11nm,1.3s,mb4.6
MCK McKinley 35.91 40 *e*P **P 04 59 46.0 -0.4**
comp=Z,11nm,1.3s,mb4.6
COLA College 36.40 38 *e*P **P 04 59 51.2 +0.7**
COLA pmax pmax
comp=Z,23nm,1.2s,mb5.0
COLA College 36.40 38 *e*P **P 04 59 51.2 +0.6**
comp=Z,23nm,1.2s,mb5.0
LZH Lanzhou 37.78 272 *e*P **P 05 00 03.5 +1.2**
LZH sP sP 05 00 08.0 -0.5
LZH Lanzhou 37.78 272 pP **P 05 00 03.5 +1.2**
LZH XP sP 05 00 08.0 -0.5
LZH Lanzhou 37.78 272 AP **P 05 00 03.5 +1.2**
GTA Gaotai 38.90 279 P **P 05 00 13.0 +1.3**
GTA AMB AMB
comp=Z,33nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,874nm,8.4s
GTA LR LR
comp=N,298nm,19.4s,MS4.3
GTA LR LR
comp=E,234nm,15.6s,MS4.3
GTA LR LR
comp=Z,356nm,14.8s,MS4.3
EGAK Eagle 39.26 38 *e*P **P 05 00 14.1 -0.6**
DAWY Dawson 40.10 39 *e*P **P 05 00 22.5 +0.8**
CD2 Chengdu 40.75 265 P **P 05 00 26.9 -0.1**
CD2 AP pP 05 00 31.4 -0.1
CD2 XP sP 05 00 34.2 +0.9
CD2 PP PP 05 02 04.5 +3.5
CD2 S **S 05 06 37.2 +0.1**
CD2 XS sS 05 06 44.6 +0.2
CD2 SS SS 05 09 33.2 -4.7
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
CD2 AMB AMB
comp=Z,70nm,5.2s
CD2 LR LR
comp=N,270nm,15.6s
CD2 LR LR
comp=Z,230nm,13.2s,MS4.2
INK Inuvik 41.92 32 P **P 05 00 36.7 0.0**
comp=Z,6.0nm,0.7s,mb4.3,baz=280,slow=8.0,SNR=17
INK Inuvik 41.92 32 P **P 05 00 36.7 0.0**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 41.92 32 *e*P **P 05 00 37.2 +0.5**
comp=Z,479nm,0.9s,mb6.1
INK *e* 05 00 49.1
WMQ Urumqi 44.91 291 *e*P **P 05 01 01.5 +0.7**
WMQ AP pP 05 01 06.0 +0.7
WMQ XP sP 05 01 09.0 +1.9
WMQ PCP PcP 05 02 43.0 +0.8
WMQ *e*S **S 05 07 39.0 +0.7**
WMQ XS sS 05 07 47.0 +1.3
WMQ AMB AMB
comp=Z,12nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,102nm,3.9s
WMQ LR LR
comp=N,682nm,15.0s,MS4.8
WMQ LR LR
comp=E,567nm,13.2s,MS4.8
WMQ LR LR
comp=Z,896nm,17.2s,MS4.8
KMI Kunming 45.09 260 P **P 05 01 02.0 -0.2**
KMI AP pP 05 01 07.0 +0.3
KMI XP sP 05 01 08.9 +0.4
KMI AMB AMB
comp=Z,381nm,4.9s
KMI Kunming 45.09 260 P **P 05 01 02.0 -0.2**
KMI *SP sP 05 01 08.9 +0.4
KMI Kunming 45.09 260 P **P 05 01 02.0 -0.2**
comp=Z,0.4nm,4.9s
KMI pP pP 05 01 07.0 +0.3
KMI sP sP 05 01 08.9 +0.4
MKAR Makanchi Array 46.95 297 P **P 05 01 16.4 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=64,slow=8.2,SNR=27
LSA Lhasa 50.17 273 P **P 05 01 44.6 +2.9**
LSA Lhasa 50.17 273 *e*P **P 05 01 43.6 +1.9**
LSA pmax pmax
comp=Z,12nm,0.6s,mb5.1
LSA Lhasa 50.17 273 *e*P **P 05 01 43.6 +1.9**
comp=Z,12nm,0.6s,mb5.1
BVAR Borovoye Array 50.93 310 P **P 05 01 46.7 -0.7**
comp=Z,4.3nm,0.6s,mb4.6,baz=50,slow=6.6,SNR=14
BVAR PcP PcP 05 03 02.7 -1.0
comp=Z,3.3nm,0.8s,baz=44,slow=4.4,SNR=3.8
BRVK Borovoye 50.97 310 *e*P **P 05 01 47.2 -0.5**
BRVK pmax pmax
comp=Z,17nm,0.9s,mb5.0
BRVK Borovoye 50.97 310 *e*P **P 05 01 47.2 -0.5**
comp=Z,17nm,0.9s,mb5.0
YKA Yellowknife Ar 51.19 37 P **P 05 01 48.5 -0.8**
comp=Z,2.9nm,0.7s,mb4.3,baz=296,slow=7.1,SNR=9.6
YKA Yellowknife Ar 51.19 37 P **P 05 01 48.5 -0.8**
ZRNK Zerenda 51.70 310 *e*P **P 05 01 52.2 -1.0**
ZRNK pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZRNK Zerenda 51.70 310 *e*P **P 05 01 52.2 -1.0**
ZRNK pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZRNK Zerenda 51.70 310 *e*P **P 05 01 52.2 -1.0**
comp=Z,16nm,1.0s,mb4.9
CHTO Chiang Mai 51.95 257 *e*P **P 05 01 55.0 -0.1**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.8
CHTO Chiang Mai 51.95 257 *e*P **P 05 01 55.0 -0.1**
comp=Z,10nm,0.8s,mb4.8
AAK Ala-Archa 53.84 296 *e*P **P 05 02 08.3 -0.7**
AAK pmax pmax
comp=Z,15nm,0.8s,mb5.0
AAK Ala-Archa 53.84 296 *e*P **P 05 02 08.3 -0.7**
comp=Z,15nm,0.8s,mb5.0
ARU Arti 55.12 318 *e*P **P 05 02 17.0 -1.3**
ARU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU Arti 55.12 318 *e*P **P 05 02 17.0 -1.3**
comp=Z,10nm,0.7s,mb5.0
EDM Edmonton 56.57 46 *e*P **P 05 02 28.0 -0.7**
HAWA Hanford 57.14 55 *e*P **P 05 02 32.1 -0.7**
comp=Z,5.2nm,0.8s,mb4.6
NEW Newport 57.41 52 P **P 05 02 34.0 -0.7**
comp=Z,2.3nm,0.9s,mb4.2,baz=308,slow=8.4,SNR=3.3
NEW Newport 57.41 52 *e*P **P 05 02 34.3 -0.4**
comp=Z,3.6nm,0.8s,mb4.5
KHMM Horse Mountain 57.84 63 *e*P **P 05 02 38.2 +0.6**
ARCES ARCESS Array B 58.05 341 P **P 05 02 38.7 -0.4**
comp=Z,3.2nm,0.8s,mb4.4,baz=358,slow=6.3,SNR=4.7
ARCES ARCESS Array B 58.05 341 P **P 05 02 38.7 -0.5**
ARCES ARCESS Array B 58.05 341 P **P 05 02 38.7 -0.4**
AKTK Aktyubinsk 58.81 312 P **P 05 02 43.8 -0.7**
AKTO Aktyubinsk 58.81 312 P **P 05 02 43.8 -0.7**
comp=Z,4.1nm,0.7s,mb4.6,baz=86,slow=8.6,SNR=7.0
BMO Blue Mountains 59.30 56 *e*P **P 05 02 46.9 -1.0**
comp=Z,19nm,1.4s,mb4.9
MOD Modoc 59.31 60 *e*P **P 05 02 51.5 +3.6**
comp=Z,3.3nm,0.9s,mb4.4
WVOR Wild Horse Val 59.98 59 *e*P **P 05 02 52.7 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WVOR Wild Horse Val 59.98 59 *e*P **P 05 02 52.7 +0.1**
comp=Z,8.4nm,0.9s,mb4.8
MSO Missoula 60.00 52 *e*P **P 05 02 51.7 -1.0**
comp=Z,4.5nm,0.9s,mb4.5
OHCM Honcut 60.14 63 *e*P **P 05 02 52.9 -0.8**
CHMT Chamberlain Mo 60.33 52 *e*P **P 05 02 54.5 -0.5**
SUMG Summit 60.95 4 *e*P **P 05 03 00.4 +1.2**
comp=Z,36nm,0.9s,mb5.5
EGMT Eagleton 61.51 49 *e*P **P 05 03 01.6 -1.3**
comp=Z,20nm,1.1s,mb5.2
CMB Columbia Colle 61.61 64 *e*P **P 05 03 02.8 -0.9**
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CMB Columbia Colle 61.61 64 *e*P **P 05 03 02.8 -0.9**
comp=Z,8.1nm,1.0s,mb4.8
DLMT Dillon 61.64 53 *e*P **P 05 03 03.4 -0.5**
comp=Z,12nm,1.3s,mb4.8
HLID Hailey 61.74 56 *e*P **P 05 03 04.0 -0.6**
comp=Z,1.2nm,0.9s,mb4.0
MCMT McKenzie Canyo 61.83 54 *e*P **P 05 03 04.3 -0.8**
BOZ Bozeman (W) 61.99 52 *e*P **P 05 03 06.3 +0.1**
BOZ pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
BOZ Bozeman (W) 61.99 52 *e*P **P 05 03 06.3 +0.1**
comp=Z,7.1nm,0.6s,mb5.0
BMN Battle Mountai 62.05 60 *e*P **P 05 03 07.4 +0.8**
BMN pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
BMN Battle Mountai 62.05 60 *e*P **P 05 03 07.4 +0.8**
comp=Z,7.9nm,0.7s,mb5.0
QLMT Earthquake Lak 62.62 53 *e*P **P 05 03 12.0 +1.6**
NVAR Mina Array Bea 62.65 62 P **P 05 03 09.9 -0.7**
comp=Z,2.7nm,0.8s,mb4.5,baz=288,slow=8.1,SNR=14
NVAR Mina Array Bea 62.65 62 P **P 05 03 09.9 -0.7**
GCMT Greycliff 62.97 51 *e*P **P 05 03 12.9 +0.1**
IMW Indian Meadow 63.48 53 *e*P **P 05 03 16.7 +0.6**
comp=Z,13nm,1.1s,mb5.0
FLWY Flagg Ranch 63.50 53 *e*P **P 05 03 17.5 +1.3**
comp=Z,4.6nm,0.8s,mb4.7
DCID1 Drake Creek 63.54 54 *e*P **P 05 03 17.2 +0.6**
MOOW Moose Ponds 63.69 53 *e*P **P 05 03 17.5 0.0**
comp=Z,16nm,1.2s,mb4.9
TPAW Teton Pass 63.74 54 *e*P **P 05 03 18.4 +0.5**
comp=Z,22nm,0.8s,mb5.2
HVU Hansel Valley 63.80 56 *e*P **P 05 03 18.5 +0.2**
HVU pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
HVU Hansel Valley 63.80 56 *e*P **P 05 03 18.5 +0.2**
comp=Z,5.9nm,1.0s,mb4.6
LOHW Long Hollow 63.85 54 *e*P **P 05 03 18.7 +0.1**
comp=Z,20nm,1.2s,mb5.0
SNOW Snow King Moun 63.86 54 *e*P **P 05 03 19.3 +0.6**
comp=Z,24nm,1.1s,mb5.1
REDW Red Top Meadow 63.88 54 *e*P **P 05 03 19.0 +0.2**
comp=Z,16nm,0.9s,mb5.1
LAO LASA Array 64.20 49 *e*P **P 05 03 20.9 -0.1**
comp=Z,21nm,1.0s,mb5.1
FIA1 FINESS Array S 64.21 335 *e*P **P 05 03 20.2 -0.8**
FINES FINESS Array B 64.21 335 P **P 05 03 20.5 -0.5**
comp=Z,12nm,0.6s,mb5.1,baz=40,slow=7.7,SNR=21
FINES FINESS Array B 64.21 335 P **P 05 03 20.5 -0.5**
TRCR Troy Canyon 64.35 61 *e*P **P 05 03 24.6 +2.7**
DAC Darwin (Calif) 64.45 64 *e*P **P 05 03 21.6 -1.0**
comp=Z,1.8nm,0.8s,mb4.2
MOS Moscow 64.58 326 *e*P **P 05 03 23.3 -0.1**
MOS pmax pmax
comp=Z,54nm,1.5s,mb5.4
MOS Moscow 64.58 326 *e*P **P 05 03 23.3 -0.1**
MOS *e* 05 05 49.6
MOS pmax pmax
comp=Z,54nm,1.5s,mb5.4
HWUT Hardware Ranch 64.61 56 *e*P **P 05 03 23.9 +0.3**
comp=Z,5.3nm,0.8s,mb4.6
DUG Dugway 64.80 58 *e*P **P 05 03 24.3 -0.5**
DUG pmax pmax
comp=Z,16nm,1.1s,mb5.0
DUG Dugway 64.80 58 *e*P **P 05 03 24.3 -0.5**
comp=Z,16nm,1.1s,mb5.0
BW06 Boulder Array 64.98 54 *e*P **P 05 03 25.4 -0.6**
comp=Z,11nm,0.9s,mb4.9
PDAR Pinedale Array 64.98 54 P **P 05 03 25.4 -0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=298,slow=3.2,SNR=8.6
NLU North Lily Min 65.39 57 *e*P **P 05 03 28.6 -0.1**
OBN Obninsk 65.45 326 *e*P **P 05 03 29.4 +0.4**
DAU Daniels Canyon 65.56 57 *e*P **P 05 03 29.8 0.0**
MPU Maple Canyon 65.60 57 *e*P **P 05 03 30.6 +0.6**
comp=Z,10nm,0.8s,mb4.9
CCUT Cedar City 66.20 60 *e*P **P 05 03 33.5 -0.4**
MSU Marysvale 66.27 59 *e*P **P 05 03 35.5 +1.2**
TMUT Trail Mountain 66.32 57 *e*P **P 05 03 36.4 +1.7**
ULM Lac du Bonnet 66.78 41 P **P 05 03 36.2 -1.4**
comp=Z,2.7nm,0.8s,mb4.4,baz=327,slow=12,SNR=2.2
SRU San Rafael 66.84 57 *e*P **P 05 03 36.0 -2.0**
SRU pmax pmax
comp=Z,19nm,0.8s,mb5.2
SRU San Rafael 66.84 57 *e*P **P 05 03 36.0 -2.0**
comp=Z,20nm,0.8s,mb5.2
HYB Hyderabad 66.89 271 *i* P **P 05 03 39.0 +0.7**
HYB Hyderabad 66.89 271 *e*P **P 05 03 39.0 +0.7**
RWWY Rawlins 67.00 53 *e*P **P 05 03 40.6 +1.6**
comp=Z,11nm,1.0s,mb4.8
RSSD Black Hills 67.07 50 *e*P **P 05 03 38.5 -0.9**
RSSD pmax pmax
comp=Z,13nm,0.9s,mb5.0
RSSD Black Hills 67.07 50 *e*P **P 05 03 38.5 -0.9**
comp=Z,13nm,0.9s,mb5.0
PV10 Paradox Valley 68.20 57 *e*P **P 05 03 47.7 +1.2**
NOA NORSAR Array B 68.42 341 P **P 05 03 47.5 -0.4**
comp=Z,4.7nm,0.6s,mb4.7,baz=29,slow=6.5,SNR=16
NOA LR LR 05 37 12.5
comp=Z,105nm,18.8s,MS4.1,baz=40,slow=39
PV01 Paradox Valley 68.63 57 *e*P **P 05 03 50.1 +0.8**
NAO01 NORSAR Array S 68.67 341 *e*P **P 05 03 48.3 -1.2**
comp=Z,8.4nm,0.9s,mb4.7
SMCO Snowmass 68.84 55 *e*P **P 05 03 50.0 -0.6**
comp=Z,9.0nm,0.8s,mb4.8
FITZ Fitzroy Crossi 68.87 208 P **P 05 03 48.6 -2.2**
comp=Z,2.8nm,1.0s,mb4.1,baz=49,slow=8.5,SNR=4.6
ISCO Idaho Springs 69.17 54 *e*P **P 05 03 54.8 +2.2**
ISCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ISCO Idaho Springs 69.17 54 *e*P **P 05 03 54.8 +2.2**
comp=Z,7.5nm,0.8s,mb4.7
MVCO Mesa Verde 69.30 58 *e*P **P 05 03 55.4 +2.0**
KONO Kongsberg 70.03 341⇑*e*P **P 05 03 55.5 -2.4**
KONO Kongsberg 70.03 341⇑*e*P **P 05 03 55.5 -2.4**
EYMN Ely 70.43 40 *e*P **P 05 03 59.1 -1.3**
comp=Z,6.1nm,0.9s,mb4.5
KIV Kislovodsk 70.89 314 *e*P **P 05 04 05.0 +1.8**
KIV pmax pmax
comp=Z,26nm,0.9s,mb5.2
KIV Kislovodsk 70.89 314 *e*P **P 05 04 05.0 +1.8**
comp=Z,26nm,0.9s,mb5.2
ECSD EROS,Sioux Fal 71.14 46 *e*P **P 05 04 02.5 -2.1**
ZEI Tsey 71.14 313 *e*P **P 05 04 05.0 +0.3**
SUW Suwalki 71.16 331 *ee* **P 05 04 04.4 -0.4**
TUC Tucson 71.29 63 *e*P **P 05 04 05.0 -0.6**
TUC pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TUC Tucson 71.29 63 *e*P **P 05 04 05.0 -0.6**
comp=Z,2.4nm,0.9s,mb4.1
AKASG Malin Array Be 71.69 326 P **P 05 04 07.2 -0.8**
comp=Z,20nm,0.5s,mb5.3,baz=34,slow=6.2,SNR=41
AKASG LR LR 05 37 11.8
comp=Z,183nm,19.1s,MS4.4,baz=15,slow=37
AKASG Malin Array Be 71.69 326 P **P 05 04 07.2 -0.8**
AKASG LR LR 05 37 11.8
AKBB Malin Array Si 71.69 326 *e*P **P 05 04 07.3 -0.7**
AS31 Alice Springs 71.94 198 *e*P **P 05 04 08.6 -0.9**
ASAR Alice Springs 71.94 198 P **P 05 04 08.7 -0.8**
comp=Z,1.3nm,0.8s,mb3.9,baz=12,slow=6.1,SNR=7.7
LAZ Ladron 72.04 59 *e*P **P 05 04 10.6 +0.5**
ANMO Albuquerque 72.06 58 *e*P **P 05 04 09.3 -0.9**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 72.06 58 *e*P **P 05 04 09.3 -0.9**
comp=Z,9.7nm,1.2s,mb4.6
GNI Garni 72.60 310 *e*P **P 05 04 15.6 +2.1**
comp=Z,21nm,0.8s,mb5.1
BSD Bornholm Skovb 72.74 336 *i* P **P 05 04 09.4 -4.9**
comp=Z,6.3nm,0.6s,mb4.7
BSD
comp=Z,480nm,20.0s
BSD Bornholm Skovb 72.74 336 *e*P **P 05 04 09.4 -4.9**
BSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BSD Bornholm Skovb 72.74 336 *e*P **P 05 04 09.4 -4.9**
BSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BSD Bornholm Skovb 72.74 336 *e*P **P 05 04 09.4 -4.9**
comp=Z,6.3nm,0.6s,mb4.7
KWP Kalwaria 74.98 329 *e*P **P 05 04 28.0 +0.6**
KWP Kalwaria 74.98 329 *ee* **P 05 04 28.0 +0.6**
MNTX Cornudas Mount 74.99 60 *e*P **P 05 04 28.6 +1.1**
comp=Z,13nm,1.4s,mb4.7
OJC Ojcow 75.48 331 *e*P **P 05 04 30.4 +0.1**
OJC Ojcow 75.48 331 *e* **P 05 04 30.4 +0.1**
OJC Ojcow 75.48 331 *e* **P 05 04 30.4 +0.1**
STHS Stebnicka Huta 75.67 330 *e*P **P 05 04 32.2 +0.8**
STHS Stebnicka Huta 75.67 330 *e* **P 05 04 32.2 +0.8**
STHS Stebnicka Huta 75.67 330 *e* **P 05 04 32.2 +0.8**
STHS Stebnicka Huta 75.67 330 *e*PCP **P 05 04 32.1 +0.7**
KOLS Kolonicke sedl 75.72 329 *e*P **P 05 04 31.6 0.0**
KOLS Kolonicke sedl 75.72 329 *e*PCP **P 05 04 31.6 0.0**
UZH Uzhgorod 75.96 329 *e*P **P 05 04 32.2 -0.9**
UZH *e*E 05 04 46.0
UZH Uzhgorod 75.96 329 *i* **P 05 04 32.2 -0.9**
NIE Niedzica 75.99 330 *e* **P 05 04 33.8 +0.6**
NIE Niedzica 75.99 330 *e*P **P 05 04 33.8 +0.6**
NIE Niedzica 75.99 330 *e* **P 05 04 33.8 +0.6**
CRVS Cervenica-Dubn 76.03 329 *e*P **P 05 04 32.6 -0.8**
CRVS Cervenica-Dubn 76.03 329 *e*PCP **P 05 04 32.6 -0.8**
VRI Vrincioaia 76.58 325⇑*i* P **P 05 04 37.1 +0.6**
WMOK Wichita Mounta 76.59 54 *e*P **P 05 04 34.9 -1.7**
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WMOK Wichita Mounta 76.59 54 *e*P **P 05 04 34.9 -1.8**
comp=Z,4.8nm,0.9s,mb4.4
MORC Moravsky Berou 76.60 332 *e*P **P 05 04 36.7 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC Moravsky Berou 76.60 332 *e*P **P 05 04 36.7 +0.1**
comp=Z,6.6nm,0.8s,mb4.6
PLOR Plostina 76.62 325⇓*i* P **P 05 04 39.1 +2.3**
CLL Collm 76.64 335 *e*P **P 05 04 36.0 -0.9**
CLL Collm 76.64 335 *i* P **P 05 04 36.1 -0.8**
comp=Z,15nm,0.8s,mb5.0
CLL *e*sP sP 05 04 42.0 -1.4
CLL *i* PcP PcP 05 04 47.6 -0.7
CLL Collm 76.64 335 *e* **P 05 04 36.0 -0.9**
CLL Collm 76.64 335 *e* **P 05 04 36.0 -0.9**
KECS Kecovo 76.73 330 *e*P **P 05 04 36.3 -1.1**
BRG Berggiesshubel 76.75 335 *e*P **P 05 04 37.1 -0.5**
comp=Z,2.2nm,1.1s,mb4.0
BRG *i* 05 04 47.5
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 76.75 335 *e*P **P 05 04 37.1 -0.4**
BRG *i* 05 04 47.5
BRG pmax pmax
comp=Z,20nm,1.1s,mb5.0
VYHS Vyhne 77.28 331 *e*P **P 05 04 40.8 +0.3**
VYHS Vyhne 77.28 331 *e* **P 05 04 40.8 +0.3**
VYHS Vyhne 77.28 331 *e* **P 05 04 40.8 +0.3**
PSZ Pászkesteto 77.42 330⇑*e*P **P 05 04 41.1 -0.2**
MOX Moxa 77.63 336 *e*P **P 05 04 42.0 -0.4**
WTSB Winterswijk 77.69 339 *e*P **P 05 04 42.4 -0.4**
comp=Z,19nm,1.1s,mb4.9
SMOL Smolenice 77.74 332 *e*P **P 05 04 43.2 +0.1**
SMOL Smolenice 77.74 332 *e*PCP **P 05 04 43.2 +0.1**
ZST Bratislava 78.12 332 *e*P **P 05 04 46.0 +0.8**
ZST Bratislava 78.12 332 *e*PCP **P 05 04 46.0 +0.8**
BR131 Keskin Array S 78.49 317 *e*P **P 05 04 47.5 +0.3**
BR131 *e* 05 04 59.0
BRTR Keskin Array B 78.49 317 P **P 05 04 47.9 +0.7**
comp=Z,5.4nm,1.1s,mb4.4,baz=90,slow=2.5,SNR=12
GRA1 Grafenberg Arr 78.60 336 *e*pP **P 05 04 47.4 -0.4**
GRF Grafenberg Arr 78.60 336 *e*P **P 05 04 47.4 -0.4**
GRF Grafenberg Arr 78.60 336 *e*P **P 05 04 47.4 -0.4**
GRF Grafenberg Arr 78.60 336 *e**PP **P 05 04 47.4 -0.4**
GRF Grafenberg Arr 78.60 336 *e*pP **P 05 04 47.4 -0.4**
GRF Grafenberg Arr 78.60 336 *e**PP **P 05 04 47.4 -0.4**
GEC2 GERESS Array S 78.63 334 *e*P **P 05 04 47.8 -0.2**
GEC2 GERESS Array S 78.63 334 *e*P **P 05 04 47.8 -0.2**
GERES GERESS Array B 78.63 334 P **P 05 04 48.2 +0.2**
comp=Z,4.4nm,0.9s,mb4.4,baz=35,slow=4.5,SNR=14
SOP Sopron 78.75 332⇓*e*P **P 05 04 49.6 +1.0**
ANTO Ankara 78.78 317 *e*P **P 05 04 50.1 +1.3**
ANTO pmax pmax
comp=Z,19nm,1.0s,mb5.0
ANTO Ankara 78.78 317 *e*P **P 05 04 50.1 +1.3**
comp=Z,19nm,1.0s,mb5.0
HGN Heimansgroeve 79.01 339 *e*P **P 05 04 50.8 +0.7**
comp=Z,4.2nm,1.1s,mb4.3
BEBN Eben Emael 79.04 340 P **P 05 04 52.0 +1.8**
MEM Membach 79.14 339 P **P 05 04 51.5 +0.7**
JCT Junction City 79.16 57 *e*P **P 05 04 51.6 +0.7**
JCT pmax pmax
comp=Z,13nm,1.2s,mb4.7

JCT	**Junction City**	**79.16**	**57**	*e*P	**P**	**05 04 51.5**	**+0.7**
	comp=Z,13nm,1.2s,mb4.8						
BCLA	**Clavier**	**79.48**	**340**	P	**P**	**05 04 54.3**	**+1.6**
SNF	**Seneffe**	**79.64**	**340**	P	**P**	**05 04 55.0**	**+1.4**
STU	**Stuttgart**	**80.00**	**337**	*e*P	**P**	**05 04 56.2**	**+0.7**
STU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
STU	**Stuttgart**	**80.00**	**337**	*e*P	**P**	**05 04 56.2**	**+0.7**
	comp=Z,9.8nm,0.7s,mb4.8						
PERS	**Pernice**	**80.14**	**332**	*e*pP	**P**	**05 04 56.3**	**+0.1**
KBA	**Koelnbreinsper**	**80.31**	**333**	⇓*i*	**P**	**05 04 58.2**	**+1.1**
	comp=Z,27nm,0.7s,mb5.3						
KBA	**Koelnbreinsper**	**80.31**	**333**	*e*P	**P**	**05 04 58.2**	**+1.1**
WATA	**Walderalm**	**80.62**	**335**	⇓*i*	**P**	**05 04 59.7**	**+0.9**
	comp=Z,11nm,0.9s,mb4.8						
WATA	**Walderalm**	**80.62**	**335**		**P**	**05 04 59.7**	**+0.9**
	comp=Z,11nm,0.9s,mb4.8						
WATA	**Walderalm**	**80.62**	**335**	*e*P	**P**	**05 04 59.7**	**+0.9**
WATA	**Walderalm**	**80.62**	**335**	*i*	**P**	**05 04 59.7**	**+0.9**
WATA	**Walderalm**	**80.62**	**335**	*i*	**P**	**05 04 59.7**	**+0.9**
GCIS	**Gornji Cirnik**	**80.65**	**331**	*e*pP	**P**	**05 04 58.7**	**-0.3**
MOTA	**Moosalm**	**80.75**	**335**	⇓*i*	**P**	**05 05 00.3**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8						
MOTA	**Moosalm**	**80.75**	**335**		**P**	**05 05 00.3**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8						
MOTA	**Moosalm**	**80.75**	**335**	*e*P	**P**	**05 05 00.3**	**+0.8**
MOTA	**Moosalm**	**80.75**	**335**	*i*	**P**	**05 05 00.2**	**+0.8**
MOTA	**Moosalm**	**80.75**	**335**	*i*	**P**	**05 05 00.3**	**+0.8**
WVT	**Waverly**	**81.29**	**46**	*e*P	**P**	**05 05 01.3**	**-1.1**
KEST	**Kesra**	**91.83**	**331**	P	**P**	**05 05 54.8**	**+0.7**
	comp=Z,1.3nm,0.8s,mb4.3,baz=243,slow=2.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**115.25**	**329**	PKP	PKiKP	05 11 26.1	-1.5
	comp=Z,0.4nm,0.9s,baz=20,slow=1.5,SNR=2.0						
BDFB	**Brasilia**	**144.60**	**37**	PKP	PKPdf	05 12 20.2	-2.5
	comp=Z,3.1nm,0.8s,baz=43,slow=5.2,SNR=3.6						
PLCA	**Paso Flores**	**148.30**	**95**	PKPbc	PKPbc	05 12 29.8	-2.6
	comp=Z,5.1nm,0.9s,baz=303,slow=3.5,SNR=6.7						
PLCA	**Paso Flores**	**148.30**	**95**	*e*PKP2	PKPbc	05 12 30.1	-2.2
PLCA	**Paso Flores**	**148.30**	**95**	*e*PKPbc	PKPbc	05 12 30.1	-2.3
CPUP	**Villa Florida**	**148.69**	**61**	PKPbc	PKPbc	05 12 31.4	-1.9
	comp=Z,1.6nm,0.7s,baz=325,slow=3.1,SNR=5.0						
CPUP	**Villa Florida**	**148.69**	**61**	PKP2	PKPbc	05 12 31.5	-1.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**148.69**	**61**	*e*PKPbc	PKPbc	05 12 31.3	-2.0
SNAA	**Sanae**	**152.29**	**196**	PKPbc	PKPdf	05 12 37.3	+2.1
	comp=Z,1.3nm,0.7s,baz=210,slow=14,SNR=2.9						
SNAA	**Sanae**	**152.29**	**196**	*e*PKIKP	PKPdf	05 12 37.3	+2.1

ISCJB ***01*** *05:15:46.7±1.2, 4601N±005×15352E±003, h0km±8km, mb4.7/100, MS4.2/13, Error ellipse: s-maj=8.0km s-min=3.0km az=158.4*

IDC ***01*** *05:15:48.6±0.6, 46.11N×15330E, h0km, mb4.3/21, mb1 4.5/22, mb1mx4.5/27, mbtmp4.3/22, ML3.4/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/43, Error ellipse: s-maj=16.7km s-min=15.7km az=164.0*

BJI ***01*** *05:15:49.9, 4643N×15321E, h9km, mB4.9, mb4.6, Ms4.5, Msz4.2*

NEIC ***01*** *05:15:50.4±0.3, 4605N×15344E, h10km, mb4.7/58, Error ellipse: s-maj=9.2km s-min=4.6km az=167.0*

MOS ***01*** *05:15:51.8±1.4, 46.16N×15338E, h28km, mb4.8/52, Error ellipse: s-maj=7.4km s-min=5.2km az=101.3*

SZGRF ***01*** *05:15:54.4, 4606N×15387E, h33km, mb4.7, Kuril Islands, Russia*

ISC 01 05:15:50.6±1.3**, 4611N**±004×**15346E**±003**, h12**km±8km**, h14**km±1.1km**:pP-P, n392,** σ1**§16**/400**, mb4.7**/99**, MS4.2**/13**, 62C-61D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.02**	**259**	*i* PN	**Pn**	**05 16 50.0**	**-2.0**
KUR				pmax	pmax		
	comp=N,160nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1µm,1.0s						
SKR	**Severo-Kuril's**	**4.91**	**20**	*e*PN	**Pn**	**05 17 01.2**	**-3.0**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				MLR	MLR		
	comp=Z,3µm,12.0s						
SKR				MLR	MLR		
	comp=N,3µm,14.0s						
SKR				MLR	MLR		
	comp=E,6µm,14.0s						
NEM2	**Nemuro 2**	**6.14**	**246**	P	**Pn**	**05 17 19.7**	**-1.5**
NEM2				*e*S	**Sn**	**05 18 25.2**	**-6.2**
JRA	**Rausu**	**6.29**	**253**	P	**Pn**	**05 17 24.1**	**+0.8**
JNK	**Nakash**	**6.71**	**251**	P	**Pn**	**05 17 29.2**	**+0.2**
JAK	**Akkeshi**	**6.99**	**247**	*e*S	**Sn**	**05 18 45.0**	**-7.3**
JTKR	**Abashiri--Toko**	**7.10**	**256**	P	**Pn**	**05 17 34.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.43**	**280**	⇑*e*PN	**Pn**	**05 17 42.9**	**+4.0**
YSS				*e*S	**Sn**	**05 19 07.0**	**+3.8**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				MLR	MLR		
	comp=Z,900nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.43**	**280**	*e*Pn	**Pn**	**05 17 42.5**	**+3.6**
	comp=Z,38nm,0.9s						
JAR	**Ashorobuto**	**7.45**	**251**	P	**Pn**	**05 17 39.2**	**0.0**
JAR				*e*S	**Sn**	**05 19 01.4**	**-2.3**
JMP	**Maruseppu**	**7.46**	**257**	P	**Pn**	**05 17 40.4**	**+1.2**
JOB	**Onbets**	**7.59**	**248**	P	**Pn**	**05 17 41.3**	**+0.2**
JKK2	**Kamakawa 2**	**7.92**	**257**	P	**Pn**	**05 17 46.6**	**+1.0**
ASAJ	**Asahikawa**	**7.94**	**259**	Pn	**Pn**	**05 17 47.5**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=97,slow=18,SNR=15						
ASAJ	**Asahikawa**	**7.94**	**259**	P	**Pn**	**05 17 47.6**	**+1.7**
ASAJ	**Asahikawa**	**7.94**	**259**	PN	**Pn**	**05 17 47.5**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**8.03**	**248**	P	**Pn**	**05 17 46.4**	**-0.8**
UGL	**Uglegorsk**	**8.25**	**295**	*e*PN	**Pn**	**05 17 54.0**	**+3.8**
UGL				pmax	pmax		
	comp=Z,51nm,0.6s						
UGL				MLR	MLR		
	comp=Z,2µm,14.0s						
UGL				MLR	MLR		
	comp=N,300nm,12.0s						
UGL				MLR	MLR		
	comp=E,1µm,12.0s						
JFR	**Furan**	**8.29**	**253**	P	**Pn**	**05 17 51.8**	**+1.1**
JAB	**Ashibetsu**	**8.40**	**256**	P	**Pn**	**05 17 53.8**	**+1.6**
ERM	**Erimo**	**8.47**	**245**	*e*PN	**Pn**	**05 17 53.2**	**0.0**
ERM				pmax	pmax		
	comp=Z,46nm,0.7s						
ERM	**Erimo**	**8.47**	**245**	*e*Pn	**Pn**	**05 17 53.2**	**0.0**
	comp=Z,46nm,0.7s						
JEM	**Erimo**	**8.47**	**245**	P	**Pn**	**05 17 52.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.59**	**247**	P	**Pn**	**05 17 53.1**	**-1.7**
JNBK				*e*S	**Sn**	**05 19 24.9**	**-6.8**
JBT2	**Biratori 2**	**8.61**	**251**	P	**Pn**	**05 17 54.5**	**-0.6**
JNB	**Noboribetsu**	**9.62**	**252**	*e*S	**Sn**	**05 19 52.3**	**-4.7**
JSK	**Shakotan**	**9.64**	**258**	P	**Pn**	**05 18 11.3**	**+2.0**
JKB	**Kayabe**	**9.90**	**249**	P	**Pn**	**05 18 11.5**	**-1.2**
JKB				*e*S	**Sn**	**05 19 55.0**	**-8.8**
JSH	**Shimam**	**10.21**	**255**	P	**Pn**	**05 18 17.6**	**+0.6**
JYM2	**Yakumo 2**	**10.22**	**252**	P	**Pn**	**05 18 16.7**	**-0.5**
JANG	**Nango**	**10.43**	**241**	*e*S	**Sn**	**05 20 04.2**	**-13**
JTM	**Tenmabayashi**	**10.46**	**244**	P	**Pn**	**05 18 17.4**	**-3.0**
JTM				*e*S	**Sn**	**05 20 08.4**	**-9.1**
JTH	**Tanohata**	**10.49**	**238**	*e*S	**Sn**	**05 20 05.4**	**-13**
JOSM	**Okushiri--Mats**	**10.83**	**253**	P	**Pn**	**05 18 24.3**	**-1.2**
JRG	**Rokugo**	**11.56**	**239**	P	**Pn**	**05 18 32.5**	**-3.0**
JRG				*e*S	**Sn**	**05 20 35.1**	**-10**
MA2	**Magadan**	**13.58**	**354**	*e*P	**Pn**	**05 19 05.3**	**+2.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MJAR	**Matsushiro Arr**	**14.90**	**235**	Pn	**Pn**	**05 19 18.1**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=11						
MAJO	**Matsushiro**	**14.90**	**235**	*e*P	**Pn**	**05 19 21.3**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,44nm,1.0s						
MAJO	**Matsushiro**	**14.90**	**235**	*e*Pn	**Pn**	**05 19 21.3**	**+0.2**
	comp=Z,44nm,1.0s						
MAT	**Matsushiro**	**14.90**	**235**	P	**Pn**	**05 19 21.2**	**+0.1**
KLR	**Kul'dur**	**14.95**	**290**	*e*P	**Pn**	**05 19 19.4**	**-2.3**
VLA	**Vladivostok**	**15.64**	**267**	*i* P	**Pn**	**05 19 32.4**	**+1.5**
MDJ	**Mudanjiang**	**16.83**	**274**	P	**Pn**	**05 19 46.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,25nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,24nm,3.2s						
MDJ	**Mudanjiang**	**16.83**	**274**	*e*P	**Pn**	**05 19 45.3**	**-0.8**
	comp=Z,26nm,1.0s						
SEY	**Seymchan**	**16.87**	**358**	*i* P	**Pn**	**05 19 44.8**	**-1.8**
CN2	**Changchun**	**19.92**	**273**	*e*P	**Pn**	**05 20 22.6**	**-1.3**
CN2				*e*XP	sP	05 20 28.8	+1.8
CN2				*e*S	**Sn**	**05 23 58.4**	**-9.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CLNS	**Chul'man**	**20.62**	**312**	*e*P	**P**	**05 20 30.6**	**+0.8**
CLNS				*e*		05 20 44.0	
CLNS				*e*S	**S**	**05 24 09.7**	**-10**
CLNS				*e*SS		05 24 38.6	
CLNS				*e*		05 24 45.5	
CLNS				pmax	pmax		
	comp=Z,17nm,0.7s						
CLNS				pmax	pmax		
	comp=N,28nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,1.0s						
CLNS				smax			
	comp=N,3.0nm,0.8s						
CLNS				smax			
	comp=Z,3.0nm,0.6s						
CLNS				smax			
	comp=E,4.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,200nm,14.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,600nm,14.0s,MS4.1						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.1						
YAK	**Yakutsk**	**20.99**	**328**	*e*P	**P**	**05 20 33.4**	**-0.4**
YAK				*e*		05 20 43.7	
YAK				*e*S	**S**	**05 24 27.8**	**+0.3**
YAK				*e*SS		05 24 50.7	
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.7s						
YAK				smax			
	comp=N,160nm,2.6s						
YAK				smax			
	comp=Z,138nm,3.0s						
YAK				smax			
	comp=E,86nm,3.5s						
YAK				MLR	MLR		
	comp=Z,312nm,15.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,313nm,14.0s,MS4.0						
YAK				MLR	MLR		
	comp=E,292nm,16.0s,MS4.0						
SNY	**Shenyang**	**21.86**	**269**	⇑P	**P**	**05 20 43.7**	**+0.5**
SNY				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.4						
SNY				AMB	AMB		
	comp=Z,440nm,12.0s						
SNY				LR	LR		
	comp=N,247nm,7.2s						
SNY				LR	LR		
	comp=E,258nm,13.2s						
SNY				LR	LR		
	comp=Z,487nm,14.4s,MS4.0						
BILL	**Bilibino**	**22.96**	**12**	*e*P	**P**	**05 20 56.1**	**+1.2**
BILL				*e*S	**S**	**05 25 05.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.6						
BILL				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.1						
BOD	**Bodaibo**	**26.58**	**311**	*e*P	**P**	**05 21 25.6**	**-3.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BJI	**Beijing**	**27.72**	**271**	*e*P	**P**	**05 21 41.6**	**+2.8**
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
BJI	**Beijing**	**27.72**	**271**	*e*P	**P**	**05 21 41.6**	**+2.8**
	comp=Z,12nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**27.73**	**271**	*e*P	**P**	**05 21 36.9**	**-2.1**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**27.73**	**271**	*e*P	**P**	**05 21 36.9**	**-2.0**
	comp=Z,14nm,0.8s,mb4.7						
NJ2	**Nanjing**	**30.05**	**254**	*e*P	**P**	**05 22 00.9**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**30.58**	**275**	*e*P	**P**	**05 22 04.2**	**-0.1**
HHC				AP	pP	05 22 08.9	+1.0
HHC				XP	sP	05 22 11.4	+2.1
HHC				PP	PP	05 23 03.9	-9.4
HHC				PCP	PcP	05 25 04.1	+1.3
HHC				S	**S**	**05 27 03.6**	**-2.4**
HHC				XS	sS	05 27 11.3	-0.6
HHC				SS	SS	05 28 42.4	-34
HHC				SCP	ScP	05 28 44.9	-0.2
HHC				SCS	ScS	05 32 38.0	-3.4
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
HHC				AMB	AMB		
	comp=Z,281nm,5.7s						
HHC				LR	LR		
	comp=N,215nm,8.8s						
HHC				LR	LR		
	comp=E,379nm,13.3s						
HHC				LR	LR		
	comp=Z,314nm,13.3s,MS4.1						
SONM	**Songino Array**	**31.78**	**290**	P	**P**	**05 22 13.6**	**-1.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=73,slow=7.9,SNR=12						
ZAK	**Zakamensk**	**33.17**	**296**	*e*P	**P**	**05 22 25.5**	**-1.5**
PMR	**Palmer**	**35.90**	**43**	*e*P	**P**	**05 22 50.4**	**-0.2**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
PMR	**Palmer**	**35.90**	**43**	*e*P	**P**	**05 22 50.4**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.3						
MCK	**McKinley**	**35.99**	**40**	*e*P	**P**	**05 22 51.4**	**0.0**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
MCK	**McKinley**	**35.99**	**40**	*e*P	**P**	**05 22 51.4**	**0.0**
	comp=Z,8.2nm,1.2s,mb4.5						
COLA	**College**	**36.49**	**38**	*e*P	**P**	**05 22 55.4**	**-0.3**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
COLA	**College**	**36.49**	**38**	*e*P	**P**	**05 22 55.4**	**-0.4**
	comp=Z,9.3nm,1.0s,mb4.7						
LZH	**Lanzhou**	**38.15**	**273**	*e*P	**P**	**05 23 11.5**	**+1.7**
LZH				AP	pP	05 23 15.0	+1.6
LZH				XP	sP	05 23 18.5	+3.7
LZH				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,170nm,4.2s						
LZH	**Lanzhou**	**38.15**	**273**	*e*P	**P**	**05 23 11.5**	**+1.7**
	comp=Z,32nm,1.0s,mb5.0						
LZH				pP	pP	05 23 15.0	+1.6
LZH				sP	sP	05 23 18.5	+3.7
GTA	**Gaotai**	**39.31**	**280**	*e*P	**P**	**05 23 20.7**	**+1.2**
GTA				AP	pP	05 23 25.3	+2.2
GTA				XP	sP	05 23 28.1	+3.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,133nm,9.5s						
GTA				LR	LR		
	comp=N,235nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=E,345nm,13.3s,MS4.4						
GTA				LR	LR		
	comp=Z,390nm,12.6s,MS4.4						
EGAK	**Eagle**	**39.36**	**38**	*e*P	**P**	**05 23 18.9**	**-1.0**
DAWY	**Dawson**	**40.19**	**39**	*e*P	**P**	**05 23 25.9**	**-0.9**
CD2	**Chengdu**	**41.07**	**266**	P	**P**	**05 23 33.1**	**-1.0**
CD2				XP	sP	05 23 40.1	+0.9
CD2				PP	PP	05 25 10.7	+1.9
CD2				S	**S**	**05 29 43.4**	**-3.2**
CD2				SS	SS	05 32 39.4	-9.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=E,140nm,15.2s						
CD2				LR	LR		
	comp=Z,120nm,14.2s,MS3.9						
GYA	**Guiyang**	**41.82**	**259**	⇑*i*P	**P**	**05 23 40.7**	**+0.5**
GYA				AP	pP	05 23 44.8	+1.0
GYA				XP	sP	05 23 47.9	+2.6
GYA				PP	PP	05 25 20.8	+3.9
GYA				SCP	ScP	05 29 25.9	-0.4
GYA				S	**S**	**05 29 57.6**	**0.0**
GYA				SCS	ScS	05 33 41.2	-2.0
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,670nm,16.4s,MS4.7						
GYA				LR	LR		
	comp=E,540nm,17.2s,MS4.7						
GYA				LR	LR		
	comp=Z,460nm,16.5s,MS4.4						
INK	**Inuvik**	**42.07**	**32**	P	**P**	**05 23 42.4**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.2,baz=275,slow=6.0,SNR=20						
INK	**Inuvik**	**42.07**	**32**	*e*P	**P**	**05 23 42.4**	**+0.2**
	comp=Z,143nm,0.7s,mb5.7						
KMI	**Kunming**	**45.37**	**260**	P	**P**	**05 24 09.5**	**+0.7**
KMI				AP	pP	05 24 12.6	+0.1
KMI				XP	sP	05 24 14.7	+0.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
KMI	**Kunming**	**45.37**	**260**	P	**P**	**05 24 09.5**	**+0.7**
	comp=Z,7.0nm,0.9s,mb4.5						
KMI				pP	pP	05 24 12.6	+0.1
KMI				sP	sP	05 24 14.7	+0.8
WMQ	**Urumqi**	**45.38**	**292**	*e*P	**P**	**05 24 09.8**	**+0.8**
WMQ				AP	pP	05 24 14.0	+1.4
WMQ				XP	sP	05 24 17.0	+3.0
WMQ				PCP	PcP	05 25 51.0	+2.8
WMQ				PPP		05 26 37.0	
WMQ				*e*S	**S**	**05 30 49.0**	**-0.8**
WMQ				XS	sS	05 30 56.0	+0.2
WMQ				SCS	ScS	05 34 03.0	-2.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,221nm,6.2s						
WMQ				LR	LR		
	comp=N,360nm,12.8s,MS4.7						
WMQ				LR	LR		
	comp=E,433nm,13.1s,MS4.7						
WMQ				LR	LR		
	comp=Z,532nm,15.8s,MS4.6						
MKAR	**Makanchi Array**	**47.45**	**298**	P	**P**	**05 24 24.1**	**-1.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=64,slow=8.5,SNR=35						
MKAR	**Makanchi Array**	**47.45**	**298**	*i* P	**P**	**05 24 24.1**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VOSK	**Vostochnaya**	**51.28**	**309**	*e*P	**P**	**05 24 52.3**	**-2.1**
YKA	**Yellowknife Ar**	**51.30**	**36**	P	**P**	**05 24 54.5**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.4,baz=297,slow=6.9,SNR=8.7						
YKA				LR	LR	05 45 53.3	
	comp=Z,68nm,18.4s,MS3.7,baz=215,slow=35						
YKA	**Yellowknife Ar**	**51.30**	**36**	⇑*e*P	**P**	**05 24 54.5**	**-0.1**
YKA	**Yellowknife Ar**	**51.30**	**36**	P	**P**	**05 24 54.5**	**0.0**
BVAR	**Borovoye Array**	**51.45**	**310**	P	**P**	**05 24 54.2**	**-1.6**
	comp=Z,2.1nm,0.6s,mb4.2,baz=51,slow=8.2,SNR=11						
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**05 24 56.4**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.49**	**310**	*e*P	**P**	**05 24 56.4**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.4						
CHTO	**Chiang Mai**	**52.21**	**257**	*e*P	**P**	**05 25 02.4**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.21**	**257**	*e*P	**P**	**05 25 02.4**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**52.22**	**310**	*e*P	**P**	**05 24 59.4**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**52.22**	**310**	*e*P	**P**	**05 24 59.4**	**-2.1**
	comp=Z,4.6nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**54.34**	**297**	*e*P	**P**	**05 25 15.2**	**-1.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**54.34**	**297**	*e*P	**P**	**05 25 15.2**	**-1.8**
	comp=Z,5.9nm,0.9s,mb4.5						
B05A	**Bryant**	**54.59**	**55**	⇓P	**P**	**05 25 17.9**	**-1.0**
	baz=54						
KSH	**Kashi**	**55.12**	**293**	*e*P	**P**	**05 25 23.1**	**+0.4**
KSH				*e*AP	pP	05 25 28.4	+2.0
KSH				*e*XP	sP	05 25 31.2	+3.3
KSH				*e*PCP	PcP	05 26 26.0	+2.0
KSH				*e*PP	PP	05 27 27.8	+1.8
KSH				*e*SCP	ScP	05 30 23.1	+0.6
KSH				*e*S	**S**	**05 33 01.2**	**-4.2**
KSH				*e*XS	sS	05 33 10.4	-1.1
KSH				*e*PS		05 33 18.5	
KSH				*e*SCS	ScS	05 35 05.2	-6.7
KSH				*e*SS	SS	05 36 43.5	-5.7
KSH				LR	LR		
	comp=N,526nm,13.8s,MS5.0						
KSH				LR	LR		
	comp=E,826nm,14.2s,MS5.0						
C05A	**Tolt Reservoir**	**55.12**	**55**	⇓P	**P**	**05 25 22.5**	**-0.2**
	baz=55						
GUN	**Gumba**	**55.30**	**276**	*e*P	**P**	**05 25 25.5**	**+1.5**
ARU	**Arti**	**55.65**	**318**	⇑*i*P	**P**	**05 25 23.7**	**-2.8**
ARU				*e*		05 26 22.8	
ARU				*e*PPP		05 28 41.2	
ARU				*e*S	**S**	**05 33 06.3**	**-6.1**
ARU				*e*SS	SS	05 36 58.1	+0.6
ARU				*e*SSS		05 39 00.7	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ARU	**Arti**	**55.65**	**318**	*e*P	**P**	**05 25 24.9**	**-1.6**
	comp=Z,6.7nm,0.9s,mb4.7						
KKN	**Kakani**	**55.79**	**276**	*e*P	**P**	**05 25 28.9**	**+1.4**
	comp=Z,34nm,0.8s,mb5.4						
PKI	**Pulchoki**	**55.84**	**276**	*e*P	**P**	**05 25 28.7**	**+0.8**
	comp=Z,32nm,1.2s,mb5.2						
DMN	**Daman**	**56.02**	**276**	*e*P	**P**	**05 25 30.6**	**+1.4**
	comp=Z,51nm,0.9s,mb5.5						
GKN	**Gorkha**	**56.10**	**277**	*e*P	**P**	**05 25 31.1**	**+1.3**
	comp=Z,52nm,0.8s,mb5.6						
E06A	**Yakima**	**56.16**	**56**	⇓P	**P**	**05 25 29.9**	**-0.3**
	baz=56						
A09A	**Danville**	**56.17**	**52**	⇑P	**P**	**05 25 29.2**	**-1.1**
	baz=56,SNR=5.7						
J02A	**Umpqua**	**56.38**	**60**	⇓P	**P**	**05 25 31.0**	**-0.8**
	baz=56						
H04A	**Detroit Lake**	**56.48**	**58**	⇑P	**P**	**05 25 32.4**	**-0.1**
	baz=56						
KK31	**Karatay Array**	**56.52**	**299**	*i* P	**P**	**05 25 32.1**	**-0.7**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
B09A	**Rice**	**56.72**	**53**	⇓P	**P**	**05 25 33.1**	**-1.1**
	baz=56						
A10A	**Northport**	**56.73**	**52**	⇓P	**P**	**05 25 33.9**	**-0.4**
	baz=56						
J03A	**Ideyld Park**	**56.75**	**60**	⇑P	**P**	**05 25 37.6**	**+3.2**
	baz=57						
KOLN	**Koldanda**	**56.96**	**277**	*e*P	**P**	**05 25 37.1**	**+1.2**
	comp=Z,40nm,0.9s,mb5.5						
HAWA	**Hanford**	**57.07**	**55**	*e*P	**P**	**05 25 35.5**	**-1.1**
	comp=Z,9.8nm,1.5s,mb4.6						
NEW	**Newport**	**57.37**	**52**	P	**P**	**05 25 38.0**	**-0.8**
	comp=Z,2.2nm,1.0s,mb4.1,baz=349,slow=4.7,SNR=3.3						
NEW				LR	LR	05 47 58.7	
	comp=Z,79nm,19.6s,MS3.8,baz=56,slow=34						
NEW	**Newport**	**57.37**	**52**	*e*P	**P**	**05 25 38.4**	**-0.5**
	comp=Z,7.0nm,1.3s,mb4.5						
H06A	**Lindquist Farm**	**57.54**	**57**	⇑P	**P**	**05 25 39.9**	**-0.1**
	baz=57						
G07A	**Ruggs Ranch, H**	**57.63**	**57**	⇑P	**P**	**05 25 38.9**	**-1.7**
	baz=57						
KHMM	**Horse Mountain**	**57.70**	**63**	*e*P	**P**	**05 25 43.0**	**+1.8**
E09A	**Wood Farm, Sta**	**57.79**	**55**	⇓P	**P**	**05 25 40.0**	**-1.8**
	baz=58						
A12A	**Yaak River Ran**	**57.80**	**51**	⇑P	**P**	**05 25 41.4**	**-0.4**
	baz=58						
J05A	**Fort Rock**	**57.84**	**59**	⇓P	**P**	**05 25 43.6**	**+1.6**
	baz=58						
YBH	**Yreka Blue Hor**	**57.84**	**62**	P	**P**	**05 25 43.8**	**+1.7**
	baz=58,SNR=5.3						

F08A **Pendleton** 57.84 56 ⇓P P 05 25 42.7 +0.6
baz=58
BOK **Bokaro** 57.91 272 eP P 05 25 42.9 +0.3
BOK AMb AMB 05 25 46.7
comp=Z,16nm,1.0s,mb5.0
M02C **Callahan** 57.95 62 ⇑P P 05 25 43.7 +0.9
baz=58
N02C **Big Bar** 58.00 63 ⇑P P 05 25 44.9 +1.7
baz=58
APA **Apatity** 58.02 337⇑eP P 05 25 43.0 -0.4
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0
G08A **Pilot Rock** 58.03 56 ⇑P P 05 25 44.8 +1.4
baz=58
I06A **Prineville** 58.07 58 ⇓P P 05 25 42.1 -1.7
baz=58
M04C **Macdoel** 58.34 61 ⇓P P 05 25 44.9 -0.7
baz=58
K05A **Summer Lake** 58.37 60 ⇓P P 05 25 45.8 0.0
baz=58
I07A **Izee** 58.41 58 ⇑P P 05 25 44.4 -1.7
baz=58
M03C **McCloud** 58.46 62 ⇑P P 05 25 45.8 -0.7
baz=58
A13A **Flathead Natio** 58.47 51 ⇓P P 05 25 45.3 -1.2
baz=58
J06A **Christmas Vall** 58.50 59 ⇑P P 05 25 45.1 -1.6
baz=58
ARCES **ARCESS Array B** 58.54 341 P P 05 25 45.9 -1.1
comp=Z,3.9nm,0.8s,mb4.5,baz=31,slow=7.3,SNR=9.4
ARCES **ARCESS Array B** 58.54 341 P P 05 25 45.9 -1.1
C12A **Trout Creek** 58.60 52 ⇓P P 05 25 45.5 -1.9
baz=58
WDC **Whiskeytown Da** 58.61 63 eP P 05 25 47.8 +0.3
WDC pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
WDC **Whiskeytown Da** 58.61 63 eP P 05 25 47.8 +0.3
comp=Z,3.3nm,1.1s,mb4.3
WDC **Whiskeytown Da** 58.61 63 ⇓P P 05 25 47.6 +0.1
baz=58
F10A **Beach Ranch, E** 58.63 55 ⇑P P 05 25 46.6 -1.0
baz=58
H08A **Prairie City** 58.64 57 ⇑P P 05 25 48.4 +0.7
baz=58
O02C **Red Bluff** 58.69 63 ⇑P P 05 25 49.0 +0.9
baz=58
K06A **Valley Falls** 58.71 59 ⇓P P 05 25 48.2 0.0
baz=58,SNR=5.0
B13A **Whitefish** 58.76 51 P P 05 25 49.5 +1.0
baz=58,SNR=5.4
P01C **Double 8 Ranch** 58.77 64 ⇓P P 05 25 47.2 -1.4
baz=59
L05A **Lakeview** 58.80 60 ⇓P P 05 25 48.8 0.0
baz=59
J07A **Hines** 58.93 58 ⇓P P 05 25 50.5 +0.7
baz=59
M05C **Lookout** 59.01 61 ⇓P P 05 25 49.5 -0.7
baz=59
AB31 **Akbulak array** 59.02 310 eP P 05 25 49.0 -1.4
GASB **Alder Springs** 59.05 64 ⇑P P 05 25 49.9 -0.6
baz=59
I08A **Drewsey** 59.05 57 ⇑P P 05 25 48.9 -1.7
baz=59
C13A **Hot Springs** 59.11 52 ⇓P P 05 25 48.3 -2.7
baz=59
HATC **Hat Creek Radi** 59.14 62 ⇓P P 05 25 52.0 +0.9
baz=59
H09A **Durkee** 59.14 56 ⇑P P 05 25 50.2 -0.9
baz=59
MOD **Modoc** 59.20 60 eP P 05 25 51.5 -0.2
comp=Z,2.4nm,0.9s,mb4.2
BMO **Blue Mountains** 59.23 56 eP P 05 25 52.3 +0.5
comp=Z,8.3nm,1.5s,mb4.5
AKTK **Aktyubinsk** 59.33 312 P P 05 25 52.0 -0.5
AKTO **Aktyubinsk** 59.33 312 P P 05 25 52.0 -0.5
comp=Z,2.5nm,0.7s,mb4.3,baz=58,slow=6.7,SNR=8.7
K07A **Rock Creek Ran** 59.37 59 ⇓P P 05 25 51.9 -0.8
baz=59
I09A **Lost Marbles R** 59.50 57 ⇑P P 05 25 53.6 -0.1
baz=59
O04C **Chester** 59.66 62 ⇑P P 05 25 54.9 +0.1
baz=60
MNRC **McLaughlin Nat** 59.68 64 ⇓P P 05 25 53.5 -1.4
baz=60
L07A **Adell** 59.71 60 ⇓P P 05 25 52.0 -3.2
baz=60
K08A **Mann Creek Ran** 59.80 58 ⇑P P 05 25 58.0 +2.3
baz=60
ORV **Oroville** 59.86 63 ⇓P P 05 25 55.5 -0.6
baz=60
J09A **Fry Pan Ranch,** 59.86 57 ⇑P P 05 25 53.7 -2.5
baz=60,SNR=6.2
WVOR **Wild Horse Val** 59.88 59 eP P 05 25 56.5 +0.2
WVOR pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
WVOR **Wild Horse Val** 59.88 59 eP P 05 25 56.5 +0.2
comp=Z,3.2nm,0.4s,mb4.7
CVS **Carmenet Viney** 59.99 65 ⇑P P 05 25 55.7 -1.3
baz=60
OHCM **Honcut** 60.00 63 eP P 05 25 57.2 +0.1
N06A **Buffalo Meadow** 60.17 61 P P 05 25 59.3 +1.0
baz=60,SNR=5.8
M07A **Soldier Meadow** 60.19 60 P P 05 25 59.8 +1.4
baz=60,SNR=6.7
L08A **Fields** 60.20 59 ⇑P P 05 25 58.5 0.0
baz=60
K09A **Rome** 60.27 58 ⇓P P 05 25 58.1 -0.8
baz=60
CHMT **Chamberlain Mo** 60.29 52 eP P 05 25 59.2 +0.1
M08A **Happy Creek Ra** 60.63 60 ⇓P P 05 26 03.0 +1.6
baz=60
N07B **Gerlach** 60.67 60 ⇓P P 05 26 02.6 +0.8
baz=60
L09A **Wilkinson Ranc** 60.71 59 ⇓P P 05 26 01.9 0.0
baz=60
NDI **New Delhi** 60.77 282 eP P 05 26 04.0 +1.6
NDI AMb AMB 05 26 05.3
comp=Z,21nm,1.2s,mb5.1
LAVA **Lava Cap Winer** 60.81 63 ⇓P P 05 26 00.5 -2.2
baz=61
R04C **Big Horse Ranc** 60.99 64 ⇑P P 05 26 04.9 +1.0
baz=61
O07A **Toulon** 61.11 61 ⇑P P 05 26 03.2 -1.5
baz=61,SNR=5.7
N08A **GE Springer Mi** 61.18 60 ⇑P P 05 26 06.0 +0.8
baz=61
SUMG **Summit** 61.32 4 eP P 05 26 06.1 -0.1
comp=Z,21nm,0.8s,mb5.3
CMB **Columbia Colle** 61.47 64 eP P 05 26 07.3 +0.2
CMB pmax pmax
comp=Z,7.0nm,1.4s,mb4.6
CMB **Columbia Colle** 61.47 64 eP P 05 26 07.3 +0.2
comp=Z,7.3nm,1.4s,mb4.6
CMB **Columbia Colle** 61.47 64 P P 05 26 07.9 +0.8
baz=61,SNR=6.6
EGMT **Eagleton** 61.50 49 ⇑P P 05 26 07.7 +0.4
baz=61
N09A **Rock Creek Ran** 61.50 60 ⇑P P 05 26 07.4 0.0
baz=61
HLID **Hailey** 61.67 56 eP P 05 26 09.3 +0.8
comp=Z,6.7nm,1.4s,mb4.6
HLID **Hailey** 61.67 56 P P 05 26 09.6 +1.1
baz=62,SNR=6.2
M10A **I.L. Ranch, Tu** 61.68 59 ⇓P P 05 26 06.2 -2.4
baz=62
R06C **Coleville** 61.76 63 ⇑P P 05 26 09.2 +0.2
baz=62
P08A **Dixie Valley** 61.88 61 ⇓P P 05 26 10.0 +0.1
baz=62
BMN **Battle Mountai** 61.94 60 eP P 05 26 10.9 +0.6
BOZ **Bozeman (W)** 61.95 52 eP P 05 26 11.0 +0.6
BOZ pmax pmax
comp=Z,14nm,1.3s,mb4.9
BOZ **Bozeman (W)** 61.95 52 eP P 05 26 11.0 +0.6
comp=Z,14nm,1.3s,mb4.9
BOZ **Bozeman (W)** 61.95 52 P P 05 26 11.4 +1.0
baz=62,SNR=11
JOF **Joensuu** 62.01 334 ep P 05 26 09.3 -1.5
comp=Z,4.9nm,0.7s,mb4.8
O09A **Fish Creek Ran** 62.12 60 ⇑P P 05 26 10.0 -1.5
baz=62
M11A **Holland Ranch,** 62.18 58 ⇓P P 05 26 11.9 0.0
baz=62
Q08A **Gabbs** 62.48 62 ⇓P P 05 26 12.5 -1.4
baz=62
NVAR **Mina Array Bea** 62.52 62 P P 05 26 15.0 +0.8
comp=Z,1.8nm,0.7s,mb4.3,baz=290,slow=8.4,SNR=19
T06C **Milleton Lake** 62.53 64 ⇑P P 05 26 12.1 -2.1
baz=62
P09A **Austin** 62.54 61 ⇑P P 05 26 12.0 -2.3
baz=62
QLMT **Earthquake Lak** 62.57 53 eP P 05 26 15.6 +1.1
M12A **Wells** 62.71 58 P P 05 26 17.0 +1.6
baz=62,SNR=6.2
GCMT **Greycliff** 62.94 51 eP P 05 26 18.2 +1.2
N12A **Clover Valley,** 62.98 58 ⇑P P 05 26 18.1 +0.8
baz=63
O11A **Cowboy Ranch,** 63.07 59 ⇓P P 05 26 18.7 +0.8
baz=63
HELL **Mitchell Peak,** 63.16 64 P P 05 26 18.5 +0.1
baz=63,SNR=6.8
S08C **White Mtn Res** 63.18 63 ⇓P P 05 26 18.0 -0.6
baz=63
P11A **Circle Ranch,** 63.37 60 ⇓P P 05 26 19.9 +0.1
baz=63
R09A **Tonopah** 63.40 62 P P 05 26 20.6 +0.6
baz=63,SNR=12
IMW **Indian Meadow** 63.43 54 eP P 05 26 21.5 +1.2
comp=Z,8.7nm,1.2s,mb4.8
FLWY **Flagg Ranch** 63.45 53 eP P 05 26 21.4 +1.0
O12A **Currie** 63.53 59 ⇓P P 05 26 19.3 -1.6
baz=63
S09A **Goldfield** 63.62 62 P P 05 26 22.5 +1.0
baz=63,SNR=5.5
MOOW **Moose Ponds** 63.64 54 eP P 05 26 22.7 +1.1
comp=Z,4.9nm,1.1s,mb4.5
VES **Vestal, Richgr** 63.66 65 ⇑P P 05 26 22.0 +0.3
baz=64
TPAW **Teton Pass** 63.69 54 eP P 05 26 23.1 +1.2
comp=Z,22nm,1.3s,mb5.0
VIS **Vishakhapatnam** 63.72 269 eP P 05 26 21.1 -1.1
VIS AMb AMB 05 26 24.3
comp=Z,31nm,1.5s,mb5.1
HVU **Hansel Valley** 63.73 56 eP P 05 26 22.8 +0.6
LOHW **Long Hollow** 63.80 54 eP P 05 26 23.8 +1.1
comp=Z,17nm,1.4s,mb4.9
SNOW **Snow King Moun** 63.81 54 eP P 05 26 24.0 +1.3
comp=Z,16nm,1.3s,mb4.9
R10A **Warm Springs** 63.84 61 ⇑P P 05 26 23.8 +0.9
baz=64
Q11A **Duckwater** 63.88 60 ⇓P P 05 26 24.1 +0.9
baz=64
P12A **McGill** 63.93 59 ⇑P P 05 26 22.8 -0.7
baz=64
GRAC **Grapevine Rang** 63.99 63 ⇓P P 05 26 22.6 -1.3
baz=64
KAF **Kangasniemi** 64.12 335 ep P 05 26 23.4 -1.4
comp=Z,6.6nm,0.7s,mb4.8,baz=37,slow=6.2
KAF **Kangasniemi** 64.12 335 eP P 05 26 23.4 -1.4
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BHPL **Bhopal** 64.13 277 eP P 05 26 25.2 +0.3
ISA **Isabella** 64.15 65 ⇑P P 05 26 23.7 -1.3
baz=64
LAO **LASA Array** 64.20 49 eP P 05 26 25.9 +0.6
Q12A **Willow Creek R** 64.25 60 ⇓P P 05 26 24.1 -1.5
baz=64
MPMC **Manual Prospec** 64.51 64 ⇓P P 05 26 25.3 -2.1
baz=64
FURC **Furnace Creek,** 64.64 63 P P 05 26 29.2 +1.0
baz=64,SNR=5.4
DUG **Dugway** 64.71 58 eP P 05 26 29.2 +0.5
DUG pmax pmax
comp=Z,11nm,1.3s,mb4.7
DUG **Dugway** 64.71 58 eP P 05 26 29.2 +0.5
comp=Z,10nm,1.3s,mb4.7
DUG **Dugway** 64.71 58 P P 05 26 29.4 +0.8
baz=64,SNR=8.8
FIA1 **FINESS Array S** 64.72 335 eP P 05 26 27.4 -1.3
FINES **FINESS Array B** 64.72 335 P P 05 26 27.6 -1.1
comp=Z,5.7nm,0.7s,mb4.7,baz=36,slow=7.2,SNR=32
FINES **FINESS Array B** 64.72 335 i P P 05 26 27.6 -1.1
FINES pmax pmax
comp=Z,6.0nm,0.7s
BW06 **Boulder Array** 64.93 54 eP P 05 26 30.2 +0.1
comp=Z,11nm,1.4s,mb4.7
PDAR **Pinedale Array** 64.93 54 P P 05 26 30.4 +0.3
comp=Z,2.3nm,1.0s,mb4.2,baz=304,slow=3.2,SNR=13
EDW2 **Edwards Air Fo** 64.95 65 P P 05 26 31.0 +0.8
baz=65,SNR=5.5
NLU **North Lily Min** 65.30 58 eP P 05 26 33.0 +0.6
SHOC **Shoshone** 65.37 63 ⇑P P 05 26 32.4 -0.5
baz=65
GSC **Goldstone** 65.42 64 ⇓P P 05 26 32.8 -0.5
baz=65
MPU **Maple Canyon** 65.52 57 eP P 05 26 34.9 +0.9
TUQ **Turquoise Mtn.** 65.89 63 ⇓P P 05 26 35.8 -0.5
baz=66
OBN **Obninsk** 65.97 326 i P P 05 26 35.7 -1.1
OBN e 05 27 07.4
OBN eSS SS 05 39 31.6 -7.7
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
HEC **Hector,Ludlow** 66.03 64 ⇓P P 05 26 38.3 +1.1
baz=66
MSU **Marysvale** 66.18 59 eP P 05 26 39.3 +1.2
V12A **Nelson** 66.37 63 ⇓P P 05 26 40.4 +1.0
baz=66
SRU **San Rafael** 66.76 57 eP P 05 26 42.2 +0.3
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SRU **San Rafael** 66.76 57 eP P 05 26 42.2 +0.4
comp=Z,4.6nm,0.8s,mb4.6
RSSD **Black Hills** 67.06 50 eP P 05 26 43.4 -0.3
RSSD pmax pmax
comp=Z,14nm,1.4s,mb4.8
RSSD **Black Hills** 67.06 50 eP P 05 26 43.4 -0.3
comp=Z,14nm,1.4s,mb4.8
IRM **Iron Mountain** 67.20 64 ⇑P P 05 26 44.3 -0.4
baz=67
BC3 **Big Chuckw Mtn** 67.34 65 ⇑P P 05 26 45.2 -0.4
baz=67
X13A **Yucca** 67.74 63 P P 05 26 48.9 +0.8
baz=68,SNR=5.6
PDMCI **Parker Dam,Lak** 67.74 63 ⇑P P 05 26 47.6 -0.5
baz=68
W14A **Seligman** 67.79 62 ⇓P P 05 26 50.2 +1.8
baz=68
Y12C **Blythe** 67.86 64 ⇑P P 05 26 47.6 -1.2
baz=68
WRAB **Tennant Creek** 67.97 199 i P P 05 26 51.5 +1.9
WRA **Warramunga Arr** 67.99 199 P P 05 26 49.0 -0.7
comp=Z,1.5nm,0.6s,mb4.2,baz=19,slow=6.9,SNR=18
PV10 **Paradox Valley** 68.12 57 eP P 05 26 51.5 +1.0
X14A **Yava** 68.40 62 P P 05 26 53.6 +1.3
baz=68,SNR=5.1
PV01 **Paradox Valley** 68.55 57 eP P 05 26 53.9 +0.7
WUAZ **Wupatki** 68.63 61 ⇓P P 05 26 51.5 -2.2
baz=68
Y14A **Wickenburg** 68.68 63 ⇓P P 05 26 51.9 -2.1
baz=68
SMCO **Snowmass** 68.77 55 eP P 05 26 54.9 +0.3
comp=Z,2.9nm,0.8s,mb4.3
X15A **Humboldt** 68.79 62 ⇓P P 05 26 53.4 -1.3
baz=69,SNR=8.0
NB2 **NORSAR Subarra** 68.91 341 P P 05 26 54.3 -1.1
comp=Z,7.0nm,0.8s,mb4.6,baz=27,slow=6.5
NB2 **NORSAR Subarra** 68.91 341 P P 05 26 54.3 -1.1
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA **NORSAR Array B** 68.91 341 P P 05 26 54.5 -0.9
comp=Z,5.2nm,0.7s,mb4.5,baz=27,slow=6.3,SNR=27
ISCO **Idaho Springs** 69.12 54 eP P 05 26 57.4 +0.7
ISCO pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
ISCO **Idaho Springs** 69.12 54 eP P 05 26 57.4 +0.7
comp=Z,5.6nm,1.2s,mb4.4
HFS **Hagfors** 69.14 340 P P 05 26 55.5 -1.4
baz=57,slow=5.3
NAO01 **NORSAR Array S** 69.16 341 eP P 05 26 55.6 -1.3
MVCO **Mesa Verde** 69.22 58 eP P 05 26 56.8 -0.5
MVCO **Mesa Verde** 69.22 58 ⇑P P 05 26 57.4 +0.1
baz=69
KAD **Karad** 70.36 275 eP P 05 27 05.9 +1.5
KAD AMb AMB 05 27 13.4
comp=Z,46nm,2.5s,mb5.0
KIV **Kislovodsk** 71.42 315⇑eP P 05 27 12.7 +1.9
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
ZEI **Tsey** 71.67 313 eP P 05 27 12.2 -0.1
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ASAR **Alice Springs** 71.68 199 P P 05 27 12.7 +0.3
comp=Z,1.1nm,0.6s,mb4.0,baz=27,slow=7.1,SNR=9.4
ANMO **Albuquerque** 71.96 58 eP P 05 27 14.5 +0.4
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO **Albuquerque** 71.96 58 eP P 05 27 14.4 +0.4
comp=Z,4.0nm,1.4s,mb4.2
AKASG **Malin Array Be** 72.21 326 P P 05 27 14.5 -1.1
comp=Z,4.9nm,0.5s,mb4.7,baz=34,slow=6.1,SNR=25
AKASG **Malin Array Be** 72.21 326 i P P 05 27 14.5 -1.1
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB **Malin Array Si** 72.21 326 eP P 05 27 14.5 -1.1
GNI **Garni** 73.13 311⇓eP P 05 27 21.5 +0.5
GNI pmax pmax
comp=Z,14nm,1.0s
MNTX **Cornudas Mount** 74.88 60 eP P 05 27 31.0 -0.3
comp=Z,8.1nm,1.4s,mb4.5
OJC **Ojcow** 76.00 331 eP P 05 27 37.3 -0.4
STHS **Stebnicka Huta** 76.19 330 eP P 05 27 39.4 +0.6
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS **Stebnicka Huta** 76.19 330 eP P 05 27 39.4 +0.6
comp=Z,3.8nm,0.8s,mb4.4
KOLS **Kolonicke sedl** 76.24 329 eP P 05 27 38.8 -0.2
BURAR **Bucovina Array** 76.25 327⇓iP P 05 27 39.1 0.0
BURAR **Bucovina Array** 76.25 327 ⇓P P 05 27 39.1 -0.1
NIE **Niedzica** 76.51 331 eP P 05 27 41.1 +0.5
WMOK **Wichita Mounta** 76.54 54 eP P 05 27 40.1 -0.7
WMOK pmax pmax
comp=Z,15nm,1.8s,mb4.6
WMOK **Wichita Mounta** 76.54 54 eP P 05 27 40.1 -0.7
comp=Z,15nm,1.8s,mb4.6
EKA **Eskdalemuir Ar** 77.02 347 P P 05 27 42.5 -1.0
comp=Z,2.1nm,0.8s,mb4.1,baz=15,slow=5.9,SNR=4.5
MORC **Moravsky Berou** 77.12 332⇓iP P 05 27 42.2 -1.8
MORC **Moravsky Berou** 77.12 332 eP P 05 27 44.0 -0.1
comp=Z,5.7nm,0.8s,mb4.5
CLL **Collm** 77.15 336 eP P 05 27 45.0 +0.8
CLL e 05 27 58.0
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL **Collm** 77.15 336 eP P 05 27 45.0 +0.8
comp=Z,10.0nm,1.0s,mb4.7
CLL e 05 27 58.0
CLL **Collm** 77.15 336 eP P 05 27 43.0 -1.2
CLL i P(2) pP 05 27 46.1 -1.9
comp=Z,10.0nm,1.0s
CLL ePcP(2) 05 27 57.0
KECS **Kecovo** 77.25 330 eP P 05 27 44.8 +0.1
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS **Kecovo** 77.25 330 eP P 05 27 44.8 +0.1
comp=Z,2.5nm,1.0s,mb4.1
BRG **Berggiesshubel** 77.26 335 eP P 05 27 47.1 +2.3
comp=Z,1.6nm,1.0s,mb3.9
BRG **Berggiesshubel** 77.26 335 eP P 05 27 47.1 +2.3
BRG pmax pmax
comp=Z,20nm,1.0s,mb5.0
MLR **Muntele Rosu** 77.73 325 P P 05 27 46.7 -0.8
comp=Z,4.7nm,0.8s,mb4.5,baz=140,slow=11,SNR=10
MLR **Muntele Rosu** 77.73 325⇑iP P 05 27 45.1 -2.3
MLR **Muntele Rosu** 77.73 325 P P 05 27 46.7 -0.7
MLR pmax pmax
comp=Z,5.0nm,0.8s
MLR **Muntele Rosu** 77.73 325 ⇑P P 05 27 45.1 -2.3
VYHS **Vyhne** 77.80 331 eP P 05 27 47.8 0.0
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VYHS **Vyhne** 77.80 331 eP P 05 27 47.8 0.0
comp=Z,2.7nm,1.0s,mb4.1
VRAC **Vranov** 77.83 333 P P 05 27 48.1 +0.1
comp=Z,5.0nm,0.8s,mb4.5,baz=39,slow=4.4,SNR=5.6
DRGR 77.88 328⇓iP P 05 27 48.4 +0.1
DRGR 77.88 328 ⇓P P 05 27 48.4 +0.1
SNX **Sinaia** 78.01 325⇑iP P 05 27 50.0 +1.0
SNX **Sinaia** 78.01 325 ⇑P P 05 27 50.0 +1.0
VOIR 78.12 326⇓iP P 05 27 49.6 0.0
MOX **Moxa** 78.13 336 eP P 05 27 50.0 +0.3
BRTR **Keskin Array B** 79.02 317 P P 05 27 54.5 -0.1
comp=Z,2.7nm,1.2s,mb4.1,baz=100,slow=3.8,SNR=5.4
GZR **Gura Zlata** 79.04 327⇓iP P 05 27 57.5 +2.8
GZR **Gura Zlata** 79.04 327 ⇓P P 05 27 57.5 +2.9
JCT **Junction City** 79.07 57 eP P 05 27 54.8 -0.1
JCT pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
JCT **Junction City** 79.07 57 eP P 05 27 54.8 -0.1
comp=Z,2.0nm,0.3s,mb4.5
GRA1 **Grafenberg Arr** 79.10 336 eP P 05 27 55.0 0.0
comp=Z,7.0nm,0.9s,mb4.6
GRF **Grafenberg Arr** 79.10 336 eP P 05 27 55.0 0.0
comp=Z,7.0nm,0.9s,mb4.6
GRF **Grafenberg Arr** 79.10 336 eP P 05 27 55.0 0.0
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF **Grafenberg Arr** 79.10 336 eP P 05 27 55.0 0.0
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GERES **GERESS Array B** 79.14 334 P P 05 27 55.1 -0.1
comp=Z,1.5nm,0.7s,mb4.0,baz=26,slow=4.6,SNR=13
BZS **Buzias** 79.28 328⇑iP P 05 27 55.7 -0.3
BZS **Buzias** 79.28 328 ⇑P P 05 27 55.7 -0.3
PARMO **Parma** 79.92 47 eP P 05 27 59.3 -0.2
WCI **Wyandotte Cave** 80.41 44 eP P 05 28 01.7 -0.4
BAIF **Baives** 80.57 340 eP P 05 28 04.3 +1.3
KBA **Koelnbreinsper** 80.82 334⇑iP P 05 28 07.0 +2.6
comp=Z,14nm,0.7s,mb5.0
KBA **Koelnbreinsper** 80.82 334⇑iP P 05 28 05.2 +0.9
comp=Z,14nm,0.7s,mb5.0
WTTA **Wattenberg** 81.17 335⇑iP P 05 28 07.3 +1.2
comp=Z,9.9nm,0.8s,mb4.8
WTTA **Wattenberg** 81.17 335⇓iP P 05 28 05.8 -0.4
comp=Z,9.9nm,0.8s,mb4.8
WTTA **Wattenberg** 81.17 335⇑iP P 05 28 07.4 +1.2
WTTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VTS **Vitosha** 81.23 325⇑iP P 05 28 06.6 +0.1
WVT **Waverly** 81.31 46 eP P 05 28 06.4 -0.5
CDF **Champ du Feu** 81.34 338 eP P 05 28 08.4 +1.3
comp=Z,20nm,1.1s,mb4.7
CDF **Champ du Feu** 81.34 338 eP P 05 28 08.4 +1.3
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CDF **Champ du Feu** 81.34 338 eP P 05 28 08.4 +1.3
comp=Z,10nm,1.1s,mb4.7
OXF **Oxford** 81.77 48 eP P 05 28 08.3 -1.1
MEZF **Maizieres J'vi** 81.82 339 eP P 05 28 11.3 +1.7
HAU **Haudompre** 81.95 338 eP P 05 28 11.5 +1.2
HINF **Hinteralfeld** 82.00 338 eP P 05 28 11.5 +0.9
FLN **La Foliniere** 82.82 343 eP P 05 28 16.0 +1.2
LDF **La Druitiere** 82.90 343 eP P 05 28 16.3 +1.0
LOR **Lormes** 83.26 340 eP P 05 28 17.5 +0.4
comp=Z,37nm,1.4s,mb4.9
LOR **Lormes** 83.26 340 eP P 05 28 17.5 +0.4
LOR pmax pmax
comp=Z,19nm,1.4s,mb4.9
LOR **Lormes** 83.26 340 eP P 05 28 17.5 +0.4
comp=Z,18nm,1.4s,mb4.9
ROSF **Rostrenen** 83.77 345 eP P 05 28 21.0 +1.3
AVF **Avril sur Loir** 83.83 340 eP P 05 28 21.8 +1.7
SMF **Signal de Mont** 83.85 339 eP P 05 28 21.8 +1.6
comp=Z,75nm,1.4s,mb5.3
SMF **Signal de Mont** 83.85 339 eP P 05 28 21.8 +1.6
SMF pmax pmax
comp=Z,37nm,1.4s,mb5.3
SMF **Signal de Mont** 83.85 339 eP P 05 28 21.8 +1.6
comp=Z,37nm,1.4s,mb5.3
TCF **Toulx Ste Croi** 84.57 340 eP P 05 28 25.5 +1.7
comp=Z,29nm,1.1s,mb5.0
TCF **Toulx Ste Croi** 84.57 340 eP P 05 28 25.5 +1.7
TCF pmax pmax
comp=Z,14nm,1.1s,mb5.0
TCF **Toulx Ste Croi** 84.57 340 eP P 05 28 25.5 +1.7
comp=Z,14nm,1.1s,mb5.0
ORIF **Oris-en-Rattie** 84.94 338 eP P 05 28 28.3 +2.6
RJF **Les Rejaudoux** 85.66 341 eP P 05 28 31.9 +2.6
comp=Z,46nm,1.4s,mb5.2
RJF **Les Rejaudoux** 85.66 341 eP P 05 28 31.9 +2.6
RJF pmax pmax
comp=Z,23nm,1.4s,mb5.2
RJF **Les Rejaudoux** 85.66 341 eP P 05 28 31.9 +2.6
comp=Z,23nm,1.4s,mb5.2
CAF **Calviac** 85.89 340 eP P 05 28 32.7 +2.3
comp=Z,12nm,0.9s,mb4.8
CAF **Calviac** 85.89 340 eP P 05 28 32.7 +2.3
CAF pmax pmax

comp=Z,6.0nm,0.9s,mb4.8
CAF Calviac 85.89 340 *e*P **P 05 28 32.7 +2.3**
comp=Z,6.1nm,0.9s,mb4.8
LMR La Mourre 86.23 336 *e*P **P 05 28 34.0 +1.9**
comp=Z,33nm,1.2s,mb5.1
LMR La Mourre 86.23 336 *e*P **P 05 28 34.0 +1.9**
LMR pmax pmax
comp=Z,17nm,1.2s,mb5.2
LMR La Mourre 86.23 336 *e*P **P 05 28 34.0 +1.9**
comp=Z,16nm,1.2s,mb5.1
MTLF Montolieu 87.35 339 *e*P **P 05 28 38.4 +0.8**
comp=Z,24nm,1.4s,mb4.9
MTLF Montolieu 87.35 339 *e*P **P 05 28 38.4 +0.8**
MTLF pmax pmax
comp=Z,12nm,1.4s,mb4.9
MTLF Montolieu 87.35 339 *e*P **P 05 28 38.4 +0.8**
comp=Z,12nm,1.4s,mb4.9
KEST Kesra 92.35 331 P **P 05 29 01.4 +0.4**
comp=Z,1.7nm,0.9s,mb4.4,baz=264,slow=6.7,SNR=2.9
TORD Torodi Ar. Bea 115.77 329 PKP PKPdf 05 34 32.4 -0.6
comp=Z,0.2nm,0.5s,baz=16,slow=2.1,SNR=5.1
TORD Torodi Ar. Bea 115.77 329 PKP PKPdf 05 34 32.4 -0.6
LPAZ La Paz 134.42 63 *e*PKIKP PKPdf 05 35 09.6 +0.9
BDFB Brasilia 144.71 38 PKP PKPdf 05 35 26.2 -1.1
comp=Z,5.2nm,1.1s,baz=306,slow=6.2,SNR=4.7
PLCA Paso Flores 147.90 96 PKPbc PKPbc 05 35 35.5 -0.2
comp=Z,3.0nm,0.8s,baz=238,slow=3.4,SNR=4.7
PLCA Paso Flores 147.90 96 *e*PKPbc PKPbc 05 35 35.3 -0.5
CPUP Villa Florida 148.57 62 PKPbc PKPbc 05 35 37.3 -0.2
comp=Z,2.2nm,0.6s,baz=306,slow=3.3,SNR=9.4
CPUP Villa Florida 148.57 62 *e*PKPbc PKPbc 05 35 36.9 -0.6
SNAA Sanae 152.00 196 PKPbc PKPbc 05 35 43.3 -2.4
comp=Z,0.6nm,0.6s,baz=166,slow=18,SNR=4.0

CSEM ***01*** *05:25:29.8, 3508N×381W, h11km, MD2.8, After CNRM*
CNRM ***01*** *05:25:29.8, 3508N×381W, h11km, MD2.8*
MDD 01 05:25:29.0±1.3, 3500N×396W, h4km±20km, mbLg2.1/4, Error ellipse: s-maj=15.6km s-min=5.4km az=138.0, PRXIMO SOLUCIN POBRE, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.18**	**104**	*i* P	Pg	05 25 33.0	+0.6
TOU				*i* S	Sg	05 25 35.0	+0.3
MPAL	**Palemas**	**0.22**	**4**	*i* P	Pg	05 25 33.5	+0.2
MPAL				*i* S	Sg	05 25 36.0	-0.2
EMEL	**Melilla**	**0.88**	**70**	P	Pg	05 25 43.9	-1.8
65nm,0.1s,SNR=15
EMEL				S	Sg	05 25 55.2	-2.0
68nm,0.2s,SNR=9.4
TZK	**Tazeka**	**0.93**	**191**	*e*P	Pg	05 25 45.5	-1.3
TZK				*e*S	Sg	05 25 58.0	-0.9
EALB	**Alboran**	**1.20**	**39**	P	Pg	05 25 52.1	+0.1
SNR=7.9
EALB				S	Sg	05 26 03.6	-4.1
7.9nm,0.2s,SNR=7.9
EMIJ	**Mijas**	**1.69**	**337**	P	Pn	05 25 57.7	-1.6
0.0nm,0.1s,SNR=4.0
EMIJ				S	Sn	05 26 18.6	-2.8
2.6nm,0.2s,SNR=7.9
EGUA	**Guajares**	**1.85**	**10**	S	Sn	05 26 22.0	-3.5
0.4nm,0.3s,SNR=7.9
EBER	**Berja**	**2.08**	**24**	S	Sn	05 26 25.5	-5.6
0.4nm,0.2s,SNR=4.0
EQES	**Quesada**	**2.88**	**14**	P	Pn	05 26 15.8	0.0
0.1nm,0.1s,SNR=7.9
EQES				S	Sn	05 26 48.7	-2.2
0.4nm,0.2s,SNR=7.9
EMIN	**Mina Concepcio**	**3.52**	**322**	P	Pn	05 26 23.5	-1.0
0.1nm,0.1s,SNR=4.0
EMIN				S	Sn	05 27 04.1	-2.5
0.3nm,0.1s,SNR=7.9
EGRO	**El Granado**	**3.80**	**313**	P	Pn	05 26 27.4	-1.0
0.1nm,0.1s,SNR=7.9
EGRO				S	Sn	05 27 10.4	-3.2
1.7nm,0.2s,SNR=7.9
EBAD	**Badajoz**	**4.47**	**328**	P	Pn	05 26 37.7	+0.1
0.1nm,0.1s,SNR=4.0
EBAD				S	Sn	05 27 26.2	-3.9
0.6nm,0.1s,SNR=7.9

IDC ***01*** *05:37:07.0±3.9, 3793N×7345E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=87.1km s-min=30.3km az=141.0*
ISCJB ***01*** *05:37:13.2±2.1, 380N±0.1×737E±0.2, h67km±28km, mb3.5/3, Error ellipse: s-maj=33.4km s-min=8.0km az=113.7*
ISC 01 05:37:15.0±1.7, 380N±01×738E±02, h71km±24km, n12, σ0§50/13, mb3.5/3, 2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.66**	**335**	P	**Pn**	**05 38 42.1**	**+5.5**
1.5nm,0.2s,baz=130,slow=12,SNR=204
KK31				⇓S	**Sn**	**05 39 39.5**	**-0.7**
13nm,0.6s,baz=178,slow=24,SNR=5.5
MKAR	**Makanchi Array**	**10.81**	**33**	Pn	**Pn**	**05 39 47.4**	**+0.6**
0.2nm,0.3s,baz=214,slow=15,SNR=7.4
KOLN	**Koldanda**	**13.12**	**138**	*e*P	**Pn**	**05 40 18.8**	**+0.4**
3.8nm,0.3s
GKN	**Gorkha**	**13.51**	**134**	*e*P	**Pn**	**05 40 23.2**	**-0.3**
5.9nm,0.2s
KKN	**Kakani**	**14.04**	**133**	*e*P	**Pn**	**05 40 29.9**	**-0.5**
2.1nm,0.2s
DMN	**Daman**	**14.08**	**134**	*e*P	**Pn**	**05 40 30.3**	**-0.6**
PKI	**Pulchoki**	**14.28**	**133**	*e*P	**Pn**	**05 40 33.7**	**+0.1**
JIRN	**Jiri**	**14.67**	**131**	*e*P	**Pn**	**05 40 39.0**	**+0.4**
AB31	**Akbulak array**	**15.02**	**323**	⇓P	**Pn**	**05 40 44.1**	**+0.9**
0.7nm,0.6s,baz=130,slow=14,SNR=10
FINES	**FINESS Array B**	**37.51**	**324**	P	**P**	**05 44 21.9**	**0.0**
0.9nm,0.8s,mb3.7,baz=112,slow=11,SNR=3.4
ARCES	**ARCESS Array B**	**40.63**	**336**	P	**P**	**05 44 47.4**	**-0.6**
0.9nm,0.8s,mb3.7,baz=104,slow=7.6,SNR=5.5
TORD	**Torodi Ar. Bea**	**67.94**	**270**	P	**P**	**05 48 06.5**	**+0.3**
0.1nm,0.4s,mb3.0,baz=53,slow=5.8,SNR=4.8

ISCJB ***01*** *05:42:51.9±0.2, 1835N±002×11932E±003, h30km, mb4.9/97, MS4.3/35, Error ellipse: s-maj=4.9km s-min=3.1km az=146.9*
SZGRF ***01*** *05:42:51.3, 1861N×12070E, h33km, mb5.1, Luzon, Philippine Islands*
MOS ***01*** *05:42:52.3±0.7, 1833N×11929E, h33km, mb5.3/46, MS4.3/8, Error ellipse: s-maj=9.8km s-min=4.8km az=115.8*
BJI ***01*** *05:42:53.1, 1877N×119.10E, h9km, mB5.0, mb4.7, ML4.3, Ms4.7, Msz4.3*
NEIC ***01*** *05:42:53.4±0.1, 1834N×11932E, mb5.0/55, Error ellipse: s-maj=4.8km s-min=3.3km az=78.0*
GCMT ***01*** *05:42:53.4±0.2, 1830N×11920E, h12km, MW5.0/73, Moment Tensor Solution. s27,c32; s73,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.08; $M_{\theta\theta}$1.11±.07; $M_{\phi\phi}$1.63±.09; $M_{r\theta}$-0.68±.30; $M_{\theta\phi}$1.49±.06; $M_{\phi r}$1.93±.32; Best double couple: $M_0$3.43200×10^{16} NP1:$\varphi_0$61.00000°, δ39.00000°, λ-50.00000°. NP2: ϕ=194.00000°, δ61.00000°, λ-118.00000°. Principal axes: T 3.1040, Plg12.0000°, Azm303.0000°; N 0.6550, Plg24.0000°, Azm208.0000°; P -3.7600, Plg63.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***01*** *05:42:53.3±0.5, 1828N×11924E, h29km±3km, mb4.5/25, mb1 4.6/25, mb1mx4.5/27, mbtmp4.6/25, MS4.1/19, Ms1 4.1/19, ms1mx4.0/26 Error ellipse: s-maj=17.9km s-min=7.9km az=69.0*
ISC 01 05:42:53.8±0.2, 1837N±002×11935E±003, h32km, h32km±.5km: pP-P, n296, σ0§88/290, mb4.9/97, MS4.3/35, 21C-20D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**2.30**	**149**	⇑*e*P	**Pn**	**05 43 28.6**	**-0.8**
BCPH				*i* S	**Sn**	**05 43 57.3**	**+0.6**
CVP	**Callao Caves**	**2.45**	**105**	⇑*e*P	**Pn**	**05 43 31.0**	**-0.5**
PCPH	**Palayan**	**3.25**	**149**	⇓*e*P	**Pn**	**05 43 42.5**	**-0.1**
PCPH				*e*S	**Sn**	**05 44 22.2**	**+2.1**
TGY	**Tagaytay City**	**4.51**	**160**	⇑*e*P	**Pn**	**05 44 04.5**	**+4.7**
NACB	**Ninganchiao**	**6.15**	**20**	*e*Pn	**Pn**	**05 44 22.2**	**-0.1**
NACB				*e*Sn	**Sn**	**05 45 29.9**	**-1.6**
YHNB	**Yeheng**	**6.55**	**16**	*e*Pn	**Pn**	**05 44 27.3**	**-0.6**
YHNB				*e*Sn	**Sn**	**05 45 40.5**	**-1.0**
QZH	**Quanzhou**	**6.58**	**354**	⇓*i*P	**Pn**	**05 44 25.6**	**-2.8**
QZH				AP		05 44 32.3	
QZH				S	**Sn**	**05 45 35.4**	**-6.9**
QZH				Smax			
comp=N,120nm,0.6s
QZH				Smax			
comp=E,210nm,0.6s
QZH				LR	LR		
comp=N,5μm,16.5s
QZH				LR	LR		
comp=E,4μm,10.7s
QZH				LR	LR		
comp=Z,4μm,12.9s
TATO	**Taipei**	**6.87**	**16**	*e*Pn	**Pn**	**05 44 31.9**	**-0.4**
comp=Z,28nm,0.6s
TATO				*e*Sn	**Sn**	**05 45 49.9**	**+0.5**
GZH	**Guangzhou**	**7.32**	**311**	P	**Pn**	**05 44 35.4**	**-3.1**
GZH				S	**Sn**	**05 45 54.3**	**-6.2**
GZH				Smax			
comp=N,189nm,0.6s
GZH				Smax			
comp=E,205nm,0.9s
QIZ	**Qiongzhong**	**9.03**	**276**	*e*Pn	**Pn**	**05 44 56.7**	**-5.3**
comp=E,135nm,0.8s
JOW	**Kunigami**	**11.79**	**43**	Pn	**Pn**	**05 45 38.0**	**-1.7**
comp=E,1.9nm,0.3s,baz=228,slow=9.7,SNR=5.3
JOW				LR	LR	05 50 01.0	
comp=E,347nm,18.5s,baz=295,slow=36
SSE	**Sheshan**	**12.78**	**7**	*e*P	**Pn**	**05 45 55.6**	**+2.3**
SSE				S	**Sn**	**05 48 18.2**	**+3.8**
SSE				AMB	AMB		
comp=Z,24nm,0.7s
SSE				AMB	AMB		
comp=Z,94nm,3.7s
SSE				LR	LR		
comp=N,647nm,14.3s
SSE				LR	LR		
comp=E,1μm,14.3s
SSE				LR	LR		
comp=Z,764nm,12.1s
SSE	**Sheshan**	**12.78**	**7**	*e*P	**Pn**	**05 45 55.6**	**+2.3**
comp=Z,24nm,0.7s
SSE				S	**Sn**	**05 48 18.2**	**+3.8**
WHN	**Wuhan**	**12.95**	**340**	*e*P	**Pn**	**05 45 50.3**	**-5.2**
NJ2	**Nanjing**	**13.63**	**358**	*e*P	**Pn**	**05 46 07.2**	**+2.3**
NJ2				PP		05 46 18.2	
NJ2				S	**Sn**	**05 48 41.0**	**+5.8**
NJ2				AMB	AMB		
comp=Z,40nm,1.2s
NJ2				AMB	AMB		
comp=Z,210nm,4.0s
NJ2				LR	LR		
comp=N,2μm,12.9s
NJ2				LR	LR		
comp=E,2μm,11.4s
NJ2				LR	LR		
comp=Z,9μm,12.0s
GYA	**Guiyang**	**14.22**	**307**	⇑*i*P	**Pn**	**05 46 09.4**	**-3.5**
GYA				AP		05 46 15.0	
GYA				XP	sP	05 46 19.2	-13
GYA				S	**Sn**	**05 48 40.8**	**-8.6**
GYA				AMB	AMB		
comp=Z,20nm,0.9s
GYA				AMB	AMB		
comp=Z,120nm,4.2s
GYA				LR	LR		
comp=N,2μm,13.4s
GYA				LR	LR		
comp=E,1μm,13.8s
GYA				LR	LR		
comp=Z,1μm,14.6s
KKTK	**Khon Kaen**	**15.90**	**265**	P	**Pn**	**05 46 35.0**	**-0.2**
KMI	**Kunming**	**16.82**	**296**	⇑P	**Pn**	**05 46 50.4**	**+3.5**
KMI				AP	pP	05 46 56.4	-0.8
KMI				PP		05 47 02.9	
KMI				S	**Sn**	**05 49 55.1**	**+2.4**
KMI				AMB	AMB		
comp=Z,491nm,3.7s
KMI				LR	LR		
comp=N,3μm,12.2s
KMI				LR	LR		
comp=E,2μm,13.8s
KMI				LR	LR		
comp=Z,2μm,23.1s
KMI	**Kunming**	**16.82**	**296**	⇑P	**Pn**	**05 46 50.4**	**+3.5**
comp=Z,0.5nm,3.7s
KMI				pP	pP	05 46 56.4	-0.8
KMI				sP	sP	05 47 00.1	-1.2
KMI				PP		05 47 02.9	
KMI				PPP		05 47 11.0	
KMI				S	**Sn**	**05 49 55.1**	**+2.4**
KMI				sS	sS	05 50 04.3	-12
KMI				SS		05 50 14.8	
TIA	**Tai'an**	**17.89**	**354**	*e*P	**Pn**	**05 47 01.2**	**+1.1**
XAN	**Xi'an**	**18.18**	**331**	P	**Pn**	**05 47 01.7**	**-1.9**
XAN				AP	pP	05 47 11.6	-0.6
XAN				AMB	AMB		
comp=Z,23nm,1.8s
CD2	**Chengdu**	**18.86**	**314**	P	**Pn**	**05 47 10.2**	**-1.7**
CD2				AP	pP	05 47 16.8	-2.9
CD2				XP	sP	05 47 20.1	-3.7
CD2				PP		05 47 27.3	
CD2				S	**Sn**	**05 50 33.3**	**-8.7**
CD2				XS	sS	05 50 42.3	-15
CD2				SS		05 50 57.8	
CD2				AMB	AMB		
comp=Z,20nm,1.2s
CD2				AMB	AMB		
comp=Z,370nm,5.3s
CD2				LR	LR		
comp=N,1μm,13.2s
CD2				LR	LR		
comp=Z,930nm,16.8s
KSM	**Kuching**	**18.98**	**209**	*e*P	**Pn**	**05 47 13.6**	**+0.2**
KSM				*e*		05 47 21.2	
CHG	**Chiang Mai**	**19.34**	**275**	⇑P	**Pn**	**05 47 25.2**	**+7.4**
comp=Z,20nm,1.4s
CHTO	**Chiang Mai**	**19.34**	**275**	*e*P	**Pn**	**05 47 17.1**	**-0.7**
CHTO				pmax	pmax		
comp=Z,32nm,1.4s
CHTO	**Chiang Mai**	**19.34**	**275**	*e*P	**Pn**	**05 47 17.1**	**-0.7**
comp=Z,32nm,1.4s
CHTO				*e*		05 47 24.8	
DL2	**Dalian**	**20.56**	**5**	P	**P**	**05 47 34.7**	**+4.9**
DL2				AMB	AMB		
comp=Z,10.0nm,0.9s
DL2				LR	LR		
comp=N,310nm,16.4s,MS4.2
DL2				LR	LR		
comp=E,690nm,13.8s,MS4.2
DL2				LR	LR		
comp=Z,420nm,14.7s,MS3.9
BJT	**Baijiatuau**	**21.75**	**353**	*e*P	**P**	**05 47 43.1**	**+0.5**
BJT				*e*PP		05 47 52.5	
BJT				pmax	pmax		
comp=Z,197nm,1.1s
BJT	**Baijiatuau**	**21.75**	**353**	*e*P	**P**	**05 47 43.1**	**+0.5**
comp=Z,197nm,1.1s,mb5.5
BJT				*e*pP		05 47 52.5	
BJI	**Beijing**	**21.77**	**353**	P	**P**	**05 47 43.4**	**+0.6**
BJI				XP	sP	05 47 55.4	-0.1
BJI				AMB	AMB		
comp=Z,12nm,0.9s,mb4.3
BJI				AMB	AMB		
comp=Z,304nm,3.7s
BJI				LR	LR		
comp=N,487nm,15.1s,MS4.4
BJI				LR	LR		
comp=E,1μm,16.0s,MS4.4
BJI				LR	LR		
comp=Z,478nm,24.9s
BJI	**Beijing**	**21.77**	**353**	P	**P**	**05 47 43.4**	**+0.6**
comp=Z,12nm,0.9s,mb4.3
BJI				sP	sP	05 47 55.4	-0.1
BJI				S	**S**	**05 51 48.4**	**+6.6**
BJI				sS	sS	05 52 09.9	+14
BJI				LR	LR		
comp=Z,480nm,24.9s,MS3.8
LZH	**Lanzhou**	**22.34**	**325**	*e*P	**P**	**05 47 49.5**	**+0.6**
LZH				AP		05 47 56.0	
LZH				XP	sP	05 47 59.5	-2.1
LZH				PP		05 48 17.8	
LZH				PCP	PcP	05 51 45.3	+1.8
LZH				*e*S	**S**	**05 51 53.2**	**+0.3**
LZH				AMB	AMB		
comp=Z,51nm,1.0s,mb4.9
LZH				AMB	AMB		
comp=Z,236nm,4.3s
LZH				LR	LR		
comp=E,2μm,12.4s
LZH				LR	LR		
comp=Z,2μm,14.5s,MS4.7
LZH	**Lanzhou**	**22.34**	**325**	*e*P	**P**	**05 47 49.5**	**+0.6**
LZH				*SP	sP	05 47 59.5	-2.1
LZH						05 48 17.8	
LZH						05 51 45.3	
LZH				*e*S	**S**	**05 51 53.2**	**+0.3**
LZH				SS		05 52 30.0	
LZH				pmax	pmax		
comp=Z,51nm,1.0s,mb4.9
LZH				MLR	MLR		
comp=Z,2μm,14.5s,MS4.7
LZH	**Lanzhou**	**22.34**	**325**	*e*P	**P**	**05 47 49.5**	**+0.6**
comp=Z,51nm,1.0s,mb4.9
LZH				pP		05 47 56.0	
LZH				sP	sP	05 47 59.5	-2.1
LZH				PP		05 48 17.8	
LZH				PcP	PcP	05 51 45.3	+1.8
LZH				*e*S	**S**	**05 51 53.2**	**+0.3**
LZH				sS	sS	05 52 01.0	-5.7
LZH				SS		05 52 30.0	
LZH				LR	LR		
comp=Z,2μm,14.5s,MS4.7
HHC	**Hu-ho-hao-te**	**23.39**	**345**	*e*P	**P**	**05 48 00.9**	**+1.0**
HHC				AP		05 48 07.9	
HHC				XP	sP	05 48 11.5	-1.1
HHC				PP		05 48 32.6	
HHC				PCP	PcP	05 51 49.2	+3.6
HHC				AMB	AMB		
comp=Z,33nm,0.7s,mb4.9
HHC				AMB	AMB		
comp=Z,254nm,4.5s
HHC				LR	LR		
comp=N,746nm,16.7s,MS4.3
HHC				LR	LR		
comp=E,419nm,13.2s,MS4.3
HHC				LR	LR		
comp=Z,585nm,15.3s,MS4.2
JHJ	**Hachijo jima 2**	**23.49**	**47**	LR	LR	05 55 60.0	
comp=Z,160nm,21.4s,MS3.5,baz=9.0,slow=33
BTO	**Baotou**	**23.57**	**342**	*e*P	**P**	**05 48 01.1**	**-0.5**
SNY	**Shenyang**	**23.66**	**8**	⇓P	**P**	**05 48 02.2**	**-0.3**
SNY				S	**S**	**05 52 18.7**	**+3.8**
SNY				AMB	AMB		
comp=Z,51nm,0.8s,mb5.0
SNY				AMB	AMB		
comp=Z,120nm,9.6s
SNY				LR	LR		
comp=N,490nm,13.2s,MS4.6
SNY				LR	LR		
comp=E,1μm,13.2s,MS4.6
SNY				LR	LR		
comp=Z,679nm,11.4s,MS4.4
MAJO	**Matsushiro**	**24.58**	**39**	*e*P	**P**	**05 48 10.8**	**0.0**
MAJO				*e*PP		05 48 19.1	
MAJO				pmax	pmax		
comp=Z,70nm,0.7s,mb5.3
MAJO	**Matsushiro**	**24.58**	**39**	*e*P	**P**	**05 48 10.8**	**0.0**
comp=Z,7.4nm,0.7s,mb4.3
MAJO				*e*pP		05 48 19.1	
MAT	**Matsushiro**	**24.58**	**39**	P	**P**	**05 48 10.0**	**-0.8**
MAT				*e*S	**S**	**05 52 20.0**	**-10**
MJAR	**Matsushiro Arr**	**24.58**	**39**	P	**P**	**05 48 10.7**	**-0.1**
comp=Z,5.6nm,0.9s,mb4.1,baz=231,slow=7.9,SNR=18
GUMO	**Guam**	**24.98**	**97**	LR	LR	05 55 53.7	
comp=Z,440nm,21.6s,MS3.9,baz=304,slow=31
CN2	**Changchun**	**25.88**	**10**	*e*P	**P**	**05 48 22.0**	**-0.6**
CN2				*e*AP	pP	05 48 32.7	+0.9
CN2				*e*S	**S**	**05 52 48.4**	**-1.9**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5
CN2				AMB	AMB		
comp=Z,200nm,3.0s
CN2				LR	LR		
comp=N,600nm,13.0s,MS4.7
CN2				LR	LR		
comp=E,1μm,13.0s,MS4.7
CN2				LR	LR		
comp=Z,600nm,14.0s,MS4.3
VLA	**Vladivostok**	**26.87**	**21**	*ce*P	**P**	**05 48 35.7**	**+4.2**
VLA				*i* S	**S**	**05 53 11.7**	**+5.7**
VLA				pmax	pmax		
comp=Z,112nm,1.5s,mb5.2
VLA				MLR	MLR		
comp=Z,300nm,13.0s,MS4.0
GTA	**Gaotai**	**26.95**	**325**	*e*P	**P**	**05 48 32.8**	**+0.5**
GTA				AP	pP	05 48 39.9	-1.6
GTA				XP	sP	05 48 43.5	-1.9
GTA				PCP	PcP	05 51 55.0	+1.4
GTA				S	**S**	**05 53 07.2**	**-0.1**
GTA				XS	sS	05 53 19.7	-2.9
GTA				SCP	ScP	05 55 35.7	+4.3
GTA				AMB	AMB		
comp=Z,4.0nm,1.2s
GTA				AMB	AMB		
comp=Z,93nm,5.3s
GTA				LR	LR		
comp=N,542nm,15.6s,MS4.6
GTA				LR	LR		
comp=E,1μm,14.4s,MS4.6
GTA				LR	LR		
comp=Z,1μm,17.5s,MS4.6
MDJ	**Mudanjiang**	**27.55**	**16**	P	**P**	**05 48 37.9**	**+0.3**
MDJ				AP	pP	05 48 45.2	-1.7
MDJ				XP	sP	05 48 47.5	-3.3
MDJ				PCP	PcP	05 51 56.1	+1.1
MDJ				S	**S**	**05 53 21.1**	**+4.4**
MDJ				XS	sS	05 53 30.1	-1.9
MDJ				SS		05 54 37.0	
MDJ				SCP	ScP	05 55 37.0	+3.8
MDJ				AMB	AMB		
comp=Z,12nm,1.4s,mb4.3
MDJ				AMB	AMB		
comp=Z,117nm,4.1s
MDJ				LR	LR		
comp=N,75nm,19.8s,MS3.8
MDJ				LR	LR		
comp=E,205nm,17.8s,MS3.8
MDJ				LR	LR		
comp=Z,149nm,18.8s,MS3.6
MDJ	**Mudanjiang**	**27.55**	**16**	*e*P	**P**	**05 48 38.1**	**+0.5**
comp=Z,4.5nm,0.6s,mb4.3
LSA	**Lhasa**	**28.04**	**299**	P	**P**	**05 48 43.8**	**+1.7**
LSA	**Lhasa**	**28.04**	**299**	*e*P	**P**	**05 48 43.4**	**+1.3**
LSA				*e*PP	pP	05 48 52.3	+1.0
LSA				pmax	pmax		
comp=Z,34nm,1.0s,mb4.9
LSA	**Lhasa**	**28.04**	**299**	*e*P	**P**	**05 48 43.4**	**+1.3**
comp=Z,34nm,1.0s,mb4.9
LSA				*e*pP	pP	05 48 52.3	+0.9
SONM	**Songino Array**	**31.24**	**343**	P	**P**	**05 49 11.0**	**+0.6**
comp=Z,3.8nm,0.9s,mb4.2,baz=163,slow=8.6,SNR=22
SONM				PcP	PcP	05 52 04.9	+0.5
comp=Z,0.7nm,0.5s,baz=183,slow=1.4,SNR=4.0
SONM				LR	LR	06 01 33.1	
comp=Z,603nm,19.6s,MS4.3,baz=156,slow=36
SONM	**Songino Array**	**31.24**	**343**	P	**P**	**05 49 11.0**	**+0.6**
SONM						05 52 04.9	
GUN	**Gumba**	**32.12**	**293**	*e*P	**P**	**05 49 18.8**	**+0.7**
comp=Z,124nm,1.1s,mb5.7
ASAJ	**Asahikawa**	**32.25**	**32**	P	**P**	**05 49 19.9**	**+0.6**
comp=Z,5.4nm,0.7s,mb4.5,baz=238,slow=15,SNR=7.0
KLR	**Kul'dur**	**32.38**	**15**	*e*P	**P**	**05 49 18.8**	**-1.6**
PKI	**Pulchoki**	**32.48**	**293**	*e*P	**P**	**05 49 21.2**	**-0.1**
comp=Z,60nm,1.2s,mb5.3
KKN	**Kakani**	**32.62**	**293**	*e*P	**P**	**05 49 22.7**	**+0.1**
comp=Z,64nm,1.1s,mb5.5
DMN	**Daman**	**32.75**	**293**	*e*P	**P**	**05 49 23.5**	**-0.1**
comp=Z,92nm,1.2s,mb5.6
GKN	**Gorkha**	**33.22**	**293**	*e*P	**P**	**05 49 27.2**	**-0.6**
comp=Z,115nm,1.1s,mb5.7
KAKA	**Kakadu**	**33.47**	**156**	⇓*i*P	**P**	**05 49 28.2**	**-1.8**
comp=Z,33nm,0.8s,mb5.3
KAKA				*i* pP	pP	05 49 37.1	-2.2
CIT	**Chita**	**33.89**	**354**	*e*P	**P**	**05 49 34.2**	**+0.6**
KOLN	**Koldanda**	**34.09**	**293**	*e*P	**P**	**05 49 35.4**	**+0.1**
comp=Z,118nm,1.4s,mb5.6
YSS	**Yuzh-Sakhalins**	**34.39**	**29**	⇑*i*P	**P**	**05 49 38.9**	**+0.9**
YSS				*e*	pP	05 49 48.0	+0.7

YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
ZAK Zakamensk 34.43 342 ⇓*i*P **P 05 49 38.2 -0.1**
ZAK *e* 05 52 12.9
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TLY Talaya 35.48 343 *e*P **P 05 49 47.2 -0.2**
TLY *e* 05 51 04.9
TLY *e*S **S 05 55 27.7 +7.2**
TLY *e*SS SS 05 57 45.6 -10
TLY pmax pmax
comp=Z,13nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,387nm,18.0s,MS4.2
TLY Talaya 35.48 343 *e*P **P 05 49 47.8 +0.5**
TLY *e*pP pP 05 49 57.5 +0.7
IRK Irkutsk 35.82 344 *e*P **P 05 49 50.7 +0.4**
IRK *e* 05 51 07.2
IRK pmax pmax
comp=Z,41nm,1.4s,mb5.2
WMQ Urumqi 36.75 321 *e*P **P 05 50 02.3 +4.1**
WMQ AP pP 05 50 09.5 +1.9
WMQ XP sP 05 50 13.0 +1.5
WMQ PP PP 05 51 27.0 +4.8
WMQ PPP 05 51 47.5
WMQ S **S 05 55 44.0 +4.1**
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,143nm,5.1s
WMQ LR LR
comp=N,3µm,14.6s,MS5.3
WMQ LR LR
comp=E,2µm,16.0s,MS5.3
WMQ LR LR
comp=Z,3µm,17.2s,MS5.1
FITZ Fitzroy Crossi 36.76 170 *e*P **P 05 49 57.2 -1.1**
comp=Z,12nm,0.7s,mb4.8
FITZ *i*pP pP 05 50 05.9 -1.8
FITZ Fitzroy Crossi 36.76 170 P **P 05 49 56.7 -1.6**
comp=Z,7.0nm,0.7s,mb4.6,baz=354,slow=5.5
FITZ pP pP 05 50 06.1 -1.7
comp=Z,22nm,1.0s,baz=3.3,slow=9.8,SNR=4.5
CLNS Chul'man 38.63 5 *e*P **P 05 50 14.9 +0.8**
CLNS pmax pmax
comp=Z,15nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,11.0s,MS4.4
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.5
CLNS MLR MLR
comp=E,400nm,12.0s,MS4.5
HYB Hyderabad 38.77 275 *i*P **P 05 50 16.0 +0.7**
HYB Hyderabad 38.77 275 *e*P **P 05 50 16.0 +0.7**
PMG Port Moresby 38.92 133 *e*P **P 05 50 16.9 +0.4**
PMG *e**PP pP 05 50 26.3 +0.3
PMG pmax pmax
comp=Z,41nm,1.1s
PMG Port Moresby 38.92 133 *e*P **P 05 50 16.9 +0.3**
comp=Z,41nm,1.1s,mb5.1
PMG *e*pP pP 05 50 26.3 +0.3
MBWA Marble Bar 39.28 179 *e*P **P 05 50 19.8 +0.2**
comp=Z,8.3nm,0.7s,mb4.6
BOD Bodaibo 39.59 356 *e*P **P 05 50 22.1 0.0**
BOD pmax pmax
comp=Z,80nm,1.5s,mb5.2
COEN Coen 39.79 142 *e*P **P 05 50 22.8 -1.0**
comp=Z,12nm,0.7s,mb4.7
WRAB Tennant Creek 40.81 158 P **P 05 50 30.9 -1.3**
comp=Z,224nm,1.0s,mb5.8,SNR=9.3
WRAB Tennant Creek 40.81 158 P **P 05 50 31.0 -1.2**
WRA Warramunga Arr 40.81 158 P **P 05 50 30.8 -1.4**
comp=Z,10nm,0.7s,mb4.6,baz=340,slow=9.1,SNR=64
WRA pP pP 05 50 39.6 -2.2
comp=Z,26nm,0.9s,baz=341,slow=9.1,SNR=22
WRA PcP PcP 05 52 33.4 +0.6
comp=Z,1.6nm,0.6s,baz=341,slow=3.0,SNR=4.5
WRA pPcP 05 52 42.3
comp=Z,5.0nm,0.8s,baz=340,slow=3.3,SNR=6.7
WRA S **S 05 56 39.3 -1.8**
comp=Z,0.7nm,0.9s,baz=341,slow=15,SNR=4.3
WRA LR LR 06 09 22.0
comp=Z,116nm,18.9s,MS3.8,baz=280,slow=39
WRA Warramunga Arr 40.81 158 P **P 05 50 30.8 -1.4**
WRA *PP pP 05 50 39.6 -2.1
WRA 05 52 33.4
WRA 05 52 42.3
WRA S **S 05 56 39.3 -1.8**
WB2 Warramunga Arr 40.82 158 *e*P **P 05 50 31.4 -0.9**
WB2 *e*pP pP 05 50 40.0 -1.8
MKAR Makanchi Array 41.56 321 P **P 05 50 39.3 +0.9**
comp=Z,3.1nm,0.9s,mb4.0,baz=113,slow=9.3,SNR=12
MKAR pP pP 05 50 46.9 -0.9
comp=Z,5.6nm,0.9s,baz=122,slow=6.9,SNR=11
MKAR PcP PcP 05 52 34.7 -0.6
comp=Z,3.5nm,0.7s,baz=103,slow=3.9,SNR=6.5
MKAR Makanchi Array 41.56 321 P **P 05 50 39.3 +0.9**
MKAR pP pP 05 50 46.9 -1.0
MKAR PcP PcP 05 52 34.7 -0.6
AS31 Alice Springs 44.12 161 *e*P **P 05 50 59.3 +0.1**
AS31 *e*pP pP 05 51 08.1 -0.6
ASAR Alice Springs 44.13 161 P **P 05 50 58.8 -0.4**
comp=Z,11nm,0.8s,mb4.7,baz=338,slow=6.8,SNR=78
ASAR pP pP 05 51 07.2 -1.5
comp=Z,22nm,0.9s,baz=342,slow=7.0,SNR=25
ASAR PcP PcP 05 52 43.8 -0.1
comp=Z,3.2nm,0.8s,baz=345,slow=3.6,SNR=4.3
ASAR pPcP 05 52 53.5
comp=Z,3.3nm,0.7s,baz=342,slow=2.2,SNR=4.8
ASAR S **S 05 57 29.5 -0.4**
comp=Z,0.7nm,1.0s,baz=359,slow=23,SNR=4.0
ASAR LR LR 06 10 26.2
comp=Z,270nm,18.9s,MS4.2,baz=341,slow=38
ASAR Alice Springs 44.13 161 P **P 05 50 58.8 -0.4**
ASAR *PP pP 05 51 07.3 -1.4
ASAR 05 52 43.8
ASAR S **S 05 57 29.5 -0.4**
YAK Yakutsk 44.22 7 *e*P **P 05 50 59.9 0.0**
YAK pmax pmax
comp=Z,25nm,0.7s,mb5.0
YAK Yakutsk 44.22 7 *e*P **P 05 50 59.9 0.0**
comp=Z,25nm,0.7s,mb5.1
FRU Bishkek 44.89 313 *e*P pP 05 51 16.0 +1.1
AAK Ala-Archa 44.91 313 *e*P **P 05 51 05.4 -0.1**
AAK *e**PP pP 05 51 14.6 -0.4
AAK *e* 05 52 45.2
AAK pmax pmax
comp=Z,20nm,0.9s,mb5.0
AAK Ala-Archa 44.91 313 *e*P **P 05 51 05.3 -0.1**
comp=Z,2.3nm,0.9s,mb4.0
AAK *e*pP pP 05 51 14.6 -0.4
AAK *e*PcP PcP 05 52 45.2 -1.3
NVS Novosibirsk 45.63 332 *e*P **P 05 51 12.0 +0.8**
CTA Charters Tower 46.44 144 *e*P **P 05 51 18.8 +1.2**
comp=Z,29nm,0.8s,mb5.2
CTA *i*pP pP 05 51 27.8 +0.6
CTA Charters Tower 46.44 144 P **P 05 51 18.4 +0.8**
comp=Z,42nm,0.9s,mb5.4,baz=324,slow=10,SNR=26
CTA pP pP 05 51 28.0 +0.8
comp=Z,70nm,0.9s,baz=336,slow=9.5,SNR=17
CTA Charters Tower 46.44 144 *e*P **P 05 51 18.8 +1.2**
CTA *i* *PP pP 05 51 27.8 +0.6
CTA pmax pmax
comp=Z,29nm,0.8s
CTAO Charters Tower 46.44 144 *e*P **P 05 51 18.3 +0.7**
CTAO *e**PP pP 05 51 27.9 +0.7
CTAO pmax pmax
comp=Z,31nm,0.8s,mb5.3
CTAO Charters Tower 46.44 144 *e*P **P 05 51 18.3 +0.7**
comp=Z,31nm,0.8s,mb5.3
CTAO *e*pP pP 05 51 27.9 +0.7
MA2 Magadan 47.00 21 *e*P **P 05 51 22.4 +0.5**
MA2 *e**PP pP 05 51 32.2 +0.7
MA2 pmax pmax
comp=Z,33nm,0.9s,mb5.3
MA2 Magadan 47.00 21 *e*P **P 05 51 22.4 +0.5**
comp=Z,33nm,0.9s,mb5.3
MA2 *e*pP pP 05 51 32.2 +0.7
KK31 Karatay Array 47.85 312 *i*P **P 05 51 28.9 +0.4**
KK31 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
HNR Honiara 48.66 121 LR LR 06 09 30.8
comp=Z,331nm,21.7s,MS4.3,baz=359,slow=33
FORT Forrest 49.57 170 *e*P **P 05 51 43.4 +1.6**
comp=Z,26nm,0.7s,mb5.4
KLBR Kellerberrin 49.69 182 *e*P **P 05 51 41.9 -0.8**
comp=Z,32nm,0.7s,mb5.5
SEY Seymchan 50.01 19 ⇓*e*P **P 05 51 46.9 +1.8**
NWAO Narrogin (SRO) 51.04 182 P **P 05 51 53.4 +0.5**
comp=Z,28nm,0.8s,mb5.2,baz=338,slow=11,SNR=3.6
NWAO pP pP 05 52 01.4 -1.2
comp=Z,28nm,0.8s,baz=354,slow=7.0,SNR=7.3
NWAO Narrogin (SRO) 51.04 182 *e*P **P 05 51 53.0 +0.1**
NWAO *e**PP pP 05 52 01.2 -1.4
NWAO pmax pmax
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 51.04 182 *e*P **P 05 51 53.0 +0.1**
comp=Z,28nm,0.9s,mb5.2
NWAO *e*pP pP 05 52 01.2 -1.4
BRVK Borovoye 51.30 324 P **P 05 51 55.3 +0.5**
comp=Z,79nm,0.9s,mb5.6,SNR=7.2
BRVK Borovoye 51.30 324 *e*P **P 05 51 55.0 +0.2**
BRVK *e**PP pP 05 52 04.3 -0.2
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 51.30 324 *e*P **P 05 51 55.0 +0.2**
comp=Z,8.9nm,0.8s,mb4.8
BRVK *e*pP pP 05 52 04.2 -0.2
ZRNK Zerenda 51.97 324 *i*P **P 05 52 00.0 +0.2**
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.8
ZRNK Zerenda 51.97 324 *e*P **P 05 51 59.9 +0.1**
comp=Z,19nm,1.1s,mb4.9
ZRNK *e*pP pP 05 52 09.1 -0.4
STKA Stephens Creek 54.32 157 *e*P **P 05 52 16.9 -0.2**
comp=Z,11nm,0.7s,mb4.9
STKA Stephens Creek 54.32 157 P **P 05 52 17.3 +0.2**
comp=Z,11nm,0.9s,mb4.8,baz=341,slow=7.4,SNR=12
STKA LR LR 06 19 12.4
comp=Z,171nm,18.9s,MS4.1,baz=126,slow=40
BILL Bilibino 57.72 19 *e*P **P 05 52 41.2 -0.2**
BILL *e* 05 53 34.4
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 58.81 325 P **P 05 52 49.0 0.0**
comp=Z,132nm,1.0s,mb5.9,SNR=5.3
ARU Arti 58.81 325 ⇓*i*P **P 05 52 47.9 -1.1**
ARU *e* pP 05 52 57.7 -1.2
ARU *e* 05 53 34.5
ARU *e* 05 54 57.9
ARU *e*S **S 06 00 52.8 +0.6**
ARU *e* 06 02 38.7
ARU *e*SS SS 06 04 53.3 +7.6
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.3
ARU MLR MLR
comp=N,70nm,20.0s,MS4.3
ARU MLR MLR
comp=E,200nm,16.0s,MS4.3
ARU Arti 58.81 325 *e*P **P 05 52 48.9 -0.2**
comp=E,48nm,1.3s,mb5.4
ARU *e*pP pP 05 52 57.9 -0.9
ORR Orenburg 60.07 319 *e*P **P 05 52 58.1 +0.3**
ORR *i* pP 05 53 07.1 -0.5
ORR pmax pmax
comp=Z,20nm,0.8s,mb5.2
CNB Canberra Magne 60.51 152 *e*P **P 05 53 02.2 +1.5**
comp=Z,13nm,0.9s,mb5.1
DZM Mont Dzumac 61.14 129 P **P 05 53 07.0 +2.0**
comp=Z,3.2nm,0.7s,mb4.6,baz=288,slow=17,SNR=2.9
DZM LR LR 06 20 23.4
comp=Z,116nm,18.3s,MS4.1,baz=360,slow=37
GNI Garni 66.77 306 P **P 05 53 42.9 +0.9**
comp=Z,2.9nm,0.4s,mb4.7,baz=20,slow=12,SNR=3.3
GNI LR LR 06 27 46.9
comp=Z,142nm,19.7s,MS4.2,baz=128,slow=40
GNI Garni 66.77 306 *e*P **P 05 53 42.8 +0.7**
GNI *e**PP pP 05 53 53.0 +1.0
GNI pmax pmax
comp=Z,28nm,1.1s
GNI Garni 66.77 306 *e*P **P 05 53 42.8 +0.7**
comp=Z,28nm,1.1s,mb5.2
GNI *e*pP pP 05 53 53.0 +1.0
ZEI Tsey 67.19 309 *e*P **P 05 53 43.4 -1.3**
ZEI *e**PP pP 05 53 53.9 -0.8
ZEI *i* 05 56 11.8
ZEI pmax pmax
comp=Z,14nm,0.9s,mb5.0
KIV Kislovodsk 67.98 311 ⇓*e*P **P 05 53 50.5 +0.8**
KIV pmax pmax
comp=Z,43nm,1.3s,mb5.3
KIV MLR MLR
comp=Z,500nm,23.0s,MS4.7
KIV Kislovodsk 67.98 311 *e*P **P 05 53 50.5 +0.7**
comp=Z,21nm,0.7s,mb5.3
KIV *e*pP pP 05 54 00.2 +0.5
VRHR Novokhopersk 68.26 318 *e*P **P 05 53 51.1 -0.3**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.4s
VOR Voronezh 69.74 319 P **P 05 54 01.0 +0.4**
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.3
VRSR Storozhevoye 69.78 319 *e*P **P 05 54 00.3 -0.6**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.2s
MOS Moscow 70.39 324 *e*P **P 05 54 03.8 -0.8**
MOS *e* pP 05 54 13.2 -1.4
OBN Obninsk 71.04 323 *i*P **P 05 54 07.7 -0.9**
OBN *e**PP pP 05 54 18.7 +0.1
OBN *e* 05 56 46.8
OBN *e*S S 06 03 23.3 +0.7
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
OBN Obninsk 71.04 323 *e*P **P 05 54 08.1 -0.5**
TTA Tatalina 71.39 29 *e*P **P 05 54 11.2 +0.5**
APA Apatity 71.64 336 ⇑*i*P **P 05 54 11.3 -0.9**
APA *i* 05 54 29.0
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
APA MLR MLR
comp=Z,800nm,16.0s,MS5.1
SVW2 Sparrevohn 71.74 31 *e*P **P 05 54 13.4 +0.6**
IMA2 Indian Mountai 72.16 25 *e*P **P 05 54 15.8 +0.5**
JOF Joensuu 72.94 331 *e*p **P 05 54 18.6 -1.4**
comp=Z,9.5nm,0.7s,mb4.8
KDAK Kodiak Island 73.65 34 P **P 05 54 24.2 +0.1**
comp=Z,6.0nm,0.8s,mb4.6,baz=297,slow=1.8,SNR=5.9
KEV Kevo 73.73 339 *e*p **P 05 54 23.7 -1.0**
comp=Z,4.0nm,0.6s,mb4.5
KEV Kevo 73.73 339 *e*P **P 05 54 23.7 -1.0**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARCES ARCESS Array B 74.29 339 P **P 05 54 27.5 -0.4**
comp=Z,4.4nm,0.6s,mb4.5,baz=71,slow=7.7,SNR=25
ARCES pP pP 05 54 36.3 -1.6
comp=Z,1.3nm,0.6s,baz=80,slow=7.5,SNR=4.5
ARCES LR LR 06 27 35.6
comp=Z,189nm,20.9s,MS4.4,baz=84,slow=36
ARCES ARCESS Array B 74.29 339 P **P 05 54 27.5 -0.4**
ARCES *PP pP 05 54 36.3 -1.7
ARE0 ARCESS Array S 74.29 339 *e*P **P 05 54 27.3 -0.6**
MCK McKinley 74.47 27 *e*P **P 05 54 29.0 +0.1**
MCK pmax pmax
comp=Z,35nm,1.5s,mb5.1
MCK McKinley 74.47 27 *e*P **P 05 54 29.0 0.0**
comp=Z,35nm,1.5s,mb5.1
COLA College 74.73 26 ⇑*e*P **P 05 54 30.6 +0.1**
COLA College 74.73 26 *e*P **P 05 54 29.9 -0.6**
comp=Z,9.7nm,0.9s,mb4.7
PMR Palmer 74.75 30 *e*P **P 05 54 30.1 -0.5**
PMR pmax pmax
comp=Z,15nm,0.9s,mb4.9
PMR Palmer 74.75 30 *e*P **P 05 54 30.1 -0.5**
comp=Z,15nm,0.9s,mb4.9
BRTR Keskin Array B 75.28 307 P **P 05 54 33.6 +0.1**
comp=Z,0.9nm,0.8s,baz=90,slow=1.2,SNR=5.2
KAF Kangasniemi 75.36 331 *ep* **P 05 54 32.9 -1.2**
comp=Z,14nm,0.6s,mb5.1,baz=75,slow=5.3
KAF Kangasniemi 75.36 331 *e*P **P 05 54 32.9 -1.2**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.1
FINES FINESS Array B 75.60 330 P **P 05 54 34.9 -0.6**
comp=Z,5.6nm,0.6s,mb4.7,baz=57,slow=6.2,SNR=51
FINES LR LR 06 29 37.5
comp=Z,214nm,18.5s,MS4.5,baz=175,slow=37
AKASG Malin Array Be 76.09 319 P **P 05 54 37.3 -1.0**
comp=Z,5.4nm,0.6s,mb4.6,baz=66,slow=5.6,SNR=20
AKASG LR LR 06 32 46.2
comp=Z,100nm,18.5s,MS4.2,baz=100,slow=39
AKBB Malin Array Si 76.09 319 *e*P **P 05 54 37.3 -1.0**
AKBB *e**PP pP 05 54 46.1 -2.3
DIV Divide 76.43 30 *e*P **P 05 54 40.9 +0.7**
comp=Z,40nm,0.8s,mb5.4
DIV *e*pP pP 05 54 50.1 -0.2
EYAK Cordova Ski Ar 76.58 30 *e*P **P 05 54 41.4 +0.4**
EYAK *e*pP pP 05 54 52.2 +1.1
MENT Mentasta 76.94 28 *e*P **P 05 54 43.6 +0.6**
EGAK Eagle 77.54 26 *e*P **P 05 54 46.6 +0.2**
DAWY Dawson 78.48 26 *e*P **P 05 54 51.9 +0.3**
DAWY *e*pP pP 05 55 01.4 -0.4
VRI Vrincioaia 78.83 315 ⇑*i*P **P 05 54 54.3 +0.7**
VRI Vrincioaia 78.83 315 ⇑P **P 05 54 54.3 +0.8**
PLOR Plostina 78.89 315 ⇓*i*P **P 05 54 54.8 +0.9**
SUW Suwalki 78.89 323 *e*P **P 05 54 53.5 -0.4**
INK Inuvik 79.24 21 *e*P **P 05 54 55.8 0.0**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 79.24 21 *e*P **P 05 54 55.8 0.0**
comp=Z,18nm,1.3s,mb4.8
BURAR Bucovina Array 79.38 317 ⇓*i*P **P 05 54 57.0 +0.4**
BURAR Bucovina Array 79.38 317 ⇓P **P 05 54 57.0 +0.4**
MLR Muntele Rosu 79.46 314 ⇑*i*P **P 05 54 58.0 +1.0**
LVV L'vov 79.54 319 *e*P pP 05 55 09.5 +1.9
LVV *e* 05 58 04.1
LVV *e* 05 59 57.3
SNX Sinaia 79.79 314 ⇓*i*P **P 05 54 59.4 +0.6**
SNX Sinaia 79.79 314 ⇓P **P 05 54 59.4 +0.6**
VOIR 80.08 315 ⇓*i*P **P 05 54 58.4 -2.0**
VOIR 80.08 315 ⇓P **P 05 54 58.4 -1.9**
KWP Kalwaria 80.41 319 *e*P **P 05 55 02.8 +0.6**
KOLS Kolonicke sedl 80.89 318 *e*P **P 05 55 04.5 -0.2**
UZH Uzhgorod 80.97 318 ⇓*i*P **P 05 55 05.0 -0.1**
UZH *e* 05 55 20.6
DRGR 81.25 316 ⇑*i*P **P 05 55 06.8 +0.2**
DRGR 81.25 316 ⇑P **P 05 55 06.8 +0.2**
STHS Stebnicka Huta 81.39 319 *e*P **P 05 55 07.7 +0.3**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 81.39 319 *e*P **P 05 55 07.7 +0.3**
comp=Z,3.6nm,0.9s,mb4.3
CRVS Cervenica-Dubn 81.41 319 *e*P **P 05 55 07.9 +0.4**
SKAG Skagway 81.89 30 *e*P **P 05 55 11.7 +1.7**
comp=Z,26nm,1.0s,mb5.1
NIE Niedzica 81.96 319 *e*P **P 05 55 11.0 +0.6**
OJC Ojcow 82.02 320 *e*P **P 05 55 10.6 -0.1**
KECS Kecovo 82.16 318 *e*P **P 05 55 11.6 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 82.16 318 *e*P **P 05 55 11.6 +0.2**
comp=Z,3.7nm,0.9s,mb4.3
VTS Vitosha 82.17 312 ⇑*i*P **P 05 55 12.1 +0.6**
VTS Vitosha 82.17 312 ⇑P **P 05 55 12.1 +0.6**
NB2 NORSAR Subarra 82.55 332 P **P 05 55 11.8 -1.7**
comp=Z,7.4nm,0.8s,mb4.8,baz=66,slow=5.3
NB2 NORSAR Subarra 82.55 332 P **P 05 55 11.8 -1.7**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
NOA NORSAR Array B 82.55 332 P **P 05 55 12.4 -1.0**
comp=Z,4.9nm,0.7s,mb4.7,baz=66,slow=5.1,SNR=25
NOA LR LR 06 34 49.4
comp=Z,186nm,20.0s,MS4.5,baz=45,slow=38
NAO01 NORSAR Array S 82.77 332 *e*P **P 05 55 13.6 -1.1**
comp=Z,6.3nm,0.9s,mb4.7
KMBO Kilima Mbogo 82.85 266 P **P 05 55 16.1 +1.1**
comp=Z,1.2nm,0.3s,mb4.4,baz=73,slow=24,SNR=6.7
OKC Ostrava-Krasne 83.15 320 *e*P **P 05 55 16.1 -0.5**
VYHS Vyhne 83.19 319 *e*PKP sP 05 55 32.4 +1.7
VYHS Vyhne 83.19 319 *e*P **P 05 55 17.2 +0.4**
VYHS *e* 05 55 32.4
VYHS pmax pmax
comp=Z,16nm,2.1s,mb4.7
VYHS Vyhne 83.19 319 *e*P **P 05 55 17.2 +0.4**
comp=Z,16nm,2.1s,mb4.7
VYHS *e* 05 55 32.4
MORC Moravsky Berou 83.54 320 ⇓*i*P **P 05 55 19.0 +0.4**
MORC Moravsky Berou 83.54 320 ⇓P **P 05 55 19.0 +0.4**
VRAC Vranov 84.29 320 ⇑*i*P **P 05 55 23.2 +0.8**
DLBC Dease Lake 84.82 30 P **P 05 55 26.5 +1.4**
comp=Z,9.6nm,0.9s,mb4.9,baz=321,slow=7.9,SNR=12
PVCC Panska Ves 85.04 322 *e*P **P 05 55 26.2 0.0**
PVCC *e*pP pP 05 55 36.6 +0.2
PRU Pruhonice 85.27 321 *e*P **P 05 55 27.1 -0.2**
PRU *e*pP pP 05 55 37.5 -0.1
BRG Berggiesshubel 85.27 322 ⇑*i*P **P 05 55 27.4 0.0**
comp=Z,8.4nm,1.0s,mb4.8
BRG *e* pP 05 55 37.6 +0.1
comp=Z,10nm,1.5s
BRG Berggiesshubel 85.27 322 ⇑*i*P **P 05 55 27.4 0.0**
BRG *e* pP 05 55 37.7 +0.1
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CLL Collm 85.64 323 ⇓*i*P **P 05 55 28.5 -0.7**
comp=Z,15nm,0.9s,mb5.2
CLL *e*pP pP 05 55 38.0 -1.4
CLL Collm 85.64 323 ⇓*i*P **P 05 55 28.5 -0.7**
comp=Z,15nm,0.9s,mb5.2
CLL *e*pP pP 05 55 38.0 -1.4
CLL LmV 06 37 00.0
comp=Z,200nm,19.3s
KHC Kasperske Hory 86.18 321 *e*P **P 05 55 31.8 -0.1**
KHC *e*pP pP 05 55 43.1 +1.0
PERS Pernice 86.21 318 *e*P **P 05 55 31.8 -0.2**
GEC2 GERESS Array S 86.22 320 *e*P **P 05 55 32.0 -0.1**
GERES GERESS Array B 86.22 320 P **P 05 55 32.4 +0.3**
comp=Z,3.4nm,0.8s,mb4.7,baz=67,slow=4.5,SNR=34
GERES LR LR 06 37 27.7
comp=Z,141nm,21.1s,MS4.3,baz=118,slow=38
CRES Cresnjev 86.30 317 *e*P **P 05 55 32.6 +0.1**
CEY Cerknica 87.00 317 *e*P **P 05 55 35.9 -0.1**
GRA1 Grafenberg Arr 87.35 322 *e*P **P 05 55 37.4 -0.2**
comp=Z,20nm,1.9s,mb5.0
GRF Grafenberg Arr 87.35 322 *e*P **P 05 55 37.4 -0.2**
comp=Z,20nm,1.9s,mb5.0
GRF Grafenberg Arr 87.35 322 *e*P **P 05 55 37.4 -0.2**
GRF pmax pmax
comp=Z,20nm,1.9s,mb5.0
GRF Grafenberg Arr 87.35 322 *e*P **P 05 55 37.4 -0.2**
GRF pmax pmax
comp=Z,20nm,1.9s,mb5.0
YKW3 Yellowknife Ar 88.93 22 *e*P **P 05 55 45.4 +0.4**
YKA Yellowknife Ar 88.98 22 P **P 05 55 45.4 +0.1**
comp=Z,9.6nm,0.8s,mb5.2,baz=313,slow=4.4,SNR=33
CDF Champ du Feu 90.24 322 *e*P **P 05 55 50.8 -0.4**
comp=Z,9.1nm,1.0s,mb4.8
CDF Champ du Feu 90.24 322 *e*P **P 05 55 50.8 -0.4**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
CDF Champ du Feu 90.24 322 *e*P **P 05 55 50.8 -0.4**
comp=Z,4.6nm,1.0s,mb4.8
HINF Hinteralfeld 90.78 321 *e*P **P 05 55 53.0 -0.7**
comp=Z,4.4nm,0.7s,mb4.6
HINF Hinteralfeld 90.78 321 *e*P **P 05 55 53.0 -0.7**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
HINF Hinteralfeld 90.78 321 *e*P **P 05 55 53.0 -0.7**
comp=Z,2.2nm,0.7s,mb4.6
HAU Haudompre 90.98 322 *e*P **P 05 55 53.9 -0.8**
HAU *e*MLR MLR
comp=Z,247nm,20.0s
HAU Haudompre 90.98 322 *e*P **P 05 55 53.9 -0.8**
HAU LR LR
comp=Z,250nm,20.0s,MS4.7
BAIF Baives 91.18 324 *e*P **P 05 55 55.1 -0.5**
MEZF Maizieres J'vi 91.49 323 *e*P **P 05 55 56.6 -0.4**
LPG La Plagne 91.95 319 *e*P **P 05 55 59.6 +0.4**
comp=Z,38nm,0.8s,mb5.5

LPG	**La Plagne**	**91.95**	**319**	*e*P	**P**	**05 55 59.6**	**+0.4**
LPG				pmax	pmax		
comp=Z,19nm,0.8s,mb5.5							
LPG	**La Plagne**	**91.95**	**319**	*e*P	**P**	**05 55 59.6**	**+0.4**
comp=Z,19nm,0.8s,mb5.5							
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**05 55 59.4**	**+0.2**
comp=Z,36nm,0.8s,mb5.4							
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**05 55 59.4**	**+0.2**
LPL				pmax	pmax		
comp=Z,18nm,0.8s,mb5.5							
LPL	**La Plagne**	**91.95**	**320**	*e*P	**P**	**05 55 59.4**	**+0.2**
comp=Z,18nm,0.8s,mb5.5							
BNI	**Bardonecchia**	**92.21**	**319**	*e*P	**P**	**05 56 00.4**	**0.0**
BNI				pmax	pmax		
comp=Z,8.0nm,0.8s,mb5.1							
BNI	**Bardonecchia**	**92.21**	**319**	*e*P	**P**	**05 56 00.4**	**0.0**
comp=Z,7.7nm,0.8s,mb5.1							
MBDF	**Montbardon**	**92.31**	**319**	*e*P	**P**	**05 56 00.2**	**-0.6**
comp=Z,24nm,1.3s,mb5.1							
MBDF	**Montbardon**	**92.31**	**319**	*e*P	**P**	**05 56 00.2**	**-0.6**
MBDF				pmax	pmax		
comp=Z,12nm,1.3s,mb5.1							
MBDF	**Montbardon**	**92.31**	**319**	*e*P	**P**	**05 56 00.2**	**-0.6**
comp=Z,12nm,1.3s,mb5.1							
ORIF	**Oris-en-Rattie**	**92.77**	**319**	*e*P	**P**	**05 56 02.8**	**-0.1**
comp=Z,17nm,0.9s,mb5.2							
ORIF				*e*MLR	MLR		
comp=Z,204nm,20.0s							
ORIF	**Oris-en-Rattie**	**92.77**	**319**	*e*P	**P**	**05 56 02.8**	**-0.1**
ORIF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb5.2							
ORIF	**Oris-en-Rattie**	**92.77**	**319**	*e*P	**P**	**05 56 02.8**	**-0.1**
comp=Z,8.5nm,0.9s,mb5.2							
FRF	**La Foret Royal**	**92.94**	**318**	*e*P	**P**	**05 56 03.1**	**-0.6**
AVF	**Avril sur Loir**	**93.35**	**322**	*e*P	**P**	**05 56 04.8**	**-0.8**
VIVF	**Saint-Julien-l**	**93.55**	**320**	*e*P	**P**	**05 56 06.1**	**-0.4**
GNW	**Green Mountain**	**94.00**	**37**	*e*P	**P**	**05 56 10.1**	**+1.5**
TCF	**Toulx Ste Croi**	**94.29**	**322**	*e*P	**P**	**05 56 09.6**	**-0.3**
KEST	**Kesra**	**94.72**	**310**	LR	LR	06 49 37.7	
comp=Z,56nm,18.0s,MS4.1,baz=328,slow=42							
LON	**Longmire**	**95.03**	**37**	*e*P	**P**	**05 56 14.6**	**+1.3**
MAW	**Mawson**	**95.06**	**199**	P	**P**	**05 56 12.7**	**-0.8**
comp=Z,2.3nm,0.9s,mb4.6,baz=9.2,slow=6.3,SNR=4.5							
MAW				LR	LR	06 30 58.1	
comp=Z,105nm,21.1s,MS4.3,baz=245,slow=30							
LSZ	**Lusaka**	**95.77**	**256**	*e*P	**P**	**05 56 16.9**	**+0.2**
LSZ				pmax	pmax		
comp=Z,14nm,1.5s,mb5.2							
LSZ	**Lusaka**	**95.77**	**256**	*e*P	**P**	**05 56 16.9**	**+0.2**
comp=Z,14nm,1.5s,mb5.2							
HOOD	**Mount Hood Mea**	**95.91**	**38**	*e*P	**P**	**05 56 18.4**	**+1.1**
PPT	**Papeete**	**96.37**	**106**	*e*LR	LR	06 27 19.1	
comp=Z,208nm,26.8s							
PPT	**Papeete**	**96.37**	**106**	LR	LR	06 33 48.3	
comp=Z,114nm,20.3s,MS4.3,baz=268,slow=32							
NEW	**Newport**	**96.75**	**34**	P	P	**05 56 21.3**	**+0.1**
comp=Z,3.2nm,0.8s,mb4.8,baz=27,slow=5.5,SNR=5.5							
NEW	**Newport**	**96.75**	**34**	*e*P	**P**	**05 56 21.6**	**+0.4**
NEW				pmax	pmax		
comp=Z,4.0nm,0.9s							
NEW	**Newport**	**96.75**	**34**	*e*P	**P**	**05 56 21.6**	**+0.5**
comp=Z,4.1nm,0.9s,mb4.9							
WALA	**Waterton Lakes**	**97.92**	**32**	*e*P	**P**	**05 56 25.2**	**-1.3**
comp=Z,3.5nm,0.9s,mb4.9							
TBI	**Tubuai**	**98.14**	**112**	*e*LR	LR	06 28 07.5	
comp=Z,231nm,34.2s							
BMO	**Blue Mountains**	**98.70**	**37**	*e*P	**P**	**05 56 30.7**	**+0.7**
comp=Z,1.3nm,0.9s,mb4.5							
BMO				*e*pP	pP	05 56 40.2	-0.1
VNDA	**Vanda**	**98.82**	**171**	P	**P**	**05 56 29.8**	**-0.7**
comp=Z,0.5nm,0.8s,mb4.1,baz=317,slow=4.5,SNR=3.3							
VNDA				pP	pP	05 56 38.9	-1.9
comp=Z,1.6nm,0.9s,baz=308,slow=4.0,SNR=7.4							
VNDA				LR	LR	06 44 09.7	
comp=Z,131nm,18.7s,MS4.5,baz=272,slow=37							
VNDA	**Vanda**	**98.82**	**171**	P	**P**	**05 56 29.8**	**-0.7**
VNDA				*PP	pP	05 56 38.9	-1.9
CMB	**Columbia Colle**	**100.71**	**44**	*e*P	Pdif	05 56 40.5	+1.6
HLID	**Hailey**	**101.13**	**37**	*e*Pdif	Pdif	05 56 42.9	+2.1
NVAR	**Mina Array Bea**	**101.85**	**43**	P	Pdif	05 56 46.2	+2.2
comp=Z,0.5nm,0.8s,baz=271,slow=6.2,SNR=4.4							
NVAR				pP		05 56 55.3	
comp=Z,0.6nm,0.8s,baz=262,slow=6.6,SNR=3.8							
NVAR	**Mina Array Bea**	**101.85**	**43**	P	Pdif	05 56 46.2	+2.2
NVAR				pP		05 56 55.3	
TAOE	**Nuku Hiva Isla**	**102.65**	**95**	*e*LR	LR	06 30 14.8	
comp=Z,712nm,30.1s							
CTU	**Camp Tracy**	**104.48**	**38**	*e*Pdif	Pdif	05 57 04.5	+8.8
TORD	**Torodi Ar. Bea**	**111.29**	**292**	PKiKP	PKiKP	06 01 23.0	-0.8
comp=Z,0.9nm,1.0s,baz=5.0,slow=2.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**111.01**	**292**	PKPdf	PKiKP	06 01 23.0	-0.8
RKT	**Rikitea**	**111.01**	**108**	*e*LR	LR	06 34 05.7	
comp=Z,110nm,27.5s							
MNTX	**Cornudas Mount**	**114.29**	**41**	*e*PKP	PKiKP	06 01 31.2	+1.1
WMOK	**Wichita Mounta**	**115.95**	**34**	*e*PKIKP	PKPdf	06 01 33.7	+0.4
JCT	**Junction City**	**118.54**	**38**	*e*PKIKP	PKPdf	06 01 39.4	+1.1
JCT				*e*		06 01 48.5	
WCI	**Wyandotte Cave**	**118.77**	**23**	*e*PKIKP	PKPdf	06 01 38.7	0.0
WCI				*e*		06 01 48.1	
DBIC	**Dimbokro**	**119.61**	**289**	PKP	PKPdf	06 01 40.5	+0.2
comp=Z,3.2nm,0.9s,baz=88,slow=6.8,SNR=2.9							
WVT	**Waverly**	**120.01**	**25**	*e*PKIKP	PKPdf	06 01 41.1	0.0
WVT				*e*		06 01 50.3	
PLAL	**Pickwick Lake**	**120.90**	**26**	*e*PKPdf	PKPdf	06 01 42.5	-0.3
PLAL				*e*pPKPdf	pPKPdf	06 01 51.7	-1.7
CPD	**Cerro la Pandu**	**143.46**	**8**	*e*PKIKP	PKPdf	06 02 23.2	-1.9
SDV	**Santo Domingo**	**151.19**	**21**	*e*PKPdf	PKPdf	06 02 40.3	+2.5
SDV				*e*PKPbc	PKPbc	06 02 45.1	+1.3
SDV				*e*PKPab	PKPab	06 02 53.1	+1.4
ROSC	**El Rosal**	**153.28**	**32**	PKPbc	PKPbc	06 02 50.7	+2.2
comp=Z,10nm,0.9s,baz=115,slow=19,SNR=8.2							
ROSC	**El Rosal**	**153.28**	**32**	*e*PKPdf	PKPdf	06 02 43.3	+2.4
ROSC				PKPbc	PKPbc	06 02 50.7	+2.2
ROSC				*e*PKPbc	PKPbc	06 02 50.9	+2.4
ATAH	**Atahualpa**	**159.36**	**59**	PKPab	PKPab	06 03 30.0	+3.5
comp=Z,5.2nm,0.6s,baz=144,slow=6.5,SNR=3.6							
BDFB	**Brasilia**	**167.61**	**281**	PKP	PKPdf	06 02 58.6	+2.0
comp=Z,2.6nm,0.9s,baz=127,slow=5.1,SNR=2.6							
SAML	**Samuel**	**170.32**	**15**	*e*PKPdf	PKPdf	06 02 59.3	+1.0
SAML				*e*PKPab	PKPab	06 04 13.8	-1.0
LVC	**Limon Verde**	**171.18**	**120**	PKPab	PKPab	06 04 21.0	+2.4
comp=Z,1.5nm,0.3s,baz=238,slow=23,SNR=9.1							
LPAZ	**La Paz**	**172.57**	**75**	PKP	PKPdf	06 03 01.2	+1.7
comp=Z,1.9nm,1.2s,baz=46,slow=2.8,SNR=4.4							
LPAZ				pPKP	pPKPdf	06 03 10.2	+0.1
comp=Z,1.5nm,0.9s,baz=50,slow=3.6,SNR=4.2							
LPAZ				PKPab	PKPab	06 04 25.9	+1.2
comp=Z,1.3nm,0.8s,baz=16,slow=2.1,SNR=6.3							
LPAZ	**La Paz**	**172.57**	**75**	*e*PKPdf	PKPdf	06 03 01.8	+2.4
LPAZ				*e*PKPab	PKPab	06 04 26.8	+2.0
SIV	**San Ignacio**	**177.61**	**10**	PKP	PKPdf	06 03 01.6	+0.7
comp=Z,2.9nm,1.1s,baz=101,slow=2.5,SNR=10							
SIV				PKPab	PKPab	06 04 47.0	-0.1
comp=Z,1.9nm,0.8s,baz=38,slow=4.6,SNR=7.4							

IDC 01 06:06:26.2±2.7, 429N×10301E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/17, mbtmp4.0/7, Error ellipse: s-maj=177.9km s-min=18.9km az=49.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**26.05**	**124**	P	P	06 12 00.5	-0.7
1.5nm,0.9s,baz=306,slow=8.7,SNR=3.4							
WRA	**Warramunga Arr**	**34.25**	**120**	P	P	06 13 14.2	+0.4
0.4nm,0.5s,baz=293,slow=10,SNR=5.9							
ASAR	**Alice Springs**	**35.48**	**126**	P	P	06 13 25.2	+0.8
0.3nm,0.3s,baz=296,slow=7.1,SNR=7.7							
STKA	**Stephens Creek**	**45.39**	**132**	P	P	06 14 47.3	+0.9
1.6nm,0.5s,baz=310,slow=9.3,SNR=6.3							
MKAR	**Makanchi Array**	**54.07**	**343**	P	P	06 15 52.9	+0.4
1.2nm,0.4s,baz=151,slow=8.4,SNR=15							
FINES	**FINESS Array B**	**87.53**	**332**	P	P	06 19 15.1	-0.8
1.9nm,1.0s,baz=97,slow=12,SNR=3.8							
ARCES	**ARCESS Array B**	**89.64**	**340**	P	P	06 19 25.4	-0.5
1.9nm,0.9s,baz=96,slow=5.5,SNR=2.9							

*NEIC **01** 06:21:17.8, 1238N×59.15W, h35km, MD3.9(TRN), After TRN.*

TRN 01 06:21:16.4, 1253N×5923W, h10km, MD3.9, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.69**	**332**	*e*Pn	Pn	06 21 36.2	+4.0
BBGH				*e*Sn	Sg	06 21 44.6	+5.8
FCV	**Fort Charlotte**	**2.06**	**288**	*e*S	Sn	06 22 19.8	+2.9
SSV	**Crater Summit**	**2.07**	**293**	*e*P	Pn	06 21 53.3	+2.1
SSV				*e*S	Sn	06 22 18.8	+1.7
SVB	**Belmont**	**2.10**	**291**	*e*P	Pn	06 21 53.9	+2.2
SVB				*e*S	Sn	06 22 20.4	+2.4
GRCU	**Cariacou**	**2.17**	**269**	*e*P	Pn	06 21 53.1	+0.5
GRCU				*e*S	Sn	06 22 18.5	-1.1
GRIC	**Isle de Caille**	**2.31**	**264**	*e*P	Pn	06 21 55.8	+1.2
GRIC				*e*S		11 07 50.4	
GRSS	**Sisters**	**2.34**	**265**	*e*P	Pn	06 21 56.8	+1.9
GRSS				*e*S		11 07 50.5	
FDF	**Fort de France**	**2.88**	**320⇑**	*e*P	Pn	06 22 04.3	+2.0
FDF				*e*S	Sn	06 22 38.2	+1.2
DEG	**La Desirade**	**4.16**	**335**	*e*P	Pn	06 22 21.5	+1.5
DEG				*e*S	Sn	06 23 08.4	-0.1
PHG	**Guadaloupe-2**	**4.18**	**326**	*e*P	Pn	06 22 22.4	+2.2

*NEIC **01** 06:23:21.2, 6001N×14148W, h3km, ML3.2(PGC), ML3.3(AEIC), ML3.7(PMR), After AEIC.*

PGC 01 06:23:21.7, 6002N×14136W, h1km, ML3.2/3, 2C, 132km northwest of Yakutat, Ak Near Icy Bay, Alaska., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKU2	**Yakutat**	**0.99**	**120**	*e*P	Pg	06 23 39.7	-1.0
PNL	**Peninsula**	**1.05**	**109**	P	Pg	06 23 40.7	-1.2
PNL				S	Sg	06 23 56.8	+1.4
RAGM	**Ragged Mountai**	**1.70**	**284**	P	Pn	06 23 49.3	-3.2
BMRM	**Bremner River**	**1.87**	**302**	P	Pn	06 23 51.8	-3.0
HYT	**Haines Junctio**	**2.08**	**65**	⇑Pn	Pn	06 23 57.8	+0.1
HYT				Pg	Pg	06 23 59.6	-1.9
HYT				Sg	Sg	06 24 25.4	-3.1
HYT				Trac		06 24 25.9	
comp=Z,63nm,0.3s							
HYT	**Haines Junctio**	**2.08**	**65**	Pn	Pn	06 23 57.8	+0.1
HYT				Pg	Pg	06 23 59.6	-1.9
HYT				Sg	Sg	06 24 25.4	-3.1
EYAK	**Cordova Ski Ar**	**2.25**	**286**	P	Pn	06 23 56.5	-3.6
DIV	**Divide**	**2.45**	**299**	P	Pn	06 24 00.1	-2.7
DIV				S	Sn	06 24 30.7	-2.7
PLBC	**Pleasant Camp**	**2.59**	**100**	Pn	Pn	06 24 03.4	-1.4
PLBC				Pg	Pg	06 24 05.8	-5.5
PLBC				Sn	Sn	06 24 35.6	-1.2
PLBC				Sg	Sg	06 24 39.9	-5.1
SKAG	**Skagway**	**3.10**	**98**	*e*P	Pn	06 24 10.3	-1.5
MENT	**Mentasta**	**3.14**	**340**	*e*P	Pn	06 24 13.1	+0.7
WHY	**Whitehorse**	**3.28**	**76**	⇑Pn	Pn	06 24 13.4	-0.9
WHY				Sn	Sn	06 24 53.6	-0.4
WHY				Trac		06 24 55.2	
comp=Z,18nm,0.2s							
WHY	**Whitehorse**	**3.28**	**76**	P	Pn	06 24 13.2	-1.1
PMR	**Palmer**	**4.12**	**296**	*e*P	Pn	06 24 23.9	-1.9
DAWY	**Dawson**	**4.17**	**12**	Pn	Pn	06 24 25.4	-1.1
DAWY				Sn	Sn	06 25 14.6	-1.3
DAWY				Sg	Sg	06 25 30.7	-5.0
DAWY				Trac		06 25 35.0	
comp=Z,57nm,0.8s							
DAWY	**Dawson**	**4.17**	**12**	P	Pn	06 24 25.2	-1.2
RC01	**Rabbit Creek A**	**4.28**	**288**	P	Pn	06 24 24.5	-3.4
SLKM	**Skilak Lake**	**4.44**	**280**	*e*Pn	Pn	06 24 29.1	-1.2
EGAK	**Eagle**	**4.78**	**1**	*e*Pn	Pn	06 24 33.8	-1.1
EGAK				*e*Sn	Sn	06 25 33.5	+2.6
MCK	**McKinley**	**5.17**	**319**	*e*Pn	Pn	06 24 40.8	+0.5
7.7nm,0.6s							
COLA	**College**	**5.73**	**331**	*e*Pn	Pn	06 24 48.1	+0.2
7.2nm,0.8s							
DLBC	**Dease Lake**	**6.03**	**100**	Pn	Pn	06 24 50.1	-1.9
INK	**Inuvik**	**8.99**	**19**	Pn	Pn	06 25 33.9	+1.3
INK				Trac		06 28 21.8	
comp=Z,6.0nm,1.1s							

*ISCJB **01** 06:23:47.1±0.7, 170N×4043E±009, h10km, mb3.8/9, Error ellipse: s-maj=17.7km s-min=8.0km az=75.2*
*IDC **01** 06:23:48.3±1.3, 1710N×4034E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=30.1km s-min=24.8km az=173.0*
*NEIC **01** 06:23:48.9±0.8, 1706N×4034E, h10km, mb3.9/2, Error ellipse: s-maj=21.1km s-min=14.4km az=65.0*

ISC 01 06:23:48.9±0.7, 171N×01×4047E±009, h10km, n14, σ19 04/16, mb3.8/9, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**3.30**	**114**	*i*P	**Pn**	**06 24 41.0**	**+0.3**
HAJJ				*e*		06 24 41.4	
baz=279,slow=6.9							
HAJJ				*i*S	**Sn**	**06 25 19.2**	**-0.7**
HAJJ				AML	AML	06 25 25.5	
comp=Z,425nm,0.5s							
ATD	**Arta Tunnel**	**5.97**	**157**	Pn	**Pn**	**06 25 17.3**	**-0.1**
comp=Z,0.4nm,0.3s,baz=160,slow=21,SNR=2.5							
ATD				Sn	**Sn**	**06 26 37.0**	**+11**
baz=226,slow=16,SNR=1.6							
ATD	**Arta Tunnel**	**5.97**	**157**	Pn	**Pn**	**06 25 17.3**	**-0.1**
ATD				Sn	**Sn**	**06 26 37.0**	**+11**
BRTR	**Keskin Array B**	**23.34**	**347**	P	**P**	**06 28 57.9**	**+0.5**
comp=Z,1.4nm,0.9s,mb3.4,baz=150,slow=13,SNR=7.0							
KIS	**Kishinev**	**31.36**	**345**	LRM		06 31 12.0	
comp=Z,400nm,16.0s							
TORD	**Torodi Ar. Bea**	**37.59**	**269**	P	**P**	**06 31 04.6**	**+1.0**
comp=Z,2.0nm,0.6s,mb4.0,baz=84,slow=8.2,SNR=15							
TORD	**Torodi Ar. Bea**	**37.59**	**269**	P	**P**	**06 31 04.6**	**+1.0**
GERES	**GERESS Array B**	**38.44**	**331**	P	**P**	**06 31 09.9**	**-0.8**
comp=Z,1.2nm,0.8s,mb3.6,baz=132,slow=6.0,SNR=7.2							
BRG	**Berggiesshubel**	**39.83**	**334**	*e*(P)	**P**	**06 31 21.2**	**-1.2**
comp=Z,3.3nm,1.1s,mb4.0							
ZRNK	**Zerenda**	**42.20**	**25**	*e*P	**P**	**06 31 42.5**	**+0.6**
comp=Z,1.7nm,0.7s,mb3.8							
ESDC	**Sonseca Array**	**44.55**	**310**	P	**P**	**06 32 01.0**	**+0.2**
comp=Z,1.1nm,0.8s,mb3.7,baz=97,slow=10,SNR=4.8							
MKAR	**Makanchi Array**	**45.43**	**40**	P	**P**	**06 32 08.6**	**+0.7**
comp=Z,1.0nm,0.9s,mb3.6,baz=234,slow=8.4,SNR=8.1							
NOA	**NORSAR Array B**	**48.62**	**342**	P	**P**	**06 32 30.6**	**-2.1**
comp=Z,1.0nm,0.9s,mb3.9,baz=145,slow=7.7,SNR=3.7							
SONM	**Songino Array**	**61.41**	**44**	P	**P**	**06 34 08.4**	**+3.1**
comp=Z,1.1nm,1.0s,mb3.9,baz=268,slow=4.8,SNR=7.3							

IDC 01 06:26:40.8±2.2, 1749N×4006E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/18, mbtmp3.6/7, MS3.8/6, Ms1 3.8/6, ms1mx3.4/20, Error ellipse: s-maj=50.5km s-min=25.6km az=161.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.51**	**155**	LR	LR	06 30 22.4	
comp=Z,253nm,21.1s,baz=321,slow=34							
KMBO	**Kilima Mbogo**	**18.70**	**189**	LR	LR	06 38 06.3	
comp=Z,354nm,19.0s,baz=279,slow=37							
BRTR	**Keskin Array B**	**22.85**	**347**	P	P	06 31 47.7	+2.1
1.4nm,1.0s,baz=153,slow=11,SNR=5.0							
GNI	**Garni**	**22.95**	**9**	LR	LR	06 40 43.0	
comp=Z,101nm,19.7s,baz=346,slow=37							
TORD	**Torodi Ar. Bea**	**37.20**	**269**	P	P	06 33 54.3	+0.6
2.3nm,0.6s,baz=81,slow=8.0,SNR=16							
TORD				LR	LR	06 49 08.9	
comp=Z,161nm,18.0s,baz=185,slow=36							
GERES	**GERESS Array B**	**37.90**	**331**	P	P	06 33 58.9	-0.7
1.0nm,0.9s,baz=122,slow=6.5,SNR=3.8							
ESDC	**Sonseca Array**	**43.98**	**309**	P	P	06 34 50.7	+0.9
0.1nm,0.3s,baz=98,slow=11,SNR=5.2							
DBIC	**Dimbokro**	**45.10**	**262**	LR	LR	06 53 46.1	
comp=Z,156nm,18.4s,baz=51,slow=36							
MKAR	**Makanchi Array**	**45.37**	**40**	P	P	06 35 02.0	+1.0
0.7nm,0.8s,baz=235,slow=4.6,SNR=3.0							
NOA	**NORSAR Array B**	**48.11**	**342**	P	P	06 35 20.4	-1.9
0.6nm,0.9s,baz=146,slow=7.2,SNR=2.9							
SONM	**Songino Array**	**61.40**	**45**	P	P	06 36 58.2	-0.5
0.7nm,1.0s,baz=262,slow=4.2,SNR=3.7							
MJAR	**Matsushiro Arr**	**86.10**	**53**	LR	LR	07 21 30.0	
comp=Z,90nm,19.4s,baz=75,slow=38							

*NIED **01** 06:36:00, 2410N×12170E, h71km, Mw4.8 Best double couple: M0 1.84000×1016 NP1:φ59.00000°, δ81.00000°, λ95.00000°. NP2:φ210.00000°, δ11.00000°, λ62.00000°.*
*ISCJB **01** 06:36:15.0±0.9, 2400N±003×12163E±002, h17km±6km, mb4.5/47, MS4.0/10, Error ellipse: s-maj=5.4km s-min=3.0km az=10.4*
*IDC **01** 06:36:15.4±4.5, 2397N×12170E, h15km±28km, mb4.2/14, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML4.1/2, MS3.8/7, Ms1 3.8/7, ms1mx3.4/34, Error ellipse: s-maj=21.1km s-min=13.8km az=64.0*
*MOS **01** 06:36:16.5±1.1, 2401N×12179E, h33km, mb4.7/15, Error ellipse: s-maj=12.5km s-min=7.9km az=113.2*
*BJI **01** 06:36:17.9, 2425N×12149E, h18km, mB4.6, mb4.3, ML4.6, Ms4.4, Msz4.3*
*JMA **01** 06:36:18.5±0.2, 2410N×12169E, h65km, M4.3*
*NEIC **01** 06:36:18.5±0.2, 2394N×12175E, mb4.4/25, Error ellipse: s-maj=7.2km s-min=5.7km az=79.0*
NEIC Recorded [4 TAP] in Hua-lien; [3 TAP] in I-lan and Nan-t'ou; [2 TAP] in T'ai-chung and T'ai-tung; [1 TAP] in Chang-hua and T'ao-yuan Counties.

ISC 01 06:36:17.8±0.6, 2405N±003×12168E±002, h23km±3km, h41km±2.3km: pP-P, n255, σ0976/271, mb4.5/47, MS4.0/10, 62C-64D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.14**	**328**	*e*Pn	**Pb**	**06 36 22.5**	**0.0**
NACB				*e*Sn	**Sb**	**06 36 26.0**	**+0.2**
YHNB	**Yeheng**	**0.67**	**336**	*e*Pn	**Pn**	**06 36 31.1**	**-0.7**
YHNB				*e*Sn	**Sn**	**06 36 40.4**	**-1.2**
TATO	**Taipei**	**0.94**	**349**	*e*Pn	**Pn**	**06 36 35.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.28**	**71**	P	**Pn**	**06 36 40.4**	**+0.2**
YOJ				*e*S	**Sn**	**06 36 56.4**	**-0.3**
IRIF	**Iriomote-Funau**	**1.90**	**81**	P	**Pn**	**06 36 48.9**	**+0.3**
IRIF				*e*S	**Sn**	**06 37 11.4**	**-0.4**
HATJ	**Hateruma jima**	**1.94**	**89**	P	**Pn**	**06 36 49.7**	**+0.4**
HATJ				*e*S	**Sn**	**06 37 13.0**	**0.0**
JKRS	**Kuro-shima**	**2.14**	**85**	P	**Pn**	**06 36 52.5**	**+0.5**
JKRS				*e*S	**Sn**	**06 37 18.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.27**	**82**	P	**Pn**	**06 36 53.8**	**0.0**
JIJ				*e*S	**Sn**	**06 37 20.1**	**-1.0**
JTJ	**Tarama**	**2.82**	**77**	P	**Pn**	**06 37 01.8**	**+0.4**
JTJ				*e*S	**Sn**	**06 37 34.6**	**0.0**
QZH	**Quanzhou**	**2.95**	**288**	P	**Pn**	**06 37 01.8**	**-1.3**
QZH				S	**Sn**	**06 37 34.2**	**-3.5**
QZH				Smax			
comp=N,2μm,0.7s							
QZH				Smax			
comp=E,2μm,0.7s							
JMJ	**Miyako jima 2**	**3.38**	**76**	P	**Pn**	**06 37 10.2**	**+1.1**
JMJ				*e*S	**Sn**	**06 37 49.0**	**+0.5**
JKE	**Kume jima 2**	**5.15**	**63**	P	**Pn**	**06 37 34.0**	**+0.6**
JAGN	**Aguni-jima**	**5.63**	**62**	P	**Pn**	**06 37 40.1**	**+0.1**
CVP	**Callao Caves**	**6.32**	**179**	*e*P	**Pn**	**06 37 51.0**	**+1.6**
JIH	**Iheya**	**6.41**	**61**	P	**Pn**	**06 37 50.8**	**+0.1**
JOW	**Kunigami**	**6.57**	**64**	Pn	**Pn**	**06 37 52.1**	**-0.9**
comp=E,17nm,0.3s,baz=230,slow=9.3,SNR=71							
JOW				Sn	**Sn**	**06 39 07.6**	**+0.4**
comp=E,3.3nm,0.3s,baz=136,slow=25,SNR=1.9							
JOW				LR	LR	06 40 45.7	
comp=E,552nm,20.1s,baz=49,slow=41							
JOW	**Kunigami**	**6.57**	**64**	P	**Pn**	**06 37 52.1**	**-0.9**
JOW				*e*S	**Sn**	**06 39 07.4**	**+0.2**
SSE	**Sheshan**	**7.03**	**357**	*e*P	**Pn**	**06 38 04.4**	**+5.2**
SSE				S	**Sn**	**06 39 25.5**	**+7.1**
SSE				AMB	AMB		
comp=Z,49nm,0.6s							
SSE				AMB	AMB		
comp=Z,132nm,4.0s							
SSE				Smax			
comp=N,128nm,0.9s							
SSE				Smax			
comp=E,173nm,0.9s							
SSE				LR	LR		
comp=N,264nm,21.1s							
SSE				LR	LR		
comp=E,1μm,21.2s							
SSE				LR	LR		
comp=Z,689nm,13.2s							
SSE	**Sheshan**	**7.03**	**357**	*e*Pn	**Pn**	**06 38 04.4**	**+5.2**
comp=Z,49nm,0.6s							
SSE				Sn	**Sn**	**06 39 25.5**	**+7.1**
JTK	**Tokunoshima**	**7.53**	**59**	P	**Pn**	**06 38 04.7**	**-1.4**
NJ2	**Nanjing**	**8.35**	**343**	*e*P	**Pn**	**06 38 16.3**	**-1.0**
NJ2				AP		06 38 23.6	
NJ2				XP		06 38 27.9	
NJ2				S	**Sn**	**06 39 49.6**	**-1.2**
NJ2				XS		06 39 59.5	
NJ2				Smax			

comp=Z,680nm,13.2s
CBIJ Chichi jima 18.75 76 LR LR 06 47 25.4
comp=Z,247nm,18.0s,baz=57,slow=36
MJAR Matsushiro Arr 18.91 45 P **Pn** **06 40 36.1 -1.3**
comp=Z,0.1nm,0.3s,baz=242,slow=9.2,SNR=8.0
MJAR LR LR 06 48 26.8
comp=Z,232nm,21.4s,baz=190,slow=39
BTO Baotou 19.19 332 *e*P **Pn** **06 40 45.2 +4.4**
LZH Lanzhou 19.51 312 *e*P **Pn** **06 40 48.0 +3.4**
LZH AP pP 06 40 55.5 +5.8
LZH XP sP 06 40 59.0 +6.3
LZH PP 06 41 06.1
LZH *e*S **Sn** **06 44 18.0 -4.9**
LZH XS sS 06 44 31.1 -1.6
LZH AMB AMB
comp=Z,27nm,1.0s
LZH AMB AMB
comp=Z,105nm,4.0s
LZH LR LR
comp=E,762nm,13.7s
LZH LR LR
comp=Z,1μm,14.2s
LZH Lanzhou 19.51 312 *e*P **Pn** **06 40 48.0 +3.4**
LZH *e*S **Sn** **06 44 18.0 -4.9**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH Lanzhou 19.51 312 *e*P **Pn** **06 40 48.0 +3.4**
comp=Z,27nm,1.0s
LZH pP pP 06 40 55.5 +5.8
LZH sP sP 06 40 59.0 +6.3
LZH PP 06 41 06.1
LZH *e*S **Sn** **06 44 18.0 -4.9**
LZH sS sS 06 44 31.1 -1.6
LZH SS 06 44 49.0
MDJ Mudanjiang 21.51 16 P **P** **06 41 05.8 +0.9**
MDJ AP 06 41 14.1
MDJ XP sP 06 41 17.7 +3.3
MDJ PP 06 41 27.9
MDJ S **S** **06 45 03.5 +1.3**
MDJ AMB AMB
comp=Z,8.0nm,0.8s,mb4.2
MDJ AMB AMB
comp=Z,80nm,3.0s
MDJ LR LR
comp=N,200nm,14.7s,MS4.2
MDJ LR LR
comp=E,568nm,13.1s,MS4.2
MDJ LR LR
comp=Z,294nm,14.3s,MS3.8
MDJ Mudanjiang 21.51 16 *e*P **P** **06 41 05.8 +0.9**
comp=Z,12nm,1.2s,mb4.2
MDJ *e*pP 06 41 17.8
CHTO Chiang Mai 21.78 261 *e*P **P** **06 41 09.3 +1.4**
CHTO pmax pmax
comp=Z,20nm,1.2s,mb4.4
CHTO Chiang Mai 21.78 261 *e*P **P** **06 41 09.3 +1.5**
comp=Z,20nm,1.2s,mb4.4
CM31 Chiang Mai Arr 21.89 260 *e*P **P** **06 41 10.5 +1.4**
comp=Z,3.1nm,0.4s,mb4.1
CM31 *e*pP 06 41 18.8
GTA Gaotai 24.00 315 *e*P **P** **06 41 30.6 0.0**
GTA AP 06 41 35.7
GTA XP sP 06 41 39.3 -1.1
GTA AMB AMB
comp=Z,5.0nm,2.0s,mb3.6
GTA AMB AMB
comp=Z,131nm,5.7s
GTA LR LR
comp=N,396nm,14.8s,MS4.3
GTA LR LR
comp=E,606nm,13.7s,MS4.3
GTA LR LR
comp=Z,761nm,14.8s,MS4.3
HIA Hailar 25.21 357⇑ *e*P **P** **06 41 42.1 +0.5**
HIA Hailar 25.21 357 *e*P **P** **06 41 41.8 +0.1**
comp=Z,5.3nm,0.8s,mb4.1
ASAJ Asahikawa 26.34 35 LR LR 06 53 33.0
comp=Z,250nm,18.0s,MS3.8,baz=47,slow=39
KLR Kul'dur 26.35 15 *e*P **P** **06 41 48.9 -3.0**
SONM Songino Array 26.66 337 P **P** **06 41 54.8 0.0**
comp=Z,3.7nm,0.7s,mb4.0,baz=157,slow=9.9,SNR=28
LSA Lhasa 27.76 288 P **P** **06 42 04.3 -0.3**
LSA Lhasa 27.76 288 *e*P **P** **06 42 06.2 +1.6**
LSA pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
LSA Lhasa 27.76 288 *e*P **P** **06 42 06.2 +1.6**
comp=Z,7.6nm,0.5s,mb4.6
ZAK Zakamensk 29.92 336 *e*P **P** **06 42 21.0 -2.8**
TLY Talaya 30.86 338 *e*P **P** **06 42 31.8 -0.4**
TLY *e* 06 42 49.6
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TLY Talaya 30.86 338 *e*P **P** **06 42 31.8 -0.4**
comp=Z,5.9nm,0.8s,mb4.5
TLY *e* 06 42 49.6
GUN Gumba 32.34 285 *e*P **P** **06 42 45.0 -0.1**
PKI Pulchoki 32.77 284 *e*P **P** **06 42 49.1 +0.2**
KKN Kakani 32.87 284 *e*P **P** **06 42 49.8 0.0**
comp=Z,13nm,0.7s,mb4.9
DMN Daman 33.03 284 *e*P **P** **06 42 51.4 +0.2**
comp=Z,15nm,0.7s,mb5.0
GKN Gorkha 33.43 285 *e*P **P** **06 42 54.4 -0.3**
comp=Z,16nm,1.0s,mb4.9
WMQ Urumqi 34.07 314 *e*P **P** **06 43 01.7 +1.4**
WMQ AP pP 06 43 11.5 +4.2
WMQ XP sP 06 43 15.5 +5.4
WMQ PP PP 06 44 17.0 -0.5
WMQ PCP PcP 06 45 38.0 +0.5
WMQ S **S** **06 48 25.0 +0.4**
WMQ XS sS 06 48 41.0 +4.8
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,86nm,4.2s
WMQ LR LR
comp=N,540nm,11.4s,MS4.8
WMQ LR LR
comp=E,836nm,10.6s,MS4.8
WMQ LR LR
comp=Z,754nm,15.5s,MS4.5
KOLN Koldanda 34.36 284 *e*P **P** **06 43 03.3 +0.5**
comp=Z,10nm,0.7s,mb4.8
KAKA Kakadu 38.02 163 *e*P **P** **06 43 31.0 -3.1**
comp=Z,12nm,0.8s,mb4.7
KRAR Krasnoyarsk 38.26 334⇓ *e*P **P** **06 43 36.1 0.0**
KRAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
KRAR MLR MLR
comp=Z,500nm,20.0s,MS4.3
MKAR Makanchi Array 38.74 316 P **P** **06 43 40.1 0.0**
comp=Z,3.3nm,0.6s,mb4.3,baz=105,slow=11,SNR=19
MKAR PcP PcP 06 45 50.3 -1.2
comp=Z,1.3nm,0.7s,baz=93,slow=4.9,SNR=3.9
MKAR ScP ScP 06 49 38.4 +0.2
comp=Z,0.6nm,0.8s,baz=104,slow=3.7,SNR=3.6
PMG Port Moresby 41.54 140 LR LR 07 00 18.9
comp=Z,44nm,20.7s,MS3.3,baz=236,slow=35
NVS Novosibirsk 41.86 327 *e*P **P** **06 43 57.6 -8.3**
FITZ Fitzroy Crossi 42.08 174 *e*P **P** **06 44 04.3 -3.4**
comp=Z,4.2nm,0.9s,mb4.1
AAK Ala-Archa 42.94 307 *i*P **P** **06 44 14.9 +0.1**
AAK pmax pmax
comp=Z,20nm,0.8s,mb4.9
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.8
MBWA Marble Bar 44.98 183 *e*P **P** **06 44 28.4 -2.7**
comp=Z,3.4nm,0.6s,mb4.3
WRAB Tennant Creek 45.43 163⇓ *e*P **P** **06 44 33.5 -1.2**
WRA Warramunga Arr 45.44 163 P **P** **06 44 32.9 -1.9**
comp=Z,7.3nm,0.8s,mb4.6,baz=344,slow=8.6,SNR=40
WB2 Warramunga Arr 45.44 163 *e*P **P** **06 44 32.6 -2.2**
KK31 Karatay Array 45.91 307 *i*P **P** **06 44 39.1 +0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BRVK Borovoye 48.13 321 *e*P **P** **06 44 55.9 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BRVK Borovoye 48.13 321 *e*P **P** **06 44 55.9 +0.1**
comp=Z,2.8nm,0.5s,mb4.5
ZRNK Zerenda 48.85 320 *e*P **P** **06 45 00.7 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ZRNK Zerenda 48.85 320 *e*P **P** **06 45 00.7 -0.6**
comp=Z,3.8nm,0.7s,mb4.5
AS31 Alice Springs 48.90 165 *e*P **P** **06 44 60.0 -1.7**
AS31 *e*pP pP 06 45 11.7 +2.8
ASAR Alice Springs 48.90 165 P **P** **06 45 00.4 -1.3**
comp=Z,5.0nm,0.8s,mb4.6,baz=340,slow=6.8,SNR=42
ARU Arti 55.48 323⇓ *i*P **P** **06 45 49.9 -0.8**
ARU *e* 06 46 46.9
ARU *e* 06 47 50.1
ARU *e*PPP 06 49 04.6
ARU *e*S **S** **06 53 34.8 +0.4**
ARU *e*SS SS 06 57 22.4 +3.2
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 55.48 323 *e*P **P** **06 45 49.8 -0.9**
comp=Z,6.0nm,0.6s,mb4.8
NWAO Narrogin (SRO) 56.82 184 *e*P **P** **06 45 58.7 -1.5**
NWAO pmax pmax
comp=Z,10.0nm,1.0s
NWAO Narrogin (SRO) 56.82 184 *e*P **P** **06 45 58.7 -1.5**
comp=Z,9.6nm,1.0s,mb4.8
STKA Stephens Creek 58.78 160 *e*P **P** **06 46 12.5 -1.5**
comp=Z,3.1nm,0.6s,mb4.5
STKA Stephens Creek 58.78 160 P **P** **06 46 12.6 -1.4**
comp=Z,3.9nm,0.7s,mb4.6,baz=318,slow=9.1,SNR=9.4
STKA Stephens Creek 58.78 160 *e*P **P** **06 46 12.5 -1.5**
SVW2 Sparrevohn 65.77 32 *e*P **P** **06 47 00.7 -0.2**
SVW2 *e*pP pP 06 47 15.5 +7.3
KIV Kislovodsk 66.02 309 *e*P **P** **06 47 01.9 -0.5**
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,56nm,17.0s,MS3.8
OBN Obninsk 67.88 322 *e*P **P** **06 47 15.1 +0.8**
OBN *e* 06 47 36.6
OBN pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MCK McKinley 68.45 29 *e*P **P** **06 47 17.7 -0.1**
MCK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MCK McKinley 68.45 29 *e*P **P** **06 47 17.7 -0.1**
comp=Z,2.9nm,0.8s,mb4.4
COLA College 68.70 27 *i*P **P** **06 47 20.3 +0.9**
COLA College 68.70 27 *e*P **P** **06 47 19.3 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
COLA *e*pP pP 06 47 31.8 +5.0
PMR Palmer 68.77 31 *e*P **P** **06 47 18.8 -1.0**
PMR pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
PMR Palmer 68.77 31 *e*P **P** **06 47 18.8 -1.0**
comp=Z,7.7nm,0.5s,mb4.9
JOF Joensuu 69.04 331 *e*p **P** **06 47 20.3 -1.2**
comp=Z,2.7nm,0.6s,mb4.3
KEV Kevo 69.27 338 *e*p **P** **06 47 21.7 -1.2**
ARCES ARCESS Array B 69.83 338 P **P** **06 47 25.7 -0.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=72,slow=7.8,SNR=6.0
EGAK Eagle 71.50 27 *e*P **P** **06 47 36.0 -0.5**
FINES FINESS Array B 71.79 330 P **P** **06 47 37.2 -1.0**
comp=Z,0.9nm,0.4s,mb4.0,baz=65,slow=7.1,SNR=18
FINES FINESS Array B 71.79 330 *i*P **P** **06 47 37.2 -1.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 71.79 330 P **P** **06 47 37.2 -1.1**
DAWY Dawson 72.45 27 *e*P **P** **06 47 42.1 -0.1**
INK Inuvik 73.18 22 *e*P **P** **06 47 45.5 -1.0**
comp=Z,226nm,1.0s
INK *e*pP pP 06 47 55.8 +1.8
AKASG Malin Array Be 73.27 318 P **P** **06 47 45.2 -1.9**
comp=Z,1.7nm,0.7s,mb4.1,baz=60,slow=6.0,SNR=8.8
AKASG Malin Array Be 73.27 318 *i*P **P** **06 47 45.2 -1.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 73.27 318 P **P** **06 47 45.2 -1.9**
BRTR Keskin Array B 73.61 307 P **P** **06 47 49.2 +0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=132,slow=4.9,SNR=10
SUW Suwalki 75.67 323 *e*P **P** **06 48 00.0 -1.1**
HFS Hagfors 77.90 331 LR LR 07 25 02.4
comp=Z,143nm,20.2s,MS4.3,baz=332,slow=38
NB2 NORSAR Subarra 78.55 332 P **P** **06 48 15.6 -1.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=57,slow=5.9
NB2 NORSAR Subarra 78.55 332 P **P** **06 48 15.6 -1.6**
NB2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
NOA NORSAR Array B 78.55 332 P **P** **06 48 15.9 -1.3**
comp=Z,1.0nm,0.7s,mb3.9,baz=57,slow=5.8,SNR=7.2
YKA Yellowknife Ar 82.92 23 P **P** **06 48 39.5 -1.0**
comp=Z,4.0nm,0.6s,mb4.6,baz=310,slow=4.9,SNR=21
YKA Yellowknife Ar 82.92 23 *i*P **P** **06 48 39.5 -1.1**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 82.92 23 P **P** **06 48 39.5 -1.0**
GERES GERESS Array B 83.23 321 P **P** **06 48 41.7 -0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=39,slow=5.1,SNR=7.1
KMBO Kilima Mbogo 85.36 267 P **P** **06 48 54.0 +1.0**
comp=Z,0.5nm,0.4s,mb4.0,baz=51,slow=22,SNR=4.8
A05A Maple Falls 87.78 36 ⇑P **P** **06 49 05.7 +0.9**
baz=88
C04A Brinnon 88.02 38 ⇓P **P** **06 49 06.4 +0.4**
baz=88
B05A Bryant 88.19 37 ⇑P **P** **06 49 07.0 +0.2**
baz=88
E03A Lebam 88.34 39 ⇓P **P** **06 49 08.4 +0.9**
baz=88
B06A Marblemount 88.38 36 ⇓P **P** **06 49 08.7 +1.0**
baz=88
D04A Dobbs Creek Ra 88.45 38 ⇓P **P** **06 49 09.4 +1.4**
baz=88
F03A Seaside 88.68 39 ⇑P **P** **06 49 09.3 +0.1**
baz=88
C05A Tolt Reservoir 88.74 37 ⇓P **P** **06 49 09.8 +0.4**
baz=89
D05A Enumclaw 88.87 38 ⇓P **P** **06 49 09.9 -0.1**
baz=89
B07A Winthrop 89.15 36 ⇓P **P** **06 49 11.4 +0.1**
baz=89
G03A Yamhill 89.19 40 ⇑P **P** **06 49 11.2 -0.3**
baz=89
F04A Amboy 89.34 39 ⇓P **P** **06 49 11.6 -0.6**
baz=89
E05A Randle 89.36 38 ⇑P **P** **06 49 11.5 -0.8**
baz=89
D06A Cle Elum 89.50 37 ⇑P **P** **06 49 13.5 +0.5**
baz=89
H03A Soap Creek Ran 89.54 40 ⇑P **P** **06 49 13.3 +0.2**
baz=89
I02A Mapleton 89.59 41 ⇑P **P** **06 49 13.5 +0.1**
baz=89
C07A Waterville 89.64 37 ⇓P **P** **06 49 13.1 -0.5**
baz=90
A09A Danville 89.65 35 ⇓P **P** **06 49 13.1 -0.6**
baz=90
G04A Mulino 89.72 40 ⇓P **P** **06 49 14.0 0.0**
baz=90
E06A Yakima 89.81 38 ⇓P **P** **06 49 14.0 -0.4**
baz=90
F05A White Salmon 89.92 39 ⇑P **P** **06 49 14.6 -0.3**
baz=90
I03A Eugene 89.94 41 ⇑P **P** **06 49 14.3 -0.8**
baz=90
J02A Umpqua 90.10 41 ⇑P **P** **06 49 15.9 +0.1**
baz=90
A10A Northport 90.18 34 ⇑P **P** **06 49 16.4 +0.2**
baz=90
H04A Detroit Lake 90.19 40 ⇓P **P** **06 49 15.9 -0.3**
baz=90
B09A Rice 90.22 35 ⇑P **P** **06 49 16.3 0.0**
baz=90
F06A Goldendale 90.37 38 ⇓P **P** **06 49 17.4 +0.3**
baz=90
G05A Wamic 90.37 39 ⇓P **P** **06 49 16.4 -0.7**
baz=90
E07A Sunnyside 90.42 37 ⇑P **P** **06 49 17.1 -0.2**
baz=90
J03A Ideyld Park 90.47 41 ⇓P **P** **06 49 17.3 -0.2**
baz=90
K02A Glendale 90.49 42 ⇓P **P** **06 49 17.2 -0.4**
baz=90
C09A Chrisman Ranch 90.53 36 ⇓P **P** **06 49 17.7 -0.1**
baz=90
M01C Crescent City 90.61 43 ⇓P **P** **06 49 18.4 +0.3**
baz=90
D08A Wollman Farm, 90.64 37 ⇓P **P** **06 49 18.1 -0.1**
baz=90
L02A Cave Junction 90.76 42 ⇑P **P** **06 49 18.7 -0.2**
baz=91
G06A Carlson Farm, 90.77 39 ⇑P **P** **06 49 18.6 -0.3**
baz=91
F07A Phinny Hill Vi 90.78 38 ⇑P **P** **06 49 19.0 0.0**
baz=91
NEW Newport 90.86 35 *e*P **P** **06 49 20.2 +0.9**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 90.86 35 *e*P **P** **06 49 20.2 +0.9**
comp=Z,2.7nm,1.0s,mb4.5
D09A Jones Farm, Ri 90.97 36 ⇑P **P** **06 49 19.9 +0.1**
baz=91
I05A Bend 91.03 40 ⇑P **P** **06 49 20.4 +0.3**
baz=91
C10A Spilker Farm, 91.03 35 ⇑P **P** **06 49 19.7 -0.5**
baz=91
A12A Yaak River Ran 91.19 34 ⇓P **P** **06 49 21.1 +0.2**
baz=91
H06A Lindquist Farm 91.23 39 ⇓P **P** **06 49 21.5 +0.4**
baz=91
G07A Ruggs Ranch, H 91.30 38 ⇓P **P** **06 49 21.7 +0.4**
baz=91
F08A Pendleton 91.48 38 ⇓P **P** **06 49 22.8 +0.6**
baz=91
B12A Libby 91.52 34 ⇑P **P** **06 49 22.6 +0.2**
baz=91
YBH Yreka Blue Hor 91.55 42 LR LR 07 24 49.6
comp=Z,68nm,19.9s,MS4.1,baz=146,slow=32
YBH Yreka Blue Hor 91.55 42 ⇓P **P** **06 49 22.7 +0.2**
baz=91,SNR=7.7
J05A Fort Rock 91.55 41 ⇓P **P** **06 49 23.1 +0.6**
baz=91,SNR=9.6
K04A Chiloquin 91.64 41 ⇓P **P** **06 49 23.1 +0.2**
baz=92
M02C Callahan 91.65 43 ⇑P **P** **06 49 22.7 -0.3**
baz=92,SNR=5.4
G08A Pilot Rock 91.68 38 ⇑P **P** **06 49 23.1 0.0**
baz=92
N02C Big Bar 91.69 43 ⇑P **P** **06 49 22.8 -0.4**
baz=92,SNR=5.6
O01C Eel River Cons 91.74 44 ⇓P **P** **06 49 23.3 -0.1**
baz=92
H07A Lands Inn, Kim 91.76 39 ⇓P **P** **06 49 23.8 +0.3**
baz=92
I06A Prineville 91.77 40 ⇓P **P** **06 49 23.8 +0.2**
baz=92,SNR=9.4
L04A Klamath Falls 91.80 42 ⇑P **P** **06 49 23.6 0.0**
baz=92
A13A Flathead Natio 91.81 33 ⇓P **P** **06 49 23.2 -0.6**
baz=92
F09A S2 Ranch, Elgi 92.01 37 ⇑P **P** **06 49 24.9 +0.3**
baz=92
M04C Macdoel 92.06 42 ⇓P **P** **06 49 24.5 -0.4**
baz=92,SNR=12
C12A Trout Creek 92.06 35 ⇓P **P** **06 49 25.0 +0.1**
baz=92
K05A Summer Lake 92.08 41 ⇑P **P** **06 49 24.9 -0.1**
baz=92,SNR=7.2
I07A Izee 92.10 39 ⇑P **P** **06 49 25.1 0.0**
baz=92
B13A Whitefish 92.15 34 ⇓P **P** **06 49 25.6 +0.3**
baz=92
M03C McCloud 92.17 43 ⇓P **P** **06 49 25.6 +0.2**
baz=92
J06A Christmas Vall 92.21 40 ⇑P **P** **06 49 26.0 +0.4**
baz=92,SNR=9.2
F10A Beach Ranch, E 92.22 37 ⇑P **P** **06 49 25.9 +0.3**
baz=92
WDC Whiskeytown Da 92.31 43 ⇑P **P** **06 49 25.4 -0.7**
baz=92
H08A Prairie City 92.31 38 ⇑P **P** **06 49 26.9 +0.8**
baz=92
O02C Red Bluff 92.38 44 ⇑P **P** **06 49 26.2 -0.1**
baz=92,SNR=5.2
K06A Valley Falls 92.42 41 ⇑P **P** **06 49 26.7 +0.2**
baz=92,SNR=11
L05A Lakeview 92.52 41 ⇑P **P** **06 49 27.3 +0.3**
baz=92,SNR=7.3
C13A Hot Springs 92.55 34 ⇓P **P** **06 49 27.6 +0.4**
baz=92
J07A Hines 92.64 40 ⇓P **P** **06 49 28.2 +0.6**
baz=92,SNR=6.3
GASB Alder Springs 92.72 44 ⇑P **P** **06 49 27.9 0.0**
baz=93,SNR=6.1
M05C Lookout 92.72 42 ⇓P **P** **06 49 28.0 +0.1**
baz=93
I08A Drewsey 92.74 39 ⇑P **P** **06 49 27.9 -0.2**
baz=93
HATC Hat Creek Radi 92.84 43 ⇓P **P** **06 49 28.8 +0.3**
baz=93
BMO Blue Mountains 92.88 38 *e*P **P** **06 49 28.6 -0.1**
comp=Z,2.0nm,0.8s,mb4.6
MOD Modoc 92.92 41 *e*P **P** **06 49 29.8 +0.9**
comp=Z,4.5nm,1.1s,mb4.8
MOD Modoc 92.92 41 ⇑P **P** **06 49 29.2 +0.3**
baz=93,SNR=7.5
K07A Rock Creek Ran 93.08 40 ⇓P **P** **06 49 30.2 +0.6**
baz=93,SNR=9.5
J08A Circle Bar Ran 93.13 39 ⇑P **P** **06 49 30.3 +0.4**
baz=93,SNR=5.9
I09A Lost Marbles R 93.18 39 ⇑P **P** **06 49 30.2 +0.1**
baz=93
M06C Likely Place G 93.22 42 ⇑P **P** **06 49 30.6 +0.4**
baz=93
MNRC McLaughlin Nat 93.33 45 ⇓P **P** **06 49 30.8 0.0**
baz=93
O04C Chester 93.36 43 ⇑P **P** **06 49 31.1 +0.2**
baz=93,SNR=10
L07A Adell 93.43 41 ⇑P **P** **06 49 31.4 +0.2**
baz=93
K08A Mann Creek Ran 93.50 40 ⇑P **P** **06 49 31.7 +0.1**
baz=93
ORV Oroville 93.55 44 P **P** **06 49 31.9 +0.2**
baz=93,SNR=5.2
J09A Fry Pan Ranch, 93.55 39 ⇓P **P** **06 49 31.9 +0.1**
baz=93,SNR=9.5
O05C Quincy 93.68 43 ⇑P **P** **06 49 32.6 +0.2**
baz=94
Q03C Winters 93.75 45 ⇓P **P** **06 49 33.1 +0.4**
baz=94
N06A Buffalo Meadow 93.89 42 ⇑P **P** **06 49 34.0 +0.7**
baz=94,SNR=6.4
M07A Soldier Meadow 93.91 41 ⇑P **P** **06 49 34.2 +0.8**
baz=94,SNR=5.7
L08A Fields 93.92 40 ⇑P **P** **06 49 33.6 +0.2**
baz=94,SNR=8.1
K09A Rome 93.97 40 ⇑P **P** **06 49 34.0 +0.3**
baz=94
BEKR Beckwourth 94.08 43 ⇓P **P** **06 49 34.4 +0.2**
baz=94,SNR=5.1
O06A Flanigan 94.24 42 ⇓P **P** **06 49 35.2 +0.3**
baz=94,SNR=7.5
JRSC Jasper Ridge 94.30 46 ⇓P **P** **06 49 35.4 +0.2**
baz=94
M08A Happy Creek Ra 94.35 41 ⇓P **P** **06 49 35.9 +0.5**
baz=94
N07B Gerlach 94.39 42 ⇓P **P** **06 49 36.3 +0.7**
baz=94
L09A Wilkinson Ranc 94.42 40 ⇑P **P** **06 49 35.9 +0.1**
baz=94
P06A Stead Airport, 94.48 43 ⇓P **P** **06 49 35.9 -0.1**
baz=94
LAVA Lava Cap Winer 94.49 44 ⇑P **P** **06 49 36.5 +0.4**
baz=94
O07A Toulon 94.82 42 ⇑P **P** **06 49 37.6 0.0**
baz=95
N08A GE Springer Mi 94.90 41 ⇓P **P** **06 49 38.4 +0.5**
baz=95
CMB Columbia Colle 95.14 44 *e*P **P** **06 49 39.5 +0.5**
CMB pmax pmax
comp=Z,8.0nm,0.4s,mb5.5
CMB Columbia Colle 95.14 44 *e*P **P** **06 49 39.5 +0.4**
comp=Z,8μm,0.4s
CMB Columbia Colle 95.14 44 ⇑P **P** **06 49 39.1 +0.1**
baz=95
N09A Rock Creek Ran 95.22 41 ⇑P **P** **06 49 40.3 +0.8**
baz=95
HLID Hailey 95.30 37 *e*P **P** **06 49 40.7 +0.9**
comp=Z,1.6nm,0.7s,mb4.6
HLID *e*pP pP 06 49 52.8 +5.4
HLID Hailey 95.30 37 ⇑P **P** **06 49 40.2 +0.4**
baz=95
R06C Coleville 95.44 44 ⇑P **P** **06 49 40.4 -0.1**
baz=95
S05C Merced 95.58 45 ⇓P **P** **06 49 41.0 -0.1**
baz=95
O09A Fish Creek Ran 95.84 41 ⇓P **P** **06 49 42.3 +0.1**
baz=96
M11A Holland Ranch, 95.88 40 ⇓P **P** **06 49 42.4 -0.1**
baz=96
T06C Millerton Lake 96.18 45 ⇑P **P** **06 49 44.0 +0.2**
baz=96
Q08A Gabbs 96.19 43 ⇓P **P** **06 49 44.3 +0.4**
baz=96

NVAR Mina Array Bea 96.22 43 P P 06 49 44.9 +0.9
comp=Z,1.3nm,0.9s,mb4.4,baz=283,slow=6.2,SNR=8.7
KCC Kaiser Creek 96.24 45 ⇑P P 06 49 44.8 +0.7
baz=96
M12A Wells 96.40 39 ⇓P P 06 49 45.0 +0.2
baz=96
N12A Clover Valley, 96.69 40 ⇑P P 06 49 46.2 +0.1
baz=96
O11A Cowboy Ranch, 96.78 41 ⇓P P 06 49 46.4 -0.1
baz=97
HELL Mitchell Peak, 96.81 45 ⇓P P 06 49 46.3 -0.4
baz=97
S08C White Mtn Res 96.87 44 ⇓P P 06 49 47.0 +0.1
baz=97
R09A Tonopah 97.10 43 ⇓P P 06 49 48.3 +0.3
baz=97
VES Vestal, Richgr 97.27 46 ⇑P P 06 49 49.3 +0.6
baz=97
S09A Goldfield 97.33 43 ⇓P P 06 49 49.6 +0.7
baz=97
FURC Furnace Creek, 98.32 44 ⇓P P 06 49 54.3 +0.9
baz=98
SDV Santo Domingo 145.12 22 *e*PKPdf PKPdf 06 55 52.7 -0.5
ROSC El Rosal 147.30 31 PKPbc PKPbc 06 56 00.6 +1.3
comp=Z,1.3nm,0.3s,baz=335,slow=7.9,SNR=5.4
USHA Ushuaia 148.35 169 PKPbc PKPbc 06 56 00.1 -2.0
comp=Z,5.8nm,1.0s,baz=197,slow=6.6,SNR=5.6
PLCA Paso Flores 160.46 151 PKPab PKPab 06 56 53.0 -3.5
comp=Z,1.9nm,0.9s,baz=268,slow=11,SNR=2.7
LPAZ La Paz 167.99 52 PKPab PKPab 06 57 29.7 0.0
comp=Z,1.2nm,0.8s,baz=340,slow=3.2,SNR=8.9
SIV San Ignacio 171.57 18 PKPab PKPab 06 57 44.3 -1.2
comp=Z,0.9nm,1.0s,baz=0.0,slow=1.0,SNR=4.1
CPUP Villa Florida 177.56 201 PKPab PKPab 06 58 09.1 -3.0
comp=Z,0.7nm,0.4s,baz=73,slow=2.0,SNR=3.6

MAN 01 06:40:39.9, 1571N×11976E, h38km, mb2.0, ML3.7, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.03**	**50**	⇑*e*P		Pn	06 40 58.6	+0.7
BCPH				*i* S		Sn	06 41 14.0	+2.9

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*ISCJB **01** 06:51:17.9±0.8, 17.1N±0.1×40.47E±0.10, h10km, mb3.5/6, MS4.2/1, Error ellipse: s-maj=19.1km s-min=8.6km az=73.2*
*IDC **01** 06:51:18.4±1.4, 17.19N×40.40E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/29, Error ellipse: s-maj=30.2km s-min=26.0km az=172.0*
ISC 01 06:51:19.8±0.8, 172N±01×4050E±010, h10km, n10, σ0°79/9, mb3.5/6, MS4.2/1, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**3.31**	**115**	*e*P		**Pn**	**06 52 11.4**	**-0.2**
HAJJ				*e*			06 52 11.4	
	baz=276,slow=6.9							
HAJJ				*i* S		**Sn**	**06 52 50.3**	**-0.6**
HAJJ				AML		AML	06 52 55.8	
	comp=Z,220nm,0.5s							
ATD	**Arta Tunnel**	**6.03**	**158**	Pn		**Pn**	**06 52 49.6**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=290,slow=20,SNR=3.9							
ATD				LR		LR	06 54 36.6	
	comp=Z,73nm,20.6s,baz=282,slow=32							
KMBO	**Kilima Mbogo**	**18.44**	**190**	LR		LR	07 02 03.6	
	comp=Z,85nm,19.8s,baz=268,slow=35							
BRTR	**Keskin Array B**	**23.28**	**347**	P		**P**	**06 56 28.2**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.3,baz=165,slow=12,SNR=3.4							
TORD	**Torodi Ar. Bea**	**37.62**	**269**	P		**P**	**06 58 34.8**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.0,baz=83,slow=8.1,SNR=17							
GERES	**GERESS Array B**	**38.40**	**331**	P		**P**	**06 58 39.7**	**-1.5**
	comp=Z,0.6nm,0.7s,mb3.5,baz=132,slow=7.9,SNR=7.3							
ESDC	**Sonseca Array**	**44.52**	**310**	P		**P**	**06 59 31.1**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=98,slow=7.9,SNR=3.4							
MKAR	**Makanchi Array**	**45.36**	**40**	P		**P**	**06 59 38.1**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.4,baz=262,slow=4.5,SNR=4.4							
PSI	**Prapat**	**59.05**	**97**	LR		LR	07 24 19.7	
	comp=Z,202nm,20.0s,MS4.2,baz=77,slow=34							
SONM	**Songino Array**	**61.34**	**44**	P		**P**	**07 01 37.1**	**+1.5**
	comp=Z,0.4nm,0.6s,mb3.7,baz=272,slow=4.2,SNR=4.9							

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*IDC **01** 06:59:47.8±0.7, 1599N×9461W, h62km±5km, mb3.9/19, mb1 4.1/20, mb1mx4.0/26, mbtmp4.3/20, MS3.4/10, Ms1 3.4/10, ms1mx3.1/33, Error ellipse: s-maj=23.8km s-min=7.5km az=67.0*
*ISCJB **01** 06:59:48.4±0.3, 1618N±004×9451W±002, h59km, mb4.4/50, MS3.5/10, Error ellipse: s-maj=5.5km s-min=2.8km az=22.3*
*MEX **01** 06:59:50.7±0.8, 1609N×9457W, h63km±31km, MD4.8*
*NEIC **01** 06:59:51.0, 16.11N×9455W, h61km, mb4.5/44, MD4.8(MEX), After MEX.*
*BJI **01** 06:59:51.0, 16.10N×9450W, h60km, mB5.3, Ms4.9, Msz4.9*
ISC 01 06:59:50.4±0.3, 1617N±004×9450W±002, h61km, h61km±2.3km: pP-P, n309, σ0°97/326, mb4.4/50, 52C-63D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.99**	**338**	P		**Pn**	**07 00 07.9**	**-0.4**
	394nm,0.3s,baz=181,slow=9.7,SNR=7657							
CMIG				S		**Sn**	**07 00 22.8**	**+1.3**
	3μm,0.3s,baz=178,slow=14,SNR=104							
CMIG	**Matias Romero**	**0.99**	**338**	*i* P		**Pn**	**07 00 07.8**	**-0.4**
CMIG	**Matias Romero**	**0.99**	**338**	P		**Pn**	**07 00 07.9**	**-0.4**
CMIG				S		**Sn**	**07 00 22.8**	**+1.3**
TUIG	**Tuzandepetl**	**1.85**	**2**	*i* P		**Pn**	**07 00 20.9**	**+1.0**
TUIG				*i* S		**Sn**	**07 00 42.2**	**-0.1**
TUIG	**Tuzandepetl**	**1.85**	**2**	*i* P		**Pn**	**07 00 21.2**	**+1.4**
TUIG				*i* S		**Sn**	**07 00 42.1**	**-0.1**
SCX	**San Cristobal**	**1.87**	**72**	*e*P		**Pn**	**07 00 20.3**	**+0.3**
SCX				*e*S		**Sn**	**07 00 44.4**	**+1.7**
SCX	**San Cristobal**	**1.87**	**72**	*i* P		**Pn**	**07 00 21.2**	**+1.1**
SCX				*i* S		**Sn**	**07 00 41.7**	**-1.0**
CCIG	**Comitan**	**2.27**	**87**	*e*P		**Pn**	**07 00 25.8**	**+0.3**
CCIG				*i* S		**Sn**	**07 00 52.2**	**-0.1**
OXX	**Oaxaca**	**2.32**	**293**	*i* P		**Pn**	**07 00 25.0**	**-1.2**
OXX				*e*S		**Sn**	**07 00 51.9**	**-1.6**
OXX	**Oaxaca**	**2.32**	**293**	*i* P		**Pn**	**07 00 25.3**	**-0.8**
VHO	**Vista Hermosa**	**2.32**	**293**	⇑*i*P		**Pn**	**07 00 24.8**	**-1.4**
VHO				*i* S		**Sn**	**07 00 52.2**	**-1.4**
TPIG	**Tehuac#an**	**3.54**	**310**	⇑*i*P		**Pn**	**07 00 42.4**	**-0.4**
TPIG				*i* S		**Sn**	**07 01 22.2**	**-1.0**
UTMO	**Huajuapan**	**3.57**	**298**	*e*P		**Pn**	**07 00 42.4**	**-0.8**
UTMO				*i* S		**Sn**	**07 01 22.6**	**-1.5**
TP2	**Tecpan 2**	**3.62**	**112**	⇑*e*P		**Pn**	**07 00 45.9**	**+2.0**
LVIG	**Laguna Verde**	**3.98**	**333**	*i* P		**Pn**	**07 00 47.2**	**-1.6**
LVIG				*i* S		**Sn**	**07 01 34.8**	**+0.6**
LVIG	**Laguna Verde**	**3.98**	**333**	*i* P		**Pn**	**07 00 47.1**	**-1.7**
LVIG				*i* S		**Sn**	**07 01 31.4**	**-2.8**
SCIG	**Sabancuy**	**4.21**	**48**	*i* P		**Pn**	**07 00 52.9**	**+0.9**
SCIG				*i* S		**Sn**	**07 01 40.4**	**+0.6**
PPM	**Popocatepetl**	**4.88**	**307**	*e*P		**Pn**	**07 01 02.8**	**+1.6**
PPM				⇑*i*P			07 01 02.8	
PPM				*i* P			07 01 03.1	
PPM				*i* S		**Sn**	**07 01 53.4**	**-2.9**
PPM				*i* S		**Sn**	**07 01 54.5**	**-1.8**
PPM	**Popocatepetl**	**4.88**	**307**	*i* P		**Pn**	**07 01 02.9**	**+1.7**
PPM				*i* S		**Sn**	**07 01 54.5**	**-1.8**
YAIG	**Yautepec**	**5.12**	**302**	⇑*i*P		**Pn**	**07 01 04.7**	**+0.3**
YAIG				*i* S		**Sn**	**07 02 01.1**	**-1.1**
YAIG	**Yautepec**	**5.12**	**302**	*i* P		**Pn**	**07 01 04.7**	**+0.3**
YAIG				*i* S		**Sn**	**07 01 57.9**	**-4.2**
MEIG	**Mezcala**	**5.20**	**290**	*i* P		**Pn**	**07 01 04.5**	**-1.1**
MEIG				*i* S		**Sn**	**07 02 01.0**	**-3.2**
RTR	**El Retiro**	**5.20**	**115**	*e*P		x	07 01 23.1	
RTR				*e*S		x	07 02 23.9	
ACX	**Acapulco**	**5.25**	**278**	*i* P		**Pn**	**07 01 01.5**	**-4.6**
SBLS	**San Blas**	**5.25**	**116**	⇑*e*P		x	07 01 23.9	
SBLS				*e*S		x	07 02 26.1	
PLIG	**Platanillo**	**5.27**	**296**	⇑*i*P		**Pn**	**07 01 06.0**	**-0.5**
PLIG				*i* S		**Sn**	**07 02 04.3**	**-1.5**
PLIG	**Platanillo**	**5.27**	**296**	*i* P		**Pn**	**07 01 05.7**	**-0.8**
PLIG				*i* S		**Sn**	**07 02 01.6**	**-4.2**
IIO	**Organos**	**5.27**	**311**	*e*P		**Pn**	**07 01 07.0**	**+0.5**
IIO				*i* S		**Sn**	**07 02 03.5**	**-2.3**
UNM	**Universidad Na**	**5.46**	**306**	⇑*i*P		**Pn**	**07 01 10.7**	**+1.6**
UNM				*i* S		**Sn**	**07 02 07.8**	**-2.7**
UNM	**Universidad Na**	**5.46**	**306**	*i* P		**Pn**	**07 01 09.8**	**+0.7**
UNM				*i* S		**Sn**	**07 02 07.8**	**-2.7**
BOQS	**Boqueron**	**5.59**	**115**	*e*P		x	07 01 28.9	
BOQS				*e*S		x	07 02 33.1	
CAIG	**El Cayaco**	**5.60**	**280**	⇑*i*P		**Pn**	**07 01 07.5**	**-3.5**
CAIG				*i* S		**Sn**	**07 02 15.0**	**+1.0**
CAIG	**El Cayaco**	**5.60**	**280**	*i* P		**Pn**	**07 01 06.8**	**-4.2**
CAIG				*i* S		**Sn**	**07 02 06.1**	**-7.9**
SZVM	**Salazar**	**5.61**	**305**	*i* P		**Pn**	**07 01 12.5**	**+1.3**
SZVM				*i* S		**Sn**	**07 02 15.7**	**+1.4**
LBRS	**Las Brisas**	**5.80**	**114**	*e*P		x	07 01 31.0	
LBRS				*e*S		x	07 02 36.0	
LFRS	**El Faro**	**5.83**	**115**	*e*P		x	07 01 31.8	
LFRS				*e*S		x	07 02 38.0	
LCBS	**La Ceiba**	**5.89**	**114**	*e*P		x	07 01 32.4	
LCBS				*e*S		x	07 02 39.8	
VSM	**San Miguel**	**6.61**	**114**	*e*P		x	07 01 41.4	
VSM				*e*S		x	07 02 58.5	
CNCH	**Conchagua**	**7.06**	**113**	*e*P		x	07 01 49.5	
CNCH				*e*S		x	07 03 08.5	
MOIG	**Morelia**	**7.26**	**300**	*e*P		**Pn**	**07 01 35.2**	**+1.4**
MOIG				*i* S		**Sn**	**07 02 53.5**	**-1.3**
MOIG	**Morelia**	**7.26**	**300**	*i* P		**Pn**	**07 01 35.2**	**+1.5**
MOIG				*i* S		**Sn**	**07 02 53.5**	**-1.3**
MRX	**Morelia**	**7.28**	**300**	*i* P		**Pn**	**07 01 36.0**	**+2.0**
SFJM	**Santa Fe**	**9.18**	**299**	*i* P		**Pn**	**07 02 01.3**	**+1.3**
LNIG	**Linares**	**9.85**	**333**	*i* P		**Pn**	**07 02 09.9**	**+0.8**
LNIG				*i* S		**Sn**	**07 03 57.1**	**-1.1**
JTS	**JuntasAbangare**	**10.97**	**121**	P		**Pn**	**07 02 23.2**	**-1.3**
	4.0nm,0.3s,baz=322,slow=18,SNR=17							
JTS	**JuntasAbangare**	**10.97**	**121**	*e*Pn		**Pn**	**07 02 23.5**	**-1.0**
HKT	**Hockley**	**13.77**	**355**	*e*Pn		**Pn**	**07 03 03.0**	**+0.5**
JCT	**Junction City**	**15.05**	**342**	*e*P		**Pn**	**07 03 20.6**	**+1.2**
NATX	**Nacogdoches**	**15.52**	**359**	*e*P		**Pn**	**07 03 26.6**	**+1.2**
	43nm,0.9s							
NATX				*e*S		S	07 06 07.8	-21
LPIG	**La Paz**	**16.80**	**301**	P		**Pn**	**07 03 42.8**	**+1.2**
	baz=248,slow=2.2,SNR=7.7							
LPIG				LR		LR	07 10 09.3	
	comp=Z,93nm,20.8s,baz=248,slow=37							
DWPF	**Disney**	**16.94**	**43**	*e*P		**Pn**	**07 03 43.0**	**-0.3**
	31nm,1.1s							
GDL2	**Guadalupe Moun**	**18.30**	**332**	*e*P		**Pn**	**07 04 00.0**	**+0.1**
MIAR	**Mount Ida**	**18.32**	**2**	*e*P		**Pn**	**07 03 59.0**	**-1.1**
	32nm,1.0s							
MIAR				*e*S		**S**	**07 07 05.7**	**-19**
MNTX	**Cornudas Mount**	**18.36**	**329**	*e*P		**Pn**	**07 04 01.3**	**+0.6**
UALR	**University of**	**18.63**	**6**	*e*P		**Pn**	**07 04 02.9**	**-1.0**
	23nm,0.6s							
UALR				*e*S		**S**	**07 07 23.9**	**-8.1**
OXF	**Oxford**	**18.83**	**13**	*e*P		**Pn**	**07 04 06.8**	**+0.5**
	48nm,1.1s							
OXF				*e*S		**S**	**07 07 17.1**	**-19**
WMOK	**Wichita Mounta**	**18.89**	**349**	*e*P		**Pn**	**07 04 04.9**	**-2.0**
	33nm,0.9s							
PLAL	**Pickwick Lake**	**19.60**	**16**	*e*P		**Pn**	**07 04 11.3**	**-4.1**
	6.4nm,0.7s							
PLAL				*e*S		**S**	**07 07 39.4**	**-12**
GLAT	**Glass**	**20.55**	**12**	*e*P		**P**	**07 04 22.5**	**-1.3**
UTMT	**University of**	**20.71**	**13**	*e*P		**P**	**07 04 23.2**	**-2.4**
WVT	**Waverly**	**20.75**	**15**	*e*P		**P**	**07 04 24.4**	**-1.6**
	15nm,0.9s							
WVT				*e*S		**S**	**07 08 08.4**	**-5.8**
Y22C	**IRIS PASSCAL I**	**21.05**	**330**	⇑P		**P**	**07 04 28.2**	**-1.0**
	baz=21							
LPM	**Los Pinos Moun**	**21.10**	**331**	*e*P		**P**	**07 04 31.4**	**+1.6**
LENM	**Lemitar**	**21.14**	**330**	*e*P		**P**	**07 04 31.5**	**+1.2**
LAZ	**Ladron**	**21.42**	**330**	*e*P		**P**	**07 04 34.6**	**+1.4**
ANMO	**Albuquerque**	**21.56**	**332**	P		**P**	**07 04 35.3**	**+0.6**
	8.8nm,0.8s,mb4.2,baz=148,slow=11,SNR=28							
ANMO	**Albuquerque**	**21.56**	**332**	*e*P		**P**	**07 04 35.6**	**+0.9**
	9.5nm,0.8s,mb4.3							
TKL	**Tuckaleechee C**	**21.64**	**24**	P		**P**	**07 04 38.0**	**+2.4**
	14nm,1.0s,mb4.4,baz=201,slow=13,SNR=14							
TKL				S		**S**	**07 08 32.3**	**+0.5**
	5.2nm,0.9s,baz=170,slow=7.5,SNR=3.6							
TKL				LR		LR	07 14 08.4	
	comp=Z,90nm,21.9s,baz=270,slow=39							
TUC	**Tucson**	**21.83**	**320**	*e*P		**P**	**07 04 38.4**	**+0.7**
	19nm,1.1s,mb4.5							
SIUC	**Southern Illin**	**21.96**	**11**	*e*P		**P**	**07 04 37.5**	**-1.5**
	78nm,1.2s,mb5.0							
CCM	**Cathedral Cave**	**21.99**	**7**	*e*P		**P**	**07 04 37.3**	**-2.0**
	16nm,0.9s,mb4.5							
TZTN	**Tazewell**	**22.50**	**24**	*e*P		**P**	**07 04 50.2**	**+5.4**
116A	**Eloy**	**22.57**	**319**	⇓P		**P**	**07 04 46.4**	**+0.9**
	baz=23,SNR=15							
ROSC	**El Rosal**	**22.76**	**117**	P		**P**	**07 04 47.7**	**+0.2**
	6.8nm,0.8s,mb4.2,baz=97,slow=22,SNR=15							
ROSC				LR		LR	07 13 45.8	
	comp=Z,63nm,19.0s,baz=24,slow=37							
ROSC	**El Rosal**	**22.76**	**117**	*e*P		**P**	**07 04 48.0**	**+0.5**
KSU1	**Kansas State U**	**22.92**	**356**	*e*P		**P**	**07 04 46.2**	**-2.9**
115A	**Sonoran Desert**	**23.00**	**319**	P		**P**	**07 04 50.2**	**+0.3**
	baz=23,SNR=10							
CBKS	**Cedar Bluff**	**23.02**	**349**	*e*P		**P**	**07 04 50.1**	**-0.1**
WCI	**Wyandotte Cave**	**23.13**	**17**	*e*P		**P**	**07 04 47.8**	**-3.5**
	13nm,0.8s,mb4.4							
WCI				*e*			07 09 10.8	
SDCO	**Great Sand Dun**	**23.59**	**338**	*e*P		**P**	**07 04 56.7**	**+1.1**
	39nm,1.0s,mb4.8							
Z14A	**Wintersburg**	**23.88**	**319**	⇑P		**P**	**07 04 58.6**	**+0.3**
	baz=24							
BLO	**Bloomington**	**23.96**	**15**	*e*P		**P**	**07 04 56.9**	**-2.0**
	12nm,0.6s,mb4.5							
X15A	**Humboldt**	**24.21**	**322**	P		**P**	**07 05 02.0**	**+0.7**
	baz=24,SNR=17							
Y14A	**Wickenburg**	**24.30**	**320**	⇓P		**P**	**07 05 02.4**	**+0.3**
	baz=24,SNR=32							
MVCO	**Mesa Verde**	**24.35**	**332**	*e*P		**P**	**07 05 02.8**	**+0.3**
MVCO	**Mesa Verde**	**24.35**	**332**	⇓P		**P**	**07 05 02.9**	**+0.4**
	baz=24,SNR=11							
SDV	**Santo Domingo**	**24.38**	**104**	P		**P**	**07 05 02.1**	**-0.7**
	1.3nm,0.4s,mb3.7,baz=352,slow=6.1,SNR=3.0							
SDV				LR		LR	07 13 22.4	
	comp=Z,81nm,21.7s,baz=350,slow=33							
SDV	**Santo Domingo**	**24.38**	**104**	P		**P**	**07 05 02.1**	**-0.7**
SDV				LR		LR	07 13 22.4	
WUAZ	**Wupatki**	**24.46**	**325**	*e*P		**P**	**07 05 04.1**	**+0.5**
	48nm,1.0s,mb4.9							
WUAZ	**Wupatki**	**24.46**	**325**	P		**P**	**07 05 04.2**	**+0.6**
	baz=25,SNR=34							
X14A	**Yava**	**24.59**	**321**	P		**P**	**07 05 05.2**	**+0.5**
	baz=25,SNR=6.8							
W15A	**Williams**	**24.72**	**323**	⇑P		**P**	**07 05 06.3**	**+0.4**
	baz=25							
Y13A	**Salome**	**24.74**	**319**	⇑P		**P**	**07 05 05.8**	**-0.2**
	baz=25							
GLA	**Glamis**	**24.91**	**316**	*e*P		**P**	**07 05 08.1**	**+0.5**
GLA	**Glamis**	**24.91**	**316**	⇓P		**P**	**07 05 07.8**	**+0.2**
	baz=25,SNR=7.5							
Y12C	**Blythe**	**25.14**	**318**	⇓P		**P**	**07 05 09.0**	**-0.7**
	baz=25							
PV01	**Paradox Valley**	**25.15**	**333**	*e*P		**P**	**07 05 10.7**	**+1.0**
W14A	**Seligman**	**25.22**	**322**	P		**P**	**07 05 10.9**	**+0.5**
	baz=25,SNR=12							
PDMCI	**Parker Dam,Lak**	**25.25**	**319**	⇑P		**P**	**07 05 10.8**	**+0.1**
	baz=25							
Y13A	**Yucca**	**25.25**	**320**	P		**P**	**07 05 11.0**	**+0.3**
	baz=25,SNR=9.1							
SMCO	**Snowmass**	**25.39**	**337**	*e*P		**P**	**07 05 13.0**	**+1.0**
	26nm,1.1s,mb4.7							
ISCO	**Idaho Springs**	**25.46**	**340**	*e*P		**P**	**07 05 13.4**	**+0.8**
	7.4nm,0.8s,mb4.3							
SWSC	**Sam W. Stewart**	**25.49**	**315**	⇓P		**P**	**07 05 12.3**	**-0.6**
	baz=26							
DVTC	**Desert V Tower**	**25.54**	**314**	⇓P		**P**	**07 05 13.2**	**-0.1**
	baz=26							
PV10	**Paradox Valley**	**25.55**	**333**	*e*P		**P**	**07 05 13.1**	**-0.3**
W13A	**Hualapai Mount**	**25.62**	**321**	⇑P		**P**	**07 05 14.1**	**+0.1**
	baz=26,SNR=6.3							
SCIA	**State Center**	**25.67**	**2**	*e*P		**P**	**07 05 13.3**	**-1.3**
BC3	**Big Chuckw Mtn**	**25.69**	**317**	⇓P		**P**	**07 05 14.8**	**+0.2**
	baz=26,SNR=9.0							
IRM	**Iron Mountain**	**25.80**	**318**	⇓P		**P**	**07 05 14.9**	**-0.8**
	baz=26							
MONP	**Monument Peak**	**25.89**	**314**	⇓P		**P**	**07 05 16.1**	**-0.4**
	baz=26							
BELC	**Belle Mtn.**	**26.26**	**317**	⇑P		**P**	**07 05 20.1**	**+0.3**
	baz=26							
W12A	**Cal Nev Ari**	**26.36**	**320**	P		**P**	**07 05 21.2**	**+0.6**
	baz=27,SNR=7.2							
V12A	**Nelson**	**26.62**	**321**	P		**P**	**07 05 23.5**	**+0.4**
	baz=27,SNR=13							
PHWY	**Pilot Hill**	**26.77**	**341**	*e*P		**P**	**07 05 25.0**	**+0.6**
SRU	**San Rafael**	**26.82**	**332**	*e*P		**P**	**07 05 24.6**	**-0.2**
	5.0nm,1.1s,mb4.0							
JFWS	**Jewell Farm**	**26.90**	**7**	*e*P		**P**	**07 05 23.7**	**-1.9**
	17nm,0.6s,mb4.8							
U12A	**Valley of Fire**	**26.91**	**322**	⇓P		**P**	**07 05 25.8**	**+0.1**
	baz=27							
HEC	**Hector,Ludlow**	**26.98**	**318**	⇑P		**P**	**07 05 26.7**	**+0.4**
	baz=27							
V11A	**Goodsprings**	**27.05**	**320**	⇓P		**P**	**07 05 28.0**	**+1.0**
	baz=27							
TUQ	**Turquoise Mtn.**	**27.10**	**319**	⇓P		**P**	**07 05 27.9**	**+0.6**
	baz=27							
MSU	**Marysvale**	**27.14**	**329**	*e*P		**P**	**07 05 31.0**	**+3.3**
SJG	**San Juan**	**27.15**	**82**	LR		LR	07 14 42.9	
	comp=Z,66nm,20.6s,baz=90,slow=33							
ARUT	**Antelope Range**	**27.26**	**326**	*e*P		**P**	**07 05 29.8**	**+1.0**
SHPR	**Sheep Range**	**27.33**	**322**	*e*P		**P**	**07 05 30.1**	**+0.6**
ECSD	**EROS,Sioux Fal**	**27.53**	**357**	*e*P		**P**	**07 05 29.3**	**-2.0**
RWWY	**Rawlins**	**27.69**	**339**	*e*P		**P**	**07 05 33.1**	**+0.4**
	9.6nm,0.9s,mb4.4							
ATAH	**Atahualpa**	**28.00**	**144**	LR		LR	07 14 37.3	
	comp=Z,109nm,21.5s,baz=248,slow=32							
FURC	**Furnace Creek,**	**28.34**	**320**	⇓P		**P**	**07 05 37.7**	**-0.8**
	baz=28							
MPMC	**Manual Prospec**	**28.48**	**318**	⇓P		**P**	**07 05 40.2**	**+0.5**
	baz=29							
DAC	**Darwin (Calif)**	**28.68**	**319**	*e*P		**P**	**07 05 41.8**	**+0.3**
DUG	**Dugway**	**28.75**	**330**	⇓P		**P**	**07 05 42.2**	**+0.1**
	baz=29							
ARVC	**Arvin**	**28.81**	**316**	⇓P		**P**	**07 05 42.9**	**+0.3**
	baz=29							
Q12A	**Willow Creek R**	**28.91**	**326**	⇓P		**P**	**07 05 43.2**	**-0.4**
	baz=29							
GRAC	**Grapevine Rang**	**29.00**	**320**	P		**P**	**07 05 45.5**	**+1.2**
	baz=29,SNR=7.1							
SBC	**Santa Barbara**	**29.04**	**313**	⇓P		**P**	**07 05 45.2**	**+0.5**
	baz=29							
R10A	**Warm Springs**	**29.21**	**323**	P		**P**	**07 05 47.6**	**+1.5**
	baz=29,SNR=5.1							
Q11A	**Duckwater**	**29.23**	**325**	P		**P**	**07 05 47.4**	**+1.0**
	baz=29,SNR=5.8							
P12A	**McGill**	**29.27**	**326**	⇓P		**P**	**07 05 47.0**	**+0.3**
	baz=30							
HWUT	**Hardware Ranch**	**29.31**	**333**	*e*P		**P**	**07 05 47.4**	**+0.3**
	3.9nm,0.9s,mb4.1							
S09A	**Goldfield**	**29.37**	**321**	P		**P**	**07 05 48.4**	**+0.8**
	baz=30,SNR=8.6							
VES	**Vestal, Richgr**	**29.39**	**316**	⇓P		**P**	**07 05 47.8**	**+0.1**
	baz=30							
BW06	**Boulder Array**	**29.48**	**337**	*e*P		**P**	**07 05 48.3**	**-0.3**
PDAR	**Pinedale Array**	**29.48**	**337**	P		**P**	**07 05 47.5**	**-1.0**
	1.2nm,0.9s,mb3.6,baz=148,slow=6.8,SNR=9.2							
TIN	**Tinemaha**	**29.56**	**319**	⇑P		**P**	**07 05 49.6**	**+0.3**
	baz=30							
R09A	**Tonopah**	**29.62**	**322**	P		**P**	**07 05 50.7**	**+0.9**
	baz=30,SNR=5.7							
RCTC	**Rector, Farmer**	**29.76**	**317**	⇓P		**P**	**07 05 51.1**	**+0.1**
	baz=30							
O12A	**Currie**	**29.77**	**328**	P		**P**	**07 05 52.3**	**+1.1**
	baz=30,SNR=7.7							
S08C	**White Mtn Res**	**29.81**	**320**	⇑P		**P**	**07 05 52.2**	**+0.7**
	baz=30,SNR=7.7							
HELL	**Mitchell Peak,**	**29.84**	**318**	⇓P		**P**	**07 05 51.6**	**-0.2**
	baz=30,SNR=6.9							
N13A	**Wendover, West**	**29.94**	**329**	⇓P		**P**	**07 05 52.5**	**-0.2**
	baz=30							
HVU	**Hansel Valley**	**29.98**	**332**	*e*P		**P**	**07 05 54.0**	**+0.9**
Q09A	**Carvers**	**30.08**	**323**	⇓P		**P**	**07 05 54.2**	**+0.3**
	baz=30							
O11A	**Cowboy Ranch,**	**30.14**	**327**	⇑P		**P**	**07 05 55.0**	**+0.5**
	baz=30,SNR=7.5							
MLAC	**Mammoth Lakes**	**30.30**	**320**	⇓P		**P**	**07 05 55.9**	**+0.1**
	baz=30							
R08A	**Mina**	**30.31**	**321**	⇓P		**P**	**07 05 57.1**	**+1.2**
	baz=30,SNR=5.7							
N12A	**Clover Valley,**	**30.35**	**328**	⇑P		**P**	**07 05 56.6**	**+0.3**
	baz=30,SNR=6.5							

baz=33,SNR=13
M07A Soldier Meadow 32.93 325 ⇓P **P 07 06 18.7 -0.3**
baz=33
L08A Fields 33.03 327 P **P 07 06 20.4 +0.6**
baz=33,SNR=14
K09A Rome 33.07 328 P **P 07 06 20.7 +0.5**
baz=33,SNR=19
ORV Oroville 33.13 320 ⇑P **P 07 06 21.7 +1.1**
baz=33
LRM Limekiln Ridge 33.16 337 *e*P **P 07 06 21.4 +0.4**
DGMT Dagmar 33.18 348 *e*P **P 07 06 21.3 +0.2**
13nm,1.0s,mb4.8
O04C Chester 33.34 321 ⇑P **P 07 06 22.7 +0.2**
baz=34
WVOR Wild Horse Val 33.36 327 *e*P **P 07 06 22.9 +0.3**
12nm,1.2s,mb4.7
L07A Adell 33.45 325 P **P 07 06 23.6 +0.2**
baz=34,SNR=7.5
K08A Mann Creek Ran 33.49 327 ⇓P **P 07 06 24.4 +0.6**
baz=34
M06C Likely Place G 33.55 323 P **P 07 06 25.0 +0.7**
baz=34,SNR=10
J09A Fry Pan Ranch, 33.56 329 P **P 07 06 25.0 +0.6**
baz=34,SNR=9.0
K07A Rock Creek Ran 33.86 326 P **P 07 06 27.5 +0.5**
baz=34,SNR=13
MOD Modoc 33.91 324 *e*P **P 07 06 27.7 +0.3**
4.0nm,0.9s,mb4.3
MOD Modoc 33.91 324 P **P 07 06 27.4 0.0**
baz=34,SNR=8.6
J08A Circle Bar Ran 33.93 328 ⇑P **P 07 06 28.0 +0.4**
baz=34,SNR=11
GASB Alder Springs 33.94 319 ⇓P **P 07 06 28.8 +1.1**
baz=34
I09A Lost Marbles R 34.01 329 P **P 07 06 28.8 +0.5**
baz=34,SNR=5.6
ULM Lac du Bonnet 34.01 358 P **P 07 06 25.6 -2.7**
4.0nm,0.7s,mb4.5,baz=188,slow=10,SNR=8.1
ULM LR LR 07 22 47.6
comp=Z,52nm,18.9s,baz=8.4,slow=40
EGMT Eagleton 34.16 342 *e*P **P 07 06 29.6 -0.1**
14nm,1.0s,mb4.8
EGMT Eagleton 34.16 342 ⇓P **P 07 06 29.0 -0.6**
baz=34,SNR=5.9
P01C Double 8 Ranch 34.23 318 ⇓P **P 07 06 30.4 +0.1**
baz=34
L05A Lakeview 34.30 324 ⇓P **P 07 06 30.7 -0.1**
baz=34,SNR=5.6
I08A Drewsey 34.37 329 ⇑P **P 07 06 31.4 -0.1**
baz=35
CHMT Chamberlain Mo 34.38 337 *e*P **P 07 06 31.0 -0.6**
H09A Durkee 34.48 330 ⇓P **P 07 06 32.1 -0.3**
baz=35
MSO Missoula 34.58 336 *e*P **P 07 06 33.2 0.0**
7.6nm,1.2s,mb4.5
M04C Macdoel 34.70 323 ⇓P **P 07 06 33.8 -0.6**
baz=35
J06A Christmas Vall 34.73 326 ⇑P **P 07 06 33.5 -1.0**
baz=35
K05A Summer Lake 34.78 325 ⇓P **P 07 06 35.8 +0.8**
baz=35
L04A Klamath Falls 34.98 323 ⇓P **P 07 06 36.6 -0.1**
baz=35
N02C Big Bar 34.99 320 ⇓P **P 07 06 39.4 +2.6**
baz=35
YBH Yreka Blue Hor 35.18 322 P **P 07 06 36.2 -2.3**
1.1nm,0.7s,mb3.9,baz=104,slow=7.2,SNR=5.5
F10A Beach Ranch, E 35.27 332 P **P 07 06 39.1 0.0**
baz=36,SNR=5.8
H07A Lands Inn, Kim 35.36 328 ⇓P **P 07 06 39.4 -0.6**
baz=36
F09A S2 Ranch, Elgi 35.38 331 ⇓P **P 07 06 39.8 -0.4**
baz=36
C13A Hot Springs 35.52 336 ⇑P **P 07 06 40.3 -1.1**
baz=36
C12A Trout Creek 35.90 336 ⇑P **P 07 06 43.9 -0.6**
baz=36
I05A Bend 35.94 326 ⇓P **P 07 06 45.0 +0.1**
baz=36
B13A Whitefish 36.05 337 P **P 07 06 46.2 +0.3**
baz=36,SNR=6.8
M01C Crescent City 36.09 321 ⇑P **P 07 06 45.9 -0.4**
baz=36
A13A Flathead Natio 36.50 338 P **P 07 06 50.0 +0.2**
baz=37,SNR=5.3
B12A Libby 36.56 336 P **P 07 06 50.2 0.0**
baz=37,SNR=7.6
D09A Jones Farm, Ri 36.58 332 ⇓P **P 07 06 50.4 0.0**
baz=37
G05A Wamic 36.70 328 ⇓P **P 07 06 51.7 +0.3**
baz=37
C10A Spilker Farm, 36.73 334 ⇑P **P 07 06 51.5 -0.2**
baz=37
H04A Detroit Lake 36.78 326 P **P 07 06 52.1 0.0**
baz=37,SNR=8.9
F06A Goldendale 36.80 329 ⇑P **P 07 06 53.2 +1.0**
baz=37
I03A Eugene 36.91 325 P **P 07 06 53.2 0.0**
baz=37,SNR=6.3
HOOD Mount Hood Mea 36.93 328 *e*P **P 07 06 54.3 +1.0**
A12A Yaak River Ran 36.96 337 P **P 07 06 53.8 +0.1**
baz=37,SNR=5.4
NEW Newport 37.01 335 P **P 07 06 52.6 -1.4**
4.2nm,0.8s,mb4.3,baz=146,slow=12,SNR=5.4
C09A Chrisman Ranch 37.13 333 ⇑P **P 07 06 54.4 -0.7**
baz=37
F05A White Salmon 37.22 328 ⇑P **P 07 06 55.2 -0.6**
baz=37,SNR=6.8
G04A Mulino 37.28 327 ⇑P **P 07 06 56.4 0.0**
baz=38
H03A Soap Creek Ran 37.37 326 ⇓P **P 07 06 57.1 0.0**
baz=38
E06A Yakima 37.44 330 P **P 07 06 58.5 +0.7**
baz=38,SNR=7.2
C08A Higginbotham F 37.45 333 ⇑P **P 07 06 56.9 -0.9**
baz=38
B09A Rice 37.56 334 ⇓P **P 07 06 57.8 -0.9**
baz=38
H02A Toledo 37.76 325 ⇑P **P 07 07 00.2 -0.2**
baz=38
G03A Yamhill 37.78 326 ⇑P **P 07 07 00.1 -0.4**
baz=38,SNR=5.5
E05A Randle 37.84 329 P **P 07 07 01.4 +0.4**
baz=38,SNR=6.3
D06A Cle Elum 37.84 330 P **P 07 07 01.5 +0.4**
baz=38,SNR=5.0
LON Longmire 38.00 329 *e*P **P 07 07 02.5 +0.1**
F03A Seaside 38.33 327 ⇓P **P 07 07 05.7 +0.5**
baz=38
D05A Enumclaw 38.39 330 ⇓P **P 07 07 05.2 -0.5**
baz=39
C05A Tolt Reservoir 38.60 330 ⇑P **P 07 07 05.9 -1.6**
baz=39
E03A Lebam 38.74 328 ⇓P **P 07 07 07.9 -0.7**
baz=39
GNW Green Mountain 39.06 329 *e*P **P 07 07 10.1 -1.2**
B06A Marblemount 39.10 331 ⇓P **P 07 07 11.1 -0.5**
baz=39
B05A Bryant 39.20 331 ⇑P **P 07 07 11.1 -1.4**
baz=39
C04A Brinnon 39.24 329 ⇓P **P 07 07 11.2 -1.6**
baz=39
A05A Maple Falls 39.72 331 ⇓P **P 07 07 15.8 -1.0**
baz=40
EDM Edmonton 39.83 342 *e*P **P 07 07 16.3 -1.4**
EDM *e*pP pP 07 07 30.5 -2.5
LPAZ La Paz 41.43 140 P **P 07 07 28.6 -2.4**
1.7nm,0.7s,mb3.8,baz=326,slow=9.1,SNR=13
LPAZ La Paz 41.43 140 *e*P **P 07 07 28.4 -2.5**
1.3nm,0.5s,mb3.8
LPAZ *e*pP pP 07 07 44.8 -1.5
SCHQ Schefferville 44.10 23 LR LR 07 27 54.4
comp=Z,76nm,20.2s,baz=168,slow=38
YKA Yellowknife Ar 48.39 348 P **P 07 08 24.4 -1.8**
5.5nm,0.9s,mb4.6,baz=152,slow=7.5,SNR=12
YKA pP pP 07 08 39.7 -2.1
1.9nm,0.6s,baz=152,slow=7.5,SNR=5.2
YKA LR LR 07 32 22.8
comp=Z,26nm,21.4s,baz=35,slow=40
YKA Yellowknife Ar 48.39 348 P **P 07 08 24.4 -1.8**
YKA pP pP 07 08 39.7 -2.1
YKA LR LR 07 32 22.8
CPUP Villa Florida 55.59 139 P **P 07 09 15.2 -4.5**
0.5nm,0.3s,mb4.0,baz=317,slow=3.5,SNR=3.5
BDFB Brasilia 55.71 122 P **P 07 09 18.0 -2.6**
4.1nm,0.7s,mb4.6,baz=277,slow=7.4,SNR=9.5
BDFB Brasilia 55.71 122 *e*P **P 07 09 17.3 -3.2**
6.6nm,0.7s,mb4.8
BDFB *e*pP pP 07 09 33.3 -3.2
INK Inuvik 57.69 344 *e*P **P 07 09 33.5 -1.1**
143nm,0.8s
INK *e*pP pP 07 09 47.8 -2.9
SFJD Kangerlussuaq 58.22 19 P **P 07 09 35.4 -2.8**
23nm,1.1s,mb5.1,baz=236,slow=3.6,SNR=4.9
PLCA Paso Flores 60.82 159 P **P 07 09 52.7 -3.5**
4.8nm,0.7s,mb4.7,baz=328,slow=8.0,SNR=12
PLCA pP pP 07 10 10.2 -2.3
3.9nm,0.9s,baz=339,slow=5.8,SNR=4.4
PLCA Paso Flores 60.82 159 *e*P **P 07 09 52.8 -3.5**
4.2nm,0.6s,mb4.8
PLCA *e*pP pP 07 10 09.2 -3.3
TRQA Tornquist 61.98 151 *e*P **P 07 10 01.1 -2.9**
12nm,1.4s,mb4.8
USHA Ushuaia 74.11 165 P **P 07 11 16.5 -3.6**
2.6nm,0.9s,mb4.2,baz=181,slow=1.1,SNR=3.6
EKA Eskdalemuir Ar 77.62 36 P **P 07 11 37.7 -2.4**
2.7nm,0.8s,mb4.2,baz=277,slow=7.4,SNR=5.0
ESDC Sonseca Array 80.27 52 P **P 07 11 52.4 -2.2**
3.2nm,1.0s,mb4.2,baz=289,slow=5.5,SNR=7.5
NB2 NORSAR Subarra 83.39 28 P **P 07 12 09.9 -1.1**
comp=Z,4.5nm,1.2s,mb4.4,baz=292,slow=5.1
NOA NORSAR Array B 83.39 28 P **P 07 12 08.8 -2.2**
comp=Z,1.5nm,0.8s,mb4.1,baz=292,slow=5.1,SNR=6.8
NOA pP pP 07 12 26.7 -1.2
comp=Z,1.1nm,0.7s,baz=292,slow=4.9,SNR=3.4
NOA LR LR 07 46 28.2
comp=Z,46nm,20.0s,baz=285,slow=34
NOA NORSAR Array B 83.39 28 P **P 07 12 08.8 -2.2**
NOA pP pP 07 12 26.7 -1.2
NOA LR LR 07 46 28.2
ARCES ARCESS Array B 84.83 18 P **P 07 12 18.0 -0.3**
comp=Z,1.6nm,0.8s,mb4.2,baz=298,slow=5.8,SNR=7.6
ARCES pP pP 07 12 32.8 -2.5
comp=Z,2.2nm,0.8s,baz=293,slow=4.1,SNR=3.3
GERES GERESS Array B 89.45 39 P **P 07 12 39.8 -0.9**
comp=Z,0.4nm,0.9s,mb3.7,baz=289,slow=3.0,SNR=4.1
TORD Torodi Ar. Bea 92.20 76 pP pP 07 13 07.7 -2.8
comp=Z,0.4nm,0.7s,baz=287,slow=4.9,SNR=2.9
HHC Hu-ho-hao-te 118.33 338 *e*PKP PKPdf 07 18 31.7 +0.9
WMQ Urumqi 120.27 358 *e*PKP PKPdf 07 18 37.5 +3.0
NJ2 Nanjing 122.38 326 *e*PKP PKPdf 07 18 40.8 +2.2
LZH Lanzhou 125.21 342 *e*PKP PKPdf 07 18 42.0 -2.0
LZH LR LR
comp=N,129nm,19.6s
LZH LR LR
comp=Z,245nm,20.4s
MAW Mawson 126.55 169 PKP PKPdf 07 18 43.0 -3.6
comp=Z,1.1nm,0.7s,baz=168,slow=3.6,SNR=3.7
CD2 Chengdu 130.01 339 *e*PKP PKPdf 07 18 50.6 -2.6
WRA Warramunga Arr 133.54 258 PKP PKPdf 07 18 57.2 -2.6
comp=Z,0.5nm,0.6s,baz=92,slow=2.5,SNR=5.3
WRA pPKP pPKPdf 07 19 13.9 -3.7
comp=Z,0.8nm,0.9s,baz=57,slow=0.9,SNR=3.4
ASAR Alice Springs 134.06 253 PKP PKPdf 07 18 58.5 -2.3
comp=Z,0.4nm,0.9s,baz=82,slow=1.8,SNR=4.3

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*CSEM **01** 07:15:12.9±1.0, 3861N×2899W, h5km±4km, ML1.7, Error ellipse: s-maj=9.3km s-min=7.1km az=77.0, After PDA*
*PDA **01** 07:15:12.9±1.0, 3861N×2899W, h5km±4km, MD3.1, ML1.7, Error ellipse: s-maj=9.3km s-min=7.1km az=77.0*
SVSA 01 07:15:12.9±1.0, 3861N×2899W, h5km±4km, MD3.1, ML1.7, Error ellipse: s-maj=9.3km s-min=7.1km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.22**	**85**	*e*P	Pg	07 15 17.3	+0.1
PCED				*e*S	Sg	07 15 20.0	-0.2
PCED							
118nm,0.4s							
PCED	**Cedros**	**0.22**	**85**	*e*P	Pg	07 15 17.3	+0.1
PCED				*e*S	Sg	07 15 20.0	-0.2
CALA	**Caldeira**	**0.22**	**97**	*e*S	Sg	07 15 20.4	+0.2
HOR	**Horta**	**0.29**	**107**	*e*P	Pg	07 15 17.6	-0.9
HOR				*e*S	Sg	07 15 22.0	-0.3
PCND	**Candelaria**	**0.43**	**109**	*e*S	Sg	07 15 26.5	-0.4
PCND							
22nm,0.1s							
PICO	**Pico**	**0.45**	**104**	*e*P	Pg	07 15 20.8	-0.8
PICO				*e*S	Sg	07 15 27.2	-0.3
PTEI	**Pico de Teixo**	**0.51**	**103**	*e*S	Sg	07 15 28.0	-1.2
PTEI							
17nm,0.2s							
PBOI	**Pico dos Bois**	**0.51**	**110**	*e*S	Sg	07 15 28.4	-0.9
PBOI							
13nm,0.2s							
ROSA	**Rosais**	**0.59**	**79**	*e*S	Sg	07 15 30.4	-1.6
PAMA	**Santo Amaro**	**0.63**	**83**	*e*P	Pg	07 15 27.9	+2.8
PID	**Ribeirinha**	**0.70**	**104**	*e*P	Pg	07 15 24.2	-2.1
PMAN	**Manadas**	**0.70**	**88**	*e*S	Sg	07 15 33.3	-2.2
PMAN							
21nm,0.3s							

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*IDC **01** 07:16:40.9±0.7, 4619N×15346E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.2/24, mbtmp4.0/18, ML3.4/1, Error ellipse: s-maj=19.7km s-min=17.0km az=145.0*
*BJI **01** 07:16:40.3, 4620N×15370E, h10km, mB4.4, mb4.3*
*MOS **01** 07:16:42.6±1.6, 4631N×15360E, h26km, mb4.3/13, Error ellipse: s-maj=12.2km s-min=10.2km az=64.9*
*NEIC **01** 07:16:42.4±0.6, 4618N×15366E, h10km, mb4.5/8, Error ellipse: s-maj=16.3km s-min=9.8km az=150.0*
*ISCJB **01** 07:16:44.4±0.5, 4613N±008×15342E±008, h33km, mb4.3/30, Error ellipse: s-maj=13.9km s-min=4.2km az=116.0*
ISC 01 07:16:46.5±0.5, 4619N±008×15346E±008, h35km, n87, σ1§25/91, mb4.3/30, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**258**	⇓*i*PN	**Pn**	**07 17 44.0**	**-1.7**
KUR				pmax	pmax		
comp=N,80nm,0.6s							
KUR				pmax	pmax		
comp=E,50nm,0.6s							
KUR				pmax	pmax		
comp=Z,300nm,0.6s							
SKR	**Severo-Kuril's**	**4.83**	**21**	*e*PN	**Pn**	**07 17 50.5**	**-6.1**
SKR				pmax	pmax		
comp=Z,90nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.79**	**251**	*e*PN	**Pn**	**07 18 12.1**	**+2.2**
NEM2	**Nemuro 2**	**6.18**	**246**	P	**Pn**	**07 18 13.3**	**-1.8**
NEM2				*e*S	**Sn**	**07 19 20.8**	**-3.7**
JRA	**Rausu**	**6.32**	**252**	P	**Pn**	**07 18 17.6**	**+0.5**
JRA				*e*S	**Sn**	**07 19 29.1**	**+1.1**
JNK	**Nakash**	**6.73**	**250**	P	**Pn**	**07 18 23.1**	**+0.3**
JNK				*e*S	**Sn**	**07 19 37.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**7.42**	**280**	*e*PN	**Pn**	**07 18 36.1**	**+3.9**
YSS				pmax	pmax		
comp=Z,15nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.42**	**280**	*e*Pn	**Pn**	**07 18 36.1**	**+3.9**
comp=Z,15nm,0.8s							
JMP	**Maruseppu**	**7.47**	**257**	P	**Pn**	**07 18 34.9**	**+2.0**
JAR	**Ashorobuto**	**7.48**	**251**	P	**Pn**	**07 18 33.1**	**+0.1**
JAR				*e*S	**Sn**	**07 19 55.0**	**-1.6**
JOB	**Onbets**	**7.62**	**248**	*e*S	**Sn**	**07 19 58.2**	**-1.9**
JKK2	**Kamakawa 2**	**7.93**	**257**	P	**Pn**	**07 18 40.6**	**+1.3**
ASAJ	**Asahikawa**	**7.95**	**259**	Pn	**Pn**	**07 18 41.3**	**+1.8**
comp=Z,0.8nm,0.3s,baz=80,slow=18,SNR=8.4							
ASAJ	**Asahikawa**	**7.95**	**259**	P	**Pn**	**07 18 41.1**	**+1.6**
ASAJ	**Asahikawa**	**7.95**	**259**	PN	**Pn**	**07 18 41.3**	**+1.8**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
JCH	**Churui**	**8.06**	**247**	P	**Pn**	**07 18 40.3**	**-0.8**
JCH				*e*S	**Sn**	**07 20 08.1**	**-2.9**
JAB	**Ashibetsu**	**8.42**	**255**	P	**Pn**	**07 18 48.2**	**+2.2**
JEM	**Erimo**	**8.51**	**244**	P	**Pn**	**07 18 47.1**	**0.0**
JNBK	**Urakawa-nobuka**	**8.62**	**247**	P	**Pn**	**07 18 48.8**	**+0.1**
JBT2	**Biratori 2**	**8.63**	**251**	P	**Pn**	**07 18 48.8**	**-0.1**
JBT2				*e*S	**Sn**	**07 20 25.6**	**+0.6**
JKB	**Kayabe**	**9.93**	**249**	P	**Pn**	**07 19 05.0**	**-1.6**
JANG	**Nango**	**10.47**	**241**	*e*S	**Sn**	**07 21 00.1**	**-10**
JTM	**Tenmabayashi**	**10.50**	**243**	*e*S	**Sn**	**07 21 03.2**	**-7.5**
JOSM	**Okushiri--Mats**	**10.86**	**253**	P	**Pn**	**07 19 18.2**	**-1.1**
OFUJ	**Ofunato**	**11.21**	**235**	*e*S	**Sn**	**07 21 19.3**	**-9.0**
JRG	**Rokugo**	**11.61**	**239**	*e*S	**Sn**	**07 21 29.9**	**-8.0**
MJAR	**Matsushiro Arr**	**14.95**	**235**	Pn	**Pn**	**07 20 14.7**	**-0.4**
comp=Z,0.1nm,0.3s,baz=36,slow=10,SNR=6.3							
MAJO	**Matsushiro**	**14.95**	**235**	*e*P	**Pn**	**07 20 14.8**	**-0.3**
MAJO				pmax	pmax		
comp=Z,10.0nm,0.8s							
MAJO	**Matsushiro**	**14.95**	**235**	*e*P	**Pn**	**07 20 14.8**	**-0.2**
comp=Z,9.9nm,0.8s							
MAT	**Matsushiro**	**14.95**	**235**	P	**Pn**	**07 20 22.0**	**+6.9**
MDJ	**Mudanjiang**	**16.82**	**273**	P	**Pn**	**07 20 38.7**	**-0.5**
MDJ				AMB	AMB		
comp=Z,9.0nm,1.0s							
MDJ				AMB	AMB		
comp=Z,31nm,4.0s							
MDJ	**Mudanjiang**	**16.82**	**273**	*e*P	**Pn**	**07 20 39.3**	**+0.1**
comp=Z,4.0nm,0.5s							
BOD	**Bodaibo**	**26.53**	**310**	*e*P	**P**	**07 22 18.0**	**-2.8**
BOD				pmax	pmax		
comp=Z,4.0nm,1.5s,mb3.7							
SONM	**Songino Array**	**31.75**	**290**	P	**P**	**07 23 06.8**	**-0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=72,slow=7.7,SNR=3.9							
LZH	**Lanzhou**	**38.15**	**273**	*e*P	**P**	**07 24 05.2**	**+2.9**
LZH				AP	pP	07 24 10.3	-2.2
LZH				XP	sP	07 24 13.5	-3.2
LZH				AMB	AMB		
comp=Z,21nm,1.1s,mb4.8							
LZH	**Lanzhou**	**38.15**	**273**	*e*P	**P**	**07 24 05.2**	**+2.9**
comp=Z,21nm,1.1s,mb4.8							
LZH				pP	pP	07 24 10.3	-2.2
LZH				sP	sP	07 24 13.5	-3.2
GTA	**Gaotai**	**39.30**	**280**	*e*P	**P**	**07 24 13.7**	**+1.8**
GTA				AP	pP	07 24 18.1	-4.0
GTA				XP	sP	07 24 21.6	-4.7
GTA				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.1							
INK	**Inuvik**	**42.00**	**32**	P	**P**	**07 24 34.0**	**-0.1**
comp=Z,3.2nm,0.7s,mb4.1,baz=299,slow=6.7,SNR=11							
INK	**Inuvik**	**42.00**	**32**	*e*P	**P**	**07 24 34.0**	**-0.2**
INK				pmax	pmax		
comp=Z,7.0nm,0.6s							
INK	**Inuvik**	**42.00**	**32**	*e*P	**P**	**07 24 34.0**	**-0.2**
comp=Z,74nm,0.6s							
MKAR	**Makanchi Array**	**47.41**	**298**	P	**P**	**07 25 16.7**	**-0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=64,slow=8.2,SNR=14							
MKAR				PcP	PcP	07 26 47.2	-0.3
comp=Z,0.6nm,0.6s,baz=62,slow=4.1,SNR=4.0							
MKAR	**Makanchi Array**	**47.41**	**298**	P	**P**	**07 25 16.7**	**-0.7**
MKAR						07 26 47.2	
MKAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**51.23**	**37**	P	**P**	**07 25 45.2**	**-1.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=297,slow=7.2,SNR=4.0							
YKA	**Yellowknife Ar**	**51.23**	**37**	P	**P**	**07 25 45.2**	**-1.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**51.40**	**310**	P	**P**	**07 25 45.9**	**-1.9**
comp=Z,0.8nm,0.4s,mb4.0,baz=60,slow=8.1,SNR=4.9							
BVAR				PcP	PcP	07 27 02.1	+0.1
comp=Z,0.8nm,0.6s,baz=64,slow=3.4,SNR=3.9							
BVAR	**Borovoye Array**	**51.40**	**310**	P	**P**	**07 25 45.9**	**-1.9**
BVAR						07 27 02.1	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZRNK	**Zerenda**	**52.17**	**310**	P	**P**	**07 25 52.0**	**-1.5**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**52.17**	**310**	P	**P**	**07 25 52.0**	**-1.5**
comp=Z,1.1nm,0.4s,mb4.1							
GUN	**Gumba**	**55.29**	**276**	*e*P	**P**	**07 26 18.6**	**+2.2**
comp=Z,8.5nm,0.4s,mb5.2							
KKN	**Kakani**	**55.78**	**276**	*e*P	**P**	**07 26 22.0**	**+2.1**
comp=Z,11nm,0.6s,mb5.1							
PKI	**Pulchoki**	**55.83**	**276**	*e*P	**P**	**07 26 22.0**	**+1.8**
comp=Z,8.1nm,0.7s,mb4.8							
DMN	**Daman**	**56.01**	**276**	*e*P	**P**	**07 26 23.7**	**+2.2**
comp=Z,14nm,0.8s,mb5.1							
GKN	**Gorkha**	**56.09**	**277**	*e*P	**P**	**07 26 23.8**	**+1.7**
comp=Z,26nm,0.9s,mb5.2							
KOLN	**Koldanda**	**56.95**	**277**	*e*P	**P**	**07 26 29.9**	**+1.7**
comp=Z,13nm,0.8s,mb5.0							
YBH	**Yreka Blue Hor**	**57.80**	**62**	P	**P**	**07 26 33.0**	**-1.2**
comp=Z,0.6nm,0.9s,mb3.6,baz=83,slow=1.4,SNR=3.5							
YBH	**Yreka Blue Hor**	**57.80**	**62**	P	**P**	**07 26 33.0**	**-1.2**
YBH				pmax	pmax		
comp=Z,1.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.46**	**341**	P	**P**	**07 26 38.2**	**-0.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=26,slow=6.9,SNR=10							
ARCES	**ARCESS Array B**	**58.46**	**341**	P	**P**	**07 26 38.3**	**-0.5**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.7s							
SUMG	**Summit**	**61.24**	**4**	*e*P	**P**	**07 26 58.3**	**+0.4**
comp=Z,7.5nm,0.8s,mb4.9							
NVAR	**Mina Array Bea**	**62.48**	**62**	P	**P**	**07 27 06.5**	**+0.3**
comp=Z,0.8nm,0.7s,mb4.0,baz=286,slow=8.4,SNR=7.3							
KAF	**Kangasniemi**	**64.05**	**335**	*e*p	**P**	**07 27 12.0**	**-4.7**
comp=Z,4.9nm,0.7s,mb4.7,baz=37,slow=6.2							
KAF	**Kangasniemi**	**64.05**	**335**	*e*P	**P**	**07 27 12.0**	**-4.7**
KAF				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.7							
FINES	**FINESS Array B**	**64.65**	**335**	P	**P**	**07 27 19.9**	**-0.7**
comp=Z,4.2nm,0.5s,mb4.7,baz=40,slow=8.2,SNR=44							
FINES	**FINESS Array B**	**64.65**	**335**	P	**P**	**07 27 19.9**	**-0.7**
FINES				pmax	pmax		
comp=Z,4.0nm,0.5s							
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**07 27 22.1**	**0.0**
comp=Z,0.8nm,0.8s,mb3.8,baz=336,slow=3.3,SNR=8.2							
OBN	**Obninsk**	**65.91**	**326**	*e*P	**P**	**07 27 28.7**	**0.0**
OBN				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**68.06**	**199**	P	**P**	**07 27 41.8**	**-0.6**
comp=Z,1.0nm,0.7s,mb4.0,baz=22,slow=6.9,SNR=10							
WRA	**Warramunga Arr**	**68.06**	**199**	P	**P**	**07 27 41.8**	**-0.6**
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**68.83**	**341**	P	**P**	**07 27 46.6**	**-0.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=27,slow=6.5							
NB2	**NORSAR Subarra**	**68.83**	**341**	P	**P**	**07 27 46.6**	**-0.6**
NB2				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
NOA	**NORSAR Array B**	**68.83**	**341**	P	**P**	**07 27 46.8**	**-0.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=28,slow=6.3,SNR=21							
NOA	**NORSAR Array B**	**68.83**	**341**	P	**P**	**07 27 46.8**	**-0.4**
NOA				pmax	pmax		
comp=Z,3.0nm,0.7s							
BORG	**Borgarnes**	**69.33**	**358**	P	**P**	**07 27 49.9**	**-0.4**
comp=Z,17nm,1.0s,mb4.9,baz=48,slow=2.1,SNR=2.9							
ASAR	**Alice Springs**	**71.76**	**199**	P	**P**	**07 28 05.6**	**+0.5**
comp=Z,0.5nm,0.5s,mb3.7,baz=17,slow=5.7,SNR=7.4							
ASAR	**Alice Springs**	**71.76**	**199**	P	**P**	**07 28 05.6**	**+0.5**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**07 28 06.8**	**-0.6**
comp=Z,2.6nm,0.4s,mb4.5,baz=33,slow=6.2,SNR=14							
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**07 28 06.8**	**-0.6**
AKASG				pmax	pmax		
comp=Z,3.0nm,0.4s							
AKASG	**Malin Array Be**	**72.14**	**326**	P	**P**	**07 28 06.8**	**-0.6**
BURAR	**Bucovina Array**	**76.19**	**327**	⇓*i*P	**P**	**07 28 31.3**	**+0.3**
CLL	**Collm**	**77.07**	**336**	*e*P	**P**	**07 28 36.0**	**0.0**
MLR	**Muntele Rosu**	**77.66**	**325**	⇑*i*P	**P**	**07 28 40.5**	**+1.2**
DRGR		**77.81**	**328**	⇓*i*P	**P**	**07 28 39.3**	**-0.9**
BRTR	**Keskin Array B**	**78.96**	**317**	P	**P**	**07 28 45.9**	**-0.6**
comp=Z,0.4nm,0.8s,mb3.4,baz=22,slow=4.7,SNR=3.9							
GERES	**GERESS Array B**	**79.06**	**334**	P	**P**	**07 28 47.2**	**+0.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=26,slow=6.4,SNR=7.4							
GERES	**GERESS Array B**	**79.06**	**334**	P	**P**	**07 28 47.2**	**+0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
LPAZ	**La Paz**	**134.38**	**63**	PKP	PKPdf	07 35 59.3	-1.4
comp=Z,0.6nm,0.8s,baz=248,slow=5.4,SNR=3.1							
LPAZ	**La Paz**	**134.38**	**63**	PKIKP	PKPdf	07 35 59.3	-1.4
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.8s							

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*MDD **01** 07:21:11.9±1.3, 3931N×1040W, h0km, mbLg2.5/9, Error ellipse: s-maj=15.0km s-min=7.1km

PLOU	**Loures**	**1.03**	**110**	*e*P	Pn	07 21 32.8	-1.2
PLOU				*e*S	Sn	07 21 45.7	-1.7
PLOU							
	14nm,0.1s						
LIS	**Lisbon**	**1.10**	**118**	*e*P	Pn	07 21 33.3	-1.7
LIS				*e*S	Sn	07 21 47.1	-2.0
LIS				*e*S	Sn	07 21 47.2	-2.0
LIS				AML	AML	07 21 49.3	
	comp=E,128nm,0.5s						
LIS	**Lisbon**	**1.10**	**118**	*e*P	Pn	07 21 33.3	-1.7
LIS				*e*S	Sn	07 21 47.1	-2.1
PTOM	**Tomar**	**1.58**	**76**	*e*P	Pn	07 21 40.4	-1.2
PTOM				*e*S	Sn	07 21 58.7	-2.3
PTOM							
	comp=E,6.4nm,0.1s						
MOE	**Montemor**	**1.75**	**114**	*e*P	Pn	07 21 42.6	-1.3
MOE				*e*S	Sn	07 22 02.1	-3.0
PTEO	**Sao Teotonio**	**2.14**	**142**	*e*Pn	Pn	07 21 47.9	-1.4
PTEO				*e*Sn	Sn	07 22 10.8	-4.0
PTEO							
	comp=E,9.0nm,0.4s						
PTEO	**Sao Teotonio**	**2.14**	**142**	*e*Pn	Pn	07 21 47.9	-1.4
PTEO				*e*Sn	Sn	07 22 10.8	-4.0
PBEJ	**Beja**	**2.32**	**121**	*e*Pn	Pn	07 21 50.5	-1.3
PBEJ				*e*Sn	Sn	07 22 16.3	-3.0
MORF	**Marmelete**	**2.37**	**144**	*e*P	Pn	07 21 50.4	-2.0
MORF				*e*S	Sn	07 22 16.5	-4.0
MORF				*e*S	Sn	07 22 16.5	-3.9
MORF				AML	AML	07 22 19.5	
	comp=E,14nm,0.2s						
MORF	**Marmelete**	**2.37**	**144**	*e*P	Pn	07 21 50.4	-2.0
MORF				*e*S	Sn	07 22 16.5	-3.9
MORF	**Marmelete**	**2.37**	**144**	P	Pn	07 21 50.4	-2.0
PVIS	**Viseu**	**2.42**	**52**	*e*Pn	Pn	07 21 51.8	-1.3
PVIS				*e*Sn	Sn	07 22 18.5	-3.2
PVIS							
	comp=E,14nm,0.1s						
PVIS	**Viseu**	**2.42**	**52**	*e*Pn	Pn	07 21 51.8	-1.3
PVIS				*e*Sn	Sn	07 22 18.5	-3.2
MTE	**Manteigas**	**2.48**	**61**	*e*Sn	Sn	07 22 20.1	-3.1
MTE							
	comp=E,7.4nm,0.1s						
MTE	**Manteigas**	**2.48**	**61**	*e*Sn	Sn	07 22 20.1	-3.1
	comp=E,7.4nm,0.1s						
EBAD	**Badajoz**	**2.68**	**99**	P	Pn	07 21 54.8	-1.9
	comp=E,3.5nm,0.1s,SNR=13						
EBAD				S	Sn	07 22 24.4	-3.6
	comp=E,7.8nm,0.2s,SNR=8.8						
EBAD	**Badajoz**	**2.68**	**99**	P	Pn	07 21 54.8	-1.9
	comp=E,3.5nm,0.1s,SNR=13						
EBAD				S	Sn	07 22 24.4	-3.7
	comp=E,7.8nm,0.2s,SNR=8.8						
EGRO	**El Granado**	**2.85**	**126**	P	Pn	07 21 57.6	-1.5
	comp=E,1.1nm,0.1s,SNR=9.9						
EGRO				S	Sn	07 22 28.7	-3.7
	comp=E,3.8nm,0.2s,SNR=5.9						
EGRO	**El Granado**	**2.85**	**126**	P	Pn	07 21 57.6	-1.5
	comp=E,1.1nm,0.1s,SNR=9.9						
EGRO				S	Sn	07 22 28.7	-3.7
	comp=E,3.8nm,0.2s,SNR=5.9						
PVRL	**Vila Real**	**2.89**	**44**	*e*Pn	Pn	07 21 58.2	-1.3
PVRL				*e*Sn	Sn	07 22 29.0	-4.1
PVRL							
	comp=E,5.9nm,0.1s						
PCAB	**Cabril**	**3.06**	**35**	*e*Pn	Pn	07 22 01.1	-0.8
PCAB				*e*Sn	Sn	07 22 33.6	-3.8
PCAB							
	comp=E,5.7nm,0.1s						
EMIN	**Mina Concepcio**	**3.27**	**116**	P	Pn	07 22 03.3	-1.5
	comp=E,1.1nm,0.1s,SNR=17						
EMIN				S	Sn	07 22 38.7	-3.9
	comp=E,1.2nm,0.1s,SNR=6.2						
EMIN	**Mina Concepcio**	**3.27**	**116**	P	Pn	07 22 03.3	-1.5
	comp=E,1.1nm,0.1s,SNR=17						
EMIN				S	Sn	07 22 38.7	-3.9
	comp=E,1.2nm,0.1s,SNR=6.2						
PBRG	**Braganca**	**3.78**	**46**	*e*Pn	Pn	07 22 10.3	-1.5
PBRG				*e*Sn	Sn	07 22 50.9	-4.4
PBRG							
	comp=E,1.9nm,0.1s						
EMAZ	**Mazaricos**	**3.85**	**16**	P	Pn	07 22 10.4	-2.4
	comp=E,1.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	07 22 52.6	-4.5
	comp=E,4.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**3.85**	**16**	P	Pn	07 22 10.4	-2.4
	comp=E,1.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	07 22 52.6	-4.5
	comp=E,4.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**3.88**	**45**	P	Pn	07 22 09.9	-3.2
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	07 22 52.7	-4.9
	comp=E,3.2nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.88**	**45**	P	Pn	07 22 09.9	-3.2
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	07 22 52.7	-4.9
	comp=E,3.2nm,0.2s,SNR=7.9						
STS	**Santiago**	**3.90**	**20**	P	Pn	07 22 11.1	-2.3
	comp=E,5.3nm,0.1s,SNR=4.0						
ESPR	**Espera**	**4.29**	**122**	P	Pn	07 22 17.0	-1.9
	comp=E,1.3nm,0.1s,SNR=4.0						
ESPR				S	Sn	07 23 02.9	-5.0
	comp=E,3.4nm,0.2s,SNR=4.0						
ESPR	**Espera**	**4.29**	**122**	P	Pn	07 22 17.0	-1.9
	comp=E,1.3nm,0.1s,SNR=4.0						
ESPR				S	Sn	07 23 02.9	-5.0
	comp=E,3.4nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**4.68**	**101**	P	Pn	07 22 22.3	-1.8
	comp=E,2.6nm,0.1s,SNR=34						
EADA				S	Sn	07 23 12.0	-5.3
	comp=E,1.9nm,0.2s						
EADA	**Adamuz**	**4.68**	**101**	P	Pn	07 22 22.3	-1.8
	comp=E,2.6nm,0.1s,SNR=34						
EADA				S	Sn	07 23 12.0	-5.3
	comp=E,1.9nm,0.2s						
EPON	**Pontenova**	**4.76**	**30**	P	Pn	07 22 23.8	-1.4
	comp=E,3.0nm,0.1s,SNR=11						
EPON				S	Sn	07 23 13.9	-5.4
	comp=E,0.7nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.76**	**30**	P	Pn	07 22 23.8	-1.4
	comp=E,3.0nm,0.1s,SNR=11						
EPON				S	Sn	07 23 13.9	-5.4
	comp=E,0.7nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.00**	**83**	P	Pn	07 22 27.5	-1.1
	comp=E,3.8nm,0.1s,baz=264,slow=13,SNR=15						
ESDC				S	Sn	07 23 19.2	-6.0
	comp=E,1.8nm,0.1s,baz=264,slow=23,SNR=5.8						
ESDC	**Sonseca Array**	**5.00**	**83**	P	Pn	07 22 27.5	-1.0
	comp=E,3.8nm,0.1s,SNR=15						
EBAN	**Banos Encina**	**5.28**	**100**	P	Pn	07 22 30.0	-2.5
	comp=E,1.3nm,0.1s,SNR=4.0						
EQUE	**Quentar**	**5.84**	**108**	S	Sn	07 23 40.5	-5.5
	comp=E,0.3nm,0.2s,SNR=4.0						
EQES	**Quesada**	**5.92**	**102**	P	Pn	07 22 39.8	-1.4
	comp=E,0.2nm,0.1s,SNR=4.0						
EQES				S	Sn	07 23 40.4	-7.6
	comp=E,1.0nm,0.1s,SNR=4.0						
EVIA	**Vianos**	**6.18**	**93**	P	Pn	07 22 42.0	-2.8
	comp=E,0.2nm,0.2s,SNR=7.9						

*ISCJB **01** 07:24:08.8±0.7,3542S±005×14099E±006,h10km, Error ellipse: s-maj=8.0km s-min=5.5km az=101.0*
*NEIC **01** 07:24:12.0,3555S×14099E,h20km,ML3.4(AUST), After AUST.*
*AUST **01** 07:24:12.3,3555S×14099E,h20km,ML3.4*
*IDC **01** 07:24:14.5±6.9,3513S×14025E,h0km,mb1 3.3/3, mb1mx3.2/11,mbtmp3.1/3, Error ellipse: s-maj=68.5km s-min=36.8km az=138.0*

ISC 01 07:24:10.7±0.7,3549S±005×14100E±006,h10km,n12, σ1§50/22,1C,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	**Mount Arapiles**	**1.45**	**152**	⇑*i*P	Pn	**07 24 36.7**	**-0.2**
ARPS				*e*S	**Sn**	**07 24 54.5**	**-1.5**
	969nm,0.2s						
STKA	**Stephens Creek**	**3.64**	**8**	*e*P	**Pn**	**07 25 09.2**	**+2.2**
STKA				*e*S	**Sn**	**07 25 50.8**	**+0.9**
	16nm,0.3s						
STKA	**Stephens Creek**	**3.64**	**8**	Pn	**Pn**	**07 25 09.2**	**+2.3**
	2.3nm,0.3s,baz=184,slow=15,SNR=34						
STKA				Sn	**Sn**	**07 25 50.3**	**+0.4**
	8.8nm,0.3s,baz=218,slow=14,SNR=7.6						
STKA				Lg		07 26 04.7	
	16nm,0.3s,baz=272,slow=22,SNR=8.2						
TOO	**Toolangi**	**4.17**	**121**	*e*P	**Pn**	**07 25 15.9**	**+1.5**
BBOO	**Buckleboo**	**4.89**	**302**	*e*P	**Pn**	**07 25 26.0**	**+1.8**
BBOO				*e*S	**Sn**	**07 26 20.0**	**-0.8**
	9.9nm,0.4s						
CMSA	**Cobar Meteorol**	**5.56**	**46**	*e*P	**Pn**	**07 25 33.5**	**+0.1**
CMSA				*e*S	**Sn**	**07 26 36.1**	**-1.2**
	7.3nm,0.2s						
CMSA	**Cobar Meteorol**	**5.56**	**46**	*e*P	**Pn**	**07 25 33.5**	**+0.1**
	7.3nm,0.2s						
CMSA				*e*S	**Sn**	**07 26 36.1**	**-1.2**
YNG	**Young**	**6.20**	**81**	*e*P	**Pn**	**07 25 44.5**	**+2.3**
YNG				*e*S	**Sn**	**07 26 51.4**	**-1.7**
	1.7nm,0.2s						
YNG	**Young**	**6.20**	**81**	*e*P	**Pn**	**07 25 44.5**	**+2.3**
	1.7nm,0.2s						
YNG				*e*S	**Sn**	**07 26 51.4**	**-1.7**
MILA	**Mila**	**6.78**	**106**	*e*P	**Pn**	**07 25 51.2**	**+1.1**
ASAR	**Alice Springs**	**13.29**	**331**	Pn	**Pn**	**07 27 17.9**	**-1.5**
	0.1nm,0.3s,baz=152,slow=12,SNR=7.0						
ASAR				Sn	**Sn**	**07 29 38.6**	**-8.5**
	0.2nm,0.3s,baz=157,slow=22,SNR=5.4						
WRA	**Warramunga Arr**	**16.56**	**338**	Pn	**Pn**	**07 27 59.9**	**-3.0**
	0.1nm,0.3s,baz=162,slow=14,SNR=4.1						
WRA				Sn	**Sn**	**07 30 59.1**	**-7.7**
	0.1nm,0.3s,baz=160,slow=23,SNR=4.1						

*NEIC **01** 07:24:38.6,3194S×71.15W,h47km,MD4.3(GUC), After GUC.*

GUC 01 07:24:38.6±1.0,3194S×7115W,h47km±5km,MD4.3, ML3.7,9C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.31**	**280**	⇑*i*P	Pn	07 24 47.3	-0.2
CHNG				*i* S	Sn	07 24 54.1	+0.2
PTCH	**Petorca**	**0.37**	**151**	⇓*e*P	Pn	07 24 48.7	+0.5
PTCH				*i* S	Sn	07 24 56.0	+1.0
PTCH				AML	AML	07 24 57.0	
	comp=E,14μm,0.5s						
PTCH	**Petorca**	**0.37**	**151**	⇓*e*P	Pn	07 24 48.7	+0.5
PTCH				*i* S	Sn	07 24 56.0	+1.0
PACH	**Papudo**	**0.65**	**202**	⇑*i*P	Pn	07 24 51.4	-0.2
PACH				*i* S	Sn	07 25 00.7	-0.2
CMCH	**Combarbala**	**0.77**	**9**	⇑*i*P	Pn	07 24 53.5	+0.4
CMCH				*i* S	Sn	07 25 04.8	+1.1
CMCH				AML	AML	07 25 06.6	
	comp=E,8μm,0.5s						
CMCH	**Combarbala**	**0.77**	**9**	⇑*i*P	Pn	07 24 53.5	+0.4
CMCH				*i* S	Sn	07 25 04.8	+1.1
JACH	**Jahuel**	**0.88**	**148**	⇑*i*P	Pn	07 24 55.3	+0.7
JACH				*i* S	Sn	07 25 07.5	+1.2
ROCH	**El Roble**	**1.04**	**174**	*e*P	Pn	07 24 56.9	+0.2
ROCH				*i* S	Sn	07 25 11.4	+1.3
IHA	**Instituto Hidr**	**1.17**	**201**	*e*P	Pn	07 24 57.7	-0.7
PEL	**Peldehue**	**1.27**	**162**	⇑*i*P	Pn	07 25 00.4	+0.5
PEL				*i* S	Sn	07 25 17.2	+1.5
PEL				AML	AML	07 25 19.1	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.27**	**162**	⇑*i*P	Pn	07 25 00.4	+0.5
PEL				*i* S	Sn	07 25 17.2	+1.5
OVCH	**Ovalle**	**1.32**	**358**	*e*P	Pn	07 25 01.4	+0.8
OVCH				*i* S	Sn	07 25 18.8	+1.7
OVCH				AML	AML	07 25 23.6	
	comp=E,2μm,0.3s						
OVCH	**Ovalle**	**1.32**	**358**	*e*P	Pn	07 25 01.4	+0.8
OVCH				*i* S	Sn	07 25 18.8	+1.7
DSCH	**Colegio Aleman**	**1.54**	**162**	*e*P	Pn	07 25 03.5	0.0
CLCH	**Cerro Calan**	**1.54**	**161**	⇓*i*P	Pn	07 25 04.3	+0.7
CLCH				*i* S	Sn	07 25 23.6	+1.1
CLCH				AML	AML	07 25 27.2	
	comp=E,1μm,0.3s						
STL	**Santa Lucia**	**1.56**	**164**	*e*P	Pn	07 25 03.8	0.0
STL				*i* S	Sn	07 25 23.6	+0.9
FCH	**Farellones**	**1.56**	**153**	⇓*i*P	Pn	07 25 05.0	+1.0
FCH				*i* S	Sn	07 25 25.0	+2.0
FCH				AML	AML	07 25 31.7	
	comp=N,733nm,0.3s						
RCDM	**Rinconada Maip**	**1.57**	**170**	*e*P	Pn	07 25 04.3	+0.2
RCDM				*i* S	Sn	07 25 23.9	+0.7
RCDM				AML	AML	07 25 26.4	
	comp=E,1μm,0.8s						
RCDM	**Rinconada Maip**	**1.57**	**170**	*e*P	Pn	07 25 04.3	+0.2
RCDM				*i* S	Sn	07 25 23.9	+0.7
LCCH	**Las Cruces**	**1.58**	**193**	*e*P	Pn	07 25 03.8	-0.3
FSR	**Penalolen**	**1.62**	**161**	⇑*i*P	Pn	07 25 05.8	+1.1
FSR				*i* S	Sn	07 25 26.3	+1.8
FSR				AML	AML	07 25 33.8	
	comp=E,940nm,0.3s						
FSR	**Penalolen**	**1.62**	**161**	⇑*i*P	Pn	07 25 05.8	+1.1
FSR				*i* S	Sn	07 25 26.3	+1.8
ANTU	**Antumapu**	**1.69**	**165**	*e*P	Pn	07 25 06.3	+0.7
ANTU				*i* S	Sn	07 25 27.4	+1.4
ANTU				AML	AML	07 25 33.0	
	comp=E,1μm,0.4s						
ANTU	**Antumapu**	**1.69**	**165**	*e*P	Pn	07 25 06.3	+0.7
ANTU				*i* S	Sn	07 25 27.4	+1.4
TACH	**Talagante**	**1.72**	**174**	⇓*i*P	Pn	07 25 06.6	+0.5
PCH	**Pirque**	**1.76**	**163**	*e*P	Pn	07 25 07.1	+0.4
TLL	**Tololo Astrono**	**1.79**	**9**	*e*P	Pn	07 25 08.6	+1.7
TLL				*i* S	Sn	07 25 30.8	+2.3
TLL				AML	AML	07 25 54.4	
	comp=E,951nm,0.4s						
TLL	**Tololo Astrono**	**1.79**	**9**	*e*P	Pn	07 25 08.6	+1.7
TLL				*i* S	Sn	07 25 30.8	+2.3
SJCH	**San Jose de Ma**	**1.83**	**159**	*e*P	Pn	07 25 08.4	+0.9
SJCH				*i* S	Sn	07 25 30.8	+1.3
SJCH				AML	AML	07 25 36.2	
	comp=N,443nm,0.3s						
SJCH	**San Jose de Ma**	**1.83**	**159**	*e*P	Pn	07 25 08.4	+0.9
SJCH				*i* S	Sn	07 25 30.8	+1.3
LSCH	**La Serena**	**2.02**	**358**	*e*P	Pn	07 25 11.0	+0.7
CHCH	**Chadas Angostu**	**2.03**	**168**	⇓*e*P	Pn	07 25 11.1	+0.7
LMEL	**Las Melosas**	**2.06**	**158**	*e*P	Pn	07 25 11.9	+1.2
LMEL				*i* S	Sn	07 25 36.3	+1.0
LMEL				AML	AML	07 25 47.4	
	comp=N,698nm,0.4s						
LMEL	**Las Melosas**	**2.06**	**158**	*e*P	Pn	07 25 11.9	+1.2
LMEL				*i* S	Sn	07 25 36.3	+1.0
ZON	**Zonda**	**2.14**	**80**	*e*P	Pn	07 25 16.0	+4.2
MDZ	**Mendoza**	**2.16**	**117**	*e*P	Pn	07 25 08.7	-3.4
CACH	**El Canelo**	**2.22**	**168**	⇓*i*P	Pn	07 25 14.3	+1.3
CICH	**Cipreses**	**2.45**	**166**	*e*P	Pn	07 25 17.4	+1.2
SFDO	**San Fernando**	**2.67**	**178**	*e*P	Pn	07 25 20.0	+0.9
LCO	**Las Campanas**	**2.94**	**8**	*e*P	Pn	07 25 24.4	+1.6
LCO				*i* S	Sn	07 26 00.7	+3.8
LCO				AML	AML	07 26 17.0	
	comp=E,288nm,0.6s						
LCO	**Las Campanas**	**2.94**	**8**	P	Pn	07 25 24.4	+1.6
LCO				S	Sn	07 26 00.7	+3.8
VACH	**Vallenar**	**3.37**	**6**	*i* P	Pn	07 25 31.1	+2.4

MAN 01 07:30:57.4,1363N×12095E,h4km,mb2.8,ML4.2,MS2.2, 2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.12**	**179**	⇓*i*P	Pg	07 31 01.2	+1.3
PGP				*i* S	Sg	07 31 03.5	+1.8
TGY	**Tagaytay City**	**0.47**	**358**	⇓*i*P	Pg	07 31 08.0	+1.5
TGY				*i* S	Sg	07 31 17.0	+4.4

*NEIC **01** 07:32:52.9,3339S×7132W,h52km,MD3.6(GUC), After GUC.*

GUC 01 07:32:52.9±0.7,3339S×7132W,h52km±3km,MD3.6, ML1.8,3C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.23**	**247**	⇑*i*P	Pn	07 33 02.0	+0.4
LCCH				*i* S	Sn	07 33 08.5	+0.6
TACH	**Talagante**	**0.41**	**130**	⇓*i*P	Pn	07 33 04.0	+0.6
TACH				*i* S	Sn	07 33 11.5	+0.8
RCDM	**Rinconada Maip**	**0.44**	**104**	*e*P	Pn	07 33 03.6	0.0
RCDM				*i* S	Sn	07 33 11.8	+0.5
ROCH	**El Roble**	**0.48**	**32**	⇓*i*P	Pn	07 33 04.7	+0.6
ROCH				*i* S	Sn	07 33 13.8	+1.6
LNV	**Longovilo**	**0.57**	**188**	⇓*i*P	Pn	07 33 05.0	-0.2
LNV				*i* S	Sn	07 33 14.2	+0.2
ANTU	**Antumapu**	**0.60**	**108**	⇓*i*P	Pn	07 33 05.8	+0.3
ANTU				*i* S	Sn	07 33 15.6	+1.0
ANTU				AML	AML	07 33 16.2	
	comp=N,96nm,0.5s						
ANTU	**Antumapu**	**0.60**	**108**	⇓*i*P	Pn	07 33 05.8	+0.3
ANTU				*i* S	Sn	07 33 15.6	+1.0
CLCH	**Cerro Calan**	**0.65**	**91**	*e*P	Pn	07 33 06.7	+0.6
CLCH				*i* S	Sn	07 33 16.9	+1.2
CLCH				AML	AML	07 33 20.1	
	comp=E,37nm,0.5s						
CHCH	**Chadas Angostu**	**0.78**	**135**	*i* P	Pn	07 33 08.2	+0.5
CHCH				*i* S	Sn	07 33 19.5	+0.9
FCH	**Farellones**	**0.86**	**86**	⇑*i*P	Pn	07 33 09.6	+0.8
FCH				*i* S	Sn	07 33 21.7	+1.2
FCH				AML	AML	07 33 24.3	
	comp=N,39nm,0.2s						
JACH	**Jahuel**	**0.93**	**41**	*e*P	Pn	07 33 10.1	+0.4
CACH	**El Canelo**	**0.94**	**141**	⇑*i*P	Pn	07 33 11.3	+1.4
CACH				*i* S	Sn	07 33 25.1	+2.7
LMEL	**Las Melosas**	**1.04**	**117**	*e*P	Pn	07 33 12.3	+1.1
LMEL				*i* S	Sn	07 33 26.4	+1.8
LMEL				AML	AML	07 33 27.6	
	comp=N,164nm,0.1s						
LMEL	**Las Melosas**	**1.04**	**117**	*e*P	Pn	07 33 12.3	+1.1
LMEL				*i* S	Sn	07 33 26.4	+1.8
SFDO	**San Fernando**	**1.25**	**168**	*i* P	Pn	07 33 14.6	+0.6
SFDO				*i* S	Sn	07 33 31.0	+1.2

IDC 01 07:56:12.9±5.7,562S×15071E,h54km±47km,mb3.4/6, mb1 3.7/7,mb1mx3.6/13,mbtmp3.7/7,ML3.0/1,Error ellipse: s-maj=50.4km s-min=29.0km az=112.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**223**	P	Pn	07 57 28.9	+1.3
	3.9nm,0.3s,baz=194,slow=6.8,SNR=9.5						
PMG				S	Sn	07 58 26.4	+0.7
	3.7nm,0.3s,baz=117,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**21.36**	**227**	P	P	08 00 55.5	-0.1
	0.8nm,0.4s,baz=51,slow=10,SNR=17						
WRA				PcP	PcP	08 04 58.5	+0.7
	0.5nm,0.5s,baz=45,slow=2.1,SNR=6.0						
ASAR	**Alice Springs**	**24.17**	**220**	P	P	08 01 24.2	+0.2
	1.2nm,0.6s,baz=57,slow=9.3,SNR=16						
FITZ	**Fitzroy Crossi**	**27.45**	**241**	P	P	08 01 53.8	+0.1
	0.6nm,0.4s,baz=125,slow=14,SNR=5.3						
SONM	**Songino Array**	**65.92**	**329**	P	P	08 06 52.8	-0.4
	0.2nm,0.4s,baz=142,slow=3.3,SNR=2.6						
MKAR	**Makanchi Array**	**79.58**	**319**	P	P	08 08 15.1	+0.9
	0.2nm,0.4s,baz=124,slow=4.4,SNR=3.2						
NVAR	**Mina Array Bea**	**94.22**	**52**	P	P	08 09 26.2	+0.2
	0.6nm,0.6s,baz=260,slow=7.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.56**	**286**	PKPbc	PKPbc	08 15 54.6	+0.9
	3.9nm,0.7s,baz=64,slow=2.3,SNR=34						

IDC 01 08:10:16.7±1.6,401S×15254E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/13,mbtmp3.4/3,Error ellipse: s-maj=79.3km s-min=36.7km az=141.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**227**	P	P	08 15 30.8	-0.2
	0.8nm,0.5s,baz=49,slow=9.3,SNR=8.3						
ASAR	**Alice Springs**	**26.56**	**221**	P	P	08 15 56.8	+0.5
	0.1nm,0.3s,baz=55,slow=9.1,SNR=1.3						
FITZ	**Fitzroy Crossi**	**29.82**	**240**	P	P	08 16 26.4	+1.1
	0.5nm,0.5s,baz=75,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.81**	**289**	PKPbc	PKPbc	08 30 09.8	+1.1
	0.4nm,0.5s,baz=78,slow=1.8,SNR=13						
BDFB	**Brasilia**	**151.80**	**134**	PKPbc	PKPbc	08 30 14.0	+0.7
	1.4nm,0.4s,baz=347,slow=2.9,SNR=5.9						

*NIED **01** 08:13:00,4640N×15320E,h35km,Mw4.1 Best double couple: M0 1.65000×10^15 NP1:φ0 76.00000°,δ82.00000°, λ-95.00000°. NP2:φ0 290.00000°,δ10.00000°, λ-57.00000°.*
*IDC **01** 08:13:03.5±1.7,4647N×15337E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/20,mbtmp3.6/6,ML3.4/1,MS3.7/2, Ms1 3.7/2,ms1mx2.9/34,Error ellipse: s-maj=56.6km s-min=25.2km az=179.0*
*ISCJB **01** 08:13:04.7±0.9,459N±02×153.1E±02,h33km,mb3.7/5, MS3.6/2,Error ellipse: s-maj=35.2km s-min=6.7km az=125.2*
*JMA **01** 08:13:04.3±0.7,4641N×153.16E,h30km,M4.2*
*MOS **01** 08:13:06.9±2.3,4671N×153.19E,h33km,mb4.2/2,Error ellipse: s-maj=33.6km s-min=19.8km az=72.4*

ISC 01 08:13:07.1±0.9,460N±02×1531E±02,h35km,n27, σ1§31/32,mb3.7/5,MS3.6/2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.05**	**22**	*e*PN	**Pn**	**08 14 11.0**	**-9.3**
SKR				*e*S	**Sn**	**08 15 06.1**	**-11**
SKR				pmax	pmax		
	comp=Z,130nm,0.8s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,50nm,0.5s						
NEM2	**Nemuro 2**	**5.91**	**246**	P	**Pn**	**08 14 31.0**	**-1.0**
NEM2				*e*S	**Sn**	**08 15 34.7**	**-3.8**
JRA	**Rausu**	**6.06**	**253**	P	**Pn**	**08 14 35.6**	**+1.5**
JNK	**Nakash**	**6.47**	**251**	P	**Pn**	**08 14 40.7**	**+1.0**
JNK				*e*S	**Sn**	**08 15 52.1**	**-0.2**
JAK	**Akkeshi**	**6.75**	**246**	P	**Pn**	**08 14 42.5**	**-1.2**
JAK				*e*S	**Sn**	**08 15 55.4**	**-3.9**
JTKR	**Abashiri--Toko**	**6.86**	**256**	P	**Pn**	**08 14 46.8**	**+1.7**
JAR	**Ashorobuto**	**7.21**	**251**	P	**Pn**	**08 14 51.0**	**+1.0**
JAR				*e*S	**Sn**	**08 16 11.5**	**+0.8**
JOB	**Onbets**	**7.35**	**248**	P	**Pn**

*NEIC **01** 08:20:07.5±0.3, 298S×12979E, h10km, mb4.8/22, Error ellipse: s-maj=10.6km s-min=5.2km az=70.0*
*MOS **01** 08:20:09.4±0.9, 292S×12970E, h33km, mb5.0/20, Error ellipse: s-maj=17.4km s-min=8.0km az=111.8*
ISC 01 08:20:07.3±1.6, 298S±003×12993E±007, h10km±10km, h23km±1.2km: pP-P, n117, σ1§06/115, mb4.8/52, MS3.9/7, 4C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.98**	**166**	*eP*		**Pn**		**08 22 30.5**	**-0.2**
KAKA	68nm,1.0s				*e*S		**Sn**	**08 24 17.8**	**-5.0**
FITZ	**Fitzroy Crossi**	**15.60**	**195**	*eP*		**Pn**		**08 23 45.7**	**-1.5**
	39nm,1.0s								
FITZ	**Fitzroy Crossi**	**15.60**	**195**	Pn		**Pn**		**08 23 45.8**	**-1.4**
	0.4nm,0.3s,baz=28,slow=13,SNR=14								
FITZ					Sn		**Sn**	**08 26 41.1**	**+0.9**
	0.2nm,0.3s,baz=88,slow=18,SNR=2.6								
KKM	**Kota Kinabalu**	**16.36**	**303**	*eP*		**Pn**		**08 23 57.8**	**+0.8**
WRAB	**Tennant Creek**	**17.39**	**166⇓**	*eP*		**Pn**		**08 24 08.6**	**-1.4**
WRA	**Warramunga Arr**	**17.40**	**166**	P		**Pn**		**08 24 07.6**	**-2.5**
	0.9nm,0.3s,baz=352,slow=12,SNR=50								
WRA					S		**Sn**	**08 27 11.9**	**-12**
	0.1nm,0.3s,baz=339,slow=21,SNR=3.2								
WB2	**Warramunga Arr**	**17.40**	**166**	*eP*		**Pn**		**08 24 09.1**	**-1.1**
KSM	**Kuching**	**20.10**	**282**	*eP*		**P**		**08 24 42.1**	**+1.1**
MBWA	**Marble Bar**	**20.61**	**208**	*eP*		**P**		**08 24 46.8**	**+0.1**
	60nm,0.9s								
AS31	**Alice Springs**	**20.92**	**170**	*eP*		**P**		**08 24 51.1**	**+1.2**
ASAR	**Alice Springs**	**20.92**	**170**	P		**P**		**08 24 51.3**	**+1.4**
	181nm,0.7s,baz=354,slow=11,SNR=1116								
ASAR					S		**S**	**08 28 39.2**	**-3.8**
	8.1nm,0.9s,baz=354,slow=25,SNR=7.3								
ASAR					PcP		PcP	08 28 59.2	+1.6
	3.9nm,0.6s,baz=7.9,slow=1.8,SNR=8.6								
ASAR					LR		LR	08 33 08.2	
	comp=Z,128nm,21.8s,MS3.3,baz=352,slow=37								
ASAR	**Alice Springs**	**20.92**	**170**	P		**P**		**08 24 51.3**	**+1.4**
ASAR					S		**S**	**08 28 39.3**	**-3.7**
ASAR								08 28 59.3	
CTA	**Charters Tower**	**23.30**	**138**	*eP*		**P**		**08 25 17.8**	**+2.4**
	26nm,0.8s,mb4.7								
CTA	**Charters Tower**	**23.30**	**138**	P		**P**		**08 25 17.6**	**+2.2**
	33nm,0.8s,mb4.8,baz=321,slow=11,SNR=26								
CTA	**Charters Tower**	**23.30**	**138**	*eP*		**P**		**08 25 17.8**	**+2.4**
CTA					pmax		pmax		
	comp=Z,26nm,0.8s								
CTAO	**Charters Tower**	**23.30**	**138**	*eP*		**P**		**08 25 17.7**	**+2.3**
CTAO					pmax		pmax		
	comp=Z,36nm,0.9s,mb4.8								
CTAO	**Charters Tower**	**23.30**	**138**	*eP*		**P**		**08 25 17.7**	**+2.3**
	comp=Z,36nm,0.9s,mb4.8								
FORT	**Forrest**	**27.70**	**183**	*eP*		**P**		**08 25 55.5**	**-0.1**
	comp=Z,28nm,0.7s,mb5.0								
JOW	**Kunigami**	**29.68**	**357**	P		**P**		**08 26 13.9**	**+0.8**
	comp=Z,32nm,1.1s,mb5.0,baz=259,slow=27,SNR=2.6								
JOW					LR		LR	08 37 02.6	
	comp=Z,192nm,19.4s,MS3.7,baz=42,slow=34								
KULM	**Kulim**	**30.38**	**286**	*eP*		**P**		**08 26 17.6**	**-1.7**
KLBR	**Kellerberrin**	**30.68**	**201**	*eP*		**P**		**08 26 21.5**	**-0.5**
	comp=Z,18nm,0.9s,mb4.9								
STKA	**Stephens Creek**	**30.77**	**160**	*eP*		**P**		**08 26 24.0**	**+1.2**
	comp=Z,11nm,0.9s,mb4.7								
STKA	**Stephens Creek**	**30.77**	**160**	P		**P**		**08 26 24.2**	**+1.4**
	comp=Z,13nm,0.8s,mb4.8,baz=332,slow=8.8,SNR=23								
PSI	**Prapat**	**31.52**	**280**	P		**P**		**08 26 29.1**	**-0.2**
	comp=Z,13nm,0.8s,mb4.8,baz=167,slow=13,SNR=4.8								
NWAO	**Narrogin (SRO)**	**32.08**	**200**	P		**P**		**08 26 33.8**	**-0.5**
	comp=Z,5.3nm,0.7s,mb4.5,baz=32,slow=9.3,SNR=4.9								
ARMA	**Armidale**	**34.15**	**145**	*eP*		**P**		**08 26 55.1**	**+2.7**
NJ2	**Nanjing**	**36.39**	**344**	*eP*		**P**		**08 27 13.1**	**+1.4**
NJ2					AMB		AMB		
	comp=Z,20nm,1.1s,mb5.0								
GYA	**Guiyang**	**36.91**	**324**	*eP*		**P**		**08 27 18.0**	**+1.9**
GYA					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8								
TOO	**Toolangi**	**37.27**	**159**	*eP*		**P**		**08 27 21.9**	**+2.7**
	comp=Z,4.2nm,0.6s,mb4.5								
TOO	**Toolangi**	**37.27**	**159**	*eP*		**P**		**08 27 21.9**	**+2.7**
TOO					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.4								
CHTO	**Chiang Mai**	**37.40**	**307**	*eP*		**P**		**08 27 21.0**	**+0.7**
CHTO					pmax		pmax		
	comp=Z,27nm,0.8s,mb5.1								
CHTO	**Chiang Mai**	**37.40**	**307**	*eP*		**P**		**08 27 21.0**	**+0.8**
	comp=Z,26nm,0.8s,mb5.1								
KMI	**Kunming**	**38.42**	**318**	P		**P**		**08 27 33.4**	**+4.5**
KMI					AMB		AMB		
	comp=Z,7.0nm,1.2s,mb4.3								
KMI	**Kunming**	**38.42**	**318**	P		**P**		**08 27 33.4**	**+4.5**
	comp=Z,7.0nm,1.2s,mb4.3								
MJAR	**Matsushiro Arr**	**40.07**	**10**	P		**P**		**08 27 41.8**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.2,baz=183,slow=9.0,SNR=16								
MAJO	**Matsushiro**	**40.07**	**10**	*eP*		**P**		**08 27 41.7**	**-1.0**
MAJO					pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3								
MAJO	**Matsushiro**	**40.07**	**10**	*eP*		**P**		**08 27 41.6**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.3								
MAT	**Matsushiro**	**40.07**	**10**	P		**P**		**08 27 42.1**	**-0.6**
MAT					*e*S		**S**	**08 33 48.0**	**-0.6**
CD2	**Chengdu**	**41.93**	**325**	*eP*		**P**		**08 27 58.6**	**+0.6**
CD2					AP		pP	08 28 04.5	+3.2
CD2					XP		sP	08 28 09.0	+6.4
CD2					PP		PP	08 29 39.3	+4.3
CD2					S		**S**	**08 34 16.3**	**0.0**
CD2					XS		sS	08 34 26.2	+4.6
CD2					SS		SS	08 37 17.9	-4.9
CD2					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5								
CD2					AMB		AMB		
	comp=Z,30nm,5.2s								
CD2					LR		LR		
	comp=N,110nm,10.8s								
CD2					LR		LR		
	comp=Z,120nm,10.8s,MS4.0								
BJT	**Baijiatuau**	**44.61**	**345**	*eP*		**P**		**08 28 19.6**	**-0.1**
BJT					pmax		pmax		
	comp=Z,6.0nm,0.6s								
BJT	**Baijiatuau**	**44.61**	**345**	*eP*		**P**		**08 28 19.6**	**-0.1**
	comp=Z,6.2nm,0.6s,mb4.6								
BJI	**Beijing**	**44.63**	**345**	*eP*		**P**		**08 28 20.0**	**+0.1**
BJI					AMB		AMB		
	comp=Z,11nm,0.7s,mb4.8								
BJI	**Beijing**	**44.63**	**345**	*eP*		**P**		**08 28 20.0**	**+0.1**
	comp=Z,11nm,0.7s,mb4.8								
LZH	**Lanzhou**	**45.87**	**330**	*eP*		**P**		**08 28 35.1**	**+5.4**
LZH					AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9								
HHC	**Hu-ho-hao-te**	**46.73**	**341**	*eP*		**P**		**08 28 38.6**	**+2.1**
HHC					AP		pP	08 28 44.9	+5.1
HHC					XP		sP	08 28 47.0	+5.9
HHC					PP		PP	08 30 31.0	+4.8
HHC					S		**S**	**08 35 26.7**	**+0.5**
HHC					AMB		AMB		
	comp=Z,20nm,0.3s,mb5.5								
HHC					AMB		AMB		
	comp=Z,109nm,5.0s								
HHC					LR		LR		
	comp=N,134nm,9.8s								
HHC					LR		LR		
	comp=E,198nm,14.0s								
HHC					LR		LR		
	comp=Z,156nm,7.0s								
CN2	**Changchun**	**46.74**	**356**	*eP*		**P**		**08 28 35.9**	**-0.6**
CN2					*e*XP		sP	08 28 44.8	+3.7
CN2					*e*S		**S**	**08 35 24.9**	**-1.4**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9								
CN2					AMB		AMB		
	comp=Z,200nm,5.0s								
CN2					LR		LR		
	comp=N,200nm,22.0s,MS4.2								
CN2					LR		LR		
	comp=E,200nm,22.0s,MS4.0								
CN2					LR		LR		
	comp=Z,200nm,22.0s,MS4.0								
MDJ	**Mudanjiang**	**47.38**	**360**	P		**P**		**08 28 39.0**	**-2.6**
MDJ					AP		pP	08 28 45.3	+0.4
MDJ					XP		sP	08 28 48.1	+2.0
MDJ					PP		PP	08 30 34.3	+1.6
MDJ					SCP		ScP	08 34 04.4	-1.8
MDJ					S		**S**	**08 35 37.5**	**+2.0**
MDJ					AMB		AMB		
	comp=Z,3.0nm,0.5s,mb4.5								
MDJ					AMB		AMB		
	comp=Z,42nm,3.3s								
MDJ					LR		LR		
	comp=N,63nm,20.9s,MS3.6								
MDJ					LR		LR		
	comp=E,35nm,22.1s,MS3.6								
MDJ					LR		LR		
	comp=Z,77nm,20.9s,MS3.6								
ASAJ	**Asahikawa**	**48.24**	**12**	LR		LR		08 48 36.1	
	comp=Z,56nm,19.0s,MS3.6,baz=177,slow=35								
GTA	**Gaotai**	**50.46**	**330**	*eP*		**P**		**08 29 05.7**	**+0.6**
GTA					AP		pP	08 29 13.1	+4.6
GTA					XP		sP	08 29 16.3	+6.5
GTA					PCP		PcP	08 30 25.4	+2.1
GTA					PP		PP	08 31 04.2	+3.4
GTA					S		**S**	**08 36 20.6**	**+1.9**
GTA					XS		sS	08 36 32.4	+8.2
GTA					SS		SS	08 39 52.4	-0.2
GTA					AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.7								
GTA					AMB		AMB		
	comp=Z,93nm,5.3s								
GTA					LR		LR		
	comp=N,129nm,11.0s								
GTA					LR		LR		
	comp=E,110nm,17.1s								
GTA					LR		LR		
	comp=Z,77nm,9.9s								
KLR	**Kul'dur**	**52.02**	**2**	*eP*		**P**		**08 29 14.1**	**-2.8**
GUN	**Gumba**	**52.32**	**309**	*eP*		**P**		**08 29 19.5**	**+0.4**
	comp=Z,19nm,0.5s,mb5.3								
PKI	**Pulchoki**	**52.53**	**308**	*eP*		**P**		**08 29 20.3**	**-0.3**
	comp=Z,9.3nm,0.6s,mb4.9								
KKN	**Kakani**	**52.73**	**309**	*eP*		**P**		**08 29 21.8**	**-0.3**
DMN	**Daman**	**52.78**	**308**	*eP*		**P**		**08 29 22.4**	**-0.1**
	comp=Z,20nm,0.9s,mb5.0								
GKN	**Gorkha**	**53.33**	**308**	*eP*		**P**		**08 29 26.5**	**-0.1**
	comp=Z,24nm,0.8s,mb5.2								
KOLN	**Koldanda**	**54.04**	**308**	*eP*		**P**		**08 29 32.0**	**+0.2**
	comp=Z,34nm,0.7s,mb5.4								
HYB	**Hyderabad**	**54.56**	**294**	*i P*		**P**		**08 29 35.0**	**-0.6**
HYB	**Hyderabad**	**54.56**	**294**	*eP*		**P**		**08 29 35.0**	**-0.6**
SONM	**Songino Array**	**54.64**	**341**	P		**P**		**08 29 36.9**	**+0.8**
	comp=Z,2.3nm,0.7s,mb4.3,baz=149,slow=7.7,SNR=14								
CIT	**Chita**	**56.53**	**348**	*eP*		**P**		**08 29 49.6**	**-0.1**
ZAK	**Zakamensk**	**57.87**	**340**	*eP*		**P**		**08 29 59.4**	**+0.2**
ZAK				*e*				08 30 52.6	
POO	**Poona**	**59.17**	**294**	*ex*		x		08 30 46.0	
WMQ	**Urumqi**	**60.02**	**326⇓**	*i P*		**P**		**08 30 14.9**	**+0.7**
WMQ					AP		pP	08 30 21.0	+3.5
WMQ					XP		sP	08 30 24.5	+5.7
WMQ					PCP		PcP	08 31 01.0	+0.9
WMQ					PP		PP	08 32 30.0	+3.5
WMQ					PPP			08 33 56.0	
WMQ					SCP		ScP	08 34 59.0	-2.2
WMQ				*eS*			**S**	**08 38 24.5**	**-2.3**
WMQ					XS		sS	08 38 42.0	+10
WMQ					AMB		AMB		
	comp=Z,16nm,0.8s,mb5.1								
WMQ					AMB		AMB		
	comp=Z,105nm,4.3s								
WMQ					LR		LR		
	comp=N,424nm,21.4s,MS4.7								
WMQ					LR		LR		
	comp=E,506nm,22.6s,MS4.7								
WMQ					LR		LR		
	comp=Z,372nm,20.0s,MS4.5								
BOD	**Bodaibo**	**61.94**	**350**	*eP*		**P**		**08 30 25.6**	**-1.6**
BOD					pmax		pmax		
	comp=Z,5.0nm,3.2s								
CASY	**Casey**	**64.64**	**189**	*eP*		**P**		**08 30 43.5**	**-1.5**
YAK	**Yakutsk**	**64.83**	**360**	*eP*		**P**		**08 30 47.2**	**+0.9**
YAK					pmax		pmax		
	comp=Z,15nm,0.8s,mb5.1								
MKAR	**Makanchi Array**	**64.86**	**326**	P		**P**		**08 30 46.5**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.7,baz=123,slow=7.9,SNR=42								
MKAR	**Makanchi Array**	**64.86**	**326**	*i P*		**P**		**08 30 46.5**	**0.0**
MKAR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**67.46**	**319**	*eP*		**P**		**08 31 02.8**	**-0.4**
AAK					pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0								
AAK	**Ala-Archa**	**67.46**	**319**	*eP*		**P**		**08 31 02.8**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.2								
SEY	**Seymchan**	**67.90**	**11⇓**	*eP*		**P**		**08 31 07.8**	**+1.9**
NVS	**Novosibirsk**	**69.26**	**333⇑**	*i P*		**P**		**08 31 13.8**	**-0.7**
NVS					pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7								
NVS					pmax		pmax		
	comp=N,8.0nm,1.1s								
NVS					pmax		pmax		
	comp=E,11nm,1.1s								
KK31	**Karatay Array**	**70.30**	**318**	*i P*		**P**		**08 31 20.6**	**-0.3**
KK31					pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3								
BVAR	**Borovoye Array**	**74.65**	**327**	P		**P**		**08 31 46.8**	**0.0**
	comp=Z,8.7nm,0.7s,mb4.8,baz=124,slow=8.0,SNR=51								
BRVK	**Borovoye**	**74.72**	**327**	*eP*		**P**		**08 31 47.1**	**-0.1**
BRVK					pmax		pmax		
	comp=Z,14nm,0.7s,mb5.0								
BRVK	**Borovoye**	**74.72**	**327**	*eP*		**P**		**08 31 47.1**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0								
ZRNK	**Zerenda**	**75.37**	**327**	*eP*		**P**		**08 31 50.6**	**-0.3**
ZRNK					pmax		pmax		
	comp=Z,13nm,0.7s,mb5.0								
ZRNK	**Zerenda**	**75.37**	**327**	*eP*		**P**		**08 31 50.6**	**-0.3**
	comp=Z,13nm,0.7s,mb5.0								
VNDA	**Vanda**	**76.42**	**173**	P		**P**		**08 31 57.0**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=310,slow=6.3,SNR=22								
VNDA	**Vanda**	**76.42**	**173**	*eP*		**P**		**08 31 56.6**	**-0.3**
VNDA					pmax		pmax		
	comp=Z,4.0nm,0.8s								
VNDA	**Vanda**	**76.42**	**173**	*eP*		**P**		**08 31 56.6**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.4								
SBA	**Scott Base**	**77.30**	**173**	*eP*		**P**		**08 32 03.3**	**+1.4**
SBA					pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.5								
SBA	**Scott Base**	**77.30**	**173**	*eP*		**P**		**08 32 03.3**	**+1.4**
	comp=Z,8.2nm,1.4s,mb4.5								
MAW	**Mawson**	**78.64**	**201**	*eP*		**P**		**08 32 09.1**	**-0.3**
	comp=Z,2.5nm,1.0s,mb4.1								
MAW	**Mawson**	**78.64**	**201**	P		**P**		**08 32 09.5**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=85,slow=6.6,SNR=7.0								
MAW	**Mawson**	**78.64**	**201**	*eP*		**P**		**08 32 09.1**	**-0.3**
MAW					pmax		pmax		
	comp=Z,3.0nm,1.0s								
AKTK	**Aktyubinsk**	**80.87**	**322**	P		**P**		**08 32 21.9**	**+0.4**
AKTO	**Aktyubinsk**	**80.87**	**322**	P		**P**		**08 32 21.9**	**+0.4**
	comp=Z,10nm,0.6s,mb4.9,baz=109,slow=8.1,SNR=29								
AKTO	**Aktyubinsk**	**80.87**	**322**	*i P*		**P**		**08 32 21.3**	**-0.2**
AKTO					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2								
OPO	**Ambohidratompo**	**82.18**	**252**	P		**P**		**08 32 30.0**	**+1.6**
	comp=Z,7.5nm,0.7s,mb4.8,baz=78,slow=3.9,SNR=18								
ARU	**Arti**	**82.28**	**328⇑**	*i P*		**P**		**08 32 28.3**	**-0.6**
ARU				*e*				08 35 37.0	
ARU				*e*PPP				08 37 29.1	
ARU				*e*S		S		08 42 42.5	-1.9
ARU				*e*SS		SS		08 47 59.5	-5.0
ARU					pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8								
ARU	**Arti**	**82.28**	**328**	*eP*		**P**		**08 32 28.1**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8								
UMR	**Umm Al-Rimmam**	**84.69**	**300**	*eP*		**P**		**08 32 41.2**	**-0.1**
UMR					AMb		AMb	08 32 42.2	
	comp=Z,21nm,0.6s,mb5.4								
MIB	**Mutribah**	**85.04**	**300**	*eP*		**P**		**08 32 43.0**	**0.0**
MIB					AMb		AMb	08 32 44.8	
	comp=Z,19nm,0.7s,mb5.3								
NAY	**Al-Naaiem**	**85.06**	**300**	*eP*		**P**		**08 32 43.0**	**-0.1**
NAY					AMb		AMb	08 32 44.8	
	comp=Z,18nm,0.7s,mb5.3								
RST	**Umm Al-Ruwaisa**	**85.30**	**300**	*eP*		**P**		**08 32 44.3**	**-0.1**
RST					AMb		AMb	08 32 45.8	
	comp=Z,57nm,0.7s,mb5.8								
MAK	**Makhachkala**	**86.47**	**313**	P		**P**		**08 32 54.8**	**+4.7**
QSPA	**South Pole Qui**	**86.97**	**180**	*eP*		**P**		**08 32 52.5**	**-0.1**
	comp=Z,7.4nm,1.0s,mb4.9								
SYO	**Syowa Base**	**87.36**	**201⇑**	*eP*		**P**		**08 32 54.0**	**-0.5**
SYO	**Syowa Base**	**87.36**	**201⇓**	*e*pP		pP		08 33 03.6	+5.6
SLKM	**Skilak Lake**	**87.58**	**29**	*eP*		**P**		**08 32 56.2**	**+0.6**
ZEI	**Tsey**	**89.08**	**313**	*eP*		**P**		**08 33 02.5**	**-0.2**
ZEI				*e*PP		pP		08 33 11.0	+4.8
ZEI					pmax		pmax		
	comp=Z,10.0nm,1.0s,mb5.1								
OBN	**Obninsk**	**94.35**	**325**	*eP*		**P**		**08 33 25.9**	**-1.2**
OBN					pmax		pmax		
	comp=Z,6.0nm,0.9s,mb5.0								
ARCES	**ARCESS Array B**	**97.81**	**340**	P		**P**		**08 33 41.9**	**-0.9**
	comp=Z,3.1nm,0.9s,mb4.8,baz=57,slow=4.5,SNR=5.0								
ARCES	**ARCESS Array B**	**97.81**	**340**	P		**P**		**08 33 41.9**	**-0.9**
FINES	**FINESS Array B**	**99.22**	**332**	P		**P**		**08 33 47.4**	**-1.7**
	comp=Z,1.2nm,0.9s,mb4.4,baz=56,slow=11,SNR=2.5								
BOSA	**Boshof**	**101.41**	**240**	P		Pdif		08 33 59.4	+0.6
	comp=Z,2.8nm,0.9s,baz=166,slow=4.2,SNR=4.9								
BOSA	**Boshof**	**101.41**	**240**	P		Pdif		08 33 59.4	+0.6
NB2	**NORSAR Subarra106.18**	**334**		P		Pdif		08 34 19.6	-0.5
	comp=Z,0.5nm,0.7s,baz=62,slow=4.6								
NB2	**NORSAR Subarra106.18**	**334**		P		Pdif		08 34 19.6	-0.5
NB2					pmax		pmax		
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**114.10**	**44**	PKKPbc		PKKPbc		08 49 28.9	+1.5
	comp=Z,0.4nm,0.7s,baz=108,slow=4.8,SNR=4.7								
JCT	**Junction City**	**125.69**	**54**	*e*PKIKP		PKPdf		08 39 10.6	+1.6
TORD	**Torodi Ar. Bea**	**127.86**	**284**	PKP		PKPdf		08 39 14.2	+1.0
	comp=Z,1.3nm,0.7s,baz=58,slow=2.0,SNR=9.6								
PLCA	**Paso Flores**	**132.64**	**159**	PKP		PKPdf		08 39 25.1	+3.0
	comp=Z,0.8nm,0.8s,baz=33,slow=6.7,SNR=4.7								
CPUP	**Villa Florida**	**150.03**	**167**	PKP		PKPdf		08 39 55.7	+2.7
	comp=Z,1.1nm,0.7s,baz=174,slow=2.4,SNR=3.9								
CPUP					PKPbc		PKPbc	08 40 00.1	+2.1
	comp=Z,8.5nm,0.7s,baz=161,slow=1.9,SNR=28								
CPUP					PKPab		PKPab	08 40 04.3	+0.5
	comp=Z,4.4nm,0.6s,baz=9.7,slow=1.0,SNR=9.9								
CPUP	**Villa Florida**	**150.03**	**167**	PKP		PKPdf		08 39 55.7	+2.7
CPUP				*e*PKPbc		PKPbc		08 39 59.3	+1.3
CPUP					PKPab		PKPab	08 40 04.3	+0.5
LPAZ	**La Paz**	**153.83**	**138**	PKPbc		PKPbc		08 40 10.1	+3.5
	comp=Z,1.0nm,0.7s,baz=224,slow=5.4,SNR=7.9								

*IGIL **01** 08:28:35.0, 3827N×924W, h0km, ML1.9*
*INMG **01** 08:28:44.2±0.9, 3827N×924W, h11km±8km, ML1.2, Error ellipse: s-maj=5.7km s-min=5.3km az=91.0*
MDD 01 08:28:44.4±2.1, 3674N×906W, h28km±16km, mbLg1.7/5, Error ellipse: s-maj=20.1km s-min=12.6km az=69.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.65**	**30**	*eP*		**Pb**		**08 28 56.5**	**-0.7**
MORF					*e*S		Sb	08 29 05.7	-0.3
MORF					*e*S		Sb	08 29 05.7	-0.3
MORF					AML		AML	08 29 06.8	
	comp=N,22nm,0.1s								
MORF	**Marmelete**	**0.65**	**30**	*eP*		**Pb**		**08 28 56.5**	**-0.8**
MORF					*e*S		Sb	08 29 05.7	-0.3
PTEO	**Sao Teotonio**	**0.85**	**18**	*eP*		**Pn**		**08 28 59.1**	**-1.4**
PTEO					*e*S		Sb	08 29 10.6	-0.9
PTEO									
	comp=N,7.9nm,0.2s								
EGRO	**El Granado**	**1.49**	**57**	P		Pn		08 29 08.3	-0.9
	comp=N,0.3nm,0.1s,SNR=7.9								
EGRO					S		Sn	08 29 26.1	-1.7
	comp=N,2.4nm,0.1s,SNR=7.6								
PBEJ	**Beja**	**1.60**	**36**	*eP*		Pn		08 29 03.9	-6.9
PBEJ					*e*S		Sn	08 29 19.2	-11
EMIN	**Mina Concepcio**	**2.16**	**61**	P		Pn		08 29 17.7	-0.9
	comp=N,0.1nm,0.1s,SNR=7.9								
EMIN					S		Sn	08 29 42.3	-2.2
	comp=N,0.6nm,0.1s,SNR=7.9								
ESPR	**Espera**	**2.58**	**86**	P		Pn		08 29 23.6	-0.7
	comp=N,1.1nm,0.1s,SNR=7.9								
ESPR					S		Sn	08 29 51.6	-3.0
	comp=N,1.7nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**2.58**	**38**	S		Sn		08 29 52.9	-2.0
	comp=N,0.7nm,0.2s,SNR=7.9								
PTOM	**Tomar**	**2.92**	**10**	*eS*		Pn		08 29 28.2	-0.7
PTOM									
	comp=N,2.8nm,0.1s								
EADA	**Adamuz**	**3.84**	**67**	P		Pn		08 29 38.5	-3.1
	comp=N,0.5nm,0.2s,SNR=7.9								
EADA					S		Sn	08 30 21.9	-4.0
	comp=N,0.5nm,0.1s,SNR=7.9								

IDC 01 08:31:08.7±6.6, 313N×12738E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.2/4, Error ellipse: s-maj=108.7km s-min=87.0km az=132.0, Talaud Islands

| Code | Station Name |

MELI	**Melilla**	**0.18**	**12**	P	**Pg**	**08 44 39.3 -0.5**
MELI				S	**Sg**	**08 44 43.9 +1.0**
EMEL	**Melilla**	**0.18**	**6**	P	**Pg**	**08 44 39.4 -0.4**
	134nm,0.1s,SNR=13					
EMEL				S	**Sg**	**08 44 42.9 -0.1**
	830nm,0.2s,SNR=9.9					
EMLI	**Melilla**	**0.19**	**8**	P	**Pg**	**08 44 39.4 -0.4**
	134nm,0.1s,SNR=13					
EMLI				S	**Sg**	**08 44 42.9 -0.1**
	830nm,0.2s,SNR=9.9					
ZAI	**Zaio**	**0.24**	**127**	*i* P	**Pg**	**08 44 35.5 -5.2**
ZAI				*i* S	**Sg**	**08 44 38.0 -6.5**
TOU	**Touzarine**	**0.65**	**257**	*i* P	**Pb**	**08 44 47.0 -1.0**
TOU				*i* S	**Sb**	**08 44 59.5 +2.8**
MPAL	**Palemas**	**0.79**	**278**	*e*P	**Pb**	**08 44 49.0 -1.4**
MPAL				*e*S	**Sb**	**08 45 02.0 +1.2**
EALB	**Alboran**	**0.82**	**357**	P	**Pb**	**08 44 50.8 -0.1**
	6.6nm,0.1s,SNR=11					
EALB				S	**Sb**	**08 45 03.4 +1.7**
	77nm,0.3s,SNR=6.8					
EALB	**Alboran**	**0.82**	**357**	P	**Pb**	**08 44 50.8 -0.1**
	6.6nm,0.1s,SNR=11					
EALB				S	**Sb**	**08 45 03.3 +1.6**
	77nm,0.3s,SNR=6.8					
TZK	**Tazeka**	**1.43**	**224**	*e*P	**Pn**	**08 45 00.0 -0.1**
TZK				*e*S	**Sn**	**08 45 21.0 +2.6**
EGUA	**Guajares**	**1.78**	**345**	⇑P	**Pn**	**08 45 02.8 -2.1**
	3.7nm,0.2s,SNR=18					
EGUA				S	**Sn**	**08 45 24.8 -2.3**
	1.5nm,0.2s,SNR=7.9					
EBER	**Berja**	**1.78**	**2**	P	**Pn**	**08 45 04.4 -0.6**
	1.3nm,0.2s,SNR=8.3					
EBER				S	**Sn**	**08 45 26.3 -0.8**
	68nm,0.7s,SNR=4.5					
EBER	**Berja**	**1.78**	**2**	P	**Pn**	**08 45 04.4 -0.6**
	1.3nm,0.2s,SNR=8.3					
EBER				S	**Sn**	**08 45 26.3 -0.9**
	68nm,0.7s,SNR=4.5					
ENIJ	**Nijar**	**1.96**	**19**	P	**Pn**	**08 45 05.7 -1.7**
	2.9nm,0.2s,SNR=7.9					
ENIJ				S	**Sn**	**08 45 30.8 -0.7**
	8.0nm,0.3s,SNR=5.8					
ERON	**Agron**	**2.01**	**341**	P	**Pn**	**08 45 06.1 -2.1**
	3.2nm,0.2s,SNR=4.6					
ERON				S	**Sn**	**08 45 33.1 +0.2**
	2.9nm,0.2s					
EMIJ	**Mijas**	**2.05**	**315**	P	**Pn**	**08 45 07.1 -1.6**
	2.3nm,0.1s,SNR=8.9					
EMIJ				S	**Sn**	**08 45 33.0 -0.9**
	9.0nm,0.4s					
EQUE	**Quentar**	**2.12**	**350**	P	**Pn**	**08 45 09.2 -0.5**
	3.0nm,0.2s,SNR=24					
EQUE				S	**Sn**	**08 45 36.0 +0.5**
	3.3nm,0.4s,SNR=4.9					
ECOG	**Cogollos-Vega**	**2.21**	**348**	P	**Pn**	**08 45 10.5 -0.3**
	2.7nm,0.2s,SNR=7.9					
ECOG				S	**Sn**	**08 45 39.5 +1.8**
	4.4nm,0.4s,SNR=7.9					
ELOJ	**Sierra Loja**	**2.24**	**335**	P	**Pn**	**08 45 10.5 -0.8**
	2.9nm,0.3s,SNR=6.3					
ELOJ				S	**Sn**	**08 45 39.3 +0.8**
	2.6nm,0.4s					
EJIF	**Jimena Fronter**	**2.42**	**304**	P	**Pn**	**08 45 14.7 +0.9**
	1.0nm,0.2s,SNR=7.9					
EJIF				S	**Sn**	**08 45 43.3 +0.3**
	0.7nm,0.2s,SNR=7.9					
MIF	**Mishlifen**	**2.52**	**228**	*e*P	**Pn**	**08 45 15.0 -0.2**
MIF				*i* S	**Sn**	**08 45 46.0 +0.5**
ELUQ	**Luque**	**2.65**	**337**	P	**Pn**	**08 45 17.1 +0.1**
	4.6nm,0.3s,SNR=7.9					
ELUQ				S	**Sn**	**08 45 49.0 +0.3**
	2.5nm,0.2s,SNR=7.9					
EQES	**Quesada**	**2.68**	**358**	P	**Pn**	**08 45 19.4 +1.9**
	4.2nm,0.2s,SNR=19					
EQES				S	**Sn**	**08 45 51.3 +1.9**
	17nm,0.6s,SNR=7.6					
EQES	**Quesada**	**2.68**	**358**	P	**Pn**	**08 45 19.4 +2.0**
	4.2nm,0.2s,SNR=19					
EQES				S	**Sn**	**08 45 51.3 +1.9**
	17nm,0.6s,SNR=7.6					
CZD	**Col de Zad**	**2.69**	**220**	*i* P	**Pn**	**08 45 18.0 +0.5**
CZD				*i* S	**Sn**	**08 45 49.0 -0.6**
EHUE	**Huescar**	**2.71**	**7**	P	**Pn**	**08 45 18.6 +0.8**
	1.7nm,0.1s,SNR=11					
EHUE				S	**Sn**	**08 45 52.4 +2.3**
	0.4nm,0.3s,SNR=4.0					
EMUR	**La Murta**	**3.06**	**27**	P	**Pn**	**08 45 22.0 -0.7**
	1.6nm,0.2s,SNR=15					
EMUR				S	**Sn**	**08 45 56.7 -2.1**
	6.8nm,0.4s					
EMUR	**La Murta**	**3.06**	**27**	P	**Pn**	**08 45 22.0 -0.6**
	1.6nm,0.2s,SNR=15					
EMUR				S	**Sn**	**08 45 56.7 -2.1**
	6.8nm,0.4s					
ZFT	**Errachidia**	**3.28**	**201**	*e*P	**Pn**	**08 45 25.0 -0.6**
ZFT				*i* S	**Sn**	**08 46 04.0 -0.2**
EADA	**Adamuz**	**3.31**	**338**	P	**Pn**	**08 45 26.2 +0.3**
	3.8nm,0.3s,SNR=8.9					
EADA				S	**Sn**	**08 46 04.7 -0.1**
	2.1nm,0.3s					
EADA	**Adamuz**	**3.31**	**338**	P	**Pn**	**08 45 26.2 +0.2**
	3.8nm,0.3s,SNR=8.9					
EADA				S	**Sn**	**08 46 04.7 -0.1**
	2.1nm,0.3s					
EVIA	**Vianos**	**3.54**	**6**	P	**Pn**	**08 45 30.5 +1.4**
	1.2nm,0.2s,SNR=4.0					
EVIA				S	**Sn**	**08 46 10.2 -0.3**
	3.7nm,0.5s,SNR=7.9					
ETOB	**Tobarra**	**3.71**	**18**	P	**Pn**	**08 45 33.0 +1.5**
	0.8nm,0.2s,SNR=5.9					
ETOB				S	**Sn**	**08 46 15.3 +0.6**
	2.2nm,0.3s					
ETOB	**Tobarra**	**3.71**	**18**	P	**Pn**	**08 45 33.0 +1.5**
	0.8nm,0.2s,SNR=5.9					
ETOB				S	**Sn**	**08 46 15.3 +0.6**
	2.2nm,0.3s					
EMIN	**Mina Concepcio**	**3.98**	**313**	P	**Pn**	**08 45 34.6 -0.7**
	0.5nm,0.1s,SNR=12					
EMIN				S	**Sn**	**08 46 19.5 -2.0**
	2.2nm,0.3s					
EMIN	**Mina Concepcio**	**3.98**	**313**	P	**Pn**	**08 45 34.6 -0.7**
	0.5nm,0.1s,SNR=12					
EMIN				S	**Sn**	**08 46 19.5 -2.0**
	2.2nm,0.3s					
EBEN	**Beniarda**	**4.21**	**31**	P	**Pn**	**08 45 38.7 +0.3**
	0.4nm,0.1s,SNR=7.9					
EBEN				S	**Sn**	**08 46 25.7 -1.4**
	1.1nm,0.4s,SNR=7.9					
EBEN	**Beniarda**	**4.21**	**31**	P	**Pn**	**08 45 38.7 +0.3**
	0.4nm,0.1s,SNR=7.9					
EBEN				S	**Sn**	**08 46 25.7 -1.4**
	1.1nm,0.4s,SNR=7.9					
EGRO	**El Granado**	**4.36**	**305**	P	**Pn**	**08 45 39.7 -0.8**
	3.3nm,0.2s,SNR=11					
EGRO				S	**Sn**	**08 46 27.8 -3.1**
	1.0nm,0.3s					
EGRO	**El Granado**	**4.36**	**305**	P	**Pn**	**08 45 39.7 -0.8**
	3.3nm,0.2s,SNR=11					
EGRO				S	**Sn**	**08 46 27.8 -3.1**
	1.0nm,0.3s					
ESDC	**Sonseca Array**	**4.62**	**351**	P	**Pn**	**08 45 45.2 +1.2**
	3.1nm,0.2s,baz=172,slow=12,SNR=9.0					
ESDC	**Sonseca Array**	**4.62**	**351**	P	**Pn**	**08 45 45.2 +1.2**
	3.1nm,0.2s,SNR=9.0					
ESLA	**Sonseca Array**	**4.62**	**351**	*e*Pn	**Pn**	**08 45 45.5 +1.5**
EBAD	**Badajoz**	**4.86**	**320**	P	**Pn**	**08 45 47.1 -0.3**
	4.3nm,0.3s,SNR=8.8					
EBAD				S	**Sn**	**08 46 41.2 -2.0**
	1.6nm,0.2s					
EBAD	**Badajoz**	**4.86**	**320**	P	**Pn**	**08 45 47.1 -0.2**
	4.3nm,0.3s,SNR=8.8					
EBAD				S	**Sn**	**08 46 41.2 -1.9**
	1.6nm,0.2s					
EIBI	**Ibiza**	**5.21**	**40**	P	**Pn**	**08 45 51.5 -0.7**
	2.3nm,0.2s,SNR=7.9					
EIBI	**Ibiza**	**5.21**	**40**	P	**Pn**	**08 45 51.5 -0.7**
	2.3nm,0.2s,SNR=7.9					
GUD	**Guadarrama**	**5.59**	**351**	P	**Pn**	**08 45 57.6 +0.1**
	0.6nm,0.2s,SNR=9.9					
ETOR	**Torete**	**5.74**	**7**	P	**Pn**	**08 46 00.8 +1.4**
	2.2nm,0.3s,SNR=7.9					
ERTA	**Horta de San J**	**6.39**	**23**	P	**Pn**	**08 46 09.5 +1.1**
	1.0nm,0.2s,SNR=4.0					
ETOS	**Mallorca**	**6.54**	**43**	P	**Pn**	**08 46 11.0 +0.6**
	0.4nm,0.2s,SNR=4.0					
ECAL	**Calabor**	**7.42**	**338**	P	**Pn**	**08 46 23.1 +0.6**
	0.4nm,0.1s,SNR=7.9					

NIED ***01*** *09:05:00,4640N×15360E,h8km,Mw6.4 Best double couple: M0=4.62000×10^18 NP1:φ=225.00000°,δ57.00000°, λ107.00000°. NP2:φ=16.00000°,δ37.00000°,λ66.00000°.*
SKHL ***01*** *09:05:55.3±1.9,4600N×15422E,h50km±18km,mb7.0/8, mbh6.9/8,Ms6.7/6,msh6.9/4*
JMA ***01*** *09:05:59.5±0.9,4644N×15361E,h30km,M6.6*
CRAAG ***01*** *09:05:59.2,4655N×15328E,Mw6.6*
ISCJB ***01*** *09:06:00.2±0.1,4632N±002×15331E±001,h19km, mb6.0/364,MS6.4/228,Error ellipse: s-maj=2.9km s-min=1.3km az=150.5*
BJI ***01*** *09:06:00.2,4652N×153.15E,h16km,mB6.6,mb5.7,Ms6.5, Msz6.3*
IGIL ***01*** *09:06:01.5,4655N×153.17E,h10km,MS6.7*
IDC ***01*** *09:06:01.1±1.3,4642N×15329E,h14km±7km,mb5.3/29, mb1 5.3/31,mb1mx5.3/32,mbtmp5.3/31,ML4.4/2,MS6.5/30, Ms1 6.4/30,ms1mx6.2/43,Error ellipse: s-maj=10.6km s-min=7.2km az=106.0*
BGS ***01*** *09:06:01.7,4683N×15461E,h10km,mb6.1,MS6.2*
GCMT ***01*** *09:06:02.3±0.0,4638N×15364E,h13km,MW6.5/110, Moment Tensor Solution. s107,c255; s110,c499; Duration: 4s6 Moment tensor: Scale 10^19Nm; Mrr0.67±.00; Mθθ-0.24±.00; Mφφ-0.42±.00; Mrθ0.22±.01; Mθφ-0.38±.00; Mφr0.40±.01; Best double couple: M0=0.82800×10^19 NP1:φ=224.00000°,δ29.00000°, λ100.00000°. NP2:φ=33.00000°,δ62.00000°,λ85.00000°. Principal axes: T 0.8020, Plg73.0000°, Azm289.0000°; N 0.0510, Plg5.0000°, Azm35.0000°; P -0.8530, Plg16.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***01*** *09:06:02.4±1.0,4645N×15323E,h31km,mb6.5/103, MS6.6/69 Error ellipse: s-maj=6.0km s-min=3.2km az=104.4 Broadband fault plane solution: P waves. M0=1.30000×10^19 NP1:φ=30.00000°,δ58.00000°, λ96.00000°. NP2:φ=199.00000°,δ32.00000°,λ81.00000°. Principal axes: T Plg76.0000°, Azm316.0000°; N Plg5.0000°, Azm207.0000°; P Plg13.0000°, Azm115.0000°;*
NEIC ***01*** *09:06:02.3±0.1,4647N×15324E,h19km,mb6.1/230, ME6.3,MS6.4/156,MW6.5,MW6.7(MOS) Error ellipse: s-maj=3.2km s-min=2.1km az=169.0,Moment Tensor Solution. s33 Moment tensor: Scale 10^18Nm; Mrr1.55; Mθθ-1.59; Mφφ0.04; Mrθ3.77; Mθφ-0.69; Mφr4.30; Best double couple: M0=6.00000×10^18 NP1:φ=43.00000°, δ83.00000°,λ82.00000°. NP2:φ=273.00000°,δ11.00000°, λ139.00000°. Principal axes: T 6.0400, Plg52.0000°, Azm303.0000°; N -0.1600, Plg8.0000°, Azm44.0000°; P -5.8900, Plg37.0000°, Azm140.0000°; Broadband fault plane solution: P waves. NP1:φ=225.00000°,δ5.00000°, λ90.00000°. NP2:φ=45.00000°,δ85.00000°,λ90.00000°. Principal axes: T Plg50.0000°, Azm315.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm135.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Misawa, Japan.
SZGRF ***01*** *09:06:18.4,4827N×151.13E,h33km,mb6.4,MS6.6,Kuril Islands, Russia*

ISC 01 09:06:02.5±0.1,4647N±002×15321E±001,h21km, h21km±1.0km:pP-P,n1706,σ1905/1877,mb6.0/364, MS6.4/228,371C-251D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.93**	**254**	*e*P	**Pn**	**09 07 00.5**	**-1.1**
KUR				AMB	AMB	09 07 06.0	
	30μm,5.0s						
KUR				AMB	AMB	09 07 06.0	
	76μm,5.0s						
KUR				AMB	AMB	09 07 06.0	
	50μm,5.0s						
KUR				*i* S	**Sn**	**09 07 48.0**	**+0.9**
KUR				A		09 07 59.6	
	227μm,5.0s						
KUR				A		09 07 59.6	
	58μm,5.0s						
KUR				AMS	AMS	09 08 42.0	
	304μm,15.0s						
KUR				AMS	AMS	09 08 42.0	
	243μm,15.0s						
KUR	**Kuril'sk**	**3.93**	**254**	PN	**Pn**	**09 07 00.5**	**-1.1**
KUR				*i* S	**Sn**	**09 07 48.0**	**+0.9**
KUR				pmax	pmax		
	comp=N,30μm,5.0s						
KUR				pmax	pmax		
	comp=E,76μm,5.0s						
KUR				pmax	pmax		
	comp=Z,50μm,5.0s						
KUR				MLR	MLR		
	comp=E,304μm,15.0s						
KUR				MLR	MLR		
	comp=Z,243μm,15.0s						
SKR	**Severo-Kuril's**	**4.64**	**24**	*e*P	**Pn**	**09 07 06.1**	**-5.3**
SKR				AMB	AMB	09 07 10.0	
	comp=Z,13μm,4.0s						
SKR				AMB	AMB	09 07 10.0	
	comp=Z,10μm,4.0s						
SKR				AMB	AMB	09 07 10.0	
	comp=Z,10μm,4.0s						
SKR				AMB	AMB	09 07 10.0	
	comp=Z,13μm,4.0s						
SKR				AMB	AMB	09 07 10.0	
	comp=Z,10μm,4.0s						
SKR				AMB	AMB	09 07 10.0	
	comp=Z,12μm,4.0s						
SKR				AMB	AMB	09 07 11.5	
	comp=Z,470nm,0.8s						
SKR				AMB	AMB	09 07 11.5	
	comp=Z,1μm,0.8s						
SKR				AMB	AMB	09 07 11.5	
	comp=Z,1μm,0.8s						
SKR				*e*S	**Sn**	**09 08 01.2**	**-3.4**
SKR				A		09 08 10.0	
	comp=Z,60μm,10.0s						
SKR				A		09 08 10.0	
	comp=Z,284μm,10.0s						
SKR				A		09 08 10.0	
	comp=Z,121μm,10.0s						
SKR				A		09 08 10.0	
	comp=Z,50μm,10.0s						
SKR				A		09 08 10.0	
	comp=Z,300μm,10.0s						
SKR				A		09 08 10.0	
	comp=Z,115μm,10.0s						
SKR				A		09 08 25.5	
	comp=Z,7μm,0.6s						
SKR				A		09 08 25.5	
	comp=Z,4μm,0.6s						
SKR				A		09 08 25.5	
	comp=Z,2μm,0.6s						
SKR				AMS	AMS	09 09 30.0	
	comp=Z,327μm,14.0s						
SKR				AMS	AMS	09 09 30.0	
	comp=Z,1033μm,14.0s						
SKR				AMS	AMS	09 09 30.0	
	comp=Z,450μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**248**	*e*P	**Pn**	**09 07 27.0**	**+0.7**
YUK				AMB	AMB	09 07 35.0	
	comp=Z,24μm,5.0s						
YUK				AMB	AMB	09 07 35.0	
	comp=Z,83μm,5.0s						
YUK				AMB	AMB	09 07 37.4	
	comp=Z,5μm,0.4s						
YUK				AMB	AMB	09 07 37.5	
	comp=Z,3μm,0.5s						
YUK				AMB	AMB	09 07 37.5	
	comp=Z,3μm,0.5s						
YUK				*e*S	**Sn**	**09 08 39.5**	**+8.1**
YUK				A		09 08 53.0	
	comp=Z,105μm,3.0s						
YUK				A		09 08 53.0	
	comp=Z,160μm,3.0s						
YUK				A		09 09 09.5	
	comp=Z,10μm,0.8s						
YUK				A		09 09 09.5	
	comp=Z,43μm,0.8s						
YUK				AMS	AMS	09 09 29.0	
	comp=Z,393μm,16.0s						
YUK				AMS	AMS	09 09 29.0	
	comp=Z,454μm,19.0s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**248**	*e*PN	**Pn**	**09 07 27.0**	**+0.7**
YUK				*i* S	**Sn**	**09 08 39.5**	**+8.1**
YUK				pmax	pmax		
	comp=N,24μm,4.0s						
YUK				pmax	pmax		
	comp=E,83μm,4.5s						
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=N,3μm,0.5s						
YUK				pmax	pmax		
	comp=E,3μm,0.5s						
YUK				smax			
	comp=N,105μm,3.2s						
YUK				smax			
	comp=E,160μm,3.0s						
YUK				MLR	MLR		
	comp=N,393μm,16.0s						
YUK				MLR	MLR		
	comp=E,454μm,19.0s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**248**	*e*P	**Pn**	**09 07 26.8**	**+0.5**
NEM2	**Nemuro 2**	**6.14**	**242**	⇑P	**Pn**	**09 07 30.5**	**-1.5**
NEM2				*e*S	**Sn**	**09 08 39.2**	**-2.4**
JRA	**Rausu**	**6.25**	**249**	⇑P	**Pn**	**09 07 34.8**	**+1.3**
JNK	**Nakash**	**6.67**	**247**	P	**Pn**	**09 07 39.6**	**+0.3**
JAK	**Akkeshi**	**6.98**	**243**	P	**Pn**	**09 07 42.2**	**-1.4**
JTKR	**Abashiri--Toko**	**7.03**	**253**	⇑P	**Pn**	**09 07 45.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.20**	**278**	⇑*i*P	**Pn**	**09 07 51.0**	**+4.4**
YSS				⇓*e*P		09 07 51.0	
YSS				AMB	AMB	09 07 55.0	
	comp=E,680nm,1.0s						
YSS				AMB	AMB	09 07 55.0	
	comp=E,480nm,1.0s						
YSS				AMB	AMB	09 07 58.0	
	comp=E,41μm,6.0s						
YSS				AMB	AMB	09 07 58.0	
	comp=E,41μm,6.0s						
YSS				*e*S	**Sn**	**09 09 12.0**	**+4.2**
YSS				A		09 09 14.0	
	comp=E,1μm,1.2s						
YSS				AMS	AMS	09 10 28.0	
	comp=E,231μm,16.0s						
YSS				AMS	AMS	09 10 28.0	
	comp=E,322μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.20**	**278**	*e*PN	**Pn**	**09 07 51.0**	**+4.4**
YSS				pmax	pmax		
	comp=E,680nm,1.0s						
YSS				pmax	pmax		
	comp=Z,480nm,1.0s						
YSS				pmax	pmax		
	comp=E,41μm,6.0s						
YSS				pmax	pmax		
	comp=Z,41μm,6.0s						
YSS				MLR	MLR		
	comp=E,231μm,16.0s						
YSS				MLR	MLR		
	comp=Z,322μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.20**	**278**	*e*P	**Pn**	**09 07 51.2**	**+4.6**
JMP	**Maruseppu**	**7.37**	**254**	⇑P	**Pn**	**09 07 51.0**	**+2.1**
JAR	**Ashorobuto**	**7.41**	**248**	P	**Pn**	**09 07 50.2**	**+0.7**
JAR				*e*S	**Sn**	**09 09 14.5**	**+1.5**
PET	**Petropavlovsk**	**7.45**	**26**	⇑*i*P	**Pn**	**09 07 48.3**	**-1.7**
PET				AMB	AMB	09 07 58.9	
	comp=Z,9μm,6.0s						
PET				AMB	AMB	09 08 08.7	
	comp=Z,2μm,1.3s						
PET				*e*S	**Sn**	**09 09 11.8**	**-2.0**
PET				A		09 09 49.8	
	comp=Z,6μm,1.3s						
PET				AMS	AMS	09 10 40.3	
	comp=Z,227μm,18.0s						
PET				AMS	AMS	09 10 44.0	
	comp=Z,264μm,20.0s						
PET				AMS	AMS	09 10 44.2	
	comp=Z,178μm,16.0s						
PET				AMS	AMS	09 10 49.9	
	comp=Z,566μm,20.0s						
PET	**Petropavlovsk**	**7.45**	**26**	*c i*PN	**Pn**	**09 07 47.5**	**-2.5**
PET				pmax	pmax		
	comp=Z,10μm,14.1s						
PET				pmax	pmax		
	comp=N,10μm,14.1s						
PET				pmax	pmax		
	comp=E,2μm,11.3s						
PET				pmax	pmax		
	comp=Z,7μm,12.0s						
PET				MLR	MLR		
	comp=Z,227μm,18.0s						
PET				MLR	MLR		
	comp=N,259μm,18.0s						
PET	**Petropavlovsk**	**7.45**	**26**	*i* P	**Pn**	**09 07 47.4**	**-2.6**
JOB	**Onbets**	**7.57**	**245**	P	**Pn**	**09 07 51.1**	**-0.5**
JOB				*e*S	**Sn**	**09 09 13.9**	**-2.9**
JSE	**Soyaes**	**7.59**	**262**	⇑P	**Pn**	**09 07 55.7**	**+3.8**
JKK2	**Kamakawa 2**	**7.83**	**254**	P	**Pn**	**09 07 57.5**	**+2.3**
ASAJ	**Asahikawa**	**7.84**	**256**	Pn	**Pn**	**09 07 58.4**	**+3.0**
	comp=N,15nm,0.3s,baz=87,slow=16,SNR=232						
ASAJ				Sn	**Sn**	**09 09 29.8**	**+6.2**
	baz=117,slow=31,SNR=1.1						
ASAJ	**Asahikawa**	**7.84**	**256**	⇑P	**Pn**	**09 07 58.3**	**+2.9**
ASAJ	**Asahikawa**	**7.84**	**256**	PN	**Pn**	**09 07 58.4**	**+3.0**
ASAJ						09 09 29.8	
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
UGL	**Uglegorsk**	**7.95**	**293**	⇓*i*P	**Pn**	**09 08 01.8**	**+5.0**
UGL				*e*P		09 08 01.8	
UGL				AMB	AMB	09 08 11.0	
	comp=Z,18μm,6.0s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,33μm,6.0s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,46μm,6.0s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,450nm,0.7s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,3μm,0.7s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,8μm,0.7s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,450nm,1.0s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,4μm,1.0s						
UGL				AMB	AMB	09 08 11.0	
	comp=Z,8μm,0.9s						
UGL				*e*S	**Sn**	**09 09 40.8**	**+15**
UGL				A		09 09 46.5	
	comp=Z,730nm,0.7s						
UGL				A		09 09 46.5	
	comp=Z,990nm,0.8s						
UGL	**Uglegorsk**	**7.95**	**293**	*i* PN	**Pn**	**09 08 01.8**	**+5.0**
UGL				*e*S	**Sn**	**09 09 40.8**	**+15**
UGL				pmax	pmax		
	comp=N,18μm,6.0s						
UGL				pmax	pmax		
	comp=E,33μm,6.0s						
UGL				pmax	pmax		
	comp=Z,46μm,6.0s						
UGL				pmax	pmax		
	comp=Z,4μm,1.0s						
UGL				pmax	pmax		
	comp=N,450nm,0.7s						
UGL				pmax	pmax		
	comp=E,3μm,1.5s						
UGL				smax			
	comp=E,990nm,0.8s						
JWK2	**Keihoku**	**7.97**	**266**	⇑P	**Pn**	**09 08 02.8**	**+5.6**
JCH	**Churui**	**8.02**	**245**	P	**Pn**	**09 07 56.1**	**-1.7**
JFR	**Furan**	**8.24**	**250**	⇑P	**Pn**	**09 08 01.9**	**+1.1**
JSS	**Shosan**	**8.25**	**260**	⇑P	**Pn**	**09 08 05.1**	**+4.1**
TYV	**Tymovskoe**	**8.25**	**306**	*e*P	**Pn**	**09 08 04.8**	**+3.8**
JAB	**Ashibetsu**	**8.33**	**253**	⇑P	**Pn**	**09 08 04.2**	**+2.1**
JEM	**Erimo**	**8.47**	**242**	⇑P	**Pn**	**09 08 03.3**	**-0.7**
ERM	**Erimo**	**8.47**	**242**	Pn	**Pn**	**09 08 04.0**	**-0.1**
	comp=E,7μm,0.8s,SNR=68						
ERM	**Erimo**	**8.47**	**242**	*e*PN	**Pn**	**09 08 03.5**	**-0.6**
ERM				pmax	pmax		
	comp=Z,2μm,0.9s						
ERM	**Erimo**	**8.47**	**242**	*e*Pn	**Pn**	**09 08 03.5**	**-0.6**
	comp=Z,3μm,0.8s						
ERM				*e*Sn	**Sn**	**09 09 32.1**	**-6.9**
JHR	**Hokuryu**	**8.57**	**256**	P	**Pn**	**09 08 08.1**	**+2.8**
JBT2	**Biratori 2**	**8.57**	**248**	P	**Pn**	**09 08 04.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.58**	**245**	P	**Pn**	**09 08 04.0**	**-1.5**
JEW	**Eniwo**	**9.13**	**251**	P	**Pn**	**09 08 13.9**	**+0.9**
JSK	**Shakotan**	**9.55**	**256**	P	**Pn**	**09 08 19.9**	**+1.0**

JNB	**Noboribetsu**	**9.57 250**	P	**Pn**	**09 08 18.1**	**-1.0**
JNB			*e*S	**Sn**	**09 10 02.9**	**-3.1**
OKH	**Okha**	**9.69 321**	*i* P	**Pn**	**09 08 22.2**	**+1.5**
OKH			*e*P		09 08 23.2	
OKH			AMB	AMB	09 08 30.9	
	comp=Z,8μm,1.6s					
OKH			AMB	AMB	09 08 32.2	
	comp=Z,31μm,5.0s					
OKH			AMB	AMB	09 08 32.2	
	comp=Z,30μm,5.0s					
OKH			AMB	AMB	09 08 32.2	
	comp=Z,44μm,5.0s					
OKH			*e*S	**Sn**	**09 10 21.8**	**+13**
OKH	**Okha**	**9.69 321**	*i* PN	**Pn**	**09 08 22.4**	**+1.7**
OKH			*e*S	**Sn**	**09 10 22.0**	**+13**
OKH			pmax	pmax		
	comp=Z,44μm,5.0s					
JKB	**Kayabe**	**9.87 247**	P	**Pn**	**09 08 20.7**	**-2.5**
JKB			*e*S	**Sn**	**09 10 05.6**	**-7.7**
JSH	**Shimam**	**10.14 253**	P	**Pn**	**09 08 27.2**	**+0.3**
JYM2	**Yakumo 2**	**10.18 249**	⇓P	**Pn**	**09 08 27.2**	**-0.2**
JSR	**Shiriuchi**	**10.45 246**	P	**Pn**	**09 08 29.6**	**-1.5**
JANG	**Nango**	**10.46 239**	P	**Pn**	**09 08 27.5**	**-3.7**
JANG			*e*S	**Sn**	**09 10 16.6**	**-11**
JTM	**Tenmabayashi**	**10.47 242**	P	**Pn**	**09 08 27.7**	**-3.7**
JTM			*e*S	**Sn**	**09 10 15.8**	**-12**
NKL	**Nikolayevsk**	**10.49 314**	*i* P	**Pn**	**09 08 33.0**	**+1.3**
NKL			AMB	AMB	09 08 37.0	
	comp=Z,14μm,6.0s					
NKL			AMB	AMB	09 08 37.0	
	comp=Z,14μm,6.0s					
NKL			AMB	AMB	09 08 37.0	
	comp=Z,22μm,6.0s					
NKL			AMB	AMB	09 08 41.2	
	comp=Z,470nm,1.3s					
NKL			AMB	AMB	09 08 41.2	
	comp=Z,3μm,1.3s					
JTH	**Tanohata**	**10.54 236**	P	**Pn**	**09 08 27.9**	**-4.4**
JTH			*e*S	**Sn**	**09 10 19.9**	**-10**
JOSM	**Okushiri--Mats**	**10.78 251**	P	**Pn**	**09 08 34.6**	**-1.0**
OFUJ	**Ofunato**	**11.23 233**	P	**Pn**	**09 08 37.3**	**-4.6**
OFUJ			*e*S	**Sn**	**09 10 35.5**	**-11**
JRG	**Rokugo**	**11.61 237**	P	**Pn**	**09 08 43.2**	**-3.7**
TEY	**Ternei**	**11.69 269**	*e*P	**Pn**	**09 08 50.0**	**+1.9**
TEY			AMB	AMB	09 08 59.0	
	comp=Z,130nm,1.0s					
TEY			AMB	AMB	09 08 59.0	
	comp=Z,310nm,1.0s					
TEY			AMB	AMB	09 08 59.0	
	comp=Z,90nm,1.0s					
JOG2	**Oga 2**	**11.77 241**	P	**Pn**	**09 08 46.2**	**-3.0**
JIO	**Ouri**	**11.86 232**	P	**Pn**	**09 08 45.4**	**-5.0**
JIO			*e*S	**Sn**	**09 10 49.4**	**-13**
GRNR	**Gornyy**	**11.91 297**	*e*P	**Pn**	**09 08 51.0**	**-0.1**
GRNR			AMB	AMB	09 08 54.8	
	comp=Z,130nm,1.0s					
JYA	**Atsumi**	**12.68 236**	P	**Pn**	**09 08 57.9**	**-3.6**
JFK	**Kawauchi**	**12.91 230**	P	**Pn**	**09 09 00.7**	**-4.1**
JFK			*e*S	**Sn**	**09 11 15.2**	**-13**
MA2	**Magadan**	**13.21 355***c*	*i* PN	**Pn**	**09 09 09.9**	**+1.0**
MA2			*i* S	**Sn**	**09 11 42.3**	**+7.1**
MA2			pmax	pmax		
	comp=Z,100nm,0.5s					
MA2			MLR	MLR		
	comp=Z,131μm,14.2s					
JFY	**Yanaizu**	**13.51 233**	P	**Pn**	**09 09 08.9**	**-4.1**
JSD	**Sado**	**13.89 238**	⇑P	**Pn**	**09 09 14.4**	**-3.8**
JAG	**Ashikaga**	**14.37 231**	P	**Pn**	**09 09 21.0**	**-3.7**
EKMR	**Ekimchan**	**14.63 304**	*e*P	**Pn**	**09 09 29.1**	**+0.8**
EKMR			AMB	AMB	09 09 47.0	
	comp=Z,110nm,0.8s					
EKMR			AMB	AMB	09 09 47.0	
	comp=Z,350nm,0.8s					
EKMR			AMB	AMB	09 09 47.0	
	comp=Z,440nm,0.8s					
KLR	**Kul'dur**	**14.66 289**	⇓*i* P	**Pn**	**09 09 28.8**	**+0.1**
KLR			*i* P		09 09 29.0	
SMY	**Shemya**	**14.90 58**	*e*P	**Pn**	**09 09 27.4**	**-4.5**
SMY	**Shemya**	**14.90 58**	*e*Pn	**Pn**	**09 09 29.5**	**-2.4**
SMY			*e*Sn	**Sn**	**09 12 02.6**	**-14**
MJAR	**Matsushiro Arr**	**14.96 234**	Pn	**Pn**	**09 09 30.6**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=30,slow=12,SNR=35					
MJAR			Sn	**Sn**	**09 12 10.5**	**-7.3**
	comp=Z,0.4nm,0.3s,baz=318,slow=20,SNR=2.1					
MJAR	**Matsushiro Arr**	**14.96 234**	P	**Pn**	**09 09 30.6**	**-2.2**
MJAR					09 12 10.5	
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MAJO	**Matsushiro**	**14.96 234**	*e*P	**Pn**	**09 09 32.0**	**-0.8**
MAT	**Matsushiro**	**14.96 234**	P	**Pn**	**09 09 29.0**	**-3.8**
MAT			S	**Sn**	**09 12 19.3**	**+1.5**
JNG	**Nsakai**	**15.12 234**	P	**Pn**	**09 09 32.0**	**-2.8**
VLA	**Vladivostok**	**15.49 265***d*	*i* P	**Pn**	**09 09 38.0**	**-1.7**
VLA			*e*		09 12 36.2	
VLA			pmax	pmax		
	comp=Z,1μm,1.6s					
VLA	**Vladivostok**	**15.49 265**	*i* P	**Pn**	**09 09 38.7**	**-1.0**
JGN	**Niukaw**	**15.69 235**	P	**Pn**	**09 09 39.7**	**-2.6**
JAO	**Obara**	**16.42 233**	P	**Pn**	**09 09 49.4**	**-2.3**
SEY	**Seymchan**	**16.51 359**⇑	*e*P	**Pn**	**09 09 51.9**	**-0.9**
SEY	**Seymchan**	**16.51 359**⇑	*e*P	**Pn**	**09 09 51.0**	**-1.8**
MDJ	**Mudanjiang**	**16.64 272**	P	**Pn**	**09 09 54.8**	**+0.4**
MDJ			AP	pP	09 10 00.8	-1.7
MDJ			XP	sP	09 10 04.0	-1.2
MDJ			S	**Sn**	**09 12 58.0**	**-0.5**
MDJ			SS		09 13 16.6	
MDJ			AMB	AMB		
	comp=Z,786nm,1.0s					
MDJ			AMB	AMB		
	comp=Z,11μm,5.8s					
MDJ			LR	LR		
	comp=N,124μm,21.2s					
MDJ			LR	LR		
	comp=Z,130μm,18.6s					
MDJ	**Mudanjiang**	**16.64 272**	*e*P	**Pn**	**09 09 54.8**	**+0.3**
	comp=Z,1μm,1.1s					
JHJ	**Hachijo jima 2**	**16.82 222**	Pn	**Pn**	**09 09 56.5**	**-0.3**
	comp=Z,6.3nm,0.3s,baz=70,slow=15,SNR=1.7					
JHJ			Sn	**Sn**	**09 12 47.1**	**-16**
	comp=Z,12nm,0.3s,baz=70,slow=15,SNR=3.0					
AMKA	**Amchitka**	**17.79 64**	*e*P	**Pn**	**09 10 09.2**	**+0.4**
ZEA	**Zeya**	**18.10 303**	*e*P	**Pn**	**09 10 10.0**	**-2.6**
ZEA			AMB	AMB	09 10 18.3	
	comp=Z,330nm,1.3s					
ZEA			AMB	AMB	09 10 18.3	
	comp=Z,870nm,1.3s					
ZEA			AMB	AMB	09 10 18.3	
	comp=Z,1μm,1.3s					
ZEA			AMB	AMB	09 10 22.0	
	comp=Z,12μm,12.0s					
ZEA			AMB	AMB	09 10 22.0	
	comp=Z,49μm,12.0s					
ZEA			A		09 13 51.0	
	comp=Z,8μm,16.0s					
ZEA			A		09 13 51.0	
	comp=Z,25μm,16.0s					
KROS	**Kirovskiy**	**18.43 305**	*i* P	**Pn**	**09 10 14.5**	**-2.1**
KROS			AMB	AMB	09 10 28.0	
	comp=Z,170nm,0.9s					
KROS			AMB	AMB	09 10 28.0	
	comp=Z,600nm,0.9s					
KROS			AMB	AMB	09 10 28.0	
	comp=Z,590nm,0.9s					
JHS	**Saijyo**	**19.00 240**	P	**Pn**	**09 10 23.5**	**0.0**
JGT	**Gotsu**	**19.45 241**	P	**Pn**	**09 10 28.9**	**0.0**
CN2	**Changchun**	**19.73 272**	*e*P	**Pn**	**09 10 28.7**	**-3.6**
CN2			*e*S	**Sn**	**09 14 03.4**	**-10**
CN2			*e*SS		09 14 29.8	
CN2			LR	LR		
	comp=N,121μm,17.0s					
CN2			LR	LR		
	comp=E,73μm,17.0s					
CN2			LR	LR		
	comp=Z,119μm,19.0s					
CLNS	**Chul'man**	**20.25 311**	*e*P	**P**	**09 10 36.7**	**+0.2**
CLNS			*e*S	**S**	**09 14 24.3**	**+1.6**
CLNS	**Chul'man**	**20.25 311**	*e*P	**P**	**09 10 36.7**	**+0.2**
CLNS			*e*		09 10 51.7	
CLNS			*e*S	**S**	**09 14 24.3**	**+1.6**
CLNS			*e*		09 14 39.7	
CLNS			*e*SS		09 14 58.5	
CLNS			pmax	pmax		
	comp=Z,1μm,1.3s					
CLNS			pmax	pmax		
	comp=N,2μm,1.4s					
CLNS			pmax	pmax		
	comp=E,636nm,1.1s					
CLNS			smax			
	comp=N,435nm,1.1s					
CLNS			smax			
	comp=Z,168nm,1.4s					
CLNS			smax			
	comp=E,241nm,1.2s					
CLNS			MLR	MLR		
	comp=Z,268μm,16.0s,MS6.7					
CLNS			MLR	MLR		
	comp=N,161μm,15.0s,MS6.7					
CLNS			MLR	MLR		
	comp=E,203μm,15.0s,MS6.7					
YAK	**Yakutsk**	**20.59 328***c*	*i* P	**P**	**09 10 38.3**	**-1.9**
YAK			*e*		09 10 53.1	
YAK			*e*S	**S**	**09 14 19.4**	**-10**
YAK			pmax	pmax		
	comp=Z,249nm,1.1s					
YAK			pmax	pmax		
	comp=N,130nm,1.5s					
YAK			pmax	pmax		
	comp=E,90nm,1.3s					
YAK			smax			
	comp=N,10μm,5.9s					
YAK			smax			
	comp=Z,4μm,5.6s					
YAK			smax			
	comp=E,11μm,3.9s					
YAK			MLR	MLR		
	comp=Z,89μm,22.0s,MS6.1					
YAK			MLR	MLR		
	comp=N,91μm,17.0s,MS6.4					
YAK			MLR	MLR		
	comp=E,109μm,20.0s,MS6.4					
KS15	**Wonju Array Si**	**20.81 253**	*e*Pn	**P**	**09 10 43.3**	**+0.8**
CBIJ	**Chichi jima**	**21.21 208**	P	**P**	**09 10 46.6**	**-0.2**
	comp=E,152nm,0.9s,mb5.3,baz=241,slow=5.6,SNR=4.8					
CBIJ			S	**S**	**09 14 32.3**	**-9.4**
	comp=E,45nm,0.5s,baz=100,slow=23,SNR=3.7					
INCN	**Inchon**	**21.62 255**	P	**P**	**09 10 52.3**	**+1.1**
INCN	**Inchon**	**21.62 255**	P	**P**	**09 10 52.4**	**+1.2**
	SNR=150					
INCN	**Inchon**	**21.62 255**	*e*P	**P**	**09 10 52.6**	**+1.4**
	comp=E,753nm,0.8s,mb6.2					
INCN			LR	LR		
	comp=Z,72μm,20.0s,MS6.1					
SNY	**Shenyang**	**21.69 268**	⇑P	**P**	**09 10 51.7**	**-0.3**
SNY			AP		09 10 55.9	
SNY			XP	sP	09 10 58.7	-1.9
SNY			S	**S**	**09 14 42.7**	**-8.4**
SNY			AMB	AMB		
	comp=Z,185nm,1.2s,mb5.4					
SNY			AMB	AMB		
	comp=Z,28μm,12.0s					
SNY			LR	LR		
	comp=N,64μm,16.2s,MS6.4					
SNY			LR	LR		
	comp=E,93μm,15.6s,MS6.4					
SNY			LR	LR		
	comp=Z,139μm,16.7s,MS6.4					
HIA	**Hailar**	**22.52 289**	*e*P	**P**	**09 10 58.5**	**-2.3**
HIA			pmax	pmax		
	comp=Z,442nm,1.1s					
HIA			MLR	MLR		
	comp=Z,93μm,19.0s					
HIA	**Hailar**	**22.52 289**	*e*P	**P**	**09 10 58.5**	**-2.4**
	comp=Z,442nm,1.1s,mb5.8					
HIA			LR	LR		
	comp=Z,93μm,19.0s,MS6.2					
BILL	**Bilibino**	**22.65 13**⇑	*i* P	**P**	**09 11 00.6**	**-1.7**
BILL			*e*		09 11 14.6	
BILL			*i* S	**S**	**09 15 09.7**	**+0.1**
BILL			pmax	pmax		
	comp=Z,123nm,1.2s,mb5.2					
BILL			MLR	MLR		
	comp=Z,127μm,16.0s,MS6.5					
DL2	**Dalian**	**24.29 263**⇑	*i* P	**P**	**09 11 18.4**	**0.0**
DL2			AMB	AMB		
	comp=Z,510nm,1.2s,mb5.8					
DL2			AMB	AMB		
	comp=Z,12μm,6.3s					
DL2			LR	LR		
	comp=N,24μm,16.6s,MS5.9					
DL2			LR	LR		
	comp=E,18μm,16.5s,MS5.9					
DL2			LR	LR		
	comp=Z,23μm,16.0s,MS5.8					
SPIA	**Saint Paul Isl**	**24.70 51**	*e*P	**P**	**09 11 25.2**	**+3.1**
BOD	**Bodaibo**	**26.22 310**⇑	*i* P	**P**	**09 11 34.2**	**-1.7**
BOD			pmax	pmax		
	comp=Z,360nm,1.5s,mb5.7					
CIT	**Chita**	**26.23 297**	*e*P	**P**	**09 11 34.8**	**-1.2**
CIT			*e*		09 12 24.8	
CIT			*e*		09 15 02.8	
CIT			pmax	pmax		
	comp=Z,530nm,2.9s,mb5.6					
UNV	**Unalaska Valle**	**26.55 59**	PFAKE		09 11 50.0	+11
UNV			LR	LR		
	comp=Z,184μm,19.0s,MS6.7					
BJI	**Beijing**	**27.54 270**	P	**P**	**09 11 48.3**	**+0.5**
BJI			AMB	AMB		
	comp=Z,542nm,0.8s,mb6.2					
BJI			AMB	AMB		
	comp=Z,14μm,7.5s					
BJI			LR	LR		
	comp=N,58μm,15.3s,MS6.5					
BJI			LR	LR		
	comp=E,99μm,17.9s,MS6.5					
BJI			LR	LR		
	comp=Z,99μm,18.9s,MS6.4					
BJI	**Beijing**	**27.54 270**	P	**P**	**09 11 48.3**	**+0.5**
	comp=Z,542nm,0.8s,mb6.2					
BJI			sP	sP	09 11 52.6	-4.0
BJI			S	**S**	**09 16 38.2**	**+10**
BJI			LR	LR		
	comp=Z,99μm,18.9s,MS6.4					
BJT	**Baijiatuau**	**27.55 270**	*e*P	**P**	**09 11 48.2**	**+0.3**
BJT			pmax	pmax		
	comp=Z,513nm,0.9s					
BJT			MLR	MLR		
	comp=Z,147μm,19.0s					
BJT	**Baijiatuau**	**27.55 270**	*e*P	**P**	**09 11 48.2**	**+0.3**
	comp=Z,512nm,0.9s,mb6.2					
BJT			LR	LR		
	comp=Z,147μm,19.0s,MS6.6					
JOW	**Kunigami**	**27.81 234**	P	**P**	**09 11 49.5**	**-0.7**
	comp=Z,108nm,1.0s,mb5.4,baz=42,slow=11,SNR=9.2					
JOW			S	**S**	**09 16 25.2**	**-6.8**
	comp=Z,10nm,0.8s,baz=118,slow=15,SNR=2.0					
TNA	**Tin City**	**28.23 34**	*e*P	**P**	**09 12 00.1**	**+6.1**
	comp=Z,124nm,0.8s,mb5.6					
TNA			LR	LR		
	comp=Z,41μm,19.0s,MS6.0					
TIA	**Tai'an**	**28.74 262**	P	**P**	**09 11 58.5**	**0.0**
TIA			S	**S**	**09 16 55.0**	**+8.3**
TIA			AMB	AMB		
	comp=Z,368nm,2.0s,mb5.8					
TIA			AMB	AMB		
	comp=Z,5μm,5.0s					
TIA			LR	LR		
	comp=N,30μm,15.0s,MS6.2					
TIA			LR	LR		
	comp=E,32μm,14.0s,MS6.2					
SSE	**Sheshan**	**29.06 249**	⇑P	**P**	**09 12 02.6**	**+1.3**
SSE			XP	sP	09 12 06.7	-3.5
SSE			S	**S**	**09 16 50.7**	**-1.0**
SSE			SCS	ScS	09 22 44.4	+0.9
SSE			AMB	AMB		
	comp=Z,48nm,1.8s					
SSE			AMB	AMB		
	comp=Z,10μm,12.0s					
SSE			LR	LR		
	comp=N,42μm,17.6s,MS6.2					
SSE			LR	LR		
	comp=E,19μm,17.6s,MS6.2					
SSE			LR	LR		
	comp=Z,50μm,19.8s,MS6.1					
SSE	**Sheshan**	**29.06 249**	⇑P	**P**	**09 12 02.6**	**+1.3**
	comp=Z,48nm,1.8s					
SSE			sP	sP	09 12 06.7	-3.5
SSE			S	**S**	**09 16 50.7**	**-1.0**
SSE			sS	sS	09 16 55.5	-6.6
SSE			ScS	ScS	09 22 44.4	+0.9
SSE			LR	LR		
	comp=Z,50μm,19.8s,MS6.1					
MIDW	**Midway**	**29.40 118**	PFAKE		09 12 20.0	+16
MIDW			LR	LR		
	comp=Z,84μm,20.0s,MS6.4					
NJ2	**Nanjing**	**29.98 254**	*e*P	**P**	**09 12 10.2**	**+0.7**
NJ2			AP	pP	09 12 20.4	+4.7
NJ2			XP	sP	09 12 23.8	+5.5
NJ2			PP	PP	09 13 08.5	-8.7
NJ2			AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5					
NJ2			AMB	AMB		
	comp=Z,3μm,11.0s					
NJ2			LR	LR		
	comp=N,82μm,15.9s,MS6.9					
NJ2			LR	LR		
	comp=E,219μm,14.9s,MS6.9					
NJ2			LR	LR		
	comp=Z,291μm,14.0s,MS7.1					
HHC	**Hu-ho-hao-te**	**30.38 275**	*e*P	**P**	**09 12 14.1**	**+1.1**
HHC			AP	pP	09 12 18.7	-0.6
HHC			XP	sP	09 12 21.6	-0.3
HHC			PP	PP	09 13 12.4	-9.3
HHC			PCP	PcP	09 15 15.6	+3.0
HHC			AMB	AMB		
	comp=Z,236nm,1.1s,mb5.8					
HHC			AMB	AMB		
	comp=Z,11μm,13.9s					
HHC			LR	LR		
	comp=N,49μm,16.7s,MS6.5					
HHC			LR	LR		
	comp=E,77μm,16.9s,MS6.5					
HHC			LR	LR		
	comp=Z,97μm,17.3s,MS6.5					
SONM	**Songino Array**	**31.49 290**	P	**P**	**09 12 22.3**	**-0.5**
	comp=Z,12nm,0.8s,baz=69,slow=8.8,SNR=76					
SONM			PcP	PcP	09 15 15.6	+0.1
	comp=Z,14nm,1.0s,baz=85,slow=4.9,SNR=2.5					
SONM			LR	LR	09 26 04.9	
	comp=Z,91μm,18.2s,MS6.5,baz=78,slow=38					
SONM			P3KPbc		09 44 10.2	
	comp=Z,0.3nm,0.7s,baz=254,slow=4.3,SNR=3.8					
SONM	**Songino Array**	**31.49 290**	P	**P**	**09 12 22.3**	**-0.5**
SONM					09 15 15.6	
SONM			MLR	MLR		
	comp=Z,91μm,18.2s					
SONM	**Songino Array**	**31.49 290**	P	**P**	**09 12 22.3**	**-0.5**
SONM			PcP	PcP	09 15 15.6	+0.1
SONM			LR	LR	09 26 04.9	
SONM			*e*		09 44 10.2	
BTO	**Baotou**	**31.55 275**	*e*P	**P**	**09 12 23.7**	**+0.4**
BTO			S	**S**	**09 17 24.3**	**-6.4**
BTO			LR	LR		
	comp=N,28μm,19.2s,MS6.0					
BTO			LR	LR		
	comp=E,14μm,16.7s,MS6.0					
IRK	**Irkutsk**	**31.89 299**	*e*P	**P**	**09 12 24.9**	**-1.4**
IRK			*e*		09 13 47.9	
IRK			*e*		09 15 17.5	
IRK			*e*S	**S**	**09 17 43.6**	**+7.6**
IRK			pmax	pmax		
	comp=Z,311nm,1.4s,mb6.0					
TLY	**Talaya**	**32.37 298**	P	**P**	**09 12 29.6**	**-0.9**
	comp=Z,1μm,1.2s,mb6.6,SNR=47					
TLY	**Talaya**	**32.37 298**	P	**P**	**09 12 30.0**	**-0.6**
	SNR=139					
TLY	**Talaya**	**32.37 298**	*e*P	**P**	**09 12 29.2**	**-1.3**
TLY			*e*		09 13 50.1	
TLY			*e*SS	SS	09 19 41.1	-22
TLY			pmax	pmax		
	comp=Z,271nm,1.2s,mb6.0					
TLY			MLR	MLR		
	comp=Z,131μm,16.0s,MS6.7					
TLY	**Talaya**	**32.37 298**	*e*P	**P**	**09 12 30.0**	**-0.5**
	comp=Z,299nm,1.1s,mb6.0					
TLY			*e*PcP	PcP	09 15 18.6	+0.7
TLY			LR	LR		
	comp=Z,24μm,19.0s,MS5.9					
TTA	**Tatalina**	**32.59 41**	*e*P	**P**	**09 12 32.1**	**-0.4**
SVW2	**Sparrevohn**	**32.65 45**	*e*P	**P**	**09 12 32.4**	**-0.6**
ZAK	**Zakamensk**	**32.86 295**⇑	*i* P	**P**	**09 12 34.2**	**-0.6**
ZAK			*e*		09 15 25.4	
ZAK			pmax	pmax		
	comp=Z,154nm,1.4s,mb5.7					
TATO	**Taipei**	**33.17 241**	*e*P	**P**	**09 12 38.2**	**+0.7**
	comp=Z,149nm,0.8s,mb6.0					
TATO			LR	LR		
	comp=Z,31μm,20.0s,MS6.0					
YHNB	**Yeheng**	**33.46 240**	*e*P	**P**	**09 12 42.3**	**+2.2**
GUMO	**Guam**	**33.52 195**	PFAKE		09 12 50.0	+9.4
GUMO			LR	LR		
	comp=Z,37μm,19.0s,MS6.1					
NACB	**Ninganchiao**	**33.70 240**	*e*P	**P**	**09 12 42.5**	**+0.3**
WHN	**Wuhan**	**33.92 256**	P	**P**	**09 12 44.2**	**+0.1**
WHN			AP	pP	09 12 52.1	+1.7
WHN			XP	sP	09 13 00.3	+7.3
WHN			AMB	AMB		
	comp=Z,15μm,7.0s					
WHN			LR	LR		
	comp=Z,134μm,15.8s,MS6.8					
MOY	**Mondy**	**33.99 298**	*e*P	**P**	**09 12 44.0**	**-0.7**
MOY			pmax	pmax		
	comp=Z,318nm,1.7s,mb6.0					
IMA2	**Indian Mountai**	**34.00 36**	*e*P	**P**	**09 12 44.3**	**-0.4**
KDAK	**Kodiak Island**	**34.23 51**	P	**P**	**09 12 45.7**	**-1.1**
	comp=Z,53nm,0.8s,mb5.5,baz=291,slow=3.0,SNR=25					
KDAK			S	**S**	**09 18 11.1**	**-1.3**
	comp=Z,6.1nm,0.7s,baz=6.5,slow=8.7,SNR=2.0					
KDAK			LR	LR	09 28 31.0	
	comp=Z,64μm,18.1s,MS6.4,baz=258,slow=40					
KDAK	**Kodiak Island**	**34.23 51**	*e*P	**P**	**09 12 45.5**	**-1.3**
	comp=Z,188nm,1.1s,mb5.9					
KDAK			LR	LR		
	comp=Z,19μm,21.0s,MS5.8					
QZH	**Quanzhou**	**34.97 244**⇑	*i* P	**P**	**09 12 54.0**	**+0.9**
QZH			S	**S**	**09 18 25.0**	**+1.2**
QZH			AMB	AMB		
	comp=Z,17μm,5.6s					
QZH			LR	LR		
	comp=N,59μm,16.6s,MS6.6					
QZH			LR	LR		
	comp=E,62μm,17.2s,MS6.6					
QZH			LR	LR		
	comp=Z,65μm,23.6s					
SLKM	**Skilak Lake**	**35.27 46**	*e*P	**P**	**09 12 54.8**	**-0.9**
SLKM			*e*ScP	ScP	09 19 08.2	-2.5
XAN	**Xi'an**	**35.56 266**	P	**P**	**09 12 58.5**	**+0.3**
XAN			AP	pP	09 13 05.1	+0.5
XAN			S	**S**	**09 18 40.0**	**+7.2**
XAN			AMB	AMB		
	comp=Z,71nm,2.4s,mb5.2					
XAN			AMB	AMB		
	comp=Z,7μm,16.9s					
XAN			LR	LR		
	comp=N,20μm,22.9s,MS6.0					
XAN			LR	LR		
	comp=E,20μm,18.5s,MS6.0					
XAN			LR	LR		
	comp=Z,40μm,17.4s,MS6.2					
PMR	**Palmer**	**35.76 44**	*e*P	**P**	**09 12 59.5**	**-0.5**
PMR			pmax	pmax		
	comp=Z,104nm,1.0s,mb5.7					
PMR	**Palmer**	**35.76 44**	*e*P	**P**	**09 12 59.5**	**-0.5**
	comp=Z,104nm,1.0s,mb5.7					
MCK	**McKinley**	**35.83 40**	*e*P	**P**	**09 13 00.0**	**-0.5**
	comp=Z,126nm,1.1s,mb5.8					
MCK			LR	LR		
	comp=Z,31μm,19.0s,MS6.1					
COLA	**College**	**36.32 38**	*e*P	**P**	**09 13 04.4**	**-0.3**
COLA			pmax	pmax		
	comp=Z,361nm,1.1s,mb6.2					
COLA			MLR	MLR		
	comp=Z,43μm,20.0s,MS6.2					
COLA	**College**	**36.32 38**	*e*P	**P**	**09 13 04.4**	**-0.4**
	comp=Z,361nm,1.1s,mb6.2					
COLA			LR	LR		
	comp=Z,43μm,20.0s,MS6.2					
DIV	**Divide**	**37.41 44**	*e*P	**P**	**09 13 13.8**	**-0.1**
	comp=Z,240nm,0.7s,mb6.1					
DIV			LR	LR		
	comp=Z,209μm,20.0s,MS6.9					
EYAK	**Cordova Ski Ar**	**37.48 45**	*e*P	**P**	**09 13 14.0**	**-0.6**
KRAR	**Krasnoyarsk**	**37.81 307**⇓	*e*P	**P**	**09 13 16.1**	**-1.3**
KRAR			pmax	pmax		
	comp=Z,64nm,0.8s,mb5.4					
KRAR			MLR	MLR		
	comp=Z,152μm,21.0s,MS6.8					
LZH	**Lanzhou**	**37.96 272**	⇑P	**P**	**09 13 20.5**	**+1.8**

LZH				AP	pP	09 13 24.8 -0.3
LZH				XP	sP	09 13 28.1 +0.5
LZH				PP	PP	09 14 50.0 +4.5
LZH				PCP	PcP	09 15 39.8 +5.6
LZH				AMB	AMB	
	comp=Z,378nm,1.5s,mb5.9					
LZH				AMB	AMB	
	comp=Z,2μm,4.2s					
LZH				LR	LR	
	comp=N,23μm,14.5s					
LZH				LR	LR	
	comp=Z,41μm,16.8s,MS6.3					
LZH	**Lanzhou**	**37.96**	**272**	⇑P	**P**	**09 13 20.5 +1.8**
LZH				*SP	sP	09 13 28.1 +0.5
LZH						09 14 50.0
LZH						09 15 39.8
LZH				*e*S	**S**	**09 19 14.0 +4.5**
LZH				SS	SS	09 21 45.1 -11
LZH						09 23 33.0
LZH				pmax	pmax	
	comp=Z,378nm,1.5s,mb5.9					
LZH				MLR	MLR	
	comp=Z,41μm,16.8s,MS6.3					
LZH	**Lanzhou**	**37.96**	**272**	⇑P	**P**	**09 13 20.5 +1.8**
	comp=Z,378nm,1.5s,mb5.9					
LZH				pP	pP	09 13 24.8 -0.3
LZH				sP	sP	09 13 28.1 +0.5
LZH				PP	PP	09 14 50.0 +4.5
LZH				PcP	PcP	09 15 39.8 +5.6
LZH				*e*S	**S**	**09 19 14.0 +4.5**
LZH				sS	sS	09 19 21.1 +1.1
LZH				SS	SS	09 21 45.1 -11
LZH				ScS	ScS	09 23 33.0 +3.2
LZH				LR	LR	
	comp=Z,41μm,16.8s,MS6.3					
MENT	**Mentasta**	**38.20**	**41**	*e*P	**P**	**09 13 20.7 0.0**
CVP	**Callao Caves**	**38.66**	**233**	*e*P	**P**	**09 13 24.0 -0.6**
GTA	**Gaotai**	**39.08**	**279**	P	**P**	**09 13 29.0 +0.9**
GTA				AP	pP	09 13 33.2 -1.3
GTA				XP	sP	09 13 36.6 -0.4
GTA				PP	PP	09 15 03.0 +5.2
GTA				PCP	PcP	09 15 41.7 +4.0
GTA				AMB	AMB	
	comp=Z,157nm,1.2s,mb5.6					
GTA				AMB	AMB	
	comp=Z,9μm,6.8s					
GTA				LR	LR	
	comp=N,54μm,19.4s,MS6.5					
GTA				LR	LR	
	comp=E,28μm,19.0s,MS6.5					
GTA				LR	LR	
	comp=Z,30μm,17.9s,MS6.2					
EGAK	**Eagle**	**39.18**	**38**	*e*P	**P**	**09 13 27.7 -1.3**
GZH	**Guangzhou**	**39.62**	**248**	P	**P**	**09 13 28.7 -3.9**
GZH				PP	PP	09 15 04.0 +0.4
GZH				S	**S**	**09 19 24.6 -10**
GZH				LR	LR	
	comp=N,57μm,18.7s,MS6.5					
GZH				LR	LR	
	comp=E,48μm,18.7s,MS6.5					
GZH				LR	LR	
	comp=Z,30μm,19.9s,MS6.1					
HKC	**Hong Kong**	**39.66**	**246**	⇑*i*P	**P**	**09 13 36.0 +3.1**
DAWY	**Dawson**	**40.02**	**39**	*e*P	**P**	**09 13 35.5 -0.4**
BCPH	**Baguio City Da**	**40.42**	**233**	⇑*e*P	**P**	**09 13 38.8 -0.4**
CD2	**Chengdu**	**40.92**	**266**	⇑*i*P	**P**	**09 13 44.3 +0.9**
CD2				AP	pP	09 13 48.8 -1.0
CD2				XP	sP	09 13 51.3 -1.0
CD2				PP	PP	09 15 21.9 +4.1
CD2				PCP	PcP	09 15 46.9 +3.3
CD2				AMB	AMB	
	comp=Z,400nm,1.3s,mb5.9					
CD2				AMB	AMB	
	comp=Z,7μm,6.0s					
CD2				LR	LR	
	comp=N,19μm,19.8s					
CD2				LR	LR	
	comp=Z,10μm,22.8s,MS5.6					
GYA	**Guiyang**	**41.72**	**258**	⇑*i*P	**P**	**09 13 50.8 +0.9**
GYA				AP	pP	09 13 55.3 -1.0
GYA				XP	sP	09 13 57.8 -1.1
GYA				PP	PP	09 15 30.9 +4.4
GYA				AMB	AMB	
	comp=Z,570nm,1.1s,mb6.1					
GYA				AMB	AMB	
	comp=Z,8μm,7.5s					
GYA				LR	LR	
	comp=N,63μm,20.6s,MS6.5					
GYA				LR	LR	
	comp=E,22μm,19.4s,MS6.5					
GYA				LR	LR	
	comp=Z,28μm,21.8s,MS6.1					
INK	**Inuvik**	**41.86**	**32**	P	**P**	**09 13 51.1 0.0**
	comp=Z,40nm,0.6s,mb5.2,baz=286,slow=7.1,SNR=82					
INK				S	**S**	**09 20 07.8 -0.1**
	comp=Z,9.4nm,1.1s,baz=206,slow=6.6,SNR=1.7					
INK	**Inuvik**	**41.86**	**32**	P	**P**	**09 13 51.1 0.0**
INK				S	**S**	**09 20 07.8 0.0**
INK				pmax	pmax	
	comp=Z,40nm,0.6s					
INK				smax		
	comp=N,9.0nm,1.1s					
INK	**Inuvik**	**41.86**	**32**	*e*P	**P**	**09 13 51.1 +0.1**
	comp=N,16μm,1.6s					
PLP	**Palo**	**42.55**	**223**	*e*P	**P**	**09 13 53.6 -3.1**
SKAG	**Skagway**	**42.82**	**45**	*e*P	**P**	**09 13 59.7 +0.8**
	comp=N,336nm,2.1s,mb5.7					
NVS	**Novosibirsk**	**43.41**	**308**	⇑*i*P	**P**	**09 14 01.9 -1.8**
NVS				*i*		09 15 52.2
NVS				*e*S	**S**	**09 20 26.9 -3.8**
NVS				pmax	pmax	
	comp=Z,580nm,1.8s,mb6.0					
NVS				pmax	pmax	
	comp=N,267nm,1.7s					
NVS				pmax	pmax	
	comp=E,457nm,1.6s					
NVS				smax		
	comp=N,260nm,2.4s					
SIT	**Sitka**	**43.51**	**49**	*e*P	**P**	**09 14 07.6 +3.1**
	comp=N,176nm,1.2s,mb5.7					
QIZ	**Qiongzhong**	**44.80**	**247**	P	**P**	**09 14 15.4 +0.6**
QIZ				AP	pP	09 14 21.2 0.0
QIZ				XP	sP	09 14 24.1 +0.3
QIZ				PP	PP	09 16 00.5 +1.0
QIZ				S	**S**	**09 20 53.9 +3.0**
QIZ				XS	sS	09 20 58.7 -2.8
QIZ				AMB	AMB	
	comp=Z,95nm,1.7s,mb5.3					
QIZ				AMB	AMB	
	comp=Z,6μm,6.1s					
QIZ				LR	LR	
	comp=N,36μm,20.6s,MS6.3					
QIZ				LR	LR	
	comp=E,20μm,20.6s,MS6.3					
QIZ				LR	LR	
	comp=Z,33μm,19.1s,MS6.3					
QIZ	**Qiongzhong**	**44.80**	**247**	PFAKE		09 14 30.0 +15
QIZ				LR	LR	
	comp=Z,35μm,20.0s,MS6.3					
CGP	**Cagayan de Oro**	**45.06**	**222**	⇓*i*P	**P**	**09 14 15.2 -1.7**
WMQ	**Urumqi**	**45.09**	**292**	⇑*i*P	**P**	**09 14 17.3 +0.2**
WMQ				AP	pP	09 14 22.0 -1.6
WMQ				XP	sP	09 14 24.5 -1.6
WMQ				PCP	PcP	09 15 59.0 +1.4
WMQ				PPP		09 16 44.0
WMQ				AMB	AMB	
	comp=Z,226nm,1.0s,mb6.0					
WMQ				AMB	AMB	
	comp=Z,8μm,7.6s					
WMQ				LR	LR	
	comp=N,65μm,15.7s,MS6.7					
WMQ				LR	LR	
	comp=E,39μm,16.2s,MS6.7					
WMQ				LR	LR	
	comp=Z,49μm,16.2s,MS6.5					
CRAG	**Craig**	**45.19**	**50**	*e*P	**P**	**09 14 20.9 +3.0**
KMI	**Kunming**	**45.26**	**260**	⇑P	**P**	**09 14 19.8 +1.4**
KMI				AP	pP	09 14 22.5 -2.4
KMI				XP	sP	09 14 23.7 -3.7
KMI				PP	PP	09 16 07.5 +3.1
KMI				PPP		09 16 48.3
KMI				AMB	AMB	
	comp=Z,134nm,0.9s,mb5.8					
KMI				AMB	AMB	
	comp=Z,8μm,5.6s					
KMI				LR	LR	
	comp=N,44μm,17.7s,MS6.5					
KMI				LR	LR	
	comp=E,33μm,18.9s,MS6.5					
KMI				LR	LR	
	comp=Z,55μm,17.3s,MS6.5					
KMI	**Kunming**	**45.26**	**260**	⇑P	**P**	**09 14 19.8 +1.4**
KMI						09 16 07.5
KMI				PPP		09 16 48.3
KMI				S	**S**	**09 21 01.1 +3.6**
KMI				*SS	sS	09 21 04.8 -3.3
KMI				SS	SS	09 24 14.7 -6.0
KMI				SSS		09 25 12.1
KMI				pmax	pmax	
	comp=Z,134nm,0.9s,mb5.8					
KMI				MLR	MLR	
	comp=Z,55μm,17.3s,MS6.5					
KMI	**Kunming**	**45.26**	**260**	⇑P	**P**	**09 14 19.8 +1.4**
	comp=Z,134nm,0.9s,mb5.8					
KMI				pP	pP	09 14 22.5 -2.4
KMI				sP	sP	09 14 23.7 -3.7
KMI				PP	PP	09 16 07.5 +3.1
KMI				PPP		09 16 48.3
KMI				S	**S**	**09 21 01.1 +3.6**
KMI				sS	sS	09 21 04.8 -3.3
KMI				SS	SS	09 24 14.7 -6.0
KMI				SSS		09 25 12.1
KMI				LR	LR	
	comp=Z,55μm,17.3s,MS6.5					
WRAK	**Wrangell Islan**	**45.27**	**49**	*e*P	**P**	**09 14 20.0 +1.5**
CTBH	**Cotabato--PC H**	**46.35**	**222**	*e*P	**P**	**09 14 27.7 +0.6**
KIP	**Kipapa**	**46.62**	**105**	*i*P	**P**	**09 14 29.1 -0.1**
KIP	**Kipapa**	**46.62**	**105**	*e*P	**P**	**09 14 29.0 -0.2**
	comp=Z,305nm,1.4s,mb6.0					
KIP				LR	LR	
	comp=Z,39μm,21.0s,MS6.3					
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**09 14 32.2 -1.0**
	comp=Z,114nm,0.9s,mb5.8,baz=64,slow=8.2,SNR=320					
MKAR				PcP	PcP	09 16 05.3 +0.5
	comp=Z,36nm,0.8s,baz=65,slow=5.1,SNR=2.3					
MKAR				PKPPKP		09 45 49.9
	comp=Z,0.8nm,0.8s,baz=222,slow=1.6,SNR=4.0					
MKAR	**Makanchi Array**	**47.13**	**298**	*i*P	**P**	**09 14 32.2 -1.0**
MKAR				pmax	pmax	
	comp=Z,114nm,0.9s					
MKAR	**Makanchi Array**	**47.13**	**298**	P	**P**	**09 14 32.2 -1.0**
MKAR				PcP	PcP	09 16 05.3 +0.5
MKAR				P'P'		09 45 49.9
KURK	**Kurchatov**	**47.58**	**304**	P	**P**	**09 14 35.4 -1.3**
	comp=Z,2μm,1.0s,SNR=98					
POHA	**Pohakuloa**	**49.44**	**105**	*e*P	**P**	**09 14 49.9 -1.2**
	comp=Z,151nm,0.7s,mb6.1					
POHA				LR	LR	
	comp=Z,40μm,22.0s,MS6.4					
ALE	**Alert**	**50.02**	**6**	P	**P**	**09 14 54.0 -1.4**
	comp=Z,1μm,0.7s,mb7.1,SNR=24					
LSA	**Lhasa**	**50.35**	**273**	P	**P**	**09 15 01.8 +3.8**
LSA				S	**S**	**09 22 06.5 -3.4**
LSA				AMB	AMB	
	comp=Z,10μm,13.7s					
LSA				LR	LR	
	comp=N,31μm,29.7s					
LSA				LR	LR	
	comp=E,39μm,35.0s					
LSA				LR	LR	
	comp=Z,29μm,19.1s					
LSA	**Lhasa**	**50.35**	**273**	*e*P	**P**	**09 15 00.5 +2.5**
LSA				pmax	pmax	
	comp=Z,325nm,0.9s,mb6.4					
LSA				MLR	MLR	
	comp=Z,29μm,20.0s,MS6.3					
LSA	**Lhasa**	**50.35**	**273**	*e*P	**P**	**09 15 00.5 +2.5**
	comp=Z,325nm,0.9s,mb6.4					
LSA				LR	LR	
	comp=Z,29μm,20.0s,MS6.3					
YKW3	**Yellowknife Ar**	**51.08**	**37**	*e*P	**P**	**09 15 02.9 -0.5**
RES	**Resolute Bay**	**51.09**	**18**	*e*P	**P**	**09 15 02.9 -0.5**
	comp=Z,3μm,0.8s					
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**09 15 02.3 -1.2**
	comp=Z,38nm,0.7s,mb5.4,baz=60,slow=7.5,SNR=121					
BVAR				PcP	PcP	09 16 18.7 -0.4
	comp=Z,24nm,0.7s,baz=60,slow=7.3,SNR=1.5					
BVAR				PP	PP	09 16 59.3 -0.8
	comp=Z,25nm,0.7s,baz=79,slow=7.5,SNR=2.3					
BVAR				S	**S**	**09 22 16.0 -4.1**
	comp=Z,2.8nm,0.7s,baz=77,slow=6.4,SNR=2.6					
BVAR				LR	LR	09 40 36.7
	comp=Z,98μm,18.8s,MS6.8,baz=315,slow=41					
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**09 15 02.3 -1.2**
BVAR						09 16 18.7
BVAR						09 16 59.3
BVAR				S	**S**	**09 22 16.0 -4.0**
BVAR				pmax	pmax	
	comp=Z,38nm,0.7s					
BVAR				smax		
	comp=N,3.0nm,0.7s					
BVAR				MLR	MLR	
	comp=Z,98μm,18.8s					
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**09 15 03.1 -0.5**
	comp=Z,34nm,0.8s,mb5.3,baz=298,slow=7.3,SNR=46					
YKA				S	**S**	**09 22 18.8 -1.6**
	comp=Z,1.9nm,0.9s,baz=297,slow=6.7,SNR=2.6					
YKA				LR	LR	09 40 23.7
	comp=Z,20μm,18.4s,MS6.2,baz=250,slow=40					
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**09 15 03.1 -0.6**
YKA				S	**S**	**09 22 18.8 -1.6**
YKA				pmax	pmax	
	comp=Z,34nm,0.8s					
YKA				smax		
	comp=N,2.0nm,0.9s					
YKA				MLR	MLR	
	comp=Z,20μm,18.4s					
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**09 15 03.1 -0.5**
YKA				S	**S**	**09 22 18.8 -1.6**
YKA				LR	LR	09 40 23.7
BRVK	**Borovoye**	**51.13**	**310**	P	**P**	**09 15 02.3 -1.5**
	comp=Z,2μm,0.9s,mb7.1,SNR=43					
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**09 15 02.6 -1.2**
	comp=Z,589nm,1.2s,mb6.4					
BRVK				LR	LR	
	comp=Z,30μm,19.0s,MS6.3					
KKTK	**Khon Kaen**	**51.30**	**251**	P	**P**	**09 15 06.0 +0.9**
KKM	**Kota Kinabalu**	**51.34**	**230**	P	**P**	**09 15 06.1 +0.7**
KKM	**Kota Kinabalu**	**51.34**	**230**	*e*P	**P**	**09 15 05.3 -0.1**
IMP	**Imphal**	**51.52**	**267**	*ex*	x	09 15 17.0
IMP				*ex*	x	09 16 37.0
ZRNK	**Zerenda**	**51.86**	**310**	*i*P	**P**	**09 15 07.9 -1.4**
ZRNK				pmax	pmax	
	comp=Z,300nm,1.0s,mb6.2					
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**09 15 08.0 -1.2**
	comp=Z,367nm,1.1s,mb6.2					
TSM	**Tawau**	**51.97**	**227**	P	**P**	**09 15 10.9 +0.8**
CHG	**Chiang Mai**	**52.12**	**257**	⇑P	**P**	**09 15 12.6 +1.4**
	comp=Z,150nm,1.6s,mb5.7					
CHTO	**Chiang Mai**	**52.12**	**257**	P	**P**	**09 15 13.1 +1.9**
	SNR=101					
CHTO	**Chiang Mai**	**52.12**	**257**	*e*P	**P**	**09 15 12.5 +1.3**
	comp=Z,672nm,1.1s,mb6.5					
CHTO				LR	LR	
	comp=Z,38μm,20.0s,MS6.4					
AAA	**Alma-Ata**	**52.16**	**296**	*c i*P	**P**	**09 15 12.9 +1.4**
AAA				*e*S	**S**	**09 22 52.4 +18**
AAA				pmax	pmax	
	comp=Z,8μm,5.6s					
AAA				smax		
	comp=E,7μm,16.1s					
AAA				MLR	MLR	
	comp=Z,91μm,15.7s,MS6.9					
CM31	**Chiang Mai Arr**	**52.37**	**257**	*e*P	**P**	**09 15 14.7 +1.6**
	comp=Z,123nm,0.7s,mb6.0					
CM31				LR	LR	
	comp=Z,30μm,19.0s,MS6.4					
SHL	**Shillong**	**52.43**	**269**	⇑*i*P	**P**	**09 15 14.6 +1.1**
SHL				*i* x	x	09 22 10.5
KBS	**Kingsbay**	**52.79**	**351**	*e*P	**P**	**09 15 17.1 +0.9**
KBS				*e*S	**S**	**09 22 46.0 +2.6**
KBS				AMS	AMS	09 40 10.0
	comp=Z,17μm,18.7s,MS6.1					
KBS	**Kingsbay**	**52.79**	**351**	*e*P	**P**	**09 15 15.1 -1.0**
	comp=Z,138nm,1.0s,mb5.8					
KBS				LR	LR	
	comp=Z,32μm,19.0s,MS6.4					
SPB4	**Spitsbergen Ar**	**52.91**	**350**	*e*P	**P**	**09 15 16.6 -0.5**
ULHL	**Ulahol**	**53.14**	**295**	P	**P**	**09 15 19.4 +0.6**
	SNR=9.7					
TKM2	**Tokmak 2**	**53.18**	**296**	P	**P**	**09 15 19.2 +0.2**
	SNR=61					
TKM2	**Tokmak 2**	**53.18**	**296**	*i* P	**P**	**09 15 19.2 +0.1**
TKM2				pmax	pmax	
	comp=Z,354nm,1.1s,mb6.2					
C03A	**Quillayute Air**	**53.29**	**56**	⇓P	**P**	**09 15 17.0 -2.9**
	baz=53					
C03A				⇓S	**S**	**09 22 53.2 +3.0**
	baz=53					
PGC	**Sidney**	**53.56**	**55**	*e*P	**P**	**09 15 25.9 +4.1**
	comp=Z,179nm,1.4s,mb5.8					
NST	**Nakhon Sawan**	**53.56**	**253**	P	**P**	**09 15 23.2 +1.4**
	comp=Z,200nm,1.4s,mb5.8					
GTK	**Gangtok**	**53.57**	**273**	*ex*	x	09 15 36.0
CHMS	**Chumysh**	**53.66**	**297**	P	**P**	**09 15 22.4 -0.2**
	SNR=26					
USP	**Ospenovka**	**53.67**	**297**	P	**P**	**09 15 22.8 +0.2**
	SNR=125					
KBK	**Karagaybulak**	**53.73**	**296**	P	**P**	**09 15 23.5 +0.4**
	SNR=39					
FRU	**Bishkek**	**53.84**	**297**	⇑*i*P	**P**	**09 15 23.8 -0.1**
FRU				*i*	pP	09 15 30.5 +0.1
FRU				*e*		09 17 30.0
FRU				*e*		09 18 31.0
FRU				*e*S	**S**	**09 23 05.0 +7.4**
FRU				pmax	pmax	
	comp=Z,148nm,1.4s,mb5.7					
B04A	**Port Angeles**	**53.84**	**56**	⇑P	**P**	**09 15 21.2 -2.6**
	baz=54					
B04A				⇑S	**S**	**09 23 00.4 +2.7**
	baz=54					
KZA	**Kyzart**	**53.85**	**296**	P	**P**	**09 15 25.3 +1.3**
	SNR=36					
A04A	**Legoe Bay, Lum**	**53.94**	**55**	⇓P	**P**	**09 15 22.9 -1.7**
	baz=54					
A04A				⇓S	**S**	**09 23 00.1 +1.0**
	baz=54					
AGT	**Agartala**	**53.96**	**268**	*i* P	**P**	**09 15 27.0 +2.3**
AGT				*i* x	x	09 16 57.0
AAK	**Ala-Archa**	**54.02**	**297**	P	**P**	**09 15 24.7 -0.5**
	comp=Z,2μm,1.0s,mb6.9,SNR=65					
AAK	**Ala-Archa**	**54.02**	**297**	P	**P**	**09 15 25.3 +0.1**
	SNR=72					
AAK	**Ala-Archa**	**54.02**	**297**	P	**P**	**09 15 24.7 -0.5**
	SNR=193					
AAK	**Ala-Archa**	**54.02**	**297**	*c i*P	**P**	**09 15 24.3 -0.9**
AAK				pmax	pmax	
	comp=Z,114nm,1.2s,mb5.7					
AAK				MLR	MLR	
	comp=Z,92μm,23.0s,MS6.8					
AAK	**Ala-Archa**	**54.02**	**297**	*e*P	**P**	**09 15 24.3 -0.9**
	comp=Z,348nm,1.0s,mb6.2					
AAK				LR	LR	
	comp=Z,13μm,20.0s,MS6.0					
SLGI	**Shiliguri**	**54.10**	**272**	*ex*	x	09 15 32.0
A05A	**Maple Falls**	**54.14**	**54**	⇑P	**P**	**09 15 23.4 -2.7**
	baz=54					
A05A				⇓S	**S**	**09 23 01.9 +0.1**
	baz=54					
UCH	**Uchtor**	**54.23**	**296**	P	**P**	**09 15 27.3 +0.5**
	SNR=19					
C04A	**Brinnon**	**54.32**	**56**	⇓P	**P**	**09 15 26.2 -1.2**
	baz=54,SNR=8.6					
C04A				⇓S	**S**	**09 23 03.9 -0.3**
	baz=54					
EKS2	**Erkin-Say**	**54.45**	**297**	P	**P**	**09 15 28.8 +0.5**
	SNR=38					
GNW	**Green Mountain**	**54.49**	**56**	*e*P	**P**	**09 15 29.5 +0.9**
B05A	**Bryant**	**54.53**	**55**	⇓P	**P**	**09 15 27.6 -1.3**
	baz=54,SNR=7.5					
B05A				⇑S	**S**	**09 23 07.5 +0.6**
	baz=54					
E03A	**Lebam**	**54.61**	**57**	⇑P	**P**	**09 15 27.4 -2.1**
	baz=54					
E03A				⇓S	**S**	**09 23 09.6 +1.5**
	baz=54					
AAI	**Ambon**	**54.62**	**211**	P	**P**	**09 15 30.1 +0.5**
B06A	**Marblemount**	**54.73**	**54**	⇑P	**P**	**09 15 27.7 -2.7**
	baz=54					
B06A				⇓S	**S**	**09 23 10.0 +0.3**
	baz=54					
D04A	**Dobbs Creek Ra**	**54.74**	**56**	⇑P	**P**	**09 15 30.3 -0.2**
	baz=54					
D04A				⇓S	**S**	**09 23 14.7 +4.9**
	baz=54					
RPW	**Rockport**	**54.76**	**54**	P	**P**	**09 15 30.3 -0.2**
AML	**Almayashu**	**54.79**	**296**	P	**P**	**09 15 31.7 +0.9**
	SNR=63					
KSH	**Kashi**	**54.82**	**293**	⇑P	**P**	**09 15 33.2 +2.2**
KSH				*e*AP	pP	09 15 40.8 +3.2
KSH				*e*XP	sP	09 15 43.0 +2.9
KSH				*e*PCP	PcP	09 16 36.2 +3.0
KSH				*e*PP	PP	09 17 37.8 +3.9
KSH				AMB	AMB	
	comp=Z,10μm,7.0s					
KSH				LR	LR	
	comp=N,84μm,20.8s,MS7.0					
KSH				LR	LR	
	comp=E,90μm,16.8s,MS7.0					
KSH				LR	LR	
	comp=Z,160μm,17.2s,MS7.2					
F03A	**Seaside**	**54.95**	**58**	⇑P	**P**	**09 15 31.3 -0.6**
	baz=55					
F03A				⇑S	**S**	**09 23 14.1 +1.5**
	baz=55					
JIRN	**Jiri**	**55.03**	**275**	*e*P	**P**	**09 15 33.9 +1.3**
C05A	**Tolt Reservoir**	**55.06**	**55**	⇓P	**P**	**09 15 31.1 -1.7**
	baz=55,SNR=6.7					
C05A				⇑S	**S**	**09 23 13.8 -0.3**
	baz=55					
E04A	**Onalaska**	**55.07**	**57**	⇑P	**P**	**09 15 31.2 -1.6**
	baz=55					
E04A				⇓S	**S**	**09 23 17.1 +2.8**
	baz=55					
GUN	**Gumba**	**55.09**	**275**	*e*P	**P**	**09 15 34.0 +1.0**
D05A	**Enumclaw**	**55.17**	**56**	⇑P	**P**	**09 15 32.8 -0.7**
	baz=55					
D05A				⇓S	**S**	**09 23 16.7 +1.2**
	baz=55					
ARU	**Arti**	**55.27**	**318**	P	**P**	**09 15 32.9 -1.3**
	comp=Z,2μm,1.3s,mb7.1,SNR=46					
ARU	**Arti**	**55.27**	**318**	⇑*i*P	**P**	**09 15 32.7 -1.5**
ARU				*e*		09 16 33.8
ARU				*e*		09 17 35.3
ARU				*e*PPP		09 18 47.2
ARU				*e*S	**S**	**09 23 16.1 -0.8**
ARU				*e*		09 25 17.0
ARU				*e*SSS		09 29 05.2
ARU				pmax	pmax	
	comp=Z,641nm,1.4s,mb6.5					
ARU				MLR	MLR	
	comp=E,44μm,18.0s,MS6.7					
ARU				MLR	MLR	
	comp=Z,64μm,18.0s,MS6.7					
ARU				MLR	MLR	
	comp=N,34μm,19.0s,MS6.7					
ARU	**Arti**	**55.27**	**318**	*e*P	**P**	**09 15 32.9 -1.3**
	comp=N,262nm,0.7s,mb6.4					
ARU				LR	LR	
	comp=Z,17μm,19.0s,MS6.1					
H02A	**Toledo**	**55.37**	**59**	⇑P	**P**	**09 15 33.9 -1.1**
	baz=55					
H02A				⇑S	**S**	**09 23 22.2 +3.9**
	baz=55					
G03A	**Yamhill**	**55.45**	**58**	⇓P	**P**	**09 15 33.5 -2.1**
	baz=55					
G03A				⇑S	**S**	**09 23 20.9 +1.6**
	baz=55					
BJO	**Bjornoya**	**55.46**	**346**	*e*P	**P**	**09 15 35.0 -0.6**
BJO				*e*SS	SS	09 27 20.3 +16
BJO				AMS	AMS	09 45 12.9
	comp=Z,44μm,16.9s,MS6.6					
BJO1	**Bjornoya**	**55.50**	**346**	*e*P	**P**	**09 15 35.0 -0.9**
BJO1				*i*		09 27 57.8
BJO1				LR	LR	
	comp=Z,44μm,16.9s,MS6.6					
LON	**Longmire**	**55.51**	**56**	*e*P	**P**	**09 15 37.2 +1.2**
B07A	**Winthrop**	**55.53**	**54**	⇓P	**P**	**09 15 35.0 -1.1**
	baz=55,SNR=18					
B07A				⇓S	**S**	**09 23 20.0 -0.4**
	baz=55					
PCI	**Palu**	**55.54**	**222**	P	**P**	**09 15 37.7 +1.5**
KKN	**Kakani**	**55.58**	**276**	*e*P	**P**	**09 15 37.9 +1.4**
F04A	**Amboy**	**55.61**	**57**	⇑P	**P**	**09 15 34.6 -2.1**
	baz=55					
F04A				⇓S	**S**	**09 23 22.0 +0.6**
	baz=55					

PKI	**Pulchoki**	**55.63**	**275**	*e*P	**P**	**09 15 38.3**	**+1.4**
E05A	**Randle**	**55.64**	**56**	⇓P	**P**	**09 15 36.3**	**-0.7**
	baz=55						
E05A				⇑S	**S**	**09 23 21.9**	**0.0**
	baz=55						
MPOR	**Mary's Peak**	**55.74**	**59**	P	**P**	**09 15 39.1**	**+1.5**
H03A	**Soap Creek Ran**	**55.79**	**59**	⇓P	**P**	**09 15 37.9**	**-0.1**
	baz=56						
H03A				⇓S	**S**	**09 23 27.3**	**+3.4**
	baz=56						
DMN	**Daman**	**55.81**	**276**	*e*P	**P**	**09 15 39.4**	**+1.2**
	comp=Z,2μm,0.9s,mb7.1						
D06A	**Cle Elum**	**55.82**	**55**	⇓P	**P**	**09 15 38.0**	**-0.2**
	baz=56						
D06A				⇓S	**S**	**09 23 24.5**	**+0.3**
	baz=56						
COR	**Corvallis**	**55.84**	**59**	*e*P	**P**	**09 15 39.1**	**+0.8**
	comp=Z,435nm,1.4s,mb6.3						
COR				LR	LR		
	comp=Z,27μm,21.0s,MS6.3						
I02A	**Mapleton**	**55.85**	**60**	⇑P	**P**	**09 15 37.4**	**-1.1**
	baz=56						
I02A				⇑S	**S**	**09 23 27.0**	**+2.4**
	baz=56						
PMG	**Port Moresby**	**55.88**	**187**	P	**P**	**09 15 39.4**	**+0.8**
	comp=Z,37nm,0.9s,mb5.4,baz=5.1,slow=7.1,SNR=3.5						
PMG				S	**S**	**09 23 25.8**	**+0.7**
	comp=Z,9.3nm,0.8s,baz=171,slow=13,SNR=2.7						
PMG				LR	LR	09 35 10.9	
	comp=Z,21μm,21.4s,MS6.2,baz=170,slow=31						
PMG	**Port Moresby**	**55.88**	**187**	P	**P**	**09 15 39.4**	**+0.7**
PMG				S	**S**	**09 23 25.8**	**+0.7**
PMG				pmax	pmax		
	comp=Z,37nm,1.0s						
PMG				smax			
	comp=N,9.0nm,0.9s						
PMG				MLR	MLR		
	comp=Z,21μm,21.4s						
PMG	**Port Moresby**	**55.88**	**187**	*e*P	**P**	**09 15 40.5**	**+1.8**
	comp=Z,54nm,1.0s,mb5.5						
PMG				LR	LR		
	comp=Z,21μm,22.0s,MS6.2						
GKN	**Gorkha**	**55.89**	**276**	*e*P	**P**	**09 15 39.5**	**+0.8**
	comp=Z,3μm,1.1s						
HNR	**Honiara**	**55.97**	**172**	P	**P**	**09 15 40.1**	**+0.8**
	comp=Z,80nm,0.9s,mb5.7,baz=268,slow=3.1,SNR=4.2						
HNR				LR	LR	09 35 36.8	
	comp=Z,25μm,19.7s,MS6.3,baz=0.2,slow=32						
HNR	**Honiara**	**55.97**	**172**	*e*P	**P**	**09 15 39.3**	**0.0**
HNR				pmax	pmax		
	comp=Z,384nm,1.2s,mb6.3						
HNR				MLR	MLR		
	comp=Z,24μm,19.0s,MS6.3						
HNR	**Honiara**	**55.97**	**172**	*e*P	**P**	**09 15 39.3**	**0.0**
	comp=Z,384nm,1.2s,mb6.3						
HNR				LR	LR		
	comp=Z,24μm,19.0s,MS6.3						
G04A	**Mulino**	**55.98**	**58**	⇓P	**P**	**09 15 38.3**	**-1.0**
	baz=56						
G04A				⇓S	**S**	**09 23 26.8**	**+0.5**
	baz=56						
C07A	**Waterville**	**55.99**	**54**	P	**P**	**09 15 39.0**	**-0.5**
	baz=56,SNR=16						
C07A				⇓S	**S**	**09 23 26.4**	**0.0**
	baz=56						
NNT	**Nongplab**	**56.07**	**251**	P	**P**	**09 15 40.5**	**+0.5**
A09A	**Danville**	**56.09**	**53**	⇑P	**P**	**09 15 38.8**	**-1.4**
	baz=56,SNR=45						
A09A				⇓S	**S**	**09 23 28.2**	**+0.3**
	baz=56						
E06A	**Yakima**	**56.10**	**56**	⇑P	**P**	**09 15 39.6**	**-0.7**
	baz=56,SNR=8.6						
E06A				⇑S	**S**	**09 23 29.4**	**+1.4**
	baz=56						
EBG	**Ellensburg**	**56.13**	**55**	P	**P**	**09 15 40.6**	**+0.1**
K01A	**Sixes**	**56.13**	**61**	⇑P	**P**	**09 15 40.2**	**-0.3**
	baz=56						
K01A				⇓S	**S**	**09 23 31.9**	**+3.4**
	baz=56						
KEBM	**Edson Butte**	**56.18**	**61**	*e*P	**P**	**09 15 43.2**	**+2.3**
SSOR	**Sweet Springs**	**56.18**	**58**	P	**P**	**09 15 41.5**	**+0.6**
F05A	**White Salmon**	**56.19**	**57**	⇓P	**P**	**09 15 40.3**	**-0.6**
	baz=56						
F05A				⇑S	**S**	**09 23 30.4**	**+1.2**
	baz=56						
KK31	**Karatay Array**	**56.19**	**299**	*i* P	**P**	**09 15 40.3**	**-0.6**
KK31				pmax	pmax		
	comp=Z,367nm,1.3s,mb6.2						
I03A	**Eugene**	**56.20**	**60**	⇑P	**P**	**09 15 40.2**	**-0.8**
	baz=56,SNR=12						
I03A				⇓S	**S**	**09 23 32.3**	**+3.0**
	baz=56						
DANN	**Dangsing**	**56.27**	**277**	*e*P	**P**	**09 15 43.5**	**+2.0**
	comp=Z,12nm,0.8s,mb5.0						
J02A	**Umpqua**	**56.36**	**60**	P	**P**	**09 15 42.8**	**+0.7**
	baz=56,SNR=20						
J02A				⇑S	**S**	**09 23 33.5**	**+2.0**
	baz=56						
HOOD	**Mount Hood Mea**	**56.40**	**58**	*e*P	**P**	**09 15 43.5**	**+1.1**
H04A	**Detroit Lake**	**56.44**	**58**	P	**P**	**09 15 42.3**	**-0.4**
	baz=56,SNR=37						
H04A				⇑S	**S**	**09 23 33.3**	**+0.8**
	baz=56						
EDM	**Edmonton**	**56.47**	**46**	*e*P	**P**	**09 15 42.3**	**-0.5**
C08A	**Higginbotham F**	**56.50**	**54**	⇑P	**P**	**09 15 42.6**	**-0.5**
	baz=56						
C08A				⇓S	**S**	**09 23 31.9**	**-1.5**
	baz=56						
BROR	**Big Rock Looko**	**56.52**	**59**	P	**P**	**09 15 43.3**	**+0.1**
HSO	**Harness Mounta**	**56.56**	**60**	P	**P**	**09 15 45.5**	**+1.9**
KBO	**Bosley Butte**	**56.62**	**62**	*e*P	**P**	**09 15 45.9**	**+2.0**
G05A	**Wamic**	**56.64**	**57**	⇓P	**P**	**09 15 44.1**	**0.0**
	baz=56,SNR=16						
G05A				⇑S	**S**	**09 23 35.4**	**+0.3**
	baz=56						
B09A	**Rice**	**56.64**	**53**	⇓P	**P**	**09 15 42.7**	**-1.4**
	baz=56,SNR=15						
B09A				⇑S	**S**	**09 23 33.5**	**-1.6**
	baz=56						
A10A	**Northport**	**56.65**	**52**	⇑P	**P**	**09 15 42.8**	**-1.4**
	baz=56,SNR=16						
A10A				⇓S	**S**	**09 23 35.0**	**-0.3**
	baz=56						
F06A	**Goldendale**	**56.65**	**57**	⇑P	**P**	**09 15 43.0**	**-1.2**
	baz=56						
F06A				⇓S	**S**	**09 23 35.5**	**+0.2**
	baz=56						
J03A	**Ideyld Park**	**56.72**	**60**	⇓P	**P**	**09 15 44.9**	**+0.3**
	baz=56,SNR=32						
J03A				⇓S	**S**	**09 23 38.9**	**+2.6**
	baz=56						
E07A	**Sunnyside**	**56.74**	**55**	⇓P	**P**	**09 15 44.2**	**-0.6**
	baz=56						
E07A				⇑S	**S**	**09 23 37.8**	**+1.4**
	baz=56						
KOLN	**Koldanda**	**56.75**	**277**	*e*P	**P**	**09 15 45.8**	**+1.0**
K02A	**Glendale**	**56.75**	**61**	⇑P	**P**	**09 15 44.6**	**-0.3**
	baz=56,SNR=16						
K02A				⇓S	**S**	**09 23 39.4**	**+2.8**
	baz=56						
CAL	**Calcutta**	**56.86**	**269**	*e*P	**P**	**09 15 47.3**	**+1.7**
CAL				*ex*	x	09 23 53.6	
M01C	**Crescent City**	**56.89**	**62**	⇓P	**P**	**09 15 45.2**	**-0.7**
	baz=57						
M01C				⇓S	**S**	**09 23 42.6**	**+4.1**
	baz=57						
C09A	**Chrisman Ranch**	**56.92**	**54**	⇓P	**P**	**09 15 45.2**	**-0.9**
	baz=57						
C09A				⇓S	**S**	**09 23 37.7**	**-1.2**
	baz=57						
DAG	**Danmarks Havn**	**56.93**	**358**	⇓*i*P	**P**	**09 15 45.2**	**-1.0**
	comp=Z,481nm,1.1s,mb6.4						
DAG							
	comp=Z,31μm,17.0s						
DAG	**Danmarks Havn**	**56.93**	**358**	⇓*i*P	**P**	**09 15 45.2**	**-1.0**
DAG				pmax	pmax		
	comp=Z,480nm,1.1s,mb6.4						
DAG				MLR	MLR		
	comp=Z,31μm,17.0s,MS6.5						
DAG				MLR	MLR		
	comp=N,29μm,19.0s						
D08A	**Wollman Farm,**	**56.98**	**55**	⇓P	**P**	**09 15 46.1**	**-0.4**
	baz=57						
D08A				⇑S	**S**	**09 23 39.2**	**-0.5**
	baz=57						
HAWA	**Hanford**	**57.01**	**56**	*e*P	**P**	**09 15 46.2**	**-0.5**
	comp=N,172nm,1.3s,mb5.9						
HAWA				LR	LR		
	comp=Z,18μm,20.0s,MS6.2						
H05A	**Madras**	**57.03**	**58**	P	**P**	**09 15 46.8**	**-0.1**
	baz=57,SNR=28						
H05A				⇓S	**S**	**09 23 42.7**	**+2.5**
	baz=57						
L02A	**Cave Junction**	**57.03**	**62**	P	**P**	**09 15 47.2**	**+0.3**
	baz=57,SNR=17						
L02A				⇓S	**S**	**09 23 44.6**	**+4.3**
	baz=57						
G06A	**Carlson Farm,**	**57.04**	**57**	⇓P	**P**	**09 15 46.9**	**0.0**
	baz=57,SNR=23						
G06A				⇑S	**S**	**09 23 41.7**	**+1.3**
	baz=57						
LVZ	**Lovozero**	**57.05**	**337**	P	**P**	**09 15 45.5**	**-1.5**
	comp=Z,920nm,0.8s,mb6.9,SNR=10.0						
LVZ	**Lovozero**	**57.05**	**337**	*e*P	**P**	**09 15 45.7**	**-1.3**
LVZ				S	**S**	**09 23 36.3**	**-4.3**
LVZ				pmax	pmax		
	comp=Z,2μm,4.4s						
LVZ				pmax	pmax		
	comp=N,635nm,4.6s						
LVZ				pmax	pmax		
	comp=E,847nm,4.8s						
LVZ				pmax	pmax		
	comp=Z,160nm,1.3s,mb5.9						
LVZ				pmax	pmax		
	comp=N,55nm,1.2s						
LVZ				pmax	pmax		
	comp=E,22nm,0.8s						
LVZ				smax			
	comp=Z,2μm,16.6s						
LVZ				smax			
	comp=N,5μm,14.3s						
LVZ				smax			
	comp=E,3μm,15.6s						
LVZ				MLR	MLR		
	comp=N,30μm,18.0s,MS6.5						
LVZ				MLR	MLR		
	comp=Z,45μm,18.0s,MS6.6						
LVZ				MLR	MLR		
	comp=E,15μm,19.0s,MS6.5						
LVZ	**Lovozero**	**57.05**	**337**	*i* P	**P**	**09 15 46.2**	**-0.8**
F07A	**Phinny Hill Vi**	**57.07**	**56**	⇓P	**P**	**09 15 46.6**	**-0.5**
	baz=57,SNR=6.1						
F07A				⇑S	**S**	**09 23 40.9**	**0.0**
	baz=57						
KRMB	**Red Mountain**	**57.21**	**62**	*e*P	**P**	**09 15 48.9**	**+0.7**
B10A	**Chitwood Farm,**	**57.22**	**53**	⇑P	**P**	**09 15 48.1**	**-0.1**
	baz=57						
B10A				⇑S	**S**	**09 23 42.5**	**-0.3**
	baz=57						
I05A	**Bend**	**57.28**	**59**	⇓P	**P**	**09 15 46.8**	**-1.8**
	baz=57,SNR=22						
I05A				⇑S	**S**	**09 23 44.2**	**+0.6**
	baz=57						
NEW	**Newport**	**57.30**	**53**	P	**P**	**09 15 49.4**	**+0.6**
	comp=E,44nm,1.2s,mb5.3,baz=316,slow=6.5,SNR=12						
NEW				S	**S**	**09 23 43.7**	**-0.1**
	comp=E,1.1nm,0.6s,baz=346,slow=17,SNR=2.0						
NEW	**Newport**	**57.30**	**53**	*e*P	**P**	**09 15 48.3**	**-0.5**
	comp=E,287nm,1.5s,mb6.1						
NEW				LR	LR		
	comp=Z,28μm,22.0s,MS6.3						
D09A	**Jones Farm, Ri**	**57.32**	**54**	⇑P	**P**	**09 15 47.0**	**-2.0**
	baz=57,SNR=17						
D09A				⇑S	**S**	**09 23 44.0**	**-0.2**
	baz=57						
C10A	**Spilker Farm,**	**57.45**	**53**	⇑P	**P**	**09 15 49.0**	**-0.8**
	baz=57						
C10A				⇑S	**S**	**09 23 45.9**	**+0.1**
	baz=57						
H06A	**Lindquist Farm**	**57.50**	**58**	P	**P**	**09 15 50.1**	**-0.1**
	baz=57,SNR=36						
H06A				⇑S	**S**	**09 23 48.1**	**+1.7**
	baz=57						
JCC	**Jacoby Creek**	**57.55**	**63**	⇓P	**P**	**09 15 51.0**	**+0.6**
	baz=57						
JCC				⇑S	**S**	**09 23 50.4**	**+3.3**
	baz=57						
G07A	**Ruggs Ranch, H**	**57.58**	**57**	P	**P**	**09 15 50.5**	**-0.3**
	baz=57,SNR=17						
G07A				⇑S	**S**	**09 23 49.7**	**+2.2**
	baz=57						
APA	**Apatity**	**57.62**	**337**α	*i*P	**P**	**09 15 49.0**	**-2.0**
APA				*i*	pP	09 15 55.0	-2.6
APA				*i*		09 16 06.0	
APA				*i*		09 16 38.0	
APA				*e*PPP		09 19 23.0	
APA				*e*S	**S**	**09 23 43.0**	**-5.1**
APA				*e*		09 25 42.0	
APA				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
APA				pmax	pmax		
	comp=N,2μm,8.0s						
APA				pmax	pmax		
	comp=E,2μm,8.0s						
APA				pmax	pmax		
	comp=Z,4μm,8.0s						
APA				MLR	MLR		
	comp=Z,110μm,17.0s,MS7.0						
KEV	**Kevo**	**57.63**	**341**	*e*p	**P**	**09 15 49.7**	**-1.4**
	comp=Z,13nm,0.5s,mb5.2						
KEV	**Kevo**	**57.63**	**341**	P	**P**	**09 15 49.6**	**-1.5**
KEV				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.6						
KHMM	**Horse Mountain**	**57.70**	**63**	*e*P	**P**	**09 15 52.8**	**+1.2**
A12A	**Yaak River Ran**	**57.71**	**51**	⇓P	**P**	**09 15 51.3**	**-0.3**
	baz=58,SNR=15						
A12A				⇑S	**S**	**09 23 49.5**	**+0.2**
	baz=58						
BOK	**Bokaro**	**57.72**	**271**	*e*P	**P**	**09 15 52.8**	**+1.1**
BOK				AMb	AMB	09 16 02.1	
	comp=Z,377nm,1.0s,mb6.4						
E09A	**Wood Farm, Sta**	**57.73**	**55**	P	**P**	**09 15 51.2**	**-0.6**
	baz=58,SNR=32						
E09A				⇓S	**S**	**09 23 49.7**	**+0.2**
	baz=58						
F08A	**Pendleton**	**57.78**	**56**	⇑P	**P**	**09 15 52.2**	**0.0**
	baz=58						
F08A				⇑S	**S**	**09 23 51.5**	**+1.3**
	baz=58						
J05A	**Fort Rock**	**57.81**	**59**	P	**P**	**09 15 53.0**	**+0.6**
	baz=58,SNR=47						
J05A				⇓S	**S**	**09 23 52.8**	**+2.3**
	baz=58						
YBH	**Yreka Blue Hor**	**57.82**	**62**	S	**S**	**09 23 51.9**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=341,slow=20,SNR=1.7						
YBH				LR	LR	09 38 49.7	
	comp=Z,22μm,18.2s,MS6.3,baz=308,slow=34						
YBH	**Yreka Blue Hor**	**57.82**	**62**	*e*P	**P**	**09 15 53.0**	**+0.6**
	comp=Z,170nm,1.4s,mb5.9						
YBH				LR	LR		
	comp=Z,19μm,19.0s,MS6.2						
YBH	**Yreka Blue Hor**	**57.82**	**62**	P	**P**	**09 15 53.2**	**+0.7**
	baz=58,SNR=34						
YBH				⇑S	**S**	**09 23 54.4**	**+3.7**
	baz=58						
K04A	**Chilquin**	**57.90**	**60**	⇑P	**P**	**09 15 53.1**	**+0.1**
	baz=58						
K04A				⇑S	**S**	**09 23 54.2**	**+2.5**
	baz=58						
M02C	**Callahan**	**57.93**	**62**	⇓P	**P**	**09 15 52.7**	**-0.5**
	baz=58,SNR=24						
M02C				⇑S	**S**	**09 23 55.9**	**+3.7**
	baz=58						
G08A	**Pilot Rock**	**57.97**	**56**	P	**P**	**09 15 53.4**	**-0.1**
	baz=58,SNR=34						
G08A				⇓S	**S**	**09 23 54.3**	**+1.6**
	baz=58						
LGTI	**Lohaghat**	**57.98**	**280**	*i* P	**P**	**09 15 54.3**	**+0.7**
N02C	**Big Bar**	**57.99**	**63**	⇓P	**P**	**09 15 53.3**	**-0.3**
	baz=58,SNR=12						
N02C				⇑S	**S**	**09 23 56.0**	**+3.1**
	baz=58						
B12A	**Libby**	**58.01**	**52**	⇑P	**P**	**09 15 53.5**	**-0.3**
	baz=58						
B12A				⇓S	**S**	**09 23 53.0**	**-0.2**
	baz=58						
I06A	**Prineville**	**58.03**	**58**	⇑P	**P**	**09 15 53.8**	**-0.1**
	baz=58,SNR=35						
I06A				⇓S	**S**	**09 23 56.8**	**+3.4**
	baz=58						
H07A	**Lands Inn, Kim**	**58.03**	**57**	⇓P	**P**	**09 15 53.2**	**-0.7**
	baz=58						
H07A				⇑S	**S**	**09 23 53.6**	**+0.2**
	baz=58						
L04A	**Klamath Falls**	**58.06**	**61**	⇓P	**P**	**09 15 53.7**	**-0.4**
	baz=58						
L04A				⇑S	**S**	**09 23 57.1**	**+3.3**
	baz=58						
O01C	**Eel River Cons**	**58.07**	**64**	⇓P	**P**	**09 15 54.6**	**+0.4**
	baz=58						
O01C				⇑S	**S**	**09 23 58.0**	**+4.0**
	baz=58						
ARCES	**ARCESS Array B**	**58.14**	**341**	P	**P**	**09 15 53.6**	**-1.1**
	comp=Z,30nm,0.8s,mb5.4,baz=38,slow=6.1,SNR=52						
ARCES				S	**S**	**09 23 55.2**	**+0.3**
	comp=Z,4.8nm,1.1s,baz=72,slow=23,SNR=3.5						
ARCES				LR	LR	09 46 56.1	
	comp=Z,42μm,18.3s,MS6.6,baz=30,slow=42						
ARCES	**ARCESS Array B**	**58.14**	**341**	P	**P**	**09 15 53.6**	**-1.1**
ARCES				S	**S**	**09 23 55.2**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,30nm,0.8s						
ARCES				smax			
	comp=N,5.0nm,1.1s						
ARCES				MLR	MLR		
	comp=Z,42μm,18.3s						
ARCES	**ARCESS Array B**	**58.14**	**341**	P	**P**	**09 15 53.6**	**-1.1**
ARCES				S	**S**	**09 23 55.2**	**+0.3**
ARCES				LR	LR	09 46 56.1	
LHEM	**Herd Peak**	**58.18**	**61**	P	**P**	**09 15 55.1**	**+0.1**
M04C	**Macdoel**	**58.32**	**61**	P	**P**	**09 15 56.4**	**+0.4**
	baz=58,SNR=24						
M04C				⇑S	**S**	**09 23 60.0**	**+2.8**
	baz=58						
F09A	**S2 Ranch, Elgi**	**58.33**	**55**	⇑P	**P**	**09 15 56.2**	**+0.2**
	baz=58,SNR=20						
F09A				⇓S	**S**	**09 23 59.2**	**+1.8**
	baz=58						
K05A	**Summer Lake**	**58.34**	**60**	P	**P**	**09 15 56.8**	**+0.8**
	baz=58,SNR=32						
K05A				⇑S	**S**	**09 23 59.3**	**+1.9**
	baz=58						
KSM	**Kuching**	**58.36**	**233**	*e*P	**P**	**09 15 56.8**	**+0.6**
I07A	**Izee**	**58.36**	**58**	⇑P	**P**	**09 15 55.7**	**-0.5**
	baz=58,SNR=25						
I07A				⇓S	**S**	**09 24 00.5**	**+2.8**
	baz=58						
A13A	**Flathead Natio**	**58.38**	**51**	P	**P**	**09 15 56.4**	**+0.1**
	baz=58,SNR=30						
A13A				⇓S	**S**	**09 23 56.6**	**-1.4**
	baz=58						
M03C	**McCloud**	**58.45**	**62**	⇑P	**P**	**09 15 56.6**	**-0.2**
	baz=58,SNR=13						
M03C				⇓S	**S**	**09 24 00.5**	**+1.7**
	baz=58						
J06A	**Christmas Vall**	**58.47**	**59**	⇑P	**P**	**09 15 56.5**	**-0.4**
	baz=58,SNR=33						
J06A				⇓S	**S**	**09 24 01.6**	**+2.5**
	baz=58						
KIPM	**Iron Peak**	**58.48**	**64**	*e*P	**P**	**09 15 57.3**	**+0.3**
C12A	**Trout Creek**	**58.52**	**52**	P	**P**	**09 15 57.1**	**-0.2**
	baz=58,SNR=26						
C12A				⇓S	**S**	**09 23 58.7**	**-1.1**
	baz=58						
F10A	**Beach Ranch, E**	**58.56**	**55**	⇑P	**P**	**09 15 57.2**	**-0.4**
	baz=58,SNR=24						
F10A				⇓S	**S**	**09 24 00.1**	**-0.3**
	baz=58						
WALA	**Waterton Lakes**	**58.57**	**50**	*e*P	**P**	**09 15 57.7**	**0.0**
	comp=Z,216nm,1.4s,mb6.0						
H08A	**Prairie City**	**58.59**	**57**	P	**P**	**09 15 57.9**	**+0.1**
	baz=58,SNR=40						
H08A				⇓S	**S**	**09 24 03.5**	**+2.8**
	baz=58						
WDC	**Whiskeytown Da**	**58.60**	**63**	*e*P	**P**	**09 15 57.9**	**0.0**
	comp=Z,61nm,1.0s,mb5.6						
WDC				LR	LR		
	comp=Z,16μm,19.0s,MS6.2						
WDC	**Whiskeytown Da**	**58.60**	**63**	⇓P	**P**	**09 15 57.2**	**-0.7**
	baz=58,SNR=35						
WDC				⇓S	**S**	**09 24 03.0**	**+2.2**
	baz=58						
TMCR	**Tamitsa**	**58.62**	**332**	⇓*i*P	**P**	**09 15 57.2**	**-0.8**
TMCR				*e**PP	pP	09 16 03.5	-1.1
TMCR				pmax	pmax		
	comp=Z,297nm,1.1s,mb6.2						
AB31	**Akbulak array**	**58.66**	**310**	*i* P	**P**	**09 15 57.5**	**-0.8**
K06A	**Valley Falls**	**58.67**	**59**	⇓P	**P**	**09 15 56.8**	**-1.6**
	baz=58,SNR=32						
K06A				⇓S	**S**	**09 24 03.5**	**+1.6**
	baz=58						
B13A	**Whitefish**	**58.68**	**51**	⇓P	**P**	**09 15 57.9**	**-0.5**
	baz=58,SNR=52						
B13A				⇑S	**S**	**09 24 01.2**	**-0.7**
	baz=58						
O02C	**Red Bluff**	**58.69**	**63**	⇓P	**P**	**09 15 57.7**	**-0.8**
	baz=58,SNR=24						
O02C				⇓S	**S**	**09 24 05.8**	**+3.8**
	baz=58						
P01C	**Double 8 Ranch**	**58.77**	**64**	⇑P	**P**	**09 15 58.6**	**-0.4**
	baz=58,SNR=18						
P01C				⇑S	**S**	**09 24 07.4**	**+4.4**
	baz=58						
L05A	**Lakeview**	**58.77**	**60**	⇓P	**P**	**09 15 57.5**	**-1.6**
	baz=58,SNR=33						
L05A				⇑S	**S**	**09 24 05.9**	**+2.8**
	baz=58						
BSMT	**Bassoo Peak**	**58.81**	**52**	*e*P	**P**	**09 15 59.1**	**-0.2**
J07A	**Hines**	**58.89**	**58**	⇑P	**P**	**09 15 59.1**	**-0.8**
	baz=59,SNR=13						
J07A				⇓S	**S**	**09 24 07.1**	**+2.4**
	baz=59						
SDNR	**Sundarnagar**	**58.92**	**284**	*e*P	**P**	**09 15 59.0**	**-1.1**
SDNR				*ex*	x	09 20 01.5	
DDI	**Dehra Dun**	**58.92**	**283**	*e*P	**P**	**09 16 01.0**	**+0.9**
AKTK	**Aktyubinsk**	**58.96**	**312**	*i* P	**P**	**09 15 59.1**	**-1.3**
AKTO	**Aktyubinsk**	**58.96**	**312**	*i* P	**P**	**09 15 59.1**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,73nm,1.5s,mb5.5						
M05C	**Lookout**	**58.99**	**61**	⇑P	**P**	**09 16 00.4**	**-0.2**
	baz=59,SNR=18						
M05C				⇑S	**S**	**09 24 09.2**	**+3.3**
	baz=59						
I08A	**Drewsey**	**59.01**	**57**	P	**P**	**09 16 00.8**	**0.0**
	baz=59,SNR=30						
I08A				⇑S	**S**	**09 24 07.5**	**+1.3**
	baz=59						
C13A	**Hot Springs**	**59.03**	**52**	P	**P**	**09 16 01.1**	**+0.3**
	baz=59,SNR=19						
C13A				⇑S	**S**	**09 24 06.1**	**-0.4**
	baz=59						
GASB	**Alder Springs**	**59.04**	**64**	⇓P	**P**	**09 16 01.0**	**+0.1**
	baz=59,SNR=32						
GASB				⇑S	**S**	**09 24 11.4**	**+4.8**
	baz=59						
KTK1	**Kautokeino**	**59.06**	**341**	*e*P	**P**	**09 16 01.1**	**+0.1**
H09A	**Durkee**	**59.09**	**56**	⇓P	**P**	**09 16 00.6**	**-0.7**
	baz=59						
H09A				⇓S	**S**	**09 24 10.1**	**+2.9**
	baz=59						
HATC	**Hat Creek Radi**	**59.12**	**62**	P	**P**	**09 16 01.7**	**+0.2**
	baz=59,SNR=23						
HATC				⇑S	**S**	**09 24 10.5**	**+2.9**
	baz=59						
MOD	**Modoc**	**59.17**	**60**	*e*P	**P**	**09 16 02.0**	**+0.1**
	comp=Z,95nm,1.2s,mb5.7						
MOD				LR	LR		
	comp=Z,17μm,19.0s,MS6.2						
MOD	**Modoc**	**59.17**	**60**	⇑P	**P**	**09 16 00.8**	**-1.1**
	baz=59,SNR=48						
MOD				⇓S	**S**	**09 24 09.8**	**+1.4**
	baz=59						
BMO	**Blue Mountains**	**59.18**	**56**	*e*P	**P**	**09 16 01.8**	**-0.1**
	comp=Z,413nm,1.6s,mb6.2						
BMO				LR	LR		
	comp=Z,15μm,20.0s,MS6.1						
THN	**Thein Dam**	**59.18**	**286**	*e*P	**P**	**09 16 01.6**	**-0.3**
THN				*ex*	x	09 20 01.1	
HOPS	**Hopland**	**59.22**	**64**	*e*P	**P**	**09 16 02.2**	**+0.1**
	comp=Z,183nm,1.4s,mb5.9						
HOPS				LR	LR		
	com

K07A Rock Creek Ran 59.34 59 P **P 09 16 03.3 +0.3**
baz=59,SNR=48
K07A ⇓S **S 09 24 13.6 +3.3**
baz=59
BHK Bhakra 59.34 285 *e*P **P 09 16 05.5 +2.5**
BHK *ex* x 09 16 13.6
J08A Circle Bar Ran 59.39 58 P **P 09 16 03.7 +0.3**
baz=59,SNR=28
J08A ⇑S **S 09 24 13.3 +2.2**
baz=59
I09A Lost Marbles R 59.45 57 P **P 09 16 03.9 +0.1**
baz=59,SNR=38
I09A ⇓S **S 09 24 15.5 +3.5**
baz=59
FUNA Funafuti 59.46 150 PFAKE 09 16 20.0 +16
FUNA LR LR
comp=Z,39μm,19.0s,MS6.6
TRO Tromso 59.47 343 *e*P **P 09 16 03.4 -0.5**
TRO *e* 09 24 56.8
TRO *i* 09 30 09.6
TRO AMS AMS 09 46 52.9
comp=Z,32μm,18.5s,MS6.5
M06C Likely Place G 59.49 61 ⇓P **P 09 16 04.5 +0.5**
baz=59,SNR=19
M06C ⇑S **S 09 24 14.4 +2.1**
baz=59
O04C Chester 59.65 62 ⇑P **P 09 16 06.0 +0.9**
baz=59,SNR=14
O04C ⇓S **S 09 24 18.0 +3.6**
baz=59
MNRC McLaughlin Nat 59.68 64 P **P 09 16 05.7 +0.3**
baz=60,SNR=32
MNRC ⇑S **S 09 24 19.3 +4.5**
baz=60
L07A Adell 59.68 60 ⇓P **P 09 16 05.3 0.0**
baz=59,SNR=34
L07A ⇓S **S 09 24 17.5 +2.6**
baz=59
ELFS Eagle Lake Fie 59.69 62 ⇑P **P 09 16 05.2 -0.2**
baz=60,SNR=30
ELFS ⇑S **S 09 24 17.9 +3.0**
baz=60
K08A Mann Creek Ran 59.76 58 ⇑P **P 09 16 05.8 -0.1**
baz=60,SNR=30
K08A ⇑S **S 09 24 19.0 +3.2**
baz=60
J09A Fry Pan Ranch, 59.82 58 P **P 09 16 06.6 +0.3**
baz=60,SNR=40
J09A ⇓S **S 09 24 19.8 +3.1**
baz=60
MCCM Marconi Confer 59.85 65 *e*P **P 09 16 06.5 0.0**
MCCM Marconi Confer 59.85 65 ⇓P **P 09 16 05.6 -0.9**
baz=60
MCCM ⇑S **S 09 24 19.8 +2.8**
baz=60
WVOR Wild Horse Val 59.85 59 *e*P **P 09 16 06.2 -0.3**
WVOR pmax pmax
comp=Z,167nm,1.3s,mb5.9
WVOR MLR MLR
comp=Z,19μm,19.0s,MS6.2
WVOR Wild Horse Val 59.85 59 *e*P **P 09 16 06.2 -0.3**
comp=Z,167nm,1.3s,mb5.9
WVOR LR LR
comp=Z,19μm,19.0s,MS6.2
ORV Oroville 59.85 63 P **P 09 16 05.7 -0.8**
baz=60,SNR=24
ORV ⇓S **S 09 24 18.4 +1.3**
baz=60
SUTB Sutter Butte 59.87 63 ⇑P **P 09 16 05.9 -0.8**
baz=60
SUTB ⇑S **S 09 24 20.0 +2.6**
baz=60
MSO Missoula 59.88 52 *e*P **P 09 16 07.1 +0.3**
comp=Z,255nm,1.4s,mb6.1
MSO LR LR
comp=Z,12μm,19.0s,MS6.0
ORR Orenburg 59.89 315 ⇓*i*P **P 09 16 05.2 -1.6**
ORR PPP 09 19 53.7
ORR S **S 09 24 23.4 +5.8**
ORR SS SS 09 28 19.0 +5.1
ORR pmax pmax
comp=Z,340nm,1.1s,mb6.3
ORR MLR MLR
comp=Z,108μm,16.0s,MS7.1
O05C Quincy 59.97 62 P **P 09 16 07.2 -0.2**
baz=60,SNR=9.8
O05C ⇑S **S 09 24 20.9 +2.4**
baz=60
CVS Carmenet Viney 59.99 65 ⇑P **P 09 16 06.8 -0.7**
baz=60,SNR=15
CVS ⇑S **S 09 24 22.6 +3.7**
baz=60
OHCM Honcut 60.00 63 *e*P **P 09 16 07.5 0.0**
NIL Nilore 60.06 289 P **P 09 16 09.2 +1.2**
comp=Z,2μm,0.8s,mb7.1,SNR=37
Q03C Winters 60.09 64 ⇑P **P 09 16 08.5 +0.3**
baz=60
Q03C ⇓S **S 09 24 24.0 +3.8**
baz=60
N06A Buffalo Meadow 60.15 61 P **P 09 16 08.3 -0.3**
baz=60,SNR=41
N06A ⇑S **S 09 24 23.2 +2.3**
baz=60
M07A Soldier Meadow 60.16 60 P **P 09 16 09.1 +0.4**
baz=60,SNR=40
M07A ⇑S **S 09 24 23.2 +2.2**
baz=60
L08A Fields 60.17 59 P **P 09 16 08.9 +0.2**
baz=60,SNR=28
L08A ⇑S **S 09 24 23.6 +2.5**
baz=60
CHMT Chamberlain Mo 60.21 52 *e*P **P 09 16 08.8 -0.2**
K09A Rome 60.23 58 ⇓P **P 09 16 08.5 -0.6**
baz=60,SNR=34
K09A ⇑S **S 09 24 25.0 +3.2**
baz=60
Q04C Lincoln 60.36 64 ⇓P **P 09 16 09.5 -0.6**
baz=60
Q04C ⇓S **S 09 24 25.8 +2.1**
baz=60
BEKR Beckwourth 60.37 62 P **P 09 16 09.8 -0.3**
baz=60,SNR=41
BEKR ⇓S **S 09 24 25.8 +2.1**
baz=60
SAC San Andreas 60.48 65 *e*P **P 09 16 10.2 -0.7**
O06A Flanigan 60.51 62 P **P 09 16 11.0 0.0**
baz=60,SNR=38
O06A ⇑S **S 09 24 27.4 +1.9**
baz=60
NDI New Delhi 60.52 282 *e*P **P 09 16 11.9 +0.8**
NDI *e*S **S 09 24 30.0 +4.3**
P05C Yuba Gap, Truc 60.56 63 ⇑P **P 09 16 11.1 -0.3**
baz=60
P05C ⇓S **S 09 24 27.8 +1.7**
baz=60
M08A Happy Creek Ra 60.60 60 P **P 09 16 12.2 +0.6**
baz=60,SNR=15
M08A ⇓S **S 09 24 27.6 +1.0**
baz=60
BDM Black Diamond 60.60 65 ⇑P **P 09 16 11.6 0.0**
baz=60
BDM ⇑S **S 09 24 31.3 +4.6**
baz=60
N07B Gerlach 60.65 61 ⇑P **P 09 16 12.0 0.0**
baz=60,SNR=31
N07B ⇓S **S 09 24 29.4 +2.1**
baz=60
L09A Wilkinson Ranc 60.67 59 P **P 09 16 12.4 +0.3**
baz=60,SNR=23
L09A ⇑S **S 09 24 30.6 +3.0**
baz=60
JRSC Jasper Ridge 60.70 65 ⇑P **P 09 16 11.5 -0.9**
baz=60
JRSC ⇑S **S 09 24 30.3 +2.3**
baz=60
P06A Stead Airport, 60.76 62 ⇓P **P 09 16 12.8 +0.1**
baz=60,SNR=15
P06A ⇓S **S 09 24 31.3 +2.5**
baz=60
LAVA Lava Cap Winer 60.81 63 P **P 09 16 12.7 -0.4**
baz=61,SNR=21
LAVA ⇑S **S 09 24 30.9 +1.6**
baz=61
WENL Wente Brothers 60.87 65 ⇑P **P 09 16 13.1 -0.4**
baz=61
WENL ⇓S **S 09 24 31.4 +1.3**
baz=61

BNLO Ben Lomond (Sa 60.91 66 ⇑P **P 09 16 12.9 -0.9**
baz=61,SNR=9.8
BNLO ⇓S **S 09 24 31.7 +1.1**
baz=61
SUMG Summit 60.98 4 P **P 09 16 13.5 -0.7**
R04C Big Horse Ranc 60.99 64 ⇑P **P 09 16 13.6 -0.7**
baz=61
R04C ⇓S **S 09 24 33.3 +1.6**
baz=61
KULM Kulim 61.01 245 *e*P **P 09 16 14.9 +0.5**
PAHR Pah Rah Range 61.06 62 *e*P **P 09 16 15.0 +0.2**
comp=Z,216nm,1.4s,mb6.1
WCN Washoe City 61.08 62 ⇓P **P 09 16 14.8 -0.1**
baz=61,SNR=21
WCN ⇑S **S 09 24 35.5 +2.8**
baz=61
O07A Toulon 61.09 61 P **P 09 16 15.2 +0.2**
baz=61,SNR=38
O07A ⇑S **S 09 24 34.9 +2.0**
baz=61
HRY Holter Researc 61.10 52 *e*P **P 09 16 18.8 +3.7**
N08A GE Springer Mi 61.15 60 ⇓P **P 09 16 14.9 -0.5**
baz=61,SNR=10
N08A ⇓S **S 09 24 36.3 +2.6**
baz=61
M09A Marrel Ranch, 61.17 59 ⇓P **P 09 16 15.5 0.0**
baz=61,SNR=23
M09A ⇑S **S 09 24 36.4 +2.5**
baz=61
S04C Ingram Canyon, 61.21 65 ⇑P **P 09 16 15.8 0.0**
baz=61,SNR=13
S04C ⇑S **S 09 24 37.9 +3.5**
baz=61
R05C Kirkwood Meado 61.25 63 ⇓P **P 09 16 15.5 -0.6**
baz=61,SNR=27
R05C ⇓S **S 09 24 38.1 +3.2**
baz=61
LRM Limekiln Ridge 61.32 53 *e*P **P 09 16 16.9 +0.3**
PBA Port Blair 61.39 256 *ex* x 09 16 06.4
PBA *ex* x 09 24 02.8
EGMT Eagleton 61.40 49 *e*P **P 09 16 17.0 0.0**
comp=Z,319nm,1.4s,mb6.3
EGMT LR LR
comp=Z,29μm,20.0s,MS6.4
EGMT Eagleton 61.40 49 ⇓P **P 09 16 15.7 -1.4**
baz=61,SNR=42
EGMT ⇓S **S 09 24 37.7 +0.9**
baz=61
IPM Ipoh 61.41 244 P **P 09 16 19.8 +2.7**
O08A Rochester Mine 61.44 61 ⇑P **P 09 16 17.1 -0.3**
baz=61
O08A ⇑S **S 09 24 39.7 +2.3**
baz=61
P07A Fallon 61.46 62 ⇓P **P 09 16 17.6 +0.1**
baz=61
P07A ⇑S **S 09 24 40.9 +3.3**
baz=61
FCC Fort Churchill 61.46 33 *e*P **P 09 16 16.6 -0.9**
FCC pmax pmax
comp=Z,280nm,1.3s,mb6.2
FCC Fort Churchill 61.46 33 *e*P **P 09 16 16.6 -0.9**
comp=Z,282nm,1.4s,mb6.2
CMB Columbia Colle 61.47 64 *e*P **P 09 16 17.1 -0.4**
comp=Z,131nm,1.3s,mb5.9
CMB LR LR
comp=Z,17μm,19.0s,MS6.2
CMB Columbia Colle 61.47 64 P **P 09 16 17.3 -0.3**
baz=61,SNR=37
CMB ⇑S **S 09 24 39.3 +1.5**
baz=61
N09A Rock Creek Ran 61.47 60 P **P 09 16 17.8 +0.2**
baz=61,SNR=29
N09A ⇑S **S 09 24 39.6 +1.8**
baz=61
DLMT Dillon 61.52 53 *e*P **P 09 16 18.4 +0.5**
PACP Pacheco Peak 61.55 65 ⇓P **P 09 16 17.9 -0.2**
baz=61
PACP ⇓S **S 09 24 41.3 +2.6**
baz=61
SAO San Andreas Ge 61.60 65 *e*P **P 09 16 19.1 +0.7**
comp=Z,64nm,1.1s,mb5.7
SAO LR LR
comp=Z,12μm,19.0s,MS6.1
HLID Hailey 61.62 56 *e*P **P 09 16 19.1 +0.6**
comp=Z,257nm,1.6s,mb6.1
HLID LR LR
comp=Z,21μm,19.0s,MS6.3
HLID Hailey 61.62 56 ⇓P **P 09 16 17.7 -0.8**
baz=61,SNR=52
HLID ⇓S **S 09 24 42.1 +2.6**
baz=61
JOF Joensuu 61.62 334 *ep* **P 09 16 16.5 -2.1**
comp=Z,38nm,0.5s,mb5.8
JOF Joensuu 61.62 334 *e*P **P 09 16 16.5 -2.1**
JOF pmax pmax
comp=Z,38nm,0.5s,mb5.8
M10A I.L. Ranch, Tu 61.64 59 ⇑P **P 09 16 18.4 -0.4**
baz=61,SNR=38
M10A ⇑S **S 09 24 42.1 +2.1**
baz=61
PECR Pechory 61.71 323 *e*P **P 09 16 18.4 -0.8**
PECR *e* 09 17 07.0
PECR *e*PPP 09 20 08.0
PECR *e*S **S 09 24 41.0 +0.2**
PECR *e*PS 09 25 00.0
PECR *i* 09 26 08.0
PECR *e*SS SS 09 28 48.0 +5.5
PECR *i* SSS 09 31 26.0
PECR pmax pmax
comp=Z,5μm,13.0s
PECR pmax pmax
comp=N,2μm,9.0s
PECR smax
comp=N,3μm,11.0s
PECR MLR MLR
comp=Z,31μm,17.0s,MS6.5
PECR MLR MLR
comp=N,29μm,15.0s
MCMT McKenzie Canyo 61.71 54 *e*P **P 09 16 19.0 -0.2**
R06C Coleville 61.75 63 P **P 09 16 19.7 +0.2**
baz=62,SNR=40
R06C ⇑S **S 09 24 44.3 +3.0**
baz=62
WAKR Walker 61.77 63 *e*P **P 09 16 19.8 +0.2**
KAKA Kakadu 61.79 203 *e*P **P 09 16 18.4 -1.3**
comp=N,34nm,0.8s,mb5.5
LOF Lofoten 61.80 344 *e*P **P 09 16 20.2 +0.5**
LOF *e* pP 09 16 24.8 -1.6
P08A Dixie Valley 61.86 61 ⇑P **P 09 16 19.0 -1.2**
baz=62,SNR=21
P08A ⇑S **S 09 24 45.3 +2.7**
baz=62
BOZ Bozeman (W) 61.88 52 *e*P **P 09 16 20.5 +0.2**
comp=N,669nm,1.7s,mb6.5
BOZ LR LR
comp=Z,19μm,20.0s,MS6.2
BOZ Bozeman (W) 61.88 52 P **P 09 16 20.6 +0.3**
baz=62,SNR=169
BOZ ⇑S **S 09 24 44.5 +1.6**
baz=62
Q07A Schurz 61.88 62 ⇑P **P 09 16 20.1 -0.3**
baz=62
Q07A ⇓S **S 09 24 44.8 +1.9**
baz=62
BMN Battle Mountai 61.91 60 *e*P **P 09 16 20.7 +0.2**
comp=Z,173nm,1.3s,mb6.0
BMN LR LR
comp=Z,21μm,19.0s,MS6.3
S05C Merced 61.93 64 P **P 09 16 20.1 -0.6**
baz=62,SNR=18
S05C ⇑S **S 09 24 45.3 +1.6**
baz=62
KGM Kluang 61.95 240 P **P 09 16 23.0 +2.3**
T05C Eagle Field, D 62.00 65 ⇓P **P 09 16 21.0 -0.2**
baz=62
T05C ⇓S **S 09 24 47.8 +3.4**
baz=62
LRV Little Rabbit 62.08 66 *e*P **P 09 16 23.9 +2.2**
O09A Fish Creek Ran 62.10 60 ⇑P **P 09 16 20.6 -1.2**
baz=62,SNR=33
O09A ⇑S **S 09 24 48.7 +3.0**
baz=62
JMIC Jan Mayen 62.12 353 *e*P **P 09 16 21.8 -0.1**
JMIC *e*S **S 09 24 55.6 +10**
JMIC AMS AMS 09 41 39.5
comp=Z,11μm,19.8s,MS6.0
JMIC Jan Mayen 62.12 353 *e*P **P 09 16 21.8 -0.1**

JMIC *i* 09 25 04.4
JMIC LR LR
comp=Z,11μm,19.8s,MS6.0
M11A Holland Ranch, 62.14 58 ⇓P **P 09 16 21.7 -0.4**
baz=62,SNR=44
M11A ⇓S **S 09 24 49.6 +3.4**
baz=62
N10A Dunphy 62.16 59 ⇑P **P 09 16 21.5 -0.7**
baz=62
N10A ⇓S **S 09 24 48.0 +1.5**
baz=62
V03C Hunter Liggett 62.19 66 ⇓P **P 09 16 22.5 +0.1**
baz=62
V03C ⇓S **S 09 24 48.8 +1.9**
baz=62
JBP Jabalpur 62.21 275 ⇑*i*P **P 09 16 23.9 +1.4**
JBP *i* x x 09 24 55.1
R07C Lee Vining 62.27 63 ⇑P **P 09 16 22.9 -0.1**
baz=62
R07C ⇑S **S 09 24 51.0 +3.2**
baz=62
O10A Cortez Mining, 62.43 60 ⇑P **P 09 16 24.2 +0.2**
baz=62
O10A ⇑S **S 09 24 52.7 +2.8**
baz=62
Q08A Gabbs 62.47 62 ⇓P **P 09 16 24.0 -0.3**
baz=62,SNR=37
Q08A ⇓S **S 09 24 52.3 +1.9**
baz=62
QLMT Earthquake Lak 62.50 53 *e*P **P 09 16 24.7 +0.2**
NVAR Mina Array Bea 62.51 62 P **P 09 16 24.5 0.0**
comp=Z,11nm,0.8s,mb5.1,baz=284,slow=8.0,SNR=48
NVAR PKPPKP 09 45 28.6
comp=Z,0.6nm,0.8s,baz=167,slow=4.2,SNR=4.1
NVAR Mina Array Bea 62.51 62 P **P 09 16 24.5 0.0**
NVAR P'P' 09 45 28.6
P09A Austin 62.51 61 ⇑P **P 09 16 24.4 -0.1**
baz=62
P09A ⇓S **S 09 24 53.6 +2.7**
baz=62
T06C Millerton Lake 62.53 64 ⇓P **P 09 16 24.0 -0.7**
baz=62,SNR=23
T06C ⇓S **S 09 24 52.1 +0.9**
baz=62
N11A Elko Archery C 62.56 59 ⇑P **P 09 16 24.2 -0.7**
baz=62
N11A ⇓S **S 09 24 54.5 +3.1**
baz=62
KCC Kaiser Creek 62.58 64 ⇑P **P 09 16 24.0 -1.0**
baz=62,SNR=18
KCC ⇓S **S 09 24 54.1 +2.4**
baz=62
M12A Wells 62.66 58 ⇑P **P 09 16 24.9 -0.7**
baz=62,SNR=51
M12A ⇑S **S 09 24 56.6 +3.8**
baz=62
V04C Ramage Ranch, 62.66 66 ⇑P **P 09 16 24.8 -0.8**
baz=62
V04C ⇓S **S 09 24 54.4 +1.6**
baz=62
PKD Parkfield 62.68 66 ⇑P **P 09 16 25.2 -0.5**
baz=62
PKD ⇓S **S 09 24 53.8 +0.8**
baz=62
R08A Mina 62.68 62 ⇑P **P 09 16 25.1 -0.6**
baz=62,SNR=16
R08A ⇑S **S 09 24 56.2 +3.1**
baz=62
MLAC Mammoth Lakes 62.68 63 ⇓P **P 09 16 25.5 -0.2**
baz=62
MLAC ⇓S **S 09 24 56.2 +3.2**
baz=62
U05C Westside ANR, 62.70 65 ⇓P **P 09 16 26.0 +0.2**
baz=62
U05C ⇑S **S 09 24 55.7 +2.4**
baz=62
GCMT Greycliff 62.85 51 *e*P **P 09 16 27.2 +0.4**
YMR Madison River 62.86 53 *e*P **P 09 16 27.4 +0.5**
comp=Z,408nm,1.5s,mb6.3
YMR LR LR
comp=Z,26μm,19.0s,MS6.4
ELK Elko 62.90 59 PFAKE 09 16 40.0 +13
ELK LR LR
comp=Z,24μm,19.0s,MS6.4
Q09A Carvers 62.94 61 ⇑P **P 09 16 26.6 -0.8**
baz=63
Q09A ⇑S **S 09 24 58.9 +2.7**
baz=63
N12A Clover Valley, 62.95 58 ⇑P **P 09 16 26.4 -1.1**
baz=63,SNR=37
N12A ⇓S **S 09 24 58.5 +2.2**
baz=63
YNR Norris Junctio 62.98 53 *e*P **P 09 16 29.6 +1.8**
MTUM Tungsten Hills 63.02 63 *e*P **P 09 16 28.7 +0.7**
O11A Cowboy Ranch, 63.04 59 P **P 09 16 28.3 +0.2**
baz=63,SNR=30
O11A ⇑S **S 09 24 59.2 +1.7**
baz=63
YFT Old Faithful 63.07 53 *e*P **P 09 16 30.2 +2.0**
PTRM Twissleman Ran 63.07 66 *e*P **P 09 16 28.6 +0.3**
V05C Boulder Hill, 63.13 65 ⇓P **P 09 16 27.2 -1.5**
baz=63
V05C ⇑S **S 09 25 01.0 +2.4**
baz=63
HELL Mitchell Peak, 63.16 64 ⇑P **P 09 16 27.9 -1.0**
baz=63,SNR=37
HELL ⇑S **S 09 25 00.2 +1.1**
baz=63
S08C White Mtn Res 63.17 63 ⇑P **P 09 16 28.8 -0.2**
baz=63,SNR=36
S08C ⇑S **S 09 25 02.7 +3.4**
baz=63
LKWY Lake 63.23 53 *e*P **P 09 16 31.8 +2.5**
comp=Z,193nm,1.5s,mb6.0
LKWY LR LR
comp=Z,29μm,19.0s,MS6.5
RCTC Rector, Farmer 63.26 65 ⇓P **P 09 16 28.2 -1.4**
baz=63
RCTC ⇓S **S 09 25 00.8 +0.5**
baz=63
MOR8 Moi Rana 63.31 343 *e*P **P 09 16 27.6 -2.3**
MOR8 *i* 09 20 26.5
SCO Scoresbysund 63.31 358 *i* P **P 09 16 30.1 +0.2**
comp=Z,128nm,0.9s,mb6.0
SCO *i* S **S 09 25 02.6 +1.7**
SCO Scoresbysund 63.31 358 *i* P **P 09 16 30.1 +0.2**
SCO *i* S **S 09 25 02.6 +1.7**
SCO pmax pmax
comp=Z,130nm,0.9s,mb6.1
P11A Circle Ranch, 63.34 60 ⇑P **P 09 16 30.1 0.0**
baz=63,SNR=12
P11A ⇓S **S 09 25 02.3 +0.9**
baz=63
IMW Indian Meadow 63.36 54 *e*P **P 09 16 31.0 +0.7**
comp=Z,107nm,1.2s,mb5.8
FLWY Flagg Ranch 63.38 53 *e*P **P 09 16 30.7 +0.4**
comp=Z,272nm,1.4s,mb6.2
R09A Tonopah 63.38 62 P **P 09 16 29.9 -0.4**
baz=63,SNR=60
R09A ⇓S **S 09 25 03.6 +1.8**
baz=63
TPH Tonopah 63.39 62 *e*P **P 09 16 31.6 +1.2**
comp=Z,243nm,1.3s,mb6.2
TPH LR LR
comp=Z,13μm,19.0s,MS6.1
DCID1 Drake Creek 63.42 54 *e*P **P 09 16 31.9 +1.2**
SMMC Simmler 63.42 66 ⇑P **P 09 16 30.7 +0.1**
baz=63
SMMC ⇑S **S 09 25 03.3 +1.0**
baz=63
TIN Tinemaha 63.42 63 ⇓P **P 09 16 29.9 -0.7**
baz=63
TIN ⇑S **S 09 25 05.3 +3.1**
baz=63
N13A Wendover, West 63.43 58 ⇓P **P 09 16 30.3 -0.4**
baz=63,SNR=29
N13A ⇑S **S 09 25 04.6 +2.1**
baz=63
STOK Stokkvaagen 63.46 343 *e*P **P 09 16 29.5 -1.4**
STOK *e*P 09 16 29.5
STOK *e*P 09 16 29.9
STOK Stokkvaagen 63.46 343 *e*P **P 09 16 29.9 -1.0**
O12A Currie 63.49 59 ⇑P **P 09 16 30.4 -0.7**
baz=63,SNR=39
O12A ⇑S **S 09 25 05.7 +2.5**
baz=63
RLMT Red Lodge 63.50 52 *e*P **P 09 16 31.4 +0.3**

RRI2 Red Ridge 63.50 54 *e*P **P 09 16 36.9 +5.7**
comp=Z,207nm,1.0s,mb6.1
VIS Vishakhapatnam 63.56 268 *e*P **P 09 16 32.5 +0.9**
VIS AMb AMB 09 16 43.0
comp=Z,748nm,1.5s,mb6.5
VIS *i* S **S 09 25 06.4 +2.4**
MOOW Moose Ponds 63.57 54 *e*P **P 09 16 32.0 +0.5**
comp=Z,112nm,1.2s,mb5.8
S09A Goldfield 63.61 62 ⇓P **P 09 16 30.8 -1.1**
baz=63,SNR=41
S09A ⇑S **S 09 25 08.0 +3.3**
baz=63
TPAW Teton Pass 63.62 54 *e*P **P 09 16 32.7 +0.8**
comp=Z,297nm,1.3s,mb6.2
VES Vestal, Richgr 63.66 65 P **P 09 16 31.1 -1.1**
baz=63,SNR=26
VES ⇓S **S 09 25 05.9 +0.6**
baz=63
HVU Hansel Valley 63.68 56 *e*P **P 09 16 32.6 +0.3**
comp=Z,80nm,1.2s,mb5.6
AJM Ajmer 63.69 281 *e*P **P 09 16 33.3 +0.9**
TSI Tuntungan 63.70 245 P **P 09 16 36.2 +3.7**
KAF Kangasniemi 63.73 335 *e*p **P 09 16 31.0 -1.6**
comp=Z,86nm,0.8s,mb5.8,baz=37,slow=6.2
KAF Kangasniemi 63.73 335 *e*P **P 09 16 31.0 -1.6**
KAF pmax pmax
comp=Z,86nm,0.8s,mb5.8
LOHW Long Hollow 63.73 54 *e*P **P 09 16 33.3 +0.6**
comp=Z,300nm,1.5s,mb6.1
SNOW Snow King Moun 63.74 54 *e*P **P 09 16 33.5 +0.8**
comp=Z,215nm,1.3s,mb6.0
REDW Red Top Meadow 63.75 54 *e*P **P 09 16 33.4 +0.5**
comp=Z,295nm,1.3s,mb6.2
PKM Peak Mountain 63.80 66 ⇓P **P 09 16 32.6 -0.5**
baz=64
PKM ⇓S **S 09 25 09.8 +2.8**
baz=64
R10A Warm Springs 63.82 61 P **P 09 16 33.2 0.0**
baz=64,SNR=38
R10A ⇑S **S 09 25 07.9 +0.7**
baz=64
Q11A Duckwater 63.85 60 P **P 09 16 33.2 -0.3**
baz=64,SNR=26
Q11A ⇑S **S 09 25 08.8 +1.2**
baz=64
P12A McGill 63.90 59 ⇑P **P 09 16 32.9 -0.8**
baz=64,SNR=25
P12A ⇑S **S 09 25 10.2 +1.9**
baz=64
CWC Cottonwood Cre 63.90 64 P **P 09 16 33.6 -0.2**
baz=64,SNR=19
CWC ⇑S **S 09 25 09.6 +1.3**
baz=64
BHPL Bhopal 63.92 277 *e*P **P 09 16 35.0 +1.1**
DGMT Dagmar 63.96 46 *e*P **P 09 16 34.0 -0.1**
comp=Z,330nm,1.2s,mb6.2
DGMT LR LR
comp=Z,40μm,20.0s,MS6.6
GRAC Grapevine Rang 63.98 63 P **P 09 16 34.1 -0.2**
baz=64,SNR=99
GRAC ⇑S **S 09 25 11.6 +2.3**
baz=64
AHID Auburn Hatcher 64.00 55 *e*P **P 09 16 35.4 +1.0**
comp=Z,158nm,1.3s,mb5.9
AHID LR LR
comp=Z,16μm,20.0s,MS6.2
PSI Prapat 64.02 244 LR LR 09 46 33.6
comp=Z,25μm,18.6s,MS6.4,baz=32,slow=38
BGU Big Grassy Mou 64.08 57 *e*P **P 09 16 35.4 +0.4**
LAO LASA Array 64.10 49 *e*P **P 09 16 35.1 0.0**
comp=Z,407nm,1.4s,mb6.3
LAO LR LR
comp=Z,39μm,19.0s,MS6.6
ISA Isabella 64.15 65 *e*P **P 09 16 33.9 -1.6**
comp=Z,0.1nm,1.1s
ISA LR LR
comp=Z,4μm,19.0s,MS5.6
ISA Isabella 64.15 65 P **P 09 16 33.9 -1.5**
baz=64,SNR=23
ISA ⇓S **S 09 25 12.0 +0.6**
baz=64
SBC Santa Barbara 64.16 67 ⇓P **P 09 16 34.0 -1.4**
baz=64
SBC ⇓S **S 09 25 13.1 +1.7**
baz=64
SPUT South Promonto 64.17 57 *e*P **P 09 16 34.5 -1.0**
NGP Nagpur 64.19 274⇑*i x* x 09 16 31.9
NGP *i* S **S 09 25 13.8 +2.0**
TRCR Troy Canyon 64.21 61 *e*P **P 09 16 35.8 -0.1**
Q12A Willow Creek R 64.22 60 ⇑P **P 09 16 35.1 -0.8**
baz=64,SNR=24
Q12A ⇑S **S 09 25 13.3 +1.1**
baz=64
ARVC Arvin 64.27 65 ⇑P **P 09 16 34.4 -1.8**
baz=64,SNR=11
ARVC ⇓S **S 09 25 13.5 +0.6**
baz=64
DAC Darwin (Calif) 64.31 64 *e*P **P 09 16 35.9 -0.6**
comp=Z,140nm,1.5s,mb5.8
DAC LR LR
comp=Z,14μm,19.0s,MS6.2
PUL Pulkovo 64.32 332 *e*P **P 09 16 36.1 -0.4**
PUL S **S 09 25 09.4 -4.1**
PUL pmax pmax
comp=Z,680nm,1.1s,mb6.6
PUL pmax pmax
comp=N,1μm,1.0s
PUL pmax pmax
comp=E,848nm,0.9s
PUL MLR MLR
comp=Z,41μm,17.0s,MS6.7
PUL MLR MLR
comp=N,23μm,16.0s,MS6.6
PUL MLR MLR
comp=E,25μm,16.0s,MS6.6
PUL Pulkovo 64.32 332⇑*e*P **P 09 16 36.4 -0.1**
FIA1 FINESS Array S 64.32 335 *e*P **P 09 16 35.5 -1.0**
FINES FINESS Array B 64.33 335 P **P 09 16 35.0 -1.6**
comp=E,74nm,0.6s,mb5.9,baz=40,slow=7.0,SNR=270
FINES S **S 09 25 11.8 -1.7**
comp=E,1.4nm,0.8s,baz=47,slow=6.1,SNR=1.9
FINES LR LR 09 47 34.5
comp=E,57μm,19.9s,MS6.8,baz=241,slow=39
FINES FINESS Array B 64.33 335 P **P 09 16 35.0 -1.6**
FINES S **S 09 25 11.8 -1.7**
FINES pmax pmax
comp=Z,74nm,0.6s
FINES smax
comp=N,1.0nm,0.8s
FINES MLR MLR
comp=Z,57μm,19.9s
FINES FINESS Array B 64.33 335 P **P 09 16 35.0 -1.6**
FINES S **S 09 25 11.8 -1.7**
FINES LR LR 09 47 34.5
HWUT Hardware Ranch 64.48 56 *e*P **P 09 16 37.6 0.0**
comp=Z,303nm,1.4s,mb6.1
HWUT LR LR
comp=Z,20μm,19.0s,MS6.3
BSC Santa Cruz Isl 64.49 67 ⇑P **P 09 16 36.8 -0.9**
baz=64
BSC ⇓S **S 09 25 16.0 +0.4**
baz=64
MPMC Manual Prospec 64.51 64 ⇑P **P 09 16 37.0 -0.8**
baz=64,SNR=31
MPMC ⇓S **S 09 25 18.5 +2.7**
baz=64
FURC Furnace Creek, 64.64 63 P **P 09 16 38.5 -0.1**
baz=64,SNR=48
FURC ⇓S **S 09 25 16.9 -0.5**
baz=64
OSI Osito Adit 64.67 66 ⇑P **P 09 16 37.9 -0.9**
baz=64
OSI ⇑S **S 09 25 18.6 +0.8**
baz=64
DUG Dugway 64.67 58 *e*P **P 09 16 38.9 +0.1**
comp=Z,250nm,1.2s,mb6.1
DUG LR LR
comp=Z,19μm,20.0s,MS6.3
DUG Dugway 64.67 58 ⇓P **P 09 16 38.3 -0.5**
baz=64,SNR=91
DUG ⇓S **S 09 25 19.4 +1.6**
baz=64
MOS Moscow 64.71 326α*i* P **P 09 16 37.5 -1.6**
MOS *e* 09 19 00.1
MOS *e*PPP 09 20 32.7
MOS *e*S **S 09 25 17.0 -1.3**
MOS *e* 09 26 23.1
MOS *e*SS SS 09 29 28.0 -1.3
MOS pmax pmax
comp=Z,2μm,2.6s,mb6.8
MOS pmax pmax
comp=N,2μm,3.5s
MOS MLR MLR
comp=Z,32μm,16.0s,MS6.6
MOS MLR MLR
comp=N,18μm,15.4s,MS6.5
MOS MLR MLR
comp=E,12μm,15.4s,MS6.5
LRMC Laurel Mountai 64.76 64 P **P 09 16 39.3 -0.2**
baz=64,SNR=9.2
LRMC ⇓S **S 09 25 20.2 +1.3**
baz=64
NOQ North Oquirrh 64.78 57 *e*P **P 09 16 40.5 +1.0**
comp=E,327nm,1.2s,mb6.2
BW06 Boulder Array 64.86 54 *e*P **P 09 16 39.8 -0.3**
comp=E,215nm,1.3s,mb6.0
BW06 LR LR
comp=Z,16μm,20.0s,MS6.2
PDAR Pinedale Array 64.86 54 P **P 09 16 39.8 -0.3**
comp=Z,14nm,0.8s,mb5.0,baz=290,slow=1.7,SNR=89
PDAR PKPPKP 09 45 12.2
comp=Z,1.0nm,1.0s,baz=130,slow=6.0,SNR=4.9
PDAR LR LR 09 46 31.9
comp=Z,13μm,19.1s,MS6.1,baz=241,slow=38
TCUT Toone Canyon 64.89 56 *e*P **P 09 16 41.3 +1.0**
EDW2 Edwards Air Fo 64.96 65 P **P 09 16 40.4 -0.3**
baz=65,SNR=40
EDW2 ⇓S **S 09 25 22.5 +1.2**
baz=65
CTU Camp Tracy 64.97 57 *e*P **P 09 16 41.6 +0.8**
comp=Z,136nm,1.3s,mb5.8
SNCC San Nicolas Is 65.04 67 PFAKE 09 16 50.0 +8.7
SNCC LR LR
comp=Z,19μm,22.0s,MS6.2
SNCC San Nicolas Is 65.04 67 ⇓P **P 09 16 40.2 -1.0**
baz=65
SNCC ⇑S S 09 25 22.5 +0.1
baz=65
DECC Green Verdugo 65.15 66 ⇓P **P 09 16 41.0 -1.0**
baz=65
DECC ⇑S S 09 25 24.2 +0.4
baz=65
NLU North Lily Min 65.26 58 *e*P **P 09 16 42.8 +0.1**
NSS Namsos 65.26 343 *e*P **P 09 16 40.8 -1.8**
NSS *e*S S 09 25 31.3 +6.3
NSS *e* 09 30 17.5
NSS AMS AMS 09 51 28.5
comp=Z,29μm,17.4s,MS6.5
NSS Namsos 65.26 343 *e*P **P 09 16 40.8 -1.8**
NSS *i* 09 25 42.1
NSS *e* 09 30 17.5
NSS LR LR
comp=Z,29μm,17.4s,MS6.5
MWC Mount Wilson 65.34 66 *e*P **P 09 16 42.7 -0.5**
SHOC Shoshone 65.36 63 ⇑P **P 09 16 42.2 -1.2**
baz=65
SHOC ⇑S S 09 25 28.3 +2.0
baz=65
SFJD Kangerlussuaq 65.42 10⇑*i* P **P 09 16 42.6 -1.1**
comp=Z,60nm,0.8s,mb5.7
SFJD *i* S S 09 25 27.2 +0.2
SFJD
comp=Z,42μm,18.0s
SFJD Kangerlussuaq 65.42 10⇑*i* P **P 09 16 42.6 -1.1**
SFJD *i* S S 09 25 27.2 +0.2
SFJD pmax pmax
comp=Z,60nm,0.8s,mb5.7
SFJD MLR MLR
comp=Z,42μm,18.0s,MS6.7
GSC Goldstone 65.43 64 *e*P **P 09 16 43.2 -0.5**
GSC Goldstone 65.43 64 P **P 09 16 43.3 -0.4**
baz=65,SNR=21
GSC ⇓S S 09 25 27.7 +0.6
baz=65
DAU Daniels Canyon 65.44 57 *e*P **P 09 16 44.6 +0.8**
MPU Maple Canyon 65.48 57 *e*P **P 09 16 44.1 0.0**
comp=Z,184nm,1.2s,mb6.0
MPU LR LR
comp=Z,28μm,19.0s,MS6.5
FMP Fort Macarthur 65.53 66 ⇑P **P 09 16 43.3 -1.1**
baz=65
FMP ⇓S S 09 25 28.7 +0.4
baz=65
U11A Corn Creek 65.58 62 ⇑P **P 09 16 44.0 -0.7**
baz=65,SNR=16
U11A ⇓S S 09 25 30.7 +1.8
baz=65
RRX Edison Barstow 65.58 65 ⇓P **P 09 16 44.1 -0.6**
baz=65
RRX ⇓S S 09 25 29.8 +0.8
baz=65
OBN Obninsk 65.58 326 P **P 09 16 43.0 -1.7**
comp=Z,2μm,0.7s,SNR=18
OBN Obninsk 65.58 326*c i* P **P 09 16 43.4 -1.3**
OBN *e* pP 09 16 50.3 -1.1
OBN *e* 09 19 06.9
OBN *e*S S 09 25 28.1 -0.9
OBN *e*SS SS 09 29 43.7 +0.8
OBN pmax pmax
comp=Z,3μm,3.4s
OBN MLR MLR
comp=Z,52μm,16.0s,MS6.8
OBN Obninsk 65.58 326 *e*P **P 09 16 43.2 -1.5**
comp=Z,181nm,0.7s,mb6.2
OBN LR LR
comp=Z,9μm,20.0s,MS6.0
BFSC Mount Baldy St 65.58 65 ⇓P **P 09 16 43.8 -0.9**
baz=65,SNR=13
BFSC ⇑S S 09 25 30.5 +1.5
baz=65
CIS Catalina Islan 65.65 67 ⇑P **P 09 16 44.1 -1.1**
baz=65
CIS ⇓S S 09 25 30.6 +0.8
baz=65
SHPR Sheep Range 65.66 62 *e*P **P 09 16 45.4 +0.1**
MEF Metsahovi 65.80 335 P **P 09 16 44.8 -1.4**
SCI San Clemente I 65.84 67 ⇓P **P 09 16 45.4 -1.0**
baz=66
SCI ⇓S S 09 25 32.9 +0.8
baz=66
ARUT Antelope Range 65.86 60 *e*P **P 09 16 46.5 -0.1**
TUQ Turquoise Mtn. 65.89 63 ⇑P **P 09 16 46.9 +0.2**
baz=66,SNR=26
TUQ ⇑S S 09 25 34.1 +1.4
baz=66
V11A Goodsprings 65.93 63 ⇑P **P 09 16 46.7 -0.3**
baz=66
V11A ⇓S S 09 25 35.8 +2.6
baz=66
HEC Hector,Ludlow 66.03 64 ⇓P **P 09 16 47.7 +0.1**
baz=66
HEC ⇑S S 09 25 36.5 +2.0
baz=66
BBRC Big Bear Sol-O 66.03 65 ⇑P **P 09 16 47.4 -0.2**
baz=66,SNR=18
BBRC ⇓S S 09 25 35.8 +1.4
baz=66
CCUT Cedar City 66.07 60 *e*P **P 09 16 47.8 0.0**
U12A Valley of Fire 66.09 62 P **P 09 16 48.1 +0.1**
baz=66,SNR=18
U12A ⇓S S 09 25 37.5 +2.3
baz=66
MVU Marysvale 66.13 59 PFAKE 09 17 00.0 +12
MVU LR LR
comp=Z,24μm,20.0s,MS6.4
MSU Marysvale 66.14 59 *e*P **P 09 16 48.9 +0.6**
TMUT Trail Mountain 66.19 58 *e*P **P 09 16 49.0 +0.3**
MURC Murrieta 66.29 66 P **P 09 16 48.7 -0.5**
baz=66,SNR=16
MURC ⇓S S 09 25 39.3 +1.7
baz=66
V12A Nelson 66.36 63 ⇓P **P 09 16 49.4 -0.3**
baz=66,SNR=35
V12A ⇓S S 09 25 39.9 +1.5
baz=66
VRHR Novokhopersk 66.39 320 *e*P **P 09 16 48.3 -1.6**
VRHR *e*S S 09 25 41.0 +2.2
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=E,10.0nm,0.3s
VRHR MLR MLR
comp=E,27μm,19.0s,MS6.6
VRHR MLR MLR
comp=Z,28μm,19.0s,MS6.5
VRHR MLR MLR
comp=N,21μm,17.0s,MS6.6
VSU Vasula 66.50 333 P **P 09 16 49.3 -1.3**
CTA Charters Tower 66.54 187 *e*P **P 09 16 52.2 +1.3**
comp=N,44nm,1.5s,mb5.3
CTA *i* S S 09 25 38.2 -2.4
CTA Charters Tower 66.54 187 P **P 09 16 51.0 +0.1**
comp=N,20nm,0.9s,mb5.2,baz=353,slow=6.0,SNR=13
CTA S S 09 25 33.5 -7.0
comp=N,10.0nm,1.1s,baz=106,slow=12,SNR=2.6
CTA LR LR 09 43 48.9
comp=N,19μm,18.6s,MS6.3,baz=0.1,slow=34
CTA PKP2ab 09 45 33.2
comp=N,14nm,1.2s,baz=346,slow=3.8,SNR=4.7
CTA Charters Tower 66.54 187 P **P 09 16 51.0 +0.1**
CTA S S 09 25 33.6 -7.0
CTA pmax pmax
comp=Z,200nm,0.9s
CTA smax
comp=N,10.0nm,1.1s
CTA MLR MLR
comp=Z,19μm,18.6s
CTAO Charters Tower 66.54 187 *e*P **P 09 16 52.3 +1.5**
comp=Z,230nm,1.6s,mb6.0
CTAO LR LR
comp=Z,17μm,20.0s,MS6.3
W12A Cal Nev Ari 66.62 63 ⇑P **P 09 16 50.6 -0.8**
baz=66
W12A ⇓S S 09 25 43.4 +1.8
baz=66
ULM Lac du Bonnet 66.69 41 P **P 09 16 49.3 -2.6**
comp=Z,14nm,0.8s,mb5.1,baz=310,slow=7.3,SNR=27
ULM S S 09 25 41.3 -1.2
comp=Z,2.1nm,1.0s,baz=297,slow=19,SNR=1.9
ULM PKPPKP 09 45 14.2
comp=Z,1.9nm,0.8s,baz=180,slow=1.0,SNR=2.1
ULM LR LR 09 49 38.6
comp=Z,23μm,18.7s,MS6.4,baz=322,slow=39
ULM Lac du Bonnet 66.69 41 *e*P **P 09 16 50.5 -1.4**
comp=Z,203nm,1.4s,mb6.0
ULM LR LR
comp=Z,34μm,20.0s,MS6.6
SRU San Rafael 66.72 57 *e*P **P 09 16 51.9 -0.2**
comp=Z,168nm,1.0s,mb6.0
PFO Pinyon Flat Ob 66.75 65 P **P 09 16 52.9 +0.7**
comp=Z,119nm,1.3s,mb5.8,SNR=16
PFO Pinyon Flat Ob 66.75 65 *e*P **P 09 16 51.9 -0.3**
comp=Z,66nm,1.3s,mb5.5
PFO LR LR
comp=Z,4μm,22.0s,MS5.6
PFO Pinyon Flat Ob 66.75 65 ⇓P **P 09 16 52.2 -0.1**
baz=66
PFO ⇓S S 09 25 43.9 +0.7
baz=66
BELC Belle Mtn. 66.78 65 P **P 09 16 51.5 -0.9**
baz=67,SNR=14
BELC ⇑S S 09 25 42.7 -0.8
baz=67
VAN Vannovskaya 66.80 301 *e*P **P 09 16 53.8 +1.2**
ABKT Ailbek 66.80 301 P **P 09 16 53.3 +0.7**
comp=Z,1μm,1.1s,mb6.9,SNR=60
ABKT Ailbek 66.80 301 P **P 09 16 53.4 +0.8**
109C Camp Elliot, M 66.81 66 ⇓P **P 09 16 51.6 -1.0**
baz=67
109C ⇑S S 09 25 44.0 +0.1
baz=67
RWWY Rawlins 66.88 53 *e*P **P 09 16 53.0 0.0**
comp=Z,121nm,1.1s,mb5.8
RSSD Black Hills 66.96 50 *e*P **P 09 16 52.8 -0.8**
comp=Z,96nm,0.9s,mb5.8
RSSD LR LR
comp=Z,27μm,21.0s,MS6.4
HYB Hyderabad 67.07 271⇑*i* P **P 09 16 54.5 +0.2**
comp=Z,240nm,1.0s,mb6.2
HYB *e*pP pP 09 17 02.0 +1.0
HYB *e*S S 09 25 46.0 -1.0
HYB LR LR 09 47 44.0
comp=Z,17nm,16.0s
HYB Hyderabad 67.07 271⇑*e*P **P 09 16 54.5 +0.2**
HYB *e* pP 09 17 02.0 +1.0
HYB *e*S S 09 25 54.0 +7.0
HYB pmax pmax
comp=Z,240nm,1.0s,mb6.2
HYB Hyderabad 67.07 271⇑*e*P **P 09 16 54.5 +0.2**
comp=Z,240nm,1.0s,mb6.2
HYB *e* pP 09 17 02.0 +1.0
HYB *e*S S 09 25 54.0 +7.0
HYB *e*LR LR 09 47 44.0
IRM Iron Mountain 67.20 64 P **P 09 16 54.7 -0.4**
baz=67,SNR=54
IRM ⇑S S 09 25 50.0 +1.3
baz=67
BAR Barrett 67.23 66 *e*P **P 09 16 54.8 -0.4**
MONP Monument Peak 67.25 66 ⇓P **P 09 16 53.8 -1.6**
baz=67
MONP ⇑S S 09 25 49.6 +0.4
baz=67
BC3 Big Chuckw Mtn 67.35 65 P **P 09 16 55.3 -0.7**
baz=67,SNR=32
BC3 ⇓S S 09 25 51.3 +0.9
baz=67
W13A Hualapai Mount 67.36 63 P **P 09 16 55.9 -0.2**
baz=67,SNR=27
W13A ⇑S S 09 25 52.0 +1.4
baz=67
VRSR Storozhevoye 67.36 322*c i* P **P 09 16 55.1 -1.0**
VRSR *e*S S 09 25 47.3 -3.3
VRSR pmax pmax
comp=E,40nm,0.8s
VRSR pmax pmax
comp=Z,50nm,0.8s,mb5.6
VRSR pmax pmax
comp=N,70nm,0.7s
VRSR smax
comp=N,2μm,15.3s
VRSR smax
comp=Z,4μm,21.7s
VRSR smax
comp=E,5μm,19.6s
VRSR MLR MLR
comp=E,41μm,18.0s,MS6.8
VRSR MLR MLR
comp=Z,51μm,18.0s,MS6.8
VRSR MLR MLR
comp=N,32μm,19.0s,MS6.8
VORD Divnogorie 67.50 321 *e*P **P 09 16 55.4 -1.6**
VORD pmax pmax
comp=E,60nm,0.8s
VORD pmax pmax
comp=Z,200nm,0.8s,mb6.2
VORD pmax pmax
comp=N,50nm,0.6s
VORD MLR MLR
comp=Z,55μm,17.0s,MS6.8
VORD MLR MLR
comp=N,17μm,11.0s
VORD MLR MLR
comp=E,39μm,19.0s
DVTC Desert V Tower 67.60 66 ⇓P **P 09 16 56.4 -1.2**
baz=67
DVTC ⇓S S 09 25 54.7 +1.2
baz=67
SWSC Sam W. Stewart 67.61 65 ⇑P **P 09 16 55.9 -1.7**
baz=67
SWSC ⇑S S 09 25 55.0 +1.5
baz=67
X13A Yucca 67.73 63 P **P 09 16 58.1 -0.4**
baz=68,SNR=30
X13A ⇓S S 09 25 57.1 +2.1
baz=68
PDMCI Parker Dam,Lak 67.74 63 P **P 09 16 58.5 0.0**
baz=68,SNR=25
PDMCI ⇓S S 09 25 56.5 +1.4
baz=68
LATR Latur 67.76 274 *e x* x 09 16 23.7
W14A Seligman 67.78 62 ⇑P **P 09 16 59.0 +0.2**
baz=68,SNR=32
W14A ⇓S S 09 25 58.1 +2.6
baz=68
AFI Afiamalu 67.85 143 PFAKE 09 17 10.0 +11
AFI LR LR
comp=Z,26μm,19.0s,MS6.5
Y12C Blythe 67.86 64 ⇓P **P 09 16 58.7 -0.6**
baz=68,SNR=19

Y12C ⇑S S 09 25 59.1 +2.5
baz=68
PV10 Paradox Valley 68.07 57 *e*P **P 09 17 00.7 +0.1**
PHWY Pilot Hill 68.11 53 *e*P **P 09 17 00.8 -0.1**
GLA Glamis 68.14 65 *e*P **P 09 17 00.7 -0.3**
GLA Glamis 68.14 65 P **P 09 17 00.5 -0.5**
baz=68,SNR=31
GLA ⇓S S 09 26 01.2 +1.3
baz=68
Y13A Salome 68.25 64 ⇓P **P 09 17 01.7 -0.1**
baz=68,SNR=30
Y13A ⇑S S 09 26 04.0 +2.7
baz=68
WRAB Tennant Creek 68.25 199 P **P 09 17 00.0 -1.7**
comp=Z,528nm,1.0s,mb6.5,SNR=17
WRAB Tennant Creek 68.25 199⇓*e*P **P 09 17 00.4 -1.3**
WRAB Tennant Creek 68.25 199 P **P 09 17 00.7 -1.1**
WB2 Warramunga Arr 68.26 199 *e*P **P 09 17 00.2 -1.6**
WRA Warramunga Arr 68.27 199 P **P 09 17 00.2 -1.7**
comp=Z,25nm,1.1s,mb5.2,baz=18,slow=6.3,SNR=56
WRA S S 09 25 53.9 -7.5
comp=Z,1.3nm,1.1s,baz=318,slow=8.1,SNR=2.2
WRA PKP2bc 09 45 18.3
comp=Z,6.1nm,1.1s,baz=201,slow=2.5,SNR=11
WRA LR LR 09 46 35.8
comp=Z,12μm,20.1s,MS6.1,baz=30,slow=36
WRA Warramunga Arr 68.27 199 P **P 09 17 00.2 -1.6**
WRA S S 09 25 53.9 -7.5
WRA pmax pmax
comp=Z,250nm,1.1s
WRA smax
comp=N,1.0nm,1.1s
WRA MLR MLR
comp=Z,12μm,20.1s
WRA Warramunga Arr 68.27 199 P **P 09 17 00.2 -1.7**
WRA S S 09 25 53.9 -7.5
WRA ⇑*e* 09 45 18.3
WRA LR LR 09 46 35.8
W15A Williams 68.30 62 ⇓P **P 09 17 01.7 -0.3**
baz=68,SNR=21
W15A ⇓S S 09 26 04.5 +2.8
baz=68
X14A Yava 68.39 62 ⇓P **P 09 17 02.7 +0.1**
baz=68,SNR=29
X14A ⇓S S 09 26 05.1 +2.3
baz=68
PV01 Paradox Valley 68.50 57 *e*P **P 09 17 02.9 -0.5**
NB2 NORSAR Subarra 68.52 341 P **P 09 17 03.0 -0.4**
comp=Z,2μm,1.7s,mb6.8,baz=28,slow=6.5
NB2 NORSAR Subarra 68.52 341 P **P 09 17 03.0 -0.4**
NB2 pmax pmax
comp=Z,2μm,1.7s,mb6.8
NOA NORSAR Array B 68.52 341 P **P 09 17 02.1 -1.3**
comp=Z,84nm,0.7s,mb5.8,baz=27,slow=6.3,SNR=169
NOA S S 09 26 10.2 +5.8
comp=Z,3.1nm,1.2s,baz=17,slow=13,SNR=2.5
NOA LR LR 09 53 21.9
comp=Z,41μm,18.1s,MS6.7,baz=20,slow=41
NOA NORSAR Array B 68.52 341 P **P 09 17 02.1 -1.3**
NOA S S 09 26 10.2 +5.8
NOA pmax pmax
comp=Z,84nm,0.7s
NOA smax
comp=N,3.0nm,1.2s
NOA MLR MLR
comp=Z,41μm,18.1s
WUAZ Wupatki 68.61 61 *e*P **P 09 17 04.2 +0.2**
comp=Z,255nm,1.4s,mb6.0
WUAZ LR LR
comp=Z,18μm,20.0s,MS6.3
WUAZ Wupatki 68.61 61 ⇓P **P 09 17 03.7 -0.3**
baz=68,SNR=39
WUAZ ⇑S S 09 26 07.5 +2.0
baz=68
Y14A Wickenburg 68.68 63 P **P 09 17 04.2 -0.2**
baz=68,SNR=28
Y14A ⇑S S 09 26 08.4 +2.1
baz=68
SMCO Snowmass 68.71 55 *e*P **P 09 17 04.5 -0.1**
comp=Z,264nm,1.3s,mb6.0
HFA0 Hagfors New Ar 68.74 340 P **P 09 17 03.4 -1.4**
HFS Hagfors 68.75 340 LR LR 09 52 24.5
comp=Z,40μm,19.1s,MS6.7,baz=19,slow=40
NAO01 NORSAR Array S 68.77 341 *e*P **P 09 17 04.1 -0.8**
comp=Z,806nm,1.3s,mb6.5
NAO01 LR LR
comp=Z,47μm,19.0s,MS6.7
X15A Humboldt 68.78 62 P **P 09 17 05.4 +0.4**
baz=68,SNR=61
X15A ⇑S S 09 26 10.4 +2.9
baz=68
MDRS Chennai 68.92 267 *e*P **P 09 17 07.5 +1.6**
MDRS AMb AMB 09 17 17.0
comp=Z,618nm,1.4s,mb6.3
MDRS *e*x x 09 19 39.0
FITZ Fitzroy Crossi 68.92 208 *e*P **P 09 17 04.8 -1.1**
comp=Z,88nm,0.8s,mb5.7
FITZ *i* S S 09 26 09.5 +0.3
FITZ Fitzroy Crossi 68.92 208 P **P 09 17 05.2 -0.7**
comp=Z,50nm,1.1s,mb5.3,baz=14,slow=7.4,SNR=28
FITZ PcP PcP 09 17 27.9 -2.3
comp=Z,31nm,0.9s,baz=6.5,slow=4.2,SNR=5.7
FITZ S S 09 26 10.7 +1.5
comp=Z,2.6nm,1.2s,baz=233,slow=19,SNR=2.5
FITZ PKPPKP 09 45 19.9
comp=Z,7.8nm,1.2s,baz=180,slow=3.3,SNR=4.4
BORG Borgarnes 69.05 357 P **P 09 17 04.9 -1.8**
comp=Z,3μm,1.5s,mb7.0,SNR=14
BORG Borgarnes 69.05 357 *e*P **P 09 17 04.2 -2.5**
comp=Z,377nm,0.8s,mb6.4
BORG LR LR
comp=Z,4μm,20.0s,MS5.7
ISCO Idaho Springs 69.05 54 *e*P **P 09 17 06.9 +0.2**
comp=Z,193nm,1.3s,mb5.9
ISCO LR LR
comp=Z,30μm,19.0s,MS6.5
Z14A Wintersburg 69.10 63 ⇓P **P 09 17 06.8 -0.2**
baz=69
Z14A ⇑S S 09 26 13.5 +2.2
baz=69
MVCO Mesa Verde 69.17 58 *e*P **P 09 17 07.0 -0.4**
MVCO Mesa Verde 69.17 58 ⇑P **P 09 17 07.4 -0.1**
baz=69,SNR=36
MVCO ⇑S S 09 26 14.4 +2.3
baz=69
DZM Mont Dzumac 69.26 167 *e*P **P 09 17 06.2 -1.8**
DZM Mont Dzumac 69.26 167 P **P 09 17 08.4 +0.4**
comp=Z,29nm,0.9s,mb5.2,baz=38,slow=11,SNR=14
DZM S S 09 26 09.6 -3.6
comp=Z,4.5nm,0.8s,baz=26,slow=9.4,SNR=3.0
MNK Minsk 69.29 329⇑*e*P **P 09 17 05.0 -3.2**
MNK *e* 09 17 38.0
MNK *e*PPP 09 21 20.0
MNK *e*S S 09 26 12.0 -1.6
MNK *e*PS 09 26 50.0
MNK *e* 09 27 10.0
MNK MLR MLR
comp=E,93μm,18.0s
MAK Makhachkala 69.31 311*c i*P **P 09 17 06.1 -2.2**
MAK *e* 09 17 33.7
MAK *i* 09 19 40.3
MAK *i* PPP 09 21 24.3
MAK *i* S S 09 26 11.0 -2.7
MAK *i* 09 26 49.2
MAK *e*SS SS 09 30 44.3 +3.7
MAK pmax pmax
comp=Z,4μm,5.5s
MAK pmax pmax
comp=Z,421nm,1.2s,mb6.2
MAK pmax pmax
comp=N,291nm,0.9s
MAK pmax pmax
comp=E,242nm,1.4s
MAK smax
comp=E,6μm,10.1s
MAK smax
comp=N,9μm,14.2s
MAK MLR MLR
comp=E,167μm,17.0s,MS7.4
MAK MLR MLR
comp=Z,137μm,17.0s,MS7.3
MAK MLR MLR
comp=N,97μm,16.0s,MS7.4
POO Poona 69.55 276⇑*i*P **P 09 17 09.0 -0.8**
comp=N,300nm,1.0s,mb6.2
POO *i* x x 09 26 36.0

POO *e*x x 09 27 08.5
POO *e*SKS 09 27 10.5
POO *e*x x 09 27 14.5
POO *i* x x 09 31 27.0
OSL Oslo 69.61 341 *e*P **P 09 17 11.2 +1.0**
115A Sonoran Desert 69.99 63 P **P 09 17 12.6 +0.1**
baz=70,SNR=24
115A ⇓S S 09 26 25.0 +3.2
baz=70
GOF Gofitskoye 70.07 315 *e*P **P 09 17 06.1 -6.9**
GOF *i* S S 09 26 19.7 -3.0
GOF pmax pmax
comp=Z,1μm,1.5s,mb6.6
GOF smax
comp=N,130nm,1.6s
GOF smax
comp=E,120nm,1.6s
KONO Kongsberg 70.12 341 *e*P **P 09 17 14.5 +1.1**
KONO *e*SS SS 09 30 52.4 -0.8
KONO Kongsberg 70.12 341⇑*e*P **P 09 17 12.8 -0.5**
KONO Kongsberg 70.12 341 *e*P **P 09 17 13.1 -0.3**
comp=E,397nm,0.9s,mb6.3
KONO LR LR
comp=Z,47μm,19.0s,MS6.8
KAD Karad 70.16 274 *e*P **P 09 17 14.3 +0.8**
KAD AMb AMB 09 17 24.6
comp=Z,569nm,1.5s,mb6.3
ASK Askoy 70.28 344 *e*P **P 09 17 14.9 +0.6**
ASK AMb AMB 09 17 23.5
comp=Z,1μm,1.2s,mb6.7
RUND Rundenannen 70.31 344 *e*P **P 09 17 14.4 -0.1**
BER Bergen 70.34 344 *e*P **P 09 17 14.7 0.0**
BER ⇑*i*P 09 17 15.4
BER *e*pP pP 09 17 21.0 -0.4
BER AMb AMB 09 17 23.8
comp=Z,976nm,1.1s,mb6.6
BER AMS AMS 09 54 20.3
comp=Z,26μm,16.8s,MS6.5
EYMN Ely 70.34 40 *e*P **P 09 17 13.4 -1.3**
comp=Z,256nm,1.2s,mb6.0
EYMN LR LR
comp=Z,28μm,19.0s,MS6.5
116A Eloy 70.41 63 ⇑P **P 09 17 15.4 +0.3**
baz=70,SNR=14
116A ⇑S S 09 26 28.9 +2.3
baz=70
EGD Espegrend 70.47 344 *e*P **P 09 17 15.9 +0.5**
EGD *e*pP pP 09 17 21.8 -0.4
EGD AMb AMB 09 17 24.7
comp=Z,1μm,1.4s,mb6.6
SDCO Great Sand Dun 70.54 56 *e*P **P 09 17 15.7 -0.1**
comp=Z,249nm,1.5s,mb5.9
SDCO LR LR
comp=Z,18μm,20.0s,MS6.3
BLS5 Blasjo 71.00 343 *e*P **P 09 17 19.3 +0.6**
BLS5 AMb AMB 09 17 31.1
comp=Z,415nm,1.0s,mb6.3
BLS5 *i* 09 21 19.4
ECSD EROS,Sioux Fal 71.04 46 *e*P **P 09 17 17.4 -1.4**
KIV Kislovodsk 71.04 314 P **P 09 17 19.5 +0.6**
comp=Z,2μm,1.1s,mb7.0,SNR=60
KIV Kislovodsk 71.04 314 P **P 09 17 20.0 +1.1**
SNR=88
KIV Kislovodsk 71.04 314*c i*P **P 09 17 19.7 +0.8**
KIV *e* 09 17 38.9
KIV *e* 09 19 57.4
KIV *e*PPP 09 21 39.9
KIV *e*S S 09 26 33.3 -0.8
KIV pmax pmax
comp=Z,6μm,4.7s
KIV pmax pmax
comp=Z,722nm,1.2s,mb6.5
KIV MLR MLR
comp=Z,112μm,18.0s,MS7.2
KIV Kislovodsk 71.04 314 *e*P **P 09 17 19.7 +0.7**
comp=Z,900nm,1.3s,mb6.5
KIV LR LR
comp=Z,11μm,19.0s,MS6.2
TUC Tucson 71.15 63 *e*P **P 09 17 19.6 0.0**
comp=Z,65nm,1.2s,mb5.4
TUC LR LR
comp=Z,14μm,20.0s,MS6.2
SUW Suwalki 71.28 331 *e*P **P 09 17 19.1 -1.3**
SUW *e*pP pP 09 17 23.6 -3.5
SUW *e*PcP PcP 09 17 36.7 -3.4
SUW *e*S S 09 26 39.1 +2.3
SUW *e*SS SS 09 31 38.9 +28
SUW L 09 52 15.6
comp=Z,44nm,20.5s
SUW Suwalki 71.28 331 *e*P **P 09 17 19.1 -1.3**
SUW *e* 09 17 36.7
SUW *e*S S 09 26 39.1 +2.3
SUW MLR MLR
comp=Z,44μm,20.5s,MS6.7
SUW Suwalki 71.28 331 *e*P **P 09 17 19.1 -1.3**
SUW *e*pP pP 09 17 23.6 -3.5
SUW *e*PcP PcP 09 17 36.7 -3.4
SUW *e*S S 09 26 39.1 +2.3
SUW *e*SS SS 09 31 38.9 +28
ZEI Tsey 71.30 313 *e*P **P 09 17 20.7 +0.2**
ZEI *e*PP pP 09 17 25.8 -1.4
ZEI *e* 09 19 59.0
ZEI pmax pmax
comp=Z,360nm,1.0s,mb6.3
DGRG David-gareji 71.49 311 P **P 09 17 22.9 +1.2**
STAV Stavanger 71.61 343 *e*P **P 09 17 22.4 +0.1**
STAV AMb AMB 09 17 31.5
comp=Z,631nm,1.1s,mb6.4
MTA Mtatsminda 71.62 312 P **P 09 17 22.9 +0.5**
TBLG Delisi 71.62 312 P **P 09 17 24.2 +1.7**
GOA Goa 71.66 273 *e*P **P 09 17 25.0 +2.3**
ONI Oni 71.66 313 P **P 09 17 22.9 +0.2**
WAL1 Walls 71.67 347 *e*P **P 09 17 21.4 -1.3**
LRW Lerwick 71.72 347 P **P 09 17 22.5 -0.5**
LRW AMb AMB 09 17 30.3
comp=Z,139nm,1.1s,mb5.8
LRW S S 09 26 41.8 0.0
LRW Lerwick 71.72 347 *e*P **P 09 17 22.5 -0.5**
LRW AMb AMB 09 17 30.3
comp=Z,139nm,1.1s,mb5.8
LRW *e*S S 09 26 41.8 0.0
LRW AMS AMS 09 55 06.6
comp=Z,6μm,17.7s,MS5.9
AKASG Malin Array Be 71.82 326 P **P 09 17 22.6 -1.0**
comp=Z,112nm,0.6s,mb6.0,baz=33,slow=6.3,SNR=404
AKASG S S 09 26 42.7 -0.3
comp=Z,1.9nm,0.7s,baz=31,slow=11,SNR=3.8
AKASG LR LR 09 53 16.4
comp=Z,38μm,18.4s,MS6.7,baz=30,slow=39
AKBB Malin Array Si 71.82 326 *e*P **P 09 17 22.6 -1.0**
SNART Snartemo 71.84 342 *e*P **P 09 17 23.3 -0.5**
SNART AMb AMB 09 17 32.9
comp=Z,705nm,1.0s,mb6.5
SNART *i* 09 21 22.8
LAZ Ladron 71.91 59 *e*P **P 09 17 24.5 +0.4**
ANMO Albuquerque 71.92 58 *e*P **P 09 17 24.3 0.0**
comp=Z,62nm,1.0s,mb5.5
ANMO LR LR
comp=Z,16μm,19.0s,MS6.3
AS31 Alice Springs 71.96 199 *e*P **P 09 17 24.0 -0.5**
ASAR Alice Springs 71.96 199 P **P 09 17 23.9 -0.6**
comp=Z,35nm,1.0s,mb5.3,baz=12,slow=5.5,SNR=72
ASAR S S 09 26 42.2 -2.4
comp=Z,1.0nm,1.0s,baz=7.6,slow=6.4,SNR=2.6
ASAR PKPPKP 09 45 01.1
comp=Z,1.1nm,1.1s,baz=192,slow=3.8,SNR=4.2
ASAR LR LR 09 48 13.4
comp=Z,14μm,19.8s,MS6.2,baz=21,slow=35
ASAR Alice Springs 71.96 199 P **P 09 17 23.9 -0.6**
ASAR S S 09 26 42.2 -2.4
ASAR pmax pmax
comp=Z,350nm,1.0s
ASAR smax
comp=N,1.0nm,1.0s
ASAR MLR MLR
comp=Z,14μm,19.8s
ASAR Alice Springs 71.96 199 P **P 09 17 23.9 -0.6**
ASAR S S 09 26 42.2 -2.5
ASAR P'P' 09 45 01.1
ASAR LR LR 09 48 13.4
LENM Lemitar 72.17 59 *e*P **P 09 17 26.4 +0.7**
Y22C IRIS PASSCAL I 72.26 59 ⇓P **P 09 17 26.3 +0.1**
baz=72,SNR=8.3
Y22C ⇓S S 09 26 52.0 +3.8
baz=72

LPM Los Pinos Moun 72.27 59 *e*P **P 09 17 27.3 +1.0**
AKH Akhalkalaki 72.50 312 P **P 09 17 29.1 +1.4**
MNGI Mangalore 72.75 271 *i* P **P 09 17 30.2 +1.0**
MNGI AMb AMB 09 17 39.3
comp=Z,457nm,0.9s,mb6.4
MNGI *i* x x 09 26 59.5
GNI Garni 72.76 310 LR LR 09 55 19.5
comp=Z,64μm,18.6s,MS6.9,baz=17,slow=41
GNI Garni 72.76 310*c i*P **P 09 17 31.1 +1.8**
GNI pmax pmax
comp=Z,74nm,0.9s
GNI Garni 72.76 310 *e*P **P 09 17 31.0 +1.8**
comp=Z,1μm,1.4s,mb6.7
GNI LR LR
comp=Z,44μm,20.0s,MS6.7
COWI Conover 72.80 40 *e*P **P 09 17 27.8 -1.7**
KOD Kodaikanal 72.83 267 *e*x **P 09 17 27.0 -2.7**
BSD Bornholm Skovb 72.84 336 *i* P **P 09 17 28.9 -0.8**
comp=Z,466nm,1.1s,mb6.3
BSD *i* S S 09 26 56.1 +1.4
BSD *i* 09 27 07.0
BSD
comp=Z,41μm,18.0s
BSD Bornholm Skovb 72.84 336 *i* P **P 09 17 28.9 -0.8**
BSD *i* S S 09 26 56.1 +1.4
BSD pmax pmax
comp=Z,470nm,1.1s,mb6.3
BSD MLR MLR
comp=Z,41μm,18.0s,MS6.8
BSD Bornholm Skovb 72.84 336 *i* P **P 09 17 28.9 -0.8**
comp=Z,466nm,1.1s,mb6.3
BSD *i* S S 09 26 56.1 +1.4
BSD *i* 09 27 07.0
ANN Anapa 72.93 318*c i*P **P 09 17 29.9 -0.4**
ANN *e*PP pP 09 17 36.5 -0.5
ANN *e*PPP 09 21 58.0
ANN *e*S S 09 26 54.0 -1.8
ANN pmax pmax
comp=Z,3μm,6.2s
ANN MLR MLR
comp=N,33μm,16.0s,MS6.8
ANN MLR MLR
comp=E,20μm,16.0s,MS6.8
ANN MLR MLR
comp=Z,42μm,16.0s,MS6.8
ANN Anapa 72.93 318 *e*P **P 09 17 29.0 -1.3**
CBKS Cedar Bluff 72.98 51 *e*P **P 09 17 28.8 -1.8**
comp=Z,179nm,1.3s,mb5.8
CBKS LR LR
comp=Z,25μm,20.0s,MS6.5
COP Copenhagen 73.00 338 *i* P **P 09 17 30.3 -0.4**
comp=Z,271nm,0.9s,mb6.2
COP *i* S S 09 26 52.4 -4.1
COP *i* 09 27 39.2
COP
comp=Z,14μm,20.0s
COP Copenhagen 73.00 338 *i* P **P 09 17 30.3 -0.4**
COP *i* S S 09 26 52.4 -4.1
COP *i* 09 27 39.2
COP pmax pmax
comp=Z,270nm,0.9s,mb6.2
COP MLR MLR
comp=Z,14μm,20.0s,MS6.2
MUD Monsted U'grnd 73.11 340 *i* P **P 09 17 31.7 +0.4**
comp=Z,62nm,0.8s,mb5.6
MUD *i* pP 09 17 38.7 +0.6
MUD *i* S S 09 27 01.7 +3.9
MUD *i* 09 27 46.6
MUD
comp=Z,39μm,18.0s
MUD Monsted U'grnd 73.11 340 *e*P **P 09 17 31.7 +0.4**
MUD *i* pP 09 17 38.7 +0.6
MUD *i* S S 09 27 01.7 +3.9
MUD *i* 09 27 46.6
MUD pmax pmax
comp=Z,620nm,0.8s,mb6.6
MUD MLR MLR
comp=Z,39μm,18.0s,MS6.7
MUD Monsted U'grnd 73.11 340 *e*P **P 09 17 31.7 +0.4**
comp=Z,62nm,0.8s,mb5.6
MUD *i* pP 09 17 38.7 +0.6
MUD *i* S S 09 27 01.7 +3.9
MUD *i* 09 27 46.6
BCA Borcka 73.42 313 P **P 09 17 33.0 -0.1**
WAR Warsaw 73.47 332 *e*P **P 09 17 34.6 +1.1**
WAR *e*pP pP 09 17 40.4 +0.2
WAR *e*SS SS 09 32 13.6 +29
WAR L 09 53 41.4
comp=Z,53nm,21.1s
WAR Warsaw 73.47 332 *e*P **P 09 17 34.6 +1.1**
WAR *e*PP pP 09 17 40.4 +0.2
WAR MLR MLR
comp=Z,53μm,21.1s,MS6.8
OBR Brabster 73.48 347⇑*e*P **P 09 17 32.6 -0.9**
SCHQ Schefferville 73.55 23 P **P 09 17 33.2 -0.7**
comp=Z,17nm,0.9s,mb5.0,baz=323,slow=5.1,SNR=13
SCHQ LR LR 09 56 16.0
comp=Z,15μm,18.1s,MS6.3,baz=344,slow=41
SCHQ Schefferville 73.55 23 *e*P **P 09 17 34.4 +0.5**
comp=Z,148nm,1.3s,mb5.8
SCHQ LR LR
comp=Z,29μm,22.0s,MS6.5
ORE Reay 73.63 348⇑*e*P **P 09 17 33.6 -0.8**
GKP Gorka Klasztor 73.78 334 *e*P **P 09 17 34.8 -0.5**
GKP *e*pP pP 09 17 38.9 -3.1
GKP *e*S S 09 27 06.6 +1.2
GKP *e*SS SS 09 32 15.6 +26
GKP L 09 53 33.0
comp=Z,77nm,19.2s
GKP Gorka Klasztor 73.78 334 *e*P **P 09 17 34.8 -0.5**
GKP *e*S S 09 27 06.6 +1.2
GKP MLR MLR
comp=Z,77μm,19.2s,MS7.0
MBWA Marble Bar 73.81 212 *e*P **P 09 17 34.6 -0.8**
comp=Z,139nm,1.4s,mb5.7
MBWA LR LR
comp=Z,6μm,20.0s,MS5.9
CLDR Caldiran 73.93 310 P **P 09 17 38.3 +2.2**
SCIA State Center 74.07 45 *e*P **P 09 17 35.7 -1.3**
SIM Simferopol' 74.33 320*ce*P **P 09 17 39.7 +1.2**
SIM *e*S S 09 27 14.0 +2.5
SIM pmax pmax
comp=Z,471nm,1.0s,mb6.4
SIM MLR MLR
comp=Z,49μm,18.0s,MS6.8
TRD Trivandrum 74.41 266⇑*e*P **P 09 17 42.1 +3.1**
KSU1 Kansas State U 74.43 49 *e*P **P 09 17 36.6 -2.5**
LVV L'vov 74.47 329 *i* P **P 09 17 39.0 -0.3**
LVV *i* 09 17 51.7
LVV *i* 09 20 31.5
LVV *i* 09 22 19.7
LVV *i* S S 09 27 13.5 +0.4
LVV *i* 09 27 55.7
LVV MLR MLR
comp=E,14μm,17.0s,MS6.7
LVV MLR MLR
comp=Z,30μm,17.0s,MS6.7
LVV MLR MLR
comp=N,30μm,18.0s,MS6.7
VANB Van 74.61 310 P **P 09 17 40.8 +0.7**
KTUT Trabzon 74.69 314 P **P 09 17 40.3 -0.3**
EZM Erzurum 74.70 312 P **P 09 17 42.9 +2.3**
MACK Trabzon 74.72 314 *i* P **P 09 17 40.9 +0.1**
JFWS Jewell Farm 74.73 43 *e*P **P 09 17 39.2 -1.6**
comp=N,50nm,0.9s,mb5.4
JFWS LR LR
comp=Z,32μm,20.0s,MS6.6
MNTX Cornudas Mount 74.85 60 *e*P **P 09 17 41.1 -0.4**
comp=Z,222nm,1.4s,mb5.9
MNTX LR LR
comp=Z,13μm,19.0s,MS6.3
KAC Achnashellach 74.87 348⇑*e*P **P 09 17 40.9 -0.7**
SEMD Semdilli 74.93 309 P **P 09 17 43.2 +1.3**
KIS Kishinev 74.95 324 *i* P **P 09 17 40.0 -2.1**
KIS *i* S S 09 27 20.0 +1.5
KIS MLR MLR
comp=Z,47μm,17.0s,MS6.9
KIS Kishinev 74.95 324⇑*i*P **P 09 17 40.0 -2.1**
comp=Z,2μm,5.0s
KIS Kishinev 74.95 324 *i* PP PP 09 20 30.0 +0.2
comp=Z,3μm,14.0s
KPL Plockton 75.07 348 P **P 09 17 41.3 -1.4**
KPL AMb AMB 09 17 52.1
comp=Z,448nm,1.3s,mb6.2

KPL S S 09 27 19.0 -0.8
KPL Plockton 75.07 348⇑ eP P 09 17 41.3 -1.4
KPL AMb AMB 09 17 52.1
comp=Z,448nm,1.3s,mb6.2
KPL eS S 09 27 19.0 -0.8
KPL AMS AMS 09 58 00.6
comp=Z,11µm,18.3s,MS6.2
KWP Kalwaria 75.10 329 eP P 09 17 43.1 +0.2
KWP eP cP P 09 17 50.0 -6.5
KWP eS S 09 27 23.1 +3.0
KWP eSS SS 09 32 33.9 +25
KWP L 09 55 10.9
comp=Z,72nm,19.8s
KWP Kalwaria 75.10 329 eP P 09 17 43.1 +0.2
KWP e pP 09 17 50.0 +0.3
KWP eS S 09 27 23.1 +3.0
KWP MLR MLR
comp=Z,72µm,19.8s,MS7.0
KWP Kalwaria 75.10 329 eP P 09 17 43.1 +0.2
KWP eP cP P 09 17 50.0 -6.5
KWP eS S 09 27 23.1 +3.0
KWP eSS SS 09 32 33.9 +25
GDL2 Guadalupe Moun 75.10 59 eP P 09 17 43.0 +0.1
BSEG Bad Segeberg 75.12 338 eP P 09 17 42.8 -0.2
comp=Z,1µm,2.1s,mb6.5
BSEG Bad Segeberg 75.12 338 eP P 09 17 42.8 -0.2
BSEG pmax pmax
comp=Z,1µm,2.1s,mb6.5
KSB Sheil Bridge 75.17 348⇑ eP P 09 17 42.6 -0.7
HKR Hakkari 75.18 309 P P 09 17 45.0 +1.6
IAS Iasi 75.30 325 P P 09 17 44.5 +0.4
RUE Ruedersdorf 75.49 336 eP P 09 17 44.7 -0.5
comp=Z,2µm,1.9s,mb6.6
CUKT Cukurca 75.49 309 P P 09 17 46.6 +1.4
KAR1 Arisaig 75.50 348⇑ eP P 09 17 44.3 -1.0
BNGL BINGOL 75.52 312 i P P 09 17 47.3 +1.9
KELT Kelkit 75.58 314 i P P 09 17 47.2 +1.5
OJC Ojcow 75.60 331 eP P 09 17 45.8 0.0
OJC esP sP 09 17 52.2 -2.9
OJC eS S 09 27 27.0 +1.3
OJC L 10 00 08.8
comp=Z,140nm,16.8s
EZC Erzincan 75.60 313 eP P 09 17 48.8 +3.0
STHS Stebnicka Huta 75.79 330 eP P 09 17 47.4 +0.5
STHS e pP 09 17 54.4 +0.7
STHS pmax pmax
comp=Z,221nm,0.8s,mb6.1
STHS Stebnicka Huta 75.79 330 eP P 09 17 47.4 +0.5
comp=Z,221nm,0.8s,mb6.1
STHS e pP 09 17 54.4 +0.7
KOLS Kolonicke sedl 75.84 329 eP P 09 17 47.0 -0.2
KOLS epP pP 09 17 53.9 -0.1
KOLS ePP PP 09 20 35.5 -1.8
KOLS eS S 09 27 24.4 -3.9
KOLS e 09 32 38.5
KOLS Kolonicke sedl 75.84 329 eP P 09 17 47.0 -0.2
KOLS e pP 09 17 53.9 -0.1
KOLS e 09 20 35.5
KOLS eS S 09 27 24.5 -3.8
KOLS Kolonicke sedl 75.84 329 eP P 09 17 47.0 -0.2
KOLS e pP 09 17 53.9 -0.1
KOLS ePP PP 09 20 35.5 -1.8
KOLS eS S 09 27 24.5 -3.8
KOLS eSS SS 09 32 38.5 +18
BURAR Bucovina Array 75.86 327⇑ i P P 09 17 47.6 +0.3
BURAR Bucovina Array 75.86 327 P P 09 17 47.5 +0.2
BURAR Bucovina Array 75.86 327 ⇑P P 09 17 47.6 +0.3
BTMT Batman 75.91 311 eP P 09 17 49.5 +1.9
BINT Bingol 75.92 312 eP P 09 17 49.6 +1.9
SIRT Sirnak 75.93 310 P P 09 17 48.2 +0.6
ESY Stoneypath 75.98 346 eP P 09 17 46.9 -1.1
EAB Aberfoyle 75.99 347⇑ eP P 09 17 47.3 -0.7
EDI Edinburgh 76.07 347 P P 09 17 48.4 -0.1
EDI AMb AMB 09 17 59.7
comp=Z,242nm,1.6s,mb5.9
EDI Edinburgh 76.07 347 eP P 09 17 48.4 -0.1
EDI AMb AMB 09 17 59.7
comp=Z,242nm,1.6s,mb5.9
EDI AMS AMS 09 58 26.9
comp=Z,15µm,18.1s,MS6.3
UZH Uzhgorod 76.09 329⇑ i P P 09 17 48.8 +0.2
UZH i pP 09 17 54.8 -0.6
UZH i 09 20 36.0
UZH i S S 09 27 32.0 +0.9
UZH MLR MLR
comp=Z,41µm,17.0s,MS6.8
NIE Niedzica 76.11 330 i P P 09 17 49.1 +0.4
NIE eSP 09 17 56.2
CRVS Cervenica-Dubn 76.15 330 eP P 09 17 48.8 -0.2
CRVS eS S 09 27 31.0 -0.8
CRVS e 09 32 40.8
CRVS Cervenica-Dubn 76.15 330 eP P 09 17 48.8 -0.2
CRVS eS S 09 27 31.0 -0.8
EAU Auchinoon 76.18 347⇑ eP P 09 17 48.2 -1.0
KSP Ksiaz 76.19 334 eP P 09 17 49.1 -0.1
KSP ePcP PcP 09 17 55.8 -5.4
KSP eS S 09 27 31.3 -0.8
KSP eSS SS 09 33 07.8 +42
KSP L 09 54 58.4
comp=Z,117nm,18.5s
KSP Ksiaz 76.19 334⇑ eP P 09 17 48.9 -0.3
KSP epP pP 09 17 55.6 -0.3
KSP eS S 09 27 30.8 -1.3
KSP eSS SS 09 32 26.0 +0.3
KSP LR LR
comp=Z,135µm,18.5s,MS7.3
EBL Broad Law 76.19 346⇑ eP P 09 17 49.2 0.0
RAC Raciborz 76.25 332 eP P 09 17 49.9 +0.4
RAC eS S 09 27 33.2 +0.4
RAC MLR MLR
comp=E,80µm,22.2s,MS7.1
RAC MLR MLR
comp=N,65µm,19.6s,MS7.1
RAC MLR MLR
comp=Z,64µm,19.8s,MS6.9
RAC Raciborz 76.25 332 eP P 09 17 49.9 +0.4
RAC eS S 09 27 33.2 +0.4
RAC LR LR
comp=Z,64µm,19.8s,MS6.9
DIKM Dikmen 76.37 317 P P 09 17 50.6 +0.4
PGBU Glenifferbraes 76.38 347 eP P 09 17 49.6 -0.7
PGBU AMb AMB 09 18 00.1
comp=Z,388nm,1.3s,mb6.2
KVT Kavak 76.44 316 P P 09 17 52.2 +1.6
PTK Pertek 76.46 313 P P 09 17 52.6 +1.9
OKC Ostrava-Krasne 76.47 332⇑ eP P 09 17 50.3 -0.5
OKC eS S 09 27 40.3 +5.0
OKC AMS AMS 09 57 10.0
comp=Z,49µm,16.8s
OKC Ostrava-Krasne 76.47 332 eP P 09 17 50.3 -0.5
OKC eS S 09 27 40.3 +5.0
WMOK Wichita Mounta 76.47 54 eP P 09 17 49.8 -1.0
comp=Z,54nm,1.1s,mb5.4
WMOK LR LR
comp=Z,17µm,19.0s,MS6.4
NRDL Niedersach Rie 76.47 338 eP P 09 17 50.5 -0.3
comp=Z,247nm,1.0s,mb6.1
ARMA Armidale 76.54 181 eP P 09 17 51.4 +0.2
ARMA i S S 09 27 36.4 +0.4
ARMA eSS SS 09 32 23.5 -7.5
UPC Upice 76.56 334⇑ eP P 09 17 51.0 -0.3
DPC Dobruska-Polom 76.61 333 eP P 09 17 51.6 +0.1
DPC eS S 09 27 37.6 +0.8
DPC AMS AMS 09 58 10.0
comp=Z,68µm,17.8s
ESK Eskdalemuir 76.65 346 P P 09 17 52.1 +0.3
comp=Z,874nm,1.0s,mb6.6,SNR=7.2
ESK Eskdalemuir 76.65 346 P P 09 17 50.8 -1.0
ESK AMb AMB 09 18 00.0
comp=Z,311nm,1.6s,mb6.0
ESK Eskdalemuir 76.65 346⇑ eP P 09 17 50.8 -1.0
ESK AMb AMB 09 18 00.0
comp=Z,311nm,1.6s,mb6.0
ESK AMS AMS 09 58 15.0
comp=Z,21µm,18.5s,MS6.5
ESK Eskdalemuir 76.65 346 eP P 09 17 51.1 -0.7
comp=Z,155nm,1.0s,mb5.9
ESK LR LR
comp=Z,6µm,19.0s,MS5.9
BZK Bozkurt 76.71 318 P P 09 17 53.1 +1.0
VRI Vrincioaia 76.71 325⇓ i P P 09 17 51.8 -0.3
VRI Vrincioaia 76.71 325 ⇓P P 09 17 51.8 -0.4
BOYT Boyabat 76.72 317 i P P 09 17 53.6 +1.5
MORC Moravsky Berou 76.72 332⇑ i P P 09 17 52.6 +0.4
MORC Moravsky Berou 76.72 332 P P 09 17 52.3 +0.1
MORC Moravsky Berou 76.72 332 ⇑P P 09 17 52.6 +0.4
BYBT Boyabat 76.74 317 eP P 09 17 53.8 +1.5
CLL Collm 76.75 336 eP P 09 17 51.7 -0.7
comp=Z,582nm,0.9s,mb6.5
CLL ePP PP 09 20 43.0 -2.0
CLL ePPP 09 22 34.9
CLL eS S 09 27 37.7 -0.6
CLL eSS SS 09 32 46.4 +12
CLL eSSS 09 36 09.2
CLL eLR LR 09 42 47.6
CLL eL 09 54 06.7
comp=Z,28µm,20.0s
CLL Collm 76.75 336⇑ i P P 09 17 51.4 -1.0
comp=Z,115nm,0.8s,mb5.9
CLL i 09 18 00.4
CLL eS S 09 27 37.0 -1.3
CLL LR LR
comp=Z,28µm,19.8s,MS6.6
CLL Collm 76.75 336⇑ i P P 09 17 51.4 -1.0
comp=Z,115nm,0.8s,mb5.9
CLL ePlp 09 17 54.0
comp=N,2µm,15.8s
CLL ePlp 09 17 54.0
comp=E,1µm,17.1s
CLL ePlp 09 17 54.0
comp=Z,6µm,16.3s
CLL i P(2) 09 18 00.4
comp=Z,573nm,0.9s
CLL ePmax 09 18 04.0
CLL ePP PP 09 20 42.0 -3.0
CLL eS S 09 27 37.0 -1.3
comp=N,2µm,10.1s
CLL eS S 09 27 37.0 -1.3
comp=E,5µm,19.0s
CLL e(SS) 09 33 12.0
CLL e(SSS) 09 36 18.0
CLL LmV 09 54 00.0
comp=Z,28µm,19.8s
PLOR Plostina 76.76 325⇓ i P P 09 17 53.4 +1.0
TOKT Tokat 76.78 315 eP P 09 17 54.1 +1.6
KECS Kecovo 76.85 330 eP P 09 17 52.9 0.0
KECS e 09 18 01.6
KECS pmax pmax
comp=Z,101nm,1.0s,mb5.7
KECS Kecovo 76.85 330 eP P 09 17 52.9 0.0
comp=Z,101nm,1.0s,mb5.7
KECS e 09 18 01.6
BWH Wardlaw 76.86 347⇑ eP P 09 17 52.9 -0.1
BRG Berggiesshubel 76.86 335 eP P 09 17 52.5 -0.5
BRG Berggiesshubel 76.86 335 i P P 09 17 52.6 -0.4
comp=Z,4.5nm,1.0s
BRG i pP 09 18 00.4 +0.7
comp=Z,131nm,1.1s
BRG Berggiesshubel 76.86 335 i P P 09 17 52.6 -0.4
BRG i pP 09 18 00.4 +0.6
BRG pmax pmax
comp=Z,300nm,1.0s,mb6.2
BHH Howats Hill 76.87 346⇑ eP P 09 17 53.1 0.0
SVSK Karacayir 76.88 315 P P 09 17 54.7 +1.6
MARD Mardin 76.94 311 i P P 09 17 54.8 +1.4
ELZG Elazig 76.97 313 i P P 09 17 55.4 +1.8
PVCC Panska Ves 76.98 334⇑ i P P 09 17 53.5 -0.2
PVCC eS S 09 27 39.6 -1.3
PVCC AMS AMS 09 55 30.0
comp=Z,46µm,18.3s
FBE Freiberg 76.99 335 eP P 09 17 52.9 -0.8
comp=Z,379nm,1.0s,mb6.3
CLZ Clausthal 77.00 337 eP P 09 17 53.7 0.0
comp=Z,443nm,1.0s,mb6.3
CLZ Clausthal 77.00 337 eP P 09 17 53.7 0.0
CLZ pmax pmax
comp=Z,443nm,1.0s,mb6.3
HATD Hatta, Dubai 77.03 292 P P 09 17 55.0 +1.0
SNR=146
WIT Witteveen 77.04 340 eP P 09 17 55.4 +1.4
WIT ex sP 09 18 02.7 -0.5
SMDO Samad 77.04 290 P P 09 17 55.8 +1.8
SNR=70
COCO West Island 77.14 237 PFAKE
COCO LR LR 09 18 10.0 +15
comp=Z,2µm,20.0s,MS5.4
HOQ Hoqain 77.15 291 P P 09 17 56.0 +1.4
SNR=173
TIRR Tirgusor 77.18 323⇓ i P P 09 17 54.4 -0.4
TIRR Tirgusor 77.18 323 ⇓P P 09 17 54.4 -0.3
ASHO Ashiyiah 77.18 292 P P 09 17 56.3 +1.5
SNR=151
GCD Castle Douglas 77.21 347⇑ eP P 09 17 54.6 -0.3
BBO1 Bothel 77.22 346⇑ eP P 09 17 55.3 +0.3
IBBN Ibbenburen 77.24 339 eP P 09 17 54.8 -0.3
comp=Z,421nm,1.0s,mb6.3
IBBN Ibbenburen 77.24 339 P P 09 17 54.4 -0.7
MNCY Minicoy 77.29 269 ex P 09 17 49.0 -6.4
KBSD Kabsdagh 77.30 311 ⇑P P 09 17 57.5 +2.0
GAL1 Galloway 77.33 347 P P 09 17 54.7 -0.9
GAL1 AMb AMB 09 18 05.1
comp=Z,405nm,1.3s,mb6.2
GAL1 Galloway 77.33 347⇑ eP P 09 17 54.7 -0.9
GAL1 eP 09 17 54.7
GAL1 AMb AMB 09 18 05.1
comp=Z,405nm,1.3s,mb6.2
GAL1 AMS AMS 09 56 48.8
comp=Z,14µm,19.0s,MS6.3
BALT Daday 77.33 318 i P P 09 17 57.0 +1.4
GCL Cushendall 77.33 348 eP P 09 17 54.9 -0.7
MLR Muntele Rosu 77.33 325 LR LR 09 55 12.7
comp=Z,26µm,18.4s,MS6.6,baz=38,slow=38
MLR Muntele Rosu 77.33 325⇓ i P P 09 17 56.4 +0.8
MLR Muntele Rosu 77.33 325 P P 09 17 55.9 +0.3
MLR Muntele Rosu 77.33 325 ⇓P P 09 17 56.4 +0.8
CKE Keswick 77.34 346 eP P 09 17 55.6 -0.1
GTTG Gvttingen 77.37 337 eP P 09 17 56.6 +0.7
comp=Z,269nm,1.0s,mb6.1
MYA Malataya 77.39 313 P P 09 17 58.2 +2.2
CTKT Corum 77.39 317 i P P 09 17 57.4 +1.5
MALT Malatya 77.39 313 P P 09 17 57.1 +1.1
ISR Istrita 77.40 324⇑ i P P 09 17 57.6 +1.6
ISR Istrita 77.40 324 ⇑P P 09 17 57.6 +1.6
VYHS Vyhne 77.41 331 eP P 09 17 56.2 +0.2
VYHS epP pP 09 18 03.8 +1.0
VYHS ePP PP 09 20 40.2 -10
VYHS eS S 09 27 46.0 +0.5
VYHS eSS SS 09 32 56.2 +12
VYHS Vyhne 77.41 331 eP P 09 17 56.2 +0.2
VYHS e pP 09 18 03.8 +1.0
VYHS eS S 09 27 46.0 +0.5
VYHS pmax pmax
comp=Z,694nm,2.0s,mb6.2
VYHS MLR MLR
comp=Z,26µm,19.6s,MS6.6
VYHS Vyhne 77.41 331 eP P 09 17 56.2 +0.2
comp=Z,694nm,2.0s,mb6.2
VYHS e pP 09 18 03.8 +1.0
VYHS ePP PP 09 20 40.2 -10
VYHS eS S 09 27 46.0 +0.5
VYHS eSS SS 09 32 56.3 +12
VYHS LR LR
comp=Z,26µm,19.6s,MS6.6
TOS Tosya 77.43 317 P P 09 17 58.0 +1.8
PRA Prague 77.43 334 ⇑P P 09 17 57.0 +0.8
PRA ex x 09 18 13.0
PRA AMS AMS 09 56 00.0
VRAC Vranov 77.43 333 LR LR 09 57 27.3
comp=Z,55µm,18.9s,MS6.9,baz=25,slow=40
VRAC Vranov 77.43 333⇓ i P P 09 17 56.3 +0.1
VRAC Vranov 77.43 333 ⇓P P 09 17 56.2 +0.1
PRU Pruhonice 77.47 334⇑ i P P 09 17 56.3 -0.1
PRU eS S 09 27 48.9 +2.7
PRU AMS AMS 09 55 50.0
comp=Z,64µm,17.6s
JAVC Velka Javorina 77.48 332 P P 09 17 56.7 +0.3
XDE Dent Fell 77.48 346 eP P 09 17 56.3 -0.2
DRGR 77.49 328⇓ i P P 09 17 56.7 +0.2
DRGR 77.49 328 P P 09 17 56.6 +0.1
DRGR 77.49 328 ⇓P P 09 17 56.7 +0.2
JMDO Jabal Madar 77.49 289 P P 09 17 58.2 +1.6
SNR=194
PSZ Piszkesteto 77.54 330⇑ eP P 09 17 57.1 +0.3
PSZ Piszkesteto 77.54 330 P P 09 17 56.1 -0.7
SNX Sinaia 77.62 325⇑ i P P 09 17 58.1 +0.9
SNX Sinaia 77.62 325 ⇑P P 09 17 58.1 +0.9
TANN Tannenbergstha 77.70 336 eP P 09 17 57.6 -0.1
comp=Z,304nm,1.5s,mb6.0
KRUC Moravsky 77.71 333 P P 09 17 57.8 +0.1
WERD Werda 77.72 336 eP P 09 17 57.2 -0.6
comp=Z,246nm,1.1s,mb6.0
VOIR 77.73 325⇑ i P P 09 17 58.5 +0.6
VOIR 77.73 325 ⇑P P 09 17 58.5 +0.6
MOX Moxa 77.74 336 eP P 09 17 57.6 -0.3
comp=Z,334nm,1.1s,mb6.2
MOX Moxa 77.74 336 eP P 09 17 57.5 -0.4
MOX e 09 18 06.1
comp=Z,1µm,2.0s
MOX
comp=Z,20µm,19.0s
MOX Moxa 77.74 336 eP P 09 17 57.5 -0.4
MOX e 09 18 06.1
GUNZ Gunzen 77.79 336 eP P 09 17 57.7 -0.5
comp=Z,604nm,1.7s,mb6.2
WTSB Winterswijk 77.79 339 eP P 09 17 57.8 -0.4
comp=Z,140nm,0.5s,mb6.2
WTSB ex x 09 18 04.5
comp=Z,381nm,0.8s
WTSB eP 09 21 56.9
comp=Z,74nm,1.0s
TREC Trest 77.79 333⇑ i P P 09 17 58.0 -0.2
TREC eS S 09 27 53.6 +3.9
TREC AMS AMS 09 58 50.0
comp=Z,62µm,17.6s
CORM Corum 77.81 317 P P 09 18 00.0 +1.7
ARQ Araqi 77.84 291 P P 09 17 59.7 +1.2
SNR=130
GIM North Isle of 77.84 347 eP P 09 17 58.5 0.0
WERN Wernitzgruen 77.84 336 eP P 09 17 58.1 -0.4
comp=Z,267nm,1.0s,mb6.1
SMOL Smolenice 77.86 332 eP P 09 17 59.3 +0.7
SMOL esP sP 09 18 07.7 -0.1
URFA Urfa 77.86 312 P P 09 18 00.6 +2.0
SAFT Safranbolu 77.89 318 P P 09 17 59.7 +1.0
MTUR Matau 77.90 325⇓ i P P 09 18 00.2 +1.4
MTUR Matau 77.90 325 ⇓P P 09 18 00.1 +1.3
YOZ Yozgat 77.91 316 eP P 09 18 01.8 +3.0
CANT Cankiri 77.96 317 eP P 09 18 01.2 +2.1
SFNV Sufian 77.97 311 ⇑P P 09 18 02.2 +3.0
CCM Cathedral Cave 77.98 47 eP P 09 17 56.3 -2.9
CCM pmax pmax
comp=Z,144nm,1.3s,mb5.7
CCM MLR MLR
comp=Z,24µm,21.0s,MS6.5
CCM Cathedral Cave 77.98 47 eP P 09 17 56.3 -2.9
comp=Z,144nm,1.3s,mb5.7
CCM LR LR
comp=Z,24µm,21.0s,MS6.5
WIM Isle of Man 78.02 347⇑ eP P 09 17 59.2 -0.2
UBBA Unterbreizbach 78.02 337 eP P 09 17 59.1 -0.4
comp=Z,447nm,1.6s,mb6.2
SLM Saint Louis 78.03 46 eP P 09 17 58.6 -0.9
SLM pmax pmax
comp=Z,320nm,1.4s,mb6.1
SLM Saint Louis 78.03 46 eP P 09 17 58.6 -0.9
comp=Z,316nm,1.4s,mb6.0
ATAB Bozova 78.11 312 i P P 09 18 01.7 +1.8
GMM Mts of Mourne 78.12 348 eP P 09 17 59.0 -1.1
LHO Holmfirth 78.12 345⇑ eP P 09 18 00.2 +0.1
MZRK Al-Mazaregh 78.13 310 ⇑P P 09 18 01.9 +1.8
ELDT Eldivan 78.14 317 i P P 09 18 01.1 +1.0
BUG Bochum-Univer 78.16 339 eP P 09 17 59.8 -0.4
comp=Z,395nm,1.0s,mb6.3
BUG Bochum-Univer 78.16 339 P P 09 17 59.2 -1.0
MANZ Manzenberg 78.19 336 eP P 09 18 00.4 0.0
comp=Z,214nm,1.0s,mb6.0
AAM Ann Arbor 78.21 39 eP P 09 18 00.3 -0.2
comp=Z,342nm,1.6s,mb6.0
AAM LR LR
comp=Z,22µm,20.0s,MS6.5
BUD Budapest 78.21 330⇑ eP P 09 18 01.1 +0.6
BUD Budapest 78.21 330 P P 09 18 00.5 0.0
ZST Bratislava 78.24 332 eP P 09 18 01.5 +0.8
ZST esP sP 09 18 10.0 +0.1
ZST Bratislava 78.24 332 eP P 09 18 01.5 +0.8
ZST e 09 18 10.0
ZST pmax pmax
comp=Z,266nm,1.0s,mb6.1
ZST MLR MLR
comp=Z,47µm,19.6s,MS6.8
ZST Bratislava 78.24 332 eP P 09 18 01.5 +0.8
comp=Z,266nm,1.0s,mb6.1
ZST e 09 18 10.0
ZST LR LR
comp=Z,47µm,19.6s,MS6.8
BUC1 Bucharest 78.25 324 P P 09 18 03.5 +2.8
BNN Bunyan 78.26 315 P P 09 18 02.0 +1.2
ROTZ Rotzenmuhle 78.36 335 eP P 09 18 01.5 +0.2
comp=Z,354nm,1.1s,mb6.2
KDZE Karadeniz Ereo 78.40 319 P P 09 18 00.7 -0.8
AEU East Anglia Un 78.42 343 eP P 09 18 01.0 -0.7
KHC Kasperske Hory 78.52 334⇑ i P P 09 18 02.2 0.0
KHC eS S 09 28 00.7 +3.2
KHC AMS AMS 09 56 20.0
comp=Z,67µm,17.8s
GZT Gaziantep 78.57 313 i P P 09 18 03.9 +1.4
PRD Provadia 78.63 323 i P P 09 18 03.6 +0.8
BR131 Keskin Array S 78.64 317 eP P 09 18 03.9 +1.0
comp=Z,152nm,0.9s,mb5.9
BR131 LR LR
comp=Z,15µm,21.0s,MS6.3
BRTR Keskin Array B 78.64 317 P P 09 18 03.4 +0.5
comp=Z,38nm,1.0s,mb5.3,baz=64,slow=2.9,SNR=92
BRTR PP PP 09 21 01.1 +0.2
comp=Z,15nm,0.9s,baz=40,slow=7.3,SNR=4.9
BRTR LR LR 09 53 42.9
comp=Z,18µm,21.2s,MS6.4,baz=242,slow=36
BRTR Keskin Array B 78.64 317 P P 09 18 03.4 +0.5
BRTR 09 21 01.1
BRTR pmax pmax
comp=Z,380nm,1.0s
BRTR MLR MLR
comp=Z,18µm,21.2s
GZR Gura Zlata 78.64 327⇑ i P P 09 18 02.8 -0.1
GZR Gura Zlata 78.64 327 P P 09 18 02.9 -0.1
STKA Stephens Creek 78.68 190 eP P 09 18 02.0 -1.1
comp=Z,44nm,1.7s,mb5.1
STKA i S S 09 27 59.7 +0.5
STKA eSS SS 09 32 36.5 -27
STKA Stephens Creek 78.68 190 P P 09 18 02.9 -0.2
comp=Z,13nm,1.1s,baz=358,slow=5.7,SNR=12
STKA S S 09 27 58.3 -0.9
comp=Z,2.1nm,0.9s,baz=241,slow=19,SNR=1.7
STKA LR LR 09 53 28.0
comp=Z,15µm,19.2s,MS6.3,baz=6.6,slow=36
GRA1 Grafenberg Arr 78.70 336 eP P 09 18 03.5 +0.2
comp=Z,632nm,1.0s,mb6.5
GRA1 LR LR
comp=Z,28µm,18.7s,MS6.6
GRF Grafenberg Arr 78.70 336 eP P 09 18 03.5 +0.2
comp=Z,632nm,1.0s,mb6.5
GRF eL 09 56 22.2
comp=Z,28µm,18.7s
GRF Grafenberg Arr 78.70 336 eP P 09 18 03.5 +0.2
GRF pmax pmax
comp=Z,632nm,1.0s,mb6.5
GRF MLR MLR
comp=Z,28µm,18.7s,MS6.6
GRF Grafenberg Arr 78.70 336 eP P 09 18 03.5 +0.2
GRF pmax pmax
comp=Z,632nm,1.0s,mb6.5
GRF MLR MLR
comp=Z,28µm,18.7s,MS6.6
WET Wettzell 78.72 335 eP P 09 18 03.5 +0.2
comp=Z,386nm,1.0s,mb6.3
WET Wettzell 78.72 335 eP P 09 18 03.5 +0.2
WET pmax pmax
comp=Z,386nm,1.0s,mb6.3
WCB1 Church Bay 78.74 347 eP P 09 18 02.9 -0.6
GEC2 GERESS Array S 78.74 334 eP P 09 18 03.3 -0.1
comp=Z,168nm,0.9s,mb6.0
GEC2 GERESS Array S 78.74 334 P P 09 18 02.9 -0.5
GERES GERESS Array B 78.74 334 P P 09 18 03.2 -0.3
comp=Z,21nm,0.6s,mb5.2,baz=35,slow=4.9,SNR=126
GERES PP PP 09 20 53.6 -8.1
comp=Z,6.9nm,0.9s,baz=38,slow=11,SNR=3.4
GERES S S 09 28 03.6 +3.8
comp=Z,0.3nm,0.7s,baz=282,slow=4.9,SNR=2.9
GERES PKPPKP 09 45 02.0
comp=Z,0.2nm,0.4s,baz=114,slow=1.6,SNR=3.8
GERES LR LR 09 57 20.4

comp=Z,69µm,18.2s,MS7.0,baz=269,slow=39
WPM1 Penmaenmawr 78.75 346 *eP* **P 09 18 02.6 -0.9**
KMRS Kahramanmaras 78.78 313 P **P 09 18 05.1 +1.4**
UMR Umm Al-Rimmam 78.83 301 *eP* **P 09 18 04.0 +0.1**
UMR AMb AMB 09 18 13.9
comp=Z,2µm,1.1s,mb7.0
MIB Mutribah 78.87 302 *eP* **P 09 18 04.7 +0.5**
MIB AMb AMB 09 18 14.1
comp=Z,2µm,1.0s,mb7.0
SOP Sopron 78.87 332⇑*eP* **P 09 18 05.7 +1.6**
SOP Sopron 78.87 332 P **P 09 18 04.0 -0.1**
CONA Conrad Observa 78.88 332 *iP* **P 09 18 04.7 +0.5**
comp=Z,272nm,1.1s,mb6.1,SNR=98
GAZ Gaziantep 78.89 313 P **P 09 18 06.2 +2.0**
KAMT Kaman 78.89 317 P **P 09 18 05.0 +0.7**
BZS Buzias 78.89 328⇓*iP* **P 09 18 04.1 -0.2**
BZS Buzias 78.89 328 P **P 09 18 04.0 -0.3**
BZS Buzias 78.89 328⇓P **P 09 18 04.1 -0.2**
ANTO Ankara 78.92 317 P **P 09 18 05.9 +1.4**
SNR=102
ANTO Ankara 78.92 317⇓*iP* **P 09 18 05.9 +1.4**
ANTO Ankara 78.92 317 *eP* **P 09 18 05.4 +0.9**
ANTO pmax pmax
comp=Z,216nm,0.8s,mb6.1
ANTO MLR MLR
comp=Z,20µm,19.0s,MS6.5
ANTO Ankara 78.92 317 *eP* **P 09 18 05.4 +1.0**
comp=Z,216nm,0.8s,mb6.1
ANTO LR LR
comp=Z,20µm,19.0s,MS6.5
TNS Taunus Mts 78.98 338 *eP* **P 09 18 04.7 0.0**
comp=Z,544nm,1.4s,mb6.3
TNS Taunus Mts 78.98 338 *eP* **P 09 18 04.7 0.0**
TNS pmax pmax
comp=Z,544nm,1.4s,mb6.3
SBD1 Bryn Du 78.98 346⇑*eP* **P 09 18 04.2 -0.5**
JCT Junction City 79.03 57 *eP* **P 09 18 04.1 -0.9**
JCT pmax pmax
comp=Z,450nm,1.6s,mb6.2
JCT MLR MLR
comp=Z,21µm,20.0s,MS6.5
JCT Junction City 79.03 57 *eP* **P 09 18 04.1 -0.9**
comp=Z,450nm,1.6s,mb6.2
JCT LR LR
comp=Z,21µm,20.0s,MS6.5
ZIMR 79.09 324 P **P 09 18 05.1 -0.2**
HGN Heimansgroeve 79.11 340 *eP* **P 09 18 05.2 -0.3**
comp=Z,115nm,1.1s,mb5.7
HGN *ex* x 09 18 10.6
comp=Z,662nm,1.3s
HGN *eP* 09 22 04.2
comp=Z,55nm,0.8s
HGN *eS* S 09 28 07.2 +3.5
HGN *eSS* SS 09 33 49.4 +40
DLF Lyons Farm 79.12 348⇑*iP* **P 09 18 05.1 -0.4**
BEBN Eben Emael 79.14 340 P **P 09 18 04.8 -0.9**
CRAR CRAIOVA 79.15 326 P **P 09 18 06.5 +0.8**
DCN Croghan 79.18 348⇑*iP* **P 09 18 05.2 -0.7**
MEM Membach 79.24 339 P **P 09 18 05.9 -0.3**
SIUC Southern Illin 79.25 46 *eP* **P 09 18 05.5 -0.8**
comp=Z,307nm,1.4s,mb6.0
SLMH Al Salmeh 79.26 312⇑⇑P **P 09 18 08.8 +2.5**
HLM1 Long Mynd 79.29 345⇑*eP* **P 09 18 05.9 -0.5**
RST Umm Al-Ruwaisa 79.29 302 *eP* **P 09 18 06.5 0.0**
RST AMb AMB 09 18 16.2
comp=Z,2µm,1.1s,mb7.0
QRN Al-Qurain 79.30 300 *eP* **P 09 18 06.8 +0.3**
QRN AMb AMB 09 18 16.7
comp=Z,2µm,1.1s,mb6.9
NAY Al-Naaiem 79.33 301 *eP* **P 09 18 07.3 +0.7**
NAY AMb AMB 09 18 16.7
comp=Z,1µm,1.1s,mb6.7
KOZT Kozan 79.34 314 P **P 09 18 08.9 +2.2**
DJES Djerdap 79.38 327 *ip* **P 09 18 13.2 +6.2**
RDF Al-Radifah 79.39 301 *eP* **P 09 18 07.7 +0.7**
RDF AMb AMB 09 18 17.3
comp=Z,2µm,1.1s,mb7.0
JHLN Al Jahlan 79.41 311⇑P **P 09 18 09.7 +2.6**
BLO Bloomington 79.41 43 *eP* **P 09 18 04.7 -2.4**
comp=Z,51nm,0.6s,mb5.6
PKSM Moragy 79.44 330 P **P 09 18 06.3 -1.0**
TOD Tromm 79.45 337 *eP* **P 09 18 07.0 -0.3**
UCC Uccle 79.45 340 P **P 09 18 06.9 -0.5**
MOA Molln 79.45 333 *iP* **P 09 18 07.4 0.0**
comp=Z,4µm,7.0s,SNR=31
MIAR Mount Ida 79.46 50 *eP* **P 09 18 05.9 -1.5**
MIAR pmax pmax
comp=Z,326nm,1.7s,mb6.0
MIAR MLR MLR
comp=Z,26µm,20.0s,MS6.6
MIAR Mount Ida 79.46 50 *eP* **P 09 18 05.9 -1.5**
comp=Z,326nm,1.7s,mb6.0
MIAR LR LR
comp=Z,26µm,20.0s,MS6.6
SIND Sindeldorf 79.46 337 P **P 09 18 07.4 0.0**
PVL Pavlikeni 79.47 324 *iP* **P 09 18 07.6 +0.2**
KLYT Kilyos 79.51 321 P **P 09 18 07.5 -0.2**
MSNY Massena 79.54 32 *eP* **P 09 18 05.8 -2.0**
JMB Yambol 79.57 323 *eP* **P 09 18 07.7 -0.3**
BCLA Clavier 79.58 340 P **P 09 18 07.7 -0.3**
ARSA Arzberg 79.58 332 *iP* **P 09 18 08.2 +0.2**
comp=Z,5µm,7.7s,SNR=33
SWS Schriesheim-Wi 79.58 337 P **P 09 18 08.4 +0.3**
HRT Hereke 79.59 320 P **P 09 18 08.2 +0.2**
SSW Stow on the Wo 79.63 345⇑*eP* **P 09 18 08.1 -0.2**
ISK Istanbul-Kandi 79.66 320 P **P 09 18 07.6 -0.8**
ISK Istanbul-Kandi 79.66 320 *eP* **P 09 18 08.3 -0.2**
SKP1 Kophill 79.67 344 *eP* **P 09 18 07.7 -0.8**
SNF Seneffe 79.74 340 P **P 09 18 08.4 -0.5**
CEYT Ceyhan 79.75 314 P **P 09 18 08.1 -0.8**
RAO Raoul Island 79.77 155 PFAKE 09 18 20.0 +11
RAO LR LR
comp=Z,37µm,19.0s,MS6.8
HTR Trewern Hill 79.78 346⇑*eP* **P 09 18 08.7 -0.4**
PARMO Parma 79.81 47 *eP* **P 09 18 08.3 -1.0**
MCH1 Michaelchurch 79.81 345 P **P 09 18 08.8 -0.5**
MCH1 AMb AMB 09 18 17.8
comp=Z,228nm,1.2s,mb6.0
MCH1 S S 09 28 11.4 +0.2
MCH1 Michaelchurch 79.81 345⇑*eP* **P 09 18 08.8 -0.5**
MCH1 ⇑*eP* 09 18 08.8
MCH1 AMb AMB 09 18 17.8
comp=Z,228nm,1.2s,mb6.0
MCH1 *eS* S 09 28 11.4 +0.2
MCH1 AMS AMS 09 58 16.0
comp=Z,7µm,18.9s,MS6.0
RUP Ruppelstein 79.81 338 *eP* **P 09 18 08.9 -0.4**
USIN University of 79.82 45 *eP* **P 09 18 08.8 -0.5**
comp=Z,318nm,1.3s,mb6.1
ELBA Catalca 79.87 321 *iP* **P 09 18 09.4 -0.2**
ADVT Abdulvahap 79.87 320 P **P 09 18 09.9 +0.3**
KARA Karaisali 79.89 314 P **P 09 18 11.1 +1.3**
KTD Kalmit 79.90 338 P **P 09 18 11.5 +1.7**
YLV Yalova 79.92 320 P **P 09 18 09.3 -0.6**
UALR University of 79.93 50 *eP* **P 09 18 09.0 -1.0**
comp=Z,37nm,1.2s,mb5.2
LONY Lake Ozonia 79.97 32 *eP* **P 09 18 08.8 -1.4**
GIVF Givet 79.99 340 *eP* **P 09 18 10.0 -0.3**
HDH Heidenheim-Cha 79.99 336 P **P 09 18 10.2 -0.1**
BEO Belgrade 80.00 328 *iP* **P 09 18 09.5 -0.8**
BEO Belgrade 80.00 328 P **P 09 18 10.5 +0.2**
EDRB Edirne 80.02 322 P **P 09 18 10.7 +0.3**
DOU Dourbes 80.05 340 P **P 09 18 09.8 -0.8**
KOGS Kog 80.05 331 *eP* **P 09 18 10.0 -0.6**
SWN1 Swindon 80.06 344⇑*eP* **P 09 18 10.3 -0.3**
FUR Furstenfeldbru 80.07 335 *eP* **P 09 18 10.8 +0.1**
comp=Z,685nm,1.1s,mb6.5
FUR Furstenfeldbru 80.07 335 *eP* **P 09 18 10.8 +0.1**
FUR pmax pmax
comp=Z,685nm,1.1s,mb6.5
WLF Walferdange 80.07 339 *eP* **P 09 18 11.0 +0.3**
comp=Z,580nm,2.0s,mb6.2
WLF Walferdange 80.07 339 P **P 09 18 10.9 +0.2**
STU Stuttgart 80.10 337 P **P 09 18 10.4 -0.5**
ESKT Eskisehir 80.10 318 *eP* **P 09 18 11.4 +0.5**
GEMT Gemlik 80.11 320 P **P 09 18 11.3 +0.4**
HGH Gray Hill 80.12 345⇑*eP* **P 09 18 10.4 -0.6**
BTCH Batrach 80.15 313⇑⇑P **P 09 18 13.7 +2.6**
FRNY Flat Rock 80.15 32 *eP* **P 09 18 09.9 -1.2**
SVIS Svilajnac 80.16 327 *iP* **P 09 18 18.0 +6.8**
MENF Mencas 80.17 342 *eP* **P 09 18 10.5 -0.7**
BAIF Baives 80.17 340 *eP* **P 09 18 11.1 -0.2**
comp=Z,350nm,1.1s,mb5.9
BAIF Baives 80.17 340 *eP* **P 09 18 11.1 -0.2**
BAIF pmax pmax
comp=Z,175nm,1.1s,mb5.9
BAIF Baives 80.17 340 *eP* **P 09 18 11.1 -0.2**
comp=Z,175nm,1.1s,mb5.9
FORT Forrest 80.18 202 *eP* **P 09 18 10.4 -0.9**
comp=Z,107nm,0.7s,mb5.9
FORT *e* 09 22 21.8
FORT *iS* S 09 28 15.7 +0.6
ACSO Alum Creek Sta 80.19 40 *eP* **P 09 18 10.4 -0.9**
comp=Z,98nm,0.9s,mb5.7
ACSO LR LR
comp=Z,31µm,19.0s,MS6.7
HBAR Harrisburg 80.21 48 *eP* **P 09 18 10.6 -0.8**
HTY Hatay 80.24 313 *eP* **P 09 18 12.8 +1.2**
PERS Pernice 80.26 332 *eP* **P 09 18 11.5 -0.2**
PERS *e* 09 31 00.7
ALLY Alegheny Colle 80.26 38 *eP* **P 09 18 11.0 -0.7**
WCI Wyandotte Cave 80.27 44 *eP* **P 09 18 10.5 -1.3**
WCI LR LR
comp=Z,23µm,20.0s,MS6.5
LANF Langenberg 80.28 338 *eP* **P 09 18 11.5 -0.3**
LBG Lerchenberg 80.31 337 P **P 09 18 12.1 +0.1**
KDHN Kadinhani 80.32 317 *iP* **P 09 18 12.3 +0.2**
GLAT Glass 80.35 47 *eP* **P 09 18 12.3 +0.1**
BUCH Bad Urach 80.35 337 P **P 09 18 12.8 +0.6**
DIM Dimitrovgrad 80.35 323 *iP* **P 09 18 12.2 0.0**
ULDT Uludag 80.38 320 *iP* **P 09 18 12.7 +0.4**
KBA Koelnbreinsper 80.42 333 *iP* **P 09 18 13.0 +0.4**
comp=Z,1µm,1.4s,mb6.7,SNR=168
KBA Koelnbreinsper 80.42 333 *iP* **P 09 18 13.0 +0.4**
KBA pmax pmax
comp=Z,1µm,1.4s,mb6.7
MERS Mersin 80.47 314 P **P 09 18 13.6 +0.8**
PGB Panagyurishte 80.49 324 *iP* **P 09 18 12.9 -0.1**
UTMT University of 80.50 46 *eP* **P 09 18 12.8 -0.3**
comp=Z,254nm,1.0s,mb6.1
OBKA Obir 80.55 332 *iP* **P 09 18 13.1 -0.2**
comp=Z,5µm,7.4s,SNR=19
HALT Halls 80.60 47 *eP* **P 09 18 13.5 -0.1**
SLNF Slenfeh 80.61 313⇑⇑P **P 09 18 15.9 +2.3**
PLD Plovdiv 80.65 324 *iP* **P 09 18 14.2 +0.4**
NCB Newcomb 80.66 33 *eP* **P 09 18 12.0 -1.8**
comp=Z,145nm,1.4s,mb5.7
NCB LR LR
comp=Z,22µm,19.0s,MS6.5
KONT Konya--Tatoy 80.66 317 P **P 09 18 13.3 -0.6**
MFT Murefte 80.66 321 P **P 09 18 14.1 +0.2**
MRMT Marmara Adasi 80.67 321 P **P 09 18 14.4 +0.5**
WATA Walderalm 80.73 335⇑*iP* **P 09 18 14.4 +0.1**
comp=Z,523nm,1.2s,mb6.3,SNR=35
WATA Walderalm 80.73 335⇑*iP* **P 09 18 14.4 +0.2**
WATA pmax pmax
comp=Z,523nm,1.2s,mb6.3
KDZ Kurdzhali 80.73 323 *iP* **P 09 18 15.5 +1.2**
BFO Black Forest 80.74 337 P **P 09 18 14.3 0.0**
comp=Z,1µm,1.1s,mb6.8,SNR=45
BFO Black Forest 80.74 337 *eP* **P 09 18 14.2 -0.1**
comp=Z,402nm,1.2s,mb6.2
BFO Black Forest 80.74 337 *eP* **P 09 18 14.2 -0.1**
BFO pmax pmax
comp=Z,402nm,1.2s,mb6.2
GUT Gutenstein 80.76 337 P **P 09 18 14.7 +0.3**
WTTA Wattenberg 80.77 335 *iP* **P 09 18 15.0 +0.5**
comp=Z,6µm,7.1s,SNR=116
WTTA Wattenberg 80.77 335 *iP* **P 09 18 15.0 +0.5**
WTTA pmax pmax
comp=Z,6µm,7.1s
TAOE Nuku Hiva Isla 80.78 113 *eS* S 09 28 19.3 -2.0
comp=Z,74µm,30.9s
TAOE *e*LR LR 09 42 58.8
comp=Z,204µm,29.7s,baz=324
ALT Altintas 80.82 319 *eP* **P 09 18 15.0 +0.3**
SPAK Spaichingen-Ko 80.83 337 *eP* **P 09 18 14.6 -0.1**
VTS Vitosha 80.84 325 *eP* **P 09 18 14.9 +0.1**
VTS Vitosha 80.84 325 *iP* **P 09 18 15.5 +0.7**
VTS Vitosha 80.84 325⇑*iP* **P 09 18 15.0 +0.2**
UBR Ueberruh 80.84 336 P **P 09 18 15.5 +0.7**
PMOR Pomariorio Ree 80.84 123 *eP* **P 09 18 14.9 +0.1**
comp=Z,61nm,1.2s,mb5.4
MOTA Moosalm 80.86 335⇓*iP* **P 09 18 15.0 +0.1**
comp=Z,642nm,1.2s,mb6.4,SNR=84
MOTA Moosalm 80.86 335⇓*iP* **P 09 18 15.1 +0.2**
MOTA pmax pmax
comp=Z,642nm,1.2s,mb6.4
CRES Cresnjev 80.86 332 P **P 09 18 14.8 -0.1**
SISC Sisak 80.87 331 P **P 09 18 14.4 -0.6**
MET Memphis--Engin 80.92 48 *eP* **P 09 18 15.1 -0.1**
WLS Welschbruch 80.92 338 *eP* **P 09 18 15.0 -0.3**
SQTA Sankt Quirin 80.94 335⇑*iP* **P 09 18 15.7 +0.3**
comp=Z,474nm,1.1s,mb6.3,SNR=65
SQTA Sankt Quirin 80.94 335⇑*iP* **P 09 18 15.7 +0.3**
SQTA pmax pmax
comp=Z,474nm,1.1s,mb6.3
CDF Champ du Feu 80.94 338 *eP* **P 09 18 15.4 0.0**
comp=Z,792nm,1.2s,mb6.2
CDF Champ du Feu 80.94 338 *eP* **P 09 18 15.4 0.0**
CDF pmax pmax
comp=Z,396nm,1.2s,mb6.2
CDF Champ du Feu 80.94 338 *eP* **P 09 18 15.4 0.0**
comp=Z,396nm,1.2s,mb6.2
VAL Valentia 80.95 350 *eP* **P 09 18 13.9 -1.5**
LJU Ljubljana 80.97 332 *eP* **P 09 18 15.6 +0.1**
LJU *e*PP PP 09 21 22.8 +2.6
LJU *e* 09 24 35.9
LJU *eS* S 09 28 24.1 +0.7
LJU *e* 09 30 23.9
LJU *e*SS SS 09 33 52.1 +14
LJU *e* 09 37 10.6
LJU Ljubljana 80.97 332 *eP* **P 09 18 15.6 +0.1**
LJU *e* 09 21 22.8
LJU *eS* S 09 28 24.1 +0.7
NATX Nacogdoches 80.98 53 *eP* **P 09 18 15.7 +0.1**
comp=Z,233nm,1.0s,mb6.1
NATX LR LR
comp=Z,18µm,19.0s,MS6.4
RZN Rozhen 80.99 324 *iP* **P 09 18 16.2 +0.6**
HTL Hartland 81.03 346 P **P 09 18 15.4 -0.4**
HTL AMb AMB 09 18 26.1
comp=Z,152nm,1.3s,mb5.8
HTL Hartland 81.03 346 *eP* **P 09 18 15.4 -0.4**
HTL AMb AMB 09 18 26.1
comp=Z,152nm,1.3s,mb5.8
HTL AMS AMS 09 59 30.4
comp=Z,6µm,18.7s,MS6.0
CADS Cadrg 81.06 333 *eP* **P 09 18 14.6 -1.4**
SEST Monte Rota 81.06 334 P **P 09 18 18.2 +2.2**
GDZ Gediz 81.08 319 *iP* **P 09 18 16.4 +0.3**
ALN Alexandroupoli 81.10 322 *eP* **P 09 18 15.9 -0.3**
LIBD Limburg 81.10 337 *eP* **P 09 18 16.1 -0.1**
RDO Rodhopi 81.10 323 *eP* **P 09 18 16.4 +0.2**
RDO Rodhopi 81.10 323 P **P 09 18 15.8 -0.4**
ECH Echery 81.16 338 *eP* **P 09 18 16.1 -0.4**
SISB Singen-Schiene 81.16 336 P **P 09 18 17.3 +0.8**
VAH Vaihoa 81.18 123 *eP* **P 09 18 16.4 -0.3**
comp=Z,70nm,1.3s,mb5.4
VOY Vojsko 81.18 333 *eP* **P 09 18 14.9 -1.8**
VOY *e* 09 18 15.9
VOY *e* pP 09 18 20.9 -2.6
VOY *e* 09 19 09.5
WVT Waverly 81.19 46 *eP* **P 09 18 15.5 -1.2**
comp=Z,185nm,1.4s,mb5.8
WVT LR LR
comp=Z,22µm,19.0s,MS6.5
BARS Barje 81.19 326 *iP* **P 09 18 20.8 +4.1**
KIZ Kirchzarten 81.19 337 P **P 09 18 16.6 -0.1**
BBLS Bajina Basta - 81.20 328 *iP* **P 09 18 17.1 +0.3**
STEIN Stein am Rhein 81.20 337⇑*iP* **P 09 18 15.3 -1.4**
comp=Z,3µm,2.6s,mb6.8
SLE Schleitheim 81.21 337⇑*iP* **P 09 18 16.4 -0.4**
comp=Z,2µm,2.5s,mb6.5
BOJS Bojanci 81.21 332 *eP* **P 09 18 16.2 -0.6**
BOJS *e* 09 24 47.3
BOJS *eS* S 09 28 25.5 -0.4
FELD Feldberg im Sc 81.24 337⇑*eP* **P 09 18 16.7 -0.3**
LBNH Lisbon 81.26 31 *eP* **P 09 18 17.2 +0.1**
comp=Z,101nm,1.5s,mb5.5
LBNH LR LR
comp=Z,23µm,20.0s,MS6.5
DAVA Damuels 81.26 336 *iP* **P 09 18 17.5 +0.5**
comp=Z,3µm,5.4s,SNR=30
WEIN Weingarten 81.29 336⇑*iP* **P 09 18 16.7 -0.5**
comp=Z,2µm,2.6s,mb6.7
IKL Isikli 81.38 315 P **P 09 18 16.0 -1.7**
HDMB Hadim 81.38 316 P **P 09 18 18.1 +0.3**
WILA Wila 81.42 336⇑*iP* **P 09 18 17.3 -0.6**
comp=Z,2µm,2.8s,mb6.7
MEZF Maizieres J'vi 81.42 339 *eP* **P 09 18 18.1 +0.2**
comp=Z,2µm,1.4s,mb6.4
MEZF Maizieres J'vi 81.42 339 *eP* **P 09 18 18.1 +0.2**
comp=Z,2µm,1.4s,mb6.7
ERMK Ermenek 81.43 315 *iP* **P 09 18 17.8 -0.2**
THEF They Montfort 81.45 339 *eP* **P 09 18 17.8 -0.3**
DYA Yadsworthy 81.47 345 *eP* **P 09 18 18.2 0.0**
MMB Musomiste 81.48 324 *eP* **P 09 18 18.4 +0.2**
MMB Musomiste 81.48 324 *iP* **P 09 18 19.5 +1.3**
CNB Canberra Magne 81.48 183 *eP* pP 09 18 26.4 +1.3
comp=Z,67nm,1.6s
BINY Binghamton 81.49 35 *eP* **P 09 18 16.7 -1.6**
comp=Z,81nm,1.3s,mb5.5
BINY LR LR
comp=Z,19µm,19.0s,MS6.5
MOF Molkenrain 81.50 338 *eP* **P 09 18 18.0 -0.3**
KKB Krupnik 81.50 325 *iP* **P 09 18 19.5 +1.2**
SULZ Cheisacher 81.53 337⇑*iP* **P 09 18 17.5 -1.0**
comp=Z,3µm,2.6s,mb6.8
TKTP Tekketepe 81.54 318 *iP* **P 09 18 18.9 +0.4**
ZUR Degenried 81.55 337⇑*iP* **P 09 18 17.9 -0.7**
comp=Z,3µm,2.6s,mb6.8
HAU Haudompre 81.56 338 *eP* **P 09 18 18.4 -0.3**
comp=Z,795nm,1.3s,mb6.2
HAU *e*MLR MLR
comp=Z,53µm,18.2s
HAU Haudompre 81.56 338 *eP* **P 09 18 18.4 -0.3**
HAU pmax pmax
comp=Z,398nm,1.3s,mb6.2
HAU MLR MLR
comp=Z,53µm,18.3s,MS6.9
HAU Haudompre 81.56 338 *eP* **P 09 18 18.4 -0.3**
comp=Z,398nm,1.3s,mb6.2
HAU LR LR
comp=Z,53µm,18.3s,MS6.9
HNH Hanover 81.60 32 *eP* **P 09 18 18.4 -0.4**
comp=Z,3.7nm,1.1s
HINF Hinteralfeld 81.60 338 *eP* **P 09 18 18.5 -0.4**
comp=Z,431nm,1.3s,mb5.9
HINF Hinteralfeld 81.60 338 *eP* **P 09 18 18.5 -0.4**
HINF pmax pmax
comp=Z,216nm,1.3s,mb5.9
HINF Hinteralfeld 81.60 338 *eP* **P 09 18 18.5 -0.4**
comp=Z,216nm,1.3s,mb5.9
PLONS Plons/SG 81.62 336⇑*iP* **P 09 18 18.4 -0.6**
comp=Z,2µm,2.5s,mb6.6
NVR Nevrokopi 81.62 324 *eP* **P 09 18 18.9 -0.1**
OXF Oxford 81.66 48 *eP* **P 09 18 17.7 -1.5**
OXF pmax pmax
comp=Z,182nm,1.0s,mb6.0
OXF MLR MLR
comp=Z,28µm,21.0s,MS6.6
OXF Oxford 81.66 48 *eP* **P 09 18 17.7 -1.5**
comp=Z,182nm,1.0s,mb6.0
OXF LR LR
comp=Z,28µm,21.0s,MS6.6
PLE Pljevlja 81.67 328⇓*iP* **P 09 18 19.6 +0.4**
HKT Hockley 81.70 55 P **P 09 18 18.9 -0.5**
HKT pmax pmax
comp=Z,260nm,2.0s,mb5.8
HKT Hockley 81.70 55 *eP* **P 09 18 19.0 -0.4**
comp=Z,259nm,2.0s,mb5.8
HKT LR LR
comp=Z,20µm,19.0s,MS6.5
CSA1 St Austell 81.72 346 *eP* **P 09 18 18.8 -0.7**
DAVOX Davos/Dischmat 81.72 335⇑*iP* **P 09 18 18.7 -0.8**
comp=Z,2µm,3.6s
BBS Basel-Blauen 81.75 337 *eP* **P 09 18 19.5 -0.2**
FUORN Ofenpass-Fuorn 81.76 335⇑*iP* **P 09 18 18.9 -0.8**
comp=Z,3µm,3.5s
WVL Waterville 81.77 29 *eP* **P 09 18 18.4 -1.3**
BALST Balsthal 81.82 337⇑*iP* **P 09 18 19.9 -0.1**
comp=Z,2µm,1.4s,mb6.8
BRMO Bormio 81.86 335 P **P 09 18 20.8 +0.6**
EZN Ezine 81.86 322 *eP* **P 09 18 20.5 +0.3**
IVA Berane 81.88 327⇓*iP* **P 09 18 20.6 +0.3**
MUO Muotathal 81.90 336⇑*iP* **P 09 18 20.8 +0.3**
comp=Z,2µm,2.6s,mb6.7
LLS Linth-Limmern 81.91 336⇑*iP* **P 09 18 20.4 -0.1**
comp=Z,2µm,3.2s
PPT Papeete 81.94 126 *eS* S 09 28 31.1 -2.3
comp=Z,53µm,34.2s
PPT *e*LR LR 09 43 15.1
comp=Z,89µm,25.0s,baz=327
PPT Papeete 81.94 126 LR LR 09 51 42.9
comp=Z,24µm,18.6s,MS6.6,baz=269,slow=34
PPT Papeete 81.94 126 *eP* **P 09 18 20.7 0.0**
PPT *eS* S 09 28 31.1 -2.3
PPT pmax pmax
comp=Z,65nm,1.4s
PPT Papeete 81.94 126 *eP* **P 09 18 20.7 0.0**
comp=Z,65nm,1.4s,mb5.4
PPT *eS* S 09 28 31.1 -2.3
CRQ2 Rosemanowes 2 81.94 346 *eP* **P 09 18 20.2 -0.4**
UPM Unac-Piva 81.95 328⇓*iP* **P 09 18 19.9 -0.8**
BOZC Bozcaada 81.97 322 *iP* **P 09 18 19.7 -1.1**
PLAL Pickwick Lake 81.97 47 *eP* **P 09 18 19.1 -1.7**
comp=Z,48nm,0.9s,mb5.4
PLAL LR LR
comp=Z,22µm,21.0s,MS6.5
AKHS Akhisar 82.00 320 *iP* **P 09 18 21.1 +0.1**
STIP Stip 82.00 325 *eP* **P 09 18 21.0 0.0**
STIP Stip 82.00 325 *iP* **P 09 18 20.6 -0.4**
BERNI Berninapass 82.02 335⇑*iP* **P 09 18 20.6 -0.5**
comp=Z,2µm,3.0s
CMA1 Manaccan 82.02 346 *eP* **P 09 18 20.6 -0.4**
FFD Franklin Falls 82.03 31 *eP* **P 09 18 21.0 -0.1**
comp=Z,113nm,1.3s,mb5.6
MCWV Mont Chateau 82.03 39 *eP* **P 09 18 20.1 -1.0**
comp=Z,363nm,1.5s,mb6.1
MCWV LR LR
comp=Z,33µm,21.0s,MS6.7
LOMF Lomont 82.04 338 *eP* **P 09 18 21.3 +0.1**
SSPA Standing Stone 82.04 37 *eP* **P 09 18 20.3 -0.9**
comp=Z,247nm,1.5s,mb5.9
SSPA LR LR
comp=Z,19µm,20.0s,MS6.5
BNALP Bannalp 82.05 336⇑*iP* **P 09 18 20.7 -0.5**
comp=Z,2µm,3.8s
CGH1 Goonhilly 82.06 346 *eP* **P 09 18 21.3 +0.1**
SKO Skopje 82.06 326 *eP* **P 09 18 22.8 +1.5**
SKO Skopje 82.06 326 *iP* **P 09 18 21.6 +0.3**
PVY Plav 82.09 327⇓*iP* **P 09 18 20.8 -0.7**
VDL Val di Lei 82.11 336⇑*iP* **P 09 18 21.3 -0.2**
comp=Z,3µm,3.3s
ZALF Zalf 82.11 310⇑⇑P **P 09 18 23.6 +2.0**
VAY Valandovo 82.17 325 *eP* **P 09 18 21.3 -0.6**
VAY Valandovo 82.17 325 *iP* **P 09 18 21.2 -0.6**
NVLJ Novalja 82.17 331⇑*iP* **P 09 18 20.5 -1.4**
QASN Qassioun 82.19 311⇑⇑P **P 09 18 25.0 +3.0**
MABI Malga Bissina 82.20 335 P **P 09 18 21.6 -0.4**
SHAO Shalim 82.22 288 P **P 09 18 24.3 +2.2**
SNR=8.2
BHL Bhannes 82.22 312 *eP* **P 09 18 22.0 -0.2**
HASLI Hasliberg/Brie 82.23 337⇑*iP* **P 09 18 21.6 -0.6**
comp=Z,2µm,2.9s,mb6.6
TOTH TOTAH 82.25 311⇑⇑P **P 09 18 27.3 +5.0**
NKY Niksic 82.26 328⇓*iP* **P 09 18 20.9 -1.4**
SOH Sokhos 82.28 324 *eP* **P 09 18 22.4 0.0**
KVTX Kingsville 82.32 58 *eP* **P 09 18 23.7 +1.0**
BRY Bratogost 82.35 328⇓*iP* **P 09 18 21.7 -1.1**
DENT Denizli 82.37 319 *eP* **P 09 18 24.2 +1.3**
PRK Paraskevi 82.37 321 *eP* **P 09 18 22.4 -0.5**
MAGA Magasa 82.42 335 P **P 09 18 23.8 +0.6**
FLN La Foliniere 82.42 343 *eP* **P 09 18 22.9 -0.3**
comp=Z,1µm,1.4s,mb6.3
FLN *e*MLR MLR
comp=Z,38µm,20.0s
FLN La Foliniere 82.42 343 *eP* **P 09 18 22.9 -0.3**
FLN pmax pmax
comp=Z,616nm,1.4s,mb6.3
FLN MLR MLR
comp=Z,38µm,20.0s,MS6.8
FLN La Foliniere 82.42 343 *eP* **P 09 18 22.9 -0.3**
comp=Z,616nm,1.4s,mb6.3
FLN LR LR
comp=Z,38µm,20.0s,MS6.8
OUR Ouranopolis 82.43 323 *eP* **P 09 18 22.3 -0.9**
WIMIS Wimmis 82.46 337⇑*iP* **P 09 18 22.2 -1.2**
comp=Z,1µm,2.8s,mb6.4
RCY Rachaya 82.47 312 *eP* **P 09 18 24.4 +0.9**
TTG Podgorica 82.49 327⇓*iP* **P 09 18 22.8 -0.8**
LDF La Druitiere 82.51 343 *eP* **P 09 18 23.2 -0.4**

comp=Z,645nm,1.5s,mb6.1
LDF La Druitiere 82.51 343 *e*P **P 09 18 23.2 -0.4**
LDF pmax pmax
comp=Z,322nm,1.5s,mb6.1
LDF La Druitiere 82.51 343 *e*P **P 09 18 23.2 -0.4**
comp=Z,322nm,1.5s,mb6.1
BRANT Les Verrieres 82.51 338⇑ *i*P **P 09 18 22.2 -1.5**
comp=Z,3µm,3.8s
GRG Griva 82.55 325 *e*P **P 09 18 24.0 +0.1**
HORT Hortiatis 82.57 324 *e*P **P 09 18 22.9 -1.1**
THE Thessaloniki 82.59 324 *e*P **P 09 18 22.7 -1.4**
SALA Sala 82.59 310⇑P **P 09 18 25.4 +1.3**
PLG Polygyros 82.61 324 *e*P **P 09 18 23.5 -0.7**
PLG Polygyros 82.61 324 *e*P **P 09 18 23.1 -1.1**
IZM Izmir 82.64 320 *e*P **P 09 18 24.8 +0.5**
STON Ston 82.68 329⇑*i*P **P 09 18 22.7 -1.8**
LKBD Leukerbad 82.71 337⇑*i*P **P 09 18 23.2 -1.5**
comp=Z,1µm,2.2s,mb6.6
BUM Brajici-Budva 82.74 328⇓*i*P **P 09 18 24.8 0.0**
MUGIO Muggio 82.75 336⇑*i*P **P 09 18 23.9 -1.0**
comp=Z,3µm,2.7s,mb6.8
HCY Herceg Novi 82.76 328⇓*i*P **P 09 18 23.8 -1.1**
KSDI Kefar Szold 82.78 311 P **P 09 18 27.1 +2.1**
SENIN Lac Senin/Sane 82.82 337⇑*i*P **P 09 18 24.3 -1.0**
comp=Z,2µm,2.9s,mb6.6
GRR Gorron 82.86 343 *e*P **P 09 18 25.4 0.0**
comp=Z,454nm,0.9s,mb6.2
GRR Gorron 82.86 343 *e*P **P 09 18 25.4 0.0**
GRR pmax pmax
comp=Z,227nm,0.9s,mb6.2
GRR Gorron 82.86 343 *e*P **P 09 18 25.4 0.0**
comp=Z,227nm,0.9s,mb6.2
LOR Lormes 82.87 340 *e*P **P 09 18 25.4 -0.1**
comp=Z,537nm,0.9s,mb6.3
LOR *e*MLR MLR
comp=Z,46µm,19.0s
LOR Lormes 82.87 340 *e*P **P 09 18 25.4 -0.1**
LOR pmax pmax
comp=Z,268nm,0.9s,mb6.3
LOR MLR MLR
comp=Z,46µm,19.0s,MS6.9
LOR Lormes 82.87 340 *e*P **P 09 18 25.4 -0.1**
comp=Z,268nm,0.9s,mb6.3
LOR LR LR
comp=Z,46µm,19.0s,MS6.9
HRV Harvard--Oak R 82.90 32 *e*P **P 09 18 24.4 -1.3**
HRV pmax pmax
comp=Z,132nm,1.4s,mb5.8
HRV MLR MLR
comp=Z,17µm,19.0s,MS6.4
HRV Harvard--Oak R 82.90 32 *e*P **P 09 18 24.4 -1.3**
comp=Z,132nm,1.4s,mb5.8
HRV LR LR
comp=Z,17µm,19.0s,MS6.4
ULC Ulcinj 82.90 327⇓*i*P **P 09 18 25.1 -0.5**
BIA Bitola 82.92 325 *e*P **P 09 18 26.1 +0.4**
BIA Bitola 82.92 325 *i*P **P 09 18 25.2 -0.6**
TZTN Tazewell 82.92 43 *e*P **P 09 18 24.5 -1.3**
MMK Mattmark 82.93 336⇑*i*P **P 09 18 25.6 -0.2**
comp=Z,2µm,3.0s
AIGLE Aigle 82.94 337⇑*i*P **P 09 18 24.8 -1.1**
comp=Z,2µm,2.8s,mb6.6
GRYON Gryon 82.98 337⇑*i*P **P 09 18 25.9 -0.2**
comp=Z,2µm,3.1s
OG01 Vacheresse 83.02 337 *e*P **P 09 18 26.1 -0.2**
TCHB Talchebab 83.03 311⇑P **P 09 18 27.6 +1.2**
OHR Ohrid 83.04 326 *e*P **P 09 18 26.1 -0.3**
OHR Ohrid 83.04 326 *i*P **P 09 18 24.7 -1.7**
DIX Grande Dixence 83.05 337⇑*i*P **P 09 18 26.3 -0.2**
comp=Z,2µm,2.7s,mb6.6
WES Weston 83.09 32 *e*P **P 09 18 25.1 -1.6**
WES pmax pmax
comp=Z,142nm,1.2s,mb5.9
WES MLR MLR
comp=Z,10µm,19.0s,MS6.2
WES Weston 83.09 32 *e*P **P 09 18 25.1 -1.6**
comp=Z,142nm,1.2s,mb5.9
WES LR LR
comp=Z,10µm,19.0s,MS6.2
FNA Florina 83.10 325 *e*P **P 09 18 26.4 -0.3**
SALAN Lac Salanfe 83.11 337⇑*i*P **P 09 18 26.4 -0.4**
comp=Z,3µm,3.3s
HYF Humbligny 83.16 340 *e*P **P 09 18 27.3 +0.3**
TIR Tirane 83.20 327 *e*P **P 09 18 26.5 -0.7**
EMV Vieux Emosson 83.21 337⇑*i*P **P 09 18 27.5 +0.2**
comp=Z,2µm,2.7s,mb6.7
MVL Millersville 83.21 36 *e*P **P 09 18 26.8 -0.5**
LIT Litokhoron 83.23 324 *e*P **P 09 18 26.1 -1.3**
MLSB Milas 83.31 319 P **P 09 18 27.8 0.0**
ORO Oropa 83.31 336 P **P 09 18 28.9 +1.1**
PAL Palisades 83.32 34 *e*P **P 09 18 28.4 +0.6**
comp=Z,70nm,1.0s,mb5.7
FWV Forest Hill 83.33 40 *e*P **P 09 18 27.4 -0.5**
BRNJ Basking Ridge 83.34 35 *e*P **P 09 18 30.6 +2.7**
KZN Kozani 83.35 325 *e*P **P 09 18 27.0 -1.0**
DALT Dalyan (Mudla) 83.35 318 P **P 09 18 29.2 +1.2**
ROSF Rostrenen 83.38 344 *e*P **P 09 18 28.1 0.0**
comp=Z,895nm,1.3s,mb6.3
ROSF Rostrenen 83.38 344 *e*P **P 09 18 28.1 0.0**
ROSF pmax pmax
comp=Z,448nm,1.3s,mb6.3
ROSF Rostrenen 83.38 344 *e*P **P 09 18 28.1 0.0**
comp=Z,448nm,1.3s,mb6.3
SMG Samos 83.39 320 *e*P **P 09 18 26.7 -1.5**
AVF Avril sur Loir 83.44 340 *e*P **P 09 18 28.5 +0.1**
comp=Z,2µm,1.4s,mb6.6
AVF Avril sur Loir 83.44 340 *e*P **P 09 18 28.5 +0.1**
AVF pmax pmax
comp=Z,924nm,1.4s,mb6.6
AVF Avril sur Loir 83.44 340 *e*P **P 09 18 28.5 +0.1**
comp=Z,924nm,1.4s,mb6.6
SMF Signal de Mont 83.45 339 *e*P **P 09 18 28.6 +0.1**
comp=Z,2µm,1.2s,mb6.7
SMF Signal de Mont 83.45 339 *e*P **P 09 18 28.6 +0.1**
SMF pmax pmax
comp=Z,914nm,1.2s,mb6.7
SMF Signal de Mont 83.45 339 *e*P **P 09 18 28.6 +0.1**
comp=Z,914nm,1.2s,mb6.7
CPNY Central Park 83.48 34 *e*P **P 09 18 27.8 -0.9**
AOI Ancona 83.49 332 P **P 09 18 28.8 +0.1**
MMLI Mount Malkishu 83.50 311 P **P 09 18 30.5 +1.8**
RSM Repubblica di 83.52 333 P **P 09 18 29.4 +0.5**
HMDT Nahal Hemdat 83.59 311 P **P 09 18 30.4 +1.2**
NEO Neokhori 83.61 323 *e*P **P 09 18 28.2 -1.1**
OG05 Jujurieux 83.61 338 *e*P **P 09 18 29.3 0.0**
RSL Roselend 83.63 337 *e*P **P 09 18 29.5 +0.1**
FSSB Fossombrone 83.63 332 P **P 09 18 29.3 -0.1**
ELN Prospectdale 83.64 40 *e*P **P 09 18 28.3 -1.2**
BDRM Kayabasi 83.65 319 *i*P **P 09 18 29.4 -0.2**
BOB Bobbio (Coli) 83.68 335 P **P 09 18 31.0 +1.3**
BODT Bodrum 83.72 319 P **P 09 18 25.3 -4.6**
GSCL Gusciola 83.72 334 P **P 09 18 30.7 +0.8**
FNVD Fontana Vidola 83.72 334 P **P 09 18 31.2 +1.3**
SEI Scarperia 83.75 333 P **P 09 18 31.4 +1.3**
LPL La Plagne 83.76 337 *e*P **P 09 18 31.0 +0.9**
comp=Z,565nm,1.4s,mb6.2
LPL La Plagne 83.76 337 *e*P **P 09 18 31.0 +0.9**
LPL pmax pmax
comp=Z,282nm,1.4s,mb6.2
LPL La Plagne 83.76 337 *e*P **P 09 18 31.0 +0.9**
comp=Z,282nm,1.4s,mb6.2
QUIF Quistinic 83.76 344 *e*P **P 09 18 29.8 -0.3**
comp=Z,343nm,1.2s,mb6.0
QUIF Quistinic 83.76 344 *e*P **P 09 18 29.8 -0.3**
QUIF pmax pmax
comp=Z,172nm,1.2s,mb6.1
QUIF Quistinic 83.76 344 *e*P **P 09 18 29.8 -0.3**
comp=Z,172nm,1.2s,mb6.1
LPG La Plagne 83.77 337 *e*P **P 09 18 31.2 +1.0**
comp=Z,969nm,1.5s,mb6.4
LPG La Plagne 83.77 337 *e*P **P 09 18 31.2 +1.0**
LPG pmax pmax
comp=Z,484nm,1.5s,mb6.4
LPG La Plagne 83.77 337 *e*P **P 09 18 31.2 +1.0**
comp=Z,484nm,1.5s,mb6.4
BGF Bois d'Agland 83.77 340 *e*P **P 09 18 30.2 0.0**
comp=Z,467nm,1.0s,mb6.3
BGF Bois d'Agland 83.77 340 *e*P **P 09 18 30.2 0.0**
BGF pmax pmax
comp=Z,234nm,1.0s,mb6.3
BGF Bois d'Agland 83.77 340 *e*P **P 09 18 30.2 0.0**
comp=Z,234nm,1.0s,mb6.3
CING Cingoli 83.78 332 P **P 09 18 31.2 +1.0**
VMG Vicchio 83.78 333 P **P 09 18 31.6 +1.4**
BLA Blacksburg 83.81 40 *e*P **P 09 18 28.8 -1.5**
BLA pmax pmax
comp=Z,82nm,0.9s,mb5.9
BLA MLR MLR
comp=Z,22µm,19.0s,MS6.5
BLA Blacksburg 83.81 40 *e*P **P 09 18 28.8 -1.5**
comp=Z,82nm,0.9s,mb5.9
BLA LR LR
comp=Z,22µm,19.0s,MS6.5
DAT Datca 83.87 319 P **P 09 18 30.9 +0.3**
THL Klokotos Trika 83.88 324 *e*P **P 09 18 28.0 -2.7**
TOO Toolangi 83.94 186 *e*P **P 09 18 31.6 +0.6**
TOO *i*S S 09 28 54.4 +0.6
TOO pmax pmax
comp=Z,130nm,0.9s,mb6.1
TOO Toolangi 83.94 186 *e*P **P 09 18 31.6 +0.6**
comp=Z,13nm,0.9s,mb5.1
TOO *i*S S 09 28 54.4 +0.6
RSP Reno Superiore 83.95 337 P **P 09 18 31.3 +0.2**
VLC Villacollemand 83.95 334 *e*P **P 09 18 31.2 +0.1**
comp=Z,461nm,1.4s,mb6.4
CRE Caprese Michel 83.96 333 P **P 09 18 31.5 +0.4**
BADI Badiali 83.97 333 P **P 09 18 31.8 +0.7**
SNTG Esanatoglia 83.97 332 P **P 09 18 31.2 0.0**
BDI Bagni Di Lucca 83.98 334 P **P 09 18 31.5 +0.3**
MEV Metsovon 84.01 325 *e*P **P 09 18 32.7 +1.3**
OFFI Offida 84.01 331 P **P 09 18 32.2 +0.8**
CDCA Citt' di Caste 84.01 333 P **P 09 18 32.3 +0.9**
ARG Arkhangelos 84.04 318 *e*P **P 09 18 32.4 +0.9**
KLBR Kellerberrin 84.04 210 *e*P **P 09 18 30.3 -1.2**
comp=Z,705nm,1.9s,mb6.5
MURB Monte Urbino 84.10 332 P **P 09 18 32.3 +0.5**
PLDF La Plantade 84.14 339 *e*P **P 09 18 32.1 +0.1**
DRGI Dragot 84.17 311 P **P 09 18 33.7 +1.5**
TCF Toulx Ste Croi 84.18 340 *e*P **P 09 18 32.4 +0.2**
comp=Z,801nm,1.3s,mb6.4
TCF Toulx Ste Croi 84.18 340 *e*P **P 09 18 32.4 +0.2**
TCF pmax pmax
comp=Z,400nm,1.3s,mb6.4
TCF Toulx Ste Croi 84.18 340 *e*P **P 09 18 32.4 +0.2**
comp=Z,400nm,1.3s,mb6.4
AGO Saint Agoulin 84.18 340 *e*P **P 09 18 32.6 +0.4**
BNI Bardonecchia 84.20 337 *e*P **P 09 18 32.7 +0.3**
BNI pmax pmax
comp=Z,382nm,1.4s,mb6.3
BNI Bardonecchia 84.20 337 *e*P **P 09 18 32.7 +0.3**
comp=Z,382nm,1.4s,mb6.3
GDM Grand'Maison 84.21 337 *e*P **P 09 18 33.1 +0.7**
AGG Agios Georgios 84.22 324 *e*P **P 09 18 30.9 -1.5**
ASS Assisi 84.23 332 P **P 09 18 32.5 0.0**
LKR Lokris 84.26 323 *e*P **P 09 18 30.9 -1.7**
JAN Janina 84.27 325 *e*P **P 09 18 32.5 -0.2**
GRN Grenoble 84.28 338 *e*P **P 09 18 33.4 +0.7**
CSNT Castellina Chi 84.30 333 P **P 09 18 32.2 -0.7**
CBN Corbin 84.30 38 *e*P **P 09 18 32.1 -0.8**
comp=Z,232nm,1.4s,mb6.1
CBN LR LR
comp=Z,24µm,20.0s,MS6.6
PII Pisa 84.31 334 P **P 09 18 32.6 -0.3**
TERO Teramo 84.32 331 P **P 09 18 33.3 +0.4**
FGMS Monte Sant'Ang 84.32 329 P **P 09 18 32.2 -0.8**
OG22 Abries 84.34 337 *e*P **P 09 18 34.8 +1.7**
MFF Saint Martin d 84.41 342 *e*P **P 09 18 33.4 0.0**
comp=Z,644nm,1.3s,mb6.3
MFF Saint Martin d 84.41 342 *e*P **P 09 18 33.4 0.0**
MFF pmax pmax
comp=Z,322nm,1.3s,mb6.3
MFF Saint Martin d 84.41 342 *e*P **P 09 18 33.4 0.0**
comp=Z,322nm,1.3s,mb6.3
MZDA Masada 84.41 310 P **P 09 18 34.5 +1.1**
MBDF Montbardon 84.48 337 *e*P **P 09 18 34.0 +0.2**
comp=Z,178nm,0.8s,mb6.0
MBDF Montbardon 84.48 337 *e*P **P 09 18 34.0 +0.2**
MBDF pmax pmax
comp=Z,89nm,0.8s,mb6.0
MBDF Montbardon 84.48 337 *e*P **P 09 18 34.0 +0.2**
comp=Z,89nm,0.8s,mb6.0
RGNG Rignano Grg 84.48 330 P **P 09 18 32.9 -0.9**
PYM Petit Puy Mans 84.49 340 *e*P **P 09 18 33.7 -0.1**
APE Apeiranthos 84.50 321 *e*P **P 09 18 31.7 -2.2**
EVR Evrytania 84.52 324 *e*P **P 09 18 33.0 -1.0**
ATH Athens Observa 84.53 322 *e*P **P 09 18 32.7 -1.3**
ORIF Oris-en-Rattie 84.54 337 *e*P **P 09 18 34.8 +0.7**
comp=Z,382nm,0.9s,mb6.2
ORIF *e*MLR MLR
comp=Z,33µm,20.0s
ORIF Oris-en-Rattie 84.54 337 *e*P **P 09 18 34.8 +0.7**
ORIF pmax pmax
comp=Z,191nm,0.9s,mb6.2
ORIF Oris-en-Rattie 84.54 337 *e*P **P 09 18 34.8 +0.7**
comp=Z,191nm,0.9s,mb6.2
COLF Collangettes 84.54 339 *e*P **P 09 18 34.2 +0.1**
DOI San Damiano 84.55 336 P **P 09 18 33.3 -0.8**
FIN Finale Ligure 84.55 336 P **P 09 18 35.1 +1.0**
IGT Igoumenitsa 84.58 325 *e*P **P 09 18 34.0 -0.3**
VERF Verneugheol 84.62 340 *e*P **P 09 18 36.2 +1.7**
AQU L'Aquila 84.62 331⇓*i*P **P 09 18 36.1 +1.6**
AQU L'Aquila 84.62 331 P **P 09 18 35.1 +0.6**
AQU L'Aquila 84.62 331 *e*P **P 09 18 35.2 +0.7**
comp=Z,322nm,1.0s,mb6.4
KEK Kerkira 84.64 326 *e*P **P 09 18 33.5 -1.1**
GRFL Gerfalco 84.69 333 P **P 09 18 34.8 0.0**
SURF Saint Ours 84.69 337 *e*P **P 09 18 35.2 +0.4**
CIGN Sant'Elia a Pi 84.74 330 P **P 09 18 35.7 +0.6**
LCI Lecce 84.74 327 P **P 09 18 34.9 -0.2**
INTR Introdacqua 84.76 331 P **P 09 18 34.0 -1.2**
FIAM Fiamignano 84.80 331 P **P 09 18 34.8 -0.6**
MNS Montasola 84.83 332 P **P 09 18 34.5 -1.1**
VIVF Saint-Julien-l 84.91 338 *e*P **P 09 18 36.5 +0.5**
comp=Z,912nm,1.4s,mb6.4
VIVF Saint-Julien-l 84.91 338 *e*P **P 09 18 36.5 +0.5**
VIVF pmax pmax
comp=Z,456nm,1.4s,mb6.4
VIVF Saint-Julien-l 84.91 338 *e*P **P 09 18 36.5 +0.5**
comp=Z,456nm,1.4s,mb6.4
LBL Lubilhac 84.92 339 *e*P **P 09 18 36.5 +0.5**
MUN Mundaring 84.94 211 *e*P **P 09 18 35.9 -0.2**
MUN *e* 09 22 46.5
MUN *i*S S 09 29 07.8 +4.1
FG5 Orsara di Pugl 84.94 330 P **P 09 18 36.4 +0.3**
SAOF Saorge 84.94 336 *e*P **P 09 18 35.3 -0.8**
FRNF Fournols 84.94 340 *e*P **P 09 18 37.6 +1.5**
RNI2 Rionero Sannit 84.95 330 P **P 09 18 36.7 +0.6**
MASH Mash'abbe Sade 84.96 311 P **P 09 18 38.0 +1.8**
AUTN L'Aution 84.97 336 *e*P **P 09 18 36.1 -0.1**
VVLD Villa Vallelon 84.98 331 P **P 09 18 35.8 -0.5**
FG4 Candela 84.98 329 P **P 09 18 36.3 0.0**
OG25 Le Caire 85.00 337 *e*P **P 09 18 36.6 +0.2**
TOUF Mont Tournerai 85.00 336 *e*P **P 09 18 36.3 -0.1**
KAP Karpathos 85.02 319 *e*P **P 09 18 35.5 -1.0**
LUCF Luceram 85.09 336 *e*P **P 09 18 36.5 -0.3**
SVTA Shivta 85.10 311 P **P 09 18 37.4 +0.5**
ZFRI Zfri 85.11 310 P **P 09 18 37.9 +1.0**
CERT Cerreto 85.12 331 P **P 09 18 36.4 -0.6**
MVIF Mont Vial 85.14 336 *e*P **P 09 18 36.8 -0.3**
PSB1 Pescosannita 85.15 330 P **P 09 18 36.8 -0.3**
GUAR Guarcino 85.15 331 P **P 09 18 38.3 +1.1**
REVF Revere 85.22 336 *e*P **P 09 18 37.1 -0.4**
KZIT Kziot 85.24 311 P **P 09 18 38.8 +1.2**
RJF Les Rejaudoux 85.27 340 *e*P **P 09 18 37.2 -0.5**
comp=Z,569nm,1.3s,mb6.2
RJF *e*MLR MLR
comp=Z,35µm,22.0s
RJF Les Rejaudoux 85.27 340 *e*P **P 09 18 37.2 -0.5**
RJF pmax pmax
comp=Z,285nm,1.3s,mb6.2
RJF MLR MLR
comp=Z,35µm,22.0s,MS6.7
RJF Les Rejaudoux 85.27 340 *e*P **P 09 18 37.2 -0.5**
comp=Z,285nm,1.3s,mb6.2
RJF LR LR
comp=Z,35µm,22.0s,MS6.7
MAON Monte Argentar 85.29 333 P **P 09 18 38.0 +0.1**
MRLC Muro Lucano 85.33 329 P **P 09 18 38.2 +0.2**
TOLF Tolfa 85.34 332 P **P 09 18 37.7 -0.4**
PRNI Paran 85.36 310 P **P 09 18 39.7 +1.5**
RFI Roccamonfina 85.37 330 P **P 09 18 39.6 +1.4**
ROM9 Roma 85.39 332 P **P 09 18 39.1 +0.8**
RLS Riolos of Patr 85.39 324 *e*P **P 09 18 37.6 -0.7**
NWAO Narrogin (SRO) 85.44 210 S S 09 29 06.5 -2.2
comp=Z,7.3nm,1.0s,baz=204,slow=10.0,SNR=2.1
NWAO LR LR 10 01 56.9
comp=Z,12µm,18.1s,MS6.3,baz=36,slow=39
NWAO Narrogin (SRO) 85.44 210 P **P 09 18 38.1 -0.5**
NWAO pmax pmax
comp=Z,710nm,1.8s
NWAO Narrogin (SRO) 85.44 210 *e*P **P 09 18 38.2 -0.4**
comp=Z,709nm,1.8s,mb6.5
NWAO LR LR
comp=Z,10µm,19.0s,MS6.2
CAF Calviac 85.50 340 *e*P **P 09 18 38.9 0.0**
comp=Z,896nm,1.4s,mb6.4
CAF Calviac 85.50 340 *e*P **P 09 18 38.9 0.0**
CAF pmax pmax
comp=Z,448nm,1.4s,mb6.4
CAF Calviac 85.50 340 *e*P **P 09 18 38.9 0.0**
comp=Z,448nm,1.4s,mb6.4
SMRF Simiane la Rot 85.50 337 *e*P **P 09 18 39.7 +0.8**
comp=Z,379nm,1.1s,mb6.2
SMRF Simiane la Rot 85.50 337 *e*P **P 09 18 39.7 +0.8**
comp=Z,379nm,1.1s,mb6.4
SGO Sicignano 85.56 329 P **P 09 18 39.6 +0.4**
FRF La Foret Royal 85.59 336 *e*P **P 09 18 39.3 0.0**
comp=Z,940nm,1.5s,mb6.5
FRF La Foret Royal 85.59 336 *e*P **P 09 18 39.3 0.0**
FRF pmax pmax
comp=Z,470nm,1.5s,mb6.5
FRF La Foret Royal 85.59 336 *e*P **P 09 18 39.3 0.0**
comp=Z,470nm,1.5s,mb6.5
ORI Oriolo Calabro 85.59 328 P **P 09 18 39.7 +0.4**
SLCN Sala Consilina 85.60 329 P **P 09 18 38.9 -0.5**
VLS Valsamata 85.64 324 *e*P **P 09 18 38.2 -1.4**
LFF La Frestale 85.79 341 *e*P **P 09 18 39.9 -0.4**
comp=Z,225nm,0.8s,mb6.1
LFF La Frestale 85.79 341 *e*P **P 09 18 39.9 -0.4**
LFF pmax pmax
comp=Z,113nm,0.8s,mb6.2
LFF La Frestale 85.79 341 *e*P **P 09 18 39.9 -0.4**
comp=Z,113nm,0.8s,mb6.2
LMR La Mourre 85.84 336 *e*P **P 09 18 40.7 +0.1**
comp=Z,755nm,1.1s,mb6.5
LMR La Mourre 85.84 336 *e*P **P 09 18 40.7 +0.1**
LMR pmax pmax
comp=Z,377nm,1.1s,mb6.5
LMR La Mourre 85.84 336 *e*P **P 09 18 40.7 +0.1**
comp=Z,378nm,1.1s,mb6.5
MBH Mount Berech 85.84 310 P **P 09 18 41.4 +0.8**
LASF Ste Croix 85.85 338 *e*P **P 09 18 40.7 +0.1**
comp=Z,602nm,1.3s,mb6.3
VLI Velïai 85.92 322 *e*P **P 09 18 37.7 -3.3**
EIL Elat 85.92 310 P **P 09 18 43.0 +2.0**
NPS Neapolis 85.97 319 *e*P **P 09 18 40.7 -0.5**
TIP Timpagrande 86.26 328 *e*P **P 09 18 44.2 +1.5**
VAM Vamos 86.48 321 *e*P **P 09 18 41.7 -2.0**
TBI Tubuai 86.67 129 *e*PP PP 09 21 51.9 -15
comp=Z,2µm,25.0s
TBI Tubuai 86.67 129 *e*SKSac SKSac 09 29 06.3 -3.9
comp=Z,17µm,28.0s
TBI *e*SS SS 09 34 58.0 -3.9
comp=Z,5µm,27.0s
TBI *e*LR LR 09 44 55.7
comp=Z,63µm,35.0s,baz=322
MTLF Montolieu 86.95 339 *e*P **P 09 18 45.7 -0.3**
comp=Z,150nm,1.0s,mb5.9
MTLF Montolieu 86.95 339 *e*P **P 09 18 45.7 -0.3**
MTLF pmax pmax
comp=Z,75nm,1.0s,mb5.9
MTLF Montolieu 86.95 339 *e*P **P 09 18 45.7 -0.3**
comp=Z,75nm,1.0s,mb5.9
LRDF Laroque-de-Fa 87.25 339 *e*P **P 09 18 48.4 +0.9**
SCLL Scilla 87.45 328 P **P 09 18 48.4 -0.1**
SOI Samo 87.49 328 P **P 09 18 48.1 -0.5**
SLNA Salina 87.50 329 P **P 09 18 48.7 0.0**
CARF Carcanieres 87.57 339 *e*P **P 09 18 49.3 +0.3**
MLS Moulis 87.58 340 *e*P **P 09 18 48.4 -0.7**
FILF Fillols 87.60 339 *e*P **P 09 18 50.7 +1.5**
EJON La Jonquera 87.62 338 P **P 09 18 53.2 +3.9**
comp=Z,228nm,1.9s,mb6.1
EPF Esparros 87.69 340 *e*P **P 09 18 49.5 -0.1**
comp=Z,160nm,1.1s,mb5.8
EPF Esparros 87.69 340 *e*P **P 09 18 49.5 -0.1**
EPF pmax pmax
comp=Z,80nm,1.1s,mb5.9
EPF Esparros 87.69 340 *e*P **P 09 18 49.5 -0.1**
comp=Z,80nm,1.1s,mb5.9
SALF Salau 87.75 340 *e*P **P 09 18 54.5 +4.6**
VALF Valcebollere 87.89 339 *e*P **P 09 18 50.3 -0.2**
VIEF Viey 87.90 341 *e*P **P 09 18 50.8 +0.2**
EALK Alkurruntz 87.92 342 P **P 09 18 50.9 +0.2**
USI Ustica 87.96 330 P **P 09 18 50.8 -0.1**
SJPF Ste Jean 87.97 342 *e*P **P 09 18 51.3 +0.4**
comp=Z,43nm,0.9s,mb5.4
SJPF Ste Jean 87.97 342 *e*P **P 09 18 51.3 +0.4**
SJPF pmax pmax
comp=Z,220nm,0.9s,mb6.4
SJPF Ste Jean 87.97 342 *e*P **P 09 18 51.3 +0.4**
comp=Z,22nm,0.9s,mb5.4
ELIZ Elizondo 87.98 342 P **P 09 18 49.5 -1.5**
ELIZ pmax pmax
comp=Z,37nm,1.1s,mb5.5
ELIZ Elizondo 87.98 342 P **P 09 18 49.5 -1.5**
comp=Z,37nm,1.1s,mb5.5
LARF Larrau 87.98 341 *e*P **P 09 18 50.7 -0.3**
ETSF Etsaut 88.02 341 *e*P **P 09 18 50.7 -0.5**
comp=Z,138nm,0.9s,mb5.9
ETSF Etsaut 88.02 341 *e*P **P 09 18 50.7 -0.5**
ETSF pmax pmax
comp=Z,69nm,0.9s,mb5.9
ETSF Etsaut 88.02 341 *e*P **P 09 18 50.7 -0.5**
comp=Z,69nm,0.9s,mb5.9
EBIE Bielsa 88.06 340 P **P 09 18 51.6 +0.2**
comp=Z,26nm,1.0s,mb5.4
ELAN Lanestosa 88.31 343 P **P 09 18 49.9 -2.7**
comp=Z,76nm,1.3s,mb5.8
CSLB Castelbuono 88.34 329 P **P 09 18 52.3 -0.4**
VSL Villasalto 88.51 333 *e*P **P 09 18 53.0 -0.5**
comp=Z,249nm,1.1s,mb6.5
VAE Valguarnera 88.62 328 LR LR 10 04 32.8
comp=Z,39µm,18.1s,MS6.9,baz=73,slow=40
SSY Sortino 88.67 328 P **P 09 18 54.0 -0.2**
ERC Erice 88.77 330 P **P 09 18 55.3 +0.6**
HVZN Vizzini 88.77 328 P **P 09 18 54.4 -0.3**
HAVL Avola 88.82 328 P **P 09 18 54.4 -0.5**
RAFF Raffo Rosso 88.86 328 P **P 09 18 54.8 -0.4**
EPON Pontenova 88.91 346 P **P 09 18 55.6 +0.3**
comp=Z,498nm,1.9s,mb6.5
HMDC Modica 88.94 328 P **P 09 18 55.5 0.0**
DGAR Diego Garcia 89.00 258 PFAKE 09 19 10.0 +14
DGAR LR LR
comp=Z,3µm,19.0s,MS5.7
EPOB Poblet 89.11 339 P **P 09 18 56.3 0.0**
comp=Z,5.4nm,0.6s,mb5.0
MUKL Al Mukalla 89.11 290⇑*e*P **P 09 18 55.9 -0.4**
MUKL AMb AMB 09 18 57.0
comp=Z,298nm,1.9s,mb6.3
ESAC San Caprasio 89.12 341 P **P 09 19 00.3 +3.9**
comp=Z,367nm,1.5s,mb6.5
TAU Tasmania Unive 89.14 184 PFAKE 09 19 10.0 +14
TAU LR LR
comp=Z,5µm,19.0s,MS6.0
SNZO South Karori 89.47 164 PFAKE 09 19 10.0 +12
SNZO LR LR
comp=Z,26µm,19.0s,MS6.7
STS Santiago 89.57 347 P **P 09 18 59.5 +1.0**
STS pmax pmax
comp=Z,211nm,1.6s,mb6.2
STS Santiago 89.57 347 P **P 09 18 59.5 +1.0**
comp=Z,210nm,1.6s,mb6.2
ERTA Horta de San J 89.66 340 P **P 09 19 00.5 +1.6**
comp=Z,95nm,1.5s,mb5.9
ERUA La Rua 89.82 346 P **P 09 18 57.2 -2.4**
ERUA pmax pmax
comp=Z,23nm,1.0s,mb5.5
ERUA La Rua 89.82 346 P **P 09 18 57.1 -2.5**
comp=Z,23nm,1.0s,mb5.5
ETOS Mallorca 90.16 338 P **P 09 19 03.5 +2.2**
comp=Z,167nm,1.6s,mb6.1
ECAL Calabor 90.19 345 P **P 09 19 01.3 -0.1**
comp=Z,68nm,1.3s,mb5.8
PBRG Braganca 90.32 345 *e*P **P 09 19 01.0 -1.0**
comp=Z,81nm,1.5s,mb5.8
ETOR Torete 90.34 341 P **P 09 19 01.2 -0.9**
ETOR pmax pmax
comp=Z,16nm,1.0s,mb5.3
ETOR Torete 90.34 341 P **P 09 19 01.2 -0.9**
comp=Z,16nm,1.0s,mb5.3
EMOS Mosqueruela 90.41 340 P **P 09 19 01.6 -0.8**
PCAB Cabril 90.63 346 *e*P **P 09 19 01.9 -1.5**
comp=Z,104nm,1.8s,mb5.9
DWPF Disney 90.84 46 PFAKE 09 19 20.0 +16

DWPF LR LR
comp=Z,18μm,20.0s,MS6.5
GUD Guadarrama 90.95 343 P **P** **09 19 03.3 -1.6**
GUD pmax pmax
comp=Z,100nm,1.0s,mb6.1
GUD Guadarrama 90.95 343 P **P** **09 19 03.3 -1.6**
comp=Z,10.0nm,1.0s,mb5.1
PVRL Vila Real 91.00 346 *e*P **P** **09 19 03.1 -2.1**
comp=Z,90nm,1.5s,mb5.9
EIBI Ibiza 91.24 338 P **P** **09 19 11.4 +5.2**
comp=Z,146nm,1.5s,mb6.1
PVIS Viseu 91.58 346 *e*P **P** **09 19 07.4 -0.4**
comp=Z,76nm,1.5s,mb5.8
CMAH Djebel Manchou 91.75 333 P **P** **09 19 07.6 -1.0**
CAEH 'Ain El Ouahch 91.79 334 P **P** **09 19 11.5 +2.7**
MTE Manteigas 91.82 345 *e*P **P** **09 19 08.5 -0.5**
comp=Z,99nm,1.6s,mb5.9
MTE Manteigas 91.82 345 *e*SKS 09 29 45.5
ESDC Sonseca Array 91.84 343 P **P** **09 19 08.0 -1.1**
comp=Z,11nm,1.0s,mb5.2,baz=6.5,slow=4.2,SNR=32
ESDC S S 09 29 43.4 -26
comp=Z,0.1nm,0.3s,baz=317,slow=26,SNR=3.0
ESDC LR LR 10 08 25.1
comp=Z,32μm,18.4s,MS6.8,baz=15,slow=41
ESDC Sonseca Array 91.84 343 P **P** **09 19 08.7 -0.3**
comp=Z,8.6nm,0.9s,mb5.1
ESLA Sonseca Array 91.84 343 *e*P **P** **09 19 08.4 -0.6**
comp=Z,34nm,1.4s,mb5.5
EBEN Beniarda 91.93 340 P **P** **09 19 13.0 +3.6**
comp=Z,248nm,2.0s,mb6.2
KEST Kesra 91.95 331 P **P** **09 19 10.3 +0.8**
comp=Z,14nm,0.9s,mb5.3,baz=324,slow=2.9,SNR=24
KEST S S 09 29 44.6 -25
comp=Z,0.8nm,0.9s,baz=182,slow=16,SNR=5.0
KEST LR LR 10 07 10.5
comp=Z,15μm,18.5s,MS6.5,baz=90,slow=40
LBOS 92.00 292⇑ *e*P **P** **09 19 09.7 0.0**
LBOS AMb AMB 09 19 15.3
comp=Z,637nm,1.5s,mb6.7
DHBB Dhamar BB 92.02 293⇑ *e*P **P** **09 19 09.8 0.0**
ABSA Djebel Ababsia 92.06 333 P **P** **09 19 09.0 -1.0**
CKFL Kef-Lekhel 92.18 334 P **P** **09 19 11.0 +0.4**
DFRA Djebel Bou Aff 92.30 334 P **P** **09 19 11.4 +0.2**
ETOB Tobarra 92.30 340 P **P** **09 19 13.5 +2.4**
comp=Z,60nm,1.5s,mb5.7
PCBR Castelo Branco 92.36 345 *e*P **P** **09 19 10.3 -1.1**
comp=Z,73nm,1.6s,mb5.8
CASM Ain Smara 92.38 334 P **P** **09 19 14.0 +2.5**
EVIA Vianos 92.52 341 P **P** **09 19 11.3 -0.9**
EVIA pmax pmax
comp=Z,19nm,1.0s,mb5.5
EVIA Vianos 92.52 341 P **P** **09 19 11.3 -0.9**
comp=Z,19nm,1.0s,mb5.5
PTOM Tomar 92.73 346 *e*P **P** **09 19 13.0 -0.2**
SET Setif 92.76 334 P **P** **09 19 14.0 +0.7**
ABA Alger-Bouzarea 92.88 336 P **P** **09 19 17.0 +3.2**
EMUR La'Murta 92.99 340 P **P** **09 19 18.2 +3.8**
comp=Z,65nm,1.4s,mb5.9
EBAN Banos Encina 93.26 342 P **P** **09 19 14.4 -1.2**
EBAN pmax pmax
comp=Z,40nm,0.5s,mb6.1
EBAN Banos Encina 93.26 342 P **P** **09 19 14.4 -1.1**
comp=Z,3.9nm,0.5s,mb5.1
PESTR Estremoz 93.32 345 *e*P **P** **09 19 14.6 -1.3**
comp=Z,45nm,1.2s,mb5.8
PESTR Estremoz 93.32 345 *e*SKS SKSac 09 29 57.4 +8.4
PESTR Estremoz 93.32 345 *i* LQ 09 44 01.3
PESTR *i* LR LR 09 51 34.8
comp=Z,19μm,18.2s
EBAD Badajoz 93.33 345 P **P** **09 19 17.6 +1.7**
comp=Z,19nm,1.1s,mb5.4
EHUE Huescar 93.33 341 P **P** **09 19 17.5 +1.6**
EHUE pmax pmax
comp=Z,21nm,1.2s,mb5.4
EHUE Huescar 93.33 341 P **P** **09 19 17.5 +1.5**
comp=Z,21nm,1.2s,mb5.4
EADA Adamuz 93.42 343 P **P** **09 19 15.5 -0.8**
comp=Z,9.7nm,1.0s,mb5.2
EQES Quesada 93.45 341 P **P** **09 19 16.7 +0.2**
comp=Z,13nm,1.0s,mb5.3
EMHD Djebel Mahouad 93.47 336 P **P** **09 19 18.0 +1.5**
EVO Evora 93.72 345 *e*P **P** **09 19 17.5 -0.2**
comp=Z,259nm,1.7s,mb6.1
EVO *e*MLR MLR
comp=Z,25μm,17.8s
LIS Lisbon 93.74 346 *e*P **P** **09 19 17.5 -0.3**
LIS *e*S SKSac 09 29 51.5 +0.2
LIS *e*S SKSac 09 29 51.7 +0.4
LIS AMS AMS 10 09 10.7
comp=E,23μm,16.0s
ELUQ Luque 93.94 342 P **P** **09 19 17.6 -1.1**
ELUQ pmax pmax
comp=Z,54nm,1.8s,mb5.7
ELUQ Luque 93.94 342 P **P** **09 19 17.6 -1.1**
comp=Z,54nm,1.8s,mb5.7
ENIJ Nijar 94.05 340 P **P** **09 19 22.8 +3.6**
ENIJ pmax pmax
comp=Z,30nm,0.4s,mb6.1
ENIJ Nijar 94.05 340 P **P** **09 19 22.8 +3.6**
comp=Z,2.7nm,0.4s,mb5.0
ECOG Cogollos-Vega 94.06 342 P **P** **09 19 17.6 -1.7**
ECOG pmax pmax
comp=Z,70nm,0.9s,mb6.1
ECOG Cogollos-Vega 94.06 342 P **P** **09 19 17.6 -1.7**
comp=Z,7.4nm,0.9s,mb5.1
PBEJ Beja 94.19 345 *e*P **P** **09 19 19.0 -0.9**
comp=Z,62nm,1.6s,mb5.8
EANR 'Ain N'Sour 94.20 338 P **P** **09 19 20.0 +0.1**
EMIN Mina Concepcio 94.22 344 P **P** **09 19 19.2 -0.8**
comp=Z,12nm,0.9s,mb5.3
ELOJ Sierra Loja 94.31 342 P **P** **09 19 18.5 -1.9**
ELOJ pmax pmax
comp=Z,50nm,0.8s,mb6.0
ELOJ Sierra Loja 94.31 342 P **P** **09 19 18.5 -1.9**
comp=Z,4.6nm,0.8s,mb5.0
SOR Soroa 94.38 50 *e*P **P** **09 19 23.2 +2.5**
BBSR BB Station 94.39 31 PFAKE 09 19 30.0 +9.2
BBSR LR LR
comp=Z,12μm,20.0s,MS6.3
EGRO El Granado 94.60 345 P **P** **09 19 24.1 +2.4**
comp=Z,126nm,1.8s,mb6.0
ETRT Tiaret 94.68 337 P **P** **09 19 25.0 +2.9**
RKT Rikitea 94.80 119 *e*PP PP 09 22 53.8 -17
comp=Z,1μm,27.8s
RKT Rikitea 94.80 119 *e*SKSac SKSac 09 29 53.6 -3.4
comp=Z,9μm,28.8s
RKT *e*SP SP 09 31 49.0 -2.0
comp=Z,15μm,28.8s
RKT *e*SS SS 09 36 59.1 -0.2
comp=Z,11μm,25.2s
RKT *e*LR LR 09 48 51.4
comp=Z,69μm,33.0s,baz=318
PTEO Sao Teotonio 94.81 346 *e*P **P** **09 19 22.9 +0.2**
ESPR Espera 94.93 343 P **P** **09 19 23.7 +0.4**
comp=Z,9.4nm,0.9s,mb5.2
MORF Marmelete 95.03 346 *e*P **P** **09 19 23.4 -0.3**
MORF *e*S SKSac 09 30 00.8 +2.5
MORF *e*S SKSac 09 30 00.9 +2.6
MORF AMS AMS 10 10 29.3
comp=Z,21μm,19.7s,MS6.6
EJIF Jimena Fronter 95.26 343 P **P** **09 19 23.9 -0.9**
EJIF pmax pmax
comp=Z,33nm,1.2s,mb5.6
EJIF Jimena Fronter 95.26 343 P **P** **09 19 23.9 -0.9**
comp=Z,33nm,1.2s,mb5.6
CMLA Cha da Macela 96.14 359 *e*LQ 09 46 09.6
CMLA *e*LR LR 09 51 53.7
MSEY Mahe Island 98.69 272 PFAKE 09 19 50.0 +10
MSEY LR LR
comp=Z,3μm,20.0s,MS5.8
PTCN Pitcairn Islan 99.22 117 PFAKE 09 19 50.0 +7.3
PTCN LR LR
comp=Z,18μm,20.0s,MS6.6
LMGC Las Mercedes 99.75 47 *e*P Pdif 09 19 47.0 +2.0
MASC Masc 101.04 45 *e*P PKiKP 09 24 09.1 -6.8
JTS JuntasAbangare 103.33 59 PFAKE 09 20 10.0 +9.1
JTS LR LR
comp=Z,2μm,19.0s,MS5.6
SJG San Juan 106.56 39 PFAKE 09 24 40.0 +14
SJG LR LR
comp=Z,15μm,19.0s,MS6.6
KMBO Kilima Mbogo 108.46 289 PFAKE 09 24 40.0 +11
KMBO LR LR
comp=Z,21μm,20.0s,MS6.7
PAYG Puerto Ayora 108.48 71 PFAKE 09 24 40.0 +10
PAYG LR LR
comp=Z,11μm,19.0s,MS6.5
SDV Santo Domingo 112.44 48 *e*PKPdf PKiKP 09 24 38.7 +1.7
SDV LR LR
comp=Z,5μm,19.0s,MS6.1
DRV Dumont d'Urvil 113.25 186 PP PP 09 25 28.0 -0.7
DRV SKS SKSac 09 31 22.0 -0.1
DRV SP SP 09 35 03.0 +1.2
DRV SS SS 09 41 14.0 +1.2
RPN Rapa Nui 114.06 105 PFAKE 09 24 50.0 +10
RPN LR LR
comp=Z,2μm,20.0s,MS5.7
TRN Trinidad (W) 115.25 38 *e* Pdif 09 20 57.6 +3.7
TOA0 Torodi Ar. Sit 115.37 329 *e*PKPdf PKPdf 09 24 41.7 -0.9
TORD Torodi Ar. Bea 115.37 329 Pdiff Pdif 09 20 58.9 +4.4
comp=Z,3.0nm,1.1s,baz=2.3,slow=7.4,SNR=4.4
TORD PKP PKPdf 09 24 41.8 -0.8
comp=Z,4.1nm,0.7s,baz=12,slow=1.0,SNR=19
TORD PP PP 09 25 40.9 -2.8
comp=Z,37nm,1.1s,baz=17,slow=6.0,SNR=8.1
TORD PKKPab PKKPab 09 35 22.9 +0.8
comp=Z,1.1nm,0.8s,baz=212,slow=1.9,SNR=3.9
TORD Torodi Ar. Bea 115.37 329 Pdif Pdif 09 20 58.9 +4.4
TORD PKP PKPdf 09 24 41.8 -0.8
TORD PP PP 09 25 40.9 -2.8
TORD PKKPab PKKPab 09 35 22.9 +0.8
CASY Casey 117.08 198 PFAKE 09 25 00.0 +14
CASY LR LR
comp=Z,8μm,19.0s,MS6.3
MIR Mirnyy 121.65 204 PKIKP 09 24 44.0
MIR pmax pmax
comp=Z,130nm,1.0s
DBIC Dimbokro 123.61 334 PKPdf PKPdf 09 24 58.0 -0.4
DBIC Dimbokro 123.61 334 PKP PKPdf 09 24 57.4 -1.1
comp=Z,43nm,1.1s,baz=27,slow=1.7,SNR=23
DBIC PP PP 09 26 37.7 -2.7
comp=Z,17nm,0.9s,baz=359,slow=12,SNR=2.8
DBIC PKP2ab 09 40 55.6
comp=Z,1.0nm,0.2s,baz=265,slow=4.7,SNR=9.6
DBIC Dimbokro 123.61 334 *e*PKPdf PKPdf 09 24 58.0 -0.5
DBIC LR LR
comp=Z,12μm,21.0s,MS6.5
VNDA Vanda 123.83 178 PKP PKPdf 09 24 56.1 -2.8
comp=Z,5.8nm,0.9s,baz=312,slow=4.0,SNR=15
VNDA Vanda 123.83 178 PKIKP PKPdf 09 24 56.1 -2.8
VNDA pmax pmax
comp=Z,60nm,0.9s
VNDA Vanda 123.83 178 *e*PKPdf PKPdf 09 24 57.4 -1.5
VNDA LR LR
comp=Z,7μm,20.0s,MS6.3
SBA Scott Base 124.33 177 *e*PKIKP PKPdf 09 25 00.0 +0.2
SBA MLR MLR
comp=Z,8μm,21.0s,MS6.4
LSZ Lusaka 124.89 286 *e*PKIKP PKPdf 09 25 01.2 +0.3
LSZ MLR MLR
comp=Z,18μm,19.0s,MS6.8
NNA Nana 125.69 67 *e*PKPdf PKPdf 09 25 02.0 -0.5
NNA LR LR
comp=Z,2μm,20.0s,MS5.8
MAW Mawson 131.99 211 *e*PKP PKPdf 09 25 12.2 -2.2
comp=Z,6.9nm,0.6s
MAW *e*PP PP 09 27 43.7 +8.1
MAW *e*SDIF Sdif 09 35 51.2 +4.7
MAW Mawson 131.99 211 PKP PKPdf 09 25 13.2 -1.2
comp=Z,8.9nm,0.8s,baz=326,slow=2.2,SNR=15
MAW PP PP 09 27 41.5 +5.9
comp=Z,11nm,1.2s,baz=82,slow=3.7,SNR=3.9
MAW Mawson 131.99 211 *e*PKIKP PKPdf 09 25 12.2 -2.2
MAW *e* 09 27 43.7
ARE Arequipa 132.45 66 *e*PKIKP PKPdf 09 25 17.0 +1.7
LBTB Lobatse 133.36 279 *e*PKIKP PKPdf 09 25 17.3 +0.3
LBTB MLR MLR
comp=Z,13μm,20.0s,MS6.6
LPAZ La Paz 134.41 63 PKP PKPdf 09 25 18.6 -0.4
comp=Z,6.2nm,0.7s,baz=6.2,slow=4.3,SNR=12
LPAZ La Paz 134.41 63 PKIKP PKPdf 09 25 18.6 -0.4
LPAZ pmax pmax
comp=Z,60nm,0.7s
LPAZ La Paz 134.41 63 *e*PKPdf PKPdf 09 25 21.3 +2.3
LPAZ LR LR
comp=Z,9μm,20.0s,MS6.5
TSUM Tsumeb 134.68 292 *e*PKPdf PKPdf 09 25 20.9 +1.4
TSUM LR LR
comp=Z,11μm,20.0s,MS6.6
BOSA Boshof 135.89 275 PKhKP 09 25 15.3
comp=Z,2.5nm,0.7s,baz=198,slow=5.3,SNR=4.3
BOSA PP PP 09 28 00.9 +0.5
comp=Z,17nm,1.1s,baz=31,slow=7.4,SNR=4.5
BOSA Boshof 135.89 275 PKP 09 25 15.3
BOSA *e*PKPdf PKPdf 09 25 23.4 +1.6
BOSA PP PP 09 28 00.9 +0.5
BOSA LR LR
comp=Z,11μm,20.0s,MS6.6
QSPA South Pole Qui 136.20 180 *e*P 09 25 10.3
LVC Limon Verde 138.59 70 *e*PKPdf PKPdf 09 25 25.7 -1.0
LVC LR LR
comp=Z,8μm,20.0s,MS6.5
SYO Syowa Base 140.70 211⇓ *e*P PKPdf 09 25 22.6 -8.0
SYO Syowa Base 140.70 211⇑ *e*PKPdf PKPdf 09 25 30.0 -0.6
SYO Syowa Base 140.70 211⇑ *e*PKiKP PKiKP 09 25 33.1 -0.1
SUR Sutherland 141.21 274 PP PP 09 28 38.0 +4.6
comp=Z,18nm,1.1s,baz=45,slow=1.4,SNR=3.5
SUR Sutherland 141.21 274 PFAKE 09 25 40.0 +8.5
SUR LR LR
comp=Z,3μm,20.0s,MS6.1
LCO Las Campanas 141.71 79 *e*P 09 25 18.2
TLL Tololo Astrono 142.36 80 *e*P PKPdf 09 25 28.6 -4.9
CLCH Cerro Calan 144.45 84 *e*P PKPdf 09 25 35.2 -2.1
BDFB Brasilia 144.53 37 PKP PKPdf 09 25 35.5 -1.8
comp=Z,28nm,1.0s,baz=9.7,slow=4.1,SNR=24
BDFB Brasilia 144.53 37 PKP PKPdf 09 25 35.5 -1.8
BDFB LR LR
comp=Z,23μm,21.0s,MS6.9
FCH Farellones 144.59 84⇓ *e*P PKPdf 09 25 36.6 -0.8
NICH Los Niches 144.87 87 *e*P PKPdf 09 25 36.0 -1.9
LMEL Las Melosas 144.94 85 *e*P PKPdf 09 25 35.4 -2.7
MDZ Mendoza 145.32 82 *e*P 09 25 29.4
MDZ *i* S PKPdf 09 25 41.9 +3.2
PLCA Paso Flores 148.12 96 PKPbc PKPbc 09 25 46.0 -0.6
comp=Z,54nm,0.8s,baz=282,slow=3.8,SNR=28
PLCA Paso Flores 148.12 96 *e*PKPbc PKPbc 09 25 46.4 -0.3
PLCA *e*PKPab PKPab 09 25 50.3 +0.8
PLCA LR LR
comp=Z,8μm,20.0s,MS6.5
CPUP Villa Florida 148.55 61 PKPbc PKPbc 09 25 46.7 -1.1
comp=Z,69nm,0.8s,baz=303,slow=2.4,SNR=55
CPUP Villa Florida 148.55 61 PKPbc PKPbc 09 25 46.7 -1.1
CPUP LR LR
comp=Z,2μm,19.0s,MS5.8
NVL N'lazarevskaya 149.40 204 *c i* PKHKP 09 25 43.1
NVL *i* 09 29 21.0
NVL pmax pmax
comp=Z,223nm,1.5s
MAIT Maitri 149.43 204 *e*PKPdf PKPdf 09 25 43.8 -1.8
CAM3 Guarapari 151.98 28⇓ *e*P PKPbc 09 25 55.0 -1.0
CAM3 *i* 09 25 56.1
CAM3 *i* 09 26 03.0
CAM3 *i* 09 26 09.1
CAM3 *i* 09 26 18.9
CAM3 *i* 09 26 30.0
CAM3 *i* 09 26 32.6
SNAA Sanae 152.30 196 PKP PKPdf 09 25 47.3 -2.7
comp=Z,1.9nm,0.9s,baz=130,slow=3.4,SNR=8.1
SNAA PKPbc PKPbc 09 25 56.9 +0.1
comp=Z,13nm,0.9s,baz=148,slow=2.5,SNR=14
SNAA Sanae 152.30 196 PKIKP PKPdf 09 25 47.3 -2.7
SNAA 09 25 56.9
SNAA pmax pmax
comp=Z,2.0nm,0.9s
PMSA Palmer Station 152.71 146 *e*PKPbc PKPbc 09 25 57.1 -0.6
PMSA LR LR
comp=Z,14μm,22.0s,MS6.7
CAM4 Nova Friburgo 152.76 33 *e*P PKPdf 09 25 52.2 +1.5
CAM4 *i* 09 25 56.1
CAM4 *i* 09 26 00.5
CAM4 *i* 09 26 03.0
CAM4 *i* 09 26 05.9
TRQA Tornquist 152.82 85 *e*PKPdf PKPdf 09 25 50.9 +0.1
TRQA LR LR
comp=Z,20μm,19.0s,MS7.0
VNA3 Neumayer Olymp 153.83 192⇓ *i*PKPdf PKPdf 09 25 51.5 -0.7
VNA3 *e* 09 25 54.8
VNA3 *e* 09 25 56.3
VNA3 *e* 09 25 59.7
VNA3 *e* 09 26 02.1
VNA3 *e* 09 26 16.0
VNA3 *e* 09 26 18.9
VNA3 *e* 09 26 28.8
VNA3 *e* 09 26 36.4
VNA1 Neumayer--Stat 154.13 194⇓ *i*PKPdf PKPdf 09 25 51.6 -1.0
VNA1 *e* 09 25 55.0
VNA1 *e* 09 25 56.3
VNA1 *e* 09 25 59.5
VNA1 *e* 09 26 02.0
VNA1 *e* 09 26 15.8
VNA1 *e* 09 26 20.2
VNA1 *e* 09 26 28.8
VNA1 *e* 09 26 37.9
EFI East Falkland 158.96 116 PFAKE 09 26 10.0 +11
EFI LR LR
comp=Z,5μm,19.0s,MS6.4
TRIS Tristan da Cun 165.71 306 PFAKE 09 26 20.0 +14
TRIS LR LR
comp=Z,10μm,22.0s

BJI ***01*** *09:09:57.7, 4659N×15333E, h11km, mB6.1, mb5.3, Ms5.4, Msz5.2*
IDC ***01*** *09:09:58.0±0.6, 4645N×153.17E, h0km, mb5.0/17, mb1 5.2/17, mb1mx5.1/22, mbtmp5.0/17, MS6.8/2, Ms1 6.8/2, ms1mx5.4/44, Error ellipse: s-maj=19.5km s-min=17.5km az=121.0*
NEIC ***01*** *09:09:59.9±0.3, 4648N×15326E, h10km, mb5.4/68, Error ellipse: s-maj=7.7km s-min=4.2km az=168.0*
ISCJB ***01*** *09:09:59.3±0.3, 4641N±006×15335E±005, h17km, mb5.3/99, MS5.6/5, Error ellipse: s-maj=8.9km s-min=4.4km az=131.6*
MOS ***01*** *09:10:02.4±0.8, 4655N×15327E, h33km, mb5.6/59, Error ellipse: s-maj=10.9km s-min=6.1km az=104.0*
SZGRF ***01*** *09:10:05.7, 46.99N×154.54E, h33km, mb5.6, East of Kuril Islands, Russia*
ISC 01 09:10:01.7±0.3, 4660N±006×15325E±006, h18km, h18km±2.4km:pP-P, n268, σ0s83/266, mb5.3/99, MS5.6/5, 69C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*e*PN	**Pn**	**09 11 50.0**	**+3.8**
YSS				pmax	pmax		
comp=Z,310nm,1.0s							
ASAJ	**Asahikawa**	**7.90**	**256**	Pn	**Pn**	**09 11 57.2**	**+1.6**
comp=Z,5.8nm,0.3s,baz=86,slow=18,SNR=3.0							
ASAJ	**Asahikawa**	**7.90**	**256**	PN	**Pn**	**09 11 57.2**	**+1.6**
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
OKH	**Okha**	**9.61**	**320**	*i* PN	**Pn**	**09 12 22.6**	**+3.6**
MA2	**Magadan**	**13.09**	**354**	*d* PN	**Pn**	**09 13 10.7**	**+4.1**
MA2				pmax	pmax		
comp=Z,40nm,0.5s							
MA2				pmax	pmax		
comp=N,20nm,0.4s							
SMY	**Shemya**	**14.81**	**58**	*e*P	**Pn**	**09 13 31.5**	**+1.4**
SMY				pmax	pmax		
comp=Z,461nm,1.5s							
SMY	**Shemya**	**14.81**	**58**	*e*Pn	**Pn**	**09 13 31.5**	**+1.4**
comp=Z,461nm,1.5s							
MJAR	**Matsushiro Arr**	**15.06**	**234**	Pn	**Pn**	**09 13 35.9**	**+2.4**
comp=Z,0.7nm,0.3s,baz=35,slow=8.7,SNR=4.8							
MJAR				Sn	**Sn**	**09 16 18.4**	**-1.4**
comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=3.3							
MJAR	**Matsushiro Arr**	**15.06**	**234**	P	**Pn**	**09 13 35.9**	**+2.4**
MJAR						09 16 18.4	
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MDJ	**Mudanjiang**	**16.66**	**272**	P	**Pn**	**09 13 54.5**	**+0.3**
MDJ				AP	pP	09 13 59.0	-2.6
MDJ				XP	sP	09 14 01.9	-2.0
MDJ				AMB	AMB		
comp=Z,118nm,1.0s							
MDJ				AMB	AMB		
comp=Z,15μm,8.5s							
MDJ	**Mudanjiang**	**16.66**	**272**	*e*P	**Pn**	**09 13 55.1**	**+1.0**
comp=Z,118nm,0.8s							
CN2	**Changchun**	**19.75**	**272**	*e*P	**Pn**	**09 14 32.4**	**+0.4**
CN2				*e*AP	pP	09 14 36.4	+0.8
CN2				AMB	AMB		
comp=Z,90nm,0.7s							
CLNS	**Chul'man**	**20.19**	**311**	*e*P	**P**	**09 14 40.3**	**+5.0**
YAK	**Yakutsk**	**20.50**	**327**	*e*P	**P**	**09 14 38.4**	**-0.2**
YAK				pmax	pmax		
comp=Z,1μm,1.7s							
YAK	**Yakutsk**	**20.50**	**327**	*e*P	**P**	**09 14 38.4**	**-0.2**
comp=Z,1μm,1.7s							
INCN	**Inchon**	**21.68**	**255**	*e*P	**P**	**09 14 51.5**	**+0.2**
comp=Z,118nm,0.8s,mb5.4							
SNY	**Shenyang**	**21.72**	**268**	⇑P	**P**	**09 14 51.4**	**-0.4**
SNY				AMB	AMB		
comp=Z,73nm,1.0s,mb5.1							
HIA	**Hailar**	**22.50**	**289**	P	**P**	**09 14 58.8**	**-1.3**
HIA				pmax	pmax		
comp=Z,44nm,0.8s							
HIA	**Hailar**	**22.50**	**289**	P	**P**	**09 14 58.8**	**-1.3**
comp=Z,44nm,0.8s,mb5.0							
DL2	**Dalian**	**24.34**	**263**	P	**P**	**09 15 18.8**	**+0.5**
DL2				AMB	AMB		
comp=Z,50nm,0.9s,mb4.9							
BJI	**Beijing**	**27.57**	**270**	*e*P	**P**	**09 15 49.0**	**+1.5**
BJI				pmax	pmax		
comp=Z,57nm,0.9s,mb5.2							
BJI				MLR	MLR		
comp=Z,42μm,17.0s,MS6.1							
BJI	**Beijing**	**27.57**	**270**	*e*P	**P**	**09 15 49.0**	**+1.5**
comp=Z,57nm,0.9s,mb5.2							
BJI				LR	LR		
comp=Z,42μm,17.0s,MS6.1							
BJT	**Baijiatuau**	**27.58**	**270**	*e*P	**P**	**09 15 47.1**	**-0.6**
BJT				pmax	pmax		
comp=Z,98nm,1.0s							
BJT	**Baijiatuau**	**27.58**	**270**	*e*P	**P**	**09 15 47.1**	**-0.6**
comp=Z,98nm,1.0s,mb5.4							
NJ2	**Nanjing**	**30.04**	**253**	*e*P	**P**	**09 16 08.9**	**-0.6**
NJ2				AMB	AMB		
comp=Z,100nm,1.0s,mb5.5							
HHC	**Hu-ho-hao-te**	**30.40**	**274**	*e*P	**P**	**09 16 13.0**	**+0.3**
HHC				AP	pP	09 16 17.5	-0.7
HHC				XP	sP	09 16 20.0	-0.5
HHC				AMB	AMB		
comp=Z,128nm,0.8s,mb5.7							
HHC				PP	PP		
comp=Z,3μm,15.2s							
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**09 16 21.4**	**-0.8**
comp=Z,7.5nm,0.8s,mb4.5,baz=52,slow=5.6,SNR=2.6							
SONM				PcP	PcP	09 19 14.7	-0.3
comp=Z,5.3nm,0.8s,baz=62,slow=1.1,SNR=3.5							
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**09 16 21.4**	**-0.8**
SONM						09 19 14.7	
SONM				pmax	pmax		
comp=Z,80nm,0.8s							
TLY	**Talaya**	**32.33**	**298**	*e*P	**P**	**09 16 27.9**	**-1.8**
TLY				pmax	pmax		
comp=Z,27nm,0.9s,mb5.1							
TLY	**Talaya**	**32.33**	**298**	*e*P	**P**	**09 16 27.9**	**-1.9**
comp=Z,27nm,0.9s,mb5.1							
WHN	**Wuhan**	**33.98**	**256**	⇑P	**P**	**09 16 43.5**	**-0.6**
MCK	**McKinley**	**35.71**	**40**	P	**P**	**09 16 59.3**	**+0.3**
MCK				pmax	pmax		
comp=Z,110nm,0.9s,mb5.8							
MCK	**McKinley**	**35.71**	**40**	P	**P**	**09 16 59.3**	**+0.2**
comp=Z,11nm,0.9s,mb4.8							
COLA	**College**	**36.20**	**38**	*e*P	**P**	**09 17 03.8**	**+0.5**
COLA				pmax	pmax		
comp=Z,23nm,0.7s,mb5.2							
COLA	**College**	**36.20**	**38**	*e*P	**P**	**09 17 03.8**	**+0.5**
comp=Z,23nm,0.7s,mb5.2							
LZH	**Lanzhou**	**37.98**	**272**	*e*P	**P**	**09 17 19.0**	**+0.6**
LZH				AP	pP	09 17 23.5	-0.5
LZH				XP	sP	09 17 28.0	+1.7
LZH				PP	PP	09 18 48.4	+3.1
LZH				*e*S	**S**	**09 23 04.0**	**-5.6**
LZH				SS	SS	09 25 41.0	-16
LZH				SCS	ScS	09 27 27.0	-2.8
LZH				AMB	AMB		
comp=Z,64nm,1.3s,mb5.2							
LZH				AMB	AMB		
comp=Z,518nm,6.4s							
LZH				LR	LR		
comp=E,5μm,16.6s							
LZH				LR	LR		

comp=Z,7μm,17.4s,MS5.5
LZH Lanzhou 37.98 272 *e*P **P 09 17 19.0 +0.6**
LZH *SP sP 09 17 28.0 +1.7
LZH 09 18 48.4
LZH 09 19 39.8
LZH *e*S **S 09 23 04.0 -5.6**
LZH SS SS 09 25 41.0 -16
LZH 09 27 27.0
LZH pmax pmax
comp=Z,64nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,7μm,17.4s,MS5.5
LZH Lanzhou 37.98 272 *e*P **P 09 17 19.0 +0.6**
comp=Z,64nm,1.3s,mb5.2
LZH pP pP 09 17 23.5 -0.5
LZH sP sP 09 17 28.0 +1.7
LZH PP PP 09 18 48.4 +3.1
LZH PcP PcP 09 19 39.8 +5.9
LZH *e*S **S 09 23 04.0 -5.6**
LZH sS sS 09 23 15.0 -3.9
LZH SS SS 09 25 41.0 -16
LZH ScS ScS 09 27 27.0 -2.8
LZH LR LR
comp=Z,7μm,17.4s,MS5.5
GTA Gaotai 39.09 279 *e*P **P 09 17 28.7 +1.0**
GTA AP pP 09 17 33.6 +0.3
GTA XP sP 09 17 36.5 +1.0
GTA PP PP 09 19 02.4 +5.1
GTA S **S 09 23 27.8 +1.6**
GTA XS sS 09 23 35.4 -0.1
GTA SS SS 09 26 13.6 -5.2
GTA AMB AMB
comp=Z,97nm,1.3s,mb5.4
GTA AMB AMB
comp=Z,3μm,9.5s
CD2 Chengdu 40.96 265 *e*P **P 09 17 43.1 -0.1**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,180nm,5.2s
INK Inuvik 41.73 32 P **P 09 17 50.2 +0.7**
comp=Z,36nm,0.9s,mb5.0,baz=280,slow=7.4,SNR=4.6
INK Inuvik 41.73 32 *e*P **P 09 17 49.5 -0.1**
INK pmax pmax
comp=Z,26nm,0.7s
INK Inuvik 41.73 32 *e*P **P 09 17 49.5 0.0**
comp=Z,844nm,0.7s
GYA Guiyang 41.77 258⇑*i*P **P 09 17 49.9 0.0**
GYA AP pP 09 17 54.2 -1.3
GYA XP sP 09 17 57.8 0.0
GYA PP PP 09 19 29.5 +3.0
GYA SCP ScP 09 23 35.9 +0.6
GYA S **S 09 24 05.6 -0.7**
GYA SCS ScS 09 27 50.8 -1.3
GYA AMB AMB
comp=Z,160nm,0.9s,mb5.7
GYA AMB AMB
comp=Z,1μm,5.9s
GYA LR LR
comp=N,1μm,17.3s,MS5.0
GYA LR LR
comp=E,970nm,16.8s,MS5.0
GYA LR LR
comp=Z,1μm,17.0s,MS4.9
WMQ Urumqi 45.07 291 *e*P **P 09 18 17.1 +0.6**
WMQ AP pP 09 18 21.0 -1.2
WMQ XP sP 09 18 24.0 -0.4
WMQ *e*S **S 09 24 54.0 -0.6**
WMQ XS sS 09 25 01.5 -2.4
WMQ SS SS 09 28 08.0 -8.8
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,318nm,6.6s
WMQ LR LR
comp=N,2μm,16.4s,MS5.3
WMQ LR LR
comp=E,2μm,17.3s,MS5.3
WMQ LR LR
comp=Z,3μm,15.9s,MS5.3
KMI Kunming 45.30 260 P **P 09 18 18.3 -0.1**
KMI AP pP 09 18 26.4 +2.4
KMI XP sP 09 18 29.6 +3.3
KMI AMB AMB
comp=Z,60nm,1.3s,mb5.3
KMI Kunming 45.30 260 P **P 09 18 18.3 -0.1**
comp=Z,60nm,1.3s,mb5.3
KMI pP pP 09 18 26.4 +2.4
KMI sP sP 09 18 29.6 +3.3
MKAR Makanchi Array 47.09 298 P **P 09 18 31.1 -1.3**
comp=Z,52nm,0.9s,mb5.5,baz=64,slow=6.9,SNR=8.3
MKAR PcP PcP 09 20 03.6 -0.6
comp=Z,9.9nm,0.8s,baz=64,slow=2.8,SNR=3.5
MKAR Makanchi Array 47.09 298 P **P 09 18 31.1 -1.3**
MKAR 09 20 03.6
MKAR pmax pmax
comp=Z,52nm,0.9s
LSA Lhasa 50.37 273 *e*P **P 09 18 59.3 +1.7**
comp=Z,49nm,0.9s,mb5.5
YKA Yellowknife Ar 50.99 37 P **P 09 19 02.4 +0.1**
comp=Z,13nm,0.7s,mb4.9,baz=294,slow=7.0,SNR=4.7
YKA Yellowknife Ar 50.99 37 P **P 09 19 02.4 +0.1**
BVAR Borovoye Array 51.03 310 P **P 09 19 01.7 -0.8**
comp=Z,20nm,0.8s,mb5.1,baz=52,slow=7.3,SNR=6.3
BRVK Borovoye 51.07 310 *e*P **P 09 19 01.1 -1.8**
comp=Z,43nm,0.8s,mb5.4
ZRNK Zerenda 51.80 310 *e*P **P 09 19 07.0 -1.3**
comp=Z,33nm,0.7s,mb5.4
CM31 Chiang Mai Arr 52.42 257 *e*P **P 09 19 13.4 +0.4**
comp=Z,16nm,0.7s,mb5.1
KBS Kingsbay 52.66 351⇑*e*P **P 09 19 14.6 -0.2**
AAK Ala-Archa 53.99 297 *e*P **P 09 19 23.4 -1.1**
comp=Z,61nm,1.0s,mb5.5
KSH Kashi 54.80 293 *e*P **P 09 19 34.2 +3.8**
KSH *e*AP pP 09 19 40.3 +4.1
KSH *e*XP sP 09 19 43.1 +4.7
KSH *e*PCP PcP 09 20 37.0 +4.3
KSH *e*PP PP 09 21 38.0 +4.9
KSH *e*S **S 09 27 12.1 +1.7**
KSH *e*XS sS 09 27 21.1 +1.2
KSH *e*PS 09 27 31.1
KSH *e*SCS ScS 09 29 19.3 +0.5
KSH *e*SS SS 09 30 54.3 +0.8
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
ARU Arti 55.19 318 *e*P **P 09 19 31.4 -1.8**
comp=Z,31nm,0.6s,mb5.5
EDM Edmonton 56.36 46 *e*P **P 09 19 40.9 -0.7**
ARCES ARCESS Array B 58.03 341 P **P 09 19 53.0 -0.5**
comp=Z,8.4nm,0.7s,mb4.9,baz=20,slow=7.0,SNR=6.9
AKTO Aktyubinsk 58.90 312 LR LR 09 45 44.4
comp=Z,118μm,18.5s,baz=73,slow=36
CMB Columbia Colle 61.39 64 *e*P **P 09 20 16.7 +0.1**
CMB pmax pmax
comp=Z,21nm,1.4s,mb5.1
CMB Columbia Colle 61.39 64 *e*P **P 09 20 16.7 +0.1**
comp=Z,22nm,1.4s,mb5.1
HLID Hailey 61.52 56 *e*P **P 09 20 17.4 0.0**
comp=Z,19nm,1.2s,mb5.1
QLMT Earthquake Lak 62.40 53 *e*P **P 09 20 23.9 +0.5**
NVAR Mina Array Bea 62.42 62 P **P 09 20 23.8 +0.3**
comp=Z,4.1nm,0.8s,mb4.6,baz=309,slow=5.0,SNR=5.0
FINES FINESS Array B 64.22 335 P **P 09 20 34.3 -1.1**
comp=Z,42nm,0.7s,mb5.5,baz=39,slow=7.9,SNR=12
FINES FINESS Array B 64.22 335 P **P 09 20 34.3 -1.1**
FINES pmax pmax
comp=Z,42nm,0.7s
HWUT Hardware Ranch 64.39 56 *e*P **P 09 20 36.4 -0.1**
comp=Z,13nm,0.9s,mb5.0
DUG Dugway 64.58 58 *e*P **P 09 20 37.8 0.0**
DUG pmax pmax
comp=Z,46nm,1.3s,mb5.3
DUG Dugway 64.58 58 *e*P **P 09 20 37.8 0.0**
comp=Z,46nm,1.3s,mb5.3
BW06 Boulder Array 64.76 54 *e*P **P 09 20 38.4 -0.6**
comp=Z,20nm,1.1s,mb5.1
PDAR Pinedale Array 64.76 54 P **P 09 20 39.2 +0.3**
comp=Z,10nm,0.9s,mb4.8,baz=306,slow=2.8,SNR=4.7
SFJD Kangerlussuaq 65.29 10 LR LR 09 50 13.0
comp=Z,36μm,18.1s,baz=312,slow=37
OBN Obninsk 65.49 326 *e*P **P 09 20 41.7 -2.0**
OBN *e* 09 21 15.4
OBN pmax pmax
comp=Z,66nm,0.9s,mb5.7
ULM Lac du Bonnet 66.58 41 P **P 09 20 49.9 -0.8**
comp=Z,7.9nm,0.9s,mb4.7,baz=311,slow=9.3,SNR=3.4
RSSD Black Hills 66.85 50 *e*P **P 09 20 51.9 -0.5**
RSSD pmax pmax
comp=Z,26nm,1.0s,mb5.2
RSSD Black Hills 66.85 50 *e*P **P 09 20 51.9 -0.5**
comp=Z,24nm,1.0s,mb5.2
PV10 Paradox Valley 67.98 57 *e*P **P 09 21 00.5 +0.9**
WRA Warramunga Arr 68.40 199 P **P 09 21 02.3 +0.2**
comp=Z,7.8nm,0.9s,mb4.7,baz=18,slow=6.4,SNR=4.4
WRA Warramunga Arr 68.40 199 P **P 09 21 02.3 +0.1**
WRA pmax pmax
comp=Z,80nm,0.9s
NB2 NORSAR Subarra 68.40 341 P **P 09 21 01.8 -0.4**
comp=Z,40nm,0.7s,mb5.5,baz=28,slow=6.5
NB2 NORSAR Subarra 68.40 341 P **P 09 21 01.8 -0.4**
NB2 pmax pmax
comp=Z,40nm,0.7s,mb5.6
NOA NORSAR Array B 68.40 341 P **P 09 21 01.9 -0.4**
comp=Z,36nm,0.8s,mb5.5,baz=28,slow=6.4,SNR=11
NOA NORSAR Array B 68.40 341 P **P 09 21 01.9 -0.3**
NOA pmax pmax
comp=Z,36nm,0.8s
BORG Borgarnes 68.92 358 *e*P **P 09 21 04.2 -1.2**
comp=Z,36nm,0.6s,mb5.5
ISCO Idaho Springs 68.96 54 *e*P **P 09 21 05.1 -0.6**
ISCO pmax pmax
comp=Z,13nm,0.9s,mb4.9
ISCO Idaho Springs 68.96 54 *e*P **P 09 21 05.8 +0.1**
comp=Z,12nm,0.9s,mb4.8
FITZ Fitzroy Crossi 69.05 208 *e*P **P 09 21 03.8 -2.5**
comp=Z,15nm,0.8s,mb5.0
FITZ Fitzroy Crossi 69.05 208 P **P 09 21 04.0 -2.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=303,slow=1.6,SNR=7.3
GOF Gofitskoye 70.00 315 *e*P **P 09 21 05.3 -6.8**
KONO Kongsberg 70.01 341⇑*e*P **P 09 21 13.8 +1.6**
AKASG Malin Array Be 71.73 326 P **P 09 21 21.9 -0.7**
comp=Z,44nm,0.5s,mb5.6,baz=34,slow=6.2,SNR=33
AKASG Malin Array Be 71.73 326 *i* P **P 09 21 21.8 -0.8**
AKASG pmax pmax
comp=Z,44nm,0.5s
ANMO Albuquerque 71.83 58 *e*P **P 09 21 23.2 -0.1**
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO Albuquerque 71.83 58 *e*P **P 09 21 23.2 0.0**
comp=Z,25nm,1.2s,mb5.0
ASAR Alice Springs 72.09 199 P **P 09 21 22.0 -2.8**
comp=Z,5.9nm,0.8s,mb4.5,baz=14,slow=5.0,SNR=5.0
ASAR Alice Springs 72.09 199 P **P 09 21 22.0 -2.8**
ASAR pmax pmax
comp=Z,60nm,0.9s
ANN Anapa 72.86 318 *e*P **P 09 21 27.5 -1.9**
ANN *e*S S 09 30 47.7 -7.0
ANN pmax pmax
comp=Z,128nm,1.5s,mb5.6
SCIA State Center 73.96 45 *e*P **P 09 21 35.2 -0.7**
KIS Kishinev 74.86 324 *i* PPP 09 22 18.0
OJC Ojcow 75.50 331 *e*P **P 09 21 44.8 0.0**
STHS Stebnicka Huta 75.70 330 *e*P **P 09 21 46.3 +0.4**
STHS pmax pmax
comp=Z,29nm,0.8s,mb5.3
STHS Stebnicka Huta 75.70 330 *e*P **P 09 21 46.3 +0.4**
comp=Z,29nm,0.8s,mb5.3
STHS *e*PP PP 09 24 36.5 +0.9
BURAR Bucovina Array 75.77 327⇑*i*P **P 09 21 47.0 +0.7**
BURAR Bucovina Array 75.77 327⇑P **P 09 21 47.0 +0.7**
NIE Niedzica 76.01 330 *e*P **P 09 21 48.0 +0.3**
KSP Ksiaz 76.08 334 *e*P **P 09 21 47.7 -0.4**
MORC Moravsky Berou 76.62 332⇑*i*P **P 09 21 50.2 -1.0**
MORC Moravsky Berou 76.62 332⇑P **P 09 21 50.2 -1.0**
CLL Collm 76.64 336⇑*i*P **P 09 21 50.7 -0.6**
CLL pmax pmax
comp=Z,76nm,0.8s,mb5.7
CLL Collm 76.64 336⇑*i*P **P 09 21 50.7 -0.6**
comp=Z,76nm,0.8s,mb5.7
KECS Kecovo 76.75 330 *e*P **P 09 21 51.9 0.0**
KECS pmax pmax
comp=Z,170nm,0.9s,mb6.0
KECS Kecovo 76.75 330 *e*P **P 09 21 51.9 0.0**
comp=Z,17nm,0.9s,mb5.0
KECS *e*PP PP 09 24 41.2 -3.3
BRG Berggiesshubel 76.76 335 *i* P **P 09 21 51.6 -0.3**
comp=Z,30nm,1.5s,mb5.0
BRG *i* 09 22 01.6
comp=Z,11nm,0.9s
BRG
comp=N,13μm,18.0s
BRG
comp=E,9μm,17.4s
BRG
comp=Z,27μm,17.2s
BRG Berggiesshubel 76.76 335 *i* P **P 09 21 51.6 -0.4**
BRG *i* 09 22 01.6
BRG pmax pmax
comp=Z,131nm,1.5s,mb5.6
BRG MLR MLR
comp=N,11μm,18.0s,MS6.4
BRG MLR MLR
comp=E,13μm,17.4s,MS6.4
BRG MLR MLR
comp=Z,9μm,17.2s,MS6.1
WIT Witteveen 76.93 340 *e*P **P 09 21 54.5 +1.6**
TIRR Tirgusor 77.09 323⇓*i*P **P 09 21 54.0 +0.2**
TIRR Tirgusor 77.09 323⇓P **P 09 21 54.0 +0.2**
MLR Muntele Rosu 77.25 325⇓*i*P **P 09 21 54.7 0.0**
MLR Muntele Rosu 77.25 325⇓P **P 09 21 54.7 +0.1**
VYHS Vyhne 77.31 331 *e*P **P 09 21 55.1 +0.1**
VYHS pmax pmax
comp=Z,27nm,1.1s,mb5.1
VYHS Vyhne 77.31 331 *e*P **P 09 21 55.1 +0.1**
comp=Z,27nm,1.1s,mb5.1
VYHS *e*PP PP 09 24 44.8 -4.4
VRAC Vranov 77.33 333⇑*i*P **P 09 21 55.8 +0.6**
VRAC Vranov 77.33 333⇑P **P 09 21 55.8 +0.7**
DRGR 77.39 328⇑*i*P **P 09 21 56.2 +0.7**
DRGR 77.39 328⇑P **P 09 21 56.2 +0.7**
SNX Sinaia 77.53 325⇓*i*P **P 09 21 56.6 +0.3**
SNX Sinaia 77.53 325⇓P **P 09 21 56.6 +0.3**
MOX Moxa 77.63 336 *e*P **P 09 21 57.2 +0.4**
comp=Z,38nm,1.1s,mb5.2
MOX Moxa 77.63 336 *e*P **P 09 21 57.2 +0.4**
MOX pmax pmax
comp=Z,20nm,1.1s,mb5.0
VOIR 77.64 325⇑*i*P **P 09 21 57.8 +0.9**
VOIR 77.64 325⇑P **P 09 21 57.8 +0.9**
SMOL Smolenice 77.76 332 *e*P **P 09 21 58.4 +0.9**
ZST Bratislava 78.14 332 *e*P **P 09 22 00.5 +0.8**
ZST pmax pmax
comp=Z,31nm,0.9s,mb5.2
ZST Bratislava 78.14 332 *e*P **P 09 22 00.5 +0.8**
comp=Z,31nm,0.9s,mb5.2
ZST *e*PP PP 09 24 49.6 -6.6
KHC Kasperske Hory 78.42 334⇓*e*P **P 09 22 01.9 +0.7**
GZR Gura Zlata 78.55 327⇑*i*P **P 09 22 01.9 0.0**
GZR Gura Zlata 78.55 327⇑P **P 09 22 01.9 -0.1**
BRTR Keskin Array B 78.57 317 P **P 09 22 02.8 +0.7**
comp=Z,12nm,0.9s,mb4.8,baz=55,slow=2.1,SNR=3.5
BRTR Keskin Array B 78.57 317 P **P 09 22 02.8 +0.8**
BRTR pmax pmax
comp=Z,12nm,0.9s
GRA1 Grafenberg Arr 78.60 336 *e*P **P 09 22 02.6 +0.4**
comp=Z,51nm,0.9s,mb5.5
GRF Grafenberg Arr 78.60 336 *e*P **P 09 22 02.6 +0.4**
comp=Z,51nm,0.9s,mb5.5
GRF Grafenberg Arr 78.60 336 *e*P **P 09 22 02.6 +0.4**
GRF pmax pmax
comp=Z,51nm,0.9s,mb5.5
GRF Grafenberg Arr 78.60 336 *e*P **P 09 22 02.6 +0.4**
GRF pmax pmax
comp=Z,51nm,0.9s,mb5.5
GERES GERESS Array B 78.64 334 P **P 09 22 02.1 -0.3**
comp=Z,14nm,0.8s,mb5.0,baz=33,slow=4.1,SNR=9.3
GERES GERESS Array B 78.64 334 P **P 09 22 02.1 -0.3**
GERES pmax pmax
comp=Z,14nm,0.8s
CONA Conrad Observa 78.78 332⇑*i*P **P 09 22 04.0 +0.9**
comp=Z,31nm,1.1s,mb5.1,SNR=9.6
UMR Umm Al-Rimmam 78.78 301 *e*P **P 09 22 03.5 +0.3**
UMR AMb AMB 09 22 05.8
comp=Z,195nm,0.9s,mb6.0
BZS Buzias 78.79 328⇑*i*P **P 09 22 03.3 0.0**
BZS Buzias 78.79 328⇑P **P 09 22 03.3 0.0**
STKA Stephens Creek 78.81 190 P **P 09 22 06.0 +2.6**
MIB Mutribah 78.82 302 *e*P **P 09 22 03.8 +0.4**
MIB AMb AMB 09 22 06.0
comp=Z,280nm,1.0s,mb6.2
ANTO Ankara 78.85 317⇑*i*P **P 09 22 04.8 +1.2**
ANTO Ankara 78.85 317⇑P **P 09 22 04.8 +1.2**
BEBN Eben Emael 79.03 340 P **P 09 22 04.5 -0.1**
MEM Membach 79.12 339 P **P 09 22 04.9 -0.2**
RST Umm Al-Ruwaisa 79.25 302 *e*P **P 09 22 05.8 +0.1**
RST AMb AMB 09 22 08.1
comp=Z,234nm,0.9s,mb6.1
QRN Al-Qurain 79.26 300 *e*P **P 09 22 06.2 +0.3**
QRN AMb AMB 09 22 08.5
comp=Z,173nm,0.9s,mb6.0
NAY Al-Naaiem 79.29 301 *e*P **P 09 22 06.2 +0.2**
NAY AMb AMB 09 22 08.6
comp=Z,122nm,0.9s,mb5.8
RDF Al-Radifah 79.34 301 *e*P **P 09 22 06.8 +0.5**
RDF AMb AMB 09 22 09.2
comp=Z,250nm,1.0s,mb6.1
BCLA Clavier 79.47 340 P **P 09 22 06.1 -0.9**
ARSA Arzberg 79.48 332⇑*i*P **P 09 22 08.2 +1.1**
comp=Z,26nm,1.1s,mb5.1,SNR=6.3
SNF Seneffe 79.62 340 P **P 09 22 08.0 +0.1**
PARMO Parma 79.70 47 *e*P **P 09 22 07.5 -0.7**
GIVF Givet 79.88 340⇑*i*P **P 09 22 09.0 -0.2**
comp=Z,37nm,1.0s,mb5.0
GIVF Givet 79.88 340⇑*i*P **P 09 22 09.0 -0.2**
GIVF pmax pmax
comp=Z,19nm,1.0s,mb5.0
GIVF Givet 79.88 340⇑*i*P **P 09 22 09.0 -0.2**
comp=Z,18nm,1.0s,mb5.0
BAIF Baives 80.06 340⇑*i*P **P 09 22 10.0 -0.2**
comp=Z,45nm,1.0s,mb5.0
BAIF Baives 80.06 340⇑*i*P **P 09 22 10.0 -0.2**
BAIF pmax pmax
comp=Z,22nm,1.0s,mb5.0
BAIF Baives 80.06 340⇑*i*P **P 09 22 10.0 -0.2**
comp=Z,22nm,1.0s,mb5.0
PERS Pernice 80.16 332 *e*P **P 09 22 10.4 -0.3**
KBA Koelnbreinsper 80.32 333⇑*i*P **P 09 22 12.3 +0.7**
comp=Z,63nm,0.8s,mb5.6,SNR=16
KBA Koelnbreinsper 80.32 333⇑*i*P **P 09 22 12.3 +0.7**
KBA pmax pmax
comp=Z,63nm,0.8s,mb5.6
GOLS Golise 80.54 332 *e*P **P 09 22 13.0 +0.2**
WATA Walderalm 80.62 335⇓*i*P **P 09 22 13.8 +0.6**
comp=Z,43nm,0.9s,mb5.4,SNR=14
WATA Walderalm 80.62 335⇓*i*P **P 09 22 13.8 +0.6**
WATA pmax pmax
comp=Z,43nm,0.9s,mb5.4
WTTA Wattenberg 80.67 335 *i* P **P 09 22 14.4 +1.0**
comp=Z,64nm,0.6s,mb5.7,SNR=17
WTTA Wattenberg 80.67 335 *i* P **P 09 22 14.4 +0.9**
WTTA pmax pmax
comp=Z,65nm,0.6s,mb5.7
VTS Vitosha 80.75 325⇑*i*P **P 09 22 14.0 +0.1**
CRES Cresnjev 80.76 332 *e*P **P 09 22 13.3 -0.7**
CDF Champ du Feu 80.83 338⇑*i*P **P 09 22 14.4 +0.1**
comp=Z,112nm,1.1s,mb5.4
CDF Champ du Feu 80.83 338⇑*i*P **P 09 22 14.4 +0.1**
CDF pmax pmax
comp=Z,56nm,1.1s,mb5.4
CDF Champ du Feu 80.83 338⇑*i*P **P 09 22 14.4 +0.1**
comp=Z,56nm,1.1s,mb5.4
MEZF Maizieres J'vi 81.31 339⇑*i*P **P 09 22 16.0 -0.9**
comp=Z,82nm,0.9s,mb5.3
MEZF Maizieres J'vi 81.31 339⇑*i*P **P 09 22 16.0 -0.9**
comp=Z,82nm,0.9s,mb5.7
HAU Haudompre 81.45 338 *e*P **P 09 22 17.3 -0.3**
comp=Z,90nm,1.2s,mb5.3
HAU Haudompre 81.45 338 *e*P **P 09 22 17.3 -0.3**
HAU pmax pmax
comp=Z,45nm,1.2s,mb5.3
HAU Haudompre 81.45 338 *e*P **P 09 22 17.3 -0.3**
comp=Z,45nm,1.2s,mb5.3
HINF Hinteralfeld 81.49 338 *e*P **P 09 22 17.4 -0.4**
comp=Z,55nm,1.2s,mb5.1
HINF Hinteralfeld 81.49 338 *e*P **P 09 22 17.4 -0.4**
HINF pmax pmax
comp=Z,28nm,1.2s,mb5.1
HINF Hinteralfeld 81.49 338 *e*P **P 09 22 17.4 -0.4**
comp=Z,28nm,1.2s,mb5.1
FLN La Foliniere 82.31 343⇑*i*P **P 09 22 21.8 -0.3**
comp=Z,100nm,1.1s,mb5.4
FLN La Foliniere 82.31 343⇑*i*P **P 09 22 21.8 -0.3**
FLN pmax pmax
comp=Z,50nm,1.1s,mb5.4
FLN La Foliniere 82.31 343⇑*i*P **P 09 22 21.8 -0.3**
comp=Z,50nm,1.1s,mb5.4
LDF La Druitiere 82.40 343⇑*i*P **P 09 22 22.1 -0.5**
comp=Z,63nm,1.2s,mb5.1
LDF La Druitiere 82.40 343⇑*i*P **P 09 22 22.1 -0.5**
LDF pmax pmax
comp=Z,31nm,1.2s,mb5.1
LDF La Druitiere 82.40 343⇑*i*P **P 09 22 22.1 -0.5**
comp=Z,31nm,1.2s,mb5.1
GRR Gorron 82.74 343⇑*i*P **P 09 22 24.3 -0.1**
comp=Z,132nm,1.1s,mb5.6
GRR Gorron 82.74 343⇑*i*P **P 09 22 24.3 -0.1**
GRR pmax pmax
comp=Z,66nm,1.1s,mb5.6
GRR Gorron 82.74 343⇑*i*P **P 09 22 24.3 -0.1**
comp=Z,66nm,1.1s,mb5.6
LOR Lormes 82.75 340⇑*i*P **P 09 22 24.3 -0.2**
comp=Z,73nm,1.0s,mb5.4
LOR Lormes 82.75 340⇑*i*P **P 09 22 24.3 -0.2**
LOR pmax pmax
comp=Z,37nm,1.0s,mb5.4
LOR Lormes 82.75 340⇑*i*P **P 09 22 24.3 -0.2**
comp=Z,37nm,1.0s,mb5.4
HYF Humbligny 83.04 340 *e*P **P 09 22 26.2 +0.2**
ROSF Rostrenen 83.26 344 *e*P **P 09 22 27.1 0.0**
AVF Avril sur Loir 83.32 340⇑*i*P **P 09 22 27.5 +0.1**
comp=Z,107nm,1.0s,mb5.5
AVF Avril sur Loir 83.32 340⇑*i*P **P 09 22 27.5 +0.1**
AVF pmax pmax
comp=Z,54nm,1.0s,mb5.5
AVF Avril sur Loir 83.32 340⇑*i*P **P 09 22 27.5 +0.1**
comp=Z,54nm,1.0s,mb5.5
SMF Signal de Mont 83.34 339⇑*i*P **P 09 22 27.6 +0.1**
comp=Z,194nm,1.1s,mb5.8
SMF Signal de Mont 83.34 339⇑*i*P **P 09 22 27.6 +0.1**
SMF pmax pmax
comp=Z,97nm,1.1s,mb5.8
SMF Signal de Mont 83.34 339⇑*i*P **P 09 22 27.6 +0.1**
comp=Z,97nm,1.1s,mb5.8
QUIF Quistinic 83.64 344⇑*i*P **P 09 22 28.8 -0.2**
comp=Z,209nm,1.3s,mb5.8
QUIF Quistinic 83.64 344⇑*i*P **P 09 22 28.8 -0.2**
QUIF pmax pmax
comp=Z,104nm,1.3s,mb5.8
QUIF Quistinic 83.64 344⇑*i*P **P 09 22 28.8 -0.2**
comp=Z,104nm,1.3s,mb5.8
BGF Bois d'Agland 83.66 340 *e*P **P 09 22 29.1 0.0**
TCF Toulx Ste Croi 84.06 340 *e*P **P 09 22 31.4 +0.2**
comp=Z,57nm,0.9s,mb5.4
TCF Toulx Ste Croi 84.06 340 *e*P **P 09 22 31.4 +0.2**
TCF pmax pmax
comp=Z,28nm,0.9s,mb5.4
TCF Toulx Ste Croi 84.06 340 *e*P **P 09 22 31.4 +0.2**
comp=Z,28nm,0.9s,mb5.4
MFF Saint Martin d 84.29 342 *e*P **P 09 22 32.5 +0.1**
comp=Z,92nm,1.2s,mb5.5
MFF Saint Martin d 84.29 342 *e*P **P 09 22 32.5 +0.1**
MFF pmax pmax
comp=Z,46nm,1.2s,mb5.5
MFF Saint Martin d 84.29 342 *e*P **P 09 22 32.5 +0.1**
comp=Z,46nm,1.2s,mb5.5
MBDF Montbardon 84.37 337 *e*P **P 09 22 32.8 0.0**
comp=Z,44nm,1.0s,mb5.2
MBDF Montbardon 84.37 337 *e*P **P 09 22 32.8 0.0**
MBDF pmax pmax
comp=Z,22nm,1.0s,mb5.2
MBDF Montbardon 84.37 337 *e*P **P 09 22 32.8 0.0**
comp=Z,22nm,1.0s,mb5.2
ORIF Oris-en-Rattie 84.43 337⇑*i*P **P 09 22 33.8 +0.7**
comp=Z,52nm,0.9s,mb5.3
ORIF Oris-en-Rattie 84.43 337⇑*i*P **P 09 22 33.8 +0.7**
ORIF pmax pmax
comp=Z,26nm,0.9s,mb5.4
ORIF Oris-en-Rattie 84.43 337⇑*i*P **P 09 22 33.8 +0.7**
comp=Z,26nm,0.9s,mb5.4
VIVF Saint-Julien-l 84.81 338⇑*i*P **P 09 22 35.5 +0.5**
comp=Z,48nm,0.9s,mb5.3
VIVF Saint-Julien-l 84.81 338⇑*i*P **P 09 22 35.5 +0.5**
VIVF pmax pmax
comp=Z,24nm,0.9s,mb5.3
VIVF Saint-Julien-l 84.81 338⇑*i*P **P 09 22 35.5 +0.5**
comp=Z,24nm,0.9s,mb5.3

RJF **Les Rejaudoux 85.15 340** *eP* **P 09 22 36.3 -0.4**
comp=Z,62nm,1.3s,mb5.3
RJF **Les Rejaudoux 85.15 340** *eP* **P 09 22 36.3 -0.4**
RJF pmax pmax
comp=Z,31nm,1.3s,mb5.3
RJF **Les Rejaudoux 85.15 340** *eP* **P 09 22 36.3 -0.4**
comp=Z,31nm,1.3s,mb5.3
CAF **Calviac 85.38 340** *eP* **P 09 22 37.7 -0.2**
comp=Z,54nm,1.2s,mb5.3
CAF **Calviac 85.38 340** *eP* **P 09 22 37.7 -0.2**
CAF pmax pmax
comp=Z,27nm,1.2s,mb5.2
CAF **Calviac 85.38 340** *eP* **P 09 22 37.7 -0.2**
comp=Z,27nm,1.2s,mb5.2
SMRF **Simiane la Rot 85.39 337** *eP* **P 09 22 38.6 +0.7**
FRF **La Foret Royal 85.48 336** *eP* **P 09 22 38.1 -0.2**
comp=Z,139nm,1.5s,mb5.6
FRF **La Foret Royal 85.48 336** *eP* **P 09 22 38.1 -0.2**
FRF pmax pmax
comp=Z,70nm,1.5s,mb5.6
FRF **La Foret Royal 85.48 336** *eP* **P 09 22 38.1 -0.2**
comp=Z,70nm,1.5s,mb5.6
LFF **La Frestale 85.68 341** *eP* **P 09 22 39.0 -0.3**
LMR **La Mourre 85.73 336**⇑*iP* **P 09 22 39.6 0.0**
comp=Z,85nm,1.0s,mb5.6
LMR **La Mourre 85.73 336**⇑*iP* **P 09 22 39.6 0.0**
LMR pmax pmax
comp=Z,43nm,1.0s,mb5.6
LMR **La Mourre 85.73 336**⇑*iP* **P 09 22 39.6 0.0**
comp=Z,42nm,1.0s,mb5.6
LASF **Ste Croix 85.74 338** *eP* **P 09 22 40.4 +0.8**
comp=Z,52nm,1.3s,mb5.3
MTLF **Montolieu 86.84 339** *eP* **P 09 22 44.7 -0.3**
comp=Z,55nm,1.2s,mb5.4
MTLF **Montolieu 86.84 339** *eP* **P 09 22 44.7 -0.3**
MTLF pmax pmax
comp=Z,27nm,1.2s,mb5.3
MTLF **Montolieu 86.84 339** *eP* **P 09 22 44.7 -0.3**
comp=Z,27nm,1.2s,mb5.4
EPF **Esparros 87.58 340** *eP* **P 09 22 48.3 -0.3**
comp=Z,46nm,1.2s,mb5.3
EPF **Esparros 87.58 340** *eP* **P 09 22 48.3 -0.3**
EPF pmax pmax
comp=Z,23nm,1.2s,mb5.3
EPF **Esparros 87.58 340** *eP* **P 09 22 48.3 -0.3**
comp=Z,23nm,1.2s,mb5.3
SJPF **Ste Jean 87.85 342** *eP* **P 09 22 50.8 +0.9**
comp=Z,77nm,1.4s,mb5.4
SJPF **Ste Jean 87.85 342** *eP* **P 09 22 50.8 +0.9**
SJPF pmax pmax
comp=Z,38nm,1.4s,mb5.4
SJPF **Ste Jean 87.85 342** *eP* **P 09 22 50.8 +0.9**
comp=Z,38nm,1.4s,mb5.4
ETSF **Etsaut 87.91 341** *eP* **P 09 22 49.6 -0.6**
comp=Z,28nm,0.9s,mb5.2
ETSF **Etsaut 87.91 341** *eP* **P 09 22 49.6 -0.6**
ETSF pmax pmax
comp=Z,14nm,0.9s,mb5.2
ETSF **Etsaut 87.91 341** *eP* **P 09 22 49.6 -0.6**
comp=Z,14nm,0.9s,mb5.2
EVO **Evora 93.61 345** *eP* **P 09 23 15.0 -1.7**
comp=Z,65nm,1.5s,mb5.5
DBIC **Dimbokro 123.50 334** PKP PKPdf 09 28 56.6 -1.2
comp=Z,17nm,0.9s,baz=12,slow=4.0,SNR=4.0
DBIC **Dimbokro 123.50 334** PKIKP PKPdf 09 28 56.6 -1.2
DBIC pmax pmax
comp=Z,17nm,0.9s
PLCA **Paso Flores 148.10 96** PKPbc PKPbc 09 29 44.4 -1.8
comp=Z,21nm,1.0s,baz=294,slow=6.1,SNR=5.0
PLCA **Paso Flores 148.10 96** PKP2 PKPbc 09 29 44.4 -1.8
PLCA pmax pmax
comp=Z,21nm,1.0s
CPUP **Villa Florida 148.46 61** PKPbc PKPbc 09 29 45.4 -1.7
comp=Z,9.9nm,0.6s,baz=288,slow=1.8,SNR=6.6
CPUP **Villa Florida 148.46 61** PKP2 PKPbc 09 29 45.4 -1.7
CPUP pmax pmax
comp=Z,10.0nm,0.6s
CPUP **Villa Florida 148.46 61** PKPbc PKPbc 09 29 45.4 -1.7

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*IDC **01** 09:12:48.1±1.0, 4654N×15327E, h0km, mb4.7/10, mb1 4.9/10, mb1mx4.6/19, mbtmp4.7/10, Error ellipse: s-maj=32.9km s-min=26.1km az=62.0*
*NEIC **01** 09:12:50.3±0.5, 4652N×153.13E, h10km, mb5.1/26, Error ellipse: s-maj=12.7km s-min=8.9km az=143.0*
*ISCJB **01** 09:12:52.8±1.4, 466N±0.1×1528E±02, h27km±8km, mb5.1/47, Error ellipse: s-maj=26.6km s-min=4.9km az=96.8*
*SZGRF **01** 09:12:53.9, 4603N×15235E, h33km, mb5.0, Kuril Islands, Russia*
*MOS **01** 09:12:56.6±0.8, 4703N×15257E, h38km, mb5.3/22, Error ellipse: s-maj=15.8km s-min=7.6km az=100.4*

ISC 01 09:12:54.1±1.4, 466N±01×1530E±01, h30km±9km, n168, σ1$09/171, mb5.1/47, 21C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.58**	**26**	*e*PN	**Pb**	**09 14 14.0**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**5.64**	**245**	PN	**Pn**	**09 14 17.0**	**+1.2**
YUK				pmax	pmax		
comp=Z,720nm,0.3s							
NEM2	**Nemuro 2**	**6.07**	**240**	P	**Pn**	**09 14 19.9**	**-1.8**
NEM2				*e*S	**Sn**	**09 15 26.9**	**-3.2**
JRA	**Rausu**	**6.15**	**247**	P	**Pn**	**09 14 24.7**	**+1.8**
JNK	**Nakash**	**6.58**	**246**	P	**Pn**	**09 14 29.3**	**+0.6**
JNK				*e*S	**Sn**	**09 15 42.9**	**+0.2**
JAK	**Akkeshi**	**6.91**	**241**	P	**Pn**	**09 14 30.8**	**-2.4**
JAK				*e*S	**Sn**	**09 15 46.1**	**-4.7**
JAR	**Ashorobuto**	**7.32**	**246**	P	**Pn**	**09 14 40.3**	**+1.4**
JAR				*e*S	**Sn**	**09 16 02.3**	**+1.3**
JOB	**Onbets**	**7.48**	**244**	P	**Pn**	**09 14 41.1**	**-0.1**
JOB				*e*S	**Sn**	**09 16 03.5**	**-1.5**
JKK2	**Kamakawa 2**	**7.72**	**253**	P	**Pn**	**09 14 46.3**	**+1.9**
ASAJ	**Asahikawa**	**7.72**	**255**	Pn	**Pn**	**09 14 48.1**	**+3.6**
comp=Z,10nm,0.3s,baz=146,slow=8.5,SNR=6.1							
ASAJ	**Asahikawa**	**7.72**	**255**	PN	**Pn**	**09 14 48.1**	**+3.6**
ASAJ				pmax	pmax		
comp=Z,10.0nm,0.3s							
JCH	**Churui**	**7.93**	**243**	P	**Pn**	**09 14 46.8**	**-0.6**
JCH				*e*S	**Sn**	**09 16 11.6**	**-4.5**
JFR	**Furan**	**8.13**	**249**	P	**Pn**	**09 14 52.9**	**+2.8**
JNBK	**Urakawa-nobuka**	**8.49**	**243**	P	**Pn**	**09 14 54.0**	**-1.0**
JNBK				*e*S	**Sn**	**09 16 25.6**	**-4.3**
JNB	**Noboribetsu**	**9.47**	**248**	P	**Pn**	**09 15 08.8**	**+0.3**
JNB				*e*S	**Sn**	**09 16 51.6**	**-2.3**
JKB	**Kayabe**	**9.78**	**245**	P	**Pn**	**09 15 11.2**	**-1.5**
JKB				*e*S	**Sn**	**09 16 55.6**	**-5.8**
JSH	**Shimam**	**10.03**	**251**	P	**Pn**	**09 15 17.6**	**+1.5**
JSR	**Shiriuchi**	**10.36**	**245**	P	**Pn**	**09 15 19.5**	**-1.1**
JANG	**Nango**	**10.39**	**237**	*e*S	**Sn**	**09 17 06.0**	**-10**
JTM	**Tenmabayashi**	**10.39**	**240**	*e*S	**Sn**	**09 17 07.1**	**-9.4**
JTH	**Tanohata**	**10.48**	**235**	*e*S	**Sn**	**09 17 05.1**	**-14**
JOSM	**Okushiri--Mats**	**10.67**	**250**	P	**Pn**	**09 15 23.8**	**-1.1**
OFUJ	**Ofunato**	**11.19**	**232**	*e*S	**Sn**	**09 17 23.5**	**-13**
JIO	**Ouri**	**11.82**	**231**	*e*S	**Sn**	**09 17 40.3**	**-11**
JFK	**Kawauchi**	**12.88**	**229**	*e*S	**Sn**	**09 18 04.1**	**-13**
MAJO	**Matsushiro**	**14.92**	**233**	*e*P	**Pn**	**09 16 28.3**	**+5.5**
MAJO				pmax	pmax		
comp=Z,11nm,0.5s							
MAJO	**Matsushiro**	**14.92**	**233**	*e*Pn	**Pn**	**09 16 28.3**	**+5.5**
comp=Z,11nm,0.5s							
MJAR	**Matsushiro Arr**	**14.92**	**233**	Pn	**Pn**	**09 16 26.8**	**+4.0**
comp=Z,0.9nm,0.3s,baz=314,slow=8.7,SNR=4.7							
MJAR	**Matsushiro Arr**	**14.92**	**233**	P	**Pn**	**09 16 26.8**	**+4.0**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MDJ	**Mudanjiang**	**16.47**	**272**	*e*P	**Pn**	**09 16 40.5**	**-2.4**
INCN	**Inchon**	**21.50**	**254**	*e*P	**P**	**09 17 41.8**	**+1.4**
TLY	**Talaya**	**32.16**	**297**	*e*P	**P**	**09 19 07.7**	**-11**
MKAR	**Makanchi Array**	**46.92**	**297**	P	**P**	**09 21 21.2**	**-0.7**
comp=Z,13nm,0.8s,mb4.9,baz=75,slow=6.4,SNR=5.8							
MKAR				PcP	PcP	09 22 53.9	-0.3
comp=Z,2.4nm,0.7s,baz=67,slow=3.6,SNR=3.0							
BVAR	**Borovoye Array**	**50.88**	**309**	P	**P**	**09 21 51.9**	**-0.3**
comp=Z,1.8nm,0.4s,mb4.4,baz=53,slow=8.4,SNR=5.9							
BRVK	**Borovoye**	**50.92**	**310**	*e*P	**P**	**09 21 51.7**	**-0.8**
comp=Z,8.0nm,0.5s,mb4.9							
YKA	**Yellowknife Ar**	**51.10**	**37**	P	**P**	**09 21 51.3**	**-2.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=298,slow=7.4,SNR=4.4							
ZRNK	**Zerenda**	**51.65**	**310**	*e*P	**P**	**09 21 57.0**	**-1.0**
comp=Z,7.6nm,0.6s,mb4.8							
CHTO	**Chiang Mai**	**51.99**	**257**	*e*P	**P**	**09 22 01.6**	**+1.1**
comp=Z,19nm,0.9s,mb5.0							

AAK Ala-Archa 53.81 296 *e*P **P 09 22 13.9 -0.1**
comp=Z,12nm,0.8s,mb4.9
GUN Gumba 54.92 275 *e*P **P 09 22 25.0 +3.0**
comp=Z,111nm,1.0s,mb5.8
ARU Arti 55.05 317 *e*P **P 09 22 22.0 -1.0**
comp=Z,9.5nm,0.5s,mb5.1
KKN Kakani 55.41 275 *e*P **P 09 22 27.6 +2.1**
comp=Z,67nm,0.7s,mb5.8
PKI Pulchoki 55.46 275 *e*P **P 09 22 27.6 +1.7**
comp=Z,45nm,0.8s,mb5.5
DMN Daman 55.64 275 *e*P **P 09 22 29.3 +2.1**
comp=Z,64nm,0.8s,mb5.7
GKN Gorkha 55.71 276 *e*P **P 09 22 29.2 +1.4**
comp=Z,65nm,0.6s,mb5.8
KOLN Koldanda 56.57 276 *e*P **P 09 22 35.4 +1.5**
comp=Z,83nm,0.8s,mb5.8
DAG Danmarks Havn 56.79 358⇑*iP* **P 09 22 34.4 -1.0**
comp=Z,19nm,1.1s,mb5.0
ARCES ARCESS Array B 57.96 341 P **P 09 22 42.5 -1.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=20,slow=6.7,SNR=5.6
ARCES ARCESS Array B 57.96 341 P **P 09 22 42.5 -1.2**
SUMG Summit 60.85 4 *e*P **P 09 23 02.9 -0.7**
comp=Z,21nm,0.7s,mb5.4
KAF Kangasniemi 63.53 335 *e*p **P 09 23 20.1 -1.5**
comp=Z,14nm,0.6s,mb5.2,baz=37,slow=6.2
KAF Kangasniemi 63.53 335 *e*P **P 09 23 20.1 -1.5**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.2
REDW Red Top Meadow 63.80 54 *e*P pP 09 23 34.8 +2.1
FINES FINESS Array B 64.13 335 P **P 09 23 24.6 -1.0**
comp=Z,13nm,0.6s,mb5.2,baz=39,slow=7.3,SNR=20
FINES FINESS Array B 64.13 335 P **P 09 23 24.6 -1.0**
FINES pmax pmax
comp=Z,13nm,0.6s
OBN Obninsk 65.38 326 *e*P **P 09 23 33.4 -0.3**
OBN pmax pmax
comp=Z,16nm,1.1s,mb5.0
NB2 NORSAR Subarra 68.34 341 P **P 09 23 51.6 -0.9**
comp=Z,14nm,0.7s,mb5.1,baz=28,slow=6.5
NB2 NORSAR Subarra 68.34 341 P **P 09 23 51.6 -0.9**
NB2 pmax pmax
comp=Z,14nm,0.7s,mb5.1
NOA NORSAR Array B 68.34 341 P **P 09 23 51.8 -0.7**
comp=Z,8.6nm,0.6s,mb5.0,baz=28,slow=6.3,SNR=10.0
NOA NORSAR Array B 68.34 341 P **P 09 23 51.8 -0.7**
NOA pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 71.61 326 P **P 09 24 12.1 -0.5**
comp=Z,24nm,0.7s,mb5.3,baz=34,slow=6.2,SNR=15
AKASG Malin Array Be 71.61 326 P **P 09 24 12.1 -0.5**
AKASG pmax pmax
comp=Z,24nm,0.7s
AKBB Malin Array Si 71.61 326 *e*P **P 09 24 11.5 -1.1**
ASAR Alice Springs 72.04 198 P **P 09 24 13.8 -1.4**
comp=Z,1.6nm,0.7s,mb4.0,baz=15,slow=5.4,SNR=4.9
ASAR Alice Springs 72.04 198 P **P 09 24 13.8 -1.4**
ASAR pmax pmax
comp=Z,20nm,0.7s
OJC Ojcow 75.40 331 *e*P **P 09 24 34.2 -0.7**
BURAR Bucovina Array 75.66 326⇑*iP* **P 09 24 37.1 +0.7**
BURAR Bucovina Array 75.66 326⇑*iP* **P 09 24 37.1 +0.7**
UPC Upice 76.37 333 *e*P **P 09 24 40.3 -0.1**
DPC Dobruska-Polom 76.41 333 *e*P **P 09 24 41.5 +0.8**
MORC Moravsky Berou 76.52 332⇓*iP* **P 09 24 41.1 -0.2**
PLOR Plostina 76.55 325⇑*iP* **P 09 24 42.6 +1.1**
CLL Collm 76.56 335 *e*P **P 09 24 41.0 -0.5**
CLL pmax pmax
comp=Z,29nm,0.7s,mb5.3
CLL Collm 76.56 335 *e*P **P 09 24 41.0 -0.5**
comp=Z,29nm,0.7s,mb5.3
TIRR Tirgusor 76.97 323⇑*iP* **P 09 24 42.5 -1.3**
TIRR Tirgusor 76.97 323⇑*iP* **P 09 24 42.5 -1.3**
MLR Muntele Rosu 77.13 325⇑*iP* **P 09 24 45.6 +0.9**
MLR Muntele Rosu 77.13 325⇑*iP* **P 09 24 45.6 +0.9**
VRAC Vranov 77.24 332⇑*iP* **P 09 24 46.2 +0.9**
VRAC Vranov 77.24 332⇑*iP* **P 09 24 46.2 +0.9**
PRU Pruhonice 77.28 334 *e*P **P 09 24 45.7 +0.2**
DRGR 77.29 327⇑*iP* **P 09 24 45.3 -0.3**
DRGR 77.29 327⇑*iP* **P 09 24 45.3 -0.3**
SNX Sinaia 77.41 325⇑*iP* **P 09 24 48.2 +1.9**
SNX Sinaia 77.41 325⇑*iP* **P 09 24 48.2 +1.9**
VOIR 77.53 325⇓*iP* **P 09 24 47.5 +0.6**
VOIR 77.53 325⇓*iP* **P 09 24 47.5 +0.6**
TREC Trest 77.60 333 *e*P **P 09 24 46.8 -0.5**
KHC Kasperske Hory 78.33 334 *e*P **P 09 24 51.3 -0.1**
BRTR Keskin Array B 78.43 317 P **P 09 24 52.2 +0.2**
comp=Z,5.9nm,1.0s,mb4.5,baz=45,slow=2.8,SNR=2.9
BRTR Keskin Array B 78.43 317 P **P 09 24 52.2 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
GZR Gura Zlata 78.44 327⇑*iP* **P 09 24 51.8 -0.2**
GZR Gura Zlata 78.44 327⇑*iP* **P 09 24 51.8 -0.2**
GRA1 Grafenberg Arr 78.51 336 *e*P **P 09 24 52.2 -0.2**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.51 336 *e*P **P 09 24 52.2 -0.2**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.51 336 *e*P **P 09 24 52.2 -0.2**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.51 336 *e*P **P 09 24 52.2 -0.2**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GERES GERESS Array B 78.55 334 P **P 09 24 52.0 -0.6**
comp=Z,27nm,1.3s,mb5.0,baz=42,slow=4.7,SNR=9.0
GERES GERESS Array B 78.55 334 P **P 09 24 52.0 -0.6**
GERES pmax pmax
comp=Z,27nm,1.3s
UMR Umm Al-Rimmam 78.62 301 *e*P **P 09 24 54.6 +1.6**
UMR AMb AMB 09 24 55.8
comp=Z,62nm,0.8s,mb5.6
MIB Mutribah 78.66 301 *e*P **P 09 24 54.9 +1.7**
MIB AMb AMB 09 24 56.0
comp=Z,87nm,0.8s,mb5.7
BZS Buzias 78.69 328⇑*iP* **P 09 24 52.0 -1.4**
MEM Membach 79.05 339 P **P 09 24 55.6 +0.2**
RST Umm Al-Ruwaisa 79.08 301 *e*P **P 09 24 56.9 +1.3**
RST AMb AMB 09 24 58.1
comp=Z,76nm,1.0s,mb5.6
QRN Al-Qurain 79.09 300 *e*P **P 09 24 57.2 +1.6**
QRN AMb AMB 09 24 57.9
comp=Z,58nm,0.6s,mb5.7
NAY Al-Naaiem 79.12 301 *e*P **P 09 24 57.3 +1.6**
NAY AMb AMB 09 24 58.6
comp=Z,34nm,1.0s,mb5.2
RDF Al-Radifah 79.18 301 *e*P **P 09 24 57.8 +1.7**
RDF AMb AMB 09 24 59.2
comp=Z,60nm,0.8s,mb5.6
BCLA Clavier 79.40 340 P **P 09 24 58.1 +0.9**
GIVF Givet 79.81 340 *e*P **P 09 24 58.9 -0.6**
comp=Z,94nm,1.5s,mb5.2
GIVF Givet 79.81 340 *e*P **P 09 24 58.9 -0.6**
GIVF pmax pmax
comp=Z,47nm,1.5s,mb5.2
GIVF Givet 79.81 340 *e*P **P 09 24 58.9 -0.6**
comp=Z,47nm,1.5s,mb5.2
BAIF Baives 79.99 340 *e*P **P 09 25 00.1 -0.4**
KBA Koelnbreinsper 80.23 333⇑*iP* **P 09 25 02.5 +0.7**
comp=Z,24nm,0.8s,mb5.2
KBA Koelnbreinsper 80.23 333⇑*iP* **P 09 25 02.5 +0.7**
KBA pmax pmax
comp=Z,24nm,0.8s,mb5.2
VTS Vitosha 80.64 325⇑*iP* **P 09 25 04.1 +0.1**
VTS Vitosha 80.64 325⇑*iP* **P 09 25 04.1 +0.2**
CDF Champ du Feu 80.76 338 *e*P **P 09 25 04.3 -0.3**
comp=Z,18nm,0.8s,mb4.7
CDF Champ du Feu 80.76 338 *e*P **P 09 25 04.3 -0.3**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CDF Champ du Feu 80.76 338 *e*P **P 09 25 04.3 -0.3**
comp=Z,8.9nm,0.8s,mb4.8
MEZF Maizieres J'vi 81.24 339 *e*P **P 09 25 07.2 0.0**
comp=Z,24nm,0.8s,mb4.9
MEZF Maizieres J'vi 81.24 339 *e*P **P 09 25 07.2 0.0**
comp=Z,24nm,0.8s,mb5.2
HAU Haudompre 81.37 338 *e*P **P 09 25 07.5 -0.4**
comp=Z,12nm,0.9s,mb4.5
HAU Haudompre 81.37 338 *e*P **P 09 25 07.5 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HAU Haudompre 81.37 338 *e*P **P 09 25 07.5 -0.4**
comp=Z,6.3nm,0.9s,mb4.5
HINF Hinteralfeld 81.42 338 *e*P **P 09 25 07.5 -0.6**
FLN La Foliniere 82.25 343 *e*P **P 09 25 11.8 -0.7**
LDF La Druitiere 82.33 342 *e*P **P 09 25 13.0 +0.1**
GRR Gorron 82.68 343 *e*P **P 09 25 14.4 -0.3**

LOR Lormes 82.68 339 *e*P **P 09 25 14.4 -0.3**
comp=Z,23nm,0.9s,mb4.9
LOR Lormes 82.68 339 *e*P **P 09 25 14.4 -0.3**
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.9
LOR Lormes 82.68 339 *e*P **P 09 25 14.4 -0.3**
comp=Z,11nm,0.9s,mb4.9
ROSF Rostrenen 83.20 344 *e*P **P 09 25 17.2 -0.2**
AVF Avril sur Loir 83.25 340 *e*P **P 09 25 17.5 -0.2**
comp=Z,106nm,1.5s,mb5.4
AVF Avril sur Loir 83.25 340 *e*P **P 09 25 17.5 -0.2**
AVF pmax pmax
comp=Z,53nm,1.5s,mb5.3
AVF Avril sur Loir 83.25 340 *e*P **P 09 25 17.5 -0.2**
comp=Z,53nm,1.5s,mb5.3
SMF Signal de Mont 83.27 339 *e*P **P 09 25 17.7 -0.1**
comp=Z,91nm,1.3s,mb5.4
SMF Signal de Mont 83.27 339 *e*P **P 09 25 17.7 -0.1**
SMF pmax pmax
comp=Z,46nm,1.3s,mb5.3
SMF Signal de Mont 83.27 339 *e*P **P 09 25 17.7 -0.1**
comp=Z,46nm,1.3s,mb5.3
BGF Bois d'Agland 83.59 340 *e*P **P 09 25 19.1 -0.3**
TCF Toulx Ste Croi 83.99 340 *e*P **P 09 25 21.4 -0.1**
MFF Saint Martin d 84.23 342 *e*P **P 09 25 22.6 -0.1**
comp=Z,40nm,1.1s,mb5.2
MFF Saint Martin d 84.23 342 *e*P **P 09 25 22.6 -0.1**
MFF pmax pmax
comp=Z,20nm,1.1s,mb5.2
MFF Saint Martin d 84.23 342 *e*P **P 09 25 22.6 -0.1**
comp=Z,20nm,1.1s,mb5.2
MBDF Montbardon 84.29 337 *e*P **P 09 25 23.0 0.0**
ORIF Oris-en-Rattie 84.35 337 *e*P **P 09 25 23.8 +0.5**
comp=Z,19nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.35 337 *e*P **P 09 25 23.8 +0.5**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.35 337 *e*P **P 09 25 23.8 +0.5**
comp=Z,9.4nm,0.9s,mb4.9
VIVF Saint-Julien-l 84.73 338 *e*P **P 09 25 25.6 +0.4**
comp=Z,24nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.73 338 *e*P **P 09 25 25.6 +0.4**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.73 338 *e*P **P 09 25 25.6 +0.4**
comp=Z,12nm,0.9s,mb5.0
RJF Les Rejaudoux 85.08 340 *e*P **P 09 25 27.0 0.0**
CAF Calviac 85.31 340 *e*P **P 09 25 27.9 -0.3**
comp=Z,22nm,1.0s,mb4.9
CAF Calviac 85.31 340 *e*P **P 09 25 27.9 -0.3**
CAF pmax pmax
comp=Z,11nm,1.0s,mb4.9
CAF Calviac 85.31 340 *e*P **P 09 25 27.9 -0.3**
comp=Z,11nm,1.0s,mb4.9
FRF La Foret Royal 85.40 336 *e*P **P 09 25 28.5 -0.1**
LFF La Frestale 85.61 341 *e*P **P 09 25 29.7 +0.1**
LMR La Mourre 85.64 336 *e*P **P 09 25 29.8 0.0**
comp=Z,88nm,1.4s,mb5.5
LMR La Mourre 85.64 336 *e*P **P 09 25 29.8 0.0**
LMR pmax pmax
comp=Z,44nm,1.4s,mb5.5
LMR La Mourre 85.64 336 *e*P **P 09 25 29.8 0.0**
comp=Z,44nm,1.4s,mb5.5
LASF Ste Croix 85.66 338 *e*P **P 09 25 29.6 -0.3**
ETSF Etsaut 87.84 341 *e*P **P 09 25 40.9 +0.4**
comp=Z,17nm,1.1s,mb4.9
ETSF Etsaut 87.84 341 *e*P **P 09 25 40.9 +0.4**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
ETSF Etsaut 87.84 341 *e*P **P 09 25 40.9 +0.4**
comp=Z,8.4nm,1.0s,mb4.9
PLCA Paso Flores 148.29 95 PKPbc PKPbc 09 32 34.5 -2.8
comp=Z,4.4nm,1.1s,baz=287,slow=2.8,SNR=4.7
PLCA Paso Flores 148.29 95 PKHKP PKPbc 09 32 34.5 -2.8
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA Paso Flores 148.29 95 PKPbc PKPbc 09 32 34.5 -2.8
CPUP Villa Florida 148.62 60 PKPbc PKPbc 09 32 35.9 -2.3
comp=Z,2.2nm,0.5s,baz=256,slow=1.9,SNR=5.6
CPUP Villa Florida 148.62 60 PKIKP PKPdf 09 32 35.9 +1.5
CPUP pmax pmax
comp=Z,2.0nm,0.5s

IDC 01 09:24:58.8±2.5, 670N×12677E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=149.0km s-min=28.5km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.67**	**183**	P	P	09 30 21.7	+0.5
1.5nm,0.9s,baz=6.2,slow=13,SNR=5.0							
WRA	**Warramunga Arr**	**27.50**	**164**	P	P	09 30 47.6	+0.7
0.6nm,1.0s,baz=345,slow=9.5,SNR=3.5							
ASAR	**Alice Springs**	**30.97**	**167**	P	P	09 31 17.6	-0.1
0.4nm,0.5s,baz=343,slow=7.6,SNR=11							
MKAR	**Makanchi Array**	**55.17**	**324**	P	P	09 34 33.3	+0.1
0.2nm,0.5s,baz=125,slow=7.5,SNR=2.1							

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*SKHL **01** 09:26:14.5±1.2, 4608N×14183E, h10km, mb4.7/1*
*JMA **01** 09:26:14.5±0.3, 4622N×14171E, h27km±3km, M3.2*
*ISCJB **01** 09:26:16.0±1.5, 4613N±006×1417E±02, h28km±10km, Error ellipse: s-maj=20.6km s-min=7.7km az=38.1*

ISC 01 09:26:16.0±1.4, 4613N±006×1417E±02, h24km±10km, n6, σ0$41/11, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.82**	**171**	P	**Pb**	**09 26 31.2**	**-0.5**
JWK2				*e*S	**Sb**	**09 26 42.8**	**+0.4**
JRR	**Rishiri**	**1.03**	**196**	P	**Pn**	**09 26 34.5**	**-0.5**
JRR				*e*S	**Sb**	**09 26 48.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**1.09**	**41**	*e*Pg	**Pn**	**09 26 36.0**	**+0.2**
YSS				AMB	AMB	09 26 37.0	
170nm,0.2s							
YSS				*e*Sg	**Sb**	**09 26 50.2**	**+0.2**
YSS				A		09 26 53.0	
1μm,0.3s							
JSE	**Soyaes**	**1.32**	**152**	P	**Pn**	**09 26 38.3**	**-0.6**
JSE				*e*S	**Sn**	**09 26 55.6**	**-0.1**
JYG	**Yagishiri**	**1.72**	**187**	P	**Pn**	**09 26 44.6**	**+0.2**
JYG				*e*S	**Sn**	**09 27 06.3**	**+0.8**
JSS	**Shosan**	**1.73**	**177**	P	**Pn**	**09 26 44.4**	**-0.2**

IDC 01 09:27:35.5±41.0, 4606N×15354E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=957.3km s-min=62.2km az=154.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**31.85**	**291**	P	P	09 34 01.7	-0.4
0.3nm,0.5s,baz=93,slow=8.0,SNR=2.9							
MKAR	**Makanchi Array**	**47.52**	**298**	P	P	09 36 12.5	0.0
0.9nm,0.9s,baz=64,slow=6.1,SNR=5.4							
FINES	**FINESS Array B**	**64.79**	**335**	P	P	09 38 15.1	-0.8
1.6nm,0.8s,baz=23,slow=6.2,SNR=5.0							
NB2	**NORSAR Subarra**	**68.98**	**341**	P	P	09 38 42.9	+0.3
comp=Z,0.1nm,0.7s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**68.98**	**341**	P	P	09 38 42.5	-0.1
comp=Z,1.0nm,0.7s,baz=26,slow=6.3,SNR=4.6							

IDC 01 09:28:11.2±25.0, 4738N×15289E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=588.9km s-min=81.7km az=152.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.52**	**297**	P	P	09 36 40.4	0.0
0.7nm,0.7s,baz=65,slow=7.2,SNR=4.9							
FINES	**FINESS Array B**	**63.41**	**335**	P	P	09 38 42.0	-0.6
1.1nm,0.5s,baz=30,slow=7.7,SNR=12							
NOA	**NORSAR Array B**	**67.58**	**341**	P	P	09 39 09.8	+0.3
0.8nm,0.6s,baz=28,slow=6.5,SNR=3.7							
AKASG	**Malin Array Be**	**70.94**	**326**	P	P	09 39 29.1	-1.2
0.8nm,0.4s,baz=32,slow=6.2,SNR=4.8							

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*IDC **01** 09:28:38.3±16.0, 4642N×15339E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/19, mbtmp4.0/5, Error ellipse: s-maj=383.0km s-min=79.7km az=155.0*
*MOS **01** 09:28:50.2±0.7, 4767N×15223E, h33km, mb4.3/4, Error ellipse: s-maj=99.9km s-min=45.6km az=114.7*

*ISCJB **01** 09:28:54.3±3.7, 483N±03×152.1E±09, h33km, mb3.9/5, Error ellipse: s-maj=96.1km s-min=18.4km az=51.0*
ISC 01 09:28:55.9±3.7, 483N±03×1521E±09, h35km, n11, σ0°56/11, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.22**	**225**	*e*PN	**Pn**	**09 29 57.8**	**+0.1**
MKAR	**Makanchi Array**	**45.66**	**296**	P	**P**	**09 37 13.1**	**0.0**
	1.2nm,0.8s,mb3.9,baz=59,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**45.66**	**296**	P	**P**	**09 37 13.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**62.37**	**334**	P	**P**	**09 39 15.7**	**+0.7**
	comp=Z,1.0nm,0.4s,mb4.3,baz=40,slow=7.4,SNR=7.3						
FINES	**FINESS Array B**	**62.37**	**334**	P	**P**	**09 39 15.7**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**66.56**	**340**	P	**P**	**09 39 43.0**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**66.56**	**340**	P	**P**	**09 39 43.0**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=5.5						
NOA	**NORSAR Array B**	**66.56**	**340**	P	**P**	**09 39 43.0**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**69.91**	**325**	P	**P**	**09 40 02.5**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=33,slow=5.9,SNR=5.3						
AKASG	**Malin Array Be**	**69.91**	**325**	P	**P**	**09 40 02.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**76.79**	**333**	P	**P**	**09 40 43.3**	**-0.6**
	comp=Z,0.1nm,0.4s,mb3.1,baz=15,slow=5.5,SNR=3.8						

*IDC **01** 09:38:21.0±0.5, 4633N×15345E, h0km, mb4.5/28, mb1 4.6/29, mb1mx4.5/33, mbtmp4.4/29, ML3.7/1, Error ellipse: s-maj=15.5km s-min=13.8km az=148.0*
*BJI **01** 09:38:20.8, 4663N×15362E, h14km, mB4.7, mb4.7, Ms4.6, Msz4.4*
*JMA **01** 09:38:21.5±0.7, 4675N×15359E, h30km, M4.7*
*ISCJB **01** 09:38:22.4±0.3, 4626N±005×15343E±006, h18km, mb4.7/85, MS5.2/2, Error ellipse: s-maj=8.7km s-min=3.2km az=110.6*
*NEIC **01** 09:38:22.8±0.3, 4636N×15346E, h10km, mb4.7/36, Error ellipse: s-maj=8.3km s-min=5.0km az=154.0*
*MOS **01** 09:38:26.7±1.0, 4667N×15322E, h33km, mb4.8/47, Error ellipse: s-maj=11.9km s-min=6.3km az=110.3*
*SZGRF **01** 09:38:30.6, 4692N×15333E, h33km, mb4.7, Kuril Islands, Russia*
ISC 01 09:38:24.4±0.3, 4635N±005×15345E±006, h19km, h19km±3.5km: pP-P, n242, σ1°16/241, mb4.7/85, MS5.2/2, 15C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.69**	**21**	*e*PN	**Pn**	**09 39 29.0**	**-5.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
NEM2	**Nemuro 2**	**6.24**	**244**	P	**Pn**	**09 39 54.0**	**-1.3**
NEM2				*e*S	**Sn**	**09 41 02.8**	**-3.2**
JRA	**Rausu**	**6.36**	**251**	P	**Pn**	**09 39 58.5**	**+1.4**
JNK	**Nakash**	**6.78**	**249**	P	**Pn**	**09 40 03.5**	**+0.7**
JNK				*e*S	**Sn**	**09 41 19.3**	**-0.1**
JAK	**Akkeshi**	**7.08**	**245**	*e*S	**Sn**	**09 41 22.5**	**-4.3**
JTKR	**Abashiri--Toko**	**7.15**	**254**	P	**Pn**	**09 40 09.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.39**	**279**	*e*PN	**Pn**	**09 40 16.0**	**+4.9**
JMP	**Maruseppu**	**7.50**	**255**	P	**Pn**	**09 40 14.4**	**+1.7**
JAR	**Ashorobuto**	**7.53**	**250**	P	**Pn**	**09 40 13.4**	**+0.4**
JAR				*e*S	**Sn**	**09 41 37.5**	**-0.3**
JOB	**Onbets**	**7.67**	**247**	*e*S	**Sn**	**09 41 36.8**	**-4.6**
JKK2	**Kamakawa 2**	**7.96**	**256**	P	**Pn**	**09 40 21.1**	**+2.1**
ASAJ	**Asahikawa**	**7.98**	**258**	Pn	**Pn**	**09 40 22.0**	**+2.8**
	comp=E,3.7nm,0.3s,baz=83,slow=24,SNR=12						
ASAJ	**Asahikawa**	**7.98**	**258**	P	**Pn**	**09 40 21.2**	**+2.0**
ASAJ	**Asahikawa**	**7.98**	**258**	PN	**Pn**	**09 40 22.0**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JCH	**Churui**	**8.12**	**246**	*e*S	**Sn**	**09 41 48.6**	**-3.8**
JAB	**Ashibetsu**	**8.46**	**254**	P	**Pn**	**09 40 28.2**	**+2.4**
JEM	**Erimo**	**8.57**	**243**	P	**Pn**	**09 40 28.0**	**+0.7**
ERM	**Erimo**	**8.57**	**243**	*e*PN	**Pn**	**09 40 28.4**	**+1.1**
ERM				pmax	pmax		
	comp=Z,61nm,0.7s						
ERM	**Erimo**	**8.57**	**243**	*e*Pn	**Pn**	**09 40 28.4**	**+1.1**
	comp=Z,61nm,0.7s						
ERM				*e*Sn	**Sn**	**09 41 56.0**	**-7.4**
JNBK	**Urakawa-nobuka**	**8.68**	**246**	P	**Pn**	**09 40 27.6**	**-1.2**
JNBK				*e*S	**Sn**	**09 41 59.8**	**-6.3**
JBT2	**Biratori 2**	**8.68**	**250**	P	**Pn**	**09 40 27.8**	**-1.1**
JHR	**Hokuryu**	**8.70**	**257**	P	**Pn**	**09 40 32.0**	**+2.9**
JEW	**Eniwo**	**9.25**	**252**	P	**Pn**	**09 40 38.7**	**+2.0**
JSK	**Shakotan**	**9.69**	**257**	P	**Pn**	**09 40 43.7**	**+1.0**
JNB	**Noboribetsu**	**9.69**	**251**	*e*S	**Pn**	**09 40 42.1**	**-0.6**
JKB	**Kayabe**	**9.98**	**248**	P	**Pn**	**09 40 45.5**	**-1.1**
JKB				*e*S	**Sn**	**09 42 31.6**	**-6.4**
JSH	**Shimam**	**10.27**	**254**	P	**Pn**	**09 40 52.0**	**+1.4**
JYM2	**Yakumo 2**	**10.29**	**250**	P	**Pn**	**09 40 50.9**	**-0.1**
JANG	**Nango**	**10.54**	**240**	*e*S	**Sn**	**09 42 42.1**	**-10**
JTM	**Tenmabayashi**	**10.56**	**243**	P	**Pn**	**09 40 52.3**	**-2.3**
JTM				*e*S	**Sn**	**09 42 43.5**	**-8.8**
JTH	**Tanohata**	**10.61**	**237**	*e*S	**Sn**	**09 42 41.7**	**-12**
JOSM	**Okushiri--Mats**	**10.90**	**252**	P	**Pn**	**09 40 58.6**	**-0.6**
OFUJ	**Ofunato**	**11.30**	**234**	*e*S	**Sn**	**09 42 59.3**	**-11**
JRG	**Rokugo**	**11.68**	**238**	P	**Pn**	**09 41 08.3**	**-1.7**
JRG				*e*S	**Sn**	**09 43 10.2**	**-10**
JIO	**Ouri**	**11.91**	**233**	*e*S	**Sn**	**09 43 14.4**	**-11**
MA2	**Magadan**	**13.35**	**354**	*e*PN	**Pn**	**09 41 33.8**	**+1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**14.86**	**289**	*e*P	**Pn**	**09 41 53.2**	**-0.2**
MAJO	**Matsushiro**	**15.03**	**235**	*e*P	**Pn**	**09 41 54.8**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,31nm,0.9s						
MAJO	**Matsushiro**	**15.03**	**235**	*e*Pn	**Pn**	**09 41 54.8**	**-0.8**
	comp=Z,31nm,0.9s						
MAT	**Matsushiro**	**15.03**	**235**	P	**Pn**	**09 41 55.3**	**-0.3**
MJAR	**Matsushiro Arr**	**15.03**	**235**	Pn	**Pn**	**09 41 52.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=9.3						
VLA	**Vladivostok**	**15.65**	**266**	*e*P	sP	09 42 16.1	+0.4
VLA				pmax	pmax		
	comp=Z,29nm,1.3s						
SEY	**Seymchan**	**16.63**	**358**	*i* P	**Pn**	**09 42 18.1**	**+1.7**
MDJ	**Mudanjiang**	**16.81**	**273**	P	**Pn**	**09 42 18.6**	**0.0**
MDJ				AP	pP	09 42 24.0	-2.1
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s						
MDJ	**Mudanjiang**	**16.81**	**273**	*e*P	**Pn**	**09 42 19.0**	**+0.4**
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**19.90**	**273**	*e*P	**Pn**	**09 42 55.6**	**-0.7**
CN2				*e*AP	pP	09 42 59.5	-0.6
YAK	**Yakutsk**	**20.79**	**328**	*e*P	**P**	**09 43 07.1**	**+2.8**
YAK				pmax	pmax		
	comp=Z,13nm,1.3s						
YAK				pmax	pmax		
	comp=N,1.0nm,1.1s						
INCN	**Inchon**	**21.75**	**256**	*e*P	**P**	**09 43 15.8**	**+1.1**
	comp=N,23nm,1.1s,mb4.5						
SNY	**Shenyang**	**21.86**	**269**	⇑P	**P**	**09 43 15.6**	**-0.2**
SNY				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.7						
HIA	**Hailar**	**22.72**	**290**	*i* P	**P**	**09 43 23.1**	**-1.9**
BILL	**Bilibino**	**22.73**	**12**	*e*P	**P**	**09 43 25.7**	**+0.6**
BILL				*e*		09 43 53.8	
BILL				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
BOD	**Bodaibo**	**26.43**	**310**	*e*P	**P**	**09 43 57.7**	**-2.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.1						
BJT	**Baijiatuau**	**27.72**	**270**	*e*P	**P**	**09 44 14.7**	**+3.2**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	**Baijiatuau**	**27.72**	**270**	*e*P	**P**	**09 44 14.7**	**+3.2**
	comp=Z,8.9nm,0.7s,mb4.5						
NJ2	**Nanjing**	**30.10**	**254**	*e*P	**P**	**09 44 31.2**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.5						
HHC	**Hu-ho-hao-te**	**30.56**	**275**	*e*P	**P**	**09 44 37.1**	**+0.5**
HHC				AMB	AMB		
	comp=Z,54nm,0.5s,mb5.6						
HHC				AMB	AMB		
	comp=Z,17μm,13.7s						
SONM	**Songino Array**	**31.69**	**290**	P	**P**	**09 44 46.3**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.1,baz=74,slow=8.3,SNR=10.0						
SONM	**Songino Array**	**31.69**	**290**	P	**P**	**09 44 46.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TLY	**Talaya**	**32.57**	**298**	*e*P	**P**	**09 44 53.6**	**-0.8**
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
TLY	**Talaya**	**32.57**	**298**	*e*P	**P**	**09 44 53.6**	**-0.8**
	comp=Z,10nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**33.06**	**296**	⇑*i* P	**P**	**09 44 57.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
KDAK	**Kodiak Island**	**34.18**	**50**	P	**P**	**09 45 07.2**	**-1.1**
	comp=Z,7.7nm,0.8s,mb4.7,baz=156,slow=20,SNR=3.2						
KDAK	**Kodiak Island**	**34.18**	**50**	P	**P**	**09 45 07.2**	**-1.2**
COLA	**College**	**36.31**	**38**	*e*P	**P**	**09 45 25.9**	**-0.8**
COLA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
COLA	**College**	**36.31**	**38**	*e*P	**P**	**09 45 25.9**	**-0.8**
	comp=Z,11nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.13**	**273**	*e*P	**P**	**09 45 43.5**	**+1.3**
LZH				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.1						
LZH				MLR	MLR		
	comp=Z,14μm,14.0s,MS5.9						
LZH	**Lanzhou**	**38.13**	**273**	*e*P	**P**	**09 45 43.5**	**+1.3**
	comp=Z,36nm,1.0s,mb5.1						
LZH				pP	pP	09 45 46.5	-1.7
LZH				sP	sP	09 45 48.0	-2.6
LZH				LR	LR		
	comp=Z,14μm,14.0s,MS5.9						
EGAK	**Eagle**	**39.17**	**38**	*e*P	**P**	**09 45 49.3**	**-1.6**
GTA	**Gaotai**	**39.27**	**280**	*e*P	**P**	**09 45 52.8**	**+1.1**
GTA				AP	pP	09 45 57.2	-0.5
GTA				XP	sP	09 46 00.2	+0.1
GTA				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9						
CD2	**Chengdu**	**41.08**	**266**	P	**P**	**09 46 06.7**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GYA	**Guiyang**	**41.86**	**258**	⇓*i* P	**P**	**09 46 14.4**	**+1.3**
GYA				AP	pP	09 46 18.9	-0.2
GYA				XP	sP	09 46 21.6	+0.1
GYA				PP	PP	09 47 54.5	+4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,370nm,17.3s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=Z,430nm,16.8s,MS4.4						
INK	**Inuvik**	**41.87**	**32**	P	**P**	**09 46 12.6**	**-0.6**
	comp=Z,2.4nm,0.5s,mb4.0,baz=282,slow=6.6,SNR=16						
INK	**Inuvik**	**41.87**	**32**	*e*P	**P**	**09 46 12.5**	**-0.7**
	comp=Z,166nm,0.8s,mb5.7						
WMQ	**Urumqi**	**45.29**	**292**	*e*P	**P**	**09 46 41.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
KMI	**Kunming**	**45.40**	**260**	P	**P**	**09 46 42.5**	**+0.9**
KMI				AP	pP	09 46 49.7	+2.0
KMI				XP	sP	09 46 52.4	+2.3
KMI				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.3						
KMI	**Kunming**	**45.40**	**260**	P	**P**	**09 46 42.5**	**+0.9**
	comp=Z,10.0nm,1.8s,mb4.3						
KMI				pP	pP	09 46 49.7	+2.0
KMI				sP	sP	09 46 52.4	+2.3
DLBC	**Dease Lake**	**45.71**	**46**	P	**P**	**09 46 44.0**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=292,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**47.33**	**298**	P	**P**	**09 46 56.2**	**-0.6**
	comp=Z,7.6nm,0.8s,mb4.7,baz=69,slow=8.0,SNR=35						
MKAR				PcP	PcP	09 48 27.4	-0.1
	comp=Z,1.3nm,0.7s,baz=61,slow=5.9,SNR=2.4						
MKAR	**Makanchi Array**	**47.33**	**298**	P	**P**	**09 46 56.3**	**-0.5**
MKAR						09 48 27.4	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	**Lhasa**	**50.53**	**274**	*e*P	**P**	**09 47 24.1**	**+2.8**
LSA				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
LSA	**Lhasa**	**50.53**	**274**	*e*P	**P**	**09 47 24.1**	**+2.8**
	comp=Z,15nm,0.9s,mb4.9						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**09 47 24.9**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.3,baz=296,slow=7.1,SNR=9.3						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**09 47 24.9**	**-0.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.30**	**310**	P	**P**	**09 47 26.1**	**-1.0**
	comp=Z,4.8nm,0.7s,mb4.6,baz=53,slow=8.7,SNR=11						
BVAR				ScP	ScP	09 52 38.1	+0.8
	comp=Z,0.5nm,0.4s,baz=90,slow=1.4,SNR=3.3						
BRVK	**Borovoye**	**51.34**	**310**	*e*P	**P**	**09 47 26.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**51.34**	**310**	*e*P	**P**	**09 47 26.5**	**-0.9**
	comp=Z,5.4nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**52.06**	**310**	*e*P	**P**	**09 47 31.2**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**52.06**	**310**	*e*P	**P**	**09 47 31.2**	**-1.7**
	comp=Z,6.8nm,0.7s,mb4.7						
KBS	**Kingsbay**	**52.93**	**351**	⇑*e*P	**P**	**09 47 40.0**	**+0.7**
AAK	**Ala-Archa**	**54.22**	**297**	*e*P	**P**	**09 47 48.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**54.22**	**297**	*e*P	**P**	**09 47 48.1**	**-0.7**
	comp=Z,6.6nm,0.9s,mb4.6						
KSH	**Kashi**	**55.02**	**293**	*e*P	**P**	**09 47 51.1**	**-3.4**
KSH				*e*XP	sP	09 47 59.8	-3.3
KSH				*e*PCP	PcP	09 48 54.2	-1.8
KSH				*e*PP	PP	09 49 55.4	-2.3
KSH				*e*SCP	ScP	09 52 51.1	-2.5
KSH				*e*PCS	PcS	09 52 58.6	+2.7
GUN	**Gumba**	**55.27**	**276**	*e*P	**P**	**09 47 58.0**	**+1.7**
	comp=Z,30nm,0.4s,mb5.6						
ARU	**Arti**	**55.47**	**318**	⇓*i*P	**P**	**09 47 55.8**	**-1.9**
ARU				*e*		09 50 00.7	
ARU				*e*S	**S**	**09 55 37.7**	**-4.0**
ARU				*e*SS	SS	09 59 20.2	-6.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**55.47**	**318**	*e*P	**P**	**09 47 55.7**	**-2.0**
	comp=Z,6.5nm,0.6s,mb4.8						
KKN	**Kakani**	**55.76**	**276**	*e*P	**P**	**09 48 01.7**	**+1.9**
	comp=Z,31nm,0.5s,mb5.6						
PKI	**Pulchoki**	**55.81**	**276**	*e*P	**P**	**09 48 01.7**	**+1.5**
	comp=Z,17nm,0.5s,mb5.3						
DMN	**Daman**	**55.99**	**276**	*e*P	**P**	**09 48 03.2**	**+1.7**
	comp=Z,47nm,0.8s,mb5.6						
GKN	**Gorkha**	**56.07**	**276**	*e*P	**P**	**09 48 03.6**	**+1.6**
	comp=Z,49nm,0.5s,mb5.8						
KOLN	**Koldanda**	**56.93**	**277**	*e*P	**P**	**09 48 09.9**	**+1.7**
	comp=Z,53nm,1.0s,mb5.5						
YBH	**Yreka Blue Hor**	**57.73**	**62**	P	**P**	**09 48 14.5**	**+0.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=284,slow=7.3,SNR=4.2						
YBH	**Yreka Blue Hor**	**57.73**	**62**	P	**P**	**09 48 14.5**	**+0.6**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KEV	**Kevo**	**57.80**	**341**	*e*p	**P**	**09 48 11.8**	**-2.5**
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**09 48 16.6**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=29,slow=7.1,SNR=13						
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**09 48 16.7**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WALA	**Waterton Lakes**	**58.52**	**50**	*e*P	**P**	**09 48 20.1**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.5						
AKTK	**Aktyubinsk**	**59.17**	**312**	P	**P**	**09 48 22.8**	**-1.1**
AKTK				ScP	ScP	09 53 12.8	+0.9
AKTO	**Aktyubinsk**	**59.17**	**312**	P	**P**	**09 48 22.8**	**-1.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=69,slow=7.4,SNR=12						
AKTO				ScP	ScP	09 53 12.8	+0.9
	comp=Z,1.5nm,0.9s,baz=51,slow=3.7,SNR=4.8						
JOF	**Joensuu**	**61.80**	**334**	*e*p	**P**	**09 48 40.4**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.5						
JOF	**Joensuu**	**61.80**	**334**	*e*P	**P**	**09 48 40.4**	**-1.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
NVAR	**Mina Array Bea**	**62.42**	**62**	P	**P**	**09 48 45.4**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.2,baz=293,slow=7.7,SNR=7.6						
KAF	**Kangasniemi**	**63.91**	**335**	*e*p	**P**	**09 48 53.9**	**-2.0**
	comp=Z,6.8nm,0.6s,mb4.8,baz=37,slow=6.3						
KAF	**Kangasniemi**	**63.91**	**335**	*e*P	**P**	**09 48 53.9**	**-2.0**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
HWUT	**Hardware Ranch**	**64.41**	**56**	*e*P	**P**	**09 48 57.4**	**-1.7**
	comp=Z,6.4nm,1.3s,mb4.5						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**09 48 58.7**	**-1.1**
	comp=Z,8.9nm,0.5s,mb5.1,baz=39,slow=7.9,SNR=83						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**09 48 58.7**	**-1.1**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**09 48 58.7**	**-1.1**
DUG	**Dugway**	**64.59**	**58**	*e*P	**P**	**09 49 02.5**	**+2.1**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
DUG	**Dugway**	**64.59**	**58**	*e*P	**P**	**09 49 02.5**	**+2.1**
	comp=Z,6.4nm,1.1s,mb4.6						
BW06	**Boulder Array**	**64.80**	**54**	*e*P	**P**	**09 49 02.3**	**+0.6**
PDAR	**Pinedale Array**	**64.80**	**54**	P	**P**	**09 49 00.5**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.2,baz=282,slow=2.1,SNR=11						
OBN	**Obninsk**	**65.78**	**326**	*e*P	**P**	**09 49 07.0**	**-1.0**
OBN				*e*PP	pP	09 49 15.5	+1.2
OBN				*e*SP	sP	09 49 18.6	+1.9
OBN				*e*		09 51 32.9	
OBN				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.7						
PV10	**Paradox Valley**	**68.00**	**57**	*e*P	**P**	**09 49 21.6**	**-0.6**
WRA	**Warramunga Arr**	**68.21**	**199**	P	**P**	**09 49 22.3**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.2,baz=19,slow=7.1,SNR=8.2						
WRA	**Warramunga Arr**	**68.21**	**199**	P	**P**	**09 49 22.3**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**68.69**	**341**	P	**P**	**09 49 25.6**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8,baz=28,slow=6.5						
NB2	**NORSAR Subarra**	**68.69**	**341**	P	**P**	**09 49 25.6**	**-0.9**
NB2				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**	**09 49 25.6**	**-0.9**
	comp=Z,7.1nm,0.8s,mb4.7,baz=27,slow=6.3,SNR=28						
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**	**09 49 25.6**	**-0.9**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**68.90**	**208**	P	**P**	**09 49 28.7**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.1,baz=28,slow=10,SNR=4.4						
HFS	**Hagfors**	**68.92**	**340**	P	**P**	**09 49 26.9**	**-1.0**
	comp=Z,10nm,0.6s,mb5.0,baz=54,slow=6.0,SNR=28						
HFS	**Hagfors**	**68.92**	**340**	P	**P**	**09 49 26.9**	**-1.0**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ISCO	**Idaho Springs**	**68.99**	**54**	*e*P	**P**	**09 49 29.7**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ISCO	**Idaho Springs**	**68.99**	**54**	*e*P	**P**	**09 49 29.6**	**+1.3**
	comp=Z,1.9nm,0.7s,mb4.1						
BORG	**Borgarnes**	**69.17**	**358**	P	**P**	**09 49 29.2**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.8,baz=301,slow=6.5,SNR=4.6						
KIV	**Kislovodsk**	**71.25**	**315**	*i* P	**P**	**09 49 38.8**	**-3.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ZEI	**Tsey**	**71.50**	**313**	*e*P	**P**	**09 49 42.5**	**-1.3**
ZEI				*e*PP	pP	09 49 52.7	+2.6
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ANMO	**Albuquerque**	**71.85**	**58**	⇑*e*P	**P**	**09 49 48.2**	**+2.4**
ASAR	**Alice Springs**	**71.90**	**199**	P	**P**	**09 49 45.8**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=14,slow=4.9,SNR=19						
ASAR	**Alice Springs**	**71.90**	**199**	P	**P**	**09 49 45.8**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**72.01**	**326**	P	**P**	**09 49 45.7**	**-1.1**
	comp=Z,6.4nm,0.4s,mb4.9,baz=35,slow=6.4,SNR=28						
AKASG	**Malin Array Be**	**72.01**	**326**	P	**P**	**09 49 45.7**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKASG	**Malin Array Be**	**72.01**	**326**	P	**P**	**09 49 45.7**	**-1.1**
AKBB	**Malin Array Si**	**72.01**	**326**	*e*P	**P**	**09 49 45.7**	**-1.1**
GNI	**Garni**	**72.97**	**311**	P	**P**	**09 49 54.2**	**+1.7**
	comp=Z,4.0nm,0.3s,mb4.8,baz=138,slow=6.2,SNR=4.0						
GNI	**Garni**	**72.97**	**311**	*i* P	**P**	**09 49 53.1**	**+0.6**
SCHQ	**Schefferville**

JCT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
JCT Junction City 78.95 57 *e*P **P 09 50 27.7 +1.0**
comp=Z,1.9nm,0.6s,mb4.2
UMR Umm Al-Rimmam 79.03 301 *e*P **P 09 50 27.2 +0.1**
UMR AMb AMB 09 50 33.0
comp=Z,22nm,0.8s,mb5.1
MIB Mutribah 79.07 302 *e*P **P 09 50 27.6 +0.2**
MIB AMb AMB 09 50 33.2
comp=Z,22nm,0.7s,mb5.2
BZS Buzias 79.08 328⇑*i*P **P 09 50 27.0 -0.4**
MEM Membach 79.41 340 P **P 09 50 30.9 +1.8**
RST Umm Al-Ruwaisa 79.50 302 *e*P **P 09 50 29.6 0.0**
RST AMb AMB 09 50 32.6
comp=Z,28nm,1.0s,mb5.2
QRN Al-Qurain 79.50 301 *e*P **P 09 50 30.6 +0.9**
QRN AMb AMB 09 50 36.7
comp=Z,32nm,0.7s,mb5.3
NAY Al-Naaiem 79.54 301 *e*P **P 09 50 29.3 -0.5**
NAY AMb AMB 09 50 33.0
comp=Z,9.5nm,0.8s,mb4.8
RDF Al-Radifah 79.59 301 *e*P **P 09 50 30.3 +0.2**
RDF AMb AMB 09 50 34.6
comp=Z,25nm,0.6s,mb5.3
BCLA Clavier 79.75 340 P **P 09 50 33.3 +2.3**
GIVF Givet 80.16 340 *e*P **P 09 50 32.5 -0.7**
BAIF Baives 80.34 340 *e*P **P 09 50 33.6 -0.6**
KBA Koelnbreinsper 80.61 334⇑*i*P **P 09 50 36.8 +1.2**
comp=Z,13nm,0.7s,mb5.0
KBA Koelnbreinsper 80.61 334⇑*i*P **P 09 50 36.8 +1.2**
KBA pmax pmax
comp=Z,13nm,0.7s,mb5.0
WATA Walderalm 80.91 335⇑*i*P **P 09 50 37.4 +0.2**
comp=Z,2.7nm,0.8s,mb4.2
WATA Walderalm 80.91 335⇑*i*P **P 09 50 37.4 +0.2**
WATA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WTTA Wattenberg 80.95 335⇓*i*P **P 09 50 38.2 +0.7**
comp=Z,9.9nm,0.5s,mb5.0
WTTA Wattenberg 80.95 335⇓*i*P **P 09 50 38.2 +0.7**
WTTA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VTS Vitosha 81.03 325⇑*i*P **P 09 50 40.0 +2.1**
CDF Champ du Feu 81.12 338 *e*P **P 09 50 37.9 -0.5**
MEZF Maizieres J'vi 81.60 339 *e*P **P 09 50 40.7 -0.2**
HINF Hinteralfeld 81.78 338 *e*P **P 09 50 41.0 -0.9**
GRR Gorron 83.02 343 *e*P **P 09 50 47.8 -0.6**
LOR Lormes 83.04 340 *e*P **P 09 50 47.9 -0.5**
comp=Z,27nm,1.0s,mb4.9
LOR Lormes 83.04 340 *e*P **P 09 50 47.9 -0.5**
LOR pmax pmax
comp=Z,14nm,1.0s,mb5.0
LOR Lormes 83.04 340 *e*P **P 09 50 47.9 -0.5**
comp=Z,14nm,1.0s,mb4.9
SSF Saint Saulge 83.31 340 *e*P **P 09 50 49.4 -0.5**
AVF Avril sur Loir 83.61 340 *e*P **P 09 50 51.0 -0.4**
comp=Z,15nm,0.8s,mb4.9
AVF Avril sur Loir 83.61 340 *e*P **P 09 50 51.0 -0.4**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
AVF Avril sur Loir 83.61 340 *e*P **P 09 50 51.0 -0.4**
comp=Z,7.5nm,0.8s,mb4.9
SMF Signal de Mont 83.62 339 *e*P **P 09 50 51.1 -0.4**
comp=Z,59nm,1.3s,mb5.3
SMF Signal de Mont 83.62 339 *e*P **P 09 50 51.1 -0.4**
SMF pmax pmax
comp=Z,29nm,1.3s,mb5.2
SMF Signal de Mont 83.62 339 *e*P **P 09 50 51.1 -0.4**
comp=Z,29nm,1.3s,mb5.2
LPL La Plagne 83.94 337 *e*P **P 09 50 53.4 +0.3**
LPG La Plagne 83.95 337 *e*P **P 09 50 53.7 +0.6**
MBDF Montbardon 84.65 337 *e*P **P 09 50 56.4 -0.3**
comp=Z,7.3nm,0.7s,mb4.6
MBDF Montbardon 84.65 337 *e*P **P 09 50 56.4 -0.3**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MBDF Montbardon 84.65 337 *e*P **P 09 50 56.4 -0.3**
comp=Z,3.7nm,0.7s,mb4.6
ORIF Oris-en-Rattie 84.72 338 *e*P **P 09 50 57.4 +0.4**
comp=Z,14nm,0.8s,mb4.8
ORIF Oris-en-Rattie 84.72 338 *e*P **P 09 50 57.4 +0.4**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 84.72 338 *e*P **P 09 50 57.4 +0.4**
comp=Z,6.9nm,0.8s,mb4.8
VIVF Saint-Julien-l 85.09 338 *e*P **P 09 50 59.3 +0.4**
LMR La Mourre 86.01 336 *e*P **P 09 51 03.5 0.0**
comp=Z,53nm,1.3s,mb5.3
LMR La Mourre 86.01 336 *e*P **P 09 51 03.5 0.0**
LMR pmax pmax
comp=Z,27nm,1.3s,mb5.3
LMR La Mourre 86.01 336 *e*P **P 09 51 03.5 0.0**
comp=Z,27nm,1.3s,mb5.3
KEST Kesra 92.14 331 P **P 09 51 33.1 +0.6**
comp=Z,1.4nm,0.6s,mb4.4,baz=201,slow=2.6,SNR=6.6
SDV Santo Domingo 112.40 48 *e*PKPdf PKiKP 09 56 59.7 +0.7
DRV Dumont d'Urvil 113.15 186 L 09 53 00.0
TORD Torodi Ar. Bea 115.56 329 PKP PKPdf 09 57 03.6 -1.4
comp=Z,0.3nm,0.5s,baz=4.8,slow=2.6,SNR=5.1
PLCA Paso Flores 147.94 96 PKPbc PKPbc 09 58 08.2 -0.1
comp=Z,2.6nm,0.8s,baz=253,slow=3.9,SNR=6.7
PLCA Paso Flores 147.94 96 PKP2 PKPbc 09 58 08.2 0.0
PLCA pmax pmax
comp=Z,3.0nm,0.8s
CPUP Villa Florida 148.46 61 PKPbc PKPbc 09 58 07.5 -2.1
comp=Z,0.7nm,0.4s,baz=339,slow=4.1,SNR=5.1
CPUP Villa Florida 148.46 61 PKIKP PKPdf 09 58 07.6 +1.5
CPUP pmax pmax
comp=Z,1.0nm,0.4s
SNAA Sanae 152.23 196 PKPbc PKPbc 09 58 17.4 -1.3
comp=Z,0.5nm,0.5s,baz=204,slow=12,SNR=3.7
SNAA Sanae 152.23 196 PKIKP PKPbc 09 58 17.4 -1.3
SNAA pmax pmax
comp=Z,1.0nm,0.5s

IDC 01 09:42:20.9±9.9,4750N×15219E,h0km,mb3.9/4, mb1 3.9/5,mb1mx3.6/21,mbtmp3.9/5,ML3.4/1,Error ellipse: s-maj=230.7km s-min=41.4km az=136.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.51**	**247**	Pn	Pn	09 44 11.7	+0.1
	0.5nm,0.3s,baz=79,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**46.05**	**296**	P	P	09 50 45.8	-0.5
	0.7nm,0.7s,baz=70,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**63.10**	**334**	P	P	09 52 50.0	-0.1
	1.5nm,0.9s,baz=53,slow=7.4,SNR=4.6						
NOA	**NORSAR Array B**	**67.32**	**341**	P	P	09 53 17.2	-0.3
	0.7nm,0.6s,baz=27,slow=6.3,SNR=3.8						
HFS	**Hagfors**	**67.54**	**339**	P	P	09 53 18.1	-0.9
	1.2nm,0.5s,baz=60,slow=8.5,SNR=5.4						

*IDC **01** 09:43:51.0±1.6,4631N×15307E,h0km,mb4.1/15, mb1 4.3/16,mb1mx4.1/25,mbtmp4.1/16,ML3.2/1,Error ellipse: s-maj=45.2km s-min=20.8km az=176.0*
*BJI **01** 09:43:51.9,4640N×153.10E,h10km,mB5.0,mb4.5,Ms4.4, Msz4.2*
*NEIC **01** 09:43:53.0±0.6,4637N×153.12E,h10km,mb4.4/10,Error ellipse: s-maj=16.6km s-min=7.7km az=139.0*
*ISCJB **01** 09:43:52.4±0.7,4635N±009×153.1E±01,h16km,mb4.4/30, MS4.2/1,Error ellipse: s-maj=16.4km s-min=4.8km az=101.0*
*MOS **01** 09:43:54.1±1.2,4626N×15325E,h36km,mb4.6/20,Error ellipse: s-maj=10.5km s-min=9.8km az=72.3*
*SZGRF **01** 09:44:00.0,4664N×15289E,h33km,mb4.5,Kuril Islands, Russia*
ISC 01 09:43:54.4±0.7,4641N±009×1531E±01,h17km, h17km±1.6km:pP-P,n100,σ1§23/104,mb4.4/30,MS4.2/1,1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**254**	⇓*e*PN	**Pn**	**09 44 52.0**	**-1.1**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=E,110nm,0.6s						
KUR				pmax	pmax		
	comp=Z,400nm,0.6s						
SKR	**Severo-Kuril's**	**4.71**	**24**	*e*PN	**Pn**	**09 45 04.4**	**-0.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.66**	**248**	*e*PN	**Pn**	**09 45 19.1**	**+1.3**
YUK				*e*S	**Sn**	**09 46 24.8**	**+2.4**
YUK				smax			
	comp=N,270nm,0.5s						
YUK				smax			
	comp=E,110nm,0.5s						
NEM2	**Nemuro 2**	**6.07**	**243**	P	**Pn**	**09 45 21.8**	**-1.6**
NEM2				*e*S	**Sn**	**09 46 27.2**	**-5.3**
JRA	**Rausu**	**6.18**	**249**	P	**Pn**	**09 45 26.3**	**+1.4**
JNK	**Nakash**	**6.60**	**248**	P	**Pn**	**09 45 31.2**	**+0.5**
JNK				*e*S	**Sn**	**09 46 44.0**	**-1.6**
JAK	**Akkeshi**	**6.92**	**243**	*e*S	**Sn**	**09 46 47.8**	**-5.4**
JTKR	**Abashiri--Toko**	**6.96**	**253**	P	**Pn**	**09 45 37.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.17**	**278**	*e*PN	**Pn**	**09 45 43.5**	**+5.1**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
JAR	**Ashorobuto**	**7.35**	**248**	*e*S	**Sn**	**09 47 00.9**	**-3.0**
JOB	**Onbets**	**7.50**	**245**	*e*S	**Sn**	**09 47 02.6**	**-5.1**
JKK2	**Kamakawa 2**	**7.77**	**255**	P	**Pn**	**09 45 48.7**	**+2.0**
ASAJ	**Asahikawa**	**7.78**	**257**	Pn	**Pn**	**09 45 49.1**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=89,slow=16,SNR=8.0						
ASAJ	**Asahikawa**	**7.78**	**257**	P	**Pn**	**09 45 49.3**	**+2.4**
ASAJ	**Asahikawa**	**7.78**	**257**	PN	**Pn**	**09 45 49.1**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.95**	**245**	*e*S	**Sn**	**09 47 13.3**	**-5.4**
JAB	**Ashibetsu**	**8.27**	**253**	P	**Pn**	**09 45 56.0**	**+2.5**
JEM	**Erimo**	**8.40**	**242**	*e*S	**Sn**	**09 47 24.0**	**-5.9**
ERM	**Erimo**	**8.41**	**242**	Pn	**Pn**	**09 45 55.1**	**-0.4**
ERM				*e*Sn	**Sn**	**09 47 36.0**	**+6.0**
JNBK	**Urakawa-nobuka**	**8.51**	**245**	*e*S	**Sn**	**09 47 25.9**	**-6.6**
JKB	**Kayabe**	**9.80**	**247**	P	**Pn**	**09 46 13.1**	**-1.5**
JKB				*e*S	**Sn**	**09 47 57.2**	**-7.0**
JYM2	**Yakumo 2**	**10.11**	**249**	P	**Pn**	**09 46 18.4**	**-0.4**
JTM	**Tenmabayashi**	**10.40**	**242**	*e*S	**Sn**	**09 48 09.3**	**-10**
JTH	**Tanohata**	**10.46**	**236**	*e*S	**Sn**	**09 48 08.1**	**-12**
JOSM	**Okushiri--Mats**	**10.71**	**251**	P	**Pn**	**09 46 26.2**	**-0.8**
OFUJ	**Ofunato**	**11.16**	**233**	*e*S	**Sn**	**09 48 25.6**	**-12**
JIO	**Ouri**	**11.78**	**232**	*e*S	**Sn**	**09 48 40.7**	**-12**
KLR	**Kul'dur**	**14.64**	**289**	*e*P	**Pn**	**09 47 20.8**	**+0.1**
MJAR	**Matsushiro Arr**	**14.89**	**234**	Pn	**Pn**	**09 47 22.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=4.3						
MAJO	**Matsushiro**	**14.89**	**234**	*e*P	**Pn**	**09 47 23.4**	**-0.7**
MAT	**Matsushiro**	**14.89**	**234**	P	**Pn**	**09 47 23.3**	**-0.8**
MDJ	**Mudanjiang**	**16.59**	**272**	P	**Pn**	**09 47 46.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s						
NJ2	**Nanjing**	**29.92**	**254**	*e*P	**P**	**09 50 02.6**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
HHC	**Hu-ho-hao-te**	**30.34**	**275**	*e*P	**P**	**09 50 05.5**	**+0.4**
HHC				AP	pP	09 50 10.0	-0.3
HHC				XP	sP	09 50 13.1	+0.7
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**09 50 14.8**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=72,slow=14,SNR=4.0						
SONM	**Songino Array**	**31.47**	**290**	P	**P**	**09 50 14.8**	**-0.3**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAK	**Zakamensk**	**32.84**	**296**	*e*P	**P**	**09 50 26.0**	**-1.1**
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**09 51 12.3**	**+1.5**
	comp=Z,18nm,1.0s,mb4.8						
LZH				pP	pP	09 51 16.8	+0.8
LZH				sP	sP	09 51 19.3	+1.2
LZH				LR	LR		
	comp=Z,14μm,14.5s						
GTA	**Gaotai**	**39.04**	**279**	*e*P	**P**	**09 51 21.6**	**+1.4**
GTA				AP	pP	09 51 25.8	+0.3
GTA				XP	sP	09 51 29.0	+1.4
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
GYA	**Guiyang**	**41.66**	**258**	P	**P**	**09 51 42.4**	**+0.5**
GYA				AP	pP	09 51 46.8	-0.4
GYA				XP	sP	09 51 49.7	+0.4
GYA				SCP	ScP	09 57 28.4	+0.4
GYA				S	**S**	**09 57 58.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,60nm,4.2s						
GYA				LR	LR		
	comp=N,210nm,16.8s,MS4.3						
GYA				LR	LR		
	comp=E,240nm,17.0s,MS4.3						
GYA				LR	LR		
	comp=Z,300nm,17.3s,MS4.2						
INK	**Inuvik**	**41.93**	**32**	P	**P**	**09 51 43.7**	**-0.4**
	comp=Z,1.4nm,0.5s,mb3.8,baz=313,slow=6.4,SNR=8.3						
INK	**Inuvik**	**41.93**	**32**	P	**P**	**09 51 43.7**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**41.93**	**32**	*e*P	**P**	**09 51 43.9**	**-0.2**
	comp=Z,117nm,0.9s						
WMQ	**Urumqi**	**45.07**	**292**	*e*P	**P**	**09 52 09.6**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
KMI	**Kunming**	**45.20**	**260**	P	**P**	**09 52 09.6**	**-0.9**
KMI				AP	pP	09 52 16.1	+0.3
KMI				XP	sP	09 52 20.5	+2.6
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
KMI	**Kunming**	**45.20**	**260**	P	**P**	**09 52 09.6**	**-0.9**
	comp=Z,4.0nm,1.0s,mb4.2						
KMI				pP	pP	09 52 16.1	+0.3
KMI				sP	sP	09 52 20.5	+2.6
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**09 52 22.9**	**-2.6**
	comp=Z,2.5nm,0.7s,mb4.2,baz=64,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**09 52 22.9**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**47.12**	**298**	P	**P**	**09 52 22.9**	**-2.6**
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**09 52 55.1**	**-0.9**
	comp=Z,1.2nm,0.3s,mb4.3,baz=52,slow=7.6,SNR=6.4						
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**09 52 55.1**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**09 52 55.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**09 52 55.6**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**09 53 00.3**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	**P**	**09 53 00.3**	**-1.4**
	comp=Z,1.9nm,0.4s,mb4.4						
AAK	**Ala-Archa**	**54.00**	**297**	*e*P	**P**	**09 53 16.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
AAK	**Ala-Archa**	**54.00**	**297**	*e*P	**P**	**09 53 16.6**	**-1.0**
	comp=Z,7.1nm,1.4s,mb4.4						
KSH	**Kashi**	**54.80**	**293**	*e*P	**P**	**09 53 23.3**	**-0.1**
KSH				*e*AP	pP	09 53 28.0	-0.8
KSH				*e*XP	sP	09 53 31.1	+0.2
KSH				*e*PCP	PcP	09 54 25.8	+0.2
KSH				*e*PP	PP	09 55 27.4	+1.3
KSH				*e*PPP		09 56 38.0	
KSH				*e*SCP	ScP	09 58 23.0	-0.4
JIRN	**Jiri**	**54.99**	**275**	*e*P	**P**	**09 53 27.8**	**+3.0**
GUN	**Gumba**	**55.05**	**275**	*e*P	**P**	**09 53 28.1**	**+2.9**
KKN	**Kakani**	**55.54**	**276**	*e*P	**P**	**09 53 30.1**	**+1.4**
	comp=Z,10nm,0.6s,mb5.0						
PKI	**Pulchoki**	**55.59**	**275**	*e*P	**P**	**09 53 30.5**	**+1.5**
DMN	**Daman**	**55.77**	**276**	*e*P	**P**	**09 53 32.0**	**+1.6**
GKN	**Gorkha**	**55.85**	**276**	*e*P	**P**	**09 53 32.0**	**+1.1**
	comp=Z,20nm,0.7s,mb5.2						
KOLN	**Koldanda**	**56.71**	**277**	*e*P	**P**	**09 53 38.2**	**+1.2**
	comp=Z,13nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**09 53 46.5**	**-1.0**
	comp=Z,4.1nm,1.0s,mb4.4,baz=25,slow=7.2,SNR=11						
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**09 53 46.5**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**09 53 46.5**	**-1.0**
NVAR	**Mina Array Bea**	**62.58**	**62**	P	**P**	**09 54 17.8**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=280,slow=7.6,SNR=3.9						
KAF	**Kangasniemi**	**63.76**	**335**	*e*p	**P**	**09 54 21.0**	**-4.4**
FINES	**FINESS Array B**	**64.36**	**335**	P	**P**	**09 54 28.4**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.5,baz=41,slow=6.9,SNR=26						
FINES	**FINESS Array B**	**64.36**	**335**	P	**P**	**09 54 28.4**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**64.94**	**54**	P	**P**	**09 54 32.7**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=321,slow=2.1,SNR=5.1						
OBN	**Obninsk**	**65.60**	**326**	*e*P	**P**	**09 54 39.3**	**+1.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**09 54 55.3**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.3,baz=28,slow=6.2						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**09 54 55.3**	**-0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**09 54 55.6**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.3,baz=27,slow=6.3,SNR=11						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**09 54 55.6**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**68.78**	**340**	P	**P**	**09 54 56.8**	**-0.8**
	comp=Z,3.3nm,0.4s,mb4.6,baz=51,slow=5.9,SNR=17						
HFS	**Hagfors**	**68.78**	**340**	P	**P**	**09 54 56.8**	**-0.8**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	**Malin Array Be**	**71.84**	**326**	P	**P**	**09 55 14.9**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.7,baz=33,slow=6.2,SNR=16						
AKASG	**Malin Array Be**	**71.84**	**326**	P	**P**	**09 55 15.0**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKBB	**Malin Array Si**	**71.84**	**326**	*e*P	**P**	**09 55 15.1**	**-1.2**
DPC	**Dobruska-Polom**	**76.64**	**333**	*e*P	**P**	**09 55 44.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**76.68**	**346**	P	**P**	**09 55 45.5**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=22,slow=4.5,SNR=4.9						
EKA	**Eskdalemuir Ar**	**76.68**	**346**	P	**P**	**09 55 45.5**	**+1.1**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**76.78**	**336**	*e*P	**P**	**09 55 45.0**	**-0.1**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CLL	**Collm**	**76.78**	**336**	*e*P	**P**	**09 55 45.0**	**-0.1**
	comp=Z,6.0nm,0.6s,mb4.7						
MLR	**Muntele Rosu**	**77.36**	**325**	P	**P**	**09 55 49.0**	**+0.8**
	comp=Z,1.8nm,0.4s,mb4.3,baz=178,slow=5.5,SNR=5.4						
MLR	**Muntele Rosu**	**77.36**	**325**	P	**P**	**09 55 49.0**	**+0.7**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KHC	**Kasperske Hory**	**78.56**	**334**	*e*P	**P**	**09 55 54.3**	**-0.6**
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**09 55 56.9**	**+1.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=132,slow=1.8,SNR=4.3						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**09 55 56.9**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GRA1	**Grafenberg Arr**	**78.74**	**336**	*e*P	**P**	**09 55 56.1**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**78.74**	**336**	*e*P	**P**	**09 55 56.1**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**78.74**	**336**	*e*P	**P**	**09 55 56.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**78.77**	**334**	P	**P**	**09 55 55.1**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=42,slow=4.6,SNR=7.1						
GERES	**GERESS Array B**	**78.77**	**334**	P	**P**	**09 55 55.1**	**-1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**148.62**	**61**	PKPbc	PKPbc	10 03 38.8	-1.7
	comp=Z,0.6nm,0.5s,baz=336,slow=2.6,SNR=3.1						
CPUP	**Villa Florida**	**148.62**	**61**	PKP2	PKPbc	10 03 38.8	-1.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*BJI **01** 09:50:10.7,4670N×15354E,h11km,mB5.0,mb4.8,Ms4.7, Msz4.5*
*IDC **01** 09:50:11.1±0.5,4646N×15339E,h0km,mb4.5/26, mb1 4.6/27,mb1mx4.5/30,mbtmp4.4/27,ML3.8/1,Error ellipse: s-maj=15.5km s-min=13.5km az=144.0*
*NEIC **01** 09:50:13.0±0.2,4649N×15346E,h10km,mb4.9/56,Error ellipse: s-maj=7.3km s-min=4.6km az=153.0*
*JMA **01** 09:50:12.1±0.7,4657N×15373E,h30km,M4.9*
*ISCJB **01** 09:50:12.0±0.3,4640N±004×15346E±005,h15km, mb4.9/106,MS5.4/3,Error ellipse: s-maj=7.1km s-min=2.9km az=112.1*
*MOS **01** 09:50:13.9±1.1,4654N×15348E,h25km,mb5.1/54,Error ellipse: s-maj=8.6km s-min=5.0km az=104.8*
*SKHL **01** 09:50:13.5±1.6,4640N×15370E,h47km±12km,mb5.3/6*
*SZGRF **01** 09:50:25.0,4724N×15154E,h33km,mb5.1,Kuril Islands, Russia*
ISC 01 09:50:14.0±0.3,4650N±004×15347E±005,h16km, h16km±2.3km:pP-P,n343,σ1§09/353,mb4.9/106,MS5.4/3, 48C-13D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.11**	**254**	⇓*i*P	**Pn**	**09 51 14.8**	**-1.3**
KUR				AMB	AMB	09 51 15.8	
	460nm,0.5s						
KUR				AMB	AMB	09 51 15.8	
	300nm,0.5s						
KUR				AMB	AMB	09 51 15.8	
	2μm,0.5s						
KUR				*e*S	**Sn**	**09 52 02.0**	**-1.9**
KUR				A		09 52 20.0	
	320nm,0.6s						
KUR				A		09 52 20.0	
	760nm,0.6s						
SKR	**Severo-Kuril's**	**4.54**	**22**	*e*P	**Pn**	**09 51 18.0**	**-4.0**
SKR				AMB	AMB	09 51 20.5	
	80nm,0.5s						
SKR				*e*S	**Sn**	**09 52 05.0**	**-9.3**
SKR				A		09 52 19.0	
	180nm,0.5s						
SKR				A		09 52 19.0	
	150nm,0.5s						
SKR				A		09 52 19.0	
	90nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.91**	**248**	*e*P	**Pn**	**09 51 41.5**	**+0.7**
YUK				AMB	AMB	09 51 46.0	
	110nm,0.5s						
YUK				AMB	AMB	09 51 46.0	
	380nm,0.5s						
YUK				*e*S	**Sn**	**09 52 48.3**	**+0.2**
YUK				A		09 52 57.0	
	760nm,0.5s						
YUK				A		09 52 57.0	
	310nm,0.5s						
YUK				A		09 53 19.0	
	5μm,1.0s						
NEM2	**Nemuro 2**	**6.32**	**243**	P	**Pn**	**09 51 44.9**	**-1.5**
NEM2				*e*S	**Sn**	**09 52 53.0**	**-5.2**
JRA	**Rausu**	**6.43**	**249**	P	**Pn**	**09 51 49.4**	**+1.5**
JNK	**Nakash**	**6.85**	**248**	P	**Pn**	**09 51 54.1**	**+0.4**
JAK	**Akkeshi**	**7.16**	**244**	P	**Pn**	**09 51 56.6**	**-1.4**
JAK				*e*S	**Sn**	**09 53 13.9**	**-5.1**
JTKR	**Abashiri--Toko**	**7.21**	**253**	P	**Pn**	**09 52 00.2**	**+1.6**
PET	**Petropavlovsk**	**7.34**	**25**	*e*S	**Sn**	**09 53 17.7**	**-5.7**

JSS	Shosan	8.43 260	P	Pn	09 52 19.2	+3.8
JAB	Ashibetsu	8.51 253	P	Pn	09 52 18.9	+2.4
JEM	Erimo	8.65 242	P	Pn	09 52 17.0	-1.4
ERM	Erimo	8.65 242	*e*PN	Pn	09 52 19.0	+0.6
ERM			pmax	pmax		
comp=Z,66nm,0.8s						
ERM	Erimo	8.65 242	*e*Pn	Pn	09 52 19.0	+0.5
comp=Z,66nm,0.8s						
JBT2	Biratori 2	8.75 249	P	Pn	09 52 20.1	+0.3
JHR	Hokuryu	8.75 256	P	Pn	09 52 22.3	+2.5
JNBK	Urakawa-nobuka	8.76 245	P	Pn	09 52 18.6	-1.3
JNBK			*e*S	Sn	09 53 52.2	-6.0
JEW	Eniwo	9.31 251	P	Pn	09 52 29.5	+2.0
JNB	Noboribetsu	9.75 250	P	Pn	09 52 33.5	-0.1
JKB	Kayabe	10.05 247	P	Pn	09 52 36.1	-1.5
JKB			*e*S	Sn	09 54 21.8	-8.2
JSH	Shimam	10.32 253	P	Pn	09 52 42.1	+0.7
JYM2	Yakumo 2	10.36 250	P	Pn	09 52 41.5	-0.3
NKL	Nikolayevsk	10.60 314	*e*P	Pn	09 52 45.7	+0.6
JTM	Tenmabayashi	10.64 242	P	Pn	09 52 43.3	-2.4
JTM			*e*S	Sn	09 54 36.3	-8.2
JTH	Tanohata	10.71 236	*e*S	Sn	09 54 33.4	-13
JOSM	Okushiri--Mats	10.96 251	P	Pn	09 52 49.3	-0.7
OFUJ	Ofunato	11.40 234	*e*S	Sn	09 54 50.3	-13
JRG	Rokugo	11.78 237	P	Pn	09 52 58.7	-2.5
JRG			*e*S	Sn	09 55 02.1	-10
JIO	Ouri	12.02 232	*e*S	Sn	09 55 05.6	-13
MA2	Magadan	13.19 354	*e*PN	Pn	09 53 22.6	+2.0
MA2			pmax	pmax		
comp=Z,10.0nm,0.5s						
EKMR	Ekimchan	14.76 304	*e*P	Pn	09 53 47.5	+5.5
EKMR			AMB	AMB	09 53 58.5	
comp=Z,8.0nm,0.5s						
KLR	Kul'dur	14.82 289	*e*P	Pn	09 53 42.4	-0.4
MAJO	Matsushiro	15.13 234	*e*Pn	Pn	09 53 44.1	-2.8
MAJO			*e*P		09 53 53.0	
MAT	Matsushiro	15.13 234	P	Pn	09 53 46.8	-0.1
MJAR	Matsushiro Arr	15.13 234	Pn	Pn	09 53 43.8	-3.1
comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=15						
VLA	Vladivostok	15.67 265	*i* P	Pn	09 53 56.8	+2.8
VLA			pmax	pmax		
comp=Z,15nm,0.6s						
SEY	Seymchan	16.48 358	*i* P	Pn	09 54 06.0	+1.6
MDJ	Mudanjiang	16.82 272	P	Pn	09 54 08.2	-0.5
MDJ			AP	pP	09 54 10.8	-4.5
MDJ			AMB	AMB		
comp=Z,26nm,0.9s						
MDJ	Mudanjiang	16.82 272	*e*P	Pn	09 54 08.8	+0.2
comp=Z,25nm,0.8s						
BMKR	Bomnak	17.58 307	*e*P	Pn	09 54 16.3	-2.0
BMKR			AMB	AMB	09 54 20.4	
comp=Z,9.0nm,0.6s						
YASR	Yasnyy	17.71 302	*e*P	Pn	09 54 17.8	-2.0
YASR			AMB	AMB	09 54 21.7	
comp=Z,5.0nm,1.0s						
YASR			AMB	AMB	09 54 21.7	
comp=Z,18nm,1.0s						
YASR			AMB	AMB	09 54 21.7	
comp=Z,37nm,1.0s						
KROS	Kirovskiy	18.55 305	*e*P	Pn	09 54 27.9	-2.3
KROS			AMB	AMB	09 54 30.9	
comp=Z,8.0nm,0.5s						
CN2	Changchun	19.90 272	*e*P	Pn	09 54 42.4	-4.0
CN2			*e*XP	sP	09 54 50.1	-1.4
CN2			AMB	AMB		
comp=Z,10.0nm,0.6s						
YAK	Yakutsk	20.66 327	*e*P	P	09 54 52.7	-0.3
YAK			pmax	pmax		
comp=Z,17nm,1.1s						
INCN	Inchon	21.80 255	*e*P	P	09 55 06.7	+1.4
comp=Z,38nm,0.8s,mb4.9						
SNY	Shenyang	21.87 269	⇓P	P	09 55 05.8	-0.2
SNY			AMB	AMB		
comp=Z,27nm,0.6s,mb4.8						
BILL	Bilibino	22.58 13	*e*P	P	09 55 14.6	+1.1
BILL			*e*		09 55 42.5	
BILL			pmax	pmax		
comp=Z,11nm,0.5s,mb4.5						
HIA	Hailar	22.68 289	*i* P	P	09 55 12.6	-2.0
DL2	Dalian	24.48 263	P	P	09 55 34.0	+1.8
DL2			AMB	AMB		
comp=Z,20nm,0.6s,mb4.7						
BOD	Bodaibo	26.33 310	*e*P	P	09 55 47.1	-1.9
BOD			pmax	pmax		
comp=Z,8.0nm,2.1s,mb3.9						
BJT	Baijiatuau	27.73 270	*e*P	P	09 56 04.4	+2.8
BJT			pmax	pmax		
comp=Z,13nm,0.8s						
BJT	Baijiatuau	27.73 270	*e*P	P	09 56 04.4	+2.7
comp=Z,13nm,0.8s,mb4.6						
NJ2	Nanjing	30.16 254	*e*P	P	09 56 21.5	-1.7
NJ2			AMB	AMB		
comp=Z,20nm,0.7s,mb5.0						
HHC	Hu-ho-hao-te	30.55 275	*e*P	P	09 56 27.5	+0.8
HHC			AP	pP	09 56 31.6	-0.1
HHC			XP	sP	09 56 34.5	+0.8
HHC			AMB	AMB		
comp=Z,65nm,0.5s,mb5.7						
SONM	Songino Array	31.65 290	P	P	09 56 35.1	-1.2
comp=Z,2.2nm,0.6s,mb4.2,baz=75,slow=8.3,SNR=14						
SONM			PcP	PcP	09 59 27.7	-0.5
comp=Z,1.0nm,0.8s,baz=76,slow=2.8,SNR=4.6						
SONM	Songino Array	31.65 290	P	P	09 56 35.1	-1.2
SONM					09 59 27.7	
SONM			pmax	pmax		
comp=Z,20nm,0.6s						
ZAK	Zakamensk	33.00 295	*e*P	P	09 56 46.9	-1.3
KDAK	Kodiak Island	34.07 51	P	P	09 56 56.8	-0.7
comp=Z,8.8nm,0.7s,mb4.8,baz=246,slow=2.5,SNR=4.3						
WHN	Wuhan	34.11 256	*e*P	P	09 56 58.5	+0.7
MCK	McKinley	35.68 40	*e*P	P	09 57 09.3	-2.1
comp=Z,2.4nm,0.9s,mb4.1						
COLA	College	36.18 38	⇓*e*P	P	09 57 16.0	+0.3
COLA	College	36.18 38	*e*P	P	09 57 15.5	-0.2
comp=Z,7.0nm,0.8s,mb4.6						
LZH	Lanzhou	38.14 272	*e*P	P	09 57 34.0	+1.7
LZH			AP	pP	09 57 36.5	-0.9
LZH			XP	sP	09 57 39.0	-0.4
LZH			PP	PP	09 59 03.0	+3.4
LZH			AMB	AMB		
comp=Z,51nm,1.0s,mb5.2						
LZH			AMB	AMB		
comp=Z,219nm,4.3s						
LZH	Lanzhou	38.14 272	*e*P	P	09 57 34.0	+1.7
LZH			*SP	sP	09 57 39.0	-0.4
LZH					09 59 03.0	
LZH					09 59 53.1	
LZH			pmax	pmax		
comp=Z,51nm,1.0s,mb5.2						
LZH			MLR	MLR		
comp=Z,14µm,13.5s,MS5.9						
LZH	Lanzhou	38.14 272	*e*P	P	09 57 34.0	+1.7
comp=Z,51nm,1.0s,mb5.2						
LZH			pP	pP	09 57 36.5	-0.9
LZH			sP	sP	09 57 39.0	-0.4
LZH			PP	PP	09 59 03.0	+3.4
LZH			PcP	PcP	09 59 53.1	+6.1
LZH			LR	LR		
comp=Z,14µm,13.5s,MS5.9						
EGAK	Eagle	39.04 38	*e*P	P	09 57 38.9	-1.0
GTA	Gaotai	39.25 280	*e*P	P	09 57 42.4	+0.8
GTA			AP	pP	09 57 46.8	+0.1
GTA			XP	sP	09 57 49.9	+1.2
GTA			PCP	PcP	09 59 51.5	+1.0
GTA			S	S	10 03 43.0	+1.5
GTA			XS	sS	10 03 48.7	-1.1
GTA			SS	SS	10 06 27.3	-7.6
GTA			AMB	AMB		
comp=Z,16nm,1.4s,mb4.6						
CD2	Chengdu	41.10 266	P	P	09 57 56.7	-0.3
CD2			AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5						
CD2			AMB	AMB		
comp=Z,40nm,5.6s						
INK	Inuvik	41.73 32	P	P	09 58 01.9	-0.2
comp=Z,1.7nm,0.6s,mb3.9,baz=301,slow=8.8,SNR=13						
INK	Inuvik	41.73 32	*e*P	P	09 58 02.1	-0.1
INK			pmax	pmax		
comp=Z,135nm,0.8s						
INK	Inuvik	41.73 32	*e*P	P	09 58 02.1	0.0
comp=Z,135nm,0.8s,mb5.6						
GYA	Guiyang	41.90 258	⇑*i*P	P	09 58 04.4	+0.8
GYA			AP	pP	09 58 08.4	-0.2
GYA			XP	sP	09 58 11.6	+1.0
GYA			PP	PP	09 59 44.5	+4.0
GYA			SCP	ScP	10 03 49.6	+0.9
GYA			S	S	10 04 21.3	+0.3
GYA			SCS	ScS	10 08 04.9	-0.9
GYA			AMB	AMB		
comp=Z,50nm,1.0s,mb5.1						
GYA			AMB	AMB		
comp=Z,120nm,5.0s						
GYA			LR	LR		
comp=N,460nm,17.0s,MS4.6						
GYA			LR	LR		
comp=E,490nm,17.2s,MS4.6						
GYA			LR	LR		
comp=Z,510nm,17.6s,MS4.5						
WMQ	Urumqi	45.24 292	*e*P	P	09 58 30.6	+0.1
WMQ			AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8						
KMI	Kunming	45.44 260	P	P	09 58 32.3	+0.3
KMI			AP	pP	09 58 39.0	+1.9
KMI			XP	sP	09 58 42.7	+3.6
KMI			AMB	AMB		
comp=Z,18nm,1.0s,mb4.9						
KMI	Kunming	45.44 260	P	P	09 58 32.3	+0.3
comp=Z,18nm,1.0s,mb4.9						
KMI			pP	pP	09 58 39.0	+1.9
KMI			sP	sP	09 58 42.7	+3.6
DLBC	Dease Lake	45.59 46	P	P	09 58 33.7	+0.5
comp=Z,3.0nm,0.9s,mb4.2,baz=325,slow=16,SNR=4.4						
DLBC	Dease Lake	45.59 46	P	P	09 58 33.7	+0.5
MKAR	Makanchi Array	47.27 298	P	P	09 58 45.6	-0.8
comp=Z,12nm,0.7s,mb4.9,baz=67,slow=7.9,SNR=87						
MKAR			PcP	PcP	10 00 17.1	-0.3
comp=Z,2.0nm,0.7s,baz=40,slow=2.7,SNR=3.8						
MKAR	Makanchi Array	47.27 298	⇑*e*P	P	09 58 45.7	-0.7
LSA	Lhasa	50.53 274	P	P	09 59 14.0	+2.6
LSA	Lhasa	50.53 274	*e*P	P	09 59 14.4	+3.0
LSA			pmax	pmax		
comp=Z,24nm,0.6s,mb5.3						
LSA	Lhasa	50.53 274	*e*P	P	09 59 14.3	+2.9
comp=Z,24nm,0.6s,mb5.3						
YKA	Yellowknife Ar	50.98 37	P	P	09 59 14.5	-0.3
comp=Z,4.7nm,0.6s,mb4.6,baz=294,slow=7.0,SNR=14						
YKA	Yellowknife Ar	50.98 37	P	P	09 59 14.5	-0.3
YKA			pmax	pmax		
comp=Z,5.0nm,0.6s						
BVAR	Borovoye Array	51.20 310	P	P	09 59 15.5	-1.0
comp=Z,5.0nm,0.5s,mb4.7,baz=56,slow=9.1,SNR=30						
BVAR	Borovoye Array	51.20 310	P	P	09 59 15.5	-1.0
BVAR			pmax	pmax		
comp=Z,5.0nm,0.5s						
BRVK	Borovoye	51.24 310	*e*P	P	09 59 15.6	-1.2
BRVK			pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8						
BRVK	Borovoye	51.24 310	*e*P	P	09 59 15.6	-1.2
comp=Z,7.8nm,0.6s,mb4.8						
ZRNK	Zerenda	51.97 310	*i* P	P	09 59 21.0	-1.3
ZRNK			pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6						
ZRNK	Zerenda	51.97 310	*e*P	P	09 59 20.9	-1.3
comp=Z,9.7nm,0.8s,mb4.8						
AAK	Ala-Archa	54.16 297	*e*P	P	09 59 37.7	-0.7
AAK			pmax	pmax		
comp=Z,13nm,1.1s,mb4.8						
AAK	Ala-Archa	54.16 297	*e*P	P	09 59 37.7	-0.7
comp=Z,9.5nm,0.8s,mb4.8						
KSH	Kashi	54.97 293	*e*P	P	09 59 43.2	-1.1
KSH			*e*AP	pP	09 59 48.2	-1.3
KSH			*e*XP	sP	09 59 51.9	+0.4
KSH			*e*PCP	PcP	10 00 46.1	+0.1
KSH			*e*PP	PP	10 01 47.1	-0.2
KSH			*e*SCP	ScP	10 04 43.4	-0.5
KSH			*e*S	S	10 07 20.7	-4.8
KSH			*e*PS		10 07 37.2	
KSH			*e*SCS	ScS	10 09 28.5	-4.4
KSH			*e*SS	SS	10 11 03.5	-5.6
JIRN	Jiri	55.21 275	*e*P	P	09 59 47.9	+1.9
GUN	Gumba	55.27 275	*e*P	P	09 59 47.9	+1.5
comp=Z,27nm,0.6s,mb5.5						
ARU	Arti	55.36 318	⇓*i*P	P	09 59 45.4	-1.7
ARU			*e*S	S	10 07 28.5	-2.2
ARU			pmax	pmax		
comp=Z,11nm,0.7s,mb5.0						
ARU	Arti	55.36 318	*e*P	P	09 59 45.6	-1.5
comp=Z,11nm,0.6s,mb5.1						
KKN	Kakani	55.75 276	*e*P	P	09 59 51.5	+1.6
comp=Z,66nm,0.6s,mb5.8						
PKI	Pulchoki	55.80 275	*e*P	P	09 59 51.6	+1.3
comp=Z,26nm,0.6s,mb5.4						
DMN	Daman	55.99 276	*e*P	P	09 59 53.3	+1.7
comp=Z,51nm,0.7s,mb5.7						
GKN	Gorkha	56.06 276	*e*P	P	09 59 53.5	+1.4
comp=Z,52nm,0.6s,mb5.8						
EDM	Edmonton	56.31 46	*e*P	P	09 59 53.3	-0.6
KOLN	Koldanda	56.92 277	*e*P	P	09 59 59.8	+1.6
comp=Z,36nm,0.7s,mb5.5						
YBH	Yreka Blue Hor	57.65 62	P	P	10 00 04.2	+0.9
comp=Z,0.9nm,0.9s,mb3.8,baz=245,slow=5.5,SNR=4.1						
BOK	Bokaro	57.90 272	*e*P	P	10 00 06.3	+1.1
BOK			AMb	AMB	10 00 07.4	
comp=Z,11nm,0.5s,mb5.1						
ARCES	ARCESS Array B	58.17 341	P	P	10 00 06.0	-1.1
comp=Z,3.8nm,0.7s,mb4.5,baz=36,slow=7.5,SNR=16						
ARCES	ARCESS Array B	58.17 341	P	P	10 00 06.0	-1.0
ARCES			pmax	pmax		
comp=Z,4.0nm,0.7s						
AKTK	Aktyubinsk	59.07 312	P	P	10 00 12.1	-1.2
AKTO	Aktyubinsk	59.07 312	P	P	10 00 12.1	-1.2
comp=Z,3.0nm,0.5s,mb4.6,baz=90,slow=8.3,SNR=11						
AKTO	Aktyubinsk	59.07 312	P	P	10 00 12.1	-1.2
AKTO			pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6						
WVOR	Wild Horse Val	59.68 59	*e*P	P	10 00 19.4	+1.9
WVOR			pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3						
WVOR	Wild Horse Val	59.68 59	*e*P	P	10 00 19.4	+1.9
comp=Z,3.0nm,0.9s,mb4.3						
JOF	Joensuu	61.66 334	*ep*	P	10 00 29.3	-1.7
comp=Z,5.7nm,0.5s,mb5.0						
JOF	Joensuu	61.66 334	*e*P	P	10 00 29.3	-1.7
JOF			pmax	pmax		
comp=Z,6.0nm,0.5s,mb5.0						
NVAR	Mina Array Bea	62.33 62	P	P	10 00 36.0	+0.5
comp=Z,0.7nm,0.7s,mb3.9,baz=292,slow=7.9,SNR=7.7						
TPAW	Teton Pass	63.45 54	*e*P	P	10 00 43.4	+0.4
comp=Z,12nm,1.3s,mb4.8						
KAF	Kangasniemi	63.77 335	*ep*	P	10 00 42.9	-2.2
comp=Z,15nm,0.7s,mb5.1,baz=36,slow=6.2						
KAF	Kangasniemi	63.77 335	*e*P	P	10 00 42.9	-2.2
KAF			pmax	pmax		
comp=Z,15nm,0.7s,mb5.1						
AJM	Ajmer	63.85 282	*e*P	P	10 00 45.1	-0.5
BHPL	Bhopal	64.09 277	*e*P	P	10 00 48.0	+0.9
BHPL			AMb	AMB	10 00 49.0	
comp=Z,14nm,0.6s,mb5.1						
FINES	FINESS Array B	64.37 335	P	P	10 00 48.1	-0.9
comp=Z,11nm,0.5s,mb5.2,baz=39,slow=7.4,SNR=145						
FINES	FINESS Array B	64.37 335	P	P	10 00 48.1	-0.9
FINES			pmax	pmax		
comp=Z,11nm,0.5s						
DUG	Dugway	64.50 58	*e*P	P	10 00 50.2	+0.3
DUG			pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3						
DUG	Dugway	64.50 58	*e*P	P	10 00 50.2	+0.3
comp=Z,3.3nm,1.0s,mb4.3						
PDAR	Pinedale Array	64.70 54	P	P	10 00 50.6	-0.5
comp=Z,0.7nm,0.8s,baz=333,slow=1.7,SNR=5.1						
OBN	Obninsk	65.65 326	⇓*e*P	P	10 00 56.5	-0.9
OBN			*e*		10 01 06.6	
OBN			*e*		10 01 29.1	
OBN			*e*		10 03 18.8	
OBN			*e*SS	SS	10 13 58.4	+1.9
OBN			pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.9						
OBN			MLR	MLR		
comp=Z,5µm,16.0s,MS5.8						
ULM	Lac du Bonnet	66.55 41	P	P	10 01 02.2	-1.0
comp=Z,2.0nm,0.8s,mb4.2,baz=307,slow=10,SNR=2.9						
ULM	Lac du Bonnet	66.55 41	P	P	10 01 02.2	-1.0
PV10	Paradox Valley	67.90 57	*e*P	P	10 01 11.7	0.0
PV01	Paradox Valley	68.33 57	*e*P	P	10 01 14.4	-0.1
WRA	Warramunga Arr	68.36 199	P	P	10 01 13.3	-1.3
comp=Z,3.0nm,0.8s,mb4.4,baz=17,slow=6.8,SNR=128						
WRA	Warramunga Arr	68.36 199	P	P	10 01 13.3	-1.3
WRA			pmax	pmax		
comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	68.54 341	P	P	10 01 14.9	-0.8
comp=Z,17nm,0.7s,mb5.1,baz=28,slow=6.5						
NB2	NORSAR Subarra	68.54 341	P	P	10 01 14.9	-0.8
NB2			pmax	pmax		
comp=Z,17nm,0.7s,mb5.1						
NOA	NORSAR Array B	68.54 341	P	P	10 01 14.8	-0.9
comp=Z,14nm,0.6s,mb5.0,baz=27,slow=6.3,SNR=84						
NOA	NORSAR Array B	68.54 341	P	P	10 01 14.9	-0.8
NOA			pmax	pmax		
comp=Z,14nm,0.6s						
NAO01	NORSAR Array S	68.79 341	*e*P	P	10 01 16.5	-0.7
comp=Z,6.4nm,0.7s,mb4.7						
ISCO	Idaho Springs	68.89 54	*e*P	P	10 01 18.7	+0.9
comp=Z,1.5nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	69.04 208	*e*P	P	10 01 18.3	-0.5
comp=Z,7.4nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	69.04 208	P	P	10 01 17.9	-0.9
comp=Z,3.8nm,0.8s,mb4.4,baz=48,slow=5.1,SNR=10						
KONO	Kongsberg	70.15 341	*i* P	P	10 01 26.3	+0.6
GOF	Gofitskoye	70.17 315	*e*P	P	10 01 18.7	-7.1
KAD	Karad	70.34 275	*e*P	P	10 01 26.8	-0.1
KAD			AMb	AMB	10 01 34.1	
comp=Z,27nm,1.1s,mb5.1						
KIV	Kislovodsk	71.15 314	P	P	10 01 33.0	+1.3
KIV	Kislovodsk	71.15 314	P	P	10 01 33.0	+1.2
ANMO	Albuquerque	71.75 58	*i* P	P	10 01 33.1	-2.3
AKASG	Malin Array Be	71.89 326	P	P	10 01 35.2	-1.0
comp=Z,15nm,0.6s,mb5.1,baz=34,slow=6.2,SNR=73						
AKASG	Malin Array Be	71.89 326	P	P	10 01 35.2	-1.0
AKASG			pmax	pmax		
comp=Z,15nm,0.6s						
AKASG	Malin Array Be	71.89 326	P	P	10 01 35.2	-1.0
AKBB	Malin Array Si	71.89 326	*e*P	P	10 01 35.1	-1.1
AS31	Alice Springs	72.05 199	*e*P	P	10 01 37.0	-0.1
ASAR	Alice Springs	72.05 199	P	P	10 01 37.2	0.0
comp=Z,3.8nm,0.7s,mb4.4,baz=12,slow=4.9,SNR=43						
ASAR	Alice Springs	72.05 199	P	P	10 01 37.2	0.0
ASAR			pmax	pmax		
comp=Z,4.0nm,0.7s						
GNI	Garni	72.88 311	P	P	10 01 43.7	+1.5
comp=Z,6.1nm,0.5s,mb4.8,baz=359,slow=11,SNR=4.9						
GNI	Garni	72.88 311	⇓*e*P	P	10 01 44.0	+1.9
GNI			pmax	pmax		
comp=Z,8.0nm,0.8s						
BSD	Bornholm Skovb	72.88 337	*i* P	P	10 01 42.1	0.0
comp=Z,14nm,0.6s,mb5.0						
BSD	Bornholm Skovb	72.88 337	*i* P	P	10 01 42.1	0.0
BSD			pmax	pmax		
comp=Z,14nm,0.6s,mb5.1						
ANN	Anapa	73.03 318	*e*P	P	10 01 38.7	-4.3
ANN			pmax	pmax		
comp=Z,43nm,1.2s,mb5.2						
COP	Copenhagen	73.03 338	*i* P	P	10 01 43.1	+0.1
comp=Z,16nm,0.6s,mb5.1						
COP	Copenhagen	73.03 338	*e*P	P	10 01 43.1	+0.1
COP			pmax	pmax		
comp=Z,16nm,0.6s,mb5.1						
COP	Copenhagen	73.03 338	*e*P	P	10 01 43.1	+0.1
comp=Z,16nm,0.6s,mb5.1						
LVV	L'vov	74.53 329	*e*P	P	10 01 52.0	+0.2
LVV			*e*S	S	10 11 27.0	+0.6
OJC	Ojcow	75.66 331	*e*P	P	10 01 58.3	0.0
STHS	Stebnicka Huta	75.85 330	*e*P	P	10 02 00.1	+0.7
STHS			pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.8						
STHS	Stebnicka Huta	75.85 330	*e*P	P	10 02 00.1	+0.7
comp=Z,8.1nm,0.7s,mb4.8						
KOLS	Kolonicke sedl	75.90 329	*e*P	P	10 01 59.4	-0.3
BURAR	Bucovina Array	75.93 327	⇑*i*P	P	10 01 59.9	0.0
BURAR	Bucovina Array	75.93 327	⇑P	P	10 01 59.9	0.0
NIE	Niedzica	76.17 331	*i* P	P	10 02 01.8	+0.6
CRVS	Cervenica-Dubn	76.21 330	*e*P	P	10 02 01.2	-0.3
WMOK	Wichita Mounta	76.31 54	P	P	10 02 02.4	+0.4
UPC	Upice	76.61 334	*e*P	P	10 02 03.6	-0.2
UPC			*ep*P	pP	10 02 09.3	+0.2
EKA	Eskdalemuir Ar	76.64 347	P	P	10 02 03.0	-0.9
comp=Z,1.7nm,0.5s,mb4.2,baz=18,slow=4.5,SNR=13						
DPC	Dobruska-Polom	76.66 333	*e*P	P	10 02 03.9	-0.1
DPC			*e*PCP	PcP	10 02 16.4	+1.0
MORC	Moravsky Berou	76.77 332	⇑*i*P	P	10 02 04.9	+0.2
MORC	Moravsky Berou	76.77 332	⇑P	P	10 02 04.9	+0.2
CFR	Carcaliu	76.78 324	P	P	10 02 04.2	-0.5
CLL	Collm	76.79 336	⇑*i*P	P	10 02 03.9	-0.9
CLL			pmax	pmax		
comp=Z,25nm,0.6s,mb5.3						
CLL	Collm	76.79 336	⇑*i*P	P	10 02 03.9	-0.9
comp=Z,25nm,0.6s,mb5.3						
PLOR	Plostina	76.83 325	⇑*i*P	P	10 02 04.4	-0.6
BRG	Berggiesshubel	76.91 335	*e*P	P	10 02 04.8	-0.6
comp=Z,3.2nm,0.8s,mb4.3						
BRG	Berggiesshubel	76.91 335	*e*P	P	10 02 04.8	-0.6
BRG			pmax	pmax		
comp=Z,30nm,0.8s,mb5.3						
KECS	Kecovo	76.91 330	*e*P	P	10 02 04.8	-0.6
KECS			pmax	pmax		
comp=Z,50nm,0.7s,mb5.5						
KECS	Kecovo	76.91 330	*e*P	P	10 02 04.8	-0.6
comp=Z,4.8nm,0.7s,mb4.5						
PVCC	Panska Ves	77.03 334	*e*P	P	10 02 06.1	0.0
TIRR	Tirgusor	77.26 323	⇓*i*P	P	10 02 07.1	-0.3
TIRR	Tirgusor	77.26 323	⇓P	P	10 02 07.0	-0.3
MLR	Muntele Rosu	77.41 325	P	P	10 02 08.5	+0.2
comp=Z,18nm,0.7s,mb5.1,baz=170,slow=7.0,SNR=36						
MLR	Muntele Rosu	77.41 325	⇑*i*P	P	10 02 08.9	+0.7
MLR	Muntele Rosu	77.41 325	P	P	10 02 09.3	+1.1
MLR	Muntele Rosu	77.41 325	⇑P	P	10 02 08.9	+0.7
VYHS	Vyhne	77.46 331	*e*P	P	10 02 08.2	-0.3
VRAC	Vranov	77.48 333	P	P	10 02 08.8	+0.2
comp=Z,9.4nm,0.8s,mb4.8,baz=39,slow=6.0,SNR=10						
VRAC	Vranov	77.48 333	⇑*i*P	P	10 02 08.7	+0.1
VRAC	Vranov	77.48 333	P	P	10 02 08.8	+0.1
VRAC			pmax	pmax		
comp=Z,9.0nm,0.8s						
VRAC	Vranov	77.48 333	⇑P	P	10 02 08.7	0.0
PRU	Pruhonice	77.52 334	*e*P	P	10 02 09.0	+0.2
DRGR		77.55 328	⇑*i*P	P	10 02 08.7	-0.3
DRGR		77.55 328	P	P	10 02 09.2	+0.2
DRGR		77.55 328	⇑P	P	10 02 08.7	-0.3
SNX	Sinaia	77.69 325	⇑*i*P	P	10 02 11.1	+1.3
SNX	Sinaia	77.69 325	⇑P	P	10 02 11.1	+1.3
MOX	Moxa	77.78 336	*e*P	P	10 02 09.9	-0.4
comp=Z,14nm,1.1s,mb4.8						
VOIR	

MIB	**Mutribah**	**79.00 302**	*e*P	**P**	**10 02 18.2 +1.1**
MIB			AMb	AMB	10 02 19.7
comp=Z,61nm,0.7s,mb5.7					
ANTO	**Ankara**	**79.02 318** ⇑ *i*P		**P**	**10 02 18.2 +1.0**
ANTO	**Ankara**	**79.02 318** ⇑P		**P**	**10 02 18.2 +1.0**
SZH	**Strazhica**	**79.26 324** *i* P		**P**	**10 02 20.5 +2.1**
MEM	**Membach**	**79.26 340** P		**P**	**10 02 18.9 +0.4**
RST	**Umm Al-Ruwaisa**	**79.42 302** *e*P		**P**	**10 02 20.3 +0.9**
RST			AMb	AMB	10 02 21.8
comp=Z,57nm,0.7s,mb5.6					
QRN	**Al-Qurain**	**79.44 301** *e*P		**P**	**10 02 20.4 +1.0**
QRN			AMb	AMB	10 02 21.5
comp=Z,47nm,0.7s,mb5.5					
NAY	**Al-Naaiem**	**79.47 301** *e*P		**P**	**10 02 20.6 +1.0**
NAY			AMb	AMB	10 02 22.2
comp=Z,20nm,0.8s,mb5.1					
RDF	**Al-Radifah**	**79.52 301** *e*P		**P**	**10 02 21.2 +1.3**
RDF			AMb	AMB	10 02 23.9
comp=Z,36nm,0.9s,mb5.3					
BCLA	**Clavier**	**79.61 340** P		**P**	**10 02 19.9 -0.5**
JMB	**Yambol**	**79.65 323** P		**P**	**10 02 25.2 +4.6**
GIVF	**Givet**	**80.02 340** *e*P		**P**	**10 02 22.1 -0.5**
DOU	**Dourbes**	**80.08 340** P		**P**	**10 02 24.2 +1.3**
BAIF	**Baives**	**80.20 340** *e*P		**P**	**10 02 23.1 -0.5**
comp=Z,25nm,1.1s,mb4.7					
BAIF	**Baives**	**80.20 340** *e*P		**P**	**10 02 23.1 -0.5**
BAIF			pmax	pmax	
comp=Z,13nm,1.1s,mb4.8					
BAIF	**Baives**	**80.20 340** *e*P		**P**	**10 02 23.1 -0.5**
comp=Z,13nm,1.1s,mb4.8					
PERS	**Pernice**	**80.31 332** *e*P		**P**	**10 02 23.7 -0.5**
DIM	**Dimitrovgrad**	**80.43 323** P		**P**	**10 02 29.0 +4.2**
KBA	**Koelnbreinsper**	**80.47 334** *i* P		**P**	**10 02 25.8 +0.7**
comp=Z,21nm,0.6s,mb5.2,SNR=14					
KBA	**Koelnbreinsper**	**80.47 334** *i* P		**P**	**10 02 25.8 +0.8**
KBA			pmax	pmax	
comp=Z,21nm,0.6s,mb5.2					
WTTA	**Wattenberg**	**80.82 335** ⇑ *i*P		**P**	**10 02 27.5 +0.6**
comp=Z,14nm,0.6s,mb5.1,SNR=13					
WTTA	**Wattenberg**	**80.82 335** ⇑ *i*P		**P**	**10 02 27.5 +0.6**
WTTA			pmax	pmax	
comp=Z,14nm,0.6s,mb5.1					
MOTA	**Moosalm**	**80.90 335** ⇓ *i*P		**P**	**10 02 27.6 +0.3**
comp=Z,9.8nm,1.0s,mb4.7,SNR=7.3					
MOTA	**Moosalm**	**80.90 335** ⇓ *i*P		**P**	**10 02 27.6 +0.3**
MOTA			pmax	pmax	
comp=Z,10.0nm,1.0s,mb4.7					
VTS	**Vitosha**	**80.91 325** ⇑ *i*P		**P**	**10 02 27.7 +0.3**
VTS	**Vitosha**	**80.91 325** ⇑P		**P**	**10 02 27.7 +0.3**
CRES	**Cresnjev**	**80.91 332** *e*P		**P**	**10 02 26.3 -1.1**
CDF	**Champ du Feu**	**80.98 338** ⇑ *i*P		**P**	**10 02 27.4 -0.3**
comp=Z,13nm,0.8s,mb4.6					
CDF	**Champ du Feu**	**80.98 338** ⇑ *i*P		**P**	**10 02 27.4 -0.3**
CDF			pmax	pmax	
comp=Z,6.0nm,0.8s,mb4.6					
CDF	**Champ du Feu**	**80.98 338** ⇑ *i*P		**P**	**10 02 27.4 -0.3**
comp=Z,6.4nm,0.8s,mb4.6					
CADS	**Cadrg**	**81.11 333** *i* P		**P**	**10 02 29.8 +1.4**
MEZF	**Maizieres J'vi**	**81.45 339** ⇑ *i*P		**P**	**10 02 30.2 -0.1**
comp=Z,28nm,0.9s,mb4.9					
MEZF	**Maizieres J'vi**	**81.45 339** ⇑ *i*P		**P**	**10 02 30.2 -0.1**
comp=Z,28nm,0.9s,mb5.2					
MMB	**Musomiste**	**81.55 324** *i* P		**P**	**10 02 30.8 0.0**
HAU	**Haudompre**	**81.59 338** *e*P		**P**	**10 02 30.6 -0.4**
comp=Z,18nm,0.9s,mb4.7					
HAU	**Haudompre**	**81.59 338** *e*P		**P**	**10 02 30.6 -0.4**
HAU			pmax	pmax	
comp=Z,9.0nm,0.9s,mb4.7					
HAU	**Haudompre**	**81.59 338** *e*P		**P**	**10 02 30.6 -0.4**
comp=Z,8.9nm,0.9s,mb4.7					
HINF	**Hinteralfeld**	**81.64 338** *e*P		**P**	**10 02 30.6 -0.6**
comp=Z,14nm,1.1s,mb4.5					
HINF	**Hinteralfeld**	**81.64 338** *e*P		**P**	**10 02 30.6 -0.6**
HINF			pmax	pmax	
comp=Z,7.0nm,1.0s,mb4.5					
HINF	**Hinteralfeld**	**81.64 338** *e*P		**P**	**10 02 30.6 -0.6**
comp=Z,7.3nm,1.0s,mb4.6					
FLN	**La Foliniere**	**82.44 343** *e*P		**P**	**10 02 34.9 -0.6**
comp=Z,18nm,0.8s,mb4.7					
FLN	**La Foliniere**	**82.44 343** *e*P		**P**	**10 02 34.9 -0.6**
FLN			pmax	pmax	
comp=Z,9.0nm,0.8s,mb4.8					
FLN	**La Foliniere**	**82.44 343** *e*P		**P**	**10 02 34.9 -0.6**
comp=Z,8.9nm,0.8s,mb4.8					
LDF	**La Druitiere**	**82.53 343** *e*P		**P**	**10 02 36.1 +0.2**
GRR	**Gorron**	**82.88 343** *e*P		**P**	**10 02 37.3 -0.4**
comp=Z,29nm,0.9s,mb5.0					
GRR	**Gorron**	**82.88 343** *e*P		**P**	**10 02 37.3 -0.4**
GRR			pmax	pmax	
comp=Z,14nm,0.9s,mb5.0					
GRR	**Gorron**	**82.88 343** *e*P		**P**	**10 02 37.3 -0.4**
comp=Z,14nm,0.9s,mb5.0					
LOR	**Lormes**	**82.89 340** *e*P		**P**	**10 02 37.5 -0.3**
comp=Z,9.2nm,0.6s,mb4.7					
LOR	**Lormes**	**82.89 340** *e*P		**P**	**10 02 37.5 -0.3**
LOR			pmax	pmax	
comp=Z,5.0nm,0.6s,mb4.7					
LOR	**Lormes**	**82.89 340** *e*P		**P**	**10 02 37.5 -0.3**
comp=Z,4.6nm,0.6s,mb4.7					
SSF	**Saint Saulge**	**83.17 340** *e*P		**P**	**10 02 39.0 -0.3**
comp=Z,11nm,0.8s,mb4.6					
SSF	**Saint Saulge**	**83.17 340** *e*P		**P**	**10 02 39.0 -0.3**
SSF			pmax	pmax	
comp=Z,5.0nm,0.8s,mb4.6					
SSF	**Saint Saulge**	**83.17 340** *e*P		**P**	**10 02 39.0 -0.3**
comp=Z,5.4nm,0.8s,mb4.6					
ROSF	**Rostrenen**	**83.39 345** *e*P		**P**	**10 02 40.1 -0.3**
comp=Z,72nm,1.2s,mb5.3					
ROSF	**Rostrenen**	**83.39 345** *e*P		**P**	**10 02 40.1 -0.3**
ROSF			pmax	pmax	
comp=Z,36nm,1.2s,mb5.3					
ROSF	**Rostrenen**	**83.39 345** *e*P		**P**	**10 02 40.1 -0.3**
comp=Z,36nm,1.2s,mb5.3					
AVF	**Avril sur Loir**	**83.46 340** ⇑ *i*P		**P**	**10 02 40.6 -0.2**
comp=Z,30nm,1.0s,mb5.0					
AVF	**Avril sur Loir**	**83.46 340** ⇑ *i*P		**P**	**10 02 40.6 -0.2**
AVF			pmax	pmax	
comp=Z,15nm,1.0s,mb5.0					
AVF	**Avril sur Loir**	**83.46 340** ⇑ *i*P		**P**	**10 02 40.6 -0.2**
comp=Z,15nm,1.0s,mb5.0					
SMF	**Signal de Mont**	**83.48 339** ⇑ *i*P		**P**	**10 02 40.8 -0.1**
comp=Z,43nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**83.48 339** ⇑ *i*P		**P**	**10 02 40.8 -0.1**
SMF			pmax	pmax	
comp=Z,21nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**83.48 339** ⇑ *i*P		**P**	**10 02 40.8 -0.1**
comp=Z,21nm,1.0s,mb5.1					
QUIF	**Quistinic**	**83.77 344** *e*P		**P**	**10 02 41.5 -0.8**
comp=Z,217nm,1.5s,mb5.8					
QUIF	**Quistinic**	**83.77 344** *e*P		**P**	**10 02 41.5 -0.8**
QUIF			pmax	pmax	
comp=Z,109nm,1.5s,mb5.8					
QUIF	**Quistinic**	**83.77 344** *e*P		**P**	**10 02 41.5 -0.8**
comp=Z,109nm,1.5s,mb5.8					
LPL	**La Plagne**	**83.80 337** ⇑ *i*P		**P**	**10 02 43.1 +0.6**
comp=Z,14nm,1.0s,mb4.8					
LPL	**La Plagne**	**83.80 337** ⇑ *i*P		**P**	**10 02 43.1 +0.6**
LPL			pmax	pmax	
comp=Z,7.0nm,1.0s,mb4.8					
LPL	**La Plagne**	**83.80 337** ⇑ *i*P		**P**	**10 02 43.1 +0.6**
comp=Z,6.8nm,1.0s,mb4.7					
BGF	**Bois d'Agland**	**83.80 340** *e*P		**P**	**10 02 42.5 0.0**
LPG	**La Plagne**	**83.81 337** ⇑ *i*P		**P**	**10 02 43.4 +0.9**
comp=Z,17nm,0.9s,mb4.9					
LPG	**La Plagne**	**83.81 337** ⇑ *i*P		**P**	**10 02 43.4 +0.9**
LPG			pmax	pmax	
comp=Z,9.0nm,0.9s,mb4.9					
LPG	**La Plagne**	**83.81 337** ⇑ *i*P		**P**	**10 02 43.4 +0.9**
comp=Z,8.7nm,0.9s,mb4.9					
TCF	**Toulx Ste Croi**	**84.20 340** *e*P		**P**	**10 02 44.5 0.0**
comp=Z,18nm,1.1s,mb4.8					
TCF	**Toulx Ste Croi**	**84.20 340** *e*P		**P**	**10 02 44.5 0.0**
TCF			pmax	pmax	
comp=Z,9.0nm,1.1s,mb4.8					
TCF	**Toulx Ste Croi**	**84.20 340** *e*P		**P**	**10 02 44.5 0.0**
comp=Z,9.2nm,1.1s,mb4.8					
MFF	**Saint Martin d**	**84.43 342** *e*P		**P**	**10 02 45.6 -0.1**
comp=Z,27nm,1.1s,mb5.0					
MFF	**Saint Martin d**	**84.43 342** *e*P		**P**	**10 02 45.6 -0.1**
MFF			pmax	pmax	
comp=Z,14nm,1.1s,mb5.0					
MFF	**Saint Martin d**	**84.43 342** *e*P		**P**	**10 02 45.6 -0.1**
comp=Z,14nm,1.1s,mb5.0					
MBDF	**Montbardon**	**84.51 337** *e*P		**P**	**10 02 46.1 0.0**
comp=Z,8.5nm,0.8s,mb4.6					
MBDF	**Montbardon**	**84.51 337** *e*P		**P**	**10 02 46.1 0.0**
MBDF			pmax	pmax	
comp=Z,4.0nm,0.8s,mb4.6					
MBDF	**Montbardon**	**84.51 337** *e*P		**P**	**10 02 46.1 0.0**
comp=Z,4.3nm,0.8s,mb4.6					
ORIF	**Oris-en-Rattie**	**84.58 338** ⇑ *i*P		**P**	**10 02 47.0 +0.6**
comp=Z,23nm,0.9s,mb5.0					
ORIF	**Oris-en-Rattie**	**84.58 338** ⇑ *i*P		**P**	**10 02 47.0 +0.6**
ORIF			pmax	pmax	
comp=Z,11nm,0.9s,mb5.0					
ORIF	**Oris-en-Rattie**	**84.58 338** ⇑ *i*P		**P**	**10 02 47.0 +0.6**
comp=Z,11nm,0.9s,mb5.0					
VIVF	**Saint-Julien-l**	**84.95 338** *e*P		**P**	**10 02 48.7 +0.4**
comp=Z,22nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**84.95 338** *e*P		**P**	**10 02 48.7 +0.4**
VIVF			pmax	pmax	
comp=Z,11nm,1.0s,mb4.9					
VIVF	**Saint-Julien-l**	**84.95 338** *e*P		**P**	**10 02 48.7 +0.4**
comp=Z,11nm,1.0s,mb5.0					
RJF	**Les Rejaudoux**	**85.29 341** *e*P		**P**	**10 02 49.4 -0.6**
comp=Z,16nm,1.0s,mb4.8					
RJF	**Les Rejaudoux**	**85.29 341** *e*P		**P**	**10 02 49.4 -0.6**
RJF			pmax	pmax	
comp=Z,8.0nm,1.0s,mb4.8					
RJF	**Les Rejaudoux**	**85.29 341** *e*P		**P**	**10 02 49.4 -0.6**
comp=Z,8.1nm,1.0s,mb4.8					
SMRF	**Simiane la Rot**	**85.53 337** *e*P		**P**	**10 02 52.0 +0.8**
LMR	**La Mourre**	**85.88 336** *e*P		**P**	**10 02 52.7 -0.2**
comp=Z,98nm,1.5s,mb5.5					
LMR	**La Mourre**	**85.88 336** *e*P		**P**	**10 02 52.7 -0.2**
LMR			pmax	pmax	
comp=Z,49nm,1.5s,mb5.5					
LMR	**La Mourre**	**85.88 336** *e*P		**P**	**10 02 52.7 -0.2**
comp=Z,49nm,1.5s,mb5.5					
ESDC	**Sonseca Array**	**91.86 343** P		**P**	**10 03 20.6 -0.8**
comp=Z,0.2nm,0.3s,mb3.9,baz=5.0,slow=4.3,SNR=4.3					
KEST	**Kesra**	**92.00 332** P		**P**	**10 03 22.3 +0.3**
comp=Z,1.4nm,0.8s,mb4.3,baz=335,slow=0.5,SNR=5.9					
TORD	**Torodi Ar. Bea**	**115.43 329** PKP		PKPdf	10 08 54.1 -0.8
comp=Z,0.3nm,0.6s,baz=95,slow=2.1,SNR=3.8					
PLCA	**Paso Flores**	**147.94 96** PKPbc		PKPbc	10 09 57.8 -0.6
comp=Z,2.7nm,1.0s,baz=180,slow=2.4,SNR=3.5					
PLCA	**Paso Flores**	**147.94 96** PKP2		PKPbc	10 09 57.8 -0.6
PLCA			pmax	pmax	
comp=Z,3.0nm,1.0s					
CPUP	**Villa Florida**	**148.37 61** PKPbc		PKPbc	10 09 58.6 -1.0
comp=Z,1.1nm,0.6s,baz=278,slow=4.3,SNR=4.4					
CPUP	**Villa Florida**	**148.37 61** PKP2		PKPbc	10 09 58.6 -0.9
CPUP			pmax	pmax	
comp=Z,1.0nm,0.6s					
PMSA	**Palmer Station**	**152.64 145** *e*PKPbc		PKPbc	10 10 11.1 +1.4

*ISCJB **01** 10:07:33.5±0.4, 4098N±003×14151E±006, h86km±3km, mb4.0/8, Error ellipse: s-maj=7.7km s-min=4.3km az=25.4*
*MOS **01** 10:07:33.9±0.6, 4099N×14167E, h111km, mb3.9/2, Error ellipse: s-maj=40.0km s-min=13.6km az=68.3*
*JMA **01** 10:07:34.3±0.1, 4099N×14150E, h79km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s177.00000°, δ17.00000°, λ120.00000°. NP2: ϕ_s326.00000°, δ75.00000°, λ81.00000°. Principal axes: T Plg59.0000°, Azm224.0000°; N Plg8.0000°, Azm328.0000°; P Plg30.0000°, Azm63.0000°;*
JMA Felt II J1.
*IDC **01** 10:07:34.8±1.6, 4093N×14161E, h92km±16km, mb3.4/5, mb1 3.6/8, mb1mx3.4/22, mbtmp3.9/8 Error ellipse: s-maj=34.6km s-min=12.3km az=102.0*
*NEIC **01** 10:07:34.3, 4099N×14150E, h79km, MG3.7(JMA), After JMA.*

ISC 01 10:07:34.5±0.4,**4099N**±003×**14153E**±006,**h80**km±3km, **n32**,σ0$95/46,**mb4.0**/8,**3C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.40**	**240**	⇓P	**Pn**	**10 07 46.9**	**-0.5**
JTM				S	**Sn**	**10 07 56.3**	**-0.7**
JOT	**Ohata**	**0.54**	**318**	⇑P	**Pn**	**10 07 48.2**	**-0.3**
JOT				S	**Sn**	**10 07 58.4**	**-0.5**
JANG	**Nango**	**0.61**	**181**	⇓P	**Pn**	**10 07 48.8**	**-0.5**
JANG				S	**Sn**	**10 07 59.0**	**-1.2**
JKB	**Kayabe**	**0.97**	**338**	⇑P	**Pn**	**10 07 53.3**	**+0.1**
JKB				S	**Sn**	**10 08 07.2**	**0.0**
JSR	**Shiriuchi**	**1.00**	**303**	⇓P	**Pn**	**10 07 53.1**	**-0.4**
JSR				S	**Sn**	**10 08 06.8**	**-0.9**
JAH	**Hinai**	**1.05**	**221**	⇓P	**Pn**	**10 07 54.1**	**0.0**
JAH				*e*S	**Sn**	**10 08 08.9**	**+0.1**
JIW	**Iwasaki**	**1.22**	**252**	⇓P	**Pn**	**10 07 55.9**	**-0.3**
JYM2	**Yakumo 2**	**1.43**	**323**	⇓P	**Pn**	**10 07 59.0**	**+0.2**
JYM2				S	**Sn**	**10 08 17.5**	**+0.3**
JOM	**Ohasama**	**1.52**	**187**	⇓P	**Pn**	**10 08 00.4**	**+0.3**
JOM				*e*S	**Sn**	**10 08 19.6**	**+0.2**
JNB	**Noboribetsu**	**1.53**	**346**	⇑P	**Pn**	**10 08 00.2**	**+0.1**
JNB				*e*S	**Sn**	**10 08 19.4**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.58**	**35**	P	**Pn**	**10 08 01.2**	**+0.3**
ERM	**Erimo**	**1.60**	**49**	*e*Pn	**Pn**	**10 08 02.2**	**+1.1**
ERM				*e*Sn	**Sn**	**10 08 21.8**	**+0.6**
ASAJ	**Asahikawa**	**3.23**	**14**	P	**Pn**	**10 08 23.6**	**+0.8**
ASAJ	6.1nm,0.3s,baz=218,slow=10.0,SNR=52			S	**Sn**	**10 09 02.4**	**+2.1**
8.9nm,0.3s,baz=130,slow=29,SNR=4.8							
ASAJ	**Asahikawa**	**3.23**	**14**	P	**Pn**	**10 08 23.7**	**+0.8**
ASAJ				S	**Sn**	**10 09 02.4**	**+2.2**
ASAJ				pmax	pmax		
comp=Z,6.0nm,0.3s							
ASAJ				smax			
comp=N,9.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.42**	**45**	*e*P	**Pn**	**10 08 38.5**	**-0.6**
YUK				*e*S	**Sn**	**10 09 26.0**	**-3.3**
YUK				pmax	pmax		
comp=Z,390nm,0.2s							
YUK				pmax	pmax		
comp=E,170nm,0.4s							
YUK				smax			
comp=N,770nm,0.5s							
YUK				smax			
comp=E,770nm,0.5s							
MAJO	**Matsushiro**	**5.14**	**211**	*e*P	**Pn**	**10 08 50.7**	**+1.8**
MAJO				pmax	pmax		
comp=Z,23nm,0.5s							
MAJO	**Matsushiro**	**5.14**	**211**	*e*Pn	**Pn**	**10 08 50.7**	**+1.8**
comp=Z,23nm,0.5s							
MAT	**Matsushiro**	**5.14**	**211**	P	**Pn**	**10 08 50.5**	**+1.6**
MAT				*e*S	**Sn**	**10 09 49.2**	**+2.3**
MJAR	**Matsushiro Arr**	**5.14**	**211**	P	**Pn**	**10 08 50.9**	**+2.0**
comp=Z,2.5nm,0.3s,baz=3.3,slow=26,SNR=34							
MJAR	**Matsushiro Arr**	**5.14**	**211**	P	**Pn**	**10 08 50.9**	**+2.0**
MJAR				pmax	pmax		
comp=Z,30nm,0.3s							
JHJ	**Hachijo jima 2**	**7.97**	**191**	P	**Pn**	**10 09 25.5**	**-2.1**
comp=Z,7.3nm,0.3s,baz=73,slow=19,SNR=4.7							
MKAR	**Makanchi Array**	**42.20**	**298**	P	**P**	**10 15 18.7**	**-0.7**
comp=Z,0.3nm,0.4s,mb3.3,baz=81,slow=10.0,SNR=3.7							
GUN	**Gumba**	**46.98**	**272**	*e*P	**P**	**10 15 58.0**	**+0.6**
comp=Z,12nm,0.4s,mb4.9							
KKN	**Kakani**	**47.50**	**272**	*e*P	**P**	**10 16 01.8**	**+0.4**
comp=Z,9.6nm,0.6s,mb4.7							
PKI	**Pulchoki**	**47.51**	**272**	*e*P	**P**	**10 16 01.9**	**+0.3**
DMN	**Daman**	**47.72**	**272**	*e*P	**P**	**10 16 03.3**	**+0.1**
comp=Z,5.6nm,0.6s,mb4.6							
GKN	**Gorkha**	**47.87**	**273**	*e*P	**P**	**10 16 04.5**	**+0.2**
KOLN	**Koldanda**	**48.78**	**273**	*e*P	**P**	**10 16 10.9**	**-0.4**
WRA	**Warramunga Arr**	**60.98**	**188**	P	**P**	**10 17 37.8**	**-1.5**
comp=Z,0.4nm,0.5s,mb3.7,baz=7.8,slow=7.7,SNR=25							
ASAR	**Alice Springs**	**64.71**	**188**	P	**P**	**10 18 02.8**	**-1.3**
comp=Z,0.3nm,0.5s,mb3.4,baz=10,slow=8.8,SNR=10.0							
FINES	**FINESS Array B**	**65.38**	**331**	P	**P**	**10 18 07.3**	**-1.1**
comp=Z,1.2nm,0.7s,mb3.8,baz=38,slow=7.0,SNR=5.1							
PDAR	**Pinedale Array**	**74.85**	**46**	P	**P**	**10 19 05.8**	**-0.5**
comp=Z,0.4nm,0.6s,mb3.4,baz=270,slow=1.5,SNR=4.1							

*IDC **01** 10:18:50.8±1.5, 389S×13926E, h0km, mb4.0/3, mb1 4.4/5, mb1mx4.0/11, mbtmp4.3/5, ML4.3/2, Error ellipse: s-maj=56.3km s-min=25.6km az=91.0*
*ISCJB **01** 10:18:56.4±1.2, 40S±01×1386E±02, h33km, mb3.8/2, Error ellipse: s-maj=28.1km s-min=11.0km az=46.4*
*NEIC **01** 10:19:00.0±5.5, 404S×139.16E, h71km±45km, mb4.5/1, Error ellipse: s-maj=53.3km s-min=21.5km az=71.0*

ISC 01 10:18:58.2±1.2,**40S**±01×**1387E**±02,**h35**km,**n10**,σ0$55/13, **mb3.8**/2,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.67**	**215**	*e*P	**Pn**	**10 21 33.5**	**+5.0**
KAKA	23nm,0.4s			*e*S	**Sn**	**10 23 26.4**	**-0.3**
WRA	**Warramunga Arr**	**16.45**	**195**	Pn	**Pn**	**10 22 45.5**	**-0.7**
1.1nm,0.3s,baz=17,slow=13,SNR=48							
WRA				Sn	**Sn**	**10 25 35.5**	**-12**
0.4nm,0.3s,baz=9.9,slow=24,SNR=5.2							
FITZ	**Fitzroy Crossi**	**19.00**	**221**	*e*P	**Pn**	**10 23 18.3**	**+0.6**
17nm,0.6s							
FITZ				*e*S	**S**	**10 26 41.7**	**-8.8**
FITZ	**Fitzroy Crossi**	**19.00**	**221**	P	**Pn**	**10 23 18.5**	**+0.9**
0.9nm,0.3s,baz=42,slow=11,SNR=37							
FITZ				S	**S**	**10 26 41.5**	**-9.0**
0.9nm,0.3s,baz=192,slow=15,SNR=11							
AS31	**Alice Springs**	**20.13**	**193**	*e*P	**P**	**10 23 29.7**	**+0.5**
ASAR	**Alice Springs**	**20.14**	**193**	P	**P**	**10 23 29.2**	**+0.1**
2.7nm,0.4s,baz=22,slow=10,SNR=49							
ASAR				S	**S**	**10 27 04.7**	**-8.7**
2.8nm,0.7s,baz=12,slow=28,SNR=7.2							
MKAR	**Makanchi Array**	**70.75**	**323**	P	**P**	**10 30 11.2**	**+0.3**
0.5nm,0.5s,mb3.8,baz=109,slow=8.3,SNR=7.4							
BVAR	**Borovoye Array**	**80.31**	**325**	P	**P**	**10 31 04.9**	**-0.7**
0.9nm,0.6s,mb3.9,baz=117,slow=8.7,SNR=6.2							
LPAZ	**La Paz**	**146.72**	**128**	PKPbc	PKPbc	10 38 34.2	-2.1
0.3nm,0.6s,baz=283,slow=4.4,SNR=5.4							
LPAZ	**La Paz**	**146.72**	**128**	PKPbc	PKPbc	10 38 34.2	-2.1

*IDC **01** 10:34:27.9±2.2, 1862N×12007E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=265.4km s-min=24.4km az=63.0*
*ISCJB **01** 10:34:32.2±1.1, 181N±02×119.1E±02, h33km, mb3.3/4, Error ellipse: s-maj=33.6km s-min=18.3km az=78.6*
*MAN **01** 10:34:35.8, 1806N×11948E, h6km, MS6.4*

ISC 01 10:34:34.1±1.1,**182N**±02×**1192E**±02,**h35**km,**n5**,σ0$92/5, **mb3.3**/4,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.54**	**101**	*e*P	**Pn**	**10 35 13.0**	**+0.1**
WRA	**Warramunga Arr**	**40.70**	**158**	P	**P**	**10 42 10.7**	**-0.6**
0.4nm,0.8s,mb3.1,baz=338,slow=9.0,SNR=3.9							
MKAR	**Makanchi Array**	**41.61**	**322**	P	**P**	**10 42 19.4**	**+0.7**
0.2nm,0.7s,mb2.9,baz=110,slow=11,SNR=2.4							
ASAR	**Alice Springs**	**44.01**	**160**	P	**P**	**10 42 38.8**	**+0.6**
0.5nm,0.7s,mb3.4,baz=341,slow=7.2,SNR=7.3							
FINES	**FINESS Array B**	**75.69**	**330**	P	**P**	**10 46 14.9**	**-0.9**
1.0nm,0.6s,mb3.9,baz=70,slow=8.0,SNR=4.3							

MEX 01 10:35:28.2±1.3,**1665N**×**9973W**,**h16**km±303km,**MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**1.27**	**5**	*i* P	Pn	10 35 47.7	-3.5
MEIG				*i* S	Sb	10 36 02.8	-4.9
PLIG	**Platanillo**	**1.74**	**7**	*e*P	Pn	10 35 55.5	-2.2
PLIG				*i* S	Sn	10 36 14.6	-5.0
UTMO	**Huajuapan**	**2.18**	**57**	*e*P	Pn	10 36 00.0	-3.8
UTMO				*i* S	Sn	10 36 27.6	-2.8

*ISCJB **01** 10:41:21.6±0.6, 4616N±009×1536E±01, h10km, mb4.0/20, Error ellipse: s-maj=16.3km s-min=6.6km az=105.1*
*IDC **01** 10:41:21.8±0.8, 4621N×15347E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.0/24, mbtmp3.9/16, ML3.0/1, Error ellipse: s-maj=21.8km s-min=19.8km az=140.0*
*BJI **01** 10:41:21.4, 4608N×15402E, h36km, mb4.1*
*NEIC **01** 10:41:23.5±0.4, 4623N×15348E, h10km, mb4.4/1, Error ellipse: s-maj=11.4km s-min=8.1km az=129.0*
*JMA **01** 10:41:23.9±0.7, 4665N×15340E, h30km, M4.2*
*MOS **01** 10:41:25.1±1.1, 4632N×15345E, h33km, mb4.2/12, Error ellipse: s-maj=17.8km s-min=11.4km az=95.5*

ISC 01 10:41:23.3±0.6,**4623N**±009×**1536E**±01,**h10**km,**n59**, σ1$**18**/63,**mb4.0**/20,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.75**	**20**	*e*PN	**Pn**	**10 42 32.5**	**-2.5**
NEM2	**Nemuro 2**	**6.29**	**246**	P	**Pn**	**10 42 54.5**	**-1.6**
NEM2				*e*S	**Sn**	**10 44 01.2**	**-6.9**
JRA	**Rausu**	**6.44**	**252**	P	**Pn**	**10 42 59.0**	**+0.9**
JNK	**Nakash**	**6.85**	**250**	P	**Pn**	**10 43 03.8**	**0.0**
JAK	**Akkeshi**	**7.14**	**246**	P	**Pn**	**10 43 05.5**	**-2.3**
JAK				*e*S	**Sn**	**10 44 21.5**	**-7.4**
JTKR	**Abashiri--Toko**	**7.23**	**255**	P	**Pn**	**10 43 09.7**	**+0.6**
JMP	**Maruseppu**	**7.59**	**257**	P	**Pn**	**10 43 15.1**	**+1.2**
JAR	**Ashorobuto**	**7.60**	**251**	P	**Pn**	**10 43 13.9**	**-0.2**
JOB	**Onbets**	**7.74**	**248**	P	**Pn**	**10 43 14.4**	**-1.6**

comp=Z,1.9nm,0.7s,mb4.1,baz=28,slow=6.5
NB2 NORSAR Subarra 68.83 341 P **P** **10 52 27.4 -0.5**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 68.83 341 P **P** **10 52 27.7 -0.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=27,slow=6.2,SNR=13
NOA NORSAR Array B 68.83 341 P **P** **10 52 27.7 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 69.06 340 P **P** **10 52 28.0 -1.3**
comp=Z,3.9nm,0.6s,mb4.5,baz=46,slow=6.4,SNR=10
HFS Hagfors 69.06 340 P **P** **10 52 28.0 -1.3**
HFS pmax pmax
comp=Z,4.0nm,0.6s
ASAR Alice Springs 71.83 199 P **P** **10 52 46.3 +0.1**
comp=Z,0.6nm,0.8s,mb3.6,baz=10,slow=5.9,SNR=5.1
ASAR Alice Springs 71.83 199 P **P** **10 52 46.3 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 72.17 327 P **P** **10 52 47.7 -0.5**
comp=Z,1.2nm,0.4s,mb4.2,baz=35,slow=6.3,SNR=13
AKASG Malin Array Be 72.17 327 P **P** **10 52 47.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.17 327 P **P** **10 52 47.7 -0.5**
STHS Stebnicka Huta 76.14 330 *eP* **P** **10 53 11.9 +0.5**
CLL Collm 77.08 336 *eP* **P** **10 53 06.0 -11**
MLR Muntele Rosu 77.69 325 P **P** **10 53 19.8 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=127,slow=7.7,SNR=3.7
MLR Muntele Rosu 77.69 325 P **P** **10 53 19.8 -0.4**
MLR pmax pmax
comp=Z,2.0nm,0.6s
VYHS Vyhne 77.75 331 *eP* **P** **10 53 20.3 -0.2**
GERES GERESS Array B 79.07 334 P **P** **10 53 27.9 +0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=46,slow=5.8,SNR=3.8

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*ISCJB **01** 10:54:16.7±0.6,47.17N±002×2.17W±004,h3km±4km, Error ellipse: s-maj=5.5km s-min=3.0km az=105.4*
*NEIC **01** 10:54:20.1,4723N×222W,h5km,ML2.7(LDG),After LDG.*
*LDG **01** 10:54:20.1±0.1,4723N×222W,h5km,Md2.5/1,Ml2.7/14, Error ellipse: s-maj=2.1km s-min=1.3km az=50.0*
*CSEM **01** 10:54:20.0±0.1,4724N×222W,h5km,ML2.8/13,Error ellipse: s-maj=1.6km s-min=0.9km az=53.0*
*STR **01** 10:54:23.4±3.0,4722N×186W,h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 01 10:54:18.6±0.5,4720N±002×219W±004,h12km±4km,n39, σ0:94/88,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**0.98**	**318**	*e*Pg	**Pg**	**10 54 36.9**	**-0.6**
QUIF				*e*Sg	**Sg**	10 54 49.7	-0.5
QUIF				*e*Sn	**Sn**	10 54 51.3	-0.7
	19nm,0.2s						
QUIF	**Quistinic**	**0.98**	**318**	*e*Pg	**Pg**	**10 54 36.9**	**-0.6**
QUIF				*e*Sg	**Sg**	10 54 49.7	-0.5
QUIF				*e*Sn	**Sn**	10 54 51.3	-0.7
	9.4nm,0.2s						
RENF	**Rennes**	**1.00**	**22**	Pg	**Pg**	**10 54 41.6**	**+3.8**
RENF				Sg	**Sg**	10 54 52.9	+2.1
ROSF	**Rostrenen**	**1.35**	**328**	*e*Pg	**Pg**	**10 54 44.5**	**-0.2**
ROSF				*e*Sg	**Sg**	10 55 01.6	-0.7
	7.7nm,0.2s						
ROSF	**Rostrenen**	**1.35**	**328**	*e*Pn	**Pn**	**10 54 43.1**	**-0.3**
ROSF				*e*Pg	**Pg**	10 54 44.5	-0.2
ROSF				*e*Sg	**Sg**	10 55 01.6	-0.7
ROSF	**Rostrenen**	**1.35**	**328**	*e*Pg	**Pg**	**10 54 44.5**	**-0.2**
ROSF				*e*Sg	**Sg**	10 55 01.6	-0.7
	3.8nm,0.2s						
GRR	**Gorron**	**1.49**	**36**	*e*Pg	**Pg**	**10 54 47.7**	**+0.4**
GRR				*e*Sg	**Sg**	10 55 06.7	+0.1
	26nm,0.2s						
GRR	**Gorron**	**1.49**	**36**	*e*Pn	**Pn**	**10 54 45.5**	**+0.2**
GRR				*e*Pg	**Pg**	10 54 47.7	+0.4
GRR				*e*Sg	**Sg**	10 55 06.7	+0.1
GRR	**Gorron**	**1.49**	**36**	*e*Pg	**Pg**	**10 54 47.7**	**+0.4**
GRR				*e*Sg	**Sg**	10 55 06.7	+0.1
	13nm,0.2s						
MFF	**Saint Martin d**	**1.52**	**112**	*e*Pg	**Pg**	**10 54 49.1**	**+1.3**
MFF				*e*Sg	**Sg**	10 55 08.8	+1.2
	28nm,0.2s						
MFF	**Saint Martin d**	**1.52**	**112**	*e*Pn	**Pn**	**10 54 46.4**	**+0.7**
MFF				*e*Pg	**Pg**	10 54 49.1	+1.3
MFF				*e*Sg	**Sg**	10 55 08.8	+1.2
MFF	**Saint Martin d**	**1.52**	**112**	*e*Pg	**Pg**	**10 54 49.1**	**+1.3**
MFF				*e*Sg	**Sg**	10 55 08.8	+1.2
	14nm,0.2s						
CHIF	**Chize**	**1.62**	**130**	Pg	**Pg**	**10 54 50.2**	**+0.4**
CHIF				Sg	**Sg**	10 55 12.3	+1.4
FLN	**La Foliniere**	**1.94**	**36**	*e*Pg	**Pg**	**10 54 55.9**	**0.0**
	baz=221						
FLN				*e*Sg	**Sg**	10 55 20.7	-0.3
	16nm,0.3s,baz=218						
FLN	**La Foliniere**	**1.94**	**36**	*e*Pg	**Pg**	**10 54 55.9**	**0.0**
FLN				*e*Sg	**Sg**	10 55 20.7	-0.3
	7.8nm,0.3s						
LDF	**La Druitiere**	**1.97**	**44**	*e*Pg	**Pg**	**10 54 56.5**	**+0.1**
LDF				*e*Sg	**Sg**	10 55 21.2	-0.8
	10nm,0.3s						
LDF	**La Druitiere**	**1.97**	**44**	*e*Pn	**Pn**	**10 54 52.0**	**+0.1**
LDF				*e*Pg	**Pg**	10 54 56.5	+0.1
LDF				*e*Sg	**Sg**	10 55 21.2	-0.8
LDF	**La Druitiere**	**1.97**	**44**	*e*Pg	**Pg**	**10 54 56.5**	**+0.1**
LDF				*e*Sg	**Sg**	10 55 21.2	-0.8
	5.2nm,0.3s						
LFF	**La Frestale**	**3.04**	**137**	*e*Pg	**Pg**	**10 55 17.4**	**+0.5**
LFF				*e*Sg	**Sg**	10 55 56.2	-0.1
	5.7nm,0.3s						
LFF	**La Frestale**	**3.04**	**137**	*e*Pn	**Pn**	**10 55 07.3**	**+0.7**
LFF				*e*Pg	**Pg**	10 55 17.4	+0.5
LFF				*e*Sg	**Sg**	10 55 56.2	-0.1
LFF	**La Frestale**	**3.04**	**137**	*e*Pg	**Pg**	**10 55 17.4**	**+0.5**
LFF				*e*Sg	**Sg**	10 55 56.2	-0.1
	2.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.16**	**105**	*e*Pn	**Pn**	**10 55 09.5**	**+1.3**
TCF				*e*Sg	**Sg**	10 56 00.8	+0.7
	5.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.16**	**105**	*e*Pn	**Pn**	**10 55 09.5**	**+1.3**
TCF				*e*Sg	**Sg**	10 56 00.8	+0.7
	2.8nm,0.3s						
RJF	**Les Rejaudoux**	**3.19**	**125**	*e*Pg	**Pg**	**10 55 20.0**	**+0.2**
RJF				*e*Sg	**Sg**	10 56 00.0	-1.2
	5.7nm,0.2s						
RJF	**Les Rejaudoux**	**3.19**	**125**	*e*Pg	**Pg**	**10 55 20.0**	**+0.2**
RJF				*e*Sg	**Sg**	10 56 00.0	-1.2
	2.8nm,0.2s						
HYF	**Humbligny**	**3.29**	**87**	*e*Pn	**Pn**	**10 55 11.1**	**+1.1**
BGF	**Bois d'Agland**	**3.51**	**99**	*e*Pg	**Pg**	**10 55 25.8**	**-0.1**
BGF				*e*Sn	**Sn**	10 55 53.6	-0.9
BGF				*e*Sg	**Sg**	10 56 10.8	-0.6
	21nm,0.5s						
BGF	**Bois d'Agland**	**3.51**	**99**	*e*Pn	**Pn**	**10 55 13.9**	**+0.9**
BGF				*e*Pg	**Pg**	10 55 25.8	-0.1
BGF				*e*Sn	**Sn**	10 55 53.6	-0.9
BGF				*e*Sg	**Sg**	10 56 10.8	-0.6
BGF	**Bois d'Agland**	**3.51**	**99**	*e*Pg	**Pg**	**10 55 25.8**	**-0.1**
BGF				*e*Sn	**Sn**	10 55 53.6	-0.9
BGF				*e*Sg	**Sg**	10 56 10.8	-0.6
	11nm,0.5s						
AVF	**Avril sur Loir**	**3.81**	**94**	*e*Pn	**Pn**	**10 55 17.9**	**+0.7**
AVF				*e*Sg	**Sg**	10 56 19.6	-1.5
	1.9nm,0.3s						
AVF	**Avril sur Loir**	**3.81**	**94**	*e*Pn	**Pn**	**10 55 17.9**	**+0.7**
AVF				*e*Sg	**Sg**	10 56 19.6	-1.5
	0.9nm,0.3s						
LOR	**Lormes**	**4.12**	**87**	*e*Pn	**Pn**	**10 55 22.2**	**+0.8**
	baz=264						
LOR	**Lormes**	**4.12**	**87**	*e*Pg	**Pg**	**10 55 36.9**	**-0.7**
	baz=269						
LOR				*e*Sg	**Sg**	10 56 28.9	-2.0
	1.4nm,0.2s						
LOR	**Lormes**	**4.12**	**87**	*e*Pn	**Pn**	**10 55 22.2**	**+0.8**
LOR				*e*Pg	**Pg**	10 55 36.9	-0.7
LOR				*e*Sg	**Sg**	10 56 28.9	-2.0
LOR	**Lormes**	**4.12**	**87**	*e*Pg	**Pg**	**10 55 36.9**	**-0.7**
LOR				*e*Sg	**Sg**	10 56 28.9	-2.0
	0.7nm,0.2s						
SMF	**Signal de Mont**	**4.17**	**95**	*e*Pn	**Pn**	**10 55 22.7**	**+0.6**
SMF				*e*Sg	**Sg**	10 56 30.1	-2.4
	0.9nm,0.2s						
SMF	**Signal de Mont**	**4.17**	**95**	*e*Pn	**Pn**	**10 55 22.7**	**+0.6**
SMF				*e*Sg	**Sg**	**10 56 30.1**	**-2.4**
	0.4nm,0.2s						
ETSF	**Etsaut**	**4.45**	**164**	*e*Sn	**Sn**	**10 56 16.3**	**-1.4**
EPF	**Esparros**	**4.53**	**156**	*e*Pn	**Pn**	**10 55 27.6**	**+0.5**
EPF				*e*Pg	**Pg**	10 55 44.8	-0.7
EPF				*e*Sn	**Sn**	10 56 18.2	-1.5

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*SZGRF **01** 11:01:42.1,2347S×17864W,h33km,South of Fiji Islands*
*IDC **01** 11:02:46.5±1.0,22.15S×17946W,h568km±10km,mb3.9/19, mb1 4.0/21,mb1mx3.8/33,mbtmp4.8/21,Error ellipse: s-maj=13.0km s-min=10.9km az=129.0*
*ISCJB **01** 11:02:46.5±0.8,2220S±005×17965W±005,h579km±11km, mb4.5/49,Error ellipse: s-maj=8.9km s-min=5.6km az=108.2*
*BJI **01** 11:02:46.2,2220S×17960W,h576km,mB5.4,mb4.7*
*NEIC **01** 11:02:47.2±0.8,22.16S×17955W,h577km±10km,mb4.7/28, Error ellipse: s-maj=7.0km s-min=5.8km az=130.0*
*MOS **01** 11:02:49.0±2.7,2077S×17997W,h548km,mb4.6/11, Error ellipse: s-maj=13.6km s-min=11.1km az=47.2*
*BGS **01** 11:02:50.1,22.16S×17955W,h577km,mb4.7(NEIC)*
ISC 01 11:02:47.1±0.8,2219S±005×17958W±005,h573km±10km, n575,σ0:66/412,mb4.5/49,118C-53D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.19**	**168**	P	**P**	**11 04 37.7**	**0.0**
	71nm,0.3s,baz=285,slow=24,SNR=3.0						
RAO				S	**S**	11 06 07.4	-0.8
	63nm,0.3s,baz=242,slow=22,SNR=2.6						
RAO	**Raoul Island**	**7.19**	**168**	P	**P**	**11 04 37.7**	**0.0**
RAO				S	**S**	11 06 07.4	-0.8
AFI	**Afiamalu**	**11.09**	**43**	P	**P**	**11 05 11.3**	**-5.0**
	9.9nm,0.3s,baz=76,slow=21,SNR=13						
AFI				S	**S**	11 07 09.1	-10
	3.2nm,0.3s,baz=24,slow=14,SNR=4.9						
AFI	**Afiamalu**	**11.09**	**43**	*e*P	**P**	**11 05 11.1**	**-5.2**
AFI				pmax	pmax		
	comp=Z,33nm,0.4s						
AFI	**Afiamalu**	**11.09**	**43**	*e*Pn	**P**	**11 05 11.1**	**-5.2**
	comp=Z,33nm,0.4s						
DZM	**Mont Dzumac**	**12.95**	**268**	P	**P**	**11 05 36.9**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=74,slow=16,SNR=12						
OTAZ	**Otara**	**15.46**	**197**	P	**P**	**11 06 03.5**	**+3.0**
OTAZ	**Otara**	**15.46**	**197**	PN	**P**	**11 06 03.1**	**+2.5**
WTAZ	**Waiatarua**	**15.54**	**198**	P	**P**	**11 06 04.0**	**+2.7**
WTAZ	**Waiatarua**	**15.54**	**198**	PN	**P**	**11 06 04.0**	**+2.7**
PUZ	**Puketiti**	**15.94**	**186**	P	**P**	**11 06 05.3**	**+0.4**
PUZ	**Puketiti**	**15.94**	**186**	PN	**P**	**11 06 04.7**	**-0.2**
URZ	**Urewera**	**16.26**	**189**	P	**P**	**11 06 06.0**	**-1.9**
	comp=Z,21nm,0.3s,baz=298,slow=3.3,SNR=108						
URZ				S	**S**	11 08 47.2	-4.5
	comp=Z,4.3nm,0.3s,baz=196,slow=20,SNR=17						
URZ	**Urewera**	**16.26**	**189**	P	**P**	**11 06 06.0**	**-2.0**
URZ	**Urewera**	**16.26**	**189**	PN	**P**	**11 06 05.9**	**-2.0**
MWZ	**Matawai**	**16.28**	**188**	P	**P**	**11 06 07.1**	**-1.0**
MWZ	**Matawai**	**16.28**	**188**	PN	**P**	**11 06 06.7**	**-1.4**
KNZ	**Kokohu**	**16.94**	**187**	*e*P	**P**	**11 06 13.4**	**-0.7**
KNZ	**Kokohu**	**16.94**	**187**	PN	**P**	**11 06 13.3**	**-0.9**
BKZ	**Black Stump Fm**	**17.25**	**190**	P	**P**	**11 06 15.9**	**-1.1**
BKZ	**Black Stump Fm**	**17.25**	**190**	PN	**P**	**11 06 15.7**	**-1.3**
WNVZ	**Wahianoa**	**17.57**	**192**	P	**P**	**11 06 20.0**	**+0.1**
WNVZ	**Wahianoa**	**17.57**	**192**	*e*PN	**P**	**11 06 20.0**	**+0.1**
PXZ	**Pawanui**	**18.04**	**189**	PN	**P**	**11 06 23.9**	**-0.3**
PXZ				SN	**S**	11 09 19.8	-0.9
TSZ	**Takapari Road**	**18.21**	**191**	P	**P**	**11 06 25.1**	**-0.7**
TSZ	**Takapari Road**	**18.21**	**191**	PN	**P**	**11 06 25.0**	**-0.7**
BFZ	**Birch Farm**	**18.77**	**190**	*e*P	**P**	**11 06 30.2**	**-0.6**
BFZ	**Birch Farm**	**18.77**	**190**	PN	**P**	**11 06 29.9**	**-0.9**
BFZ				SN	**S**	11 09 36.1	+3.6
MRZ	**Mangatainoka R**	**18.86**	**191**	P	**P**	**11 06 30.3**	**-1.4**
MRZ	**Mangatainoka R**	**18.86**	**191**	PN	**P**	**11 06 30.0**	**-1.7**
MRZ				*e*SN	**S**	11 09 30.0	-4.0
KIW	**Kapiti Island**	**19.19**	**193**	P	**P**	**11 06 34.5**	**-0.1**
KIW	**Kapiti Island**	**19.19**	**193**	*e*PN	**P**	**11 06 33.9**	**-0.8**
DUWZ	**D'Urville Isla**	**19.35**	**195**	PN	**P**	**11 06 36.5**	**+0.4**
CAW	**Cannon Point**	**19.39**	**192**	P	**P**	**11 06 35.9**	**-0.6**
CAW	**Cannon Point**	**19.39**	**192**	*e*PN	**P**	**11 06 35.7**	**-0.8**
MRW	**Makara Radio**	**19.58**	**193**	P	**P**	**11 06 37.9**	**-0.3**
MRW	**Makara Radio**	**19.58**	**193**	*e*PN	**P**	**11 06 37.5**	**-0.7**
TCW	**Tory Channel**	**19.66**	**194**	P	**P**	**11 06 38.7**	**-0.2**
TCW	**Tory Channel**	**19.66**	**194**	*e*PN	**P**	**11 06 38.3**	**-0.6**
SNZO	**South Karori**	**19.66**	**193**	*e*P	**P**	**11 06 38.6**	**-0.3**
SNZO	**South Karori**	**19.66**	**193**	*e*PN	**P**	**11 06 38.5**	**-0.5**
QRZ	**Quartz Range**	**19.74**	**198**	*e*P	**P**	**11 06 41.2**	**+1.6**
QRZ	**Quartz Range**	**19.74**	**198**	PN	**P**	**11 06 41.0**	**+1.4**
NNZ	**Nelson**	**19.88**	**196**	*e*P	**P**	**11 06 41.0**	**+0.1**
NNZ				S	**S**	11 09 58.2	+8.0
NNZ	**Nelson**	**19.88**	**196**	PN	**P**	**11 06 40.4**	**-0.5**
TUWZ	**Tuamarina**	**19.94**	**194**	*e*PN	**P**	**11 06 41.1**	**-0.4**
THZ	**Tophouse**	**20.51**	**196**	*e*P	**P**	**11 06 46.9**	**+0.3**
THZ	**Tophouse**	**20.51**	**196**	PN	**P**	**11 06 46.4**	**-0.2**
DSZ	**Denniston Nort**	**20.80**	**198**	P	**P**	**11 06 50.2**	**+1.0**
DSZ	**Denniston Nort**	**20.80**	**198**	PN	**P**	**11 06 49.9**	**+0.7**
LTZ	**Lake Taylor**	**21.63**	**196**	*e*P	**P**	**11 06 56.2**	**-0.5**
LTZ	**Lake Taylor**	**21.63**	**196**	PN	**P**	**11 06 56.1**	**-0.5**
LTZ				SN	**S**	11 10 27.8	+10
WVZ	**Waitaha Valley**	**22.33**	**199**	*e*PN	**P**	**11 07 01.9**	**-1.0**
RPZ	**Rata Peaks**	**22.82**	**199**	P	**P**	**11 07 06.9**	**-0.5**
	comp=Z,18nm,0.5s,mb5.0,baz=340,slow=1.9,SNR=24						
FOZ	**Fox Glacier**	**23.10**	**200**	*e*P	**P**	**11 07 09.1**	**-0.7**
FOZ	**Fox Glacier**	**23.10**	**200**	PN	**P**	**11 07 08.8**	**-0.9**
LBZ	**Lake Benmore**	**23.69**	**198**	*e*P	**P**	**11 07 14.4**	**-0.6**
LBZ	**Lake Benmore**	**23.69**	**198**	PN	**P**	**11 07 13.9**	**-1.1**
JCZ	**Jackson Bay**	**23.86**	**201**	P	**P**	**11 07 17.5**	**+1.0**
JCZ	**Jackson Bay**	**23.86**	**201**	PN	**P**	**11 07 16.8**	**+0.3**
ODZ	**Otahua Downs**	**24.16**	**197**	*e*P	**P**	**11 07 19.7**	**+0.5**
ODZ	**Otahua Downs**	**24.16**	**197**	PN	**P**	**11 07 18.9**	**-0.3**
WKZ	**Wanaka**	**24.45**	**200**	P	**P**	**11 07 22.1**	**+0.4**
WKZ	**Wanaka**	**24.45**	**200**	PN	**P**	**11 07 21.8**	**+0.1**
CNB	**Canberra Magne**	**30.07**	**237**	||*P*	**P**	**11 08 13.7**	**+2.9**
	comp=Z,10nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**11 08 27.9**	**+1.5**
	comp=Z,4.8nm,0.9s,mb4.1						
CTA	**Charters Tower**	**31.90**	**267**	P	**P**	**11 08 27.7**	**+1.3**
	comp=Z,6.3nm,0.4s,mb4.6,baz=89,slow=11,SNR=9.9						
CTA				PcP	PcP	11 10 59.4	+0.3
	comp=Z,6.0nm,0.5s,baz=72,slow=3.6,SNR=5.3						
CTA	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**11 08 27.9**	**+1.5**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTAO	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**11 08 27.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
CTAO	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**11 08 27.5**	**+1.1**
	comp=Z,5.9nm,0.9s,mb4.2						
TOO	**Toolangi**	**33.72**	**235**	*e*P	**P**	**11 08 44.3**	**+2.6**
	comp=Z,7.9nm,1.1s,mb4.3						
TOO	**Toolangi**	**33.72**	**235**	*e*P	**P**	**11 08 44.3**	**+2.6**
TOO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
PMG	**Port Moresby**	**34.34**	**286**	P	**P**	**11 08 47.5**	**+0.5**
	comp=Z,10nm,0.8s,mb4.5,baz=8.1,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**35.74**	**246**	P	**P**	**11 08 59.7**	**+1.2**
	comp=Z,3.3nm,0.5s,mb4.1,baz=90,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**35.74**	**246**	P	**P**	**11 08 59.7**	**+1.2**
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**11 09 55.2**	**+0.6**
	comp=Z,4.0nm,0.5s,mb4.2,baz=90,slow=8.5,SNR=109						
ASAR				PcP	PcP	11 11 33.6	+0.7
	comp=Z,5.1nm,0.6s,baz=106,slow=3.9,SNR=12						
ASAR				ScP	ScP	11 14 32.1	+2.5
	comp=Z,1.7nm,0.7s,baz=102,slow=4.1,SNR=6.1						
ASAR				S	**S**	**11 15 36.8**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=93,slow=15,SNR=13						
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**11 09 55.2**	**+0.6**
ASAR					pP	11 11 33.6	-1.8
ASAR				S	**S**	**11 15 36.8**	**-0.5**
WB2	**Warramunga Arr**	**42.92**	**264**	*e*P	**P**	**11 09 56.6**	**+0.4**
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**11 09 56.7**	**+0.5**
	comp=Z,4.1nm,0.3s,mb4.4,baz=96,slow=7.8,SNR=357						
WRA				PcP	PcP	11 11 33.8	+0.2
	comp=Z,1.3nm,0.4s,baz=94,slow=4.1,SNR=5.7						
WRA				ScP	ScP	11 14 33.3	+2.8
	comp=Z,1.2nm,0.7s,baz=95,slow=3.7,SNR=5.1						
WRA				S	**S**	**11 15 39.3**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=104,slow=12,SNR=6.0						
WRA				PKiKP	PKiKP	11 18 33.9	-1.1
	comp=Z,0.5nm,0.8s,baz=48,slow=1.2,SNR=5.7						
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**11 09 56.7**	**+0.4**
WRA					pP	11 11 33.8	-3.5
WRA				S	**S**	**11 15 39.3**	**-1.1**
WRA	**Warramunga Arr**	**42.93**	**264**	P	**P**	**11 09 56.7**	**+0.5**
WRA				PcP	PcP	11 11 33.8	+0.2
WRA				ScP	ScP	11 14 33.3	+2.8
WRA				S	**S**	**11 15 39.3**	**-1.0**
FORT	**Forrest**	**47.28**	**248**	*e*P	**P**	**11 10 30.4**	**+0.9**
	comp=Z,5.6nm,0.6s,mb4.3						
MIDW	**Midway**	**50.16**	**3**	*e*P	**P**	**11 10 48.2**	**-2.6**
	comp=Z,40nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.36**	**264**	⇑*iP*	**P**	**11 11 00.5**	**+1.1**
	comp=Z,5.6nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**51.36**	**264**	S	**S**	**11 17 37.7**	**+1.0**
	comp=Z,1.7nm,1.1s,baz=270,slow=21,SNR=5.6						
MBWA	**Marble Bar**	**56.06**	**259**	*e*P	**P**	**11 11 33.1**	**+0.5**
	comp=Z,19nm,1.3s,mb4.2						
QSPA	**South Pole Qui**	**67.88**	**180**	*e*P	**P**	**11 12 50.8**	**+1.7**
	comp=Z,23nm,0.9s,mb4.6						
JOW	**Kunigami**	**70.15**	**311**	P	**P**	**11 13 03.4**	**+0.7**
	comp=Z,13nm,0.5s,mb4.7,baz=139,slow=7.0,SNR=8.2						
MJAR	**Matsushiro Arr**	**70.72**	**325**	P	**P**	**11 13 05.3**	**-0.8**
	comp=Z,9.5nm,0.6s,mb4.5,baz=158,slow=5.6,SNR=21						
MAJO	**Matsushiro**	**70.72**	**325**	*e*P	**P**	**11 13 05.5**	**-0.6**
MAJO				*e*		11 13 22.9	
ASAJ	**Asahikawa**	**74.53**	**333**	P	**P**	**11 13 28.8**	**+0.8**
	comp=Z,16nm,0.8s,mb4.6,baz=195,slow=4.5,SNR=8.9						
VLA	**Vladivostok**	**78.83**	**326**	*e*P	**P**	**11 13 49.8**	**-1.6**
VLA				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.4						
MAW	**Mawson**	**79.48**	**200**	P	**P**	**11 13 55.4**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.5,baz=115,slow=8.2,SNR=11						
BNLO	**Ben Lomond (Sa**	**80.02**	**43**	⇑P	**P**	**11 13 57.7**	**+0.1**
	baz=83						
JRSC	**Jasper Ridge**	**80.15**	**43**	⇑P	**P**	**11 13 58.6**	**+0.3**
	baz=83						
PKM	**Peak Mountain**	**80.23**	**46**	⇓P	**P**	**11 13 59.3**	**+0.6**
	baz=83						
PMSA	**Palmer Station**	**80.32**	**157**	P	**P**	**11 13 59.6**	**+0.3**
	comp=Z,5.8nm,0.9s,mb3.9,baz=241,slow=9.9,SNR=4.6						
SMMC	**Simmler**	**80.35**	**46**	⇑P	**P**	**11 13 59.8**	**+0.4**
	baz=83						
PKD	**Parkfield**	**80.36**	**45**	P	**P**	**11 13 59.9**	**+0.5**
	baz=83,SNR=5.2						
PACP	**Pacheco Peak**	**80.51**	**44**	⇓P	**P**	**11 14 00.5**	**+0.2**
	baz=83						
CVS	**Carmenet Viney**	**80.59**	**42**	P	**P**	**11 14 00.8**	**+0.2**
	baz=83,SNR=7.5						
HOPS	**Hopland**	**80.61**	**41**	P	**P**	**11 14 01.2**	**+0.5**
	baz=83,SNR=11						
V05C	**Boulder Hill,**	**80.74**	**45**	⇑P	**P**	**11 14 01.5**	**+0.2**
	baz=84						
P01C	**Double 8 Ranch**	**80.74**	**41**	P	**P**	**11 14 01.8**	**+0.4**
	baz=84,SNR=7.6						
S04C	**Ingram Canyon,**	**80.79**	**43**	P	**P**	**11 14 01.8**	**+0.2**
	baz=84,SNR=8.4						
OSI	**Osito Adit**	**80.80**	**47**	⇓P	**P**	**11 14 02.2**	**+0.5**
	baz=84						
DECC	**Green Verdugo**	**80.86**	**47**	⇑P	**P**	**11 14 01.9**	**-0.1**
	baz=84						
KIPM	**Iron Peak**	**80.87**	**40**	*e*P	**P**	**11 14 02.8**	**+0.8**
O01C	**Eel River Cons**	**80.88**	**40**	P	**P**	**11 14 03.0**	**+0.9**
	baz=84,SNR=23						
MNRC	**McLaughlin Nat**	**80.92**	**42**	P	**P**	**11 14 03.0**	**+0.7**
	baz=84,SNR=19						
109C	**Camp Elliot, M**	**80.94**	**49**	⇑P	**P**	**11 14 02.9**	**+0.4**
	baz=84						
ARVC	**Arvin**	**81.02**	**46**	⇓P	**P**	**11 14 03.2**	**+0.3**
	baz=84						
Q03C	**Winters**	**81.04**	**42**	⇑P	**P**	**11 14 03.4**	**+0.4**
	baz=84						
MDJ	**Mudanjiang**	**81.07**	**326**	P	**P**	**11 14 02.8**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,1μm,9.4s						
JCC	**Jacoby Creek**	**81.18**	**39**	⇑P	**P**	**11 14 04.3**	**+0.6**
	baz=84						
GASB	**Alder Springs**	**81.23**	**41**	⇓P	**P**	**11 14 04.4**	**+0.4**
	baz=84,SNR=12						
VES	**

HEC	Hector,Ludlow	82.55	48	⇑P	P	11 14 10.5	-0.1
	baz=85						
WAKR	Walker	82.58	43	eP	P	11 14 11.1	+0.4
R06C	Coleville	82.58	43	P	P	11 14 11.3	+0.5
	baz=85,SNR=21						
R07C	Lee Vining	82.59	44	⇑P	P	11 14 11.5	+0.7
	baz=85						
M03C	McCloud	82.59	40	P	P	11 14 11.2	+0.4
	baz=85,SNR=18						
O04C	Chester	82.63	41	P	P	11 14 11.2	+0.2
	baz=85,SNR=18						
GLA	Glamis	82.64	50	eP	P	11 14 11.5	+0.4
GLA	Glamis	82.64	50	P	P	11 14 11.9	+0.8
	baz=85,SNR=16						
HATC	Hat Creek Radi	82.71	41	P	P	11 14 11.8	+0.4
	baz=86,SNR=15						
K02A	Glendale	82.72	38	P	P	11 14 11.9	+0.4
	baz=86,SNR=11						
CN2	Changchun	82.75	323	eP	P	11 14 11.2	-0.4
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
LBCM	Butte Creek Ri	82.79	41	P	P	11 14 11.9	+0.2
KDAK	Kodiak Island	82.81	14	P	P	11 14 10.5	-1.4
	comp=Z,2.1nm,0.5s,mb4.0,baz=214,slow=7.3,SNR=4.3						
BEKR	Beckwourth	82.81	42	P	P	11 14 12.0	+0.1
	baz=86,SNR=20						
S08C	White Mtn Res	82.81	45	P	P	11 14 12.6	+0.6
	baz=86,SNR=43						
WCN	Washoe City	82.85	43	P	P	11 14 12.6	+0.5
	baz=86,SNR=13						
P06A	Stead Airport,	82.98	42	P	P	11 14 13.3	+0.5
	baz=86,SNR=6.7						
IRM	Iron Mountain	83.01	49	⇓P	P	11 14 13.1	+0.2
	baz=86,SNR=11						
ELFS	Eagle Lake Fie	83.03	41	P	P	11 14 13.7	+0.7
	baz=86,SNR=5.0						
J02A	Umpqua	83.05	38	P	P	11 14 13.9	+0.7
	baz=86,SNR=7.9						
GRAC	Grapevine Rang	83.06	46	P	P	11 14 13.4	+0.3
	baz=86,SNR=14						
M04C	Macdoel	83.07	40	P	P	11 14 13.7	+0.5
	baz=86,SNR=11						
FURC	Furnace Creek,	83.10	46	⇑P	P	11 14 12.9	-0.5
	baz=86,SNR=10						
TUQ	Turquoise Mtn.	83.16	47	⇓P	P	11 14 13.8	+0.1
	baz=86						
SHOC	Shoshone	83.18	47	P	P	11 14 14.1	+0.3
	baz=86,SNR=5.8						
PSI	Prapat	83.18	276	P	P	11 14 13.5	-0.3
	comp=Z,5.8nm,0.7s,mb4.2,baz=253,slow=1.0,SNR=4.7						
PSI	Prapat	83.18	276	P	P	11 14 13.5	-0.3
M05C	Lookout	83.22	40	P	P	11 14 14.3	+0.3
	baz=86,SNR=20						
Y12C	Blythe	83.23	50	P	P	11 14 14.6	+0.6
	baz=86,SNR=6.4						
Q07A	Schurz	83.23	43	⇑P	P	11 14 13.9	-0.2
	baz=86						
KLR	Kul'dur	83.24	330	eP	P	11 14 11.2	-2.9
NVAR	Mina Array Bea	83.26	44	P	P	11 14 14.2	0.0
	comp=Z,8.3nm,0.8s,mb4.3,baz=227,slow=9.5,SNR=60						
L04A	Klamath Falls	83.28	39	⇓P	P	11 14 14.3	+0.1
	baz=86,SNR=11						
O06A	Flanigan	83.31	42	P	P	11 14 14.6	+0.2
	baz=86,SNR=19						
I02A	Mapleton	83.32	37	⇓P	P	11 14 14.9	+0.5
	baz=86						
PAHR	Pah Rah Range	83.32	42	eP	P	11 14 14.4	0.0
	comp=Z,15nm,0.9s,mb4.5						
R08A	Mina	83.34	44	P	P	11 14 14.7	+0.1
	baz=86,SNR=14						
J03A	Ideyld Park	83.40	38	⇓P	P	11 14 15.1	+0.3
	baz=86,SNR=7.9						
HOG	Hogback Mounta	83.43	39	P	P	11 14 15.4	+0.4
P07A	Fallon	83.53	43	⇑P	P	11 14 15.7	+0.2
	baz=86						
M06C	Likely Place G	83.53	41	P	P	11 14 15.8	+0.3
	baz=86,SNR=13						
S09A	Goldfield	83.56	45	P	P	11 14 15.4	-0.3
	baz=86,SNR=6.6						
I03A	Eugene	83.61	37	⇑P	P	11 14 15.9	0.0
	baz=86						
K04A	Chilquin	83.64	39	⇓P	P	11 14 16.3	+0.2
	baz=86						
N06A	Buffalo Meadow	83.65	41	P	P	11 14 16.0	-0.1
	baz=86,SNR=14						
V11A	Goodsprings	83.72	47	P	P	11 14 16.6	+0.1
	baz=86,SNR=5.8						
Q08A	Gabbs	83.75	44	P	P	11 14 16.5	-0.1
	baz=87,SNR=13						
Y13A	Salome	83.75	50	P	P	11 14 17.3	+0.7
	baz=86,SNR=19						
TPH	Tonopah	83.76	45	eP	P	11 14 17.0	+0.4
TPH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
TPH	Tonopah	83.76	45	eP	P	11 14 16.9	+0.3
	comp=Z,15nm,1.0s,mb4.5						
PDMCI	Parker Dam,Lak	83.79	49	P	P	11 14 17.2	+0.4
	baz=87,SNR=7.9						
MPOR	Mary's Peak	83.79	37	P	P	11 14 17.3	+0.5
W12A	Cal Nev Ari	83.81	48	⇓P	P	11 14 17.2	+0.2
	baz=87,SNR=6.3						
L05A	Lakeview	83.83	40	P	P	11 14 17.4	+0.5
	baz=87,SNR=11						
O07A	Toulon	83.90	42	P	P	11 14 17.4	0.0
	baz=87,SNR=12						
R09A	Tonopah	83.95	45	P	P	11 14 17.4	-0.2
	baz=87,SNR=11						
H03A	Soap Creek Ran	84.04	37	⇓P	P	11 14 17.8	-0.2
	baz=87,SNR=9.4						
V12A	Nelson	84.06	48	⇓P	P	11 14 17.9	-0.2
	baz=87,SNR=6.5						
MOD	Modoc	84.06	40	eP	P	11 14 18.0	-0.1
	comp=Z,11nm,1.2s,mb4.3						
MOD	Modoc	84.06	40	P	P	11 14 18.2	+0.1
	baz=87,SNR=11						
P08A	Dixie Valley	84.13	43	⇑P	P	11 14 18.7	+0.3
	baz=87						
Z14A	Wintersburg	84.14	51	⇓P	P	11 14 19.0	+0.4
	baz=87,SNR=6.2						
X13A	Yucca	84.16	49	P	P	11 14 19.0	+0.4
	baz=87,SNR=13						
K05A	Summer Lake	84.20	39	P	P	11 14 19.4	+0.6
	baz=87,SNR=21						
Q09A	Carvers	84.21	44	⇓P	P	11 14 19.4	+0.5
	baz=87						
SHPR	Sheep Range	84.26	47	eP	P	11 14 19.4	+0.3
115A	Sonoran Desert	84.32	51	⇑P	P	11 14 20.3	+0.9
	baz=87						
J05A	Fort Rock	84.34	39	P	P	11 14 20.0	+0.5
	baz=87,SNR=37						
W13A	Hualapai Mount	84.39	49	P	P	11 14 20.2	+0.5
	baz=87,SNR=9.1						
Y14A	Wickenburg	84.40	50	P	P	11 14 20.1	+0.3
	baz=87,SNR=6.8						
M07A	Soldier Meadow	84.44	41	P	P	11 14 20.2	+0.2
	baz=87,SNR=16						
G03A	Yamhill	84.45	36	⇑P	P	11 14 20.4	+0.3
	baz=87						
R10A	Warm Springs	84.48	45	P	P	11 14 20.5	+0.3
	baz=87,SNR=10						
K06A	Valley Falls	84.62	39	P	P	11 14 21.2	+0.3
	baz=87,SNR=12						
116A	Eloy	84.63	52	⇑P	P	11 14 21.1	+0.2
	baz=87,SNR=5.8						
P09A	Austin	84.65	44	⇑P	P	11 14 20.6	-0.3
	baz=88						
U12A	Valley of Fire	84.65	47	⇓P	P	11 14 21.4	+0.4
	baz=87						
H04A	Detroit Lake	84.66	37	P	P	11 14 20.7	-0.3
	baz=88,SNR=12						
F03A	Seaside	84.69	36	⇑P	P	11 14 21.2	0.0
	baz=88						
L07A	Adell	84.70	41	P	P	11 14 21.7	+0.4
	baz=88,SNR=13						
N08A	GE Springer Mi	84.72	42	P	P	11 14 21.4	0.0
	baz=88,SNR=6.5						
X14A	Yava	84.76	50	⇓P	P	11 14 21.7	+0.2
	baz=88,SNR=9.5						
G04A	Mulino	84.82	37	P	P	11 14 21.8	-0.1
	baz=88,SNR=6.6						
I05A	Bend	84.86	38	P	P	11 14 22.2	+0.2
	baz=88,SNR=8.3						
J06A	Christmas Vall	84.95	39	P	P	11 14 22.3	-0.2
	baz=88,SNR=17						
M08A	Happy Creek Ra	84.95	41	⇑P	P	11 14 22.6	+0.1
	baz=88						
O09A	Fish Creek Ran	84.96	43	⇑P	P	11 14 22.4	-0.2
	baz=88						
W14A	Seligman	85.01	49	P	P	11 14 23.5	+0.8
	baz=88,SNR=11						
MA2	Magadan	85.03	345	eP	P	11 14 21.5	-1.4
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
E03A	Lebam	85.08	35	P	P	11 14 23.2	+0.1
	baz=88,SNR=8.9						
N09A	Rock Creek Ran	85.14	42	P	P	11 14 23.5	+0.1
	baz=88,SNR=5.4						
K07A	Rock Creek Ran	85.16	40	P	P	11 14 23.7	+0.2
	baz=88,SNR=12						
H05A	Madras	85.18	38	P	P	11 14 23.6	0.0
	baz=88,SNR=6.7						
Q11A	Duckwater	85.21	45	P	P	11 14 23.9	+0.2
	baz=88,SNR=5.9						
X15A	Humboldt	85.23	50	P	P	11 14 24.3	+0.5
	baz=88,SNR=9.8						
SVW2	Sparrevohn	85.23	11	eP	P	11 14 21.9	-1.9
F04A	Anyboy	85.31	36	P	P	11 14 24.0	-0.2
	baz=88,SNR=6.8						
I06A	Prineville	85.33	39	P	P	11 14 24.8	+0.5
	baz=88,SNR=32						
LVP	Lakeview Peak	85.40	36	P	P	11 14 24.6	-0.1
L08A	Fields	85.40	41	P	P	11 14 24.8	+0.1
	baz=88,SNR=17						
O10A	Cortez Mining,	85.47	43	⇑P	P	11 14 24.5	-0.4
	baz=88						
G05A	Wamic	85.49	37	⇑P	P	11 14 24.9	-0.2
	baz=88						
M09A	Marrel Ranch,	85.51	42	⇓P	P	11 14 25.8	+0.6
	baz=88						
J07A	Hines	85.52	39	P	P	11 14 25.0	-0.2
	baz=88,SNR=15						
P11A	Circle Ranch,	85.54	44	⇓P	P	11 14 25.7	+0.4
	baz=88						
E04A	Onalaska	85.56	35	⇑P	P	11 14 26.0	+0.6
	baz=88						
W15A	Williams	85.56	49	⇓P	P	11 14 26.0	+0.6
	baz=88						
K08A	Mann Creek Ran	85.63	40	P	P	11 14 26.1	+0.3
	baz=88,SNR=17						
N10A	Dunphy	85.70	43	⇑P	P	11 14 26.5	+0.4
	baz=88						
L09A	Wilkinson Ranc	85.72	41	P	P	11 14 26.3	+0.2
	baz=88,SNR=9.2						
H06A	Lindquist Farm	85.74	38	P	P	11 14 26.2	0.0
	baz=88,SNR=25						
SLKM	Skilak Lake	85.80	14	eP	P	11 14 24.8	-1.7
F05A	White Salmon	85.81	36	⇓P	P	11 14 25.9	-0.6
	baz=89						
I07A	Izee	85.83	39	P	P	11 14 26.9	+0.3
	baz=89,SNR=20						
D04A	Dobbs Creek Ra	85.84	35	⇑P	P	11 14 26.9	+0.2
	baz=89						
Q12A	Willow Creek R	85.86	45	⇑P	P	11 14 27.1	+0.3
	baz=89						
G06A	Carlson Farm,	85.87	37	P	P	11 14 26.7	-0.2
	baz=89,SNR=7.2						
O11A	Cowboy Ranch,	85.92	44	P	P	11 14 27.2	+0.1
	baz=89,SNR=7.6						
J08A	Circle Bar Ran	86.00	40	P	P	11 14 27.6	0.0
	baz=89,SNR=16						
P12A	McGill	86.04	45	⇓P	P	11 14 28.2	+0.5
	baz=89						
E05A	Randle	86.06	36	P	P	11 14 27.4	-0.4
	baz=89,SNR=19						
BJI	Beijing	86.07	316	eP	P	11 14 27.9	+0.1
BJI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.6						
BJI	Beijing	86.07	316	eP	P	11 14 27.9	+0.1
	comp=Z,15nm,0.9s,mb4.6						
K09A	Rome	86.07	41	P	P	11 14 27.8	0.0
	baz=89,SNR=20						
B04A	Port Angeles	86.07	34	⇓P	P	11 14 27.8	-0.1
	baz=89						
H07A	Lands Inn, Kim	86.09	38	P	P	11 14 27.9	0.0
	baz=89,SNR=26						
F06A	Goldendale	86.11	37	⇑P	P	11 14 27.4	-0.6
	baz=89,SNR=5.7						
ARUT	Antelope Range	86.11	47	eP	P	11 14 28.4	+0.4
ARUT				e		11 17 54.0	
GNW	Green Mountain	86.11	35	eP	P	11 14 27.8	-0.3
M10A	I.L. Ranch, Tu	86.13	42	P	P	11 14 28.4	+0.3
	baz=89,SNR=12						
C04A	Brinnon	86.14	34	P	P	11 14 28.3	+0.2
	baz=89,SNR=11						
LON	Longmire	86.15	36	eP	P	11 14 27.8	-0.4
N11A	Elko Archery C	86.24	43	⇓P	P	11 14 28.8	+0.1
	baz=89						
I08A	Drewsey	86.27	39	P	P	11 14 28.9	+0.1
	baz=89,SNR=21						
D05A	Enumclaw	86.32	35	P	P	11 14 29.4	+0.4
	baz=89,SNR=10						
WUAZ	Wupatki	86.36	49	eP	P	11 14 29.1	0.0
WUAZ	Wupatki	86.36	49	⇓P	P	11 14 29.4	+0.2
	baz=89						
J09A	Fry Pan Ranch,	86.43	40	P	P	11 14 29.6	+0.1
	baz=89,SNR=29						
G07A	Ruggs Ranch, H	86.43	38	P	P	11 14 29.5	0.0
	baz=89,SNR=11						
E06A	Yakima	86.47	36	P	P	11 14 29.7	0.0
	baz=89,SNR=15						
PGC	Sidney	86.48	33	eP	P	11 14 29.3	-0.5
M11A	Holland Ranch,	86.55	43	P	P	11 14 30.5	+0.5
	baz=89,SNR=8.3						
H08A	Prairie City	86.57	39	P	P	11 14 30.1	-0.1
	baz=89,SNR=11						
O12A	Currie	86.58	44	P	P	11 14 30.1	-0.1
	baz=89,SNR=5.8						
F07A	Phinny Hill Vi	86.66	37	⇑P	P	11 14 30.8	+0.2
	baz=90						
N12A	Clover Valley,	86.70	43	P	P	11 14 30.9	+0.1
	baz=90,SNR=10						
I09A	Lost Marbles R	86.79	40	P	P	11 14 31.0	-0.2
	baz=90,SNR=16						
C05A	Tolt Reservoir	86.80	35	P	P	11 14 31.0	-0.3
	baz=90,SNR=13						
G08A	Pilot Rock	86.85	38	P	P	11 14 31.6	+0.1
	baz=90,SNR=29						
TTA	Tatalina	86.86	11	eP	P	11 14 30.1	-1.5
TWW	Teanaway	86.90	36	P	P	11 14 32.3	+0.6
A04A	Legoe Bay, Lum	86.91	34	⇓P	P	11 14 31.6	-0.1
	baz=90,SNR=9.8						
EYAK	Cordova Ski Ar	86.91	16	eP	P	11 14 30.1	-1.6
B05A	Bryant	86.94	34	P	P	11 14 31.7	-0.2
	baz=90,SNR=14						
D06A	Cle Elum	86.94	36	P	P	11 14 32.0	+0.1
	baz=90,SNR=14						
PMR	Palmer	87.00	14	eP	P	11 14 30.4	-1.8
PMR				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.1						
PMR	Palmer	87.00	14	eP	P	11 14 30.4	-1.8
	comp=Z,15nm,0.4s,mb5.1						
M12A	Wells	87.09	43	P	P	11 14 32.8	+0.1
	baz=90,SNR=8.1						
E07A	Sunnyside	87.10	37	⇑P	P	11 14 32.7	0.0
	baz=90,SNR=10.0						
RSW	Rattlesnake Hi	87.15	37	P	P	11 14 33.0	+0.2
H09A	Durkee	87.24	39	⇑P	P	11 14 33.1	-0.2
	baz=90						
N13A	Wendover, West	87.24	44	⇑P	P	11 14 33.2	-0.1
	baz=90						
F08A	Pendleton	87.25	38	⇑P	P	11 14 33.3	-0.1
	baz=90,SNR=9.4						
MSU	Marysvale	87.34	46	eP	P	11 14 34.9	+1.1
A05A	Maple Falls	87.40	34	⇓P	P	11 14 33.4	-0.6
	baz=90						
B06A	Marblemount	87.41	34	⇑P	P	11 14 33.6	-0.5
	baz=90						
BMO	Blue Mountains	87.55	39	eP	P	11 14 34.4	-0.4
BMO				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
BMO	Blue Mountains	87.55	39	eP	P	11 14 34.4	-0.4
	comp=Z,19nm,1.2s,mb4.7						
C07A	Waterville	87.67	36	⇑P	P	11 14 34.7	-0.6
	baz=90,SNR=13						
SEY	Seymchan	87.69	348	d iP	P	11 14 34.4	-1.0
F09A	S2 Ranch, Elgi	87.70	38	⇓P	P	11 14 35.1	-0.4
	baz=90,SNR=9.1						
EPH	Ephrata	87.72	36	P	P	11 14 35.1	-0.4
DUG	Dugway	87.79	45	⇓P	P	11 14 35.7	-0.2
	baz=91						
D08A	Wollman Farm,	87.91	37	P	P	11 14 36.4	-0.1
	baz=91,SNR=15						
E09A	Wood Farm, Sta	88.03	37	⇓P	P	11 14 36.7	-0.3
	baz=91						
B07A	Winthrop	88.10	35	P	P	11 14 37.0	-0.3
	baz=91,SNR=17						
F10A	Beach Ranch, E	88.24	38	⇓P	P	11 14 37.1	-0.9
	baz=91,SNR=22						
D09A	Jones Farm, Ri	88.25	37	⇓P	P	11 14 37.5	-0.5
	baz=91,SNR=7.4						
C08A	Higginbotham F	88.27	36	P	P	11 14 37.6	-0.6
	baz=91,SNR=6.6						
TMUT	Trail Mountain	88.39	46	eP	P	11 14 38.9	+0.2
HLID	Hailey	88.57	41	⇑P	P	11 14 39.1	-0.4
	baz=91,SNR=26						
SPUT	South Promonto	88.61	44	eP	P	11 14 38.7	-1.0
HVU	Hansel Valley	88.64	43	eP	P	11 14 40.1	+0.2
C09A	Chrisman Ranch	88.70	36	⇑P	P	11 14 39.2	-1.0
	baz=92						
SRU	San Rafael	88.75	47	eP	P	11 14 40.8	+0.4
LAZ	Ladron	88.86	52	eP	P	11 14 41.5	+0.6
Y22C	IRIS PASSCAL I	88.86	52	⇓P	P	11 14 40.3	-0.6
	baz=92						
LENM	Lemitar	88.87	52	eP	P	11 14 40.7	-0.2
DAU	Daniels Canyon	88.92	45	eP	P	11 14 41.3	+0.1
MCK	McKinley	88.94	13	eP	P	11 14 39.0	-2.3
MCK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
MCK	McKinley	88.94	13	eP	P	11 14 39.0	-2.3
	comp=Z,9.4nm,0.8s,mb4.7						
B09A	Rice	89.14	36	P	P	11 14 41.5	-0.6
	baz=92,SNR=12						
TCUT	Toone Canyon	89.18	45	eP	P	11 14 42.5	+0.1
LPM	Los Pinos Moun	89.19	52	eP	P	11 14 42.5	+0.1
A09A	Danville	89.22	35	⇓P	P	11 14 41.3	-1.2
	baz=92,SNR=8.9						
C10A	Spilker Farm,	89.25	37	⇑P	P	11 14 42.3	-0.4
	baz=92						
HWUT	Hardware Ranch	89.33	44	eP	P	11 14 42.6	-0.4
	comp=Z,9.9nm,0.8s,mb4.7						
PV10	Paradox Valley	89.40	48	eP	P	11 14 43.1	-0.3
MENT	Mentasta	89.45	16	eP	P	11 14 42.7	-0.9
NEW	Newport	89.60	36	P	P	11 14 43.1	-1.2
	comp=Z,3.1nm,0.9s,mb4.1,baz=318,slow=4.6,SNR=4.3						
ANMO	Albuquerque	89.61	52	⇑eP	P	11 14 44.6	+0.3
ANMO	Albuquerque	89.61	52	eP	P	11 14 44.3	0.0
	comp=Z,7.2nm,0.9s,mb4.5						
PV01	Paradox Valley	89.61	48	eP	P	11 14 44.1	-0.2
A10A	Northport	89.78	36	⇑P	P	11 14 44.5	-0.6
	baz=93						
IMA2	Indian Mountai	90.16	10	eP	P	11 14 45.4	-1.5
COLA	College	90.17	13	d iP	P	11 14 44.9	-2.1
COLA	College	90.17	13	eP	P	11 14 44.4	-2.6
DLBC	Dease Lake	90.18	24	P	P	11 14 46.7	-0.3
	comp=Z,3.8nm,0.8s,mb4.3,baz=228,slow=5.3,SNR=3.7						
DLBC	Dease Lake	90.18	24	P	P	11 14 46.7	-0.3
MCMT	McKenzie Canyo	90.19	41	eP	P	11 14 47.0	0.0
C12A	Trout Creek	90.20	37	P	P	11 14 46.4	-0.7
	baz=93,SNR=7.2						
AHID	Auburn Hatcher	90.21	43	eP	P	11 14 47.0	-0.1
	comp=Z,12nm,0.8s,mb4.8						
RRI2	Red Ridge	90.37	43	eP	P	11 14 53.1	+5.3
	comp=Z,16nm,0.7s,mb5.0						
B12A	Libby	90.56	37	⇓P	P	11 14 47.8	-0.9
	baz=93						
DCID1	Drake Creek	90.58	42	eP	P	11 14 48.9	0.0
REDW	Red Top Meadow	90.67	43	eP	P	11 14 49.3	+0.1
C13A	Hot Springs	90.70	38	⇓P	P	11 14 49.0	-0.4
	baz=94						
SNOW	Snow King Moun	90.78	43	eP	P	11 14 49.9	+0.1
	comp=Z,14nm,0.9s,mb4.9						
A12A	Yaak River Ran	90.79	36	⇑P	P	11 14 48.9	-0.9
	baz=94						
IMW	Indian Meadow	90.89	42	eP	P	11 14 50.4	+0.1
	comp=Z,13nm,1.1s,mb4.8						
LOHW	Long Hollow	90.95	43	eP	P	11 14 50.4	-0.2
	comp=Z,6.4nm,1.0s,mb4.5						
QLMT	Earthquake Lak	91.06	41	eP	P	11 14 51.5	+0.4
B13A	Whitefish	91.14	37	⇓P	P	11 14 50.3	-1.1
	baz=94						
PDAR	Pinedale Array	91.20	44	P	P	11 14 50.4	-1.3
	comp=Z,4.8nm,1.0s,mb4.4,baz=219,slow=3.8,SNR=27						
SMCO	Snowmass	91.20	48	eP	P	11 14 51.5	-0.3
	comp=Z,8.1nm,0.9s,mb4.7						
BOZ	Bozeman (W)	91.35	41	eP	P	11 14 52.0	-0.4
BOZ	Bozeman (W)	91.35	41	P	P	11 14 52.0	-0.4
	baz=94,SNR=10						
A13A	Flathead Natio	91.47	37	⇑P	P	11 14 51.9	-1.1
	baz=94						
DAWY	Dawson	91.49	16	eP	P	11 14 51.5	-1.6
SDCO	Great Sand Dun	91.57	50	eP	P	11 14 53.4	0.0
	comp=Z,6.1nm,0.9s,mb4.6						
YAK	Yakutsk	93.13	339	eP	P	11 14 53.6	-7.0
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
EGMT	Eagleton	93.66	39	⇑P	P	11 15 02.6	-0.4
	baz=96						
RSSD	Black Hills	95.39	44	eP	P	11 15 10.5	-0.3
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
RSSD	Black Hills	95.39	44	eP	P	11 15 10.5	-0.3
	comp=Z,1.9nm,0.7s,mb4.3						
INK	Inuvik	96.29	16	P	P	11 15 11.9	-2.9
	comp=Z,2.9nm,0.8s,mb4.5,baz=169,slow=2.6,SNR=3.7						
INK	Inuvik	96.29	16	eP	P	11 15 12.6	-2.3
	comp=Z,326nm,1.0s						
MKAR	Makanchi Array	111.28	313	PKiKP	PKiKP	11 20 14.8	-1.6
	comp=Z,1.1nm,0.4s,baz=74,slow=3.0,SNR=12						
AAK	Ala-Archa	116.17	308	⇑i PKIKP	PKPdf	11 20 24.3	-1.5
BVAR	Borovoye Array	119.41	319	PKP	PKPdf	11 20 30.5	-1.5
	comp=Z,7.2nm,0.3s,baz=118,slow=2.3,SNR=47						
ZRNK	Zerenda	120.25	319	e PKIKP	PKPdf	11 20 31.7	-1.9
ARU	Arti	125.73	324	i PKIKP	PKPdf	11 20 42.8	-1.4
ARU				e		11 22 37.5	
AKTK	Aktyubinsk	127.32	317	PKP	PKPdf	11 20 46.2	-1.0
AKTO	Aktyubinsk	127.32	317	PKP	PKPdf	11 20 46.2	-1.0
	comp=Z,3.7nm,0.7s,baz=96,slow=2.6,SNR=14						
KEV	Kevo	129.83	348	ep	PKPdf	11 20 48.9	-3.1
ARCES	ARCESS Array B	130.30	349	PKP	PKPdf	11 20 51.0	-1.9
	comp=Z,8.5nm,0.6s,baz=47,slow=1.2,SNR=44						
ARCES				SKPbc	SKPbc	11 23 20.9	-2.3
	comp=Z,6.6nm,0.9s,baz=46,slow=5.2,SNR=9.8						
ARCES	ARCESS Array B	130.30	349	PKP	PKPdf	11 20 51.0	-1.9
ARCES				SKPbc	SKPbc	11 23 20.9	-2.3
LSZ	Lusaka	133.88	219	PKP	PKPd

MUD pmax pmax
comp=Z,30nm,0.9s
BOYT Boyabat 145.29 312 *i* P PKPdf 11 21 21.5 +1.6
COP Copenhagen 145.38 348 *i* PKPdf 11 21 18.8 -1.5
BSD Bornholm Skovb 145.38 345⇑*i* P PKPdf 11 21 20.1 -0.2
comp=Z,38nm,0.5s
BSD Bornholm Skovb 145.38 345⇑*i*PKIKP PKPdf 11 21 20.1 -0.2
BSD pmax pmax
comp=Z,38nm,0.5s
CTKT Corum 145.67 310 *i* P PKPdf 11 21 22.4 +1.6
EAB Aberfoyle 145.87 5⇑*e*P PKPdf 11 21 21.4 +0.3
WAR Warsaw 146.06 337 *e*PKP PKPdf 11 21 17.0 -4.5
ASF Jabal al Asfar 146.20 295 PKPbc PKPbc 11 21 24.8 +0.9
comp=Z,9.3nm,0.7s,baz=340,slow=2.4,SNR=13
EDI Edinburgh 146.21 4 *e*P PKPdf 11 21 23.2 +1.5
EDI AMb AMB 11 21 24.6
comp=Z,54nm,1.2s
PGBU Glenifferbraes 146.23 5 *e*P PKPdf 11 21 21.6 -0.1
PGBU AMb AMB 11 21 22.6
comp=Z,52nm,2.0s
ESY Stoneypath 146.25 3 *e*P PKPdf 11 21 22.5 +0.8
EAU Auchinoon 146.27 4⇑*e*P PKPdf 11 21 22.9 +1.1
EBL Broad Law 146.37 4⇑*e*P PKPdf 11 21 23.1 +1.2
GKP Gorka Klasztor 146.42 342 *e*PKP PKPdf 11 21 23.7 +1.6
ELDT Eldivan 146.68 311 *i* P PKPdf 11 21 25.5 +3.0
LVV L'vov 146.74 332 *i* PKIKP PKPdf 11 21 24.7 +2.1
LVV *i* 11 28 23.5
EKA Eskdalemuir Ar 146.80 4 PKPbc PKPbc 11 21 23.8 -1.8
comp=Z,11nm,0.8s,baz=350,slow=1.9,SNR=28
ESK Eskdalemuir 146.81 4⇑*e*P PKPdf 11 21 23.7 +1.0
ESK AMb AMB 11 21 30.9
comp=Z,52nm,1.6s
BR131 Keskin Array S 146.83 309 *e*PKPdf PKPdf 11 21 16.9 -5.9
BR131 *e*PKPbc PKPbc 11 21 22.3 -3.3
BR131 *e*PKPab PKPab 11 21 25.0 -3.8
BRTR Keskin Array B 146.83 309 PKPbc PKPbc 11 21 25.1 -0.5
comp=Z,9.4nm,0.7s,baz=134,slow=4.4,SNR=38
BHH Howats Hill 147.03 4⇑*e*P PKPdf 11 21 24.8 +1.7
GAL1 Galloway 147.15 5⇑*e*P PKPdf 11 21 25.0 +1.8
GAL1 AMb AMB 11 21 26.9
comp=Z,84nm,1.3s
ANTO Ankara 147.37 310⇑*i* P PKPbc 11 21 27.4 +0.4
ANTO Ankara 147.37 310 *e*PKPdf PKPdf 11 21 23.0 -0.6
ANTO *e*PKPbc PKPbc 11 21 27.1 0.0
ANTO *e*PKPab PKPab 11 21 31.5 +0.5
BSEG Bad Segeberg 147.43 349 *e*PKPbc PKPbc 11 21 26.0 -1.2
BSEG *e*PKPab PKPab 11 21 30.1 -1.1
KWP Kalwaria 147.45 333 *e*PKP PKPbc 11 21 26.8 -0.4
XDE Dent Fell 147.60 4⇑*e*P PKPdf 11 21 26.1 +2.1
SGKT Sivrigoynuk 147.60 312 *i* P PKPbc 11 21 27.4 -0.2
BURAR Bucovina Array 147.76 328⇑*i* P PKPbc 11 21 27.9 -0.1
BURAR Bucovina Array 147.76 328⇑P PKPbc 11 21 27.9 -0.1
WIM Isle of Man 147.86 6⇑*e*P PKPdf 11 21 26.9 +2.5
TIRR Tirgusor 148.01 321⇑*i* P PKPbc 11 21 28.1 -0.6
TIRR Tirgusor 148.01 321⇑P PKPbc 11 21 28.1 -0.6
RUE Ruedersdorf 148.06 345 *e*PKPbc PKPbc 11 21 28.0 -0.8
VRI Vrincioaia 148.12 324⇑*i* P PKPbc 11 21 28.3 -0.6
VRI Vrincioaia 148.12 324⇑P PKPbc 11 21 28.2 -0.7
OJC Ojcow 148.15 336 *e*PKPc PKPbc 11 21 28.3 -0.7
KOLS Kolonicke sedl 148.17 332 *e*PKP PKPbc 11 21 29.0 -0.1
PLOR Plostina 148.18 324⇑*i* P PKPbc 11 21 28.1 -1.0
STHS Stebnicka Huta 148.23 334 *e*PKP PKPbc 11 21 29.2 0.0
HENT Hendek 148.29 313 *i* P PKPbc 11 21 28.6 -0.8
UZH Uzhgorod 148.39 332⇓*i*PKIKP PKPbc 11 21 28.6 -1.0
ERMK Ermenek 148.42 304 *i* P PKPbc 11 21 29.8 +0.1
CRVS Cervenica-Dubn 148.54 333 *e*PKP PKPbc 11 21 29.8 -0.2
NIE Niedzica 148.60 335 *i* PKPc PKPbc 11 21 30.2 +0.1
WCB1 Church Bay 148.64 6⇑*e*P PKPbc 11 21 28.6 +2.9
LHO Holmfirth 148.65 3⇑*e*P PKPbc 11 21 28.9 -1.3
MLR Muntele Rosu 148.78 324 PKPbc PKPbc 11 21 29.9 -0.7
comp=Z,13nm,0.8s,baz=316,slow=3.8,SNR=17
MLR Muntele Rosu 148.78 324⇑*i* P PKPbc 11 21 29.9 -0.7
WPM1 Penmaenmawr 148.81 5⇑*e*P PKPbc 11 21 29.2 -1.4
KSP Ksiaz 148.83 340 *e*PKP PKPbc 11 21 30.5 -0.2
KSP Ksiaz 148.83 340 *e*PKP PKPbc 11 21 30.4 -0.3
KSP *e* 11 21 36.5
NRDL Niedersach Rie 148.84 349 *e*PKPbc PKPbc 11 21 30.0 -0.7
ESKT Eskisehir 148.89 311 *i* P 11 21 12.7
WIT Witteveen 149.06 353 *e*PKP PKPbc 11 21 31.1 -0.2
OKC Ostrava-Krasne 149.07 337⇑*i*PKPBC PKPbc 11 21 30.8 -0.5
OKC *e*PKPAB PKPab 11 21 38.0 +0.1
UPC Upice 149.21 340⇑*i*PKPBC PKPbc 11 21 31.4 -0.2
UPC *e*PKPAB PKPab 11 21 38.3 -0.2
SBD1 Bryn Du 149.21 4⇑*e*P PKPbc 11 21 30.4 -1.2
DPC Dobruska-Polom 149.25 340⇑*i*PKPBC PKPbc 11 21 31.7 0.0
DPC *e*PKPAB PKPab 11 21 38.8 +0.1
KECS Kecovo 149.27 333 *e*PKP PKPbc 11 21 31.8 +0.1
KECS *e* PKPab 11 21 38.0 -0.8
VOIR 149.30 325⇑*i* P PKPbc 11 21 30.5 -1.3
VOIR 149.30 325⇑P PKPbc 11 21 30.5 -1.3
CLL Collm 149.33 344 *e*PKPbc PKPbc 11 21 31.2 -0.7
CLL *e*PKPab PKPab 11 21 37.8 -1.2
CLL Collm 149.33 344⇑*i*PKP PKPbc 11 21 31.2 -0.7
CLL Collm 149.33 344⇑*i*PKPbc PKPbc 11 21 31.2 -0.7
comp=Z,66nm,0.9s
CLL *e*PKPab PKPab 11 21 38.0 -1.0
comp=Z,23nm,0.8s
MORC Moravsky Berou 149.33 338⇑*i* P PKPbc 11 21 31.6 -0.3
MORC Moravsky Berou 149.33 338⇑PKHKP PKPbc 11 21 31.7 -0.2
IBBN Ibbenburen 149.41 351 *e*PKPbc PKPbc 11 21 31.2 -0.9
BRG Berggiesshubel 149.49 343 *e*PKPab PKPab 11 21 38.8 -0.9
BRG Berggiesshubel 149.49 343 *i* PKP PKPbc 11 21 31.9 -0.4
comp=Z,25nm,0.6s
BRG *i* 11 21 39.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 149.49 343 *i* PKHKP PKPbc 11 21 31.9 -0.4
BRG *i* PKPab 11 21 39.1 -0.6
BRG pmax pmax
comp=Z,7.0nm,0.6s
DRGR 149.55 329⇑*i* P PKPbc 11 21 32.0 -0.4
FBE Freiberg 149.60 344 *e*PKPbc PKPbc 11 21 32.3 -0.2
FBE *e*PKPab PKPab 11 21 39.4 -0.7
HLM1 Long Mynd 149.62 4⇑*e*P PKPbc 11 21 31.3 -1.3
PVCC Panska Ves 149.62 342⇑*i*PKPBC PKPbc 11 21 32.5 -0.1
TKTP Tekketepe 149.86 308 *i* P PKPdf 11 21 21.3 -6.4
WTSB Winterswijk 149.87 352 *e*PKP PKPbc 11 21 32.3 -0.9
comp=Z,75nm,0.6s
VYHS Vyhne 149.92 335 *e*PKP PKPbc 11 21 32.8 -0.5
VYHS *e* PKPab 11 21 40.7 -0.8
PSZ Piszkesteto 149.96 333⇑*e*PKP PKPbc 11 21 32.7 -0.7
HTR Trewern Hill 150.03 5⇑*e*P PKPbc 11 21 32.1 -1.5
VRAC Vranov 150.06 339 PKPbc PKPbc 11 21 33.2 -0.4
comp=Z,9.2nm,0.7s,baz=78,slow=2.5,SNR=13
VRAC PKPab PKPab 11 21 42.0 -0.1
comp=Z,7.8nm,0.7s,baz=304,slow=3.3,SNR=7.0
VRAC Vranov 150.06 339⇑*i* P PKPbc 11 21 33.3 -0.3
PRU Pruhonice 150.11 342⇑*i*PKPBC PKPbc 11 21 33.2 -0.5
PRU *e*PKPAB PKPab 11 21 41.7 -0.6
MCH1 Michaelchurch 150.13 4⇑*e*P PKPbc 11 21 32.3 -1.5
MCH1 ⇑*e*P 11 21 32.3
MCH1 AMb AMB 11 21 33.4
comp=Z,29nm,1.2s
SSW Stow on the Wo 150.23 3⇑*e*P PKPbc 11 21 33.1 -0.9
MOX Moxa 150.28 346 *e*PKPbc PKPbc 11 21 33.2 -0.9
MOX Moxa 150.28 346 *e*PKP PKPbc 11 21 33.4 -0.7
comp=Z,35nm,1.1s
MOX *e* 11 21 41.2
MOX Moxa 150.28 346 *e*PKHKP PKPbc 11 21 33.4 -0.7
MOX *e* 11 21 41.2
MOX pmax pmax
comp=Z,14nm,1.1s
WERD Werda 150.30 345 *e*PKPbc PKPbc 11 21 33.6 -0.6
WERD *e*PKPab PKPab 11 21 41.9 -1.2
BUG Bochum--Univer 150.32 351 *e*PKPbc PKPbc 11 21 33.2 -1.0
GUNZ Gunzen 150.37 344 *e*PKPbc PKPbc 11 21 33.9 -0.4
GUNZ *e*PKPab PKPab 11 21 42.5 -0.9
WERN Wernitzgruen 150.43 344 *e*PKPbc PKPbc 11 21 33.8 -0.7
WERN *e*PKPab PKPab 11 21 42.9 -0.7
TREC Trest 150.43 340⇑*i*PKPBC PKPbc 11 21 34.0 -0.5
TREC *e*PKPAB PKPab 11 21 43.3 -0.3
SMOL Smolenice 150.44 337 *e*PKP PKPbc 11 21 34.6 +0.1
GZR Gura Zlata 150.51 327⇑*i* P PKPbc 11 21 33.9 -0.8
SKP1 Kophill 150.51 2⇑*e*P PKPbc 11 21 33.3 -1.4
BUD Budapest 150.66 334⇓*e*PKP PKPbc 11 21 32.0 -3.0
SWN1 Swindon 150.68 3 *e*P PKPbc 11 21 34.1 -0.9
MANZ Manzenberg 150.77 344 *e*PKPbc PKPbc 11 21 34.7 -0.6
BZS Buzias 150.93 329⇑*i* P PKPbc 11 21 34.7 -0.9
ROTZ Rotzenmuhle 150.95 344 *e*PKPbc PKPbc 11 21 35.2 -0.5
KHC Kasperske Hory 151.16 342⇑*e*PKPDF PKPdf 11 21 29.6 0.0
KHC ⇑*i*PKP PKPbc 11 21 35.7 -0.4
KHC *e*PKPAB PKPab 11 21 46.3 -0.4
HGN Heimansgroeve 151.16 353 *e*PKP PKPbc 11 21 35.2 -1.0
comp=Z,19nm,0.9s
GRA1 Grafenberg Arr 151.26 345 *e*PKPab PKPab 11 21 46.4 -0.7
GRF Grafenberg Arr 151.26 345 *e*PKPab PKPab 11 21 46.4 -0.7
GRFO Grafenberg 151.26 345 *e*PKPbc PKPbc 11 21 35.8 -0.6
GRFO *e*PKPab PKPab 11 21 46.5 -0.6
MEM Membach 151.30 353 PKPbc PKPbc 11 21 35.6 -0.9
TNS Taunus Mts 151.32 349 *e*PKPbc PKPbc 11 21 35.8 -0.7
GEC2 GERESS Array S 151.38 342 *e*PKPbc PKPbc 11 21 35.9 -0.7
GERES GERESS Array B 151.38 342 PKP PKPdf 11 21 29.3 -0.7
comp=Z,1.0nm,0.9s,baz=169,slow=2.7,SNR=5.0
GERES PKPbc PKPbc 11 21 35.9 -0.7
comp=Z,5.5nm,0.4s,baz=23,slow=1.7,SNR=64
GERES PKPab PKPab 11 21 46.8 -0.8
comp=Z,3.0nm,0.6s,baz=36,slow=3.4,SNR=7.7
SOP Sopron 151.45 337⇑*e*PKP PKPbc 11 21 36.2 -0.6
CONA Conrad Observa 151.49 338⇑*i*PKPbc PKPbc 11 21 35.9 -1.0
comp=Z,12nm,0.8s
BCLA Clavier 151.57 353 PKPab PKPab 11 21 47.0 -1.4
SNF Seneffe 151.58 355 PKPbc PKPbc 11 21 36.0 -1.0
SNF PKPab PKPab 11 21 47.2 -1.2
DYA Yadsworthy 151.61 6⇑*e*P PKPbc 11 21 35.7 -1.4
GIVF Givet 151.93 354⇑*i*PKIKP PKPbc 11 21 37.1 -0.8
comp=Z,33nm,0.7s
DOU Dourbes 151.96 354 PKPbc PKPbc 11 21 36.7 -1.2
BAIF Baives 152.03 355⇑*i*PKIKP PKPbc 11 21 37.3 -0.8
comp=Z,5.4nm,0.4s
WLF Walferdange 152.21 352 PKPbc PKPbc 11 21 37.6 -0.8
FUR Furstenfeldbru 152.67 344 *e*PKPbc PKPbc 11 21 38.3 -1.2
FUR *e*PKPab PKPab 11 21 52.4 -0.7
PERS Pernice 152.86 337 *i* PKPbc PKPbc 11 21 38.6 -1.3
PERS *i* PKPab PKPab 11 21 53.2 -0.7
KBA Koelnbreinsper 153.07 340⇑*i* P PKPbc 11 21 38.9 -1.4
comp=Z,4.4nm,0.5s
CDF Champ du Feu 153.27 350 *e*PKIKP PKPbc 11 21 40.0 -0.8
comp=Z,6.1nm,0.6s
GCIS Gornji Cirnik 153.33 336 *i* PKPbc PKPbc 11 21 40.1 -0.8
GCIS *e*PKPab PKPab 11 21 55.8 -0.1
WTTA Wattenberg 153.40 343⇑*i* P PKPbc 11 21 40.4 -0.6
comp=Z,8.3nm,0.4s
FLN La Foliniere 153.48 1⇑*i*PKIKP PKPbc 11 21 40.0 -1.2
comp=Z,21nm,0.6s
MEZF Maizieres J'vi 153.49 353 *e*PKIKP PKPbc 11 21 40.8 -0.4
LJU Ljubljana 153.58 338 *i* PKPbc PKPbc 11 21 40.5 -0.9
LJU *i* PKPab PKPab 11 21 56.0 -1.0
LDF La Druitiere 153.65 1 *e*PKIKP PKPbc 11 21 40.2 -1.4
BOJS Bojanci 153.77 336 *e*PKPdf PKPdf 11 21 32.7 -0.7
BOJS *e*PKPbc PKPbc 11 21 41.3 -0.6
BOJS *e*PKPab PKPab 11 21 56.8 -1.0
HAU Haudompre 153.81 351 *e*PKIKP PKPbc 11 21 40.8 -1.1
comp=Z,5.3nm,0.5s
GRR Gorron 153.84 2 *e*PKIKP PKPbc 11 21 40.0 -2.0
HINF Hinteralfeld 153.92 350 *e*PKIKP PKPbc 11 21 41.0 -1.1
LOR Lormes 154.83 354⇑*i*PKIKP PKPdf 11 21 43.2 +8.3
LPL La Plagne 156.17 349 *e*PKIKP PKPdf 11 21 46.8 +10
LPG La Plagne 156.18 349 *e*PKIKP PKPdf 11 21 47.0 +10
MBDF Montbardon 156.93 348 *e*PKIKP PKPdf 11 21 47.4 +10
ESDC Sonseca Array 162.18 11 PKP PKPdf 11 21 43.8 +0.3
comp=Z,0.3nm,0.4s,baz=352,slow=2.7,SNR=5.8
ESDC PKPab PKPab 11 22 32.7 -1.7
comp=Z,3.7nm,0.9s,baz=344,slow=4.2,SNR=13
DBIC Dimbokro 163.75 161 PKP PKPdf 11 21 44.1 -0.8
comp=Z,5.3nm,1.1s,baz=16,slow=4.6,SNR=3.2
KEST Kesra 164.42 332 PKPab PKPab 11 22 44.2 -0.1
comp=Z,2.1nm,0.9s,baz=332,slow=5.3,SNR=6.3
MDT Midelt 168.52 22 PKP PKPdf 11 21 48.6 0.0
comp=Z,1.8nm,0.9s,baz=166,slow=2.4,SNR=4.9
MDT PKPab PKPab 11 23 02.2 -0.2
comp=Z,4.6nm,0.9s,baz=342,slow=6.6,SNR=10.0
TORD Torodi Ar. Bea 170.92 188 PKP PKPdf 11 21 49.4 -0.7
comp=Z,2.6nm,0.9s,baz=325,slow=0.5,SNR=12

*IDC **01** 11:04:55.0±0.5, 4640N×15339E, h0km, mb4.5/26, mb1 4.6/27, mb1mx4.6/32, mbtmp4.5/27, ML3.5/1, MS4.6/1, Ms1 4.6/1, ms1mx3.8/41, Error ellipse: s-maj=16.9km s-min=14.5km az=105.0*
*SKHL **01** 11:04:55.9±1.7, 4634N×15367E, h50km±19km, mb5.3/7*
*JMA **01** 11:04:55.8±0.7, 4642N×15377E, h30km, M5.0*
*BJI **01** 11:04:55.3, 4659N×15348E, h12km, mB5.4, mb4.9, Ms5.0, Msz5.0*
*ISCJB **01** 11:04:56.6±0.3, 4630N±004×15345E±005, h22km, mb4.9/102, MS4.8/4, Error ellipse: s-maj=7.6km s-min=2.8km az=109.8*
*NEIC **01** 11:04:56.7±0.3, 4642N×15342E, h10km, mb5.0/43, Error ellipse: s-maj=9.4km s-min=5.7km az=145.0*
*SZGRF **01** 11:04:58.6, 4602N×15421E, h33km, mb5.0, East of Kuril Islands, Russia*
*MOS **01** 11:04:58.3±1.1, 4643N×15339E, h31km, mb5.0/50, Error ellipse: s-maj=8.0km s-min=4.9km az=110.7*

ISC 01 11:04:58.7±0.3,**4639N**±005×**15346E**±005,**h24**km, **h24**km±4.1km:**pP-P, n325,** σ1§**17**/335,**mb4.9**/102,**MS4.8**/4, **34C-12D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08**	**256**	*i* P	**Pn**	**11 05 58.0**	**-1.7**
KUR				AMB	AMB	11 05 59.0	
KUR	200nm,0.4s			AMB	AMB	11 05 59.0	
KUR	150nm,0.4s			AMB	AMB	11 05 59.0	
KUR	1μm,0.4s			*e*S	**Sn**	**11 06 46.0**	**-0.7**
KUR				A		11 06 56.3	
KUR	1μm,0.9s			A		11 06 56.3	
KUR	2μm,0.9s						
KUR	**Kuril'sk**	**4.08**	**256**	⇓*i*PN	**Pn**	**11 05 58.0**	**-1.7**
KUR				*e*S	**Sn**	**11 06 47.0**	**+0.3**
KUR				pmax	pmax		
KUR	comp=N,380nm,0.6s			pmax	pmax		
KUR	comp=E,230nm,0.6s			pmax	pmax		
KUR	comp=Z,1μm,0.6s			smax			
KUR	comp=N,650nm,0.8s			smax			
KUR	comp=E,2μm,0.8s						
SKR	**Severo-Kuril's**	**4.64**	**21**	*e*P	**Pn**	**11 06 02.5**	**-4.9**
SKR				AMB	AMB	11 06 06.1	
SKR	comp=E,80nm,0.5s			AMB	AMB	11 06 06.1	
SKR	comp=E,150nm,0.5s			*e*S	**Sn**	**11 06 53.5**	**-7.0**
SKR				A		11 07 03.0	
SKR	comp=E,280nm,0.7s			A		11 07 03.0	
SKR	comp=E,190nm,0.7s			A		11 07 03.0	
SKR	comp=E,90nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**249**	*e*P	**Pn**	**11 06 25.3**	**+1.1**
YUK				AMB	AMB	11 06 30.0	
YUK	comp=E,110nm,0.4s			AMB	AMB	11 06 30.0	
YUK	comp=E,350nm,0.4s			*e*S	**Sn**	**11 07 31.5**	**+0.9**
YUK				A		11 07 41.6	
YUK	comp=E,620nm,0.5s			A		11 07 41.6	
YUK	comp=E,360nm,0.5s			A		11 07 50.0	
YUK	comp=E,6μm,1.0s						
NEM2	**Nemuro 2**	**6.26**	**244**	P	**Pn**	**11 06 28.0**	**-1.6**
NEM2				*e*S	**Sn**	**11 07 35.7**	**-4.8**
JRA	**Rausu**	**6.39**	**250**	P	**Pn**	**11 06 32.5**	**+1.2**
JNK	**Nakash**	**6.80**	**249**	P	**Pn**	**11 06 37.1**	**0.0**
JAK	**Akkeshi**	**7.11**	**245**	P	**Pn**	**11 06 39.5**	**-1.8**
JAK				*e*S	**Sn**	**11 07 56.9**	**-4.4**
JTKR	**Abashiri--Toko**	**7.17**	**254**	P	**Pn**	**11 06 43.4**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.39**	**278**	⇑*i*P	**Pn**	**11 06 49.2**	**+4.1**
YSS				AMB	AMB	11 06 50.8	
YSS	comp=E,30nm,1.0s			A		11 08 16.0	
YSS	comp=E,30nm,1.0s						
PET	**Petropavlovsk**	**7.44**	**25**	*e*PN	**Pn**	**11 06 47.5**	**+1.7**
JMP	**Maruseppu**	**7.53**	**255**	P	**Pn**	**11 06 48.5**	**+1.5**
JAR	**Ashorobuto**	**7.55**	**249**	P	**Pn**	**11 06 47.5**	**+0.2**
JAR				*e*S	**Sn**	**11 08 12.4**	**+0.2**
JOB	**Onbets**	**7.70**	**247**	P	**Pn**	**11 06 48.5**	**-0.9**
JOB				*e*S	**Sn**	**11 08 11.9**	**-3.9**
JSE	**Soyaes**	**7.75**	**263**	P	**Pn**	**11 06 53.8**	**+3.7**
JKK2	**Kamakawa 2**	**7.99**	**255**	P	**Pn**	**11 06 55.1**	**+1.8**
ASAJ	**Asahikawa**	**8.00**	**257**	Pn	**Pn**	**11 06 55.9**	**+2.4**
	comp=E,3.6nm,0.3s,baz=88,slow=14,SNR=74						
ASAJ	**Asahikawa**	**8.00**	**257**	P	**Pn**	**11 06 55.8**	**+2.3**
ASAJ	**Asahikawa**	**8.00**	**257**	PN	**Pn**	**11 06 55.9**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
UGL	**Uglegorsk**	**8.14**	**293**	*e*PN	**Pn**	**11 06 59.0**	**+3.6**
UGL				S	**Sn**	**11 08 37.0**	**+10**
UGL				pmax	pmax		
	comp=Z,96nm,0.8s						
UGL				smax			
	comp=N,96nm,0.8s						
UGL				smax			
	comp=E,60nm,0.8s						
JCH	**Churui**	**8.15**	**246**	P	**Pn**	**11 06 54.6**	**-0.9**
JCH				*e*S	**Sn**	**11 08 22.3**	**-4.5**
JFR	**Furan**	**8.38**	**251**	P	**Pn**	**11 07 00.2**	**+1.5**
TYV	**Tymovskoe**	**8.44**	**306**	*e*P	**Pn**	**11 07 03.2**	**+3.7**
TYV				AMB	AMB	11 07 15.0	
	comp=E,84nm,1.0s						
TYV				AMB	AMB	11 07 15.0	
	comp=E,147nm,1.0s						
JAB	**Ashibetsu**	**8.48**	**254**	P	**Pn**	**11 07 02.5**	**+2.5**
JEM	**Erimo**	**8.60**	**243**	*e*S	**Sn**	**11 08 32.1**	**-5.8**
ERM	**Erimo**	**8.60**	**243**	*e*PN	**Pn**	**11 07 02.2**	**+0.5**
ERM				pmax	pmax		
	comp=Z,154nm,0.9s						
ERM	**Erimo**	**8.60**	**243**	*e*Pn	**Pn**	**11 07 02.2**	**+0.5**
	comp=Z,154nm,0.9s						
ERM				*e*Sn	**Sn**	**11 08 36.5**	**-1.4**
JBT2	**Biratori 2**	**8.71**	**249**	P	**Pn**	**11 07 03.4**	**+0.2**
JNBK	**Urakawa-nobuka**	**8.71**	**246**	P	**Pn**	**11 07 01.4**	**-1.8**
JNBK				*e*S	**Sn**	**11 08 34.3**	**-6.3**
JHR	**Hokuryu**	**8.72**	**257**	P	**Pn**	**11 07 05.6**	**+2.2**
JNB	**Noboribetsu**	**9.71**	**251**	P	**Pn**	**11 07 16.4**	**-0.6**
JNB				*e*S	**Sn**	**11 09 00.5**	**-4.8**
JKB	**Kayabe**	**10.00**	**248**	P	**Pn**	**11 07 19.5**	**-1.4**
JKB				*e*S	**Sn**	**11 09 04.6**	**-7.8**
JSH	**Shimam**	**10.29**	**253**	P	**Pn**	**11 07 25.9**	**+1.0**
JYM2	**Yakumo 2**	**10.32**	**250**	P	**Pn**	**11 07 24.7**	**-0.5**
JANG	**Nango**	**10.57**	**240**	*e*S	**Sn**	**11 09 16.5**	**-10**
JTM	**Tenmabayashi**	**10.59**	**242**	P	**Pn**	**11 07 27.0**	**-2.0**
JTM				*e*S	**Sn**	**11 09 17.7**	**-9.1**
JTH	**Tanohata**	**10.64**	**237**	P	**Pn**	**11 07 25.7**	**-4.0**
JTH				*e*S	**Sn**	**11 09 15.4**	**-13**
NKL	**Nikolayevsk**	**10.67**	**314**	*e*P	**Pn**	**11 07 26.0**	**-4.1**
NKL				AMB	AMB	11 07 31.8	
	comp=Z,110nm,1.8s						
NKL				AMB	AMB	11 07 31.8	
	comp=Z,190nm,1.8s						
JOSM	**Okushiri--Mats**	**10.92**	**252**	P	**Pn**	**11 07 32.2**	**-1.3**
OFUJ	**Ofunato**	**11.33**	**234**	*e*S	**Sn**	**11 09 33.7**	**-11**
JRG	**Rokugo**	**11.71**	**238**	P	**Pn**	**11 07 41.3**	**-3.1**
JRG				*e*S	**Sn**	**11 09 42.3**	**-12**
TEY	**Ternei**	**11.87**	**270**	*e*P	**Pn**	**11 07 48.0**	**+1.5**
JIO	**Ouri**	**11.95**	**233**	P	**Pn**	**11 07 43.9**	**-3.7**
JIO				*e*S	**Sn**	**11 09 47.9**	**-12**
JYA	**Atsumi**	**12.78**	**237**	P	**Pn**	**11 07 57.1**	**-1.9**
JYA				*e*S	**Sn**	**11 10 13.2**	**-7.3**
MA2	**Magadan**	**13.30**	**354**	*e*PN	**Pn**	**11 08 07.2**	**+1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**14.86**	**289**	*e*P	**Pn**	**11 08 26.3**	**-0.9**
KLR				pmax	pmax		
	comp=E,50nm,1.6s						
KLR				pmax	pmax		
	comp=Z,40nm,1.6s						
MJAR	**Matsushiro Arr**	**15.06**	**235**	Pn	**Pn**	**11 08 26.8**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=28						
MAJO	**Matsushiro**	**15.06**	**235**	*e*P	**Pn**	**11 08 27.2**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,55nm,1.0s						
MAJO	**Matsushiro**	**15.06**	**235**	*e*Pn	**Pn**	**11 08 27.2**	**-2.8**
	comp=Z,55nm,1.0s						
MAT	**Matsushiro**	**15.06**	**235**	P	**Pn**	**11 08 29.5**	**-0.5**
VLA	**Vladivostok**	**15.66**	**266**	*i* P	**Pn**	**11 08 38.1**	**+0.3**
VLA				*e*		11 11 26.9	
VLA				pmax	pmax		
	comp=Z,33nm,1.2s						
SEY	**Seymchan**	**16.59**	**358**	*i* P	**Pn**	**11 08 50.6**	**+0.9**
MDJ	**Mudanjiang**	**16.82**	**273**	P	**Pn**	**11 08 51.8**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,54nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,1μm,9.1s						
CN2	**Changchun**	**19.91**	**273**	*e*P	**Pn**	**11 09 26.2**	**-4.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CLNS	**Chul'man**	**20.44**	**311**	*e*P	**P**	**11 09 36.0**	**+1.7**
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s						
CLNS				pmax	pmax		
	comp=N,16nm,1.2s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**11 09 38.3**	**+0.5**
YAK				pmax	pmax		
	comp=Z,20nm,1.3s						
YAK	**Yakutsk**	**20.75**	**328**	*e*P	**P**	**11 09 37.2**	**-0.6**
	comp=Z,19nm,0.6s						
INCN	**Inchon**	**21.77**	**255**	*e*P	**P**	**11 09 50.1**	**+1.4**
	comp=Z,61nm,1.1s,mb5.0						
SNY	**Shenyang**	**21.87**	**269**	⇓P	**P**	**11 09 50.7**	**+1.0**
SNY				AMB	AMB		
	comp=Z,35nm,1.0s,mb4.7						
BILL	**Bilibino**	**22.69**	**12**	*e*P	**P**	**11 09 56.6**	**-1.9**
BILL				*e*		11 10 29.1	
BILL				pmax	pmax		
	comp=Z,43nm,1.7s,mb4.6						
HIA	**Hailar**	**22.71**	**290**	⇑*e*P	**P**	**11 09 56.4**	**-2.3**
DL2	**Dalian**	**24.46**	**264**	P	**P**	**11 10 16.9**	**+1.1**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
BOD	**Bodaibo**	**26.40**	**310**	*e*P	**P**	**11 10 31.0**	**-2.4**
BOD				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.3						
CIT	**Chita**	**26.42**	**297**	*e*P	**P**	**11 10 32.5**	**-1.1**
BJI	**Beijing**	**27.72**	**270**	*e*P	**P**	**11 10 45.6**	**+0.4**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
BJI				AMB	AMB		
	comp=Z,505nm,4.6s						
BJI	**Beijing**	**27.72**	**270**	*e*P	**P**	**11 10 45.6**	**+0.4**
	comp=Z,16nm,1.0s,mb4.6						
BJT	**Baijiatuau**	**27.73**	**270**	*e*P	**P**	**11 10 45.5**	**+0.2**
BJT				pmax	pmax		
	comp=Z,29nm,0.9s						
BJT	**Baijiatuau**	**27.73**	**270**	*e*P	**P**	**11 10 45.5**	**+0.2**
	comp=Z,28nm,0.9s,mb4.9						
NJ2	**Nanjing**	**30.13**	**254**	*e*P	**P**	**11 11 06.3**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
HHC	**Hu-ho-hao-te**	**30.56**	**275**	*e*P	**P**	**11

COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
COLA College 36.27 38 *eP* **P 11 11 59.5 -0.6**
comp=Z,11nm,1.0s,mb4.7
LZH Lanzhou 38.14 273 *eP* **P 11 12 17.5 +1.5**
LZH AMB AMB
comp=Z,86nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,359nm,4.3s
LZH Lanzhou 38.14 273 *eP* **P 11 12 17.5 +1.5**
comp=Z,86nm,1.1s,mb5.4
LZH pP pP 11 12 47.0 +24
LZH sP sP 11 12 58.5 +32
EGAK Eagle 39.13 38 *eP* **P 11 12 22.9 -1.4**
GTA Gaotai 39.27 280 *eP* **P 11 12 25.5 0.0**
GTA AMB AMB
comp=Z,26nm,1.8s,mb4.7
GTA AMB AMB
comp=Z,510nm,7.6s
GTA LR LR
comp=N,660nm,16.4s,MS4.8
GTA LR LR
comp=E,791nm,15.2s,MS4.8
GTA LR LR
comp=Z,1µm,15.6s,MS4.9
DAWY Dawson 39.97 39 *eP* **P 11 12 31.7 +0.4**
INK Inuvik 41.83 32 P **P 11 12 46.1 -0.5**
comp=Z,3.1nm,0.7s,mb4.0,baz=332,slow=9.2,SNR=13
INK Inuvik 41.83 32 P **P 11 12 46.2 -0.4**
INK pmax pmax
comp=Z,30nm,0.7s
GYA Guiyang 41.88 258⇑ *iP* **P 11 12 48.0 +1.0**
GYA SKS 11 22 32.0
GYA AMB AMB
comp=Z,70nm,1.3s,mb5.1
GYA AMB AMB
comp=Z,1µm,14.1s
NVS Novosibirsk 43.60 308 *eP* **P 11 12 59.0 -2.0**
WMQ Urumqi 45.28 292⇓ *iP* **P 11 13 15.2 +0.7**
WMQ AP pP 11 13 26.0 +4.3
WMQ XP sP 11 13 29.5 +4.9
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,95nm,4.3s
WMQ LR LR
comp=N,1µm,28.0s,MS4.8
WMQ LR LR
comp=E,1µm,29.0s,MS4.8
WMQ LR LR
comp=Z,1µm,32.0s,MS4.7
KMI Kunming 45.42 260⇑P **P 11 13 16.7 +1.2**
KMI AMB AMB
comp=Z,24nm,1.0s,mb5.0
KMI Kunming 45.42 260⇑P **P 11 13 16.7 +1.2**
comp=Z,24nm,1.0s,mb5.0
DLBC Dease Lake 45.67 46 P **P 11 13 18.2 +0.7**
comp=Z,2.3nm,1.1s,mb4.0,baz=243,slow=9.0,SNR=2.8
MKAR Makanchi Array 47.32 298 P **P 11 13 29.6 -0.9**
comp=Z,11nm,0.8s,mb4.8,baz=64,slow=8.2,SNR=58
MKAR PcP PcP 11 15 01.1 -0.1
comp=Z,1.8nm,0.7s,baz=77,slow=3.2,SNR=3.1
MKAR Makanchi Array 47.32 298⇑ *eP* **P 11 13 29.6 -0.9**
KURK Kurchatov 47.77 304 P **P 11 13 32.3 -1.6**
comp=Z,108nm,1.0s,mb5.8,SNR=11
LSA Lhasa 50.54 274 P **P 11 13 57.7 +2.6**
LSA Lhasa 50.54 274 *eP* **P 11 13 58.7 +3.6**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 50.54 274 *eP* **P 11 13 58.7 +3.6**
comp=Z,9.9nm,0.6s,mb4.9
YKA Yellowknife Ar 51.07 37 P **P 11 13 58.4 -0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=294,slow=7.0,SNR=8.4
YKA Yellowknife Ar 51.07 37 P **P 11 13 58.4 -0.7**
VOSK Vostochnaya 51.10 309 *i* P **P 11 13 57.7 -1.7**
BVAR Borovoye Array 51.27 310 P **P 11 13 59.6 -1.1**
comp=Z,3.2nm,0.4s,mb4.6,baz=60,slow=8.8,SNR=24
BVAR PcP PcP 11 15 15.2 -0.3
comp=Z,2.3nm,0.7s,baz=84,slow=4.6,SNR=4.0
BVAR Borovoye Array 51.27 310 P **P 11 13 59.6 -1.1**
BVAR 11 15 15.2
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 51.31 310 *eP* **P 11 13 59.7 -1.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRVK Borovoye 51.31 310 *eP* **P 11 13 59.7 -1.3**
comp=Z,10.0nm,0.8s,mb4.8
ZRNK Zerenda 52.04 310 *i* P **P 11 14 05.0 -1.4**
ZRNK pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZRNK Zerenda 52.04 310 *eP* **P 11 14 04.9 -1.5**
comp=Z,12nm,0.9s,mb4.8
CHTO Chiang Mai 52.27 257 *eP* **P 11 14 09.7 +1.6**
CHTO pmax pmax
comp=Z,42nm,1.5s,mb5.2
CHTO Chiang Mai 52.27 257 *eP* **P 11 14 09.7 +1.6**
comp=Z,42nm,1.5s,mb5.2
ULHL Ulahol 53.34 295 P **P 11 14 15.8 -0.2**
SNR=11
TKM2 Tokmak 2 53.37 297 P **P 11 14 16.7 +0.4**
SNR=7.0
USP Ospenovka 53.86 297 P **P 11 14 19.9 0.0**
SNR=15
KBK Karagaybulak 53.92 297 P **P 11 14 20.8 +0.6**
SNR=7.5
KZA Kyzart 54.05 296 P **P 11 14 23.3 +2.1**
SNR=6.7
AAK Ala-Archa 54.21 297 P **P 11 14 23.5 +1.1**
SNR=9.6
AAK Ala-Archa 54.21 297⇓ *eP* **P 11 14 21.7 -0.7**
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.8
AAK Ala-Archa 54.21 297 *eP* **P 11 14 21.2 -1.2**
comp=Z,12nm,1.0s,mb4.8
EKS2 Erkin-Say 54.64 297 P **P 11 14 26.0 +0.5**
SNR=11
AML Almayashu 54.98 297 P **P 11 14 29.8 +1.8**
SNR=7.8
JIRN Jiri 55.22 275 *eP* **P 11 14 31.5 +1.8**
comp=Z,36nm,0.5s,mb5.7
GUN Gumba 55.27 275 *eP* **P 11 14 31.7 +1.6**
comp=Z,28nm,0.4s,mb5.7
ARU Arti 55.44 318⇓ *iP* **P 11 14 28.8 -2.5**
ARU *e* 11 15 27.9
ARU *e* 11 16 30.2
ARU *e*S **S 11 22 11.7 -3.0**
ARU *e*SS SS 11 25 55.2 -4.3
ARU pmax pmax
comp=Z,15nm,1.3s,mb4.9
ARU Arti 55.44 318 *eP* **P 11 14 29.6 -1.7**
comp=Z,17nm,0.9s,mb5.1
KKN Kakani 55.76 276 *eP* **P 11 14 35.1 +1.5**
comp=Z,104nm,1.0s,mb5.8
PKI Pulchoki 55.81 275 *eP* **P 11 14 35.5 +1.5**
DMN Daman 56.00 276 *eP* **P 11 14 37.1 +1.8**
comp=Z,103nm,0.9s,mb5.9
GKN Gorkha 56.07 276 *eP* **P 11 14 37.3 +1.5**
comp=Z,61nm,0.5s,mb5.9
KK31 Karatay Array 56.38 299 *i* P **P 11 14 37.4 -0.7**
EDM Edmonton 56.39 46 *eP* **P 11 14 37.7 -0.4**
KOLN Koldanda 56.93 277 *eP* **P 11 14 43.3 +1.4**
comp=Z,120nm,1.2s,mb5.8
DAG Danmarks Havn 57.01 358⇑ *iP* **P 11 14 41.9 -0.6**
comp=Z,7.6nm,0.9s,mb4.7
DAG Danmarks Havn 57.01 358⇑ *iP* **P 11 14 41.9 -0.6**
DAG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BOK Bokaro 57.90 272 *eP* **P 11 14 49.6 +0.8**
BOK AMb AMB 11 14 52.4
comp=Z,31nm,1.1s,mb5.3
BOK *i* x x 11 17 17.5
LGTI Lohaghat 58.17 281 *eP* **P 11 14 52.0 +1.3**
ARCES ARCESS Array B 58.27 341 P **P 11 14 50.5 -0.9**
comp=Z,4.1nm,0.9s,mb4.5,baz=44,slow=7.4,SNR=6.4
ARCES ARCESS Array B 58.27 341 P **P 11 14 50.5 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
TMCR Tamitsa 58.77 332 *eP* **P 11 14 51.9 -2.9**
TMCR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
AKTK Aktyubinsk 59.15 312 P **P 11 14 56.6 -0.8**
AKTO Aktyubinsk 59.15 312 P **P 11 14 56.6 -0.8**
comp=Z,3.4nm,0.8s,mb4.4,baz=76,slow=8.0,SNR=7.2
AKTO Aktyubinsk 59.15 312 *i* P **P 11 14 56.8 -0.7**
OHCM Honcut 59.87 63 *eP* **P 11 15 03.3 +0.9**

NDI New Delhi 60.71 282 *eP* **P 11 15 09.6 +1.3**
SUMG Summit 61.04 4 *eP* **P 11 15 09.8 -0.7**
comp=Z,56nm,1.2s,mb5.6
JOF Joensuu 61.76 334 *ep* **P 11 15 13.9 -1.4**
comp=Z,7.4nm,0.7s,mb4.9
JOF Joensuu 61.76 334 *eP* **P 11 15 13.9 -1.4**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
NVAR Mina Array Bea 62.39 62 P **P 11 15 19.4 -0.1**
comp=Z,7.7nm,0.7s,mb3.9,baz=292,slow=9.6,SNR=2.2
NVAR Mina Array Bea 62.39 62 P **P 11 15 19.4 -0.1**
RRI2 Red Ridge 63.40 54 *eP* **P 11 15 26.5 +0.2**
comp=Z,9.9nm,0.9s,mb4.9
REDW Red Top Meadow 63.65 54 *eP* **P 11 15 28.9 +1.0**
comp=Z,18nm,1.4s,mb4.9
VIS Vishakhapatnam 63.73 268 *eP* **P 11 15 29.2 +0.7**
VIS AMb AMB 11 15 31.8
comp=Z,27nm,0.9s,mb5.3
KAF Kangasniemi 63.87 335 *ep* **P 11 15 28.1 -1.3**
baz=36,slow=6.2
AJM Ajmer 63.87 282 *eP* **P 11 15 30.8 +1.4**
AJM AMb AMB 11 15 33.3
comp=Z,28nm,1.1s,mb5.2
BHPL Bhopal 64.10 277 *eP* **P 11 15 31.6 +0.7**
BHPL AMb AMB 11 15 40.2
comp=Z,53nm,1.4s,mb5.4
FINES FINESS Array B 64.47 335 P **P 11 15 32.2 -1.0**
comp=Z,7.4nm,0.5s,mb5.0,baz=36,slow=7.5,SNR=98
FINES FINESS Array B 64.47 335 P **P 11 15 32.3 -1.0**
FINES pmax pmax
comp=Z,7.0nm,0.5s
PDAR Pinedale Array 64.76 54 P **P 11 15 35.1 -0.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=282,slow=2.7,SNR=4.5
MOS Moscow 64.87 326 *eP* **P 11 15 27.7 -8.2**
OBN Obninsk 65.74 326⇑ *eP* **P 11 15 41.4 -0.2**
OBN *i* 11 15 45.9
OBN *e* 11 16 10.6
OBN *e*S S 11 24 24.2 -2.3
OBN pmax pmax
comp=Z,17nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,1µm,15.0s,MS5.2
RSSD Black Hills 66.87 50 *eP* **P 11 15 48.8 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
RSSD Black Hills 66.87 50 *eP* **P 11 15 48.8 0.0**
comp=Z,4.2nm,0.8s,mb4.5
HYB Hyderabad 67.25 272 *i* P **P 11 15 52.5 +1.3**
PV10 Paradox Valley 67.96 57 *eP* **P 11 15 54.7 -1.0**
WRA Warramunga Arr 68.25 199 P **P 11 15 56.6 -0.9**
comp=Z,3.6nm,0.8s,mb4.4,baz=18,slow=6.8,SNR=10
WRA Warramunga Arr 68.25 199 P **P 11 15 56.6 -0.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 68.65 341 P **P 11 15 58.7 -1.3**
comp=Z,9.2nm,0.7s,mb4.8,baz=30,slow=6.5
NB2 NORSAR Subarra 68.65 341 P **P 11 15 58.7 -1.3**
NB2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 68.65 341 P **P 11 15 58.7 -1.3**
comp=Z,9.2nm,0.7s,mb4.8
NOA NORSAR Array B 68.65 341 P **P 11 15 58.7 -1.3**
comp=Z,7.8nm,0.8s,mb4.7,baz=27,slow=6.3,SNR=8.0
NOA NORSAR Array B 68.65 341 P **P 11 15 58.7 -1.3**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA NORSAR Array B 68.65 341 P **P 11 15 58.7 -1.3**
HFS Hagfors 68.88 340 P **P 11 16 00.5 -0.9**
comp=Z,9.2nm,0.6s,mb4.9,baz=39,slow=5.7,SNR=42
HFS Hagfors 68.88 340 P **P 11 16 00.5 -0.9**
HFS pmax pmax
comp=Z,9.0nm,0.6s
FITZ Fitzroy Crossi 68.94 208 P **P 11 16 01.8 0.0**
comp=Z,3.6nm,0.9s,mb4.3,baz=48,slow=11,SNR=3.7
GOF Gofitskoye 70.25 315 *eP* **P 11 16 00.6 -9.3**
KONO Kongsberg 70.25 341 *i* P **P 11 16 11.4 +1.5**
KAD Karad 70.34 275 *eP* **P 11 16 11.4 +1.0**
KAD AMb AMB 11 16 17.2
comp=Z,35nm,1.5s,mb5.1
KIV Kislovodsk 71.22 315 *eP* **P 11 16 13.7 -2.1**
KIV pmax pmax
comp=Z,24nm,1.1s,mb5.0
KIV Kislovodsk 71.22 315 *eP* **P 11 16 13.7 -2.2**
comp=Z,24nm,1.1s,mb5.0
LAZ Ladron 71.79 59 *eP* **P 11 16 20.0 +0.8**
ANMO Albuquerque 71.81 58⇑ *eP* **P 11 16 21.7 +2.3**
ANMO Albuquerque 71.81 58 *eP* **P 11 16 21.1 +1.7**
comp=Z,7.5nm,1.4s,mb4.4
ASAR Alice Springs 71.94 199 P **P 11 16 20.0 -0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=14,slow=4.8,SNR=14
AKASG Malin Array Be 71.98 326 P **P 11 16 19.3 -1.0**
comp=Z,8.5nm,0.5s,mb4.9,baz=34,slow=6.4,SNR=64
AKBB Malin Array Si 71.98 326 *eP* **P 11 16 19.6 -0.8**
GNI Garni 72.95 311 P **P 11 16 27.9 +1.7**
comp=Z,5.1nm,0.5s,mb4.7,baz=74,slow=1.2,SNR=6.3
GNI Garni 72.95 311 *d iP* **P 11 16 26.2 +0.1**
GNI pmax pmax
comp=Z,64nm,2.4s
ANN Anapa 73.11 318 *eP* **P 11 16 26.3 -0.8**
ANN pmax pmax
comp=Z,74nm,1.4s,mb5.4
OJC Ojcow 75.75 331 *eP* **P 11 16 42.1 -0.4**
STHS Stebnicka Huta 75.95 330 *eP* **P 11 16 43.5 -0.1**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS Stebnicka Huta 75.95 330 *eP* **P 11 16 43.5 -0.1**
comp=Z,5.2nm,0.7s,mb4.6
KOLS Kolonicke sedl 76.00 329 *eP* **P 11 16 44.0 +0.1**
BURAR Bucovina Array 76.02 327⇑ *iP* **P 11 16 44.0 0.0**
BURAR Bucovina Array 76.02 327⇑P **P 11 16 44.0 0.0**
NIE Niedzica 76.26 331 *eP* **P 11 16 46.3 +0.9**
CRVS Cervenica-Dubn 76.31 330 *eP* **P 11 16 46.0 +0.4**
OKC Ostrava-Krasne 76.62 332 *eP* **P 11 16 47.5 +0.1**
MSL Mosul 76.67 309 *ex* x 11 16 57.0
UPC Upice 76.71 334 *eP* **P 11 16 47.8 -0.1**
EKA Eskdalemuir Ar 76.75 347 P **P 11 16 48.5 +0.4**
comp=Z,2.2nm,0.5s,mb4.3,baz=25,slow=4.6,SNR=15
EKA Eskdalemuir Ar 76.75 347 P **P 11 16 48.5 +0.4**
EKA pmax pmax
comp=Z,2.0nm,0.5s
DPC Dobruska-Polom 76.75 333 *eP* **P 11 16 48.3 +0.1**
MORC Moravsky Berou 76.87 332⇑ *iP* **P 11 16 49.9 +1.1**
MORC Moravsky Berou 76.87 332⇑P **P 11 16 49.9 +1.1**
VRI Vrincioaia 76.88 325⇑ *iP* **P 11 16 50.4 +1.5**
VRI Vrincioaia 76.88 325 P **P 11 16 50.0 +1.1**
VRI Vrincioaia 76.88 325⇑P **P 11 16 50.4 +1.6**
CLL Collm 76.89 336 *eP* **P 11 16 49.0 +0.1**
CLL pmax pmax
comp=Z,15nm,0.7s,mb5.0
CLL Collm 76.89 336 *eP* **P 11 16 49.0 +0.1**
comp=Z,15nm,0.7s,mb5.0
CLL *i* sP sP 11 16 52.3 -7.1
PLOR Plostina 76.92 325⇑ *iP* **P 11 16 49.9 +0.8**
KECS Kecovo 77.00 330 *eP* **P 11 16 50.2 +0.6**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 77.00 330 *eP* **P 11 16 50.2 +0.6**
BRG Berggiesshubel 77.01 335 *eP* **P 11 16 50.4 +0.8**
comp=Z,8.8nm,1.4s,mb4.5
BRG *e* 11 17 13.4
comp=Z,6.6nm,1.6s
TIRR Tirgusor 77.34 323⇑ *iP* **P 11 16 48.2 -3.3**
TIRR Tirgusor 77.34 323⇑P **P 11 16 48.2 -3.2**
MLR Muntele Rosu 77.50 325 P **P 11 16 52.7 +0.3**
comp=Z,7.3nm,0.5s,mb4.9,baz=42,slow=2.5,SNR=16
MLR Muntele Rosu 77.50 325⇑ *iP* **P 11 16 53.4 +1.1**
MLR Muntele Rosu 77.50 325⇑P **P 11 16 53.4 +1.1**
VYHS Vyhne 77.56 331 *eP* **P 11 16 52.5 -0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
VYHS Vyhne 77.56 331 *eP* **P 11 16 52.5 -0.2**
comp=Z,7.0nm,1.3s,mb4.4
ISR Istrita 77.57 325⇓ *iP* **P 11 16 53.4 +0.7**
ISR Istrita 77.57 325⇓P **P 11 16 53.4 +0.7**
VRAC Vranov 77.58 333 P **P 11 16 51.8 -1.0**
comp=Z,7.0nm,0.7s,mb4.7,baz=35,slow=4.7,SNR=8.6
VRAC Vranov 77.58 333⇑ *iP* **P 11 16 51.6 -1.2**
PRU Pruhonice 77.62 334 *eP* **P 11 16 52.5 -0.5**
DRGR 77.65 328⇑ *iP* **P 11 16 54.0 +0.8**
DRGR 77.65 328⇑P **P 11 16 54.0 +0.8**
PSZ Piszkesteto 77.69 330⇑ *eP* **P 11 16 54.9 +1.5**
VOIR 77.89 326⇑ *iP* **P 11 16 55.5 +1.0**
VOIR 77.89 326⇑P **P 11 16 55.5 +1.0**
WTSB Winterswijk 77.92 340 *eP* **P 11 16 55.2 +0.5**
comp=Z,22nm,0.9s,mb5.1

TREC Trest 77.94 333 *eP* **P 11 16 54.4 -0.4**
SMOL Smolenice 78.01 332 *eP* **P 11 16 55.9 +0.7**
BHD Baghdad 78.20 306 *ex* x 11 16 48.0
BUD Budapest 78.37 330⇓ *eP* **P 11 16 59.2 +2.0**
ZST Bratislava 78.39 332 *eP* **P 11 16 58.0 +0.7**
ZST pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ZST Bratislava 78.39 332 *eP* **P 11 16 58.0 +0.7**
comp=Z,9.8nm,1.1s,mb4.7
KHC Kasperske Hory 78.67 334 *eP* **P 11 16 58.7 -0.1**
GZR Gura Zlata 78.80 327⇑ *iP* **P 11 17 00.2 +0.6**
GZR Gura Zlata 78.80 327 P **P 11 17 00.4 +0.8**
GZR Gura Zlata 78.80 327⇑P **P 11 17 00.2 +0.6**
BRTR Keskin Array B 78.82 317 P **P 11 16 59.8 +0.2**
comp=Z,2.8nm,0.9s,mb4.2,baz=70,slow=3.3,SNR=10
BRTR PP PP 11 19 59.6 +1.5
comp=Z,0.9nm,0.7s,baz=66,slow=4.9,SNR=4.1
BRTR Keskin Array B 78.82 317 P **P 11 16 59.8 +0.2**
BRTR 11 19 59.7
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GRA1 Grafenberg Arr 78.85 336 *eP* **P 11 16 59.9 +0.1**
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.85 336 *eP* **P 11 16 59.9 +0.1**
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.85 336 *eP* **P 11 16 59.9 +0.1**
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRF Grafenberg Arr 78.85 336 *eP* **P 11 16 59.9 +0.1**
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GERES GERESS Array B 78.88 334 P **P 11 16 58.7 -1.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=38,slow=5.0,SNR=15
GERES GERESS Array B 78.88 334 P **P 11 16 58.7 -1.3**
GERES pmax pmax
comp=Z,20nm,0.7s
SOP Sopron 79.02 332⇓ *eP* **P 11 17 02.0 +1.3**
UMR Umm Al-Rimmam 79.02 301 *eP* **P 11 17 01.4 +0.6**
UMR AMb AMB 11 17 04.0
comp=Z,37nm,0.9s,mb5.3
CONA Conrad Observa 79.03 332 *i* P **P 11 17 02.2 +1.4**
comp=Z,6.9nm,0.9s,mb4.6,SNR=8.6
BZS Buzias 79.05 328⇑ *iP* **P 11 17 01.1 +0.2**
BZS Buzias 79.05 328⇑P **P 11 17 01.1 +0.2**
MIB Mutribah 79.06 302 *eP* **P 11 17 01.7 +0.7**
MIB AMb AMB 11 17 05.2
comp=Z,56nm,1.1s,mb5.4
HGN Heimansgroeve 79.24 340 *eP* **P 11 17 00.9 -1.1**
comp=Z,33nm,1.6s,mb5.0
RST Umm Al-Ruwaisa 79.48 302 *eP* **P 11 17 03.0 -0.3**
RST AMb AMB 11 17 06.3
comp=Z,53nm,0.9s,mb5.5
QRN Al-Qurain 79.49 301 *eP* **P 11 17 04.2 +0.9**
QRN AMb AMB 11 17 07.0
comp=Z,34nm,0.5s,mb5.5
NAY Al-Naaiem 79.52 301 *eP* **P 11 17 03.9 +0.4**
NAY AMb AMB 11 17 07.8
comp=Z,24nm,1.0s,mb5.0
RDF Al-Radifah 79.58 301 *eP* **P 11 17 04.8 +1.0**
RDF AMb AMB 11 17 10.4
comp=Z,38nm,0.9s,mb5.3
GIVF Givet 80.12 340 *eP* **P 11 17 05.5 -1.2**
BAIF Baives 80.31 340 *eP* **P 11 17 06.5 -1.2**
comp=Z,56nm,1.5s,mb5.0
BAIF Baives 80.31 340 *eP* **P 11 17 06.5 -1.2**
BAIF pmax pmax
comp=Z,28nm,1.5s,mb5.0
BAIF Baives 80.31 340 *eP* **P 11 17 06.5 -1.2**
comp=Z,28nm,1.5s,mb5.0
PERS Pernice 80.41 332 *eP* **P 11 17 08.9 +0.6**
KBA Koelnbreinsper 80.57 334 *i* P **P 11 17 09.9 +0.7**
comp=Z,40nm,1.1s,mb5.2,SNR=20
KBA Koelnbreinsper 80.57 334 *i* P **P 11 17 09.9 +0.7**
KBA pmax pmax
comp=Z,40nm,1.1s,mb5.3
WTTA Wattenberg 80.92 335 *i* P **P 11 17 11.4 +0.3**
comp=Z,8.2nm,0.7s,mb4.8,SNR=8.0
WTTA Wattenberg 80.92 335 *i* P **P 11 17 11.4 +0.4**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
PDKS Podkum 80.95 332 *eP* **P 11 17 11.7 +0.5**
MOTA Moosalm 81.00 335⇓ *iP* **P 11 17 12.0 +0.5**
comp=Z,16nm,1.2s,mb4.8,SNR=8.4
MOTA Moosalm 81.00 335⇓ *iP* **P 11 17 12.0 +0.5**
MOTA pmax pmax
comp=Z,16nm,1.2s,mb4.8
VTS Vitosha 81.00 325⇑ *iP* **P 11 17 12.8 +1.3**
VTS Vitosha 81.00 325 P **P 11 17 12.3 +0.8**
VTS Vitosha 81.00 325⇑P **P 11 17 12.8 +1.4**
CRES Cresnjev 81.01 332 *eP* **P 11 17 11.3 -0.2**
CDF Champ du Feu 81.08 338 *eP* **P 11 17 10.8 -1.1**
comp=Z,30nm,1.1s,mb4.8
CDF Champ du Feu 81.08 338 *eP* **P 11 17 10.8 -1.1**
CDF pmax pmax
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 81.08 338 *eP* **P 11 17 10.8 -1.1**
comp=Z,15nm,1.1s,mb4.8
MEZF Maizieres J'vi 81.56 339 *eP* **P 11 17 13.4 -1.0**
comp=Z,66nm,1.2s,mb5.2
MEZF Maizieres J'vi 81.56 339 *eP* **P 11 17 13.4 -1.0**
comp=Z,66nm,1.2s,mb5.4
HAU Haudompre 81.69 338 *eP* **P 11 17 13.9 -1.2**
HINF Hinteralfeld 81.74 338 *eP* **P 11 17 14.0 -1.4**
comp=Z,30nm,1.2s,mb4.8
HINF Hinteralfeld 81.74 338 *eP* **P 11 17 14.0 -1.4**
HINF pmax pmax
comp=Z,15nm,1.2s,mb4.8
HINF Hinteralfeld 81.74 338 *eP* **P 11 17 14.0 -1.4**
comp=Z,15nm,1.2s,mb4.8
LDF La Druitiere 82.64 343 *eP* **P 11 17 18.6 -1.5**
comp=Z,95nm,1.5s,mb5.3
LDF La Druitiere 82.64 343 *eP* **P 11 17 18.6 -1.5**
LDF pmax pmax
comp=Z,47nm,1.5s,mb5.3
LDF La Druitiere 82.64 343 *eP* **P 11 17 18.6 -1.5**
comp=Z,47nm,1.5s,mb5.3
GRR Gorron 82.98 343 *eP* **P 11 17 20.7 -1.2**
comp=Z,115nm,1.4s,mb5.4
GRR Gorron 82.98 343 *eP* **P 11 17 20.7 -1.2**
GRR pmax pmax
comp=Z,57nm,1.4s,mb5.4
GRR Gorron 82.98 343 *eP* **P 11 17 20.7 -1.2**
comp=Z,57nm,1.4s,mb5.4
LOR Lormes 83.00 340 *eP* **P 11 17 20.8 -1.2**
comp=Z,31nm,1.0s,mb5.0
LOR Lormes 83.00 340 *eP* **P 11 17 20.8 -1.2**
LOR pmax pmax
comp=Z,16nm,1.0s,mb5.0
LOR Lormes 83.00 340 *eP* **P 11 17 20.8 -1.2**
comp=Z,16nm,1.0s,mb5.0
CABF La Chapelle 83.05 338 *eP* **P 11 17 21.6 -0.6**
comp=Z,64nm,1.5s,mb5.1
CABF La Chapelle 83.05 338 *eP* **P 11 17 21.6 -0.6**
CABF pmax pmax
comp=Z,32nm,1.5s,mb5.1
CABF La Chapelle 83.05 338 *eP* **P 11 17 21.6 -0.6**
comp=Z,32nm,1.5s,mb5.1
ASF Jabal al Asfar 83.11 310 P **P 11 17 23.8 +1.3**
comp=Z,4.4nm,1.0s,mb4.5,baz=245,slow=6.5,SNR=4.3
ASF Jabal al Asfar 83.11 310 P **P 11 17 23.8 +1.3**
ASF pmax pmax
comp=Z,40nm,1.0s
SSF Saint Saulge 83.28 340 *eP* **P 11 17 22.3 -1.1**
AVF Avril sur Loir 83.57 340 *eP* **P 11 17 23.9 -1.0**
SMF Signal de Mont 83.58 339 *eP* **P 11 17 23.9 -1.1**
comp=Z,170nm,1.6s,mb5.6
SMF Signal de Mont 83.58 339 *eP* **P 11 17 23.9 -1.1**
SMF pmax pmax
comp=Z,85nm,1.6s,mb5.6
SMF Signal de Mont 83.58 339 *eP* **P 11 17 23.9 -1.1**
comp=Z,85nm,1.6s,mb5.6
LPL La Plagne 83.90 337 *eP* **P 11 17 26.4 -0.2**
BGF Bois d'Agland 83.91 340 *eP* **P 11 17 25.7 -0.9**
LPG La Plagne 83.91 337 *eP* **P 11 17 26.7 +0.1**
comp=Z,51nm,1.4s,mb5.2
LPG La Plagne 83.91 337 *eP* **P 11 17 26.7 +0.1**
LPG pmax pmax
comp=Z,25nm,1.4s,mb5.2
LPG La Plagne 83.91 337 *eP* **P 11 17 26.7 +0.1**
comp=Z,25nm,1.4s,mb5.2
TCF Toulx Ste Croi 84.31 340 *eP* **P 11 17 27.9 -0.8**
MBDF Montbardon 84.62 337 *eP* **P 11 17 29.3 -0.9**
ORIF Oris-en-Rattie 84.68 338 *eP* **P 11 17 30.3 -0.2**
NWAO Narrogin (SRO) 85.46 210 P **P 11 17 35.9 +1.5**
comp=Z,17nm,1.2s,mb5.1,baz=354,slow=5.0,SNR=3.5

NWAO	**Narrogin (SRO)**	**85.46 210**	P	**P**	**11 17 35.9**	**+1.4**
NWAO			pmax	pmax		
comp=Z,17nm,1.2s

NWAO	**Narrogin (SRO)**	**85.46 210**	P	**P**	**11 17 35.9**	**+1.4**
LMR	**La Mourre**	**85.98 336**	*e*P	**P**	**11 17 36.0**	**-1.0**
comp=Z,77nm,1.4s,mb5.4

LMR	**La Mourre**	**85.98 336**	*e*P	**P**	**11 17 36.0**	**-1.0**
LMR			pmax	pmax		
comp=Z,38nm,1.4s,mb5.4

LMR	**La Mourre**	**85.98 336**	*e*P	**P**	**11 17 36.0**	**-1.0**
comp=Z,38nm,1.4s,mb5.4

KEST	**Kesra**	**92.10 331**	P	**P**	**11 18 07.5**	**+1.5**
comp=Z,1.1nm,0.6s,mb4.3,baz=324,slow=3.5,SNR=5.2

TORD	**Torodi Ar. Bea**	**115.53 329**	PKP	PKPdf	11 23 38.9	+0.2
comp=Z,0.3nm,0.4s,baz=318,slow=4.0,SNR=3.9

TORD			PP	PP	11 24 41.0	+0.4
comp=Z,0.6nm,0.8s,baz=11,slow=5.6,SNR=3.8

TORD	**Torodi Ar. Bea**	**115.53 329**	PKP	PKPdf	11 23 38.9	+0.2
TORD			PP	PP	11 24 41.0	+0.4
PLCA	**Paso Flores**	**147.93 96**	PKPbc	PKPbc	11 24 41.4	-0.6
comp=Z,3.1nm,0.8s,baz=320,slow=4.4,SNR=7.0

PLCA	**Paso Flores**	**147.93 96**	PKP2	PKPbc	11 24 41.4	-0.5
PLCA			pmax	pmax		
comp=Z,3.0nm,0.8s

CPUP	**Villa Florida**	**148.43 61**	PKPbc	PKPbc	11 24 43.0	-0.3
comp=Z,1.0nm,0.4s,baz=344,slow=1.9,SNR=2.8

CPUP	**Villa Florida**	**148.43 61**	PKP2	PKPbc	11 24 43.0	-0.2
CPUP			pmax	pmax		
comp=Z,1.0nm,0.4s

SNAA	**Sanae**	**152.28 196**	PKPbc	PKPbc	11 24 50.3	-2.1
comp=Z,0.5nm,0.5s,baz=184,slow=21,SNR=2.8

SNAA	**Sanae**	**152.28 196**	PKIKP	PKPbc	11 24 50.3	-2.2
SNAA			pmax	pmax		
comp=Z,1.0nm,0.5s

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*ISCJB **01** 11:07:10.3±1.1,35.15N±005×2781E±004,h20km±9km, mb3.5/5, Error ellipse: s-maj=8.0km s-min=5.9km az=153.1*
*CSEM **01** 11:07:10.2±0.3,35.16N×2788E,h20km,MD3.8, Error ellipse: s-maj=7.2km s-min=3.1km az=18.0*
*ISK **01** 11:07:10.5,3509N×2779E,h42km,MD3.6,ML3.6*
*NEIC **01** 11:07:11.8,3524N×2768E,h24km,MD3.8(ATH),After ATH.*
*ATH **01** 11:07:11.3,3522N×2772E,h22km±2km,MD3.8/8*
*IDC **01** 11:07:16.1±3.8,3527N×2773E,h64km±39km, mb3.5/5, mb1 3.5/9,mb1mx3.3/23,mbtmp3.6/9,ML3.5/4,Error ellipse: s-maj=35.3km s-min=21.0km az=145.0*

ISC 01 11:07:10.9±1.0,3521N±005×2778E±004,h9km±7km,n44, σ1♀09/52,mb3.5/5,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.61**	**304**	*e*PN	**Pg**	**11 07 22.3**	**-0.4**
KARP				*e*SN	**Sg**	**11 07 30.6**	**-0.1**
KARP	**Karpathos**	**0.61**	**304**	*e*Pn	**Pg**	**11 07 21.8**	**-0.9**
KARP				*e*Sn	**Sg**	**11 07 30.6**	**-0.1**
ARG	**Arkhangelos**	**1.05**	**15**	*e*PN	**Pb**	**11 07 31.1**	**-0.1**
ARG				*e*SN	**Sn**	**11 07 46.4**	**0.0**
ARG	**Arkhangelos**	**1.05**	**15**	*e*Pb	**Pb**	**11 07 31.1**	**-0.1**
ARG				*e*Sn	**Sn**	**11 07 47.5**	**+1.1**
DAT	**Datca**	**1.53**	**354**	PN	**Pn**	**11 07 38.2**	**-0.1**
DAT				SN	**Sn**	**11 07 58.0**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.71**	**24**	PN	**Pn**	**11 07 40.9**	**+0.1**
XRY	**Khrisi**	**1.74**	**260**	*e*PN	**Pn**	**11 07 42.0**	**+0.7**
XRY	**Khrisi**	**1.74**	**260**	*e*Pn	**Pn**	**11 07 42.5**	**+1.2**
NPS	**Neapolis**	**1.78**	**272**	*e*PN	**Pn**	**11 07 42.0**	**+0.3**
NPS	**Neapolis**	**1.78**	**272**	*e*Pn	**Pn**	**11 07 43.0**	**+1.3**
AKAS	**Kas**	**1.80**	**55**	*i* P	**Pn**	**11 07 42.9**	**+0.7**
BDRM	**Kayabasi**	**1.88**	**352**	*i* P	**Pn**	**11 07 42.5**	**-0.6**
BODT	**Bodrum**	**1.89**	**349**	PN	**Pn**	**11 07 42.8**	**-0.5**
BODT				SN	**Sn**	**11 08 06.2**	**-1.1**
MLSB	**Milas**	**2.08**	**360**	*e*PN	**Pn**	**11 07 45.9**	**-0.1**
AYDN	**Tasoluk**	**2.45**	**2**	*i* P	**Pn**	**11 07 51.3**	**+0.3**
SMG	**Samos**	**2.61**	**343**	*e*PN	**Pn**	**11 07 53.8**	**+0.6**
SMG	**Samos**	**2.61**	**343**	*e*Pn	**Pn**	**11 07 53.0**	**-0.2**
DENT	**Denizli**	**2.74**	**21**	*e*PN	**Pn**	**11 07 55.0**	**+0.1**
VAM	**Vamos**	**2.94**	**275**	*e*PB	**Pn**	**11 07 59.8**	**+2.1**
VAM	**Vamos**	**2.94**	**275**	*e*Pb	**Pn**	**11 07 59.4**	**+1.7**
IZM	**Izmir**	**3.21**	**353**	*e*PN	**Pn**	**11 08 01.9**	**+0.4**
TKTP	**Tekketepe**	**3.49**	**35**	*i* P	**Pg**	**11 08 17.5**	**-0.2**
KYTH	**Kithira**	**4.01**	**287**	*e*PN	**Pn**	**11 08 13.5**	**+1.1**
HDMB	**Hadim**	**4.20**	**64**	*e*PN	**Pn**	**11 08 14.3**	**-0.7**
VLI	**Veliai**	**4.21**	**292**	*e*PN	**Pn**	**11 08 16.0**	**+0.8**
VLI	**Veliai**	**4.21**	**292**	*e*Pn	**Pn**	**11 08 15.0**	**-0.2**
ERMK	**Ermenek**	**4.40**	**70**	*i* P	**Pn**	**11 08 20.4**	**+2.5**
ERMK				*i* S	**Sn**	**11 09 14.3**	**+5.0**
KONT	**Konya--Tatoy**	**4.59**	**52**	*e*PN	**Pn**	**11 08 20.7**	**+0.3**
IKL	**Isikli**	**4.91**	**76**	*e*PN	**Pn**	**11 08 24.4**	**-0.5**
ULDT	**Uludag**	**5.04**	**12**	*i* P	**Pb**	**11 08 37.4**	**-1.9**
MERS	**Mersin**	**5.71**	**71**	*e*PN	**Pn**	**11 08 35.9**	**+0.1**
BRTR	**Keskin Array B**	**6.48**	**44**	P	**Pn**	**11 08 47.3**	**+0.9**
2.0nm,0.3s,baz=222,slow=13,SNR=4.3

BRTR				S	**Sn**	**11 10 02.5**	**+1.9**
0.1nm,0.3s,baz=210,slow=22,SNR=7.3

MLR	**Muntele Rosu**	**10.37**	**353**	P	**Pn**	**11 09 41.1**	**+1.4**
0.2nm,0.3s,baz=136,slow=11,SNR=3.8

VYHS	**Vyhne**	**14.84**	**336**	*e*P	**Pn**	**11 10 45.7**	**+4.9**
AKASG	**Malin Array Be**	**15.52**	**3**	P	**Pn**	**11 10 51.2**	**+1.3**
0.6nm,0.3s,baz=198,slow=11,SNR=4.5

AKASG	**Malin Array Be**	**15.52**	**3**	P	**Pn**	**11 10 51.2**	**+1.3**
GERES	**GERESS Array B**	**17.14**	**327**	P	**Pn**	**11 11 12.0**	**+1.5**
0.1nm,0.3s,baz=143,slow=14,SNR=3.9

ESDC	**Sonseca Array**	**25.52**	**290**	P	**P**	**11 12 38.0**	**-1.7**
0.5nm,0.6s,mb3.2,baz=83,slow=9.6,SNR=5.7

FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**11 12 44.5**	**-2.0**
1.3nm,0.8s,mb3.5,baz=161,slow=14,SNR=3.7

HFS	**Hagfors**	**26.57**	**344**	P	**P**	**11 12 46.4**	**-2.8**
1.1nm,0.7s,mb3.5,baz=145,slow=11,SNR=6.1

AKTK	**Aktyubinsk**	**26.66**	**46**	P	**P**	**11 12 49.1**	**-0.9**
AKTO	**Aktyubinsk**	**26.66**	**46**	P	**P**	**11 12 49.1**	**-0.9**
1.1nm,0.5s,mb3.6,baz=225,slow=8.6,SNR=3.6

TORD	**Torodi Ar. Bea**	**32.20**	**233**	P	**P**	**11 13 38.4**	**-0.8**
0.7nm,0.6s,mb3.7,baz=41,slow=8.9,SNR=3.2

HYB	**Hyderabad**	**48.30**	**98**	*e*P	**P**	**11 15 50.0**	**-2.4**

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*IDC **01** 11:18:07.7±1.1,4643N×15331E,h0km,mb4.0/11, mb1 4.1/11,mb1mx3.9/21,mbtmp4.0/11,Error ellipse: s-maj=29.7km s-min=25.6km az=154.0*
*ISCJB **01** 11:18:08.1±1.0,466N±02×1535E±02,h10km,mb4.0/11, Error ellipse: s-maj=25.0km s-min=13.7km az=109.2*
*NEIC **01** 11:18:09.3±0.7,4643N×15332E,h10km,mb4.3/1,Error ellipse: s-maj=18.8km s-min=15.0km az=159.0*
*MOS **01** 11:18:11.3±1.4,4664N×15347E,h32km,mb4.3/10,Error ellipse: s-maj=26.7km s-min=15.3km az=84.2*

ISC 01 11:18:15.0±4.3,470N±03×1533E±02,h29km±29km,n27, σ0♀70/27,mb4.0/11,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.11**	**26**	*e*PN	**Pn**	**11 19 15.5**	**-0.4**
ASAJ	**Asahikawa**	**8.05**	**253**	Pn	**Pn**	**11 20 10.3**	**+0.3**
0.3nm,0.3s,baz=88,slow=18,SNR=3.8

INK	**Inuvik**	**41.36**	**33**	P	**P**	**11 25 59.7**	**+1.3**
0.9nm,0.7s,mb3.5,baz=278,slow=4.4,SNR=4.7

INK	**Inuvik**	**41.36**	**33**	P	**P**	**11 25 59.7**	**+1.3**
INK			pmax	pmax		
comp=Z,1.0nm,0.7s

INK	**Inuvik**	**41.36**	**33**	P	**P**	**11 25 59.7**	**+1.3**
MKAR	**Makanchi Array**	**46.94**	**297**	P	**P**	**11 26 42.6**	**-0.5**
comp=Z,1.1nm,0.6s,mb3.9,baz=66,slow=9.4,SNR=7.4

MKAR	**Makanchi Array**	**46.94**	**297**	P	**P**	**11 26 42.6**	**-0.5**
MKAR			pmax	pmax		
comp=Z,1.0nm,0.6s

YKA	**Yellowknife Ar**	**50.63**	**37**	P	**P**	**11 27 11.9**	**+0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=296,slow=7.1,SNR=6.3

YKA	**Yellowknife Ar**	**50.63**	**37**	P	**P**	**11 27 11.9**	**+0.4**
YKA			pmax	pmax		
comp=Z,2.0nm,0.6s

BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**11 27 12.4**	**-0.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=58,slow=7.1,SNR=5.3

BVAR	**Borovoye Array**	**50.79**	**309**	P	**P**	**11 27 12.4**	**-0.3**
BVAR			pmax	pmax		
comp=Z,1.0nm,0.4s

FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**11 28 45.1**	**+0.2**
comp=Z,1.7nm,0.4s,mb4.4,baz=44,slow=7.1,SNR=34

FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**11 28 45.1**	**+0.2**
FINES			pmax	pmax		
comp=Z,2.0nm,0.4s

PDAR	**Pinedale Array**	**64.48**	**54**	P	**P**	**11 28 47.9**	**-1.1**
comp=Z,0.5nm,0.8s,mb3.6,baz=336,slow=3.3,SNR=4.2

NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**11 29 12.2**	**+0.6**
comp=Z,1.4nm,0.6s,mb4.2,baz=27,slow=6.5

NB2	**NORSAR Subarra**	**68.02**	**341**	P	**P**	**11 29 12.2**	**+0.6**
NB2			pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0

NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**11 29 11.9**	**+0.2**
comp=Z,1.6nm,0.6s,mb4.3,baz=28,slow=6.5,SNR=10.0

NOA	**NORSAR Array B**	**68.02**	**341**	P	**P**	**11 29 11.9**	**+0.3**
NOA			pmax	pmax		
comp=Z,2.0nm,0.6s

HFS	**Hagfors**	**68.25**	**340**	P	**P**	**11 29 13.2**	**0.0**
comp=Z,2.2nm,0.4s,mb4.5,baz=58,slow=5.6,SNR=25

HFS	**Hagfors**	**68.25**	**340**	P	**P**	**11 29 13.2**	**+0.1**
HFS			pmax	pmax		
comp=Z,2.0nm,0.4s

AKASG	**Malin Array Be**	**71.40**	**326**	P	**P**	**11 29 32.0**	**-0.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=32,slow=5.5,SNR=11

AKASG	**Malin Array Be**	**71.40**	**326**	P	**P**	**11 29 32.0**	**-0.5**
AKASG			pmax	pmax		
comp=Z,2.0nm,0.5s

ASAR	**Alice Springs**	**72.50**	**199**	P	**P**	**11 29 33.0**	**-6.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=13,slow=6.0,SNR=5.7

ASAR	**Alice Springs**	**72.50**	**199**	P	**P**	**11 29 33.0**	**-6.1**
ASAR			pmax	pmax		
comp=Z,1.0nm,0.8s

CLL	**Collm**	**76.28**	**336**	*i* P	**P**	**11 30 02.2**	**+1.2**
GERES	**GERESS Array B**	**78.28**	**334**	P	**P**	**11 30 11.2**	**-1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=24,slow=4.5,SNR=5.3

GERES	**GERESS Array B**	**78.28**	**334**	P	**P**	**11 30 11.2**	**-1.0**
GERES			pmax	pmax		
comp=Z,1.0nm,0.7s

JMA 01 11:35:39.3,3207N×12925E,h12km±2km,M4.0,4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.56**	**134**	⇑P	Pg	11 35 49.8	-0.4
JSJ				S	Sg	11 35 57.7	+0.2
JFU	**Fukue jima 2**	**0.72**	**324**	⇑P	Pg	11 35 53.4	+0.1
JFU				S	Sg	11 36 03.2	+0.5
NGSJ	**Nagasakinomoza**	**0.73**	**39**	⇓P	Pg	11 35 53.2	-0.2
NGSJ				S	Sg	11 36 03.6	+0.6
JHD	**Hondo**	**0.85**	**62**	⇓P	Pg	11 35 55.1	-0.6
JHD				S	Sg	11 36 07.0	+0.2
JZO	**Okuchi**	**1.15**	**86**	⇑P	Pb	11 36 00.4	-0.6
JSU	**Suzuyama**	**1.17**	**118**	⇑P	Pb	11 36 00.6	-0.8
JSU				*e*S	Sb	11 36 16.6	0.0

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*IDC **01** 11:37:05.7±1.7,4642N×15375E,h0km,mb3.9/5, mb1 3.9/6,mb1mx3.7/19,mbtmp3.9/6,ML2.7/1,MS3.4/1, Ms1 3.4/1,ms1mx3.1/33,Error ellipse: s-maj=51.3km s-min=29.6km az=93.0*
*ISCJB **01** 11:37:09.5±1.5,464N±02×1535E±03,h33km,mb3.8/5, Error ellipse: s-maj=34.6km s-min=23.3km az=78.5*
*NEIC **01** 11:37:09.4±1.2,4636N×15282E,h10km,mb4.0/1,Error ellipse: s-maj=41.7km s-min=28.5km az=89.0*

ISC 01 11:37:11.1±1.5,464N±02×1536E±03,h35km,n9,σ0♀12/9, mb3.8/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.11**	**257**	Pn	**Pn**	**11 39 06.3**	**+0.1**
0.1nm,0.3s,baz=60,slow=20,SNR=2.1

ASAJ				LR	LR	11 42 10.2
comp=Z,266nm,18.7s,baz=171,slow=37

MKAR	**Makanchi Array**	**47.39**	**298**	P	**P**	**11 45 41.6**	**-0.2**
1.2nm,0.8s,mb3.9,baz=64,slow=8.2,SNR=7.8

FINES	**FINESS Array B**	**64.47**	**335**	P	**P**	**11 47 44.0**	**-0.1**
1.3nm,0.6s,mb4.1,baz=38,slow=9.6,SNR=8.2

FINES	**FINESS Array B**	**64.47**	**335**	P	**P**	**11 47 44.0**	**-0.1**
NB2	**NORSAR Subarra**	**68.63**	**341**	P	**P**	**11 48 10.8**	**+0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.5

NOA	**NORSAR Array B**	**68.63**	**341**	P	**P**	**11 48 10.6**	**0.0**
comp=Z,1.4nm,0.8s,mb3.9,baz=26,slow=6.3,SNR=5.1

AKASG	**Malin Array Be**	**71.99**	**327**	P	**P**	**11 48 31.3**	**+0.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=34,slow=6.2,SNR=4.8

ASAR	**Alice Springs**	**72.02**	**199**	P	**P**	**11 48 31.4**	**0.0**
comp=Z,0.4nm,0.6s,mb3.5,baz=13,slow=5.4,SNR=7.3

MIV	**Mineville/With**	**80.70**	**32**	*e*P	**P**	**11 49 25.8**	**+5.3**

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*CSEM **01** 12:02:37.9±0.1,3848N×3894E,h20km,MD3.6,Error ellipse: s-maj=3.3km s-min=1.9km az=164.0*
*ISCJB **01** 12:02:38.9±0.4,3848N±004×3896E±004,h28km±5km, Error ellipse: s-maj=6.5km s-min=4.4km az=123.2*
*ISK **01** 12:02:38.2,3847N×3895E,h25km,MD3.6,ML3.7*

ISC 01 12:02:39.0±0.4,3843N±003×3897E±003,h17km±4km,n29, σ0♀96/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.07**	**7**	*i* P	**Pg**	**12 02 41.8**	**-0.4**
MYA	**Malataya**	**0.44**	**257**	*i* PG	**Pg**	**12 02 47.9**	**0.0**
MYA				*i* SG	**Sg**	**12 02 55.0**	**+1.0**
PTK	**Pertek**	**0.57**	**35**	*i* PG	**Pg**	**12 02 49.5**	**-0.7**
PTK				*i* SG	**Sg**	**12 02 58.6**	**+0.7**
URFA	**Urfa**	**0.99**	**187**	PG	**Pg**	**12 02 57.1**	**-1.1**
ATAB	**Bozova**	**1.10**	**210**	*i* P	**Pb**	**12 02 59.5**	**0.0**
ATAB				*i* S	**Sb**	**12 03 15.3**	**+1.9**
DIY	**Diyarbakir**	**1.12**	**118**	PN	**Pn**	**12 02 58.7**	**-1.2**
BINT	**Bingol**	**1.27**	**69**	PN	**Pn**	**12 03 01.0**	**-0.9**
GZT	**Gaziantep**	**1.55**	**227**	*i* P	**Pn**	**12 03 06.5**	**+0.8**
GZT				*i* S	**Sg**	**12 03 28.6**	**-0.2**
KELT	**Kelkit**	**1.73**	**7**	*i* P	**Pb**	**12 03 10.7**	**+0.4**
KELT				*i* S	**Sg**	**12 03 36.3**	**+1.5**
BNGL	**BINGOL**	**1.78**	**72**	*i* P	**Pb**	**12 03 11.2**	**+0.1**
BNGL				*i* S	**Sg**	**12 03 35.8**	**-0.5**
MARD	**Mardin**	**1.81**	**127**	*i* P	**Pn**	**12 03 08.7**	**-0.7**
MARD				*i* S	**Sn**	**12 03 33.3**	**+1.4**
GAZ	**Gaziantep**	**1.88**	**229**	PN	**Pn**	**12 03 10.4**	**+0.1**
KMRS	**Kahramanmaras**	**1.88**	**241**	*e*PN	**Pn**	**12 03 10.0**	**-0.3**
BTMT	**Batman**	**1.99**	**96**	PN	**Pn**	**12 03 10.3**	**-1.6**
SVSK	**Karacayir**	**2.14**	**315**	*e*PN	**Pn**	**12 03 12.9**	**-1.0**
EZM	**Erzurum**	**2.37**	**51**	*e*PN	**Pn**	**12 03 16.2**	**-0.9**
BNN	**Bunyan**	**2.49**	**281**	*e*PN	**Pn**	**12 03 18.1**	**-0.5**
GRSN	**GIRESUNGRSN**	**2.55**	**348**	*i* P	**Pn**	**12 03 22.5**	**+2.9**
GRSN				*i* S	**Sg**	**12 04 01.8**	**+0.8**
KOZT	**Kozan**	**2.66**	**250**	*e*PN	**Pn**	**12 03 20.5**	**-0.6**
TOKT	**Tokat**	**2.67**	**316**	*e*PN	**Pn**	**12 03 19.9**	**-1.2**
COBT	**Iskenderun**	**2.88**	**229**	*i* P	**Pg**	**12 03 33.7**	**-0.5**
SIRT	**Sirnak**	**2.89**	**108**	*e*PN	**Pn**	**12 03 25.2**	**+1.0**
HTY	**Hatay**	**3.23**	**225**	*e*PN	**Pn**	**12 03 28.8**	**0.0**
BCA	**Borcka**	**3.64**	**33**	*e*PN	**Pn**	**12 03 33.6**	**-0.9**
CUKT	**Cukurca**	**3.85**	**106**	*e*PN	**Pn**	**12 03 39.0**	**+1.6**
HKR	**Hakkari**	**3.86**	**101**	*e*PN	**Pn**	**12 03 37.7**	**+0.2**
MSL	**Mosul**	**3.91**	**122**	*ex*	x	12 03 55.5	
MSL				*ex*	x	12 04 42.0	
DIKM	**Dikmen**	**4.30**	**320**	*e*PN	**Pn**	**12 03 42.8**	**-0.8**
SEMD	**Semdili**	**4.52**	**102**	*e*PN	**Pn**	**12 03 48.1**	**+1.5**

IDC 01 12:16:19.4±1.1,5703S×2614W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/16,mbtmp3.6/3,Error ellipse: s-maj=50.9km s-min=35.4km az=79.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**45.62**	**182**	P	P	12 24 41.0	-0.4
0.4nm,0.5s,baz=183,slow=5.7,SNR=4.2

LPAZ	**La Paz**	**51.41**	**305**	P	P	12 25 26.7	+0.6
0.4nm,0.4s,baz=143,slow=5.1,SNR=3.7

TORD	**Torodi Ar. Bea**	**73.63**	**28**	P	P	12 27 55.2	+0.7
0.4nm,0.6s,baz=193,slow=5.9,SNR=2.4

YKA	**Yellowknife Ar**	**137.28**	**317**	PKP	PKPdf	12 35 41.8	-2.8
0.7nm,0.8s,baz=135,slow=2.1,SNR=6.1

INK	**Inuvik**	**146.93**	**319**	PKPbc	PKPbc	12 36 01.0	-2.7
1.8nm,0.7s,baz=82,slow=7.1,SNR=6.9

SONM	**Songino Array**	**150.20**	**87**	PKPbc	PKPbc	12 36 10.1	-2.1
0.8nm,0.7s,baz=238,slow=3.1,SNR=6.0

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*ISCJB **01** 12:26:19.5±1.1,464N±0.1×1538E±02,h10km,mb3.8/7, Error ellipse: s-maj=23.6km s-min=14.3km az=94.6*
*IDC **01** 12:26:20.1±1.5,4645N×15372E,h0km,mb3.8/7, mb1 3.8/8,mb1mx3.6/21,mbtmp3.8/8,ML3.4/1,Error ellipse: s-maj=39.8km s-min=28.9km az=118.0*
*NEIC **01** 12:26:21.3±1.0,4637N×15390E,h10km,Error ellipse: s-maj=21.5km s-min=16.3km az=131.0*
*MOS **01** 12:26:22.3±1.7,4631N×15362E,h33km,mb4.0/6,Error ellipse: s-maj=20.6km s-min=17.6km az=85.2*

ISC 01 12:26:21.1±1.1,464N±01×1538E±02,h10km,n22, σ1♀02/23,mb3.8/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**7.63**	**278**	P	**Pn**	**12 28 14.4**	**+2.1**
YSS				*e*Sg	**Sg**	**12 30 19.4**	**-6.6**
ASAJ	**Asahikawa**	**8.23**	**258**	Pn	**Pn**	**12 28 21.1**	**+0.6**
0.5nm,0.3s,baz=79,slow=26,SNR=7.9

ASAJ	**Asahikawa**	**8.23**	**258**	PN	**Pn**	**12 28 21.1**	**+0.6**
ASAJ			pmax	pmax		
comp=Z,1.0nm,0.3s

ERM	**Erimo**	**8.81**	**244**	*e*PN	**Pn**	**12 28 24.4**	**-4.0**
MA2	**Magadan**	**13.34**	**353**	*e*PN	**Pn**	**12 29 31.7**	**+1.2**
INK	**Inuvik**	**41.71**	**32**	P	**P**	**12 34 09.8**	**-0.2**
comp=Z,0.5nm,0.6s,mb3.3,baz=331,slow=1.7,SNR=2.2

INK	**Inuvik**	**41.71**	**32**	P	**P**	**12 34 09.8**	**-0.2**
INK			pmax	pmax		
comp=Z,1.0nm,0.6s

INK	**Inuvik**	**41.71**	**32**	P	**P**	**12 34 09.8**	**-0.2**
MKAR	**Makanchi Array**	**47.54**	**298**	P	**P**	**12 34 55.8**	**-0.8**
comp=Z,0.6nm,0.6s,mb3.8,baz=64,slow=8.5,SNR=4.6

MKAR	**Makanchi Array**	**47.54**	**298**	P	**P**	**12 34 55.8**	**-0.8**
MKAR			pmax	pmax		
comp=Z,1.0nm,0.6s

AKTK	**Aktyubinsk**	**59.33**	**312**	P	**P**	**12 36 22.7**	**-0.5**
AKTO	**Aktyubinsk**	**59.33**	**312**	P	**P**	**12 36 22.7**	**-0.5**
comp=Z,0.4nm,0.3s,mb4.0,baz=36,slow=8.7,SNR=3.2

FINES	**FINESS Array B**	**64.58**	**335**	P	**P**	**12 36 58.2**	**-0.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=38,slow=9.6,SNR=11

FINES	**FINESS Array B**	**64.58**	**335**	P	**P**	**12 36 58.2**	**-0.3**
FINES			pmax	pmax		
comp=Z,2.0nm,0.6s

FINES	**FINESS Array B**	**64.58**	**335**	P	**P**	**12 36 58.2**	**-0.3**
NB2	**NORSAR Subarra**	**68.73**	**342**	P	**P**	**12 37 24.8**	**-0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=28,slow=6.2

NOA	**NORSAR Array B**	**68.73**	**342**	P	**P**	**12 37 25.3**	**+0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=28,slow=6.1,SNR=5.2

NOA	**NORSAR Array B**	**68.73**	**342**	P	**P**	**12 37 25.3**	**+0.3**
NOA			pmax	pmax		
comp=Z,1.0nm,0.7s

ASAR	**Alice Springs**	**72.01**	**199**	P	**P**	**12 37 45.9**	**+0.8**
comp=Z,0.5nm,0.9

SKR pmax pmax
comp=Z,80nm,0.5s
YUK Yuzh-Kuril'sk 5.76 250 *e*PN **Pn 12 41 38.5 +2.5**
YUK *e*S **Sn 12 42 53.2 +12**
YUK pmax pmax
comp=Z,110nm,0.4s
YUK smax
comp=N,230nm,0.5s
NEM2 Nemuro 2 6.15 245 P **Pn 12 41 40.4 -1.0**
NEM2 *e*S **Sn 12 42 49.0 -1.6**
JRA Rausu 6.29 251 P **Pn 12 41 45.0 +1.8**
JNK Nakash 6.70 250 P **Pn 12 41 46.7 -2.2**
JAK Akkeshi 7.00 245 P **Pn 12 41 52.0 -1.0**
JAK *e*S **Sn 12 43 09.4 -2.0**
JTKR Abashiri--Toko 7.08 255 P **Pn 12 41 55.9 +1.8**
YSS Yuzh-Sakhalins 7.35 279 *e*PN **Pn 12 42 03.0 +5.2**
YSS Yuzh-Sakhalins 7.35 279 *e*Pn **Pn 12 42 02.6 +4.8**
comp=N,11nm,0.7s
JMP Maruseppu 7.43 256 P **Pn 12 42 01.0 +2.0**
JAR Ashorobuto 7.45 250 P **Pn 12 41 57.1 -2.1**
JOB Onbets 7.59 247 *e*S **Sn 12 43 25.2 -0.8**
JKK2 Kamakawa 2 7.89 256 P **Pn 12 42 07.6 +2.3**
ASAJ Asahikawa 7.91 258 Pn **Pn 12 42 08.4 +2.9**
comp=N,1.1nm,0.3s,baz=82,slow=16,SNR=14
ASAJ LR LR 12 45 07.9
comp=N,412nm,18.4s,baz=309,slow=38
ASAJ Asahikawa 7.91 258 PN **Pn 12 42 08.5 +3.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,412nm,18.4s
JCH Churui 8.04 247 P **Pn 12 42 04.6 -2.7**
JCH *e*S **Sn 12 43 32.7 -4.3**
JFR Furan 8.28 252 P **Pn 12 42 12.6 +2.0**
JAB Ashibetsu 8.38 255 P **Pn 12 42 15.0 +3.0**
ERM Erimo 8.48 244 *e*Pn **Pn 12 42 11.4 -2.0**
ERM Sn **Sn 12 43 43.4 -4.5**
JEM Erimo 8.48 244 P **Pn 12 42 14.5 +1.1**
JNBK Urakawa-nobuka 8.60 246 P **Pn 12 42 14.0 -0.9**
JNBK *e*S **Sn 12 43 47.3 -3.4**
JKB Kayabe 9.90 248 P **Pn 12 42 29.9 -2.9**
JRG Rokugo 11.59 238 *e*S **Sn 12 44 55.7 -8.5**
JIO Ouri 11.82 233 *e*S **Sn 12 44 59.7 -10**
KLR Kul'dur 14.84 289 *e*P **Pn 12 43 39.8 -0.5**
MJAR Matsushiro Arr 14.94 235 Pn **Pn 12 43 42.4 +0.9**
comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=7.8
MJAR Matsushiro Arr 14.94 235 Pn **Pn 12 43 42.4 +0.9**
MAJO Matsushiro 14.94 235 *e*P **Pn 12 43 40.8 -0.8**
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 14.94 235 *e*Pn **Pn 12 43 40.8 -0.8**
comp=Z,12nm,0.8s
MAT Matsushiro 14.94 235 P **Pn 12 43 41.1 -0.5**
SEY Seymchan 16.71 358⇑*e*P **Pn 12 44 04.3 -0.2**
MDJ Mudanjiang 16.76 273 P **Pn 12 44 05.8 +0.8**
MDJ AMB AMB
comp=Z,13nm,0.9s
MDJ AMB AMB
comp=Z,576nm,7.8s
MDJ Mudanjiang 16.76 273 *e*P **Pn 12 44 06.3 +1.2**
YAK Yakutsk 20.83 328 *e*P **P 12 44 52.5 +0.9**
BILL Bilibino 22.83 12 *e*P **P 12 45 12.1 -0.8**
BILL *e* 12 45 40.0
BILL pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
BOD Bodaibo 26.44 310 *e*P **P 12 45 41.5 -5.1**
BOD pmax pmax
comp=Z,4.0nm,1.7s,mb3.7
NJ2 Nanjing 30.03 254 *e*P **P 12 46 18.6 0.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
SONM Songino Array 31.67 290 P **P 12 46 32.9 -0.1**
comp=Z,0.7nm,0.5s,mb3.7,baz=77,slow=7.8,SNR=7.0
SONM Songino Array 31.67 290 P **P 12 46 32.9 -0.2**
SONM pmax pmax
comp=Z,1.0nm,0.5s
ZAK Zakamensk 33.05 296 *e*P **P 12 46 43.4 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
COLA College 36.41 38⇓*e*P **P 12 47 12.9 -1.3**
LZH Lanzhou 38.09 273 *e*P **P 12 47 30.5 +2.1**
LZH AP pP 12 47 34.5 -3.7
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
GTA Gaotai 39.23 280 *e*P **P 12 47 40.0 +2.0**
GTA AP pP 12 47 44.0 -3.8
GTA XP sP 12 47 47.7 -4.1
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.3
EGAK Eagle 39.27 38 *e*P **P 12 47 35.8 -2.6**
GYA Guiyang 41.79 258⇓*i*P **P 12 48 00.6 +1.5**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
INK Inuvik 41.97 32 P **P 12 47 59.5 -1.1**
comp=Z,2.4nm,0.7s,mb3.9,baz=297,slow=4.7,SNR=6.5
INK Inuvik 41.97 32 *e*P **P 12 47 58.9 -1.7**
comp=Z,88nm,0.7s,mb5.5
MKAR Makanchi Array 47.33 298 P **P 12 48 42.7 -0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=61,slow=8.5,SNR=19
MKAR Makanchi Array 47.33 298 P **P 12 48 42.7 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 47.33 298 P **P 12 48 42.7 -0.6**
YKA Yellowknife Ar 51.21 37 P **P 12 49 11.1 -1.9**
comp=Z,0.7nm,0.5s,mb3.8,baz=297,slow=7.1,SNR=5.4
BVAR Borovoye Array 51.31 310 P **P 12 49 12.0 -1.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=50,slow=8.2,SNR=7.3
BVAR Borovoye Array 51.31 310 P **P 12 49 12.0 -1.7**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 51.35 310 *e*P **P 12 49 12.7 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 51.35 310 *e*P **P 12 49 12.7 -1.3**
comp=Z,2.2nm,0.6s,mb4.3
ZRNK Zerenda 52.08 310 *e*P **P 12 49 18.2 -1.3**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZRNK Zerenda 52.08 310 *e*P **P 12 49 18.2 -1.3**
comp=Z,3.2nm,0.9s,mb4.2
JIRN Jiri 55.17 275 *e*P **P 12 49 44.3 +2.2**
GUN Gumba 55.23 276 *e*P **P 12 49 44.5 +2.0**
comp=Z,9.9nm,0.5s,mb5.1
ARU Arti 55.49 318 *i*P **P 12 49 42.9 -1.6**
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KKN Kakani 55.71 276 *e*P **P 12 49 48.6 +2.5**
comp=Z,15nm,0.6s,mb5.2
PKI Pulchoki 55.76 276 *e*P **P 12 49 48.3 +1.9**
comp=Z,8.7nm,0.6s,mb4.9
DMN Daman 55.95 276 *e*P **P 12 49 49.9 +2.2**
comp=Z,18nm,0.7s,mb5.2
GKN Gorkha 56.02 276 *e*P **P 12 49 50.2 +1.9**
comp=Z,26nm,0.6s,mb5.4
KOLN Koldanda 56.88 277 *e*P **P 12 49 56.4 +2.0**
comp=Z,20nm,0.8s,mb5.2
AKTK Aktyubinsk 59.19 312 P **P 12 50 09.6 -0.9**
AKTO Aktyubinsk 59.19 312 P **P 12 50 09.6 -0.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=78,slow=6.8,SNR=5.2
AKTO Aktyubinsk 59.19 312 P **P 12 50 09.6 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
SUMG Summit 61.17 4 *e*P **P 12 50 25.1 +1.0**
comp=Z,8.8nm,0.8s,mb4.9
KAF Kangasniemi 63.96 335 *e*p **P 12 50 40.4 -2.3**
comp=Z,7.4nm,0.9s,mb4.7
KAF Kangasniemi 63.96 335 *e*P **P 12 50 40.4 -2.3**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FINES FINESS Array B 64.56 335 P **P 12 50 45.0 -1.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=34,slow=8.4,SNR=31
FINES FINESS Array B 64.56 335 P **P 12 50 45.0 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 64.89 54 P **P 12 50 48.0 -0.8**
comp=Z,0.5nm,0.6s,mb3.7,baz=318,slow=2.5,SNR=5.1
OBN Obninsk 65.81 326⇑*e*P **P 12 50 54.0 -0.8**
OBN pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
OBN MLR MLR
comp=Z,100nm,11.0s,MS4.3
PV10 Paradox Valley 68.08 57 *e*P **P 12 51 10.9 +1.7**
WRA Warramunga Arr 68.11 199 P **P 12 51 08.7 -0.7**
comp=Z,0.8nm,0.8s,mb3.8,baz=19,slow=6.6,SNR=5.0
WRA Warramunga Arr 68.11 199 P **P 12 51 08.7 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 68.75 341 P **P 12 51 12.0 -1.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=28,slow=6.5
NB2 NORSAR Subarra 68.75 341 P **P 12 51 12.0 -1.4**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 68.75 341 P **P 12 51 12.3 -1.0**
comp=Z,3.1nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=16
NOA NORSAR Array B 68.75 341 P **P 12 51 12.4 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 71.27 314 *i*P **P 12 51 30.6 +1.8**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ASAR Alice Springs 71.80 199 P **P 12 51 32.2 +0.2**
comp=Z,2.4nm,1.1s,mb4.0,baz=18,slow=6.7,SNR=7.9
ASAR Alice Springs 71.80 199 P **P 12 51 32.3 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,1.1s
AKASG Malin Array Be 72.05 326 P **P 12 51 32.1 -1.4**
comp=Z,2.6nm,0.5s,mb4.4,baz=34,slow=6.1,SNR=18
AKASG Malin Array Be 72.05 326 *i*P **P 12 51 32.4 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 72.05 326 *e*P **P 12 51 32.3 -1.3**
BURAR Bucovina Array 76.09 327⇑*i*P **P 12 51 56.8 -0.4**
BURAR Bucovina Array 76.09 327⇑P **P 12 51 56.8 -0.3**
MORC Moravsky Berou 76.95 332⇓*i*P **P 12 52 02.3 +0.3**
CLL Collm 76.98 336 *e*P **P 12 52 00.0 -2.2**
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CLL Collm 76.98 336 *e*P **P 12 52 00.0 -2.2**
comp=Z,6.0nm,0.7s,mb4.6
MLR Muntele Rosu 77.57 325⇑*i*P **P 12 52 06.7 +1.2**
DRGR 77.72 328⇑*i*P **P 12 52 05.8 -0.5**
DRGR 77.72 328⇑P **P 12 52 05.8 -0.5**
VOIR 77.97 326⇓*i*P **P 12 52 08.3 +0.6**
VOIR 77.97 326⇓P **P 12 52 08.3 +0.6**
KHC Kasperske Hory 78.76 334 *i*P **P 12 52 12.3 +0.3**
BRTR Keskin Array B 78.87 317 P **P 12 52 13.8 +1.1**
comp=Z,1.2nm,0.8s,mb3.9,baz=74,slow=5.3,SNR=6.0
BRTR Keskin Array B 78.87 317 P **P 12 52 13.8 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
GZR Gura Zlata 78.88 327⇓*i*P **P 12 52 11.1 -1.6**
GZR Gura Zlata 78.88 327⇓P **P 12 52 11.1 -1.6**
GRA1 Grafenberg Arr 78.94 336 *e*P **P 12 52 10.6 -2.4**
comp=Z,38nm,3.0s
GRF Grafenberg Arr 78.94 336 *e*P **P 12 52 10.6 -2.4**
comp=Z,38nm,3.0s
GRF Grafenberg Arr 78.94 336 *e*P **P 12 52 10.6 -2.4**
GRF pmax pmax
comp=Z,38nm,3.0s
GRF Grafenberg Arr 78.94 336 *e*P **P 12 52 10.6 -2.4**
GRF pmax pmax
comp=Z,38nm,3.0s
GERES GERESS Array B 78.97 334 P **P 12 52 12.9 -0.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=35,slow=4.9,SNR=6.9
GERES GERESS Array B 78.97 334 P **P 12 52 12.9 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
MIB Mutribah 79.07 302 *e*P **P 12 52 11.6 -2.1**
MIB AMb AMB 12 52 17.9
comp=Z,15nm,1.1s,mb4.8
BZS Buzias 79.12 328⇓*i*P **P 12 52 13.9 -0.1**
BZS Buzias 79.12 328⇓P **P 12 52 13.9 -0.1**
RST Umm Al-Ruwaisa 79.50 302 *e*P **P 12 52 14.3 -1.8**
RST AMb AMB 12 52 18.0
comp=Z,12nm,1.1s,mb4.7
QRN Al-Qurain 79.50 301 *e*P **P 12 52 13.5 -2.6**
QRN AMb AMB 12 52 15.8
comp=Z,17nm,0.9s,mb5.0
NAY Al-Naaiem 79.54 301 *e*P **P 12 52 14.6 -1.7**
NAY AMb AMB 12 52 20.2
comp=Z,5.6nm,0.9s,mb4.5
RDF Al-Radifah 79.59 301 *e*P **P 12 52 14.0 -2.6**
RDF AMb AMB 12 52 16.8
comp=Z,15nm,1.2s,mb4.8
BAIF Baives 80.41 340 *e*P **P 12 52 22.0 +1.0**
MEZF Maizieres J'vi 81.66 339 *e*P **P 12 52 29.1 +1.4**
comp=Z,14nm,0.8s,mb4.6
MEZF Maizieres J'vi 81.66 339 *e*P **P 12 52 29.1 +1.4**
comp=Z,14nm,0.8s,mb4.9
HAU Haudompre 81.79 338 *e*P **P 12 52 29.4 +1.0**
LOR Lormes 83.10 340 *e*P **P 12 52 36.5 +1.3**
comp=Z,6.2nm,0.8s,mb4.4
LOR Lormes 83.10 340 *e*P **P 12 52 36.5 +1.3**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LOR Lormes 83.10 340 *e*P **P 12 52 36.5 +1.3**
comp=Z,3.1nm,0.8s,mb4.4
SSF Saint Saulge 83.38 340 *e*P **P 12 52 38.7 +2.1**
comp=Z,11nm,0.9s,mb4.6
SSF Saint Saulge 83.38 340 *e*P **P 12 52 38.7 +2.1**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SSF Saint Saulge 83.38 340 *e*P **P 12 52 38.7 +2.1**
comp=Z,5.6nm,0.9s,mb4.6
ROSF Rostrenen 83.60 345 *e*P **P 12 52 39.8 +2.0**
AVF Avril sur Loir 83.67 340 *e*P **P 12 52 39.5 +1.4**
SMF Signal de Mont 83.68 339 *e*P **P 12 52 39.7 +1.5**
BGF Bois d'Agland 84.00 340 *e*P **P 12 52 41.6 +1.8**
comp=Z,14nm,0.8s,mb4.9
BGF Bois d'Agland 84.00 340 *e*P **P 12 52 41.6 +1.8**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BGF Bois d'Agland 84.00 340 *e*P **P 12 52 41.6 +1.8**
comp=Z,7.2nm,0.8s,mb4.8
TCF Toulx Ste Croi 84.41 340 *e*P **P 12 52 43.8 +1.9**
MFF Saint Martin d 84.64 342 *e*P **P 12 52 45.1 +2.0**
ORIF Oris-en-Rattie 84.77 337 *e*P **P 12 52 45.9 +2.2**
comp=Z,5.9nm,0.8s,mb4.5
ORIF Oris-en-Rattie 84.77 337 *e*P **P 12 52 45.9 +2.2**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 84.77 337 *e*P **P 12 52 45.9 +2.2**
comp=Z,3.0nm,0.8s,mb4.5
PLCA Paso Flores 147.98 96 PKPbc PKPbc 12 59 53.0 -1.7
comp=Z,1.5nm,0.8s,baz=315,slow=4.3,SNR=3.3
PLCA Paso Flores 147.98 96 PKP2 PKPbc 12 59 53.0 -1.7
PLCA pmax pmax
comp=Z,2.0nm,0.8s

IDC ***01*** *12:47:30.3±0.8,3909N×7176E,h0km,mb4.0/14,*
mb1 4.2/17,mb1mx4.1/25,mbtmp4.0/17,ML3.8/3,MS4.7/1,
Ms1 4.7/1,ms1mx3.5/38,Error ellipse: s-maj=15.2km
s-min=12.8km az=21.0
BJI ***01*** *12:47:34.8,3938N×7176E,h23km,mB4.5,mb4.2,ML4.0,*
Ms3.7,Msz3.9
MOS ***01*** *12:47:34.9±1.6,3932N×7171E,h33km,mb4.3/21,Error*
ellipse: s-maj=10.7km s-min=6.6km az=97.3
ISCJB ***01*** *12:47:35.6±1.0,3926N±006×7164E±007,h47km±9km,*
mb4.1/22,MS4.3/2,Error ellipse: s-maj=10.3km
s-min=8.0km az=64.8
NEIC ***01*** *12:47:36.2±0.6,3933N×7174E,h35km,mb4.4/7,Error*
ellipse: s-maj=12.3km s-min=9.4km az=165.0
NNC ***01*** *12:47:41.2±3.1,3974N×7150E,h89km±35km,mb3.7,*
mpv3.9,Error ellipse: s-maj=36.2km s-min=9.3km az=22.0
ISC 01 12:47:38.8±1.0,3949N±007×7152E±006,h52km±9km,n98,
σ1§44/108,mb4.1/22,MS4.3/2,13C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.11**	**31**	P	**Pn**	**12 48 27.1**		**+1.8**
SNR=98								
KSH	**Kashi**	**3.44**	**88**	*e*PG	**Pn**	**12 48 32.8**		**+2.8**
KSH				SG	**Sn**	**12 49 14.5**		**+5.0**
KSH				Smax				
comp=N,1μm,1.2s								
KSH				Smax				
comp=E,477nm,0.9s								
UCH	**Uchtor**	**3.55**	**39**	P	**Pn**	**12 48 32.6**		**+1.2**
SNR=72								
EKS2	**Erkin-Say**	**3.59**	**28**	P	**Pn**	**12 48 33.5**		**+1.5**
SNR=9.9								
KK31	**Karatay Array**	**3.69**	**348**	⇓Pn	**Pn**	**12 48 34.5**		**+1.2**
comp=E,38nm,0.5s,baz=170,slow=13,SNR=764								
KK31				⇓Lg		12 49 34.0		
comp=E,645nm,0.8s								
KK31	**Karatay Array**	**3.69**	**348**	*i* PN	**Pn**	**12 48 34.4**		**+1.1**
KK31				pmax	pmax			
comp=Z,117nm,0.6s								
KZA	**Kyzart**	**3.83**	**46**	P	**Pn**	**12 48 35.9**		**+0.6**
SNR=53								
AAK	**Ala-Archa**	**3.86**	**35**	P	**Pn**	**12 48 36.8**		**+1.2**
SNR=15								
AAK	**Ala-Archa**	**3.86**	**35**⇓	*e*PN	**Pn**	**12 48 35.3**		**-0.3**
AAK	**Ala-Archa**	**3.86**	**35**	*e*Pn	**Pn**	**12 48 35.1**		**-0.6**
AAK				*e*Sn	**Sn**	**12 49 25.8**		**+6.1**
FRU	**Bishkek**	**4.07**	**34**	*e*PN	**Pn**	**12 48 40.5**		**+1.9**
FRU				*i*		12 48 54.5		
FRU				*e*S	**Sn**	**12 49 34.0**		**+9.0**
FRU				*i*		12 49 40.5		
FRU				pmax	pmax			
comp=Z,76nm,2.0s								
FRU				smax				
comp=N,440nm,1.2s								
KBK	**Karagaybulak**	**4.08**	**38**	P	**Pn**	**12 48 39.9**		**+1.1**
SNR=36								
CHMS	**Chumysh**	**4.26**	**34**	P	**Pn**	**12 48 42.4**		**+1.2**
SNR=65								
USP	**Ospenovka**	**4.38**	**30**	P	**Pn**	**12 48 43.7**		**+0.9**
SNR=47								
ULHL	**Ulahol**	**4.51**	**51**	P	**Pn**	**12 48 44.0**		**-0.6**
SNR=42								
TKM2	**Tokmak 2**	**4.60**	**41**	P	**Pn**	**12 48 46.1**		**+0.3**
SNR=75								
TKM2	**Tokmak 2**	**4.60**	**41**	⇑Pn	**Pn**	**12 48 45.8**		**0.0**
comp=N,12nm,1.0s								
TKM2				⇓Lg		12 50 03.5		
comp=N,20nm,0.8s								
TKM2	**Tokmak 2**	**4.60**	**41**	*i* PN	**Pn**	**12 48 45.8**		**0.0**
TKM2				pmax	pmax			
comp=Z,64nm,0.6s								
THN	**Thein Dam**	**7.82**	**153**	*e*P	**Pn**	**12 49 25.7**		**-4.3**
THN				*e*S	**Sn**	**12 50 41.6**		**-16**
MK02	**Makanchi Array**	**10.72**	**44**	⇑Pn	**Pn**	**12 50 09.6**		**0.0**
comp=Z,7.7nm,0.8s								
MK02				⇓Lg		12 53 18.6		
comp=Z,12nm,1.0s								
MKAR	**Makanchi Array**	**10.72**	**44**	Pn	**Pn**	**12 50 08.9**		**-0.7**
comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=24								
MKAR				Lg		12 53 02.2		
comp=Z,0.1nm,0.3s,baz=251,slow=23,SNR=2.6								
MKAR	**Makanchi Array**	**10.72**	**44**⇑	*e*P	**Pn**	**12 50 10.0**		**+0.3**
AB31	**Akbulak array**	**12.78**	**324**	⇑Pn	**Pn**	**12 50 36.0**		**-1.8**
comp=Z,3.4nm,0.4s,baz=133,slow=13,SNR=53								
AB31				⇑Sn	**Sn**	**12 52 56.0**		**-2.6**
comp=Z,18nm,0.6s								
VOSK	**Vostochnaya**	**13.24**	**359**	⇑Pn	**Pn**	**12 50 42.1**		**-1.9**
comp=Z,5.6nm,1.1s								
VOSK				⇑Lg		12 54 36.0		
comp=Z,13nm,0.9s								
BVA0	**Borovoye Array**	**13.56**	**357**	⇓Pn	**Pn**	**12 50 47.2**		**-1.1**
comp=Z,0.8nm,0.7s,baz=168,slow=16,SNR=10								
BVA0				⇑Lg		12 54 45.2		
comp=Z,2.6nm,1.0s,baz=164,slow=28,SNR=3.5								
BVAR	**Borovoye Array**	**13.56**	**357**	Pn	**Pn**	**12 50 47.3**		**-1.0**
comp=Z,0.5nm,0.3s,baz=166,slow=10,SNR=11								
BVAR				Sn	**Sn**	**12 53 14.9**		**-2.4**
comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=5.2								
BVAR				Lg		12 54 35.4		
comp=Z,0.3nm,0.3s,baz=166,slow=24,SNR=3.7								
ZRNK	**Zerenda**	**13.57**	**354**	⇑Pn	**Pn**	**12 50 47.1**		**-1.4**
comp=Z,3.7nm,0.6s								
ZRNK				⇑Lg		12 54 46.7		
comp=Z,40nm,1.4s								
ZRNK	**Zerenda**	**13.57**	**354**	*i* P	**Pn**	**12 50 47.1**		**-1.4**
ZRNK				pmax	pmax			
comp=Z,4.0nm,0.6s								
ZRNK	**Zerenda**	**13.57**	**354**	*e*Pn	**Pn**	**12 50 47.1**		**-1.4**
comp=Z,4.8nm,0.6s								
BRVK	**Borovoye**	**13.59**	**357**	*e*P	**Pn**	**12 50 47.2**		**-1.6**
BRVK				pmax	pmax			
comp=Z,8.0nm,0.8s								
BRVK	**Borovoye**	**13.59**	**357**	*e*Pn	**Pn**	**12 50 47.2**		**-1.6**
comp=Z,8.1nm,0.8s								
AKTK	**Aktyubinsk**	**14.50**	**323**	Pn	**Pn**	**12 51 00.3**		**-0.6**
AKTK				Sn	**Sn**	**12 53 39.0**		**-1.3**
AKTO	**Aktyubinsk**	**14.50**	**323**	⇓Pn	**Pn**	**12 50 59.5**		**-1.5**
AKTO				Sn	**Sn**	**12 53 35.3**		**-5.0**
AKTO	**Aktyubinsk**	**14.50**	**323**	Pn	**Pn**	**12 51 00.3**		**-0.6**
comp=Z,0.9nm,0.3s,baz=140,slow=15,SNR=9.6								
AKTO				Sn	**Sn**	**12 53 39.0**		**-1.3**
comp=Z,0.6nm,0.3s,baz=346,slow=21,SNR=6.5								
AKTO	**Aktyubinsk**	**14.50**	**323**	P	**Pn**	**12 51 00.4**		**-0.6**
AKTO						12 53 39.1		
AKTO				pmax	pmax			
comp=Z,1.0nm,0.3s								
AKTO				smax				
comp=N,1.0nm,0.3s								
KOLN	**Koldanda**	**15.41**	**136**	*e*P	**Pn**	**12 51 03.8**		**-9.0**
comp=N,8.3nm,0.5s								
KOLN				*e*S	S	12 53 46.0		-30
GKN	**Gorkha**	**15.80**	**133**	*e*P	**Pn**	**12 51 08.5**		**-9.3**
comp=N,24nm,0.5s								
KKN	**Kakani**	**16.33**	**131**	*e*P	**Pn**	**12 51 14.7**		**-10**
comp=N,19nm,0.5s								
DMN	**Daman**	**16.37**	**132**	*e*P	**Pn**	**12 51 15.1**		**-10**
comp=N,15nm,0.7s								
PKI	**Pulchoki**	**16.57**	**132**	*e*P	**Pn**	**12 51 17.8**		**-10**
comp=N,32nm,0.8s								
GUN	**Gumba**	**16.60**	**130**	*e*P	**Pn**	**12 51 18.4**		**-9.5**
ORR	**Orenburg**	**16.83**	**322**	*e*P	**Pn**	**12 51 33.5**		**+2.7**
ORR				S	**S**	**12 54 33.1**		**-12**
ORR				pmax	pmax			
comp=Z,20nm,1.4s								
NVS	**Novosibirsk**	**17.26**	**23**	*e*P	**Pn**	**12 51 37.0**		**+0.9**
NVS				pmax	pmax			
comp=Z,29nm,1.3s								
NVS				pmax	pmax			
comp=N,24nm,1.2s								
NVS				pmax	pmax			
comp=E,12nm,1.0s								
ARU	**Arti**	**18.98**	**337**⇑	*i*P	**Pn**	**12 51 57.4**		**+0.4**
ARU				*e*S	**S**	**12 55 27.7**		**-0.9**
ARU				pmax	pmax			
comp=Z,7.0nm,0.7s								
ARU	**Arti**	**18.98**	**337**	*e*P	**Pn**	**12 51 57.1**		**0.0**
comp=Z,7.3nm,0.6s								
GNI	**Garni**	**20.56**	**280**	P	**P**	**12 52 16.9**		**+3.8**
GNI				pmax	pmax			
comp=Z,14nm,0.9s								
GNI	**Garni**	**20.56**	**280**	P	**P**	**12 52 16.9**		**+3.9**
comp=Z,14nm,0.9s								
ZEI	**Tsey**	**21.02**	**288**	*e*P	**P**	**12 52 22.3**		**+4.2**
ZEI				*e**PP		12 52 30.4		
ZEI				pmax	pmax			
comp=Z,5.0nm,0.6s,mb4.0								
GTA	**Gaotai**	**21.82**	**81**	*e*P	**P**	**12 52 24.7**		**-1.9**
GTA				AMB	AMB			
comp=Z,11nm,1.0s,mb4.2								
GTA				AMB	AMB			
comp=Z,189nm,8.8s								
GTA				LR	LR			
comp=N,250nm,14.5s,MS4.0								
GTA				LR	LR			
comp=E,302nm,11.8s,MS4.0								
GTA				LR	LR			
comp=Z,268nm,13.3s,MS3.8								
KIV	**Kislovodsk**	**21.92**	**291**	*e*P	**P**	**12 52 27.1**		**-0.6**
KIV				pmax	pmax			
comp=Z,15nm,1.0s,mb4.4								
KIV	**Kislovodsk**	**21.92**	**291**	*e*P	**P**	**12 52 27.6**		**-0.2**
ZAK	**Zakamensk**	**24.79**	**53**	*e*P	**P**	**12 52 54.5**		**-1.3**
SONM	**Songino Array**	**26.39**	**60**	P	**P**	**12 53 08.6**		**-1.6**
comp=Z,1.4nm,0.9s,mb3.5,baz=262,slow=8.6,SNR=9.2								
OBN	**Obninsk**	**28.01**	**316**⇑	*e*P	**P**	**12 53 28.7**		**+3.9**
OBN				*e*		12 54 16.2		
OBN				*e*		12 56 43.0		
OBN				pmax	pmax			
comp=Z,8.0nm,0.6s,mb4.5								
BRTR	**Keskin Array B**	**29.04**	**283**	P	**P**	**12 53 34.6**		**+0.7**
comp=Z,2.5nm,0.9s,mb3.9,baz=93,slow=8.7,SNR=2.5								
BRTR	**Keskin Array B**	**29.04**	**283**	P	**P**	**12 53 34.7**		**+0.7**
BRTR				pmax	pmax			
comp=Z,3.0nm,0.9s								
AKASG	**Malin Array Be**	**31.48**	**305**	P	**P**	**12 53 55.3**		**-0.2**
comp=Z,0.6nm,0.4s,mb3.8,baz=80,slow=8.1,SNR=4.1								
AKASG	**Malin Array Be**	**31.48**	**305**	*i* P	**P**	**12 53 58.5**		**+3.0**
AKASG				pmax	pmax			
comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**35.27**	**324**	P	**P**	**12 54 30.1**		**+1.5**
comp=Z,1.6nm,0.6s,mb4.1,baz=122,slow=11,SNR=10								
FINES	**FINESS Array B**	**35.27**	**324**	*i* P	**P**	**12 54 31.2**		**+2.7**
FINES				pmax	pmax			
comp=Z,2.0nm,0.6s								

WHN	**Wuhan**	**35.91**	**91**	*e*P	**P**	**12 54 38.5**	**+4.5**
ARCES	**ARCESS Array B**	**38.56**	**336**	P	**P**	**12 54 58.0**	**+1.6**
	comp=Z,1.4nm,0.6s,mb3.9,baz=106,slow=7.7,SNR=14						
ARCES	**ARCESS Array B**	**38.56**	**336**	P	**P**	**12 54 58.0**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.56**	**336**	P	**P**	**12 54 58.0**	**+1.6**
GERES	**GERESS Array B**	**41.60**	**303**	P	**P**	**12 55 23.8**	**+2.2**
	comp=Z,0.9nm,0.9s,mb3.4,baz=42,slow=8.1,SNR=4.3						
GERES	**GERESS Array B**	**41.60**	**303**	P	**P**	**12 55 23.8**	**+2.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KHC	**Kasperske Hory**	**41.63**	**303⇑**	*e*P	**P**	**12 55 27.4**	**+5.5**
NB2	**NORSAR Subarra**	**42.27**	**321**	P	**P**	**12 55 30.3**	**+3.2**
	comp=Z,1.1nm,0.6s,mb3.7,baz=91,slow=8.6						
NB2	**NORSAR Subarra**	**42.27**	**321**	P	**P**	**12 55 30.3**	**+3.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	**NORSAR Array B**	**42.27**	**321**	P	**P**	**12 55 28.3**	**+1.2**
	comp=Z,2.6nm,1.0s,mb3.8,baz=92,slow=8.0,SNR=7.1						
NOA	**NORSAR Array B**	**42.27**	**321**	P	**P**	**12 55 28.3**	**+1.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPG	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.5**	**+0.9**
	comp=Z,8.0nm,0.6s,mb4.5						
LPG	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.5**	**+0.9**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LPG	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.5**	**+0.9**
	comp=Z,4.0nm,0.6s,mb4.5						
LPL	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.8**	**+1.2**
	comp=Z,6.3nm,0.6s,mb4.5						
LPL	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.8**	**+1.2**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LPL	**La Plagne**	**46.98**	**300**	*e*P	**P**	**12 56 05.8**	**+1.2**
	comp=Z,3.2nm,0.6s,mb4.4						
MBDF	**Montbardon**	**47.19**	**298**	*e*P	**P**	**12 56 07.8**	**+1.5**
	comp=Z,6.1nm,0.6s,mb4.4						
MBDF	**Montbardon**	**47.19**	**298**	*e*P	**P**	**12 56 07.8**	**+1.5**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MBDF	**Montbardon**	**47.19**	**298**	*e*P	**P**	**12 56 07.8**	**+1.5**
	comp=Z,3.0nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**48.86**	**302**	*e*P	**P**	**12 56 19.8**	**+0.7**
	comp=Z,7.5nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**48.86**	**302**	*e*P	**P**	**12 56 19.8**	**+0.7**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**48.86**	**302**	*e*P	**P**	**12 56 19.8**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**51.53**	**71**	P	**P**	**12 56 37.3**	**-2.0**
	comp=Z,2.4nm,0.9s,mb4.1,baz=299,slow=9.6,SNR=7.2						
MJAR	**Matsushiro Arr**	**51.53**	**71**	P	**P**	**12 56 37.3**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JHJ	**Hachijo jima 2**	**54.20**	**74**	LR	LR	13 21 27.6	
	comp=Z,599nm,18.4s,MS4.7,baz=65,slow=38						
ESDC	**Sonseca Array**	**56.46**	**296**	P	**P**	**12 57 16.2**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=57,slow=7.4,SNR=7.9						
TOA0	**Torodi Ar. Sit**	**66.23**	**268**	*e*P	**P**	**12 58 21.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.23**	**268**	P	**P**	**12 58 21.5**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.5,baz=48,slow=5.0,SNR=23						
INK	**Inuvik**	**70.89**	**10**	P	**P**	**12 58 51.0**	**+0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=9.8,slow=6.9,SNR=8.5						
INK	**Inuvik**	**70.89**	**10**	P	**P**	**12 58 51.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**78.24**	**3**	P	**P**	**12 59 33.4**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=350,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	**78.24**	**3**	*i* P	**P**	**12 59 37.2**	**+4.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**78.24**	**3**	P	**P**	**12 59 33.4**	**+0.5**
WRA	**Warramunga Arr**	**83.24**	**123**	P	**P**	**12 59 57.0**	**-2.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=325,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**83.24**	**123**	P	**P**	**12 59 57.0**	**-2.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**85.64**	**125**	P	**P**	**13 00 08.9**	**-2.9**
	comp=Z,1.0nm,1.0s,mb4.0,baz=314,slow=5.8,SNR=8.0						
ASAR	**Alice Springs**	**85.64**	**125**	P	**P**	**13 00 08.9**	**-2.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

NIED ***01*** *12:53:00,46.30N×153.30E,h35km,Mw4.8 Best double couple: M0=1.52000×10^16 NP1:φs=74.00000°,δ=88.00000°, λ=-99.00000°. NP2:φs=335.00000°,δ=9.00000°,λ=-10.00000°.*
BJI ***01*** *12:53:35.4,46.39N×153.04E,h9km,mB5.0,mb4.8,Ms4.4, Msz4.3*
SKHL ***01*** *12:53:35.1±1.6,45.97N×153.50E,h51km±19km,mb5.0/4, Ms4.2/2*
IDC ***01*** *12:53:35.5±0.6,46.09N×152.89E,h0km,mb4.4/19, mb1 4.5/20,mb1mx4.4/26,mbtmp4.4/20,ML3.4/1,Error ellipse: s-maj=17.4km s-min=15.8km az=159.0*
JMA ***01*** *12:53:36.6±0.8,46.29N×153.28E,h30km,M4.7*
ISCJB ***01*** *12:53:37.3±0.9,45.98N±0.04×153.00E±0.04,h21km±6km, mb4.8/106,MS4.4/11,Error ellipse: s-maj=8.4km s-min=3.4km az=123.2*
NEIC ***01*** *12:53:37.4±0.3,46.03N×153.05E,h10km,mb4.9/51,Error ellipse: s-maj=10.1km s-min=6.0km az=159.0*
MOS ***01*** *12:53:41.7±1.6,46.07N×152.78E,h51km,mb5.0/58,Error ellipse: s-maj=7.6km s-min=5.1km az=105.8*
SZGRF ***01*** *12:53:44.4,46.56N×153.10E,h33km,mb4.9,Kuril Islands, Russia*
ISC 01 12:53:40.5±1.0,46.06N±0.05×153.00E±0.04,h30km±6km, h17km±2.5km:pP-P,n314,σ1.9=26/338,mb4.8/106,MS4.4/11, 28C-14D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.69**	**259**	*e*P	**Pn**	**12 54 34.0**	**-1.5**
KUR				AMB	AMB	12 54 35.0	
	170nm,0.7s						
KUR				AMB	AMB	12 54 35.0	
	100nm,0.7s						
KUR				AMB	AMB	12 54 35.0	
	680nm,0.7s						
KUR				*e*S	**Sn**	**12 55 17.0**	**-1.0**
KUR				A		12 55 39.5	
	370nm,0.8s						
KUR				A		12 55 39.5	
	910nm,0.8s						
KUR				AMS	AMS	12 56 38.0	
	3μm,15.0s						
KUR				AMS	AMS	12 56 38.0	
	2μm,15.0s						
KUR				AMS	AMS	12 56 38.0	
	4μm,15.0s						
KUR	**Kuril'sk**	**3.69**	**259**	*e*PN	**Pn**	**12 54 34.0**	**-1.5**
KUR				*e*S	**Sn**	**12 55 14.0**	**-4.0**
KUR				pmax	pmax		
	comp=Z,680nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=N,360nm,0.5s						
KUR				smax			
	comp=E,380nm,0.5s						
SKR	**Severo-Kuril's**	**5.07**	**23**	*e*P	**Pn**	**12 54 47.0**	**-7.5**
SKR				AMB	AMB	12 54 53.0	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	12 54 53.0	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	12 54 53.0	
	comp=E,90nm,0.5s						
SKR				*e*S	**Sn**	**12 55 42.1**	**-10**
SKR				A		12 55 43.5	
	comp=E,240nm,0.8s						
SKR				A		12 55 43.5	
	comp=E,130nm,0.8s						
SKR				A		12 55 43.5	
	comp=E,120nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.45**	**251**	*e*P	**Pn**	**12 55 00.5**	**+0.9**
YUK				AMB	AMB	12 55 02.0	
	comp=E,150nm,0.5s						
YUK				*e*S	**Sn**	**12 55 59.1**	**-2.2**
YUK				A		12 56 18.0	
	comp=E,2μm,1.0s						
YUK				A		12 56 30.0	
	comp=E,820nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.45**	**251**	PN	**Pn**	**12 55 00.5**	**+0.9**
YUK				*e*S	**Sn**	**12 55 59.1**	**-2.2**
YUK				pmax	pmax		
	comp=Z,150nm,0.5s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=E,820nm,0.7s						
NEM2	**Nemuro 2**	**5.83**	**245**	P	**Pn**	**12 55 03.5**	**-1.4**
NEM2				*e*S	**Sn**	**12 56 08.5**	**-2.2**
JRA	**Rausu**	**5.97**	**252**	P	**Pn**	**12 55 08.1**	**+1.2**
JNK	**Nakash**	**6.39**	**250**	P	**Pn**	**12 55 13.3**	**+0.7**
JNK				*e*S	**Sn**	**12 56 24.9**	**+0.5**
JAK	**Akkeshi**	**6.68**	**246**	P	**Pn**	**12 55 15.0**	**-1.5**
JAK				*e*S	**Sn**	**12 56 29.5**	**-2.1**
JTKR	**Abashiri--Toko**	**6.77**	**255**	P	**Pn**	**12 55 19.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.13**	**281⇑**	*i* P	**Pn**	**12 55 27.0**	**+4.3**
YSS				AMB	AMB	12 55 28.0	
	comp=E,70nm,1.0s						
YSS				AMB	AMB	12 55 28.0	
	comp=E,50nm,1.0s						
YSS				*e*S	**Sn**	**12 56 48.0**	**+5.3**
YSS				AMS	AMS	12 58 14.0	
	comp=E,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.13**	**281⇑**	*i* PN	**Pn**	**12 55 27.0**	**+4.3**
YSS				*e*S	**Sn**	**12 56 48.0**	**+5.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,17.0s						
JMP	**Maruseppu**	**7.13**	**257**	P	**Pn**	**12 55 24.3**	**+1.5**
JAR	**Ashorobuto**	**7.13**	**251**	P	**Pn**	**12 55 23.5**	**+0.7**
JAR				*e*S	**Sn**	**12 56 43.3**	**+0.4**
JOB	**Onbets**	**7.27**	**248**	P	**Pn**	**12 55 25.1**	**+0.4**
JOB				*e*S	**Sn**	**12 56 44.6**	**-1.7**
JSE	**Soyaes**	**7.40**	**265**	P	**Pn**	**12 55 28.7**	**+2.2**
JKK2	**Kamakawa 2**	**7.59**	**257**	P	**Pn**	**12 55 30.9**	**+1.8**
ASAJ	**Asahikawa**	**7.61**	**259**	Pn	**Pn**	**12 55 31.8**	**+2.4**
	comp=E,1.7nm,0.3s,baz=99,slow=16,SNR=35						
ASAJ	**Asahikawa**	**7.61**	**259**	PN	**Pn**	**12 55 31.8**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.72**	**247**	P	**Pn**	**12 55 30.3**	**-0.5**
JCH				*e*S	**Sn**	**12 56 53.5**	**-3.7**
JWK2	**Keihoku**	**7.81**	**269**	P	**Pn**	**12 55 36.7**	**+4.6**
PET	**Petropavlovsk**	**7.88**	**26**	*e*PN	**Pn**	**12 55 36.0**	**+2.9**
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
JFR	**Furan**	**7.97**	**252**	P	**Pn**	**12 55 36.2**	**+1.9**
UGL	**Uglegorsk**	**7.99**	**296**	*e*P	**Pn**	**12 55 38.5**	**+4.0**
JEM	**Erimo**	**8.16**	**244**	P	**Pn**	**12 55 37.8**	**+0.9**
JEM				*e*S	**Sn**	**12 57 06.4**	**-1.7**
ERM	**Erimo**	**8.16**	**244**	*e*Pn	**Pn**	**12 55 37.7**	**+0.8**
	comp=Z,109nm,0.9s						
ERM				*e*Sn	**Sn**	**12 57 04.9**	**-3.1**
JNBK	**Urakawa-nobuka**	**8.28**	**247**	P	**Pn**	**12 55 37.2**	**-1.3**
JNBK				*e*S	**Sn**	**12 57 06.4**	**-4.5**
JBT2	**Biratori 2**	**8.29**	**251**	P	**Pn**	**12 55 39.0**	**+0.3**
JHR	**Hokuryu**	**8.33**	**258**	P	**Pn**	**12 55 41.9**	**+2.6**
TYV	**Tymovskoe**	**8.39**	**309**	*e*P	**Pn**	**12 55 42.8**	**+2.8**
TYV				AMB	AMB	12 55 44.5	
	comp=Z,31nm,1.0s						
TYV				AMB	AMB	12 55 44.5	
	comp=Z,51nm,1.0s						
JNB	**Noboribetsu**	**9.30**	**252**	*e*S	**Sn**	**12 57 34.4**	**-1.7**
JKB	**Kayabe**	**9.58**	**248**	P	**Pn**	**12 55 55.0**	**-1.4**
JKB				*e*S	**Sn**	**12 57 36.8**	**-6.2**
JYM2	**Yakumo 2**	**9.90**	**251**	P	**Pn**	**12 56 00.6**	**-0.2**
JANG	**Nango**	**10.12**	**240**	*e*S	**Sn**	**12 57 47.0**	**-9.3**
JTM	**Tenmabayashi**	**10.15**	**243**	P	**Pn**	**12 56 02.0**	**-2.2**
JTM				*e*S	**Sn**	**12 57 47.9**	**-9.0**
JTH	**Tanohata**	**10.19**	**237**	*e*S	**Sn**	**12 57 48.3**	**-10**
JOSM	**Okushiri--Mats**	**10.51**	**253**	P	**Pn**	**12 56 08.7**	**-0.4**
NKL	**Nikolayevsk**	**10.68**	**316**	*e*P	**Pn**	**12 56 11.3**	**-0.2**
OFUJ	**Ofunato**	**10.88**	**234**	*e*S	**Sn**	**12 58 04.5**	**-10**
JIO	**Ouri**	**11.49**	**233**	*e*S	**Sn**	**12 58 19.2**	**-11**
TEY	**Ternei**	**11.55**	**271**	*e*P	**Pn**	**12 56 26.0**	**+2.7**
MA2	**Magadan**	**13.61**	**355**	*e*P	**Pn**	**12 56 52.5**	**+1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	**Matsushiro Arr**	**14.61**	**235**	Pn	**Pn**	**12 57 02.3**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=31,slow=15,SNR=6.1						
MAJO	**Matsushiro**	**14.61**	**235**	*e*P	**Pn**	**12 57 02.2**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,21nm,0.7s						
MAJO	**Matsushiro**	**14.61**	**235**	*e*Pn	**Pn**	**12 57 02.1**	**-2.9**
	comp=Z,21nm,0.7s						
MAJO				*e*P		12 57 12.4	
MAT	**Matsushiro**	**14.61**	**235**	P	**Pn**	**12 57 05.6**	**+0.5**
KLR	**Kul'dur**	**14.66**	**290**	*e*P	**Pn**	**12 57 04.9**	**-0.9**
KLR				pmax	pmax		
	comp=E,50nm,1.6s						
KLR				pmax	pmax		
	comp=Z,40nm,1.6s						
VLA	**Vladivostok**	**15.32**	**267**	*i* P	**Pn**	**12 57 14.1**	**-0.4**
VLA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**16.51**	**273**	P	**Pn**	**12 57 29.9**	**0.0**
MDJ				AP	pP	12 57 35.0	-5.2
MDJ				XP	sP	12 57 36.8	-7.2
MDJ				S	**Sn**	**13 00 35.0**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,40nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,115nm,5.3s						
MDJ				LR	LR		
	comp=N,102nm,14.1s						
MDJ				LR	LR		
	comp=E,178nm,16.1s						
MDJ				LR	LR		
	comp=Z,315nm,20.1s						
MDJ	**Mudanjiang**	**16.51**	**273**	*e*P	**Pn**	**12 57 30.7**	**+0.8**
	comp=Z,51nm,1.1s						
SEY	**Seymchan**	**16.92**	**359⇑**	*e*P	**Pn**	**12 57 34.5**	**-0.5**
CN2	**Changchun**	**19.60**	**273**	*e*P	**Pn**	**12 58 04.1**	**-3.7**
CN2				*e*AP	pP	12 58 07.1	-7.2
CN2				*e*XP	sP	12 58 10.6	-7.5
CN2				*e*S	**Sn**	**13 01 38.7**	**-8.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
CLNS	**Chul'man**	**20.42**	**312**	*e*P	**P**	**12 58 15.6**	**+0.4**
CLNS				*e*S	**S**	**13 01 50.6**	**-12**
CLNS				*e*		13 02 33.1	
CLNS				pmax	pmax		
	comp=E,34nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,49nm,0.9s						
CLNS				pmax	pmax		
	comp=N,37nm,0.8s						
CLNS				smax			
	comp=N,14nm,0.9s						
CLNS				smax			
	comp=E,7.0nm,0.8s						
CLNS				smax			
	comp=Z,6.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.0						
CLNS				MLR	MLR		
	comp=N,300nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,500nm,13.0s,MS4.1						
YAK	**Yakutsk**	**20.87**	**328**	*e*P	**P**	**12 58 17.9**	**-2.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
INCN	**Inchon**	**21.38**	**256**	P	**P**	**12 58 25.4**	**-0.1**
SNY	**Shenyang**	**21.54**	**269**	||P	**P**	**12 58 27.8**	**+0.5**
SNY				AMB	AMB		
	comp=Z,21nm,0.6s,mb4.7						
SNY				AMB	AMB		
	comp=Z,285nm,12.0s						
SNY				LR	LR		
	comp=N,384nm,16.2s,MS4.0						
SNY				LR	LR		
	comp=E,350nm,15.0s,MS4.0						
SNY				LR	LR		
	comp=Z,647nm,16.2s,MS4.1						
HIA	**Hailar**	**22.52**	**290**	*i* P	**P**	**12 58 35.3**	**-2.5**
BILL	**Bilibino**	**23.09**	**13**	*e*P	**P**	**12 58 40.9**	**-2.8**
BILL				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
CIT	**Chita**	**26.29**	**298**	*e*P	**P**	**12 59 09.6**	**-3.8**
CIT				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
BOD	**Bodaibo**	**26.38**	**311**	*e*P	**P**	**12 59 11.1**	**-3.0**
BOD				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
BJI	**Beijing**	**27.40**	**271**	*e*P	**P**	**12 59 23.6**	**+0.3**
BJI				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,110nm,3.1s						
BJI				LR	LR		
	comp=N,354nm,12.8s,MS4.2						
BJI				LR	LR		
	comp=E,267nm,14.7s,MS4.2						
BJI				LR	LR		
	comp=Z,246nm,19.0s,MS3.8						
NJ2	**Nanjing**	**29.72**	**254**	*e*P	**P**	**12 59 44.8**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
HHC	**Hu-ho-hao-te**	**30.27**	**275**	*e*P	**P**	**12 59 49.0**	**+0.1**
HHC				AP	pP	12 59 53.9	-3.6
HHC				XP	sP	12 59 56.1	-5.1
HHC				PP	PP	13 00 48.7	-8.7
HHC				PCP	PcP	13 02 49.2	+0.3
HHC				S	**S**	**13 04 45.6**	**-1.1**
HHC				XS	sS	13 04 53.1	-8.0
HHC				SS	SS	13 06 24.1	-32
HHC				SCS	ScS	13 10 28.0	+3.1
HHC				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,160nm,4.7s						
HHC				LR	LR		
	comp=N,261nm,10.4s,MS4.4						
HHC				LR	LR		
	comp=E,448nm,12.4s,MS4.4						
HHC				LR	LR		
	comp=Z,447nm,13.5s,MS4.3						
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**12 59 58.3**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.0,baz=74,slow=7.8,SNR=11						
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**12 59 58.3**	**-1.4**
SONM				pmax	pmax		
	comp=Z,20nm,0.7s						
TLY	**Talaya**	**32.43**	**298**	*e*P	**P**	**13 00 07.4**	**-0.5**
TLY				*e*		13 05 20.5	
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
TLY				MLR	MLR		
	comp=Z,367nm,16.0s,MS4.2						
ZAK	**Zakamensk**	**32.91**	**296⇑**	*i* P	**P**	**13 00 11.0**	**-1.0**
WHN	**Wuhan**	**33.69**	**256**	||P	**P**	**13 00 19.5**	**+0.7**
IMA2	**Indian Mountai**	**34.41**	**35**	*e*P	**P**	**13 00 23.1**	**-2.1**
XAN	**Xi'an**	**35.38**	**266**	P	**P**	**13 00 33.6**	**+0.1**
XAN				AP	pP	13 00 39.0	-3.3
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
MCK	**McKinley**	**36.23**	**40**	*e*P	**P**	**13 00 39.7**	**-1.1**
COLA	**College**	**36.73**	**38**	||*e*P	**P**	**13 00 44.3**	**-0.7**
LZH	**Lanzhou**	**37.84**	**273**	*e*P	**P**	**13 00 55.5**	**+1.1**
LZH				AP	pP	13 00 58.5	-4.7
LZH				XP	sP	13 01 01.0	-5.8
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,350nm,6.1s						
LZH				LR	LR		
	comp=N,484nm,15.6s						
LZH				LR	LR		
	comp=Z,589nm,16.6s,MS4.5						
KRAR	**Krasnoyarsk**	**37.94**	**308**	*i* P	**P**	**13 00 53.5**	**-1.8**
GTA	**Gaotai**	**39.01**	**280**	P	**P**	**13 01 05.2**	**+1.0**
GTA				AP	pP	13 01 09.5	-3.6
GTA				XP	sP	13 01 12.7	-4.0
GTA				PP	PP	13 02 39.7	+5.8
GTA				PCP	PcP	13 03 14.7	+0.6
GTA				S	**S**	**13 07 05.5**	**+4.2**
GTA				XS	sS	13 07 13.8	-2.0
GTA				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,53nm,5.3s						
GTA				LR	LR		
	comp=N,168nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=E,219nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=Z,263nm,14.8s,MS4.2						
EGAK	**Eagle**	**39.59**	**38**	*e*P	**P**	**13 01 07.3**	**-1.8**
CD2	**Chengdu**	**40.75**	**266**	P	**P**	**13 01 19.6**	**+0.9**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
GYA	**Guiyang**	**41.49**	**258**	||*i* P	**P**	**13 01 25.7**	**+0.9**
GYA				AP	pP	13 01 29.8	-3.9
GYA				XP	sP	13 01 32.9	-4.4
GYA				PP	PP	13 03 05.3	+4.4
GYA				SCP	ScP	13 07 11.7	+1.7
GYA				S	**S**	**13 07 41.3**	**+2.9**
GYA				SCS	ScS	13 11 26.6	+0.3
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,970nm,4.9s						
GYA				LR	LR		
	comp=N,790nm,17.0s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,17.2s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,16.8s,MS4.8						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**13 01 30.4**	**-0.9**
	comp=Z,7.0nm,0.8s,mb4.3,baz=260,slow=9.8,SNR=12						
INK	**Inuvik**	**42.28**	**32**	P	**P**	**13 01 30.4**	**-0.9**
INK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
INK	**Inuvik**	**42.28**	**32**	*e*P	**P**	**13 01 30.1**	**-1.2**
	comp=Z,535nm,1.2s						
KMI	**Kunming**	**45.04**	**260**	P	**P**	**13 01 54.2**	**+0.7**
KMI				AP	pP	13 01 57.2	-5.2
KMI				XP	sP	13 01 58.6	-7.4
KMI				PP	PP	13 03 40.4	+1.4
KMI				PPP		13 04 20.7	
KMI				S	**S**	**13 08 31.9**	**+1.5**
KMI				SS	SS	13 11 46.5	-6.4
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,324nm,3.9s						
KMI				LR	LR		
	comp=N,521nm,10.5s,MS4.7						
KMI				LR	LR		
	comp=E,328nm,15.4s,MS4.7						
KMI				LR	LR		
	comp=Z,373nm,16.1s,MS4.4						
KMI	**Kunming**	**45.04**	**260**	P	**P**	**13 01 54.2**	**+0.7**
KMI				pP	pP	13 01 57.2	-5.2
KMI				sP	sP	13 01 58.6	-7.4
KMI				PP	PP	13 03 40.4	+1.4

WMQ LR LR
comp=Z,448nm,17.5s,MS4.5
DLBC Dease Lake 46.14 45 P **P 13 02 02.8 +0.6**
comp=Z,4.1nm,0.9s,mb4.4,baz=296,slow=20,SNR=5.8
MKAR Makanchi Array 47.19 298 P **P 13 02 09.2 -1.3**
comp=Z,11nm,0.8s,mb4.8,baz=61,slow=8.8,SNR=61
MKAR Makanchi Array 47.19 298⇑ *eP* **P 13 02 09.6 -0.8**
LSA Lhasa 50.24 274 P **P 13 02 36.7 +2.9**
BVAR Borovoye Array 51.24 310 P **P 13 02 40.1 -1.3**
comp=Z,5.3nm,0.6s,mb4.7,baz=56,slow=8.1,SNR=30
BVAR Borovoye Array 51.24 310 P **P 13 02 40.1 -1.3**
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 51.28 310 *eP* **P 13 02 39.6 -2.1**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 51.28 310 *eP* **P 13 02 39.6 -2.0**
comp=Z,8.0nm,0.6s,mb4.8
YKA Yellowknife Ar 51.53 36 P **P 13 02 42.1 -1.4**
comp=Z,2.2nm,0.6s,mb4.3,baz=296,slow=7.0,SNR=8.0
CHTO Chiang Mai 51.88 257 *eP* **P 13 02 47.0 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHTO Chiang Mai 51.88 257 *eP* **P 13 02 47.0 +0.8**
comp=Z,4.5nm,0.8s,mb4.5
ZRNK Zerenda 52.01 310 *i P* **P 13 02 45.6 -1.6**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 52.01 310 *eP* **P 13 02 45.4 -1.8**
comp=Z,5.3nm,0.6s,mb4.7
SHL Shillong 52.28 269⇑ *iP* **P 13 02 50.9 +1.8**
AAK Ala-Archa 54.08 297 *c iP* **P 13 03 01.1 -1.2**
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AAK Ala-Archa 54.08 297 *eP* **P 13 03 01.0 -1.3**
comp=Z,9.5nm,0.8s,mb4.8
KSH Kashi 54.85 293 *eP* **P 13 03 10.2 +2.3**
KSH *e*AP pP 13 03 15.8 -1.2
KSH *e*XP sP 13 03 18.3 -2.3
KSH *e*PCP PcP 13 04 13.4 +3.5
KSH *e*PP PP 13 05 14.4 +3.5
KSH *e*SCP ScP 13 08 10.4 +4.1
KSH *e*S **S 13 10 49.0 +1.9**
KSH *e*XS sS 13 10 58.5 -3.6
KSH *e*PS 13 11 05.3
KSH *e*SCS ScS 13 12 55.4 +0.4
KSH *e*SS SS 13 14 30.7 +0.1
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=N,579nm,12.8s,MS5.1
KSH LR LR
comp=E,796nm,13.3s,MS5.1
KSH LR LR
comp=Z,391nm,12.4s,MS4.7
JIRN Jiri 54.92 275 *eP* **P 13 03 10.1 +1.6**
GUN Gumba 54.98 275 *eP* **P 13 03 10.3 +1.4**
comp=Z,75nm,1.0s,mb5.7
ARU Arti 55.47 318⇓ *iP* **P 13 03 10.2 -2.3**
ARU *e* 13 04 09.4
ARU *e*S **S 13 10 54.1 -1.4**
ARU *e*SS SS 13 14 39.1 -1.3
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ARU Arti 55.47 318 *eP* **P 13 03 10.4 -2.1**
comp=Z,16nm,1.0s,mb5.0
KKN Kakani 55.48 276 *eP* **P 13 03 14.1 +1.6**
comp=Z,58nm,1.0s,mb5.6
PKI Pulchoki 55.52 275 *eP* **P 13 03 14.0 +1.2**
DMN Daman 55.71 276 *eP* **P 13 03 15.7 +1.5**
comp=Z,70nm,1.0s,mb5.7
GKN Gorkha 55.79 276 *eP* **P 13 03 16.0 +1.3**
comp=Z,87nm,1.0s,mb5.8
KK31 Karatay Array 56.27 299 *i P* **P 13 03 17.7 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KOLN Koldanda 56.65 277 *eP* **P 13 03 22.4 +1.5**
comp=Z,68nm,1.0s,mb5.6
EDM Edmonton 56.85 46 *eP* **P 13 03 20.8 -1.5**
BOK Bokaro 57.59 272 *eP* **P 13 03 28.1 +0.6**
BOK AMb AMB 13 03 30.4
comp=Z,17nm,1.0s,mb5.0
BOK *ex* x 13 07 41.3
NEW Newport 57.66 52 P **P 13 03 27.7 -0.3**
comp=Z,2.9nm,1.0s,mb4.2,baz=300,slow=6.2,SNR=3.8
NEW Newport 57.66 52 P **P 13 03 27.0 -1.0**
APA Apatity 57.94 337⇓ *eP* **P 13 03 29.0 -1.0**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.9
KLP Kalpa 58.00 284 *eP* **P 13 03 31.8 +1.4**
KLP AMb AMB 13 03 33.5
comp=Z,21nm,1.0s,mb5.1
ARCES ARCESS Array B 58.48 341 P **P 13 03 31.6 -2.2**
comp=Z,2.4nm,0.7s,mb4.3,baz=25,slow=5.8,SNR=7.3
ARCES ARCESS Array B 58.48 341 P **P 13 03 31.6 -2.2**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
TMCR Tamitsa 58.91 332 *eP* **P 13 03 33.7 -3.1**
TMCR pmax pmax
comp=Z,12nm,0.9s,mb4.9
AKTK Aktyubinsk 59.13 312 P **P 13 03 36.2 -2.1**
AKTO Aktyubinsk 59.13 312 P **P 13 03 36.2 -2.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=54,slow=4.3,SNR=14
AKTO Aktyubinsk 59.13 312 P **P 13 03 36.2 -2.1**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BMO Blue Mountains 59.53 56 *eP* **P 13 03 40.6 -0.4**
comp=Z,7.9nm,1.6s,mb4.5
KKR Kurukshetra 59.94 283 *eP* **P 13 03 44.4 +0.6**
ORR Orenburg 60.08 315 *eP* **P 13 03 43.8 -1.0**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MSO Missoula 60.25 52 *eP* **P 13 03 45.9 -0.1**
comp=Z,3.7nm,1.0s,mb4.4
NDI New Delhi 60.47 282 *eP* **P 13 03 46.8 -0.7**
AYAN Aya Nagar 60.65 282 *eP* **P 13 03 49.5 +0.8**
AYAN AMb AMB 13 03 51.6
comp=Z,16nm,0.6s,mb5.3
SONA Sohna 60.83 281 *eP* **P 13 03 50.2 +0.3**
SONA AMb AMB 13 03 53.4
comp=Z,19nm,1.5s,mb5.0
AGRA Agra 60.89 280 *eP* **P 13 03 51.3 +1.0**
EGMT Eagleton 61.77 49 *eP* **P 13 03 55.5 -0.8**
comp=Z,14nm,1.2s,mb5.0
KHET Khetri 61.81 282 *eP* **P 13 03 54.9 -1.6**
KHET AMb AMB 13 03 57.4
comp=Z,12nm,1.4s,mb4.8
JOF Joensuu 61.92 334 *ep* **P 13 03 54.8 -2.5**
comp=Z,4.8nm,0.8s,mb4.7
JOF Joensuu 61.92 334 *eP* **P 13 03 54.8 -2.5**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
HLID Hailey 61.97 55 *eP* **P 13 03 57.7 0.0**
comp=Z,5.4nm,1.4s,mb4.5
QLMT Earthquake Lak 62.86 53 *eP* **P 13 04 03.8 +0.1**
AJM Ajmer 63.62 282 *eP* **P 13 04 09.3 +0.6**
BHPL Bhopal 63.82 277 *eP* **P 13 04 10.0 0.0**
BHPL AMb AMB 13 04 12.2
comp=Z,36nm,0.5s,mb5.7
TPAW Teton Pass 63.98 54 *eP* **P 13 04 10.9 -0.1**
comp=Z,7.1nm,1.0s,mb4.7
KAF Kangasniemi 64.04 335 *ep* **P 13 04 09.4 -2.0**
comp=Z,13nm,0.8s,mb5.0,baz=37,slow=6.2
KAF Kangasniemi 64.04 335 *eP* **P 13 04 09.4 -2.0**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.0
REDW Red Top Meadow 64.11 54 *eP* **P 13 04 12.1 +0.2**
comp=Z,13nm,1.3s,mb4.8
FINES FINESS Array B 64.64 335 P **P 13 04 13.9 -1.4**
comp=Z,14nm,0.8s,mb5.0,baz=37,slow=8.0,SNR=52
FINES FINESS Array B 64.64 335 P **P 13 04 13.9 -1.4**
FINES pmax pmax
comp=Z,14nm,0.9s
DUG Dugway 65.01 57 *eP* **P 13 04 17.6 -0.2**
DUG pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
DUG Dugway 65.01 57 *eP* **P 13 04 17.6 -0.1**
comp=Z,10nm,1.4s,mb4.7
BW06 Boulder Array 65.22 54 *eP* **P 13 04 18.3 -0.8**
comp=Z,7.4nm,1.3s,mb4.6
PDAR Pinedale Array 65.22 54 P **P 13 04 18.9 -0.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=318,slow=2.0,SNR=12
OBN Obninsk 65.84 326 *i P* **P 13 04 22.0 -1.1**
OBN *e* 13 06 44.9
OBN *e*SS SS 13 17 16.7 -6.2
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ARUT Antelope Range 66.19 60 *eP* **P 13 04 25.3 -0.1**
RSSD Black Hills 67.33 50 *eP* **P 13 04 32.2 -0.4**
RSSD pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
RSSD Black Hills 67.33 50 *eP* **P 13 04 32.2 -0.4**
comp=Z,7.7nm,1.1s,mb4.7
WRA Warramunga Arr 67.83 199 P **P 13 04 35.3 -0.5**
comp=Z,1.9nm,0.8s,mb4.2,baz=18,slow=6.8,SNR=9.1
WRA Warramunga Arr 67.83 199 P **P 13 04 35.3 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.8s
PV10 Paradox Valley 68.41 57 *eP* **P 13 04 39.5 0.0**
PV01 Paradox Valley 68.85 57 *eP* **P 13 04 41.8 -0.3**
NB2 NORSAR Subarra 68.86 341 P **P 13 04 40.5 -1.7**
comp=Z,10nm,1.1s,mb4.7,baz=27,slow=6.2
NB2 NORSAR Subarra 68.86 341 P **P 13 04 40.5 -1.7**
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NOA NORSAR Array B 68.86 341 P **P 13 04 40.9 -1.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=26,slow=6.2,SNR=19
NOA NORSAR Array B 68.86 341 P **P 13 04 40.9 -1.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 68.86 341 P **P 13 04 40.9 -1.3**
GOF Gofitskoye 70.26 315 *eP* **P 13 04 43.6 -7.3**
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.5
SDCO Great Sand Dun 70.89 55 P **P 13 04 54.7 0.0**
comp=Z,0.8nm,0.8s
KIV Kislovodsk 71.23 314 *c iP* **P 13 04 57.3 +0.6**
KIV pmax pmax
comp=Z,19nm,0.6s,mb5.2
KIV Kislovodsk 71.23 314 *eP* **P 13 04 57.6 +0.9**
comp=Z,15nm,0.8s,mb5.0
ECSD EROS,Sioux Fal 71.42 46 *eP* **P 13 04 55.5 -2.4**
ZEI Tsey 71.47 313 *eP* **P 13 04 57.8 -0.4**
ZEI pmax pmax
comp=Z,17nm,1.0s,mb4.9
AS31 Alice Springs 71.52 198 P **P 13 04 59.5 +1.0**
ASAR Alice Springs 71.52 198 P **P 13 04 58.4 -0.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=12,slow=5.2,SNR=10
AKASG Malin Array Be 72.08 326 P **P 13 05 00.7 -1.2**
comp=Z,15nm,0.7s,mb5.0,baz=34,slow=6.2,SNR=70
AKASG Malin Array Be 72.08 326 P **P 13 05 00.7 -1.2**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 72.08 326 *eP* **P 13 05 00.5 -1.4**
GNI Garni 72.92 310 P **P 13 05 06.5 -0.4**
comp=Z,5.8nm,0.5s,mb4.8,baz=331,slow=18,SNR=5.7
GNI Garni 72.92 310 P **P 13 05 06.5 -0.4**
GNI pmax pmax
comp=Z,6.0nm,0.5s
GNI Garni 72.92 310 *eP* **P 13 05 08.3 +1.4**
comp=Z,17nm,0.8s,mb5.0
LVV L'vov 74.75 329 *eP* **P 13 05 16.3 -1.3**
LVV *e* 13 08 11.5
KIS Kishinev 75.20 324 *eP* **P 13 05 20.0 -0.2**
KWP Kalwaria 75.38 329 *eP* **P 13 05 21.1 -0.1**
OJC Ojcow 75.89 331 *eP* **P 13 05 23.7 -0.4**
OJC *e* 13 05 47.6
OJC Ojcow 75.89 331 *eP* **P 13 05 23.7 -0.4**
OJC *e* 13 05 47.6
STHS Stebnicka Huta 76.08 330 *eP* **P 13 05 20.4 -4.8**
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
STHS Stebnicka Huta 76.08 330 *eP* **P 13 05 20.4 -4.8**
comp=Z,8.6nm,1.1s,mb4.6
KOLS Kolonicke sedl 76.12 329 *eP* **P 13 05 24.9 -0.6**
BURAR Bucovina Array 76.12 327⇑ *iP* **P 13 05 25.3 -0.2**
BURAR Bucovina Array 76.12 327⇑ *P* **P 13 05 25.3 -0.2**
UZH Uzhgorod 76.37 329 *eP* **P 13 05 25.0 -1.9**
MORC Moravsky Berou 77.02 332⇑ *iP* **P 13 05 30.5 0.0**
MORC Moravsky Berou 77.02 332⇑ *P* **P 13 05 30.5 0.0**
CLL Collm 77.06 336 *i P* **P 13 05 29.6 -1.2**
CLL *e* 13 05 53.0
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLL Collm 77.06 336 *i P* **P 13 05 29.6 -1.2**
comp=Z,13nm,1.0s,mb4.8
CLL *ex* x 13 05 53.0
KECS Kecovo 77.13 330 *eP* **P 13 05 30.9 -0.3**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KECS Kecovo 77.13 330 *eP* **P 13 05 30.9 -0.3**
comp=Z,4.7nm,1.1s,mb4.3
BRG Berggiesshubel 77.17 335 *eP* **P 13 05 30.5 -0.9**
comp=Z,3.9nm,1.0s,mb4.3
BRG *e* pP 13 05 40.0 -0.8
comp=Z,1.7nm,0.9s
BRG *e* 13 05 54.3
comp=Z,11nm,1.6s
BRG Berggiesshubel 77.17 335 *eP* **P 13 05 30.5 -0.9**
BRG *e* pP 13 05 40.0 -0.8
BRG *e* 13 05 54.3
BRG pmax pmax
comp=Z,19nm,1.0s,mb5.0
TIRR Tirgusor 77.42 323⇑ *iP* **P 13 05 30.5 -2.3**
MLR Muntele Rosu 77.59 325⇓ *iP* **P 13 05 34.8 +1.1**
MLR Muntele Rosu 77.59 325⇓ *P* **P 13 05 34.8 +1.1**
VYHS Vyhne 77.69 331 *eP* **P 13 05 34.3 0.0**
VYHS *e* 13 05 57.6
VYHS pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
VYHS Vyhne 77.69 331 *eP* **P 13 05 34.3 0.0**
comp=Z,10nm,1.5s,mb4.5
VYHS *e* 13 05 57.6
VRAC Vranov 77.73 332⇑ *iP* **P 13 05 35.2 +0.7**
VRAC Vranov 77.73 332⇑ *P* **P 13 05 35.2 +0.7**
DRGR 77.76 328⇑ *iP* **P 13 05 34.2 -0.5**
DRGR 77.76 328⇑ *P* **P 13 05 34.2 -0.5**
PSZ Piszkesteto 77.82 330⇑ *eP* **P 13 05 35.1 +0.1**
SNX Sinaia 77.87 325⇑ *iP* **P 13 05 36.3 +1.0**
SNX Sinaia 77.87 325⇑ *P* **P 13 05 36.3 +1.0**
VOIR 77.99 325⇑ *iP* **P 13 05 36.4 +0.4**
VOIR 77.99 325⇑ *P* **P 13 05 36.4 +0.4**
MOX Moxa 78.05 336 *eP* **P 13 05 35.7 -0.6**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 78.05 336 *eP* **P 13 05 35.7 -0.6**
MOX pmax pmax
comp=Z,35nm,1.1s,mb5.2
WTSB Winterswijk 78.12 339 *eP* **P 13 05 37.7 +1.0**
comp=Z,20nm,0.8s,mb5.1
ZST Bratislava 78.53 332 *eP* **P 13 05 40.3 +1.3**
ZST pmax pmax
comp=Z,12nm,1.2s,mb4.7
ZST Bratislava 78.53 332 *eP* **P 13 05 40.3 +1.3**
comp=Z,12nm,1.2s,mb4.7
KHC Kasperske Hory 78.83 334 *deP* **P 13 05 40.8 +0.2**
BRTR Keskin Array B 78.84 317 P **P 13 05 40.8 +0.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=73,slow=4.3,SNR=7.3
BRTR Keskin Array B 78.84 317 P **P 13 05 40.8 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
GZR Gura Zlata 78.91 327⇓ *iP* **P 13 05 41.0 0.0**
GZR Gura Zlata 78.91 327⇓ *P* **P 13 05 41.0 -0.1**
MIB Mutribah 78.96 301 *eP* **P 13 05 41.9 +0.5**
MIB AMb AMB 13 05 44.3
comp=Z,51nm,0.8s,mb5.5
GRA1 Grafenberg Arr 79.02 336 *eP* **P 13 05 41.3 -0.4**
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.02 336 *eP* **P 13 05 41.3 -0.4**
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.02 336 *eP* **P 13 05 41.3 -0.4**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.02 336 *eP* **P 13 05 41.3 -0.4**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GERES GERESS Array B 79.05 334 P **P 13 05 41.4 -0.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=40,slow=4.4,SNR=16
GERES GERESS Array B 79.05 334 P **P 13 05 41.4 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.9s
BZS Buzias 79.16 328⇑ *iP* **P 13 05 41.1 -1.3**
BZS Buzias 79.16 328⇑ *P* **P 13 05 41.1 -1.3**
SOP Sopron 79.16 332⇓ *eP* **P 13 05 43.1 +0.7**
CONA Conrad Observa 79.17 332 *i P* **P 13 05 43.0 +0.5**
comp=Z,8.8nm,1.2s,mb4.6,SNR=6.9
JCT Junction City 79.37 57 *eP* **P 13 05 44.3 +0.7**
JCT pmax pmax
comp=Z,14nm,0.9s,mb4.9
JCT Junction City 79.37 57 *eP* **P 13 05 44.3 +0.7**
comp=Z,14nm,0.9s,mb4.9
RST Umm Al-Ruwaisa 79.38 302 *eP* **P 13 05 43.8 +0.1**
RST AMb AMB 13 05 46.5
comp=Z,53nm,0.9s,mb5.5
NAY Al-Naaiem 79.42 301 *eP* **P 13 05 44.1 +0.2**
NAY AMb AMB 13 05 45.9
comp=Z,17nm,1.1s,mb4.9
HGN Heimansgroeve 79.44 339 *eP* **P 13 05 44.8 +0.9**
comp=Z,22nm,1.5s,mb4.9
RDF Al-Radifah 79.47 301 *eP* **P 13 05 44.5 +0.4**
RDF AMb AMB 13 05 46.5
comp=Z,55nm,1.2s,mb5.4
MEM Membach 79.57 339 P **P 13 05 43.9 -0.7**
BCLA Clavier 79.92 340 P **P 13 05 48.0 +1.5**
BAIF Baives 80.51 340 *eP* **P 13 05 50.4 +0.7**
comp=Z,35nm,1.2s,mb4.8
BAIF Baives 80.51 340 *eP* **P 13 05 50.4 +0.7**
BAIF pmax pmax
comp=Z,18nm,1.2s,mb4.9
BAIF Baives 80.51 340 *eP* **P 13 05 50.4 +0.7**
comp=Z,18nm,1.2s,mb4.9
PERS Pernice 80.55 332 *eP* **P 13 05 49.5 -0.5**
GROS Grobnik 80.58 332 *eP* **P 13 05 49.3 -0.8**
KBA Koelnbreinsper 80.72 333⇑ *iP* **P 13 05 51.1 +0.3**
comp=Z,15nm,0.8s,mb5.0,SNR=7.1
KBA Koelnbreinsper 80.72 333⇑ *iP* **P 13 05 51.1 +0.2**
KBA pmax pmax
comp=Z,15nm,0.8s,mb5.0
WTTA Wattenberg 81.08 335⇓ *iP* **P 13 05 53.1 +0.4**
comp=Z,12nm,0.7s,mb5.0,SNR=7.2
WTTA Wattenberg 81.08 335⇓ *iP* **P 13 05 53.1 +0.3**
WTTA pmax pmax
comp=Z,12nm,0.7s,mb4.9
VTS Vitosha 81.09 325⇑ *iP* **P 13 05 52.9 +0.1**
VTS Vitosha 81.09 325⇑ *P* **P 13 05 52.9 +0.1**
CRES Cresnjev 81.15 331 *eP* **P 13 05 52.2 -0.9**
CDF Champ du Feu 81.27 338 *eP* **P 13 05 54.7 +0.9**
comp=Z,23nm,1.0s,mb4.8
CDF Champ du Feu 81.27 338 *eP* **P 13 05 54.7 +0.9**
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 81.27 338 *eP* **P 13 05 54.7 +0.9**
comp=Z,11nm,1.0s,mb4.8
MEZF Maizieres J'vi 81.76 339 *eP* **P 13 05 56.9 +0.5**
HAU Haudompre 81.89 338 *eP* **P 13 05 57.9 +0.9**
comp=Z,14nm,0.9s,mb4.6
HAU Haudompre 81.89 338 *eP* **P 13 05 57.9 +0.9**
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU Haudompre 81.89 338 *eP* **P 13 05 57.9 +0.9**
comp=Z,7.1nm,0.9s,mb4.6
HINF Hinteralfeld 81.93 338 *eP* **P 13 05 58.0 +0.7**
comp=Z,12nm,1.0s,mb4.5
HINF Hinteralfeld 81.93 338 *eP* **P 13 05 58.0 +0.7**
HINF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
HINF Hinteralfeld 81.93 338 *eP* **P 13 05 58.0 +0.7**
comp=Z,6.1nm,1.0s,mb4.5
FLN La Foliniere 82.77 343 *eP* **P 13 06 03.6 +1.9**
comp=Z,108nm,1.3s,mb5.4
FLN La Foliniere 82.77 343 *eP* **P 13 06 03.6 +1.9**
FLN pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
FLN La Foliniere 82.77 343 *eP* **P 13 06 03.6 +1.9**
comp=Z,54nm,1.3s,mb5.4
ASF Jabal al Asfar 83.08 310 P **P 13 06 04.5 +1.2**
comp=Z,4.0nm,1.0s,mb4.4,baz=135,slow=5.2,SNR=4.2
ASF Jabal al Asfar 83.08 310 P **P 13 06 04.5 +1.2**
ASF pmax pmax
comp=Z,4.0nm,1.0s
LOR Lormes 83.20 339 *eP* **P 13 06 05.0 +1.1**
comp=Z,17nm,0.8s,mb4.8
LOR Lormes 83.20 339 *eP* **P 13 06 05.0 +1.1**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LOR Lormes 83.20 339 *eP* **P 13 06 05.0 +1.1**
comp=Z,8.4nm,0.8s,mb4.8
GRR Gorron 83.21 343 *eP* **P 13 06 05.4 +1.5**
comp=Z,20nm,0.7s,mb5.0
GRR Gorron 83.21 343 *eP* **P 13 06 05.4 +1.5**
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GRR Gorron 83.21 343 *eP* **P 13 06 05.4 +1.5**
comp=Z,10nm,0.7s,mb5.0
SSF Saint Saulge 83.48 340 *eP* **P 13 06 06.5 +1.2**
comp=Z,18nm,0.9s,mb4.8
SSF Saint Saulge 83.48 340 *eP* **P 13 06 06.5 +1.2**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SSF Saint Saulge 83.48 340 *eP* **P 13 06 06.5 +1.2**
comp=Z,8.9nm,0.9s,mb4.8
AVF Avril sur Loir 83.77 340 *eP* **P 13 06 06.3 -0.5**
comp=Z,98nm,1.6s,mb5.4
AVF Avril sur Loir 83.77 340 *eP* **P 13 06 06.3 -0.5**
AVF pmax pmax
comp=Z,49nm,1.6s,mb5.4
AVF Avril sur Loir 83.77 340 *eP* **P 13 06 06.3 -0.5**
comp=Z,49nm,1.6s,mb5.4
SMF Signal de Mont 83.78 339 *eP* **P 13 06 06.5 -0.4**
comp=Z,72nm,1.3s,mb5.3
SMF Signal de Mont 83.78 339 *eP* **P 13 06 06.5 -0.4**
SMF pmax pmax
comp=Z,36nm,1.3s,mb5.3
SMF Signal de Mont 83.78 339 *eP* **P 13 06 06.5 -0.4**
comp=Z,36nm,1.3s,mb5.3
LPL La Plagne 84.08 337 *eP* **P 13 06 08.8 +0.4**
comp=Z,6.8nm,0.6s,mb4.7
LPL La Plagne 84.08 337 *eP* **P 13 06 08.8 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPL La Plagne 84.08 337 *eP* **P 13 06 08.8 +0.4**
comp=Z,3.4nm,0.6s,mb4.7
LPG La Plagne 84.09 337 *eP* **P 13 06 09.2 +0.7**
comp=Z,20nm,0.9s,mb4.9
LPG La Plagne 84.09 337 *eP* **P 13 06 09.2 +0.7**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LPG La Plagne 84.09 337 *eP* **P 13 06 09.2 +0.7**
comp=Z,9.8nm,0.9s,mb4.9
BGF Bois d'Agland 84.11 340 *eP* **P 13 06 10.1 +1.6**
TCF Toulx Ste Croi 84.52 340 *eP* **P 13 06 12.4 +1.8**
comp=Z,18nm,1.1s,mb4.8
TCF Toulx Ste Croi 84.52 340 *eP* **P 13 06 12.4 +1.8**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
TCF Toulx Ste Croi 84.52 340 *eP* **P 13 06 12.4 +1.8**
comp=Z,9.3nm,1.1s,mb4.8
MFF Saint Martin d 84.75 342 *eP* **P 13 06 13.7 +1.9**
ORIF Oris-en-Rattie 84.86 337 *eP* **P 13 06 14.3 +1.9**
comp=Z,9.8nm,0.6s,mb4.8
ORIF Oris-en-Rattie 84.86 337 *eP* **P 13 06 14.3 +1.9**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ORIF Oris-en-Rattie 84.86 337 *eP* **P 13 06 14.3 +1.9**
comp=Z,4.9nm,0.6s,mb4.8
VIVF Saint-Julien-l 85.24 338 *eP* **P 13 06 16.1 +1.9**
comp=Z,15nm,0.9s,mb4.8
VIVF Saint-Julien-l 85.24 338 *eP* **P 13 06 16.1 +1.9**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 85.24 338 *eP* **P 13 06 16.1 +1.9**
comp=Z,7.4nm,0.9s,mb4.8
RJF Les Rejaudoux 85.61 340 *eP* **P 13 06 18.9 +2.8**
CAF Calviac 85.83 340 *eP* **P 13 06 19.5 +2.3**
comp=Z,28nm,1.1s,mb5.1
CAF Calviac 85.83 340 *eP* **P 13 06 19.5 +2.3**
CAF pmax pmax
comp=Z,14nm,1.1s,mb5.1
CAF Calviac 85.83 340 *eP* **P 13 06 19.5 +2.3**
comp=Z,14nm,1.1s,mb5.1
FRF La Foret Royal 85.91 336 *eP* **P 13 06 18.7 +1.1**
LFF La Frestale 86.13 341 *eP* **P 13 06 20.8 +2.1**
LMR La Mourre 86.15 336 *eP* **P 13 06 20.3 +1.5**
comp=Z,27nm,1.0s,mb5.1
LMR La Mourre 86.15 336 *eP* **P 13 06 20.3 +1.5**
LMR pmax pmax
comp=Z,13nm,1.0s,mb5.1
LMR La Mourre 86.15 336 *eP* **P 13 06 20.3 +1.5**
comp=Z,13nm,1.0s,mb5.1
MTLF Montolieu 87.28 339 *eP* **P 13 06 26.8 +2.5**
comp=Z,7.7nm,0.7s,mb4.7
MTLF Montolieu 87.28 339 *eP* **P 13 06 26.8 +2.5**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
MTLF Montolieu 87.28 339 *eP* **P 13 06 26.8 +2.5**
comp=Z,3.8nm,0.7s,mb4.7
CFAA Coronel Fontan 145.19 80 PKPbc PKPbc 13 13 14.1 -0.7

comp=Z,0.5nm,0.5s,baz=329,slow=5.9,SNR=5.8
PLCA Paso Flores 148.22 96 PKPbc PKPbc 13 13 22.9 -0.6
comp=Z,2.8nm,0.8s,baz=264,slow=6.7,SNR=4.6
CPUP Villa Florida 148.87 61 PKPbc PKPbc 13 13 24.1 -1.1
comp=Z,2.3nm,0.8s,baz=333,slow=4.5,SNR=3.9
SNAA Sanae 151.87 196 PKPbc PKPbc 13 13 30.0 -2.4
comp=Z,0.9nm,0.7s,baz=175,slow=5.0,SNR=5.3
VNA3 Neumayer Olymp 153.40 192 *e*PKPdf PKPdf 13 13 31.7 +3.5
VNA3 *e* 13 13 34.5
VNA3 *e* 13 13 37.4
VNA3 *e* 13 13 45.9
VNA3 *e* 13 14 08.8

MAN 01 13:00:01.1, 1772N×12014E, h9km, MS9.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.61**	**90**	*e*P	Pn	13 00 28.0	-1.6

BJI ***01*** *13:02:24.1, 4701N×154.13E, h32km, mB4.5, mb4.2*
IDC ***01*** *13:02:25.4±1.3, 4633N×153.00E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=36.3km s-min=27.6km az=99.0*
NEIC ***01*** *13:02:27.1±1.3, 4653N×15363E, h10km, mb4.0/1, Error ellipse: s-maj=34.1km s-min=15.5km az=119.0*
ISCJB ***01*** *13:02:29.0±1.0, 462N±0.1×1530E±.02, h33km, mb4.1/11, Error ellipse: s-maj=22.3km s-min=6.8km az=93.0*
MOS ***01*** *13:02:29.1±2.0, 4662N×153.10E, h33km, mb4.2/6, Error ellipse: s-maj=21.3km s-min=15.3km az=48.8*
ISC 01 13:02:31.1±1.0, 463N±01×1530E±02, h35km, n46, σ1§38/50, mb4.1/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.93**	**243**	P	**Pn**	**13 03 55.5**	**-0.9**
NEM2				*e*S	**Sn**	**13 05 02.1**	**-1.0**
JRA	**Rausu**	**6.05**	**250**	P	**Pn**	**13 03 59.2**	**+1.1**
JNK	**Nakash**	**6.47**	**248**	P	**Pn**	**13 04 04.1**	**+0.3**
JAK	**Akkeshi**	**6.78**	**244**	P	**Pn**	**13 04 06.4**	**-1.6**
JAK				*e*S	**Sn**	**13 05 22.6**	**-1.3**
JTKR	**Abashiri--Toko**	**6.84**	**254**	P	**Pn**	**13 04 10.0**	**+1.1**
JAR	**Ashorobuto**	**7.22**	**249**	P	**Pn**	**13 04 14.3**	**+0.2**
JKK2	**Kamakawa 2**	**7.65**	**255**	P	**Pn**	**13 04 21.8**	**+1.7**
ASAJ	**Asahikawa**	**7.67**	**257**	Pn	**Pn**	**13 04 22.5**	**+2.2**
	0.7nm,0.3s,baz=91,slow=19,SNR=6.2						
ASAJ	**Asahikawa**	**7.67**	**257**	PN	**Pn**	**13 04 22.5**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.81**	**246**	P	**Pn**	**13 04 21.3**	**-1.0**
JCH				*e*S	**Sn**	**13 05 45.7**	**-3.7**
JFR	**Furan**	**8.04**	**251**	P	**Pn**	**13 04 27.7**	**+2.3**
JEM	**Erimo**	**8.26**	**243**	P	**Pn**	**13 04 28.5**	**+0.1**
ERM	**Erimo**	**8.27**	**243**	*e*PN	**Pn**	**13 04 28.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.37**	**245**	P	**Pn**	**13 04 28.1**	**-1.8**
JNBK				*e*S	**Sn**	**13 05 59.2**	**-4.0**
JKB	**Kayabe**	**9.67**	**247**	P	**Pn**	**13 04 46.6**	**-1.1**
JTH	**Tanohata**	**10.31**	**236**	*e*S	**Sn**	**13 06 41.0**	**-10**
MAJO	**Matsushiro**	**14.74**	**234**	*e*P	**Pn**	**13 06 03.2**	**+6.2**
MAT	**Matsushiro**	**14.74**	**234**	P	**Pn**	**13 06 03.2**	**+6.2**
MJAR	**Matsushiro Arr**	**14.74**	**234**	Pn	**Pn**	**13 06 03.4**	**+6.4**
	comp=Z,0.3nm,0.3s,baz=40,slow=8.4,SNR=13						
YAK	**Yakutsk**	**20.69**	**328**	*e*P	**P**	**13 07 07.4**	**-0.7**
SONM	**Songino Array**	**31.43**	**290**	P	**P**	**13 08 48.4**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.5,baz=80,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**31.43**	**290**	P	**P**	**13 08 48.4**	**-0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**32.82**	**296**	*e*P	**P**	**13 09 00.8**	**-0.4**
GTA	**Gaotai**	**38.98**	**280**	*e*P	**P**	**13 09 56.1**	**+2.2**
GTA				AP	pP	13 10 00.1	-4.1
GTA				XP	sP	13 10 03.4	-5.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.0						
INK	**Inuvik**	**42.10**	**32**	P	**P**	**13 10 18.5**	**-1.2**
	comp=Z,2.9nm,1.1s,mb3.8,baz=264,slow=9.2,SNR=4.1						
INK	**Inuvik**	**42.10**	**32**	*e*P	**P**	**13 10 17.1**	**-2.5**
	comp=Z,77nm,0.8s						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**13 10 58.6**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**13 10 58.6**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**13 11 29.3**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=50,slow=8.1,SNR=4.0						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**13 11 29.3**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GUN	**Gumba**	**54.98**	**275**	*e*P	**P**	**13 12 01.8**	**+3.0**
KKN	**Kakani**	**55.47**	**276**	*e*P	**P**	**13 12 04.2**	**+1.9**
	comp=Z,15nm,0.9s,mb5.0						
PKI	**Pulchoki**	**55.51**	**275**	*e*P	**P**	**13 12 03.9**	**+1.3**
DMN	**Daman**	**55.70**	**276**	*e*P	**P**	**13 12 05.8**	**+1.8**
GKN	**Gorkha**	**55.78**	**276**	*e*P	**P**	**13 12 06.2**	**+1.7**
KOLN	**Koldanda**	**56.64**	**277**	*e*P	**P**	**13 12 12.2**	**+1.5**
	comp=Z,13nm,0.9s,mb5.0						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**13 13 02.7**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=50,slow=6.0,SNR=10.0						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**13 13 02.7**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**13 13 02.7**	**-1.3**
WRA	**Warramunga Arr**	**68.03**	**199**	P	**P**	**13 13 26.9**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.5,baz=20,slow=7.0,SNR=3.4						
NB2	**NORSAR Subarra**	**68.66**	**341**	P	**P**	**13 13 29.6**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**13 13 29.4**	**-1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=27,slow=6.4,SNR=9.0						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**13 13 29.4**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**13 13 29.4**	**-1.4**
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**	**13 13 49.3**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=6.0,SNR=6.2						
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**	**13 13 49.3**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						

NIED ***01*** *13:07:00, 4650N×15340E, h8km, Mw4.9 Best double couple: M0:2.83000×10^16 NP1:φs=54.00000°, δ78.00000°, λ114.00000°. NP2:φs=170.00000°, δ27.00000°, λ28.00000°.*
ISCJB ***01*** *13:07:04.8±0.8, 4631N±004×15323E±004, h11km±5km, mb4.9/134, MS4.7/46, Error ellipse: s-maj=7.5km s-min=3.1km az=125.9*
IDC ***01*** *13:07:04.5±0.6, 4636N×15309E, h0km, mb4.4/21, mb1 4.6/22, mb1mx4.5/27, mbtmp4.4/22, ML3.6/1, MS4.4/21, Ms1 4.4/21, ms1mx4.2/41, Error ellipse: s-maj=16.9km s-min=14.6km az=168.0*
BJI ***01*** *13:07:04.5, 4657N×15324E, h11km, mB5.2, mb4.8, Ms4.8, Msz4.7*
NEIC ***01*** *13:07:06.5±3.7, 4640N×15320E, h10km±23km, mb5.0/72, MS4.9/9, Error ellipse: s-maj=7.9km s-min=4.2km az=176.0*
JMA ***01*** *13:07:06.0±0.7, 4649N×15344E, h30km, M4.8*
SKHL ***01*** *13:07:06.0±1.4, 4610N×15370E, h51km±17km, mb5.4/7, mbh5.6/5, mbv5.8/7, ms4.9/8, msh5.6/3*
GCMT ***01*** *13:07:06.5±0.5, 4635N×15350E, h21km±1km, MW5.1/60, Moment Tensor Solution. s19,c23; s60,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.89±.39; Mθθ-2.03±.24; Mφφ-2.85±.23; Mrθ1.55±.41; Mφθ-2.13±.12; Mφr1.93±.34; Best double couple: M0:5.35600×10^16 NP1:φs=220.00000°, δ31.00000°, λ91.00000°. NP2: φs=39.00000°, δ59.00000°, λ90.00000°. Principal axes: T 5.4960, Plg76.0000°, Azm308.0000°; N -0.2710, Plg0.0000°, Azm39.0000°; P -5.2150, Plg14.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***01*** *13:07:08.3±0.9, 4640N×153.14E, h33km, mb5.1/64, MS4.7/27 Error ellipse: s-maj=8.2km s-min=4.8km az=104.8*
SZGRF ***01*** *13:07:11.1, 4659N×15369E, h33km, mb5.0, Kuril Islands, Russia*
ISC 01 13:07:08.7±0.8, 4640N±004×15320E±004, h24km±5km, h25km±1.7km: pP-P, n400, σ1§03/413, mb4.9/134, MS4.7/46, 25C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**255**	⇓*i*P	**Pn**	**13 08 05.4**	**-1.7**
KUR				⇓*i*P		13 08 05.4	
KUR				AMB	AMB	13 08 07.0	
	240nm,0.8s						
KUR				AMB	AMB	13 08 07.0	
	220nm,0.8s						
KUR				AMB	AMB	13 08 07.0	
	1μm,0.8s						
KUR				AMB	AMB	13 08 09.0	
	4μm,4.0s						
KUR				*e*S	**Sn**	**13 08 51.0**	**-1.2**
KUR				A		13 08 56.0	
	12μm,4.0s						
KUR				A		13 08 56.0	
	3μm,4.0s						
KUR				A		13 09 14.5	
	2μm,0.9s						
KUR				A		13 09 14.5	
	740nm,0.9s						
KUR				AMS	AMS	13 09 42.0	
	11μm,16.0s						
KUR				AMS	AMS	13 09 42.0	
	8μm,16.0s						
KUR				AMS	AMS	13 09 42.0	
	12μm,16.0s						
SKR	**Severo-Kuril's**	**4.71**	**23**	*e*P	**Pn**	**13 08 14.0**	**-4.1**
SKR				AMB	AMB	13 08 17.5	
	2μm,4.0s						
SKR				AMB	AMB	13 08 17.5	
	2μm,4.0s						
SKR				AMB	AMB	13 08 17.5	
	110nm,0.8s						
SKR				AMB	AMB	13 08 17.5	
	220nm,0.8s						
SKR				AMB	AMB	13 08 17.5	
	670nm,0.8s						
SKR				*e*S	**Sn**	**13 09 05.9**	**-6.0**
SKR				A		13 09 17.0	
	7μm,8.0s						
SKR				A		13 09 17.0	
	4μm,8.0s						
SKR				A		13 09 17.0	
	8μm,8.0s						
SKR				A		13 09 17.0	
	4μm,8.0s						
SKR				A		13 09 17.0	
	2μm,5.0s						
SKR				A		13 09 36.5	
	1μm,1.0s						
SKR				A		13 09 36.5	
	940nm,1.0s						
SKR				A		13 09 36.5	
	1μm,1.0s						
SKR				AMS	AMS	13 10 12.0	
	8μm,14.0s						
SKR				AMS	AMS	13 10 12.0	
	8μm,14.0s						
SKR				AMS	AMS	13 10 12.0	
	2μm,12.0s						
SKR				AMS	AMS	13 10 12.0	
	5μm,12.0s						
SKR				AMS	AMS	13 10 12.0	
	3μm,12.0s						
SKR				AMS	AMS	13 10 12.0	
	5μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.70**	**248**	*e*P	**Pn**	**13 08 33.0**	**+1.3**
YUK				AMB	AMB	13 08 35.5	
	430nm,0.2s						
YUK				*e*S	**Sn**	**13 09 37.5**	**+1.2**
YUK				A		13 09 50.0	
	5μm,2.5s						
YUK				A		13 09 50.0	
	4μm,1.8s						
YUK				A		13 09 50.5	
	650nm,0.7s						
YUK				A		13 09 50.5	
	960nm,0.7s						
YUK				AMS	AMS	13 10 55.0	
	6μm,17.0s						
YUK				AMS	AMS	13 10 55.0	
	6μm,17.0s						
YUK				AMS	AMS	13 10 55.0	
	6μm,17.0s						
NEM2	**Nemuro 2**	**6.10**	**243**	P	**Pn**	**13 08 35.8**	**-1.5**
NEM2				*e*S	**Sn**	**13 09 42.3**	**-4.1**
JRA	**Rausu**	**6.22**	**250**	P	**Pn**	**13 08 40.5**	**+1.6**
JNK	**Nakash**	**6.64**	**248**	P	**Pn**	**13 08 45.0**	**+0.3**
JAK	**Akkeshi**	**6.95**	**244**	P	**Pn**	**13 08 47.3**	**-1.6**
JAK				*e*S	**Sn**	**13 10 02.5**	**-4.6**
JTKR	**Abashiri--Toko**	**7.00**	**253**	P	**Pn**	**13 08 50.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	⇑*e*P	**Pn**	**13 08 57.5**	**+5.0**
YSS				AMB	AMB	13 08 59.5	
	90nm,1.0s						
YSS				*e*S	**Sn**	**13 10 21.5**	**+7.9**
YSS				A		13 10 24.5	
	50nm,1.0s						
YSS				AMS	AMS	13 10 38.0	
	4μm,16.0s						
YSS				AMS	AMS	13 10 38.0	
	5μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	⇑*e*PN	**Pn**	**13 08 57.5**	**+5.0**
YSS				*e*S	**Sn**	**13 10 21.5**	**+7.9**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=E,50nm,1.0s						
YSS				MLR	MLR		
	comp=E,4μm,16.0s						
YSS				MLR	MLR		
	comp=Z,5μm,16.0s						
JMP	**Maruseppu**	**7.35**	**255**	P	**Pn**	**13 08 56.2**	**+1.8**
JAR	**Ashorobuto**	**7.38**	**249**	P	**Pn**	**13 08 55.1**	**+0.2**
JAR				*e*S	**Sn**	**13 10 16.9**	**-1.0**
PET	**Petropavlovsk**	**7.51**	**26**	*e*PN	**Pn**	**13 08 58.0**	**+1.3**
PET				pmax	pmax		
	comp=Z,107nm,1.0s						
PET				MLR	MLR		
	comp=E,5μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET				MLR	MLR		
	comp=N,2μm,18.0s						
JOB	**Onbets**	**7.54**	**246**	P	**Pn**	**13 08 55.9**	**-1.1**
JOB				*e*S	**Sn**	**13 10 16.7**	**-4.9**
JKK2	**Kamakawa 2**	**7.81**	**255**	P	**Pn**	**13 09 02.4**	**+1.7**
ASAJ	**Asahikawa**	**7.82**	**257**	Pn	**Pn**	**13 09 03.2**	**+2.3**
	comp=N,2.4nm,0.3s,baz=93,slow=15,SNR=28						
ASAJ				LR	LR	13 12 04.7	
	comp=N,2μm,18.4s,baz=193,slow=39						
JWK2	**Keihoku**	**7.97**	**266**	P	**Pn**	**13 09 08.3**	**+5.4**
UGL	**Uglegorsk**	**7.97**	**294**	*e*P	**Pn**	**13 09 07.5**	**+4.5**
UGL				AMB	AMB	13 09 10.0	
	comp=N,110nm,0.7s						
UGL				AMB	AMB	13 09 14.0	
	comp=N,900nm,4.0s						
UGL				AMB	AMB	13 09 14.0	
	comp=N,1μm,4.0s						
UGL				AMB	AMB	13 09 14.0	
	comp=N,2μm,4.0s						
UGL				AMS	AMS	13 12 21.0	
	comp=N,2μm,15.0s						
UGL				AMS	AMS	13 12 21.0	
	comp=N,5μm,15.0s						
UGL				AMS	AMS	13 12 21.0	
	comp=N,5μm,15.0s						
UGL	**Uglegorsk**	**7.97**	**294**	*e*PN	**Pn**	**13 09 07.5**	**+4.5**
UGL				*e*		13 10 48.0	
UGL				pmax	pmax		
	comp=Z,110nm,0.7s						
UGL				pmax	pmax		
	comp=Z,2μm,4.0s						
UGL				MLR	MLR		
	comp=Z,5μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,12.0s						
UGL				MLR	MLR		
	comp=E,5μm,15.0s						
JCH	**Churui**	**7.98**	**245**	P	**Pn**	**13 09 01.5**	**-1.6**
JCH				*e*S	**Sn**	**13 10 26.7**	**-5.9**
JFR	**Furan**	**8.21**	**251**	P	**Pn**	**13 09 06.6**	**+0.4**
TYV	**Tymovskoe**	**8.29**	**306**	*e*P	**Pn**	**13 09 11.8**	**+4.5**
TYV				AMB	AMB	13 09 14.2	
	comp=E,22nm,1.0s						
TYV				AMB	AMB	13 09 14.2	
	comp=E,51nm,1.0s						
TYV				AMB	AMB	13 09 20.0	
	comp=E,900nm,9.0s						
TYV				AMB	AMB	13 09 20.0	
	comp=E,1μm,9.0s						
TYV				AMS	AMS	13 12 31.0	
	comp=E,8μm,16.0s						
TYV				AMS	AMS	13 12 31.0	
	comp=E,4μm,18.0s						
TYV				AMS	AMS	13 12 31.0	
	comp=E,8μm,18.0s						
ERM	**Erimo**	**8.44**	**242**	*e*PN	**Pn**	**13 09 09.8**	**+0.4**
ERM				pmax	pmax		
	comp=Z,55nm,0.6s						
ERM	**Erimo**	**8.44**	**242**	*e*Pn	**Pn**	**13 09 09.8**	**+0.5**
	comp=Z,55nm,0.6s						
ERM				*e*Sn	**Sn**	**13 10 41.6**	**-2.2**
JEM	**Erimo**	**8.44**	**242**	P	**Pn**	**13 09 09.4**	**+0.1**
JBT2	**Biratori 2**	**8.54**	**249**	P	**Pn**	**13 09 11.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.54**	**245**	P	**Pn**	**13 09 09.5**	**-1.3**
JNBK				*e*S	**Sn**	**13 10 41.0**	**-5.4**
JEW	**Eniwo**	**9.10**	**251**	P	**Pn**	**13 09 18.4**	**-0.1**
JNB	**Noboribetsu**	**9.54**	**250**	P	**Pn**	**13 09 24.5**	**0.0**
OKH	**Okha**	**9.74**	**321**	*e*P	**Pn**	**13 09 28.0**	**+0.8**
OKH				AMB	AMB	13 09 31.8	
	comp=Z,2μm,4.4s						
OKH				AMS	AMS	13 13 39.8	
	comp=Z,5μm,17.0s						
OKH				AMS	AMS	13 13 39.8	
	comp=Z,5μm,14.0s						
JKB	**Kayabe**	**9.84**	**247**	P	**Pn**	**13 09 27.2**	**-1.3**
JKB				*e*S	**Sn**	**13 11 10.8**	**-7.4**
JYM2	**Yakumo 2**	**10.15**	**250**	P	**Pn**	**13 09 32.4**	**-0.4**
JANG	**Nango**	**10.41**	**239**	*e*S	**Sn**	**13 11 23.2**	**-9.1**
JTM	**Tenmabayashi**	**10.43**	**242**	*e*S	**Sn**	**13 11 23.0**	**-10**
JTH	**Tanohata**	**10.49**	**236**	*e*S	**Sn**	**13 11 22.3**	**-12**
NKL	**Nikolayevsk**	**10.54**	**314**	*e*P	**Pn**	**13 09 41.0**	**+2.9**
NKL				AMB	AMB	13 09 44.8	
	comp=Z,290nm,2.0s						
NKL				AMB	AMB	13 09 45.0	
	comp=Z,700nm,5.0s						
NKL				AMB	AMB	13 09 45.0	
	comp=Z,1μm,5.0s						
NKL				AMB	AMB	13 09 45.0	
	comp=Z,1μm,5.0s						
NKL				AMS	AMS	13 14 22.0	
	comp=Z,6μm,16.0s						
NKL				AMS	AMS	13 14 22.0	
	comp=Z,4μm,16.0s						
NKL				AMS	AMS	13 14 22.0	
	comp=Z,7μm,16.0s						
OFUJ	**Ofunato**	**11.19**	**233**	*e*S	**Sn**	**13 11 39.5**	**-12**
TEY	**Ternei**	**11.69**	**269**	*e*P	**Pn**	**13 09 58.0**	**+4.2**
TEY				AMS	AMS	13 14 47.0	
	comp=Z,3μm,15.0s						
TEY				AMS	AMS	13 14 47.0	
	comp=Z,2μm,15.0s						
TEY				AMS	AMS	13 14 47.0	
	comp=Z,3μm,15.0s						
JIO	**Ouri**	**11.81**	**232**	*e*S	**Sn**	**13 11 53.8**	**-13**
MA2	**Magadan**	**13.28**	**355**	*e*PN	**Pn**	**13 10 17.5**	**+1.8**
MA2				*e*S	**Sn**	**13 12 52.5**	**+10**
MA2				MLR	MLR		
	comp=Z,2μm,12.5s						
KLR	**Kul'dur**	**14.68**	**289**	*e*P	**Pn**	**13 10 34.1**	**-0.6**
KLR				pmax	pmax		
	comp=E,38nm,1.4s						
KLR				pmax	pmax		
	comp=Z,28nm,1.4s						
KLR				MLR	MLR		
	comp=E,3μm,14.0s						
KLR				MLR	MLR		
	comp=Z,4μm,14.0s						
MJAR	**Matsushiro Arr**	**14.92**	**234**	Pn	**Pn**	**13 10 34.6**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=31,slow=13,SNR=14						
MAT	**Matsushiro**	**14.92**	**234**	P	**Pn**	**13 10 37.0**	**-0.9**
MAT				*e*S	Sn	13 13 45.0	+23
VLA	**Vladivostok**	**15.48**	**265**	*e*P	**Pn**	**13 10 43.0**	**-2.3**
VLA				pmax	pmax		
	comp=Z,22nm,1.4s						
SEY	**Seymchan**	**16.58**	**359**	⇑*e*P	**Pn**	**13 10 59.9**	**+0.4**
MDJ	**Mudanjiang**	**16.64**	**272**	P	**Pn**	**13 11 00.0**	**-0.2**
MDJ				AP	pP	13 11 09.0	0.0
MDJ				XP	sP	13 11 12.2	0.0
MDJ				S	**Sn**	**13 14 04.3**	**+0.2**
MDJ				SS		13 14 25.9	
MDJ				AMB	AMB		
	comp=Z,22nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,125nm,4.0s						
MDJ				LR	LR		
	comp=N,476nm,17.6s						
MDJ				LR	LR		
	comp=E,1μm,17.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.6s						
ZEA	**Zeya**	**18.14**	**303**	*e*P	**Pn**	**13 11 16.0**	**-2.8**
ZEA				AMB	AMB	13 11 22.0	
	comp=Z,700nm,8.0s						
ZEA				AMB	AMB	13 11 22.0	
	comp=Z,900nm,8.0s						
CN2	**Changchun**	**19.73**	**273**	*e*P	**Pn**	**13 11 35.1**	**-2.9**
CN2				*e*AP	pP	13 11 42.1	-1.0
CN2				*e*S	**Sn**	**13 15 09.4**	**-9.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,2μm,16.0s						
CN2				LR	LR		
	comp=E,1μm,16.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CLNS	**Chul'man**	**20.30**	**311**	*e*P	**P**	**13 11 43.3**	**+0.6**
CLNS				*e*		13 11 53.1	
CLNS				*e*SS		13 15 24.9	
CLNS				pmax	pmax		
	comp=Z,17nm,0.8s						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,18nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,4μm,16.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,2μm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,3μm,15.0s,MS4.8						
YAK	**Yakutsk**	**20.65**	**328**	*e*P	**P**	**13 11 46.9**	**+0.4**
YAK				*e**PP		13 11 55.1	
YAK				*e*		13 12 08.0	
YAK				*e*S	**S**	**13 15 37.7**	**+1.6**
YAK				*e*SS		13 15 59.7	
YAK				pmax	pmax		
	comp=Z,26nm,0.8s						
YAK				pmax	pmax		
	comp=N,13nm,1.4s						
YAK				pmax	pmax		
	comp=E,15nm,1.7s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
YAK				pmax	pmax		
	comp=N,85nm,2.0s						
YAK				pmax	pmax		
	comp=E,67nm,2.0s						
YAK				smax			
	comp=N,88nm,2.3s						
YAK				smax			
	comp=Z,108nm,3.4s						
YAK				smax			
	comp=E,205nm,3.2s						
YAK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,1μm,17.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,1μm,19.0s,MS4.5						
SNY	**Shenyang**	**21.69**	**269**	⇑P	**P**	**13 11 59.4**	**+1.7**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
SNY				AMB	AMB		
	comp=Z,444nm,12.0s						
SNY				LR	LR		
	comp=N,631nm,12.6s,MS4.5						
SNY				LR	LR		

comp=E,1μm,17.4s,MS4.5
SNY LR LR
comp=Z,1μm,16.8s,MS4.4
HIA Hailar 22.54 290⇓ *e*P P 13 12 05.0 -1.8
BILL Bilibino 22.72 13 *e*P P 13 12 07.6 -1.1
BILL *e*S **S 13 16 12.3 -3.9**
BILL pmax pmax
comp=Z,44nm,1.4s,mb4.7
BILL MLR MLR
comp=Z,900nm,15.0s,MS4.3
DL2 Dalian 24.28 263⇑ *i*P P 13 12 23.8 -0.2
DL2 S **S 13 16 41.2 -0.2**
DL2 AMB AMB
comp=Z,20nm,1.3s,mb4.4
DL2 AMB AMB
comp=Z,370nm,5.0s
DL2 LR LR
comp=N,320nm,15.4s,MS4.0
DL2 LR LR
comp=E,180nm,16.5s,MS4.0
DL2 LR LR
comp=Z,350nm,15.8s,MS3.9
CIT Chita 26.26 297 *e*P P 13 12 38.8 -3.1
CIT *e* 13 13 22.7
CIT pmax pmax
comp=Z,27nm,3.3s
BOD Bodaibo 26.26 310 *e*P P 13 12 38.5 -3.4
BOD pmax pmax
comp=Z,10.0nm,1.5s,mb4.1
BJI Beijing 27.54 270 *e*P P 13 12 53.9 +0.5
BJI S **S 13 17 37.1 +4.0**
BJI AMB AMB
comp=Z,24nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,541nm,7.5s
BJI LR LR
comp=N,654nm,16.4s,MS4.7
BJI LR LR
comp=E,2μm,15.9s,MS4.7
BJI LR LR
comp=Z,1μm,16.9s,MS4.5
BJT Baijiatuau 27.55 270 P **P 13 12 53.3 -0.2**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 27.55 270 P **P 13 12 53.3 -0.3**
comp=Z,19nm,0.8s,mb4.8
SSE Sheshan 29.03 250 *e*P P 13 13 09.1 +2.4
SSE S **S 13 18 00.5 +3.9**
SSE XS sS 13 18 13.2 +4.7
SSE SCS ScS 13 23 52.7 +4.1
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,256nm,5.1s
SSE LR LR
comp=N,505nm,17.1s,MS4.2
SSE LR LR
comp=E,196nm,17.1s,MS4.2
SSE LR LR
comp=Z,524nm,19.3s,MS4.2
NJ2 Nanjing 29.95 254 *e*P P 13 13 15.4 +0.5
NJ2 AP pP 13 13 24.5 +2.4
NJ2 XP sP 13 13 29.0 +3.9
NJ2 PP PP 13 14 13.5 -9.2
NJ2 S **S 13 18 10.0 -1.1**
NJ2 XS sS 13 18 26.0 +3.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,222nm,4.0s
NJ2 LR LR
comp=N,1μm,14.4s,MS5.0
NJ2 LR LR
comp=E,2μm,14.5s,MS5.0
NJ2 LR LR
comp=Z,10μm,18.4s,MS5.5
HHC Hu-ho-hao-te 30.38 275 *e*P P 13 13 19.4 +0.7
HHC AP pP 13 13 26.9 +1.0
HHC XP sP 13 13 30.2 +1.3
HHC PP PP 13 14 15.4 -12
HHC PCP PcP 13 16 20.2 +2.0
HHC S **S 13 18 16.8 -1.0**
HHC XS sS 13 18 27.5 -2.2
HHC SS SS 13 19 53.5 -34
HHC SCP ScP 13 20 01.4 +2.4
HHC AMB AMB
comp=Z,53nm,0.9s,mb5.3
HHC LR LR
comp=N,938nm,15.3s,MS4.7
HHC LR LR
comp=E,1μm,15.7s,MS4.7
HHC LR LR
comp=Z,1μm,17.3s,MS4.7
SONM Songino Array 31.51 290 P **P 13 13 28.0 -0.7**
comp=Z,2.4nm,0.8s,mb4.1,baz=70,slow=7.8,SNR=19
SONM PcP PcP 13 16 21.7 +0.6
comp=Z,1.7nm,0.9s,baz=132,slow=2.8,SNR=5.8
SONM LR LR 13 27 04.4
comp=Z,950nm,18.7s,MS4.5,baz=71,slow=38
SONM Songino Array 31.51 290 P **P 13 13 28.0 -0.6**
SONM 13 16 21.7
SONM pmax pmax
comp=Z,20nm,0.8s
SONM MLR MLR
comp=Z,950nm,18.7s
TLY Talaya 32.40 298 *e*P P 13 13 35.6 -0.8
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,2μm,16.0s,MS4.9
TLY Talaya 32.40 298 *e*P P 13 13 35.0 -1.5
comp=Z,7.1nm,0.8s,mb4.5
ZAK Zakamensk 32.88 296⇑ *i*P P 13 13 39.6 -1.1
ZAK *e* 13 16 22.6
GUMO Guam 33.45 195 LR LR 13 25 23.6
comp=Z,197nm,20.0s,MS3.8,baz=17,slow=33
IMA2 Indian Mountai 34.06 36 *e*P P 13 13 49.9 -1.0
XAN Xi'an 35.55 266 P **P 13 14 03.4 -0.4**
XAN AP pP 13 14 08.2 -2.9
XAN AMB AMB
comp=Z,11nm,2.0s,mb4.4
MCK McKinley 35.88 40 *e*P P 13 14 05.9 -0.7
comp=Z,5.1nm,1.0s,mb4.4
COLA College 36.38 38 *d i*P P 13 14 10.8 -0.1
COLA College 36.38 38 *e*P P 13 14 10.8 -0.1
comp=Z,11nm,0.9s,mb4.8
LZH Lanzhou 37.96 272 *e*P P 13 14 25.5 +1.2
LZH AP pP 13 14 32.5 +0.8
LZH XP sP 13 14 36.0 +1.4
LZH PP PP 13 15 55.1 +3.9
LZH PCP PcP 13 16 43.5 +3.7
LZH *e*S **S 13 20 17.0 +2.1**
LZH XS sS 13 20 30.1 +3.2
LZH AMB AMB
comp=Z,76nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,256nm,4.2s
LZH LR LR
comp=E,2μm,17.6s
LZH LR LR
comp=Z,2μm,16.8s,MS5.0
LZH Lanzhou 37.96 272 *e*P P 13 14 25.5 +1.2
LZH pP pP 13 14 32.5 +0.8
LZH sP sP 13 14 36.0 +1.4
LZH PP PP 13 15 55.1 +3.9
LZH PcP PcP 13 16 43.5 +3.7
LZH *e*S **S 13 20 17.0 +2.1**
LZH sS sS 13 20 30.1 +3.2
LZH SS SS 13 22 50.1 -12
GTA Gaotai 39.09 280 P **P 13 14 35.0 +1.2**
GTA AP pP 13 14 42.4 +1.3
GTA XP sP 13 14 45.6 +1.5
GTA PP PP 13 16 09.6 +6.0
GTA PCP PcP 13 16 45.2 +1.9
GTA S **S 13 20 32.8 +1.0**
GTA XS sS 13 20 44.2 +0.3
GTA AMB AMB
comp=Z,16nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,386nm,8.7s
GTA LR LR
comp=N,557nm,15.2s,MS4.7
GTA LR LR
comp=E,656nm,15.2s,MS4.7
GTA LR LR

comp=Z,854nm,16.0s,MS4.7
EGAK Eagle 39.24 38 *e*P P 13 14 33.6 -1.5
DAWY Dawson 40.08 39 *e*P P 13 14 41.3 -0.7
CD2 Chengdu 40.91 266 P **P 13 14 49.6 +0.7**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.6s
GYA Guiyang 41.70 258⇑ *i*P P 13 14 55.2 -0.2
GYA AP pP 13 15 02.6 -0.2
GYA XP sP 13 15 06.0 +0.3
GYA PP PP 13 16 34.9 +2.9
GYA SCP ScP 13 20 39.9 -0.5
GYA S **S 13 21 09.8 -1.0**
GYA SCS ScS 13 24 55.2 -1.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,1μm,5.2s
GYA LR LR
comp=N,1μm,16.8s,MS4.9
GYA LR LR
comp=E,970nm,17.0s,MS4.9
GYA LR LR
comp=Z,1μm,17.2s,MS4.9
INK Inuvik 41.92 32 P **P 13 14 57.2 0.0**
comp=Z,7.4nm,0.8s,mb4.4,baz=278,slow=6.2,SNR=13
INK Inuvik 41.92 32 P **P 13 14 57.2 0.0**
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 41.92 32 *e*P P 13 14 57.1 -0.1
comp=Z,277nm,0.8s,mb5.9
NVS Novosibirsk 43.45 308 *e*P P 13 15 07.8 -1.9
QIZ Qiongzhong 44.77 247 P **P 13 15 18.7 -1.5**
QIZ S **S 13 21 56.3 +0.5**
QIZ LR LR
comp=N,364nm,20.1s
WMQ Urumqi 45.11 292 *e*P P 13 15 23.6 +0.7
WMQ AP pP 13 15 31.0 +0.6
WMQ XP sP 13 15 34.5 +1.2
WMQ PCP PcP 13 17 05.0 +1.7
WMQ PPP 13 17 50.0
WMQ PCS PcS 13 20 57.5 +0.5
WMQ S **S 13 22 00.0 -0.8**
WMQ XS sS 13 22 12.5 -0.5
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,130nm,5.2s
WMQ LR LR
comp=N,1μm,15.6s,MS5.1
WMQ LR LR
comp=E,987nm,14.8s,MS5.1
WMQ LR LR
comp=Z,1μm,16.4s,MS5.0
KMI Kunming 45.24 260 P **P 13 15 24.7 +0.8**
KMI AP pP 13 15 32.9 +1.5
KMI XP sP 13 15 36.3 +2.0
KMI PP PP 13 17 11.2 +1.3
KMI PPP 13 17 52.3
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,280nm,5.6s
KMI LR LR
comp=N,689nm,14.3s,MS4.8
KMI LR LR
comp=E,514nm,17.7s,MS4.8
KMI LR LR
comp=Z,452nm,19.7s,MS4.4
KMI Kunming 45.24 260 P **P 13 15 24.7 +0.8**
KMI pP pP 13 15 32.9 +1.5
KMI sP sP 13 15 36.3 +2.0
KMI PP PP 13 17 11.2 +1.3
KMI PPP 13 17 52.3
KMI S **S 13 22 03.2 +0.6**
KMI sS sS 13 22 16.3 +1.5
KMI SS SS 13 25 15.4 -10
DLBC Dease Lake 45.80 46 P **P 13 15 29.0 +0.6**
comp=Z,6.3nm,0.9s,mb4.5,baz=271,slow=12,SNR=5.3
DLBC Dease Lake 45.80 46 P **P 13 15 29.0 +0.6**
MKAR Makanchi Array 47.16 298 P **P 13 15 37.4 -1.6**
comp=Z,13nm,0.8s,mb4.9,baz=64,slow=8.5,SNR=65
MKAR PcP PcP 13 17 09.9 -0.5
comp=Z,2.0nm,0.7s,baz=46,slow=4.2,SNR=3.1
MKAR Makanchi Array 47.16 298 *i*P P 13 15 38.0 -1.1
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 47.16 298 P **P 13 15 37.4 -1.6**
MKAR PcP PcP 13 17 09.9 -0.5
LSA Lhasa 50.35 273 P **P 13 16 06.5 +2.9**
BVAR Borovoye Array 51.13 310 P **P 13 16 08.2 -1.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=52,slow=8.3,SNR=25
BVAR PcP PcP 13 17 24.8 0.0
comp=Z,2.5nm,0.7s,baz=99,slow=2.6,SNR=6.4
BVAR LR LR 13 39 59.6
comp=Z,1μm,18.1s,MS4.9,baz=318,slow=39
BVAR Borovoye Array 51.13 310 P **P 13 16 08.2 -1.3**
BVAR 13 17 24.8
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR MLR MLR
comp=Z,1μm,18.1s
BRVK Borovoye 51.17 310 *e*P P 13 16 07.6 -2.2
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 51.17 310 *e*P P 13 16 07.6 -2.2
comp=Z,12nm,0.9s,mb4.8
YKA Yellowknife Ar 51.17 37 P **P 13 16 09.2 -0.6**
comp=Z,6.2nm,0.9s,mb4.5,baz=297,slow=7.3,SNR=7.2
YKA LR LR 13 41 17.0
comp=Z,220nm,18.3s,MS4.2,baz=210,slow=40
YKA Yellowknife Ar 51.17 37 *i*P P 13 16 09.1 -0.7
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 51.17 37 P **P 13 16 09.2 -0.6**
YKA LR LR 13 41 17.0
ZRNK Zerenda 51.90 310 *i*P P 13 16 13.3 -1.9
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZRNK Zerenda 51.90 310 *e*P P 13 16 12.9 -2.3
comp=Z,7.9nm,0.8s,mb4.7
CHTO Chiang Mai 52.10 257 *e*P P 13 16 17.4 +0.7
CHTO pmax pmax
comp=Z,57nm,1.6s,mb5.2
CHTO Chiang Mai 52.10 257 *e*P P 13 16 17.4 +0.8
comp=Z,57nm,1.6s,mb5.2
KBS Kingsbay 52.86 351 *i*P P 13 16 22.4 +0.1
FRU Bishkek 53.86 297 *e*P P 13 16 30.0 +0.3
AAK Ala-Archa 54.05 297⇓ *e*P P 13 16 30.2 -0.8
AAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
AAK MLR MLR
comp=Z,1μm,20.0s,MS5.0
AAK Ala-Archa 54.05 297 *e*P P 13 16 30.2 -0.9
comp=Z,12nm,0.8s,mb4.9
KSH Kashi 54.84 293 *e*P P 13 16 38.7 +1.9
KSH *e*AP pP 13 16 47.4 +3.0
KSH *e*XP sP 13 16 49.9 +2.6
KSH *e*PCP PcP 13 17 42.5 +3.6
KSH *e*PP PP 13 18 43.1 +3.4
KSH *e*PPP 13 19 54.3
KSH *e*SCP ScP 13 21 39.5 +3.7
KSH *e*S **S 13 24 16.9 +0.4**
KSH *e*XS sS 13 24 25.9 -3.1
KSH *e*PS 13 24 34.3
KSH *e*SCS ScS 13 26 23.3 -1.2
KSH *e*SS SS 13 27 58.5 -1.4
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=N,849nm,11.6s,MS5.4
KSH LR LR
comp=E,2μm,16.5s,MS5.4
KSH LR LR
comp=Z,4μm,14.4s,MS5.6
GUN Gumba 55.09 275 *e*P P 13 16 39.4 +0.8
ARU Arti 55.31 318⇓ *i*P P 13 16 38.8 -1.4
ARU *e* 13 18 44.3
ARU *e*PPP 13 19 52.4
ARU *e*S **S 13 24 20.5 -2.3**
ARU *e*SS SS 13 27 58.0 -9.3
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.0

ARU MLR MLR
comp=Z,600nm,19.0s,MS4.7
ARU MLR MLR
comp=N,400nm,17.0s,MS4.8
ARU MLR MLR
comp=E,500nm,18.0s,MS4.8
ARU Arti 55.31 318 *e*P P 13 16 39.5 -0.8
comp=E,29nm,1.4s,mb5.1
KKN Kakani 55.58 276 *e*P P 13 16 43.5 +1.3
comp=E,70nm,0.8s,mb5.7
PKI Pulchoki 55.63 275 *e*P P 13 16 43.5 +1.0
comp=E,58nm,1.1s,mb5.5
DMN Daman 55.81 276 *e*P P 13 16 45.1 +1.3
comp=E,62nm,0.8s,mb5.7
GKN Gorkha 55.89 276 *e*P P 13 16 45.5 +1.1
comp=E,95nm,0.9s,mb5.8
HNR Honiara 55.90 172 LR LR 13 36 27.9
comp=E,196nm,20.1s,MS4.2,baz=359,slow=32
KK31 Karatay Array 56.22 299 *i*P P 13 16 46.6 -0.2
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
EDM Edmonton 56.52 46 *e*P P 13 16 48.7 -0.1
KOLN Koldanda 56.75 277 *e*P P 13 16 51.6 +1.1
comp=Z,71nm,0.9s,mb5.7
DAG Danmarks Havn 57.00 358⇑ *i*P P 13 16 51.1 -1.2
comp=Z,9.3nm,0.6s,mb5.0
DAG Danmarks Havn 57.00 358⇑ *i*P P 13 16 51.1 -1.2
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
NEW Newport 57.34 53 LR LR 13 39 02.0
comp=Z,137nm,21.7s,MS4.0,baz=318,slow=33
NEW Newport 57.34 53 P **P 13 16 53.7 -1.0**
NEW pmax pmax
comp=Z,11nm,1.5s
NEW Newport 57.34 53 P **P 13 16 53.7 -1.0**
comp=Z,11nm,1.5s,mb4.7
BOK Bokaro 57.72 272 *e*P P 13 16 56.8 -0.5
BOK AMb AMB 13 17 07.1
comp=Z,19nm,1.1s,mb5.0
YBH Yreka Blue Hor 57.86 62 P **P 13 16 58.8 +0.5**
comp=Z,2.2nm,1.1s,mb4.1,baz=306,slow=4.9,SNR=3.7
YBH LR LR 13 37 17.3
comp=Z,135nm,19.5s,MS4.1,baz=316,slow=31
KLP Kalpa 58.06 284 *e*P P 13 17 01.0 +1.3
KLP AMb AMB 13 17 02.7
comp=Z,36nm,1.1s,mb5.3
ARCES ARCESS Array B 58.21 341 P **P 13 16 60.0 -0.8**
comp=Z,2.4nm,0.7s,mb4.4,baz=24,slow=6.9,SNR=14
ARCES LR LR 13 47 48.3
comp=Z,459nm,18.6s,MS4.6,baz=28,slow=42
TMCR Tamitsa 58.68 332 *e*P P 13 17 00.4 -3.6
TMCR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
AKTK Aktyubinsk 59.01 312 P **P 13 17 04.5 -1.8**
AKTK LR LR 13 45 01.7
AKTO Aktyubinsk 59.01 312 P **P 13 17 04.5 -1.8**
comp=Z,2.9nm,0.7s,mb4.4,baz=58,slow=5.1,SNR=8.7
AKTO LR LR 13 45 01.7
comp=Z,2μm,18.1s,MS5.3,baz=43,slow=39
AKTO Aktyubinsk 59.01 312 *i*P P 13 17 05.1 -1.2
AKTO pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
WVOR Wild Horse Val 59.89 59 *e*P P 13 17 13.0 +0.6
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
WVOR Wild Horse Val 59.89 59 *e*P P 13 17 12.9 +0.5
comp=Z,5.8nm,1.0s,mb4.6
MSO Missoula 59.93 52 *e*P P 13 17 12.0 -0.7
comp=Z,12nm,1.3s,mb4.8
OHCM Honcut 60.03 63 *e*P P 13 17 13.2 -0.2
NIL Nilore 60.08 289 P **P 13 17 14.5 +0.8**
comp=Z,83nm,0.8s,mb5.8,SNR=6.0
SONA Sohna 60.90 281 *e*P P 13 17 20.2 +0.9
SONA AMb AMB 13 17 22.3
comp=Z,24nm,0.5s,mb5.5
AGRA Agra 60.97 280 *e*P P 13 17 20.7 +0.9
EGMT Eagleton 61.45 49 *e*P P 13 17 22.8 -0.2
comp=Z,16nm,1.1s,mb5.1
HLID Hailey 61.66 56 *e*P P 13 17 25.1 +0.6
comp=Z,4.6nm,1.1s,mb4.5
JOF Joensuu 61.68 334 *e*p P 13 17 23.1 -1.5
comp=Z,6.3nm,0.8s,mb4.8
JOF Joensuu 61.68 334 *e*P P 13 17 23.1 -1.5
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
KHET Khetri 61.88 282 *e*P P 13 17 25.8 -0.2
KHET AMb AMB 13 17 26.8
comp=Z,14nm,1.0s,mb5.0
BOZ Bozeman (W) 61.92 52 *e*P P 13 17 26.5 +0.3
BOZ pmax pmax
comp=Z,15nm,1.4s,mb4.9
BOZ Bozeman (W) 61.92 52 *e*P P 13 17 26.5 +0.2
comp=Z,15nm,1.4s,mb4.9
QLMT Earthquake Lak 62.54 53 *e*P P 13 17 31.0 +0.6
NVAR Mina Array Bea 62.55 62 P **P 13 17 30.2 -0.2**
comp=Z,1.6nm,0.8s,mb4.2,baz=288,slow=6.6,SNR=14
GCMT Greycliff 62.90 51 *e*P P 13 17 33.2 +0.4
IMW Indian Meadow 63.41 54 *e*P P 13 17 37.0 +0.8
comp=Z,13nm,1.3s,mb4.9
RLMT Red Lodge 63.54 52 P **P 13 17 35.4 -1.6**
VIS Vishakhapatnam 63.55 268 *e*P P 13 17 39.1 +2.0
VIS AMb AMB 13 17 40.2
comp=Z,36nm,0.8s,mb5.4
TPAW Teton Pass 63.66 54 *e*P P 13 17 38.6 +0.8
comp=Z,17nm,1.2s,mb5.0
AJM Ajmer 63.70 281 *e*P P 13 17 39.5 +1.4
SNOW Snow King Moun 63.79 54 *e*P P 13 17 39.0 +0.3
comp=Z,17nm,1.2s,mb5.0
KAF Kangasniemi 63.79 335 *e*p P 13 17 37.6 -1.1
comp=Z,16nm,0.9s,mb5.0,baz=38,slow=6.2
KAF Kangasniemi 63.79 335 *e*P P 13 17 37.6 -1.1
KAF pmax pmax
comp=Z,16nm,0.9s,mb5.0
REDW Red Top Meadow 63.80 54 *e*P P 13 17 38.7 0.0
comp=Z,16nm,1.1s,mb5.0
BHPL Bhopal 63.92 277 *e*P P 13 17 40.9 +1.4
BHPL AMb AMB 13 17 42.0
comp=Z,36nm,0.8s,mb5.5
FIA1 FINESS Array S 64.39 335 *e*P P 13 17 41.2 -1.3
FINES FINESS Array B 64.39 335 P **P 13 17 41.4 -1.2**
comp=Z,9.8nm,0.7s,mb5.0,baz=40,slow=6.6,SNR=50
FINES LR LR 13 48 35.0
comp=Z,501nm,19.1s,MS4.7,baz=166,slow=39
FINES FINESS Array B 64.39 335 P **P 13 17 41.4 -1.2**
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES MLR MLR
comp=Z,501nm,19.1s
DUG Dugway 64.71 58 *e*P P 13 17 45.2 +0.5
DUG pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
DUG Dugway 64.71 58 *e*P P 13 17 45.2 +0.4
comp=Z,7.8nm,1.2s,mb4.6
NOQ North Oquirrh 64.82 57 P **P 13 17 45.8 +0.3**
BW06 Boulder Array 64.91 54 *e*P P 13 17 44.9 -1.1
comp=Z,5.0nm,1.0s,mb4.5
PDAR Pinedale Array 64.91 54 P **P 13 17 45.9 -0.1**
comp=Z,3.3nm,1.0s,mb4.3,baz=300,slow=3.3,SNR=19
PDAR LR LR 13 45 15.3
comp=Z,122nm,20.2s,MS4.1,baz=218,slow=35
OBN Obninsk 65.64 326 *i*P P 13 17 49.5 -1.2
OBN *e* 13 18 22.5
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,500nm,13.0s,MS4.9
SRU San Rafael 66.76 57 *e*P P 13 17 57.9 0.0
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SRU San Rafael 66.76 57 *e*P P 13 17 57.9 -0.1
comp=Z,7.1nm,0.9s,mb4.7
RSSD Black Hills 67.01 50 *e*P P 13 17 59.1 -0.4
RSSD pmax pmax
comp=Z,15nm,1.3s,mb4.9
RSSD Black Hills 67.01 50 *e*P P 13 17 59.1 -0.4
comp=Z,15nm,1.3s,mb4.9
AFI Afiamalu 67.79 143 LR LR 13 44 03.8
comp=Z,237nm,19.0s,MS4.4,baz=4.1,slow=33
PV10 Paradox Valley 68.11 57 *e*P P 13 18 06.8 +0.3
WRA Warramunga Arr 68.20 199 P **P 13 18 06.1 -0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=17,slow=6.6,SNR=7.3
WRA Warramunga Arr 68.20 199 P **P 13 18 06.1 -0.9**
WRA pmax pmax
comp=Z,10.0nm,0.8s
PV01 Paradox Valley 68.55 57 *e*P P 13 18 08.9 -0.3
NB2 NORSAR Subarra 68.58 341 P **P 13 18 08.2 -1.2**

comp=Z,116nm,2.0s,mb5.5,baz=28,slow=6.2
NB2 NORSAR Subarra 68.58 341 P **P** **13 18 08.2 -1.2**
NB2 pmax pmax
comp=Z,116nm,2.0s,mb5.5
NOA NORSAR Array B 68.58 341 P **P** **13 18 08.2 -1.2**
comp=Z,7.9nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=40
NOA LR LR 13 52 48.6
comp=Z,311nm,18.1s,MS4.6,baz=15,slow=40
NOA NORSAR Array B 68.58 341 P **P** **13 18 08.2 -1.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,311nm,18.1s
SMCO Snowmass 68.76 55 *e*P **P** **13 18 10.9 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
ISCO Idaho Springs 69.10 54 *e*P **P** **13 18 13.1 +0.5**
ISCO pmax pmax
comp=Z,11nm,1.3s,mb4.6
ISCO Idaho Springs 69.10 54 *e*P **P** **13 18 13.1 +0.5**
comp=Z,11nm,1.3s,mb4.6
MVCO Mesa Verde 69.22 58 *e*P **P** **13 18 13.2 -0.1**
GOF Gofitskoye 70.12 315 *e*P **P** **13 18 10.8 -8.1**
KONO Kongsberg 70.19 341 *e*P **P** **13 18 18.8 -0.6**
KONO pmax pmax
comp=Z,47nm,1.4s,mb5.2
KONO Kongsberg 70.19 341 *e*P **P** **13 18 18.8 -0.6**
comp=Z,47nm,1.4s,mb5.2
SDCO Great Sand Dun 70.58 56 *e*P **P** **13 18 22.1 +0.3**
comp=Z,16nm,1.7s,mb4.7
KIV Kislovodsk 71.09 314⇓*e*P **P** **13 18 26.0 +1.2**
KIV pmax pmax
comp=Z,49nm,2.9s,mb4.9
ZEI Tsey 71.34 313 *e*P **P** **13 18 26.1 -0.3**
ZEI *e**PP pP 13 18 33.3 -0.8
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
AKASG Malin Array Be 71.88 326 P **P** **13 18 28.3 -1.3**
comp=Z,22nm,0.7s,mb5.2,baz=34,slow=6.2,SNR=65
AKASG LR LR 13 53 00.1
comp=Z,336nm,18.1s,MS4.7,baz=30,slow=38
AKASG Malin Array Be 71.88 326 P **P** **13 18 28.3 -1.3**
AKASG pmax pmax
comp=Z,22nm,0.7s
AKASG MLR MLR
comp=Z,336nm,18.1s
AKASG Malin Array Be 71.88 326 P **P** **13 18 28.3 -1.3**
AKASG LR LR 13 53 00.1
AKBB Malin Array Si 71.88 326 *e*P **P** **13 18 28.1 -1.5**
AS31 Alice Springs 71.89 199 *e*P **P** **13 18 30.3 +0.7**
ASAR Alice Springs 71.89 199 P **P** **13 18 29.2 -0.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=10,slow=5.4,SNR=19
ASAR Alice Springs 71.89 199 P **P** **13 18 29.3 -0.4**
ASAR pmax pmax
comp=Z,10.0nm,0.6s
LAZ Ladron 71.95 59 *e*P **P** **13 18 31.0 +1.0**
ANMO Albuquerque 71.97 58⇓*e*P **P** **13 18 30.3 +0.2**
GNI Garni 72.81 310 P **P** **13 18 35.2 +0.1**
comp=Z,4.5nm,0.4s,mb4.8,baz=60,slow=8.1,SNR=5.5
GNI Garni 72.81 310 P **P** **13 18 35.1 0.0**
GNI pmax pmax
comp=Z,23nm,0.9s
GNI Garni 72.81 310 P **P** **13 18 35.1 0.0**
comp=Z,23nm,0.9s,mb5.1
BSD Bornholm Skovb 72.91 336 *i* P **P** **13 18 35.5 -0.2**
comp=Z,21nm,1.1s,mb5.0
BSD Bornholm Skovb 72.91 336 *i* P **P** **13 18 35.5 -0.2**
BSD pmax pmax
comp=Z,21nm,1.1s,mb5.0
ANN Anapa 72.98 318 *e*P **P** **13 18 35.1 -1.1**
ANN *e*S S 13 27 59.0 -2.6
ANN pmax pmax
comp=Z,44nm,1.2s,mb5.3
SCHQ Schefferville 73.61 23 LR LR 13 54 03.5
comp=Z,140nm,20.6s,MS4.2,baz=28,slow=38
LVV L'vov 74.53 329⇑*i*P **P** **13 18 43.1 -2.2**
KIS Kishinev 75.01 324 *e*P **P** **13 18 44.0 -4.0**
KIS *e* 13 29 02.0
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,600nm,16.0s
OJC Ojcow 75.66 331 *e*P **P** **13 18 51.1 -0.7**
STHS Stebnicka Huta 75.85 330 *e*P **P** **13 18 52.8 -0.1**
STHS Stebnicka Huta 75.85 330 *e*P **P** **13 18 52.9 0.0**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.85 330 *e*P **P** **13 18 52.9 0.0**
comp=Z,6.8nm,0.8s,mb4.6
KOLS Kolonicke sedl 75.90 329 *e*P **P** **13 18 52.4 -0.7**
BURAR Bucovina Array 75.92 327⇑*i*P **P** **13 18 52.9 -0.3**
BURAR Bucovina Array 75.92 327⇑P **P** **13 18 52.9 -0.3**
UZH Uzhgorod 76.15 329 *e*P **P** **13 18 54.2 -0.4**
UZH *i* 13 19 07.2
NIE Niedzica 76.17 330 *e*P **P** **13 18 55.5 +0.8**
CRVS Cervenica-Dubn 76.21 330 *e*P **P** **13 18 55.0 +0.1**
KSP Ksiaz 76.25 334 *e*P **P** **13 18 54.7 -0.4**
KSP MLR MLR
comp=Z,1μm,18.6s,MS5.3
OKC Ostrava-Krasne 76.53 332 *e*P **P** **13 18 56.8 +0.1**
OKC AMS AMS 13 58 20.0
comp=Z,500nm,19.3s
UPC Upice 76.63 334 *e*P **P** **13 18 56.8 -0.5**
DPC Dobruska-Polom 76.67 333 *e*P **P** **13 18 57.7 +0.2**
DPC AMS AMS 13 58 50.0
comp=Z,700nm,20.3s
BOYT Boyabat 76.76 317 *i* P **P** **13 18 59.2 +1.2**
VRI Vrincioaia 76.77 325⇓*i*P **P** **13 19 00.8 +2.7**
VRI Vrincioaia 76.77 325 P **P** **13 18 59.0 +1.0**
MORC Moravsky Berou 76.78 332⇓*i*P **P** **13 18 57.8 -0.3**
CLL Collm 76.81 336⇓*i*P **P** **13 18 58.3 0.0**
CLL Collm 76.81 336⇓*i*P **P** **13 18 58.3 0.0**
CLL *e*pP pP 13 19 02.0 -4.1
CLL LmV 13 59 00.0
comp=Z,400nm,18.1s
KECS Kecovo 76.91 330 *e*P **P** **13 18 57.9 -1.0**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 76.91 330 *e*P **P** **13 18 57.9 -1.0**
comp=Z,3.9nm,0.8s,mb4.4
BRG Berggiesshubel 76.93 335 *e*P **P** **13 18 58.1 -0.9**
comp=Z,3.6nm,0.8s,mb4.3
BRG
comp=N,161nm,17.7s
BRG
comp=E,116nm,12.9s
BRG
comp=Z,331nm,19.4s
BRG Berggiesshubel 76.93 335 *e*P **P** **13 18 58.1 -0.9**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG MLR MLR
comp=N,4μm,17.7s,MS5.8
BRG MLR MLR
comp=E,161nm,12.9s,MS5.8
BRG MLR MLR
comp=Z,116nm,19.4s
MARD Mardin 76.99 311 *i* P **P** **13 18 58.9 -0.4**
PVCC Panska Ves 77.05 334 *e*P **P** **13 19 00.1 +0.5**
PVCC AMS AMS 13 56 00.0
comp=Z,500nm,15.8s
LPIG La Paz 77.20 69 LR LR 13 47 16.5
comp=Z,120nm,18.6s,MS4.2,baz=96,slow=31
TIRR Tirgusor 77.23 323⇓*i*P **P** **13 19 01.3 +0.6**
TIRR Tirgusor 77.23 323 ⇓P **P** **13 19 01.2 +0.6**
BALT Daday 77.38 318 *i* P **P** **13 19 02.8 +1.3**
MLR Muntele Rosu 77.39 325⇓*i*P **P** **13 19 01.9 +0.3**
MLR Muntele Rosu 77.39 325 ⇓P **P** **13 19 01.9 +0.3**
CTKT Corum 77.44 317 *i* P **P** **13 18 56.4 -5.4**
VYHS Vyhne 77.47 331 *e*P **P** **13 19 01.6 -0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VYHS Vyhne 77.47 331 *e*P **P** **13 19 01.6 -0.4**
comp=Z,7.2nm,1.0s,mb4.6
VYHS *e*PP PP 13 21 46.4 -10
VRAC Vranov 77.49 333⇑*i*P **P** **13 19 01.1 -1.0**
VRAC Vranov 77.49 333 ⇑P **P** **13 19 01.1 -1.0**
PRU Pruhonice 77.53 334 *e*P **P** **13 19 02.4 0.0**
PRU AMS AMS 13 56 50.0
comp=Z,700nm,19.9s
DRGR 77.55 328⇓*i*P **P** **13 19 01.9 -0.5**
DRGR 77.55 328 ⇓P **P** **13 19 01.9 -0.5**
PSZ Piszkesteto 77.60 330⇓*e*P **P** **13 19 03.5 +0.8**
SNX Sinaia 77.67 325⇓*i*P **P** **13 19 04.0 +0.9**
SNX Sinaia 77.67 325 ⇓P **P** **13 19 04.0 +0.8**
VOIR 77.79 325⇑*i*P **P** **13 19 04.1 +0.3**
VOIR 77.79 325 ⇑P **P** **13 19 04.1 +0.3**
MOX Moxa 77.80 336 *e*P **P** **13 19 05.1 +1.2**
comp=Z,20nm,1.3s,mb4.9
MOX Moxa 77.80 336 *e*P **P** **13 19 05.1 +1.2**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TREC Trest 77.86 333 *e*P **P** **13 19 04.9 +0.7**
TREC AMS AMS 13 57 50.0
comp=Z,600nm,16.6s
WTSB Winterswijk 77.86 340 *e*P **P** **13 19 04.6 +0.4**
comp=Z,21nm,1.0s,mb5.0
ELDT Eldivan 78.19 317 *i* P **P** **13 19 06.7 +0.7**
ZST Bratislava 78.30 332 *e*P **P** **13 19 08.7 +2.1**
comp=Z,11nm,1.0s,mb4.7
ZST LR LR
comp=Z,400nm,19.7s,MS4.8
KHC Kasperske Hory 78.58 334 *e*P **P** **13 19 07.7 -0.5**
KHC AMS AMS 13 57 20.0
comp=Z,700nm,18.7s
BRTR Keskin Array B 78.69 317 P **P** **13 19 08.4 -0.3**
comp=Z,3.1nm,1.0s,mb4.2,baz=66,slow=3.1,SNR=14
BRTR Keskin Array B 78.69 317 P **P** **13 19 08.5 -0.3**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
GZR Gura Zlata 78.70 327⇓*i*P **P** **13 19 09.4 +0.6**
GZR Gura Zlata 78.70 327 P **P** **13 19 09.7 +0.9**
GZR Gura Zlata 78.70 327 ⇓P **P** **13 19 09.4 +0.6**
SGKT Sivrigoynuk 78.76 318 *i* P **P** **13 19 07.7 -1.5**
GRA1 Grafenberg Arr 78.77 336 *e*P **P** **13 19 08.8 -0.4**
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 78.77 336 *e*P **P** **13 19 08.8 -0.4**
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 78.77 336 *e*P **P** **13 19 08.8 -0.4**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 78.77 336 *e*P **P** **13 19 08.8 -0.4**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GEC2 GERESS Array S 78.80 334 *e*P **P** **13 19 09.7 +0.3**
GERES GERESS Array B 78.80 334 P **P** **13 19 08.6 -0.8**
comp=Z,2.8nm,0.7s,mb4.3,baz=35,slow=4.9,SNR=23
GERES LR LR 13 57 37.0
comp=Z,474nm,18.9s,MS4.8,baz=18,slow=38
GERES GERESS Array B 78.80 334 P **P** **13 19 08.6 -0.8**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,474nm,18.9s
UMR Umm Al-Rimmam 78.86 301 *e*P **P** **13 19 11.3 +1.6**
UMR AMb AMB 13 19 12.8
comp=Z,70nm,0.8s,mb5.7
MIB Mutribah 78.90 302 *e*P **P** **13 19 10.8 +0.9**
MIB AMb AMB 13 19 13.0
comp=Z,78nm,0.8s,mb5.7
SOP Sopron 78.93 332⇓*e*P **P** **13 19 11.3 +1.2**
CONA Conrad Observa 78.94 332 *i* P **P** **13 19 10.7 +0.5**
comp=Z,7.7nm,0.9s,mb4.6,SNR=7,6
BZS Buzias 78.95 328⇑*i*P **P** **13 19 09.6 -0.6**
BZS Buzias 78.95 328 ⇑P **P** **13 19 09.6 -0.6**
ANTO Ankara 78.97 317⇑*i*P **P** **13 19 11.6 +1.3**
ANTO Ankara 78.97 317 ⇑P **P** **13 19 11.7 +1.3**
HGN Heimansgroeve 79.17 340 *e*P **P** **13 19 12.0 +0.5**
comp=Z,24nm,1.1s,mb5.0
MEM Membach 79.30 339 P **P** **13 19 12.5 +0.4**
RST Umm Al-Ruwaisa 79.32 302 *e*P **P** **13 19 12.8 +0.6**
RST AMb AMB 13 19 15.1
comp=Z,65nm,0.8s,mb5.6
QRN Al-Qurain 79.33 300 *e*P **P** **13 19 13.7 +1.4**
QRN AMb AMB 13 19 15.6
comp=Z,52nm,0.7s,mb5.6
NAY Al-Naaiem 79.36 301 *e*P **P** **13 19 13.8 +1.3**
NAY AMb AMB 13 19 15.5
comp=Z,29nm,0.9s,mb5.2
RDF Al-Radifah 79.42 301 *e*P **P** **13 19 13.8 +1.0**
RDF AMb AMB 13 19 16.1
comp=Z,67nm,0.9s,mb5.5
BCLA Clavier 79.65 340 P **P** **13 19 14.4 +0.4**
GIVF Givet 80.06 340 *e*P **P** **13 19 16.4 +0.2**
ESKT Eskisehir 80.15 318 *i* P **P** **13 19 16.7 -0.1**
BAIF Baives 80.24 340 *e*P **P** **13 19 16.6 -0.6**
comp=Z,25nm,1.2s,mb4.7
BAIF Baives 80.24 340 *e*P **P** **13 19 16.6 -0.6**
BAIF pmax pmax
comp=Z,13nm,1.2s,mb4.7
BAIF Baives 80.24 340 *e*P **P** **13 19 16.6 -0.6**
comp=Z,13nm,1.2s,mb4.7
PERS Pernice 80.32 332 *e*P **P** **13 19 19.0 +1.3**
GROS Grobnik 80.35 332 *e*P **P** **13 19 18.9 +1.2**
ULDT Uludag 80.43 320 *i* P **P** **13 19 18.4 +0.2**
KBA Koelnbreinsper 80.48 333 *i* P **P** **13 19 19.9 +1.4**
comp=Z,29nm,0.8s,mb5.3,SNR=25
KBA Koelnbreinsper 80.48 333 *i* P **P** **13 19 19.9 +1.4**
KBA pmax pmax
comp=Z,29nm,0.8s,mb5.3
BFO Black Forest 80.80 337 P **P** **13 19 20.2 0.0**
comp=Z,66nm,0.9s,mb5.6,SNR=5,2
WTTA Wattenberg 80.84 335⇑*i*P **P** **13 19 20.7 +0.3**
comp=Z,27nm,0.9s,mb5.2,SNR=13
WTTA Wattenberg 80.84 335⇑*i*P **P** **13 19 20.7 +0.3**
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
VTS Vitosha 80.90 325⇑*i*P **P** **13 19 21.8 +1.1**
VTS Vitosha 80.90 325 ⇑P **P** **13 19 21.8 +1.1**
MOTA Moosalm 80.92 335⇑*i*P **P** **13 19 21.1 +0.2**
comp=Z,20nm,1.1s,mb5.0,SNR=12
MOTA Moosalm 80.92 335⇑*i*P **P** **13 19 21.1 +0.2**
MOTA pmax pmax
comp=Z,20nm,1.1s,mb5.0
CRES Cresnjev 80.92 332 *e*P **P** **13 19 21.8 +0.9**
CDF Champ du Feu 81.01 338 *e*P **P** **13 19 20.7 -0.6**
comp=Z,47nm,1.3s,mb5.0
CDF Champ du Feu 81.01 338 *e*P **P** **13 19 20.7 -0.6**
CDF pmax pmax
comp=Z,23nm,1.3s,mb5.0
CDF Champ du Feu 81.01 338 *e*P **P** **13 19 20.7 -0.6**
comp=Z,24nm,1.3s,mb5.0
GDZ Gediz 81.13 319 *i* P **P** **13 19 21.1 -0.9**
MEZF Maizieres J'vi 81.49 339 *e*P **P** **13 19 23.5 -0.4**
comp=Z,22nm,0.9s,mb4.8
MEZF Maizieres J'vi 81.49 339 *e*P **P** **13 19 23.5 -0.4**
comp=Z,22nm,0.9s,mb5.1
HAU Haudompre 81.62 338 *e*P **P** **13 19 23.8 -0.8**
comp=Z,13nm,0.9s,mb4.6
HAU *e*MLR MLR
comp=Z,455nm,18.0s
HAU Haudompre 81.62 338 *e*P **P** **13 19 23.8 -0.8**
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU MLR MLR
comp=Z,450nm,18.0s,MS4.9
HAU Haudompre 81.62 338 *e*P **P** **13 19 23.8 -0.8**
comp=Z,6.6nm,0.9s,mb4.6
HAU LR LR
comp=Z,450nm,18.0s,MS4.9
HINF Hinteralfeld 81.67 338 *e*P **P** **13 19 23.7 -1.1**
OXF Oxford 81.71 48 P **P** **13 19 23.8 -1.3**
OXF pmax pmax
comp=Z,18nm,1.2s,mb4.9
OXF Oxford 81.71 48 P **P** **13 19 23.8 -1.3**
comp=Z,18nm,1.2s,mb4.9
PPT Papeete 81.90 126 LR LR 13 49 45.6
comp=Z,358nm,20.1s,MS4.7,baz=305,slow=31
FLN La Foliniere 82.49 343 *e*P **P** **13 19 28.2 -0.9**
comp=Z,57nm,1.3s,mb5.0
FLN *e*MLR MLR
comp=Z,382nm,18.2s
FLN La Foliniere 82.49 343 *e*P **P** **13 19 28.2 -0.9**
FLN pmax pmax
comp=Z,29nm,1.3s,mb5.0
FLN MLR MLR
comp=Z,380nm,18.3s,MS4.8
FLN La Foliniere 82.49 343 *e*P **P** **13 19 28.2 -0.9**
comp=Z,28nm,1.3s,mb5.0
FLN LR LR
comp=Z,380nm,18.3s,MS4.8
LDF La Druitiere 82.58 343 *e*P **P** **13 19 28.6 -1.0**
comp=Z,24nm,1.2s,mb4.8
LDF La Druitiere 82.58 343 *e*P **P** **13 19 28.6 -1.0**
LDF pmax pmax
comp=Z,12nm,1.2s,mb4.8
LDF La Druitiere 82.58 343 *e*P **P** **13 19 28.6 -1.0**
comp=Z,12nm,1.2s,mb4.8
GRR Gorron 82.92 343 *e*P **P** **13 19 30.7 -0.7**
comp=Z,59nm,1.2s,mb5.2
GRR Gorron 82.92 343 *e*P **P** **13 19 30.7 -0.7**
GRR pmax pmax
comp=Z,30nm,1.2s,mb5.2
GRR Gorron 82.92 343 *e*P **P** **13 19 30.7 -0.7**
comp=Z,30nm,1.2s,mb5.2
LOR Lormes 82.93 340 *e*P **P** **13 19 30.8 -0.6**
comp=Z,17nm,0.9s,mb4.8
LOR *e*MLR MLR
comp=Z,324nm,19.2s
LOR Lormes 82.93 340 *e*P **P** **13 19 30.8 -0.6**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,320nm,19.3s,MS4.7
LOR Lormes 82.93 340 *e*P **P** **13 19 30.8 -0.6**
comp=Z,8.6nm,0.9s,mb4.8
LOR LR LR
comp=Z,320nm,19.3s,MS4.7
ASF Jabal al Asfar 82.97 310 P **P** **13 19 33.2 +1.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=263,slow=3.3,SNR=5.5
ASF Jabal al Asfar 82.97 310 P **P** **13 19 33.2 +1.6**
ASF pmax pmax
comp=Z,3.0nm,0.6s
SSF Saint Saulge 83.21 340 *e*P **P** **13 19 32.2 -0.7**
comp=Z,20nm,1.1s,mb4.8
SSF Saint Saulge 83.21 340 *e*P **P** **13 19 32.2 -0.7**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SSF Saint Saulge 83.21 340 *e*P **P** **13 19 32.2 -0.7**
comp=Z,9.9nm,1.1s,mb4.8
AVF Avril sur Loir 83.50 340 *e*P **P** **13 19 33.9 -0.5**
comp=Z,80nm,1.4s,mb5.2
AVF Avril sur Loir 83.50 340 *e*P **P** **13 19 33.9 -0.5**
AVF pmax pmax
comp=Z,40nm,1.4s,mb5.3
AVF Avril sur Loir 83.50 340 *e*P **P** **13 19 33.9 -0.5**
comp=Z,40nm,1.4s,mb5.2
SMF Signal de Mont 83.52 339 *e*P **P** **13 19 33.9 -0.6**
comp=Z,72nm,1.2s,mb5.4
SMF Signal de Mont 83.52 339 *e*P **P** **13 19 33.9 -0.6**
SMF pmax pmax
comp=Z,36nm,1.2s,mb5.4
SMF Signal de Mont 83.52 339 *e*P **P** **13 19 33.9 -0.6**
comp=Z,36nm,1.2s,mb5.4
FSSB Fossombrone 83.69 332 P **P** **13 19 36.4 +1.0**
SEI Scarperia 83.81 333 P **P** **13 19 38.2 +2.2**
comp=Z,32nm,0.3s,mb5.9
LPL La Plagne 83.82 337 *e*P **P** **13 19 36.4 +0.4**
comp=Z,20nm,1.1s,mb4.8
LPL La Plagne 83.82 337 *e*P **P** **13 19 36.4 +0.4**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
LPL La Plagne 83.82 337 *e*P **P** **13 19 36.4 +0.4**
comp=Z,9.9nm,1.1s,mb4.8
QUIF Quistinic 83.83 344 *e*P **P** **13 19 35.1 -0.9**
LPG La Plagne 83.83 337 *e*P **P** **13 19 36.6 +0.5**
comp=Z,15nm,0.9s,mb4.8
LPG La Plagne 83.83 337 *e*P **P** **13 19 36.6 +0.5**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPG La Plagne 83.83 337 *e*P **P** **13 19 36.6 +0.5**
comp=Z,7.6nm,0.9s,mb4.8
BGF Bois d'Agland 83.84 340 *e*P **P** **13 19 35.6 -0.5**
VMG Vicchio 83.84 333 P **P** **13 19 38.2 +2.1**
comp=Z,29nm,0.8s,mb5.5
CRE Caprese Michel 84.02 333 P **P** **13 19 38.1 +1.1**
CRE pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CRE Caprese Michel 84.02 333 P **P** **13 19 38.1 +1.1**
comp=Z,9.5nm,0.9s,mb4.9
SNTG Esanatoglia 84.03 332 P **P** **13 19 37.9 +0.8**
comp=Z,35nm,1.7s,mb5.2
TCF Toulx Ste Croi 84.24 340 *e*P **P** **13 19 37.7 -0.5**
comp=Z,24nm,1.0s,mb5.0
TCF Toulx Ste Croi 84.24 340 *e*P **P** **13 19 37.7 -0.5**
TCF pmax pmax
comp=Z,12nm,1.0s,mb5.0
TCF Toulx Ste Croi 84.24 340 *e*P **P** **13 19 37.7 -0.5**
comp=Z,12nm,1.0s,mb5.0
TERO Teramo 84.38 331 P **P** **13 19 39.2 +0.3**
comp=Z,13nm,0.9s,mb5.1
MBDF Montbardon 84.54 337 *e*P **P** **13 19 39.3 -0.4**
ORIF Oris-en-Rattie 84.60 337 *e*P **P** **13 19 40.2 +0.2**
comp=Z,16nm,0.8s,mb4.9
ORIF *e*MLR MLR
comp=Z,399nm,23.0s
ORIF Oris-en-Rattie 84.60 337 *e*P **P** **13 19 40.2 +0.2**
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 84.60 337 *e*P **P** **13 19 40.2 +0.2**
comp=Z,7.9nm,0.8s,mb4.9
AQU L'Aquila 84.68 331 *e*P **P** **13 19 39.1 -1.3**
AQU pmax pmax
comp=Z,15nm,0.9s,mb5.1
AQU L'Aquila 84.68 331 *e*P **P** **13 19 39.1 -1.3**
comp=Z,15nm,0.9s,mb5.1
VIVF Saint-Julien-I 84.98 338 *e*P **P** **13 19 41.9 0.0**
comp=Z,80nm,1.6s,mb5.3
VIVF Saint-Julien-I 84.98 338 *e*P **P** **13 19 41.9 0.0**
VIVF pmax pmax
comp=Z,40nm,1.6s,mb5.3
VIVF Saint-Julien-I 84.98 338 *e*P **P** **13 19 41.9 0.0**
comp=Z,40nm,1.6s,mb5.3
CAF Calviac 85.56 340 *e*P **P** **13 19 45.2 +0.4**
comp=Z,18nm,1.0s,mb5.0
CAF Calviac 85.56 340 *e*P **P** **13 19 45.2 +0.4**
CAF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CAF Calviac 85.56 340 *e*P **P** **13 19 45.2 +0.4**
comp=Z,8.8nm,1.0s,mb4.9
SMRF Simiane la Rot 85.56 337 *e*P **P** **13 19 45.0 +0.2**
comp=Z,79nm,1.5s,mb5.4
SMRF Simiane la Rot 85.56 337 *e*P **P** **13 19 45.0 +0.2**
comp=Z,79nm,1.5s,mb5.7
FRF La Foret Royal 85.65 336 *e*P **P** **13 19 44.6 -0.6**
LMR La Mourre 85.90 336 *e*P **P** **13 19 46.0 -0.5**
comp=Z,60nm,1.2s,mb5.4
LMR La Mourre 85.90 336 *e*P **P** **13 19 46.0 -0.5**
LMR pmax pmax
comp=Z,30nm,1.2s,mb5.4
LMR La Mourre 85.90 336 *e*P **P** **13 19 46.0 -0.5**
comp=Z,30nm,1.2s,mb5.4
MTLF Montolieu 87.02 339 *e*P **P** **13 19 50.9 -1.1**
comp=Z,15nm,1.0s,mb4.9
MTLF Montolieu 87.02 339 *e*P **P** **13 19 50.9 -1.1**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
MTLF Montolieu 87.02 339 *e*P **P** **13 19 50.9 -1.1**
comp=Z,7.6nm,1.0s,mb4.9
SJPF Ste Jean 88.03 342 *e*P **P** **13 19 56.6 -0.2**
comp=Z,91nm,1.6s,mb5.5
SJPF Ste Jean 88.03 342 *e*P **P** **13 19 56.6 -0.2**
SJPF pmax pmax
comp=Z,46nm,1.6s,mb5.5
SJPF Ste Jean 88.03 342 *e*P **P** **13 19 56.6 -0.2**
comp=Z,46nm,1.6s,mb5.5
ESDC Sonseca Array 91.91 343 LR LR 14 09 27.4
comp=Z,275nm,18.1s,MS4.7,baz=65,slow=41
KEST Kesra 92.01 331 P **P** **13 20 17.1 +1.7**
comp=Z,1.2nm,0.8s,mb4.3,baz=233,slow=1.8,SNR=5.9
KEST LR LR 14 08 03.7
comp=Z,110nm,18.4s,MS4.3,baz=110,slow=40
DBIC Dimbokro 123.67 334 PKP PKPdf 13 26 04.5 +0.4
comp=Z,3.7nm,1.0s,baz=82,slow=7.1,SNR=3.0
DBIC Dimbokro 123.67 334 PKIKP PKPdf 13 26 04.6 +0.4
DBIC pmax pmax
comp=Z,4.0nm,1.0s
BDFB Brasilia 144.59 37 PKP PKPdf 13 26 41.1 -1.9
comp=Z,5.4nm,0.8s,baz=354,slow=4.1,SNR=6.2
BDFB Brasilia 144.59 37 PKIKP PKPdf 13 26 41.1 -2.0
BDFB pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 148.11 96 PKPbc PKPbc 13 26 52.1 -0.1
comp=Z,4.2nm,0.9s,baz=281,slow=5.3,SNR=7.7
PLCA Paso Flores 148.11 96 PKP2 PKPab 13 26 52.1 -3.0
PLCA pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 148.59 61 PKPbc PKPbc 13 26 52.8 -0.7
comp=Z,4.4nm,0.7s,baz=339,slow=4.1,SNR=13
CPUP Villa Florida 148.59 61 PKP2 PKPab 13 26 52.8 -4.2
CPUP pmax pmax
comp=Z,4.0nm,0.7s
SNAA Sanae 152.23 196 PKPbc PKPbc 13 26 58.8 -3.4
comp=Z,0.5nm,0.6s,baz=197,slow=7.1,SNR=6.5
SNAA Sanae 152.23 196 PKIKP PKPdf 13 26 58.8 +3.3
SNAA pmax pmax
comp=Z,1.0nm,0.6s
VNA3 Neumayer Olymp 153.76 192 *e*PKPdf PKPdf 13 27 04.8 +7.1
VNA3 *e* 13 27 13.6

VNA3		e		13 27 19.5
VNA3		e		13 27 27.6
VNA3		e		13 27 47.5

*BJI **01** 13:13:33.8, 5350N×16750W, h18km, mB4.7, mb4.6, Ms4.5, Msz4.4*

NEIC 01 13:13:34.8, 5346N×16746W, h18km, ML4.0(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCD	**Okmok Cone D**	**0.39**	**266**	P	Pg	13 13 43.7	+0.8
OKCD				S	Sg	13 13 50.8	+2.4
OKCE	**Okmok Cone E**	**0.42**	**266**	P	Pg	13 13 44.4	+0.9
OKCE				S	Sg	13 13 51.8	+2.5
NIKO	**Nikolski**	**0.97**	**241**	eP	Pb	13 13 50.8	-2.2
NIKO				eS	Sb	13 14 03.6	-1.8
AKLV	**Akutan Long Va**	**1.14**	**51**	P	Pn	13 13 55.0	-0.9
AKLV				S	Sb	13 14 10.8	+0.4
AKGG	**Akutan Green G**	**1.15**	**49**	P	Pn	13 13 55.4	-0.5
AKGG				S	Sb	13 14 11.4	+0.8
AKUT	**Akutan**	**1.21**	**55**	P	Pn	13 13 55.9	-1.0
AKUT				S	Sb	13 14 12.5	0.0
AKA	**Akutan**	**1.21**	**55**	P	Pn	13 13 55.9	-1.0
SDPT	**Sand Point**	**4.50**	**62**	eP	Pn	13 14 44.2	+2.1
CHGN	**Chignik**	**5.95**	**58**	eP	Pn	13 15 04.6	+2.6
MDJ	**Mudanjiang**	**40.95**	**284**	P	P	13 21 14.8	-1.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.6s						
LZH	**Lanzhou**	**61.25**	**293**	eP	P	13 23 50.0	+1.2
LZH				AP	pP	13 23 56.0	+1.4
LZH				XP	sP	13 23 59.5	+2.7

*ISCJB **01** 13:13:53.6±0.5, 46.11N±008×15350E±008, h10km, mb4.3/34, Error ellipse: s-maj=12.9km s-min=5.2km az=121.7*
*IDC **01** 13:13:53.6±0.6, 46.15N×15336E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.2/24, mbtmp4.0/18, ML2.9/1, Error ellipse: s-maj=18.8km s-min=16.8km az=153.0*
*BJI **01** 13:13:54.0, 4649N×15345E, h10km, mB4.9, mb4.2, Ms4.3, Msz4.3*
*NEIC **01** 13:13:55.2±0.3, 46.18N×15344E, h10km, mb4.2/8, Error ellipse: s-maj=10.8km s-min=6.9km az=161.0*
*MOS **01** 13:13:56.1±1.3, 4629N×15355E, h29km, mb4.3/16, Error ellipse: s-maj=13.0km s-min=11.2km az=106.2*

ISC 01 13:13:55.7±0.5, 4621N±008×15350E±008, h10km, (h16km±.3km):pP-P), n87, σ1§07/85, mb4.3/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.81**	**20**	ePN	**Pn**	**13 15 04.0**	**-4.1**
SKR				pmax	pmax		
	comp=E,50nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
NEM2	**Nemuro 2**	**6.20**	**246**	P	**Pn**	**13 15 25.7**	**-1.6**
NEM2				eS	**Sn**	**13 16 32.4**	**-5.9**
JRA	**Rausu**	**6.35**	**252**	P	**Pn**	**13 15 30.3**	**+1.1**
JNK	**Nakash**	**6.76**	**250**	P	**Pn**	**13 15 34.7**	**-0.2**
JAK	**Akkeshi**	**7.05**	**246**	eS	**Sn**	**13 16 53.5**	**-5.6**
JTKR	**Abashiri--Toko**	**7.14**	**255**	P	**Pn**	**13 15 40.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.44**	**280**	ePN	**Pn**	**13 15 48.0**	**+3.8**
JMP	**Maruseppu**	**7.50**	**257**	P	**Pn**	**13 15 45.5**	**+0.4**
JAR	**Ashorobuto**	**7.51**	**251**	P	**Pn**	**13 15 44.3**	**-0.9**
JOB	**Onbets**	**7.65**	**248**	P	**Pn**	**13 15 46.4**	**-0.7**
JKK2	**Kamakawa 2**	**7.96**	**257**	P	**Pn**	**13 15 52.6**	**+1.2**
ASAJ	**Asahikawa**	**7.98**	**259**	Pn	**Pn**	**13 15 54.0**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=122,slow=11,SNR=7.8						
ASAJ	**Asahikawa**	**7.98**	**259**	PN	**Pn**	**13 15 54.0**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**8.09**	**247**	P	**Pn**	**13 15 52.7**	**-0.5**
JCH				eS	**Sn**	**13 17 18.0**	**-6.7**
JEM	**Erimo**	**8.53**	**244**	P	**Pn**	**13 15 59.8**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.65**	**247**	P	**Pn**	**13 15 59.8**	**-1.1**
JNBK				eS	**Sn**	**13 17 30.1**	**-8.4**
JKB	**Kayabe**	**9.96**	**249**	P	**Pn**	**13 16 17.1**	**-1.6**
JRG	**Rokugo**	**11.63**	**239**	eS	**Sn**	**13 18 39.9**	**-12**
KLR	**Kul'dur**	**14.94**	**290**	eP	**Pn**	**13 17 26.2**	**-0.6**
MJAR	**Matsushiro Arr**	**14.97**	**235**	Pn	**Pn**	**13 17 26.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=37,slow=11,SNR=5.1						
MAJO	**Matsushiro**	**14.97**	**235**	eP	**Pn**	**13 17 33.9**	**+6.6**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**14.97**	**235**	eP	**Pn**	**13 17 33.9**	**+6.6**
	comp=Z,12nm,0.9s						
MAJO				e		13 17 45.0	
MAT	**Matsushiro**	**14.97**	**235**	P	**Pn**	**13 17 33.9**	**+6.6**
MDJ	**Mudanjiang**	**16.85**	**273**	P	**Pn**	**13 17 51.8**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,1μm,10.8s						
MDJ	**Mudanjiang**	**16.85**	**273**	eP	**Pn**	**13 17 52.2**	**+0.7**
	comp=Z,11nm,0.9s						
CN2	**Changchun**	**19.94**	**273**	eP	**Pn**	**13 18 29.8**	**+0.5**
BILL	**Biiibino**	**22.86**	**12**	eP	**P**	**13 19 01.1**	**+2.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
BOD	**Bodaibo**	**26.54**	**310**	eP	**P**	**13 19 29.0**	**-4.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.7						
HHC	**Hu-ho-hao-te**	**30.60**	**275**	eP	**P**	**13 20 10.3**	**+0.6**
HHC				AP	pP	13 20 14.7	+1.9
HHC				XP	sP	13 20 17.5	+3.5
HHC				AMB	AMB		
	comp=Z,14nm,0.3s,mb5.3						
SONM	**Songino Array**	**31.77**	**290**	P	**P**	**13 20 18.4**	**-1.6**
	comp=Z,0.7nm,0.7s,mb3.6,baz=66,slow=8.8,SNR=5.4						
ZAK	**Zakamensk**	**33.15**	**296**	eP	**P**	**13 20 30.6**	**-1.5**
LZH	**Lanzhou**	**38.17**	**273**	eP	**P**	**13 21 17.5**	**+2.3**
LZH				AP	pP	13 21 22.0	+3.7
LZH				XP	sP	13 21 25.5	+5.9
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,53nm,5.0s						
GTA	**Gaotai**	**39.32**	**280**	eP	**P**	**13 21 25.8**	**+0.9**
GTA				AP	pP	13 21 30.0	+2.0
GTA				XP	sP	13 21 33.1	+3.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s,mb3.9						
INK	**Inuvik**	**41.97**	**32**	P	**P**	**13 21 47.1**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.0,baz=344,slow=5.3,SNR=6.5						
INK	**Inuvik**	**41.97**	**32**	eP	**P**	**13 21 47.0**	**+0.2**
	comp=Z,111nm,0.7s						
WMQ	**Urumqi**	**45.37**	**292**	eP	**P**	**13 22 15.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,74nm,5.2s						
KMI	**Kunming**	**45.41**	**260**	P	**P**	**13 22 14.9**	**+0.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.2						
DLBC	**Dease Lake**	**45.79**	**46**	P	**P**	**13 22 18.6**	**+1.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=281,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**47.43**	**298**	P	**P**	**13 22 29.1**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=64,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**47.43**	**298**	P	**P**	**13 22 29.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**13 22 58.7**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=299,slow=7.7,SNR=4.3						
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**13 22 58.7**	**-0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**13 22 59.3**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=47,slow=11,SNR=4.6						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**13 22 59.3**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.45**	**310**	P	**P**	**13 22 59.9**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**51.45**	**310**	P	**P**	**13 22 59.9**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.2						
AAK	**Ala-Archa**	**54.31**	**297**	eP	**P**	**13 23 21.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**54.31**	**297**	eP	**P**	**13 23 21.4**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2						
GUN	**Gumba**	**55.31**	**276**	eP	**P**	**13 23 32.5**	**+3.1**
KKN	**Kakani**	**55.80**	**276**	eP	**P**	**13 23 34.5**	**+1.6**
	comp=Z,16nm,0.8s,mb5.1						
PKI	**Pulchoki**	**55.85**	**276**	eP	**P**	**13 23 34.1**	**+0.8**
DMN	**Daman**	**56.04**	**276**	eP	**P**	**13 23 35.8**	**+1.2**
	comp=Z,23nm,0.8s,mb5.3						
GKN	**Gorkha**	**56.11**	**277**	eP	**P**	**13 23 36.3**	**+1.1**
	comp=Z,13nm,0.7s,mb5.1						
KOLN	**Koldanda**	**56.98**	**277**	eP	**P**	**13 23 42.5**	**+1.2**
	comp=Z,17nm,0.9s,mb5.1						
ARCES	**ARCESS Array B**	**58.45**	**341**	P	**P**	**13 23 51.1**	**-0.6**
	comp=Z,4.9nm,1.1s,mb4.4,baz=352,slow=5.3,SNR=4.7						
ARCES	**ARCESS Array B**	**58.45**	**341**	P	**P**	**13 23 51.1**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKTK	**Aktyubinsk**	**59.29**	**312**	P	**P**	**13 23 57.5**	**+0.1**
AKTO	**Aktyubinsk**	**59.29**	**312**	P	**P**	**13 23 57.5**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=67,slow=13,SNR=2.8						
BOZ	**Bozeman (W)**	**61.88**	**52**	eP	**P**	**13 24 15.1**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
BOZ	**Bozeman (W)**	**61.88**	**52**	eP	**P**	**13 24 15.1**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**13 24 19.3**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=285,slow=7.9,SNR=14						
TPAW	**Teton Pass**	**63.61**	**54**	eP	**P**	**13 24 27.5**	**+0.8**
	comp=Z,18nm,1.7s,mb4.8						
KAF	**Kangasniemi**	**64.05**	**335**	ep	**P**	**13 24 27.2**	**-2.4**
	comp=Z,6.2nm,0.9s,mb4.6						
KAF	**Kangasniemi**	**64.05**	**335**	eP	**P**	**13 24 27.2**	**-2.4**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**64.65**	**335**	P	**P**	**13 24 32.2**	**-1.3**
	comp=Z,5.2nm,0.9s,mb4.6,baz=41,slow=6.5,SNR=11						
FINES	**FINESS Array B**	**64.65**	**335**	P	**P**	**13 24 32.3**	**-1.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BW06	**Boulder Array**	**64.86**	**54**	eP	**P**	**13 24 34.4**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**64.86**	**54**	P	**P**	**13 24 35.0**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=318,slow=2.0,SNR=9.3						
PV10	**Paradox Valley**	**68.04**	**57**	eP	**P**	**13 24 55.5**	**+0.3**
WRA	**Warramunga Arr**	**68.08**	**199**	P	**P**	**13 24 54.4**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=18,slow=6.7,SNR=6.5						
NB2	**NORSAR Subarra**	**68.83**	**341**	P	**P**	**13 24 59.1**	**-1.1**
	comp=Z,3.3nm,0.7s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.83**	**341**	P	**P**	**13 24 59.2**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=14						
NOA	**NORSAR Array B**	**68.83**	**341**	P	**P**	**13 24 59.2**	**-1.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA	**NORSAR Array B**	**68.83**	**341**	P	**P**	**13 24 59.2**	**-1.0**
ASAR	**Alice Springs**	**71.78**	**199**	P	**P**	**13 25 17.6**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=10,slow=4.9,SNR=9.6						
ASAR	**Alice Springs**	**71.78**	**199**	P	**P**	**13 25 17.6**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.15**	**326**	P	**P**	**13 25 19.1**	**-1.3**
	comp=Z,2.4nm,0.5s,mb4.4,baz=35,slow=6.2,SNR=9.3						
AKASG	**Malin Array Be**	**72.15**	**326**	P	**P**	**13 25 19.2**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**78.97**	**317**	P	**P**	**13 26 00.3**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=73,slow=4.8,SNR=2.9						
BRTR	**Keskin Array B**	**78.97**	**317**	P	**P**	**13 26 00.3**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**79.06**	**334**	P	**P**	**13 25 59.9**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=33,slow=5.1,SNR=5.0						
GERES	**GERESS Array B**	**79.06**	**334**	P	**P**	**13 25 59.9**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**147.89**	**96**	PKPbc	PKPbc	13 33 39.9	-1.1
	comp=Z,2.8nm,1.1s,baz=268,slow=7.6,SNR=4.4						
PLCA	**Paso Flores**	**147.89**	**96**	PKP2	PKPbc	13 33 39.9	-1.1
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CPUP	**Villa Florida**	**148.50**	**62**	PKPbc	PKPbc	13 33 41.8	-0.8
	comp=Z,1.4nm,0.7s,baz=278,slow=2.5,SNR=4.5						
CPUP	**Villa Florida**	**148.50**	**62**	PKP2	PKPbc	13 33 41.8	-0.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SNAA	**Sanae**	**152.10**	**196**	PKPbc	PKPbc	13 33 48.3	-3.0
	comp=Z,0.4nm,0.8s,baz=179,slow=16,SNR=3.8						

MEX 01 13:16:32.8±0.6, 1602N×9769W, h17km±638km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**311**	i P	Pg	13 16 42.1	-1.8
PNIG				i S	Sg	13 16 49.3	-2.2
VHO	**Vista Hermosa**	**1.39**	**41**	i P	Pn	13 16 54.1	-3.3
VHO				i S	Sn	13 17 10.5	-4.9
UTMO	**Huajuapan**	**1.80**	**357**	i P	Pn	13 17 01.1	-2.0
UTMO				i S	Sn	13 17 22.1	-3.5

*JMA **01** 13:19:08.5±0.6, 4647N×15322E, h30km, M4.2*
*IDC **01** 13:19:08.1±2.4, 4624N×15292E, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.8/20, mbtmp4.1/6, Error ellipse: s-maj=65.9km s-min=36.3km az=3.0*
*NEIC **01** 13:19:09.2±0.8, 4617N×15292E, h10km, mb4.0/2, Error ellipse: s-maj=20.3km s-min=11.8km az=137.0*
*BJI **01** 13:19:09.1, 4620N×15290E, h10km, mB4.7, mb4.2*
*ISCJB **01** 13:19:11.0±1.3, 460N±02×1530E±02, h33km, mb4.3/12, Error ellipse: s-maj=31.4km s-min=6.8km az=101.2*
*MOS **01** 13:19:14.4±1.8, 4671N×15279E, h33km, mb4.4/9, Error ellipse: s-maj=18.6km s-min=15.5km az=73.2*

ISC 01 13:19:15.0±1.4, 462N±02×1527E±02, h35km, n49, σ1§64/51, mb4.3/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.03**	**26**	ePN	**Pn**	**13 20 22.9**	**-4.9**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	**Nemuro 2**	**5.70**	**243**	P	**Pn**	**13 20 36.4**	**-0.7**
NEM2				eS	**Sn**	**13 21 40.7**	**-0.5**
JRA	**Rausu**	**5.81**	**250**	P	**Pn**	**13 20 40.8**	**+2.1**
JNK	**Nakash**	**6.23**	**248**	P	**Pn**	**13 20 46.0**	**+1.6**
JAK	**Akkeshi**	**6.54**	**243**	P	**Pn**	**13 20 48.1**	**-0.6**
JAK				eS	**Sn**	**13 22 01.6**	**-0.4**
JTKR	**Abashiri--Toko**	**6.60**	**253**	P	**Pn**	**13 20 52.0**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.88**	**280**	ePN	**Pn**	**13 20 59.5**	**+6.2**
JMP	**Maruseppu**	**6.95**	**255**	P	**Pn**	**13 20 57.1**	**+2.8**
JAR	**Ashorobuto**	**6.98**	**249**	P	**Pn**	**13 20 56.1**	**+1.4**
JAR				eS	**Sn**	**13 22 15.6**	**+2.8**
JOB	**Onbets**	**7.13**	**246**	eS	**Sn**	**13 22 15.3**	**-1.2**
JKK2	**Kamakawa 2**	**7.41**	**255**	P	**Pn**	**13 21 03.9**	**+3.3**
ASAJ	**Asahikawa**	**7.43**	**257**	Pn	**Pn**	**13 21 04.2**	**+3.3**
	comp=Z,0.9nm,0.3s,baz=84,slow=14,SNR=9.6						
ASAJ	**Asahikawa**	**7.43**	**257**	P	**Pn**	**13 21 04.3**	**+3.5**
ASAJ	**Asahikawa**	**7.43**	**257**	PN	**Pn**	**13 21 04.2**	**+3.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.58**	**245**	P	**Pn**	**13 21 02.6**	**-0.3**
JCH				eS	**Sn**	**13 22 25.9**	**-1.6**
JEM	**Erimo**	**8.03**	**242**	eS	**Sn**	**13 22 36.7**	**-2.0**
JNBK	**Urakawa-nobuka**	**8.14**	**245**	eS	**Sn**	**13 22 39.0**	**-2.3**
JNB	**Noboribetsu**	**9.14**	**250**	P	**Pn**	**13 21 26.3**	**+2.0**
JKB	**Kayabe**	**9.43**	**247**	P	**Pn**	**13 21 28.0**	**-0.3**
JTH	**Tanohata**	**10.09**	**235**	eS	**Sn**	**13 23 21.7**	**-7.5**
JRG	**Rokugo**	**11.16**	**237**	eS	**Sn**	**13 23 48.8**	**-6.6**
MAJO	**Matsushiro**	**14.52**	**233**	eP	**Pn**	**13 22 36.1**	**-1.7**
MJAR	**Matsushiro Arr**	**14.52**	**233**	Pn	**Pn**	**13 22 44.0**	**+6.2**
	comp=Z,0.1nm,0.3s,baz=39,slow=8.3,SNR=6.8						
CN2	**Changchun**	**19.37**	**273**	eP	**Pn**	**13 23 39.1**	**+0.2**
CN2				eAP	pP	13 23 45.1	-1.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
INK	**Inuvik**	**42.27**	**32**	P	**P**	**13 27 01.9**	**-3.0**
	comp=Z,1.6nm,0.8s,mb3.7,baz=286,slow=7.4,SNR=3.1						
INK	**Inuvik**	**42.27**	**32**	P	**P**	**13 27 02.0**	**-2.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.92**	**298**	P	**P**	**13 27 41.2**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=63,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**46.92**	**298**	P	**P**	**13 27 41.2**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**50.97**	**310**	P	**P**	**13 28 12.2**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=46,slow=8.3,SNR=5.5						
BVAR	**Borovoye Array**	**50.97**	**310**	P	**P**	**13 28 12.2**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.01**	**310**	eP	**P**	**13 28 11.6**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**51.01**	**310**	eP	**P**	**13 28 11.6**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**53.81**	**296**	eP	**P**	**13 28 33.1**	**-1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**53.81**	**296**	eP	**P**	**13 28 33.1**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0						
KKN	**Kakani**	**55.24**	**275**	eP	**P**	**13 28 46.4**	**+1.9**
	comp=Z,6.6nm,0.7s,mb4.8						
DMN	**Daman**	**55.47**	**275**	eP	**P**	**13 28 48.0**	**+1.8**
GKN	**Gorkha**	**55.55**	**276**	eP	**P**	**13 28 48.2**	**+1.5**
	comp=Z,18nm,1.0s,mb5.1						
KOLN	**Koldanda**	**56.41**	**276**	eP	**P**	**13 28 54.5**	**+1.6**
	comp=Z,12nm,0.9s,mb4.9						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 29 45.6**	**-1.8**
	comp=Z,2.1nm,0.6s,mb4.3,baz=43,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 29 45.6**	**-1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**65.58**	**325**	eP	**P**	**13 29 57.6**	**+2.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
NB2	**NORSAR Subarra**	**68.64**	**341**	P	**P**	**13 30 12.5**	**-2.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**13 30 12.6**	**-2.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=28,slow=6.3,SNR=5.3						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**13 30 12.6**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.64**	**341**	P	**P**	**13 30 12.6**	**-2.0**
AKASG	**Malin Array Be**	**71.83**	**326**	P	**P**	**13 30 32.4**	**-1.7**
	comp=Z,2.6nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**71.83**	**326**	P	**P**	**13 30 32.4**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PLCA	**Paso Flores**	**148.45**	**96**	PKPbc	PKPbc	13 38 55.1	-2.7
	comp=Z,1.5nm,1.0s,baz=22,slow=5.4,SNR=3.0						
PLCA	**Paso Flores**	**148.45**	**96**	PKIKP	PKPbc	13 38 55.1	-2.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						

IDC 01 13:32:32.4±2.2, 4659N×15374E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=58.0km s-min=37.3km az=86.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.23**	**257**	Pn	Pn	13 34 32.5	-0.5
	0.4nm,0.3s,baz=105,slow=16,SNR=5.8						
MKAR	**Makanchi Array**	**47.40**	**298**	P	P	13 41 08.4	+0.1
	0.6nm,0.9s,baz=64,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**64.37**	**335**	P	P	13 43 09.3	-0.7
	1.3nm,0.8s,baz=46,slow=5.5,SNR=5.0						
ASAR	**Alice Springs**	**72.20**	**199**	P	P	13 43 59.0	0.0
	0.9nm,1.2s,baz=14,slow=5.2,SNR=4.4						

*NIED **01** 13:34:00, 4680N×15330E, h32km, Mw4.3 Best double couple: M0:2.85000×10^15 NP1:φs72.00000°, δ82.00000°, λ-102.00000°. NP2:φs309.00000°, δ15.00000°, λ-33.00000°.*
*IDC **01** 13:34:47.0±0.7, 4647N×15324E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, ML3.4/1, Error ellipse: s-maj=20.2km s-min=16.1km az=114.0*
*BJI **01** 13:34:48.1, 4656N×15384E, h35km, mB4.5, mb4.2*
*NEIC **01** 13:34:48.4±0.4, 4644N×15331E, h10km, mb4.2/3, Error ellipse: s-maj=10.3km s-min=7.7km az=133.0*
*SKHL **01** 13:34:49.0±1.2, 4650N×15370E, h49km±17km, mb5.0/4*
*ISCJB **01** 13:34:50.4±0.5, 4644N±006×15334E±008, h33km, mb4.4/41, MS4.1/1, Error ellipse: s-maj=10.9km s-min=4.0km az=100.2*
*MOS **01** 13:34:54.2±0.8, 4655N×153.13E, h68km, mb4.4/17, Error ellipse: s-maj=13.2km s-min=9.0km az=101.4*

ISC 01 13:34:52.6±0.5, 4653N±006×15333E±008, h35km, n114, σ1§23/126, mb4.4/41, MS4.1/1, 4C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**253**	eP	**Pn**	**13 35 50.5**	**-1.3**
KUR				AMB	AMB	13 35 51.6	
	170nm,0.7s						
KUR				AMB	AMB	13 35 51.6	
	100nm,0.7s						
KUR				AMB	AMB	13 35 51.6	
	450nm,0.7s						
SKR	**Severo-Kuril's**	**4.55**	**23**	eP	**Pn**	**13 35 53.5**	**-5.4**
SKR				AMB	AMB	13 35 54.0	
	80

MDJ AMB AMB
comp=Z,8.0nm,0.8s
MDJ AMB AMB
comp=Z,134nm,6.2s
MDJ Mudanjiang 16.72 272 *eP* **Pn 13 38 44.2 +0.2**
comp=Z,4.5nm,0.6s
YAK Yakutsk 20.58 327 *eP* **P 13 39 28.7 +0.3**
BILL Bilibino 22.57 13 *eP* **P 13 39 48.9 -0.8**
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BOD Bodaibo 26.24 310 *eP* **P 13 40 22.2 -2.1**
BOD pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
NJ2 Nanjing 30.08 254 *eP* **P 13 40 58.8 +0.3**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
SONM Songino Array 31.55 290 P **P 13 41 09.8 -1.7**
comp=Z,0.7nm,0.5s,mb3.7,baz=82,slow=6.8,SNR=2.7
SONM Songino Array 31.55 290 P **P 13 41 09.8 -1.7**
SONM pmax pmax
comp=Z,1.0nm,0.5s
TLY Talaya 32.41 298 *i* P **P 13 41 17.4 -1.7**
ZAK Zakamensk 32.90 295 *eP* **P 13 41 21.2 -2.2**
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.7
COLA College 36.22 38 *eP* **P 13 41 51.7 -0.3**
LZH Lanzhou 38.04 272 *eP* **P 13 42 09.5 +2.0**
LZH AP pP 13 42 19.0 +1.3
LZH XP sP 13 42 23.0 +1.1
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.8
LZH Lanzhou 38.04 272 *eP* **P 13 42 09.5 +2.0**
LZH pP pP 13 42 19.0 +1.3
LZH sP sP 13 42 23.0 +1.1
GTA Gaotai 39.15 279 *eP* **P 13 42 19.2 +2.4**
GTA AP pP 13 42 23.7 -3.4
GTA XP sP 13 42 26.6 -4.7
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
INK Inuvik 41.76 32 P **P 13 42 38.6 +0.2**
comp=Z,1.2nm,0.5s,mb3.8,baz=284,slow=6.4,SNR=3.3
INK Inuvik 41.76 32 *eP* **P 13 42 38.4 +0.1**
GYA Guiyang 41.81 258 ⇑*iP* **P 13 42 39.9 +1.1**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
MKAR Makanchi Array 47.17 298 P **P 13 43 21.3 -0.4**
comp=Z,3.2nm,0.7s,mb4.3,baz=64,slow=8.5,SNR=18
MKAR PcP PcP 13 44 53.3 +0.5
comp=Z,0.5nm,0.6s,baz=48,slow=2.8,SNR=3.4
MKAR Makanchi Array 47.17 298 P **P 13 43 21.3 -0.3**
MKAR 13 44 53.3
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.17 298 P **P 13 43 21.3 -0.4**
MKAR PcP PcP 13 44 53.3 +0.5
LSA Lhasa 50.43 273 P **P 13 43 49.0 +2.3**
YKA Yellowknife Ar 51.01 37 P **P 13 43 50.5 -0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=297,slow=7.2,SNR=7.2
YKA Yellowknife Ar 51.01 37 P **P 13 43 50.5 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 51.01 37 P **P 13 43 50.5 -0.5**
BVAR Borovoye Array 51.11 310 P **P 13 43 50.8 -1.0**
comp=Z,1.9nm,0.4s,mb4.4,baz=56,slow=7.9,SNR=18
BVAR Borovoye Array 51.11 310 P **P 13 43 50.8 -1.0**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 51.15 310 *eP* **P 13 43 51.3 -0.8**
ZRNK Zerenda 51.88 310 *iP* **P 13 43 56.3 -1.2**
ZRNK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
AAK Ala-Archa 54.06 297 *eP* **P 13 44 13.1 -0.5**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
AAK Ala-Archa 54.06 297 *eP* **P 13 44 13.1 -0.5**
comp=Z,2.2nm,0.9s,mb4.1
JIRN Jiri 55.11 275 *eP* **P 13 44 23.2 +2.0**
GUN Gumba 55.17 275 *eP* **P 13 44 23.7 +2.1**
ARU Arti 55.27 318 ⇑*iP* **P 13 44 20.9 -1.5**
ARU *e* 13 46 20.7
ARU *e*PPP 13 47 34.6
ARU *e*S **S 13 52 03.1 -0.6**
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KKN Kakani 55.66 276 *eP* **P 13 44 27.4 +2.3**
comp=Z,16nm,0.6s,mb5.2
PKI Pulchoki 55.70 275 *eP* **P 13 44 27.0 +1.5**
comp=Z,6.3nm,0.5s,mb4.9
DMN Daman 55.89 276 *eP* **P 13 44 28.9 +2.1**
comp=Z,13nm,0.5s,mb5.2
GKN Gorkha 55.96 276 *eP* **P 13 44 29.2 +1.9**
comp=Z,18nm,0.5s,mb5.3
KOLN Koldanda 56.82 277 *eP* **P 13 44 35.4 +2.0**
comp=Z,8.0nm,0.6s,mb4.9
ARCES ARCESS Array B 58.11 341 P **P 13 44 42.5 0.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=43,slow=6.8,SNR=3.9
ARCES ARCESS Array B 58.11 341 P **P 13 44 42.5 0.0**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
AKTK Aktyubinsk 58.98 312 P **P 13 44 48.6 0.0**
AKTO Aktyubinsk 58.98 312 P **P 13 44 48.6 0.0**
comp=Z,0.9nm,0.5s,mb4.1,baz=64,slow=12,SNR=3.4
AKTO Aktyubinsk 58.98 312 *iP* **P 13 44 48.3 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
JOF Joensuu 61.59 334 *ep* **P 13 45 05.6 -0.9**
comp=Z,1.9nm,0.5s,mb4.5
JOF Joensuu 61.59 334 *eP* **P 13 45 05.6 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
NVAR Mina Array Bea 62.40 62 P **P 13 45 12.5 +0.6**
comp=Z,0.3nm,0.6s,mb3.6,baz=308,slow=4.2,SNR=4.8
NVAR Mina Array Bea 62.40 62 P **P 13 45 12.5 +0.6**
KAF Kangasniemi 63.70 335 *ep* **P 13 45 18.8 -1.7**
comp=Z,1.4nm,0.4s,mb4.3
KAF Kangasniemi 63.70 335 *eP* **P 13 45 18.8 -1.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
PSI Prapat 64.12 245 P **P 13 45 23.5 +0.2**
comp=Z,2.6nm,0.3s,mb4.7,baz=24,slow=12,SNR=4.3
PSI Prapat 64.12 245 P **P 13 45 23.5 +0.2**
PSI pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
FIA1 FINESS Array S 64.30 335 *eP* **P 13 45 23.5 -0.9**
FINES FINESS Array B 64.30 335 P **P 13 45 23.9 -0.6**
comp=Z,4.2nm,0.4s,mb4.8,baz=38,slow=7.5,SNR=58
FINES FINESS Array B 64.30 335 P **P 13 45 23.9 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.4s
PDAR Pinedale Array 64.76 54 P **P 13 45 27.3 -0.1**
comp=Z,0.5nm,0.7s,mb3.7,baz=338,slow=2.1,SNR=4.3
OBN Obninsk 65.57 326 *eP* **P 13 45 31.9 -0.8**
OBN *e* 13 47 55.0
OBN *e*SS SS 13 58 25.6 -4.1
OBN pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
WRA Warramunga Arr 68.36 199 P **P 13 45 49.1 -1.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=16,slow=6.5,SNR=5.7
WRA Warramunga Arr 68.36 199 P **P 13 45 49.1 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 68.48 341 P **P 13 45 50.6 -0.6**
comp=Z,3.9nm,0.6s,mb4.6,baz=27,slow=6.5
NOA NORSAR Array B 68.48 341 P **P 13 45 51.3 +0.1**
comp=Z,3.3nm,0.5s,mb4.6,baz=28,slow=6.4,SNR=20
NOA NORSAR Array B 68.48 341 P **P 13 45 51.3 +0.1**
NOA pmax pmax
comp=Z,3.0nm,0.5s
FITZ Fitzroy Crossi 69.02 208 P **P 13 45 52.9 -1.7**
comp=Z,2.2nm,1.1s,mb4.0,baz=74,slow=7.4,SNR=3.9
AKASG Malin Array Be 71.81 326 P **P 13 46 11.2 -0.4**
comp=Z,4.2nm,0.5s,mb4.6,baz=34,slow=6.3,SNR=18
AKASG Malin Array Be 71.81 326 *iP* **P 13 46 11.1 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
ASAR Alice Springs 72.05 199 P **P 13 46 13.1 +0.1**
comp=Z,1.2nm,0.7s,mb3.9,baz=12,slow=5.7,SNR=17
ASAR Alice Springs 72.05 199 P **P 13 46 13.1 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
OJC Ojcow 75.58 331 *eP* **P 13 46 33.9 +0.2**
BURAR Bucovina Array 75.85 327 ⇓*iP* **P 13 46 35.4 +0.1**
MORC Moravsky Berou 76.70 332 ⇓*iP* **P 13 46 40.0 -0.1**

CLL Collm 76.72 336 *i* P **P 13 46 40.2 0.0**
comp=Z,7.0nm,0.6s,mb4.8
MLR Muntele Rosu 77.33 325 ⇓*iP* **P 13 46 44.2 +0.6**
DRGR 77.48 328 ⇓*iP* **P 13 46 44.8 +0.4**
VOIR 77.72 326 ⇑*iP* **P 13 46 45.7 -0.1**
KHC Kasperske Hory 78.50 334 ⇓*eP* **P 13 46 50.8 +0.7**
GZR Gura Zlata 78.63 327 ⇓*iP* **P 13 46 50.4 -0.4**
BRTR Keskin Array B 78.65 317 P **P 13 46 50.0 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=80,slow=4.3,SNR=3.9
BRTR Keskin Array B 78.65 317 P **P 13 46 50.1 -0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.72 334 P **P 13 46 50.4 -0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=47,slow=5.9,SNR=11
GERES GERESS Array B 78.72 334 P **P 13 46 50.4 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.7s
BZS Buzias 78.88 328 ⇑*iP* **P 13 46 51.3 -0.9**
MIB Mutribah 78.90 302 *eP* **P 13 46 53.3 +1.0**
MIB AMb AMB 13 46 54.6
comp=Z,16nm,0.5s,mb5.2
RST Umm Al-Ruwaisa 79.33 302 *eP* **P 13 46 55.9 +1.2**
RST AMb AMB 13 46 56.6
comp=Z,17nm,0.7s,mb5.1
QRN Al-Qurain 79.34 301 *eP* **P 13 46 55.9 +1.2**
QRN AMb AMB 13 46 56.4
comp=Z,19nm,0.7s,mb5.1
RDF Al-Radifah 79.42 301 *eP* **P 13 46 56.9 +1.7**
RDF AMb AMB 13 46 57.7
comp=Z,22nm,0.7s,mb5.2

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*NAO **01** 13:41:18.2±1.2, 7814N×1299E, ML2.3*
BER 01 13:41:20.7±3.9, 7818N×1312E, h15km±29km, MD2.8, ML2.5, ML2.3(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.67**	**89**	P	g	P	g	13 41 32.0	-1.8
SPA0	baz=272,slow=16			L	g		13 41 40.7	
KBS	**Kingsbay**	**0.78**	**343**	P	g	P	g	13 41 34.7	-1.2
KBS				L	g		13 41 45.0	
KBS	**Kingsbay**	**0.78**	**343**	*e*P		P	g	13 41 34.9	-1.1
KBS				*e*S		S	g	13 41 45.1	-1.2
KBS				AML		AML		13 41 47.3	
HOPEN	**Hopen**	**3.11**	**117**	*e*P		P	n	13 42 08.0	-1.2
HOPEN				*e*S		S	n	13 42 43.4	-2.6
ARA0	**ARCESS Array S**	**9.31**	**152**	Pn		P	n	13 43 32.5	-1.9
ARA0	baz=348,slow=14			Sn		S	n	13 45 10.0	-8.9
	baz=357,slow=22								

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*IDC **01** 13:43:36.0±0.7, 307S×1294E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.5/19, mbtmp4.5/13, ML4.1/2, MS4.1/3, Ms1 4.1/3, ms1mx3.5/27, Error ellipse: s-maj=34.4km s-min=13.9km az=68.0*
*NEIC **01** 13:43:37.5±0.5, 309S×12957E, h10km, mb4.5/15, Error ellipse: s-maj=16.4km s-min=6.8km az=62.0*
*BJI **01** 13:43:37.5, 310S×12960E, h10km, mB4.9, mb4.6, Ms4.8, Msz4.4*
*ISCJB **01** 13:43:40.7±1.7, 320S±006×1295E±01, h47km±15km, mb4.6/28, MS4.1/4, Error ellipse: s-maj=18.7km s-min=6.4km az=126.0*
ISC 01 13:43:44.2±1.5, 325S±007×1294E±01, h60km±13km, n54, σ0 93/53, mb4.6/28, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.86**	**163**	*e*P		**Pn**	**13 46 02.9**	**-0.2**
KAKA	10.0nm,0.2s			*e*S		**Sn**	**13 47 58.0**	**+5.8**
FITZ	**Fitzroy Crossi**	**15.22**	**194**	*e*P		**Pn**	**13 47 15.3**	**0.0**
FITZ	24nm,0.6s **Fitzroy Crossi**	**15.22**	**194**	Pn		**Pn**	**13 47 15.0**	**-0.3**
	0.4nm,0.3s,baz=11,slow=14,SNR=18							
KKM	**Kota Kinabalu**	**16.11**	**305**	*e*P		**Pn**	**13 47 27.3**	**+0.6**
WRA	**Warramunga Arr**	**17.27**	**164**	P		**Pn**	**13 47 39.0**	**-2.1**
WRA	0.8nm,0.3s,baz=343,slow=13,SNR=42			S		**S**	**13 50 49.0**	**-9.2**
WB2	**Warramunga Arr**	**17.27**	**164**	*e*P		**Pn**	**13 47 40.2**	**-0.9**
KSM	**Kuching**	**19.69**	**284**	*e*P		**Pn**	**13 48 09.6**	**-0.7**
MBWA	**Marble Bar**	**20.15**	**207**	*e*P		**P**	**13 48 13.0**	**-0.3**
AS31	65nm,1.3s **Alice Springs**	**20.75**	**168**	*e*P		**P**	**13 48 20.6**	**+0.8**
ASAR	**Alice Springs**	**20.75**	**168**	P		**P**	**13 48 20.8**	**+1.0**
ASAR	64nm,0.9s,baz=342,slow=9.0,SNR=373			S		**S**	**13 52 07.8**	**-0.3**
CTA	**Charters Tower**	**23.43**	**137**	*e*P		**P**	**13 48 48.9**	**+0.9**
CTA	1.7nm,0.8s,baz=348,slow=22,SNR=3.3 **Charters Tower**	**23.43**	**137**	P		**P**	**13 48 48.3**	**+0.3**
	15nm,1.1s,mb4.3							
CTAO	**Charters Tower**	**23.43**	**137**	*e*P		**P**	**13 48 48.9**	**+0.9**
	15nm,0.9s,mb4.4,baz=323,slow=12,SNR=7.0							
FORT	**Forrest**	**27.41**	**183**	*e*P		**P**	**13 49 23.8**	**-0.2**
JOW	28nm,1.1s,mb4.6 **Kunigami**	**29.93**	**358**	LR		LR	14 00 40.1	
	15nm,0.8s,mb4.6							
	comp=Z,243nm,20.6s,baz=125,slow=34							
KULM	**Kulim**	**29.98**	**286**	*e*P		**P**	**13 49 48.8**	**+1.9**
STKA	**Stephens Creek**	**30.68**	**159**	*e*P		**P**	**13 49 54.2**	**+1.1**
	4.2nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**30.68**	**159**	P		**P**	**13 49 54.5**	**+1.4**
	1.9nm,0.5s,mb4.2,baz=326,slow=10,SNR=5.7							
STKA				LR		LR	14 03 07.7	
	comp=Z,502nm,19.3s,baz=104,slow=38							
PSI	**Prapat**	**31.08**	**281**	P		**P**	**13 49 56.4**	**-0.2**
	2.5nm,0.3s,mb4.5,baz=126,slow=8.3,SNR=3.2							
PSI				LR		LR	14 03 06.0	
	comp=Z,296nm,20.8s,baz=76,slow=38							
CM31	**Chiang Mai Arr**	**36.98**	**307**	P		**P**	**13 50 45.2**	**-2.4**
	3.6nm,0.5s,mb4.5							
CHTO	**Chiang Mai**	**37.17**	**307**	*e*P		**P**	**13 50 48.8**	**-0.4**
	9.3nm,0.8s,mb4.7							
KMI	**Kunming**	**38.30**	**319**	P		**P**	**13 51 00.1**	**+1.3**
KMI				AP		pP	13 51 07.4	-6.6
KMI				XP		sP	13 51 10.7	-10
KMI				AMB		AMB		
	comp=Z,9.0nm,1.5s,mb4.3							
KMI	**Kunming**	**38.30**	**319**	P		**P**	**13 51 00.1**	**+1.3**
	comp=Z,9.0nm,1.5s,mb4.3							
KMI				pP		pP	13 51 07.4	-6.6
KMI				sP		sP	13 51 10.7	-10
MJAR	**Matsushiro Arr**	**40.43**	**11**	P		**P**	**13 51 13.5**	**-3.0**
	comp=Z,1.7nm,0.8s,mb3.8,baz=184,slow=8.1,SNR=5.3							
CD2	**Chengdu**	**41.88**	**326**	*e*P		**P**	**13 51 28.9**	**+0.5**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
MDJ	**Mudanjiang**	**47.66**	**0**	P		**P**	**13 52 15.1**	**+0.7**
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,79nm,4.7s							
LSA	**Lhasa**	**49.15**	**315**	*e*P		**P**	**13 52 26.0**	**+0.2**
	comp=Z,3.3nm,0.5s,mb4.6							
GTA	**Gaotai**	**50.45**	**330**	*e*P		**P**	**13 52 35.5**	**-0.2**
GTA				AP		pP	13 52 39.8	-12
GTA				XP		sP	13 52 42.7	-16
GTA				AMB		AMB		
	comp=Z,6.0nm,1.4s,mb4.4							
GUN	**Gumba**	**52.11**	**309**	*e*P		**P**	**13 52 49.1**	**+0.9**
	comp=Z,16nm,0.7s,mb5.1							
PKI	**Pulchoki**	**52.31**	**309**	*e*P		**P**	**13 52 50.1**	**+0.4**
KKN	**Kakani**	**52.52**	**309**	*e*P		**P**	**13 52 51.3**	**+0.1**
DMN	**Daman**	**52.57**	**309**	*e*P		**P**	**13 52 52.3**	**+0.8**
GKN	**Gorkha**	**53.12**	**309**	*e*P		**P**	**13 52 56.0**	**+0.4**
KOLN	**Koldanda**	**53.82**	**308**	*e*P		**P**	**13 53 01.5**	**+0.7**
	comp=Z,22nm,0.7s,mb5.2							
RPZ	**Rata Peaks**	**54.55**	**144**	P		**P**	**13 53 08.1**	**+2.1**
	comp=Z,9.0nm,1.0s,mb4.8,baz=348,slow=9.3,SNR=4.9							
SONM	**Songino Array**	**54.73**	**341**	P		**P**	**13 53 06.5**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.2,baz=152,slow=8.4,SNR=15							
WMQ	**Urumqi**	**59.98**	**326**	*e*P		**P**	**13 53 44.4**	**+0.1**
WMQ				PCP		PcP	13 54 30.0	+0.1
WMQ				*e*S		**S**	**14 01 51.0**	**-1.1**
WMQ				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb4.9							
WMQ				AMB		AMB		
	comp=Z,107nm,4.0s							
WMQ				LR		LR		
	comp=N,332nm,22.8s							
WMQ				LR		LR		
	comp=E,218nm,19.9s							
WMQ				LR		LR		
	comp=Z,276nm,17.0s							
MKAR	**Makanchi Array 64.81 326** P **P 13 54 16.2 -0.3**							
	comp=Z,1.3nm,0.4s,mb4.3,baz=108,slow=7.8,SNR=11							
BVAR	**Borovoye Array 74.62 328** P **P 13 55 16.2 -0.6**							
	comp=Z,4.3nm,0.8s,mb4.4,baz=126,slow=7.7,SNR=25							
BRVK	**Borovoye 74.69 328** *eP* **P 13 55 16.9 -0.4**							
	comp=Z,5.5nm,0.8s,mb4.5							
ZRNK	**Zerenda 75.33 327** *eP* **P 13 55 20.9 0.0**							
	comp=Z,4.2nm,0.7s,mb4.5							
VNDA	**Vanda 76.21 173** P **P 13 55 26.1 +0.1**							
	comp=Z,0.8nm,0.8s,mb3.7,baz=315,slow=7.3,SNR=5.5							
VNDA	**Vanda 76.21 173** *eP* **P 13 55 26.4 +0.4**							
	comp=Z,5.2nm,1.5s,mb4.2							
SBA	**Scott Base 77.10 172** *eP* **P 13 55 28.8 -2.2**							
MAW	**Mawson 78.22 201** P **P 13 55 37.4 +0.2**							
	comp=Z,2.0nm,0.8s,mb4.1,baz=28,slow=6.9,SNR=4.9							
ARU	**Arti 82.25 328** *eP* **P 13 55 57.7 -1.2**							
	comp=Z,8.1nm,1.2s,mb4.5							
MIB	**Mutribah 84.75 300** *eP* **P 13 56 11.6 -0.2**							
MIB				AMb		AMB		13 56 13.8
	comp=Z,19nm,1.1s,mb5.1							
NAY	**Al-Naaiem 84.77 300** *eP* **P 13 56 11.7 -0.2**							
NAY				AMb		AMB		13 56 13.8
	comp=Z,11nm,0.8s,mb5.0							
RST	**Umm Al-Ruwaisa 85.01 300** *eP* **P 13 56 12.7 -0.3**							
RST				AMb		AMB		13 56 14.9
	comp=Z,25nm,0.8s,mb5.4							
QSPA	**South Pole Qui 86.70 180** *eP* **P 13 56 21.5 +0.1**							
	comp=Z,2.4nm,0.9s,mb4.4							
CFAA	**Coronel Fontan 141.47 155** PKhKP 14 03 06.1							
	comp=Z,0.2nm,0.5s,baz=226,slow=5.1,SNR=3.7							
CPUP	**Villa Florida 149.87 168** PKPbc PKPbc 14 03 29.6 +2.1							
	comp=Z,4.0nm,0.7s,baz=293,slow=0.8,SNR=9.2							
CPUP	**Villa Florida 149.87 168** *e*PKPbc PKPbc 14 03 29.8 +2.3							
LPAZ	**La Paz 153.95 139** PKPbc PKPbc 14 03 38.1 +1.4							
	comp=Z,1.2nm,1.0s,baz=220,slow=6.9,SNR=4.3							

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*CSEM **01** 14:02:04.2, 3627N×321E, h0km, ML2.8, After ALG*
*CRAAG **01** 14:02:04.2, 3627N×321E, Ml2.8*
MDD 01 14:02:03.2±3.6, 3605N×317E, h43km±24km, mb3.1/4, Error ellipse: s-maj=41.7km s-min=13.1km az=3.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.23**	**311**	P		Pn	14 02 10.8	-0.2
ADJB	**Djebel Djouab**	**0.24**	**63**	P		Pn	14 02 10.8	-0.3
ABA	**Alger-Bouzarea**	**0.76**	**352**	P		Pn	14 02 16.9	-0.6
EIBI	**Ibiza**	**3.31**	**335**	Pn		Pn	14 02 51.6	-0.8
EIBI	0.2nm,0.1s,SNR=7.9			Sn		Sn	14 03 21.1	-9.5
ETOS	**Mallorca**	**3.73**	**356**	Pn		Pn	14 02 57.6	-0.6
ETOS	0.3nm,0.1s,SNR=7.9			Sn		Sn	14 03 34.6	-6.2
EBEN	**Beniarda**	**3.79**	**315**	Pn		Pn	14 03 00.3	+1.2
EBEN	0.1nm,0.1s,SNR=7.9			Sn		Sn	14 03 32.2	-10
ETOB	**Tobarra**	**4.57**	**306**	Pn		Pn	14 03 07.9	-1.9
ETOB	0.2nm,0.2s,SNR=7.9			Sn		Sn	14 03 51.5	-10

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*ISCJB **01** 14:08:17.0±1.9, 86S±02×1598E±02, h80km±18km, mb3.7/6, Error ellipse: s-maj=40.3km s-min=28.2km az=41.2*
*NEIC **01** 14:08:16.1±3.4, 837S×15956E, h47km±33km, mb3.8/1, Error ellipse: s-maj=31.1km s-min=26.1km az=142.0*
*IDC **01** 14:08:17.4±2.0, 850S×15972E, h65km±23km, mb3.7/6, mb1 3.8/6, mb1mx3.7/12, mbtmp4.0/6, MS3.4/4, Ms1 3.4/4, ms1mx3.2/28, Error ellipse: s-maj=39.9km s-min=25.4km az=105.0*
ISC 01 14:08:17.4±2.2, 85S±02×1599E±02, h72km±20km, n16, σ0 63/15, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.94**	**176**	P		**Pn**	**14 08 34.1**	**-1.1**
HNR	310nm,0.3s,baz=260,slow=1.6,SNR=397			S		**Sn**	**14 08 49.0**	**+0.6**
HNR	2μm,0.3s,baz=90,slow=20,SNR=84 **Honiara**	**0.94**	**176**	*e*Pn		**Pn**	**14 08 33.8**	**-1.3**
HNR				*e*Sn		**Sn**	**14 08 49.7**	**+1.3**
DZM	**Mont Dzumac**	**14.91**	**156**	P		**Pn**	**14 11 50.0**	**+5.9**
	0.5nm,0.3s,baz=339,slow=19,SNR=6.8							
DZM				LR		LR	14 16 14.5	
	comp=Z,178nm,20.6s,baz=278,slow=32							
CTA	**Charters Tower**	**17.51**	**227**	LR		LR	14 16 56.0	
	comp=Z,136nm,21.3s,baz=38,slow=30							
GUMO	**Guam**	**26.52**	**326**	LR		LR	14 22 38.6	
	comp=Z,26nm,18.9s,baz=140,slow=33							
WB2	**Warramunga Arr**	**27.19**	**243**	*e*P		**P**	**14 13 54.0**	**-0.2**
WRA	**Warramunga Arr**	**27.20**	**243**	P		**P**	**14 13 54.3**	**0.0**
	2.2nm,0.8s,mb3.7,baz=66,slow=9.0,SNR=19							
STKA	**Stephens Creek**	**28.82**	**214**	P		**P**	**14 14 08.6**	**-0.1**
	0.8nm,0.5s,mb3.6,baz=28,slow=16,SNR=3.7							
STKA	**Stephens Creek**	**28.82**	**214**	P		**P**	**14 14 08.6**	**-0.1**
AS31	**Alice Springs**	**29.08**	**236**	*e*P		**P**	**14 14 11.5**	**+0.5**
ASAR	**Alice Springs**	**29.08**	**236**	P		**P**	**14 14 10.6**	**-0.5**
	0.8nm,0.6s,mb3.5,baz=62,slow=9.8,SNR=19							
ASAR				LR		LR	14 25 44.1	
	comp=Z,149nm,18.0s,baz=252,slow=36							
VNDA	**Vanda**	**69.01**	**180**	P		**P**	**14 19 14.8**	**-0.3**
	0.7nm,0.6s,mb3.6,baz=347,slow=6.4,SNR=4.0							
VNDA	**Vanda**	**69.01**	**180**	*e*P		**P**	**14 19 15.2**	**0.0**
	1.0nm,0.8s,mb3.7							
SONM	**Songino Array**	**73.25**	**326**	P		**P**	**14 19 41.7**	**+0.9**
	2.1nm,0.8s,mb4.0,baz=135,slow=5.7,SNR=13							
MKAR	**Makanchi Array**	**87.73**	**318**	P		**P**	**14 20 58.0**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=92,slow=7.3,SNR=5.6							
ESDC	**Sonseca Array**	**145.74**	**338**	PKPbc		PKPbc	14 27 49.4	+1.3
	0.7nm,0.9s,baz=7.6,slow=3.9,SNR=4.4							

IDC 01 14:17:04.8±1.2, 4618N×15340E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=36.2km s-min=31.9km az=50.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.91**	**259**	Pn		Pn	14 19 04.7	+3.6
	0.4nm,0.3s,baz=62,slow=4.4,SNR=5.7							
MJAR	**Matsushiro Arr**	**14.91**	**235**	Pn		Pn	14 20 41.8	+5.0
	0.1nm,0.3s,baz=35,slow=8.0,SNR=6.4							
MKAR	**Makanchi Array**	**47.38**	**298**	P		P	14 25 40.4	-0.3
	0.8nm,0.8s,baz=57,slow=10,SNR=5.8							
BVAR	**Borovoye Array**	**51.38**	**310**	P		P	14 26 10.4	-0.8
	0.3nm,0.5s,baz=72,slow=6.2,SNR=2.6							
NVAR	**Mina Array Bea**	**62.52**	**62**	P		P	14 27 30.2	0.0
	0.1nm,0.6s,baz=312,slow=4.6,SNR=4.2							
FINES	**FINESS Array B**	**64.64**	**335**	P		P	14 27 43.7	-0.5
	2.6nm,0.9s,baz=46,slow=8.1,SNR=5.0							
NOA	**NORSAR Array B**	**68.83**	**341**	P		P	14 28 11.1	+0.1
	0.4nm,0.8s,baz=26,slow=6.0,SNR=3.6							
ASAR	**Alice Springs**	**71.73**	**199**	P		P	14 28 28.8	0.0
	0.5nm,0.9s,baz=13,slow=5.3,SNR=4.8							

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*IDC **01** 14:22:58.1±6.4, 4670N×15346E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=136.3km s-min=39.7km az=134.0*
*NEIC **01** 14:22:59.7±3.4, 4676N×15353E, h10km, mb4.0/1, Error ellipse: s-maj=75.6km s-min=15.6km az=117.0*

MJAR Matsushiro Arr 15.09 232 Pn **Pn 14 26 35.8 +0.2**
0.2nm,0.3s,baz=46,slow=9.4,SNR=4.7
SONM Songino Array 31.25 289 P **P 14 29 22.9 +1.5**
0.3nm,0.5s,mb3.4,baz=84,slow=8.1,SNR=2.9
MKAR Makanchi Array 46.85 297 P **P 14 31 31.8 +0.2**
0.3nm,0.4s,mb3.6,baz=64,slow=7.0,SNR=4.4
FINES FINESS Array B 63.94 335 P **P 14 33 34.5 +0.1**
0.9nm,0.7s,mb3.9,baz=38,slow=7.2,SNR=5.0
AKASG Malin Array Be 71.44 326 P **P 14 34 20.7 -1.1**
0.5nm,0.5s,mb3.7,baz=33,slow=6.2,SNR=2.9

*IDC **01** 14:24:00.8±1.2, 6198S×16102W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/12, mbtmp3.9/5, ML3.3/1, MS4.3/16, Ms1 4.2/16, ms1mx4.1/27, Error ellipse: s-maj=47.7km s-min=26.6km az=15.0*
*ISCJB **01** 14:24:04.0±1.0, 6223S±0.10×1623W±.04, h10km, mb4.2/6, MS4.2/16, Error ellipse: s-maj=25.2km s-min=14.0km az=172.4*
*NEIC **01** 14:24:04.3±0.8, 6212S×16176W, h10km, mb4.2/5, Error ellipse: s-maj=20.5km s-min=13.5km az=66.0*
*GCMT **01** 14:24:04.3±0.5, 6253S×16200W, h12km, MW4.9/54, Moment Tensor Solution. s13,c14; s54,c62; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.18; $M_{\theta\theta}$2.87±.14; $M_{\phi\phi}$-2.70±.14; $M_{r\theta}$-0.85±.51; $M_{\theta\phi}$-0.28±.19; $M_{\phi r}$1.20±.47; Best double couple: $M_0$3.16700×10^{16} NP1:ϕ_s229.00000°, δ62.00000°, λ-176.00000°. NP2: ϕ_s137.00000°, δ86.00000°, λ-28.00000°. Principal axes: T 3.1540, Plg16.0000°, Azm186.0000°; N 0.0260, Plg62.0000°, Azm310.0000°; P -3.1790, Plg22.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 14:24:05.3±1.0, 6227S±009×1621W±04, h10km, n31, σ0972/13, mb4.2/6, MS4.2/16, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.45**	**200**	*e*P	**Pn**	**14 28 20.5**	**-0.6**
	39nm,1.6s						
VNDA	**Vanda**	**19.10**	**203**	P	**Pn**	**14 28 29.8**	**+0.8**
	0.1nm,0.3s,baz=58,slow=15,SNR=16						
VNDA				LR	LR	14 33 51.7	
	comp=Z,1μm,21.6s,baz=61,slow=30						
VNDA	**Vanda**	**19.10**	**203**	P	**Pn**	**14 28 29.5**	**+0.5**
	6.1nm,1.0s						
VNDA				LR	LR	14 33 51.7	
URZ	**Urewera**	**27.20**	**322**	LR	LR	14 38 49.1	
	comp=Z,439nm,19.0s,MS4.0,baz=335,slow=32						
QSPA	**South Pole Qui**	**27.85**	**180**	*e*P	**P**	**14 29 55.8**	**+0.8**
	3.7nm,1.0s,mb4.0						
RAO	**Raoul Island**	**34.61**	**335**	LR	LR	14 40 48.4	
	comp=Z,360nm,21.4s,MS4.1,baz=103,slow=29						
TBI	**Tubuai**	**39.84**	**18**	*e*LQ		14 40 45.7	
	239nm,29.2s						
TBI				*e*LR	LR	14 42 26.0	
	695nm,27.5s,baz=189						
RKT	**Rikitea**	**43.26**	**38**	*e*LQ		14 42 04.4	
	908nm,29.2s						
RKT				*e*LR	LR	14 44 12.4	
	303nm,27.2s,baz=180						
PPT	**Papeete**	**45.51**	**17**	*e*S	**S**	**14 39 07.9**	**+1.1**
	76nm,26.8s						
PPT				*e*LQ		14 43 07.7	
	681nm,29.8s						
PPT				*e*LR	LR	14 45 11.7	
	801nm,25.2s,baz=195						
PPT	**Papeete**	**45.51**	**17**	LR	LR	14 46 23.8	
	comp=Z,431nm,18.7s,MS4.4,baz=184,slow=30						
MAW	**Mawson**	**46.40**	**202**	LR	LR	14 50 21.7	
	comp=Z,132nm,19.4s,MS3.9,baz=136,slow=34						
MAW	**Mawson**	**46.40**	**202**	*e*P	**P**	**14 32 31.8**	**-0.1**
	8.0nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**46.73**	**284**	P	**P**	**14 32 35.1**	**+0.6**
	1.8nm,0.9s,mb4.0,baz=135,slow=5.7,SNR=2.7						
STKA	**Stephens Creek**	**46.73**	**284**	P	**P**	**14 32 34.0**	**-0.5**
AFI	**Afiamalu**	**48.78**	**348**	LR	LR	14 48 09.2	
	comp=Z,240nm,20.1s,MS4.2,baz=141,slow=30						
PLCA	**Paso Flores**	**55.62**	**113**	LR	LR	14 51 46.8	
	comp=Z,180nm,21.9s,MS4.1,baz=200,slow=30						
TAOE	**Nuku Hiva Isla**	**55.68**	**27**	*e*LR	LR	14 49 47.3	
	746nm,26.5s						
AS31	**Alice Springs**	**57.24**	**282**	*e*P	**P**	**14 33 52.7**	**-0.2**
ASAR	**Alice Springs**	**57.24**	**282**	P	**P**	**14 33 53.0**	**+0.2**
	6.3nm,0.9s,mb4.7,baz=151,slow=6.9,SNR=18						
ASAR				LR	LR	14 54 07.6	
	comp=Z,300nm,21.5s,MS4.4,baz=158,slow=31						
WRA	**Warramunga Arr**	**60.27**	**284**	P	**P**	**14 34 13.4**	**-0.5**
	1.8nm,0.9s,mb4.1,baz=156,slow=5.5,SNR=9.8						
WRA				LR	LR	14 58 50.0	
	comp=Z,148nm,20.8s,MS4.1,baz=150,slow=34						
CFAA	**Coronel Fontan**	**64.29**	**109**	LR	LR	14 56 24.2	
	comp=Z,15nm,20.7s,MS3.2,baz=77,slow=30						
LVC	**Limon Verde**	**71.72**	**104**	LR	LR	14 58 06.6	
	comp=Z,187nm,20.1s,MS4.3,baz=206,slow=29						
CPUP	**Villa Florida**	**73.58**	**115**	LR	LR	15 03 15.0	
	comp=Z,161nm,18.9s,MS4.3,baz=187,slow=32						
NNA	**Nana**	**77.29**	**92**	LR	LR	15 01 49.3	
	comp=Z,176nm,18.5s,MS4.4,baz=150,slow=30						
LPAZ	**La Paz**	**77.58**	**101**	P	**P**	**14 35 56.9**	**-4.7**
	0.5nm,0.5s,mb3.7,baz=219,slow=6.5,SNR=2.5						
LPAZ	**La Paz**	**77.58**	**101**	*e*P	**P**	**14 35 59.9**	**-1.7**
	2.5nm,1.1s,mb4.1						
ATAH	**Atahualpa**	**80.93**	**88**	LR	LR	15 03 41.4	
	comp=Z,180nm,20.5s,MS4.4,baz=345,slow=30						
BDFB	**Brasilia**	**86.98**	**118**	LR	LR	15 11 57.0	
	comp=Z,270nm,19.4s,MS4.7,baz=51,slow=33						
BOSA	**Boshof**	**89.25**	**186**	LR	LR	15 12 52.2	
	comp=Z,320nm,18.8s,MS4.8,baz=172,slow=33						
ROSC	**El Rosal**	**93.24**	**86**	LR	LR	15 13 34.3	
	comp=Z,70nm,18.8s,MS4.1,baz=13,slow=32						
ZRNK	**Zerenda**	**151.80**	**274**	*e*PKPbc	PKPbc	14 43 58.9	-1.4

IDC 01 14:33:07.8±4.0, 4853S×12444E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/11, mbtmp3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/23, Error ellipse: s-maj=138.8km s-min=73.6km az=117.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.50**	**338**	LR	LR	14 41 33.0	
	comp=Z,187nm,21.3s,baz=297,slow=31						
STKA	**Stephens Creek**	**21.09**	**44**	P	P	14 37 53.8	0.0
	3.3nm,0.9s,baz=219,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**25.92**	**20**	P	P	14 38 41.6	0.0
	0.9nm,0.9s,baz=190,slow=10,SNR=7.3						
YKA	**Yellowknife Ar**	**145.12**	**44**	PKPbc	PKPbc	14 52 44.6	-2.1
	1.0nm,0.7s,baz=257,slow=3.8,SNR=5.2						

IDC 01 14:34:50.0±41.0, 6206S×16339W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/12, mbtmp3.4/3, MS4.0/8, Ms1 4.0/8, ms1mx3.6/28, Error ellipse: s-maj=960.6km s-min=47.1km az=78.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.06**	**202**	P	Pn	14 39 13.4	-1.1
	0.1nm,0.3s,baz=54,slow=16,SNR=6.8						
VNDA				LR	LR	14 44 32.8	
	comp=Z,538nm,20.5s,baz=58,slow=31						
URZ	**Urewera**	**26.69**	**324**	LR	LR	14 49 09.9	
	comp=Z,197nm,20.6s,baz=36,slow=32						
PPT	**Papeete**	**45.50**	**19**	LR	LR	14 56 49.0	
	comp=Z,252nm,19.4s,baz=290,slow=29						
MAW	**Mawson**	**46.37**	**202**	LR	LR	15 01 42.0	
	comp=Z,93nm,20.5s,baz=126,slow=35						
AFI	**Afiamalu**	**48.46**	**349**	LR	LR	14 58 18.6	
	comp=Z,167nm,19.3s,baz=87,slow=29						
RPN	**Rapa Nui**	**49.72**	**71**	LR	LR	14 59 06.6	
	comp=Z,208nm,19.3s,baz=342,slow=29						
PLCA	**Paso Flores**	**56.24**	**114**	LR	LR	15 02 17.5	
	comp=Z,142nm,19.2s,baz=194,slow=29						
ASAR	**Alice Springs**	**56.62**	**283**	P	P	14 44 34.5	-0.3
	0.3nm,0.8s,baz=153,slow=8.3,SNR=4.9						
ASAR				LR	LR	15 08 57.0	
	comp=Z,75nm,18.0s,baz=136,slow=36						
WRA	**Warramunga Arr**	**59.65**	**285**	P	P	14 44 55.9	-0.1
	0.6nm,0.8s,baz=153,slow=5.6,SNR=4.1						

*ISCJB **01** 14:55:40.7±0.7, 2405S±005×668W±0.1, h207km±17km, mb3.3/1, Error ellipse: s-maj=20.5km s-min=8.7km az=175.5*
*IDC **01** 14:55:41.5±1.0, 2403S×6671W, h192km±16km, mb3.2/1, mb1 3.2/6, mb1mx3.1/18, mbtmp3.6/6, Error ellipse: s-maj=20.5km s-min=13.7km az=84.0*
*NEIC **01** 14:55:42.0±0.7, 2398S×6668W, h192km±13km, Error ellipse: s-maj=14.0km s-min=11.6km az=93.0*

ISC 01 14:55:42.2±0.8, 2397S±007×667W±01, h194km±18km, n10, σ0967/14, mb3.3/1, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**303**	P	**Pn**	**14 56 26.0**	**+0.8**
	27nm,0.3s,baz=128,slow=5.6,SNR=282						
LVC				S	**Sn**	**14 56 58.9**	**+0.2**
	8.6nm,0.3s,baz=255,slow=22,SNR=10.0						
LVC	**Limon Verde**	**2.46**	**303**	↑*i*Pn	**Pn**	**14 56 25.8**	**+0.5**
LVC				*e*Sn	**Sn**	**14 56 58.4**	**-0.3**
LVC				S	**Sn**	**14 56 59.0**	**+0.2**
CFAA	**Coronel Fontan**	**7.73**	**190**	P	**Pn**	**14 57 31.2**	**-0.6**
	0.0nm,0.3s,baz=15,slow=5.7,SNR=7.2						
CFAA				S	**Sn**	**14 58 53.6**	**-5.3**
	0.1nm,0.3s,baz=252,slow=16,SNR=8.9						
LPAZ	**La Paz**	**7.77**	**350**	P	**Pn**	**14 57 33.0**	**+0.6**
	0.2nm,0.3s,baz=156,slow=7.2,SNR=7.3						
LPAZ				S	**Sn**	**14 58 59.3**	**-0.6**
	0.0nm,0.3s,baz=38,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**8.79**	**107**	P	**Pn**	**14 57 46.0**	**+0.3**
	0.3nm,0.3s,baz=285,slow=9.5,SNR=5.8						
CPUP	**Villa Florida**	**8.79**	**107**	*e*P	**Pn**	**14 57 45.8**	**+0.1**
SIV	**San Ignacio**	**9.53**	**35**	P	**Pn**	**14 57 54.5**	**-0.9**
	0.2nm,0.3s,baz=223,slow=15,SNR=4.0						
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**14 59 54.6**	**+1.0**
	0.4nm,0.3s,baz=254,slow=11,SNR=7.8						
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P	**P**	**15 07 09.2**	**-0.3**
	0.4nm,0.5s,mb3.3,baz=259,slow=5.4,SNR=6.5						
WRA	**Warramunga Arr**	**131.78**	**207**	PKP	PKPdf	15 14 32.9	+0.9
	0.1nm,0.3s,baz=152,slow=1.8,SNR=6.2						

*NIED **01** 15:01:00, 4630N×15370E, h20km, Mw4.7 Best double couple: $M_0$1.13000×10^{16} NP1:ϕ_s68.00000°, δ87.00000°, λ101.00000°. NP2:ϕ_s172.00000°, δ11.00000°, λ14.00000°.*
*SKHL **01** 15:01:14.0±2.0, 4627N×15395E, h50km±19km, mb5.0/3, mbh4.9/3, Ms4.5/6, msh5.3/3*
*BJI **01** 15:01:15.3, 4681N×15354E, h15km, mB4.9, mb4.5, Ms4.5, Msz4.3*
*IDC **01** 15:01:15.2±0.5, 4652N×15327E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.4/26, mbtmp4.3/21, ML3.7/1, MS4.1/11, Ms1 4.1/11, ms1mx3.7/33, Error ellipse: s-maj=16.8km s-min=13.9km az=101.0*
*ISCJB **01** 15:01:17.0±0.9, 4638N±004×15346E±004, h23km±6km, mb4.7/79, MS4.3/26, Error ellipse: s-maj=7.3km s-min=3.8km az=124.3*
*NEIC **01** 15:01:16.9±0.3, 4651N×15339E, h10km, mb4.7/37, MS4.5/3, Error ellipse: s-maj=7.6km s-min=5.2km az=145.0*
*MOS **01** 15:01:18.2±1.1, 4648N×15344E, h30km, mb4.9/44, MS4.1/16, Error ellipse: s-maj=8.6km s-min=5.5km az=106.3*
*JMA **01** 15:01:18.3±1.0, 4630N×15369E, h30km, M5.0*
*SZGRF **01** 15:01:25.1, 4655N×15169E, h33km, mb4.8, Kuril Islands, Russia*

ISC 01 15:01:20.9±0.5, 4646N±004×15340E±005, h38km±4km, h18km±5.6km: pP-P, n279, σ1918/305, mb4.7/79, MS4.3/26, 39C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.06**	**254**	*e*P	**Pn**	**15 02 18.0**	**-2.5**
KUR				AMB	AMB	15 02 27.6	
	190nm,0.6s						
KUR				AMB	AMB	15 02 27.6	
	230nm,0.6s						
KUR				AMB	AMB	15 02 27.6	
	550nm,0.6s						
KUR				*i* S	**Sn**	**15 03 04.5**	**-2.2**
KUR				A		15 03 21.0	
	1μm,0.6s						
KUR				A		15 03 21.0	
	760nm,0.6s						
KUR				A		15 03 22.4	
	7μm,2.0s						
KUR				A		15 03 22.4	
	3μm,2.0s						
SKR	**Severo-Kuril's**	**4.59**	**22**	*e*P	**Pn**	**15 02 22.0**	**-5.8**
SKR				AMB	AMB	15 02 25.5	
	220nm,1.0s						
SKR				AMB	AMB	15 02 25.5	
	80nm,0.5s						
SKR				AMB	AMB	15 02 25.5	
	150nm,0.5s						
SKR				*e*S	**Sn**	**15 03 14.5**	**-5.4**
SKR				A		15 03 38.6	
	3μm,4.0s						
SKR				A		15 03 38.6	
	2μm,4.0s						
SKR				A		15 03 38.6	
	240nm,0.8s						
SKR				A		15 03 38.6	
	380nm,0.6s						
SKR				A		15 03 38.6	
	160nm,0.6s						
SKR				AMS	AMS	15 04 10.0	
	3μm,15.0s						
SKR				AMS	AMS	15 04 10.0	
	5μm,15.0s						
SKR				AMS	AMS	15 04 10.0	
	4μm,15.0s						
SKR				AMS	AMS	15 04 10.0	
	3μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**5.85**	**248**	*e*P	**Pn**	**15 02 47.5**	**+2.4**
YUK				AMB	AMB	15 02 49.7	
	110nm,0.5s						
YUK				AMB	AMB	15 02 49.7	
	470nm,0.2s						
YUK				*e*S	**Sn**	**15 03 51.6**	**+0.7**
YUK				A		15 04 04.5	
	2μm,0.5s						
YUK				A		15 04 04.5	
	280nm,0.4s						
YUK				A		15 04 16.0	
	4μm,2.0s						
YUK				A		15 04 16.0	
	5μm,1.0s						
NEM2	**Nemuro 2**	**6.25**	**243**	P	**Pn**	**15 02 49.1**	**-1.6**
NEM2				*e*S	**Sn**	**15 03 56.0**	**-4.9**
JRA	**Rausu**	**6.37**	**250**	P	**Pn**	**15 02 53.4**	**+1.2**
JRA				*e*S	**Sn**	**15 04 04.9**	**+1.2**
JNK	**Nakash**	**6.79**	**248**	P	**Pn**	**15 02 58.5**	**+0.5**
JAK	**Akkeshi**	**7.10**	**244**	P	**Pn**	**15 03 00.7**	**-1.6**
JAK				*e*S	**Sn**	**15 04 17.3**	**-4.3**
JTKR	**Abashiri--Toko**	**7.15**	**253**	P	**Pn**	**15 03 03.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.33**	**278**	*e*P	**Pn**	**15 03 09.0**	**+3.5**
YSS				AMB	AMB	15 03 11.5	
	60nm,1.0s						
YSS				AMB	AMB	15 03 11.5	
	50nm,1.0s						
YSS				*e*S	**Sn**	**15 04 31.0**	**+3.6**
YSS				A		15 04 35.0	
	60nm,0.8s						
YSS				AMS	AMS	15 05 40.0	
	1μm,18.0s						
YSS				AMS	AMS	15 05 40.0	
	1μm,18.0s						
YSS				AMS	AMS	15 05 40.0	
	2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**7.33**	**278**	*e*PN	**Pn**	**15 03 09.0**	**+3.5**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,18.0s						
PET	**Petropavlovsk**	**7.39**	**25**	*e*PN	**Pn**	**15 03 07.1**	**+0.8**
PET				MLR	MLR		
	comp=Z,700nm,13.0s						
JMP	**Maruseppu**	**7.50**	**254**	P	**Pn**	**15 03 09.3**	**+1.6**
JAR	**Ashorobuto**	**7.54**	**249**	P	**Pn**	**15 03 08.8**	**+0.6**
JAR				*e*S	**Sn**	**15 04 30.1**	**-2.3**
JOB	**Onbets**	**7.69**	**246**	P	**Pn**	**15 03 09.6**	**-0.7**
JOB				*e*S	**Sn**	**15 04 32.3**	**-3.8**
JSE	**Soyaes**	**7.72**	**263**	P	**Pn**	**15 03 15.1**	**+4.4**
JKK2	**Kamakawa 2**	**7.96**	**255**	P	**Pn**	**15 03 16.0**	**+2.0**
ASAJ	**Asahikawa**	**7.97**	**257**	Pn	**Pn**	**15 03 17.1**	**+2.9**
	comp=Z,1.9nm,0.3s,baz=88,slow=17,SNR=32						
ASAJ				Sn	**Sn**	**15 04 52.5**	**+9.5**
	comp=Z,1.6nm,0.3s,baz=133,slow=12,SNR=1.8						
ASAJ				LR	LR	15 06 09.5	
	comp=Z,549nm,19.3s,baz=219,slow=37						
ASAJ	**Asahikawa**	**7.97**	**257**	P	**Pn**	**15 03 16.9**	**+2.7**
ASAJ	**Asahikawa**	**7.97**	**257**	PN	**Pn**	**15 03 17.1**	**+2.9**
ASAJ						15 04 52.6	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,549nm,19.3s						
UGL	**Uglegorsk**	**8.07**	**293**	*e*P	**Pn**	**15 03 18.0**	**+2.4**
UGL				*e*P		15 03 18.5	
UGL				AMB	AMB	15 03 20.0	
	comp=Z,350nm,1.2s						
UGL				AMB	AMB	15 03 21.0	
	comp=Z,350nm,1.4s						
UGL				*e*S	**Sn**	**15 04 51.0**	**+5.5**
UGL				A		15 04 54.0	
	comp=Z,93nm,0.7s						
UGL				A		15 04 54.0	
	comp=Z,84nm,0.7s						
UGL				AMS	AMS	15 06 34.0	
	comp=Z,900nm,13.0s						
UGL				AMS	AMS	15 06 34.0	
	comp=Z,2μm,16.0s						
UGL	**Uglegorsk**	**8.07**	**293**	*e*PN	**Pn**	**15 03 18.0**	**+2.4**
UGL				S	**Sn**	**15 04 51.0**	**+5.5**
UGL				pmax	pmax		
	comp=Z,350nm,1.2s						
UGL				pmax	pmax		
	comp=Z,350nm,1.4s						
UGL				smax			
	comp=N,93nm,0.7s						
UGL				smax			
	comp=E,84nm,0.7s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
UGL				MLR	MLR		
	comp=N,900nm,13.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
JWK2	**Keihoku**	**8.11**	**266**	P	**Pn**	**15 03 22.6**	**+6.5**
JCH	**Churui**	**8.13**	**245**	P	**Pn**	**15 03 15.8**	**-0.7**
JCH				*e*S	**Sn**	**15 04 41.5**	**-5.6**
JFR	**Furan**	**8.36**	**251**	P	**Pn**	**15 03 21.4**	**+1.9**
JFR				*e*S	**Sn**	**15 04 53.4**	**+0.8**
TYV	**Tymovskoe**	**8.36**	**306**	*e*P	**Pn**	**15 03 21.8**	**+2.3**
TYV				AMB	AMB	15 03 26.0	
	comp=E,300nm,7.0s						
TYV				AMB	AMB	15 03 26.0	
	comp=E,400nm,7.0s						
TYV				AMB	AMB	15 03 32.2	
	comp=E,20nm,0.9s						
TYV				AMB	AMB	15 03 32.2	
	comp=E,190nm,0.9s						
TYV				AMS	AMS	15 06 43.0	
	comp=E,2μm,18.0s						
TYV				AMS	AMS	15 06 43.0	
	comp=E,2μm,18.0s						
TYV				AMS	AMS	15 06 43.0	
	comp=E,2μm,18.0s						
JAB	**Ashibetsu**	**8.46**	**254**	P	**Pn**	**15 03 24.3**	**+3.5**
JEM	**Erimo**	**8.59**	**242**	P	**Pn**	**15 03 22.8**	**+0.1**
JEM				*e*S	**Sn**	**15 04 55.8**	**-2.5**
ERM	**Erimo**	**8.59**	**242**	*e*PN	**Pn**	**15 03 23.3**	**+0.6**
ERM				pmax	pmax		
	comp=Z,89nm,0.6s						
ERM	**Erimo**	**8.59**	**242**	*e*Pn	**Pn**	**15 03 23.2**	**+0.6**
	comp=Z,89nm,0.6s						
ERM				Sn	**Sn**	**15 04 55.0**	**-3.3**
JBT2	**Biratori 2**	**8.69**	**249**	P	**Pn**	**15 03 24.1**	**+0.1**
JHR	**Hokuryu**	**8.69**	**256**	P	**Pn**	**15 03 27.6**	**+3.5**
JNBK	**Urakawa-nobuka**	**8.69**	**245**	P	**Pn**	**15 03 22.8**	**-1.3**
JNBK				*e*S	**Sn**	**15 04 55.8**	**-5.1**
JEW	**Eniwo**	**9.25**	**251**	P	**Pn**	**15 03 33.5**	**+1.7**
JSK	**Shakotan**	**9.68**	**256**	P	**Pn**	**15 03 39.8**	**+2.1**
JNB	**Noboribetsu**	**9.70**	**250**	P	**Pn**	**15 03 37.8**	**0.0**
JNB				*e*S	**Sn**	**15 05 19.8**	**-5.6**
JKB	**Kayabe**	**9.99**	**247**	P	**Pn**	**15 03 40.3**	**-1.6**
JKB				*e*S	**Sn**	**15 05 25.3**	**-7.3**
JSH	**Shimam**	**10.27**	**253**	P	**Pn**	**15 03 46.7**	**+1.0**
JYM2	**Yakumo 2**	**10.30**	**250**	P	**Pn**	**15 03 45.4**	**-0.7**
JYM2				*e*S	**Sn**	**15 05 35.0**	**-5.2**
JANG	**Nango**	**10.57**	**239**	P	**Pn**	**15 03 45.5**	**-4.3**
JANG				*e*S	**Sn**	**15 05 36.3**	**-10**
JSR	**Shiriuchi**	**10.57**	**247**	*e*S	**Sn**	**15 05 39.6**	**-7.2**
JTM	**Tenmabayashi**	**10.58**	**242**	P	**Pn**	**15 03 47.4**	**-2.6**
JTM				*e*S	**Sn**	**15 05 38.1**	**-9.1**
NKL	**Nikolayevsk**	**10.59**	**314**	*e*P	**Pn**	**15 03 46.0**	**-4.1**
NKL				AMB	AMB	15 03 52.0	
	comp=Z,300nm,5.0s						
NKL				AMB	AMB	15 03 52.0	
	comp=Z,400nm,5.0s						
NKL				AMS	AMS	15 08 55.0	
	comp=Z,2μm,15.0s						
NKL				AMS	AMS	15 08 55.0	
	comp=Z,1μm,15.0s						
NKL				AMS	AMS	15 08 55.0	
	comp=Z,2μm,15.0s						
JTH	**Tanohata**	**10.64**	**236**	P	**Pn**	**15 03 46.8**	**-4.0**
JTH				*e*S	**Sn**	**15 05 36.7**	**-12**
OFUJ	**Ofunato**	**11.34**	**234**	P	**Pn**	**15 03 56.1**	**-4.2**
OFUJ				*e*S	**Sn**	**15 05 54.3**	**-11**
JRG	**Rokugo**	**11.71**	**237**	P	**Pn**	**15 04 02.0**	**-3.5**
JRG				*e*S	**Sn**	**15 06 05.4**	**-9.5**
TEY	**Ternei**	**11.82**	**269**	*e*P	**Pn**	**15 04 10.0**	**+3.0**
JIO	**Ouri**	**11.96**	**232**	*e*S	**Sn**	**15 06 08.3**	**-13**
GRNR	**Gornyy**	**12.03**	**297**	*e*P	**Pn**	**15 04 08.4**	**-1.3**
GRNR				AMB	AMB	15 04 11.4	
	comp=Z,52nm,1.0s						
MA2	**Magadan**	**13.23**	**354**	*e*PN	**Pn**	**15 04 26.5**	**+0.3**
MA2				MLR	MLR		
	comp=Z,700nm,13.4s						
EKMR	**Ekimchan**	**14.75**	**304**	*e*P	**Pn**	**15 04 48.0**	**+1.2**
EKMR				AMB	AMB	15 05 03.5	
	comp=Z,9.0nm,0.7s						
KLR	**Kul'dur**	**14.79**	**289**	*e*P	**Pn**	**15 04 46.7**	**-0.7**
KLR				*e*rx	rx	15 07 36.5	
KLR				AMS	AMS	15 11 00.0	
	comp=Z,1μm,15.0s						
KLR				AMS	AMS	15 11 00.0	
	comp=Z,1μm,15.0s						
MAJO	**Matsushiro**	**15.07**	**234**	*e*P	**Pn**	**15 04 47.3**	**-3.7**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**15.07**	**234**	*e*P	**Pn**	**15 04 47.3**	**-3.7**
	comp=Z,15nm,0.6s						
MAT	**Matsushiro**	**15.07**	**234**	P	**Pn**	**15 04 51.2**	**+0.2**
MAT				*e*S	**S**	**15 07 46.0**	**-6.9**
MJAR	**Matsushiro Arr**	**15.07**	**234**	Pn	**Pn**	**15 04 47.8**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=9.5						
VLA	**Vladivostok**	**15.62**	**265**	*i* P	**Pn**	**15 04 57.7**	**-0.5**
SEY	**Seymchan**	**16.52**	**358**	*i* P	**Pn**	**15 05 10.6**	**

ZEA AMB AMB 15 05 34.0
comp=Z,200nm,9.0s
ZEA *e*S **S** **15 08 58.0 +1.0**
ZEA AMS AMS 15 09 12.0
comp=Z,200nm,12.0s
ZEA A 15 12 51.0
comp=Z,600nm,16.0s
ZEA A 15 12 51.0
comp=Z,700nm,16.0s
KROS Kirovskiy 18.54 305 *e*P **Pn** **15 05 30.9 -3.7**
KROS AMB AMB 15 05 35.4
comp=Z,4.0nm,0.5s
CN2 Changchun 19.86 272 *e*P **Pn** **15 05 53.8 +3.4**
CN2 *e*XP sP 15 05 59.9 -3.3
CN2 *e*S **S** **15 09 30.0 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
YAK Yakutsk 20.67 328 *e*P **P** **15 05 56.6 -0.8**
YAK *e* 15 06 16.3
YAK *e*S **S** **15 09 49.6 +3.4**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.5s
YAK pmax pmax
comp=N,29nm,1.6s
YAK pmax pmax
comp=E,32nm,1.8s
YAK smax
comp=N,65nm,2.4s
YAK smax
comp=Z,104nm,4.1s
YAK smax
comp=E,67nm,3.2s
YAK MLR MLR
comp=Z,475nm,19.0s,MS3.9
YAK MLR MLR
comp=N,591nm,17.0s,MS4.1
YAK MLR MLR
comp=E,307nm,15.0s,MS4.1
INCN Inchon 21.74 255 P **P** **15 06 10.0 +1.0**
comp=E,22nm,0.7s,mb4.7
SNY Shenyang 21.82 269 ⇓P **P** **15 06 10.4 +0.5**
SNY AMB AMB
comp=Z,11nm,0.5s,mb4.5
SNY AMB AMB
comp=Z,86nm,7.8s
SNY LR LR
comp=N,240nm,15.0s,MS3.9
SNY LR LR
comp=E,276nm,14.4s,MS3.9
SNY LR LR
comp=Z,378nm,15.0s,MS3.9
BILL Biiibino 22.63 13 *e*P **P** **15 06 17.8 -0.6**
BILL pmax pmax
comp=Z,14nm,0.9s,mb4.4
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.0
BOD Bodaibo 26.32 310 *e*P **P** **15 06 50.5 -2.6**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb3.9
BJI Beijing 27.67 270 *e*P **P** **15 07 05.5 +0.3**
BJI AMB AMB
comp=Z,5.0nm,0.9s,mb4.1
BJI LR LR
comp=N,203nm,18.0s,MS4.1
BJI LR LR
comp=E,379nm,17.3s,MS4.1
BJI LR LR
comp=Z,203nm,18.0s,MS3.8
NJ2 Nanjing 30.10 254 *e*P **P** **15 07 27.1 +0.3**
NJ2 AP pP 15 07 36.5 -1.0
NJ2 XP sP 15 07 40.9 -1.2
NJ2 PP PP 15 08 25.3 -10
NJ2 S **S** **15 12 23.0 +0.2**
NJ2 XS sS 15 12 39.0 -1.5
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,310nm,4.2s
NJ2 LR LR
comp=N,290nm,18.7s,MS4.3
NJ2 LR LR
comp=E,600nm,15.6s,MS4.3
NJ2 LR LR
comp=Z,1μm,12.1s,MS4.8
HHC Hu-ho-hao-te 30.51 275 *e*P **P** **15 07 30.8 +0.4**
HHC AP pP 15 07 35.2 -5.9
HHC XP sP 15 07 38.4 -7.3
HHC PP PP 15 08 30.3 -9.3
HHC PCP PcP 15 10 29.8 +1.0
HHC S **S** **15 12 29.3 +0.1**
HHC XS sS 15 12 37.7 -9.3
HHC SS SS 15 14 08.9 -31
HHC SCP ScP 15 14 14.7 +6.5
HHC SCS ScS 15 18 05.5 +1.1
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,154nm,5.2s
HHC LR LR
comp=N,238nm,14.1s,MS4.1
HHC LR LR
comp=E,257nm,15.3s,MS4.1
HHC LR LR
comp=Z,310nm,14.7s,MS4.1
SONM Songino Array 31.61 290 P **P** **15 07 38.5 -1.6**
comp=Z,1.2nm,1.0s,mb3.7,baz=53,slow=11,SNR=5.4
SONM LR LR 15 21 44.1
comp=Z,499nm,18.3s,MS4.2,baz=91,slow=39
SONM Songino Array 31.61 290 P **P** **15 07 38.5 -1.6**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM MLR MLR
comp=Z,499nm,18.3s
TLY Talaya 32.48 298 *e*P **P** **15 07 47.0 -0.8**
TLY pmax pmax
comp=Z,40nm,1.3s,mb5.1
TLY MLR MLR
comp=Z,533nm,15.0s,MS4.4
TLY Talaya 32.48 298 *e*P **P** **15 07 45.7 -2.1**
comp=Z,1.5nm,0.7s,mb3.9
ZAK Zakamensk 32.98 296 *e*P **P** **15 07 50.1 -2.0**
COLA College 36.24 38 *i*P **P** **15 08 20.0 -0.3**
COLA College 36.24 38 *e*P **P** **15 08 20.3 0.0**
comp=Z,4.4nm,0.7s,mb4.5
LZH Lanzhou 38.09 272 *e*P **P** **15 08 37.0 +1.0**
LZH AP pP 15 08 41.0 -5.8
LZH XP sP 15 08 43.5 -7.9
LZH PP PP 15 10 03.0 -0.5
LZH *e*S **S** **15 14 24.0 -2.2**
LZH AMB AMB
comp=Z,34nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,121nm,5.5s
LZH LR LR
comp=N,1μm,14.4s
LZH LR LR
comp=Z,2μm,15.6s,MS5.0
LZH Lanzhou 38.09 272 *e*P **P** **15 08 37.0 +1.0**
LZH *SP sP 15 08 43.5 -7.9
LZH 15 10 03.0
LZH *e*S **S** **15 14 24.0 -2.2**
LZH Lanzhou 38.09 272 *e*P **P** **15 08 37.0 +1.0**
LZH pP pP 15 08 41.0 -5.8
LZH sP sP 15 08 43.5 -7.9
LZH PP PP 15 10 03.0 -0.5
LZH *e*S **S** **15 14 24.0 -2.2**
LZH sS sS 15 14 33.2 -11
LZH SS SS 15 16 53.0 -21
EGAK Eagle 39.10 38 *e*P **P** **15 08 43.1 -1.4**
GTA Gaotai 39.21 280 *e*P **P** **15 08 46.2 +0.9**
GTA AP pP 15 08 50.4 -5.8
GTA XP sP 15 08 53.3 -7.5
GTA PP PP 15 10 21.9 +6.2

GTA S **S** **15 14 46.7 +3.7**
GTA XS sS 15 14 52.9 -8.1
GTA SS SS 15 17 33.2 -3.7
GTA AMB AMB
comp=Z,6.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,112nm,7.6s
GTA LR LR
comp=N,191nm,13.8s,MS4.3
GTA LR LR
comp=E,253nm,15.3s,MS4.3
GTA LR LR
comp=Z,157nm,14.5s,MS4.0
CD2 Chengdu 41.05 266 P **P** **15 09 01.6 +1.0**
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
CD2 AMB AMB
comp=Z,30nm,5.8s
INK Inuvik 41.79 32 P **P** **15 09 05.7 -1.0**
comp=Z,1.7nm,0.5s,mb4.0,baz=314,slow=7.5,SNR=9.3
INK Inuvik 41.79 32 *e*P **P** **15 09 03.8 -2.9**
comp=Z,249nm,1.1s,mb5.8
GYA Guiyang 41.85 258 ⇑*i*P **P** **15 09 07.8 +0.7**
GYA AMB AMB
comp=Z,20nm,0.6s,mb4.9
WMQ Urumqi 45.21 292 *e*P **P** **15 09 34.3 +0.1**
WMQ AP pP 15 09 38.5 -6.7
WMQ XP sP 15 09 41.5 -8.3
WMQ PCP PcP 15 11 15.0 +1.1
WMQ PPP 15 12 01.0
WMQ S **S** **15 16 12.0 +0.5**
WMQ XS sS 15 16 20.0 -10
WMQ SCS ScS 15 19 29.0 +1.1
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,113nm,4.6s
WMQ LR LR
comp=N,404nm,14.5s,MS4.6
WMQ LR LR
comp=E,316nm,12.8s,MS4.6
WMQ LR LR
comp=Z,552nm,17.2s,MS4.5
KMI Kunming 45.38 260 P **P** **15 09 37.4 +1.8**
KMI AP pP 15 09 46.0 -0.6
KMI XP sP 15 09 50.0 -1.1
KMI AMB AMB
comp=Z,5.0nm,1.4s,mb4.2
KMI Kunming 45.38 260 P **P** **15 09 37.4 +1.8**
KMI pP pP 15 09 46.0 -0.6
KMI sP sP 15 09 50.0 -1.1
DLBC Dease Lake 45.65 46 P **P** **15 09 37.5 -0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=212,slow=9.5,SNR=3.2
MKAR Makanchi Array 47.25 298 P **P** **15 09 49.2 -1.0**
comp=Z,4.7nm,0.7s,mb4.6,baz=61,slow=8.6,SNR=28
MKAR Makanchi Array 47.25 298 P **P** **15 09 49.2 -1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 50.49 274 *e*P **P** **15 10 18.0 +3.0**
LSA pmax pmax
comp=Z,12nm,0.6s,mb5.1
LSA Lhasa 50.49 274 *e*P **P** **15 10 18.0 +2.9**
comp=Z,12nm,0.6s,mb5.1
YKA Yellowknife Ar 51.04 37 P **P** **15 10 18.2 -1.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=296,slow=7.1,SNR=7.9
YKA Yellowknife Ar 51.04 37 P **P** **15 10 18.2 -1.0**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 51.04 37 P **P** **15 10 18.2 -1.0**
BVAR Borovoye Array 51.19 310 P **P** **15 10 19.1 -1.3**
comp=Z,3.4nm,0.5s,mb4.5,baz=56,slow=11,SNR=19
BVAR LR LR 15 34 10.0
comp=Z,365nm,18.2s,MS4.4,baz=317,slow=39
BVAR Borovoye Array 51.19 310 P **P** **15 10 19.1 -1.3**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR MLR MLR
comp=Z,365nm,18.2s
BRVK Borovoye 51.23 310 *e*P **P** **15 10 19.2 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 51.23 310 *e*P **P** **15 10 19.2 -1.5**
comp=Z,3.0nm,0.6s,mb4.4
CHTO Chiang Mai 52.24 257 *e*P **P** **15 10 29.2 +1.0**
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CHTO Chiang Mai 52.24 257 *e*P **P** **15 10 29.1 +0.9**
comp=Z,10.0nm,1.0s,mb4.7
AAK Ala-Archa 54.14 297 *e*P **P** **15 10 40.5 -1.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AAK Ala-Archa 54.14 297 *e*P **P** **15 10 40.5 -1.7**
comp=Z,4.6nm,0.8s,mb4.5
KSH Kashi 54.94 293 *e*P **P** **15 10 48.5 +0.5**
KSH *e*AP pP 15 10 53.5 -5.7
KSH *e*XP sP 15 10 55.3 -8.4
KSH *e*PCP PcP 15 11 51.4 +1.9
KSH *e*PP PP 15 12 52.3 +1.1
KSH *e*SCP ScP 15 15 48.2 +3.1
KSH *e*S **S** **15 18 25.5 -1.5**
KSH *e*PS 15 18 42.3
KSH *e*SCS ScS 15 20 32.8 -1.3
KSH *e*SS SS 15 22 08.0 -2.8
KSH LR LR
comp=N,412nm,9.9s
KSH LR LR
comp=E,436nm,10.2s
JIRN Jiri 55.16 275 *e*P **P** **15 10 51.5 +1.9**
comp=E,15nm,0.5s,mb5.3
GUN Gumba 55.22 275 *e*P **P** **15 10 51.6 +1.6**
comp=E,26nm,0.6s,mb5.5
ARU Arti 55.36 318 ⇓*i*P **P** **15 10 48.2 -2.8**
ARU *e*S **S** **15 18 29.9 -2.7**
ARU *e*SS SS 15 22 09.5 -7.8
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ARU MLR MLR
comp=N,200nm,19.0s,MS4.4
ARU MLR MLR
comp=E,200nm,19.0s,MS4.4
ARU MLR MLR
comp=Z,300nm,19.0s,MS4.4
ARU Arti 55.36 318 *e*P **P** **15 10 48.7 -2.3**
comp=Z,5.5nm,0.6s,mb4.8
KKN Kakani 55.71 276 *e*P **P** **15 10 55.5 +2.0**
comp=Z,28nm,0.7s,mb5.4
PKI Pulchoki 55.76 275 *e*P **P** **15 10 55.3 +1.4**
comp=Z,19nm,0.7s,mb5.2
PMG Port Moresby 55.90 187 LR LR 15 32 14.6
comp=Z,81nm,20.6s,MS3.8,baz=248,slow=33
DMN Daman 55.94 276 *e*P **P** **15 10 57.0 +1.8**
HNR Honiara 55.95 172 LR LR 15 32 25.0
comp=Z,64nm,21.6s,MS3.7,baz=359,slow=33
GKN Gorkha 56.02 276 *e*P **P** **15 10 57.2 +1.5**
comp=Z,38nm,0.5s,mb5.7
KOLN Koldanda 56.88 277 *e*P **P** **15 11 03.5 +1.7**
comp=Z,44nm,1.0s,mb5.5
ARCES ARCESS Array B 58.19 341 P **P** **15 11 09.8 -1.2**
comp=Z,2.5nm,0.8s,mb4.3,baz=52,slow=7.3,SNR=11
ARCES ARCESS Array B 58.19 341 P **P** **15 11 09.9 -1.1**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
AKTK Aktyubinsk 59.06 312 P **P** **15 11 15.2 -2.0**
AKTO Aktyubinsk 59.06 312 P **P** **15 11 15.2 -2.0**
comp=Z,1.5nm,0.5s,mb4.3,baz=55,slow=7.9,SNR=8.3
AKTO Aktyubinsk 59.06 312 P **P** **15 11 15.2 -1.9**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
BMO Blue Mountains 59.07 56 *e*P **P** **15 11 17.3 +0.1**
comp=Z,5.0nm,1.2s,mb4.4
JOF Joensuu 61.68 334 *e*p **P** **15 11 33.0 -2.0**
comp=Z,2.9nm,0.4s,mb4.8
JOF Joensuu 61.68 334 *e*P **P** **15 11 33.0 -2.0**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
BOZ Bozeman (W) 61.77 52 *e*P **P** **15 11 36.2 +0.6**
BOZ pmax pmax
comp=Z,17nm,1.4s,mb5.0
BOZ Bozeman (W) 61.77 52 *e*P **P** **15 11 36.2 +0.6**
comp=Z,17nm,1.4s,mb5.0
NVAR Mina Array Bea 62.39 62 P **P** **15 11 40.2 +0.4**
comp=Z,0.6nm,0.5s,mb4.0,baz=287,slow=7.4,SNR=8.6
NVAR Mina Array Bea 62.39 62 P **P** **15 11 40.2 +0.4**
QLMT Earthquake Lak 62.40 53 P **P** **15 11 39.8 0.0**
KAF Kangasniemi 63.78 335 *e*p **P** **15 11 46.0 -3.0**
comp=Z,5.9nm,0.7s,mb4.7,baz=36,slow=6.3

KAF Kangasniemi 63.78 335 *e*P **P** **15 11 46.0 -3.0**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
FINES FINESS Array B 64.38 335 P **P** **15 11 51.8 -1.2**
comp=Z,6.0nm,0.5s,mb4.8,baz=38,slow=7.6,SNR=66
FINES LR LR 15 44 18.8
comp=Z,184nm,19.3s,MS4.3,baz=352,slow=40
FINES FINESS Array B 64.38 335 *i*P **P** **15 11 51.7 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.5s
DUG Dugway 64.56 58 *e*P **P** **15 11 53.1 -1.0**
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
DUG Dugway 64.56 58 *e*P **P** **15 11 53.1 -1.0**
comp=Z,7.1nm,1.1s,mb4.6
BW06 Boulder Array 64.76 54 P **P** **15 11 55.1 -0.3**
comp=Z,6.5nm,1.0s,mb4.6
PDAR Pinedale Array 64.76 54 P **P** **15 11 55.9 +0.5**
comp=Z,1.1nm,0.3s,mb4.3,baz=321,slow=1.9,SNR=4.9
OBN Obninsk 65.66 326 *i*P **P** **15 12 00.6 -0.6**
OBN *e* pP 15 12 10.1 -2.6
OBN *e* 15 12 30.8
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,300nm,24.0s,MS4.4
PV10 Paradox Valley 67.96 57 *e*P **P** **15 12 16.8 +0.9**
PV10 *e* pP 15 12 29.4 +2.0
WRAB Tennant Creek 68.29 199 *i*P **P** **15 12 17.3 -0.7**
WRA Warramunga Arr 68.31 199 P **P** **15 12 17.6 -0.4**
comp=Z,7.8nm,0.9s,mb4.8,baz=17,slow=6.8,SNR=41
WRA Warramunga Arr 68.31 199 P **P** **15 12 17.6 -0.5**
WRA pmax pmax
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra 68.56 341 P **P** **15 12 18.5 -1.2**
comp=Z,10nm,0.6s,mb4.9,baz=28,slow=6.5
NB2 NORSAR Subarra 68.56 341 P **P** **15 12 18.5 -1.2**
NB2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
NOA NORSAR Array B 68.56 341 P **P** **15 12 18.7 -1.0**
comp=Z,8.1nm,0.6s,mb4.9,baz=28,slow=6.4,SNR=45
NOA LR LR 15 46 47.9
comp=Z,133nm,18.0s,MS4.2,baz=25,slow=40
NOA NORSAR Array B 68.56 341 P **P** **15 12 18.7 -1.0**
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA MLR MLR
comp=Z,133nm,18.0s
FITZ Fitzroy Crossi 68.98 208 *e*P **P** **15 12 22.7 +0.4**
comp=Z,9.9nm,0.9s,mb4.7
FITZ Fitzroy Crossi 68.98 208 P **P** **15 12 22.7 +0.4**
comp=Z,5.1nm,0.8s,mb4.5,baz=29,slow=4.3,SNR=10
KIV Kislovodsk 71.14 314 *e*P **P** **15 12 36.5 +1.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,393nm,16.0s,MS4.8
ANMO Albuquerque 71.81 58 *i*P **P** **15 12 39.7 +0.1**
AKASG Malin Array Be 71.89 326 P **P** **15 12 39.0 -1.0**
comp=Z,4.9nm,0.4s,mb4.8,baz=34,slow=6.2,SNR=44
AKASG LR LR 15 47 09.3
comp=Z,142nm,18.2s,MS4.3,baz=30,slow=38
AKASG Malin Array Be 71.89 326 *i*P **P** **15 12 39.0 -1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 71.89 326 *e*P **P** **15 12 38.7 -1.4**
AS31 Alice Springs 72.00 199 *e*P **P** **15 12 41.5 +0.8**
ASAR Alice Springs 72.00 199 P **P** **15 12 41.4 +0.7**
comp=Z,8.3nm,0.8s,mb4.7,baz=12,slow=5.4,SNR=98
ASAR LR LR 15 41 15.2
comp=Z,131nm,20.6s,MS4.2,baz=330,slow=33
GNI Garni 72.87 311 *i*P **P** **15 12 47.0 +1.2**
GNI pmax pmax
comp=Z,29nm,2.6s
GNI MLR MLR
comp=Z,1μm,17.0s
ANN Anapa 73.02 318 *e*P pP 15 12 58.2 -0.2
OJC Ojcow 75.67 331 *e*P **P** **15 13 02.4 +0.2**
STHS Stebnicka Huta 75.86 330 *e*P **P** **15 13 03.4 +0.1**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
STHS Stebnicka Huta 75.86 330 *e*P **P** **15 13 03.4 +0.1**
comp=Z,4.7nm,0.9s,mb4.4
KOLS Kolonicke sedl 75.91 329 *e*P **P** **15 13 03.2 -0.4**
BURAR Bucovina Array 75.94 327 ⇑*i*P **P** **15 13 03.4 -0.3**
BURAR Bucovina Array 75.94 327 ⇑P **P** **15 13 03.4 -0.3**
NIE Niedzica 76.18 331 *e*P **P** **15 13 06.0 +0.9**
CRVS Cervenica-Dubn 76.22 330 *e*P **P** **15 13 04.9 -0.4**
OKC Ostrava-Krasne 76.54 332 *e*P **P** **15 13 08.1 +1.0**
UPC Upice 76.63 334 *e*P **P** **15 13 08.2 +0.6**
EKA Eskdalemuir Ar 76.66 346 P **P** **15 13 07.7 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=29,slow=4.8,SNR=8.5
DPC Dobruska-Polom 76.67 333 *e*P **P** **15 13 07.8 -0.1**
MORC Moravsky Berou 76.78 332 ⇑*i*P **P** **15 13 08.6 +0.1**
MORC Moravsky Berou 76.78 332 ⇑P **P** **15 13 08.6 +0.1**
VRI Vrincioaia 76.79 325 ⇑*i*P **P** **15 13 09.1 +0.6**
VRI Vrincioaia 76.79 325 ⇑P **P** **15 13 09.1 +0.5**
CLL Collm 76.81 336 *i*P **P** **15 13 07.7 -0.9**
comp=Z,17nm,0.6s,mb5.2
CLL LmV 15 53 00.0
comp=Z,200nm,19.2s
PLOR Plostina 76.84 325 ⇑*i*P **P** **15 13 09.4 +0.6**
KECS Kecovo 76.92 330 *e*P **P** **15 13 08.8 -0.5**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 76.92 330 *e*P **P** **15 13 08.8 -0.5**
comp=Z,3.8nm,1.0s,mb4.3
BRG Berggiesshubel 76.92 335 *e*P **P** **15 13 09.2 0.0**
comp=Z,1.5nm,0.7s,mb4.0
BRG Berggiesshubel 76.92 335 *e*P **P** **15 13 09.2 -0.1**
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
PVCC Panska Ves 77.05 334 *e*P **P** **15 13 10.6 +0.6**
MLR Muntele Rosu 77.41 325 ⇑*i*P **P** **15 13 13.2 +1.2**
MLR Muntele Rosu 77.41 325 P **P** **15 13 12.9 +0.9**
MLR Muntele Rosu 77.41 325 ⇑P **P** **15 13 13.2 +1.2**
VYHS Vyhne 77.47 331 *e*P **P** **15 13 12.0 -0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VYHS Vyhne 77.47 331 *e*P **P** **15 13 12.0 -0.4**
comp=Z,4.2nm,1.3s,mb4.2
ISR Istrita 77.48 325 ⇑*i*P **P** **15 13 12.2 -0.2**
ISR Istrita 77.48 325 ⇑P **P** **15 13 12.2 -0.2**
VRAC Vranov 77.50 333 ⇑*i*P **P** **15 13 13.2 +0.7**
VRAC Vranov 77.50 333 ⇑P **P** **15 13 13.2 +0.7**
PRU Pruhonice 77.53 334 *e*P **P** **15 13 12.4 -0.3**
DRGR 77.56 328 ⇓*i*P **P** **15 13 12.6 -0.3**
DRGR 77.56 328 ⇓P **P** **15 13 12.6 -0.3**
MOX Moxa 77.79 336 *e*P **P** **15 13 13.9 -0.2**
VOIR 77.81 326 ⇑*i*P **P** **15 13 14.6 +0.4**
VOIR 77.81 326 ⇑P **P** **15 13 14.6 +0.3**
TREC Trest 77.86 333 *e*P **P** **15 13 15.2 +0.7**
KHC Kasperske Hory 78.58 334 *e*P **P** **15 13 18.5 0.0**
STKA Stephens Creek 78.70 190 P **P** **15 13 19.7 +0.5**
comp=Z,2.1nm,0.8s,mb4.1,baz=11,slow=13,SNR=4.2
GZR Gura Zlata 78.72 327 ⇓*i*P **P** **15 13 19.3 0.0**
GZR Gura Zlata 78.72 327 P **P** **15 13 19.2 -0.1**
BRTR Keskin Array B 78.73 317 P **P** **15 13 19.7 +0.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=64,slow=2.9,SNR=15
BRTR Keskin Array B 78.73 317 *i*P **P** **15 13 19.7 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GRA1 Grafenberg Arr 78.76 336 *e*P **P** **15 13 19.8 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.76 336 *e*P **P** **15 13 19.8 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.76 336 *e*P **P** **15 13 19.8 +0.3**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.76 336 *e*P **P** **15 13 19.8 +0.3**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GERES GERESS Array B 78.80 334 P **P** **15 13 19.3 -0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=34,slow=6.0,SNR=18
GERES GERESS Array B 78.80 334 P **P** **15 13 19.3 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.5s
CONA Conrad Observa 78.94 332 ⇓*i*P **P** **15 13 21.1 +0.6**
comp=Z,3.4nm,0.8s,mb4.3
UMR Umm Al-Rimmam 78.94 301 *e*P **P** **15 13 21.3 +0.8**
UMR AMb AMB 15 13 22.9
comp=Z,38nm,0.5s,mb5.5
BZS Buzias 78.96 328 ⇑*i*P **P** **15 13 20.6 0.0**
BZS Buzias 78.96 328 ⇑P **P** **15 13 20.6 0.0**
MIB Mutribah 78.98 302 *e*P **P** **15 13 21.8 +1.1**

MIB AMb AMB 15 13 23.1
comp=Z,47nm,0.6s,mb5.6
MEM Membach 79.28 340 P **P 15 13 23.6 +1.2**
RST Umm Al-Ruwaisa 79.40 302 *eP* **P 15 13 23.8 +0.7**
RST AMb AMB 15 13 25.2
comp=Z,43nm,0.6s,mb5.6
NAY Al-Naaiem 79.44 301 *eP* **P 15 13 24.2 +1.0**
NAY AMb AMB 15 13 25.8
comp=Z,12nm,0.9s,mb4.8
RDF Al-Radifah 79.50 301 *eP* **P 15 13 24.8 +1.2**
RDF AMb AMB 15 13 26.6
comp=Z,26nm,0.6s,mb5.3
BCLA Clavier 79.63 340 P **P 15 13 25.0 +0.8**
GIVF Givet 80.04 340 *eP* **P 15 13 25.6 -0.9**
KBA Koelnbreinsper 80.48 334⇑*iP* **P 15 13 29.9 +1.1**
comp=Z,8.8nm,0.6s,mb4.8
KBA Koelnbreinsper 80.48 334⇑*iP* **P 15 13 29.9 +1.0**
KBA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WTTA Wattenberg 80.83 335⇑*iP* **P 15 13 31.0 +0.3**
comp=Z,12nm,0.9s,mb4.8
WTTA Wattenberg 80.83 335⇑*iP* **P 15 13 31.0 +0.3**
WTTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
VTS Vitosha 80.92 325⇑*iP* **P 15 13 31.2 0.0**
VTS Vitosha 80.92 325 ⇑P **P 15 13 31.2 0.0**
CDF Champ du Feu 81.00 338 *eP* **P 15 13 31.2 -0.4**
comp=Z,12nm,1.0s,mb4.5
CDF Champ du Feu 81.00 338 *eP* **P 15 13 31.2 -0.4**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CDF Champ du Feu 81.00 338 *eP* **P 15 13 31.2 -0.4**
comp=Z,6.2nm,1.0s,mb4.5
HAU Haudompre 81.61 338 *eP* **P 15 13 34.2 -0.7**
HAU *e*MLR MLR
comp=Z,258nm,19.0s
HAU Haudompre 81.61 338 *eP* **P 15 13 34.2 -0.7**
HAU LR LR
comp=Z,260nm,19.0s,MS4.6
FLN La Foliniere 82.47 343 *eP* **P 15 13 38.7 -0.6**
FLN *e*MLR MLR
comp=Z,176nm,21.5s
FLN La Foliniere 82.47 343 *eP* **P 15 13 38.7 -0.6**
FLN LR LR
comp=Z,180nm,21.5s,MS4.4
LDF La Druitiere 82.55 343 *eP* **P 15 13 39.2 -0.6**
GRR Gorron 82.90 343 *eP* **P 15 13 41.1 -0.5**
comp=Z,52nm,1.2s,mb5.1
GRR Gorron 82.90 343 *eP* **P 15 13 41.1 -0.5**
GRR pmax pmax
comp=Z,26nm,1.2s,mb5.1
GRR Gorron 82.90 343 *eP* **P 15 13 41.1 -0.5**
comp=Z,26nm,1.2s,mb5.1
LOR Lormes 82.91 340 *eP* **P 15 13 41.0 -0.7**
comp=Z,40nm,1.4s,mb5.0
LOR *e*MLR MLR
comp=Z,171nm,19.5s
LOR Lormes 82.91 340 *eP* **P 15 13 41.0 -0.7**
LOR pmax pmax
comp=Z,20nm,1.4s,mb5.0
LOR MLR MLR
comp=Z,170nm,19.5s,MS4.4
LOR Lormes 82.91 340 *eP* **P 15 13 41.0 -0.7**
comp=Z,20nm,1.4s,mb5.0
LOR LR LR
comp=Z,170nm,19.5s,MS4.4
SSF Saint Saulge 83.19 340⇑*iP* **P 15 13 42.6 -0.5**
comp=Z,13nm,1.0s,mb4.6
SSF Saint Saulge 83.19 340⇑*iP* **P 15 13 42.6 -0.5**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SSF Saint Saulge 83.19 340⇑*iP* **P 15 13 42.6 -0.5**
comp=Z,6.7nm,1.0s,mb4.6
AVF Avril sur Loir 83.48 340⇑*iP* **P 15 13 44.3 -0.3**
SMF Signal de Mont 83.50 339⇑*iP* **P 15 13 44.5 -0.2**
comp=Z,33nm,1.1s,mb5.1
SMF Signal de Mont 83.50 339⇑*iP* **P 15 13 44.5 -0.2**
SMF pmax pmax
comp=Z,17nm,1.1s,mb5.1
SMF Signal de Mont 83.50 339⇑*iP* **P 15 13 44.5 -0.2**
comp=Z,16nm,1.1s,mb5.1
QUIF Quistinic 83.80 344 *eP* **P 15 13 45.4 -0.8**
comp=Z,39nm,1.1s,mb5.1
QUIF Quistinic 83.80 344 *eP* **P 15 13 45.4 -0.8**
QUIF pmax pmax
comp=Z,20nm,1.1s,mb5.2
QUIF Quistinic 83.80 344 *eP* **P 15 13 45.4 -0.8**
comp=Z,20nm,1.1s,mb5.2
LPL La Plagne 83.81 337⇑*iP* **P 15 13 46.8 +0.5**
comp=Z,6.1nm,0.8s,mb4.5
LPL La Plagne 83.81 337⇑*iP* **P 15 13 46.8 +0.5**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPL La Plagne 83.81 337⇑*iP* **P 15 13 46.8 +0.5**
comp=Z,3.0nm,0.8s,mb4.5
BGF Bois d'Agland 83.82 340 *eP* **P 15 13 46.0 -0.3**
LPG La Plagne 83.83 337⇑*iP* **P 15 13 47.0 +0.6**
TCF Toulx Ste Croi 84.22 340 *eP* **P 15 13 48.0 -0.4**
MFF Saint Martin d 84.45 342 *eP* **P 15 13 49.2 -0.3**
MBDF Montbardon 84.53 337 *eP* **P 15 13 49.8 -0.1**
comp=Z,5.9nm,0.6s,mb4.6
MBDF Montbardon 84.53 337 *eP* **P 15 13 49.8 -0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MBDF Montbardon 84.53 337 *eP* **P 15 13 49.8 -0.1**
comp=Z,3.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 84.59 337 *eP* **P 15 13 50.7 +0.4**
comp=Z,6.2nm,0.6s,mb4.6
ORIF *e*MLR MLR
comp=Z,203nm,22.5s
ORIF Oris-en-Rattie 84.59 337 *eP* **P 15 13 50.7 +0.4**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 84.59 337 *eP* **P 15 13 50.7 +0.4**
comp=Z,3.1nm,0.6s,mb4.6
VIVF Saint-Julien-l 84.97 338⇑*iP* **P 15 13 52.4 +0.3**
comp=Z,5.6nm,0.8s,mb4.5
VIVF Saint-Julien-l 84.97 338⇑*iP* **P 15 13 52.4 +0.3**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 84.97 338⇑*iP* **P 15 13 52.4 +0.3**
comp=Z,2.8nm,0.8s,mb4.4
SMRF Simiane la Rot 85.55 337⇑*iP* **P 15 13 55.9 +0.8**
LASF Ste Croix 85.90 339 *eP* **P 15 13 56.0 -0.8**
comp=Z,20nm,1.1s,mb5.0
ESDC Sonseca Array 91.89 343 LR LR 15 58 10.3
comp=Z,97nm,20.1s,MS4.2,baz=210,slow=37
KEST Kesra 92.02 331 LR LR 16 00 34.4
comp=Z,54nm,18.4s,MS4.0,baz=344,slow=39
PLCA Paso Flores 147.99 96 PKPbc PKPbc 15 21 01.8 -0.3
comp=Z,1.2nm,0.7s,baz=290,slow=1.5,SNR=3.3
PLCA Paso Flores 147.99 96 PKP2 PKPbc 15 21 01.8 -0.3
PLCA pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 148.44 61 PKPbc PKPbc 15 21 03.0 -0.4
comp=Z,1.5nm,0.6s,baz=285,slow=4.9,SNR=4.8
CPUP Villa Florida 148.44 61 PKP2 PKPbc 15 21 03.0 -0.3
CPUP pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 152.33 196 PKPbc PKPbc 15 21 10.8 -1.8
comp=Z,0.6nm,0.8s,baz=135,slow=4.3,SNR=3.9
SNAA Sanae 152.33 196 PKIKP PKPbc 15 21 10.8 -1.9
SNAA pmax pmax
comp=Z,1.0nm,0.8s
USHA Ushuaia 152.55 123 PKPbc PKPbc 15 21 12.0 -1.2
comp=Z,2.1nm,0.5s,baz=286,slow=6.2,SNR=2.8
VNA3 Neumayer Olymp 153.85 192 *e*PKPdf pPKPdf 15 21 24.3 +4.0
VNA3 *e* 15 21 31.1
VNA3 *e* 15 21 34.4
VNA3 *e* 15 21 39.3
VNA3 *e* 15 21 47.0

*IDC **01** 15:15:01.8±1.2, 4629N×15325E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/20, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=32.6km s-min=27.0km az=139.0*
*NEIC **01** 15:15:03.5±0.7, 4630N×15324E, h10km, Error ellipse: s-maj=20.1km s-min=11.9km az=137.0*
*ISCJB **01** 15:15:04.7±0.9, 462N±0.1×1534E±0.1, h33km, mb3.6/9, Error ellipse: s-maj=21.9km s-min=11.8km az=128.3*
*MOS **01** 15:15:04.6±1.2, 4628N×15338E, h33km, mb4.1/5, Error ellipse: s-maj=23.8km s-min=20.9km az=161.3*
*BJI **01** 15:15:04.2, 4688N×15349E, h19km, mB4.4, mb3.9*
ISC 01 15:15:06.7±0.9,**462N**±0.1×**1535E**±0.1,**h35**km,**n24,**
σ**1**§**07**/24,**mb3.6**/9,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**7.41**	**279**	PN	**Pn**	**15 16 54.1**	**+1.8**
YSS				pmax	pmax		
comp=Z,9.0nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.41**	**279**	Pn	**Pn**	**15 16 54.1**	**+1.8**
comp=Z,8.6nm,0.9s							
ASAJ	**Asahikawa**	**7.97**	**258**	Pn	**Pn**	**15 17 01.2**	**+1.3**
comp=Z,0.4nm,0.3s,baz=67,slow=13,SNR=6.5							
MA2	**Magadan**	**13.46**	**354**	*e*PN	**Pn**	**15 18 23.4**	**+8.4**
MA2				pmax	pmax		
comp=Z,10.0nm,0.4s							
KLR	**Kul'dur**	**14.91**	**289**	*e*P	**Pn**	**15 18 46.9**	**+12**
MJAR	**Matsushiro Arr**	**14.98**	**235**	Pn	**Pn**	**15 18 34.1**	**-1.5**
comp=Z,0.2nm,0.3s,baz=40,slow=9.8,SNR=3.1							
MAT	**Matsushiro**	**14.98**	**235**	P	**Pn**	**15 18 46.0**	**+10**
MDJ	**Mudanjiang**	**16.83**	**273**	P	**Pn**	**15 19 00.1**	**+0.6**
MDJ				AMB	AMB		
comp=Z,5.0nm,0.8s							
MDJ				AMB	AMB		
comp=Z,49nm,5.8s							
SONM	**Songino Array**	**31.74**	**290**	P	**P**	**15 21 26.0**	**-1.3**
comp=Z,0.1nm,0.4s,mb3.0,baz=103,slow=6.5,SNR=2.5							
ZAK	**Zakamensk**	**33.12**	**296**	*e*P	**P**	**15 21 46.6**	**+7.3**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.9							
MKAR	**Makanchi Array**	**47.39**	**298**	P	**P**	**15 23 36.1**	**-1.3**
comp=Z,0.4nm,0.6s,mb3.5,baz=71,slow=7.8,SNR=4.9							
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**15 24 07.7**	**+1.3**
comp=Z,0.9nm,0.8s,mb3.8,baz=296,slow=10,SNR=2.5							
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**15 24 07.7**	**+1.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**64.61**	**335**	P	**P**	**15 25 40.0**	**-0.6**
comp=Z,2.9nm,0.9s,mb4.3,baz=46,slow=8.2,SNR=9.6							
FINES	**FINESS Array B**	**64.61**	**335**	P	**P**	**15 25 40.0**	**-0.5**
FINES				pmax	pmax		
comp=Z,3.0nm,0.9s							
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**15 25 42.6**	**+0.4**
comp=Z,0.2nm,0.6s,mb3.3,baz=272,slow=6.2,SNR=2.5							
NB2	**NORSAR Subarra**	**68.79**	**341**	P	**P**	**15 26 06.4**	**-0.8**
comp=Z,2.6nm,1.0s,mb4.1,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**15 26 06.8**	**-0.4**
comp=Z,0.8nm,0.7s,mb3.8,baz=28,slow=6.3,SNR=4.7							
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**15 26 06.8**	**-0.4**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**15 26 06.8**	**-0.4**
ASAR	**Alice Springs**	**71.80**	**199**	P	**P**	**15 26 26.1**	**+0.5**
comp=Z,0.3nm,0.9s,mb3.2,baz=20,slow=6.8,SNR=4.5							
AKASG	**Malin Array Be**	**72.11**	**326**	P	**P**	**15 26 26.7**	**-0.8**
comp=Z,0.7nm,0.6s,mb3.8,baz=34,slow=4.6,SNR=5.3							
AKASG	**Malin Array Be**	**72.11**	**326**	P	**P**	**15 26 26.7**	**-0.7**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**72.11**	**326**	P	**P**	**15 26 26.7**	**-0.8**

*IDC **01** 15:15:29.0±0.7, 4647N×15322E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.1/15, Error ellipse: s-maj=21.3km s-min=18.8km az=105.0*
*NEIC **01** 15:15:30.7±0.5, 4650N×15321E, h10km, mb4.4/4, Error ellipse: s-maj=12.6km s-min=11.7km az=165.0*
*MOS **01** 15:15:31.8±1.4, 4654N×15363E, h33km, mb4.5/16, Error ellipse: s-maj=16.0km s-min=10.2km az=89.5*
*ISCJB **01** 15:15:35.2±1.8, 4658N±0.10×1534E±0.1, h54km±14km, mb4.5/29, Error ellipse: s-maj=19.5km s-min=11.4km az=95.3*
ISC 01 15:15:36.6±1.3,**4665N**±010×**1535E**±01,**h50**km±9km,**n57,**
σ1§**14**/57,**mb4.5**/29,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**6.00**	**247**	*e*PN	**Pn**	**15 17 01.5**	**-1.2**
YUK				pmax	pmax		
comp=Z,140nm,0.4s							
PET	**Petropavlovsk**	**7.19**	**26**	*e*PN	**Pn**	**15 17 16.9**	**-2.2**
YSS	**Yuzh-Sakhalins**	**7.39**	**276**	*e*PN	**Pn**	**15 17 22.7**	**+0.8**
ASAJ	**Asahikawa**	**8.10**	**256**	Pn	**Pn**	**15 17 32.5**	**+1.0**
comp=Z,2.3nm,0.3s,baz=81,slow=27,SNR=11							
ASAJ	**Asahikawa**	**8.10**	**256**	PN	**Pn**	**15 17 32.5**	**+1.0**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
MA2	**Magadan**	**13.05**	**354**	*e*PN	**Pn**	**15 18 40.6**	**+1.4**
MA2				pmax	pmax		
comp=Z,10.0nm,0.3s							
BILL	**Bilibino**	**22.43**	**13**	*e*P	**P**	**15 20 31.1**	**+0.1**
BILL				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.0							
INK	**Inuvik**	**41.59**	**32**	P	**P**	**15 23 20.7**	**+1.3**
comp=Z,1.7nm,0.6s,mb3.9,baz=288,slow=6.3,SNR=7.8							
INK	**Inuvik**	**41.59**	**32**	*e*P	**P**	**15 23 20.5**	**+1.0**
comp=Z,42nm,0.5s,mb5.3							
MKAR	**Makanchi Array**	**47.24**	**298**	P	**P**	**15 24 03.1**	**-1.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=65,slow=9.5,SNR=9.9							
MKAR	**Makanchi Array**	**47.24**	**298**	P	**P**	**15 24 03.2**	**-1.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**15 24 32.7**	**+0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=292,slow=7.0,SNR=4.4							
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**15 24 32.7**	**+0.6**
YKA				pmax	pmax		
comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**50.84**	**37**	P	**P**	**15 24 32.7**	**+0.7**
BVAR	**Borovoye Array**	**51.14**	**310**	P	**P**	**15 24 33.1**	**-1.3**
comp=Z,1.6nm,0.3s,mb4.4,baz=56,slow=7.5,SNR=12							
BVAR	**Borovoye Array**	**51.14**	**310**	P	**P**	**15 24 33.1**	**-1.3**
BVAR				pmax	pmax		
comp=Z,2.0nm,0.4s							
ZRNK	**Zerenda**	**51.91**	**310**	*e*P	**P**	**15 24 38.4**	**-1.7**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**51.91**	**310**	*e*P	**P**	**15 24 38.4**	**-1.7**
comp=Z,1.5nm,0.4s,mb4.3							
JIRN	**Jiri**	**55.23**	**275**	*e*P	**P**	**15 25 05.3**	**+0.8**
comp=Z,10.0nm,0.4s,mb5.2							
GUN	**Gumba**	**55.29**	**275**	*e*P	**P**	**15 25 05.5**	**+0.6**
comp=Z,11nm,0.4s,mb5.2							
KKN	**Kakani**	**55.77**	**276**	*e*P	**P**	**15 25 09.3**	**+1.0**
comp=Z,12nm,0.5s,mb5.2							
PKI	**Pulchoki**	**55.83**	**275**	*e*P	**P**	**15 25 09.3**	**+0.6**
DMN	**Daman**	**56.01**	**276**	*e*P	**P**	**15 25 10.7**	**+0.7**
comp=Z,9.3nm,0.5s,mb5.1							
GKN	**Gorkha**	**56.08**	**276**	*e*P	**P**	**15 25 11.2**	**+0.7**
comp=Z,18nm,0.5s,mb5.4							
KOLN	**Koldanda**	**56.94**	**277**	*e*P	**P**	**15 25 17.5**	**+0.9**
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**15 25 23.5**	**-0.8**
comp=Z,1.5nm,0.7s,mb4.2,baz=23,slow=8.2,SNR=7.1							
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**15 25 23.5**	**-0.9**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**15 25 23.5**	**-0.8**
AKTK	**Aktyubinsk**	**59.00**	**312**	P	**P**	**15 25 29.9**	**-1.2**
AKTO	**Aktyubinsk**	**59.00**	**312**	P	**P**	**15 25 29.9**	**-1.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=63,slow=8.9,SNR=6.4							
AKTO	**Aktyubinsk**	**59.00**	**312**	P	**P**	**15 25 29.9**	**-1.2**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
JOF	**Joensuu**	**61.55**	**334**	*e*p	**P**	**15 25 45.9**	**-2.6**
comp=Z,2.2nm,0.5s,mb4.5							
JOF	**Joensuu**	**61.55**	**334**	*e*P	**P**	**15 25 45.9**	**-2.6**
JOF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.5							
NVAR	**Mina Array Bea**	**62.23**	**63**	P	**P**	**15 25 54.9**	**+1.8**
comp=Z,0.3nm,0.6s,mb3.6,baz=283,slow=7.4,SNR=3.7							
KAF	**Kangasniemi**	**63.65**	**335**	*e*p	**P**	**15 26 01.6**	**-0.9**
comp=Z,1.2nm,0.4s,mb4.3							
KAF	**Kangasniemi**	**63.65**	**335**	*e*P	**P**	**15 26 01.6**	**-0.9**
KAF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**15 26 05.8**	**-0.7**
comp=Z,2.9nm,0.4s,mb4.7,baz=42,slow=7.2,SNR=29							
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**15 26 05.8**	**-0.6**
FINES				pmax	pmax		
comp=Z,3.0nm,0.4s							
PDAR	**Pinedale Array**	**64.58**	**54**	P	**P**	**15 26 09.6**	**+1.0**
comp=Z,0.8nm,0.8s,mb3.8,baz=234,slow=7.1,SNR=6.7							
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**15 26 33.1**	**0.0**
comp=Z,4.6nm,0.5s,mb4.8,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**15 26 33.1**	**+0.1**
comp=Z,4.0nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=12							
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**15 26 33.1**	**0.0**
NOA				pmax	pmax		
comp=Z,4.0nm,0.5s							
WRA	**Warramunga Arr**	**68.51**	**199**	P	**P**	**15 26 31.7**	**-1.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=23,slow=7.2,SNR=9.1							
AKASG	**Malin Array Be**	**71.78**	**326**	P	**P**	**15 26 52.9**	**-0.8**
comp=Z,3.1nm,0.4s,mb4.6,baz=35,slow=6.3,SNR=11							
AKASG	**Malin Array Be**	**71.78**	**326**	P	**P**	**15 26 52.9**	**-0.8**
AKASG				pmax	pmax		
comp=Z,3.0nm,0.4s							
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**15 26 54.2**	**-2.0**
comp=Z,1.2nm,0.5s,mb4.1,baz=13,slow=6.0,SNR=24							
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**15 26 54.2**	**-2.0**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
CLL	**Collm**	**76.67**	**336**	*i* P	**P**	**15 27 22.5**	**+0.3**
CLL				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8							
CLL	**Collm**	**76.67**	**336**	*i* P	**P**	**15 27 22.5**	**+0.3**
comp=Z,8.0nm,0.6s,mb4.8							
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**15 27 33.6**	**+0.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=3.0,SNR=4.9							
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**15 27 33.6**	**+0.4**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**78.67**	**334**	P	**P**	**15 27 32.7**	**-0.6**
comp=Z,0.9nm,0.5s,mb4.0,baz=30,slow=5.6,SNR=8.7							
GERES	**GERESS Array B**	**78.67**	**334**	P	**P**	**15 27 32.7**	**-0.6**
GERES				pmax	pmax		
comp=Z,1.0nm,0.5s							
MIB	**Mutribah**	**78.95**	**302**	*e*P	**P**	**15 27 35.9**	**+1.1**
MIB				AMb	AMB	15 27 37.0	
comp=Z,17nm,0.7s,mb5.1							
RST	**Umm Al-Ruwaisa**	**79.38**	**302**	*e*P	**P**	**15 27 38.0**	**+0.9**
RST				AMb	AMB	15 27 39.0	
comp=Z,17nm,0.5s,mb5.2							
NAY	**Al-Naaiem**	**79.42**	**301**	*e*P	**P**	**15 27 38.5**	**+1.1**
NAY				AMb	AMB	15 27 39.7	
comp=Z,5.0nm,0.8s,mb4.5							
RDF	**Al-Radifah**	**79.48**	**301**	*e*P	**P**	**15 27 39.2**	**+1.5**
RDF				AMb	AMB	15 27 41.2	
comp=Z,14nm,0.7s,mb5.0							

IDC 01 15:18:17.7±9.3,**346N**×**12736E**,**h0**km,**mb3.5**/3,**mb1 3.7**/3, **mb1mx3.4**/16,**mbtmp3.5**/3,**Error ellipse: s-maj=156.5km s-min=147.7km az=99.0**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**164**	P	P	15 23 36.7	+0.5
0.6nm,0.5s,baz=344,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.70**	**167**	P	P	15 24 08.4	+0.8
0.3nm,0.4s,baz=350,slow=7.2,SNR=17							
STKA	**Stephens Creek**	**37.66**	**160**	P	P	15 25 33.8	-0.7
1.8nm,0.9s,baz=328,slow=9.5,SNR=3.7							

*ISCJB **01** 15:27:23.6±5.2, 466N±0.1×1537E±02, h2km±32km, mb3.8/9, Error ellipse: s-maj=33.1km s-min=14.2km az=66.7*
*IDC **01** 15:27:26.3±1.7, 4654N×15308E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=78.7km s-min=22.8km az=86.0*
*NEIC **01** 15:27:26.8±1.1, 4661N×15378E, h10km, Error ellipse: s-maj=32.5km s-min=16.8km az=108.0*
*MOS **01** 15:27:28.3±1.5, 4669N×15351E, h33km, mb4.2/7, Error ellipse: s-maj=25.0km s-min=15.6km az=76.3*
ISC 01 15:27:28.4±4.1,**467N**±01×**1537E**±03,**h22**km±28km,**n19,**
σ0§**99**/20,**mb3.8**/9,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.33**	**21**	*e*PN	**Pn**	**15 28 32.5**	**-0.4**
SKR				pmax	pmax		
comp=Z,90nm,0.5s							
ASAJ	**Asahikawa**	**8.22**	**256**	Pn	**Pn**	**15 29 25.8**	**-0.5**
comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=5.0							
ERM	**Erimo**	**8.87**	**242**	*e*P	**Pn**	**15 29 36.2**	**+1.0**
ERM				Sn	**Sn**	**15 31 07.3**	**-7.1**
MKAR	**Makanchi Array**	**47.34**	**298**	P	**P**	**15 35 59.1**	**-1.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=66,slow=7.9,SNR=6.9							
MKAR	**Makanchi Array**	**47.34**	**298**	P	**P**	**15 35 59.1**	**-1.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**58.07**	**341**	P	**P**	**15 37 21.7**	**+1.8**
comp=Z,0.5nm,0.7s,mb3.7,baz=37,slow=9.1,SNR=3.8							
ARCES	**ARCESS Array B**	**58.07**	**341**	P	**P**	**15 37 21.7**	**+1.8**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**15 38 02.0**	**0.0**
comp=Z,1.6nm,0.5s,mb4.3,baz=36,slow=6.8,SNR=18							
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**15 38 02.1**	**+0.1**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
OBN	**Obninsk**	**65.61**	**326**	*e*P	**P**	**15 38 07.4**	**-3.2**
OBN				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**15 38 28.7**	**+0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**15 38 29.4**	**+0.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=27,slow=6.4,SNR=9.3							
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**15 38 29.4**	**+0.8**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**68.56**	**200**	P	**P**	**15 38 28.8**	**-0.6**
comp=Z,0.5nm,0.9s,mb3.5,baz=16,slow=6.6,SNR=3.2							
WRA	**Warramunga Arr**	**68.56**	**200**	P	**P**	**15 38 28.8**	**-0.6**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**71.84**	**327**	P	**P**	**15 38 49.5**	**+0.1**
comp=Z,0.8nm,0.4s,mb4.0,baz=32,slow=5.8,SNR=5.8							
AKASG	**Malin Array Be**	**71.84**	**327**	P	**P**	**15 38 49.5**	**0.0**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**72.25**	**199**	P	**P**	**15 38 52.0**	**0.0**
comp=Z,0.4nm,0.8s,mb3.4,baz=12,slow=6.0,SNR=8.7							
GERES	**GERESS Array B**	**78.71**	**334**	P	**P**	**15 39 29.6**	**+0.6**
comp=Z,0.3nm,0.5s,mb3.5,baz=40,slow=7.7,SNR=3.9							

IDC 01 15:30:42.2±2.0,**289S**×**12805E**,**h0**km,**mb3.4**/2,**mb1 3.5**/3, **mb1mx3.3**/15,**mbtmp3.3**/3,**ML3.0**/1,**Error ellipse: s-maj=143.6km s-min=26.0km az=67.0**,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.03**	**161**	P	Pn	15 34 54.0	0.0
0.1nm,0.3s,baz=340,slow=13,SNR=1.4							
ASAR	**Alice Springs**	**21.42**

MKAR Makanchi Array 57.75 327 P P 16 04 14.6 -0.1
0.2nm,0.3s,baz=110,slow=8.5,SNR=4.1

*IDC **01** 15:58:55.0±0.5,2668S×11506W,h0km,mb4.7/22, mb1 4.8/22,mb1mx4.8/24,mbtmp4.7/22,MS4.4/24, Ms1 4.4/24,ms1mx4.3/29,Error ellipse: s-maj=16.2km s-min=15.4km az=81.0*
*MOS **01** 15:58:55.7±1.0,2656S×11498W,h10km,mb5.3/28,Error ellipse: s-maj=16.4km s-min=8.2km az=80.8*
*ISCJB **01** 15:58:55.2±0.3,2673S±004×11485W±007,h10km, mb5.0/81,MS4.6/33,Error ellipse: s-maj=9.8km s-min=6.0km az=152.0*
*BJI **01** 15:58:56.6,2670S×11490W,h10km,mB5.4,Ms5.5, Msz5.1*
*GCMT **01** 15:58:56.7±0.2,2696S×11487W,h13km,MW5.2/71, Moment Tensor Solution. s61,c94; s71,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.37±.21; $M_{\theta\theta}$4.59±.16; $M_{\phi\phi}$1.78±.16; $M_{r\theta}$0.60±.37; $M_{\theta\phi}$-4.35±.13; $M_{\phi r}$1.42±.42; Best double couple: $M_0$7.28100×10^{16} NP1:ϕ_s291.00000°,δ46.00000°,λ-112.00000°. NP2: ϕ_s141.00000°,δ48.00000°,λ-69.00000°. Principal axes: T 7.7650, Plg1.0000°, Azm216.0000°; N -0.9680, Plg16.0000°, Azm307.0000°; P -6.7960, Plg74.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 15:58:56.7±0.2,2673S×11495W,h10km,mb5.2/62, MS4.6/4 Error ellipse: s-maj=7.3km s-min=4.8km az=81.0*
ISC 01 15:58:57.1±0.3,2678S±004×11488W±008,h10km,n473, σ0977/366,mb5.0/81,MS4.6/33,73C-76D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.96**	**95**	LR		LR		16 01 39.4	
	comp=Z,2μm,21.4s,baz=270,slow=32								
RPN				T				16 05 13.8	
	15nm,0.3s,baz=248,slow=21,SNR=5.2								
TBI	**Tubuai**	**31.45**	**269**	*e*S		**S**		**16 10 19.7**	**-6.7**
	126nm,31.8s								
TBI				*e*LQ				16 11 58.8	
	1μm,30.5s								
TBI				*e*LR		LR		16 13 18.0	
	1μm,29.8s,baz=110								
PPT	**Papeete**	**33.32**	**279**	*e*S		**S**		**16 10 48.4**	**-7.1**
	187nm,26.2s								
PPT				*e*LQ				16 12 51.7	
	1μm,33.0s								
PPT				*e*LR		LR		16 14 11.6	
	1μm,26.8s,baz=115								
PPT	**Papeete**	**33.32**	**279**	LR		LR		16 15 03.8	
	comp=Z,684nm,19.6s,MS4.4,baz=105,slow=29								
PLCA	**Paso Flores**	**38.99**	**122**	P		**P**		**16 06 25.3**	**+1.8**
	36nm,0.9s,mb5.1,baz=280,slow=9.1,SNR=61								
PLCA				LR		LR		16 18 49.8	
	comp=Z,231nm,20.8s,MS4.0,baz=320,slow=30								
PLCA	**Paso Flores**	**38.99**	**122**	*e*P		**P**		**16 06 25.6**	**+2.1**
PLCA				pmax		pmax			
	comp=Z,69nm,1.1s								
PLCA	**Paso Flores**	**38.99**	**122**	*e*P		**P**		**16 06 25.6**	**+2.1**
	comp=Z,69nm,1.1s,mb5.3								
RAR	**Rarotonga**	**41.22**	**268**	LR		LR		16 18 52.0	
	comp=Z,448nm,18.4s,MS4.4,baz=164,slow=29								
LVC	**Limon Verde**	**41.80**	**95**	*e*P		**P**		**16 06 48.6**	**+1.8**
	comp=Z,41nm,1.5s,mb4.8								
USHA	**Ushuaia**	**43.79**	**143**	P		**P**		**16 07 03.5**	**+0.6**
	comp=Z,4.1nm,0.9s,mb4.2,baz=329,slow=7.1,SNR=4.4								
USHA				LR		LR		16 20 37.0	
	comp=Z,442nm,21.1s,MS4.3,baz=259,slow=30								
LPAZ	**La Paz**	**44.51**	**86**	P		**P**		**16 07 11.1**	**+2.4**
	comp=Z,4.4nm,0.8s,mb4.4,baz=252,slow=6.6,SNR=25								
LPAZ				LR		LR		16 21 32.2	
	comp=Z,354nm,20.5s,MS4.3,baz=68,slow=30								
LPAZ	**La Paz**	**44.51**	**86**	*e*P		**P**		**16 07 10.7**	**+2.0**
LPAZ				pmax		pmax			
	comp=Z,25nm,1.4s								
LPAZ	**La Paz**	**44.51**	**86**	*e*P		**P**		**16 07 10.7**	**+2.1**
	comp=Z,25nm,1.4s,mb4.9								
TRQA	**Tornquist**	**45.51**	**118**	*e*P		**P**		**16 07 17.2**	**+0.5**
	comp=Z,42nm,0.9s,mb5.4								
JTS	**JuntasAbangare**	**46.93**	**42**	P		**P**		**16 07 27.9**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0,baz=281,slow=2.0,SNR=11								
JTS	**JuntasAbangare**	**46.93**	**42**	*i* P		**P**		**16 07 28.4**	**+0.6**
JTS	**JuntasAbangare**	**46.93**	**42**	*e*P		**P**		**16 07 28.7**	**+0.8**
	comp=Z,26nm,1.1s,mb5.1								
CMIG	**Matias Romero**	**47.74**	**26**	P		**P**		**16 07 33.9**	**-0.2**
	comp=Z,6.6nm,0.7s,mb4.8,baz=203,slow=7.8,SNR=7.6								
ROSC	**El Rosal**	**50.27**	**57**	P		**P**		**16 07 56.1**	**+2.5**
	comp=Z,2.8nm,0.4s,mb4.7,baz=117,slow=4.5,SNR=8.6								
ROSC				LR		LR		16 25 25.9	
	comp=Z,371nm,18.8s,MS4.4,baz=216,slow=32								
ROSC	**El Rosal**	**50.27**	**57**	*e*P		**P**		**16 07 56.2**	**+2.6**
CPUP	**Villa Florida**	**51.09**	**103**	P		**P**		**16 07 59.6**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=220,slow=8.8,SNR=8.4								
CPUP				LR		LR		16 25 38.7	
	comp=Z,191nm,20.2s,MS4.1,baz=248,slow=31								
SAML	**Samuel**	**51.93**	**80**	*e*P		**P**		**16 08 05.4**	**-0.6**
	comp=Z,28nm,1.2s,mb5.1								
SAML				LR		LR			
	comp=Z,533nm,21.0s,MS4.5								
AFI	**Afiamalu**	**54.47**	**272**	P		**P**		**16 08 24.6**	**-0.1**
	comp=Z,38nm,0.9s,mb5.3,baz=140,slow=17,SNR=2.9								
AFI				LR		LR		16 24 55.7	
	comp=Z,174nm,18.9s,MS4.2,baz=123,slow=29								
RAO	**Raoul Island**	**55.10**	**252**	LR		LR		16 25 27.9	
	comp=Z,417nm,19.3s,MS4.5,baz=90,slow=29								
SDV	**Santo Domingo**	**55.67**	**57**	*e*P		**P**		**16 08 33.3**	**-0.1**
	comp=Z,27nm,1.3s,mb5.1								
URZ	**Urewera**	**57.32**	**240**	LR		LR		16 27 50.3	
	comp=Z,864nm,20.0s,MS4.8,baz=119,slow=30								
JCT	**Junction City**	**58.74**	**15**	*e*P		**P**		**16 08 54.7**	**-0.4**
JCT				pmax		pmax			
	comp=Z,37nm,0.9s,mb5.4								
JCT	**Junction City**	**58.74**	**15**	*e*P		**P**		**16 08 54.7**	**-0.4**
	comp=Z,37nm,0.9s,mb5.4								
MNTX	**Cornudas Mount**	**58.85**	**9**	*e*P		**P**		**16 08 54.9**	**-1.0**
	comp=Z,11nm,1.1s,mb4.8								
TUC	**Tucson**	**58.89**	**4**	*e*P		**P**		**16 08 56.0**	**-0.1**
TUC				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
TUC	**Tucson**	**58.89**	**4**	*e*P		**P**		**16 08 56.0**	**-0.2**
	comp=Z,6.8nm,1.0s,mb4.6								
116A	**Eloy**	**59.09**	**3**	⇓P		**P**		**16 08 57.7**	**+0.2**
	baz=59								
DVTC	**Desert V Tower**	**59.12**	**359**	⇑P		**P**		**16 08 58.3**	**+0.6**
	baz=59								
115A	**Sonoran Desert**	**59.21**	**3**	⇑P		**P**		**16 08 58.7**	**+0.4**
	baz=59								
HKT	**Hockley**	**59.29**	**19**	*e*P		**P**		**16 08 58.5**	**-0.4**
HKT				pmax		pmax			
	comp=Z,18nm,1.1s,mb5.0								
HKT	**Hockley**	**59.29**	**19**	*e*P		**P**		**16 08 58.5**	**-0.4**
	comp=Z,18nm,1.1s,mb5.0								
MONP	**Monument Peak**	**59.36**	**358**	⇑P		**P**		**16 08 60.0**	**+0.6**
	baz=60								
109C	**Camp Elliot, M**	**59.38**	**358**	⇓P		**P**		**16 08 59.7**	**+0.2**
	baz=60								
SWSC	**Sam W. Stewart**	**59.40**	**359**	⇑P		**P**		**16 09 00.0**	**+0.4**
	baz=60								
GLA	**Glamis**	**59.50**	**0**	⇑P		**P**		**16 09 01.2**	**+0.8**
	baz=60								
Z14A	**Wintersburg**	**59.84**	**2**	⇓P		**P**		**16 09 03.5**	**+0.8**
	baz=60								
PFO	**Pinyon Flat Ob**	**60.08**	**358**	⇓P		**P**		**16 09 05.1**	**+0.8**
	baz=60								
MURC	**Murrieta**	**60.09**	**358**	⇓P		**P**		**16 09 03.8**	**-0.6**
	baz=60								
BC3	**Big Chuckw Mtn**	**60.11**	**359**	⇓P		**P**		**16 09 04.7**	**+0.2**
	baz=60,SNR=7.9								
Y12C	**Blythe**	**60.20**	**0**	⇓P		**P**		**16 09 05.4**	**+0.3**
	baz=60,SNR=7.0								
Y13A	**Salome**	**60.27**	**1**	⇑P		**P**		**16 09 06.4**	**+0.7**
	baz=60,SNR=7.0								
Y14A	**Wickenburg**	**60.41**	**2**	⇓P		**P**		**16 09 07.1**	**+0.5**
	baz=61,SNR=7.9								
BELC	**Belle Mtn.**	**60.46**	**359**	P		**P**		**16 09 07.8**	**+0.9**
	baz=61,SNR=10								
IRM	**Iron Mountain**	**60.61**	**360**	⇓P		**P**		**16 09 08.4**	**+0.4**
	baz=61,SNR=8.9								
BFSC	**Mount Baldy St**	**60.74**	**357**	⇑P		**P**		**16 09 09.3**	**+0.4**
	baz=61								
PDMCI	**Parker Dam,Lak**	**60.75**	**1**	⇓P		**P**		**16 09 09.6**	**+0.7**
	baz=61								
DECC	**Green Verdugo**	**60.79**	**357**	⇑P		**P**		**16 09 09.7**	**+0.5**
	baz=61								
RPZ	**Rata Peaks**	**60.88**	**233**	LR		LR		16 31 57.8	
	comp=Z,503nm,18.7s,MS4.7,baz=98,slow=33								
X14A	**Yava**	**60.95**	**2**	⇓P		**P**		**16 09 10.8**	**+0.5**
	baz=61,SNR=8.9								
X15A	**Humboldt**	**60.98**	**2**	P		**P**		**16 09 11.1**	**+0.5**
	baz=61,SNR=18								
Y22C	**IRIS PASSCAL I**	**60.99**	**8**	⇓P		**P**		**16 09 11.2**	**+0.6**
	baz=61								
X13A	**Yucca**	**61.05**	**1**	P		**P**		**16 09 11.7**	**+0.7**
	baz=61,SNR=10.0								
LENM	**Lemitar**	**61.08**	**7**	*e*P		**P**		**16 09 11.2**	**0.0**
OSI	**Osito Adit**	**61.17**	**356**	⇓P		**P**		**16 09 11.8**	**0.0**
	baz=61								
LPM	**Los Pinos Moun**	**61.26**	**8**	*e*P		**P**		**16 09 12.8**	**+0.4**
LAZ	**Ladron**	**61.29**	**7**	*e*P		**P**		**16 09 12.8**	**+0.2**
HEC	**Hector,Ludlow**	**61.29**	**359**	⇑P		**P**		**16 09 12.9**	**+0.3**
	baz=62								
NATX	**Nacogdoches**	**61.33**	**20**	*e*P		**P**		**16 09 13.1**	**+0.2**
	comp=Z,20nm,0.5s,mb5.5								
EDW2	**Edwards Air Fo**	**61.40**	**357**	⇓P		**P**		**16 09 13.1**	**-0.2**
	baz=62,SNR=6.5								
W13A	**Hualapai Mount**	**61.55**	**1**	P		**P**		**16 09 15.0**	**+0.6**
	baz=62,SNR=5.6								
SBA	**Scott Base**	**61.56**	**194**	*e*P		**P**		**16 09 14.7**	**+0.3**
SBA				pmax		pmax			
	comp=Z,7.0nm,0.1s,mb5.8								
SBA	**Scott Base**	**61.56**	**194**	*e*P		**P**		**16 09 14.7**	**+0.3**
	comp=Z,7.1nm,0.1s,mb5.8								
W15A	**Williams**	**61.67**	**2**	⇑P		**P**		**16 09 16.0**	**+0.9**
	baz=62								
W14A	**Seligman**	**61.68**	**2**	P		**P**		**16 09 15.9**	**+0.6**
	baz=62,SNR=30								
ARVC	**Arvin**	**61.69**	**356**	⇓P		**P**		**16 09 14.4**	**-0.8**
	baz=62								
W12A	**Cal Nev Ari**	**61.75**	**0**	⇑P		**P**		**16 09 16.1**	**+0.4**
	baz=62								
GSC	**Goldstone**	**61.77**	**358**	⇑P		**P**		**16 09 16.1**	**+0.2**
	baz=62,SNR=8.2								
TUQ	**Turquoise Mtn.**	**61.89**	**359**	⇑P		**P**		**16 09 17.4**	**+0.8**
	baz=62								
ANMO	**Albuquerque**	**61.91**	**8**	*c i*P		**P**		**16 09 16.6**	**-0.2**
ANMO	**Albuquerque**	**61.91**	**8**	*e*P		**P**		**16 09 16.8**	**0.0**
	comp=Z,4.9nm,0.9s,mb4.6								
ANMO				LR		LR			
	comp=Z,588nm,22.0s,MS4.7								
LRMC	**Laurel Mountai**	**61.98**	**357**	⇑P		**P**		**16 09 17.0**	**-0.2**
	baz=62								
WUAZ	**Wupatki**	**62.05**	**3**	*e*P		**P**		**16 09 18.3**	**+0.6**
	comp=Z,13nm,1.0s,mb5.0								
WUAZ	**Wupatki**	**62.05**	**3**	⇓P		**P**		**16 09 18.2**	**+0.5**
	baz=62,SNR=9.0								
V12A	**Nelson**	**62.17**	**0**	P		**P**		**16 09 19.1**	**+0.6**
	baz=62,SNR=5.7								
ISA	**Isabella**	**62.20**	**357**	⇓P		**P**		**16 09 19.1**	**+0.4**
	baz=62								
V11A	**Goodsprings**	**62.28**	**359**	⇓P		**P**		**16 09 20.0**	**+0.7**
	baz=62,SNR=8.5								
SHOC	**Shoshone**	**62.36**	**359**	⇑P		**P**		**16 09 20.0**	**+0.2**
	baz=63								
VES	**Vestal, Richgr**	**62.41**	**356**	⇓P		**P**		**16 09 19.5**	**-0.6**
	baz=63								
MPMC	**Manual Prospec**	**62.55**	**358**	⇓P		**P**		**16 09 20.9**	**-0.2**
	baz=63,SNR=11								
VNDA	**Vanda**	**62.60**	**194**	P		**P**		**16 09 21.1**	**-0.3**
	comp=Z,1.9nm,0.9s,mb4.2,baz=77,slow=4.0,SNR=8.2								
VNDA				LR		LR		16 30 19.1	
	comp=Z,406nm,19.6s,MS4.6,baz=86,slow=30								
VNDA				PKP2bc				16 38 31.6	
VNDA	**Vanda**	**62.60**	**194**	*e*P		**P**		**16 09 21.4**	**0.0**
VNDA				pmax		pmax			
	comp=Z,24nm,2.0s								
VNDA	**Vanda**	**62.60**	**194**	*e*P		**P**		**16 09 21.4**	**0.0**
	comp=Z,24nm,2.0s,mb5.0								
PKD	**Parkfield**	**62.62**	**355**	⇑P		**P**		**16 09 21.7**	**+0.2**
	baz=63								
BDFB	**Brasilia**	**62.71**	**95**	P		**P**		**16 09 23.4**	**+1.2**
	comp=Z,7.2nm,0.8s,mb4.8,baz=262,slow=7.5,SNR=10								
BDFB				LR		LR		16 32 44.5	
	comp=Z,362nm,21.6s,MS4.5,baz=119,slow=32								
V03C	**Hunter Liggett**	**62.75**	**354**	⇓P		**P**		**16 09 22.6**	**+0.2**
	baz=63								
DAC	**Darwin (Calif)**	**62.77**	**358**	*e*P		**P**		**16 09 22.4**	**-0.1**
DAC				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.9								
DAC	**Darwin (Calif)**	**62.77**	**358**	*e*P		**P**		**16 09 22.4**	**-0.2**
	comp=Z,12nm,1.1s,mb4.9								
U11A	**Corn Creek**	**62.87**	**360**	⇑P		**P**		**16 09 23.4**	**+0.2**
	baz=63								
U12A	**Valley of Fire**	**62.88**	**0**	⇓P		**P**		**16 09 23.4**	**+0.2**
	baz=63,SNR=8.0								
FURC	**Furnace Creek,**	**62.94**	**358**	⇓P		**P**		**16 09 23.8**	**+0.2**
	baz=63,SNR=5.8								
CWC	**Cottonwood Cre**	**62.95**	**357**	⇑P		**P**		**16 09 23.4**	**-0.4**
	baz=63,SNR=5.6								
WMOK	**Wichita Mounta**	**63.06**	**15**	*e*P		**P**		**16 09 23.3**	**-1.1**
WMOK				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.6								
WMOK	**Wichita Mounta**	**63.06**	**15**	*e*P		**P**		**16 09 23.3**	**-1.2**
	comp=Z,4.0nm,0.8s,mb4.6								
HELL	**Mitchell Peak,**	**63.24**	**356**	P		**P**		**16 09 25.7**	**0.0**
	baz=64,SNR=8.0								
QSPA	**South Pole Qui**	**63.38**	**180**	*e*P		**P**		**16 09 27.1**	**+0.5**
	comp=Z,22nm,1.1s,mb5.2								
GRAC	**Grapevine Rang**	**63.48**	**358**	⇑P		**P**		**16 09 26.6**	**-0.6**
	baz=64								
TIN	**Tinemaha**	**63.58**	**357**	⇑P		**P**		**16 09 28.1**	**+0.2**
	baz=64								
T06C	**Millerton Lake**	**63.61**	**356**	P		**P**		**16 09 28.0**	**-0.1**
	baz=64,SNR=9.7								
MTUM	**Tungsten Hills**	**63.89**	**357**	P		**P**		**16 09 28.6**	**-1.3**
KCC	**Kaiser Creek**	**63.90**	**356**	⇓P		**P**		**16 09 30.0**	**0.0**
	baz=64								
MVCO	**Mesa Verde**	**63.93**	**6**	*e*P		**P**		**16 09 29.9**	**-0.4**
MVCO	**Mesa Verde**	**63.93**	**6**	P		**P**		**16 09 30.5**	**+0.3**
	baz=64,SNR=5.6								
BNLO	**Ben Lomond (Sa**	**63.94**	**354**	⇓P		**P**		**16 09 30.1**	**-0.2**
	baz=64								
S05C	**Merced**	**63.99**	**355**	⇓P		**P**		**16 09 31.2**	**+0.6**
	baz=64								
CCUT	**Cedar City**	**64.01**	**1**	*e*P		**P**		**16 09 31.1**	**+0.4**
S08C	**White Mtn Res**	**64.02**	**357**	P		**P**		**16 09 31.6**	**+0.9**
	baz=64,SNR=15								
S09A	**Goldfield**	**64.20**	**358**	⇓P		**P**		**16 09 32.2**	**+0.2**
	baz=64,SNR=22								
S04C	**Ingram Canyon,**	**64.23**	**354**	⇑P		**P**		**16 09 33.2**	**+1.0**
	baz=64								
ARUT	**Antelope Range**	**64.24**	**1**	*e*P		**P**		**16 09 33.0**	**+0.7**
MIAR	**Mount Ida**	**64.25**	**19**	*e*P		**P**		**16 09 31.2**	**-1.1**
MIAR				pmax		pmax			
	comp=Z,18nm,1.2s,mb5.0								
MIAR	**Mount Ida**	**64.25**	**19**	*e*P		**P**		**16 09 31.2**	**-1.1**
	comp=Z,18nm,1.2s,mb5.0								
FARB	**Farallon Islan**	**64.59**	**353**	⇓P		**P**		**16 09 35.1**	**+0.6**
	baz=65								
R07C	**Lee Vining**	**64.65**	**356**	⇓P		**P**		**16 09 36.3**	**+1.4**
	baz=65								
CMB	**Columbia Colle**	**64.68**	**355**	*e*P		**P**		**16 09 34.6**	**-0.5**
CMB				pmax		pmax			
	comp=Z,23nm,1.1s,mb5.1								
CMB	**Columbia Colle**	**64.68**	**355**	*e*P		**P**		**16 09 34.6**	**-0.5**
	comp=Z,23nm,1.1s,mb5.1								
CMB	**Columbia Colle**	**64.68**	**355**	P		**P**		**16 09 35.4**	**+0.3**
	baz=65,SNR=29								
R09A	**Tonopah**	**64.71**	**358**	P		**P**		**16 09 36.2**	**+0.9**
	baz=65,SNR=16								
R10A	**Warm Springs**	**64.74**	**359**	⇓P		**P**		**16 09 35.5**	**0.0**
	baz=65								
SDCO	**Great Sand Dun**	**64.79**	**8**	*e*P		**P**		**16 09 35.3**	**-0.5**
	comp=Z,23nm,1.2s,mb5.1								
TRCR	**Troy Canyon**	**64.79**	**359**	*e*P		**P**		**16 09 37.0**	**+1.2**
UALR	**University of**	**64.84**	**20**	P		**P**		**16 09 34.7**	**-1.4**
	comp=Z,18nm,0.9s,mb5.1								
PV01	**Paradox Valley**	**64.84**	**5**	*e*P		**P**		**16 09 36.1**	**-0.1**
R08A	**Mina**	**64.86**	**357**	⇓P		**P**		**16 09 37.1**	**+0.8**
	baz=65								
NVAR	**Mina Array Bea**	**64.95**	**357**	P		**P**		**16 09 37.3**	**+0.5**
	comp=Z,8.5nm,0.9s,mb4.8,baz=184,slow=8.7,SNR=48								
NVAR				PKP2bc				16 38 26.9	
	comp=Z,0.2nm,0.5s,baz=275,slow=2.1,SNR=5.1								
NVAR	**Mina Array Bea**	**64.95**	**357**	P		**P**		**16 09 37.3**	**+0.5**
NVAR				⇑*e*				16 38 26.9	
MSU	**Marysvale**	**65.00**	**2**	*e*P		**P**		**16 09 37.7**	**+0.5**
MCCM	**Marconi Confer**	**65.02**	**353**	⇓P		**P**		**16 09 37.1**	**-0.2**
	baz=65								
PV10	**Paradox Valley**	**65.05**	**5**	*e*P		**P**		**16 09 37.1**	**-0.4**
	baz=65								
R06C	**Coleville**	**65.10**	**356**	⇑P		**P**		**16 09 38.3**	**+0.4**
	baz=65								
CVS	**Carmenet Viney**	**65.17**	**353**	⇓P		**P**		**16 09 38.7**	**+0.4**
	baz=65								
Q11A	**Duckwater**	**65.29**	**359**	P		**P**		**16 09 40.3**	**+1.2**
	baz=66,SNR=22								
Q09A	**Carvers**	**65.31**	**358**	P		**P**		**16 09 40.9**	**+1.7**
	baz=66,SNR=5.5								
R05C	**Kirkwood Meado**	**65.32**	**356**	P		**P**		**16 09 40.1**	**+0.8**
	baz=66,SNR=18								
Q08A	**Gabbs**	**65.36**	**357**	P		**P**		**16 09 40.0**	**+0.4**
	baz=66,SNR=7.0								
Q03C	**Winters**	**65.41**	**354**	⇑P		**P**		**16 09 40.9**	**+1.0**
	baz=66								
LAVA	**Lava Cap Winer**	**65.42**	**355**	P		**P**		**16 09 40.6**	**+0.6**
	baz=66,SNR=11								
Q12A	**Willow Creek R**	**65.48**	**0**	⇓P		**P**		**16 09 40.5**	**+0.2**
	baz=66								
Q04C	**Lincoln**	**65.56**	**354**	⇑P		**P**		**16 09 41.6**	**+0.8**
	baz=66								
OXF	**Oxford**	**65.56**	**23**	*e*P		**P**		**16 09 39.1**	**-1.8**
OXF				pmax		pmax			
	comp=Z,35nm,1.1s,mb5.3								
OXF	**Oxford**	**65.56**	**23**	*e*P		**P**		**16 09 39.1**	**-1.8**
	comp=Z,35nm,1.1s,mb5.3								
SRU	**San Rafael**	**65.68**	**4**	*e*P		**P**		**16 09 40.7**	**-0.9**
SRU				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.1								
SRU	**San Rafael**	**65.68**	**4**	*e*P		**P**		**16 09 40.7**	**-0.8**
	comp=Z,19nm,1.0s,mb5.1								
MNRC	**McLaughlin Nat**	**65.70**	**354**	⇓P		**P**		**16 09 42.3**	**+0.6**
	baz=66,SNR=8.1								
TMUT	**Trail Mountain**	**65.82**	**3**	*e*P		**P**		**16 09 42.8**	**+0.3**
HOPS	**Hopland**	**65.88**	**353**	*e*P		**P**		**16 09 42.6**	**-0.3**
	comp=Z,29nm,1.2s,mb5.2								
HOPS	**Hopland**	**65.88**	**353**	⇑P		**P**		**16 09 43.1**	**+0.2**
	baz=66,SNR=11								
WCN	**Washoe City**	**65.90**	**356**	⇑P		**P**		**16 09 43.6**	**+0.6**
	baz=66,SNR=6.4								
P12A	**McGill**	**65.91**	**360**	P		**P**		**16 09 43.8**	**+0.7**
	baz=66,SNR=6.5								
P05C	**Yuba Gap, Truc**	**65.96**	**355**	P		**P**		**16 09 43.6**	**+0.2**
	baz=66,SNR=16								
SUTB	**Sutter Butte**	**65.98**	**354**	⇑P		**P**		**16 09 43.7**	**+0.2**
	baz=66								
P11A	**Circle Ranch,**	**66.00**	**359**	⇑P		**P**		**16 09 44.7**	**+1.0**
	baz=66								
P09A	**Austin**	**66.02**	**358**	⇓P		**P**		**16 09 44.4**	**+0.6**
	baz=66								
SMCO	**Snowmass**	**66.03**	**7**	*e*P		**P**		**16 09 43.1**	**-0.8**
	comp=Z,14nm,1.0s,mb5.0								
OHCM	**Honcut**	**66.06**	**354**	*e*P		**P**		**16 09 44.1**	**0.0**
P08A	**Dixie Valley**	**66.20**	**357**	⇓P		**P**		**16 09 45.1**	**+0.2**
	baz=66								
PAHR	**Pah Rah Range**	**66.28**	**356**	*e*P		**P**		**16 09 45.8**	**+0.3**
	comp=Z,26nm,1.5s,mb5.0								
ORV	**Oroville**	**66.28**	**354**	P		**P**		**16 09 46.0**	**+0.6**
	baz=66,SNR=8.6								
P01C	**Double 8 Ranch**	**66.38**	**353**	P		**P**		**16 09 46.1**	**0.0**
	baz=67,SNR=5.8								
NLU	**North Lily Min**	**66.44**	**2**	*e*P		**P**		**16 09 46.5**	**0.0**
PLAL	**Pickwick Lake**	**66.46**	**24**	*e*P		**P**		**16 09 44.1**	**-2.6**
	comp=Z,18nm,1.1s,mb5.0								
GASB	**Alder Springs**	**66.49**	**353**	P		**P**		**16 09 48.0**	**+1.1**
	baz=67,SNR=47								
BEKR	**Beckwourth**	**66.50**	**355**	P		**P**		**16 09 47.1**	**+0.2**
	baz=67,SNR=9.2								
MPU	**Maple Canyon**	**66.52**	**3**	*e*P		**P**		**16 09 46.2**	**-0.8**
	comp=Z,17nm,1.2s,mb5.0								
O11A	**Cowboy Ranch,**	**66.57**	**359**	P		**P**		**16 09 48.1**	**+0.8**
	baz=67,SNR=7.0								
O05C	**Quincy**	**66.64**	**355**	P		**P**		**16 09 48.5**	**+0.7**
	baz=67,SNR=6.8								
O09A	**Fish Creek Ran**	**66.64**	**358

CCM pmax pmax
comp=Z,24nm,1.0s,mb5.2
CCM Cathedral Cave 68.20 20 *e*P **P 16 09 54.7 -2.9**
comp=Z,24nm,1.0s,mb5.2
M02C Callahan 68.23 354 ⇑P **P 16 09 58.2 +0.4**
baz=68,SNR=11
L09A Wilkinson Ranc 68.50 358 ⇑P **P 16 09 59.5 0.0**
baz=69,SNR=6.0
M04C Macdoel 68.52 354 P **P 16 09 59.5 -0.2**
baz=69,SNR=17
MOD Modoc 68.52 356 *e*P **P 16 09 59.0 -0.6**
comp=Z,20nm,1.2s,mb4.9
MOD Modoc 68.52 356 P **P 16 09 59.7 0.0**
baz=69,SNR=16
YBH Yreka Blue Hor 68.55 354 P **P 16 09 58.9 -1.0**
comp=Z,3.6nm,0.9s,mb4.3,baz=142,slow=6.5,SNR=4.5
YBH Yreka Blue Hor 68.55 354 P **P 16 09 59.5 -0.4**
baz=69,SNR=7.9
L07A Adell 68.58 356 P **P 16 10 01.0 +1.0**
baz=69,SNR=14
L08A Fields 68.70 357 ⇑P **P 16 10 00.7 0.0**
baz=69,SNR=16
L05A Lakeview 68.70 355 P **P 16 10 01.4 +0.6**
baz=69,SNR=14
M01C Crescent City 68.82 353 ⇓P **P 16 09 59.8 -1.7**
baz=69
L04A Klamath Falls 68.92 354 ⇑P **P 16 10 02.1 -0.1**
baz=69
WVOR Wild Horse Val 68.96 357 *e*P **P 16 10 01.8 -0.6**
WVOR pmax pmax
comp=Z,27nm,1.2s,mb5.0
WVOR Wild Horse Val 68.96 357 *e*P **P 16 10 01.8 -0.6**
comp=Z,27nm,1.2s,mb5.0
L02A Cave Junction 69.06 353 ⇓P **P 16 10 03.2 +0.1**
baz=69
K09A Rome 69.18 358 P **P 16 10 03.9 +0.1**
baz=69,SNR=23
K07A Rock Creek Ran 69.24 357 P **P 16 10 04.8 +0.6**
baz=70,SNR=13
K08A Mann Creek Ran 69.25 357 P **P 16 10 05.2 +1.0**
baz=70,SNR=6.0
USIN University of 69.28 23 *e*P **P 16 10 03.2 -1.2**
comp=Z,34nm,0.8s,mb5.3
K04A Chilguin 69.34 355 ⇓P **P 16 10 05.7 +0.9**
baz=70
PDAR Pinedale Array 69.38 4 P **P 16 10 03.8 -1.2**
comp=Z,3.5nm,1.0s,mb4.3,baz=167,slow=7.0,SNR=29
PDAR LR LR 16 36 09.8
comp=Z,106nm,19.6s,MS4.1,baz=192,slow=32
K05A Summer Lake 69.38 355 P **P 16 10 05.8 +0.7**
baz=70,SNR=25
K06A Valley Falls 69.41 356 P **P 16 10 05.6 +0.4**
baz=70,SNR=9.5
TZTN Tazewell 69.56 27 *e*P **P 16 10 04.9 -1.3**
VNA3 Neumayer Olymp 69.62 161 *e*P **P 16 10 05.8 -0.7**
VNA3 *e* pP 16 10 09.2 -0.6
VNA3 *e* pP 16 10 10.7 +0.9
VNA3 *e* 16 10 28.9
VNA3 *e* 17 26 50.9
VNA3 *e* 17 26 51.7
VNA3 *e* 17 27 10.7
K02A Glendale 69.66 353 ⇓P **P 16 10 07.2 +0.5**
baz=70
J09A Fry Pan Ranch, 69.83 358 P **P 16 10 08.5 +0.7**
baz=70,SNR=14
J06A Christmas Vall 69.86 356 P **P 16 10 07.5 -0.4**
baz=70,SNR=18
J08A Circle Bar Ran 69.87 357 ⇑P **P 16 10 08.2 +0.1**
baz=70,SNR=10
REDW Red Top Meadow 69.89 3 *e*P **P 16 10 06.8 -1.3**
comp=Z,31nm,1.4s,mb5.0
J07A Hines 69.93 357 P **P 16 10 09.1 +0.7**
baz=70,SNR=6.8
J05A Fort Rock 69.96 355 P **P 16 10 08.8 +0.1**
baz=70,SNR=13
HLID Hailey 70.00 0 *e*P **P 16 10 08.4 -0.5**
comp=Z,21nm,1.0s,mb5.0
HLID LR LR
comp=Z,328nm,22.0s,MS4.5
HLID Hailey 70.00 0 P **P 16 10 09.2 +0.4**
baz=70,SNR=31
TPAW Teton Pass 70.02 3 *e*P **P 16 10 07.8 -1.1**
comp=Z,21nm,1.0s,mb5.0
DCID1 Drake Creek 70.11 3 *e*P **P 16 10 09.4 -0.1**
LOHW Long Hollow 70.16 3 *e*P **P 16 10 08.2 -1.6**
comp=Z,24nm,1.3s,mb5.0
J03A Ideyld Park 70.20 354 P **P 16 10 10.7 +0.6**
baz=70,SNR=8.5
J02A Umpqua 70.26 353 ⇓P **P 16 10 09.7 -0.7**
baz=70
MOOW Moose Ponds 70.29 3 *e*P **P 16 10 09.1 -1.5**
comp=Z,20nm,1.4s,mb4.9
VNA1 Neumayer--Stat 70.29 160 *e*P **P 16 10 10.8 +0.2**
VNA1 *e* pP 16 10 13.7 -0.1
VNA1 *e* pP 16 10 15.0 +1.2
VNA1 *e* 16 10 33.4
VNA1 *e* 17 26 52.0
VNA1 *e* 17 26 54.3
VNA1 *e* 17 27 12.2
IMW Indian Meadow 70.42 3 *e*P **P 16 10 10.1 -1.3**
comp=Z,20nm,1.2s,mb4.9
I08A Drewsey 70.43 357 P **P 16 10 11.7 +0.2**
baz=71,SNR=10
I09A Lost Marbles R 70.46 358 P **P 16 10 11.6 0.0**
baz=71,SNR=14
I06A Prineville 70.55 356 ⇓P **P 16 10 12.1 -0.1**
baz=71,SNR=6.8
FLWY Flagg Ranch 70.62 3 *e*P **P 16 10 11.7 -0.9**
comp=Z,34nm,1.1s,mb5.2
I07A Izee 70.64 356 P **P 16 10 12.9 +0.2**
baz=71,SNR=22
DZM Mont Dzumac 70.71 254 P **P 16 10 13.5 +0.3**
comp=Z,9.4nm,0.8s,mb4.8,baz=121,slow=5.9,SNR=3.6
I03A Eugene 70.83 354 ⇓P **P 16 10 14.2 +0.3**
baz=71
I05A Bend 70.84 355 ⇑P **P 16 10 14.7 +0.7**
baz=71
I02A Mapleton 70.91 353 ⇑P **P 16 10 14.5 +0.1**
baz=71
H08A Prairie City 71.04 357 P **P 16 10 15.2 +0.1**
baz=71,SNR=16
H09A Durkee 71.14 358 ⇑P **P 16 10 16.3 +0.5**
baz=71
H07A Lands Inn, Kim 71.16 356 P **P 16 10 16.2 +0.3**
baz=71,SNR=20
YMR Madison River 71.19 3 *e*P **P 16 10 16.2 +0.1**
comp=Z,44nm,1.4s,mb5.2
RSSD Black Hills 71.25 8 *e*P **P 16 10 15.6 -0.9**
RSSD pmax pmax
comp=Z,18nm,1.1s,mb4.9
RSSD Black Hills 71.25 8 *e*P **P 16 10 15.6 -0.8**
comp=Z,18nm,1.1s,mb4.9
MCMT McKenzie Canyo 71.29 2 *e*P **P 16 10 16.5 -0.2**
H05A Madras 71.32 355 ⇓P **P 16 10 18.8 +1.9**
baz=72
QLMT Earthquake Lak 71.33 3 *e*P **P 16 10 16.8 -0.1**
H06A Lindquist Farm 71.34 356 P **P 16 10 17.5 +0.5**
baz=72,SNR=11
SNAA Sanae 71.40 162 LR LR 16 35 21.7
comp=Z,36nm,21.4s,MS3.6,baz=206,slow=31
BLA Blacksburg 71.42 28 P **P 16 10 16.5 -1.0**
BLA pmax pmax
comp=Z,26nm,1.1s,mb5.1
BLA Blacksburg 71.42 28 P **P 16 10 16.5 -1.0**
comp=Z,26nm,1.1s,mb5.1
H04A Detroit Lake 71.43 355 P **P 16 10 17.0 -0.5**
baz=72,SNR=7.6
COR Corvallis 71.44 354 *e*P **P 16 10 18.0 +0.4**
COR pmax pmax
comp=Z,30nm,1.1s,mb5.1
COR Corvallis 71.44 354 *e*P **P 16 10 18.0 +0.4**
comp=Z,30nm,1.1s,mb5.1
H03A Soap Creek Ran 71.53 354 ⇓P **P 16 10 18.0 -0.1**
baz=72
RLMT Red Lodge 71.74 4 *e*P **P 16 10 18.2 -1.2**
G08A Pilot Rock 71.82 357 P **P 16 10 20.1 +0.2**
baz=72,SNR=31
DLMT Dillon 71.83 2 *e*P **P 16 10 19.0 -0.9**
comp=Z,22nm,1.3s,mb4.9
G07A Ruggs Ranch, H 71.83 356 ⇑P **P 16 10 19.9 -0.1**
baz=72,SNR=6.4
G06A Carlson Farm, 71.86 356 ⇑P **P 16 10 20.4 +0.3**
baz=72
G05A Wamic 71.92 355 ⇓P **P 16 10 20.8 +0.3**
baz=72
G04A Mulino 71.97 354 ⇓P **P 16 10 20.5 -0.3**
baz=72

BOZ Bozeman (W) 72.14 2 ⇓P **P 16 10 21.1 -0.7**
baz=72,SNR=7.3
G03A Yamhill 72.16 354 ⇓P **P 16 10 21.6 -0.3**
baz=72
F09A S2 Ranch, Elgi 72.19 358 ⇑P **P 16 10 21.4 -0.7**
baz=72
GCMT Greycliff 72.38 4 *e*P **P 16 10 21.1 -2.2**
F06A Goldendale 72.40 356 ⇓P **P 16 10 23.5 +0.1**
baz=73
F10A Beach Ranch, E 72.44 358 P **P 16 10 24.0 +0.4**
baz=73,SNR=9.1
F07A Phinny Hill Vi 72.47 356 ⇑P **P 16 10 25.3 +1.5**
baz=73
F05A White Salmon 72.56 355 ⇑P **P 16 10 23.6 -0.7**
baz=73
F04A Amboy 72.69 354 ⇑P **P 16 10 24.4 -0.7**
baz=73
F03A Seaside 72.79 354 ⇓P **P 16 10 25.6 -0.1**
baz=73
HAWA Hanford 72.95 357 *e*P **P 16 10 26.6 0.0**
comp=Z,15nm,1.4s,mb4.7
E09A Wood Farm, Sta 73.01 358 ⇓P **P 16 10 26.5 -0.5**
baz=73
E07A Sunnyside 73.13 356 ⇓P **P 16 10 27.4 -0.3**
baz=73
E06A Yakima 73.19 356 ⇓P **P 16 10 27.1 -0.9**
baz=73,SNR=6.2
E05A Randle 73.26 355 ⇑P **P 16 10 27.5 -0.9**
baz=74,SNR=8.1
MSO Missoula 73.27 1 *e*P **P 16 10 27.6 -0.9**
comp=Z,12nm,1.1s,mb4.7
CHMT Chamberlain Mo 73.36 1 *e*P **P 16 10 28.3 -0.8**
E04A Onalaska 73.37 354 ⇓P **P 16 10 29.4 +0.3**
baz=74
E03A Lebam 73.40 354 ⇓P **P 16 10 29.8 +0.5**
baz=74
EBG Ellensburg 73.52 356 P **P 16 10 30.4 +0.4**
LAO LASA Array 73.54 6 *e*P **P 16 10 28.6 -1.6**
comp=Z,24nm,0.9s,mb5.1
D09A Jones Farm, Ri 73.56 358 P **P 16 10 29.9 -0.3**
baz=74,SNR=9.7
D08A Wollman Farm, 73.58 357 ⇑P **P 16 10 30.6 +0.3**
baz=74
FMW Mount Fremont 73.62 355 P **P 16 10 30.7 +0.1**
TBM Table Mountain 73.78 356 P **P 16 10 31.7 +0.1**
D06A Cle Elum 73.83 356 P **P 16 10 31.8 0.0**
baz=74,SNR=7.1
D05A Enumclaw 73.90 355 ⇑P **P 16 10 32.3 +0.1**
baz=74
EPH Ephrata 73.91 357 P **P 16 10 32.3 0.0**
C13A Hot Springs 74.11 0 P **P 16 10 32.8 -0.7**
baz=74,SNR=14
C12A Trout Creek 74.14 360 ⇓P **P 16 10 32.9 -0.7**
baz=74
C07A Waterville 74.27 356 P **P 16 10 33.8 -0.6**
baz=74,SNR=12
WTV Waterville 74.27 356 P **P 16 10 33.7 -0.7**
C09A Chrisman Ranch 74.30 358 ⇑P **P 16 10 33.8 -0.7**
baz=74
C08A Higginbotham F 74.31 357 ⇓P **P 16 10 34.5 -0.1**
baz=74
C05A Tolt Reservoir 74.38 355 P **P 16 10 34.7 -0.4**
baz=75,SNR=6.9
HDW Hoodsport 74.45 354 P **P 16 10 35.6 +0.2**
C04A Brinnon 74.51 354 ⇑P **P 16 10 35.2 -0.6**
baz=75
AAM Ann Arbor 74.54 24 *e*P **P 16 10 35.6 -0.4**
AAM pmax pmax
comp=Z,41nm,1.1s,mb5.3
AAM Ann Arbor 74.54 24 *e*P **P 16 10 35.6 -0.4**
comp=Z,41nm,1.1s,mb5.3
EGMT Eagleton 74.60 4 *e*P **P 16 10 35.9 -0.4**
comp=Z,37nm,1.2s,mb5.2
EGMT Eagleton 74.60 4 ⇑P **P 16 10 36.2 -0.1**
baz=75,SNR=11
NEW Newport 74.73 358 P **P 16 10 36.3 -0.8**
comp=Z,12nm,1.0s,mb4.8,baz=179,slow=5.4,SNR=16
NEW Newport 74.73 358 *e*P **P 16 10 36.2 -0.8**
NEW pmax pmax
comp=Z,30nm,1.3s
NEW Newport 74.73 358 *e*P **P 16 10 36.1 -0.9**
comp=Z,30nm,1.3s,mb5.1
B10A Chitwood Farm, 74.76 358 ⇓P **P 16 10 37.1 -0.1**
baz=75
B13A Whitefish 74.81 0 P **P 16 10 37.0 -0.5**
baz=75,SNR=10
B04A Port Angeles 74.89 354 ⇓P **P 16 10 37.3 -0.8**
baz=75
JCW Jim Creek 74.90 355 P **P 16 10 37.7 -0.4**
B12A Libby 74.91 360 ⇑P **P 16 10 37.9 -0.1**
baz=75
B09A Rice 74.92 358 P **P 16 10 37.4 -0.7**
baz=75,SNR=8.6
B05A Bryant 74.98 355 P **P 16 10 38.4 -0.1**
baz=75,SNR=5.4
B07A Winthrop 75.04 356 ⇓P **P 16 10 38.1 -0.8**
baz=75
A13A Flathead Natio 75.37 0 P **P 16 10 40.9 +0.1**
baz=76,SNR=15
A12A Yaak River Ran 75.37 359 ⇓P **P 16 10 40.2 -0.6**
baz=76
A10A Northport 75.45 358 P **P 16 10 40.6 -0.6**
baz=76,SNR=13
A04A Legoe Bay, Lum 75.48 355 ⇓P **P 16 10 41.6 +0.2**
baz=76
A09A Danville 75.48 357 ⇑P **P 16 10 39.6 -1.8**
baz=76
MVL Millersville 75.51 30 *e*P **P 16 10 41.1 -0.4**
DGMT Dagmar 75.52 7 *e*P **P 16 10 41.3 -0.3**
comp=Z,51nm,1.0s,mb5.4
A05A Maple Falls 75.71 355 ⇓P **P 16 10 42.5 -0.2**
baz=76
VDB Vedder Mountai 75.74 355 P **P 16 10 42.5 -0.4**
MAIT Maitri 75.74 164 *e*P **P 16 10 43.4 +0.5**
COWI Conover 76.21 18 *e*P **P 16 10 44.5 -1.0**
EYMN Ely 77.30 16 *e*P **P 16 10 50.0 -1.7**
comp=Z,22nm,0.8s,mb5.1
BINY Binghamton 77.46 29 *e*P **P 16 10 51.6 -1.0**
comp=Z,22nm,0.9s,mb5.1
ULM Lac du Bonnet 78.52 12 P **P 16 10 56.7 -1.8**
comp=Z,16nm,0.7s,mb5.1,baz=203,slow=6.2,SNR=20
ULM LR LR 16 41 31.5
comp=Z,150nm,18.8s,MS4.3,baz=358,slow=33
ULM Lac du Bonnet 78.52 12 *e*P **P 16 10 56.6 -1.9**
comp=Z,20nm,0.7s,mb5.2
ULM LR LR
comp=Z,323nm,22.0s,MS4.6
NCB Newcomb 79.66 29 *e*P **P 16 11 04.4 -0.3**
comp=Z,39nm,1.3s,mb5.2
SYO Syowa Base 82.68 171 ⇓*e*P **P 16 11 19.8 -1.0**
MAW Mawson 85.89 179 LR LR 16 45 33.8
comp=Z,461nm,18.9s,MS4.9,baz=194,slow=32
STKA Stephens Creek 86.69 236 P **P 16 11 40.5 -0.5**
comp=Z,2.5nm,1.0s,mb4.4,baz=250,slow=2.2,SNR=3.7
STKA LR LR 16 45 04.6
comp=Z,374nm,19.2s,MS4.8,baz=296,slow=32
YKA Yellowknife Ar 88.96 0 P **P 16 11 49.7 -2.2**
comp=Z,5.7nm,0.8s,mb5.0,baz=175,slow=4.9,SNR=16
YKA LR LR 16 46 39.4
comp=Z,179nm,18.5s,MS4.5,baz=145,slow=32
YKA Yellowknife Ar 88.96 0 P **P 16 11 49.7 -2.2**
YKA LR LR 16 46 39.4
KDAK Kodiak Island 89.97 341 LR LR 16 42 55.1
comp=Z,142nm,19.0s,MS4.4,baz=101,slow=29
SCHQ Schefferville 91.13 25 P **P 16 11 59.4 -2.7**
comp=Z,6.2nm,1.0s,mb4.9,baz=242,slow=2.5,SNR=3.8
SCHQ LR LR 16 48 12.2
comp=Z,161nm,18.3s,MS4.5,baz=118,slow=32
MCK McKinley 94.12 346 *e*P **P 16 12 14.0 -1.8**
MCK pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
MCK McKinley 94.12 346 *e*P **P 16 12 14.0 -1.8**
comp=Z,7.3nm,1.1s,mb5.0
COLA College 94.88 347 ⇑*e*P **P 16 12 17.8 -1.5**
INK Inuvik 95.80 353 P **P 16 12 20.4 -3.2**
comp=Z,2.9nm,0.9s,mb4.7,baz=189,slow=7.5,SNR=5.0
ASAR Alice Springs 96.76 239 P **P 16 12 27.7 -0.2**
comp=Z,0.5nm,1.0s,mb3.9,baz=126,slow=4.8,SNR=3.9
ASAR PKiKP PKiKP 16 17 03.0 -1.5
comp=Z,0.3nm,0.8s,baz=86,slow=1.0,SNR=4.2
ASAR PKKPbc PKKPbc 16 29 10.3 +0.3
comp=Z,0.8nm,0.9s,baz=316,slow=1.7,SNR=7.6
ASAR LR LR 16 50 20.0
comp=Z,633nm,18.6s,MS5.1,baz=134,slow=32
WRA Warramunga Arr 98.42 243 P **P 16 12 34.4 -1.0**
comp=Z,1.3nm,0.9s,mb4.4,baz=123,slow=4.4,SNR=6.3
WRA PKKPbc PKKPbc 16 29 04.8 -0.7
comp=Z,0.4nm,0.8s,baz=305,slow=2.5,SNR=5.7
WRA LR LR 16 53 13.3
comp=Z,145nm,20.7s,MS4.5,baz=150,slow=33
SEY Seymchan 114.71 330 *i* PKIKP PKiKP 16 17 29.2 -8.5
TORD Torodi Ar. Bea 119.40 90 PKP PKPdf 16 17 46.2 -0.5
comp=Z,2.7nm,0.9s,baz=293,slow=1.7,SNR=14
TORD Torodi Ar. Bea 119.40 90 PKP PKPdf 16 17 46.2 -0.5
ESDC Sonseca Array 122.09 58 PKP PKPdf 16 17 51.8 -0.1
comp=Z,1.9nm,0.9s,baz=260,slow=1.7,SNR=6.5
SJPF Ste Jean 124.60 55 *e*PKIKP PKPdf 16 17 56.6 -0.1
ETSF Etsaut 125.07 55 *e*PKIKP PKPdf 16 17 57.7 +0.1
comp=Z,9.5nm,0.9s
GRR Gorron 125.22 48 *e*PKIKP PKPdf 16 17 56.2 -1.7
comp=Z,59nm,1.2s
EPF Esparros 125.74 55 *e*PKIKP PKPdf 16 17 58.6 -0.3
MDJ Mudanjiang 126.07 307 PKP PKPdf 16 17 53.7 -5.8
MTLF Montolieu 127.13 55 *e*PKIKP PKPdf 16 18 01.0 -0.5
comp=Z,22nm,1.2s
AVF Avril sur Loir 128.04 50 *e*PKIKP PKPdf 16 18 02.2 -1.1
comp=Z,9.0nm,0.9s
SMF Signal de Mont 128.38 50 *e*PKIKP PKPdf 16 18 02.4 -1.5
comp=Z,20nm,1.1s
BAIF Baives 128.52 46 *e*PKIKP PKPdf 16 18 03.8 -0.4
comp=Z,52nm,1.4s
CN2 Changchun 129.02 306 *e*PKP PKPdf 16 18 06.4 +1.3
CN2 LR LR
comp=N,500nm,21.0s,MS5.3
CN2 LR LR
comp=E,500nm,21.0s,MS5.3
CN2 LR LR
comp=Z,700nm,22.0s,MS5.3
MEZF Maizieres J'vi 129.15 48 *e*PKIKP PKPdf 16 18 04.1 -1.3
HAU Haudompre 130.04 49 *e*PKIKP PKPdf 16 18 05.4 -1.7
NOA NORSAR Array B 130.38 31 PKP PKPdf 16 18 05.5 -2.2
comp=Z,1.1nm,0.9s,baz=297,slow=1.8,SNR=3.4
MBDF Montbardon 130.45 53 *e*PKIKP PKPdf 16 18 07.0 -0.8
GRA1 Grafenberg Arr 133.07 46 *e*PKP PKPdf 16 18 12.8 0.0
GRF Grafenberg Arr 133.07 46 *e*PKPdf PKPdf 16 18 12.8 0.0
NJ2 Nanjing 133.29 290 *e*PKP PKPdf 16 18 11.1 -2.1
BOD Bodaibo 133.88 326 *e*PKHKP 16 18 03.4
BOD pmax pmax
comp=Z,5.0nm,1.5s
BRG Berggiesshubel 134.57 44 *e*(P) PKPdf 16 18 15.4 -0.2
comp=Z,3.6nm,1.2s
KHC Kasperske Hory 134.68 46 *e*PKPdf PKPdf 16 18 15.7 -0.1
KHC Kasperske Hory 134.68 46 *i* PKIKP PKPdf 16 18 10.0 -5.8
GERES GERESS Array B 134.81 47 PKP PKPdf 16 18 14.8 -1.2
comp=Z,1.1nm,0.8s,baz=243,slow=0.6,SNR=7.9
GERES GERESS Array B 134.81 47 PKP PKPdf 16 18 14.8 -1.2
PVCC Panska Ves 135.04 44 *e*PKPdf PKPdf 16 18 18.9 +2.4
PRU Pruhonice 135.13 45 *e*PKPdf PKPdf 16 18 16.2 -0.5
UPC Upice 135.94 44 *e*PKPdf PKPdf 16 18 17.9 -0.3
DPC Dobruska-Polom 136.17 44 *e*PKPdf PKPdf 16 18 18.7 +0.1
FINES FINESS Array B 136.61 26 PKP PKPdf 16 18 18.6 -0.8
comp=Z,4.3nm,1.1s,baz=266,slow=8.8,SNR=3.9
OKC Ostrava-Krasne 137.44 44 *e*PKPdf PKPdf 16 18 20.9 -0.1
VYHS Vyhne 138.21 46 *e*PKP PKPdf 16 18 22.0 -0.4
NIE Niedzica 138.91 44 *e*PKP PKPdf 16 18 24.1 +0.4
HHC Hu-ho-hao-te 139.40 302 *e*PKP PKPdf 16 18 25.1 +0.5
HHC PP PP 16 21 25.0 +6.4
HHC PKS 16 21 58.3
HHC SKS SKSdf 16 25 27.8 -7.3
HHC SKKS SKKSac 16 28 13.2 +0.4
HHC LR LR
comp=N,275nm,12.4s,MS5.4
HHC LR LR
comp=E,415nm,15.9s,MS5.4
HHC LR LR
comp=Z,555nm,21.1s
STHS Stebnicka Huta 139.49 44 *e*PKP PKPdf 16 18 25.0 +0.3
CRVS Cervenica-Dubn 139.78 45 *e*PKP PKPdf 16 18 25.0 -0.2
DRGR 141.18 48 ⇑*i*P PKPdf 16 18 22.1 -5.7
DRGR 141.18 48 ⇑P PKPdf 16 18 22.1 -5.6
IRK Irkutsk 141.23 322 *e*PKIKP PKPdf 16 18 26.8 -1.1
IRK pmax pmax
comp=Z,27nm,2.0s
KMBO Kilima Mbogo 141.39 132 PKhKP 16 18 23.8
comp=Z,1.2nm,0.8s,baz=60,slow=2.1,SNR=6.5
KMBO Kilima Mbogo 141.39 132 ⇑*i*PKIKP PKPdf 16 18 25.7 -2.5
SONM Songino Array 141.61 314 PKhKP 16 18 20.8
comp=Z,0.9nm,0.7s,baz=110,slow=1.9,SNR=7.7
SONM PKP PKPdf 16 18 26.1 -2.5
comp=Z,4.7nm,0.9s,baz=59,slow=2.2,SNR=14
VTS Vitosha 142.51 54 ⇓*i*P PKPdf 16 18 19.5 -11
VTS Vitosha 142.51 54 ⇓P PKPdf 16 18 19.5 -11
ZAK Zakamensk 142.59 319 *e*PKIKP PKPdf 16 18 25.0 -5.3
ZAK pmax pmax
comp=Z,3.0nm,1.1s
VOIR 143.12 49 ⇑*i*P PKPdf 16 18 24.1 -7.1
VOIR 143.12 49 ⇑P PKPdf 16 18 24.1 -7.1
SNX Sinaia 143.46 49 ⇑*i*P PKPdf 16 18 29.8 -2.0
SNX Sinaia 143.46 49 ⇑P PKPdf 16 18 29.8 -2.1
MLR Muntele Rosu 143.71 49 ⇑*i*P PKPdf 16 18 29.7 -2.6
MLR Muntele Rosu 143.71 49 ⇑P PKPdf 16 18 29.7 -2.6
AKASG Malin Array Be 143.75 39 PKhKP 16 18 27.6
comp=Z,2.5nm,0.8s,baz=283,slow=3.9,SNR=10
VRI Vrincioaia 144.12 48 ⇑*i*P PKPdf 16 18 31.8 -1.2
VRI Vrincioaia 144.12 48 ⇑P PKPdf 16 18 31.8 -1.1
KRAR Krasnoyarsk 144.60 333 *i* PKIKP PKPdf 16 18 31.0 -2.8
OBN Obninsk 144.88 29 *d* PKIKP PKPdf 16 18 32.3 -2.0
OBN pmax pmax
comp=Z,26nm,0.8s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.6
OBN Obninsk 144.88 29 *e*PKP PKPdf 16 18 32.4 -2.0
MOS Moscow 144.90 27 *e*PKIKP PKPdf 16 18 31.5 -2.8
MOS pmax pmax
comp=Z,57nm,0.9s
KIS Kishinev 145.07 45 *e*P PKPbc 16 18 30.0 -4.1
NST Nakhon Sawan 145.65 258 P PKPdf 16 18 35.6 0.0
comp=Z,42nm,0.9s
TIRR Tirgusor 145.70 49 ⇑*i*P PKPdf 16 18 36.0 +0.3
TIRR Tirgusor 145.70 49 ⇑P PKPdf 16 18 36.0 +0.2
LZH Lanzhou 145.87 295 *e*PKP PKPdf 16 18 36.5 +0.5
LZH PP PP 16 21 56.3 -1.4
LZH SKS SKSdf 16 25 41.0 -4.1
LZH SKKS SKKSac 16 28 49.0 -1.1
LZH PP PP
comp=Z,163nm,7.5s
LZH LR LR
comp=E,458nm,19.6s
LZH LR LR
comp=Z,592nm,20.7s,MS5.3
LZH Lanzhou 145.87 295 *e*PKP PKPdf 16 18 36.5 +0.5
LZH pPKP pPKPdf 16 18 44.5 +5.1
LZH sPKP 16 18 47.5
LZH PP PP 16 21 56.3 -1.4
LZH SKS SKSdf 16 25 41.0 -4.1
LZH SKKS SKKSac 16 28 49.0 -1.1
LZH SS SS 16 40 45.0 -6.9
CD2 Chengdu 146.02 286 *e*PKP PKPdf 16 18 37.0 +0.7
CD2 XPKP 16 18 42.2
CD2 PP PP 16 22 04.9 +6.3
CD2 SKS SKSdf 16 25 37.7 -7.6
CD2 SKKS SKKSac 16 28 45.5 -5.4
CD2 SS SS 16 40 49.6 -4.1
CD2 PP PP
comp=Z,80nm,9.2s
CD2 LR LR
comp=E,80nm,26.2s
CD2 LR LR
comp=Z,90nm,24.2s,MS4.5
KMI Kunming 146.21 276 PKP PKPdf 16 18 37.0 +0.4
KMI APKP 16 18 40.0
KMI PP PP 16 22 03.5 +3.8
KMI SS SS 16 40 57.0 +1.2
KMI LR LR
comp=Z,101nm,27.3s,MS4.5
KMI Kunming 146.21 276 PKP PKPdf 16 18 37.0 +0.4
KMI pPKP pPKPdf 16 18 40.0 0.0
KMI PP PP 16 22 03.5 +3.8
KMI SS SS 16 40 57.0 +1.2
CHG Chiang Mai 147.90 263 ⇓P PKPbc 16 18 42.9 +0.5
comp=Z,32nm,0.9s
CHTO Chiang Mai 147.90 263 *e*PKPbc PKPbc 16 18 42.4 0.0
VOR Voronezh 148.32 31 PKP2 PKPab 16 18 43.0 -3.6
VOR pmax pmax
comp=Z,90nm,1.8s
GTA Gaotai 148.52 302 *e*PKP PKPbc 16 18 43.6 -0.4
GTA APKP 16 18 47.8
GTA LR LR
comp=N,132nm,9.9s
GTA LR LR
comp=E,69nm,11.1s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA				LR	LR		
	comp=Z,91nm,9.9s						
VRSR	**Storozhevoye**	**148.66**	**32**	*e*PKP2	PKPbc	16 18 43.1	-1.3
VRSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.7s						
NVS	**Novosibirsk**	**148.99**	**340**	*i* PKHKP		16 18 38.3	
NVS				pmax	pmax		
	comp=Z,44nm,1.8s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
SIM	**Simferopol'**	**149.28**	**46**	*e*PKP2	PKPab	16 18 47.3	-3.2
SIM				pmax	pmax		
	comp=Z,17nm,0.8s						
ARU	**Arti**	**150.00**	**7**	*i* PKIKP	PKPdf	16 18 40.9	-1.9
ARU	**Arti**	**150.00**	**7**	*e*PKPdf	PKPdf	16 18 41.3	-1.6
ARU				*e*PKPbc	PKPbc	16 18 46.6	-1.2
ANTO	**Ankara**	**150.18**	**56**	⇑*i*P	PKPbc	16 18 47.7	-0.5
ANTO	**Ankara**	**150.18**	**56**	*e*PKPbc	PKPbc	16 18 48.2	0.0
BR131	**Keskin Array S**	**150.84**	**56**	*e*PKPbc	PKPbc	16 18 49.5	-0.2
BR131				PKPab	PKPab	16 18 57.5	+0.6
BRTR	**Keskin Array B**	**150.84**	**56**	PKPbc	PKPbc	16 18 50.0	+0.2
	comp=Z,14nm,0.9s,baz=216,slow=2.0,SNR=51						
ANN	**Anapa**	**151.44**	**44**	*i* PKIKP	PKPbc	16 18 50.3	-0.8
ANN				*e*		16 18 58.6	
ANN				pmax	pmax		
	comp=Z,50nm,1.5s						
BRVK	**Borovoye**	**153.47**	**353**	*e*PKPbc	PKPbc	16 18 54.7	-1.0
BVAR	**Borovoye Array**	**153.49**	**353**	PKP	PKPdf	16 18 47.5	-0.6
	comp=Z,0.8nm,0.6s,baz=327,slow=2.5,SNR=5.8						
BVAR				PKPbc	PKPbc	16 18 54.6	-1.2
	comp=Z,9.3nm,0.6s,baz=331,slow=1.4,SNR=38						
ZRNK	**Zerenda**	**153.70**	**355**	*e*PKIKP	PKPdf	16 18 47.6	-0.8
ZRNK				*e*		16 18 54.7	
ORR	**Orenburg**	**153.98**	**15**	*e*PKIKP	PKPbc	16 18 54.4	-2.4
ORR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOF	**Gofitskoye**	**154.59**	**38**	*e*PKIKP	PKPdf	16 18 46.1	-3.5
WMQ	**Urumqi**	**155.06**	**319**	*e*PKP	PKPdf	16 18 47.0	-3.3
WMQ				APKP		16 18 56.0	
WMQ				PKP2	PKPab	16 19 13.0	-1.7
WMQ				PP	PP	16 22 51.0	+0.4
WMQ				SKS	SKSdf	16 25 48.0	-8.9
WMQ				SKKS	SKKSac	16 29 38.0	-2.7
WMQ				PP	PP		
	comp=Z,122nm,4.6s						
WMQ				LR	LR		
	comp=N,338nm,23.9s,MS5.1						
WMQ				LR	LR		
	comp=E,204nm,26.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,186nm,24.4s,MS4.8						
KIV	**Kislovodsk**	**155.06**	**41**	*i* PKIKP	PKPdf	16 18 43.3	-7.0
AKTK	**Aktyubinsk**	**155.76**	**11**	PKP	PKPdf	16 18 43.1	-8.1
AKTK				PKPbc	PKPdf	16 18 60.0	+8.7
AKTK				PKPab	PKPab	16 19 16.3	-1.4
AKTO	**Aktyubinsk**	**155.76**	**11**	PKPbc	PKPdf	16 18 60.0	+8.7
	comp=Z,1.7nm,0.8s,baz=356,slow=1.4,SNR=6.1						
AKTO				PKPab	PKPab	16 19 16.3	-1.4
	comp=Z,3.4nm,1.0s,baz=21,slow=4.7,SNR=3.5						
MKAR	**Makanchi Array**	**155.85**	**330**	PKP	PKPdf	16 18 49.8	-1.5
	comp=Z,1.5nm,1.0s,baz=21,slow=4.1,SNR=7.0						
MKAR				PKPbc	PKPdf	16 18 59.0	+7.7
	comp=Z,1.3nm,0.7s,baz=33,slow=3.3,SNR=7.9						
GNI	**Garni**	**158.46**	**47**	*i* PKIKP	PKPdf	16 18 51.2	-3.4
AAK	**Ala-Archa**	**162.43**	**337**	*i* PKIKP	PKPdf	16 18 58.4	-0.6

*ISCJB **01** 15:59:50.9±0.7, 3078S±005×179.1W±03, h204km±17km, mb4.5/5, Error ellipse: s-maj=38.5km s-min=5.5km az=21.1*
*NEIC **01** 15:59:51.6±0.7, 3059S×17892W, h209km±7km, mb4.8/2, Error ellipse: s-maj=16.6km s-min=9.1km az=109.0*
*IDC **01** 15:59:53.5±0.9, 3045S×17904W, h216km±7km, mb4.3/5, mb1 4.3/7, mb1mx3.9/15, mbtmp4.8/7, Error ellipse: s-maj=24.3km s-min=13.7km az=151.0*
ISC 01 15:59:58.2±1.3, 3101S±008×1798W±03, h219km±22km, n61, σ1§38/55, mb4.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.38**	**43**	P	**Pn**	**16 00 27.1**	**-15**
	baz=198,slow=19						
RAO				S	**S**	**16 00 57.3**	**-19**
	144nm,0.3s,baz=217,slow=20,SNR=4.4						
MXZ	**Matakaoa Point**	**6.73**	**193**	*e*PN	**Pn**	**16 01 39.9**	**+4.9**
PUZ	**Puketiti**	**7.23**	**192**	P	**Pn**	**16 01 41.1**	**-0.4**
PUZ				S	**S**	**16 03 08.7**	**+4.7**
PUZ	**Puketiti**	**7.23**	**192**	PN	**Pn**	**16 01 40.9**	**-0.6**
PUZ				SN	**S**	**16 03 08.7**	**+4.8**
MWZ	**Matawai**	**7.64**	**196**	*e*P	**Pn**	**16 01 46.9**	**+0.2**
MWZ				S	**S**	**16 03 20.6**	**+7.1**
MWZ	**Matawai**	**7.64**	**196**	PN	**Pn**	**16 01 46.7**	**0.0**
MWZ				SN	**S**	**16 03 20.1**	**+6.6**
URZ	**Urewera**	**7.67**	**199**	P	**Pn**	**16 01 50.8**	**+3.6**
	1.0nm,0.3s,baz=356,slow=22,SNR=10						
URZ				S	**S**	**16 03 19.6**	**+5.3**
	7.7nm,0.3s,baz=320,slow=22,SNR=13						
URZ	**Urewera**	**7.67**	**199**	*e*PN	**Pn**	**16 01 47.9**	**+0.7**
KNZ	**Kokohu**	**8.26**	**194**	*e*PN	**Pn**	**16 01 57.2**	**+2.4**
BKZ	**Black Stump Fm**	**8.69**	**200**	*e*P	**Pn**	**16 02 03.0**	**+2.7**
BKZ	**Black Stump Fm**	**8.69**	**200**	*e*PN	**Pn**	**16 01 59.0**	**-1.3**
PXZ	**Pawanui**	**9.41**	**196**	*e*PN	**Pn**	**16 02 07.3**	**-2.3**
PXZ				SN	**S**	**16 03 54.2**	**-1.1**
BFZ	**Birch Farm**	**10.18**	**197**	*e*P	**Pn**	**16 02 21.5**	**+2.1**
BFZ	**Birch Farm**	**10.18**	**197**	*e*PN	**Pn**	**16 02 19.1**	**-0.2**
BFZ				SN		16 04 13.9	
MRZ	**Mangatainoka R**	**10.34**	**200**	*e*P	**Pn**	**16 02 23.0**	**+1.5**
MRZ	**Mangatainoka R**	**10.34**	**200**	*e*PN	**Pn**	**16 02 17.9**	**-3.5**
TIWZ	**Tintock**	**10.36**	**199**	SN		16 04 19.0	
KIW	**Kapiti Island**	**10.73**	**202**	*e*PN	**Pn**	**16 02 25.5**	**-1.0**
MTW	**Mount Morrison**	**10.82**	**199**	SN	**S**	**16 04 26.9**	**-1.8**
CAW	**Cannon Point**	**10.90**	**201**	P	**Pn**	**16 02 27.1**	**-1.5**
CAW	**Cannon Point**	**10.90**	**201**	*e*PN	**Pn**	**16 02 25.4**	**-3.3**
PAWZ	**Paruwai Farm**	**11.05**	**199**	SN	**S**	**16 04 32.9**	**-1.2**
MRW	**Makara Radio**	**11.13**	**202**	SN	**S**	**16 04 37.1**	**+1.1**
MSWZ	**Moikau Station**	**11.13**	**200**	SN	**S**	**16 04 36.7**	**+0.7**
SNZO	**South Karori**	**11.20**	**202**	*e*Pn	**Pn**	**16 02 33.5**	**+1.1**
SNZO				*e*S	**S**	**16 04 36.8**	**-0.9**
BHW	**Baring Head**	**11.24**	**201**	SN	**S**	**16 04 39.2**	**+0.7**
TUWZ	**Tuamarina**	**11.57**	**204**	*e*PN	**Pn**	**16 02 35.1**	**-1.9**
NNZ	**Nelson**	**11.59**	**207**	*e*PN	**Pn**	**16 02 39.4**	**+2.1**
NNZ				SN	**S**	**16 04 49.1**	**+2.3**
QRZ	**Quartz Range**	**11.61**	**210**	*e*PN	**Pn**	**16 02 39.2**	**+1.7**
THZ	**Tophouse**	**12.24**	**207**	*e*PN	**Pn**	**16 02 46.6**	**+1.1**
THZ				SN	**S**	**16 05 01.7**	**-0.3**
KHZ	**Kahutara**	**12.58**	**203**	*e*PN	**Pn**	**16 02 50.0**	**+0.3**
LTZ	**Lake Taylor**	**13.36**	**206**	*e*PN	**Pn**	**16 02 58.0**	**-1.4**
MQZ	**McQueen's Vall**	**14.02**	**203**	SN	**S**	**16 05 38.0**	**-5.4**
RPZ	**Rata Peaks**	**14.62**	**207**	P	**Pn**	**16 03 13.4**	**-1.5**
	0.2nm,0.3s,baz=125,slow=18,SNR=3.0						
RPZ				S	**S**	**16 05 54.6**	**-2.3**
	1.4nm,0.3s,baz=19,slow=20,SNR=11						
RPZ	**Rata Peaks**	**14.62**	**207**	P	**Pn**	**16 03 13.4**	**-1.5**
RPZ				S	**S**	**16 05 54.6**	**-2.3**
DZM	**Mont Dzumac**	**15.19**	**303**	P	**Pn**	**16 03 20.2**	**-1.7**
	0.2nm,0.3s,baz=161,slow=6.9,SNR=2.7						
CTA	**Charters Tower**	**32.40**	**281**	*e*P	**P**	**16 06 08.6**	**+1.2**
	19nm,0.6s,mb4.8						
CTA	**Charters Tower**	**32.40**	**281**	P	**P**	**16 06 08.8**	**+1.4**
	31nm,0.7s,mb5.0,baz=98,slow=9.5,SNR=33						
STKA	**Stephens Creek**	**32.85**	**258**	*e*P	**P**	**16 06 14.6**	**+3.3**
	8.2nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**32.85**	**258**	P	**P**	**16 06 14.8**	**+3.5**
	11nm,0.4s,mb4.7,baz=99,slow=10,SNR=49						
STKA				ScP	ScP	16 12 11.0	-2.7
	2.3nm,0.8s,baz=97,slow=3.8,SNR=3.3						
RKT	**Rikitea**	**40.45**	**90**	*e*LQ		16 06 39.0	
	918nm,26.5s						
RKT				*e*LR	LR	16 07 24.8	
	1μm,30.8s,baz=123						
AS31	**Alice Springs**	**41.55**	**268**	*e*P	**P**	**16 07 24.5**	**+0.2**
ASAR	**Alice Springs**	**41.55**	**268**	P	**P**	**16 07 24.8**	**+0.5**
	6.7nm,0.5s,mb4.4,baz=105,slow=7.4,SNR=250						
ASAR				ScP	ScP	16 12 43.8	-2.5
	1.7nm,0.9s,baz=123,slow=4.4,SNR=7.9						
WRA	**Warramunga Arr**	**42.60**	**274**	P	**P**	**16 07 32.4**	**-0.3**
	14nm,0.5s,mb4.7,baz=111,slow=8.1,SNR=238						
WRA				ScP	ScP	16 12 48.2	-2.3
	0.8nm,0.7s,baz=104,slow=4.0,SNR=9.3						
FITZ	**Fitzroy Crossi**	**50.83**	**271**	P	**P**	**16 08 35.9**	**-0.6**
	3.0nm,0.8s,mb3.8,baz=168,slow=9.6,SNR=7.6						
MKAR	**Makanchi Array**	**116.99**	**310**	PKP	PKPdf	16 18 11.5	-5.3
	0.4nm,0.5s,baz=45,slow=1.9,SNR=4.8						
BVAR	**Borovoye Array**	**125.77**	**316**	PKP	PKPdf	16 18 28.9	-4.8
	2.0nm,0.6s,baz=48,slow=2.2,SNR=11						
ZRNK	**Zerenda**	**126.59**	**315**	*e*PKPdf	PKPdf	16 18 29.7	-5.5
AKTO	**Aktyubinsk**	**133.37**	**312**	PKP	PKPdf	16 18 43.1	-5.0
	1.5nm,0.7s,baz=84,slow=2.7,SNR=7.4						
ARCES	**ARCESS Array B**	**138.84**	**347**	PKhKP		16 18 42.6	
	1.5nm,0.9s,baz=62,slow=2.1,SNR=9.2						
ARCES				PKP	PKPdf	16 18 51.6	-6.6
	2.6nm,0.8s,baz=4.4,slow=1.6,SNR=7.7						
JOF	**Joensuu**	**142.40**	**337**	*e*pkp		16 18 53.5	
KAF	**Kangasniemi**	**144.59**	**339**	*e*pkp	PKPdf	16 19 00.3	-8.2
FINES	**FINESS Array B**	**145.17**	**338**	PKP	PKPdf	16 19 03.2	-6.3
	17nm,0.6s,baz=68,slow=3.8,SNR=84						
FINES	**FINESS Array B**	**145.17**	**338**	PKP	PKPdf	16 19 03.2	-6.3
NB2	**NORSAR Subarra**	**149.09**	**350**	PKP	PKPdf	16 19 14.2	-1.8
	comp=Z,4.4nm,0.6s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.09**	**350**	PKPbc	PKPbc	16 19 14.4	-6.0
	comp=Z,4.2nm,0.6s,baz=16,slow=4.2,SNR=20						
NOA				PKPab	PKPab	16 19 18.1	-7.3
	comp=Z,3.1nm,0.7s,baz=18,slow=2.9,SNR=12						
NAO01	**NORSAR Array S**	**149.33**	**350**	*e*PKPab	PKPab	16 19 19.7	-6.7
AKASG	**Malin Array Be**	**150.82**	**321**	PKPbc	PKPbc	16 19 19.3	-5.2
	comp=Z,5.7nm,0.6s,baz=50,slow=2.7,SNR=21						
BRTR	**Keskin Array B**	**151.52**	**297**	PKPbc	PKPbc	16 19 22.2	-4.0
	comp=Z,1.9nm,0.6s,baz=140,slow=4.8,SNR=6.9						
GERES	**GERESS Array B**	**159.46**	**334**	PKPab	PKPab	16 20 03.8	-5.7
	comp=Z,0.7nm,0.7s,baz=33,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.17**	**185**	PKPab	PKPab	16 20 20.4	-1.0
	comp=Z,1.2nm,0.5s,baz=166,slow=4.5,SNR=15						

*IDC **01** 16:06:05.5±1.0, 4659N×15326E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/20, mbtmp3.8/9, MS3.1/2, Ms1 3.1/2, ms1mx2.8/30, Error ellipse: s-maj=26.9km s-min=25.3km az=136.0*
*NEIC **01** 16:06:07.3±0.7, 4670N×15322E, h10km, mb4.1/1, Error ellipse: s-maj=20.1km s-min=12.7km az=149.0*
*MOS **01** 16:06:08.2±1.7, 4674N×15357E, h33km, mb4.3/7, Error ellipse: s-maj=16.5km s-min=14.4km az=87.5*
*ISCJB **01** 16:06:09.3±3.5, 468N±0.1×1534E±02, h33km±24km, mb3.9/13, MS3.4/1, Error ellipse: s-maj=23.0km s-min=9.7km az=90.5*
ISC 01 16:06:12.1±1.5, 469N±01×1534E±02, h42km±11km, n32, σ1§24/33, mb3.9/13, MS3.4/1, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.24**	**25**	*e*PN	**Pn**	**16 07 12.4**	**-1.6**
SKR				*e*S	**Sn**	**16 08 02.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.26**	**275**	PN	**Pn**	**16 07 59.3**	**+3.8**
ASAJ	**Asahikawa**	**8.04**	**254**	Pn	**Pn**	**16 08 07.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=97,slow=19,SNR=7.0						
ASAJ				LR	LR	16 10 58.4	
	comp=Z,66nm,18.0s,baz=203,slow=37						
ERM	**Erimo**	**8.75**	**240**	*i* PN	**Pn**	**16 08 15.9**	**-0.1**
ERM	**Erimo**	**8.75**	**240**	*e*Pn	**Pn**	**16 08 12.4**	**-3.6**
SONM	**Songino Array**	**31.45**	**289**	P	**P**	**16 12 32.5**	**+3.1**
	comp=Z,0.5nm,0.9s,mb3.4,baz=79,slow=7.5,SNR=3.2						
SONM				LR	LR	16 25 28.6	
	comp=Z,70nm,18.2s,MS3.4,baz=192,slow=37						
SONM	**Songino Array**	**31.45**	**289**	P	**P**	**16 12 32.5**	**+3.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,70nm,18.3s						
INK	**Inuvik**	**41.47**	**32**	P	**P**	**16 13 55.9**	**+1.1**
	comp=Z,1.1nm,0.6s,mb3.7,baz=280,slow=3.3,SNR=5.6						
INK	**Inuvik**	**41.47**	**32**	P	**P**	**16 13 55.9**	**+1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**16 14 38.5**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=63,slow=8.3,SNR=8.0						
MKAR	**Makanchi Array**	**47.03**	**297**	⇑*e*P	**P**	**16 14 38.5**	**-0.8**
MKAR	**Makanchi Array**	**47.03**	**297**	P	**P**	**16 14 38.5**	**-0.8**
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**16 15 09.1**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=54,slow=7.5,SNR=5.1						
BVAR	**Borovoye Array**	**50.91**	**309**	P	**P**	**16 15 09.1**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.95**	**310**	*e*P	**P**	**16 15 06.8**	**-2.5**
ZRNK	**Zerenda**	**51.68**	**310**	*e*P	**P**	**16 15 13.9**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.68**	**310**	*e*P	**P**	**16 15 13.9**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**53.93**	**296**	*i* P	**P**	**16 15 31.4**	**+0.1**
NVAR	**Mina Array Bea**	**62.24**	**63**	P	**P**	**16 16 30.1**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.7,baz=342,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**64.00**	**335**	*i* P	**P**	**16 16 41.7**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=43,slow=7.2,SNR=15						
FINES	**FINESS Array B**	**64.00**	**335**	*i* P	**P**	**16 16 41.7**	**+0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**64.00**	**335**	P	**P**	**16 16 41.7**	**+0.5**
PDAR	**Pinedale Array**	**64.55**	**54**	P	**P**	**16 16 45.7**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=328,slow=3.2,SNR=2.3						
OBN	**Obninsk**	**65.31**	**326**	*e*P	**P**	**16 16 47.7**	**-2.0**
OBN				*e*		16 17 18.5	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**68.17**	**341**	P	**P**	**16 17 08.8**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**16 17 08.9**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=12						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**16 17 08.9**	**+1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**72.37**	**199**	P	**P**	**16 17 31.6**	**-2.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=6.1,SNR=15						
ASAR	**Alice Springs**	**72.37**	**199**	P	**P**	**16 17 31.7**	**-1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.37**	**199**	P	**P**	**16 17 31.6**	**-2.0**
CLL	**Collm**	**76.43**	**336**	*e*P	**P**	**16 17 58.0**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**78.42**	**334**	P	**P**	**16 18 09.1**	**+0.7**
	comp=Z,1.4nm,0.9s,mb3.9,baz=38,slow=6.8,SNR=4.2						

IDC 01 16:13:14.8±6.7, 4651N×15155E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=446.0km s-min=30.9km az=86.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**63.79**	**334**	P	P	16 23 48.0	-0.6
	0.8nm,0.5s,baz=40,slow=7.3,SNR=9.3						
NB2	**NORSAR Subarra**	**68.10**	**340**	P	P	16 24 15.9	-0.5
	comp=Z,0.7nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.10**	**340**	P	P	16 24 16.1	-0.3
	comp=Z,0.8nm,0.6s,baz=28,slow=6.5,SNR=4.7						
ASAR	**Alice Springs**	**71.65**	**197**	P	P	16 24 38.2	-0.1
	comp=Z,0.3nm,0.5s,baz=13,slow=6.2,SNR=8.2						

*THE **01** 16:28:04.6, 3925N×2809E, h10km*
*ISCJB **01** 16:28:05.3±0.5, 3936N±002×2788E±002, h5km±4km, Error ellipse: s-maj=2.8km s-min=2.5km az=50.1*
*ATH **01** 16:28:05.9, 3941N×2787E, h18km±2km, MD3.8/6*
*CSEM **01** 16:28:05.0±0.0, 3936N×2788E, h8km, MD3.3, Error ellipse: s-maj=1.2km s-min=1.1km az=108.0*
*ISK **01** 16:28:07.2, 3936N×2783E, h29km, MD3.3*
*NEIC **01** 16:28:08.5±1.1, 3936N×2768E, h10km, MD3.8(ATH), ML3.1(BUC), ML3.6(ISK), Error ellipse: s-maj=15.5km s-min=7.6km az=108.0*
*SOF **01** 16:28:09.5, 3965N×2776E, h12km, MD3.1*
ISC 01 16:28:06.3±0.4, 3935N±002×2788E±002, h9km±3km, n87, σ0§95/109, 15C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.42**	**16**	*i* P	**Pg**	**16 28 14.6**	**-0.1**
BTOK				*i* S	**Sg**	**16 28 20.6**	**+0.4**
AKHS	**Akhisar**	**0.48**	**186**	*i* P	**Pg**	**16 28 15.5**	**-0.2**
AKHS				*i* S	**Sg**	**16 28 22.6**	**+0.7**
CANB	**Canakkale**	**0.91**	**317**	PG	**Pg**	**16 28 23.5**	**-0.4**
CANB				SG	**Sg**	**16 28 36.0**	**+0.2**
AYVA	**Ayvalik**	**0.92**	**268**	*i* P	**Pg**	**16 28 24.0**	**-0.1**
AYVA				*i* S	**Sg**	**16 28 38.3**	**+2.2**
KDAG	**Bornova**	**1.06**	**207**	*i* P	**Pg**	**16 28 26.1**	**-0.7**
KDAG				*i* S	**Sg**	**16 28 41.8**	**+1.2**
IZM	**Izmir**	**1.07**	**207**	PG	**Pg**	**16 28 26.1**	**-0.8**
IZM				SG	**Sg**	**16 28 40.2**	**-0.6**
BLCB	**Balcova**	**1.17**	**214**	PN	**Pn**	**16 28 28.2**	**-0.6**
BLCB	**Balcova**	**1.17**	**214**	*e*Pg	**Pg**	**16 28 28.1**	**-0.7**
BLCB				*e*Sg	**Sg**	**16 28 44.2**	**+0.3**
ULDT	**Uludag**	**1.25**	**51**	*i* P	**Pn**	**16 28 29.1**	**-0.9**
ULDT				*i* S	**Sb**	**16 28 45.2**	**-1.1**
ULDT	**Uludag**	**1.25**	**51**	*i* P	**Pn**	**16 28 29.0**	**-0.9**
PRK	**Paraskevi**	**1.25**	**266**	*e*PN	**Pn**	**16 28 29.5**	**-0.5**
PRK				*e*SN	**Sn**	**16 28 46.8**	**-0.1**
MRMT	**Marmara Adasi**	**1.27**	**350**	PN	**Pn**	**16 28 29.4**	**-0.8**
GDZ	**Gediz**	**1.27**	**102**	*i* P	**Pn**	**16 28 29.8**	**-0.5**
GDZ				*i* S	**Sb**	**16 28 46.7**	**-0.3**
EZN	**Ezine**	**1.29**	**292**	PN	**Pn**	**16 28 29.7**	**-0.8**
URLA	**Izmir**	**1.41**	**226**	*i* P	**Pn**	**16 28 30.9**	**-1.2**
URLA				*i* S	**Sn**	**16 28 51.5**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.44**	**338**	PN	**Pn**	**16 28 31.9**	**-0.6**
SART	**Tekirdag**	**1.44**	**338**	*i* P	**Pn**	**16 28 32.2**	**-0.3**
SART				*i* S	**Sn**	**16 28 51.8**	**+0.3**
GEMT	**Gemlik**	**1.48**	**43**	PN	**Pn**	**16 28 32.5**	**-0.6**
GEMT				SN	**Sn**	**16 28 52.0**	**-0.5**
BOZC	**Bozcaada**	**1.49**	**290**	*i* P	**Pn**	**16 28 33.0**	**-0.3**
BOZC				*i* S	**Sn**	**16 28 52.1**	**-0.8**
MFT	**Murefte**	**1.50**	**342**	PN	**Pn**	**16 28 32.5**	**-0.9**
YLV	**Yalova**	**1.67**	**43**	PN	**Pn**	**16 28 35.0**	**-0.7**
AYDN	**Tasoluk**	**1.69**	**180**	*i* P	**Pn**	**16 28 35.0**	**-1.0**
AYDN				*i* S	**Sn**	**16 28 55.5**	**-2.3**
ALT	**Altintas**	**1.76**	**99**	PN	**Pn**	**16 28 37.4**	**+0.4**
ADVT	**Abdulvahap**	**1.79**	**52**	PN	**Pn**	**16 28 37.5**	**+0.1**
SMG	**Samos**	**1.83**	**207**	*e*PN	**Pn**	**16 28 39.4**	**+1.4**
DENT	**Denizli**	**1.84**	**150**	PN	**Pn**	**16 28 37.7**	**-0.3**
ELBA	**Catalca**	**1.84**	**13**	*i* P	**Pn**	**16 28 37.7**	**-0.4**
ELBA				*i* S	**Sb**	**16 29 04.1**	**+0.9**
ISK	**Istanbul-Kandi**	**1.93**	**28**	PN	**Pn**	**16 28 38.7**	**-0.7**
ISK	**Istanbul-Kandi**	**1.93**	**28**	*e*Pb	**Pn**	**16 28 38.1**	**-1.2**
ISK				*e*Sb	**Sb**	**16 29 04.1**	**-1.9**
HRT	**Hereke**	**2.01**	**43**	PN	**Pn**	**16 28 40.0**	**-0.4**
MLSB	**Milas**	**2.06**	**182**	PN	**Pn**	**16 28 40.3**	**-0.8**
ALN	**Alexandroupoli**	**2.08**	**318**	*e*Pn	**Pn**	**16 28 41.3**	**-0.2**
ALN				*e*Sn	**Sg**	**16 29 12.7**	**-0.6**
GPA	**Golpazari**	**2.09**	**63**	PN	**Pn**	**16 28 42.1**	**+0.6**
KLYT	**Kilyos**	**2.10**	**25**	PN	**Pn**	**16 28 41.3**	**-0.3**
LIA	**Limnos Island**	**2.15**	**285**	*e*PN	**Pn**	**16 28 42.9**	**+0.6**
ESKT	**Eskisehir**	**2.31**	**85**	PN	**Pn**	**16 28 44.8**	**+0.3**
ESKT	**Eskisehir**	**2.31**	**85**	*i* P	**Pn**	**16 28 44.4**	**-0.1**
ESKT				*i* S	**Sg**	**16 29 21.4**	**+0.9**
SEYT	**Eskypehyr**	**2.31**	**85**	*i* P	**Pn**	**16 28 44.4**	**-0.1**
BDRM	**Kayabasi**	**2.31**	**189**	*i* P	**Pn**	**16 28 43.3**	**-1.3**
TKTP	**Tekketepe**	**2.32**	**124**	*i* P	**Pn**	**16 28 44.6**	**0.0**
TKTP				*i* S	**Sg**	**16 29 27.9**	**+7.1**
BODT

comp=Z,111nm,21.2s,baz=150,slow=31
MKAR Makanchi Array 152.18 268 PKPbc PKPbc 16 48 37.6 -0.5
0.2nm,0.2s,baz=101,slow=3.1,SNR=4.0

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*ISCJB **01** 16:30:51.3±0.8,2307S±007×666W±0.1,h237km±14km, mb3.2/1, Error ellipse: s-maj=21.0km s-min=10.9km az=13.6*
*IDC **01** 16:30:52.1±1.1,2300S×6659W,h225km±17km,mb3.0/1, mb1 3.0/8,mb1mx3.0/21,mbtmp3.6/8, Error ellipse: s-maj=23.3km s-min=15.0km az=100.0*
*NEIC **01** 16:30:52.2±0.8,2307S×6644W,h219km±19km, Error ellipse: s-maj=26.1km s-min=10.6km az=111.0*
ISC 01 16:30:52.4±0.8,**2303S**±007×**666W**±01,**h226**km±14km,**n10**, σ1$**00**/15,**mb3.2/1**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.19**	**281**	P	**Pn**	**16 31 35.9**	**+1.3**
	5.9nm,0.3s,baz=91,slow=6.3,SNR=111						
LVC				S	**S**	**16 32 07.8**	**+0.1**
	5.1nm,0.3s,baz=247,slow=21,SNR=16						
LVC	**Limon Verde**	**2.19**	**281**	*e*Pn	**Pn**	**16 31 35.8**	**+1.2**
LVC				*e*S	**S**	**16 32 05.4**	**-2.4**
LPAZ	**La Paz**	**6.86**	**347**	P	**Pn**	**16 32 32.5**	**+1.5**
	0.7nm,0.3s,baz=160,slow=8.8,SNR=20						
LPAZ				S	**S**	**16 33 49.8**	**+0.1**
	baz=105,slow=20,SNR=2.6						
LPAZ	**La Paz**	**6.86**	**347**	*e*P	**Pn**	**16 32 32.7**	**+1.7**
LPAZ				S	**S**	**16 33 49.8**	**+0.1**
CFAA	**Coronel Fontan**	**8.67**	**189**	P	**Pn**	**16 32 53.7**	**-0.4**
	0.1nm,0.3s,baz=38,slow=7.5,SNR=23						
CFAA				S	**S**	**16 34 24.4**	**-7.5**
	0.1nm,0.3s,baz=155,slow=23,SNR=7.2						
SIV	**San Ignacio**	**8.72**	**38**	P	**Pn**	**16 32 53.3**	**-1.4**
	0.8nm,0.3s,baz=235,slow=12,SNR=16						
PLCA	**Paso Flores**	**17.96**	**190**	P	**P**	**16 34 46.4**	**+0.3**
	0.1nm,0.3s,baz=358,slow=10,SNR=3.1						
BDFB	**Brasilia**	**18.99**	**71**	P	**P**	**16 34 57.5**	**+0.4**
	0.2nm,0.3s,baz=263,slow=12,SNR=4.6						
ATAH	**Atahualpa**	**19.57**	**323**	P	**P**	**16 35 02.3**	**-1.1**
	0.3nm,0.3s,baz=76,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P	**P**	**16 42 13.9**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=252,slow=6.6,SNR=5.3						

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*NIED **01** 16:35:00,4630N×15330E,h17km,Mw4.5 Best double couple: M0:5.49000×10^15 NP1:φs48.00000°,δ84.00000°, λ-149.00000°. NP2:φs314.00000°,δ59.00000°, λ-7.00000°.*
*IDC **01** 16:35:26.8±0.7,4610N×15302E,h0km,mb4.2/16, mb1 4.3/17,mb1mx4.2/23,mbtmp4.1/17,ML3.4/1,MS3.8/6, Ms1 3.9/6,ms1mx3.4/31,Error ellipse: s-maj=19.0km s-min=16.8km az=156.0*
*BJI **01** 16:35:27.4,4648N×15301E,h8km,mB4.8,mb4.7,Ms4.3, Msz4.1*
*SKHL **01** 16:35:27.1±1.9,4600N×15350E,h54km±16km,mb5.1/5, mbv4.9/2,ms4.2/4,msh5.0/1*
*ISCJB **01** 16:35:27.0±1.0,4597N±005×153.16E±005,h10km±6km, mb4.7/88,MS4.0/20,Error ellipse: s-maj=9.6km s-min=3.7km az=118.7*
*JMA **01** 16:35:28.8±0.6,4632N×15326E,h30km,M4.5*
*NEIC **01** 16:35:28.6±0.5,4598N×153.18E,h10km,mb4.8/41,Error ellipse: s-maj=13.7km s-min=7.9km az=156.0*
*SZGRF **01** 16:35:31.1,4583N×15402E,h33km,mb4.6,East of Kuril Islands, Russia*
*MOS **01** 16:35:31.2±1.8,4612N×15292E,h30km,mb4.9/44,Error ellipse: s-maj=8.4km s-min=5.6km az=111.7*
ISC 01 16:35:30.0±1.2,**4606N**±005×**15313E**±005,**h17**km±7km, **h17**km±1.9km:**pP-P**,**n260**,σ1$**35**/284,**mb4.7**/87,**MS4.0**/20, **20C-8D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**259**	⇓*i*P	**Pn**	**16 36 26.2**	**-1.3**
KUR				AMB	AMB	16 36 27.0	
	2μm,1.0s						
KUR				AMB	AMB	16 36 27.0	
	210nm,0.6s						
KUR				AMB	AMB	16 36 27.0	
	90nm,0.6s						
KUR				AMB	AMB	16 36 27.0	
	790nm,0.6s						
KUR				*e*S	**Sn**	**16 37 12.0**	**+0.4**
KUR				A		16 37 22.5	
	340nm,0.8s						
KUR				A		16 37 22.5	
	760nm,0.8s						
KUR				A		16 37 43.2	
	2μm,1.6s						
KUR				A		16 37 43.2	
	2μm,1.6s						
KUR	**Kuril'sk**	**3.78**	**259**	⇓*i*PN	**Pn**	**16 36 26.2**	**-1.3**
KUR				*e*S	**Sn**	**16 37 12.0**	**+0.4**
KUR				pmax	pmax		
	comp=N,270nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,760nm,0.5s						
KUR				smax			
	comp=N,460nm,0.6s						
KUR				smax			
	comp=E,460nm,0.6s						
SKR	**Severo-Kuril's**	**5.04**	**22**	*e*P	**Pn**	**16 36 41.1**	**-3.7**
SKR				*e*S	**Sn**	**16 37 31.4**	**-11**
SKR				A		16 37 42.5	
	comp=E,3μm,8.0s						
SKR				A		16 37 42.5	
	comp=E,80nm,0.5s						
SKR				A		16 37 42.5	
	comp=E,360nm,1.0s						
SKR				A		16 37 42.5	
	comp=E,270nm,1.0s						
SKR				AMS	AMS	16 38 28.0	
	comp=E,3μm,14.0s						
SKR				AMS	AMS	16 38 28.0	
	comp=E,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.53**	**251**	*e*P	**Pn**	**16 36 53.0**	**+1.4**
YUK				AMB	AMB	16 36 56.5	
	comp=E,230nm,0.5s						
YUK				*e*S	**Sn**	**16 37 56.0**	**+1.2**
YUK				A		16 38 01.5	
	comp=E,200nm,0.5s						
YUK				A		16 38 01.5	
	comp=E,550nm,0.5s						
NEM2	**Nemuro 2**	**5.91**	**246**	P	**Pn**	**16 36 55.9**	**-0.9**
NEM2				*e*S	**Sn**	**16 38 01.0**	**-3.1**
JRA	**Rausu**	**6.06**	**252**	P	**Pn**	**16 37 00.7**	**+1.9**
JRA				*e*S	**Sn**	**16 38 11.0**	**+3.2**
JNK	**Nakash**	**6.47**	**251**	P	**Pn**	**16 37 05.1**	**+0.6**
JNK				*e*S	**Sn**	**16 38 16.6**	**-1.3**
JAK	**Akkeshi**	**6.76**	**246**	P	**Pn**	**16 37 08.0**	**-0.4**
JAK				*e*S	**Sn**	**16 38 20.5**	**-4.5**
JTKR	**Abashiri--Toko**	**6.86**	**256**	P	**Pn**	**16 37 11.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.21**	**281**	*e*P	**Pn**	**16 37 18.5**	**+3.8**
YSS				AMB	AMB	16 37 20.0	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	16 37 20.0	
	comp=E,50nm,1.0s						
YSS				AMS	AMS	16 39 50.0	
	comp=E,800nm,18.0s						
YSS				AMS	AMS	16 39 50.0	
	comp=E,1μm,18.0s						
JMP	**Maruseppu**	**7.22**	**257**	P	**Pn**	**16 37 16.6**	**+1.9**
JAR	**Ashorobuto**	**7.22**	**251**	P	**Pn**	**16 37 15.3**	**+0.6**
JAR				*e*S	**Sn**	**16 38 36.9**	**+0.6**
JOB	**Onbets**	**7.36**	**248**	P	**Pn**	**16 37 17.1**	**+0.5**
JOB				*e*S	**Sn**	**16 38 36.2**	**-3.5**
JKK2	**Kamakawa 2**	**7.68**	**257**	P	**Pn**	**16 37 23.4**	**+2.3**
ASAJ	**Asahikawa**	**7.70**	**259**	Pn	**Pn**	**16 37 24.2**	**+2.9**
	comp=E,2.5nm,0.3s,baz=88,slow=16,SNR=33						
ASAJ				LR	LR	16 40 17.3	
	comp=E,270nm,18.5s,baz=64,slow=38						
ASAJ	**Asahikawa**	**7.70**	**259**	P	**Pn**	**16 37 24.1**	**+2.7**
JCH	**Churui**	**7.80**	**247**	P	**Pn**	**16 37 22.6**	**-0.1**
JCH				*e*S	**Sn**	**16 38 46.6**	**-4.0**
PET	**Petropavlovsk**	**7.84**	**25**	*e*P	**Pn**	**16 37 17.6**	**-5.7**
PET				AMS	AMS	16 38 25.0	
	comp=E,460nm,13.0s						
PET				AMS	AMS	16 38 35.4	
	comp=E,380nm,13.0s						
PET				*e*S	**Sn**	**16 38 45.2**	**-6.5**
PET				A		16 39 08.7	
	comp=E,90nm,1.1s						
PET	**Petropavlovsk**	**7.84**	**25**	*e*PN	**Pn**	**16 37 15.0**	**-8.3**
JWK2	**Keihoku**	**7.90**	**269**	P	**Pn**	**16 37 28.8**	**+4.7**
JFR	**Furan**	**8.05**	**253**	P	**Pn**	**16 37 28.0**	**+1.8**
UGL	**Uglegorsk**	**8.07**	**296**	*e*P	**Pn**	**16 37 29.5**	**+3.1**
UGL				AMB	AMB	16 37 33.5	
	comp=E,56nm,0.7s						
UGL				AMS	AMS	16 40 54.0	
	comp=E,600nm,15.0s						
UGL				AMS	AMS	16 40 54.0	
	comp=E,500nm,15.0s						
UGL	**Uglegorsk**	**8.07**	**296**	PN	**Pn**	**16 37 29.5**	**+3.1**
UGL				pmax	pmax		
	comp=Z,56nm,0.7s						
UGL				MLR	MLR		
	comp=E,500nm,16.0s						
UGL				MLR	MLR		
	comp=Z,500nm,16.0s						
UGL				MLR	MLR		
	comp=N,600nm,13.0s						
JAB	**Ashibetsu**	**8.17**	**256**	P	**Pn**	**16 37 30.6**	**+2.9**
ERM	**Erimo**	**8.24**	**244**	*i* PN	**Pn**	**16 37 30.1**	**+1.3**
ERM	**Erimo**	**8.24**	**244**	*e*Pg	**Pn**	**16 37 29.6**	**+0.8**
	comp=N,31nm,0.6s						
ERM				*e*S	**Sn**	**16 38 53.9**	**-7.6**
JEM	**Erimo**	**8.24**	**244**	P	**Pn**	**16 37 28.3**	**-0.4**
JEM				*e*S	**Sn**	**16 38 58.2**	**-3.2**
JNBK	**Urakawa-nobuka**	**8.36**	**247**	P	**Pn**	**16 37 29.7**	**-0.7**
JNBK				*e*S	**Sn**	**16 38 58.4**	**-6.0**
JBT2	**Biratori 2**	**8.37**	**251**	P	**Pn**	**16 37 31.0**	**+0.4**
JHR	**Hokuryu**	**8.42**	**258**	P	**Pn**	**16 37 34.3**	**+3.1**
TYV	**Tymovskoe**	**8.46**	**308**	*e*P	**Pn**	**16 37 35.0**	**+3.3**
TYV				AMB	AMB	16 37 36.8	
	comp=N,13nm,0.8s						
TYV				AMB	AMB	16 37 36.8	
	comp=N,24nm,0.8s						
TYV				AMB	AMB	16 37 43.0	
	comp=N,300nm,6.0s						
TYV				AMB	AMB	16 37 43.0	
	comp=N,300nm,7.0s						
TYV				AMS	AMS	16 41 13.0	
	comp=N,500nm,16.0s						
TYV				AMS	AMS	16 41 13.0	
	comp=N,800nm,16.0s						
JNB	**Noboribetsu**	**9.39**	**252**	P	**Pn**	**16 37 44.9**	**+0.4**
JNB				S	**Sn**	**16 39 26.9**	**-2.7**
JKB	**Kayabe**	**9.66**	**249**	P	**Pn**	**16 37 47.7**	**-0.6**
JKB				*e*S	**Sn**	**16 39 29.9**	**-6.5**
JSH	**Shimam**	**9.97**	**255**	P	**Pn**	**16 37 54.1**	**+1.6**
JYM2	**Yakumo 2**	**9.99**	**251**	P	**Pn**	**16 37 53.0**	**+0.3**
JANG	**Nango**	**10.20**	**240**	P	**Pn**	**16 37 52.6**	**-3.0**
JANG				*e*S	**Sn**	**16 39 39.5**	**-10**
JTM	**Tenmabayashi**	**10.23**	**243**	P	**Pn**	**16 37 54.7**	**-1.3**
JTM				*e*S	**Sn**	**16 39 42.3**	**-8.0**
JTH	**Tanohata**	**10.26**	**237**	*e*S	**Sn**	**16 39 40.4**	**-11**
JOSM	**Okushiri--Mats**	**10.60**	**253**	P	**Pn**	**16 38 00.8**	**-0.2**
OFUJ	**Ofunato**	**10.95**	**235**	*e*S	**Sn**	**16 39 58.6**	**-9.3**
JIO	**Ouri**	**11.56**	**233**	P	**Pn**	**16 38 12.0**	**-2.3**
JIO				*e*S	**Sn**	**16 40 13.0**	**-10**
JFY	**Yanaizu**	**13.22**	**234**	P	**Pn**	**16 38 35.2**	**-1.7**
MA2	**Magadan**	**13.62**	**355**	*e*P	**Pn**	**16 38 41.5**	**-0.8**
MA2				*e*S	**Sn**	**16 41 08.3**	**-4.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MA2				MLR	MLR		
	comp=Z,500nm,13.0s						
MAJO	**Matsushiro**	**14.68**	**235**	P	**Pn**	**16 38 54.6**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,25nm,0.9s						
MAJO	**Matsushiro**	**14.68**	**235**	P	**Pn**	**16 38 54.6**	**-2.3**
	comp=Z,25nm,0.9s						
MAT	**Matsushiro**	**14.68**	**235**	P	**Pn**	**16 38 56.7**	**-0.1**
MAT				*e*S	Sn	16 42 01.0	+22
MJAR	**Matsushiro Arr**	**14.68**	**235**	Pn	**Pn**	**16 38 54.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=5.7						
KLR	**Kul'dur**	**14.75**	**290**	*e*P	**Pn**	**16 38 56.7**	**-1.1**
VLA	**Vladivostok**	**15.41**	**267**	*i* P	**Pn**	**16 39 05.2**	**-1.3**
MDJ	**Mudanjiang**	**16.60**	**274**	P	**Pn**	**16 39 21.8**	**-0.1**
MDJ				XP	sP	16 39 28.4	-2.8
MDJ				S	**Sn**	**16 42 19.1**	**-6.8**
MDJ				AMB	AMB		
	comp=Z,27nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,66nm,5.0s						
MDJ				LR	LR		
	comp=E,263nm,15.5s						
MDJ				LR	LR		
	comp=Z,259nm,12.6s						
MDJ	**Mudanjiang**	**16.60**	**274**	*e*P	**Pn**	**16 39 21.5**	**-0.5**
	comp=Z,23nm,0.9s						
SEY	**Seymchan**	**16.92**	**359**	*i* P	**Pn**	**16 39 26.3**	**+0.4**
ZEA	**Zeya**	**18.28**	**304**	*e*P	**Pn**	**16 39 38.0**	**-4.8**
ZEA				AMB	AMB	16 39 44.0	
	comp=Z,200nm,8.0s						
CN2	**Changchun**	**19.69**	**273**	*e*P	**Pn**	**16 39 57.0**	**-2.8**
CN2				*e*XP	sP	16 40 03.8	-1.4
CN2				*e*S	**Sn**	**16 43 32.1**	**-8.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
CLNS	**Chul'man**	**20.48**	**312**	*e*P	**P**	**16 40 07.8**	**+0.8**
CLNS				pmax	pmax		
	comp=N,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,0.7s						
CLNS				MLR	MLR		
	comp=N,200nm,16.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,300nm,16.0s,MS3.8						
CLNS				MLR	MLR		
	comp=Z,400nm,16.0s,MS3.9						
YAK	**Yakutsk**	**20.91**	**328**	*e*P	**P**	**16 40 10.1**	**-1.5**
YAK				*e**PP		16 40 20.3	
YAK				*e*		16 40 32.0	
YAK				*e*S	**S**	**16 44 00.2**	**-4.0**
YAK				*e**SS	sS	16 44 11.6	-0.1
YAK				*e*SS		16 44 18.3	
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=N,22nm,1.9s						
YAK				pmax	pmax		
	comp=E,17nm,1.7s						
YAK				smax			
	comp=E,35nm,2.0s						
YAK				smax			
	comp=Z,41nm,3.2s						
YAK				smax			
	comp=N,54nm,3.7s						
YAK				MLR	MLR		
	comp=E,229nm,16.0s,MS3.8						
YAK				MLR	MLR		
	comp=Z,273nm,16.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,178nm,12.0s,MS3.8						
SNY	**Shenyang**	**21.63**	**269**	⇓P	**P**	**16 40 21.4**	**+2.0**
SNY				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
SNY				AMB	AMB		
	comp=Z,117nm,9.0s						
SNY				LR	LR		
	comp=N,291nm,13.8s,MS4.0						
SNY				LR	LR		
	comp=E,303nm,16.2s,MS4.0						
SNY				LR	LR		
	comp=Z,244nm,16.8s,MS3.7						
HIA	**Hailar**	**22.61**	**290**	*i* P	**P**	**16 40 27.5**	**-2.3**
BILL	**Bilibino**	**23.07**	**13**	*e*P	**P**	**16 40 34.2**	**-0.4**
BILL				*e*		16 40 57.7	
BILL				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
BOD	**Bodaibo**	**26.44**	**311**	*e*P	**P**	**16 41 02.5**	**-3.5**
BOD				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.0						
BJI	**Beijing**	**27.49**	**271**	*e*P	**P**	**16 41 18.2**	**+2.8**
BJI				S	**S**	**16 46 03.2**	**+7.8**
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,257nm,16.8s,MS4.1						
BJI				LR	LR		
	comp=E,304nm,16.4s,MS4.1						
BJI				LR	LR		
	comp=Z,192nm,19.3s,MS3.7						
BJT	**Baijiatuau**	**27.50**	**271**	*e*P	**P**	**16 41 17.3**	**+1.8**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJT	**Baijiatuau**	**27.50**	**271**	*e*P	**P**	**16 41 17.3**	**+1.8**
	comp=Z,11nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**30.36**	**275**	*e*P	**P**	**16 41 41.3**	**+0.4**
HHC				AP	pP	16 41 45.8	-0.2
HHC				XP	sP	16 41 48.6	+0.6
HHC				PP	PP	16 42 39.5	-10
HHC				S	**S**	**16 46 41.9**	**+1.3**
HHC				XS	sS	16 46 47.2	-1.7
HHC				SS	SS	16 48 17.0	-33
HHC				SCP	ScP	16 48 26.2	+3.9
HHC				SCS	ScS	16 52 13.6	-4.7
HHC				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
HHC				AMB	AMB		
	comp=Z,105nm,10.0s						
HHC				LR	LR		
	comp=N,196nm,13.5s						
HHC				LR	LR		
	comp=E,182nm,19.1s						
HHC				LR	LR		
	comp=Z,348nm,16.9s,MS4.1						
SONM	**Songino Array**	**31.58**	**290**	P	**P**	**16 41 49.9**	**-1.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=71,slow=8.8,SNR=9.6						
SONM				LR	LR	16 55 27.5	
	comp=Z,127nm,19.1s,MS3.6,baz=72,slow=38						
SONM	**Songino Array**	**31.58**	**290**	P	**P**	**16 41 49.9**	**-1.8**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,127nm,19.1s						
TLY	**Talaya**	**32.51**	**298**	*e*P	**P**	**16 41 58.3**	**-1.5**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TLY				MLR	MLR		
	comp=Z,262nm,17.0s,MS4.0						
ZAK	**Zakamensk**	**32.99**	**296**	*e*P	**P**	**16 42 02.3**	**-1.7**
COLA	**College**	**36.68**	**38**	*i* P	**P**	**16 42 35.1**	**-0.8**
LZH	**Lanzhou**	**37.93**	**273**	*e*P	**P**	**16 42 47.5**	**+1.0**
LZH				AP	pP	16 42 51.0	-0.6
LZH				XP	sP	16 42 53.0	-0.6
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,86nm,4.2s						
LZH				LR	LR		
	comp=E,154nm,13.2s						
LZH				LR	LR		
	comp=Z,215nm,14.6s,MS4.1						
KRAR	**Krasnoyarsk**	**38.02**	**308**	*i* P	**P**	**16 42 44.6**	**-2.6**
KRAR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
GTA	**Gaotai**	**39.09**	**280**	*e*P	**P**	**16 42 57.6**	**+1.3**
GTA				AP	pP	16 43 02.1	+0.7
GTA				XP	sP	16 43 05.0	+1.5
GTA				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,115nm,5.4s						
GTA				LR	LR		
	comp=N,197nm,13.4s,MS4.2						
GTA				LR	LR		
	comp=E,173nm,17.2s,MS4.2						
GTA				LR	LR		
	comp=Z,209nm,13.8s,MS4.1						
EGAK	**Eagle**	**39.54**	**38**	*e*P	**P**	**16 42 58.2**	**-1.8**
CD2	**Chengdu**	**40.84**	**266**	P	**P**	**16 43 11.7**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GYA	**Guiyang**	**41.58**	**258**	⇑*i*P	**P**	**16 43 17.1**	**+0.2**
GYA				AP	pP	16 43 21.4	-0.6
GYA				XP	sP	16 43 24.8	+0.7
GYA				PP	PP	16 44 56.7	+3.7
GYA				SCP	ScP	16 49 03.1	-0.2
GYA				S	**S**	**16 49 32.8**	**+0.6**
GYA				SCS	ScS	16 53 17.2	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,160nm,5.0s						
GYA				LR	LR		
	comp=N,870nm,17.0s,MS4.8						
GYA				LR	LR		
	comp=E,640nm,16.8s,MS4.8						
GYA				LR	LR		
	comp=Z,680nm,17.2s,MS4.6						
INK	**Inuvik**	**42.23**	**32**	P	**P**	**16 43 20.9**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.0,baz=302,slow=5.6,SNR=7.7						
INK	**Inuvik**	**42.23**	**32**	P	**P**	**16 43 20.9**	**-1.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**42.23**	**32**	*e*P	**P**	**16 43 21.6**	**-0.6**
	comp=Z,111nm,0.8s,mb5.5						
KMI	**Kunming**	**45.13**	**260**	P	**P**	**16 43 46.5**	**+1.0**
KMI				S	**S**	**16 50 23.5**	**-0.7**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.4						
KMI				LR	LR		
	comp=Z,142nm,16.5s,MS4.0						
WMQ	**Urumqi**	**45.19**	**292**	*e*P	**P**	**16 43 46.5**	**+0.5**
WMQ				AP	pP	16 43 51.0	-0.2
WMQ				XP	sP	16 43 53.5	+0.3
WMQ				PCP	PcP	16 45 28.0	+1.9
WMQ				PPP		16 46 14.0	
WMQ				*e*S	**S**	**16 50 25.0**	**-0.1**
WMQ				XS	sS	16 50 33.0	-0.6
WMQ				SCS	ScS	16 53 41.0	-1.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,124nm,4.4s						
WMQ				LR	LR		
	comp=N,370nm,13.0s,MS4.6						
WMQ				LR	LR		
	comp=E,299nm,13.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,402nm,16.2s,MS4.4						
DLBC	**Dease Lake**	**46.07**	**45**	P	**P**	**16 43 53.1**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=261,slow=15,SNR=3.4						
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**16 44 01.0**	**-1.3**
	comp=Z,7.0nm,0.8s,mb4.6,baz=62,slow=8.4,SNR=60						
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**16 44 01.0**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**16 44 01.0**	**-1.4**
LSA	**Lhasa**	**50.33**	**274**	P	**P**	**16 44 28.1**	**+2.3**
LSA	**Lhasa**	**50.33**	**274**	*e*P	**P**	**16 44 28.1**	**+2.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**50.33**	**274**	*e*P	**P**	**16 44 28.1**	**+2.2**
	comp=Z,4.5nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**51.31**	**310**	P	**P**	**16 44 31.6**	**-1.6**
	comp=Z,2.1nm,0.5s,mb4.3,baz=50,slow=7.9,SNR=14						
BVAR	**Borovoye Array**	**51.31**	**310**	P	**P**	**16 44 31.6**	**-1.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**51.48**	**36**	P	**P**	**16 44 32.5**	**-2.0**
	comp=Z,1.6nm,0.9s,mb4.0,baz=303,slow=8.0,SNR=3.1						
ZRNK	**Zerenda**	**52.08**	**310**	*i* P	**P**	**16 44 37.0**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.08**	**310**	*e*P	**P**	**16 44 36.9**	**-2.1**
	comp=Z,3.6nm,0.8s,mb4.3						

AAK Ala-Archa 54.16 297 *c iP* **P 16 44 53.1 -1.2**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AAK Ala-Archa 54.16 297 *eP* **P 16 44 52.7 -1.5**
comp=Z,6.5nm,0.8s,mb4.6
KSH Kashi 54.93 293 *eP* **P 16 44 57.7 -2.2**
KSH *eAP* pP 16 45 03.0 -2.2
KSH *eXP* sP 16 45 05.5 -1.7
KSH *ePCP* PcP 16 46 01.1 -0.6
KSH *ePP* PP 16 47 01.8 -1.1
KSH *eSCP* ScP 16 49 58.5 -1.1
KSH *eS* **S 16 52 35.1 -5.7**
KSH *eSCS* ScS 16 54 43.3 -5.2
KSH *eSS* SS 16 56 18.1 -6.2
KSH LR LR
comp=N,257nm,5.2s
KSH LR LR
comp=E,223nm,3.9s
KSH LR LR
comp=Z,391nm,12.4s,MS4.7
GUN Gumba 55.07 276 *eP* **P 16 45 02.1 +1.1**
comp=Z,31nm,0.9s,mb5.3
ARU Arti 55.53 318 *c iP* **P 16 45 01.8 -2.4**
ARU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ARU Arti 55.53 318 *eP* **P 16 45 01.6 -2.7**
comp=Z,4.8nm,0.7s,mb4.6
KKN Kakani 55.56 276 *eP* **P 16 45 06.0 +1.5**
comp=Z,25nm,0.8s,mb5.3
HNR Honiara 55.57 172 LR LR 17 03 58.7
comp=Z,62nm,20.7s,MS3.7,baz=0.2,slow=31
PKI Pulchoki 55.61 275 *eP* **P 16 45 05.9 +1.1**
DMN Daman 55.80 276 *eP* **P 16 45 07.5 +1.3**
comp=Z,29nm,0.8s,mb5.4
GKN Gorkha 55.88 276 *eP* **P 16 45 07.8 +1.1**
comp=Z,47nm,0.9s,mb5.5
KK31 Karatay Array 56.34 299 *i P* **P 16 45 09.1 -1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KOLN Koldanda 56.74 277 *eP* **P 16 45 14.2 +1.3**
comp=Z,35nm,0.9s,mb5.4
BOK Bokaro 57.68 272 *eP* **P 16 45 18.8 -0.7**
BOK AMb AMB 16 45 23.0
comp=Z,9.7nm,1.5s,mb4.6
KLP Kalpa 58.09 284 *eP* **P 16 45 23.1 +0.7**
KLP AMb AMB 16 45 25.5
comp=Z,12nm,1.1s,mb4.8
ARCES ARCESS Array B 58.51 341 P **P 16 45 23.3 -2.0**
comp=Z,1.1nm,0.6s,mb4.1,baz=26,slow=6.5,SNR=5.2
ARCES LR LR 17 12 49.0
comp=Z,111nm,19.8s,MS4.0,baz=132,slow=38
ARCES ARCESS Array B 58.51 341 P **P 16 45 23.3 -2.1**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES MLR MLR
comp=Z,111nm,19.8s
AKTO Aktyubinsk 59.20 312 LR LR 17 13 18.0
comp=Z,320nm,18.9s,MS4.5,baz=242,slow=38
AYAN Aya Nagar 60.74 282 *eP* **P 16 45 40.2 -0.5**
AYAN AMb AMB 16 45 42.6
comp=Z,6.9nm,0.3s,mb5.2
SONA Sohna 60.92 282 *eP* **P 16 45 41.7 -0.2**
SONA AMb AMB 16 45 44.5
comp=Z,9.5nm,0.9s,mb4.9
HLID Hailey 61.89 55 P **P 16 45 47.5 -1.0**
comp=Z,9.2nm,1.6s,mb4.7
HLID *e* 16 46 01.1
KHET Khetri 61.90 282 *eP* **P 16 45 47.9 -0.7**
KHET AMb AMB 16 45 49.0
comp=Z,4.1nm,0.8s,mb4.6
JOF Joensuu 61.96 334 *ep* **P 16 45 47.0 -2.0**
comp=Z,1.8nm,0.5s,mb4.5
JOF Joensuu 61.96 334 *eP* **P 16 45 47.0 -2.0**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
BOZ Bozeman (W) 62.17 52 *eP* **P 16 45 50.5 +0.1**
BOZ pmax pmax
comp=Z,13nm,1.4s,mb4.9
BOZ Bozeman (W) 62.17 52 *eP* **P 16 45 50.5 +0.1**
comp=Z,13nm,1.4s,mb4.9
NVAR Mina Array Bea 62.75 62 P **P 16 45 54.3 0.0**
comp=Z,1.1nm,0.8s,mb4.1,baz=291,slow=8.7,SNR=12
QLMT Earthquake Lak 62.79 53 P **P 16 45 51.6 -2.9**
AJM Ajmer 63.71 282 *ex* x 16 45 45.6
AJM AMb AMB 16 45 46.4
comp=Z,19nm,0.2s,mb5.7
TPAW Teton Pass 63.90 54 *eP* **P 16 46 01.9 0.0**
comp=Z,14nm,1.0s,mb5.0
TPAW *e* 16 46 15.1
BHPL Bhopal 63.91 277 *eP* **P 16 46 02.3 +0.4**
BHPL AMb AMB 16 46 03.5
comp=Z,20nm,1.1s,mb5.1
REDW Red Top Meadow 64.04 54 *eP* **P 16 46 03.5 +0.7**
comp=Z,16nm,1.2s,mb4.9
REDW *e* 16 46 15.9
KAF Kangasniemi 64.08 335 *ep* **P 16 46 00.0 -3.0**
comp=Z,7.1nm,0.8s,mb4.8,baz=37,slow=6.2
KAF Kangasniemi 64.08 335 *eP* **P 16 46 00.0 -3.0**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
FINES FINESS Array B 64.67 335 P **P 16 46 05.2 -1.8**
comp=Z,6.6nm,0.6s,mb4.8,baz=36,slow=7.6,SNR=47
FINES LR LR 17 18 19.3
comp=Z,88nm,18.1s,MS4.0,baz=181,slow=40
FINES FINESS Array B 64.67 335 *i P* **P 16 46 05.1 -1.8**
FINES pmax pmax
comp=Z,7.0nm,0.6s
DUG Dugway 64.94 58 P **P 16 46 06.1 -2.6**
DUG *e* 16 46 21.1
DUG pmax pmax
comp=Z,11nm,1.3s,mb4.7
DUG Dugway 64.94 58 P **P 16 46 06.1 -2.5**
comp=Z,11nm,1.3s,mb4.7
DUG *e* 16 46 21.1
PDAR Pinedale Array 65.15 54 P **P 16 46 10.0 0.0**
comp=Z,0.9nm,0.8s,mb3.9,baz=316,slow=1.7,SNR=7.3
OBN Obninsk 65.89 326 *eP* **P 16 46 15.1 +0.3**
OBN *e*PP* pP 16 46 25.2 +5.0
OBN *e* 16 46 43.0
OBN *e* 16 48 37.3
OBN *eSS* SS 16 59 09.1 -7.0
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
SRU San Rafael 66.98 57 *eP* **P 16 46 21.8 0.0**
SRU *e* 16 46 34.1
SRU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SRU San Rafael 66.98 57 *eP* **P 16 46 21.8 -0.1**
comp=Z,8.2nm,0.9s,mb4.8
SRU *e* 16 46 34.1
WRA Warramunga Arr 67.86 199 P **P 16 46 26.5 -0.8**
comp=Z,0.7nm,0.7s,mb3.8,baz=17,slow=6.9,SNR=6.5
WRA Warramunga Arr 67.86 199 P **P 16 46 26.5 -0.9**
WRA pmax pmax
comp=Z,10.0nm,0.7s
PV01 Paradox Valley 68.78 57 P **P 16 46 32.4 -0.7**
NB2 NORSAR Subarra 68.89 341 P **P 16 46 32.2 -1.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=28,slow=6.2
NB2 NORSAR Subarra 68.89 341 P **P 16 46 32.2 -1.6**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 68.89 341 P **P 16 46 32.5 -1.4**
comp=Z,2.5nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=19
NOA NORSAR Array B 68.89 341 P **P 16 46 32.5 -1.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 71.29 314 *eP* **P 16 46 50.3 +1.8**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,194nm,18.0s,MS4.4
ASAR Alice Springs 71.55 199 P **P 16 46 49.9 -0.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=15,slow=5.5,SNR=14
ASAR Alice Springs 71.55 199 P **P 16 46 49.9 -0.2**
ASAR pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 72.13 326 P **P 16 46 52.2 -1.4**
comp=Z,8.9nm,0.5s,mb4.9,baz=34,slow=6.2,SNR=37
AKASG Malin Array Be 72.13 326 *i P* **P 16 46 52.2 -1.4**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 72.13 326 P **P 16 46 52.2 -1.4**
AKBB Malin Array Si 72.13 326 *eP* **P 16 46 51.7 -1.9**
ANMO Albuquerque 72.19 58 *i P* **P 16 46 57.1 +3.2**

GNI Garni 72.99 310 *i P* **P 16 46 59.9 +1.2**
GNI pmax pmax
comp=Z,21nm,1.6s
OJC Ojcow 75.93 331 *eP* **P 16 47 15.2 -0.6**
STHS Stebnicka Huta 76.12 330 *eP* **P 16 47 16.6 -0.3**
STHS *e* 16 47 28.1
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 76.12 330 *eP* **P 16 47 16.6 -0.3**
comp=Z,2.8nm,0.8s,mb4.2
STHS *e* 16 47 28.1
BURAR Bucovina Array 76.17 327 ⇑ *iP* **P 16 47 16.8 -0.4**
BURAR Bucovina Array 76.17 327 ⇑ **P 16 47 16.8 -0.4**
OKC Ostrava-Krasne 76.81 332 *ePCP* PcP 16 47 33.2 +1.2
UPC Upice 76.91 334 *eP* **P 16 47 21.1 -0.3**
DPC Dobruska-Polom 76.95 333 *eP* **P 16 47 21.4 -0.2**
MORC Moravsky Berou 77.06 332 ⇑ *iP* **P 16 47 21.7 -0.5**
MORC Moravsky Berou 77.06 332 ⇑ **P 16 47 21.7 -0.5**
CLL Collm 77.10 336 *i P* **P 16 47 21.8 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLL Collm 77.10 336 *i P* **P 16 47 21.8 -0.6**
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 77.21 335 *eP* **P 16 47 23.6 +0.5**
comp=Z,2.6nm,1.2s,mb4.0
BRG Berggiesshubel 77.21 335 *eP* **P 16 47 23.6 +0.5**
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
TIRR Tirgusor 77.47 323 ⇑ *iP* **P 16 47 23.5 -1.0**
TIRR Tirgusor 77.47 323 ⇑ **P 16 47 23.5 -1.0**
MLR Muntele Rosu 77.64 325 ⇑ *iP* **P 16 47 26.1 +0.6**
MLR Muntele Rosu 77.64 325 ⇑ **P 16 47 26.1 +0.7**
VYHS Vyhne 77.74 331 *eP* **P 16 47 25.7 -0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
VYHS Vyhne 77.74 331 *eP* **P 16 47 25.7 -0.3**
comp=Z,2.7nm,1.3s,mb4.0
VRAC Vranov 77.77 333 ⇓ *iP* **P 16 47 25.9 -0.3**
DRGR 77.81 328 ⇑ *iP* **P 16 47 26.1 -0.3**
DRGR 77.81 328 ⇑ **P 16 47 26.1 -0.3**
PRU Pruhonice 77.82 334 *eP* **P 16 47 26.0 -0.4**
SNX Sinaia 77.92 325 ⇑ *iP* **P 16 47 27.9 +0.9**
SNX Sinaia 77.92 325 ⇑ **P 16 47 27.9 +0.9**
VOIR 78.04 325 ⇑ *iP* **P 16 47 27.5 -0.2**
VOIR 78.04 325 ⇑ **P 16 47 27.5 -0.1**
MOX Moxa 78.09 336 *e*(P) **P 16 47 26.9 -1.1**
comp=Z,5.0nm,1.1s,mb4.4
MOX Moxa 78.09 336 *eP* **P 16 47 26.9 -1.1**
MOX pmax pmax
comp=Z,20nm,1.1s,mb5.0
KHC Kasperske Hory 78.87 334 *eP* **P 16 47 31.7 -0.6**
KHC Kasperske Hory 78.87 334 ⇑ *eP* **P 16 47 31.5 -0.8**
BRTR Keskin Array B 78.90 317 P **P 16 47 32.5 0.0**
comp=Z,1.2nm,0.8s,mb3.9,baz=69,slow=5.0,SNR=6.4
BRTR Keskin Array B 78.90 317 P **P 16 47 32.5 +0.1**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
UMR Umm Al-Rimmam 78.99 301 *eP* **P 16 47 31.9 -1.1**
UMR AMb AMB 16 47 35.5
comp=Z,23nm,0.7s,mb5.2
MIB Mutribah 79.03 302 *eP* **P 16 47 33.0 -0.1**
MIB AMb AMB 16 47 35.8
comp=Z,35nm,0.8s,mb5.3
GRA1 Grafenberg Arr 79.06 336 *eP* **P 16 47 33.1 -0.2**
comp=Z,12nm,1.3s,mb4.7
GRF Grafenberg Arr 79.06 336 *eP* **P 16 47 33.1 -0.2**
comp=Z,12nm,1.3s,mb4.7
GRF Grafenberg Arr 79.06 336 *eP* **P 16 47 33.1 -0.2**
GRF pmax pmax
comp=Z,12nm,1.3s,mb4.7
GRF Grafenberg Arr 79.06 336 *eP* **P 16 47 33.1 -0.2**
GRF pmax pmax
comp=Z,12nm,1.3s,mb4.7
GERES GERESS Array B 79.08 334 P **P 16 47 32.8 -0.6**
comp=Z,1.4nm,0.7s,mb4.0,baz=35,slow=5.5,SNR=15
GERES GERESS Array B 79.08 334 P **P 16 47 32.8 -0.6**
GERES pmax pmax
comp=Z,10.0nm,0.7s
BZS Buzias 79.20 328 ⇓ *iP* **P 16 47 34.2 +0.1**
BZS Buzias 79.20 328 ⇓ **P 16 47 34.2 +0.1**
QRN Al-Qurain 79.46 300 *eP* **P 16 47 35.4 -0.1**
QRN AMb AMB 16 47 37.5
comp=Z,22nm,0.9s,mb5.1
HGN Heimansgroeve 79.47 340 *eP* **P 16 47 35.3 -0.2**
comp=Z,22nm,1.4s,mb4.9
NAY Al-Naaiem 79.50 301 *eP* **P 16 47 35.5 -0.1**
NAY AMb AMB 16 47 38.4
comp=Z,11nm,0.9s,mb4.8
MEM Membach 79.60 339 P **P 16 47 37.4 +1.1**
BCLA Clavier 79.95 340 P **P 16 47 39.3 +1.1**
GIVF Givet 80.36 340 *eP* **P 16 47 41.0 +0.7**
BAIF Baives 80.54 340 *eP* **P 16 47 42.2 +0.9**
comp=Z,4.0nm,0.6s,mb4.2
BAIF Baives 80.54 340 *eP* **P 16 47 42.2 +0.9**
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BAIF Baives 80.54 340 *eP* **P 16 47 42.2 +0.9**
comp=Z,2.0nm,0.6s,mb4.2
KBA Koelnbreinsper 80.77 333 ⇑ *iP* **P 16 47 43.0 +0.5**
comp=Z,13nm,0.7s,mb5.0
KBA Koelnbreinsper 80.77 333 ⇑ *iP* **P 16 47 43.0 +0.5**
KBA pmax pmax
comp=Z,13nm,0.7s,mb5.0
VTS Vitosha 81.14 325 ⇓ *iP* **P 16 47 44.6 0.0**
VTS Vitosha 81.14 325 ⇓ **P 16 47 44.6 +0.1**
CDF Champ du Feu 81.30 338 *eP* **P 16 47 46.4 +1.0**
comp=Z,20nm,0.9s,mb4.7
CDF Champ du Feu 81.30 338 *eP* **P 16 47 46.4 +1.0**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 81.30 338 *eP* **P 16 47 46.4 +1.0**
comp=Z,9.8nm,0.9s,mb4.7
MEZF Maizieres J'vi 81.79 339 *eP* **P 16 47 49.3 +1.3**
comp=Z,10nm,0.6s,mb4.6
MEZF Maizieres J'vi 81.79 339 *eP* **P 16 47 49.3 +1.3**
comp=Z,10nm,0.6s,mb4.9
HAU Haudompre 81.92 338 *eP* **P 16 47 49.5 +0.8**
comp=Z,14nm,0.8s,mb4.6
HAU Haudompre 81.92 338 *eP* **P 16 47 49.5 +0.8**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HAU Haudompre 81.92 338 *eP* **P 16 47 49.5 +0.8**
comp=Z,7.0nm,0.8s,mb4.6
LDF La Drutiiere 82.89 342 *eP* **P 16 47 55.7 +2.0**
LOR Lormes 83.23 339 *eP* **P 16 47 56.7 +1.2**
comp=Z,12nm,0.7s,mb4.7
LOR Lormes 83.23 339 *eP* **P 16 47 56.7 +1.2**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LOR Lormes 83.23 339 *eP* **P 16 47 56.7 +1.2**
comp=Z,6.1nm,0.7s,mb4.7
SSF Saint Saulge 83.51 340 *eP* **P 16 47 58.1 +1.2**
comp=Z,16nm,1.0s,mb4.8
SSF Saint Saulge 83.51 340 *eP* **P 16 47 58.1 +1.2**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
SSF Saint Saulge 83.51 340 *eP* **P 16 47 58.1 +1.2**
comp=Z,7.8nm,1.0s,mb4.8
AVF Avril sur Loir 83.80 340 *eP* **P 16 47 59.8 +1.4**
comp=Z,16nm,0.9s,mb4.8
AVF Avril sur Loir 83.80 340 *eP* **P 16 47 59.8 +1.4**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AVF Avril sur Loir 83.80 340 *eP* **P 16 47 59.8 +1.4**
comp=Z,7.8nm,0.9s,mb4.8
SMF Signal de Mont 83.82 339 *eP* **P 16 47 59.9 +1.4**
comp=Z,43nm,1.2s,mb5.1
SMF Signal de Mont 83.82 339 *eP* **P 16 47 59.9 +1.4**
SMF pmax pmax
comp=Z,21nm,1.2s,mb5.1
SMF Signal de Mont 83.82 339 *eP* **P 16 47 59.9 +1.4**
comp=Z,21nm,1.2s,mb5.2
LPL La Plagne 84.11 337 *eP* **P 16 48 02.2 +2.2**
comp=Z,3.4nm,0.5s,mb4.4
LPL La Plagne 84.11 337 *eP* **P 16 48 02.2 +2.2**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
LPL La Plagne 84.11 337 *eP* **P 16 48 02.2 +2.2**
comp=Z,1.7nm,0.5s,mb4.4
LPG La Plagne 84.13 337 *eP* **P 16 48 02.4 +2.3**
comp=Z,10nm,0.7s,mb4.8
LPG La Plagne 84.13 337 *eP* **P 16 48 02.4 +2.3**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LPG La Plagne 84.13 337 *eP* **P 16 48 02.4 +2.3**

comp=Z,5.1nm,0.7s,mb4.8
TCF Toulx Ste Croi 84.55 340 *eP* **P 16 48 04.1 +1.9**
comp=Z,25nm,1.1s,mb5.0
TCF Toulx Ste Croi 84.55 340 *eP* **P 16 48 04.1 +1.9**
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.9
TCF Toulx Ste Croi 84.55 340 *eP* **P 16 48 04.1 +1.9**
comp=Z,12nm,1.1s,mb5.0
MFF Saint Martin d 84.78 342 *eP* **P 16 48 05.5 +2.1**
comp=Z,12nm,0.8s,mb4.8
MFF Saint Martin d 84.78 342 *eP* **P 16 48 05.5 +2.1**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MFF Saint Martin d 84.78 342 *eP* **P 16 48 05.5 +2.1**
comp=Z,6.1nm,0.8s,mb4.8
MBDF Montbardon 84.83 337 *eP* **P 16 48 05.3 +1.6**
comp=Z,4.3nm,0.6s,mb4.5
MBDF Montbardon 84.83 337 *eP* **P 16 48 05.3 +1.6**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
MBDF Montbardon 84.83 337 *eP* **P 16 48 05.3 +1.6**
comp=Z,2.2nm,0.6s,mb4.5
ORIF Oris-en-Rattie 84.90 337 *eP* **P 16 48 06.1 +2.1**
comp=Z,17nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.90 337 *eP* **P 16 48 06.1 +2.1**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.90 337 *eP* **P 16 48 06.1 +2.1**
comp=Z,8.4nm,0.9s,mb4.9
VIVF Saint-Julien-l 85.27 338 *eP* **P 16 48 07.9 +2.0**
comp=Z,16nm,1.0s,mb4.8
VIVF Saint-Julien-l 85.27 338 *eP* **P 16 48 07.9 +2.0**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 85.27 338 *eP* **P 16 48 07.9 +2.0**
comp=Z,8.0nm,1.0s,mb4.8
CAF Calviac 85.86 340 *eP* **P 16 48 11.4 +2.6**
comp=Z,14nm,0.8s,mb4.9
CAF Calviac 85.86 340 *eP* **P 16 48 11.4 +2.6**
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
CAF Calviac 85.86 340 *eP* **P 16 48 11.4 +2.6**
comp=Z,7.1nm,0.8s,mb5.0
FRF La Foret Royal 85.94 336 *eP* **P 16 48 10.3 +1.1**
comp=Z,32nm,1.1s,mb5.2
FRF La Foret Royal 85.94 336 *eP* **P 16 48 10.3 +1.1**
FRF pmax pmax
comp=Z,16nm,1.1s,mb5.2
FRF La Foret Royal 85.94 336 *eP* **P 16 48 10.3 +1.1**
comp=Z,16nm,1.1s,mb5.2
LMR La Mourre 86.19 336 *eP* **P 16 48 12.0 +1.6**
comp=Z,25nm,1.1s,mb5.1
LMR La Mourre 86.19 336 *eP* **P 16 48 12.0 +1.6**
LMR pmax pmax
comp=Z,12nm,1.1s,mb5.0
LMR La Mourre 86.19 336 *eP* **P 16 48 12.0 +1.6**
comp=Z,12nm,1.1s,mb5.0
CFAA Coronel Fontan 145.11 80 PKPbc PKPbc 16 55 04.8 -1.1
comp=Z,0.2nm,0.5s,baz=278,slow=3.4,SNR=6.3
CPUP Villa Florida 148.79 61 PKPbc PKPbc 16 55 15.2 -1.4
comp=Z,0.2nm,0.3s,baz=329,slow=5.9,SNR=4.5

JMA 01 16:40:57.3±0.1, 2938N×14053E, h264km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.70**	**147**	P	Pn	16 41 47.8	+0.2
CBIJ				*eS*	S	16 42 27.5	+0.1
JHJ2	**Mitsune**	**3.77**	**351**	*eS*	S	16 42 47.4	-0.8
BSO1	**Boso 1**	**5.27**	**4**	P	Pn	16 42 18.0	+1.2
BSO1				*eS*	S	16 43 17.6	-2.7
BSO3	**Boso 3**	**5.41**	**360**	P	Pn	16 42 19.1	+0.7
JOD2	**Odawara 2**	**5.99**	**349**	P	Pn	16 42 26.8	+1.2
JHU	**Hanno**	**6.54**	**351**	P	Pn	16 42 32.5	+0.2
JYT	**Yasato**	**6.83**	**358**	P	Pn	16 42 36.5	+0.5
JYT				*eS*	S	16 43 48.9	-6.5
JAG	**Ashikaga**	**7.08**	**353**	P	Pn	16 42 38.5	-0.6
JAG				*eS*	S	16 43 53.9	-7.2
JHO	**Hitachi**	**7.21**	**0**	P	Pn	16 42 40.9	+0.2

NIED ***01*** *16:47:00, 4630N×153.90E, h14km, Mw4.2 Best double couple: M0=2.05000×10^15 NP1:φ=69.00000°, δ=76.00000°, λ=108.00000°. NP2:φ=194.00000°, δ=23.00000°, λ=38.00000°.*
BJI ***01*** *16:47:24.6, 4660N×153.40E, h10km, mB4.5, mb4.2*
IDC ***01*** *16:47:26.0±0.7, 4653N×153.26E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/21, mbtmp3.9/12, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/28, Error ellipse: s-maj=22.0km s-min=19.7km az=89.0*
NEIC ***01*** *16:47:27.7±0.7, 4658N×153.38E, h10km, mb4.3/2, Error ellipse: s-maj=18.9km s-min=13.1km az=140.0*
JMA ***01*** *16:47:27.4±0.9, 4633N×153.87E, h30km, M4.6*
MOS ***01*** *16:47:28.3±1.3, 4658N×153.68E, h33km, mb4.4/9, Error ellipse: s-maj=14.1km s-min=12.4km az=95.6*
ISCJB ***01*** *16:47:33.6±1.4, 4634N±0.10×1530E±0.1, h69km±12km, mb4.1/18, Error ellipse: s-maj=17.9km s-min=9.9km az=113.8*

ISC 01 16:47:34.5±1.2, 4642N±010×1531E±01, h61km±11km, n71, σ1§45/76, mb4.2/18, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.71**	**24**	*e*PN	**Pn**	**16 48 35.6**	**-7.5**
SKR				*eS*	**Sn**	**16 49 28.4**	**-8.0**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				smax			
	comp=N,300nm,0.9s						
SKR				smax			
	comp=E,160nm,0.9s						
SKR				smax			
	comp=Z,160nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**248**	PN	**Pn**	**16 48 58.9**	**+3.3**
YUK				pmax	pmax		
	comp=Z,110nm,0.5s						
NEM2	**Nemuro 2**	**6.04**	**242**	P	**Pn**	**16 49 00.0**	**-1.3**
NEM2				*eS*	**Sn**	**16 50 08.4**	**-0.7**
JRA	**Rausu**	**6.15**	**249**	P	**Pn**	**16 49 04.2**	**+1.4**
JNK	**Nakash**	**6.57**	**247**	P	**Pn**	**16 49 09.4**	**+0.9**
JAK	**Akkeshi**	**6.89**	**243**	P	**Pn**	**16 49 11.7**	**-1.1**
JAK				*eS*	**Sn**	**16 50 28.2**	**-1.6**
JTKR	**Abashiri--Toko**	**6.93**	**253**	P	**Pn**	**16 49 15.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**7.13**	**278**	*e*PN	**Pn**	**16 49 20.0**	**+3.9**
YSS	**Yuzh-Sakhalins**	**7.13**	**278**	*eP*	**Pn**	**16 49 20.1**	**+4.0**
	comp=Z,13nm,0.6s						
JMP	**Maruseppu**	**7.28**	**254**	P	**Pn**	**16 49 21.5**	**+3.3**
JAR	**Ashorobuto**	**7.32**	**248**	P	**Pn**	**16 49 19.7**	**+1.0**
JAR				*eS*	**Sn**	**16 50 41.6**	**+1.2**
JOB	**Onbets**	**7.47**	**245**	P	**Pn**	**16 49 21.0**	**+0.2**
JOB				*eS*	**Sn**	**16 50 43.7**	**-0.4**
JSE	**Soyaes**	**7.50**	**263**	P	**Pn**	**16 49 26.6**	**+5.4**
JKK2	**Kamakawa 2**	**7.74**	**254**	P	**Pn**	**16 49 27.9**	**+3.4**
ASAJ	**Asahikawa**	**7.75**	**256**	Pn	**Pn**	**16 49 28.8**	**+4.2**
	comp=Z,1.6nm,0.3s,baz=84,slow=14,SNR=16						
ASAJ	**Asahikawa**	**7.75**	**256**	PN	**Pn**	**16 49 28.8**	**+4.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**7.92**	**245**	P	**Pn**	**16 49 25.2**	**-1.8**
JCH				*eS*	**Sn**	**16 50 52.3**	**-2.8**
JFR	**Furan**	**8.14**	**250**	P	**Pn**	**16 49 32.6**	**+2.6**
JAB	**Ashibetsu**	**8.24**	**253**	P	**Pn**	**16 49 35.1**	**+3.8**
JEM	**Erimo**	**8.38**	**242**	*e*S	**Sn**	**16 51 05.0**	**-1.3**
ERM	**Erimo**	**8.38**	**242**	*e*PN	**Pn**	**16 49 35.4**	**+2.2**
ERM				pmax	pmax		
	comp=Z,45nm,0.8s						
ERM	**Erimo**	**8.38**	**242**	*eP*	**Pn**	**16 49 35.4**	**+2.1**
	comp=Z,45nm,0.8s						
JNBK	**Urakawa-nobuka**	**8.48**	**244**	P	**Pn**	**16 49 33.4**	**-1.2**
JNBK				*eS*	**Sn**	**16 51 07.4**	**-1.4**
JNB	**Noboribetsu**	**9.48**	**250**	P	**Pn**	**16 49 49.2**	**+0.9**
JNB				*eS*	**Sn**	**16 51 33.4**	**+0.2**
JKB	**Kayabe**	**9.78**	**247**	P	**Pn**	**16 49 51.3**	**-1.0**
JKB				*eS*	**Sn**	**16 51 37.3**	**-3.2**
JANG	**Nango**	**10.36**	**238**	*e*S	**Sn**	**16 51 48.7**	**-6.1**
JTM	**Tenmabayashi**	**10.37**	**241**	*e*S	**Sn**	**16 51 49.3**	**-5.8**
JTH	**Tanohata**	**10.44**	**236**	*e*S	Sx	16 51 46.7	
JIO	**Ouri**	**11.76**	**232**	*e*S	Sx	16 52 19.3	
MJAR	**Matsushiro Arr**	**14.87**	**234**	Pn	**Pn**	**16 50 59.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=4.0						
MDJ	**Mudanjiang**	**16.55**	**272**	P	**Pn**	**16 51 22.2**	**-0.4**
MDJ				AMB	AMB		

comp=Z,3.0nm,0.5s
MDJ AMB AMB
comp=Z,21nm,4.5s
YAK Yakutsk 20.59 328 *e*P **P 16 52 07.4 -1.0**
YAK pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 31.43 290 P **P 16 53 49.1 -0.8**
comp=Z,4.4nm,0.7s,mb3.4,baz=72,slow=6.2,SNR=2.5
MKAR Makanchi Array 47.08 298 P **P 16 55 59.9 -0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=57,slow=8.8,SNR=15
MKAR Makanchi Array 47.08 298⇑ *e*P **P 16 55 59.9 -0.3**
MKAR Makanchi Array 47.08 298 P **P 16 55 59.9 -0.2**
LSA Lhasa 50.27 273 P **P 16 56 23.2 -1.5**
LSA Lhasa 50.27 273 *e*P **P 16 56 28.4 +3.7**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LSA Lhasa 50.27 273 *e*P **P 16 56 28.4 +3.7**
comp=Z,3.3nm,0.6s,mb4.5
BVAR Borovoye Array 51.05 310 P **P 16 56 29.9 -0.7**
comp=Z,0.8nm,0.4s,mb4.0,baz=46,slow=8.5,SNR=8.8
BVAR Borovoye Array 51.05 310 P **P 16 56 29.9 -0.7**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 51.09 310 *e*P **P 16 56 30.2 -0.7**
AAK Ala-Archa 53.96 297⇓ *e*P **P 16 56 52.0 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
AAK Ala-Archa 53.96 297 *e*P **P 16 56 51.8 -0.3**
comp=Z,1.5nm,0.8s,mb4.0
GUN Gumba 55.01 275 *e*P **P 16 57 02.0 +2.3**
KKN Kakani 55.50 276 *e*P **P 16 57 05.7 +2.5**
comp=Z,15nm,0.6s,mb5.2
PKI Pulchoki 55.55 275 *e*P **P 16 57 06.0 +2.5**
DMN Daman 55.73 275 *e*P **P 16 57 07.7 +2.8**
GKN Gorkha 55.81 276 *e*P **P 16 57 07.0 +1.6**
comp=Z,9.6nm,0.5s,mb5.1
KOLN Koldanda 56.67 277 *e*P **P 16 57 14.2 +2.7**
comp=Z,14nm,0.9s,mb5.0
YBH Yreka Blue Hor 57.92 62 LR LR 17 16 15.5
comp=Z,70nm,20.6s,baz=189,slow=30
NVAR Mina Array Bea 62.60 62 P **P 16 57 50.8 -1.5**
comp=Z,0.2nm,0.5s,mb3.5,baz=316,slow=7.6,SNR=2.4
FINES FINESS Array B 64.33 335 P **P 16 58 02.5 -1.3**
comp=Z,2.0nm,0.7s,mb4.3,baz=40,slow=5.4,SNR=11
FINES FINESS Array B 64.33 335 *i*P **P 16 58 02.5 -1.2**
FINES FINESS Array B 64.33 335 P **P 16 58 02.5 -1.3**
PDAR Pinedale Array 64.96 54 P **P 16 58 06.6 -1.2**
comp=Z,0.5nm,0.3s,mb4.0,baz=321,slow=2.3,SNR=5.1
OBN Obninsk 65.57 326 *e*P **P 16 58 11.0 -0.8**
OBN *e* 17 00 32.0
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WRA Warramunga Arr 68.20 199 P **P 16 58 28.3 -0.2**
comp=Z,2.0nm,0.9s,mb4.2,baz=18,slow=6.7,SNR=11
WRA Warramunga Arr 68.20 199 P **P 16 58 28.3 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 68.53 341 P **P 16 58 28.9 -1.7**
comp=Z,1.9nm,0.6s,mb4.2,baz=28,slow=6.5
NOA NORSAR Array B 68.53 341 P **P 16 58 30.1 -0.5**
comp=Z,2.7nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=14
NOA NORSAR Array B 68.53 341 P **P 16 58 30.1 -0.5**
NOA pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 71.81 326 P **P 16 58 49.3 -1.3**
comp=Z,0.8nm,0.3s,mb4.1,baz=28,slow=5.0,SNR=12
AKASG Malin Array Be 71.81 326 P **P 16 58 49.3 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 71.89 198 P **P 16 58 52.4 +1.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=12,slow=5.9,SNR=34
ASAR Alice Springs 71.89 198 P **P 16 58 52.4 +1.3**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 76.76 336 *i*P **P 16 59 19.5 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
KHC Kasperske Hory 78.53 334⇑ *e*P **P 16 59 30.0 +0.8**
GERES GERESS Array B 78.74 334 P **P 16 59 29.7 -0.7**
comp=Z,0.6nm,0.7s,mb3.7,baz=27,slow=6.1,SNR=7.5
GERES GERESS Array B 78.74 334 P **P 16 59 29.7 -0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 148.64 61 PKPbc PKPbc 17 07 14.2 -0.4
comp=Z,0.3nm,0.4s,baz=63,slow=2.3,SNR=2.8

IDC 01 16:50:56.6±2.1, 4657N×15310E, h0^{km}, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=80.1km s-min=30.0km az=82.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.01**	**297**	P	P	16 59 29.3	-0.3
	0.3nm,0.2s,baz=68,slow=9.6,SNR=3.6						
BVAR	**Borovoye Array**	**50.97**	**310**	P	P	16 59 59.6	-0.3
	0.4nm,0.3s,baz=49,slow=6.0,SNR=4.5						
FINES	**FINESS Array B**	**64.20**	**335**	P	P	17 01 32.4	-0.8
	0.7nm,0.4s,baz=45,slow=5.8,SNR=12						
NB2	**NORSAR Subarra**	**68.40**	**341**	P	P	17 01 59.4	-0.7
	comp=Z,0.7nm,0.5s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.40**	**341**	P	P	17 01 60.0	-0.1
	comp=Z,0.9nm,0.6s,baz=27,slow=6.3,SNR=4.8						
ASAR	**Alice Springs**	**72.03**	**198**	P	P	17 02 22.3	-0.1
	comp=Z,0.5nm,1.0s,baz=19,slow=5.0,SNR=4.8						

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*NIED **01** 16:51:00, 4680N×153.10E, h11^{km}, Mw4.3 Best double couple: M=2.71000×10^{15} NP1:φ=60.00000°, δ=84.00000°, λ=104.00000°. NP2:φ=172.00000°, δ=15.00000°, λ=22.00000°.*
*IDC **01** 16:51:53.4±0.7, 4654N×15334E, h0^{km}, mb4.2/16, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, Error ellipse: s-maj=19.8km s-min=18.3km az=71.0*
*BJI **01** 16:51:53.4, 4675N×15401E, h36^{km}, mB4.8, mb4.4*
*NEIC **01** 16:51:55.1±0.4, 4661N×15342E, h10^{km}, mb4.6/23, Error ellipse: s-maj=10.3km s-min=7.0km az=146.0*
*ISCJB **01** 16:51:55.5±1.6, 4649N±007×15337E±008, h24^{km}±11^{km}, mb4.5/54, Error ellipse: s-maj=14.3km s-min=6.8km az=113.9*
*MOS **01** 16:51:57.4±1.1, 4664N×15333E, h33^{km}, mb4.7/31, Error ellipse: s-maj=10.6km s-min=6.6km az=102.3*
*JMA **01** 16:51:58.5±0.8, 4677N×153.14E, h30^{km}, M4.4*
*SZGRF **01** 16:52:04.1, 4663N×15148E, h33^{km}, mb4.7, Kuril Islands, Russia*

ISC 01 16:51:58.6±1.5, 4661N±007×15337E±008, h33^{km}±11^{km}, n192, σ1§16/199, mb4.5/54, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08**	**252**	*e*PN	**Pn**	**16 52 57.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,220nm,0.7s						
SKR	**Severo-Kuril's**	**4.47**	**23**	*e*PN	**Pn**	**16 53 01.9**	**-2.2**
SKR				pmax	pmax		
	comp=Z,150nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.88**	**247**	*e*PN	**Pn**	**16 53 25.7**	**+2.2**
NEM2	**Nemuro 2**	**6.30**	**242**	P	**Pn**	**16 53 27.2**	**-2.0**
NEM2				*e*S	**Sn**	**16 54 33.7**	**-6.4**
JRA	**Rausu**	**6.40**	**248**	P	**Pn**	**16 53 31.7**	**+1.1**
JRA				*e*S	**Sn**	**16 54 42.7**	**+0.2**
JNK	**Nakash**	**6.83**	**247**	P	**Pn**	**16 53 36.6**	**+0.2**
JNK				*e*S	**Sn**	**16 54 50.9**	**-2.1**
JAK	**Akkeshi**	**7.14**	**243**	P	**Pn**	**16 53 38.9**	**-1.9**
JAK				*e*S	**Sn**	**16 54 53.7**	**-7.1**
JTKR	**Abashiri--Toko**	**7.17**	**252**	P	**Pn**	**16 53 42.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.30**	**277**	*e*PN	**Pn**	**16 53 47.5**	**+4.6**
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.30**	**277**	*e*Pn	**Pn**	**16 53 46.7**	**+3.8**
	comp=Z,21nm,0.6s						
JMP	**Maruseppu**	**7.52**	**253**	P	**Pn**	**16 53 47.8**	**+1.9**
JAR	**Ashorobuto**	**7.57**	**248**	P	**Pn**	**16 53 47.0**	**+0.4**
JAR				*e*S	**Sn**	**16 55 08.4**	**-2.9**
JOB	**Onbets**	**7.73**	**245**	P	**Pn**	**16 53 48.8**	**0.0**
JOB				*e*S	**Sn**	**16 55 10.8**	**-4.4**
JKK2	**Kamakawa 2**	**7.98**	**254**	P	**Pn**	**16 53 53.8**	**+1.6**
ASAJ	**Asahikawa**	**7.98**	**256**	Pn	**Pn**	**16 53 54.5**	**+2.1**
	comp=Z,1.4nm,0.3s,baz=107,slow=18,SNR=6.7						
ASAJ	**Asahikawa**	**7.98**	**256**	P	**Pn**	**16 53 54.7**	**+2.4**
ASAJ	**Asahikawa**	**7.98**	**256**	PN	**Pn**	**16 53 54.5**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**8.18**	**244**	P	**Pn**	**16 53 54.4**	**-0.6**
JCH				*e*S	**Sn**	**16 55 19.7**	**-6.5**
JFR	**Furan**	**8.39**	**250**	P	**Pn**	**16 54 00.3**	**+2.4**
JEM	**Erimo**	**8.64**	**242**	P	**Pn**	**16 54 00.7**	**-0.6**
ERM	**Erimo**	**8.64**	**242**	*e*PN	**Pn**	**16 54 00.2**	**-1.1**
JBT2	**Biratori 2**	**8.72**	**248**	P	**Pn**	**16 54 02.6**	**+0.2**
JNBK	**Urakawa-nobuka**	**8.74**	**244**	P	**Pn**	**16 54 01.2**	**-1.4**
JNBK				*e*S	**Sn**	**16 55 33.0**	**-7.0**
JNB	**Noboribetsu**	**9.72**	**249**	P	**Pn**	**16 54 15.4**	**-0.8**
JNB				*e*S	**Sn**	**16 55 59.7**	**-4.5**
JKB	**Kayabe**	**10.03**	**246**	P	**Pn**	**16 54 18.6**	**-1.7**
JKB				*e*S	**Sn**	**16 56 03.0**	**-8.6**
JSH	**Shimam**	**10.29**	**252**	P	**Pn**	**16 54 25.7**	**+1.8**
JYM2	**Yakumo 2**	**10.33**	**249**	P	**Pn**	**16 54 23.4**	**-1.1**
JTM	**Tenmabayashi**	**10.63**	**241**	P	**Pn**	**16 54 25.6**	**-3.0**
JTM				*e*S	**Sn**	**16 56 14.4**	**-12**
JTH	**Tanohata**	**10.71**	**236**	*e*S	**Sn**	**16 56 14.2**	**-14**
JIO	**Ouri**	**12.03**	**232**	*e*S	**Sn**	**16 56 45.4**	**-15**
KLR	**Kul'dur**	**14.72**	**288**	*e*P	**Pn**	**16 55 25.7**	**+1.2**
MJAR	**Matsushiro Arr**	**15.13**	**234**	Pn	**Pn**	**16 55 31.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=9.2,SNR=5.9						
SEY	**Seymchan**	**16.37**	**358**⇑	*e*P	**Pn**	**16 55 48.5**	**+2.6**
MDJ	**Mudanjiang**	**16.74**	**272**	P	**Pn**	**16 55 49.2**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,27nm,4.8s						
MDJ	**Mudanjiang**	**16.74**	**272**	*e*P	**Pn**	**16 55 48.8**	**-1.8**
	comp=Z,11nm,1.0s						
CN2	**Changchun**	**19.83**	**272**	*e*P	**Pn**	**16 56 32.0**	**+3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
SNY	**Shenyang**	**21.81**	**268**	⇓P	**P**	**16 56 48.2**	**+0.3**
SNY				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.5						
BILL	**Bilibino**	**22.49**	**13**	*e*P	**P**	**16 56 48.1**	**-7.1**
BILL				*e*		16 57 19.3	
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,14.0s						
BOD	**Bodaibo**	**26.22**	**310**	*e*P	**P**	**16 57 24.7**	**-5.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**16 58 16.8**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.5,baz=76,slow=6.8,SNR=4.8						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**16 58 16.8**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**41.68**	**32**	P	**P**	**16 59 44.3**	**+0.2**
GYA	**Guiyang**	**41.85**	**258**	P	**P**	**16 59 47.1**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**47.16**	**298**	P	**P**	**17 00 27.4**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.5,baz=62,slow=8.7,SNR=27						
MKAR				PcP	PcP	17 01 58.9	-0.3
	comp=Z,0.2nm,0.2s,baz=56,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**47.16**	**298**	P	**P**	**17 00 27.4**	**-0.5**
MKAR						17 01 58.9	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**50.46**	**273**	*e*P	**P**	**17 00 56.1**	**+2.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**50.46**	**273**	*e*P	**P**	**17 00 56.1**	**+2.9**
	comp=Z,7.8nm,0.6s,mb4.9						
VOSK	**Vostochnaya**	**50.91**	**309**	*i*P	**P**	**17 00 55.2**	**-1.4**
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**17 00 56.8**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.4,baz=294,slow=6.8,SNR=7.1						
YKA	**Yellowknife Ar**	**50.94**	**37**⇑	*e*P	**P**	**17 00 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**17 00 56.8**	**0.0**
BVAR	**Borovoye Array**	**51.09**	**310**	P	**P**	**17 00 57.2**	**-0.7**
	comp=Z,1.9nm,0.3s,mb4.5,baz=52,slow=8.5,SNR=18						
BRVK	**Borovoye**	**51.13**	**310**	*e*P	**P**	**17 00 57.6**	**-0.6**
ZRNK	**Zerenda**	**51.85**	**310**	*i*P	**P**	**17 01 02.5**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**51.85**	**310**	*e*P	**P**	**17 01 02.4**	**-1.2**
	comp=Z,4.7nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**54.06**	**297**⇑	*e*P	**P**	**17 01 19.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**54.06**	**297**	*e*P	**P**	**17 01 19.2**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.2						
JIRN	**Jiri**	**55.13**	**275**	*e*P	**P**	**17 01 29.3**	**+1.6**
GUN	**Gumba**	**55.19**	**275**	*e*P	**P**	**17 01 29.7**	**+1.6**
	comp=Z,12nm,0.4s,mb5.2						
ARU	**Arti**	**55.24**	**318**⇓	*i*P	**P**	**17 01 26.7**	**-1.8**
ARU				*e*		17 02 23.7	
ARU				*e*		17 03 27.2	
ARU				*e*S	**S**	**17 09 10.6**	**+0.8**
ARU				*e*SS	SS	17 12 57.6	+3.4
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KKN	**Kakani**	**55.68**	**276**	*e*P	**P**	**17 01 33.6**	**+2.0**
	comp=Z,22nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.73**	**275**	*e*P	**P**	**17 01 33.4**	**+1.4**
DMN	**Daman**	**55.91**	**276**	*e*P	**P**	**17 01 35.0**	**+1.7**
	comp=Z,15nm,0.5s,mb5.2						
GKN	**Gorkha**	**55.98**	**276**	*e*P	**P**	**17 01 35.2**	**+1.4**
	comp=Z,22nm,0.5s,mb5.4						
KK31	**Karatay Array**	**56.22**	**299**	*i*P	**P**	**17 01 35.0**	**-0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KOLN	**Koldanda**	**56.84**	**277**	*e*P	**P**	**17 01 41.4**	**+1.5**
	comp=Z,16nm,0.8s,mb5.1						
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**17 01 47.9**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=21,slow=9.5,SNR=5.6						
ARCES	**ARCESS Array B**	**58.05**	**341**	P	**P**	**17 01 47.9**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**58.95**	**312**	P	**P**	**17 01 54.0**	**-0.7**
AKTO	**Aktyubinsk**	**58.95**	**312**	P	**P**	**17 01 54.0**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2,baz=71,slow=6.0,SNR=5.5						
AKTO	**Aktyubinsk**	**58.95**	**312**	P	**P**	**17 01 54.1**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
JOF	**Joensuu**	**61.54**	**334**	*e*p	**P**	**17 02 11.7**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.7						
JOF	**Joensuu**	**61.54**	**334**	*e*P	**P**	**17 02 11.7**	**-0.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
BOZ	**Bozeman (W)**	**61.70**	**53**	*e*P	**P**	**17 02 14.0**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
BOZ	**Bozeman (W)**	**61.70**	**53**	*e*P	**P**	**17 02 13.9**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**17 02 18.6**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.8,baz=281,slow=4.6,SNR=4.8						
KAF	**Kangasniemi**	**63.65**	**335**	*e*p	**P**	**17 02 25.7**	**-0.8**
	comp=Z,6.7nm,0.7s,mb4.8,baz=36,slow=6.2						
KAF	**Kangasniemi**	**63.65**	**335**	*e*P	**P**	**17 02 25.7**	**-0.8**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
FIA1	**FINESS Array S**	**64.25**	**335**	*e*P	**P**	**17 02 29.9**	**-0.5**
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**17 02 29.9**	**-0.5**
	comp=Z,6.0nm,0.5s,mb4.8,baz=40,slow=7.3,SNR=43						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**17 02 29.9**	**-0.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**17 02 29.9**	**-0.5**
BW06	**Boulder Array**	**64.69**	**54**	*e*P	**P**	**17 02 33.5**	**+0.2**
	comp=Z,2.4nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**64.69**	**54**	P	**P**	**17 02 33.2**	**-0.1**
	comp=Z,1.3nm,0.8s,mb4.0,baz=318,slow=2.0,SNR=9.0						
OBN	**Obninsk**	**65.53**	**326**	*e*P	**P**	**17 02 36.5**	**-2.3**
OBN				*e*		17 05 01.6	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
NB2	**NORSAR Subarra**	**68.42**	**341**	P	**P**	**17 02 56.6**	**-0.6**
	comp=Z,7.4nm,0.7s,mb4.8,baz=28,slow=6.5						
NB2	**NORSAR Subarra**	**68.42**	**341**	P	**P**	**17 02 56.6**	**-0.6**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**17 02 57.1**	**-0.1**
	comp=Z,6.2nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=30						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**17 02 57.1**	**-0.1**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**68.43**	**199**	P	**P**	**17 02 56.6**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=17,slow=7.0,SNR=8.1						
WRA	**Warramunga Arr**	**68.43**	**199**	P	**P**	**17 02 56.6**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**17 03 17.3**	**-0.4**
	comp=Z,4.7nm,0.5s,mb4.7,baz=34,slow=6.1,SNR=25						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**17 03 17.3**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**17 03 17.3**	**-0.4**
ASAR	**Alice Springs**	**72.13**	**199**	P	**P**	**17 03 19.8**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=12,slow=6.1,SNR=22						
ASAR	**Alice Springs**	**72.13**	**199**	P	**P**	**17 03 19.8**	**0.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GNI	**Garni**	**72.76**	**310**	*i*P	**P**	**17 03 24.9**	**+1.3**
STHS	**Stebnicka Huta**	**75.73**	**330**	*e*P	**P**	**17 03 41.8**	**+0.9**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
STHS	**Stebnicka Huta**	**75.73**	**330**	*e*P	**P**	**17 03 41.8**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.3						
BURAR	**Bucovina Array**	**75.81**	**327**⇑	*i*P	**P**	**17 03 41.6**	**+0.2**
BURAR	**Bucovina Array**	**75.81**	**327**⇑	P	**P**	**17 03 41.6**	**+0.3**
OKC	**Ostrava-Krasne**	**76.40**	**332**	*e*P	**P**	**17 03 44.5**	**-0.2**
DPC	**Dobruska-Polom**	**76.53**	**333**	*e*P	**P**	**17 03 45.7**	**+0.2**
MORC	**Moravsky Berou**	**76.65**	**332**⇑	*i*P	**P**	**17 03 47.0**	**+0.9**
MORC	**Moravsky Berou**	**76.65**	**332**⇑	P	**P**	**17 03 47.0**	**+0.8**
CLL	**Collm**	**76.67**	**336**	*e*P	**P**	**17 03 46.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CLL	**Collm**	**76.67**	**336**	*e*P	**P**	**17 03 46.0**	**-0.3**
	comp=Z,10.0nm,0.6s,mb4.9						
BRG	**Berggiesshubel**	**76.79**	**335**	*e*(P)	**P**	**17 03 47.8**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.1						
BRG	**Berggiesshubel**	**76.79**	**335**	*e*P	**P**	**17 03 47.8**	**+0.9**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KECS	**Kecovo**	**76.79**	**330**	*e*P	**P**	**17 03 43.1**	**-3.8**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KECS	**Kecovo**	**76.79**	**330**	*e*P	**P**	**17 03 43.1**	**-3.8**
	comp=Z,1.6nm,0.7s,mb4.1						
PVCC	**Panska Ves**	**76.91**	**334**	*e*P	**P**	**17 03 48.4**	**+0.8**
MLR	**Muntele Rosu**	**77.28**	**325**⇓	*i*P	**P**	**17 03 50.7**	**+1.0**
MLR	**Muntele Rosu**	**77.28**	**325**⇓	P	**P**	**17 03 50.7**	**+1.0**
VYHS	**Vyhne**	**77.34**	**331**	*e*P	**P**	**17 03 50.2**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
VYHS	**Vyhne**	**77.34**	**331**	*e*P	**P**	**17 03 50.2**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.1						
VRAC	**Vranov**	**77.36**	**333**⇓	*i*P	**P**	**17 03 51.1**	**+1.0**
VRAC	**Vranov**	**77.36**	**333**⇓	P	**P**	**17 03 51.1**	**+0.9**
PRU	**Pruhonice**	**77.39**	**334**	*e*P	**P**	**17 03 51.4**	**+1.1**
DRGR		**77.43**	**328**⇓	*i*P	**P**	**17 03 50.8**	**+0.3**
DRGR		**77.43**	**328**⇓	P	**P**	**17 03 50.8**	**+0.3**
VOIR		**77.68**	**326**⇓	*i*P	**P**	**17 03 52.8**	**+0.9**
VOIR		**77.68**	**326**⇓	P	**P**	**17 03 52.8**	**+0.8**
TREC	**Trest**	**77.72**	**333**	*e*P	**P**	**17 03 52.5**	**+0.4**
KHC	**Kasperske Hory**	**78.45**	**334**	*e*P	**P**	**17 03 56.8**	**+0.6**
KHC	**Kasperske Hory**	**78.45**	**334**	*i*P	**P**	**17 03 57.0**	**+0.8**
GZR	**Gura Zlata**	**78.59**	**327**⇑	*i*P	**P**	**17 03 57.9**	**+0.9**
GZR	**Gura Zlata**	**78.59**	**327**⇑	P	**P**	**17 03 57.9**	**+0.9**
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**17 03 58.3**	**+1.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=74,slow=5.2,SNR=5.2						
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**17 03 58.3**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GRA1	**Grafenberg Arr**	**78.62**	**336**	*e*P	**P**	**17 03 58.0**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**78.62**	**336**	*e*P	**P**	**17 03 58.0**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**78.62**	**336**	*e*P	**P**	**17 03 58.0**	**+0.8**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**78.62**	**336**	*e*P	**P**	**17 03 58.0**	**+0.8**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GERES	**GERESS Array B**	**78.66**	**334**	P	**P**	**17 03 57.6**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=29,slow=5.9,SNR=15						
GERES	**GERESS Array B**	**78.66**	**334**	P	**P**	**17 03 57.6**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BZS	**Buzias**	**78.83**	**328**⇓	*i*P	**P**	**17 03 58.8**	**+0.5**
BZS	**Buzias**	**78.83**	**328**⇓	P	**P**	**17 03 58.8**	**+0.5**
UMR	**Umm Al-Rimmam**	**78.85**	**301**	*e*P	**P**	**17 03 59.8**	**+1.4**
UMR				AMb	AMB	17 04 00.4	
	comp=Z,20nm,0.6s,mb5.2						
MIB	**Mutribah**	**78.89**	**302**	*e*P	**P**	**17 04 00.1**	**+1.5**
MIB				AMb	AMB	17 04 01.3	
	comp=Z,38nm,0.6s,mb5.5						
QRN	**Al-Qurain**	**79.33**	**301**	*e*P	**P**	**17 04 02.7**	**+1.7**
QRN				AMb	AMB	17 04 03.8

MTLF	**Montolieu**	**86.86 339**	*e*P	**P**		**17 04 39.1**	**-0.8**
ESDC	**Sonseca Array**	**91.75 343**	P	**P**		**17 05 02.2**	**-0.7**
	comp=Z,0.5nm,0.8s,mb3.9,baz=352,slow=5.2,SNR=3.5						
ESDC	**Sonseca Array**	**91.75 343**	P	**P**		**17 05 02.2**	**-0.7**
CFAA	**Coronel Fontan**	**144.85 80**	PKP	PKPdf		17 11 29.8	-2.4
	comp=Z,0.2nm,0.8s,baz=217,slow=2.9,SNR=4.5						
CPUP	**Villa Florida**	**148.38 61**	PKPbc	PKPbc		17 11 40.7	-1.0
	comp=Z,0.5nm,0.4s,baz=84,slow=2.3,SNR=4.0						
CPUP	**Villa Florida**	**148.38 61**	PKP2	PKPbc		17 11 40.7	-0.9
CPUP			pmax	pmax			
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**148.38 61**	PKPbc	PKPbc		17 11 40.7	-1.0
SNAA	**Sanae**	**152.46 196**	PKPbc	PKPbc		17 11 48.9	-2.5
	comp=Z,0.4nm,1.0s,baz=160,slow=5.4,SNR=3.9						

ISCJB ***01*** *16:54:15.9±3.7,467N±0.1×1535E±02,h7km±22km, mb4.2/18, Error ellipse: s-maj=26.2km s-min=10.8km az=94.2*
IDC ***01*** *16:54:16.3±1.3,4659N×15326E,h0km,mb4.0/11, mb1 4.1/12,mb1mx4.0/22,mbtmp4.0/12,ML3.2/1, Error ellipse: s-maj=32.7km s-min=24.6km az=132.0*
NEIC ***01*** *16:54:17.8±0.9,4662N×15344E,h10km,mb4.1/2, Error ellipse: s-maj=20.8km s-min=12.0km az=140.0*
MOS ***01*** *16:54:19.7±1.2,4667N×15337E,h33km,mb4.3/13, Error ellipse: s-maj=13.1km s-min=11.0km az=71.8*
ISC 01 16:54:18.2±4.1,467N±01×1535E±02,h12km±25km,n51, σ1§14/51,mb4.2/18,6C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.22**	**252**	*e*PN	**Pn**	**16 55 20.0**	**-2.3**
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR	**Severo-Kuril's**	**4.33**	**22**	*e*PN	**Pn**	**16 55 23.2**	**-0.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.03**	**247**	PN	**Pn**	**16 55 48.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.40**	**276**	*e*PN	**Pn**	**16 56 07.4**	**+1.4**
ASAJ	**Asahikawa**	**8.12**	**255**	Pn	**Pn**	**16 56 18.0**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=78,slow=9.3,SNR=2.8						
ASAJ	**Asahikawa**	**8.12**	**255**	PN	**Pn**	**16 56 18.0**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.29**	**234**	Pn	**Pn**	**16 57 51.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=2.7						
BILL	**Bilibino**	**22.37**	**13**	*e*P	**P**	**16 59 20.2**	**+4.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**31.62**	**290**	P	**P**	**17 00 39.8**	**-1.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=64,slow=13,SNR=3.4						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**17 02 06.5**	**+1.1**
	comp=Z,1.1nm,0.5s,mb3.7,baz=297,slow=6.6,SNR=2.8						
INK	**Inuvik**	**41.53**	**32**	P	**P**	**17 02 06.5**	**+1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**41.53**	**32**	*e*P	**P**	**17 02 06.4**	**+1.0**
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**17 02 49.5**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=62,slow=8.9,SNR=7.2						
MKAR				PcP	PcP	17 04 22.1	0.0
	comp=Z,0.2nm,0.2s,baz=56,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**47.22**	**298**	P	**P**	**17 02 49.6**	**-1.3**
MKAR						17 04 22.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**50.57**	**273**	*e*P	**P**	**17 03 18.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**50.57**	**273**	*e*P	**P**	**17 03 18.1**	**+1.5**
	comp=Z,2.0nm,0.5s,mb4.3						
YKA	**Yellowknife Ar**	**50.79**	**37**	P	**P**	**17 03 19.4**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=293,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**50.79**	**37**	P	**P**	**17 03 19.4**	**+1.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**51.11**	**310**	P	**P**	**17 03 19.6**	**-1.1**
	comp=Z,1.4nm,0.3s,mb4.3,baz=57,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**51.11**	**310**	P	**P**	**17 03 19.6**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**51.15**	**310**	*e*P	**P**	**17 03 19.0**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**51.15**	**310**	*e*P	**P**	**17 03 19.0**	**-2.0**
	comp=Z,1.2nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**51.88**	**310**	*e*P	**P**	**17 03 24.8**	**-1.6**
GUN	**Gumba**	**55.30**	**275**	*e*P	**P**	**17 03 51.8**	**+0.3**
KKN	**Kakani**	**55.78**	**276**	*e*P	**P**	**17 03 55.8**	**+0.8**
	comp=Z,7.8nm,0.5s,mb5.0						
PKI	**Pulchoki**	**55.83**	**275**	*e*P	**P**	**17 03 55.6**	**+0.3**
DMN	**Daman**	**56.02**	**276**	*e*P	**P**	**17 03 57.5**	**+0.8**
	comp=Z,14nm,0.8s,mb5.1						
GKN	**Gorkha**	**56.09**	**276**	*e*P	**P**	**17 03 57.8**	**+0.6**
	comp=Z,12nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.95**	**277**	*e*P	**P**	**17 04 03.9**	**+0.6**
ARCES	**ARCESS Array B**	**57.99**	**341**	P	**P**	**17 04 11.2**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=13,slow=7.5,SNR=4.2						
ARCES	**ARCESS Array B**	**57.99**	**341**	P	**P**	**17 04 11.3**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**61.51**	**334**	*e*p	**P**	**17 04 33.6**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**63.61**	**335**	*e*p	**P**	**17 04 48.3**	**-0.6**
FINES	**FINESS Array B**	**64.21**	**335**	P	**P**	**17 04 52.1**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.5,baz=40,slow=6.7,SNR=23						
FINES	**FINESS Array B**	**64.21**	**335**	P	**P**	**17 04 52.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.37**	**341**	P	**P**	**17 05 19.3**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.37**	**341**	P	**P**	**17 05 19.5**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.5,baz=28,slow=6.4,SNR=11						
NOA	**NORSAR Array B**	**68.37**	**341**	P	**P**	**17 05 19.5**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.75**	**326**	P	**P**	**17 05 39.8**	**-0.5**
	comp=Z,1.8nm,0.4s,mb4.4,baz=34,slow=5.9,SNR=8.9						
AKASG	**Malin Array Be**	**71.75**	**326**	P	**P**	**17 05 39.8**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**	**17 05 42.0**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=15,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**	**17 05 42.0**	**-1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**75.79**	**327**	⇑*i*P	**P**	**17 06 04.5**	**+0.6**
BURAR	**Bucovina Array**	**75.79**	**327**	⇑*i*P	**P**	**17 06 04.5**	**+0.5**
MLR	**Muntele Rosu**	**77.27**	**325**	⇓*i*P	**P**	**17 06 13.9**	**+1.6**
VOIR		**77.67**	**326**	⇑*i*P	**P**	**17 06 15.6**	**+1.0**
VOIR		**77.67**	**326**	⇑P	**P**	**17 06 15.6**	**+1.0**
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**17 06 19.5**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=44,slow=5.9,SNR=6.3						
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**17 06 19.5**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VTS	**Vitosha**	**80.78**	**325**	⇑*i*P	**P**	**17 06 32.1**	**+0.5**
VTS	**Vitosha**	**80.78**	**325**	⇑P	**P**	**17 06 32.1**	**+0.6**

ISCJB ***01*** *16:57:16.6±0.4,3936N±002×2790E±002,h9km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=34.4*
CSEM ***01*** *16:57:16.2±0.0,3936N×2788E,h10km,MD3.8, Error ellipse: s-maj=1.5km s-min=1.0km az=116.0*
ISK ***01*** *16:57:17.9,3937N×2788E,h26km,ML3.8*
ATH ***01*** *16:57:17.8,3941N×2780E,h20km±1km,MD3.8/6*
NEIC ***01*** *16:57:19.6±1.3,3936N×2771E,h10km,MD3.8(ATH), ML3.3(BUC),ML3.7(ISK), Error ellipse: s-maj=17.5km s-min=8.5km az=103.0*
ISC 01 16:57:17.8±0.4,3935N±002×2787E±002,h13km±3km,n72, σ0§90/92,15C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.43**	**16**	*i*P	**Pg**	**16 57 25.6**	**-0.8**
BTOK				*i*S	**Sg**	**16 57 31.6**	**-0.5**
AKHS	**Akhisar**	**0.47**	**186**	*i*P	**Pg**	**16 57 26.5**	**-0.5**
AKHS				*i*S	**Sg**	**16 57 33.9**	**+0.5**
CANB	**Canakkale**	**0.92**	**317**	*i*PG	**Pg**	**16 57 34.7**	**-0.8**
CANB				*i*SG	**Sg**	**16 57 47.9**	**+0.4**
AYVA	**Ayvalik**	**0.92**	**268**	*i*P	**Pg**	**16 57 35.0**	**-0.5**
AYVA				*i*S	**Sg**	**16 57 49.3**	**+1.8**
KCT	**Karacabey**	**0.99**	**22**	*i*PG	**Pg**	**16 57 35.9**	**-1.0**
KDAG	**Bornova**	**1.05**	**207**	*i*P	**Pb**	**16 57 37.2**	**-0.6**
KDAG				*i*S	**Sb**	**16 57 51.9**	**+0.3**
KDAG	**Bornova**	**1.05**	**207**	*i*P	**Pb**	**16 57 37.2**	**-0.7**
IZMI	**Izmir**	**1.06**	**207**	*i*PG	**Pg**	**16 57 37.3**	**-0.9**
IZMI				*i*SG	**Sg**	**16 57 52.2**	**+0.1**
BLCB	**Balcova**	**1.16**	**214**	*i*PN	**Pn**	**16 57 39.3**	**-0.4**
PRK	**Paraskevi**	**1.25**	**266**	*e*PN	**Pn**	**16 57 40.5**	**-0.4**
PRK				*e*SN	**Sn**	**16 57 57.0**	**-0.5**
ULDT	**Uludag**	**1.26**	**50**	*i*P	**Pn**	**16 57 40.1**	**-1.0**
ULDT				*i*S	**Sb**	**16 57 51.7**	**-5.8**
MRMT	**Marmara Adasi**	**1.27**	**350**	PN	**Pn**	**16 57 40.7**	**-0.6**
MRMT				SN	**Sn**	**16 57 56.9**	**-1.3**
GDZ	**Gediz**	**1.28**	**101**	*i*P	**Pn**	**16 57 40.8**	**-0.6**
GDZ				*i*S	**Sb**	**16 57 57.5**	**-0.5**
EZN	**Ezine**	**1.29**	**292**	PN	**Pn**	**16 57 40.9**	**-0.6**
URLA	**Izmir**	**1.40**	**226**	*i*P	**Pn**	**16 57 41.9**	**-1.1**
URLA				*i*S	**Sn**	**16 58 01.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.44**	**339**	PN	**Pn**	**16 57 43.4**	**-0.2**
SART	**Tekirdag**	**1.44**	**339**	*i*P	**Pn**	**16 57 43.2**	**-0.4**
SART				*i*S	**Sn**	**16 58 03.1**	**+0.7**
GEMT	**Gemlik**	**1.49**	**43**	PN	**Pn**	**16 57 43.4**	**-0.8**
BOZC	**Bozcaada**	**1.49**	**290**	*i*P	**Pn**	**16 57 44.1**	**-0.2**
BOZC				*i*S	**Sn**	**16 58 03.2**	**-0.4**
MFT	**Murefte**	**1.51**	**343**	PN	**Pn**	**16 57 43.7**	**-0.8**
YLV	**Yalova**	**1.68**	**43**	PN	**Pn**	**16 57 45.3**	**-1.5**
AYDN	**Tasoluk**	**1.68**	**180**	*i*P	**Pn**	**16 57 46.0**	**-0.9**
AYDN				*i*S	**Sn**	**16 58 08.3**	**0.0**
ALT	**Altintas**	**1.76**	**99**	PN	**Pn**	**16 57 47.9**	**-0.1**
ADVT	**Abdulvahap**	**1.80**	**52**	PN	**Pn**	**16 57 47.9**	**-0.6**
SMG	**Samos**	**1.83**	**207**	*e*PN	**Pn**	**16 57 50.8**	**+1.9**
DENT	**Denizli**	**1.83**	**150**	PN	**Pn**	**16 57 48.6**	**-0.4**
ELBA	**Catalca**	**1.85**	**13**	*i*P	**Pn**	**16 57 48.1**	**-1.1**
ELBA				*i*S	**Sn**	**16 58 12.2**	**-0.2**
ISK	**Istanbul-Kandi**	**1.94**	**28**	PN	**Pn**	**16 57 49.8**	**-0.7**
HRT	**Hereke**	**2.02**	**43**	PN	**Pn**	**16 57 50.5**	**-1.0**
MLSB	**Milas**	**2.05**	**182**	*e*PN	**Pn**	**16 57 52.2**	**+0.3**
GPA	**Golpazari**	**2.10**	**63**	PN	**Pn**	**16 57 51.7**	**-0.9**
KLYT	**Kilyos**	**2.10**	**25**	PN	**Pn**	**16 57 51.9**	**-0.8**
LIA	**Limnos Island**	**2.15**	**286**	*e*PN	**Pn**	**16 57 54.1**	**+0.8**
BDRM	**Kayabasi**	**2.30**	**189**	*i*P	**Pn**	**16 57 54.6**	**-0.8**
BDRM				*i*S	**Sn**	**16 58 22.7**	**-0.9**
ESKT	**Eskisehir**	**2.31**	**85**	*i*P	**Pn**	**16 57 55.5**	**0.0**
ESKT				*i*S	**Sn**	**16 58 25.1**	**+1.3**
ESKT	**Eskisehir**	**2.31**	**85**	*e*Pn	**Pn**	**16 57 55.6**	**0.0**
SEYT	**Eskypehyr**	**2.31**	**85**	*i*P	**Pn**	**16 57 55.5**	**-0.1**
TKTP	**Tekketepe**	**2.32**	**123**	*i*P	**Pn**	**16 57 55.7**	**0.0**
TKTP				*i*S	**Sg**	**16 58 32.2**	**-0.1**
BODT	**Bodrum**	**2.32**	**191**	*e*PN	**Pn**	**16 57 56.0**	**+0.3**
RDO	**Rodhopi**	**2.53**	**316**	*e*PN	**Pn**	**16 57 59.0**	**+0.4**
DAT	**Datca**	**2.62**	**185**	*e*PN	**Pn**	**16 58 00.0**	**+0.2**
EDRB	**Edirne**	**2.64**	**341**	*e*PN	**Pn**	**16 57 59.9**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.64**	**167**	*e*PN	**Pn**	**16 58 00.4**	**+0.3**
KDZE	**Karadeniz Ereo**	**3.36**	**53**	*e*PN	**Pn**	**16 58 10.4**	**+0.4**
KDHN	**Kadinhani**	**3.41**	**103**	*i*P	**Pn**	**16 58 11.3**	**+0.7**
KDHN				*i*S	**Sg**	**16 59 09.4**	**+2.0**
SGKT	**Sivrigoynuk**	**3.44**	**68**	*i*P	**Pn**	**16 58 11.2**	**+0.1**
SGKT				*i*S	**Sg**	**16 59 10.6**	**+2.3**
PLG	**Polygyros**	**3.56**	**288**	*e*PN	**Pn**	**16 58 13.1**	**+0.4**
NVR	**Nevrokopi**	**3.66**	**304**	*e*PN	**Pn**	**16 58 14.8**	**+0.7**
KONT	**Konya--Tatoy**	**3.78**	**110**	*e*PN	**Pn**	**16 58 16.4**	**+0.6**
ANTO	**Ankara**	**3.84**	**81**	*e*PN	**Pn**	**16 58 16.7**	**+0.2**
ANTO	**Ankara**	**3.84**	**81**	⇓*i*P	**Pg**	**16 58 29.9**	**-1.4**
ANTO	**Ankara**	**3.84**	**81**	⇓P	**Pg**	**16 58 29.9**	**-1.4**
SAFT	**Safranbolu**	**4.14**	**61**	*e*PN	**Pn**	**16 58 20.9**	**+0.2**
KAMT	**Kaman**	**4.53**	**88**	*e*PN	**Pn**	**16 58 27.3**	**+1.3**
BALT	**Daday**	**4.74**	**61**	*i*P	**Pn**	**16 58 30.5**	**+1.5**
VTS	**Vitosha**	**4.79**	**314**	⇑*i*P	**Pn**	**16 58 31.4**	**+1.7**
VTS	**Vitosha**	**4.79**	**314**	⇑P	**Pn**	**16 58 31.4**	**+1.8**
TIRR	**Tirgusor**	**5.12**	**4**	⇑*i*P	**Pn**	**16 58 33.8**	**-0.4**
TIRR	**Tirgusor**	**5.12**	**4**	⇑P	**Pn**	**16 58 33.8**	**-0.5**
ISR	**Istrita**	**5.85**	**351**	⇑*i*P	**Pn**	**16 58 36.2**	**-8.0**
MLR	**Muntele Rosu**	**6.30**	**348**	⇑*i*P	**Pn**	**16 58 52.2**	**+1.8**
MLR	**Muntele Rosu**	**6.30**	**348**	⇑P	**Pn**	**16 58 52.2**	**+1.8**
PLOR	**Plostina**	**6.56**	**353**	⇓*i*P	**Pn**	**16 58 56.5**	**+2.5**
VRI	**Vrincioaia**	**6.57**	**353**	⇑*i*P	**Pn**	**16 58 55.1**	**+1.0**
VRI	**Vrincioaia**	**6.57**	**353**	⇑P	**Pn**	**16 58 55.1**	**+1.1**
GZR	**Gura Zlata**	**7.12**	**330**	⇑*i*P	**Pn**	**16 59 01.6**	**-0.1**
GZR	**Gura Zlata**	**7.12**	**330**	⇑P	**Pn**	**16 59 01.6**	**0.0**
BZS	**Buzias**	**7.78**	**326**	⇑*i*P	**Pn**	**16 59 12.3**	**+1.6**
BZS	**Buzias**	**7.78**	**326**	⇑P	**Pn**	**16 59 12.3**	**+1.6**
DRGR		**8.34**	**335**	⇑*i*P	**Pn**	**16 59 20.4**	**+2.0**
DRGR		**8.34**	**335**	⇑P	**Pn**	**16 59 20.4**	**+2.0**
BURAR	**Bucovina Array**	**8.49**	**348**	⇓*i*P	**Pn**	**16 59 14.3**	**-6.1**

ATH ***01*** *16:59:39.0,3943N×2804E,h10km,MD3.6/3*
ISCJB ***01*** *16:59:40.3±0.6,3935N±002×2790E±003,h2km±5km, Error ellipse: s-maj=3.4km s-min=3.2km az=65.8*
CSEM ***01*** *16:59:40.1±0.1,3935N×2788E,h5km,MD3.3, Error ellipse: s-maj=2.4km s-min=1.4km az=117.0*
ISK ***01*** *16:59:42.5,3937N×2784E,h30km,MD3.3*
ISC 01 16:59:41.7±0.5,3935N±002×2787E±003,h11km±3km,n42, σ0§80/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.43**	**17**	*i*P	**Pg**	**16 59 49.8**	**-0.3**
BTOK				*i*S	**Sg**	**16 59 56.0**	**+0.3**
AKHS	**Akhisar**	**0.48**	**185**	*i*P	**Pg**	**16 59 50.7**	**-0.3**
AKHS				*i*S	**Sg**	**17 00 00.9**	**+3.5**
CANB	**Canakkale**	**0.91**	**317**	*i*PG	**Pg**	**16 59 58.7**	**-0.5**
CANB				*i*SG	**Sg**	**17 00 11.1**	**0.0**
AYVA	**Ayvalik**	**0.92**	**268**	*i*P	**Pg**	**17 00 00.2**	**+0.9**
AYVA				*i*S	**Sg**	**17 00 12.5**	**+1.2**
KCT	**Karacabey**	**0.98**	**22**	*i*PG	**Pg**	**17 00 00.0**	**-0.6**
KDAG	**Bornova**	**1.06**	**207**	*i*P	**Pb**	**17 00 01.3**	**-0.6**
KDAG				*i*S	**Sb**	**17 00 17.2**	**+1.4**
IZMI	**Izmir**	**1.07**	**207**	*i*PG	**Pg**	**17 00 01.3**	**-0.9**
BLCB	**Balcova**	**1.16**	**214**	*i*PN	**Pn**	**17 00 03.4**	**-0.4**
BLCB				*i*SN	**Sn**	**17 00 18.6**	**-1.0**
PRK	**Paraskevi**	**1.25**	**266**	*e*PB	**Pb**	**17 00 05.0**	**-0.1**
ULDT	**Uludag**	**1.25**	**51**	*i*P	**Pn**	**17 00 04.4**	**-0.6**
GDZ	**Gediz**	**1.28**	**101**	*i*P	**Pn**	**17 00 05.1**	**-0.2**
GDZ				*i*S	**Sb**	**17 00 21.8**	**-0.3**
EZN	**Ezine**	**1.28**	**292**	PN	**Pn**	**17 00 04.8**	**-0.7**
URLA	**Izmir**	**1.41**	**226**	*i*P	**Pn**	**17 00 06.2**	**-0.9**
URLA				*i*S	**Sn**	**17 00 27.9**	**+2.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**338**	PN	**Pn**	**17 00 07.4**	**-0.1**
SART	**Tekirdag**	**1.44**	**339**	*i*P	**Pn**	**17 00 07.5**	**0.0**
SART				*i*S	**Sn**	**17 00 26.8**	**+0.4**
GEMT	**Gemlik**	**1.48**	**43**	PN	**Pn**	**17 00 07.7**	**-0.5**
BOZC	**Bozcaada**	**1.49**	**290**	*i*P	**Pn**	**17 00 08.2**	**0.0**
BOZC				*i*S	**Sn**	**17 00 27.4**	**-0.2**
MFT	**Murefte**	**1.50**	**343**	PN	**Pn**	**17 00 07.9**	**-0.5**
YLV	**Yalova**	**1.67**	**43**	PN	**Pn**	**17 00 10.4**	**-0.4**
AYDN	**Tasoluk**	**1.69**	**180**	*i*P	**Pn**	**17 00 10.4**	**-0.6**
AYDN				*i*S	**Sn**	**17 00 30.2**	**-2.5**
ALT	**Altintas**	**1.76**	**99**	PN	**Pn**	**17 00 12.1**	**0.0**
ADVT	**Abdulvahap**	**1.80**	**52**	PN	**Pn**	**17 00 12.5**	**0.0**
SMG	**Samos**	**1.83**	**207**	*e*PN	**Pn**	**17 00 14.5**	**+1.5**
DENT	**Denizli**	**1.84**	**150**	PN	**Pn**	**17 00 13.0**	**-0.1**
ELBA	**Catalca**	**1.84**	**13**	*i*P	**Pn**	**17 00 12.7**	**-0.5**
ELBA				*i*S	**Sn**	**17 00 37.0**	**+0.7**
ISK	**Istanbul-Kandi**	**1.94**	**28**	PN	**Pn**	**17 00 13.9**	**-0.5**
HRT	**Hereke**	**2.01**	**43**	*e*PN	**Pn**	**17 00 15.3**	**-0.2**
MLSB	**Milas**	**2.06**	**182**	*e*PN	**Pn**	**17 00 16.0**	**-0.1**
GPA	**Golpazari**	**2.10**	**63**	*e*PN	**Pn**	**17 00 17.0**	**+0.4**
KLYT	**Kilyos**	**2.10**	**25**	*e*PN	**Pn**	**17 00 16.6**	**0.0**
BDRM	**Kayabasi**	**2.31**	**189**	*i*P	**Pn**	**17 00 24.8**	**-1.1**
ESKT	**Eskisehir**	**2.31**	**85**	*i*P	**Pn**	**17 00 19.9**	**+0.3**
ESKT				*i*S	**Sg**	**17 00 56.3**	**+0.3**
ESKT	**Eskisehir**	**2.31**	**85**	*e*Pn	**Pn**	**17 00 20.3**	**+0.7**
SEYT	**Eskypehyr**	**2.31**	**85**	*i*P	**Pn**	**17 00 19.9**	**+0.3**
BODT	**Bodrum**	**2.33**	**191**	*e*PN	**Pn**	**17 00 19.8**	**0.0**
RDO	**Rodhopi**	**2.53**	**316**	*e*PN	**Pn**	**17 00 23.0**	**+0.4**
DAT	**Datca**	**2.63**	**185**	*e*PN	**Pn**	**17 00 24.5**	**+0.5**
EDRB	**Edirne**	**2.63**	**341**	*e*PN	**Pn**	**17 00 24.0**	**0.0**
DALT	**Dalyan (Mudla)**	**2.65**	**167**	*e*PN	**Pn**	**17 00 24.9**	**+0.7**
KDHN	**Kadinhani**	**3.41**	**103**	*i*P	**Pg**	**17 00 45.9**	**-1.1**
KDHN				*i*S	**Sg**	**17 01 32.8**	**+1.5**
SAFT	**Safranbolu**	**4.14**	**61**	*e*PN	**Pn**	**17 00 45.8**	**+1.1**
KAMT	**Kaman**	**4.53**	**88**	*e*PN	**Pn**	**17 00 51.7**	**+1.6**

NIED ***01*** *17:07:00,3850N×14280E,h65km,Mw5.0 Best double couple: M0:3.85000×10^16 NP1:φs243.00000°,δ58.00000°, λ-135.00000°. NP2:φs125.00000°,δ53.00000°, λ-41.00000°.*
MOS ***01*** *17:07:22.5±0.7,3868N×14277E,h52km,mb5.2/84, MS4.0/19, Error ellipse: s-maj=7.6km s-min=4.4km az=105.9*
BJI ***01*** *17:07:22.3,3855N×14259E,h52km,mB5.0,mb5.1,Ms4.3, Msz4.1*
JMA ***01*** *17:07:23.8±0.1,3855N×14283E,h56km±3km,M5.2*
JMA Felt III J1.
ISCJB ***01*** *17:07:23.8±0.1,3854N±002×14276E±002,h68km, mb4.9/141, Error ellipse: s-maj=3.0km s-min=1.6km az=144.9*
NEIC ***01*** *17:07:25.0±0.1,3851N×14272E,mb4.9/94,MW5.0(NIED), Error ellipse: s-maj=4.3km s-min=2.7km az=165.0*
NEIC Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Akita, Aomori and Fukushima; [1 JMA] in Ibaraki, Tochigi and Yamagata Prefectures.
GCMT ***01*** *17:07:25.0±0.3,3864N×14291E,h63km±2km,MW5.1/83, Moment Tensor Solution. s36,c45; s83,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.56±.18; Mθθ4.43±.14; Mφφ-3.87±.15; Mrθ0.45±.09; Mrφ-0.28±.12; Mθφ2.56±.09; Best double couple: M0:4.87800×10^16 NP1:φs133.00000°,δ66.00000°,λ-18.00000°. NP2: φs230.00000°,δ74.00000°,λ-155.00000°. Principal axes: T 4.4700, Plg5.0000°, Azm0.0000°; N 0.8150, Plg61.0000°, Azm262.0000°; P -5.2850, Plg29.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***01*** *17:07:25.1±0.4,3854N×14278E,h68km±3km,mb4.5/19, mb1 4.7/20,mb1mx4.6/23,mbtmp4.8/20,MS4.0/15, Ms1 4.0/15,ms1mx3.9/22 Error ellipse: s-maj=11.5km s-min=9.0km az=131.0*
SZGRF ***01*** *17:07:30.6,3962N×14351E,h68km,mb5.0,Off east coast of Honshu, Japan*
ISC 01 17:07:25.6±0.1,3859N±002×14271E±002,h70km, h70km±.6km:pP-P,n706,σ0§75/717,mb4.9/141,139C-109D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.95**	**302**	⇓P	**Pn**	**17 07 42.8**	**-0.7**
OFUJ				S	**Sn**	**17 07 56.8**	**0.0**
JIO	**Ouri**	**1.08**	**263**	⇓P	**Pn**	**17 07 44.2**	**-0.9**
JIO				S	**Sn**	**17 07 58.8**	**-0.8**
JMK	**Ichinoseki**	**1.22**	**288**	⇓P	**Pn**	**17 07 46.5**	**-0.4**
JMK				*e*S	**Sn**	**17 08 03.2**	**+0.3**
JOM	**Ohasama**	**1.42**	**309**	⇓P	**Pn**	**17 07 49.1**	**-0.4**
JOM				*e*S	**Sn**	**17 08 07.4**	**0.0**
JOU	**Okura**	**1.62**	**263**	⇓P	**Pn**	**17 07 51.9**	**-0.3**
JOU				S	**Sn**	**17 08 13.1**	**+0.8**
JMM	**Marumori**	**1.67**	**245**	⇓P	**Pn**	**17 07 51.7**	**-1.2**
JMM				S	**Sn**	**17 08 12.3**	**-1.2**
JYK	**Kaneyama**	**1.87**	**281**	⇓P	**Pn**	**17 07 55.5**	**0.0**
JYK				*e*S	**Sn**	**17 08 19.5**	**+1.3**
JFK	**Kawauchi**	**1.89**	**231**	⇑P	**Pn**	**17 07 54.1**	**-

comp=Z,1μm,16.0s
VLA Vladivostok 9.36 302 *d iP* **Pn 17 09 38.8 +1.1**
VLA *e* 17 11 27.9
VLA pmax pmax
comp=Z,150nm,1.6s
JUS Usuki 10.46 242 P **Pn 17 09 52.9 +0.2**
UGL Uglegorsk 10.50 358 *i* P **Pn 17 09 50.7 -2.5**
UGL pmax pmax
comp=Z,600nm,2.0s
UGL pmax pmax
comp=Z,200nm,0.8s
UGL MLR MLR
comp=N,1μm,20.0s
UGL MLR MLR
comp=E,1μm,20.0s
UGL MLR MLR
comp=Z,1μm,20.0s
OIT2 Oita 2 10.55 243 P **Pn 17 09 54.7 +0.8**
JKIT Kitakata 10.92 240 P **Pn 17 09 59.1 +0.1**
JTSN Tsuno 11.11 239 P **Pn 17 10 01.1 -0.5**
JFI Itaya 11.23 246 P **Pn 17 10 03.3 +0.2**
JIU2 Izumi 2 11.40 242 P **Pn 17 10 05.3 -0.3**
CBIJ Chichi jima 11.47 182 P **Pn 17 10 00.6 -5.8**
comp=Z,29nm,0.3s,baz=53,slow=10,SNR=62
CBIJ S **Sn 17 11 59.2 -14**
comp=Z,59nm,0.3s,baz=311,slow=23,SNR=12
MDJ Mudanjiang 11.52 306 P **Pn 17 10 07.9 +0.8**
MDJ PP 17 10 19.3
MDJ S **Sn 17 12 17.0 +3.0**
MDJ SCP ScP 17 19 24.7 +4.6
MDJ SCS ScS 17 22 52.8 -2.8
MDJ AMB AMB
comp=Z,114nm,0.8s
MDJ AMB AMB
comp=Z,126nm,3.0s
MDJ LR LR
comp=N,972nm,15.6s
MDJ LR LR
comp=E,542nm,16.6s
MDJ LR LR
comp=Z,1μm,21.9s
MDJ Mudanjiang 11.52 306 *e*P **Pn 17 10 07.8 +0.7**
comp=Z,118nm,1.0s
JTZ Takazaki 11.60 238 P **Pn 17 10 08.4 +0.1**
JZO Okuchi 11.79 241 P **Pn 17 10 10.4 -0.4**
KLR Kul'dur 13.24 327κ *i*P **Pn 17 10 25.2 -5.3**
KLR pmax pmax
comp=E,130nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s
CN2 Changchun 14.00 297 *e*P **Pn 17 10 39.4 -1.1**
CN2 *e*AP 17 10 51.4
CN2 *e*S **Sn 17 13 13.8 -0.5**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,21.0s
CN2 LR LR
comp=E,500nm,21.0s
CN2 LR LR
comp=Z,700nm,22.0s
SNY Shenyang 14.97 289 ⇓P **Pn 17 10 53.1 -0.1**
SNY AMB AMB
comp=Z,15nm,0.9s
SNY AMB AMB
comp=Z,142nm,9.6s
SNY LR LR
comp=N,419nm,11.4s
SNY LR LR
comp=E,555nm,18.6s
SNY LR LR
comp=Z,1μm,24.0s
SKR Severo-Kuril's 15.38 34 *e*P **Pn 17 10 48.5 -10**
SKR pmax pmax
comp=Z,80nm,0.6s
DL2 Dalian 16.45 278 P **Pn 17 11 11.6 -0.4**
DL2 AP pP 17 11 22.6 -5.2
DL2 PP 17 11 27.3
DL2 S **S 17 14 15.2 -6.8**
DL2 XS sS 17 14 29.6 -15
DL2 AMB AMB
comp=Z,40nm,1.0s
DL2 AMB AMB
comp=Z,100nm,5.5s
DL2 LR LR
comp=N,150nm,16.5s
DL2 LR LR
comp=E,200nm,18.3s
DL2 LR LR
comp=Z,430nm,19.2s
JOW Kunigami 16.86 230 P **Pn 17 11 13.9 -3.0**
comp=Z,1.8nm,0.3s,baz=61,slow=12,SNR=7.4
PET Petropavlovsk 18.16 32 *e*P **Pn 17 11 35.1 +2.2**
PET *e*S **S 17 14 54.4 -1.4**
PET pmax pmax
comp=Z,37nm,1.1s
PET pmax pmax
comp=Z,100nm,14.3s
PET pmax pmax
comp=Z,65nm,1.6s
PET smax
comp=N,200nm,22.2s
PET smax
comp=E,700nm,14.6s
PET MLR MLR
comp=Z,200nm,14.0s
SSE Sheshan 19.16 254 *e*P **Pn 17 11 42.1 -2.8**
SSE AP pP 17 11 55.9 -1.8
SSE XP sP 17 12 05.7 -0.8
SSE S **S 17 15 15.9 -0.8**
SSE AMB AMB
comp=Z,31nm,0.7s
SSE AMB AMB
comp=Z,39nm,3.5s
SSE LR LR
comp=N,255nm,32.6s
SSE LR LR
comp=E,378nm,32.6s
SSE LR LR
comp=Z,552nm,32.2s
SSE Sheshan 19.16 254 *e*P **Pn 17 11 42.1 -2.8**
comp=Z,31nm,0.7s
SSE pP pP 17 11 55.9 -1.8
SSE sP sP 17 12 05.7 -0.8
SSE S **S 17 15 15.9 -0.8**
SSE sS sS 17 15 40.7 +0.5
HIA Hailar 19.61 310 *c i*P **Pn 17 11 45.8 -4.4**
HIA Hailar 19.61 310 *e*P **Pn 17 11 45.9 -4.4**
comp=Z,41nm,0.7s
TIA Tai'an 20.45 271 ⇑P **P 17 11 56.0 -1.3**
NJ2 Nanjing 20.50 259 *e*P **P 17 11 55.6 -2.3**
NJ2 S **S 17 15 37.0 -6.4**
NJ2 AMB AMB
comp=Z,60nm,1.2s
NJ2 AMB AMB
comp=Z,440nm,4.2s
NJ2 LR LR
comp=N,420nm,14.8s
NJ2 LR LR
comp=E,780nm,16.2s
NJ2 LR LR
comp=Z,800nm,15.7s
BJI Beijing 20.56 282 *e*P **P 17 11 56.4 -2.1**
BJI XP sP 17 12 20.0 -1.9
BJI S **S 17 15 38.7 -5.9**
BJI AMB AMB
comp=Z,30nm,0.9s
BJI LR LR
comp=N,359nm,10.8s
BJI LR LR
comp=E,332nm,18.9s
BJI LR LR
comp=Z,503nm,21.2s
BJI Beijing 20.56 282 *e*P **P 17 11 56.4 -2.1**
BJI *SP sP 17 12 20.0 -1.9
BJI S **S 17 15 38.7 -5.9**
BJI *SS sS 17 16 12.1 +3.6
BJI pmax pmax
comp=Z,30nm,0.9s
BJI MLR MLR
comp=Z,500nm,21.2s
BJI Beijing 20.56 282 *e*P **P 17 11 56.4 -2.1**
comp=Z,30nm,0.9s
BJI sP sP 17 12 20.0 -1.9
BJI S **S 17 15 38.7 -5.9**
BJI sS sS 17 16 12.1 +3.6
BJI LR LR
comp=Z,500nm,21.2s
BJT Baijiatuau 20.57 282 *e*P **P 17 11 55.5 -3.1**
BJT pmax pmax
comp=Z,60nm,0.9s
BJT Baijiatuau 20.57 282 *e*P **P 17 11 55.5 -3.1**
comp=Z,60nm,0.9s
MA2 Magadan 21.63 11 *c i*P **P 17 12 09.7 -0.3**
MA2 *i* S **S 17 16 08.0 +2.5**
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.1
CLNS Chul'man 21.73 333 *e*P **P 17 12 10.6 -0.4**
CLNS *e* 17 12 28.6
CLNS *e* 17 16 05.6
CLNS *e*S **S 17 16 07.6 +0.3**
CLNS *e*SS 17 16 49.5
CLNS pmax pmax
comp=Z,169nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,129nm,1.2s
CLNS pmax pmax
comp=E,72nm,1.0s
CLNS pmax pmax
comp=N,143nm,0.9s
CLNS pmax pmax
comp=E,90nm,0.9s
CLNS pmax pmax
comp=Z,66nm,0.9s,mb5.0
CLNS smax
comp=N,83nm,1.2s
CLNS smax
comp=E,32nm,0.9s
CLNS smax
comp=Z,27nm,0.9s
CLNS MLR MLR
comp=Z,200nm,16.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,200nm,12.0s
YHNB Yeheng 22.79 239 *e*Pn **P 17 12 19.7 -2.5**
HHC Hu-ho-hao-te 24.00 285 *e*P **P 17 12 32.0 -1.8**
HHC AP 17 12 46.5
HHC XP sP 17 12 54.1 -4.4
HHC PP 17 13 07.2
HHC PCP PcP 17 16 16.0 +2.0
HHC S **S 17 16 40.5 -5.2**
HHC XS sS 17 17 05.3 -8.6
HHC SS 17 17 34.9
HHC SCP ScP 17 19 47.8 +1.6
HHC PCS PcS 17 19 52.9 -0.8
HHC AMB AMB
comp=Z,42nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,199nm,3.8s
HHC LR LR
comp=N,275nm,12.9s
HHC LR LR
comp=E,415nm,15.9s
HHC LR LR
comp=Z,555nm,21.0s
CIT Chita 24.32 313 *e*P **P 17 12 35.5 -1.1**
CIT *e* 17 12 44.6
CIT *e*S **S 17 16 48.0 -2.8**
CIT pmax pmax
comp=Z,253nm,1.4s,mb5.4
WHN Wuhan 24.62 260 ⇑P **P 17 12 39.2 -0.2**
WHN AMB AMB
comp=Z,60nm,0.6s,mb5.2
WHN LR LR
comp=Z,950nm,22.8s
YAK Yakutsk 24.81 345 *e*P **P 17 12 40.1 -1.0**
YAK *e* 17 12 59.2
YAK *e*S **S 17 16 57.2 -1.4**
YAK pmax pmax
comp=Z,111nm,0.9s,mb5.3
YAK pmax pmax
comp=N,70nm,1.4s
YAK pmax pmax
comp=E,37nm,1.7s
YAK smax
comp=N,693nm,2.2s
YAK smax
comp=Z,295nm,2.2s
YAK smax
comp=E,341nm,1.9s
YAK MLR MLR
comp=Z,128nm,12.0s
YAK MLR MLR
comp=N,86nm,11.0s
YAK MLR MLR
comp=E,151nm,14.0s
GUMO Guam 24.97 175 LR LR 17 21 59.6
comp=E,303nm,20.6s,baz=295,slow=35
SEY Seymchan 25.08 10 *d iP* **P 17 12 44.8 +1.3**
BTO Baotou 25.20 285 *e*P **P 17 12 44.1 -0.5**
BOD Bodaibo 26.80 325 ⇑*iP* **P 17 12 59.0 -0.1**
BOD pmax pmax
comp=Z,64nm,1.2s,mb5.0
XAN Xi'an 27.51 271 P **P 17 13 05.0 -0.4**
XAN AMB AMB
comp=Z,31nm,1.7s,mb4.6
SONM Songino Array 27.82 301 P **P 17 13 09.3 +1.1**
comp=Z,17nm,0.4s,mb4.9,baz=103,slow=9.3,SNR=219
SONM LR LR 17 24 22.6
comp=Z,414nm,19.6s,baz=100,slow=36
SONM Songino Array 27.82 301 P **P 17 13 09.3 +1.1**
SONM pmax pmax
comp=Z,17nm,0.4s
SONM MLR MLR
comp=Z,414nm,19.6s
IRK Irkutsk 29.86 310 *e*P **P 17 13 25.9 -0.4**
IRK *e* pP 17 13 39.9 -3.1
IRK pmax pmax
comp=Z,34nm,1.2s,mb4.8
TLY Talaya 30.13 309 P **P 17 13 30.2 +1.5**
SNR=10
TLY Talaya 30.13 309 *e*P **P 17 13 29.9 +1.2**
TLY pmax pmax
comp=Z,29nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,365nm,21.0s
TLY Talaya 30.13 309 *e*P **P 17 13 28.6 -0.1**
comp=Z,62nm,1.3s,mb5.1
ZAK Zakamensk 30.15 306 *e*P **P 17 13 29.1 +0.2**
ZAK pmax pmax
comp=Z,18nm,1.0s,mb4.7
LZH Lanzhou 30.85 278 *e*P **P 17 13 36.0 +0.9**
LZH AP pP 17 13 51.0 -0.8
LZH XP sP 17 13 57.0 -3.0
LZH *e*S **S 17 18 34.0 +0.2**
LZH AMB AMB
comp=Z,53nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,173nm,4.0s
LZH LR LR
comp=E,1μm,12.9s
LZH LR LR
comp=Z,3μm,14.7s
LZH Lanzhou 30.85 278 *e*P **P 17 13 36.0 +0.9**
LZH *PP pP 17 13 51.0 -0.8
LZH *SP sP 17 13 57.0 -3.0
LZH 17 14 46.4
LZH *e*S **S 17 18 34.0 +0.2**
LZH SS ScS 17 24 04.0 +0.2
LZH pmax pmax
comp=Z,53nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,3μm,14.7s
LZH Lanzhou 30.85 278 *e*P **P 17 13 36.0 +0.9**
comp=Z,53nm,1.3s,mb5.1
LZH pP pP 17 13 51.0 -0.8
LZH sP sP 17 13 57.0 -3.0
LZH PP PP 17 14 46.4 +0.6
LZH *e*S **S 17 18 34.0 +0.2**
LZH sS sS 17 19 02.0 -0.4
LZH SS ScS 17 24 04.0 +0.2
LZH LR LR
comp=Z,3μm,14.7s
MOY Mondy 31.76 308 *e*P **P 17 13 43.7 +0.7**
MOY pmax pmax
comp=Z,36nm,3.6s
BILL Bilibino 32.25 16 *e*P **P 17 13 50.3 +2.9**
BILL *e*SS SS 17 21 13.8 -2.7
BILL pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,100nm,15.0s
GYA Guiyang 32.51 259 ⇑*iP* **P 17 13 49.5 -0.1**
GYA AP pP 17 14 07.4 +1.0
GYA S **S 17 19 04.1 +4.4**
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,200nm,4.2s
GYA LR LR
comp=N,670nm,16.8s
GYA LR LR
comp=E,760nm,17.0s
GYA LR LR
comp=Z,910nm,17.2s
CD2 Chengdu 32.72 268 P **P 17 13 50.9 -0.6**
CD2 AP pP 17 14 05.7 -2.6
CD2 XP sP 17 14 13.0 -3.4
CD2 PP PP 17 15 01.3 -5.2
CD2 PCP PcP 17 16 36.1 +0.6
CD2 S **S 17 19 01.2 -1.7**
CD2 XS sS 17 19 26.8 -4.9
CD2 SS SS 17 21 01.2 -25
CD2 SCS ScS 17 24 11.7 -1.5
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.2
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,250nm,14.4s
CD2 LR LR
comp=E,240nm,18.0s
CD2 LR LR
comp=Z,170nm,18.0s
KMI Kunming 36.22 260 ⇑P **P 17 14 22.1 +0.4**
KMI AP pP 17 14 39.1 +0.4
KMI PP PP 17 15 46.9 +1.7
KMI S **S 17 19 56.8 -0.1**
KMI SS SS 17 22 23.0 -14
KMI SSS 17 22 53.8
KMI AMB AMB
comp=Z,23nm,0.9s,mb5.1
KMI LR LR
comp=N,245nm,12.8s
KMI LR LR
comp=E,416nm,14.4s
KMI LR LR
comp=Z,464nm,16.5s
KMI Kunming 36.22 260 ⇑P **P 17 14 22.1 +0.4**
KMI *PP pP 17 14 39.1 +0.4
KMI 17 15 46.9
KMI PPP 17 16 08.6
KMI S **S 17 19 56.8 -0.1**
KMI SS SS 17 22 23.0 -14
KMI SSS 17 22 53.8
KMI pmax pmax
comp=Z,23nm,0.9s,mb5.1
KMI MLR MLR
comp=Z,460nm,16.5s
KMI Kunming 36.22 260 ⇑P **P 17 14 22.1 +0.4**
comp=Z,23nm,0.9s,mb5.1
KMI pP pP 17 14 39.1 +0.4
KMI sP sP 17 14 46.8 0.0
KMI PP PP 17 15 46.9 +1.7
KMI PPP 17 16 08.6
KMI S **S 17 19 56.8 -0.1**
KMI sS sS 17 20 25.3 -0.6
KMI SS SS 17 22 23.0 -14
KMI SSS 17 22 53.8
KMI LR LR
comp=Z,460nm,16.5s
KRAR Krasnoyarsk 37.08 315 ⇓*eP* **P 17 14 29.7 +0.7**
KRAR pmax pmax
comp=Z,45nm,1.4s,mb5.2
KRAR MLR MLR
comp=Z,100nm,23.0s
WMQ Urumqi 41.08 296 *e*P **P 17 15 03.3 +0.9**
WMQ AP pP 17 15 18.5 -1.1
WMQ XP sP 17 15 26.0 -1.7
WMQ PP PP 17 16 42.5 +4.2
WMQ PPP 17 17 11.0
WMQ S **S 17 21 11.5 +1.5**
WMQ XS sS 17 21 38.0 -1.3
WMQ SS SS 17 24 10.0 -4.7
WMQ AMB AMB
comp=Z,40nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,156nm,6.4s
WMQ LR LR
comp=N,504nm,12.4s
WMQ LR LR
comp=E,348nm,14.6s
WMQ LR LR
comp=Z,634nm,21.8s
NVS Novosibirsk 42.53 313 *i* P **P 17 15 14.2 0.0**
NVS *i* S **S 17 21 37.9 +6.5**
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,24nm,1.3s
NVS pmax pmax
comp=Z,29nm,1.3s,mb4.8
NVS smax
comp=N,15nm,1.8s
NVS smax
comp=E,22nm,1.8s
CHTO Chiang Mai 42.67 255 *e*P **P 17 15 15.5 +0.1**
CHTO pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CHTO Chiang Mai 42.67 255 *e*P **P 17 15 15.5 +0.1**
comp=Z,9.8nm,0.6s,mb4.7
LSA Lhasa 43.11 274 P **P 17 15 22.2 +3.3**
LSA Lhasa 43.11 274 P **P 17 15 17.9 -1.0**
LSA pmax pmax
comp=Z,7.0nm,1.9s,mb4.1
LSA Lhasa 43.11 274 P **P 17 15 17.9 -1.0**
comp=Z,7.0nm,1.9s,mb4.1
SVW2 Sparrevohn 43.67 38 *e*P **P 17 15 24.0 +0.6**
MKAR Makanchi Array 44.18 301 P **P 17 15 27.9 +0.4**
comp=Z,18nm,0.7s,mb4.9,baz=77,slow=9.2,SNR=107
MKAR pP pP 17 15 45.0 +0.1
comp=Z,41nm,0.9s,baz=79,slow=10,SNR=17
MKAR Makanchi Array 44.18 301 P **P 17 15 27.9 +0.4**
MKAR *PP pP 17 15 45.0 +0.1
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR pmax pmax
comp=Z,41nm,0.9s
MKAR Makanchi Array 44.18 301 P **P 17 15 27.9 +0.4**
MKAR pP pP 17 15 45.0 +0.1
IMA2 Indian Mountai 44.83 31 *e*P **P 17 15 32.6 -0.1**
KDAK Kodiak Island 45.26 43 P **P 17 15 34.9 -1.2**
comp=Z,51nm,0.9s,mb5.3,baz=254,slow=7.3,SNR=17
MCK McKinley 46.77 35 *e*P **P 17 15 46.9 -1.1**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MCK McKinley 46.77 35 *e*P **P 17 15 46.9 -1.1**
comp=Z,6.4nm,0.8s,mb4.4
COLA College 47.22 33 *d iP* **P 17 15 51.2 -0.3**
COLA College 47.22 33 *e*P **P 17 15 51.2 -0.3**
comp=Z,17nm,0.8s,mb4.8
COLA *e*pP pP 17 16 08.4 -0.6
JIRN Jiri 47.91 274 *e*P **P 17 15 58.0 +1.2**
GUN Gumba 48.03 275 *e*P **P 17 15 58.7 +0.9**
KKN Kakani 48.56 275 *e*P **P 17 16 02.7 +0.9**
comp=Z,96nm,0.6s,mb5.9
PKI Pulchoki 48.56 275 *e*P **P 17 16 02.3 +0.5**
DMN Daman 48.78 275 *e*P **P 17 16 04.0 +0.5**
comp=Z,21nm,0.5s,mb5.3
GKN Gorkha 48.96 276 *e*P **P 17 16 05.5 +0.6**
comp=Z,143nm,1.0s,mb5.9
MENT Mentasta 49.18 35 *e*P **P 17 16 06.6 +0.1**
ULHL Ulahol 49.58 297 P **P 17 16 10.7 +1.1**
SNR=6.0
TKM2 Tokmak 2 49.81 298 P **P 17 16 12.6 +1.3**
SNR=50
KOLN Koldanda 49.88 276 *e*P **P 17 16 12.8 +0.9**
comp=Z,26nm,0.3s,mb5.7
EGAK Eagle 50.08 33 *e*P **P 17 16 11.8 -1.6**
comp=Z,18nm,0.9s,mb5.0
BVAR Borovoye Array 50.30 312 P **P 17 16 15.2 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=71,slow=7.6,SNR=71

BVAR pP pP 17 16 31.7 -1.1
comp=Z,21nm,0.6s,baz=74,slow=8.0,SNR=13
BVAR pPcP 17 17 52.4
comp=Z,6.1nm,0.5s,baz=86,slow=3.9,SNR=4.3
BVAR LR LR 17 40 53.8
comp=Z,139nm,19.1s,baz=324,slow=40
KBK Karagaybulak 50.35 298 P **P** **17 16 16.6 +1.1**
SNR=38
BRVK Borovoye 50.35 312 P **P** **17 16 15.0 -0.5**
comp=Z,117nm,0.6s,SNR=10
BRVK Borovoye 50.35 312 P **P** **17 16 16.0 +0.5**
SNR=7.4
BRVK Borovoye 50.35 312 *eP* **P** **17 16 15.6 +0.1**
BRVK *e**PP pP 17 16 32.3 -0.9
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.3
BRVK Borovoye 50.35 312 *eP* **P** **17 16 15.6 +0.1**
comp=Z,29nm,0.8s,mb5.3
BRVK *ep*P pP 17 16 32.3 -0.9
CHMS Chumysh 50.37 298 P **P** **17 16 16.2 +0.6**
SNR=6.0
USP Ospenovka 50.45 298 P **P** **17 16 16.9 +0.6**
SNR=12
FRU Bishkek 50.52 298 *eP* **P** **17 16 17.5 +0.8**
FRU *i* pP 17 16 34.5 +0.1
FRU pmax pmax
comp=Z,42nm,1.6s,mb5.2
AAK Ala-Archa 50.67 298 P **P** **17 16 17.2 -0.6**
comp=Z,93nm,0.8s,mb5.9,SNR=9.4
AAK Ala-Archa 50.67 298 P **P** **17 16 18.6 +0.7**
SNR=10
AAK Ala-Archa 50.67 298 P **P** **17 16 17.9 0.0**
SNR=5.5
AAK Ala-Archa 50.67 298*c iP* **P** **17 16 17.4 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
AAK MLR MLR
comp=Z,300nm,24.0s
AAK Ala-Archa 50.67 298 *eP* **P** **17 16 17.3 -0.5**
comp=Z,10nm,0.7s,mb5.0
AAK pP pP 17 16 33.8 -1.8
KSH Kashi 50.72 293 *eP* **P** **17 16 20.1 +1.9**
KSH *e*AP pP 17 16 36.3 +0.3
KSH *e*XP sP 17 16 43.1 -0.8
KSH *e*PCP PcP 17 17 35.7 +1.2
KSH *e*PP PP 17 18 18.8 +4.0
KSH *e*SCP ScP 17 21 26.0 +1.6
KSH *e*S **S** **17 23 29.8 +1.4**
KSH *e*PS 17 23 48.4
KSH *e*SCS ScS 17 26 02.4 0.0
KSH *e*SS SS 17 27 03.4 -0.1
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.9
KSH LR LR
comp=N,313nm,5.2s
KSH LR LR
comp=E,631nm,7.3s
KSH LR LR
comp=Z,391nm,12.4s
UCH Uchtor 50.80 297 P **P** **17 16 20.6 +1.8**
SNR=7.5
ZRNK Zerenda 51.13 312 *i* P **P** **17 16 21.3 0.0**
ZRNK pmax pmax
comp=Z,31nm,0.7s,mb5.5
ZRNK Zerenda 51.13 312 *eP* **P** **17 16 21.3 0.0**
comp=Z,40nm,0.8s,mb5.5
ZRNK *ep*P pP 17 16 38.6 -0.5
EKS2 Erkin-Say 51.16 298 P **P** **17 16 21.9 +0.4**
SNR=36
AML Almayashu 51.40 297 P **P** **17 16 25.0 +1.7**
SNR=26
KAKA Kakadu 51.92 193 *eP* **P** **17 16 26.9 -0.3**
comp=Z,28nm,0.9s,mb5.3
INK Inuvik 52.54 28 P **P** **17 16 31.9 +0.1**
comp=Z,8.2nm,0.6s,mb4.9,baz=283,slow=5.7,SNR=34
INK pP pP 17 16 48.4 -1.2
comp=Z,7.3nm,0.5s,baz=290,slow=6.8,SNR=9.7
INK Inuvik 52.54 28 P **P** **17 16 31.9 +0.1**
INK *PP pP 17 16 48.4 -1.2
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 52.54 28 P **P** **17 16 31.9 +0.1**
INK pP pP 17 16 48.4 -1.2
KK31 Karatay Array 53.25 299 *i* P **P** **17 16 37.0 0.0**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU Arti 55.89 318⇑*iP* **P** **17 16 56.1 0.0**
ARU *e* pP 17 17 12.8 -1.3
ARU *e* 17 17 54.9
ARU *e* 17 18 59.9
ARU *e*S **S** **17 24 41.0 +2.6**
ARU *e* 17 26 34.0
ARU pmax pmax
comp=Z,26nm,0.7s,mb5.4
ARU MLR MLR
comp=Z,300nm,19.0s
ARU MLR MLR
comp=N,100nm,18.0s
ARU MLR MLR
comp=E,200nm,20.0s
ARU Arti 55.89 318 *eP* **P** **17 16 55.8 -0.3**
comp=E,76nm,0.8s,mb5.8
ARU *ep*P pP 17 17 13.6 -0.5
AKTO Aktyubinsk 58.41 312 *i* P **P** **17 17 13.3 -0.6**
AKTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
FITZ Fitzroy Crossi 58.62 199 *eP* **P** **17 17 16.0 +0.7**
comp=Z,6.3nm,0.5s,mb4.9
WRAB Tennant Creek 58.73 189*d iP* **P** **17 17 14.6 -1.6**
WRA Warramunga Arr 58.74 189 P **P** **17 17 14.7 -1.6**
comp=Z,8.5nm,0.9s,mb4.8,baz=7.2,slow=7.0,SNR=32
WRA Warramunga Arr 58.74 189 P **P** **17 17 14.7 -1.5**
WRA pmax pmax
comp=Z,9.0nm,0.9s
HYB Hyderabad 59.27 268 *i* P **P** **17 17 20.0 +0.1**
HYB Hyderabad 59.27 268 *eP* **P** **17 17 20.0 +0.1**
KBS Kingsbay 59.31 350 *eP* **P** **17 17 19.8 -0.3**
KBS pmax pmax
comp=Z,20nm,0.8s,mb5.2
KBS Kingsbay 59.31 350 *eP* **P** **17 17 19.8 -0.3**
comp=Z,20nm,0.8s,mb5.2
ORR Orenburg 59.80 314 *eP* **P** **17 17 23.2 -0.3**
ORR *i* pP 17 17 40.4 -1.3
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
APA Apatity 61.70 336⇑*iP* **P** **17 17 36.0 -0.4**
APA *i* pP 17 17 54.4 -0.3
APA *i* pP 17 17 58.0 +3.3
APA pmax pmax
comp=Z,26nm,0.8s,mb5.3
TMCR Tamitsa 61.88 331 *eP* **P** **17 17 37.4 -0.2**
TMCR *e**PP pP 17 17 55.6 -0.3
TMCR pmax pmax
comp=Z,28nm,0.7s,mb5.4
YKA Yellowknife Ar 61.95 31 P **P** **17 17 37.1 -1.0**
comp=Z,4.6nm,0.7s,mb4.7,baz=302,slow=6.6,SNR=11
YKA pP pP 17 17 56.0 -0.3
comp=Z,3.4nm,0.6s,baz=301,slow=6.1,SNR=7.9
YKA LR LR 17 44 22.3
comp=Z,63nm,20.1s,baz=260,slow=36
YKA Yellowknife Ar 61.95 31 P **P** **17 17 37.1 -1.0**
YKA *PP pP 17 17 56.0 -0.4
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA MLR MLR
comp=Z,63nm,20.1s
KEV Kevo 62.36 339 *eP* **P** **17 17 40.3 -0.5**
KEV *e**PP pP 17 17 57.5 -1.6
KEV pmax pmax
comp=Z,19nm,0.6s,mb5.3
KEV Kevo 62.36 339 *eP* **P** **17 17 40.3 -0.6**
comp=Z,19nm,0.6s,mb5.3
KEV *ep*P pP 17 17 57.5 -1.6
AS31 Alice Springs 62.47 189 *eP* **P** **17 17 39.5 -2.1**
ASAR Alice Springs 62.47 189 P **P** **17 17 41.0 -0.6**
comp=Z,6.7nm,0.8s,mb4.8,baz=13,slow=6.4,SNR=37
ASAR pP pP 17 18 00.1 +0.3
comp=Z,13nm,0.7s,baz=11,slow=5.9,SNR=13
ASAR PKPPKP 17 46 53.7
comp=Z,0.6nm,0.9s,baz=160,slow=1.7,SNR=5.0
ARCES ARCESS Array B 62.91 339 P **P** **17 17 44.1 -0.4**
comp=Z,7.2nm,0.6s,mb4.8,baz=48,slow=7.5,SNR=60
ARCES pP pP 17 18 02.1 -0.7
comp=Z,4.9nm,0.5s,baz=55,slow=7.3,SNR=9.3
ARCES LR LR 17 48 37.9
comp=Z,110nm,21.2s,baz=57,slow=39
ARCES ARCESS Array B 62.91 339 P **P** **17 17 44.1 -0.4**
ARCES *PP pP 17 18 02.2 -0.6
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARCES MLR MLR
comp=Z,110nm,21.2s
ARE0 ARCESS Array S 62.91 339 *eP* **P** **17 17 44.1 -0.4**
MBWA Marble Bar 63.22 204 *eP* **P** **17 17 45.1 -1.4**
comp=Z,10.0nm,0.7s,mb4.8
DAG Danmarks Havn 64.32 355⇑*iP* **P** **17 17 53.0 -0.8**
comp=Z,4.7nm,0.6s,mb4.5
DAG Danmarks Havn 64.32 355⇑*iP* **P** **17 17 53.0 -0.8**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
B04A Port Angeles 64.79 48 ⇓P **P** **17 17 56.5 -0.3**
baz=65
A04A Legoe Bay, Lum 64.92 47 ⇓P **P** **17 17 57.0 -0.7**
baz=65
A05A Maple Falls 65.13 46 ⇑P **P** **17 17 58.2 -0.9**
baz=65,SNR=5.9
C04A Brinnon 65.27 48 ⇓P **P** **17 17 59.7 -0.2**
baz=65
B05A Bryant 65.50 47 ⇓P **P** **17 18 01.4 0.0**
baz=65,SNR=8.8
E03A Lebam 65.53 49 ⇑P **P** **17 18 01.9 +0.3**
baz=65,SNR=6.3
D04A Dobbs Creek Ra 65.68 48 ⇑P **P** **17 18 03.0 +0.4**
baz=66
B06A Marblemount 65.72 47 ⇑P **P** **17 18 02.9 0.0**
baz=66
RPW Rockport 65.74 47 P **P** **17 18 02.7 -0.2**
F03A Seaside 65.84 50 ⇑P **P** **17 18 03.8 +0.2**
baz=66
E04A Onalaska 66.00 49 ⇓P **P** **17 18 04.7 +0.1**
baz=66
C05A Tolt Reservoir 66.03 47 P **P** **17 18 05.1 +0.2**
baz=66,SNR=11
D05A Enumclaw 66.12 48 ⇑P **P** **17 18 06.1 +0.7**
baz=66,SNR=5.6
G03A Yamhill 66.33 50 ⇓P **P** **17 18 06.9 +0.1**
baz=66
FMW Mount Fremont 66.44 48 P **P** **17 18 07.7 +0.3**
B07A Winthrop 66.52 46 P **P** **17 18 08.0 0.0**
baz=66,SNR=13
F04A Amboy 66.52 49 ⇓P **P** **17 18 07.9 -0.1**
baz=66,SNR=9.9
E05A Randle 66.58 48 P **P** **17 18 08.3 -0.1**
baz=66,SNR=8.5
NLW Nelson Butte 66.60 46 P **P** **17 18 08.7 +0.2**
MOS Moscow 66.62 323 *eP* **P** **17 18 08.0 -0.6**
MOS *e* pP 17 18 24.7 -2.4
H03A Soap Creek Ran 66.66 51 ⇓P **P** **17 18 08.8 -0.1**
baz=66
I02A Mapleton 66.68 52 ⇑P **P** **17 18 09.1 +0.1**
baz=66
D06A Cle Elum 66.78 48 ⇓P **P** **17 18 09.6 0.0**
baz=67,SNR=5.9
G04A Mulino 66.87 50 ⇓P **P** **17 18 10.2 0.0**
baz=67
K01A Sixes 66.91 53 ⇑P **P** **17 18 10.2 -0.3**
baz=67
TBM Table Mountain 66.94 47 P **P** **17 18 10.8 +0.1**
C07A Waterville 66.97 47 P **P** **17 18 10.4 -0.4**
baz=67,SNR=11
I03A Eugene 67.04 51 ⇑P **P** **17 18 11.7 +0.4**
baz=67,SNR=6.3
E06A Yakima 67.05 48 ⇓P **P** **17 18 11.7 +0.4**
baz=67,SNR=8.3
EBG Ellensburg 67.09 48 P **P** **17 18 12.0 +0.4**
A09A Danville 67.10 45 P **P** **17 18 11.8 +0.1**
baz=67,SNR=17
F05A White Salmon 67.12 49 ⇓P **P** **17 18 12.0 +0.2**
baz=67
J02A Umpqua 67.17 52 ⇓P **P** **17 18 12.2 0.0**
baz=67,SNR=6.7
H04A Detroit Lake 67.32 50 P **P** **17 18 13.3 +0.2**
baz=67,SNR=18
OBN Obninsk 67.47 323*c iP* **P** **17 18 13.8 -0.2**
OBN *e* pP 17 18 32.2 -0.3
OBN *e* 17 18 39.9
OBN *e*S S 17 27 07.4 +2.6
OBN pmax pmax
comp=Z,38nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s
C08A Higginbotham F 67.49 46 ⇓P **P** **17 18 13.8 -0.4**
baz=67,SNR=12
EDM Edmonton 67.50 39 *eP* **P** **17 18 13.5 -0.7**
G05A Wamic 67.55 49 ⇑P **P** **17 18 14.7 +0.2**
baz=67
K02A Glendale 67.55 53 P **P** **17 18 14.8 +0.3**
baz=67,SNR=6.8
J03A Ideyld Park 67.55 52 P **P** **17 18 14.8 +0.3**
baz=67,SNR=7.6
F06A Goldendale 67.58 49 ⇓P **P** **17 18 14.8 +0.1**
baz=67
M01C Crescent City 67.64 54 ⇓P **P** **17 18 15.3 +0.3**
baz=68
B09A Rice 67.65 45 ⇓P **P** **17 18 15.0 -0.2**
baz=68,SNR=13
A10A Northport 67.67 45 ⇑P **P** **17 18 15.1 -0.2**
baz=68,SNR=11
E07A Sunnyside 67.69 48 ⇑P **P** **17 18 15.4 0.0**
baz=68
L02A Cave Junction 67.80 53 ⇑P **P** **17 18 16.4 +0.4**
baz=68,SNR=6.0
C09A Chrisman Ranch 67.92 46 ⇑P **P** **17 18 16.7 -0.2**
baz=68
FIA1 FINESS Array S 67.92 332 *eP* **P** **17 18 16.1 -0.7**
FIA1 *ep*P pP 17 18 34.6 -0.8
FINES FINESS Array B 67.92 332 P **P** **17 18 16.4 -0.5**
comp=Z,15nm,0.6s,mb5.0,baz=40,slow=9.9,SNR=109
FINES *p*P pP 17 18 34.6 -0.8
comp=Z,26nm,0.7s,baz=55,slow=7.2,SNR=3.9
FINES LR LR 17 49 21.9
comp=Z,159nm,21.8s,baz=174,slow=37
FINES FINESS Array B 67.92 332 P **P** **17 18 16.4 -0.4**
FINES *PP pP 17 18 34.6 -0.8
FINES pmax pmax
comp=Z,15nm,0.6s
FINES pmax pmax
comp=Z,27nm,0.7s
FINES MLR MLR
comp=Z,159nm,21.8s
H05A Madras 67.92 50 ⇓P **P** **17 18 17.0 +0.2**
baz=68
G06A Carlson Farm, 67.95 49 ⇓P **P** **17 18 17.2 +0.2**
baz=68,SNR=6.7
D08A Wollman Farm, 67.96 47 P **P** **17 18 16.9 -0.1**
baz=68,SNR=11
F07A Phinny Hill Vi 68.01 48 ⇑P **P** **17 18 17.2 -0.2**
baz=68
I05A Bend 68.16 50 ⇑P **P** **17 18 18.6 +0.3**
baz=68
B10A Chitwood Farm, 68.23 45 ⇓P **P** **17 18 18.8 0.0**
baz=68
JCC Jacoby Creek 68.25 55 ⇓P **P** **17 18 19.8 +0.9**
baz=68
NEW Newport 68.31 45 *eP* **P** **17 18 18.8 -0.4**
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 68.31 45 *eP* **P** **17 18 18.8 -0.5**
comp=Z,21nm,1.0s,mb4.9
D09A Jones Farm, Ri 68.31 47 ⇑P **P** **17 18 18.8 -0.5**
baz=68,SNR=8.4
H06A Lindquist Farm 68.41 50 P **P** **17 18 19.9 0.0**
baz=68,SNR=6.6
KHMM Horse Mountain 68.41 54 *eP* **P** **17 18 20.8 +0.9**
VRSR Storozhevoye 68.43 319*c iP* **P** **17 18 19.7 -0.3**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
VRSR pmax pmax
comp=E,10.0nm,0.6s
C10A Spilker Farm, 68.45 46 ⇑P **P** **17 18 20.1 -0.1**
baz=68
G07A Ruggs Ranch, H 68.51 49 ⇑P **P** **17 18 20.3 -0.2**
baz=68
YBH Yreka Blue Hor 68.59 53 *eP* **P** **17 18 21.3 +0.3**
YBH pmax pmax
comp=Z,18nm,1.3s
YBH Yreka Blue Hor 68.59 53 *eP* **P** **17 18 21.3 +0.2**
comp=Z,18nm,1.3s,mb4.7
YBH Yreka Blue Hor 68.59 53 ⇓P **P** **17 18 21.4 +0.4**
baz=68,SNR=16
J05A Fort Rock 68.66 51 P **P** **17 18 22.3 +0.8**
baz=68,SNR=20
M02C Callahan 68.68 54 ⇓P **P** **17 18 22.2 +0.6**
baz=68,SNR=11
E09A Wood Farm, Sta 68.70 47 ⇓P **P** **17 18 22.0 +0.3**
baz=68
N02C Big Bar 68.71 54 ⇓P **P** **17 18 21.5 -0.2**
baz=69
K04A Chilquin 68.72 52 ⇓P **P** **17 18 21.9 +0.1**
baz=69
A12A Yaak River Ran 68.73 44 ⇑P **P** **17 18 21.5 -0.4**
baz=69
F08A Pendleton 68.74 48 ⇓P **P** **17 18 21.6 -0.3**
baz=69
O01C Eel River Cons 68.75 55 ⇓P **P** **17 18 22.0 0.0**
baz=69
L04A Klamath Falls 68.86 53 ⇑P **P** **17 18 22.8 +0.1**
baz=69
G08A Pilot Rock 68.91 48 P **P** **17 18 23.2 +0.2**
baz=69,SNR=5.8
I06A Prineville 68.92 50 ⇑P **P** **17 18 23.3 +0.2**
baz=69
H07A Lands Inn, Kim 68.94 49 ⇓P **P** **17 18 23.2 0.0**
baz=69
B12A Libby 69.03 44 ⇓P **P** **17 18 23.6 -0.2**
baz=69
M04C Macdoel 69.11 53 P **P** **17 18 24.8 +0.6**
baz=69,SNR=16
KIPM Iron Peak 69.15 55 *eP* **P** **17 18 24.8 +0.3**
K05A Summer Lake 69.17 52 ⇓P **P** **17 18 25.3 +0.7**
baz=69,SNR=29
M03C McCloud 69.21 53 ⇓P **P** **17 18 25.0 +0.1**
baz=69,SNR=5.8
I07A Izee 69.26 50 ⇓P **P** **17 18 25.2 0.0**
baz=69,SNR=6.8
WDC Whiskeytown Da 69.33 54 *eP* **P** **17 18 25.7 +0.1**
WDC pmax pmax
comp=Z,11nm,1.1s,mb4.6
WDC Whiskeytown Da 69.33 54 *eP* **P** **17 18 25.7 +0.1**
comp=Z,12nm,1.1s,mb4.6
WDC Whiskeytown Da 69.33 54 P **P** **17 18 25.8 +0.2**
baz=69,SNR=12
J06A Christmas Vall 69.33 51 ⇓P **P** **17 18 25.4 -0.3**
baz=69,SNR=13
O02C Red Bluff 69.39 55 P **P** **17 18 26.8 +0.8**
baz=69,SNR=14
A13A Flathead Natio 69.41 43 ⇓P **P** **17 18 26.2 +0.1**
baz=69
P01C Double 8 Ranch 69.43 56 P **P** **17 18 26.7 +0.5**
baz=69,SNR=7.0
H08A Prairie City 69.51 49 P **P** **17 18 27.0 +0.3**
baz=69,SNR=11
K06A Valley Falls 69.53 51 P **P** **17 18 27.2 +0.4**
baz=69,SNR=11
C12A Trout Creek 69.53 45 ⇑P **P** **17 18 26.7 -0.2**
baz=69
F10A Beach Ranch, E 69.53 47 ⇓P **P** **17 18 26.7 -0.2**
baz=69
L05A Lakeview 69.59 52 ⇑P **P** **17 18 27.3 +0.1**
baz=69,SNR=16
LTIM Timbered Crate 69.66 53 P **P** **17 18 28.0 +0.4**
B13A Whitefish 69.70 44 ⇑P **P** **17 18 28.0 +0.1**
baz=70,SNR=26
GASB Alder Springs 69.72 55 ⇓P **P** **17 18 28.2 +0.1**
baz=70,SNR=13
M05C Lookout 69.77 53 ⇓P **P** **17 18 28.6 +0.2**
baz=70
J07A Hines 69.78 50 ⇑P **P** **17 18 28.7 +0.4**
baz=70,SNR=5.5
GOF Gofitskoye 69.83 312 *eP* **P** **17 18 29.1 +0.4**
HOPS Hopland 69.86 56 ⇓P **P** **17 18 28.6 -0.3**
baz=70
HATC Hat Creek Radi 69.88 54 ⇑P **P** **17 18 29.1 +0.1**
baz=70,SNR=9.9
I08A Drewsey 69.92 50 ⇓P **P** **17 18 29.6 +0.3**
baz=70,SNR=7.4
O03C Acorn Hollow, 69.97 55 ⇑P **P** **17 18 29.1 -0.5**
baz=70
MOD Modoc 70.00 52 *eP* **P** **17 18 29.7 0.0**
comp=Z,12nm,1.3s,mb4.6
MOD Modoc 70.00 52 P **P** **17 18 30.1 +0.4**
baz=70,SNR=9.0
H09A Durkee 70.02 48 ⇑P **P** **17 18 29.9 0.0**
baz=70
C13A Hot Springs 70.05 45 P **P** **17 18 30.3 +0.3**
baz=70,SNR=9.1
STKA Stephens Creek 70.11 181 *eP* **P** **17 18 28.9 -1.5**
comp=Z,2.8nm,0.9s,mb4.1
STKA *ep*P pP 17 18 48.2 -0.8
STKA Stephens Creek 70.11 181 P **P** **17 18 29.6 -0.8**
comp=Z,3.7nm,0.8s,mb4.2,baz=340,slow=8.0,SNR=6.1
STKA *p*P pP 17 18 47.4 -1.6
comp=Z,8.0nm,0.8s,baz=9.1,slow=7.5,SNR=8.6
K07A Rock Creek Ran 70.20 51 P **P** **17 18 31.2 +0.3**
baz=70,SNR=17
M06C Likely Place G 70.28 53 P **P** **17 18 32.3 +0.9**
baz=70,SNR=5.5
J08A Circle Bar Ran 70.29 50 ⇓P **P** **17 18 32.0 +0.5**
baz=70,SNR=6.9
MNRC McLaughlin Nat 70.33 56 P **P** **17 18 32.5 +0.7**
baz=70,SNR=11
FORT Forrest 70.35 193 *eP* **P** **17 18 31.0 -0.9**
comp=Z,14nm,0.7s,mb4.9
FORT *ep*P pP 17 18 53.0 +2.5
I09A Lost Marbles R 70.37 49 P **P** **17 18 32.3 +0.3**
baz=70,SNR=9.3
O04C Chester 70.39 54 ⇓P **P** **17 18 32.6 +0.4**
baz=70
ELFS Eagle Lake Fie 70.45 53 ⇑P **P** **17 18 32.4 -0.1**
baz=70,SNR=9.6
MCCM Marconi Confer 70.46 57 ⇑P **P** **17 18 31.9 -0.6**
baz=70
L07A Adell 70.52 52 ⇑P **P** **17 18 33.5 +0.5**
baz=70,SNR=17
ORV Oroville 70.56 55 P **P** **17 18 32.7 -0.4**
baz=70,SNR=5.7
SUTB Sutter Butte 70.56 55 ⇑P **P** **17 18 32.8 -0.3**
baz=70
CVS Carmenet Viney 70.62 56 ⇑P **P** **17 18 33.0 -0.5**
baz=70,SNR=5.7
ZEI Tsey 70.62 310 *eP* **P** **17 18 32.7 -0.8**
ZEI *e**PP pP 17 18 50.2 -2.0
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
FARB Farallon Islan 70.63 57 ⇓P **P** **17 18 33.0 -0.6**
baz=70
K08A Mann Creek Ran 70.64 51 ⇓P **P** **17 18 34.1 +0.5**
baz=70,SNR=6.9
KIV Kislovodsk 70.67 311 P **P** **17 18 34.4 +0.6**
comp=Z,201nm,0.9s,mb6.0,SNR=7.3
KIV Kislovodsk 70.67 311 P **P** **17 18 35.1 +1.3**
SNR=6.0
KIV Kislovodsk 70.67 311*c iP* **P** **17 18 34.6 +0.8**
KIV pmax pmax
comp=Z,55nm,1.4s,mb5.2
KIV Kislovodsk 70.67 311 *eP* **P** **17 18 34.3 +0.5**
comp=Z,50nm,0.8s,mb5.4
OHCM Honcut 70.69 55 *eP* **P** **17 18 33.7 -0.2**
O05C Quincy 70.70 54 ⇓P **P** **17 18 33.8 -0.2**
baz=70
J09A Fry Pan Ranch, 70.72 50 ⇓P **P** **17 18 34.4 +0.2**
baz=71,SNR=15
MSO Missoula 70.89 45 *eP* **P** **17 18 34.6 -0.6**
comp=Z,10nm,1.3s,mb4.5
N06A Buffalo Meadow 70.94 53 P **P** **17 18 35.8 +0.3**
baz=71,SNR=23
M07A Soldier Meadow 70.98 52 ⇑P **P** **17 18 36.0 +0.2**
baz=71,SNR=23
L08A Fields 71.03 51 ⇑P **P** **17 18 36.4 +0.4**
baz=71,SNR=15
Q04C Lincoln 71.04 55 ⇓P **P** **17 18 35.4 -0.6**
baz=71
BEKR Beckwourth 71.11 54 ⇓P **P** **17 18 36.4 0.0**
baz=71
K09A Rome 71.11 50 P **P** **17 18 36.8 +0.3**
baz=71,SNR=9.7
CHMT Chamberlain Mo 71.22 45 *eP* **P** **17 18 36.6 -0.5**
P05C Yuba Gap, Truc 71.27 54 ⇓P **P** **17 18 37.3 -0.2**
baz=71
O06A Flanigan 71.27 53 P **P** **17 18 37.8 +0.3**
baz=71,SNR=23
M08A Happy Creek Ra 71.44 52 ⇑P **P** **17 18 38.2 -0.2**
baz=71
N07B Gerlach 71.46 52 P **P** **17 18 39.0 +0.4**
baz=71,SNR=7.1
WENL Wente Brothers 71.48 56 ⇑P **P** **17 18 38.6 -0.1**
baz=71
BNLO Ben Lomond (Sa 71.49 57 ⇓P **P** **17 18 37.9 -0.9**
baz=71

LAVA Lava Cap Winer 71.50 55 P **P 17 18 38.7 -0.1**
baz=71,SNR=10
P06A Stead Airport, 71.51 54 ⇑P **P 17 18 38.9 0.0**
baz=71
L09A Wilkinson Ranc 71.54 51 ⇑P **P 17 18 39.3 +0.2**
baz=71
GNI Garni 71.60 307 *i* P **P 17 18 41.3 +1.9**
GNI pmax pmax
comp=Z,17nm,1.9s
GNI MLR MLR
comp=Z,1μm,31.0s
R04C Big Horse Ranc 71.66 56 ⇓P **P 17 18 38.7 -1.1**
baz=72
MNK Minsk 71.81 326 *eP* **P 17 18 37.0 -3.7**
WCN Washoe City 71.81 54 ⇑P **P 17 18 40.5 -0.2**
baz=72,SNR=7.8
PAHR Pah Rah Range 71.82 54 *eP* **P 17 18 40.5 -0.2**
comp=Z,34nm,1.4s,mb5.0
S04C Ingram Canyon, 71.83 56 ⇓P **P 17 18 40.5 -0.3**
baz=72
R05C Kirkwood Meado 71.95 55 ⇓P **P 17 18 41.6 0.0**
baz=72,SNR=7.4
N08A GE Springer Mi 71.97 52 ⇑P **P 17 18 41.5 -0.2**
baz=72,SNR=14
M09A Marrel Ranch, 72.02 51 ⇑P **P 17 18 41.6 -0.4**
baz=72
CMB Columbia Colle 72.14 55 *eP* **P 17 18 42.6 -0.1**
CMB pmax pmax
comp=Z,29nm,1.3s,mb5.0
CMB Columbia Colle 72.14 55 *eP* **P 17 18 42.6 -0.1**
comp=Z,29nm,1.3s,mb5.0
CMB Columbia Colle 72.14 55 P **P 17 18 42.6 -0.1**
baz=72,SNR=23
PACP Pacheco Peak 72.14 57 ⇑P **P 17 18 43.0 +0.3**
baz=72
N09A Rock Creek Ran 72.31 52 ⇓P **P 17 18 43.9 +0.2**
baz=72,SNR=6.2
EGMT Eagleton 72.43 42 *eP* **P 17 18 43.5 -0.9**
comp=Z,23nm,1.0s,mb5.0
EGMT Eagleton 72.43 42 P **P 17 18 44.3 -0.1**
baz=72,SNR=8.7
R06C Coleville 72.46 55 P **P 17 18 45.1 +0.6**
baz=72,SNR=7.3
M10A I.L. Ranch, Tu 72.52 51 P **P 17 18 45.8 +0.8**
baz=72,SNR=14
DLMT Dillon 72.52 46 *eP* **P 17 18 44.8 -0.1**
comp=Z,26nm,1.1s,mb5.0
HLID Hailey 72.57 48 *eP* **P 17 18 45.4 +0.1**
comp=Z,8.3nm,1.0s,mb4.5
HLID Hailey 72.57 48 P **P 17 18 45.6 +0.4**
baz=72,SNR=13
S05C Merced 72.57 56 ⇑P **P 17 18 45.7 +0.5**
baz=72
P08A Dixie Valley 72.64 53 ⇑P **P 17 18 46.2 +0.6**
baz=72
BMN Battle Mountai 72.74 52 *eP* **P 17 18 46.4 +0.1**
BMN pmax pmax
comp=Z,45nm,1.5s,mb5.1
BMN Battle Mountai 72.74 52 *eP* **P 17 18 46.4 +0.2**
comp=Z,44nm,1.5s,mb5.1
V03C Hunter Liggett 72.74 58 ⇓P **P 17 18 46.8 +0.5**
baz=73
BOZ Bozeman (W) 72.89 45 *eP* **P 17 18 47.3 +0.2**
BOZ pmax pmax
comp=Z,18nm,1.1s,mb4.8
BOZ Bozeman (W) 72.89 45 *eP* **P 17 18 47.2 +0.1**
comp=Z,18nm,1.1s,mb4.8
BOZ Bozeman (W) 72.89 45 P **P 17 18 47.4 +0.3**
baz=73,SNR=16
O09A Fish Creek Ran 72.92 52 P **P 17 18 47.9 +0.6**
baz=73,SNR=12
R07C Lee Vining 72.97 55 P **P 17 18 48.7 +1.1**
baz=73,SNR=5.6
M11A Holland Ranch, 73.02 50 ⇓P **P 17 18 47.7 -0.2**
baz=73
NB2 NORSAR Subarra 73.15 338 P **P 17 18 48.0 -0.7**
comp=Z,27nm,0.9s,mb5.1,baz=36,slow=6.2
NB2 NORSAR Subarra 73.15 338 P **P 17 18 48.0 -0.7**
NB2 pmax pmax
comp=Z,27nm,0.9s,mb5.1
NOA NORSAR Array B 73.15 338 P **P 17 18 48.4 -0.3**
comp=Z,17nm,0.8s,mb5.0,baz=39,slow=5.9,SNR=72
NOA pP pP 17 19 06.5 -0.9
comp=Z,12nm,0.8s,baz=39,slow=6.0,SNR=9.6
NOA LR LR 17 53 31.6
comp=Z,131nm,21.9s,baz=50,slow=38
NOA NORSAR Array B 73.15 338 P **P 17 18 48.4 -0.3**
NOA *PP pP 17 19 06.6 -0.8
NOA pmax pmax
comp=Z,17nm,0.8s
NOA MLR MLR
comp=Z,131nm,21.9s
T06C Milleton Lake 73.17 56 P **P 17 18 48.3 -0.5**
baz=73,SNR=11
ANN Anapa 73.19 314 *eP* **P 17 18 41.5 -7.4**
ANN pmax pmax
comp=Z,45nm,1.4s,mb5.1
V04C Ramage Ranch, 73.21 58 ⇑P **P 17 18 49.1 +0.1**
baz=73
Q08A Gabbs 73.22 54 P **P 17 18 49.5 +0.3**
baz=73,SNR=10.0
KCC Kaiser Creek 73.24 56 P **P 17 18 49.3 +0.1**
baz=73,SNR=6.2
NVAR Mina Array Bea 73.24 54 P **P 17 18 49.6 +0.4**
comp=Z,7.1nm,0.8s,mb4.6,baz=281,slow=7.2,SNR=63
NVAR pP pP 17 19 08.2 +0.2
comp=Z,5.8nm,0.8s,baz=280,slow=7.9,SNR=4.6
PKD Parkfield 73.25 57 P **P 17 18 49.4 +0.2**
baz=73,SNR=7.9
O10A Cortez Mining, 73.27 52 ⇓P **P 17 18 49.8 +0.4**
baz=73,SNR=5.8
U05C Westside ANR, 73.30 57 ⇓P **P 17 18 50.0 +0.5**
baz=73
P09A Austin 73.31 53 ⇑P **P 17 18 50.1 +0.4**
baz=73
MLAC Mammoth Lakes 73.37 55 ⇑P **P 17 18 50.9 +0.9**
baz=73
NAO01 NORSAR Array S 73.40 338 *eP* **P 17 18 49.6 -0.5**
comp=Z,11nm,0.9s,mb4.7
R08A Mina 73.42 54 ⇑P **P 17 18 50.7 +0.5**
baz=73
QLMT Earthquake Lak 73.50 46 *eP* **P 17 18 51.0 +0.2**
M12A Wells 73.56 50 P **P 17 18 52.1 +1.0**
baz=73,SNR=16
PTRM Twissleman Ran 73.63 57 *eP* **P 17 18 52.0 +0.5**
AKASG Malin Array Be 73.70 323 P **P 17 18 51.5 -0.4**
comp=Z,9.8nm,0.5s,mb4.8,baz=46,slow=6.3,SNR=71
AKASG pP pP 17 19 09.2 -1.4
comp=Z,20nm,0.6s,baz=45,slow=6.0,SNR=5.9
AKASG LR LR 17 55 08.1
comp=Z,100nm,18.0s,baz=195,slow=39
AKASG Malin Array Be 73.70 323 P **P 17 18 51.5 -0.4**
AKASG *PP pP 17 19 09.2 -1.4
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG MLR MLR
comp=Z,100nm,18.0s
AKBB Malin Array Si 73.70 323 *eP* **P 17 18 51.4 -0.5**
MTUM Tungsten Hills 73.71 55 *eP* **P 17 18 52.4 +0.4**
Q09A Carvers 73.71 53 ⇓P **P 17 18 52.3 +0.3**
baz=74
V05C Boulder Hill, 73.71 57 ⇓P **P 17 18 51.1 -0.9**
baz=74
HELL Mitchell Peak, 73.81 56 P **P 17 18 52.2 -0.4**
baz=74,SNR=17
N12A Clover Valley, 73.83 51 ⇑P **P 17 18 52.9 +0.2**
baz=74,SNR=5.6
GCMT Greycliff 73.87 44 *eP* **P 17 18 53.2 +0.3**
S08C White Mtn Res 73.88 55 P **P 17 18 53.6 +0.7**
baz=74,SNR=18
O11A Cowboy Ranch, 73.88 51 P **P 17 18 53.6 +0.7**
baz=74,SNR=8.6
SMMC Simmler 73.97 58 ⇓P **P 17 18 53.6 +0.1**
baz=74
TIN Tinemaha 74.10 55 ⇓P **P 17 18 54.4 +0.2**
baz=74
SUW Suwalki 74.13 328 *eP* **P 17 18 54.1 -0.3**
SUW *e* pP 17 19 12.8 -0.4
R09A Tonopah 74.14 54 P **P 17 18 54.5 +0.1**
baz=74,SNR=17
TPH Tonopah 74.14 54 *eP* **P 17 18 54.8 +0.3**
TPH pmax pmax
comp=Z,31nm,1.3s,mb4.9
TPH Tonopah 74.14 54 *eP* **P 17 18 54.8 +0.3**
comp=Z,31nm,1.3s,mb4.9
P11A Circle Ranch, 74.17 52 ⇓P **P 17 18 54.3 -0.4**
baz=74

LKWY Lake 74.24 45 *eP* **P 17 18 57.1 +2.0**
LKWY pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
LKWY Lake 74.24 45 *eP* **P 17 18 57.1 +2.0**
comp=Z,8.0nm,1.1s,mb4.4
VES Vestal, Richgr 74.27 57 P **P 17 18 54.5 -0.7**
baz=74,SNR=9.4
N13A Wendover, West 74.33 50 ⇓P **P 17 18 55.2 -0.4**
baz=74
PKM Peak Mountain 74.34 58 ⇑P **P 17 18 55.4 -0.2**
baz=74
S09A Goldfield 74.35 54 P **P 17 18 55.9 +0.3**
baz=74,SNR=13
IMW Indian Meadow 74.36 46 *eP* **P 17 18 56.8 +1.1**
comp=Z,12nm,0.8s,mb4.7
O12A Currie 74.36 51 P **P 17 18 56.3 +0.6**
baz=74,SNR=20
FLWY Flagg Ranch 74.38 46 *eP* **P 17 18 57.0 +1.2**
comp=Z,41nm,1.6s,mb4.9
MOOW Moose Ponds 74.56 46 *eP* **P 17 18 57.6 +0.7**
comp=Z,17nm,1.1s,mb4.7
CWC Cottonwood Cre 74.56 56 P **P 17 18 57.0 +0.1**
baz=74,SNR=10
R10A Warm Springs 74.59 53 ⇑P **P 17 18 56.9 -0.2**
baz=74
TPAW Teton Pass 74.60 46 *eP* **P 17 18 58.0 +0.9**
comp=Z,37nm,1.3s,mb5.0
HVU Hansel Valley 74.61 49 *eP* **P 17 18 57.7 +0.5**
HVU pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
HVU Hansel Valley 74.61 49 *eP* **P 17 18 57.6 +0.4**
comp=Z,9.4nm,0.9s,mb4.5
Q11A Duckwater 74.66 52 P **P 17 18 57.7 +0.2**
baz=74,SNR=9.4
GRAC Grapevine Rang 74.69 55 P **P 17 18 58.2 +0.6**
baz=74,SNR=8.7
LOHW Long Hollow 74.72 46 *eP* **P 17 18 58.3 +0.4**
comp=Z,5.6nm,1.0s,mb4.2
SNOW Snow King Moun 74.73 46 *eP* **P 17 18 58.7 +0.8**
comp=Z,22nm,1.1s,mb4.8
REDW Red Top Meadow 74.74 46 *eP* **P 17 18 58.5 +0.6**
comp=Z,14nm,1.1s,mb4.6
P12A McGill 74.74 52 ⇑P **P 17 18 57.8 -0.2**
baz=75,SNR=14
KONO Kongsberg 74.75 337 *c i* P **P 17 18 57.7 -0.3**
ISA Isabella 74.77 57 P **P 17 18 57.5 -0.6**
baz=75,SNR=8.6
ARVC Arvin 74.86 57 P **P 17 18 58.6 0.0**
baz=75,SNR=6.2
DAC Darwin (Calif) 74.97 56 *eP* **P 17 18 58.7 -0.6**
DAC pmax pmax
comp=Z,19nm,1.4s,mb4.6
DAC Darwin (Calif) 74.97 56 *eP* **P 17 18 58.7 -0.6**
comp=Z,18nm,1.4s,mb4.6
BGU Big Grassy Mou 74.99 49 *eP* **P 17 18 59.6 +0.2**
TRCR Troy Canyon 75.00 53 *eP* **P 17 18 59.2 -0.3**
Q12A Willow Creek R 75.05 52 ⇑P **P 17 18 59.9 +0.1**
baz=75,SNR=5.4
SPUT South Promonto 75.09 49 *eP* **P 17 18 58.7 -1.3**
LAO LASA Array 75.13 42 *eP* **P 17 19 00.0 -0.2**
comp=Z,32nm,1.0s,mb5.0
MPMC Manual Prospec 75.17 56 P **P 17 19 00.6 +0.2**
baz=75,SNR=20
OSI Osito Adit 75.23 58 ⇓P **P 17 19 00.4 -0.4**
baz=75
FURC Furnace Creek, 75.33 55 P **P 17 19 01.7 +0.3**
baz=75,SNR=5.9
LRMC Laurel Mountai 75.39 56 ⇓P **P 17 19 01.6 -0.1**
baz=75
HWUT Hardware Ranch 75.43 48 *eP* **P 17 19 02.2 +0.3**
comp=Z,34nm,1.4s,mb4.9
EDW2 Edwards Air Fo 75.56 57 P **P 17 19 02.8 +0.2**
baz=75,SNR=12
DUG Dugway 75.57 50 *eP* **P 17 19 02.8 +0.1**
DUG pmax pmax
comp=Z,20nm,1.0s,mb4.8
DUG Dugway 75.57 50 *eP* **P 17 19 02.8 +0.1**
comp=Z,20nm,1.0s,mb4.8
DUG Dugway 75.57 50 P **P 17 19 03.2 +0.5**
baz=75,SNR=24
NOQ North Oquirrh 75.70 49 *eP* **P 17 19 03.1 -0.3**
comp=Z,48nm,1.1s,mb5.1
DECC Green Verdugo 75.71 58 ⇓P **P 17 19 03.1 -0.4**
baz=76
UMR Umm Al-Rimmam 75.80 296 *eP* **P 17 19 01.0 -3.0**
UMR AMb AMB 17 19 04.1
comp=Z,16nm,0.4s,mb5.1
TCUT Toone Canyon 75.83 49 *eP* **P 17 19 04.7 +0.5**
PDAR Pinedale Array 75.85 46 P **P 17 19 04.2 -0.2**
comp=Z,10.0nm,0.7s,mb4.7,baz=277,slow=2.7,SNR=76
PDAR pP pP 17 19 23.4 +0.2
comp=Z,4.6nm,0.8s,baz=289,slow=4.5,SNR=5.8
SHOC Shoshone 76.05 55 ⇓P **P 17 19 05.2 -0.2**
baz=76
GSC Goldstone 76.07 56 P **P 17 19 05.6 +0.1**
baz=76,SNR=8.9
QRN Al-Qurain 76.13 296 *eP* **P 17 19 05.7 -0.2**
QRN AMb AMB 17 19 07.0
comp=Z,39nm,0.4s,mb5.5
BFSC Mount Baldy St 76.16 57 P **P 17 19 06.1 0.0**
baz=76,SNR=6.2
NLU North Lily Min 76.16 50 *eP* **P 17 19 06.3 +0.2**
RDF Al-Radifah 76.29 296 *eP* **P 17 19 06.5 -0.3**
RDF AMb AMB 17 19 08.2
comp=Z,32nm,0.8s,mb5.1
NAY Al-Naaiem 76.31 296 *eP* **P 17 19 06.4 -0.5**
NAY AMb AMB 17 19 07.1
comp=Z,12nm,0.8s,mb4.7
DAU Daniels Canyon 76.36 49 *eP* **P 17 19 07.7 +0.5**
MPU Maple Canyon 76.39 50 *eP* **P 17 19 07.7 +0.4**
comp=Z,28nm,1.2s,mb4.9
BSD Bornholm Skovb 76.56 332 ⇑ *i* P pP 17 19 26.6 -0.6
comp=Z,38nm,0.9s
BSD Bornholm Skovb 76.56 332 ⇑ *i* P **P 17 19 07.9 -0.4**
BSD pmax pmax
comp=Z,21nm,1.1s,mb4.8
BSD Bornholm Skovb 76.56 332 ⇑ *i* P **P 17 19 07.9 -0.4**
comp=Z,21nm,1.1s,mb4.8
BSD ⇑ *i* P pP 17 19 26.6 -0.6
TUQ Turquoise Mtn. 76.56 55 P **P 17 19 08.7 +0.3**
baz=76,SNR=8.0
V11A Goodsprings 76.63 55 P **P 17 19 09.1 +0.3**
baz=76,SNR=6.8
HEC Hector,Ludlow 76.67 56 ⇓P **P 17 19 08.9 -0.1**
baz=76
ARUT Antelope Range 76.68 52 *eP* **P 17 19 09.6 +0.6**
LVV L'vov 76.73 324 *eP* **P 17 19 08.9 -0.4**
LVV *i* pP 17 19 28.5 +0.3
BOYT Boyabat 76.75 313 *i* P **P 17 19 10.2 +0.8**
U12A Valley of Fire 76.83 54 ⇑P **P 17 19 10.1 +0.2**
baz=77
MURC Murrieta 76.85 58 ⇑P **P 17 19 09.3 -0.7**
baz=77
CCUT Cedar City 76.88 52 *eP* **P 17 19 10.6 +0.4**
MSU Marysvale 77.00 51 *eP* **P 17 19 11.6 +0.8**
V12A Nelson 77.07 55 P **P 17 19 11.6 +0.4**
baz=77,SNR=8.1
W12A Cal Nev Ari 77.32 55 ⇑P **P 17 19 12.1 -0.6**
baz=77
CTKT Corum 77.33 312 *i* P **P 17 19 13.8 +1.1**
PFO Pinyon Flat Ob 77.33 57 *eP* **P 17 19 12.3 -0.4**
PFO pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
PFO Pinyon Flat Ob 77.33 57 *eP* **P 17 19 12.3 -0.4**
comp=Z,2.2nm,0.4s,mb4.2
PFO Pinyon Flat Ob 77.33 57 ⇑P **P 17 19 12.1 -0.5**
baz=77,SNR=5.4
109C Camp Elliot, M 77.34 58 ⇓P **P 17 19 11.8 -1.0**
baz=77
BELC Belle Mtn. 77.39 57 P **P 17 19 12.5 -0.5**
baz=77,SNR=7.2
KWP Kalwaria 77.46 325 *eP* **P 17 19 14.6 +1.2**
KWP *e* pP 17 19 33.2 +0.9
MUD Monsted U'grnd 77.47 336 *i* P pP 17 19 32.6 +0.2
comp=Z,25nm,1.0s
MUD Monsted U'grnd 77.47 336 *i* P pP 17 19 32.6 +0.2
MUD pmax pmax
comp=Z,25nm,1.0s,mb4.9
BALT Daday 77.55 313 *i* P **P 17 19 15.0 +1.1**
SRU San Rafael 77.62 50 *eP* **P 17 19 14.5 +0.2**
SRU pmax pmax
comp=Z,28nm,0.9s,mb5.0
SRU San Rafael 77.62 50 *eP* **P 17 19 14.5 +0.2**
comp=Z,28nm,0.9s,mb5.0
ULM Lac du Bonnet 77.64 34 P **P 17 19 13.1 -1.3**
comp=Z,6.5nm,0.8s,mb4.4,baz=318,slow=7.4,SNR=6.0
ULM pP pP 17 19 32.2 -1.1

comp=Z,11nm,1.0s,baz=315,slow=3.8,SNR=5.1
ULM LR LR 17 57 29.0
comp=Z,58nm,19.2s,baz=0.8,slow=39
ULM Lac du Bonnet 77.64 34 P **P 17 19 13.1 -1.3**
ULM pP pP 17 19 32.2 -1.1
ULM LR LR 17 57 29.0
BURAR Bucovina Array 77.73 322 ⇑ *i* P **P 17 19 15.4 +0.5**
BURAR Bucovina Array 77.73 322 ⇑P **P 17 19 15.3 +0.5**
GZT Gaziantep 77.76 308 *i* P **P 17 19 15.6 +0.6**
MONP Monument Peak 77.80 58 ⇓P **P 17 19 14.6 -0.7**
baz=78
IRM Iron Mountain 77.85 56 P **P 17 19 15.6 +0.1**
baz=78,SNR=9.7
RWWY Rawlins 77.88 46 *eP* **P 17 19 15.5 -0.2**
comp=Z,26nm,1.0s,mb4.9
BC3 Big Chuckw Mtn 77.96 57 P **P 17 19 16.1 -0.1**
baz=78,SNR=7.9
RSSD Black Hills 77.99 43 *eP* **P 17 19 15.8 -0.5**
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
RSSD Black Hills 77.99 43 *eP* **P 17 19 15.8 -0.6**
comp=Z,6.3nm,0.8s,mb4.4
W13A Hualapai Mount 78.08 55 P **P 17 19 17.1 +0.2**
baz=78,SNR=8.9
DVTC Desert V Tower 78.15 58 ⇓P **P 17 19 16.9 -0.3**
baz=78,SNR=5.8
KOLS Kolonicke sedl 78.17 324 *eP* **P 17 19 17.2 -0.1**
KOLS *ep*P pP 17 19 36.4 +0.2
KOLS Kolonicke sedl 78.17 324 *eP* **P 17 19 17.3 0.0**
KOLS *e* pP 17 19 36.4 +0.2
SWSC Sam W. Stewart 78.18 57 ⇑P **P 17 19 16.6 -0.8**
baz=78
VRI Vrincioaia 78.20 320 ⇑ *i* P **P 17 19 18.6 +1.1**
VRI Vrincioaia 78.20 320 ⇑P **P 17 19 18.6 +1.1**
ELDT Eldivan 78.21 313 *i* P **P 17 19 18.4 +0.8**
CDAG Cicekdag 78.22 312 *i* P **P 17 19 18.1 +0.5**
PLOR Plostina 78.25 320 ⇓ *i* P **P 17 19 18.5 +0.7**
STHS Stebnicka Huta 78.28 325 *eP* **P 17 19 19.1 +1.2**
STHS *e* pP 17 19 37.9 +1.0
STHS pmax pmax
comp=Z,15nm,0.8s,mb4.8
STHS Stebnicka Huta 78.28 325 *eP* **P 17 19 19.1 +1.2**
comp=Z,15nm,0.8s,mb4.8
STHS *e* pP 17 19 37.9 +1.0
TIRR Tirgusor 78.31 318 ⇑ *i* P **P 17 19 18.1 0.0**
TIRR Tirgusor 78.31 318 ⇑P **P 17 19 18.1 0.0**
OJC Ojcow 78.32 327 *eP* **P 17 19 18.6 +0.4**
OJC *ep*P pP 17 19 37.1 0.0
PDMCI Parker Dam,Lak 78.42 55 P **P 17 19 18.7 0.0**
baz=78,SNR=6.1
X13A Yucca 78.43 55 P **P 17 19 18.9 +0.1**
baz=78,SNR=24
Y12C Blythe 78.51 56 P **P 17 19 19.3 +0.1**
baz=78,SNR=5.9
W14A Seligman 78.52 54 P **P 17 19 19.9 +0.7**
baz=78,SNR=16
CRVS Cervenica-Dubn 78.56 325 *eP* **P 17 19 19.9 +0.4**
CRVS *ep*P pP 17 19 38.7 +0.3
BRTR Keskin Array B 78.59 312 P **P 17 19 20.1 +0.5**
comp=Z,1.8nm,0.5s,mb4.1,baz=82,slow=3.3,SNR=13
BRTR pP pP 17 19 38.2 -0.4
comp=Z,3.6nm,0.5s,baz=78,slow=4.5,SNR=12
NIE Niedzica 78.69 326 *eP* **P 17 19 21.1 +0.9**
NIE *ep*P pP 17 19 40.2 +1.1
GLA Glamis 78.75 57 P **P 17 19 20.7 +0.2**
baz=79,SNR=7.0
MLR Muntele Rosu 78.86 320 ⇓ *i* P **P 17 19 22.0 +0.9**
MLR Muntele Rosu 78.86 320 ⇓P **P 17 19 21.9 +0.8**
Y13A Salome 78.92 56 ⇑P **P 17 19 21.4 -0.1**
baz=79
SGKT Sivrigoynuk 78.94 313 *i* P **P 17 19 22.1 +0.6**
PV10 Paradox Valley 78.98 50 *eP* **P 17 19 22.3 +0.5**
W15A Williams 79.06 54 ⇓P **P 17 19 22.9 +0.7**
baz=79,SNR=6.2
X14A Yava 79.11 55 P **P 17 19 23.2 +0.7**
baz=79,SNR=26
PHWY Pilot Hill 79.12 45 *eP* **P 17 19 22.3 -0.2**
SNX Sinaia 79.17 320 ⇑ *i* P **P 17 19 24.0 +1.2**
SNX Sinaia 79.17 320 ⇑P **P 17 19 24.0 +1.1**
KECS Kecovo 79.30 325 *eP* **P 17 19 23.6 +0.1**
KECS *e* pP 17 19 42.8 +0.3
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
KECS Kecovo 79.30 325 *eP* **P 17 19 23.6 +0.1**
comp=Z,5.7nm,1.1s,mb4.3
KECS *e* pP 17 19 42.8 +0.3
OKC Ostrava-Krasne 79.31 327 *eP* **P 17 19 23.6 0.0**
OKC *ep*P pP 17 19 42.7 +0.1
OKC AMS AMS 17 56 30.0
comp=Z,200nm,15.2s
OKC Ostrava-Krasne 79.31 327 *eP* **P 17 19 23.6 0.0**
OKC *ep*P pP 17 19 42.7 +0.1
KSP Ksiaz 79.32 329 *eP* **P 17 19 24.2 +0.6**
KSP *e* pP 17 19 43.3 +0.7
KSP Ksiaz 79.32 329 *eP* **P 17 19 24.0 +0.4**
KSP *ep*P pP 17 19 42.6 0.0
VOIR 79.34 321 ⇑ *i* P **P 17 19 25.0 +1.2**
VOIR 79.34 321 ⇑P **P 17 19 25.0 +1.2**
Y14A Wickenburg 79.37 55 P **P 17 19 24.1 +0.2**
baz=79,SNR=18
WUAZ Wupatki 79.40 53 *eP* **P 17 19 24.5 +0.4**
comp=Z,22nm,1.0s,mb5.0
WUAZ Wupatki 79.40 53 P **P 17 19 24.8 +0.7**
baz=79,SNR=14
PV01 Paradox Valley 79.42 49 *eP* **P 17 19 24.4 +0.2**
X15A Humboldt 79.52 54 P **P 17 19 25.4 +0.7**
baz=79,SNR=24
MORC Moravsky Berou 79.61 327 ⇓ *i* P **P 17 19 25.7 +0.5**
SMCO Snowmass 79.67 48 *eP* **P 17 19 25.8 +0.3**
comp=Z,18nm,1.3s,mb4.7
DPC Dobruska-Polom 79.69 328 *eP* **P 17 19 26.3 +0.7**
DPC *ep*P pP 17 19 45.3 +0.7
DPC AMS AMS 17 56 40.0
comp=Z,200nm,16.5s
UPC Upice 79.69 329 *eP* **P 17 19 26.4 +0.7**
UPC *ep*P pP 17 19 44.9 +0.3
Z14A Wintersburg 79.78 55 ⇓P **P 17 19 25.7 -0.4**
baz=80
PSZ Piszkesteto 79.99 325 ⇑ *eP* **P 17 19 27.9 +0.6**
VYHS Vyhne 80.03 326 *eP* **P 17 19 28.0 +0.5**
VYHS *ep*P pP 17 19 46.9 +0.4
VYHS Vyhne 80.03 326 *eP* **P 17 19 28.0 +0.5**
VYHS *e* pP 17 19 47.0 +0.5
VYHS pmax pmax
comp=Z,11nm,1.1s,mb4.6
VYHS Vyhne 80.03 326 *eP* **P 17 19 28.0 +0.5**
comp=Z,11nm,1.1s,mb4.6
VYHS *e* pP 17 19 47.0 +0.5
ISCO Idaho Springs 80.04 47 *eP* **P 17 19 27.9 +0.4**
ISCO pmax pmax
comp=Z,16nm,1.4s,mb4.7
ISCO Idaho Springs 80.04 47 *eP* **P 17 19 27.9 +0.4**
comp=Z,16nm,1.4s,mb4.7
MVCO Mesa Verde 80.07 50 *eP* **P 17 19 27.8 +0.1**
comp=Z,32nm,1.4s,mb5.0
MVCO Mesa Verde 80.07 50 P **P 17 19 28.1 +0.4**
baz=80,SNR=8.6
BRG Berggiesshubel 80.23 330 *i* P **P 17 19 28.8 +0.2**
comp=Z,5.7nm,1.1s,mb4.3
BRG *i* pP pP 17 19 47.6 0.0
comp=Z,12nm,1.0s
BRG Berggiesshubel 80.23 330 *i* P **P 17 19 28.8 +0.2**
BRG *i* *PP pP 17 19 47.6 0.0
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CLL Collm 80.26 331 ⇑ *i* P **P 17 19 28.6 -0.1**
comp=Z,17nm,1.0s,mb4.8
CLL *i* pP pP 17 19 47.5 -0.2
CLL Collm 80.26 331 ⇑ *i* P **P 17 19 28.6 -0.1**
comp=Z,17nm,1.0s,mb4.8
CLL *e*PcP PcP 17 19 36.0 +0.3
CLL *i* pP pP 17 19 47.5 -0.2
CLL LmV 17 58 00.0
comp=Z,100nm,20.7s
PVCC Panska Ves 80.26 329 *eP* **P 17 19 29.0 +0.3**
PVCC *ep*P pP 17 19 48.2 +0.5
PVCC AMS AMS 17 57 10.0
comp=Z,300nm,17.6s
VRAC Vranov 80.37 328 ⇓ *i* P **P 17 19 30.5 +1.2**
VRAC Vranov 80.37 328 ⇓P **P 17 19 30.4 +1.1**
GZR Gura Zlata 80.49 322 ⇑ *i* P **P 17 19 30.3 +0.3**
GZR Gura Zlata 80.49 322 ⇑P **P 17 19 30.3 +0.3**
SMOL Smolenice 80.62 327 *eP* **P 17 19 28.8 -1.9**
SMOL *ep*P pP 17 19 50.4 +0.7

115A	Sonoran Desert	80.66	56	⇑P		P	17 19 30.5	-0.4
	baz=80							
PRU	Pruhonice	80.69	329	eP		P	17 19 31.5	+0.5
PRU				epP		pP	17 19 50.5	+0.5
PRU				AMS		AMS	17 57 20.0	
	comp=Z,200nm,20.7s							
TREC	Trest	80.84	328	eP		P	17 19 32.2	+0.3
TREC				epP		pP	17 19 51.4	+0.5
TREC				AMS		AMS	17 54 40.0	
TREC	Trest	80.84	328	eP		P	17 19 32.2	+0.3
TREC				e*PP		pP	17 19 51.4	+0.5
BZS	Buzias	80.89	323	⇑iP		P	17 19 32.0	-0.1
BZS	Buzias	80.89	323	⇑P		P	17 19 32.0	-0.1
116A	Eloy	81.09	55	⇓P		P	17 19 32.5	-0.7
	baz=81							
MOX	Moxa	81.32	331	eP		P	17 19 34.6	+0.2
	comp=Z,32nm,1.4s,mb5.0							
MOX	Moxa	81.32	331	eP		P	17 19 34.6	+0.2
MOX				pmax		pmax		
	comp=Z,5.0nm,1.4s,mb4.2							
SDCO	Great Sand Dun	81.49	48	eP		P	17 19 35.5	+0.3
	comp=Z,10nm,1.1s,mb4.6							
SOP	Sopron	81.64	327	⇓ePcP		PcP	17 19 37.3	-4.4
KHC	Kasperske Hory	81.75	329	eP		P	17 19 36.9	+0.2
KHC				e*PP		pP	17 19 54.8	-0.9
KHC				MLR		MLR		
	comp=Z,300nm,6.2s							
KHC	Kasperske Hory	81.75	329	eP		P	17 19 36.9	+0.2
KHC				epP		pP	17 19 54.8	-0.9
TUC	Tucson	81.85	55	eP		P	17 19 37.0	-0.2
TUC				pmax		pmax		
	comp=Z,12nm,1.5s,mb4.5							
TUC	Tucson	81.85	55	eP		P	17 19 37.0	-0.2
	comp=Z,12nm,1.5s,mb4.5							
GERES	GERESS Array B	81.93	329	P		P	17 19 37.6	0.0
	comp=Z,3.0nm,0.8s,mb4.2,baz=37,slow=5.3,SNR=22							
GERES				pP		pP	17 19 55.0	-1.6
	comp=Z,5.8nm,0.9s,baz=35,slow=4.9,SNR=14							
GERES				LR		LR	17 58 36.8	
	comp=Z,160nm,20.3s,baz=205,slow=38							
GRA1	Grafenberg Arr	82.23	331	eP		P	17 19 39.5	+0.3
	comp=Z,13nm,1.0s,mb4.7							
GRA1				epP		pP	17 19 58.2	-0.1
GRF	Grafenberg Arr	82.23	331	eP		P	17 19 39.5	+0.3
	comp=Z,13nm,1.0s,mb4.7							
GRF				epP		pP	17 19 58.2	-0.1
GRF	Grafenberg Arr	82.23	331	eP		P	17 19 39.5	+0.3
GRF				e*PP		pP	17 19 58.2	-0.1
GRF				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.7							
GRF	Grafenberg Arr	82.23	331	eP		P	17 19 39.5	+0.3
GRF				e*PP		pP	17 19 58.2	-0.1
GRF				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.7							
VTS	Vitosha	82.31	320	⇑iP		P	17 19 40.7	+1.1
VTS	Vitosha	82.31	320	⇑P		P	17 19 40.7	+1.1
ARSA	Arzberg	82.42	327	⇓i		pP	17 19 59.7	+0.5
	comp=Z,15nm,1.1s							
ARSA	Arzberg	82.42	327	⇑iP		P	17 19 39.4	-0.7
	comp=Z,3.8nm,0.8s,mb4.3							
ARSA				⇓ipP		pP	17 19 59.7	+0.5
	comp=Z,15nm,1.1s							
LAZ	Ladron	82.76	51	eP		P	17 19 41.9	0.0
ANMO	Albuquerque	82.80	51	diP		P	17 19 42.6	+0.5
ANMO	Albuquerque	82.80	51	eP		P	17 19 42.6	+0.4
	comp=Z,20nm,1.2s,mb4.8							
LENM	Lemitar	83.02	52	P		P	17 19 43.2	0.0
PERS	Pernice	83.07	327	iP		P	17 19 43.6	+0.1
PERS				e		pP	17 20 02.6	0.0
Y22C	IRIS PASSCAL I	83.11	52	⇑P		P	17 19 43.8	0.0
	baz=83							
LPM	Los Pinos Moun	83.13	51	eP		P	17 19 44.0	+0.2
KBA	Koelnbreinsper	83.47	328	⇑i		pP	17 20 44.4	-0.3
	comp=Z,22nm,1.2s							
KBA	Koelnbreinsper	83.47	328	⇓iP		P	17 19 45.9	+0.3
	comp=Z,6.3nm,0.7s,mb4.5							
KBA				⇑ipP		pP	17 20 04.4	-0.3
	comp=Z,22nm,1.2s							
KBA	Koelnbreinsper	83.47	328	⇓iP		P	17 19 45.9	+0.3
KBA				i		pP	17 20 04.4	-0.3
KBA				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.5							
STIP	Stip	83.48	320	iP		pP	17 20 03.3	-1.5
LEGS	Legarje	83.52	326	iP		P	17 19 45.5	-0.4
VAY	Valandovo	83.56	319	iP		pP	17 20 04.6	-0.6
PDKS	Podkum	83.57	326	iP		P	17 19 45.7	-0.4
PDKS				e		pP	17 20 05.0	-0.2
PDKS				e			17 20 19.9	
SKO	Skopje	83.66	320	iP		pP	17 20 04.4	-1.2
BOJS	Bojanci	83.89	326	eP		P	17 19 47.4	-0.4
BOJS				e		pP	17 20 05.8	-1.0
BDRM	Kayabasi	83.96	313	iP		P	17 19 48.6	+0.5
WTTA	Wattenberg	84.03	329	⇑i		pP	17 20 06.9	-0.7
	comp=Z,16nm,1.0s							
WTTA	Wattenberg	84.03	329	⇑iPcP		PcP	17 19 48.7	-3.5
	comp=Z,5.7nm,0.9s							
WTTA				⇑ipP		pP	17 20 06.9	-0.7
	comp=Z,16nm,1.0s							
WTTA	Wattenberg	84.03	329	⇑iP		P	17 19 48.7	+0.3
WTTA				i		pP	17 20 06.9	-0.7
WTTA				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.4							
CEY	Cerknica	84.07	326	eP		P	17 19 48.0	-0.7
CEY				e			17 19 55.5	
CEY				e		pP	17 20 06.9	-0.9
BIA	Bitola	84.42	320	iP		pP	17 20 08.6	-0.9
PPT	Papeete	84.42	118	eLR		LR	17 45 33.6	
	comp=Z,307nm,24.5s							
PPT	Papeete	84.42	118	LR		LR	17 57 04.2	
	comp=Z,97nm,18.1s,baz=61,slow=35							
BAIF	Baives	84.46	335	eP		P	17 19 49.9	-0.7
OHR	Ohrid	84.62	320	iP		pP	17 20 08.9	-1.7
DAVA	Damuels	84.71	330	⇑i		pP	17 20 10.5	-0.5
	comp=Z,35nm,1.3s							
DAVA	Damuels	84.71	330	⇑iPcP		PcP	17 19 52.0	-3.2
	comp=Z,20nm,1.1s							
DAVA				⇑ipP		pP	17 20 10.5	-0.5
	comp=Z,35nm,1.3s							
CDF	Champ du Feu	84.77	332	eP		P	17 19 51.8	-0.4
	comp=Z,23nm,1.1s,mb4.7							
CDF	Champ du Feu	84.77	332	eP		P	17 19 51.8	-0.4
CDF				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8							
CDF	Champ du Feu	84.77	332	eP		P	17 19 51.8	-0.4
	comp=Z,12nm,1.0s,mb4.8							
HINF	Hinteralfeld	85.42	332	eP		P	17 19 54.7	-0.7
HAU	Haudompre	85.45	332	eP		P	17 19 54.8	-0.8
	comp=Z,7.1nm,0.8s,mb4.3							
HAU				eMLR		MLR		
	comp=Z,109nm,18.5s							
HAU	Haudompre	85.45	332	eP		P	17 19 54.8	-0.8
HAU				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
HAU				MLR		MLR		
	comp=Z,110nm,18.5s							
HAU	Haudompre	85.45	332	eP		P	17 19 54.8	-0.8
	comp=Z,3.5nm,0.8s,mb4.3							
HAU				LR		LR		
	comp=Z,110nm,18.5s							
KSU1	Kansas State U	85.47	42	eP		P	17 19 54.5	-1.2
	comp=Z,20nm,0.9s,mb5.0							
MEZF	Maizieres J'vi	85.50	333	eP		P	17 19 55.4	-0.4
MNTX	Cornudas Mount	85.67	52	eP		P	17 19 56.2	-0.4
	comp=Z,17nm,1.5s,mb4.8							
MNTX				epP		pP	17 20 16.7	+0.9
LOR	Lormes	86.97	333	eP		P	17 20 02.5	-0.5
	comp=Z,14nm,0.9s,mb4.6							
LOR				eMLR		MLR		
	comp=Z,182nm,23.0s							
LOR	Lormes	86.97	333	eP		P	17 20 02.5	-0.5
LOR				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
LOR				MLR		MLR		
	comp=Z,180nm,23.0s							
LOR	Lormes	86.97	333	eP		P	17 20 02.5	-0.5
	comp=Z,6.9nm,0.9s,mb4.6							
LOR				LR		LR		
	comp=Z,180nm,23.0s							
LDF	La Druitiere	87.14	336	eP		P	17 20 03.6	-0.3
SSF	Saint Saulge	87.27	333	eP		P	17 20 03.9	-0.6
	comp=Z,24nm,1.2s,mb4.7							
SSF	Saint Saulge	87.27	333	eP		P	17 20 03.9	-0.6
SSF				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.7							
SSF	Saint Saulge	87.27	333	eP		P	17 20 03.9	-0.6
	comp=Z,12nm,1.2s,mb4.7							
WMOK	Wichita Mounta	87.46	46	eP		P	17 20 04.7	-0.7
WMOK				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.8							
WMOK	Wichita Mounta	87.46	46	eP		P	17 20 04.7	-0.8
	comp=Z,15nm,1.3s,mb4.8							
SMF	Signal de Mont	87.51	333	eP		P	17 20 05.2	-0.4
AVF	Avril sur Loir	87.56	333	eP		P	17 20 05.4	-0.5
	comp=Z,20nm,0.9s,mb4.8							
AVF	Avril sur Loir	87.56	333	eP		P	17 20 05.4	-0.5
AVF				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
AVF	Avril sur Loir	87.56	333	eP		P	17 20 05.4	-0.5
	comp=Z,9.8nm,0.9s,mb4.8							
MBDF	Montbardon	88.04	330	eP		P	17 20 07.6	-0.6
	comp=Z,4.6nm,0.7s,mb4.3							
MBDF	Montbardon	88.04	330	eP		P	17 20 07.6	-0.6
MBDF				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
MBDF	Montbardon	88.04	330	eP		P	17 20 07.6	-0.6
	comp=Z,2.3nm,0.7s,mb4.3							
ORIF	Oris-en-Rattie	88.22	331	eP		P	17 20 08.8	-0.3
	comp=Z,6.4nm,0.8s,mb4.4							
ORIF				eMLR		MLR		
	comp=Z,89nm,19.5s							
ORIF	Oris-en-Rattie	88.22	331	eP		P	17 20 08.8	-0.3
ORIF				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
ORIF	Oris-en-Rattie	88.22	331	eP		P	17 20 08.8	-0.3
	comp=Z,3.2nm,0.8s,mb4.4							
TCF	Toulx Ste Croi	88.39	334	eP		P	17 20 09.7	-0.1
TBI	Tubuai	88.45	122	eLR		LR	17 47 24.1	
	comp=Z,160nm,35.8s							
MFF	Saint Martin d	88.91	335	eP		P	17 20 12.1	-0.2
CCM	Cathedral Cave	89.01	40	eP		P	17 20 11.3	-1.5
CCM				e*PP		pP	17 20 31.3	-0.8
CCM				pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2							
CCM	Cathedral Cave	89.01	40	eP		P	17 20 11.3	-1.4
	comp=Z,28nm,1.0s,mb5.2							
CCM				epP		pP	17 20 31.3	-0.8
RJF	Les Rejaudoux	89.48	334	eP		P	17 20 14.7	-0.3
RJF				eMLR		MLR		
	comp=Z,210nm,23.0s							
RJF	Les Rejaudoux	89.48	334	eP		P	17 20 14.7	-0.3
RJF				LR		LR		
	comp=Z,210nm,23.0s							
CAF	Calviac	89.62	333	eP		P	17 20 15.6	0.0
	comp=Z,11nm,0.8s,mb4.7							
CAF	Calviac	89.62	333	eP		P	17 20 15.6	0.0
CAF				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.7							
CAF	Calviac	89.62	333	eP		P	17 20 15.6	0.0
	comp=Z,5.3nm,0.8s,mb4.7							
JCT	Junction City	89.93	50	eP		P	17 20 16.1	-1.0
JCT				pmax		pmax		
	comp=Z,12nm,0.7s,mb5.1							
JCT	Junction City	89.93	50	eP		P	17 20 16.1	-1.0
	comp=Z,12nm,0.7s,mb5.1							
LFF	La Frestale	90.07	334	eP		P	17 20 17.1	-0.6
MIAR	Mount Ida	90.49	43	eP		P	17 20 19.1	-0.5
MIAR				pmax		pmax		
	comp=Z,15nm,1.2s,mb5.0							
MIAR	Mount Ida	90.49	43	eP		P	17 20 19.1	-0.6
	comp=Z,16nm,1.2s,mb5.0							
MTLF	Montolieu	90.94	332	eP		P	17 20 21.5	-0.2
	comp=Z,9.2nm,0.9s,mb4.6							
MTLF	Montolieu	90.94	332	eP		P	17 20 21.5	-0.2
MTLF				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.6							
MTLF	Montolieu	90.94	332	eP		P	17 20 21.5	-0.2
	comp=Z,4.6nm,0.9s,mb4.6							
KEST	Kesra	94.40	324	LR		LR	18 08 37.0	
	comp=Z,60nm,19.8s,baz=237,slow=39							
ESDC	Sonseca Array	96.34	335	P		P	17 20 46.5	-0.1
	comp=Z,0.4nm,0.5s,mb4.1,baz=22,slow=5.8,SNR=4.8							
ESDC				pP		pP	17 21 05.0	-0.9
	comp=Z,0.8nm,0.8s,baz=10,slow=4.4,SNR=5.2							
ESDC				LR		LR	18 07 32.3	
	comp=Z,129nm,20.0s,baz=75,slow=37							
RKT	Rikitea	98.40	113	eLR		LR	17 52 02.0	
	comp=Z,201nm,28.8s							
VNDA	Vanda	116.44	175	ePKIKP		PKPdf	17 25 58.9	-2.4
VNDA				e			17 26 18.3	
TORD	Torodi Ar. Bea	116.94	317	pPKP		pPKPdf	17 26 21.8	-0.5
	comp=Z,1.0nm,0.7s,baz=26,slow=1.6,SNR=6.1							
TORD				PP		PP	17 27 05.2	-6.9
	comp=Z,1.7nm,1.1s,baz=22,slow=6.1,SNR=4.3							
MAW	Mawson	121.38	206	PKP		PKPdf	17 26 08.9	-1.9
	comp=Z,2.5nm,0.8s,baz=360,slow=0.9,SNR=7.4							
MAW	Mawson	121.38	206	PKIKP		PKPdf	17 26 08.9	-1.9
MAW				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SDV	Santo Domingo	123.48	41	ePKPdf		PKPdf	17 26 14.8	0.0
QSPA	South Pole Qui	128.32	180	eP		PKPdf	17 26 22.5	-1.6
SAML	Samuel	142.43	45	ePKPpre			17 26 45.6	
LPAZ	La Paz	145.02	59	PKP		PKPdf	17 26 54.7	-0.1
	comp=Z,7.8nm,0.8s,baz=322,slow=3.3,SNR=43							
LPAZ	La Paz	145.02	59	PKIKP		PKPdf	17 26 54.7	-0.1
LPAZ				pmax		pmax		
	comp=Z,8.0nm,0.8s							
LPAZ	La Paz	145.02	59	ePKP		PKPdf	17 26 54.2	-0.6
LVC	Limon Verde	148.66	69	ePKPbc		PKPbc	17 27 05.4	+0.7
PLCA	Paso Flores	154.39	105	PKPbc		PKPbc	17 27 17.4	-0.6
	comp=Z,1.4nm,0.6s,baz=267,slow=3.9,SNR=5.0							
PLCA	Paso Flores	154.39	105	PKIKP		PKPbc	17 27 17.4	-0.5
PLCA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BDFB	Brasilia	155.27	25	PKPbc		PKPdf	17 27 20.0	+9.2
	comp=Z,0.8nm,0.5s,baz=14,slow=4.2,SNR=3.2							
BDFB	Brasilia	155.27	25	PKIKP		PKPdf	17 27 20.0	+9.2
BDFB				pmax		pmax		
	comp=Z,1.0nm,0.5s							
CPUP	Villa Florida	159.19	60	PKP		PKPdf	17 27 15.6	-0.1
	comp=Z,0.5nm,0.5s,baz=29,slow=1.0,SNR=3.3							
CPUP				PKPab		PKPab	17 27 52.2	-0.9
	comp=Z,0.9nm,0.5s,baz=200,slow=2.8,SNR=5.0							
CPUP	Villa Florida	159.19	60	PKIKP		PKPdf	17 27 15.6	-0.1
CPUP							17 27 52.2	
CPUP				pmax		pmax		
	comp=Z,1.0nm,0.5s							

OTT 01 17:10:23.4±1.6, 6907N×6934W, h18km, MN3.1/8, Baffin Island Seismic Zone, Nt. 167km south from Clyde River, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILON	Igloolik, Nuna	4.46	280	SN	Sn	17 12 20.4	-1.1
ILON				LG		17 12 41.2	
ILON				Trac		17 12 46.8	
	comp=Z,23nm,0.3s						
SRLN	Sarcpa Lake, N	5.10	271	PN	Pn	17 11 37.9	-0.9
SRLN				SN	Sn	17 12 36.0	-1.3
SRLN				LG		17 12 58.7	
SRLN				Trac		17 13 02.2	
	comp=Z,16nm,0.4s						
FRB	Frobisher Bay	5.35	176	PN	Pn	17 11 43.0	+0.7
FRB				SN	Sn	17 12 41.5	-2.0
FRB				LG		17 13 04.5	
FRB				Trac		17 13 10.1	
	comp=Z,29nm,0.7s						
AP3N	Apex site 3 Nu	5.39	281	PN	Pn	17 11 41.8	-1.0
AP3N				SN	Sn	17 12 41.2	-3.1
AP3N				LG		17 13 08.2	
AP3N				Trac		17 13 14.0	
	comp=Z,18nm,0.5s						
QILN	Qililugaq Expl	6.87	257	PN	Pn	17 12 02.4	-0.7
QILN				SN	Sn	17 13 14.9	-5.9
QILN				LG		17 13 51.6	
QILN				Trac		17 14 01.8	
	comp=Z,7.1nm,0.5s						
IVKQ	Ivujivik	7.54	212	PN	Pn	17 12 11.9	-0.5
IVKQ				SN	Sn	17 13 30.9	-6.5
IVKQ				LG		17 14 09.8	
STLN	Stellar Camp,	8.95	270	SN	Sn	17 14 05.5	-6.6
STLN				LG		17 14 54.1	
STLN				Trac		17 15 04.1	
	comp=Z,19nm,0.7s						
AKVQ	Akulik	9.09	209	PN	Pn	17 12 34.2	+0.6
AKVQ				SN	Sn	17 14 04.4	-11
AKVQ				LG		17 14 52.4	
BULN	Bullion Camp,	9.39	265	PN	Pn	17 12 35.0	-2.7
BULN				SN	Sn	17 14 14.9	-7.8
BULN				LG		17 15 09.7	
BULN				Trac		17 15 12.8	
	comp=Z,8.9nm,0.6s						
RES	Resolute Bay	9.67	317	SN	Sn	17 14 22.7	-7.0
SEDN	First Sedna Si	10.55	247	PN	Pn	17 12 51.5	-2.1
SEDN				SN	Sn	17 14 41.4	-10
SEDN				LG		17 15 41.9	
SEDN				Trac		17 15 51.0	
	comp=Z,6.6nm,0.5s						
JOSN	Second Sedna S	10.72	247	SN	Sn	17 14 44.1	-11
JOSN				LG		17 15 52.8	
INUQ	Inukjuak	11.32	204	PN	Pn	17 13 03.1	-1.1
INUQ				SN	Sn	17 15 00.2	-10
YKW3	Yellowknife Ar	19.24	272	PN	Pn	17 14 50.5	+3.0

JMA 01 17:10:56.8±0.6, 4623N×14697E, h346km, M3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.00	197	P	Pn	17 11 55.7	-0.1
NEM2				eS	S	17 12 41.9	-1.3
JNK	Nakash	3.09	212	P	Pn	17 11 57.5	+0.9
JSE	Soyaes	3.33	249	P	Pn	17 11 58.7	-0.2
JAK	Akkeshi	3.62	207	P	Pn	17 12 01.8	+0.1
JAK				eS	S	17 12 52.8	-1.1
JWK2	Keihoku	3.67	257	P	Pn	17 12 02.3	+0.2
ASAJ	Asahikawa	3.75	237	P	Pn	17 12 03.9	+1.0
JRR	Rishiri	4.11	257	P	Pn	17 12 06.4	-0.3
JCH	Churui	4.44	217	P	Pn	17 12 10.2	0.0
JCH				eS	S	17 13 06.7	-2.7
JNBK	Urakawa-nobuka	4.98	219	P	Pn	17 12 15.5	-0.4
JNBK				eS	S	17 13 18.0	-1.9
JKB	Kayabe	6.09	227	P	Pn	17 12 27.9	-0.6
JKB				eS	S	17 13 37.8	-5.1
JOT	Ohata	6.47	224	P	Pn	17 12 32.1	-0.7
JOT				eS	S	17 13 44.4	-6.3
JOSM	Okushiri--Mats	6.80	235	P	Pn	17 12 36.9	+0.2
JANG	Nango	7.08	216	eS	S	17 13 59.3	-4.5

SKHL 01 17:49:22.5±1.0, 5210N×14268E, h10km, mb4.2/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	1.24	181	ePg	Pg	17 49 48.0	+1.7
TYV				AMB	AMB	17 49 51.8	
	80nm,0.4s						
TYV				eSg	Sg	17 50 05.0	+2.6
TYV				A		17 50 11.8	
	600nm,7.0s						
TYV				A		17 50 11.8	
	1μm,7.0s						
TYV				A		17 50 11.8	
	192nm,0.5s						
OKH	Okha	1.46	6	ePg	Pg	17 49 52.5	+2.0
OKH				AMB	AMB	17 49 53.9	
	700nm,0.2s						
OKH				iSg	Sg	17 50 14.0	+4.5
OKH				A		17 50 16.1	
	300nm,0.5s						
OKH				A		17 50 16.1	
	700nm,0.5s						
NKL	Nikolayevsk	1.61	312	ePg	Pg	17 49 55.0	+1.6
NKL				AMB	AMB	17 49 57.5	
	76nm,0.3s						
NKL				eSg	Sg	17 50 18.0	+3.7
NKL				A		17 50 23.0	
	720nm,0.5s						
GRNR	Gornyy	4.14	254	eP	Pn	17 50 30.8	+5.1
GRNR				AMB	AMB	17 50 31.4	
	12nm,0.5s						
GRNR				ePg	Pg	17 50 46.0	+4.3
GRNR				eSg	Sg	17 51 37.5	+2.2
GRNR				A		17 51 38.0	
	38nm,0.5s						
EKMR	Ekimchan	6.01	283	ePb	Pb	17 51 08.5	+1.2
EKMR				ePg	Pg	17 51 20.5	+2.9
EKMR				AMB	AMB	17 51 24.6	
	4.0nm,0.5s						
EKMR				eSb	Sb	17 52 17.5	-1.8
EKMR				eSg	Sg	17 52 44.0	+8.5
EKMR				A		17 52 50.3	
	34nm,0.7s						
EKMR				A		17 52 50.3	
	12nm,0.7s						
EKMR				A		17 52 50.3	
	4.0nm,0.7s						

*IDC **01** 18:17:30.7±1.6, 2793S×7134W, h0km, mb3.8/2, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML3.8/4, Error ellipse: s-maj=44.3km s-min=25.4km az=64.0*
*NEIC **01** 18:17:35.8±0.9, 2794S×7130W, h35km, mb3.6/1, ML4.0(GUC), Error ellipse: s-maj=18.5km s-min=8.0km az=87.0*
*GUC **01** 18:17:35.7±0.6, 2815S×71.13W, h4km±5km, MD3.9, ML4.0*

ISC 01 18:17:33.2±2.9, 2796S±004×**7144W**±008, **h15**km±19km, **n19**, σ1°**07**/24, **mb3.5**/2, **1D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.86	136	iP	Pb	18 17 52.7	+2.8
VACH				eS	Sb	18 18 00.8	-0.3
VACH				AML	AML	18 18 03.9	
	comp=E,14μm,0.1s						
VACH	Vallenar	0.86	136	iP	Pb	18 17 52.7	+2.8
VACH				eS	Sb	18 18 00.8	-0.3
CDCH	Caldera	1.04	32	AML	AML	18 18 10.8	
	comp=N,3μm,0.5s						
CPCH	Copiapo	1.14	58	iP	Pn	18 17 55.3	+0.7
CPCH				iS	Sb	18 18 10.5	+1.3
CPCH				AML	AML	18 18 14.4	
	comp=E,17μm,0.1s						
CPCH	Copiapo	1.14	58	iP	Pn	18 17 55.3	+0.7
CPCH				iS	Sb	18 18 10.5	+1.3
LCO	Las Campanas	1.23	148	⇓iP	Pn	18 17 54.4	-1.5
LCO				iS	Sb	18 18 08.6	-3.3
LSCH	La Serena	1.95	175	iP	Pn	18 18 06.7	+1.0
LSCH				iS	Sn	18 18 29.9	0.0
TLL	Tololo Astrono	2.27	166	iS	Sn	18 18 38.9	+1.1
TLL				AML	AML	18 18 47.4	
	comp=E,3μm,0.5s						
CFAA	Coronel Fontan	4.58	143	Pn	Pn	18 18 42.3	+0.4
	comp=E,0.9nm,0.3s,baz=322,slow=12,SNR=80						
CFAA				Sn	Sn	18 19 34.6	-0.1
	comp=E,1.6nm,0.3s,baz=256,slow=19,SNR=4.7						
CFAA				Lg		18 19 49.9	
	comp=E,3.1nm,0.3s,baz=77,slow=21,SNR=11						
LVC	Limon Verde	5.80	24	Pn	Pn	18 18 58.0	-0.6
	comp=E,1.3nm,0.3s,baz=177,slow=10,SNR=

*NEIC **01** 18:29:43.2±1.1,601S×14660E,h49km±10km,mb4.5/6, Error ellipse: s-maj=10.3km s-min=8.7km az=115.0*

ISC 01 18:29:44.2±1.3,607S±006×14662E±007,h55km±12km, n56,σ0§91/43,mb4.4/18,MS4.0/11,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.35**	**171**	Pn		**Pn**		**18 30 33.0**	**-1.1**
	34nm,0.3s,baz=42,slow=6.0,SNR=158								
PMG				Pg		**Pn**		**18 30 43.3**	**+9.2**
	121nm,0.3s,baz=342,slow=11,SNR=60								
PMG				Sn		**Sn**		**18 31 11.8**	**-0.8**
	49nm,0.3s,baz=332,slow=16,SNR=6.4								
PMG				Lg				18 31 29.3	
	98nm,0.3s,baz=22,slow=22,SNR=4.1								
PMG				LR		LR		18 32 05.6	
	comp=Z,2μm,20.6s,baz=347,slow=42								
PMG	**Port Moresby**	**3.35**	**171**	*e*Pn		**Pn**		**18 30 32.8**	**-1.3**
PMG				Sn		**Sn**		**18 31 15.0**	**+2.4**
HNR	**Honiara**	**13.62**	**105**	Pn		**Pn**		**18 32 56.0**	**+1.5**
	1.3nm,0.3s,baz=272,slow=6.9,SNR=4.7								
HNR	**Honiara**	**13.62**	**105**	P		**Pn**		**18 32 54.3**	**-0.3**
	53nm,0.6s								
CTA	**Charters Tower**	**13.94**	**181**	*e*P		**Pn**		**18 32 59.9**	**+1.1**
	14nm,1.1s								
CTA	**Charters Tower**	**13.94**	**181**	Pn		**Pn**		**18 32 59.9**	**+1.1**
	0.6nm,0.3s,baz=8.6,slow=9.1,SNR=8.3								
CTA				LR		LR		18 38 14.6	
	comp=Z,1μm,18.8s,baz=4.4,slow=37								
CTAO	**Charters Tower**	**13.94**	**181**	*e*P		**Pn**		**18 33 00.0**	**+1.2**
KAKA	**Kakadu**	**15.46**	**244**	*e*P		**Pn**		**18 33 18.5**	**-0.2**
	28nm,0.4s								
WRA	**Warramunga Arr**	**18.23**	**220**	P		**Pn**		**18 33 52.9**	**-0.3**
	0.6nm,0.3s,baz=47,slow=12,SNR=43								
WRA				PcP		PcP		18 38 23.4	+0.1
	0.4nm,0.3s,baz=23,slow=1.7,SNR=8.6								
AS31	**Alice Springs**	**21.34**	**214**	*e*P		**P**		**18 34 27.2**	**+0.6**
ASAR	**Alice Springs**	**21.34**	**214**	P		**P**		**18 34 27.1**	**+0.5**
	3.4nm,0.5s,mb4.0,baz=53,slow=9.2,SNR=66								
ASAR				S		**S**		**18 38 25.1**	**+4.6**
	3.5nm,1.0s,baz=35,slow=22,SNR=4.9								
ASAR				LR		LR		18 44 04.8	
	comp=Z,772nm,18.4s,MS4.1,baz=38,slow=40								
FITZ	**Fitzroy Crossi**	**23.70**	**238**	*e*P		**P**		**18 34 50.4**	**-0.6**
	29nm,0.9s,mb4.7								
FITZ	**Fitzroy Crossi**	**23.70**	**238**	P		**P**		**18 34 49.1**	**-1.9**
	9.8nm,0.6s,mb4.4,baz=64,slow=9.2,SNR=47								
FITZ				LR		LR		18 45 05.5	
	comp=Z,304nm,20.8s,MS3.8,baz=204,slow=39								
ARMA	**Armidale**	**24.67**	**170**	*e*P		**P**		**18 35 00.2**	**+0.4**
DZM	**Mont Dzumac**	**24.90**	**132**	*e*P		**P**		**18 35 01.0**	**-0.9**
DZM	**Mont Dzumac**	**24.90**	**132**	P		**P**		**18 35 01.0**	**-0.9**
	15nm,0.6s,mb4.7,baz=140,slow=19,SNR=19								
STKA	**Stephens Creek**	**26.10**	**190**	*e*P		**P**		**18 35 12.3**	**-0.4**
	5.8nm,0.8s,mb4.2								
STKA	**Stephens Creek**	**26.10**	**190**	P		**P**		**18 35 11.6**	**-1.2**
	2.5nm,0.4s,mb4.1,baz=11,slow=10,SNR=13								
STKA				LR		LR		18 46 24.1	
	comp=Z,713nm,19.6s,MS4.2,baz=144,slow=38								
CBIJ	**Chichi jima**	**33.25**	**353**	LR		LR		18 49 17.5	
	comp=Z,51nm,18.8s,MS3.3,baz=111,slow=36								
KLBR	**Kellerberrin**	**37.06**	**223**	*e*P		**P**		**18 36 49.0**	**+0.1**
	69nm,1.8s,mb5.2								
JOW	**Kunigami**	**37.23**	**332**	P		**P**		**18 36 49.9**	**-0.4**
	6.2nm,0.4s,mb4.8,baz=138,slow=25,SNR=5.3								
JOW				LR		LR		18 49 29.3	
	comp=Z,170nm,19.5s,MS3.9,baz=40,slow=32								
NWAO	**Narrogin (SRO)**	**38.22**	**222**	LR		LR		18 54 28.7	
	comp=Z,385nm,19.5s,MS4.2,baz=315,slow=39								
MJAR	**Matsushiro Arr**	**43.12**	**350**	P		**P**		**18 37 38.7**	**-0.4**
	1.1nm,0.8s,mb3.6,baz=160,slow=7.8,SNR=4.2								
MJAR				LR		LR		18 52 30.0	
	comp=Z,184nm,21.9s,MS3.9,baz=155,slow=32								
RPZ	**Rata Peaks**	**43.21**	**154**	LR		LR		18 53 09.8	
	comp=Z,162nm,19.3s,MS3.9,baz=174,slow=33								
NJ2	**Nanjing**	**46.23**	**327**	*e*P		**P**		**18 38 04.5**	**+0.7**
MDJ	**Mudanjiang**	**52.73**	**345**	P		**P**		**18 38 53.4**	**0.0**
MDJ				AMB		AMB			
	comp=Z,3.0nm,0.7s,mb4.3								
MDJ				AMB		AMB			
	comp=Z,40nm,3.8s								
KMI	**Kunming**	**52.74**	**308**	P		**P**		**18 38 55.3**	**+1.9**
KMI				AP		pP		18 39 08.2	+0.1
KMI				XP		sP		18 39 13.2	-1.1
KMI				PP		PP		18 40 56.0	+2.9
KMI				S		**S**		**18 46 20.0**	**+2.6**
KMI				SS		SS		18 49 57.4	+0.9
KMI				SSS				18 51 45.0	
KMI				AMB		AMB			
	comp=Z,5.0nm,1.4s,mb4.2								
KMI				AMB		AMB			
	comp=Z,175nm,3.7s								
KMI				LR		LR			
	comp=N,208nm,17.6s,MS4.4								
KMI				LR		LR			
	comp=E,227nm,17.0s,MS4.4								
KMI				LR		LR			
	comp=Z,225nm,22.6s								
KMI	**Kunming**	**52.74**	**308**	P		**P**		**18 38 55.3**	**+1.9**
KMI				pP		pP		18 39 08.2	+0.1
KMI				sP		sP		18 39 13.2	-1.1
KMI				PP		PP		18 40 56.0	+2.9
KMI				S		**S**		**18 46 20.0**	**+2.6**
KMI				sS		sS		18 46 39.3	-2.8
KMI				SS		SS		18 49 57.4	+0.9
KMI				SSS				18 51 45.0	
CD2	**Chengdu**	**55.05**	**315**	*e*P		**P**		**18 39 10.8**	**+0.5**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
LZH	**Lanzhou**	**58.02**	**320**	*e*P		**P**		**18 39 32.5**	**+1.1**
LZH				AP		pP		18 39 42.0	-4.2
LZH				XP		sP		18 39 47.0	-5.4
LZH				AMB		AMB			
	comp=Z,14nm,1.0s,mb5.0								
LZH	**Lanzhou**	**58.02**	**320**	*e*P		**P**		**18 39 32.5**	**+1.1**
LZH				pP		pP		18 39 42.0	-4.2
LZH				sP		sP		18 39 47.0	-5.4
PPT	**Papeete**	**63.24**	**107**	*e*S		**S**		**18 48 35.6**	**+1.0**
	comp=Z,362nm,32.0s								
PPT				*e*LR		LR		18 59 01.9	
	comp=Z,88nm,23.2s								
TBI	**Tubuai**	**63.69**	**113**	*e*LR		LR		18 59 15.8	
	comp=Z,152nm,31.8s								
SONM	**Songino Array**	**64.28**	**331**	P		**P**		**18 40 13.1**	**-0.6**
	comp=Z,2.1nm,1.0s,mb4.1,baz=152,slow=6.3,SNR=15								
VNDA	**Vanda**	**71.86**	**177**	P		**P**		**18 41 01.1**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=326,slow=6.4,SNR=21								
VNDA				LR		LR		19 09 05.9	
	comp=Z,81nm,19.6s,MS4.0,baz=343,slow=33								
VNDA	**Vanda**	**71.86**	**177**	*e*P		**P**		**18 41 00.7**	**-0.6**
	comp=Z,4.4nm,0.9s,mb4.4								
SBA	**Scott Base**	**72.51**	**176**	*e*P		**P**		**18 41 05.5**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.3								
WMQ	**Urumqi**	**72.60**	**319**	*e*P		**P**		**18 41 04.6**	**-1.1**
WMQ				AMB		AMB			
	comp=Z,6.0nm,1.0s,mb4.5								
RKT	**Rikitea**	**77.00**	**112**	*e*LR		LR		19 05 22.3	
	comp=Z,125nm,30.2s								
MKAR	**Makanchi Array**	**77.31**	**321**	P		**P**		**18 41 31.4**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=8.1,SNR=9.3								
MAW	**Mawson**	**82.03**	**203**	P		**P**		**18 41 58.0**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.0,baz=99,slow=8.2,SNR=5.2								
QSPA	**South Pole Qui**	**83.89**	**180**	*e*P		**P**		**18 42 07.4**	**-0.7**
	comp=Z,5.8nm,0.8s,mb4.8								
YBH	**Yreka Blue Hor**	**94.50**	**49**	LR		LR		19 16 46.4	
	comp=Z,182nm,21.9s,MS4.5,baz=8.0,slow=30								
PLCA	**Paso Flores**	**122.27**	**147**	PKP		PKPdf		18 48 34.0	+1.1
	comp=Z,2.5nm,1.1s,baz=304,slow=6.2,SNR=6.9								
LVC	**Limon Verde**	**135.05**	**131**	*e*PKPdf		PKPdf		18 48 59.7	+2.5
LPAZ	**La Paz**	**139.06**	**123**	PKhKP				18 48 60.0	
	comp=Z,3.1nm,0.8s,baz=313,slow=3.2,SNR=5.9								
LPAZ				PKP		PKPdf		18 49 07.0	+2.4
	comp=Z,3.1nm,0.8s,baz=290,slow=1.8,SNR=12								
LPAZ	**La Paz**	**139.06**	**123**	PKP		PKPdf		18 48 60.0	-4.7
LPAZ				*e*PKPdf		PKPdf		18 49 07.1	+2.5
CPUP	**Villa Florida**	**140.29**	**145**	PKP		PKPdf		18 49 08.5	+1.6
	comp=Z,1.1nm,0.5s,baz=45,slow=2.4,SNR=5.7								
CPUP	**Villa Florida**	**140.29**	**145**	PKP		PKPdf		18 49 08.5	+1.6
TOA0	**Torodi Ar. Sit**	**144.74**	**284**	*e*PKPdf		PKPdf		18 49 14.7	-0.1
TORD	**Torodi Ar. Bea**	**144.74**	**284**	PKP		PKPdf		18 49 14.6	-0.2
	comp=Z,7.3nm,0.8s,baz=76,slow=3.2,SNR=59								
TORD	**Torodi Ar. Bea**	**144.74**	**284**	PKP		PKPdf		18 49 14.6	-0.2
MTP	**Monte Pirata**	**146.42**	**66**	*e*PKPdf		PKPdf		18 49 18.9	+1.2
SAML	**Samuel**	**146.76**	**116**	*e*PKPdf		PKPdf		18 49 19.6	+1.4
DBIC	**Dimbokro**	**151.64**	**273**	PKPbc		PKPbc		18 49 34.2	+1.9
	comp=Z,6.1nm,0.5s,baz=170,slow=2.6,SNR=20								
BDFB	**Brasilia**	**154.01**	**146**	PKP		PKPdf		18 49 31.4	+1.9
	comp=Z,2.4nm,0.5s,baz=226,slow=1.5,SNR=4.1								
BDFB				PKPbc		PKPbc		18 49 38.9	+1.4
	comp=Z,5.1nm,0.4s,baz=202,slow=1.4,SNR=15								

CASC 01 18:40:54.1±1.7,923N×7927W,h75km±10km,MD3.9, 3C-2D,Fault plane solution: NP1:φ±44.09000°, δ31.47000°,λ70.57000°.,Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UPA	**Univ. de Panam**	**0.36**	**226⇑**	*e*P			Pn	18 41 06.1	-0.1
UPA				*e*S			Sn	18 41 15.7	+0.6
ACH	**Altos**	**0.86**	**229⇓**	*i*P			Pn	18 41 10.6	-0.6
ACH				*e*S			Sn	18 41 24.2	+0.5
AZU	**Azuero**	**1.74**	**215⇓**	*e*P			Pn	18 41 22.1	-0.3
AZU				*e*S			Sn	18 41 45.0	+1.2
BUS	**Buena Vista**	**4.44**	**275⇑**	*e*P			Pn	18 42 00.5	+1.6
BUS				*e*S			Sn	18 42 53.1	+3.8
LCR2	**La Lucha 2**	**4.69**	**277**	*e*P			Pn	18 42 03.9	+1.5
LCR2				*e*S			Sn	18 42 56.0	+0.4
PRS1	**Puriscal**	**5.03**	**279⇑**	*e*P			Pn	18 42 09.4	+2.5

IDC 01 18:41:06.2±16.0,1757S×17941W,h644km±179km, mb3.3/3,mb1 3.4/4,mb1mx3.0/14,mbtmp4.3/4,Error ellipse: s-maj=116.7km s-min=109.6km az=97.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.04**	**249**	P		P		18 44 04.4	+0.6
	0.5nm,0.3s,baz=108,slow=20,SNR=5.6								
STKA	**Stephens Creek**	**37.96**	**240**	P		P		18 47 31.8	+0.2
	2.1nm,0.5s,baz=81,slow=9.7,SNR=13								
WRA	**Warramunga Arr**	**43.76**	**259**	P		P		18 48 17.5	+0.4
	1.1nm,0.5s,baz=94,slow=6.9,SNR=21								
ASAR	**Alice Springs**	**43.96**	**254**	P		P		18 48 19.3	+0.5
	12nm,0.6s,baz=88,slow=8.1,SNR=276								
GERES	**GERESS Array B**	**147.04**	**344**	PKPbc		PKPbc		18 59 38.0	-0.4
	0.2nm,0.4s,baz=41,slow=3.3,SNR=4.5								

IDC 01 18:47:17.2±1.3,2238N×9374E,h0km,mb3.5/5,mb1 3.7/5, mb1mx3.5/20,mbtmp3.5/5,Error ellipse: s-maj=63.7km s-min=21.5km az=60.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**26.06**	**342**	P		P		18 52 52.5	+0.2
	0.9nm,0.6s,baz=146,slow=9.2,SNR=12								
SONM	**Songino Array**	**27.36**	**19**	P		P		18 53 04.1	+0.1
	0.2nm,0.4s,baz=208,slow=7.2,SNR=2.7								
WRA	**Warramunga Arr**	**57.80**	**134**	P		P		18 57 10.5	+0.2
	0.4nm,0.6s,baz=321,slow=7.4,SNR=8.9								
ASAR	**Alice Springs**	**60.17**	**137**	P		P		18 57 27.2	+0.5
	0.3nm,0.5s,baz=323,slow=6.9,SNR=8.7								
GERES	**GERESS Array B**	**67.05**	**315**	P		P		18 58 12.2	0.0
	0.3nm,0.4s,baz=72,slow=6.3,SNR=4.1								

*NIED **01** 18:47:00,4170N×14430E,h20km,Mw4.0 Best double couple: M0:9.95000×10^14 NP1:φ±12.00000°,δ75.00000°, λ53.00000°. NP2:φ±264.00000°,δ40.00000°,λ157.00000°.*
*MOS **01** 18:47:35.8±1.0,4170N×14421E,h33km,mb4.2/9,Error ellipse: s-maj=15.6km s-min=10.1km az=98.3*
*ISCJB **01** 18:47:35.4±1.0,4168N±005×14444E±009,h37km±8km, mb3.9/11,MS3.8/1,Error ellipse: s-maj=13.1km s-min=6.8km az=60.8*
*JMA **01** 18:47:36.7±0.2,4174N×14430E,h27km±3km,M4.1*
*NEIC **01** 18:47:37.4±3.3,4177N×14426E,h32km±23km,mb4.2/4, Error ellipse: s-maj=17.8km s-min=9.2km az=99.0*
*IDC **01** 18:47:38.2±4.3,4172N×14429E,h38km±34km,mb3.6/8, mb1 3.8/10,mb1mx3.6/22,mbtmp3.8/10,ML3.2/2,MS3.7/1, Ms1 3.7/1,ms1mx2.9/34,Error ellipse: s-maj=36.9km s-min=23.4km az=95.0*

ISC 01 18:47:36.5±2.3,4175N±005×14438E±009,h29km±17km, n41,σ0§64/45,mb3.9/11,MS3.8/1,1C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.95**	**287**	*e*P		**Pn**		**18 47 54.0**	**0.0**
JEM	**Erimo**	**0.95**	**287**	P		**Pn**		**18 47 54.0**	**0.0**
JCH	**Churui**	**1.15**	**319**	P		**Pn**		**18 47 56.7**	**0.0**
JCH				*e*S		**Sn**		**18 48 11.8**	**+0.3**
JOB	**Onbets**	**1.23**	**341**	P		**Pn**		**18 47 57.8**	**+0.1**
JAK	**Akkeshi**	**1.27**	**11**	P		**Pn**		**18 47 58.5**	**+0.1**
JAK				*e*S		**Sn**		**18 48 15.0**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.32**	**294**	P		**Pn**		**18 47 59.2**	**+0.1**
ASAJ	**Asahikawa**	**2.71**	**332**	Pn		**Pn**		**18 48 18.6**	**+0.5**
	2.5nm,0.3s,baz=197,slow=10,SNR=65								
ASAJ	**Asahikawa**	**2.71**	**332**	P		**Pn**		**18 48 18.6**	**+0.5**
ASAJ				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KUR	**Kuril'sk**	**4.31**	**35**	*e*P		**Pn**		**18 48 44.0**	**+3.8**
KUR				*e*S		**Sn**		**18 49 28.8**	**-0.7**
KUR				smax					
	comp=N,60nm,0.8s								
KUR				smax					
	comp=E,90nm,0.8s								
YSS	**Yuzh-Sakhalins**	**5.34**	**348**	P		**Pn**		**18 48 53.9**	**-0.4**
MAJO	**Matsushiro**	**7.07**	**225**	*e*P		**Pn**		**18 49 18.0**	**0.0**
MAJO				pmax		pmax			
	comp=Z,5.0nm,0.5s								
MAJO	**Matsushiro**	**7.07**	**225**	*e*Pn		**Pn**		**18 49 18.0**	**0.0**
	comp=Z,4.9nm,0.5s								
MAT	**Matsushiro**	**7.07**	**225**	P		**Pn**		**18 49 18.1**	**+0.1**
MAT				*e*S		**Sn**		**18 50 41.8**	**+4.4**
MJAR	**Matsushiro Arr**	**7.07**	**225**	Pn		**Pn**		**18 49 18.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=12								
MJAR	**Matsushiro Arr**	**7.07**	**225**	P		**Pn**		**18 49 18.1**	**+0.1**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
HIA	**Hailar**	**18.78**	**302**	*e*P		**Pn**		**18 51 51.8**	**-2.2**
HIA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
HIA	**Hailar**	**18.78**	**302**	*e*P		**Pn**		**18 51 51.8**	**-2.2**
	comp=Z,6.6nm,0.8s								
YAK	**Yakutsk**	**22.14**	**341**	*e*P		**P**		**18 52 25.6**	**-4.3**
YAK				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.2								
YAK	**Yakutsk**	**22.14**	**341**	*e*P		**P**		**18 52 25.6**	**-4.3**
	comp=Z,9.5nm,0.9s,mb4.2								
SONM	**Songino Array**	**27.43**	**296**	P		**P**		**18 53 20.5**	**+0.7**
	comp=Z,0.8nm,0.4s,mb3.6,baz=91,slow=9.0,SNR=14								
SONM	**Songino Array**	**27.43**	**296**	P		**P**		**18 53 20.5**	**+0.7**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZAK	**Zakamensk**	**29.47**	**301⇑**	*e*P		**P**		**18 53 39.0**	**+1.1**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.3s,mb3.7								
MKAR	**Makanchi Array**	**43.73**	**299**	P		**P**		**18 55 39.0**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.8,baz=53,slow=8.2,SNR=6.1								
MKAR	**Makanchi Array**	**43.73**	**299**	P		**P**		**18 55 39.1**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**49.16**	**29**	P		**P**		**18 56 22.4**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=310,slow=7.0,SNR=4.3								
INK				LR		LR		19 18 02.8	
	comp=Z,81nm,18.7s,MS3.8,baz=158,slow=37								
INK	**Inuvik**	**49.16**	**29**	*e*P		**P**		**18 56 22.7**	**+0.9**
	comp=Z,78nm,0.8s								
INK				LR		LR		19 18 02.8	
ZRNK	**Zerenda**	**50.03**	**310**	*e*P		**P**		**18 56 27.7**	**-0.7**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
ZRNK	**Zerenda**	**50.03**	**310**	*e*P		**P**		**18 56 27.7**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.3								
ARU	**Arti**	**54.42**	**317**	*e*P		**P**		**18 57 00.3**	**-0.7**
WRA	**Warramunga Arr**	**62.07**	**191**	P		**P**		**18 57 54.5**	**0.0**
	comp=Z,0.3nm,0.8s,mb3.5,baz=7,slow=6.8,SNR=4.0								
FINES	**FINESS Array B**	**65.72**	**332**	P		**P**		**18 58 18.3**	**-0.2**
	comp=Z,2.8nm,0.9s,mb4.3,baz=46,slow=5.8,SNR=6.0								
FINES	**FINESS Array B**	**65.72**	**332**	P		**P**		**18 58 18.3**	**-0.2**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**70.71**	**338**	P		**P**		**18 58 49.7**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=34,slow=6.2,SNR=3.7								
NOA	**NORSAR Array B**	**70.71**	**338**	P		**P**		**18 58 49.7**	**-0.1**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
NOA	**NORSAR Array B**	**70.71**	**338**	P		**P**		**18 58 49.7**	**-0.1**
AKASG	**Malin Array Be**	**71.96**	**323**	P		**P**		**18 58 56.7**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=42,slow=6.3,SNR=6.6								
AKASG	**Malin Array Be**	**71.96**	**323**	P		**P**		**18 58 56.7**	**-0.7**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**71.96**	**323**	P		**P**		**18 58 56.7**	**-0.6**
CLL	**Collm**	**78.12**	**331**	*e*P		**P**		**18 59 33.0**	**+0.1**
GERES	**GERESS Array B**	**79.88**	**329**	P		**P**		**18 59 43.1**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=39,slow=8.0,SNR=3.7								
GERES	**GERESS Array B**	**79.88**	**329**	P		**P**		**18 59 43.1**	**+0.6**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.8s								

*ISCJB **01** 19:00:14.5±1.8,484N±0.10×1247E±02,h49km±18km, mb4.2/9,MS3.5/7,Error ellipse: s-maj=38.2km s-min=10.9km az=141.5*
*MAN **01** 19:00:16.1,520N×12444E,h170km,mb3.2,ML4.5,MS5.8*
*NEIC **01** 19:00:17.4±2.1,481N×12475E,h60km±21km,mb4.5/1, Error ellipse: s-maj=32.5km s-min=8.9km az=75.0*
*IDC **01** 19:00:20.2±10.0,487N×12503E,h86km±104km,mb4.0/7, mb1 4.2/7,mb1mx3.9/16,mbtmp4.3/7,MS3.6/7,Ms1 3.6/7, ms1mx3.4/21,Error ellipse: s-maj=54.7km s-min=16.5km az=79.0*

ISC 01 19:00:15.5±1.7,483N±009×1247E±02,h37km±18km,n26, σ0§91/24,mb4.4/12,MS3.5/7,3D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.39**	**21⇓**	*e*P			**Pn**	**19 00 55.0**	**+2.8**
DAV	**Davao City (W)**	**2.39**	**21**	*e*Pn			**Pn**	**19 00 54.3**	**+2.1**
CTBH	**Cotabato--PC H**	**2.42**	**349⇓**	*e*P			**Pn**	**19 00 52.2**	**-0.3**
CTBH				*i* S			**Sn**	**19 01 20.0**	**-0.9**
CGP	**Cagayan de Oro**	**3.60**	**360⇓**	*i*P			**Pn**	**19 01 08.4**	**-0.4**
CGP				*i* S			**Sn**	**19 01 57.3**	**+7.2**
KAKA	**Kakadu**	**19.05**	**156**	*e*P			**Pn**	**19 04 30.1**	**-5.4**
	13nm,0.6s								
GUMO	**Guam**	**21.71**	**65**	LR		LR		19 13 19.7	
	comp=Z,112nm,18.3s,MS3.3,baz=222,slow=36								
JOW	**Kunigami**	**22.14**	**9**	LR		LR		19 14 26.8	
	comp=Z,129nm,18.9s,MS3.4,baz=315,slow=38								
FITZ	**Fitzroy Crossi**	**22.81**	**178**	*e*P			**P**	**19 05 14.1**	**-0.9**
	24nm,0.5s,mb4.9								
FITZ	**Fitzroy Crossi**	**22.81**	**178**	P			**P**	**19 05 16.1**	**+1.0**
	14nm,0.5s,mb4.6,baz=4.2,slow=7.5,SNR=90								
FITZ				LR		LR		19 14 00.7	
	comp=Z,120nm,20.6s,MS3.3,baz=359,slow=36								
PSI	**Prapat**	**25.80**	**266**	LR		LR		19 15 12.6	
	comp=Z,398nm,20.1s,MS3.9,baz=281,slow=34								
WRA	**Warramunga Arr**	**26.38**	**159**	P			**P**	**19 05 47.3**	**-1.1**
	9.9nm,0.8s,mb4.4,baz=333,slow=11,SNR=72								
AS31	**Alice Springs**	**29.71**	**163**	*e*P			**P**	**19 06 17.7**	**-0.4**
ASAR	**Alice Springs**	**29.71**	**163**	P			**P**	**19 06 17.6**	**-0.5**
	1.3nm,0.6s,mb3.9,baz=341,slow=7.2,SNR=33								
ASAR				LR		LR		19 18 39.3	
	comp=Z,81nm,20.9s,MS3.3,baz=333,slow=37								
CTAO	**Charters Tower**	**32.59**	**140**	*e*P			**P**	**19 06 44.2**	**+0.8**
	26nm,1.3s,mb5.0								
MJAR	**Matsushiro Arr**	**33.91**	**20**	P			**P**	**19 06 53.5**	**-1.4**
	1.5nm,0.8s,mb4.0,baz=187,slow=8.0,SNR=5.1								
MJAR				LR		LR		19 18 38.1	
	comp=Z,142nm,20.4s,MS3.7,baz=215,slow=32								
LZH	**Lanzhou**	**36.55**	**331**	*e*P			**P**	**19 07 21.5**	**+3.9**
LZH				pP			pP	19 07 28.5	+0.4
LZH				sP			sP	19 07 32.0	-0.5
STKA	**Stephens Creek**	**39.90**	**157**	*e*P			**P**	**19 07 46.2**	**+0.4**
	7.1nm,0.9s,mb4.4								
STKA	**Stephens Creek**	**39.90**	**157**	P			**P**	**19 07 45.8**	**0.0**
	8.3nm,0.8s,mb4.5,baz=337,slow=7.6,SNR=16					

	19nm,0.2s,SNR=1.0						
TUE	**Stuetta**	**2.15 359**	Pg		**Pn**	**19 04 46.1**	**+1.0**
	20nm,0.3s						
LPG	**La Plagne**	**2.23 303**	*e*Pn		**Pn**	**19 04 47.3**	**+1.0**
	SNR=1.0						
LPG			*e*Sn		**Sn**	**19 05 13.5**	**-0.9**
	14nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.23 303**	*e*Pn		**Pn**	**19 04 47.3**	**+1.0**
	SNR=1.0						
LPG			*e*Sn		**Sn**	**19 05 13.5**	**-0.9**
	7.2nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.25 303**	*e*Pn		**Pn**	**19 04 47.6**	**+1.0**
	SNR=1.0						
LPL			*e*Sn		**Sn**	**19 05 14.7**	**-0.2**
	20nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**2.25 303**	*e*Pn		**Pn**	**19 04 47.6**	**+1.0**
	SNR=1.0						
LPL			*e*Sn		**Sn**	**19 05 14.7**	**-0.2**
	10nm,0.6s,SNR=1.0						
LMR	**La Mourre**	**2.33 246**	*e*Pn		**Pn**	**19 04 46.7**	**-0.9**
	SNR=1.0						
LMR			*e*Sn		**Sn**	**19 05 13.0**	**-3.8**
	12nm,0.2s,SNR=1.0						
CTI	**Castel Tesino**	**2.33 42**	Pg		**Pn**	**19 04 47.2**	**-0.4**
	13nm,0.3s						
RSL	**Roselend**	**2.41 305**	Pg		**Pg**	**19 04 53.9**	**-0.7**
RSL	**Roselend**	**2.41 305**	Pn		**Pn**	**19 04 52.2**	**+3.5**
RSL			Pg		**Pg**	**19 04 53.9**	**-0.7**
RSL	**Roselend**	**2.41 305**	Pg		**Pg**	**19 04 53.9**	**-0.7**
TAVF	**Tavernes**	**2.53 255**	Pg		**Pg**	**19 04 57.6**	**+0.7**
ORIF	**Oris-en-Rattie**	**2.60 284**	*e*Pn		**Pn**	**19 04 53.2**	**+1.9**
	SNR=1.0						
ORIF			*e*Sn		**Sn**	**19 05 21.5**	**-1.9**
	11nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.79 264**	*e*Pn		**Pn**	**19 04 54.9**	**+0.9**
	SNR=1.0						
SMRF			*e*Sn		**Sn**	**19 05 26.3**	**-1.9**
SMRF			*e*Sg		**Sg**	**19 05 40.9**	**+2.8**
	18nm,0.6s						
SMRF	**Simiane la Rot**	**2.79 264**	*e*Pn		**Pn**	**19 04 54.9**	**+0.9**
	SNR=1.0						
SMRF			*e*Sn		**Sn**	**19 05 26.3**	**-1.9**
SMRF			*e*Sg		**Sg**	**19 05 40.9**	**+2.8**
	9.0nm,0.6s						
DAVA	**Damuels**	**2.98 6**	*i* Pn		**Pn**	**19 04 58.7**	**+2.2**
	SNR=7.6						
DAVA			⇓*i*Sn		**Sn**	**19 05 35.6**	**+2.8**
DAVA	**Damuels**	**2.98 6**	Pn		**Pn**	**19 04 58.7**	**+2.2**
	7.0nm,6.0s						
DAVA			Sn		**Sn**	**19 05 35.6**	**+2.8**
SQTA	**Sankt Quirin**	**3.15 23**	⇓*i*Pn		**Pn**	**19 05 00.2**	**+1.2**
	SNR=14						
SQTA			⇑*i*Sn		**Sn**	**19 05 39.3**	**+2.2**
SQTA	**Sankt Quirin**	**3.15 23**	Pn		**Pn**	**19 05 00.2**	**+1.3**
	13nm,9.0s						
SQTA			Sn		**Sn**	**19 05 39.3**	**+2.2**
MOTA	**Moosalm**	**3.24 21**	⇓*i*Pn		**Pn**	**19 05 01.4**	**+1.3**
	SNR=9.5						
MOTA			⇓*i*Sn		**Sn**	**19 05 41.1**	**+1.8**
MOTA	**Moosalm**	**3.24 21**	Pn		**Pn**	**19 05 01.4**	**+1.3**
	9.0nm,5.0s						
MOTA			Sn		**Sn**	**19 05 41.1**	**+1.9**
CABF	**La Chapelle**	**3.28 315**	*e*Pn		**Pn**	**19 05 02.4**	**+1.8**
CABF			*e*Sn		**Sn**	**19 05 40.4**	**+0.3**
	5.5nm,0.3s						
CABF	**La Chapelle**	**3.28 315**	*e*Pn		**Pn**	**19 05 02.4**	**+1.8**
CABF			*e*Sn		**Sn**	**19 05 40.4**	**+0.3**
	2.8nm,0.3s						
WTTA	**Wattenberg**	**3.32 27**	⇑*i*Pn		**Pn**	**19 05 02.6**	**+1.4**
	SNR=20						
WTTA			⇓*i*Sn		**Sn**	**19 05 43.3**	**+2.1**
WTTA	**Wattenberg**	**3.32 27**	Pn		**Pn**	**19 05 02.6**	**+1.4**
	20nm,1.0s						
WTTA			Sn		**Sn**	**19 05 43.3**	**+2.1**
WATA	**Walderalm**	**3.37 26**	⇓*i*Pn		**Pn**	**19 05 02.9**	**+1.1**
WATA			⇑*i*Sn		**Sn**	**19 05 44.2**	**+1.9**
VIVF	**Saint-Julien-l**	**3.44 281**	*e*Pn		**Pn**	**19 05 03.7**	**+0.9**
	SNR=1.0						
VIVF			*e*Sn		**Sn**	**19 05 42.2**	**-1.9**
	1.8nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.44 281**	*e*Pn		**Pn**	**19 05 03.7**	**+0.9**
	SNR=1.0						
VIVF			*e*Sn		**Sn**	**19 05 42.2**	**-1.9**
	0.9nm,0.3s,SNR=1.0						
NVLJ	**Novalja**	**3.91 85**	*i* Pn		**Pn**	**19 05 09.6**	**+0.3**
NVLJ			*i* Sn		**Sn**	**19 05 54.0**	**-1.6**
HINF	**Hinteralfeld**	**3.93 334**	*e*Pn		**Pn**	**19 05 10.5**	**+1.0**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**19 05 53.6**	**-2.5**
	6.3nm,0.3s						
HINF	**Hinteralfeld**	**3.93 334**	*e*Pn		**Pn**	**19 05 10.5**	**+1.0**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**19 05 53.6**	**-2.5**
	3.2nm,0.3s						
LASF	**Ste Croix**	**4.01 268**	*e*Pn		**Pn**	**19 05 10.6**	**-0.1**
	SNR=1.0						
LASF			*e*Sn		**Sn**	**19 05 55.0**	**-3.3**
	1.8nm,0.3s						
HAU	**Haudompre**	**4.26 331**	*e*Pn		**Pn**	**19 05 15.5**	**+1.4**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**19 06 01.9**	**-2.4**
	20nm,0.3s						
HAU	**Haudompre**	**4.26 331**	*e*Pn		**Pn**	**19 05 15.5**	**+1.4**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**19 06 01.9**	**-2.4**
	9.8nm,0.3s						
CDF	**Champ du Feu**	**4.35 341**	*e*Pn		**Pn**	**19 05 16.0**	**+0.6**
	SNR=1.0						
CDF			*e*Sn		**Sn**	**19 06 04.4**	**-2.2**
	4.8nm,0.3s						
CDF	**Champ du Feu**	**4.35 341**	*e*Pn		**Pn**	**19 05 16.0**	**+0.6**
	SNR=1.0						
CDF			*e*Sn		**Sn**	**19 06 04.4**	**-2.2**
	2.4nm,0.3s						
SMF	**Signal de Mont**	**4.56 303**	*e*Pn		**Pn**	**19 05 19.0**	**+0.7**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**19 06 10.9**	**-0.9**
	6.7nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**4.56 303**	*e*Pn		**Pn**	**19 05 19.0**	**+0.7**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**19 06 10.9**	**-0.9**
	3.3nm,0.4s,SNR=1.0						
MOA	**Molln**	**4.88 42**	⇑*i*Pn		**Pn**	**19 05 22.9**	**+0.4**
MOA	**Molln**	**4.88 42**	⇑*i*Pn		**Pn**	**19 05 22.9**	**+0.4**
LOR	**Lormes**	**4.88 309**	*e*Pn		**Pn**	**19 05 24.5**	**+1.8**
	SNR=1.0						
LOR			*e*Sn		**Sn**	**19 06 18.9**	**-0.8**
	6.5nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.88 309**	*e*Pn		**Pn**	**19 05 24.5**	**+1.8**
	SNR=1.0						
LOR			*e*Sn		**Sn**	**19 06 18.9**	**-0.8**
	3.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**4.93 302**	*e*Pn		**Pn**	**19 05 24.4**	**+1.1**
	SNR=1.0						
SSF	**Saint Saulge**	**4.97 306**	*e*Pn		**Pn**	**19 05 25.5**	**+1.6**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**19 06 19.5**	**-2.4**
	2.3nm,0.4s						
SSF	**Saint Saulge**	**4.97 306**	*e*Pn		**Pn**	**19 05 25.5**	**+1.6**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**19 06 19.5**	**-2.4**
	1.1nm,0.4s						
BGF	**Bois d'Agland**	**5.14 298**	*e*Pn		**Pn**	**19 05 27.0**	**+0.8**
	SNR=1.0						
BGF			*e*Sn		**Sn**	**19 06 24.1**	**-2.0**
	5.5nm,0.3s						
BGF	**Bois d'Agland**	**5.14 298**	*e*Pn		**Pn**	**19 05 27.0**	**+0.8**
	SNR=1.0						
BGF			*e*Sn		**Sn**	**19 06 24.1**	**-2.0**
	2.8nm,0.3s						
CAF	**Calviac**	**5.29 279**	*e*Pn		**Pn**	**19 05 29.0**	**+0.7**
MTLF	**Montolieu**	**5.31 262**	*e*Pn		**Pn**	**19 05 29.2**	**+0.7**
GEC2	**GERESS Array S**	**5.40 32**	*e*Pn		**Pn**	**19 05 28.4**	**-1.3**
GEC2	**GERESS Array S**	**5.40 32**	*e*Pn		**Pn**	**19 05 28.4**	**-1.4**
KHC	**Kasperske Hory**	**5.59 29**	*e*PN		**Pn**	**19 05 31.3**	**-1.1**
KHC			*e*SN		**Sn**	**19 06 29.3**	**-7.9**

ISCJB ***01*** *19:08:35.9±0.5, 3936N×2789E±002, h7km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=79.5*
CSEM ***01*** *19:08:35.4±0.1, 3935N×2787E, h8km, MD3.1, Error ellipse: s-maj=2.7km s-min=1.6km az=117.0*
ATH ***01*** *19:08:36.4, 3938N×2785E, h20km, MD3.5/3*
NEIC ***01*** *19:08:36.0, 3935N×2783E, h14km, MD3.1(ISK), MD3.5(ATH), After ISK.*

ISK ***01*** *19:08:37.5, 3936N×2781E, h28km, MD3.1*
ISC 01 19:08:36.9±0.5, 3935N±002×2786E±003, h12km±3km, n43, σ0°94/60, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**0.43**	**18**	*i* P	**Pg**	**19 08 44.8**	**-0.7**
BTOK				*i* S	**Sg**	**19 08 50.3**	**-0.9**
AKHS	**Akhisar**	**0.47**	**184**	*i* P	**Pg**	**19 08 45.6**	**-0.6**
AKHS				*i* S	**Sg**	**19 08 53.1**	**+0.6**
AYVA	**Ayvalik**	**0.91**	**268**	*i* P	**Pg**	**19 08 54.1**	**-0.3**
AYVA				*i* S	**Sg**	**19 09 07.0**	**+0.8**
CANB	**Canakkale**	**0.91**	**318**	*i* PG	**Pg**	**19 08 53.9**	**-0.5**
CANB				*i* SG	**Sg**	**19 09 06.2**	**0.0**
KDAG	**Bornova**	**1.05**	**206**	*i* P	**Pb**	**19 08 56.3**	**-0.8**
KDAG				*i* S	**Sb**	**19 09 12.5**	**+1.7**
IZM	**Izmir**	**1.06**	**206**	*i* PG	**Pg**	**19 08 56.3**	**-1.0**
BLCB	**Balcova**	**1.15**	**214**	*i* PN	**Pn**	**19 08 58.4**	**-0.5**
BLCB				*i* SN	**Sn**	**19 09 13.1**	**-1.5**
PRK	**Paraskevi**	**1.23**	**266**	*e*PN	**Pn**	**19 08 59.7**	**-0.3**
PRK				*e*SN	**Sn**	**19 09 16.8**	**+0.2**
ULDT	**Uludag**	**1.27**	**51**	*i* P	**Pn**	**19 08 59.7**	**-0.8**
ULDT				*i* S	**Sb**	**19 09 16.1**	**-0.9**
MRMT	**Marmara Adasi**	**1.27**	**351**	*i* PN	**Pn**	**19 08 59.5**	**-1.0**
MRMT				*i* SN	**Sn**	**19 09 15.8**	**-1.6**
EZN	**Ezine**	**1.27**	**292**	*i* PN	**Pn**	**19 08 59.6**	**-1.0**
GDZ	**Gediz**	**1.29**	**101**	*i* P	**Pn**	**19 09 00.7**	**-0.1**
GDZ				*i* S	**Sb**	**19 09 17.0**	**-0.6**
URLA	**Izmir**	**1.40**	**225**	*i* P	**Pn**	**19 09 03.2**	**+0.9**
URLA				*i* S	**Sn**	**19 09 23.4**	**+2.8**
SART	**Tekirdag**	**1.44**	**339**	*i* P	**Pn**	**19 09 02.5**	**-0.3**
SART				*i* S	**Sn**	**19 09 23.2**	**+1.6**
BOZC	**Bozcaada**	**1.48**	**290**	*i* P	**Pn**	**19 09 03.1**	**-0.2**
BOZC				*i* S	**Sn**	**19 09 22.6**	**-0.1**
GEMT	**Gemlik**	**1.49**	**43**	*i* PN	**Pn**	**19 09 03.2**	**-0.4**
YLV	**Yalova**	**1.68**	**43**	PN	**Pn**	**19 09 05.7**	**-0.5**
AYDN	**Tasoluk**	**1.69**	**179**	*i* P	**Pn**	**19 09 05.6**	**-0.7**
AYDN				*i* S	**Sn**	**19 09 26.0**	**-1.8**
ALT	**Altintas**	**1.78**	**99**	PN	**Pn**	**19 09 07.4**	**-0.1**
ADVT	**Abdulvahap**	**1.81**	**53**	PN	**Pn**	**19 09 08.4**	**+0.5**
SMG	**Samos**	**1.82**	**206**	*e*PN	**Pn**	**19 09 09.1**	**+1.0**
HRT	**Hereke**	**2.02**	**43**	PN	**Pn**	**19 09 11.1**	**+0.2**
MLSB	**Milas**	**2.05**	**182**	*e*PN	**Pn**	**19 09 11.4**	**+0.1**
KLYT	**Kilyos**	**2.11**	**25**	PN	**Pn**	**19 09 12.4**	**+0.4**
BODT	**Bodrum**	**2.32**	**191**	*e*PN	**Pn**	**19 09 14.8**	**-0.2**
ESKT	**Eskisehir**	**2.33**	**85**	*i* P	**Pn**	**19 09 15.0**	**0.0**
ESKT				*i* S	**Sg**	**19 09 51.5**	**-0.1**
ESKT	**Eskisehir**	**2.33**	**85**	*e*Pn	**Pn**	**19 09 14.8**	**-0.2**
SEYT	**Eskypehyr**	**2.33**	**85**	*i* P	**Pn**	**19 09 15.0**	**0.0**
TKTP	**Tekketepe**	**2.33**	**123**	*i* P	**Pn**	**19 09 15.2**	**+0.1**
TKTP				*i* S	**Sg**	**19 10 00.8**	**+8.9**
RDO	**Rodhopi**	**2.52**	**316**	*e*PN	**Pn**	**19 09 18.3**	**+0.5**
DAT	**Datca**	**2.63**	**185**	*e*PN	**Pn**	**19 09 18.8**	**-0.4**
EDRB	**Edirne**	**2.63**	**342**	*e*PN	**Pn**	**19 09 19.1**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.65**	**166**	*e*PN	**Pn**	**19 09 20.1**	**+0.6**
SGKT	**Sivrigoynuk**	**3.45**	**68**	*i* P	**Pn**	**19 09 31.9**	**+1.3**
SGKT				*i* S	**Sg**	**19 10 30.2**	**+2.4**
ANTO	**Ankara**	**3.85**	**81**	⇑*i*P	**Sg**	**19 10 41.7**	**+1.2**
TIRR	**Tirgusor**	**5.12**	**4**	⇓*i*P	**Pn**	**19 09 52.6**	**-0.9**
TIRR	**Tirgusor**	**5.12**	**4**	⇓P	**Pn**	**19 09 52.6**	**-0.8**
MLR	**Muntele Rosu**	**6.30**	**348**	⇑*i*P	**Pn**	**19 10 11.4**	**+1.8**
MLR	**Muntele Rosu**	**6.30**	**348**	⇑P	**Pn**	**19 10 11.4**	**+1.8**
PLOR	**Plostina**	**6.56**	**353**	⇑*i*P	**Pn**	**19 10 16.0**	**+2.8**
VRI	**Vrincioaia**	**6.57**	**353**	⇑*i*P	**Pn**	**19 10 19.1**	**+5.8**
BURAR	**Bucovina Array**	**8.48**	**348**	⇑*i*P	**Pn**	**19 10 40.5**	**+0.9**
BURAR	**Bucovina Array**	**8.48**	**348**	⇑P	**Pn**	**19 10 40.5**	**+0.9**

SKHL ***01*** *19:10:50.8±0.5, 4605N×14182E, h10km, mb4.6/1*
IDC ***01*** *19:10:50.3±1.5, 4623N×14198E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=81.8km s-min=18.4km az=74.0*
JMA ***01*** *19:10:51.2±0.2, 4623N×14170E, h25km±3km, M3.4*
ISCJB ***01*** *19:10:52.4±0.9, 4617N±003×14166E±009, h24km±7km, mb3.7/5, Error ellipse: s-maj=10.8km s-min=5.0km az=26.4*
MOS ***01*** *19:10:53.7±1.6, 4624N×14158E, h33km, mb4.4/2, Error ellipse: s-maj=42.9km s-min=18.2km az=97.5*
NEIC ***01*** *19:10:53.4±0.6, 4633N×14161E, h10km, Error ellipse: s-maj=13.4km s-min=11.0km az=107.0*
ISC 01 19:10:52.0±1.0, 4615N±003×14174E±010, h13km±6km, n19, σ0°72/26, mb3.7/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.84**	**172**	P	**Pg**	**19 11 08.2**	**-0.1**
JWK2				*e*S	**Sg**	**19 11 19.9**	**+0.5**
JRR	**Rishiri**	**1.06**	**197**	P	**Pb**	**19 11 11.4**	**-0.8**
JRR				*e*S	**Sb**	**19 11 26.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**1.06**	**41**	*e*Pg	**Pg**	**19 11 12.0**	**-0.6**
YSS				AMB	AMB	19 11 14.0	
	150nm,0.3s						
YSS				AMB	AMB	19 11 14.0	
	130nm,0.3s						
YSS				AMB	AMB	19 11 14.0	
	210nm,0.3s						
YSS				*e*rx	rx	19 11 17.0	
YSS				*e*Sg	**Sg**	**19 11 27.0**	**+0.6**
YSS				A		19 11 30.0	
	150nm,0.2s						
YSS				A		19 11 30.0	
	980nm,0.2s						
YSS	**Yuzh-Sakhalins**	**1.06**	**41**	*e*Pg	**Pg**	**19 11 12.8**	**+0.2**
YSS				*e*		19 11 18.1	
YSS				*e*Sn	**Sn**	**19 11 26.5**	**-0.8**
JSE	**Soyaes**	**1.33**	**153**	P	**Pn**	**19 11 15.3**	**-1.0**
JSE				*e*S	**Sb**	**19 11 33.8**	**0.0**
JYG	**Yagishiri**	**1.74**	**187**	P	**Pn**	**19 11 21.4**	**-0.5**
JYG				*e*S	**Sn**	**19 11 43.2**	**-0.7**
JSS	**Shosan**	**1.75**	**177**	P	**Pn**	**19 11 21.5**	**-0.6**
ASAJ	**Asahikawa**	**2.12**	**163**	Pn	**Pn**	**19 11 26.9**	**-0.3**
	5.9nm,0.3s,baz=343,slow=14,SNR=49						
ASAJ				Sn	**Sn**	**19 11 55.1**	**+1.7**
	11nm,0.3s,baz=318,slow=25,SNR=7.8						
ASAJ	**Asahikawa**	**2.12**	**163**	PN	**Pn**	**19 11 26.9**	**-0.3**
ASAJ						19 11 55.1	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,11nm,0.3s						
UGL	**Uglegorsk**	**2.94**	**4**	*e*Sg	**Sg**	**19 12 35.5**	**+9.1**
ERM	**Erimo**	**4.26**	**166**	*e*PN	**Pn**	**19 12 01.6**	**+5.0**
MKAR	**Makanchi Array**	**40.09**	**293**	P	**P**	**19 18 27.9**	**+0.7**
	comp=N,0.2nm,0.2s,mb3.4,baz=70,slow=8.1,SNR=1.1						
FIA1	**FINESS Array S**	**60.94**	**330**	*e*P	**P**	**19 21 05.3**	**+0.7**
FINES	**FINESS Array B**	**60.94**	**330**	P	**P**	**19 21 04.9**	**+0.2**
	comp=N,1.2nm,0.6s,mb4.2,baz=49,slow=8.8,SNR=11						
FINES	**FINESS Array B**	**60.94**	**330**	P	**P**	**19 21 04.9**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**65.92**	**336**	P	**P**	**19 21 37.2**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=35,slow=6.3,SNR=2.2						
HFS	**Hagfors**	**65.93**	**334**	P	**P**	**19 21 37.5**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=97,slow=7.4,SNR=7.5						
HFS	**Hagfors**	**65.93**	**334**	P	**P**	**19 21 37.5**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**69.85**	**188**	P	**P**	**19 22 03.9**	**+1.6**
	comp=Z,0.3nm,0.9s,mb3.2,baz=8.7,slow=7.0,SNR=2.7						

ISCJB ***01*** *19:17:58.3±0.2, 4433N±002×943E±002, h6km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=167.5*
GEN ***01*** *19:17:58.9, 4438N×946E, h10km, ML3.0*
CSEM ***01*** *19:17:58.6±0.1, 4432N×955E, h10km, ML3.5/11, Error ellipse: s-maj=2.1km s-min=1.2km az=6.0*
NEIC ***01*** *19:17:58.9, 4435N×951E, h11km, ML2.9(ROM), ML3.1(STR), ML3.1(SZGRF), ML3.2(LDG), After ROM.*
ROM ***01*** *19:17:58.9±0.1, 4435N×951E, h11km±2km, Md3.1/23, Ml2.9/14, Error ellipse: s-maj=2.1km s-min=1.6km az=132.0*
PRU ***01*** *19:18:00.1, 4441N×964E, h0km*
VIE ***01*** *19:18:01.8±0.5, 4432N×967E, h10km, mb2.6/4, ML3.1/7, Error ellipse: s-maj=4.8km s-min=2.3km az=51.0 59 km E of Genua*
STR ***01*** *19:18:02.3±0.9, 4405N×931E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***01*** *19:18:02.3±0.1, 4431N×947E, h10km, Ml3.2/17, Error ellipse: s-maj=4.0km s-min=2.7km az=163.0*

SZGRF ***01*** *19:18:03.7, 4458N×943E, h10km, mb3.1, Northern Italy*
ISC 01 19:17:59.3±0.3, 4433N±002×945E±002, h4km±2km, n106, σ1°19/181, 10C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabr**	**0.10**	**41**	P	**Pg**	**19 18 01.1**	**-0.3**
SC2M				S	**Sg**	**19 18 02.5**	**-0.2**
BOB	**Bobbio (Coli)**	**0.44**	**0**	⇓*i*Pg	**Pg**	**19 18 07.6**	**-0.1**
BOB				Sg	**Sg**	**19 18 13.6**	**+0.2**
	2μm,0.2s						
BACM		**0.45**	**96**	P	**Pg**	**19 18 07.4**	**-0.7**
BACM				S	**Sg**	**19 18 13.4**	**-0.5**
GRAM		**0.47**	**70**	P	**Pg**	**19 18 07.5**	**-0.9**
GRAM				S	**Sg**	**19 18 13.3**	**-1.3**
VINC	**Vinca**	**0.54**	**110**	P	**Pg**	**19 18 09.3**	**-0.5**
VINC				S	**Sg**	**19 18 16.4**	**-0.4**
VALM		**0.57**	**88**	P	**Pg**	**19 18 09.5**	**-0.9**
VALM				S	**Sg**	**19 18 16.9**	**-1.0**
VLC	**Villacollemand**	**0.70**	**104**	Pg	**Pg**	**19 18 12.1**	**-0.6**
VLC				Sg	**Sg**	**19 18 21.8**	**0.0**
	208nm,0.6s						
ERBM	**Eremo**	**0.70**	**82**	Pg	**Pg**	**19 18 12.0**	**-0.8**
ERBM				Sg	**Sg**	**19 18 21.2**	**-0.6**
	720nm,1.1s						
SARO	**Sassorosso**	**0.70**	**102**	P	**Pg**	**19 18 12.0**	**-0.8**
SARO				S	**Sg**	**19 18 21.0**	**-0.9**
GSCL	**Gusciola**	**0.82**	**88**	Pg	**Pg**	**19 18 14.8**	**-0.3**
	78nm,0.5s						
MAIM		**0.86**	**119**	Pg	**Pg**	**19 18 15.3**	**-0.5**
	336nm,0.4s						
BDI	**Bagni Di Lucca**	**0.87**	**108**	Pg	**Pg**	**19 18 15.2**	**-0.8**
	302nm,0.5s						
FIN	**Finale Ligure**	**0.90**	**263**	Pg	**Pg**	**19 18 17.9**	**+1.3**
FIN				Sg	**Sg**	**19 18 31.4**	**+3.2**
	345nm,0.4s						
GROG	**Isola di Gorgo**	**0.96**	**160**	Pg	**Pg**	**19 18 18.3**	**+0.5**
GROG				Sg	**Sg**	**19 18 32.8**	**+2.6**
	240nm,0.3s						
PII	**Pisa**	**0.99**	**128**	Pg	**Pg**	**19 18 17.8**	**-0.5**
PII				Sg	**Sg**	**19 18 32.2**	**+1.1**
	524nm,0.6s						
PZZT	**Monte Pizzetto**	**1.04**	**101**	Pg	**Pg**	**19 18 18.3**	**-0.9**
PZZT				Sg	**Sg**	**19 18 34.5**	**+1.8**
	348nm,0.6s						
SEI	**Scarperia**	**1.40**	**101**	Pg	**Pg**	**19 18 26.7**	**+0.5**
	240nm,0.4s						
SAOF	**Saorge**	**1.40**	**256**	Pg	**Pg**	**19 18 26.2**	**-0.1**
SAOF				Sg	**Sg**	**19 18 43.7**	**-0.7**
MDI	**Monti di Nese**	**1.46**	**7**	Pg	**Pg**	**19 18 27.2**	**-0.1**
MDI				Sg	**Sg**	**19 18 47.0**	**+0.8**
	239nm,0.2s						
AUTN	**L'Aution**	**1.49**	**258**	Pg	**Pg**	**19 18 27.6**	**-0.3**
AUTN				Sg	**Sg**	**19 18 47.2**	**0.0**
SALO	**Salr**	**1.50**	**30**	⇑*i*Pg	**Pg**	**19 18 27.2**	**-0.9**
	3μm,0.9s						
LUCF	**Luceram**	**1.57**	**255**	Pg	**Pg**	**19 18 28.9**	**-0.6**
DOI	**San Damiano**	**1.58**	**277**	Pg	**Pg**	**19 18 28.1**	**-1.6**
	70nm,0.3s						
CSNT	**Castellina Chi**	**1.59**	**122**	Pg	**Pn**	**19 18 27.5**	**-0.6**
CSNT				Sg	**Sg**	**19 18 50.5**	**+0.2**
TOUF	**Mont Tournerai**	**1.61**	**259**	Pg	**Pg**	**19 18 29.0**	**-1.3**
TOUF				Sg	**Sg**	**19 18 51.7**	**+0.5**
MUGIO	**Muggio**	**1.62**	**350**	Pg	**Pg**	**19 18 29.1**	**-1.2**
MUGIO				Sg	**Sg**	**19 18 51.1**	**-0.2**
ORO	**Oropa**	**1.66**	**322**	Pg	**Pg**	**19 18 30.8**	**-0.4**
	99nm,0.2s						
MAGA	**Magasa**	**1.67**	**30**	⇑*i*Pg	**Pn**	**19 18 29.0**	**-0.3**
	380nm,0.3s						
MVIF	**Mont Vial**	**1.71**	**256**	Pg	**Pg**	**19 18 30.5**	**-1.6**
MABI	**Malga Bissina**	**1.88**	**23**	Pg	**Pn**	**19 18 32.3**	**+0.1**
	27nm,0.5s						
TEOL	**Teolo**	**1.89**	**56**	⇓*i*Pg	**Pn**	**19 18 32.3**	**0.0**
TEOL				*i* Sg	**Sg**	**19 18 59.2**	**-0.8**
CRE	**Caprese Michel**	**1.94**	**111**	Pg	**Pn**	**19 18 33.9**	**+0.8**
	17nm,0.3s						
MBDF	**Montbardon**	**1.95**	**283**	*e*Pn	**Pn**	**19 18 33.3**	**+0.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**19 18 56.9**	**-1.2**
	56nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**1.95**	**283**	*e*Pn	**Pn**	**19 18 33.3**	**+0.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**19 18 56.9**	**-1.2**
	28nm,0.5s,SNR=1.0						
BNI	**Bardonecchia**	**2.10**	**291**	*e*Pn	**Pn**	**19 18 37.2**	**+2.0**
BNI	**Bardonecchia**	**2.10**	**291**	*e*Pn	**Pn**	**19 18

WTTA				⇑*i*Sn		**Sn**	**19 19 32.2**	**+0.7**
WTTA	**Wattenberg**	**3.31**	**27**	*e*Pn		**Pn**	**19 18 53.6**	**+1.8**
WTTA				*e*Sn		**Sn**	**19 19 30.8**	**-0.8**
WTTA	**Wattenberg**	**3.31**	**27**	Pn		**Pn**	**19 18 53.6**	**+1.8**
	31nm,7.0s							
WTTA				Sn		**Sn**	**19 19 32.2**	**+0.6**
WATA	**Walderalm**	**3.35**	**26**	⇑*i*Pn		**Pn**	**19 18 53.8**	**+1.4**
	SNR=8.8							
WATA				⇑*i*Sn		**Sn**	**19 19 33.8**	**+1.1**
WATA	**Walderalm**	**3.35**	**26**	Pn		**Pn**	**19 18 53.8**	**+1.3**
	8.0nm,8.0s							
WATA				Sn		**Sn**	**19 19 33.8**	**+1.1**
VIVF	**Saint-Julien-l**	**3.45**	**280**	*e*Pn		**Pn**	**19 18 54.9**	**+1.1**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**19 19 33.4**	**-1.7**
	3.1nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.45**	**280**	*e*Pn		**Pn**	**19 18 54.9**	**+1.1**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**19 19 33.4**	**-1.7**
	1.5nm,0.2s,SNR=1.0							
VOY	**Vojsko**	**3.58**	**60**	*e*Pn		**Pn**	**19 18 55.2**	**-0.3**
VOY				*e*Sn		**Sn**	**19 19 36.9**	**-1.2**
KBA	**Koelnbreinsper**	**3.87**	**43**	⇑*i*Pn		**Pn**	**19 19 00.8**	**+1.2**
KBA	**Koelnbreinsper**	**3.87**	**43**	*e*Pn		**Pn**	**19 19 00.6**	**+1.0**
NVLJ	**Novalja**	**3.89**	**85**	*i*Pn		**Pn**	**19 19 00.7**	**+0.8**
NVLJ				*i*Sn		**Sn**	**19 19 45.1**	**-0.9**
NVLJ	**Novalja**	**3.89**	**85**	*i*Pn		**Pn**	**19 19 00.6**	**+0.7**
NVLJ				*i*Sn		**Sn**	**19 19 45.0**	**-1.0**
HINF	**Hinteralfeld**	**3.93**	**334**	*e*Pn		**Pn**	**19 19 01.4**	**+1.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**19 19 44.6**	**-2.2**
	5.8nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**3.93**	**334**	*e*Pn		**Pn**	**19 19 01.4**	**+1.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**19 19 44.6**	**-2.2**
	2.9nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**4.03**	**268**	*e*Pn		**Pn**	**19 19 01.9**	**+0.2**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**19 19 46.2**	**-3.1**
	7.3nm,0.3s							
LASF	**Ste Croix**	**4.03**	**268**	*e*Pn		**Pn**	**19 19 01.9**	**+0.2**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**19 19 46.2**	**-3.1**
	3.7nm,0.3s							
BFO	**Black Forest**	**4.08**	**349**	*e*Pn		**Pn**	**19 19 02.5**	**+0.1**
BFO				*e*Sn		**Sn**	**19 19 46.1**	**-4.4**
HAU	**Haudompre**	**4.26**	**331**	*e*Pn		**Pn**	**19 19 05.9**	**+1.0**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**19 19 52.9**	**-2.1**
	34nm,0.4s,SNR=1.0							
HAU	**Haudompre**	**4.26**	**331**	*e*Pn		**Pn**	**19 19 05.9**	**+1.0**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**19 19 52.9**	**-2.1**
	17nm,0.4s,SNR=1.0							
CDF	**Champ du Feu**	**4.35**	**341**	*e*Pn		**Pn**	**19 19 06.8**	**+0.7**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**19 19 55.2**	**-2.1**
	6.2nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**4.35**	**341**	*e*Pn		**Pn**	**19 19 06.8**	**+0.7**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**19 19 55.2**	**-2.1**
	3.1nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**4.57**	**302**	*e*Pn		**Pn**	**19 19 10.5**	**+1.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**19 20 00.6**	**-2.1**
	8.4nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**4.57**	**302**	*e*Pn		**Pn**	**19 19 10.5**	**+1.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**19 20 00.6**	**-2.1**
	4.2nm,0.4s,SNR=1.0							
MOA	**Molln**	**4.86**	**42**	⇓*i*Pn		**Pn**	**19 19 13.8**	**+0.7**
MOA				⇓*i*Sn		**Sn**	**19 20 09.6**	**-0.2**
MOA	**Molln**	**4.86**	**42**	*e*Pn		**Pn**	**19 19 13.6**	**+0.4**
LOR	**Lormes**	**4.89**	**309**	*e*Pn		**Pn**	**19 19 15.0**	**+1.5**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**19 20 09.0**	**-1.5**
	11nm,0.3s,SNR=1.0							
LOR	**Lormes**	**4.89**	**309**	*e*Pn		**Pn**	**19 19 15.0**	**+1.5**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**19 20 09.0**	**-1.5**
	5.6nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**4.94**	**302**	*e*Pn		**Pn**	**19 19 15.4**	**+1.2**
	SNR=1.0							
SSF	**Saint Saulge**	**4.98**	**305**	*e*Pn		**Pn**	**19 19 15.9**	**+1.1**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**19 20 10.3**	**-2.4**
	3.8nm,0.3s							
SSF	**Saint Saulge**	**4.98**	**305**	*e*Pn		**Pn**	**19 19 15.9**	**+1.1**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**19 20 10.3**	**-2.4**
	1.9nm,0.3s							
BGF	**Bois d'Agland**	**5.15**	**298**	*e*Pn		**Pn**	**19 19 18.4**	**+1.3**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**19 20 14.5**	**-2.5**
	9.8nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**5.15**	**298**	*e*Pn		**Pn**	**19 19 18.4**	**+1.3**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**19 20 14.5**	**-2.5**
	4.9nm,0.3s,SNR=1.0							
MEZF	**Maizieres J'vi**	**5.16**	**325**	*e*Pn		**Pn**	**19 19 17.6**	**+0.3**
	SNR=1.0							
CAF	**Calviac**	**5.30**	**279**	*e*Pn		**Pn**	**19 19 19.7**	**+0.5**
	SNR=1.0							
MTLF	**Montolieu**	**5.32**	**262**	*e*Pn		**Pn**	**19 19 19.0**	**-0.5**
	SNR=1.0							
WET	**Wettzell**	**5.36**	**25**	*e*Pn		**Pn**	**19 19 19.5**	**-0.5**
WET				*e*Sn		**Sn**	**19 20 16.9**	**-5.3**
GEC2	**GERESS Array S**	**5.38**	**31**	*e*Pn		**Pn**	**19 19 19.7**	**-0.7**
GEC2				*e*Sn		**Sn**	**19 20 18.7**	**-4.1**
TCF	**Toulx Ste Croi**	**5.47**	**294**	*e*Pn		**Pn**	**19 19 22.0**	**+0.5**
KHC	**Kasperske Hory**	**5.58**	**29**	*e*PN		**Pn**	**19 19 22.3**	**-0.7**
KHC				*e*SN		**Sn**	**19 20 22.9**	**-4.6**
HYF	**Humbligny**	**5.59**	**304**	*e*Pn		**Pn**	**19 19 24.6**	**+1.4**
MOX	**Moxa**	**6.49**	**12**	*e*Sn		**Sn**	**19 20 43.6**	**-6.3**
MOX	**Moxa**	**6.49**	**12**	*e*SG		**Sn**	**19 20 44.7**	**-5.2**
PRU	**Pruhonice**	**6.64**	**30**	*e*PN		**Pn**	**19 19 36.8**	**-0.8**
PRU				*e*SN		**Sn**	**19 20 49.1**	**-4.6**
BRG	**Berggiesshubel**	**7.22**	**23**	*e*(P)		**Sn**	**19 21 05.2**	**-2.7**
	0.4nm,0.8s							

*IDC **01** 19:31:46.0±1.3, 405N×127.12E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=87.7km s-min=19.5km az=71.0*

NEIC 01 19:31:47.7±0.9, 399N×12692E, h10km, mb4.1/1, Error ellipse: s-maj=69.9km s-min=13.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P	P	19 36 41.8	0.0
	2.8nm,0.8s,baz=3.6,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	19 37 10.2	-0.3
	5.1nm,0.7s,baz=344,slow=11,SNR=34						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	19 37 42.1	+0.6
	0.3nm,0.4s,baz=339,slow=7.8,SNR=14						
STKA	**Stephens Creek**	**38.31**	**160**	*e*P	P	19 39 09.2	+0.8
	2.4nm,0.6s						
STKA	**Stephens Creek**	**38.31**	**160**	P	P	19 39 08.5	+0.1
	2.9nm,0.6s,baz=342,slow=9.6,SNR=12						
SONM	**Songino Array**	**47.11**	**341**	P	P	19 40 19.5	-0.4
	0.2nm,0.6s,baz=149,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	19 41 37.5	+0.8
	0.4nm,0.5s,baz=121,slow=8.5,SNR=4.7						

*NSSP **01** 19:46:58.8, 41.15N×43.33E, h8km, ML2.9*
*ISCJB **01** 19:47:02.5±0.4, 4108N±002×4337E±003, h10km, Error ellipse: s-maj=4.1km s-min=2.6km az=117.4*
*ISK **01** 19:47:03.5, 41.18N×43.38E, h25km, ML3.1*
*MOS **01** 19:47:03.9±1.1, 41.11N×43.43E, h20km, mb4.1/1, Error ellipse: s-maj=22.9km s-min=6.8km az=83.6*
*CSEM **01** 19:47:03.8±0.1, 4098N×4352E, h5km, mb4.1, Error ellipse: s-maj=4.4km s-min=1.7km az=71.0*

ISC 01 19:47:02.9±0.4, 4108N±002×4338E±004, h10km, n33, σ1§10/56, 2C-2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCHZ	**Tchakhmakh**	**0.30**	**127**	P	**Pg**	**19 47 07.9**	**-1.1**
TCHZ				S	**Sg**	**19 47 13.3**	**+0.2**
BAW	**Bavra**	**0.32**	**83**	P	**Pg**	**19 47 10.0**	**+0.7**
BAW				S	**Sg**	**19 47 13.0**	**-0.6**
GYMZ	**Gyumri**	**0.44**	**128**	P	**Pg**	**19 47 11.4**	**-0.1**
GYMZ				S	**Sg**	**19 47 18.4**	**+1.1**
KAMZ	**Kamo**	**0.50**	**121**	P	**Pg**	**19 47 11.8**	**-0.9**
KAMZ				S	**Sg**	**19 47 19.1**	**-0.3**
STE	**Stepanavan**	**0.76**	**96**	P	**Pg**	**19 47 16.0**	**-1.5**
STE				S	**Sg**	**19 47 28.5**	**+1.2**
GOR	**Gori**	**1.06**	**31**	P	**Pg**	**19 47 21.5**	**-1.8**
GOR				S	**Sg**	**19 47 35.8**	**-1.2**
TBLG	**Delisi**	**1.21**	**57**	P	**Pn**	**19 47 24.7**	**-1.2**
TBLG				S	**Sb**	**19 47 41.4**	**-0.2**
MTA	**Mtatsminda**	**1.23**	**60**	P	**Pn**	**19 47 24.4**	**-1.7**
MTA				S	**Sb**	**19 47 41.7**	**-0.4**
ERE	**Yerevan**	**1.23**	**137**	P	**Pn**	**19 47 22.8**	**-3.4**
ERE				S	**Sb**	**19 47 40.0**	**-2.2**
BCA	**Borcka**	**1.37**	**286**	*i*PN	**Pn**	**19 47 27.5**	**-0.6**
BCA				*i*SN	**Sn**	**19 47 44.8**	**-1.5**
GNI	**Garni**	**1.40**	**131**	PN	**Pn**	**19 47 28.6**	**+0.2**
GNI				SN	**Sn**	**19 47 47.5**	**+0.6**
GNI	**Garni**	**1.40**	**131**	P	**Pn**	**19 47 28.1**	**-0.3**
GNI	**Garni**	**1.40**	**131**	*e*Pn	**Pn**	**19 47 28.6**	**+0.2**
GNI	**Garni**	**1.40**	**131**	*i*Pg	**Pg**	**19 47 29.3**	**-0.4**
GNI				*e*Sn	**Sn**	**19 47 47.5**	**+0.6**
GNI				S	**Sn**	**19 47 48.8**	**+1.9**
ONI	**Oni**	**1.50**	**2**	P	**Pn**	**19 47 29.0**	**-0.8**
ONI				S	**Sn**	**19 47 49.1**	**-0.3**
DGRG	**David-gareji**	**1.55**	**76**	P	**Pn**	**19 47 31.2**	**+0.7**
DGRG				S	**Sn**	**19 47 53.2**	**+2.5**
ZEI	**Tsey**	**1.73**	**13**	⇓*i*PN	**Pn**	**19 47 33.7**	**+0.7**
ZEI				*e*		19 47 57.9	
ZEI				pmax	pmax		
	comp=Z,65nm,0.2s						
ZEI				smax			
	comp=N,173nm,0.4s						
ZEI	**Tsey**	**1.73**	**13**	*i*Pn	**Pn**	**19 47 33.7**	**+0.7**
	comp=N,65nm,0.2s						
ZEI				*e*Sg	**Sg**	**19 47 57.9**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.82**	**5**	*i*Pn	**Pn**	**19 47 34.6**	**+0.3**
LACR	**Lac**	**1.87**	**21**	*i*Pn	**Pn**	**19 47 35.6**	**+0.6**
EZM	**Erzurum**	**1.94**	**233**	PN	**Pn**	**19 47 36.5**	**+0.7**
CLDR	**Caldiran**	**1.98**	**168**	PN	**Pn**	**19 47 37.7**	**+1.2**
KORR	**Kora**	**2.07**	**14**	*i*Pn	**Pn**	**19 47 38.1**	**+0.4**
VLKR	**Vladikavkaz**	**2.19**	**26**	*i*Pn	**Pn**	**19 47 39.9**	**+0.6**
ARNR	**Ardon**	**2.21**	**17**	*i*Pn	**Pn**	**19 47 40.1**	**+0.5**
ARNR				*i*Sn	**Sn**	**19 48 07.8**	**+0.8**
SNJR	**Sundja**	**2.25**	**28**	*i*Pn	**Pn**	**19 47 40.8**	**+0.6**
SNJR				*i*Sn	**Sn**	**19 48 09.0**	**+0.9**
KMSR	**Komsomolskaya**	**2.39**	**16**	*i*Pn	**Pn**	**19 47 42.5**	**+0.5**
KMSR				*e*Sn	**Sn**	**19 48 11.9**	**+0.6**
SHAR	**Shatzhatmas**	**2.71**	**349**	*c*iPN	**Pn**	**19 47 48.5**	**+2.0**
SHAR				*i*S	**Sb**	**19 48 24.9**	**+0.1**
SHAR				*i*S	**Sb**	**19 48 26.2**	**+1.4**
SHAR				pmax	pmax		
	comp=Z,12nm,0.7s						
SHAR				smax			
	comp=N,37nm,0.8s						
SHAR	**Shatzhatmas**	**2.71**	**349**	*i*Pn	**Pn**	**19 47 48.5**	**+2.0**
	comp=N,12nm,0.7s						
SHAR				*i*Sn	**Sb**	**19 48 24.9**	**+0.1**
	comp=N,37nm,0.8s						
KUBR	**Kubataba**	**2.72**	**0**	*c*iPN	**Pn**	**19 47 48.7**	**+2.1**
KUBR				*i*S	**Sg**	**19 48 28.4**	**-1.8**
KUBR				pmax	pmax		
	comp=Z,12nm,0.6s						
KUBR	**Kubataba**	**2.72**	**0**	*i*Pn	**Pn**	**19 47 48.7**	**+2.1**
	comp=Z,12nm,0.6s						
KIV	**Kislovodsk**	**2.92**	**350**	⇓*e*PN	**Pn**	**19 47 50.8**	**+1.5**
GOF	**Gofitskoye**	**3.98**	**356**	*e*Pn	**Pn**	**19 48 02.2**	**-1.8**

*BJI **01** 19:50:19.2, 371S×130.15E, h5km, mB5.0, mb4.8, Ms4.7, Msz4.3*
*ISCJB **01** 19:50:26.8±1.9, 300S±004×12966E±005, h10km±12km, mb5.0/66, MS4.1/17, Error ellipse: s-maj=8.4km s-min=6.0km az=137.6*
*NEIC **01** 19:50:27.9±3.3, 300S×12964E, h6km±20km, mb4.9/25, Error ellipse: s-maj=9.9km s-min=5.7km az=58.0*
*IDC **01** 19:50:27.2±0.4, 303S×12956E, h0km, mb4.8/17, mb1 4.8/19, mb1mx4.8/21, mbtmp4.8/19, ML4.0/2, MS4.0/8, Ms1 4.0/8, ms1mx3.8/18, Error ellipse: s-maj=20.5km s-min=10.1km az=73.0*
*GCMT **01** 19:50:27.9±0.3, 287S×12974E, h17km±1km, MW5.0/63, Moment Tensor Solution. s20,c27; s63,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.24±.15; $M_{\theta\theta}$-1.52±.09; $M_{\phi\phi}$-0.71±.11; $M_{r\theta}$-0.90±.21; $M_{\theta\phi}$1.14±.06; $M_{\phi r}$3.07±.39; Best double couple: $M_0$3.90400×10^{16} NP1:ϕ_s107.00000°, δ23.00000°, λ46.00000°. NP2: ϕ_s334.00000°, δ74.00000°, λ107.00000°. Principal axes: T 4.1730, Plg58.0000°, Azm267.0000°; N -0.5360, Plg16.0000°, Azm149.0000°; P -3.6360, Plg27.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 19:50:30.9±1.2, 291S×12956E, h33km, mb5.1/24 Error ellipse: s-maj=13.4km s-min=7.1km az=114.3*

ISC 01 19:50:29.0±1.7, 298S±003×12975E±005, h12km±11km, h22km±1.4km: pP-P, n166, σ1§01/151, mb5.0/66, MS4.1/17, 7C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.70**	**246**	P	**Pn**	**19 51 00.0**	**+1.5**
	0.0nm,0.0s						
SWI	**Sorong**	**2.59**	**36**	P	**Pn**	**19 51 11.4**	**+0.7**
	0.0nm,0.0s						
TLE	**Tual**	**3.98**	**132**	P	**Pn**	**19 51 32.7**	**+2.9**
	0.0nm,0.0s						
BAKI	**Biak**	**6.60**	**74**	P	**Pn**	**19 52 11.8**	**+6.0**
	0.0nm,0.0s						
KAKA	**Kakadu**	**10.03**	**165**	*e*P	**Pn**	**19 52 53.2**	**+0.4**
	31nm,0.4s						
KAKA				*e*S	**Sn**	**19 54 40.5**	**-4.7**
PCI	**Palu**	**10.12**	**282**	P	**Pn**	**19 52 50.9**	**-3.1**
	0.0nm,0.0s						
WSI	**Waingapu**	**11.50**	**234**	P	**Pn**	**19 53 21.7**	**+8.7**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**15.56**	**195**	*e*P	**Pn**	**19 54 06.1**	**-2.0**
	62nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.56**	**195**	Pn	**Pn**	**19 54 07.2**	**-0.9**
	0.9nm,0.3s,baz=34,slow=11,SNR=38						
FITZ				LR	LR	20 00 34.6	
	comp=Z,449nm,21.9s,baz=22,slow=39						
KKM	**Kota Kinabalu**	**16.22**	**304**	P	**Pn**	**19 54 18.0**	**+1.4**
WRA	**Warramunga Arr**	**17.44**	**165**	P	**Pn**	**19 54 30.0**	**-2.1**
	3.6nm,0.3s,baz=346,slow=12,SNR=48						
WRA				S	**Sn**	**19 57 51.3**	**+5.1**
	1.6nm,0.3s,baz=342,slow=21,SNR=12						
KRKI	**Karangkates**	**17.96**	**253**	P	**Pn**	**19 54 43.7**	**+5.2**
	320nm,0.8s						
PMG	**Port Moresby**	**18.44**	**111**	P	**Pn**	**19 54 47.3**	**+3.0**
	0.8nm,0.3s,baz=279,slow=7.9,SNR=3.9						
KSM	**Kuching**	**19.93**	**283**	*e*P	**Pn**	**19 55 01.3**	**-1.0**
BJII	**Banjamegara**	**20.41**	**257**	P	**P**	**19 55 07.7**	**+1.8**
	105nm,1.6s						
MBWA	**Marble Bar**	**20.53**	**208**	*e*P	**P**	**19 55 05.7**	**-1.5**
	53nm,0.9s						
AS31	**Alice Springs**	**20.95**	**169**	*e*P	**P**	**19 55 12.4**	**+0.7**
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	**19 55 12.5**	**+0.8**
	159nm,0.8s,baz=346,slow=9.2,SNR=681						
ASAR				S	**S**	**19 59 05.2**	**+0.3**
	21nm,0.9s,baz=350,slow=22,SNR=10						
ASAR				PKiKP	PKiKP	20 07 06.8	+0.2
	0.4nm,0.7s,baz=118,slow=1.1,SNR=5.5						
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	**19 55 12.5**	**+0.8**
ASAR				S	**S**	**19 59 05.2**	**+0.3**
GUMO	**Guam**	**22.27**	**42**	LR	LR	20 04 14.4	
	comp=Z,110nm,18.1s,MS3.3,baz=251,slow=37						
LEM	**Lembang**	**22.37**	**259**	P	**P**	**19 55 27.9**	**+0.9**
	60nm,0.9s,mb5.0						
CTA	**Charters Tower**	**23.42**	**138**	*e*P	**P**	**19 55 39.0**	**+1.0**
	27nm,0.8s,mb4.7						
CTA	**Charters Tower**	**23.42**	**138**	P	**P**	**19 55 40.0**	**+1.9**
	38nm,0.9s,mb4.8,baz=320,slow=12,SNR=23						
CTA	**Charters Tower**	**23.42**	**138**	*e*P	**P**	**19 55 39.0**	**+1.0**
CTA				pmax	pmax		
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**23.42**	**138**	*e*P	**P**	**19 55 39.9**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,39nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**23.42**	**138**	*e*P	**P**	**19 55 39.9**	**+1.8**
	comp=Z,39nm,0.8s,mb4.9						
KGM	**Kluang**	**26.88**	**280**	P	**P**	**19 56 10.3**	**+0.7**
FORT	**Forrest**	**27.69**	**183**	*e*P	**P**	**19 56 16.1**	**-0.8**
	comp=Z,31nm,0.6s,mb5.1						
QIZ	**Qiongzhong**	**29.36**	**319**	P	**P**	**19 56 32.5**	**+0.8**
QIZ				S	**S**	**20 01 27.2**	**+2.2**
QIZ				LR	LR		
	comp=Z,210nm,23.2s,MS3.7						
PPI	**Padang Panjang**	**29.44**	**274**	P	**P**	**19 56 32.1**	**-0.4**
	comp=Z,73nm,1.0s,mb5.4						
IPM	**Ipoh**	**29.64**	**284**	P	**P**	**19 56 34.7**	**+0.5**
JOW	**Kunigami**	**29.67**	**357**	LR	LR	20 07 32.8	
	comp=Z,482nm,20.2s,MS4.1,baz=131,slow=34						
KULM	**Kulim**	**30.20**	**286**	*e*P	**P**	**19 56 39.4**	**+0.2**
KLBR	**Kellerberrin**	**30.62**	**200**	*e*P	**P**	**19 56 41.5**	**-1.4**
	comp=Z,29nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**30.83**	**160**	*e*P	**P**	**19 56 45.5**	**+0.7**
	comp=Z,7.6nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**30.83**	**160**	P	**P**	**19 56 45.4**	**+0.6**
	comp=Z,31nm,1.1s,mb5.0,baz=338,slow=8.0,SNR=27						
STKA				LR	LR	20 08 41.5	
	comp=Z,115nm,20.4s,MS3.5,baz=341,slow=36						
PSI	**Prapat**	**31.34**	**280**	P	**P**	**19 56 47.5**	**-1.8**
	comp=Z,14nm,0.8s,mb4.8,baz=91,slow=4.2,SNR=8.8						
PSI	**Prapat**	**31.34**	**280**	P	**P**	**19 56 47.5**	**-1.8**
NWAO	**Narrogin (SRO)**	**32.02**	**200**	P	**P**	**19 56 53.3**	**-1.9**
	comp=Z,9.5nm,0.5s,mb4.8,baz=34,slow=6.8,SNR=14						
NWAO	**Narrogin (SRO)**	**32.02**	**200**	*e*P	**P**	**19 56 54.6**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**32.02**	**200**	*e*P	**P**	**19 56 54.6**	**-0.6**
	comp=Z,6.8nm,0.5s,mb4.7						
KKTK	**Khon Kaen**	**32.81**	**307**	⇓P	**P**	**19 57 03.0**	**+0.8**
	comp=Z,802nm,0.6s						
NST	**Nakhon Sawan**	**34.67**	**303**	P	**P**	**19 57 18.0**	**-0.3**
GYA	**Guiyang**	**36.80**	**324**	⇑*i*P	**P**	**19 57 36.8**	**+0.1**
GYA				AP	pP	19 57 42.7	+2.2
GYA				XP	sP	19 57 45.6	+3.6
GYA				PP	PP	19 59 01.4	+0.9
GYA				S	**S**	**20 03 18.1**	**-2.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,5.2s						
GYA				LR	LR		
	comp=N,530nm,17.3s,MS4.6						
GYA				LR	LR		
	comp=E,710nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=Z,810nm,17.0s,MS4.6						
CM31	**Chiang Mai Arr**	**37.07**	**306**	*e*P	**P**	**19 57 39.7**	**+0.8**
CHG	**Chiang Mai**	**37.26**	**307**	⇑P	**P**	**19 57 41.4**	**+0.9**
	comp=Z,71nm,0.7s,mb5.6						
CHTO	**Chiang Mai**	**37.26**	**307**	P	**P**	**19 57 41.9**	**+1.4**
	SNR=10						
CHTO	**Chiang Mai**	**37.26**	**307**	*e*P	**P**	**19 57 41.3**	**+0.8**
CHTO				*e*		19 57 47.0	
CHTO				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.5						
CHTO	**Chiang Mai**	**37.26**	**307**	*e*P	**P**	**19 57 41.3**	**+0.8**
	comp=Z,58nm,0.8s,mb5.5						
CHTO				*e*		19 57 47.0	
KMI	**Kunming**	**38.30**	**318**	⇓P	**P**	**19 57 51.3**	**+1.9**
KMI				AP	pP	19 57 57.0	+3.8
KMI				XP	sP	19 58 02.4	+7.7
KMI				S	**S**	**20 03 50.0**	**+6.7**
KMI				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,273nm,4.0s						
KMI				LR	LR		
	comp=Z,133nm,25.0s,MS3.6						
MJAR	**Matsushiro Arr**	**40.10**	**11**	P	**P**	**19 58 03.2**	**-1.2**
	comp=Z,6.0nm,0.7s,mb4.4,baz=185,slow=9.1,SNR=25						
MJAR				PcP	PcP	20 00 09.0	+0.1
	comp=Z,2.2nm,0.8s,baz=179,slow=3.6,SNR=4.2						
MAJO	**Matsushiro**	**40.10**	**11**	*e*P	**P**	**19 58 02.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
MAJO	**Matsushiro**	**40.10**	**11**	*e*P	**P**	**19 58 02.9**	**-1.6**
	comp=Z,9.8nm,0.7s,mb4.7						
MAT	**Matsushiro**	**40.10**	**11**	P	**P**	**19 58 02.8**	**-1.6**
DZM	**Mont Dzumac**	**40.35**	**121**	P	**P**	**19 58 07.0**	**+0.5**
	comp=Z,11nm,0.9s,mb4.6,baz=185,slow=22,SNR=6.4						
CD2	**Chengdu**	**41.83**	**326**	*e*P	**P**	**19 58 18.5**	**-0.1**
CD2				AP	pP	19 58 24.4	+1.9
CD2				XP	sP	19 58 27.4	+3.4
CD2				PP	PP	19 59 59.2	+3.9
CD2				S	**S**	**20 04 36.2**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,190nm,12.0s						
CD2				LR	LR		
	com

HYB Hyderabad 54.40 294 *i* P **P 19 59 55.5 -0.3**
HYB Hyderabad 54.40 294 *e*P **P 19 59 55.0 -0.8**
SONM Songino Array 54.58 341 P **P 19 59 57.5 +0.4**
comp=Z,3.0nm,0.7s,mb4.4,baz=150,slow=7.3,SNR=32
SONM PcP PcP 20 01 00.8 +0.6
comp=Z,3.0nm,0.6s,baz=152,slow=4.1,SNR=9.2
SONM LR LR 20 24 02.7
comp=Z,142nm,20.1s,MS4.0,baz=162,slow=37
SONM Songino Array 54.58 341 P **P 19 59 57.5 +0.4**
SONM 20 01 00.8
CIT Chita 56.49 348 *e*P **P 20 00 11.6 +0.7**
CIT *e* 20 01 09.1
CIT pmax pmax
comp=Z,42nm,1.9s,mb5.1
ZAK Zakamensk 57.81 340⇑ *e*P **P 20 00 20.0 -0.2**
TLY Talaya 58.81 341 *e*P **P 20 00 26.8 -0.4**
comp=Z,4.2nm,1.0s,mb4.4
IRK Irkutsk 59.10 342 *e*P **P 20 00 28.8 -0.4**
IRK *e* 20 01 17.9
IRK pmax pmax
comp=Z,28nm,2.2s,mb4.9
MOY Mondy 59.68 340 *e*P **P 20 00 34.2 +1.0**
MOY pmax pmax
comp=Z,49nm,2.0s,mb5.2
WMQ Urumqi 59.93 326⇑ *i*P **P 20 00 34.9 0.0**
WMQ AP pP 20 00 41.3 +2.4
WMQ XP sP 20 00 44.0 +3.7
WMQ PCP PcP 20 01 20.5 -0.6
WMQ PP PP 20 02 49.0 +1.9
WMQ PPP 20 04 19.5
WMQ S **S 20 08 50.0 +3.3**
WMQ AMB AMB
comp=Z,25nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,168nm,4.1s
WMQ LR LR
comp=N,828nm,26.6s,MS4.8
WMQ LR LR
comp=E,566nm,25.2s,MS4.8
WMQ LR LR
comp=Z,472nm,20.8s,MS4.6
BOD Bodaibo 61.92 351 *e*P **P 20 00 48.1 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
MA2 Magadan 64.53 12 *e*P **P 20 01 06.7 +0.9**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
CASY Casey 64.61 188 *e*P **P 20 01 05.3 -1.0**
comp=Z,9.2nm,0.7s,mb4.9
MKAR Makanchi Array 64.76 326 P **P 20 01 07.0 -0.2**
comp=Z,5.8nm,0.4s,mb5.0,baz=115,slow=8.1,SNR=104
MKAR PcP PcP 20 01 40.1 -0.6
comp=Z,4.4nm,0.7s,baz=120,slow=4.3,SNR=6.8
MKAR Makanchi Array 64.76 326⇑ *e*P **P 20 01 07.0 -0.3**
YAK Yakutsk 64.83 360 *e*P **P 20 01 07.7 0.0**
YAK pmax pmax
comp=Z,17nm,0.7s,mb5.2
TKM2 Tokmak 2 66.76 320 P **P 20 01 20.7 +0.5**
SNR=11
UCH Uchtor 67.15 319 P **P 20 01 23.6 +1.0**
SNR=11
AAK Ala-Archa 67.34 319 P **P 20 01 24.1 +0.3**
SNR=7.8
AAK Ala-Archa 67.34 319 *e*P **P 20 01 22.8 -1.1**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
AAK Ala-Archa 67.34 319 *e*P **P 20 01 22.8 -1.0**
comp=Z,8.0nm,1.0s,mb4.7
FRU Bishkek 67.36 319 *e*P **P 20 01 23.5 -0.4**
USP Ospenovka 67.63 320 P **P 20 01 25.7 0.0**
SNR=7.8
AML Almayashu 67.65 318 P **P 20 01 27.0 +1.2**
SNR=6.8
EKS2 Erkin-Say 67.83 319 P **P 20 01 27.0 +0.1**
SNR=15
SEY Seymchan 67.93 11c *i*P **P 20 01 28.7 +1.1**
MIR Mirnyy 68.43 195 *e*P **P 20 01 30.5 -0.2**
MIR *e* 20 01 37.0
MIR pmax pmax
comp=Z,11nm,1.0s,mb4.8
NVS Novosibirsk 69.18 333 *i*P **P 20 01 34.1 -1.3**
NVS pmax pmax
comp=Z,22nm,0.8s,mb5.1
NVS pmax pmax
comp=N,29nm,1.5s
NVS pmax pmax
comp=E,29nm,1.4s
BIDO Bidbid 74.42 295 P **P 20 02 07.8 +0.9**
SNR=6.5
BRVK Borovoye 74.63 327 P **P 20 02 08.0 0.0**
SNR=13
BRVK Borovoye 74.63 327 *e*P **P 20 02 07.6 -0.5**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 74.63 327 *e*P **P 20 02 07.6 -0.5**
comp=Z,9.5nm,0.8s,mb4.8
HOQ Hoqain 75.17 295 P **P 20 02 12.0 +0.8**
SNR=6.0
ZRNK Zerenda 75.28 327 *i*P **P 20 02 11.1 -0.7**
ZRNK Zerenda 75.28 327 *e*P **P 20 02 11.2 -0.6**
comp=Z,14nm,0.8s,mb4.9
VNDA Vanda 76.44 173 P **P 20 02 18.1 -0.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=318,slow=7.5,SNR=35
VNDA LR LR 20 35 00.9
comp=Z,174nm,19.4s,MS4.4,baz=341,slow=35
VNDA Vanda 76.44 173 *e*P **P 20 02 17.8 -0.7**
VNDA pmax pmax
comp=Z,4.0nm,0.6s
VNDA Vanda 76.44 173 *e*P **P 20 02 17.8 -0.7**
comp=Z,4.5nm,0.6s,mb4.6
SBA Scott Base 77.32 172 *e*P **P 20 02 23.8 +0.3**
SBA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SBA Scott Base 77.32 172 *e*P **P 20 02 23.8 +0.4**
comp=Z,4.2nm,0.8s,mb4.4
MAW Mawson 78.58 201 *e*P **P 20 02 30.1 -0.3**
comp=Z,3.2nm,0.4s,mb4.6
MAW Mawson 78.58 201 P **P 20 02 30.7 +0.3**
comp=Z,3.9nm,0.5s,mb4.6,baz=63,slow=6.0,SNR=24
MAW LR LR 20 33 41.7
comp=Z,133nm,19.6s,MS4.3,baz=64,slow=33
MAW Mawson 78.58 201 *e*P **P 20 02 30.1 -0.3**
MAW pmax pmax
comp=Z,3.0nm,0.4s
AKTO Aktyubinsk 80.77 322 *i*P **P 20 02 41.8 -0.5**
AKTO pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ARU Arti 82.19 328⇑ *i*P **P 20 02 48.9 -0.9**
ARU *e* pP 20 02 54.5 +0.6
ARU *e* 20 05 52.9
ARU *e*S S 20 12 55.1 -10
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
ARU Arti 82.19 328 *e*P **P 20 02 48.8 -1.0**
comp=Z,16nm,0.9s,mb5.0
ORR Orenburg 83.06 323 *e*P **P 20 02 54.5 +0.1**
ORR pmax pmax
comp=Z,20nm,1.3s,mb5.0
QRN Al-Qurain 84.27 299 *e*P **P 20 03 00.7 +0.1**
QRN AMb AMB 20 03 03.1
comp=Z,37nm,0.8s,mb5.5
UMR Umm Al-Rimmam 84.53 300 *e*P **P 20 03 02.3 +0.3**
UMR AMb AMB 20 03 04.5
comp=Z,31nm,0.8s,mb5.5
RDF Al-Radifah 84.61 299 *e*P **P 20 03 02.1 -0.2**
RDF AMb AMB 20 03 03.1
comp=Z,31nm,0.8s,mb5.5
NAY Al-Naaiem 84.91 300 *e*P **P 20 03 03.9 +0.1**
NAY AMb AMB 20 03 05.8
comp=Z,17nm,0.7s,mb5.3
RST Umm Al-Ruwaisa 85.15 300 *e*P **P 20 03 05.0 0.0**
RST AMb AMB 20 03 05.6
comp=Z,64nm,0.7s,mb5.9
TTA Tatalina 85.52 26 *e*P **P 20 03 07.8 +0.9**
TTA pmax pmax
comp=Z,13nm,0.9s,mb5.2
TTA Tatalina 85.52 26 *e*P **P 20 03 07.8 +1.0**
comp=Z,13nm,0.9s,mb5.2
QSPA South Pole Qui 86.97 180 *e*P **P 20 03 13.6 -0.4**
comp=Z,7.9nm,1.0s,mb4.9
BHD Baghdad 87.74 303 *ex* x 20 03 13.5
ZEI Tsey 88.95 313 *e*P **P 20 03 23.9 +0.4**
ZEI *e**PP pP 20 03 34.9 +7.3
ZEI *e* 20 06 52.6
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.3

COLA College 89.45 25 *i*P **P 20 03 26.3 +0.5**
DIV Divide 89.92 29 P **P 20 03 28.8 +0.8**
comp=Z,21nm,0.6s,mb5.6
KIV Kislovodsk 89.93 314 *i*P **P 20 03 33.8 +5.8**
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,100nm,27.0s,MS4.1
KMBO Kilima Mbogo 92.43 269 P **P 20 03 41.6 +2.0**
comp=Z,3.3nm,0.8s,mb4.7,baz=62,slow=7.5,SNR=9.9
KMBO Kilima Mbogo 92.43 269 *e*P **P 20 03 41.5 +1.9**
comp=Z,6.1nm,1.2s,mb4.8
OBN Obninsk 94.25 325 *e*P **P 20 03 46.6 -1.4**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,100nm,23.0s,MS4.2
INK Inuvik 95.25 22 P **P 20 03 52.0 -0.6**
comp=Z,3.0nm,0.8s,mb4.8,baz=282,slow=5.6,SNR=4.7
BRTR Keskin Array B 96.59 309 P **P 20 03 58.2 -0.5**
comp=Z,0.7nm,0.6s,mb4.2,baz=134,slow=3.6,SNR=3.6
ARCES ARCESS Array B 97.75 340 P **P 20 04 02.4 -1.5**
comp=Z,3.6nm,0.8s,mb5.0,baz=77,slow=5.4,SNR=9.4
ARCES LR LR 20 53 48.6
comp=Z,85nm,20.1s,MS4.2,baz=83,slow=39
FINES FINESS Array B 99.13 332 P **P 20 04 07.8 -2.3**
comp=Z,1.4nm,0.8s,mb4.6,baz=67,slow=5.0,SNR=5.6
FINES FINESS Array B 99.13 332 P **P 20 04 07.8 -2.3**
SNAA Sanae 99.48 194 P **P 20 04 12.1 +0.3**
comp=Z,0.6nm,0.9s,mb4.1,baz=165,slow=6.7,SNR=3.9
BOSA Boshof 101.25 240 P Pdif 20 04 19.9 +0.4
comp=Z,2.7nm,0.8s,baz=106,slow=4.3,SNR=4.5
NB2 NORSAR Subarra106.10 334 P Pdif 20 04 39.5 -1.6
comp=Z,3.4nm,1.0s,baz=69,slow=4.4
NB2 NORSAR Subarra106.10 334 P Pdif 20 04 39.5 -1.6
NB2 pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 106.10 334 Pdiff Pdif 20 04 39.6 -1.5
comp=Z,1.0nm,0.8s,baz=68,slow=4.4,SNR=5.0
PDAR Pinedale Array 114.23 44 PKP PKiKP 20 09 10.1 +1.7
comp=Z,0.5nm,0.6s,baz=171,slow=0.1,SNR=3.5
MNTX Cornudas Mount 120.91 55 *e*PKPdf PKPdf 20 09 22.8 +1.6
JCT Junction City 125.83 54 *e*PKIKP PKPdf 20 09 32.5 +1.9
TORD Torodi Ar. Bea 127.68 284 PKP PKPdf 20 09 35.4 +1.2
comp=Z,2.6nm,0.9s,baz=73,slow=1.8,SNR=13
PLCA Paso Flores 132.70 159 PKP PKPdf 20 09 44.9 +1.2
comp=Z,3.0nm,0.7s,baz=208,slow=3.3,SNR=9.5
PLCA Paso Flores 132.70 159 *e*PKPdf PKPdf 20 09 45.9 +2.2
DBIC Dimbokro 134.63 276 PKP PKPdf 20 09 50.1 +2.8
comp=Z,4.4nm,0.8s,baz=128,slow=2.2,SNR=3.4
TKL Tuckaleechee C 135.07 40 PKP PKPdf 20 09 50.2 +2.1
comp=Z,4.1nm,0.7s,baz=156,slow=7.2,SNR=4.9
TKL Tuckaleechee C 135.07 40 PKP PKPdf 20 09 50.2 +2.1
JTS JuntasAbangare 144.80 76 *e*PKIKP PKPdf 20 10 06.2 +0.4
LVC Limon Verde 148.71 145 *e*PKPdf PKPdf 20 10 14.1 +1.8
LVC *e*PKPbc PKPbc 20 10 19.3 +3.2
NNA Nana 149.67 120 *e*PKPbc PKPbc 20 10 20.0 +1.4
CPUP Villa Florida 150.07 167 PKP PKPdf 20 10 16.8 +2.2
comp=Z,19nm,0.7s,baz=347,slow=1.1,SNR=7.4
CPUP PKPbc PKPbc 20 10 21.3 +1.8
comp=Z,12nm,0.5s,baz=165,slow=1.6,SNR=57
LPAZ La Paz 153.94 138 PKP PKPdf 20 10 23.6 +3.3
comp=Z,0.9nm,0.7s,baz=237,slow=5.0,SNR=4.7
LPAZ PKPbc PKPbc 20 10 30.0 +1.7
comp=Z,2.5nm,0.7s,baz=220,slow=2.1,SNR=13
LPAZ La Paz 153.94 138 *e*PKPdf PKPdf 20 10 22.9 +2.6
LPAZ *e*PKPbc PKPbc 20 10 31.1 +2.8
ROSC El Rosal 155.91 85 PKP PKPdf 20 10 26.4 +3.4
comp=Z,2.4nm,0.6s,baz=13,slow=7.4,SNR=2.7
ROSC PKPab PKPab 20 10 53.9 +4.0
comp=Z,3.1nm,0.5s,baz=88,slow=21,SNR=4.1
SDV Santo Domingo 158.91 73 *e*PKPdf PKPdf 20 10 28.9 +2.1
SDV *e*PKPab PKPab 20 11 05.7 +2.8
BDFB Brasilia 161.36 187 PKP PKPdf 20 10 30.5 +1.0
comp=Z,2.7nm,0.9s,baz=153,slow=7.4,SNR=3.8
SAML Samuel 162.49 133 *e*PKPdf PKPdf 20 10 32.4 +1.7

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*NEIC **01** 19:56:52.2, 1336N×5883W, h34km, MD3.9(TRN), After TRN.*

TRN 01 19:56:52.3, 1349N×5908W, h10km, MD3.9, Md3.6(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSV	**Crater Summit**	**2.06**	**266**	*e*P	Pn	19 57 28.5	+1.5
SSV				*e*S	Sn	19 57 56.6	+3.9
SVB	**Belmont**	**2.12**	**264**	*e*P	Pn	19 57 30.3	+2.5
SVB				*e*S	Sn	19 57 57.4	+3.2
FDF	**Fort de France**	**2.36**	**302**	*e*P	Pn	19 57 32.5	+1.5
FDF				*e*S	Sn	19 58 01.6	+1.5
GRCU	**Cariacou**	**2.52**	**247**	*e*P	Pn	19 57 35.0	+1.6
GRCU				*e*S	Sn	19 58 05.5	+1.3
GRIC	**Isle de Caille**	**2.72**	**244**	*e*P	Pn	19 57 37.7	+1.7
GRW	**Mount Saint Ca**	**2.84**	**243**	*e*P	Pn	19 57 38.9	+1.1
GRW				*e*S	Sn	19 58 13.6	+1.6

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*NEIC **01** 20:14:19.2, 33.14S×7027W, h3km, ML3.1(GUC), After GUC.*

GUC 01 20:14:19.2±0.4, 3314S×7027W, h3km±1km, MD3.5, ML3.1, 8C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.19**	**186⇑**	*i*P	Pg	20 14 23.4	+0.6
FCH				*i* S	Sg	20 14 26.7	+1.4
FCH				AML	AML	20 14 27.7	
comp=E,2μm,0.3s							
CLCH	**Cerro Calan**	**0.34**	**222⇑**	*i*P	Pg	20 14 26.6	+0.9
CLCH				*i* S	Sg	20 14 31.5	+1.4
CLCH				AML	AML	20 14 33.7	
comp=N,2μm,0.4s							
PEL	**Peldehue**	**0.35**	**270⇓**	*i*P	Pg	20 14 26.3	+0.4
PEL				*i* S	Sg	20 14 31.3	+0.8
PEL				AML	AML	20 14 38.0	
comp=N,978nm,0.5s							
PEL	**Peldehue**	**0.35**	**270⇓**	*i*P	Pg	20 14 26.3	+0.4
PEL				*i* S	Sg	20 14 31.3	+0.8
PCH	**Pirque**	**0.52**	**203⇑**	*i*P	Pg	20 14 29.6	+0.4
PCH				*i* S	Sg	20 14 37.3	+1.3
LMEL	**Las Melosas**	**0.71**	**176⇑**	*i*P	Pg	20 14 32.8	+0.1
LMEL				*i* S	Sg	20 14 43.4	+1.5
TACH	**Talagante**	**0.76**	**228⇓**	*i*P	Pg	20 14 33.5	-0.2
TACH				*i* S	Sg	20 14 44.4	+0.9
CHCH	**Chadas Angostu**	**0.85**	**202⇑**	*i*P	Pg	20 14 35.1	-0.4
CHCH				*i* S	Sg	20 14 47.5	+0.9
CACH	**El Canelo**	**1.01**	**196⇑**	*i*P	Pg	20 14 38.7	+0.1
CACH				*i* S	Sg	20 14 53.8	+2.1
PACH	**Papudo**	**1.15**	**301**	*i* P	Pg	20 14 40.7	-0.6
PACH				*i* S	Sg	20 14 57.1	+0.8
CICH	**Cipreses**	**1.18**	**186**	*i* P	Pg	20 14 41.4	-0.4
CICH				*i* S	Sg	20 14 58.2	+1.1
LNV	**Longovilo**	**1.25**	**229⇓**	*i*P	Pg	20 14 42.1	-1.1
LNV				*i* S	Sg	20 14 59.8	+0.3
CMCH	**Combarbala**	**2.06**	**342⇑**	*i*P	Pn	20 14 56.5	+1.9
CMCH				*i* S	Sn	20 15 25.1	+4.3
CMCH				AML	AML	20 15 31.4	
comp=E,1μm,0.6s							
CMCH	**Combarbala**	**2.06**	**342⇑**	*i*P	Pn	20 14 56.5	+1.9
CMCH				*i* S	Sn	20 15 25.1	+4.3
TLL	**Tololo Astrono**	**3.00**	**351**	AML	AML	20 16 03.0	
comp=N,222nm,0.5s							

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*NIED **01** 21:02:00, 4660N×15370E, h20km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φs44.00000°, δ83.00000°, λ-154.00000°. NP2:φs311.00000°, δ64.00000°, λ-8.00000°.*
*BJI **01** 21:02:02.7, 4637N×15391E, h29km, mB4.4, mb4.1*
*IDC **01** 21:02:03.4±1.0, 4643N×15347E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, ML2.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=29.5km s-min=22.1km az=88.0*
*NEIC **01** 21:02:04.9±0.7, 4645N×15360E, h10km, mb4.1/6, Error ellipse: s-maj=15.7km s-min=10.6km az=119.0*
*MOS **01** 21:02:06.3±1.2, 4645N×15351E, h33km, mb4.2/11, Error ellipse: s-maj=14.7km s-min=14.4km az=72.0*
*ISCJB **01** 21:02:08.6±1.6, 4641N±009×1534E±0.1, h46km±12km, mb4.2/18, MS3.5/2, Error ellipse: s-maj=19.0km s-min=10.0km az=93.0*

ISC 01 21:02:10.7±1.4, 4642N±009×1534E±01, h50km±11km, n50, σ0§91/50, mb4.2/18, MS3.5/2, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.06**	**255⇓**	*i*PN	**Pn**	**21 03 06.0**	**-4.2**
KUR				*e*S	**Sn**	**21 03 56.0**	**-0.4**
KUR				pmax	pmax		
comp=N,50nm,0.6s							
KUR				pmax	pmax		
comp=E,60nm,0.6s							
KUR				pmax	pmax		
comp=Z,150nm,0.6s							
KUR				smax			
comp=N,190nm,0.7s							
SKR	**Severo-Kuril's**	**4.62**	**22**	*e*PN	**Pn**	**21 03 18.7**	**+0.7**
SKR				pmax	pmax		
comp=Z,90nm,0.7s							
ASAJ	**Asahikawa**	**7.97**	**257**	Pn	**Pn**	**21 04 04.2**	**+0.3**
comp=Z,0.8nm,0.3s,baz=52,slow=11,SNR=7.6							
ASAJ	**Asahikawa**	**7.97**	**257**	PN	**Pn**	**21 04 04.2**	**+0.3**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**15.05**	**234**	*e*P	**Pn**	**21 05 40.2**	**+0.1**
MAJO				pmax	pmax		
comp=Z,11nm,0.9s							
MAJO	**Matsushiro**	**15.05**	**234**	*e*Pn	**Pn**	**21 05 40.2**	**+0.1**
comp=Z,11nm,0.9s							
MJAR	**Matsushiro Arr**	**15.05**	**234**	Pn	**Pn**	**21 05 39.1**	**-1.1**
comp=Z,0.1nm,0.3s,baz=35,slow=11,SNR=4.3							
MDJ	**Mudanjiang**	**16.78**	**272**	P	**Pn**	**21 06 01.5**	**-0.7**
MDJ				AMB	AMB		
comp=Z,7.0nm,1.0s							
MDJ				AMB	AMB		
comp=Z,37nm,3.8s							
MDJ	**Mudanjiang**	**16.78**	**272**	*e*P	**Pn**	**21 06 01.6**	**-0.6**
comp=Z,3.8nm,0.7s							
YAK	**Yakutsk**	**20.71**	**328**	P	**P**	**21 06 47.3**	**+0.6**
SONM	**Songino Array**	**31.64**	**290**	P	**P**	**21 08 30.4**	**+1.4**
comp=Z,0.5nm,0.7s,mb3.5,baz=72,slow=7.3,SNR=3.6							
SONM				LR	LR	21 22 29.8	
comp=Z,73nm,19.0s,MS3.4,baz=146,slow=39							
SONM	**Songino Array**	**31.64**	**290**	P	**P**	**21 08 30.4**	**+1.4**
SONM				pmax	pmax		
comp=Z,10.0nm,0.7s							
SONM				MLR	MLR		
comp=Z,73nm,19.0s							
ZAK	**Zakamensk**	**33.01**	**296**	*e*P	**P**	**21 08 36.4**	**-4.5**
LZH	**Lanzhou**	**38.11**	**272**	*e*P	**P**	**21 09 25.5**	**+0.8**
LZH				AP	pP	21 09 31.5	-6.3
LZH				XP	sP	21 09 35.5	-8.1
LZH				AMB	AMB		
comp=Z,16nm,1.0s,mb4.7							
LZH	**Lanzhou**	**38.11**	**272**	*e*P	**P**	**21 09 25.5**	**+0.8**
comp=Z,16nm,1.0s,mb4.7							
LZH				pP	pP	21 09 31.5	-6.3
LZH				sP	sP	21 09 35.5	-8.1
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**21 10 38.0**	**-1.0**
comp=Z,0.9nm,0.5s,mb4.0,baz=61,slow=7.7,SNR=13							
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**21 10 38.0**	**-1.0**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**21 10 38.0**	**-1.0**
LSA	**Lhasa**	**50.50**	**274**	*e*P	**P**	**21 11 05.2**	**+1.5**
LSA				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**50.50**	**274**	*e*P	**P**	**21 11 05.2**	**+1.5**
comp=Z,1.8nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**51.23**	**310**	P	**P**	**21 11 07.6**	**-1.6**
comp=Z,1.0nm,0.7s,mb3.8,baz=7.6,slow=4.4,SNR=4.1							
BVAR	**Borovoye Array**	**51.23**	**310**	P	**P**	**21 11 07.6**	**-1.6**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**51.27**	**310**	*e*P	**P**	**21 11 08.5**	**-1.0**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
BRVK	**Borovoye**	**51.27**	**310**	*e*P	**P**	**21 11 08.5**	**-1.0**
comp=Z,1.4nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**21 11 13.6**	**-1.3**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**21 11 13.6**	**-1.3**
comp=Z,1.4nm,0.8s,mb3.9							
KKN	**Kakani**	**55.73**	**276**	*e*P	**P**	**21 11 43.3**	**+1.2**
comp=Z,8.3nm,0.6s,mb4.9							
PKI	**Pulchoki**	**55.78**	**275**	*e*P	**P**	**21 11 43.5**	**+1.0**
DMN	**Daman**	**55.96**	**276**	*e*P	**P**	**21 11 44.9**	**+1.1**
comp=Z,17nm,0.9s,mb5.1							
GKN	**Gorkha**	**56.04**	**276**	*e*P	**P**	**21 11 45.3**	**+0.9**
comp=Z,12nm,0.7s,mb5.0							
KOLN	**Koldanda**	**56.90**	**277**	*e*P	**P**	**21 11 51.7**	**+1.2**
comp=Z,7.9nm,0.8s,mb4.8							
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**21 12 40.6**	**-1.1**
comp=Z,2.1nm,0.6s,mb4.3,baz=38,slow=8.5,SNR=13							
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**21 12 40.7**	**-1.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**	**21 12 44.3**	**+0.3**
comp=Z,0.6nm,0.8s,mb3.7,baz=298,slow=3.2,SNR=5.0							
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**21 13 06.3**	**0.0**
comp=Z,1.1nm,0.8s,mb3.9,baz=19,slow=6.9,SNR=5.8							
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**21 13 06.3**	**0.0**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
NB2	**NORSAR Subarra**	**68.61**	**341**	P	**P**	**21 13 07.3**	**-1.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.61**	**341**	P	**P**	**21 13 07.7**	**-0.7**
comp=Z,1.4nm,0.7s,mb4.0,baz=27,slow=6.3,SNR=8.4							
NOA	**NORSAR Array B**	**68.61**	**341**	P	**P**	**21 13 07.7**	**-0.7**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**21 13 27.9**	**-0.9**
comp=Z,0.9nm,0.5s,mb4.0,baz=32,slow=5.9,SNR=9.7							
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**21 13 27.9**	**-0.8**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**71.94**	**326**	*e*P	**P**	**21 13 27.8**	**-0.9**
ASAR	**Alice Springs**	**71.97**	**199**	P	**P**	**21 13 28.1**	**-0.9**
comp=Z,0.8nm,0.7s,mb3.8,baz=13,slow=6.8,SNR=6.3							
ASAR	**Alice Springs**	**71.97**	**199**	P	**P**	**21 13 28.1**	**-0.8**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
GNI	**Garni**	**72.90**	**311**	LR	LR	21 47 51.9	
comp=Z,27nm,18.8s,MS3.5,baz=352,slow=38							
BURAR	**Bucovina Array**	**75.98**	**327⇑**	*i*P	**P**	**21 13 52.2**	**-0.2**
CLL	**Collm**	**76.85**	**336**	*e*P	**P**	**21 13 57.0**	**-0.3**
MLR	**Muntele Rosu**	**77.45**	**325⇓**	*i*P	**P**	**21 14 01.1**	**+0.4**
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**21 14 08.6**	**+0.6**
comp=Z,0.9nm,0.8s,mb3.8,baz=40,slow=6.4,SNR=5.1							
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**21 14 08.6**	**+0.6**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.8s							

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*ISCJB **01** 21:10:58.6±0.5, 2638S±003×7053W±0.10, h33km, mb4.4/6, Error ellipse: s-maj=12.7km s-min=4.7km az=12.9*
*NEIC **01** 21:10:58.2, 2640S×7068W, h40km, mb4.4/3, MD4.1(GUC), After GUC.*
*GUC **01** 21:10:58.2±0.5, 2640S×7068W, h40km±5km, MD4.1, ML4.1*
*IDC **01** 21:11:02.0±2.4, 2641S×7047W, h45km±19km, mb4.1/5, mb1 3.9/10, mb1mx3.7/20, mbtmp4.0/10, ML3.6/3, Error ellipse: s-maj=35.2km s-min=14.6km az=94.0*

ISC 01 21:11:00.5±0.6, 2642S±004×706W±01, h35km, n29, σ1§15/30, mb4.4/6, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.68**	**196**	*i* P	**Pn**	**21 11 11.5**	**-2.2**
CDCH				AML	AML	21 11 20.5	
comp=E,9μm,0.3s							
CDCH				*i* S	**Sn**	**21 11 21.4**	**-1.6**
CPCH	**Copiapo**	**0.97**	**166**	*e*P	**Pn**	**21 11 16.5**	**-1.1**
CPCH				*i* S	**Sn**	**21 11 29.9**	**-0.2**
VACH	**Vallenar**	**2.15**	**183⇓**	*i*P	**Pn**	**21 11 38.4**	**+4.5**
VACH				*i* S	**Sn**	**21 12 05.0**	**+5.6**
ANCH	**Antofagasta**	**2.73**	**4**	*e*P	**Pn**	**21 11 40.5**	**-1.2**
ANCH				AML	AML	21 12 24.6	
comp=N,1μm,0.5s							
CEN1	**Los Morros**	**3.04**	**7**	*e*P	**Pn**	**21 11 41.9**	**-4.1**
CEN1				AML	AML	21 12 31.4	
comp=E,611nm,0.6s							
LVC	**Limon Verde**	**4.09**	**23**	P	**Pn**	**21 12 02.1**	**+1.5**
comp=E,9.2nm,0.3s,baz=191,slow=9.1,SNR=86							
LVC				Lg		21 12 57.7	

comp=E,74nm,0.3s,baz=352,slow=19,SNR=7.9
CFAA Coronel Fontan 5.58 159 P Pn 21 12 23.7 +2.8
comp=E,0.2nm,0.3s,baz=345,slow=20,SNR=5.8
CFAA S Sn 21 13 23.9 +0.1
comp=E,0.5nm,0.3s,baz=220,slow=22,SNR=3.6
LPAZ La Paz 10.34 13 P Pn 21 13 26.8 +0.5
comp=E,0.8nm,0.3s,baz=186,slow=7.3,SNR=26
LPAZ La Paz 10.34 13 P Pn 21 13 26.8 +0.5
CPUP Villa Florida 11.92 93 P Pn 21 13 47.4 -0.5
comp=E,0.1nm,0.3s,baz=214,slow=18,SNR=2.0
SIV San Ignacio 13.66 42 P Pn 21 14 09.0 -2.7
comp=E,1.0nm,0.3s,baz=229,slow=11,SNR=20
TRQA Tornquist 13.71 150 *e*Pn **Pn 21 14 12.7 +0.4**
comp=E,5.1nm,0.5s
TRQA *e* 21 14 21.8
TRQA *e*Sn **Sn 21 16 52.1 +8.9**
PLCA Paso Flores 14.28 180 P Pn 21 14 21.8 +1.7
comp=E,0.0nm,0.3s,baz=355,slow=11,SNR=2.3
SAML Samuel 18.75 23 *e*P **Pn 21 15 17.1 +0.1**
comp=E,1.7nm,0.5s
BDFB Brasilia 23.63 68 P P 21 16 06.6 -1.9
comp=E,8.1nm,1.0s,mb4.1,baz=228,slow=8.9,SNR=5.9
SDV Santo Domingo 35.09 360 P P 21 17 51.0 +0.7
VNA3 Neumayer Olymp 55.98 160 *e* **P 21 20 35.6 +0.3**
VNA3 *e* 21 20 37.6
SNAA Sanae 58.19 160 P P 21 20 51.0 0.0
comp=E,1.2nm,0.5s,mb4.2,baz=295,slow=9.2,SNR=21
QSPA South Pole Qui 63.80 180 *e*P **P 21 21 29.8 +0.8**
comp=E,4.3nm,0.3s,mb5.0
SBA Scott Base 70.73 191 P P 21 22 13.6 +0.6
DBIC Dimbokro 71.66 73 P P 21 22 18.8 +0.2
comp=E,3.9nm,0.9s,mb4.3,baz=229,slow=9.3,SNR=3.9
MAW Mawson 80.08 164 P P 21 23 06.7 +0.1
comp=E,2.8nm,0.6s,mb4.4,baz=233,slow=5.7,SNR=8.2
MAW Mawson 80.08 164 *e*P **P 21 23 07.0 +0.3**
comp=E,2.3nm,0.5s,mb4.4
TORD Torodi Ar. Bea 80.48 70 P P 21 23 09.5 +0.7
comp=E,4.3nm,0.7s,mb4.5,baz=267,slow=5.4,SNR=68
ESLA Sonseca Array 90.41 45 P P 21 23 58.4 +0.2
ASAR Alice Springs 124.85 208 PKP PKPdf 21 29 56.2 -0.4
comp=E,0.3nm,0.5s,baz=125,slow=1.7,SNR=5.5
WRA Warramunga Arr 127.94 210 PKP PKPdf 21 30 02.5 -0.1
comp=E,0.6nm,0.6s,baz=156,slow=1.7,SNR=8.8
MKAR Makanchi Array 150.46 39 PKPbc PKPbc 21 30 48.5 +0.2
comp=E,4.3nm,0.6s,baz=296,slow=2.3,SNR=53
SONM Songino Array 158.49 5 PKPbc PKPdf 21 31 03.8 +10
SONM PKPab PKPab 21 31 29.4 +0.4
comp=E,0.5nm,0.8s,baz=255,slow=2.8,SNR=4.1
comp=E,0.4nm,0.8s,baz=42,slow=2.3,SNR=2.9

WEL 01 21:22:14.4±0.4, 4125S×17273E, h144km±3km, ML3.5/13, 3C, Error ellipse: s-maj=2.2km s-min=2.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.45**	**340**	⇑PN	Pn	21 22 34.7	0.0
QRZ				SN	Sn	21 22 48.5	-1.7
NNZ	**Nelson**	**0.49**	**87**	⇑PN	Pn	21 22 34.8	-0.1
NNZ				SN	Sn	21 22 50.1	-0.5
THZ	**Tophouse**	**0.53**	**166**	⇑PN	Pn	21 22 35.3	+0.1
DSZ	**Denniston Nort**	**0.86**	**234**	PN	Pn	21 22 37.1	-0.3
TUWZ	**Tuamarina**	**0.93**	**102**	PN	Pn	21 22 38.1	+0.1
BSWZ	**Blackbirch Sta**	**0.98**	**119**	PN	Pn	21 22 38.6	+0.2
DUWZ	**D'Urville Isla**	**1.00**	**64**	PN	Pn	21 22 39.2	+0.6
TCW	**Tory Channel**	**1.17**	**89**	PN	Pn	21 22 40.3	+0.2
TCW				SN	Sn	21 22 58.9	-0.7
KHZ	**Kahutara**	**1.32**	**153**	PN	Pn	21 22 41.6	0.0
MRW	**Makara Radio**	**1.48**	**90**	PN	Pn	21 22 43.1	-0.2
SNZO	**South Karori**	**1.49**	**93**	PN	Pn	21 22 43.0	-0.4
WEL	**Wellington**	**1.54**	**92**	PN	Pn	21 22 43.6	-0.3
LTZ	**Lake Taylor**	**1.57**	**193**	PN	Pn	21 22 44.2	-0.1
BHW	**Baring Head**	**1.62**	**97**	PN	Pn	21 22 44.2	-0.5
KIW	**Kapiti Island**	**1.69**	**78**	PN	Pn	21 22 45.4	-0.2
CAW	**Cannon Point**	**1.77**	**86**	PN	Pn	21 22 45.9	-0.5
MSWZ	**Moikau Station**	**1.90**	**96**	PN	Pn	21 22 47.4	-0.7
PAWZ	**Paruwai Farm**	**2.03**	**95**	PN	Pn	21 22 48.8	-0.7
MTW	**Mount Morrison**	**2.09**	**89**	PN	Pn	21 22 49.4	-0.8
MRZ	**Mangatainoka R**	**2.23**	**76**	PN	Pn	21 22 51.0	-0.9
WVZ	**Waitaha Valley**	**2.36**	**218**	PN	Pn	21 22 52.6	-0.8
TIWZ	**Tintock**	**2.43**	**80**	PN	Pn	21 22 53.5	-0.9
MQZ	**McQueen's Vall**	**2.46**	**181**	PN	Pn	21 22 53.6	-1.1
VRZ	**Vera Road**	**2.62**	**37**	PN	Pn	21 22 57.3	+0.5
BFZ	**Birch Farm**	**2.72**	**79**	PN	Pn	21 22 56.9	-1.1
RPZ	**Rata Peaks**	**2.76**	**206**	PN	Pn	21 22 57.3	-1.2
HIZ	**Hauiti**	**3.18**	**32**	PN	Pn	21 23 03.7	-0.1
FOZ	**Fox Glacier**	**3.23**	**223**	PN	Pn	21 23 02.1	-2.4

*NEIC **01** 21:51:48.4, 1678N×9976W, h5km, MD3.9(MEX), After MEX.*
MEX 01 21:51:47.9±1.0, 1673N×9974W, h7km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.22**	**308**	*i* P	Pg	21 51 51.7	-0.6
CAIG	**El Cayaco**	**0.60**	**302**	*i* P	Pg	21 51 58.5	-0.9
CAIG				*i* S	Sg	21 52 07.2	0.0
MEIG	**Mezcala**	**1.19**	**5**	*i* P	Pg	21 52 06.8	-4.0
MEIG				*i* S	Sg	21 52 21.9	-4.3
PLIG	**Platanillo**	**1.67**	**8**	*i* P	Pn	21 52 14.8	-2.7
PLIG				*i* S	Sn	21 52 34.8	-4.2
UTMO	**Huajuapan**	**2.15**	**59**	*e*P	Pn	21 52 21.6	-2.5
UTMO				*i* S	Sn	21 52 47.3	-3.6
PPM	**Popocatepetl**	**2.55**	**24**	*i* P	Pn	21 52 28.2	-1.5
PPM				*i* S	Sn	21 52 55.4	-5.5
PPM	**Popocatepetl**	**2.55**	**24**	*i* P	Pn	21 52 29.2	-0.5
TPIG	**Tehuac#an**	**2.82**	**53**	*i* P	Pn	21 52 31.8	-1.5
TPIG				*i* S	Sn	21 53 03.5	-4.1
VHO	**Vista Hermosa**	**2.90**	**83**	*i* P	Pn	21 52 33.1	-1.3
VHO				*i* S	Sn	21 53 03.4	-6.0
VHO	**Vista Hermosa**	**2.90**	**83**	*i* P	Pn	21 52 35.1	+0.7
VHO				*i* S	Sn	21 53 08.3	-1.1
IIO	**Organos**	**3.00**	**19**	*i* P	Pn	21 52 19.2	-17
IIO				*i* S	Sn	21 52 55.2	-17
MOIG	**Morelia**	**3.24**	**335**	*i* P	Pn	21 52 38.2	-0.9
MOIG				*i* S	Sn	21 53 16.0	-1.9

*CSEM **01** 22:07:00.4, 67.19N×2068E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **01** 22:07:00.4, 67.19N×2068E, h0km, ML2.8, Mining explosion.*
HEL 01 22:07:01.0±0.0, 6718N×2069E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**218**	*i* P	Pg	22 07 02.3	-0.1
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	22 07 11.4	-0.7
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	22 07 17.3	-0.3
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	22 07 16.8	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	22 07 17.8	-1.2
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	22 07 18.3	-1.1
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	22 07 19.0	-1.3
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	22 07 19.4	-1.3
HARU	**Harads**	**1.03**	**174**	P	Pg	22 07 19.4	-1.3
	baz=352						
KALU	**Kalix**	**1.70**	**140**	*e*P	Pn	22 07 31.3	-0.7
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	22 07 31.6	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	22 07 34.0	+0.3
KIF				*e*S	Sn	22 07 59.1	+1.5
LILU	**Lilltraesk**	**1.93**	**191**	*e*P	Pn	22 07 35.0	-0.2
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	22 07 40.6	-2.3
SGF				*e*SG	Sg	22 08 10.6	-3.6
BURU	**Burvik**	**2.62**	**174**	*e*P	Pn	22 07 44.7	+0.1

*ISCJB **01** 22:15:03.8±0.4, 3509N±002×279W±004, h10km, Error ellipse: s-maj=5.1km s-min=2.8km az=35.3*
*NEIC **01** 22:15:04.0, 3498N×309W, h6km, MG3.4(MDD), After MDD.*
*CSEM **01** 22:15:04.3, 35.13N×276W, h1km, MD3.4, After CNRM*
*CNRM **01** 22:15:04.3, 35.13N×276W, h1km, MD3.4*
*MDD **01** 22:15:05.4±0.3, 3506N×281W, h7km±3km, mb3.3/14, Error ellipse: s-maj=4.8km s-min=2.7km az=74.0, PRXIMO*
ISC 01 22:15:04.5±0.4, 3508N±002×282W±004, h10km, n28, σ1°27/48, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.13**	**153**	*i* P	Pg	22 15 07.0	-0.5
ZAI				*i* S	Sg	22 15 09.5	-0.1
MELI	**Melilla**	**0.23**	**335**	P	Pg	22 15 09.7	+0.4
MELI				S	Sg	22 15 14.7	+2.2
EMEL	**Melilla**	**0.24**	**332**	P	Pg	22 15 10.4	+0.9
EMEL	SNR=7.9			S	Sg	22 15 14.7	+1.9
	120nm,0.1s,SNR=7.9						
TOU	**Touzarine**	**0.78**	**261**	*i* P	Pg	22 15 19.5	-0.1
TOU				*i* S	Sg	22 15 31.5	+1.8
EALB	**Alboran**	**0.87**	**348**	⇓P	Pg	22 15 21.7	+0.4
EALB	27nm,0.6s,SNR=18			S	Sg	22 15 35.6	+2.9
	25nm,0.3s,SNR=8.1						
MPAL	**Palemas**	**0.93**	**279**	*e*P	Pg	22 15 22.0	-0.5
MPAL				*e*S	Sg	22 15 34.0	-0.6
TZK	**Tazeka**	**1.50**	**229**	*e*P	Pn	22 15 32.0	+0.5
TZK				*e*S	Sn	22 15 52.0	+0.8
EBER	**Berja**	**1.81**	**358**	P	Pn	22 15 35.6	-0.2
EBER	2.3nm,0.5s,SNR=7.6			S	Sn	22 15 57.5	-1.2
	18nm,0.8s						
EGUA	**Guajares**	**1.85**	**341**	⇓P	Pn	22 15 33.6	-2.6
	1.5nm,0.2s,SNR=18						
ENIJ	**Nijar**	**1.95**	**15**	S	Sn	22 16 01.8	-0.3
	2.6nm,0.3s,SNR=4.7						
ERON	**Agron**	**2.09**	**338**	P	Pn	22 15 37.0	-2.6
	1.0nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.17**	**313**	P	Pn	22 15 38.1	-2.6
	1.8nm,0.3s,SNR=15						
EMIJ				S	Sn	22 16 03.2	-4.4
	2.7nm,0.3s						
EQUE	**Quentar**	**2.17**	**347**	P	Pn	22 15 41.2	+0.4
	1.7nm,0.2s,SNR=20						
EQUE				S	Sn	22 16 08.3	+0.6
	1.9nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.27**	**345**	P	Pn	22 15 41.5	-0.6
	SNR=7.9						
ELOJ	**Sierra Loja**	**2.33**	**333**	P	Pn	22 15 41.4	-1.4
	SNR=7.9						
MIF	**Mishlifen**	**2.60**	**231**	*i* P	Pn	22 15 46.0	-0.7
MIF				*i* S	Sn	22 16 16.5	-1.9
EQES	**Quesada**	**2.72**	**356**	P	Pn	22 15 50.2	+1.9
	2.9nm,0.3s,SNR=37						
EQES				S	Sn	22 16 21.3	+0.1
	10nm,0.7s						
EHUE	**Huescar**	**2.73**	**4**	P	Pn	22 15 49.6	+1.2
	0.9nm,0.3s,SNR=14						
EHUE				S	Sn	22 16 21.7	+0.3
	2.7nm,0.6s						
CZD	**Col de Zad**	**2.76**	**223**	*i* P	Pn	22 15 50.5	+1.7
CZD				*i* S	Sn	22 16 23.0	+0.9
EMUR	**La Murta**	**3.03**	**24**	P	Pn	22 15 53.3	+0.7
	2.0nm,0.3s,SNR=9.2						
EMUR				S	Sn	22 16 27.9	-0.9
	7.9nm,1.0s						
ZFT	**Errachidia**	**3.30**	**203**	*e*P	Pn	22 15 57.0	+0.8
ZFT				*i* S	Sn	22 16 36.0	+0.5
EADA	**Adamuz**	**3.39**	**336**	P	Pn	22 15 57.5	+0.1
	2.5nm,0.3s,SNR=10						
EADA				S	Sn	22 16 35.5	-2.1
	4.1nm,0.8s						
ETOB	**Tobarra**	**3.70**	**16**	P	Pn	22 16 04.5	+2.9
	1.2nm,0.4s,SNR=10						
ETOB				S	Sn	22 16 45.4	+0.1
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.10**	**312**	P	Pn	22 16 05.6	-1.7
	1.1nm,0.3s,SNR=9.8						
EMIN				S	Sn	22 16 50.6	-4.7
	17nm,0.4s						
EBEN	**Beniarda**	**4.17**	**29**	P	Pn	22 16 08.3	+0.1
	SNR=7.9						
EGRO	**El Granado**	**4.49**	**304**	P	Pn	22 16 10.7	-1.9
	3.0nm,0.3s,SNR=6.8						
ESDC	**Sonseca Array**	**4.67**	**349**	P	Pn	22 16 16.4	+1.4
	0.5nm,0.3s,baz=172,slow=12,SNR=9.0						
EBAD	**Badajoz**	**4.97**	**319**	P	Pn	22 16 17.2	-2.0
EBAD	1.1nm,0.3s,SNR=6.8			S	Sn	22 17 11.1	-5.7
	7.9nm,1.2s						

*NEIC **01** 22:27:30.0, 1375N×5981W, h34km, MD4.0(TRN), After TRN.*
TRN 01 22:27:29.4, 1374N×5982W, h25km, MD4.0, M4.0(FDF), Md3.5(FDF), 6C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.64**	**157**	*e*P	Pb	22 27 42.6	+0.5
BBSP	**Saint Philip**	**0.72**	**151**	⇑*e*P	Pb	22 27 45.1	+1.8
BBSP				*e*S	Sb	22 27 56.3	+3.4
MVM	**Montagne Vaucl**	**1.32**	**308**	⇑*e*P	Pn	22 27 52.6	+0.3
SSV	**Crater Summit**	**1.40**	**253**	⇓*i*P	Pn	22 27 54.6	+1.3
SSV				*e*S	Sn	22 28 12.9	+1.9
SVB	**Belmont**	**1.47**	**252**	⇑*e*P	Pn	22 27 55.7	+1.4
SVB				*e*S	Sn	22 28 14.9	+2.2
FCV	**Fort Charlotte**	**1.51**	**248**	⇑*i*P	Pn	22 27 55.9	+1.1
FCV				*e*S	Sn	22 28 15.4	+1.8
FDF	**Fort de France**	**1.63**	**307**	⇑*e*P	Pn	22 27 57.2	+0.7
FDF				*e*S	Sn	22 28 18.3	+1.7
GRCU	**Cariacou**	**2.04**	**232**	⇑*e*P	Pn	22 28 01.9	-0.2
GRCU				*e*S	Sn	22 28 26.9	+0.2
GRIC	**Isle de Caille**	**2.25**	**230**	*e*P	Pn	22 28 06.6	+1.5
GRIC				*e*S	Sn	22 28 35.3	+3.3
GRSS	**Sisters**	**2.26**	**231**	*e*P	Pn	22 28 05.8	+0.6
GRSS				*e*S	Sn	22 28 34.0	+1.7
GRHS	**Sauteurs**	**2.33**	**230**	*e*P	Pn	22 28 08.7	+2.5
GRHS				*e*S	Sn	22 28 37.2	+3.2
GRW	**Mount Saint Ca**	**2.39**	**229**	*e*P	Pn	22 28 08.1	+1.1
GRW				*e*S	Sn	22 28 36.6	+1.2
BBL	**Barber's Block**	**2.39**	**318**	*e*P	Pn	22 28 08.6	+1.7
TBG	**Guadaloupe-3**	**2.75**	**320**	*e*P	Pn	22 28 13.2	+1.4
PHG	**Guadaloupe-2**	**2.87**	**322**	*e*P	Pn	22 28 15.3	+1.8
SCG	**Saint Claude**	**2.90**	**322**	*e*P	Pn	22 28 15.8	+1.8
SCG				*e*S	Sn	22 28 52.2	+4.1
LZG	**Guadaloupe-1**	**3.05**	**322**	*e*P	Pn	22 28 18.2	+2.2
SJG	**San Juan**	**7.48**	**306**	*e*Pn	Pn	22 29 19.1	+2.2
	11nm,0.6s						

*IDC **01** 22:34:07.4±1.1, 1267N×9236E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/21, mbtmp3.7/9, MS4.1/1, Ms1 4.1/1, ms1mx3.0/34, Error ellipse: s-maj=51.3km s-min=19.0km az=54.0*
*ISCJB **01** 22:34:09.5±6.0, 126N±02×923E±02, h27km±41km, mb3.9/11, MS4.1/1, Error ellipse: s-maj=37.0km s-min=16.5km az=91.0*
*NEIC **01** 22:34:12.1±0.7, 1267N×9229E, h30km, mb4.3/2, Error ellipse: s-maj=25.4km s-min=11.6km az=56.0*
ISC 01 22:34:13.0±3.1, 127N±02×923E±02, h35km±26km, n21, σ0°70/20, mb3.9/11, MS4.1/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.11**	**156**	*e*P	x	22 34 15.5	
PBA				*e*S	x	22 34 30.1	
PBA				*e*x	x	22 34 36.3	
	comp=E,5μm,0.5s						
PBA				*e*x	x	22 34 37.1	
	comp=N,5μm,0.4s						
PKI	**Pulchoki**	**16.15**	**338**	*e*P	**Pn**	**22 37 57.9**	**+0.7**
	comp=N,7.4nm,0.6s						
DMN	**Daman**	**16.30**	**337**	*e*P	**Pn**	**22 37 58.4**	**-0.7**
	comp=N,5.6nm,0.4s						
GKN	**Gorkha**	**16.84**	**336**	*e*P	**Pn**	**22 38 05.5**	**-0.3**
	comp=N,7.0nm,0.3s						
LSA	**Lhasa**	**16.97**	**357**	P	**Pn**	**22 38 08.0**	**+0.5**
KOLN	**Koldanda**	**17.07**	**333**	*e*P	**Pn**	**22 38 08.6**	**-0.2**
	comp=N,8.7nm,0.5s						
LZH	**Lanzhou**	**25.53**	**22**	*e*P	**P**	**22 39 38.0**	**-0.2**
	comp=N,18nm,1.0s,mb4.6						
LZH				pP	pP	22 39 47.0	-1.2
LZH				sP	sP	22 39 52.0	-0.5
MKAR	**Makanchi Array**	**35.03**	**348**	P	**P**	**22 41 02.4**	**+0.2**
	comp=N,0.5nm,0.3s,mb3.9,baz=171,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**35.03**	**348**	P	**P**	**22 41 02.4**	**+0.2**
SONM	**Songino Array**	**36.98**	**16**	P	**P**	**22 41 18.1**	**-0.8**
	comp=N,0.7nm,0.7s,mb3.6,baz=206,slow=8.4,SNR=9.3						
ZRNK	**Zerenda**	**44.27**	**340**	*e*P	**P**	**22 42 18.9**	**-0.2**
	comp=N,0.8nm,0.3s,mb3.9						
AKTK	**Aktyubinsk**	**46.88**	**330**	P	**P**	**22 42 40.3**	**+0.6**
AKTO	**Aktyubinsk**	**46.88**	**330**	P	**P**	**22 42 40.3**	**+0.6**
	comp=N,0.6nm,0.3s,mb4.0,baz=108,slow=6.4,SNR=5.7						
WRA	**Warramunga Arr**	**52.57**	**127**	P	**P**	**22 43 21.7**	**-1.3**
	comp=N,0.3nm,0.6s,mb3.4,baz=301,slow=10,SNR=5.7						
WRA				PcP	PcP	22 44 34.2	+1.3
	comp=N,0.2nm,0.5s,baz=324,slow=3.1,SNR=4.6						
ASAR	**Alice Springs**	**54.42**	**132**	P	**P**	**22 43 36.5**	**0.0**
	comp=N,0.3nm,0.8s,mb3.3,baz=305,slow=7.0,SNR=4.7						
ASAR				LR	LR	23 12 13.5	
	comp=N,163nm,18.5s,MS4.1,baz=339,slow=42						
BRTR	**Keskin Array B**	**57.96**	**309**	P	**P**	**22 44 02.0**	**+0.2**
	comp=N,0.5nm,0.7s,mb3.7,baz=70,slow=8.0,SNR=4.0						
PMG	**Port Moresby**	**58.76**	**109**	P	**P**	**22 44 10.0**	**+2.6**
FINES	**FINESS Array B**	**67.64**	**332**	P	**P**	**22 45 06.0**	**-0.2**
	comp=N,2.4nm,1.0s,mb4.2,baz=103,slow=6.1,SNR=6.7						
FINES	**FINESS Array B**	**67.64**	**332**	P	**P**	**22 45 06.0**	**-0.2**
ARCES	**ARCESS Array B**	**70.15**	**340**	P	**P**	**22 45 21.7**	**-0.1**
	comp=N,3.1nm,1.1s,mb4.1,baz=122,slow=4.6,SNR=5.5						
NOA	**NORSAR Array B**	**74.67**	**330**	P	**P**	**22 45 48.3**	**-0.5**
	comp=N,0.4nm,0.5s,mb3.6,baz=91,slow=5.7,SNR=3.0						

*ISCJB **01** 22:39:03.4±0.9, 464N±0.1×1532E±0.1, h10km, mb4.1/19, Error ellipse: s-maj=18.8km s-min=7.7km az=96.3*
*IDC **01** 22:39:03.3±3.1, 4632N×15307E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=92.1km s-min=23.3km az=179.0*
*BJI **01** 22:39:05.8, 4654N×15334E, h31km, mB4.6, mb3.9*
*MOS **01** 22:39:07.6±1.3, 4658N×15307E, h33km, mb4.2/8, Error ellipse: s-maj=16.1km s-min=14.6km az=117.6*
*NEIC **01** 22:39:07.1±1.4, 4669N×15300E, h10km, mb4.0/4, Error ellipse: s-maj=31.4km s-min=14.1km az=131.0*
ISC 01 22:39:06.2±0.9, 466N±01×1532E±01, h10km, n42, σ0°99/42, mb4.1/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.51**	**25**	*e*PN	**Pn**	**22 40 04.4**	**-10**
SKR				*e*S	**Sn**	**22 41 11.9**	**+4.9**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,180nm,1.0s						
SKR				smax			
	comp=Z,60nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.15**	**276**	*e*PN	**Pn**	**22 40 54.8**	**+4.1**
ASAJ	**Asahikawa**	**7.85**	**255**	Pn	**Pn**	**22 41 03.2**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=86,slow=15,SNR=4.5						
MJAR	**Matsushiro Arr**	**15.03**	**233**	Pn	**Pn**	**22 42 40.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=33,slow=10,SNR=6.0						
MAJO	**Matsushiro**	**15.03**	**233**	*e*P	**Pn**	**22 42 35.1**	**-3.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**15.03**	**233**	*e*Pn	**Pn**	**22 42 35.1**	**-3.5**
	comp=Z,4.8nm,0.7s						
MDJ	**Mudanjiang**	**16.60**	**272**	P	**Pn**	**22 42 59.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,107nm,3.7s						
YAK	**Yakutsk**	**20.44**	**327**	P	**P**	**22 43 45.4**	**+1.8**
SONM	**Songino Array**	**31.40**	**290**	P	**P**	**22 45 27.2**	**0.0**
	comp=Z,0.4nm,1.0s,mb3.2,baz=88,slow=7.5,SNR=3.0						
ZAK	**Zakamensk**	**32.76**	**295**	*e*P	**P**	**22 45 38.9**	**-0.3**
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**22 46 23.5**	**-0.1**
LZH				*SP	sP	22 46 30.5	+2.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**22 46 23.5**	**-0.1**
	comp=Z,17nm,1.0s,mb4.7						
LZH				pP	pP	22 46 27.0	+0.3
LZH				sP	sP	22 46 30.5	+2.5
GTA	**Gaotai**	**39.02**	**279**	*e*P	**P**	**22 46 33.5**	**+0.7**
GTA				AP	pP	22 46 37.9	+2.0
GTA				XP	sP	22 46 41.1	+3.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**22 46 56.2**	**+0.8**
	comp=Z,1.3nm,0.7s,mb3.7,baz=258,slow=7.9,SNR=3.9						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**22 46 56.2**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**22 46 56.2**	**+0.8**
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**22 47 36.9**	**-0.7**
	comp=Z,0.6nm,0.3s,mb4.0,baz=57,slow=8.8,SNR=10						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**22 47 36.9**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.02**	**297**	P	**P**	**22 47 36.9**	**-0.7**
LSA	**Lhasa**	**50.31**	**273**	P	**P**	**22 48 01.9**	**-1.0**
BVAR	**Borovoye Array**	**50.96**	**310**	P	**P**	**22 48 06.9**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=63,slow=6.6,SNR=3.3						
BRVK	**Borovoye**	**51.00**	**310**	*e*P	**P**	**22 48 07.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	**Borovoye**	**51.00**	**310**	*e*P	**P**	**22 48 07.4**	**-0.8**
	comp=Z,1.4nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**51.73**	**310**	*e*P	**P**	**22 48 13.2**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.8						
AAK	**Ala-Archa**	**53.92**	**296**	*e*P	**P**	**22 48 29.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
AAK	**Ala-Archa**	**53.92**	**296**	*e*P	**P**	**22 48 29.4**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.8						
KKN	**Kakani**	**55.53**	**275**	*e*P	**

IZM				*i* SG	**Sg**	**22 44 01.8**	**-0.5**
ULDT	**Uludag**	**1.24**	**51**	*i* P	**Pn**	**22 43 49.7**	**-0.6**
ULDT				*i* S	**Sb**	**22 44 06.4**	**0.0**
MRMT	**Marmara Adasi**	**1.25**	**350**	PN	**Pn**	**22 43 49.4**	**-1.1**
PRK	**Paraskevi**	**1.25**	**265**	*e*PB	**Pb**	**22 43 50.2**	**-0.6**
GDZ	**Gediz**	**1.27**	**102**	*i* P	**Pn**	**22 43 50.9**	**+0.1**
GDZ				*i* S	**Sb**	**22 44 07.0**	**-0.5**
EZN	**Ezine**	**1.28**	**291**	PN	**Pn**	**22 43 50.1**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.42**	**338**	*e*PN	**Pn**	**22 43 52.1**	**-0.8**
SART	**Tekirdag**	**1.42**	**338**	*i* P	**Pn**	**22 43 53.1**	**+0.2**
SART				*i* S	**Sn**	**22 44 11.6**	**+0.1**
URLA	**Izmir**	**1.42**	**225**	*i* P	**Pn**	**22 43 52.9**	**0.0**
URLA				*i* S	**Sg**	**22 44 14.2**	**+1.1**
GEMT	**Gemlik**	**1.46**	**43**	PN	**Pn**	**22 43 53.0**	**-0.5**
MFT	**Murefte**	**1.49**	**342**	PN	**Pn**	**22 43 53.4**	**-0.4**
BOZC	**Bozcaada**	**1.49**	**289**	*i* P	**Pn**	**22 43 53.2**	**-0.6**
BOZC				*i* S	**Sn**	**22 44 12.9**	**-0.3**
YLV	**Yalova**	**1.66**	**43**	PN	**Pn**	**22 43 55.7**	**-0.4**
AYDN	**Tasoluk**	**1.71**	**180**	*i* P	**Pn**	**22 43 56.1**	**-0.8**
AYDN				*i* S	**Sg**	**22 44 21.9**	**-0.3**
ALT	**Altintas**	**1.76**	**100**	PN	**Pn**	**22 43 58.0**	**+0.4**
ADVT	**Abdulvahap**	**1.78**	**53**	*e*PN	**Pn**	**22 43 58.3**	**+0.5**
DENT	**Denizli**	**1.85**	**150**	*e*PN	**Pn**	**22 43 59.3**	**+0.5**
SMG	**Samos**	**1.85**	**207**	*e*PN	**Pn**	**22 44 00.0**	**+1.2**
ISK	**Istanbul-Kandi**	**1.92**	**28**	*e*PN	**Pn**	**22 43 59.3**	**-0.4**
HRT	**Hereke**	**2.00**	**43**	*e*PN	**Pn**	**22 44 01.2**	**+0.4**
MLSB	**Milas**	**2.08**	**182**	*e*PN	**Pn**	**22 44 02.4**	**+0.5**
KLYT	**Kilyos**	**2.08**	**25**	*e*PN	**Pn**	**22 44 01.9**	**0.0**
ESKT	**Eskisehir**	**2.30**	**85**	*i* P	**Pg**	**22 44 10.7**	**-0.8**
ESKT				*i* S	**Sg**	**22 44 42.4**	**+1.1**
ESKT	**Eskisehir**	**2.30**	**85**	*e*Pn	**Pn**	**22 44 06.1**	**+1.1**
BODT	**Bodrum**	**2.35**	**191**	*e*PN	**Pn**	**22 44 06.4**	**+0.8**
RDO	**Rodhopi**	**2.52**	**315**	*e*PN	**Pn**	**22 44 08.5**	**+0.5**
EDRB	**Edirne**	**2.62**	**341**	*e*PN	**Pn**	**22 44 09.2**	**-0.2**
DAT	**Datca**	**2.65**	**185**	*e*PN	**Pn**	**22 44 10.2**	**+0.4**
KDZ	**Kurdzhali**	**2.95**	**321**	*i* P	**Pn**	**22 44 14.8**	**+0.9**
KDZ				S	**Sn**	**22 44 48.8**	**-0.5**
RZN	**Rozhen**	**3.34**	**315**	*i* P	**Pn**	**22 44 19.8**	**+0.5**
PLD	**Plovdiv**	**3.64**	**320**	P	**Pn**	**22 44 24.2**	**+0.7**
PLD				S	**Sn**	**22 45 05.6**	**-0.8**
MMB	**Musomiste**	**3.86**	**306**	*i* P	**Pn**	**22 44 26.6**	**+0.1**
SZH	**Strazhica**	**4.16**	**340**	*i* P	**Pn**	**22 44 31.7**	**+1.2**

IDC ***01*** *22:48:15.0±0.7, 1272N×9241E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.0/24, mbtmp4.0/16, Error ellipse: s-maj=36.2km s-min=13.9km az=55.0*
ISCJB ***01*** *22:48:17.2±2.8, 1269N±006×9248E±007, h28km±20km, mb4.1/22, Error ellipse: s-maj=13.1km s-min=8.4km az=111.9*
BJI ***01*** *22:48:20.8, 1285N×9273E, h38km, mB5.0, mb4.5, Ms4.5, Msz4.4*
NEIC ***01*** *22:48:21.5±1.9, 1276N×9256E, h48km±18km, mb4.0/4, Error ellipse: s-maj=19.7km s-min=8.0km az=69.0*

ISC 01 22:48:19.0±2.6, 1269N±006×9239E±006, h24km±19km, n44, σ0°91/45, mb4.1/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.09**	**161**	*e*P	x	22 48 23.5	
PBA				*e*S	x	22 48 39.9	
PBA				*e*x	x	22 48 44.4	
	comp=E,14μm,0.6s						
PBA				*e*x	x	22 48 45.4	
	comp=N,12μm,0.5s						
CHTO	**Chiang Mai**	**8.77**	**45**	*e*Pn	**Pn**	**22 50 24.8**	**+0.6**
	comp=N,14nm,0.8s						
CHTO				*e*Sn	**Sn**	**22 52 00.4**	**-1.8**
VIS	**Vishakhapatnam**	**10.07**	**301**	*i* P	**Pn**	**22 50 40.0**	**-2.1**
VIS				*i* S	**Sn**	**22 52 26.0**	**-8.2**
KULM	**Kulim**	**10.98**	**131**	P	**Pn**	**22 50 54.7**	**+0.2**
KMI	**Kunming**	**15.76**	**37**	P	**Pn**	**22 51 56.0**	**-3.3**
KMI				AMB	AMB		
	comp=Z,8.0nm,2.0s						
KMI	**Kunming**	**15.76**	**37**	P	**Pn**	**22 51 56.0**	**-3.3**
	comp=Z,8.0nm,2.0s						
PKI	**Pulchoki**	**16.18**	**337**	*e*P	**Pn**	**22 52 06.0**	**+1.3**
DMN	**Daman**	**16.33**	**336**	*e*P	**Pn**	**22 52 05.3**	**-1.3**
KKN	**Kakani**	**16.43**	**337**	*e*P	**Pn**	**22 52 08.6**	**+0.8**
GKN	**Gorkha**	**16.87**	**336**	*e*P	**Pn**	**22 52 13.1**	**-0.3**
LSA	**Lhasa**	**16.96**	**356**	P	**Pn**	**22 52 16.1**	**+1.5**
LSA	**Lhasa**	**16.96**	**356**	*e*P	**Pn**	**22 52 15.0**	**+0.4**
	comp=Z,5.9nm,0.4s						
KOLN	**Koldanda**	**17.11**	**333**	*e*P	**Pn**	**22 52 16.5**	**+0.1**
COCO	**West Island**	**25.11**	**170**	P	**P**	**22 53 40.7**	**-1.1**
	comp=Z,395nm,0.6s						
LZH	**Lanzhou**	**25.48**	**22**	*e*P	**P**	**22 53 45.0**	**-0.2**
LZH				AP	pP	22 53 53.0	+0.6
LZH				XP	sP	22 53 57.0	+1.6
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
LZH	**Lanzhou**	**25.48**	**22**	*e*P	**P**	**22 53 45.0**	**-0.2**
	comp=Z,14nm,1.0s,mb4.5						
LZH				pP	pP	22 53 53.0	+0.6
LZH				sP	sP	22 53 57.0	+1.6
GTA	**Gaotai**	**27.41**	**13**	*e*P	**P**	**22 54 03.2**	**+0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb3.7						
NJ2	**Nanjing**	**31.00**	**47**	*e*P	**P**	**22 54 35.2**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
WMQ	**Urumqi**	**31.28**	**353**	*e*P	**P**	**22 54 39.0**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,76nm,3.7s						
HHC	**Hu-ho-hao-te**	**32.70**	**27**	*e*P	**P**	**22 54 49.5**	**+0.1**
HHC				AP	pP	22 55 01.0	+4.3
HHC				XP	sP	22 55 07.2	+7.5
HHC				AMB	AMB		
	comp=Z,12nm,0.3s						
HHC				AMB	AMB		
	comp=Z,124nm,3.7s						
MKAR	**Makanchi Array**	**35.04**	**348**	P	**P**	**22 55 10.3**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=158,slow=7.6,SNR=25						
MKAR	**Makanchi Array**	**35.04**	**348**	P	**P**	**22 55 10.3**	**+0.5**
SONM	**Songino Array**	**36.94**	**16**	P	**P**	**22 55 25.6**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.9,baz=200,slow=7.1,SNR=17						
CN2	**Changchun**	**42.03**	**36**	*e*P	**P**	**22 56 09.6**	**+1.2**
BVAR	**Borovoye Array**	**43.90**	**341**	P	**P**	**22 56 23.7**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=131,slow=6.7,SNR=5.1						
BRVK	**Borovoye**	**43.96**	**341**	P	**P**	**22 56 24.4**	**+0.3**
ZRNK	**Zerenda**	**44.29**	**340**	*e*P	**P**	**22 56 26.5**	**-0.2**
	comp=Z,2.5nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**44.86**	**132**	P	**P**	**22 56 31.3**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.2,baz=264,slow=5.6,SNR=8.0						
AKTK	**Aktyubinsk**	**46.93**	**330**	P	**P**	**22 56 47.9**	**+0.3**
AKTO	**Aktyubinsk**	**46.93**	**330**	P	**P**	**22 56 47.9**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=122,slow=8.0,SNR=5.9						
NWAO	**Narrogin (SRO)**	**51.20**	**153**	P	**P**	**22 57 21.3**	**+1.1**
	comp=Z,4.7nm,0.4s,mb4.8,baz=310,slow=6.4,SNR=11						
WRA	**Warramunga Arr**	**52.50**	**128**	P	**P**	**22 57 29.5**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=301,slow=9.9,SNR=7.5						
ASAR	**Alice Springs**	**54.35**	**132**	P	**P**	**22 57 43.5**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=309,slow=6.4,SNR=4.8						
BRTR	**Keskin Array B**	**58.03**	**309**	P	**P**	**22 58 10.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=120,slow=7.9,SNR=9.5						
AKASG	**Malin Array Be**	**63.34**	**321**	P	**P**	**22 58 45.2**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.7,baz=86,slow=3.9,SNR=5.0						
FINES	**FINESS Array B**	**67.67**	**332**	P	**P**	**22 59 12.8**	**-1.2**
	comp=Z,3.8nm,0.9s,mb4.5,baz=101,slow=8.0,SNR=8.0						
ARCES	**ARCESS Array B**	**70.18**	**340**	P	**P**	**22 59 28.9**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=80,slow=6.7,SNR=7.6						
GERES	**GERESS Array B**	**73.12**	**317**	P	**P**	**22 59 47.6**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=80,slow=3.1,SNR=5.7						
NB2	**NORSAR Subarra**	**74.72**	**330**	P	**P**	**22 59 55.8**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**74.72**	**330**	P	**P**	**22 59 55.9**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=91,slow=5.8,SNR=7.1						
LPG	**La Plagne**	**78.03**	**314**	*e*P	**P**	**23 00 14.4**	**-1.0**
	comp=Z,7.6nm,0.8s,mb4.3						
ESDC	**Sonseca Array**	**86.82**	**310**	P	**P**	**23 01 02.0**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.5,baz=72,slow=4.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**87.83**	**283**	P	**P**	**23 01 07.3**	**+1.1**
	comp=Z,0.7nm,1.0s,mb3.8,baz=84,slow=3.6,SNR=3.6						
MCK	**McKinley**	**90.74**	**23**	P	**P**	**23 01 16.0**	**-3.8**

ISCJB ***01*** *22:50:08.6±0.8, 295S×009×1295E±02, h10km, mb3.8/6, Error ellipse: s-maj=30.8km s-min=10.0km az=144.2*
IDC ***01*** *22:50:08.6±1.6, 298S×12971E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/23, Error ellipse: s-maj=103.2km s-min=13.6km az=75.0*
NEIC ***01*** *22:50:10.4±0.8, 293S×12954E, h10km, mb3.6/4, Error ellipse: s-maj=26.5km s-min=8.9km az=72.0*

ISC 01 22:50:10.1±5.0, 293S±010×1296E±02, h7km±30km, n13, σ0°76/14, mb3.8/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.56**	**194**	*e*P	**Pn**	**22 53 51.2**	**+1.3**
	4.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.56**	**194**	Pn	**Pn**	**22 53 51.1**	**+1.2**
	0.2nm,0.3s,baz=12,slow=13,SNR=9.1						
FITZ				LR	LR	23 00 15.3	
	comp=Z,192nm,21.2s,baz=77,slow=39						
KKM	**Kota Kinabalu**	**16.04**	**304**	Pn	**Pn**	**22 53 54.6**	**-1.4**
WRA	**Warramunga Arr**	**17.54**	**165**	P	**Pn**	**22 54 13.9**	**-1.1**
	0.3nm,0.3s,baz=348,slow=13,SNR=17						
MBWA	**Marble Bar**	**20.50**	**207**	*e*P	**P**	**22 54 48.9**	**+0.3**
	0.6nm,0.4s						
AS31	**Alice Springs**	**21.04**	**169**	*e*P	**P**	**22 54 54.0**	**-0.4**
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**22 54 55.3**	**+0.8**
	7.5nm,0.6s,mb4.2,baz=346,slow=9.3,SNR=60						
ASAR				S	**S**	**22 58 48.3**	**-0.6**
	0.8nm,0.9s,baz=350,slow=21,SNR=4.4						
SONM	**Songino Array**	**54.47**	**341**	P	**P**	**22 59 38.9**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=155,slow=4.8,SNR=3.5						
MKAR	**Makanchi Array**	**64.61**	**326**	P	**P**	**23 00 48.6**	**+0.5**
	1.8nm,0.8s,mb4.1,baz=110,slow=6.8,SNR=12						
ZRNK	**Zerenda**	**75.13**	**327**	*e*P	**P**	**23 01 52.9**	**0.0**
	0.8nm,0.7s,mb3.8						
VNDA	**Vanda**	**76.52**	**173**	*e*P	**P**	**23 02 00.1**	**-0.7**
	0.2nm,0.4s,mb3.4						
AKTK	**Aktyubinsk**	**80.61**	**322**	P	**P**	**23 02 23.6**	**+0.2**
AKTO	**Aktyubinsk**	**80.61**	**322**	P	**P**	**23 02 23.6**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=85,slow=11,SNR=4.0						

ISCJB ***01*** *22:56:41.5±1.7, 553S±009×1478E±01, h136km±15km, mb4.0/8, Error ellipse: s-maj=23.1km s-min=13.9km az=30.9*
IDC ***01*** *22:56:43.3±2.4, 547S×14792E, h147km±19km, mb3.7/4, mb1 4.0/6, mb1mx3.7/13, mbtmp4.3/6, Error ellipse: s-maj=36.3km s-min=19.1km az=116.0*
NEIC ***01*** *22:56:44.9±1.8, 555S×14780E, h158km±15km, mb4.4/6, Error ellipse: s-maj=17.5km s-min=13.6km az=87.0*

ISC 01 22:56:44.9±1.5, 563S±009×1478E±01, h149km±13km, n20, σ0°87/22, mb4.0/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**189**	P	**Pn**	**22 57 43.6**	**+1.2**
	5.8nm,0.3s,baz=39,slow=5.4,SNR=14						
PMG				S	**Sn**	**22 58 25.6**	**-1.5**
	16nm,0.3s,baz=28,slow=22,SNR=11						
KAKA	**Kakadu**	**16.67**	**244**	*e*P	**Pn**	**23 00 29.6**	**-0.1**
	24nm,0.4s						
WRA	**Warramunga Arr**	**19.30**	**221**	P	**P**	**23 00 59.5**	**+1.2**
	2.6nm,0.3s,baz=40,slow=12,SNR=103						
WRA				S	**S**	**23 04 27.7**	**-1.1**
	0.1nm,0.3s,baz=42,slow=20,SNR=4.8						
AS31	**Alice Springs**	**22.34**	**215**	*e*P	**P**	**23 01 31.8**	**+1.1**
AS31				*e*S	**S**	**23 05 30.4**	**+5.3**
ASAR	**Alice Springs**	**22.35**	**215**	P	**P**	**23 01 31.7**	**+1.0**
	11nm,0.7s,mb4.4,baz=47,slow=8.8,SNR=115						
ASAR				S	**S**	**23 05 29.3**	**+4.2**
	1.8nm,0.8s,baz=31,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**22.35**	**215**	P	**P**	**23 01 31.7**	**+1.0**
ASAR				S	**S**	**23 05 29.3**	**+4.2**
FITZ	**Fitzroy Crossi**	**24.90**	**238**	*e*P	**P**	**23 01 54.1**	**+0.2**
	18nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**24.90**	**238**	P	**P**	**23 01 54.4**	**+0.5**
	13nm,0.6s,mb4.6,baz=66,slow=9.6,SNR=55						
STKA	**Stephens Creek**	**26.74**	**192**	P	**P**	**23 02 09.9**	**-0.5**
MBWA	**Marble Bar**	**31.24**	**238**	*e*P	**P**	**23 02 50.5**	**+0.2**
	3.1nm,0.4s,mb4.4						
TAU	**Tasmania Unive**	**37.12**	**181**	*e*P	**P**	**23 03 40.8**	**-0.2**
	2.6nm,0.4s,mb4.2						
NACB	**Ninganchiao**	**39.09**	**320**	*e*P	**P**	**23 03 55.9**	**-1.6**
NWAO	**Narrogin (SRO)**	**39.30**	**222**	P	**P**	**23 03 59.8**	**+0.5**
LSA	**Lhasa**	**64.63**	**306**	*e*P	**P**	**23 07 06.3**	**-0.1**
	1.0nm,0.4s,mb4.0						
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**23 07 53.1**	**-0.6**
	0.2nm,0.5s,mb3.1,baz=343,slow=5.0,SNR=3.5						
MKAR	**Makanchi Array**	**77.70**	**320**	P	**P**	**23 08 24.9**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=91,slow=8.8,SNR=1.4						
MCK	**McKinley**	**83.59**	**24**	*e*P	**P**	**23 08 56.5**	**0.0**
	0.7nm,0.4s,mb3.7						
SIV	**San Ignacio**	**144.28**	**127**	PKP	PKPdf	23 16 01.6	-1.5
	3.3nm,0.6s,baz=249,slow=4.0,SNR=38						
TORD	**Torodi Ar. Bea**	**145.73**	**285**	PKPbc	PKPbc	23 16 05.0	-1.2
	0.2nm,0.5s,baz=90,slow=3.0,SNR=9.5						
BDFB	**Brasilia**	**153.72**	**144**	PKPbc	PKPbc	23 16 26.2	+0.1
	1.3nm,0.4s,baz=202,slow=2.8,SNR=3.5						

NEIC ***01*** *23:36:04.5, 2969S×7125W, h51km, MD3.7(GUC), After GUC.*

GUC 01 23:36:04.5±0.4, 2969S×7125W, h51km±2km, MD3.7, ML4.0, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.22**	**178**	⇑*i* P	Pn	23 36 13.1	+0.1
LSCH				*i* S	Sn	23 36 19.7	+0.6
TLL	**Tololo Astrono**	**0.61**	**141**	⇓*i* P	Pn	23 36 18.2	+1.1
TLL				*i* S	Sn	23 36 28.5	+2.2
TLL				AML	AML	23 36 31.0	
	comp=E,10μm,0.5s						
TLL	**Tololo Astrono**	**0.61**	**141**	⇓*i* P	Pn	23 36 18.2	+1.1
TLL				*i* S	Sn	23 36 28.5	+2.2
OVCH	**Ovalle**	**0.92**	**177**	⇑*i* P	Pn	23 36 21.6	+0.5
OVCH				*i* S	Sn	23 36 34.2	+1.0
OVCH				AML	AML	23 36 37.7	
	comp=E,3μm,0.3s						
OVCH	**Ovalle**	**0.92**	**177**	⇑*i* P	Pn	23 36 21.6	+0.5
OVCH				*i* S	Sn	23 36 34.2	+1.0
VACH	**Vallenar**	**1.19**	**21**	*i* P	Pn	23 36 27.4	+2.6
VACH				*i* S	Sn	23 36 43.1	+3.2
VACH				AML	AML	23 36 44.8	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**1.19**	**21**	*i* P	Pn	23 36 27.4	+2.6
VACH				*i* S	Sn	23 36 43.1	+3.2
CMCH	**Combarbala**	**1.49**	**172**	⇑*i* P	Pn	23 36 29.5	+0.5
CMCH				*i* S	Sn	23 36 48.7	+1.4
CMCH				AML	AML	23 36 51.8	
	comp=E,6μm,0.4s						
CMCH	**Combarbala**	**1.49**	**172**	⇑*i* P	Pn	23 36 29.5	+0.5
CMCH				*i* S	Sn	23 36 48.7	+1.4
PTCH	**Petorca**	**2.58**	**174**	AML	AML	23 37 26.4	
	comp=N,3μm,0.3s						
TRQA	**Tornquist**	**11.35**	**140**	*e*Pn	Pn	23 38 44.9	+0.9
	comp=N,9.9nm,0.8s						
TRQA				*e*Sn	Sn	23 40 47.2	-2.0

IDC 01 23:59:56.6±3.0, 3031S×17710W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/12, mbtmp3.7/3, Error ellipse: s-maj=58.5km s-min=38.6km az=103.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**326**	Pn	Pn	00 00 22.1	+0.4
	123nm,0.3s,baz=67,slow=21,SNR=5.6						
STKA	**Stephens Creek**	**35.26**	**257**	P	P	00 06 54.2	+1.3
	0.6nm,0.5s,baz=90,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**43.89**	**266**	P	P	00 08 05.5	+0.5
	0.5nm,0.6s,baz=110,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**44.88**	**272**	P	P	00 08 11.8	-0.9
	0.4nm,0.4s,baz=110,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**145.33**	**341**	PKPbc	PKPbc	00 19 34.7	-1.5
	0.9nm,0.5s,baz=84,slow=4.3,SNR=9.1						

IDC ***02*** *00:23:38.2±0.8, 5173N×17663W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.8/25, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=28.9km s-min=18.9km az=153.0*
ISCJB ***02*** *00:23:45.5±0.8, 519N±02×17652W±009, h65km±9km, mb3.7/9, Error ellipse: s-maj=27.9km s-min=6.7km az=153.1*
NEIC ***02*** *00:23:45.9, 5149N×17638W, h21km, ML3.0(AEIC), After AEIC.*

ISC 02 00:23:46.6±0.8, 518N±02×17652W±009, h63km±8km, n19, σ0°86/18, mb3.8/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.48**	**75**	P	**Pn**	**00 24 09.4**	**-1.8**
ATKA				S	**Sn**	**00 24 29.7**	**+0.1**
AMKA	**Amchitka**	**2.65**	**262**	P	**Pn**	**00 24 27.5**	**+0.6**
AMKA				S	**Sn**	**00 24 58.1**	**+0.2**
NIKO	**Nikolski**	**4.83**	**73**	*e*Pn	**Pn**	**00 24 56.5**	**-0.3**
NIKO				*e*Sn	**Sn**	**00 25 53.6**	**+2.2**
KDAK	**Kodiak Island**	**14.98**	**57**	Pn	**Pn**	**00 27 13.1**	**-1.5**
	0.4nm,0.3s,baz=258,slow=19,SNR=1.5						
EGAK	**Eagle**	**22.27**	**41**	*e*P	**P**	**00 28 39.0**	**+0.7**
INK	**Inuvik**	**26.27**	**35**	P	**P**	**00 29 15.5**	**-0.4**
	0.5nm,0.3s,mb3.5,baz=246,slow=7.9,SNR=8.5						
INK				PcP	PcP	00 32 40.7	-0.2
	1.0nm,0.5s,baz=310,slow=1.2,SNR=10						
INK	**Inuvik**	**26.27**	**35**	P	**P**	**00 29 15.5**	**-0.4**
INK				PcP	PcP	00 32 40.7	-0.2
NEW	**Newport**	**37.39**	**71**	P	**P**	**00 30 53.6**	**+0.3**
	1.3nm,0.5s,mb4.0,baz=311,slow=7.5,SNR=3.3						
PDAR	**Pinedale Array**	**44.81**	**74**	P	**P**	**00 31 54.9**	**+0.7**
	1.7nm,0.7s,mb4.0,baz=320,slow=3.6,SNR=14						
SONM	**Songino Array**	**47.71**	**297**	P	**P**	**00 32 17.4**	**+0.5**
	0.2nm,0.5s,mb3.4,baz=46,slow=8.4,SNR=2.9						
SONM				PcP	PcP	00 33 45.0	-0.3
	0.6nm,0.6s,baz=68,slow=2.6,SNR=5.0						
ARCES	**ARCESS Array B**	**57.88**	**351**	P	**P**	**00 33 31.8**	**0.0**
	1.1nm,0.8s,mb4.0,baz=31,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**61.45**	**321**	P	**P**	**00 33 56.8**	**+0.3**
	0.7nm,0.4s,mb4.2,baz=60,slow=7.5,SNR=6.3						
NOA	**NORSAR Array B**	**67.31**	**356**	P	**P**	**00 34 33.9**	**-0.8**
	0.2nm,0.6s,mb3.4,baz=7.2,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**83.34**	**226**	P	**P**	**00 36 05.9**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=33,slow=5.9,SNR=9.4						
ASAR	**Alice Springs**	**86.80**	**224**	P	**P**	**00 36 24.1**	**+0.1**
	0.9nm,0.8s,mb4.1,baz=24,slow=4.6,SNR=8.5						
TORD	**Torodi Ar. Bea**	**115.27**	**2**	PKP	PKPdf	00 42 20.8	0.0
	0.4nm,0.4s,baz=352,slow=2.6,SNR=21						
MAW	**Mawson**	**147.72**	**218**	PKPbc	PKPbc	00 43 22.3	-1.8
	1.4nm,0.7s,baz=90,slow=0.8,SNR=5.4						
BOSA	**Boshof**	**151.67**	**317**	PKPbc	PKPbc	00 43 33.7	-0.1
	3.5nm,0.5s,baz=41,slow=2.8,SNR=16						
BOSA	**Boshof**	**151.67**	**317**	PKPbc	PKPbc	00 43 33.7	-0.1

NEIC ***02*** *00:43:28.3, 6557N×13694W, h1km, ML3.5(AEIC), ML3.7(PGC), After PGC.*

PGC 02 00:43:28.3, 6557N×13694W, h1km, ML3.7/4, 204km northeast of Dawson, Yt North of Wernecke Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**1.84**	**216**	Pn	Pn	00 44 00.3	-0.6
DAWY				Pg	Pg	00 44 01.2	-2.2
DAWY				Sn	Sn	00 44 24.3	-0.5
DAWY				Sg	Sg	00 44 25.5	-1.8
DAWY				Trac		00 44 28.1	
	comp=Z,426nm,0.1s						
DAWY	**Dawson**	**1.84**	**216**	P	Pn	00 44 00.2	-0.7
DAWY				Pn	Pn	00 44 00.3	-0.6
DAWY				*e*Pg	Pg	00 44 01.2	-2.2
DAWY				*e*Sn	Sn	00 44 24.3	-0.5
DAWY				*e*Sg	Sg	00 44 25.5	-1.8
DAWY				S	Sn	00 44 25.7	+0.9
EGAK	**Eagle**	**1.95**	**248**	P	Pn	00 44 01.6	-0.9
EGAK				S	Sn	00 44 26.4	-1.1
INK	**Inuvik**	**3.06**	**25**	Pn	Pn	00 44 18.3	+0.5
INK				Pg	Pg	00 44 23.1	-3.9
INK				Sn	Sn	00 44 53.5	-1.5
INK				Sg	Sg	00 45 02.7	-4.0
INK				Trac		00 45 09.3	
	comp=Z,116nm,0.3s						
INK	**Inuvik**	**3.06**	**25**	*e*Pn	Pn	00 44 16.3	-1.5
INK				*e*Pg	Pg	00 44 25.9	-1.0
INK				*e*Sn	Sn	00 44 50.1	-5.0

12nm,0.2s
SJPF Ste Jean 0.32 264 *e*Pg Pb 00 43 59.1 +0.1
SJPF *e*Sg Sb 00 44 03.8 0.0
14nm,0.4s
SJPF Ste Jean 0.32 264 Pg Pb 00 43 59.1 +0.1
SJPF Lg 00 44 03.8
7.1nm,0.4s
OSSF Osses 0.36 287 Pg Pb 00 43 59.2 -0.5
OSSF Sg Sb 00 44 03.9 -1.0
OSSF Osses 0.36 287 P Pb 00 43 59.2 -0.4
FDAF Les Forges d'A 0.37 154 P Pb 00 43 59.0 -0.7
FDAF S Sb 00 44 04.0 -1.0
EALK Alkurruntz 0.53 278 Lg 00 44 08.3
3.8nm,0.3s,SNR=7.4
ELIZ Elizondo 0.54 272 Pg Pb 00 44 01.6 -1.1
1.2nm,0.3s,SNR=7.1
ELIZ Lg 00 44 08.9
3.3nm,0.2s,SNR=18
VIEF Viey 0.65 114 Pg Pb 00 44 04.0 -0.5
VIEF Sg Sb 00 44 12.5 -0.6
VIEF Viey 0.65 114 P Pb 00 44 04.0 -0.6
VIEF S Sb 00 44 12.0 -1.1
EARA Aranguren 0.69 237 Pg Pb 00 44 05.6 +0.3
1.1nm,0.1s,SNR=7.9
EARA Lg 00 44 15.2
6.6nm,0.2s,SNR=7.9
EBIE Bielsa 0.82 124 Pg Pb 00 44 07.0 -0.5
0.7nm,0.3s,SNR=18
EBIE Lg 00 44 17.5
6.6nm,0.1s,SNR=23
EPF Esparros 0.83 98 *e*Pg Pb 00 44 07.7 0.0
EPF *e*Sg Sb 00 44 18.2 -0.2
2.8nm,0.3s
EPF Esparros 0.83 98 Pg Pb 00 44 07.7 0.0
EPF Lg 00 44 18.2
1.4nm,0.3s
ESAC San Caprasio 1.45 171 Pg Pn 00 44 19.0 +2.2
2.5nm,0.4s,SNR=4.5
ESAC Lg 00 44 38.3
9.9nm,0.2s,SNR=11
MTLF Montolieu 2.20 84 *e*Sg Sn 00 45 00.8 +6.9
0.2nm,0.2s
MTLF Montolieu 2.20 84 Lg 00 45 00.8
0.1nm,0.2s
EPOB Poblet 2.27 142 Pg Pn 00 44 32.9 +4.7
0.3nm,0.2s,SNR=4.0
EPOB Lg 00 45 02.6
0.6nm,0.2s,SNR=7.9
ERTA Horta de San J 2.34 159 Pg Pn 00 44 33.8 +4.6
0.2nm,0.1s,SNR=4.0
ERTA Lg 00 45 05.0
3.3nm,0.9s,SNR=6.2
ETOR Torete 2.51 203 Sn Sn 00 45 02.1 +0.5
2.3nm,1.0s,SNR=4.3
ETOR Lg 00 45 12.5
SNR=7.9
RJF Les Rejaudoux 2.72 37 *e*Sg Sn 00 45 17.0 +10
0.2nm,0.2s
RJF Les Rejaudoux 2.72 37 Lg 00 45 17.0
0.1nm,0.2s

ISCJB ***02*** *00:47:58.9±0.5, 2737N±007×12681E±006, h155km±6km, mb3.7/9, Error ellipse: s-maj=13.6km s-min=5.4km az=108.6*
IDC ***02*** *00:47:60.0±1.1, 2751N×12701E, h150km±14km, mb3.5/9, mb1 3.6/9, mb1mx3.4/22, mbtmp4.0/9, Error ellipse: s-maj=37.1km s-min=14.0km az=68.0*
NIED ***02*** *00:48:00, 2740N×12690E, h170km, Mw4.6 Best double couple: M₀9.68000×10¹⁵ NP1:φ=298.00000°, δ85.00000°, λ-137.00000°. NP2:φ=202.00000°, δ47.00000°, λ-7.00000°.*
NEIC ***02*** *00:48:01.4, 2744N×12688E, h141km, MG3.9(JMA), After JMA.*
JMA ***02*** *00:48:01.4±0.4, 2744N×12688E, h141km, M3.9*
ISC 02 00:47:59.8±0.5, 2742N±007×12679E±006, h147km±6km, n25, σ1º06/40, mb3.7/9, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.92**	**154**	P	**Pn**	**00 48 24.8**	**+1.2**
JAGN				S	**Sn**	**00 48 41.7**	**0.0**
JKE	**Kume jima 2**	**1.09**	**180**	P	**Pn**	**00 48 26.3**	**+1.3**
JKE				S	**Sn**	**00 48 46.0**	**+1.7**
JIH	**Iheya**	**1.12**	**110**	P	**Pn**	**00 48 26.3**	**+1.1**
JIH				S	**Sn**	**00 48 44.2**	**-0.5**
JOW	**Kunigami**	**1.45**	**114**	P	**Pn**	**00 48 29.2**	**+0.7**
92nm,0.3s,baz=248,slow=2.9,SNR=255							
JOW				S	**Sn**	**00 48 48.6**	**-1.8**
407nm,0.3s,baz=121,slow=26,SNR=45							
JOW	**Kunigami**	**1.45**	**114**	P	**Pn**	**00 48 29.2**	**+0.7**
JOW				S	**Sn**	**00 48 48.9**	**-1.6**
NAH1	**Naha**	**1.46**	**146**	P	**Pn**	**00 48 29.8**	**+1.2**
NAH1				S	**Sn**	**00 48 50.0**	**-0.6**
JJT2	**Tamagusuku 2**	**1.54**	**146**	P	**Pn**	**00 48 31.0**	**+1.5**
JJT2				S	**Sn**	**00 48 52.5**	**+0.3**
JTK	**Tokunoshima**	**1.95**	**79**	P	**Pn**	**00 48 34.3**	**+0.2**
JTK				S	**Sn**	**00 48 56.5**	**-4.0**
JAM	**Amami Oshima**	**2.68**	**68**	P	**Pn**	**00 48 42.8**	**-0.1**
JAM				S	**Sn**	**00 49 14.0**	**-2.3**
JMJ	**Miyako jima 2**	**2.92**	**208**	P	**Pn**	**00 48 47.0**	**+1.0**
JMJ				S	**Sn**	**00 49 20.5**	**-1.2**
JTJ	**Tarama**	**3.34**	**215**	P	**Pn**	**00 48 52.2**	**+0.8**
JTJ				*e*S	**Sn**	**00 49 30.1**	**-1.2**
JIJ	**Ishigaki jima**	**3.87**	**219**	P	**Pn**	**00 48 58.2**	**+0.1**
JIJ				*e*S	**Sn**	**00 49 41.3**	**-2.2**
JKRS	**Kuro-shima**	**4.04**	**219**	P	**Pn**	**00 49 00.7**	**+0.3**
JKRS				*e*S	**Sn**	**00 49 46.2**	**-1.3**
IRIF	**Iriomote-Funau**	**4.13**	**223**	P	**Pn**	**00 49 01.6**	**0.0**
IRIF				*e*S	**Sn**	**00 49 49.1**	**-0.5**
JMZ	**Minamidaito 2**	**4.28**	**111**	P	**Pn**	**00 49 02.8**	**-0.7**
JMZ				S	**Sn**	**00 49 46.7**	**-6.4**
SONM	**Songino Array**	**25.86**	**327**	P	**P**	**00 53 18.4**	**+0.8**
5.0nm,0.4s,mb4.5,baz=141,slow=11,SNR=67							
MKAR	**Makanchi Array**	**39.78**	**311**	P	**P**	**00 55 18.9**	**+0.6**
1.3nm,0.7s,mb3.7,baz=95,slow=10,SNR=11							
FITZ	**Fitzroy Crossi**	**45.26**	**182**	P	**P**	**00 56 03.3**	**+0.8**
1.7nm,0.7s,mb3.8,baz=102,slow=21,SNR=6.4							
BVAR	**Borovoye Array**	**48.53**	**318**	P	**P**	**00 56 28.1**	**+0.3**
0.6nm,0.4s,mb3.6,baz=94,slow=8.8,SNR=4.8							
ASAR	**Alice Springs**	**51.25**	**172**	P	**P**	**00 56 49.6**	**+1.3**
0.4nm,0.5s,mb3.3,baz=360,slow=14,SNR=5.7							
STKA	**Stephens Creek**	**60.63**	**166**	P	**P**	**00 57 54.3**	**-0.8**
1.4nm,1.1s,mb3.7,baz=339,slow=8.8,SNR=4.1							
JOF	**Joensuu**	**68.38**	**331**	*e*p	**P**	**00 58 51.3**	**+5.9**
FINES	**FINESS Array B**	**71.20**	**330**	P	**P**	**00 59 01.7**	**-0.9**
1.3nm,0.9s,mb3.7,baz=79,slow=6.3,SNR=6.3							
NOA	**NORSAR Array B**	**77.68**	**333**	P	**P**	**00 59 38.5**	**-1.5**
0.9nm,0.9s,mb3.4,baz=5.6,slow=11,SNR=2.8							
YKA	**Yellowknife Ar**	**77.99**	**25**	P	**P**	**00 59 41.5**	**-0.2**
0.8nm,0.5s,mb3.6,baz=305,slow=5.8,SNR=5.4							

ISCJB ***02*** *00:48:25.2±3.0, 1865N±0.4×1780W±0.6, h683km±61km, mb3.8/6, Error ellipse: s-maj=86.8km s-min=50.3km az=153.0*
IDC ***02*** *00:48:26.8±3.5, 1867S×1781W, h650km±87km, mb3.3/5, mb1 3.5/5, mb1mx3.1/15, mbtmp4.4/5, Error ellipse: s-maj=104.9km s-min=78.9km az=130.0*
NEIC ***02*** *00:48:27.0±2.6, 1871S×17824W, h646km±30km, mb3.9/2, Error ellipse: s-maj=45.7km s-min=22.5km az=195.0*
ISC 02 00:48:26.1±3.0, 1865±03×1780W±07, h649km±62km, n12, σ0º16/13, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.58**	**179**	Pn	**P**	**00 50 51.3**	**0.0**
CTA	**Charters Tower**	**33.69**	**262**	P	**P**	**00 54 16.4**	**+0.3**
3.6nm,0.4s,mb4.3,baz=88,slow=8.3,SNR=6.0							
CTAO	**Charters Tower**	**33.69**	**262**	*e*P	**P**	**00 54 16.2**	**0.0**
4.2nm,0.5s,mb4.2							
PMG	**Port Moresby**	**34.93**	**280**	P	**P**	**00 54 26.4**	**-0.1**
STKA	**Stephens Creek**	**38.60**	**242**	P	**P**	**00 54 56.1**	**-0.2**
3.2nm,0.7s,mb3.9,baz=89,slow=8.8,SNR=8.0							
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**00 55 44.8**	**-0.3**
3.2nm,0.4s,mb4.0,baz=97,slow=7.5,SNR=172							
AS31	**Alice Springs**	**44.94**	**255**	*e*P	**P**	**00 55 45.9**	**+0.2**
AS31				*e*pP	pP	00 57 37.3	0.0
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**00 55 45.8**	**+0.1**
5.9nm,0.8s,mb4.0,baz=88,slow=7.9,SNR=78							
ASAR				S	**S**	**01 01 38.7**	**0.0**
0.4nm,0.7s,baz=93,slow=16,SNR=4.3							
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**00 55 45.8**	**+0.1**
ASAR				S	**S**	**01 01 38.7**	**0.0**
FITZ	**Fitzroy Crossi**	**53.27**	**261**	P	**P**	**00 56 46.7**	**+0.2**
0.8nm,0.3s,mb3.4,baz=120,slow=8.1,SNR=13							
MBWA	**Marble Bar**	**58.25**	**256**	*e*P	**P**	**00 57 20.6**	**-0.1**
0.8nm,0.3s,mb3.3							
ZRNK	**Zerenda**	**118.46**	**321**	PKPdf	PKPdf	01 06 02.9	+1.2

ISC 02 00:49:30.5±0.7, 3874N±004×2800E±005, h10km, n7, σ0º95/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.20**	**315**	*i* P	**Pg**	**00 49 33.9**	**-0.8**
AKHS				*i* S	**Sg**	**00 49 37.2**	**-0.4**
KDAG	**Bornova**	**0.66**	**240**	*e*P	**Pg**	**00 49 42.4**	**-0.9**
KDAG				*i* S	**Sg**	**00 49 53.3**	**+1.4**
IZM	**Izmir**	**0.67**	**240**	*e*PG	**Pg**	**00 49 42.4**	**-1.0**
IZM				*e*SG	**Sg**	**00 49 52.9**	**+0.8**
BLCB	**Balcova**	**0.82**	**245**	PG	**Pg**	**00 49 46.4**	**0.0**
BLCB				SG	**Sg**	**00 49 57.3**	**+0.2**
BTOK	**Tokmak**	**1.03**	**2**	*i* P	**Pg**	**00 49 49.4**	**-0.8**
BTOK				*i* S	**Sg**	**00 50 03.9**	**+0.4**
GDZ	**Gediz**	**1.21**	**73**	*i* P	**Pn**	**00 49 51.9**	**-1.6**
GDZ				*i* S	**Sb**	**00 50 09.4**	**+0.3**
ULDT	**Uludag**	**1.66**	**32**	*i* P	**Pn**	**00 50 00.3**	**+0.7**
ULDT				*i* S	**Sn**	**00 50 23.1**	**+2.1**

ISCJB ***02*** *00:49:54.9±3.1, 3455±0.1×1788W±0.2, h25km±27km, mb4.0/3, MS4.0/1, Error ellipse: s-maj=34.4km s-min=8.8km az=52.4*
IDC ***02*** *00:49:54.3±2.5, 3438S×17899W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, ML4.0/1, MS3.4/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=65.3km s-min=35.2km az=125.0*
NEIC ***02*** *00:49:56.8±3.8, 3447S×17883W, h22km±27km, mb4.3/1, Error ellipse: s-maj=28.7km s-min=11.3km az=118.0*
ISC 02 00:49:56.8±3.3, 3455±01×1788W±02, h24km±28km, n17, σ0º99/15, mb4.0/3, MS4.0/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.29**	**213**	*e*PN	**Pn**	**00 51 01.2**	**+0.7**
PUZ				SN	**Sn**	**00 51 49.7**	**0.0**
MWZ	**Matawai**	**4.84**	**217**	*e*PN	**Pn**	**00 51 08.9**	**+0.8**
URZ	**Urewera**	**5.00**	**220**	Pn	**Pn**	**00 51 11.5**	**+1.2**
5.2nm,0.3s,baz=137,slow=15,SNR=14							
URZ				Sn	**Sn**	**00 52 07.9**	**+0.6**
3.0nm,0.3s,baz=222,slow=20,SNR=4.1							
URZ	**Urewera**	**5.00**	**220**	*e*PN	**Pn**	**00 51 10.9**	**+0.6**
URZ				SN	**Sn**	**00 52 06.1**	**-1.2**
RAO	**Raoul Island**	**5.29**	**8**	LR	LR	00 52 11.4	
comp=Z,124nm,19.9s,baz=148,slow=26							
RAO	**Raoul Island**	**5.29**	**8**	Pn	**Pn**	**00 51 12.8**	**-1.5**
MRZ	**Mangatainoka R**	**7.60**	**214**	*e*PN	**Pn**	**00 51 44.2**	**-1.8**
MQZ	**McQueen's Vall**	**11.34**	**213**	SN	**Sn**	**00 54 30.1**	**-13**
AFI	**Afiamalu**	**21.47**	**19**	P	**P**	**00 54 45.3**	**+1.9**
TAU	**Tasmania Unive**	**27.60**	**242**	P	**P**	**00 55 42.1**	**0.0**
ASAR	**Alice Springs**	**42.40**	**272**	P	**P**	**00 57 49.2**	**-0.1**
1.6nm,0.6s,mb3.8,baz=112,slow=7.4,SNR=16							
ASAR				PcP	PcP	00 59 42.2	+0.1
0.6nm,0.6s,baz=124,slow=3.8,SNR=5.6							
WRA	**Warramunga Arr**	**43.76**	**277**	P	**P**	**00 58 00.3**	**+0.1**
1.2nm,0.4s,mb3.9,baz=118,slow=7.5,SNR=17							
QSPA	**Sole Pole Qui**	**55.61**	**180**	*e*P	**P**	**00 59 29.8**	**-0.7**
3.8nm,1.2s,mb4.3							
PDAR	**Pinedale Array**	**99.54**	**44**	LR	LR	01 46 27.6	
comp=Z,50nm,18.3s,MS4.0,baz=101,slow=34							
JOF	**Joensuu**	**145.94**	**336**	*e*p	PKPdf	01 09 32.8	-0.7
2.6nm,0.5s							
KAF	**Kangasniemi**	**148.14**	**338**	*e*p	PKPdf	01 09 36.7	-0.5
FINES	**FINESS Array B**	**148.72**	**337**	PKPbc	PKPbc	01 09 42.1	+0.1
1.2nm,0.7s,baz=29,slow=4.4,SNR=8.2							

ISCJB ***02*** *00:54:38.1±0.5, 1090N±003×6240W±003, h85km±7km, Error ellipse: s-maj=5.7km s-min=3.3km az=102.1*
NEIC ***02*** *00:54:39.9, 1092N×6232W, h77km, MD3.2(TRN), After TRN.*
TRN ***02*** *00:54:39.9, 1092N×6232W, h78km, MD3.2*
FUNV ***02*** *00:54:40.7, 1088N×6236W, h69km, MW3.5*
ISC 02 00:54:39.1±0.5, 1090N±003×6239W±003, h79km±7km, n25, σ0º91/49, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**147**	*e*P	**Pn**	**00 54 51.5**	**+0.3**
GUIV				*e*S	**Sn**	**00 54 59.7**	**-0.5**
TCE	**Chacachacare**	**0.66**	**108**	*e*P	**Pn**	**00 54 54.8**	**+0.6**
TCE				*e*S	**Sn**	**00 55 04.6**	**-0.8**
ITEV	**Isla Los Testi**	**0.85**	**302**	*e*P	**Pn**	**00 54 56.7**	**+0.4**
ITEV				*e*S	**Sn**	**00 55 09.7**	**+0.6**
CRUV	**Carupano**	**0.86**	**255**	*e*P	**Pn**	**00 54 57.6**	**+1.3**
CRUV				*e*S	**Sn**	**00 55 09.6**	**+0.3**
GUNV	**Guanoco**	**0.91**	**216**	*e*P	**Pn**	**00 54 59.0**	**+2.0**
GUNV				*e*S	**Sn**	**00 55 10.4**	**+0.1**
TRN	**Trinidad (W)**	**1.00**	**105**	*e*P	**Pn**	**00 54 58.3**	**+0.2**
TRN				*e*S	**Sn**	**00 55 10.9**	**-1.4**
TPP	**Pointe-a-Pierr**	**1.09**	**122**	*e*P	**Pn**	**00 55 00.4**	**+1.2**
TPP				*e*S	**Sn**	**00 55 16.0**	**+1.8**
TBH	**Brigand Hill**	**1.37**	**108**	*e*P	**Pn**	**00 55 03.0**	**+0.4**
TBH				*e*S	**Sn**	**00 55 20.0**	**-0.3**
GRW	**Mount Saint Ca**	**1.44**	**30**	*e*P	**Pn**	**00 55 04.0**	**+0.5**
GRW				*e*S	**Sn**	**00 55 22.5**	**+0.5**
GRHS	**Sauteurs**	**1.50**	**29**	*e*P	**Pn**	**00 55 04.4**	**0.0**
GRHS				*e*S	**Sn**	**00 55 22.5**	**-1.0**
GRHS	**Sauteurs**	**1.50**	**29**	*e*P	**Pn**	**00 55 04.4**	**0.0**
GRHS				*e*S	**Sn**	**00 55 22.5**	**-1.0**
GRSS	**Sisters**	**1.58**	**29**	*e*P	**Pn**	**00 55 06.3**	**+0.8**
GRSS				*e*S	**Sn**	**00 55 25.5**	**+0.2**
GRIC	**Isle de Caille**	**1.58**	**30⇑**	*e*P	**Pn**	**00 55 06.0**	**+0.6**
GRIC				*e*S	**Sn**	**00 55 25.4**	**0.0**
TPR	**Prospect**	**1.61**	**80**	*e*P	**Pn**	**00 55 05.6**	**-0.1**
TPR				*e*S	**Sn**	**00 55 24.5**	**-1.5**
BOT	**Bacolet**	**1.67**	**81⇓**	*i*P	**Pn**	**00 55 06.4**	**-0.1**
BOT				*e*S	**Sn**	**00 55 26.4**	**-0.8**
GRCU	**Cariacou**	**1.81**	**30⇑**	*i*P	**Pn**	**00 55 08.7**	**+0.3**
GRCU				*e*S	**Sn**	**00 55 29.8**	**-0.9**
ORIV	**Oritupano**	**2.08**	**209**	*e*P	**Pn**	**00 55 12.9**	**+1.0**
ORIV				*e*S	**Sn**	**00 55 36.2**	**-0.8**
PCRV	**Puerto La Cruz**	**2.32**	**252**	*e*S	**Sn**	**00 55 41.4**	**-1.5**
SVB	**Belmont**	**2.60**	**25**	*e*P	**Pn**	**00 55 19.3**	**+0.2**
SVB				*e*S	**Sn**	**00 55 49.9**	**+0.2**
SSV	**Crater Summit**	**2.68**	**26**	*e*P	**Pn**	**00 55 19.8**	**-0.2**
SSV				*e*S	**Sn**	**00 55 50.3**	**-1.2**
PRGV	**PARIAGUAN**	**3.08**	**226**	*e*P	**Pn**	**00 55 26.5**	**+1.1**
PRGV				*e*S	**Sn**	**00 55 59.3**	**-1.8**
CUPV	**Cepira**	**3.44**	**256**	*e*P	**Pn**	**00 55 30.9**	**+0.5**
CUPV				*e*S	**Sn**	**00 56 09.3**	**-0.8**
MERV	**Las Mercedes**	**4.18**	**247**	*e*P	**Pn**	**00 55 41.5**	**+1.1**
MERV				*e*S	**Sn**	**00 56 26.1**	**-1.9**
CAOV	**Caicara del Or**	**5.26**	**228**	*e*P	**Pn**	**00 55 54.8**	**-0.4**
CAOV				*e*S	**Sn**	**00 56 50.1**	**-4.3**
BAUV	**El Baul**	**5.90**	**251**	*e*P	**Pn**	**00 56 04.3**	**+0.5**
BAUV				*e*S	**Sn**	**00 57 06.6**	**-3.4**

BJI ***02*** *01:00:52.2, 4660N×15440E, h10km, mB4.6, mb4.3*
ISCJB ***02*** *01:00:58.5±0.7, 4656N±009×1537E±0.1, h10km, mb4.3/22, Error ellipse: s-maj=16.5km s-min=8.7km az=80.8*
NEIC ***02*** *01:00:58.2±0.8, 4659N×15436E, h10km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=12.8km az=118.0*
MOS ***02*** *01:01:01.1±1.4, 4657N×15357E, h31km, mb4.4/13, Error ellipse: s-maj=14.9km s-min=11.0km az=95.4*
IDC ***02*** *01:01:08.0±4.3, 4646N×15324E, h72km±39km, mb3.7/11, mb1 3.8/13, mb1mx3.7/23, mbtmp4.0/13, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/35, Error ellipse: s-maj=26.1km s-min=22.9km az=144.0*
ISC 02 01:01:00.3±4.5, 4659N±009×1538E±01, h12km±27km, n68, σ1º22/66, mb4.3/22, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.34**	**254⇑**	*i*PN	**Pn**	**01 02 02.5**	**-3.6**
KUR				pmax	pmax		
comp=Z,460nm,0.5s							
SKR	**Severo-Kuril's**	**4.38**	**20**	*e*PN	**Pn**	**01 02 05.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**7.57**	**277**	PN	**Pn**	**01 02 56.1**	**+5.6**
ASAJ	**Asahikawa**	**8.25**	**257**	P	**Pn**	**01 02 59.5**	**-0.3**
comp=Z,1.2nm,0.3s,baz=94,slow=12,SNR=4.4							
ASAJ	**Asahikawa**	**8.25**	**257**	PN	**Pn**	**01 02 59.5**	**-0.3**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
MA2	**Magadan**	**13.13**	**353**	PN	**Pn**	**01 04 15.7**	**+9.0**
MJAR	**Matsushiro Arr**	**15.35**	**235**	P	**Pn**	**01 04 37.3**	**+0.6**
baz=9.7,slow=16,SNR=3.3							
MAJO	**Matsushiro**	**15.35**	**235**	P	**Pn**	**01 04 40.6**	**+3.9**
MDJ	**Mudanjiang**	**17.02**	**272**	P	**Pn**	**01 05 01.2**	**+3.0**
CN2	**Changchun**	**20.11**	**272**	*e*P	**P**	**01 05 32.8**	**-1.1**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s							
YAK	**Yakutsk**	**20.70**	**327**	*e*P	**P**	**01 05 41.9**	**+1.5**
YAK				pmax	pmax		
comp=Z,31nm,0.4s							
YAK	**Yakutsk**	**20.70**	**327**	*e*P	**P**	**01 05 41.9**	**+1.5**
comp=Z,31nm,0.4s							
INCN	**Inchon**	**22.02**	**255**	*e*P	**P**	**01 05 56.2**	**+1.6**
comp=Z,43nm,0.2s							
SONM	**Songino Array**	**31.81**	**290**	P	**P**	**01 07 22.2**	**-2.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=52,slow=9.5,SNR=3.2							
TLY	**Talaya**	**32.66**	**298**	P	**P**	**01 07 32.9**	**+0.7**
YHNB	**Yeheng**	**33.86**	**241**	*e*P	**P**	**01 07 41.3**	**-1.4**
LZH	**Lanzhou**	**38.34**	**272**	*e*P	**P**	**01 08 21.5**	**+0.4**
LZH				AP	pP	01 08 29.0	+4.3
LZH				AMB	AMB		
comp=Z,22nm,1.0s,mb4.8							
LZH				AMB	AMB		
comp=Z,77nm,5.7s							
LZH	**Lanzhou**	**38.34**	**272**	*e*P	**P**	**01 08 21.5**	**+0.4**
comp=Z,22nm,1.0s,mb4.8							
LZH				pP	pP	01 08 29.0	+4.3
LZH				sP	sP	01 08 34.5	+8.3
GTA	**Gaotai**	**39.44**	**280**	*e*P	**P**	**01 08 30.5**	**+0.2**
GTA				AP	pP	01 08 34.5	+0.6
GTA				XP	sP	01 08 37.7	+2.3
GTA				AMB	AMB		
comp=Z,4.0nm,0.7s,mb4.3							
INK	**Inuvik**	**41.55**	**32**	P	**P**	**01 08 49.9**	**+2.2**
comp=Z,1.2nm,1.0s,mb3.5,baz=245,slow=30,SNR=3.8							
INK	**Inuvik**	**41.55**	**32**	P	**P**	**01 08 49.9**	**+2.2**
INK				pmax	pmax		
comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**47.42**	**298**	P	**P**	**01 09 32.6**	**-2.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=64,slow=8.5,SNR=13							
MKAR	**Makanchi Array**	**47.42**	**298**	P	**P**	**01 09 32.6**	**-2.0**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**51.31**	**310**	P	**P**	**01 10 02.7**	**-1.6**
comp=Z,1.0nm,0.4s,mb4.1,baz=53,slow=7.5,SNR=10							
BVAR	**Borovoye Array**	**51.31**	**310**	P	**P**	**01 10 02.7**	**-1.7**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**51.35**	**310**	*e*P	**P**	**01 10 03.1**	**-1.6**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**51.35**	**310**	*e*P	**P**	**01 10 03.0**	**-1.6**
comp=Z,1.6nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**52.08**	**310**	*e*P	**P**	**01 10 08.2**	**-1.9**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**52.08**	**310**	*e*P	**P**	**01 10 08.2**	**-1.9**
comp=Z,1.1nm,0.5s,mb4.0							
JIRN	**Jiri**	**55.41**	**275**	*e*P	**P**	**01 10 35.0**	**+0.5**
GUN	**Gumba**	**55.47**	**276**	*e*P	**P**	**01 10 35.5**	**+0.6**
comp=Z,9.9nm,0.5s,mb5.1							
KKN	**Kakani**	**55.95**	**276**	*e*P	**P**	**01 10 39.3**	**+0.9**
comp=Z,11nm,0.6s,mb5.0							
PKI	**Pulchoki**	**56.00**	**276**	*e*P	**P**	**01 10 39.1**	**+0.4**
PMG	**Port Moresby**	**56.05**	**188**	P	**P**	**01 10 38.1**	**-1.0**
DMN	**Daman**	**56.19**	**276**	*e*P	**P**	**01 10 40.7**	**+0.6**
comp=Z,9.3nm,0.5s,mb5.1							
GKN	**Gorkha**	**56.26**	**276**	*e*P	**P**	**01 10 40.9**	**+0.3**
KOLN	**Koldanda**	**57.12**	**277**	*e*P	**P**	**01 10 47.1**	**+0.4**
comp=Z,13nm,0.8s,mb5.0							
JOF	**Joensuu**	**61.68**	**334**	*e*p	**P**	**01 11 16.9**	**-1.3**
comp=Z,2.5nm,0.7s,mb4.5							
JOF	**Joensuu**	**61.68**	**334**	*e*P	**P**	**01 11 16.9**	**-1.3**
JOF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.5							
KAF	**Kangasniemi**	**63.78**	**335**	*e*p	**P**	**01 11 30.7**	**-1.5**
comp=Z,1.5nm,0.4s,mb4.4,baz=36,slow=6.2							
KAF	**Kangasniemi**	**63.78**	**335**	*e*P	**P**	**01 11 30.7**	**-1.5**
KAF				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.5							
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**01 11 35.5**	**-0.6**
comp=Z,3.4nm,0.6s,mb4.5,baz=39,slow=7.3,SNR=41							
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**01 11 35.5**	**-0.6**
FINES				pmax	pmax		
comp=Z,3.0nm,0.6s							
PDAR	**Pinedale Array**	**64.48**	**54**	P	**P**	**01 11 39.6**	**+2.8**
comp=Z,0.2nm,0.5s,mb3.4,baz=328,slow=3.2,SNR=3.9							
NB2	**NORSAR Subarra**	**68.53**	**341**	P	**P**	**01 12 02.2**	**-0.5**
comp=Z,1.9nm,0.6s,mb4.2,baz=27,slow=6.5							
NB2	**NORSAR Subarra**	**68.53**	**341**	P	**P**	**01 12 02.2**	**-0.5**
NB2				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**01 12 02.5**	**-0.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=28,slow=6.3,SNR=14							
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**01 12 02.6**	**-0.1**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**71.93**	**327**	P	**P**	**01 12 22.7**	**-0.

LAJ	Bijagual	2.96 113	eP	Pn	01 20 40.0	-4.1
OCM	Ochomogo	3.10 111	eP	Pn	01 20 47.1	+1.1
BUS	Buena Vista	3.41 115	eP	Pn	01 20 51.9	+1.6

NIED **02** *01:21:00,46.70N×15.360E,h23km,Mw4.0 Best double couple: M₀1.32000×10¹⁵ NP1:φ₀±141.00000°,δ90.00000°, λ20.00000°. NP2:φ₀±51.00000°,δ70.00000°,λ180.00000°.*
IDC **02** *01:21:48.8±1.1,46.38N×15.353E,h0km,mb4.0/15, mb1 4.1/17,mb1mx4.0/26,mbtmp4.0/17,ML3.5/2,Error ellipse: s-maj=27.3km s-min=23.5km az=147.0*
BJI **02** *01:21:49.0,46.59N×15.390E,h27km,mB4.4,mb4.2*
ISCJB **02** *01:21:49.7±0.8,46.5N±0.1×15.34E±0.1,h10km,mb4.2/25, Error ellipse: s-maj=19.9km s-min=7.2km az=103.3*
NEIC **02** *01:21:50.5±0.7,46.43N×15.350E,h10km,mb4.2/4,Error ellipse: s-maj=18.7km s-min=16.0km az=171.0*
MOS **02** *01:21:52.2±1.3,46.33N×15.335E,h33km,mb4.3/15,Error ellipse: s-maj=15.5km s-min=11.3km az=113.1*

ISC 02 01:21:50.9±3.7,**467N**±01×**1533E**±02,**h1**km±24km,**n71,** σ1°**09/68,mb4.3**/25,**4C-3D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08**	**251**	⇑*i*PN	**Pn**	**01 22 52.4**	**-2.0**
KUR				*e*S	**Sn**	**01 23 41.3**	**-1.4**
KUR				pmax	pmax		
	comp=Z,360nm,0.6s						
KUR				smax			
	comp=N,170nm,0.6s						
KUR				smax			
	comp=E,170nm,0.6s						
SKR	**Severo-Kuril's**	**4.40**	**24**	*e*PN	**Pn**	**01 22 59.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.26**	**276**	*e*PN	**Pn**	**01 23 44.0**	**+5.9**
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,200nm,15.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**276**	Pn	**Pn**	**01 23 44.3**	**+6.2**
ASAJ	**Asahikawa**	**7.98**	**255**	Pn	**Pn**	**01 23 48.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=107,slow=21,SNR=5.5						
ASAJ	**Asahikawa**	**7.98**	**255**	PN	**Pn**	**01 23 48.8**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**13.00**	**354**	PN	**Pn**	**01 25 04.5**	**+7.8**
MJAR	**Matsushiro Arr**	**15.16**	**233**	Pn	**Pn**	**01 25 22.4**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=7.8,slow=10,SNR=4.3						
MAJO	**Matsushiro**	**15.16**	**233**	P	**Pn**	**01 25 26.9**	**+0.7**
SONM	**Songino Array**	**31.49**	**290**	P	**P**	**01 28 14.3**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=70,slow=8.1,SNR=4.2						
LZH	**Lanzhou**	**38.04**	**272**	*e*P	**P**	**01 29 11.6**	**+0.9**
LZH				AP		01 29 16.1	
LZH				XP	sP	01 29 19.5	+8.3
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
LZH	**Lanzhou**	**38.04**	**272**	*e*P	**P**	**01 29 11.6**	**+0.9**
	comp=Z,21nm,1.2s,mb4.7						
LZH				pP		01 29 16.1	
LZH				sP	sP	01 29 19.5	+8.3
GTA	**Gaotai**	**39.12**	**279**	*e*P	**P**	**01 29 21.1**	**+1.2**
GTA				AP		01 29 25.5	
GTA				XP	sP	01 29 28.6	+8.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**	**01 30 23.9**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.4,baz=62,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**	**01 30 23.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**47.10**	**297**	P	**P**	**01 30 23.9**	**-0.5**
BVAR	**Borovoye Array**	**51.01**	**310**	P	**P**	**01 30 52.6**	**-1.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=49,slow=18,SNR=5.4						
BVAR	**Borovoye Array**	**51.01**	**310**	P	**P**	**01 30 52.6**	**-1.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**51.05**	**310**	P	**P**	**01 30 54.5**	**-0.2**
ZRNK	**Zerenda**	**51.78**	**310**	*e*P	**P**	**01 30 59.3**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.78**	**310**	*e*P	**P**	**01 30 59.3**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**53.99**	**296**	*e*P	**P**	**01 31 15.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**53.99**	**296**	*e*P	**P**	**01 31 15.8**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.1						
GUN	**Gumba**	**55.15**	**275**	*e*P	**P**	**01 31 26.0**	**+1.1**
ARU	**Arti**	**55.15**	**318**	*e*P	**P**	**01 31 23.8**	**-1.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**55.15**	**318**	*e*P	**P**	**01 31 23.8**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.4						
KKN	**Kakani**	**55.64**	**275**	*e*P	**P**	**01 31 30.1**	**+1.7**
	comp=Z,14nm,0.6s,mb5.1						
PKI	**Pulchoki**	**55.69**	**275**	*e*P	**P**	**01 31 29.7**	**+0.9**
	comp=Z,8.9nm,0.7s,mb4.9						
DMN	**Daman**	**55.87**	**275**	*e*P	**P**	**01 31 31.6**	**+1.5**
GKN	**Gorkha**	**55.94**	**276**	*e*P	**P**	**01 31 31.5**	**+0.9**
	comp=Z,20nm,0.7s,mb5.2						
KOLN	**Koldanda**	**56.80**	**277**	*e*P	**P**	**01 31 37.7**	**+0.9**
	comp=Z,13nm,0.8s,mb5.0						
AKTK	**Aktyubinsk**	**58.88**	**312**	P	**P**	**01 31 50.7**	**-0.7**
AKTO	**Aktyubinsk**	**58.88**	**312**	P	**P**	**01 31 50.7**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.9,baz=75,slow=5.5,SNR=3.6						
AKTO	**Aktyubinsk**	**58.88**	**312**	P	**P**	**01 31 50.7**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**63.56**	**335**	*e*p	**P**	**01 32 21.8**	**-1.3**
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**01 32 26.5**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.5,baz=32,slow=7.5,SNR=9.2						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**01 32 26.5**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.16**	**335**	P	**P**	**01 32 26.5**	**-0.5**
PDAR	**Pinedale Array**	**64.66**	**54**	P	**P**	**01 32 29.1**	**-1.2**
	comp=Z,0.5nm,0.8s,mb3.8,baz=295,slow=2.8,SNR=3.1						
ULM	**Lac du Bonnet**	**66.47**	**41**	P	**P**	**01 32 37.1**	**-4.9**
	comp=Z,1.0nm,0.7s,mb4.2,baz=147,slow=17,SNR=2.9						
NB2	**NORSAR Subarra**	**68.33**	**341**	P	**P**	**01 32 53.1**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.3,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**01 32 53.4**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.5,baz=27,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**01 32 53.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**68.56**	**340**	P	**P**	**01 32 54.6**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.7,baz=39,slow=5.7,SNR=7.2						
HFS	**Hagfors**	**68.56**	**340**	P	**P**	**01 32 54.6**	**-0.7**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**01 33 13.6**	**-0.8**
	comp=Z,2.5nm,0.7s,mb4.4,baz=31,slow=5.8,SNR=11						
AKASG	**Malin Array Be**	**71.68**	**326**	P	**P**	**01 33 13.6**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**01 33 13.5**	**-4.0**
	comp=Z,0.6nm,0.8s,mb3.8,baz=14,slow=6.1,SNR=6.0						
ASAR	**Alice Springs**	**72.20**	**199**	P	**P**	**01 33 13.5**	**-4.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GNI	**Garni**	**72.68**	**310**	P	**P**	**01 33 21.8**	**+1.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=307,slow=5.1,SNR=3.2						
GNI	**Garni**	**72.68**	**310**	P	**P**	**01 33 21.8**	**+1.4**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KOLS	**Kolonicke sedl**	**75.69**	**329**	*e*PCP	PcP	01 33 47.6	-3.1
BURAR	**Bucovina Array**	**75.72**	**327**	⇓*i*P	**P**	**01 33 38.0**	**-0.1**
EKA	**Eskdalemuir Ar**	**76.43**	**346**	P	**P**	**01 33 41.7**	**-0.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=16,slow=5.5,SNR=4.0						
EKA	**Eskdalemuir Ar**	**76.43**	**346**	P	**P**	**01 33 41.7**	**-0.5**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MORC	**Moravsky Berou**	**76.56**	**332**	⇓*i*P	**P**	**01 33 43.3**	**+0.4**
CLL	**Collm**	**76.58**	**336**	*e*P	**P**	**01 33 44.0**	**+1.0**
CLL				*e*PcP	PcP	01 33 53.0	-1.6
MLR	**Muntele Rosu**	**77.20**	**325**	P	**P**	**01 33 47.6**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.4,baz=188,slow=7.1,SNR=7.5						
MLR	**Muntele Rosu**	**77.20**	**325**	⇓*i*P	**P**	**01 33 48.8**	**+2.3**
MLR	**Muntele Rosu**	**77.20**	**325**	P	**P**	**01 33 47.6**	**+1.1**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VYHS	**Vyhne**	**77.25**	**331**	*e*P	**P**	**01 33 46.9**	**+0.1**
DRGR		**77.34**	**328**	⇑*i*P	**P**	**01 33 42.0**	**-5.3**
VOIR		**77.59**	**326**	⇑*i*P	**P**	**01 33 51.2**	**+2.5**
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**01 33 54.1**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=60,slow=4.7,SNR=6.3						
BRTR	**Keskin Array B**	**78.53**	**317**	P	**P**	**01 33 54.1**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.57**	**334**	P	**P**	**01 33 53.9**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=40,slow=4.4,SNR=4.5						
GERES	**GERESS Array B**	**78.57**	**334**	P	**P**	**01 33 53.9**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VTS	**Vitosha**	**80.70**	**325**	⇑*i*P	**P**	**01 34 06.3**	**+0.6**
DBIC	**Dimbokro**	**123.44**	**334**	PKP	PKPdf	01 40 48.5	-1.4
	comp=Z,9.0nm,1.1s,baz=31,slow=14,SNR=3.5						
DBIC	**Dimbokro**	**123.44**	**334**	PKIKP	PKPdf	01 40 48.5	-1.4
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DBIC	**Dimbokro**	**123.44**	**334**	PKP	PKPdf	01 40 48.5	-1.4

CSEM **02** *01:21:49.6±0.1,34.11N×2.568E,h80km,Mw3.2,Error ellipse: s-maj=2.7km s-min=1.0km az=31.0*
ISCJB **02** *01:21:49.9±0.2,34.09N±0.003×2.555E±0.002,h92km±5km, mb3.5/7,Error ellipse: s-maj=4.7km s-min=2.6km az=67.5*
ATH **02** *01:21:50.2,34.03N×2.546E,h27km±2km,MD3.8/8*
NEIC **02** *01:21:51.7,34.11N×2.546E,h34km,mb3.8/3,MD3.8(ATH), After ATH.*
HLW **02** *01:21:53.6,33.99N×2.563E,h33km,Mb4.1*
THE **02** *01:21:53.8,34.18N×2.548E,h79km*
IDC **02** *01:21:53.9±3.1,34.33N×2.534E,h51km±28km,mb3.5/7, mb1 3.6/12,mb1mx3.5/25,mbtmp3.7/12,ML4.0/4,Error ellipse: s-maj=26.9km s-min=16.4km az=154.0*
GII **02** *01:21:59.0±0.3,33.84N×2.646E,h6km±21km,mb4.1/6, ML3.8/11,Mw3.8/3*
ROM **02** *01:22:07.6±0.6,34.77N×2.390E,h12km,Md3.8/1,Error ellipse: s-maj=12.6km s-min=9.1km az=135.0*
NAO **02** *01:22:31.4,39.70N×2.894E,h33km,mb3.0*

ISC 02 01:21:51.6±0.2,**3407N**±002×**2554E**±002,**h63**km±5km, **n123,** σ1°**03**/155,**mb3.6**/7,**3C-1D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.81**	**9**	*e*PN	**Pn**	**01 22 07.0**	**-0.3**
LAST	**Lasithi**	**1.08**	**357**	*e*Pg	**Pn**	**01 22 11.5**	**+0.7**
LAST				*e*Sg	**Sn**	**01 22 25.5**	**+0.4**
SIVA	**Sivas**	**1.12**	**328**	*e*Pg	**Pn**	**01 22 11.3**	**+0.1**
SIVA				*e*Sg	**Sn**	**01 22 26.2**	**+0.4**
ZKR	**Zakros**	**1.18**	**28**	*e*Pg	**Pn**	**01 22 13.6**	**+1.5**
ZKR				*e*Sg	**Sn**	**01 22 29.4**	**+2.0**
NPS	**Neapolis**	**1.19**	**3**	*e*PN	**Pn**	**01 22 13.2**	**+1.0**
GVD	**Gavdhos**	**1.42**	**303**	*e*Pg	**Pn**	**01 22 15.8**	**+0.5**
GVD				*e*Sg	**Sn**	**01 22 33.5**	**+0.5**
GVD	**Gavdhos**	**1.42**	**303**	*e*PN	**Pn**	**01 22 16.0**	**+0.7**
VAM	**Vamos**	**1.73**	**321**	*e*PN	**Pn**	**01 22 20.4**	**+1.0**
KARN	**Karanos**	**1.88**	**315**	*e*Pb	**Pn**	**01 22 22.4**	**+0.9**
KARN				*e*Sb	**Sn**	**01 22 44.6**	**+0.5**
KARP	**Karpathos**	**1.99**	**42**	*e*PN	**Pn**	**01 22 25.2**	**+2.3**
SANT	**Santorini**	**2.29**	**358**	*e*Pn	**Pn**	**01 22 27.3**	**+0.3**
SANT				*e*Sn	**Sn**	**01 22 53.8**	**-0.4**
APE	**Apeiranthos**	**2.99**	**360**	*e*Pn	**Pn**	**01 22 36.7**	**+0.2**
APE				*e*Sn	**Sn**	**01 23 09.7**	**-1.4**
KYTH	**Kithira**	**3.01**	**318**	*e*PN	**Pn**	**01 22 38.5**	**+1.7**
DAT	**Datca**	**3.13**	**32**	*e*P	**Pn**	**01 22 39.0**	**+0.5**
HMAT	**Matruh**	**3.25**	**156**	⇑P	**Pn**	**01 22 40.5**	**+0.4**
BDRM	**Kayabasi**	**3.37**	**27**	*i* P	**Pn**	**01 22 42.6**	**+0.9**
BDRM				*i* S	**Sn**	**01 23 17.9**	**-2.5**
VLI	**Veliai**	**3.39**	**322**	*e*PN	**Pn**	**01 22 43.4**	**+1.4**
VLI	**Veliai**	**3.39**	**322**	*e*Pn	**Pn**	**01 22 42.4**	**+0.4**
DALT	**Dalyan (Mudla)**	**3.69**	**42**	*e*P	**Pn**	**01 22 47.8**	**+1.6**
MLSB	**Milas**	**3.69**	**29**	*e*P	**Pn**	**01 22 45.8**	**-0.4**
DABA	**Dabaa**	**3.83**	**142**	P	**Pn**	**01 22 49.1**	**+0.9**
AKAS	**Kas**	**3.97**	**56**	*i* P	**Pn**	**01 22 51.2**	**+1.2**
AKAS				*i* S	**Sn**	**01 23 32.6**	**-2.6**
IZM	**Izmir**	**4.53**	**17**	*e*P	**Pn**	**01 22 56.0**	**-1.7**
DENT	**Denizli**	**4.64**	**37**	*e*P	**Pn**	**01 22 50.5**	**-8.6**
SWA1		**4.80**	**178**	P	**Pn**	**01 23 01.8**	**+0.5**
SWA2		**4.82**	**181**	⇓*e*P	**Pn**	**01 23 02.0**	**+0.4**
HBRG	**Burj al 'Arab**	**5.04**	**133**	P	**Pn**	**01 23 03.8**	**-0.9**
AGG	**Agios Georgios**	**5.57**	**333**	*e*Pn	**Pn**	**01 23 13.1**	**+1.3**
AGG				*e*Sn	**Sn**	**01 24 12.3**	**-2.2**
XOR	**Xorichti**	**5.61**	**341**	*e*Pn	**Pn**	**01 23 12.6**	**+0.3**
VLS	**Valsamata**	**5.72**	**317**	*e*PN	**Pn**	**01 23 16.6**	**+2.6**
VLS	**Valsamata**	**5.72**	**317**	*e*Pn	**Pn**	**01 23 15.2**	**+1.2**
OUR	**Ouranopolis**	**6.37**	**349**	*e*Pn	**Pn**	**01 23 23.2**	**+0.3**
AWBH		**6.42**	**152**	P	**Pn**	**01 23 23.1**	**-0.4**
AYT	**Al 'Ayyat**	**6.46**	**131**	P	**Pn**	**01 23 24.1**	**0.0**
LIT	**Litokhoron**	**6.49**	**339**	*e*Pn	**Pn**	**01 23 25.2**	**+0.7**
CSS	**Prodhromos**	**6.50**	**80**	*e*Pn	**Pn**	**01 23 26.4**	**+1.9**
ERMK	**Ermenek**	**6.55**	**65**	*i* P	**Pn**	**01 23 28.3**	**+3.0**
ERMK				*i* S	**Sn**	**01 24 39.0**	**+0.5**
MEV	**Metsovon**	**6.66**	**330**	*e*Pn	**Pn**	**01 23 27.2**	**+0.4**
KOT	**Kottamia**	**6.76**	**126**	P	**Pn**	**01 23 29.6**	**+1.5**
IGT	**Igoumenitsa**	**6.86**	**324**	*e*Pn	**Pn**	**01 23 29.0**	**-0.5**
IGT				*e*Sn	**Sn**	**01 24 41.3**	**-4.9**
GLL	**Jalalah**	**6.90**	**129**	P	**Pn**	**01 23 30.2**	**+0.1**
HHAG	**Hagoal**	**6.92**	**125**	P	**Pn**	**01 23 30.4**	**0.0**
IKL	**Isikli**	**7.01**	**70**	*e*P	**Pn**	**01 23 38.2**	**-3.5**
HFRF	**Wahat Farafira**	**7.30**	**160**	P	**Pn**	**01 23 35.2**	**-0.4**
GRG	**Griva**	**7.31**	**341**	*e*Pn	**Pn**	**01 23 35.7**	**0.0**
AMAG	**Maghara**	**7.34**	**116**	P	**Pn**	**01 23 34.4**	**-1.6**
FNA	**Florina**	**7.47**	**335**	*e*Pn	**Pn**	**01 23 37.9**	**0.0**
ZAF		**7.65**	**127**	P	**Pn**	**01 23 40.4**	**+0.1**
ZNM		**7.81**	**125**	P	**Pn**	**01 23 42.5**	**0.0**
MERS	**Mersin**	**7.84**	**67**	*e*P	**Pn**	**01 23 40.3**	**-2.7**
OFRI	**'Ofer**	**8.04**	**98**	Pn	**Pn**	**01 23 45.0**	**-0.7**
HNTI	**Hanita**	**8.10**	**94**	Pn	**Pn**	**01 23 46.7**	**+0.1**
KZIT	**Kziot**	**8.12**	**110**	Pn	**Pn**	**01 23 45.9**	**-1.0**
KZIT				Sn	**Sn**	**01 25 10.2**	**-6.9**
SLTI	**Sal'it**	**8.18**	**100**	Pn	**Pn**	**01 23 46.4**	**-1.1**
SLTI				Sn	**Sn**	**01 25 12.1**	**-6.3**
HNKL	**Nakhl**	**8.28**	**118**	P	**Pn**	**01 23 48.2**	**-0.7**
SVTA	**Shivta**	**8.29**	**110**	Pn	**Pn**	**01 23 49.4**	**+0.3**
AMAZ	**Amatzia**	**8.29**	**105**	Pn	**Pn**	**01 23 48.5**	**-0.7**
AMAZ				Sn	**Sn**	**01 25 15.0**	**-6.3**
RTMI	**Retamim**	**8.29**	**109**	Pn	**Pn**	**01 23 48.9**	**-0.2**
MMA1	**Mount Meron ar**	**8.31**	**95**	Pn	**Pn**	**01 23 48.5**	**-0.8**
MMA1				Sn	**Sn**	**01 25 15.6**	**-6.0**
MASH	**Mash'abbe Sade**	**8.39**	**109**	Pn	**Pn**	**01 23 50.5**	**+0.1**
MMLI	**Mount Malkishu**	**8.44**	**98**	Pn	**Pn**	**01 23 50.3**	**-0.8**
MMLI				Sn	**Sn**	**01 25 17.9**	**-7.0**
MMLI	**Mount Malkishu**	**8.44**	**98**	Pn	**Pn**	**01 23 51.3**	**+0.2**
KSDI	**Kefar Szold**	**8.49**	**93**	Pn	**Pn**	**01 23 50.9**	**-0.9**
KSDI				Sn	**Sn**	**01 25 19.5**	**-6.5**
YTIR	**Yattir**	**8.51**	**106**	Pn	**Pn**	**01 23 52.5**	**+0.4**
YTIR	**Yattir**	**8.51**	**106**	Pn	**Pn**	**01 23 52.5**	**+0.4**
TIR	**Tirane**	**8.54**	**330**	*e*Pn	**Pn**	**01 23 51.2**	**-1.3**
PLAC	**Placanica**	**8.54**	**303**	⇑*i*Pn	**Pn**	**01 23 52.1**	**-0.5**
PLAC				Sn	**Sn**	**01 25 14.1**	**-13**
	13nm,0.3s						
BRTR	**Keskin Array B**	**8.60**	**47**	P	**Pn**	**01 23 56.3**	**+3.0**
	0.1nm,0.3s,baz=215,slow=11,SNR=3.9						
BRTR				S	**Sn**	**01 25 27.4**	**-1.2**
	0.2nm,0.3s,baz=218,slow=26,SNR=6.0						
SOI	**Samo**	**8.65**	**300**	Pn	**Pn**	**01 23 53.5**	**-0.5**
	19nm,0.3s						
DSI	**Dead Sea**	**8.65**	**104**	Pn	**Pn**	**01 23 54.0**	**0.0**
DRGI	**Dragot**	**8.65**	**104**	Pn	**Pn**	**01 23 53.8**	**-0.3**
SERS	**Sersale**	**8.67**	**307**	Pn	**Pn**	**01 23 53.8**	**-0.5**
SERS				Sn	**Sn**	**01 25 16.5**	**-14**
	34nm,0.5s						
MZDA	**Masada**	**8.73**	**106**	Pn	**Pn**	**01 23 55.1**	**0.0**
MZDA				Sn	**Sn**	**01 25 25.4**	**-6.5**
MZDA	**Masada**	**8.73**	**106**	Pn	**Pn**	**01 23 55.1**	**0.0**
MZDA				Sn	**Sn**	**01 25 25.4**	**-6.5**
GRI	**Girifalco**	**8.74**	**305**	Pn	**Pn**	**01 23 54.7**	**-0.5**
GRI				Sn	**Sn**	**01 25 17.4**	**-15**
	9.0nm,0.2s						
PRNI	**Paran**	**8.84**	**112**	Pn	**Pn**	**01 23 57.0**	**+0.4**
PRNI				Sn	**Sn**	**01 25 28.2**	**-6.5**
CEL	**Celeste**	**8.84**	**301**	⇑*i*Pn	**Pn**	**01 23 56.4**	**-0.3**
	30nm,0.2s						
MTTG	**Motta San Giov**	**8.88**	**299**	Pn	**Pn**	**01 23 56.9**	**-0.3**
	29nm,0.2s						
ZFRI	**Zfri**	**8.88**	**111**	Pn	**Pn**	**01 23 56.9**	**-0.2**
HAVL	**Avola**	**8.96**	**292**	Pn	**Pn**	**01 23 56.9**	**-1.4**
AGST	**Augusta-Monte**	**8.97**	**294**	Pn	**Pn**	**01 23 56.2**	**-2.2**
JOPP	**Joppolo**	**9.00**	**303**	Pn	**Pn**	**01 23 58.6**	**-0.2**
	12nm,0.4s						
HRFI	**Mount Harif**	**9.01**	**114**	Pn	**Pn**	**01 23 59.4**	**+0.4**
HRFI				Sn	**Sn**	**01 25 32.2**	**-6.7**
HRFI	**Mount Harif**	**9.01**	**114**	Pn	**Pn**	**01 23 59.3**	**+0.4**
HRFI				Sn	**Sn**	**01 25 32.2**	**-6.7**
MBH	**Mount Berech**	**9.04**	**116**	Pn	**Pn**	**01 23 59.9**	**+0.5**
MSRU	**Castanea**	**9.12**	**300**	Pn	**Pn**	**01 24 00.1**	**-0.3**
	28nm,0.3s						
EIL	**Elat**	**9.13**	**116**	Pn	**Pn**	**01 24 00.7**	**+0.1**
MMME	**Mongiuffi-Meli**	**9.18**	**298**	Pn	**Pn**	**01 24 00.3**	**-0.9**
	26nm,0.3s						
HMDC	**Modica**	**9.23**	**291**	Pn	**Pn**	**01 24 01.3**	**-0.6**
PE1	**Pezze di Greco**	**9.31**	**319**	*e*Pn	**Pn**	**01 24 01.3**	**-1.7**
HVZN	**Vizzini**	**9.34**	**292**	Pn	**Pn**	**01 24 02.1**	**-1.3**
VPL	**Vulcano Piano**	**9.54**	**300**	Pn	**Pn**	**01 24 05.4**	**-0.8**
	32nm,0.4s						
CRAC	**Craco**	**9.59**	**314**	Pn	**Pn**	**01 24 06.5**	**-0.4**
	13nm,0.3s						
VAE	**Valguarnera**	**9.65**	**294**	P	**Pn**	**01 24 08.2**	**+0.4**
	0.7nm,0.3s,baz=295,slow=4.2,SNR=7.5						
VAE				S	**Sn**	**01 25 50.2**	**-4.4**
	1.8nm,0.3s,baz=40,slow=17,SNR=3.6						
SCHR	**S. Chirico Rap**	**9.71**	**312**	Pn	**Pn**	**01 24 08.3**	**-0.2**
	36nm,2.5s						
ASF	**Jabal al Asfar**	**9.71**	**98**	P	**Pn**	**01 24 07.9**	**-0.7**
	0.5nm,0.3s,baz=178,slow=5.0,SNR=5.0						
ASF				S	**Sn**	**01 25 51.1**	**-5.0**
	0.7nm,0.3s,baz=208,slow=22,SNR=6.3						
SLNA	**Salina**	**9.73**	**300**	Pn	**Pn**	**01 24 08.7**	**0.0**
	26nm,0.4s						
SG1	**Sgolgore (BA)**	**9.75**	**316**	*e*Pn	**Pn**	**01 24 07.1**	**-2.0**
SIRI	**Monte Sirino -**	**9.83**	**311**	Pn	**Pn**	**01 24 09.9**	**-0.3**
	10.0nm,0.5s						
MTSN	**Montesano sull**	**9.95**	**311**	Pn	**Pn**	**01 24 11.2**	**-0.6**
	8.0nm,0.4s						
MCEL	**Monticello**	**9.96**	**312**	Pn	**Pn**	**01 24 12.2**	**+0.3**
	14nm,1.2s						
SLCN	**Sala Consilina**	**10.10**	**311**	Pn	**Pn**	**01 24 14.3**	**+0.5**
	12nm,0.3s						
CDRU	**Civita di Ruta**	**10.36**	**311**	Pn	**Pn**	**01 24 18.9**	**+1.5**
	41nm,2.7s						
STON	**Ston**	**10.71**	**327**	*i* Pn	**Pn**	**01 24 17.9**	**-4.3**
STON				*i* Sn	**Sn**	**01 26 05.7**	**-15**
FG2	**Serracapriola**	**11.25**	**316**	Pn	**Pn**	**01 24 29.2**	**-0.3**
MLR	**Muntele Rosu**	**11.41**	**1**	P	**Pn**	**01 24 31.8**	**+0.1**
	0.1nm,0.3s,baz=150,slow=16,SNR=2.6						
NVLJ	**Novalja**	**13.32**	**325**	*i* (Pn)	**Pn**	**01 24 54.7**	**-3.1**
NVLJ				*i* Sn	**Sn**	**01 27 09.7**	**-14**
KEST	**Kesra**	**13.39**	**282**	P	**Pn**	**01 25 01.9**	**+3.1**
	0.0nm,0.3s,baz=0.0,slow=14,SNR=3.7						
BOJS	**Bojanci**	**13.87**	**328**	*i* Pn	**Pn**	**01 25 01.6**	**-3.5**
BOJS				*i* Sn	**Sn**	**01 27 22.7**	**-15**
AKASG	**Malin Array Be**	**16.83**	**8**	P	**Pn**	**01 25 44.3**	**+1.3**
	2.7nm,0.3s,baz=199,slow=11,SNR=14						
GERES	**GERESS Array B**	**17.18**	**

B05A **Bryant** 22.18 91 ⇑P P 01 28 03.0 +0.2
baz=22
F03A **Seaside** 22.51 98 ⇓P P 01 28 07.3 +1.0
baz=22
E04A **Onalaska** 22.64 95 ⇓P P 01 28 08.4 +0.7
baz=23
C05A **Tolt Reservoir** 22.69 92 ⇑P P 01 28 08.6 +0.3
baz=23
D05A **Enumclaw** 22.77 93 ⇑P P 01 28 09.3 +0.2
baz=23,SNR=5.5
G03A **Yamhill** 23.01 99 ⇓P P 01 28 11.8 +0.2
baz=23
LON **Longmire** 23.10 94 eP P 01 28 13.4 +0.8
F04A **Amboy** 23.17 96 ⇓P P 01 28 13.3 0.0
baz=23
YKA **Yellowknife Ar** 23.21 52 P P 01 28 13.5 -0.2
3.9nm,0.8s,mb3.9,baz=264,slow=9.6,SNR=8.4
YKA LR LR 01 36 50.2
comp=Z,139nm,19.2s,MS3.4,baz=45,slow=35
YKA **Yellowknife Ar** 23.21 52 P P 01 28 13.5 -0.2
YKA LR LR 01 36 50.2
E05A **Randle** 23.23 95 ⇑P P 01 28 13.5 -0.3
baz=23
B07A **Winthrop** 23.25 89 ⇑P P 01 28 14.5 +0.3
baz=23,SNR=5.3
D06A **Cle Elum** 23.44 92 ⇑P P 01 28 15.9 0.0
baz=23
G04A **Mulino** 23.54 98 ⇑P P 01 28 17.0 +0.2
baz=24
C07A **Waterville** 23.66 91 ⇑P P 01 28 17.5 -0.3
baz=24,SNR=6.5
E06A **Yakima** 23.70 94 ⇑P P 01 28 18.6 +0.4
baz=24,SNR=10.0
I03A **Eugene** 23.79 101 ⇑P P 01 28 19.2 +0.1
baz=24
KEBM **Edson Butte** 23.86 105 P P 01 28 20.1 +0.4
A09A **Danville** 23.92 87 ⇓P P 01 28 20.8 +0.4
baz=24
J02A **Umpqua** 23.99 103 ⇑P P 01 28 20.8 -0.1
baz=24,SNR=6.1
H04A **Detroit Lake** 24.01 99 ⇓P P 01 28 20.8 -0.3
baz=24,SNR=14
VFP **Flag Point** 24.07 97 P P 01 28 21.7 0.0
EPH **Ephrata** 24.10 91 P P 01 28 21.9 +0.1
G05A **Wamic** 24.20 97 ⇓P P 01 28 23.2 +0.4
baz=24
C08A **Higginbotham F** 24.21 90 ⇓P P 01 28 23.0 +0.1
baz=24
F06A **Goldendale** 24.23 95 ⇓P P 01 28 23.2 +0.2
baz=24
J03A **Ideyld Park** 24.34 102 P P 01 28 24.7 +0.6
baz=24,SNR=16
E07A **Sunnyside** 24.35 93 ⇑P P 01 28 24.1 -0.1
baz=24
IRO **Indian Ridge** 24.37 100 P P 01 28 24.3 0.0
MDW **Midway** 24.38 93 P P 01 28 24.7 +0.2
K02A **Glendale** 24.41 104 ⇑P P 01 28 25.0 +0.2
baz=24
B09A **Rice** 24.43 88 ⇓P P 01 28 25.2 +0.3
baz=24
A10A **Northport** 24.52 86 ⇑P P 01 28 25.9 +0.1
baz=24
H05A **Madras** 24.59 98 ⇓P P 01 28 26.4 +0.1
baz=25
OD2 **Odessa Site #2** 24.60 90 P P 01 28 26.6 +0.1
G06A **Carlson Farm,** 24.60 96 ⇓P P 01 28 26.0 -0.5
baz=25
HAWA **Hanford** 24.62 93 eP P 01 28 26.9 +0.2
D08A **Wollman Farm,** 24.64 91 P P 01 28 26.6 -0.3
baz=25,SNR=7.6
C09A **Chrisman Ranch** 24.66 89 ⇑P P 01 28 26.7 -0.3
baz=25
F07A **Phinny Hill Vi** 24.66 94 P P 01 28 27.1 +0.1
baz=25,SNR=5.9
L02A **Cave Junction** 24.74 105 P P 01 28 27.9 +0.2
baz=25,SNR=7.4
I05A **Bend** 24.85 99 P P 01 28 29.1 +0.3
baz=25,SNR=6.0
KRMB **Red Mountain** 24.98 107 eP P 01 28 30.4 +0.5
D09A **Jones Farm, Ri** 25.00 90 ⇑P P 01 28 29.9 -0.3
baz=25
H06A **Lindquist Farm** 25.06 97 P P 01 28 30.5 -0.1
baz=25,SNR=8.9
NEW **Newport** 25.11 87 P P 01 28 30.3 -0.8
4.7nm,0.8s,mb4.1,baz=293,slow=7.8,SNR=12
NEW LR LR 01 36 34.0
comp=Z,96nm,20.3s,MS3.3,baz=37,slow=32
NEW **Newport** 25.11 87 eP P 01 28 31.2 +0.1
5.3nm,0.8s,mb4.1
G07A **Ruggs Ranch, H** 25.15 95 ⇑P P 01 28 31.6 +0.1
baz=25
C10A **Spilker Farm,** 25.22 88 ⇑P P 01 28 33.0 +1.0
baz=25
JCC **Jacoby Creek** 25.38 108 ⇓P P 01 28 33.4 -0.1
baz=25
E09A **Wood Farm, Sta** 25.38 91 P P 01 28 33.4 -0.2
baz=25,SNR=10
F08A **Pendleton** 25.39 93 P P 01 28 33.5 -0.1
baz=25,SNR=5.1
J05A **Fort Rock** 25.39 101 P P 01 28 34.1 +0.5
baz=25,SNR=19
KHMM **Horse Mountain** 25.50 108 eP P 01 28 35.1 +0.5
YBH **Yreka Blue Hor** 25.52 105 P P 01 28 34.8 0.0
5.3nm,0.8s,mb4.1,baz=299,slow=11,SNR=19
YBH LR LR 01 35 50.5
comp=Z,349nm,21.0s,MS3.9,baz=311,slow=30
YBH **Yreka Blue Hor** 25.52 105 eP P 01 28 35.3 +0.5
20nm,1.4s,mb4.5
YBH **Yreka Blue Hor** 25.52 105 P P 01 28 35.4 +0.6
baz=26,SNR=10
G08A **Pilot Rock** 25.56 95 ⇓P P 01 28 35.2 +0.1
baz=26
I06A **Prineville** 25.59 98 ⇑P P 01 28 35.5 0.0
baz=26
H07A **Lands Inn, Kim** 25.59 96 ⇑P P 01 28 35.6 0.0
baz=26,SNR=16
M02C **Callahan** 25.66 106 P P 01 28 36.6 +0.5
baz=26,SNR=17
A12A **Yaak River Ran** 25.67 85 ⇓P P 01 28 36.3 +0.1
baz=26
L04A **Klamath Falls** 25.70 103 ⇑P P 01 28 36.5 +0.1
baz=26,SNR=5.4
N02C **Big Bar** 25.78 107 ⇓P P 01 28 37.3 +0.1
baz=26
I07A **Izee** 25.93 97 P P 01 28 38.6 +0.2
baz=26,SNR=9.2
K05A **Summer Lake** 25.93 101 ⇑P P 01 28 39.1 +0.6
baz=26,SNR=10
F09A **S2 Ranch, Elgi** 25.95 93 ⇑P P 01 28 38.9 +0.2
baz=26
O01C **Eel River Cons** 25.95 109 ⇓P P 01 28 39.1 +0.4
baz=26
M04C **Macdoel** 25.98 104 ⇑P P 01 28 39.4 +0.4
baz=26,SNR=7.9
J06A **Christmas Vall** 26.04 100 P P 01 28 39.9 +0.3
baz=26,SNR=24
M03C **McCloud** 26.15 105 ⇓P P 01 28 41.3 +0.8
baz=26
H08A **Prairie City** 26.16 96 ⇑P P 01 28 40.7 +0.1
baz=26
K06A **Valley Falls** 26.26 100 P P 01 28 42.2 +0.7
baz=26,SNR=7.4
C12A **Trout Creek** 26.35 87 ⇑P P 01 28 42.6 +0.2
baz=26
KIPM **Iron Peak** 26.37 109 eP P 01 28 42.6 +0.1
WDC **Whiskeytown Da** 26.37 107 eP P 01 28 44.9 +2.3
8.3nm,1.2s,mb4.1
WDC **Whiskeytown Da** 26.37 107 ⇑P P 01 28 43.2 +0.6
baz=26
L05A **Lakeview** 26.39 102 P P 01 28 43.5 +0.8
baz=26,SNR=12
J07A **Hines** 26.46 98 ⇑P P 01 28 43.4 +0.1
baz=26
O02C **Red Bluff** 26.51 108 ⇓P P 01 28 43.8 +0.1
baz=26,SNR=15
I08A **Drewsey** 26.57 97 ⇑P P 01 28 44.3 0.0
baz=27
M05C **Lookout** 26.65 104 P P 01 28 45.4 +0.3
baz=27,SNR=9.1
H09A **Durkee** 26.67 95 ⇑P P 01 28 45.6 +0.4
baz=27
P01C **Double 8 Ranch** 26.68 109 ⇑P P 01 28 45.4 +0.1
baz=27
BMO **Blue Mountains** 26.77 94 eP P 01 28 46.2 +0.1
MOD **Modoc** 26.79 102 eP P 01 28 46.8 +0.5
7.8nm,1.1s,mb4.2
MOD **Modoc** 26.79 102 P P 01 28 46.9 +0.6
baz=27,SNR=5.5

HATC **Hat Creek Radi** 26.83 105 ⇑P P 01 28 46.8 +0.2
baz=27
C13A **Hot Springs** 26.90 86 ⇓P P 01 28 47.1 -0.1
baz=27
GASB **Alder Springs** 26.91 108 ⇓P P 01 28 47.5 +0.2
baz=27,SNR=11
K07A **Rock Creek Ran** 26.91 100 ⇓P P 01 28 47.4 0.0
baz=27,SNR=7.7
J08A **Circle Bar Ran** 26.95 98 ⇑P P 01 28 48.0 +0.2
baz=27
I09A **Lost Marbles R** 27.02 96 ⇑P P 01 28 48.2 -0.1
baz=27
M06C **Likely Place G** 27.14 103 ⇑P P 01 28 49.5 +0.1
baz=27,SNR=5.8
HOPS **Hopland** 27.16 110 eP P 01 28 49.3 -0.4
17nm,1.3s,mb4.4
HOPS **Hopland** 27.16 110 ⇑P P 01 28 49.4 -0.3
baz=27
L07A **Adell** 27.27 101 P P 01 28 51.2 +0.5
baz=27,SNR=6.6
K08A **Mann Creek Ran** 27.33 99 ⇑P P 01 28 51.2 0.0
baz=27
J09A **Fry Pan Ranch,** 27.38 97 P P 01 28 51.7 +0.1
baz=27,SNR=8.5
WVOR **Wild Horse Val** 27.42 99 eP P 01 28 52.0 0.0
5.6nm,1.0s,mb4.0
MNRC **McLaughlin Nat** 27.59 109 ⇑P P 01 28 53.4 -0.2
baz=28
ORV **Oroville** 27.66 107 ⇑P P 01 28 52.8 -1.3
baz=28
MSO **Missoula** 27.70 87 eP P 01 28 54.1 -0.3
MSO ePcP PcP 01 32 09.0 -1.3
O05C **Quincy** 27.71 106 ⇓P P 01 28 54.6 +0.1
baz=28
L08A **Fields** 27.74 100 ⇑P P 01 28 54.8 -0.1
baz=28,SNR=10
M07A **Soldier Meadow** 27.77 102 ⇑P P 01 28 55.2 +0.1
baz=28,SNR=6.4
K09A **Rome** 27.79 98 ⇑P P 01 28 55.1 -0.2
baz=28,SNR=5.4
N06A **Buffalo Meadow** 27.80 103 ⇓P P 01 28 55.4 0.0
baz=28,SNR=6.4
BEKR **Beckwourth** 28.09 105 ⇓P P 01 28 57.5 -0.4
baz=28,SNR=6.8
M08A **Happy Creek Ra** 28.19 101 ⇑P P 01 28 59.1 +0.3
baz=28,SNR=7.2
O06A **Flanigan** 28.19 104 ⇑P P 01 28 58.9 +0.1
baz=28
L09A **Wilkinson Ranc** 28.24 99 ⇓P P 01 28 59.2 -0.1
baz=28
P05C **Yuba Gap, Truc** 28.33 107 ⇑P P 01 28 59.5 -0.6
baz=28
LAVA **Lava Cap Winer** 28.63 108 P P 01 29 02.2 -0.6
baz=29,SNR=5.5
O07A **Toulon** 28.74 103 ⇑P P 01 29 03.8 +0.1
baz=29,SNR=8.8
M09A **Marrel Ranch,** 28.75 100 ⇓P P 01 29 04.0 +0.3
baz=29
N08A **GE Springer Mi** 28.76 102 P P 01 29 04.1 +0.2
baz=29,SNR=12
R05C **Kirkwood Meado** 29.04 107 ⇑P P 01 29 06.3 -0.1
baz=29
N09A **Rock Creek Ran** 29.07 101 ⇑P P 01 29 06.3 -0.3
baz=29,SNR=5.0
M10A **I.L. Ranch, Tu** 29.21 99 ⇑P P 01 29 07.7 -0.2
baz=29
HLID **Hailey** 29.22 94 eP P 01 29 08.3 +0.4
HLID **Hailey** 29.22 94 ⇑P P 01 29 07.8 -0.2
baz=29,SNR=8.6
DLMT **Dillon** 29.27 89 ePcP PcP 01 32 13.8 -0.4
CMB **Columbia Colle** 29.34 108 eP P 01 29 08.4 -0.6
CMB **Columbia Colle** 29.34 108 ⇓P P 01 29 08.5 -0.5
baz=29
MCMT **McKenzie Canyo** 29.41 90 P P 01 29 09.8 +0.1
R06C **Coleville** 29.52 106 P P 01 29 10.9 +0.3
baz=30,SNR=5.8
WAKR **Walker** 29.54 106 eP P 01 29 11.1 +0.2
EGMT **Eagleton** 29.55 82 ePcP PcP 01 32 14.1 -0.9
EGMT **Eagleton** 29.55 82 ⇓P P 01 29 10.4 -0.5
baz=30
PACP **Pacheco Peak** 29.57 111 ⇑P P 01 29 10.8 -0.2
baz=30
O09A **Fish Creek Ran** 29.70 102 ⇓P P 01 29 12.2 -0.1
baz=30,SNR=9.0
M11A **Holland Ranch,** 29.71 98 ⇑P P 01 29 12.2 -0.1
baz=30
N10A **Dunphy** 29.74 100 ⇓P P 01 29 12.6 0.0
baz=30
S05C **Merced** 29.86 109 ⇑P P 01 29 13.4 -0.2
baz=30
HAST **UC Hastings Re** 29.87 112 P P 01 29 13.4 -0.4
baz=30,SNR=5.0
P09A **Austin** 30.14 102 ⇓P P 01 29 16.2 +0.1
baz=30
Q08A **Gabbs** 30.15 104 P P 01 29 16.2 0.0
baz=30,SNR=8.9
M12A **Wells** 30.23 97 ⇓P P 01 29 17.1 +0.2
baz=30,SNR=5.5
NVAR **Mina Array Bea** 30.24 105 P P 01 29 17.0 0.0
4.4nm,0.8s,mb4.2,baz=294,slow=9.7,SNR=32
NVAR PcP PcP 01 32 16.3 -0.4
1.6nm,0.7s,baz=273,slow=4.0,SNR=10.0
V03C **Hunter Liggett** 30.32 112 ⇑P P 01 29 17.2 -0.4
baz=30
KCC **Kaiser Creek** 30.44 108 ⇓P P 01 29 18.2 -0.5
baz=30,SNR=6.6
T06C **Millerton Lake** 30.44 109 ⇑P P 01 29 18.2 -0.6
baz=30
N12A **Clover Valley,** 30.51 98 P P 01 29 19.8 +0.4
baz=30,SNR=7.8
Q09A **Carvers** 30.60 104 ⇓P P 01 29 20.6 +0.4
baz=31
O11A **Cowboy Ranch,** 30.62 100 ⇑P P 01 29 20.3 0.0
baz=31
U05C **Westside ANR,** 30.70 110 ⇑P P 01 29 21.4 +0.3
baz=31
MTUM **Tungsten Hills** 30.84 107 eP P 01 29 22.6 +0.3
S08C **White Mtn Res** 30.96 107 P P 01 29 23.9 +0.6
baz=31,SNR=9.4
N13A **Wendover, West** 31.00 98 ⇓P P 01 29 23.8 +0.1
baz=31
O12A **Currie** 31.06 99 P P 01 29 24.2 0.0
baz=31,SNR=13
HELL **Mitchell Peak,** 31.06 109 P P 01 29 23.8 -0.5
baz=31,SNR=7.3
R09A **Tonopah** 31.07 104 ⇑P P 01 29 24.1 -0.2
baz=31
IMW **Indian Meadow** 31.07 90 eP P 01 29 25.3 +1.0
6.6nm,1.0s,mb4.4
FLWY **Flagg Ranch** 31.11 90 eP P 01 29 25.7 +1.1
20nm,1.5s,mb4.7
RRI2 **Red Ridge** 31.17 91 eP P 01 29 31.4 +6.2
MOOW **Moose Ponds** 31.27 90 eP P 01 29 26.3 +0.2
S09A **Goldfield** 31.34 105 P P 01 29 26.4 -0.3
baz=31,SNR=7.6
LOHW **Long Hollow** 31.43 90 eP P 01 29 28.2 +0.7
REDW **Red Top Meadow** 31.43 91 eP P 01 29 28.5 +1.0
4.5nm,1.0s,mb4.2
Q11A **Duckwater** 31.47 102 P P 01 29 27.9 0.0
baz=31,SNR=8.4
R10A **Warm Springs** 31.48 103 ⇓P P 01 29 27.8 -0.1
baz=31,SNR=8.3
P12A **McGill** 31.48 100 ⇓P P 01 29 27.8 -0.1
baz=32
VES **Vestal, Richgr** 31.64 110 P P 01 29 28.6 -0.7
baz=32,SNR=6.3
BGU **Big Grassy Mou** 31.64 96 eP P 01 29 29.5 +0.2
Q12A **Willow Creek R** 31.82 101 ⇑P P 01 29 31.2 +0.3
baz=32,SNR=6.3
TRCR **Troy Canyon** 31.85 103 eP P 01 29 31.2 +0.1
PKM **Peak Mountain** 31.92 112 ⇑P P 01 29 31.3 -0.5
baz=32
ISA **Isabella** 32.10 109 eP P 01 29 33.0 -0.4
9.5nm,1.2s,mb4.5
ISA **Isabella** 32.10 109 ⇑P P 01 29 33.2 -0.2
baz=32
DAC **Darwin (Calif)** 32.15 108 eP P 01 29 33.8 0.0
6.7nm,0.9s,mb4.5
DUG **Dugway** 32.23 97 P P 01 29 34.8 +0.2
baz=32,SNR=16
ARVC **Arvin** 32.30 110 ⇑P P 01 29 34.3 -0.8
baz=32
MPMC **Manual Prospec** 32.37 108 P P 01 29 35.9 +0.2
baz=32,SNR=8.5
FURC **Furnace Creek,** 32.43 106 ⇑P P 01 29 36.2 0.0
baz=32,SNR=6.4
BW06 **Boulder Array** 32.55 91 eP P 01 29 37.5 +0.2
5.8nm,1.0s,mb4.5

PDAR **Pinedale Array** 32.55 91 P P 01 29 37.2 -0.1
3.0nm,0.7s,mb4.3,baz=316,slow=6.2,SNR=18
SHOC **Shoshone** 33.16 107 ⇓P P 01 29 42.4 -0.2
baz=33
GSC **Goldstone** 33.30 108 eP P 01 29 43.9 0.0
GSC **Goldstone** 33.30 108 P P 01 29 43.7 -0.2
baz=33,SNR=5.3
U11A **Corn Creek** 33.30 105 ⇑P P 01 29 43.9 +0.1
baz=33
ARUT **Antelope Range** 33.47 101 eP P 01 29 45.4 +0.1
ARUT e pP 01 29 58.0 -0.1
BFSC **Mount Baldy St** 33.60 110 ⇓P P 01 29 46.1 -0.4
baz=34
CCUT **Cedar City** 33.67 101 eP P 01 29 47.0 -0.2
V11A **Goodsprings** 33.69 106 ⇓P P 01 29 47.3 0.0
baz=34,SNR=6.4
TUQ **Turquoise Mtn.** 33.70 107 ⇓P P 01 29 47.2 -0.2
baz=34
MSU **Marysvale** 33.71 99 eP P 01 29 47.9 +0.4
MSU ePcP PcP 01 32 26.4 +0.2
U12A **Valley of Fire** 33.77 104 ⇑P P 01 29 47.9 -0.1
baz=34
V12A **Nelson** 34.10 105 P P 01 29 51.0 +0.2
baz=34,SNR=13
SRU **San Rafael** 34.28 97 eP P 01 29 52.8 +0.4
RWWY **Rawlins** 34.59 90 eP P 01 29 55.5 +0.4
BELC **Belle Mtn.** 34.70 109 P P 01 29 55.4 -0.6
baz=35,SNR=5.8
PFO **Pinyon Flat Ob** 34.74 110 ⇓P P 01 29 55.5 -0.8
baz=35
109C **Camp Elliot, M** 34.92 111 ⇓P P 01 29 57.7 -0.2
baz=35
RSSD **Black Hills** 35.01 85 eP P 01 29 58.6 0.0
6.9nm,0.7s,mb4.7
IRM **Iron Mountain** 35.06 108 P P 01 29 59.0 -0.1
baz=35,SNR=8.7
W13A **Hualapai Mount** 35.09 105 P P 01 29 59.6 +0.2
baz=35,SNR=12
BC3 **Big Chuckw Mtn** 35.26 108 ⇑P P 01 30 00.4 -0.4
baz=35
BAR **Barrett** 35.31 111 eP P 01 30 01.4 +0.1
W14A **Seligman** 35.47 104 P P 01 30 02.9 +0.2
baz=35,SNR=9.7
X13A **Yucca** 35.49 106 P P 01 30 02.4 -0.4
baz=36,SNR=6.8
PDMCI **Parker Dam,Lak** 35.53 106 ⇓P P 01 30 02.6 -0.6
baz=36
SWSC **Sam W. Stewart** 35.60 110 ⇑P P 01 30 02.9 -0.9
baz=36
PV10 **Paradox Valley** 35.64 96 eP P 01 30 04.2 +0.1
Y12C **Blythe** 35.71 107 P P 01 30 04.5 -0.2
baz=36,SNR=9.1
W15A **Williams** 35.96 103 ⇑P P 01 30 07.3 +0.4
baz=36,SNR=10
Y13A **Salome** 36.06 107 ⇓P P 01 30 07.3 -0.4
baz=36
GLA **Glamis** 36.06 108 eP P 01 30 07.4 -0.3
GLA ePcP PcP 01 32 41.8 +8.8
GLA **Glamis** 36.06 108 ⇑P P 01 30 07.2 -0.5
baz=36
PV01 **Paradox Valley** 36.07 96 eP P 01 30 07.5 -0.3
X14A **Yava** 36.12 105 P P 01 30 08.3 +0.2
baz=36,SNR=21
WUAZ **Wupatki** 36.24 102 eP P 01 30 09.6 +0.4
WUAZ **Wupatki** 36.24 102 ⇑P P 01 30 09.3 0.0
baz=36,SNR=14
SMCO **Snowmass** 36.32 94 eP P 01 30 09.6 -0.3
3.0nm,0.8s,mb4.3
ULM **Lac du Bonnet** 36.40 71 P P 01 30 10.0 -0.6
1.5nm,0.9s,mb3.9,baz=346,slow=12,SNR=2.3
ULM LR LR 01 44 26.0
comp=Z,106nm,18.4s,MS3.6,baz=341,slow=35
Y14A **Wickenburg** 36.44 106 ⇓P P 01 30 10.4 -0.5
baz=36,SNR=14
X15A **Humboldt** 36.48 104 ⇓P P 01 30 11.2 -0.1
baz=36,SNR=12
ISCO **Idaho Springs** 36.72 92 eP P 01 30 14.5 +1.2
MVCO **Mesa Verde** 36.74 97 P P 01 30 12.8 -0.7
baz=37,SNR=5.0
Z14A **Wintersburg** 36.89 106 ⇑P P 01 30 14.3 -0.5
baz=37,SNR=5.1
115A **Sonoran Desert** 37.78 106 ⇑P P 01 30 22.3 -0.1
baz=38
116A **Eloy** 38.18 106 ⇑P P 01 30 25.7 -0.1
baz=38
TUC **Tucson** 38.89 105 eP P 01 30 31.7 +0.1
8.6nm,1.0s,mb4.4
LAZ **Ladron** 39.48 99 eP P 01 30 36.7 +0.1
ANMO **Albuquerque** 39.49 98 P P 01 30 36.1 -0.5
2.4nm,0.9s,mb3.9,baz=322,slow=10,SNR=5.9
ANMO PcP PcP 01 32 43.2 -0.4
0.7nm,0.6s,baz=276,slow=4.2,SNR=5.8
ANMO **Albuquerque** 39.49 98 P P 01 30 36.1 -0.5
ANMO PcP PcP 01 32 43.2 -0.4
LPM **Los Pinos Moun** 39.84 99 eP P 01 30 40.0 +0.5
MNTX **Cornudas Mount** 42.45 101 eP P 01 31 00.8 -0.1
6.8nm,1.1s,mb4.2
WMOK **Wichita Mounta** 44.15 92 eP P 01 31 14.0 -0.7
8.4nm,0.8s,mb4.5
JCT **Junction City** 46.59 97 eP P 01 31 33.0 -1.0
MDJ **Mudanjiang** 47.01 290 P P 01 31 36.4 -0.9
MDJ AMB AMB
comp=Z,2.0nm,0.5s,mb4.3
MDJ AMB AMB
comp=Z,69nm,4.8s
MIAR **Mount Ida** 47.35 88 eP P 01 31 39.1 -0.8
comp=Z,15nm,1.1s,mb4.8
MJAR **Matsushiro Arr** 47.37 276 P P 01 31 38.8 -1.3
comp=Z,0.8nm,0.3s,mb4.1,baz=344,slow=5.4,SNR=4.0
BLO **Bloomington** 48.31 78 eP P 01 31 46.3 -1.1
USIN **University of** 48.47 80 eP P 01 31 47.6 -1.0
NATX **Nacogdoches** 48.69 91 eP P 01 31 50.3 0.0
HKT **Hockley** 49.31 94 eP P 01 31 53.8 -1.2
comp=Z,9.6nm,1.2s,mb4.7
WVT **Waverly** 49.62 82 eP P 01 31 56.2 -1.2
comp=Z,7.3nm,0.7s,mb4.8
CN2 **Changchun** 49.81 292 eP P 01 32 00.5 +1.7
PLAL **Pickwick Lake** 50.28 83 eP P 01 32 01.1 -1.3
CPCT **Cooper Cave** 52.03 80 ePcP PcP 01 33 23.6 -3.6
ELN **Prospectdale** 52.96 76 eP P 01 32 21.1 -1.3
KEV **Kevo** 56.49 359 ep pP 01 33 01.3 -0.3
comp=Z,8.3nm,0.6s
KEV **Kevo** 56.49 359 eP P 01 32 47.4 -0.6
comp=Z,1.9nm,0.5s,mb4.4
KEV eP pP 01 33 01.3 -0.3
ARCES **ARCESS Array B** 56.73 359 P P 01 32 48.5 -1.1
comp=Z,3.5nm,1.0s,mb4.3,baz=46,slow=10,SNR=4.3
ARCES LR LR 01 58 44.8
comp=Z,42nm,18.5s,MS3.6,baz=47,slow=38
SONM **Songino Array** 56.80 307 P P 01 32 49.0 -1.2
comp=Z,0.3nm,0.6s,mb3.5,baz=358,slow=4.9,SNR=3.4
SONM pP pP 01 33 04.1 +0.4
comp=Z,5.0nm,0.8s,baz=44,slow=7.6,SNR=14
SONM LR LR 02 00 57.9
comp=Z,80nm,18.4s,MS3.9,baz=192,slow=40
HHC **Hu-ho-hao-te** 59.27 298 eP P 01 33 08.2 +0.7
HHC AP pP 01 33 20.9 -0.2
HHC XP sP 01 33 26.6 -0.2
HHC PP PP 01 35 20.3 +1.6
HHC PCS PcS 01 37 57.8 +0.6
HHC S S 01 41 10.2 -1.8
HHC PS 01 41 29.5
HHC SCS ScS 01 42 49.8 -3.5
HHC AMB AMB
comp=Z,8.0nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,152nm,4.6s
HHC LR LR
comp=N,158nm,15.5s
HHC LR LR
comp=E,182nm,5.7s
HHC LR LR
comp=Z,93nm,10.4s
NJ2 **Nanjing** 61.76 286 eP P 01 33 28.6 +4.2
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
JOF **Joensuu** 63.22 356 ep pP 01 33 48.0 0.0
comp=Z,12nm,0.7s
JOF **Joensuu** 63.22 356 eP P 01 33 33.3 -0.9
KAF **Kangasniemi** 64.17 359 ep P 01 33 39.6 -0.8
comp=Z,3.7nm,0.6s,mb4.6,baz=359,slow=6.3
KAF **Kangasniemi** 64.17 359 ep pP 01 33 54.3 0.0
comp=Z,16nm,0.6s,baz=359,slow=6.3
KAF **Kangasniemi** 64.17 359 eP P 01 33 39.6 -0.8
comp=Z,3.7nm,0.6s,mb4.6
FINES **FINESS Array B** 64.85 359 P P 01 33 45.0 +0.2

comp=Z,4.0nm,0.9s,mb4.4,baz=4.8,slow=12,SNR=6.2
FINES pP pP 01 33 58.8 +0.1
comp=Z,8.4nm,0.6s,baz=16,slow=7.6,SNR=12
NB2 NORSAR Subarra 64.85 7 P P 01 33 45.1 +0.2
comp=Z,10nm,0.8s,mb4.9,baz=353,slow=6.5
NOA NORSAR Array B 64.85 7 P P 01 33 44.8 -0.1
comp=Z,2.6nm,0.7s,mb4.3,baz=352,slow=6.4,SNR=8.8
NOA pP pP 01 33 58.9 +0.2
comp=Z,9.2nm,0.8s,baz=352,slow=6.4,SNR=15
NOA LR LR 02 04 04.6
comp=Z,22nm,18.6s,MS3.4,baz=320,slow=38
HFS Hagfors 65.91 5 P P 01 33 52.1 +0.4
comp=Z,3.8nm,0.7s,mb4.5,baz=35,slow=5.4,SNR=5.4
HFS pP pP 01 34 05.4 -0.2
comp=Z,10nm,0.7s,baz=35,slow=5.4,SNR=10
ARU Arti 66.22 340 *eP* **P 01 33 54.1 +0.4**
GTA Gaotai 66.27 305 *eP* **P 01 34 02.0 +8.0**
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 66.42 331 P **P 01 33 55.9 +0.9**
comp=Z,3.1nm,0.8s,mb4.4,baz=37,slow=6.1,SNR=14
BVAR pP pP 01 34 09.0 +0.2
comp=Z,6.5nm,0.8s,baz=36,slow=5.7,SNR=12
BRVK Borovoye 66.42 331 *eP* **P 01 33 56.2 +1.2**
comp=Z,8.2nm,0.9s,mb4.8
ZRNK Zerenda 66.88 332 *eP* **P 01 33 58.5 +0.6**
comp=Z,9.4nm,0.9s,mb4.8
MKAR Makanchi Array 67.87 321 P **P 01 34 04.7 +0.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=39,slow=8.5,SNR=3.9
MKAR pP pP 01 34 18.4 +0.3
comp=Z,3.9nm,0.9s,baz=49,slow=7.1,SNR=12
WMQ Urumqi 68.21 315 *eP* **P 01 34 08.3 +2.0**
WMQ AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
WMQ AMB AMB
comp=Z,128nm,4.7s
EKA Eskdalemuir Ar 68.81 16 P **P 01 34 10.6 +0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=332,slow=5.1,SNR=8.8
EKA pP pP 01 34 24.5 +0.5
comp=Z,6.0nm,0.8s,baz=324,slow=4.6,SNR=10
CD2 Chengdu 70.92 296 P **P 01 34 31.5 +8.5**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
AKTK Aktyubinsk 71.94 338 P **P 01 34 29.8 +0.7**
AKTK pP pP 01 34 43.5 +0.3
AKTO Aktyubinsk 71.94 338 P **P 01 34 29.8 +0.7**
comp=Z,3.4nm,0.6s,mb4.4,baz=27,slow=3.7,SNR=14
AKTO pP pP 01 34 43.5 +0.3
comp=Z,6.2nm,0.7s,baz=3.4,slow=6.0,SNR=8.7
AAK Ala-Archa 74.28 323 *eP* **P 01 34 51.2 +8.2**
CLL Collm 74.66 7 *eP* pP 01 35 00.0 +0.7
CLL Collm 74.66 7 *i P* pP 01 35 00.1 +0.8
comp=Z,8.0nm,0.9s
BAIF Baives 75.01 13⇑ *iP* pP 01 35 02.8 +1.5
comp=Z,22nm,1.0s
GIVF Givet 75.05 12 *eP* pP 01 35 03.0 +1.5
BRG Berggiesshubel 75.15 6 *eP* pP 01 35 03.5 +1.3
comp=Z,4.5nm,1.1s
MOX Moxa 75.21 8 *eP* pP 01 35 03.7 +1.2
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 75.52 356 P **P 01 34 49.9 -0.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=4.3,slow=5.4,SNR=11
AKASG pP pP 01 35 04.2 -0.1
comp=Z,6.7nm,0.6s,baz=5.5,slow=5.8,SNR=19
AKASG Malin Array Be 75.52 356 P **P 01 34 49.9 -0.2**
AKASG pP pP 01 35 04.2 -0.1
AKBB Malin Array Si 75.52 356 *eP* **P 01 34 49.9 -0.2**
AKBB *e*PcP PcP 01 35 04.5 +1.5
PVCC Panska Ves 75.54 6 *eP* **P 01 34 58.4 +8.2**
PVCC *ep*P pP 01 35 05.6 +1.3
UPC Upice 75.64 5 *eP* **P 01 34 58.5 +7.7**
UPC *ep*P pP 01 35 05.9 +1.0
DPC Dobruska-Polom 75.81 5 *eP* **P 01 35 00.1 +8.3**
DPC *ep*P pP 01 35 07.6 +1.7
KMI Kunming 76.05 293 P **P 01 34 57.0 +3.8**
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
KMI Kunming 76.05 293 P **P 01 34 57.0 +3.8**
comp=Z,6.0nm,1.1s,mb4.4
PRU Pruhonice 76.07 6 *eP* **P 01 35 00.1 +6.8**
PRU *ep*P pP 01 35 08.8 +1.4
GRA1 Grafenberg Arr 76.13 8 *eP* pP 01 35 08.9 +1.2
GRF Grafenberg Arr 76.13 8 *eP* pP 01 35 08.9 +1.2
comp=Z,8.0nm,0.8s
OKC Ostrava-Krasne 76.40 4 *eP* **P 01 35 03.3 +8.2**
OKC *ep*P pP 01 35 10.7 +1.4
KHC Kasperske Hory 76.86 7 *eP* **P 01 35 06.3 +8.5**
KHC *ep*P pP 01 35 13.6 +1.7
STHS Stebnicka Huta 76.90 2 *eP* **P 01 35 06.8 +8.8**
comp=Z,13nm,0.7s,mb5.0
STHS *e* 01 35 14.5
CDF Champ du Feu 77.01 11 *eP* pP 01 35 14.0 +1.3
comp=Z,8.2nm,0.9s
GERES GERESS Array B 77.16 7 P **P 01 34 59.8 +0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=350,slow=5.0,SNR=2.4
GERES pP pP 01 35 14.1 +0.5
comp=Z,3.2nm,0.7s,baz=353,slow=4.4,SNR=15
HAU Haudompre 77.30 12⇑ *iP* pP 01 35 15.7 +1.3
HAU *e*MLR MLR
comp=Z,68nm,19.2s
HAU Haudompre 77.30 12⇑ *iP* pP 01 35 15.7 +1.3
HAU LR LR
comp=Z,70nm,19.3s,MS4.0
KOLS *es*P sP 01 35 19.8 -0.6
KOLS Kolonicke sedl 77.40 1 *ep*P pP 01 35 13.4 -1.5
CRVS Cervenica-Dubn 77.42 1 *ep*P pP 01 35 16.8 +1.8
HYF Humbligny 77.53 14⇑ *iP* pP 01 35 17.3 +1.7
HINF Hinteralfeld 77.54 11⇑ *iP* pP 01 35 17.0 +1.3
comp=Z,6.7nm,0.7s
LOR Lormes 77.70 14⇑ *iP* pP 01 35 17.9 +1.3
comp=Z,26nm,1.1s
LOR *e*MLR MLR
comp=Z,53nm,17.0s
LOR Lormes 77.70 14⇑ *iP* pP 01 35 17.9 +1.3
LOR LR LR
comp=Z,50nm,17.0s,MS3.9
MFF Saint Martin d 77.74 16⇑ *iP* pP 01 35 18.3 +1.5
comp=Z,43nm,1.1s
VYHS *ep*P pP 01 35 18.4 +1.4
VYHS Vyhne 77.77 3 *e*PCP PcP 01 35 11.3 -1.4
KECS Kecovo 77.82 2 *ep*P pP 01 35 18.6 +1.3
SSF Saint Saulge 77.86 14⇑ *iP* pP 01 35 18.8 +1.3
comp=Z,19nm,0.9s
AVF Avril sur Loir 78.10 14⇑ *iP* pP 01 35 20.0 +1.2
comp=Z,26nm,1.0s
BGF Bois d'Agland 78.25 14⇑ *iP* pP 01 35 21.0 +1.3
comp=Z,17nm,0.8s
SMF Signal de Mont 78.31 14⇑ *iP* pP 01 35 21.1 +1.1
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 78.42 15⇑ *iP* pP 01 35 21.8 +1.2
comp=Z,14nm,1.0s
BURAR Bucovina Array 78.71 359⇓ *iP* pP 01 35 21.0 -1.2
RJF Les Rejaudoux 79.27 16 *eP* pP 01 35 26.3 +1.0
RJF *e*MLR MLR
comp=Z,100nm,19.8s
RJF Les Rejaudoux 79.27 16 *eP* pP 01 35 26.3 +1.0
RJF LR LR
comp=Z,100nm,19.8s,MS4.2
LFF La Frestale 79.50 16⇑ *iP* pP 01 35 27.9 +1.3
comp=Z,56nm,1.1s
DRGR 79.54 1⇓ *iP* **P 01 35 21.0 +8.4**
CAF Calviac 79.73 15 *eP* pP 01 35 29.1 +1.3
comp=Z,31nm,1.4s
LPL La Plagne 79.80 12⇑ *iP* pP 01 35 30.5 +2.3
comp=Z,18nm,1.3s
LPG La Plagne 79.82 12⇑ *iP* pP 01 35 30.7 +2.4
ORIF Oris-en-Rattie 80.28 13⇑ *iP* pP 01 35 32.4 +1.6
comp=Z,11nm,1.0s
ORIF *e*MLR MLR
comp=Z,74nm,23.0s
BZS Buzias 80.71 1⇑ *iP* **P 01 35 27.3 +8.4**
MLR Muntele Rosu 80.83 358⇓ *iP* **P 01 35 28.9 +9.4**
GZR Gura Zlata 80.94 1⇓ *iP* **P 01 35 28.8 +8.7**
ETSF Etsaut 81.26 18⇑ *iP* pP 01 35 37.9 +1.8
comp=Z,14nm,0.9s
TIRR Tirgusor 81.79 356⇓ *iP* **P 01 35 33.2 +8.6**
LMR La Mourre 81.92 12⇑ *iP* pP 01 35 40.9 +1.4
comp=Z,10.0nm,0.9s
GUN Gumba 82.30 308 *eP* **P 01 35 36.2 +8.9**
comp=Z,33nm,0.9s,mb5.2
KKN Kakani 82.68 308 *eP* **P 01 35 38.0 +8.7**
comp=Z,11nm,0.8s,mb4.9
GKN Gorkha 82.80 309 *eP* **P 01 35 38.3 +8.4**
PKI Pulchoki 82.81 308 *eP* **P 01 35 37.9 +8.0**
comp=Z,14nm,0.9s,mb5.0
DMN Daman 82.92 308 *eP* **P 01 35 39.0 +8.5**

KOLN Koldanda 83.47 309 *eP* **P 01 35 41.8 +8.4**
comp=Z,20nm,1.0s,mb5.1
ESDC Sonseca Array 83.71 21 P **P 01 35 35.6 +1.0**
comp=Z,0.6nm,0.4s,mb4.0,baz=336,slow=4.6,SNR=11
ESDC pP pP 01 35 49.4 +0.5
comp=Z,3.6nm,0.7s,baz=340,slow=5.0,SNR=13
ESDC LR LR 02 12 07.5
comp=Z,68nm,18.7s,MS4.1,baz=200,slow=35
VTS Vitosha 83.75 0⇑ *iP* **P 01 35 43.4 +8.7**
BR131 Keskin Array S 86.20 352 *eP* **P 01 35 48.6 +1.6**
comp=Z,4.0nm,0.8s,mb4.7
BRTR Keskin Array B 86.20 352 P **P 01 35 48.2 +1.2**
comp=Z,1.5nm,0.9s,mb4.2,baz=19,slow=2.5,SNR=7.8
BRTR pP pP 01 36 02.2 +0.7
comp=Z,5.6nm,0.9s,baz=354,slow=2.0,SNR=18
WRA Warramunga Arr 94.39 242 P **P 01 36 23.2 -2.2**
comp=Z,2.2nm,0.8s,mb4.7,baz=36,slow=5.4,SNR=20
ASAR Alice Springs 97.69 240 P **P 01 36 40.4 -0.1**
comp=Z,0.5nm,0.6s,mb4.2,baz=39,slow=5.0,SNR=8.4
QSPA South Pole Qui 143.82 180 PKPdf PKPdf 01 42 34.7 -5.9
LBTB Lobatse 150.97 356 *e*PKPbc PKPbc 01 42 58.1 -0.1
MAW Mawson 157.02 218 PKPab PKPab 01 43 28.1 -3.3
comp=Z,1.6nm,0.8s,baz=112,slow=4.1,SNR=6.4
VNA3 Neumayer Olymp 157.49 152 *e*PKPdf PKPab 01 43 28.3 -5.2
VNA3 *e* 01 43 31.3
VNA3 *e* 01 43 34.2
VNA1 Neumayer--Stat 158.20 152 *e*PKPdf PKPab 01 43 29.2 -7.4
VNA1 *e* 01 43 31.9
SNAA Sanae 158.95 157 *e*PKPdf PKPab 01 43 34.3 -5.5
SNAA *e* 01 43 36.6

CSEM ***02*** *01:23:28.7±1.3, 3872N×2900W, h6km±4km, ML2.2, Error ellipse: s-maj=10.5km s-min=6.2km az=45.0, After PDA*
PDA ***02*** *01:23:28.7±1.3, 3872N×2900W, h6km±4km, MD3.1, ML2.2, Error ellipse: s-maj=10.5km s-min=6.2km az=45.0*
SVSA 02 01:23:28.7±1.3, 3872N×2900W, h6km±4km, MD3.1, ML2.2, Error ellipse: s-maj=10.5km s-min=6.2km az=45.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.25**	**112**	*i* P	Pg	01 23 33.3	-0.3
PCED				*i* S	Sg	01 23 36.8	-0.1
PCED	509nm,0.1s						
PCED	**Cedros**	**0.25**	**112**	*i* S	Sg	01 23 36.8	-0.1
CALA	**Caldeira**	**0.27**	**122**	*i* P	Pg	01 23 33.4	-0.6
CALA				*e*S	Sg	01 23 37.7	+0.1
CALA	**Caldeira**	**0.27**	**122**	*e*S	Sg	01 23 37.7	+0.1
HOR	**Horta**	**0.35**	**124**	*e*P	Pg	01 23 34.6	-0.8
HOR				*e*S	Sg	01 23 39.3	-0.7
PCND	**Candelaria**	**0.49**	**121**	*e*S	Sg	01 23 44.3	-0.2
PCND	48nm,0.1s						
PICO	**Pico**	**0.50**	**116**	*i* P	Pg	01 23 37.5	-0.8
PICO				*i* S	Sg	01 23 44.2	-0.6
PICO	**Pico**	**0.50**	**116**	*i* S	Sg	01 23 44.2	-0.6
PTEI	**Pico do Teixo**	**0.55**	**114**	*e*P	Pg	01 23 40.2	+0.9
PTEI				*e*S	Sg	01 23 47.2	+0.8
PTEI	71nm,0.3s						
PBOI	**Pico dos Bois**	**0.56**	**120**	*e*P	Pg	01 23 39.7	+0.1
PBOI				*e*S	Sg	01 23 46.3	-0.6
PBOI	40nm,0.2s						
ROSA	**Rosais**	**0.59**	**90**	*e*P	Pg	01 23 38.7	-1.3
ROSA				*e*S	Sg	01 23 45.8	-1.9
PAMA	**Santo Amaro**	**0.64**	**94**	*e*S	Sg	01 23 48.6	-0.7
PAMA	82nm,0.1s						
PMAN	**Manadas**	**0.71**	**97**	*e*S	Sg	01 23 49.3	-2.4
PMAN	44nm,0.2s						
PID	**Ribeirinha**	**0.74**	**112**	*e*P	Pg	01 23 40.6	-2.3
PID				*e*S	Sg	01 23 50.0	-2.6

IDC 02 01:35:56.3±1.9, 4656N×15382E, h0km, mb3.9/5,
mb1 4.0/5, mb1mx3.6/20, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1,
ms1mx2.7/37, Error ellipse: s-maj=77.4km
s-min=32.7km az=81.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**33.72**	**196**	LR	LR	01 55 47.4	
	comp=Z,44nm,18.3s,baz=283,slow=35						
MKAR	**Makanchi Array**	**47.46**	**298**	P	P	01 44 32.2	-0.5
	0.3nm,0.5s,baz=68,slow=7.7,SNR=3.6						
FINES	**FINESS Array B**	**64.42**	**335**	P	P	01 46 34.7	+0.5
	0.9nm,0.5s,baz=38,slow=7.0,SNR=12						
CTA	**Charters Tower**	**66.69**	**188**	P	P	01 46 48.9	0.0
	1.6nm,0.4s,baz=327,slow=17,SNR=3.1						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	P	01 47 01.5	+0.7
	comp=Z,0.5nm,0.7s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.56**	**341**	P	P	01 46 59.5	-1.2
	comp=Z,0.5nm,0.7s,baz=29,slow=6.4,SNR=4.0						
HFS	**Hagfors**	**68.80**	**340**	P	P	01 47 01.3	-1.0
	comp=Z,1.4nm,0.7s,baz=29,slow=6.6,SNR=5.3						

ISCJB ***02*** *01:41:42.0±1.8, 582S×008×15399E±006, h69km±16km, mb4.3/16, Error ellipse: s-maj=13.5km s-min=10.4km az=12.2*
IDC ***02*** *01:41:43.8±2.8, 581S×15400E, h74km±24km, mb3.8/11, mb1 3.9/13, mb1mx3.9/17, mbtmp4.2/13, MS3.5/5, Ms1 3.5/5, ms1mx3.1/28, Error ellipse: s-maj=18.8km s-min=17.9km az=119.0*
BJI ***02*** *01:41:43.0, 580S×15400E, h76km, mb4.9*
NEIC ***02*** *01:41:44.5±1.5, 584S×15396E, h76km±13km, mb4.7/5, Error ellipse: s-maj=13.0km s-min=10.4km az=195.0*
ISC 02 01:41:44.9±1.5, 586S±008×15403E±007, h79km±13km,
n35, σ0=94/35, mb4.3/16, 1D, Bougainville - Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.85**	**122**	P	**Pn**	**01 43 23.2**	**+0.5**
	2.9nm,0.3s,baz=269,slow=3.9,SNR=4.4						
PMG	**Port Moresby**	**7.67**	**242**	P	**Pn**	**01 43 31.7**	**-2.1**
	3.3nm,0.3s,baz=51,slow=9.9,SNR=16						
PMG				S	**Sn**	**01 44 59.8**	**+0.8**
	2.6nm,0.3s,baz=97,slow=20,SNR=11						
PMG				LR	LR	01 46 15.1	
	comp=Z,338nm,20.7s,baz=270,slow=35						
PMG	**Port Moresby**	**7.67**	**242**	*e*Pn	**Pn**	**01 43 32.6**	**-1.2**
PMG				*e*Sn	**Sn**	**01 44 59.6**	**+0.6**
CTA	**Charters Tower**	**16.04**	**207**	LR	LR	01 49 21.9	
	comp=Z,71nm,21.2s,baz=234,slow=28						
DZM	**Mont Dzumac**	**20.09**	**145**	P	**P**	**01 46 12.0**	**0.0**
	14nm,0.8s,baz=332,slow=19,SNR=5.2						
DZM				LR	LR	01 51 50.0	
	comp=Z,87nm,19.1s,baz=217,slow=30						
WRA	**Warramunga Arr**	**23.71**	**232**	P	**P**	**01 46 49.9**	**+0.4**
	1.5nm,0.5s,mb3.6,baz=58,slow=9.7,SNR=23						
AS31	**Alice Springs**	**26.24**	**226**	*e*P	**P**	**01 47 14.0**	**+1.6**
ASAR	**Alice Springs**	**26.24**	**226**	P	**P**	**01 47 12.4**	**0.0**
	1.6nm,0.9s,mb3.5,baz=56,slow=9.2,SNR=12						
ASAR				PcP	PcP	01 50 37.5	+0.4
	3.0nm,0.6s,baz=61,slow=2.5,SNR=12						
STKA	**Stephens Creek**	**28.38**	**203**	P	**P**	**01 47 30.2**	**-1.4**
	0.7nm,0.8s,baz=343,slow=14,SNR=1.8						
FITZ	**Fitzroy Crossi**	**30.26**	**244⇓**	*i*P	**P**	**01 47 47.7**	**-0.6**
	6.6nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.26**	**244**	P	**P**	**01 47 47.7**	**-0.6**
	3.5nm,0.6s,mb4.2,baz=117,slow=5.6,SNR=12						
FITZ				LR	LR	02 00 02.7	
	comp=Z,154nm,19.5s,baz=351,slow=36						
AFI	**Afiamalu**	**34.58**	**106**	P	**P**	**01 48 29.0**	**+3.0**
	20nm,0.7s,mb5.0,baz=197,slow=19,SNR=3.0						
CBIJ	**Chichi jima**	**34.71**	**341**	P	**P**	**01 48 26.6**	**-0.5**
	74nm,0.7s,baz=151,slow=19,SNR=2.3						
CBIJ				LR	LR	02 00 18.7	
	comp=Z,172nm,21.1s,baz=102,slow=32						
TAU	**Tasmania Unive**	**37.37**	**188**	*e*P	**P**	**01 48 50.0**	**+0.1**
	13nm,0.7s,mb5.0						
KULM	**Kulim**	**54.43**	**281**	*e*P	**P**	**01 51 04.5**	**+0.5**
LZH	**Lanzhou**	**62.84**	**316**	*e*P	**P**	**01 52 03.5**	**+1.2**
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	**62.84**	**316**	*e*P	**P**	**01 52 03.5**	**+1.2**
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	01 52 11.0	-12
LZH				sP	sP	01 52 15.0	-16

SONM Songino Array 67.87 327 P **P 01 52 34.5 -0.3**
comp=Z,1.4nm,0.6s,mb4.0,baz=142,slow=5.8,SNR=7.5
LSA Lhasa 69.84 304 P **P 01 52 46.5 -0.6**
VNDA Vanda 71.73 178 P **P 01 52 58.2 -0.3**
comp=Z,1.0nm,0.9s,mb3.6,baz=342,slow=7.0,SNR=5.3
VNDA Vanda 71.73 178 *eP* **P 01 52 58.5 0.0**
comp=Z,1.3nm,0.9s,mb3.8
SBA Scott Base 72.26 177 P **P 01 53 00.5 -1.1**
GUN Gumba 73.72 301 *eP* **P 01 53 11.1 +0.9**
PKI Pulchoki 74.03 301 *eP* **P 01 53 12.7 +0.7**
KKN Kakani 74.19 301 *eP* **P 01 53 13.6 +0.6**
DMN Daman 74.29 301 *eP* **P 01 53 14.2 +0.6**
comp=Z,19nm,0.9s,mb4.8
GKN Gorkha 74.80 301 *eP* **P 01 53 16.0 -0.5**
comp=Z,31nm,1.2s,mb4.9
KOLN Koldanda 75.63 300 *eP* **P 01 53 21.4 +0.1**
comp=Z,19nm,0.8s,mb4.8
MKAR Makanchi Array 81.92 319 P **P 01 53 55.3 -0.5**
comp=Z,0.8nm,0.5s,mb3.8,baz=94,slow=6.3,SNR=6.7
QSPA South Pole Qui 84.11 180 *eP* **P 01 54 07.1 +0.1**
comp=Z,4.9nm,0.6s,mb4.5
MAW Mawson 85.07 203 P **P 01 54 11.5 -0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=89,slow=2.6,SNR=5.0
INK Inuvik 89.00 21 P **P 01 54 29.4 -1.5**
comp=Z,0.7nm,0.5s,mb3.9,baz=229,slow=3.7,SNR=7.3
BVAR Borovoye Array 90.82 323 P **P 01 54 37.2 -2.1**
comp=Z,0.7nm,0.5s,mb4.1,baz=139,slow=3.2,SNR=4.6
ZRNK Zerenda 91.64 323 *eP* **P 01 54 44.7 +1.5**
TORD Torodi Ar. Bea 151.79 287 PKPbc PKPbc 02 01 30.5 +0.1
comp=Z,3.6nm,0.8s,baz=98,slow=2.3,SNR=29
TORD PKPab PKPab 02 01 40.3 +0.7
comp=Z,1.7nm,0.8s,baz=45,slow=1.4,SNR=4.0

IDC ***02*** *01:48:46.7±3.6, 4732N×152.13E, h162km±32km, mb3.6/11, mb1 3.8/12, mb1mx3.5/21, mbtmp4.0/12, Error ellipse: s-maj=19.1km s-min=16.9km az=165.0*
MOS ***02*** *01:48:48.8±1.5, 4740N×152.01E, h195km, mb4.0/9, Error ellipse: s-maj=20.3km s-min=12.6km az=79.2*
ISCJB ***02*** *01:48:50.0±1.3, 474N±0.1×1522E±0.1, h201km±12km, mb3.7/15, Error ellipse: s-maj=21.9km s-min=10.9km az=115.6*
NEIC ***02*** *01:48:51.0±2.2, 4739N×15220E, h203km±22km, mb4.1/3, Error ellipse: s-maj=15.1km s-min=10.6km az=154.0*
ISC 02 01:48:50.8±1.3, 474N±01×1522E±01, h196km±12km, n56,
σ0=86/47, mb3.7/15, 1C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.18**	**37**	*e*PN	**Pn**	**01 49 55.4**	**+0.8**
ASAJ	**Asahikawa**	**7.45**	**247**	P	**Pn**	**01 50 31.6**	**-5.2**
	0.9nm,0.3s,baz=220,slow=27,SNR=3.6						
ASAJ	**Asahikawa**	**7.45**	**247**	PN	**Pn**	**01 50 31.7**	**-5.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.00**	**229**	P	**Pn**	**01 52 13.6**	**+0.6**
MDJ	**Mudanjiang**	**15.91**	**268**	P	**Pn**	**01 52 23.2**	**-1.0**
INCN	**Inchon**	**21.20**	**251**	P	**P**	**01 53 21.4**	**+0.3**
TLY	**Talaya**	**31.30**	**296**	P	**P**	**01 54 51.3**	**-1.1**
IMA2	**Indian Mountai**	**33.66**	**37**	*e*P	**P**	**01 55 12.2**	**-0.7**
COLA	**College**	**36.02**	**39**	*e*P	**P**	**01 55 32.5**	**-0.7**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
COLA	**College**	**36.02**	**39**	*e*P	**P**	**01 55 32.5**	**-0.7**
	comp=Z,5.9nm,1.0s,mb4.1						
INK	**Inuvik**	**41.44**	**33**	P	**P**	**01 56 17.8**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.1,baz=290,slow=7.7,SNR=21						
INK	**Inuvik**	**41.44**	**33**	*e*P	**P**	**01 56 18.1**	**-0.1**
	comp=Z,123nm,0.6s						
MKAR	**Makanchi Array**	**46.06**	**296**	P	**P**	**01 56 53.5**	**-1.4**
	comp=Z,0.2nm,0.4s,mb2.8,baz=74,slow=6.4,SNR=4.7						
MKAR				PcP	PcP	01 58 26.6	-1.2
	comp=Z,0.3nm,0.6s,baz=147,slow=2.5,SNR=3.6						
BVAR	**Borovoye Array**	**49.93**	**309**	PcP	PcP	01 58 41.7	-0.1
	comp=Z,0.6nm,0.4s,baz=90,slow=1.9,SNR=4.1						
YKA	**Yellowknife Ar**	**50.78**	**37**	P	**P**	**01 57 27.9**	**-3.1**
	comp=Z,0.5nm,0.4s,mb3.3,baz=299,slow=6.8,SNR=3.2						
YKA	**Yellowknife Ar**	**50.78**	**37**	P	**P**	**01 57 27.9**	**-3.1**
AKTK	**Aktyubinsk**	**57.79**	**311**	P	**P**	**01 58 20.9**	**-0.6**
AKTO	**Aktyubinsk**	**57.79**	**311**	P	**P**	**01 58 20.9**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.5,baz=58,slow=11,SNR=3.6						
AKTO	**Aktyubinsk**	**57.79**	**311**	P	**P**	**01 58 20.9**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
KAF	**Kangasniemi**	**62.56**	**335**	*e*p	**P**	**01 58 52.2**	**-1.6**
	baz=38,slow=6.2						
NVAR	**Mina Array Bea**	**62.70**	**62**	P	**P**	**01 58 54.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.7,baz=305,slow=5.4,SNR=9.2						
FINES	**FINESS Array B**	**63.16**	**334**	P	**P**	**01 58 57.1**	**-0.6**
	1.5nm,0.4s,mb4.0,baz=48,slow=6.4,SNR=26						
FINES	**FINESS Array B**	**63.16**	**334**	P	**P**	**01 58 57.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**01 59 08.8**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=327,slow=2.5,SNR=5.9						
NB2	**NORSAR Subarra**	**67.38**	**341**	P	**P**	**01 59 24.6**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.38**	**341**	P	**P**	**01 59 24.9**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.0,baz=27,slow=6.3,SNR=15						
NOA	**NORSAR Array B**	**67.38**	**341**	P	**P**	**01 59 24.9**	**0.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**70.63**	**326**	P	**P**	**01 59 44.2**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.1,baz=35,slow=6.2,SNR=17						
AKASG	**Malin Array Be**	**70.63**	**326**	P	**P**	**01 59 44.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**70.63**	**326**	P	**P**	**01 59 44.2**	**-0.6**
ASAR	**Alice Springs**	**72.64**	**198**	P	**P**	**01 59 56.3**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.6,baz=9.9,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**72.64**	**198**	P	**P**	**01 59 56.3**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STHS	**Stebnicka Huta**	**74.61**	**329**	*e*P	**P**	**02 00 09.5**	**+1.2**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
STHS	**Stebnicka Huta**	**74.61**	**329**	*e*P	**P**	**02 00 09.5**	**+1.2**
	comp=Z,1.6nm,0.7s,mb3.8						
KOLS	**Kolonicke sedl**	**74.66**	**328**	*e*P	**P**	**02 00 08.7**	**+0.1**
BURAR	**Bucovina Array**	**74.67**	**326⇓**	*i*P	**P**	**02 00 09.2**	**+0.5**
MORC	**Moravsky Berou**	**75.54**	**332⇓**	*i*P	**P**	**02 00 14.3**	**+0.6**
CLL	**Collm**	**75.59**	**335⇓**	*i*P	**P**	**02 00 13.9**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.3						
MLR	**Muntele Rosu**	**76.14**	**324⇓**	*i*P	**P**	**02 00 18.5**	**+1.5**
VYHS	**Vyhne**	**76.22**	**330**	*e*P	**P**	**02 00 17.8**	**+0.3**
DRGR		**76.30**	**327⇑**	*i*P	**P**	**02 00 18.8**	**+0.9**
VOIR		**76.54**	**325⇓**	*i*P	**P**	**02 00 20.6**	**+1.3**
GZR	**Gura Zlata**	**77.45**	**326⇓**	*i*P	**P**	**02 00 25.0**	**+0.6**
BRTR	**Keskin Array B**	**77.46**	**316**	P	**P**	**02 00 25.5**	**+1.1**
	comp=Z,0.9nm,0.9s,mb3.4,baz=72,slow=4.0,SNR=5.1						
BRTR	**Keskin Array B**	**77.46**	**316**	P	**P**	**02 00 25.5**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**

MOS **02** *02:02:37.5±1.5,2330S×17555W,h33km,mb5.1/15,Error ellipse: s-maj=12.1km s-min=10.6km az=141.1*
BJI **02** *02:02:37.9,2289S×17545W,h26km,mB5.5,mb5.5,Ms5.2, Msz4.8*
ISCJB **02** *02:02:38.3±0.2,2351S±006×17548W±005,h48km, mb5.1/56,MS4.6/23,Error ellipse: s-maj=9.1km s-min=4.6km az=117.7*
NEIC **02** *02:02:39.9±0.2,2344S×17553W,mb5.0/32,Error ellipse: s-maj=9.4km s-min=4.9km az=149.0*
SZGRF **02** *02:02:40.8,2224S×17475W,h33km,Tonga Islands region*
ISC 02 02:40.0±0.2,2357S±005×17544W±005,h50km, h50km±1.4km:pP-P,n440,σ0s77/316,mb5.1/55,MS4.6/23, 67C-76D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.08**	**201**	Pn	**Pn**	**02 04 03.2**	**-4.0**
	81nm,0.3s,baz=219,slow=23,SNR=2.5						
RAO				Sn	**Sn**	**02 05 13.8**	**-1.6**
	193nm,0.3s,baz=91,slow=23,SNR=6.4						
AFI	**Afiamalu**	**10.22**	**20**	Pn	**Pn**	**02 04 53.1**	**-11**
	23nm,0.3s,baz=165,slow=21,SNR=30						
AFI				Sn	**Sn**	**02 06 43.3**	**-14**
	7.9nm,0.3s,baz=28,slow=22,SNR=4.5						
RAR	**Rarotonga**	**14.68**	**84**	Pn	**Pn**	**02 05 53.7**	**-11**
	21nm,0.3s,baz=248,slow=8.0,SNR=30						
RAR				LR	LR	02 10 05.4	
	comp=Z,965nm,18.2s,baz=354,slow=31						
URZ	**Urewera**	**15.97**	**202**	Pn	**Pn**	**02 06 18.5**	**-2.7**
	0.5nm,0.3s,baz=26,slow=23,SNR=3.2						
URZ				Sn	**Sn**	**02 09 05.5**	**-12**
	2.3nm,0.3s,baz=189,slow=14,SNR=9.0						
DZM	**Mont Dzumac**	**16.77**	**272**	*e*P	**Pn**	**02 06 32.7**	**+1.3**
DZM	**Mont Dzumac**	**16.77**	**272**	Pn	**Pn**	**02 06 34.1**	**+2.8**
	2.3nm,0.3s,baz=87,slow=18,SNR=34						
DZM				LR	LR	02 10 27.1	
	comp=Z,377nm,21.7s,baz=82,slow=28						
RPZ	**Rata Peaks**	**22.97**	**206**	P	**P**	**02 07 38.7**	**-1.4**
	7.9nm,0.6s,mb4.3,baz=321,slow=4.9,SNR=4.6						
TBI	**Tubuai**	**23.82**	**95**	*e*LR	LR	02 13 30.8	
	1μm,26.5s,baz=261						
PPT	**Papeete**	**24.92**	**81**	*e*LQ		02 12 54.2	
	718nm,23.5s						
PPT				*e*LR	LR	02 13 55.3	
	1μm,26.8s,baz=253						
PPT	**Papeete**	**24.92**	**81**	LR	LR	02 14 46.1	
	comp=Z,474nm,19.9s,MS4.0,baz=247,slow=29						
HNR	**Honiara**	**27.41**	**297**	P	**P**	**02 08 18.8**	**-2.0**
	33nm,0.5s,mb5.1,baz=270,slow=20,SNR=1.9						
HNR				LR	LR	02 18 09.1	
	comp=Z,338nm,18.5s,MS4.0,baz=180,slow=34						
CTA	**Charters Tower**	**35.66**	**268**	*e*P	**P**	**02 09 32.2**	**-1.0**
	26nm,0.7s,mb5.3						
CTA	**Charters Tower**	**35.66**	**268**	P	**P**	**02 09 33.2**	**0.0**
	31nm,0.7s,mb5.3,baz=99,slow=10,SNR=39						
CTA	**Charters Tower**	**35.66**	**268**	*e*P	**P**	**02 09 32.2**	**-1.0**
CTA				pmax	pmax		
	comp=Z,26nm,0.7s						
CTAO	**Charters Tower**	**35.66**	**268**	*e*P	**P**	**02 09 32.9**	**-0.3**
CTAO				*e**PP	pP	02 09 45.1	-1.1
CTAO	**Charters Tower**	**35.66**	**268**	*e*P	**P**	**02 09 32.9**	**-0.3**
CTAO				*ep*P	pP	02 09 45.1	-1.1
CTAO				*es*P	sP	02 09 51.3	-0.7
TOO	**Toolangi**	**36.15**	**238**	*e*P	**P**	**02 09 38.6**	**+1.2**
	comp=Z,6.8nm,0.7s,mb4.7						
TOO	**Toolangi**	**36.15**	**238**	*e*P	**P**	**02 09 38.6**	**+1.2**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
TAOE	**Nuku Hiva Isla**	**36.78**	**72**	*e*LR	LR	02 19 18.4	
	comp=Z,1μm,28.4s						
RKT	**Rikitea**	**37.07**	**98**	*e*LR	LR	02 19 22.1	
	comp=Z,723nm,29.2s,baz=260						
PMG	**Port Moresby**	**38.39**	**285**	P	**P**	**02 09 55.9**	**-0.5**
	comp=Z,46nm,0.9s,mb5.2,baz=121,slow=5.6,SNR=11						
PMG	**Port Moresby**	**38.39**	**285**	*e*P	**P**	**02 09 55.7**	**-0.7**
STKA	**Stephens Creek**	**38.72**	**248**	*e*P	**P**	**02 09 58.8**	**-0.4**
	comp=Z,5.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**38.72**	**248**	P	**P**	**02 09 59.0**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.4,baz=88,slow=9.2,SNR=16						
STKA				LR	LR	02 25 36.2	
	comp=Z,1μm,18.5s,MS4.8,baz=284,slow=36						
AS31	**Alice Springs**	**46.21**	**259**	*e*P	**P**	**02 10 59.8**	**-0.2**
AS31				*e*PcP	PcP	02 12 36.0	+1.0
ASAR	**Alice Springs**	**46.21**	**259**	P	**P**	**02 10 59.1**	**-0.9**
	comp=Z,13nm,0.7s,mb4.9,baz=98,slow=8.1,SNR=110						
ASAR				S	**S**	**02 17 43.4**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=98,slow=15,SNR=8.3						
ASAR				LR	LR	02 30 17.7	
	comp=Z,927nm,18.6s,MS4.8,baz=103,slow=36						
ASAR	**Alice Springs**	**46.21**	**259**	P	**P**	**02 10 59.1**	**-0.9**
ASAR				S	**S**	**02 17 43.4**	**+0.6**
WRA	**Warramunga Arr**	**46.60**	**264**	P	**P**	**02 11 01.5**	**-1.5**
	comp=Z,19nm,0.8s,mb5.1,baz=101,slow=8.4,SNR=9.0						
WRA				S	**S**	**02 17 57.0**	**+8.5**
	comp=Z,1.0nm,0.9s,baz=104,slow=14,SNR=3.5						
WRA				LR	LR	02 30 43.1	
	comp=Z,691nm,18.0s,MS4.7,baz=100,slow=36						
WRA	**Warramunga Arr**	**46.60**	**264**	P	**P**	**02 11 01.5**	**-1.5**
WRA				S	**S**	**02 17 57.0**	**+8.6**
FORT	**Forrest**	**50.34**	**249**	*e*P	**P**	**02 11 30.8**	**-1.0**
	comp=Z,51nm,0.6s,mb5.7						
KAKA	**Kakadu**	**50.46**	**273**	⇓*i*P	**P**	**02 11 31.3**	**-1.4**
	comp=Z,23nm,0.6s,mb5.4						
GUMO	**Guam**	**53.58**	**309**	LR	LR	02 30 11.7	
	comp=Z,281nm,18.7s,MS4.3,baz=270,slow=31						
SBA	**Scott Base**	**54.99**	**185**	*e*P	**P**	**02 12 09.6**	**+3.4**
SBA				*e**PP	pP	02 12 23.5	+3.7
FITZ	**Fitzroy Crossi**	**55.02**	**264**	*e*P	**P**	**02 12 06.0**	**-0.4**
	comp=Z,22nm,0.7s,mb5.3						
VNDA	**Vanda**	**55.09**	**186**	P	**P**	**02 12 08.4**	**+1.5**
	comp=Z,3.0nm,0.8s,mb4.4,baz=3.7,slow=7.4,SNR=16						
VNDA				LR	LR	02 32 54.9	
	comp=Z,118nm,18.9s,MS4.0,baz=17,slow=33						
KLBR	**Kellerberrin**	**58.96**	**246**	*e*P	**P**	**02 12 33.9**	**-0.3**
	comp=Z,21nm,0.7s,mb5.3						
MBWA	**Marble Bar**	**59.54**	**259**	*e*P	**P**	**02 12 38.1**	**-0.1**
MUN	**Mundaring**	**60.19**	**246**	*e*P	**P**	**02 12 45.0**	**+2.3**
CASY	**Casey**	**62.24**	**206**	*e*P	**P**	**02 12 57.5**	**+0.9**
CASY	**Casey**	**62.24**	**206**	*e*P	**P**	**02 12 57.7**	**+1.1**
	comp=Z,28nm,1.1s,mb5.3						
CASY				*ep*P	pP	02 13 12.2	+1.8
CBIJ	**Chichi jima**	**64.91**	**318**	LR	LR	02 39 04.8	
	comp=Z,409nm,19.1s,MS4.6,baz=139,slow=34						
QSPA	**South Pole Qui**	**66.51**	**180**	*e*P	**P**	**02 13 25.7**	**+1.2**
	comp=Z,23nm,1.0s,mb5.2						
MIR	**Mirnyy**	**69.24**	**205**	*e*P	**P**	**02 13 47.5**	**+5.9**
MIR				*e*	pP	02 13 58.0	+2.3
MIR				*e*		02 14 07.0	
MIR				pmax	pmax		
	comp=Z,25nm,2.0s,mb4.8						
JOW	**Kunigami**	**73.95**	**309**	LR	LR	02 44 36.6	
	comp=Z,355nm,18.1s,MS4.7,baz=32,slow=34						
MJAR	**Matsushiro Arr**	**74.08**	**323**	P	**P**	**02 14 09.3**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.6,baz=158,slow=5.4,SNR=13						
MAJO	**Matsushiro**	**74.08**	**323**	*e*P	**P**	**02 14 10.1**	**-0.7**
MAJO				*e**PP	pP	02 14 22.2	-2.8
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**74.08**	**323**	*e*P	**P**	**02 14 10.1**	**-0.7**
	comp=Z,8.5nm,0.7s,mb4.8						
MAJO				*ep*P	pP	02 14 22.1	-2.8
MAT	**Matsushiro**	**74.08**	**323**	P	**P**	**02 14 08.4**	**-2.4**
ASAJ	**Asahikawa**	**77.55**	**330**	P	**P**	**02 14 31.6**	**+1.0**
	comp=Z,31nm,0.8s,mb5.3,baz=208,slow=9.1,SNR=22						
V04C	**Ramage Ranch,**	**78.31**	**43**	P	**P**	**02 14 35.5**	**+0.8**
	baz=78						
FARB	**Farallon Islan**	**78.37**	**40**	⇑P	**P**	**02 14 34.8**	**-0.3**
	baz=78						
HAST	**UC Hastings Re**	**78.38**	**42**	P	**P**	**02 14 35.2**	**+0.1**
	baz=78,SNR=5.5						
BNLO	**Ben Lomond (Sa**	**78.49**	**41**	⇓P	**P**	**02 14 35.8**	**+0.1**
	baz=79						
JRSC	**Jasper Ridge**	**78.63**	**41**	⇑P	**P**	**02 14 36.2**	**-0.3**
	baz=79						
SAO	**San Andreas Ge**	**78.68**	**41**	*e*P	**P**	**02 14 36.9**	**+0.1**
SAO				*e**PP	pP	02 14 52.2	+1.1
SAO				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
SAO	**San Andreas Ge**	**78.68**	**41**	*e*P	**P**	**02 14 36.9**	**+0.1**
	comp=Z,16nm,1.3s,mb4.8						
SAO				*ep*P	pP	02 14 52.2	+1.1
PKD	**Parkfield**	**78.71**	**43**	⇓P	**P**	**02 14 36.9**	**-0.1**
	baz=79						
PACP	**Pacheco Peak**	**78.94**	**41**	P	**P**	**02 14 38.5**	**+0.3**
	baz=79,SNR=6.5						
CVS	**Carmenet Viney**	**79.12**	**40**	⇓P	**P**	**02 14 39.5**	**+0.3**
	baz=79						
HOPS	**Hopland**	**79.20**	**39**	*e*P	**P**	**02 14 40.3**	**+0.7**
	comp=Z,17nm,1.4s,mb4.8						
HOPS	**Hopland**	**79.20**	**39**	⇑P	**P**	**02 14 39.2**	**-0.5**
	baz=79						
S04C	**Ingram Canyon,**	**79.24**	**41**	P	**P**	**02 14 40.2**	**+0.3**
	baz=79,SNR=6.9						
T05C	**Eagle Field, D**	**79.24**	**42**	⇑P	**P**	**02 14 40.2**	**+0.3**
	baz=79						
ARVC	**Arvin**	**79.27**	**44**	⇓P	**P**	**02 14 39.6**	**-0.5**
	baz=79						
P01C	**Double 8 Ranch**	**79.37**	**38**	⇓P	**P**	**02 14 40.1**	**-0.5**
	baz=80						
MURC	**Murrieta**	**79.39**	**46**	⇓P	**P**	**02 14 40.3**	**-0.4**
	baz=80						
BFSC	**Mount Baldy St**	**79.48**	**45**	⇑P	**P**	**02 14 41.8**	**+0.7**
	baz=80						
MAW	**Mawson**	**79.48**	**199**	*e*P	**P**	**02 14 42.4**	**+1.2**
	comp=Z,7.4nm,1.1s,mb4.5						
MAW	**Mawson**	**79.48**	**199**	P	**P**	**02 14 43.0**	**+1.8**
	comp=Z,7.0nm,0.9s,mb4.6,baz=120,slow=6.9,SNR=16						
MAW				LR	LR	02 49 07.2	
	comp=Z,359nm,19.4s,MS4.7,baz=320,slow=35						
MAW	**Mawson**	**79.48**	**199**	*e*P	**P**	**02 14 42.4**	**+1.2**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MNRC	**McLaughlin Nat**	**79.48**	**39**	⇓P	**P**	**02 14 40.8**	**-0.5**
	baz=80,SNR=6.6						
O01C	**Eel River Cons**	**79.55**	**38**	⇑P	**P**	**02 14 41.1**	**-0.5**
	baz=80						
VES	**Vestal, Richgr**	**79.56**	**43**	⇓P	**P**	**02 14 40.8**	**-0.8**
	baz=80						
Q03C	**Winters**	**79.57**	**40**	⇑P	**P**	**02 14 41.6**	**-0.1**
	baz=80						
EDW2	**Edwards Air Fo**	**79.66**	**45**	⇓P	**P**	**02 14 42.0**	**-0.1**
	baz=80						
YSS	**Yuzh-Sakhalins**	**79.70**	**332**	*oe*P	**P**	**02 14 42.3**	**-0.1**
YSS				*e*		02 14 50.6	
YSS				*e*	pP	02 14 54.8	-1.9
YSS				S	S	02 24 40.0	-1.1
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.7						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
ISA	**Isabella**	**79.83**	**44**	*e*P	**P**	**02 14 43.2**	**+0.1**
ISA	**Isabella**	**79.83**	**44**	P	**P**	**02 14 43.0**	**-0.1**
	baz=80,SNR=5.7						
GASB	**Alder Springs**	**79.84**	**39**	P	**P**	**02 14 43.7**	**+0.6**
	baz=80,SNR=7.2						
PFO	**Pinyon Flat Ob**	**79.89**	**47**	⇑P	**P**	**02 14 42.9**	**-0.5**
	baz=80						
T06C	**Millerton Lake**	**79.91**	**42**	P	**P**	**02 14 43.0**	**-0.5**
	baz=80,SNR=7.2						
KHMM	**Horse Mountain**	**80.10**	**37**	*e*P	**P**	**02 14 45.1**	**+0.6**
HELL	**Mitchell Peak,**	**80.12**	**43**	P	**P**	**02 14 43.9**	**-0.7**
	baz=80,SNR=5.6						
CMB	**Columbia Colle**	**80.15**	**41**	*e*P	**P**	**02 14 44.3**	**-0.5**
CMB	**Columbia Colle**	**80.15**	**41**	P	**P**	**02 14 44.7**	**-0.1**
	baz=80,SNR=12						
O02C	**Red Bluff**	**80.16**	**38**	P	**P**	**02 14 45.5**	**+0.7**
	baz=80,SNR=15						
N02C	**Big Bar**	**80.30**	**37**	⇓P	**P**	**02 14 45.9**	**+0.3**
	baz=80						
KCC	**Kaiser Creek**	**80.35**	**42**	P	**P**	**02 14 46.0**	**+0.1**
	baz=80,SNR=5.2						
OHCM	**Honcut**	**80.35**	**39**	*e*P	**P**	**02 14 45.6**	**-0.2**
LAVA	**Lava Cap Winer**	**80.41**	**40**	P	**P**	**02 14 45.9**	**-0.3**
	baz=80,SNR=5.1						
BELC	**Belle Mtn.**	**80.43**	**47**	⇑P	**P**	**02 14 47.0**	**+0.6**
	baz=80						
O03C	**Acorn Hollow,**	**80.47**	**39**	⇑P	**P**	**02 14 46.4**	**-0.1**
	baz=81						
ORV	**Oroville**	**80.48**	**39**	P	**P**	**02 14 46.3**	**-0.2**
	baz=81,SNR=8.1						
WDC	**Whiskeytown Da**	**80.56**	**38**	*e*P	**P**	**02 14 47.0**	**0.0**
WDC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WDC	**Whiskeytown Da**	**80.56**	**38**	*e*P	**P**	**02 14 47.0**	**0.0**
	comp=Z,9.6nm,1.1s,mb4.6						
WDC	**Whiskeytown Da**	**80.56**	**38**	P	**P**	**02 14 46.9**	**-0.2**
	baz=81,SNR=6.9						
BC3	**Big Chuckw Mtn**	**80.59**	**47**	⇓P	**P**	**02 14 46.3**	**-0.8**
	baz=81						
GLA	**Glamis**	**80.66**	**48**	⇓P	**P**	**02 14 47.4**	**-0.1**
	baz=81						
GSC	**Goldstone**	**80.68**	**45**	*e*P	**P**	**02 14 46.4**	**-1.3**
GSC				*e**PP	pP	02 15 04.4	+2.4
GSC	**Goldstone**	**80.68**	**45**	⇑P	**P**	**02 14 46.8**	**-0.8**
	baz=81						
MPMC	**Manual Prospec**	**80.70**	**44**	P	**P**	**02 14 47.6**	**-0.2**
	baz=81,SNR=6.9						
HEC	**Hector,Ludlow**	**80.71**	**46**	⇓P	**P**	**02 14 47.7**	**-0.1**
	baz=81						
R05C	**Kirkwood Meado**	**80.77**	**41**	P	**P**	**02 14 48.3**	**+0.2**
	baz=81,SNR=5.3						
DAC	**Darwin (Calif)**	**80.77**	**44**	*e*P	**P**	**02 14 49.8**	**+1.7**
DAC				*e**PP	pP	02 15 04.1	+1.6
MTUM	**Tungsten Hills**	**80.83**	**43**	*e*P	**P**	**02 14 48.9**	**+0.4**
MLAC	**Mammoth Lakes**	**80.84**	**42**	⇓P	**P**	**02 14 47.6**	**-0.9**
	baz=81						
P05C	**Yuba Gap, Truc**	**80.84**	**40**	⇑P	**P**	**02 14 48.8**	**+0.3**
	baz=81						
TIN	**Tinemaha**	**80.85**	**43**	⇓P	**P**	**02 14 49.6**	**+1.0**
	baz=81						
M02C	**Callahan**	**80.94**	**37**	⇑P	**P**	**02 14 48.9**	**-0.1**
	baz=81						
R07C	**Lee Vining**	**81.00**	**42**	⇑P	**P**	**02 14 50.0**	**+0.6**
	baz=81						
WAKR	**Walker**	**81.02**	**41**	*e*P	**P**	**02 14 49.6**	**+0.1**
R06C	**Coleville**	**81.03**	**41**	⇑P	**P**	**02 14 49.0**	**-0.5**
	baz=81,SNR=6.1						
L02A	**Cave Junction**	**81.04**	**36**	⇓P	**P**	**02 14 49.5**	**-0.1**
	baz=81						
O05C	**Quincy**	**81.09**	**39**	⇓P	**P**	**02 14 49.3**	**-0.5**
	baz=81						
IRM	**Iron Mountain**	**81.09**	**47**	⇓P	**P**	**02 14 49.7**	**-0.1**
	baz=81						
S08C	**White Mtn Res**	**81.17**	**43**	P	**P**	**02 14 50.9**	**+0.7**
	baz=81,SNR=16						
O04C	**Chester**	**81.22**	**39**	⇓P	**P**	**02 14 51.9**	**+1.4**
	baz=81						
YBH	**Yreka Blue Hor**	**81.25**	**37**	*e*P	**P**	**02 14 51.0**	**+0.3**
YBH				*e**PP	pP	02 15 03.0	-2.0
YBH	**Yreka Blue Hor**	**81.25**	**37**	⇓P	**P**	**02 14 49.8**	**-0.9**
	baz=81,SNR=5.8						
M03C	**McCloud**	**81.27**	**38**	⇑P	**P**	**02 14 51.4**	**+0.6**
	baz=81						
Y12C	**Blythe**	**81.27**	**47**	⇓P	**P**	**02 14 52.2**	**+1.4**
	baz=81						
HATC	**Hat Creek Radi**	**81.33**	**38**	⇑P	**P**	**02 14 52.5**	**+1.4**
	baz=81						
TUQ	**Turquoise Mtn.**	**81.34**	**45**	⇑P	**P**	**02 14 51.8**	**+0.6**
	baz=81						
WCN	**Washoe City**	**81.34**	**40**	⇑P	**P**	**02 14 51.1**	**-0.1**
	baz=81						
BEKR	**Beckwourth**	**81.35**	**40**	⇑P	**P**	**02 14 51.1**	**-0.1**
	baz=82						
FURC	**Furnace Creek,**	**81.36**	**44**	⇓P	**P**	**02 14 51.1**	**-0.1**
	baz=82						
K02A	**Glendale**	**81.52**	**36**	⇓P	**P**	**02 14 52.0**	**-0.1**
	baz=82						
NVAR	**Mina Array Bea**	**81.67**	**42**	P	**P**	**02 14 52.7**	**-0.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=226,slow=10,SNR=28						
NVAR	**Mina Array Bea**	**81.67**	**42**	P	**P**	**02 14 52.7**	**-0.2**
M04C	**Macdoel**	**81.76**	**37**	⇑P	**P**	**02 14 53.6**	**+0.2**
	baz=82						
Y13A	**Salome**	**81.78**	**48**	⇑P	**P**	**02 14 53.4**	**-0.1**
	baz=82						
PAHR	**Pah Rah Range**	**81.82**	**40**	*e*P	**P**	**02 14 54.0**	**+0.3**
	comp=Z,24nm,1.6s,mb4.9						
PAHR				*ep*P	pP	02 15 02.2	-5.8
PDMCI	**Parker Dam,Lak**	**81.85**	**47**	⇑P	**P**	**02 14 53.7**	**-0.1**
	baz=82						
M05C	**Lookout**	**81.87**	**38**	P	**P**	**02 14 54.1**	**+0.1**
	baz=82,SNR=6.3						
S09A	**Goldfield**	**81.90**	**43**	⇓P	**P**	**02 14 53.2**	**-0.9**
	baz=82						
V11A	**Goodsprings**	**81.90**	**45**	⇓P	**P**	**02 14 54.0**	**-0.1**
	baz=82						
L04A	**Klamath Falls**	**82.00**	**37**	⇑P	**P**	**02 14 53.4**	**-1.3**
	baz=82						
Z14A	**Wintersburg**	**82.12**	**49**	⇓P	**P**	**02 14 55.2**	**-0.1**
	baz=82						
M06C	**Likely Place G**	**82.15**	**39**	⇑P	**P**	**02 14 55.3**	**-0.1**
	baz=82						
Q08A	**Gabbs**	**82.16**	**42**	P	**P**	**02 14 55.5**	**0.0**
	baz=82,SNR=6.4						
I02A	**Mapleton**	**82.19**	**35**	⇓P	**P**	**02 14 55.8**	**+0.2**
	baz=82						
V12A	**Nelson**	**82.21**	**46**	⇑P	**P**	**02 14 56.0**	**+0.2**
	baz=82						
J03A	**Ideyld Park**	**82.22**	**36**	⇑P	**P**	**02 14 56.0**	**+0.2**
	baz=82						
N06A	**Buffalo Meadow**	**82.23**	**39**	P	**P**	**02 14 55.5**	**-0.3**
	baz=82,SNR=6.1						
X13A	**Yucca**	**82.23**	**47**	⇓P	**P**	**02 14 55.3**	**-0.5**
	baz=82						
R09A	**Tonopah**	**82.31**	**43**	P	**P**	**02 14 55.9**	**-0.4**
	baz=82,SNR=11						
Y14A	**Wickenburg**	**82.41**	**48**	⇑P	**P**	**02 14 56.7**	**-0.1**
	baz=82						
O07A	**Toulon**	**82.41**	**40**	⇑P	**P**	**02 14 57.0**	**+0.2**
	baz=82						
I03A	**Eugene**	**82.46**	**35**	⇓P	**P**	**02 14 56.5**	**-0.5**
	baz=83						
SHPR	**Sheep Range**	**82.47**	**45**	*e*P	**P**	**02 14 57.6**	**+0.5**
W13A	**Hualapai Mount**	**82.48**	**47**	⇓P	**P**	**02 14 57.0**	**-0.1**
	baz=83						
L05A	**Lakeview**	**82.50**	**38**	P	**P**	**02 14 57.9**	**+0.6**
	baz=83,SNR=6.5						
Q09A	**Carvers**	**82.61**	**42**	⇓P	**P**	**02 14 57.3**	**-0.5**
	baz=83						
MOD	**Modoc**	**82.70**	**38**	*e*P	**P**	**02 14 58.8**	**+0.5**
MOD	**Modoc**	**82.70**	**38**	⇑P	**P**	**02 14 58.2**	**-0.2**
	baz=83						
X14A	**Yava**	**82.79**	**48**	⇑P	**P**	**02 14 58.6**	**-0.1**
	baz=83						
R10A	**Warm Springs**	**82.82**	**43**	P	**P**	**02 14 59.5**	**+0.6**
	baz=83,SNR=12						
U12A	**Valley of Fire**	**82.83**	**45**	⇑P	**P**	**02 14 59.2**	**+0.2**
	baz=83						
K05A	**Summer Lake**	**82.91**	**37**	P	**P**	**02 14 59.4**	**0.0**
	baz=83,SNR=8.0						
H03A	**Soap Creek Ran**	**82.93**	**35**	⇓P	**P**	**02 14 59.3**	**-0.2**
	baz=83						
M07A	**Soldier Meadow**	**83.02**	**39**	P	**P**	**02 15 00.2**	**+0.2**
	baz=83,SNR=5.3						
TUC	**Tucson**	**83.05**	**50**	*e*P	**P**	**02 15 00.2**	**+0.1**
W14A	**Seligman**	**83.09**	**47**	P	**P**	**02 15 01.2**	**+0.9**
	baz=83,SNR=8.3						
J05A	**Fort Rock**	**83.09**	**37**	P	**P**	**02 15 00.7**	**+0.3**
	baz=83,SNR=11						
N08A	**GE Springer Mi**	**83.24**	**40**	⇑P	**P**	**02 15 00.9**	**-0.2**
	baz=83						
X15A	**Humboldt**	**83.25**	**48**	P	**P**	**02 15 01.4**	**+0.3**
	baz=83,SNR=6.7						
GZH	**Guangzhou**	**83.28**	**299**	P	**P**	**02 15 01.5**	**+0.2**
K06A	**Valley Falls**	**83.32**	**37**	P	**P**	**02 15 01.7**	**+0.2**
	baz=83,SNR=8.6						
L07A	**Adell**	**83.33**	**39**	P	**P**	**02 15 01.6**	**+0.1**
	baz=83,SNR=11						
O09A	**Fish Creek Ran**	**83.42**	**41**	⇑P	**P**	**02 15 01.5**	**-0.5**
	baz=84						
H04A	**Detroit Lake**	**83.52**	**35**	⇓P	**P**	**02 15 02.7**	**+0.2**
	baz=84						
M08A	**Happy Creek Ra**	**83.52**	**39**	P	**P**	**02 15 02.9**	**+0.3**
	baz=84,SNR=6.8						
Q11A	**Duckwater**	**83.56**	**43**	P	**P**	**02 15 02.9**	**+0.1**
	baz=84,SNR=6.0						
BMN	**Battle Mountai**	**83.57**	**41**	*e*P	**P**	**02 15 02.7**	**-0.1**
BMN				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
BMN	**Battle Mountai**	**83.57**	**41**	*e*P	**P**	**02 15 02.7**	**-0.1**
	comp=Z,8.2nm,1.1s,mb4.8						
N09A	**Rock Creek Ran**	**83.65**	**40**	⇓P	**P**	**02 15 03.4**	**+0.2**
	baz=84						
NJ2	**Nanjing**	**83.65**	**309**	*e*P	**P**	**02 15 05.6**	**+2.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.7						
I05A	**Bend**	**83.66**	**36**	⇓P	**P**	**02 15 03.8**	**+0.6**
	baz=84						
J06A	**Christmas Vall**	**83.67**	**37**	P	**P**	**02 15 02.6**	**-0.6**
	baz=84,SNR=12						
K07A	**Rock Creek Ran**	**83.81**	**38**	P	**P**	**02 15 03.8**	**-0.3**
	baz=84,SNR=11						
O10A	**Cortez Mining,**	**83.92**	**41**	⇑P	**P**	**02 15 05.1**	**+0.6**
	baz=84						
P11A	**Circle Ranch,**	**83.92**	**42**	⇓P	**P**	**02 15 04.8**	**+0.2**
	baz=84						
H05A	**Madras**	**84.00**	**36**	⇓P	**P**	**02 15 07.4**	**+2.4**
	baz=84						
L08A	**Fields**	**84.01**	**39**	P	**P**	**02 15 05.1**	**0.0**
	baz=84,SNR=10						
M09A	**Marrel Ranch,**	**84.05**	**40**	⇑P	**P**	**02 15 05.8**	**+0.6**
	baz=84						
**E03

GNW *e*pP pP 02 15 26.4 +1.2
N12A Clover Valley, 85.14 41 P **P 02 15 10.9 +0.2**
baz=85,SNR=7.2
B04A Port Angeles 85.14 32 ⇓P **P 02 15 10.1 -0.6**
baz=85
C04A Brinnon 85.17 33 ⇓P **P 02 15 11.0 +0.1**
baz=85
G07A Ruggs Ranch, H 85.24 36 P **P 02 15 10.9 -0.3**
baz=85,SNR=5.4
D05A Enumclaw 85.30 33 ⇑P **P 02 15 10.9 -0.6**
baz=85
H08A Prairie City 85.30 37 ⇑P **P 02 15 11.3 -0.2**
baz=85
E06A Yakima 85.39 34 ⇓P **P 02 15 11.7 -0.2**
baz=86
PLCA Paso Flores 85.45 133 P **P 02 15 12.4 +0.1**
comp=Z,5.3nm,0.8s,mb4.7,baz=235,slow=4.3,SNR=14
PLCA LR LR 02 44 38.8
comp=Z,192nm,20.3s,MS4.5,baz=229,slow=30
PLCA Paso Flores 85.45 133 *e*P **P 02 15 12.7 +0.4**
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 85.45 133 *e*P **P 02 15 12.7 +0.4**
comp=Z,8.1nm,1.0s,mb4.8
I09A Lost Marbles R 85.47 38 ⇓P **P 02 15 11.4 -1.0**
baz=86
F07A Phinny Hill Vi 85.51 35 ⇑P **P 02 15 12.3 -0.2**
baz=86
M12A Wells 85.55 41 ⇓P **P 02 15 13.3 +0.5**
baz=86
MSU Marysvale 85.57 45 *e*P **P 02 15 13.8 +0.9**
VNA1 Neumayer--Stat 85.60 176 ⇓*i*P **P 02 15 13.6 +0.6**
VNA1 *e* 02 15 17.1
VNA1 *e* pP 02 15 28.1 +0.6
VNA1 *e* 02 15 33.8
G08A Pilot Rock 85.64 36 P **P 02 15 13.1 -0.1**
baz=86,SNR=10
N13A Wendover, West 85.65 42 ⇑P **P 02 15 13.4 +0.2**
baz=86
C05A Tolt Reservoir 85.79 33 ⇑P **P 02 15 14.5 +0.5**
baz=86
D06A Cle Elum 85.89 34 ⇑P **P 02 15 14.2 -0.3**
baz=86
H09A Durkee 85.95 37 ⇓P **P 02 15 14.9 +0.1**
baz=86
B05A Bryant 85.97 33 ⇑P **P 02 15 15.4 +0.5**
baz=86
E07A Sunnyside 85.98 35 ⇓P **P 02 15 15.4 +0.5**
baz=86
A04A Legoe Bay, Lum 85.98 32 ⇓P **P 02 15 17.6 +2.7**
baz=86
HAWA Hanford 86.04 35 *e*P **P 02 15 14.9 -0.4**
HAWA *e*pP pP 02 15 29.7 0.0
F08A Pendleton 86.06 36 ⇓P **P 02 15 15.1 -0.2**
baz=86
DUG Dugway 86.13 43 *e*P **P 02 15 15.2 -0.4**
DUG Dugway 86.13 43 ⇑P **P 02 15 15.4 -0.2**
baz=86
CN2 Changchun 86.17 321 *e*P **P 02 15 16.3 +0.4**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.6
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,19.0s,MS5.0
CN2 LR LR
comp=E,300nm,19.0s,MS5.0
CN2 LR LR
comp=Z,200nm,18.0s,MS4.6
BMO Blue Mountains 86.27 37 *e*P **P 02 15 15.7 -0.6**
KLR Kul'dur 86.37 328 *e*P **P 02 15 14.1 -2.7**
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.5
KLR pmax pmax
comp=Z,500nm,11.5s
F09A S2 Ranch, Elgi 86.47 36 ⇓P **P 02 15 17.5 +0.1**
baz=87
A05A Maple Falls 86.48 32 ⇑P **P 02 15 18.2 +0.8**
baz=87
C07A Waterville 86.61 34 ⇑P **P 02 15 17.8 -0.3**
baz=87
MNTX Cornudas Mount 86.63 53 *e*P **P 02 15 17.8 -0.3**
comp=Z,12nm,1.3s,mb5.0
Y22C IRIS PASSCAL I 86.72 51 ⇓P **P 02 15 20.9 +2.4**
baz=87
LENM Lemitar 86.73 51 *e*P **P 02 15 19.4 +0.7**
LAZ Ladron 86.74 50 *e*P **P 02 15 19.0 +0.4**
LAZ *e*pP pP 02 15 32.2 -1.0
D08A Wollman Farm, 86.79 35 ⇓P **P 02 15 18.3 -0.6**
baz=87
E09A Wood Farm, Sta 86.86 36 ⇓P **P 02 15 18.6 -0.6**
baz=87
SRU San Rafael 86.97 45 *e*P **P 02 15 19.8 0.0**
SRU *e**PP pP 02 15 34.5 +0.2
SPUT South Promonto 86.99 42 *e*P **P 02 15 17.7 -2.1**
LPM Los Pinos Moun 87.05 51 *e*P **P 02 15 20.8 +0.6**
B07A Winthrop 87.09 33 ⇓P **P 02 15 19.3 -1.0**
baz=87
D09A Jones Farm, Ri 87.12 35 ⇑P **P 02 15 19.8 -0.7**
baz=87
HLID Hailey 87.13 40 ⇓P **P 02 15 19.5 -1.0**
baz=87
C08A Higginbotham F 87.20 34 ⇓P **P 02 15 20.6 -0.3**
baz=87
MVCO Mesa Verde 87.28 47 ⇓P **P 02 15 21.0 -0.2**
baz=87
ANMO Albuquerque 87.50 50 *e*P **P 02 15 22.7 +0.4**
ANMO pmax pmax
comp=Z,15nm,1.4s
ANMO Albuquerque 87.50 50 *e*P **P 02 15 22.7 +0.3**
comp=Z,15nm,1.4s,mb5.0
TCUT Toone Canyon 87.53 43 *e*P **P 02 15 22.9 +0.4**
PV10 Paradox Valley 87.54 46 *e*P **P 02 15 22.1 -0.4**
PV10 *e*pP pP 02 15 36.5 -0.5
TTA Tatalina 87.58 9 *e*P **P 02 15 22.2 -0.5**
TTA *e**PP pP 02 15 38.0 +0.8
TTA pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
TTA Tatalina 87.58 9 *e*P **P 02 15 22.2 -0.5**
comp=Z,3.9nm,0.6s,mb4.8
TTA *e*pP pP 02 15 38.0 +0.8
C09A Chrisman Ranch 87.61 35 ⇓P **P 02 15 22.5 -0.3**
baz=88
GDL2 Guadalupe Moun 87.62 53 *e*P **P 02 15 23.4 +0.5**
PV01 Paradox Valley 87.72 47 *e*P **P 02 15 22.6 -0.8**
PV01 *e*pP pP 02 15 35.2 -2.7
B09A Rice 88.07 34 ⇑P **P 02 15 24.7 -0.3**
baz=88
A09A Danville 88.20 34 ⇓P **P 02 15 25.3 -0.3**
baz=88
A10A Northport 88.72 34 ⇓P **P 02 15 26.7 -1.5**
baz=89
C12A Trout Creek 89.02 36 ⇓P **P 02 15 29.2 -0.3**
baz=89
REDW Red Top Meadow 89.13 41 *e*P **P 02 15 30.5 +0.4**
comp=Z,16nm,1.7s,mb5.1
SMCO Snowmass 89.33 46 *e*P **P 02 15 30.6 -0.4**
comp=Z,5.0nm,0.9s,mb4.8
IMW Indian Meadow 89.38 41 *e*P **P 02 15 31.3 +0.1**
MOOW Moose Ponds 89.41 41 *e*P **P 02 15 32.5 +1.2**
comp=Z,13nm,1.9s,mb4.9
LOHW Long Hollow 89.42 41 *e*P **P 02 15 31.2 -0.2**
B12A Libby 89.43 35 ⇑P **P 02 15 32.2 +0.8**
baz=90
MCK McKinley 89.47 11 *e*P **P 02 15 32.0 +0.4**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MCK McKinley 89.47 11 *e*P **P 02 15 32.0 +0.4**
comp=Z,4.8nm,0.9s,mb4.8
SDCO Great Sand Dun 89.59 48 *e*P **P 02 15 31.6 -0.6**
comp=Z,8.2nm,1.4s,mb4.9
PDAR Pinedale Array 89.59 42 P **P 02 15 31.3 -0.9**
comp=Z,1.5nm,0.8s,mb4.4,baz=219,slow=2.5,SNR=13
PDAR LR LR 02 50 34.4
comp=Z,118nm,18.4s,MS4.3,baz=261,slow=32
A12A Yaak River Ran 89.68 35 ⇑P **P 02 15 32.3 -0.4**
baz=90
BJT Baijiatuau 89.73 314 *e*P **P 02 15 33.4 +0.6**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 89.73 314 *e*P **P 02 15 33.4 +0.6**
comp=Z,16nm,0.7s,mb5.5
BJI Beijing 89.73 314 P **P 02 15 33.4 +0.5**
BJI AMB AMB
comp=Z,25nm,0.7s,mb5.7
BJI AMB AMB
comp=Z,187nm,5.3s
GYA Guiyang 90.22 299 ⇑*i*P **P 02 15 36.6 +1.5**
GYA AP pP 02 15 51.2 +1.5
GYA XP sP 02 15 55.2 +0.1
GYA PP PP 02 19 13.0 +3.8
GYA SKS 02 26 01.9
GYA S S 02 26 24.6 -0.6
GYA PS PS 02 27 47.5 +10
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,420nm,20.9s,MS5.0
GYA LR LR
comp=E,480nm,21.2s,MS5.0
GYA LR LR
comp=Z,460nm,20.4s,MS4.9
A13A Flathead Natio 90.33 35 ⇑P **P 02 15 34.5 -1.1**
baz=90
WALA Waterton Lakes 90.67 35 *e*P **P 02 15 35.9 -1.4**
WALA *e*pP pP 02 15 51.9 +0.1
COLA College 90.71 11 *e*P **P 02 15 35.9 -1.5**
COLA *e**PP pP 02 15 50.3 -1.6
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
COLA College 90.71 11 *e*P **P 02 15 35.9 -1.6**
comp=Z,6.3nm,0.8s,mb5.0
COLA *e*pP pP 02 15 50.3 -1.7
IMA2 Indian Mountai 90.88 9 P **P 02 15 37.9 -0.3**
NST Nakhon Sawan 91.20 286 P **P 02 15 42.0 +2.3**
DAWY Dawson 91.77 15 *e*P **P 02 15 42.4 0.0**
XAN Xi'an 91.87 306 P **P 02 15 43.9 +1.1**
XAN AMB AMB
comp=Z,39nm,1.0s,mb5.7
EGAK Eagle 91.97 14 *e*P **P 02 15 42.3 -1.0**
EGAK *e*pP pP 02 15 56.5 -1.4
NANT Nan 91.97 290 ⇓P **P 02 15 43.0 -0.3**
comp=Z,550nm,1.0s
EGMT Eagleton 92.36 38 ⇓P **P 02 15 44.3 -0.8**
baz=92
HIA Hailar 92.56 324 *e*P **P 02 15 46.2 +0.2**
HIA pmax pmax
comp=Z,5.0nm,0.5s
HIA Hailar 92.56 324 *e*P **P 02 15 46.2 +0.2**
comp=Z,5.0nm,0.5s,mb5.2
KMI Kunming 92.84 296 ⇑P **P 02 15 49.8 +2.5**
KMI AP pP 02 16 02.2 +0.4
KMI S S 02 26 47.0 -1.9
KMI XS sS 02 27 11.0 -2.5
KMI AMB AMB
comp=Z,28nm,0.9s,mb5.7
KMI AMB AMB
comp=Z,84nm,3.4s
KMI LR LR
comp=N,319nm,15.8s,MS5.0
KMI LR LR
comp=E,328nm,14.3s,MS5.0
KMI LR LR
comp=Z,240nm,14.3s,MS4.8
HKT Hockley 93.08 59 *e*P **P 02 15 47.8 -0.6**
HHC Hu-ho-hao-te 93.19 313 *e*P **P 02 15 49.8 +0.9**
HHC AP pP 02 16 03.6 +0.2
HHC XP sP 02 16 08.1 -0.8
HHC PP PP 02 19 32.4 -0.3
HHC SKS 02 26 18.5
HHC S S 02 26 47.6 -4.3
HHC XS sS 02 27 12.1 -4.5
HHC PS PS 02 28 12.5 +1.9
HHC SS SS 02 33 05.5 -2.4
HHC AMB AMB
comp=Z,25nm,0.9s,mb5.6
HHC AMB AMB
comp=Z,138nm,6.6s
HHC LR LR
comp=N,119nm,9.2s
HHC LR LR
comp=E,237nm,9.2s
HHC LR LR
comp=Z,244nm,20.4s,MS4.7
CHG Chiang Mai 93.50 289 ⇑P **P 02 15 52.6 +2.3**
comp=Z,41nm,0.9s,mb5.9
CHTO Chiang Mai 93.50 289 *e*P **P 02 15 52.6 +2.3**
CHTO pmax pmax
comp=Z,29nm,0.8s,mb5.8
CHTO Chiang Mai 93.50 289 *e*P **P 02 15 52.6 +2.3**
comp=Z,29nm,0.8s,mb5.8
RSSD Black Hills 93.73 43 *e*P **P 02 15 50.8 -0.6**
RSSD pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
RSSD Black Hills 93.73 43 *e*P **P 02 15 50.8 -0.6**
comp=Z,8.0nm,1.1s,mb5.1
BTO Baotou 94.11 313 *e*P **P 02 15 53.0 -0.1**
CD2 Chengdu 94.43 302 *e*P **P 02 15 55.2 +0.6**
CD2 AP pP 02 16 08.7 -0.4
CD2 XP sP 02 16 12.0 -2.6
CD2 PP PP 02 19 45.0 +2.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,8.6s
CD2 LR LR
comp=E,80nm,16.4s
LZH Lanzhou 96.51 306 *e*P **P 02 16 06.0 +1.9**
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,65nm,4.2s
LZH LR LR
comp=N,195nm,12.2s
LZH LR LR
comp=Z,299nm,14.7s,MS4.9
YKA Yellowknife Ar 98.31 24 LR LR 02 55 09.8
comp=Z,100nm,18.1s,MS4.3,baz=95,slow=32
LPAZ La Paz 98.70 112 P **P 02 16 15.9 +2.0**
comp=Z,1.1nm,0.8s,mb4.4,baz=221,slow=5.2,SNR=5.5
LPAZ LR LR 02 55 41.9
comp=Z,71nm,18.5s,MS4.2,baz=309,slow=32
SONM Songino Array 99.62 318 P Pdif 02 16 18.0 0.0
comp=Z,1.4nm,0.8s,baz=66,slow=1.4,SNR=12
GTA Gaotai 100.74 308 *e*P Pdif 02 16 21.2 -1.8
GTA AP 02 16 35.0
GTA XP 02 16 40.2
GTA PP PP 02 20 29.6 -1.2
GTA AMB AMB
comp=Z,2.0nm,1.2s
GTA AMB AMB
comp=Z,66nm,4.2s
GTA LR LR
comp=N,96nm,16.0s,MS4.6
GTA LR LR
comp=E,126nm,17.2s,MS4.6
GTA LR LR
comp=Z,191nm,17.6s,MS4.7
WMQ Urumqi 110.72 310 *e*PKP PKiKP 02 21 09.0 +1.8
WMQ PP PP 02 21 50.0 +5.5
WMQ PPP 02 24 10.0
WMQ PKS 02 24 45.0
WMQ SKS SKSdf 02 28 15.0 -0.1
WMQ PP PP
comp=Z,109nm,4.5s
WMQ LR LR
comp=N,248nm,21.0s,MS4.9
WMQ LR LR
comp=E,283nm,23.6s,MS4.9
WMQ LR LR
comp=Z,298nm,22.4s,MS4.8
MKAR Makanchi Array 115.02 312 PKiKP PKiKP 02 21 14.9 -0.5
comp=Z,1.3nm,0.7s,baz=52,slow=1.6,SNR=8.1
BVAR Borovoye Array 122.95 319 PKP PKPdf 02 21 30.0 -0.7
comp=Z,2.7nm,0.7s,baz=90,slow=1.5,SNR=13
ZRNK Zerenda 123.79 319 *e*PKIKP PKPdf 02 21 30.9 -1.4
BOSA Boshof 124.42 202 PKP PKPdf 02 21 35.0 +1.5
comp=Z,7.9nm,1.2s,baz=215,slow=1.1,SNR=5.7
BOSA Boshof 124.42 202 PKP PKPdf 02 21 35.0 +1.5
ARU Arti 129.07 325 *e*PKIKP PKPdf 02 21 42.2 -0.2
ARU Arti 129.07 325 *e*PKPdf PKPdf 02 21 42.2 -0.2
AKTK Aktyubinsk 130.93 317 PKP PKPdf 02 21 46.3 +0.4
AKTO Aktyubinsk 130.93 317 PKP PKPdf 02 21 46.3 +0.4
comp=Z,2.0nm,0.7s,baz=74,slow=3.9,SNR=9.5
ARCES ARCESS Array B 132.35 350 PKP PKPdf 02 21 48.0 -0.6
comp=Z,2.9nm,0.7s,baz=34,slow=3.1,SNR=7.8
JOF Joensuu 136.77 342 *e*pkp PKPdf 02 21 57.4 +0.6
KAF Kangasniemi 138.74 345 *e*pkp PKPdf 02 21 59.3 -1.2
FINES FINESS Array B 139.37 344 PKP PKPdf 02 22 02.2 +0.6
comp=Z,1.6nm,0.6s,baz=123,slow=7.0,SNR=5.2
NB2 NORSAR Subarra 142.27 355 PKP PKPdf 02 22 02.3 -4.6
comp=Z,1.3nm,0.7s,baz=18,slow=3.1
NOA NORSAR Array B 142.27 355 PKhKP 02 22 02.6
comp=Z,1.6nm,0.7s,baz=16,slow=4.6,SNR=8.3
MNK Minsk 144.55 337 *e*PKHKP 02 22 06.0
ERZM Erzurum 145.01 307 *i* P PKPbc 02 22 13.0 +2.0
BNGL BINGOL 145.43 305 *i* P PKPdf 02 22 14.2 +1.9
MARD Mardin 146.12 302 *i* P PKPdf 02 22 15.6 +2.0
KELT Kelkit 146.47 308 *i* P PKPbc 02 22 17.2 +1.6
SUW Suwalki 146.53 340 *e*P PKPdf 02 22 15.4 +1.2
SUW *e* 02 22 28.7
AKASG Malin Array Be 146.84 331 PKPbc PKPbc 02 22 15.8 -0.9
comp=Z,5.2nm,0.5s,baz=38,slow=4.1,SNR=37
AKBB Malin Array Si 146.84 331 *e*PKP2 PKPab 02 22 15.7 -2.3
MUD Monsted U'grnd 146.98 355 *i* P PKPdf 02 22 16.9 +1.9
comp=Z,24nm,0.8s
MUD Monsted U'grnd 146.98 355 *e*P PKPdf 02 22 16.9 +1.9
ELZG Elazig 147.18 305 *i* P PKPbc 02 22 19.6 +2.0
BSD Bornholm Skovb 147.57 349 *i* P PKPbc 02 22 20.3 +1.6
comp=Z,66nm,1.2s
BSD Bornholm Skovb 147.57 349 *e*P PKPbc 02 22 20.3 +1.6
GZT Gaziantep 148.59 304 *i* P PKPbc 02 22 22.5 +1.1
GKP Gorka Klasztor 148.83 345 *e*P PKPbc 02 22 22.0 0.0
GKP *e*PKP PKPbc 02 22 22.2 +0.2
GKP *e* 02 22 38.8
BOYT Boyabat 149.05 312 *i* P PKPbc 02 22 23.4 +0.9
BSEG Bad Segeberg 149.37 353 *e*PKPbc PKPbc 02 22 23.4 +0.1
CTKT Corum 149.47 311 *i* P PKPbc 02 22 25.2 +1.6
LVV L'vov 149.69 335 *e*PKP2 PKPbc 02 22 23.7 -0.4
COBT Iskenderun 149.83 303 *i* P PKPbc 02 22 25.3 +0.9
BALT Daday 150.02 314 *i* P PKPbc 02 22 26.2 +1.3
ASF Jabal al Asfar 150.25 294 PKPbc PKPbc 02 22 27.2 +1.7
comp=Z,6.8nm,0.8s,baz=340,slow=1.5,SNR=14
ASF PKPab PKPab 02 22 33.4 +1.6
comp=Z,8.9nm,1.0s,baz=295,slow=3.0,SNR=9.3
KWP Kalwaria 150.35 336 *e*P PKPbc 02 22 26.2 +0.5
KWP *e* 02 22 46.4
KWP Kalwaria 150.35 336 *e*PKP PKPbc 02 22 26.2 +0.5
KWP *e* 02 22 46.4
ELDT Eldivan 150.46 312 *i* P PKPbc 02 22 26.7 +0.7
BRTR Keskin Array B 150.64 310 PKPbc PKPbc 02 22 26.9 +0.4
comp=Z,5.4nm,0.8s,baz=138,slow=3.8,SNR=28
BRTR PKPab PKPab 02 22 33.7 +0.3
comp=Z,12nm,0.8s,baz=129,slow=3.3,SNR=22
NRDL Niedersach Rie 150.81 353 *e*PKPbc PKPbc 02 22 26.9 +0.1
OJC Ojcow 150.86 340 *e*PKP PKPdf 02 22 22.6 +1.3
OJC Ojcow 150.86 340 *e*PKP PKPbc 02 22 27.2 +0.3
BURAR Bucovina Array 150.89 331 ⇓*i*P PKPbc 02 22 27.4 +0.4
BHL Bhannes 150.96 298 *e*P PKPbc 02 22 28.2 +1.0
STHS Stebnicka Huta 151.06 337 *e*PKP PKPbc 02 22 28.0 +0.6
KOLS Kolonicke sedl 151.08 335 *e*PKP PKPbc 02 22 28.2 +0.7
ANTO Ankara 151.17 311 ⇓*i*P PKPbc 02 22 28.0 +0.3
ANTO Ankara 151.17 311 *e*PKPbc PKPbc 02 22 27.7 0.0
IBBN Ibbenburen 151.21 356 *e*PKPbc PKPbc 02 22 27.9 +0.2
KSP Ksiaz 151.29 344 *e*P PKPbc 02 22 28.5 +0.6
KSP *e*PKP PKPbc 02 22 28.8 +0.9
KSP Ksiaz 151.29 344 *e*PKP PKPdf 02 22 22.9 +1.0
KSP *e*PKPdf PKPbc 02 22 28.6 +0.7
UZH Uzhgorod 151.32 335 ⇓*i*PKIKP PKPbc 02 22 28.2 +0.2
UZH *i* 02 22 34.2
UZH *i* 02 22 37.0
NIE Niedzica 151.38 338 *e*PKPc PKPbc 02 22 29.1 +0.9
CRVS Cervenica-Dubn 151.41 336 *e*PKP PKPbc 02 22 28.1 -0.1
CLZ Clausthal 151.43 352 *e*PKPbc PKPbc 02 22 28.6 +0.4
VRI Vrincioaia 151.43 327 ⇓*i*P PKPbc 02 22 28.9 +0.6
TIRR Tirgusor 151.46 323 ⇓*i*P PKPbc 02 22 28.8 +0.5
CLL Collm 151.55 349 *e*PKPbc PKPbc 02 22 28.8 +0.3
CLL Collm 151.55 349 *e*PKIKP PKPdf 02 22 23.0 +0.7
CLL *i* 02 22 28.6
CLL *i* 02 22 36.0
CLL Collm 151.55 349 *e*PKPdf PKPdf 02 22 23.0 +0.7
comp=Z,12nm,1.5s
CLL ⇑*i*PKPbc PKPbc 02 22 28.6 +0.1
comp=Z,25nm,0.9s
CLL *i* PKPab PKPab 02 22 36.0 -1.2
comp=Z,20nm,0.9s
CLL *e*pPKPbc pPKPbc 02 22 43.0 -0.5
UPC Upice 151.67 345 *e*PKPbc PKPbc 02 22 29.0 +0.2
UPC Upice 151.67 345 *e*PKP PKPbc 02 22 29.0 +0.2
OKC Ostrava-Krasne 151.71 341 *e*PKPbc PKPbc 02 22 29.2 +0.3
OKC *e*pPKP pPKPdf 02 22 49.6 +12
DPC Dobruska-Polom 151.74 344 *e*PKPbc PKPbc 02 22 29.5 +0.5
BRG Berggiesshubel 151.79 347 *e*PKPbc PKPbc 02 22 29.4 +0.3
BRG Berggiesshubel 151.79 347 *e*PKP PKPdf 02 22 22.9 +0.2
comp=Z,8.7nm,1.6s
BRG Berggiesshubel 151.79 347 *e*PKIKP PKPdf 02 22 22.9 +0.2
BRG *i* 02 22 29.4
BRG Berggiesshubel 151.79 347 *e*PKP PKPdf 02 22 22.9 +0.2
BRG *i* PKP PKPdf 02 22 29.4 +6.8
BRG *i* pPKP pPKPdf 02 22 43.2 +5.4
PVCC Panska Ves 151.99 346 *e*PKPbc PKPbc 02 22 29.9 +0.4
MLR Muntele Rosu 152.08 327 ⇓*i*P PKPbc 02 22 31.1 +1.4
KECS Kecovo 152.12 337 *e*PKP PKPbc 02 22 30.3 +0.5
KDHN Kadinhani 152.22 309 *i* P PKPbc 02 22 28.4 -1.6
MOX Moxa 152.42 350 *e*PKPbc PKPbc 02 22 30.6 +0.1
MOX Moxa 152.42 350 *e*PKP PKPbc 02 22 30.4 -0.1
comp=Z,33nm,1.8s
MOX *e* 02 22 38.1
PRU Pruhonice 152.50 346 *e*PKPbc PKPbc 02 22 30.6 -0.1
PRU *e*pPKP pPKPdf 02 22 44.6 +5.8
TANN Tannenbergstha 152.51 349 *e*PKPbc PKPbc 02 22 30.9 +0.2
CSS Prodhromos 152.55 301 *e*PKPab PKPab 02 22 42.1 +0.7
VOIR 152.57 328 ⇓*i*P PKiKP 02 22 35.2 +4.1
VYHS Vyhne 152.68 339 *e*PKP PKPbc 02 22 31.1 0.0
PSZ Piszkesteto 152.81 337 *e*pPKP pPKPdf 02 22 37.8 -1.5
TREC Trest 152.92 344 *e*PKPbc PKPbc 02 22 31.3 -0.3
MANZ Manzenberg 152.98 349 *e*PKPbc PKPbc 02 22 32.2 +0.5
MEM Membach 152.99 358 PKPbc PKPbc 02 22 32.1 +0.4
MEM PKPab PKPab 02 22 45.0 +1.8
BCLA Clavier 153.19 359 PKPab PKPab 02 22 44.4 +0.3
ULDT Uludag 153.51 314 *i* P PKPbc 02 22 33.6 +0.7
KHC Kasperske Hory 153.52 347 *e*PKPbc PKPbc 02 22 33.5 +0.6
KHC *e*PKPab PKPab 02 22 46.5 +1.1
DOU Dourbes 153.53 360 PKPbc PKPbc 02 22 36.3 +3.4
GEC2 GERESS Array S 153.76 346 *e*PKIKP PKPbc 02 22 32.8 -0.7
GEC2 *e* 02 22 46.4
GERES GERESS Array B 153.76 346 PKPbc PKPbc 02 22 32.7 -0.7
comp=Z,0.9nm,0.7s,baz=345,slow=3.0,SNR=6.0
GERES PKPab PKPab 02 22 45.7 -0.8
comp=Z,2.6nm,0.8s,baz=11,slow=1.4,SNR=6.1
BZS Buzias 154.02 332 ⇑*i*P PKPbc 02 22 32.0 -2.0
SOP Sopron 154.10 341 *e*pPKP PKPbc 02 22 34.2 0.0
BTOK Tokmak 154.43 315 *i* P PKPab 02 22 50.4 +1.1
CDF Champ du Feu 155.12 356 *e*PKP2 PKPab 02 22 51.0 -1.2
comp=Z,7.6nm,0.8s
HAU Haudompre 155.58 357 *e*PKP2 PKPab 02 22 52.9 -1.3
comp=Z,24nm,1.0s
DIVS Divcibare 155.92 332 *e*P PKPdf 02 22 28.7 +0.2
MMB Musomiste 155.94 323 *e*P PKPab 02 22 57.2 +1.4
LOR Lormes 156.35 1 *e*PKP2 PKPab 02 22 56.7 -0.8
SSF Saint Saulge 156.55 2 *e*PKP2 PKPab 02 22 57.3 -1.1
OUR Ouranopolis 156.62 320 *e*P PKPab 02 23 00.1 +1.4
SOH Sokhos 156.66 322 *e*P PKPab 02 22 59.9 +1.0
AVF Avril sur Loir 156.81 2 *e*PKP2 PKPab 02 22 58.0 -1.5
PLG Polygyros 156.90 321 *e*P PKPab 02 23 00.7 +0.8
SMF Signal de Mont 156.97 1 *e*PKP2 PKPab 02 22 58.1 -2.1
GRG Griva 157.10 323 *e*P PKPab 02 23 01.1 +0.3
LIT Litokhoron 157.63 322 *e*P PKPab 02 23 03.8 +0.7
XOR Xorichti 157.70 319 *e*P PKPab 02 23 03.9 +0.5
LPL La Plagne 158.04 356 *e*PKP2 PKPab 02 23 04.7 -0.1
comp=Z,6.0nm,0.8s
AGG Agios Georgios 158.43 320 *e*P PKPab 02 23 06.2 -0.3
ORIF Oris-en-Rattie 158.68 357 *e*PKP2 PKPab 02 23 08.2 +0.6
comp=Z,7.2nm,0.8s
MBDF Montbardon 158.82 356 *e*PKP2 PKPab 02 23 08.1 -0.1
IGT Igoumenitsa 159.22 324 *e*P PKPab 02 23 10.9 +0.9
EVO Evora 161.63 33 *e*PKIKP PKPdf 02 22 36.5 +1.2
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 162.40 22 PKP PKPdf 02 22 35.9 -0.2
comp=Z,0.7nm,0.8s,baz=343,slow=2.5,SNR=5.9
ESDC PKPab PKPab 02 23 24.5 +0.7
comp=Z,0.1nm,0.3s,baz=325,slow=4.7,SNR=3.2
ESDC Sonseca Array 162.40 22 PKP PKPdf 02 22 35.9 -0.2
ESDC PKPab PKPab 02 23 24.5 +0.7
KEST Kesra 167.19 342 PKPab PKPab 02 23 45.4 +0.4
comp=Z,1.3nm,0.8s,baz=231,slow=4.3,SNR=5.2
TORD Torodi Ar. Bea 169.28 165 PKP PKPdf 02 22 41.8 +0.2
comp=Z,2.0nm,0.8s,baz=263,slow=0.2,SNR=11
TORD PKPab PKPab 02 23 55.0 +0.8
comp=Z,2.6nm,1.0s,baz=173,slow=3.3,SNR=9.1

NIED ***02*** *02:18:00, 4680N×15380E, h17km, Mw4.4 Best double couple: M0 3.91000×1015 NP1:φ0=225.00000°, δ88.00000°, λ142.00000°. NP2:φ0=316.00000°, δ52.00000°, λ2.00000°.*
SKHL ***02*** *02:18:23.2±1.3, 4615N×15422E, h54km±16km, mb5.3/2, Ms4.0/4, msh5.5/1*
BJI ***02*** *02:18:25.2, 4685N×15361E, h9km, mB4.8, mb4.5, Ms4.4, Msz4.3*
IDC ***02*** *02:18:25.1±0.6, 4631N×15355E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, ML3.8/2, Error ellipse: s-maj=18.8km s-min=16.1km az=165.0*
ISCJB ***02*** *02:18:26.9±1.5, 4629N±007×15349E±008, h19km±10km, mb4.6/51, MS4.3/4, Error ellipse: s-maj=13.1km s-min=5.9km az=111.6*
NEIC ***02*** *02:18:26.9±0.6, 4626N×15371E, h10km, mb4.7/25, Error ellipse: s-maj=15.0km s-min=9.5km az=145.0*
MOS ***02*** *02:18:28.4±1.4, 4637N×15343E, h27km, mb4.7/31, MS4.0/4, Error ellipse: s-maj=9.4km s-min=7.1km az=110.6*
SZGRF ***02*** *02:18:36.5, 4739N×15443E, h33km, mb4.9, Kuril Islands, Russia*
ISC 02 02:18:30.7±1.5, 4632N±007×15348E±008, h32km±10km, h26km±5.4km: pP-P, n175, σ1§36/179, mb4.6/51, MS4.3/4, 9C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.07**	**257**	*i* P	**Pn**	**02 19 29.2**	**-1.5**
KUR				AMB	AMB	02 19 30.0	
	170nm,0.5s						
KUR				AMB	AMB	02 19 30.0	
	100nm,0.5s						
KUR				AMB	AMB	02 19 30.0	
	700nm,0.5s						
KUR				*e*S	**Sn**	**02 20 18.0**	**+0.7**
KUR				A		02 20 20.0	
	240nm,0.6s						
KUR				A		02 20 33.0	
	3μm,2.0s						
KUR				A		02 20 33.0	
	400nm,2.0s						
KUR	**Kuril'sk**	**4.07**	**257**	⇑*i*PN	**Pn**	**02 19 29.2**	**-1.5**
KUR				*e*S	**Sn**	**02 20 18.0**	**+0.7**
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,100nm,0.5s						
KUR				pmax	pmax		
	comp=Z,700nm,0.5s						
KUR				smax			
	comp=N,240nm,0.6s						
KUR				smax			
	comp=E,400nm,0.6s						
SKR	**Severo-Kuril's**	**4.71**	**21**	*e*P	**Pn**	**02 19 33.0**	**-6.5**
SKR				AMB	AMB	02 19 34.0	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**02 20 25.0**	**-8.0**
SKR				A		02 20 33.0	
	comp=E,100nm,0.8s						
SKR				A		02 20 33.0	
	comp=E,130nm,0.8s						
SKR				A		02 20 33.0	
	comp=E,220nm,0.8s						
SKR				AMS	AMS	02 21 18.0	
	comp=E,2μm,16.0s						
SKR				AMS	AMS	02 21 18.0	
	comp=E,1μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**5.85**	**250**	*e*P	**Pn**	**02 19 55.5**	**+0.4**
YUK				*i* S	**Sn**	**02 21 05.8**	**+4.7**
YUK				A		02 21 15.3	
	comp=E,260nm,0.6s						
YUK				A		02 21 15.3	
	comp=E,390nm,0.6s						
YUK				A		02 21 18.5	
	comp=E,2μm,2.0s						
YUK				A		02 21 18.5	
	comp=E,2μm,1.0s						
NEM2	**Nemuro 2**	**6.24**	**245**	P	**Pn**	**02 19 58.9**	**-1.6**
NEM2				*e*S	**Sn**	**02 21 09.3**	**-1.4**
JRA	**Rausu**	**6.37**	**251**	P	**Pn**	**02 20 00.6**	**-1.7**
JTKR	**Abashiri--Toko**	**7.16**	**254**	P	**Pn**	**02 20 14.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.41**	**279**	*e*PN	**Pn**	**02 20 20.4**	**+3.8**
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.41**	**279**	*e*Pn	**Pn**	**02 20 20.6**	**+4.0**
	comp=E,15nm,0.4s						
JMP	**Maruseppu**	**7.51**	**256**	P	**Pn**	**02 20 19.7**	**+1.7**
JAR	**Ashorobuto**	**7.53**	**250**	P	**Pn**	**02 20 18.8**	**+0.5**
JAR				*e*S	**Sn**	**02 21 42.2**	**-0.4**
JOB	**Onbets**	**7.68**	**247**	*e*S	**Sn**	**02 21 44.3**	**-1.9**
JKK2	**Kamakawa 2**	**7.97**	**256**	P	**Pn**	**02 20 26.1**	**+1.8**
ASAJ	**Asahikawa**	**7.99**	**258**	Pn	**Pn**	**02 20 25.1**	**+0.6**
	comp=E,2.1nm,0.3s,baz=96,slow=20,SNR=11						
ASAJ				Sn	**Sn**	**02 21 48.8**	**-5.1**
	comp=E,0.9nm,0.3s,baz=318,slow=28,SNR=3.0						
ASAJ	**Asahikawa**	**7.99**	**258**	P	**Pn**	**02 20 26.9**	**+2.3**
ASAJ	**Asahikawa**	**7.99**	**258**	PN	**Pn**	**02 20 25.1**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**8.12**	**247**	P	**Pn**	**02 20 25.6**	**-0.8**
JCH				*e*S	**Sn**	**02 21 53.8**	**-3.3**
UGL	**Uglegorsk**	**8.18**	**294**	*e*P	**Pn**	**02 20 30.5**	**+3.4**
UGL				AMS	AMS	02 24 00.0	
	comp=Z,200nm,15.0s						
UGL				AMS	AMS	02 24 00.0	
	comp=Z,500nm,15.0s						
MYR	**Moyori**	**8.34**	**245**	*e*P	**Pn**	**02 20 29.3**	**-0.1**
MYR				*e*S	**Sn**	**02 21 58.1**	**-4.4**
TYV	**Tymovskoe**	**8.49**	**306**	*e*rx	rx	02 22 48.0	
TYV				AMS	AMS	02 24 30.0	
	comp=Z,500nm,15.0s						
TYV				AMS	AMS	02 24 30.0	
	comp=Z,700nm,15.0s						
TYV				AMS	AMS	02 24 30.0	
	comp=Z,600nm,15.0s						
JEM	**Erimo**	**8.57**	**244**	P	**Pn**	**02 20 33.2**	**+0.7**
JEM				*e*S	**Sn**	**02 22 05.6**	**-2.5**
ERM	**Erimo**	**8.57**	**244**	*i* PN	**Pn**	**02 20 34.4**	**+1.9**
ERM	**Erimo**	**8.57**	**244**	*e*Pn	**Pn**	**02 20 34.4**	**+1.8**
	comp=Z,46nm,0.8s						
JNBK	**Urakawa-nobuka**	**8.68**	**246**	P	**Pn**	**02 20 35.0**	**+0.9**
JNBK				*e*S	**Sn**	**02 22 06.8**	**-4.1**
JBT2	**Biratori 2**	**8.69**	**250**	P	**Pn**	**02 20 34.9**	**+0.8**
JKB	**Kayabe**	**9.98**	**248**	P	**Pn**	**02 20 50.6**	**-1.3**
JKB				*e*S	**Sn**	**02 22 38.4**	**-4.4**
JYM2	**Yakumo 2**	**10.30**	**251**	P	**Pn**	**02 20 55.8**	**-0.4**
JTM	**Tenmabayashi**	**10.56**	**243**	P	**Pn**	**02 20 57.4**	**-2.4**
NKL	**Nikolayevsk**	**10.73**	**314**	AMS	AMS	02 26 58.0	
	comp=Z,500nm,14.0s						
NKL				AMS	AMS	02 26 58.0	
	comp=Z,400nm,14.0s						
NKL				AMS	AMS	02 26 58.0	
	comp=Z,600nm,14.0s						
MA2	**Magadan**	**13.38**	**354**	PN	**Pn**	**02 21 38.8**	**+0.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MA2	**Magadan**	**13.38**	**354**	Pn	**Pn**	**02 21 38.8**	**+0.4**
	comp=Z,5.5nm,0.4s						
KLR	**Kul'dur**	**14.89**	**289**	*e*P	**Pn**	**02 21 58.3**	**-0.6**
KLR				MLR	MLR		
	comp=E,500nm,16.0s						
KLR				MLR	MLR		
	comp=Z,700nm,16.0s						
MAJO	**Matsushiro**	**15.03**	**235**	*e*P	**Pn**	**02 22 00.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,25nm,1.0s						
MAJO	**Matsushiro**	**15.03**	**235**	*e*Pn	**Pn**	**02 22 00.7**	**0.0**
	comp=Z,25nm,1.0s						
MAT	**Matsushiro**	**15.03**	**235**	P	**Pn**	**02 22 06.9**	**+6.2**
MJAR	**Matsushiro Arr**	**15.03**	**235**	Pn	**Pn**	**02 22 00.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=37,slow=13,SNR=5.9						
SEY	**Seymchan**	**16.66**	**358**	*i* P	**Pn**	**02 22 14.4**	**-7.4**
MDJ	**Mudanjiang**	**16.83**	**273**	*e*Pn	**Pn**	**02 22 24.8**	**+0.9**
	comp=Z,28nm,1.3s						
CN2	**Changchun**	**19.92**	**273**	*e*P	**Pn**	**02 22 57.3**	**-4.2**
SNY	**Shenyang**	**21.88**	**269**	⇑P	**P**	**02 23 21.4**	**+0.6**
HIA	**Hailar**	**22.75**	**290**	*i* P	**P**	**02 23 27.0**	**-3.1**
BOD	**Bodaibo**	**26.46**	**310**	*e*P	**P**	**02 24 01.9**	**-2.9**
NJ2	**Nanjing**	**30.11**	**254**	*e*P	**P**	**02 24 38.0**	**+0.6**
NJ2				AP	pP	02 24 47.6	+1.1
NJ2				XP	sP	02 24 51.1	+0.7
NJ2				PP	PP	02 25 36.2	-9.4
NJ2				S	**S**	**02 29 34.0**	**-0.1**
NJ2				XS	sS	02 29 50.0	+0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,330nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,19.1s,MS4.8						
NJ2				LR	LR		
	comp=E,2μm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,13.6s						
SONM	**Songino Array**	**31.72**	**290**	P	**P**	**02 24 50.7**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.7,baz=77,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**31.72**	**290**	P	**P**	**02 24 50.7**	**-0.8**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAK	**Zakamensk**	**33.09**	**296**	*e*P	**P**	**02 25 02.2**	**-1.4**
COLA	**College**	**36.32**	**38**	*i* P	**P**	**02 25 31.1**	**-0.4**
KRAR	**Krasnoyarsk**	**38.05**	**307**	*i* P	**P**	**02 25 45.4**	**-0.7**
KRAR				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
LZH	**Lanzhou**	**38.16**	**273**	*e*P	**P**	**02 25 48.5**	**+1.5**
LZH				AP	pP	02 25 53.5	-2.8
LZH				XP	sP	02 25 57.5	-2.6
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,64nm,4.0s						
LZH	**Lanzhou**	**38.16**	**273**	*e*P	**P**	**02 25 48.5**	**+1.5**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	02 25 53.5	-2.8
LZH				sP	sP	02 25 57.5	-2.6
EGAK	**Eagle**	**39.19**	**38**	*e*P	**P**	**02 25 53.9**	**-1.8**
EGAK				*e*pP	pP	02 26 05.8	+0.8
GTA	**Gaotai**	**39.29**	**280**	*e*P	**P**	**02 25 58.3**	**+1.8**
GTA				AP	pP	02 26 02.5	-3.3
GTA				XP	sP	02 26 05.7	-3.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
CD2	**Chengdu**	**41.10**	**266**	P	**P**	**02 26 12.9**	**+1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
INK	**Inuvik**	**41.88**	**32**	P	**P**	**02 26 17.1**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.7,baz=287,slow=7.3,SNR=5.9						
INK	**Inuvik**	**41.88**	**32**	*e*P	**P**	**02 26 16.6**	**-1.3**
	comp=Z,52nm,0.5s,mb5.4						
MKAR	**Makanchi Array**	**47.37**	**298**	P	**P**	**02 27 00.7**	**-1.0**
	comp=Z,5.7nm,0.9s,mb4.5,baz=66,slow=8.4,SNR=26						
MKAR	**Makanchi Array**	**47.37**	**298**	P	**P**	**02 27 00.7**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSA	**Lhasa**	**50.55**	**274**	*e*P	**P**	**02 27 27.7**	**+1.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
LSA	**Lhasa**	**50.55**	**274**	*e*P	**P**	**02 27 27.7**	**+1.6**
	comp=Z,6.5nm,0.3s,mb5.0						
YKA	**Yellowknife Ar**	**51.12**	**37**	P	**P**	**02 27 29.5**	**-0.9**
	comp=Z,3.9nm,0.9s,mb4.3,baz=297,slow=8.0,SNR=3.9						
YKA	**Yellowknife Ar**	**51.12**	**37**	P	**P**	**02 27 29.5**	**-0.9**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**51.33**	**310**	P	**P**	**02 27 30.8**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=53,slow=8.0,SNR=8.2						
BVAR	**Borovoye Array**	**51.33**	**310**	P	**P**	**02 27 30.8**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**51.37**	**310**	*e*P	**P**	**02 27 30.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**51.37**	**310**	*e*P	**P**	**02 27 30.8**	**-1.5**
	comp=Z,2.4nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**52.10**	**310**	*e*P	**P**	**02 27 36.4**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**52.10**	**310**	*e*P	**P**	**02 27 36.4**	**-1.3**
	comp=Z,2.2nm,0.5s,mb4.3						
AAK	**Ala-Archa**	**54.25**	**297**	*d i* P	**P**	**02 27 52.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
AAK	**Ala-Archa**	**54.25**	**297**	*e*P	**P**	**02 27 52.1**	**-1.5**
	comp=Z,4.7nm,1.0s,mb4.4						
JIRN	**Jiri**	**55.23**	**275**	*e*P	**P**	**02 28 02.7**	**+2.1**
	comp=Z,3.9nm,0.3s,mb5.0						
GUN	**Gumba**	**55.29**	**276**	*e*P	**P**	**02 28 02.6**	**+1.5**
	comp=Z,11nm,0.5s,mb5.2						
ARU	**Arti**	**55.50**	**318**	⇓*i*P	**P**	**02 28 00.3**	**-2.3**
ARU				*e*		02 28 55.4	
ARU				*e*		02 30 07.1	
ARU				*e*S	**S**	**02 35 41.9**	**-3.8**
ARU				*e*SSS		02 41 38.8	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**55.50**	**318**	*e*P	**P**	**02 28 00.4**	**-2.2**
	comp=Z,6.5nm,0.6s,mb4.8						
KKN	**Kakani**	**55.78**	**276**	*e*P	**P**	**02 28 06.4**	**+1.8**
	comp=Z,25nm,0.6s,mb5.4						
PKI	**Pulchoki**	**55.83**	**276**	*e*P	**P**	**02 28 06.3**	**+1.4**
	comp=Z,9.7nm,0.6s,mb5.0						
DMN	**Daman**	**56.01**	**276**	*e*P	**P**	**02 28 08.3**	**+2.1**
	comp=Z,27nm,0.7s,mb5.4						
GKN	**Gorkha**	**56.09**	**276**	*e*P	**P**	**02 28 08.5**	**+1.7**
	comp=Z,30nm,0.6s,mb5.5						
KOLN	**Koldanda**	**56.95**	**277**	*e*P	**P**	**02 28 14.9**	**+2.0**
	comp=Z,36nm,0.8s,mb5.4						
YBH	**Yreka Blue Hor**	**57.73**	**62**	P	**P**	**02 28 17.6**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.0,baz=163,slow=11,SNR=2.5						
ARCES	**ARCESS Array B**	**58.34**	**341**	P	**P**	**02 28 20.9**	**-1.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=22,slow=7.6,SNR=7.5						
AKTK	**Aktyubinsk**	**59.20**	**312**	P	**P**	**02 28 27.8**	**-0.9**
AKTO	**Aktyubinsk**	**59.20**	**312**	P	**P**	**02 28 27.8**	**-0.9**
	comp=Z,0.9nm,0.4s,mb4.1,baz=80,slow=7.1,SNR=5.6						
AKTO	**Aktyubinsk**	**59.20**	**312**	P	**P**	**02 28 27.8**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
SUMG	**Summit**	**61.12**	**4**	*e*P	**P**	**02 28 41.5**	**-0.3**
	comp=Z,9.0nm,0.8s,mb5.0						
JOF	**Joensuu**	**61.83**	**334**	*e*p	**P**	**02 28 44.5**	**-2.1**
	comp=Z,1.6nm,0.4s,mb4.5						
JOF	**Joensuu**	**61.83**	**334**	*e*P	**P**	**02 28 44.5**	**-2.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
NVAR	**Mina Array Bea**	**62.41**	**62**	P	**P**	**02 28 49.8**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.9,baz=290,slow=8.0,SNR=3.7						
KAF	**Kangasniemi**	**63.94**	**335**	*e*p	**P**	**02 28 58.3**	**-2.4**
	comp=Z,4.6nm,0.7s,mb4.6,baz=36,slow=6.2						
KAF	**Kangasniemi**	**63.94**	**335**	*e*P	**P**	**02 28 58.3**	**-2.4**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**64.54**	**335**	P	**P**	**02 29 03.4**	**-1.2**
	comp=Z,5.1nm,0.5s,mb4.8,baz=41,slow=7.5,SNR=47						
FINES	**FINESS Array B**	**64.54**	**335**	P	**P**	**02 29 03.4**	**-1.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PDAR	**Pinedale Array**	**64.80**	**54**	P	**P**	**02 29 05.3**	**-0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=306,slow=3.5,SNR=8.4						
OBN	**Obninsk**	**65.81**	**326**	⇑*e*P	**P**	**02 29 12.5**	**-0.3**
OBN				*e*		02 29 45.7	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**68.18**	**199**	P	**P**	**02 29 26.2**	**-1.7**
	comp=Z,1.3nm,0.9s,mb4.0,baz=18,slow=6.7,SNR=5.4						
WRA	**Warramunga Arr**	**68.18**	**199**	P	**P**	**02 29 26.2**	**-1.7**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.72**	**341**	P	**P**	**02 29 30.0**	**-1.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=29,slow=6.5						
NB2	**NORSAR Subarra**	**68.72**	**341**	P	**P**	**02 29 30.0**	**-1.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**68.72**	**341**	P	**P**	**02 29 30.1**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=19						
NOA	**NORSAR Array B**	**68.72**	**341**	P	**P**	**02 29 30.1**	**-1.2**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**71.28**	**315**	*e*P	**P**	**02 29 46.0**	**-1.0**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,86nm,17.0s,MS4.1						
ZEI	**Tsey**	**71.54**	**313**	*e*P	**P**	**02 29 47.4**	**-1.1**
ZEI				*e*PP	pP	02 29 57.8	-0.6
ASAR	**Alice Springs**	**71.88**	**199**	P	**P**	**02 29 50.5**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=14,slow=5.5,SNR=13						
ASAR	**Alice Springs**	**71.88**	**199**	P	**P**	**02 29 50.5**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**72.05**	**326**	P	**P**	**02 29 50.5**	**-1.0**
	comp=Z,3.8nm,0.5s,mb4.6,baz=34,slow=6.3,SNR=20						
AKASG	**Malin Array Be**	**72.05**	**326**	*i* P	**P**	**02 29 50.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKBB	**Malin Array Si**	**72.05**	**326**	*e*P	**P**	**02 29 50.3**	**-1.3**
GNI	**Garni**	**73.00**	**311**	P	**P**	**02 29 58.7**	**+1.4**
	comp=Z,2.5nm,0.5s,mb4.4,baz=162,slow=3.2,SNR=4.0						
GNI	**Garni**	**73.00**	**311**	P	**P**	**02 29 58.7**	**+1.4**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OJC	**Ojcow**	**75.82**	**331**	*e*P	**P**	**02 30 13.4**	**-0.3**
STHS	**Stebnicka Huta**	**76.02**	**330**	*e*P	**P**	**02 30 15.6**	**+0.8**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**76.02**	**330**	*e*P	**P**	**02 30 15.6**	**+0.8**
	comp=Z,4.9nm,0.8s,mb4.5						
KOLS	**Kolonicke sedl**	**76.07**	**329**	*e*P	**P**	**02 30 14.4**	**-0.7**
BURAR	**Bucovina Array**	**76.09**	**327**	⇓*i*P	**P**	**02 30 14.9**	**-0.3**
UPC	**Upice**	**76.78**	**334**	*e*P	**P**	**02 30 20.8**	**+1.7**
DPC	**Dobruska-Polom**	**76.83**	**333**	*e*P	**P**	**02 30 19.1**	**-0.2**
MORC	**Moravsky Berou**	**76.94**	**332**	⇓*i*P	**P**	**02 30 16.5**	**-3.5**
CLL	**Collm**	**76.96**	**336**	*e*P	**P**	**02 30 19.0**	**-1.1**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	**Collm**	**76.96**	**336**	*e*P	**P**	**02 30 19.0**	**-1.1**
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	**Collm**	**76.96**	**336**	*i* P	**P**	**02 30 19.3**	**-0.8**
	comp=Z,9.0nm,0.9s,mb4.7						
CLL				*i* pP	pP	02 30 23.7	-6.4
CLL				*i* PcP	PcP	02 30 30.7	-0.4
KECS	**Kecovo**	**77.08**	**330**	*e*P	**P**	**02 30 20.5**	**-0.3**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	**Kecovo**	**77.08**	**330**	*e*P	**P**	**02 30 20.5**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.2						
BRG	**Berggiesshubel**	**77.08**	**335**	*e*P	**P**	**02 30 21.1**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.1						
BRG	**Berggiesshubel**	**77.08**	**335**	*e*P	**P**	**02 30 21.1**	**+0.3**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MLR	**Muntele Rosu**	**77.56**	**325**	⇑*i*P	**P**	**02 30 24.8**	**+1.3**
VYHS	**Vyhne**	**77.63**	**331**	*e*P	**P**	**02 30 23.6**	**-0.2**
VRAC	**Vranov**	**77.65**	**333**	⇑*i*P	**P**	**02 30 25.3**	**+1.3**
PRU	**Pruhonice**	**77.69**	**334**	*e*P	**P**	**02 30 24.2**	**0.0**
DRGR		**77.72**	**328**	⇓*i*P	**P**	**02 30 15.3**	**-9.0**
VOIR		**77.96**	**326**	⇓*i*P	**P**	**02 30 27.4**	**+1.7**
TREC	**Trest**	**78.01**	**333**	*e*pP	pP	02 30 30.3	-5.6
KHC	**Kasperske Hory**	**78.74**	**334**	*e*P	**P**	**02 30 29.8**	**-0.2**
KHC	**Kasperske Hory**	**78.74**	**334**	⇓*e*P	**P**	**02 30 30.5**	**+0.5**
BRTR	**Keskin Array B**	**78.88**	**317**	P	**P**	**02 30 30.9**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=64,slow=5.4,SNR=9.5						
BRTR	**Keskin Array B**	**78.88**	**317**	P	**P**	**02 30 30.9**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRA1	**Grafenberg Arr**	**78.92**	**336**	*e*P	**P**	**02 30 31.1**	**+0.1**
	comp=Z,9.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**78.92**	**336**	*e*P	**P**	**02 30 31.1**	**+0.1**
	comp=Z,9.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**78.92**	**336**	*e*P	**P**	**02 30 31.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**78.92**	**336**	*e*P	**P**	**02 30 31.1**	**+0.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**78.96**	**334**	P	**P**	**02 30 30.2**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.8,baz=20,slow=4.7,SNR=5.8						
GERES	**GERESS Array B**	**78.96**	**334**	P	**P**	**02 30 30.2**	**-1.0**
GERES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BZS	**Buzias**	**79.11**	**328**	⇑*i*P	**P**	**02 30 31.5**	**-0.6**
KBA	**Koelnbreinsper**	**80.64**	**334**	⇑*i*P	**P**	**02 30 40.0**	**-0.4**
	comp=Z,9.5nm,0.7s,mb4.8						
KBA	**Koelnbreinsper**	**80.64**	**334**	⇑*i*P	**P**	**02 30 40.0**	**-0.3**
KBA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
VTS	**Vitosha**	**81.07**	**325**	⇑*i*P	**P**	**02 30 42.9**	**+0.3**
CDF	**Champ du Feu**	**81.15**	**338**	*e*P	**P**	**02 30 44.6**	**+1.5**
MEZF	**Maizieres J'vi**	**81.63**	**339**	*e*P	**P**	**02 30 48.3**	**+2.7**
HAU	**Haudompre**	**81.77**	**338**	*e*P	**P**	**02 30 48.4**	**+2.1**
HINF	**Hinteralfeld**	**81.81**	**338**	*e*P	**P**	**02 30 47.8**	**+1.3**
LOR	**Lormes**	**83.07**	**340**	*e*P	**P**	**02 30 55.6**	**+2.5**
AVF	**Avril sur Loir**	**83.64**	**340**	*e*P	**P**	**02 30 57.9**	**+1.9**
	comp=Z,12nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**83.64**	**340**	*e*P	**P**	**02 30 57.9**	**+1.9**
AVF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**83.64**	**340**	*e*P	**P**	**02 30 57.9**	**+1.9**
	comp=Z,6.2nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**83.66**	**339**	*e*P	**P**	**02 30 59.0**

INK pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 47.27 298 P **P** **02 29 42.6 -0.5**
comp=Z,0.5nm,0.7s,mb3.6,baz=70,slow=9.4,SNR=2.5
MKAR Makanchi Array 47.27 298 P **P** **02 29 42.6 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 51.18 310 P **P** **02 30 11.9 -1.1**
comp=Z,0.4nm,0.4s,mb3.7,baz=86,slow=8.8,SNR=5.0
NVAR Mina Array Bea 62.25 62 P **P** **02 31 31.9 +0.3**
comp=Z,0.7nm,0.6s,mb4.0,baz=293,slow=8.0,SNR=4.1
FINES FINESS Array B 64.31 335 P **P** **02 31 46.0 +0.8**
comp=Z,1.8nm,0.6s,mb4.3,baz=44,slow=7.5,SNR=9.8
FINES FINESS Array B 64.31 335 P **P** **02 31 46.0 +0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
PDAR Pinedale Array 64.61 54 P **P** **02 31 48.1 +1.0**
comp=Z,0.8nm,0.8s,mb3.8,baz=343,slow=1.5,SNR=5.2
NB2 NORSAR Subarra 68.47 341 P **P** **02 32 12.8 +0.9**
comp=Z,0.2nm,0.7s,mb3.3,baz=31,slow=6.2
NOA NORSAR Array B 68.47 341 P **P** **02 32 12.9 +1.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=27,slow=6.2,SNR=6.4
NOA NORSAR Array B 68.47 341 P **P** **02 32 12.9 +1.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 71.84 326 P **P** **02 32 33.1 +0.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=32,slow=5.9,SNR=5.6
AKASG Malin Array Be 71.84 326 P **P** **02 32 33.1 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 72.15 199 P **P** **02 32 33.1 -1.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=10,slow=6.3,SNR=5.7
ASAR Alice Springs 72.15 199 P **P** **02 32 33.2 -1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 78.73 334 P **P** **02 33 13.2 +1.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=24,slow=12,SNR=3.6

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*ISCJB **02** 02:29:07.7±0.9, 465N±0.1×1533E±02, h10km, mb3.7/9, Error ellipse: s-maj=24.6km s-min=11.0km az=94.4*
*IDC **02** 02:29:07.8±1.1, 4642N×15336E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/22, mbtmp3.7/11, ML3.7/2, Error ellipse: s-maj=29.7km s-min=21.9km az=140.0*
*MOS **02** 02:29:10.9±1.3, 4653N×15326E, h33km, mb4.1/6, Error ellipse: s-maj=25.6km s-min=16.4km az=70.6*
ISC 02 02:29:08.5±5.4, 465N±01×1534E±02, h5km±34km, n20, σ0°73/20, mb3.7/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.56**	**22**	*e*PN		**Pn**	**02 30 17.5**	**-0.6**
ASAJ	**Asahikawa**	**7.97**	**256**	Pn		**Pn**	**02 31 05.0**	**0.0**
	0.9nm,0.3s,baz=282,slow=19,SNR=2.2							
ASAJ	**Asahikawa**	**7.97**	**256**	PN		**Pn**	**02 31 05.0**	**0.0**
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.08**	**234**	Pn		**Pn**	**02 32 42.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=288,slow=38,SNR=3.7							
SONM	**Songino Array**	**31.59**	**290**	P		**P**	**02 35 33.4**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.4,baz=64,slow=9.6,SNR=2.6							
INK	**Inuvik**	**41.76**	**32**	P		**P**	**02 36 59.6**	**+0.9**
	comp=Z,1.6nm,0.8s,mb3.7,baz=342,slow=6.0,SNR=7.2							
INK	**Inuvik**	**41.76**	**32**	P		**P**	**02 36 59.6**	**+0.9**
INK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**47.22**	**298**	P		**P**	**02 37 41.6**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=79,slow=9.1,SNR=8.2							
MKAR	**Makanchi Array**	**47.22**	**298**	P		**P**	**02 37 41.6**	**-0.7**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**02 39 44.4**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=41,slow=4.5,SNR=6.8							
FINES	**FINESS Array B**	**64.34**	**335**	P		**P**	**02 39 44.4**	**-0.8**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**64.74**	**54**	P		**P**	**02 39 48.4**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=327,slow=2.5,SNR=3.4							
NB2	**NORSAR Subarra**	**68.52**	**341**	P		**P**	**02 40 11.6**	**-0.4**
	comp=Z,3.5nm,1.1s,mb4.2,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**02 40 12.0**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=27,slow=6.4,SNR=3.2							
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**02 40 12.0**	**0.0**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**	**02 40 31.7**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=35,slow=7.3,SNR=5.3							
AKASG	**Malin Array Be**	**71.85**	**326**	P		**P**	**02 40 31.7**	**-0.7**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**72.04**	**199**	P		**P**	**02 40 32.6**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=17,slow=6.8,SNR=3.4							
GERES	**GERESS Array B**	**78.76**	**334**	P		**P**	**02 41 12.9**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=145,slow=45,SNR=2.6							
GERES	**GERESS Array B**	**78.76**	**334**	P		**P**	**02 41 12.9**	**+0.8**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.7s							

IDC 02 02:34:45.6±17.0, 1785S×17817W, h609km±175km, mb3.0/3, mb1 3.2/3, mb1mx2.9/13, mbtmp4.1/3, Error ellipse: s-maj=147.2km s-min=93.3km az=114.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.85**	**241**	P		P	02 41 20.2	0.0
	1.6nm,0.7s,baz=91,slow=10,SNR=4.3							
WRA	**Warramunga Arr**	**44.86**	**259**	P		P	02 42 07.6	+0.3
	0.8nm,0.4s,baz=96,slow=6.9,SNR=18							
WRA					PcP	PcP	02 43 35.7	+0.3
	0.8nm,0.9s,baz=91,slow=3.3,SNR=3.0							
ASAR	**Alice Springs**	**45.02**	**254**	P		P	02 42 08.8	+0.4
	3.2nm,0.8s,baz=83,slow=8.7,SNR=24							
GERES	**GERESS Array B**	**147.62**	**345**	PKPbc		PKPbc	02 53 22.2	-0.5
	0.3nm,0.6s,baz=35,slow=2.4,SNR=4.8							

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*ISCJB **02** 03:12:15.8±2.3, 66S±02×1549E±04, h0km, mb4.4/9, Error ellipse: s-maj=63.8km s-min=22.9km az=17.5*
*IDC **02** 03:12:18.2±1.5, 644S×15454E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/12, mbtmp3.6/4, Error ellipse: s-maj=55.5km s-min=36.4km az=119.0*
ISC 02 03:12:16.9±2.4, 67S±02×1550E±05, h0km, n12, σ9°36/10, mb4.4/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**235**	P		**P**	**03 17 33.2**	**-0.2**
	0.6nm,0.7s,mb3.2,baz=57,slow=9.8,SNR=9.5							
ASAR	**Alice Springs**	**26.40**	**228**	P		**P**	**03 17 55.1**	**0.0**
	0.4nm,0.9s,mb3.1,baz=52,slow=11,SNR=3.2							
GUN	**Gumba**	**74.97**	**301**	*e*P		**P**	**03 24 00.6**	**+0.6**
	15nm,0.7s,mb5.1							
PKI	**Pulchoki**	**75.27**	**301**	*e*P		**P**	**03 24 01.7**	**0.0**
KKN	**Kakani**	**75.44**	**301**	*e*P		**P**	**03 24 02.8**	**+0.1**
	8.6nm,0.7s,mb4.9							
DMN	**Daman**	**75.54**	**301**	*e*P		**P**	**03 24 03.8**	**+0.5**
	18nm,0.7s,mb5.3							
GKN	**Gorkha**	**76.05**	**301**	*e*P		**P**	**03 24 06.1**	**-0.1**
	2.0nm,0.2s,mb5.0							
KOLN	**Koldanda**	**76.87**	**300**	*e*P		**P**	**03 24 10.2**	**-0.7**
	8.5nm,0.8s,mb4.9							
MKAR	**Makanchi Array**	**83.17**	**319**	P		**P**	**03 24 44.5**	**-0.4**
	0.7nm,0.8s,mb4.0,baz=106,slow=3.9,SNR=4.8							
MAW	**Mawson**	**84.70**	**203**	P		**P**	**03 24 52.8**	**+0.1**
	0.9nm,0.8s,mb4.0,baz=135,slow=1.4,SNR=2.9							
BDFB	**Brasilia**	**148.19**	**134**	PKPbc		PKPbc	03 32 09.3	+4.5
	1.9nm,0.7s,baz=222,slow=5.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**152.96**	**286**	PKPbc		PKPbc	03 32 15.9	-0.2
	1.1nm,0.7s,baz=96,slow=3.1,SNR=8.9							
TORD				PKPab		PKPab	03 32 27.6	+0.3
	0.3nm,0.7s,baz=73,slow=2.7,SNR=3.6							

IDC 02 03:13:42.1±10.0, 4845N×15164E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=265.0km s-min=38.0km az=164.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**40.77**	**33**	P		P	03 21 24.5	-0.4
	1.4nm,0.8s,baz=280,slow=8.7,SNR=3.3							
MKAR	**Makanchi Array**	**45.30**	**295**	P		P	03 22 01.8	+0.2
	0.5nm,0.7s,baz=72,slow=9.3,SNR=3.2							
FINES	**FINESS Array B**	**62.08**	**334**	P		P	03 24 04.2	-0.4
	2.0nm,0.9s,baz=46,slow=8.2,SNR=5.7							
NB2	**NORSAR Subarra**	**66.30**	**340**	P		P	03 24 31.3	-1.0
	comp=Z,1.0nm,0.7s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**66.30**	**340**	P		P	03 24 31.9	-0.4
	comp=Z,0.8nm,0.6s,baz=28,slow=6.1,SNR=4.9							
AKASG	**Malin Array Be**	**69.58**	**325**	P		P	03 24 51.6	-1.3
	comp=Z,0.5nm,0.4s,baz=32,slow=5.6,SNR=4.5							

MAN 02 03:26:33.6, 903N×12564E, h22km, mb2.9, ML4.3, MS0.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.76**	**348**	*e*P		Pb	03 26 48.1	-0.1
SCPH				*e*S		Sb	03 27 09.1	+11

IDC 02 03:36:15.1±57.0, 1924S×17870W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/20, Error ellipse: s-maj=1044.0km s-min=147.6km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**27.67**	**91**	LR		LR	03 49 45.4	
	comp=Z,173nm,19.6s,baz=155,slow=29							
STKA	**Stephens Creek**	**37.76**	**243**	P		P	03 43 32.8	+0.1
	0.8nm,0.6s,baz=95,slow=12,SNR=2.6							
WRA	**Warramunga Arr**	**44.13**	**261**	P		P	03 44 25.6	+0.4
	0.4nm,0.3s,baz=96,slow=7.5,SNR=18							
ASAR	**Alice Springs**	**44.18**	**256**	P		P	03 44 26.0	+0.4
	1.2nm,0.5s,baz=96,slow=7.7,SNR=20							

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*BJI **02** 03:41:27.4, 662S×147.44E, h35km, mB5.1, mb5.0, Ms4.9, Msz4.5*
*IDC **02** 03:41:33.6±2.1, 594S×14671E, h16km±12km, mb4.7/13, mb1 4.9/18, mb1mx4.9/19, mbtmp4.9/18, ML4.8/4, MS4.5/20, Ms1 4.5/20, ms1mx4.4/25, Error ellipse: s-maj=14.9km s-min=8.9km az=109.0*
*ISCJB **02** 03:41:34.4±0.2, 597S±003×14670E±004, h32km, mb5.0/63, MS4.5/33, Error ellipse: s-maj=5.7km s-min=4.1km az=156.5*
*MOS **02** 03:41:35.0±1.0, 588S×14658E, h33km, mb5.3/20, MS4.2/4, Error ellipse: s-maj=11.2km s-min=6.5km az=89.8*
*NEIC **02** 03:41:36.2±0.2, 596S×14672E, h35km, mb5.1/29, Error ellipse: s-maj=7.0km s-min=5.3km az=105.0*
*GCMT **02** 03:41:36.2±0.2, 607S×14695E, h37km, MW5.2/79, Moment Tensor Solution. s79,c114; s76,c115; Duration: 1s0 Moment tensor: Scale 1017Nm; Mrr0.76±.02; Mθθ-0.40±.01; Mφφ-0.36±.02; Mrθ-0.20±.02; Mrφ0.48±.01; Mθφ-0.01±.02; Best double couple: M0 0.83800×1017 NP1:φs146.00000°, δ41.00000°, λ107.00000°. NP2:φs303.00000°, δ51.00000°, λ75.00000°. Principal axes: T 0.8030, Plg78.0000°, Azm156.0000°; N 0.0700, Plg11.0000°, Azm312.0000°; P -0.8730, Plg5.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 03:41:36.6±0.2, 597S±003×14675E±004, h34km, h34km±1.0km: pP-P, n220, σ1°08/181, mb5.0/63, MS4.5/33, 13C-6D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**173**	Pn		**Pn**	**03 42 27.9**	**+0.1**
	197nm,0.3s,baz=25,slow=4.9,SNR=142							
PMG				Sn		**Sn**	**03 43 08.5**	**+1.1**
	190nm,0.3s,baz=327,slow=20,SNR=3.9							
PMG				Lg			03 43 24.8	
	256nm,0.3s,baz=213,slow=14,SNR=8.8							
PMG				LR		LR	03 44 10.7	
	comp=Z,16μm,18.2s,baz=340,slow=45							
PMG	**Port Moresby**	**3.44**	**173**	*e*Pn		**Pn**	**03 42 27.9**	**0.0**
HNR	**Honiara**	**13.52**	**106**	Pn		**Pn**	**03 44 47.1**	**+1.1**
	12nm,0.3s,baz=104,slow=2.4,SNR=11							
HNR	**Honiara**	**13.52**	**106**	*e*Pn		**Pn**	**03 44 44.9**	**-1.1**
CTA	**Charters Tower**	**14.05**	**182**	⇑*i*P		**Pn**	**03 44 55.0**	**+1.8**
	11nm,0.3s							
CTA	**Charters Tower**	**14.05**	**182**	Pn		**Pn**	**03 44 54.3**	**+1.1**
	3.6nm,0.3s,baz=0.2,slow=14,SNR=17							
CTA				LR		LR	03 50 01.8	
	comp=Z,4μm,20.8s,baz=6.8,slow=36							
CTA	**Charters Tower**	**14.05**	**182**	⇑*i*P		**Pn**	**03 44 55.0**	**+1.8**
CTA					pmax	pmax		
	comp=Z,11nm,0.3s							
CTAO	**Charters Tower**	**14.05**	**182**	*e*P		**Pn**	**03 44 55.2**	**+2.0**
KAKA	**Kakadu**	**15.63**	**244**	*e*P		**Pn**	**03 45 14.9**	**+0.6**
	comp=Z,159nm,0.6s							
WRAB	**Tennant Creek**	**18.39**	**220**	P		**Pn**	**03 45 48.0**	**-0.9**
	comp=Z,382nm,1.0s,SNR=32							
WRAB	**Tennant Creek**	**18.39**	**220**	*d*P		**Pn**	**03 45 48.5**	**-0.4**
WRAB	**Tennant Creek**	**18.39**	**220**	P		**Pn**	**03 45 48.7**	**-0.2**
WRA	**Warramunga Arr**	**18.40**	**220**	P		**Pn**	**03 45 48.9**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=38,slow=11,SNR=68							
WRA				S		**Sn**	**03 49 14.3**	**+0.8**
	baz=38,slow=24,SNR=6.1							
WRA				PcP		PcP	03 50 20.0	+1.3
	comp=Z,1.1nm,0.3s,baz=26,slow=1.8,SNR=9.4							
WRA				ScP		ScP	03 53 53.8	+2.3
	comp=Z,0.1nm,0.3s,baz=34,slow=2.5,SNR=5.4							
WRA				LR		LR	03 53 54.3	
	comp=Z,3μm,18.4s,baz=45,slow=40							
WRA	**Warramunga Arr**	**18.40**	**220**	P		**Pn**	**03 45 48.9**	**-0.1**
WRA				S		**Sn**	**03 49 14.3**	**+0.7**
GUMO	**Guam**	**19.52**	**355**	P		**Pn**	**03 46 01.4**	**-1.0**
	comp=Z,4.6nm,0.3s,baz=204,slow=19,SNR=2.4							
GUMO				LR		LR	03 52 30.2	
	comp=Z,392nm,22.0s,baz=159,slow=34							
GUMO	**Guam**	**19.52**	**355**	P		**Pn**	**03 46 01.4**	**-1.0**
GUMO				LR		LR	03 52 30.2	
AS31	**Alice Springs**	**21.51**	**214**	*e*P		**P**	**03 46 22.7**	**+0.1**
ASAR	**Alice Springs**	**21.51**	**214**	P		**P**	**03 46 22.7**	**+0.1**
	comp=Z,14nm,0.4s,mb4.8,baz=52,slow=9.1,SNR=169							
ASAR				S		**S**	**03 50 22.1**	**+2.9**
	comp=Z,11nm,1.0s,baz=34,slow=20,SNR=6.2							
ASAR				ScP		ScP	03 54 01.3	+2.5
	comp=Z,3.3nm,0.9s,baz=37,slow=3.0,SNR=4.9							
ASAR				LR		LR	03 55 44.7	
	comp=Z,3μm,19.6s,MS4.7,baz=44,slow=40							
ASAR	**Alice Springs**	**21.51**	**214**	P		**P**	**03 46 22.7**	**+0.1**
ASAR				S		**S**	**03 50 22.1**	**+3.0**
FITZ	**Fitzroy Crossi**	**23.88**	**238**	*e*P		**P**	**03 46 45.3**	**-1.7**
	comp=Z,98nm,0.6s,mb5.4							
FITZ	**Fitzroy Crossi**	**23.88**	**238**	P		**P**	**03 46 46.6**	**-0.4**
	comp=Z,27nm,0.7s,mb4.8,baz=69,slow=8.6,SNR=74							
FITZ				LR		LR	03 57 20.2	
	comp=Z,3μm,19.2s,MS4.7,baz=75,slow=40							
ARMA	**Armidale**	**24.75**	**170**	*e*P		**P**	**03 46 53.0**	**-2.0**
DZM	**Mont Dzumac**	**24.87**	**132**	*e*P		**P**	**03 46 55.4**	**-0.7**
DZM	**Mont Dzumac**	**24.87**	**132**	P		**P**	**03 46 55.6**	**-0.4**
	comp=Z,42nm,0.9s,mb5.0,baz=315,slow=6.7,SNR=25							
DZM				LR		LR	03 53 41.7	
	comp=Z,301nm,20.4s,MS3.8,baz=226,slow=29							
STKA	**Stephens Creek**	**26.23**	**190**	⇑*i*P		**P**	**03 47 06.8**	**-1.6**
	comp=Z,14nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**26.23**	**190**	P		**P**	**03 47 07.0**	**-1.4**
	comp=Z,7.0nm,0.3s,mb4.6,baz=354,slow=7.8,SNR=49							
STKA				ScP		ScP	03 54 13.0	+1.4
	comp=Z,4.1nm,0.9s,baz=81,slow=5.7,SNR=3.6							
STKA				LR		LR	03 58 20.1	
	comp=Z,3μm,18.7s,MS4.9,baz=9.7,slow=38							
STKA	**Stephens Creek**	**26.23**	**190**	*e*P		**P**	**03 47 06.6**	**-1.7**
MBWA	**Marble Bar**	**30.22**	**237**	*e*P		**P**	**03 47 43.1**	**-0.9**
	comp=Z,19nm,0.9s,mb4.8							
FORT	**Forrest**	**30.29**	**213**	*e*P		**P**	**03 47 44.5**	**-0.1**
	comp=Z,13nm,0.6s,mb4.8							
TOO	**Toolangi**	**31.48**	**182**	*e*P		**P**	**03 48 02.3**	**+7.2**
	comp=Z,17nm,0.9s,mb4.9							
TOO	**Toolangi**	**31.48**	**182**	*e*P		**P**	**03 48 02.3**	**+7.2**
TOO					pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9							
KSM	**Kuching**	**37.13**	**280**	*e*P		**P**	**03 48 44.9**	**+0.9**
KSM				*e*pP		pP	03 48 53.1	-0.8
KLBR	**Kellerberrin**	**37.23**	**223**	*e*P		**P**	**03 48 43.6**	**-1.3**
	comp=Z,50nm,1.3s,mb5.2							
NWAO	**Narrogin (SRO)**	**38.39**	**222**	LR		LR	04 05 50.4	
	comp=Z,1μm,19.7s,MS4.8,baz=46,slow=38							
NWAO	**Narrogin (SRO)**	**38.39**	**222**	*e*P		**P**	**03 48 54.2**	**-0.5**
NWAO					pmax	pmax		
	comp=Z,7.0nm,0.6s							
NWAO	**Narrogin (SRO)**	**38.39**	**222**	*e*P		**P**	**03 48 54.2**	**-0.5**
	comp=Z,7.0nm,0.6s,mb4.6							
MUN	**Mundaring**	**38.52**	**224**	*e*P		**P**	**03 48 57.5**	**+1.8**
NACB	**Ninganchiao**	**38.72**	**322**	*e*P		**P**	**03 48 57.6**	**+0.2**
NACB				*e*pP		pP	03 49 05.7	-1.6
YHNB	**Yeheng**	**39.22**	**322**	*e*P		**P**	**03 49 02.1**	**+0.5**
YHNB				*e*pP		pP	03 49 09.8	-1.7
YHNB				*e*sP		sP	03 49 13.5	-2.0
TATO	**Taipei**	**39.37**	**322**	*e*P		**P**	**03 49 03.9**	**+1.0**
QZH	**Quanzhou**	**41.17**	**319**	⇑*i*P		**P**	**03 49 18.1**	**+0.3**
QZH					AMB	AMB		
	comp=Z,90nm,0.8s,mb5.5							
AFI	**Afiamalu**	**41.55**	**104**	P		**P**	**03 49 22.9**	**+2.1**
	comp=Z,17nm,0.7s,mb4.8,baz=284,slow=19,SNR=2.2							
MJAR	**Matsushiro Arr**	**43.03**	**350**	P		**P**	**03 49 32.3**	**-0.6**
	comp=Z,4.7nm,0.9s,mb4.2,baz=177,slow=7.5,SNR=13							
MJAR					ScP	ScP	03 55 14.7	+3.4
	comp=Z,1.5nm,0.8s,baz=143,slow=4.8,SNR=4.4							
MJAR					LR	LR	04 04 53.4	
	comp=Z,179nm,19.0s,MS4.0,baz=185,slow=33							
MAJO	**Matsushiro**	**43.03**	**350**	*e*P		**P**	**03 49 33.2**	**+0.2**
MAT	**Matsushiro**	**43.03**	**350**	P		**P**	**03 49 32.4**	**-0.6**
MAT				S		**S**	**03 55 43.0**	**-13**
QIZ	**Qiongzhong**	**44.03**	**305**	P		**P**	**03 49 41.3**	**+0.3**
QIZ				S		**S**	**03 56 11.1**	**+0.1**
QIZ				AMB		AMB		
	comp=Z,65nm,1.7s,mb5.1							
QIZ				LR		LR		
	comp=Z,875nm,23.0s,MS4.6							
SSE	**Sheshan**	**44.22**	**328**	P		**P**	**03 49 44.0**	**+1.5**
SSE				AP		pP	03 49 55.3	+2.8
SSE				XP		sP	03 50 00.3	+3.7
SSE				S		**S**	**03 56 16.0**	**+2.3**
SSE				XS		sS	03 56 35.4	+5.2
SSE				AMB		AMB		
	comp=Z,36nm,0.9s,mb5.1							
SSE				AMB		AMB		
	comp=Z,114nm,3.9s							
SSE				LR		LR		
	comp=N,128nm,20.5s,MS4.1							
SSE				LR		LR		
	comp=E,185nm,20.5s,MS4.1							
SSE				LR		LR		
	comp=Z,269nm,22.0s,MS4.1							
NJ2	**Nanjing**	**46.22**	**327**	*e*P		**P**	**03 49 58.2**	**-0.1**
NJ2				AP		pP	03 50 08.9	+0.5
NJ2				XP		sP	03 50 12.2	-0.2
NJ2				PP		PP	03 51 46.2	-0.9
NJ2				S		**S**	**03 56 40.0**	**-2.5**
NJ2				AMB		AMB		
	comp=Z,140nm,1.3s,mb5.7							
NJ2				AMB		AMB		
	comp=Z,370nm,4.2s							
NJ2				LR		LR		
	comp=N,1μm,23.1s,MS5.0							
NJ2				LR		LR		
	comp=E,1μm,22.0s,MS5.0							
NJ2				LR		LR		
	comp=Z,2μm,23.6s,MS5.0							
KS15	**Wonju Array Si**	**46.63**	**339**	*e*P		**P**	**03 50 02.3**	**+0.7**
KULM	**Kulim**	**47.37**	**283**	*e*P		**P**	**03 50 08.1**	**+0.8**
KULM				*e*pP		pP	03 50 17.4	0.0
WHN	**Wuhan**	**47.75**	**321**	*e*P		**P**	**03 50 11.7**	**+1.3**
PSI	**Prapat**	**48.55**	**279**	P		**P**	**03 50 16.6**	**0.0**
	comp=Z,32nm,1.2s,mb5.2,baz=126,slow=4.6,SNR=14							
GYA	**Guiyang**	**50.48**	**312**	⇑*i*P		**P**	**03 50 32.0**	**+0.8**
GYA				AP		pP	03 50 41.9	+0.6
GYA				XP		sP	03 50 45.8	+0.4
GYA				PP		PP	03 52 28.7	+1.7
GYA				SCP		ScP	03 55 41.6	-0.8
GYA				S		**S**	**03 57 42.9**	**+0.3**
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,160nm,6.2s							
GYA				LR		LR		
	comp=N,540nm,18.9s,MS4.7							
GYA				LR		LR		
	comp=E,480nm,19.0s,MS4.7							
GYA				LR		LR		
	comp=Z,510nm,19.4s,MS4.5							
NST	**Nakhon Sawan**	**50.92**	**296**	P		**P**	**03 50 35.0**	**+0.5**
NANT	**Nan**	**51.62**	**300**	⇓*i*P		**P**	**03 50 48.0**	**+8.2**
	comp=Z,100nm,1.0s,mb5.7							
SNY	**Shenyang**	**52.06**	**338**	⇑P		**P**	**03 50 42.7**	**-0.4**
SNY				AP		pP	03 50 52.7	-0.6
SNY				XP		sP	03 50 58.7	+1.4
SNY				S		**S**	**03 58 01.7**	**-2.8**
SNY				AMB		AMB		
	comp=Z,16nm,1.2s,mb4.8							
SNY				AMB		AMB		
	comp=Z,215nm,4.4s							
SNY				LR		LR		
	comp=N,331nm,21.6s,MS4.5							
SNY				LR		LR		
	comp=E,316nm,21.8s,MS4.5							
SNY				LR		LR		
	comp=Z,514nm,23.3s,MS4.5							
MDJ	**Mudanjiang**	**52.66**	**345**	P		**P**	**03 50 47.4**	**-0.1**
MDJ				AP		pP	03 50 56.5	-1.2
MDJ				XP		sP	03 51 00.3	-1.4
MDJ				PCP		PcP	03 51 57.3	+0.2
MDJ				PP		PP	03 52 46.5	-0.3
MDJ				S		**S**	**03 58 12.1**	**-0.7**
MDJ				SS		SS	04 01 52.5	+1.1
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,73nm,5.2s							
MDJ				LR		LR		
	comp=N,163nm,30.0s,MS4.1		

comp=E,400nm,17.0s,MS4.8
CN2 LR LR
comp=Z,800nm,18.0s,MS4.8
CHG Chiang Mai 53.16 299 ⇑P **P 03 50 52.0 +0.9**
comp=Z,19nm,1.1s,mb4.9
CHTO Chiang Mai 53.16 299 *e*P **P 03 50 51.4 +0.3**
CHTO *e**PP pP 03 51 01.1 -0.3
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 53.16 299 *e*P **P 03 50 51.4 +0.3**
comp=Z,9.2nm,1.0s,mb4.7
CHTO *e*pP pP 03 51 01.1 -0.3
XAN Xi'an 53.50 321 P **P 03 50 53.1 -0.6**
XAN AMB AMB
comp=Z,43nm,1.6s,mb5.1
BJT Baijiatuau 53.74 331 *e*P **P 03 50 55.2 -0.2**
BJT pmax pmax
comp=Z,41nm,1.3s
BJT Baijiatuau 53.74 331 *e*P **P 03 50 55.1 -0.3**
comp=Z,41nm,1.3s,mb5.2
BJI Beijing 53.75 331 P **P 03 50 55.2 -0.3**
BJI AMB AMB
comp=Z,29nm,1.3s,mb5.0
BJI AMB AMB
comp=Z,97nm,5.5s
BJI LR LR
comp=N,201nm,22.1s,MS4.4
BJI LR LR
comp=E,324nm,22.1s,MS4.4
BJI LR LR
comp=Z,314nm,22.1s,MS4.3
CD2 Chengdu 55.07 314 P **P 03 51 06.1 +1.0**
CD2 AP pP 03 51 16.2 +0.8
CD2 XP sP 03 51 20.2 +0.8
CD2 PP PP 03 53 11.1 +2.6
CD2 PCS PcS 03 56 05.2 -1.0
CD2 S **S 03 58 45.4 0.0**
CD2 SCS ScS 04 00 49.1 -2.6
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=E,220nm,16.7s
CD2 LR LR
comp=Z,180nm,19.2s,MS4.2
KLR Kul'dur 56.51 348 *e*P **P 03 51 11.8 -3.6**
BTO Baotou 57.32 327 *e*P **P 03 51 19.4 -1.7**
LZH Lanzhou 58.02 319 *e*P **P 03 51 26.5 +0.4**
LZH AP pP 03 51 37.0 +0.6
LZH XP sP 03 51 42.0 +1.6
LZH PCP PcP 03 52 18.0 +0.2
LZH *e*S **S 03 59 26.0 +1.6**
LZH XS sS 03 59 43.6 +2.2
LZH SS SS 04 03 18.0 +2.2
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,107nm,4.3s
LZH LR LR
comp=E,667nm,14.2s
LZH LR LR
comp=Z,994nm,15.8s,MS5.0
LZH Lanzhou 58.02 319 *e*P **P 03 51 26.5 +0.4**
LZH pP pP 03 51 37.0 +0.6
LZH sP sP 03 51 42.0 +1.6
LZH PcP PcP 03 52 18.0 +0.2
LZH PP PP 03 53 32.1 -2.7
LZH *e*S **S 03 59 26.0 +1.6**
LZH sS sS 03 59 43.6 +2.2
LZH SS SS 04 03 18.0 +2.2
PET Petropavlovsk 59.62 8 *e*P pP 03 51 47.3 -0.3
PET *e*S **S 03 59 49.9 +4.7**
PET pmax pmax
comp=Z,100nm,16.4s
PET MLR MLR
comp=Z,200nm,21.0s,MS4.2
HIA Hailar 59.84 340 *e*P **P 03 51 39.0 +0.3**
HIA pmax pmax
comp=Z,66nm,1.2s
HIA Hailar 59.84 340 *e*P **P 03 51 39.0 +0.3**
comp=Z,66nm,1.2s,mb5.5
GTA Gaotai 62.56 320 *e*P **P 03 51 57.5 +0.4**
GTA AP pP 03 52 07.7 +0.2
GTA XP sP 03 52 12.3 +0.8
GTA PP PP 03 54 16.0 +1.1
GTA S **S 04 00 23.2 +0.7**
GTA XS sS 04 00 39.6 0.0
GTA SS SS 04 04 30.9 +4.0
GTA AMB AMB
comp=Z,12nm,1.8s,mb4.7
GTA AMB AMB
comp=Z,76nm,3.8s
GTA LR LR
comp=N,133nm,15.3s,MS4.3
GTA LR LR
comp=E,124nm,18.0s,MS4.3
GTA LR LR
comp=Z,146nm,16.1s,MS4.2
PPT Papeete 63.14 107 *e*S **S 04 00 27.6 -2.2**
comp=Z,337nm,23.5s
PPT *e*LQ 04 08 07.9
comp=Z,752nm,32.0s
PPT *e*LR LR 04 10 52.7
comp=Z,418nm,24.0s
PPT Papeete 63.14 107 LR LR 04 13 51.7
comp=Z,293nm,18.1s,MS4.5,baz=271,slow=31
TBI Tubuai 63.61 113 *e*S **S 04 00 34.3 -1.3**
comp=Z,298nm,26.8s
TBI *e*LQ 04 08 21.7
comp=Z,349nm,40.2s
TBI *e*LR LR 04 10 59.6
comp=Z,651nm,33.2s
SONM Songino Array 64.25 331 P **P 03 52 08.7 +0.4**
comp=Z,12nm,1.0s,mb4.9,baz=145,slow=6.2,SNR=44
SONM LR LR 04 19 19.5
comp=Z,218nm,21.4s,MS4.3,baz=158,slow=35
CIT Chita 64.33 338 *e*P **P 03 52 09.8 +0.9**
PMOR Pomariorio Ree 64.70 104 *e*P **P 03 52 13.5 +2.3**
comp=Z,137nm,1.4s,mb5.8
VAH Vaihoa 64.96 104 *e*P **P 03 52 14.8 +1.9**
CLNS Chul'man 65.09 347 *e*P **P 03 52 13.2 -0.6**
CLNS pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CASY Casey 65.23 195 *e*P **P 03 52 13.3 -1.4**
MA2 Magadan 65.41 2 *e*P **P 03 52 16.2 +0.3**
MA2 *e* 03 54 35.3
MA2 *e*S S 04 00 56.2 -1.7
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 MLR MLR
comp=Z,200nm,17.6s,MS4.4
PALK Pallekele 67.20 280 *e*P **P 03 52 28.1 +0.8**
comp=Z,23nm,1.2s,mb5.1
ZAK Zakamensk 67.49 332 ⇓*i*P **P 03 52 28.2 -1.0**
ZAK pmax pmax
comp=Z,14nm,1.2s,mb4.9
GUN Gumba 67.64 303 *e*P **P 03 52 30.1 0.0**
comp=Z,29nm,0.7s,mb5.4
PKI Pulchoki 67.92 303 *e*P **P 03 52 31.5 -0.4**
comp=Z,16nm,0.8s,mb5.1
KKN Kakani 68.10 303 *e*P **P 03 52 32.7 -0.3**
DMN Daman 68.19 303 *e*P **P 03 52 33.4 -0.2**
comp=Z,49nm,1.1s,mb5.4
TLY Talaya 68.20 333 *e*P **P 03 52 32.9 -0.8**
TLY *e*S sS 04 01 50.4 +1.5
TLY *e*SS SS 04 05 45.5 -9.2
TLY pmax pmax
comp=Z,25nm,1.3s,mb5.1
GKN Gorkha 68.71 303 *e*P **P 03 52 36.8 0.0**
SEY Seymchan 68.84 3 ⇓*e*P **P 03 52 37.8 +0.2**
BOD Bodaibo 68.87 342 *e*P **P 03 52 36.0 -1.8**
BOD pmax pmax
comp=Z,20nm,1.3s,mb4.9
KOLN Koldanda 69.50 302 *e*P **P 03 52 41.5 -0.2**
comp=Z,34nm,1.1s,mb5.2
VNDA Vanda 71.96 177 P **P 03 52 55.6 -1.1**
comp=Z,7.9nm,0.7s,mb4.7,baz=329,slow=6.8,SNR=72
VNDA LR LR 04 23 09.8
comp=Z,251nm,18.9s,MS4.5,baz=348,slow=35
VNDA Vanda 71.96 177 *e*P **P 03 52 55.9 -0.8**
VNDA pmax pmax
comp=Z,14nm,0.8s
VNDA Vanda 71.96 177 *e*P **P 03 52 55.9 -0.8**
comp=Z,14nm,0.8s,mb5.0
TAOE Nuku Hiva Isla 72.45 97 *e*LR LR 03 51 49.0
comp=Z,639nm,25.7s
TAOE *e*LR LR 03 51 49.0
comp=Z,639nm,25.7s
WMQ Urumqi 72.61 319 P **P 03 53 00.4 -0.1**
WMQ AP pP 03 53 11.0 -0.1
WMQ XP sP 03 53 15.0 0.0
WMQ PCP PcP 03 53 19.0 +1.0
WMQ PP PP 03 55 42.5 +0.3
WMQ PPP 03 57 26.0
WMQ S S 04 02 21.0 -2.0
WMQ SKS 04 02 58.0
WMQ AMB AMB
comp=Z,14nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,145nm,6.5s
WMQ LR LR
comp=N,732nm,22.8s,MS5.0
WMQ LR LR
comp=E,600nm,24.5s,MS5.0
WMQ LR LR
comp=Z,448nm,22.8s,MS4.7
SBA Scott Base 72.61 176 *e*P **P 03 53 01.0 +0.4**
BILL Bilibino 75.11 7 *e*P **P 03 53 15.2 0.0**
BILL pmax pmax
comp=Z,14nm,0.3s,mb5.4
BILL Bilibino 75.11 7 *e*P **P 03 53 15.2 0.0**
comp=Z,14nm,0.3s,mb5.4
CHGN Chignik 76.49 28 *e*P **P 03 53 23.1 0.0**
RKT Rikitea 76.91 112 *e*S S 04 03 10.7 -0.3
comp=Z,213nm,31.2s
RKT *e*LQ 04 13 56.6
comp=Z,198nm,37.5s
RKT *e*LR LR 04 17 09.2
comp=Z,575nm,34.0s
MKAR Makanchi Array 77.31 321 P **P 03 53 26.9 -0.9**
comp=Z,2.2nm,0.4s,mb4.4,baz=106,slow=7.7,SNR=27
MKAR Makanchi Array 77.31 321 ⇑*e*P **P 03 53 26.8 -0.9**
NVS Novosibirsk 80.08 328 *i*P **P 03 53 41.1 -1.8**
SVW2 Sparrevohn 80.31 25 *e*P **P 03 53 44.5 +0.3**
TKM2 Tokmak 2 80.45 315 P **P 03 53 44.5 -0.5**
SNR=6.1
UCH Uchtor 81.01 314 P **P 03 53 48.7 +0.8**
SNR=14
KURK Kurchatov 81.04 323 P **P 03 53 46.3 -1.8**
comp=Z,48nm,1.1s,mb5.3,SNR=5.5
TTA Tatalina 81.11 23 *e*P **P 03 53 48.5 0.0**
TTA pmax pmax
comp=Z,32nm,1.5s,mb5.0
TTA Tatalina 81.11 23 *e*P **P 03 53 48.5 0.0**
comp=Z,32nm,1.5s,mb5.0
AAK Ala-Archa 81.14 315 *c i*P **P 03 53 47.0 -1.6**
AAK pmax pmax
comp=Z,13nm,2.0s,mb4.5
AAK MLR MLR
comp=Z,100nm,21.0s,MS4.2
AAK Ala-Archa 81.14 315 *e*P **P 03 53 47.6 -1.0**
USP Ospenovka 81.32 315 P **P 03 53 48.8 -0.8**
SNR=5.6
AML Almayashu 81.57 314 P **P 03 53 51.1 +0.2**
SNR=13
EKS2 Erkin-Say 81.66 315 P **P 03 53 51.5 +0.2**
SNR=7.5
MAW Mawson 82.19 203 *e*P **P 03 53 52.7 -1.4**
comp=Z,6.0nm,0.8s,mb4.6
MAW Mawson 82.19 203 P **P 03 53 52.8 -1.3**
comp=Z,5.6nm,0.7s,mb4.6,baz=92,slow=6.7,SNR=8.9
MAW LR LR 04 29 37.4
comp=Z,290nm,19.4s,MS4.7,baz=78,slow=35
MAW Mawson 82.19 203 *e*P **P 03 53 52.7 -1.4**
MAW pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 83.28 26 *e*P **P 03 53 58.8 -1.0**
PMR pmax pmax
comp=Z,15nm,1.0s,mb5.0
PMR Palmer 83.28 26 *e*P **P 03 53 58.8 -1.0**
comp=Z,16nm,1.0s,mb5.0
IMA2 Indian Mountai 83.61 21 *e*P **P 03 54 01.4 -0.1**
QSPA South Pole Qui 84.00 180 *e*P **P 03 54 02.3 -1.2**
comp=Z,14nm,0.7s,mb5.2
MCK McKinley 84.30 24 *e*P **P 03 54 03.8 -1.2**
MCK pmax pmax
comp=Z,17nm,1.0s,mb5.1
MCK McKinley 84.30 24 *e*P **P 03 54 03.8 -1.2**
comp=Z,17nm,1.0s,mb5.1
COLA College 85.21 23 ⇓*e*P **P 03 54 08.2 -1.4**
COLA College 85.21 23 *e*P **P 03 54 07.6 -2.1**
comp=Z,17nm,0.9s,mb5.2
MENT Mentasta 86.14 25 *e*P **P 03 54 16.8 +2.6**
BVAR Borovoye Array 86.60 324 LR LR 04 33 19.4
comp=Z,81nm,18.5s,MS4.2,baz=319,slow=36
BRVK Borovoye 86.67 324 *e*P **P 03 54 14.6 -2.2**
BRVK *e**PP pP 03 54 24.8 -2.8
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
BRVK Borovoye 86.67 324 *e*P **P 03 54 14.6 -2.2**
comp=Z,6.7nm,1.1s,mb4.8
BRVK *e*pP pP 03 54 24.8 -2.8
ZRNK Zerenda 87.39 324 *e*P **P 03 54 17.4 -2.9**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
ZRNK Zerenda 87.39 324 *e*P **P 03 54 17.4 -2.9**
comp=Z,2.0nm,0.7s,mb4.5
EGAK Eagle 87.83 24 *e*P **P 03 54 21.5 -1.0**
DAWY Dawson 88.34 25 *e*P **P 03 54 24.4 -0.5**
WRAK Wrangell Islan 89.91 33 *e*P **P 03 54 33.9 +1.7**
WRAK *e*pP pP 03 54 42.1 -0.9
WRAK *e*sP sP 03 54 47.1 +0.2
SYO Syowa Base 90.54 200 ⇓*e*P **P 03 54 33.2 -2.0**
SYO Syowa Base 90.54 200 ⇓*e*PcP PcP 03 54 36.2 -0.1
BBB Bella Bella 91.68 38 LR LR 04 26 40.6
comp=Z,348nm,20.6s,MS4.6,baz=107,slow=30
INK Inuvik 91.71 21 LR LR 04 31 26.9
comp=Z,299nm,19.3s,MS4.8,baz=269,slow=33
INK Inuvik 91.71 21 *e*P **P 03 54 39.2 -1.4**
comp=Z,701nm,1.3s
KHMM Horse Mountain 93.49 49 *e*P **P 03 54 50.3 +1.5**
KIPM Iron Peak 93.59 51 *e*P **P 03 54 47.5 -1.7**
HOPS Hopland 93.84 51 *e*P **P 03 54 51.7 +1.2**
ARU Arti 93.92 326 *e*P **P 03 54 47.2 -3.6**
ARU *e* 03 58 31.3
ARU *e*S SKSac 04 05 18.5 -4.5
ARU *e*SS SS 04 12 11.0 -7.0
ARU MLR MLR
comp=E,100nm,20.0s,MS4.3
ARU MLR MLR
comp=Z,100nm,20.0s,MS4.3
ARU MLR MLR
comp=N,30nm,19.0s,MS4.3
PGC Sidney 94.30 42 *e*P **P 03 54 54.3 +1.8**
YBH Yreka Blue Hor 94.33 49 LR LR 04 28 27.8
comp=N,691nm,21.7s,MS5.1,baz=360,slow=30
WDC Whiskeytown Da 94.37 50 *e*P **P 03 54 53.4 +0.5**
WDC pmax pmax
comp=Z,16nm,1.3s,mb5.3
WDC Whiskeytown Da 94.37 50 *e*P **P 03 54 53.4 +0.6**
comp=Z,16nm,1.3s,mb5.3
GNW Green Mountain 94.64 43 *e*P **P 03 54 54.8 +0.7**
CMB Columbia Colle 95.88 52 *e*P **P 03 55 00.1 +0.3**
HAWA Hanford 96.84 44 *e*P **P 03 55 04.4 +0.3**
comp=Z,11nm,1.1s,mb5.2
NVAR Mina Array Bea 97.54 52 P **P 03 55 08.0 +0.7**
comp=Z,2.4nm,1.0s,mb4.7,baz=257,slow=6.4,SNR=13
MWC Mount Wilson 97.60 56 *e*P **P 03 55 09.3 +1.7**
DAC Darwin (Calif) 98.05 54 *e*P **P 03 55 10.2 +0.6**
DAC pmax pmax
comp=Z,8.0nm,1.3s,mb5.1
DAC Darwin (Calif) 98.05 54 *e*P **P 03 55 10.2 +0.6**
comp=Z,8.3nm,1.3s,mb5.1
BMO Blue Mountains 98.38 46 *e*P **P 03 55 11.2 +0.1**
BMO pmax pmax
comp=Z,6.0nm,1.2s,mb5.0
BMO Blue Mountains 98.38 46 *e*P **P 03 55 11.2 +0.2**
comp=Z,6.4nm,1.2s,mb5.0
NEW Newport 98.49 42 LR LR 04 32 01.8
comp=Z,219nm,19.3s,MS4.7,baz=232,slow=31
NEW Newport 98.49 42 ⇑*e*P **P 03 55 11.1 -0.5**
NEW Newport 98.49 42 *e*PcP PcP 03 55 11.1 -0.5
YKA Yellowknife Ar 99.25 28 P **P 03 55 14.3 -0.6**
comp=Z,2.4nm,0.8s,mb4.8,baz=272,slow=4.4,SNR=4.7
YKA LR LR 04 36 16.0
comp=Z,114nm,20.7s,MS4.4,baz=25,slow=33
YKA Yellowknife Ar 99.25 28 ⇑*e*P **P 03 55 16.7 +1.7**
YKA Yellowknife Ar 99.25 28 P **P 03 55 14.3 -0.6**
YKA LR LR 04 36 16.0
SNAA Sanae 99.99 189 *e*Pdiff Pdif 03 55 17.0 -1.2
SNAA *e* 03 55 29.8
SNAA *e* 03 55 33.8
WALA Waterton Lakes 100.59 41 *e*Pdif Pdif 03 55 22.4 +1.4
VNA3 Neumayer Olymp 101.38 188 *e*Pdiff Pdif 03 55 24.3 -0.1
VNA3 *e* 03 55 35.0
VNA3 *e* 03 55 38.7
DUG Dugway 101.79 50 *e*P Pdif 03 55 27.9 +1.7
PDAR Pinedale Array 104.07 48 Pdiff Pdif 03 55 36.9 +0.5
comp=Z,1.0nm,0.8s,baz=264,slow=2.7,SNR=8.2
ARCES ARCESS Array B 106.15 342 Pdiff Pdif 03 55 43.6 -2.0
comp=Z,3.1nm,1.1s,baz=82,slow=9.1,SNR=3.6
ARCES PKKPbc PKKPbc 04 11 16.9 -1.8
comp=Z,1.4nm,0.8s,baz=260,slow=3.5,SNR=6.9
SMCO Snowmass 106.35 51 *e*Pdif Pdif 03 55 48.3 +1.8
OBN Obninsk 106.36 326 ⇑*e*P Pdif 03 55 42.9 -3.7
OBN *e*PS PS 04 09 18.7 -11
OBN pmax pmax
comp=Z,7.0nm,0.8s
BOSA Boshof 114.06 235 PKP PKiKP 04 00 12.4 +0.2
comp=Z,3.5nm,0.9s,baz=57,slow=5.7,SNR=7.0
LBTB Lobatse 115.06 239 *e*PKIKP PKiKP 04 00 15.0 +0.9
CLL Collm 120.81 328 *e*PKPdf PKPdf 04 00 26.0 +0.8
GERES GERESS Array B 121.74 325 PKP PKPdf 04 00 25.1 -1.9
comp=Z,0.5nm,0.4s,baz=103,slow=0.6,SNR=7.0
GERES PKKPbc PKKPbc 04 10 26.6 +1.1
comp=Z,0.2nm,0.3s,baz=224,slow=3.7,SNR=3.5
PLCA Paso Flores 122.28 147 PKP PKPdf 04 00 28.9 +0.9
comp=Z,5.9nm,0.7s,baz=222,slow=3.5,SNR=12
WCI Wyandotte Cave 122.31 48 *e*PKIKP PKPdf 04 00 26.7 -1.4
TSUM Tsumeb 124.06 242 *e*PKPdf PKPdf 04 00 32.1 +0.6
SCHQ Schefferville 124.31 23 PKP PKPdf 04 00 29.7 -2.2
comp=Z,3.5nm,1.0s,baz=209,slow=6.4,SNR=3.7
SCHQ Schefferville 124.31 23 PKP PKPdf 04 00 29.7 -2.2
TZTN Tazewell 124.95 49 *e*PKPdf PKPdf 04 00 32.2 -0.9
GIVF Givet 125.68 331 *e*PKP1 PKPdf 04 00 32.0 -2.5
BAIF Baives 126.00 331 *e*PKP1 PKPdf 04 00 32.7 -2.4
HINF Hinteralfeld 126.09 328 *e*PKP1 PKPdf 04 00 33.2 -2.1
HAU Haudompre 126.24 328 *e*PKP1 PKPdf 04 00 33.6 -2.0
MEZF Maizieres J'vi 126.60 329 *e*PKP1 PKPdf 04 00 34.1 -2.2
BLA Blacksburg 127.01 47 *e*PKIKP PKPdf 04 00 33.7 -3.4
LPG La Plagne 127.54 325 *e*PKP1 PKPdf 04 00 36.6 -1.5
LPL La Plagne 127.54 325 *e*PKP1 PKPdf 04 00 36.3 -1.8
comp=Z,11nm,1.2s
TRQA Tornquist 128.69 151 *e*PKPdf PKPdf 04 00 40.5 +0.2
FRF La Foret Royal 128.73 323 *e*PKP1 PKPdf 04 00 38.8 -1.5
comp=Z,13nm,1.0s
BGF Bois d'Agland 129.00 328 *e*PKP1 PKPdf 04 00 39.5 -1.4
comp=Z,25nm,1.2s
NNA Nana 133.12 112 *e*PKPdf PKPdf 04 00 48.5 -0.1
NNA *e*pPKPdf pPKPdf 04 01 00.4 +0.6
NNA *e*SKPbc SKPbc 04 04 07.6 -6.3
LVC Limon Verde 135.01 130 *e*PKPdf PKPdf 04 00 53.5 +1.3
LVC *e*pPKPdf pPKPdf 04 01 02.8 -0.5
LVC *e*SKPbc SKPbc 04 04 17.9 -2.3
ARE Arequipa 136.09 121 *e*PKIKP PKPdf 04 00 56.0 +1.8
LPAZ La Paz 139.01 123 PKhKP 04 00 53.4
comp=Z,4.0nm,0.8s,baz=30,slow=3.2,SNR=16
LPAZ PKP PKPdf 04 01 01.9 +2.3
comp=Z,18nm,1.0s,baz=9.2,slow=1.1,SNR=34
ROSC El Rosal 139.09 89 PKhKP 04 00 52.9
comp=Z,3.3nm,0.5s,baz=102,slow=22,SNR=5.9
ROSC PKP PKPdf 04 01 00.5 +0.7
comp=Z,7.2nm,0.7s,baz=104,slow=16,SNR=8.9
CPUP Villa Florida 140.30 145 PKhKP 04 00 54.5
comp=Z,0.9nm,0.5s,baz=213,slow=3.7,SNR=6.7
CPUP PKP PKPdf 04 01 02.4 +0.5
comp=Z,19nm,1.0s,baz=217,slow=2.3,SNR=16
CPUP Villa Florida 140.30 145 PKP PKPdf 04 00 54.5 -7.4
CPUP PKP PKPdf 04 01 02.4 +0.5
SDV Santo Domingo 142.82 83 *e*PKPdf PKPdf 04 01 03.5 -3.0
SDV *e*SKPdf SKPdf 04 04 39.6 +1.2
TOA0 Torodi Ar. Sit 144.84 284 *e*PKPdf PKPdf 04 01 08.8 -1.2
TORD Torodi Ar. Bea 144.84 284 PKP PKPdf 04 01 09.2 -0.8
comp=Z,20nm,0.7s,baz=79,slow=3.0,SNR=154
TORD PKKPbc 04 08 52.2
comp=Z,0.1nm,0.3s,baz=84,slow=3.1,SNR=7.1
SJG San Juan 145.70 66 *e*PKIKP PKPdf 04 01 11.2 -0.3
CPD Cerro la Pandu 145.94 66 *e*PKP2 PKPab 04 01 12.5 -0.6
MTP Monte Pirata 146.25 66 *e*PKPdf PKPdf 04 01 12.3 -0.1
SAML Samuel 146.68 116 *e*PKPdf PKPdf 04 01 13.8 +0.6
DBIC Dimbokro 151.78 273 PKPbc PKPbc 04 01 28.9 +1.2
comp=Z,17nm,0.5s,baz=83,slow=2.3,SNR=69
DBIC Dimbokro 151.78 273 *e*PKIKP PKPdf 04 01 22.6 +1.3
DBIC 04 01 28.9
DBIC Dimbokro 151.78 273 *e*PKPdf PKPdf 04 01 22.6 +1.3
DBIC *e*PKPbc PKPbc 04 01 28.4 +0.7
DBIC PKPbc PKPbc 04 01 28.9 +1.2
BDFB Brasilia 154.02 146 PKP PKPdf 04 01 25.6 +1.1
comp=Z,15nm,1.0s,baz=280,slow=1.3,SNR=17
BDFB PKPbc PKPbc 04 01 33.6 +1.0
comp=Z,11nm,0.4s,baz=276,slow=1.8,SNR=34

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*ISCJB **02** 03:51:18.1±0.7, 244N±009×9892E±008, h151km±5km, mb3.9/17, Error ellipse: s-maj=15.7km s-min=11.0km az=69.5*
*IDC **02** 03:51:19.0±0.4, 256N×9905E, h145km±3km, mb3.8/16, mb1 3.8/16, mb1mx3.7/22, mbtmp4.2/16, Error ellipse: s-maj=21.8km s-min=10.3km az=52.0*
*NEIC **02** 03:51:19.7±0.7, 249N×9896E, h151km±7km, mb4.3/3, Error ellipse: s-maj=12.7km s-min=9.0km az=45.0*
ISC 02 03:51:19.7±0.6, 248N±009×9895E±008, h149km±5km, n29, σ0991/27, mb3.9/17, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.32**	**355**	P	**Pn**	**03 51 39.6**	**-0.5**
	237nm,0.3s,baz=196,slow=3.3,SNR=659						
PSI				S	**Sn**	**03 51 54.8**	**-0.8**
	88nm,0.3s,baz=347,slow=19,SNR=68						
IPM	**Ipoh**	**2.87**	**46**	P	**Pn**	**03 52 07.1**	**+1.8**
KULM	**Kulim**	**3.26**	**31**	⇓Pn	**Pn**	**03 52 10.8**	**+0.5**
KGM	**Kluang**	**4.39**	**96**	P	**Pn**	**03 52 24.6**	**-0.4**
KKM	**Kota Kinabalu**	**17.57**	**78**	*e*P	**Pn**	**03 55 16.5**	**+1.1**
PALK	**Pallekele**	**18.79**	**285**	*e*P	**P**	**03 55 29.1**	**+1.5**
	7.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**33.31**	**129**	P	**P**	**03 57 42.0**	**-1.2**
	6.0nm,0.8s,mb4.4,baz=252,slow=4.8,SNR=8.3						
FITZ				ScP	ScP	04 03 50.9	-1.3
	0.6nm,0.5s,baz=315,slow=7.1,SNR=4.4						
NWAO	**Narrogin (SRO)**	**39.24**	**155**	P	**P**	**03 58 34.4**	**+0.9**
	10.0nm,1.0s,mb4.4,baz=29,slow=19,SNR=3.5						
NWAO	**Narrogin (SRO)**	**39.24**	**155**	*e*P	**P**	**03 58 35.1**	**+1.6**
	15nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**41.27**	**124**	P	**P**	**03 58 49.8**	**-0.4**
	5.4nm,0.4s,mb4.5,baz=301,slow=9.1,SNR=25						
WRA				ScP	ScP	04 04 21.2	-0.8
	0.3nm,0.6s,baz=307,slow=3.5,SNR=5.6						
ASAR	**Alice Springs**	**42.81**	**129**	P	**P**	**03 59 02.1**	**-0.6**
	2.1nm,0.7s,mb3.9,baz=298,slow=7.5,SNR=19						
ASAR				ScP	ScP	04 04 27.2	-1.0
	0.9nm,0.6s,baz=306,slow=4.1,SNR=12						
SONM	**Songino Array**	**45.63**	**7**	P	**P**	**03 59 26.0**	**+0.9**
	0.4nm,0.4s,mb3.4,baz=191,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**46.46**	**344**	P	**P**	**03 59 31.7**	**+0.1**
	0.8nm,0.4s,mb3.7,baz=168,slow=7.3,SNR=4.6						
STKA	**Stephens Creek**	**52.94**	**134**	*e*P	**P**	**04 00 20.1**	**-0.5**
	2.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**52.94**	**134**	P	**P**	**04 00 20.3**	**-0.3**
	2.5nm,0.6s,mb4.1,baz=17,slow=19,SNR=9.8						
BVAR	**Borovoye Array**	**55.64**	**340**	P	**P**	**04 00 38.5**	**-1.6**
	0.8nm,0.5s,mb3.8,baz=147,slow=8.9,SNR=5.3						
KMBO	**Kilima Mbogo**	**61.79**	**267**	P	**P**	**04 01 23.8**	**+1.2**
	2.1nm,0.9s,mb4.0,baz=52,slow=22,SNR=5.4						
BRTR	**Keskin Array B**	**69.56**	**312**	P	**P**	**04 02 11.9**	**-0.5**
	1.4nm,0.7s,mb3.8,baz=133,slow=7.2,SNR=9.6						
MAW	**Mawson**	**74.36**	**194**	P	**P**	**04 02 41.6**	**+0.6**
	1.5nm,0.6s,mb3.9,baz=30,slow=5.3,SNR=7.2						
AKASG	**Malin Array Be**	**75.32**	**322**	P	**P**	**04 02 45.5**	**-1.0**
	0.6nm,0.3s,mb3.7,baz=90,slow=4.9,SNR=5.3						
BOSA	**Boshof**	**76.93**	**240**	P	**P**	**04 02 56.5**	**+0.9**
	1.6nm,0.5s,mb3.9,baz=192,slow=16,SNR=4.7						
JOF	**Joensuu**	**77.75**	**334**	*e*p	**P**	**04 02 59.4**	**-0.8**
	5.5nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**79.68**	**332**	P	**P**	**04 03 10.4**	**-0.4**
	1.1nm,0.3s,mb4.0,baz=113,slow=5.5,SNR=25						
KAF	**Kangasniemi**	**79.74**	**333**	*e*p	**P**	**04 03 05.6**	**-5.5**
ARCES	**ARCESS Array B**	**81.93**	**340**	P	**P**	**04 03 22.1**	**-0.5**
	0.7nm,0.4s,mb3.6,baz=106,slow=4.3,SNR=9.1						
NOA	**NORSAR Array B**	**86.74**	**331**	P	**P**	**04 03 46.4**	**-0.5**

0.4nm,0.7s,mb3.4,baz=99,slow=5.9,SNR=3.2
RKT Rikitea 123.95 116 *e*T 04 09 25.5
4.0nm,0.3s
BDFB Brasilia 144.93 246 PKPbc PKPdf 04 10 40.1 +1.0
3.0nm,0.6s,baz=94,slow=4.2,SNR=7.3
CPUP Villa Florida 147.12 222 PKPbc PKPbc 04 10 45.5 +0.3
1.4nm,0.7s,baz=244,slow=3.5,SNR=3.6

GII ***02*** *04:15:59.2±0.0, 34.85N×28.17E, h0km, mb4.0/1, ML3.7/4, Mw3.6/3*
ATH ***02*** *04:16:06.7, 35.07N×27.84E, h5km±3km, MD4.0/10*
NEIC ***02*** *04:16:06.7, 35.07N×27.83E, h5km, mb3.9/15, MD4.0(ATH), After ATH.*
ISCJB ***02*** *04:16:09.2±0.2, 35.17N±0.02×27.72E±0.02, h33km, mb4.0/24, MS3.5/5, Error ellipse: s-maj=3.1km s-min=2.6km az=114.5*
MOS ***02*** *04:16:09.2±1.9, 35.12N×27.69E, h33km, mb4.1/15, Error ellipse: s-maj=8.4km s-min=4.5km az=117.7*
HLW ***02*** *04:16:09.9, 35.35N×27.86E, h33km, Mb3.9*
CSEM ***02*** *04:16:09.0±0.1, 35.17N×27.86E, h25km, Mw3.1, Error ellipse: s-maj=3.3km s-min=1.6km az=79.0*
ISK ***02*** *04:16:14.2, 35.43N×28.16E, h44km, ML3.9*
IDC ***02*** *04:16:15.0±2.6, 35.49N×27.47E, h53km±23km, mb3.8/14, mb1 3.8/20, mb1mx3.8/28, mbtmp4.0/20, ML3.7/6, MS3.1/5, Ms1 3.2/5, ms1mx2.9/34, Error ellipse: s-maj=22.0km s-min=12.0km az=151.0*
NAO ***02*** *04:16:52.5, 39.21N×24.42E, h33km, mb3.0*
ISC 02 04:16:11.6±0.2, 35.20N±0.02×27.73E±0.02, h35km, n219, σ1°31/231, mb4.0/24, MS3.5/5, 3C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.58**	**307**	*e*PB	**Pn**	**04 16 20.8**	**-2.5**
KARP				*e*SB	**Sn**	**04 16 31.0**	**-0.6**
KARP	**Karpathos**	**0.58**	**307**	*e*Pb	**Pn**	**04 16 20.6**	**-2.7**
KARP				*e*Sb	**Sn**	**04 16 29.5**	**-2.1**
ARG	**Arkhangelos**	**1.06**	**18**	*e*PN	**Pn**	**04 16 28.6**	**-1.5**
ARG				*e*SB	**Sn**	**04 16 45.7**	**+2.1**
ARG	**Arkhangelos**	**1.06**	**18**	*e*Pg	**Pn**	**04 16 28.6**	**-1.5**
ARG				*e*Sb	**Sn**	**04 16 46.0**	**+2.4**
DAT	**Datca**	**1.53**	**356**	PN	**Pn**	**04 16 37.5**	**+1.0**
DAT				SN	**Sn**	**04 16 55.5**	**+0.4**
XRY	**Khrisi**	**1.70**	**260**	*e*PN	**Pn**	**04 16 40.5**	**+1.8**
NPS	**Neapolis**	**1.73**	**273**	*e*PN	**Pn**	**04 16 41.3**	**+2.1**
DALT	**Dalyan (Mudla)**	**1.73**	**25**	PN	**Pn**	**04 16 38.3**	**-0.9**
KSL	**Kastellorizon**	**1.79**	**57**	*e*PN	**Pn**	**04 16 40.5**	**+0.5**
AKAS	**Kas**	**1.84**	**55**	*i* P	**Pn**	**04 16 41.4**	**+0.6**
BDRM	**Kayabasi**	**1.88**	**353**	*i* P	**Pn**	**04 16 41.0**	**-0.2**
BODT	**Bodrum**	**1.89**	**350**	PN	**Pn**	**04 16 43.6**	**+2.2**
MLSB	**Milas**	**2.09**	**1**	PN	**Pn**	**04 16 44.9**	**+0.7**
SANT	**Santorini**	**2.18**	**303**	*e*Pn	**Pn**	**04 16 46.5**	**+1.1**
SANT				*e*Sn	**Sn**	**04 17 15.1**	**+3.9**
SANT	**Santorini**	**2.18**	**303**	*e*Pn	**Pn**	**04 16 46.5**	**+1.1**
AYDN	**Tasoluk**	**2.46**	**3**	*i* P	**Pn**	**04 16 49.4**	**+0.2**
APE	**Apeiranthos**	**2.58**	**317**	*e*PB	**Pn**	**04 16 53.0**	**+2.2**
APE	**Apeiranthos**	**2.58**	**317**	*e*Pn	**Pn**	**04 16 53.5**	**+2.7**
SMG	**Samos**	**2.60**	**344**	*e*PN	**Pn**	**04 16 54.5**	**+3.3**
DENT	**Denizli**	**2.76**	**22**	*e*PN	**Pn**	**04 16 52.5**	**-0.8**
VAM	**Vamos**	**2.89**	**275**	*e*PN	**Pn**	**04 16 58.3**	**+3.1**
ANTB	**Antalya**	**2.92**	**54**	*e*PN	**Pn**	**04 16 54.0**	**-1.5**
GVD	**Gavdhos**	**3.01**	**264**	*e*PN	**Pn**	**04 16 59.5**	**+2.7**
GVD	**Gavdhos**	**3.01**	**264**	*e*Pn	**Pn**	**04 16 59.1**	**+2.4**
IZM	**Izmir**	**3.21**	**354**	*e*PN	**Pn**	**04 17 01.7**	**+2.1**
KDAG	**Bornova**	**3.22**	**354**	*i* P	**Pn**	**04 16 59.2**	**-0.5**
URLA	**Izmir**	**3.28**	**344**	*i* P	**Pn**	**04 16 49.1**	**-11**
TKTP	**Tekketepe**	**3.52**	**36**	*i* P	**Pn**	**04 17 02.4**	**-1.4**
GDZ	**Gediz**	**4.13**	**19**	*i* P	**Pn**	**04 17 12.3**	**+0.1**
HMAT	**Matruh**	**4.13**	**188**	P	**Pn**	**04 17 13.5**	**+1.3**
DABA	**Dabaa**	**4.21**	**173**	P	**Pn**	**04 17 14.3**	**+1.1**
PTL	**Penteli**	**4.21**	**314**	*e*PN	**Pn**	**04 17 17.0**	**+3.7**
HDMB	**Hadim**	**4.24**	**64**	*e*PN	**Pn**	**04 17 12.5**	**-1.2**
NAIG	**Nisos Aigina**	**4.26**	**308**	*e*PN	**Pn**	**04 17 18.0**	**+4.0**
ALT	**Altintas**	**4.29**	**26**	*e*PN	**Pn**	**04 17 13.6**	**-0.9**
ERMK	**Ermenek**	**4.45**	**70**	*i* P	**Pn**	**04 17 16.8**	**+0.2**
CSS	**Prodhromos**	**4.60**	**91**	*e*Pn	**Pn**	**04 17 17.4**	**-1.3**
KONT	**Konya--Tatoy**	**4.63**	**52**	*e*PN	**Pn**	**04 17 18.2**	**-0.8**
KDHN	**Kadínhani**	**4.84**	**45**	*i* P	**Pn**	**04 17 23.0**	**+1.1**
CANB	**Canakkale**	**4.84**	**354**	*e*PN	**Pn**	**04 17 24.0**	**+2.1**
IKL	**Isikli**	**4.96**	**76**	*e*PN	**Pn**	**04 17 23.7**	**+0.1**
ESKT	**Eskisehir**	**4.98**	**29**	*e*PN	**Pn**	**04 17 23.1**	**-0.8**
ESKT	**Eskisehir**	**4.98**	**29**	*i* P	**Pn**	**04 17 22.5**	**-1.4**
SEYT	**Eskypehyr**	**4.98**	**29**	*i* P	**Pn**	**04 17 22.5**	**-1.4**
ULDT	**Uludag**	**5.06**	**12**	*i* P	**Pn**	**04 17 25.4**	**+0.4**
MANS	**Anshas**	**5.29**	**142**	P	**Pn**	**04 17 34.8**	**+6.6**
GEMT	**Gemlik**	**5.35**	**12**	*e*PN	**Pn**	**04 17 30.1**	**+1.1**
ADVT	**Abdulvahap**	**5.46**	**16**	*e*PN	**Pn**	**04 17 31.5**	**+1.0**
YLV	**Yalova**	**5.51**	**13**	*e*PN	**Pn**	**04 17 31.7**	**+0.5**
MERS	**Mersin**	**5.75**	**71**	*e*PN	**Pn**	**04 17 34.4**	**-0.1**
AANS		**5.79**	**147**	P	**Pn**	**04 17 34.8**	**-0.2**
EVR	**Evrytania**	**6.01**	**310**	*e*PN	**Pn**	**04 17 42.3**	**+4.3**
EVR	**Evrytania**	**6.01**	**310**	*e*Pn	**Pn**	**04 17 42.0**	**+4.0**
HNAT	**Natroun**	**6.07**	**155**	P	**Pn**	**04 17 38.9**	**+0.1**
ANTO	**Ankara**	**6.16**	**39**	*e*PN	**Pn**	**04 17 39.5**	**-0.6**
SWA1		**6.16**	**197**	P	**Pn**	**04 17 41.1**	**+1.0**
FYM	**Al Fayyum**	**6.17**	**152**	P	**Pn**	**04 17 40.1**	**-0.1**
AYT	**Al 'Ayyat**	**6.20**	**151**	P	**Pn**	**04 17 40.3**	**-0.3**
SWA2		**6.24**	**199**	P	**Pn**	**04 17 42.4**	**+1.2**
KOT	**Kottamia**	**6.29**	**145**	P	**Pn**	**04 17 41.5**	**-0.4**
KAMT	**Kaman**	**6.33**	**47**	*e*PN	**Pn**	**04 17 42.7**	**+0.2**
SGKT	**Sivrigoynuk**	**6.36**	**31**	*i* P	**Pn**	**04 17 44.1**	**+1.2**
HHAG	**Hagoal**	**6.40**	**144**	P	**Pn**	**04 17 43.5**	**0.0**
HSAF	**As Saff**	**6.44**	**149**	P	**Pn**	**04 17 43.3**	**-0.6**
VLS	**Valsamata**	**6.46**	**299**	*e*PN	**Pn**	**04 17 48.8**	**+4.6**
VLS	**Valsamata**	**6.46**	**299**	*e*Pn	**Pn**	**04 17 48.5**	**+4.3**
AMAG	**Maghara**	**6.47**	**133**	P	**Pn**	**04 17 43.4**	**-1.0**
BR131	**Keskin Array S**	**6.52**	**44**	*e*Pn	**Pn**	**04 17 42.6**	**-2.4**
2.9nm,0.6s							
BR131	**Keskin Array S**	**6.52**	**44**	*e*Pn	**Pn**	**04 17 42.7**	**-2.3**
2.9nm,0.6s							
BRTR	**Keskin Array B**	**6.52**	**44**	P	**Pn**	**04 17 46.5**	**+1.5**
0.4nm,0.3s,baz=213,slow=12,SNR=21							
BRTR				S	**Sn**	**04 18 58.2**	**0.0**
0.2nm,0.3s,baz=206,slow=25,SNR=5.0							
BRTR				LR	LR	04 20 58.0	
comp=Z,213nm,18.3s,baz=335,slow=44							
BRTR	**Keskin Array B**	**6.52**	**44**	P	**Pn**	**04 17 46.5**	**+1.5**
BRTR				S	**Sn**	**04 18 58.2**	**0.0**
GLL	**Jalalah**	**6.54**	**148**	P	**Pn**	**04 17 44.8**	**-0.5**
MMA0B	**Mount Meron ar**	**6.73**	**107**	Pn	**Pn**	**04 17 33.0**	**-15**
MMA0B				Sn	**Sn**	**04 18 47.7**	**-16**
MMA0B	**Mount Meron ar**	**6.73**	**107**	Pn	**Pn**	**04 17 33.0**	**-15**
SUZ		**6.87**	**140**	P	**Pn**	**04 17 49.9**	**+0.1**
KSDI	**Kefar Szold**	**6.87**	**105**	Pn	**Pn**	**04 17 34.6**	**-15**
KSDI				Sn	**Sn**	**04 18 49.9**	**-17**
CDAG	**Cicekdag**	**6.89**	**48**	*i* P	**Pn**	**04 17 50.7**	**+0.6**
HBNS	**Bani Suwayf**	**6.90**	**154**	P	**Pn**	**04 17 50.5**	**+0.3**
HRI	**Mount Hermon**	**6.91**	**104**	Pn	**Pn**	**04 17 36.2**	**-14**
AWBH		**6.93**	**171**	P	**Pn**	**04 17 51.1**	**+0.5**
AMAZ	**Amatzia**	**7.04**	**119**	Pn	**Pn**	**04 17 36.6**	**-16**
AMAZ				Sn	**Sn**	**04 18 53.6**	**-17**
KZIT	**Kziot**	**7.05**	**126**	Pn	**Pn**	**04 17 36.5**	**-16**
KZIT				Sn	**Sn**	**04 18 52.7**	**-19**
COBT	**Iskenderun**	**7.05**	**77**	*i* P	**Pn**	**04 17 51.1**	**-1.2**
ZAF		**7.18**	**144**	P	**Pn**	**04 17 53.5**	**-0.6**
MASH	**Mash'abbe Sade**	**7.26**	**123**	Pn	**Pn**	**04 17 39.5**	**-16**
DRGI	**Dragot**	**7.35**	**117**	Pn	**Pn**	**04 17 40.6**	**-16**
DSI	**Dead Sea**	**7.35**	**117**	Pn	**Pn**	**04 17 41.1**	**-15**
HNKL	**Nakhl**	**7.45**	**133**	P	**Pn**	**04 17 57.3**	**-0.4**
KKB	**Krupnik**	**7.58**	**333**	*i* P	**Pn**	**04 18 04.3**	**+4.7**
HRFI	**Mount Harif**	**8.03**	**128**	Pn	**Pn**	**04 17 49.9**	**-16**
HRFI				Sn	**Sn**	**04 19 17.1**	**-18**
MBH	**Mount Berech**	**8.12**	**130**	Pn	**Pn**	**04 17 52.4**	**-15**
MBH	**Mount Berech**	**8.12**	**130**	Pn	**Pn**	**04 17 52.3**	**-15**
VTS	**Vitosha**	**8.18**	**336**	*i* P	**Pn**	**04 18 11.6**	**+3.8**
VTS	**Vitosha**	**8.18**	**336**	*i* P	**Pn**	**04 18 11.4**	**+3.6**
ASF	**Jabal al Asfar**	**8.22**	**109**	P	**Pn**	**04 18 09.2**	**+0.8**
0.7nm,0.3s,baz=315,slow=1.4,SNR=3.7							
ASF	**Jabal al Asfar**	**8.22**	**109**	P	**Pn**	**04 18 09.2**	**+0.9**
ASF				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASF	**Jabal al Asfar**	**8.22**	**109**	P	**Pn**	**04 18 09.1**	**+0.8**
PVL	**Pavlikeni**	**8.22**	**348**	*i* P	**Pn**	**04 18 11.0**	**+2.7**
EIL	**Elat**	**8.23**	**130**	Pn	**Pn**	**04 17 52.7**	**-16**
EIL				Sn	**Sn**	**04 19 21.4**	**-19**
AQBJ	**Aqaba**	**8.25**	**129**	Pn	**Pn**	**04 17 53.6**	**-15**
TR2		**8.49**	**141**	P	**Pn**	**04 18 11.9**	**-0.2**
TR2		**8.49**	**141**	P	**Pn**	**04 18 11.9**	**-0.2**
HKAT	**Jabal Katrina**	**8.53**	**140**	P	**Pn**	**04 18 12.2**	**-0.4**
TIRR	**Tirgusor**	**9.26**	**3**	*i* P	**Pn**	**04 18 25.6**	**+3.0**
MTTG	**Motta San Giov**	**10.07**	**290**	P	**Pn**	**04 18 33.5**	**-0.2**
MLR	**Muntele Rosu**	**10.37**	**353**	P	**Pn**	**04 18 38.8**	**+1.0**
comp=Z,0.2nm,0.3s,baz=258,slow=8.4,SNR=5.9							
MLR				LR	LR	04 22 49.8	
comp=Z,73nm,21.8s,baz=55,slow=39							
MLR	**Muntele Rosu**	**10.37**	**353**	*i* P	**Pn**	**04 18 41.7**	**+3.9**
KELT	**Kelkit**	**10.39**	**58**	*i* P	**Pn**	**04 18 38.6**	**+0.6**
SSY	**Sortino**	**10.41**	**284**	P	**Pn**	**04 18 36.8**	**-1.6**
CUC	**Castrocucco**	**10.59**	**300**	P	**Pn**	**04 18 40.4**	**-0.4**
comp=Z,32nm,0.5s							
HMDC	**Modica**	**10.62**	**283**	P	**Pn**	**04 18 40.5**	**-0.8**
comp=Z,131nm,0.8s							
HVZN	**Vizzini**	**10.70**	**284**	P	**Pn**	**04 18 41.1**	**-1.2**
VAE	**Valguarnera**	**10.98**	**286**	P	**Pn**	**04 18 46.9**	**+0.7**
comp=Z,2.4nm,0.3s,baz=90,slow=12,SNR=3.5							
BZS	**Buzias**	**11.39**	**338**	*i* P	**Pn**	**04 18 52.0**	**+0.2**
UZH	**Uzhgorod**	**14.01**	**345**	*e*P	**Pn**	**04 19 38.0**	**+10**
KOLS	**Kolonicke sedl**	**14.30**	**345**	*e*P	**Pn**	**04 19 40.0**	**+8.4**
GNI	**Garni**	**14.35**	**65**	LR	LR	04 25 28.3	
comp=Z,51nm,18.4s,baz=277,slow=38							
CRVS	**Cervenica-Dubn**	**14.45**	**343**	*e*P	**Pn**	**04 19 39.8**	**+6.2**
KIV	**Kislovodsk**	**14.46**	**48**	P	**Pn**	**04 19 31.9**	**-1.8**
KIV				pmax	pmax		
comp=Z,17nm,1.0s							
KIV	**Kislovodsk**	**14.46**	**48**	Pn	**Pn**	**04 19 31.9**	**-1.8**
comp=Z,17nm,1.0s							
ZEI	**Tsey**	**14.66**	**54**	*e*P	**Pn**	**04 19 42.2**	**+5.8**
VYHS	**Vyhne**	**14.83**	**336**	*e*P	**Pn**	**04 19 45.0**	**+6.3**
LVV	**L'vov**	**14.86**	**351**	*e*P	**Pn**	**04 19 46.1**	**+7.0**
STHS	**Stebnicka Huta**	**14.98**	**343**	*e*P	**Pn**	**04 19 46.5**	**+5.7**
KEST	**Kesra**	**14.99**	**277**	P	**Pn**	**04 19 41.4**	**+0.6**
comp=Z,0.1nm,0.3s,baz=182,slow=15,SNR=9.1							
GOF	**Gofitskoye**	**15.28**	**45**	*e*P	**Pn**	**04 19 35.0**	**-10**
AKASG	**Malin Array Be**	**15.53**	**4**	P	**Pn**	**04 19 48.5**	**+0.6**
comp=Z,0.8nm,0.3s,baz=194,slow=11,SNR=7.9							
AKASG	**Malin Array Be**	**15.53**	**4**	P	**Pn**	**04 19 48.6**	**+0.7**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**15.53**	**4**	P	**Pn**	**04 19 48.5**	**+0.6**
MORC	**Moravsky Berou**	**16.36**	**336**	*e*P	**Pn**	**04 19 58.6**	**0.0**
MORC				pmax	pmax		
comp=Z,8.0nm,1.3s							
MORC	**Moravsky Berou**	**16.36**	**336**	*e*Pn	**Pn**	**04 19 58.6**	**0.0**
comp=Z,8.1nm,1.3s							
GERES	**GERESS Array B**	**17.12**	**327**	P	**Pn**	**04 20 07.9**	**-0.2**
comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=12							
DPC	**Dobruska-Polom**	**17.27**	**335**	*e*P	**Pn**	**04 20 11.3**	**+1.4**
KHC	**Kasperske Hory**	**17.39**	**328**	*e*P	**Pn**	**04 20 11.4**	**0.0**
KHC	**Kasperske Hory**	**17.39**	**328**	*d i*P	**Pn**	**04 20 11.8**	**+0.4**
KSP	**Ksiaz**	**17.69**	**336**	*e*P	**Pn**	**04 20 18.0**	**+2.8**
FRF	**La Foret Royal**	**18.27**	**304**	*e*P	**Pn**	**04 20 20.9**	**-1.4**
LMR	**La Mourre**	**18.29**	**303**	*e*P	**Pn**	**04 20 24.1**	**+1.5**
comp=Z,8.3nm,1.0s							
LMR	**La Mourre**	**18.29**	**303**	*e*P	**Pn**	**04 20 24.1**	**+1.5**
LMR				pmax	pmax		
comp=Z,4.0nm,1.0s							
LMR	**La Mourre**	**18.29**	**303**	*e*P	**Pn**	**04 20 24.1**	**+1.5**
comp=Z,4.2nm,1.0s							
MBDF	**Montbardon**	**18.62**	**307**	*e*P	**Pn**	**04 20 25.7**	**-0.9**
GRA1	**Grafenberg Arr**	**18.86**	**325**	*e*P	**Pn**	**04 20 28.7**	**-0.7**
GRF	**Grafenberg Arr**	**18.86**	**325**	*e*P	**Pn**	**04 20 28.7**	**-0.7**
LPG	**La Plagne**	**18.96**	**309**	*e*P	**Pn**	**04 20 30.2**	**-0.4**
comp=Z,9.1nm,0.8s							
LPG	**La Plagne**	**18.96**	**309**	*e*P	**Pn**	**04 20 30.2**	**-0.4**
LPG				pmax	pmax		
comp=Z,5.0nm,0.8s							
LPG	**La Plagne**	**18.96**	**309**	*e*P	**Pn**	**04 20 30.2**	**-0.4**
comp=Z,4.6nm,0.8s							
LPL	**La Plagne**	**18.98**	**309**	*e*P	**Pn**	**04 20 30.1**	**-0.7**
comp=Z,7.6nm,0.4s							
LPL	**La Plagne**	**18.98**	**309**	*e*P	**Pn**	**04 20 30.1**	**-0.7**
LPL				pmax	pmax		
comp=Z,4.0nm,0.4s							
LPL	**La Plagne**	**18.98**	**309**	*e*P	**Pn**	**04 20 30.1**	**-0.7**
comp=Z,3.8nm,0.4s							
CLL	**Collm**	**19.28**	**331**	*es*P	sP	04 20 37.0	-10
ORIF	**Oris-en-Rattie**	**19.28**	**307**	*e*P	**Pn**	**04 20 33.4**	**-1.1**
ORIF				*e*MLR	MLR		
comp=Z,144nm,21.2s							
MOX	**Moxa**	**19.36**	**328**	*e*P	**Pn**	**04 20 30.0**	**-5.4**
VIVF	**Saint-Julien-l**	**20.06**	**306**	*e*P	**P**	**04 20 41.0**	**-0.7**
comp=Z,5.1nm,0.6s							
VIVF	**Saint-Julien-l**	**20.06**	**306**	*e*P	**P**	**04 20 41.0**	**-0.7**
VIVF				pmax	pmax		
comp=Z,3.0nm,0.6s							
VIVF	**Saint-Julien-l**	**20.06**	**306**	*e*P	**P**	**04 20 41.0**	**-0.7**
comp=Z,2.5nm,0.6s							
CDF	**Champ du Feu**	**20.09**	**317**	*e*P	**P**	**04 20 38.8**	**-3.3**
OBN	**Obninsk**	**20.84**	**14**	*e*P	**P**	**04 20 54.4**	**+4.2**
OBN				*e*		04 21 12.8	
OBN				*e*S	**S**	**04 24 43.2**	**+2.5**
OBN				pmax	pmax		
comp=Z,6.0nm,0.4s							
OBN				MLR	MLR		
comp=Z,100nm,18.0s,MS3.2							
SMF	**Signal de Mont**	**21.28**	**310**	*e*P	**P**	**04 20 53.0**	**-1.9**
comp=Z,7.3nm,0.5s,mb4.0							
SMF	**Signal de Mont**	**21.28**	**310**	*e*P	**P**	**04 20 53.0**	**-1.9**
SMF				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.0							
SMF	**Signal de Mont**	**21.28**	**310**	*e*P	**P**	**04 20 53.0**	**-1.9**
comp=Z,3.7nm,0.5s,mb4.0							
MTLF	**Montolieu**	**21.30**	**300**	*e*P	**P**	**04 20 54.5**	**-0.7**
comp=Z,5.6nm,0.9s,mb3.6							
MTLF	**Montolieu**	**21.30**	**300**	*e*P	**P**	**04 20 54.5**	**-0.7**
MTLF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.6							
MTLF	**Montolieu**	**21.30**	**300**	*e*P	**P**	**04 20 54.5**	**-0.7**
comp=Z,2.8nm,0.9s,mb3.6							
LOR	**Lormes**	**21.53**	**311**	*e*P	**P**	**04 20 55.6**	**-2.0**
comp=Z,16nm,1.1s,mb4.1							
LOR				*e*MLR	MLR		
comp=Z,132nm,19.8s							
LOR	**Lormes**	**21.53**	**311**	*e*P	**P**	**04 20 55.6**	**-2.0**
LOR				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.1							
LOR	**Lormes**	**21.53**	**311**	*e*P	**P**	**04 20 55.6**	**-2.0**
comp=Z,8.1nm,1.1s,mb4.1							
SSF	**Saint Saulge**	**21.66**	**311**	*e*P	**P**	**04 20 57.4**	**-1.6**
comp=Z,20nm,0.9s,mb4.3							
SSF	**Saint Saulge**	**21.66**	**311**	*e*P	**P**	**04 20 57.4**	**-1.6**
SSF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.2							
SSF	**Saint Saulge**	**21.66**	**311**	*e*P	**P**	**04 20 57.4**	**-1.6**
comp=Z,9.9nm,0.9s,mb4.2							
BGF	**Bois d'Agland**	**21.87**	**309**	*e*P	**P**	**04 20 59.5**	**-1.8**
TCF	**Toulx Ste Croi**	**22.18**	**308**	*e*P	**P**	**04 21 02.9**	**-1.7**
ETSF	**Etsaut**	**23.20**	**298**	*e*P	**P**	**04 21 13.4**	**-2.0**
comp=Z,55nm,1.6s,mb4.4							
ETSF	**Etsaut**	**23.20**	**298**	*e*P	**P**	**04 21 13.4**	**-2.0**
ETSF				pmax	pmax		
comp=Z,28nm,1.6s,mb4.4							
ETSF	**Etsaut**	**23.20**	**298**	*e*P	**P**	**04 21 13.4**	**-2.0**
comp=Z,28nm,1.6s,mb4.4							
MFF	**Saint Martin d**	**23.82**	**307**	*e*P	**P**	**04 21 17.9**	**-3.5**
LDF	**La Druitiere**	**24.51**	**312**	*e*P	**P**	**04 21 23.5**	**-4.1**
GRR	**Gorron**	**24.89**	**311**	*e*P	**P**	**04 21 28.4**	**-2.7**
comp=Z,20nm,0.7s,mb4.5							
GRR	**Gorron**	**24.89**	**311**	*e*P	**P**	**04 21 28.4**	**-2.7**
GRR				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.5							
GRR	**Gorron**	**24.89**	**311**	*e*P	**P**	**04 21 28.4**	**-2.7**
comp=Z,9.9nm,0.7s,mb4.5							
ESDC	**Sonseca Array**	**25.48**	**290**	P	**P**	**04 21 36.8**	**+0.3**
comp=Z,1.4nm,0.6s,mb3.7,baz=82,slow=9.8,SNR=14							
ESLA	**Sonseca Array**	**25.48**	**290**	*e*P	**P**	**04 21 36.2**	**-0.3**
comp=Z,0.3nm,0.6s,mb3.0							
ESLA	**Sonseca Array**	**25.48**	**290**	*e*P	**P**	**04 21 36.2**	**-0.2**
FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**04 21 44.0**	**+0.3**
comp=Z,1.2nm,0.5s,mb3.6,baz=168,slow=12,SNR=9.1							
FINES	**FINESS Array B**	**26.28**	**358**	P	**P**	**04 21 44.0**	**+0.3**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
ROSF	**Rostrenen**	**26.39**	**309**	*e*P	**P**	**04 21 41.5**	**-3.1**
comp=Z,33nm,0.9s,mb4.5							
ROSF	**Rostrenen**	**26.39**	**309**	*e*P	**P**	**04 21 41.5**	**-3.1**
ROSF				pmax	pmax		
comp=Z,16nm,0.9s,mb4.5							
ROSF	**Rostrenen**	**26.39**	**309**	*e*P	**P**	**04 21 41.5**	**-3.1**
comp=Z,16nm,0.9s,mb4.6							
HFS	**Hagfors**	**26.56**	**344**	P	**P**	**04 21 44.6**	**-1.6**
comp=Z,2.6nm,0.7s,mb3.9,baz=156,slow=11,SNR=9.4							
HFS	**Hagfors**	**26.56**	**344**	P	**P**	**04 21 44.6**	**-1.6**
HFS				pmax	pmax		
comp=Z,3.0nm,0.7s							
AKTK	**Aktyubinsk**	**26.70**	**46**	P	**P**	**04 21 49.4**	**+1.9**
AKTO	**Aktyubinsk**	**26.70**	**46**	P	**P**	**04 21 49.4**	**+1.9**
comp=Z,2.8nm,0.7s,mb3.9,baz=258,slow=12,SNR=13							
AKTO	**Aktyubinsk**	**26.70**	**46**	P	**P**	**04 21 49.4**	**+1.9**
AKTO				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.9							
MDT	**Midelt**	**26.85**	**274**	P	**P**	**04 21 48.7**	**-0.1**
comp=Z,1.1nm,0.8s,mb3.4,baz=63,slow=9.0,SNR=2.8							
MDT				LR	LR	04 34 55.0	
comp=Z,66nm,18.8s,MS3.2,baz=176,slow=42							
JOF	**Joensuu**	**27.83**	**4**	*ep*	**P**	**04 21 56.3**	**-1.3**
NAO01	**NORSAR Array S**	**27.85**	**342**	*e*P	**P**	**04 21 56.0**	**-1.8**
comp=Z,5.0nm,0.8s,mb4.2							
NAO01	**NORSAR Array S**	**27.85**	**342**	*e*P	**P**	**04 21 56.0**	**-1.8**
NB2	**NORSAR Subarra**	**27.94**	**343**	P	**P**	**04 21 56.7**	**-1.9**
comp=Z,0.3nm,0.5s,mb3.2,baz=153,slow=10							
NOA	**NORSAR Array B**	**27.94**	**343**	P	**P**	**04 21 55.4**	**-3.2**
comp=Z,0.8nm,0.7s,mb3.5,baz=146,slow=10,SNR=4.7							
NOA				LR	LR	04 34 11.6	
comp=Z,43nm,18.8s,MS3.1,baz=25,slow=39							
NOA	**NORSAR Array B**	**27.94**	**343**	P	**P**	**04 21 55.4**	**-3.2**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA				MLR	MLR		
comp=Z,43nm,18.8s							
EVO	**Evora**	**28.67**	**287**	*e*P	**P**	**04 22 06.7**	**+1.6**
comp=Z,30nm,1.4s,mb4.5							
EKA	**Eskdalemuir Ar**	**29.25**	**323**	P	**P**	**04 22 08.4**	**-1.8**
comp=Z,0.4nm,0.4s,mb3.5,baz=135,slow=10,SNR=4.4							
EKA	**Eskdalemuir Ar**	**29.25**	**323**	P	**P**	**04 22 08.4**	**-1.8**
ARU	**Arti**	**29.80**	**35**	*i* P	**P**	**04 22 16.6**	**+1.5**
ARU				MLR	MLR		
comp=Z,200nm,25.0s,MS3.6							
TOA0	**Torodi Ar. Sit**	**32.16**	**233**	*e*P	**P**	**04 22 37.5**	**+1.6**
TOA0	**Torodi Ar. Sit**	**32.16**	**233**	*e*P	**P**	**04 22 37.5**	**+1.6**
TORD	**Torodi Ar. Bea**	**32.16**	**233**	P	**P**	**04 22 37.5**	**+1.6**
comp=Z,5.2nm,0.8s,mb4.4,baz=35,slow=9.9,SNR=43							
TORD				PcP	PcP	04 25 25.6	+1.3
comp=Z,0.2nm,0.3s,baz=17,slow=3.7,SNR=5.5						

HHC SS SS 04 40 46.0 -0.9
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,107nm,8.6s
HHC LR LR
comp=N,107nm,8.8s
HHC LR LR
comp=E,183nm,13.7s
HHC LR LR
comp=Z,124nm,16.7s,MS4.1
JOF Joensuu 59.85 357 *ep* **P 04 28 57.6 -1.7**
comp=Z,6.5nm,0.6s,mb4.8
KAF Kangasniemi 60.74 360 *ep* **P 04 29 03.1 -2.2**
comp=Z,4.8nm,0.5s,mb4.9,baz=357,slow=6.5
KAF Kangasniemi 60.74 360 *eP* **P 04 29 03.1 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
NB2 NORSAR Subarra 61.28 8 P **P 04 29 07.9 -1.1**
comp=Z,5.4nm,0.9s,mb4.7,baz=354,slow=7.4
NB2 NORSAR Subarra 61.28 8 P **P 04 29 07.9 -1.1**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
NOA NORSAR Array B 61.28 8 P **P 04 29 07.6 -1.4**
comp=Z,2.6nm,0.7s,mb4.5,baz=353,slow=6.8,SNR=13
FINES FINESS Array B 61.41 360 P **P 04 29 08.8 -1.1**
comp=Z,2.6nm,0.5s,mb4.6,baz=11,slow=7.7,SNR=21
NJ2 Nanjing 61.96 286 *eP* **P 04 29 14.1 +0.5**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
HFS Hagfors 62.35 7 P **P 04 29 15.2 -1.0**
comp=Z,5.3nm,0.4s,mb5.0,baz=46,slow=6.4,SNR=69
ARU Arti 63.40 340⇓ *iP* **P 04 29 21.6 -1.5**
ARU *e* 04 31 40.4
ARU *eS* **S 04 37 48.8 -4.1**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
ARU Arti 63.40 340 *eP* **P 04 29 21.3 -1.8**
comp=Z,8.8nm,0.6s,mb5.1
BVAR Borovoye Array 63.97 332 P **P 04 29 25.7 -1.2**
comp=Z,7.4nm,0.6s,mb4.9,baz=34,slow=6.5,SNR=35
ZRNK Zerenda 64.38 333⇑ *iP* **P 04 29 28.3 -1.3**
ZRNK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZRNK Zerenda 64.38 333⇑ *iP* **P 04 29 28.2 -1.4**
comp=Z,8.5nm,0.8s,mb4.8
EKA Eskdalemuir Ar 65.15 18 P **P 04 29 34.9 +0.2**
comp=Z,1.7nm,0.7s,mb4.2,baz=326,slow=5.7,SNR=6.7
MKAR Makanchi Array 65.96 321 P **P 04 29 38.4 -1.5**
comp=Z,5.0nm,0.6s,mb4.7,baz=31,slow=6.3,SNR=46
MKAR Makanchi Array 65.96 321⇑ *eP* **P 04 29 38.5 -1.4**
LZH Lanzhou 66.17 300 *eP* **P 04 29 44.0 +2.8**
LZH AP pP 04 29 50.0 -3.2
LZH XP sP 04 29 54.5 -3.3
LZH AMB AMB
comp=Z,17nm,1.0s,mb5.0
LZH Lanzhou 66.17 300 *eP* **P 04 29 44.0 +2.8**
LZH *PP pP 04 29 50.0 -3.2
LZH pmax pmax
comp=Z,17nm,1.0s,mb5.0
LZH Lanzhou 66.17 300 *eP* **P 04 29 44.0 +2.8**
comp=Z,17nm,1.0s,mb5.0
LZH pP pP 04 29 50.0 -3.2
LZH sP sP 04 29 54.5 -3.3
WMQ Urumqi 66.58 316 *eP* **P 04 29 46.5 +2.6**
WMQ AP pP 04 29 57.0 +1.2
WMQ XP sP 04 30 01.0 +0.5
WMQ PCP PcP 04 30 15.0 +2.0
WMQ PP PP 04 32 15.0 +4.2
WMQ *eS* S 04 38 35.0 +2.9
WMQ XS sS 04 38 52.0 +0.1
WMQ AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,107nm,4.8s
WMQ LR LR
comp=N,486nm,21.2s,MS4.9
WMQ LR LR
comp=E,572nm,22.4s,MS4.9
WMQ LR LR
comp=Z,336nm,20.9s,MS4.5
OBN Obninsk 67.41 353⇑ *eP* **P 04 29 45.4 -3.7**
OBN *e*PP pP 04 30 16.3 +15
OBN *e* 04 32 22.0
OBN *eS* S 04 38 31.6 -10
OBN pmax pmax
comp=Z,12nm,1.1s,mb4.8
AKTK Aktyubinsk 69.19 339 P **P 04 29 58.9 -1.4**
AKTO Aktyubinsk 69.19 339 P **P 04 29 58.9 -1.4**
comp=Z,4.1nm,0.7s,mb4.5,baz=28,slow=6.2,SNR=22
CD2 Chengdu 70.46 297 *eP* **P 04 30 07.0 -1.0**
CD2 AP pP 04 30 17.3 -2.8
CD2 XP sP 04 30 21.5 -3.2
CD2 PP PP 04 32 44.1 -0.2
CD2 S S 04 39 14.9 -3.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,6.8s
CD2 LR LR
comp=E,150nm,9.6s
CD2 LR LR
comp=Z,110nm,10.8s,MS4.4
CLL Collm 71.08 8 *iP* **P 04 30 11.9 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 71.08 8 *iP* **P 04 30 11.9 +0.1**
comp=Z,6.0nm,0.8s,mb4.6
BAIF Baives 71.38 14 *eP* **P 04 30 13.1 -0.5**
comp=Z,6.1nm,0.5s,mb4.5
BAIF Baives 71.38 14 *eP* **P 04 30 13.1 -0.5**
BAIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BAIF Baives 71.38 14 *eP* **P 04 30 13.1 -0.5**
comp=Z,3.0nm,0.5s,mb4.5
BRG Berggiesshubel 71.58 8 *iP* **P 04 30 15.0 +0.2**
comp=Z,3.3nm,1.1s,mb4.2
BRG
comp=N,121nm,26.9s
BRG
comp=E,69nm,18.6s
BRG
comp=Z,148nm,18.5s
TKM2 Tokmak 2 71.60 324 P **P 04 30 15.0 0.0**
SNR=8.1
TKM2 Tokmak 2 71.60 324 *iP* **P 04 30 14.3 -0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MOX Moxa 71.62 9 *eP* **P 04 30 15.8 +0.7**
comp=Z,12nm,0.6s,mb5.0
MOX Moxa 71.62 9 *eP* **P 04 30 15.8 +0.7**
MOX pmax pmax
comp=Z,12nm,0.6s,mb5.0
USP Ospenovka 71.63 325 P **P 04 30 15.1 0.0**
SNR=5.9
PVCC Panska Ves 71.97 7 *eP* **P 04 30 17.1 -0.1**
KBK Karagaybulak 72.04 324 P **P 04 30 18.0 +0.4**
SNR=5.6
UPC Upice 72.08 6 *eP* **P 04 30 17.9 0.0**
AKASG Malin Array Be 72.14 358 P **P 04 30 16.9 -1.3**
comp=Z,6.7nm,0.5s,mb4.8,baz=6.3,slow=6.1,SNR=39
AKASG Malin Array Be 72.14 358 *iP* **P 04 30 16.8 -1.4**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 72.21 324 P **P 04 30 18.7 +0.1**
SNR=6.7
AAK Ala-Archa 72.21 324*c iP* **P 04 30 17.4 -1.2**
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
AAK MLR MLR
comp=Z,100nm,15.0s,MS4.2
AAK Ala-Archa 72.21 324 *eP* **P 04 30 17.6 -1.0**
GRR Gorron 72.24 18 *eP* **P 04 30 19.2 +0.4**
comp=Z,40nm,1.1s,mb5.0
GRR Gorron 72.24 18 *eP* **P 04 30 19.2 +0.4**
GRR pmax pmax
comp=Z,20nm,1.1s,mb5.0
GRR Gorron 72.24 18 *eP* **P 04 30 19.2 +0.4**
comp=Z,20nm,1.1s,mb5.0
DPC Dobruska-Polom 72.26 6 *eP* **P 04 30 19.0 +0.1**
DPC AMS AMS 04 53 40.0
comp=Z,300nm,24.1s
EKS2 Erkin-Say 72.41 325 P **P 04 30 19.4 -0.4**
SNR=8.6
GRA1 Grafenberg Arr 72.53 10 *eP* **P 04 30 21.5 +1.0**
comp=Z,6.0nm,0.5s,mb4.8
GRF Grafenberg Arr 72.53 10 *eP* **P 04 30 21.5 +1.0**
comp=Z,6.0nm,0.5s,mb4.8
GRF Grafenberg Arr 72.53 10 *eP* **P 04 30 21.5 +1.0**
GRF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
GRF Grafenberg Arr 72.53 10 *eP* **P 04 30 21.5 +1.0**
GRF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
AML Almayashu 72.91 325 P **P 04 30 23.5 +0.7**
SNR=6.8
KHC Kasperske Hory 73.29 8 *eP* **P 04 30 25.7 +0.7**
KHC AMS AMS 04 54 40.0
comp=Z,200nm,19.8s
CDF Champ du Feu 73.38 13 *eP* **P 04 30 25.0 -0.6**
GERES GERESS Array B 73.58 8 P **P 04 30 27.5 +0.8**
comp=Z,2.6nm,0.6s,mb4.4,baz=350,slow=4.3,SNR=24
HAU Haudompre 73.67 13 *eP* **P 04 30 26.7 -0.6**
comp=Z,9.1nm,0.7s,mb4.5
HAU Haudompre 73.67 13 *eP* **P 04 30 26.7 -0.6**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HAU Haudompre 73.67 13 *eP* **P 04 30 26.7 -0.6**
comp=Z,4.6nm,0.7s,mb4.5
HINF Hinteralfeld 73.92 13 *eP* **P 04 30 28.0 -0.7**
comp=Z,4.8nm,0.6s,mb4.3
HINF Hinteralfeld 73.92 13 *eP* **P 04 30 28.0 -0.7**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
HINF Hinteralfeld 73.92 13 *eP* **P 04 30 28.0 -0.7**
comp=Z,2.4nm,0.6s,mb4.3
LOR Lormes 74.06 15 *eP* **P 04 30 29.1 -0.5**
SSF Saint Saulge 74.21 16 *eP* **P 04 30 30.0 -0.4**
comp=Z,5.8nm,0.6s,mb4.4
SSF Saint Saulge 74.21 16 *eP* **P 04 30 30.0 -0.4**
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SSF Saint Saulge 74.21 16 *eP* **P 04 30 30.0 -0.4**
comp=Z,2.9nm,0.6s,mb4.4
AVF Avril sur Loir 74.45 16 *eP* **P 04 30 31.3 -0.5**
comp=Z,11nm,0.6s,mb4.7
AVF Avril sur Loir 74.45 16 *eP* **P 04 30 31.3 -0.5**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AVF Avril sur Loir 74.45 16 *eP* **P 04 30 31.3 -0.5**
comp=Z,5.4nm,0.6s,mb4.7
BGF Bois d'Agland 74.61 16 *eP* **P 04 30 32.4 -0.3**
TCF Toulx Ste Croi 74.77 17 *eP* **P 04 30 33.2 -0.5**
comp=Z,3.9nm,0.6s,mb4.2
TCF Toulx Ste Croi 74.77 17 *eP* **P 04 30 33.2 -0.5**
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
TCF Toulx Ste Croi 74.77 17 *eP* **P 04 30 33.2 -0.5**
comp=Z,2.0nm,0.6s,mb4.2
KBA Koelnbreinsper 75.31 9⇑ *iP* **P 04 30 37.1 +0.3**
comp=Z,7.5nm,0.5s,mb4.9
KBA Koelnbreinsper 75.31 9⇑ *iP* **P 04 30 37.1 +0.3**
KBA pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
OBKA Obir 75.97 8⇑ *iP* **P 04 30 41.2 +0.7**
comp=Z,8.7nm,0.5s,mb5.0
VIVF Saint-Julien-I 76.54 15 *eP* **P 04 30 43.7 -0.1**
comp=Z,4.8nm,0.6s,mb4.3
VIVF Saint-Julien-I 76.54 15 *eP* **P 04 30 43.7 -0.1**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VIVF Saint-Julien-I 76.54 15 *eP* **P 04 30 43.7 -0.1**
comp=Z,2.4nm,0.6s,mb4.3
MBDF Montbardon 76.95 14 *eP* **P 04 30 46.8 +0.7**
comp=Z,5.9nm,0.7s,mb4.3
MBDF Montbardon 76.95 14 *eP* **P 04 30 46.8 +0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MBDF Montbardon 76.95 14 *eP* **P 04 30 46.8 +0.7**
comp=Z,3.0nm,0.7s,mb4.3
ETSF Etsaut 77.61 19 *eP* **P 04 30 50.6 +0.8**
comp=Z,4.7nm,0.6s,mb4.3
ETSF Etsaut 77.61 19 *eP* **P 04 30 50.6 +0.8**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ETSF Etsaut 77.61 19 *eP* **P 04 30 50.6 +0.8**
comp=Z,2.3nm,0.6s,mb4.3
MTLF Montolieu 77.65 17 *eP* **P 04 30 50.0 0.0**
comp=Z,2.1nm,0.6s,mb4.0
MTLF Montolieu 77.65 17 *eP* **P 04 30 50.0 0.0**
MTLF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MTLF Montolieu 77.65 17 *eP* **P 04 30 50.0 0.0**
comp=Z,1.0nm,0.6s,mb3.9
FRF La Foret Royal 78.08 14 *eP* **P 04 30 52.2 -0.2**
LMR La Mourre 78.28 14 *eP* **P 04 30 53.4 -0.1**
comp=Z,6.0nm,0.8s,mb4.3
LMR La Mourre 78.28 14 *eP* **P 04 30 53.4 -0.1**
LMR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LMR La Mourre 78.28 14 *eP* **P 04 30 53.4 -0.1**
comp=Z,3.0nm,0.8s,mb4.3
ESDC Sonseca Array 80.06 23 P **P 04 31 03.6 +0.3**
comp=Z,0.2nm,0.4s,baz=340,slow=4.8,SNR=5.3
PMG Port Moresby 81.84 238 P **P 04 31 13.3 +0.6**
BRTR Keskin Array B 82.93 354 P **P 04 31 18.0 -0.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=29,slow=3.4,SNR=9.7
KEST Kesra 86.13 13 P **P 04 31 36.1 +1.5**
comp=Z,0.8nm,0.8s,mb4.0,baz=313,slow=10,SNR=3.8
QSPA South Pole Qui 147.27 180 *e*PKPdf PKPdf 04 38 33.4 -1.1
QSPA *e*PKPbc PKPbc 04 38 36.0 -0.9
QSPA *e*PKPab PKPab 04 38 38.2 -0.5
MAW Mawson 160.41 224 *e*PKIKP PKPdf 04 38 54.6 +1.6

ISCJB ***02*** *04:33:03.9±1.7,3463S×005×17962W±0.10,h31km±12km, mb4.6/15, Error ellipse: s-maj=14.7km s-min=7.0km az=47.2*
MOS ***02*** *04:33:03.5±1.7,3461S×17947W,h33km,mb4.8/7, Error ellipse: s-maj=20.0km s-min=17.8km az=70.9*
NEIC ***02*** *04:33:03.3±0.6,3448S×179.19W,h35km,mb4.8/13, Error ellipse: s-maj=17.4km s-min=9.7km az=107.0*
IDC ***02*** *04:33:04.5±2.9,3428S×17925W,h44km±25km,mb4.2/7, mb1 4.4/8,mb1mx4.2/15,mbtmp4.5/8,ML4.8/1,MS3.9/1, Ms1 3.9/1,ms1mx3.3/14, Error ellipse: s-maj=22.9km s-min=17.3km az=26.0*
ISC 02 04:33:04.2±1.8,3458S±005×**1794W**±01,**h27**km±12km, **h34**km±5.4km:**pP-P,n85,σ1°14/77,mb4.6**/15,**1C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.50**	**211**	P	**Pn**	**04 33 59.3**	**+2.5**
MXZ	**Matakaoa Point**	**3.50**	**211**	*e*PN	**Pn**	**04 33 57.8**	**+1.0**
MXZ				SN	**Sn**	**04 34 42.1**	**+4.9**
MXZ				SN	**Sn**	**04 34 42.8**	**+5.5**
PUZ	**Puketiti**	**3.96**	**207**	*eP*	**Pn**	**04 34 04.6**	**+1.5**
PUZ	**Puketiti**	**3.96**	**207**	*e*PN	**Pn**	**04 34 04.3**	**+1.2**
PUZ				SN	**Sn**	**04 34 54.3**	**+5.7**
MWZ	**Matawai**	**4.48**	**212**	PN	**Pn**	**04 34 12.1**	**+1.8**
MWZ				SN	**Sn**	**04 35 08.2**	**+6.7**
URZ	**Urewera**	**4.61**	**216**	P	**Pn**	**04 34 14.4**	**+2.3**
37nm,0.3s,baz=44,slow=5.1,SNR=134							
URZ	**Urewera**	**4.61**	**216**	*eP*	**Pn**	**04 34 13.7**	**+1.6**
URZ	**Urewera**	**4.61**	**216**	PN	**Pn**	**04 34 13.6**	**+1.5**
URZ				SN	**Sn**	**04 35 10.3**	**+5.5**
KNZ	**Kokohu**	**5.01**	**207**	*eP*	**Pn**	**04 34 17.5**	**0.0**
KNZ	**Kokohu**	**5.01**	**207**	PN	**Pn**	**04 34 17.5**	**0.0**
RAO	**Raoul Island**	**5.46**	**14**	LR	LR	04 36 00.1	
comp=Z,1μm,20.5s,baz=179,slow=34							
BKZ	**Black Stump Fm**	**5.62**	**214**	P	**Pn**	**04 34 27.4**	**+1.4**
BKZ	**Black Stump Fm**	**5.62**	**214**	PN	**Pn**	**04 34 27.2**	**+1.1**
OTVZ	**Oturere**	**6.03**	**219**	*e*PN	**Pn**	**04 34 33.3**	**+1.7**
MOVZ	**Moawhango**	**6.17**	**217**	P	**Pn**	**04 34 34.5**	**+1.0**
MOVZ	**Moawhango**	**6.17**	**217**	*e*PN	**Pn**	**04 34 34.2**	**+0.7**
PXZ	**Pawanui**	**6.19**	**207**	PN	**Pn**	**04 34 33.1**	**-0.7**
PXZ				SN	**Sn**	**04 35 44.7**	**+0.9**
BFZ	**Birch Farm**	**6.99**	**208**	*eP*	**Pn**	**04 34 42.6**	**-2.2**
BFZ				S	**Sn**	**04 36 04.1**	**+0.7**
BFZ	**Birch Farm**	**6.99**	**208**	*e*PN	**Pn**	**04 34 43.0**	**-1.8**
BFZ				SN	**Sn**	**04 36 03.2**	**-0.2**
MRZ	**Mangatainoka R**	**7.25**	**212**	*eP*	**Pn**	**04 34 47.1**	**-1.2**
MRZ	**Mangatainoka R**	**7.25**	**212**	*e*PN	**Pn**	**04 34 47.7**	**-0.6**
MRZ				SN	**Sn**	**04 36 08.7**	**-1.0**
KIW	**Kapiti Island**	**7.71**	**214**	P	**Pn**	**04 34 54.2**	**-0.4**
KIW				S	**Sn**	**04 36 22.1**	**+1.1**
KIW	**Kapiti Island**	**7.71**	**214**	PN	**Pn**	**04 34 54.0**	**-0.6**
KIW				SN	**Sn**	**04 36 21.7**	**+0.7**
TCW	**Tory Channel**	**8.28**	**215**	*e*PN	**Pn**	**04 35 00.7**	**-1.8**
NNZ	**Nelson**	**8.73**	**218**	SN	**Sn**	**04 36 45.9**	**-0.1**
THZ	**Tophouse**	**9.37**	**218**	*e*PN	**Pn**	**04 35 16.6**	**-0.8**
THZ				SN	**Sn**	**04 37 01.3**	**-0.5**
LTZ	**Lake Taylor**	**10.44**	**216**	*e*PN	**Pn**	**04 35 29.9**	**-2.2**
MQZ	**McQueen's Vall**	**10.99**	**212**	SN	**Sn**	**04 37 34.5**	**-7.1**
RPZ	**Rata Peaks**	**11.73**	**216**	P	**Pn**	**04 35 49.5**	**-0.3**
2.1nm,0.3s,baz=28,slow=1.8,SNR=12							
RPZ				S	**Sn**	**04 37 54.3**	**-5.4**
3.1nm,0.3s,baz=352,slow=23,SNR=8.2							
ODZ	**Otahua Downs**	**12.93**	**213**	*e*PN	**Pn**	**04 36 02.7**	**-3.5**
JCZ	**Jackson Bay**	**13.16**	**220**	*e*PN	**Pn**	**04 36 06.4**	**-2.8**
AFI	**Afiamalu**	**21.71**	**20**	*eP*	**P**	**04 37 57.1**	**+4.0**
AFI				pmax	pmax		
comp=Z,12nm,0.6s,mb4.5							
AFI	**Afiamalu**	**21.71**	**20**	*eP*	**P**	**04 37 57.0**	**+3.9**
comp=Z,12nm,0.6s,mb4.5							
TBI	**Tubuai**	**28.41**	**75**	*e*LR	LR	04 45 42.5	
comp=Z,747nm,25.2s,baz=239							
PPT	**Papeete**	**31.56**	**65**	*e*LR	LR	04 47 10.8	
comp=Z,721nm,24.5s,baz=232							
STKA	**Stephens Creek**	**32.57**	**264**	*eP*	**P**	**04 39 35.1**	**+1.9**
comp=Z,3.2nm,1.4s,mb4.1							
STKA				*e*		04 40 32.1	
STKA	**Stephens Creek**	**32.57**	**264**	P	**P**	**04 39 33.5**	**+0.4**
comp=Z,1.8nm,0.5s,mb4.2,baz=183,slow=3.1,SNR=7.9							
CTA	**Charters Tower**	**33.54**	**286**	*eP*	**P**	**04 39 43.3**	**+1.7**
comp=Z,7.0nm,0.5s,mb4.8							
CTA				*e*		04 40 40.7	
CTA	**Charters Tower**	**33.54**	**286**	P	**P**	**04 39 40.6**	**-1.0**
comp=Z,9.0nm,0.5s,mb4.9,baz=118,slow=10.0,SNR=16							
CTA	**Charters Tower**	**33.54**	**286**	*eP*	**P**	**04 39 43.3**	**+1.7**
CTA				pmax	pmax		
comp=Z,7.0nm,0.5s							
CTAO	**Charters Tower**	**33.54**	**286**	*eP*	**P**	**04 39 43.1**	**+1.5**
CTAO				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8							
CTAO	**Charters Tower**	**33.54**	**286**	*eP*	**P**	**04 39 43.1**	**+1.5**
comp=Z,8.2nm,0.6s,mb4.8							
RKT	**Rikitea**	**40.30**	**86**	*e*LQ		04 49 19.5	
comp=Z,194nm,31.0s							
RKT				*e*LR	LR	04 50 59.3	
comp=Z,862nm,27.8s,baz=246							
ASAR	**Alice Springs**	**41.86**	**272**	P	**P**	**04 40 51.9**	**-0.1**
comp=Z,18nm,0.7s,mb4.8,baz=116,slow=7.3,SNR=159							
ASAR				PcP	PcP	04 42 45.6	-1.8
comp=Z,3.6nm,0.6s,baz=120,slow=3.8,SNR=5.1							
ASAR				S	**S**	**04 47 07.9**	**-0.3**
comp=Z,1.2nm,0.7s,baz=116,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**43.23**	**277**	P	**P**	**04 41 02.7**	**-0.3**
comp=Z,8.7nm,0.5s,mb4.7,baz=117,slow=7.7,SNR=163							
WRA				PcP	PcP	04 42 50.4	-1.6
comp=Z,1.2nm,0.7s,baz=114,slow=3.4,SNR=4.8							
SBA	**Scott Base**	**43.80**	**184**	*eP*	**P**	**04 41 06.9**	**-0.7**
SBA				pmax	pmax		
comp=Z,36nm,1.9s,mb4.8							
SBA	**Scott Base**	**43.80**	**184**	*eP*	**P**	**04 41 06.9**	**-0.7**
comp=Z,36nm,1.9s,mb4.8							
VNDA	**Vanda**	**43.83**	**186**	P	**P**	**04 41 08.9**	**+1.1**
comp=Z,0.9nm,0.9s,mb3.5,baz=1.3,slow=6.8,SNR=4.2							
VNDA	**Vanda**	**43.83**	**186**	*eP*	**P**	**04 41 09.1**	**+1.2**
VNDA				pmax	pmax		
comp=Z,4.0nm,1.3s							
VNDA	**Vanda**	**43.83**	**186**	*eP*	**P**	**04 41 09.1**	**+1.2**
comp=Z,3.7nm,1.3s,mb4.0							
FORT	**Forrest**	**43.95**	**260**	*eP*	**P**	**04 41 08.7**	**-0.1**
comp=Z,18nm,0.5s,mb5.1							
FORT				*e*		04 42 05.5	
TAOE	**Nuku Hiva Isla**	**44.15**	**64**	*e*LR	LR	04 52 59.5	
comp=Z,1μm,25.6s							
CASY	**Casey**	**50.90**	**209**	*eP*	**P**	**04 42 02.1**	**-0.8**
CASY				*e*		04 43 00.4	
FITZ	**Fitzroy Crossi**	**51.28**	**274**	*eP*	**P**	**04 42 05.3**	**-0.5**
comp=Z,13nm,0.6s,mb5.0							
FITZ				*e*		04 43 02.5	
NWAO	**Narrogin (SRO)**	**51.89**	**253**	*eP*	**P**	**04 42 09.9**	**-0.4**
NWAO				pmax	pmax		
comp=Z,12nm,1.1s							
NWAO	**Narrogin (SRO)**	**51.89**	**253**	*eP*	**P**	**04 42 09.9**	**-0.4**
comp=Z,12nm,1.1s,mb4.7							
KLBR	**Kellerberrin**	**51.95**	**255**	*eP*	**P**	**04 42 10.1**	**-0.7**
comp=Z,12nm,0.7s,mb4.9							
KLBR				*e*		04 43 07.0	
MUN	**Mundaring**	**53.04**	**253**	*eP*	**P**	**04 42 20.8**	**+2.0**
MBWA	**Marble Bar**	**54.68**	**267**	*eP*	**P**	**04 42 29.9**	**-0.9**
comp=Z,5.8nm,0.6s,mb4.8							
MBWA				*e*pP	pP	04 42 42.9	+3.8
QSPA	**South Pole Qui**	**55.55**	**180**	*eP*	**P**	**04 42 37.9**	**+0.8**
comp=Z,18nm,1.0s,mb5.0							
MAW	**Mawson**	**67.99**	**201**	P	**P**	**04 44 01.7**	**+0.8**
comp=Z,4.3nm,0.8s,mb4.5,baz=124,slow=5.9,SNR=10							
MAW	**Mawson**	**67.99**	**201**	*eP*	**P**	**04 44 01.8**	**+1.0**
MAW				pmax	pmax		
comp=Z,3.0nm,0.6s							
MAW	**Mawson**	**67.99**	**201**	*eP*	**P**	**04 44 01.8**	**+1.0**
comp=Z,2.6nm,0.6s,mb4.4							
MAW				*eP*		04 44 02.5	
MAW				*e*		04 45 00.8	
SYO	**Syowa Base**	**72.78**	**194**⇑	*eP*	**P**	**04 44 29.2**	**-1.0**
SNAA	**Sanae**	**74.02**	**179**	P	**P**	**04 44 36.8**	**-0.7**
comp=Z,1.8nm,1.1s,mb3.9,baz=164,slow=6.6,SNR=6.5							
SNAA	**Sanae**	**74.02**	**179**	*e*	**P**	**04 44 36.8**	**-0.6**
SNAA				*e*	pP	04 44 46.6	+0.5
SNAA				*e*		04 45 33.7	
SNAA				*e*		04 45 55.2	
VNA3	**Neumayer Olymp**	**74.23**	**177**	*e*	**P**	**04 44 38.0**	**-0.6**
VNA3				*e*	pP	04 44 45.1	-2.2
VNA3				*e*		04 44 49.1	
VNA3				*e*		04 44 54.2	
VNA3				*e*		04 45 00.9	
VNA3				*e*		04 45 28.6	
VNA3				*e*		04 45 34.6	
VNA3				*e*		04 45 45.2	
VNA3				*e*		04 45 53.5	
VNA1	**Neumayer--Stat**	**74.88**	**177**	*e*	**P**	**04 44 42.9**	**+0.5**
VNA1				*e*		04 44 48.3	
VNA1				*e*		04 44 53.1	
VNA1				*e*		04 45 41.3	
VNA1				*e*		04 45 53.3	
VNA1				*e*		04 46 02.6	
MKAR	**Makanchi Array**	**119.47**	**309**	PKP	PKPdf	04 51 47.7	-3.5
comp=Z,1.0nm,0.8s,baz=46,slow=1.9,SNR=7.4							
BVAR	**Borovoye Array**	**128.47**	**314**	PKP	PKPdf	04 52 05.6	-2.8
comp=Z,1.4nm,0.6s,baz=88,slow=2.8,SNR=9.0							
ZRNK	**Zerenda**	**129.29**	**313**	*e*PKIKP	PKPdf	04 52 07.2	-2.8
AKTK	**Aktyubinsk**	**135.90**	**309**	PKP	PKPdf	04 52 18.5	-4.0
AKTO	**Aktyubinsk**	**135.90**	**309**	PKP	PKPdf	04 52 18.5	-4.0
comp=Z,1.6nm,0.6s,baz=90,slow=2.0,SNR=4.3							
ARCES	**ARCESS Array B**	**142.37**	**346**	PKP	PKPdf	04 52 28.9	-5.4
comp=Z,2.7nm,0.7s,baz=20,slow=3.9,SNR=8.9							
JOF	**Joensuu**	**145.77**	**335**	*e*pkp	PKPdf	04 52 36.3	-3.9
KAF	**Kangasniemi**	**148.00**	**337**	*e*pkp	PKPdf	04 52 42.1	-1.8
FINES	**FINESS Array B**	**148.56**	**337**	PKPbc	PKPbc	04 52 45.2	-3.3
comp=Z,1.0nm,0.7s,baz=98,slow=3.9,SNR=30							
FINES	**FINESS Array B**	**148.56**	**337**	PKPbc	PKPbc	04 52 45.2	-3.3
DBIC	**Dimbokro**	**151.78**	**169**	PKPbc	PKPbc	04 52 54.4	-1.9
comp=Z,3.7nm,0.6s,baz=242,slow=7.5,SNR=5.6							
DBIC				PKPab	PKPab	04 53 04.0	-1.3
comp=Z,6.5nm,0.8s,baz=205,slow=6.1,SNR=5.2							
DBIC	**Dimbokro**	**151.78**	**169**	PKPbc	PKPbc	04 52 54.4	-1.9
DBIC				PKPab	PKPab	04 53 04.0	-1.3
NB2	**NORSAR Subarra**	**152.64**	**349**	PKP	PKPdf	04 52 54.6	+3.4
comp=Z,4.9nm,1.0s,baz=17,slow=4.1							
NOA	**NORSAR Array B**	**152.64**	**349**	PKPbc	PKPbc	04 52 55.4	-2.9
comp=Z,1.4nm,0.8s,baz=12,slow=4.5,SNR=12							
NOA				PKPab	PKPab	04 53 05.4	-3.5
comp=Z,4.2nm,0.7s,baz=25,slow=4.2,SNR=16							
BRTR	**Keskin Array B**	**153.23**	**291**	PKPbc	PKPbc	04 52 57.1	-2.4
comp=Z,2.3nm,0.7s,baz=125,slow=4.4,SNR=14							
BRTR				PKPab	PKPab	04 53 08.8	-2.5
comp=Z,1.9nm,0.8s,baz=150,slow=5.1,SNR=6.5							
AKASG	**Malin Array Be**	**153.69**	**317**	PKPbc	PKPbc	04 52 56.3	-4.2
comp=Z,1.8nm,0.6s,baz=52,slow=2.2,SNR=4.6							
AKASG				PKPab	PKPab	04 53 10.8	-2.5
comp=Z,0.9nm,0.6s,baz=60,slow=1.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**158.64**	**183**	PKPab	PKPab	04 53 33.8	-0.8
comp=Z,

0 Moment tensor: Scale 10^{16}Nm; M_m3.89±.24; $M_{\theta\theta}$-0.73±.18; $M_{\phi\phi}$-3.16±.18; $M_{r\theta}$0.56±.34; $M_{r\phi}$-2.17±.16; $M_{\theta\phi}$4.13±.35; Best double couple: $M_0$5.90600×10^{16} NP1:ϕ_s228.00000°, δ26.00000°, λ121.00000°. NP2: ϕ_s14.00000°, δ68.00000°, λ76.00000°. Principal axes: T 5.8220, Plg64.0000°, Azm261.0000°; N 0.1670, Plg13.0000°, Azm19.0000°; P -5.9900, Plg22.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***02*** *04:34:02.8±2.8, 3433S×17933W, h52km±23km, mb4.3/8, mb1 4.5/9, mb1mx4.3/15, mbtmp4.6/9, ML4.8/1, MS4.5/5, Ms1 4.5/5, ms1mx4.1/12 Error ellipse: s-maj=20.1km s-min=16.1km az=175.0*

ISCJB ***02*** *04:34:05.9±1.7, 3467S±008×179.7W±01, h81km±14km, mb4.6/11, Error ellipse: s-maj=20.3km s-min=11.9km az=49.4*

ISC 02 04:34:03.9±1.6, 3455S±009×1795W±01, h52km±13km, n57, σ1§28/44, mb4.6/11, MS4.4/3, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.51**	**210**	*e*PN	**Pn**	**04 35 00.3**	**+4.4**
MXZ				SN	**Sn**	**04 35 39.9**	**+3.7**
MXZ				SN	**Sn**	**04 35 40.5**	**+4.4**
PUZ	**Puketiti**	**3.97**	**207**	*e*PN	**Pn**	**04 35 02.9**	**+0.7**
PUZ				SN	**Sn**	**04 35 52.9**	**+5.5**
MWZ	**Matawai**	**4.49**	**212**	PN	**Pn**	**04 35 11.3**	**+1.9**
MWZ				SN	**Sn**	**04 36 05.6**	**+5.3**
URZ	**Urewera**	**4.62**	**216**	P	**Pn**	**04 35 11.7**	**+0.6**
40nm,0.3s,baz=137,slow=21,SNR=9.9							
URZ				S	**Sn**	**04 36 07.9**	**+4.4**
17nm,0.3s,baz=150,slow=20,SNR=2.6							
URZ				LR	LR	04 36 50.5	
comp=Z,5μm,18.6s,baz=223,slow=34							
KNZ	**Kokohu**	**5.02**	**206**	SN	**Sn**	**04 36 15.1**	**+1.8**
BKZ	**Black Stump Fm**	**5.64**	**214**	SN	**Sn**	**04 36 32.1**	**+3.6**
MOVZ	**Moawhango**	**6.18**	**217**	SN	**Sn**	**04 36 44.4**	**+2.6**
PXZ	**Pawanui**	**6.21**	**207**	*e*PN	**Pn**	**04 35 31.5**	**-1.3**
PXZ				SN	**Sn**	**04 36 43.7**	**+1.2**
BFZ	**Birch Farm**	**7.00**	**208**	SN	**Sn**	**04 37 00.4**	**-1.6**
MRZ	**Mangatainoka R**	**7.26**	**211**	SN	**Sn**	**04 37 08.0**	**-0.4**
KIW	**Kapiti Island**	**7.72**	**214**	SN	**Sn**	**04 37 18.8**	**-0.8**
TCW	**Tory Channel**	**8.29**	**215**	SN	**Sn**	**04 37 33.0**	**-0.6**
TUWZ	**Tuamarina**	**8.62**	**215**	SN	**Sn**	**04 37 40.0**	**-1.7**
THZ	**Tophouse**	**9.38**	**218**	SN	**Sn**	**04 37 59.3**	**-1.0**
LTZ	**Lake Taylor**	**10.45**	**216**	*e*PN	**Pn**	**04 36 29.8**	**-1.2**
LTZ				SN	**Sn**	**04 38 21.2**	**-5.4**
MQZ	**McQueen's Vall**	**11.00**	**211**	SN	**Sn**	**04 38 32.0**	**-8.0**
RPZ	**Rata Peaks**	**11.74**	**216**	P	**Pn**	**04 36 44.1**	**-4.5**
0.7nm,0.3s,baz=307,slow=10,SNR=2.0							
RPZ				S	**Sn**	**04 38 51.1**	**-7.0**
1.4nm,0.3s,baz=0.0,slow=19,SNR=3.1							
JCZ	**Jackson Bay**	**13.17**	**220**	*e*PN	**Pn**	**04 37 06.8**	**-1.2**
DZM	**Mont Dzumac**	**17.55**	**311**	LR	LR	04 43 16.8	
comp=Z,5μm,18.7s,baz=204,slow=32							
HNR	**Honiara**	**31.32**	**318**	LR	LR	04 50 47.6	
comp=Z,355nm,18.3s,MS4.1,baz=180,slow=32							
STKA	**Stephens Creek**	**32.56**	**264**	P	**P**	**04 40 30.9**	**+0.8**
5.3nm,0.9s,mb4.5,baz=99,slow=9.0,SNR=5.7							
STKA				PcP	PcP	04 43 14.3	-1.2
3.5nm,0.7s,baz=101,slow=5.1,SNR=4.2							
STKA	**Stephens Creek**	**32.56**	**264**	P	**P**	**04 40 30.9**	**+0.9**
STKA				PcP	PcP	04 43 14.3	-1.2
CTA	**Charters Tower**	**33.52**	**286**	P	**P**	**04 40 39.0**	**+0.6**
21nm,0.9s,mb5.0,baz=118,slow=8.9,SNR=6.3							
CTAO	**Charters Tower**	**33.52**	**286**	*e*P	**P**	**04 40 40.6**	**+2.2**
CTAO				pmax	pmax		
comp=Z,30nm,1.1s,mb5.1							
CTAO	**Charters Tower**	**33.52**	**286**	*e*P	**P**	**04 40 40.6**	**+2.3**
comp=Z,30nm,1.1s,mb5.1							
ASAR	**Alice Springs**	**41.85**	**272**	P	**P**	**04 41 49.0**	**+0.3**
comp=Z,20nm,0.8s,mb4.8,baz=113,slow=7.3,SNR=16							
ASAR				PcP	PcP	04 43 42.4	-1.4
comp=Z,3.3nm,0.6s,baz=118,slow=4.3,SNR=5.0							
ASAR				S	**S**	**04 48 03.5**	**+0.7**
comp=Z,3.1nm,1.1s,baz=120,slow=15,SNR=8.2							
WRA	**Warramunga Arr**	**43.21**	**277**	P	**P**	**04 41 60.0**	**+0.2**
comp=Z,5.5nm,0.4s,mb4.6,baz=119,slow=7.9,SNR=11							
CASY	**Casey**	**50.91**	**209**	*e*P	**P**	**04 42 59.0**	**-0.8**
comp=Z,22nm,1.1s,mb5.0							
NWAO	**Narrogin (SRO)**	**51.89**	**253**	*e*P	**P**	**04 43 05.9**	**-1.1**
NWAO				pmax	pmax		
comp=Z,14nm,1.0s							
NWAO	**Narrogin (SRO)**	**51.89**	**253**	*e*P	**P**	**04 43 05.9**	**-1.2**
comp=Z,14nm,1.0s,mb4.8							
MBWA	**Marble Bar**	**54.67**	**267**	*e*P	**P**	**04 43 27.0**	**-0.4**
comp=Z,26nm,1.3s,mb5.1							
MAW	**Mawson**	**68.00**	**201**	P	**P**	**04 44 59.2**	**+1.6**
comp=Z,8.5nm,1.0s,mb4.7,baz=83,slow=8.2,SNR=5.9							
MAW	**Mawson**	**68.00**	**201**	*e*P	**P**	**04 44 59.5**	**+1.9**
MAW				pmax	pmax		
comp=Z,26nm,1.3s							
MAW	**Mawson**	**68.00**	**201**	*e*P	**P**	**04 44 59.5**	**+2.0**
comp=Z,26nm,1.3s,mb5.1							
SNAA	**Sanae**	**74.05**	**179**	P	**P**	**04 45 34.6**	**+0.5**
comp=Z,1.6nm,1.0s,mb3.9,baz=204,slow=7.3,SNR=5.0							
JHJ	**Hachijo jima 2**	**77.43**	**326**	LR	LR	05 17 37.0	
comp=Z,144nm,18.5s,MS4.3,baz=260,slow=34							
PLCA	**Paso Flores**	**80.58**	**133**	P	**P**	**04 46 10.4**	**-0.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=305,slow=0.9,SNR=2.1							
MJAR	**Matsushiro Arr**	**80.98**	**327**	P	**P**	**04 46 10.7**	**-2.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=168,slow=7.9,SNR=4.5							
PDAR	**Pinedale Array**	**99.97**	**45**	LR	LR	05 28 11.5	
comp=Z,238nm,18.1s,MS4.7,baz=212,slow=33							
MKAR	**Makanchi Array**	**119.45**	**309**	PKP	PKPdf	04 52 44.6	-2.9
comp=Z,0.6nm,0.5s,baz=199,slow=1.1,SNR=4.8							
BVAR	**Borovoye Array**	**128.44**	**314**	PKP	PKPdf	04 53 02.1	-2.6
comp=Z,1.5nm,0.6s,baz=134,slow=3.0,SNR=5.5							
ZRNK	**Zerenda**	**129.26**	**313**	*e*PKIKP	PKPdf	04 53 04.4	-1.9
ARCES	**ARCESS Array B**	**142.34**	**346**	PKP	PKPdf	04 53 26.8	-3.8
comp=Z,1.3nm,0.7s,baz=52,slow=1.0,SNR=4.9							
JOF	**Joensuu**	**145.75**	**335**	*e*pkp	PKPdf	04 53 34.0	-2.5
MOS	**Moscow**	**146.93**	**321**	*e*PKIKP	PKPdf	04 53 37.1	-1.4
OBN	**Obninsk**	**147.74**	**321**	‖*e*PKP2	PKPab	04 53 40.9	-4.3
OBN				pmax	pmax		
comp=Z,69nm,1.6s							
KAF	**Kangasniemi**	**147.97**	**337**	*e*pkp	PKPdf	04 53 39.8	-0.4
FINES	**FINESS Array B**	**148.54**	**337**	PKPbc	PKPbc	04 53 41.7	-3.2
comp=Z,16nm,1.0s,baz=94,slow=5.7,SNR=7.0							
FINES	**FINESS Array B**	**148.54**	**337**	PKPbc	PKPbc	04 53 41.7	-3.2
NB2	**NORSAR Subarra**	**152.62**	**349**	PKP	PKPbc	04 53 54.2	-0.3
comp=Z,6.3nm,0.8s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**152.62**	**349**	PKPbc	PKPbc	04 53 52.6	-2.0
comp=Z,3.1nm,0.8s,baz=18,slow=4.2,SNR=2.4							
NOA				PKPab	PKPab	04 54 02.2	-3.0
comp=Z,6.1nm,0.9s,baz=25,slow=4.1,SNR=7.5							
BRTR	**Keskin Array B**	**153.21**	**291**	PKPbc	PKPbc	04 53 53.2	-2.6
comp=Z,3.4nm,0.9s,baz=117,slow=4.3,SNR=6.9							
BRTR				PKPab	PKPab	04 54 06.8	-0.9
comp=Z,3.7nm,0.9s,baz=126,slow=4.3,SNR=6.0							
AKASG	**Malin Array Be**	**153.66**	**317**	PKPbc	PKPbc	04 53 54.6	-2.2
comp=Z,2.2nm,0.8s,baz=61,slow=2.1,SNR=6.3							
AKASG				PKPab	PKPab	04 54 07.6	-2.0
comp=Z,1.7nm,0.6s,baz=54,slow=2.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**158.66**	**183**	PKPab	PKPab	04 54 30.7	-0.4
comp=Z,1.9nm,0.9s,baz=174,slow=2.1,SNR=2.5							
CLL	**Collm**	**160.98**	**335**	*e*PKPab	PKPab	04 54 39.0	-2.2
SSF	**Saint Saulge**	**167.31**	**351**	*e*PKIKP	PKPdf	04 54 08.4	+4.5
comp=Z,7.0nm,0.8s							
AVF	**Avril sur Loir**	**167.59**	**351**	*e*PKIKP	PKPdf	04 54 10.7	+6.6
comp=Z,6.3nm,0.8s							

ISCJB ***02*** *04:35:25.9±0.8, 464N±0.1×1535E±0.1, h10km, mb4.2/19, Error ellipse: s-maj=21.7km s-min=8.0km az=117.2*

IDC ***02*** *04:35:25.1±1.2, 4639N×15345E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, ML3.7/2, Error ellipse: s-maj=30.5km s-min=23.0km az=145.0*

BJI ***02*** *04:35:25.6, 4669N×15347E, h7km, mB4.5, mb4.1*

NEIC ***02*** *04:35:26.9±0.8, 4647N×15351E, h10km, mb4.0/4, Error ellipse: s-maj=19.2km s-min=10.7km az=141.0*

MOS ***02*** *04:35:27.9±1.0, 4645N×15342E, h31km, mb4.2/11, Error ellipse: s-maj=17.0km s-min=15.7km az=78.7*

ISC 02 04:35:27.2±4.5, 465N±01×1535E±01, h8km±28km, n47, σ1§26/48, mb4.2/19, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.12**	**254**	‖*i*PN	**Pn**	**04 36 29.4**	**-1.0**
KUR				*i* S	**Sn**	**04 37 17.0**	**-1.8**
KUR				pmax	pmax		
comp=Z,190nm,0.5s							
KUR				smax			
comp=N,190nm,0.7s							
KUR				smax			
comp=E,230nm,0.7s							
SKR	**Severo-Kuril's**	**4.55**	**22**	*e*PN	**Pn**	**04 36 31.6**	**-4.8**
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
ASAJ	**Asahikawa**	**8.03**	**257**	Pn	**Pn**	**04 37 24.4**	**+0.2**
comp=Z,1.3nm,0.3s,baz=105,slow=18,SNR=7.0							
ASAJ	**Asahikawa**	**8.03**	**257**	PN	**Pn**	**04 37 24.4**	**+0.2**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.13**	**234**	Pn	**Pn**	**04 39 00.4**	**-0.8**
comp=Z,0.3nm,0.3s,baz=36,slow=8.6,SNR=3.6							
MDJ	**Mudanjiang**	**16.82**	**272**	*e*Pn	**Pn**	**04 39 23.6**	**+0.4**
comp=Z,8.9nm,1.0s							
BJT	**Baijiatuan**	**27.74**	**270**	P	**P**	**04 41 16.2**	**-0.1**
BJT				pmax	pmax		
comp=Z,4.0nm,0.4s							
BJT	**Baijiatuan**	**27.74**	**270**	P	**P**	**04 41 16.2**	**-0.1**
comp=Z,4.1nm,0.4s,mb4.4							
SONM	**Songino Array**	**31.66**	**290**	P	**P**	**04 41 50.4**	**-0.6**
comp=Z,0.8nm,0.9s,mb3.5,baz=79,slow=7.5,SNR=3.5							
SONM	**Songino Array**	**31.66**	**290**	P	**P**	**04 41 50.4**	**-0.6**
SONM				pmax	pmax		
comp=Z,1.0nm,0.9s							
ENH	**Enshi**	**37.57**	**260**	*e*P	**P**	**04 42 43.0**	**+0.9**
comp=Z,0.4nm,0.5s,mb3.4							
GTA	**Gaotai**	**39.26**	**280**	*e*P	**P**	**04 42 58.4**	**+2.1**
GTA				AP	pP	04 43 02.5	+3.8
GTA				XP	sP	04 43 05.6	+6.0
GTA				AMB	AMB		
comp=Z,4.0nm,1.2s,mb4.0							
INK	**Inuvik**	**41.74**	**32**	P	**P**	**04 43 16.2**	**-0.6**
comp=Z,0.8nm,0.7s,mb3.4,baz=211,slow=5.9,SNR=3.5							
INK	**Inuvik**	**41.74**	**32**	P	**P**	**04 43 16.2**	**-0.6**
INK				pmax	pmax		
comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**41.74**	**32**	P	**P**	**04 43 16.2**	**-0.6**
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**04 43 59.6**	**-1.6**
comp=Z,2.2nm,0.8s,mb4.1,baz=69,slow=7.3,SNR=15							
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**04 43 59.6**	**-1.5**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
POHA	**Pohakuloa**	**49.26**	**105**	*e*P	**P**	**04 44 07.8**	**-8.6**
comp=Z,29nm,0.4s							
BVAR	**Borovoye Array**	**51.22**	**310**	P	**P**	**04 44 30.3**	**-1.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=48,slow=8.8,SNR=6.2							
BVAR	**Borovoye Array**	**51.22**	**310**	P	**P**	**04 44 30.3**	**-0.9**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
GUN	**Gumba**	**55.28**	**275**	*e*P	**P**	**04 45 02.6**	**+1.5**
KKN	**Kakani**	**55.77**	**276**	*e*P	**P**	**04 45 06.5**	**+1.9**
comp=Z,11nm,0.6s,mb5.1							
PKI	**Pulchoki**	**55.81**	**275**	*e*P	**P**	**04 45 06.1**	**+1.2**
comp=Z,8.7nm,0.8s,mb4.8							
DMN	**Daman**	**56.00**	**276**	*e*P	**P**	**04 45 07.9**	**+1.6**
comp=Z,15nm,0.8s,mb5.1							
GKN	**Gorkha**	**56.07**	**276**	*e*P	**P**	**04 45 08.1**	**+1.3**
comp=Z,9.5nm,0.5s,mb5.1							
KOLN	**Koldanda**	**56.93**	**277**	*e*P	**P**	**04 45 14.3**	**+1.4**
comp=Z,10nm,0.8s,mb4.9							
JOF	**Joensuu**	**61.68**	**334**	*e*p	**P**	**04 45 42.6**	**-3.2**
KAF	**Kangasniemi**	**63.79**	**335**	*e*p	**P**	**04 45 58.1**	**-1.7**
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**04 46 02.8**	**-1.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=37,slow=7.2,SNR=15							
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**04 46 02.8**	**-0.9**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**64.70**	**54**	P	**P**	**04 46 06.3**	**+0.5**
comp=Z,0.8nm,1.0s,mb3.7,baz=253,slow=0.9,SNR=3.0							
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**04 46 29.5**	**-1.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=27,slow=6.5							
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**04 46 29.5**	**-1.0**
NB2				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**04 46 29.5**	**-1.0**
comp=Z,1.3nm,0.7s,mb4.0							
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**04 46 29.9**	**-0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=10							
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**04 46 29.9**	**-0.6**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**	**04 46 50.1**	**-0.9**
comp=Z,2.7nm,0.7s,mb4.3,baz=34,slow=6.3,SNR=13							
AKASG	**Malin Array Be**	**71.91**	**326**	P	**P**	**04 46 50.1**	**-0.9**
AKASG				pmax	pmax		
comp=Z,3.0nm,0.7s							
ASAR	**Alice Springs**	**72.04**	**199**	P	**P**	**04 46 49.6**	**-2.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=15,slow=4.3,SNR=4.8							
ASAR	**Alice Springs**	**72.04**	**199**	P	**P**	**04 46 49.6**	**-2.1**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BURAR	**Bucovina Array**	**75.95**	**327**	‖*i*P	**P**	**04 47 14.4**	**-0.2**
MORC	**Moravsky Berou**	**76.79**	**332**	‖*i*P	**P**	**04 47 20.4**	**+1.0**
MLR	**Muntele Rosu**	**77.43**	**325**	‖*i*P	**P**	**04 47 25.1**	**+2.1**
BRTR	**Keskin Array B**	**78.76**	**317**	P	**P**	**04 47 30.6**	**+0.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=59,slow=3.6,SNR=4.1							
BRTR	**Keskin Array B**	**78.76**	**317**	P	**P**	**04 47 30.7**	**+0.4**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.81**	**334**	P	**P**	**04 47 29.6**	**-1.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=26,slow=6.4,SNR=5.9							
GERES	**GERESS Array B**	**78.81**	**334**	P	**P**	**04 47 29.6**	**-1.0**
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							

IDC ***02*** *04:53:50.6±3.4, 1776S×16748E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/12, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=70.8km s-min=31.3km az=95.0*

NEIC ***02*** *04:53:54.0±0.8, 1773S×16762E, h30km, mb4.7/2, Error ellipse: s-maj=28.6km s-min=17.9km az=101.0*

ISCJB ***02*** *04:53:54.5±4.5, 179S±02×1675E±02, h41km±34km, mb4.1/6, Error ellipse: s-maj=39.6km s-min=26.6km az=140.5*

ISC 02 04:53:54.9±7.1, 178S±01×1676E±02, h33km±49km, n13, σ0§43/9, mb4.1/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**194**	Pn	**Pn**	**04 54 59.2**	**0.0**
2.6nm,0.3s,baz=60,slow=20,SNR=3.6							
DZM				Sn	**Sn**	**04 55 49.1**	**0.0**
5.7nm,0.3s,baz=159,slow=21,SNR=6.1							
STKA	**Stephens Creek**	**27.36**	**234**	P	**P**	**04 59 37.9**	**+0.9**
1.3nm,0.6s,mb3.6,baz=77,slow=10,SNR=2.7							
STKA	**Stephens Creek**	**27.36**	**234**	P	**P**	**04 59 37.9**	**+0.9**
WRA	**Warramunga Arr**	**31.53**	**261**	P	**P**	**05 00 13.4**	**-0.6**
1.0nm,0.9s,mb3.7,baz=91,slow=8.9,SNR=5.0							
ASAR	**Alice Springs**	**32.01**	**254**	P	**P**	**05 00 17.9**	**-0.3**
2.2nm,0.8s,mb4.1,baz=80,slow=8.3,SNR=13							
SBA	**Scott Base**	**60.08**	**180**	*e*P	**P**	**05 03 58.6**	**-0.2**
16nm,2.0s,mb4.7							
QSPA	**South Pole Qui**	**72.24**	**180**	*e*P	**P**	**05 05 16.6**	**-0.2**
4.9nm,0.9s,mb4.4							
SONM	**Songino Array**	**85.16**	**324**	P	**P**	**05 06 28.1**	**+0.4**
1.3nm,1.0s,mb4.0,baz=142,slow=4.9,SNR=4.9							
GIVF	**Givet**	**144.94**	**341**	*e*PKP1	PKPdf	05 13 26.1	-2.5
BAIF	**Baives**	**145.17**	**341**	*e*PKP1	PKPbc	05 13 26.0	-2.6
CDF	**Champ du Feu**	**145.53**	**337**	*e*PKP1	PKPbc	05 13 28.3	-1.5
20nm,1.0s							
HAU	**Haudompre**	**146.21**	**337**	*e*PKP1	PKPbc	05 13 31.8	-0.1
SSF	**Saint Saulge**	**148.02**	**339**	*e*PKP1	PKPbc	05 13 35.4	-1.6
20nm,1.2s							

IDC ***02*** *04:57:38.6±11.0, 583S×12996E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.5/11, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=170.6km s-min=126.6km az=136.0*

NEIC 02 04:57:47.1±5.6, 620S×13004E, h35km, mb4.4/1, Error ellipse: s-maj=76.1km s-min=30.8km az=186.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.29**	**163**	Pn	Pn	05 01 07.5	+0.7
0.2nm,0.3s,baz=347,slow=13,SNR=11							
ASAR	**Alice Springs**	**17.76**	**168**	P	Pn	05 01 51.1	-0.4
0.4nm,0.3s,baz=348,slow=11,SNR=29							
MBWA	**Marble Bar**	**17.92**	**213**	*e*P	Pn	05 01 53.7	+0.3
52nm,1.5s							
STKA	**Stephens Creek**	**27.74**	**159**	P	P	05 03 32.5	+0.3
0.6nm,0.3s,baz=353,slow=8.1,SNR=3.9							
SMCO	**Snowmass**	**119.22**	**48**	*e*Pdif	Pdif	05 12 52.8	-1.2

IDC ***02*** *05:05:11.2±13.0, 4684N×15282E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.7/22, mbtmp4.0/6, Error ellipse: s-maj=323.6km s-min=34.8km az=165.0*

NEIC 02 05:05:11.8±8.9, 4669N×15289E, h10km, mb4.0/1, Error ellipse: s-maj=223.0km s-min=23.8km az=165.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**41.78**	**32**	P	P	05 13 00.8	-0.6
0.8nm,0.6s,baz=279,slow=5.1,SNR=13							
MKAR	**Makanchi Array**	**46.83**	**297**	P	P	05 13 41.8	-0.1
0.9nm,0.7s,baz=70,slow=9.1,SNR=9.1							
BVAR	**Borovoye Array**	**50.77**	**309**	P	P	05 14 11.6	-0.5
0.5nm,0.4s,baz=50,slow=8.8,SNR=3.3							
NB2	**NORSAR Subarra**	**68.23**	**341**	P	P	05 16 11.9	-0.7
comp=Z,0.6nm,0.5s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.23**	**341**	P	P	05 16 12.7	0.0
comp=Z,0.8nm,0.5s,baz=28,slow=6.5,SNR=4.5							
HFS	**Hagfors**	**68.46**	**339**	P	P	05 16 13.6	-0.4
comp=Z,1.4nm,0.5s,baz=35,slow=5.4,SNR=12							
AKASG	**Malin Array Be**	**71.51**	**326**	P	P	05 16 32.4	-0.4
comp=Z,1.7nm,0.5s,baz=34,slow=6.2,SNR=12							

IDC 02 05:06:03.6±2.1, 1745S×4182E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=63.1km s-min=33.3km az=148.0, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.84**	**231**	P	Pn	05 10 25.9	+0.3
0.2nm,0.3s,baz=54,slow=13,SNR=3.3							
TORD	**Torodi Ar. Bea**	**49.93**	**305**	P	P	05 14 59.7	+0.6
0.5nm,0.8s,baz=118,slow=5.9,SNR=5.5							
DBIC	**Dimbokro**	**51.96**	**293**	P	P	05 15 14.7	+0.3
2.5nm,0.8s,baz=109,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**73.59**	**28**	P	P	05 17 39.0	+0.4
0.6nm,0.5s,baz=216,slow=6.9,SNR=7.0							
PDAR	**Pinedale Array**	**144.95**	**322**	PKP	PKPdf	05 25 41.6	-1.1
0.7nm,0.7s,baz=72,slow=5.8,SNR=5.1							

IDC ***02*** *05:08:24.1±2.1, 579S×14677E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/13, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=42.3km s-min=23.8km az=72.0*

NEIC ***02*** *05:08:29.9±0.8, 588S×14674E, h35km, mb4.3/4, Error ellipse: s-maj=22.5km s-min=15.4km az=130.0*

ISCJB ***02*** *05:08:30.1±3.9, 59S±02×1468E±02, h61km±32km, mb4.0/6, Error ellipse: s-maj=34.5km s-min=26.7km az=162.4*

ISC 02 05:08:30.6±3.7, 58S±02×1468E±02, h54km±30km, n13, σ0§39/12, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**175**	Pn	**Pn**	**05 09 23.0**	**-0.3**
19nm,0.3s,baz=356,slow=5.7,SNR=18							
PMG				Pg	**Pn**	**05 09 31.9**	**+8.6**
22nm,0.3s,baz=360,slow=9.1,SNR=26							
PMG				Lg		05 10 18.0	
30nm,0.3s,baz=315,slow=13,SNR=7.9							
KAKA	**Kakadu**	**15.75**	**243**	*e*P	**Pn**	**05 12 09.2**	**+0.3**
13nm,0.5s							
KAKA				*e*		05 12 41.4	
WRA	**Warramunga Arr**	**18.55**	**220**	P	**Pn**	**05 12 43.7**	**+0.1**
0.2nm,0.3s,baz=45,slow=12,SNR=14							
ASAR	**Alice Springs**	**21.66**	**214**	P	**P**	**05 13 16.9**	**+0.4**
0.6nm,0.3s,mb3.5,baz=53,slow=9.1,SNR=15							
FITZ	**Fitzroy Crossi**	**24.01**	**238**	*e*P	**P**	**05 13 39.7**	**-0.6**
12nm,1.2s,mb4.2							
FITZ				*e*		05 14 13.8	
FITZ	**Fitzroy Crossi**	**24.01**	**238**	P	**P**	**05 13 39.7**	**-0.6**
2.7nm,0.4s,mb4.0,baz=62,slow=12,SNR=20							
STKA	**

KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
SKR	**Severo-Kuril's**	**4.89**	**23**	*e*PN	**Pn**	**05 13 28.5**	**-5.7**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	**Nemuro 2**	**5.99**	**244**	P	**Pn**	**05 13 49.2**	**-0.2**
NEM2				*e*S	**Sn**	**05 14 55.3**	**-1.5**
JRA	**Rausu**	**6.12**	**251**	P	**Pn**	**05 13 54.0**	**+2.8**
JRA				*e*S	**Sn**	**05 15 04.7**	**+4.7**
JTKR	**Abashiri--Toko**	**6.92**	**254**	P	**Pn**	**05 14 04.6**	**+2.5**
JOB	**Onbets**	**7.43**	**247**	P	**Pn**	**05 14 10.3**	**+1.1**
JOB				*e*S	**Sn**	**05 15 31.7**	**-0.5**
JKK2	**Kamakawa 2**	**7.73**	**256**	P	**Pn**	**05 14 16.5**	**+3.2**
ASAJ	**Asahikawa**	**7.75**	**258**	Pn	**Pn**	**05 14 12.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=53,slow=11,SNR=2.6						
ASAJ	**Asahikawa**	**7.75**	**258**	P	**Pn**	**05 14 18.1**	**+4.6**
JCH	**Churui**	**7.88**	**246**	P	**Pn**	**05 14 15.8**	**+0.5**
JCH				*e*S	**Sn**	**05 15 41.5**	**-1.7**
JEM	**Erimo**	**8.32**	**243**	P	**Pn**	**05 14 22.3**	**+0.9**
JEM				*e*S	**Sn**	**05 15 53.0**	**-1.2**
JNBK	**Urakawa-nobuka**	**8.44**	**246**	P	**Pn**	**05 14 25.2**	**+2.3**
JNBK				*e*S	**Sn**	**05 15 54.1**	**-2.8**
JKB	**Kayabe**	**9.74**	**248**	*e*S	**Sn**	**05 16 24.2**	**-4.7**
JANG	**Nango**	**10.29**	**240**	*e*S	**Sn**	**05 16 35.1**	**-7.4**
JTM	**Tenmabayashi**	**10.32**	**243**	P	**Pn**	**05 14 48.5**	**-0.2**
JTM				*e*S	**Sn**	**05 16 36.3**	**-6.7**
JRG	**Rokugo**	**11.44**	**238**	*e*S	**Sn**	**05 17 03.9**	**-6.6**
JIO	**Ouri**	**11.67**	**233**	*e*S	**Sn**	**05 17 07.6**	**-8.6**
INK	**Inuvik**	**42.09**	**32**	P	**P**	**05 20 11.7**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.0,baz=302,slow=6.8,SNR=15						
INK	**Inuvik**	**42.09**	**32**	P	**P**	**05 20 11.7**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**05 20 53.7**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=63,slow=8.2,SNR=6.6						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**05 20 53.7**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NEW	**Newport**	**57.48**	**52**	P	**P**	**05 22 07.6**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=286,slow=14,SNR=2.4						
NEW	**Newport**	**57.48**	**52**	P	**P**	**05 22 07.6**	**-1.1**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**62.66**	**62**	P	**P**	**05 22 44.5**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.8,baz=292,slow=7.6,SNR=4.3						
FINES	**FINESS Array B**	**64.54**	**335**	P	**P**	**05 22 56.3**	**-0.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=46,slow=6.3,SNR=8.1						
FINES	**FINESS Array B**	**64.54**	**335**	P	**P**	**05 22 56.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**65.04**	**54**	P	**P**	**05 22 59.5**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=335,slow=2.1,SNR=6.8						
ULM	**Lac du Bonnet**	**66.91**	**41**	P	**P**	**05 23 10.8**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=320,slow=16,SNR=2.8						
NB2	**NORSAR Subarra**	**68.75**	**341**	P	**P**	**05 23 23.3**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.75**	**341**	P	**P**	**05 23 22.2**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=6.5,SNR=3.3						
NOA	**NORSAR Array B**	**68.75**	**341**	P	**P**	**05 23 22.2**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.97**	**340**	P	**P**	**05 23 24.6**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.0,baz=48,slow=6.6,SNR=9.0						
HFS	**Hagfors**	**68.97**	**340**	P	**P**	**05 23 24.6**	**-0.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**71.71**	**199**	P	**P**	**05 23 42.6**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=8.9,slow=6.3,SNR=4.4						
AKASG	**Malin Array Be**	**72.01**	**326**	P	**P**	**05 23 43.3**	**-0.1**
	comp=Z,0.6nm,0.3s,mb3.9,baz=33,slow=6.1,SNR=6.3						
AKASG	**Malin Array Be**	**72.01**	**326**	P	**P**	**05 23 43.3**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PLCA	**Paso Flores**	**148.13**	**96**	PKPbc	PKPbc	05 32 03.9	-1.3
	comp=Z,1.4nm,0.6s,baz=308,slow=3.6,SNR=4.5						
PLCA	**Paso Flores**	**148.13**	**96**	PKIKP	PKPbc	05 32 03.9	-1.3
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**148.70**	**61**	PKPbc	PKPbc	05 32 05.0	-1.8
	comp=Z,1.1nm,0.6s,baz=257,slow=3.2,SNR=3.3						
CPUP	**Villa Florida**	**148.70**	**61**	PKIKP	PKPbc	05 32 05.0	-1.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*ISCJB **02** 05:27:38.7±0.9, 3543N±004×9937E±004, h16km±7km, mb4.1/16, MS4.1/4, Error ellipse: s-maj=6.0km s-min=5.4km az=165.5*

*IDC **02** 05:27:38.2±0.7, 3557N×9974E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML4.2/2, MS4.0/4, Ms1 4.0/4, ms1mx3.6/29, Error ellipse: s-maj=26.4km s-min=14.8km az=56.0*

*BJI **02** 05:27:38.6, 3565N×9956E, h15km, mB4.6, mb4.3, ML4.4, Ms4.6, Msz4.2*

*MOS **02** 05:27:41.4±1.4, 3559N×9956E, h33km, mb4.3/15, Error ellipse: s-maj=13.4km s-min=9.0km az=98.5*

*NEIC **02** 05:27:43.7±0.5, 3563N×9955E, h35km, mb4.2/4, Error ellipse: s-maj=13.0km s-min=9.1km az=59.0*

ISC 02 05:27:38.7±1.4, 3553N±003×9941E±004, h2km±10km, n66, σ1$46/72, mb4.1/16, MS4.1/4, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.65**	**80**	*e*P	**Pn**	**05 28 36.4**	**+0.2**
LZH				PG	**Pb**	**05 28 43.1**	**-0.8**
LZH				SG	**Sb**	**05 29 28.4**	**-0.2**
LZH				Smax			
	comp=N,2μm,0.6s						
LZH				Smax			
	comp=E,3μm,0.7s						
LZH				LR	LR		
	comp=E,3μm,4.5s						
LZH				LR	LR		
	comp=Z,4μm,5.7s						
GTA	**Gaotai**	**3.89**	**5**	P	**Pn**	**05 28 40.3**	**+0.8**
GTA				PG	**Pb**	**05 28 48.9**	**+0.9**
GTA				S	**Sn**	**05 29 26.8**	**+1.0**
GTA				SG	**Sb**	**05 29 39.3**	**+3.7**
GTA				Smax			
	comp=N,802nm,1.6s						
GTA				Smax			
	comp=E,847nm,1.3s						
GTA				LR	LR		
	comp=N,2μm,14.5s						
GTA				LR	LR		
	comp=E,2μm,9.9s						
GTA				LR	LR		
	comp=Z,2μm,14.1s						
CD2	**Chengdu**	**5.87**	**140**	P	**Pn**	**05 29 09.8**	**+3.1**
CD2				S	**Sn**	**05 30 19.1**	**+4.5**
CD2				SG	**Sg**	**05 30 48.1**	**+0.8**
CD2				Smax			
	comp=N,690nm,1.4s						
CD2				Smax			
	comp=E,322nm,1.0s						
CD2				LR	LR		
	comp=N,5μm,6.3s						
CD2				LR	LR		
	comp=Z,3μm,6.0s						
LSA	**Lhasa**	**9.06**	**232**	*e*P	**Pn**	**05 29 53.4**	**+2.9**
LSA				pmax	pmax		
	comp=Z,15nm,1.1s						
LSA	**Lhasa**	**9.06**	**232**	*e*Pn	**Pn**	**05 29 53.4**	**+2.9**
	comp=Z,14nm,1.1s						
BTO	**Baotou**	**9.78**	**56**	*e*P	**Pn**	**05 29 58.5**	**-1.9**
ENH	**Enshi**	**9.96**	**119**	Pn	**Pn**	**05 30 04.3**	**+1.4**
	comp=Z,0.5nm,0.4s						
KMI	**Kunming**	**10.76**	**164**	P	**Pn**	**05 30 22.5**	**+8.7**
KMI				S	**Sn**	**05 32 07.6**	**-7.2**
GYA	**Guiyang**	**10.97**	**143**	P	**Pn**	**05 30 18.2**	**+1.5**
GYA				S	**Sn**	**05 32 29.0**	**+9.0**
GYA				LR	LR		
	comp=N,2μm,12.9s						
GYA				LR	LR		
	comp=E,3μm,11.0s						
GYA				LR	LR		
	comp=Z,800nm,12.0s						
SHL	**Shillong**	**11.85**	**215**	*e*P	**Pn**	**05 30 29.0**	**+0.3**
WMQ	**Urumqi**	**12.24**	**316**	P	**Pn**	**05 30 32.5**	**-1.5**
WMQ				AP		05 30 40.0	
WMQ				XP		05 30 45.0	
WMQ				PPP		05 30 50.0	
WMQ				S	**Sn**	**05 32 45.0**	**-6.0**
WMQ				AMB	AMB		
	comp=Z,56nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,120nm,3.5s						
WMQ				LR	LR		
	comp=N,2μm,15.5s						
WMQ				LR	LR		
	comp=E,2μm,10.0s						
WMQ				LR	LR		
	comp=Z,868nm,16.8s						
SONM	**Songino Array**	**13.35**	**21**	Pn	**Pn**	**05 30 47.6**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=201,slow=15,SNR=28						
SONM				Lg		05 34 39.2	
	comp=Z,0.2nm,0.3s,baz=216,slow=30,SNR=5.4						
SONM				LR	LR	05 36 24.0	
	comp=Z,769nm,21.4s,baz=206,slow=40						
WHN	**Wuhan**	**13.48**	**107**	*e*P	**Pn**	**05 30 50.0**	**-1.0**
GUN	**Gumba**	**13.78**	**240**	*e*P	**Pn**	**05 30 54.3**	**-0.8**
	comp=Z,32nm,0.8s						
KKN	**Kakani**	**14.28**	**241**	*e*P	**Pn**	**05 31 00.3**	**-1.6**
	comp=Z,18nm,0.7s						
PKI	**Pulchoki**	**14.32**	**240**	*e*P	**Pn**	**05 31 00.5**	**-1.9**
	comp=Z,42nm,1.0s						
DMN	**Daman**	**14.51**	**241**	*e*P	**Pn**	**05 31 03.5**	**-1.5**
	comp=Z,44nm,0.9s						
GKN	**Gorkha**	**14.62**	**243**	*e*P	**Pn**	**05 31 04.5**	**-2.0**
	comp=Z,16nm,0.6s						
ZAK	**Zakamensk**	**15.11**	**10**	*e*P	**Pn**	**05 31 13.1**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s						
KOLN	**Koldanda**	**15.51**	**244**	*e*P	**Pn**	**05 31 15.0**	**-3.5**
	comp=Z,16nm,0.8s						
MOY	**Mondy**	**16.18**	**4**	*e*P	**Pn**	**05 31 29.4**	**+2.3**
NJ2	**Nanjing**	**16.54**	**97**	*e*P	**Pn**	**05 31 31.9**	**+0.2**
NJ2				AP	pP	05 31 35.1	+0.2
NJ2				XP	sP	05 31 38.6	+3.4
NJ2				PP		05 31 47.1	
NJ2				S	**Sn**	**05 34 34.0**	**-1.7**
NJ2				XS	sS	05 34 39.0	-10
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.0s						
NJ2				LR	LR		
	comp=N,970nm,10.8s						
NJ2				LR	LR		
	comp=E,1μm,13.1s						
NJ2				LR	LR		
	comp=Z,2μm,9.3s						
CHTO	**Chiang Mai**	**16.65**	**182**	*e*P	**Pn**	**05 31 36.1**	**+2.9**
CHTO				pmax	pmax		
	comp=Z,29nm,1.4s						
CHTO	**Chiang Mai**	**16.65**	**182**	*e*Pn	**Pn**	**05 31 36.1**	**+2.9**
	comp=Z,29nm,1.4s						
MKAR	**Makanchi Array**	**17.07**	**316**	Pn	**Pn**	**05 31 36.6**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=125,slow=14,SNR=17						
MKAR				Lg		05 36 48.7	
	comp=Z,0.0nm,0.3s,baz=127,slow=30,SNR=3.1						
SNY	**Shenyang**	**19.86**	**64**	⇓P	**Pn**	**05 32 09.4**	**-3.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s						
SNY				AMB	AMB		
	comp=Z,126nm,5.1s						
SNY				LR	LR		
	comp=N,1μm,12.7s						
SNY				LR	LR		
	comp=Z,477nm,14.7s						
FRU	**Bishkek**	**20.51**	**298**	*e*P	**P**	**05 32 21.5**	**+3.4**
FRU				pmax	pmax		
	comp=Z,60nm,2.2s						
AAK	**Ala-Archa**	**20.55**	**298**	*e*P	**P**	**05 32 19.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,19nm,1.4s						
AAK	**Ala-Archa**	**20.55**	**298**	*e*P	**P**	**05 32 19.3**	**+0.7**
	comp=Z,19nm,1.4s						
CN2	**Changchun**	**21.62**	**60**	*e*P	**P**	**05 32 32.2**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CN2				LR	LR		
	comp=N,2μm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,700nm,13.0s,MS4.2						
NVS	**Novosibirsk**	**22.32**	**335**	*e*P	**P**	**05 32 37.2**	**-0.4**
NVS				*i* S	**S**	**05 36 39.7**	**-4.2**
NVS				pmax	pmax		
	comp=N,10.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				smax			
	comp=N,6.0nm,0.7s						
NVS				smax			
	comp=E,2.0nm,0.6s						
JOW	**Kunigami**	**26.10**	**101**	LR	LR	05 44 01.3	
	comp=E,266nm,18.3s,MS3.8,baz=340,slow=38						
BVAR	**Borovoye Array**	**26.89**	**320**	P	**P**	**05 33 21.6**	**+0.7**
	comp=E,1.1nm,0.8s,mb3.5,baz=116,slow=12,SNR=2.7						
BVAR	**Borovoye Array**	**26.89**	**320**	P	**P**	**05 33 21.6**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KLR	**Kul'dur**	**27.30**	**50**	*e*P	**P**	**05 33 22.0**	**-2.6**
MJAR	**Matsushiro Arr**	**31.26**	**77**	LR	LR	05 47 22.3	
	comp=Z,218nm,18.7s,MS3.9,baz=335,slow=38						
ARU	**Arti**	**34.53**	**320**	*e*P	**P**	**05 34 29.2**	**+0.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ARU	**Arti**	**34.53**	**320**	*e*P	**P**	**05 34 29.2**	**+0.8**
	comp=Z,5.5nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**51.21**	**296**	P	**P**	**05 36 45.3**	**+1.8**
	comp=Z,1.3nm,0.6s,mb4.0,baz=100,slow=6.5,SNR=8.3						
BRTR	**Keskin Array B**	**51.21**	**296**	P	**P**	**05 36 45.3**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**51.52**	**310**	P	**P**	**05 36 46.0**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.1,baz=70,slow=6.8,SNR=7.2						
AKASG	**Malin Array Be**	**51.52**	**310**	P	**P**	**05 36 46.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**51.60**	**334**	P	**P**	**05 36 47.8**	**+1.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=68,slow=7.0,SNR=4.2						
ARCES	**ARCESS Array B**	**51.60**	**334**	P	**P**	**05 36 47.8**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**51.70**	**324**	P	**P**	**05 36 47.7**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.3,baz=108,slow=12,SNR=6.1						
FINES	**FINESS Array B**	**51.70**	**324**	P	**P**	**05 36 47.7**	**+0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**51.70**	**324**	P	**P**	**05 36 47.7**	**+0.5**
NB2	**NORSAR Subarra**	**58.81**	**325**	P	**P**	**05 37 37.2**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=73,slow=6.9						
NB2	**NORSAR Subarra**	**58.81**	**325**	P	**P**	**05 37 37.2**	**-1.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NOA	**NORSAR Array B**	**58.81**	**325**	P	**P**	**05 37 37.9**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=73,slow=7.0,SNR=4.4						
NOA	**NORSAR Array B**	**58.81**	**325**	P	**P**	**05 37 37.9**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**61.66**	**312**	P	**P**	**05 37 58.0**	**0.0**
	comp=Z,0.4nm,0.2s,mb4.2,baz=77,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	**64.34**	**143**	P	**P**	**05 38 14.2**	**-1.7**
	comp=Z,2.6nm,0.8s,mb4.3,baz=339,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**64.34**	**143**	P	**P**	**05 38 14.2**	**-1.7**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**67.33**	**146**	P	**P**	**05 38 35.5**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=328,slow=6.2,SNR=9.3						
ASAR	**Alice Springs**	**67.33**	**146**	P	**P**	**05 38 35.5**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KMBO	**Kilima Mbogo**	**68.31**	**252**	P	**P**	**05 38 43.8**	**+2.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=49,slow=11,SNR=3.1						
KMBO	**Kilima Mbogo**	**68.31**	**252**	P	**P**	**05 38 43.8**	**+2.5**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**69.26**	**18**	P	**P**	**05 38 45.6**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=313,slow=5.1,SNR=7.4						
INK	**Inuvik**	**69.26**	**18**	P	**P**	**05 38 45.6**	**-1.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**77.16**	**310**	P	**P**	**05 39 35.5**	**+1.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=40,slow=7.2,SNR=4.6						
STKA	**Stephens Creek**	**77.87**	**144**	P	**P**	**05 39 36.8**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=326,slow=7.3,SNR=3.1						
SCHQ	**Schefferville**	**89.23**	**352**	LR	LR	06 21 42.6	
	comp=Z,78nm,18.9s,MS4.2,baz=78,slow=36						
BDFB	**Brasilia**	**144.81**	**296**	PKPbc	PKPdf	05 47 17.0	-0.2
	comp=Z,1.8nm,0.7s,baz=31,slow=15,SNR=4.5						
BDFB	**Brasilia**	**144.81**	**296**	PKIKP	PKPdf	05 47 17.0	-0.2
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SAML	**Samuel**	**149.13**	**325**	*e*PKPdf	PKPdf	05 47 26.0	+1.6

IDC 02 05:32:08.8±14.0, 044S×12503E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, 1C, Error ellipse: s-maj=225.5km s-min=111.4km az=136.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.56**	**178**	⇑*i*P	Pn	05 36 14.6	-0.3
	4.1nm,0.2s						
FITZ	**Fitzroy Crossi**	**17.56**	**178**	P	Pn	05 36 14.8	-0.1
	1.2nm,0.3s,baz=12,slow=10,SNR=58						
WRA	**Warramunga Arr**	**21.41**	**155**	P	P	05 36 58.5	+0.3
	0.9nm,0.3s,baz=334,slow=11,SNR=47						
ASAR	**Alice Springs**	**24.64**	**160**	P	P	05 37 31.1	+0.2
	0.6nm,0.4s,baz=339,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**34.97**	**155**	P	P	05 39 03.1	+0.6
	0.7nm,0.4s,baz=333,slow=8.5,SNR=4.2						

IDC 02 05:40:34.3±54.0, 1449S×17313W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=1045.0km s-min=185.8km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.72**	**239**	P	P	05 48 48.7	-0.5
	1.1nm,1.0s,baz=94,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**50.31**	**256**	P	P	05 49 33.4	+0.8
	1.1nm,0.4s,baz=90,slow=7.0,SNR=56						
ASAR	**Alice Springs**	**50.65**	**251**	P	P	05 49 35.7	+0.5
	4.7nm,0.5s,baz=88,slow=7.9,SNR=113						

MOS 02 05:46:32.8±1.8, 4276N×4640E, h14km, mb4.0/1, 7C-4D, Error ellipse: s-maj=15.1km s-min=8.5km az=14.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.17**	**233**	⇓*i*PG	Pg	05 46 34.5	-2.3
BTLR				pmax	pmax		
	comp=Z,373nm,0.1s						
UNCR	**Uncukul**	**0.29**	**100**	*i* PG	Pg	05 46 39.3	+0.4
UNCR				*i* S	Sg	05 46 46.1	+3.1
XNZR	**Khunzakh**	**0.31**	**135**	⇑*i*PG	Pg	05 46 42.6	+3.3
XNZR				*i* S	Sg	05 46 49.9	+6.3
XNZR				pmax	pmax		
	comp=Z,100nm,0.3s						
KRNR	**Karanay**	**0.38**	**80**	⇓*i*PG	Pg	05 46 41.3	+0.9
KRNR				*i* S	Sg	05 46 48.7	+3.2
KRNR				pmax	pmax		
	comp=Z,63nm,0.1s						
DBC	**Dubki**	**0.40**	**51**	*i* PG	Pg	05 46 40.8	-0.1
DBC				*i* S	Sg	05 46 47.8	+1.4
KMKR	**Kumukh**	**0.81**	**141**	⇑*i*PG	Pg	05 46 51.8	+3.2
KMKR				*i* S	Sg	05 47 05.3	+6.0
KMKR				pmax	pmax		
	comp=Z,32nm,0.2s						
SNJR	**Sundja**	**1.21**	**285**	⇑*i*PG	Pg	05 46 55.5	-0.6
SNJR				*i* S	Sb	05 47 11.9	+1.0
VLKR	**Vladikavkaz**	**1.30**	**283**	⇓*i*PG	Pg	05 46 56.8	-1.0
VLKR				*i* S	Sb	05 47 14.1	+0.6
LACR	**Lac**	**1.55**	**273**	⇑*i*PG	Pg	05 47 00.0	-2.6
ARNR	**Ardon**	**1.62**	**286**	⇑*i*PG	Pg	05 47 02.4	-1.4
ARNR				*i* S	Sn	05 47 23.7	+2.2
KMSR	**Komsomolskaya**	**1.66**	**292**	⇓*i*PN	Pn	05 47 03.7	+2.2
KMSR				*i* S	Sn	05 47 26.1	+3.5
KORR	**Kora**	**1.75**	**281**	⇑*i*PN	Pn	05 47 04.0	+1.3
KORR				*i* S	Sn	05 47 26.6	+1.9
ZEI	**Tsey**	**1.84**	**271**	*e*PN	Pn	05 47 04.6	+0.6
DIGR	**Digorskoe uzhe**	**2.08**	**275**	⇑*i*PN	Pn	05 47 08.4	+1.1

*IDC **02** 05:56:57.5±0.8, 2343S×17565W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/14, mbtmp4.4/9, MS4.0/15, Ms1 4.0/15, ms1mx3.9/27, Error ellipse: s-maj=24.1km s-min=19.6km az=1.0*

*ISCJB **02** 05:57:01.3±0.6, 2349S±008×1756W±0.1, h33km, mb4.7/19, MS4.1/13, Error ellipse: s-maj=15.3km s-min=10.5km az=141.0*

*BJI **02** 05:57:02.5, 2272S×17555W, h17km, mB5.4, mb5.2*

*NEIC **02** 05:57:03.9±0.6, 2341S×17556W, mb4.8/16, Error ellipse: s-maj=15.8km s-min=12.8km az=79.0*

*MOS **02** 05:57:08.8±3.4, 2371S×17633W, h62km, mb4.9/6, Error ellipse: s-maj=17.5km s-min=15.8km az=81.4*

ISC 02 05:57:01.4±0.5, 2329S±008×1753W±01, h35km, (h45km±4.8km:pP-P), n73, σ1$40/54, mb4.7/19, MS4.1/13, 3C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.40**	**201**	LR	LR	06 00 37.4	
	comp=Z,349nm,21.4s,baz=72,slow=36						
RAO	**Raoul Island**	**6.40**	**201**	*e*P	**Pn**	**05 58 30.9**	**-2.3**
RAO				pmax	pmax		
	comp=Z,365nm,0.3s						
RAO	**Raoul Island**	**6.40**	**201**	*e*Pn	**Pn**	**05 58 30.9**	**-2.2**
	comp=Z,365nm,0.3s						
AFI	**Afiamalu**	**9.89**	**20**	Pn	**Pn**	**05 59 18.4**	**-2.7**
	comp=Z,12nm,0.3s,baz=100,slow=6.3,SNR=11						
AFI				Sn	**Sn**	**06 01 02.5**	**-8.4**
	comp=Z,6.4nm,0.3s,baz=30,slow=20,SNR=3.4						
RAR	**Rarotonga**	**14.48**	**85**	Pn	**Pn**	**06 00 18.1**	**-5.6**
	comp=Z,12nm,0.3s,baz=235,slow=6.7,SNR=19						
RAR				Sn	**Sn**	**06 02 43.0**	**-20**
	comp=Z,2.4nm,0.3s,baz=108,slow=20,SNR=4.2					

ASAR			LR	LR	06 24 42.7	
	comp=Z,464nm,18.6s,MS4.5,baz=117,slow=36					
ASAR	**Alice Springs**	**46.43 259**	P	**P**	**06 05 24.0**	**-0.6**
ASAR			S	**S**	**06 12 06.9**	**-3.2**
WRA	**Warramunga Arr**	**46.80 264**	P	**P**	**06 05 26.4**	**-1.1**
	comp=Z,2.6nm,0.4s,mb4.5,baz=90,slow=5.9,SNR=57					
WRA			LR	LR	06 23 24.0	
	comp=Z,227nm,19.4s,MS4.1,baz=100,slow=34					
KAKA	**Kakadu**	**50.62 272**	*e*P	**P**	**06 05 55.8**	**-1.0**
	comp=Z,14nm,0.9s,mb4.9					
FITZ	**Fitzroy Crossi**	**55.22 264**	*e*P	**P**	**06 06 30.7**	**-0.1**
	comp=Z,7.1nm,0.8s,mb4.8					
FITZ	**Fitzroy Crossi**	**55.22 264**	P	**P**	**06 06 30.9**	**0.0**
	comp=Z,4.1nm,0.7s,mb4.6,baz=31,slow=3.0,SNR=9.2					
SBA	**Scott Base**	**55.29 185**	*e*P	**P**	**06 06 33.3**	**+2.0**
SBA			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6					
SBA	**Scott Base**	**55.29 185**	*e*P	**P**	**06 06 33.3**	**+2.0**
	comp=Z,3.7nm,0.7s,mb4.5					
VNDA	**Vanda**	**55.39 186**	P	**P**	**06 06 32.5**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=0.3,slow=6.8,SNR=12					
VNDA	**Vanda**	**55.39 186**	*e*P	**P**	**06 06 33.5**	**+1.5**
VNDA			pmax	pmax		
	comp=Z,9.0nm,1.6s					
VNDA	**Vanda**	**55.39 186**	*e*P	**P**	**06 06 33.5**	**+1.5**
	comp=Z,9.2nm,1.6s,mb4.6					
MBWA	**Marble Bar**	**59.77 258**	*e*P	**P**	**06 07 01.6**	**-1.3**
	comp=Z,6.9nm,0.7s,mb4.8					
CASY	**Casey**	**62.56 206**	*e*P	**P**	**06 07 21.1**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.9					
CBIJ	**Chichi jima**	**64.81 318**	LR	LR	06 29 47.4	
	comp=Z,304nm,21.3s,MS4.5,baz=121,slow=30					
QSPA	**South Pole Qui**	**66.79 180**	*e*P	**P**	**06 07 49.8**	**+0.4**
	comp=Z,16nm,1.0s,mb5.0					
QSPA			*e*pP	pP	06 08 03.7	+3.5
JHJ	**Hachijo jima 2**	**70.60 321**	LR	LR	06 32 17.7	
	comp=Z,79nm,20.4s,MS4.0,baz=100,slow=30					
JOW	**Kunigami**	**73.90 309**	LR	LR	06 39 57.3	
	comp=Z,128nm,18.0s,MS4.2,baz=29,slow=35					
MJAR	**Matsushiro Arr**	**73.96 323**	P	**P**	**06 08 33.7**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=157,slow=6.2,SNR=6.2					
MJAR			LR	LR	06 35 45.6	
	comp=Z,119nm,19.2s,MS4.2,baz=225,slow=32					
YSS	**Yuzh-Sakhalins**	**79.53 332⇑**	*e*P	**P**	**06 09 06.9**	**+2.3**
YSS			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3					
YSS	**Yuzh-Sakhalins**	**79.53 332**	*e*P	**P**	**06 09 06.7**	**+2.1**
	comp=Z,21nm,0.9s,mb5.1					
MAW	**Mawson**	**79.80 199**	P	**P**	**06 09 05.9**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=144,slow=6.9,SNR=7.2					
MAW			LR	LR	06 41 51.6	
	comp=Z,163nm,18.6s,MS4.4,baz=234,slow=34					
MAW	**Mawson**	**79.80 199**	*e*P	**P**	**06 09 06.7**	**+0.7**
MAW			pmax	pmax		
	comp=Z,16nm,1.5s					
MAW	**Mawson**	**79.80 199**	*e*P	**P**	**06 09 06.7**	**+0.7**
	comp=Z,16nm,1.5s,mb4.7					
MAW			LR	LR	06 41 51.6	
MDJ	**Mudanjiang**	**84.26 324**	P	**P**	**06 09 31.9**	**+2.5**
MDJ			AMB	AMB		
	comp=Z,16nm,1.0s,mb5.1					
MDJ			AMB	AMB		
	comp=Z,107nm,5.4s					
MDJ	**Mudanjiang**	**84.26 324**	*e*P	**P**	**06 09 31.6**	**+2.2**
	comp=Z,14nm,0.9s,mb5.1					
SYO	**Syowa Base**	**84.56 192⇑**	*e*P	**P**	**06 09 30.0**	**-0.9**
SYO	**Syowa Base**	**84.56 192⇑**	*e*P	pP	06 09 43.2	+1.2
SNAA	**Sanae**	**85.15 178**	*e*	**P**	**06 09 33.2**	**-0.7**
SNAA			*e*		06 09 34.8	
SNAA			*e*		06 09 36.0	
SNAA			*e*	pP	06 09 46.7	+1.7
VNA3	**Neumayer Olymp**	**85.19 175**	*e*	**P**	**06 09 33.8**	**-0.3**
VNA3			*e*	pP	06 09 41.4	-3.8
VNA3			*e*	pP	06 09 47.2	+2.0
VNA3			*e*		06 09 51.2	
VNA3			*e*		06 09 57.2	
PLCA	**Paso Flores**	**85.51 132**	P	**P**	**06 09 36.9**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.3,baz=234,slow=8.7,SNR=5.3					
PLCA			LR	LR	06 37 34.6	
	comp=Z,117nm,21.3s,MS4.2,baz=80,slow=28					
PLCA	**Paso Flores**	**85.51 132**	*e*P	**P**	**06 09 37.1**	**+1.4**
PLCA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
PLCA	**Paso Flores**	**85.51 132**	*e*P	**P**	**06 09 37.1**	**+1.4**
	comp=Z,3.3nm,1.0s,mb4.5					
PLCA			LR	LR	06 37 34.6	
VNA1	**Neumayer--Stat**	**85.87 176**	*e*	**P**	**06 09 38.3**	**+0.8**
VNA1			*e*	pP	06 09 46.4	-2.2
VNA1			*e*	pP	06 09 51.4	+2.8
CN2	**Changchun**	**86.06 321**	*e*P	**P**	**06 09 40.4**	**+2.0**
CN2			AMB	AMB		
	comp=Z,20nm,0.8s,mb5.4					
CN2			AMB	AMB		
	comp=Z,200nm,3.0s					
KLR	**Kul'dur**	**86.22 328**	*e*P	**P**	**06 09 38.1**	**-1.1**
CHTO	**Chiang Mai**	**93.57 289**	*e*P	**P**	**06 10 16.8**	**+3.0**
CHTO			*e**PP	pP	06 10 29.7	+4.8
CHTO			pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.3					
CHTO	**Chiang Mai**	**93.57 289**	*e*P	**P**	**06 10 16.8**	**+3.0**
	comp=Z,8.9nm,0.7s,mb5.3					
CHTO			*e*pP	pP	06 10 29.7	+4.8
LPAZ	**La Paz**	**98.65 112**	LR	LR	06 48 17.5	
	comp=Z,48nm,18.3s,MS4.0,baz=133,slow=31					
ARCES	**ARCESS Array B**	**132.10 350**	PKP	PKPdf	06 16 10.2	-1.1
	comp=Z,3.7nm,1.1s,baz=343,slow=5.9,SNR=2.5					
AKASG	**Malin Array Be**	**146.68 331**	PKPbc	PKPbc	06 16 39.6	+0.3
	comp=Z,4.1nm,0.6s,baz=39,slow=4.3,SNR=15					
AKBB	**Malin Array Si**	**146.68 331**	*e*PKIKP	PKPdf	06 16 40.1	+2.4
BRTR	**Keskin Array B**	**150.59 311**	PKPbc	PKPbc	06 16 51.2	+1.7
	comp=Z,2.0nm,0.8s,baz=80,slow=2.0,SNR=8.9					
BRTR			PKPab	PKPab	06 16 57.8	+1.4
	comp=Z,6.6nm,0.8s,baz=111,slow=1.7,SNR=18					
KOLS	**Kolonicke sedl**	**150.90 336**	*e*PKP	PKPab	06 16 58.7	+1.1
UZH	**Uzhgorod**	**151.14 336**	*e*PKIKP	PKPbc	06 16 50.0	-0.8
UZH			*e*		06 16 56.0	
UZH			*i*		06 17 13.4	
UZH			pmax	pmax		
	comp=Z,37nm,1.0s					
CRVS	**Cervenica-Dubn**	**151.22 337**	*e*PKP	PKPab	06 16 58.6	-0.4
CLL	**Collm**	**151.31 349**	*e*PKPbc	PKPbc	06 16 53.0	+1.8
CLL			*e*PKPab	PKPab	06 17 00.0	+0.7
CLL			*e*pPKPbc	pPKPbc	06 17 07.0	+4.4
	comp=Z,18nm,1.0s					
DPC	**Dobruska-Polom**	**151.52 344**	*e*PKPbc	PKPbc	06 16 53.6	+1.9
BRG	**Berggiesshubel**	**151.55 348**	*i* P	PKPbc	06 16 53.9	+2.1
	comp=Z,4.0nm,1.0s					
BRG			*i*		06 17 05.7	
	comp=Z,6.5nm,1.2s					
MORC	**Moravsky Berou**	**151.72 342**	*e*PKIKP	PKPdf	06 16 45.0	-0.8
KECS	**Kecovo**	**151.93 337**	*e*PKP	PKPab	06 17 01.1	-0.8
KECS	**Kecovo**	**151.93 337**	*e*P	PKPab	06 17 01.2	-0.7
KHC	**Kasperske Hory**	**153.28 347**	*e*PKPbc	PKPbc	06 16 56.1	+0.5
GERES	**GERESS Array B**	**153.53 347**	PKPbc	PKPbc	06 16 57.9	+1.8
	comp=Z,0.3nm,0.2s,baz=98,slow=5.5,SNR=3.8					
GERES			PKPab	PKPab	06 17 10.5	+1.9
	comp=Z,0.7nm,0.5s,baz=58,slow=3.3,SNR=6.6					
TORD	**Torodi Ar. Bea**	**169.50 163**	PKP	PKPdf	06 17 08.2	+3.1
	comp=Z,0.5nm,0.9s,baz=192,slow=0.9,SNR=2.7					
TORD			PKPab	PKPab	06 18 19.6	+1.3
	comp=Z,1.4nm,1.0s,baz=181,slow=7.3,SNR=4.7					

IDC 02 06:06:27.1±3.1, 1258N×14384E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, Error ellipse: s-maj=138.3km s-min=22.7km az=87.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.39**	**349**	P	P	06 11 47.7	+0.7
	3.2nm,0.9s,baz=160,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**33.64**	**196**	P	P	06 13 09.9	+0.5
	0.9nm,0.8s,baz=23,slow=9.8,SNR=3.6						
ASAR	**Alice Springs**	**37.31**	**195**	P	P	06 13 41.2	+0.3
	0.5nm,0.5s,baz=22,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**61.52**	**317**	P	P	06 16 45.4	-0.4
	0.2nm,0.6s,baz=98,slow=9.0,SNR=3.1						

IDC 02 06:15:57.5±3.6, 2971N×10707E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=595.7km s-min=28.3km az=53.0
ISCJB 02 06:16:00.9±1.7, 2785N±008×1039E±0.1, h23km±11km, mb3.5/3, Error ellipse: s-maj=22.3km s-min=5.9km az=114.6
BJI 02 06:16:02.2, 2800N×10422E, h18km, ML3.3

ISC 02 06:16:01.3±1.6, 2794N±005×10407E±008, h8km±13km, n8, σ0$96/14, mb3.5/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.75**	**122**	P	**Pn**	**06 16 46.3**	**+0.7**
GYA				PG	**Pb**	**06 16 50.4**	**-0.2**
GYA				S	**Sn**	**06 17 20.0**	**+1.1**
GYA				SG	**Sb**	**06 17 25.0**	**+0.6**
GYA				Smax			
	comp=N,120nm,0.7s						
GYA				Smax			
	comp=E,110nm,0.7s						
CD2	**Chengdu**	**2.97**	**355**	P	**Pn**	**06 16 48.4**	**-0.3**
CD2				PG	**Pb**	**06 16 54.2**	**-0.2**
CD2				S	**Sn**	**06 17 24.9**	**+0.5**
CD2				SG	**Sb**	**06 17 31.0**	**+0.2**
CD2				Smax			
	comp=N,329nm,1.0s						
CD2				Smax			
	comp=E,278nm,1.0s						
KMI	**Kunming**	**3.05**	**203**	PG	**Pg**	**06 17 00.1**	**+0.3**
NJ2	**Nanjing**	**13.45**	**69**	*e*P	**Pn**	**06 19 10.8**	**-1.6**
WMQ	**Urumqi**	**20.60**	**325**	*e*P	**P**	**06 20 42.5**	**+1.7**
MKAR	**Makanchi Array**	**25.42**	**324**	P	**P**	**06 21 29.4**	**+0.1**
	comp=E,0.2nm,0.5s,mb2.9,baz=122,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**55.89**	**145**	P	**P**	**06 25 37.7**	**-1.8**
	comp=E,1.1nm,0.6s,mb4.1,baz=335,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**58.83**	**148**	P	**P**	**06 25 58.8**	**-1.4**
	comp=E,0.4nm,0.6s,mb3.6,baz=324,slow=6.9,SNR=7.2						

NIED 02 06:22:00, 4670N×15290E, h38km, Mw4.4 Best double couple: M0:4.24000×10^15 NP1:φ:73.00000°, δ:87.00000°, λ:-108.00000°. NP2:φ:334.00000°, δ:18.00000°, λ:-10.00000°.
MOS 02 06:22:40.5±0.6, 4631N×15324E, h33km, mb4.3/4, Error ellipse: s-maj=27.6km s-min=18.0km az=56.5
ISCJB 02 06:22:41.5±0.8, 4639N±0.1×153.1E±02, h33km, mb3.9/7, Error ellipse: s-maj=23.3km s-min=10.2km az=104.7
IDC 02 06:22:44.7±0.8, 4625N×15305E, h45km±7km, mb3.6/7, mb1 3.8/9, mb1mx3.6/21, mbtmp3.9/9, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/23, Error ellipse: s-maj=25.2km s-min=18.0km az=150.0

ISC 02 06:22:43.6±0.8, 4649N±01×1531E±02, h35km, (h47km±1.8km:pP-P), n18, σ1$07/16, mb3.9/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**255**	⇑*i*PN	**Pn**	**06 23 38.8**	**-1.0**
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
SKR	**Severo-Kuril's**	**4.78**	**24**	*e*PN	**Pn**	**06 23 51.5**	**-1.5**
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
ASAJ	**Asahikawa**	**7.73**	**257**	P	**Pn**	**06 24 35.9**	**+2.4**
	comp=Z,2.1nm,0.3s,baz=143,slow=20,SNR=4.1						
ASAJ				LR	LR	06 27 19.1	
	comp=Z,102nm,20.5s,baz=97,slow=36						
MJAR	**Matsushiro Arr**	**14.82**	**234**	P	**Pn**	**06 26 10.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**06 31 12.1**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=66,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**06 31 12.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**62.64**	**62**	P	**P**	**06 33 05.2**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.7,baz=291,slow=8.1,SNR=5.4						
NVAR				pP	pP	06 33 18.2	+3.1
	comp=Z,1.3nm,0.7s,baz=291,slow=8.4,SNR=7.9						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**06 33 15.7**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=38,slow=7.0,SNR=7.3						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**06 33 15.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**65.00**	**54**	P	**P**	**06 33 21.1**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=338,slow=1.6,SNR=7.0						
PDAR				pP	pP	06 33 33.0	+2.3
	comp=Z,1.4nm,0.8s,baz=313,slow=2.3,SNR=9.4						
NB2	**NORSAR Subarra**	**68.59**	**341**	P	**P**	**06 33 43.8**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.1,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**06 33 44.1**	**+1.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=27,slow=6.2,SNR=4.3						
NOA	**NORSAR Array B**	**68.59**	**341**	P	**P**	**06 33 44.2**	**+1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**71.83**	**198**	P	**P**	**06 34 01.5**	**-1.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=8.4,slow=5.6,SNR=6.2						
ASAR				pP	pP	06 34 15.2	+1.7
	comp=Z,0.3nm,0.3s,baz=11,slow=5.8,SNR=4.3						
AKASG	**Malin Array Be**	**71.86**	**326**	P	**P**	**06 34 02.2**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=39,slow=6.1,SNR=6.5						
AKASG	**Malin Array Be**	**71.86**	**326**	P	**P**	**06 34 02.2**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PLCA	**Paso Flores**	**148.20**	**96**	PKPbc	PKPbc	06 42 25.0	-0.8
	comp=Z,1.4nm,0.8s,baz=236,slow=3.9,SNR=4.7						
PLCA	**Paso Flores**	**148.20**	**96**	PKP2	PKPbc	06 42 25.0	-0.7
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ISCJB 02 06:31:39.0±0.6, 3855N±003×2192E±004, h16km±6km, Error ellipse: s-maj=4.9km s-min=4.1km az=46.6
NEIC 02 06:31:38.1, 3855N×2192E, h24km, ML3.3(ATH), After ATH.
ATH 02 06:31:38.1, 3856N×2192E, h25km±1km, MD3.3/13, ML3.3
THE 02 06:31:38.6, 3854N×2188E, h11km, ML3.7
CSEM 02 06:31:39.3±0.1, 3854N×2196E, h15km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.5km az=89.0

ISC 02 06:31:39.1±0.6, 3854N±002×2193E±004, h15km±4km, n40, σ0$87/57, 6C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.38**	**346**	⇓*i*PB	**Pg**	**06 31 46.1**	**-0.8**
EVR				*e*SB	**Sg**	**06 31 52.3**	**+0.2**
EVR	**Evrytania**	**0.38**	**346**	⇓*i*Pb	**Pg**	**06 31 46.1**	**-0.8**
EVR				*e*Sb	**Sg**	**06 31 52.3**	**+0.2**
AGG	**Agios Georgios**	**0.57**	**33**	*e*Pg	**Pg**	**06 31 49.8**	**-0.6**
AGG				*e*Sg	**Sg**	**06 31 58.9**	**+0.9**
RLS	**Riolos of Patr**	**0.60**	**217**	⇑*i*PN	**Pg**	**06 31 50.4**	**-0.6**
RLS				*e*SN	**Sg**	**06 31 59.8**	**+0.8**
LKR	**Lokris**	**0.85**	**82**	*e*PN	**Pb**	**06 31 54.9**	**-0.6**
LKR				*e*SN	**Sb**	**06 32 07.0**	**+0.3**
LKR	**Lokris**	**0.85**	**82**	*e*Pn	**Pb**	**06 31 54.9**	**-0.6**
LKR				*e*Sn	**Sb**	**06 32 07.2**	**+0.5**
THL	**Klokotos Trika**	**1.02**	**4**	⇑*i*PN	**Pn**	**06 31 57.5**	**-1.4**
THL				*e*SN	**Sn**	**06 32 11.5**	**-1.5**
VLS	**Valsamata**	**1.11**	**251**	⇑*i*PB	**Pb**	**06 31 57.8**	**-2.2**
VLS				*e*SN	**Sn**	**06 32 14.9**	**-0.3**
VLS	**Valsamata**	**1.11**	**251**	⇑*i*Pb	**Pb**	**06 31 57.8**	**-2.2**
VLS				*e*Sn	**Sn**	**06 32 14.7**	**-0.5**
NEO	**Neokhori**	**1.27**	**53**	⇑*i*PN	**Pn**	**06 32 02.0**	**-0.2**
NEO				*e*SN	**Sn**	**06 32 19.0**	**0.0**
NEO	**Neokhori**	**1.27**	**53**	⇑*i*Pn	**Pn**	**06 32 02.0**	**-0.2**
NEO				*e*Sn	**Sn**	**06 32 18.8**	**-0.2**
XOR	**Xorichti**	**1.28**	**50**	*e*Pg	**Pn**	**06 32 02.4**	**-0.1**
ITM	**Ithomi**	**1.36**	**180**	*e*PN	**Pn**	**06 32 04.1**	**+0.6**
JAN	**Janina**	**1.39**	**323**	*e*PN	**Pn**	**06 32 03.8**	**-0.2**
JAN				*e*SN	**Sn**	**06 32 23.0**	**+0.9**
JAN	**Janina**	**1.39**	**323**	*e*Pn	**Pn**	**06 32 04.8**	**+0.8**
JAN				*e*Sn	**Sn**	**06 32 23.1**	**+1.0**
NAIG	**Nisos Aigina**	**1.46**	**122**	*e*PN	**Pn**	**06 32 05.0**	**+0.1**
ATH	**Athens Observa**	**1.52**	**111**	*e*PN	**Pn**	**06 32 05.5**	**-0.2**
PTL	**Penteli**	**1.60**	**107**	*e*PB	**Pn**	**06 32 06.0**	**-0.9**
LIT	**Litokhoron**	**1.61**	**15**	*e*Pb	**Pn**	**06 32 06.6**	**-0.4**
LIT				*e*Sb	**Sn**	**06 32 28.1**	**+0.5**
LIT	**Litokhoron**	**1.61**	**15**	*e*Pb	**Pn**	**06 32 06.6**	**-0.4**
LIT				*e*Sb	**Sn**	**06 32 28.1**	**+0.5**
AOS	**Alonnisos**	**1.65**	**67**	*e*Pb	**Pn**	**06 32 07.5**	**0.0**
AOS	**Alonnisos**	**1.65**	**67**	*e*Pb	**Pn**	**06 32 07.4**	**-0.1**
KZN	**Kozani**	**1.77**	**356**	⇓*i*PN	**Pn**	**06 32 09.1**	**0.0**
KZN				*e*SN	**Sn**	**06 32 32.0**	**+0.7**
KZN	**Kozani**	**1.77**	**356**	⇓*i*Pn	**Pn**	**06 32 10.1**	**+1.0**
KZN				*e*Sn	**Sn**	**06 32 33.0**	**+1.7**
VLI	**Veliai**	**1.99**	**156**	*e*PB	**Pn**	**06 32 12.6**	**+0.4**
KEK	**Kerkira**	**2.03**	**306**	*e*PN	**Pn**	**06 32 13.2**	**+0.5**
PLG	**Polygyros**	**2.17**	**32**	*e*Pn	**Pn**	**06 32 13.9**	**-0.8**
PLG	**Polygyros**	**2.17**	**32**	*e*PN	**Pn**	**06 32 14.5**	**-0.2**
PLG	**Polygyros**	**2.17**	**32**	*e*Pn	**Pn**	**06 32 13.5**	**-1.2**
HORT	**Hortiatis**	**2.24**	**23**	*e*Pn	**Pn**	**06 32 15.6**	**-0.1**
OUR	**Ouranopolis**	**2.39**	**41**	*e*Pn	**Pn**	**06 32 17.4**	**-0.4**
KYTH	**Kithira**	**2.42**	**158**	*e*PB	**Pn**	**06 32 20.0**	**+1.8**
GRG	**Griva**	**2.44**	**8**	*e*Pn	**Pn**	**06 32 18.3**	**-0.1**
BIA	**Bitola**	**2.52**	**350**	*e*PN	**Pb**	**06 32 22.8**	**-1.1**
SOH	**Sokhos**	**2.53**	**25**	*e*Pn	**Pn**	**06 32 19.4**	**-0.2**
OHR	**Ohrid**	**2.71**	**342**	*e*PN	**Pn**	**06 32 24.1**	**+2.0**
OHR	**Ohrid**	**2.71**	**342**	*e*Pn	**Pn**	**06 32 24.0**	**+1.9**
VAY	**Valandovo**	**2.82**	**10**	*e*Pn	**Pg**	**06 32 36.1**	**+3.0**
MMB	**Musomiste**	**3.34**	**24**	*e*Pn	**Pn**	**06 32 30.7**	**-0.1**
DIVS	**Divcibare**	**5.74**	**346**	*e*Pn	**Pn**	**06 33 03.6**	**-0.1**

ISCJB 02 06:33:35.8±0.9, 3017N±007×693E±0.1, h10km, mb3.7/4, Error ellipse: s-maj=13.8km s-min=10.1km az=26.9
IDC 02 06:33:36.1±1.1, 3031N×6928E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=80.4km s-min=25.9km az=29.0

ISC 02 06:33:37.9±0.9, 3026N±007×693E±01, h10km, n9, σ0$64/10, mb3.7/4, 2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**1.69**	**28**	⇓P	**Pn**	**06 34 08.2**	**+0.7**
THW	**Thamme Wali**	**3.30**	**39**	P	**Pn**	**06 34 28.3**	**-1.4**
CEP	**Cherat**	**4.21**	**32**	⇓P	**Pn**	**06 34 42.5**	**+0.3**
CEP				S	**Sn**	**06 35 32.0**	**+0.6**
THN	**Thein Dam**	**5.94**	**67**	*e*P	**Pn**	**06 35 05.2**	**-0.7**
AJM	**Ajmer**	**6.06**	**127**	*e*P	**Pg**	**06 35 34.0**	**+0.1**
AKASG	**Malin Array Be**	**36.08**	**316**	P	**P**	**06 40 39.1**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=95,slow=7.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**64.21**	**271**	P	**P**	**06 44 13.3**	**+0.4**
	0.9nm,0.7s,mb3.9,baz=66,slow=5.4,SNR=7.7						
WRA	**Warramunga Arr**	**80.04**	**120**	P	**P**	**06 45 48.0**	**+0.3**
	1.2nm,0.8s,mb3.9,baz=317,slow=5.2,SNR=10						
ASAR	**Alice Springs**	**81.98**	**123**	P	**P**	**06 45 58.4**	**+0.3**
	0.2nm,0.5s,mb3.4,baz=314,slow=5.1,SNR=4.1						

WEL 02 06:34:42.7±0.2, 4352S×16997E, h5km, ML3.5/14, Error ellipse: s-maj=1.9km s-min=1.5km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.20**	**258**	SG	Sg	06 34 45.8	-3.7
FOZ				SG	Sg	06 34 46.0	-3.5
WVZ	**Waitaha Valley**	**0.72**	**52**	P*	Pb	06 34 56.7	-1.0
RPZ	**Rata Peaks**	**0.81**	**104**	P*	Pb	06 34 58.6	-0.7
RPZ				S*	Sb	06 35 08.8	-1.8
LBZ	**Lake Benmore**	**0.88**	**170**	P*	Pb	06 34 59.1	-1.3
JCZ	**Jackson Bay**	**1.03**	**237**	P*	Pb	06 35 02.4	-0.7
WKZ	**Wanaka**	**1.47**	**207**	PN	Pn	06 35 10.1	+0.2
ODZ	**Otahua Downs**	**1.60**	**162**	*e*PN	Pn	06 35 10.5	-1.1
EAZ	**Earnscleugh**	**1.77**	**195**	PN	Pn	06 35 14.2	+0.2
LTZ	**Lake Taylor**	**1.84**	**67**	*e*PN	Pn	06 35 15.2	+0.2
MSZ	**Milford Sound**	**1.86**	**231**	*e*PN	Pn	06 35 15.1	-0.2
MQZ	**McQueen's Vall**	**1.96**	**96**	PN	Pn	06 35 16.7	+0.1
MLZ	**Mavora Lakes**	**2.23**	**215**	*e*PN	Pn	06 35 21.6	+1.3
DSZ	**Denniston Nort**	**2.23**	**38**	*e*PN	Pn	06 35 19.8	-0.6
TUZ	**Tuapeka**	**2.44**	**185**	*e*PN	Pn	06 35 25.2	+2.0
THZ	**Tophouse**	**2.79**	**52**	*e*PN	Pn	06 35 28.5	+0.5
QRZ	**Quartz Range**	**3.30**	**36**	PN	Pn	06 35 34.4	-0.6
NNZ	**Nelson**	**3.42**	**49**	*e*PN	Pn	06 35 37.6	+0.9
APZ	**The Paps**	**3.59**	**202**	*e*PN	Pn	06 35 37.6	-1.4

OTT 02 06:35:06.4±0.4, 7772N×8868W, h18km, MN3.9/1, 260km south from Eureka, Nu Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**2.39**	**9**	PN	Pn	06 35 43.3	-1.4
EUNU				SN	Sn	06 36 14.4	+0.9
EUNU				Trac		06 36 45.9	
	comp=N,456nm,1.4s						
RES	**Resolute Bay**	**3.39**	**209**	PN	Pn	06 35 57.2	-1.1
RES				SN	Sn	06 36 37.8	-0.3
RES			

nsta2 refers to surface waves, cutoff=50s.
NEIC ***02*** *07:09:03.0±0.2, 4632N×15299E, h10km, mb4.9/81, MS4.5/4 Error ellipse: s-maj=8.3km s-min=3.6km az=170.0*
ISCJB ***02*** *07:09:04.7±0.2, 4616N±004×15301E±003, h37km, mb4.8/127, MS4.4/41, Error ellipse: s-maj=5.7km s-min=2.3km az=139.6*
IDC ***02*** *07:09:06.5±0.5, 4623N×15297E, h41km±3km, mb4.0/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.3/18, ML4.0/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/42, Error ellipse: s-maj=14.6km s-min=12.4km az=152.0*
SZGRF ***02*** *07:09:10.0, 4668N×15302E, h33km, mb5.2, Kuril Islands, Russia*
ISC 02 07:09:07.0±0.2, 4625N±004×15298E±003, h39km, h39km±.8km:pP-P,n401,σ1§11/414, mb4.8/127, MS4.4/41, 33C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.72**	**256**	⇑*i*P		**Pn**	**07 09 59.8**	**-2.0**
KUR					AMB	AMB	07 10 02.0	
	190nm,0.5s							
KUR					AMB	AMB	07 10 02.0	
	180nm,0.5s							
KUR				*e*S		**Sn**	**07 10 45.0**	**+0.7**
KUR					A		07 10 46.0	
	5μm,2.0s							
KUR					A		07 11 03.0	
	230nm,0.6s							
KUR					A		07 11 03.0	
	4μm,0.6s							
KUR					AMS	AMS	07 11 34.0	
	5μm,15.0s							
KUR					AMS	AMS	07 11 34.0	
	460nm,15.0s							
KUR					AMS	AMS	07 11 34.0	
	5μm,15.0s							
SKR	**Severo-Kuril's**	**4.91**	**24**	*e*P		**Pn**	**07 10 12.1**	**-6.1**
SKR					AMB	AMB	07 10 14.0	
	200nm,0.9s							
SKR				*e*S		**Sn**	**07 11 02.5**	**-11**
SKR					A		07 11 14.0	
	5μm,8.0s							
SKR					A		07 11 14.0	
	3μm,8.0s							
SKR					A		07 11 14.0	
	4μm,3.0s							
SKR					A		07 11 14.0	
	4μm,3.0s							
SKR					A		07 11 14.0	
	5μm,8.0s							
SKR					A		07 11 14.0	
	3μm,8.0s							
YUK	**Yuzh-Kuril'sk**	**5.50**	**249**	*e*PN		**Pn**	**07 10 27.0**	**+0.7**
YUK				*e*S		**Sn**	**07 11 39.5**	**+11**
YUK					pmax	pmax		
	comp=Z,5μm,1.5s							
YUK					smax			
	comp=N,5μm,1.0s							
YUK					smax			
	comp=E,2μm,2.5s							
YUK					smax			
	comp=N,710nm,0.6s							
YUK					smax			
	comp=E,610nm,0.9s							
YUK					MLR	MLR		
	comp=Z,3μm,16.0s							
YUK					MLR	MLR		
	comp=N,6μm,15.0s							
YUK					MLR	MLR		
	comp=E,5μm,18.5s							
NEM2	**Nemuro 2**	**5.90**	**243**	P		**Pn**	**07 10 29.4**	**-2.3**
NEM2				*e*S		**Sn**	**07 11 35.2**	**-2.8**
JRA	**Rausu**	**6.02**	**250**	P		**Pn**	**07 10 34.0**	**+0.6**
JNK	**Nakash**	**6.44**	**249**	P		**Pn**	**07 10 38.7**	**-0.5**
JAK	**Akkeshi**	**6.74**	**244**	P		**Pn**	**07 10 39.8**	**-3.5**
JTKR	**Abashiri--Toko**	**6.81**	**254**	P		**Pn**	**07 10 45.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.08**	**279**	⇓*e*P		**Pn**	**07 10 52.0**	**+4.0**
YSS				⇑*e*P			07 10 52.0	
YSS					AMB	AMB	07 10 53.6	
	comp=E,40nm,1.0s							
YSS					AMB	AMB	07 10 53.6	
	comp=E,60nm,1.0s							
YSS				*e*S		**Sn**	**07 12 13.0**	**+5.9**
YSS					AMS	AMS	07 13 30.0	
	comp=E,2μm,16.0s							
YSS					AMS	AMS	07 13 30.0	
	comp=E,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.08**	**279**	*j e*PN		**Pn**	**07 10 52.0**	**+4.0**
YSS					pmax	pmax		
	comp=E,60nm,1.0s							
YSS					pmax	pmax		
	comp=Z,40nm,1.0s							
YSS					MLR	MLR		
	comp=E,2μm,16.0s							
YSS					MLR	MLR		
	comp=Z,2μm,16.0s							
JMP	**Maruseppu**	**7.16**	**255**	P		**Pn**	**07 10 50.5**	**+1.4**
JAR	**Ashorobuto**	**7.18**	**249**	P		**Pn**	**07 10 49.6**	**+0.2**
JAR				*e*S		**Sn**	**07 12 11.0**	**+1.3**
JOB	**Onbets**	**7.33**	**246**	P		**Pn**	**07 10 49.7**	**-1.7**
JSE	**Soyaes**	**7.40**	**264**	P		**Pn**	**07 10 55.3**	**+2.9**
JKK2	**Kamakawa 2**	**7.62**	**256**	P		**Pn**	**07 10 56.8**	**+1.4**
ASAJ	**Asahikawa**	**7.64**	**258**	P		**Pn**	**07 10 56.9**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=96,slow=16,SNR=22							
ASAJ					LR	LR	07 13 40.9	
	comp=Z,1μm,21.6s,baz=73,slow=36							
ASAJ	**Asahikawa**	**7.64**	**258**	P		**Pn**	**07 10 57.6**	**+2.0**
ASAJ	**Asahikawa**	**7.64**	**258**	PN		**Pn**	**07 10 56.9**	**+1.3**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,1μm,21.6s							
PET	**Petropavlovsk**	**7.72**	**26**	*e*P		**Pn**	**07 10 56.3**	**-0.5**
PET				*e*S		**Sn**	**07 12 17.5**	**-5.4**
PET					A		07 12 18.5	
	comp=Z,160nm,0.7s							
PET					AMS	AMS	07 15 07.6	
	comp=Z,1μm,14.0s							
PET	**Petropavlovsk**	**7.72**	**26**	*e*Pn		**Pn**	**07 10 55.2**	**-1.6**
PET				*e*Sn		**Sn**	**07 12 18.7**	**-4.2**
JCH	**Churui**	**7.78**	**246**	P		**Pn**	**07 10 56.1**	**-1.5**
JCH				*e*S		**Sn**	**07 12 21.1**	**-3.2**
UGL	**Uglegorsk**	**7.89**	**295**	*e*P		**Pn**	**07 11 03.5**	**+4.4**
UGL					AMB	AMB	07 11 05.5	
	comp=Z,70nm,0.6s							
UGL					AMB	AMB	07 11 09.0	
	comp=Z,500nm,5.0s							
UGL					AMB	AMB	07 11 09.0	
	comp=Z,900nm,5.0s							
UGL					AMB	AMB	07 11 09.0	
	comp=Z,800nm,5.0s							
UGL					sP		07 11 24.0	
UGL					AMS	AMS	07 14 16.0	
	comp=Z,500nm,13.0s							
UGL					AMS	AMS	07 14 16.0	
	comp=Z,2μm,16.0s							
UGL					AMS	AMS	07 14 16.0	
	comp=Z,2μm,16.0s							
JFR	**Furan**	**8.01**	**251**	P		**Pn**	**07 11 02.7**	**+1.9**
JAB	**Ashibetsu**	**8.11**	**254**	P		**Pn**	**07 11 04.2**	**+2.0**
JEM	**Erimo**	**8.23**	**243**	P		**Pn**	**07 11 03.8**	**0.0**
JEM				*e*S		**Sn**	**07 12 33.1**	**-2.3**
ERM	**Erimo**	**8.23**	**243**	*e*PN		**Pn**	**07 11 03.0**	**-0.8**
ERM				*e*			07 12 45.5	
ERM					pmax	pmax		
	comp=Z,54nm,0.7s							
ERM	**Erimo**	**8.23**	**243**	*e*Pn		**Pn**	**07 11 03.0**	**-0.8**
	comp=Z,54nm,0.7s							
ERM				*e*Sn		**Sn**	**07 12 45.5**	**+10**
TYV	**Tymovskoe**	**8.26**	**308**	*e*P		**Pn**	**07 11 06.8**	**+2.7**
TYV					AMB	AMB	07 11 13.0	
	comp=Z,160nm,1.6s							
TYV					AMB	AMB	07 11 16.0	
	comp=Z,500nm,9.0s							
TYV					AMB	AMB	07 11 16.0	
	comp=Z,500nm,9.0s							
TYV					AMS	AMS	07 14 44.0	
	comp=Z,2μm,16.0s							
TYV					AMS	AMS	07 14 44.0	
	comp=Z,4μm,16.0s							
TYV					AMS	AMS	07 14 44.0	
	comp=Z,4μm,16.0s							
JNBK	**Urakawa-nobuka**	**8.34**	**245**	*e*S		**Sn**	**07 12 33.0**	**-5.1**
JHR	**Hokuryu**	**8.36**	**257**	P		**Pn**	**07 11 07.6**	**+2.1**
JNB	**Noboribetsu**	**9.35**	**250**	P		**Pn**	**07 11 19.4**	**+0.3**
JKB	**Kayabe**	**9.63**	**247**	P		**Pn**	**07 11 21.2**	**-1.8**
JKB				*e*S		**Sn**	**07 13 03.8**	**-6.1**
OKH	**Okha**	**9.76**	**322**	AMS		AMS	07 16 24.0	
	comp=Z,3μm,13.0s							
OKH					AMS	AMS	07 16 24.0	
	comp=Z,3μm,13.0s							
OKH					AMS	AMS	07 16 24.0	
	comp=Z,2μm,13.0s							
JSH	**Shimam**	**9.92**	**253**	P		**Pn**	**07 11 27.9**	**+0.9**
JANG	**Nango**	**10.20**	**239**	P		**Pn**	**07 11 26.6**	**-4.2**
JANG				*e*S		**Sn**	**07 13 13.9**	**-10**
JTM	**Tenmabayashi**	**10.22**	**242**	P		**Pn**	**07 11 28.2**	**-2.9**
JTM				*e*S		**Sn**	**07 13 16.5**	**-7.8**
NKL	**Nikolayevsk**	**10.53**	**315**	AMS		AMS	07 16 28.0	
	comp=Z,3μm,17.0s							
NKL					AMS	AMS	07 16 28.0	
	comp=Z,3μm,17.0s							
JOSM	**Okushiri--Mats**	**10.55**	**252**	P		**Pn**	**07 11 34.0**	**-1.6**
OFUJ	**Ofunato**	**10.97**	**233**	P		**Pn**	**07 11 37.1**	**-4.2**
OFUJ				*e*S		**Sn**	**07 13 32.8**	**-10**
JRG	**Rokugo**	**11.35**	**237**	P		**Pn**	**07 11 42.7**	**-3.8**
JRG				*e*S		**Sn**	**07 13 44.0**	**-8.0**
TEY	**Ternei**	**11.53**	**270**	*e*P		**Pn**	**07 11 52.0**	**+3.1**
TEY					AMB	AMB	07 11 54.0	
	comp=Z,700nm,6.0s							
TEY					AMB	AMB	07 11 54.0	
	comp=Z,900nm,6.0s							
TEY					AMS	AMS	07 16 32.0	
	comp=Z,1μm,17.0s							
JIO	**Ouri**	**11.59**	**232**	P		**Pn**	**07 11 45.2**	**-4.6**
JIO				*e*S		**Sn**	**07 13 47.9**	**-10**
MA2	**Magadan**	**13.42**	**355**	P		**Pn**	**07 12 17.2**	**+2.5**
MA2				*e*S		**Sn**	**07 14 43.9**	**+1.4**
MA2					pmax	pmax		
	comp=Z,40nm,1.3s							
MA2					MLR	MLR		
	comp=Z,2μm,13.7s							
KLR	**Kul'dur**	**14.58**	**290**	*e*P		**Pn**	**07 12 29.3**	**-1.3**
KLR					pmax	pmax		
	comp=E,48nm,1.6s							
KLR					pmax	pmax		
	comp=Z,42nm,1.6s							
KLR					pmax	pmax		
	comp=E,600nm,11.0s							
KLR					pmax	pmax		
	comp=Z,800nm,11.0s							
KLR					MLR	MLR		
	comp=E,2μm,15.0s							
KLR					MLR	MLR		
	comp=Z,2μm,15.0s							
MAJO	**Matsushiro**	**14.70**	**234**	P		**Pn**	**07 12 27.4**	**-4.8**
MAJO					pmax	pmax		
	comp=Z,9.0nm,0.8s							
MAJO	**Matsushiro**	**14.70**	**234**	P		**Pn**	**07 12 27.4**	**-4.9**
	comp=Z,8.6nm,0.8s							
MAT	**Matsushiro**	**14.70**	**234**	P		**Pn**	**07 12 31.0**	**-1.2**
MAT				*e*S		**Sn**	**07 15 29.0**	**+15**
MJAR	**Matsushiro Arr**	**14.70**	**234**	P		**Pn**	**07 12 28.2**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=14							
VLA	**Vladivostok**	**15.31**	**266**	*e*P		**Pn**	**07 12 33.5**	**-6.7**
VLA					MLR	MLR		
	comp=Z,1μm,18.0s							
MDJ	**Mudanjiang**	**16.49**	**273**	P		**Pn**	**07 12 53.1**	**-2.1**
MDJ					AP	pP	07 12 58.8	-8.4
MDJ					XP	sP	07 13 00.3	-12
MDJ					S	**S**	**07 15 56.2**	**-12**
MDJ					PCP	PcP	07 17 44.0	-1.2
MDJ					SCS	ScS	07 24 57.3	+1.5
MDJ					AMB	AMB		
	comp=Z,34nm,1.2s							
MDJ					AMB	AMB		
	comp=Z,289nm,14.0s							
MDJ					LR	LR		
	comp=N,529nm,16.5s							
MDJ					LR	LR		
	comp=E,606nm,17.1s							
MDJ					LR	LR		
	comp=Z,868nm,16.5s							
MDJ	**Mudanjiang**	**16.49**	**273**	*e*P		**Pn**	**07 12 56.6**	**+1.4**
	comp=Z,42nm,1.1s							
JHJ	**Hachijo jima 2**	**16.55**	**222**	LR		LR	07 17 54.2	
	comp=Z,152nm,21.8s,baz=75,slow=32							
SEY	**Seymchan**	**16.73**	**359**	⇑*e*P		**Pn**	**07 12 56.8**	**-1.5**
CN2	**Changchun**	**19.57**	**273**	*e*P		**Pn**	**07 13 32.0**	**-1.0**
CN2				*e*XP		sP	07 13 39.0	-7.3
CN2				*e*S		**S**	**07 17 05.8**	**-4.6**
CN2					AMB	AMB		
	comp=Z,20nm,0.8s							
CN2					AMB	AMB		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,800nm,16.0s							
CN2					LR	LR		
	comp=E,600nm,16.0s							
CN2					LR	LR		
	comp=Z,700nm,19.0s							
CLNS	**Chul'man**	**20.28**	**312**	*e*		**P**	**07 13 38.8**	**-0.4**
CLNS				*e*			07 18 00.3	
CLNS					MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6							
CLNS					MLR	MLR		
	comp=N,800nm,16.0s,MS4.5							
CLNS					MLR	MLR		
	comp=E,1μm,16.0s,MS4.5							
KS15	**Wonju Array Si**	**20.59**	**254**	*e*P		pP	07 13 57.8	+5.4
YAK	**Yakutsk**	**20.70**	**328**	*e*P		**P**	**07 13 43.4**	**-0.3**
YAK				*e*S		**S**	**07 17 31.3**	**-1.4**
YAK					pmax	pmax		
	comp=Z,42nm,1.3s							
YAK					pmax	pmax		
	comp=N,30nm,1.4s							
YAK					pmax	pmax		
	comp=E,31nm,1.4s							
YAK					smax			
	comp=Z,9.0nm,0.4s							
YAK					smax			
	comp=N,151nm,2.9s							
YAK					smax			
	comp=E,67nm,1.9s							
YAK					MLR	MLR		
	comp=Z,550nm,20.0s,MS3.9							
YAK					MLR	MLR		
	comp=N,401nm,16.0s,MS4.1							
YAK					MLR	MLR		
	comp=E,597nm,19.0s,MS4.1							
INCN	**Inchon**	**21.41**	**255**	*e*P		**P**	**07 13 52.2**	**+0.9**
	comp=E,22nm,0.3s,mb5.0							
SNY	**Shenyang**	**21.53**	**269**	⇓P		**P**	**07 13 53.1**	**+0.5**
SNY					AP		07 14 03.7	
SNY					S	**S**	**07 17 55.1**	**+6.1**
SNY					AMB	AMB		
	comp=Z,21nm,1.3s,mb4.4							
SNY					AMB	AMB		
	comp=Z,291nm,8.4s							
SNY					LR	LR		
	comp=E,649nm,15.3s							
SNY					LR	LR		
	comp=Z,697nm,17.1s,MS4.1							
HIA	**Hailar**	**22.44**	**290**	*e*P		**P**	**07 14 00.5**	**-1.9**
HIA					pmax	pmax		
	comp=Z,4.0nm,0.3s							
HIA	**Hailar**	**22.44**	**290**	*e*P		**P**	**07 14 00.5**	**-1.9**
	comp=Z,4.3nm,0.3s,mb4.4							
DL2	**Dalian**	**24.11**	**264**	⇑*i*P		**P**	**07 14 18.6**	**-0.3**
DL2					AP		07 14 22.7	
DL2					S	**S**	**07 18 36.5**	**+2.6**
DL2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3							
DL2					AMB	AMB		
	comp=Z,210nm,4.9s							
DL2					LR	LR		
	comp=N,110nm,13.1s,MS3.8							
DL2					LR	LR		
	comp=E,160nm,14.0s,MS3.8							
DL2					LR	LR		
	comp=Z,220nm,14.1s,MS3.8							
BJI	**Beijing**	**27.38**	**270**	P		**P**	**07 14 48.7**	**+0.2**
BJI					AP	pP	07 14 59.6	+0.3
BJI					S	**S**	**07 19 30.6**	**+4.7**
BJI					AMB	AMB		
	comp=Z,21nm,1.8s,mb4.4							
BJI					AMB	AMB		
	comp=Z,349nm,6.0s							
BJI					LR	LR		
	comp=N,752nm,17.2s,MS4.4							
BJI					LR	LR		
	comp=E,357nm,17.2s,MS4.4							
BJI					LR	LR		
	comp=Z,617nm,18.4s,MS4.2							
BJI	**Beijing**	**27.38**	**270**	P		**P**	**07 14 48.7**	**+0.2**
	comp=Z,21nm,1.8s,mb4.4							
BJI					pP	pP	07 14 59.6	+0.3
BJI					S	**S**	**07 19 30.6**	**+4.7**
BJI					LR	LR		
	comp=Z,620nm,18.4s,MS4.2							
BJT	**Baijiatuau**	**27.39**	**270**	*e*P		**P**	**07 14 48.7**	**+0.1**
BJT					pmax	pmax		
	comp=Z,8.0nm,0.7s							
BJT	**Baijiatuau**	**27.39**	**270**	*e*P		**P**	**07 14 48.7**	**+0.1**
	comp=Z,8.3nm,0.7s,mb4.4							
SSE	**Sheshan**	**28.83**	**250**	P		**P**	**07 15 03.6**	**+2.2**
SSE				S		**S**	**07 19 51.9**	**+3.2**
SSE					AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2							
SSE					AMB	AMB		
	comp=Z,158nm,6.0s							
SSE					LR	LR		
	comp=N,178nm,19.2s,MS3.8							
SSE					LR	LR		
	comp=E,140nm,19.2s,MS3.8							
SSE					LR	LR		
	comp=Z,288nm,23.2s,MS3.8							
SSE	**Sheshan**	**28.83**	**250**	P		**P**	**07 15 03.6**	**+2.2**
	comp=Z,31nm,0.7s,mb5.2							
SSE					pP	pP	07 15 14.9	+2.6
SSE					S	**S**	**07 19 51.9**	**+3.2**
SSE					sS	sS	07 20 10.9	+4.2
SSE					LR	LR		
	comp=Z,290nm,23.2s,MS3.8							
NJ2	**Nanjing**	**29.76**	**254**	*e*P		**P**	**07 15 07.6**	**-2.1**
NJ2					AP	pP	07 15 17.1	-3.4
NJ2					XP	sP	07 15 21.3	-3.9
NJ2					PP	PP	07 16 04.1	-13
NJ2					S	**S**	**07 20 00.0**	**-3.3**
NJ2					XS	sS	07 20 16.0	-5.4
NJ2					AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9							
NJ2					AMB	AMB		
	comp=Z,270nm,5.0s							
NJ2					LR	LR		
	comp=N,820nm,10.5s,MS4.8							
NJ2					LR	LR		
	comp=E,890nm,10.0s,MS4.8							
HHC	**Hu-ho-hao-te**	**30.24**	**275**	*e*P		**P**	**07 15 14.6**	**+0.7**
HHC					AP	pP	07 15 19.1	-5.7
HHC					XP	sP	07 15 22.4	-7.1
HHC					PP	PP	07 16 11.7	-11
HHC					PCP	PcP	07 18 16.8	+2.9
HHC					S	**S**	**07 20 15.3**	**+4.5**
HHC					XS	sS	07 20 18.2	-11
HHC					PCS	PcS	07 21 59.2	+1.7
HHC					SCS	ScS	07 25 50.5	+1.6
HHC					AMB	AMB		
	comp=Z,27nm,0.5s,mb5.2							
HHC					AMB	AMB		
	comp=Z,262nm,6.3s							
HHC					LR	LR		
	comp=N,516nm,14.7s,MS4.4							
HHC					LR	LR		
	comp=E,530nm,18.6s,MS4.4							
HHC					LR	LR		
	comp=Z,704nm,17.2s,MS4.4							
SONM	**Songino Array**	**31.41**	**290**	P		**P**	**07 15 23.4**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.7,baz=111,slow=6.3,SNR=3.4							
SONM					LR	LR	07 29 07.1	
	comp=Z,614nm,18.6s,MS4.3,baz=68,slow=38							
SONM	**Songino Array**	**31.41**	**290**	P		**P**	**07 15 23.4**	**-0.9**
SONM					pmax	pmax		
	comp=Z,10.0nm,0.7s							
SONM					MLR	MLR		
	comp=Z,614nm,18.6s							
SONM	**Songino Array**	**31.41**	**290**	P		**P**	**07 15 23.4**	**-0.9**
SONM					LR	LR	07 29 07.1	
TLY	**Talaya**	**32.33**	**298**	*e*P		pP	07 15 46.1	+2.9
TLY					pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8							
TLY					MLR	MLR		
	comp=Z,1μm,16.0s,MS4.7							
ZAK	**Zakamensk**	**32.81**	**296**	*e*P		**P**	**07 15 35.7**	**-0.8**
ZAK				*e*			07 18 20.5	
TTA	**Tatalina**	**32.86**	**41**	*e*P		**P**	**07 15 38.1**	**+1.1**
TTA					pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0							
TTA	**Tatalina**	**32.86**	**41**	*e*P		**P**	**07 15 38.1**	**+1.1**
	comp=Z,26nm,1.4s,mb5.0							
WHN	**Wuhan**	**33.71**	**256**	⇓P		**P**	**07 15 44.8**	**+0.4**
WHN					S	**S**	**07 21 03.0**	**-2.0**
WHN					AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3							
WHN					LR	LR		
	comp=Z,1μm,21.7s,MS4.6							
IMA2	**Indian Mountai**	**34.27**	**36**	*e*P		**P**	**07 15 48.6**	**-0.6**
KDAK	**Kodiak Island**	**34.50**	**50**	*e*P		**P**	**07 15 49.3**	**-1.9**
MCK	**McKinley**	**36.10**	**40**	*e*P		**P**	**07 16 03.7**	**-1.3**
MCK					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
MCK	**McKinley**	**36.10**	**40**	*e*P		**P**	**07 16 03.7**	**-1.3**
	comp=Z,8.9nm,1.0s,mb4.7							
COLA	**College**	**36.59**	**38**	*e*P		**P**	**07 16 08.2**	**-1.0**
COLA	**College**	**36.59**	**38**	*e*P		**P**	**07 16 08.1**	**-1.1**
	comp=Z,13nm,0.8s,mb4.8							
COLA				*e*		pP	07 16 20.4	+0.3
LZH	**Lanzhou**	**37.81**	**272**	*e*P		**P**	**07 16 20.5**	**+1.0**
LZH					AP	pP	07 16 31.5	+1.0
LZH					PP	PP	07 17 50.0	+3.7
LZH					PCP	PcP	07 18 39.5	+4.0
LZH				*e*S		**S**	**07 22 06.0**	**-1.7**
LZH					XS	sS	07 22 19.0	-7.0
LZH					SS	SS	07 24 43.0	-12
LZH					AMB	AMB		
	comp=Z,69nm,1.5s,mb5.2							
LZH					AMB	AMB		
	comp=Z,179nm,4.5s							
LZH					LR	LR		
	comp=N,576nm,14.0s							
LZH					LR	LR		
	comp=Z,2μm,16.3s,MS4.9							
LZH	**Lanzhou**	**37.81**	**272**	*e*P		**P**	**07 16 20.5**	**+1.0**
LZH					*PP	pP	07 16 31.5	+1.0
LZH					*SP	sP	07 16 36.0	+0.8
LZH							07 17 50.0	
LZH							07 18 39.5	
LZH				*e*S		**S**	**07 22 06.0**	**-1.7**
LZH					*SS	sS	07 22 19.0	-7.0
LZH					SS	SS	07 24 43.0	-12
LZH					pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.2							
LZH					MLR	MLR		
	comp=Z,2μm,16.3s,MS4.9							
LZH	**Lanzhou**	**37.81**	**272**	*e*P		**P**	**07 16 20.5**	**+1.0**
	comp=Z,69nm,1.5s,mb5.2							
LZH					pP	pP	07 16 31.5	+1.0
LZH					sP	sP	07 16 36.0	+0.8
LZH					PP	PP	07 17 50.0	+3.7
LZH					PcP	PcP	07 18 39.5	+4.0
LZH				*e*S		**S**	**07 22 06.0**	**-1.7**
LZH					sS	sS	07 22 19.0	-7.0
LZH					SS	SS	07 24 43.0	-12
LZH					LR	LR		
	comp=Z,2μm,16.3s,MS4.9							
KRAR	**Krasnoyarsk**	**37.81**	**307**	*e*P		**P**	**07 16 17.4**	**-2.2**
KRAR					pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7							
GTA	**Gaotai**	**38.96**	**280**	P		**P**	**07 16 29.9**	**+0.8**
GTA					AP	pP	07 16 39.5	-0.7
GTA					XP	sP	07 16 43.9	-1.0
GTA					PP	PP	07 18 02.8	+4.0
GTA					PCP	PcP	07 18 40.6	+1.5
GTA					S	**S**	**07 22 23.9**	**-1.2**
GTA					XS	sS	07 22 40.0	-3.4
GTA					AMB	AMB		
	comp=Z,19nm,1.6s,mb4.6							
GTA					AMB	AMB		
	comp=Z,135nm,5.7s							
GTA					LR	LR		
	comp=N,361nm,15.3s,MS4.4							
GTA					LR	LR		
	comp=E,243nm,16.8s,MS4.4							
GTA					LR	LR		

comp=Z,436nm,16.4s,MS4.4
EGAK Eagle 39.46 38 *e*P **P 07 16 31.7 -1.6**
DAWY Dawson 40.29 39 *e*P **P 07 16 40.4 +0.2**
CD2 Chengdu 40.74 266 P **P 07 16 43.4 -0.6**
CD2 AP pP 07 16 47.9 -7.2
CD2 XP sP 07 16 50.4 -9.3
CD2 PP PP 07 18 20.7 +2.4
CD2 S **S 07 22 52.3 +0.5**
CD2 SS SS 07 25 47.0 -6.4
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=E,220nm,15.6s
CD2 LR LR
comp=Z,140nm,14.4s,MS4.0
GYA Guiyang 41.51 258⇑ *i*P **P 07 16 50.9 +0.6**
GYA AP pP 07 17 01.6 +0.2
GYA XP sP 07 17 04.7 -1.4
GYA PP PP 07 18 32.8 +6.1
GYA S **S 07 23 09.9 +6.7**
GYA SCS ScS 07 26 48.9 -1.7
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,120nm,6.0s
GYA LR LR
comp=N,640nm,17.0s,MS4.7
GYA LR LR
comp=E,540nm,17.2s,MS4.7
GYA LR LR
comp=Z,610nm,17.5s,MS4.5
INK Inuvik 42.13 32 P **P 07 16 54.9 -0.5**
comp=Z,5.3nm,1.0s,mb4.1,baz=286,slow=7.6,SNR=8.3
INK pP pP 07 17 06.7 +0.2
comp=Z,20nm,0.9s,baz=278,slow=9.5,SNR=14
INK Inuvik 42.13 32 P **P 07 16 54.9 -0.4**
INK *PP pP 07 17 06.7 +0.2
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 42.13 32 *e*P **P 07 16 54.7 -0.7**
comp=Z,498nm,0.6s
INK *e* pP 07 17 07.1 +0.6
NVS Novosibirsk 43.42 308 *i* P **P 07 17 02.3 -3.5**
QIZ Qiongzhong 44.56 247 P **P 07 17 16.3 +1.3**
QIZ S **S 07 23 50.9 +3.0**
QIZ LR LR
comp=Z,233nm,18.7s,MS4.1
WMQ Urumqi 45.02 292 *e*P **P 07 17 18.8 +0.2**
WMQ AP pP 07 17 23.0 -6.8
WMQ XP sP 07 17 26.0 -8.5
WMQ PCP PcP 07 19 01.0 +1.9
WMQ PPP 07 19 44.0
WMQ S **S 07 23 56.0 +1.4**
WMQ XS sS 07 24 03.0 -10
WMQ SCS ScS 07 27 13.0 +0.5
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,139nm,6.4s
WMQ LR LR
comp=N,1μm,15.3s,MS5.0
WMQ LR LR
comp=E,913nm,15.3s,MS5.0
WMQ LR LR
comp=Z,1μm,16.4s,MS4.9
KMI Kunming 45.06 260⇑P **P 07 17 20.1 +1.2**
KMI AP pP 07 17 30.5 +0.4
KMI PP PP 07 19 06.5 +1.9
KMI PPP 07 19 45.1
KMI S **S 07 23 54.2 -0.9**
KMI XS sS 07 24 14.5 +0.8
KMI SS SS 07 27 08.2 -10
KMI SSS 07 28 07.3
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,202nm,4.2s
KMI LR LR
comp=N,384nm,15.9s,MS4.6
KMI LR LR
comp=E,402nm,18.0s,MS4.6
KMI LR LR
comp=Z,356nm,13.3s,MS4.5
KMI Kunming 45.06 260⇑P **P 07 17 20.1 +1.2**
KMI *PP pP 07 17 30.5 +0.4
KMI *SP sP 07 17 35.5 +0.8
KMI 07 19 06.5
KMI PPP 07 19 45.1
KMI S **S 07 23 54.2 -0.9**
KMI *SS sS 07 24 14.5 +0.8
KMI SS SS 07 27 08.2 -10
KMI SSS 07 28 07.3
KMI pmax pmax
comp=Z,13nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,360nm,13.3s,MS4.5
KMI Kunming 45.06 260⇑P **P 07 17 20.1 +1.2**
comp=Z,13nm,1.1s,mb4.7
KMI pP pP 07 17 30.5 +0.4
KMI sP sP 07 17 35.5 +0.8
KMI PP PP 07 19 06.5 +1.9
KMI PPP 07 19 45.1
KMI S **S 07 23 54.2 -0.9**
KMI sS sS 07 24 14.5 +0.8
KMI SS SS 07 27 08.2 -10
KMI SSS 07 28 07.3
KMI LR LR
comp=Z,360nm,13.3s,MS4.5
DLBC Dease Lake 46.02 45 P **P 07 17 26.9 +0.5**
comp=Z,2.4nm,0.9s,mb4.2,baz=306,slow=8.7,SNR=2.9
MKAR Makanchi Array 47.09 298 P **P 07 17 34.3 -0.6**
comp=Z,5.8nm,0.8s,mb4.6,baz=65,slow=8.7,SNR=42
MKAR Makanchi Array 47.09 298 P **P 07 17 34.3 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 50.21 273 *e*P **P 07 17 59.1 +0.2**
LSA *e* pP 07 18 12.3 +2.1
LSA pmax pmax
comp=Z,8.0nm,0.3s,mb5.2
LSA Lhasa 50.21 273 *e*P **P 07 17 59.1 +0.2**
comp=Z,7.7nm,0.3s,mb5.2
LSA *e* pP 07 18 12.3 +2.1
BVAR Borovoye Array 51.11 310 P **P 07 18 04.7 -0.9**
comp=Z,1.7nm,0.5s,mb4.2,baz=64,slow=8.4,SNR=16
BVAR LR LR 07 41 28.7
comp=Z,466nm,18.3s,MS4.5,baz=320,slow=38
BVAR Borovoye Array 51.11 310 P **P 07 18 04.7 -0.9**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR MLR MLR
comp=Z,466nm,18.3s
YKW3 Yellowknife Ar 51.35 36 *e*pP pP 07 18 16.5 -2.3
YKA Yellowknife Ar 51.39 36 P **P 07 18 06.6 -1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=296,slow=7.3,SNR=4.8
YKA pP pP 07 18 19.0 -0.1
comp=Z,15nm,0.9s,baz=297,slow=7.4,SNR=15
YKA LR LR 07 40 11.9
comp=Z,106nm,18.8s,MS3.9,baz=50,slow=36
YKA Yellowknife Ar 51.39 36 P **P 07 18 06.6 -1.1**
YKA *PP pP 07 18 19.0 -0.1
YKA MLR MLR
comp=Z,106nm,18.8s
YKA Yellowknife Ar 51.39 36 P **P 07 18 06.6 -1.1**
YKA pP pP 07 18 19.0 -0.1
YKA LR LR 07 40 11.9
ZRNK Zerenda 51.88 310 *e*P **P 07 18 10.1 -1.3**
ZRNK *e* pP 07 18 20.3 -2.5
ZRNK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZRNK Zerenda 51.88 310 *e*P **P 07 18 10.1 -1.3**
comp=Z,9.7nm,1.0s,mb4.7
ZRNK *e* pP 07 18 20.3 -2.5
CHTO Chiang Mai 51.91 257 *e*P **P 07 18 12.2 +0.6**
CHTO *e* pP 07 18 25.5 +2.5
CHTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CHTO Chiang Mai 51.91 257 *e*P **P 07 18 12.2 +0.6**
comp=Z,5.1nm,0.9s,mb4.5
CHTO *e* pP 07 18 25.5 +2.5
CM31 Chiang Mai Arr 52.16 257 *e*P **P 07 18 15.4 +1.9**
comp=Z,3.7nm,0.4s,mb4.7
TKM2 Tokmak 2 53.14 296 *i* P **P 07 18 19.7 -1.0**
TKM2 pmax pmax
comp=Z,13nm,1.9s,mb4.5
FRU Bishkek 53.79 297 *e*P **P 07 18 25.0 -0.5**
AAK Ala-Archa 53.98 297⇑ *e*P **P 07 18 25.2 -1.7**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AAK Ala-Archa 53.98 297 *e*P **P 07 18 26.2 -0.7**
comp=Z,6.5nm,0.8s,mb4.6
GNW Green Mountain 54.74 56 *e*pP pP 07 18 45.0 +1.0
KSH Kashi 54.76 293 *e*P **P 07 18 35.5 +2.9**
KSH *e*PP PP 07 20 40.6 +5.2
KSH *e*S **S 07 26 12.3 +1.9**
KSH *e*XS sS 07 26 20.7 -8.7
KSH *e*SS SS 07 29 55.4 +1.6
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=N,699nm,11.6s,MS5.3
KSH LR LR
comp=E,1μm,16.4s,MS5.3
GUN Gumba 54.95 275 *e*P **P 07 18 35.3 +1.3**
ARU Arti 55.32 318 *e*P **P 07 18 34.9 -1.7**
ARU *e* pP 07 18 46.0 -2.1
ARU pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
ARU Arti 55.32 318 *e*P **P 07 18 34.9 -1.7**
comp=Z,6.0nm,0.3s,mb5.1
ARU *e* pP 07 18 46.0 -2.1
KKN Kakani 55.44 276 *e*P **P 07 18 38.4 +0.9**
comp=Z,69nm,1.1s,mb5.6
PKI Pulchoki 55.49 275 *e*P **P 07 18 38.7 +0.9**
comp=Z,46nm,1.2s,mb5.4
DMN Daman 55.67 276 *e*P **P 07 18 40.5 +1.3**
comp=Z,163nm,1.5s,mb5.8
GKN Gorkha 55.75 276 *e*P **P 07 18 40.7 +1.0**
comp=Z,48nm,0.9s,mb5.5
KOLN Koldanda 56.61 277 *e*P **P 07 18 46.9 +1.0**
comp=Z,53nm,1.0s,mb5.5
HOOD Mount Hood Mea 56.65 57 *e*P **P 07 18 47.8 +1.6**
EDM Edmonton 56.73 46 *e*P **P 07 18 45.8 -0.9**
EDM *e* pP 07 18 54.9 -3.3
HAWA Hanford 57.27 55 *e*P **P 07 18 52.1 +1.6**
NEW Newport 57.56 52 LR LR 07 40 42.1
comp=Z,117nm,20.5s,MS4.0,baz=360,slow=33
NEW Newport 57.56 52 *e*P **P 07 18 50.9 -1.6**
NEW *e* pP 07 19 01.5 -2.6
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 57.56 52 *e*P **P 07 18 50.9 -1.6**
comp=Z,9.3nm,1.1s,mb4.7
NEW *e* pP 07 19 01.5 -2.6
BOK Bokaro 57.57 271 *e*P **P 07 18 52.5 -0.1**
BOK AMb AMB 07 18 56.6
comp=Z,23nm,1.7s,mb4.9
BOK *ex* x 07 22 52.1
KEV Kevo 57.79 341 *e*p **P 07 18 52.2 -2.0**
YBH Yreka Blue Hor 58.07 61 LR LR 07 41 45.0
comp=Z,100nm,19.5s,MS3.9,baz=310,slow=34
YBH Yreka Blue Hor 58.07 61 *e*P **P 07 18 56.8 +0.7**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 58.07 61 *e*P **P 07 18 56.8 +0.7**
comp=Z,10nm,1.3s,mb4.7
ARCES ARCESS Array B 58.30 341 P **P 07 18 55.9 -1.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=34,slow=8.8,SNR=6.8
ARCES pP pP 07 19 08.8 -0.4
comp=Z,2.4nm,0.6s,baz=19,slow=7.7,SNR=3.3
ARCES LR LR 07 49 46.8
comp=Z,214nm,18.1s,MS4.3,baz=210,slow=42
ARCES ARCESS Array B 58.30 341 P **P 07 18 55.9 -1.8**
ARCES pP pP 07 19 08.8 -0.4
ARCES LR LR 07 49 46.8
WALA Waterton Lakes 58.84 50 *e*P **P 07 19 00.8 -0.7**
comp=Z,18nm,1.3s,mb5.0
WDC Whiskeytown Da 58.85 62 *e*P **P 07 19 03.1 +1.6**
AKTO Aktyubinsk 58.99 312 *i* P **P 07 19 01.8 -0.8**
BSMT Bassoo Peak 59.08 52 *e*P **P 07 19 02.5 -0.7**
BSMT *e*pP pP 07 19 15.2 +0.5
BMO Blue Mountains 59.44 56 *e*P **P 07 19 06.2 +0.6**
comp=Z,1.8nm,0.7s,mb4.2
WVOR Wild Horse Val 60.10 59 *e*P **P 07 19 09.5 -0.7**
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
WVOR Wild Horse Val 60.10 59 *e*P **P 07 19 09.5 -0.7**
comp=Z,7.6nm,1.0s,mb4.7
MSO Missoula 60.15 52 *e*P **P 07 19 11.3 +0.8**
comp=Z,17nm,1.3s,mb4.9
MSO *e*pP pP 07 19 19.2 -2.8
CHMT Chamberlain Mo 60.47 52 *e*P **P 07 19 12.0 -0.7**
CHMT *e*pP pP 07 19 23.9 -0.4
SUMG Summit 61.21 4 *e*P **P 07 19 16.8 -0.9**
comp=Z,28nm,0.9s,mb5.4
SUMG *e*pP pP 07 19 28.6 -0.7
LRM Limekiln Ridge 61.58 52 *e*P **P 07 19 20.2 0.0**
LRM *e*pP pP 07 19 32.4 +0.5
EGMT Eagleton 61.66 49 *e*P **P 07 19 20.9 0.0**
CMB Columbia Colle 61.71 64 *e*P **P 07 19 20.5 -0.7**
CMB pmax pmax
comp=Z,16nm,1.4s,mb5.0
CMB Columbia Colle 61.71 64 *e*P **P 07 19 20.5 -0.7**
comp=Z,16nm,1.4s,mb5.0
JOF Joensuu 61.74 334 *e*p **P 07 19 20.2 -1.2**
DLMT Dillon 61.78 53 *e*P **P 07 19 21.3 -0.3**
comp=Z,18nm,1.5s,mb5.0
DLMT *e*pP pP 07 19 33.8 +0.5
HLID Hailey 61.87 55 *e*P **P 07 19 22.1 -0.1**
comp=Z,2.5nm,0.8s,mb4.4
HLID *e*pP pP 07 19 31.3 -2.5
MCMT McKenzie Canyo 61.97 54 *e*P **P 07 19 22.2 -0.7**
MCMT *e*pP pP 07 19 33.9 -0.6
WAKR Walker 62.01 63 *e*P **P 07 19 23.0 -0.1**
WAKR *e*pP pP 07 19 35.8 +1.0
BMN Battle Mountai 62.16 60 *e*P **P 07 19 24.3 +0.1**
BMN *e*PP pP 07 19 36.5 +0.7
BMN pmax pmax
comp=Z,11nm,1.1s,mb4.9
BMN Battle Mountai 62.16 60 *e*P **P 07 19 24.3 +0.1**
comp=Z,11nm,1.1s,mb4.9
BMN *e*pP pP 07 19 36.5 +0.7
NVAR Mina Array Bea 62.75 62 P **P 07 19 27.6 -0.5**
comp=Z,2.4nm,0.7s,mb4.5,baz=294,slow=8.2,SNR=19
QLMT Earthquake Lak 62.76 53 *e*P **P 07 19 28.1 -0.1**
QLMT *e*pP pP 07 19 40.1 +0.3
GCMT Greycliff 63.12 51 *e*P **P 07 19 30.7 +0.1**
GCMT *e*pP pP 07 19 41.0 -1.2
YMR Madison River 63.12 53 *e*P **P 07 19 32.5 +2.0**
comp=Z,29nm,1.5s,mb5.2
YMR *e*pP pP 07 19 40.4 -1.8
PTRM Twissleman Ran 63.31 66 *e*P **P 07 19 29.7 -2.1**
PTRM *e*pP pP 07 19 42.4 -1.0
YFT Old Faithful 63.33 53 *e*P **P 07 19 33.3 +1.3**
YFT *e*pP pP 07 19 44.7 +1.1
VIS Vishakhapatnam 63.39 268 *e*P **P 07 19 33.3 +1.0**
VIS AMb AMB 07 19 34.9
comp=Z,25nm,1.1s,mb5.2
AJM Ajmer 63.57 281 *e*P **P 07 19 34.8 +1.2**
AJM AMb AMB 07 19 37.2
comp=Z,17nm,0.8s,mb5.1
IMW Indian Meadow 63.62 53 *e*P **P 07 19 34.5 +0.7**
comp=Z,21nm,1.2s,mb5.0
IMW *e*pP pP 07 19 43.4 -2.1
TPH Tonopah 63.64 62 *e*P **P 07 19 38.9 +4.9**
FLWY Flagg Ranch 63.64 53 *e*P **P 07 19 35.9 +1.9**
comp=Z,27nm,1.3s,mb5.1
FLWY *e*pP pP 07 19 44.6 -1.0
DCID1 Drake Creek 63.68 54 *e*P **P 07 19 34.7 +0.4**
DCID1 *e*pP pP 07 19 43.9 -2.0
RLMT Red Lodge 63.76 51 *e*P **P 07 19 35.0 +0.2**
RLMT *e*pP pP 07 19 44.0 -2.5
RRI2 Red Ridge 63.76 54 *e*P **P 07 19 40.4 +5.6**
RRI2 *e*pP pP 07 19 49.1 +2.6
BHPL Bhopal 63.78 277 *e*P **P 07 19 35.8 +0.9**
BHPL AMb AMB 07 19 38.2
comp=Z,32nm,1.2s,mb5.2
MOOW Moose Ponds 63.83 53 *e*P **P 07 19 35.6 +0.4**
comp=Z,12nm,1.1s,mb4.8
KAF Kangasniemi 63.86 335 *e*p **P 07 19 32.6 -2.8**
baz=36,slow=6.1
TPAW Teton Pass 63.88 54 *e*P **P 07 19 35.9 +0.4**
comp=Z,21nm,1.0s,mb5.1
TPAW *e*pP pP 07 19 45.8 -1.4
HVU Hansel Valley 63.93 56 *e*P **P 07 19 38.2 +2.3**
HVU *e*PP pP 07 19 48.2 +0.6
LOHW Long Hollow 63.99 53 *e*P **P 07 19 36.9 +0.6**
comp=Z,17nm,1.2s,mb4.9
LOHW *e*pP pP 07 19 45.7 -2.3
SNOW Snow King Moun 64.00 54 *e*P **P 07 19 37.2 +0.8**
comp=Z,13nm,0.8s,mb5.0
SNOW *e*pP pP 07 19 45.7 -2.4
REDW Red Top Meadow 64.01 54 *e*P **P 07 19 37.0 +0.5**
comp=Z,26nm,1.0s,mb5.2
REDW *e*pP pP 07 19 45.8 -2.4
DGMT Dagmar 64.23 46 *e*P **P 07 19 38.2 +0.4**
DGMT *e*pP pP 07 19 49.2 -0.3
LAO LASA Array 64.36 49 *e*P **P 07 19 38.9 +0.1**
comp=Z,16nm,0.8s,mb5.1
LAO *e*pP pP 07 19 50.9 +0.5
SPUT South Promonto 64.42 56 *e*P **P 07 19 41.3 +2.2**
FINES FINESS Array B 64.46 335 P **P 07 19 37.9 -1.5**
comp=Z,5.6nm,0.8s,mb4.7,baz=46,slow=8.2,SNR=15
FINES LR LR 07 50 56.4
comp=Z,162nm,20.5s,MS4.2,baz=38,slow=39
FINES FINESS Array B 64.46 335 P **P 07 19 37.9 -1.4**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES MLR MLR
comp=Z,162nm,20.5s
TRCR Troy Canyon 64.46 61 *e*P **P 07 19 39.1 -0.3**
TRCR *e*pP pP 07 19 51.1 +0.1
DAC Darwin (Calif) 64.55 63 *e*P **P 07 19 43.3 +3.3**
DAC pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DAC Darwin (Calif) 64.55 63 *e*P **P 07 19 43.3 +3.3**
comp=Z,5.0nm,1.0s,mb4.5
HWUT Hardware Ranch 64.74 56 *e*P **P 07 19 41.2 0.0**
comp=Z,23nm,1.5s,mb5.0
HWUT *e*pP pP 07 19 50.1 -2.7
DUG Dugway 64.93 58 *e*P **P 07 19 43.1 +0.7**
DUG *e*PP pP 07 19 53.5 -0.6
DUG pmax pmax
comp=Z,20nm,1.2s,mb5.0
DUG Dugway 64.93 58 *e*P **P 07 19 43.1 +0.7**
comp=Z,20nm,1.2s,mb5.0
DUG *e*pP pP 07 19 53.5 -0.6
BW06 Boulder Array 65.12 54 *e*P **P 07 19 42.6 -1.1**
comp=Z,13nm,1.0s,mb4.9
BW06 *e* pP 07 19 55.4 +0.1
PDAR Pinedale Array 65.12 54 P **P 07 19 43.1 -0.5**
comp=Z,3.2nm,0.7s,mb4.4,baz=271,slow=2.0,SNR=13
PDAR pP pP 07 19 55.4 0.0
comp=Z,7.6nm,0.8s,baz=293,slow=1.6,SNR=18
PDAR LR LR 07 50 25.8
comp=Z,69nm,18.1s,MS3.9,baz=128,slow=38
NLU North Lily Min 65.51 57 *e*P **P 07 19 46.1 -0.1**
NLU *e*pP pP 07 19 57.3 -0.6
GSC Goldstone 65.67 64 *e*P **P 07 19 45.9 -1.3**
GSC *e*PP pP 07 19 58.4 -0.5
OBN Obninsk 65.67 326⇑ *e*P **P 07 19 45.6 -1.6**
OBN *e*PP pP 07 19 59.2 +0.3
OBN *e* 07 20 11.6
OBN *e* 07 22 10.5
OBN *e*S S 07 28 55.9 +26
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.5
DAU Daniels Canyon 65.69 56 *e*P **P 07 19 48.3 +0.9**
MPU Maple Canyon 65.73 57 *e*P **P 07 19 48.5 +0.9**
comp=Z,16nm,1.1s,mb5.0
MPU *e*pP pP 07 19 59.8 +0.5
SHPR Sheep Range 65.91 62 *e*P **P 07 19 48.4 -0.3**
SHPR *e*pP pP 07 20 00.9 +0.5
MSU Marysvale 66.39 59 *e*P **P 07 19 52.9 +1.0**
TMUT Trail Mountain 66.45 57 *e*P **P 07 19 54.0 +1.8**
TMUT *e*pP pP 07 20 04.1 +0.2
HYB Hyderabad 66.91 271 *i* P **P 07 19 56.0 +0.8**
HYB Hyderabad 66.91 271 *e*P **P 07 19 56.0 +0.8**
ULM Lac du Bonnet 66.97 41 P **P 07 19 53.1 -2.4**
comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=18,SNR=2.4
ULM pP pP 07 20 05.7 -1.6
comp=Z,3.7nm,0.8s,baz=319,slow=11,SNR=5.0
ULM LR LR 07 52 51.1
comp=Z,72nm,19.0s,MS3.9,baz=355,slow=39
SRU San Rafael 66.97 57 *e*P **P 07 19 55.2 -0.4**
SRU *e*PP pP 07 20 07.6 +0.3
SRU pmax pmax
comp=Z,22nm,0.9s,mb5.2
SRU San Rafael 66.97 57 *e*P **P 07 19 55.2 -0.4**
comp=Z,22nm,0.9s,mb5.2
SRU *e*pP pP 07 20 07.6 +0.3
RWWY Rawlins 67.14 53 *e*P **P 07 19 57.0 +0.4**
comp=Z,11nm,0.9s,mb4.9
RWWY *e*pP pP 07 20 08.4 0.0
RWWY *e*sP sP 07 20 13.8 +0.9
RSSD Black Hills 67.22 50 *e*P **P 07 19 56.3 -0.9**
RSSD *e*PP pP 07 20 08.7 -0.2
RSSD pmax pmax
comp=Z,12nm,0.8s,mb5.0
RSSD Black Hills 67.22 50 *e*P **P 07 19 56.3 -0.8**
comp=Z,12nm,0.8s,mb5.0
RSSD *e*pP pP 07 20 08.7 -0.2
VORD Divnogorie 67.57 321 *e*P **P 07 19 58.2 -1.2**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VORD pmax pmax
comp=E,8.0nm,0.5s
WRA Warramunga Arr 68.00 199 P **P 07 20 00.2 -1.9**
comp=E,1.8nm,0.9s,mb4.1,baz=16,slow=6.6,SNR=7.8
WRA Warramunga Arr 68.00 199 P **P 07 20 00.2 -1.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
PV10 Paradox Valley 68.33 57 *e*P **P 07 20 04.1 0.0**
PV10 *e*pP pP 07 20 16.1 +0.2
NB2 NORSAR Subarra 68.67 341 P **P 07 20 05.2 -1.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=28,slow=6.5
NB2 NORSAR Subarra 68.67 341 P **P 07 20 05.2 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NOA NORSAR Array B 68.67 341 P **P 07 20 04.8 -1.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=16
NOA pP pP 07 20 17.4 -0.7
comp=Z,8.8nm,0.9s,baz=27,slow=6.3,SNR=11
NOA LR LR 07 55 05.6
comp=Z,189nm,18.1s,MS4.4,baz=340,slow=40
NOA NORSAR Array B 68.67 341 P **P 07 20 04.9 -1.4**
NOA *PP pP 07 20 17.4 -0.6
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,189nm,18.1s
PV01 Paradox Valley 68.76 57 *e*P **P 07 20 06.0 -0.8**
PV01 *e*pP pP 07 20 18.3 -0.3
WUAZ Wupatki 68.86 61 *e*P **P 07 20 07.6 +0.2**
comp=Z,11nm,1.1s,mb4.7
WUAZ *e*pP pP 07 20 19.9 +0.7
SMCO Snowmass 68.97 55 *e*P **P 07 20 08.0 -0.1**
comp=Z,14nm,0.9s,mb4.9
SMCO *e*pP pP 07 20 20.1 +0.2
ISCO Idaho Springs 69.31 54 *e*P **P 07 20 10.5 +0.2**
ISCO *e*PP pP 07 20 22.5 +0.5
ISCO pmax pmax
comp=Z,12nm,0.9s,mb4.8
ISCO Idaho Springs 69.31 54 *e*P **P 07 20 10.5 +0.2**
comp=Z,12nm,0.9s,mb4.8
ISCO *e*pP pP 07 20 22.5 +0.4
POO Poona 69.41 276 *e*P **P 07 20 09.0 -1.9**
MVCO Mesa Verde 69.43 57 *e*P **P 07 20 10.2 -0.8**
MVCO *e*pP pP 07 20 22.7 0.0
SDCO Great Sand Dun 70.79 55 *e*P **P 07 20 19.6 +0.3**
comp=Z,7.9nm,1.1s,mb4.6
SDCO *e*pP pP 07 20 30.7 -0.4
KIV Kislovodsk 71.08 314 *e*P **P 07 20 21.0 -0.1**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZEI Tsey 71.33 313 *e*P **P 07 20 22.3 -0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TUC Tucson 71.39 63 *e*P **P 07 20 23.0 +0.1**
TUC *e*PP pP 07 20 34.0 -0.7
TUC pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
TUC Tucson 71.39 63 *e*P **P 07 20 23.0 0.0**
comp=Z,8.2nm,1.3s,mb4.5
TUC *e*pP pP 07 20 34.0 -0.8
ASAR Alice Springs 71.70 198 P **P 07 20 24.2 -0.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=13,slow=5.2,SNR=12
ASAR pP pP 07 20 36.8 +0.2

comp=Z,2.4nm,0.8s,baz=13,slow=5.0,SNR=7.5
AKASG Malin Array Be 71.91 326 P P 07 20 24.7 -1.4
comp=Z,9.8nm,0.6s,mb4.9,baz=33,slow=6.1,SNR=38
AKASG LR LR 07 55 59.5
comp=Z,269nm,18.2s,MS4.5,baz=20,slow=39
AKASG Malin Array Be 71.91 326 P P 07 20 24.7 -1.4
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG MLR MLR
comp=Z,269nm,18.2s
AKBB Malin Array Si 71.91 326 *e*P **P 07 20 25.0 -1.1**
LAZ Ladron 72.16 59 *e*P **P 07 20 26.5 -1.0**
LAZ *e*pP pP 07 20 37.0 -2.4
ANMO Albuquerque 72.18 58⇑*e*P **P 07 20 27.4 -0.3**
ANMO Albuquerque 72.18 58 *e*P **P 07 20 27.6 -0.1**
comp=Z,5.1nm,0.9s,mb4.5
ANMO *e*pP pP 07 20 39.5 0.0
LPM Los Pinos Moun 72.52 59 P **P 07 20 32.3 +2.6**
LPM *e*pP pP 07 20 41.3 -0.2
GNI Garni 72.78 310 *e*P **P 07 20 31.2 -0.1**
GNI pmax pmax
comp=Z,22nm,1.3s
ANN Anapa 72.99 318 *e*P **P 07 20 24.1 -8.4**
ANN pmax pmax
comp=Z,28nm,1.2s,mb5.1
SCHQ Schefferville 73.81 23 LR LR 07 54 00.7
comp=Z,105nm,20.0s,MS4.1,baz=106,slow=36
SCIA State Center 74.34 45 *e*P **P 07 20 39.3 -1.1**
SCIA *e*pP pP 07 20 51.5 -0.8
LVV L'vov 74.58 328 *e*P **P 07 20 42.5 +0.7**
LVV MLR MLR
comp=Z,100nm,16.0s,MS4.2
LVV MLR MLR
comp=N,300nm,17.0s,MS4.7
LVV MLR MLR
comp=E,200nm,17.0s,MS4.7
KIS Kishinev 75.04 324 *e*P **P 07 20 42.0 -2.5**
KIS *e* 07 20 57.0
KIS MLR MLR
comp=Z,400nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,400nm,16.0s
MNTX Cornudas Mount 75.10 60 *e*P **P 07 20 44.1 -0.7**
comp=Z,8.3nm,1.0s,mb4.6
MNTX *e*pP pP 07 20 56.0 -0.7
GDL2 Guadalupe Moun 75.35 59 *e*P **P 07 20 47.0 +0.7**
GDL2 *e*pP pP 07 20 58.4 +0.3
OJC Ojcow 75.72 331 *e*P **P 07 20 48.1 -0.2**
STHS Stebnicka Huta 75.90 330 *e*P **P 07 20 49.5 +0.1**
STHS *e* pP 07 21 01.1 -0.2
STHS pmax pmax
comp=Z,16nm,1.3s,mb4.8
STHS Stebnicka Huta 75.90 330 *e*P **P 07 20 49.5 +0.1**
comp=Z,16nm,1.3s,mb4.8
STHS *e* pP 07 21 01.1 -0.2
KOLS Kolonicke sedl 75.95 329 *e*P **P 07 20 49.7 0.0**
BURAR Bucovina Array 75.96 327⇑*i*P **P 07 20 49.8 +0.1**
BURAR Bucovina Array 75.96 327⇑P **P 07 20 49.8 0.0**
UZH Uzhgorod 76.20 329 *e*P **P 07 20 46.5 -4.6**
UZH pmax pmax
comp=Z,31nm,1.2s,mb5.1
CRVS Cervenica-Dubn 76.26 329 *e*P **P 07 20 51.2 -0.3**
KSP Ksiaz 76.31 333 *e*P **P 07 20 50.8 -0.9**
OKC Ostrava-Krasne 76.59 332 *e*pP pP 07 20 59.7 -5.5
OKC AMS AMS 07 59 20.0
comp=Z,200nm,13.4s
UPC Upice 76.69 333 *e*P **P 07 20 54.7 +0.8**
DPC Dobruska-Polom 76.73 333 *e*P **P 07 20 54.3 +0.2**
WMOK Wichita Mounta 76.73 53 *e*P **P 07 20 54.0 -0.1**
WMOK *e**PP pP 07 21 05.1 -0.9
WMOK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WMOK Wichita Mounta 76.73 53 *e*P **P 07 20 54.0 -0.1**
comp=Z,8.7nm,1.0s,mb4.6
WMOK *e*pP pP 07 21 05.1 -0.9
BOYT Boyabat 76.77 317 *i*P **P 07 20 55.5 +1.1**
VRI Vrincioaia 76.80 325⇑*i*P **P 07 20 54.9 +0.4**
VRI Vrincioaia 76.80 325⇑P **P 07 20 54.9 +0.4**
MORC Moravsky Berou 76.84 332⇑*i*P **P 07 20 54.8 +0.1**
MORC Moravsky Berou 76.84 332⇑P **P 07 20 54.8 +0.1**
CLL Collm 76.89 336 *e*P **P 07 20 54.0 -1.0**
comp=Z,11nm,0.9s,mb4.8
CLL *e*pP pP 07 21 06.0 -0.9
CLL Collm 76.89 336 *e*P **P 07 20 54.0 -1.0**
comp=Z,11nm,0.9s,mb4.8
CLL *e*sP sP 07 21 00.0 -11
CLL *e*PcP PcP 07 21 06.0 0.0
comp=Z,18nm,1.3s
CLL LmV 08 01 00.0
comp=Z,200nm,18.2s
KECS Kecovo 76.96 330 *e*P **P 07 20 53.5 -1.9**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 76.96 330 *e*P **P 07 20 53.5 -1.9**
comp=Z,3.3nm,1.0s,mb4.2
BRG Berggiesshubel 77.00 335 *e*P **P 07 21 00.7 +5.1**
comp=Z,3.4nm,1.1s,mb4.2
BRG *e* pP 07 21 09.5 +2.0
comp=Z,3.1nm,1.0s
BRG Berggiesshubel 77.00 335 *e*P **P 07 21 00.7 +5.1**
BRG *e* pP 07 21 09.5 +2.0
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
TIRR Tirgusor 77.26 323⇓*i*P **P 07 20 57.4 +0.3**
TIRR Tirgusor 77.26 323⇓P **P 07 20 57.4 +0.3**
BALT Daday 77.39 318 *i*P **P 07 20 58.9 +1.1**
MLR Muntele Rosu 77.42 325⇑*i*P **P 07 20 58.2 +0.2**
MLR Muntele Rosu 77.42 325⇑P **P 07 20 58.2 +0.2**
CTKT Corum 77.44 317 *i*P **P 07 20 57.6 -0.5**
VYHS Vyhne 77.52 331 *e*P **P 07 20 58.6 +0.1**
VYHS Vyhne 77.52 331 *e*P **P 07 20 58.7 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
VYHS Vyhne 77.52 331 *e*P **P 07 20 58.7 +0.2**
comp=Z,8.7nm,1.5s,mb4.5
DRGR 77.59 328⇑*i*P **P 07 20 59.1 +0.2**
DRGR 77.59 328⇑P **P 07 20 59.1 +0.2**
PRU Pruhonice 77.60 334 *e*P **P 07 21 00.4 +1.4**
PRU AMS AMS 07 58 40.0
comp=Z,300nm,17.6s
VOIR 77.82 325⇓*i*P **P 07 21 01.1 +0.9**
VOIR 77.82 325⇓P **P 07 21 01.1 +0.9**
MOX Moxa 77.87 336 *e*P **P 07 21 00.9 +0.4**
TREC Trest 77.92 333 AMS AMS 08 00 20.0
comp=Z,300nm,19.6s
TREC Trest 77.92 333 *e*P **P 07 20 52.7 -8.1**
TREC MLR MLR
comp=Z,300nm,19.6s,MS4.6
ELDT Eldivan 78.19 317 *i*P **P 07 21 03.4 +1.2**
CCM Cathedral Cave 78.25 47 *e*P **P 07 21 03.2 +0.6**
CCM *e**PP pP 07 21 12.1 -2.4
KHC Kasperske Hory 78.65 334 *e*P **P 07 21 04.9 +0.1**
KHC *e*PCP PcP 07 21 15.4 +1.7
KHC AMS AMS 07 59 10.0
comp=Z,400nm,21.6s
BRTR Keskin Array B 78.69 317 P **P 07 21 05.2 +0.2**
comp=Z,2.4nm,1.0s,mb4.1,baz=82,slow=4.2,SNR=11
BRTR pP pP 07 21 16.8 -0.2
comp=Z,4.9nm,0.9s,baz=113,slow=2.8,SNR=9.1
BRTR LR LR 08 01 55.9
comp=Z,184nm,18.6s,MS4.4,baz=325,slow=40
BRTR Keskin Array B 78.69 317 P **P 07 21 05.2 +0.2**
BRTR *PP pP 07 21 16.8 -0.2
UMR Umm Al-Rimmam 78.81 301 *e*P **P 07 21 05.8 +0.1**
UMR AMb AMB 07 21 10.0
comp=Z,27nm,0.9s,mb5.2
GRA1 Grafenberg Arr 78.84 336 *e*P **P 07 21 06.2 +0.3**
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 78.84 336 *e*P **P 07 21 06.2 +0.3**
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 78.84 336 *e*P **P 07 21 06.2 +0.3**
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 78.84 336 *e*P **P 07 21 06.2 +0.3**
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
MIB Mutribah 78.85 301 *e*P **P 07 21 06.1 +0.3**
MIB AMb AMB 07 21 10.2
comp=Z,34nm,0.9s,mb5.3
GERES GERESS Array B 78.87 334 P **P 07 21 05.2 -0.8**
comp=Z,1.6nm,0.7s,mb4.1,baz=43,slow=6.2,SNR=9.2
GERES LR LR 07 59 53.4
comp=Z,289nm,18.4s,MS4.7,baz=63,slow=39
GERES GERESS Array B 78.87 334 P **P 07 21 05.2 -0.8**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,289nm,18.4s
BZS Buzias 78.99 328⇑*i*P **P 07 21 06.8 +0.1**
BZS Buzias 78.99 328⇑P **P 07 21 06.8 +0.1**
QRN Al-Qurain 79.27 300 *e*P **P 07 21 08.5 +0.3**
QRN AMb AMB 07 21 10.5
comp=Z,33nm,1.1s,mb5.2
JCT Junction City 79.28 57 *e*P **P 07 21 08.4 +0.1**
JCT *e**PP pP 07 21 19.3 -0.9
JCT pmax pmax
comp=Z,21nm,1.1s,mb5.0
JCT Junction City 79.28 57 *e*P **P 07 21 08.3 +0.1**
comp=Z,21nm,1.1s,mb5.0
JCT *e*pP pP 07 21 19.3 -0.9
NAY Al-Naaiem 79.31 301 *e*P **P 07 21 08.2 -0.2**
NAY AMb AMB 07 21 12.7
comp=Z,14nm,1.1s,mb4.8
RDF Al-Radifah 79.36 301 *e*P **P 07 21 08.5 -0.2**
RDF AMb AMB 07 21 13.4
comp=Z,39nm,1.0s,mb5.3
MEM Membach 79.39 339 P **P 07 21 09.8 +0.9**
SIUC Southern Illin 79.52 46 *e*pP pP 07 21 21.4 -0.1
PKSM Moragy 79.56 330⇑*i*P **P 07 21 10.0 +0.2**
PKSM Moragy 79.56 330⇑P **P 07 21 10.0 +0.3**
MIAR Mount Ida 79.72 50 *e*P **P 07 21 09.6 -1.1**
MIAR *e**PP pP 07 21 21.2 -1.4
MIAR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MIAR Mount Ida 79.72 50 *e*P **P 07 21 09.6 -1.1**
comp=Z,4.3nm,0.9s,mb4.4
MIAR *e*pP pP 07 21 21.2 -1.4
BCLA Clavier 79.73 340 P **P 07 21 12.2 +1.5**
ESKT Eskisehir 80.16 318 *i*P **P 07 21 13.7 +0.6**
PERS Pernice 80.38 332 *e*P **P 07 21 14.4 +0.2**
PERS *e* pP 07 21 25.6 -0.5
ACSO Alum Creek Sta 80.46 40 *e*pP pP 07 21 25.9 -0.7
WCI Wyandotte Cave 80.54 43 *e*P **P 07 21 15.6 +0.5**
WCI *e**PP pP 07 21 26.4 -0.6
WCI pmax pmax
comp=Z,12nm,0.7s,mb4.9
WCI Wyandotte Cave 80.54 43 *e*P **P 07 21 15.6 +0.5**
comp=Z,12nm,0.7s,mb4.9
WCI *e*pP pP 07 21 26.4 -0.6
KBA Koelnbreinsper 80.55 333⇑*i*P **P 07 21 16.4 +1.3**
comp=Z,23nm,1.0s,mb5.1
KBA Koelnbreinsper 80.55 333⇑*i*P **P 07 21 16.4 +1.3**
KBA pmax pmax
comp=Z,23nm,1.0s,mb5.1
WTTA Wattenberg 80.90 334⇑*i*P **P 07 21 17.6 +0.6**
comp=Z,19nm,1.0s,mb5.0
WTTA Wattenberg 80.90 334⇑*i*P **P 07 21 17.6 +0.6**
WTTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
VTS Vitosha 80.93 325⇑*i*P **P 07 21 17.9 +0.8**
VTS Vitosha 80.93 325⇑P **P 07 21 17.9 +0.7**
CRES Cresnjev 80.98 331 *e*P **P 07 21 17.4 0.0**
MOTA Moosalm 80.99 335⇑*i*P **P 07 21 18.3 +0.9**
comp=Z,14nm,1.2s,mb4.8
MOTA Moosalm 80.99 335⇑*i*P **P 07 21 18.3 +0.8**
MOTA pmax pmax
comp=Z,15nm,1.2s,mb4.8
CDF Champ du Feu 81.09 338 *e*P **P 07 21 17.9 -0.1**
comp=Z,20nm,0.8s,mb4.8
CDF Champ du Feu 81.09 338 *e*P **P 07 21 17.9 -0.1**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CDF Champ du Feu 81.09 338 *e*P **P 07 21 17.9 -0.1**
comp=Z,9.9nm,0.8s,mb4.8
VISS Visnje 81.20 332 *i*P **P 07 21 18.9 +0.3**
NATX Nacogdoches 81.25 53 P **P 07 21 19.5 +0.7**
comp=Z,46nm,1.0s,mb5.4
NATX *e*pP pP 07 21 30.4 -0.4
WVT Waverly 81.45 46 *e*P **P 07 21 18.6 -1.3**
WVT *e**PP pP 07 21 31.3 -0.6
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WVT Waverly 81.45 46 *e*P **P 07 21 18.6 -1.4**
comp=Z,4.2nm,0.8s,mb4.4
WVT *e*pP pP 07 21 31.3 -0.6
HAU Haudompre 81.70 338 *e*P **P 07 21 20.8 -0.5**
HAU *e*MLR MLR
comp=Z,266nm,17.2s
HAU Haudompre 81.70 338 *e*P **P 07 21 20.8 -0.5**
HAU LR LR
comp=Z,270nm,17.3s,MS4.7
PPT Papeete 81.94 126 *e*LR LR 07 45 53.0
comp=Z,278nm,25.2s
PPT Papeete 81.94 126 LR LR 07 52 11.2
comp=Z,196nm,19.4s,MS4.5,baz=90,slow=32
PLAL Pickwick Lake 82.24 46 *e*P **P 07 21 21.4 -2.6**
comp=Z,18nm,1.5s,mb4.8
PLAL *e*pP pP 07 21 34.5 -1.6
FLN La Foliniere 82.59 343 *e*P **P 07 21 25.3 -0.6**
FLN *e*MLR MLR
comp=Z,196nm,19.2s
FLN La Foliniere 82.59 343 *e*P **P 07 21 25.3 -0.6**
FLN LR LR
comp=Z,200nm,19.3s,MS4.5
LOR Lormes 83.02 339 *e*P **P 07 21 27.8 -0.3**
comp=Z,29nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,216nm,18.5s
LOR Lormes 83.02 339 *e*P **P 07 21 27.8 -0.3**
LOR pmax pmax
comp=Z,15nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,220nm,18.5s,MS4.6
LOR Lormes 83.02 339 *e*P **P 07 21 27.8 -0.3**
comp=Z,15nm,1.0s,mb5.0
LOR LR LR
comp=Z,220nm,18.5s,MS4.6
CABF La Chapelle 83.06 338 *e*P **P 07 21 28.4 +0.1**
comp=Z,15nm,0.7s,mb4.8
CABF La Chapelle 83.06 338 *e*P **P 07 21 28.4 +0.1**
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
CABF La Chapelle 83.06 338 *e*P **P 07 21 28.4 +0.1**
comp=Z,7.7nm,0.7s,mb4.8
SSF Saint Saulge 83.30 340 *e*P **P 07 21 29.8 +0.2**
AVF Avril sur Loir 83.59 340 *e*P **P 07 21 31.2 +0.2**
comp=Z,57nm,1.3s,mb5.2
AVF Avril sur Loir 83.59 340 *e*P **P 07 21 31.2 +0.2**
AVF pmax pmax
comp=Z,29nm,1.3s,mb5.2
AVF Avril sur Loir 83.59 340 *e*P **P 07 21 31.2 +0.2**
comp=Z,29nm,1.3s,mb5.2
SMF Signal de Mont 83.60 339 *e*P **P 07 21 31.1 0.0**
LPL La Plagne 83.90 337 *e*P **P 07 21 33.3 +0.7**
comp=Z,17nm,1.0s,mb4.8
LPL La Plagne 83.90 337 *e*P **P 07 21 33.3 +0.7**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPL La Plagne 83.90 337 *e*P **P 07 21 33.3 +0.7**
comp=Z,8.4nm,1.0s,mb4.8
LPG La Plagne 83.91 337 *e*P **P 07 21 33.4 +0.7**
comp=Z,8.9nm,0.7s,mb4.7
LPG La Plagne 83.91 337 *e*P **P 07 21 33.4 +0.7**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LPG La Plagne 83.91 337 *e*P **P 07 21 33.4 +0.7**
comp=Z,4.4nm,0.7s,mb4.7
BNI Bardonecchia 84.34 337 *e*P **P 07 21 35.0 +0.1**
BNI *e**PP pP 07 21 45.1 -1.8
BNI *e**SP sP 07 21 50.9 -0.5
BNI pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
BNI Bardonecchia 84.34 337 *e*P **P 07 21 35.0 +0.1**
comp=Z,8.4nm,1.0s,mb4.8
BNI *e*pP pP 07 21 45.1 -1.8
BNI *e*sP sP 07 21 50.9 -0.5
MBDF Montbardon 84.62 337 *e*P **P 07 21 36.6 +0.3**
comp=Z,4.3nm,0.5s,mb4.5
MBDF Montbardon 84.62 337 *e*P **P 07 21 36.6 +0.3**
MBDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
MBDF Montbardon 84.62 337 *e*P **P 07 21 36.6 +0.3**
comp=Z,2.2nm,0.5s,mb4.5
ORIF Oris-en-Rattie 84.68 337 *e*P **P 07 21 37.2 +0.6**
comp=Z,9.6nm,0.6s,mb4.8
ORIF *e*MLR MLR
comp=Z,169nm,19.6s
ORIF Oris-en-Rattie 84.68 337 *e*P **P 07 21 37.2 +0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ORIF Oris-en-Rattie 84.68 337 *e*P **P 07 21 37.2 +0.6**
comp=Z,4.8nm,0.6s,mb4.8
VIVF Saint-Julien-l 85.06 338 *e*P **P 07 21 38.5 0.0**
SBF Sospel 85.22 336 *e*P **P 07 21 39.6 +0.3**
comp=Z,18nm,0.7s,mb5.0
SBF Sospel 85.22 336 *e*P **P 07 21 39.6 +0.3**
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
SBF Sospel 85.22 336 *e*P **P 07 21 39.6 +0.3**
comp=Z,8.9nm,0.7s,mb5.0
LMR La Mourre 85.97 336 *e*P **P 07 21 43.0 -0.1**
LASF Ste Croix 86.00 338 *e*P **P 07 21 43.1 -0.1**
TIP Timpagrande 86.36 327 *e*P **P 07 21 44.1 -0.9**
TBI Tubuai 86.65 129 *e*LR LR 07 48 03.4
comp=Z,192nm,34.8s
SJPF Ste Jean 88.12 341 *e*P **P 07 21 53.7 +0.2**
ESDC Sonseca Array 92.01 342 LR LR 08 11 34.8
comp=Z,96nm,18.1s,MS4.3,baz=345,slow=41
RKT Rikitea 94.83 118 *e*LR LR 07 51 52.4
comp=Z,573nm,34.5s
MAW Mawson 131.72 211 PKP PKPdf 07 28 14.2 -1.4
comp=Z,1.5nm,1.0s,baz=294,slow=7.0,SNR=3.4
MAW Mawson 131.72 211 PKIKP PKPdf 07 28 14.2 -1.4
MAW pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 134.66 63 PKP PKPdf 07 28 22.3 +1.1
comp=Z,0.4nm,0.4s,baz=34,slow=3.6,SNR=3.8
LPAZ La Paz 134.66 63 *e*PKPdf PKPdf 07 28 24.9 +3.7
BDFB Brasilia 144.80 37 PKP PKPdf 07 28 37.8 -1.7
comp=Z,2.1nm,0.8s,baz=297,slow=6.8,SNR=2.7
BDFB pPKP pPKPdf 07 28 50.1 -2.0
comp=Z,11nm,1.0s,baz=335,slow=5.1,SNR=9.9
PLCA Paso Flores 148.25 96 PKPbc PKPbc 07 28 47.5 -1.2
comp=Z,6.7nm,1.1s,baz=262,slow=5.8,SNR=8.4
PLCA pPKPbc pPKPbc 07 29 00.1 -1.1
comp=Z,14nm,1.0s,baz=275,slow=2.6,SNR=11
PLCA Paso Flores 148.25 96 *e*PKPdf PKPdf 07 28 47.4 +2.0
PLCA *e*pPKPdf pPKPdf 07 29 00.1 +2.2
CPUP Villa Florida 148.80 61 PKPbc PKPbc 07 28 48.7 -1.5
comp=Z,2.2nm,0.7s,baz=324,slow=2.5,SNR=6.1
CPUP pPKPbc pPKPbc 07 29 01.3 -1.3
comp=Z,12nm,0.9s,baz=310,slow=2.8,SNR=12
CPUP Villa Florida 148.80 61 PKPbc PKPbc 07 28 48.7 -1.5
CPUP pPKPbc pPKPbc 07 29 01.3 -1.2
SNAA Sanae 152.04 196 *e*PKPdf PKPbc 07 28 58.1 +0.2
SNAA *e* 07 29 04.6
SNAA *e* 07 29 10.5
SNAA *e* 07 29 16.9
VNA3 Neumayer Olymp 153.58 193 *e*PKPdf pPKPdf 07 29 09.8 +3.7
VNA3 *e* 07 29 24.6

NEIC ***02*** *07:16:23.6±0.8, 4661N×15354E, h10km, mb4.2/4, Error ellipse: s-maj=20.8km s-min=14.8km az=128.0*
MOS ***02*** *07:16:25.4±1.5, 4657N×15332E, h33km, mb4.3/11, Error ellipse: s-maj=18.2km s-min=13.1km az=77.5*
ISCJB ***02*** *07:16:26.3±1.7, 466N±0.1×1534E±02, h40km±13km, mb4.3/16, Error ellipse: s-maj=26.8km s-min=10.0km az=106.5*
IDC ***02*** *07:16:29.3±4.7, 4640N×15348E, h60km±42km, mb3.7/10, mb1 3.8/12, mb1mx3.7/24, mbtmp4.0/12, ML3.7/2, Error ellipse: s-maj=26.6km s-min=24.1km az=130.0*

ISC 02 07:16:28.7±1.6, 466N±01×1534E±02, h44km±12km, n39, σ1§15/39, mb4.3/16, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.11**	**253**	⇓*i*PN	**Pn**	**07 17 24.4**	**-4.5**
KUR				*i*S	**Sn**	**07 18 14.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,140nm,0.6s						
SKR	**Severo-Kuril's**	**4.46**	**23**	*e*PN	**Pn**	**07 17 34.6**	**+0.9**
ASAJ	**Asahikawa**	**8.02**	**256**	P	**Pn**	**07 18 22.7**	**+0.2**
	comp=E,1.4nm,0.3s,baz=85,slow=31,SNR=3.7						
ASAJ	**Asahikawa**	**8.02**	**256**	PN	**Pn**	**07 18 22.7**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.16**	**234**	P	**Pn**	**07 20 00.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=23,slow=12,SNR=6.5						
INK	**Inuvik**	**41.66**	**32**	P	**P**	**07 24 12.3**	**-0.4**
	comp=Z,1.7nm,0.8s,mb3.7,baz=127,slow=8.4,SNR=4.8						
INK	**Inuvik**	**41.66**	**32**	*e*P	**P**	**07 24 12.7**	**-0.1**
	comp=Z,67nm,0.8s,mb5.3						
MKAR	**Makanchi Array**	**47.20**	**298**	P	**P**	**07 24 56.5**	**-0.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=64,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**47.20**	**298**	P	**P**	**07 24 56.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**07 25 25.4**	**-1.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=55,slow=7.8,SNR=5.1						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**07 25 25.4**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**54.09**	**297**	*e*P	**P**	**07 25 48.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**54.09**	**297**	*e*P	**P**	**07 25 48.7**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0						
GUN	**Gumba**	**55.22**	**275**	*e*P	**P**	**07 25 59.4**	**+2.3**
KKN	**Kakani**	**55.71**	**276**	*e*P	**P**	**07 26 02.0**	**+1.4**
	comp=Z,10nm,0.7s,mb5.0						
PKI	**Pulchoki**	**55.76**	**275**	*e*P	**P**	**07 26 01.0**	**0.0**
DMN	**Daman**	**55.94**	**276**	*e*P	**P**	**07 26 03.8**	**+1.5**
	comp=Z,15nm,0.9s,mb5.0						
GKN	**Gorkha**	**56.02**	**276**	*e*P	**P**	**07 26 04.2**	**+1.4**
	comp=Z,15nm,0.6s,mb5.2						
KOLN	**Koldanda**	**56.87**	**277**	*e*P	**P**	**07 26 09.9**	**+1.0**
	comp=Z,10nm,0.8s,mb4.9						
KEV	**Kevo**	**57.55**	**341**	*e*p	**P**	**07 26 11.9**	**-1.8**
	comp=Z,1.2nm,0.3s,mb4.4						
KEV	**Kevo**	**57.55**	**341**	*e*P	**P**	**07 26 11.9**	**-1.8**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
AKTK	**Aktyubinsk**	**58.98**	**312**	P	**P**	**07 26 23.6**	**-0.1**
AKTO	**Aktyubinsk**	**58.98**	**312**	P	**P**	**07 26 23.6**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=116,slow=4.1,SNR=4.7						
AKTO	**Aktyubinsk**	**58.98**	**312**	P	**P**	**07 26 23.6**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**63.66**	**335**	*e*p	**P**	**07 26 53.5**	**-1.8**
	baz=36,slow=6.2						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**07 26 59.4**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.5,baz=42,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**64.26**	**335**	P	**P**	**07 26 59.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PDAR	**Pinedale Array**	**64.67**	**54**	P	**P**	**07 27 01.4**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=292,slow=0.8,SNR=5.5						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**07 27 25.9**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**07 27 25.9**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**07 27 25.6**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=27,slow=6.2,SNR=9.8						
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**07 27 25.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**07 27 46.0**	**-0.5**
	comp=Z,0.6nm,0.3s,mb3.9,baz=20,slow=4.9,SNR=7.4						
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**07 27 46.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.13**	**199**	P	**P**	**07 27 46.1**	**-2.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=11,slow=5.1,SNR=7.5						
ASAR	**Alice Springs**	**72.13**	**199**	P	**P**	**07 27 46.1**	**-2.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**78.64**	**317**	P	**P**	**07 28 27.4**	**+1.5**
	comp=Z,2.2nm,1.2s,mb4.0,baz=72,slow=4.0,SNR=3.6						
BRTR	**Keskin Array B**	**78.64**	**317**	P	**P**	**07 28 27.4**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
PMSA	**Palmer Station**	**152.74**	**145**	*e*PKPbc	PKPbc	07 36 19.4	-1.1

MEX 02 07:29:44.8±0.4, 1749N×9456W, h165km±11km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.55**	**14**	*i* P	Pn	07 30 06.7	-1.4
TUIG				*i* S	Sn	07 30 24.2	-1.8
OXX	**Oaxaca**	**2.10**	**259**	*i* P	Pn	07 30 20.8	-1.2
OXX				*i* S	Sn	07 30 48.3	-2.4
VHO	**Vista Hermosa**	**2.12**	**259**	*e*P	Pn	07 30 21.0	-1.2
VHO				*i* S	Sn	07 30 49.5	-1.4
TPIG	**Tehuac#an**	**2.82**	**289**	*i* P	Pn	07 30 30.5	0.0
TPIG				*i* S	Sn	07 31 04.3	-1.6
UTMO	**Huajuapan**	**3.11**	**277**	*i* P	Pn	07 30 34.1	0.0
UTMO				*i* S	Sn	07 31 09.5	-2.8

ISCJB ***02*** *07:31:28.4±4.7, 464N±0.1×1532E±0.1, h12km±28km, mb4.3/23, Error ellipse: s-maj=24.8km s-min=9.6km az=126.9*
NEIC ***02*** *07:31:28.9±0.8, 4621N×15306E, h10km, mb4.3/6, Error ellipse: s-maj=23.1km s-min=11.6km az=156.0*
BJI ***02*** *07:31:28.4, 4640N×15307E, h6km, mB4.7, mb4.3*
MOS ***02*** *07:31:30.2±1.9, 46.19N×153.19E, h33km, mb4.6/13, Error ellipse: s-maj=14.3km s-min=12.0km az=92.9*
IDC ***02*** *07:31:34.3±4.8, 4633N×15301E, h52km±44km, mb3.6/10, mb1 3.8/11, mb1mx3.7/21, mbtmp3.9/11, ML3.3/1, Error ellipse: s-maj=26.5km s-min=21.6km az=167.0*
ISC 02 07:31:31.9±4.9, 466N±02×1531E±01, h17km±30km, n50, σ1§10/51, mb4.3/23, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.61**	**25**	*e*PN	**Pn**	**07 32 41.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**7.09**	**277**	*e*PN	**Pn**	**07 33 20.0**	**+5.1**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,300nm,16.0s						
ASAJ	**Asahikawa**	**7.77**	**256**	P	**Pn**	**07 33 23.9**	**-0.2**
	comp=E,0.4nm,0.3s,baz=198,slow=6.4,SNR=2.9						
MJAR	**Matsushiro Arr**	**14.93**	**233**	P	**Pn**	**07 34 55.7**	**-6.4**
	comp=E,0.2nm,0.3s,baz=20,slow=12,SNR=5.0						
MJAR	**Matsushiro Arr**	**14.93**	**233**	P	**Pn**	**07 34 55.7**	**-6.4**
MDJ	**Mudanjiang**	**16.54**	**272**	*e*P	**Pn**	**07 35 22.6**	**-0.3**
	comp=E,3.8nm,0.3s						
CN2	**Changchun**	**19.62**	**272**	*e*P	**Pn**	**07 35 58.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SNY	**Shenyang**	**21.60**	**268**	⇑P	**P**	**07 36 21.2**	**+0.4**
SNY				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.1						
NJ2	**Nanjing**	**29.91**	**253**	*e*P	**P**	**07 37 40.3**	**+1.6**
SONM	**Songino Array**	**31.37**	**290**	P	**P**	**07 37 48.8**	**-2.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=62,slow=10,SNR=2.7						
ZAK	**Zakamensk**	**32.73**	**295**	*e*P	**P**	**07 38 02.8**	**-0.8**
MCK	**McKinley**	**35.83**	**40**	*e*P	**P**	**07 38 32.6**	**+2.2**
	comp=Z,9μm,1.2s						
MCK				*e*		07 38 43.0	
COLA	**College**	**36.31**	**38**	*e*P	**P**	**07 38 35.0**	**+0.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
COLA	**College**	**36.31**	**38**	*e*P	**P**	**07 38 35.0**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.2						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**07 38 49.0**	**+1.3**
LZH				AP	pP	07 38 55.0	+1.9
LZH				XP	sP	07 38 57.5	+2.3
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**07 38 49.0**	**+1.3**
	comp=Z,23nm,1.0s,mb4.9						
LZH				pP	pP	07 38 55.0	+1.9
LZH				sP	sP	07 38 57.5	+2.3
GTA	**Gaotai**	**38.97**	**279**	P	**P**	**07 38 58.2**	**+1.2**
GTA				AP	pP	07 39 03.7	+1.3
GTA				XP	sP	07 39 06.8	+2.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**07 39 20.2**	**-0.6**
	comp=Z,1.9nm,0.9s,mb3.7,baz=239,slow=13,SNR=4.3						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**07 39 20.2**	**-0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.00**	**298**	P	**P**	**07 40 01.7**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.3,baz=64,slow=8.2,SNR=20						
MKAR	**Makanchi Array**	**47.00**	**298**	P	**P**	**07 40 01.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZRNK	**Zerenda**	**51.73**	**310**	*e*P	**P**	**07 40 37.8**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
ZRNK	**Zerenda**	**51.73**	**310**	*e*P	**P**	**07 40 37.8**	**-0.4**
	comp=Z,5.4nm,1.4s,mb4.3						
AAK	**Ala-Archa**	**53.89**	**296**	*e*P	**P**	**07 40 53.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**53.89**	**296**	*e*P	**P**	**07 40 53.5**	**-0.7**
	comp=Z,8nm,1.0s,mb4.2						
GUN	**Gumba**	**54.98**	**275**	*e*P	**P**	**07 41 02.6**	**+0.5**
ARU	**Arti**	**55.14**	**318**	⇓*i*P	**P**	**07 41 02.9**	**-0.3**
ARU				*e*		07 43 07.3	
ARU				*e*S	**S**	**07 48 40.0**	**-5.4**
ARU				*e*SS	SS	07 52 28.4	-0.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
KKN	**Kakani**	**55.47**	**275**	*e*P	**P**	**07 41 05.9**	**+0.3**
	comp=Z,31nm,1.1s,mb5.2						
PKI	**Pulchoki**	**55.52**	**275**	*e*P	**P**	**07 41 06.5**	**+0.5**
DMN	**Daman**	**55.70**	**275**	*e*P	**P**	**07 41 08.1**	**+0.8**
	comp=Z,35nm,1.1s,mb5.3						
GKN	**Gorkha**	**55.78**	**276**	*e*P	**P**	**07 41 08.1**	**+0.3**
	comp=Z,41nm,1.2s,mb5.3						
KOLN	**Koldanda**	**56.64**	**277**	*e*P	**P**	**07 41 14.0**	**0.0**
	comp=Z,24nm,1.1s,mb5.2						
NVAR	**Mina Array Bea**	**62.56**	**62**	P	**P**	**07 41 54.3**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.8,baz=266,slow=8.2,SNR=4.9						
FINES	**FINESS Array B**	**64.21**	**335**	P	**P**	**07 42 03.1**	**-2.6**
	comp=Z,2.9nm,0.9s,mb4.3,baz=41,slow=6.1,SNR=6.3						
FINES	**FINESS Array B**	**64.21**	**335**	P	**P**	**07 42 03.1**	**-2.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	**Pinedale Array**	**64.89**	**54**	P	**P**	**07 42 08.9**	**-1.2**
	comp=Z,0.9nm,1.0s,mb3.7,baz=321,slow=1.9,SNR=4.9						
OBN	**Obninsk**	**65.45**	**326**	⇓*e*P	**P**	**07 42 14.7**	**+0.9**
OBN				*e*		07 42 48.5	
OBN				*e*		07 44 34.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
PV10	**Paradox Valley**	**68.11**	**57**	*e*P	**P**	**07 42 30.2**	**-0.5**
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**07 42 32.3**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.3,baz=26,slow=6.5						
NB2	**NORSAR Subarra**	**68.41**	**341**	P	**P**	**07 42 32.3**	**-0.3**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**07 42 31.1**	**-1.5**
	comp=Z,1.6nm,0.8s,mb4.1,baz=27,slow=6.4,SNR=3.9						
NOA	**NORSAR Array B**	**68.41**	**341**	P	**P**	**07 42 31.1**	**-1.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**70.92**	**314**	⇑*e*P	**P**	**07 42 49.7**	**+1.6**
KIV				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**07 42 52.0**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.2,baz=33,slow=5.9,SNR=16						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**07 42 52.0**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**07 42 52.0**	**-0.8**
ASAR	**Alice Springs**	**72.01**	**198**	P	**P**	**07 42 51.0**	**-3.7**
	comp=Z,0.5nm,0.9s,mb3.4,baz=1.4,slow=7.4,SNR=4.0						
ASAR	**Alice Springs**	**72.01**	**198**	P	**P**	**07 42 51.0**	**-3.7**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GNI	**Garni**	**72.63**	**310**	⇑*e*P	**P**	**07 43 00.2**	**+1.8**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
BRTR	**Keskin Array B**	**78.51**	**317**	P	**P**	**07 43 31.6**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=149,slow=2.9,SNR=3.6						

BJI ***02*** *07:47:21.4, 1200S×12357E, h29km, mB5.1, mb4.8, Ms5.0, Msz4.7*
ISCJB ***02*** *07:47:22.8±0.3, 1159S±004×12342E±006, h17km, mb4.7/32, MS4.2/5, Error ellipse: s-maj=8.8km s-min=5.0km az=113.4*
IDC ***02*** *07:47:23.0±0.6, 1154S×123.19E, h0km, mb4.6/10, mb1 4.6/11, mb1mx4.5/15, mbtmp4.6/11, ML4.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.6/18, Error ellipse: s-maj=28.1km s-min=14.8km az=66.0*
NEIC ***02*** *07:47:25.9±0.4, 1159S×12327E, mb4.7/16, Error ellipse: s-maj=13.5km s-min=6.9km az=64.0*
MOS ***02*** *07:47:27.6±1.1, 11.13S×12367E, h33km, mb4.9/14, Error ellipse: s-maj=39.4km s-min=12.8km az=105.2*
ISC 02 07:47:23.6±2.3, 1157S±005×12337E±006, h7km±14km, h18km±1.6km: pP-P, n68, σ1§00/76, mb4.7/32, MS4.2/5, 2C, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**6.85**	**162**	*e*P	**Pn**	**07 49 04.5**	**0.0**
	116nm,0.4s						
FITZ				*e*S	**Sn**	**07 50 16.3**	**-6.4**
FITZ	**Fitzroy Crossi**	**6.85**	**162**	Pn	**Pn**	**07 49 04.1**	**-0.4**
	8.6nm,0.3s,baz=357,slow=9.6,SNR=104						
FITZ				Sn	**Sn**	**07 50 16.0**	**-6.7**
	86nm,0.3s,baz=257,slow=23,SNR=20						
FITZ				LR	LR	07 52 05.8	
	comp=Z,584nm,19.1s,baz=307,slow=41						
KAKA	**Kakadu**	**8.94**	**98**	*e*P	**Pn**	**07 49 34.5**	**+1.3**
	64nm,0.4s						
KAKA				*e*S	**Sn**	**07 51 13.1**	**-1.0**
MBWA	**Marble Bar**	**10.15**	**200**	*e*Pn	**Pn**	**07 49 48.5**	**-1.2**
	25nm,0.5s						
MBWA				*e*Sn	**Sn**	**07 51 33.3**	**-10**
WRA	**Warramunga Arr**	**13.44**	**130**	Pn	**Pn**	**07 50 33.1**	**-1.6**
	10nm,0.3s,baz=304,slow=14,SNR=258						
WRA				Sn	**Sn**	**07 52 51.7**	**-13**
	12nm,0.3s,baz=304,slow=24,SNR=17						
WRA				LR	LR	07 56 26.8	
	comp=Z,305nm,18.7s,baz=315,slow=40						
AS31	**Alice Springs**	**15.65**	**142**	*e*P	**Pn**	**07 51 03.6**	**-1.0**
AS31				*e*S	**Sn**	**07 53 44.2**	**-14**
ASAR	**Alice Springs**	**15.65**	**142**	Pn	**Pn**	**07 51 03.5**	**-1.1**
	4.6nm,0.3s,baz=322,slow=13,SNR=163						
ASAR				Sn	**Sn**	**07 53 46.9**	**-11**
	5.8nm,0.3s,baz=321,slow=25,SNR=15						
ASAR				LR	LR	07 57 30.3	
	comp=Z,414nm,18.2s,baz=322,slow=38						
KSM	**Kuching**	**18.34**	**314**	*e*P	**Pn**	**07 51 39.8**	**+1.3**
KKM	**Kota Kinabalu**	**18.89**	**338**	*e*P	**Pn**	**07 51 44.7**	**-0.5**
FORT	**Forrest**	**19.60**	**168**	*e*P	**Pn**	**07 51 53.8**	**+0.1**
	29nm,0.5s						
FORT				*e*S	**Sn**	**07 55 19.3**	**-15**
KLBR	**Kellerberrin**	**20.59**	**194**	*e*P	**P**	**07 52 03.5**	**+0.4**
	18nm,0.5s						
KLBR				*e*S	**S**	**07 55 34.3**	**-19**
MUN	**Mundaring**	**21.35**	**197**	*e*P	**P**	**07 52 20.6**	**+9.2**
MUN				*e*S	**S**	**07 55 55.1**	**-14**
NWAO	**Narrogin (SRO)**	**21.99**	**194**	P	**P**	**07 52 17.4**	**-0.7**
	10nm,0.6s,mb4.4,baz=44,slow=8.9,SNR=9.0						
NWAO				S	**S**	**07 56 07.8**	**-13**
	10nm,0.3s,baz=289,slow=18,SNR=6.1						
NWAO	**Narrogin (SRO)**	**21.99**	**194**	*e*P	**P**	**07 52 19.0**	**+0.8**
NWAO				*e*		07 52 33.7	
NWAO				pmax	pmax		
	comp=Z,18nm,0.6s						
NWAO	**Narrogin (SRO)**	**21.99**	**194**	*e*P	**P**	**07 52 19.0**	**+0.9**
	comp=Z,18nm,0.6s,mb4.7						
NWAO				*e*		07 52 33.7	
NWAO				*e*		07 56 04.5	
CTA	**Charters Tower**	**23.57**	**114**	*e*P	**P**	**07 52 37.8**	**+2.9**
	comp=Z,14nm,0.8s,mb4.4						
CTA	**Charters Tower**	**23.57**	**114**	P	**P**	**07 52 36.2**	**+1.4**
	comp=Z,18nm,0.8s,mb4.5,baz=287,slow=11,SNR=11						
CTA				LR	LR	08 02 32.5	
	comp=Z,165nm,21.0s,MS3.5,baz=242,slow=38						
CTA	**Charters Tower**	**23.57**	**114**	*e*P	**P**	**07 52 37.8**	**+2.9**
CTA				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**23.57**	**114**	*e*P	**P**	**07 52 37.7**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,31nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**23.57**	**114**	*e*P	**P**	**07 52 37.7**	**+2.8**
	comp=Z,31nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**26.28**	**143**	⇑*i*P	**P**	**07 53 02.0**	**+2.4**
	comp=Z,7.8nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**26.28**	**143**	P	**P**	**07 53 02.1**	**+2.6**
	comp=Z,8.9nm,0.6s,mb4.5,baz=320,slow=9.0,SNR=24						
STKA				LR	LR	08 04 33.9	
	comp=Z,275nm,18.7s,MS3.8,baz=272,slow=39						
PSI	**Prapat**	**28.19**	**299**	P	**P**	**07 53 16.1**	**-0.7**
	comp=Z,4.8nm,0.4s,mb4.5,baz=207,slow=6.5,SNR=3.8						
TOO	**Toolangi**	**32.61**	**146**	*e*P	**P**	**07 53 59.5**	**+3.7**
	comp=Z,11nm,1.1s,mb4.7						
TOO	**Toolangi**	**32.61**	**146**	*e*P	**P**	**07 53 59.5**	**+3.7**
TOO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KMI	**Kunming**	**41.65**	**331**	P	**P**	**07 55 14.8**	**+2.2**
KMI				AP	pP	07 55 21.0	+6.2
KMI				XP	sP	07 55 23.7	+8.0
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
KMI	**Kunming**	**41.65**	**331**	P	**P**	**07 55 14.8**	**+2.2**
	comp=Z,6.0nm,1.0s,mb4.2						
KMI				pP	pP	07 55 21.0	+6.2
KMI				sP	sP	07 55 23.7	+8.0
NJ2	**Nanjing**	**43.59**	**354**	*e*P	**P**	**07 55 29.4**	**+1.1**
NJ2				AP	pP	07 55 33.9	+3.3
NJ2				XP	sP	07 55 36.4	+4.9
NJ2				PP	PP	07 57 12.7	+3.1
NJ2				S	**S**	**08 01 58.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,330nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,20.8s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,23.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,4μm,19.3s,MS5.4						
CD2	**Chengdu**	**46.25**	**336**	P	**P**	**07 55 49.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
XAN	**Xi'an**	**47.40**	**344**	P	**P**	**07 55 57.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**49.86**	**16**	P	**P**	**07 56 17.3**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=189,slow=8.7,SNR=5.4						
LZH	**Lanzhou**	**50.86**	**340**	*e*P	**P**	**07 56 25.7**	**+0.7**
LZH				AP	pP	07 56 31.1	+3.8
LZH				XP	sP	07 56 34.2	+6.0
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH	**Lanzhou**	**50.86**	**340**	*e*P	**P**	**07 56 25.7**	**+0.7**
	comp=Z,21nm,1.3s,mb4.9						
LZH				pP	pP	07 56 31.1	+3.8
LZH				sP	sP	07 56 34.2	+6.0
LSA	**Lhasa**	**51.46**	**324**	*e*P	**P**	**07 56 31.1**	**+1.6**
LSA				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.2						
LSA	**Lhasa**	**51.46**	**324**	*e*P	**P**	**07 56 31.1**	**+1.6**
	comp=Z,13nm,0.4s,mb5.2						
BJT	**Baijiatuau**	**51.76**	**353**	*e*P	**P**	**07 56 31.1**	**-0.6**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJT	**Baijiatuau**	**51.76**	**353**	*e*P	**P**	**07 56 31.1**	**-0.6**
	comp=Z,10.0nm,0.8s,mb4.8						
BJI	**Beijing**	**51.78**	**353**	P	**P**	**07 56 31.2**	**-0.7**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
BJI	**Beijing**	**51.78**	**353**	P	**P**	**07 56 31.2**	**-0.7**
	comp=Z,16nm,0.7s,mb5.1						
RPZ	**Rata Peaks**	**52.00**	**137**	P	**P**	**07 56 36.1**	**+2.5**
	comp=Z,14nm,0.7s,mb5.0,baz=334,slow=1.4,SNR=6.5						
GUN	**Gumba**	**53.47**	**318**	*e*P	**P**	**07 56 44.0**	**-0.4**
	comp=Z,18nm,0.6s,mb5.2						
PKI	**Pulchoki**	**53.55**	**317**	*e*P	**P**	**07 56 44.0**	**-1.0**
	comp=Z,7.6nm,0.4s,mb5.0						
DMN	**Daman**	**53.78**	**317**	*e*P	**P**	**07 56 46.1**	**-0.6**
KKN	**Kakani**	**53.78**	**317**	*e*P	**P**	**07 56 45.6**	**-1.1**
	comp=Z,5.4nm,0.5s,mb4.7						
GKN	**Gorkha**	**54.35**	**317**	*e*P	**P**	**07 56 50.4**	**-0.4**
	comp=Z,14nm,0.4s,mb5.2						
KOLN	**Koldanda**	**54.90**	**316**	*e*P	**P**	**07 56 54.0**	**-0.8**
	comp=Z,27nm,0.9s,mb5.3						
GTA	**Gaotai**	**55.26**	**338**	*e*P	**P**	**07 56 57.8**	**+0.4**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3						
SONM	**Songino Array**	**61.04**	**347**	P	**P**	**07 57 37.8**	**-0.2**
	comp=Z,4.5nm,0.8s,mb4.6,baz=166,slow=7.8,SNR=20						
WMQ	**Urumqi**	**63.98**	**332**	⇑*i*P	**P**	**07 57 58.7**	**+1.1**
WMQ				AP	pP	07 58 03.5	+3.6
WMQ				XP	sP	07 58 06.5	+5.7
WMQ				*e*S	**S**	**08 06 33.0**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,119nm,4.9s						
WMQ				LR	LR		
	comp=N,132nm,18.4s,MS4.3						
WMQ				LR	LR		
	comp=E,98nm,17.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,108nm,18.6s,MS4.1						
ZAK	**Zakamensk**	**64.15**	**346**	*e*P	**P**	**07 57 58.2**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MAW	**Mawson**	**68.34**	**201**	P	**P**	**07 58 25.7**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=68,slow=9.6,SNR=5.1						
MKAR	**Makanchi Array**	**68.73**	**331**	P	**P**	**07 58 28.6**	**+0.5**
	comp=Z,17nm,0.8s,mb5.0,baz=138,slow=7.7,SNR=82						
VNDA	**Vanda**	**68.81**	**172**	P	**P**	**07 58 29.1**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=329,slow=7.2,SNR=5.4						
BOD	**Bodaibo**	**69.57**	**355**	*e*P	**P**	**07 58 33.7**	**+0.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**70.06**	**324**	*e*P	**P**	**07 58 36.1**	**-0.1**
AAK				*e*		07 58 45.7	
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**70.06**	**324**	*e*P	**P**	**07 58 36.0**	**-0.1**
	comp=Z,10.0nm,0.9s,mb4.8						
AAK				*e*		07 58 45.7	
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P	**P**	**07 59 25.4**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2						
QSPA				*e*PcP	PcP	07 59 36.3	+2.0
BRVK	**Borovoye**	**78.68**	**331**	*e*P	**P**	**07 59 24.7**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BRVK	**Borovoye**	**78.68**	**331**	*e*P	**P**	**07 59 24.7**	**-1.7**
	comp=Z,10nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**79.24**	**330**	*e*P	**P**	**07 59 29.3**	**-0.2**
ZRNK				*e*		07 59 38.5	
ZRNK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**79.24**	**330**	*e*P	**P**	**07 59 29.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8						
ZRNK				*e*PcP	PcP	07 59 38.5	+0.7
PPT	**Papeete**	**83.81**	**107**	LR	LR	08 34 04.5	
	comp=Z,108nm,18.5s,MS4.3,baz=70,slow=33						
SNAA	**Sanae**	**89.66**	**195**	*e*	**P**	**08 00 22.5**	**+0.3**
SNAA				*e*		08 00 32.5	
SNAA				*e*		08 00 40.4	
VNA3	**Neumayer Olymp**	**91.59**	**194**	*e*	**P**	**08 00 31.4**	**+0.2**
VNA3				*e*		08 00 41.2	
VNA3				*e*		08 00 47.7	
TORD	**Torodi Ar. Bea**	**123.11**	**278**	PKP	PKPdf	08 06 20.0	-0.9
	comp=Z,1.3nm,1.0s,baz=92,slow=2.7,SNR=5.8						
LPAZ	**La Paz**	**150.07**	**157**	PKPbc	PKPbc	08 07 18.6	+3.7
	comp=Z,4.2nm,0.8s,baz=176,slow=0.4,SNR=22						
LPAZ	**La Paz**	**150.07**	**157**	*e*PKPbc	PKPbc	08 07 18.5	+3.5
BDFB	**Brasilia**	**151.65**	**198**	PKPbc	PKPbc	08 07 20.8	+2.1
	comp=Z,3.9nm,0.6s,baz=159,slow=2.0,SNR=9.4						

NEIC ***02*** *07:48:52.4, 4349S×16989E, h5km, mb4.7/1, ML4.3(WEL), After WEL.*
WEL 02 07:48:52.3±0.1, 4350S×16990E, h7km±1km, ML4.3/25, 2D, Error ellipse: s-maj=1.8km s-min=1.5km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.17**	**248**	P	Pg	07 48 54.3	-1.4
FOZ				S	Sg	07 48 55.7	-2.3
FOZ	**Fox Glacier**	**0.17**	**248**	⇓PG	Pg	07 48 54.3	-1.4
FOZ				SG	Sg	07 48 55.7	-2.4
WVZ	**Waitaha Valley**	**0.74**	**55**	P*	Pb	07 49 06.5	-1.0
RPZ	**Rata Peaks**	**0.86**	**105**	P	Pg	07 49 08.7	-0.1
RPZ	**Rata Peaks**	**0.86**	**105**	⇓P*	Pb	07 49 08.7	-0.9
LBZ	**Lake Benmore**	**0.91**	**167**	P	Pg	07 49 09.4	-0.3
LBZ	**Lake Benmore**	**0.91**	**167**	P*	Pb	07 49 09.3	-1.0
JCZ	**Jackson Bay**	**1.01**	**235**	P	Pg	07 49 10.5	-1.1
JCZ	**Jackson Bay**	**1.01**	**235**	P*	Pb	07 49 10.5	-1.5
WKZ	**Wanaka**	**1.47**	**205**	P	Pn	07 49 18.6	-0.6
WKZ	**Wanaka**	**1.47**	**205**	PN	Pn	07 49 18.4	-0.8
ODZ	**Otahua Downs**	**1.63**	**161**	P	Pn	07 49 21.7	+0.3
ODZ	**Otahua Downs**	**1.63**	**161**	PN	Pn	07 49 21.7	+0.3
EAZ	**Earnscleugh**	**1.78**	**194**	P	Pn	07 49 23.8	+0.4
EAZ	**Earnscleugh**	**1.78**	**194**	PN	Pn	07 49 22.9	-0.6
MSZ	**Milford Sound**	**1.84**	**230**	P	Pn	07 49 23.9	-0.4
MSZ	**Milford Sound**	**1.84**	**230**	*e*PN	Pn	07 49 22.8	-1.5
LTZ	**Lake Taylor**	**1.88**	**68**	P	Pn	07 49 25.6	+0.9
LTZ	**Lake Taylor**	**1.88**	**68**	PN	Pn	07 49 25.6	+0.9
CRLZ	**Canterbury Las**	**1.98**	**93**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**2.39**	**15**	PN	Pn	08 40 16.4	-0.5
EUNU				SN	Sn	08 40 47.6	+1.9
EUNU				Trac		08 41 02.8	
	comp=Z,1.3nm,0.3s						
RES	**Resolute Bay**	**3.33**	**204**	PN	Pn	08 40 28.9	-1.0
RES				SN	Sn	08 41 10.3	+1.4
RES				LG		08 41 24.7	
RES				Trac		08 41 29.5	
	comp=Z,24nm,0.8s						
GIFN	**Gifford Fjord,**	**8.13**	**160**	PN	Pn	08 41 34.6	-1.2
GIFN				SN	Sn	08 43 04.5	-2.8
ILON	**Igloolik, Nuna**	**8.73**	**161**	PN	Pn	08 41 40.7	-3.4
ILON				SN	Sn	08 43 16.1	-6.0
SRLN	**Sarcpa Lake, N**	**9.45**	**165**	PN	Pn	08 41 52.1	-1.9
STLN	**Stellar Camp,**	**10.56**	**187**	PN	Pn	08 42 07.8	-1.3
STLN				SN	Sn	08 43 60.0	-6.9
QILN	**Qililugaq Expl**	**11.23**	**173**	PN	Pn	08 42 16.2	-2.1
QILN				SN	Sn	08 44 15.4	-7.8

NEIC ***02*** *08:42:04.6±4.5, 590S×14673E, h42km±31km, mb4.1/3, Error ellipse: s-maj=42.8km s-min=18.8km az=171.0*
ISCJB ***02*** *08:42:06.0±4.7, 6.1S±02×1467E±02, h57km±31km, mb3.9/5, MS3.7/2, Error ellipse: s-maj=44.5km s-min=27.9km az=65.6*
IDC ***02*** *08:42:06.5±3.5, 605S×14669E, h47km±29km, mb3.6/4, mb1 3.8/6, mb1mx3.6/13, mbtmp3.9/6, ML3.4/2, MS3.8/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=34.0km s-min=21.1km az=119.0*

ISC 02 08:42:05.6±3.0, 60S±02×1468E±02, h49km±22km, n14, σ0.65/13, mb3.9/5, MS3.7/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**174**	P	**Pn**	**08 42 56.8**	**+0.1**
	16nm,0.3s,baz=29,slow=4.9,SNR=30						
PMG				S	**Sn**	**08 43 35.9**	**-0.2**
	16nm,0.3s,baz=241,slow=15,SNR=6.6						
CTA	**Charters Tower**	**14.04**	**182**	P	**Pn**	**08 45 25.4**	**+3.6**
	0.4nm,0.3s,baz=357,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**18.41**	**220**	P	**Pn**	**08 46 16.1**	**-1.1**
	0.2nm,0.3s,baz=46,slow=12,SNR=12						
WRA				PcP	PcP	08 50 47.3	+1.5
	0.0nm,0.3s,baz=24,slow=1.9,SNR=6.2						
AS31	**Alice Springs**	**21.52**	**214**	*e*P	**P**	**08 46 50.8**	**+0.4**
ASAR	**Alice Springs**	**21.52**	**214**	P	**P**	**08 46 50.9**	**+0.5**
	1.4nm,0.5s,mb3.7,baz=54,slow=9.2,SNR=31						
ASAR				S	**S**	**08 50 46.5**	**+0.4**
	0.5nm,0.7s,baz=32,slow=16,SNR=3.3						
FITZ	**Fitzroy Crossi**	**23.89**	**238**	*e*P	**P**	**08 47 14.9**	**+0.2**
	8.1nm,1.1s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.89**	**238**	P	**P**	**08 47 14.8**	**+0.1**
	3.2nm,0.6s,mb3.9,baz=81,slow=9.8,SNR=8.5						
STKA	**Stephens Creek**	**26.23**	**190**	P	**P**	**08 47 35.1**	**-0.8**
	0.6nm,0.3s,mb3.6,baz=11,slow=12,SNR=3.9						
STKA				LR	LR	08 57 11.3	
	comp=Z,134nm,19.1s,MS3.5,baz=25,slow=35						
VNDA	**Vanda**	**71.96**	**177**	P	**P**	**08 53 24.3**	**+0.4**
	1.6nm,0.9s,mb4.0,baz=318,slow=7.4,SNR=9.4						
VNDA				LR	LR	09 21 08.5	
	comp=Z,72nm,19.2s,MS4.0,baz=343,slow=33						
VNDA	**Vanda**	**71.96**	**177**	*e*P	**P**	**08 53 24.1**	**+0.2**
	1.1nm,0.7s,mb3.9						
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**08 54 30.5**	**-0.2**
	1.3nm,0.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**144.86**	**284**	PKP	PKPdf	09 01 38.5	+1.4
	1.4nm,0.7s,baz=73,slow=3.4,SNR=11						
TORD	**Torodi Ar. Bea**	**144.86**	**284**	PKP	PKPdf	09 01 38.5	+1.4
SAML	**Samuel**	**146.66**	**116**	*e*PKPbc	PKPbc	09 01 43.1	+1.3

ISCJB ***02*** *09:02:25.7±0.3, 4346S±004×16985E±005, h10km, mb4.3/6, MS3.6/5, Error ellipse: s-maj=7.0km s-min=3.4km az=88.2*
WEL ***02*** *09:02:26.7±0.1, 4353S×16993E, h5km, ML4.5/34, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
NEIC ***02*** *09:02:26.5, 4349S×16990E, h8km, mb4.9/3, ML4.6(WEL), After WEL.*
IDC ***02*** *09:02:29.7±2.0, 4349S×170.17E, h34km±19km, mb3.7/3, mb1 3.9/4, mb1mx3.7/10, mbtmp3.9/4, ML3.2/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/15, Error ellipse: s-maj=37.2km s-min=23.0km az=16.0*

ISC 02 09:02:26.7±0.3, 4352S±004×16988E±005, h10km, n70, σ1.00/66, mb4.3/6, MS3.6/5, 3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.14**	**252**	P	**Pg**	**09 02 28.6**	**-1.3**
FOZ				S	**Sg**	**09 02 30.2**	**-2.0**
FOZ	**Fox Glacier**	**0.14**	**252**	||PG	**Pg**	**09 02 28.6**	**-1.4**
FOZ				SG	**Sg**	**09 02 30.2**	**-2.0**
FOZ				SG	**Sg**	**09 02 30.2**	**-1.9**
WVZ	**Waitaha Valley**	**0.77**	**55**	P*	**Pb**	**09 02 40.6**	**-1.5**
RPZ	**Rata Peaks**	**0.88**	**103**	Pg	**Pg**	**09 02 42.8**	**-0.7**
	201nm,0.3s,baz=269,slow=8.3,SNR=1107						
RPZ				Lg		09 02 53.5	
	507nm,0.3s,baz=224,slow=10,SNR=25						
RPZ				LR	LR	09 02 53.7	
	comp=Z,11μm,18.9s,baz=0.0,slow=35						
RPZ	**Rata Peaks**	**0.88**	**103**	P	**Pg**	**09 02 42.8**	**-0.8**
RPZ	**Rata Peaks**	**0.88**	**103**	||P*	**Pb**	**09 02 42.8**	**-1.2**
LBZ	**Lake Benmore**	**0.90**	**166**	P	**Pg**	**09 02 43.5**	**-0.4**
LBZ	**Lake Benmore**	**0.90**	**166**	P*	**Pb**	**09 02 43.4**	**-0.8**
JCZ	**Jackson Bay**	**0.98**	**235**	P	**Pg**	**09 02 44.9**	**-0.7**
JCZ	**Jackson Bay**	**0.98**	**235**	P*	**Pb**	**09 02 44.6**	**-1.2**
WKZ	**Wanaka**	**1.45**	**205**	P	**Pn**	**09 02 52.7**	**-0.2**
WKZ	**Wanaka**	**1.45**	**205**	PN	**Pn**	**09 02 52.5**	**-0.4**
ODZ	**Otahua Downs**	**1.62**	**160**	*e*P	**Pn**	**09 02 55.7**	**+0.4**
ODZ	**Otahua Downs**	**1.62**	**160**	PN	**Pn**	**09 02 55.6**	**+0.3**
EAZ	**Earnscleugh**	**1.76**	**193**	*e*P	**Pn**	**09 02 57.5**	**+0.3**
EAZ	**Earnscleugh**	**1.76**	**193**	PN	**Pn**	**09 02 57.5**	**+0.3**
MSZ	**Milford Sound**	**1.82**	**230**	PN	**Pn**	**09 02 58.2**	**+0.2**
LTZ	**Lake Taylor**	**1.90**	**68**	*e*P	**Pn**	**09 03 00.0**	**+0.9**
LTZ	**Lake Taylor**	**1.90**	**68**	PN	**Pn**	**09 02 59.9**	**+0.8**
CRLZ	**Canterbury Las**	**2.00**	**93**	P	**Pn**	**09 03 01.0**	**+0.6**
CRLZ	**Canterbury Las**	**2.00**	**93**	*e*PN	**Pn**	**09 03 00.4**	**0.0**
MQZ	**McQueen's Vall**	**2.02**	**96**	*e*P	**Pn**	**09 03 00.6**	**-0.2**
MQZ	**McQueen's Vall**	**2.02**	**96**	PN	**Pn**	**09 03 00.3**	**-0.6**
MLZ	**Mavora Lakes**	**2.20**	**213**	*e*P	**Pn**	**09 03 04.8**	**+1.6**
MLZ	**Mavora Lakes**	**2.20**	**213**	PN	**Pn**	**09 03 04.6**	**+1.4**
DSZ	**Denniston Nort**	**2.27**	**39**	*e*P	**Pn**	**09 03 03.4**	**-0.8**
DSZ	**Denniston Nort**	**2.27**	**39**	PN	**Pn**	**09 03 03.3**	**-1.0**
HHSZ	**Highcliff Hill**	**2.42**	**168**	*e*PN	**Pn**	**09 03 07.0**	**+0.7**
TUZ	**Tuapeka**	**2.44**	**184**	*e*P	**Pn**	**09 03 07.1**	**+0.5**
TUZ	**Tuapeka**	**2.44**	**184**	PN	**Pn**	**09 03 06.6**	**0.0**
WHZ	**Wether Hill Ro**	**2.74**	**209**	*e*P	**Pn**	**09 03 11.1**	**+0.4**
WHZ	**Wether Hill Ro**	**2.74**	**209**	PN	**Pn**	**09 03 11.0**	**+0.2**
DCZ	**Deep Cove**	**2.76**	**224**	*e*P	**Pn**	**09 03 11.3**	**+0.3**
DCZ	**Deep Cove**	**2.76**	**224**	PN	**Pn**	**09 03 11.1**	**+0.1**
THZ	**Tophouse**	**2.84**	**53**	PN	**Pn**	**09 03 11.6**	**-0.5**
KHZ	**Kahutara**	**2.91**	**69**	*e*P	**Pn**	**09 03 13.6**	**+0.7**
KHZ	**Kahutara**	**2.91**	**69**	PN	**Pn**	**09 03 13.0**	**+0.1**
SYZ	**Scrubby Hill**	**3.06**	**190**	PN	**Pn**	**09 03 15.0**	**-0.1**
QRZ	**Quartz Range**	**3.33**	**37**	*e*P	**Pn**	**09 03 18.5**	**-0.4**
QRZ	**Quartz Range**	**3.33**	**37**	PN	**Pn**	**09 03 18.2**	**-0.6**
BSWZ	**Blackbirch Sta**	**3.46**	**60**	P	**Pn**	**09 03 22.1**	**+1.5**
NNZ	**Nelson**	**3.47**	**50**	*e*P	**Pn**	**09 03 21.1**	**+0.4**
NNZ	**Nelson**	**3.47**	**50**	PN	**Pn**	**09 03 20.7**	**0.0**
APZ	**The Paps**	**3.57**	**201**	PN	**Pn**	**09 03 21.5**	**-0.6**
TCW	**Tory Channel**	**3.99**	**56**	P	**Pn**	**09 03 28.5**	**+0.6**
SNZO	**South Karori**	**4.20**	**60**	*e*P	**Pn**	**09 03 30.8**	**0.0**
MRW	**Makara Radio**	**4.24**	**59**	P	**Pn**	**09 03 32.0**	**+0.7**
MRZ	**Mangatainoka R**	**5.11**	**58**	*e*PN	**Pn**	**09 03 41.3**	**-2.0**
FWVZ	**Far West T-bar**	**6.03**	**47**	*e*PN	**Pn**	**09 03 57.5**	**+1.6**
HIZ	**Hauiti**	**6.26**	**39**	PN	**Pn**	**09 03 58.5**	**-0.5**
URZ	**Urewera**	**7.59**	**49**	Pn	**Pn**	**09 04 15.9**	**-1.4**
	0.4nm,0.3s,baz=290,slow=13,SNR=3.3						
URZ				Sn	**Sn**	**09 05 37.4**	**-5.9**
	1.7nm,0.3s,baz=99,slow=19,SNR=3.7						
WCZ	**Waipu Caves**	**8.31**	**26**	PN	**Pn**	**09 04 26.6**	**-0.7**
OUZ	**Omahuta**	**8.77**	**20**	*e*PN	**Pn**	**09 04 33.9**	**+0.3**
DZM	**Mont Dzumac**	**21.58**	**351**	LR	LR	09 12 51.2	
	comp=Z,102nm,18.9s,MS3.2,baz=232,slow=29						
STKA	**Stephens Creek**	**25.09**	**288**	P	**P**	**09 07 54.5**	**+3.1**
	1.7nm,0.6s,mb3.7,baz=138,slow=8.6,SNR=5.0						
STKA				LR	LR	09 16 37.1	
	comp=Z,243nm,21.4s,MS3.7,baz=204,slow=34						
SBA	**Scott Base**	**34.47**	**181**	*e*P	**P**	**09 09 18.3**	**+3.7**
	2.9nm,0.9s,mb4.2						
HNR	**Honiara**	**35.05**	**343**	LR	LR	09 19 58.6	
	comp=Z,92nm,19.1s,MS3.5,baz=179,slow=30						
ASAR	**Alice Springs**	**35.54**	**292**	P	**P**	**09 09 25.1**	**+1.3**
	1.0nm,0.5s,mb4.0,baz=128,slow=7.1,SNR=20						
ASAR				PcP	PcP	09 11 52.1	-0.8
	0.5nm,0.4s,baz=129,slow=3.9,SNR=6.8						
ASAR				LR	LR	09 22 30.5	
	comp=Z,154nm,21.4s,MS3.7,baz=160,slow=34						
ASAR	**Alice Springs**	**35.54**	**292**	P	**P**	**09 09 25.1**	**+1.3**
ASAR				PcP	PcP	09 11 52.1	-0.8
WRA	**Warramunga Arr**	**37.86**	**297**	P	**P**	**09 09 43.8**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=135,slow=7.8,SNR=32						
WRA				PcP	PcP	09 11 59.9	0.0
	0.6nm,0.6s,baz=138,slow=2.9,SNR=18						
WRA				LR	LR	09 24 12.3	
	comp=Z,180nm,20.0s,MS3.9,baz=165,slow=34						
WRA	**Warramunga Arr**	**37.86**	**297**	P	**P**	**09 09 43.8**	**+0.2**
WRA				PcP	PcP	09 11 59.9	0.0
QSPA	**South Pole Qui**	**46.61**	**180**	*e*P	**P**	**09 10 57.4**	**+2.5**
	17nm,1.0s,mb4.9						
SYO	**Syowa Base**	**61.93**	**198**	||*e*P	**P**	**09 12 47.5**	**+1.0**
MAJO	**Matsushiro**	**84.73**	**335**	*e*P	**P**	**09 15 02.1**	**+1.2**
	7.2nm,0.4s,mb5.2						
BR131	**Keskin Array S**	**147.35**	**279**	*e*PKPdf	PKPdf	09 22 09.9	+1.8
BRTR	**Keskin Array B**	**147.35**	**279**	PKPbc	PKPbc	09 22 09.0	-1.5
	5.3nm,1.1s,baz=128,slow=5.1,SNR=10						
TORD	**Torodi Ar. Bea**	**148.07**	**202**	PKPbc	PKPbc	09 22 12.0	-0.5
	2.1nm,0.9s,baz=171,slow=0.9,SNR=9.3						
ARCES	**ARCESS Array B**	**148.24**	**337**	PKPbc	PKPbc	09 22 11.8	-1.2
	1.9nm,0.5s,baz=42,slow=2.9,SNR=20						
FINES	**FINESS Array B**	**152.11**	**323**	PKPbc	PKPbc	09 22 20.5	-1.8
	1.2nm,0.6s,baz=88,slow=4.6,SNR=7.5						
AKASG	**Malin Array Be**	**152.53**	**299**	PKPbc	PKPbc	09 22 20.1	-3.1
	1.1nm,0.5s,baz=68,slow=2.9,SNR=6.3						

IDC ***02*** *09:02:58.8±13.0, 4700N×153.14E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=307.2km s-min=44.2km az=139.0*

MOS 02 09:02:57.1±1.2, 4656N×15352E, h33km, mb4.2/3, 1C, Error ellipse: s-maj=37.6km s-min=26.3km az=56.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.16**	**253**	↑PN	Pn	09 03 58.5	+0.2
KUR				pmax	pmax		
	comp=Z,190nm,0.5s						
SKR	**Severo-Kuril's**	**4.47**	**22**	*e*PN	Pn	09 04 03.0	+0.5
ASAJ	**Asahikawa**	**8.07**	**256**	Pn	Pn	09 04 55.5	+3.6
	comp=Z,0.4nm,0.3s,baz=119,slow=19,SNR=3.8						
MKAR	**Makanchi Array**	**47.27**	**298**	P	P	09 11 30.0	+2.8
	comp=Z,0.5nm,0.5s,baz=68,slow=9.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.27**	**298**	P	P	09 11 30.0	+2.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.33**	**335**	P	P	09 13 32.4	+3.0
	comp=Z,1.3nm,0.6s,baz=30,slow=8.7,SNR=8.7						
FINES	**FINESS Array B**	**64.33**	**335**	P	P	09 13 32.4	+3.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.50**	**341**	P	P	09 13 58.8	+2.7
	comp=Z,0.5nm,0.6s,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.50**	**341**	P	P	09 13 59.4	+3.3
	comp=Z,1.0nm,0.8s,baz=27,slow=6.1,SNR=4.2						
NOA	**NORSAR Array B**	**68.50**	**341**	P	P	09 13 59.4	+3.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ISCJB ***02*** *09:05:42.3±0.6, 2766N±007×1406E±03, h487km±10km, mb3.4/6, Error ellipse: s-maj=37.8km s-min=9.0km az=160.3*
JMA ***02*** *09:05:42.6±0.1, 2774N×14088E, h492km, M3.7*
IDC ***02*** *09:05:43.2±1.1, 2766N×14050E, h478km±18km, mb3.0/5, mb1 3.1/6, mb1mx2.9/17, mbtmp3.8/6, Error ellipse: s-maj=54.4km s-min=16.2km az=75.0*

ISC 02 09:05:43.3±0.7, 2768N±008×1408E±03, h488km±10km, n22, σ0.97/27, mb3.4/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.38**	**115**	P	**P**	**09 06 44.3**	**-0.2**
	24nm,0.3s,baz=244,slow=18,SNR=46						
CBIJ				S	**S**	**09 07 30.9**	**-3.4**
	33nm,0.3s,baz=283,slow=23,SNR=10						
JHHJ	**Haha-jima-NKT**	**1.63**	**130**	P	**P**	**09 06 45.7**	**+0.2**
JHHJ				S	**S**	**09 07 35.8**	**-0.2**
BSO3	**Boso 3**	**7.10**	**358**	P	**P**	**09 07 30.6**	**+0.5**
BSO3				S	**S**	**09 08 56.7**	**-0.8**
BSO4	**Boso 4**	**7.29**	**357**	*e*S	**S**	**09 09 00.3**	**-0.9**
JKN2	**Miekihoku**	**7.59**	**330**	P	**P**	**09 07 35.6**	**+0.5**
JWY	**Kouya**	**7.89**	**327**	P	**P**	**09 07 39.4**	**+1.2**
JNY	**Yasuok**	**8.05**	**343**	P	**P**	**09 07 40.2**	**+0.4**
JRY	**Ryogami san**	**8.46**	**350**	P	**P**	**09 07 45.1**	**+0.9**
JRY				*e*S	**S**	**09 09 19.8**	**-3.6**
JAG	**Ashikaga**	**8.79**	**353**	P	**P**	**09 07 47.1**	**-0.5**
JAG				S	**S**	**09 09 24.9**	**-4.9**
JHO	**Hitachi**	**8.90**	**359**	P	**P**	**09 07 50.1**	**+1.2**
MJAR	**Matsushiro Arr**	**9.10**	**347**	P	**P**	**09 07 50.4**	**-0.5**
	0.5nm,0.3s,baz=187,slow=13,SNR=4.0						
JHK	**Hiroka**	**9.65**	**352**	P	**P**	**09 07 57.2**	**+0.4**
JFT	**Otama**	**9.81**	**358**	P	**P**	**09 08 00.8**	**+2.3**
JMM	**Marumori**	**10.15**	**0**	*e*S	**S**	**09 09 49.1**	**-7.3**
SONM	**Songino Array**	**33.43**	**316**	P	**P**	**09 11 39.3**	**-1.3**
	0.2nm,0.4s,mb2.9,baz=128,slow=5.9,SNR=2.8						
WRA	**Warramunga Arr**	**47.75**	**188**	P	**P**	**09 13 35.6**	**+0.3**
	0.3nm,0.4s,mb3.0,baz=6.8,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**49.14**	**309**	P	**P**	**09 13 44.6**	**-1.0**
	0.5nm,0.4s,mb3.2,baz=95,slow=13,SNR=4.4						
BVAR	**Borovoye Array**	**56.77**	**317**	P	**P**	**09 14 39.9**	**-0.2**
	7.8nm,0.4s,mb4.4,baz=90,slow=7.1,SNR=37						
JOF	**Joensuu**	**74.00**	**333**	*e*p	**P**	**09 16 23.4**	**-5.1**
KAF	**Kangasniemi**	**76.40**	**334**	*e*p	**P**	**09 16 34.9**	**-7.0**
FINES	**FINESS Array B**	**76.87**	**333**	P	**P**	**09 16 45.3**	**+0.8**
	1.4nm,0.3s,mb3.9,baz=82,slow=5.6,SNR=16						
NOA	**NORSAR Array B**	**82.60**	**338**	P	**P**	**09 17 13.5**	**-1.2**
	0.5nm,0.6s,mb3.2,baz=48,slow=4.7,SNR=2.6						

NEIC ***02*** *09:29:48.6, 4507S×16750E, h123km, MG3.8(WEL), After WEL.*

WEL 02 09:29:48.7±0.3, 4506S×16750E, h121km±2km, ML3.1/9, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**210**	*e*P	Pn	09 30 06.2	-0.4
DCZ	**Deep Cove**	**0.48**	**210**	PN	Pn	09 30 06.2	-0.4
DCZ				SN	Sn	09 30 19.0	-1.1
MSZ	**Milford Sound**	**0.49**	**38**	P	Pn	09 30 06.8	+0.2
MSZ				S	Sn	09 30 19.8	-0.4
MSZ	**Milford Sound**	**0.49**	**38**	PN	Pn	09 30 06.8	+0.2
MSZ				SN	Sn	09 30 19.6	-0.6
MLZ	**Mavora Lakes**	**0.56**	**122**	P	Pn	09 30 06.8	-0.2
MLZ				S	Sn	09 30 20.4	-0.5
MLZ	**Mavora Lakes**	**0.56**	**122**	PN	Pn	09 30 06.8	-0.2
MLZ				SN	Sn	09 30 20.0	-0.9
WHZ	**Wether Hill Ro**	**0.89**	**160**	P	Pn	09 30 09.7	0.0
WHZ	**Wether Hill Ro**	**0.89**	**160**	PN	Pn	09 30 09.7	-0.1
WKZ	**Wanaka**	**1.10**	**78**	*e*P	Pn	09 30 12.0	+0.2
WKZ	**Wanaka**	**1.10**	**78**	PN	Pn	09 30 12.0	+0.2
EAZ	**Earnscleugh**	**1.29**	**98**	P	Pn	09 30 13.5	-0.3
EAZ	**Earnscleugh**	**1.29**	**98**	PN	Pn	09 30 13.5	-0.3
JCZ	**Jackson Bay**	**1.33**	**43**	P	Pn	09 30 13.9	-0.3
JCZ	**Jackson Bay**	**1.33**	**43**	PN	Pn	09 30 13.9	-0.4
TUZ	**Tuapeka**	**1.75**	**122**	P	Pn	09 30 18.8	-0.2
TUZ	**Tuapeka**	**1.75**	**122**	PN	Pn	09 30 18.8	-0.2
APZ	**The Paps**	**1.81**	**169**	PN	Pn	09 30 19.6	-0.2
SYZ	**Scrubby Hill**	**1.87**	**143**	PN	Pn	09 30 20.5	0.0
LBZ	**Lake Benmore**	**2.03**	**72**	*e*P	Pn	09 30 20.9	-1.6
LBZ	**Lake Benmore**	**2.03**	**72**	PN	Pn	09 30 20.9	-1.5
FOZ	**Fox Glacier**	**2.17**	**47**	PN	Pn	09 30 23.5	-0.7
ODZ	**Otahua Downs**	**2.23**	**91**	*e*P	Pn	09 30 23.8	-1.2
ODZ	**Otahua Downs**	**2.23**	**91**	PN	Pn	09 30 23.8	-1.2
HHSZ	**Highcliff Hill**	**2.33**	**112**	PN	Pn	09 30 25.8	-0.5
LTZ	**Lake Taylor**	**4.13**	**58**	*e*P	Pn	09 30 46.9	-3.0
DSZ	**Denniston Nort**	**4.56**	**45**	*e*P	Pn	09 30 52.9	-2.8
DSZ	**Denniston Nort**	**4.56**	**45**	*e*PN	Pn	09 30 51.9	-3.8

IDC 02 10:23:46.7±3.2, 1049S×6590E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=119.5km s-min=35.6km az=56.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**37.30**	**250**	LR	LR	10 44 35.4	
	comp=Z,65nm,19.3s,baz=203,slow=34						
MKAR	**Makanchi Array**	**58.88**	**13**	P	P	10 33 47.3	0.0
	0.1nm,0.3s,baz=189,slow=5.5,SNR=3.0						
ASAR	**Alice Springs**	**65.80**	**111**	P	P	10 34 34.1	+0.5
	0.7nm,0.9s,baz=266,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**66.33**	**107**	P	P	10 34 38.0	+0.9
	0.9nm,1.1s,baz=280,slow=6.1,SNR=5.0						
PDAR	**Pinedale Array**	**147.60**	**354**	PKPbc	PKPbc	10 43 32.9	-0.1
	0.2nm,0.7s,baz=1.8,slow=2.9,SNR=2.9						

IDC ***02*** *10:29:01.8±0.7, 4343S×16993E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/10, mbtmp3.7/3, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/14, Error ellipse: s-maj=49.9km s-min=9.2km az=20.0*
ISCJB ***02*** *10:29:02.2±0.4, 4346S±004×16982E±006, h10km, mb3.8/3, MS3.7/3, Error ellipse: s-maj=8.2km s-min=3.7km az=93.8*
WEL ***02*** *10:29:03.2±0.1, 4354S×16991E, h5km, ML4.3/29, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
NEIC ***02*** *10:29:03.3, 4350S×16989E, h8km, mb4.6/1, ML4.4(WEL), After WEL.*

ISC 02 10:29:03.1±0.4, 4351S±004×16985E±005, h10km, n57, σ0.97/54, mb3.8/3, MS3.7/3, 2C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.13**	**246**	P	**Pg**	**10 29 05.2**	**-0.8**
FOZ				S	**Sg**	**10 29 06.6**	**-1.5**
FOZ	**Fox Glacier**	**0.13**	**246**	||PG	**Pg**	**10 29 05.2**	**-0.9**
FOZ				SG	**Sg**	**10 29 06.5**	**-1.6**
FOZ				SG	**Sg**	**10 29 06.6**	**-1.5**
WVZ	**Waitaha Valley**	**0.78**	**56**	P*	**Pb**	**10 29 17.1**	**-1.7**
RPZ	**Rata Peaks**	**0.90**	**103**	Pg	**Pg**	**10 29 19.7**	**-0.7**
	baz=270,slow=5.1						
RPZ				Lg		10 29 29.7	
	795nm,0.3s,baz=249,slow=5.6,SNR=62						
RPZ	**Rata Peaks**	**0.90**	**103**	P	**Pg**	**10 29 19.7**	**-0.7**
RPZ	**Rata Peaks**	**0.90**	**103**	||P*	**Pb**	**10 29 19.7**	**-1.1**
LBZ	**Lake Benmore**	**0.91**	**164**	P	**Pg**	**10 29 20.2**	**-0.3**
LBZ	**Lake Benmore**	**0.91**	**164**	⇑P*	**Pb**	**10 29 20.2**	**-0.7**
JCZ	**Jackson Bay**	**0.97**	**234**	*e*P	**Pg**	**10 29 21.3**	**-0.4**
JCZ	**Jackson Bay**	**0.97**	**234**	P*	**Pb**	**10 29 21.2**	**-0.7**
WKZ	**Wanaka**	**1.44**	**204**	P	**Pn**	**10 29 29.2**	**-0.1**
WKZ	**Wanaka**	**1.44**	**204**	PN	**Pn**	**10 29 29.2**	**0.0**
ODZ	**Otahua Downs**	**1.64**	**160**	P	**Pn**	**10 29 32.4**	**+0.5**
ODZ	**Otahua Downs**	**1.64**	**160**	PN	**Pn**	**10 29 32.3**	**+0.4**
EAZ	**Earnscleugh**	**1.76**	**192**	*e*P	**Pn**	**10 29 34.0**	**+0.4**
EAZ	**Earnscleugh**	**1.76**	**192**	PN	**Pn**	**10 29 33.7**	**+0.1**
MSZ	**Milford Sound**	**1.80**	**229**	*e*P	**Pn**	**10 29 34.8**	**+0.6**
MSZ	**Milford Sound**	**1.80**	**229**	PN	**Pn**	**10 29 34.6**	**+0.4**
LTZ	**Lake Taylor**	**1.92**	**68**	P	**Pn**	**10 29 36.7**	**+0.9**
LTZ	**Lake Taylor**	**1.92**	**68**	⇑PN	**Pn**	**10 29 36.7**	**+0.9**
CRLZ	**Canterbury Las**	**2.02**	**93**	P	**Pn**	**10 29 37.4**	**+0.2

JCR	Jicaral	3.24 115	eP	Pn	10 54 04.2	0.0
PRS1	Puriscal	3.92 108	eP	Pn	10 54 14.1	+0.6
PRS1			eS	Sn	10 54 58.4	+0.2
BUS	Buena Vista	4.58 111	eP	Pn	10 54 23.8	+1.2

IDC 02 10:58:09.1±6.8, 1768S×17852W, h629km±72km, mb3.0/4, mb1 3.3/4, mb1mx3.0/12, mbtmp4.1/4, Error ellipse: s-maj=103.4km s-min=39.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.65	241	P	P	11 04 41.1	+0.3
	1.0nm,0.5s,baz=95,slow=12,SNR=2.9						
WRA	Warramunga Arr	44.57	259	P	P	11 05 27.3	+0.1
	1.4nm,0.4s,baz=94,slow=7.1,SNR=49						
WRA				PcP	PcP	11 06 55.9	-0.1
	0.3nm,0.4s,baz=90,slow=3.7,SNR=6.6						
ASAR	Alice Springs	44.75	254	P	P	11 05 29.2	+0.6
	4.0nm,0.6s,baz=90,slow=8.0,SNR=78						
ASAR				PcP	PcP	11 06 56.6	+0.1
	0.8nm,0.5s,baz=108,slow=3.7,SNR=12						
PDAR	Pinedale Array	87.26	43	P	P	11 09 50.5	+0.1
	0.4nm,0.7s,baz=174,slow=1.8,SNR=3.7						
BRTR	Keskin Array B	144.54	315	PKP	PKPdf	11 16 36.3	+1.0
	0.7nm,0.5s,baz=126,slow=3.2,SNR=4.1						
GERES	GERESS Array B	147.36	345	PKPbc	PKPbc	11 16 43.3	-0.3
	1.1nm,0.6s,baz=29,slow=3.0,SNR=6.3						

*ISCJB **02** 11:29:30.0±0.9, 1087N±005×6238W±005, h85km±9km, Error ellipse: s-maj=9.5km s-min=5.3km az=96.9*
*NEIC **02** 11:29:30.0, 1086N×6221W, h109km, MD3.0(TRN), After TRN.*
*TRN **02** 11:29:30.0, 1086N×6221W, h109km, MD3.0*
*FUNV **02** 11:29:31.9, 1091N×6233W, h71km, MW2.5*

ISC 02 11:29:30.6±0.8, 1087N±005×6238W±005, h83km±9km, n12, σ0§86/23, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.27	145	eP	Pn	11 29 43.3	+0.3
GUIV				eS	Sn	11 29 51.5	-0.6
CRUV	Carupano	0.86	257	eP	Pn	11 29 49.5	+1.3
CRUV				eS	Sn	11 30 01.0	-0.4
ITEV	Isla Los Testi	0.88	303	eP	Pn	11 29 48.3	-0.2
ITEV				eS	Sn	11 30 01.7	-0.1
GUNV	Guanoco	0.89	218	eP	Pn	11 29 49.1	+0.5
GUNV				eS	Sn	11 30 02.5	+0.6
TRN	Trinidad (W)	0.98	103	eP	Pn	11 29 49.2	-0.3
TRN				eS	Sn	11 30 03.9	+0.1
GRW	Mount Saint Ca	1.47	29	eP	Pn	11 29 54.7	-0.9
GRW				eS	Sn	11 30 13.7	-0.7
GRSS	Sisters	1.61	28	eP	Pn	11 29 58.0	+0.6
GRSS				eS	Sn	11 30 18.6	+0.9
GRIC	Isle de Caille	1.61	29	eP	Pn	11 29 58.0	+0.6
GRIC				eS	Sn	11 30 18.1	+0.4
GRCU	Cariacou	1.83	30	eP	Pn	11 30 00.3	0.0
GRCU				eS	Sn	11 30 21.3	-1.6
PCRV	Puerto La Cruz	2.32	253	eP	Pn	11 30 07.5	+0.6
CAOV	Caicara del Or	5.25	228	eP	Pn	11 30 46.3	-0.1
CAOV				eS	Sn	11 31 43.1	-2.5
BAUV	El Baul	5.90	252	eP	Pn	11 30 56.3	+1.0
BAUV				eS	Sn	11 31 58.1	-3.4

JMA 02 11:37:34.3±0.4, 4495N×14942E, h119km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.08	240	P	Pn	11 38 22.2	+0.6
NEM2				eS	Sn	11 38 59.6	+1.4
JNK	Nakash	3.64	250	P	Pn	11 38 30.2	+1.2
JAK	Akkeshi	3.93	242	P	Pn	11 38 33.3	+0.5
JAK				eS	Sn	11 39 18.7	+0.5
JTKR	Abashiri--Toko	4.07	258	P	Pn	11 38 35.8	+1.1
JAR	Ashorobuto	4.39	250	P	Pn	11 38 40.5	+1.5
JOB	Onbets	4.52	245	P	Pn	11 38 41.7	+0.9
JOB				eS	Sn	11 39 33.1	+0.7
JKK2	Kamakawa 2	4.90	260	P	Pn	11 38 46.4	+0.5
ASAJ	Asahikawa	4.95	263	P	Pn	11 38 48.0	+1.5
JCH	Churui	4.97	244	P	Pn	11 38 47.5	+0.7
JCH				eS	Sn	11 39 43.8	+0.6
JNBK	Urakawa-nobuka	5.53	243	P	Pn	11 38 54.2	-0.1
JNBK				eS	Sn	11 39 52.5	-4.1
JNB	Noboribetsu	6.56	251	P	Pn	11 39 08.8	+0.5
JNB				eS	Sn	11 40 21.2	-0.4
JKB	Kayabe	6.83	246	P	Pn	11 39 12.1	+0.2
JKB				eS	Sn	11 40 25.6	-2.6
JANG	Nango	7.41	235	P	Pn	11 39 18.8	-0.9
JANG				eS	Sn	11 40 37.9	-4.2
JSR	Shiriuchi	7.41	246	eS	Sn	11 40 39.0	-3.2
JTM	Tenmabayashi	7.41	239	eS	Sn	11 40 38.7	-3.5
JTH	Tanohata	7.50	231	eS	Sn	11 40 40.4	-4.0
OFUJ	Ofunato	8.22	227	P	Pn	11 39 30.9	+0.1
OFUJ				eS	Sn	11 40 59.8	-2.2
JRG	Rokugo	8.56	233	eS	Sn	11 41 09.0	-1.1
JIO	Ouri	8.86	226	P	Pn	11 39 38.8	-0.6
JIO				eS	Sn	11 41 12.5	-4.9

*NIED **02** 12:10:00, 4630N×15340E, h38km, Mw4.2 Best double couple: M0:2.00000×10^15 NP1:φs71.00000°, δ79.00000°, λ-104.00000°. NP2:φs301.00000°, δ18.00000°, λ-41.00000°.*
*MOS **02** 12:10:05.0±1.4, 4631N×15350E, h38km, mb4.4/9, Error ellipse: s-maj=14.1km s-min=12.3km az=134.1*
*ISCJB **02** 12:10:10.6±1.1, 466N±0.1×1524E±0.2, h33km, mb4.2/18, Error ellipse: s-maj=26.4km s-min=4.8km az=90.1*
*NEIC **02** 12:10:12.6±1.0, 47.19N×15186E, h10km, mb4.1/1, Error ellipse: s-maj=24.7km s-min=12.1km az=142.0*
*BJI **02** 12:10:13.6, 4720N×15190E, h10km, mB4.6, mb4.4*
*IDC **02** 12:10:13.4±2.4, 4763N×15179E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp4.0/11, ML3.6/1, Error ellipse: s-maj=59.0km s-min=23.4km az=162.0*

ISC 02 12:10:12.3±1.1, 466N±01×1525E±02, h35km, n60, σ1§52/69, mb4.2/18, 5C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.54	249	↑iPN	Pn	12 11 04.3	-0.4
KUR				pmax	pmax		
	comp=Z,210nm,0.5s						
SKR	Severo-Kuril's	4.72	29	ePN	Pn	12 11 12.9	-8.0
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	Nemuro 2	5.81	239	P	Pn	12 11 34.2	-1.7
NEM2				eS	Sn	12 12 40.0	-1.2
JRA	Rausu	5.88	246	P	Pn	12 11 39.0	+2.2
JNK	Nakash	6.30	244	P	Pn	12 11 43.6	+0.9
JNK				eS	Sn	12 12 57.2	+3.7
JTKR	Abashiri--Toko	6.63	250	P	Pn	12 11 49.7	+2.5
JAK	Akkeshi	6.64	240	P	Pn	12 11 46.0	-1.3
JAK				eS	Sn	12 12 59.2	-2.6
YSS	Yuzh-Sakhalins	6.73	277	ePN	Pn	12 11 56.3	+7.8
JMP	Maruseppu	6.97	251	P	Pn	12 11 54.9	+3.0
JAR	Ashorobuto	7.05	245	P	Pn	12 11 54.0	+1.1
JAR				eS	Sn	12 13 13.5	+1.8
JSE	Soyaes	7.15	260	P	Pn	12 12 00.3	+6.0
JOB	Onbets	7.22	242	P	Pn	12 11 55.6	+0.4
JOB				eS	Sn	12 13 15.7	-0.2
ASAJ	Asahikawa	7.43	254	Pn	Pn	12 12 01.8	+3.6
	comp=Z,1.0nm,0.3s,baz=36,slow=6.8,SNR=5.3						
ASAJ	Asahikawa	7.43	254	P	Pn	12 12 01.9	+3.7
ASAJ	Asahikawa	7.43	254	PN	Pn	12 12 01.8	+3.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKK2	Kamakawa 2	7.43	252	P	Pn	12 12 01.0	+2.8
JCH	Churui	7.67	242	P	Pn	12 11 59.4	-2.0
JCH				eS	Sn	12 13 26.6	-0.4
JFR	Furan	7.86	248	P	Pn	12 12 07.1	+3.1
JEM	Erimo	8.14	239	P	Pn	12 12 07.5	-0.4
ERM	Erimo	8.14	239	ePn	Pn	12 12 09.5	+1.6
ERM				eSn	Sn	12 13 31.9	-6.8
JNBK	Urakawa-nobuka	8.23	242	P	Pn	12 12 08.7	-0.4
JNBK				eS	Sn	12 13 39.0	-1.8
JKB	Kayabe	9.51	244	P	Pn	12 12 25.6	-1.0
JKB				eS	Sn	12 14 10.4	-1.8
JTH	Tanohata	10.24	233	eS	Sn	12 14 21.8	-8.4
JOSM	Okushiri--Mats	10.39	249	P	Pn	12 12 39.0	+0.3
JIO	Ouri	11.59	229	eS	Sn	12 14 51.9	-11
KLR	Kul'dur	14.18	288	eP	Pn	12 13 34.7	+4.2
YAK	Yakutsk	20.23	328	↑eP	P	12 14 45.6	+1.3
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
SONM	Songino Array	31.01	289	P	P	12 16 24.6	-1.9
	comp=Z,0.5nm,0.7s,mb3.5,baz=81,slow=12,SNR=3.3						
SONM	Songino Array	31.01	289	P	P	12 16 24.6	-1.8
SONM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	Lanzhou	37.50	272	eP	P	12 17 23.5	+0.9
LZH				AP	pP	12 17 27.6	-5.2
LZH				XP	sP	12 17 31.2	-5.8
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
LZH	Lanzhou	37.50	272	eP	P	12 17 23.5	+0.9
LZH				pP	pP	12 17 27.6	-5.2
LZH				sP	sP	12 17 31.2	-5.8
GTA	Gaotai	38.60	279	eP	P	12 17 34.4	+2.5
GTA				AP	pP	12 17 38.7	-3.4
GTA				XP	sP	12 17 41.9	-4.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
INK	Inuvik	41.99	32	P	P	12 18 01.1	+1.2
	comp=Z,1.8nm,1.0s,mb3.7,baz=248,slow=5.4,SNR=4.1						
INK	Inuvik	41.99	32	P	P	12 18 01.1	+1.2
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	46.66	297	P	P	12 18 36.4	-0.9
	comp=Z,2.1nm,0.8s,mb4.1,baz=65,slow=8.7,SNR=15						
MKAR	Makanchi Array	46.66	297	↑eP	P	12 18 37.5	+0.2
BVAR	Borovoye Array	50.65	309	P	P	12 19 07.3	-0.6
	comp=Z,0.8nm,0.4s,mb4.0,baz=37,slow=7.4,SNR=4.1						
BVAR	Borovoye Array	50.65	309	P	P	12 19 07.3	-0.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	Zerenda	51.42	310	eP	P	12 19 12.7	-1.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	Zerenda	51.42	310	eP	P	12 19 12.7	-1.0
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	Ala-Archa	53.55	296	↑eP	P	12 19 28.4	-1.1
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
KKN	Kakani	55.11	275	eP	P	12 19 42.9	+2.1
	comp=Z,9.0nm,0.6s,mb5.0						
PKI	Pulchoki	55.16	275	eP	P	12 19 42.5	+1.3
DMN	Daman	55.34	275	eP	P	12 19 44.5	+2.0
GKN	Gorkha	55.41	276	eP	P	12 19 44.5	+1.5
	comp=Z,16nm,0.8s,mb5.1						
KOLN	Koldanda	56.27	276	eP	P	12 19 50.9	+1.7
	comp=Z,12nm,0.9s,mb4.9						
ARCES	ARCESS Array B	57.86	341	P	P	12 19 58.7	-1.7
	comp=Z,2.1nm,1.0s,mb4.1,baz=54,slow=7.9,SNR=3.0						
FIA1	FINESS Array S	64.00	335	eP	P	12 20 40.7	-1.4
FINES	FINESS Array B	64.00	335	P	P	12 20 40.6	-1.5
	comp=Z,1.8nm,0.6s,mb4.3,baz=43,slow=6.8,SNR=9.9						
FINES	FINESS Array B	64.00	335	i P	P	12 20 40.7	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	Pinedale Array	65.15	53	P	P	12 20 55.0	+5.4
	comp=Z,0.2nm,0.3s,mb3.6,baz=282,slow=2.9,SNR=4.2						
NB2	NORSAR Subarra	68.24	341	P	P	12 21 07.6	-1.7
	comp=Z,1.2nm,0.6s,mb4.1,baz=27,slow=6.5						
NOA	NORSAR Array B	68.24	341	P	P	12 21 07.7	-1.6
	comp=Z,2.0nm,0.7s,mb4.3,baz=27,slow=6.2,SNR=7.9						
NOA	NORSAR Array B	68.24	341	P	P	12 21 07.7	-1.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	Hagfors	68.45	339	P	P	12 21 08.8	-1.9
	comp=Z,1.2nm,0.4s,mb4.2,baz=54,slow=7.5,SNR=5.5						
HFS	Hagfors	68.45	339	P	P	12 21 08.8	-1.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.45	326	P	P	12 21 27.7	-1.3
	comp=Z,1.2nm,0.4s,mb4.2,baz=34,slow=6.1,SNR=9.3						
AKASG	Malin Array Be	71.45	326	P	P	12 21 27.7	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CLL	Collm	76.43	335	eP	P	12 21 58.0	-0.2
	comp=Z,5.0nm,0.7s,mb4.5						
KHC	Kasperske Hory	78.20	334	↑eP	P	12 22 07.6	-0.5

IDC 02 12:12:53.8±8.2, 732S×15609E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/12, mbtmp3.9/4, Error ellipse: s-maj=179.2km s-min=35.1km az=5.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.36	119	Pn	Pn	12 14 01.2	0.0
	baz=266,slow=15						
WRA	Warramunga Arr	24.54	237	P	P	12 18 14.9	-0.1
	0.7nm,0.6s,baz=64,slow=10,SNR=15						
ASAR	Alice Springs	26.78	230	P	P	12 18 36.2	+0.9
	2.2nm,1.0s,baz=62,slow=8.9,SNR=10						
STKA	Stephens Creek	27.92	207	P	P	12 18 45.8	+0.2
	1.2nm,0.7s,baz=33,slow=14,SNR=3.7						

*IDC **02** 12:15:33.5±1.7, 385S×12790E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=127.9km s-min=25.8km az=66.0*
*ISCJB **02** 12:15:40.9±2.7, 38S±01×1284E±02, h80km±26km, mb3.9/2, Error ellipse: s-maj=41.1km s-min=13.1km az=134.4*
*NEIC **02** 12:15:43.0±2.9, 368S×12854E, h83km±27km, mb4.1/1, Error ellipse: s-maj=27.9km s-min=18.5km az=62.0*

ISC 02 12:15:45.4±2.5, 38S±01×1286E±02, h109km±24km, n9, σ1§24/11, mb3.9/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.61	157	eP	Pn	12 18 00.3	-0.5
	10nm,0.6s						
WRA	Warramunga Arr	16.97	161	P	Pn	12 19 33.8	-2.3
	0.7nm,0.3s,baz=337,slow=13,SNR=61						
WRA				S	S	12 22 40.9	-4.6
	0.3nm,0.3s,baz=335,slow=20,SNR=4.8						
MBWA	Marble Bar	19.28	206	eP	P	12 20 02.5	+1.0
	3.8nm,0.3s						
AS31	Alice Springs	20.38	166	eP	P	12 20 14.5	+1.0
ASAR	Alice Springs	20.39	166	P	P	12 20 14.6	+1.1
	6.3nm,0.7s,baz=347,slow=12,SNR=62						
ASAR				S	S	12 23 53.8	-2.0
	1.4nm,0.9s,baz=348,slow=25,SNR=8.1						
CTAO	Charters Tower	23.61	135	P	P	12 20 48.3	+2.0
MKAR	Makanchi Array	64.82	327	P	P	12 26 12.2	-0.4
	0.8nm,0.6s,mb3.8,baz=120,slow=7.2,SNR=6.2						
AKTK	Aktyubinsk	80.72	322	P	P	12 27 46.1	-0.4
AKTO	Aktyubinsk	80.72	322	P	P	12 27 46.1	-0.4
	1.4nm,0.6s,mb4.0,baz=130,slow=7.3,SNR=4.3						

*ISCJB **02** 12:17:50.0±0.6, 5371S±009×1342W±02, h10km, mb4.2/12, MS4.6/26, Error ellipse: s-maj=14.7km s-min=12.4km az=103.2*
*IDC **02** 12:17:51.0±0.9, 5395S×134.10W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.3/14, mbtmp4.2/10, MS4.6/26, Ms1 4.6/26, ms1mx4.5/31, Error ellipse: s-maj=38.6km s-min=17.2km az=177.0*
*NEIC **02** 12:17:51.4±0.7, 5359S×13421W, h10km, mb4.9/3, Error ellipse: s-maj=22.0km s-min=16.7km az=180.0*
*GCMT **02** 12:17:51.4±0.1, 5404S×13375W, h12km±1km, MW5.3/85, Moment Tensor Solution. s70,c116; s85,c153; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr-0.04±.01; Mθθ0.54±.02; Mφφ-0.49±.01; Mrθ0.22±.04; Mθφ0.72±.01; Mφr0.44±.06; Best double couple: M0:1.01500×10^17 NP1:φs108.00000°, δ61.00000°, λ1.00000°. NP2:φs18.00000°, δ89.00000°, λ151.00000°. Principal axes: T 1.0590, Plg20.0000°, Azm329.0000°; N -0.0870, Plg61.0000°, Azm196.0000°; P -0.9710, Plg19.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 12:17:51.7±0.5, 5366S±009×1342W±02, h10km, n42, σ1§46/21, mb4.2/12, MS4.6/26, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	Pitcairn Islan	28.72	8	P	P	12 23 46.3	-2.8
RKT	Rikitea	30.51	358	eS	S	12 29 05.3	-0.9
	356nm,24.0s						
RKT				eLR	LR	12 31 57.0	
	2μm,28.0s,baz=175						
RPN	Rapa Nui	32.23	45	LR	LR	12 34 29.8	
	comp=Z,1μm,19.1s,MS4.6,baz=200,slow=31						
TBI	Tubuai	32.41	333	eLQ		12 31 29.3	
	356nm,27.5s						
TBI				eLR	LR	12 32 50.2	
	4μm,28.5s,baz=166						
VNDA	Vanda	32.74	201	P	P	12 24 27.4	+2.9
	0.4nm,1.0s,mb3.3,baz=76,slow=8.3,SNR=2.3						
PMSA	Palmer Station	35.62	136	LR	LR	12 35 05.9	
	comp=Z,2μm,21.6s,MS4.7,baz=245,slow=29						
PMSA	Palmer Station	35.62	136	P	P	12 24 50.0	+0.5
URZ	Urewera	36.44	275	LR	LR	12 36 37.8	
	comp=Z,883nm,18.1s,MS4.6,baz=247,slow=31						
RPZ	Rata Peaks	36.66	263	LR	LR	12 35 47.3	
	comp=Z,1μm,20.6s,MS4.7,baz=209,slow=29						
USHA	Ushuaia	37.15	119	P	P	12 25 01.1	-1.5
	5.1nm,0.8s,mb4.4,baz=264,slow=9.2,SNR=2.6						
USHA				LR	LR	12 36 10.2	
	comp=Z,627nm,19.5s,MS4.4,baz=228,slow=30						
RAR	Rarotonga	37.84	319	LR	LR	12 36 50.6	
	comp=Z,1μm,18.7s,MS4.7,baz=166,slow=30						
PPT	Papeete	37.97	336	eS	S	12 31 01.5	0.0
	352nm,24.5s						
PPT				eLR	LR	12 35 26.3	
	3μm,25.5s,baz=170						
PPT	Papeete	37.97	336	LR	LR	12 36 41.1	
	comp=Z,1μm,19.9s,MS4.7,baz=149,slow=30						
PLCA	Paso Flores	43.66	100	P	P	12 25 56.9	+0.4
	1.8nm,0.9s,mb3.8,baz=191,slow=9.7,SNR=4.3						
PLCA				LR	LR	12 39 14.7	
	comp=Z,745nm,21.4s,MS4.6,baz=228,slow=30						
VNA3	Neumayer Olymp	49.35	159	e	P	12 26 39.0	-2.1
VNA3				e		12 26 44.9	
VNA3				e		12 26 48.7	
AFI	Afiamalu	49.49	309	LR	LR	12 43 39.1	
	comp=Z,380nm,18.4s,MS4.4,baz=148,slow=31						
SNAA	Sanae	50.35	162	P	P	12 26 46.9	-1.9
	0.8nm,1.0s,mb3.7,baz=218,slow=4.1,SNR=5.9						
SNAA	Sanae	50.35	162	e	P	12 26 45.3	-3.5
SNAA				e		12 26 50.6	
DZM	Mont Dzumac	54.47	281	LR	LR	12 47 16.6	
	comp=Z,396nm,18.3s,MS4.5,baz=25,slow=32						
LVC	Limon Verde	57.48	84	eP	P	12 27 42.4	+1.6
	16nm,1.5s,mb4.8						
MAW	Mawson	58.38	188	P	P	12 27 45.8	-1.4
	2.9nm,0.9s,mb4.3,baz=156,slow=10,SNR=6.0						
MAW				LR	LR	12 51 20.6	
	comp=Z,257nm,18.1s,MS4.4,baz=159,slow=35						
CPUP	Villa Florida	61.55	96	P	P	12 28 08.3	-0.7
	2.0nm,0.7s,mb4.4,baz=0.0,slow=20,SNR=4.7						
CPUP				LR	LR	12 50 20.3	
	comp=Z,864nm,20.2s,MS4.9,baz=360,slow=32						
CPUP	Villa Florida	61.55	96	eP	P	12 28 08.7	-0.3
	6.6nm,0.7s,mb4.9						
STKA	Stephens Creek	61.77	254	P	P	12 28 12.1	+1.6
	2.5nm,1.0s,mb4.3,baz=135,slow=13,SNR=3.0						
STKA				LR	LR	12 50 44.2	
	comp=Z,305nm,19.4s,MS4.5,baz=35,slow=32						
LPAZ	La Paz	62.85	80	P	P	12 28 19.7	+2.0
	4.2nm,0.9s,mb4.6,baz=209,slow=2.7,SNR=13						
LPAZ				LR	LR	12 49 19.2	
	comp=Z,210nm,21.8s,MS4.3,baz=39,slow=30						
LPAZ	La Paz	62.85	80	eP	P	12 28 19.8	+2.1
	4.3nm,0.3s,mb5.1						
CTA	Charters Tower	67.95	266	LR	LR	12 53 55.6	
	comp=Z,347nm,20.8s,MS4.6,baz=278,slow=32						
HNR	Honiara	68.25	284	LR	LR	12 51 55.8	
	comp=Z,211nm,21.4s,MS4.3,baz=179,slow=30						
ASAR	Alice Springs	72.41	254	P	P	12 29 18.1	0.0
	1.4nm,0.7s,mb4.0,baz=138,slow=6.6,SNR=14						
ASAR				LR	LR	12 55 43.4	
	comp=Z,524nm,18.8s,MS4.8,baz=151,slow=31						
ASAR	Alice Springs	72.41	254	P	P	12 29 18.1	0.0
ASAR				LR	LR	12 55 43.4	
NWAO	Narrogin (SRO)	74.04	236	LR	LR	12 53 28.7	
	comp=Z,526nm,21.9s,MS4.8,baz=147,slow=29						
WRA	Warramunga Arr	75.07	257	P	P	12 29 33.5	-0.1
	1.8nm,0.8s,mb4.0,baz=141,slow=5.2,SNR=22						
WRA				LR	LR	12 58 45.6	
	comp=Z,455nm,20.3s,MS4.8,baz=155,slow=33						
BDFB	Brasilia	75.28	96	P	P	12 29 36.2	+1.3
	6.0nm,1.0s,mb4.5,baz=210,slow=8.1,SNR=3.3						
BDFB				LR	LR	13 00 52.1	
	comp=Z,479nm,18.3s,MS4.8,baz=356,slow=34						
PMG	Port Moresby	75.78	273	LR	LR	12 58 39.0	
	comp=Z,261nm,21.2s,MS4.5,baz=204,slow=32						
ROSC	El Rosal	76.67	62	LR	LR	12 59 24.7	
	comp=Z,398nm,18.1s,MS4.8,baz=194,slow=32						
LPIG	La Paz	80.15	22	LR	LR	12 56 29.2	
	comp=Z,135nm,19.0s,MS4.3,baz=54,slow=29						
FITZ	Fitzroy Crossi	81.50	251	LR	LR	13 02 37.4	
	comp=Z,334nm,20.4s,MS4.7,baz=140,slow=33						
BOSA	Boshof	96.14	162	LR	LR	13 10 38.8	
	comp=Z,480nm,19.2s,MS5.0,baz=180,slow=33						
PDAR	Pinedale Array	98.35	18	LR	LR	13 09 30.9	
	comp=Z,189nm,18.8s,MS4.6,baz=214,slow=31						
SONM	Songino Array	142.28	286	PKhKP		12 37 21.5	
	0.9nm,0.9s,baz=151,slow=2.2,SNR=4.2						
SONM				PKP	PKPdf	12 37 25.7	+1.4
	0.9nm,0.9s,baz=146,slow=2.8,SNR=4.1						
KEST	Kesra	148.92	110	PKPbc	PKPbc	12 37 43.0	+3.3
	1.0nm,0.7s,baz=117,slow=4.5,SNR=3.4						
MKAR	Makanchi Array	155.91	268	PKPab	PKPab	12 38 14.3	+1.4
	1.8nm,0.9s,baz=121,slow=4.7,SNR=5.3						

*IDC **02** 12:50:46.9±1.0, 1007N×9192E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=49.5km s-min=18.5km az=59.0*
*ISCJB **02** 12:50:49.4±1.0, 99N±02×918E±03, h33km, mb3.9/7, Error ellipse: s-maj=44.1km s-min=10.9km az=120.7*
*NEIC **02** 12:50:51.5±0.7, 1000N×9189E, h30km, mb4.1/1, Error ellipse: s-maj=30.9km s-min=12.1km az=65.0*

ISC 02 12:50:51.9±1.0, 100N±02×917E±03, h35km, n17, σ0§79/15, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.95	30	eP	x	12 51 06.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**160**	P	P	12 57 44.6	-0.6
	1.0nm,0.4s,baz=338,slow=11,SNR=24						
GUMO	**Guam**	**22.35**	**54**	LR	LR	13 05 30.4	
	comp=Z,229nm,21.6s,baz=134,slow=34						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	12 58 19.3	+1.0
	1.0nm,0.6s,baz=343,slow=12,SNR=16						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	13 02 58.1	+0.1
	0.2nm,0.3s,baz=131,slow=7.6,SNR=3.7						

*BJI **02** 12:54:26.3, 4930N×12890W, h10km, mB4.8, mb4.5, Ms4.6, Msz4.2*
*ISCJB **02** 12:54:29.1±0.5, 4909N±003×12906W±005, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=121.0*
*PGC **02** 12:54:29.9, 4895N×129.13W, h10km, MLSn3.7/1, Mw4.2, 230km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia*
*NEIC **02** 12:54:32.4±1.2, 4926N×12890W, h10km, MW4.2(PGC), Error ellipse: s-maj=15.9km s-min=6.0km az=86.0*

ISC 02 12:54:31.0±0.6, 4915N±003×12902W±005, h10km, n64, σ1§17/85, 8C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.30**	**38**	⇑Pn	**Pn**	**12 54 54.4**	**-0.8**
BPBC				Sn	**Sn**	**12 55 12.9**	**+0.3**
	comp=Z,448nm,0.3s						
BPBC				Trac		12 55 14.3	
	comp=Z,448nm,0.3s						
BPBC	**Brooks Peninsu**	**1.30**	**38**	⇑*i*Pn	**Pn**	**12 54 54.4**	**-0.8**
BPBC				Sn	**Sn**	**12 55 12.9**	**+0.3**
EDB	**Eliza Dome**	**1.44**	**59**	⇑Pn	**Pn**	**12 54 56.1**	**-1.0**
EDB				Sn	**Sn**	**12 55 14.7**	**-1.3**
EDB				Trac		12 55 16.1	
	comp=Z,25nm,0.2s						
EDB	**Eliza Dome**	**1.44**	**59**	⇑*i*Pn	**Pn**	**12 54 56.1**	**-1.0**
EDB				*e*Sn	**Sn**	**12 55 14.7**	**-1.3**
HOLB	**Holberg**	**1.60**	**21**	Pn	**Pn**	**12 54 58.9**	**-0.5**
HOLB				Sn	**Sn**	**12 55 21.3**	**+1.2**
	comp=Z,86nm,0.2s						
HOLB				Trac		12 55 25.3	
	comp=Z,86nm,0.2s						
ETB	**Estevan Point**	**1.64**	**81**	⇑Pn	**Pn**	**12 54 58.9**	**-1.1**
MAYB	**Maynard**	**1.74**	**43**	⇑Pn	**Pn**	**12 55 00.6**	**-0.6**
MAYB				Sn	**Sn**	**12 55 23.3**	**-0.1**
	comp=Z,19nm,0.2s						
MAYB				Trac		12 55 24.4	
	comp=Z,19nm,0.2s						
MAYB	**Maynard**	**1.74**	**43**	⇑*e*Pn	**Pn**	**12 55 00.6**	**-0.6**
PHC	**Port Hardy**	**1.87**	**33**	⇑Pn	**Pn**	**12 55 02.7**	**-0.4**
PHC				Sn	**Sn**	**12 55 26.6**	**-0.1**
PHC				Trac		12 55 30.3	
	comp=Z,60nm,0.3s						
PHC	**Port Hardy**	**1.87**	**33**	⇑*e*Pn	**Pn**	**12 55 02.7**	**-0.4**
WOSB	**Woss**	**1.89**	**57**	⇑Pn	**Pn**	**12 55 03.2**	**-0.1**
WOSB				Sn	**Sn**	**12 55 26.7**	**-0.5**
	comp=Z,24nm,0.2s						
WOSB				Trac		12 55 30.2	
	comp=Z,24nm,0.2s						
WOSB	**Woss**	**1.89**	**57**	⇑*i*Pn	**Pn**	**12 55 03.2**	**-0.1**
GDR	**Gold River**	**2.05**	**71**	⇑Pn	**Pn**	**12 55 04.7**	**-0.9**
NCRB	**Newcastle Ridg**	**2.30**	**56**	⇑Pn	**Pn**	**12 55 09.5**	**+0.5**
NCRB				Sn	**Sn**	**12 55 39.4**	**+2.1**
	comp=Z,43nm,0.3s						
NCRB				Trac		12 55 40.0	
	comp=Z,43nm,0.3s						
BTB	**Buttle Lake**	**2.31**	**81**	⇑Pn	**Pn**	**12 55 08.4**	**-0.8**
BTB				Sn	**Sn**	**12 55 37.9**	**+0.2**
	comp=Z,47nm,0.4s						
BTB				Trac		12 55 38.9	
	comp=Z,47nm,0.4s						
CBB	**Campbell River**	**2.54**	**68**	⇑Pn	**Pn**	**12 55 12.4**	**+0.1**
CBB				Sn	**Sn**	**12 55 43.9**	**+0.7**
CBB				Trac		12 55 45.7	
	comp=Z,21nm,0.5s						
ALB	**Alberni**	**2.75**	**86**	Pn	**Pn**	**12 55 14.2**	**-0.9**
ALB				Trac		12 55 49.2	
	comp=Z,7.0nm,0.3s						
MGB	**Mount Grey**	**2.85**	**91**	Pn	**Pn**	**12 55 15.1**	**-1.5**
MGB				Sn	**Sn**	**12 55 49.7**	**-1.2**
	comp=Z,5.0nm,0.2s						
MGB				Trac		12 55 50.5	
	comp=Z,5.0nm,0.2s						
TXB	**Texada**	**3.04**	**78**	Pn	**Pn**	**12 55 19.0**	**-0.2**
TXB				Sn	**Sn**	**12 55 56.1**	**+0.4**
	comp=Z,22nm,0.5s						
TXB				Trac		12 55 59.0	
	comp=Z,22nm,0.5s						
PFB	**Port Renfrew**	**3.08**	**99**	Trac		12 55 56.4	
PFB	**Port Renfrew**	**3.08**	**99**	Pn	**Pn**	**12 55 17.8**	**-1.9**
PFB				Sn	**Sn**	**12 55 53.0**	**-3.5**
BBB	**Bella Bella**	**3.10**	**10**	Pn	**Pn**	**12 55 20.1**	**+0.1**
BBB				Sn	**Sn**	**12 55 56.4**	**-0.6**
BBB				Trac		12 55 58.8	
	comp=Z,89nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.30**	**87**	Pn	**Pn**	**12 55 22.8**	**0.0**
NLLB				Sn	**Sn**	**12 56 03.5**	**+1.4**
NLLB				Trac		12 56 06.2	
	comp=Z,25nm,0.7s						
SHB	**Sechelt**	**3.39**	**80**	Pn	**Pn**	**12 55 23.8**	**-0.2**
SHB				Trac		12 56 17.2	
	comp=Z,14nm,0.3s						
LZB	**Mount Lazard**	**3.47**	**97**	Pn	**Pn**	**12 55 23.7**	**-1.4**
LZB				Sn	**Sn**	**12 56 04.5**	**-1.8**
LZB				Trac		12 56 05.5	
	comp=Z,1.0nm,0.2s						
GOBB	**Galiano Island**	**3.63**	**91**	Pn	**Pn**	**12 55 27.4**	**+0.1**
GOBB				Sn	**Sn**	**12 56 11.0**	**+0.8**
	comp=Z,6.0nm,0.4s						
GOBB				Trac		12 56 21.4	
	comp=Z,6.0nm,0.4s						
PGC	**Sidney**	**3.71**	**96**	Pn	**Pn**	**12 55 27.1**	**-1.2**
PGC				Sn	**Sn**	**12 56 10.5**	**-1.6**
PGC				Trac		12 56 14.7	
	comp=Z,2.0nm,0.2s						
PGC	**Sidney**	**3.71**	**96**	*e*P	**Pn**	**12 55 27.2**	**-1.2**
BIB	**Bowen Island**	**3.75**	**84**	Pn	**Pn**	**12 55 28.9**	**0.0**
BIB				Trac		12 56 23.2	
	comp=Z,8.0nm,0.5s						
WPB	**Watts Point**	**3.83**	**80**	Pn	**Pn**	**12 55 30.1**	**0.0**
WPB				Trac		12 56 17.2	
	comp=Z,14nm,0.7s						
VGZ	**Gonzales**	**3.84**	**99**	Pn	**Pn**	**12 55 28.6**	**-1.5**
VGZ				Sn	**Sn**	**12 56 12.3**	**-3.0**
VGZ				Trac		12 56 16.1	
	comp=Z,12nm,0.6s						
BNB	**Barry Inlet**	**3.84**	**334**	Pn	**Pn**	**12 55 29.1**	**-1.1**
SNB	**Saturna Island**	**3.87**	**93**	Pn	**Pn**	**12 55 30.7**	**+0.1**
SNB				Trac		12 56 30.8	
	comp=Z,3.0nm,0.6s						
WSLR	**Whistler**	**4.08**	**74**	Pn	**Pn**	**12 55 34.7**	**+1.2**
MCW	**Mount Constitu**	**4.11**	**94**	P	**Pn**	**12 55 33.9**	**0.0**
HNB	**Haney**	**4.22**	**86**	Pn	**Pn**	**12 55 35.5**	**+0.1**
HNB				Trac		12 56 31.4	
	comp=Z,10.0nm,0.5s						
BNAB	**Bonilla**	**4.47**	**348**	Pn	**Pn**	**12 55 37.0**	**-1.8**
VDB	**Vedder Mountai**	**4.55**	**89**	Pn	**Pn**	**12 55 40.0**	**+0.1**
VDB	**Vedder Mountai**	**4.55**	**89**	P	**Pn**	**12 55 40.0**	**+0.1**
CMW	**Cultus Mountai**	**4.62**	**96**	P	**Pn**	**12 55 41.3**	**+0.4**
MBW	**Mount Baker**	**4.71**	**92**	P	**Pn**	**12 55 42.4**	**+0.4**
LLLB	**Lillooet**	**4.84**	**70**	Pn	**Pn**	**12 55 44.8**	**+0.8**
LLLB				Trac		12 56 50.2	
	comp=Z,11nm,0.8s						
HOPB	**Hope**	**4.98**	**84**	Pn	**Pn**	**12 55 46.6**	**+0.7**
RPW	**Rockport**	**5.01**	**95**	P	**Pn**	**12 55 46.4**	**+0.1**
RUBB	**Prince Rupert**	**5.24**	**352**	Pn	**Pn**	**12 55 50.6**	**+1.2**
WPW	**White Pass**	**5.59**	**113**	P	**Pn**	**12 55 55.3**	**+1.1**
ASR	**Mount Adams--S**	**5.84**	**118**	P	**Pn**	**12 55 59.2**	**+1.5**
FSB	**Fort Saint Jam**	**6.08**	**27**	Pn	**Pn**	**12 56 03.4**	**+2.5**
FSB				Sn	**Sn**	**12 57 15.0**	**+4.5**
	comp=Z,4.0nm,0.5s						
FSB				Trac		12 57 16.6	
	comp=Z,4.0nm,0.5s						
PNT	**Penticton**	**6.16**	**85**	Pn	**Pn**	**12 56 02.4**	**+0.3**
DOWB	**Downie Slide**	**7.13**	**67**	Pn	**Pn**	**12 56 16.8**	**+1.5**
SLEB	**Sale Mountain**	**7.28**	**70**	Pn	**Pn**	**12 56 19.8**	**+2.3**
KBO	**Bosley Butte**	**7.70**	**152**	*e*P	**Pn**	**12 56 24.8**	**+1.6**
NEW	**Newport**	**7.92**	**92**	*e*P	**Pn**	**12 56 27.1**	**+0.8**
BMBC	**Bull Mountain**	**8.08**	**29**	Pn	**Pn**	**12 56 31.3**	**+2.9**
YBH	**Yreka Blue Hor**	**8.64**	**147**	*e*P	**Pn**	**12 56 38.7**	**+2.6**
	8.9nm,0.9s						
MOD	**Modoc**	**9.48**	**137**	*e*P	**Pn**	**12 56 50.0**	**+2.5**
	2.6nm,1.1s						
WALA	**Waterton Lakes**	**9.91**	**85**	Pn	**Pn**	**12 56 54.1**	**+0.6**
WALA	**Waterton Lakes**	**9.91**	**85**	*e*P	**Pn**	**12 56 54.9**	**+1.4**
	2.0nm,0.6s						
FNBB	**Fort Nelson**	**10.38**	**18**	Pn	**Pn**	**12 57 01.9**	**+2.0**
FNBB				Sn	**Sn**	**12 58 56.2**	**0.0**
FNBB				Trac		12 59 03.7	
	comp=Z,1.0nm,0.7s						
EDM	**Edmonton**	**10.65**	**62**	*e*Pn	**Pn**	**12 57 04.6**	**+1.0**
ULM	**Lac du Bonnet**	**21.37**	**74**	Pn	**P**	**12 59 16.4**	**-2.2**
MDJ	**Mudanjiang**	**64.19**	**309**	P	**P**	**13 05 03.5**	**-2.4**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,47nm,5.1s						
HHC	**Hu-ho-hao-te**	**75.72**	**317**	*e*P	**P**	**13 06 13.1**	**-3.6**
HHC				AP	pP	13 06 17.6	-2.4
HHC				XP	sP	13 06 20.7	-0.5
HHC				PP	PP	13 09 04.2	-2.2
HHC				S	S	13 15 51.5	-6.8
HHC				SKS		13 16 16.8	
HHC				PS		13 16 30.7	
HHC				SS	SS	13 20 43.3	-6.5
HHC				AMB	AMB		
	comp=Z,15nm,0.4s						
HHC				AMB	AMB		
	comp=Z,143nm,4.4s						
HHC				LR	LR		
	comp=N,166nm,13.7s						
HHC				LR	LR		
	comp=E,115nm,10.0s						
HHC				LR	LR		
	comp=Z,103nm,17.5s						
WMQ	**Urumqi**	**81.99**	**334**	*e*P	**P**	**13 06 50.5**	**-0.7**

IDC 02 13:01:13.9±2.2, 287S×12976E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=113.8km s-min=25.4km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.67**	**195**	Pn	Pn	13 04 55.6	-0.4
	0.2nm,0.3s,baz=41,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**17.55**	**166**	P	Pn	13 05 19.3	-0.6
	0.2nm,0.3s,baz=349,slow=12,SNR=16						
WRA				S	Sn	13 08 42.2	+6.2
	0.1nm,0.3s,baz=339,slow=19,SNR=4.9						
ASAR	**Alice Springs**	**21.06**	**169**	P	P	13 06 00.6	+1.0
	4.9nm,0.7s,baz=348,slow=11,SNR=51						
ASAR				S	S	13 09 59.6	+4.8
	0.3nm,0.7s,baz=359,slow=21,SNR=4.1						
MKAR	**Makanchi Array**	**64.67**	**326**	P	P	13 11 53.7	+0.1
	0.1nm,0.3s,baz=118,slow=7.9,SNR=2.7						

*ISCJB **02** 13:26:22.9±0.7, 1358N±006×1209E±0.1, h136km±6km, mb4.3/34, Error ellipse: s-maj=16.3km s-min=10.0km az=156.1*
*MOS **02** 13:26:23.6±1.0, 1367N×12093E, h141km, mb4.3/9, Error ellipse: s-maj=28.7km s-min=9.8km az=113.5*
*MAN **02** 13:26:24.7, 1359N×12062E, h94km, mb2.9, ML4.3, MS2.7*
*IDC **02** 13:26:27.5±7.6, 1365N×12102E, h161km±73km, mb3.7/10, mb1 3.8/10, mb1mx3.6/19, mbtmp4.1/10, Error ellipse: s-maj=42.0km s-min=14.7km az=69.0*
*BJI **02** 13:26:30.4, 1390N×12080E, h186km, mB4.6, mb4.7*
*NEIC **02** 13:26:31.9±5.1, 1369N×121.14E, h208km±49km, mb3.9/5, Error ellipse: s-maj=28.2km s-min=12.5km az=67.0*

ISC 02 13:26:24.1±0.8, 1360N±006×12096E±010, h130km±6km, n62, σ0§94/64, mb4.3/34, 5C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.10**	**184**	⇓*i*P	**Pn**	**13 26 40.8**	**-1.0**
PGP				*i* S	**Sn**	**13 26 42.6**	**-13**
PCPH	**Palayan**	**1.96**	**4**	⇓*e*P	**Pn**	**13 26 57.3**	**-0.3**
PCPH				*e*S	**Sn**	**13 27 24.0**	**+0.9**
KSM	**Kuching**	**16.01**	**222**	*e*P	**Pn**	**13 30 08.6**	**+6.8**
WHN	**Wuhan**	**17.93**	**341**	*e*P	**Pn**	**13 30 25.0**	**-0.1**
NJ2	**Nanjing**	**18.47**	**354**	*e*P	**P**	**13 30 30.5**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s						
XAN	**Xi'an**	**23.10**	**334**	P	**P**	**13 31 17.9**	**-0.5**
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.6						
CD2	**Chengdu**	**23.40**	**320**	P	**P**	**13 31 21.7**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LZH	**Lanzhou**	**27.16**	**329**	*e*P	**P**	**13 31 56.0**	**+0.8**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,135nm,5.6s						
GTA	**Gaotai**	**31.76**	**328**	P	**P**	**13 32 36.7**	**+0.9**
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
LSA	**Lhasa**	**31.87**	**305**	P	**P**	**13 32 35.0**	**-1.8**
MBWA	**Marble Bar**	**34.56**	**182**	*e*P	**P**	**13 33 00.6**	**+0.4**
	comp=Z,1.4nm,0.4s,mb3.9						
JIRN	**Jiri**	**35.28**	**299**	*e*P	**P**	**13 33 06.9**	**+0.6**
	comp=Z,23nm,0.5s,mb5.1						
GUN	**Gumba**	**35.61**	**299**	*e*P	**P**	**13 33 09.6**	**+0.4**
	comp=Z,26nm,0.5s,mb5.1						
WRA	**Warramunga Arr**	**35.84**	**158**	P	**P**	**13 33 11.5**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.3,baz=334,slow=10.0,SNR=4.4						
PKI	**Pulchoki**	**35.92**	**298**	*e*P	**P**	**13 33 11.5**	**-0.3**
	comp=Z,16nm,0.6s,mb4.8						
KKN	**Kakani**	**36.09**	**299**	*e*P	**P**	**13 33 12.9**	**-0.4**
	comp=Z,10nm,0.5s,mb4.7						
DMN	**Daman**	**36.19**	**298**	*e*P	**P**	**13 33 13.8**	**-0.3**
SONM	**Songino Array**	**36.22**	**343**	P	**P**	**13 33 14.5**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.1,baz=163,slow=9.8,SNR=31						
GKN	**Gorkha**	**36.70**	**299**	*e*P	**P**	**13 33 17.7**	**-0.7**
KOLN	**Koldanda**	**37.52**	**298**	*e*P	**P**	**13 33 24.9**	**-0.5**
	comp=Z,9.6nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**39.14**	**161**	P	**P**	**13 33 40.0**	**+1.0**
	comp=Z,0.4nm,0.3s,mb3.5,baz=336,slow=7.4,SNR=20						
ZAK	**Zakamensk**	**39.41**	**342**	*e*P	**P**	**13 33 40.7**	**-0.5**
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**13 34 36.9**	**+0.5**
	comp=Z,3.0nm,0.3s,mb4.4,baz=121,slow=8.7,SNR=35						
ULHL	**Ulahol**	**47.97**	**315**	P	**P**	**13 34 50.9**	**+1.3**
	SNR=5.2						
KZA	**Kyzart**	**48.59**	**315**	P	**P**	**13 34 56.1**	**+1.8**
	SNR=5.2						
TKM2	**Tokmak 2**	**48.67**	**316**	P	**P**	**13 34 55.8**	**+0.8**
	SNR=5.9						
YAK	**Yakutsk**	**48.76**	**5**	⇑*e*P	**P**	**13 34 54.6**	**-1.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
KBK	**Karagaybulak**	**49.01**	**315**	P	**P**	**13 34 58.9**	**+1.4**
	SNR=8.4						
UCH	**Uchtor**	**49.15**	**315**	P	**P**	**13 35 00.5**	**+1.8**
	SNR=14						
AAK	**Ala-Archa**	**49.31**	**315**	⇑*e*P	**P**	**13 35 00.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
AAK	**Ala-Archa**	**49.31**	**315**	*e*P	**P**	**13 34 59.7**	**-0.2**
	comp=Z,3.0nm,0.9s,mb3.9						
USP	**Ospenovka**	**49.55**	**316**	P	**P**	**13 35 02.2**	**+0.6**
	SNR=6.0						
AML	**Almayashu**	**49.69**	**314**	P	**P**	**13 35 04.2**	**+1.5**
	SNR=5.5						
EKS2	**Erkin-Say**	**49.82**	**315**	P	**P**	**13 35 04.3**	**+0.7**
	SNR=5.9						
NVS	**Novosibirsk**	**50.55**	**333**	*e*P	**P**	**13 35 07.9**	**-1.3**
SEY	**Seymchan**	**54.03**	**17**	*e*P	**P**	**13 35 36.0**	**+1.1**
BRVK	**Borovoye**	**56.07**	**326**	*e*P	**P**	**13 35 49.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
BRVK	**Borovoye**	**56.07**	**326**	*e*P	**P**	**13 35 49.2**	**-0.3**
	comp=Z,2.1nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**56.73**	**325**	*e*P	**P**	**13 35 53.9**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**56.73**	**325**	*e*P	**P**	**13 35 53.9**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.5						
BILL	**Bilibino**	**61.73**	**18**	⇑*e*P	**P**	**13 36 28.8**	**+0.2**
BILL				*e*PP	pP	13 37 07.0	+7.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
ARU	**Arti**	**63.60**	**327**	⇓*i*P	**P**	**13 36 39.3**	**-1.7**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
UMR	**Umm Al-Rimmam**	**68.97**	**297**	*e*P	**P**	**13 37 14.7**	**-0.5**
UMR				AMb	AMB	13 37 15.4	
	comp=Z,15nm,0.5s,mb5.0						
RDF	**Al-Radifah**	**69.16**	**296**	*e*P	**P**	**13 37 15.7**	**-0.7**
RDF				AMb	AMB	13 37 16.7	
	comp=Z,30nm,0.6s,mb5.2						
MIB	**Mutribah**	**69.28**	**297**	*e*P	**P**	**13 37 16.3**	**-0.8**
MIB				AMb	AMB	13 37 17.9	
	comp=Z,29nm,0.5s,mb5.2						
NAY	**Al-Naaiem**	**69.40**	**296**	*e*P	**P**	**13 37 16.9**	**-1.0**
NAY				AMb	AMB	13 37 18.4	
	comp=Z,11nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**72.28**	**312**	⇑*e*P	**P**	**13 37 36.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
OBN	**Obninsk**	**75.77**	**324**	⇑*e*P	**P**	**13 37 54.5**	**-1.1**
OBN				*e*PP	pP	13 38 24.9	-3.1
OBN				*e*		13 40 45.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
JOF	**Joensuu**	**77.85**	**332**	*e*p	**P**	**13 38 06.0**	**-1.2**
	comp=Z,3.1nm,0.4s,mb4.3						
KEV	**Kevo**	**78.71**	**339**	*e*p	**P**	**13 38 10.8**	**-1.2**
	comp=Z,1.2nm,0.5s,mb3.8						
KEV	**Kevo**	**78.71**	**339**	*e*P	**P**	**13 38 10.8**	**-1.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
ARCES	**ARCESS Array B**	**79.27**	**339**	P	**P**	**13 38 14.5**	**-0.5**
	comp=Z,1.5nm,0.5s,mb3.9,baz=74,slow=6.9,SNR=20						
ARCES	**ARCESS Array B**	**79.27**	**339**	P	**P**	**13 38 14.5**	**-0.5**
BRTR	**Keskin Array B**	**79.41**	**308**	P	**P**	**13 38 15.8**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.5,baz=96,slow=5.0,SNR=5.8						
KAF	**Kangasniemi**	**80.26**	**332**	*e*p	**P**	**13 38 17.2**	**-3.2**
FINES	**FINESS Array B**	**80.50**	**331**	P	**P**	**13 38 20.7**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.5,baz=67,slow=6.6,SNR=7.0						
FINES	**FINESS Array B**	**80.50**	**331**	*i* P	**P**	**13 38 22.2**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**83.10**	**21**	P	**P**	**13 38 35.1**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=18,slow=31,SNR=6.0						
KMBO	**Kilima Mbogo**	**84.15**	**267**	P	**P**	**13 38 42.6**	**+2.0**
	comp=Z,0.4nm,0.3s,mb3.7,baz=69,slow=12,SNR=5.3						
NB2	**NORSAR Subarra**	**87.47**	**333**	P	**P**	**13 38 55.6**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**87.47**	**333**	P	**P**	**13 38 55.7**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=68,slow=4.5,SNR=5.2						
NOA	**NORSAR Array B**	**87.47**	**333**	P	**P**	**13 38 55.7**	**-1.3**

*NEIC **02** 13:32:26.6, 4899N×12926W, h10km, MW4.0(PGC), After PGC.*

PGC 02 13:32:26.6, 4899N×12927W, h10km, MLSn3.5/1, Mw4.0, 8C, 232km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.52**	**39**	⇑Pn	Pn	13 32 51.8	-2.1
BPBC				Sn	Sn	13 33 09.7	-4.0
	comp=Z,314nm,0.2s						
BPBC				Trac		13 33 11.6	
	comp=Z,314nm,0.2s						
BPBC	**Brooks Peninsu**	**1.52**	**39**	⇑*i*Pn	Pn	13 32 51.8	-2.1
BPBC				*e*Sn	Sn	13 33 11.6	-2.1
EDB	**Eliza Dome**	**1.66**	**57**	⇑Pn	Pn	13 32 53.5	-2.3
EDB				Sn	Sn	13 33 13.2	-3.9
EDB				Trac		13 33 13.4	
	comp=Z,13nm,0.1s						
EDB	**Eliza Dome**	**1.66**	**57**	⇑*i*Pn	Pn	13 32 53.5	-2.3
EDB				*e*Sn	Sn	13 33 13.2	-3.9
HOLB	**Holberg**	**1.81**	**23**	Pn	Pn	13 32 56.0	-1.9
HOLB				Sn	Sn	13 33 18.7	-2.1
	comp=Z,94nm,0.1s						
HOLB				Trac		13 33 22.7	
	comp=Z,94nm,0.1s						
HOLB	**Holberg**	**1.81**	**23**	Pn	Pn	13 32 56.0	-1.9
HOLB				*e*Sn	Sn	13 33 18.7	-2.1
ETB	**Estevan Point**	**1.83**	**77**	⇑Pn	Pn	13 32 56.2	-1.9
MAYB	**Maynard**	**1.96**	**43**	⇑Pn	Pn	13 32 57.9	-2.0
MAYB				Sn	Sn	13 33 20.7	-4.0
	comp=Z,22nm,0.1s						
MAYB				Trac		13 33 22.0	
	comp=Z,22nm,0.1s						
MAYB	**Maynard**	**1.96**	**43**	Pn	Pn	13 32 57.9	-2.0
MAYB				*e*Sn	Sn	13 33 20.7	-4.0
PHC	**Port Hardy**	**2.09**	**34**	Pn	Pn	13 33 00.1	-1.6
PHC				Sn	Sn	13 33 24.0	-3.8
PHC				Trac		13 33 25.1	
	comp=Z,34nm,0.2s						
PHC	**Port Hardy**	**2.09**	**34**	Pn	Pn	13 33 00.1	-1.6
PHC				*e*Sn	Sn	13 33 24.0	-3.8
WOSB	**Woss**	**2.11**	**55**	⇑Pn	Pn	13 33 00.6	-1.4
WOSB				Sn	Sn	13 33 25.1	-3.2
	comp=Z,21nm,0.2s						
WOSB				Trac		13 33 27.1	
	comp=Z,21nm,0.2s						
WOSB	**Woss**	**2.11**	**55**	⇑*i*Pn	Pn	13 33 00.6	-1.4
WOSB				*e*Sn	Sn	13 33 25.1	-3.2
GDR	**Gold River**	**2.26**	**68**	Pn	Pn	13 33 01.9	-2.0
BTB	**Buttle Lake**	**2.50**	**77**	⇑Pn	Pn	13 33 05.7	-1.6
BTB				Sn	Sn	13 33 34.3	-3.5
	comp=Z,31nm,0.3s						
BTB				Trac		13 33 39.8	
	comp=Z,31nm

comp=Z,4.0nm,0.2s
VGZ Gonzales 3.98 96 Sn Sn 13 34 09.9 -4.4
WPB Watts Point 4.02 78 Pn Pn 13 33 27.7 -0.5
SNB Saturna Island 4.03 91 Trac 13 34 31.6
comp=Z,3.0nm,0.7s
SNB Saturna Island 4.03 91 Pn Pn 13 33 27.7 -0.6
SNB Sn Sn 13 34 09.9 -5.6
WSLR Whistler 4.29 72 *e*Pn Pn 13 33 31.9 0.0
HNB Haney 4.40 84 Pn Pn 13 33 33.1 -0.4
HNB Trac 13 34 31.2
comp=Z,6.0nm,0.5s
BNAB Bonilla 4.60 350 Pn Pn 13 33 34.6 -1.5
BNAB Trac 13 34 30.4
comp=Z,1.0nm,0.2s
VDB Vedder Mountai 4.71 87 *e*Pn Pn 13 33 37.0 -0.8
LLLB Lilloоet 5.05 68 Pn Pn 13 33 42.2 -0.1
LLLB Trac 13 34 47.6
comp=Z,6.0nm,0.7s
HOPB Hope 5.16 83 *e*Pn Pn 13 33 43.8 -0.1
RUBB Prince Rupert 5.38 354 Pn Pn 13 33 47.7 +0.7
FSB Fort Saint Jam 6.29 27 Pn Pn 13 34 01.1 +1.6
FSB Sn Sn 13 35 12.4 +1.0
comp=Z,4.0nm,0.5s
FSB Trac 13 35 13.8
comp=Z,4.0nm,0.5s
BMBC Bull Mountain 8.30 29 Pn Pn 13 34 29.0 +2.0

FUNV ***02*** *13:41:20.7, 11.16N×6151W, h14km, MW3.0*
ISCJB ***02*** *13:41:22.1±0.8, 1068N±005×6152W±004, h60km±8km, Error ellipse: s-maj=9.1km s-min=5.8km az=129.5*
NEIC ***02*** *13:41:24.0, 1078N×6146W, h37km, MD3.0(TRN), After TRN.*
TRN ***02*** *13:41:24.0, 1078N×6146W, h37km, MD3.0*
ISC 02 13:41:23.1±0.8, 1069N±005×6151W±004, h53km±8km, n13, σ1§08/25, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.11**	**113**	*e*P	**Pn**	**13 41 30.4**	**-0.8**
TRN				*e*S	**Sn**	**13 41 35.2**	**-1.9**
TCE	**Chacachacare**	**0.24**	**271**	*e*P	**Pn**	**13 41 32.5**	**+0.5**
TCE				*e*S	**Sn**	**13 41 38.7**	**+0.3**
TPP	**Pointe-a-Pierr**	**0.38**	**171**	*e*P	**Pn**	**13 41 34.8**	**+1.6**
TPP				*e*S	**Sn**	**13 41 40.6**	**+0.2**
TBH	**Brigand Hill**	**0.48**	**116**	*e*P	**Pn**	**13 41 34.6**	**+0.3**
TBH				*e*S	**Sn**	**13 41 43.2**	**+0.9**
GUIV	**Guiria**	**0.70**	**266**	*e*P	**Pn**	**13 41 37.1**	**+0.1**
GUIV				*e*S	**Sn**	**13 41 47.9**	**+0.8**
TPR	**Prospect**	**0.87**	**56**	*e*P	**Pn**	**13 41 38.6**	**-0.6**
TPR				*e*S	**Sn**	**13 41 49.7**	**-1.2**
GRW	**Mount Saint Ca**	**1.47**	**354**	*e*P	**Pn**	**13 41 46.9**	**-0.2**
GRW				*e*S	**Sn**	**13 42 07.2**	**+2.0**
GUNV	**Guanoco**	**1.51**	**250**	*e*P	**Pn**	**13 41 49.4**	**+1.8**
GUNV				*e*S	**Sn**	**13 42 11.6**	**+5.4**
CRUV	**Carupano**	**1.70**	**270**	*e*P	**Pn**	**13 41 49.6**	**-0.7**
CRUV				*e*S	**Sn**	**13 42 11.3**	**+0.5**
ITEV	**Isla Los Testi**	**1.72**	**293**	*e*P	**Pn**	**13 41 48.3**	**-2.4**
ITEV				*e*S	**Sn**	**13 42 08.3**	**-3.3**
GRCU	**Cariacou**	**1.77**	**2**	*e*P	**Pn**	**13 41 51.2**	**0.0**
GRCU				*e*S	**Sn**	**13 42 13.7**	**+1.1**
PCRV	**Puerto La Cruz**	**3.12**	**261**	*e*P	**Pn**	**13 42 09.3**	**-0.5**
CUPV	**Cœpira**	**4.26**	**262**	*e*P	**Pn**	**13 42 24.9**	**-0.4**
CUPV				*e*S	**Sn**	**13 43 13.1**	**-0.7**

IDC ***02*** *13:53:04.0±12.0, 5184S×16344E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/11, mbtmp3.8/4, MS3.7/3, Ms1 3.7/3, ms1mx3.3/15, Error ellipse: s-maj=473.2km s-min=27.3km az=67.0*
ISCJB ***02*** *13:53:10.7±0.9, 525S±0.1×1607E±02, h10km, mb3.7/4, MS3.7/3, Error ellipse: s-maj=18.4km s-min=9.1km az=101.0*
NEIC ***02*** *13:53:12.4±1.0, 5262S×16040E, h10km, Error ellipse: s-maj=20.0km s-min=11.9km az=144.0*
ISC 02 13:53:12.4±0.9, 526S±01×1606E±02, h10km, n22, σ1§26/25, mb3.7/4, MS3.7/3, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**7.48**	**43**	*e*PN	**Pn**	**13 55 01.4**	**-0.1**
APZ				SN	**Sn**	**13 56 22.9**	**-3.5**
SYZ	**Scrubby Hill**	**8.20**	**46**	PN	**Pn**	**13 55 11.9**	**+0.5**
SYZ				SN	**Sn**	**13 56 38.2**	**-6.0**
DCZ	**Deep Cove**	**8.30**	**34**	*e*P	**Pn**	**13 55 14.4**	**+1.6**
DCZ	**Deep Cove**	**8.30**	**34**	*e*PN	**Pn**	**13 55 14.4**	**+1.5**
MLZ	**Mavora Lakes**	**8.78**	**38**	*e*P	**Pn**	**13 55 20.4**	**+1.0**
MLZ				S	**Sn**	**13 56 58.5**	**+0.2**
MLZ	**Mavora Lakes**	**8.78**	**38**	PN	**Pn**	**13 55 20.3**	**+1.0**
MLZ				SN	**Sn**	**13 56 58.5**	**+0.2**
TUZ	**Tuapeka**	**8.87**	**45**	*e*P	**Pn**	**13 55 21.6**	**+1.0**
TUZ	**Tuapeka**	**8.87**	**45**	PN	**Pn**	**13 55 21.0**	**+0.4**
TUZ				SN	**Sn**	**13 56 57.2**	**-3.4**
EAZ	**Earnscleugh**	**9.31**	**41**	*e*P	**Pn**	**13 55 27.5**	**+0.8**
EAZ	**Earnscleugh**	**9.31**	**41**	PN	**Pn**	**13 55 26.9**	**+0.2**
ODZ	**Otahua Downs**	**10.03**	**45**	*e*P	**Pn**	**13 55 37.1**	**+0.6**
ODZ	**Otahua Downs**	**10.03**	**45**	PN	**Pn**	**13 55 36.3**	**-0.1**
JCZ	**Jackson Bay**	**10.08**	**36**	*e*P	**Pn**	**13 55 41.4**	**+4.1**
JCZ	**Jackson Bay**	**10.08**	**36**	*e*PN	**Pn**	**13 55 39.8**	**+2.5**
STKA	**Stephens Creek**	**24.86**	**319**	*e*P	**P**	**13 58 35.5**	**+0.3**
STKA	**Stephens Creek**	**24.86**	**319**	*e*P	**P**	**13 58 35.1**	**0.0**
VNDA	**Vanda**	**25.06**	**179**	*e*P	**P**	**13 58 36.2**	**-0.7**
VNDA				LR	LR	14 05 48.1	
ASAR	**Alice Springs**	**35.29**	**315**	P	**P**	**14 00 07.3**	**-0.1**
WRA	**Warramunga Arr**	**38.41**	**318**	P	**P**	**14 00 32.5**	**-1.5**
WRA	**Warramunga Arr**	**38.41**	**318**	P	**P**	**14 00 32.5**	**-1.5**
RPN	**Rapa Nui**	**68.99**	**107**	LR	LR	14 27 07.5	
PLCA	**Paso Flores**	**77.07**	**143**	LR	LR	14 35 13.7	

comp=Z,7.2nm,19.2s,MS3.9,baz=309,slow=30
comp=Z,87nm,20.7s,MS3.2,baz=153,slow=30
1.5nm,0.8s,mb4.0,baz=150,slow=8.0,SNR=20
comp=Z,63nm,18.4s,MS4.0,baz=206,slow=33

MOS 02 14:07:40.6±0.8, 4194N×4417E, h35km, mb3.6/1, 3C-2D, Error ellipse: s-maj=80.5km s-min=14.9km az=91.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.85**	**346**	⇑*i*P	Pn	14 07 57.3	+1.2
ZEI				*i* S	Sn	14 08 09.3	+1.9
LACR	**Lac**	**0.89**	**6**	⇑*i*P	Pn	14 07 57.5	+0.9
LACR				*i* S	Sn	14 08 09.9	+1.6
DIGR	**Digorskoe uzhe**	**1.05**	**336**	*e*P	Pn	14 08 00.0	+1.2
DIGR				*i* S	Sn	14 08 14.1	+1.8
KORR	**Kora**	**1.15**	**356**	⇓*i*P	Pn	14 08 01.5	+1.4
KORR				*i* S	Sn	14 08 16.8	+2.2
VLKR	**Vladikavkaz**	**1.17**	**19**	⇑*i*P	Pn	14 08 01.9	+1.5
VLKR				*i* S	Sn	14 08 17.4	+2.3
ARNR	**Ardon**	**1.25**	**4**	⇓*i*P	Pn	14 08 02.9	+1.3
ARNR				*i* S	Sn	14 08 19.3	+2.1

ISCJB ***02*** *14:24:08.9±0.9, 1981S±005×6894W±009, h103km±8km, mb4.1/15, Error ellipse: s-maj=13.3km s-min=8.5km az=175.9*
IDC ***02*** *14:24:10.6±0.6, 1986S×6896W, h107km±5km, mb4.1/11, mb1 4.2/15, mb1mx4.1/19, mbtmp4.5/15, MS3.2/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=17.7km s-min=9.3km az=92.0*
NEIC ***02*** *14:24:10.7±0.3, 1995S×6895W, mb4.2/8, Error ellipse: s-maj=11.0km s-min=7.3km az=80.0*
BJI ***02*** *14:24:10.7, 2000S×6890W, h107km, mB5.1*
ISC 02 14:24:09.9±0.7, 1982S±005×6899W±008, h96km±7km, h109km±1.3km: pP-P, n57, σ1§14/46, mb4.1/15, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.78**	**178**	P	**Pn**	**14 24 53.7**	**+1.2**
LVC				S	**Sn**	**14 25 26.4**	**+1.1**
LVC	**Limon Verde**	**2.78**	**178**	*e*Pn	**Pn**	**14 24 53.5**	**+1.0**
LPAZ	**La Paz**	**3.61**	**13**	P	**Pn**	**14 25 09.1**	**+5.4**
LPAZ				S	**Sn**	**14 25 50.9**	**+5.5**

comp=Z,4.0nm,0.2s
comp=Z,182nm,2.4s,mb5.1
comp=Z,7.1nm,0.3s,baz=223,slow=7.9,SNR=4.5
LPAZ La Paz 3.61 13 *e*Pn **Pn 14 25 08.9 +5.2**
ARE Arequipa 4.10 324 *e*P **Pn 14 25 09.0 -1.3**
ARE *i* 14 25 13.0
ARE *e*S **Sn 14 25 55.0 -2.2**
SIV San Ignacio 8.45 64 P **Pn 14 26 10.1 +0.7**
comp=Z,7.5nm,1.2s,mb4.0
23nm,0.3s,baz=256,slow=12,SNR=794
NNA Nana 10.85 315 P **Pn 14 26 51.2 +9.2**
1.2nm,0.3s,baz=127,slow=15,SNR=3.3
NNA S **Sn 14 28 38.9 -2.4**
3.4nm,0.3s,baz=170,slow=12,SNR=3.2
CFAA Coronel Fontan 11.75 177 P **Pn 14 26 53.0 -1.3**
0.3nm,0.3s,baz=298,slow=5.8,SNR=26
CFAA Coronel Fontan 11.75 177 P **Pn 14 26 53.0 -1.3**
SAML Samuel 12.19 28 *e*Pn **Pn 14 26 58.4 -1.6**
5.0nm,0.8s
CPUP Villa Florida 12.53 123 P **Pn 14 27 04.6 0.0**
2.2nm,0.3s,baz=281,slow=11,SNR=22
CPUP Villa Florida 12.53 123 *e*P **Pn 14 27 04.4 -0.2**
55nm,0.8s
TRQA Tornquist 19.16 163 *e*P **P 14 28 22.3 -3.3**
9.5nm,0.9s
BDFB Brasilia 20.41 82 P **P 14 28 38.8 -0.3**
5.2nm,0.4s,baz=270,slow=10,SNR=8.1
BDFB LR LR 14 37 46.8
comp=Z,55nm,19.2s,baz=109,slow=40
BDFB Brasilia 20.41 82 *e*P **P 14 28 39.8 +0.7**
PLCA Paso Flores 20.88 183 P **P 14 28 43.6 -0.6**
9.3nm,0.8s,baz=3.9,slow=11,SNR=17
PLCA Paso Flores 20.88 183 *e*P **P 14 28 43.6 -0.6**
7.5nm,0.8s
SDV Santo Domingo 28.57 357 P **P 14 29 59.4 +2.8**
1.6nm,0.5s,mb4.0,baz=95,slow=3.9,SNR=3.5
PCRV Puerto La Cruz 30.12 9 LR LR 14 42 50.2
comp=Z,54nm,21.6s,baz=119,slow=37
CMIG Matias Romero 44.64 324 P **P 14 32 17.7 +5.0**
1.1nm,0.5s,mb3.9,baz=124,slow=4.1,SNR=4.1
VNA3 Neumayer Olymp 61.68 162 *e*P **P 14 34 17.8 +0.1**
VNA3 *e* 15 28 26.5
VNA1 Neumayer--Stat 61.88 161 *e*P **P 14 34 18.3 -0.7**
VNA1 *e* 14 34 19.7
VNA1 *e* 15 28 27.0
MNTX Cornudas Mount 61.98 325 *e*P **P 14 34 18.5 -1.1**
2.8nm,1.1s,mb4.2
SNAA Sanae 63.88 161 *e*P **P 14 34 31.7 -0.6**
SNAA *e* 14 34 34.6
SNAA *e* 15 28 23.9
SDCO Great Sand Dun 66.77 329 *e*P **P 14 34 51.8 +0.8**
5.3nm,1.1s,mb4.3
DBIC Dimbokro 68.34 74 P **P 14 35 01.1 +0.2**
4.3nm,0.5s,mb4.5,baz=217,slow=9.4,SNR=11
DBIC Dimbokro 68.34 74 *e*P **P 14 35 01.0 +0.2**
4.5nm,0.6s,mb4.5
CCUT Cedar City 70.71 324 *e*P **P 14 35 17.4 +2.0**
PDAR Pinedale Array 72.63 330 P **P 14 35 27.1 +0.3**
0.7nm,0.7s,mb3.6,baz=122,slow=5.4,SNR=5.4
ULM Lac du Bonnet 73.70 342 P **P 14 35 32.2 -1.0**
4.6nm,0.6s,mb4.4,baz=150,slow=5.4,SNR=13
ULM Lac du Bonnet 73.70 342 P **P 14 35 32.2 -1.0**
SCHQ Schefferville 74.37 1 P **P 14 35 36.2 -0.9**
3.4nm,0.9s,mb4.1,baz=175,slow=7.3,SNR=5.2
SCHQ Schefferville 74.37 1 P **P 14 35 36.2 -0.9**
HLID Hailey 75.59 328 *e*P **P 14 35 45.3 +1.3**
2.7nm,1.1s,mb3.9
MCMT McKenzie Canyo 75.74 329 *e*P **P 14 35 46.4 +1.4**
TOA0 Torodi Ar. Sit 76.87 71 *e*P **P 14 35 51.2 -0.2**
TOA0 *e*pP pP 14 36 19.5 +3.3
TORD Torodi Ar. Bea 76.87 71 P **P 14 35 51.1 -0.2**
2.8nm,0.4s,mb4.4,baz=253,slow=5.4,SNR=82
TORD pP pP 14 36 19.4 +3.2
5.4nm,0.8s,baz=252,slow=5.4,SNR=7.5
BMO Blue Mountains 77.97 327 *e*P **P 14 35 57.9 +0.4**
2.9nm,1.1s,mb3.9
BMO *e*pP pP 14 36 25.0 +2.7
VNDA Vanda 78.48 190 P **P 14 36 00.8 +0.5**
0.8nm,0.7s,mb3.5,baz=118,slow=5.1,SNR=6.5
BOSA Boshof 84.30 118 P **P 14 36 31.0 0.0**
1.1nm,0.4s,mb4.0,baz=207,slow=6.8,SNR=3.4
BOSA Boshof 84.30 118 P **P 14 36 31.0 0.0**
MAW Mawson 85.95 163 P **P 14 36 38.8 -0.5**
0.5nm,0.3s,mb3.9,baz=202,slow=5.4,SNR=5.4
YKA Yellowknife Ar 89.59 341 P **P 14 36 55.7 -0.9**
7.6nm,0.6s,mb5.0,baz=131,slow=4.7,SNR=24
YKA pP pP 14 37 23.6 +1.6
4.1nm,0.7s,baz=134,slow=4.5,SNR=7.0
STKA Stephens Creek 120.82 210 PKP PKPdf 14 42 50.5 -0.2
1.3nm,0.6s,baz=65,slow=5.5,SNR=3.5
AS31 Alice Springs 131.35 208 *e*PKPdf PKPdf 14 43 10.7 -0.1
ASAR Alice Springs 131.35 208 PKP PKPdf 14 43 10.8 0.0
1.1nm,0.5s,baz=127,slow=1.6,SNR=34
ZRNK Zerenda 133.77 34 *e*PKPdf PKPdf 14 43 16.0 +0.6
WRA Warramunga Arr 134.34 211 PKP PKPdf 14 43 16.4 -0.1
1.3nm,0.5s,baz=149,slow=1.7,SNR=12
MKAR Makanchi Array 144.32 34 PKP PKPdf 14 43 32.4 -2.2
1.2nm,0.6s,baz=303,slow=2.9,SNR=13
MKAR pPKP pPKPdf 14 44 01.5 +0.3
0.8nm,0.6s,baz=282,slow=2.2,SNR=4.1
WMQ Urumqi 149.14 34 *e*PKP PKPdf 14 43 43.0 +0.3
MDJ Mudanjiang 150.84 332 PKP PKPdf 14 43 44.3 -1.1
MJAR Matsushiro Arr 150.95 311 PKPbc PKPbc 14 43 50.4 -0.9
2.9nm,0.7s,baz=83,slow=2.0,SNR=12
MAT Matsushiro 150.95 311 PKP PKPdf 14 43 51.3 +5.8
SONM Songino Array 151.81 7 PKP PKPdf 14 43 47.2 +0.4
0.8nm,0.8s,baz=335,slow=2.1,SNR=5.5
SONM PKPbc PKPbc 14 43 53.7 +0.4
5.7nm,0.7s,baz=324,slow=1.3,SNR=29
SONM pPKPbc pPKPbc 14 44 23.0 +3.3
1.0nm,0.4s,baz=304,slow=1.5,SNR=3.0
HHC Hu-ho-hao-te 159.04 359 *e*PKP PKPdf 14 43 56.1 -0.4
LZH Lanzhou 162.62 20 *e*PKP PKPdf 14 43 56.0 -4.4
LZH XPKP 14 44 36.0
LZH LR LR
comp=N,156nm,19.6s
LZH LR LR
comp=Z,287nm,20.3s
NJ2 Nanjing 165.93 332 *e*PKP PKPdf 14 44 04.4 +1.1

IDC ***02*** *14:52:07.7±0.5, 3671N×3324W, h0km, mb4.4/22, mb1 4.5/22, mb1mx4.4/28, mbtmp4.4/22, MS3.6/11, Ms1 3.6/11, ms1mx3.4/30, Error ellipse: s-maj=15.5km s-min=12.4km az=178.0*
ISCJB ***02*** *14:52:08.5±0.2, 3686N±006×3324W±002, h10km, mb4.6/82, MS3.5/11, Error ellipse: s-maj=8.9km s-min=2.8km az=0.5*
BJI ***02*** *14:52:09.7, 3670N×3330W, h10km, mB5.3, mb5.2, Ms5.3, Msz4.9*
NEIC ***02*** *14:52:09.8±0.2, 3671N×3326W, h10km, mb4.7/59, Error ellipse: s-maj=8.0km s-min=3.5km az=183.0*
MOS ***02*** *14:52:11.1±0.9, 3668N×3327W, h33km, mb4.9/17, Error ellipse: s-maj=12.8km s-min=9.3km az=55.7*
ISC 02 14:52:10.4±0.2, 3686N±006×3319W±002, h10km, n290, σ0§81/285, mb4.6/82, MS3.5/11, 89C-48D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**3.96**	**63**	*e*P	**Pn**	**14 53 13.8**	**+2.7**
HOR	**Horta**	**3.98**	**64**	*e*P	**Pn**	**14 53 11.1**	**-0.4**
PCND	**Candelaria**	**4.08**	**65**	*e*P	**Pn**	**14 53 12.5**	**-0.4**
PICO	**Pico**	**4.12**	**65**	*e*P	**Pn**	**14 53 12.6**	**-0.8**
PBOI	**Pico dos Bois**	**4.14**	**66**	*e*P	**Pn**	**14 53 13.3**	**-0.3**
PTEI	**Pico do Teixo**	**4.17**	**65**	*e*P	**Pn**	**14 53 13.3**	**-0.8**
ROSA	**Rosais**	**4.34**	**63**	*e*P	**Pn**	**14 53 14.7**	**-1.7**
ADH	**Angra Heroismo**	**5.05**	**67**	*e*P	**Pn**	**14 53 24.9**	**-1.3**
ADH				*e*P		14 53 57.8	
CMLA	**Cha da Macela**	**6.18**	**79**	*e*P	**Pn**	**14 53 51.6**	**+10**
CMLA	**Cha da Macela**	**6.18**	**79**	P	**Pn**	**14 53 43.0**	**+1.4**
CCAN	**Las Canadas**	**16.41**	**117**	P	**Pn**	**14 56 02.6**	**+1.8**
EBAJ	**Bajamar**	**16.41**	**116**	P	**Pn**	**14 56 03.7**	**+2.9**
EBAD	**Badajoz**	**20.75**	**77**	P	**P**	**14 56 54.1**	**+2.8**
ERUA	**La Rua**	**20.77**	**67**	P	**P**	**14 56 55.4**	**+3.9**
ERUA				pmax	pmax		
ERUA	**La Rua**	**20.77**	**67**	P	**P**	**14 56 55.4**	**+4.0**
ECAL	**Calabor**	**21.03**	**68**	P	**P**	**14 56 56.0**	**+1.8**
EMIN	**Mina Concepcio**	**21.09**	**79**	P	**P**	**14 56 54.5**	**-0.4**

comp=Z,7.0nm,1.1s,mb3.9
comp=Z,3.0nm,0.9s,mb4.5
comp=Z,3.5nm,0.4s,mb4.0
MDT Midelt 23.76 91 P **P 14 57 21.6 -1.4**
comp=Z,5.2nm,0.8s,mb4.0,baz=300,slow=9.2,SNR=17
MDT LR LR 15 04 46.3
comp=Z,187nm,18.9s,MS3.6,baz=151,slow=32
EALB Alboran 24.25 83 P **P 14 57 28.0 +0.5**
comp=Z,218nm,2.2s,mb5.2
EVIA Vianos 24.28 76 P **P 14 57 27.2 -0.5**
comp=Z,22nm,0.7s,mb4.7
ETOR Torete 24.51 71 P **P 14 57 30.2 +0.4**
comp=Z,17nm,0.9s,mb4.6
ETOB Tobarra 25.02 76 P **P 14 57 35.7 +1.2**
comp=Z,24nm,1.1s,mb4.6
SJPF Ste Jean 25.18 66 *e*P **P 14 57 38.9 +3.0**
comp=Z,64nm,1.4s,mb4.7
SJPF Ste Jean 25.18 66 *e*P **P 14 57 38.9 +3.0**
comp=Z,32nm,1.4s,mb4.7
ETSF Etsaut 25.66 66 *e*P **P 14 57 40.3 0.0**
comp=Z,37nm,1.2s,mb4.5
ETSF Etsaut 25.66 66 *e*P **P 14 57 40.3 0.0**
comp=Z,19nm,1.2s,mb4.5
EMOS Mosqueruela 25.73 72 P **P 14 57 41.1 +0.2**
comp=Z,8.2nm,0.8s,mb4.3
EBIE Bielsa 26.16 67 P **P 14 57 42.6 -2.3**
comp=Z,10nm,1.2s,mb4.2
EPF Esparros 26.32 66 *e*P **P 14 57 46.5 +0.2**
comp=Z,72nm,1.5s,mb4.7
EPF Esparros 26.32 66 *e*P **P 14 57 46.5 +0.2**
comp=Z,36nm,1.5s,mb4.7
MFF Saint Martin d 26.35 58 *e*P **P 14 57 46.8 +0.3**
comp=Z,51nm,1.4s,mb4.6
MFF Saint Martin d 26.35 58 *e*P **P 14 57 46.8 +0.3**
comp=Z,25nm,1.4s,mb4.6
EMIR Miracle 27.19 69 P **P 14 57 54.4 +0.3**
comp=Z,8.3nm,0.8s,mb4.3
RJF Les Rejaudoux 27.32 61 *e*P **P 14 57 55.4 +0.1**
MTLF Montolieu 27.70 65 *e*P **P 14 57 58.5 -0.2**
comp=Z,54nm,1.5s,mb4.7
MTLF Montolieu 27.70 65 *e*P **P 14 57 58.5 -0.2**
comp=Z,27nm,1.5s,mb4.7
TCF Toulx Ste Croi 27.91 59 *e*P **P 14 58 00.8 +0.2**
comp=Z,37nm,1.1s,mb4.6
TCF Toulx Ste Croi 27.91 59 *e*P **P 14 58 00.8 +0.2**
comp=Z,18nm,1.1s,mb4.6
LASF Ste Croix 28.91 64 *e*P **P 14 58 09.1 -0.4**
comp=Z,32nm,1.3s,mb4.6
SMF Signal de Mont 29.07 59 *e*P **P 14 58 10.7 -0.2**
comp=Z,55nm,1.5s,mb4.8
SMF Signal de Mont 29.07 59 *e*P **P 14 58 10.7 -0.2**
comp=Z,28nm,1.5s,mb4.8
SCHQ Schefferville 29.14 319 LR LR 15 09 03.2
comp=Z,120nm,18.7s,MS3.5,baz=89,slow=35
CABF La Chapelle 30.61 59 *e*P **P 14 58 25.0 +0.5**
comp=Z,42nm,1.4s,mb4.8
CABF La Chapelle 30.61 59 *e*P **P 14 58 25.0 +0.5**
comp=Z,21nm,1.4s,mb4.8
SFJD Kangerlussuaq 31.80 347 P **P 14 58 34.1 -0.9**
comp=Z,17nm,1.0s,mb4.8,baz=136,slow=10,SNR=4.0
KEST Kesra 34.10 79 LR LR 15 10 17.6
comp=Z,33nm,20.2s,MS3.1,baz=183,slow=32
FRB Frobisher Bay 34.33 333 P **P 14 58 55.5 -1.6**
comp=Z,13nm,0.8s,mb4.9,baz=142,slow=6.7,SNR=3.8
KHC Kasperske Hory 35.79 55⇑*e*P **P 14 59 10.7 +1.0**
GERES GERESS Array B 35.86 55 P **P 14 59 09.7 -0.7**
comp=Z,1.0nm,0.8s,mb3.8,baz=267,slow=9.2,SNR=7.2
GERES LR LR 15 11 08.9
comp=Z,59nm,21.7s,MS3.3,baz=94,slow=32
NB2 NORSAR Subarra 36.81 35 P **P 14 59 19.7 +1.2**
comp=Z,12nm,1.2s,mb4.6,baz=250,slow=9.3
NB2 NORSAR Subarra 36.81 35 P **P 14 59 19.7 +1.2**
NB2 pmax pmax
comp=Z,12nm,1.2s,mb4.6
NOA NORSAR Array B 36.81 35 P **P 14 59 19.6 +1.2**
comp=Z,3.9nm,0.9s,mb4.2,baz=250,slow=8.7,SNR=8.5
NOA LR LR 15 11 54.1
comp=Z,45nm,20.9s,MS3.2,baz=265,slow=32
ACSO Alum Creek Sta 38.68 291 *e*P **P 14 59 34.6 +0.3**
comp=Z,17nm,1.0s,mb4.7
TOA0 Torodi Ar. Sit 39.12 118 *e*P **P 14 59 36.3 -1.6**
TORD Torodi Ar. Bea 39.12 118 P **P 14 59 36.0 -1.8**
comp=Z,6.5nm,0.9s,mb4.3,baz=310,slow=6.5,SNR=23
TORD LR LR 15 14 10.3
comp=Z,82nm,19.9s,MS3.6,baz=45,slow=34
DBIC Dimbokro 39.63 132 P **P 14 59 40.4 -1.8**
comp=Z,12nm,1.1s,mb4.5,baz=250,slow=3.0,SNR=3.7
DBIC LR LR 15 15 54.2
comp=Z,98nm,19.3s,MS3.7,baz=332,slow=36
DBIC Dimbokro 39.63 132 P **P 14 59 39.7 -2.5**
DBIC pmax pmax
comp=Z,21nm,1.2s
DBIC Dimbokro 39.63 132 P **P 14 59 39.7 -2.4**
comp=Z,21nm,1.2s,mb4.8
TKL Tuckaleechee C 40.41 284 P **P 14 59 48.1 -0.5**
comp=Z,16nm,1.0s,mb4.7,baz=89,slow=7.9,SNR=13
SDV Santo Domingo 43.87 240 P **P 15 00 16.1 -0.7**
comp=Z,2.7nm,0.4s,mb4.4,baz=17,slow=5.5,SNR=7.5
SDV Santo Domingo 43.87 240 *e*P **P 15 00 16.7 -0.2**
comp=Z,4.9nm,0.8s,mb4.3
FINES FINESS Array B 43.89 37 P **P 15 00 17.5 +0.5**
comp=Z,3.8nm,1.0s,mb4.1,baz=226,slow=5.0,SNR=7.6
FINES LR LR 15 16 23.8
comp=Z,72nm,20.2s,MS3.6,baz=268,slow=33
PLAL Pickwick Lake 43.97 285 *e*P **P 15 00 17.0 -0.7**
comp=Z,19nm,1.1s,mb4.7
KAF Kangasniemi 44.07 36 *e*p **P 15 00 17.8 -0.7**
baz=261,slow=8.2
ARCES ARCESS Array B 45.12 25 P **P 15 00 26.5 -0.4**
comp=Z,4.6nm,0.9s,mb4.3,baz=299,slow=2.5,SNR=6.0
OXF Oxford 45.16 285 *e*P **P 15 00 26.6 -0.6**
OXF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
OXF Oxford 45.16 285 *e*P **P 15 00 26.6 -0.6**
comp=Z,77nm,1.0s,mb5.5
AKASG Malin Array Be 45.81 52 P **P 15 00 31.4 -0.9**
comp=Z,6.8nm,0.9s,mb4.6,baz=273,slow=8.0,SNR=25
AKASG Malin Array Be 45.81 52 *i* P **P 15 00 31.8 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 45.81 52 *e*P **P 15 00 31.6 -0.7**
ULM Lac du Bonnet 46.04 308 P **P 15 00 33.3 -0.8**
comp=Z,7.7nm,0.9s,mb4.6,baz=89,slow=9.2,SNR=9.4
ULM Lac du Bonnet 46.04 308 *e*P **P 15 00 33.0 -1.1**
comp=Z,6.4nm,0.9s,mb4.5
MIAR Mount Ida 48.37 286 *e*P **P 15 00 51.6 -0.7**
MIAR pmax pmax
comp=Z,32nm,1.1s,mb5.3
MIAR Mount Ida 48.37 286 *e*P **P 15 00 51.6 -0.7**
comp=Z,32nm,1.1s,mb5.3
ROSC El Rosal 49.30 240 LR LR 15 18 30.9
comp=Z,78nm,18.3s,MS3.7,baz=22,slow=32
OBN Obninsk 49.59 45⇓*e*P **P 15 01 00.5 -1.2**
OBN *e* 15 02 56.6
OBN *e*S **S 15 08 07.0 -2.8**
OBN pmax pmax
comp=Z,13nm,1.0s,mb4.9
BRTR Keskin Array B 51.43 65 P **P 15 01 15.3 -0.2**
comp=Z,2.3nm,0.9s,mb4.1,baz=261,slow=4.9,SNR=13
ANN Anapa 52.50 58 *e*P **P 15 01 24.3 +0.8**
ANN pmax pmax
comp=Z,35nm,0.9s,mb5.3
SAML Samuel 53.55 218 *e*P **P 15 01 29.0 -2.3**
comp=Z,2.7nm,1.1s,mb4.1
BDFB Brasilia 54.05 198 P **P 15 01 32.9 -2.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=74,slow=9.9,SNR=3.4
YKA Yellowknife Ar 54.23 326 P **P 15 01 35.5 -0.7**
comp=Z,4.7nm,1.0s,mb4.4,baz=78,slow=7.1,SNR=8.5
YKA Yellowknife Ar 54.23 326⇑*e*P **P 15 01 36.4 +0.1**
YKA Yellowknife Ar 54.23 326 P **P 15 01 35.5 -0.7**
PHWY Pilot Hill 54.78 299 *e*P **P 15 01 40.0 -0.3**
JCT Junction City 54.81 284 *e*P **P 15 01 39.4 -1.1**

JCT pmax pmax
comp=Z,19nm,1.1s,mb5.0
JCT Junction City 54.81 284 *e*P **P 15 01 39.4 -1.0**
comp=Z,19nm,1.1s,mb5.0
EGMT Eagleton 55.40 308 ⇓P **P 15 01 44.5 -0.3**
baz=55
EDM Edmonton 55.97 314 *e*P **P 15 01 48.2 -0.6**
RLMT Red Lodge 56.05 304 *e*P **P 15 01 49.7 +0.3**
GCMT Greycliff 56.09 305 *e*P **P 15 01 50.0 +0.4**
SDCO Great Sand Dun 56.13 295 *e*P **P 15 01 50.3 +0.3**
comp=Z,3.9nm,0.9s,mb4.4
KIV Kislovodsk 56.33 57 *e*P **P 15 01 52.6 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SMCO Snowmass 56.64 297 P **P 15 01 53.3 -0.4**
comp=Z,6.5nm,1.0s,mb4.6
PDAR Pinedale Array 57.09 302 P **P 15 01 55.5 -1.3**
comp=Z,4.5nm,1.0s,mb4.5,baz=64,slow=6.8,SNR=30
YMR Madison River 57.34 304 *e*P **P 15 01 59.6 +1.0**
comp=Z,38nm,1.1s,mb5.3
FLWY Flagg Ranch 57.38 303 *e*P **P 15 01 58.5 -0.4**
comp=Z,10nm,1.0s,mb4.8
LOHW Long Hollow 57.49 303 *e*P **P 15 01 59.6 0.0**
comp=Z,8.0nm,1.1s,mb4.7
MOOW Moose Ponds 57.53 303 *e*P **P 15 01 59.7 -0.3**
comp=Z,11nm,1.4s,mb4.7
ZEI Tsey 57.59 58 *e*P **P 15 02 01.3 +1.0**
ZEI *e**PP pP 15 02 10.7 +7.2
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
QLMT Earthquake Lak 57.59 304 *e*P **P 15 02 00.8 +0.5**
IMW Indian Meadow 57.61 303 *e*P **P 15 02 00.4 0.0**
comp=Z,18nm,1.1s,mb5.0
WALA Waterton Lakes 57.66 310 *e*P **P 15 02 00.4 -0.5**
comp=Z,8.9nm,1.0s,mb4.8
REDW Red Top Meadow 57.75 303 *e*P **P 15 02 01.5 0.0**
comp=Z,26nm,1.2s,mb5.1
TPAW Teton Pass 57.77 303 *e*P **P 15 02 01.6 0.0**
comp=Z,12nm,1.0s,mb4.9
ANMO Albuquerque 57.98 292⇑*e*P **P 15 02 04.1 +1.0**
A13A Flathead Natio 58.02 310 ⇑P **P 15 02 03.4 0.0**
baz=58
DLMT Dillon 58.16 305 *e*P **P 15 02 04.3 0.0**
comp=Z,17nm,1.2s,mb4.9
B13A Whitefish 58.25 309 ⇓P **P 15 02 04.7 -0.3**
baz=58
MVCO Mesa Verde 58.53 295 *e*P **P 15 02 08.0 +1.0**
MVCO Mesa Verde 58.53 295 ⇑P **P 15 02 07.8 +0.8**
baz=58
C13A Hot Springs 58.57 308 ⇓P **P 15 02 06.9 -0.3**
baz=58
MNTX Cornudas Mount 58.57 288 *e*P **P 15 02 06.3 -1.0**
comp=Z,6.2nm,1.0s,mb4.6
A12A Yaak River Ran 58.78 310 ⇓P **P 15 02 08.3 -0.3**
baz=59
B12A Libby 58.91 310 ⇓P **P 15 02 09.4 -0.2**
baz=59
HWUT Hardware Ranch 58.91 301 *e*P **P 15 02 09.6 0.0**
comp=Z,7.5nm,0.9s,mb4.7
C12A Trout Creek 59.13 309 ⇑P **P 15 02 11.1 0.0**
baz=59
DAU Daniels Canyon 59.18 300 *e*P **P 15 02 11.8 +0.3**
A10A Northport 59.92 311 ⇓P **P 15 02 15.9 -0.7**
baz=60
NEW Newport 59.93 310 LR LR 15 28 26.1
comp=Z,90nm,18.0s,MS4.0,baz=277,slow=36
NEW Newport 59.93 310 *e*P **P 15 02 16.3 -0.4**
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 59.93 310 *e*P **P 15 02 16.3 -0.3**
comp=Z,17nm,0.9s,mb5.1
INK Inuvik 59.94 335 *e*P **P 15 02 16.2 -0.5**
INK pmax pmax
comp=Z,620nm,1.5s
INK Inuvik 59.94 335 *e*P **P 15 02 16.2 -0.5**
comp=Z,620nm,1.5s
B10A Chitwood Farm, 59.98 310 ⇑P **P 15 02 16.8 -0.2**
baz=60
HLID Hailey 60.06 304 ⇑P **P 15 02 17.9 +0.4**
baz=60
DUG Dugway 60.35 300 ⇑P **P 15 02 19.6 +0.1**
baz=60,SNR=5.4
B09A Rice 60.50 310 ⇓P **P 15 02 20.0 -0.6**
baz=60
A09A Danville 60.55 311 ⇑P **P 15 02 20.2 -0.7**
baz=60
MSU Marysvale 60.62 298 *e*P **P 15 02 22.0 +0.6**
C09A Chrisman Ranch 60.83 310 ⇓P **P 15 02 22.1 -0.7**
baz=61
F10A Beach Ranch, E 60.91 307 ⇑P **P 15 02 23.1 -0.2**
baz=61
N13A Wendover, West 61.04 301 ⇑P **P 15 02 23.9 -0.3**
baz=61
ARU Arti 61.12 39⇑*i*P **P 15 02 24.1 -0.7**
ARU *e*PPP 15 06 06.4
ARU *e*S **S 15 10 39.6 -4.4**
ARU *e*SS SS 15 14 37.1 -6.7
ARU pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
ARU Arti 61.12 39 *e*P **P 15 02 25.1 +0.3**
comp=Z,13nm,1.6s,mb4.8
D09A Jones Farm, Ri 61.15 309 ⇓P **P 15 02 24.4 -0.6**
baz=61
E09A Wood Farm, Sta 61.27 308 ⇑P **P 15 02 25.7 -0.1**
baz=61
M12A Wells 61.29 302 ⇑P **P 15 02 26.1 +0.2**
baz=61,SNR=12
C08A Higginbotham F 61.31 310 ⇑P **P 15 02 25.0 -1.0**
baz=61
WUAZ Wupatki 61.35 295 *e*P **P 15 02 27.1 +0.8**
comp=Z,11nm,1.2s,mb4.8
WUAZ Wupatki 61.35 295 ⇓P **P 15 02 26.9 +0.6**
baz=61
D08A Wollman Farm, 61.53 309 ⇑P **P 15 02 27.3 -0.2**
baz=62
N12A Clover Valley, 61.61 301 ⇑P **P 15 02 28.1 +0.1**
baz=62
O12A Currie 61.66 301 ⇓P **P 15 02 28.8 +0.4**
baz=62
B07A Winthrop 61.69 311 ⇓P **P 15 02 27.7 -0.9**
baz=62
H09A Durkee 61.74 306 ⇑P **P 15 02 28.9 0.0**
baz=62
M11A Holland Ranch, 61.88 302 ⇑P **P 15 02 31.1 +1.2**
baz=62
F08A Pendleton 61.97 308 ⇑P **P 15 02 29.8 -0.7**
baz=62
C07A Waterville 61.97 310 ⇑P **P 15 02 30.2 -0.4**
baz=62
I09A Lost Marbles R 62.08 306 P **P 15 02 31.7 +0.5**
baz=62,SNR=6.0
P12A McGill 62.12 300 ⇑P **P 15 02 32.0 +0.5**
baz=62
W15A Williams 62.16 295 ⇑P **P 15 02 33.1 +1.4**
baz=62
Q12A Willow Creek R 62.26 299 ⇓P **P 15 02 33.2 +0.7**
baz=62
LPAZ La Paz 62.29 218 P **P 15 02 31.0 -1.6**
comp=Z,1.9nm,0.9s,mb4.2,baz=1.3,slow=7.6,SNR=7.8
LPAZ La Paz 62.29 218 *e*P **P 15 02 31.5 -1.1**
LPAZ pmax pmax
comp=Z,7.0nm,1.3s
LPAZ La Paz 62.29 218 *e*P **P 15 02 31.5 -1.1**
comp=Z,7.4nm,1.3s,mb4.7
G08A Pilot Rock 62.30 307 ⇑P **P 15 02 32.3 -0.4**
baz=62
E07A Sunnyside 62.32 309 ⇓P **P 15 02 32.2 -0.7**
baz=62
M10A I.L. Ranch, Tu 62.34 303 ⇓P **P 15 02 32.9 0.0**
baz=62
O11A Cowboy Ranch, 62.35 301 ⇑P **P 15 02 33.5 +0.4**
baz=62,SNR=6.0
J09A Fry Pan Ranch, 62.36 305 ⇓P **P 15 02 34.1 +1.0**
baz=62,SNR=6.3
H08A Prairie City 62.45 306 ⇓P **P 15 02 33.9 +0.2**
baz=62
X15A Humboldt 62.45 294 ⇓P **P 15 02 35.0 +1.3**
baz=62
B06A Marblemount 62.48 311 ⇓P **P 15 02 34.2 +0.2**
baz=62
K09A Rome 62.62 304 ⇑P **P 15 02 35.2 +0.3**
baz=62
I08A Drewsey 62.65 306 ⇑P **P 15 02 35.7 +0.6**
baz=63
F07A Phinny Hill Vi 62.66 308 ⇑P **P 15 02 35.3 +0.2**
baz=63
D06A Cle Elum 62.66 310 ⇓P **P 15 02 34.7 -0.5**
baz=63
W14A Seligman 62.73 295 ⇑P **P 15 02 37.0 +1.4**
baz=63,SNR=7.4
G07A Ruggs Ranch, H 62.76 308 ⇑P **P 15 02 35.5 -0.4**
baz=63
J08A Circle Bar Ran 62.83 305 ⇓P **P 15 02 36.6 +0.4**
baz=63
L09A Wilkinson Ranc 62.88 304 ⇑P **P 15 02 37.0 +0.4**
baz=63
Q11A Duckwater 62.92 300 ⇑P **P 15 02 37.0 +0.2**
baz=63
X14A Yava 62.94 294 ⇓P **P 15 02 37.7 +0.8**
baz=63
H07A Lands Inn, Kim 62.99 307 P **P 15 02 37.5 +0.1**
baz=63,SNR=5.6
M09A Marrel Ranch, 63.00 303 ⇑P **P 15 02 37.7 +0.3**
baz=63
E06A Yakima 63.03 309 P **P 15 02 37.5 -0.1**
baz=63,SNR=7.2
K08A Mann Creek Ran 63.11 305 ⇑P **P 15 02 39.0 +0.9**
baz=63
I07A Izee 63.18 306 ⇓P **P 15 02 40.1 +1.6**
baz=63
U12A Valley of Fire 63.23 297 ⇑P **P 15 02 39.6 +0.7**
baz=63
F06A Goldendale 63.25 308 ⇑P **P 15 02 39.9 +0.8**
baz=63
L08A Fields 63.26 304 ⇑P **P 15 02 39.7 +0.6**
baz=63,SNR=6.4
Y14A Wickenburg 63.27 294 ⇑P **P 15 02 40.0 +0.8**
baz=63
N09A Rock Creek Ran 63.30 302 ⇓P **P 15 02 40.0 +0.6**
baz=63
J07A Hines 63.37 306 ⇓P **P 15 02 40.3 +0.5**
baz=63
W13A Hualapai Mount 63.37 295 ⇑P **P 15 02 40.6 +0.7**
baz=63
O09A Fish Creek Ran 63.38 302 ⇓P **P 15 02 40.0 +0.1**
baz=63,SNR=5.1
G06A Carlson Farm, 63.39 308 ⇑P **P 15 02 40.4 +0.4**
baz=63
H06A Lindquist Farm 63.42 307 ⇑P **P 15 02 40.6 +0.4**
baz=63
X13A Yucca 63.56 295 ⇑P **P 15 02 41.9 +0.7**
baz=64,SNR=7.6
M08A Happy Creek Ra 63.61 303 ⇑P **P 15 02 41.9 +0.4**
baz=64
R10A Warm Springs 63.62 299 ⇑P **P 15 02 42.0 +0.5**
baz=64
I06A Prineville 63.70 306 ⇑P **P 15 02 42.7 +0.7**
baz=64
N08A GE Springer Mi 63.75 302 ⇓P **P 15 02 42.8 +0.4**
baz=64
V12A Nelson 63.78 296 ⇑P **P 15 02 42.8 +0.3**
baz=64
G05A Wamic 63.82 308 ⇑P **P 15 02 42.6 -0.2**
baz=64
B04A Port Angeles 63.90 312 ⇑P **P 15 02 43.1 -0.2**
baz=64
PDMCI Parker Dam,Lak 63.93 294 ⇑P **P 15 02 44.3 +0.7**
baz=64
Y13A Salome 63.93 294 ⇓P **P 15 02 44.3 +0.7**
baz=64
J06A Christmas Vall 63.97 306 ⇑P **P 15 02 44.0 +0.2**
baz=64
L07A Adell 64.00 304 ⇑P **P 15 02 44.4 +0.4**
baz=64,SNR=6.6
DAWY Dawson 64.02 332 *e*P **P 15 02 45.1 +0.9**
M07A Soldier Meadow 64.17 303 ⇑P **P 15 02 45.2 +0.1**
baz=64
R09A Tonopah 64.19 300 ⇓P **P 15 02 45.2 -0.1**
baz=64
I05A Bend 64.28 307 ⇑P **P 15 02 46.7 +0.9**
baz=64
N07B Gerlach 64.32 303 ⇑P **P 15 02 46.5 +0.4**
baz=64
Y12C Blythe 64.47 294 ⇓P **P 15 02 47.7 +0.6**
baz=64
D03A Wishkah Elem. 64.49 311 ⇑P **P 15 02 47.6 +0.4**
baz=64
Q08A Gabbs 64.49 301 ⇓P **P 15 02 47.3 +0.1**
baz=64
S09A Goldfield 64.53 299 ⇑P **P 15 02 47.3 -0.2**
baz=64
O07A Toulon 64.54 302 ⇑P **P 15 02 47.6 +0.1**
baz=64
H04A Detroit Lake 64.62 308 ⇓P **P 15 02 47.1 -0.9**
baz=64
E03A Lebam 64.62 310 ⇑P **P 15 02 47.9 -0.1**
baz=64
J05A Fort Rock 64.66 306 ⇓P **P 15 02 48.9 +0.6**
baz=65,SNR=8.0
MOD Modoc 64.69 304 *e*P **P 15 02 48.3 -0.2**
comp=Z,3.9nm,1.0s,mb4.4
MOD Modoc 64.69 304 ⇓P **P 15 02 49.1 +0.6**
baz=65
K05A Summer Lake 64.69 305 P **P 15 02 49.5 +0.9**
baz=65,SNR=9.2
IRM Iron Mountain 64.73 295 ⇑P **P 15 02 49.2 +0.4**
baz=65
R08A Mina 64.85 300 P **P 15 02 49.7 +0.1**
baz=65,SNR=6.8
FURC Furnace Creek, 64.86 298 ⇓P **P 15 02 49.4 -0.3**
baz=65
F03A Seaside 64.91 310 ⇑P **P 15 02 49.9 0.0**
baz=65
N06A Buffalo Meadow 64.91 303 ⇓P **P 15 02 49.9 0.0**
baz=65,SNR=6.8
L05A Lakeview 64.97 305 ⇑P **P 15 02 50.5 +0.2**
baz=65,SNR=9.0
GRAC Grapevine Rang 64.97 298 ⇓P **P 15 02 50.7 +0.3**
baz=65
GLA Glamis 65.03 294 ⇑P **P 15 02 51.2 +0.5**
baz=65
M06C Likely Place G 65.13 304 ⇑P **P 15 02 51.9 +0.5**
baz=65
O06A Flanigan 65.18 303 ⇑P **P 15 02 52.1 +0.4**
baz=65
BC3 Big Chuckw Mtn 65.19 294 ⇑P **P 15 02 52.0 +0.2**
baz=65
HEC Hector,Ludlow 65.27 296 ⇑P **P 15 02 52.5 +0.2**
baz=65
S08C White Mtn Res 65.30 299 ⇓P **P 15 02 52.4 0.0**
baz=65
GSC Goldstone 65.38 297 ⇓P **P 15 02 53.5 +0.5**
baz=65
BELC Belle Mtn. 65.42 295 ⇑P **P 15 02 53.5 +0.2**
baz=65
M05C Lookout 65.50 304 ⇑P **P 15 02 54.1 +0.3**
baz=65
MPMC Manual Prospec 65.51 298 ⇑P **P 15 02 53.4 -0.4**
baz=65
WCN Washoe City 65.54 302 ⇑P **P 15 02 54.1 +0.1**
baz=66
ELFS Eagle Lake Fie 65.57 303 ⇓P **P 15 02 54.4 +0.2**
baz=66
BEKR Beckwourth 65.68 302 ⇓P **P 15 02 54.5 -0.4**
baz=66,SNR=7.4
R06C Coleville 65.70 301 ⇑P **P 15 02 55.5 +0.4**
baz=66
CWC Cottonwood Cre 65.74 298 ⇑P **P 15 02 55.8 +0.4**
baz=66
M04C Macdoel 65.76 305 ⇑P **P 15 02 55.6 +0.2**
baz=66
HATC Hat Creek Radi 65.97 304 ⇓P **P 15 02 57.0 +0.2**
baz=66
P05C Yuba Gap, Truc 66.12 302 ⇑P **P 15 02 58.1 +0.3**
baz=66
S06C San Francisco 66.28 300 P **P 15 02 59.3 +0.4**
baz=66
HELL Mitchell Peak, 66.29 299 ⇑P **P 15 02 59.2 +0.3**
baz=66
YBH Yreka Blue Hor 66.35 305 ⇓P **P 15 02 57.1 -2.2**
baz=66
K02A Glendale 66.36 307 ⇑P **P 15 02 58.7 -0.6**
baz=66
ISA Isabella 66.40 298 ⇓P **P 15 02 59.0 -0.5**
baz=66
EDW2 Edwards Air Fo 66.44 297 ⇑P **P 15 02 60.0 +0.2**
baz=66
ORV Oroville 66.60 303 ⇓P **P 15 03 00.3 -0.6**
baz=66
OHCM Honcut 66.70 302 *e*P **P 15 03 01.3 -0.2**
O02C Red Bluff 67.16 304 ⇑P **P 15 03 02.8 -1.7**
baz=67
N02C Big Bar 67.19 305 ⇑P **P 15 03 03.5 -1.1**
baz=67
M01C Crescent City 67.22 306 ⇑P **P 15 03 03.4 -1.4**
baz=67
S04C Ingram Canyon, 67.49 301 ⇓P **P 15 03 05.9 -0.6**
baz=67
MNRC McLaughlin Nat 67.57 302 ⇑P **P 15 03 06.0 -1.0**
baz=68
JCC Jacoby Creek 67.67 305 ⇑P **P 15 03 07.2 -0.4**
baz=68
PACP Pacheco Peak 67.71 300 ⇓P **P 15 03 07.5 -0.4**
baz=68
P01C Double 8 Ranch 67.88 303 ⇑P **P 15 03 09.4 +0.5**
baz=68
HOPS Hopland 67.94 303 *e*P **P 15 03 10.3 +1.0**
comp=Z,13nm,1.1s,mb4.9
HOPS Hopland 67.94 303 ⇑P **P 15 03 09.9 +0.6**
baz=68
NVS Novosibirsk 73.70 33 *e*P **P 15 03 43.7 -0.7**
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,5.0nm,1.3s
BILL Bilibino 74.40 353⇑*e*P **P 15 03 46.7 -1.8**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BILL MLR MLR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 75.12 103 P **P 15 03 53.4 +0.7**
comp=Z,2.4nm,0.9s,mb4.1,baz=46,slow=19,SNR=5.7
KMBO Kilima Mbogo 75.12 103⇑*e*P **P 15 03 55.0 +2.3**
AAK Ala-Archa 77.11 46 *e*P **P 15 04 04.2 +0.3**
AAK pmax pmax
comp=Z,15nm,1.7s,mb4.7
AAK Ala-Archa 77.11 46 *e*P **P 15 04 04.2 +0.3**
comp=Z,15nm,1.7s,mb4.7
MKAR Makanchi Array 78.65 39 P **P 15 04 12.2 -0.3**
comp=Z,2.9nm,0.9s,mb4.2,baz=308,slow=6.0,SNR=15
MKAR Makanchi Array 78.65 39⇑*e*P **P 15 04 12.6 +0.1**
YAK Yakutsk 80.49 8⇑*e*P **P 15 04 22.1 -0.4**
YAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BOD Bodaibo 81.74 17 *e*P **P 15 04 28.1 -1.1**
BOD pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
WMQ Urumqi 83.45 39 *e*P **P 15 04 38.7 +0.6**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.9
WMQ AMB AMB
comp=Z,102nm,4.7s
ZAK Zakamensk 85.04 26 *e*P **P 15 04 46.0 -0.2**
BOSA Boshof 85.15 131 P **P 15 04 45.9 -0.8**
comp=Z,6.2nm,1.1s,mb4.7,baz=272,slow=3.6,SNR=4.1
BOSA Boshof 85.15 131 P **P 15 04 45.9 -0.8**
HHC Hu-ho-hao-te 96.19 26 *e*P **P 15 05 37.2 -1.4**
HHC XP sP 15 05 45.4 +2.2
HHC AMB AMB
comp=Z,15nm,0.4s
YSS Yuzh-Sakhalins 96.49 3 *e*P **P 15 05 38.1 -1.9**
YSS pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
LZH Lanzhou 97.19 34 *e*P **P 15 05 43.0 -0.2**
LZH AMB AMB
comp=Z,17nm,1.0s,mb5.4
LZH Lanzhou 97.19 34 *e*P **P 15 05 43.0 -0.2**
LZH pP pP 15 05 46.0 -0.5
LZH sP sP 15 05 49.0 +1.3
CN2 Changchun 97.41 15 *e*P **P 15 05 43.8 -0.4**
MDJ Mudanjiang 97.42 12 P **P 15 05 42.9 -1.3**
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.9
MDJ AMB AMB
comp=Z,34nm,4.7s
CD2 Chengdu 101.45 37 *e*P Pdif 15 06 01.1 -1.1
KMI Kunming 105.68 41 P PKiKP 15 10 34.6 +0.6
ASAR Alice Springs 162.79 44 PKPab PKPab 15 12 59.9 -1.7
comp=Z,0.8nm,0.9s,baz=296,slow=4.9,SNR=4.4

ATH ***02*** *14:56:05.9,3890N×21.16E,h20km±2km,MD3.3/7*
ISCJB ***02*** *14:56:06.9±0.5,3889N±003×21.18E±004,h17km±8km,*
Error ellipse: s-maj=5.8km s-min=4.8km az=90.9
NEIC ***02*** *14:56:06.0,3890N×21.17E,h19km,MD3.3(ATH),After ATH.*
THE ***02*** *14:56:06.7,3891N×21.17E,h7km,ML3.3*
CSEM ***02*** *14:56:06.6±0.1,3892N×21.19E,h5km,ML3.3,Error ellipse: s-maj=2.1km s-min=1.7km az=158.0*

ISC 02 14:56:06.6±0.5,3889N±003×2117E±004,h10km±4km,n20,
σ0°73/28,3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.45**	**246**	*e*Pg	**Pg**	**14 56 15.2**	**-0.1**
LKD				*e*Sg	**Sg**	**14 56 22.2**	**+1.0**
EVR	**Evrytania**	**0.50**	**87**	*e*PN	**Pg**	**14 56 15.8**	**-0.5**
EVR				*e*SN	**Sg**	**14 56 23.8**	**+0.9**
JAN	**Janina**	**0.80**	**342**	⇓*i*PN	**Pg**	**14 56 21.5**	**-0.5**
JAN	**Janina**	**0.80**	**342**	⇓*i*Pn	**Pg**	**14 56 21.6**	**-0.4**
VLS	**Valsamata**	**0.85**	**213**	*e*PB	**Pg**	**14 56 21.5**	**-1.4**
VLS				*e*SN	**Sg**	**14 56 35.1**	**+1.1**
RLS	**Riolos of Patr**	**0.87**	**164**	*e*PN	**Pg**	**14 56 23.0**	**-0.3**
RLS	**Riolos of Patr**	**0.87**	**164**	*e*Pn	**Pn**	**14 56 23.1**	**-1.7**
MEV	**Metsovon**	**0.89**	**3**	*e*Pg	**Pg**	**14 56 23.0**	**-0.7**
MEV				*e*Sg	**Sg**	**14 56 35.9**	**+0.5**
AGG	**Agios Georgios**	**0.91**	**82**	*e*Pg	**Pg**	**14 56 23.7**	**-0.5**
AGG				*e*Sg	**Sg**	**14 56 37.3**	**+1.2**
THL	**Klokotos Trika**	**0.94**	**44**	⇓*i*PN	**Pg**	**14 56 23.7**	**-0.9**
KEK	**Kerkira**	**1.34**	**308**	*e*PN	**Pn**	**14 56 31.6**	**+0.3**
KEK				*e*SN	**Sn**	**14 56 49.5**	**+0.3**
KEK	**Kerkira**	**1.34**	**308**	*e*Pn	**Pn**	**14 56 31.9**	**+0.6**
KEK				*e*Sn	**Sn**	**14 56 49.5**	**+0.3**
LKR	**Lokris**	**1.45**	**99**	*e*PN	**Pn**	**14 56 32.9**	**+0.1**
LIT	**Litokhoron**	**1.58**	**40**	*e*Pg	**Pn**	**14 56 34.3**	**-0.3**
LIT				*e*Sg	**Sn**	**14 56 55.5**	**+0.5**
XOR	**Xorichti**	**1.64**	**73**	*e*Pb	**Pn**	**14 56 35.4**	**0.0**
NEO	**Neokhori**	**1.65**	**75**	*e*PN	**Pn**	**14 56 36.1**	**+0.6**
ITM	**Ithomi**	**1.81**	**161**	*e*PN	**Pn**	**14 56 38.6**	**+0.8**
ITM	**Ithomi**	**1.81**	**161**	*e*Pn	**Pb**	**14 56 39.6**	**-0.2**
AOS	**Alonnisos**	**2.13**	**82**	*e*Pn	**Pn**	**14 56 41.8**	**-0.3**
OUR	**Ouranopolis**	**2.60**	**56**	*e*Pn	**Pn**	**14 56 48.5**	**-0.2**

MOS 02 14:57:02.1±1.0,4287N×4768E,h13km,mb3.6/1,1D,
Error ellipse: s-maj=21.1km s-min=19.9km az=123.2,
Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.16**	**305**	*i* PG	Pg	14 57 06.9	+1.0
MAK				*e*		14 57 10.2	
MAK				pmax	pmax		
	comp=Z,3.0nm,0.1s						
MAK				smax			
	comp=E,22nm,0.2s						
MAK				smax			
	comp=N,25nm,0.3s						
MNSR	**Manas**	**0.17**	**170**	⇓*i*PG	Pg	14 57 05.6	-0.4
MNSR				pmax	pmax		
	comp=Z,258nm,0.2s						
KRNR	**Karanay**	**0.57**	**266**	*e*PG	Pg	14 57 13.6	+0.3
KRNR				*e*S	Sg	14 57 21.2	+0.4
KRNR				pmax	pmax		
	comp=Z,30nm,0.2s						
DBC	**Dubki**	**0.64**	**284**	*e*PG	Pg	14 57 14.8	+0.2
DBC				*i* S	Sg	14 57 24.0	+0.9
UNCR	**Uncukul**	**0.67**	**257**	*e*PG	Pg	14 57 15.8	+0.7
UNCR				*e*S	Sg	14 57 25.8	+1.8
KMKR	**Kumukh**	**0.85**	**210**	*i* PG	Pg	14 57 18.6	0.0
KMKR				*i* S	Sg	14 57 31.6	+1.8
KMKR				pmax	pmax		
	comp=Z,25nm,0.2s						

ISCJB ***02*** *15:04:15.6±2.9,44N±02×1232E±04,h570km±43km, mb3.9/9,Error ellipse: s-maj=62.1km s-min=14.7km az=137.0*
IDC ***02*** *15:04:16.1±2.0,448N×12330E,h553km±23km,mb3.3/8, mb1 3.4/8,mb1mx3.2/18,mbtmp4.2/8,Error ellipse: s-maj=76.7km s-min=9.9km az=68.0*
NEIC ***02*** *15:04:16.2±2.9,451N×12334E,h560km±39km,mb4.0/4, Error ellipse: s-maj=43.6km s-min=14.2km az=70.0*

ISC 02 15:04:17.1±3.0,45N±02×1233E±04,h572km±41km,n15,
σ0°66/15,mb3.9/9,Celebes Sea

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

KAKA Kakadu 19.36 152 *eP* **P 15 08 05.3 -0.8**
18nm,0.6s
FITZ Fitzroy Crossi 22.58 174 *eP* **P 15 08 35.2 +0.1**
3.8nm,0.8s,mb4.1
FITZ Fitzroy Crossi 22.58 174 P **P 15 08 34.9 -0.2**
1.6nm,0.5s,mb4.0,baz=11,slow=7.8,SNR=12
MBWA Marble Bar 25.75 188 *eP* **P 15 09 02.8 -0.3**
3.5nm,0.3s,mb4.4,baz=334,slow=10,SNR=37
AS31 Alice Springs 29.84 160 *eP* **P 15 09 39.0 +0.2**
ASAR Alice Springs 29.84 160 P **P 15 09 39.0 +0.2**
2.8nm,0.4s,mb4.3,baz=337,slow=7.5,SNR=156
ASAR S **S 15 13 56.5 +0.3**
0.5nm,0.8s,baz=352,slow=20,SNR=4.0
ASAR ScP ScP 15 15 15.9 +4.2
0.4nm,0.5s,baz=337,slow=3.2,SNR=8.2
STKA Stephens Creek 40.15 156 *eP* **P 15 11 05.6 +1.3**
3.6nm,0.8s,mb4.0
STKA Stephens Creek 40.15 156 P **P 15 11 05.7 +1.4**
3.3nm,0.6s,mb4.0,baz=339,slow=7.7,SNR=13
SONM Songino Array 45.55 344 P **P 15 11 46.6 +0.2**
0.7nm,0.8s,mb3.3,baz=155,slow=7.6,SNR=5.6
MKAR Makanchi Array 55.01 327 P **P 15 12 56.1 +0.8**
1.1nm,0.3s,mb3.6,baz=118,slow=7.7,SNR=37
MKAR PcP PcP 15 13 49.2 +1.1
1.0nm,0.6s,baz=137,slow=4.1,SNR=9.9
ZRNK Zerenda 65.55 327 *eP* **P 15 14 05.1 +0.4**
2.3nm,0.5s,mb3.9
ARCES ARCESS Array B 88.55 340 P **P 15 16 08.8 -0.6**
3.2nm,1.1s,mb4.1,baz=78,slow=6.4,SNR=5.1
FINES FINESS Array B 89.54 332 P **P 15 16 12.9 -1.1**
0.9nm,0.5s,mb3.8,baz=59,slow=7.4,SNR=6.5
TORD Torodi Ar. Bea 119.45 288 PKP PKPdf 15 22 04.3 +2.2
0.2nm,0.4s,baz=88,slow=1.6,SNR=5.4

BJI ***02*** *15:09:32.6, 12.82N×144.43E, h14km, mB5.2, mb4.8, Ms5.2, Msz5.0*
IDC ***02*** *15:09:33.0±0.5, 12.77N×144.07E, h0km, mb4.5/25, mb1 4.6/25, mb1mx4.5/30, mbtmp4.5/25, MS4.9/23, Ms1 4.9/23, ms1mx4.8/33, Error ellipse: s-maj=18.9km s-min=10.9km az=99.0*
GCMT ***02*** *15:09:34.4±0.1, 12.80N×144.08E, h12km, MW5.4/104, Moment Tensor Solution. s78,c137; s104,c203; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.09±.02; Mθθ0.71±.02; Mϕϕ-0.80±.03; Mrθ-0.04±.05; Mrϕ-1.48±.02; Mθϕ-0.17±.05; Best double couple: M0 1.67000×10^17 NP1:ϕs77.00000°, δ85.00000°, λ-178.00000°. NP2:ϕs346.00000°, δ88.00000°, λ-5.00000°. Principal axes: T 1.6180, Plg2.0000°, Azm32.0000°; N 0.1040, Plg84.0000°, Azm145.0000°; P -1.7220, Plg5.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *15:09:34.4±0.2, 12.76N×144.10E, h10km, mb5.2/33, MS5.1/7 Error ellipse: s-maj=8.8km s-min=5.9km az=109.0*
NEIC Felt [III] at Barrigada and Santa Rita; [II] at Yigo. Felt at Hagatna.
ISCJB ***02*** *15:09:34.4±0.2, 12.68N±0.03×144.07E±0.04, h16km, mb4.9/81, MS5.0/51, Error ellipse: s-maj=5.6km s-min=4.9km az=143.9*
MOS ***02*** *15:09:36.9±1.5, 12.78N×144.00E, h33km, mb5.3/21, MS5.0/8, Error ellipse: s-maj=11.7km s-min=7.5km az=96.7*

ISC 02 15:09:36.4±0.2, 12.72N±0.03×144.12E±0.04, h17km, h17km±3.0km; pP-P, n167, σ1s25/164, mb4.9/81, MS5.0/51, 2C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.14**	**40**	Pn		**Pn**	**15 09 54.2**	**-3.3**
	10μm,0.3s,baz=200,slow=7.8,SNR=853							
GUMO				Sn		**Sn**	**15 10 08.1**	**-4.6**
	6μm,0.3s,baz=54,slow=20,SNR=55							
GUMO	**Guam**	**1.14**	**40**	*e*Pn		**Pn**	**15 09 54.0**	**-3.5**
GUMO				*e*Sn		**Sn**	**15 10 06.3**	**-6.4**
JOW	**Kunigami**	**20.45**	**316**	P		**P**	**15 14 12.9**	**0.0**
	60nm,1.1s,baz=137,slow=19,SNR=2.9							
JOW				LR		LR	15 20 18.5	
	comp=Z,5μm,21.1s,MS4.8,baz=328,slow=32							
JHJ	**Hachijo jima 2**	**20.69**	**350**	LR		LR	15 20 59.5	
	comp=Z,2μm,18.5s,MS4.6,baz=354,slow=33							
PMG	**Port Moresby**	**22.18**	**172**	P		**P**	**15 14 30.5**	**-1.1**
	12nm,0.9s,mb4.3,baz=302,slow=13,SNR=3.2							
PMG				LR		LR	15 21 47.7	
	comp=Z,3μm,19.6s,MS4.7,baz=358,slow=33							
PMG	**Port Moresby**	**22.18**	**172**	*e*P		**P**	**15 14 30.9**	**-0.7**
PMG				pmax		pmax		
	comp=Z,220nm,1.5s							
PMG	**Port Moresby**	**22.18**	**172**	*e*P		**P**	**15 14 30.9**	**-0.7**
	comp=Z,220nm,1.5s,mb5.4							
MJAR	**Matsushiro Arr**	**24.31**	**348**	P		**P**	**15 14 50.8**	**-2.1**
	comp=Z,29nm,1.1s,mb4.6,baz=169,slow=7.9,SNR=14							
MJAR				LR		LR	15 23 51.7	
	comp=Z,4μm,18.4s,MS4.9,baz=170,slow=35							
MAT	**Matsushiro**	**24.31**	**348**	P		**P**	**15 14 50.6**	**-2.4**
MAT				S		**S**	**15 19 09.0**	**-2.3**
YHNB	**Yeheng**	**24.56**	**302**	P		**P**	**15 14 55.6**	**+0.4**
QZH	**Quanzhou**	**26.99**	**300**	*e*P		**P**	**15 15 17.8**	**+0.6**
QZH				S		**S**	**15 19 54.0**	**+0.2**
QZH				LR		LR		
	comp=N,5μm,16.4s,MS5.5							
QZH				LR		LR		
	comp=E,13μm,21.4s,MS5.5							
QZH				LR		LR		
	comp=Z,8μm,20.2s,MS5.3							
HNR	**Honiara**	**27.04**	**144**	LR		LR	15 25 09.1	
	comp=Z,3μm,20.4s,MS4.8,baz=358,slow=34							
KAKA	**Kakadu**	**27.79**	**205**	*e*P		**P**	**15 15 23.5**	**-0.9**
	comp=Z,19nm,0.8s,mb4.8							
SSE	**Sheshan**	**27.95**	**315**	P		**P**	**15 15 25.4**	**-0.5**
SSE				AP		pP	15 15 28.4	-2.8
SSE				S		**S**	**15 20 10.2**	**+1.1**
SSE				AMB		AMB		
	comp=Z,42nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,303nm,6.2s							
SSE				LR		LR		
	comp=N,1μm,21.8s,MS4.6							
SSE				LR		LR		
	comp=E,1μm,21.8s,MS4.6							
SSE				LR		LR		
	comp=Z,2μm,25.0s,MS4.7							
NJ2	**Nanjing**	**30.13**	**314**	*e*P		**P**	**15 15 46.9**	**+1.7**
NJ2				AP		pP	15 15 55.4	+4.9
NJ2				XP		sP	15 16 00.2	+7.5
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,340nm,11.7s							
NJ2				LR		LR		
	comp=N,3μm,12.6s,MS5.2							
NJ2				LR		LR		
	comp=E,2μm,14.0s,MS5.2							
NJ2				LR		LR		
	comp=Z,12μm,16.8s,MS5.6							
ASAJ	**Asahikawa**	**31.32**	**358**	P		**P**	**15 15 53.3**	**-2.4**
	comp=Z,4.3nm,0.7s,mb4.4,baz=217,slow=15,SNR=1.7							
VLA	**Vladivostok**	**32.09**	**343**	*e*P		**P**	**15 16 05.0**	**+2.5**
VLA				*e*			15 17 06.0	
VLA				*e*S		**S**	**15 21 18.8**	**+4.9**
VLA				pmax		pmax		
	comp=Z,14nm,1.3s,mb4.6							
CTA	**Charters Tower**	**32.66**	**176**	*e*P		**P**	**15 16 07.7**	**+0.2**
	comp=Z,10nm,1.0s,mb4.7							
CTA	**Charters Tower**	**32.66**	**176**	P		**P**	**15 16 07.8**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.6,baz=215,slow=1.0,SNR=4.0							
CTA	**Charters Tower**	**32.66**	**176**	*e*P		**P**	**15 16 07.7**	**+0.2**
CTA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
WHN	**Wuhan**	**32.72**	**308**	*e*P		**P**	**15 16 09.3**	**+1.3**
WHN				S		**S**	**15 21 27.0**	**+3.3**
WHN				LR		LR		
	comp=Z,8μm,23.1s,MS5.4							
DL2	**Dalian**	**32.83**	**327**	P		**P**	**15 16 09.3**	**+0.3**
DL2				AMB		AMB		
	comp=Z,30nm,1.1s,mb5.1							
DL2				AMB		AMB		
	comp=Z,140nm,5.6s							
DL2				LR		LR		
	comp=N,480nm,13.3s,MS4.6							
DL2				LR		LR		
	comp=E,720nm,14.5s,MS4.6							
DL2				LR		LR		
	comp=Z,800nm,16.8s,MS4.5							
QIZ	**Qiongzhong**	**33.52**	**285**	P		**P**	**15 16 13.2**	**-1.8**
QIZ				PP		PP	15 17 25.1	-5.8
QIZ				S		**S**	**15 21 35.9**	**-0.2**
QIZ				AMB		AMB		
	comp=Z,43nm,2.0s,mb5.0							
WRAB	**Tennant Creek**	**33.84**	**197**	P		**P**	**15 16 18.5**	**+0.8**
	comp=Z,240nm,1.5s,mb5.9,SNR=9.9							
WRAB	**Tennant Creek**	**33.84**	**197**	P		**P**	**15 16 18.3**	**+0.6**
WRA	**Warramunga Arr**	**33.85**	**197**	P		**P**	**15 16 18.3**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=22,slow=9.4,SNR=26							
WRA				LR		LR	15 30 46.9	
	comp=Z,2μm,18.1s,MS5.0,baz=25,slow=38							
SNY	**Shenyang**	**34.08**	**332**	P		**P**	**15 16 20.5**	**+0.6**
SNY				AMB		AMB		
	comp=Z,8.0nm,0.5s,mb4.9							
SNY				AMB		AMB		
	comp=Z,271nm,5.8s							
SNY				LR		LR		
	comp=N,2μm,16.7s,MS5.0							
SNY				LR		LR		
	comp=E,1μm,17.8s,MS5.0							
SNY				LR		LR		
	comp=Z,2μm,17.8s,MS4.9							
MDJ	**Mudanjiang**	**34.14**	**341**	P		**P**	**15 16 19.8**	**-0.6**
MDJ				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,108nm,5.7s							
MDJ				LR		LR		
	comp=N,1μm,26.9s,MS4.9							
MDJ				LR		LR		
	comp=E,3μm,28.2s,MS4.9							
MDJ				LR		LR		
	comp=Z,3μm,17.5s							
YSS	**Yuzh-Sakhalins**	**34.15**	**358**	*i* P		**P**	**15 16 21.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**34.15**	**358**	*e*P		**P**	**15 16 21.0**	**+0.5**
CN2	**Changchun**	**34.90**	**336**	*e*P		**P**	**15 16 28.0**	**+1.1**
CN2				*e*XP		sP	15 16 35.0	+0.6
CN2				*e*S		**S**	**15 21 58.6**	**+1.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,2μm,18.0s,MS4.9							
CN2				LR		LR		
	comp=E,1μm,18.0s,MS4.9							
CN2				LR		LR		
	comp=Z,2μm,19.0s,MS4.8							
KSM	**Kuching**	**35.30**	**254**	P		**P**	**15 16 29.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**35.64**	**211**	*e*P		**P**	**15 16 32.7**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9							
FITZ				*e*S		**S**	**15 22 09.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**35.64**	**211**	P		**P**	**15 16 32.8**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.4,baz=64,slow=5.4,SNR=6.2							
FITZ				LR		LR	15 29 30.1	
	comp=Z,847nm,20.6s,MS4.5,baz=38,slow=34							
BJT	**Baijiatuau**	**36.67**	**323**	*e*P		**P**	**15 16 41.0**	**-1.2**
BJT				pmax		pmax		
	comp=Z,71nm,1.1s							
BJT				MLR		MLR		
	comp=Z,3μm,22.0s							
BJT	**Baijiatuau**	**36.67**	**323**	*e*P		**P**	**15 16 41.0**	**-1.2**
	comp=Z,71nm,1.1s,mb5.4							
BJT				LR		LR		
	comp=Z,3μm,22.0s,MS5.1							
BJI	**Beijing**	**36.68**	**323**	P		**P**	**15 16 41.4**	**-0.9**
BJI				AMB		AMB		
	comp=Z,14nm,1.5s,mb4.6							
BJI				AMB		AMB		
	comp=Z,413nm,5.2s							
BJI				LR		LR		
	comp=N,2μm,22.3s,MS5.0							
BJI				LR		LR		
	comp=E,1μm,22.3s,MS5.0							
BJI				LR		LR		
	comp=Z,2μm,20.8s,MS5.0							
AS31	**Alice Springs**	**37.51**	**195**	*e*P		**P**	**15 16 48.4**	**-0.9**
ASAR	**Alice Springs**	**37.51**	**195**	P		**P**	**15 16 48.8**	**-0.5**
	comp=Z,6.7nm,0.7s,mb4.5,baz=16,slow=11,SNR=45							
ASAR				LR		LR	15 31 46.0	
	comp=Z,3μm,20.2s,MS5.1,baz=29,slow=36							
GYA	**Guiyang**	**37.69**	**297**	⇑ *i* P		**P**	**15 16 53.7**	**+2.9**
GYA				AP		pP	15 16 58.2	+2.1
GYA				XP		sP	15 17 01.4	+3.1
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
GYA				AMB		AMB		
	comp=Z,160nm,6.0s							
GYA				LR		LR		
	comp=N,1μm,17.6s,MS4.8							
GYA				LR		LR		
	comp=E,970nm,17.0s,MS4.8							
GYA				LR		LR		
	comp=Z,1μm,17.2s,MS4.8							
KLR	**Kul'dur**	**37.82**	**347**	*e*P		**P**	**15 16 47.2**	**-4.7**
XAN	**Xi'an**	**38.37**	**310**	P		**P**	**15 16 57.2**	**+0.7**
XAN				AP		pP	15 17 04.6	+2.7
XAN				S		**S**	**15 22 45.4**	**-5.0**
XAN				AMB		AMB		
	comp=Z,7.0nm,2.5s,mb4.0							
XAN				AMB		AMB		
	comp=Z,254nm,9.0s							
XAN				LR		LR		
	comp=N,921nm,21.6s,MS4.7							
XAN				LR		LR		
	comp=E,1μm,23.5s,MS4.7							
XAN				LR		LR		
	comp=Z,3μm,18.8s,MS5.1							
HHC	**Hu-ho-hao-te**	**39.97**	**321**	*e*P		**P**	**15 17 09.9**	**0.0**
HHC				AMB		AMB		
	comp=Z,26nm,0.4s,mb5.3							
HHC				AMB		AMB		
	comp=Z,384nm,4.2s							
HHC				LR		LR		
	comp=N,2μm,19.3s,MS5.1							
HHC				LR		LR		
	comp=E,2μm,18.4s,MS5.1							
HHC				LR		LR		
	comp=Z,3μm,23.5s							
BTO	**Baotou**	**40.80**	**319**	*e*P		**P**	**15 17 16.2**	**-0.6**
BTO				LR		LR		
	comp=N,653nm,20.8s,MS4.6							
BTO				LR		LR		
	comp=E,476nm,21.4s,MS4.6							
KMI	**Kunming**	**40.88**	**294**	P		**P**	**15 17 18.5**	**+1.1**
KMI				AMB		AMB		
	comp=Z,6.0nm,1.1s,mb4.1							
KMI				AMB		AMB		
	comp=Z,190nm,4.0s							
KMI				LR		LR		
	comp=N,1μm,20.8s,MS4.9							
KMI				LR		LR		
	comp=E,1μm,20.8s,MS4.9							
KMI				LR		LR		
	comp=Z,2μm,28.6s							
KMI	**Kunming**	**40.88**	**294**	P		**P**	**15 17 18.5**	**+1.1**
KMI				pP		pP	15 17 20.6	-2.2
KMI				sP		sP	15 17 21.8	-3.2
KMI				PP		PP	15 18 55.6	+3.9
KMI				PPP			15 19 23.5	
KMI				S		**S**	**15 23 28.7**	**+0.6**
KMI				sS		sS	15 23 33.6	-3.3
KMI				SS		SS	15 26 23.6	-6.0
DZM	**Mont Dzumac**	**40.92**	**147**	P		**P**	**15 17 18.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.6,baz=320,slow=7.2,SNR=12							
MBWA	**Marble Bar**	**41.32**	**216**	*e*P		**P**	**15 17 18.6**	**-2.4**
	comp=Z,18nm,0.9s,mb4.7							
MBWA				LR		LR		
	comp=Z,1μm,20.0s,MS4.8							
CD2	**Chengdu**	**41.34**	**303**	P		**P**	**15 17 22.4**	**+1.2**
CD2				AP		pP	15 17 26.5	-0.1
CD2				XP		sP	15 17 29.3	+0.6
CD2				PP		PP	15 19 02.8	+6.1
CD2				PCP		PcP	15 19 22.0	+2.6
CD2				S		**S**	**15 23 33.2**	**-1.6**
CD2				SCS		ScS	15 27 24.8	+0.3
CD2				AMB		AMB		
	comp=Z,30nm,1.1s,mb4.8							
CD2				AMB		AMB		
	comp=Z,200nm,5.7s							
CD2				LR		LR		
	comp=N,1μm,19.2s							
CD2				LR		LR		
	comp=Z,1μm,22.8s,MS4.6							
HIA	**Hailar**	**41.63**	**336**	*e*P		**P**	**15 17 24.2**	**+0.6**
HIA	**Hailar**	**41.63**	**336**	*e*P		**P**	**15 17 23.7**	**+0.1**
	comp=Z,43nm,1.3s,mb4.9							
HIA				LR		LR		
	comp=Z,2μm,19.0s,MS5.1							
LZH	**Lanzhou**	**43.01**	**310**	*e*P		**P**	**15 17 32.8**	**-2.0**
LZH				PP		PP	15 19 15.0	+0.3
LZH				PCP		PcP	15 19 25.4	+0.5
LZH				*e*S		**S**	**15 24 01.1**	**+1.6**
LZH				XS		sS	15 24 10.1	+1.7
LZH				SS		SS	15 27 03.0	-8.6
LZH				AMB		AMB		
	comp=Z,56nm,1.5s,mb5.1							
LZH				AMB		AMB		
	comp=Z,205nm,5.3s							
LZH				LR		LR		
	comp=N,2μm,15.8s							
LZH				LR		LR		
	comp=Z,3μm,16.4s,MS5.2							
LZH	**Lanzhou**	**43.01**	**310**	*e*P		**P**	**15 17 32.8**	**-2.0**
LZH				pP		pP	15 17 36.0	-4.2
LZH				pP		pP	15 17 36.3	-3.9
LZH				sP		sP	15 17 37.2	-5.1
LZH				PP		PP	15 19 15.0	+0.3
LZH				PcP		PcP	15 19 25.4	+0.5
LZH				*e*S		**S**	**15 24 01.1**	**+1.6**
LZH				sS		sS	15 24 10.1	+1.7
LZH				SS		SS	15 27 03.0	-8.6
KULM	**Kulim**	**43.51**	**264**	P		**P**	**15 17 37.7**	**-1.2**
STKA	**Stephens Creek**	**44.40**	**183**	*e*P		**P**	**15 17 45.0**	**-1.0**
	comp=Z,6.7nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**44.40**	**183**	P		**P**	**15 17 45.2**	**-0.8**
	comp=Z,8.5nm,0.7s,mb4.6,baz=4.3,slow=7.1,SNR=18							
STKA				LR		LR	15 36 50.7	
	comp=Z,2μm,18.9s,MS5.0,baz=0.6,slow=37							
PSI	**Prapat**	**45.78**	**261**	P		**P**	**15 17 56.2**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.6,baz=145,slow=17,SNR=3.2							
PSI	**Prapat**	**45.78**	**261**	P		**P**	**15 17 56.2**	**-0.8**
FORT	**Forrest**	**45.92**	**199**	*e*P		**P**	**15 17 58.2**	**+0.1**
	comp=Z,51nm,0.9s,mb5.5							
CIT	**Chita**	**46.28**	**334**	*e*P		**P**	**15 18 01.5**	**+0.6**
CIT				*e*			15 18 16.4	
SONM	**Songino Array**	**47.03**	**326**	P		**P**	**15 18 06.1**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=145,slow=8.0,SNR=10							
SONM				LR		LR	15 39 37.2	
	comp=Z,1μm,18.0s,MS5.0,baz=123,slow=38							
YAK	**Yakutsk**	**50.33**	**351**	*e*P		**P**	**15 18 30.3**	**-1.9**
YAK				pmax		pmax		
	comp=N,24nm,1.2s							
YAK				pmax		pmax		
	comp=Z,47nm,1.2s,mb5.4							
YAK				pmax		pmax		
	comp=E,13nm,1.3s							
YAK				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.2							
YAK				MLR		MLR		
	comp=N,2μm,21.0s							
YAK				MLR		MLR		
	comp=E,618nm,15.0s							
YAK	**Yakutsk**	**50.33**	**351**	*e*P		**P**	**15 18 29.3**	**-2.8**
YAK				LR		LR		
	comp=Z,2μm,19.0s,MS5.1							
SHL	**Shillong**	**50.68**	**293**	*e*P		**P**	**15 18 37.0**	**+2.2**
SHL				*e*S		**S**	**15 25 59.0**	**+10**
TLY	**Talaya**	**50.71**	**329**	*e*P		**P**	**15 18 35.0**	**0.0**
TLY				*e*S		**S**	**15 25 50.0**	**+0.5**
TLY				*e*SS		SS	15 29 13.5	-10
TLY				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.8							
TLY				MLR		MLR		
	comp=Z,789nm,16.0s,MS4.8							
TLY	**Talaya**	**50.71**	**329**	P		**P**	**15 18 33.2**	**-1.9**
	comp=Z,17nm,1.3s,mb4.8							
IRK	**Irkutsk**	**50.72**	**329**	*e*P		**P**	**15 18 31.6**	**-3.5**
IRK				*e*			15 21 31.4	
IRK				*e*			15 25 51.6	
IRK				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
KLBR	**Kellerberrin**	**50.79**	**209**	*e*P		**P**	**15 18 34.8**	**-0.9**
	comp=Z,14nm,0.6s,mb5.1							
AFI	**Afiamalu**	**51.09**	**120**	LR		LR	15 37 54.4	
	comp=Z,1μm,18.5s,MS4.9,baz=295,slow=33							
LSA	**Lhasa**	**51.75**	**298**	P		**P**	**15 18 46.3**	**+3.5**
LSA				AP		pP	15 18 55.7	+7.4
LSA				S		**S**	**15 26 01.6**	**-2.3**
LSA				LR		LR		
	comp=N,650nm,19.3s							
LSA				LR		LR		
	comp=E,860nm,28.3s							
LSA				LR		LR		
	comp=Z,1μm,27.1s							
MUN	**Mundaring**	**51.86**	**210**	*e*P		**P**	**15 18 46.0**	**+2.3**
NWAO	**Narrogin (SRO)**	**52.15**	**209**	P		**P**	**15 18 46.1**	**+0.3**
	comp=Z,18nm,1.2s,mb4.9,baz=67,slow=15,SNR=2.4							
GUN	**Gumba**	**56.19**	**295**	*e*P		**P**	**15 19 16.0**	**+0.7**
	comp=Z,212nm,1.3s,mb6.0							
PKI	**Pulchoki**	**56.59**	**295**	*e*P		**P**	**15 19 20.3**	**+2.1**
KKN	**Kakani**	**56.72**	**295**	*e*P		**P**	**15 19 20.1**	**+1.0**
	comp=Z,57nm,0.9s,mb5.6							
DMN	**Daman**	**56.86**	**295**	*e*P		**P**	**15 19 21.4**	**+1.3**
	comp=Z,70nm,1.1s,mb5.6							
BILL	**Bilibino**	**57.14**	**10**	⇑ *e*P		**P**	**15 19 22.2**	**+0.1**
BILL				*e*			15 21 30.4	
BILL				*e*S		**S**	**15 27 14.9**	**-1.6**
BILL				pmax		pmax		
	comp=Z,20nm,2.5s,mb4.7							
BILL				MLR		MLR		
	comp=Z,900nm,16.0s,MS5.0							
BILL	**Bilibino**	**57.14**	**10**	P		**P**	**15 19 20.3**	**-1.8**
	comp=Z,9.5nm,0.4s,mb5.2							
WMQ	**Urumqi**	**57.21**	**314**	*e*P		**P**	**15 19 23.4**	**+0.8**
WMQ				AP		pP	15 19 28.0	-0.1
WMQ				XP		sP	15 19 30.5	+0.3
WMQ				PCP		PcP	15 20 17.0	+0.1
WMQ				PP		PP	15 21 30.0	+0.4
WMQ				PPP			15 22 52.0	
WMQ				PCS		PcS	15 24 16.0	-1.9
WMQ				S		**S**	**15 27 16.5**	**-1.0**
WMQ				AMB		AMB		
	comp=Z,20nm,1.5s,mb4.9							
WMQ				AMB		AMB		
	comp=Z,267nm,5.6s							
WMQ				LR		LR		
	comp=N,2μm,17.4s,MS5.2							
WMQ				LR		LR		
	comp=E,864nm,18.1s,MS5.2							
WMQ				LR		LR		
	comp=Z,1μm,22.6s,MS5.0							
GKN	**Gorkha**	**57.30**	**295**	*e*P		**P**	**15 19 22.6**	**-0.5**
	comp=Z,85nm,1.1s,mb5.7							
KOLN	**Koldanda**	**58.20**	**295**	*e*P		**P**	**15 19 29.2**	**-0.3**
	comp=Z,52nm,0.9s,mb5.5							
SDPT	**Sand Point**	**60.27**	**33**	P		**P**	**15 19 41.1**	**-2.8**
MKAR	**Makanchi Array**	**61.61**	**316**	P		**P**	**15 19 51.5**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.4,baz=94,slow=8.3,SNR=9.1							
NVS	**Novosibirsk**	**63.06**	**325**	*e*P		**P**	**15 20 06.1**	**+3.5**
NVS				*e*S		**S**	**15 28 30.6**	**-2.0**
NVS				pmax		pmax		
	comp=Z,59nm,2.4s,mb5.3							
NVS				pmax		pmax		
	comp=N,8.0nm,1.6s							
NVS				pmax		pmax		
	comp=E,18nm,1.6s							
NVS				smax				
	comp=N,29nm,2.3s							
NVS				smax				
	comp=E,10.0nm,2.3s							
HYB	**Hyderabad**	**63.23**	**283**	*i* P		**P**	**15 20 04.0**	**+0.2**
HYB	**Hyderabad**	**63.23**	**283**	*e*P		**P**	**15 20 04.0**	**+0.2**
KDAK	**Kodiak Island**	**65.19**	**32**	P		**P**	**15 20 16.7**	**0.0**
	comp=E,4.7nm,0.8s,mb4.6,baz=295,slow=10,SNR=2.7							
KDAK				LR		L

AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
BRVK Borovoye 70.22 322 *e*P **P 15 20 46.6 -1.8**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRVK MLR MLR
comp=Z,736nm,19.0s,MS5.0
BRVK Borovoye 70.22 322 *e*P **P 15 20 46.6 -1.8**
comp=Z,7.2nm,0.8s,mb4.7
BRVK LR LR
comp=Z,736nm,19.0s,MS5.0
ZRNK Zerenda 70.99 322 *e*P **P 15 20 52.4 -0.6**
ZRNK pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZRNK Zerenda 70.99 322 *e*P **P 15 20 52.4 -0.6**
comp=Z,12nm,1.0s,mb4.8
PPT Papeete 72.03 113 *e*S S 15 30 15.6 -4.7
PPT comp=Z,1μm,26.5s
PPT *e*LR LR 15 42 30.8
comp=Z,3μm,25.5s,baz=292
PPT Papeete 72.03 113 LR LR 15 44 32.6
comp=Z,906nm,21.3s,MS5.0,baz=267,slow=29
DAWY Dawson 72.74 27 P **P 15 21 05.7 +2.1**
TBI Tubuai 74.18 119 *e*S S 15 30 39.4 -5.3
TBI comp=Z,1μm,29.2s
TBI *e*LR LR 15 43 03.9
comp=Z,2μm,32.5s,baz=300
INK Inuvik 75.45 22 P **P 15 21 18.1 -1.3**
comp=Z,1.8nm,0.9s,mb4.0,baz=275,slow=6.9,SNR=2.9
ARU Arti 77.06 325 *e*P **P 15 21 34.1 +5.5**
DLBC Dease Lake 77.11 33 P **P 15 21 29.7 +0.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=200,slow=18,SNR=2.2
TAOE Nuku Hiva Isla 78.22 102 *e*S S 15 31 24.4 -4.6
TAOE comp=Z,661nm,26.7s
TAOE *e*LR LR 15 45 09.2
comp=Z,4μm,31.9s,baz=292
DRV Dumont d'Urvil 79.22 182 PP PP 15 24 36.0 -4.0
DRV S S 15 31 45.0 +5.3
PGC Sidney 82.17 42 P **P 15 21 58.3 +2.0**
comp=Z,39nm,1.1s,mb5.2
KHMM Horse Mountain 83.41 50 *e*P **P 15 22 03.3 +0.6**
KIPM Iron Peak 83.80 51 *e*P **P 15 22 03.6 -1.2**
YKA Yellowknife Ar 83.97 27 P **P 15 22 06.7 +1.1**
comp=Z,1.1nm,0.5s,mb4.3,baz=285,slow=5.0,SNR=3.7
YKA LR LR 15 59 44.7
comp=Z,1μm,19.7s,MS5.2,baz=245,slow=36
YBH Yreka Blue Hor 84.00 49 *e*P **P 15 22 04.4 -1.3**
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 84.00 49 *e*P **P 15 22 04.4 -1.3**
comp=Z,20nm,1.0s,mb5.2
HOPS Hopland 84.27 51 *e*P **P 15 22 06.7 -0.5**
comp=Z,14nm,1.0s,mb5.1
HOPS LR LR
comp=Z,785nm,19.0s,MS5.1
WDC Whiskeytown Da 84.35 50 *e*P **P 15 22 09.1 +1.5**
WDC pmax pmax
comp=Z,13nm,1.0s,mb5.0
WDC Whiskeytown Da 84.35 50 *e*P **P 15 22 09.1 +1.5**
comp=Z,13nm,1.0s,mb5.0
OHCM Honcut 85.41 51 P **P 15 22 12.7 -0.2**
MOD Modoc 85.72 48 *e*P **P 15 22 14.7 +0.3**
comp=Z,8.6nm,1.1s,mb4.9
MAK Makhachkala 86.22 313 *i* P **P 15 22 17.9 +1.0**
MAK *e*S S 15 32 41.7 -9.4
MAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.6
NEW Newport 86.36 41 P **P 15 22 18.4 +0.8**
comp=Z,10nm,0.8s,mb5.1,baz=306,slow=3.6,SNR=10
NEW Newport 86.36 41 *e*P **P 15 22 18.3 +0.7**
NEW pmax pmax
comp=Z,24nm,1.0s
NEW MLR MLR
comp=Z,818nm,22.0s
NEW Newport 86.36 41 *e*P **P 15 22 18.3 +0.7**
comp=Z,24nm,1.0s,mb5.4
NEW LR LR
comp=Z,818nm,22.0s,MS5.1
RKT Rikitea 86.76 114 *e*S S 15 32 50.3 -6.1
comp=Z,497nm,30.5s
RKT *e*LR LR 15 49 06.6
comp=Z,2μm,30.5s,baz=292
WVOR Wild Horse Val 86.80 47 *e*P **P 15 22 19.8 +0.1**
WVOR pmax pmax
comp=Z,20nm,1.2s,mb5.2
WVOR Wild Horse Val 86.80 47 *e*P **P 15 22 19.8 +0.1**
comp=Z,20nm,1.2s,mb5.2
BMO Blue Mountains 87.12 45 *e*P **P 15 22 21.6 +0.3**
BMO pmax pmax
comp=Z,25nm,1.0s,mb5.4
BMO Blue Mountains 87.12 45 *e*P **P 15 22 21.6 +0.3**
comp=Z,25nm,1.0s,mb5.4
PTRM Twissleman Ran 87.23 54 *e*P **P 15 22 22.0 +0.2**
EDM Edmonton 87.28 36 *e*P **P 15 22 22.9 +0.8**
ARCES ARCESS Array B 87.69 342 P **P 15 22 23.1 -0.9**
comp=Z,3.6nm,1.1s,mb4.5,baz=57,slow=6.7,SNR=2.6
ARCES LR LR 16 06 47.8
comp=Z,493nm,18.4s,MS5.0,baz=61,slow=39
NVAR Mina Array Bea 88.03 51 P **P 15 22 27.1 +1.4**
comp=Z,2.3nm,0.7s,mb4.5,baz=267,slow=5.1,SNR=12
WALA Waterton Lakes 88.19 40 P **P 15 22 23.4 -3.0**
comp=Z,20nm,1.2s,mb5.2
BMN Battle Mountai 88.33 49 *e*P **P 15 22 28.0 +0.9**
BMN pmax pmax
comp=Z,19nm,1.3s,mb5.2
BMN Battle Mountai 88.33 49 *e*P **P 15 22 28.0 +0.9**
comp=Z,19nm,1.3s,mb5.2
DAC Darwin (Calif) 89.13 53 *e*P **P 15 22 30.2 -0.7**
DAC pmax pmax
comp=Z,12nm,1.1s,mb5.1
DAC Darwin (Calif) 89.13 53 *e*P **P 15 22 30.2 -0.7**
comp=Z,12nm,1.1s,mb5.2
OBN Obninsk 89.43 327⇓*e*P **P 15 22 32.2 -0.1**
OBN *e* 15 26 01.7
OBN *e*PS PS 15 34 24.2 -4.4
OBN *e*SS SS 15 39 14.8 -2.1
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,1μm,18.0s,MS5.4
HLID Hailey 89.48 45 *e*P **P 15 22 33.1 +0.6**
comp=Z,16nm,1.1s,mb5.3
ELK Elko 89.70 48 *e*P **P 15 22 31.3 -2.2**
ELK pmax pmax
comp=Z,28nm,1.0s
ELK Elko 89.70 48 *e*P **P 15 22 31.3 -2.2**
comp=Z,28nm,1.0s,mb5.5
MCMT McKenzie Canyo 90.17 44 P **P 15 22 37.6 +1.9**
VNDA Vanda 90.65 176 P **P 15 22 37.0 -0.9**
comp=Z,1.5nm,1.0s,mb4.3,baz=360,slow=5.7,SNR=3.7
VNDA LR LR 16 04 39.7
comp=Z,493nm,18.4s,MS5.0,baz=344,slow=36
QLMT Earthquake Lak 91.12 44 *e*P **P 15 22 40.5 +0.3**
SBA Scott Base 91.32 175 *e*P **P 15 22 41.8 +0.7**
SBA pmax pmax
comp=Z,38nm,1.7s,mb5.5
SBA Scott Base 91.32 175 *e*P **P 15 22 41.8 +0.7**
comp=Z,38nm,1.7s,mb5.4
FINES FINESS Array B 91.64 335 P **P 15 22 41.3 -1.3**
comp=Z,1.0nm,0.6s,mb4.3,baz=72,slow=4.5,SNR=4.0
FINES LR LR 16 03 28.1
comp=Z,565nm,21.6s,MS5.0,baz=60,slow=35
YNR Norris Junctio 91.67 43 P **P 15 22 47.4 +4.7**
FLWY Flagg Ranch 91.87 44 *e*P **P 15 22 44.4 +0.8**
comp=Z,30nm,1.3s,mb5.5
MOOW Moose Ponds 91.95 44 *e*P **P 15 22 44.3 +0.3**
comp=Z,10nm,1.2s,mb5.0
GCMT Greycliff 91.97 42 P **P 15 22 41.8 -2.3**
HWUT Hardware Ranch 92.08 47 *e*P **P 15 22 45.4 +0.8**
comp=Z,11nm,1.1s,mb5.1
LOHW Long Hollow 92.09 45 P **P 15 22 46.6 +1.9**
comp=Z,11nm,1.4s,mb5.0
RLMT Red Lodge 92.47 43 *e*P **P 15 22 48.8 +2.4**
PDAR Pinedale Array 93.10 45 P **P 15 22 48.6 -0.7**
comp=Z,0.3nm,0.4s,mb4.0,baz=211,slow=3.0,SNR=1.9
PDAR PP PP 15 26 41.2 +8.8
comp=Z,1.2nm,1.0s,baz=285,slow=5.8,SNR=6.2
PDAR LR LR 15 57 46.1
comp=Z,615nm,21.8s,MS5.0,baz=304,slow=31
WUAZ Wupatki 94.18 52 *e*P **P 15 22 57.8 +3.5**
comp=Z,11nm,1.1s,mb5.2
AKASG Malin Array Be 95.30 325 LR LR 16 09 28.5
comp=Z,814nm,18.0s,MS5.2,baz=60,slow=38
PV01 Paradox Valley 95.42 49 P **P 15 23 01.2 +1.2**
BRTR Keskin Array B 97.13 313 LR LR 16 10 54.1
comp=Z,445nm,20.1s,MS4.9,baz=229,slow=38
NOA NORSAR Array B 97.60 339 LR LR 16 09 46.3
comp=Z,541nm,21.3s,MS5.0,baz=50,slow=37
MAW Mawson 98.34 203 LR LR 16 06 50.3
comp=Z,711nm,18.7s,MS5.2,baz=78,slow=35
ULM Lac du Bonnet 98.37 34 P **P 15 23 11.2 -2.1**
comp=Z,1.6nm,0.8s,mb4.6,baz=344,slow=18,SNR=2.7
ULM LR LR 16 04 50.5
comp=Z,574nm,20.3s,MS5.1,baz=108,slow=34
SNAA Sanae 117.79 191 PKP PKPdf 15 28 20.1 -1.6
comp=Z,0.3nm,0.6s,baz=224,slow=8.3,SNR=6.1
TORD Torodi Ar. Bea 134.74 303 PKP PKPdf 15 28 53.1 -0.9
comp=Z,2.1nm,0.9s,baz=49,slow=2.1,SNR=6.9
PLCA Paso Flores 138.77 139 PKP PKPdf 15 29 02.4 +0.9
comp=Z,4.5nm,0.9s,baz=310,slow=5.1,SNR=4.3
ARE Arequipa 145.37 101 *e*PKIKP PKPdf 15 29 15.0 +1.7
TRQA Tornquist 145.69 142 *e*PKPdf PKPdf 15 29 12.9 -1.0
LVC Limon Verde 147.09 112 *e*PKPdf PKPdf 15 29 16.9 +0.7
LPAZ La Paz 148.60 100 PKPbc PKPbc 15 29 22.8 +0.4
comp=Z,3.2nm,0.6s,baz=284,slow=3.7,SNR=20
LPAZ La Paz 148.60 100 *e*PKPdf PKPdf 15 29 19.8 +1.1
LPAZ PKPbc PKPbc 15 29 22.8 +0.4
LPAZ PKPbc PKPbc 15 29 24.1 +1.7
SAML Samuel 152.93 85 *e*PKPdf PKPdf 15 29 24.5 -0.9
SAML *e*PKPbc PKPbc 15 29 32.7 +0.1
CPUP Villa Florida 155.72 127 PKP PKPdf 15 29 31.3 +2.0
comp=Z,0.4nm,0.3s,baz=190,slow=6.1,SNR=2.7
CPUP Villa Florida 155.72 127 PKP PKPdf 15 29 31.3 +2.0

NIED ***02*** *15:10:00, 46.30N×153.40E, h20km, Mw4.5 Best double couple: M0=7.28000×10^15 NP1:φs=226.00000°, δ=86.00000°, λ=147.00000°. NP2:φs=318.00000°, δ=57.00000°, λ=5.00000°.*
IDC ***02*** *15:10:08.3±0.9, 45.76N×153.08E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.4/23, mbtmp4.3/17, ML3.2/1, Error ellipse: s-maj=28.7km s-min=16.3km az=176.0*
ISCJB ***02*** *15:10:11.8±0.3, 46.16N±0.005×153.07E±0.05, h18km, mb4.6/76, MS4.6/16, Error ellipse: s-maj=8.2km s-min=2.8km az=122.6*
NEIC ***02*** *15:10:11.8±2.3, 46.25N×153.07E, h5km±14km, mb4.8/45, Error ellipse: s-maj=8.4km s-min=4.3km az=164.0*
JMA ***02*** *15:10:11.5±0.8, 46.25N×153.39E, h30km, M4.5*
SKHL ***02*** *15:10:12.5±1.3, 46.10N×153.50E, h50km±19km, mb5.0/5, mbh4.9/1, mbv5.1/3, ms4.6/6, msh5.2/2*
BJI ***02*** *15:10:12.5, 46.53N×152.90E, h13km, mB4.8, mb4.6, Ms4.9, Msz4.6*
MOS ***02*** *15:10:16.6±1.4, 46.34N×152.87E, h46km, mb4.8/45, Error ellipse: s-maj=8.2km s-min=5.6km az=105.4*
SZGRF ***02*** *15:10:22.4, 46.72N×151.74E, h33km, mb5.1, Kuril Islands, Russia*

ISC 02 15:10:14.0±0.3, 46.26N±0.05×153.36E±0.05, h19km, h19km±2.4km:pP-P, n254, σ1.9 09/268, mb4.6/76, MS4.6/16, 16C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75**	**256**⇑	*i*P	**Pn**	**15 11 10.5**	**-0.4**
KUR				AMB	AMB	15 11 13.0	
KUR	300nm,0.6s			AMB	AMB	15 11 13.0	
KUR	180nm,0.6s			*e*S	**Sn**	**15 11 53.0**	**-1.6**
KUR				A		15 12 03.0	
KUR	5μm,2.0s			A		15 12 08.0	
KUR	530nm,0.6s			A		15 12 08.0	
KUR	4μm,0.6s			AMS	AMS	15 13 23.0	
KUR	5μm,15.0s			AMS	AMS	15 13 23.0	
KUR	460nm,15.0s						
KUR	**Kuril'sk**	**3.75**	**256**⇑	*i*PN	**Pn**	**15 11 10.5**	**-0.4**
KUR				*i* S	**Sn**	**15 11 53.0**	**-1.6**
KUR				pmax	pmax		
KUR	comp=N,300nm,0.6s			pmax	pmax		
KUR	comp=E,210nm,0.6s			pmax	pmax		
KUR	comp=Z,530nm,0.6s			smax			
KUR	comp=N,530nm,0.6s			smax			
KUR	comp=E,460nm,0.6s			smax			
KUR	comp=N,5μm,2.0s			MLR	MLR		
KUR	comp=N,5μm,15.0s			MLR	MLR		
KUR	comp=E,4μm,15.0s			MLR	MLR		
KUR	comp=Z,5μm,15.0s						
SKR	**Severo-Kuril's**	**4.88**	**24**	*e*P	**Pn**	**15 11 22.6**	**-3.8**
SKR				AMB	AMB	15 11 27.5	
SKR	comp=Z,80nm,0.5s			AMB	AMB	15 11 27.5	
SKR	comp=Z,90nm,0.5s			AMB	AMB	15 11 27.5	
SKR	comp=Z,150nm,0.5s			*e*S	**Sn**	**15 12 16.2**	**-6.2**
SKR				A		15 12 28.0	
SKR	comp=Z,80nm,0.5s			A		15 12 28.0	
SKR	comp=Z,3μm,8.0s			A		15 12 28.0	
SKR	comp=Z,3μm,8.0s			A		15 12 28.0	
SKR	comp=Z,3μm,8.0s			A		15 12 28.0	
SKR	comp=Z,3μm,8.0s			A		15 12 28.0	
SKR	comp=Z,400nm,1.0s			A		15 12 28.0	
SKR	comp=Z,450nm,1.0s			AMS	AMS	15 13 40.0	
SKR	comp=Z,3μm,10.0s			AMS	AMS	15 13 40.0	
SKR	comp=Z,3μm,10.0s			AMS	AMS	15 13 40.0	
SKR	comp=Z,3μm,10.0s			AMS	AMS	15 13 40.0	
SKR	comp=Z,3μm,10.0s						
YUK	**Yuzh-Kuril'sk**	**5.53**	**249**	*e*P	**Pn**	**15 11 36.8**	**+1.4**
YUK				AMB	AMB	15 11 47.1	
YUK	comp=Z,240nm,0.5s			AMB	AMB	15 11 47.1	
YUK	comp=Z,210nm,0.5s			*e*S	**Sn**	**15 12 45.5**	**+7.0**
YUK				A		15 12 59.2	
YUK	comp=Z,2μm,1.4s			A		15 12 59.2	
YUK	comp=Z,3μm,1.4s			A		15 13 03.8	
YUK	comp=Z,500nm,0.6s			A		15 13 03.8	
YUK	comp=Z,660nm,0.6s			AMS	AMS	15 14 18.0	
YUK	comp=Z,3μm,12.0s			AMS	AMS	15 14 18.0	
YUK	comp=Z,3μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.53**	**249**	*e*PN	**Pn**	**15 11 36.8**	**+1.4**
YUK				*i* S	**Sn**	**15 12 45.5**	**+7.0**
YUK				pmax	pmax		
YUK	comp=N,240nm,0.5s			pmax	pmax		
YUK	comp=Z,210nm,0.5s			smax			
YUK	comp=E,3μm,1.2s			smax			
YUK	comp=N,2μm,1.5s			MLR	MLR		
YUK	comp=Z,3μm,15.0s			MLR	MLR		
YUK	comp=N,3μm,11.0s			MLR	MLR		
YUK	comp=E,3μm,13.0s						
NEM2	**Nemuro 2**	**5.93**	**243**	P	**Pn**	**15 11 39.3**	**-1.5**
NEM2				*e*S	**Sn**	**15 12 45.5**	**-2.8**
JRA	**Rausu**	**6.06**	**250**	P	**Pn**	**15 11 43.5**	**+1.0**
JRA				*e*S	**Sn**	**15 12 54.8**	**+3.5**
JNK	**Nakash**	**6.47**	**249**	P	**Pn**	**15 11 48.8**	**+0.5**
JNK				*e*S	**Sn**	**15 13 00.7**	**-0.9**
JAK	**Akkeshi**	**6.78**	**244**	P	**Pn**	**15 11 50.9**	**-1.5**
JAK				*e*S	**Sn**	**15 13 05.8**	**-3.3**
JTKR	**Abashiri--Toko**	**6.84**	**254**	P	**Pn**	**15 11 54.7**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.11**	**279**⇑	*e*P	**Pn**	**15 12 02.0**	**+5.0**
YSS				AMS	AMS	15 15 00.0	
YSS	comp=E,800nm,17.0s			AMS	AMS	15 15 00.0	
YSS	**Yuzh-Sakhalins**	**7.11**	**279**	*e*P	**Pn**	**15 12 02.0**	**+5.0**
JMP	**Maruseppu**	**7.20**	**255**	P	**Pn**	**15 11 59.7**	**+1.5**
JAR	**Ashorobuto**	**7.22**	**249**	P	**Pn**	**15 11 58.8**	**+0.3**
JAR				*e*S	**Sn**	**15 13 19.0**	**-1.0**
JOB	**Onbets**	**7.37**	**246**	P	**Pn**	**15 12 00.3**	**-0.3**
JOB				*e*S	**Sn**	**15 13 20.9**	**-2.8**
JSE	**Soyaes**	**7.44**	**264**	P	**Pn**	**15 12 04.9**	**+3.4**
JKK2	**Kamakawa 2**	**7.66**	**256**	P	**Pn**	**15 12 06.4**	**+1.9**
ASAJ	**Asahikawa**	**7.67**	**258**	Pn	**Pn**	**15 12 06.4**	**+1.7**
ASAJ	**Asahikawa**	**7.67**	**258**	P	**Pn**	**15 12 07.2**	**+2.5**
ASAJ	**Asahikawa**	**7.67**	**258**	PN	**Pn**	**15 12 06.4**	**+1.7**
ASAJ				pmax	pmax		
PET	**Petropavlovsk**	**7.69**	**26**	*e*PN	**Pn**	**15 12 06.0**	**+1.0**
PET				pmax	pmax		
PET	comp=Z,80nm,1.7s			pmax	pmax		
PET	comp=N,58nm,1.5s			pmax	pmax		
PET	comp=E,28nm,1.4s			MLR	MLR		
PET	**Petropavlovsk**	**7.69**	**26**	*e*P	**Pn**	**15 12 05.4**	**+0.4**
JCH	**Churui**	**7.81**	**246**	P	**Pn**	**15 12 05.8**	**-0.9**
JCH				*e*S	**Sn**	**15 13 29.5**	**-5.1**
JWK2	**Keihoku**	**7.84**	**267**	P	**Pn**	**15 12 11.8**	**+4.8**
UGL	**Uglegorsk**	**7.92**	**295**	*e*P	**Pn**	**15 12 16.0**	**+7.9**
UGL				AMB	AMB	15 12 18.7	
JFR	**Furan**	**8.05**	**251**	P	**Pn**	**15 12 11.6**	**+1.7**
JSS	**Shosan**	**8.09**	**261**	P	**Pn**	**15 12 15.6**	**+5.1**
JAB	**Ashibetsu**	**8.15**	**254**	P	**Pn**	**15 12 14.0**	**+2.7**
JEM	**Erimo**	**8.27**	**243**	P	**Pn**	**15 12 13.1**	**+0.2**
ERM	**Erimo**	**8.27**	**243**	*e*PN	**Pn**	**15 12 13.3**	**+0.4**
ERM				pmax	pmax		
ERM	**Erimo**	**8.27**	**243**	*e*P	**Pn**	**15 12 13.3**	**+0.4**
TYV	**Tymovskoe**	**8.28**	**308**	*e*P	**Pn**	**15 12 18.0**	**+5.0**
TYV				AMB	AMB	15 12 22.0	
TYV	comp=Z,12nm,0.8s			AMB	AMB	15 12 22.0	
TYV	comp=Z,26nm,0.8s			AMB	AMB	15 12 27.0	
TYV	comp=Z,300nm,9.0s			AMB	AMB	15 12 27.0	
TYV	comp=Z,400nm,9.0s			AMB	AMB	15 12 27.0	
TYV	comp=Z,500nm,9.0s			AMS	AMS	15 16 14.0	
TYV	comp=Z,1μm,16.0s			AMS	AMS	15 16 14.0	
TYV	comp=Z,2μm,16.0s			AMS	AMS	15 16 14.0	
TYV	comp=Z,2μm,16.0s						
JBT2	**Biratori 2**	**8.38**	**249**	P	**Pn**	**15 12 14.4**	**0.0**
JNBK	**Urakawa-nobuka**	**8.38**	**245**	P	**Pn**	**15 12 13.6**	**-0.8**
JNBK				*e*S	**Sn**	**15 13 42.4**	**-6.0**
JKB	**Kayabe**	**9.67**	**247**	P	**Pn**	**15 12 30.8**	**-1.3**
JKB				*e*S	**Sn**	**15 14 13.3**	**-7.0**
OKH	**Okha**	**9.77**	**322**	AMS	AMS	15 17 44.0	
OKH	comp=Z,2μm,15.0s			AMS	AMS	15 17 44.0	
OKH	comp=Z,2μm,13.0s			AMS	AMS	15 17 44.0	
OKH	comp=Z,1μm,10.0s						
JSH	**Shimam**	**9.96**	**253**	P	**Pn**	**15 12 37.1**	**+1.0**
JANG	**Nango**	**10.24**	**239**	P	**Pn**	**15 12 35.1**	**-4.8**
JANG				*e*S	**Sn**	**15 14 22.9**	**-11**
JTM	**Tenmabayashi**	**10.26**	**242**	P	**Pn**	**15 12 37.5**	**-2.7**
JTH	**Tanohata**	**10.31**	**236**	*e*S	**Sn**	**15 14 23.8**	**-12**
NKL	**Nikolayevsk**	**10.55**	**315**	*e*P	**Pn**	**15 12 45.0**	**+0.8**
NKL				AMB	AMB	15 12 49.0	
OFUJ	**Ofunato**	**11.01**	**233**	*e*S	**Sn**	**15 14 41.3**	**-12**
JRG	**Rokugo**	**11.39**	**237**	*e*S	**Sn**	**15 14 52.9**	**-9.4**
TEY	**Ternei**	**11.56**	**270**	*e*P	**Pn**	**15 13 02.0**	**+3.9**
JIO	**Ouri**	**11.63**	**232**	*e*S	**Sn**	**15 14 56.1**	**-12**
MA2	**Magadan**	**13.41**	**355**	*e*PN	**Pn**	**15 13 22.2**	**-1.1**
MA2				pmax	pmax		
MA2	comp=Z,40nm,1.5s			MLR	MLR		
MA2	comp=Z,6μm,15.6s						
MA2	**Magadan**	**13.41**	**355**	*e*P	**Pn**	**15 13 22.3**	**-1.0**
KLR	**Kul'dur**	**14.61**	**289**	*e*P	**Pn**	**15 13 39.8**	**+0.1**
KLR				pmax	pmax		
KLR	comp=E,40nm,1.6s			pmax	pmax		
KLR	comp=Z,40nm,1.6s						
MAJO	**Matsushiro**	**14.74**	**234**	*e*P	**Pn**	**15 13 40.6**	**-0.8**
MAJO				pmax	pmax		
MAJO	comp=Z,29nm,0.9s						
MAJO	**Matsushiro**	**14.74**	**234**	*e*Pn	**Pn**	**15 13 40.6**	**-0.8**
MAT	**Matsushiro**	**14.74**	**234**	P	**Pn**	**15 13 40.1**	**-1.3**
MJAR	**Matsushiro Arr**	**14.74**	**234**	Pn	**Pn**	**15 13 33.5**	**-7.9**
VLA	**Vladivostok**	**15.35**	**266**	*e*P	**Pn**	**15 13 49.0**	**-0.5**
VLA				pmax	pmax		
VLA	comp=Z,25nm,1.4s			MLR	MLR		
MDJ	**Mudanjiang**	**16.52**	**273**	P	**Pn**	**15 14 04.7**	**+0.1**
MDJ				AP	pP	15 14 10.3	-2.1
MDJ				XP	sP	15 14 11.8	-3.0
MDJ				AMB	AMB		
MDJ	comp=Z,27nm,1.3s			AMB	AMB		
MDJ	comp=Z,74nm,5.5s			LR	LR		
MDJ	comp=N,1μm,17.7s			LR	LR		
MDJ	comp=E,2μm,15.6s			LR	LR		
MDJ	comp=Z,3μm,18.2s						
MDJ	**Mudanjiang**	**16.52**	**273**	*e*P	**Pn**	**15 14 05.5**	**+0.8**
SEY	**Seymchan**	**16.72**	**359**	*e*P	**Pn**	**15 14 06.3**	**-0.8**
ZEA	**Zeya**	**18.11**	**304**	*e*P	**Pn**	**15 14 22.0**	**-2.5**
ZEA				AMB	AMB	15 14 31.0	
ZEA	comp=Z,400nm,8.0s			*e*rx	rx	15 18 06.0	
CLNS	**Chul'man**	**20.30**	**312**	*e*P	**P**	**15 14 51.0**	**+2.3**
CLNS				*e*		15 15 18.7	
CLNS				*e*S	**S**	**15 18 21.6**	**-14**
CLNS				pmax	pmax		
CLNS	comp=Z,31nm,1.0s			pmax	pmax		
CLNS	comp=N,17nm,0.9s			pmax	pmax		
CLNS	comp=E,16nm,1.1s			smax			
CLNS	comp=N,10.0nm,1.0s			smax			
CLNS	comp=Z,17nm,0.9s			smax			
CLNS	comp=E,17nm,1.1s			MLR	MLR		
CLNS	comp=E,700nm,12.0s,MS4.2			MLR	MLR		
CLNS	comp=Z,900nm,12.0s,MS4.3			MLR	MLR		
CLNS	comp=N,300nm,14.0s,MS4.2						
YAK	**Yakutsk**	**20.71**	**328**	*e*P	**P**	**15 14 54.5**	**+1.4**
YAK				pmax	pmax		
YAK	comp=Z,17nm,0.8s			pmax	pmax		
YAK	comp=N,17nm,1.5s			pmax	pmax		
YAK	comp=E,18nm,1.4s			MLR	MLR		
YAK	comp=E,332nm,19.0s,MS3.9			MLR	MLR		
YAK	comp=Z,424nm,19.0s,MS3.8			MLR	MLR		
YAK	comp=N,265nm,14.0s,MS3.9						
YAK	**Yakutsk**	**20.71**	**328**	*e*P	**P**	**15 14 53.4**	**+0.3**

comp=N,18nm,0.7s
INCN Inchon 21.44 255 *e*P **P 15 15 00.8 -0.3**
SNY Shenyang 21.56 269 ⇓P **P 15 15 03.2 +0.9**
SNY AP 15 15 12.3
SNY AMB AMB
comp=Z,12nm,1.2s,mb4.2
SNY AMB AMB
comp=Z,211nm,7.4s
SNY LR LR
comp=N,962nm,17.7s,MS4.5
SNY LR LR
comp=E,2μm,17.6s,MS4.5
SNY LR LR
comp=Z,1μm,21.6s,MS4.5
HIA Hailar 22.47 290 *e*P **P 15 15 10.9 -1.2**
BILL Bilibino 22.89 13 *e*P **P 15 15 15.2 -1.2**
BILL *e*S **S 15 19 25.5 +0.1**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,300nm,17.0s,MS3.8
BILL Bilibino 22.89 13 *e*P **P 15 15 15.2 -1.3**
comp=Z,4.3nm,0.4s,mb4.2
DL2 Dalian 24.14 264 ⇑P **P 15 15 28.7 -0.1**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
DL2 AMB AMB
comp=Z,120nm,5.4s
DL2 LR LR
comp=E,330nm,13.9s
DL2 LR LR
comp=Z,520nm,14.1s,MS4.2
BOD Bodaibo 26.26 310 *e*P **P 15 15 46.4 -1.6**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
BJI Beijing 27.42 270 P **P 15 15 58.3 -0.1**
BJI AMB AMB
comp=Z,22nm,1.8s,mb4.4
BJI Beijing 27.42 270 P **P 15 15 58.3 -0.1**
comp=Z,2.0nm,1.8s
BJT Baijiatuau 27.43 270 *e*P **P 15 16 00.1 +1.6**
BJT pmax pmax
comp=Z,8.0nm,0.6s
BJT Baijiatuau 27.43 270 *e*P **P 15 16 00.1 +1.6**
comp=Z,8.1nm,0.6s,mb4.4
NJ2 Nanjing 29.80 254 *e*P **P 15 16 21.5 +1.9**
NJ2 PP PP 15 17 18.8 -8.1
NJ2 S **S 15 21 17.0 +1.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,6.8s
NJ2 LR LR
comp=N,2μm,13.1s,MS5.1
NJ2 LR LR
comp=E,3μm,16.8s,MS5.1
NJ2 LR LR
comp=Z,320nm,20.5s,MS3.9
HHC Hu-ho-hao-te 30.27 275 *e*P **P 15 16 25.1 +1.3**
HHC AP pP 15 16 29.2 -0.3
HHC XP sP 15 16 32.4 +0.6
HHC AMB AMB
comp=Z,20nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,123nm,5.3s
HHC LR LR
comp=N,2μm,16.5s,MS5.0
HHC LR LR
comp=E,2μm,19.2s,MS5.0
HHC LR LR
comp=Z,3μm,21.0s,MS4.9
SONM Songino Array 31.44 290 P **P 15 16 34.1 -0.1**
comp=Z,1.3nm,0.8s,mb3.8,baz=79,slow=7.6,SNR=8.5
SONM Songino Array 31.44 290 P **P 15 16 34.1 -0.1**
SONM pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 32.84 296 *e*P **P 15 16 44.0 -2.4**
IMA2 Indian Mountai 34.24 36 *e*P **P 15 16 56.9 -1.7**
COLA College 36.56 38 *e*P **P 15 17 16.9 -1.7**
COLA College 36.56 38 *e*P **P 15 17 18.4 -0.1**
comp=Z,8.2nm,0.8s,mb4.6
LZH Lanzhou 37.85 272 *e*P **P 15 17 31.0 +1.5**
LZH AMB AMB
comp=Z,45nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,167nm,5.3s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,2μm,16.6s,MS5.1
LZH sP sP 15 17 39.0 +1.5
LZH PP PP 15 19 05.3 +9.3
LZH PcP PcP 15 19 49.6 +3.9
LZH *e*S **S 15 23 30.4 +11**
LZH sS sS 15 23 36.0 +6.8
LZH SS SS 15 25 55.0 -11
LZH Lanzhou 37.85 272 *e*P **P 15 17 31.0 +1.5**
GTA Gaotai 38.99 280 P **P 15 17 40.5 +1.4**
GTA AP pP 15 17 45.1 +0.2
GTA XP sP 15 17 48.2 +1.0
GTA PP PP 15 19 13.8 +5.3
GTA S **S 15 23 39.8 +2.8**
GTA XS sS 15 23 47.5 +1.0
GTA AMB AMB
comp=Z,18nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,81nm,6.1s
GTA LR LR
comp=N,1μm,18.0s,MS5.0
GTA LR LR
comp=E,2μm,19.1s,MS5.0
GTA LR LR
comp=Z,2μm,20.6s,MS4.9
EGAK Eagle 39.42 38 *e*P **P 15 17 41.5 -1.2**
DAWY Dawson 40.26 39 *e*P **P 15 17 49.3 -0.3**
GYA Guiyang 41.55 258 ⇑*i*P **P 15 18 03.2 +2.9**
GYA AP pP 15 18 06.8 +0.7
GYA XP sP 15 18 10.4 +2.0
GYA PP PP 15 19 43.3 +6.9
GYA SCP ScP 15 23 48.4 +1.8
GYA S **S 15 24 20.1 +4.8**
GYA SCS ScS 15 28 03.4 +0.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,130nm,5.9s
GYA LR LR
comp=N,640nm,16.8s,MS4.7
GYA LR LR
comp=E,680nm,17.0s,MS4.7
GYA LR LR
comp=Z,760nm,17.2s,MS4.6
INK Inuvik 42.10 32 P **P 15 18 04.8 -0.1**
comp=Z,5.4nm,0.7s,mb4.3,baz=301,slow=6.0,SNR=20
INK Inuvik 42.10 32 P **P 15 18 04.8 0.0**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 42.10 32 *e*P **P 15 18 04.8 0.0**
comp=Z,172nm,0.7s
NVS Novosibirsk 43.44 308 *e*P **P 15 18 14.1 -1.6**
NVS pmax pmax
comp=N,14nm,2.2s
NVS pmax pmax
comp=E,18nm,2.2s
NVS pmax pmax
comp=Z,25nm,2.2s,mb4.6
WMQ Urumqi 45.05 292 *e*P **P 15 18 28.9 +0.3**
WMQ AP pP 15 18 33.5 -0.9
WMQ XP sP 15 18 36.0 -0.7
WMQ AMB AMB
comp=Z,8.0nm,0.6s,mb4.7
WMQ AMB AMB
comp=Z,91nm,3.9s
WMQ LR LR
comp=N,580nm,15.3s,MS4.8
WMQ LR LR
comp=E,521nm,15.3s,MS4.8
WMQ LR LR
comp=Z,600nm,17.0s,MS4.6
KMI Kunming 45.09 260 P **P 15 18 29.0 +0.1**
KMI AP pP 15 18 35.3 +0.6
KMI XP sP 15 18 37.3 +0.3
KMI PP PP 15 20 16.2 +1.8
KMI S **S 15 25 07.8 +0.6**
KMI XS sS 15 25 16.5 -0.2
KMI SS SS 15 28 21.1 -8.5
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
KMI AMB AMB
comp=Z,216nm,7.3s
KMI LR LR
comp=N,1μm,21.0s,MS4.9
KMI LR LR
comp=E,1μm,20.0s,MS4.9
KMI LR LR
comp=Z,1μm,19.9s,MS4.8
KMI Kunming 45.09 260 P **P 15 18 29.0 +0.1**
KMI *SP sP 15 18 37.3 +0.3
KMI 15 20 16.2
KMI S **S 15 25 07.8 +0.6**
KMI *SS sS 15 25 16.5 -0.2
KMI SS SS 15 28 21.1 -8.5
KMI pmax pmax
comp=Z,7.0nm,1.4s,mb4.3
KMI Kunming 45.09 260 P **P 15 18 29.0 +0.1**
comp=Z,7.0nm,1.4s,mb4.3
KMI pP pP 15 18 35.3 +0.6
KMI sP sP 15 18 37.3 +0.3
KMI PP PP 15 20 16.2 +1.8
KMI S **S 15 25 07.8 +0.6**
KMI sS sS 15 25 16.5 -0.2
KMI SS SS 15 28 21.1 -8.5
DLBC Dease Lake 45.98 45 P **P 15 18 36.1 +0.2**
comp=Z,3.0nm,0.7s,mb4.3,baz=304,slow=13,SNR=6.0
MKAR Makanchi Array 47.12 298 P **P 15 18 44.5 -0.4**
comp=Z,4.9nm,0.7s,mb4.5,baz=64,slow=8.2,SNR=41
MKAR Makanchi Array 47.12 298 P **P 15 18 44.5 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 51.17 310 *e*P **P 15 19 15.3 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 51.17 310 *e*P **P 15 19 15.3 -0.5**
comp=Z,5.8nm,0.6s,mb4.7
YKA Yellowknife Ar 51.36 36 P **P 15 19 15.4 -1.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=296,slow=7.0,SNR=7.3
YKA Yellowknife Ar 51.36 36 P **P 15 19 15.4 -1.9**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 51.36 36 P **P 15 19 15.4 -1.8**
ZRNK Zerenda 51.90 310 *e*P **P 15 19 20.3 -1.0**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 51.90 310 *e*P **P 15 19 20.3 -1.0**
comp=Z,2.7nm,0.6s,mb4.3
AAK Ala-Archa 54.00 297 *e*P **P 15 19 35.7 -1.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 54.00 297 *e*P **P 15 19 35.7 -1.1**
comp=Z,6.2nm,0.8s,mb4.6
KSH Kashi 54.79 293 *e*P **P 15 19 44.7 +2.2**
KSH *e*AP pP 15 19 50.6 +2.1
KSH *e*XP sP 15 19 52.8 +2.1
KSH *e*PCP PcP 15 20 47.5 +2.7
KSH *e*PP PP 15 21 49.8 +4.5
KSH *e*S **S 15 27 23.8 +1.4**
KSH *e*XS sS 15 27 33.5 +1.3
KSH *e*PS 15 27 41.9
KSH *e*SCS ScS 15 29 30.4 -0.5
KSH *e*SS SS 15 31 06.6 +1.0
KSH LR LR
comp=N,442nm,6.1s
KSH LR LR
comp=E,545nm,8.8s
KSH LR LR
comp=Z,4μm,14.4s,MS5.6
ARU Arti 55.34 318 ⇓*i*P **P 15 19 44.0 -2.5**
ARU *e* 15 20 43.2
ARU *e*S **S 15 27 25.5 -4.3**
ARU *e* 15 29 35.0
ARU *e*SS SS 15 31 09.2 -5.0
ARU *e*SSS 15 33 17.8
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ARU Arti 55.34 318 *e*P **P 15 19 44.9 -1.6**
comp=Z,5.8nm,0.6s,mb4.8
NEW Newport 57.52 52 P **P 15 20 01.9 -0.2**
comp=Z,1.5nm,0.5s,mb4.3,baz=322,slow=4.2,SNR=4.1
NEW Newport 57.52 52 P **P 15 20 01.9 -0.2**
NEW pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 57.79 341 *e*p **P 15 20 04.7 +0.7**
comp=Z,3.0nm,0.6s,mb4.5
KEV Kevo 57.79 341 *e*P **P 15 20 04.7 +0.7**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LGTI Lohaghat 57.90 280 *e*P **P 15 20 07.0 +2.3**
ARCES ARCESS Array B 58.30 341 P **P 15 20 07.1 -0.5**
comp=Z,2.3nm,0.7s,mb4.3,baz=34,slow=8.8,SNR=5.7
ARCES ARCESS Array B 58.30 341 P **P 15 20 07.1 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
BMO Blue Mountains 59.40 56 *e*P **P 15 20 14.8 -0.4**
comp=Z,10nm,1.4s,mb4.7
WVOR Wild Horse Val 60.06 59 *e*P **P 15 20 20.3 +0.5**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WVOR Wild Horse Val 60.06 59 *e*P **P 15 20 20.3 +0.5**
comp=Z,7.3nm,1.0s,mb4.7
EGMT Eagleton 61.63 49 *e*P **P 15 20 30.0 -0.4**
comp=Z,17nm,1.4s,mb5.0
JOF Joensuu 61.75 334 *e*p **P 15 20 30.0 -1.2**
comp=Z,2.6nm,0.6s,mb4.5
JOF Joensuu 61.75 334 *e*P **P 15 20 30.0 -1.2**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
HLID Hailey 61.84 55 *e*P **P 15 20 32.2 +0.4**
comp=Z,2.5nm,1.0s,mb4.3
NVAR Mina Array Bea 62.72 62 P **P 15 20 37.7 0.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=296,slow=6.8,SNR=9.4
QLMT Earthquake Lak 62.72 53 *e*P **P 15 20 38.0 +0.3**
IMW Indian Meadow 63.59 53 *e*P **P 15 20 44.1 +0.6**
comp=Z,13nm,1.3s,mb4.8
RLMT Red Lodge 63.72 51 *e*P **P 15 20 43.0 -1.4**
MOOW Moose Ponds 63.79 53 *e*P **P 15 20 45.5 +0.6**
comp=Z,22nm,1.7s,mb4.9
TPAW Teton Pass 63.84 54 *e*P **P 15 20 46.4 +1.3**
comp=Z,28nm,1.4s,mb5.1
KAF Kangasniemi 63.87 335 *e*p **P 15 20 43.7 -1.6**
comp=Z,7.8nm,0.8s,mb4.8
KAF Kangasniemi 63.87 335 *e*P **P 15 20 43.7 -1.6**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LOHW Long Hollow 63.96 53 P **P 15 20 45.4 -0.5**
comp=Z,18nm,1.4s,mb4.9
REDW Red Top Meadow 63.98 54 *e*P **P 15 20 47.1 +1.0**
comp=Z,25nm,1.4s,mb5.1
FIA1 FINESS Array S 64.46 335 *e*P **P 15 20 48.2 -1.0**
FINES FINESS Array B 64.46 335 P **P 15 20 48.6 -0.6**
comp=Z,6.4nm,0.7s,mb4.8,baz=39,slow=7.7,SNR=28
FINES FINESS Array B 64.46 335 P **P 15 20 48.7 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
DAC Darwin (Calif) 64.51 64 *e*P **P 15 20 49.7 +0.1**
DAC pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
DAC Darwin (Calif) 64.51 64 *e*P **P 15 20 49.7 +0.1**
comp=Z,5.4nm,1.5s,mb4.4
HWUT Hardware Ranch 64.70 56 *e*P **P 15 20 51.1 +0.3**
comp=Z,12nm,1.6s,mb4.7
BW06 Boulder Array 65.09 54 *e*P **P 15 20 53.0 -0.4**
comp=Z,4.8nm,1.0s,mb4.5
PDAR Pinedale Array 65.09 54 P **P 15 20 52.9 -0.4**
comp=Z,3.0nm,1.1s,mb4.2,baz=270,slow=1.5,SNR=13
OBN Obninsk 65.68 326 *e*P **P 15 20 55.9 -1.3**
OBN *e* 15 23 23.7
OBN *e*S S 15 29 41.5 -0.7
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
SRU San Rafael 66.94 57 *e*P **P 15 21 05.5 +0.3**
SRU pmax pmax
comp=Z,12nm,1.0s,mb4.9
SRU San Rafael 66.94 57 *e*P **P 15 21 05.5 +0.3**
comp=Z,12nm,1.0s,mb4.9
ULM Lac du Bonnet 66.94 41 P **P 15 21 03.5 -1.6**
comp=Z,2.0nm,0.7s,mb4.2,baz=12,slow=9.3,SNR=3.7
RSSD Black Hills 67.19 50 *e*P **P 15 21 05.7 -1.1**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RSSD Black Hills 67.19 50 *e*P **P 15 21 05.7 -1.1**
comp=Z,3.3nm,0.8s,mb4.4
NB2 NORSAR Subarra 68.68 341 P **P 15 21 15.7 -0.5**
comp=Z,40nm,2.0s,mb5.0,baz=26,slow=6.5
NB2 NORSAR Subarra 68.68 341 P **P 15 21 15.7 -0.5**
NB2 pmax pmax
comp=Z,40nm,2.0s,mb5.0
NOA NORSAR Array B 68.68 341 P **P 15 21 15.8 -0.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=27,slow=6.3,SNR=12
NOA NORSAR Array B 68.68 341 P **P 15 21 15.8 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.6s
BORG Borgarnes 69.25 357 P **P 15 21 19.1 -0.6**
comp=Z,5.1nm,0.5s,mb4.7,baz=5.9,slow=4.5,SNR=6.1
SDCO Great Sand Dun 70.76 55 *e*P **P 15 21 29.3 +0.3**
comp=Z,2.1nm,0.8s,mb4.1
KIV Kislovodsk 71.10 314 ⇑*e*P **P 15 21 31.6 +0.5**
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
KIV Kislovodsk 71.10 314 *e*P **P 15 21 32.9 +1.8**
comp=Z,9.7nm,0.8s,mb4.8
ZEI Tsey 71.35 313 *e*P **P 15 21 33.0 +0.4**
ZEI *e**PP pP 15 21 42.9 +4.3
ZEI pmax pmax
comp=Z,13nm,1.2s,mb4.7
AKASG Malin Array Be 71.92 326 P **P 15 21 35.5 -0.5**
comp=Z,7.8nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=38
AKASG Malin Array Be 71.92 326 P **P 15 21 35.6 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 71.92 326 *e*P **P 15 21 35.4 -0.6**
ANMO Albuquerque 72.14 58 *e*P **P 15 21 37.4 +0.1**
GNI Garni 72.81 310 ⇑*e*P **P 15 21 41.8 +0.5**
GNI pmax pmax
comp=Z,16nm,1.2s
ANN Anapa 73.00 318 *e*P **P 15 21 42.4 -0.1**
ANN pmax pmax
comp=Z,36nm,1.1s,mb5.2
SIM Simferopol' 74.41 320 P **P 15 21 50.4 -0.3**
SIM pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KIS Kishinev 75.05 324 *e*P **P 15 21 53.0 -1.4**
KIS *e* 15 22 06.0
KIS MLR MLR
comp=Z,300nm,16.0s,MS4.7
STHS Stebnicka Huta 75.91 330 *e*P **P 15 22 00.5 +1.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
STHS Stebnicka Huta 75.91 330 *e*P **P 15 22 00.5 +1.1**
comp=Z,4.1nm,0.8s,mb4.4
KOLS Kolonicke sedl 75.96 329 *e*P **P 15 21 59.6 0.0**
BURAR Bucovina Array 75.97 327 ⇓*i*P **P 15 22 00.3 +0.6**
BURAR Bucovina Array 75.97 327 ⇓P **P 15 22 00.3 +0.6**
UZH Uzhgorod 76.20 329 *e*P **P 15 22 02.0 +1.0**
CRVS Cervenica-Dubn 76.27 329 *e*P **P 15 22 01.3 -0.1**
OKC Ostrava-Krasne 76.60 332 AMS AMS 16 13 00.0
comp=Z,1μm,18.8s
UPC Upice 76.70 333 *e*P **P 15 22 05.6 +1.8**
DPC Dobruska-Polom 76.74 333 *e*P **P 15 22 05.0 +0.9**
DPC AMS AMS 16 14 00.0
comp=Z,1μm,18.5s
MORC Moravsky Berou 76.85 332 ⇑*i*P **P 15 22 05.2 +0.5**
MORC Moravsky Berou 76.85 332 ⇑P **P 15 22 05.2 +0.5**
CLL Collm 76.89 336 *e*P **P 15 22 05.0 +0.1**
CLL LmV 15 15 00.0
comp=Z,1μm,18.5s
BRG Berggiesshubel 77.00 335 *e*P **P 15 22 04.9 -0.6**
comp=Z,7.3nm,1.6s,mb4.3
BRG *e* 15 52 17.0
BRG
comp=N,343nm,17.4s
BRG
comp=E,403nm,19.3s
BRG
comp=Z,586nm,18.5s
BRG Berggiesshubel 77.00 335 *e*P **P 15 22 04.9 -0.6**
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BRG MLR MLR
comp=N,343nm,17.5s,MS4.9
BRG MLR MLR
comp=E,403nm,19.3s,MS4.9
BRG MLR MLR
comp=Z,586nm,18.5s,MS4.9
BRG Berggiesshubel 77.00 335 *e*P **P 15 22 04.9 -0.6**
comp=Z,7.3nm,1.6s,mb4.4
BRG *e* 15 52 17.0
PVCC Panska Ves 77.12 334 AMS AMS 16 15 20.0
comp=Z,800nm,15.9s
MLR Muntele Rosu 77.43 325 ⇓*i*P **P 15 22 09.1 +1.1**
MLR Muntele Rosu 77.43 325 ⇓P **P 15 22 09.1 +1.1**
MALT Malatya 77.44 313 ⇓*i*P **P 15 22 10.7 +2.7**
MALT Malatya 77.44 313 ⇓P **P 15 22 10.7 +2.7**
VYHS Vyhne 77.53 331 *e*P **P 15 22 08.7 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 77.53 331 *e*P **P 15 22 08.7 +0.2**
comp=Z,2.9nm,1.1s,mb4.1
VRAC Vranov 77.56 332 ⇑*i*P **P 15 22 09.6 +0.9**
VRAC Vranov 77.56 332 ⇑P **P 15 22 09.6 +0.9**
DRGR 77.60 328 ⇓*i*P **P 15 22 09.4 +0.5**
DRGR 77.60 328 ⇓P **P 15 22 09.4 +0.5**
PRU Pruhonice 77.61 334 *e*P **P 15 22 10.1 +1.2**
PRU AMS AMS 16 15 00.0
comp=Z,900nm,15.3s
VOIR 77.83 325 ⇑*i*P **P 15 22 11.0 +0.8**
MOX Moxa 77.88 336 *e*P **P 15 22 10.0 -0.4**
NKC Novy Kostel 78.01 335 *e*P **P 15 22 11.4 +0.2**
KHC Kasperske Hory 78.66 334 *e*P **P 15 22 13.9 -0.9**
KHC AMS AMS 16 15 20.0
comp=Z,800nm,17.3s
KHC Kasperske Hory 78.66 334 ⇑*e*P **P 15 22 13.8 -1.0**
BR131 Keskin Array S 78.71 317 *e*P **P 15 22 14.3 -0.8**
comp=Z,1.0nm,0.7s,mb3.9
BRTR Keskin Array B 78.71 317 P **P 15 22 15.8 +0.7**
comp=Z,1.9nm,0.8s,mb4.1,baz=64,slow=2.9,SNR=9.6
BRTR Keskin Array B 78.71 317 P **P 15 22 15.8 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
GZR Gura Zlata 78.75 327 ⇑*i*P **P 15 22 15.9 +0.6**
GZR Gura Zlata 78.75 327 ⇑P **P 15 22 15.9 +0.6**
UMR Umm Al-Rimmam 78.83 301 *e*P **P 15 22 15.1 -0.6**
UMR AMb AMB 15 22 19.5
comp=Z,28nm,0.8s,mb5.2
GRA1 Grafenberg Arr 78.84 336 *e*P **P 15 22 16.3 +0.5**
comp=Z,17nm,1.0s,mb4.9
GRF Grafenberg Arr 78.84 336 *e*P **P 15 22 16.3 +0.5**
comp=Z,17nm,1.0s,mb4.9
GRF Grafenberg Arr 78.84 336 *e*P **P 15 22 16.3 +0.5**
GRF pmax pmax
comp=Z,17nm,1.0s,mb4.9
GRF Grafenberg Arr 78.84 336 *e*P **P 15 22 16.3 +0.5**
GRF pmax pmax
comp=Z,17nm,1.0s,mb4.9
MIB Mutribah 78.87 301 *e*P **P 15 22 16.0 0.0**
MIB AMb AMB 15 22 21.6
comp=Z,36nm,0.7s,mb5.4
GERES GERESS Array B 78.87 334 P **P 15 22 15.8 -0.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=58,slow=3.3,SNR=11
GERES GERESS Array B 78.87 334 P **P 15 22 15.8 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
RST Umm Al-Ruwaisa 79.29 301 *e*P **P 15 22 18.3 +0.1**
RST AMb AMB 15 22 21.7
comp=Z,30nm,1.1s,mb5.2
NAY Al-Naaiem 79.33 301 *e*P **P 15 22 17.5 -1.0**
NAY AMb AMB 15 22 21.1
comp=Z,10.0nm,1.1s,mb4.7
KBA Koelnbreinsper 80.56 333 ⇑*i*P **P 15 22 26.0 +0.9**
comp=Z,14nm,0.8s,mb5.0
KBA Koelnbreinsper 80.56 333 ⇑*i*P **P 15 22 26.0 +0.9**
KBA pmax pmax
comp=Z,14nm,0.8s,mb4.9
VTS Vitosha 80.94 325 ⇓*i*P **P 15 22 27.4 +0.3**
VTS Vitosha 80.94 325 ⇓P **P 15 22 27.4 +0.2**
CDF Champ du Feu 81.09 338 *e*P **P 15 22 27.5 -0.4**
comp=Z,20nm,1.0s,mb4.7
CDF Champ du Feu 81.09 338 *e*P **P 15 22 27.5 -0.4**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CDF Champ du Feu 81.09 338 *e*P **P 15 22 27.5 -0.4**
comp=Z,10.0nm,1.0s,mb4.7
HKT Hockley 81.92 55 *e*P **P 15 22 34.5 +2.2**
HKT pmax pmax

comp=Z,8.0nm,1.0s,mb4.6
HKT Hockley 81.92 55 *e*P **P 15 22 34.5 +2.2**
comp=Z,8.1nm,1.0s,mb4.6
LOR Lormes 83.02 339 *e*P **P 15 22 37.6 -0.5**
comp=Z,17nm,0.8s,mb4.8
LOR Lormes 83.02 339 *e*P **P 15 22 37.6 -0.5**
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LOR Lormes 83.02 339 *e*P **P 15 22 37.6 -0.5**
comp=Z,8.6nm,0.8s,mb4.8
SSF Saint Saulge 83.30 340 *e*P **P 15 22 39.1 -0.4**
comp=Z,14nm,1.0s,mb4.7
SSF Saint Saulge 83.30 340 *e*P **P 15 22 39.1 -0.4**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SSF Saint Saulge 83.30 340 *e*P **P 15 22 39.1 -0.4**
comp=Z,7.2nm,1.0s,mb4.7
AVF Avril sur Loir 83.59 340 *e*P **P 15 22 40.8 -0.2**
SMF Signal de Mont 83.60 339 *e*P **P 15 22 40.8 -0.3**
comp=Z,50nm,1.2s,mb5.2
SMF Signal de Mont 83.60 339 *e*P **P 15 22 40.8 -0.3**
SMF pmax pmax
comp=Z,25nm,1.2s,mb5.2
SMF Signal de Mont 83.60 339 *e*P **P 15 22 40.8 -0.3**
comp=Z,25nm,1.2s,mb5.2
LPL La Plagne 83.90 337 *e*P **P 15 22 43.0 +0.4**
LPG La Plagne 83.91 337 *e*P **P 15 22 43.3 +0.6**
comp=Z,14nm,0.8s,mb4.8
LPG La Plagne 83.91 337 *e*P **P 15 22 43.3 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LPG La Plagne 83.91 337 *e*P **P 15 22 43.3 +0.6**
comp=Z,6.8nm,0.8s,mb4.8
TCF Toulx Ste Croi 84.33 340 *e*P **P 15 22 44.7 -0.1**
MBDF Montbardon 84.62 337 *e*P **P 15 22 46.2 -0.1**
ORIF Oris-en-Rattie 84.69 337 *e*P **P 15 22 46.9 +0.3**
comp=Z,33nm,1.2s,mb5.0
ORIF Oris-en-Rattie 84.69 337 *e*P **P 15 22 46.9 +0.3**
ORIF pmax pmax
comp=Z,17nm,1.2s,mb5.0
ORIF Oris-en-Rattie 84.69 337 *e*P **P 15 22 46.9 +0.3**
comp=Z,16nm,1.2s,mb5.0
VIVF Saint-Julien-I 85.06 338 *e*P **P 15 22 48.4 -0.1**
FRF La Foret Royal 85.73 336 *e*P **P 15 22 51.2 -0.6**
LMR La Mourre 85.98 336 *e*P **P 15 22 52.7 -0.3**
comp=Z,60nm,1.4s,mb5.3
LMR La Mourre 85.98 336 *e*P **P 15 22 52.7 -0.3**
LMR pmax pmax
comp=Z,30nm,1.4s,mb5.3
LMR La Mourre 85.98 336 *e*P **P 15 22 52.7 -0.3**
comp=Z,30nm,1.4s,mb5.3
KEST Kesra 92.07 331 P **P 15 23 25.0 +3.1**
comp=Z,0.8nm,0.6s,mb4.2,baz=336,slow=4.2,SNR=5.1
TOA0 Torodi Ar. Sit 115.49 329 *e*PKPdf PKPdf 15 28 56.0 +1.4
DBIC Dimbokro 123.74 333 PKP PKPdf 15 29 08.7 -1.8
comp=Z,8.0nm,0.9s,baz=231,slow=1.6,SNR=6.8
BDFB Brasilia 144.77 37 PKPbc PKPdf 15 29 48.3 -1.3
comp=Z,4.3nm,0.7s,baz=278,slow=2.6,SNR=5.2
PLCA Paso Flores 148.22 96 PKPbc PKPbc 15 29 56.0 -2.7
comp=Z,1.8nm,0.8s,baz=297,slow=3.8,SNR=3.2
PLCA Paso Flores 148.22 96 PKIKP PKPdf 15 29 56.0 +0.6
PLCA pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 148.76 61 PKPbc PKPdf 15 29 56.1 -0.2
comp=Z,3.1nm,0.8s,baz=285,slow=2.8,SNR=4.4
CPUP Villa Florida 148.76 61 PKIKP PKPdf 15 29 56.1 -0.2
CPUP pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 152.06 196 PKPbc PKPdf 15 30 01.6 +0.2
comp=Z,2.6nm,1.3s,baz=185,slow=11,SNR=2.5
SNAA Sanae 152.06 196 PKIKP PKPdf 15 30 01.6 +0.2
SNAA pmax pmax
comp=Z,3.0nm,1.3s

ISCJB ***02*** *15:10:21.0±0.6,3421N×003×677W±006,h21km, Error ellipse: s-maj=7.3km s-min=4.1km az=2.5*
CSEM ***02*** *15:10:22.3±0.3,3417N×681W,h30km, MD3.2, Error ellipse: s-maj=10.4km s-min=5.4km az=89.0*
MDD ***02*** *15:10:23.8±0.7,3416N×683W,h21km±4km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=6.6km az=89.0, PRXIMO*
CNRM ***02*** *15:10:24.9,3409N×677W,h19km, MD3.2*
ISC 02 15:10:22.6±0.7,3419N±003×681W±007,h28km±5km,n14, σ1§25/26,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTC	**Rabat Centre**	**0.20**	**192**	*i* P	**Pb**	**15 10 28.0**	**-0.6**
RTC				*i* S	**Sb**	**15 10 32.0**	**-0.7**
MIF	**Mishlifen**	**1.52**	**120**	*i* P	**Pn**	**15 10 50.0**	**+2.1**
MIF				*i* S	**Sn**	**15 11 08.0**	**+1.2**
KIB	**El Ksiba**	**1.73**	**158**	*i* P	**Pn**	**15 10 51.0**	**+0.2**
KIB				*i* S	**Sn**	**15 11 11.0**	**-0.9**
CZD	**Col de Zad**	**1.87**	**128**	*i* P	**Pn**	**15 10 54.0**	**+1.4**
CZD				*i* S	**Sn**	**15 11 13.0**	**-2.3**
TZC	**Tazercounte**	**2.05**	**173**	*i* P	**Pn**	**15 10 56.0**	**+0.8**
TZC				*i* S	**Sn**	**15 11 19.0**	**-0.8**
ZFT	**Errachidia**	**2.98**	**136**	*e*P	**Pn**	**15 11 08.0**	**+0.1**
ZFT				*e*S	**Sn**	**15 11 42.0**	**-0.6**
CIA	**Chichaoua**	**3.09**	**213**	*e*P	**Pn**	**15 11 10.0**	**+0.6**
CIA				*e*S	**Sn**	**15 11 45.0**	**-0.4**
EMIN	**Mina Concepcio**	**3.57**	**2**	P	**Pn**	**15 11 18.3**	**+2.2**
0.3nm,0.2s,SNR=6.7							
EMIN				S	**Sn**	**15 11 57.3**	**0.0**
1.6nm,0.1s,SNR=5.0							
EMIN	**Mina Concepcio**	**3.57**	**2**	P	**Pn**	**15 11 18.3**	**+2.2**
0.3nm,0.2s,SNR=6.7							
EMIN				S	**Sn**	**15 11 57.3**	**-0.1**
1.6nm,0.1s,SNR=5.0							
EADA	**Adamuz**	**4.36**	**24**	P	**Pn**	**15 11 28.2**	**+1.3**
0.2nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**15 12 15.4**	**-1.4**
0.5nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.36**	**24**	P	**Pn**	**15 11 28.2**	**+1.3**
0.2nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**15 12 15.4**	**-1.4**
0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.56**	**358**	S	**Sn**	**15 12 19.9**	**-1.8**
1.5nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.56**	**358**	S	**Sn**	**15 12 19.9**	**-1.9**
1.5nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**4.66**	**31**	P	**Pn**	**15 11 32.5**	**+1.4**
2.0nm,0.2s,SNR=7.9							
EBAN				S	**Sn**	**15 12 21.7**	**-2.5**
1.7nm,0.1s,SNR=7.9							

ATH ***02*** *15:12:59.2,3666N×2859E,h22km, MD3.3/3*
CSEM ***02*** *15:13:02.5±0.3,3604N×2873E,h20km±1km, MD3.4, Error ellipse: s-maj=6.3km s-min=2.6km az=13.0*
ISCJB ***02*** *15:13:03.3±1.0,3596N±007×2872E±005,h27km±8km, Error ellipse: s-maj=11.4km s-min=7.1km az=31.0*
ISK ***02*** *15:13:03.5,3605N×2874E,h30km, MD3.4*
ISC 02 15:13:02.2±1.0,3595N±006×2867E±004,h9km±6km,n15, σ0§97/20,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.52**	**301**	*e*PN	**Pg**	**15 13 10.7**	**-1.5**
ARG				*e*SN	**Sg**	**15 13 19.5**	**+0.5**
KSL	**Kastellorizon**	**0.77**	**75**	*e*PN	**Pg**	**15 13 17.5**	**+0.5**
AKAS	**Kas**	**0.81**	**69**	*i* P	**Pg**	**15 13 18.0**	**+0.2**
AKAS				*i* S	**Sg**	**15 13 30.1**	**+1.8**
DALT	**Dalyan (Mudla)**	**0.82**	**358**	PG	**Pg**	**15 13 17.2**	**-0.8**
DALT				SG	**Sg**	**15 13 28.5**	**-0.1**
DAT	**Datca**	**1.18**	**312**	PN	**Pn**	**15 13 24.2**	**-0.6**
ELL	**Elmali**	**1.28**	**51**	*e*PN	**Pn**	**15 13 24.7**	**-1.5**
KARP	**Karpathos**	**1.29**	**252**	*e*PN	**Pb**	**15 13 28.4**	**+1.8**
BDRM	**Kayabasi**	**1.49**	**319**	*i* P	**Pn**	**15 13 29.2**	**+0.1**
BDRM				*i* S	**Sn**	**15 13 50.0**	**+1.3**
MLSB	**Milas**	**1.52**	**332**	*e*PN	**Pn**	**15 13 28.8**	**-0.8**
BODT	**Bodrum**	**1.56**	**316**	*e*PN	**Pn**	**15 13 29.5**	**-0.6**
AYDN	**Tasoluk**	**1.82**	**340**	*i* P	**Pn**	**15 13 34.3**	**+0.6**
AYDN				*i* S	**Sn**	**15 13 58.3**	**+1.4**
DENT	**Denizli**	**1.82**	**9**	*e*PN	**Pn**	**15 13 32.5**	**-1.2**
IZM	**Izmir**	**2.69**	**336**	*e*PN	**Pn**	**15 13 45.4**	**-0.2**
HDMB	**Hadim**	**3.24**	**71**	*e*PN	**Pn**	**15 13 52.6**	**-0.5**
IKL	**Isikli**	**4.07**	**84**	*e*PN	**Pn**	**15 14 04.3**	**-0.3**

IDC ***02*** *15:21:06.7±0.6,1285N×144.11E,h0km, mb4.2/13, mb1 4.3/13,mb1mx4.2/22,mbtmp4.2/13,Error ellipse: s-maj=19.7km s-min=12.6km az=102.0*
ISCJB ***02*** *15:21:07.2±1.5,1282N±005×14408E±008,h12km±10km, mb4.2/17,Error ellipse: s-maj=13.4km s-min=7.8km az=55.0*
BJI ***02*** *15:21:08.4,1290N×144.10E,h18km, mb4.6*
NEIC ***02*** *15:21:09.4±2.0,1287N×144.14E,h18km±14km,mb4.4/5, Error ellipse: s-maj=17.1km s-min=8.2km az=81.0*
ISC 02 15:21:09.8±1.5,1284N±005×14417E±008,h18km±10km, n29,σ0§86/29,mb4.2/17,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.01**	**43**	Pn	**Pn**	**15 21 29.0**	**0.0**
1μm,0.3s,baz=180,slow=6.0,SNR=206							
GUMO				Sn	**Sn**	**15 21 42.7**	**+0.1**
2μm,0.3s,baz=0.0,slow=20,SNR=49							
GUMO	**Guam**	**1.01**	**43**	*e*Pg	**Pg**	**15 21 28.9**	**-0.5**
GUMO				Pn	**Pn**	**15 21 29.0**	**0.0**
GUMO				Sn	**Sn**	**15 21 42.7**	**+0.1**
GUMO				*e*Sg	**Sg**	**15 21 43.0**	**+0.6**
JOW	**Kunigami**	**20.39**	**315**	P	**P**	**15 25 45.5**	**0.0**
20nm,0.8s,baz=133,slow=19,SNR=2.2							
PMG	**Port Moresby**	**22.30**	**172**	P	**P**	**15 26 06.1**	**0.0**
13nm,0.9s,mb4.3,baz=172,slow=7.1,SNR=2.7							
MJAR	**Matsushiro Arr**	**24.20**	**348**	P	**P**	**15 26 25.1**	**0.0**
2.3nm,0.6s,mb3.8,baz=162,slow=7.2,SNR=7.4							
MAT	**Matsushiro**	**24.20**	**348**	P	**P**	**15 26 24.7**	**-0.4**
WRA	**Warramunga Arr**	**33.98**	**197**	P	**P**	**15 27 52.1**	**-0.1**
4.2nm,0.7s,mb4.5,baz=20,slow=9.3,SNR=45							
FITZ	**Fitzroy Crossi**	**35.77**	**211**	*e*P	**P**	**15 28 07.8**	**+0.1**
3.0nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**35.77**	**211**	P	**P**	**15 28 07.4**	**-0.3**
1.7nm,0.7s,mb4.1,baz=33,slow=8.8,SNR=6.0							
BJI	**Beijing**	**36.61**	**323**	P	**P**	**15 28 18.2**	**+3.4**
BJI				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.6							
AS31	**Alice Springs**	**37.65**	**196**	*e*P	**P**	**15 28 23.6**	**0.0**
ASAR	**Alice Springs**	**37.65**	**196**	P	**P**	**15 28 23.7**	**+0.1**
comp=Z,3.2nm,0.7s,mb4.2,baz=20,slow=12,SNR=50							
ASAR				PP	PP	15 29 51.2	+1.6
comp=Z,1.3nm,0.9s,baz=17,slow=12,SNR=4.3							
ASAR				PcP	PcP	15 30 41.5	+0.6
comp=Z,0.5nm,0.6s,baz=7.6,slow=1.9,SNR=4.7							
DZM	**Mont Dzumac**	**41.01**	**148**	P	**P**	**15 28 53.1**	**+1.4**
comp=Z,4.4nm,0.6s,mb4.2,baz=247,slow=7.7,SNR=4.3							
MBWA	**Marble Bar**	**41.45**	**216**	*e*P	**P**	**15 28 54.9**	**-0.4**
comp=Z,4.1nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**44.53**	**183**	*e*P	**P**	**15 29 19.8**	**-0.5**
comp=Z,3.7nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**44.53**	**183**	P	**P**	**15 29 19.4**	**-0.8**
comp=Z,7.6nm,0.8s,mb4.6,baz=353,slow=7.7,SNR=17							
PSI	**Prapat**	**45.84**	**261**	P	**P**	**15 29 30.9**	**+0.2**
comp=Z,1.8nm,0.4s,mb4.4,baz=244,slow=22,SNR=3.7							
SONM	**Songino Array**	**46.95**	**326**	P	**P**	**15 29 39.8**	**+0.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=145,slow=7.9,SNR=7.0							
GTA	**Gaotai**	**47.16**	**312**	*e*P	**P**	**15 29 42.3**	**+1.3**
GTA				AP	pP	15 29 46.5	-0.3
GTA				XP	sP	15 29 49.4	+0.3
GTA				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.4							
KLBR	**Kellerberrin**	**50.93**	**209**	*e*P	**P**	**15 30 09.2**	**-0.7**
comp=Z,9.0nm,0.7s,mb4.8							
MUN	**Mundaring**	**52.00**	**210**	*e*P	**P**	**15 30 20.5**	**+2.6**
MKAR	**Makanchi Array**	**61.55**	**316**	P	**P**	**15 31 25.2**	**-0.5**
comp=Z,0.6nm,0.5s,mb4.0,baz=82,slow=9.8,SNR=8.3							
ZRNK	**Zerenda**	**70.92**	**322**	*e*P	**P**	**15 32 25.7**	**0.0**
comp=Z,1.8nm,0.9s,mb4.0							
VNDA	**Vanda**	**90.77**	**176**	P	**P**	**15 34 10.8**	**-0.9**
comp=Z,0.3nm,0.6s,mb3.8,baz=333,slow=4.2,SNR=5.9							
FINES	**FINESS Array B**	**91.55**	**335**	P	**P**	**15 34 13.1**	**-2.2**
comp=Z,0.8nm,0.7s,mb4.1,baz=46,slow=8.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**134.71**	**303**	PKP	PKPdf	15 40 27.4	+0.2
comp=Z,0.2nm,0.5s,baz=50,slow=2.3,SNR=4.1							
DBIC	**Dimbokro**	**143.62**	**300**	*e*PKPpre		15 40 40.9	
LPAZ	**La Paz**	**148.57**	**100**	PKPbc	PKPbc	15 40 57.4	+1.9
comp=Z,1.1nm,0.6s,baz=285,slow=4.6,SNR=7.1							
LPAZ	**La Paz**	**148.57**	**100**	*e*PKPbc	PKPbc	15 40 57.6	+2.1

NEIC ***02*** *15:36:35.8±1.8,2168N×14366E,h207km±17km,mb4.2/6, Error ellipse: s-maj=25.8km s-min=9.4km az=86.0*
ISCJB ***02*** *15:36:44.6±1.1,2168N±006×1435E±02,h305km±9km, mb4.0/15,Error ellipse: s-maj=28.6km s-min=9.1km az=173.5*
IDC ***02*** *15:36:44.5±1.7,2167N×14341E,h287km±17km,mb3.7/10, mb1 3.8/13,mb1mx3.7/22,mbtmp4.4/13,Error ellipse: s-maj=26.5km s-min=9.8km az=88.0*
JMA ***02*** *15:36:46.7±0.2,2187N×14366E,h312km,M4.7*
ISC 02 15:36:45.2±1.2,2169N±007×1436E±02,h298km±10km, n41,σ0§91/45,mb4.0/15,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.09**	**346**	P	**Pn**	**15 38 04.4**	**+0.8**
JHHJ				*e*S	**S**	**15 39 04.8**	**-1.8**
CBIJ	**Chichi jima**	**5.53**	**347**	P	**Pn**	**15 38 09.0**	**+0.2**
71nm,0.3s,baz=219,slow=5.2,SNR=60							
CBIJ				S	**S**	**15 39 14.2**	**-2.0**
37nm,0.3s,baz=289,slow=23,SNR=6.0							
CBIJ	**Chichi jima**	**5.53**	**347**	P	**Pn**	**15 38 09.4**	**+0.6**
CBIJ				*e*S	**S**	**15 39 14.3**	**-1.9**
GUMO	**Guam**	**8.15**	**171**	*e*Pn	**Pn**	**15 38 29.6**	**-11**
JHJ2	**Mitsune**	**11.86**	**344**	P	**Pn**	**15 39 26.0**	**0.0**
JHJ	**Hachijo jima 2**	**11.88**	**344**	P	**Pn**	**15 39 26.1**	**-0.1**
7.9nm,0.3s,baz=72,slow=23,SNR=12							
JHJ				S	**S**	**15 41 33.5**	**-4.9**
5.2nm,0.3s,baz=52,slow=18,SNR=2.6							
BSO3	**Boso 3**	**13.34**	**349**	P	**Pn**	**15 39 44.4**	**+0.5**
JIE	**Ise**	**14.03**	**336**	P	**Pn**	**15 39 53.0**	**+0.9**
JOD2	**Odawara 2**	**14.09**	**345**	P	**Pn**	**15 39 54.1**	**+1.3**
JOD2				*e*S	**S**	**15 42 21.0**	**-6.5**
JHU	**Hanno**	**14.61**	**346**	P	**Pn**	**15 39 59.1**	**+0.2**
JTO	**Tosashimizu**	**14.68**	**322**	P	**Pn**	**15 40 01.2**	**+1.4**
JYT	**Yasato**	**14.79**	**349**	P	**Pn**	**15 40 02.5**	**+1.4**
JRY	**Ryogami san**	**14.85**	**345**	P	**Pn**	**15 40 02.1**	**+0.3**
JHO	**Hitachi**	**15.10**	**351**	P	**Pn**	**15 40 05.3**	**+0.5**
JAG	**Ashikaga**	**15.12**	**347**	P	**Pn**	**15 40 04.5**	**-0.5**
MJAR	**Matsushiro Arr**	**15.53**	**344**	P	**Pn**	**15 40 09.0**	**-0.8**
0.8nm,0.3s,baz=147,slow=14,SNR=8.2							
MAJO	**Matsushiro**	**15.53**	**344**	P	**Pn**	**15 40 06.1**	**-3.7**
MAT	**Matsushiro**	**15.53**	**344**	P	**Pn**	**15 40 09.0**	**-0.8**
JHS	**Saijyo**	**16.14**	**328**	P	**P**	**15 40 16.0**	**+1.3**
JMK	**Ichinoseki**	**17.33**	**354**	P	**P**	**15 40 30.2**	**+2.6**
SONM	**Songino Array**	**39.59**	**320**	P	**P**	**15 43 47.9**	**-0.3**
1.0nm,0.6s,mb3.3,baz=130,slow=7.3,SNR=12							
YAK	**Yakutsk**	**41.44**	**350**	*e*P	**P**	**15 44 03.7**	**+0.4**
13nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**42.35**	**193**	P	**P**	**15 44 10.7**	**+0.1**
9.1nm,0.6s,mb4.2,baz=15,slow=8.6,SNR=116							
FITZ	**Fitzroy Crossi**	**43.27**	**205**	*e*P	**P**	**15 44 17.3**	**-0.6**
7.3nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**43.27**	**205**	P	**P**	**15 44 17.4**	**-0.6**
4.8nm,0.7s,mb3.9,baz=27,slow=9.0,SNR=15							
AS31	**Alice Springs**	**46.05**	**192**	*e*P	**P**	**15 44 40.4**	**+0.7**
ASAR	**Alice Springs**	**46.06**	**192**	P	**P**	**15 44 39.3**	**-0.4**
1.8nm,0.6s,mb3.6,baz=17,slow=12,SNR=42							
MBWA	**Marble Bar**	**48.54**	**210**	*e*P	**P**	**15 44 58.2**	**-0.5**
STKA	**Stephens Creek**	**53.29**	**182**	*e*P	**P**	**15 45 34.3**	**+0.4**
3.7nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**53.29**	**182**	P	**P**	**15 45 33.8**	**-0.2**
5.1nm,0.6s,mb4.0,baz=353,slow=7.1,SNR=21							
MKAR	**Makanchi Array**	**54.98**	**313**	P	**P**	**15 45 45.5**	**-0.5**
0.9nm,0.6s,mb3.4,baz=82,slow=8.9,SNR=11							
BRVK	**Borovoye**	**62.99**	**320**	*e*P	**P**	**15 46 40.5**	**-0.3**
2.0nm,0.6s,mb3.9							
INK	**Inuvik**	**67.43**	**24**	P	**P**	**15 47 08.2**	**-0.8**
1.3nm,0.6s,mb3.9,baz=304,slow=2.6,SNR=3.7							
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**15 48 01.5**	**+0.1**
2.0nm,0.6s,mb4.0,baz=291,slow=5.9,SNR=5.2							
KEV	**Kevo**	**78.49**	**341**	*e*p	**P**	**15 48 13.4**	**-0.2**
3.0nm,0.6s,mb4.2							
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**15 48 17.3**	**+0.7**
5.1nm,0.6s,mb4.4,baz=72,slow=8.5,SNR=24							
ARCES	**ARCESS Array B**	**79.05**	**342**	P	**P**	**15 48 17.3**	**+0.7**
JOF	**Joensuu**	**80.49**	**335**	*e*p	**P**	**15 48 23.2**	**-1.1**
3.0nm,0.4s,mb4.4							
KAF	**Kangasniemi**	**82.89**	**335**	*e*p	**P**	**15 48 35.2**	**-1.5**
1.3nm,0.5s,mb4.0,baz=54,slow=4.8							
FINES	**FINESS Array B**	**83.35**	**335**	P	**P**	**15 48 38.6**	**-0.5**
1.8nm,0.5s,mb4.2,baz=68,slow=5.0,SNR=24							
PLCA	**Paso Flores**	**145.47**	**131**	PKPbc	PKPbc	15 55 50.1	+1.7
4.7nm,0.8s,baz=210,slow=4.1,SNR=13							

IDC ***02*** *15:40:43.6±3.2,981S×15472E,h0km,mb3.9/5,mb1 4.1/5, mb1mx3.9/10,mbtmp3.9/5,MS4.0/8,Ms1 3.9/8, ms1mx3.8/21,Error ellipse: s-maj=93.6km s-min=27.9km az=107.0*
ISCJB ***02*** *15:40:48.9±1.5,97S±02×1544E±03,h33km,mb4.0/6, MS4.0/5,Error ellipse: s-maj=40.3km s-min=21.4km az=34.3*
NEIC ***02*** *15:40:49.1±1.4,973S×15446E,h25km,mb4.6/1,Error ellipse: s-maj=38.3km s-min=21.0km az=106.0*
ISC 02 15:40:50.6±1.5,97S±02×1545E±03,h35km,n15,σ0§83/8, mb4.0/6,MS4.0/5,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.22**	**272**	LR	LR	15 45 02.3	
comp=Z,342nm,20.1s,baz=160,slow=35							
CTA	**Charters Tower**	**12.99**	**217**	LR	LR	15 47 54.1	
comp=Z,561nm,21.9s,baz=29,slow=33							
DZM	**Mont Dzumac**	**16.80**	**138**	LR	LR	15 49 42.1	
comp=Z,547nm,21.4s,baz=27,slow=32							
WRA	**Warramunga Arr**	**21.92**	**240**	P	**P**	**15 45 41.3**	**+0.4**
2.9nm,0.9s,mb3.7,baz=64,slow=10,SNR=9.0							
AS31	**Alice Springs**	**24.03**	**232**	*e*P	**P**	**15 46 03.2**	**+1.0**
ASAR	**Alice Springs**	**24.03**	**232**	P	**P**	**15 46 01.6**	**-0.6**
4.2nm,1.0s,mb3.8,baz=62,slow=9.8,SNR=19							
STKA	**Stephens Creek**	**25.05**	**207**	P	**P**	**15 46 10.1**	**-1.5**
2.8nm,0.7s,mb3.9,baz=13,slow=14,SNR=4.3							
STKA				LR	LR	15 55 24.3	
comp=Z,423nm,18.9s,MS4.0,baz=24,slow=35							
STKA	**Stephens Creek**	**25.05**	**207**	P	**P**	**15 46 10.1**	**-1.5**
STKA				LR	LR	15 55 24.3	
GUMO	**Guam**	**25.07**	**337**	LR	LR	15 53 43.5	
comp=Z,302nm,20.3s,MS3.8,baz=180,slow=31							
FITZ	**Fitzroy Crossi**	**29.16**	**250**	LR	LR	15 58 53.4	
comp=Z,165nm,21.6s,MS3.6,baz=237,slow=37							
MJAR	**Matsushiro Arr**	**48.52**	**342**	LR	LR	16 07 20.1	
comp=Z,187nm,18.1s,MS4.1,baz=255,slow=33							
SONM	**Songino Array**	**71.37**	**328**	P	**P**	**15 52 06.4**	**-0.6**
2.1nm,1.1s,mb4.0,baz=131,slow=5.6,SNR=6.8							
QSPA	**South Pole Qui**	**80.25**	**180**	*e*P	**P**	**15 52 58.6**	**+0.9**
8.2nm,1.3s,mb4.5							
MKAR	**Makanchi Array**	**85.12**	**319**	P	**P**	**15 53 23.2**	**+0.2**
0.8nm,0.9s,mb3.8,baz=93,slow=6.1,SNR=4.4							
BBB	**Bella Bella**	**90.01**	**37**	LR	LR	16 30 49.7	
comp=Z,169nm,18.6s,MS4.5,baz=294,slow=33							

IDC 02 15:48:28.9±2.0,1265N×14476E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/17,mbtmp3.6/3,Error ellipse: s-maj=159.3km s-min=15.7km az=99.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**7**	Pn	Pn	15 48 49.3	0.0
502nm,0.3s,baz=180,slow=7.0,SNR=180							
GUMO				Sn	Sn	15 49 03.0	-0.5
849nm,0.3s,baz=180,slow=24,SNR=90							
MJAR	**Matsushiro Arr**	**24.51**	**347**	P	P	15 53 51.2	+1.3
1.5nm,0.8s,baz=176,slow=9.5,SNR=3.5							
WRA	**Warramunga Arr**	**33.97**	**198**	P	P	15 55 13.7	-0.3
1.2nm,1.1s,baz=17,slow=9.1,SNR=4.5							
ASAR	**Alice Springs**	**37.62**	**196**	P	P	15 55 45.7	+0.3
0.4nm,0.7s,baz=21,slow=12,SNR=5.7							

ISCJB ***02*** *15:51:58.1±1.9,385S±006×13968E±0.10,h89km±20km, mb4.5/13,Error ellipse: s-maj=16.7km s-min=9.3km az=25.2*
IDC ***02*** *15:51:58.8±2.9,383S×13965E,h79km±26km,mb3.9/7, mb1 4.0/11,mb1mx3.9/14,mbtmp4.3/11,MS3.9/1, Ms1 3.8/1,ms1mx3.1/14,Error ellipse: s-maj=22.9km s-min=12.3km az=90.0*
NEIC ***02*** *15:51:58.9±1.5,377S×13966E,h82km±12km,mb4.0/5, Error ellipse: s-maj=12.1km s-min=10.5km az=207.0*
ISC 02 15:52:00.0±1.5,391S±007×13959E±008,h84km±14km, n35,σ1§19/33,mb4.5/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.29**	**126**	P	**Pn**	**15 54 09.7**	**-1.3**
2.3nm,0.3s,baz=244,slow=3.8,SNR=9.4							
PMG	**Port Moresby**	**9.29**	**126**	*e*P	**Pn**	**15 54 09.9**	**-1.1**
KAKA	**Kakadu**	**11.24**	**219**	*e*P	**Pn**	**15 54 38.9**	**+1.2**
147nm,0.4s							
KAKA				*e*S	**Sn**	**15 56 39.3**	**-2.2**
WRA	**Warramunga Arr**	**16.74**	**197**	P	**Pn**	**15 55 49.5**	**+0.3**
3.8nm,0.3s,baz=20,slow=13,SNR=71							
WRA				S	**S**	**15 58 50.9**	**-10**
2.1nm,0.3s,baz=12,slow=23,SNR=7.6							
CTA	**Charters Tower**	**17.34**	**159**	P	**Pn**	**15 55 58.1**	**+1.6**
0.2nm,0.3s,baz=335,slow=14,SNR=4.0							
CTAO	**Charters Tower**	**17.34**	**159**	*e*P	**Pn**	**15 55 57.7**

MXZ	**Matakaoa Point**	**1.51 315**	*e*P	Pn	16 00 20.6	-0.2
MXZ	**Matakaoa Point**	**1.51 315**	PN	Pn	16 00 20.6	-0.2
MXZ			SN	Sn	16 00 38.5	-0.8
KNZ	**Kokohu**	**1.60 255**	P	Pn	16 00 21.1	-0.9
KNZ			S	Sn	16 00 35.9	-5.6
KNZ	**Kokohu**	**1.60 255**	PN	Pn	16 00 21.1	-0.9
KNZ			SN	Sn	16 00 39.7	-1.8
MWZ	**Matawai**	**1.70 279**	P	Pn	16 00 22.6	-0.8
MWZ	**Matawai**	**1.70 279**	⇑PN	Pn	16 00 22.6	-0.8
URZ	**Urewera**	**2.03 280**	P	Pn	16 00 27.7	-0.4
URZ	**Urewera**	**2.03 280**	PN	Pn	16 00 27.4	-0.7
EDRZ	**Edgecumbe**	**2.35 282**	P	Pn	16 00 33.0	+0.6
MARZ	**Manawahe**	**2.43 284**	P	Pn	16 00 33.0	-0.5
MARZ	**Manawahe**	**2.43 284**	PN	Pn	16 00 32.9	-0.6
TAZ	**Tarawera**	**2.50 278**	P	Pn	16 00 34.8	+0.3
TAZ	**Tarawera**	**2.50 278**	PN	Pn	16 00 34.7	+0.2
BKZ	**Black Stump Fm**	**2.53 257**	P	Pn	16 00 34.2	-0.6
BKZ	**Black Stump Fm**	**2.53 257**	PN	Pn	16 00 34.1	-0.7
PXZ	**Pawanui**	**2.58 236**	PN	Pn	16 00 33.1	-2.5
LIRZ	**Lichensteins R**	**2.65 283**	P	Pn	16 00 36.1	-0.4
LIRZ	**Lichensteins R**	**2.65 283**	PN	Pn	16 00 36.0	-0.5
PATZ	**Paeroa**	**2.68 274**	P	Pn	16 00 37.1	+0.2
PATZ	**Paeroa**	**2.68 274**	PN	Pn	16 00 36.9	-0.1
KARZ	**Kaharoa**	**2.75 282**	P	Pn	16 00 37.4	-0.5
KARZ			S	Sn	16 01 03.1	-6.9
KARZ	**Kaharoa**	**2.75 282**	PN	Pn	16 00 37.4	-0.5
RITZ	**Rihia Road**	**2.99 262**	P	Pn	16 00 40.6	-0.6
MOVZ	**Moawhango**	**3.14 254**	P	Pn	16 00 43.1	-0.1
MOVZ	**Moawhango**	**3.14 254**	PN	Pn	16 00 43.0	-0.2
KRVZ	**Karewarewa**	**3.17 260**	PN	Pn	16 00 43.4	-0.2
TUVZ	**Tukino**	**3.19 257**	P	Pn	16 00 44.3	+0.4
TUVZ	**Tukino**	**3.19 257**	PN	Pn	16 00 44.0	+0.1
TSZ	**Takapari Road**	**3.20 242**	P	Pn	16 00 41.4	-2.7
NGZ	**Ngauruhoe**	**3.21 259**	P	Pn	16 00 44.3	+0.1
NGZ	**Ngauruhoe**	**3.21 259**	PN	Pn	16 00 44.3	0.0
WNVZ	**Wahianoa**	**3.24 256**	P	Pn	16 00 44.7	+0.1
WNVZ	**Wahianoa**	**3.24 256**	PN	Pn	16 00 44.7	0.0
WPVZ	**Whakapapa**	**3.26 259**	P	Pn	16 00 44.5	-0.4
BFZ	**Birch Farm**	**3.33 231**	*e*P	Pn	16 00 42.2	-3.8
BFZ	**Birch Farm**	**3.33 231**	PN	Pn	16 00 42.3	-3.6
BFZ			SN	Sn	16 01 20.6	-3.8
MTVZ	**Mangateitei**	**3.35 256**	PN	Pn	16 00 46.1	-0.1
MTVZ			SN	Sn	16 01 23.3	-1.4
TIWZ	**Tintock**	**3.61 232**	PN	Pn	16 00 46.4	-3.4
KUZ	**Kuaotunu**	**3.64 300**	*e*P	Pn	16 00 49.0	-1.2
KUZ	**Kuaotunu**	**3.64 300**	PN	Pn	16 00 49.0	-1.2
MRZ	**Mangatainoka R**	**3.74 236**	P	Pn	16 00 48.3	-3.3
MRZ	**Mangatainoka R**	**3.74 236**	PN	Pn	16 00 48.3	-3.2
HIZ	**Hauiti**	**3.76 270**	*e*P	Pn	16 00 50.4	-1.5
WAZ	**Wanganui**	**3.80 251**	*e*P	Pn	16 00 52.9	+0.6
VRZ	**Vera Road**	**3.85 261**	*e*P	Pn	16 00 53.1	0.0
MTW	**Mount Morrison**	**4.07 230**	P	Pn	16 00 51.6	-4.5
MTW	**Mount Morrison**	**4.07 230**	PN	Pn	16 00 51.6	-4.5
RAEZ	**Rainy Point**	**4.15 259**	P	Pn	16 00 57.9	+0.7
PAWZ	**Paruwai Farm**	**4.25 228**	P	Pn	16 00 54.1	-4.5
PAWZ	**Paruwai Farm**	**4.25 228**	PN	Pn	16 00 54.1	-4.5
KIW	**Kapiti Island**	**4.28 237**	P	Pn	16 00 56.3	-2.7
KIW	**Kapiti Island**	**4.28 237**	PN	Pn	16 00 56.3	-2.7
CAW	**Cannon Point**	**4.31 234**	P	Pn	16 00 55.6	-3.8
CAW	**Cannon Point**	**4.31 234**	PN	Pn	16 00 55.6	-3.8
MSWZ	**Moikau Station**	**4.38 229**	P	Pn	16 00 55.8	-4.5
MSWZ	**Moikau Station**	**4.38 229**	PN	Pn	16 00 55.8	-4.5
DFE	**Dawson Falls**	**4.38 259**	P	Pn	16 00 56.0	-4.4
NEZ	**North Egmont**	**4.38 260**	*e*P	Pn	16 01 00.7	+0.4
PKE	**Pukeiti**	**4.46 261**	P	Pn	16 01 02.5	+1.1
PKE	**Pukeiti**	**4.46 261**	PN	Pn	16 01 02.5	+1.2
BHW	**Baring Head**	**4.60 231**	P	Pn	16 00 59.5	-3.9
BHW	**Baring Head**	**4.60 231**	SN	Sn	16 01 49.9	-5.8
MRW	**Makara Radio**	**4.61 234**	P	Pn	16 00 59.9	-3.6
MRW	**Makara Radio**	**4.61 234**	PN	Pn	16 00 59.9	-3.6
SNZO	**South Karori**	**4.65 233**	Pn	Pn	16 01 00.6	-3.5
SNZO			*e*Sn	Sn	16 01 51.9	-4.9
TCW	**Tory Channel**	**4.87 236**	P	Pn	16 01 03.4	-3.7
TCW	**Tory Channel**	**4.87 236**	PN	Pn	16 01 03.4	-3.7
TUWZ	**Tuamarina**	**5.20 236**	PN	Pn	16 01 07.4	-4.2
BSWZ	**Blackbirch Sta**	**5.39 233**	P	Pn	16 01 09.7	-4.5
QRZ	**Quartz Range**	**5.92 246**	*e*P	Pn	16 01 17.9	-3.5
QRZ	**Quartz Range**	**5.92 246**	PN	Pn	16 01 17.9	-3.5
KHZ	**Kahutara**	**6.00 229**	P	Pn	16 01 17.8	-4.8
THZ	**Tophouse**	**6.04 237**	*e*P	Pn	16 01 19.1	-4.1
THZ	**Tophouse**	**6.04 237**	PN	Pn	16 01 19.1	-4.1
DSZ	**Denniston Nort**	**6.77 240**	*e*P	Pn	16 01 29.3	-3.8
LTZ	**Lake Taylor**	**6.98 231**	*e*P	Pn	16 01 31.2	-4.8
LTZ	**Lake Taylor**	**6.98 231**	PN	Pn	16 01 31.2	-4.7
LBZ	**Lake Benmore**	**9.14 228**	*e*P	Pn	16 02 03.3	-3.3
ODZ	**Otahua Downs**	**9.29 223**	*e*P	Pn	16 02 03.5	-4.2

CSEM ***02*** *16:11:37.9±0.1, 4309N×1335E, h28km±1km, ML3.5/4, Error ellipse: s-maj=1.5km s-min=1.0km az=81.0*
NEIC ***02*** *16:11:38.4, 4308N×1333E, h23km, ML2.7(ROM), After ROM.*
ROM ***02*** *16:11:38.4±0.1, 4308N×1333E, h23km±2km, Md2.7/17, Ml2.7/15, Error ellipse: s-maj=1.8km s-min=1.3km az=106.0*
ISCJB ***02*** *16:11:39.5±0.4, 4310N±002×1338E±004, h24km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=163.4*
ISC 02 16:11:39.6±0.5, 4310N±002×1337E±004, h22km±8km, n20, σ0°89/33, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.28**	**125**	Pg	**Pb**	**16 11 46.7**	**+0.5**
	2μm,0.3s						
CING	**Cingoli**	**0.31**	**336**	⇑*i*Pg	**Pb**	**16 11 45.8**	**-0.7**
CING				Sg	**Sb**	**16 11 51.3**	**+0.1**
	2μm,0.2s						
SNTG	**Esanatoglia**	**0.35**	**297**	⇑*i*Pg	**Pb**	**16 11 46.3**	**-0.9**
SNTG				Sg	**Sb**	**16 11 52.2**	**-0.2**
AOI	**Ancona**	**0.48**	**21**	Pg	**Pb**	**16 11 49.1**	**-0.4**
AOI				Sg	**Sb**	**16 11 57.6**	**+1.4**
	271nm,0.4s						
TERO	**Teramo**	**0.50**	**160**	Pg	**Pb**	**16 11 48.8**	**-1.0**
TERO				Sg	**Sb**	**16 11 57.9**	**+1.2**
	331nm,0.2s						
ASS	**Assisi**	**0.53**	**267**	Pg	**Pb**	**16 11 49.0**	**-1.2**
ASS				Sg	**Sb**	**16 11 56.9**	**-0.4**
	14nm,0.2s						
LNSS	**Leonessa**	**0.55**	**206**	Pg	**Pb**	**16 11 49.6**	**-1.0**
LNSS				Sg	**Sb**	**16 11 58.3**	**+0.3**
	874nm,0.3s						
MURB	**Monte Urbino**	**0.64**	**285**	Pg	**Pb**	**16 11 51.1**	**-1.0**
MURB				Sg	**Sb**	**16 12 01.3**	**+0.7**
	2μm,0.2s						
FSSB	**Fossombrone**	**0.73**	**324**	Pg	**Pb**	**16 11 53.1**	**-0.6**
FSSB				Sg	**Sb**	**16 12 04.7**	**+1.4**
	336nm,0.3s						
FAGN	**Fagnano**	**0.84**	**169**	Pg	**Pb**	**16 11 54.9**	**-0.7**
	232nm,0.6s						
FIAM	**Fiamignano**	**0.85**	**193**	Pg	**Pb**	**16 11 54.8**	**-0.9**
FIAM				Sg	**Sb**	**16 12 07.6**	**+1.0**
	140nm,0.6s						
MNS	**Montasola**	**0.87**	**216**	Pg	**Pb**	**16 11 55.2**	**-0.9**
MNS				Sg	**Sb**	**16 12 08.2**	**+0.9**
	154nm,0.4s						
BADI	**Badiali**	**0.92**	**297**	Pg	**Pb**	**16 11 56.2**	**-0.7**
BADI				Sg	**Sb**	**16 12 09.9**	**+1.3**
	182nm,0.6s						
RSM	**Repubblica di**	**1.07**	**322**	Pg	**Pb**	**16 12 00.5**	**+1.1**
	25nm,0.2s						
SACS	**San Casciano d**	**1.10**	**257**	Pg	**Pn**	**16 11 59.6**	**0.0**
	76nm,0.8s						
INTR	**Introdacqua**	**1.16**	**160**	Pg	**Pn**	**16 11 59.6**	**-0.8**
	98nm,0.6s						
CERT	**Cerreto**	**1.18**	**194**	Pg	**Pn**	**16 12 01.8**	**+1.0**
	67nm,0.5s						
VVLD	**Villa Vallelon**	**1.24**	**171**	Pg	**Pn**	**16 12 03.3**	**+1.7**
	53nm,0.4s						
NVLJ	**Novalja**	**1.83**	**36**	*i*Pn	**Pn**	**16 12 09.2**	**-0.4**
NVLJ				*i*Sn	**Sn**	**16 12 31.5**	**-0.6**
NVLJ	**Novalja**	**1.83**	**36**	*i*Pn	**Pn**	**16 12 09.2**	**-0.5**
NVLJ				*i*Sn	**Sn**	**16 12 31.4**	**-0.7**

LDG ***02*** *16:25:49.7±0.2, 4289N×094W, h2km, Md2.1/2, Ml1.8/2, Error ellipse: s-maj=6.9km s-min=1.1km az=18.0*
MDD 02 16:25:49.6±0.2, 4289N×095W, h11km±1km, mbLg1.2/11, 1C, Error ellipse: s-maj=2.3km s-min=1.4km az=178.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.15**	**350**	P	Pg	16 25 53.1	+0.1
LARF				S	Sg	16 25 56.1	+0.7
ETSF	**Etsaut**	**0.29**	**89**	*e*Pg	Pg	16 25 55.1	-0.4
ETSF				*e*Sg	Sg	16 25 59.0	-0.5
	11nm,0.2s						
ETSF	**Etsaut**	**0.29**	**89**	Pg	Pg	16 25 55.1	-0.4
ETSF				Lg		16 25 59.0	
	5.7nm,0.2s						
FDAF	**Les Forges d'A**	**0.29**	**104**	P	Pg	16 25 55.4	-0.2
FDAF				S	Sg	16 26 00.1	+0.5
SJPF	**Ste Jean**	**0.30**	**318**	*e*Pg	Pg	16 25 55.5	-0.1
SJPF				*e*Sg	Sg	16 25 59.9	+0.2
	12nm,0.2s						
SJPF	**Ste Jean**	**0.30**	**318**	Pg	Pg	16 25 55.5	-0.1
SJPF				Lg		16 25 59.9	
	5.9nm,0.2s						
IPRE	**Itoiz**	**0.31**	**254**	Pg	Pg	16 25 55.3	-0.5
	0.8nm,0.1s,SNR=7.9						
IPRE				Lg		16 26 00.0	
	6.2nm,0.2s						
IUSE	**Utxeti**	**0.44**	**277**	Pg	Pg	16 25 58.3	0.0
	1.4nm,0.1s,SNR=7.9						
IUSE				Lg		16 26 05.3	
	1.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.50**	**303**	⇑Pg	Pg	16 25 58.9	-0.5
	5.5nm,0.2s,SNR=18						
ELIZ				Lg		16 26 05.2	
	4.1nm,0.2s,SNR=14						
EALK	**Alkurruntz**	**0.52**	**309**	Pg	Pg	16 25 57.9	-1.9
	1.7nm,0.1s,SNR=7.9						
EALK				Lg		16 26 07.5	
	10nm,0.3s,SNR=7.3						
EBIE	**Bielsa**	**0.83**	**104**	Pg	Pg	16 26 04.7	-1.0
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		16 26 16.5	
	2.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.96**	**81**	*e*Pg	Pg	16 26 07.7	-0.4
EPF				*e*Sg	Sg	16 26 20.0	-0.6
	3.3nm,0.3s						
EPF	**Esparros**	**0.96**	**81**	Pg	Pg	16 26 07.7	-0.4
EPF				Lg		16 26 20.0	
	1.6nm,0.3s						
ESAC	**San Caprasio**	**1.22**	**163**	Pg	Pg	16 26 12.4	-0.8
	5.6nm,0.2s,SNR=7.9						
ESAC				Lg		16 26 29.7	
	20nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.08**	**117**	Lg		16 26 54.3	
	1.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.16**	**135**	Pg	Pg	16 26 27.3	-3.7
	0.3nm,0.1s,SNR=4.0						
EPOB				Lg		16 26 56.4	
	1.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.37**	**78**	*e*P	Pn	16 26 30.2	+1.8
MTLF	**Montolieu**	**2.37**	**78**	*e*Pg	Pg	16 26 33.3	-1.7
MTLF				*e*Sg	Sg	16 27 03.5	-2.1
	0.5nm,0.2s						
MTLF	**Montolieu**	**2.37**	**78**	Pg	Pg	16 26 33.3	-1.7
MTLF				Lg		16 27 03.5	
	0.2nm,0.2s						

ISCJB ***02*** *16:32:25.7±1.5, 176S±02×1789W±02, h507km±21km, mb3.8/8, Error ellipse: s-maj=29.7km s-min=15.2km az=100.4*
NEIC ***02*** *16:32:26.8±1.0, 1758S×17886W, h511km±12km, mb3.5/3, Error ellipse: s-maj=18.4km s-min=9.4km az=138.0*
IDC ***02*** *16:32:27.2±2.1, 1761S×17879W, h518km±26km, mb3.4/6, mb1 3.6/7, mb1mx3.3/15, mbtmp4.4/7, Error ellipse: s-maj=27.0km s-min=16.7km az=139.0*
ISC 02 16:32:27.2±1.4, 177S±02×1788W±02, h511km±20km, n17, σ0°43/13, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.72**	**62**	P	**P**	**16 34 21.0**	**+0.1**
	4.7nm,0.3s,baz=329,slow=5.9,SNR=8.6						
URZ	**Urewera**	**20.84**	**189**	P	**P**	**16 36 32.2**	**-0.5**
	9.1nm,0.8s,baz=22,slow=22,SNR=7.4						
RPZ	**Rata Peaks**	**27.36**	**196**	P	**P**	**16 37 30.8**	**+0.1**
	12nm,1.1s,mb4.4,baz=24,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**38.42**	**241**	*e*P	**P**	**16 39 05.4**	**+1.0**
	2.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**16 39 05.6**	**+1.2**
	2.4nm,0.4s,mb4.1,baz=75,slow=9.9,SNR=18						
STKA	**Stephens Creek**	**38.42**	**241**	*e*P	**P**	**16 39 05.4**	**+1.0**
WRA	**Warramunga Arr**	**44.30**	**259**	P	**P**	**16 39 50.4**	**-0.6**
	1.2nm,0.7s,mb3.5,baz=95,slow=7.9,SNR=29						
AS31	**Alice Springs**	**44.49**	**254**	*e*P	**P**	**16 39 52.2**	**-0.3**
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**16 39 52.6**	**+0.1**
	11nm,0.7s,mb4.5,baz=89,slow=7.8,SNR=139						
ASAR				PcP	PcP	16 41 24.5	-0.4
	0.6nm,0.7s,baz=98,slow=4.2,SNR=4.8						
QSPA	**South Pole Qui**	**72.40**	**180**	*e*P	**P**	**16 43 01.4**	**+0.3**
	0.7nm,0.4s,mb3.4						
HLID	**Hailey**	**84.69**	**41**	*e*P	**P**	**16 44 06.8**	**+0.1**
	0.7nm,0.5s,mb3.5						
MNTX	**Cornudas Mount**	**85.74**	**55**	*e*P	**P**	**16 44 11.7**	**-0.2**
	1.1nm,0.9s,mb3.5						
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**16 44 19.9**	**0.0**
	0.6nm,0.6s,mb3.4,baz=251,slow=4.5,SNR=4.5						
BRTR	**Keskin Array B**	**144.33**	**315**	PKP	PKPdf	16 51 03.9	-0.8
	0.8nm,0.8s,baz=118,slow=3.6,SNR=6.4						
CLL	**Collm**	**145.13**	**347**	*e*PKPbc	PKPbc	16 51 06.0	-0.9
	comp=Z,5.0nm,0.7s						
BRG	**Berggiesshubel**	**145.32**	**346**	*i* P	PKPdf	16 51 06.5	+0.1
	comp=Z,1.9nm,0.7s						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc	16 51 11.7	-1.2
	comp=Z,1.2nm,0.6s,baz=29,slow=3.0,SNR=8.8						

ISCJB ***02*** *16:37:40.2±0.8, 99N±01×571E±01, h10km, mb3.9/13, MS3.1/2, Error ellipse: s-maj=18.0km s-min=16.4km az=102.8*
IDC ***02*** *16:37:40.1±0.9, 970N×57.17E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/19, mbtmp3.7/10, MS3.2/2, Ms1 3.2/2, ms1mx2.9/32, Error ellipse: s-maj=25.6km s-min=21.6km az=10.0*
NEIC ***02*** *16:37:41.7±0.6, 971N×57.16E, h10km, Error ellipse: s-maj=15.1km s-min=12.8km az=165.0*
ISC 02 16:37:42.3±0.8, 99N±01×571E±01, h10km, n16, σ0°93/14, mb3.9/13, MS3.1/2, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAY	**Al-Naaiem**	**21.36**	**336**	*e*P	**P**	**16 42 28.8**	**-1.0**
NAY				AMb	AMB	16 42 31.4	
	comp=Z,13nm,1.1s,mb4.2						
UMR	**Umm Al-Rimmam**	**21.45**	**337**	*e*P	**P**	**16 42 29.5**	**-1.2**
UMR				AMb	AMB	16 42 33.3	
	comp=Z,31nm,0.9s,mb4.6						
RST	**Umm Al-Ruwaisa**	**21.68**	**336**	*e*P	**P**	**16 42 32.1**	**-1.1**
RST				AMb	AMB	16 42 35.9	
	comp=Z,50nm,0.9s,mb5.0						
KMBO	**Kilima Mbogo**	**22.60**	**242**	P	**P**	**16 42 42.5**	**-0.5**
	comp=Z,1.7nm,0.7s,mb3.6,baz=54,slow=19,SNR=5.6						
KMBO	**Kilima Mbogo**	**22.60**	**242**	P	**P**	**16 42 42.5**	**-0.5**
ASF	**Jabal al Asfar**	**29.00**	**323**	LR	LR	16 56 08.3	
	comp=Z,45nm,19.0s,MS3.1,baz=48,slow=38						
GNI	**Garni**	**32.08**	**342**	LR	LR	16 57 40.0	
	comp=Z,44nm,19.8s,MS3.1,baz=210,slow=37						
BRTR	**Keskin Array B**	**36.33**	**329**	P	**P**	**16 44 47.8**	**+1.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=111,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**42.55**	**26**	P	**P**	**16 45 39.0**	**+0.8**
	comp=Z,0.5nm,0.3s,mb3.7,baz=216,slow=8.3,SNR=11						
AKASG	**Malin Array Be**	**46.72**	**336**	P	**P**	**16 46 11.7**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=132,slow=6.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**54.31**	**279**	P	**P**	**16 47 10.0**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=97,slow=4.3,SNR=4.3						
SONM	**Songino Array**	**56.00**	**38**	P	**P**	**16 47 22.0**	**+1.0**
	comp=Z,1.1nm,0.9s,mb3.9,baz=243,slow=7.2,SNR=8.7						
FINES	**FINESS Array B**	**56.27**	**343**	P	**P**	**16 47 22.6**	**-0.4**
	comp=Z,1.4nm,0.9s,mb4.0,baz=139,slow=6.6,SNR=3.2						
ESDC	**Sonseca Array**	**61.55**	**310**	P	**P**	**16 48 00.5**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.8,baz=78,slow=6.7,SNR=6.1						
WRA	**Warramunga Arr**	**81.54**	**112**	P	**P**	**16 49 59.7**	**-0.4**
	comp=Z,0.8nm,0.9s,mb3.6,baz=295,slow=4.6,SNR=5.5						
ASAR	**Alice Springs**	**82.05**	**116**	P	**P**	**16 50 01.8**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=282,slow=5.2,SNR=6.5						

ATH ***02*** *16:57:07.2, 3439N×2455E, h21km±2km, MD3.9/12*
ISCJB ***02*** *16:57:08.4±0.4, 3450N±004×2483E±005, h33km, mb3.6/6, Error ellipse: s-maj=7.1km s-min=3.7km az=96.0*
CSEM ***02*** *16:57:08.1±0.1, 3443N×2492E, h12km, MD3.9, Error ellipse: s-maj=3.4km s-min=2.7km az=21.0*
NEIC ***02*** *16:57:08.3, 3439N×2457E, h33km, MD3.9(ATH), After ATH.*
HLW ***02*** *16:57:09.7, 3462N×2480E, h33km, Mb3.9*
IDC ***02*** *16:57:10.7±3.6, 3458N×2471E, h39km±35km, mb3.6/6, mb1 3.6/10, mb1mx3.5/23, mbtmp3.8/10, ML3.7/4, Error ellipse: s-maj=25.6km s-min=21.4km az=133.0*
GII ***02*** *16:57:18.3±0.4, 3427N×2543E, h25km±30km, mb4.1/1, ML3.9/1*
ISC 02 16:57:10.9±0.4, 3449N±004×2476E±005, h35km, n66, σ0°99/79, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.65**	**302**	*e*PN	**Pn**	**16 57 19.5**	**-4.1**
GVD	**Gavdhos**	**0.65**	**302**	*e*Pn	**Pn**	**16 57 21.5**	**-2.1**
XRY	**Khrisi**	**0.86**	**63**	*e*PB	**Pn**	**16 57 26.7**	**+0.3**
XRY				*e*SN	**Sn**	**16 57 42.5**	**+4.7**
XRY	**Khrisi**	**0.86**	**63**	*e*Pb	**Pn**	**16 57 27.5**	**+1.1**
XRY				*e*Sn	**Sn**	**16 57 43.0**	**+5.2**
VAM	**Vamos**	**1.02**	**333**	*e*PB	**Pn**	**16 57 26.4**	**-2.3**
VAM	**Vamos**	**1.02**	**333**	*e*Pb	**Pn**	**16 57 27.0**	**-1.7**
NPS	**Neapolis**	**1.04**	**42**	*e*PN	**Pn**	**16 57 30.5**	**+1.6**
NPS				*e*SN	**Sn**	**16 57 47.0**	**+4.8**
NPS	**Neapolis**	**1.04**	**42**	*e*Pn	**Pn**	**16 57 30.8**	**+1.9**
NPS				*e*Sn	**Sn**	**16 57 47.0**	**+4.8**
SANT	**Santorini**	**1.96**	**17**	*e*Pn	**Pn**	**16 57 43.9**	**+2.4**
SANT	**Santorini**	**1.96**	**17**	*e*Pn	**Pn**	**16 57 43.9**	**+2.3**
KARP	**Karpathos**	**2.23**	**61**	*e*PB	**Pn**	**16 57 48.4**	**+3.1**
KYTH	**Kithira**	**2.27**	**322**	*e*PB	**Pn**	**16 57 46.0**	**+0.1**
KYTH	**Kithira**	**2.27**	**322**	*e*Pb	**Pn**	**16 57 47.0**	**+1.1**
APE	**Apeiranthos**	**2.65**	**14**	*e*PN	**Pn**	**16 57 52.9**	**+1.9**
APE	**Apeiranthos**	**2.65**	**14**	*e*Pn	**Pn**	**16 57 51.9**	**+0.9**
VLI	**Veliai**	**2.67**	**327**	*e*PN	**Pn**	**16 57 51.0**	**-0.3**
VLI	**Veliai**	**2.67**	**327**	*e*Pn	**Pn**	**16 57 50.7**	**-0.6**
ARG	**Arkhangelos**	**3.24**	**57**	*e*PN	**Pn**	**16 58 02.0**	**+2.8**
ARG	**Arkhangelos**	**3.24**	**57**	*e*Pn	**Pn**	**16 58 01.0**	**+1.8**
NAIG	**Nisos Aigina**	**3.42**	**343**	*e*PN	**Pn**	**16 58 03.0**	**+1.4**
ITM	**Ithomi**	**3.53**	**320**	*e*PN	**Pn**	**16 58 03.1**	**-0.1**
HMAT	**Matruh**	**3.92**	**149**	P	**Pn**	**16 58 09.4**	**+0.8**
DABA	**Dabaa**	**4.57**	**139**	P	**Pn**	**16 58 18.2**	**+0.8**
EVR	**Evrytania**	**5.01**	**333**	*e*PN	**Pn**	**16 58 25.0**	**+1.5**
SWA2		**5.27**	**173**	P	**Pn**	**16 58 27.5**	**+0.4**
SWA1		**5.28**	**171**	P	**Pn**	**16 58 28.1**	**+1.0**
HNAT	**Natroun**	**6.94**	**133**	P	**Pn**	**16 58 51.0**	**+1.0**
AWBH		**7.10**	**149**	P	**Pn**	**16 58 52.6**	**+0.4**
KOT	**Kottamia**	**7.52**	**125**	P	**Pn**	**16 58 58.5**	**+0.5**
HSAF	**As Saff**	**7.54**	**128**	P	**Pn**	**16 58 58.8**	**+0.6**
GLL	**Jalalah**	**7.67**	**128**	P	**Pn**	**16 59 00.2**	**+0.2**
HHAG	**Hagoal**	**7.69**	**124**	P	**Pn**	**16 59 01.3**	**+1.0**
SUZ		**8.27**	**122**	P	**Pn**	**16 59 08.0**	**-0.2**
ZNM		**8.58**	**124**	P	**Pn**	**16 59 12.9**	**+0.4**
BR131	**Keskin Array S**	**8.80**	**51**	*e*P	**Pn**	**16 59 15.7**	**+0.1**
BRTR	**Keskin Array B**	**8.80**	**51**	Pn	**Pn**	**16 59 14.5**	**-1.1**
	0.2nm,0.3s,baz=227,slow=14,SNR=8.1						
KZIT	**Kziot**	**8.87**	**111**	Pn	**Pn**	**16 59 15.7**	**-0.8**
KZIT				Sn	**Sn**	**17 00 47.5**	**-7.8**
SLTI	**Sal'it**	**8.89**	**102**	Pn	**Pn**	**16 59 16.1**	**-0.7**
SLTI				Sn	**Sn**	**17 00 49.1**	**-6.5**
MMB1	**Mount Meron ar**	**8.99**	**96**	Pn	**Pn**	**16 59 17.9**	**-0.3**
MMB1				Sn	**Sn**	**17 00 52.3**	**-5.8**
AMAZ	**Amatzia**	**9.03**	**106**	Sn	**Sn**	**17 00 52.3**	**-6.7**
SVTA	**Shivta**	**9.04**	**110**	Pn	**Pn**	**16 59 18.4**	**-0.4**
RTMI	**Retamim**	**9.04**	**110**	Pn	**Pn**	**16 59 18.5**	**-0.3**
HNKL	**Nakhl**	**9.04**	**118**	P	**Pn**	**16 59 18.4**	**-0.4**
MASH	**Mash'abbe Sade**	**9.13**	**110**	Pn	**

KHZ	Kahutara	14.90 205	*e*PN	Pn	17 08 57.1	+2.1
KHZ			SN	Sn	17 11 37.1	-2.7
DZM	Mont Dzumac	15.55 293	LR	LR	17 13 38.1	
comp=Z,83nm,20.9s,baz=35,slow=32						
LTZ	Lake Taylor	15.70 207	SN	Sn	17 11 55.3	-3.6
MQZ	McQueen's Vall	16.34 204	SN	Sn	17 12 06.6	-7.9
RPZ	Rata Peaks	16.97 208	P	Pn	17 09 22.9	+2.5
0.3nm,0.3s,baz=39,slow=6.5,SNR=2.9						
CTAO	Charters Tower	33.48 277	P	P	17 11 55.5	-2.5
STKA	Stephens Creek	34.67 255	P	P	17 12 10.4	+2.2
1.5nm,0.4s,mb4.2,baz=97,slow=11,SNR=9.9						
STKA	Stephens Creek	34.67 255	*e*P	P	17 12 10.9	+2.7
ASAR	Alice Springs	43.06 266	P	P	17 13 18.9	+0.7
1.4nm,0.6s,mb3.9,baz=96,slow=6.9,SNR=48						
ASAR			PcP	PcP	17 15 04.0	-2.1
0.4nm,0.6s,baz=118,slow=4.4,SNR=4.0						
WRA	Warramunga Arr	43.93 271	P	P	17 13 25.3	+0.2
2.9nm,0.5s,mb4.3,baz=108,slow=7.8,SNR=74						
QSPA	South Pole Qui	61.02 180	*e*P	P	17 15 33.7	+2.6
7.5nm,0.8s,mb4.8						
SNAA	Sanae	79.47 178	*e*	P	17 17 23.0	-0.4
SNAA			*e*		17 17 26.8	
SNAA			*e*		17 17 28.9	
VNA3	Neumayer Olymp	79.62 176	*e*	P	17 17 24.1	-0.1
VNA3			*e*		17 17 27.6	
VNA3			*e*		17 17 29.2	
PLCA	Paso Flores	83.50 133	P	P	17 17 43.8	-0.9
0.6nm,0.8s,mb3.5,baz=247,slow=7.8,SNR=4.1						
NOA	NORSAR Array B	147.44 352	PKPbc	PKPdf	17 24 53.3	-4.1
0.7nm,0.6s,baz=15,slow=4.5,SNR=2.9						
HFS	Hagfors	147.94 349	PKPbc	PKPdf	17 24 54.2	-4.0
17nm,1.3s,baz=32,slow=8.7,SNR=6.7						
AKASG	Malin Array Be	150.17 324	PKPbc	PKPdf	17 25 01.1	-0.7
0.5nm,0.4s,baz=43,slow=3.1,SNR=7.6						
TORD	Torodi Ar. Bea	164.14 179	PKPab	PKPab	17 26 13.2	-0.4
0.9nm,0.7s,baz=169,slow=3.4,SNR=10						

NIED ***02*** *17:25:00, 46.20N×153.20E, h8km, Mw4.6 Best double couple: M0:8.90000×10^15 NP1:φs=48.00000°, δ61.00000°, λ122.00000°. NP2:φs=176.00000°, δ42.00000°, λ47.00000°.*

IDC ***02*** *17:25:53.4±0.6, 46.16N×152.81E, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.4/23, mbtmp4.3/18, ML3.4/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/22, Error ellipse: s-maj=18.5km s-min=15.8km az=146.0*

SKHL ***02*** *17:25:53.4±3.5, 46.01N×153.39E, h54km±15km, mb5.6/3, mbh4.9/1, Ms4.5/8, msh5.2/2*

ISCJB ***02*** *17:25:54.5±0.9, 46.14N±004×152.91E±005, h14km±5km, mb4.7/84, MS4.2/34, Error ellipse: s-maj=8.5km s-min=3.5km az=111.4*

BJI ***02*** *17:25:54.2, 46.38N×152.76E, h8km, mB4.9, mb4.6, Ms4.4, Msz4.1*

SZGRF ***02*** *17:25:54.3, 45.32N×154.18E, h33km, mb5.0, East of Kuril Islands, Russia*

GCMT ***02*** *17:25:54.3±0.4, 46.19N×153.13E, h20km±1km, MW4.8/57, Moment Tensor Solution. s21,c26; s57,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.28±.17; Mθθ-1.14±.11; Mφφ-1.13±.11; Mrθ0.55±.20; Mφθ-0.80±.05; Mφr0.64±.19; Best double couple: M0:2.26900×10^16 NP1:φs=226.00000°, δ34.00000°, λ92.00000°. NP2: φs=44.00000°, δ56.00000°, λ88.00000°. Principal axes: T 2.4440, Plg79.0000°, Azm308.0000°; N -0.3410, Plg1.0000°, Azm44.0000°; P -2.0930, Plg11.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *17:25:54.4±2.2, 46.18N×152.98E, h4km±13km, mb4.8/44, MS4.4/4 Error ellipse: s-maj=7.7km s-min=5.0km az=141.0*

JMA ***02*** *17:25:55.7±1.0, 46.19N×153.16E, h30km, M4.6*

MOS ***02*** *17:26:01.1±1.2, 46.38N×152.47E, h50km, mb5.0/45, MS4.2/26, Error ellipse: s-maj=9.4km s-min=5.2km az=110.2*

ISC 02 17:25:57.4±0.9, 46.15N±004×152.97E±005, h24km±6km, h21km±1.7km: pP-P, n300, σ1°05/318, mb4.7/84, MS4.2/34, 28C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.69**	**257**	⇓*i*P		**Pn**	**17 26 51.8**	**-1.1**
KUR					AMB	AMB	17 26 52.5	
170nm,0.6s								
KUR					AMB	AMB	17 26 52.5	
270nm,0.6s								
KUR				*e*S		**Sn**	**17 27 33.0**	**-2.6**
KUR					A		17 27 33.0	
6μm,2.0s								
KUR					A		17 27 49.0	
760nm,0.6s								
KUR					A		17 27 49.0	
3μm,0.6s								
KUR					AMS	AMS	17 28 16.0	
5μm,16.0s								
KUR					AMS	AMS	17 28 16.0	
500nm,16.0s								
KUR					AMS	AMS	17 28 16.0	
4μm,16.0s								
KUR	**Kuril'sk**	**3.69**	**257**	⇓*i*PN		**Pn**	**17 26 51.8**	**-1.1**
KUR				*i*S		**Sn**	**17 27 33.0**	**-2.6**
KUR					pmax	pmax		
comp=N,170nm,0.6s								
KUR					pmax	pmax		
comp=E,140nm,0.6s								
KUR					pmax	pmax		
comp=Z,530nm,0.6s								
KUR					smax			
comp=N,760nm,0.6s								
KUR					smax			
comp=E,460nm,0.6s								
KUR					smax			
comp=N,6μm,2.0s								
KUR					smax			
comp=E,3μm,2.0s								
KUR					MLR	MLR		
comp=N,5μm,16.0s								
KUR					MLR	MLR		
comp=E,6μm,16.0s								
KUR					MLR	MLR		
comp=Z,4μm,16.0s								
SKR	**Severo-Kuril's**	**4.99**	**24**	*e*P		**Pn**	**17 27 06.0**	**-4.8**
SKR					AMB	AMB	17 27 09.7	
comp=Z,100nm,0.4s								
SKR					AMB	AMB	17 27 09.7	
comp=Z,360nm,1.1s								
SKR					AMB	AMB	17 27 09.7	
comp=Z,900nm,1.1s								
SKR					AMB	AMB	17 27 10.0	
comp=Z,2μm,2.0s								
SKR				*e*S		**Sn**	**17 28 03.1**	**-4.6**
SKR					A		17 28 12.0	
comp=Z,3μm,8.0s								
SKR					A		17 28 12.0	
comp=Z,3μm,8.0s								
SKR					A		17 28 12.0	
comp=Z,3μm,8.0s								
SKR					A		17 28 12.0	
comp=Z,3μm,8.0s								
SKR					A		17 28 25.5	
comp=Z,470nm,0.6s								
SKR					A		17 28 25.5	
comp=Z,230nm,0.6s								
SKR					A		17 28 25.5	
comp=Z,200nm,0.6s								
SKR					AMS	AMS	17 29 44.0	
comp=Z,3μm,14.0s								
SKR					AMS	AMS	17 29 44.0	
comp=Z,3μm,14.0s								
SKR					AMS	AMS	17 29 44.0	
comp=Z,3μm,14.0s								
SKR					AMS	AMS	17 29 44.0	
comp=Z,3μm,14.0s								
YUK	**Yuzh-Kuril'sk**	**5.46**	**250**	⇓*i*P		**Pn**	**17 27 17.5**	**+0.3**
YUK					AMB	AMB	17 27 28.5	
comp=Z,330nm,0.5s								
YUK					AMB	AMB	17 27 28.5	
comp=Z,390nm,0.5s								
YUK					A		17 28 44.8	
comp=Z,750nm,0.8s								
YUK					A		17 28 44.8	
comp=Z,490nm,0.6s								
YUK					A		17 28 55.5	
comp=Z,4μm,1.5s								
YUK					A		17 28 55.5	
comp=Z,6μm,1.5s								
YUK					AMS	AMS	17 29 30.7	
comp=Z,3μm,13.0s								
YUK					AMS	AMS	17 29 30.7	
comp=Z,3μm,16.0s								
YUK	**Yuzh-Kuril'sk**	**5.46**	**250**	⇑*i*PN		**Pn**	**17 27 15.5**	**-1.7**
YUK				*i*S		**Sn**	**17 28 27.5**	**+8.3**
YUK					pmax	pmax		
comp=N,330nm,0.5s								
YUK					pmax	pmax		
comp=Z,390nm,0.5s								
YUK					smax			
comp=N,490nm,0.6s								
YUK					smax			
comp=E,750nm,0.8s								
YUK					MLR	MLR		
comp=E,3μm,13.0s								
YUK					MLR	MLR		
comp=Z,3μm,13.0s								
YUK					MLR	MLR		
comp=N,3μm,16.0s								
NEM2	**Nemuro 2**	**5.85**	**244**	P		**Pn**	**17 27 21.0**	**-1.6**
NEM2				*e*S		**Sn**	**17 28 24.6**	**-4.2**
JRA	**Rausu**	**5.98**	**251**	P		**Pn**	**17 27 25.8**	**+1.4**
JNK	**Nakash**	**6.40**	**249**	P		**Pn**	**17 27 30.4**	**+0.3**
JNK				*e*S		**Sn**	**17 28 43.2**	**+0.9**
JAK	**Akkeshi**	**6.70**	**245**	P		**Pn**	**17 27 33.0**	**-1.2**
JAK				*e*S		**Sn**	**17 28 44.9**	**-4.8**
JTKR	**Abashiri--Toko**	**6.78**	**254**	P		**Pn**	**17 27 36.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	⇓*e*P		**Pn**	**17 27 43.8**	**+4.3**
YSS					AMB	AMB	17 27 45.0	
comp=N,30nm,1.0s								
YSS					AMB	AMB	17 27 45.0	
comp=N,40nm,1.0s								
YSS				*e*S		**Sn**	**17 29 04.8**	**+5.5**
YSS					AMS	AMS	17 30 20.0	
comp=N,1μm,17.0s								
YSS					AMS	AMS	17 30 20.0	
comp=N,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	⇓*e*PN		**Pn**	**17 27 43.8**	**+4.3**
YSS				S		**Sn**	**17 29 04.8**	**+5.5**
YSS					pmax	pmax		
comp=E,30nm,1.0s								
YSS					pmax	pmax		
comp=Z,40nm,1.0s								
YSS					MLR	MLR		
comp=E,1μm,17.0s								
YSS					MLR	MLR		
comp=Z,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.09**	**280**	*e*P		**Pn**	**17 27 43.4**	**+3.8**
comp=Z,25nm,0.6s								
JMP	**Maruseppu**	**7.13**	**256**	P		**Pn**	**17 27 41.7**	**+1.6**
JAR	**Ashorobuto**	**7.15**	**250**	P		**Pn**	**17 27 40.9**	**+0.6**
JAR				*e*S		**Sn**	**17 28 59.5**	**-1.2**
JOB	**Onbets**	**7.29**	**247**	P		**Pn**	**17 27 41.9**	**-0.4**
JOB				*e*S		**Sn**	**17 29 01.2**	**-3.1**
JKK2	**Kamakawa 2**	**7.59**	**256**	P		**Pn**	**17 27 48.0**	**+1.5**
ASAJ	**Asahikawa**	**7.61**	**258**	Pn		**Pn**	**17 27 49.5**	**+2.8**
comp=Z,5.5nm,0.3s,baz=105,slow=13,SNR=24								
ASAJ					LR	LR	17 30 37.7	
comp=Z,1μm,18.1s,baz=64,slow=38								
ASAJ	**Asahikawa**	**7.61**	**258**	P		**Pn**	**17 27 49.4**	**+2.7**
ASAJ	**Asahikawa**	**7.61**	**258**	PN		**Pn**	**17 27 49.5**	**+2.8**
ASAJ					pmax	pmax		
comp=Z,6.0nm,0.3s								
ASAJ					MLR	MLR		
comp=Z,1μm,18.1s								
JCH	**Churui**	**7.74**	**246**	P		**Pn**	**17 27 48.0**	**-0.4**
JCH				*e*S		**Sn**	**17 29 11.2**	**-4.0**
JWK2	**Keihoku**	**7.79**	**268**	P		**Pn**	**17 27 54.4**	**+5.2**
PET	**Petropavlovsk**	**7.80**	**26**	*e*P		**Pn**	**17 27 46.8**	**-2.6**
PET	**Petropavlovsk**	**7.80**	**26**	*e*PN		**Pn**	**17 27 49.9**	**+0.5**
PET					pmax	pmax		
comp=Z,66nm,0.7s								
PET					pmax	pmax		
comp=N,50nm,1.1s								
PET					pmax	pmax		
comp=E,34nm,1.1s								
PET					MLR	MLR		
comp=Z,600nm,15.0s								
PET	**Petropavlovsk**	**7.80**	**26**	*e*P		**Pn**	**17 27 46.8**	**-2.6**
comp=Z,69nm,0.9s								
UGL	**Uglegorsk**	**7.92**	**296**	*e*P		**Pn**	**17 27 56.0**	**+5.0**
UGL					AMB	AMB	17 28 02.0	
comp=Z,90nm,0.8s								
UGL					AMS	AMS	17 30 58.0	
comp=Z,2μm,16.0s								
UGL					AMS	AMS	17 30 58.0	
comp=Z,500nm,13.0s								
JFR	**Furan**	**7.98**	**252**	P		**Pn**	**17 27 53.4**	**+1.7**
JSS	**Shosan**	**8.03**	**261**	P		**Pn**	**17 27 57.1**	**+4.6**
JAB	**Ashibetsu**	**8.08**	**255**	P		**Pn**	**17 27 55.3**	**+2.1**
JEM	**Erimo**	**8.18**	**243**	P		**Pn**	**17 27 55.1**	**+0.5**
ERM	**Erimo**	**8.18**	**243**	*e*PN		**Pn**	**17 27 55.3**	**+0.7**
ERM					pmax	pmax		
comp=Z,54nm,0.6s								
ERM	**Erimo**	**8.18**	**243**	*e*P		**Pn**	**17 27 55.3**	**+0.8**
comp=Z,54nm,0.6s								
JNBK	**Urakawa-nobuka**	**8.29**	**246**	P		**Pn**	**17 27 54.9**	**-1.2**
JNBK				*e*S		**Sn**	**17 29 22.7**	**-6.3**
JBT2	**Biratori 2**	**8.30**	**250**	P		**Pn**	**17 27 56.8**	**+0.6**
TYV	**Tymovskoe**	**8.31**	**308**	*e*P		**Pn**	**17 27 59.0**	**+2.7**
TYV					AMB	AMB	17 28 08.0	
comp=Z,20nm,0.8s								
TYV					AMB	AMB	17 28 08.0	
comp=Z,300nm,9.0s								
TYV					AMB	AMB	17 28 08.0	
comp=Z,400nm,9.0s								
TYV					AMB	AMB	17 28 08.0	
comp=Z,300nm,9.0s								
TYV					AMS	AMS	17 31 17.0	
comp=Z,700nm,18.0s								
TYV					AMS	AMS	17 31 17.0	
comp=Z,3μm,16.0s								
JEW	**Eniwo**	**8.87**	**252**	P		**Pn**	**17 28 05.3**	**+1.3**
JSK	**Shakotan**	**9.32**	**257**	P		**Pn**	**17 28 13.4**	**+3.3**
JKB	**Kayabe**	**9.60**	**248**	P		**Pn**	**17 28 12.8**	**-1.1**
JKB				*e*S		**Sn**	**17 29 54.0**	**-6.9**
JYM2	**Yakumo 2**	**9.91**	**250**	P		**Pn**	**17 28 18.3**	**0.0**
JANG	**Nango**	**10.15**	**239**	P		**Pn**	**17 28 18.2**	**-3.3**
JANG				*e*S		**Sn**	**17 30 03.8**	**-11**
JTM	**Tenmabayashi**	**10.17**	**242**	P		**Pn**	**17 28 19.2**	**-2.7**
JTM				*e*S		**Sn**	**17 30 05.4**	**-10**
JTH	**Tanohata**	**10.22**	**237**	*e*S		**Sn**	**17 30 03.5**	**-13**
JOSM	**Okushiri--Mats**	**10.52**	**252**	P		**Pn**	**17 28 25.8**	**-0.8**
NKL	**Nikolayevsk**	**10.60**	**316**	*e*P		**Pn**	**17 28 28.0**	**+0.4**
NKL					AMB	AMB	17 28 31.8	
comp=Z,110nm,1.4s								
NKL					AMS	AMS	17 33 25.0	
comp=Z,2μm,15.0s								
NKL					AMS	AMS	17 33 25.0	
comp=Z,1μm,15.0s								
NKL					AMS	AMS	17 33 25.0	
comp=Z,2μm,15.0s								
OFUJ	**Ofunato**	**10.91**	**234**	*e*S		**Sn**	**17 30 20.8**	**-12**
JRG	**Rokugo**	**11.30**	**238**	*e*S		**Sn**	**17 30 32.8**	**-10**
TEY	**Ternei**	**11.52**	**270**	*e*P		**Pn**	**17 28 41.0**	**+0.7**
TEY					AMS	AMS	17 33 20.0	
comp=Z,1μm,15.0s								
TEY					AMS	AMS	17 33 20.0	
comp=Z,1μm,15.0s								
JIO	**Ouri**	**11.53**	**232**	*e*S		**Sn**	**17 30 36.8**	**-12**
MA2	**Magadan**	**13.51**	**355**	*e*PN		**Pn**	**17 29 08.0**	**+0.5**
MA2				S		**Sn**	**17 31 38.4**	**+1.6**
MA2					pmax	pmax		
comp=Z,10.0nm,0.6s								
MA2					MLR	MLR		
comp=Z,700nm,14.1s								
MA2	**Magadan**	**13.51**	**355**	*e*P		**Pn**	**17 29 08.0**	**+0.5**
KLR	**Kul'dur**	**14.61**	**290**	*e*P		**Pn**	**17 29 21.9**	**-0.6**
KLR					pmax	pmax		
comp=E,33nm,1.4s								
KLR					pmax	pmax		
comp=Z,24nm,1.4s								
KLR					pmax	pmax		
comp=Z,500nm,11.5s								
KLR					MLR	MLR		
comp=E,1μm,14.0s								
KLR					MLR	MLR		
comp=Z,2μm,14.0s								
MAJO	**Matsushiro**	**14.64**	**234**	*e*P		**Pn**	**17 29 23.3**	**+0.4**
MAJO					pmax	pmax		
comp=Z,15nm,0.8s								
MAJO	**Matsushiro**	**14.64**	**234**	*e*P		**Pn**	**17 29 23.3**	**+0.4**
comp=Z,15nm,0.8s								
MAT	**Matsushiro**	**14.64**	**234**	P		**Pn**	**17 29 22.8**	**-0.1**
MAT				*e*S		**Sn**	**17 32 09.0**	**+4.6**
MJAR	**Matsushiro Arr**	**14.64**	**234**	Pn		**Pn**	**17 29 20.6**	**-2.3**
comp=Z,0.2nm,0.3s,baz=22,slow=13,SNR=12								
VLA	**Vladivostok**	**15.30**	**266**	*e*P		**Pn**	**17 29 30.0**	**-1.7**
VLA					pmax	pmax		
comp=Z,20nm,0.9s								
VLA					MLR	MLR		
comp=Z,700nm,16.0s								
MDJ	**Mudanjiang**	**16.48**	**273**	P		**Pn**	**17 29 46.2**	**-0.8**
MDJ				AP		pP	17 29 54.5	-1.6
MDJ				XP		sP	17 29 57.3	-1.9
MDJ				S		**Sn**	**17 32 48.6**	**-0.6**
MDJ				SCP		ScP	17 38 13.0	+2.2
MDJ				SCS		ScS	17 41 50.0	0.0
MDJ				AMB		AMB		
comp=Z,24nm,1.1s								
MDJ				AMB		AMB		
comp=Z,113nm,7.9s								
MDJ				LR		LR		
comp=N,282nm,15.7s								
MDJ				LR		LR		
comp=E,335nm,17.4s								
MDJ				LR		LR		
comp=Z,492nm,17.0s								
MDJ	**Mudanjiang**	**16.48**	**273**	*e*P		**Pn**	**17 29 47.6**	**+0.7**
comp=Z,36nm,1.0s								
SEY	**Seymchan**	**16.82**	**359**	*e*P		**Pn**	**17 29 50.6**	**-0.6**
ZEA	**Zeya**	**18.14**	**304**	*e*P		**Pn**	**17 30 02.0**	**-5.5**
ZEA					AMB	AMB	17 30 11.0	
comp=Z,500nm,4.0s								
CN2	**Changchun**	**19.57**	**273**	*e*P		**Pn**	**17 30 24.0**	**-0.9**
CN2				*e*XP		sP	17 30 33.0	-0.3
CN2				*e*S		**Sn**	**17 33 57.4**	**-6.5**
CN2				AMB		AMB		
comp=Z,20nm,0.8s								
CN2				AMB		AMB		
comp=Z,200nm,3.0s								
CN2				LR		LR		
comp=N,400nm,17.0s								
CN2				LR		LR		
comp=E,400nm,17.0s								
CN2				LR		LR		
comp=Z,500nm,18.0s								
CLNS	**Chul'man**	**20.34**	**312**	*e*P		**P**	**17 30 32.9**	**+1.1**
CLNS				*e*SS			17 34 14.0	
CLNS					pmax	pmax		
comp=E,14nm,0.8s								
CLNS					pmax	pmax		
comp=Z,30nm,0.8s								
CLNS					pmax	pmax		
comp=N,12nm,0.9s								
CLNS					MLR	MLR		
comp=E,1μm,17.0s,MS4.3								
CLNS					MLR	MLR		
comp=Z,1μm,17.0s,MS4.4								
CLNS					MLR	MLR		
comp=N,500nm,16.0s,MS4.3								
YAK	**Yakutsk**	**20.77**	**328**	*e*P		**P**	**17 30 35.3**	**-1.2**
YAK				*e*			17 30 50.5	
YAK				*e*SS			17 34 55.5	
YAK				*e*			17 41 59.6	
YAK					pmax	pmax		
comp=Z,30nm,0.8s								
YAK					pmax	pmax		
comp=N,7.0nm,1.0s								
YAK					pmax	pmax		
comp=E,11nm,1.2s								
YAK					MLR	MLR		
comp=Z,498nm,21.0s,MS3.9								
YAK					MLR	MLR		
comp=N,318nm,17.0s,MS3.9								
YAK					MLR	MLR		
comp=E,335nm,18.0s,MS3.9								
YAK	**Yakutsk**	**20.77**	**328**	*e*P		**P**	**17 30 34.8**	**-1.7**
comp=E,38nm,0.6s								
BILL	**Bilibino**	**23.00**	**13**	⇓*e*P		**P**	**17 30 59.5**	**-0.8**
BILL				*e*			17 31 29.7	
BILL					pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.1								
BILL					MLR	MLR		
comp=Z,400nm,21.0s,MS3.8								
BILL	**Bilibino**	**23.00**	**13**	P		**P**	**17 30 58.9**	**-1.4**
comp=Z,4.7nm,0.4s,mb4.3								
DL2	**Dalian**	**24.09**	**264**	P		**P**	**17 31 12.3**	**+1.4**
DL2				S		**S**	**17 35 30.0**	**+2.9**
DL2					AMB	AMB		
comp=Z,20nm,0.9s,mb4.5								
DL2					AMB	AMB		
comp=Z,100nm,4.5s								
DL2					LR	LR		
comp=N,140nm,14.7s,MS3.7								
DL2					LR	LR		
comp=E,120nm,14.1s,MS3.7								
DL2					LR	LR		
comp=Z,110nm,14.4s,MS3.5								
BOD	**Bodaibo**	**26.30**	**311**	*e*P		**P**	**17 31 27.3**	**-3.7**
BOD					pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.1								
BJI	**Beijing**	**27.38**	**270**	P		**P**	**17 31 41.5**	**+0.8**
BJI					AMB	AMB		
comp=Z,14nm,1.1s,mb4.4								
BJI					AMB	AMB		
comp=Z,216nm,6.4s								
BJI					LR	LR		
comp=N,577nm,16.1s,MS4.3								
BJI					LR	LR		
comp=E,218nm,16.1s,MS4.3								
BJI					LR	LR		
comp=Z,441nm,18.4s,MS4.1								
BJT	**Baijiatuau**	**27.39**	**270**	*e*P		**P**	**17 31 41.4**	**+0.6**
BJT					pmax	pmax		
comp=Z,6.0nm,0.5s								
BJT	**Baijiatuau**	**27.39**	**270**	*e*P		**P**	**17 31 41.4**	**+0.6**
comp=Z,6.3nm,0.5s,mb4.4								
SSE	**Sheshan**	**28.79**	**250**	P		**P**	**17 31 54.4**	**+1.1**
SSE				AP		pP	17 32 00.3	-0.3
SSE				XP		sP	17 32 03.0	-0.6
SSE				S		**S**	**17 36 42.5**	**+0.9**
SSE				PCS		PcS	17 38 47.5	+2.1
SSE				AMB		AMB		
comp=Z,15nm,0.9s,mb4.7								
SSE				AMB		AMB		
comp=Z,118nm,4.9s								
SSE				LR		LR		
comp=N,88nm,18.6s,MS3.6								
SSE				LR		LR		
comp=E,94nm,18.6s,MS3.6								
SSE				LR		LR		
comp=Z,169nm,20.7s,MS3.6								
NJ2	**Nanjing**	**29.73**	**254**	*e*P		**P**	**17 32 01.3**	**-0.3**
NJ2				AP		pP	17 32 11.8	+2.9
NJ2				XP		sP	17 32 14.8	+2.9
NJ2				PP		PP	17 33 00.2	-8.7
NJ2				S		**S**	**17 36 54.0**	**-2.3**
NJ2				XS		sS	17 37 10.0	+1.7
NJ2				AMB		AMB		
comp=Z,20nm,1.1s,mb4.8								
NJ2				AMB		AMB		
comp=Z,440nm,4.0s								
NJ2				LR		LR		
comp=N,760nm,15.4s,MS4.5								
NJ2				LR		LR		
comp=E,340nm,13.4s,MS4.5								
HHC	**Hu-ho-hao-te**	**30.24**	**275**	*e*P		**P**	**17 32 06.9**	**+0.7**
HHC				AP		pP	17 32 12.5	-0.9
HHC				XP		sP	17 32 15.8	-0.6
HHC				PP		PP	17 33 05.9	-8.7
HHC				PCP		PcP	17 35 08.7	+2.2
HHC				S		**S**	**17 37 04.1**	**-0.2**
HHC				XS		sS	17 37 13.5	-2.8
HHC				SS		SS	17 38 38.0	-35
HHC				PCS		PcS	17 38 51.2	+1.1
HHC				SCS		ScS	17 42 41.0	-2.0
HHC				AMB		AMB		
comp=Z,20nm,0.5s,mb5.1								
HHC				AMB		AMB		
comp=Z,147nm,4.7s								
HHC				LR		LR		
comp=N,259nm,14.6s,MS4.2								
HHC				LR		LR		
comp=E,343nm,17.6s,MS4.2								
HHC				LR		LR		
comp=Z,474nm,17.1s,MS4.2								
SONM	**Songino Array**	**31.44**	**290**	P		**P**	**17 32 16.0**	**-0.7**

comp=Z,1.1nm,0.9s,mb3.7,baz=65,slow=7.4,SNR=6.8
SONM LR LR 17 45 56.5

comp=Z,478nm,18.1s,MS4.2,baz=78,slow=38
SONM Songino Array 31.44 290 P **P 17 32 16.0 -0.8**
SONM pmax pmax

comp=Z,10.0nm,0.9s
SONM MLR MLR

comp=Z,478nm,18.1s
TLY Talaya 32.37 298 *e*P **P 17 32 23.0 -1.9**
TLY pmax pmax

comp=Z,5.0nm,1.3s,mb4.2
ZAK Zakamensk 32.84 296 *e*P **P 17 32 27.5 -1.6**
WHN Wuhan 33.69 256 P **P 17 32 35.3 -1.1**
IMA2 Indian Mountai 34.35 35 *e*P **P 17 32 41.6 -0.6**
KDAK Kodiak Island 34.56 50 P **P 17 32 43.1 -0.9**

comp=Z,6.7nm,0.7s,mb4.7,baz=302,slow=13,SNR=3.9
XAN Xi'an 35.37 266 P **P 17 32 50.9 -0.1**
XAN AP pP 17 32 55.2 -3.1
XAN AMB AMB

comp=Z,5.0nm,1.3s,mb4.3
LZH Lanzhou 37.81 272 *e*P **P 17 33 13.0 +1.2**
LZH AP pP 17 33 19.0 -0.1
LZH XP sP 17 33 21.0 -1.1
LZH PP PP 17 34 43.0 +4.7
LZH *e*S **S 17 39 01.0 -0.3**
LZH XS sS 17 39 13.1 -0.2
LZH SS SS 17 41 35.0 -13
LZH AMB AMB

comp=Z,32nm,1.2s,mb4.9
LZH AMB AMB

comp=Z,112nm,4.1s
LZH LR LR

comp=E,886nm,14.1s
LZH LR LR

comp=Z,2μm,16.0s,MS4.9
LZH Lanzhou 37.81 272 *e*P **P 17 33 13.0 +1.2**
LZH 17 34 43.0
LZH *e*S **S 17 39 01.0 -0.3**
LZH SS SS 17 41 35.0 -13
LZH Lanzhou 37.81 272 *e*P **P 17 33 13.0 +1.2**
LZH PP PP 17 34 43.0 +4.7
LZH PcP PcP 17 35 21.5 -6.6
LZH *e*S **S 17 39 01.0 -0.3**
LZH sS sS 17 39 13.1 -0.2
LZH SS SS 17 41 35.0 -13
GTA Gaotai 38.97 280 *e*P **P 17 33 22.1 +0.6**
GTA AP pP 17 33 27.8 -1.1
GTA XP sP 17 33 30.6 -1.2
GTA PP PP 17 34 55.7 +4.7
GTA PCP PcP 17 35 32.0 +0.3
GTA S **S 17 39 21.3 +2.6**
GTA XS sS 17 39 26.6 -4.3
GTA SS SS 17 41 59.4 -12
GTA AMB AMB

comp=Z,14nm,1.6s,mb4.4
GTA AMB AMB

comp=Z,90nm,5.0s
GTA LR LR

comp=N,255nm,16.1s,MS4.2
GTA LR LR

comp=E,199nm,16.4s,MS4.2
GTA LR LR

comp=Z,197nm,15.7s,MS4.0
EGAK Eagle 39.53 38 *e*P **P 17 33 25.3 -0.9**
CD2 Chengdu 40.73 266 P **P 17 33 36.6 +0.4**
CD2 AMB AMB

comp=Z,30nm,1.0s,mb4.9
CD2 AMB AMB

comp=Z,30nm,5.2s
GYA Guiyang 41.49 258⇑*i*P **P 17 33 42.3 -0.1**
GYA AP pP 17 33 46.9 -2.9
GYA XP sP 17 33 49.3 -3.5
GYA PP PP 17 35 20.8 +2.4
GYA SCP ScP 17 39 30.0 +1.8
GYA S **S 17 39 55.2 -1.2**
GYA SCS ScS 17 43 43.5 -1.0
GYA AMB AMB

comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB

comp=Z,140nm,6.2s
GYA LR LR

comp=N,560nm,17.0s,MS4.7
GYA LR LR

comp=E,610nm,16.8s,MS4.7
GYA LR LR

comp=Z,510nm,17.2s,MS4.5
INK Inuvik 42.21 32 P **P 17 33 48.6 +0.3**

comp=Z,3.8nm,0.6s,mb4.2,baz=285,slow=5.4,SNR=8.3
INK Inuvik 42.21 32 *e*P **P 17 33 48.4 +0.1**

comp=Z,287nm,0.9s
NVS Novosibirsk 43.47 308 *e*P **P 17 33 56.2 -2.3**
NVS pmax pmax

comp=Z,7.0nm,1.1s,mb4.3
NVS pmax pmax

comp=N,4.0nm,1.7s
NVS pmax pmax

comp=E,9.0nm,1.7s
KMI Kunming 45.04 260⇑P **P 17 34 12.0 +0.9**
KMI AP pP 17 34 18.9 +0.4
KMI XP sP 17 34 21.4 0.0
KMI S **S 17 40 48.8 +0.4**
KMI SS SS 17 44 04.2 -6.5
KMI AMB AMB

comp=Z,8.0nm,1.3s,mb4.4
KMI LR LR

comp=N,362nm,10.6s,MS4.6
KMI LR LR

comp=E,216nm,14.6s,MS4.6
KMI LR LR

comp=Z,213nm,16.7s,MS4.2
WMQ Urumqi 45.05 292 *e*P **P 17 34 12.9 +1.7**
WMQ AP pP 17 34 19.0 +0.4
WMQ XP sP 17 34 22.0 +0.4
WMQ PCP PcP 17 35 55.0 +3.2
WMQ PPP 17 36 39.0
WMQ S **S 17 40 50.0 +1.4**
WMQ XS sS 17 40 59.0 -1.8
WMQ SCS ScS 17 44 06.0 -0.7
WMQ AMB AMB

comp=Z,8.0nm,0.8s,mb4.6
WMQ AMB AMB

comp=Z,109nm,4.0s
WMQ LR LR

comp=N,650nm,15.3s,MS4.8
WMQ LR LR

comp=E,572nm,15.3s,MS4.8
WMQ LR LR

comp=Z,676nm,17.0s,MS4.6
DLBC Dease Lake 46.08 45 P **P 17 34 20.6 +1.2**

comp=Z,1.1nm,0.3s,mb4.2,baz=281,slow=10,SNR=5.0
MKAR Makanchi Array 47.13 298 P **P 17 34 26.1 -1.5**

comp=Z,8.4nm,0.8s,mb4.7,baz=61,slow=8.7,SNR=45
MKAR PcP PcP 17 35 57.7 -1.3

comp=Z,0.8nm,0.6s,baz=53,slow=3.1,SNR=2.8
MKAR ScP ScP 17 39 51.9 +0.6

comp=Z,0.2nm,0.2s,baz=60,slow=5.8,SNR=3.1
LSA Lhasa 50.21 274 P **P 17 34 53.7 +2.5**
LSA Lhasa 50.21 274 *e*P **P 17 34 53.8 +2.6**
LSA pmax pmax

comp=Z,9.0nm,0.6s,mb5.0
LSA Lhasa 50.21 274 *e*P **P 17 34 53.8 +2.6**

comp=Z,8.8nm,0.6s,mb5.0
BRVK Borovoye 51.20 310 *e*P **P 17 34 57.2 -1.5**
BRVK pmax pmax

comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 51.20 310 *e*P **P 17 34 57.2 -1.5**

comp=Z,11nm,0.9s,mb4.8
YKA Yellowknife Ar 51.46 36 P **P 17 35 00.4 -0.2**

comp=Z,1.7nm,0.7s,mb4.1,baz=293,slow=7.0,SNR=4.2
YKA LR LR 17 59 01.2

comp=Z,30nm,18.6s,MS3.4,baz=195,slow=39
YKA Yellowknife Ar 51.46 36 P **P 17 35 00.4 -0.2**
YKA LR LR 17 59 01.2
CHTO Chiang Mai 51.88 257 *e*P **P 17 35 05.0 +1.2**
CHTO pmax pmax

comp=Z,6.0nm,0.8s,mb4.6
CHTO Chiang Mai 51.88 257 *e*P **P 17 35 05.0 +1.2**

comp=Z,6.0nm,0.8s,mb4.6
ZRNK Zerenda 51.93 310 *e*P **P 17 35 02.5 -1.7**
ZRNK pmax pmax

comp=Z,13nm,0.9s,mb4.9
ZRNK Zerenda 51.93 310 *e*P **P 17 35 02.5 -1.7**

comp=Z,13nm,0.9s,mb4.9
ULHL Ulahol 53.13 295 P **P 17 35 13.6 +0.5**

SNR=14
TKM2 Tokmak 2 53.17 296 P **P 17 35 13.8 +0.4**

SNR=6.4
USP Ospenovka 53.67 297 P **P 17 35 17.2 +0.2**

SNR=16
KBK Karagaybulak 53.72 296 P **P 17 35 17.8 +0.4**

SNR=7.1
FRU Bishkek 53.83 297 *e*P **P 17 35 18.0 -0.1**
AAK Ala-Archa 54.01 297 P **P 17 35 19.7 +0.2**

SNR=12
AAK Ala-Archa 54.01 297⇑*e*P **P 17 35 18.3 -1.2**
AAK pmax pmax

comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 54.01 297 *e*P **P 17 35 18.0 -1.5**

comp=Z,8.8nm,0.8s,mb4.7
EKS2 Erkin-Say 54.44 297 P **P 17 35 23.0 +0.3**

SNR=17
AML Almayashu 54.78 297 P **P 17 35 26.2 +1.1**

SNR=5.2
GUN Gumba 54.95 275 *e*P **P 17 35 27.2 +0.9**

comp=Z,18nm,0.5s,mb5.3
ARU Arti 55.38 318⇑*i*P **P 17 35 27.5 -1.9**
ARU *e* 17 37 28.9
ARU *e*PPP 17 38 43.9
ARU *e*S **S 17 43 11.7 -0.8**
ARU *e*SS SS 17 46 54.7 -2.4
ARU pmax pmax

comp=Z,7.0nm,0.7s,mb4.8
ARU MLR MLR

comp=N,100nm,17.0s,MS4.5
ARU MLR MLR

comp=E,300nm,17.0s,MS4.5
ARU MLR MLR

comp=Z,300nm,17.0s,MS4.4
ARU Arti 55.38 318 *e*P **P 17 35 26.7 -2.7**

comp=Z,5.4nm,0.5s,mb4.8
KKN Kakani 55.44 276 *e*P **P 17 35 31.1 +1.2**

comp=Z,32nm,0.8s,mb5.4
PKI Pulchoki 55.49 275 *e*P **P 17 35 31.2 +1.0**
DMN Daman 55.68 276 *e*P **P 17 35 32.9 +1.4**

comp=Z,49nm,0.9s,mb5.5
GKN Gorkha 55.76 276 *e*P **P 17 35 33.1 +1.0**

comp=Z,31nm,0.7s,mb5.4
KOLN Koldanda 56.62 277 *e*P **P 17 35 39.3 +1.0**

comp=Z,36nm,0.8s,mb5.4
BOK Bokaro 57.56 272 *e*P **P 17 35 46.0 +1.0**
BOK AMb AMB 17 35 55.3

comp=Z,10nm,1.3s,mb4.7
KEV Kevo 57.87 341 *e*p **P 17 35 44.9 -2.2**

comp=Z,1.6nm,0.3s,mb4.5
KEV Kevo 57.87 341 *e*P **P 17 35 44.9 -2.2**
KEV pmax pmax

comp=Z,2.0nm,0.3s,mb4.6
YBH Yreka Blue Hor 58.12 61 P **P 17 35 48.3 -0.5**

comp=Z,1.1nm,0.6s,mb4.0,baz=77,slow=3.6,SNR=3.7
ARCES ARCESS Array B 58.38 341 P **P 17 35 49.6 -1.1**

comp=Z,1.0nm,0.3s,mb4.3,baz=29,slow=6.6,SNR=30
ARCES LR LR 18 03 54.7

comp=Z,190nm,20.2s,MS4.2,baz=31,slow=39
ARCES ARCESS Array B 58.38 341 P **P 17 35 49.7 -1.0**
ARCES pmax pmax

comp=Z,1.0nm,0.3s
ARCES MLR MLR

comp=Z,190nm,20.2s
MOD Modoc 59.48 60 *e*P **P 17 35 58.1 -0.2**

comp=Z,4.0nm,1.0s,mb4.4
JOF Joensuu 61.83 334 *e*p **P 17 36 12.7 -1.6**

comp=Z,4.0nm,0.6s,mb4.7
JOF Joensuu 61.83 334 *e*P **P 17 36 12.7 -1.6**
JOF pmax pmax

comp=Z,4.0nm,0.6s,mb4.7
QLMT Earthquake Lak 62.82 53 P **P 17 36 21.5 +0.6**
VIS Vishakhapatnam 63.38 268 *ex* x 17 36 07.2
BHPL Bhopal 63.79 277 *e*P **P 17 36 27.5 +0.2**
BHPL AMb AMB 17 36 29.5

comp=Z,23nm,1.1s,mb5.1
KAF Kangasniemi 63.94 335 *e*p **P 17 36 26.7 -1.7**

comp=Z,1.1nm,0.3s,mb4.4,baz=37,slow=6.3
KAF Kangasniemi 63.94 335 *e*P **P 17 36 26.7 -1.7**
KAF pmax pmax

comp=Z,1.0nm,0.3s,mb4.3
FINES FINESS Array B 64.54 335 P **P 17 36 31.1 -1.2**

comp=Z,2.3nm,0.4s,mb4.6,baz=42,slow=6.2,SNR=40
FINES LR LR 18 07 08.4

comp=Z,149nm,18.2s,MS4.2,baz=229,slow=38
FINES FINESS Array B 64.54 335 P **P 17 36 31.1 -1.2**
FINES pmax pmax

comp=Z,2.0nm,0.4s
FINES MLR MLR

comp=Z,149nm,18.2s
PDAR Pinedale Array 65.18 54 P **P 17 36 36.8 +0.3**

comp=Z,1.3nm,1.0s,mb3.9,baz=343,slow=1.5,SNR=7.4
OBN Obninsk 65.75 326⇓*e*P **P 17 36 38.5 -1.6**
OBN *e*S S 17 45 24.0 -1.0
OBN pmax pmax

comp=Z,9.0nm,1.4s,mb4.6
OBN MLR MLR

comp=Z,200nm,20.0s,MS4.3
VRSR Storozhevoye 67.51 321 *e*P **P 17 36 50.5 -0.9**
VRSR MLR MLR

comp=Z,320nm,19.0s,MS4.6
VRSR MLR MLR

comp=E,230nm,17.0s
WRA Warramunga Arr 67.92 199 P **P 17 36 53.1 -0.8**

comp=E,3.5nm,1.0s,mb4.3,baz=16,slow=6.7,SNR=13
WRA Warramunga Arr 67.92 199 P **P 17 36 53.1 -0.8**
WRA pmax pmax

comp=Z,4.0nm,1.0s
PV10 Paradox Valley 68.38 57 P **P 17 36 58.4 +1.5**
NB2 NORSAR Subarra 68.76 341 P **P 17 36 57.9 -1.3**

comp=Z,22nm,1.2s,mb5.0,baz=28,slow=6.5
NB2 NORSAR Subarra 68.76 341 P **P 17 36 57.9 -1.3**
NB2 pmax pmax

comp=Z,22nm,1.2s,mb5.0
NOA NORSAR Array B 68.76 341 P **P 17 36 58.4 -0.8**

comp=Z,3.7nm,0.6s,mb4.5,baz=27,slow=6.3,SNR=16
NOA LR LR 18 11 23.3

comp=Z,228nm,18.4s,MS4.4,baz=15,slow=40
NOA NORSAR Array B 68.76 341 P **P 17 36 58.4 -0.8**
NOA pmax pmax

comp=Z,4.0nm,0.6s
NOA MLR MLR

comp=Z,228nm,18.4s
NAO01 NORSAR Array S 69.01 341 P **P 17 36 59.0 -1.7**

comp=Z,20nm,1.2s,mb4.9
KAD Karad 70.02 274 *e*P **P 17 37 07.8 +0.8**
KAD AMb AMB 17 37 19.8

comp=Z,26nm,2.3s,mb4.8
KIV Kislovodsk 71.14 314 *e*P **P 17 37 13.8 -0.1**
KIV pmax pmax

comp=Z,16nm,0.6s,mb5.1
KIV MLR MLR

comp=Z,286nm,17.0s,MS4.6
KIV Kislovodsk 71.14 314 *e*P **P 17 37 15.2 +1.3**

comp=Z,19nm,0.8s,mb5.1
ZEI Tsey 71.39 313 *e*P **P 17 37 15.4 0.0**
ZEI pmax pmax

comp=Z,10.0nm,0.9s,mb4.8
AS31 Alice Springs 71.61 198 *e*P **P 17 37 16.0 -0.7**
ASAR Alice Springs 71.61 198 P **P 17 37 16.9 +0.2**

comp=Z,0.8nm,0.5s,mb3.9,baz=11,slow=6.8,SNR=26
ASAR LR LR 18 10 40.1

comp=Z,176nm,18.4s,MS4.4,baz=154,slow=38
ASAR Alice Springs 71.61 198 P **P 17 37 16.9 +0.2**
ASAR pmax pmax

comp=Z,1.0nm,0.5s
ASAR MLR MLR

comp=Z,177nm,18.4s
AKASG Malin Array Be 71.99 326 P **P 17 37 17.9 -1.1**

comp=Z,15nm,0.6s,mb5.1,baz=34,slow=6.3,SNR=77
AKASG LR LR 18 10 53.7

comp=Z,151nm,20.4s,MS4.2,baz=55,slow=38
AKASG Malin Array Be 71.99 326 *i* P **P 17 37 17.8 -1.2**
AKASG pmax pmax

comp=Z,15nm,0.6s
AKBB Malin Array Si 71.99 326 *e*P **P 17 37 17.7 -1.3**
GNI Garni 72.84 310⇑*e*P **P 17 37 22.1 -2.0**
GNI pmax pmax

comp=Z,22nm,1.6s
GNI Garni 72.84 310 *e*P **P 17 37 25.8 +1.7**

comp=Z,11nm,0.9s,mb4.8
ANN Anapa 73.05 318 *e*P **P 17 37 21.7 -3.6**
ANN pmax pmax

comp=Z,49nm,1.3s,mb5.3
SCHQ Schefferville 73.90 23 LR LR 18 09 28.3

comp=Z,52nm,19.2s,MS3.8,baz=25,slow=35
KWP Kalwaria 75.28 329 *e*P **P 17 37 38.6 +0.3**
OJC Ojcow 75.79 331 *e*P **P 17 37 40.8 -0.5**
STHS Stebnicka Huta 75.98 330 *e*P **P 17 37 42.7 +0.4**
STHS pmax pmax

comp=Z,12nm,0.9s,mb4.8
STHS Stebnicka Huta 75.98 330 *e*P **P 17 37 42.7 +0.4**

comp=Z,12nm,0.9s,mb4.8
KOLS Kolonicke sedl 76.03 329 *e*P **P 17 37 42.4 -0.2**
BURAR Bucovina Array 76.03 327⇓*i*P **P 17 37 42.8 +0.2**
BURAR Bucovina Array 76.03 327⇓*i*P **P 17 37 42.8 +0.2**
UZH Uzhgorod 76.27 329⇓*i*P **P 17 37 33.0 -11**
UZH pmax pmax

comp=Z,15nm,0.9s,mb4.9
CRVS Cervenica-Dubn 76.34 329 *e*P **P 17 37 44.2 -0.2**
OKC Ostrava-Krasne 76.67 332 *e*P **P 17 37 45.9 -0.3**
OKC AMS AMS 18 15 50.0

comp=Z,200nm,19.8s
UPC Upice 76.77 333 *e*P **P 17 37 46.9 +0.1**
DPC Dobruska-Polom 76.81 333 *e*P **P 17 37 47.0 0.0**
CFR Carcaliu 76.86 323⇑*i*P **P 17 37 47.8 +0.5**
CFR Carcaliu 76.86 323⇑P **P 17 37 47.8 +0.5**
MORC Moravsky Berou 76.92 332⇑*i*P **P 17 37 47.6 0.0**
MORC Moravsky Berou 76.92 332⇑P **P 17 37 47.6 -0.1**
CLL Collm 76.97 336 *e*P **P 17 37 47.0 -0.9**

comp=Z,13nm,1.1s,mb4.8
CLL LmV 18 16 00.0

comp=Z,200nm,18.1s
KECS Kecovo 77.04 330 *e*P **P 17 37 46.6 -1.7**
KECS pmax pmax

comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 77.04 330 *e*P **P 17 37 46.6 -1.7**

comp=Z,3.6nm,1.0s,mb4.3
BRG Berggiesshubel 77.08 335 *e*P **P 17 37 47.8 -0.7**

comp=Z,2.9nm,1.2s,mb4.1
BRG

comp=N,106nm,21.6s
BRG

comp=E,73nm,14.8s
BRG

comp=Z,140nm,13.6s
BRG Berggiesshubel 77.08 335 *e*P **P 17 37 47.8 -0.7**
BRG pmax pmax

comp=Z,30nm,1.2s,mb5.1
BRG MLR MLR

comp=N,106nm,21.6s
BRG MLR MLR

comp=E,73nm,14.8s
BRG MLR MLR

comp=Z,140nm,13.6s
PVCC Panska Ves 77.19 334 *e*P **P 17 37 49.0 -0.2**
TIRR Tirgusor 77.33 323⇓*i*P **P 17 37 49.8 -0.1**
TIRR Tirgusor 77.33 323⇓P **P 17 37 49.8 -0.1**
MALT Malatya 77.48 313⇑*i*P **P 17 37 52.5 +1.7**
MALT Malatya 77.48 313⇑P **P 17 37 52.5 +1.7**
MLR Muntele Rosu 77.50 325⇑*i*P **P 17 37 52.1 +1.2**
MLR Muntele Rosu 77.50 325⇑P **P 17 37 52.1 +1.2**
VYHS Vyhne 77.60 331 *i*P **P 17 37 51.5 +0.1**
DRGR 77.66 328⇑*i*P **P 17 37 51.9 +0.1**
DRGR 77.66 328⇑P **P 17 37 51.9 +0.1**
PRU Pruhonice 77.68 334 *e*P **P 17 37 52.0 +0.1**
PRU AMS AMS 18 15 20.0

comp=Z,200nm,19.9s
PSZ Piszkesteto 77.73 330⇑*i*P **P 17 37 52.5 +0.3**
PSZ Piszkesteto 77.73 330⇑P **P 17 37 52.5 +0.3**
VOIR 77.89 325⇑*i*P **P 17 37 53.1 0.0**
VOIR 77.89 325⇑P **P 17 37 53.1 0.0**
MOX Moxa 77.95 336 *e*P **P 17 37 54.0 +0.6**
TREC Trest 78.00 333 *e*P **P 17 37 55.8 +2.1**
TREC AMS AMS 18 17 00.0

comp=Z,300nm,22.3s
NKC Novy Kostel 78.08 335 *e*P **P 17 37 54.9 +0.8**
KHC Kasperske Hory 78.73 334 *e*P **P 17 37 57.4 -0.3**
KHC AMS AMS 18 16 30.0

comp=Z,200nm,15.6s
BR131 Keskin Array S 78.75 317 *e*P **P 17 37 58.7 +0.9**

comp=Z,4.0nm,0.9s,mb4.3
BRTR Keskin Array B 78.75 317 P **P 17 37 58.1 +0.2**

comp=Z,4.8nm,0.9s,mb4.4,baz=70,slow=4.1,SNR=30
BRTR LR LR 18 18 38.3

comp=Z,127nm,18.8s,MS4.3,baz=212,slow=40
BRTR Keskin Array B 78.75 317 P **P 17 37 58.1 +0.2**
BRTR pmax pmax

comp=Z,5.0nm,0.9s
BRTR MLR MLR

comp=Z,127nm,18.8s
GRA1 Grafenberg Arr 78.92 336 *e*P **P 17 37 59.0 +0.2**

comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 78.92 336 *e*P **P 17 37 59.0 +0.2**

comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 78.92 336 *e*P **P 17 37 59.0 +0.2**
GRF pmax pmax

comp=Z,19nm,0.9s,mb5.0
GRF Grafenberg Arr 78.92 336 *e*P **P 17 37 59.0 +0.2**
GRF pmax pmax

comp=Z,19nm,0.9s,mb5.0
GEC2 GERESS Array S 78.95 334 *e*P **P 17 37 58.1 -0.8**
GERES GERESS Array B 78.95 334 P **P 17 37 58.2 -0.7**

comp=Z,2.1nm,0.7s,mb4.2,baz=35,slow=4.9,SNR=18
GERES LR LR 18 16 45.8

comp=Z,194nm,18.3s,MS4.5,baz=284,slow=39
GERES GERESS Array B 78.95 334 P **P 17 37 58.2 -0.7**
GERES pmax pmax

comp=Z,2.0nm,0.7s
GERES MLR MLR

comp=Z,194nm,18.3s
CONA Conrad Observa 79.08 332⇑*i*P **P 17 37 58.2 -1.4**

comp=Z,9.7nm,1.6s,mb4.5
MEM Membach 79.47 339 P **P 17 38 02.2 +0.4**
PKSM Moragy 79.63 330⇑*i*P **P 17 38 01.9 -0.7**
MOA Molln 79.66 333⇑*i*P **P 17 38 02.6 -0.2**

comp=Z,6.1nm,0.8s,mb4.6
ARSA Arzberg 79.78 332⇑*i*P **P 17 38 03.4 0.0**

comp=Z,7.8nm,1.5s,mb4.4
BCLA Clavier 79.82 340 P **P 17 38 05.1 +1.5**
BAIF Baives 80.41 340 *e*P **P 17 38 07.4 +0.5**
PERS Pernice 80.45 332 *i* P **P 17 38 07.3 +0.2**
PERS *e* 17 38 18.7
KBA Koelnbreinsper 80.63 333⇓*i*P **P 17 38 09.2 +1.2**

comp=Z,18nm,1.1s,mb4.9
KBA Koelnbreinsper 80.63 333⇓*i*P **P 17 38 09.2 +1.2**
KBA pmax pmax

comp=Z,18nm,1.1s,mb4.9
WTTA Wattenberg 80.98 334⇑*i*P **P 17 38 10.5 +0.6**

comp=Z,22nm,1.0s,mb5.0
WTTA Wattenberg 80.98 334⇑*i*P **P 17 38 10.5 +0.6**
WTTA pmax pmax

comp=Z,22nm,1.0s,mb5.0
VTS Vitosha 81.00 325⇑*i*P **P 17 38 10.1 +0.1**
VTS Vitosha 81.00 325⇑P **P 17 38 10.1 +0.1**
MOTA Moosalm 81.07 335⇓*i*P **P 17 38 11.0 +0.6**

comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 81.07 335⇓*i*P **P 17 38 11.0 +0.6**
MOTA pmax pmax

comp=Z,14nm,1.0s,mb4.8
CDF Champ du Feu 81.17 338 *e*P **P 17 38 10.8 -0.1**

comp=Z,17nm,0.8s,mb4.7
CDF Champ du Feu 81.17 338 *e*P **P 17 38 10.8 -0.1**
CDF pmax pmax

comp=Z,9.0nm,0.8s,mb4.8
CDF Champ du Feu 81.17 338 *e*P **P 17 38 10.8 -0.1**

comp=Z,8.6nm,0.8s,mb4.7
VISS Visnje 81.28 332 *i* P **P 17 38 11.0 -0.5**
VISS *i* 17 38 21.1
BOJS Bojanci 81.41 331 *e*P **P 17 38 12.0 -0.1**
CEY Cerknica 81.47 332 *e*P **P 17 38 11.6 -1.0**
MEZF Maizieres J'vi 81.66 339 *e*P **P 17 38 13.7 +0.2**

comp=Z,15nm,0.7s,mb4.7
MEZF Maizieres J'vi 81.66 339 *e*P **P 17 38 13.7 +0.2**

comp=Z,15nm,0.7s,mb5.0
HAU Haudompre 81.79 338 *e*P **P 17 38 13.9 -0.3**
HAU *e*MLR MLR

comp=Z,158nm,20.2s
HAU Haudompre 81.79 338 *e*P **P 17 38 13.9 -0.3**
HAU LR LR

comp=Z,160nm,20.3s,MS4.4
HINF Hinteralfeld 81.83 338 *e*P **P 17 38 14.5 +0.1**
PPT Papeete 81.89 126 *e*LR LR 18 03 17.9

comp=Z,197nm,24.8s
PPT Papeete 81.89 126 LR LR 18 11 14.3

comp=Z,231nm,18.1s,MS4.6,baz=325,slow=33
FLN La Foliniere 82.67 343 *e*P **P 17 38 19.1 +0.3**

comp=Z,28nm,0.9s,mb5.0
FLN *e*MLR MLR

comp=Z,182nm,21.0s
FLN La Foliniere 82.67 343 *e*P **P 17 38 19.1 +0.3**
FLN pmax pmax

comp=Z,14nm,0.9s,mb5.0
FLN MLR MLR
FLN La Foliniere 82.67 343 *e*P **P 17 38 19.1 +0.3**
comp=Z,14nm,0.9s,mb5.0
FLN LR LR
comp=Z,180nm,21.0s,MS4.4
LOR Lormes 83.10 339 *e*P **P 17 38 20.9 -0.1**
comp=Z,12nm,0.8s,mb4.7
LOR *e*MLR MLR
comp=Z,172nm,22.5s
LOR Lormes 83.10 339 *e*P **P 17 38 20.9 -0.1**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,170nm,22.5s,MS4.4
LOR Lormes 83.10 339 *e*P **P 17 38 20.9 -0.1**
comp=Z,5.9nm,0.8s,mb4.7
LOR LR LR
comp=Z,170nm,22.5s,MS4.4
GRR Gorron 83.11 343 *e*P **P 17 38 21.4 +0.3**
comp=Z,30nm,1.0s,mb5.0
GRR Gorron 83.11 343 *e*P **P 17 38 21.4 +0.3**
GRR pmax pmax
comp=Z,15nm,1.0s,mb5.0
GRR Gorron 83.11 343 *e*P **P 17 38 21.4 +0.3**
comp=Z,15nm,1.0s,mb5.0
SSF Saint Saulge 83.38 340 *e*P **P 17 38 22.8 +0.3**
comp=Z,16nm,1.0s,mb4.7
SSF Saint Saulge 83.38 340 *e*P **P 17 38 22.8 +0.3**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SSF Saint Saulge 83.38 340 *e*P **P 17 38 22.8 +0.3**
comp=Z,8.1nm,1.0s,mb4.7
SGMF Saint Gilles 83.58 344 *e*P **P 17 38 23.4 -0.1**
ROSF Rostrenen 83.63 344 *e*P **P 17 38 23.6 -0.2**
AVF Avril sur Loir 83.67 340 *e*P **P 17 38 24.0 0.0**
SMF Signal de Mont 83.69 339 *e*P **P 17 38 24.1 +0.1**
comp=Z,34nm,1.0s,mb5.1
SMF Signal de Mont 83.69 339 *e*P **P 17 38 24.1 +0.1**
SMF pmax pmax
comp=Z,17nm,1.0s,mb5.1
SMF Signal de Mont 83.69 339 *e*P **P 17 38 24.1 +0.1**
comp=Z,17nm,1.0s,mb5.1
LPL La Plagne 83.98 337 *e*P **P 17 38 26.3 +0.7**
comp=Z,15nm,1.0s,mb4.8
LPL La Plagne 83.98 337 *e*P **P 17 38 26.3 +0.7**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPL La Plagne 83.98 337 *e*P **P 17 38 26.3 +0.7**
comp=Z,7.7nm,1.0s,mb4.8
LPG La Plagne 83.99 337 *e*P **P 17 38 26.6 +1.0**
comp=Z,15nm,0.9s,mb4.8
LPG La Plagne 83.99 337 *e*P **P 17 38 26.6 +1.0**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LPG La Plagne 83.99 337 *e*P **P 17 38 26.6 +1.0**
comp=Z,7.3nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.42 340 *e*P **P 17 38 27.9 +0.1**
comp=Z,14nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.42 340 *e*P **P 17 38 27.9 +0.1**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.42 340 *e*P **P 17 38 27.9 +0.1**
comp=Z,6.8nm,0.9s,mb4.8
MFF Saint Martin d 84.65 342 *e*P **P 17 38 28.8 -0.2**
MBDF Montbardon 84.70 337 *e*P **P 17 38 29.9 +0.7**
comp=Z,6.2nm,0.6s,mb4.6
MBDF Montbardon 84.70 337 *e*P **P 17 38 29.9 +0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
MBDF Montbardon 84.70 337 *e*P **P 17 38 29.9 +0.7**
comp=Z,3.1nm,0.6s,mb4.6
ORIF Oris-en-Rattie 84.77 337 *e*P **P 17 38 30.1 +0.6**
comp=Z,20nm,0.8s,mb5.0
ORIF *e*MLR MLR
comp=Z,134nm,22.5s
ORIF Oris-en-Rattie 84.77 337 *e*P **P 17 38 30.1 +0.6**
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 84.77 337 *e*P **P 17 38 30.1 +0.6**
comp=Z,10nm,0.8s,mb5.0
VIVF Saint-Julien-l 85.14 338 *e*P **P 17 38 31.8 +0.4**
RJF Les Rejaudoux 85.51 340 *e*P **P 17 38 33.8 +0.6**
RJF *e*MLR MLR
comp=Z,158nm,21.0s
RJF Les Rejaudoux 85.51 340 *e*P **P 17 38 33.8 +0.6**
RJF LR LR
comp=Z,160nm,21.0s,MS4.4
CAF Calviac 85.73 340 *e*P **P 17 38 34.8 +0.4**
comp=Z,8.1nm,0.7s,mb4.8
CAF Calviac 85.73 340 *e*P **P 17 38 34.8 +0.4**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
CAF Calviac 85.73 340 *e*P **P 17 38 34.8 +0.4**
comp=Z,4.1nm,0.7s,mb4.8
FRF La Foret Royal 85.81 336 *e*P **P 17 38 34.8 +0.1**
LMR La Mourre 86.06 336 *e*P **P 17 38 36.1 +0.1**
comp=Z,27nm,1.1s,mb5.1
LMR La Mourre 86.06 336 *e*P **P 17 38 36.1 +0.1**
LMR pmax pmax
comp=Z,14nm,1.1s,mb5.1
LMR La Mourre 86.06 336 *e*P **P 17 38 36.1 +0.1**
comp=Z,14nm,1.1s,mb5.1
TBI Tubuai 86.60 129 *e*LR LR 18 05 28.3
comp=Z,128nm,31.0s
ESDC Sonseca Array 92.09 342 LR LR 18 22 54.8
comp=Z,71nm,18.5s,MS4.2,baz=295,slow=37
KEST Kesra 92.14 331 P **P 17 39 04.6 -0.2**
comp=Z,1.0nm,0.8s,mb4.2,baz=60,slow=6.6,SNR=4.6
KEST LR LR 18 26 03.7
comp=Z,45nm,19.5s,MS3.9,baz=214,slow=39
RKT Rikitea 94.79 118 *e*LR LR 18 09 17.2
comp=Z,173nm,35.2s
BDFB Brasilia 144.88 37 PKP PKPdf 17 45 31.1 -1.1
comp=Z,1.5nm,0.3s,baz=240,slow=4.3,SNR=3.6
BDFB Brasilia 144.88 37 PKIKP PKPdf 17 45 31.1 -1.2
BDFB pmax pmax
comp=Z,2.0nm,0.3s
PLCA Paso Flores 148.25 96 PKPbc PKPbc 17 45 41.1 -0.2
comp=Z,5.1nm,0.7s,baz=236,slow=3.2,SNR=18
PLCA Paso Flores 148.25 96 *e*PKPbc PKPbc 17 45 40.8 -0.5
CPUP Villa Florida 148.85 61 PKP PKPdf 17 45 39.1 +0.2
comp=Z,0.5nm,0.4s,baz=247,slow=5.4,SNR=2.9
CPUP PKPbc PKPbc 17 45 43.1 +0.2
comp=Z,1.6nm,0.8s,baz=273,slow=6.5,SNR=3.7
SNAA Sanae 151.95 196 *e*PKPdf PKPbc 17 45 51.3 +1.0
SNAA *e* 17 45 56.5
VNA3 Neumayer Olymp 153.49 192 *e*PKPdf pPKPbc 17 46 03.8 +1.9
VNA3 *e* 17 46 06.2
VNA3 *e* 17 46 16.9

IDC 02 17:48:16.7±6.1, 4644N×15263E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=188.6km s-min=39.4km az=3.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.79**	**297**	P	P	17 56 47.6	-0.3
0.3nm,0.2s,baz=75,slow=5.2,SNR=3.8							
FINES	**FINESS Array B**	**64.18**	**335**	P	P	17 58 52.6	-0.5
0.6nm,0.5s,baz=32,slow=7.6,SNR=4.9							
PDAR	**Pinedale Array**	**65.20**	**53**	P	P	17 58 59.9	+0.1
0.1nm,0.3s,baz=329,slow=1.7,SNR=4.1							
AKASG	**Malin Array Be**	**71.62**	**326**	P	P	17 59 39.6	-0.3
0.8nm,0.4s,baz=33,slow=6.1,SNR=5.3							

IDC 02 18:07:23.1±14.0, 4689N×15321E, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=322.4km s-min=47.9km az=140.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.96**	**253**	Pn	Pn	18 09 20.1	+0.1
0.2nm,0.3s,baz=66,slow=20,SNR=1.4							
MKAR	**Makanchi Array**	**46.94**	**297**	P	P	18 15 55.2	-0.3
1.2nm,0.9s,baz=55,slow=9.1,SNR=10.0							
FINES	**FINESS Array B**	**63.94**	**335**	P	P	18 17 57.7	-0.3
1.8nm,0.8s,baz=36,slow=7.9,SNR=12							
AKASG	**Malin Array Be**	**71.47**	**326**	P	P	18 18 44.8	-0.7
0.5nm,0.4s,baz=34,slow=6.1,SNR=4.9							

IDC 02 18:21:59.6±57.0, 2054S×17496W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=1080.0km s-min=187.5km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.34**	**245**	P	P	18 29 38.8	-0.1
0.9nm,0.5s,baz=84,slow=10,SNR=3.6							
ASAR	**Alice Springs**	**47.28**	**256**	P	P	18 30 36.0	+1.3
1.0nm,0.8s,baz=96,slow=8.1,SNR=15							
WRA	**Warramunga Arr**	**47.42**	**261**	P	P	18 30 35.2	-0.6
0.6nm,0.7s,baz=101,slow=7.7,SNR=6.6							

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*ISCJB **02** 18:44:00.5±0.6, 163S±0.1×173.1W±02, h10km, mb4.3/8, MS3.8/6, Error ellipse: s-maj=31.4km s-min=11.6km az=75.5*
*IDC **02** 18:44:00.9±0.8, 1669S×17274W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.3/16, mbtmp4.4/6, MS3.8/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=50.1km s-min=20.3km az=132.0*
*NEIC **02** 18:44:02.0±0.5, 1679S×17264W, h10km, mb4.4/2, Error ellipse: s-maj=19.3km s-min=14.7km az=147.0*
ISC 02 18:44:06.2±0.6, 166S±02×1730W±02, h35km, n48, σ0§68/15, mb4.3/8, MS3.8/6, 4C-1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.89**	**23**	Pn	**Pn**	**18 44 43.0**	**-6.7**
34nm,0.3s,baz=11,slow=3.2,SNR=26							
AFI				Sn	**Sn**	**18 45 12.1**	**-11**
107nm,0.3s,baz=204,slow=22,SNR=7.9							
RAR	**Rarotonga**	**13.30**	**112**	Pn	**Pn**	**18 47 04.0**	**-8.5**
2.4nm,0.3s,baz=277,slow=8.1,SNR=3.9							
RAR				LR	LR	18 50 13.5	
comp=Z,126nm,20.8s,baz=334,slow=28							
RAR	**Rarotonga**	**13.30**	**112**	Pn	**Pn**	**18 47 04.0**	**-8.5**
RAR				LR	LR	18 50 13.5	
DZM	**Mont Dzumac**	**20.18**	**251**	LR	LR	18 55 16.4	
comp=Z,353nm,18.3s,MS3.8,baz=32,slow=33							
PPT	**Papeete**	**22.38**	**96**	*e*LR	LR	18 54 00.4	
277nm,29.0s							
PPT	**Papeete**	**22.38**	**96**	LR	LR	18 54 41.6	
comp=Z,177nm,19.4s,MS3.5,baz=118,slow=29							
TBI	**Tubuai**	**23.08**	**111**	*e*LR	LR	18 54 18.0	
271nm,32.5s,baz=284							
URZ	**Urewera**	**23.29**	**200**	P	**P**	**18 49 10.6**	**-0.3**
14nm,0.8s,mb4.4,baz=317,slow=17,SNR=3.7							
HNR	**Honiara**	**27.31**	**282**	LR	LR	18 59 15.1	
comp=Z,525nm,18.5s,MS4.1,baz=179,slow=33							
RKT	**Rikitea**	**36.24**	**107**	*e*LR	LR	19 00 21.4	
160nm,32.0s							
PMG	**Port Moresby**	**39.45**	**275**	LR	LR	19 05 17.7	
comp=Z,84nm,18.9s,MS3.6,baz=205,slow=32							
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**18 52 09.6**	**+0.9**
0.7nm,0.8s,mb4.2,baz=98,slow=9.5,SNR=6.7							
AS31	**Alice Springs**	**50.16**	**253**	*e*P	**P**	**18 52 57.5**	**-0.6**
ASAR	**Alice Springs**	**50.16**	**253**	P	**P**	**18 52 58.3**	**+0.2**
6.1nm,0.5s,mb4.9,baz=88,slow=8.3,SNR=121							
VNDA	**Vanda**	**62.25**	**186**	LR	LR	19 16 03.2	
comp=Z,63nm,19.1s,MS3.8,baz=292,slow=31							
QSPA	**South Pole Qui**	**73.47**	**180**	*e*P	**P**	**18 55 36.1**	**+1.1**
8.4nm,1.1s,mb4.6							
NVAR	**Mina Array Bea**	**74.92**	**42**	P	**P**	**18 55 43.4**	**0.0**
2.1nm,0.8s,mb4.1,baz=229,slow=11,SNR=16							
NVAR	**Mina Array Bea**	**74.92**	**42**	P	**P**	**18 55 43.4**	**-0.1**
BMO	**Blue Mountains**	**79.31**	**37**	*e*P	**P**	**18 56 07.9**	**-0.2**
2.0nm,1.2s,mb3.9							
HLID	**Hailey**	**80.27**	**39**	*e*P	**P**	**18 56 14.1**	**+0.8**
PDAR	**Pinedale Array**	**82.86**	**42**	P	**P**	**18 56 26.4**	**-0.5**
1.7nm,0.9s,mb4.1,baz=231,slow=2.4,SNR=9.4							
MAW	**Mawson**	**86.81**	**199**	P	**P**	**18 56 45.7**	**-1.2**
2.5nm,1.0s,mb4.4,baz=90,slow=10,SNR=3.9							
PLCA	**Paso Flores**	**88.41**	**132**	LR	LR	19 29 04.0	
comp=Z,71nm,18.6s,MS4.1,baz=27,slow=31							
OJC	**Ojcow**	**144.90**	**346**	*e*P	PKPdf	19 03 40.0	+0.6
MALT	**Malatya**	**144.99**	**314**	*e*P	PKPdf	19 03 42.2	+2.6
STHS	**Stebnicka Huta**	**145.27**	**344**	*e*PKP	PKPdf	19 03 41.6	+1.5
KMBO	**Kilima Mbogo**	**145.38**	**242**	PKPbc	PKPbc	19 03 44.0	+3.8
4.0nm,1.1s,baz=142,slow=2.4,SNR=10.0							
UPC	**Upice**	**145.39**	**350**	*e*PKP	PKPdf	19 03 41.2	+0.9
UPC				*ex*	x	19 03 53.8	
KOLS	**Kolonicke sedl**	**145.42**	**342**	*e*PKP	PKPdf	19 03 42.1	+1.8
DPC	**Dobruska-Polom**	**145.49**	**349**	*e*PKP	PKPdf	19 03 42.0	+1.5
NIE	**Niedzica**	**145.51**	**345**	*e*P	PKPdf	19 03 42.5	+2.0
PVCC	**Panska Ves**	**145.60**	**351**	*e*PKP	PKPdf	19 03 41.0	+0.4
PVCC				*ex*	x	19 03 53.9	
BURAR	**Bucovina Array**	**145.61**	**338**	⇓*i*P	PKPdf	19 03 43.5	+2.8
OKC	**Ostrava-Krasne**	**145.63**	**347**	*e*PKP	PKPdf	19 03 43.2	+2.5
CRVS	**Cervenica-Dubn**	**145.68**	**343**	*e*PKP	PKPdf	19 03 43.4	+2.6
MORC	**Moravsky Berou**	**145.81**	**348**	⇑*i*P	PKPdf	19 03 43.5	+2.5
PRU	**Pruhonice**	**146.13**	**351**	*e*PKP	PKPdf	19 03 43.8	+2.3
PRU				*ex*	x	19 03 57.9	
KECS	**Kecovo**	**146.33**	**344**	*e*PKP	PKPdf	19 03 44.2	+2.3
VYHS	**Vyhne**	**146.74**	**346**	*e*PKP	PKPbc	19 03 46.6	+2.3
PSZ	**Piszkesteto**	**147.01**	**344**	PKPbc	PKPbc	19 03 46.3	+1.3
KHC	**Kasperske Hory**	**147.10**	**352**	*e*PKP	PKPbc	19 03 47.2	+1.9
KHC				*ex*	x	19 03 58.7	
MLR	**Muntele Rosu**	**147.11**	**335**	PKPbc	PKPbc	19 03 46.4	+1.0
4.5nm,1.0s,baz=68,slow=3.5,SNR=7.2							
MLR	**Muntele Rosu**	**147.11**	**335**	⇑*i*P	PKPbc	19 03 47.5	+2.1
DRGR		**147.19**	**340**	⇑*i*P	PKPbc	19 03 47.5	+1.9
BR131	**Keskin Array S**	**147.33**	**320**	*e*P	PKPbc	19 03 47.8	+1.8
BRTR	**Keskin Array B**	**147.33**	**320**	PKPbc	PKPbc	19 03 47.4	+1.4
3.4nm,1.0s,baz=147,slow=2.5,SNR=15							
GERES	**GERESS Array B**	**147.36**	**352**	PKPbc	PKPbc	19 03 47.5	+1.4
1.4nm,0.9s,baz=48,slow=2.0,SNR=8.2							
BZS	**Buzias**	**148.58**	**340**	⇑*i*P	PKPbc	19 03 50.1	+0.8

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*LDG **02** 18:57:23.5±0.1, 4294N×003E, h2km, Md2.0/2, Ml1.7/3, Error ellipse: s-maj=4.9km s-min=1.4km az=170.0*
MDD 02 18:57:23.9±0.4, 4301N×002E, h5km±5km, mbLg1.2/7, Error ellipse: s-maj=2.4km s-min=2.3km az=153.0, PRXIMO ARTIFICIAL POSIBLE, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**40**	P	Pg	18 57 25.1	-0.2
LABF				S	Sg	18 57 26.2	-0.1
VIEF	**Viey**	**0.12**	**180**	P	Pg	18 57 26.4	0.0
VIEF				S	Sg	18 57 28.4	+0.4
EPF	**Esparros**	**0.23**	**83**	*e*Pg	Pg	18 57 28.0	-0.5
EPF				*e*Sg	Sg	18 57 31.8	+0.2
10nm,0.3s							
EPF	**Esparros**	**0.23**	**83**	Pg	Pg	18 57 28.0	-0.5
EPF				Lg		18 57 31.8	
5.2nm,0.3s							
RESF	**Ens**	**0.30**	**130**	P	Pg	18 57 29.5	-0.3
RESF				S	Sg	18 57 34.2	+0.4
EBIE	**Bielsa**	**0.33**	**165**	Pg	Pg	18 57 30.0	-0.3
1.6nm,0.1s,SNR=7.9							
EBIE				Lg		18 57 34.5	
7.1nm,0.2s,SNR=14							
ETSF	**Etsaut**	**0.44**	**256**	*e*Pg	Pg	18 57 31.9	-0.5
ETSF				*e*Sg	Sg	18 57 37.8	-0.3
4.5nm,0.2s							
ETSF	**Etsaut**	**0.44**	**256**	Pg	Pg	18 57 31.9	-0.5
ETSF				Lg		18 57 37.8	
2.2nm,0.2s							
SALF	**Salau**	**0.89**	**106**	P	Pg	18 57 40.3	-0.7
SALF				S	Sg	18 57 51.8	-0.8
SJPF	**Ste Jean**	**0.92**	**277**	*e*Pg	Pg	18 57 41.1	-0.5
SJPF				*e*Sg	Sg	18 57 53.2	-0.3
1.4nm,0.3s							
SJPF	**Ste Jean**	**0.92**	**277**	Pg	Pg	18 57 41.1	-0.5
SJPF				Lg		18 57 53.2	
0.7nm,0.3s							
IUSE	**Utxeti**	**1.16**	**268**	Pg	Pg	18 57 48.7	+2.6
0.6nm,0.1s,SNR=4.0							
IUSE				Lg		18 58 04.7	
0.9nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.33**	**196**	Pg	Pg	18 57 49.9	+0.5
3.4nm,0.2s,SNR=7.9							
ESAC				Lg		18 58 08.0	
8.0nm,0.1s,SNR=5.8							
MTLF	**Montolieu**	**1.64**	**77**	*e*Pg	Pg	18 57 54.5	-0.8
MTLF				*e*Sg	Sg	18 58 15.9	-0.7
0.8nm,0.2s							
MTLF	**Montolieu**	**1.64**	**77**	Pg	Pg	18 57 54.5	-0.8
MTLF				Lg		18 58 15.9	
0.4nm,0.2s							

EPOB	**Poblet**	**1.83**	**154**	Pg	Pg	18 57 57.5	-1.4
0.3nm,0.1s,SNR=7.9							
EPOB				Sn	Sn	18 58 16.4	-3.1
0.3nm,0.1s,SNR=7.9							
EPOB				Lg		18 58 21.7	
1.4nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.00**	**15**	*e*Sg	Sg	18 58 28.5	+0.3
2.7nm,0.4s							
LFF	**La Frestale**	**2.00**	**15**	Lg		18 58 28.5	
1.4nm,0.4s							
ERTA	**Horta de San J**	**2.06**	**173**	Lg		18 58 29.3	
0.2nm,0.1s,SNR=7.9							

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*ISCJB **02** 19:04:56.2±1.7, 1282N±008×1443E±02, h66km±19km, mb4.0/12, Error ellipse: s-maj=38.5km s-min=14.1km az=177.6*
*IDC **02** 19:04:57.6±1.3, 1282N×1445 3E, h69km±13km, mb3.5/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.8/6, MS3.8/12, Ms1 3.8/12, ms1mx3.8/13, Error ellipse: s-maj=35.3km s-min=17.7km az=93.0*
*NEIC **02** 19:04:57.3±1.1, 1284N×1445 9E, h68km±11km, mb4.3/3, Error ellipse: s-maj=23.8km s-min=10.5km az=87.0*
*BJI **02** 19:04:57.3, 1280N×1446 0E, h68km, mB5.0, mb4.4, Ms4.2, Msz3.8*
ISC 02 19:04:57.8±1.5, 1285N±009×1444E±02, h65km±18km, n26, σ0§69/19, mb4.0/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.87**	**32**	P	**Pn**	**19 05 12.9**	**-1.4**
750nm,0.3s,baz=180,slow=1.6,SNR=358							
GUMO				S	**Sn**	**19 05 27.6**	**+0.9**
834nm,0.3s,baz=0.0,slow=20,SNR=24							
JOW	**Kunigami**	**20.54**	**315**	LR	LR	19 16 08.6	
comp=Z,168nm,18.2s,baz=123,slow=32							
JHJ	**Hachijo jima 2**	**20.61**	**349**	LR	LR	19 16 09.8	
comp=Z,290nm,18.3s,baz=189,slow=32							
MJAR	**Matsushiro Arr**	**24.24**	**348**	P	**P**	**19 10 09.3**	**+0.8**
4.9nm,1.1s,mb3.8,baz=174,slow=11,SNR=7.2							
MJAR				LR	LR	19 18 44.7	
comp=Z,224nm,18.0s,baz=175,slow=34							
MJAR	**Matsushiro Arr**	**24.24**	**348**	P	**P**	**19 10 09.3**	**+0.8**
MJAR				LR	LR	19 18 44.7	
MAJO	**Matsushiro**	**24.24**	**348**	*e*P	**P**	**19 10 08.9**	**+0.4**
11nm,0.9s,mb4.2							
MAT	**Matsushiro**	**24.24**	**348**	P	**P**	**19 10 07.7**	**-0.8**
MAT				S	**S**	**19 14 29.0**	**+6.5**
HNR	**Honiara**	**26.99**	**144**	LR	LR	19 20 18.1	
comp=Z,139nm,21.5s,baz=359,slow=34							
WRA	**Warramunga Arr**	**34.05**	**197**	P	**P**	**19 11 35.9**	**+0.1**
3.4nm,1.0s,mb4.1,baz=18,slow=9.6,SNR=14							
WRA				LR	LR	19 26 02.7	
comp=Z,133nm,20.0s,baz=345,slow=37							
BJT	**Baijiatuau**	**36.73**	**323**	*e*P	**P**	**19 11 59.2**	**+0.6**
2.7nm,0.5s,mb4.4							
BJI	**Beijing**	**36.74**	**323**	P	**P**	**19 12 04.7**	**+5.9**
BJI				AMB	AMB		
comp=Z,16nm,1.4s,mb4.8							
BJI				AMB	AMB		
comp=Z,105nm,4.1s							
BJI				LR	LR		
comp=N,161nm,17.6s							
BJI				LR	LR		
comp=E,169nm,17.6s							
BJI				LR	LR		
comp=Z,95nm,19.2s							
AS31	**Alice Springs**	**37.71**	**196**	*e*P	**P**	**19 12 07.2**	**+0.3**
ASAR	**Alice Springs**	**37.71**	**196**	P	**P**	**19 12 07.2**	**+0.2**
comp=Z,1.2nm,0.7s,mb3.9,baz=19,slow=11,SNR=16							
ASAR				LR	LR	19 26 03.8	
comp=Z,166nm,21.8s,baz=360,slow=34							
CD2	**Chengdu**	**41.49**	**302**	P	**P**	**19 12 45.2**	**+6.8**
CD2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**44.55**	**183**	LR	LR	19 29 39.7	
comp=Z,123nm,20.1s,baz=23,slow=33							
SONM	**Songino Array**	**47.07**	**325**	P	**P**	**19 13 23.1**	**+0.2**
comp=Z,1.0nm,0.8s,mb3.6,baz=139,slow=7.1,SNR=4.3							
SONM				LR	LR	19 33 26.6	
comp=Z,108nm,19.9s,baz=128,slow=36							
GTA	**Gaotai**	**47.32**	**312**	*e*P	**P**	**19 13 31.9**	**+7.0**
GTA				AMB	AMB		
comp=Z,4.0nm,1.1s,mb4.1							
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**19 15 09.1**	**0.0**
comp=Z,0.3nm,0.5s,mb3.6,baz=93,slow=8.2,SNR=5.8							
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**19 15 09.1**	**0.0**
ZRNK	**Zerenda**	**71.05**	**322**	P	**P**	**19 16 07.6**	**-1.2**
comp=Z,3.3nm,1.0s,mb4.1							
ZRNK				*e*		19 16 17.5	
PPT	**Papeete**	**71.84**	**113**	LR	LR	19 45 09.8	
comp=Z,150nm,18.7s,baz=307,slow=34							
YKA	**Yellowknife Ar**	**83.72**	**27**	LR	LR	19 54 33.7	
comp=Z,71nm,18.9s,baz=45,slow=36							
NVAR	**Mina Array Bea**	**87.74**	**51**	P	**P**	**19 17 39.4**	**-0.1**
comp=Z,0.3nm,0.7s,mb3.4,baz=296,slow=6.8,SNR=2.9							
AKASG	**Malin Array Be**	**95.35**	**325**	LR	LR	20 04 37.2	
comp=Z,56nm,18.4s,baz=35,slow=38							
NOA	**NORSAR Array B**	**97.57**	**339**	LR	LR	20 03 56.5	
comp=Z,38nm,21.1s,baz=50,slow=36							
LPAZ	**La Paz**	**148.35**	**100**	PKPbc	PKPbc	19 24 36.2	-0.5
comp=Z,0.4nm,0.6s,baz=276,slow=9.2,SNR=1.8							

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*ISCJB **02** 20:24:04.7±2.8, 86S±03×1587E±04, h140km±46km, mb4.2/6, Error ellipse: s-maj=80.9km s-min=28.0km az=60.8*
*IDC **02** 20:24:05.3±2.2, 852S×15874E, h129km±32km, mb4.0/6, mb1 4.2/6, mb1mx3.9/12, mbtmp4.4/6, Error ellipse: s-maj=43.6km s-min=21.0km az=121.0*
*NEIC **02** 20:24:05.4±2.3, 852S×15870E, h129km±38km, Error ellipse: s-maj=59.4km s-min=19.6km az=120.0*
ISC 02 20:24:05.8±2.8, 86S±03×1588E±04, h134km±45km, n8, σ0§50/9, mb4.2/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**127**	P	**Pn**	**20 24 33.8**	**+0.2**
357nm,0.3s,baz=252,slow=2.0,SNR=106							
HNR				S	**Sn**	**20 24 54.6**	**-0.2**
446nm,0.3s,baz=102,slow=22,SNR=30							
WRA	**Warramunga Arr**	**26.21**	**242**	P	**P**	**20 29 28.6**	**+0.5**
3.1nm,0.5s,mb4.2,baz=65,slow=9.1,SNR=58							
AS31	**Alice Springs**	**28.16**	**235**	*e*P	**P**	**20 29 44.9**	**-0.5**
ASAR	**Alice Springs**	**28.16**	**235**	P	**P**	**20 29 45.2**	**-0.1**
3.8nm,0.6s,mb4.3,baz=62,slow=9.6,SNR=91							
ASAR				PcP	PcP	20 32 55.2	-0.7
0.2nm,0.5s,baz=77,slow=2.7,SNR=4.1							
STKA	**Stephens Creek**	**28.18**	**212**	P	**P**	**20 29 46.0**	**+0.5**
5.8nm,0.4s,mb4.6,baz=43,slow=14,SNR=34							
FITZ	**Fitzroy Crossi**	**33.56**	**250**	P	**P**	**20 30 32.6**	**-0.3**
1.2nm,0.5s,mb3.9,baz=49,slow=7.6,SNR=14							
SONM	**Songino Array**	**72.69**	**326**	P	**P**	**20 35 19.7**	**+0.8**
2.7nm,0.6s,mb4.2,baz=142,slow=5.6,SNR=26							
MKAR	**Makanchi Array**	**87.05**	**318**	P	**P**	**20 36 35.4**	**-0.8**
1.1nm,0.6s,mb3.9,baz=90,slow=5

IVA eSg Sg 20 36 37.0 +0.2
KKS Kukesi 0.52 126 *i* Pg Pg 20 36 28.6 -2.2
KKS *i* Sg Sg 20 36 37.9 +0.3
ULC Ulcinj 0.61 227⇑ *i*Pg Pg 20 36 30.5 -2.0
ULC eSg Sg 20 36 40.8 +0.2
BUM Brajici-Budva 0.71 264⇑ *i*Pg Pg 20 36 32.9 -1.5
BUM eSg Sg 20 36 44.8 +1.2
NKY Niksic 0.76 305⇓ *i*Pg Pg 20 36 33.1 -2.4
NKY eSg Sg 20 36 46.9 +1.5
PHP Peshkopia 0.82 147 *i* Pg Pg 20 36 33.6 -3.0
PHP *i* Sg Sg 20 36 46.4 -0.9
HCY Herceg Novi 1.00 274⇓ *i*Pg Pg 20 36 37.7 -2.3
HCY eSg Sg 20 36 54.5 +1.4
PLE Pljevlja 1.01 341⇑ *i*Pg Pg 20 36 38.5 -1.6
PLE eSg Sg 20 36 55.0 +1.8
TIR Tirane 1.03 179 Pg Pg 20 36 38.7 -1.8
155nm,0.5s
TIR Tirane 1.03 179 *e*Pg Pg 20 36 38.9 -1.7
TIR eSg Sg 20 36 54.9 +0.9
TIR Tirane 1.03 179 *i* Pg Pg 20 36 38.7 -1.8
TIR *i* Sg Sg 20 36 55.1 +1.1
UPM Unac-Piva 1.07 320⇓ *i*Pg Pg 20 36 39.9 -1.4
UPM eSg Sg 20 36 57.6 +2.3
BRY Bratogost 1.09 299⇑ *i*Pg Pg 20 36 39.6 -2.1
BRY eSg Sg 20 36 58.1 +2.1
SKO Skopje 1.25 108 *e*Pg Pg 20 36 43.0 -1.7
SKO eSg Sg 20 37 03.1 +2.1
SKO Skopje 1.25 108 *i* Pn Pn 20 36 42.8 -1.5
SKO *i* Sn Sn 20 37 03.3 +2.2
SKO Skopje 1.25 108 *e*Pn Pg 20 36 42.7 -1.5
SKO eSg Sg 20 37 03.1 +2.1
SKO *i* Sn Sn 20 37 03.3 +2.2
OHR Ohrid 1.45 150 *e*Pg Pg 20 36 46.7 -1.9
OHR eSg Sg 20 37 06.2 -1.3
OHR Ohrid 1.45 150 *i* Pn Pn 20 36 48.0 +0.9
OHR *i* Sn Sn 20 37 08.0 +1.9
OHR Ohrid 1.45 150 *i* Pn Pn 20 36 47.9 +0.9
OHR eSg Sg 20 37 06.2 -1.3
OHR *i* Sn Sn 20 37 08.0 +1.9
STON Ston 1.66 288 *i* Pn Pn 20 36 49.5 -0.4
STON *i* Sn Sn 20 37 15.2 +4.0
STON Ston 1.66 288 *i* Pn Pn 20 36 49.4 -0.5
STON *i* Sn Sn 20 37 15.2 +4.0
DIVS Divcibare 1.72 3 *e*Pb Pb 20 36 50.4 -2.0
DIVS eSb Sb 20 37 11.8 -2.2
BIA Bitola 1.75 140 *e*Pb Pb 20 36 51.1 -1.8
BIA eSb Sb 20 37 14.6 -0.4
BIA Bitola 1.75 140 *i* Pn Pn 20 36 52.9 +1.8
BIA *i* Sn Sn 20 37 15.7 +2.2
BIA Bitola 1.75 140 *i* Pn Pn 20 36 52.9 +1.8
BIA *i* Sn Sn 20 37 15.6 +2.1
STIP Stip 1.87 111 *e*Pb Pn 20 36 52.2 -0.5
STIP eSb Sn 20 37 16.0 -0.4
FNA Florina 1.96 144 *e*Pn Pn 20 36 54.6 +0.6
FNA eSn Sn 20 37 19.9 +1.2
VAY Valandovo 2.29 117 *e*Pn Pn 20 36 57.7 -0.8
VAY eSn Sn 20 37 28.8 +2.0
VAY Valandovo 2.29 117 *i* Pn Pn 20 37 00.3 +1.7
GRG Griva 2.38 126 *e*Pn Pn 20 36 59.2 -0.6
GRG eSn Sn 20 37 29.3 +0.2
VTS Vitosha 2.49 84 *e*Pn Pn 20 37 01.1 -0.2
VTS eSn Sn 20 37 33.6 +1.8
VTS Vitosha 2.49 84⇓ *i*P Pn 20 37 01.1 -0.2
VTS Vitosha 2.49 84 S Sn 20 37 33.8 +2.0
VTS Vitosha 2.49 84⇓ P Pn 20 37 01.1 -0.3
VTS S Sn 20 37 33.8 +2.0
KEK Kerkira 2.67 181 Pg Pn 20 37 03.6 -0.1
19nm,0.7s
MEV Metsovon 2.79 158 *e*Pn Pn 20 37 05.3 -0.2
AMUR Altamura 2.84 240 Pg Pn 20 37 05.3 -0.8
AMUR Sg Sn 20 37 38.9 -1.5
46nm,0.6s
IGT Igoumenitsa 2.87 173 *e*Pn Pn 20 37 06.8 +0.3
IGT eSn Sn 20 37 41.8 +0.7
HORT Hortiatis 3.02 125 *e*Pn Pn 20 37 08.5 -0.1
HORT eSn Sn 20 37 46.3 +1.5
LIT Litokhoron 3.02 138 *e*Pn Pn 20 37 08.4 -0.2
LIT eSn Sn 20 37 47.2 +2.3
LIT Litokhoron 3.02 138 *e*Pn Pn 20 37 08.4 -0.2
LIT eSn Sn 20 37 47.2 +2.3
SOH Sokhos 3.06 119 *e*Pn Pn 20 37 08.8 -0.2
SOH eSn Sn 20 37 47.3 +1.6
SRS Serrai 3.07 113 *e*Pn Pn 20 37 09.2 -0.1
SRS eSn Sn 20 37 47.4 +1.4
BZS Buzias 3.48 21⇓ *i*P Pn 20 37 14.7 -0.2
BZS Buzias 3.48 21⇓ P Pn 20 37 14.7 -0.1
GZR Gura Zlata 3.68 34⇓ *i*P Pn 20 37 19.0 +1.4
GZR Gura Zlata 3.68 34⇓ P Pn 20 37 19.0 +1.4
LKD Levkas 3.72 170 *e*Pn Pn 20 37 18.3 +0.1
LKD eSn Sn 20 38 01.8 -0.3
SLCN Sala Consilina 3.74 239 Pg Pn 20 37 19.0 +0.5
25nm,0.4s
AGG Agios Georgios 3.85 150 *e*Pn Pn 20 37 17.8 -2.1
AGG eSn Sn 20 38 07.3 +2.1
MCRV Calabrutti - M 3.86 247 Pg Pn 20 37 20.4 +0.3
15nm,0.3s
CDRU Civita di Ruta 3.90 243 Pg Pn 20 37 20.0 -0.7
13nm,0.4s
PKSM Moragy 3.93 348⇑ *i*P Pn 20 37 20.1 -0.9
PKSM Moragy 3.93 348⇑ P Pn 20 37 20.1 -0.9
XOR Xorichti 3.94 139 *e*Pn Pn 20 37 21.7 +0.5
XOR eSn Sn 20 38 07.7 +0.3
CMPR Campora 3.99 240 Pg Pn 20 37 21.8 -0.1
15nm,0.4s
BULG Bulgheria - Ca 4.08 237 Pg Pn 20 37 23.6 +0.5
BULG Sg Sn 20 38 07.5 -3.5
36nm,0.3s
SGG Gregorio Mates 4.20 258 Pg Pn 20 37 25.9 +1.1
12nm,0.4s
NVLJ Novalja 4.23 303 *i* Pn Pn 20 37 26.7 +1.6
NVLJ *i* Sn Sn 20 38 18.1 +3.5
VAGA Valle Agricola 4.30 259 Pg Pn 20 37 27.8 +1.6
21nm,0.5s
DRGR 4.86 24⇓ *i*P Pn 20 37 35.0 +1.1
FIAM Fiamignano 4.99 271 Pg Pn 20 37 37.0 +1.3
11nm,0.8s
JAVS Javornik 5.45 312 *i* Pn Pn 20 37 44.4 +2.5
JAVS eSn Sn 20 38 46.8 +2.2

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*ISCJB **02** 20:49:56.8±1.5, 364N±0.1×753W±008, h9km±9km, Error ellipse: s-maj=18.5km s-min=6.9km az=51.9*
*MDD **02** 20:49:57.1±1.8, 3633N×759W, h1km±9km, mbLg2.3/5, Error ellipse: s-maj=12.8km s-min=8.0km az=25.0, PRXIMO*
*INMG **02** 20:50:01.3±1.4, 3646N×761W, h10km, ML2.0, Error ellipse: s-maj=8.2km s-min=5.1km az=57.0*

ISC 02 20:49:58.0±1.5, **3642N**±009×**756W**±007, **h10**km±8km, **n13**, σ**1**9**04**/22, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.11**	**3**	Pg	**Pg**	**20 50 19.8**	**+0.4**
	1.9nm,0.1s,SNR=4.0						
EGRO				Lg		20 50 35.9	
	21nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.44**	**71**	Pg	**Pg**	**20 50 24.1**	**-1.5**
	3.2nm,0.1s,SNR=7.9						
ESPR				Lg		20 50 43.7	
	13nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.46**	**321**	*e*P	**Pn**	**20 50 22.9**	**-1.5**
PTEO				*e*S	**Sn**	**20 50 40.6**	**-3.0**
PTEO							
	7.6nm,0.1s						
EMIN	**Mina Concepcio**	**1.52**	**27**	Pn	**Pn**	**20 50 25.1**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**20 50 45.4**	**+0.4**
	4.5nm,0.8s,SNR=4.0						
EMIN				Lg		20 50 49.7	
	7.6nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**1.62**	**351**	*e*Pn	**Pn**	**20 50 28.1**	**+1.5**
PBEJ				*e*Sn	**Sn**	**20 50 47.9**	**+0.4**
PBEJ							
	12nm,0.1s						
MOE	**Montemor**	**2.19**	**343**	*e*Pn	**Pn**	**20 50 38.7**	**+4.3**
MOE				*e*Sn	**Sn**	**20 51 06.0**	**+4.4**
EBAD	**Badajoz**	**2.37**	**10**	Pn	**Pn**	**20 50 37.5**	**+0.7**
	0.9nm,0.1s,SNR=7.9						
EBAD				Lg		20 51 15.4	
	2.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.44**	**359**	*e*Pn	**Pn**	**20 50 39.4**	**+1.5**
PESTR				*e*Sn	**Sn**	**20 51 06.6**	**-1.2**
EADA	**Adamuz**	**2.95**	**53**	Pn	**Pn**	**20 50 45.0**	**+0.2**
	1.8nm,0.3s,SNR=6.4						
EADA				Sn	**Sn**	**20 51 20.7**	**+0.5**
	1.1nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.39**	**75**	Pn	**Pn**	**20 50 51.5**	**+0.5**
	0.1nm,0.0s,SNR=7.9						
EQUE				Sn	**Sn**	**20 51 31.6**	**+0.4**
	0.9nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.47**	**59**	Pn	**Pn**	**20 50 51.8**	**-0.3**
	1.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.84**	**68**	Pn	**Pn**	**20 50 58.0**	**+0.9**
	0.1nm,0.2s,SNR=7.9						
EQES				Sn	**Sn**	**20 51 42.5**	**+0.2**
	SNR=7.9						
ETOB	**Tobarra**	**5.26**	**63**	Pn	**Pn**	**20 51 16.2**	**-0.5**
	0.7nm,0.1s,SNR=6.2						
ETOB				Sn	**Sn**	**20 52 15.2**	**-2.1**
	SNR=7.9						

IDC 02 21:14:14.4±1.4, **1775S**×**4178E**, **h0**km, **mb3.8**/6, **mb1 3.9**/7, **mb1mx3.7**/22, **mbtmp3.8**/7, **ML4.2**/1, **MS2.9**/4, **Ms1 2.9**/4, **ms1mx2.7**/34, **Error ellipse: s-maj=51.5km s-min=23.9km az=22.0, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.20**	**100**	Pn	Pn	21 15 33.6	+0.1
	7.9nm,0.3s,baz=269,slow=13,SNR=93						
OPO				Sn	Sn	21 16 28.0	-6.2
	5.4nm,0.3s,baz=185,slow=18,SNR=3.2						
MATP	**Matopo**	**12.84**	**256**	LR	LR	21 22 23.6	
	comp=Z,57nm,18.5s,baz=88,slow=38						
LSZ	**Lusaka**	**13.27**	**279**	LR	LR	21 21 50.2	
	comp=Z,46nm,21.9s,baz=30,slow=34						
LBTB	**Lobatse**	**16.71**	**242**	LR	LR	21 24 20.6	
	comp=Z,40nm,18.8s,baz=82,slow=36						
SUR	**Sutherland**	**23.88**	**228**	LR	LR	21 29 03.7	
	comp=Z,46nm,20.5s,baz=54,slow=37						
TORD	**Torodi Ar. Bea**	**50.08**	**305**	P	P	21 23 12.2	+1.2
	0.5nm,0.7s,baz=131,slow=7.4,SNR=13						
DBIC	**Dimbokro**	**52.05**	**294**	P	P	21 23 26.1	+0.3
	2.9nm,0.9s,baz=129,slow=14,SNR=5.1						
BRTR	**Keskin Array B**	**57.67**	**353**	P	P	21 24 07.2	+0.6
	0.6nm,0.5s,baz=165,slow=11,SNR=4.1						
PSI	**Prapat**	**59.88**	**76**	LR	LR	21 44 13.1	
	comp=Z,593nm,21.8s,baz=62,slow=30						
GERES	**GERESS Array B**	**70.85**	**341**	P	P	21 25 33.1	+0.1
	0.4nm,0.6s,baz=142,slow=6.8,SNR=4.1						
MKAR	**Makanchi Array**	**73.87**	**28**	P	P	21 25 51.0	-0.1
	0.6nm,0.6s,baz=210,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**84.92**	**113**	P	P	21 26 52.6	+1.3
	0.8nm,0.8s,baz=255,slow=5.1,SNR=7.7						
PDAR	**Pinedale Array**	**145.16**	**322**	PKPbc	PKPbc	21 33 51.1	-2.4
	0.5nm,0.7s,baz=54,slow=7.5,SNR=5.1						

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*IDC **02** 21:20:30.0±6.5, 3621N×7080E, h170km±59km, mb3.4/10, mb1 3.5/13, mb1mx3.4/24, mbtmp3.9/13, Error ellipse: s-maj=30.0km s-min=15.0km az=19.0*
*MOS **02** 21:20:29.5±0.8, 3631N×7074E, h175km, mb4.0/13, Error ellipse: s-maj=18.4km s-min=8.9km az=98.3*
*NEIC **02** 21:20:30.7±2.4, 3632N×7077E, h172km±21km, mb4.0/4, Error ellipse: s-maj=20.1km s-min=9.3km az=214.0*
*BJI **02** 21:20:30.4, 3656N×7069E, h174km, mB4.7, mb4.5*
*ISCJB **02** 21:20:32.2±0.5, 3643N±003×7099E±006, h201km±6km, mb3.7/11, Error ellipse: s-maj=8.4km s-min=4.3km az=132.6*
*NNC **02** 21:20:43.6±6.7, 3744N×7065E, h192km±91km, mb2.6, mpv3.5, Error ellipse: s-maj=64.3km s-min=35.2km az=20.0*

ISC 02 21:20:32.5±0.5, **3643N**±003×**7089E**±007, **h187**km±6km, **n75**, σ**1**9**07**/91, **mb3.8**/11, **6C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.73**	**162**	⇑P	**Pn**	**21 21 20.9**	**+2.7**
CEP				S	**Sn**	**21 21 51.0**	**-2.9**
CHCP	**Chirah Chowk**	**3.38**	**144**	P	**Pn**	**21 21 27.6**	**+1.5**
THW	**Thamme Wali**	**3.69**	**169**	⇓P	**Pn**	**21 21 32.3**	**+2.4**
SARP	**Sargodha**	**4.73**	**161**	P	**Pn**	**21 21 44.6**	**+1.5**
SARP				S	**Sn**	**21 22 38.0**	**-0.6**
KSH	**Kashi**	**5.07**	**51**	⇓P	**Pn**	**21 21 48.9**	**+1.5**
KSH				S	**Sn**	**21 22 45.7**	**-0.6**
KSH				Smax			
	comp=N,143nm,0.4s						
KSH				Smax			
	comp=E,132nm,0.5s						
THN	**Thein Dam**	**5.64**	**134**	*e*P	**Pn**	**21 21 56.4**	**+1.6**
THN				*e*S	**Sn**	**21 22 58.7**	**-1.0**
DLH	**Dalhousie**	**5.71**	**131**	*e*P	**Pn**	**21 21 54.0**	**-1.8**
DLH				*e*S	**Sn**	**21 22 58.0**	**-3.4**
AML	**Almayashu**	**6.10**	**20**	P	**Pn**	**21 22 01.0**	**+0.2**
	SNR=13						
UCH	**Uchtor**	**6.44**	**25**	P	**Pn**	**21 22 05.6**	**+0.3**
	SNR=7.1						
EKS2	**Erkin-Say**	**6.61**	**19**	P	**Pn**	**21 22 07.8**	**+0.3**
	SNR=9.4						
KK31	**Karatay Array**	**6.67**	**358**	Pn	**Pn**	**21 22 07.7**	**-0.6**
	comp=E,8.3nm,0.5s,baz=187,slow=13,SNR=172						
KK31				⇓Sn	**Sn**	**21 23 11.4**	**-13**
	comp=E,22nm,0.4s,baz=205,slow=22,SNR=22						
AAK	**Ala-Archa**	**6.79**	**23**	P	**Pn**	**21 22 10.8**	**+0.9**
	SNR=7.5						
AAK	**Ala-Archa**	**6.79**	**23**	*e*PN	**Pn**	**21 22 08.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AAK	**Ala-Archa**	**6.79**	**23**	*e*P	**Pn**	**21 22 08.9**	**-1.0**
	comp=Z,5.3nm,0.4s						
SDNR	**Sundarnagar**	**7.05**	**132**	*e*P	**Pn**	**21 22 13.8**	**+0.6**
SDNR				*e*S	**Sn**	**21 23 28.0**	**-5.0**
TKM2	**Tokmak 2**	**7.43**	**28**	P	**Pn**	**21 22 18.5**	**+0.3**
	SNR=11						
TKM2	**Tokmak 2**	**7.43**	**28**	⇑Pn	**Pn**	**21 22 18.4**	**+0.2**
	comp=Z,0.9nm,0.7s						
TKM2				⇑Sn	**Sn**	**21 23 36.0**	**-6.0**
	comp=Z,1.2nm,0.8s						
KLP	**Kalpa**	**7.82**	**126**	*e*P	**Pn**	**21 22 22.6**	**-0.8**
KLP				*e*S	**Sn**	**21 23 45.6**	**-5.7**
KLP				AML	AML	21 23 50.8	
	comp=E,294nm,0.5s						
KLP				AML	AML	21 23 51.8	
	comp=N,282nm,0.5s						
KHET	**Khetri**	**9.31**	**152**	*e*S	**Sn**	**21 24 19.8**	**-7.0**
KHET				AML	AML	21 24 22.5	
	comp=N,51nm,0.4s						
KHET				AML	AML	21 24 23.8	
	comp=E,51nm,0.3s						
NDI	**New Delhi**	**9.39**	**144**	*e*S	**Sn**	**21 24 22.7**	**-5.9**
NDI				AML	AML	21 24 27.1	
	comp=N,30nm,0.2s						
NDI				AML	AML	21 24 28.2	
	comp=E,43nm,0.4s						
AYAN	**Aya Nagar**	**9.51**	**145**	*e*P	**Pn**	**21 22 45.6**	**+0.1**
SONA	**Sohna**	**9.69**	**146**	*e*P	**Pn**	**21 22 48.3**	**+0.5**
SONA				*e*S	**Sn**	**21 24 29.4**	**-6.4**
SONA				AML	AML	21 24 33.4	
	comp=N,24nm,0.3s						
AJM	**Ajmer**	**10.42**	**161**	*e*P	**Pn**	**21 22 57.6**	**+0.3**
AGRA	**Agra**	**10.96**	**145**	*e*P	**Pn**	**21 22 58.8**	**-5.4**
AGRA				*e*S	**Sn**	**21 24 53.0**	**-13**
MKAR	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**21 23 35.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=214,slow=12,SNR=12						
KOLN	**Koldanda**	**13.80**	**125**	*e*P	**Pn**	**21 23 39.5**	**-0.8**
	comp=N,13nm,0.4s						
KOLN				*e*S	**Sn**	**21 26 05.6**	**-8.4**
BHPL	**Bhopal**	**14.31**	**155**	*e*P	**Pn**	**21 23 51.1**	**+4.4**
BHPL				*e*x	x	21 26 17.3	
GKN	**Gorkha**	**14.34**	**122**	*e*P	**Pn**	**21 23 46.3**	**-0.8**
	comp=N,44nm,0.4s						
GKN				*e*S	**Sn**	**21 26 16.9**	**-10**
DMN	**Daman**	**14.91**	**122**	*e*P	**Pn**	**21 23 54.2**	**+0.1**
	comp=N,20nm,0.4s						
KKN	**Kakani**	**14.92**	**121**	*e*P	**Pn**	**21 23 54.0**	**-0.2**
	comp=N,48nm,0.6s						
KKN				*e*S	**Sn**	**21 26 31.9**	**-8.9**
AB31	**Akbulak array**	**15.10**	**331**	P	**Pn**	**21 23 54.8**	**-1.7**
	comp=N,1.6nm,0.5s,baz=143,slow=12,SNR=48						
AB31				⇑S	**S**	**21 26 33.0**	**-11**
	comp=N,0.8nm,0.4s,baz=162,slow=22,SNR=4.7						
PKI	**Pulchoki**	**15.14**	**122**	*e*P	**Pn**	**21 23 57.1**	**+0.1**
GUN	**Gumba**	**15.26**	**120**	*e*P	**Pn**	**21 23 58.7**	**+0.3**
	comp=N,12nm,0.3s						
JIRN	**Jiri**	**15.63**	**120**	*e*P	**Pn**	**21 24 03.4**	**+0.5**
	comp=N,13nm,0.2s						
ZRNK	**Zerenda**	**16.57**	**356**	*e*P	**Pn**	**21 24 14.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZRNK	**Zerenda**	**16.57**	**356**	*e*P	**Pn**	**21 24 14.0**	**-0.2**
	comp=Z,3.4nm,0.7s						
BVAR	**Borovoye Array**	**16.60**	**359**	P	**Pn**	**21 24 13.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=163,slow=10,SNR=8.4						
AKTK	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**21 24 17.0**	**+0.1**
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P	**Pn**	**21 24 16.3**	**-0.7**
	comp=Z,0.4nm,0.9s						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**21 24 17.0**	**0.0**
	comp=Z,1.5nm,0.3s,baz=138,slow=11,SNR=27						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**21 24 17.0**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LSA	**Lhasa**	**18.25**	**106**	P	**P**	**21 24 36.1**	**+4.3**
LSA	**Lhasa**	**18.25**	**106**	*e*P	**P**	**21 24 34.1**	**+2.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	**18.25**	**106**	*e*P	**P**	**21 24 34.1**	**+2.3**
	comp=Z,7.6nm,0.7s						
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**21 24 51.9**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=272,slow=7.6,SNR=5.0						
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**21 24 51.9**	**+1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**20.83**	**288**⇑	*e*P	**P**	**21 25 02.0**	**+2.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ARU	**Arti**	**21.67**	**341**⇓	*i*P	**P**	**21 25 08.4**	**0.0**
ARU				*e*PPP		21 25 39.8	
ARU				*e*S	**S**	**21 28 50.1**	**-5.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
SONM	**Songino Array**	**28.45**	**55**	P	**P**	**21 26 10.9**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.3,baz=266,slow=10,SNR=5.0						
SONM	**Songino Array**	**28.45**	**55**	P	**P**	**21 26 10.9**	**+1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**32.92**	**309**	P	**P**	**21 26 48.9**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.0,baz=82,slow=6.9,SNR=7.9						
AKASG	**Malin Array Be**	**32.92**	**309**	*i* P	**P**	**21 26 49.5**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**35.88**	**330**	*e*p	**P**	**21 27 13.7**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.2						
JOF	**Joensuu**	**35.88**	**330**	*e*P	**P**	**21 27 13.7**	**-0.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**21 27 28.3**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=118,slow=11,SNR=12						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**21 27 28.3**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**21 27 28.3**	**+0.2**
KAF	**Kangasniemi**	**37.64**	**327**	*e*p	**P**	**21 27 29.0**	**-0.3**
	baz=110,slow=8.1						
NJ2	**Nanjing**	**39.58**	**82**	*e*P	**P**	**21 27 48.5**	**+3.0**
KEV	**Kevo**	**40.83**	**338**	*e*p	**P**	**21 27 55.4**	**-0.4**
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**21 27 58.1**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=110,slow=8.3,SNR=14						
ARCES	**ARCESS Array B**	**41.18**	**338**	P	**P**	**21 27 58.2**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**21 28 24.1**	**-0.2**
	comp=Z,1.6nm,0.6s,mb3.8,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**21 28 24.1**	**-0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**21 28 24.2**	**-0.1**
	comp=Z,2.1nm,0.7s,mb3.9,baz=97,slow=7.7,SNR=8.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**21 28 24.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**21 30 55.4**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=51,slow=6.0,SNR=24						
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**21 30 55.4**	**-1.0**
YKA	**Yellowknife Ar**	**81.32**	**3**	P	**P**	**21 32 27.8**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=350,slow=5.3,SNR=7.3						
YKA	**Yellowknife Ar**	**81.32**	**3**	*i* P	**P**	**21 32 28.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**21 32 31.1**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.5,baz=325,slow=4.9,SNR=20						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**21 32 31.1**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**21 32 42.5**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.5,baz=313,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**21 32 42.5**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MCMT	**McKenzie Canyo**	**99.05**	**3**	*e*P	**P**	**21 33 57.0**	**+5.0**

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*ATH **02** 21:44:54.7, 40.10N×2282E, h30km, MD2.5/3*
*ISCJB **02** 21:44:55.0±0.8, 3993N±004×2404E±006, h15km±11km, Error ellipse: s-maj=8.7km s-min=6.2km az=132.5*
*THE **02** 21:44:55.5, 3997N×2399E, h1km, ML2.2*

ISC 02 21:44:54.7±0.7, **3994N**±004×**2401E**±006, **h13**km±8km, **n14**, σ**0**9**61**/22, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.40**	**357**	*e*Pg	**Pg**	**21 45 02.8**	**+0.3**
PLG	**Polygyros**	**0.61**	**315**	*e*Pg	**Pg**	**21 45 06.0**	**-0.6**
PLG				*e*Sg	**Sg**	**21 45 14.0**	**-0.7**
PLG	**Polygyros**	**0.61**	**315**	*e*PN	**Pg**	**21 45 05.8**	**-0.8**
PLG				*e*SN	**Sg**	**21 45 14.1**	**-0.6**
AOS	**Alonnisos**	**0.78**	**188**	*e*Pg	**Pg**	**21 45 09.8**	**+0.2**
LOS	**Limnos**	**0.82**	**90**	*e*Pg	**Pg**	**21 45 10.6**	**0.0**
XOR	**Xorichti**	**0.85**	**228**	*e*Pg	**Pg**	**21 45 11.4**	**+0.3**
NEO	**Neokhori**	**0.88**	**224**	*e*PN	**Pn**	**21 45 11.4**	**-1.3**
HORT	**Hortiatis**	**0.96**	**314**	*e*Pg	**Pg**	**21 45 13.1**	**0.0**
HORT				*e*Sg	**Sg**	**21 45 25.4**	**-0.3**
SOH	**Sokhos**	**1.01**	**331**	*e*Pg	**Pg**	**21 45 14.3**	**0.0**
SOH				*e*Sg	**Sg**	**21 45 26.9**	**-0.6**
THE	**Thessaloniki**	**1.06**	**311**	*e*Pg	**Pg**	**21 45 14.7**	**-0.4**
THE				*e*Sg	**Sg**	**21 45 28.6**	**-0.2**
LIT	**Litokhoron**	**1.18**	**278

MKAR Makanchi Array 51.72 324 P P 21 56 26.6 +0.1
0.6nm,0.8s,baz=128,slow=9.3,SNR=3.0

IDC 02 21:54:31.6±65.0, 1679S×17987E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/12, mbtmp4.3/3, Error ellipse: s-maj=1182.0km s-min=149.3km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.75**	**239**	*eP*	P	22 01 48.9	-0.2
	2.1nm,0.6s						
STKA	**Stephens Creek**	**37.75**	**239**	P	P	22 01 49.1	0.0
	2.3nm,0.5s,baz=86,slow=12,SNR=8.4						
WRA	**Warramunga Arr**	**43.23**	**259**	P	P	22 02 35.1	+0.6
	1.1nm,0.7s,baz=92,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**43.52**	**253**	P	P	22 02 37.1	+0.3
	9.8nm,0.6s,baz=89,slow=8.0,SNR=26						
ASPA	**Alice Springs**	**43.52**	**253**	*eP*	P	22 02 37.0	+0.1

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*IDC **02** 21:55:06.2±3.6, 2006S×16877E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/12, mbtmp4.1/5, ML3.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.9/16, Error ellipse: s-maj=106.1km s-min=33.0km az=133.0*
*NEIC **02** 21:55:06.6±2.4, 20.14S×16893E, h10km, mb4.5/1, Error ellipse: s-maj=68.0km s-min=18.5km az=128.0*
*ISCJB **02** 21:55:10.8±3.0, 20.1S±0.3×168.6E±0.5, h33km, mb4.1/4, MS3.4/1, Error ellipse: s-maj=72.4km s-min=11.1km az=60.7*

ISC 02 21:55:10.9±4.2, 203S±05×1689E±06, h35km, n11, σ0°36/11, mb4.2/4, MS3.4/1, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.88**	**232**	*eP*	**Pn**	**21 55 54.2**	**-0.1**
DZM				*eS*	**Sn**	**21 56 26.9**	**-0.7**
DZM	**Mont Dzumac**	**2.88**	**232**	Pn	**Pn**	**21 55 54.5**	**+0.3**
	11nm,0.3s,baz=62,slow=18,SNR=101						
DZM				Sn	**Sn**	**21 56 27.5**	**-0.1**
	30nm,0.3s,baz=129,slow=22,SNR=5.2						
DZM				LR	LR	21 56 56.7	
	comp=Z,224nm,19.9s,baz=19,slow=38						
DZM	**Mont Dzumac**	**2.88**	**232**	Pn	**Pn**	**21 55 54.5**	**+0.3**
DZM				Sn	**Sn**	**21 56 27.5**	**-0.1**
DZM				LR	LR	21 56 56.7	
HNR	**Honiara**	**13.83**	**320**	LR	LR	22 01 35.2	
	comp=Z,18nm,20.0s,baz=360,slow=29						
WRA	**Warramunga Arr**	**32.40**	**265**	P	**P**	**22 01 37.3**	**0.0**
	0.8nm,0.5s,mb3.8,baz=92,slow=8.3,SNR=26						
ASAR	**Alice Springs**	**32.56**	**268**	P	**P**	**22 01 39.2**	**+0.6**
	3.5nm,0.5s,mb4.5,baz=85,slow=8.9,SNR=78						
ASAR				LR	LR	22 14 34.3	
	comp=Z,83nm,20.4s,MS3.4,baz=217,slow=36						
PPT	**Papeete**	**39.31**	**93**	*e*LR	LR	22 13 23.7	
	59nm,27.8s						
FITZ	**Fitzroy Crossi**	**40.81**	**266**	*eP*	**P**	**22 02 48.9**	**0.0**
	8.3nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.81**	**266**	P	**P**	**22 02 49.0**	**+0.1**
	2.5nm,0.8s,mb3.9,baz=112,slow=7.3,SNR=6.9						
SONM	**Songino Array**	**87.86**	**323**	P	**P**	**22 07 56.2**	**-0.5**
	1.1nm,0.8s,mb4.1,baz=143,slow=5.8,SNR=9.4						
GERES	**GERESS Array B**	**145.26**	**331**	PKPbc	PKPbc	22 14 43.8	-0.7
	1.0nm,0.6s,baz=26,slow=4.5,SNR=10						

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*BJI **02** 22:04:05.8, 3680N×7090E, h52km, mB4.9, mb4.6, ML4.2, Ms4.3, Msz4.0*
*NEIC **02** 22:04:06.1±0.5, 3682N×7093E, mb4.2/11, Error ellipse: s-maj=10.4km s-min=8.6km az=49.0*
*IDC **02** 22:04:07.5±4.7, 3677N×7110E, h74km±43km, mb3.7/13, mb1 3.9/17, mb1mx3.8/24, mbtmp4.1/17, ML4.2/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/24, Error ellipse: s-maj=21.3km s-min=15.2km az=1.0*
*ISCJB **02** 22:04:08.5±0.5, 3686N±002×71.12E±005, h100km±6km, mb4.1/24, Error ellipse: s-maj=6.1km s-min=3.6km az=169.9*
*MOS **02** 22:04:09.3±1.2, 3697N×7104E, h99km, mb4.2/18, Error ellipse: s-maj=11.7km s-min=7.1km az=93.6*
*NNC **02** 22:04:14.4±5.6, 3729N×7070E, h158km±67km, mb3.3, mpv4.3, Error ellipse: s-maj=56.8km s-min=28.7km az=34.0*

ISC 02 22:04:10.4±0.4, 3684N±002×7115E±004, h103km±5km, h61km±7.0km: pP-P, n122, σ1°28/149, mb4.1/24, 4C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.07**	**168**	⇓P	**Pn**	**22 04 57.7**	**+0.6**
CHCP	**Chirah Chowk**	**3.61**	**151**	P	**Pn**	**22 05 05.2**	**+0.9**
THW	**Thamme Wali**	**4.06**	**173**	⇑P	**Pn**	**22 05 10.3**	**-0.1**
KSH	**Kashi**	**4.65**	**53**	P	**Pn**	**22 05 21.8**	**+3.5**
KSH				*eS*	**Sn**	**22 06 17.9**	**+6.8**
KSH				LR	LR		
	comp=N,2μm,3.9s						
KSH				LR	LR		
	comp=E,2μm,3.8s						
SARP	**Sargodha**	**5.06**	**165**	P	**Pn**	**22 05 22.6**	**-1.3**
SARP				S	**Sn**	**22 06 16.0**	**-5.1**
JMU	**Jammu**	**5.14**	**142**	*eS*	**Sn**	**22 06 22.0**	**-1.0**
AML	**Almayashu**	**5.64**	**20**	P	**Pn**	**22 05 32.0**	**+0.2**
	SNR=128						
THN	**Thein Dam**	**5.79**	**138**	*eP*	**Pn**	**22 05 34.2**	**+0.5**
THN				*eS*	**Sn**	**22 06 38.1**	**-0.6**
DLH	**Dalhousie**	**5.84**	**136**	*eP*	**Pn**	**22 05 36.0**	**+1.6**
DLH				*eS*	**Sn**	**22 06 37.0**	**-3.0**
UCH	**Uchtor**	**5.98**	**25**	P	**Pn**	**22 05 36.6**	**+0.3**
	SNR=85						
EKS2	**Erkin-Say**	**6.16**	**18**	P	**Pn**	**22 05 38.9**	**+0.1**
	SNR=151						
KK31	**Karatay Array**	**6.28**	**356**	⇓P	**Pn**	**22 05 38.8**	**-1.6**
	comp=E,28nm,0.3s,baz=179,slow=12,SNR=364						
KK31				S	**Sn**	**22 06 46.8**	**-3.9**
	comp=E,94nm,0.7s,baz=198,slow=24,SNR=6.5						
AAK	**Ala-Archa**	**6.34**	**23**	P	**Pn**	**22 05 41.6**	**+0.5**
	SNR=142						
AAK	**Ala-Archa**	**6.34**	**23**	⇓*i*PN	**Pn**	**22 05 40.6**	**-0.6**
AAK				*e*		22 06 52.7	
AAK				pmax	pmax		
	comp=Z,72nm,0.6s						
AAK	**Ala-Archa**	**6.34**	**23**	⇓*i*Pn	**Pn**	**22 05 40.5**	**-0.6**
	comp=Z,72nm,0.6s						
AAK				*e*Sn	**Sn**	**22 06 52.6**	**+0.5**
KBK	**Karagaybulak**	**6.51**	**26**	P	**Pn**	**22 05 44.2**	**+0.8**
	SNR=43						
FRU	**Bishkek**	**6.56**	**23**	⇓*i*PN	**Pn**	**22 05 45.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
ULHL	**Ulahol**	**6.68**	**35**	P	**Pn**	**22 05 46.4**	**+0.6**
	SNR=6.7						
CHMS	**Chumysh**	**6.75**	**23**	P	**Pn**	**22 05 46.9**	**+0.1**
	SNR=124						
USP	**Ospenovka**	**6.92**	**21**	P	**Pn**	**22 05 48.6**	**-0.4**
	SNR=35						
BHK	**Bhakra**	**6.95**	**140**	*ex*	x	22 06 19.8	
BHK				*ex*	x	22 07 06.6	
TKM2	**Tokmak 2**	**6.97**	**28**	P	**Pn**	**22 05 50.1**	**+0.3**
	SNR=83						
TKM2	**Tokmak 2**	**6.97**	**28**	⇓P	**Pn**	**22 05 50.2**	**+0.4**
	comp=Z,5.5nm,0.7s						
TKM2				⇓S	**Sn**	**22 07 07.8**	**+0.2**
	comp=Z,5.0nm,1.1s						
SDNR	**Sundarnagar**	**7.18**	**136**	*eP*	**Pn**	**22 05 53.0**	**+0.3**
SDNR				*eS*	**Sn**	**22 07 07.5**	**-5.2**
KLP	**Kalpa**	**7.91**	**130**	*eP*	**Pn**	**22 06 03.2**	**+0.6**
KLP				*eS*	**Sn**	**22 07 26.3**	**-4.1**
KLP				AML	AML	22 07 34.6	
	comp=N,500nm,0.7s						
KLP				AML	AML	22 08 03.5	
	comp=E,207nm,0.5s						
KHET	**Khetri**	**9.58**	**154**	*eP*	**Pn**	**22 06 26.7**	**+1.4**
KHET				*eS*	**Sn**	**22 08 03.6**	**-7.4**
KHET				AML	AML	22 08 04.1	
	comp=E,63nm,0.6s						
KHET				AML	AML	22 08 04.4	
	comp=N,70nm,0.3s						
NDI	**New Delhi**	**9.60**	**146**	*eP*	**Pn**	**22 06 26.0**	**+0.5**
NDI				*eS*	**Sn**	**22 08 06.5**	**-4.9**
NDI				AML	AML	22 08 13.5	
	comp=N,35nm,0.3s						
NDI				AML	AML	22 08 15.0	
	comp=E,54nm,0.3s						
AYAN	**Aya Nagar**	**9.73**	**147**	*eP*	**Pn**	**22 06 28.5**	**+1.2**
AYAN				*eS*	**Sn**	**22 08 09.2**	**-5.5**
AYAN				AML	AML	22 08 11.6	
	comp=Z,24nm,0.4s						
JASL	**Jaisalmer**	**9.88**	**181**	*eP*	**Pn**	**22 06 30.2**	**+0.8**
SONA	**Sohna**	**9.92**	**148**	*eP*	**Pn**	**22 06 31.1**	**+1.2**
SONA				*eS*	**Sn**	**22 08 11.7**	**-7.5**
SONA				AML	AML	22 08 15.3	
	comp=N,28nm,0.3s						
SONA				AML	AML	22 08 17.1	
	comp=E,64nm,0.5s						
LGTI	**Lohaghat**	**10.60**	**131**	*eP*	**Pn**	**22 06 39.3**	**+0.2**
LGTI				*eS*	**Sn**	**22 08 30.0**	**-5.7**
AJM	**Ajmer**	**10.74**	**163**	*eP*	**Pn**	**22 06 41.2**	**+0.1**
AJM				*eP*		22 06 42.0	
AJM				*eS*	**Sn**	**22 08 31.2**	**-8.1**
AJM				*eS*	**Sn**	**22 08 31.7**	**-7.6**
AJM				AML	AML	22 08 33.8	
	comp=E,45nm,0.1s						
AGRA	**Agra**	**11.17**	**147**	*eS*	**Sn**	**22 08 41.7**	**-8.1**
AGRA				AML	AML	22 09 12.6	
	comp=E,102nm,0.3s						
AGRA				AML	AML	22 09 19.5	
	comp=N,76nm,0.5s						
MK07	**Makanchi Array**	**12.93**	**37**	P	**Pn**	**22 07 09.5**	**-0.7**
MKAR	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**22 07 09.5**	**-0.9**
	comp=N,0.2nm,0.3s,baz=228,slow=14,SNR=10						
GKN	**Gorkha**	**14.39**	**124**	*eP*	**Pn**	**22 07 25.2**	**-3.9**
	comp=N,62nm,0.6s						
GKN				*eS*	**Sn**	**22 09 55.6**	**-12**
WMQ	**Urumqi**	**14.41**	**56**	*eP*	**Pn**	**22 07 30.0**	**+0.7**
WMQ				AP		22 07 41.0	
WMQ				PP		22 07 44.0	
WMQ				*eS*	**Sn**	**22 10 08.0**	**-0.1**
WMQ				XS		22 10 25.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,152nm,4.7s						
WMQ				LR	LR		
	comp=N,204nm,5.2s						
WMQ				LR	LR		
	comp=E,227nm,6.6s						
BHPL	**Bhopal**	**14.59**	**156**	*eP*	**Pn**	**22 07 34.9**	**+3.2**
BHPL				*ex*	x	22 10 01.6	
AB31	**Akbulak array**	**14.85**	**330**	P	**Pn**	**22 07 29.8**	**-5.1**
	comp=E,2.8nm,0.3s,baz=138,slow=10,SNR=117						
AB31				⇑S	**Sn**	**22 10 02.9**	**-16**
	comp=E,11nm,0.7s,baz=146,slow=22,SNR=10						
KKN	**Kakani**	**14.96**	**123**	*eP*	**Pn**	**22 07 33.0**	**-3.3**
	comp=E,32nm,0.5s						
KKN				*eS*	**Sn**	**22 10 09.7**	**-12**
DMN	**Daman**	**14.96**	**124**	*eP*	**Pn**	**22 07 33.1**	**-3.2**
	comp=E,38nm,0.5s						
PKI	**Pulchoki**	**15.19**	**123**	*eP*	**Pn**	**22 07 35.8**	**-3.4**
	comp=E,26nm,0.7s						
GUN	**Gumba**	**15.29**	**121**	*eP*	**Pn**	**22 07 38.2**	**-2.3**
	comp=E,75nm,0.9s						
JIRN	**Jiri**	**15.66**	**121**	*eP*	**Pn**	**22 07 42.4**	**-2.7**
	comp=E,16nm,0.3s						
VOSK	**Vostochnaya**	**15.89**	**360**	P	**Pn**	**22 07 45.1**	**-2.9**
ZRNK	**Zerenda**	**16.18**	**355**	P	**Pn**	**22 07 50.3**	**-1.4**
ZRNK	**Zerenda**	**16.18**	**355**	*eP*	**Pn**	**22 07 48.1**	**-3.6**
ZRNK				*e*		22 10 53.6	
ZRNK				pmax	pmax		
	comp=Z,31nm,0.9s						
ZRNK	**Zerenda**	**16.18**	**355**	*e*Pn	**Pn**	**22 07 48.1**	**-3.6**
	comp=Z,31nm,0.9s						
ZRNK				*e*Sn	**Sn**	**22 10 53.6**	**+2.6**
BVA0	**Borovoye Array**	**16.20**	**358**	⇑P	**Pn**	**22 07 48.1**	**-3.7**
	comp=Z,3.2nm,1.1s,baz=168,slow=11,SNR=106						
BVA0				S	**S**	**22 10 43.2**	**-14**
	comp=Z,0.2nm,0.5s,baz=168,slow=24,SNR=4.0						
BVAR	**Borovoye Array**	**16.20**	**358**	P	**Pn**	**22 07 49.2**	**-2.6**
	comp=Z,2.1nm,0.3s,baz=164,slow=13,SNR=59						
BVAR				LR	LR	22 15 01.4	
	comp=Z,32nm,18.5s,baz=333,slow=40						
BVAR	**Borovoye Array**	**16.20**	**358**	P	**Pn**	**22 07 49.2**	**-2.6**
BVAR				LR	LR	22 15 01.4	
BRVK	**Borovoye**	**16.23**	**358**	*eP*	**Pn**	**22 07 49.2**	**-3.1**
BRVK				*e*		22 10 54.3	
BRVK				pmax	pmax		
	comp=Z,24nm,0.8s						
BRVK	**Borovoye**	**16.23**	**358**	*e*Pn	**Pn**	**22 07 49.2**	**-3.1**
	comp=Z,24nm,0.8s						
BRVK				*e*Sn	**Sn**	**22 10 54.3**	**+2.2**
AKTK	**Aktyubinsk**	**16.55**	**329**	P	**Pn**	**22 07 53.4**	**-2.8**
AKTO	**Aktyubinsk**	**16.55**	**329**	⇓P	**Pn**	**22 07 52.9**	**-3.3**
	comp=Z,0.8nm,0.8s						
AKTO				⇓S	S	22 10 44.4	-20
	comp=Z,0.8nm,1.4s						
AKTO	**Aktyubinsk**	**16.55**	**329**	P	**Pn**	**22 07 53.4**	**-2.8**
	comp=Z,1.4nm,0.3s,baz=132,slow=13,SNR=39						
AKTO	**Aktyubinsk**	**16.55**	**329**	P	**Pn**	**22 07 53.4**	**-2.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BOK	**Bokaro**	**18.16**	**132**	*ex*	x	22 08 16.8	
LSA	**Lhasa**	**18.16**	**107**	P	**P**	**22 08 19.0**	**+4.3**
LSA	**Lhasa**	**18.16**	**107**	*eP*	**P**	**22 08 16.5**	**+1.8**
LSA				*e*		22 11 36.5	
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**18.16**	**107**	*e*Pn	**Pn**	**22 08 16.5**	**+0.8**
	comp=Z,12nm,0.6s						
LSA				*e*Sn	**Sn**	**22 11 36.5**	**-1.9**
ZAL	**Zalesovo**	**19.54**	**25**	P	**P**	**22 08 30.3**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=253,slow=7.8,SNR=23						
ZAL	**Zalesovo**	**19.54**	**25**	P	**P**	**22 08 30.3**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**19.54**	**25**	P	**P**	**22 08 30.3**	**+0.5**
NVS	**Novosibirsk**	**19.82**	**21**	*eP*	**P**	**22 08 32.0**	**-0.8**
NVS				*eS*	**S**	**22 12 03.8**	**-6.7**
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVS				smax			
	comp=N,13nm,1.6s						
NVS				smax			
	comp=E,8.0nm,1.6s						
HYB	**Hyderabad**	**20.42**	**159**	*eP*	**P**	**22 08 41.0**	**+1.8**
GNI	**Garni**	**20.91**	**287**	P	**P**	**22 08 46.8**	**+2.3**
	comp=E,4.1nm,0.6s,baz=14,slow=4.7,SNR=7.4						
GNI	**Garni**	**20.91**	**287**	*eP*	**P**	**22 08 46.5**	**+2.0**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GNI	**Garni**	**20.91**	**287**	*eP*	**P**	**22 08 46.5**	**+2.1**
	comp=Z,9.6nm,0.8s						
MIB	**Mutribah**	**21.07**	**257**	*eP*	**P**	**22 08 46.1**	**-0.1**
MIB				AMb	AMB	22 08 50.2	
	comp=Z,18nm,0.9s,mb4.4						
ARU	**Arti**	**21.36**	**341**	⇑*i*P	**P**	**22 08 47.7**	**-1.6**
ARU				*e*PPP		22 09 16.7	
ARU				*eS*	**S**	**22 12 39.4**	**-1.1**
ARU				*e*SSS		22 13 11.6	
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.4						
ARU				MLR	MLR		
	comp=Z,70nm,18.0s						
ARU				MLR	MLR		
	comp=N,50nm,20.0s						
ARU				MLR	MLR		
	comp=E,40nm,17.0s						
ARU	**Arti**	**21.36**	**341**	*eP*	**P**	**22 08 48.8**	**-0.5**
	comp=E,26nm,1.1s,mb4.5						
ARU				*eS*	**S**	**22 12 40.5**	**0.0**
NAY	**Al-Naaiem**	**21.39**	**256**	*eP*	**P**	**22 08 48.5**	**-1.1**
NAY				AMb	AMB	22 08 50.6	
	comp=Z,5.8nm,0.9s,mb3.9						
RST	**Umm Al-Ruwaisa**	**21.46**	**257**	*eP*	**P**	**22 08 49.8**	**-0.6**
RST				AMb	AMB	22 08 51.1	
	comp=Z,15nm,0.8s,mb4.4						
GTA	**Gaotai**	**22.66**	**75**	*eP*	**P**	**22 09 05.1**	**+2.1**
GTA				AP		22 09 20.2	
GTA				XP	sP	22 09 27.9	-7.9
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.1						
KIV	**Kislovodsk**	**22.74**	**297**	P	**P**	**22 09 03.3**	**-0.6**
LZH	**Lanzhou**	**26.24**	**82**	*eP*	**P**	**22 09 39.5**	**+3.8**
LZH				AP	pP	22 09 51.5	-6.8
LZH				XP	sP	22 09 58.0	-12
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH	**Lanzhou**	**26.24**	**82**	*eP*	**P**	**22 09 39.5**	**+3.8**
	comp=Z,13nm,1.0s,mb4.3						
LZH				pP	pP	22 09 51.5	-6.8
LZH				sP	sP	22 09 58.0	-12
ZAK	**Zakamensk**	**26.68**	**49**	*eP*	**P**	**22 09 39.7**	**0.0**
ZAK				*e*	pP	22 10 03.8	+1.5
SONM	**Songino Array**	**28.05**	**56**	P	**P**	**22 09 53.5**	**+1.6**
	comp=Z,2.9nm,0.6s,mb4.0,baz=268,slow=9.1,SNR=27						
SONM				LR	LR	22 22 57.0	
	comp=Z,47nm,18.2s,baz=353,slow=40						
SONM	**Songino Array**	**28.05**	**56**	P	**P**	**22 09 53.5**	**+1.6**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,47nm,18.2s						
KMI	**Kunming**	**29.36**	**104**	P	**P**	**22 10 08.7**	**+5.2**
KMI				AP	pP	22 10 23.1	-3.3
KMI				XP	sP	22 10 31.9	-6.4
KMI				PP	PP	22 11 02.2	-9.4
KMI				S	**S**	**22 14 52.6**	**+3.0**
KMI				XS	sS	22 15 22.4	-7.0
KMI				SS	SS	22 16 28.7	-30
KMI				SSS		22 16 49.6	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
KMI				AMB	AMB		
	comp=Z,108nm,4.4s						
KMI				LR	LR		
	comp=N,289nm,17.7s						
KMI				LR	LR		
	comp=E,290nm,16.7s						
KMI	**Kunming**	**29.36**	**104**	P	**P**	**22 10 08.7**	**+5.2**
KMI				*SP	sP	22 10 31.9	-6.4
KMI						22 11 02.2	
KMI				S	**S**	**22 14 52.6**	**+3.0**
KMI				SS	SS	22 16 28.7	-30
KMI				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.9						
KMI				MLR	MLR		
	comp=Z,140nm,14.7s						
KMI	**Kunming**	**29.36**	**104**	P	**P**	**22 10 08.7**	**+5.2**
	comp=Z,5.0nm,1.6s,mb3.9						
KMI				pP	pP	22 10 23.1	-3.3
KMI				sP	sP	22 10 31.9	-6.4
KMI				PP	PP	22 11 02.2	-9.4
KMI				S	**S**	**22 14 52.6**	**+3.0**
KMI				sS	sS	22 15 22.4	-7.0
KMI				SS	SS	22 16 28.7	-30
KMI				SSS		22 16 49.6	
KMI				LR	LR		
	comp=Z,140nm,14.7s						
BR131	**Keskin Array S**	**29.45**	**287**	*eP*	**P**	**22 10 05.3**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.4						
BRTR	**Keskin Array B**	**29.45**	**287**	P	**P**	**22 10 04.9**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.7,baz=100,slow=9.1,SNR=9.5						
BRTR	**Keskin Array B**	**29.45**	**287**	P	**P**	**22 10 04.9**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.83**	**308**	P	**P**	**22 10 34.0**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.8,baz=82,slow=7.0,SNR=4.9						
AKASG	**Malin Array Be**	**32.83**	**308**	P	**P**	**22 10 34.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.83**	**308**	P	**P**	**22 10 34.0**	**0.0**
JOF	**Joensuu**	**35.64**	**330**	*ep*	**P**	**22 10 58.4**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.0						
JOF	**Joensuu**	**35.64**	**330**	*eP*	**P**	**22 10 58.4**	**+0.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**22 11 11.3**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.0,baz=187,slow=30,SNR=3.7						
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**22 11 11.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KAF	**Kangasniemi**	**37.41**	**327**	*ep*	**P**	**22 11 17.4**	**+4.1**
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**22 11 41.7**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.9,baz=115,slow=8.2,SNR=8.5						
ARCES				LR	LR	22 29 46.9	
	comp=Z,51nm,18.5s,baz=101,slow=38						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**22 11 41.7**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,51nm,18.5s						
CN2	**Changchun**	**41.35**	**63**	*eP*	**P**	**22 11 46.8**	**+0.8**
TIP	**Timpagrande**	**42.38**	**290**	P	**P**	**22 11 52.7**	**-1.7**
MDJ	**Mudanjiang**	**44.14**	**61**	P	**P**	**22 12 08.4**	**-0.2**
MDJ				AP	pP	22 12 25.6	-6.9
MDJ				XP	sP	22 12 34.0	-10
MDJ				S	**S**	**22 18 37.8**	**+4.1**
MDJ				XS	sS	22 19 07.6	-7.4
MDJ				SS	SS	22 21 56.3	+1.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,90nm,10.6s						
MDJ				LR	LR		
	comp=N,72nm,4.4s						
MDJ				LR	LR		
	comp=E,63nm,6.1s						
MDJ				LR	LR		
	comp=Z,84nm,9.9s						
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**22 12 08.4**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=98,slow=8.6						
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**22 12 08.4**	**-0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**22 12 09.1**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=97,slow=7.9,SNR=5.5						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**22 12 09.1**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WLF	**Walferdange**	**47.62**	**307**	*eP*	**P**	**22 12 36.2**	**+0.3**
WLF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
WLF	**Walferdange**	**47.62**	**307**	*eP*	**P**	**22 12 36.2**	**+0.3**
	comp=Z,3.4nm,0.4s,mb4.5						
KEST	**Kesra**	**49.04**	**288**	P	**P**	**22 12 48.2**	**+1.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=15,slow=6.6,SNR=5.4						
KMBO	**Kilima Mbogo**	**49.15**	**227**	P	**P**	**22 12 48.8**	**+1.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=42,slow=23,SNR=8.3						
KMBO	**Kilima Mbogo**	**49.15**	**227**	P	**P**	**22 12 48.8**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	**P**	**22 14 43.8**	**-1.0**
	comp=Z,1.1nm,0.7s,mb3.8,baz=50,slow=6.0,SNR=31						
MBWA	**Marble Bar**	**73.67**	**133**	*eP*	**P**	**22 15 33

1.3nm,0.3s,baz=310,slow=6.0,SNR=10
MKAR Makanchi Array 44.15 348 P P 22 27 34.8 0.0
0.3nm,0.4s,baz=161,slow=7.2,SNR=9.1
WRA Warramunga Arr 45.60 123 P P 22 27 46.5 +0.2
0.9nm,0.7s,baz=300,slow=9.0,SNR=7.4
ASAR Alice Springs 47.01 127 P P 22 27 58.0 +0.5
0.6nm,0.7s,baz=300,slow=7.6,SNR=5.9

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*NEIC **02** 22:20:27.8, 38.20N×27.10E, h5km, MD3.3(ISK), MD3.4(ATH), After ISK.*
*ISK **02** 22:20:28.0, 38.24N×27.12E, h5km, MD3.3*
*ISCJB **02** 22:20:29.3±0.6, 38.24N±002×27.15E±004, h6km±4km, Error ellipse: s-maj=4.8km s-min=3.2km az=147.1*
*ATH **02** 22:20:29.3, 38.29N×27.21E, h26km±3km, MD3.4/7*
*CSEM **02** 22:20:29.8±0.1, 38.22N×27.13E, h15km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.1km az=62.0*
ISC 02 22:20:30.0±0.4, 38.26N±002×27.16E±003, h5km±4km, n38, σ1°01/49, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.16**	**30**	*i* PG	**Pg**	**22 20 32.6**	**-0.6**
KDAG	**Bornova**	**0.16**	**30**	*i* P	**Pg**	**22 20 32.7**	**-0.5**
KDAG				*i* S	**Sg**	22 20 34.8	-0.6
URLA	**Izmir**	**0.46**	**283**	*i* P	**Pg**	22 20 39.6	+0.8
URLA				*i* S	**Sg**	22 20 46.4	+1.7
SMG	**Samos**	**0.61**	**205**	⇑*i*PN	**Pg**	22 20 42.0	+0.3
SMG				*e*SN	**Sg**	22 20 52.1	+2.5
AYDN	**Tasoluk**	**0.82**	**136**	*i* P	**Pg**	22 20 45.4	-0.5
AYDN				*i* S	**Sg**	22 20 56.2	-0.4
MLSB	**Milas**	**1.08**	**153**	PG	**Pg**	22 20 49.8	-1.0
MLSB				SG	**Sg**	22 21 05.5	+0.8
MLSB	**Milas**	**1.08**	**153**	Pg	**Pg**	22 20 49.8	-1.0
MLSB				*e*		22 21 05.8	
AYVA	**Ayvalik**	**1.11**	**341**	*i* P	**Pg**	22 20 50.6	-0.7
AYVA				*i* S	**Sg**	22 21 05.6	0.0
BODT	**Bodrum**	**1.20**	**174**	PN	**Pn**	22 20 51.9	-1.6
PRK	**Paraskevi**	**1.21**	**325**	⇑*i*PN	**Pn**	22 20 52.3	-1.2
PRK				*e*SN	**Sn**	22 21 08.8	-1.5
BDRM	**Kayabasi**	**1.22**	**169**	*i* P	**Pg**	22 20 51.9	-1.5
BDRM				*i* S	**Sg**	22 21 10.3	+1.2
BDRM	**Kayabasi**	**1.22**	**169**	*i* P	**Pg**	22 20 51.8	-1.5
DENT	**Denizli**	**1.56**	**108**	PN	**Pn**	22 20 58.3	-0.1
DAT	**Datca**	**1.57**	**168**	PN	**Pn**	22 20 57.6	-0.9
BTOK	**Tokmak**	**1.64**	**24**	*i* P	**Pn**	22 20 57.3	-2.3
BTOK				*i* S	**Sn**	22 21 18.4	-2.7
EZN	**Ezine**	**1.69**	**338**	PN	**Pn**	22 20 59.9	-0.4
APE	**Apeiranthos**	**1.76**	**228**	*e*PB	**Pb**	22 21 00.6	-2.2
BOZC	**Bozcaada**	**1.80**	**332**	*i* P	**Pn**	22 21 01.6	-0.1
BOZC				*i* S	**Sn**	22 21 26.0	+1.0
DALT	**Dalyan (Mudla)**	**1.90**	**141**	*e*PN	**Pn**	22 21 02.5	-0.6
GDZ	**Gediz**	**1.99**	**65**	*i* P	**Pn**	22 21 05.4	+1.0
GDZ				*i* S	**Sn**	22 21 31.3	+1.6
ARG	**Arkhangelos**	**2.18**	**159**	*e*PN	**Pn**	22 21 06.5	-0.5
LIA	**Limnos Island**	**2.25**	**317**	*e*PB	**Pn**	22 21 08.1	+0.2
LIA	**Limnos Island**	**2.25**	**317**	*e*Pb	**Pn**	22 21 08.4	+0.5
MRMT	**Marmara Adasi**	**2.36**	**8**	*e*PN	**Pn**	22 21 10.1	+0.7
RKY	**Sarkoy-Tekirda**	**2.42**	**0**	*e*PN	**Pn**	22 21 10.6	+0.3
ALT	**Altintas**	**2.44**	**70**	*e*PN	**Pn**	22 21 10.9	+0.4
MFT	**Murefte**	**2.52**	**2**	*e*PN	**Pn**	22 21 11.8	+0.1
ELL	**Elmali**	**2.66**	**124**	*e*PN	**Pn**	22 21 13.8	+0.3
GEMT	**Gemlik**	**2.68**	**35**	*e*PN	**Pn**	22 21 14.5	+0.7
YLV	**Yalova**	**2.87**	**36**	*e*PN	**Pn**	22 21 17.1	+0.7
ADVT	**Abdulvahap**	**2.95**	**42**	*e*PN	**Pn**	22 21 18.4	+0.9
ESKT	**Eskisehir**	**3.14**	**65**	*e*PN	**Pn**	22 21 21.1	+0.9
RDO	**Rodhopi**	**3.14**	**337**	*e*PN	**Pn**	22 21 19.4	-0.8
ISK	**Istanbul-Kandi**	**3.16**	**27**	*e*PN	**Pn**	22 21 21.3	+0.9
HRT	**Hereke**	**3.21**	**36**	*e*PN	**Pn**	22 21 22.0	+0.9
KLYT	**Kilyos**	**3.32**	**25**	*e*PN	**Pn**	22 21 23.6	+0.9
EDRB	**Edirne**	**3.59**	**355**	*e*PN	**Pn**	22 21 27.2	+0.8
NVR	**Nevrokopi**	**4.00**	**322**	*e*PN	**Pn**	22 21 31.5	-0.4

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*NEIC **02** 22:29:25.9, 18.19N×68.35W, h138km, MD3.5(RSPR), After RSPR.*
RSPR 02 22:29:25.9, 18.19N×68.35W, h138km±2km, MD3.5/9, MD3.5/9, 8C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.20**	**90**	⇑*e*P	Pn	22 29 51.3	-0.2
LSP				*e*S	Sn	22 30 10.8	-0.1
GBPR	**Guanica, Bosqu**	**1.42**	**98**	⇑*e*P	Pn	22 29 53.2	-0.5
GBPR	**Guanica, Bosqu**	**1.42**	**98**	*e*S	Sn	22 30 14.8	0.0
LRS	**Lares**	**1.44**	**86**	⇑*e*P	Pn	22 29 53.8	-0.1
LRS				*e*S	Sn	22 30 15.7	+0.5
AOPR	**Arecibo Observ**	**1.53**	**84**	⇓*e*P	Pn	22 29 54.7	-0.1
AOPR				*e*S	Sn	22 30 17.9	+1.0
OBIP	**Obispado Ponce**	**1.67**	**95**	⇑*e*P	Pn	22 29 56.1	-0.3
OBIP				*e*S	Sn	22 30 19.9	+0.2
CELP	**Cerrillos**	**1.69**	**94**	⇑*e*P	Pn	22 29 56.8	+0.2
CELP				*e*S	Sn	22 30 21.0	+0.8
CBYP	**Canovanas**	**2.37**	**88**	⇑*e*P	Pn	22 30 04.6	-0.3
CBYP				*e*S	Sn	22 30 34.7	-0.1
HUMP	**Col San Antoni**	**2.38**	**91**	⇑*e*P	Pn	22 30 05.0	+0.1
HUMP				*e*S	Sn	22 30 35.6	+0.7
MTP	**Monte Pirata**	**2.66**	**92**	⇑*e*P	Pn	22 30 08.9	+0.5
MTP				*e*S	Sn	22 30 42.0	+0.7

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*IDC **02** 22:32:11.9±1.8, 42.22N×93.49E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/21, mbtmp4.0/5, Error ellipse: s-maj=62.4km s-min=25.6km az=54.0*
*NEIC **02** 22:32:16.3±0.9, 42.24N×93.56E, h30km, mb4.0/2, Error ellipse: s-maj=23.7km s-min=10.8km az=218.0*
*ISCJB **02** 22:32:18.6±4.6, 44.4N±02×93.9E±02, h59km±39km, mb4.2/11, Error ellipse: s-maj=38.2km s-min=14.4km az=82.8*
ISC 02 22:32:20.1±4.2, 44.4N±02×93.8E±02, h52km±36km, n16, σ0°72/17, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.86**	**83**	*e*Pn	**Pn**	**22 33 58.5**	**+0.5**
KULM				*e*Sn	**Sn**	22 35 13.9	-0.8
PKI	**Pulchoki**	**24.37**	**342**	*e*P	**P**	**22 37 33.4**	**+0.2**
DMN	**Daman**	**24.50**	**341**	*e*P	**P**	**22 37 35.0**	**+0.6**
GUN	**Gumba**	**24.54**	**343**	*e*P	**P**	**22 37 34.7**	**-0.1**
7.3nm,0.5s,mb4.5
KKN	**Kakani**	**24.61**	**342**	*e*P	**P**	**22 37 35.6**	**+0.2**
GKN	**Gorkha**	**25.02**	**341**	*e*P	**P**	**22 37 38.5**	**-0.6**
7.5nm,0.5s,mb4.4
KOLN	**Koldanda**	**25.17**	**338**	*e*P	**P**	**22 37 40.3**	**-0.1**
18nm,0.8s,mb4.6
LSA	**Lhasa**	**25.26**	**355**	*e*P	**P**	**22 37 42.9**	**+1.6**
5.5nm,0.6s,mb4.3
MKAR	**Makanchi Array**	**43.36**	**348**	P	**P**	**22 40 16.9**	**-0.3**
1.2nm,0.5s,mb3.9,baz=171,slow=8.1,SNR=17
SONM	**Songino Array**	**44.57**	**12**	P	**P**	**22 40 27.1**	**+0.3**
1.0nm,0.7s,mb3.7,baz=195,slow=7.4,SNR=8.2
WRA	**Warramunga Arr**	**46.61**	**123**	P	**P**	**22 40 43.4**	**+0.5**
2.0nm,0.7s,mb4.2,baz=298,slow=9.1,SNR=15
ZAL	**Zalesovo**	**49.90**	**353**	P	**P**	**22 41 09.2**	**+0.8**
3.1nm,0.5s,mb4.6,baz=306,slow=3.8,SNR=12
BRVK	**Borovoye**	**52.20**	**342**	*e*P	**P**	**22 41 24.8**	**-0.8**
1.6nm,0.4s,mb4.3
ZRNK	**Zerenda**	**52.50**	**341**	*e*P	**P**	**22 41 27.0**	**-0.8**
1.2nm,0.7s,mb3.9
CTAO	**Charters Tower**	**56.97**	**117**	P	**P**	**22 42 00.4**	**+0.3**
BRTR	**Keskin Array B**	**64.45**	**312**	P	**P**	**22 42 49.6**	**-1.4**
0.7nm,0.8s,mb3.8,baz=124,slow=7.7,SNR=4.2

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*ISCJB **02** 22:42:30.8±2.6, 37.0N±02×70.9E±02, h223km±45km, Error ellipse: s-maj=34.2km s-min=22.8km az=64.8*
*NNC **02** 22:42:32.4±2.5, 37.06N×71.00E, h208km±20km, mb2.1, mpv2.9, Error ellipse: s-maj=27.3km s-min=14.3km az=154.0*
ISC 02 22:42:32.6±2.9, 37.1N±02×70.9E±02, h215km±40km, n11, σ0°61/13, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.48**	**22**	P	**Pn**	**22 43 53.6**	**+0.2**
SNR=26
UCH	**Uchtor**	**5.84**	**27**	P	**Pn**	**22 43 57.9**	**-0.2**
SNR=18
EKS2	**Erkin-Say**	**5.99**	**21**	P	**Pn**	**22 44 00.7**	**+0.7**
SNR=5.8

KK31	**Karatay Array**	**6.03**	**357**	P	**Pn**	**22 44 00.6**	**+0.2**
1.2nm,0.5s,baz=184,slow=13,SNR=25
KK31				⇑S	**S**	**22 45 09.9**	**-0.2**
2.9nm,0.4s,baz=177,slow=17,SNR=15
AAK	**Ala-Archa**	**6.19**	**25**	P	**Pn**	**22 44 03.1**	**+0.6**
SNR=5.7
KBK	**Karagaybulak**	**6.37**	**28**	P	**Pn**	**22 44 05.5**	**+0.6**
SNR=6.8
ULHL	**Ulahol**	**6.59**	**37**	P	**Pn**	**22 44 06.4**	**-1.3**
SNR=7.8
TKM2	**Tokmak 2**	**6.85**	**30**	P	**Pn**	**22 44 10.5**	**-0.5**
SNR=9.7
TKM2	**Tokmak 2**	**6.85**	**30**	⇓P	**Pn**	**22 44 10.4**	**-0.6**
0.2nm,0.4s
TKM2				⇑S	**S**	**22 45 29.4**	**+0.1**
0.6nm,0.8s
AB31	**Akbulak array**	**14.55**	**330**	⇓P	**Pn**	**22 45 47.7**	**-0.9**
0.7nm,0.7s,baz=144,slow=12,SNR=6.7
AKTO	**Aktyubinsk**	**16.25**	**329**	⇓P	**P**	**22 46 09.0**	**+0.7**

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*CSEM **02** 23:24:38.7, 67.82N×20.20E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **02** 23:24:38.7, 67.82N×20.20E, h0km, ML2.8, Mining explosion.*
HEL 02 23:24:39.3±0.0, 67.82N×20.20E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	23 24 41.8	-0.2
KUA				*i* S	Sg	23 24 43.9	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 24 47.2	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	23 24 52.1	-0.8
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	23 24 52.1	-1.0
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	23 24 53.4	-0.9
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 24 53.5	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 24 53.5	-0.9
baz=81
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 25 01.7	-0.7
KIF				*e*S	Sg	23 25 17.4	-0.7
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 25 04.0	-1.8
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	23 25 06.8	-0.5
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 25 06.8	-0.6
baz=308
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 25 09.6	-0.6
KALU	**Kalix**	**2.33**	**146**	*e*P	Pn	23 25 19.2	+0.3
KALU	**Kalix**	**2.33**	**146**	P	Pn	23 25 19.2	+0.3
SJUU	**Sjulsmark**	**2.39**	**166**	*e*P	Pn	23 25 20.6	+0.9
SJUU	**Sjulsmark**	**2.39**	**166**	P	Pn	23 25 20.6	+0.9

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*CSEM **02** 23:26:58.0, 67.84N×20.40E, h0km, ML2.9, Suspected Mining explosion. After UPP*
*UPP **02** 23:26:58.0, 67.84N×20.40E, h0km, ML2.9, Suspected Mining explosion.*
HEL 02 23:26:58.2±0.1, 67.85N×20.22E, h0km, ML2.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	23 27 20.0	-0.8
KIF				*e*S	Sg	23 27 35.8	-0.3
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	23 27 22.5	-2.3
PAJU				*e*S	Sg	23 27 40.9	-2.0
ERTU	**Ertsjaerv**	**1.51**	**149**	*e*P	Pn	23 27 25.3	-1.2
ERTU				*e*S	Sg	23 27 45.4	-1.4
HARU	**Harads**	**1.72**	**170**	*e*P	Pn	23 27 27.9	-1.5
HARU				*e*S	Sn	23 27 50.9	-1.2
KALU	**Kalix**	**2.35**	**147**	*e*P	Pn	23 27 37.8	-0.3
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	23 27 38.8	-0.2
BURU	**Burvik**	**3.31**	**171**	*e*P	Pn	23 27 51.4	+0.1
SVAU	**Svanoeiden**	**3.38**	**185**	*e*P	Pn	23 27 52.5	+0.3
UMAU	**Umeaa**	**3.99**	**177**	*e*P	Pn	23 28 00.6	0.0
BREU	**Bredtraesk**	**4.03**	**190**	*e*P	Pn	23 28 01.1	-0.1

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*ISCJB **02** 23:45:48.2±2.1, 70.7S±007×129.2E±0.1, h143km±20km, mb4.1/7, Error ellipse: s-maj=19.0km s-min=9.6km az=124.3*
*NEIC **02** 23:45:48.6±2.2, 70.4S×129.14E, h130km±20km, mb4.2/2, Error ellipse: s-maj=15.9km s-min=13.6km az=205.0*
*IDC **02** 23:45:49.0±5.0, 7.10S×129.19E, h131km±42km, mb3.8/4, mb1 4.1/7, mb1mx3.8/14, mbtmp4.4/7, Error ellipse: s-maj=57.2km s-min=20.8km az=66.0*
ISC 02 23:45:51.7±1.9, 719S±008×1292E±01, h160km±19km, n22, σ1°06/25, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.39**	**197**	P	**Pn**	**23 48 28.9**	**-0.8**
1.2nm,0.3s,baz=36,slow=11,SNR=43
FITZ				S	**Sn**	**23 50 27.0**	**-8.8**
1.5nm,0.3s,baz=127,slow=20,SNR=5.8
WRA	**Warramunga Arr**	**13.62**	**159**	P	**Pn**	**23 48 56.9**	**-1.4**
1.2nm,0.3s,baz=337,slow=12,SNR=65
WRA				S	**Sn**	**23 51 21.3**	**-8.0**
3.4nm,0.3s,baz=331,slow=23,SNR=9.7
MBWA	**Marble Bar**	**16.64**	**212**	*e*Pn	**Pn**	**23 49 35.4**	**-0.2**
2.4nm,0.4s
MBWA				*e*Sn	**Sn**	**23 52 28.2**	**-14**
AS31	**Alice Springs**	**16.99**	**165**	*e*P	**Pn**	**23 49 41.6**	**+1.8**
AS31				*e*S	**S**	**23 52 45.1**	**-2.9**
ASAR	**Alice Springs**	**16.99**	**165**	P	**Pn**	**23 49 41.5**	**+1.6**
7.4nm,0.3s,baz=344,slow=11,SNR=431
ASAR				S	**S**	**23 52 41.7**	**-6.3**
0.9nm,0.3s,baz=346,slow=26,SNR=7.3
PMG	**Port Moresby**	**17.89**	**98**	P	**Pn**	**23 49 49.2**	**-1.3**
CTAO	**Charters Tower**	**20.91**	**130**	P	**P**	**23 50 23.1**	**+1.6**
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**23 51 21.1**	**+1.2**
7.2nm,0.8s,mb4.4,baz=320,slow=7.6,SNR=14
JIRN	**Jiri**	**54.12**	**312**	*e*P	**P**	**23 55 00.7**	**+0.7**
GUN	**Gumba**	**54.49**	**312**	*e*P	**P**	**23 55 02.9**	**+0.2**
PKI	**Pulchoki**	**54.66**	**311**	*e*P	**P**	**23 55 03.8**	**-0.1**
DMN	**Daman**	**54.91**	**311**	*e*P	**P**	**23 55 05.6**	**-0.1**
GKN	**Gorkha**	**55.47**	**311**	*e*P	**P**	**23 55 09.5**	**-0.2**
6.3nm,0.4s,mb4.7
KOLN	**Koldanda**	**56.12**	**310**	*e*P	**P**	**23 55 14.2**	**-0.2**
2.2nm,0.4s,mb4.3
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**23 56 33.4**	**+0.1**
0.4nm,0.3s,mb3.6,baz=116,slow=7.9,SNR=18
VNDA	**Vanda**	**72.36**	**173**	P	**P**	**23 57 00.3**	**+0.3**
0.9nm,0.5s,mb3.7,baz=321,slow=6.6,SNR=12
MAW	**Mawson**	**74.49**	**201**	P	**P**	**23 57 13.4**	**+0.9**
1.0nm,0.5s,mb3.8,baz=62,slow=6.3,SNR=5.1
BRVK	**Borovoye**	**77.88**	**328**	P	**P**	**23 57 30.1**	**-1.5**
ZRNK	**Zerenda**	**78.50**	**328**	*e*P	**P**	**23 57 34.8**	**-0.3**
QSPA	**South Pole Qui**	**82.79**	**180**	*e*P	**P**	**23 57 57.9**	**+0.1**
2.8nm,0.3s,mb4.5
CPUP	**Villa Florida**	**146.08**	**169**	PKPbc	PKPbc	00 05 13.8	+1.0
0.8nm,0.5s,baz=181,slow=2.2,SNR=4.1
LPAZ	**La Paz**	**151.04**	**144**	PKPbc	PKPbc	00 05 28.5	+2.9
0.5nm,0.3s,baz=151,slow=2.2,SNR=6.0

KRSC 02 23:59:57, 51.41N×159.93E, h41km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.35**	**320**	*e*P	Pn	00 00 20.8	+1.5
RUS				*i* S	Sn	00 00 37.4	+1.4
GRL	**Gorelyy**	**1.62**	**316**	*e*P	Pn	00 00 25.4	+2.3
GRL				*i* S	Sn	00 00 46.2	+3.5
SPN	**Mys Shipunski**	**1.69**	**2**	*e*P	Pn	00 00 27.9	+3.9
SPN				*i* S	Sn	00 00 50.5	+6.0
PET	**Petropavlovsk**	**1.80**	**335**	*e*P	Pn	00 00 28.1	+2.6
PET				*i* S	Sn	00 00 50.6	+3.5
NLC	**Nalytchevo**	**1.80**	**349**	*e*P	Pn	00 00 28.1	+2.6
NLC				*i* S	Sn	00 00 50.6	+3.5
AVH	**Avacha**	**2.00**	**339**	*e*P	Pn	00 00 31.7	+3.5
AVH				*i* S	Sn	00 00 56.1	+4.1
MIPR	**Malaya Ipel'ka**	**2.15**	**295**	*e*P	Pn	00 00 32.7	+2.4
GNL	**Ganaly**	**2.59**	**333**	*e*P	Pn	00 00 41.4	+5.0
GNL				*i* S	Sn	00 01 13.5	+6.9
MKZ	**Mys Kozlova**	**3.33**	**18**	*e*P	Pn	00 00 48.6	+2.0
MKZ				*i* S	Sn	00 01 26.9	+2.0
KMNR	**Kamenistaya**	**4.36**	**2**	*e*P	Pn	00 01 03.3	+2.6
KBTR	**Krutoberegovo**	**5.10**	**18**	*e*P	Pn	00 01 13.4	+2.5

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*ISCJB **03** 00:01:53.0±0.5, 47.60N±003×72.9E±003, h14km±6km, Error ellipse: s-maj=4.5km s-min=3.9km az=10.7*
*STR **03** 00:01:53.4±0.1, 47.56N×73.5E, h10km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **03** 00:01:54.1, 47.57N×73.5E, h5km±3km, ML1.2/6*
*LDG **03** 00:01:54.0±0.1, 47.59N×73.3E, h5km, Md2.2/1, Ml2.2/5, Error ellipse: s-maj=1.6km s-min=1.4km az=172.0*
ISC 03 00:01:53.4±0.5, 47.58N±003×73.1E±003, h17km±5km, n17, σ0°54/27, 1C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOURR	**Bourrignon**	**0.20**	**195**	⇓*i*Pg	**Pg**	**00 01 58.2**	**0.0**
85nm,0.5s
BOURR				*i* Sg	**Sg**	**00 02 01.3**	**-0.1**
85nm,0.5s
MOF	**Molkenrain**	**0.29**	**337**	Pg	**Pg**	**00 01 59.8**	**+0.1**
BALST	**Balsthal**	**0.36**	**133**	⇓*i*Pg	**Pg**	**00 02 01.0**	**+0.1**
31nm,0.8s
HINF	**Hinteralfeld**	**0.39**	**308**	*e*Pg	**Pg**	**00 02 01.5**	**+0.2**
HINF				*e*Sg	**Sg**	**00 02 06.5**	**-0.2**
5.9nm,0.2s
LOMF	**Lomont**	**0.40**	**235**	Pg	**Pg**	**00 02 02.0**	**+0.4**
LOMF				Sg	**Sg**	**00 02 07.7**	**+0.6**
SULZ	**Cheisacher**	**0.55**	**96**	*e*Sg	**Pg**	**00 02 04.4**	**0.0**
19nm,1.6s
SULZ	**Cheisacher**	**0.55**	**96**	⇑*i*Pg	**Sg**	**00 02 11.7**	**-0.1**
19nm,1.6s
HAU	**Haudompre**	**0.77**	**304**	*e*Pg	**Pg**	**00 02 08.6**	**+0.1**
HAU				*e*Sg	**Sg**	**00 02 19.8**	**+1.1**
14nm,0.3s
SLE	**Schleitheim**	**0.82**	**77**	*e*Pn	**Pn**	**00 02 09.2**	**-1.0**
45nm,0.5s
CDF	**Champ du Feu**	**0.83**	**359**	*e*Pg	**Pg**	**00 02 09.7**	**+0.1**
CDF				*e*Sg	**Sg**	**00 02 20.0**	**-0.5**
CDF				*e*Sn	**Sn**	**00 02 22.6**	**+0.5**
4.4nm,0.3s
WLS	**Welschbruch**	**0.83**	**2**	Pg	**Pg**	**00 02 10.0**	**+0.4**
BRANT	**Les Verrieres**	**0.86**	**222**	*e*P	**Pb**	**00 02 11.3**	**+1.4**
37nm,0.5s
BFO	**Black Forest**	**1.02**	**42**	*e*Pg	**Pg**	**00 02 13.6**	**+0.5**
BFO				*e*Sg	**Sg**	**00 02 26.1**	**-0.3**
RFYF	**Reffroy**	**1.61**	**311**	*e*Sg	**Sg**	**00 02 45.1**	**-0.3**
4.2nm,0.2s,baz=134
SFTF	**Sexfontaines**	**1.65**	**293**	*e*Pg	**Pg**	**00 02 25.0**	**-0.1**
SFTF				*e*Sg	**Sg**	**00 02 46.6**	**+0.1**
3.3nm,0.3s,baz=124
LOR	**Lormes**	**2.36**	**264**	*e*Pg	**Pg**	**00 02 38.3**	**-0.4**
baz=87
LOR				*e*Sg	**Sg**	**00 03 08.7**	**-0.7**
0.8nm,0.2s,baz=86
SMF	**Signal de Mont**	**2.54**	**250**	*e*Pg	**Pg**	**00 02 41.4**	**-0.8**
SMF | | | | *e*Sg | **Sg** | **00 03 14.4** | **-0.8** |
0.5nm,0.2s

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*ISCJB **03** 00:07:35.8±0.3, 44.30N±002×68.22W±0.03, h10km, mb3.9/14, MS3.2/2, Error ellipse: s-maj=3.5km s-min=2.1km az=107.8*
*OTT **03** 00:07:38.0±0.2, 44.32N×68.15W, h5km, MN4.3/21*
OTT Maine, Felt in Maine and St Stephen, Nb. Northern Appalachians Seismic Zone. 117km southwest from St. Stephen, Nb.
*IDC **03** 00:07:37.5±0.8, 44.45N×68.20W, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/27, mbtmp4.0/13, ML3.5/2, MS3.0/5, Ms1 3.0/5, ms1mx2.8/28, Error ellipse: s-maj=18.7km s-min=14.7km az=77.0*
*NEIC **03** 00:07:38.2, 44.35N×68.15W, h6km, mb3.8/6, MN4.2(WES), MN4.3(OTT), MW3.8(SLM), After WES.*
NEIC A rockslide closed a road in Acadia National Park. Some power outages occured in the area. Felt [IV] at Bar Harbor, Birch Harbor, Blue Hill, Cranberry Isles, Ellsworth, Franklin, Gouldsboro, Hancock, Mount Desert, Penobscot, Prospect Harbor, Southwest Harbor, Steuben, Stockton Springs and Winter Harbor; [III] at Augusta, Bangor, Bass Harbor, Belfast, Bernard, Brewer, Brooklin, Bucksport, Camden, Castine, Eddington, Freedom, Gardiner, Hampden, Holden, Lincolnville, Milford, Norridgewock, Oakland, Old Town, Orono, Orrington, Pittsfield, Searsport, Sedgwick, South China, South Portland, Surry, Swans Island, Topsham, Waterville, Winterport and Yarmouth. Felt in much of southern Maine, parts of New Hampshire and at Saint Stephen, New Brunswick.
ISC 03 00:07:37.5±0.3, 44.34N±002×68.20W±003, h10km, n96, σ1°24/144, mb3.9/14, MS3.2/2, 5D, Maine

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMMW	**East Machias**	**0.65**	**55**	*e*Pg	**Pg**	**00 07 49.5**	**-0.6**
EMMW				*e*Sg	**Sg**	**00 07 58.1**	**-0.5**
WVL	**Waterville**	**1.07**	**283**	⇓PG	**Pg**	**00 07 58.5**	**+0.5**
WVL				SG	**Sg**	**00 08 12.2**	**+0.3**
WVL	**Waterville**	**1.07**	**283**	*e*Pg	**Pg**	**00 07 58.5**	**+0.5**
WVL				*e*Sg	**Sg**	**00 08 11.2**	**-0.7**
PKME	**Peaks-Kenny Pk**	**1.21**	**321**	⇓*e*Pg	**Pg**	**00 08 00.7**	**0.0**
PKME				*e*Sg	**Sg**	**00 08 16.7**	**+0.2**
PKME				*e*Lg		00 08 24.8
GGN	**Saint George**	**1.25**	**51**	⇓PG	**Pg**	**00 08 00.2**	**-1.2**
GGN				SG	**Sg**	**00 08 16.8**	**-0.8**
GGN				Trac		00 08 19.9
comp=Z,3μm,0.1s
GGN	**Saint George**	**1.25**	**51**	⇓Pg	**Pg**	**00 08 00.2**	**-1.2**
GGN				Sg	**Sg**	**00 08 16.8**	**-0.8**
PQI	**Presque Isle**	**2.34**	**3**	Pn	**Pn**	**00 08 17.2**	**+1.2**
PQI				*e*Pg	**Pg**	**00 08 20.0**	**-2.3**
PQI				Sn	**Sn**	**00 08 45.3**	**+0.5**
PQI				*e*Sg	**Sg**	**00 08 50.5**	**-2.2**
FFD	**Franklin Falls**	**2.64**	**252**	*e*Pn	**Pn**	**00 08 21.3**	**+1.2**
FFD				*e*Sn	**Sn**	**00 08 54.1**	**+1.9**
FFD				*e*Sg	**Sg**	**00 08 55.7**	**-6.6**
LBNH	**Lisbon**	**2.68**	**269**	⇓PN	**Pn**	**00 08 21.6**	**+1.0**
LBNH				SN	**Sn**	**00 08 54.5**	**+1.4**
LBNH				Trac		00 09 03.4
comp=Z,1μm,0.3s
LBNH	**Lisbon**	**2.68**	**269**	*e*Pn	**Pn**	**00 08 21.4**	**+0.8**
LBNH | | | | *e*

A16 Trac 00 09 27.5
comp=Z,652nm,0.4s
A16 Riviere Ouelle 3.38 339 Pn **Pn 00 08 31.0 +0.7**
A16 Sn **Sn 00 09 10.4 0.0**
LMQ La Malbaie 3.54 336 PN **Pn 00 08 33.1 +0.6**
LMQ SN **Sn 00 09 14.8 +0.4**
LMQ Trac 00 09 31.9
comp=Z,308nm,0.2s
LMQ La Malbaie 3.54 336 Pn **Pn 00 08 33.1 +0.6**
LMQ Sn **Sn 00 09 14.8 +0.4**
QUA2 Belchertown 3.66 237 *e*Pn **Pn 00 08 34.3 +0.2**
QUA2 *e*Pg **Pg 00 08 46.2 -1.4**
QUA2 *e*Sn **Sn 00 09 15.6 -1.8**
QUA2 *e*Sg **Sg 00 09 29.9 -5.2**
MALG Malagash, Nova 3.75 65 PN **Pn 00 08 35.5 +0.1**
MALG LG 00 09 35.3
MALG Trac 00 09 40.1
comp=Z,682nm,0.5s
MALG Malagash, Nova 3.75 65 Pn **Pn 00 08 35.5 +0.1**
MALG Lg 00 09 35.3
MIV Mineville/With 3.84 268 PN **Pn 00 08 37.4 +0.7**
MIV Mineville/With 3.84 268 *e*Pn **Pn 00 08 36.9 +0.3**
FRNY Flat Rock 3.88 279 *e*Pn **Pn 00 08 37.5 +0.3**
FRNY *e*Sg **Sg 00 09 37.2 -4.9**
DPQ Saint Jean 3.98 308 PN **Pn 00 08 39.0 +0.5**
DPQ SN **Sn 00 09 24.7 -0.5**
DPQ Trac 00 09 41.8
comp=Z,403nm,0.4s
DPQ Saint Jean 3.98 308 Pn **Pn 00 08 39.0 +0.5**
DPQ Sn **Sn 00 09 24.7 -0.5**
MNT Montreal 4.02 289 PN **Pn 00 08 39.5 +0.4**
MNT Trac 00 09 49.0
comp=Z,326nm,0.3s
ACCN Adirondack Com 4.07 258 *e*Pn **Pn 00 08 40.2 +0.5**
ACCN *e*Sn **Sn 00 09 21.4 -5.9**
ACCN *e*Sg **Sg 00 09 43.8 -4.2**
DAQ Lac Daran 4.20 331 PN **Pn 00 08 41.6 +0.1**
DAQ Trac 00 09 49.4
comp=Z,285nm,0.3s
DAQ Lac Daran 4.20 331 Pn **Pn 00 08 41.6 0.0**
NCB Newcomb 4.35 267 *e*Pn **Pn 00 08 43.7 +0.1**
NCB *e*Sg **Sg 00 09 50.5 -6.6**
LONY Lake Ozonia 4.58 276 *e*Pn **Pn 00 08 47.1 +0.3**
GSQ Grosses Roches 4.64 9 PN **Pn 00 08 48.8 +1.2**
MSNY Massena 4.80 280 *e*Pn **Pn 00 08 50.1 +0.3**
MSNY *e*Sn **Sn 00 09 45.5 +0.1**
MSNY *e*Sg **Sg 00 10 02.9 -8.6**
GASG Gaspe, Quebec 4.83 17 PN **Pn 00 08 50.6 +0.4**
TRQ Mont Tremblant 4.87 295 PN **Pn 00 08 50.5 -0.2**
TRQ SN **Sn 00 09 46.3 -0.8**
TRQ Trac 00 10 13.1
comp=Z,465nm,0.5s
TRQ Mont Tremblant 4.87 295 Pn **Pn 00 08 50.5 -0.2**
TRQ Sn **Sn 00 09 46.3 -0.8**
ICQ Pointe Anglais 5.23 7 Trac 00 10 30.8
comp=Z,148nm,0.3s
GAC Glen Almond 5.34 287 Trac 00 10 27.8
comp=Z,265nm,0.4s
PAL Palisades 5.36 234 *e*Pn **Pn 00 08 57.3 -0.3**
PAL *e*Sg **Sg 00 10 23.6 -6.1**
CPNY Central Park 5.53 232 *e*Pn **Pn 00 08 55.4 -4.5**
CPNY *e*Sn **Sn 00 10 00.4 -3.2**
CPNY *e*Sg **Sg 00 10 28.1 -7.0**
BRNJ Basking Ridge 5.95 234 P **Pb 00 09 22.8 +1.5**
BRNJ *e*Sn **Sn 00 10 13.7 -0.1**
BRNJ *e*Sg **Sg 00 10 50.3 +1.7**
KGNO Kingston 5.95 272 Trac 00 10 50.4
comp=Z,261nm,0.7s
SMQ Clarke City 5.98 9 PN **Pn 00 09 05.8 -0.2**
SMQ Trac 00 10 53.5
comp=Z,66nm,0.3s
BINY Binghamton 6.07 252 *e*Pn **Pn 00 09 08.0 +0.7**
MNQ Manicouagan 6.21 357 PN **Pn 00 09 08.7 -0.5**
MNQ Trac 00 10 54.8
comp=Z,41nm,0.2s
MVL Millersville 7.44 237 *e*Pn **Pn 00 09 26.9 +0.7**
MVL *e*Sn **Sn 00 10 52.3 +1.8**
MVL *e*Sg **Sg 00 11 28.8 -7.5**
SADO Sadowa 7.83 277 Trac 00 11 47.1
comp=Z,170nm,0.5s
EEO Eldee 7.98 291 PN **Pn 00 09 32.7 -0.8**
EEO Trac 00 11 53.6
comp=Z,240nm,0.6s
RD04 Stoney Creek 8.41 266 SG Sx 00 11 55.7
RD01 Burlington 8.46 268 SG Sx 00 11 57.1
RD02 Waterdown 8.50 267 SG Sx 00 11 55.3
RD03 Mount Hope 8.58 266 SG Sx 00 12 00.9
ALLY Alegheny Colle 9.15 257 Pn **Pn 00 09 52.3 +2.7**
ALLY Lg 00 12 21.9
CBN Corbin 9.23 232 *e*Sn **Sn 00 11 31.8 -2.7**
SCHQ Schefferville 10.54 4 Pn **Pn 00 10 06.7 -1.9**
1.8nm,0.3s,baz=195,slow=11,SNR=27
SCHQ Sn **Sn 00 11 58.3 -8.5**
2.7nm,0.3s,baz=296,slow=14,SNR=5.9
SCHQ Lg 00 13 07.7
2.6nm,0.3s,baz=100,slow=17,SNR=2.9
SCHQ LR LR 00 13 35.7
comp=Z,36nm,18.9s,baz=190,slow=34
SCHQ Schefferville 10.54 4 *e*Pn **Pn 00 10 06.8 -1.9**
SCHQ *e*Sn **Sn 00 11 54.2 -13**
ACSO Alum Creek Sta 11.69 255 Sn **Sn 00 12 33.6 -1.2**
ACSO Lg 00 13 31.6
VIMO Victor Mine 13.31 315 PN **Pn 00 10 42.5 -4.0**
TZTN Tazewell 14.03 242 Pn **Pn 00 10 55.0 -1.3**
TZTN *e*Sn **Sn 00 13 24.2 -7.8**
TKL Tuckaleechee C 14.73 239 Lg 00 15 13.1
0.9nm,0.3s,baz=148,slow=23,SNR=6.8
TKL LR LR 00 16 52.4
comp=Z,70nm,21.2s,baz=81,slow=38
COWI Conover 14.86 284 Pn **Pn 00 11 05.1 -2.4**
COWI Sn **Sn 00 14 07.1 +15**
WCI Wyandotte Cave 14.90 252 *e*Pn **Pn 00 11 07.7 -0.4**
WCI Sn **Sn 00 13 58.6 +5.5**
WCI Lg 00 15 18.0
USIN University of 15.97 253 Sn **Sn 00 14 32.0 +13**
USIN *e*Lg 00 15 52.9
JFWS Jewell Farm 16.02 273 Pn **Pn 00 11 20.9 -2.0**
3.4nm,0.5s
JFWS *e*Sn **Sn 00 14 22.3 +1.7**
CCM Cathedral Cave 18.41 258 Sn **Sn 00 15 23.0 +4.6**
OXF Oxford 19.05 246 *e*Lg 00 17 20.4
FRB Frobisher Bay 19.45 360 P **Pn 00 12 03.1 -2.2**
0.7nm,0.3s,baz=171,slow=12,SNR=4.7
ULM Lac du Bonnet 19.61 297 P **Pn 00 12 05.0 -2.3**
0.4nm,0.3s,baz=98,slow=12,SNR=5.2
ULM Lg 00 17 40.0
0.5nm,0.3s,baz=186,slow=21,SNR=5.8
ULM LR LR 00 19 37.0
comp=Z,36nm,19.9s,baz=38,slow=37
ULM Lac du Bonnet 19.61 297 P **Pn 00 12 05.1 -2.2**
5.4nm,0.9s
ULM S **Sn 00 15 43.9 -3.6**
ULM *e*Lg 00 17 43.0
SFJD Kangerlussuaq 24.60 17 P **P 00 12 58.1 +0.4**
10nm,0.7s,mb4.5,baz=203,slow=7.1,SNR=4.8
WMOK Wichita Mounta 25.33 258 *e*P **P 00 13 06.4 +2.0**
1.1nm,0.6s,mb3.6
WMOK *e*Lg 00 20 45.6
ANMO Albuquerque 30.68 266 *e*P **P 00 13 56.0 +3.8**
1.8nm,0.8s,mb4.0
SUMG Summit 31.59 17 *e*P **P 00 13 56.8 -3.5**
11nm,0.9s,mb4.7
MNTX Cornudas Mount 31.62 259 P **P 00 13 59.3 -1.2**
0.7nm,0.7s,mb3.6
YKA Yellowknife Ar 32.16 321 P **P 00 14 06.4 +1.1**
0.4nm,0.6s,mb3.5,baz=97,slow=8.9,SNR=3.8
YKA LR LR 00 25 57.5
comp=Z,31nm,19.3s,MS3.0,baz=60,slow=34
INK Inuvik 40.72 329 P **P 00 15 19.4 +1.0**
1.7nm,0.9s,mb3.7,baz=103,slow=11,SNR=3.6
ESDC Sonseca Array 46.88 72 P **P 00 16 08.9 +1.1**
2.0nm,0.9s,mb4.0,baz=301,slow=7.7,SNR=7.8
ESDC LR LR 00 33 29.8
comp=Z,42nm,18.1s,MS3.4,baz=315,slow=33
ARCES ARCESS Array B 50.53 27 P **P 00 16 36.5 +0.6**
2.6nm,0.8s,mb4.2,baz=286,slow=6.9,SNR=10
FINES FINESS Array B 54.19 36 P **P 00 17 04.0 +0.9**
1.6nm,0.9s,mb4.0,baz=290,slow=8.7,SNR=3.0
KEST Kesra 57.94 70 P **P 00 17 32.0 +2.1**
1.0nm,0.9s,mb3.8,baz=10,slow=7.8,SNR=3.7
AKASG Malin Array Be 61.41 46 P **P 00 17 54.1 +0.3**
0.3nm,0.4s,mb3.8,baz=299,slow=6.2,SNR=5.0
TORD Torodi Ar. Bea 66.57 94 P **P 00 18 28.8 +1.1**
1.5nm,0.9s,mb4.0,baz=314,slow=6.1,SNR=7.6

BRTR Keskin Array B 70.75 53 P **P 00 18 55.1 +1.3**
0.7nm,0.9s,mb3.6,baz=297,slow=5.4,SNR=4.9
MAW Mawson 145.48 149 PKPbc PKPbc 00 27 16.2 +0.4
2.5nm,0.8s,baz=222,slow=4.6,SNR=9.4
WRA Warramunga Arr 149.28 315 PKPbc PKPbc 00 27 27.4 +1.0
1.7nm,0.6s,baz=23,slow=2.9,SNR=29
ASAR Alice Springs 152.57 311 PKPbc PKPbc 00 27 35.0 +0.9
0.7nm,0.6s,baz=35,slow=2.7,SNR=9.0
STKA Stephens Creek 153.61 288 PKPbc PKPbc 00 27 37.2 +0.8
2.6nm,1.0s,baz=159,slow=5.0,SNR=3.3
STKA PKPab PKPab 00 27 50.1 +1.1
1.5nm,0.7s,baz=238,slow=8.2,SNR=4.1

*ISCJB **03** 00:25:23.9±0.3,3931N±002×2364E±002,h19km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=6.6*
*NEIC **03** 00:25:23.3,3931N×2359E,h27km,ML3.2(ATH),After ATH.*
*CSEM **03** 00:25:23.7±0.1,3931N×2363E,h20km,ML3.4,Error ellipse: s-maj=1.8km s-min=1.4km az=81.0*
*ATH **03** 00:25:23.2,3931N×2359E,h26km±1km,MD3.4/18,ML3.2*
*THE **03** 00:25:24.1,3933N×2363E,h12km,ML3.4*
ISC 03 00:25:23.4±0.3,**3933N**±002×**2365E**±002,**h11**km±2km,**n62, σ1§00/98,6C-6D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**131**	*e*Pg	**Pg**	**00 25 28.9**	**+0.6**
AOS				*e*Sg	**Sg**	**00 25 32.3**	**+0.6**
NEO	**Neokhori**	**0.33**	**267**	⇓*i*PB	**Pg**	**00 25 30.0**	**0.0**
NEO				*e*SB	**Sg**	**00 25 35.3**	**+0.8**
XOR	**Xorichti**	**0.36**	**276**	*e*Pg	**Pg**	**00 25 30.6**	**+0.1**
XOR				*e*Sg	**Sg**	**00 25 36.3**	**+1.0**
XOR	**Xorichti**	**0.36**	**276**	*e*Pg	**Pg**	**00 25 30.5**	**0.0**
XOR				*e*Sg	**Sg**	**00 25 36.3**	**+1.0**
LKR	**Lokris**	**0.84**	**217**	⇑*i*PN	**Pg**	**00 25 39.1**	**-0.6**
LKR				*e*SN	**Sg**	**00 25 50.7**	**0.0**
LKR	**Lokris**	**0.84**	**217**	⇑*i*Pn	**Pg**	**00 25 39.1**	**-0.6**
LKR				*e*Sn	**Sg**	**00 25 51.2**	**+0.5**
OUR	**Ouranopolis**	**1.04**	**14**	*e*Pg	**Pg**	**00 25 43.7**	**+0.3**
PLG	**Polygyros**	**1.06**	**352**	*e*PN	**Pg**	**00 25 43.7**	**-0.1**
PLG				*e*Sg	**Sg**	**00 25 58.5**	**+1.0**
PLG	**Polygyros**	**1.06**	**352**	⇑*i*PN	**Pg**	**00 25 43.7**	**-0.1**
PLG				*e*SN	**Sn**	**00 25 58.0**	**-0.9**
PLG	**Polygyros**	**1.06**	**352**	⇑*i*Pn	**Pn**	**00 25 43.8**	**-0.4**
PLG				*e*Sn	**Sn**	**00 25 58.0**	**-0.9**
PLG	**Polygyros**	**1.06**	**352**	*e*Pg	**Pg**	**00 25 43.7**	**-0.1**
PLG				*e*Sn	**Sn**	**00 25 58.0**	**-0.9**
AGG	**Agios Georgios**	**1.07**	**254**	*e*Pg	**Pg**	**00 25 42.9**	**-1.1**
AGG				*e*Sg	**Sg**	**00 25 58.1**	**+0.2**
LIT	**Litokhoron**	**1.18**	**311**	*e*Pg	**Pg**	**00 25 45.4**	**-0.8**
LIT				*e*Sg	**Sg**	**00 26 02.2**	**+0.7**
LOS	**Limnos**	**1.26**	**61**	*e*Pg	**Pg**	**00 25 46.5**	**-1.1**
LOS				*e*Sg	**Sg**	**00 26 05.1**	**+1.1**
PTL	**Penteli**	**1.29**	**172**	*e*Pn	**Pn**	**00 25 47.0**	**-0.4**
PTL				*e*Sn	**Sn**	**00 26 03.0**	**-1.6**
THL	**Klokotos Trika**	**1.29**	**281**	⇓*i*PN	**Pn**	**00 25 47.0**	**-0.4**
THL				*e*SN	**Sn**	**00 26 03.6**	**-1.0**
THL	**Klokotos Trika**	**1.29**	**281**	⇓*i*Pn	**Pn**	**00 25 47.0**	**-0.4**
THL				*e*Sn	**Sn**	**00 26 03.2**	**-1.4**
LIA	**Limnos Island**	**1.31**	**64**	*e*PB	**Pb**	**00 25 47.2**	**-0.9**
LIA				*e*SN	**Sn**	**00 26 07.5**	**+2.2**
LIA	**Limnos Island**	**1.31**	**64**	*e*Pb	**Pb**	**00 25 47.2**	**-0.9**
LIA				*e*Sn	**Sn**	**00 26 07.7**	**+2.4**
HORT	**Hortiatis**	**1.34**	**342**	*e*Pg	**Pg**	**00 25 47.9**	**-1.2**
HORT				*e*Sg	**Sg**	**00 26 05.3**	**-1.2**
ATH	**Athens Observa**	**1.35**	**178**	*e*PN	**Pn**	**00 25 48.2**	**-0.1**
ATH				*e*SN	**Sn**	**00 26 06.1**	**-0.1**
ATH	**Athens Observa**	**1.35**	**178**	*e*Pn	**Pn**	**00 25 48.2**	**-0.1**
ATH				*e*Sn	**Sn**	**00 26 05.1**	**-1.1**
MGER	**Gerania Oros**	**1.37**	**193**	*e*PB	**Pn**	**00 25 47.0**	**-1.5**
THE	**Thessaloniki**	**1.41**	**338**	*e*Pg	**Pg**	**00 25 48.9**	**-1.5**
THE				*e*Sg	**Sg**	**00 26 06.8**	**-1.9**
EVR	**Evrytania**	**1.49**	**255**	*e*PN	**Pn**	**00 25 50.0**	**-0.1**
EVR	**Evrytania**	**1.49**	**255**	*e*Pn	**Pn**	**00 25 50.5**	**+0.4**
KVR	**Kavouri**	**1.50**	**176**	*e*PN	**Pn**	**00 25 50.7**	**+0.4**
KVR	**Kavouri**	**1.50**	**176**	*e*Pn	**Pn**	**00 25 51.0**	**+0.7**
SOH	**Sokhos**	**1.51**	**351**	*e*Pg	**Pg**	**00 25 50.6**	**-1.8**
SOH				*e*Sg	**Sg**	**00 26 11.0**	**-1.0**
NAIG	**Nisos Aigina**	**1.57**	**185**	*e*PB	**Pn**	**00 25 50.0**	**-1.3**
KZN	**Kozani**	**1.75**	**305**	*e*PN	**Pn**	**00 25 53.8**	**+0.1**
SRS	**Serrai**	**1.79**	**359**	*e*Pb	**Pn**	**00 25 54.1**	**-0.1**
SRS				*e*Sb	**Sn**	**00 26 16.2**	**-0.7**
GRG	**Griva**	**1.89**	**330**	*e*Pb	**Pn**	**00 25 55.3**	**-0.3**
GRG				*e*Sb	**Sn**	**00 26 20.1**	**+0.7**
MEV	**Metsovon**	**1.93**	**284**	*e*Pb	**Pn**	**00 25 56.9**	**+0.7**
MEV				*e*Sb	**Sn**	**00 26 19.1**	**-1.2**
NVR	**Nevrokopi**	**2.03**	**5**	*e*PN	**Pn**	**00 25 57.7**	**+0.2**
NVR	**Nevrokopi**	**2.03**	**5**	*e*Pn	**Pn**	**00 25 57.6**	**+0.1**
PRK	**Paraskevi**	**2.04**	**91**	*e*PB	**Pn**	**00 25 59.1**	**+1.4**
PRK	**Paraskevi**	**2.04**	**91**	*e*Pb	**Pb**	**00 26 00.1**	**-0.3**
RLS	**Riolos of Patr**	**2.13**	**234**	*e*PB	**Pn**	**00 25 58.7**	**-0.2**
RLS	**Riolos of Patr**	**2.13**	**234**	*e*Pb	**Pn**	**00 25 59.7**	**+0.8**
VAY	**Valandovo**	**2.16**	**338**	*e*Pn	**Pn**	**00 25 59.8**	**+0.5**
VAY	**Valandovo**	**2.16**	**338**	*i* Pn	**Pn**	**00 25 59.9**	**+0.6**
VAY				*i* Sn	**Sn**	**00 26 23.9**	**-2.1**
VAY	**Valandovo**	**2.16**	**338**	*e*Pn	**Pn**	**00 25 59.8**	**+0.5**
VAY				*i* Sn	**Sn**	**00 26 23.9**	**-2.1**
MMB	**Musomiste**	**2.26**	**1**	*e*Pn	**Pn**	**00 26 00.4**	**-0.4**
MMB				*e*Sn	**Sn**	**00 26 27.4**	**-1.2**
FNA	**Florina**	**2.27**	**311**	*e*Pn	**Pn**	**00 26 01.8**	**+0.9**
FNA				*e*Sn	**Sn**	**00 26 28.7**	**-0.1**
RDO	**Rodhopi**	**2.32**	**38**	*e*PN	**Pn**	**00 26 02.5**	**+0.9**
ALN	**Alexandroupoli**	**2.42**	**49**	*e*Pn	**Pn**	**00 26 02.7**	**-0.1**
ALN				*e*Sn	**Sn**	**00 26 34.0**	**+1.5**
LKD	**Levkas**	**2.42**	**256**	*e*Pn	**Pn**	**00 26 04.4**	**+1.5**
LKD				*e*Sn	**Sn**	**00 26 32.6**	**+0.1**
BIA	**Bitola**	**2.46**	**314**	*e*Pn	**Pg**	**00 26 11.2**	**+0.8**
BIA				*i* Sn	**Sg**	**00 26 43.6**	**+1.3**
IGT	**Igoumenitsa**	**2.58**	**276**	*e*Pn	**Pn**	**00 26 07.2**	**+2.1**
VLS	**Valsamata**	**2.65**	**245**	*e*PB	**Pn**	**00 26 07.2**	**+1.1**
VLI	**Veliai**	**2.67**	**192**	*e*PN	**Pn**	**00 26 06.0**	**-0.3**
APE	**Apeiranthos**	**2.70**	**146**	*e*Pn	**Pn**	**00 26 06.7**	**0.0**
APE	**Apeiranthos**	**2.70**	**146**	⇓*i*P	**Sg**	**00 26 49.0**	**-1.1**
OHR	**Ohrid**	**2.82**	**310**	*e*Pn	**Pg**	**00 26 20.8**	**+3.4**
OHR				*i* Sn	**Sg**	**00 26 58.5**	**+4.5**
KEK	**Kerkira**	**3.00**	**279**	*e*PB	**Pn**	**00 26 12.8**	**+1.8**
KEK	**Kerkira**	**3.00**	**279**	*e*Pb	**Pn**	**00 26 12.4**	**+1.4**
VTS	**Vitosha**	**3.28**	**354**	*e*Pn	**Pn**	**00 26 15.8**	**+1.0**
VTS				*e*Sn	**Sn**	**00 26 54.5**	**+0.8**
VTS	**Vitosha**	**3.28**	**354**	⇓*i*P	**Pn**	**00 26 16.4**	**+1.7**
VTS				*e*Sn	**Sn**	**00 26 54.5**	**+0.8**
MLR	**Muntele Rosu**	**6.39**	**15**	⇑*i*P	**Pn**	**00 27 02.9**	**+5.4**
BZS	**Buzias**	**6.46**	**347**	⇑*i*P	**Pn**	**00 26 58.8**	**+0.3**
PKSM	**Moragy**	**7.80**	**333**	⇓*i*P	**Pn**	**00 27 18.2**	**+1.3**

*ISCJB **03** 00:33:36.9±0.6,1918S±003×6918W±004,h80km±6km, mb4.5/37,Error ellipse: s-maj=6.9km s-min=4.5km az=135.5*
*NEIC **03** 00:33:38.8±0.2,1923S×6915W,mb4.7/29,Error ellipse: s-maj=8.1km s-min=4.5km az=74.0*
NEIC Felt [IV] at Huara; [III] at Iquique, Pisagua and Pozo Almonte; [II] at Arica, Camina and Putre.
*IDC **03** 00:33:38.6±1.5,1920S×6922W,h83km±15km,mb4.3/12, mb1 4.4/17,mb1mx4.2/24,mbtmp4.6/17,MS3.7/7, Ms1 3.6/7,ms1mx3.4/21,Error ellipse: s-maj=15.4km s-min=11.1km az=93.0*
*BJI **03** 00:33:38.7,1920S×6910W,h82km,mB5.1,Ms4.7,Msz4.7*
ISC 03 00:33:38.6±0.5,**1920S**±003×**6920W**±004,**h76**km±5km, **n113,σ1§10/109,mb4.5**/37,**1C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.08**	**20**	P	**Pn**	**00 34 32.2**	**+7.4**
	56nm,0.3s,baz=212,slow=7.5,SNR=989						
LPAZ				S	**Sn**	**00 35 08.2**	**+7.7**
	21nm,0.3s,baz=333,slow=11,SNR=3.7						
LPAZ	**La Paz**	**3.08**	**20**	*e*Pn	**Pn**	**00 34 32.2**	**+7.3**
LPAZ				*e*Sn	**Sn**	**00 35 05.8**	**+5.3**
LVC	**Limon Verde**	**3.40**	**175**	P	**Pn**	**00 34 31.2**	**+1.9**
	409nm,0.3s,baz=339,slow=8.6,SNR=618						
LVC				S	**Sn**	**00 35 09.7**	**+1.2**
	339nm,0.3s,baz=236,slow=23,SNR=11						
ARE	**Arequipa**	**3.49**	**321**	⇑*i*P	**Pn**	**00 34 32.3**	**+1.8**
ARE				S	**Sn**	**00 35 09.0**	**-1.7**
ANCH	**Antofagasta**	**4.59**	**194**	*e*P	**Pn**	**00 34 44.5**	**-1.1**
CDCH	**Caldera**	**7.97**	**190**	*e*P	**Pn**	**00 35 27.8**	**-3.9**
SIV	**San Ignacio**	**8.39**	**69**	P	**Pn**	**00 35 39.0**	**+1.6**
	62nm,0.3s,baz=261,slow=11,SNR=1146						
SIV				S	**Sn**	**00 37 11.1**	**+0.7**
	1.4nm,0.3s,baz=200,slow=20,SNR=2.4						
NNA	**Nana**	**10.27**	**313**	P	**Pn**	**00 36 02.1**	**-1.0**
	3.4nm,0.3s,baz=164,slow=14,SNR=8.6						
NNA	**Nana**	**10.27**	**313**	*e*Pb	**Pn**	**00 36 02.7**	**-0.4**
TLL	**Tololo Astrono**	**11.01**	**187**	*e*P	**Pn**	**00 36 09.1**	**-4.1**
SAML	**Samuel**	**11.75**	**31**	*e*Pn	**Pn**	**00 36 24.1**	**+1.0**
SAML				*e*Sn	**Sn**	**00 38 30.2**	**-2.1**
CMCH	**Combarbala**	**12.03**	**187**	*e*P	**Pn**	**00 36 27.5**	**+0.5**
CFAA	**Coronel Fontan**	**12.38**	**176**	P	**Pn**	**00 36 29.9**	**-1.9**
	0.3nm,0.3s,baz=11,slow=13,SNR=24						
CPUP	**Villa Florida**	**13.04**	**125**	P	**Pn**	**00 36 40.4**	**-0.3**
	4.6nm,0.3s,baz=285,slow=11,SNR=60						
CPUP				LR	LR	00 42 31.3	
	comp=Z,110nm,21.0s,baz=284,slow=41						
CPUP	**Villa Florida**	**13.04**	**125**	*e*Pn	**Pn**	**00 36 39.9**	**-0.8**
CPUP				*e*Sn	**Sn**	**00 39 04.0**	**0.0**
ATAH	**Atahualpa**	**15.06**	**322**	P	**Pn**	**00 37 05.1**	**-2.0**
	0.4nm,0.3s,baz=145,slow=11,SNR=7.6						
TRQA	**Tornquist**	**19.81**	**163**	*e*P	**Pn**	**00 38 02.0**	**-3.2**
	122nm,1.0s						
TRQA				*e*S	**S**	**00 41 35.1**	**-6.8**
BDFB	**Brasilia**	**20.52**	**83**	P	**P**	**00 38 12.0**	**+1.3**
	6.7nm,0.3s,baz=254,slow=8.2,SNR=14						
BDFB				LR	LR	00 47 31.4	
	comp=Z,96nm,19.9s,baz=258,slow=41						
OTAV	**Otavalo**	**21.34**	**334**	*e*P	**P**	**00 38 21.3**	**+1.9**
	60nm,1.2s,mb4.8						
OTAV				*e*S	**S**	**00 42 14.3**	**+2.3**
PLCA	**Paso Flores**	**21.49**	**183**	P	**P**	**00 38 19.8**	**-1.2**
	22nm,0.9s,mb4.5,baz=356,slow=11,SNR=24						
PLCA	**Paso Flores**	**21.49**	**183**	P	**P**	**00 38 19.8**	**-1.2**
SDV	**Santo Domingo**	**27.95**	**357**	P	**P**	**00 39 20.5**	**-1.2**
	16nm,0.8s,mb4.6,baz=244,slow=4.2,SNR=12						
SDV	**Santo Domingo**	**27.95**	**357**	*e*P	**P**	**00 39 21.3**	**-0.4**
	22nm,1.0s,mb4.6						
PCRV	**Puerto La Cruz**	**29.54**	**9**	P	**P**	**00 39 36.2**	**+0.4**
	8.9nm,0.5s,mb4.7,baz=297,slow=5.0,SNR=5.2						
PCRV				LR	LR	00 51 51.9	
	comp=Z,108nm,20.0s,baz=359,slow=37						
JTS	**JuntasAbangare**	**33.16**	**331**	*e*P	**P**	**00 40 09.0**	**+1.3**
	21nm,1.1s,mb4.9						
EFI	**East Falkland**	**33.57**	**167**	*e*P	**P**	**00 40 11.2**	**0.0**
	11nm,0.9s,mb4.7						
RCBR	**Riachuelo**	**35.04**	**72**	*e*P	**P**	**00 40 24.9**	**+1.0**
	11nm,0.9s,mb4.7						
CPD	**Cerro la Pandu**	**37.15**	**5**	*e*P	**P**	**00 40 40.2**	**-1.7**
SJG	**San Juan**	**37.20**	**5**	*e*P	**P**	**00 40 40.4**	**-2.0**
	12nm,0.7s,mb4.9						
MTP	**Monte Pirata**	**37.24**	**6**	*e*P	**P**	**00 40 40.7**	**-2.0**
CMIG	**Matias Romero**	**44.02**	**323**	P	**P**	**00 41 39.2**	**+0.6**
	5.7nm,0.8s,mb4.4,baz=119,slow=4.2,SNR=3.7						
DWPF	**Disney**	**48.50**	**346**	*e*P	**P**	**00 42 14.1**	**+0.4**
	28nm,0.7s,mb5.3						
BBSR	**BB Station**	**51.46**	**5**	*e*P	**P**	**00 42 34.9**	**-1.2**
	14nm,0.5s,mb5.2						
HKT	**Hockley**	**55.19**	**332**	*e*P	**P**	**00 43 03.9**	**+0.4**
SWET	**Sewanee**	**56.40**	**344**	*e*P	**P**	**00 43 11.4**	**-0.7**
OXF	**Oxford**	**56.77**	**340**	*e*P	**P**	**00 43 13.6**	**-1.1**
	8.9nm,0.4s,mb5.2						
PLAL	**Pickwick Lake**	**56.79**	**341**	*e*P	**P**	**00 43 13.5**	**-1.4**
	7.6nm,0.9s,mb4.7						
ELN	**Prospectdale**	**57.17**	**349**	*e*P	**P**	**00 43 17.9**	**+0.3**
JCT	**Junction City**	**57.50**	**329**	*e*P	**P**	**00 43 19.9**	**0.0**
	5.4nm,0.6s,mb4.8						
FWV	**Forest Hill**	**57.53**	**349**	*e*P	**P**	**00 43 20.0**	**-0.1**
FWV				*e*		00 43 30.2	
WVT	**Waverly**	**57.79**	**342**	*e*P	**P**	**00 43 19.8**	**-2.0**
	9.0nm,0.8s,mb4.8						
SIUC	**Southern Illin**	**59.67**	**342**	*e*P	**P**	**00 43 34.8**	**-0.1**
ACSO	**Alum Creek Sta**	**60.51**	**348**	*e*P	**P**	**00 43 39.8**	**-0.9**
	11nm,0.8s,mb4.9						
WMOK	**Wichita Mounta**	**60.57**	**332**	*e*P	**P**	**00 43 40.0**	**-1.0**
WMOK				*e*PcP	PcP	00 44 24.2	-0.6
CCM	**Cathedral Cave**	**60.61**	**340**	*e*P	**P**	**00 43 39.0**	**-2.3**
	11nm,1.0s,mb4.8						
GDL2	**Guadalupe Moun**	**61.21**	**326**	*e*P	**P**	**00 43 46.0**	**+0.7**
MNTX	**Cornudas Mount**	**61.36**	**325**	*e*P	**P**	**00 43 45.7**	**-0.8**
	5.9nm,1.2s,mb4.5						
VNA3	**Neumayer Olymp**	**62.33**	**162**	*e*	**P**	**00 43 52.6**	**-0.3**
VNA3				*e*		00 43 55.0	
VNA3				*e*		00 43 59.4	
VNA3				*e*		00 44 04.6	
VNA1	**Neumayer--Stat**	**62.53**	**161**	*e*	**P**	**00 43 54.5**	**+0.2**
VNA1				*e*		00 43 56.5	
VNA1				*e*		00 44 01.1	
KSU1	**Kansas State U**	**63.42**	**336**	*e*P	**P**	**00 43 58.8**	**-1.4**
LPM	**Los Pinos Moun**	**64.04**	**326**	*e*P	**P**	**00 44 04.4**	**+0.2**
LPM				*e*		00 44 17.4	
LAZ	**Ladron**	**64.38**	**326**	*e*P	**P**	**00 44 06.4**	**-0.1**
LAZ				*e*pP	pP	00 44 28.1	+2.0
ANMO	**Albuquerque**	**64.44**	**327**	*e*P	**P**	**00 44 07.1**	**+0.2**
	1.0nm,0.5s,mb3.9						
SNAA	**Sanae**	**64.53**	**161**	*e*	**P**	**00 44 06.5**	**-0.9**
SNAA				*e*		00 44 08.7	
SNAA				*e*		00 44 13.6	
SNAA				*e*		00 44 19.1	
SNAA	**Sanae**	**64.53**	**161**	*e*P	**P**	**00 44 06.5**	**-1.0**
	6.7nm,1.0s,mb4.4						
SDCO	**Great

3.3nm,0.8s,mb4.2
EDM Edmonton 81.58 335 *e*P P 00 45 47.2 -0.8
BOSA Boshof 84.77 118 LR LR 01 19 10.7
comp=Z,59nm,18.9s,baz=12,slow=32
MAW Mawson 86.60 163 LR LR 01 24 37.1
comp=Z,50nm,20.8s,baz=62,slow=35
YKA Yellowknife Ar 88.94 341 P **P 00 46 23.7 -0.9**
7.4nm,0.7s,mb4.8,baz=134,slow=4.6,SNR=58
ASAR Alice Springs 131.79 209 PKP PKPdf 00 52 42.1 -0.8
0.3nm,0.4s,baz=141,slow=1.5,SNR=5.6
WRA Warramunga Arr 134.76 212 PKP PKPdf 00 52 47.9 -0.5
0.5nm,0.5s,baz=145,slow=1.6,SNR=11
MKAR Makanchi Array 143.92 34 PKhKP 00 53 01.8
0.4nm,0.6s,baz=343,slow=3.8,SNR=4.7
WMQ Urumqi 148.74 33 *e*PKP PKPdf 00 53 11.0 -2.2
WMQ LR LR
comp=Z,113nm,23.2s
MDJ Mudanjiang 150.20 332 PKP PKPdf 00 53 15.9 +0.3
MJAR Matsushiro Arr 150.39 311 PKPbc PKPbc 00 53 20.8 -0.4
comp=Z,3.2nm,0.8s,baz=85,slow=0.9,SNR=8.4
MAJO Matsushiro 150.40 311 *e*PKP PKPdf 00 53 21.0 +5.1
SONM Songino Array 151.22 6 PKP PKPdf 00 53 17.0 -0.1
comp=Z,0.5nm,0.8s,baz=275,slow=1.7,SNR=4.1
SONM PKPbc PKPbc 00 53 22.9 -0.2
comp=Z,3.8nm,0.8s,baz=70,slow=1.7,SNR=4.2
HHC Hu-ho-hao-te 158.42 358 *e*PKP PKPdf 00 53 23.1 -3.9
NJ2 Nanjing 165.30 332 *e*PKP PKPdf 00 53 31.2 -2.9
CD2 Chengdu 166.72 27 *e*PKP PKPdf 00 53 39.9 +4.7

MOS 03 00:40:01.7±1.0, 4338N×4510E, h20km, mb3.6/1, 2C-5D, Error ellipse: s-maj=24.9km s-min=13.2km az=46.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.38**	**214**	⇓*i*PG	Pb	00 40 10.9	+1.2
SNJR				*i* S	Sb	00 40 17.6	+2.5
TRKR	**Terskaya**	**0.43**	**322**	⇓*i*PG	Pb	00 40 11.9	+1.2
TRKR				*i* S	Sb	00 40 19.4	+2.6
VLKR	**Vladikavkaz**	**0.46**	**223**	⇓*i*PG	Pb	00 40 12.3	+1.3
VLKR				*i* S	Sb	00 40 20.0	+2.7
KMSR	**Komsomolskaya**	**0.59**	**269**	⇑*i*PG	Pb	00 40 14.7	+1.4
KMSR				*i* S	Sb	00 40 24.0	+2.8
LACR	**Lac**	**0.81**	**227**	⇑*i*PG	Pb	00 40 18.4	+1.3
LACR				*i* S	Sb	00 40 30.6	+3.1
KORR	**Kora**	**0.81**	**249**	*e*PG	Pb	00 40 18.5	+1.4
KORR				*e*S	Sb	00 40 30.6	+3.0
ZEI	**Tsey**	**1.07**	**236**	⇓*i*PG	Pb	00 40 22.8	+1.3
ZEI				*i* S	Sb	00 40 38.0	+2.9
DIGR	**Digorskoe uzhe**	**1.21**	**247**	⇓*i*PG	Pn	00 40 25.3	+1.8
DIGR				*i* S	Sb	00 40 42.5	+3.4

*INMG **03** 00:57:25.7±1.4, 3642N×798W, h4km±7km, ML1.8, Error ellipse: s-maj=6.9km s-min=4.2km az=39.0*
*IGIL **03** 00:57:26.8, 3650N×794W, h2km, ML2.2*
MDD 03 00:57:26.4±1.6, 3644N×800W, h10km±15km, mbLg2.1/6, Error ellipse: s-maj=19.0km s-min=7.0km az=33.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.01**	**329**	*e*P	Pg	00 57 44.5	-1.3
MORF				*e*S	Sg	00 57 57.5	-1.4
MORF				*e*S	Sg	00 57 57.5	-1.4
MORF				AML	AML	00 58 03.7	
comp=N,46nm,0.2s							
MORF	**Marmelete**	**1.01**	**329**	*e*P	Pg	00 57 44.5	-1.3
MORF				*e*S	Sg	00 57 57.5	-1.4
MORF	**Marmelete**	**1.01**	**329**	P	Pg	00 57 44.5	-1.3
MORF				S	Sg	00 57 57.5	-1.4
EGRO	**El Granado**	**1.17**	**21**	S	Sb	00 58 03.3	-0.5
comp=N,15nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**1.25**	**333**	*e*P	Pn	00 57 48.1	-1.7
PTEO				*e*S	Sb	00 58 06.0	0.0
PTEO							
comp=N,8.5nm,0.2s							
PBEJ	**Beja**	**1.59**	**4**	*e*Pn	Pn	00 57 53.1	-1.4
PBEJ				*e*Sn	Sn	00 58 14.2	-0.8
PBEJ							
comp=N,7.1nm,0.2s							
EMIN	**Mina Concepcio**	**1.70**	**38**	P	Pn	00 57 55.7	-0.3
comp=N,0.2nm,0.1s,SNR=7.9							
EMIN				S	Sn	00 58 15.6	-2.1
comp=N,1.4nm,0.1s,SNR=7.9							
ESPR	**Espera**	**1.78**	**75**	P	Pn	00 57 55.7	-1.4
comp=N,0.7nm,0.1s,SNR=4.0							
ESPR				S	Sn	00 58 17.3	-2.4
comp=N,10nm,0.2s,SNR=7.9							
MOE	**Montemor**	**2.10**	**353**	*e*Pn	Pn	00 58 00.3	-1.2
MOE				*e*Sn	Sn	00 58 25.2	-2.4
EBAD	**Badajoz**	**2.44**	**18**	P	Pn	00 58 05.5	-0.7
comp=N,0.7nm,0.1s,SNR=7.9							
EBAD				S	Sn	00 58 32.5	-3.6
comp=N,1.5nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**2.44**	**8**	*e*Sn	Sn	00 58 34.3	-1.9
PESTR							
comp=N,0.8nm,0.1s							
PTOM	**Tomar**	**3.19**	**354**	*e*Sn	Sn	00 58 51.8	-2.7
PTOM							
comp=N,3.6nm,0.2s							
PTOM	**Tomar**	**3.19**	**354**	Sn	Sn	00 58 51.8	-2.7
comp=N,1.8nm,0.2s							
EADA	**Adamuz**	**3.23**	**57**	P	Pn	00 58 15.8	-1.2
comp=N,0.0nm,0.1s,SNR=7.9							
EADA				S	Sn	00 58 51.8	-3.7
comp=N,1.5nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**3.42**	**7**	*e*Pn	Pn	00 58 18.3	-1.4
PCBR				*e*Sn	Sn	00 58 56.9	-3.3
PCBR							
comp=N,1.2nm,0.1s							
EQUE	**Quentar**	**3.74**	**77**	P	Pn	00 58 23.3	-0.7
comp=N,0.1nm,0.1s,SNR=7.9							
EQUE				S	Sn	00 59 05.1	-3.0
comp=N,0.0nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.17**	**69**	P	Pn	00 58 28.7	-1.3
comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S	Sn	00 59 15.2	-3.5
SNR=7.9							
PVIS	**Viseu**	**4.27**	**1**	*e*Sn	Sn	00 59 18.1	-3.1

*ISK **03** 01:14:31.6, 3528N×2879E, h41km, MD3.6, ML3.6*
*ATH **03** 01:14:31.6, 3533N×2888E, h6km±3km, MD3.5/8*
*NEIC **03** 01:14:31.7, 3534N×2888E, h6km, MD3.5(ATH), After ATH.*
*ISCJB **03** 01:14:33.4±0.3, 3540N±002×2892E±003, h33km, Error ellipse: s-maj=3.9km s-min=2.9km az=76.8*
*CSEM **03** 01:14:33.5±0.1, 3541N×2896E, h30km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.4km az=73.0*
*HLW **03** 01:14:41.6, 3513N×2946E, h33km, Mb3.6*
ISC 03 01:14:34.8±0.7, 3548N±003×2890E±003, h31km±7km, n57, σ1§00/71, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.87**	**39**	*e*PB	**Pb**	**01 14 50.5**	**-0.9**
AKAS	**Kas**	**0.94**	**37**	*i* P	**Pn**	**01 14 51.2**	**-0.7**
AKAS				*i* S	**Sn**	**01 15 04.5**	**+0.2**
ARG	**Arkhangelos**	**0.97**	**320**	*e*PG	**Pn**	**01 14 51.4**	**-0.8**
ARG				*e*SB	**Sb**	**01 15 07.0**	**+1.5**
ARG	**Arkhangelos**	**0.97**	**320**	*e*Pb	**Pb**	**01 14 51.0**	**-2.1**
ARG				*e*Sb	**Sb**	**01 15 07.0**	**+1.5**
DALT	**Dalyan (Mudla)**	**1.30**	**351**	PN	**Pn**	**01 14 56.9**	**0.0**
DALT				SN	**Sn**	**01 15 15.1**	**+1.9**
KARP	**Karpathos**	**1.42**	**273**	*e*PB	**Pb**	**01 14 58.6**	**-2.1**
KARP	**Karpathos**	**1.42**	**273**	*e*Pb	**Pb**	**01 14 59.2**	**-1.5**
ELL	**Elmali**	**1.50**	**32**	PN	**Pn**	**01 15 00.0**	**+0.4**
DAT	**Datca**	**1.64**	**320**	PN	**Pn**	**01 15 00.5**	**-1.0**
DAT				SN	**Sn**	**01 15 21.2**	**-0.4**
BDRM	**Kayabasi**	**1.97**	**324**	*i* P	**Pn**	**01 15 05.5**	**-0.5**
BDRM				*i* S	**Sn**	**01 15 26.4**	**-3.2**
MLSB	**Milas**	**2.03**	**334**	*e*PN	**Pn**	**01 15 06.7**	**-0.1**
BODT	**Bodrum**	**2.04**	**321**	PN	**Pn**	**01 15 05.9**	**-1.0**
ZKR	**Zakros**	**2.23**	**261**	*e*P	**Pn**	**01 15 10.8**	**+1.2**
ZKR				*e*S	**Sn**	**01 15 35.5**	**-0.4**
DENT	**Denizli**	**2.27**	**3**	*e*PN	**Pn**	**01 15 10.8**	**+0.6**
AYDN	**Tasoluk**	**2.33**	**340**	*i* P	**Pn**	**01 15 11.0**	**+0.1**
AYDN				*i* S	**Sn**	**01 15 35.4**	**-3.0**
XRY	**Khrisi**	**2.70**	**258**	*e*PN	**Pn**	**01 15 17.0**	**+1.0**
NPS	**Neapolis**	**2.70**	**266**	*e*PN	**Pn**	**01 15 17.5**	**+1.5**
SMG	**Samos**	**2.78**	**324**	*e*PN	**Pn**	**01 15 21.0**	**+3.9**
SMG	**Samos**	**2.78**	**324**	*e*Pn	**Pn**	**01 15 22.0**	**+4.9**
SANT	**Santorini**	**2.93**	**289**	*e*P	**Pn**	**01 15 17.9**	**-1.4**
HDMB	**Hadim**	**3.25**	**62**	*e*PN	**Pn**	**01 15 24.8**	**+1.1**
SIVA	**Sivas**	**3.38**	**263**	*e*P	**Pn**	**01 15 27.1**	**+1.7**
SIVA				*e*S	**Sn**	**01 16 03.4**	**-1.1**
CSS	**Prodhromos**	**3.66**	**97**	*e*P	**Pn**	**01 15 28.3**	**-0.9**
CSS				*e*S	**Sn**	**01 16 08.4**	**-3.0**
KONT	**Konya--Tatoy**	**3.71**	**47**	*e*PN	**Pn**	**01 15 31.4**	**+1.4**
VAM	**Vamos**	**3.84**	**270**	*e*PN	**Pn**	**01 15 33.5**	**+1.8**
IKL	**Isikli**	**3.96**	**78**	*e*PN	**Pn**	**01 15 33.7**	**+0.3**
GVD	**Gavdhos**	**4.00**	**262**	*e*PN	**Pn**	**01 15 35.5**	**+1.6**
KARN	**Karanos**	**4.07**	**270**	*e*P	**Pn**	**01 15 35.8**	**+0.9**
KARN				*e*S	**Sn**	**01 16 19.7**	**-1.8**
MERS	**Mersin**	**4.75**	**71**	*e*PN	**Pn**	**01 15 45.0**	**+0.7**
KYTH	**Kithira**	**4.83**	**281**	*e*Pn	**Pn**	**01 15 45.5**	**+0.2**
SQR		**5.91**	**160**	P	**Pn**	**01 15 59.9**	**-0.2**
AMAG	**Maghara**	**6.03**	**142**	P	**Pn**	**01 16 00.8**	**-1.0**
AMAG				S	**Sn**	**01 16 58.9**	**-11**
KOT	**Kottamia**	**6.06**	**155**	P	**Pn**	**01 16 02.8**	**+0.5**
HHAG	**Hagoal**	**6.13**	**153**	P	**Pn**	**01 16 03.6**	**+0.3**
HSAF	**As Saff**	**6.26**	**158**	P	**Pn**	**01 16 04.9**	**0.0**
AGG	**Agios Georgios**	**6.32**	**306**	*e*P	**Pn**	**01 16 07.0**	**+1.2**
AGG				*e*S	**Sn**	**01 17 22.9**	**+6.0**
GLL	**Jalalah**	**6.34**	**157**	P	**Pn**	**01 16 06.5**	**+0.3**
SUZ		**6.53**	**148**	P	**Pn**	**01 16 08.7**	**0.0**
LIT	**Litokhoron**	**6.86**	**314**	*e*P	**Pn**	**01 16 19.4**	**+6.2**
ZAF		**6.91**	**152**	P	**Pn**	**01 16 14.2**	**+0.3**
ZNM		**6.95**	**150**	P	**Pn**	**01 16 14.6**	**+0.1**
HNKL	**Nakhl**	**7.00**	**141**	P	**Pn**	**01 16 14.4**	**-0.7**
LKD	**Levkas**	**7.34**	**298**	*e*P	**Pn**	**01 16 20.2**	**+0.4**
LKD				*e*S	**Sn**	**01 17 40.2**	**-1.7**
IGT	**Igoumenitsa**	**7.92**	**303**	*e*P	**Pn**	**01 16 29.2**	**+1.4**
HKAT	**Jabal Katrina**	**8.17**	**147**	P	**Pn**	**01 16 30.9**	**-0.4**
TR2		**8.17**	**149**	P	**Pn**	**01 16 30.8**	**-0.5**
HDHB	**Dhahab**	**8.30**	**143**	P	**Pn**	**01 16 32.9**	**-0.1**
TR1		**8.60**	**149**	P	**Pn**	**01 16 36.7**	**-0.4**
SHRM		**8.78**	**148**	P	**Pn**	**01 16 39.4**	**-0.1**

*STR **03** 01:17:34.8±0.9, 4458N×697E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **03** 01:17:35.8±0.6, 4448N±003×692E±005, h10km, Error ellipse: s-maj=5.6km s-min=3.0km az=125.4*
*LDG **03** 01:17:36.5±0.2, 4450N×696E, h2km, Md1.8/1, Ml1.6/5, Error ellipse: s-maj=5.0km s-min=1.7km az=81.0*
ISC 03 01:17:36.3±0.8, 4449N±003×693E±006, h12km±9km, n10, σ0§64/18, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.08**	**264**	Pg	**Pg**	**01 17 38.9**	**0.0**
SURF				Sg	**Sg**	**01 17 40.3**	**-0.4**
MBDF	**Montbardon**	**0.26**	**335**	*e*Pg	**Pg**	**01 17 41.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**01 17 45.7**	**+0.3**
5.4nm,0.2s							
TOUF	**Mont Tournerai**	**0.53**	**154**	Pg	**Pg**	**01 17 47.0**	**+0.3**
TOUF				Sg	**Sg**	**01 17 54.9**	**+1.2**
LUCF	**Luceram**	**0.67**	**153**	Pg	**Pg**	**01 17 48.4**	**-0.9**
LUCF				Sg	**Sg**	**01 17 58.7**	**+0.6**
SAOF	**Saorge**	**0.68**	**138**	Pg	**Pg**	**01 17 47.7**	**-1.7**
SAOF				Sg	**Sg**	**01 17 58.9**	**+0.6**
ORIF	**Oris-en-Rattie**	**0.86**	**300**	*e*Pg	**Pg**	**01 17 53.0**	**0.0**
ORIF				*e*Sg	**Sg**	**01 18 04.4**	**+0.2**
1.2nm,0.2s							
FRF	**La Foret Royal**	**0.95**	**192**	*e*Pg	**Pg**	**01 17 54.3**	**-0.3**
FRF				*e*Sg	**Sg**	**01 18 06.2**	**-0.8**
2.1nm,0.2s							
LPG	**La Plagne**	**1.02**	**353**	*e*Sg	**Sg**	**01 18 09.1**	**0.0**
0.9nm,0.3s							
SMRF	**Simiane la Rot**	**1.10**	**243**	*e*Sg	**Sg**	**01 18 12.4**	**+0.6**
0.9nm,0.2s							
LMR	**La Mourre**	**1.19**	**195**	*e*Pg	**Pg**	**01 17 59.3**	**0.0**
LMR				*e*Sg	**Sg**	**01 18 14.9**	**+0.1**
1.0nm,0.2s							

MAN 03 01:31:39.1, 1872N×12107E, h51km, mb2.6, ML4.1, MS5.8, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.58**	**227**	⇓*i*P	Pn	01 31 49.0	-2.4
PIP	**Pasuquin**	**0.58**	**227**	⇓*i*P	Pn	01 31 49.0	-2.4
SGCP	**Mt. Cagua**	**1.04**	**117**	*e*P	Pn	01 31 58.3	+1.0
SGCP				*e*S	Sn	01 32 13.3	+2.4
ABRA	**Dolores**	**1.12**	**198**	*e*P	Pn	01 31 58.7	+0.3
ABRA				*e*S	Sn	01 32 14.3	+1.4
CVP	**Callao Caves**	**1.24**	**145**	*e*P	Pn	01 32 01.0	+0.9
CVP				*e*S	Sn	01 32 17.0	+1.3

*NEIC **03** 01:48:55.4, 16.19N×9823W, h5km, MD4.0(MEX), After MEX.*
MEX 03 01:48:55.3±1.0, 1625N×9829W, h4km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**47**	*i* P	Pg	01 48 58.5	-0.9
PNIG				*i* S	Sg	01 49 02.7	+0.5
UTMO	**Huajuapan**	**1.64**	**16**	*i* P	Pn	01 49 22.0	-2.8
UTMO				*i* S	Sn	01 49 41.5	-4.9
ACX	**Acapulco**	**1.68**	**292**	*i* P	Pn	01 49 21.2	-4.2
ACX				*i* S	Sn	01 49 43.0	-4.4
VHO	**Vista Hermosa**	**1.70**	**61**	*i* P	Pn	01 49 23.0	-2.7
VHO				*i* S	Sn	01 49 42.7	-5.2
OXX	**Oaxaca**	**1.71**	**61**	*i* P	Pn	01 49 22.5	-3.4
OXX				*i* S	Sn	01 49 42.5	-5.7
CAIG	**El Cayaco**	**2.06**	**293**	*i* P	Pn	01 49 27.6	-3.1
CAIG				*i* S	Sn	01 49 51.8	-5.0
CAIG	**El Cayaco**	**2.06**	**293**	*i* P	Pn	01 49 27.6	-3.1
CAIG				*i* S	Sn	01 49 55.0	-1.7
MEIG	**Mezcala**	**2.10**	**323**	*e*P	Pn	01 49 29.6	-1.6
MEIG				*i* S	Sn	01 49 52.1	-5.6
TPIG	**Tehuac#an**	**2.33**	**22**	*e*P	Pn	01 49 36.1	+1.7
TPIG				*i* S	Sn	01 50 06.2	+2.7
PLIG	**Platanillo**	**2.43**	**332**	*e*P	Pn	01 49 32.9	-2.8
PLIG				*i* S	Sn	01 50 01.0	-4.9
PLIG	**Platanillo**	**2.43**	**332**	*i* P	Pn	01 49 35.6	-0.1
PLIG				*i* S	Sn	01 50 07.9	+2.1
YAIG	**Yautepec**	**2.70**	**344**	*e*P	Pn	01 49 40.3	+0.8
YAIG				*i* S	Sn	01 50 08.6	-4.1
YAIG	**Yautepec**	**2.70**	**344**	*i* P	Pn	01 49 40.8	+1.2
YAIG				*i* S	Sn	01 50 11.0	-1.7
PPM	**Popocatepetl**	**2.82**	**353**	*e*P	Pn	01 49 38.6	-2.6
PPM				*i* S	Sn	01 50 13.2	-2.4
PPM	**Popocatepetl**	**2.82**	**353**	*i* P	Pn	01 49 44.6	+3.4
PPM				*i* S	Sn	01 50 17.8	+2.2
IIO	**Organos**	**3.35**	**353**	*e*P	Pn	01 49 53.1	+4.7
IIO				*i* S	Sn	01 50 34.1	+5.5

*NEIC **03** 02:15:31.7, 3455S×7232W, h30km, ML2.6(GUC), After GUC.*
GUC 03 02:15:31.7±0.5, 3455S×7232W, h30km±2km, MD3.8, ML2.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.96**	**52**	⇓*i*P	Pn	02 15 48.9	-0.2
LNV				*i* S	Sn	02 16 02.2	+0.5
SFDO	**San Fernando**	**1.08**	**94**	⇑*i*P	Pn	02 15 51.0	+0.2
LCCH	**Las Cruces**	**1.24**	**31**	*e*P	Pn	02 15 53.5	+0.5
TACH	**Talagante**	**1.46**	**53**	*e*P	Pn	02 15 56.5	+0.6
TACH				*i* S	Sn	02 16 15.2	+1.2
CACH	**El Canelo**	**1.49**	**74**	*e*P	Pn	02 15 58.1	+1.7
CACH				*i* S	Sn	02 16 17.8	+3.0
CHCH	**Chadas Angostu**	**1.51**	**67**	⇓*i*P	Pn	02 15 57.7	+1.0
CHCH				*i* S	Sn	02 16 17.4	+1.9
CICH	**Cipreses**	**1.59**	**82**	⇑*i*P	Pn	02 15 59.4	+1.6
CICH				*i* S	Sn	02 16 21.3	+4.0
RCDM	**Rinconada Maip**	**1.64**	**50**	*e*P	Pn	02 15 59.3	+0.8
RCDM				*i* S	Sn	02 16 20.7	+2.1
RCDM				AML	AML	02 16 24.6	
comp=E,96nm,0.2s							
RCDM	**Rinconada Maip**	**1.64**	**50**	*e*P	Pn	02 15 59.3	+0.8
RCDM				*i* S	Sn	02 16 20.7	+2.1
PCH	**Pirque**	**1.76**	**59**	*e*P	Pn	02 16 01.7	+1.5
PCH				*i* S	Sn	02 16 24.5	+2.9
CLCH	**Cerro Calan**	**1.88**	**53**	*e*P	Pn	02 16 03.4	+1.6
CLCH				*i* S	Sn	02 16 27.4	+3.0
CLCH				AML	AML	02 16 34.3	
comp=N,82nm,0.6s							

*ISCJB **03** 02:28:20.3±0.5, 5148N±003×1602E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.1km az=28.2*
*IPEC **03** 02:28:20.4±0.3, 5161N×1612E, h0km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=1.6km az=36.0*
*BGR **03** 02:28:21.9±0.6, 5150N×1606E, h1km, ML3.0/14, Error ellipse: s-maj=12.2km s-min=4.4km az=168.0*
*WAR **03** 02:28:22.5, 5154N×1602E, ML2.6, Mining Induced*
*VIE **03** 02:28:22.6±0.4, 5142N×1599E, h0km, mb2.4/3, ML2.7/4, Error ellipse: s-maj=2.9km s-min=2.2km az=20.0 80 km WNW of Breslau Suspected Mining induced.*
*CSEM **03** 02:28:22.2±0.1, 5153N×1605E, h1km, ML3.2/7, Error ellipse: s-maj=2.7km s-min=1.3km az=18.0*
*PRU **03** 02:28:22.4, 5152N×1601E, h0km*
ISC 03 02:28:21.0±0.5, 5155N±003×1603E±002, h0km, n45, σ0§80/88, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**167**	*i* Pg	**Pg**	**02 28 35.6**	**+0.7**
KSP				*e*Sg	**Sg**	**02 28 45.3**	**+1.1**
KSP				e		02 28 48.9	
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**02 28 35.3**	**+0.4**
KSP				*e*Sg	**Sg**	**02 28 45.3**	**+1.1**
UPC	**Upice**	**1.04**	**181**	*e*PG	**Pg**	**02 28 41.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*PG	**Pg**	**02 28 44.3**	**+0.1**
DPC				*e*SG	**Sg**	**02 29 00.4**	**+0.5**
38nm,0.4s							
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*Pg	**Pg**	**02 28 44.1**	**-0.1**
DPC				*e*Sg	**Sg**	**02 29 00.4**	**+0.5**
PVCC	**Panska Ves**	**1.38**	**223**	*e*PG	**Pg**	**02 28 47.4**	**0.0**
PVCC				*e*SG	**Sg**	**02 29 06.2**	**+1.0**
126nm,0.2s							
PVCC	**Panska Ves**	**1.38**	**223**	*e*Pg	**Pg**	**02 28 47.4**	**0.0**
PVCC				*e*Sg	**Sg**	**02 29 06.0**	**+0.8**
BRG	**Berggiesshubel**	**1.48**	**244**	*e*Pg	**Pg**	**02 28 49.5**	**+0.2**
BRG				*e*Sg	**Sg**	**02 29 09.5**	**+1.0**
BRG	**Berggiesshubel**	**1.48**	**244**	PN	**Pn**	**02 28 48.2**	**-0.6**
BRG				PG	**Pg**	**02 28 49.5**	**+0.2**
BRG				SG	**Sg**	**02 29 09.4**	**+1.0**
50nm,0.5s							
FBE	**Freiberg**	**1.80**	**251**	*e*Pn	**Pn**	**02 28 54.3**	**+1.0**
FBE				*e*Sg	**Sg**	**02 29 19.1**	**+0.3**
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**02 28 53.4**	**-0.2**
PRU				*e*PG	**Pg**	**02 28 55.2**	**-0.8**
PRU				*e*SG	**Sg**	**02 29 18.7**	**-0.9**
29nm,0.4s							
GKP	**Gorka Klasztor**	**1.88**	**23**	*e*Pg	**Pg**	**02 29 03.3**	**+6.3**
CLL	**Collm**	**1.91**	**264**	*e*Pn	**Pn**	**02 28 54.3**	**-0.5**
CLL				*e*Sg	**Sg**	**02 29 22.7**	**+0.2**
CLL	**Collm**	**1.91**	**264**	*i* Pn	**Pn**	**02 28 54.3**	**-0.5**
comp=Z,4.0nm,0.8s							
CLL				*e*Pg	**Pg**	**02 28 57.0**	**-0.7**
CLL				*e*Sg	**Sg**	**02 29 23.0**	**+0.6**
comp=Z,37nm,0.5s							
MORC	**Moravsky Berou**	**2.02**	**151**	*e*Pn	**Pn**	**02 28 56.3**	**+0.1**
MORC				*e*Sg	**Sg**	**02 29 24.6**	**-1.2**
comp=Z,10nm,0.2s							
OKC	**Ostrava-Krasne**	**2.18**	**141**	*e*PG	**Pg**	**02 29 02.2**	**-0.5**
OKC				*e*SG	**Sg**	**02 29 30.4**	**-0.5**
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**02 29 00.0**	**+0.3**
VRAC				*e*Sg	**Sg**	**02 29 32.9**	**-1.0**
comp=Z,8.9nm,0.3s							
TREC	**Trest**	**2.28**	**189**	*e*PN	**Pn**	**02 29 00.1**	**+0.2**
TREC				*e*PG	**Pg**	**02 29 04.2**	**-0.5**
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**02 29 03.3**	**+0.4**
KRUC				*e*Sg	**Sg**	**02 29 40.7**	**-0.6**
comp=Z,8.9nm,0.3s							
TANN	**Tannenbergstha**	**2.52**	**245**	*e*Pn	**Pn**	**02 29 03.7**	**+0.5**
TANN				*e*Sg	**Sg**	**02 29 41.7**	**-0.5**
TANN	**Tannenbergstha**	**2.52**	**245**	Pn	**Pn**	**02 29 03.7**	**+0.4**
TANN				Sg	**Sg**	**02 29 41.7**	**-0.5**
WERD	**Werda**	**2.60**	**246**	*e*Pn	**Pn**	**02 29 04.3**	**0.0**
WERD				*e*Sg	**Sg**	**02 29 43.5**	**-1.1**
GUNZ	**Gunzen**	**2.62**	**245**	*e*Pn	**Pn**	**02 29 06.6**	**+2.0**
GUNZ				*e*Sg	**Sg**	**02 29 44.9**	**-0.4**
NKC	**Novy Kostel**	**2.62**	**241**	*e*PN	**Pn**	**02 29 04.8**	**+0.2**
NKC				*e*PG	**Pg**	**02 29 11.3**	**0.0**
NKC				*e*SG	**Sg**	**02 29 45.2**	**-0.1**
comp=Z,34nm,0.4s							
WERN	**Wernitzgruen**	**2.63**	**243**	*e*Pn	**Pn**	**02 29 04.9**	**+0.2**
WERN				*e*Sg	**Sg**	**02 29 44.6**	**-1.1**
NEUB	**Neuenburg**	**2.69**	**264**	*e*Sg	**Sg**	**02 29 48.3**	**+0.9**
OJC	**Ojcow**	**2.73**	**118**	*e*Pn	**Pn**	**02 29 04.4**	**-1.7**
OJC				*e*Pg	**Pg**	**02 29 13.2**	**-0.1**
OJC				*e*Sg	**Sg**	**02 29 49.1**	**+0.4**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**02 29 08.0**	**-0.2**
KHC				*e*PG	**Pg**	**02 29 14.0**	**-2.3**
KHC				*e*SN	**Sn**	**02 29 42.7**	**-0.9**
KHC				*e*SG	**Sg**	**02 29 53.0**	**-0.7**
comp=Z,9.4nm,0.5s							
JAVC	**Velka Javorina**	**2.89**

ARNR				*e*S	Sb	02 47 32.6	+0.7
KMSR	**Komsomolskaya**	**0.53**	**63**	*e*PG	Pb	02 47 26.7	+0.1
KMSR				*e*S	Sb	02 47 34.5	+0.8
LACR	**Lac**	**0.56**	**122**	⇑*i*PG	Pb	02 47 27.4	+0.2
LACR				*i* S	Sb	02 47 35.5	+0.7
PRTR	**Priterechnaya**	**0.77**	**36**	*e*PG	Pb	02 47 31.2	+0.4
PRTR				*e*S	Sb	02 47 42.2	+1.4
TRKR	**Terskaya**	**0.99**	**53**	*e*PG	Pb	02 47 34.8	+0.4
TRKR				*e*S	Sb	02 47 48.5	+1.5

IDC 03 03:04:37.1±1.7, 517S×12333E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=325.6km s-min=27.5km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.18**	**145**	P	Pn	03 08 49.3	-1.6
0.2nm,0.3s,baz=321,slow=12,SNR=5.4							
ASAR	**Alice Springs**	**21.03**	**152**	P	P	03 09 23.6	+1.3
2.1nm,1.0s,baz=322,slow=8.4,SNR=11							
MKAR	**Makanchi Array**	**63.18**	**330**	P	P	03 15 07.1	+0.1
0.4nm,0.6s,baz=124,slow=6.5,SNR=4.9							

*ISCJB **03** 03:05:24.7±0.3, 3569N×002×464W±002, h10km, Error ellipse: s-maj=2.6km s-min=2.2km az=54.5*
*MDD **03** 03:05:26.5±0.7, 3564N×464W, h8km±6km, mbLg2.4/22, Error ellipse: s-maj=4.2km s-min=3.4km az=38.0, PRXIMO*
*CNRM **03** 03:05:26.9, 3570N×466W, h17km, MD3.4*
*SFS **03** 03:05:26.0, 3570N×458W, h0km, ML2.6*
*NEIC **03** 03:05:26.3, 3570N×458W, h0km, MN2.6(MDD), After MDD.*
*LDG **03** 03:05:27.4±0.3, 3562N×468W, h10km, Ml3.3/1, Error ellipse: s-maj=7.2km s-min=3.3km az=179.0*
*INMG **03** 03:05:27.8±1.6, 3561N×465W, h31km±12km, ML2.4, Error ellipse: s-maj=4.7km s-min=4.5km az=14.0*
*CSEM **03** 03:05:28.2±0.1, 3561N×451W, h35km, ML3.5/7, Error ellipse: s-maj=2.0km s-min=1.3km az=39.0*

ISC 03 03:05:25.5±0.3, 3568N±002×465W±002, h10km, n85, σ1⅚32/149, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKH	**Dar Kharkhour**	**0.61**	**252**	*i* P	**Pg**	**03 05 38.0**	**+0.6**
DKH				*i* S	**Sg**	**03 05 46.0**	**+0.6**
MDAL	**Dalia**	**0.71**	**288**	*i* P	**Pg**	**03 05 40.0**	**+0.7**
MDAL				*i* S	**Sg**	**03 05 48.0**	**-0.7**
MPAL	**Palemas**	**0.73**	**128**	*i* P	**Pg**	**03 05 41.0**	**+1.4**
MPAL				*i* S	**Sg**	**03 05 51.0**	**+1.9**
EMIJ	**Mijas**	**0.89**	**353**	⇓P	**Pg**	**03 05 42.0**	**-0.7**
45nm,0.1s,SNR=18							
EMIJ				S	**Sg**	**03 05 52.9**	**-1.5**
107nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**0.89**	**353**	P	**Pg**	**03 05 42.0**	**-0.7**
45nm,0.1s,SNR=18							
EMIJ				S	**Sg**	**03 05 52.8**	**-1.5**
107nm,0.1s,SNR=7.9							
TOU	**Touzarine**	**1.02**	**134**	*i* P	**Pg**	**03 05 45.0**	**-0.1**
TOU				*i* S	**Sg**	**03 05 58.0**	**-0.3**
EJIF	**Jimena Fronter**	**1.02**	**319**	P	**Pg**	**03 05 44.8**	**-0.3**
0.9nm,0.1s,SNR=12							
EJIF				S	**Sg**	**03 05 58.9**	**+0.5**
7.2nm,0.2s,SNR=6.9							
EJIF	**Jimena Fronter**	**1.02**	**319**	Pg	**Pg**	**03 05 44.8**	**-0.3**
EJIF				Lg		03 05 58.6	
MAL	**Malaga**	**1.07**	**10**	*i* P	**Pg**	**03 05 45.5**	**-0.5**
EALB	**Alboran**	**1.34**	**78**	P	**Pn**	**03 05 49.1**	**-1.0**
20nm,0.1s,SNR=37							
EALB				S	**Sb**	**03 06 05.4**	**-2.4**
18nm,0.1s,SNR=7.6							
EALB	**Alboran**	**1.34**	**78**	P	**Pn**	**03 05 49.2**	**-1.0**
20nm,0.1s,SNR=37							
EALB				S	**Sb**	**03 06 05.4**	**-2.4**
18nm,0.1s,SNR=7.6							
LIJA	**Lijar**	**1.37**	**334**	P	**Pn**	**03 05 52.0**	**+1.3**
LIJA				S	**Sb**	**03 06 11.0**	**+2.2**
EMEL	**Melilla**	**1.43**	**105**	P	**Pn**	**03 05 50.2**	**-1.3**
86nm,0.1s,SNR=7.9							
EMEL				S	**Sn**	**03 06 06.9**	**-3.4**
70nm,0.1s,SNR=7.9							
EMLI	**Melilla**	**1.43**	**105**	P	**Pn**	**03 05 50.2**	**-1.3**
86nm,0.1s,SNR=7.9							
EMLI				S	**Sn**	**03 06 06.9**	**-3.5**
70nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**1.45**	**37**	P	**Pn**	**03 05 50.8**	**-0.9**
2.6nm,0.1s,SNR=7.9							
EGUA				S	**Sn**	**03 06 08.6**	**-2.2**
5.4nm,0.1s,SNR=7.9							
ERON	**Agron**	**1.50**	**27**	P	**Pn**	**03 05 52.4**	**-0.1**
2.8nm,0.2s,SNR=18							
ERON				S	**Sn**	**03 06 11.0**	**-1.1**
7.7nm,0.2s,SNR=6.0							
ELOJ	**Sierra Loja**	**1.52**	**15**	P	**Pn**	**03 05 53.0**	**+0.2**
1.9nm,0.2s,SNR=7.9							
ELOJ				S	**Sn**	**03 06 11.9**	**-0.7**
6.4nm,0.3s,SNR=7.9							
ESPR	**Espera**	**1.54**	**321**	P	**Pn**	**03 05 54.3**	**+1.3**
2.1nm,0.1s,SNR=10.0							
ESPR				S	**Sn**	**03 06 14.4**	**+1.3**
52nm,0.4s,SNR=5.6							
ESPR	**Espera**	**1.54**	**321**	Pn	**Pn**	**03 05 54.6**	**+1.6**
ESPR				Sn	**Sn**	**03 06 14.4**	**+1.3**
ESPR	**Espera**	**1.54**	**321**	P	**Pn**	**03 05 54.3**	**+1.3**
2.1nm,0.1s,SNR=10.0							
ESPR	**Espera**	**1.54**	**321**	Pn	**Pn**	**03 05 54.6**	**+1.6**
ESPR				S	**Sn**	**03 06 14.4**	**+1.3**
52nm,0.4s,SNR=5.6							
TGT	**Taghat**	**1.64**	**192**	*i* P	**Pn**	**03 05 55.0**	**+0.7**
TGT				*i* S	**Sn**	**03 06 15.0**	**-0.4**
ZAI	**Zaio**	**1.71**	**114**	*i* P	**Pn**	**03 05 54.0**	**-1.3**
ZAI				*i* S	**Sn**	**03 06 15.0**	**-2.1**
EQUE	**Quentar**	**1.81**	**32**	P	**Pn**	**03 05 58.1**	**+1.4**
0.4nm,0.1s,SNR=25							
EQUE				S	**Sn**	**03 06 20.7**	**+1.0**
1.4nm,0.1s,SNR=19							
ECOG	**Cogollos-Vega**	**1.82**	**28**	P	**Pn**	**03 05 59.1**	**+2.2**
9.0nm,0.4s,SNR=12							
ECOG				S	**Sn**	**03 06 21.1**	**+1.2**
5.4nm,0.2s,SNR=6.2							
ECOG	**Cogollos-Vega**	**1.82**	**28**	Pn	**Pn**	**03 05 59.1**	**+2.2**
ECOG				Sn	**Sn**	**03 06 20.0**	**+0.1**
ECOG	**Cogollos-Vega**	**1.82**	**28**	P	**Pn**	**03 05 59.1**	**+2.3**
9.0nm,0.4s,SNR=12							
ECOG				Sn	**Sn**	**03 06 20.0**	**+0.1**
EBER	**Berja**	**1.87**	**49**	P	**Pn**	**03 05 57.5**	**-0.1**
17nm,0.2s,SNR=18							
EBER				S	**Sn**	**03 06 20.1**	**-1.1**
24nm,0.2s,SNR=7.0							
EBER	**Berja**	**1.87**	**49**	Pn	**Pn**	**03 05 57.6**	**0.0**
EBER				Sn	**Sn**	**03 06 20.1**	**-1.1**
EBER	**Berja**	**1.87**	**49**	Pn	**Pn**	**03 05 57.6**	**+0.1**
ELUQ	**Luque**	**1.91**	**9**	P	**Pn**	**03 05 59.8**	**+1.8**
4.9nm,0.2s,SNR=7.9							
ELUQ				S	**Sn**	**03 06 23.7**	**+1.7**
18nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**2.36**	**56**	P	**Pn**	**03 06 04.3**	**+0.1**
4.7nm,0.2s,SNR=8.0							
ENIJ				S	**Sn**	**03 06 31.5**	**-1.7**
16nm,0.2s							
EQES	**Quesada**	**2.47**	**30**	P	**Pn**	**03 06 07.6**	**+1.8**
0.2nm,0.1s,SNR=65							
EQES				S	**Sn**	**03 06 37.1**	**+1.1**
16nm,0.2s,SNR=5.0							
EQES	**Quesada**	**2.47**	**30**	Pn	**Pn**	**03 06 07.3**	**+1.5**
EQES				Sn	**Sn**	**03 06 37.1**	**+1.1**
EQES	**Quesada**	**2.47**	**30**	Pn	**Pn**	**03 06 07.3**	**+1.5**
EQES	**Quesada**	**2.47**	**30**	P	**Pn**	**03 06 07.6**	**+1.8**
0.2nm,0.1s,SNR=65							
EADA	**Adamuz**	**2.49**	**1**	P	**Pn**	**03 06 07.3**	**+1.3**
1.7nm,0.1s,SNR=33							
EADA				S	**Sn**	**03 06 37.2**	**+0.8**
0.9nm,0.0s,SNR=5.0							
EADA	**Adamuz**	**2.49**	**1**	P	**Pn**	**03 06 07.3**	**+1.3**
1.7nm,0.1s,SNR=33							
EBAN	**Banos Encina**	**2.58**	**15**	P	**Pn**	**03 06 08.3**	**+1.1**
2.6nm,0.2s,SNR=8.2							
EBAN				S	**Sn**	**03 06 39.0**	**+0.4**
3.6nm,0.2s,SNR=5.0							
EMIN	**Mina Concepcio**	**2.65**	**323**	P	**Pn**	**03 06 08.2**	**0.0**
1.2nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**03 06 37.9**	**-2.5**
3.7nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.65**	**323**	P	**Pn**	**03 06 08.2**	**0.0**
1.2nm,0.1s,SNR=7.9							
CZD	**Col de Zad**	**2.66**	**187**	*i* P	**Pn**	**03 06 08.0**	**-0.3**
CZD				*i* S	**Sn**	**03 06 37.0**	**-3.6**
EHUE	**Huescar**	**2.70**	**37**	S	**Sn**	**03 06 43.8**	**+2.2**
4.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.94**	**310**	P	**Pn**	**03 06 12.3**	**0.0**
2.3nm,0.1s,SNR=9.9							
EGRO				S	**Sn**	**03 06 45.6**	**-2.0**
6.0nm,0.3s,SNR=5.0							
EGRO	**El Granado**	**2.94**	**310**	P	**Pn**	**03 06 12.3**	**0.0**
2.3nm,0.1s,SNR=9.9							
EVIA	**Vianos**	**3.42**	**29**	P	**Pn**	**03 06 20.8**	**+2.0**
0.5nm,0.2s,SNR=7.9							
EVIA				S	**Sn**	**03 06 58.1**	**-1.3**
0.9nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**3.48**	**51**	P	**Pn**	**03 06 20.5**	**+0.8**
1.3nm,0.2s,SNR=7.9							
EMUR				S	**Sn**	**03 07 00.3**	**-0.8**
6.3nm,0.5s,SNR=7.9							
EMUR	**La Murta**	**3.48**	**51**	P	**Pn**	**03 06 20.5**	**+0.8**
1.3nm,0.2s,SNR=7.9							
PBEJ	**Beja**	**3.49**	**313**	*e*Pn	**Pn**	**03 06 20.1**	**+0.3**
PBEJ				*e*Sn	**Sn**	**03 06 58.8**	**-2.3**
PBEJ							
8.0nm,0.1s							
PBEJ	**Beja**	**3.49**	**313**	*e*Pn	**Pn**	**03 06 20.1**	**+0.3**
PBEJ				*e*Sn	**Sn**	**03 06 58.8**	**-2.3**
8.0nm,0.1s							
EBAD	**Badajoz**	**3.61**	**329**	P	**Pn**	**03 06 21.6**	**+0.1**
2.5nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**03 07 01.8**	**-2.3**
1.6nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**3.61**	**329**	P	**Pn**	**03 06 21.6**	**+0.2**
2.5nm,0.1s,SNR=7.9							
ZFT	**Errachidia**	**3.64**	**176**	*e*P	**Pn**	**03 06 22.0**	**+0.1**
ZFT				*e*S	**Sn**	**03 07 02.0**	**-2.9**
PTEO	**Sao Teotonio**	**3.77**	**301**	*e*Pn	**Pn**	**03 06 23.8**	**+0.1**
PTEO				*e*Sn	**Sn**	**03 07 05.6**	**-2.6**
PTEO							
6.8nm,0.3s							
PTEO	**Sao Teotonio**	**3.77**	**301**	*e*Pn	**Pn**	**03 06 23.8**	**+0.1**
PTEO				*e*Sn	**Sn**	**03 07 05.6**	**-2.6**
6.8nm,0.3s							
ETOB	**Tobarra**	**3.86**	**39**	P	**Pn**	**03 06 26.6**	**+1.7**
0.9nm,0.2s,SNR=24							
ETOB				S	**Sn**	**03 07 09.2**	**-1.1**
9.0nm,0.9s,SNR=5.0							
EVO	**Evora**	**3.92**	**318**	*e*Pn	**Pn**	**03 06 26.6**	**+0.9**
EVO				*e*Sn	**Sn**	**03 07 09.7**	**-2.1**
14nm,0.3s							
PESTR	**Estremoz**	**3.96**	**324**	*e*Pn	**Pn**	**03 06 26.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**03 07 09.4**	**-3.3**
PESTR							
2.6nm,0.1s							
PESTR	**Estremoz**	**3.96**	**324**	*e*Pn	**Pn**	**03 06 26.6**	**+0.4**
PESTR				*e*Sn	**Sn**	**03 07 09.4**	**-3.3**
2.6nm,0.1s							
ESDC	**Sonseca Array**	**4.03**	**8**	P	**Pn**	**03 06 28.6**	**+1.4**
1.9nm,0.2s,baz=184,slow=12,SNR=11							
ESDC				S	**Sn**	**03 07 14.0**	**-0.4**
1.3nm,0.1s,baz=191,slow=23,SNR=7.9							
ESDC	**Sonseca Array**	**4.03**	**8**	Pn	**Pn**	**03 06 28.6**	**+1.4**
ESDC				Sn	**Sn**	**03 07 14.0**	**-0.4**
MOE	**Montemor**	**4.10**	**315**	*e*Pn	**Pn**	**03 06 29.4**	**+1.2**
MOE				*e*Sn	**Sn**	**03 07 14.2**	**-2.1**
PCBR	**Castelo Branco**	**4.72**	**332**	*e*Pn	**Pn**	**03 06 37.1**	**+0.3**
PCBR				*e*Sn	**Sn**	**03 07 27.5**	**-4.1**
PCBR							
3.1nm,0.1s							
PCBR	**Castelo Branco**	**4.72**	**332**	*e*Pn	**Pn**	**03 06 37.1**	**+0.3**
PCBR				*e*Sn	**Sn**	**03 07 27.5**	**-4.1**
3.1nm,0.1s							
PLOU	**Loures**	**4.81**	**313**	*e*Pn	**Pn**	**03 06 38.4**	**+0.4**
PLOU				*e*Sn	**Sn**	**03 07 30.7**	**-3.1**
PLOU							
8.8nm,0.3s							
PLOU	**Loures**	**4.81**	**313**	*e*Pn	**Pn**	**03 06 38.4**	**+0.4**
PLOU				*e*Sn	**Sn**	**03 07 30.7**	**-3.1**
8.8nm,0.3s							
PMAFR	**Mafra**	**4.94**	**313**	*e*Pn	**Pn**	**03 06 40.8**	**+1.1**
PMAFR				*e*Sn	**Sn**	**03 07 33.4**	**-3.4**
PTOM	**Tomar**	**4.94**	**324**	*e*Pn	**Pn**	**03 06 40.0**	**+0.3**
PTOM				*e*Sn	**Sn**	**03 07 33.1**	**-3.8**
PTOM							
5.0nm,0.3s							
PTOM	**Tomar**	**4.94**	**324**	*e*Pn	**Pn**	**03 06 40.0**	**+0.3**
PTOM				*e*Sn	**Sn**	**03 07 33.1**	**-3.8**
5.0nm,0.3s							
MTE	**Manteigas**	**5.24**	**335**	*e*Pn	**Pn**	**03 06 44.8**	**+0.9**
MTE				*e*Sn	**Sn**	**03 07 41.6**	**-2.7**
MTE							
3.3nm,0.4s							
MTE	**Manteigas**	**5.24**	**335**	*e*Pn	**Pn**	**03 06 44.8**	**+0.9**
MTE				*e*Sn	**Sn**	**03 07 41.6**	**-2.7**
3.3nm,0.4s							
ETOR	**Torete**	**5.53**	**21**	P	**Pn**	**03 06 48.7**	**+0.9**
11nm,0.1s,SNR=9.5							
ETOR				S	**Sn**	**03 07 48.9**	**-2.5**
5.9nm,0.4s,SNR=5.0							
ETOR	**Torete**	**5.53**	**21**	Pn	**Pn**	**03 06 48.7**	**+0.9**
ETOR				Sn	**Sn**	**03 07 48.8**	**-2.5**
PVIS	**Viseu**	**5.64**	**334**	*e*Pn	**Pn**	**03 06 49.9**	**+0.5**
PVIS				*e*Sn	**Sn**	**03 07 50.7**	**-3.6**
PVIS							
1.6nm,0.1s							
PVRL	**Vila Real**	**6.09**	**338**	*e*Pn	**Pn**	**03 06 56.2**	**+0.7**
PVRL				*e*Sn	**Sn**	**03 08 01.2**	**-4.0**
PVRL							
7.1nm,0.1s							
ECAL	**Calabor**	**6.47**	**346**	P	**Pn**	**03 07 01.9**	**+1.2**
3.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.47**	**346**	Pn	**Pn**	**03 07 01.9**	**+1.2**
PCAB	**Cabril**	**6.58**	**337**	*e*Pn	**Pn**	**03 07 02.7**	**+0.4**
PCAB				*e*Sn	**Sn**	**03 08 13.2**	**-4.1**
ERUA	**La Rua**	**6.98**	**345**	P	**Pn**	**03 07 08.3**	**+0.5**
9.7nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**7.88**	**22**	*e*Pn	**Pn**	**03 07 21.8**	**+1.7**
SJPF	**Ste Jean**	**7.88**	**19**	*e*Pn	**Pn**	**03 07 21.5**	**+1.3**
EPF	**Esparros**	**8.30**	**26**	*e*Pn	**Pn**	**03 07 26.6**	**+0.8**
QUIF	**Quistinic**	**12.28**	**5**	*e*Pn	**Pn**	**03 08 20.5**	**+0.1**
SGMF	**Saint Gilles**	**12.66**	**6**	*e*Pn	**Pn**	**03 08 24.7**	**-0.9**
ROSF	**Rostrenen**	**12.69**	**4**	*e*Pn	**Pn**	**03 08 26.3**	**+0.3**

CASC 03 03:23:38.2±3.1, 1125N×8750W, h0km±13km, MD3.8, ML3.2, 3C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.28**	**44**	⇓*e*P	Pg	03 24 02.4	-0.3
COPN				*e*S	Sg	03 24 19.7	+0.3
LEON	**Leon**	**1.30**	**27**	⇑*i*P	Pg	03 24 02.2	-0.9
MIRN	**Miramar**	**1.41**	**33**	⇓*e*P	Pn	03 24 03.8	-1.3
TICN	**Ticuantepe**	**1.46**	**58**	*e*P	Pn	03 24 06.4	+0.5
CNGN	**Cerro Negro**	**1.47**	**32**	⇑*e*P	Pn	03 24 04.4	-1.4
CNGN				*i*		03 24 30.7	
comp=E,409nm,0.3s							
MOMJ	**Momotombo**	**1.48**	**39**	⇑*e*P	Pn	03 24 05.3	-0.8
TELN	**Telica**	**1.49**	**26**	*e*P	Pn	03 24 05.2	-1.0
TISN	**Laguna Tiscapa**	**1.49**	**54**	*e*P	Pn	03 24 05.6	-0.7
MGAN	**Managua**	**1.51**	**54**	⇓*e*P	Pn	03 24 05.9	-0.7
MGAN				*e*S	Sg	03 24 28.1	+1.3
MGAN				*i*		03 24 29.0	
comp=N,349nm,0.4s							
CONN	**Concepcion**	**1.86**	**80**	*e*P	Pn	03 24 12.3	+1.0
MADN	**Villa Maderas**	**1.93**	**85**	*e*P	Pn	03 24 13.4	+1.0
CNCH	**Conchagua**	**2.04**	**351**	*e*S	x	03 24 45.5	
BOA	**Boaco**	**2.13**	**55**	*e*P	Pn	03 24 14.4	-0.6
LCBS	**La Ceiba**	**2.79**	**329**	*e*P	x	03 24 24.4	
LFRS	**El Faro**	**2.81**	**327**	*e*P	x	03 24 23.8	
LFRS				*e*S	x	03 24 59.4	

*NEIC **03** 03:24:08.6, 1600N×9751W, h16km, MD3.9(MEX), After MEX.*

MEX 03 03:24:09.0±0.5, 1602N×9752W, h16km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**303**	*e*P	Pg	03 24 20.0	-2.6
PNIG				*i* S	Sg	03 24 28.8	-3.0
VHO	**Vista Hermosa**	**1.29**	**36**	*i* P	Pn	03 24 28.9	-3.5
VHO				*i* S	Sb	03 24 44.0	-5.2
OXX	**Oaxaca**	**1.30**	**36**	*i* P	Pn	03 24 29.0	-3.5
OXX				*i* S	Sb	03 24 44.0	-5.6
UTMO	**Huajuapan**	**1.82**	**351**	*e*P	Pn	03 24 37.5	-2.1
UTMO				*i* S	Sn	03 24 58.5	-3.9
TPIG	**Tehuac#an**	**2.39**	**4**	*e*P	Pn	03 24 44.2	-3.3
TPIG				*i* S	Sn	03 25 12.3	-4.2
ACX	**Acapulco**	**2.45**	**290**	*e*P	Pn	03 24 45.0	-3.3
MEIG	**Mezcala**	**2.77**	**314**	*e*P	Pn	03 24 49.6	-3.0
MEIG				*i* S	Sn	03 25 20.7	-5.0
CAIG	**El Cayaco**	**2.83**	**292**	*e*P	Pn	03 24 51.2	-2.3
CAIG				*i* S	Sn	03 25 23.3	-4.0
CAIG	**El Cayaco**	**2.83**	**292**	*i* P	Pn	03 24 56.9	+3.4
CAIG				*i* S	Sn	03 25 28.5	+1.3
PLIG	**Platanillo**	**3.03**	**322**	*e*P	Pn	03 24 53.1	-3.2
PLIG				*i* S	Sn	03 25 27.7	-4.5
PLIG	**Platanillo**	**3.03**	**322**	*i* P	Pn	03 24 58.5	+2.3
PLIG				*i* S	Sn	03 25 33.4	+1.2
PPM	**Popocatepetl**	**3.21**	**341**	*e*P	Pn	03 24 56.9	-1.9
PPM				*e*P		03 25 03.0	
PPM				*i* S	Sn	03 25 34.5	-2.2
PPM	**Popocatepetl**	**3.21**	**341**	*i* P	Pn	03 25 05.1	+6.3
PPM				*i* S	Sn	03 25 42.5	+5.8
IIO	**Organos**	**3.74**	**342**	*i* P	Pn	03 25 04.7	-1.3
IIO				*i* S	Sn	03 25 48.2	-1.4

*IDC **03** 03:28:59.1±0.6, 2343S×17563W, h0km, mb4.6/14, mb1 4.7/14, mb1mx4.6/16, mbtmp4.6/14, MS4.1/13, Ms1 4.1/13, ms1mx4.0/24, Error ellipse: s-maj=18.7km s-min=15.7km az=166.0*
*ISCJB **03** 03:29:04.4±0.3, 2347S±007×17557W±006, h49km, mb4.8/40, MS4.2/13, Error ellipse: s-maj=10.9km s-min=7.4km az=117.9*
*NEIC **03** 03:29:06.5±0.3, 2338S×17552W, mb4.9/23, Error ellipse: s-maj=14.9km s-min=9.5km az=151.0*
*BJI **03** 03:29:07.4, 2340S×17550W, h50km, mB5.2, mb5.1*
*SZGRF **03** 03:29:07.7, 2562S×17505W, h33km, South of Tonga Islands*
*MOS **03** 03:29:10.8±3.3, 2160S×17638W, h33km, mb5.2/12, Error ellipse: s-maj=14.7km s-min=12.0km az=146.2*

ISC 03 03:29:06.1±0.3, 2356S±006×17548W±006, h51km, h51km±2.1km: pP-P, n154, σ1⅚10/80, mb4.8/39, MS4.2/13, 7C-14D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.08**	**201**	Sn	**Sn**	**03 31 39.6**	**-1.8**
52nm,0.3s,baz=77,slow=22,SNR=4.4							
AFI	**Afiamalu**	**10.22**	**21**	Pn	**Pn**	**03 31 19.1**	**-11**
42nm,0.3s,baz=34,slow=0.5,SNR=23							
AFI				Sn	**Sn**	**03 33 08.0**	**-15**
11nm,0.3s,baz=279,slow=20,SNR=3.1							
RAR	**Rarotonga**	**14.72**	**84**	Pn	**Pn**	**03 32 19.9**	**-11**
7.8nm,0.3s,baz=256,slow=6.8,SNR=18							
URZ	**Urewera**	**15.96**	**202**	Pn	**Pn**	**03 32 41.1**	**-6.1**
0.3nm,0.3s,baz=235,slow=22,SNR=3.5							
URZ				Sn	**Sn**	**03 35 31.9**	**-11**
0.9nm,0.3s,baz=208,slow=13,SNR=4.6							
DZM	**Mont Dzumac**	**16.73**	**272**	*e*P	**Pn**	**03 32 58.8**	**+1.9**
DZM	**Mont Dzumac**	**16.73**	**272**	Pn	**Pn**	**03 32 59.9**	**+3.0**
2.1nm,0.3s,baz=85,slow=18,SNR=32							
RPZ	**Rata Peaks**	**22.96**	**206**	P	**P**	**03 34 06.6**	**+0.6**
7.6nm,0.7s,mb4.2,baz=48,slow=12,SNR=3.1							
TBI	**Tubuai**	**23.87**	**95**	*e*LQ		03 38 28.1	
524nm,25.8s							
TBI				*e*LR	LR	03 39 41.8	
968nm,28.0s,baz=270							
PPT	**Papeete**	**24.96**	**81**	*e*LQ		03 39 03.8	
600nm,26.5s							
PPT				*e*LR	LR	03 40 08.6	
849nm,26.2s,baz=254							
PPT	**Papeete**	**24.96**	**81**	LR	LR	03 43 21.9	
comp=Z,298nm,18.4s,MS3.8,baz=266,slow=34							
HNR	**Honiara**	**27.36**	**297**	LR	LR	03 44 15.7	
comp=Z,283nm,18.1s,MS3.9,baz=179,slow=34							
CTA	**Charters Tower**	**35.62**	**268**	*e*P	**P**	**03 35 59.4**	**+0.5**
14nm,0.7s,mb5.0							
CTA	**Charters Tower**	**35.62**	**268**	P	**P**	**03 35 59.1**	**+0.3**
15nm,0.6s,mb5.1,baz=96,slow=10,SNR=22							
CTA	**Charters Tower**	**35.62**	**268**	*e*P	**P**	**03 35 59.4**	**+0.5**
CTA				pmax	pmax		
comp=Z,14nm,0.7s							
CTAO	**Charters Tower**	**35.62**	**268**	*e*P	**P**	**03 35 58.8**	**-0.1**
CTAO				pmax	pmax		
comp=Z,20nm,0.8s,mb5.1							
CTAO	**Charters Tower**	**35.62**	**268**	*e*P	**P**	**03 35 58.8**	**-0.1**
comp=Z,20nm,0.8s,mb5.1							
CTAO				*e*PcP	PcP	03 38 21.5	-5.2
RKT	**Rikitea**	**37.11**	**98**	*e*LR	LR	03 45 51.3	
comp=Z,504nm,27.5s,baz=266							
PMG	**Port Moresby**	**38.35**	**285**	P	**P**	**03 36 22.2**	**+0.1**
comp=Z,28nm,0.9s,mb5.0,baz=79,slow=5.4,SNR=4.2							
STKA	**Stephens Creek**	**38.69**	**248**	*e*P	**P**	**03 36 24.7**	**-0.2**
comp=Z,5.5nm,1.1s,mb4.2							
STKA	**Stephens Creek**	**38.69**	**248**	P	**P**	**03 36 24.9**	**0.0**
comp=Z,2.0nm,0.5s,mb4.1,baz=90,slow=10,SNR=6.0							
STKA				LR	LR	03 50 57.

OHCM	Honcut	80.36	40	eP		P	03 41 11.4	-0.5
WDC	Whiskeytown Da	80.58	38	eP		P	03 41 12.8	-0.3
WDC					pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7							
WDC	Whiskeytown Da	80.58	38	eP		P	03 41 12.8	-0.3
	comp=Z,13nm,1.4s,mb4.7							
MTUM	Tungsten Hills	80.85	43	eP		P	03 41 14.8	+0.3
MTUM				e		pP	03 41 28.6	-0.5
YBH	Yreka Blue Hor	81.26	37	eP		P	03 41 16.6	-0.1
YBH				e			03 44 20.7	
YBH					pmax	pmax		
	comp=Z,17nm,1.6s							
YBH	Yreka Blue Hor	81.26	37	eP		P	03 41 16.6	-0.2
	comp=Z,17nm,1.6s,mb4.7							
YBH				ePP		PP	03 44 20.7	-1.9
NJ2	Nanjing	83.61	309	eP		P	03 41 31.4	+2.4
NJ2					AMB	AMB		
	comp=Z,30nm,0.5s,mb5.7							
WVOR	Wild Horse Val	84.01	39	eP		P	03 41 30.5	-0.5
WVOR				e		pP	03 41 46.1	+0.5
WVOR					pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9							
WVOR	Wild Horse Val	84.01	39	eP		P	03 41 30.5	-0.5
	comp=Z,11nm,1.1s,mb4.9							
WVOR				e		pP	03 41 46.1	+0.4
SYO	Syowa Base	84.25	192⇑	eP		P	03 41 31.9	-0.3
SYO	Syowa Base	84.25	192⇑	eP		pP	03 41 45.2	-1.7
CCUT	Cedar City	84.27	45	eP		P	03 41 32.9	+0.5
CCUT				e		pP	03 41 45.6	-1.4
MDJ	Mudanjiang	84.35	324	eP		P	03 41 33.2	+0.4
	comp=Z,21nm,1.1s,mb5.2							
ARUT	Antelope Range	84.36	45	eP		P	03 41 32.8	0.0
ARUT				e		pP	03 41 46.8	-0.6
SNAA	Sanae	84.89	178	LR		LR	04 13 42.7	
	comp=Z,43nm,21.4s,MS3.8,baz=205,slow=32							
SNAA	Sanae	84.89	178	eP		P	03 41 32.2	-3.3
SNAA				⇓i			03 41 35.2	
SNAA				e		pP	03 41 48.9	-1.2
SNAA	Sanae	84.89	178	eP		P	03 41 35.1	-0.3
	comp=Z,17nm,1.0s,mb5.1							
SNAA				e		pP	03 41 48.2	-1.9
VNA3	Neumayer Olymp	84.94	175	eP		P	03 41 32.2	-3.5
VNA3				⇓i			03 41 35.5	
VNA3				e		pP	03 41 42.4	-7.9
VNA3				e		pP	03 41 49.1	-1.2
VNA3				e			03 42 07.1	
VNA3				e			03 42 13.5	
PLCA	Paso Flores	85.49	133	P		P	03 41 39.1	+0.7
	comp=Z,3.1nm,0.7s,mb4.5,baz=238,slow=4.6,SNR=12							
VNA1	Neumayer--Stat	85.62	176	eP		P	03 41 36.7	-2.4
VNA1				⇓i			03 41 39.5	
VNA1				e		pP	03 41 46.6	-7.2
VNA1				e		pP	03 41 53.2	-0.6
VNA1				e			03 42 08.8	
VNA1				e			03 42 15.3	
WHN	Wuhan	86.12	306	eP		pP	03 41 49.0	-7.3
CN2	Changchun	86.13	322	eP		P	03 41 41.7	+0.1
CN2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0							
BMO	Blue Mountains	86.28	37	eP		P	03 41 41.5	-0.9
	comp=Z,2.7nm,1.3s,mb4.3							
BMO				epP		pP	03 41 56.2	-0.8
KLR	Kul'dur	86.34	328	eP		P	03 41 39.2	-3.4
MNTX	Cornudas Mount	86.65	53	eP		P	03 41 43.7	-0.5
	comp=Z,9.1nm,1.3s,mb4.8							
MNTX				epP		pP	03 41 57.7	-1.2
TMUT	Trail Mountain	86.65	44	eP		P	03 41 44.4	+0.2
LAZ	Ladron	86.76	50	eP		P	03 41 45.2	+0.5
LAZ				epP		pP	03 41 59.1	-0.3
SRU	San Rafael	86.99	45	eP		P	03 41 45.2	-0.6
SRU				e*PP		pP	03 41 59.8	-0.7
SRU					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8							
SRU	San Rafael	86.99	45	eP		P	03 41 45.2	-0.7
	comp=Z,5.6nm,0.9s,mb4.8							
SRU				epP		pP	03 41 59.8	-0.7
LPM	Los Pinos Moun	87.07	51	eP		P	03 41 46.1	-0.1
LPM				epP		pP	03 42 03.2	+2.3
ANMO	Albuquerque	87.52	50	eP		P	03 41 48.6	+0.2
SMCO	Snowmass	89.36	46	eP		P	03 41 56.6	-0.5
	comp=Z,1.8nm,0.8s,mb4.5							
PDAR	Pinedale Array	89.61	42	P		P	03 41 57.3	-1.0
	comp=Z,1.1nm,0.8s,mb4.2,baz=245,slow=3.1,SNR=12							
BJI	Beijing	89.69	314	P		P	03 41 59.3	+0.7
BJI					AMB	AMB		
	comp=Z,8.0nm,0.8s,mb5.1							
XAN	Xi'an	91.83	306	P		P	03 42 10.5	+1.9
XAN					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2							
EGAK	Eagle	91.97	14	eP		P	03 42 08.5	-0.7
EGAK				epP		pP	03 42 22.9	-1.1
BILL	Bilibino	92.32	353	eP		P	03 42 11.5	+0.7
BILL					pmax	pmax		
	comp=Z,36nm,2.5s,mb5.3							
CHTO	Chiang Mai	93.46	289	eP		P	03 42 18.3	+2.2
CHTO					pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.2							
CHTO	Chiang Mai	93.46	289	eP		P	03 42 18.3	+2.3
	comp=Z,5.9nm,0.6s,mb5.2							
RSSD	Black Hills	93.75	43	eP		P	03 42 16.3	-1.1
RSSD					pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5							
RSSD	Black Hills	93.75	43	eP		P	03 42 16.3	-1.1
	comp=Z,2.4nm,1.0s,mb4.6							
LVC	Limon Verde	95.16	117	LR		LR	04 16 58.5	
	comp=Z,185nm,20.6s,MS4.5,baz=294,slow=30							
LPAZ	La Paz	98.75	112	P		P	03 42 42.3	+2.2
	comp=Z,0.7nm,0.7s,mb4.3,baz=180,slow=14,SNR=4.5							
SONM	Songino Array	99.58	318	P		Pdif	03 42 44.6	+0.8
	comp=Z,0.3nm,0.5s,baz=103,slow=6.0,SNR=3.2							
SONM					LR	LR	04 22 23.8	
	comp=Z,55nm,19.9s,MS4.1,baz=93,slow=32							
MKAR	Makanchi Array	114.98	312	PKP		PKiKP	03 47 41.1	-0.2
	comp=Z,0.5nm,0.6s,baz=64,slow=2.8,SNR=5.8							
ZRNK	Zerenda	123.75	319	ePKIKP		PKPdf	03 47 57.6	-0.6
ZRNK				e*PP			03 48 12.3	
ARU	Arti	129.03	325	i PKIKP		PKPdf	03 48 06.1	-2.1
ARU				e			03 50 10.8	
ARU				eSS		SS	04 07 14.8	-17
AKTK	Aktyubinsk	130.89	317	PKP		PKPdf	03 48 12.7	+1.0
AKTO	Aktyubinsk	130.89	317	PKP		PKPdf	03 48 12.7	+1.0
	comp=Z,1.0nm,0.6s,baz=348,slow=7.2,SNR=5.5							
ARCES	ARCESS Array B	132.33	350	PKP		PKPdf	03 48 14.4	0.0
	comp=Z,2.3nm,0.8s,baz=288,slow=1.2,SNR=4.1							
FINES	FINESS Array B	139.34	344	PKP		PKPdf	03 48 26.4	-1.1
	comp=Z,1.2nm,0.8s,baz=134,slow=8.0,SNR=3.7							
HFS	Hagfors	142.89	352	PKhKP			03 48 25.0	
	comp=Z,7.7nm,1.2s,baz=57,slow=5.3,SNR=3.3							
ANN	Anapa	145.84	316	i PKHKP			03 48 38.4	
ANN					pmax	pmax		
	comp=Z,36nm,1.4s							
SUW	Suwalki	146.50	340	ePKP		PKPdf	03 48 41.9	+1.7
SUW	Suwalki	146.50	340	ePKPdf		PKPdf	03 48 41.4	+1.2
SUW				ePKP		PKPdf	03 48 41.9	+1.7
AKASG	Malin Array Be	146.81	331	PKPbc		PKPbc	03 48 41.5	-1.1
	comp=Z,2.9nm,0.5s,baz=36,slow=3.5,SNR=26							
AKBB	Malin Array Si	146.81	331	ePKIKP		PKPdf	03 48 41.8	+1.1
MALT	Malatya	147.61	305	⇓i/P		PKPbc	03 48 46.4	+1.6
MALT	Malatya	147.61	305	⇓P		PKPbc	03 48 46.4	+1.7
EKA	Eskdalemuir Ar	147.76	8	PKPbc		PKPbc	03 48 43.9	-1.3
	comp=Z,2.9nm,0.8s,baz=312,slow=4.3,SNR=3.5							
LVV	L'vov	149.66	335	ePKIKP		PKPbc	03 48 50.0	0.0
ASF	Jabal al Asfar	150.20	294	PKPbc		PKPbc	03 48 53.3	+2.0
	comp=Z,2.7nm,0.8s,baz=65,slow=4.8,SNR=6.4							
KWP	Kalwaria	150.32	336	ePKP		PKPbc	03 48 52.8	+1.2
BR131	Keskin Array S	150.60	310	ePKPbc		PKPbc	03 48 52.6	+0.3
BRTR	Keskin Array B	150.60	310	PKPbc		PKPbc	03 48 52.8	+0.5
	comp=Z,3.6nm,0.8s,baz=129,slow=1.8,SNR=19							
OJC	Ojcow	150.83	340	ePKP		PKPbc	03 48 53.1	+0.3
BURAR	Bucovina Array	150.86	331	⇓i/P		PKPbc	03 48 55.1	+2.2
BURAR	Bucovina Array	150.86	331	⇓P		PKPbc	03 48 55.1	+2.2
STHS	Stebnicka Huta	151.03	337	ePKP		PKPdf	03 48 47.3	-0.2
STHS				e			03 48 54.4	
KOLS	Kolonicke sedl	151.05	335	ePKP		PKPbc	03 48 54.4	+1.1
CFR	Carcaliu	151.12	324	⇓i/P		PKPbc	03 48 55.0	+1.5
ANTO	Ankara	151.13	311	⇓i/P		PKPbc	03 48 53.4	-0.1
ANTO	Ankara	151.13	311	⇓P		PKPbc	03 48 53.4	-0.2
KSP	Ksiaz	151.27	344	ePKP		PKPbc	03 48 54.7	+0.9
KSP	Ksiaz	151.27	344	ePKP		PKPbc	03 48 54.4	+0.6
UZH	Uzhgorod	151.29	335	ePKHKP			03 48 52.4	
UZH					pmax	pmax		
	comp=Z,77nm,1.4s							
NIE	Niedzica	151.35	338	ePKPc		PKPbc	03 48 55.4	+1.4
CRVS	Cervenica-Dubn	151.38	336	ePKP		PKPbc	03 48 53.7	-0.4
VRI	Vrincioaia	151.39	327	⇑i/P		PKPbc	03 48 53.7	-0.4
VRI	Vrincioaia	151.39	327	⇑P		PKPbc	03 48 53.7	-0.5
CLL	Collm	151.53	349	i PKPbc		PKPbc	03 48 54.6	+0.1
	comp=Z,18nm,0.9s							
CLL				epPKPbc		pPKPbc	03 49 08.0	-1.7
UPC	Upice	151.65	344	ePKPbc		PKPbc	03 48 55.4	+0.7
UPC				ePKPab		PKPab	03 49 04.3	+0.8
OKC	Ostrava-Krasne	151.68	341	ePKPbc		PKPbc	03 48 55.3	+0.5
OKC				ePKPab		PKPab	03 49 05.3	+1.6
DPC	Dobruska-Polom	151.72	344	ePKPbc		PKPbc	03 48 55.1	+0.2
DPC				ePKPab		PKPab	03 49 05.3	+1.5
BRG	Berggiesshubel	151.77	347	ePKP		PKPbc	03 48 55.3	+0.3
	comp=Z,9.8nm,1.2s							
BRG				i			03 48 57.9	
	comp=Z,8.1nm,0.9s							
MORC	Moravsky Berou	151.91	342	⇑i/P		PKPbc	03 48 55.3	0.0
PVCC	Panska Ves	151.96	346	ePKPbc		PKPbc	03 48 55.6	+0.2
PVCC				ePKPab		PKPab	03 49 06.6	+1.8
MLR	Muntele Rosu	152.05	327	⇓i/P		PKPbc	03 48 56.4	+0.8
MLR	Muntele Rosu	152.05	327	⇓P		PKPbc	03 48 56.4	+0.8
KECS	Kecovo	152.09	337	ePKP		PKPdf	03 48 51.0	+1.9
KECS				e			03 48 58.7	
EIL	Elat	152.17	289	ePKPbc		PKPbc	03 48 58.1	+2.2
MOX	Moxa	152.40	350	e(PKP)		PKPbc	03 48 56.7	+0.3
	comp=Z,10.0nm,0.9s							
MOX	Moxa	152.40	350	ePKIKP		PKPbc	03 48 56.7	+0.3
MOX					pmax	pmax		
	comp=Z,12nm,0.9s							
PRU	Pruhonice	152.48	346	ePKPbc		PKPbc	03 48 56.6	0.0
PRU				ePKPab		PKPab	03 49 08.1	+1.1
CSS	Prodhromos	152.51	301	ePKPab		PKPab	03 49 08.2	+1.1
DRGR		152.59	332	⇑i/P		PKPbc	03 48 57.2	+0.4
VYHS	Vyhne	152.65	339	ePKP		PKPbc	03 48 57.3	+0.3
VYHS				e			03 49 10.8	
NKC	Novy Kostel	152.66	349	ePKPbc		PKPbc	03 48 58.1	+1.1
PSZ	Piszkesteto	152.78	337	ePKPab		PKPab	03 49 08.2	-0.1
TREC	Trest	152.90	344	ePKPbc		PKPbc	03 48 58.0	+0.5
GRA1	Grafenberg Arr	153.39	350	ePKPdf		PKPbc	03 48 59.1	+0.5
GRF	Grafenberg Arr	153.39	350	ePKPdf		PKPbc	03 48 59.1	+0.5
KHC	Kasperske Hory	153.50	347	ePKPbc		PKPbc	03 48 58.3	-0.5
GERES	GERESS Array B	153.74	346	PKP		PKPdf	03 48 52.4	+0.9
	comp=Z,0.5nm,0.7s,baz=163,slow=1.4,SNR=4.7							
GERES				PKPbc		PKPbc	03 48 59.3	-0.1
	comp=Z,1.1nm,0.8s,baz=48,slow=2.0,SNR=8.5							
PKSM	Moragy	154.68	337	⇓i/P		PKPdf	03 48 53.2	+0.4
PKSM	Moragy	154.68	337	⇓P		PKPdf	03 48 53.2	+0.4
OBKA	Obir	155.71	343	⇑i/P		PKPdf	03 49 02.2	+8.0
	comp=Z,8.4nm,1.0s							
MDT	Midelt	167.76	39	PKP		PKPdf	03 49 07.9	+1.3
	comp=Z,2.6nm,1.1s,baz=315,slow=2.1,SNR=4.9							
TORD	Torodi Ar. Bea	169.31	165	PKP		PKPdf	03 49 07.2	-0.4
	comp=Z,2.9nm,1.1s,baz=316,slow=0.8,SNR=7.8							
TORD				PKPab		PKPab	03 50 20.5	+0.3
	comp=Z,2.9nm,1.0s,baz=181,slow=2.0,SNR=13							
TORD	Torodi Ar. Bea	169.31	165	PKPab		PKPab	03 50 20.5	+0.3

OTT 03 03:40:46.7±0.5, 6698N×5392W, h18km, MN3.5/1, 1C, Western coast of Greenland. 440km east from Qikiqtarjuaq, Nu, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFJD	Kangerlussuaq	1.30	88	i	P	Pn	03 41 10.7	+0.9
SFJD				i	S	Sn	03 41 27.0	+0.3
SFJD				i	S	Sn	03 41 31.1	+4.4
SFJD	Kangerlussuaq	1.30	88	PG		Pg	03 41 10.7	-1.0
SFJD				SG		Sg	03 41 26.9	-1.7
SFJD				Trac			03 41 31.3	
	comp=Z,166nm,0.1s							
FRB	Frobisher Bay	6.91	249	PN		Pn	03 42 26.9	-0.1
FRB				SN		Sn	03 43 39.4	-5.8
FRB				Trac			03 43 41.8	
	comp=Z,12nm,0.6s							
GIFN	Gifford Fjord,	10.56	299	PN		Pn	03 43 15.7	-1.4
GIFN				SN		Sn	03 45 03.9	-11
ILON	Igloolik, Nuna	10.61	296	PN		Pn	03 43 20.9	+3.2
ILON				SN		Sn	03 45 03.6	-12
SRLN	Sarcpa Lake, N	11.19	292	PN		Pn	03 43 24.9	-0.8
SRLN				SN		Sn	03 45 19.1	-11
AP3N	Apex site 3 Nu	11.54	296	PN		Pn	03 43 31.8	+1.3
AP3N				SN		Sn	03 45 27.5	-11
QILN	Qililugaq Expl	12.71	284	PN		Pn	03 43 43.2	-3.2
QILN				SN		Sn	03 45 53.8	-14

KRSC 03 03:45:47, 5158N×15987E, h5km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.20	316	eP		Pg	03 46 10.3	+0.3
RUS				i	S	Sg	03 46 27.4	+1.9
GRL	Gorelyy	1.48	312	eP		Pn	03 46 15.5	+1.3
GRL				i	S	Sn	03 46 36.4	+2.5
SPN	Mys Shipunski	1.52	3	eP		Pn	03 46 16.4	+1.5
SPN				i	S	Sn	03 46 37.6	+2.5
NLC	Nalytchevo	1.63	349	eP		Pn	03 46 17.1	+0.8
NLC				i	S	Sn	03 46 38.7	+1.1
PET	Petropavlovsk	1.63	333	eP		Pn	03 46 17.3	+1.0
PET				i	S	Sn	03 46 39.1	+1.5
AVH	Avacha	1.82	338	eP		Pn	03 46 21.3	+2.3
AVH				i	S	Sn	03 46 45.8	+3.3
MIPR	Malaya Ipel'ka	2.05	291	eP		Pn	03 46 22.6	+0.5
MIPR				i	S	Sn	03 46 48.7	+0.7
GNL	Ganaly	2.42	332	eP		Pn	03 46 29.5	+2.3
GNL				i	S	Sn	03 47 00.3	+3.0
MKZ	Mys Kozlova	3.19	20	eP		Pn	03 46 38.6	+0.9
MKZ				i	S	Sn	03 47 17.3	+1.2
KBTR	Krutoberegovo	4.95	19	eP		Pn	03 47 04.2	+2.2
KBTR				i	S	Sn	03 47 59.7	0.0

CSEM 03 04:15:01.9±0.1, 3689N×3573E, h30km, MD2.8, Error ellipse: s-maj=2.6km s-min=2.2km az=84.0
ISCJB 03 04:15:02.3±0.6, 3689N±004×3583E±005, h28km±7km, Error ellipse: s-maj=8.1km s-min=6.6km az=80.5
ISK 03 04:15:02.1, 3692N×3575E, h27km, MD2.8
NSSC 03 04:15:05, 3674N×3596E, h23km±10km

ISC 03 04:15:02.4±0.6, 3689N±005×3583E±005, h26km±7km, n13, σ0°64/17, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.13	331	i	PG	Pb	04 15 07.6	+0.1
KRTS	Karatas	0.48	229		PG	Pb	04 15 11.8	-0.6
KRTS					SG	Sb	04 15 19.9	+0.7
KOZT	Kozan	0.59	360		PG	Pb	04 15 14.1	0.0
KARA	Karaisali	0.72	301		PG	Pb	04 15 15.8	-0.5
DRWC	Darouich	0.73	112	⇑i/P		Pb	04 15 17.5	+1.1
DRWC	Darouich	0.73	112	⇑P		Pb	04 15 17.0	+0.6
DRWC				⇑S		Sb	04 15 25.0	-1.0
HTY	Hatay	0.81	162		PG	Pb	04 15 18.7	+0.9
BTCH	Batrach	0.99	149	⇑i/P		Pn	04 15 20.7	+0.1
BTCH	Batrach	0.99	149	⇑P		Pn	04 15 20.0	-0.6
BTCH				⇑S		Sb	04 15 33.0	-0.6
MERS	Mersin	1.05	269		PG	Pn	04 15 20.6	-0.8
KMRS	Kahramanmaras	1.05	54		ePN	Pn	04 15 22.0	+0.6
SLNF	Slenfeh	1.33	166	⇓i/P		Pn	04 15 26.2	+0.9
SLNF	Slenfeh	1.33	166	⇓P		Pn	04 15 26.0	+0.7
SLNF				⇑S		Sn	04 15 42.0	-0.2

NEIC 03 04:16:10.2, 5338N×16887W, h177km, MG3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	0.41	178		P	Pn	04 16 33.6	-0.7
NIKO					S	Sn	04 16 52.0	-0.7
OKCE	Okmok Cone E	0.43	84		P	Pn	04 16 33.7	-0.7
OKCD	Okmok Cone D	0.46	84		P	Pn	04 16 34.0	-0.5
OKCD					S	Sn	04 16 53.8	+0.7
AKLV	Akutan Long Va	1.90	65		P	Pn	04 16 44.9	-1.1
AKUT	Akutan	1.99	66		P	Pn	04 16 46.1	-0.8
AKUT					S	Sn	04 17 13.7	-1.6
ATKA	Atka Island	3.44	252		P	Pn	04 17 02.6	-1.6
ATKA					S	Sn	04 17 42.4	-3.7
SDPT	Sand Point	5.29	65		P	Pn	04 17 25.5	-2.3

IDC 03 04:27:03.7±5.7, 4654N×15331E, h69km±49km, mb3.7/9, mb1 3.8/10, mb1mx3.6/23, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=36.4km s-min=25.9km az=83.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.93	256	P		Pn	04 28 56.5	+0.3
	0.9nm,0.3s,baz=358,slow=31,SNR=7.4							
MKAR	Makanchi Array	47.16	298	P		P	04 35 28.5	-0.7
	1.3nm,0.8s,baz=69,slow=7.9,SNR=6.4							
BVAR	Borovoye Array	51.09	310	P		P	04 35 58.3	-0.9
	0.7nm,0.4s,baz=41,slow=9.9,SNR=4.4							
FINES	FINESS Array B	64.28	335	P		P	04 37 30.8	-1.0
	1.1nm,0.4s,baz=42,slow=7.1,SNR=12							
PDAR	Pinedale Array	64.76	54	P		P	04 37 34.6	-0.3
	0.2nm,0.6s,baz=338,slow=3.5,SNR=3.5							
NB2	NORSAR Subarra	68.47	341	P		P	04 37 57.5	-1.0
	comp=Z,1.3nm,0.6s,baz=28,slow=6.5							
NOA	NORSAR Array B	68.47	341	P		P	04 37 58.3	-0.2
	comp=Z,1.3nm,0.6s,baz=28,slow=6.3,SNR=7.5							
HFS	Hagfors	68.70	340	P		P	04 37 59.6	-0.3
	comp=Z,3.5nm,0.6s,baz=75,slow=6.3,SNR=17							
AKASG	Malin Array Be	71.79	326	P		P	04 38 18.2	-0.6
	comp=Z,1.4nm,0.5s,baz=33,slow=5.9,SNR=6.2							
ASAR	Alice Springs	72.05	199	P		P	04 38 20.3	-0.1
	comp=Z,0.7nm,0.6s,baz=9.3,slow=5.3,SNR=7.4							
GERES	GERESS Array B	78.70	334	P		P	04 38 59.7	+1.3
	comp=Z,0.4nm,0.6s,baz=41,slow=4.3,SNR=5.4							

MOS 03 04:44:13.9±1.4, 1421N×5183E, h10km, mb4.6/13, Error ellipse: s-maj=17.2km s-min=8.0km az=98.4
IDC 03 04:44:14.8±0.8, 1425N×5179E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, MS3.6/12, Ms1 3.6/12, ms1mx3.4/32, Error ellipse: s-maj=21.5km s-min=16.3km az=36.0
ISCJB 03 04:44:14.3±0.5, 1431N±008×5172E±004, h10km, mb4.3/32, MS3.6/13, Error ellipse: s-maj=11.0km s-min=5.7km az=157.5
CSEM 03 04:44:17.0±0.1, 1427N×5169E, h30km, ML4.3, Error ellipse: s-maj=5.5km s-min=2.5km az=154.0
NEIC 03 04:44:18.5±0.7, 1435N×5186E, mb4.3/4, Error ellipse: s-maj=13.9km s-min=11.6km az=148.0
DHMR 03 04:44:22.3±2.0, 1399N×5109E, h3km±149km, ML4.3

ISC 03 04:44:16.7±0.5, 1442N±007×5167E±004, h10km, (h25km±1.5km: pP-P), n75, σ1°37/77, mb4.2/33, MS3.6/13, 7C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.55	272	⇓i/P		Pn	04 44 57.7	-0.3
MUKL				i	S	Sn	04 45 27.5	-1.6
MUKL					AML	AML	04 45 28.7	
	comp=N,4μm,0.5s							
MUKL	Al Mukalla	2.55	272	⇓i/P		Pn	04 44 57.7	-0.3
MUKL				i	S	Sn	04 45 27.5	-1.6
	comp=N,2μm,0.5s							
BDHA	Al Bayda'	5.93	266	⇑eP		Pn	04 45 46.0	+1.4
BDHA				i	S	Sn	04 46 49.0	-3.5
BDHA					AML	AML	04 47 42.4	
	comp=N,264nm,0.5s							
BDHA	Al Bayda'	5.93	266	⇑eP		Pn	04 45 46.0	+1.5
BDHA				i	S	Sn	04 46 49.0	-3.5
	comp=N,132nm,0.5s							
LBOS		6.25	266	⇓i/P		Pn	04 45 49.9	+1.0
LBOS				i	S	Sn	04 46 58.0	-2.4
TRBA	At Turbah	7.43	262	⇑i/P		Pn	04 46 04.6	-0.5
TRBA					AML	AML	04 46 13.3	
	comp=Z,170nm,0.4s							
TRBA	At Turbah	7.43	262	⇑i/P		Pn	04 46 04.6	-0.5
	comp=Z,85nm,0.4s							
ATD	Arta Tunnel	9.06	253	Pn		Pn	04 46 32.0	+4.5
	comp=Z,19nm,0.3s,baz=79,slow=2.1,SNR=86							
ATD					LR	LR	04 49 24.1	
	comp=Z,333nm,18.3s,baz=147,slow=34							
WSAR	Wadi Sarin	10.97	36	Pn		Pn	04 46 51.2	-2.4
	comp=Z,3.8nm,0.3s,baz=257,slow=15,SNR=80							
WSAR					Sn	Sn	04 48 48.7	-7.7
	comp=Z,6.8nm,0.3s,baz=36,slow=15,SNR=9.3							
WSAR					LR	LR	04 50 56.8	
	comp=Z,269nm,18.6s,baz=239,slow=36							
WSAR	Wadi Sarin	10.97	36	Pn		Pn	04 46 51.2	-2.4
WSAR					Sn	Sn	04 48 48.7	-7.7
WSAR					LR	LR	04 50 56.8	
WSAR	Wadi Sarin	10.97	36	Pn		Pn	04 46 51.2	-2.4
WSAR					Sn	Sn	04 48 48.7	-7.6
KBD	Kabd	15.14	347	eP		Pn	04 47 48.1	-2.4
KBD					AMb	AMB	04 47 50.4	
	comp=Z,153nm,0.3s							

ZRNK	**Zerenda**	**40.83**	**16**	*e*P	**P**		**04 51 58.5**	**+0.1**
ZRNK				*e**PP	pP		04 52 06.2	+4.7
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**40.83**	**16**	*e*P	**P**		**04 51 58.5**	**+0.2**
	comp=Z,1.6nm,0.7s,mb3.8							
ZRNK				*e*pP	pP		04 52 06.2	+4.7
ZRNK	**Zerenda**	**40.83**	**16**	*e*P	**P**		**04 51 58.5**	**+0.1**
ZRNK				*e*pP	pP		04 52 06.2	+4.7
MKAR	**Makanchi Array**	**41.18**	**32**	P	**P**		**04 52 01.5**	**+0.3**
	comp=Z,1.3nm,0.5s,mb3.8,baz=222,slow=8.0,SNR=10							
BVAR	**Borovoye Array**	**41.28**	**17**	P	**P**		**04 52 02.5**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.7,baz=205,slow=6.6,SNR=5.7							
ARU	**Arti**	**42.26**	**6**	⇑*i*P	**P**		**04 52 09.8**	**-0.3**
ARU				*e*			04 53 49.0	
ARU				*e*PPP			04 54 24.1	
ARU				*e*S	**S**		**04 58 36.5**	**+6.0**
ARU				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.0							
ARU	**Arti**	**42.26**	**6**	*e*P	**P**		**04 52 10.1**	**0.0**
ARU				*e*pP	pP		04 52 17.0	+3.8
ARU	**Arti**	**42.26**	**6**	*e*P	**P**		**04 52 10.1**	**0.0**
ARU				*e*pP	pP		04 52 17.0	+3.8
OBN	**Obninsk**	**42.27**	**347**	*e*P	**P**		**04 52 10.6**	**+0.4**
OBN				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.4							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.7							
GERES	**GERESS Array B**	**46.34**	**326**	P	**P**		**04 52 44.1**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=120,slow=7.9,SNR=5.6							
GERES				PP	PP		04 54 32.4	+1.0
	comp=Z,0.2nm,0.5s,baz=146,slow=9.7,SNR=3.6							
GERES	**GERESS Array B**	**46.34**	**326**	PP	PP		04 54 32.4	+0.9
NVS	**Novosibirsk**	**47.20**	**24**	*e*P	**P**		**04 52 47.2**	**-2.3**
NVS				pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.5							
NVS				pmax	pmax			
	comp=N,4.0nm,0.9s							
PSI	**Prapat**	**48.02**	**99**	P	**P**		**04 52 55.3**	**-0.6**
	comp=N,1.8nm,0.2s,mb4.7,baz=243,slow=11,SNR=12							
TORD	**Torodi Ar. Bea**	**48.47**	**275**	P	**P**		**04 53 00.2**	**+0.8**
	comp=N,0.6nm,0.8s,mb3.7,baz=85,slow=7.1,SNR=8.3							
TORD	**Torodi Ar. Bea**	**48.47**	**275**	P	**P**		**04 53 00.2**	**+0.8**
BOSA	**Boshof**	**49.83**	**211**	LR	LR		05 17 48.6	
	comp=N,40nm,19.6s,MS3.4,baz=271,slow=40							
FINES	**FINESS Array B**	**50.44**	**344**	P	**P**		**04 53 15.2**	**+0.8**
	comp=N,6.6nm,0.7s,mb4.8,baz=132,slow=10,SNR=20							
FINES				LR	LR		05 14 20.7	
	comp=N,46nm,18.4s,MS3.5,baz=180,slow=36							
FINES	**FINESS Array B**	**50.44**	**344**	*i* P	**P**		**04 53 15.1**	**+0.7**
FINES				pmax	pmax			
	comp=Z,7.0nm,0.7s							
JOF	**Joensuu**	**50.52**	**348**	*e*p	**P**		**04 53 13.6**	**-1.4**
	comp=Z,3.8nm,0.7s,mb4.4							
KAF	**Kangasniemi**	**50.94**	**345**	*e*p	**P**		**04 53 17.3**	**-0.9**
	baz=146,slow=7.6							
HFS	**Hagfors**	**53.38**	**337**	LR	LR		05 20 38.6	
	comp=Z,60nm,20.0s,MS3.6,baz=142,slow=41							
ESDC	**Sonseca Array**	**54.58**	**309**	P	**P**		**04 53 46.4**	**+1.3**
	comp=Z,0.3nm,0.4s,mb3.7,baz=22,slow=9.6,SNR=4.3							
NB2	**NORSAR Subarra**	**54.90**	**337**	P	**P**		**04 53 47.1**	**-0.3**
	comp=Z,3.2nm,0.9s,mb4.3,baz=123,slow=7.9							
NB2	**NORSAR Subarra**	**54.90**	**337**	P	**P**		**04 53 47.1**	**-0.3**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
NOA	**NORSAR Array B**	**54.90**	**337**	P	**P**		**04 53 47.2**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=132,slow=6.0,SNR=4.3							
NOA				LR	LR		05 21 27.4	
	comp=Z,38nm,20.8s,MS3.5,baz=165,slow=40							
NOA	**NORSAR Array B**	**54.90**	**337**	P	**P**		**04 53 47.2**	**-0.2**
SONM	**Songino Array**	**55.95**	**42**	P	**P**		**04 53 55.4**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.4,baz=241,slow=7.4,SNR=14							
KEV	**Kevo**	**57.42**	**350**	*e*p	**P**		**04 54 04.5**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.4							
KEV	**Kevo**	**57.42**	**350**	*e*P	**P**		**04 54 04.5**	**-0.9**
KEV				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ARE0	**ARCESS Array S**	**57.48**	**349**	P	**P**		**04 54 06.0**	**+0.2**
ARE0				*e*pP	pP		04 54 12.6	+3.6
ARE0	**ARCESS Array S**	**57.48**	**349**	P	**P**		**04 54 06.1**	**+0.2**
ARE0				*e*pP	pP		04 54 12.6	+3.5
ARCES	**ARCESS Array B**	**57.48**	**349**	P	**P**		**04 54 06.1**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=148,slow=7.0,SNR=15							
ARCES				LR	LR		05 19 17.2	
	comp=Z,40nm,22.0s,MS3.5,baz=16,slow=36							
WRA	**Warramunga Arr**	**88.15**	**111**	P	**P**		**04 57 06.9**	**-0.8**
	comp=Z,0.8nm,0.7s,mb4.1,baz=297,slow=4.0,SNR=5.8							
ASAR	**Alice Springs**	**88.78**	**115**	P	**P**		**04 57 11.9**	**+1.3**
	comp=Z,0.8nm,0.8s,mb4.1,baz=285,slow=4.9,SNR=4.2							
ASAR	**Alice Springs**	**88.78**	**115**	P	**P**		**04 57 11.9**	**+1.2**
INK	**Inuvik**	**97.41**	**2**	LR	LR		05 45 10.0	
	comp=Z,49nm,19.1s,MS4.0,baz=150,slow=38							
HOPS	**Hopland**	**126.64**	**355**	*e*PKPdf	PKPdf		05 03 20.2	0.0

*ISCJB **03** 05:03:01.3±0.2, 4743N±001×12257W±002, h64km±4km, Error ellipse: s-maj=2.8km s-min=1.9km az=140.2*
*PGC **03** 05:03:01.7, 47.44N×122.71W, h79km±22km, ML2.0/22, 33km southwest of Seattle, Wa Near Bremerton, Washington.*
*NEIC **03** 05:03:02.2, 4742N×12252W, h54km, MD2.7(SEA), After SEA.*
*PNSN **03** 05:03:02.2, 4741N×12252W, h54km, MD2.7, Fault plane solution: NP1:ϕs95.00000°, δ50.00000°, NP2: ϕs352.00000°, δ75.00000°, Principal axes: T Plg16.0000°, Azm49.0000°; P Plg40.0000°, Azm305.0000°;*

ISC 03 05:03:02.2±0.2, 4743N±001×12256W±002, h55km±4km, n122, σ0§56/162, 37C-27D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMR	**Kitsap County**	**0.16**	**299**	P	**Pn**	**05 03 10.6**	**-0.3**
GMW	**Gold Mountain**	**0.20**	**308**	⇑P	**Pn**	**05 03 10.6**	**-0.4**
GNW	**Green Mountain**	**0.23**	**308**	P	**Pn**	**05 03 11.0**	**-0.2**
MEW	**McNeil Island**	**0.23**	**195**	⇑P	**Pn**	**05 03 11.4**	**+0.1**
RHAZ	**Hazelwood Elem**	**0.28**	**66**	P	**Pn**	**05 03 11.4**	**-0.1**
D04A	**Dobbs Creek Ra**	**0.36**	**208**	⇑P	**Pn**	**05 03 12.2**	**-0.1**
	baz=0.4						
D04A				⇓S	**Sn**	**05 03 20.7**	**+1.1**
	baz=0.4						
PCEP	**Pierce County**	**0.36**	**150**	P	**Pn**	**05 03 11.8**	**-0.6**
HDW	**Hoodsport**	**0.40**	**304**	⇑P	**Pn**	**05 03 12.5**	**-0.2**
HDW				S	**Sn**	**05 03 21.0**	**+0.7**
C04A	**Brinnon**	**0.40**	**316**	⇑P	**Pn**	**05 03 12.4**	**-0.3**
	baz=0.4,SNR=91						
C04A				⇑S	**Sn**	**05 03 20.8**	**+0.4**
	baz=0.4						
GHW	**Garrison Hill**	**0.43**	**153**	P	**Pn**	**05 03 12.3**	**-0.7**
RAW	**Raver**	**0.44**	**102**	P	**Pn**	**05 03 12.7**	**-0.4**
PCFR	**Pierce County**	**0.44**	**170**	⇑P	**Pn**	**05 03 12.7**	**-0.5**
EGRN	**Evergreen Coll**	**0.45**	**219**	P	**Pn**	**05 03 13.0**	**-0.2**
D05A	**Enumclaw**	**0.46**	**121**	⇑P	**Pn**	**05 03 12.9**	**-0.3**
	baz=0.4						
D05A				⇑S	**Sn**	**05 03 21.4**	**+0.1**
	baz=0.4						
ELW	**Echo Lake**	**0.47**	**81**	P	**Pn**	**05 03 12.9**	**-0.6**
RMW	**Rattlesnake Mo**	**0.51**	**86**	⇓P	**Pn**	**05 03 13.5**	**-0.4**
SMW	**South Mountain**	**0.54**	**259**	P	**Pn**	**05 03 14.4**	**+0.2**
BLH	**Bald Hill**	**0.54**	**41**	P	**Pn**	**05 03 13.9**	**-0.4**
GSM	**Grass Mountain**	**0.57**	**113**	⇑P	**Pn**	**05 03 14.1**	**-0.5**
PCMD	**Pierce County**	**0.57**	**162**	P	**Pn**	**05 03 13.7**	**-0.8**
CPW	**Capitol Peak**	**0.60**	**221**	P	**Pn**	**05 03 14.8**	**-0.1**
RVC	**Mount Rainier-**	**0.63**	**140**	⇓P	**Pn**	**05 03 14.7**	**-0.5**
BLN	**Blyn Mountain**	**0.65**	**335**	P	**Pn**	**05 03 15.5**	**+0.1**
C05A	**Tolt Reservoir**	**0.65**	**65**	⇓P	**Pn**	**05 03 14.9**	**-0.6**
	baz=0.6,SNR=43						
C05A				⇑S	**Sn**	**05 03 24.6**	**-0.6**
	baz=0.6						
HTW	**Haystack Looko**	**0.65**	**54**	⇓P	**Pn**	**05 03 15.1**	**-0.5**
RRHS	**Rochester High**	**0.71**	**208**	P	**Pn**	**05 03 16.3**	**+0.1**
SQM	**Sequim**	**0.73**	**333**	P	**Pn**	**05 03 17.5**	**+1.0**
LCW	**Lucas Creek**	**0.76**	**187**	P	**Pn**	**05 03 16.6**	**-0.3**
LMW	**Ladd Mountain**	**0.78**	**166**	P	**Pn**	**05 03 16.9**	**-0.3**
REMR	**Mount Rainier-**	**0.78**	**141**	⇓P	**Pn**	**05 03 16.6**	**-0.5**
FMW	**Mount Fremont**	**0.78**	**129**	⇓P	**Pn**	**05 03 16.6**	**-0.6**
RCS	**Mount Rainier-**	**0.79**	**134**	⇓P	**Pn**	**05 03 16.9**	**-0.4**
RCM	**Mount Rainier-**	**0.82**	**136**	P	**Pn**	**05 03 17.4**	**-0.2**
E04A	**Onalaska**	**0.84**	**188**	⇑P	**Pn**	**05 03 17.9**	**-0.1**
	baz=0.8,SNR=28						
E04A				⇓S	**Sn**	**05 03 29.8**	**+0.3**
	baz=0.8						
LON	**Longmire**	**0.85**	**143**	⇓P	**Pn**	**05 03 17.5**	**-0.6**
OSD	**Olympics--Snow**	**0.87**	**297**	P	**Pn**	**05 03 19.0**	**+0.8**
JCW	**Jim Creek**	**0.88**	**29**	⇑P	**Pn**	**05 03 18.5**	**+0.1**
ATES	**Arlington Traf**	**0.88**	**22**	P	**Pn**	**05 03 19.0**	**+0.6**
WISH	**Wishkah**	**0.88**	**250**	P	**Pn**	**05 03 18.5**	**+0.1**
D03A	**Wishkah Elem.**	**0.88**	**250**	P	**Pn**	**05 03 18.5**	**0.0**
	baz=0.9,SNR=32						
D03A				⇑S	**Sn**	**05 03 31.6**	**+1.2**
	baz=0.9						
B05A	**Bryant**	**0.90**	**20**	⇓P	**Pn**	**05 03 18.6**	**-0.1**
	baz=0.9,SNR=103						
B05A				⇓S	**Sn**	**05 03 31.3**	**+0.5**
	baz=0.9						
B04A	**Port Angeles**	**0.90**	**315**	⇓P	**Pn**	**05 03 18.8**	**+0.1**
	baz=0.9,SNR=7.0						
B04A				⇑S	**Sn**	**05 03 31.6**	**+0.8**
	baz=0.9						
ON2	**Olympics--Nort**	**1.00**	**237**	⇑P	**Pn**	**05 03 19.6**	**-0.3**
KOSW	**Kosmos**	**1.00**	**165**	P	**Pn**	**05 03 19.8**	**-0.2**
WPW	**White Pass**	**1.00**	**136**	P	**Pn**	**05 03 20.2**	**+0.1**
E05A	**Randle**	**1.02**	**147**	P	**Pn**	**05 03 19.9**	**-0.5**
	baz=1.0,SNR=184						
E05A				⇑S	**Sn**	**05 03 33.5**	**-0.3**
	baz=1.0						
CMW	**Cultus Mountai**	**1.04**	**16**	⇑P	**Pn**	**05 03 21.2**	**+0.6**
STW	**Striped Peak**	**1.04**	**314**	P	**Pn**	**05 03 20.8**	**+0.3**
BMW	**Boistfort Moun**	**1.06**	**206**	P	**Pn**	**05 03 20.6**	**-0.2**
GLK	**Glacier Lake**	**1.08**	**143**	P	**Pn**	**05 03 21.2**	**+0.2**
TDL	**Tradedollar La**	**1.10**	**168**	P	**Pn**	**05 03 21.2**	**-0.1**
VGZ	**Gonzales**	**1.11**	**333**	P	**Pn**	**05 03 21.2**	**-0.3**
VGZ				S	**Sn**	**05 03 36.0**	**+0.1**
VGZ				Trac		05 03 37.1	
	comp=Z,20nm,0.1s						
VGZ	**Gonzales**	**1.11**	**333**	P	**Pn**	**05 03 21.3**	**-0.2**
E03A	**Lebam**	**1.12**	**218**	P	**Pn**	**05 03 21.1**	**-0.5**
	baz=1.1,SNR=99						
E03A				⇑S	**Sn**	**05 03 35.9**	**-0.1**
	baz=1.1						
ERK	**Elk Rock**	**1.13**	**172**	P	**Pn**	**05 03 21.4**	**-0.4**
TWW	**Teanaway**	**1.19**	**103**	P	**Pn**	**05 03 23.0**	**+0.5**
D06A	**Cle Elum**	**1.19**	**101**	P	**Pn**	**05 03 22.8**	**+0.3**
	baz=1.2,SNR=53						
D06A				⇑S	**Sn**	**05 03 38.3**	**+0.6**
	baz=1.2						
STD	**Studebaker Rid**	**1.21**	**169**	P	**Pn**	**05 03 22.9**	**0.0**
WRW	**Wenatchee Ridg**	**1.21**	**69**	P	**Pn**	**05 03 22.8**	**-0.1**
RPW	**Rockport**	**1.24**	**34**	⇑P	**Pn**	**05 03 23.6**	**+0.4**
MCW	**Mount Constitu**	**1.27**	**352**	P	**Pn**	**05 03 24.3**	**+0.7**
LTY	**Liberty**	**1.29**	**97**	P	**Pn**	**05 03 24.3**	**+0.3**
A04A	**Legoe Bay, Lum**	**1.30**	**356**	P	**Pn**	**05 03 24.7**	**+0.7**
	baz=1.3,SNR=22						
A04A				⇑S	**Sn**	**05 03 41.2**	**+0.9**
	baz=1.3						
B06A	**Marblemount**	**1.31**	**33**	⇓P	**Pn**	**05 03 24.3**	**+0.1**
	baz=1.3,SNR=56						
B06A				⇓S	**Sn**	**05 03 41.2**	**+0.6**
	baz=1.3						
JLK	**June Lake**	**1.31**	**168**	P	**Pn**	**05 03 24.4**	**+0.2**
CDFW	**Cedar Flats**	**1.36**	**165**	P	**Pn**	**05 03 25.2**	**+0.4**
TBM	**Table Mountain**	**1.36**	**100**	P	**Pn**	**05 03 25.3**	**+0.5**
LVP	**Lakeview Peak**	**1.36**	**176**	P	**Pn**	**05 03 25.3**	**+0.4**
PGC	**Sidney**	**1.36**	**334**	P	**Pn**	**05 03 24.6**	**-0.3**
PGC				S	**Sn**	**05 03 41.5**	**-0.3**
PGC				Trac		05 03 41.9	
	comp=Z,30nm,0.1s						
PGC	**Sidney**	**1.36**	**334**	*e*Pn	**Pn**	**05 03 24.4**	**-0.5**
PGC				*e*Sn	**Sn**	**05 03 41.6**	**-0.3**
E06A	**Yakima**	**1.40**	**129**	⇑P	**Pn**	**05 03 25.0**	**-0.4**
	baz=1.4,SNR=58						
E06A				⇓S	**Sn**	**05 03 43.5**	**+0.8**
	baz=1.4						
SNB	**Saturna Island**	**1.41**	**343**	P	**Pn**	**05 03 26.0**	**+0.4**
SNB				S	**Sn**	**05 03 43.3**	**+0.3**
SNB				Trac		05 03 44.7	
	comp=Z,3.0nm,0.1s						
MBW	**Mount Baker**	**1.43**	**18**	P	**Pn**	**05 03 26.5**	**+0.7**
ASR	**Mount Adams--S**	**1.44**	**152**	P	**Pn**	**05 03 26.1**	**+0.2**
C03A	**Quillayute Air**	**1.45**	**292**	P	**Pn**	**05 03 26.2**	**+0.2**
	baz=1.5,SNR=7.9						
C03A				⇑S	**Sn**	**05 03 44.0**	**0.0**
	baz=1.5						
LZB	**Mount Lazard**	**1.46**	**325**	P	**Pn**	**05 03 25.8**	**-0.4**
LZB				S	**Sn**	**05 03 43.5**	**-0.7**
LZB				Trac		05 03 44.2	
	comp=Z,13nm,0.1s						
NLO	**Nicolai Mounta**	**1.47**	**205**	⇑P	**Pn**	**05 03 26.4**	**+0.1**
F04A	**Amboy**	**1.50**	**176**	⇓P	**Pn**	**05 03 26.8**	**+0.1**
	baz=1.5,SNR=21						
F04A				⇑S	**Sn**	**05 03 45.8**	**+0.6**
	baz=1.5						
ETW	**Entiat**	**1.52**	**82**	⇑P	**Pn**	**05 03 27.2**	**+0.2**
A05A	**Maple Falls**	**1.60**	**11**	⇑P	**Pn**	**05 03 28.7**	**+0.6**
	baz=1.6,SNR=14						
A05A				⇑S	**Sn**	**05 03 48.7**	**+0.9**
	baz=1.6						
VDB	**Vedder Mountai**	**1.63**	**11**	P	**Pn**	**05 03 29.0**	**+0.5**
VDB				S	**Sn**	**05 03 49.0**	**+0.7**
VDB				Trac		05 03 49.6	
	comp=Z,38nm,0.2s						
VDB	**Vedder Mountai**	**1.63**	**11**	P	**Pn**	**05 03 28.9**	**+0.4**
NLW	**Nelson Butte**	**1.64**	**66**	P	**Pn**	**05 03 28.6**	**0.0**
F03A	**Seaside**	**1.65**	**205**	P	**Pn**	**05 03 28.2**	**-0.5**
	baz=1.6,SNR=86						
F03A				⇑S	**Sn**	**05 03 48.9**	**+0.1**
	baz=1.6						
GOBB	**Galiano Island**	**1.65**	**338**	⇑P	**Pn**	**05 03 29.0**	**+0.2**
GOBB				S	**Sn**	**05 03 49.3**	**+0.4**
GOBB				Trac		05 03 50.7	
	comp=Z,27nm,0.2s						
PFB	**Port Renfrew**	**1.71**	**313**	Trac		05 03 49.5	
	comp=Z,4.0nm,0.1s						
PFB	**Port Renfrew**	**1.71**	**313**	P	**Pn**	**05 03 29.0**	**-0.6**
PFB				S	**Sn**	**05 03 48.8**	**-1.4**
C07A	**Waterville**	**1.71**	**80**	P	**Pn**	**05 03 29.2**	**-0.4**
	baz=1.7,SNR=43						
C07A				⇓S	**Sn**	**05 03 50.3**	**-0.1**
	baz=1.7						
F05A	**White Salmon**	**1.72**	**153**	⇑S	**Sn**	**05 03 51.6**	**+1.1**
	baz=1.7						
HNB	**Haney**	**1.85**	**360**	P	**Pn**	**05 03 31.8**	**+0.3**
HNB				S	**Sn**	**05 03 53.9**	**+0.2**
HNB				Trac		05 03 54.9	
	comp=Z,59nm,0.3s						
B07A	**Winthrop**	**1.94**	**57**	P	**Pn**	**05 03 33.0**	**+0.3**
	baz=1.9,SNR=62						
B07A				⇓S	**Sn**	**05 03 56.1**	**+0.2**
	baz=1.9						
NLLB	**Nanaimo Lost L**	**2.04**	**333**	P	**Pn**	**05 03 34.0**	**-0.1**
NLLB				S	**Sn**	**05 03 57.4**	**-1.0**
NLLB				Trac		05 03 58.6	
	comp=Z,15nm,0.1s						
BIB	**Bowen Island**	**2.04**	**346**	P	**Pn**	**05 03 34.4**	**+0.3**
BIB				S	**Sn**	**05 03 58.3**	**-0.1**
BIB				Trac		05 04 01.1	
	comp=Z,6.0nm,0.1s						
E07A	**Sunnyside**	**2.04**	**114**	⇑S	**Sn**	**05 03 58.3**	**-0.2**
	baz=2.0						
F06A	**Goldendale**	**2.06**	**143**	⇑S	**Sn**	**05 03 58.7**	**-0.3**
	baz=2.0						
MGB	**Mount Grey**	**2.12**	**319**	P	**Pn**	**05 03 35.0**	**-0.2**
MGB				S	**Sn**	**05 03 59.3**	**-1.2**
MGB				Trac		05 04 00.2	
	comp=Z,16nm,0.1s						
G03A	**Yamhill**	**2.17**	**194**	⇓P	**Pn**	**05 03 35.9**	**+0.1**
	baz=2.2						
G03A				⇓S	**Sn**	**05 04 02.0**	**+0.5**
	baz=2.2						
WPB	**Watts Point**	**2.27**	**349**	S	**Sn**	**05 04 02.9**	**-1.3**
WPB				Trac		05 04 07.7	
	comp=Z,7.0nm,0.1s						
SHB	**Sechelt**	**2.34**	**339**	⇓P	**Pn**	**05 03 38.4**	**+0.2**
SHB				S	**Sn**	**05 04 05.2**	**-0.5**
SHB				Trac		05 04 06.2	
	comp=Z,34nm,0.2s						
ALB	**Alberni**	**2.39**	**321**	P	**Pn**	**05 03 38.6**	**-0.2**
ALB				S	**Sn**	**05 04 05.8**	**-1.1**
ALB				Trac		05 04 07.1	
	comp=Z,1.0nm,0.1s						
TXB	**Texada**	**2.59**	**332**	P	**Pn**	**05 03 42.0**	**+0.4**
TXB				S	**Sn**	**05 04 11.0**	**-0.9**
TXB				Trac		05 04 13.2	
	comp=Z,4.0nm,0.1s						
WSLR	**Whistler**	**2.71**	**355**	P	**Pn**	**05 03 43.5**	**+0.2**
WSLR				S	**Sn**	**05 04 15.1**	**+0.2**
WSLR				Trac		05 04 17.3	
	comp=Z,6.0nm,0.3s						
PNT	**Penticton**	**2.73**	**45**	P	**Pn**	**05 03 43.6**	**+0.2**
H04A	**Detroit Lake**	**2.75**	**174**	⇓P	**Pn**	**05 03 44.1**	**+0.2**
	baz=2.7,SNR=6.8						
H04A				⇑S	**Sn**	**05 04 15.9**	**-0.1**
	baz=2.7						
H03A	**Soap Creek Ran**	**2.80**	**191**	⇓P	**Pn**	**05 03 44.5**	**0.0**
	baz=2.8						
BTB	**Buttle Lake**	**2.84**	**317**	P	**Pn**	**05 03 44.9**	**-0.1**
BTB				S	**Sn**	**05 04 16.6**	**-1.4**
BTB				Trac		05 04 19.1	
	comp=Z,3.0nm,0.1s						
D09A	**Jones Farm, Ri**	**2.92**	**96**	⇓P	**Pn**	**05 03 44.9**	**-1.2**
	baz=2.9						
A09A	**Danville**	**3.08**	**58**	⇑P	**Pn**	**05 03 48.0**	**-0.3**
	baz=3.1						
B09A	**Rice**	**3.13**	**70**	⇓P	**Pn**	**05 03 47.7**	**-1.3**
	baz=3.1						
CBB	**Campbell River**	**3.20**	**326**	Trac		05 04 28.1	
	comp=Z,1.0nm,0.2s						
LLLB	**Lillooet**	**3.22**	**8**	P	**Pn**	**05 03 50.6**	**+0.4**
LLLB				S	**Sn**	**05 04 26.5**	**-0.8**
LLLB				Trac		05 04 27.8	
	comp=Z,3.0nm,0.1s						
GDR	**Gold River**	**3.30**	**317**	P	**Pn**	**05 03 52.0**	**+0.7**
GDR				S	**Sn**	**05 04 27.0**	**-2.2**
GDR				Trac		05 04 30.6	
	comp=Z,2.0nm,0.2s						
I03A	**Eugene**	**3.49**	**189**	⇓P	**Pn**	**05 03 54.0**	**0.0**
	baz=3.5,SNR=6.0						
I02A	**Mapleton**	**3.54**	**195**	P	**Pn**	**05 03 54.2**	**-0.3**
	baz=3.5,SNR=71						
NCRB	**Newcastle Ridg**	**3.77**	**324**	P	**Pn**	**05 03 58.5**	**+0.8**
NCRB				Trac		05 04 46.6	
	comp=Z,1.0nm,0.2s						
WOSB	**Woss**	**3.81**	**317**	P	**Pn**	**05 03 59.1**	**+0.7**
WOSB				Trac		05 04 43.1	
	comp=Z,1.0nm,0.2s						
J03A	**Ideyld Park**	**4.07**	**184**	⇑P	**Pn**	**05 04 02.3**	**+0.5**
	baz=4.1,SNR=13						
J02A	**Umpqua**	**4.12**	**190**	P	**Pn**	**05 04 02.5**	**-0.1**
	baz=4.1,SNR=24						
MAYB	**Maynard**	**4.26**	**316**	P	**Pn**	**05 04 05.5**	**+1.0**
BPBC	**Brooks Peninsu**	**4.40**	**310**	P	**Pn**	**05 04 07.6**	**+1.2**
PHC	**Port Hardy**	**4.59**	**318**	P	**Pn**	**05 04 09.9**	**+1.0**
HOLB	**Holberg**	**4.88**	**313**	P	**Pn**	**05 04 13.6**	**+0.7**

*IDC **03** 05:13:22.9±1.0, 2072S×17523W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.9/14, mbtmp3.7/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/32, Error ellipse: s-maj=49.1km s-min=26.2km az=145.0*
*ISCJB **03** 05:13:26.4±0.8, 209S±02×1753W±02, h33km, mb3.7/6, MS3.2/2, Error ellipse: s-maj=30.7km s-min=20.7km az=122.7*
*NEIC **03** 05:13:27.9±0.6, 2074S×17524W, h35km, mb4.5/1, Error ellipse: s-maj=27.1km s-min=18.1km az=145.0*

ISC 03 05:13:28.5±0.8, 209S±02×1752W±02, h35km, n19, σ0§45/7, mb3.7/6, MS3.3/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**23.97**	**101**	*e*LR	LR	05 24 28.6	
	259nm,29.8s						
TBI	**Tubuai**	**23.97**	**101**	*e*T		05 42 38.8	
	6.1nm,0.2s						
PAE	**Paea**	**24.39**	**87**	*e*T		05 43 12.0	
	32nm,0.3s						
PPT	**Papeete**	**24.41**	**87**	*e*LR	LR	05 24 32.1	
	88nm,25.2s						
PPT	**Papeete**	**24.41**	**87**	*e*T		05 43 13.9	
	5.1nm,0.3s						
TVO	**Taravao**	**24.67**	**87**	*e*T		05 43 33.4	
	6.4nm,0.3s						
HNR	**Honiara**	**26.50**	**292**	LR	LR	05 25 47.7	
	comp=Z,39nm,21.9s,MS2.9,baz=0.1,slow=28						
TAOE	**Nuku Hiva Isla**	**35.83**	**76**	*e*T		05 57 32.6	
	60nm,0.2s						
RKT	**Rikitea**	**37.29**	**101**	*e*T		05 59 16.6	
	4.5nm,0.2s						
AS31	**Alice Springs**	**46.99**	**257**	P	**P**	**05 21 56.0**	**-0.1**
ASAR	**Alice Springs**	**46.99**	**257**	P	**P**	**05 21 56.6**	**+0.5**
	1.2nm,0.9s,mb3.8,baz=98,slow=8.0,SNR=8.6						
WRA	**Warramunga Arr**	**47.15**	**262**	P	**P**	**05 21 56.9**	**-0.4**
	0.5nm,0.8s,mb3.5,baz=98,slow=8.0,SNR=4.9						
VNDA	**Vanda**	**57.80**	**186**	P	**P**	**05 23

AS31	**Alice Springs**	**44.45**	**195**	*eP*	**P**	**05 49 37.1**	**-0.4**
ASAR	**Alice Springs**	**44.45**	**195**	P	**P**	**05 49 37.2**	**-0.3**
	1.5nm,0.4s,mb3.9,baz=15,slow=6.9,SNR=27						
ASPA	**Alice Springs**	**44.45**	**195**	*eP*	**P**	**05 49 37.1**	**-0.5**
DZM	**Mont Dzumac**	**46.33**	**152**	P	**P**	**05 49 50.9**	**-1.3**
	7.5nm,0.7s,mb4.5,baz=329,slow=5.9,SNR=10.0						
MKAR	**Makanchi Array**	**57.54**	**313**	P	**P**	**05 51 17.2**	**+2.1**
	0.5nm,0.5s,mb3.6,baz=91,slow=10,SNR=4.5						
MKAR				pP	pP	05 51 56.2	+5.1
	0.4nm,0.4s,baz=94,slow=8.6,SNR=2.8						
NWAO	**Narrogin (SRO)**	**58.75**	**208**	P	**P**	**05 51 30.3**	**+6.7**
	41nm,1.3s,mb5.1						
KDAK	**Kodiak Island**	**58.79**	**34**	P	**P**	**05 51 23.7**	**-0.2**
	2.0nm,0.3s,mb4.4,baz=143,slow=12,SNR=4.7						
INK	**Inuvik**	**68.66**	**23**	P	**P**	**05 52 27.9**	**-0.7**
	2.4nm,0.7s,mb4.0,baz=245,slow=4.9,SNR=7.9						
YKA	**Yellowknife Ar**	**77.34**	**28**	P	**P**	**05 53 18.9**	**-0.6**
	4.3nm,0.6s,mb4.3,baz=290,slow=5.4,SNR=18						
YBH	**Yreka Blue Hor**	**78.64**	**50**	P	**P**	**05 53 26.3**	**-0.4**
	2.5nm,0.8s,mb3.9,baz=283,slow=2.4,SNR=9.0						
NEW	**Newport**	**80.48**	**42**	P	**P**	**05 53 36.6**	**0.0**
	3.7nm,0.6s,mb4.2,baz=298,slow=4.9,SNR=11						
WVOR	**Wild Horse Val**	**81.33**	**48**	*eP*	**P**	**05 53 41.2**	**+0.1**
	3.6nm,0.9s,mb4.0						
CMB	**Columbia Colle**	**81.44**	**53**	*eP*	**P**	**05 53 41.7**	**0.0**
	5.7nm,0.7s,mb4.3						
BMO	**Blue Mountains**	**81.46**	**46**	*eP*	**P**	**05 53 41.6**	**-0.2**
	5.4nm,1.0s,mb4.1						
BMO				*e*PcP	PcP	05 53 47.2	-0.2
ARCES	**ARCESS Array B**	**81.48**	**342**	P	**P**	**05 53 41.4**	**-0.6**
	1.4nm,0.5s,mb3.8,baz=71,slow=8.4,SNR=17						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**05 53 49.5**	**+0.4**
	9.2nm,0.6s,mb4.7,baz=273,slow=5.3,SNR=100						
JOF	**Joensuu**	**83.01**	**335**	*ep*	**P**	**05 53 48.7**	**-1.2**
	2.7nm,0.3s,mb4.5						
MTUM	**Tungsten Hills**	**83.02**	**53**	*eP*	**P**	**05 53 50.2**	**+0.3**
CHMT	**Chamberlain Mo**	**83.40**	**43**	*eP*	**P**	**05 53 51.3**	**-0.6**
QLMT	**Earthquake Lak**	**85.37**	**44**	*eP*	**P**	**05 54 02.7**	**+0.9**
HVU	**Hansel Valley**	**85.64**	**47**	*eP*	**P**	**05 54 03.0**	**-0.1**
	7.0nm,1.0s,mb4.3						
YMR	**Madison River**	**85.74**	**44**	*eP*	**P**	**05 54 05.0**	**+1.3**
	15nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**85.87**	**335**	P	**P**	**05 54 03.3**	**-1.0**
	1.0nm,0.3s,mb4.0,baz=71,slow=4.4,SNR=19						
GCMT	**Greycliff**	**86.12**	**43**	*eP*	**P**	**05 54 06.0**	**+0.5**
HWUT	**Hardware Ranch**	**86.54**	**47**	*eP*	**P**	**05 54 07.7**	**+0.1**
	8.9nm,0.8s,mb4.7						
RLMT	**Red Lodge**	**86.66**	**43**	*eP*	**P**	**05 54 08.7**	**+0.6**
ARUT	**Antelope Range**	**86.68**	**51**	*eP*	**P**	**05 54 08.7**	**+0.5**
TCUT	**Toone Canyon**	**86.84**	**47**	*eP*	**P**	**05 54 09.2**	**+0.2**
PDAR	**Pinedale Array**	**87.44**	**45**	P	**P**	**05 54 11.8**	**-0.1**
	1.2nm,0.5s,mb4.0,baz=149,slow=1.5,SNR=15						
SRU	**San Rafael**	**88.27**	**49**	*eP*	**P**	**05 54 15.8**	**0.0**
PV01	**Paradox Valley**	**90.06**	**49**	*eP*	**P**	**05 54 24.4**	**+0.2**
MDV	**Middlebury**	**107.53**	**28**	*e*PKPdf	PKiKP	05 59 53.5	+3.2

ISCJB ***03*** *05:48:15.4±2.0, 99S±0.1×1603E±02, h48km±16km, mb4.2/10, MS3.6/4, Error ellipse: s-maj=29.1km s-min=15.8km az=55.7*

IDC ***03*** *05:48:15.3±4.6, 992S×16035E, h36km±35km, mb4.0/7, mb1 4.2/8, mb1mx4.1/12, mbtmp4.3/8, ML4.2/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/20, Error ellipse: s-maj=35.9km s-min=18.5km az=98.0*

NEIC ***03*** *05:48:15.2±0.8, 984S×16040E, h35km, mb4.5/5, Error ellipse: s-maj=20.4km s-min=16.1km az=117.0*

ISC 03 05:48:15.7±2.8, 99S±01×1604E±02, h37km±22km, n28, σ0§84/25, mb4.2/10, MS3.6/4, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.62**	**319**	Pn	**Pn**	**05 48 27.8**	**-0.2**
	926nm,0.3s,baz=114,slow=2.5,SNR=84						
HNR				Sn	**Sn**	05 48 36.6	0.0
HNR	**Honiara**	**0.62**	**319**	⇑*i*Pn	**Pn**	**05 48 27.3**	**-0.6**
HNR				*e*Sn	**Sn**	**05 48 37.1**	**+0.4**
PMG	**Port Moresby**	**13.02**	**271**	LR	LR	05 55 58.0	
	comp=Z,345nm,20.6s,baz=65,slow=36						
DZM	**Mont Dzumac**	**13.44**	**155**	LR	LR	05 55 47.6	
	comp=Z,112nm,19.3s,baz=209,slow=34						
CTA	**Charters Tower**	**16.96**	**232**	*eP*	**Pn**	**05 52 13.7**	**+3.6**
	18nm,0.9s						
CTA	**Charters Tower**	**16.96**	**232**	Pn	**Pn**	**05 52 11.1**	**+1.0**
	0.6nm,0.3s,baz=70,slow=13,SNR=15						
WB2	**Warramunga Arr**	**27.00**	**245**	*eP*	**P**	**05 53 53.5**	**-0.6**
WRA	**Warramunga Arr**	**27.01**	**245**	P	**P**	**05 53 54.0**	**-0.1**
	2.2nm,0.4s,mb4.0,baz=77,slow=9.4,SNR=23						
AFI	**Afiamalu**	**27.55**	**101**	LR	LR	06 03 19.6	
	comp=Z,118nm,18.2s,MS3.5,baz=274,slow=33						
STKA	**Stephens Creek**	**27.93**	**216**	*eP*	**P**	**05 54 02.0**	**-0.4**
	4.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.93**	**216**	P	**P**	**05 54 02.1**	**-0.3**
	2.8nm,0.5s,mb4.2,baz=56,slow=14,SNR=12						
STKA				LR	LR	06 04 19.3	
	comp=Z,119nm,18.8s,MS3.5,baz=24,slow=34						
STKA	**Stephens Creek**	**27.93**	**216**	*eP*	**P**	**05 54 01.9**	**-0.5**
ASAR	**Alice Springs**	**28.72**	**238**	P	**P**	**05 54 08.6**	**-0.8**
	0.9nm,0.4s,mb3.9,baz=61,slow=10,SNR=22						
ASAR				LR	LR	06 05 34.9	
	comp=Z,137nm,19.9s,MS3.6,baz=262,slow=36						
ASAR	**Alice Springs**	**28.72**	**238**	P	**P**	**05 54 08.6**	**-0.8**
ASAR				LR	LR	06 05 34.9	
MBWA	**Marble Bar**	**40.60**	**249**	*eP*	**P**	**05 55 51.5**	**-0.3**
	2.8nm,0.5s,mb4.2						
NWAO	**Narrogin (SRO)**	**45.79**	**233**	LR	LR	06 14 47.1	
	comp=Z,146nm,21.6s,MS3.9,baz=12,slow=35						
NWAO	**Narrogin (SRO)**	**45.79**	**233**	*eP*	**P**	**05 56 36.3**	**+2.6**
	86nm,1.5s						
VNDA	**Vanda**	**67.61**	**180**	P	**P**	**05 59 08.3**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=338,slow=5.3,SNR=4.6						
VNDA	**Vanda**	**67.61**	**180**	P	**P**	**05 59 08.3**	**-0.2**
SONM	**Songino Array**	**74.67**	**326**	P	**P**	**05 59 52.3**	**+1.0**
	2.1nm,0.6s,mb4.3,baz=138,slow=5.6,SNR=9.5						
QSPA	**South Pole Qui**	**80.09**	**180**	*eP*	**P**	**06 00 21.6**	**0.0**
	5.8nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**89.09**	**318**	P	**P**	**06 01 06.5**	**-0.5**
	0.8nm,0.8s,mb4.1,baz=99,slow=3.9,SNR=5.1						
TKM2	**Tokmak 2**	**92.86**	**313**	P	pP	06 01 35.5	-0.8
	SNR=7.4						
HLID	**Hailey**	**93.31**	**47**	*eP*	**P**	**06 01 27.7**	**+1.0**
	3.2nm,1.1s,mb4.7						
UCH	**Uchtor**	**93.52**	**312**	P	**P**	**06 01 23.1**	**-4.5**
	SNR=7.0						
AAK	**Ala-Archa**	**93.60**	**312**	P	**P**	**06 01 27.6**	**-0.4**
	SNR=5.4						
EKS2	**Erkin-Say**	**94.13**	**312**	P	**P**	**06 01 25.3**	**-5.1**
	SNR=6.0						
PDAR	**Pinedale Array**	**96.70**	**48**	P	**P**	**06 01 41.4**	**-0.8**
	0.8nm,0.8s,mb4.2,baz=299,slow=1.5,SNR=7.1						

ISCJB ***03*** *05:51:30.7±0.7, 2129S±006×684W±0.1, h114km±9km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=10.1km az=12.1*

IDC ***03*** *05:51:31.5±1.3, 2126S×6840W, h107km±14km, mb3.6/2, mb1 3.7/6, mb1mx3.5/18, mbtmp4.1/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/20, Error ellipse: s-maj=35.1km s-min=15.4km az=114.0*

NEIC ***03*** *05:51:31.6±0.7, 2128S×6838W, h108km±10km, mb4.1/2, Error ellipse: s-maj=13.8km s-min=9.2km az=93.0*

ISC 03 05:51:32.0±0.7, 2130S±006×684W±01, h106km±9km, n14, σ0§68/16, mb3.9/1, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.41**	**202**	P	**Pn**	**05 51 57.0**	**-0.5**
	200nm,0.3s,baz=11,slow=8.9,SNR=2394						
LVC				S	**Sn**	05 52 17.2	+0.4
	352nm,0.3s,baz=102,slow=24,SNR=63						
LPAZ	**La Paz**	**4.99**	**2**	P	**Pn**	**05 52 44.9**	**+0.3**
	2.0nm,0.3s,baz=208,slow=5.8,SNR=58						
LPAZ	**La Paz**	**4.99**	**2**	⇑*e*Pn	**Pn**	**05 52 44.8**	**+0.2**
LPAZ				*e*Sn	**Sn**	**05 53 32.7**	**-8.3**
ARE	**Arequipa**	**5.66**	**328**	*eP*	**Pn**	**05 52 54.0**	**+0.3**
ARE				*e*S	**Sn**	**05 53 48.0**	**-9.3**
SIV	**San Ignacio**	**8.68**	**54**	P	**Pn**	**05 53 33.2**	**-1.5**
	3.4nm,0.3s,baz=243,slow=13,SNR=116						
CPUP	**Villa Florida**	**11.26**	**119**	P	**Pn**	**05 54 10.6**	**+0.9**
	0.3nm,0.3s,baz=264,slow=11,SNR=3.6						
TRQA	**Tornquist**	**17.59**	**163**	*eP*	**Pn**	**05 55 29.6**	**-0.7**
	8.5nm,0.8s						
PLCA	**Paso Flores**	**19.47**	**185**	P	**P**	**05 55 50.1**	**-0.3**
	0.3nm,0.3s,baz=354,slow=12,SNR=12						
PLCA				LR	LR	06 03 33.6	
	comp=Z,28nm,18.4s,baz=2.6,slow=37						
PLCA	**Paso Flores**	**19.47**	**185**	*eP*	**P**	**05 55 49.9**	**-0.5**
	10nm,1.0s						
PLCA				LR	LR	06 03 33.6	
BDFB	**Brasilia**	**20.08**	**77**	P	**P**	**05 55 58.2**	**+1.1**
	2.3nm,0.6s,baz=265,slow=12,SNR=7.5						
VNA3	**Neumayer Olymp**	**60.10**	**161**	*e*	**P**	**06 01 28.3**	**+0.2**
VNA3				*e*		06 01 33.7	
SNAA	**Sanae**	**62.30**	**161**	*e*	**P**	**06 01 43.0**	**+0.1**
SNAA				*e*		06 01 48.7	
TORD	**Torodi Ar. Bea**	**76.79**	**70**	P	**P**	**06 03 11.6**	**-0.4**
	1.5nm,0.6s,mb3.9,baz=253,slow=5.4,SNR=15						
MKAR	**Makanchi Array**	**145.16**	**36**	PKPbc	PKPbc	06 10 56.0	-0.9
	0.4nm,0.5s,baz=316,slow=3.3,SNR=3.6						

IDC 03 06:20:09.8±1.3, 962N×5732E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, MS3.5/6, Ms1 3.5/6, ms1mx3.1/20, Error ellipse: s-maj=35.5km s-min=25.6km az=150.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**13.60**	**5**	LR	LR	06 27 50.8	
	comp=Z,271nm,18.5s,baz=158,slow=34						
KMBO	**Kilima Mbogo**	**22.65**	**243**	P	P	06 25 13.3	+0.9
	1.0nm,0.7s,baz=64,slow=18,SNR=2.3						
ASF	**Jabal al Asfar**	**29.34**	**323**	LR	LR	06 38 08.8	
	comp=Z,78nm,18.2s,baz=2.9,slow=37						
AKTO	**Aktyubinsk**	**40.69**	**1**	P	P	06 27 52.0	0.0
	0.6nm,0.5s,baz=200,slow=5.4,SNR=4.0						
MKAR	**Makanchi Array**	**42.71**	**25**	P	P	06 28 08.7	+0.2
	0.5nm,0.5s,baz=206,slow=9.5,SNR=5.3						
BOSA	**Boshof**	**49.03**	**218**	LR	LR	06 46 52.1	
	comp=Z,75nm,19.8s,baz=59,slow=33						
KEST	**Kesra**	**50.68**	**309**	LR	LR	06 53 30.4	
	comp=Z,17nm,18.5s,baz=272,slow=40						
TORD	**Torodi Ar. Bea**	**54.55**	**279**	P	P	06 29 40.2	+0.6
	0.7nm,0.7s,baz=93,slow=5.5,SNR=8.1						
NOA	**NORSAR Array B**	**61.46**	**336**	LR	LR	06 59 23.7	
	comp=Z,23nm,18.9s,baz=25,slow=38						
ESDC	**Sonseca Array**	**61.88**	**310**	P	P	06 30 31.0	+0.1
	2.2nm,0.7s,baz=90,slow=5.9,SNR=5.4						
MAW	**Mawson**	**77.13**	**178**	LR	LR	06 58 35.3	
	comp=Z,45nm,18.7s,baz=68,slow=30						
ASAR	**Alice Springs**	**81.75**	**116**	P	P	06 32 31.1	+0.7
	0.3nm,0.6s,baz=288,slow=5.4,SNR=5.4						

ISCJB ***03*** *06:26:06.2±0.6, 5139N±003×16.17E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.4km az=39.9*

IPEC ***03*** *06:26:06.8±0.3, 5149N×1626E, h0km, ML2.5/4, Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*

NEIC ***03*** *06:26:07.7, 5141N×1620E, h1km, ML2.9(SZGRF), After SZGRF.*

VIE ***03*** *06:26:08.8±0.4, 5130N×1611E, h0km, mb2.3/4, ML3.0/4, Error ellipse: s-maj=2.8km s-min=2.0km az=21.0 67 km WNW of Breslau Suspected Mining induced.*

WAR ***03*** *06:26:08.5, 5145N×1616E, ML2.7, Mining Induced*

CSEM ***03*** *06:26:08.6±0.1, 5141N×1618E, h1km, ML3.3/9, Error ellipse: s-maj=2.7km s-min=1.6km az=23.0*

PRU ***03*** *06:26:09.0, 5139N×1614E, h0km*

ISC 03 06:26:07.2±0.6, 5145N±003×1617E±003, h0km, n34, σ0§84/67, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*i* Pg	**Pg**	**06 26 19.6**	**+0.8**
KSP				*e*Sg	**Sg**	**06 26 27.6**	**+0.9**
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pg**	**06 26 19.5**	**+0.7**
KSP				*e*Sg	**Sg**	**06 26 27.2**	**+0.5**
UPC	**Upice**	**0.95**	**186**	*e*PG	**Pg**	**06 26 25.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	**06 26 28.3**	**0.0**
DPC				*e*SG	**Sg**	**06 26 42.8**	**+0.2**
	46nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*Pg	**Pg**	**06 26 28.3**	**0.0**
DPC				*e*Sg	**Sg**	**06 26 42.4**	**-0.2**
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	**Pg**	**06 26 33.5**	**+0.1**
PVCC				*e*SG	**Sg**	**06 26 52.3**	**+1.2**
PVCC	**Panska Ves**	**1.37**	**228**	*e*Pg	**Pg**	**06 26 33.5**	**+0.1**
PVCC				*e*Sg	**Sg**	**06 26 51.9**	**+0.8**
BRG	**Berggiesshubel**	**1.52**	**249**	PN	**Pn**	**06 26 34.6**	**-0.9**
BRG				PG	**Pg**	**06 26 36.0**	**-0.2**
BRG				SG	**Sg**	**06 26 55.9**	**0.0**
	46nm,0.4s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**06 26 40.7**	**-0.8**
PRU				*e*SG	**Sg**	**06 27 04.9**	**+0.2**
	30nm,0.3s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	**Pn**	**06 26 40.2**	**-0.4**
MORC				*e*Pg	**Pg**	**06 26 44.0**	**+0.8**
MORC				*e*Sn	**Sn**	**06 27 03.7**	**-1.4**
MORC				*e*Sg	**Sg**	**06 27 07.7**	**-0.1**
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	**Pn**	**06 26 40.3**	**-0.3**
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pg	**Pg**	**06 26 44.0**	**+0.7**
MORC				*e*Sg	**Sg**	**06 27 06.4**	**-1.3**
	31nm,0.4s						
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**06 26 42.0**	**-0.1**
CLL				*i* Pg	**Pg**	**06 26 44.3**	**-1.0**
CLL				*e*Sg	**Sg**	**06 27 12.0**	**+0.9**
CLL	**Collm**	**1.99**	**267**	*e*Pn	**Pn**	**06 26 42.0**	**-0.1**
	comp=Z,4.0nm,0.7s						
CLL				*i* Pg	**Pg**	**06 26 44.3**	**-1.0**
CLL				*ex*	x	06 26 49.0	
CLL				*e*Sg	**Sg**	**06 27 12.0**	**+0.9**
	comp=Z,26nm,0.7s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*SG	**Sg**	**06 27 11.4**	**-1.4**
	comp=Z,32nm,0.4s						
VRAC	**Vranov**	**2.16**	**173**	*e*Pn	**Pn**	**06 26 44.5**	**+0.2**
VRAC				*e*Sg	**Sg**	**06 27 15.5**	**-1.0**
	comp=Z,26nm,0.4s						
TREC	**Trest**	**2.20**	**192**	*e*PG	**Pg**	**06 26 48.4**	**-0.9**
KRUC	**Moravsky**	**2.39**	**176**	*e*Pn	**Pn**	**06 26 48.0**	**+0.4**
KRUC				*e*Sg	**Sg**	**06 27 23.0**	**-1.0**
	comp=Z,18nm,0.5s						
OJC	**Ojcow**	**2.61**	**117**	*e*Pg	**Pg**	**06 26 57.4**	**+0.3**
OJC				*e*Sg	**Sg**	**06 27 31.6**	**+0.7**
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	**Pn**	**06 26 51.3**	**+0.1**
NKC				*e*PG	**Pg**	**06 26 57.1**	**-1.0**
NKC				*e*SG	**Sg**	**06 27 33.1**	**+0.6**
	comp=Z,57nm,0.2s						
JAVC	**Velka Javorina**	**2.76**	**159**	*e*Pn	**Pn**	**06 26 54.9**	**+2.2**
JAVC				*e*Sg	**Sg**	**06 27 36.2**	**+0.2**
	comp=Z,16nm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**06 26 54.5**	**+0.6**
KHC				*e*PG	**Pg**	**06 27 00.0**	**-1.8**
KHC				*e*SN	**Sn**	**06 27 29.0**	**0.0**
KHC				*e*SG	**Sg**	**06 27 38.0**	**-0.8**
	comp=Z,15nm,0.4s						
MOX	**Moxa**	**2.99**	**256**	*e*PN	**Pn**	**06 26 55.8**	**+0.1**
MOX				*e*PG	**Pg**	**06 27 04.7**	**+0.3**
MOX				*e*SG	**Sg**	**06 27 44.1**	**+1.0**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**06 26 57.4**	**+0.8**
WET	**Wettzell**	**3.13**	**224**	*e*Pn	**Pn**	**06 26 57.8**	**+0.1**
VYHS	**Vyhne**	**3.42**	**149**	*e*SG	**Sg**	**06 27 56.2**	**-0.8**
CONA	**Conrad Observa**	**3.53**	**183**	⇑*i*Pn	**Pn**	**06 27 02.8**	**-0.4**
CONA				⇑*i*Sg	**Sg**	**06 28 00.8**	**+0.3**
	comp=Z,9.6nm,0.3s						
GRA1	**Grafenberg Arr**	**3.61**	**243**	*e*Pn	**Pn**	**06 27 04.7**	**+0.4**
GRF	**Grafenberg Arr**	**3.61**	**243**	*e*Pn	**Pn**	**06 27 04.7**	**+0.4**
BSD	**Bornholm Skovb**	**3.75**	**349**	*i* P	**Pn**	**06 27 04.7**	**-1.6**
BSD				*i* S	**Sn**	**06 27 46.4**	**-4.7**
BSD				*i* S	**Sn**	**06 27 47.5**	**-3.6**
BSD	**Bornholm Skovb**	**3.75**	**349**	*i* P	**Pn**	**06 27 04.7**	**-1.6**
BSD				*i* S	**Sn**	**06 27 46.4**	**-4.7**
MOA	**Molln**	**3.81**	**200**	⇑*i*Pn	**Pn**	**06 27 07.4**	**+0.4**
MOA				⇑*i*Sg	**Sg**	**06 28 09.9**	**+0.5**
	comp=Z,9.2nm,0.3s						
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*SG	**Sg**	**06 28 11.8**	**+1.7**
CRVS	**Cervenica-Dubn**	**4.25**	**125**	*e*SG	**Sg**	**06 28 27.0**	**+3.4**

ISCJB ***03*** *06:29:39.2±0.7, 3886N±004×21.16E±004, h8km±8km, Error ellipse: s-maj=7.1km s-min=5.2km az=177.6*

ATH ***03*** *06:29:39.2, 3884N×2109E, h2km, MD3.1/4*

CSEM ***03*** *06:29:39.7±0.2, 3888N×2115E, h2km, ML2.4, Error ellipse: s-maj=6.4km s-min=3.6km az=177.0*

THE ***03*** *06:29:39.6, 3884N×2117E, h1km, ML2.4*

ISC 03 06:29:39.7±0.6, 3885N±004×2115E±004, h14km±7km, n13, σ1§04/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.41**	**250**	*e*Pg	**Pg**	**06 29 47.2**	**-0.7**
LKD				*e*Sg	**Sg**	**06 29 54.4**	**+0.9**
EVR	**Evrytania**	**0.52**	**82**	*e*PG	**Pg**	**06 29 50.0**	**0.0**
VLS	**Valsamata**	**0.80**	**213**	*e*PB	**Pb**	**06 29 54.0**	**-1.3**
JAN	**Janina**	**0.84**	**344**	*e*PB	**Pb**	**06 29 55.0**	**-1.0**
IGT	**Igoumenitsa**	**0.93**	**317**	*e*Pg	**Pg**	**06 29 57.0**	**-0.6**
IGT				*e*Sg	**Sg**	**06 30 11.6**	**+1.8**
AGG	**Agios Georgios**	**0.94**	**79**	*e*Pg	**Pg**	**06 29 56.9**	**-0.9**
AGG				*e*Sg	**Sg**	**06 30 10.5**	**+0.3**
XOR	**Xorichti**	**1.67**	**71**	*e*Pb	**Pb**	**06 30 09.9**	**-0.3**
XOR				*e*Sb	**Sb**	**06 30 31.5**	**+0.4**
XOR	**Xorichti**	**1.67**	**71**	*e*Pb	**Pb**	**06 30 09.9**	**-0.3**
XOR				*e*Sb	**Sb**	**06 30 31.5**	**+0.3**
ITM	**Ithomi**	**1.78**	**159**	*e*PB	**Pb**	**06 30 13.1**	**+1.1**
ITM	**Ithomi**	**1.78**	**159**	*e*Pb	**Pb**	**06 30 14.0**	**+2.0**
FNA	**Florina**	**1.94**	**5**	*e*Pb	**Pb**	**06 30 12.0**	**-2.7**
FNA				*e*Sb	**Sb**	**06 30 39.3**	**+0.5**
AOS	**Alonnisos**	**2.15**	**81**	*e*Pn	**Pn**	**06 30 15.5**	**+0.4**
OUR	**Ouranopolis**	**2.65**	**55**	*e*Pn	**Pn**	**06 30 22.9**	**+1.0**

IDC 03 07:05:12.3±37.0, 579N×12636E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=618.4km s-min=157.9km az=160.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.75**	**163**	P	P	07 10 53.7	+0.1
	1.0nm,0.3s,baz=343,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**30.19**	**166**	P	P	07 11 25.0	+0.7
	0.8nm,0.5s,baz=351,slow=8.3,SNR=7.5						
STKA	**Stephens Creek**	**40.18**	**160**	P	P	07 12 50.3	0.0
	1.0nm,0.3s,baz=326,slow=10,SNR=6.3						

IDC 03 07:23:29.0±1.2, 193N×12628E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.9/5, Error ellipse: s-maj=131.3km s-min=18.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.13**	**160**	P	P	07 28 36.1	-0.7
	5.0nm,0.7s,baz=339,slow=11,SNR=36						
WB2	**Warramunga Arr**	**23.14**	**160**	*eP*	P	07 28 36.1	-0.7
ASAR	**Alice Springs**	**26.50**	**164**	P	P	07 29 09.6	+1.5
	1.3nm,0.7s,baz=343,slow=8.1,SNR=16						
STKA	**Stephens Creek**	**36.63**	**158**	P	P	07 30 37.0	-0.1
	1.2nm,0.6s,baz=348,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**48.85**	**342**	P	P	07 32 16.7	+0.5
	0.4nm,0.5s,baz=148,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**58.77**	**326**	P	P	07 33 28.6	-0.3
	0.9nm,0.4s,baz=122,slow=8.2,SNR=13						

ISCJB ***03*** *07:57:16.6±0.4, 5319S±006×227E±02, h10km, mb4.5/18, MS4.5/18, Error ellipse: s-maj=13.7km s-min=8.0km az=178.7*

IDC ***03*** *07:57:16.8±0.5, 5313S×2273E, h0km, mb4.4/15, mb1 4.5/15, mb1mx4.4/19, mbtmp4.4/15, MS4.5/18, Ms1 4.5/18, ms1mx4.4/21, Error ellipse: s-maj=22.3km s-min=14.0km az=76.0*

NEIC ***03*** *07:57:18.2±0.2, 5316S×2285E, h10km, mb4.6/13, Error ellipse: s-maj=9.0km s-min=6.3km az=79.0*

GCMT ***03*** *07:57:18.2±0.2, 5324S×2317E, h12km, MW5.2/87, Moment Tensor Solution. s52,c68; s87,c151; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.85±.01; $M_{\theta\theta}$0.71±.01; $M_{\phi\phi}$0.14±.01; $M_{r\theta}$0.03±.04; $M_{\theta\phi}$-0.21±.01; $M_{\phi r}$-0.17±.04; Best double couple: $M_0$0.83100×10^{17} NP1:ϕ_s99.00000°, δ43.00000°, λ-104.00000°. NP2: ϕ_s298.00000°, δ49.00000°, λ-78.00000°. Principal axes: T 0.7830, Plg3.0000°, Azm19.0000°; N 0.0950, Plg9.0000°, Azm110.0000°; P -0.8790, Plg80.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***03*** *07:57:18.2, 5320S×2290E, h10km, m

TORD Torodi Ar. Bea 68.54 338 P **P 08 08 20.2 -0.6**
8.4nm,1.2s,mb4.6,baz=175,slow=6.4,SNR=19
TORD LR LR 08 32 05.6
comp=Z,355nm,21.8s,MS4.6,baz=160,slow=30
LPAZ La Paz 77.69 259 P **P 08 09 15.9 +1.1**
1.4nm,0.7s,mb4.0,baz=165,slow=6.0,SNR=9.4
LPAZ LR LR 08 40 26.7
comp=Z,83nm,19.4s,MS4.1,baz=267,slow=33
LPAZ La Paz 77.69 259 eP **P 08 09 15.7 +0.9**
11nm,1.6s,mb4.5
STKA Stephens Creek 80.00 131 eP **P 08 09 27.2 -0.4**
4.6nm,0.7s,mb4.5
STKA Stephens Creek 80.00 131 P **P 08 09 28.4 +0.8**
7.0nm,0.8s,mb4.6,baz=173,slow=6.3,SNR=9.4
STKA LR LR 08 37 40.7
comp=Z,208nm,21.0s,MS4.5,baz=206,slow=30
SAML Samuel 80.50 268 eP **P 08 09 30.2 -0.1**
4.4nm,0.6s,mb4.6
ASPA Alice Springs 83.08 120 eP **P 08 09 44.0 +0.1**
ASAR Alice Springs 83.08 120 P **P 08 09 44.5 +0.6**
3.1nm,0.7s,mb4.5,baz=204,slow=5.2,SNR=55
ASAR LR LR 08 39 25.2
comp=Z,206nm,21.7s,MS4.5,baz=199,slow=30
AS31 Alice Springs 83.08 120 eP **P 08 09 44.0 +0.1**
WRA Warramunga Arr 86.37 119 P **P 08 10 00.5 0.0**
3.9nm,0.7s,mb4.8,baz=207,slow=3.8,SNR=31
WRA LR LR 08 43 23.5
comp=Z,101nm,21.7s,MS4.2,baz=255,slow=32
WB2 Warramunga Arr 86.38 119 eP **P 08 10 00.6 +0.1**
KEST Kesra 89.36 349 P **P 08 10 16.1 +1.4**
1.2nm,0.7s,mb4.3,baz=173,slow=2.8,SNR=3.9
KEST LR LR 08 51 18.6
comp=Z,218nm,20.5s,MS4.6,baz=168,slow=36
BRTR Keskin Array B 93.05 8 P **P 08 10 32.2 +0.3**
1.1nm,0.7s,mb4.4,baz=165,slow=6.8,SNR=6.3
BRTR LR LR 08 53 40.2
comp=Z,192nm,20.7s,MS4.5,baz=217,slow=36
ROSC El Rosal 98.14 267 LR LR 08 52 33.5
comp=Z,219nm,19.5s,MS4.7,baz=281,slow=34
RKT Rikitea 101.56 201 ePS PS 08 24 31.4 +7.4
101nm,28.0s
RKT eSS SS 08 29 50.6 -2.1
96nm,26.5s
TBI Tubuai 103.45 187 eLR LR 08 45 32.1
488nm,36.8s
PPT Papeete 109.19 188 ePS PS 08 25 49.5 +6.2
119nm,24.5s
PPT Papeete 109.19 188 eSS SS 08 31 41.2 +4.3
78nm,26.5s
PPT eLR LR 08 48 03.6
352nm,22.8s
TAOE Nuku Hiva Isla 116.48 199 eLR LR 08 51 25.7
1µm,29.9s
NJ2 Nanjing 118.41 74 ePKP PKPdf 08 16 04.0 -1.8
SONM Songino Array 123.04 53 PKP PKPdf 08 16 13.1 -1.6
0.5nm,0.5s,baz=221,slow=2.5,SNR=4.4
RSSD Black Hills 144.49 277 ePKPdf PKPdf 08 16 52.7 -1.9
SRU San Rafael 145.39 265 ePKPdf PKPdf 08 16 55.5 -0.6
TMUT Trail Mountain 145.91 265 ePKPdf PKPdf 08 16 57.6 +0.5
MSU Marysvale 145.99 263 ePKPdf PKPdf 08 16 58.1 +0.9
CCUT Cedar City 146.06 260 ePKPbc PKPbc 08 16 58.6 +0.4
ARUT Antelope Range 146.27 261 ePKPbc PKPbc 08 16 59.0 +0.2
MPU Maple Canyon 146.62 265 ePKPbc PKPbc 08 16 59.9 0.0
DAU Daniels Canyon 146.64 266 ePKPbc PKPbc 08 17 00.0 +0.1
NLU North Lily Min 146.85 265 ePKPdf PKPdf 08 16 59.3 +0.7
PDAR Pinedale Array 147.03 271 PKPbc PKPbc 08 16 59.5 -1.4
4.3nm,0.7s,baz=133,slow=4.1,SNR=41
CTU Camp Tracy 147.11 266 ePKPbc PKPbc 08 17 01.0 -0.2
LAO LASA Array 147.16 280 ePKPdf PKPdf 08 16 59.1 -0.1
TCUT Toone Canyon 147.16 267 ePKPbc PKPbc 08 17 01.2 -0.2
DUG Dugway 147.44 265 ePKPbc PKPbc 08 17 01.9 -0.2
HWUT Hardware Ranch 147.55 268 ePKPbc PKPbc 08 17 01.8 -0.7
ISA Isabella 147.76 253 ePKPbc PKPbc 08 17 03.2 +0.2
TRCR Troy Canyon 147.91 259 ePKPdf PKPdf 08 17 01.2 +0.8
BGU Big Grassy Mou 148.02 265 ePKPbc PKPbc 08 17 03.3 -0.5
LOHW Long Hollow 148.14 272 ePKPbc PKPbc 08 17 03.0 -1.0
RLMT Red Lodge 148.16 275 ePKPbc PKPbc 08 17 03.4 -0.7
TPAW Teton Pass 148.28 271 ePKPbc PKPbc 08 17 04.0 -0.5
MOOW Moose Ponds 148.30 272 ePKPbc PKPbc 08 17 03.9 -0.6
HVU Hansel Valley 148.38 267 ePKPdf PKPdf 08 17 01.9 +0.6
RRI2 Red Ridge 148.42 271 ePKPab PKPab 08 17 08.8 +0.7
IMW Indian Meadow 148.50 272 ePKPbc PKPbc 08 17 04.6 -0.4
GCMT Greycliff 148.75 276 ePKPbc PKPbc 08 17 04.8 -0.9
MTUM Tungsten Hills 148.99 255 ePKPbc PKPbc 08 17 06.6 +0.4
LRV Little Rabbit 149.75 251 ePKPbc PKPbc 08 17 09.1 +1.0
EGMT Eagleton 149.91 280 ePKPbc PKPbc 08 17 08.1 -0.4
DLMT Dillon 150.29 273 ePKPbc PKPbc 08 17 09.1 -0.3
HLID Hailey 150.40 268 ePKPbc PKPbc 08 17 09.7 0.0
CHMT Chamberlain Mo 151.47 275 ePKPbc PKPbc 08 17 11.7 -0.5
MSO Missoula 151.84 275 ePKPbc PKPbc 08 17 12.2 -0.8
WVOR Wild Horse Val 152.28 263 ePKPbc PKPbc 08 17 14.3 +0.2
BMO Blue Mountains 152.85 268 ePKPdf PKPdf 08 17 07.4 -0.8
BMO ePKPbc PKPbc 08 17 14.8 -0.6
YKA Yellowknife Ar 155.96 310 PKPab PKPab 08 17 38.4 -1.1
3.0nm,0.7s,baz=93,slow=5.0,SNR=13

*ISCJB **03** 08:24:28.4±0.6,3251N±002×3487E±006,h10km,Error ellipse: s-maj=7.4km s-min=2.6km az=26.8*
*CSEM **03** 08:24:28.8±0.1,3252N×3488E,h15km,ML1.9,Error ellipse: s-maj=3.5km s-min=1.2km az=100.0*
*GII **03** 08:24:29.0±0.2,3251N×3490E,h10km±1km,ML1.9/5*
*GRAL **03** 08:24:32.5±3.3,3260N×3494E,h0km±23km,MD2.9*
ISC 03 08:24:28.7±0.8,3252N±002×3485E±007,h8km±5km,n25, σ0§85/35,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFRI	**'Ofer**	**0.15**	**50**	Pg	**Pg**	**08 24 32.6**	**+0.7**
SLTI	**Sal'it**	**0.33**	**150**	Pg	**Pg**	**08 24 35.7**	**+0.6**
SLTI				Sg	**Sg**	**08 24 40.4**	**+1.0**
MMLI	**Mount Malkishu**	**0.49**	**100**	Pg	**Pg**	**08 24 38.1**	**-0.1**
MMLI				Sg	**Sg**	**08 24 45.3**	**+0.6**
HNTI	**Hanita**	**0.62**	**26**	Pg	**Pg**	**08 24 41.0**	**+0.2**
HNTI	**Hanita**	**0.62**	**26**	Pg	**Pg**	**08 24 40.9**	**+0.2**
HMDT	**Nahal Hemdat**	**0.64**	**115**	Pg	**Pg**	**08 24 40.6**	**-0.3**
MMC7	**Mount Meron ar**	**0.68**	**43**	Pg	**Pg**	**08 24 41.5**	**-0.2**
MMA0	**Mount Meron ar**	**0.68**	**44**	Pg	**Pg**	**08 24 41.5**	**-0.3**
MMA0				Sg	**Sg**	**08 24 51.5**	**+0.9**
KSHT	**Keshet**	**0.93**	**60**	Pg	**Pg**	**08 24 46.4**	**-0.2**
KSDI	**Kefar Szold**	**0.96**	**45**	Pg	**Pg**	**08 24 46.5**	**-0.6**
KSDI	**Kefar Szold**	**0.96**	**45**	Pg	**Pg**	**08 24 46.7**	**-0.3**
KSDI				Sg	**Sg**	**08 24 59.6**	**+0.2**
KSDI	**Kefar Szold**	**0.96**	**45**	Pg	**Pg**	**08 24 46.5**	**-0.5**
KSDI				Sg	**Sg**	**08 24 59.6**	**+0.1**
AMAZ	**Amatzia**	**0.99**	**177**	Pg	**Pg**	**08 24 47.1**	**-0.5**
AMAZ				Sg	**Sg**	**08 25 01.5**	**+1.0**
DRGI	**Dragot**	**1.04**	**153**	Pg	**Pg**	**08 24 47.6**	**-1.0**
MATL	**Matirih**	**1.05**	**23**	eP	**Pg**	**08 24 50.7**	**+1.9**
HRI	**Mount Hermon**	**1.05**	**45**	Pg	**Pg**	**08 24 48.0**	**-0.9**
YTIR	**Yattir**	**1.18**	**169**	Pg	**Pg**	**08 24 50.9**	**-0.4**
RCY	**Rachaya**	**1.26**	**40**	eP	**Pn**	**08 24 51.5**	**-1.1**
RCY				eS	**Sb**	**08 25 08.8**	**-0.2**
MZDA	**Masada**	**1.29**	**160**	Pg	**Pg**	**08 24 51.8**	**-1.6**
MZDA				Sg	**Sg**	**08 25 09.1**	**-1.0**
MASH	**Mash'abbe Sade**	**1.52**	**182**	Sn	**Sn**	**08 25 16.6**	**+0.3**
BHL	**Bhannes**	**1.54**	**26**	eP	**Pn**	**08 24 56.5**	**+0.1**
BHL				eS	**Sn**	**08 25 14.9**	**-1.6**
SVTA	**Shivta**	**1.60**	**187**	Pn	**Pn**	**08 24 57.1**	**-0.2**
KZIT	**Kziot**	**1.66**	**193**	Sn	**Sn**	**08 25 21.0**	**+1.5**
HWQ	**Hawqa**	**1.98**	**27**	eP	**Pg**	**08 25 06.4**	**-0.2**
HWQ				eS	**Sn**	**08 25 29.1**	**+1.7**
PRNI	**Paran**	**2.17**	**176**	Pn	**Pn**	**08 25 04.8**	**-0.2**

IDC 03 08:55:23.9±4.6,1890S×17571W,h265km±48km,mb3.6/5, mb1 3.8/7,mb1mx3.5/16,mbtmp4.4/7,Error ellipse: s-maj=114.9km s-min=33.8km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.23**	**38**	P	Pn	08 56 56.5	+1.3
	3.6nm,0.3s,baz=296,slow=15,SNR=20						
AFI				S	S	08 58 08.1	-0.3
	5.3nm,0.3s,baz=227,slow=22,SNR=6.8						
DZM	**Mont Dzumac**	**17.01**	**256**	eP	P	08 59 05.0	+0.2
DZM	**Mont Dzumac**	**17.01**	**256**	P	P	08 59 05.2	+0.3
	2.0nm,0.3s,baz=77,slow=18,SNR=27						
CTA	**Charters Tower**	**35.83**	**262**	P	P	09 01 58.9	+0.4
	8.0nm,0.5s,baz=83,slow=12,SNR=14						
STKA	**Stephens Creek**	**40.43**	**243**	P	P	09 02 35.8	-0.9
	0.7nm,0.5s,baz=80,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**46.98**	**260**	P	P	09 03 28.2	-0.4
	1.0nm,0.4s,baz=95,slow=6.7,SNR=145						
ASAR	**Alice Springs**	**47.00**	**255**	P	P	09 03 29.0	+0.2
	4.5nm,0.7s,baz=88,slow=8.3,SNR=72						
FITZ	**Fitzroy Crossi**	**55.40**	**261**	P	P	09 04 32.6	+1.7
	1.5nm,0.6s,baz=74,slow=7.4,SNR=6.0						

*FUNV **03** 09:31:37.3,1131N×6183W,h29km,MW3.2*
*ISCJB **03** 09:31:39.6±0.4,1126N±002×6195W±003,h33km,Error ellipse: s-maj=4.5km s-min=3.2km az=33.3*
*NEIC **03** 09:31:40.0,1130N×6169W,h17km,MD3.3(TRN),After TRN.*
*TRN **03** 09:31:40.0,1130N×6169W,h18km,MD3.3*
ISC 03 09:31:39.8±0.3,1125N±002×6197W±003,h35km,n19, σ1§29/36,1C,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.59**	**159**	eP	**Pn**	**09 31 51.8**	**+0.2**
TCE				eS	**Sn**	**09 32 01.2**	**+1.3**
GUIV	**Guiria**	**0.65**	**203**	eP	**Pn**	**09 31 52.1**	**-0.3**
GUIV				eS	**Sn**	**09 32 03.0**	**+1.6**
TRN	**Trinidad (W)**	**0.81**	**137**	eP	**Pn**	**09 31 53.8**	**-0.9**
TRN				eS	**Sn**	**09 32 03.6**	**-2.0**
GRW	**Mount Saint Ca**	**0.96**	**18**	eP	**Pn**	**09 31 56.2**	**-0.5**
GRW				eS	**Sn**	**09 32 09.4**	**+0.3**
GRW	**Mount Saint Ca**	**0.96**	**18**	eP	**Pn**	**09 31 56.2**	**-0.5**
GRW				eS	**Sn**	**09 32 09.4**	**+0.3**
GRHS	**Sauteurs**	**1.02**	**18**	eP	**Pn**	**09 31 57.2**	**-0.3**
GRHS				eS	**Sn**	**09 32 11.0**	**+0.3**
TPP	**Pointe-a-Pierr**	**1.05**	**151**	eP	**Pn**	**09 31 59.9**	**+1.9**
TPP				eS	**Sn**	**09 32 14.3**	**+2.8**
GRIC	**Isle de Caille**	**1.10**	**20**	eP	**Pn**	**09 31 58.7**	**0.0**
GRIC				eS	**Sn**	**09 32 13.8**	**+1.2**
GRSS	**Sisters**	**1.10**	**18**	eP	**Pn**	**09 31 59.1**	**+0.5**
GRSS				eS	**Sn**	**09 32 14.2**	**+1.5**
ITEV	**Isla Los Testi**	**1.15**	**275**	eP	**Pn**	**09 31 59.0**	**-0.3**
ITEV				eS	**Sn**	**09 32 15.3**	**+1.5**
TBH	**Brigand Hill**	**1.17**	**131**	eP	**Pn**	**09 32 00.9**	**+1.4**
TBH				eS	**Sn**	**09 32 14.3**	**+0.1**
TPR	**Prospect**	**1.17**	**93**	⇑iP	**Pn**	**09 31 56.9**	**-2.7**
TPR				eS	**Sn**	**09 32 11.0**	**-3.4**
BOT	**Bacolet**	**1.23**	**94**	eP	**Pn**	**09 31 58.0**	**-2.5**
GRCU	**Cariacou**	**1.32**	**22**	eP	**Pn**	**09 32 01.1**	**-0.5**
GRCU				eS	**Sn**	**09 32 17.8**	**-0.1**
CRUV	**Carupano**	**1.37**	**246**	eP	**Pn**	**09 32 02.1**	**-0.2**
CRUV				eS	**Sn**	**09 32 19.8**	**+0.5**
GUNV	**Guanoco**	**1.44**	**222**	eP	**Pn**	**09 32 03.3**	**0.0**
GUNV				eS	**Sn**	**09 32 22.7**	**+1.6**
CUPV	**Cœpira**	**3.94**	**253**	eP	**Pn**	**09 32 36.8**	**-0.9**
CUPV				eS	**Sn**	**09 33 20.8**	**-1.8**
MERV	**Las Mercedes**	**4.70**	**245**	eS	**Sn**	**09 33 38.4**	**-3.0**
CAOV	**Caicara del Or**	**5.80**	**228**	eP	**Pn**	**09 33 01.4**	**-1.9**
CAOV				eS	**Sn**	**09 34 04.2**	**-4.4**

IDC 03 09:33:20.7±2.6,649S×10367E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.8/17,mbtmp4.0/5,Error ellipse: s-maj=119.4km s-min=21.1km az=55.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.64**	**117**	P	P	09 39 54.6	+0.4
	1.4nm,0.6s,baz=286,slow=9.5,SNR=20						
ASAR	**Alice Springs**	**33.70**	**124**	P	P	09 40 03.8	+0.3
	1.2nm,0.9s,baz=304,slow=7.7,SNR=11						
ASAR				PcP	PcP	09 42 43.0	-0.3
	0.5nm,0.9s,baz=4.5,slow=4.2,SNR=4.2						
STKA	**Stephens Creek**	**43.46**	**131**	P	P	09 41 26.2	+0.7
	1.7nm,0.5s,baz=306,slow=9.0,SNR=6.4						
SONM	**Songino Array**	**54.15**	**2**	P	P	09 42 47.7	+0.1
	1.2nm,0.8s,baz=178,slow=7.6,SNR=6.7						
MKAR	**Makanchi Array**	**56.35**	**342**	P	P	09 43 03.6	+0.2
	1.3nm,0.7s,baz=149,slow=7.7,SNR=8.6						

*SZGRF **03** 09:42:08.0,9.12N×9362E,h33km,mb4.7,Nicobar Islands, India, region*
*MOS **03** 09:42:10.6±1.1,955N×93.18E,h43km,mb5.1/24,Error ellipse: s-maj=11.0km s-min=6.0km az=107.8*
*BJI **03** 09:42:10.6,9.15N×9305E,h74km,mB4.9,mb4.9,Ms4.8, Msz4.2*
*ISCJB **03** 09:42:13.2±0.3,940N±004×9309E±004,h73km,mb4.7/53, Error ellipse: s-maj=6.5km s-min=4.1km az=96.0*
*NEIC **03** 09:42:14.8±0.9,942N×9306E,h68km±9km,mb4.7/28, Error ellipse: s-maj=9.2km s-min=5.7km az=48.0*
*IDC **03** 09:42:15.5±0.7,951N×93.18E,h71km±5km,mb4.2/18, mb1 4.3/19,mb1mx4.2/24,mbtmp4.5/19,MS3.6/7, Ms1 3.6/7,ms1mx3.3/33,Error ellipse: s-maj=18.4km s-min=9.9km az=56.0*
ISC 03 09:42:15.5±0.3,945N±004×9311E±004,h75km, h75km±3.3km:pP-P,n169,σ1§12/166,mb4.7/53,21C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.23**	**351**	eP	x	09 42 37.1	
PBA				eS	x	09 43 03.1	
NNT	**Nongplab**	**7.21**	**64**	P	**Pn**	**09 43 58.0**	**-0.3**
SNG	**Songkhla**	**7.76**	**106**	P	**Pn**	**09 44 06.0**	**+0.3**
KULM	**Kulim**	**8.54**	**118**	ePn	**Pn**	**09 44 16.1**	**-0.3**
KULM				eSn	**Sn**	**09 45 47.6**	**-3.5**
PSI	**Prapat**	**8.77**	**138**	P	**Pn**	**09 44 21.4**	**+1.9**
	7.0nm,0.3s,baz=326,slow=13,SNR=20						
PSI				LR	LR	09 48 06.2	
	comp=Z,368nm,21.1s,baz=298,slow=40						
CHG	**Chiang Mai**	**10.89**	**31**	⇓P	**Pn**	**09 44 50.5**	**+2.0**
	19nm,0.6s						
CHTO	**Chiang Mai**	**10.89**	**31**	eP	**Pn**	**09 44 50.3**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**10.89**	**31**	ePn	**Pn**	**09 44 50.3**	**+1.8**
	comp=Z,11nm,0.6s						
PALK	**Pallekele**	**12.47**	**261**	ePn	**Pn**	**09 45 07.7**	**-2.2**
PALK				eSn	**Sn**	**09 47 20.9**	**-5.9**
VIS	**Vishakhapatnam**	**12.57**	**312**	eP	**Pn**	**09 45 07.0**	**-4.3**
VIS				AMb	AMB	09 45 09.4	
	comp=Z,23nm,0.4s						
VIS				eS	**Sn**	**09 47 14.0**	**-15**
IMP	**Imphal**	**15.27**	**3**	ex	x	09 45 50.0	
BOK	**Bokaro**	**15.85**	**335**	eP	**Pn**	**09 45 51.8**	**-2.3**
BOK				AMb	AMB	09 45 58.8	
	comp=Z,23nm,0.6s						
BOK				eS	**S**	**09 48 45.0**	**-14**
SHL	**Shillong**	**16.08**	**356**	eP	**Pn**	**09 45 55.3**	**-1.7**
SHL				AMb	AMB	09 46 00.3	
	comp=Z,277nm,0.0s						
SHL				eS	**S**	**09 48 52.7**	**-11**
KMI	**Kunming**	**18.09**	**29**	P	**Pn**	**09 46 25.1**	**+3.5**
KMI				AMB	AMB		
	comp=Z,13nm,0.8s						
KMI	**Kunming**	**18.09**	**29**	P	**Pn**	**09 46 25.1**	**+3.5**
	comp=Z,13nm,0.8s						
QIZ	**Qiongzhong**	**18.79**	**58**	P	**Pn**	**09 46 30.4**	**+0.3**
QIZ				AP	pP	09 46 42.8	-1.2
QIZ				eS	**S**	**09 49 59.7**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,19nm,1.3s						
QIZ	**Qiongzhong**	**18.79**	**58**	eP	**Pn**	**09 46 29.7**	**-0.4**
	comp=Z,78nm,1.4s						
QIZ				eS	**S**	**09 49 58.2**	**-0.5**
KSM	**Kuching**	**18.85**	**114**	eP	**Pn**	**09 46 32.0**	**+1.2**
JIRN	**Jiri**	**19.26**	**341**	eP	**Pn**	**09 46 35.4**	**-0.3**
PKI	**Pulchoki**	**19.44**	**339**	eP	**Pn**	**09 46 37.0**	**-0.8**
	comp=Z,21nm,0.3s						
DMN	**Daman**	**19.58**	**338**	eP	**Pn**	**09 46 38.4**	**-1.1**
	comp=Z,31nm,0.8s						
GUN	**Gumba**	**19.59**	**341**	eP	**Pn**	**09 46 38.7**	**-0.9**
	comp=Z,43nm,0.4s						
KKN	**Kakani**	**19.69**	**339**	eP	**Pn**	**09 46 39.5**	**-1.2**
	comp=Z,36nm,0.5s						
KAD	**Karad**	**19.99**	**295**	eP	**Pn**	**09 46 40.3**	**-4.0**
KAD				AMb	AMB	09 46 42.7	
	comp=Z,40nm,1.9s						
KAD				ex	x	09 50 12.3	
GKN	**Gorkha**	**20.11**	**338**	eP	**P**	**09 46 44.1**	**+0.9**
	comp=Z,36nm,0.4s						
LSA	**Lhasa**	**20.23**	**355**	P	**P**	**09 46 44.7**	**+0.1**
LSA	**Lhasa**	**20.23**	**355**	eP	**P**	**09 46 44.3**	**-0.3**
LSA				pmax	pmax		
	comp=Z,27nm,0.4s						
LSA	**Lhasa**	**20.23**	**355**	eP	**P**	**09 46 44.3**	**-0.2**
	comp=Z,28nm,0.4s						
KOLN	**Koldanda**	**20.32**	**335**	eP	**P**	**09 46 46.6**	**+1.2**
	comp=Z,35nm,0.6s						
BHPL	**Bhopal**	**20.34**	**314**	eP	**P**	**09 46 43.6**	**-2.0**
BHPL				eS	**S**	**09 50 27.8**	**-1.7**
POO	**Poona**	**20.74**	**298**	eP	**P**	**09 46 46.0**	**-4.0**
POO				AMb	AMB	09 46 48.1	
	comp=Z,9.3nm,0.2s						
GYA	**Guiyang**	**21.24**	**35**	⇑iP	**P**	**09 46 55.5**	**+0.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
CD2	**Chengdu**	**23.55**	**23**	P	**P**	**09 47 19.1**	**0.0**
CD2				AP		09 47 34.6	
CD2				XP	sP	09 47 42.6	-2.2
CD2				PP		09 47 55.1	
CD2				S	**S**	**09 51 27.3**	**-0.2**
CD2				XS	sS	09 51 53.4	-3.8
CD2				SS		09 52 20.7	
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CD2				LR	LR		
	comp=E,190nm,13.2s						
CD2				LR	LR		
	comp=Z,100nm,10.8s						
LZH	**Lanzhou**	**28.26**	**19**	eP	**P**	**09 47 58.5**	**-3.1**
LZH				AP	pP	09 48 14.5	-4.7
LZH				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
LZH	**Lanzhou**	**28.26**	**19**	eP	**P**	**09 47 58.5**	**-3.1**
	comp=Z,15nm,1.1s,mb4.4						
LZH				pP	pP	09 48 14.5	-4.7
LZH				sP	sP	09 48 20.0	-7.9
XAN	**Xi'an**	**28.46**	**28**	P	**P**	**09 48 02.0**	**-1.4**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
GTA	**Gaotai**	**30.43**	**10**	P	**P**	**09 48 21.4**	**+0.6**
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8						
NJ2	**Nanjing**	**32.78**	**43**	eP	**P**	**09 48 39.5**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
ULHL	**Ulahol**	**35.88**	**338**	P	**P**	**09 49 08.5**	**+0.3**
	SNR=5.4						
UCH	**Uchtor**	**36.52**	**337**	P	**P**	**09 49 15.3**	**+1.7**
	SNR=22						
TKM2	**Tokmak 2**	**36.70**	**338**	P	**P**	**09 49 16.6**	**+1.4**
	SNR=13						
KBK	**Karagaybulak**	**36.71**	**337**	P	**P**	**09 49 17.2**	**+1.9**
	SNR=28						
BJT	**Baijiatuau**	**36.72**	**30**	eP	**P**	**09 49 16.1**	**+0.7**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**36.72**	**30**	eP	**P**	**09 49 16.1**	**+0.7**
	comp=Z,15nm,0.6s,mb5.1						
BJI	**Beijing**	**36.74**	**30**	P	**P**	**09 49 16.2**	**+0.7**
BJI				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
BJI				MLR	MLR		
	comp=Z,110nm,23.7s						
BJI	**Beijing**	**36.74**	**30**	P	**P**	**09 49 16.2**	**+0.7**
	comp=Z,22nm,0.7s,mb5.2						
BJI				LR	LR		
	comp=Z,110nm,23.7s						
AML	**Almayashu**	**36.76**	**336**	P	**P**	**09 49 17.5**	**+1.8**
	SNR=16						
AAK	**Ala-Archa**	**36.87**	**337**	P	**P**	**09 49 18.2**	**+1.6**
	SNR=24						
AAK	**Ala-Archa**	**36.87**	**337**	eP	**P**	**09 49 17.2**	**+0.6**
AAK				e		09 51 38.1	
AAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**36.87**	**337**	eP	**P**	**09 49 17.2**	**+0.5**
	comp=Z,19nm,0.8s,mb5.1						
AAK				ePcP	PcP	09 51 38.1	+1.2
CHMS	**Chumysh**	**37.08**	**337**	P	**P**	**09 49 19.7**	**+1.3**
	SNR=8.0						
EKS2	**Erkin-Say**	**37.17**	**336**	P	**P**	**09 49 20.9**	**+1.6**
	SNR=33						
USP	**Ospenovka**	**37.41**	**337**	P	**P**	**09 49 22.2**	**+1.0**
	SNR=23						
MKAR	**Makanchi Array**	**38.35**	**348**	P	**P**	**09 49 28.2**	**-0.9**
	comp=Z,6.8nm,0.7s,mb4.6,baz=167,slow=8.3,SNR=33						
MKAR				PcP	PcP	09 51 42.3	+0.9
	comp=Z,1.3nm,0.5s,baz=189,slow=3.4,SNR=3.5						
SONM	**Songino Array**	**39.88**	**14**	P	**P**	**09 49 42.1**	**+0.2**
	comp=Z,5.3nm,0.3s,mb4.8,baz=199,slow=7.2,SNR=62						
SONM				pP	pP	09 49 58.5	-1.5
	comp=Z,4.1nm,0.9s,baz=190,slow=8.2,SNR=4.1						
SONM				PcP	PcP	09 51 47.7	+1.5
	comp=Z,4.1nm,0.7s,baz=196,slow=3.9,SNR=8.6						
SONM				pPcP		09 52 06.3	
	comp=Z,2.0nm,0.9s,baz=189,slow=4.4,SNR=3.5						
SONM				LR	LR	10 08 14.4	
	comp=Z,80nm,19.2s,baz=2.1,slow=39						
SONM	**Songino Array**	**39.88**	**14**	P	**P**	**09 49 42.1**	**+0.2**
SONM				*PP	pP	09 49 58.5	-1.5
SONM						09 51 47.7	
MBWA	**Marble Bar**	**40.11**	**140**	eP	**P**	**09 49 42.3**	**-1.5**
	comp=Z,3.7nm,0.6s,mb4.4						
ZAK	**Zakamensk**	**41.67**	**10**	eP	**P**	**09 49 56.3**	**-0.3**
ZAK				e		09 51 53.2	
SNY	**Shenyang**	**41.94**	**35**	⇑P	**P**	**09 49 59.0**	**+0.2**
SNY				AMB	AMB		
	comp=Z,27nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**42.20**	**130**	⇑iP	PcP	09 51 55.6	+1.8
	comp=Z,7.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**42.20**	**130**	P	**P**	**09 49 59.9**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=330,slow=9.7,SNR=12						
FITZ				PcP	PcP	09 51 55.8	+2.0
	comp=Z,4.6nm,0.4s,baz=337,slow=4.2,SNR=22						
FITZ				LR	LR	10 07 22.8	
	comp=Z,117nm,20.6s,baz=299,slow=36						
MOY	**Mondy**	**42.59**	**7**	eP	**P**	**09 50 04.9**	**+0.8**
TLY	**Talaya**	**42.99**	**10**	⇑eP	**P**	**09 50 07.8**	**+0.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
CN2	**Changchun**	**44.27**	**34**	⇑P	**P**	**09

BOD	**Bodaibo**	**50.88**	**14**	*eP*	**P**		**09 51 07.7**	**-1.1**
BOD				pmax	pmax			
comp=Z,13nm,1.0s,mb4.9								
KLR	**Kul'dur**	**51.08**	**32**	*eP*	**P**		**09 51 08.0**	**-2.3**
ASPA	**Alice Springs**	**51.70**	**130⇑**	*iP*	**P**		**09 51 14.0**	**-0.9**
ASPA				*i*			09 52 29.0	
AS31	**Alice Springs**	**51.70**	**130⇑**	*iP*	**P**		**09 51 14.0**	**-0.9**
AS31				*i*			09 52 29.0	
ASAR	**Alice Springs**	**51.70**	**130**	P	**P**		**09 51 14.2**	**-0.8**
comp=Z,6.1nm,0.6s,mb4.8,baz=303,slow=7.5,SNR=129								
ASAR				PcP	PcP		09 52 28.9	+1.5
comp=Z,4.4nm,0.5s,baz=310,slow=3.4,SNR=17								
GNI	**Garni**	**52.62**	**314⇑**	*eP*	**P**		**09 51 24.1**	**+2.3**
GNI				pmax	pmax			
comp=Z,12nm,1.0s								
CLNS	**Chul'man**	**53.34**	**21**	*eP*	**P**		**09 51 24.9**	**-2.1**
CLNS				pmax	pmax			
comp=Z,15nm,0.9s,mb5.0								
CLNS				pmax	pmax			
comp=N,8.0nm,0.8s								
CLNS				pmax	pmax			
comp=E,9.0nm,0.9s								
ARU	**Arti**	**54.06**	**337⇑**	*iP*	**P**		**09 51 32.1**	**-0.2**
ARU				*e*PPP			09 54 43.1	
ARU				*e*S	**S**		**09 59 04.0**	**+1.1**
ARU				*e*SS	SS		10 02 38.5	-6.7
ARU				pmax	pmax			
comp=Z,7.0nm,0.8s,mb4.7								
ARU	**Arti**	**54.06**	**337**	*eP*	**P**		**09 51 32.0**	**-0.3**
comp=Z,5.1nm,0.8s,mb4.6								
ZEI	**Tsey**	**54.20**	**317**	*eP*	**P**		**09 51 34.9**	**+1.5**
ZEI				*e**PP	pP		09 51 55.6	+3.3
ZEI				pmax	pmax			
comp=Z,9.0nm,0.7s,mb4.9								
ASAJ	**Asahikawa**	**54.92**	**42**	P	**P**		**09 51 39.4**	**+0.8**
comp=Z,10nm,0.5s,mb5.1,baz=227,slow=7.3,SNR=16								
KIV	**Kislovodsk**	**55.48**	**317***c*	*iP*	**P**		**09 51 43.3**	**+0.7**
KIV				*i* *PP	pP		09 52 04.7	+3.1
KIV				pmax	pmax			
comp=Z,25nm,1.0s,mb5.2								
KIV	**Kislovodsk**	**55.48**	**317**	*eP*	**P**		**09 51 43.4**	**+0.8**
comp=Z,15nm,0.8s,mb5.1								
KIV				*e*pP	pP		09 52 04.5	+2.9
YSS	**Yuzh-Sakhalins**	**56.19**	**39***c*	*iP*	**P**		**09 51 48.2**	**+0.5**
YSS				pmax	pmax			
comp=Z,35nm,0.9s,mb5.4								
YSS	**Yuzh-Sakhalins**	**56.19**	**39**	*eP*	**P**		**09 51 48.0**	**+0.3**
comp=Z,29nm,0.6s,mb5.5								
KMBO	**Kilima Mbogo**	**56.60**	**262**	LR	LR		10 12 11.5	
comp=Z,80nm,18.7s,baz=89,slow=32								
YAK	**Yakutsk**	**58.85**	**19***de*	**P**	**P**		**09 52 05.8**	**-0.5**
YAK				pmax	pmax			
comp=Z,30nm,0.7s,mb5.4								
ANN	**Anapa**	**59.30**	**317**	*eP*	**P**		**09 52 08.6**	**-0.9**
ANN				*e*S	**S**		**10 00 11.3**	**-0.8**
ANN				pmax	pmax			
comp=Z,8.0nm,0.6s,mb4.9								
CTA	**Charters Tower**	**59.96**	**120**	*eP*	**P**		**09 52 15.2**	**+1.2**
comp=Z,8.6nm,0.9s,mb4.8								
CTA	**Charters Tower**	**59.96**	**120**	*eP*	**P**		**09 52 15.2**	**+1.2**
CTA				pmax	pmax			
comp=Z,9.0nm,0.9s								
CTAO	**Charters Tower**	**59.96**	**120**	*eP*	**P**		**09 52 14.9**	**+0.9**
CTAO				pmax	pmax			
comp=Z,13nm,0.9s,mb5.0								
CTAO	**Charters Tower**	**59.96**	**120**	*eP*	**P**		**09 52 14.9**	**+0.9**
comp=Z,13nm,0.9s,mb5.0								
BR131	**Keskin Array S**	**60.64**	**310**	*eP*	**P**		**09 52 18.3**	**-0.4**
comp=Z,4.8nm,0.8s,mb4.6								
BRTR	**Keskin Array B**	**60.64**	**310**	P	**P**		**09 52 18.2**	**-0.4**
comp=Z,4.3nm,0.8s,mb4.5,baz=122,slow=7.4,SNR=25								
STKA	**Stephens Creek**	**61.92**	**134**	*eP*	**P**		**09 52 26.9**	**-0.4**
comp=Z,2.2nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**61.92**	**134**	P	**P**		**09 52 27.1**	**-0.2**
comp=Z,2.9nm,0.5s,mb4.6,baz=294,slow=4.0,SNR=13								
OBN	**Obninsk**	**63.52**	**328⇓**	*eP*	**P**		**09 52 37.4**	**-0.5**
OBN				pmax	pmax			
comp=Z,16nm,1.1s,mb4.8								
TIRR	**Tirgusor**	**65.43**	**315⇓**	*iP*	**P**		**09 52 50.3**	**-0.1**
TIRR	**Tirgusor**	**65.43**	**315** ⇓	P	**P**		**09 52 50.3**	**-0.1**
MA2	**Magadan**	**65.86**	**28**	*i* P	**P**		**09 52 52.5**	**-0.6**
TIXI	**Tiksi**	**65.91**	**12⇑**	*eP*	**P**		**09 52 52.4**	**-1.0**
TIXI				pmax	pmax			
comp=Z,5.0nm,0.6s,mb4.5								
AKASG	**Malin Array Be**	**66.30**	**321**	P	**P**		**09 52 54.8**	**-1.1**
comp=Z,2.3nm,0.5s,mb4.3,baz=89,slow=5.5,SNR=13								
AKASG				pP	pP		09 53 14.4	-1.1
comp=Z,1.4nm,0.5s,baz=87,slow=5.5,SNR=3.6								
VRI	**Vrincioaia**	**66.87**	**316⇑**	*iP*	**P**		**09 53 01.0**	**+1.4**
VRI	**Vrincioaia**	**66.87**	**316** ⇑	P	**P**		**09 53 01.1**	**+1.5**
PLOR	**Plostina**	**66.92**	**316⇓**	*iP*	**P**		**09 53 01.1**	**+1.2**
MLR	**Muntele Rosu**	**67.34**	**315⇑**	*iP*	**P**		**09 53 04.0**	**+1.4**
MLR	**Muntele Rosu**	**67.34**	**315** ⇑	P	**P**		**09 53 04.0**	**+1.4**
SEY	**Seymchan**	**67.94**	**25⇑**	*eP*	**P**		**09 53 04.9**	**-1.4**
SEY	**Seymchan**	**67.94**	**25**	*i* P	**P**		**09 53 05.0**	**-1.3**
BURAR	**Bucovina Array**	**68.21**	**318⇑**	*iP*	**P**		**09 53 02.9**	**-5.1**
BURAR				S	pP		09 53 20.0	-7.6
JOF	**Joensuu**	**69.00**	**334**	*ep*	**P**		**09 53 11.9**	**-1.1**
comp=Z,6.2nm,0.5s,mb4.7								
DRGR		**69.77**	**316⇓**	*iP*	**P**		**09 53 18.5**	**+0.8**
DRGR		**69.77**	**316** ⇓	P	**P**		**09 53 18.5**	**+0.8**
FINES	**FINESS Array B**	**70.86**	**332**	P	**P**		**09 53 23.8**	**-0.5**
comp=Z,1.8nm,0.5s,mb4.2,baz=104,slow=6.2,SNR=17								
FINES				pP	pP		09 53 45.1	+1.1
comp=Z,1.2nm,0.5s,baz=100,slow=7.2,SNR=2.3								
FINES	**FINESS Array B**	**70.86**	**332**	P	**P**		**09 53 23.8**	**-0.5**
FINES				pP	pP		09 53 45.1	+1.1
CRVS	**Cervenica-Dubn**	**70.89**	**318**	*eP*	**P**		**09 53 25.9**	**+1.4**
KAF	**Kangasniemi**	**70.94**	**333**	*ep*	**P**		**09 53 23.3**	**-1.5**
comp=Z,2.8nm,0.4s,mb4.5,baz=104,slow=5.7								
KAF	**Kangasniemi**	**70.94**	**333**	*eP*	**P**		**09 53 23.3**	**-1.5**
KAF				pmax	pmax			
comp=Z,3.0nm,0.4s,mb4.5								
KECS	**Kecovo**	**71.47**	**318**	*eP*	**P**		**09 53 25.1**	**-3.0**
KECS				pmax	pmax			
comp=Z,3.0nm,0.6s,mb4.3								
KECS	**Kecovo**	**71.47**	**318**	*eP*	**P**		**09 53 25.1**	**-3.0**
comp=Z,2.5nm,0.6s,mb4.2								
OJC	**Ojcow**	**72.13**	**320**	*eP*	**P**		**09 53 32.3**	**+0.3**
PKSM	**Moragy**	**72.50**	**315⇓**	*iP*	**P**		**09 53 34.1**	**-0.1**
PKSM	**Moragy**	**72.50**	**315** ⇓	P	**P**		**09 53 34.1**	**-0.1**
VYHS	**Vyhne**	**72.57**	**318**	*eP*	**P**		**09 53 34.5**	**-0.1**
VYHS				*e*			09 57 14.4	
VYHS				*e*			09 57 33.4	
KEV	**Kevo**	**73.03**	**341**	*ep*	**P**		**09 53 36.0**	**-1.3**
ARCES	**ARCESS Array B**	**73.45**	**340**	P	**P**		**09 53 39.6**	**-0.2**
comp=Z,1.4nm,0.4s,mb4.1,baz=100,slow=6.2,SNR=18								
MORC	**Moravsky Berou**	**73.53**	**319⇓**	*iP*	**P**		**09 53 41.9**	**+1.6**
MORC	**Moravsky Berou**	**73.53**	**319** ⇓	P	**P**		**09 53 41.9**	**+1.6**
BOSA	**Boshof**	**75.56**	**237**	LR	LR		10 22 20.7	
comp=Z,55nm,19.8s,baz=11,slow=32								
GERES	**GERESS Array B**	**75.98**	**318**	P	**P**		**09 53 55.1**	**+0.6**
comp=Z,3.7nm,0.7s,mb4.2,baz=92,slow=5.8,SNR=23								
GERES				pP	pP		09 54 15.1	+0.7
comp=Z,2.3nm,0.6s,baz=93,slow=5.3,SNR=6.3								
KHC	**Kasperske Hory**	**76.08**	**318***d*	*iP*	**P**		**09 53 55.4**	**+0.4**
GRA1	**Grafenberg Arr**	**77.62**	**319**	*eP*	**P**		**09 54 04.4**	**+0.8**
comp=Z,6.0nm,1.0s,mb4.3								
GRF	**Grafenberg Arr**	**77.62**	**319**	*eP*	**P**		**09 54 04.4**	**+0.8**
comp=Z,6.0nm,1.0s,mb4.3								
GRF	**Grafenberg Arr**	**77.62**	**319**	*eP*	**P**		**09 54 04.4**	**+0.8**
GRF				pmax	pmax			
comp=Z,6.0nm,1.0s,mb4.3								
GRF	**Grafenberg Arr**	**77.62**	**319**	*eP*	**P**		**09 54 04.4**	**+0.8**
GRF				pmax	pmax			
comp=Z,6.0nm,1.0s,mb4.3								
NB2	**NORSAR Subarra**	**77.87**	**330**	P	**P**		**09 54 04.2**	**-0.8**
comp=Z,1.1nm,0.6s,mb3.8,baz=97,slow=5.1								
NB2	**NORSAR Subarra**	**77.87**	**330**	P	**P**		**09 54 04.2**	**-0.8**
NB2				pmax	pmax			
comp=Z,1.0nm,0.6s,mb3.7								
NOA	**NORSAR Array B**	**77.87**	**330**	P	**P**		**09 54 04.5**	**-0.5**
comp=Z,2.0nm,0.7s,mb3.9,baz=92,slow=5.7,SNR=6.4								
NOA				LR	LR		10 35 45.6	
comp=Z,15nm,18.5s,baz=220,slow=41								
MAW	**Mawson**	**79.86**	**191**	P	**P**		**09 54 17.6**	**+1.6**
comp=Z,1.0nm,0.8s,mb3.7,baz=300,slow=9.8,SNR=4.5								
LPG	**La Plagne**	**80.80**	**315**	*eP*	**P**		**09 54 21.9**	**+0.9**
comp=Z,18nm,0.9s,mb4.6								
LPG	**La Plagne**	**80.80**	**315**	*eP*	**P**		**09 54 21.9**	**+0.9**
LPG				pmax	pmax			
comp=Z,9.0nm,0.9s,mb4.6								
LPG	**La Plagne**	**80.80**	**315**	*eP*	**P**		**09 54 21.9**	**+0.9**
comp=Z,9.1nm,0.9s,mb4.6								
SYO	**Syowa Base**	**86.60**	**197⇑**	*e*PcP	PcP		09 54 52.3	-0.6
SYO	**Syowa Base**	**86.60**	**197⇓**	*e*pP	pP		09 55 10.0	-0.9
TORD	**Torodi Ar. Bea**	**89.25**	**283**	P	**P**		**09 55 05.0**	**+1.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=90,slow=4.7,SNR=7.8								
TORD				PKKPbc	PKKPbc		10 12 41.6	+2.4
comp=Z,0.3nm,0.5s,baz=304,slow=3.1,SNR=5.3								
MCK	**McKinley**	**93.43**	**23**	*eP*	**P**		**09 55 22.4**	**-0.2**
MCK				pmax	pmax			
comp=Z,4.0nm,0.9s,mb4.8								
MCK	**McKinley**	**93.43**	**23**	*eP*	**P**		**09 55 22.4**	**-0.2**
comp=Z,4.1nm,0.9s,mb4.8								
PMR	**Palmer**	**94.39**	**25**	*eP*	**P**		**09 55 26.9**	**-0.1**
PMR				pmax	pmax			
comp=Z,6.0nm,0.6s,mb5.1								
PMR	**Palmer**	**94.39**	**25**	*eP*	**P**		**09 55 26.9**	**-0.2**
comp=Z,5.9nm,0.6s,mb5.1								
VNDA	**Vanda**	**94.66**	**168**	P	**P**		**09 55 29.2**	**+0.9**
comp=Z,1.1nm,0.8s,mb4.3,baz=311,slow=3.5,SNR=6.1								
VNDA	**Vanda**	**94.66**	**168**	*eP*	**P**		**09 55 28.7**	**+0.4**
VNDA				pmax	pmax			
comp=Z,1.0nm,0.6s								
VNDA	**Vanda**	**94.66**	**168**	*eP*	**P**		**09 55 28.7**	**+0.4**
comp=Z,0.7nm,0.6s,mb4.3								
INK	**Inuvik**	**95.77**	**16**	*eP*	**P**		**09 55 32.9**	**-0.4**
comp=Z,135nm,0.4s								
PDAR	**Pinedale Array**	**124.06**	**20**	PKP	PKPdf		10 01 06.2	+1.0
comp=Z,1.4nm,0.8s,baz=33,slow=1.5,SNR=14								
PDAR				pPKP	pPKPdf		10 01 25.6	-0.9
comp=Z,1.2nm,0.9s,baz=90,slow=1.5,SNR=4.5								
MSU	**Marysvale**	**126.78**	**25**	*e*PKIKP	PKPdf		10 01 13.6	+3.2
PV10	**Paradox Valley**	**128.13**	**22**	*e*PKPdf	PKPdf		10 01 15.8	+2.8
JCT	**Junction City**	**138.41**	**17**	*e*PKIKP	PKPdf		10 01 33.2	+0.9
PLCA	**Paso Flores**	**145.63**	**202**	PKPbc	PKPbc		10 01 48.0	+2.4
comp=Z,10nm,0.9s,baz=152,slow=2.8,SNR=28								
PLCA	**Paso Flores**	**145.63**	**202**	*e*PKPdf	PKPdf		10 01 47.9	+2.7
CPUP	**Villa Florida**	**147.36**	**235**	PKPbc	PKPbc		10 01 52.4	+1.8
comp=Z,1.5nm,0.6s,baz=98,slow=4.8,SNR=5.0								
LPAZ	**La Paz**	**160.50**	**248**	PKPab	PKPab		10 02 50.9	+2.8
comp=Z,0.6nm,0.6s,baz=91,slow=14,SNR=4.0								

NIED ***03*** *09:43:00, 3730N×13900E, h5km, Mw3.9 Best double couple: M₀6.99000×10¹⁴ NP1:*ϕ_s*234.00000°,* δ*69.00000°,* λ*86.00000°. NP2:*ϕ_s*66.00000°,* δ*21.00000°,* λ*101.00000°.*

JMA 03 09:43:45.4, 3730N×13898E, h8km±1km, M3.5, 1C-5D Broadband fault plane solution: P waves. NP1: ϕ_s54.00000°, δ42.00000°, λ87.00000°. **NP2:**ϕ_s238.00000°, δ48.00000°, λ93.00000°. **Principal axes:** T Plg86.0000°, Azm180.0000°; N Plg2.0000°, Azm56.0000°; P Plg3.0000°, Azm326.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.06**	**150**	⇑P		Pg	09 43 47.3	+0.1
JHK					S	Sg	09 43 48.9	+0.4
JIZZ	**Izumozaki**	**0.32**	**317**	⇓P		Pg	09 43 52.0	+0.4
JIZZ					S	Sg	09 43 57.6	+1.8
JKT	**Katashina**	**0.57**	**158**	⇓P		Pg	09 43 56.3	-0.2
JKT					S	Sg	09 44 04.3	+0.3
JNS	**Sasagawa**	**0.58**	**27**	P		Pg	09 43 56.1	-0.6
JNS					S	Sg	09 44 04.1	-0.2
JFY	**Yanaizu**	**0.59**	**79**	⇓P		Pg	09 43 56.5	-0.2
JFY				*e*S		Sg	09 44 04.6	+0.2
JSD	**Sado**	**0.93**	**322**	⇓P		Pg	09 44 01.4	-1.9
JSD					S	Sg	09 44 13.7	-1.7
JAG	**Ashikaga**	**0.95**	**156**	⇓P		Pg	09 44 03.4	-0.3
JAG					S	Sg	09 44 16.1	0.0
MAT	**Matsushiro**	**0.98**	**220**	P		Pg	09 44 02.8	-1.4
MAT					S	Sg	09 44 15.2	-1.7
MAT	**Matsushiro**	**0.98**	**220**	P		Pg	09 44 02.8	-1.4
MAT					S	Sg	09 44 15.4	-1.5

IDC 03 10:54:02.8±2.2, 2174N×12383E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.2/25 Error ellipse: s-maj=309.2km s-min=27.7km az=71.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**6.50**	**38**	LR		LR	10 57 40.5	
comp=Z,85nm,18.7s,baz=36,slow=34								
MJAR	**Matsushiro Arr**	**19.34**	**37**	LR		LR	11 05 30.1	
comp=Z,36nm,21.6s,baz=300,slow=36								
SONM	**Songino Array**	**29.57**	**336**	P		P	11 00 09.4	+0.2
0.5nm,0.6s,baz=152,slow=9.3,SNR=3.9								
WRA	**Warramunga Arr**	**42.68**	**165**	P		P	11 02 01.4	+0.2
1.4nm,0.8s,baz=347,slow=8.8,SNR=11								
ASAR	**Alice Springs**	**46.18**	**167**	P		P	11 02 29.4	+0.1
0.3nm,0.6s,baz=348,slow=12,SNR=6.7								

CSEM ***03*** *11:20:17.2±0.1, 3698N×2803E, h10km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.9km az=16.0*
ISK ***03*** *11:20:17.2, 3693N×2801E, h18km, MD3.4*
ISCJB ***03*** *11:20:18.3±0.4, 3695N±002×2799E±003, h14km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=71.8*
ATH ***03*** *11:20:18.8, 3693N×2793E, h30km±6km, MD3.4/5*
NEIC ***03*** *11:20:18.8, 3693N×2793E, h30km, MD3.4(ATH), ML3.5(ISK), After ATH.*

ISC 03 11:20:18.5±0.4, 3695N±002×2802E±003, h12km±4km, n26, σ0ˢ97/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.40**	**331**	*i* PG		**Pg**	**11 20 25.8**	**-0.6**
MLSB				*i* SG		**Sg**	**11 20 32.6**	**+0.8**
DAT	**Datca**	**0.41**	**239**	*i* PG		**Pg**	**11 20 25.6**	**-1.0**
DAT				*i* SG		**Sg**	**11 20 32.3**	**+0.1**
BDRM	**Kayabasi**	**0.47**	**285**	*i* P		**Pg**	**11 20 26.8**	**-1.0**
BDRM				*i* S		**Sg**	**11 20 34.6**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.53**	**109**	*i* PG		**Pg**	**11 20 28.2**	**-0.6**
DALT				*i* SG		**Sg**	**11 20 36.2**	**+0.4**
BODT	**Bodrum**	**0.58**	**282**	*i* PG		**Pg**	**11 20 29.0**	**-0.7**
BODT				*i* SG		**Sg**	**11 20 37.9**	**+0.5**
AYDN	**Tasoluk**	**0.72**	**351**	*i* P		**Pg**	**11 20 31.9**	**-0.6**
AYDN				*i* S		**Sg**	**11 20 41.5**	**-0.4**
ARG	**Arkhangelos**	**0.73**	**173**	*e*PB		**Pg**	**11 20 32.1**	**-0.6**
ARG				*e*SN		**Sg**	**11 20 44.1**	**+1.8**
ARG	**Arkhangelos**	**0.73**	**173**	*e*Pb		**Pg**	**11 20 31.5**	**-1.2**
ARG				*e*Sn		**Sg**	**11 20 44.0**	**+1.7**
NISR	**Nisiros**	**0.79**	**245**	*e*PN		**Pg**	**11 20 33.5**	**-0.2**
DENT	**Denizli**	**1.14**	**45**	PN		**Pn**	**11 20 39.4**	**-0.9**
SMG	**Samos**	**1.21**	**309**	*e*PN		**Pn**	**11 20 40.5**	**-0.7**
AKAS	**Kas**	**1.46**	**119**	*i* P		**Pn**	**11 20 46.3**	**+1.6**
AKAS				*i* S		**Sg**	**11 21 10.2**	**+4.7**
KSL	**Kastellorizon**	**1.49**	**122**	*e*PN		**Pn**	**11 20 46.5**	**+1.4**
ELL	**Elmali**	**1.53**	**97**	PN		**Pn**	**11 20 44.2**	**-1.4**
KARP	**Karpathos**	**1.56**	**207**	*e*PB		**Pn**	**11 20 45.5**	**-0.5**
IZM	**Izmir**	**1.57**	**338**	PN		**Pn**	**11 20 45.1**	**-1.0**
KDAG	**Bornova**	**1.57**	**338**	*i* P		**Pn**	**11 20 47.0**	**+0.8**
KDAG				*i* S		**Sg**	**11 21 12.4**	**+3.3**
URLA	**Izmir**	**1.81**	**322**	*i* P		**Pn**	**11 20 50.3**	**+0.9**
URLA				*i* S		**Sg**	**11 21 18.0**	**+1.4**
TKTP	**Tekketepe**	**2.13**	**58**	*i* P		**Pg**	**11 20 58.0**	**-1.3**
TKTP				*i* S		**Sg**	**11 21 32.4**	**+5.3**
GDZ	**Gediz**	**2.43**	**28**	*i* P		**Pb**	**11 21 01.8**	**-0.3**
GDZ				*i* S		**Sg**	**11 21 40.2**	**+3.6**
HDMB	**Hadim**	**3.58**	**88**	*e*PN		**Pn**	**11 21 14.2**	**+0.4**
YLV	**Yalova**	**3.77**	**16**	*e*PN		**Pn**	**11 21 16.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.79**	**350**	*e*PN		**Pn**	**11 21 16.3**	**-0.4**
SART	**Tekirdag**	**3.79**	**350**	*i* P		**Pn**	**11 21 16.3**	**-0.5**
SART				*i* S		**Sg**	**11 22 20.2**	**-0.2**
ERMK	**Ermenek**	**3.94**	**93**	*i* P		**Pn**	**11 21 23.3**	**+4.5**
ERMK				*i* S		**Sn**	**11 22 12.6**	**+7.7**
IKL	**Isikli**	**4.62**	**97**	*e*PN		**Pn**	**11 21 28.4**	**+0.4**

CASC 03 11:26:08.5±2.6, 909N×8288W, h2km±10km, MD4.1, 4C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.23**	**149⇑**	*iP*		Pg	11 26 12.7	-0.3
BUS	**Buena Vista**	**0.98**	**298⇑**	*eP*		Pg	11 26 26.8	-0.5
BUS				*e*S		Sg	11 26 41.5	+1.5
VTU	**Volcan Turrial**	**1.27**	**317**	*eP*		Pg	11 26 32.8	0.0
VTU				*e*S		Sg	11 26 51.0	+1.9
LCR2	**La Lucha 2**	**1.28**	**300**	*eP*		Pg	11 26 31.9	-1.2
OCM	**Ochomogo**	**1.33**	**307⇑**	*eP*		Pg	11 26 33.1	-0.9
OCM				*e*S		Sg	11 26 51.6	+0.3
SJS	**Escuela Geolog**	**1.43**	**306**	*eP*		Pn	11 26 35.2	-0.3
SJS				*e*S		Sg	11 26 54.9	+0.4
LAJ	**Bijagual**	**1.45**	**302⇓**	*eP*		Pn	11 26 40.5	+4.9
LAJ				*e*S		Sg	11 27 05.0	+10
PRS1	**Puriscal**	**1.67**	**302⇑**	*eP*		Pn	11 26 38.6	-0.2
VPS2	**Volcan Poas 2**	**1.73**	**309**	*eP*		Pn	11 26 39.2	-0.4
POA2	**Poas 2**	**1.73**	**309⇓**	*eP*		Pn	11 26 41.0	+1.4
POA2				*e*S		Sn	11 27 04.3	+2.1
CGA2	**Cerro Gallo 2**	**1.81**	**300⇓**	*eP*		Pn	11 26 41.4	+0.6
CGA2				*e*S		Sn	11 27 05.8	+1.5
EPA	**Esparza**	**1.91**	**298**	*eP*		Pn	11 26 43.0	+0.8
EPA				*e*S		Sn	11 27 09.0	+2.2
VACR	**Volcan Arenal**	**2.24**	**308⇓**	*eP*		Pn	11 26 48.8	+2.2
CAO	**Cobano**	**2.28**	**286**	*eP*		Pn	11 26 47.4	+0.3
JCR	**Jicaral**	**2.33**	**289⇓**	*eP*		Pn	11 26 48.8	+1.0
JCR				*e*S		Sn	11 27 17.4	+0.3
BOA	**Boaco**	**4.37**	**321**	*eP*		Pn	11 27 14.5	-1.5

CSEM ***03*** *11:28:59.9±0.1, 3700N×2805E, h10km, MD3.5, Error ellipse: s-maj=1.7km s-min=1.3km az=19.0*
ISK ***03*** *11:28:59.9, 3695N×2801E, h15km, MD3.5*
ISCJB ***03*** *11:29:00.5±0.4, 3695N±003×2802E±003, h14km±4km, Error ellipse: s-maj=5.0km s-min=3.5km az=66.0*
NEIC ***03*** *11:29:01.3, 3695N×2790E, h26km, MD3.5(ATH), ML3.5(ISK), After ATH.*
ATH ***03*** *11:29:01.3, 3694N×2787E, h26km±4km, MD3.5/6*

ISC 03 11:29:01.2±0.4, 3695N±003×2800E±003, h13km±4km, n27, σ0ˢ87/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.39**	**332**	*i* PG		**Pg**	**11 29 08.5**	**-0.5**
MLSB				*i* SG		**Sg**	**11 29 14.1**	**-0.1**
DAT	**Datca**	**0.41**	**237**	*i* PG		**Pg**	**11 29 08.4**	**-0.9**
DAT				*i* SG		**Sg**	**11 29 14.7**	**-0.1**
BDRM	**Kayabasi**	**0.46**	**284**	*i* P		**Pg**	**11 29 09.6**	**-0.7**
BDRM				*i* S		**Sg**	**11 29 17.2**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.54**	**109**	*i* PG		**Pg**	**11 29 10.6**	**-1.1**
DALT				*i* SG		**Sg**	**11 29 18.9**	**0.0**
BODT	**Bodrum**	**0.57**	**282**	*i* PG		**Pg**	**11 29 11.9**	**-0.3**
BODT				*i* SG		**Sg**	**11 29 20.7**	**+0.9**
AYDN	**Tasoluk**	**0.72**	**352**	*i* P		**Pg**	**11 29 14.6**	**-0.5**
AYDN				*i* S		**Sg**	**11 29 29.2**	**+4.7**
ARG	**Arkhangelos**	**0.74**	**172**	*e*PB		**Pg**	**11 29 15.0**	**-0.5**
ARG				*e*SN		**Sg**	**11 29 27.2**	**+1.9**
ARG	**Arkhangelos**	**0.74**	**172**	*e*Pb		**Pg**	**11 29 14.5**	**-1.0**
ARG				*e*Sn		**Sg**	**11 29 27.2**	**+1.9**
NISR	**Nisiros**	**0.78**	**245**	*e*PN		**Pg**	**11 29 15.2**	**-1.1**
NISR	**Nisiros**	**0.78**	**245**	*e*Pn		**Pg**	**11 29 16.0**	**-0.3**
DENT	**Denizli**	**1.15**	**45**	*i* PN		**Pn**	**11 29 22.0**	**-0.8**
SMG	**Samos**	**1.20**	**309**	*e*PN		**Pn**	**11 29 23.1**	**-0.5**
SMG				*e*SN		**Sn**	**11 29 39.0**	**-0.7**
AKAS	**Kas**	**1.47**	**119**	*i* P		**Pg**	**11 29 29.4**	**-0.1**
AKAS				*i* S		**Sg**	**11 29 54.0**	**+5.4

JANG				eS	Sn	11 47 53.4	-10
JTM	**Tenmabayashi**	**10.60**	**242**	P	**Pn**	**11 46 03.5**	**-2.5**
JTM				eS	Sn	11 47 53.5	-10
JTH	**Tanohata**	**10.66**	**236**	eS	**Sn**	**11 47 54.0**	**-11**
JOSM	**Okushiri--Mats**	**10.90**	**251**	P	**Pn**	**11 46 09.6**	**-0.6**
OFUJ	**Ofunato**	**11.36**	**233**	eS	**Sn**	**11 48 12.7**	**-9.5**
JRG	**Rokugo**	**11.73**	**237**	eS	**Sn**	**11 48 23.4**	**-7.8**
JIO	**Ouri**	**11.98**	**232**	P	**Pn**	**11 46 22.1**	**-2.9**
JIO				eS	Sn	11 48 25.8	-12
KLR	**Kul'dur**	**14.74**	**288**	eP	**Pn**	**11 47 02.7**	**0.0**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,700nm,14.0s						
MJAR	**Matsushiro Arr**	**15.09**	**234**	P	**Pn**	**11 47 07.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=5.0						
YAK	**Yakutsk**	**20.60**	**327⇑**	eP	**P**	**11 48 12.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BILL	**Bilibino**	**22.56**	**13**	deP	**P**	**11 48 34.9**	**+1.2**
BILL				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.1						
SONM	**Songino Array**	**31.57**	**290**	P	**P**	**11 49 55.2**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=66,slow=8.1,SNR=3.9						
SONM				LR	LR	12 03 42.6	
	comp=Z,104nm,19.2s,MS3.5,baz=62,slow=38						
TLY	**Talaya**	**32.43**	**298⇑**	eP	**P**	**11 50 03.2**	**-0.1**
TLY				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.7						
LZH	**Lanzhou**	**38.07**	**272**	eP	**P**	**11 50 53.0**	**+1.2**
LZH				*SP	sP	11 50 59.5	-7.0
LZH				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
LZH	**Lanzhou**	**38.07**	**272**	eP	**P**	**11 50 53.0**	**+1.2**
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	11 50 57.0	-5.2
LZH				sP	sP	11 50 59.5	-7.0
GTA	**Gaotai**	**39.18**	**279**	eP	**P**	**11 51 02.3**	**+1.2**
GTA				AP	pP	11 51 06.3	-5.2
GTA				XP	sP	11 51 09.4	-6.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb3.9						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**11 51 21.8**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=36,slow=17,SNR=5.7						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**11 51 21.8**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**11 51 21.8**	**-0.6**
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**11 52 34.9**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=60,slow=9.7,SNR=9.1						
BVAR				LR	LR	12 16 35.6	
	comp=Z,70nm,19.3s,MS3.7,baz=321,slow=39						
BVAR	**Borovoye Array**	**51.13**	**310**	P	**P**	**11 52 34.9**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,70nm,19.3s						
ZRNK	**Zerenda**	**51.90**	**310**	eP	**P**	**11 52 40.4**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.90**	**310**	eP	**P**	**11 52 40.4**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.09**	**297⇓**	eP	**P**	**11 52 57.1**	**-0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
JIRN	**Jiri**	**55.14**	**275**	eP	**P**	**11 53 07.4**	**+1.9**
	comp=Z,3.1nm,0.2s,mb5.0						
GUN	**Gumba**	**55.19**	**275**	eP	**P**	**11 53 07.6**	**+1.7**
	comp=Z,8.7nm,0.4s,mb5.1						
ARU	**Arti**	**55.29**	**318⇓**	iP	**P**	**11 53 04.4**	**-2.2**
ARU				e		11 55 06.2	
ARU				ePPP		11 56 19.8	
ARU				eS	**S**	**12 00 44.2**	**-3.7**
ARU				eSS	SS	12 04 29.5	-3.0
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KKN	**Kakani**	**55.68**	**276**	eP	**P**	**11 53 11.0**	**+1.6**
	comp=Z,13nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.73**	**275**	eP	**P**	**11 53 11.1**	**+1.4**
	comp=Z,5.9nm,0.5s,mb4.9						
DMN	**Daman**	**55.91**	**276**	eP	**P**	**11 53 12.9**	**+1.9**
	comp=Z,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**55.99**	**276**	eP	**P**	**11 53 13.1**	**+1.5**
	comp=Z,13nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.85**	**277**	eP	**P**	**11 53 18.8**	**+1.1**
	comp=Z,15nm,0.9s,mb5.0						
ARCES	**ARCESS Array B**	**58.12**	**341**	P	**P**	**11 53 25.3**	**-1.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=40,slow=8.0,SNR=3.5						
ARCES	**ARCESS Array B**	**58.12**	**341**	P	**P**	**11 53 25.3**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JOF	**Joensuu**	**61.60**	**334**	ep	**P**	**11 53 48.7**	**-1.9**
	comp=Z,0.8nm,0.3s,mb4.3						
JOF	**Joensuu**	**61.60**	**334**	eP	**P**	**11 53 48.7**	**-1.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
KAF	**Kangasniemi**	**63.71**	**335**	ep	**P**	**11 54 01.5**	**-3.1**
	baz=36,slow=6.2						
FINES	**FINESS Array B**	**64.31**	**335**	P	**P**	**11 54 07.3**	**-1.2**
	comp=Z,3.8nm,0.6s,mb4.6,baz=38,slow=7.6,SNR=28						
FINES				LR	LR	12 25 07.4	
	comp=Z,33nm,21.2s,MS3.5,baz=357,slow=39						
FINES	**FINESS Array B**	**64.31**	**335**	eP	**P**	**11 54 07.3**	**-1.3**
PDAR	**Pinedale Array**	**64.73**	**54**	P	**P**	**11 54 09.9**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=45,slow=1.0,SNR=5.1						
PDAR				pP	pP	11 54 22.8	+0.5
	comp=Z,1.2nm,0.8s,baz=309,slow=2.3,SNR=8.5						
WRAB	**Tennant Creek**	**68.35**	**199⇑**	eP	**P**	**11 54 35.2**	**+0.8**
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**11 54 33.8**	**-0.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=16,slow=6.9,SNR=10						
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**11 54 33.8**	**-0.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.49**	**341**	P	**P**	**11 54 34.1**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**11 54 34.5**	**-0.8**
	comp=Z,3.0nm,0.7s,mb4.4,baz=27,slow=6.3,SNR=12						
NOA				LR	LR	12 29 12.6	
	comp=Z,36nm,20.1s,MS3.6,baz=235,slow=40						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**11 54 34.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,36nm,20.1s						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**11 54 34.5**	**-0.8**
NOA				LR	LR	12 29 12.6	
AKASG	**Malin Array Be**	**71.82**	**326**	P	**P**	**11 54 54.6**	**-1.1**
	comp=Z,3.1nm,0.5s,mb4.5,baz=33,slow=6.0,SNR=16						
AKASG	**Malin Array Be**	**71.82**	**326**	P	**P**	**11 54 54.7**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**72.06**	**199**	P	**P**	**11 54 57.3**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=10,slow=4.9,SNR=18						
ASAR	**Alice Springs**	**72.06**	**199**	P	**P**	**11 54 57.3**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BURAR	**Bucovina Array**	**75.86**	**327⇓**	iP	**P**	**11 55 19.4**	**0.0**
MORC	**Moravsky Berou**	**76.71**	**332⇓**	iP	**P**	**11 55 24.4**	**+0.2**
MORC	**Moravsky Berou**	**76.71**	**332⇓**	P	**P**	**11 55 24.4**	**+0.2**
CLL	**Collm**	**76.73**	**336**	iP	**P**	**11 55 23.4**	**-0.9**
	comp=Z,5.0nm,0.6s,mb4.6						
CLL				iPcP	PcP	11 55 44.4	+8.9
MLR	**Muntele Rosu**	**77.34**	**325⇓**	iP	**P**	**11 55 28.1**	**+0.4**
MLR	**Muntele Rosu**	**77.34**	**325⇓**	P	**P**	**11 55 28.2**	**+0.5**
MALT	**Malatya**	**77.43**	**313⇓**	iP	**P**	**11 55 30.3**	**+2.1**
MALT	**Malatya**	**77.43**	**313⇓**	P	**P**	**11 55 30.3**	**+2.1**
VOIR		**77.74**	**326⇑**	iP	**P**	**11 55 30.9**	**+1.0**
GZR	**Gura Zlata**	**78.65**	**327⇑**	iP	**P**	**11 55 35.8**	**+0.8**
BRTR	**Keskin Array B**	**78.67**	**317**	P	**P**	**11 55 34.9**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=92,slow=3.8,SNR=5.6						
BRTR				pP	pP	11 55 46.9	+0.6
	comp=Z,1.1nm,0.8s,baz=67,slow=3.8,SNR=4.1						
BRTR	**Keskin Array B**	**78.67**	**317**	P	**P**	**11 55 34.9**	**-0.2**
BRTR				*PP	pP	11 55 46.9	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**11 55 34.6**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=36,slow=7.1,SNR=7.8						
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**11 55 34.6**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BZS	**Buzias**	**78.89**	**328⇑**	iP	**P**	**11 55 37.1**	**+0.8**
VTS	**Vitosha**	**80.85**	**325⇑**	iP	**P**	**11 55 47.0**	**+0.1**

RSPR ***03*** *11:45:49.4, 18.19N×6345W, h126km±7km, MD3.9/9, MD3.9/9*
NEIC ***03*** *11:45:50.5, 1801N×6331W, h111km, MD3.4(TRN), MD3.9(RSPR), After TRN.*

TRN 03 11:45:48.3, 1806N×6340W, h120km, MD3.4, 5C-9D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.28**	**94**	eP	Pn	11 46 07.5	+2.3
STMA				eS	Sn	11 46 19.3	+1.4
SABS	**Saba**	**0.47**	**161⇓**	iP	Pn	11 46 07.7	+1.7
SABS				eS	Sn	11 46 20.2	+0.8
SABT	**Saba**	**0.47**	**161⇓**	iP	Pn	11 46 07.7	+1.7
SABT				eS	Sn	11 46 20.2	+0.8
BSK	**Brimstone Hill**	**0.89**	**143**	eP	Pn	11 46 10.9	+1.6
BSK				eS	Sn	11 46 26.9	+1.8
SKI	**Saint Kitts**	**0.96**	**139**	eP	Pn	11 46 12.0	+2.0
SKI				eS	Sn	11 46 27.6	+1.3
CPB	**Codrington**	**1.56**	**105**	eP	Pn	11 46 18.6	+2.2
CPB				eS	Sn	11 46 38.3	+0.6
BPA	**Boggy Peak**	**1.79**	**124**	eP	Pn	11 46 20.6	+1.5
BPA				eS	Sn	11 46 42.5	-0.1
MTP	**Monte Pirata**	**2.05**	**271⇑**	eP	Pn	11 46 22.8	+0.5
MTP				eS	Sn	11 46 49.2	+0.9
HUMP	**Col San Antoni**	**2.33**	**272**	eP	Pn	11 46 26.5	+0.6
HUMP				eS	Sn	11 46 55.1	+0.4
CBYP	**Canovanas**	**2.34**	**275⇑**	eP	Pn	11 46 26.6	+0.5
CBYP				eS	Sn	11 46 56.0	+0.9
CPD	**Cerro la Pandu**	**2.39**	**270⇑**	eP	Pn	11 46 27.2	+0.5
CPD				eS	Sn	11 46 57.9	+1.7
LZG	**Guadaloupe-1**	**2.46**	**141⇓**	eP	Pn	11 46 28.3	+0.7
BCG	**Bois Riant Cap**	**2.60**	**139⇓**	eP	Pn	11 46 30.6	+1.2
PHG	**Guadaloupe-2**	**2.64**	**140**	eP	Pn	11 46 31.9	+2.0
DEG	**La Desirade**	**2.83**	**128⇓**	eP	Pn	11 46 32.2	-0.2
MGG	**Marie-Galante**	**2.92**	**137⇓**	eP	Pn	11 46 34.6	+1.0
ICM	**Isla Caja Muer**	**2.98**	**267⇑**	eP	Pn	11 46 34.3	+0.1
ICM				eS	Sn	11 47 11.2	+1.5
CELP	**Cerrillos**	**3.02**	**271⇓**	eP	Pn	11 46 35.7	+0.8
CELP				eS	Sn	11 47 11.2	+0.4
AOPR	**Arecibo Observ**	**3.20**	**276⇓**	eP	Pn	11 46 38.5	+1.3
AOPR				eS	Sn	11 47 15.7	+0.8
LSP	**Las Mesas**	**3.51**	**272⇓**	eP	Pn	11 46 42.7	+1.5
LSP				eS	Sn	11 47 22.9	+0.7
CRPR	**Cabo Rojo, PR**	**3.53**	**270⇑**	eP	Pn	11 46 42.2	+0.7
CRPR				eS	Sn	11 47 23.9	+1.2

DHMR ***03*** *11:52:38.3±1.6, 1308N×4139E, h3km±17km, ML3.7*
ISCJB ***03*** *11:52:39.4±0.9, 1303N±009×4121E±007, h10km, Error ellipse: s-maj=15.5km s-min=5.1km az=107.5*

ISC 03 11:52:40.2±0.9, 1301N±009×4118E±007, h10km, n9, σ0§88/16, 1C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DESE	**Dese**	**2.41**	**219**	ePN	**Pn**	**11 53 20.5**	**+0.8**
DESE				eS	**Sb**	**11 53 54.0**	**+0.4**
TRBA	**At Turbah**	**2.87**	**85⇓**	iP	**Pn**	**11 53 24.1**	**-1.9**
TRBA				i S	**Sn**	**11 54 00.1**	**-0.4**
TRBA				AML	AML	11 54 22.0	
	comp=N,573nm,0.5s						
UDYN	**Al 'Udayn**	**2.87**	**70⇓**	iP	**Pn**	**11 53 25.3**	**-0.7**
UDYN				i S	**Sn**	**11 54 02.1**	**+1.5**
UDYN				AML	AML	11 54 18.2	
	comp=N,452nm,0.6s						
DHBB	**Dhamar BB**	**3.48**	**63**	i P	**Pn**	**11 53 33.9**	**-0.5**
DHBB				i S	**Sn**	**11 54 16.7**	**+1.0**
HAJJ	**Hajjah**	**3.55**	**41**	i P	**Pn**	**11 53 34.9**	**-0.5**
HAJJ				i S	**Sn**	**11 54 17.9**	**+0.4**
HAJJ				AML	AML	11 54 41.5	
	comp=Z,265nm,0.6s						
HAJJ	**Hajjah**	**3.55**	**41**	i P	**Pn**	**11 53 34.9**	**-0.5**
HAJJ				i S	**Sn**	**11 54 17.9**	**+0.5**
	comp=Z,133nm,0.6s						
LBOS		**4.05**	**77⇑**	iP	**Pn**	**11 53 41.0**	**-1.2**
LBOS				i S	**Sn**	**11 54 30.0**	**+0.3**
BDHA	**Al Bayda'**	**4.37**	**77**	i S	**Sn**	**11 54 38.2**	**+0.5**
BDHA				AML	AML	11 55 06.6	
	comp=N,306nm,0.6s						
BDHA	**Al Bayda'**	**4.37**	**77**	i S	**Sn**	**11 54 38.2**	**+0.5**
	comp=N,153nm,0.6s						

IDC 03 11:56:51.4±31.0, 4706N×15236E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/17, mbtmp4.0/3, Error ellipse: s-maj=725.5km s-min=274.4km az=142.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**63.54**	**334**	P	P	12 07 23.0	-0.6
	1.0nm,0.4s,baz=35,slow=7.8,SNR=11						
NB2	**NORSAR Subarra**	**67.77**	**341**	P	P	12 07 50.3	-0.6
	comp=Z,0.8nm,0.7s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.77**	**341**	P	P	12 07 50.6	-0.3
	comp=Z,0.7nm,0.6s,baz=27,slow=6.4,SNR=3.5						
AKASG	**Malin Array Be**	**71.00**	**326**	P	P	12 08 10.4	-0.4
	comp=Z,0.5nm,0.3s,baz=33,slow=6.0,SNR=5.0						

MAN 03 11:58:10.5, 1706N×12174E, h32km, mb2.9, ML4.3, MS4.2, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.14**	**147**	eP	Pb	11 58 17.3	+0.8
CAUP				eS	Sb	11 58 23.8	+3.3
CVP	**Callao Caves**	**0.64**	**7**	eP	Pb	11 58 23.0	-0.3
PALP	**Palanan**	**0.65**	**90⇓**	iP	Pn	11 58 24.7	+1.2
PALP				i S	Sb	11 58 36.9	+4.5
PALP	**Palanan**	**0.65**	**90⇓**	iP	Pn	11 58 24.7	+1.2
PALP				i S	Sb	11 58 36.9	+4.5
PALP	**Palanan**	**0.65**	**90**	eP	Pn	11 58 24.6	+1.1
PALP				eS	Sb	11 58 35.8	+3.4
ABRA	**Dolores**	**1.14**	**301**	eP	Pn	11 58 30.2	-0.1
ABRA				eS	Sn	11 58 45.4	+0.5
BALP	**Baler**	**1.32**	**187**	eP	Pn	11 58 32.7	-0.1
BALP				eS	Sn	11 58 50.1	+0.7

NEIC ***03*** *12:02:12.3, 4048N×12633W, h3km, MD3.5(NCEDC), After NCEDC.*
ISCJB ***03*** *12:02:13.3±0.4, 4041N±002×12610W±003, h10km, Error ellipse: s-maj=3.9km s-min=2.0km az=133.5*

ISC 03 12:02:15.4±0.4, 4040N±002×12607W±004, h10km, n172, σ1§16/236, 76C-95D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**1.61**	**74**	P	**Pn**	**12 02 41.8**	**-2.1**
	baz=1.6,SNR=340						
JCC				⇓S	**Sn**	**12 03 01.9**	**-2.8**
	baz=1.6						
O01C	**Eel River Cons**	**1.74**	**98**	⇑P	**Pn**	**12 02 44.9**	**-0.9**
	baz=1.8,SNR=68						
O01C				⇓S	**Sn**	**12 03 08.3**	**+0.3**
	baz=1.8						
KHMM	**Horse Mountain**	**1.84**	**74**	ePn	**Pn**	**12 02 45.6**	**-1.5**
KRMB	**Red Mountain**	**1.99**	**55**	ePn	**Pn**	**12 02 46.7**	**-2.3**
M01C	**Crescent City**	**2.06**	**45**	P	**Pn**	**12 02 48.3**	**-1.8**
	baz=2.1,SNR=604						
M01C				⇑S	**Sn**	**12 03 11.9**	**-4.0**
	baz=2.1						
KIPM	**Iron Peak**	**2.07**	**106**	ePn	**Pn**	**12 02 49.5**	**-0.7**
KIPM				eSn	**Sn**	**12 03 17.3**	**+1.2**
N02C	**Big Bar**	**2.15**	**78**	P	**Pn**	**12 02 49.6**	**-1.7**
	baz=2.2,SNR=460						
N02C				⇑S	**Sn**	**12 03 15.8**	**-2.2**
	baz=2.2						
KBO	**Bosley Butte**	**2.28**	**37**	ePn	**Pn**	**12 02 51.5**	**-1.7**
KBO				eSn	**Sn**	**12 03 16.1**	**-5.2**
P01C	**Double 8 Ranch**	**2.30**	**113**	⇑P	**Pn**	**12 02 52.3**	**-1.1**
	baz=2.3,SNR=296						
P01C				⇓S	**Sn**	**12 03 19.4**	**-2.2**
	baz=2.3						
O02C	**Red Bluff**	**2.52**	**94**	P	**Pn**	**12 02 56.1**	**-0.3**
	baz=2.5,SNR=384						
O02C				⇓S	**Sn**	**12 03 26.9**	**-0.3**
	baz=2.5						
KTRM	**Thompson Ridge**	**2.53**	**53**	P	**Pn**	**12 02 55.6**	**-1.0**
L02A	**Cave Junction**	**2.56**	**46**	⇑P	**Pn**	**12 02 55.6**	**-1.3**
	baz=2.6,SNR=1000						
L02A				⇑S	**Sn**	**12 03 25.6**	**-2.5**
	baz=2.6						
M02C	**Callahan**	**2.63**	**67**	⇓P	**Pn**	**12 02 56.3**	**-1.7**
	baz=2.6,SNR=279						
M02C				⇑S	**Sn**	**12 03 29.0**	**-1.0**
	baz=2.6						
GASB	**Alder Springs**	**2.68**	**105**	⇑P	**Pn**	**12 02 58.1**	**-0.5**
	baz=2.7,SNR=71						
GASB				⇓S	**Sn**	**12 03 31.6**	**+0.5**
	baz=2.7						
WDC	**Whiskeytown Da**	**2.70**	**85**	ePn	**Pn**	**12 02 57.7**	**-1.2**
WDC				eSn	**Sn**	**12 03 30.0**	**-1.6**
WDC	**Whiskeytown Da**	**2.70**	**85**	⇑P	**Pn**	**12 02 58.2**	**-0.7**
	baz=2.7,SNR=83						
WDC				⇓S	**Sn**	**12 03 31.3**	**-0.3**
	baz=2.7						
HOPS	**Hopland**	**2.71**	**120**	ePn	**Pn**	**12 02 57.7**	**-1.3**
HOPS				eSn	**Sn**	**12 03 33.6**	**+1.8**
HOPS	**Hopland**	**2.71**	**120**	⇓P	**Pn**	**12 02 57.8**	**-1.2**
	baz=2.7,SNR=89						
HOPS				⇓S	**Sn**	**12 03 32.3**	**+0.5**
	baz=2.7						
KEBM	**Edson Butte**	**2.79**	**27**	ePn	**Pn**	**12 02 58.3**	**-1.9**
KEBM				eSn	**Sn**	**12 03 26.0**	**-7.9**
YBH	**Yreka Blue Hor**	**2.87**	**61**	P	**Pn**	**12 03 00.2**	**-1.0**
YBH	**Yreka Blue Hor**	**2.87**	**61**	⇑P	**Pn**	**12 03 00.1**	**-1.1**
	baz=2.9,SNR=208						
YBH				⇑S	**Sn**	**12 03 35.7**	**-0.1**
	baz=2.9						
K02A	**Glendale**	**3.06**	**38**	⇓P	**Pn**	**12 03 02.9**	**-0.9**
	baz=3.1,SNR=788						
K02A				⇑S	**Sn**	**12 03 37.4**	**-3.0**
	baz=3.1						
O03C	**Acorn Hollow,**	**3.12**	**96**	⇓P	**Pn**	**12 03 04.1**	**-0.6**
	baz=3.1,SNR=10.0						
O03C				⇓S	**Sn**	**12 03 41.9**	**-0.1**
	baz=3.1						
M03C	**McCloud**	**3.12**	**72**	⇓P	**Pn**	**12 03 04.5**	**-0.2**
	baz=3.1,SNR=8.8						
M03C				⇓S	**Sn**	**12 03 42.6**	**+0.6**
	baz=3.1						
LHEM	**Herd Peak**	**3.16**	**66**	P	**Pn**	**12 03 05.3**	**0.0**
MNRC	**McLaughlin Nat**	**3.19**	**117**	⇑P	**Pn**	**12 03 05.7**	**+0.1**
	baz=3.2,SNR=21						
MNRC				⇓S	**Sn**	**12 03 43.1**	**-0.5**
	baz=3.2						
MCCM	**Marconi Confer**	**3.35**	**131**	ePn	**Pn**	**12 03 06.2**	**-1.6**
MCCM				eSn	**Sn**	**12 03 48.9**	**+1.3**
MCCM	**Marconi Confer**	**3.35**	**131**	⇓P	**Pn**	**12 03 06.3**	**-1.4**
	baz=3.4,SNR=26						
MCCM				⇓S	**Sn**	**12 03 47.4**	**-0.2**
	baz=3.4						
BUOR	**Burton Butte**	**3.44**	**56**	P	**Pn**	**12 03 10.4**	**+1.4**
DBO	**Dodson Butte**	**3.44**	**37**	P	**Pn**	**12 03 08.6**	**-0.5**
CVS	**Carmenet Viney**	**3.47**	**125**	⇓P	**Pn**	**12 03 08.6**	**-0.8**
	baz=3.5,SNR=35						
CVS				⇓S	**Sn**	**12 03 50.4**	**-0.2**
	baz=3.5						
M04C	**Macdoel**	**3.48**	**65**	⇓P	**Pn**	**12 03 09.5**	**-0.2**
	baz=3.5,SNR=47						
M04C				⇑S	**Sn**	**12 03 51.0**	**0.0**
	baz=3.5						
SUTB	**Sutter Butte**	**3.50**	**108**	⇓P	**Pn**	**12 03 09.1**	**-0.8**
	baz=3.5,SNR=9.8						
SUTB				⇑S	**Sn**	**12 03 50.5**	**-0.8**
	baz=3.5						
J02A	**Umpqua**	**3.50**	**31**	⇓P	**Pn**	**12 03 08.5**	**-1.4**
	baz=3.5,SNR=140						
J02A				⇓S	**Sn**	**12 03 47.9**	**-3.5**
	baz=3.5						
HATC	**Hat Creek Radi**	**3.53**	**82**	⇑P	**Pn**	**12 03 10.3**	**-0.1**
	baz=3.5,SNR=40						
HATC				⇓S	**Sn**	**12 03 53.2**	**+1.0**
	baz=3.5						
LAB	**Little Aspen B**	**3.55**	**57**	P	**Pn**	**12 03 11.7**	**+1.2**
BBOR	**Butler Butte**	**3.56**	**45**	P	**Pn**	**12 03 10.8**	**+0.1**
Q03C	**Winters**	**3.60**	**118**	⇑S	**Sn**	**12 03 56.9**	**+3.1**
	baz=3.6						
LASM	**Arnica Sink**	**3.61**	**69**	P	**Pn**	**12 03 12.1**	**+0.7**
ORV	**Oroville**	**3.61**	**102**	⇑P	**Pn**	**12 03 10.3**	**-1.1**
	baz=3.6,SNR=25						
ORV				⇓S	**Sn**	**12 03 53.7**	**-0.4**
	baz=3.6						
L04A	**Klamath Falls**	**3.62**	**59**	⇑P	**Pn**	**12 03 11.5**	**+0.1**
	baz=3.6						
L04A				⇑S	**Sn**	**12 03 53.2**	**-1.0**
	baz=3.6						
LBCM	**Butte Creek Ri**	**3.62**	**82**	P	**Pn**	**12 03 12.3**	**+0.8**
HOG	**Hogback Mounta**	**3.77**	**59**	P	**Pn**	**12 03 14.2**	**+0.6**
J03A	**Ideyld Park**	**3.77**	**37**	⇓P	**Pn**	**12 03 13.1**	**-0.5**
	baz=3.8,SNR=200						
J03A				⇑S	**Sn**	**12 03 54.6**	**-3.4**
	baz=3.8						
O04C	**Chester**	**3.81**	**90**	⇓P	**Pn**	**12 03 14.6**	**+0.4**
	baz=3.8,SNR=12						
O04C				⇓S	**Sn**	**12 03 59.4**	**+0.5**
	baz=3.8						
HSO	**Harness Mounta**	**3.83**	**34**	P	**Pn**	**12 03 14.1**	**-0.4**
M05C	**Lookout**	**3.86**	**74**	⇑P	**Pn**	**12 03 14.3**	**-0.4**
	baz=3.9,SNR=16						
M05C				⇑S	**Sn**	**12 03 59.7**	**-0.4**
	baz=3.9						
RNO	**

IRO	Indian Ridge	4.58	37	P	Pn	12 03 25.1	+0.3
MOD	Modoc	4.61	69	*e*Pn	Pn	12 03 24.2	-0.9
MOD	Modoc	4.61	69	⇊P	Pn	12 03 24.0	-1.1
	baz=4.6,SNR=29						
J05A	Fort Rock	4.62	50	P	Pn	12 03 26.0	+0.7
	baz=4.6,SNR=327						
S04C	Ingram Canyon,	4.69	126	⇊P	Pn	12 03 26.3	0.0
	baz=4.7						
S04C				⇊S	Sn	12 04 21.4	+0.6
	baz=4.7						
H03A	Soap Creek Ran	4.74	25	⇊P	Pn	12 03 26.6	-0.3
	baz=4.7						
H03A				⇑S	Sn	12 04 18.4	-3.5
	baz=4.7						
N06A	Buffalo Meadow	4.76	84	⇊P	Pn	12 03 26.6	-0.6
	baz=4.8,SNR=13						
N06A				⇊S	Sn	12 04 23.1	+0.7
	baz=4.8						
O06A	Flanigan	4.78	91	⇊S	Sn	12 04 23.1	+0.1
	baz=4.8						
P06A	Stead Airport,	4.79	97	⇊S	Sn	12 04 24.9	+1.7
	baz=4.8						
FRIS	Frissel Point	4.81	36	P	Pn	12 03 28.3	+0.4
R05C	Kirkwood Meado	4.93	108	⇑P	Pn	12 03 29.9	+0.3
	baz=5.0						
R05C				⇊S	Sn	12 04 29.1	+2.3
	baz=5.0						
NCOR	Newberry Crate	4.94	46	P	Pn	12 03 30.5	+0.9
K06A	Valley Falls	4.98	59	⇊P	Pn	12 03 30.4	+0.2
	baz=5.0,SNR=50						
WCN	Washoe City	4.98	101	⇊P	Pn	12 03 30.8	+0.5
	baz=5.0						
WCN				⇊S	Sn	12 04 30.6	+2.7
	baz=5.0						
CMB	Columbia Colle	5.01	116	*e*Pn	Pn	12 03 32.5	+1.9
	9.2nm,0.5s						
CMB				*e*Sn	Sn	12 04 29.4	+1.0
CMB	Columbia Colle	5.01	116	⇊P	Pn	12 03 32.1	+1.6
	baz=5.0						
PACP	Pacheco Peak	5.05	131	P	Pn	12 03 30.2	-0.9
	baz=5.1,SNR=16						
PACP				⇊S	Sn	12 04 28.4	-1.1
	baz=5.1						
BKCOR	Black Crater	5.07	38	P	Pn	12 03 31.7	+0.2
BEND	Bend	5.08	42	P	Pn	12 03 32.2	+0.6
SAO	San Andreas Ge	5.13	134	*e*Pn	Pn	12 03 30.4	-1.8
	11nm,0.7s						
SAO				*e*Sn	Sn	12 04 29.9	-1.6
H04A	Detroit Lake	5.15	33	P	Pn	12 03 32.5	-0.1
	baz=5.2,SNR=45						
H04A				⇑S	Sn	12 04 28.3	-3.9
	baz=5.2						
PINOR	Pine Mountain	5.16	47	P	Pn	12 03 33.5	+0.9
PAHR	Pah Rah Range	5.18	96	*e*Pn	Pn	12 03 33.5	+0.5
	8.7nm,0.7s						
I05A	Bend	5.18	42	⇑P	Pn	12 03 33.4	+0.5
	baz=5.2,SNR=13						
J06A	Christmas Vall	5.26	55	⇊P	Pn	12 03 34.2	+0.2
	baz=5.3,SNR=138						
M07A	Soldier Meadow	5.32	77	⇑P	Pn	12 03 34.2	-0.7
	baz=5.3,SNR=14						
G03A	Yamhill	5.32	22	⇊P	Pn	12 03 34.7	-0.2
	baz=5.3,SNR=8.0						
L07A	Adell	5.33	70	P	Pn	12 03 35.3	+0.3
	baz=5.3,SNR=12						
HAST	UC Hastings Re	5.35	137	⇊P	Pn	12 03 33.8	-1.5
	baz=5.4						
HAST				⇑S	Sn	12 04 34.5	-2.5
	baz=5.4						
N07B	Gerlach	5.42	84	⇊P	Pn	12 03 35.4	-0.8
	baz=5.4						
S05C	Merced	5.42	122	⇑P	Pn	12 03 37.5	+1.3
	baz=5.4,SNR=6.0						
S06C	San Francisco	5.45	115	⇊P	Pn	12 03 38.1	+1.4
	baz=5.5,SNR=18						
R06C	Coleville	5.46	108	⇊P	Pn	12 03 37.7	+0.9
	baz=5.5						
G04A	Mulino	5.48	28	P	Pn	12 03 37.4	+0.3
	baz=5.5,SNR=5.7						
O07A	Toulon	5.51	90	P	Pn	12 03 37.5	+0.1
	baz=5.5,SNR=8.0						
H05A	Madras	5.55	39	P	Pn	12 03 38.2	+0.1
	baz=5.6,SNR=58						
K07A	Rock Creek Ran	5.61	64	⇑P	Pn	12 03 38.8	0.0
	baz=5.6,SNR=33						
LRV	Little Rabbit	5.61	133	*e*P	Pn	12 03 37.8	-1.1
I06A	Prineville	5.61	49	⇊P	Pn	12 03 39.0	+0.1
	baz=5.6,SNR=11						
V03C	Hunter Liggett	5.80	137	P	Pn	12 03 40.5	-0.9
	baz=5.8,SNR=13						
V03C				⇑S	Sn	12 04 46.5	-1.5
	baz=5.8						
F03A	Seaside	5.83	18	⇑P	Pn	12 03 42.0	+0.2
	baz=5.8						
F03A				⇊S	Sn	12 04 45.1	-3.6
	baz=5.8						
WVOR	Wild Horse Val	5.95	68	*e*P	Pn	12 03 40.9	-2.6
	5.7nm,0.8s						
T06C	Milleton Lake	6.02	122	⇊P	Pn	12 03 45.4	+0.9
	baz=6.0,SNR=7.3						
H06A	Lindquist Farm	6.06	42	P	Pn	12 03 46.0	+1.0
	baz=6.1,SNR=30						
L08A	Fields	6.09	70	⇊P	Pn	12 03 45.2	-0.3
	baz=6.1						
KCC	Kaiser Creek	6.10	118	⇑P	Pn	12 03 46.8	+1.2
	baz=6.1						
I07A	Izee	6.11	51	⇊P	Pn	12 03 46.3	+0.6
	baz=6.1,SNR=48						
F04A	Amboy	6.14	25	⇑P	Pn	12 03 45.9	-0.3
	baz=6.1,SNR=7.4						
K08A	Mann Creek Ran	6.15	65	⇊P	Pn	12 03 45.5	-0.7
	baz=6.2,SNR=19						
PKD	Parkfield	6.22	134	⇑P	Pn	12 03 45.5	-1.8
	baz=6.2,SNR=31						
PKD				⇑S	Sn	12 04 56.2	-2.2
	baz=6.2						
G06A	Carlson Farm,	6.27	38	⇊P	Pn	12 03 47.7	-0.3
	baz=6.3,SNR=20						
G06A				⇑S	Sn	12 04 58.9	-0.8
	baz=6.3						
V04C	Ramage Ranch,	6.28	138	P	Pn	12 03 47.3	-0.8
	baz=6.3,SNR=11						
V04C				⇑S	Sn	12 04 58.2	-1.7
	baz=6.3						
H07A	Lands Inn, Kim	6.38	47	⇑P	Pn	12 03 50.8	+1.3
	baz=6.4,SNR=42						
J08A	Circle Bar Ran	6.39	60	⇊P	Pn	12 03 49.6	-0.1
	baz=6.4,SNR=28						
E03A	Lebam	6.41	16	⇊P	Pn	12 03 50.0	+0.1
	baz=6.4						
E03A				⇊S	Sn	12 04 58.9	-4.2
	baz=6.4						
Q08A	Gabbs	6.47	101	⇑P	Pn	12 03 51.2	+0.5
	baz=6.5						
L09A	Wilkinson Ranc	6.54	73	⇊P	Pn	12 03 51.8	+0.1
	baz=6.5						
I08A	Drewsey	6.59	55	⇑P	Pn	12 03 53.1	+0.8
	baz=6.6						
MTUM	Tungsten Hills	6.60	115	*e*Pn	Pn	12 03 56.9	+4.4
F06A	Goldendale	6.62	34	⇑P	Pn	12 03 52.3	-0.4
	baz=6.6						
HELL	Mitchell Peak,	6.66	122	⇊P	Pn	12 03 54.7	+1.4
	baz=6.7,SNR=12						
HELL				⇑S	Sn	12 05 11.6	+2.4
	baz=6.7						
K09A	Rome	6.67	67	⇊P	Pn	12 03 52.8	-0.6
	baz=6.7						
G07A	Ruggs Ranch, H	6.77	42	⇊P	Pn	12 03 55.8	+1.1
	baz=6.8,SNR=17						
H08A	Prairie City	6.85	51	⇊P	Pn	12 03 56.6	+0.7
	baz=6.8,SNR=8.5						
J09A	Fry Pan Ranch,	6.87	62	⇊P	Pn	12 03 56.6	+0.4
	baz=6.9						
E05A	Randle	6.91	26	⇊P	Pn	12 03 57.0	+0.2
	baz=6.9,SNR=15						
F07A	Phinny Hill Vi	7.09	37	⇊P	Pn	12 03 59.5	+0.2
	baz=7.1						
VES	Vestal, Richgr	7.15	127	⇑P	Pn	12 04 00.4	+0.5
	baz=7.2						
G08A	Pilot Rock	7.16	45	⇊P	Pn	12 04 01.3	+1.2
	baz=7.2						
E06A	Yakima	7.17	29	⇑P	Pn	12 04 00.9	+0.6
	baz=7.2,SNR=8.6						
D05A	Enumclaw	7.40	22	⇑P	Pn	12 04 04.0	+0.6
	baz=7.4						
H09A	Durkee	7.53	53	⇊P	Pn	12 04 04.1	-1.1
	baz=7.5						
ISA	Isabella	7.63	126	*e*Pn	Pn	12 04 08.2	+1.5
ISA	Isabella	7.63	126	P	Pn	12 04 08.3	+1.6
	baz=7.7,SNR=18						
E07A	Sunnyside	7.64	34	⇑P	Pn	12 04 07.1	+0.4
	baz=7.6						
BMO	Blue Mountains	7.85	53	*e*Pn	Pn	12 04 11.1	+1.6
	16nm,0.7s						
C05A	Tolt Reservoir	7.95	22	⇑P	Pn	12 04 12.2	+1.2
	baz=7.9						
F09A	S2 Ranch, Elgi	7.99	46	⇑P	Pn	12 04 12.9	+1.4
	baz=8.0						
Q11A	Duckwater	8.19	98	⇑P	Pn	12 04 16.5	+2.2
	baz=8.2						
B05A	Bryant	8.36	19	⇊P	Pn	12 04 17.1	+0.5
	baz=8.4,SNR=7.6						
E09A	Wood Farm, Sta	8.40	41	⇊P	Pn	12 04 17.9	+0.7
	baz=8.4						
D08A	Wollman Farm,	8.43	35	⇊P	Pn	12 04 17.7	+0.1
	baz=8.4						
C07A	Waterville	8.47	29	⇑P	Pn	12 04 19.0	+0.8
	baz=8.5,SNR=5.2						
F10A	Beach Ranch, E	8.53	46	⇑P	Pn	12 04 21.1	+2.2
	baz=8.5						
B06A	Marblemount	8.75	20	⇊P	Pn	12 04 23.7	+1.7
	baz=8.7						
Q12A	Willow Creek R	8.77	95	⇊P	Pn	12 04 24.6	+2.3
	baz=8.8						
GSC	Goldstone	8.92	122	⇑P	Pn	12 04 25.8	+1.5
	baz=8.9						
C08A	Higginbotham F	8.95	32	⇊P	Pn	12 04 25.3	+0.7
	baz=8.9						
A05A	Maple Falls	9.05	17	⇑P	Pn	12 04 27.7	+1.6
	baz=9.0						
B07A	Winthrop	9.11	26	⇊P	Pn	12 04 28.5	+1.5
	baz=9.1						
HLID	Hailey	9.24	66	*e*Pn	Pn	12 04 31.1	+2.4
	5.0nm,0.9s						
HLID	Hailey	9.24	66	⇊P	Pn	12 04 30.6	+2.0
	baz=9.2						
C09A	Chrisman Ranch	9.28	35	⇑P	Pn	12 04 30.1	+0.8
	baz=9.3						
HEC	Hector,Ludlow	9.52	123	⇑P	Pn	12 04 34.2	+1.7
	baz=9.5						
B09A	Rice	9.82	33	⇑P	Pn	12 04 37.8	+1.2
	baz=9.8						
DUG	Dugway	10.13	87	*e*Pn	Pn	12 04 44.4	+3.4
	2.1nm,0.9s						
DUG	Dugway	10.13	87	⇊P	Pn	12 04 43.1	+2.1
	baz=10						
A10A	Northport	10.50	32	⇑P	Pn	12 04 46.9	+1.0
	baz=10						
C12A	Trout Creek	10.55	43	⇊P	Pn	12 04 47.4	+0.8
	baz=10						
W13A	Hualapai Mount	11.00	115	⇑P	Pn	12 04 56.2	+3.4
	baz=11						
B12A	Libby	11.00	39	⇑P	Pn	12 04 54.7	+1.9
	baz=11						
C13A	Hot Springs	11.01	45	⇑P	Pn	12 04 53.9	+0.9
	baz=11						
A12A	Yaak River Ran	11.30	38	⇑P	Pn	12 04 59.2	+2.3
	baz=11						
B13A	Whitefish	11.50	42	⇑P	Pn	12 05 00.9	+1.3
	baz=12						

*IDC **03** 12:30:23.0±1.5, 4147S×7551W, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML4.4/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/24, Error ellipse: s-maj=37.9km s-min=21.7km az=94.0*

*ISCJB **03** 12:30:26.9±0.8, 4144S±008×753W±02, h33km, mb4.0/8, MS2.9/1, Error ellipse: s-maj=19.2km s-min=11.0km az=12.7*

*NEIC **03** 12:30:27.4±0.6, 4150S×7534W, h25km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=10.1km az=97.0*

ISC 03 12:30:28.5±0.8, 4146S±007×754W±02, h35km, n17, σ0991/16, mb4.0/8, MS2.9/1, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.71	80	Pn	Pn	12 31 22.9	-0.4
	6.5nm,0.3s,baz=255,slow=13,SNR=126						
PLCA	Paso Flores	3.71	80	Pn	Pn	12 31 22.9	-0.4
USHA	Ushuaia	14.15	163	Pn	Pn	12 33 44.7	-1.7
	0.5nm,0.3s,baz=281,slow=5.2,SNR=2.8						
USHA				LR	LR	12 39 19.2	
	comp=Z,83nm,19.4s,baz=319,slow=38						
LVC	Limon Verde	19.56	18	P	Pn	12 34 53.2	-1.5
	0.3nm,0.3s,baz=256,slow=4.2,SNR=2.6						
LVC				LR	LR	12 41 26.5	
	comp=Z,27nm,18.6s,baz=310,slow=34						
CPUP	Villa Florida	21.19	50	P	P	12 35 11.8	+0.8
	2.3nm,0.6s,mb3.7,baz=223,slow=9.1,SNR=8.2						
CPUP				LR	LR	12 44 17.6	
	comp=Z,54nm,20.7s,MS2.9,baz=33,slow=39						
SIV	San Ignacio	28.22	30	P	P	12 36 18.8	+0.8
	0.6nm,0.8s,mb3.3,baz=215,slow=16,SNR=3.1						
BDFB	Brasilia	34.92	51	P	P	12 37 16.6	-0.3
	1.7nm,0.4s,mb4.3,baz=187,slow=8.1,SNR=2.6						
VNA3	Neumayer Olymp	43.60	155	*e*	P	12 38 29.9	+0.7
VNA3				*e*		12 38 35.3	
VNA3				*e*	pP	12 38 40.3	+0.7
VNA1	Neumayer--Stat	44.00	154	*e*	P	12 38 34.4	+1.9
VNA1				*e*		12 38 39.2	
SNAA	Sanae	45.81	155	P	P	12 38 47.0	+0.1
	1.6nm,1.0s,mb3.9,baz=261,slow=7.3,SNR=13						
SNAA	Sanae	45.81	155	*e*	P	12 38 46.6	-0.2
SNAA				*e*		12 38 51.0	
SNAA				*e*	pP	12 38 55.7	-1.5
QSPA	South Pole Qui	48.79	180	*e*P	P	12 39 09.8	-0.3
	4.0nm,0.9s,mb4.5						
QSPA				*e*P		12 39 09.9	
BOSA	Boshof	78.91	118	P	P	12 42 28.2	-0.1
	3.2nm,0.8s,mb4.3,baz=215,slow=8.0,SNR=3.3						
BOSA	Boshof	78.91	118	P	P	12 42 28.2	-0.1
ANMO	Albuquerque	81.22	335	*e*P	P	12 42 41.3	+0.5
	1.8nm,1.0s,mb4.0						
PDAR	Pinedale Array	89.33	336	P	P	12 43 20.7	-0.5
	0.9nm,0.9s,mb4.1,baz=134,slow=3.9,SNR=6.9						
ARU	Arti	146.94	47	*e*P	PKPdf	12 50 06.7	+1.4

IDC 03 12:47:03.0±8.4, 028N×12230E, h150km±82km, mb3.4/4, mb1 3.5/5, mb1mx3.3/16, mbtmp3.8/5, Error ellipse: s-maj=120.2km s-min=24.0km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.56	170	P	P	12 51 09.1	+0.9
	0.2nm,0.3s,baz=6.7,slow=11,SNR=9.8						
WRA	Warramunga Arr	23.31	150	P	P	12 51 57.7	+0.3
	3.5nm,0.9s,baz=324,slow=11,SNR=39						
ASAR	Alice Springs	26.34	155	P	P	12 52 25.4	+0.6
	0.6nm,0.5s,baz=343,slow=14,SNR=20						
ASAR				PcP	PcP	12 55 47.2	+0.4
	0.2nm,0.4s,baz=345,slow=2.1,SNR=6.1						
STKA	Stephens Creek	36.83	152	P	P	12 53 55.5	-0.9
	1.6nm,0.6s,baz=331,slow=13,SNR=3.6						
SONM	Songino Array	49.34	346	P	P	12 55 36.9	0.0
	0.5nm,0.6s,baz=159,slow=8.9,SNR=4.3						

WEL 03 13:08:25.3±0.6, 3644S×17799E, h229km±7km, ML3.6/11, Error ellipse: s-maj=11.6km s-min=9.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.65	173	*e*PN	Pn	13 08 56.8	-6.0
PUZ				SN	S	13 09 31.8	-0.4
MWZ	Matawai	1.93	191	*e*PN	Pn	13 09 05.7	+0.3
MWZ				SN	S	13 09 37.0	+0.3
URZ	Urewera	1.95	201	PN	Pn	13 09 06.6	+1.0
URZ				SN	S	13 09 37.0	-0.1
KNZ	Kokohu	2.59	185	*e*PN	Pn	13 09 12.4	+0.4
BKZ	Black Stump Fm	2.97	203	PN	Pn	13 09 16.9	+0.8
BKZ				SN	S	13 09 56.1	-0.1
WNVZ	Wahianoa	3.45	212	PN	Pn	13 09 22.6	+1.0
PXZ	Pawanui	3.70	194	PN	Pn	13 09 25.3	+0.7
PXZ				SN	S	13 10 10.0	-1.3
BFZ	Birch Farm	4.45	197	PN	Pn	13 09 33.8	+0.1
MRZ	Mangatainoka R	4.62	203	PN	Pn	13 09 35.2	-0.5
MRZ				SN	S	13 10 28.9	-2.7
TIWZ	Tintock	4.64	200	PN	Pn	13 09 35.8	-0.1
KIW	Kapiti Island	5.03	208	*e*PN	Pn	13 09 39.9	-0.9
KIW				SN	S	13 10 36.9	-3.9
CAW	Cannon Point	5.19	205	PN	Pn	13 09 41.8	-1.0
PAWZ	Paruwai Farm	5.33	201	SN	S	13 10 44.3	-3.1
TCW	Tory Channel	5.58	210	*e*PN	Pn	13 09 46.1	-1.6
TCW				SN	S	13 10 48.7	-4.5
NNZ	Nelson	5.98	216	*e*PN	Pn	13 09 46.5	-6.2
NNZ				SN	S	13 10 57.6	-4.7
THZ	Tophouse	6.63	215	*e*PN	Pn	13 10 00.2	-0.8
KHZ	Kahutara	6.89	209	PN	Pn	13 10 02.7	-1.7
LTZ	Lake Taylor	7.72	213	*e*PN	Pn	13 10 13.5	-1.4

IDC 03 13:13:57.1±3.5, 581S×14683E, h0km, mb2.9/1, mb1 3.5/3, mb1mx3.4/10, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=77.6km s-min=49.3km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.59	175	Pn	Pn	13 14 54.2	+0.3
	9.3nm,0.3s,baz=354,slow=11,SNR=24						
PMG				Sn	Sn	13 15 34.0	-3.0
	6.4nm,0.3s,baz=15,slow=20,SNR=4.0						
WRA	Warramunga Arr	18.57	220	P	Pn	13 18 16.1	+0.4
	0.1nm,0.3s,baz=40,slow=12,SNR=4.0						
ASAR	Alice Springs	21.68	214	P	P	13 18 49.4	-0.1
	0.3nm,0.4s,baz=51,slow=9.4,SNR=6.5						
TORD	Torodi Ar. Bea	144.88	285	PKP	PKPdf	13 33 36.8	+0.7
	0.3nm,0.4s,baz=89,slow=2.9,SNR=5.5						

*NEIC **03** 13:19:47.8, 3439S×7225W, h34km, ML3.8(GUC), After GUC.*

NEIC Felt [III] at Pichilemu and [II] at Paredones.

GUC 03 13:19:47.8±0.5, 3440S×7225W, h33km±1km, MD4.1, ML3.8, 13C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.82	58	⇑*i*P	Pn	13 20 03.1	0.0
NICH	Los Niches	1.03	126	⇊*i*P	Pn	13 20 06.4	+0.4
NICH				*i* S	Sn	13 20 20.0	+0.7
SFDO	San Fernando	1.04	102	⇑*i*P	Pn	13 20 06.6	+0.5
LCCH	Las Cruces	1.08	32	⇊*i*P	Pn	13 20 07.0	+0.5
LCCH				*i* S	Sn	13 20 21.6	+1.2
TALC	Talca	1.12	153	*e*P	Pn	13 20 02.8	-4.3
TALC				*i* S	Sn	13 20 17.8	-3.6
TALC				AML	AML	13 20 18.7	
	comp=E,11μm,0.3s						
TALC	Talca	1.12	153	⇑*i*P	Pn	13 20 03.6	-3.5
TALC				*i* S	Sn	13 20 18.0	-3.4
TACH	Talagante	1.32	56	*e*P	Pn	13 20 10.6	+0.7
TACH				⇑*i*S	Sn	13 20 27.9	+1.7
TACH	Talagante	1.32	56	*e*P	Pn	13 20 10.3	+0.4
CNCO	Chanco	1.35	190	*e*P	Pn	13 20 11.3	+1.0
CNCO				*i* S	Sn	13 20 29.0	+1.8
CNCO				AML	AML	13 20 31.6	
	comp=E,1μm,0.5s						
CNCO	Chanco	1.35	190	*e*P	Pn	13 20 11.8	+1.4
CNCO				*i* S	Sn	13 20 29.1	+1.9
CACH	El Canelo	1.39	79	⇊*i*P	Pn	13 20 12.4	+1.5
CHCH	Chadas Angostu	1.40	71	⇑*i*P	Pn	13 20 12.1	+1.1
CHCH				*i* S	Sn	13 20 30.7	+2.4
RCDM	Rinconada Maip	1.50	53	⇑*i*P	Pn	13 20 13.2	+0.8
RCDM				*i* S	Sn	13 20 33.0	+2.2
RCDM				AML	AML	13 20 39.7	
	comp=E,1μm,0.1s						
RCDM	Rinconada Maip	1.50	53	⇑*i*P	Pn	13 20 13.2	+0.8
RCDM				*i* S	Sn	13 20 33.0	+2.2
CICH	Cipreses	1.51	88	*e*P	Pn	13 20 14.0	+1.4
CICH				*i* S	Sn	13 20 34.5	+3.4
ANTU	Antumapu	1.57	59	⇊*i*P	Pn	13 20 14.8	+1.4
ANTU				*i* S	Sn	13 20 35.4	+2.7
ANTU				AML	AML	13 20 41.5	
	comp=E,2μm,0.6s						
ANTU	Antumapu	1.57	59	⇊*i*P	Pn	13 20 14.8	+1.4
ANTU				*i* S	Sn	13 20 35.4	+2.7
SAN	Santiago	1.62	55	*e*P	Pn	13 20 15.5	+1.5
SAN				*e*S	Sn	13 20 36.9	+3.1
SAN				AML	AML	13 20 43.8	
	comp=E,2μm,0.3s						
SAN	Santiago	1.62	55	*e*P	Pn	13 20 16.5	+2.4
SAN				*i* S	Sn	13 20 38.0	+4.2
PCH	Pirque	1.64	62	⇑*i*P	Pn	13 20 15.9	+1.7
PCH				*i* S	Sn	13 20 37.0	+2.8
CLCH	Cerro Calan	1.74	55	⇑*i*P	Pn	13 20 17.1	+1.4
CLCH				*i* S	Sn	13 20 39.8	+3.1
CLCH				AML	AML	13 20 49.8	
	comp=E,1μm,0.5s						
CLCH				AML	AML	13 20 50.5	
	comp=E,2μm,0.7s						
ROCH	El Roble	1.76	36	*e*P	Pn	13 20 17.3	+1.4
LMEL	Las Melosas	1.78	73	⇑*i*P	Pn	13 20 18.0	+1.8
LMEL				*i* S	Sn	13 20 41.2	+3.5
LMEL				AML	AML	13 20 45.6	
	comp=N,2μm,0.2s						
LMEL	Las Melosas	1.78	73	⇑*i*P	Pn	13 20 18.0	+1.8
LMEL				*i* S	Sn	13 20 41.2	+3.5
PEL	Peldehue	1.81	47	⇊*i*P	Pn	13 20 18.3	+1.7
PEL				*i* S	Sn	13 20 41.1	+2.8
PEL				AML	AML	13 20 49.8	
	comp=N,2μm,0.3s						
PEL	Peldehue	1.81	47	⇊*i*P	Pn	13 20 18.3	+1.7
PEL				*i* S	Sn	13 20 41.1	+2.8
FCH	Farellones	1.95	57	⇑*i*P	Pn	13 20 20.0	+1.5
FCH				*e*S	Sn	13 20 46.0	+4.1
FCH				AML	AML	13 20 51.6	
	comp=N,835nm,0.4s						
JACH	Jahuel	2.20	39	⇑*i*P	Pn	13 20 23.6	+1.6

*ISCJB **03** 13:33:02.9±5.0, 2296N±009×1414E±04, h7km±31km, mb4.1/6, Error ellipse: s-maj=58.3km s-min=11.8km az=18.3.*

*IDC **03** 13:33:03.3±1.6, 2293N×14166E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=88.9km s-min=18.4km az=89.0*

*NEIC **03** 13:33:04.3±1.9, 2298N×14185E, h10km, Error ellipse: s-maj=120.0km s-min=13.2km az=85.0*

ISC 03 13:33:04.6±5.6, 2295N±009×1414E±04, h6km±34km, n11, σ0963/11, mb4.1/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.19	10	Pn	Pn	13 34 09.5	+0.5
	9.3nm,0.3s,baz=243,slow=22,SNR=7.9						
CBIJ				Sn	Sn	13 34 58.1	-0.1
	23nm,0.3s,baz=272,slow=23,SNR=5.9						
JOW	Kunigami	12.52	291	LR	LR	13 40 30.0	
	comp=Z,168nm,19.6s,baz=58,slow=35						
MJAR	Matsushiro Arr

*NEIC **03** 13:41:20.1±0.8,659N×126.11E,h148km±7km,mb4.9/21, Error ellipse: s-maj=12.0km s-min=5.4km az=67.0*
NEIC Felt [II PIVS] at Davao.
ISC 03 13:41:20.2±0.4,660N±003×12618E±005,h145km±3km, h143km±2.2km:pP-P,n144,σ1º08/150,mb4.7/60,12C-19D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.76**	**308**	⇓*i*P	**Pn**	**13 41 42.0**	**-0.5**
DAV	**Davao City (W)**	**0.76**	**308**	*e*Pn	**Pn**	**13 41 41.5**	**-1.0**
DAV				*e*Sn	**Sn**	13 41 57.4	-2.2
DMPH	**Davao City--Mi**	**0.83**	**306**	⇓*i*P	**Pn**	**13 41 42.4**	**-0.6**
DMPH				*i* S	**Sn**	13 42 00.1	-0.3
DMPH	**Davao City--Mi**	**0.83**	**306**	⇓*i*P	**Pn**	**13 41 42.4**	**-0.6**
DMPH				*i* S	**Sn**	13 42 00.1	-0.3
KCP	**Kidapawan**	**1.16**	**291**	⇑*i*P	**Pn**	**13 41 47.2**	**+1.3**
KCP				*i* S	**Sn**	13 42 07.4	+1.9
KCP	**Kidapawan**	**1.16**	**291**	⇑*i*P	**Pn**	**13 41 47.2**	**+1.3**
KCP				*i* S	**Sn**	13 42 07.4	+1.9
BUKP	**Musuan**	**1.69**	**319**	*e*P	**Pn**	**13 41 50.8**	**-0.6**
CTBH	**Cotabato--PC H**	**2.02**	**288**	⇓*i*P	**Pn**	**13 41 54.4**	**-0.8**
CTBH				*i* S	**Sn**	13 42 20.4	-1.6
CTBH	**Cotabato--PC H**	**2.02**	**288**	⇓*i*P	**Pn**	**13 41 54.4**	**-0.8**
CTBH				*i* S	**Sn**	13 42 20.4	-1.6
CGP	**Cagayan de Oro**	**2.36**	**321**	⇑*i*P	**Pn**	**13 41 58.1**	**-1.2**
CGP	**Cagayan de Oro**	**2.36**	**321**	⇑*e*P	**Pn**	**13 41 58.1**	**-1.2**
BUTP	**Butuan**	**2.42**	**347**	*e*P	**Pn**	**13 42 00.1**	**0.0**
BUTP				*e*S	**Sn**	**13 42 37.4**	**+6.7**
PAGZ	**Pagadian**	**3.04**	**294**	*e*P	**Pn**	**13 42 07.8**	**0.0**
SCPH	**Surigao**	**3.24**	**348**	⇓*e*P	**Pn**	**13 42 09.0**	**-1.3**
SCPH						13 42 48.6	
SCPH	**Surigao**	**3.24**	**348**	⇓*e*P	**Pn**	**13 42 09.0**	**-1.3**
SCPH				*e*S	**Sn**	**13 42 48.6**	**-0.6**
DCPH	**Dipolog City**	**3.43**	**305**	⇓*e*P	**Pn**	**13 42 13.1**	**+0.3**
DCPH	**Dipolog City**	**3.43**	**305**	⇓*e*P	**Pn**	**13 42 13.1**	**+0.3**
MSLP	**Maasin**	**3.75**	**340**	*e*P	**Pn**	**13 42 16.2**	**-0.7**
MSLP				*e*S	**Sn**	**13 43 02.8**	**+1.8**
IPIL	**Ipil**	**3.77**	**288**	⇑*i*P	**Pn**	**13 42 19.1**	**+1.9**
IPIL	**Ipil**	**3.77**	**288**	⇑*i*P	**Pn**	**13 42 19.1**	**+1.9**
IPIL	**Ipil**	**3.77**	**288**	*e*P	**Pn**	**13 42 19.3**	**+2.0**
TBP	**Tagbilaran**	**3.84**	**323**	*e*P	**Pn**	**13 42 19.6**	**+1.5**
TBP	**Tagbilaran**	**3.84**	**323**	*e*P	**Pn**	**13 42 19.6**	**+1.5**
SNPH	**Sibulan**	**4.00**	**313**	⇓*e*P	**Pn**	**13 42 20.0**	**-0.2**
SNPH	**Sibulan**	**4.00**	**313**	⇓*e*P	**Pn**	**13 42 20.0**	**-0.2**
LLP	**Lapu-Lapu**	**4.30**	**329**	*e*P	**Pn**	**13 42 24.1**	**0.0**
LLP	**Lapu-Lapu**	**4.30**	**329**	*e*P	**Pn**	**13 42 24.1**	**0.0**
OCLP	**Ormoc**	**4.69**	**341**	*e*P	**Pn**	**13 42 30.1**	**+0.7**
PLP	**Palo**	**4.69**	**345**	*e*P	**Pn**	**13 42 28.5**	**-0.8**
PLP	**Palo**	**4.69**	**345**	*e*P	**Pn**	**13 42 28.5**	**-0.8**
GUIM	**Jordan**	**5.35**	**319**	*e*P	**Pn**	**13 42 38.5**	**+0.4**
RCP	**Roxas**	**5.99**	**326**	⇓*e*P	**Pn**	**13 42 47.3**	**+0.8**
RCP	**Roxas**	**5.99**	**326**	⇓*e*P	**Pn**	**13 42 47.3**	**+0.8**
KALP	**Kalibo**	**6.32**	**323**	*e*P	**Pn**	**13 42 59.0**	**+8.1**
KALP	**Kalibo**	**6.32**	**323**	*e*P	**Pn**	**13 42 59.0**	**+8.1**
OTRP	**Odiongan**	**7.05**	**325**	*e*P	**Pn**	**13 43 02.4**	**+1.7**
PVCP	**Virac**	**7.24**	**344**	*e*P	**Pn**	**13 43 07.2**	**+3.9**
TSM	**Tawau**	**8.58**	**255**	P	**Pn**	**13 43 22.7**	**+1.4**
KKM	**Kota Kinabalu**	**9.92**	**267**	P	**Pn**	**13 43 36.2**	**-3.0**
KSM	**Kuching**	**16.63**	**253**	*e*P	**Pn**	**13 45 05.8**	**+1.1**
QIZ	**Qiongzhong**	**20.14**	**309**	P	**P**	**13 45 44.3**	**+1.5**
QIZ				AP		13 46 10.6	
QIZ				S	**S**	**13 49 15.1**	**-5.8**
QIZ				PCP	PcP	13 49 50.9	-0.6
QIZ				AMB	AMB		
	comp=Z,27nm,0.8s						
KAKA	**Kakadu**	**20.16**	**162**	⇓*i*P	**P**	**13 45 43.0**	**-0.1**
	comp=Z,190nm,0.7s						
KGM	**Kluang**	**23.24**	**260**	P	**P**	**13 46 16.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.55**	**181**	*e*P	**P**	**13 46 26.3**	**0.0**
	comp=Z,19nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.55**	**181**	P	**P**	**13 46 26.5**	**+0.2**
	comp=Z,7.2nm,0.4s,mb4.6,baz=6.6,slow=9.8,SNR=47						
IPM	**Ipoh**	**25.13**	**266**	P	**P**	**13 46 29.1**	**-2.4**
NJ2	**Nanjing**	**26.23**	**346**	*e*P	**P**	**13 46 42.1**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.3						
PMG	**Port Moresby**	**26.26**	**127**	P	**P**	**13 46 41.3**	**-0.4**
	comp=Z,8.5nm,0.5s,mb4.7,baz=311,slow=11,SNR=4.2						
PMG				LR	LR	13 57 18.8	
	comp=Z,100nm,19.6s,baz=265,slow=36						
PSI	**Prapat**	**27.42**	**263**	P	**P**	**13 46 50.4**	**-1.8**
	comp=Z,7.9nm,0.7s,mb4.5,baz=117,slow=7.8,SNR=6.4						
PSI				PcP	PcP	13 50 07.6	+0.5
	comp=Z,5.3nm,0.6s,baz=146,slow=3.6,SNR=4.1						
PSI				LR	LR	13 59 13.9	
	comp=Z,161nm,19.7s,baz=178,slow=39						
PSI	**Prapat**	**27.42**	**263**	P	**P**	**13 46 50.4**	**-1.8**
PSI						13 50 07.6	
WRAB	**Tennant Creek**	**27.56**	**163**	⇑*e*P	**P**	**13 46 53.1**	**-0.3**
WRA	**Warramunga Arr**	**27.57**	**163**	P	**P**	**13 46 52.6**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.5,baz=343,slow=10,SNR=69						
WRA				ScP	ScP	13 53 36.9	+2.5
	comp=Z,2.6nm,0.8s,baz=345,slow=3.6,SNR=8.5						
WB2	**Warramunga Arr**	**27.57**	**163**	⇓*i*P	**P**	**13 46 52.4**	**-1.1**
KMI	**Kunming**	**29.02**	**312**	P	**P**	**13 47 07.6**	**+1.2**
KMI				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.2						
KMI				LR	LR		
	comp=Z,69nm,21.5s						
KMI	**Kunming**	**29.02**	**312**	P	**P**	**13 47 07.6**	**+1.2**
	comp=Z,44nm,0.8s,mb5.2						
KMI				LR	LR		
	comp=Z,70nm,21.5s						
TIA	**Tai'an**	**30.62**	**346**	*e*P	**P**	**13 47 21.1**	**+0.6**
AS31	**Alice Springs**	**31.01**	**166**	*e*P	**P**	**13 47 23.4**	**-0.5**
ASAR	**Alice Springs**	**31.01**	**166**	P	**P**	**13 47 23.6**	**-0.2**
	comp=Z,10.0nm,0.4s,mb4.9,baz=342,slow=7.3,SNR=142						
ASAR				S	**S**	**13 52 18.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=355,slow=20,SNR=4.5						
ASAR				ScP	ScP	13 53 48.1	+2.7
	comp=Z,1.4nm,0.8s,baz=346,slow=2.5,SNR=7.1						
ASAR	**Alice Springs**	**31.01**	**166**	P	**P**	**13 47 23.7**	**-0.2**
ASAR				S	**S**	**13 52 18.3**	**+0.3**
ASPA	**Alice Springs**	**31.01**	**166**	*e*P	**P**	**13 47 23.4**	**-0.5**
XAN	**Xi'an**	**31.64**	**332**	P	**P**	**13 47 28.7**	**-0.7**
XAN				AP	pP	13 47 32.4	-28
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
MJAR	**Matsushiro Arr**	**31.77**	**19**	ScP	ScP	13 53 51.4	+3.4
	comp=Z,3.7nm,0.9s,baz=202,slow=5.2,SNR=11						
CD2	**Chengdu**	**32.04**	**322**	P	**P**	**13 47 33.4**	**+0.5**
DL2	**Dalian**	**32.43**	**353**	P	**P**	**13 47 38.3**	**+2.0**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
CTA	**Charters Tower**	**33.06**	**144**	*e*P	**P**	**13 47 42.1**	**+0.3**
	comp=Z,19nm,1.2s,mb4.7						
CTA	**Charters Tower**	**33.06**	**144**	P	**P**	**13 47 43.2**	**+1.4**
	comp=Z,15nm,0.8s,mb4.8,baz=327,slow=11,SNR=24						
CTA	**Charters Tower**	**33.06**	**144**	*e*P	**P**	**13 47 42.1**	**+0.3**
CTA				pmax	pmax		
	comp=Z,19nm,1.2s						
CTAO	**Charters Tower**	**33.06**	**144**	*e*P	**P**	**13 47 41.5**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.2						
CTAO	**Charters Tower**	**33.06**	**144**	*e*P	**P**	**13 47 41.5**	**-0.3**
	comp=Z,59nm,1.3s,mb5.2						
BJT	**Baijiatuau**	**34.47**	**346**	*e*P	**P**	**13 47 55.1**	**+1.1**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJT	**Baijiatuau**	**34.47**	**346**	*e*P	**P**	**13 47 55.1**	**+1.1**
	comp=Z,104nm,1.0s,mb5.5						
BJI	**Beijing**	**34.49**	**346**	P	**P**	**13 47 55.1**	**+1.0**
BJI				AMB	AMB		
	comp=Z,99nm,1.0s,mb5.5						
BJI				AMB	AMB		
	comp=Z,212nm,4.4s						
BJI	**Beijing**	**34.49**	**346**	P	**P**	**13 47 55.1**	**+1.0**
	comp=Z,99nm,1.0s,mb5.5						
FORT	**Forrest**	**37.21**	**177**	⇓*i*P	**P**	**13 48 17.6**	**+0.3**
	comp=Z,46nm,0.4s,mb5.5						
KLBR	**Kellerberrin**	**38.82**	**192**	*e*P	**P**	**13 48 30.8**	**0.0**
	comp=Z,50nm,1.2s,mb5.0						
MUN	**Mundaring**	**39.52**	**193**	*e*P	**P**	**13 48 39.8**	**+3.2**
ASAJ	**Asahikawa**	**40.04**	**18**	P	**P**	**13 48 41.2**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.0,baz=218,slow=18,SNR=5.0						
NWAO	**Narrogin (SRO)**	**40.22**	**192**	P	**P**	**13 48 43.0**	**+0.6**
	comp=Z,6.4nm,0.4s,mb4.6,baz=356,slow=8.6,SNR=16						
GTA	**Gaotai**	**40.38**	**328**	*e*P	**P**	**13 48 44.2**	**+0.5**
GTA				AP	pP	13 49 15.5	-0.2
GTA				XP	sP	13 49 31.6	-0.5
GTA				PCP	PcP	13 50 45.5	+1.5
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**40.99**	**160**	⇓*i*P	**P**	**13 48 49.0**	**+0.3**
	comp=Z,27nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**40.99**	**160**	P	**P**	**13 48 49.0**	**+0.3**
	comp=Z,30nm,0.7s,mb5.0,baz=341,slow=7.8,SNR=41						
STKA				PP	PP	13 50 25.1	-1.1
	comp=Z,10nm,0.9s,baz=344,slow=10.0,SNR=3.5						
STKA				ScP	ScP	13 54 23.7	+1.6
	comp=Z,3.4nm,0.9s,baz=13,slow=6.9,SNR=3.9						
STKA				LR	LR	14 08 43.4	
	comp=Z,77nm,18.8s,baz=25,slow=40						
KLR	**Kul'dur**	**42.74**	**5**	*e*P	**P**	**13 49 00.0**	**-3.0**
KLR				*e*		13 50 50.0	
HIA	**Hailar**	**42.87**	**354**	*e*P	**P**	**13 49 05.6**	**+1.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**42.87**	**354**	*e*P	**P**	**13 49 05.6**	**+1.6**
	comp=Z,14nm,0.8s,mb4.7						
JIRN	**Jiri**	**43.30**	**304**	*e*P	**P**	**13 49 08.1**	**+0.7**
	comp=Z,48nm,0.5s,mb5.4						
GUN	**Gumba**	**43.64**	**304**	*e*P	**P**	**13 49 10.7**	**+0.5**
	comp=Z,63nm,0.6s,mb5.5						
PKI	**Pulchoki**	**43.91**	**303**	*e*P	**P**	**13 49 12.3**	**0.0**
	comp=Z,23nm,0.6s,mb5.0						
KKN	**Kakani**	**44.10**	**304**	*e*P	**P**	**13 49 13.6**	**-0.2**
	comp=Z,24nm,0.6s,mb5.0						
ARMA	**Armidale**	**44.16**	**148**	*e*P	**P**	**13 49 15.3**	**+1.0**
DMN	**Daman**	**44.18**	**303**	*e*P	**P**	**13 49 14.5**	**+0.1**
	comp=Z,30nm,0.8s,mb5.0						
SONM	**Songino Array**	**44.42**	**341**	P	**P**	**13 49 16.8**	**+0.4**
	comp=Z,4.3nm,1.0s,mb4.0,baz=168,slow=8.6,SNR=13						
SONM				PcP	PcP	13 50 58.4	+0.8
	comp=Z,5.7nm,0.8s,baz=150,slow=3.4,SNR=13						
GKN	**Gorkha**	**44.70**	**304**	*e*P	**P**	**13 49 18.4**	**-0.2**
	comp=Z,24nm,0.6s,mb5.0						
KOLN	**Koldanda**	**45.49**	**303**	*e*P	**P**	**13 49 25.3**	**+0.5**
	comp=Z,65nm,0.6s,mb5.4						
CIT	**Chita**	**46.47**	**349**	*e*P	**P**	**13 49 34.1**	**+1.6**
CIT				*e*	pP	13 50 07.9	+2.7
CIT				*e*		13 51 05.7	
CIT				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.2						
CNB	**Canberra Magne**	**47.06**	**154**	*e*P	**P**	**13 49 38.2**	**+1.1**
	comp=Z,17nm,0.8s,mb4.7						
TOO	**Toolangi**	**47.49**	**159**	*e*P	**P**	**13 49 41.9**	**+1.5**
	comp=Z,8.8nm,0.9s,mb4.4						
TOO	**Toolangi**	**47.49**	**159**	*e*P	**P**	**13 49 41.9**	**+1.5**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
TLY	**Talaya**	**48.65**	**341**	*e*P	**P**	**13 49 49.9**	**+0.6**
TLY				*e*	pP	13 50 22.9	+0.6
TLY				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
DZM	**Mont Dzumac**	**48.66**	**127**	*e*P	**P**	**13 49 50.1**	**+0.8**
DZM	**Mont Dzumac**	**48.66**	**127**	P	**P**	**13 49 50.3**	**+0.9**
	comp=Z,21nm,0.5s,mb5.0,baz=266,slow=9.2,SNR=46						
WMQ	**Urumqi**	**50.09**	**324**	*e*P	**P**	**13 50 00.9**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,107nm,4.1s						
WMQ				LR	LR		
	comp=Z,353nm,21.0s						
BOD	**Bodaibo**	**51.97**	**352**	⇓*i*P	**P**	**13 50 15.0**	**+0.8**
BOD				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.0						
PET	**Petropavlovsk**	**53.33**	**24**	⇑*e*P	**P**	**13 50 28.9**	**+4.7**
PET				pmax	pmax		
	comp=Z,41nm,1.7s,mb4.9						
YAK	**Yakutsk**	**55.38**	**2**	*c i*P	**P**	**13 50 40.4**	**+1.3**
YAK				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.1						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK	**Yakutsk**	**55.38**	**2**	*e*P	**P**	**13 50 39.6**	**+0.6**
	comp=E,31nm,0.7s,mb5.2						
KRAR	**Krasnoyarsk**	**55.89**	**338**	*ce*P	**P**	**13 50 42.3**	**-0.4**
KRAR				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.1						
NVS	**Novosibirsk**	**59.09**	**333**	*i* P	**P**	**13 51 03.8**	**-1.3**
NVS				*e*	pP	13 51 36.5	-2.8
NVS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.2s						
BVAR	**Borovoye Array**	**64.64**	**326**	P	**P**	**13 51 41.4**	**-0.8**
	comp=E,7.5nm,0.8s,mb4.6,baz=126,slow=9.3,SNR=29						
BRVK	**Borovoye**	**64.71**	**326**	*e*P	**P**	**13 51 41.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
BRVK	**Borovoye**	**64.71**	**326**	*e*P	**P**	**13 51 41.9**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8						
URZ	**Urewera**	**65.00**	**138**	P	**P**	**13 51 45.6**	**+1.1**
	comp=Z,14nm,1.1s,mb4.7,baz=326,slow=7.3,SNR=5.6						
ZRNK	**Zerenda**	**65.37**	**326**	*e*P	**P**	**13 51 46.1**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**65.37**	**326**	*e*P	**P**	**13 51 46.0**	**-0.9**
	comp=Z,118nm,1.0s,mb5.7						
BILL	**Bilibino**	**66.94**	**15**	⇑*e*P	**P**	**13 52 04.3**	**+7.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.3						
ARU	**Arti**	**72.24**	**327**	⇓*i*P	**P**	**13 52 27.4**	**-2.0**
ARU				*e*S	S	14 01 46.8	+6.4
ARU				*e*SS	SS	14 06 22.1	+1.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	**Arti**	**72.24**	**327**	*e*P	**P**	**13 52 27.6**	**-1.8**
	comp=Z,3.5nm,0.6s,mb4.3						
KDAK	**Kodiak Island**	**79.78**	**33**	P	**P**	**13 53 12.2**	**+0.1**
	comp=Z,8.2nm,1.0s,mb4.3,baz=318,slow=14,SNR=3.7						
ZEI	**Tsey**	**79.90**	**312**	*e*P	**P**	**13 53 12.4**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
MCK	**McKinley**	**81.86**	**27**	*e*P	**P**	**13 53 23.2**	**+0.1**
OBN	**Obninsk**	**84.42**	**325**	⇑*i*P	**P**	**13 53 36.0**	**-0.3**
OBN				*e*	pP	13 54 11.0	-1.7
OBN				pmax	pmax		
	comp=Z,31nm,1.2s,mb4.9						
ANN	**Anapa**	**84.52**	**314**	*e*P	**P**	**13 53 35.1**	**-1.7**
ANN				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
VNDA	**Vanda**	**86.32**	**173**	P	**P**	**13 53 45.9**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.8,baz=303,slow=5.3,SNR=7.9						
JOF	**Joensuu**	**86.40**	**333**	*ep*	**P**	**13 53 44.3**	**-1.8**
	comp=Z,9.6nm,0.5s,mb4.8						
KEV	**Kevo**	**87.03**	**340**	*ep*	**P**	**13 53 47.5**	**-1.6**
	comp=Z,5.0nm,0.7s,mb4.5						
KEV	**Kevo**	**87.03**	**340**	*e*P	**P**	**13 53 47.5**	**-1.6**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**87.59**	**340**	P	**P**	**13 53 51.0**	**-0.8**
	comp=Z,22nm,0.8s,mb5.0,baz=79,slow=6.2,SNR=57						
INK	**Inuvik**	**87.71**	**21**	P	**P**	**13 53 51.5**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.1,baz=358,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**87.78**	**310**	P	**P**	**13 53 51.5**	**-1.2**
	comp=Z,1.4nm,0.7s,mb3.9,baz=123,slow=6.3,SNR=7.1						
KAF	**Kangasniemi**	**88.82**	**332**	*ep*	**P**	**13 53 54.9**	**-2.7**
	comp=Z,9.6nm,0.8s,mb4.8,baz=75,slow=4.4						
KAF	**Kangasniemi**	**88.82**	**332**	*e*P	**P**	**13 53 54.9**	**-2.7**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**89.06**	**332**	P	**P**	**13 53 57.5**	**-1.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=90,slow=3.8,SNR=11						
KMBO	**Kilima Mbogo**	**89.07**	**269**	P	**P**	**13 53 59.4**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=64,slow=10,SNR=6.3						
AKASG	**Malin Array Be**	**89.34**	**321**	P	**P**	**13 53 58.6**	**-1.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=71,slow=4.4,SNR=11						
NB2	**NORSAR Subarra**	**95.99**	**334**	P	**P**	**13 54 29.1**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.5,baz=65,slow=4.6						
NB2	**NORSAR Subarra**	**95.99**	**334**	P	**P**	**13 54 29.1**	**-1.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
NOA	**NORSAR Array B**	**95.99**	**334**	P	**P**	**13 54 29.4**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.7,baz=65,slow=4.7,SNR=7.3						
BRG	**Berggiesshubel**	**98.62**	**324**	*e*(P)	**P**	**13 54 42.3**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.7						
BRG	**Berggiesshubel**	**98.62**	**324**	*e*P	**P**	**13 54 42.3**	**-0.3**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
DSB	**Dublin**	**108.22**	**332**	*e*P	PKiKP	13 59 34.1	+3.2
PDAR	**Pinedale Array**	**109.55**	**40**	PKKPab	PKKPab	14 10 49.0	-1.3
	comp=Z,0.4nm,0.7s,baz=106,slow=5.7,SNR=4.3						
WMOK	**Wichita Mounta**	**120.94**	**43**	*e*P	PKPdf	13 59 55.4	+0.2
TORD	**Torodi Ar. Bea**	**121.48**	**290**	PKP	PKPdf	13 59 57.1	+0.9
	comp=Z,4.8nm,0.8s,baz=60,slow=1.8,SNR=24						
CCM	**Cathedral Cave**	**123.56**	**35**	*e*PKPdf	PKPdf	14 00 04.5	+4.3
FRNY	**Flat Rock**	**125.80**	**17**	*e*PKPdf	PKPdf	14 00 10.3	+5.8

*NIED **03** 13:42:00,3700N×13570E,h8km,Mw4.4 Best double couple: M0:4.91000×10^15 NP1:φs:234.00000°,δ88.00000°, λ-174.00000°. NP2:φs:144.00000°,δ84.00000°, λ-2.00000°.*
*IDC **03** 13:42:29.2±1.1,3685N×13574E,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.8/19,mbtmp3.9/5,MS3.5/6,Ms1 3.5/6, ms1mx3.1/34,Error ellipse: s-maj=33.2km s-min=21.3km az=35.0*
*NEIC **03** 13:42:30.1,3700N×13565E,h31km,mb4.1/2,After JMA.*
NEIC Recorded [2 JMA] in Ishikawa and [1 JMA] in Fukui, Gifu, Kyoto and Toyama Prefectures, Honshu.
*JMA **03** 13:42:30.0±0.1,3700N×13565E,h31km±2km,M4.6 Broadband fault plane solution: P waves. NP1: φs:327.00000°,δ44.00000°,λ-18.00000°. NP2:φs:70.00000°, δ78.00000°,λ-133.00000°. Principal axes: T Plg21.0000°, Azm191.0000°; N Plg41.0000°, Azm81.0000°; P Plg41.0000°, Azm301.0000°;*
JMA Felt II J1.
*ISCJB **03** 13:42:30.6±0.9,3696N±004×13568E±004,h26km±7km, mb4.1/6,MS3.8/3 Error ellipse: s-maj=7.0km s-min=4.6km az=154.3*
*MOS **03** 13:42:31.7±1.5,3688N×13562E,h33km,mb4.2/5,Error ellipse: s-maj=24.1km s-min=15.3km az=111.4*
*BJI **03** 13:42:36.4,3679N×13501E,h13km,mB4.8,mb4.1,Ms3.8, Msz3.5*
ISC 03 13:42:30.4±1.7,3693N±004×13570E±003,h15km±11km, n37,σ1º10/39,mb4.1/6,MS3.8/3,6C-2D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.83**	**142**	P	**Pb**	**13 42 46.7**	**+0.2**
JKG				S	**Sb**	**13 42 58.6**	**+1.2**
JJH	**Hakui**	**0.87**	**90**	⇓P	**Pb**	**13 42 46.6**	**-0.5**
JJH				S	**Sb**	**13 42 59.0**	**+0.5**
JHG	**Hegura jima**	**1.33**	**46**	⇑P	**Pn**	**13 42 52.8**	**-1.7**
JTT	**Ttatey**	**1.35**	**103**	P	**Pn**	**13 42 54.0**	**-0.7**
JTT				S	**Sn**	**13 43 12.4**	**0.0**
JKY	**Yasaka**	**1.39**	**201**	⇑P	**Pn**	**13 42 54.7**	**-0.5**
JSZ	**Suzu**	**1.42**	**68**	⇑P	**Pn**	**13 42 54.7**	**-1.0**
JSZ				S	**Sn**	**13 43 12.5**	**-1.7**
JGM	**Miyama**	**1.48**	**146**	P	**Pn**	**13 42 56.6**	**+0.1**
JKSM	**Kasumi**	**1.58**	**212**	⇑P	**Pn**	**13 42 57.4**	**-0.5**
JKSM				S	**Sn**	**13 43 17.6**	**-0.5**
JWT	**Wachi**	**1.66**	**188**	⇑P	**Pn**	**13 42 58.8**	**-0.2**
SAI	**Saigo**	**2.04**	**250**	S	**Sn**	**13 43 28.0**	**-1.3**
MAJO	**Matsushiro**	**2.05**	**100**	*e*Pn	**Pn**	**13 43 04.3**	**0.0**
MAJO				*e*Sn	**Sn**	**13 43 27.4**	**-2.2**
MAT	**Matsushiro**	**2.05**	**100**	P	**Pn**	**13 43 04.2**	**-0.1**
MAT				S	**Sn**	**13 43 30.1**	**+0.5**
MJAR	**Matsushiro Arr**	**2.05**	**100**	Pn	**Pn**	**13 43 04.8**	**+0.4**
	16nm,0.3s,baz=254,slow=22,SNR=87						
MJAR				Sn	**Sn**	**13 43 31.9**	**+2.2**
	32nm,0.3s,baz=290,slow=26,SNR=14						
MJAR	**Matsushiro Arr**	**2.05**	**100**	P	**Pn**	**13 43 04.8**	**+0.4**
MJAR						13 43 31.9	
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax			
	comp=N,32nm,0.3s						
JHJ	**Hachijo jima 2**	**5.07**	**137**	LR	LR	13 45 26.4	
	comp=N,169

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.90	138	P	Pn	14 23 09.2	+0.3
URZ	Urewera	0.90	138	PN	Pn	14 23 09.0	+0.1
URZ				SN	Sn	14 23 31.8	-0.3
MWZ	Matawai	1.20	129	*e*P	Pn	14 23 11.4	+0.5
MWZ	Matawai	1.20	129	PN	Pn	14 23 11.0	+0.1
MWZ				SN	Sn	14 23 36.1	+0.4
MXZ	Matakaoa Point	1.56	89	PN	Pn	14 23 14.0	+0.1
BKZ	Black Stump Fm	1.57	176	P	Pn	14 23 14.2	+0.2
BKZ	Black Stump Fm	1.57	176	PN	Pn	14 23 14.1	+0.1
BKZ				SN	Sn	14 23 41.0	-0.3
PUZ	Puketiti	1.59	108	*e*P	Pn	14 23 14.4	+0.2
PUZ	Puketiti	1.59	108	PN	Pn	14 23 14.3	+0.2
PUZ				SN	Sn	14 23 40.7	-0.8
TUVZ	Tukino	1.76	198	P	Pn	14 23 14.3	-1.4
KNZ	Kokohu	1.77	144	*e*P	Pn	14 23 16.2	+0.4
KNZ	Kokohu	1.77	144	PN	Pn	14 23 16.1	+0.3
FWVZ	Far West T-bar	1.77	200	P	Pn	14 23 16.6	+0.8
FWVZ	Far West T-bar	1.77	200	PN	Pn	14 23 16.5	+0.7
WNVZ	Wahianoa	1.83	198	P	Pn	14 23 16.6	+0.3
WNVZ	Wahianoa	1.83	198	PN	Pn	14 23 16.6	+0.3
PKVZ	Pokaka	1.86	204	PN	Pn	14 23 17.5	+0.8
MOVZ	Moawhango	1.87	194	P	Pn	14 23 16.6	-0.1
MOVZ	Moawhango	1.87	194	PN	Pn	14 23 16.4	-0.3
WAZ	Wanganui	2.41	206	*e*P	Pn	14 23 23.0	+0.7
PXZ	Pawanui	2.47	171	PN	Pn	14 23 22.4	-0.6
PXZ				SN	Sn	14 23 56.5	-0.9
TSZ	Takapari Road	2.48	187	P	Pn	14 23 22.5	-0.6
TSZ	Takapari Road	2.48	187	PN	Pn	14 23 22.4	-0.7
TSZ				SN	Sn	14 23 56.6	-1.0
BFZ	Birch Farm	3.08	181	PN	Pn	14 23 28.7	-1.3
BFZ				SN	Sn	14 24 08.1	-1.8
MRZ	Mangatainoka R	3.12	191	*e*P	Pn	14 23 28.7	-1.7
MRZ	Mangatainoka R	3.12	191	PN	Pn	14 23 28.6	-1.8
TIWZ	Tintock	3.20	186	SN	Sn	14 24 09.2	-3.2
KIW	Kapiti Island	3.45	198	P	Pn	14 23 32.3	-2.0
KIW	Kapiti Island	3.45	198	PN	Pn	14 23 32.1	-2.2
MTW	Mount Morrison	3.62	190	P	Pn	14 23 33.9	-2.5
MTW	Mount Morrison	3.62	190	PN	Pn	14 23 33.7	-2.7
CAW	Cannon Point	3.65	195	P	Pn	14 23 34.4	-2.3
CAW	Cannon Point	3.65	195	PN	Pn	14 23 34.4	-2.3
DUWZ	D'Urville Isla	3.71	210	PN	Pn	14 23 35.2	-2.4
TRWZ	Traveller	3.83	187	PN	Pn	14 23 36.3	-2.6
MRW	Makara Radio	3.85	199	PN	Pn	14 23 36.5	-2.6
MSWZ	Moikau Station	3.91	192	P	Pn	14 23 37.2	-2.7
MSWZ	Moikau Station	3.91	192	PN	Pn	14 23 37.0	-2.9
TCW	Tory Channel	3.95	203	P	Pn	14 23 37.9	-2.5
TCW				S	Sn	14 24 24.3	-4.5
TCW	Tory Channel	3.95	203	PN	Pn	14 23 37.8	-2.6
TCW				SN	Sn	14 24 23.6	-5.2
TUWZ	Tuamarina	4.26	205	PN	Pn	14 23 41.5	-2.7
NNZ	Nelson	4.28	211	*e*P	Pn	14 23 41.6	-2.9
NNZ	Nelson	4.28	211	PN	Pn	14 23 41.6	-2.9
QRZ	Quartz Range	4.38	221	*e*P	Pn	14 23 42.5	-3.2
QRZ	Quartz Range	4.38	221	PN	Pn	14 23 42.5	-3.2
BSWZ	Blackbirch Sta	4.53	204	*e*P	Pn	14 23 45.0	-2.7
THZ	Tophouse	4.94	211	*e*P	Pn	14 23 50.0	-2.7
THZ	Tophouse	4.94	211	*e*PN	Pn	14 23 48.5	-4.2
KHZ	Kahutara	5.28	203	*e*P	Pn	14 23 54.1	-2.9
KHZ	Kahutara	5.28	203	PN	Pn	14 23 53.9	-3.2
LTZ	Lake Taylor	6.05	210	*e*P	Pn	14 24 02.9	-4.0
LTZ	Lake Taylor	6.05	210	PN	Pn	14 24 02.8	-4.1

SOF ***03*** *14:33:56.1, 4122N×2240E, h20km, MD3.2*
SKO ***03*** *14:33:57.7, 4123N×2251E, h22km, M1.5, ML3.2*
ISCJB ***03*** *14:33:58.4±0.3, 4121N±001×2251E±002, h2km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=45.3*
CSEM ***03*** *14:33:58.7±0.1, 4126N×2249E, h10km, ML3.2, Error ellipse: s-maj=1.2km s-min=1.1km az=121.0*
ATH ***03*** *14:33:59.6, 4126N×2251E, h38km±13km, MD3.7/8*
NEIC ***03*** *14:33:59.6±0.4, 41.15N×2259E, h10km, MD3.2(PDG), MD3.7(ATH), Error ellipse: s-maj=6.8km s-min=5.0km az=218.0*
THE ***03*** *14:33:59.0, 4122N×2248E, h7km, ML3.8*
PDG ***03*** *14:33:59.4±0.6, 4121N×2251E, h11km±1km*
ISC 03 14:33:59.2±0.3, 4120N±001×2251E±002, h2km±2km, n69, σ1§11/113, 14C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.13	20	*e*Pg	Pg	14 34 01.2	-0.5
VAY				*e*Sg	Sg	14 34 04.1	+0.6
VAY	Valandovo	0.13	20	*i* Pg	Pg	14 34 01.5	-0.3
VAY				*e*Lg		14 34 04.0	
	comp=E,4μm,0.2s						
VAY				*i* Sg	Sg	14 34 04.1	+0.6
VAY				*e*Lg		14 34 04.1	
	comp=N,32μm,0.3s						
VAY	Valandovo	0.13	20	*e*Pg	Pg	14 34 01.2	-0.5
VAY				*e*Lg		14 34 04.0	
	comp=N,4μm,0.2s						
VAY				*e*Sg	Sg	14 34 04.1	+0.6
GRG	Griva	0.25	199	*e*Pg	Pg	14 34 04.9	+0.8
GRG				*e*Sg	Sg	14 34 09.1	+1.7
KNT	Kendrikon	0.29	97	*e*Pg	Pg	14 34 05.9	+1.1
KNT				*e*Sg	Sg	14 34 09.7	+1.0
STIP	Stip	0.55	334	*e*Pg	Pg	14 34 09.0	-0.8
STIP	Stip	0.55	334	⇑*i*Pg	Pg	14 34 09.0	-0.8
STIP				*i* Sg	Sg	14 34 17.1	+0.1
STIP				*e*Lg		14 34 18.0	
	comp=E,322nm,0.3s						
STIP				*e*Lg		14 34 19.3	
	comp=N,288nm,0.2s						
STIP	Stip	0.55	334	*e*Pg	Pg	14 34 09.0	-0.8
STIP				*i* Sg	Sg	14 34 17.0	0.0
STIP				*e*Lg		14 34 17.9	
	comp=N,322nm,0.3s						
THE	Thessaloniki	0.66	148	*e*Pg	Pg	14 34 11.4	-0.4
THE				*e*Sg	Sg	14 34 21.2	+0.7
THE	Thessaloniki	0.66	148	*e*Pg	Pg	14 34 11.4	-0.4
THE				*e*Sg	Sg	14 34 21.2	+0.8
SOH	Sokhos	0.74	120	*e*Pg	Pg	14 34 13.7	+0.3
SOH				*e*Sg	Sg	14 34 24.2	+1.2
HORT	Hortiatis	0.75	143	*e*Pg	Pg	14 34 14.0	+0.5
HORT				*e*Sg	Sg	14 34 25.0	+1.8
KKB	Krupnik	0.80	33	*i* Pg	Pg	14 34 14.1	-0.3
KKB				*i* Sg	Sg	14 34 24.2	-0.5
SRS	Serrai	0.82	95	*e*Pg	Pg	14 34 15.1	+0.2
SRS				*e*Sg	Sg	14 34 26.6	+1.0
BIA	Bitola	0.91	259	*i* Pg	Pg	14 34 15.6	-1.1
BIA				*i* Sg	Sg	14 34 28.5	0.0
BIA				*e*Lg		14 34 28.8	
	comp=E,224nm,0.3s						
BIA				*e*Lg		14 34 29.9	
	comp=N,170nm,0.2s						
BIA	Bitola	0.91	259	*e*Pg	Pg	14 34 15.8	-0.9
BIA				*e*Sg	Sg	14 34 28.2	-0.4
FNA	Florina	0.95	245	*e*Pg	Pg	14 34 16.9	-0.5
FNA				*e*Sg	Sg	14 34 29.9	+0.1
MMB	Musomiste	1.00	66	*e*Pg	Pg	14 34 18.3	0.0
MMB				*e*Sg	Sg	14 34 31.7	+0.5
MMB	Musomiste	1.00	66	*i* Pg	Pg	14 34 18.4	+0.1
MMB				*i* Sg	Sg	14 34 32.3	+1.1
NVR	Nevrokopi	1.03	81	*e*PN	Pn	14 34 19.0	-1.6
NVR				*e*SN	Sn	14 34 33.3	-2.3
KZN	Kozani	1.05	213	*e*PN	Pn	14 34 20.0	-0.9
KZN				*e*SN	Sn	14 34 35.6	-0.6
PLG	Polygyros	1.09	139	*e*Pg	Pg	14 34 20.2	+0.2
PLG				*e*Sg	Sg	14 34 35.9	+1.8
PLG	Polygyros	1.09	139	*e*PN	Pn	14 34 20.3	-1.1
LIT	Litokhoron	1.09	181	*e*Pg	Pg	14 34 20.0	-0.2
SKO	Skopje	1.12	314	*i* Pg	Pg	14 34 19.9	-0.6
SKO				*i* Sg	Sg	14 34 35.5	+0.5
SKO				*e*Lg		14 34 35.6	
	comp=N,604nm,0.7s						
SKO				*e*Lg		14 34 36.4	
	comp=E,414nm,0.7s						
SKO	Skopje	1.12	314	*e*Pg	Pg	14 34 19.0	-1.6
SKO				*e*Sg	Sg	14 34 33.1	-1.9
OHR	Ohrid	1.29	267	*e*Pg	Pg	14 34 22.0	-2.0
OHR				*i* Sg	Sg	14 34 39.7	-1.1
OHR				*e*Lg		14 34 41.2	
	comp=N,242nm,0.5s						
OHR				*e*Lg		14 34 42.4	
	comp=E,314nm,0.6s						
OHR	Ohrid	1.29	267	*e*Pg	Pg	14 34 22.0	-2.0
OHR				*e*Sg	Sg	14 34 39.5	-1.3
OUR	Ouranopolis	1.41	127	*e*Pg	Pg	14 34 25.4	-0.8
OUR				*e*Sg	Sg	14 34 44.4	-0.2
VTS	Vitosha	1.49	20	*e*Pg	Pn	14 34 26.0	-1.0
VTS				*e*Sg	Sb	14 34 45.1	-1.7
VTS	Vitosha	1.49	20	*i* Pg	Pg	14 34 26.3	-1.4
VTS				*i* Sg	Sg	14 34 46.0	-1.0
VTS	Vitosha	1.49	20	⇑*i*P	Pn	14 34 26.1	-0.8
VTS	Vitosha	1.49	20	⇑P	Pn	14 34 26.1	-0.8
THL	Klokotos Trika	1.67	193	*e*PN	Pn	14 34 29.0	-0.5
RZN	Rozhen	1.73	73	*i* Pg	Pg	14 34 32.7	+0.4
PGB	Panagyurishte	1.83	42	*i* Pg	Pg	14 34 33.6	-0.7
PGB				*i* Sg	Sg	14 34 57.6	-0.5
PLD	Plovdiv	1.88	60	*i* Sg	Sg	14 35 01.7	+2.2
XOR	Xorichti	1.90	164	*e*Pb	Pn	14 34 31.9	-0.8
XOR				*e*Sb	Sb	14 34 56.7	-2.1
NEO	Neokhori	1.96	164	*e*PN	Pn	14 34 33.0	-0.5
TIR	Tirane	2.00	275	*e*Pb	Pn	14 34 33.2	-0.8
TIR				*e*Sb	Sn	14 34 57.5	-2.1
AGG	Agios Georgios	2.18	184	*e*Pn	Pn	14 34 36.2	-0.2
KDZ	Kurdzhali	2.23	77	*i* Pg	Pb	14 34 39.9	-0.3
KDZ				*i* Sg	Sg	14 35 09.4	-1.5
AOS	Alonnisos	2.28	152	*e*Pn	Pn	14 34 36.5	-1.3
AOS	Alonnisos	2.28	152	*e*Pn	Pn	14 34 36.5	-1.3
RDO	Rodhopi	2.29	90	*e*PN	Pn	14 34 37.1	-0.8
EVR	Evrytania	2.34	194	*e*PB	Pb	14 34 40.7	-1.4
PVY	Plav	2.35	307	⇑*i*Pn	Pn	14 34 39.7	+0.8
PVY				*e*Sn	Sn	14 35 09.9	+1.6
LIA	Limnos Island	2.41	122	*e*PN	Pn	14 34 36.8	-2.9
DIM	Dimitrovgrad	2.42	68	*i* Pg	Pg	14 34 46.5	+0.9
ULC	Ulcinj	2.56	288	⇑*i*Pn	Pn	14 34 42.6	+0.9
ULC				*e*Sn	Sn	14 35 14.4	+0.9
IVA	Berane	2.57	312	⇑*i*Pn	Pn	14 34 42.7	+1.0
IVA				*e*Sn	Sn	14 35 15.4	+1.8
ALN	Alexandroupoli	2.69	95	*e*Pn	Pn	14 34 43.2	-0.3
ALN				*e*Sn	Sn	14 35 17.8	+1.2
TTG	Podgorica	2.72	298	⇓*i*Pn	Pn	14 34 44.7	+0.8
TTG				*e*Sn	Sn	14 35 18.3	+0.8
PVL	Pavlikeni	2.91	45	*i* Pg	Pb	14 34 51.5	-0.3
PVL				*i* Sg	Sb	14 35 26.6	-1.2
BUM	Brajici-Budva	2.92	293	⇑*i*Pn	Pn	14 34 47.3	+0.7
BUM				*e*Sn	Sn	14 35 23.0	+0.7
NKY	Niksic	3.08	303	⇑*i*Pn	Pn	14 34 49.8	+1.0
NKY				*e*Sn	Sn	14 35 26.8	+0.7
PLE	Pljevlja	3.15	314	⇓*i*Pn	Pn	14 34 49.9	+0.2
PLE				*e*Sn	Sn	14 35 29.7	+1.8
HCY	Herceg Novi	3.25	294	⇑*i*Pn	Pn	14 34 52.2	+1.0
HCY				*e*Sn	Sn	14 35 30.5	+0.1
SZH	Strazhica	3.28	50	*i* Sg	Sg	14 35 45.1	+0.6
UPM	Unac-Piva	3.34	308	⇓*i*Pn	Pn	14 34 52.9	+0.5
UPM				*e*Sn	Sn	14 35 34.1	+1.4
BRY	Bratogost	3.41	301	*e*Pn	Pn	14 34 53.9	+0.6
BRY				*e*Sn	Sn	14 35 34.6	+0.2
GZR	Gura Zlata	4.20	3	⇑*i*P	Pn	14 35 02.4	-1.8
GZR	Gura Zlata	4.20	3	⇑P	Pn	14 35 02.4	-1.8
BZS	Buzias	4.47	352	⇓*i*P	Pn	14 35 05.8	-2.1
MLR	Muntele Rosu	4.97	29	⇑*i*P	Pn	14 35 17.7	+2.9
MLR	Muntele Rosu	4.97	29	⇑P	Pn	14 35 17.7	+2.9
PLOR	Plostina	5.54	32	⇑*i*P	Pn	14 35 24.1	+1.5
VRI	Vrincioaia	5.58	32	⇓*i*P	Pn	14 35 25.1	+1.9
VRI	Vrincioaia	5.58	32	⇓P	Pn	14 35 25.1	+1.9

NEIC 03 15:34:43.0, 6352N×15387W, h30km, ML3.1(AEIC), ML3.5(PMR), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTA	Tatalina	1.14	239	*e*P	Pn	15 35 03.3	+0.4
TTA				S	Sn	15 35 17.7	+0.2
TT01	Tatalina	1.15	239	P	Pn	15 35 02.9	-0.3
KTH	Kantishna Hill	1.32	87	P	Pn	15 35 05.3	-0.2
KTH				S	Sn	15 35 22.9	+0.8
MCK	McKinley	2.21	82	P	Pn	15 35 17.8	0.0
IMA2	Indian Mountai	2.56	2	*e*P	Pn	15 35 23.6	+1.1
SVW2	Sparrevohn	2.56	199	*e*P	Pn	15 35 22.5	0.0
PMR	Palmer	2.93	129	*e*P	Pn	15 35 34.7	+7.2
IL1	Eielson Array	3.31	65	P	Pn	15 35 32.7	0.0
COLD	Coldfoot	4.02	21	P	Pn	15 35 43.4	+0.7
EGAK	Eagle	5.70	72	*e*Pn	Pn	15 36 05.7	0.0
EGAK				*e*S	Sn	15 37 37.1	+27

NNC 03 15:45:00.1±2.8, 3722N×7062E, h0km, mb3.1, mpv2.6, 2C-3D, Error ellipse: s-maj=26.4km s-min=21.5km az=86.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.88	359	⇓Pn	Pn	15 46 31.6	+3.1
	0.2nm,0.2s,baz=181,slow=12,SNR=5.7						
KK31				⇓Sn	Sn	15 47 43.1	+6.6
	3.1nm,0.8s,baz=178,slow=22,SNR=8.0						
TKM2	Tokmak 2	6.85	32	⇑Pn	Pn	15 46 41.6	-0.2
	0.2nm,0.5s						
TKM2				⇓Sn	Sn	15 48 01.8	+1.3
	0.1nm,0.7s						
AB31	Akbulak array	14.31	331	⇑Pn	Pn	15 48 21.3	-2.6
	0.5nm,0.7s,baz=144,slow=14,SNR=5.0						

NAO ***03*** *15:57:26.3, 3508N×2447E, h33km, mb4.2*
IDC ***03*** *15:58:07.7±1.1, 3951N×2053E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.7/24, mbtmp3.6/12, ML3.5/2, MS3.4/7, Ms1 3.4/7, ms1mx2.9/32, Error ellipse: s-maj=19.8km s-min=17.1km az=115.0*
PRU ***03*** *15:58:07.2, 3925N×1981E, h0km, M3.8*
ISCJB ***03*** *15:58:09.8±0.2, 3945N±002×2065E±002, h10km, mb3.7/10, MS3.3/7, Error ellipse: s-maj=2.5km s-min=1.8km az=76.1*
MOS ***03*** *15:58:09.7±1.4, 3947N×2054E, h18km, mb4.0/8, Error ellipse: s-maj=6.4km s-min=3.7km az=82.6*
NEIC ***03*** *15:58:09.8, 3953N×2063E, h13km, mb3.8/1, MD3.8(PDG), ML3.9(THE), ML4.3(ATH), After ATH.*
TIR ***03*** *15:58:09.1, 3951N×2067E, h5km, Ml3.7*
ATH ***03*** *15:58:09.7, 3953N×2064E, h12km±1km, MD4.1/21, ML4.3*
THE ***03*** *15:58:10.7, 3953N×2069E, h10km, ML4.6*
PDG ***03*** *15:58:10.3±1.3, 3955N×2060E, h2km±3km*
SOF ***03*** *15:58:12.1, 3946N×2037E, h50km, MD3.5*
HLW ***03*** *15:58:18.2, 3926N×2209E, h33km, Mb3.8*
ISC 03 15:58:10.5±0.2, 3943N±002×2065E±002, h10km, n167, σ1§54/212, mb3.7/10, MS3.3/7, 16C-22D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.27	292	*e*Pg	Pg	15 58 15.1	-0.8
IGT				*e*Sg	Sg	15 58 19.6	+0.1
JAN	Janina	0.27	35	*e*PG	Pg	15 58 14.4	-1.5
JAN				*e*SG	Sg	15 58 17.8	-1.8
JAN	Janina	0.27	35	*e*Pg	Pg	15 58 14.4	-1.5
JAN				*e*Sg	Sg	15 58 18.3	-1.3
MEV	Metsovon	0.57	52	*e*Pg	Pg	15 58 20.1	-1.4
SRN	Sarande	0.67	312	*i* Pg	Pg	15 58 21.8	-1.7
SRN				*i* Sg	Sg	15 58 33.8	+1.5
KEK	Kerkira	0.72	293	*e*PB	Pb	15 58 22.7	-2.3
LSK	Leskovik	0.72	357	*i* Pg	Pg	15 58 22.4	-1.9
LSK				*i* Sg	Sg	15 58 34.8	+1.1
LKD	Levkas	0.73	180	*e*Pg	Pg	15 58 25.1	+0.6
LKD				*e*Sg	Sg	15 58 39.8	+5.8
EVR	Evrytania	1.04	120	*e*PG	Pg	15 58 29.9	-0.5
THL	Klokotos Trika	1.06	83	*e*PB	Pb	15 58 28.5	-2.5
THL				*e*SB	Sb	15 58 44.5	-0.4
KBN	Korca	1.19	5	*i* Pg	Pg	15 58 30.7	-2.7
KBN				*i* Sg	Sg	15 58 50.5	+1.6
KZN	Kozani	1.23	44	*e*PN	Pn	15 58 31.5	-2.2
VLS	Valsamata	1.26	182	*e*PG	Pg	15 58 34.7	+0.1
VLS				*e*SB	Sb	15 58 54.6	+4.1
VLS	Valsamata	1.26	182	*e*Pg	Pg	15 58 34.7	+0.1
VLS				*e*Sb	Sb	15 58 55.0	+4.5
VLO	Vlora	1.36	320	*i* Pn	Pn	15 58 35.1	-0.5
VLO				*i* Sn	Sn	15 58 53.7	0.0
AGG	Agios Georgios	1.37	107	*e*Pg	Pg	15 58 35.9	-0.9
AGG				*e*Sg	Sg	15 58 56.5	+2.0
FNA	Florina	1.46	22	*e*Pg	Pg	15 58 36.0	-2.5
FNA				*e*Sg	Sg	15 58 55.5	-1.9
RLS	Riolos of Patr	1.52	155	*e*PG	Pg	15 58 39.7	+0.1
LIT	Litokhoron	1.56	64	*e*Pg	Pg	15 58 37.8	-2.7
LIT				*e*Sg	Sg	15 58 59.3	-1.5
BIA	Bitola	1.67	18	*e*Pg	Pg	15 58 38.9	-3.5
BIA				*e*Sg	Sg	15 59 02.0	-2.0
BIA	Bitola	1.67	18	*e*Pn	Pn	15 58 38.9	-0.8
BIA				*i* Sn	Sn	15 59 03.7	+2.6
OHR	Ohrid	1.68	4	*e*Pg	Pg	15 58 39.6	-3.1
OHR				*e*Sg	Sg	15 59 01.0	-3.5
OHR	Ohrid	1.68	4	*i* Pn	Pn	15 58 39.8	-0.1
OHR				*i* Sn	Sn	15 59 03.8	+2.3
XOR	Xorichti	1.97	91	*e*Pb	Pb	15 58 44.3	-2.1
XOR				*e*Sb	Sb	15 59 11.2	+0.2
LKR	Lokris	1.99	112	*e*PN	Pn	15 58 46.1	+1.9
LKR	Lokris	1.99	112	*e*Pn	Pn	15 58 46.6	+2.4
NEO	Neokhori	2.00	93	*e*PG	Pg	15 58 46.9	-1.9
NEO	Neokhori	2.00	93	*e*Pg	Pg	15 58 46.6	-2.2
TIR	Tirane	2.00	343	*e*Pb	Pb	15 58 44.2	-2.8
TIR				*e*Sb	Sb	15 59 09.3	-2.6
TIR	Tirane	2.00	343	*i* Pn	Pn	15 58 45.5	+1.1
TIR				*i* Sn	Sg	15 59 15.7	+0.8
GRG	Griva	2.03	41	*e*Pb	Pb	15 58 45.0	-2.4
THE	Thessaloniki	2.14	55	*e*Pn	Pn	15 58 45.6	-0.6
THE				*e*Sn	Sn	15 59 12.1	-0.8
LCI	Lecce	2.15	296	P	Pn	15 58 45.6	-0.8
HORT	Hortiatis	2.21	57	*e*Pn	Pn	15 58 46.9	-0.3
HORT				*e*Sn	Sn	15 59 14.9	+0.3
PLG	Polygyros	2.34	66	*e*Pn	Pn	15 58 48.4	-0.6
PLG				*e*Sn	Sn	15 59 18.8	+0.8
PLG	Polygyros	2.34	66	*e*PN	Pn	15 58 49.6	+0.5
VAY	Valandovo	2.39	37	*e*Sn	Sn	15 59 18.6	-0.4
VAY				*e*Sn	Sn	15 59 21.6	+2.7
VAY	Valandovo	2.39	37	*i* Pn	Pn	15 58 50.5	+0.9
VAY				*i* Sn	Sn	15 59 18.9	0.0
ITM	Ithomi	2.46	156	*e*PN	Pn	15 58 53.4	+2.7
MGER	Gerania Oros	2.50	125	*e*Pn	Pn	15 58 55.0	+3.8
AOS	Alonnisos	2.52	95	*e*Pn	Pn	15 58 51.8	+0.4
STIP	Stip	2.54	27	*e*Pn	Pn	15 58 52.9	+0.5
STIP	Stip	2.54	27	*i* Pn	Pn	15 58 53.6	+1.9
SKO	Skopje	2.60	13	*e*Pn	Pn	15 58 53.0	+0.3
SKO				*e*Sn	Sn	15 59 25.1	+0.8
SKO	Skopje	2.60	13	*i* Pn	Pn	15 58 56.4	+3.7
PUK	Puka	2.67	348	*i* pn?	Pn	15 58 53.5	0.0
PUK				*i* Sn	Sn	15 59 27.3	+1.4
ULC	Ulcinj	2.74	338	⇓*i*Pn	Pn	15 58 53.4	-1.1
ULC				*e*Sn	Sn	15 59 29.3	+1.6
NAIG	Nisos Aigina	2.78	126	*e*PN	Pn	15 58 57.5	+2.4
ATH	Athens Observa	2.81	120	*e*PB	Pb	15 58 58.2	-2.5
ATH	Athens Observa	2.81	120	*e*Pb	Pb	15 58 58.8	-1.9
SRS	Serrai	2.81	52	*e*Pn	Pn	15 58 55.1	-0.3
KVR	Kavouri	2.92	122	*e*PN	Pn	15 58 58.8	+1.8
BCI	Bajram Curri	2.96	352	*i* pn?	Sn	15 59 36.4	+3.3
KKB	Krupnik	3.05	37	*i* P	Pn	15 59 00.2	+1.4
KKB				*i* S	Sn	15 59 37.0	+1.6
NVR	Nevrokopi	3.11	51	*e*PN	Pn	15 59 00.1	+0.5
NVR				*e*SG	Sn	15 59 38.1	+1.3
NVR	Nevrokopi	3.11	51	*e*Pn	Pn	15 58 59.5	-0.1
NVR				*e*Sg	Sn	15 59 38.1	+1.3
BUM	Brajici-Budva	3.16	336	⇓*i*Pn	Pn	15 58 59.2	-1.0
BUM				*e*Sn	Sn	15 59 39.2	+1.2
TTG	Podgorica	3.17	341	⇓*i*Pn	Pn	15 58 59.7	-0.7
TTG				*e*Sn	Sn	15 59 40.1	+1.7
MMB	Musomiste	3.18	46	*e*Pn	Pn	15 59 00.2	-0.4
MMB				*e*Sn	Sn	15 59 38.8	+0.2
MMB	Musomiste	3.18	46	*i* P	Pn	15 59 02.6	+2.0
MMB				*i* S	Sn	15 59 39.6	+1.0
PVY	Plav	3.20	351	⇓*i*Pn	Pn	15 59 01.7	+0.9
PVY				*e*Sn	Sn	15 59 39.8	+0.8
VLI	Veliai	3.26	146	*e*PB	Pb	15 59 06.0	-2.4
VLI	Veliai	3.26	146	*e*Pb	Pb	15 59 07.0	-1.4
HCY	Herceg Novi	3.42	332	⇑*i*Pn	Pn	15 59 02.0	-1.9
HCY				*e*Sn	Sn	15 59 45.9	+1.3
LOS	Limnos	3.45	80	*e*Pn	Pn	15 59 03.9	-0.4
IVA	Berane	3.48	351	⇓*i*Pn	Pn	15 59 04.8	+0.1
IVA				*e*Sn	Sn	15 59 46.8	+0.9
NKY	Niksic	3.60	340	⇑*i*Pn	Pn	15 59 05.4	-0.9
NKY				*e*Sn	Sn	15 59 49.9	+1.1
KYTH	Kithira	3.67	148	*e*PN	Pn	15 59 10.0	+2.7
KYTH	Kithira	3.67	148	*e*Pn	Pn	15 59 09.0	+1.7
VTS	V

BRTR	**Keskin Array B**	**10.03**	**84**	Pn	**Pn**	**16 00 34.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=256,slow=14,SNR=3.4						
GERES	**GERESS Array B**	**10.65**	**334**	Pn	**Pn**	**16 00 40.8**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=162,slow=13,SNR=8.6						
SWA2		**10.91**	**157**	P	**Pn**	**16 00 45.5**	**-1.2**
KHC	**Kasperske Hory**	**10.93**	**335**	*e*PN	**Pn**	**16 00 45.8**	**-1.2**
SWA1		**10.97**	**156**	P	**Pn**	**16 00 46.7**	**-0.8**
HBRG	**Burj al 'Arab**	**11.61**	**137**	P	**Pn**	**16 00 51.1**	**-5.1**
AKASG	**Malin Array Be**	**12.78**	**25**	Pn	**Pn**	**16 01 09.7**	**-2.6**
	baz=212,slow=12,SNR=3.0						
HFS	**Hagfors**	**21.18**	**350**	P	**P**	**16 02 52.8**	**-3.1**
	comp=Z,2.5nm,0.6s,mb3.7,baz=165,slow=12,SNR=6.9						
HFS				LR	LR	16 11 10.2	
	comp=Z,64nm,18.2s,MS3.0,baz=172,slow=37						
HFS	**Hagfors**	**21.18**	**350**	P	**P**	**16 02 52.8**	**-3.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,64nm,18.2s						
HFS	**Hagfors**	**21.18**	**350**	P	**P**	**16 02 52.8**	**-3.1**
HFS				LR	LR	16 11 10.2	
FINES	**FINESS Array B**	**22.29**	**7**	P	**P**	**16 03 05.1**	**-2.7**
	comp=Z,1.4nm,0.6s,mb3.6,baz=170,slow=11,SNR=6.4						
FINES				LR	LR	16 12 01.8	
	comp=Z,40nm,20.9s,MS2.8,baz=186,slow=38						
FINES	**FINESS Array B**	**22.29**	**7**	P	**P**	**16 03 05.1**	**-2.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,40nm,20.9s						
NB2	**NORSAR Subarra**	**22.41**	**348**	P	**P**	**16 03 07.5**	**-1.6**
	comp=Z,3.8nm,1.1s,mb3.7,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**22.41**	**348**	P	**P**	**16 03 07.5**	**-1.6**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
NOA	**NORSAR Array B**	**22.41**	**348**	P	**P**	**16 03 07.3**	**-1.8**
	comp=Z,1.2nm,0.8s,mb3.4,baz=161,slow=11,SNR=4.1						
NOA				LR	LR	16 11 58.0	
	comp=Z,37nm,21.8s,MS2.8,baz=185,slow=37						
NOA	**NORSAR Array B**	**22.41**	**348**	P	**P**	**16 03 07.3**	**-1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,37nm,21.8s						
EKA	**Eskdalemuir Ar**	**22.48**	**323**	P	**P**	**16 03 07.9**	**-1.9**
	comp=Z,2.2nm,0.7s,mb3.7,baz=116,slow=12,SNR=4.9						
EKA	**Eskdalemuir Ar**	**22.48**	**323**	P	**P**	**16 03 07.9**	**-1.9**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**22.97**	**7**	*e*p	**P**	**16 03 16.1**	**+1.0**
	baz=188,slow=11						
JOF	**Joensuu**	**24.38**	**12**	*e*p	**P**	**16 03 32.5**	**+3.7**
	comp=Z,0.8nm,0.4s,mb3.5						
JOF	**Joensuu**	**24.38**	**12**	*e*P	**P**	**16 03 32.5**	**+3.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**30.27**	**3**	P	**P**	**16 04 18.4**	**-3.3**
	comp=Z,0.9nm,0.5s,mb3.8,baz=195,slow=7.5,SNR=9.7						
ARCES				LR	LR	16 17 13.7	
	comp=Z,78nm,18.3s,MS3.4,baz=186,slow=38						
ARCES	**ARCESS Array B**	**30.27**	**3**	P	**P**	**16 04 18.4**	**-3.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,78nm,18.3s						
TORD	**Torodi Ar. Bea**	**31.08**	**218**	P	**P**	**16 04 29.1**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.0,baz=32,slow=9.5,SNR=12						
BVAR	**Borovoye Array**	**36.24**	**51**	P	**P**	**16 05 12.4**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=325,slow=1.8,SNR=3.1						
ZAK	**Zakamensk**	**56.66**	**49**	*e*P	**P**	**16 07 52.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.9						
SONM	**Songino Array**	**59.59**	**51**	P	**P**	**16 08 11.7**	**-2.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=278,slow=4.2,SNR=2.5						
SONM				LR	LR	16 35 27.9	
	comp=Z,55nm,18.7s,MS3.7,baz=70,slow=38						
BOSA	**Boshof**	**67.83**	**176**	LR	LR	16 42 02.0	
	comp=Z,58nm,18.5s,MS3.8,baz=176,slow=39						
YKA	**Yellowknife Ar**	**72.25**	**340**	LR	LR	16 43 22.1	
	comp=Z,28nm,19.8s,MS3.5,baz=205,slow=38						
ASAR	**Alice Springs**	**122.20**	**95**	PKP	PKPdf	16 17 03.7	-1.8
	comp=Z,0.1nm,0.6s,baz=310,slow=1.6,SNR=4.6						

ISCJB ***03*** *16:08:32.8±0.5,5142N×002×16.10E±003,h0km, Error ellipse: s-maj=3.7km s-min=2.1km az=38.4*
BGR ***03*** *16:08:33.8±0.6,5150N×1616E,h1km,ML3.2/10, Error ellipse: s-maj=13.3km s-min=5.6km az=165.0*
IPEC ***03*** *16:08:33.1±0.3,5155N×1623E,h0km,ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0*
NEIC ***03*** *16:08:33.5±0.5,5153N×1613E,h5km,ML3.2(SZGRF), Error ellipse: s-maj=6.1km s-min=4.1km az=219.0*
CSEM ***03*** *16:08:34.7±0.1,5148N×1609E,h1km,ML3.4/4, Error ellipse: s-maj=2.6km s-min=1.5km az=15.0*
WAR ***03*** *16:08:35.0,5149N×1610E,ML2.7, Mining Induced*
PRU ***03*** *16:08:35.5,5142N×1609E,h0km*
VIE ***03*** *16:08:35.7±0.5,5132N×1614E,h0km,mb2.2/3,ML2.9/4, Error ellipse: s-maj=3.1km s-min=2.9km az=170.0 66 km WNW of Breslau Suspected Mining induced.*

ISC 03 16:08:33.8±0.5,5148N±002×1611E±003,h0km,n45,
σ0§90/84,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	**Pg**	**16 08 47.0**	**+0.8**
KSP				*e*Sg	**Sg**	**16 08 55.7**	**+1.0**
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	**Pg**	**16 08 46.8**	**+0.6**
KSP				*e*Sg	**Sg**	**16 08 55.4**	**+0.7**
UPC	**Upice**	**0.98**	**184**	*e*PG	**Pg**	**16 08 53.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**16 08 55.8**	**+0.2**
DPC				*e*SG	**Sg**	**16 09 10.3**	**-0.1**
	51nm,0.5s						
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**16 09 00.2**	**+0.2**
PVCC				*e*SG	**Sg**	**16 09 18.6**	**+0.9**
	193nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**247**	*e*Pg	**Pg**	**16 09 01.2**	**-1.3**
BRG				*e*Sg	**Sg**	**16 09 22.4**	**+0.5**
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**16 09 01.7**	**-0.2**
BRG				PG	**Pg**	**16 09 02.7**	**+0.2**
BRG				SG	**Sg**	**16 09 22.7**	**+0.8**
	60nm,0.7s						
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**16 09 03.5**	**-1.9**
RUE				*e*Pg	**Pg**	**16 09 07.6**	**+0.1**
RUE				*e*S	**Sn**	**16 09 31.1**	**+2.6**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**16 09 03.5**	**-2.0**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pg	**Pg**	**16 09 07.6**	**+0.2**
PRU	**Pruhonice**	**1.80**	**214**	*e*PG	**Pg**	**16 09 07.7**	**-0.6**
PRU				*e*SG	**Sg**	**16 09 30.9**	**-0.7**
	32nm,0.3s						
FBE	**Freiberg**	**1.82**	**253**	*e*Pn	**Pn**	**16 09 07.5**	**+1.1**
FBE				*e*Sg	**Sg**	**16 09 32.3**	**-0.1**
FBE	**Freiberg**	**1.82**	**253**	Pn	**Pn**	**16 09 07.5**	**+1.1**
FBE				Sg	**Sg**	**16 09 32.3**	**-0.1**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**16 09 07.5**	**-0.4**
MORC				*e*Sg	**Sg**	**16 09 35.3**	**-0.6**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**16 09 07.6**	**-0.3**
MORC				*e*Sg	**Sg**	**16 09 35.3**	**-0.6**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**16 09 07.5**	**-0.7**
CLL				*e*Sg	**Sg**	**16 09 36.8**	**+0.1**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**16 09 07.0**	**-1.2**
CLL				*e*Pg	**Pg**	**16 09 11.0**	**-0.3**
CLL				*e*Sg	**Sg**	**16 09 38.0**	**+1.3**
CLL	**Collm**	**1.96**	**266**	*e*Pn	**Pn**	**16 09 07.0**	**-1.2**
CLL				*e*Pg	**Pg**	**16 09 11.0**	**-0.3**
CLL				*ex*	x	16 09 13.0	
CLL				*e*Sg	**Sg**	**16 09 38.0**	**+1.3**
	comp=Z,28nm,0.3s						
CLL	**Collm**	**1.96**	**266**	*e*Pg	**Pg**	**16 09 11.0**	**-0.3**
CLL				Sg	**Sg**	**16 09 36.8**	**+0.1**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG	**Pg**	**16 09 14.1**	**+0.2**
OKC				*e*SG	**Sg**	**16 09 40.1**	**-1.0**
	comp=Z,17nm,0.5s						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**16 09 12.0**	**+0.5**
VRAC				*e*Sg	**Sg**	**16 09 43.9**	**-0.5**
	comp=Z,24nm,0.3s						
TREC	**Trest**	**2.23**	**191**	*e*PN	**Pn**	**16 09 12.5**	**+0.6**
TREC				*e*PG	**Pg**	**16 09 15.7**	**-0.8**
KRUC	**Moravsky**	**2.43**	**176**	*e*Sg	**Sg**	**16 09 51.2**	**-0.6**
	comp=Z,19nm,0.4s						
TANN	**Tannenbergstha**	**2.54**	**247**	*e*Pn	**Pn**	**16 09 16.6**	**+0.3**
TANN				*e*Sg	**Sg**	**16 09 54.4**	**-1.1**
WERD	**Werda**	**2.62**	**248**	*e*Sg	**Sg**	**16 09 57.0**	**-1.0**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**16 09 17.9**	**+0.3**
NKC				*e*SG	**Sg**	**16 10 00.3**	**+1.8**
	comp=Z,61nm,0.6s						
GUNZ	**Gunzen**	**2.64**	**246**	*e*Sg	**Sg**	**16 09 57.9**	**-0.8**
WERN	**Wernitzgruen**	**2.65**	**245**	*e*Pn	**Pn**	**16 09 18.5**	**+0.7**
WERN				*e*Sg	**Sg**	**16 09 57.7**	**-1.3**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**16 09 25.1**	**+0.4**
OJC				*e*Sg	**Sg**	**16 10 00.1**	**+1.0**
NEUB	**Neuenburg**	**2.73**	**266**	*e*Sg	**Sg**	**16 10 02.5**	**+0.9**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**16 09 20.7**	**+0.1**
KHC				*e*PG	**Pg**	**16 09 26.9**	**-1.7**
KHC				*e*SN	**Sn**	**16 09 55.3**	**-0.5**
KHC				*e*SG	**Sg**	**16 10 03.5**	**-2.2**
	comp=Z,18nm,0.6s						
MANZ	**Manzenberg**	**2.95**	**241**	*e*Pn	**Pn**	**16 09 21.3**	**-0.6**
MANZ				*e*Sg	**Sg**	**16 10 10.3**	**+1.6**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**16 09 21.7**	**-0.3**
MOX				*e*Sg	**Sg**	**16 10 09.2**	**+0.4**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**16 09 21.7**	**-0.3**
MOX				*e*PG	**Pg**	**16 09 30.1**	**-0.4**
MOX				*e*SG	**Sg**	**16 10 09.9**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn	**Pn**	**16 09 23.3**	**+0.4**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**16 09 24.0**	**+0.6**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**16 09 24.0**	**+0.6**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**16 09 38.1**	**-0.6**
NIE				*e*S	**Sg**	**16 10 22.5**	**-0.1**
VYHS	**Vyhne**	**3.47**	**149**	*e*PG	**Pg**	**16 09 40.1**	**-0.2**
VYHS				*e*SG	**Sg**	**16 10 24.6**	**-0.6**
CONA	**Conrad Observa**	**3.56**	**183**	⇑*i*Pn	**Pn**	**16 09 30.6**	**+0.3**
CONA				⇓*i*Sg	**Sg**	**16 10 28.9**	**+0.7**
	comp=Z,14nm,0.4s						
GRA1	**Grafenberg Arr**	**3.59**	**242**	Sg	**Sg**	**16 10 29.6**	**+0.3**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Sg	**Sg**	**16 10 29.6**	**+0.2**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**16 09 30.6**	**-1.7**
BSD				*i* S	**Sn**	**16 10 12.6**	**-4.1**
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**16 09 34.4**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**16 10 37.6**	**+0.8**
	comp=Z,19nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*SG	**Sg**	**16 10 54.5**	**+2.6**

CSEM ***03*** *16:09:04.4,3509N×384W,h7km,MD2.8, After CNRM*
CNRM ***03*** *16:09:04.4,3509N×384W,h7km,MD2.8*

MDD 03 16:09:04.5±0.6,3505N×386W,h11km±6km,mb3.1/5,
Error ellipse: s-maj=9.1km s-min=5.3km az=120.0,
PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**135**	*i* P	Pg	16 09 07.0	-0.5
TOU				*i* S	Sg	16 09 10.0	+0.4
MPAL	**Palemas**	**0.19**	**339**	*i* P	Pg	16 09 07.5	-1.1
MPAL				*i* S	Sg	16 09 10.0	-1.4
ZAI	**Zaio**	**0.92**	**95**	*i* P	Pg	16 09 21.0	-1.1
ZAI				*i* S	Sg	16 09 34.0	-0.1
EALB	**Alboran**	**1.11**	**37**	P	Pb	16 09 25.4	-0.3
	2.6nm,0.1s,SNR=4.0						
EALB				S	Sb	16 09 38.2	-2.1
	11nm,0.1s,SNR=7.9						
TGT	**Taghat**	**1.39**	**226**	*e*P	Pn	16 09 29.0	-0.8
TGT				*e*S	Sn	16 09 50.0	+1.9
EMIJ	**Mijas**	**1.69**	**334**	P	Pn	16 09 34.4	+0.5
	0.7nm,0.1s,SNR=7.9						
EMIJ				S	Sn	16 09 49.6	-5.9
	1.4nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**1.80**	**7**	P	Pn	16 09 32.6	-2.8
	0.6nm,0.2s,SNR=4.0						
EGUA				S	Sn	16 09 52.0	-6.2
	0.5nm,0.2s,SNR=4.0						
MIF	**Mishlifen**	**1.99**	**215**	*e*P	Pn	16 09 36.0	-2.0
MIF				*e*S	Sn	16 10 01.0	-1.9
EBER	**Berja**	**2.01**	**23**	S	Sn	16 10 00.3	-3.0
	1.1nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**2.18**	**9**	P	Pn	16 09 41.2	+0.6
	0.7nm,0.2s,SNR=4.0						
CZD	**Col de Zad**	**2.24**	**206**	*e*P	Pn	16 09 40.0	-1.4
CZD				*i* S	Sn	16 10 09.0	0.0
EQES	**Quesada**	**2.82**	**13**	P	Pn	16 09 48.1	-1.3
	0.6nm,0.2s,SNR=7.9						
EQES				S	Sn	16 10 24.0	+0.6
	2.1nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**321**	P	Pn	16 09 57.9	-1.4
	0.7nm,0.1s,SNR=7.9						
EMIN				S	Sn	16 10 36.4	-4.7
	0.2nm,0.2s,SNR=7.9						

NIED ***03*** *17:10:00,4660N×15380E,h8km,Mw4.7 Best double couple: M01.24000×1016 NP1:φ1=222.00000°,δ58.00000°, λ113.00000°. NP2:φ2=3.00000°,δ38.00000°,λ58.00000°.*
SKHL ***03*** *17:10:31.8±0.8,4640N×15391E,h49km±19km,mb5.4/2, mbh5.3/2,Ms4.5/5,msh5.6/3*
IDC ***03*** *17:10:32.1±0.6,4644N×15332E,h0km,mb4.5/16, mb1 4.6/17,mb1mx4.5/20,mbtmp4.5/17,ML3.8/1,MS4.0/13, Ms1 4.0/13,ms1mx3.8/32, Error ellipse: s-maj=18.7km s-min=16.9km az=121.0*
ISCJB ***03*** *17:10:32.8±0.8,4644N±004×15339E±004,h13km±5km, mb4.8/109,MS4.2/31, Error ellipse: s-maj=7.6km s-min=3.1km az=120.9*
BJI ***03*** *17:10:32.6,4672N×15324E,h6km,mB5.0,mb4.9,Ms4.5, Msz4.3*
JMA ***03*** *17:10:32.9±0.8,4657N×15376E,h30km,M5.1*
NEIC ***03*** *17:10:34.0±0.3,4649N×15338E,h10km,mb4.9/54, Error ellipse: s-maj=7.2km s-min=4.8km az=156.0*
GCMT ***03*** *17:10:34.0±0.4,4649N×15363E,h14km±1km,MW4.8/56, Moment Tensor Solution. s19,c24; s56,c95; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.40±.11; Mθθ-0.32±.07; Mφφ-1.08±.07; Mrθ-0.06±.16; Mθφ-0.75±.04; Mφr0.79±.14; Best double couple: M0 1.67500×1016 NP1:φs=228.00000°,δ35.00000°,λ118.00000°. NP2: φs=15.00000°,δ59.00000°,λ72.00000°. Principal axes: T 1.6710, Plg70.0000°, Azm245.0000°; N 0.0080, Plg16.0000°, Azm25.0000°; P -1.6780, Plg12.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***03*** *17:10:37.4,46.19N×15340E,h33km,mb4.8,Kuril Islands, Russia*
MOS ***03*** *17:10:37.4±1.1,4655N×153.19E,h40km,mb5.0/56, MS4.3/18, Error ellipse: s-maj=9.0km s-min=5.5km az=108.5*

ISC 03 17:10:36.9±0.8,4652N±004×15334E±004,h27km±6km,
h16km±1.7km:pP-P,n352,σ1§14/382,mb4.8/109,MS4.2/31,
58C-18D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**253**	*e*P	**Pn**	**17 11 35.0**	**-1.8**
KUR				AMB	AMB	17 11 37.8	
	250nm,0.6s						
KUR				AMB	AMB	17 11 37.8	
	2μm,0.6s						
KUR				*e*S	**Sn**	**17 12 23.0**	**-0.1**
KUR				A		17 12 31.3	
	1μm,0.7s						
KUR				A		17 12 38.0	
	6μm,2.0s						
KUR				A		17 12 38.0	
	600nm,2.0s						
KUR	**Kuril'sk**	**4.03**	**253**	*e*PN	**Pn**	**17 11 35.0**	**-1.8**
KUR				*e*S	**Sn**	**17 12 23.0**	**-0.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=N,250nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,730nm,0.6s						
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,600nm,0.7s						
KUR				smax			
	comp=N,6μm,2.0s						
KUR				smax			
	comp=E,3μm,2.0s						
SKR	**Severo-Kuril's**	**4.56**	**23**	*e*P	**Pn**	**17 11 38.7**	**-5.3**
SKR				AMB	AMB	17 11 44.8	
	comp=E,220nm,0.8s						
SKR				AMB	AMB	17 11 44.8	
	comp=E,160nm,0.8s						
SKR				A		17 12 37.0	
	comp=E,5μm,8.0s						
SKR				A		17 12 37.0	
	comp=E,3μm,8.0s						
SKR				A		17 12 37.0	
	comp=E,3μm,2.0s						
SKR				A		17 12 37.0	
	comp=E,4μm,8.0s						
SKR				A		17 12 37.0	
	comp=E,3μm,8.0s						
SKR				A		17 12 37.0	
	comp=E,2μm,2.0s						
SKR				A		17 12 54.0	
	comp=E,920nm,0.8s						
SKR				A		17 12 54.0	
	comp=E,520nm,0.8s						
SKR				A		17 12 54.0	
	comp=E,160nm,0.8s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,5μm,12.0s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,3μm,12.0s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,3μm,14.0s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,5μm,12.0s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,3μm,12.0s						
SKR				AMS	AMS	17 13 38.0	
	comp=E,3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**247**	*e*P	**Pn**	**17 12 02.5**	**+1.0**
YUK				AMB	AMB	17 12 07.5	
	comp=E,210nm,0.4s						
YUK				AMB	AMB	17 12 07.5	
	comp=E,190nm,0.4s						
YUK				AMB	AMB	17 12 07.5	
	comp=E,300nm,0.4s						
YUK				AMB	AMB	17 12 09.5	
	comp=E,2μm,1.0s						
YUK				*i* S	**Sn**	**17 13 09.9**	**+2.4**
YUK				A		17 13 21.7	
	comp=E,5μm,2.2s						
YUK				A		17 13 21.7	
	comp=E,2μm,2.2s						
YUK				A		17 13 23.9	
	comp=E,2μm,0.6s						
YUK				A		17 13 23.9	
	comp=E,330nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.83**	**247**	*e*PN	**Pn**	**17 12 02.5**	**+1.0**
YUK				*i* S	**Sn**	**17 13 09.9**	**+2.4**
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=E,190nm,0.4s						
YUK				pmax	pmax		
	comp=Z,300nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,5μm,2.2s						
YUK				smax			
	comp=E,2μm,2.2s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,330nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,16.0s						
NEM2	**Nemuro 2**	**6.24**	**242**	P	**Pn**	**17 12 06.0**	**-1.2**
NEM2				*e*S	**Sn**	**17 13 14.7**	**-2.9**
JRA	**Rausu**	**6.35**	**249**	P	**Pn**	**17 12 10.3**	**+1.7**
JNK	**Nakash**	**6.77**	**247**	P	**Pn**	**17 12 15.0**	**+0.5**
JNK				*e*S	**Sn**	**17 13 30.7**	**+0.1**
JAK	**Akkeshi**	**7.09**	**243**	P	**Pn**	**17 12 17.7**	**-1.1**
JAK				*e*S	**Sn**	**17 13 35.1**	**-3.3**
JTKR	**Abashiri--Toko**	**7.13**	**252**	P	**Pn**	**17 12 21.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.29**	**277**	⇓*e*P	**Pn**	**17 12 26.0**	**+4.5**
YSS				AMB	AMB	17 12 27.3	
	comp=Z,70nm,1.1s						
YSS				AMB	AMB	17 12 27.3	
	comp=Z,60nm,1.1s						
YSS				*e*S	**Sn**	**17 13 48.0**	**+4.7**
YSS				AMS	AMS	17 15 07.0	
	comp=Z,2μm,16.0s						
YSS				AMS	AMS	17 15 07.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.29**	**277**	⇓*e*PN	**Pn**	**17 12 26.0**	**+4.5**
YSS				*e*S	**Sn**	**17 13 48.0**	**+4.7**
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				pmax	pmax		
	comp=E,70nm,1.1s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.29**	**277**	*e*P	**Pn**	**17 12 25.9**	**+4.4**
	comp=Z,89nm,0.8s						
PET	**Petropavlovsk**	**7.36**	**26**	*e*PN	**Pn**	**17 12 15.9**	**-6.7**
PET				pmax	pmax		
	comp=Z,61nm,1.0s						
PET				MLR	MLR		
	comp=Z,900nm,13.0s						
PET				MLR	MLR		
	comp=E,2μm,13.0s						
PET				MLR	MLR		
	comp=Z,900nm,12.0s						
PET				MLR	MLR		
	comp=N,700nm,15.0s						
PET	**Petropavlovsk**	**7.36**	**26**	*e*P	**Pn**	**17 12 20.2**	**-2.3**
	comp=N,53nm,0.8s						
PET				*e*S	**Sn**	**17 13 39.5**	**-5.7**
JMP	**Maruseppu**	**7.47**	**254**	P	**Pn**	**17 12 26.1**	**+2.0**
JAR	**Ashorobuto**	**7.52**	**248**	P	**Pn**	**17 12 25.6**	**+0.9**
JAR				*e*S	**Sn**	**17 13 50.5**	**+1.5**
JOB	**Onbets**	**7.67**	**245**	P	**Pn**	**17 12 26.8**	**0.0**
JOB				*e*S	**Sn**	**17 13 50.7**	**-2.1**
JKK2	**Kamakawa 2**	**7.93**	**254**	P	**Pn**	**17 12 32.7**	**+2.3**
ASAJ	**Asahikawa**	**7.94**	**256**	Pn	**Pn**	**17 12 33.5**	**+3.0**
	comp=N,4.0nm,0.3s,baz=91,slow=16,SNR=36						
ASAJ				Sn	**Sn**	**17 14 05.4**	**+6.0**
	baz=176,slow=16,SNR=1.2						
ASAJ				LR	LR	17 15 19.3	
	comp=N,639nm,21.9s,baz=312,slow=36						
ASAJ	**Asahikawa**	**7.94**	**256**	P	**Pn**	**17 12 33.5**	**+3.0**
ASAJ	**Asahikawa**	**7.94**	**256**	PN	**Pn**	**17 12 33.6**	**+3.1**
ASAJ						17 14 05.4	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,639nm,21.9s						
UGL	**Uglegorsk**	**8.01**	**293**	*e*P	**Pn**	**17 12 36.0**	**+4.6**

JNB			*e*S		**Sn**	**17 14 39.7 -2.3**
JKB	**Kayabe**	**9.97 247**	P		**Pn**	**17 12 57.2 -1.1**
JKB			*e*S		**Sn**	**17 14 43.1 -6.2**
JSH	**Shimam**	**10.24 253**	P		**Pn**	**17 13 03.5 +1.5**
JYM2	**Yakumo 2**	**10.28 249**	P		**Pn**	**17 13 02.2 -0.3**
NKL	**Nikolayevsk**	**10.52 314**	*e*P		**Pn**	**17 13 05.8 0.0**
NKL			AMB		AMB	17 13 09.0
	comp=Z,170nm,1.4s					
NKL			AMB		AMB	17 13 32.5
	comp=Z,100nm,1.0s					
NKL			AMS		AMS	17 18 28.0
	comp=Z,2μm,15.0s					
NKL			AMS		AMS	17 18 28.0
	comp=Z,1μm,15.0s					
NKL			AMS		AMS	17 18 28.0
	comp=Z,2μm,15.0s					
NKL			AMS		AMS	17 18 31.0
	comp=Z,900nm,15.0s					
NKL			AMS		AMS	17 18 31.0
	comp=Z,800nm,15.0s					
NKL			AMS		AMS	17 18 31.0
	comp=Z,700nm,15.0s					
JSR	**Shiriuchi**	**10.55 246**	P		**Pn**	**17 13 04.7 -1.6**
JANG	**Nango**	**10.56 239**	P		**Pn**	**17 13 02.5 -3.9**
JANG			*e*S		**Sn**	**17 14 52.9 -11**
JTM	**Tenmabayashi**	**10.57 242**	P		**Pn**	**17 13 04.3 -2.2**
JTM			*e*S		**Sn**	**17 14 54.7 -9.3**
JTH	**Tanohata**	**10.64 236**	P		**Pn**	**17 13 03.1 -4.4**
JTH			*e*S		**Sn**	**17 14 55.0 -11**
JOSM	**Okushiri--Mats**	**10.88 251**	P		**Pn**	**17 13 10.4 -0.3**
OFUJ	**Ofunato**	**11.34 233**	*e*S		**Sn**	**17 15 11.5 -11**
JRG	**Rokugo**	**11.71 237**	P		**Pn**	**17 13 18.2 -3.9**
JRG			*e*S		**Sn**	**17 15 22.7 -9.2**
JIO	**Ouri**	**11.96 232**	P		**Pn**	**17 13 21.7 -3.8**
JIO			*e*S		**Sn**	**17 15 25.5 -12**
MA2	**Magadan**	**13.17 354**	*e*PN		**Pn**	**17 13 43.9 +1.8**
MA2			pmax		pmax	
	comp=Z,10.0nm,0.5s					
MA2	**Magadan**	**13.17 354**	*e*P		**Pn**	**17 13 43.5 +1.4**
KLR	**Kul'dur**	**14.73 288**	*e*P		**Pn**	**17 14 03.3 -0.1**
KLR			MLR		MLR	
	comp=Z,4μm,13.0s					
MJAR	**Matsushiro Arr**	**15.07 234**	Pn		**Pn**	**17 14 04.2 -3.6**
	comp=Z,0.4nm,0.3s,baz=31,slow=12,SNR=15					
MJAR			Sn		**Sn**	**17 16 49.2 -4.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=20,SNR=2.3					
MJAR	**Matsushiro Arr**	**15.07 234**	Pn		**Pn**	**17 14 04.2 -3.6**
MJAR			Sn		**Sn**	**17 16 49.2 -4.6**
MAJO	**Matsushiro**	**15.07 234**	*e*P		**Pn**	**17 14 03.4 -4.4**
MAJO			pmax		pmax	
	comp=Z,18nm,0.6s					
MAJO	**Matsushiro**	**15.07 234**	*e*P		**Pn**	**17 14 03.4 -4.4**
	comp=Z,18nm,0.6s					
MAT	**Matsushiro**	**15.07 234**	P		**Pn**	**17 14 04.2 -3.6**
MAT			*e*S		**Sn**	**17 16 56.8 +3.0**
VLA	**Vladivostok**	**15.58 265**	*e*P		**Pn**	**17 14 12.4 -2.2**
VLA			S		**Sn**	**17 17 06.0 -0.4**
VLA			pmax		pmax	
	comp=Z,44nm,1.9s					
SEY	**Seymchan**	**16.46 358**⇑	*e*P		**Pn**	**17 14 24.5 -1.3**
MDJ	**Mudanjiang**	**16.73 272**	P		**Pn**	**17 14 28.0 -1.2**
MDJ			AP		pP	17 14 33.2 -5.5
MDJ			XP		sP	17 14 34.6 -7.6
MDJ			S		**Sn**	**17 17 34.6 +0.5**
MDJ			SCP		ScP	17 22 51.3 +1.3
MDJ			PCS		PcS	17 22 52.8 -0.3
MDJ			AMB		AMB	
	comp=Z,14nm,1.2s					
MDJ			AMB		AMB	
	comp=Z,76nm,4.6s					
MDJ			LR		LR	
	comp=N,452nm,17.1s					
MDJ			LR		LR	
	comp=E,415nm,15.8s					
MDJ			LR		LR	
	comp=Z,743nm,16.5s					
MDJ	**Mudanjiang**	**16.73 272**	*e*P		**Pn**	**17 14 29.2 0.0**
	comp=Z,25nm,0.8s					
ZEA	**Zeya**	**18.15 303**	*e*P		**Pn**	**17 14 44.0 -2.8**
ZEA			AMB		AMB	17 14 50.0
	comp=Z,200nm,6.0s					
ZEA			AMB		AMB	17 14 50.0
	comp=Z,300nm,6.0s					
CN2	**Changchun**	**19.81 272**	*e*P		**Pn**	**17 15 03.1 -3.8**
CN2			*e*XP		sP	17 15 10.0 -6.2
CN2			*e*S		**Sn**	**17 18 40.1 -8.7**
CN2			AMB		AMB	
	comp=Z,10.0nm,0.7s					
CN2			AMB		AMB	
	comp=Z,200nm,6.0s					
CN2			LR		LR	
	comp=N,500nm,17.0s					
CN2			LR		LR	
	comp=E,600nm,17.0s					
CN2			LR		LR	
	comp=Z,600nm,19.0s					
CLNS	**Chul'man**	**20.29 311**	*e*P		**P**	**17 15 15.2 +4.8**
CLNS			*e*PPP			17 15 31.8
CLNS			*e*S		**S**	**17 18 44.3 -12**
CLNS			*e*SS			17 19 24.3
CLNS			*e*			17 19 35.0
CLNS			pmax		pmax	
	comp=E,25nm,0.9s					
CLNS			pmax		pmax	
	comp=Z,26nm,0.9s					
CLNS			pmax		pmax	
	comp=N,28nm,1.1s					
CLNS			smax			
	comp=N,90nm,11.7s					
CLNS			smax			
	comp=Z,89nm,11.1s					
CLNS			smax			
	comp=E,59nm,13.3s					
CLNS			MLR		MLR	
	comp=E,1μm,15.0s,MS4.4					
CLNS			MLR		MLR	
	comp=Z,2μm,15.0s,MS4.5					
CLNS			MLR		MLR	
	comp=N,400nm,16.0s,MS4.4					
YAK	**Yakutsk**	**20.60 327**	*e*P		**P**	**17 15 14.1 +0.3**
YAK			*e*			17 15 32.3
YAK			*e*S		**S**	**17 18 58.5 -4.2**
YAK			*e*			17 19 28.2
YAK			*e*SSS			17 19 31.3
YAK			*e*			17 26 44.4
YAK			pmax		pmax	
	comp=Z,29nm,1.0s					
YAK			pmax		pmax	
	comp=N,10.0nm,1.1s					
YAK			pmax		pmax	
	comp=E,13nm,1.3s					
YAK			pmax		pmax	
	comp=Z,212nm,4.0s					
YAK			pmax		pmax	
	comp=N,133nm,3.3s					
YAK			pmax		pmax	
	comp=E,84nm,2.0s					
YAK			smax			
	comp=E,162nm,3.5s					
YAK			smax			
	comp=N,106nm,3.7s					
YAK			MLR		MLR	
	comp=Z,596nm,14.0s,MS4.1					
YAK			MLR		MLR	
	comp=N,491nm,15.0s,MS4.1					
YAK			MLR		MLR	
	comp=E,273nm,12.0s,MS4.1					
YAK	**Yakutsk**	**20.60 327**	*e*P		**P**	**17 15 12.8 -1.0**
	comp=E,44nm,0.8s					
INCN	**Inchon**	**21.72 255**	*e*P		**P**	**17 15 27.4 +1.5**
	comp=E,36nm,0.8s,mb4.8					
SNY	**Shenyang**	**21.78 268**	⇑P		**P**	**17 15 26.4 -0.2**
SNY			AP			17 15 30.4
SNY			XP		sP	17 15 33.3 -4.3
SNY			S		**S**	**17 19 23.6 -2.4**
SNY			XS		sS	17 19 30.5 -7.5
SNY			SS			17 19 58.7
SNY			AMB		AMB	
	comp=Z,270nm,0.9s,mb5.7					
SNY			AMB		AMB	
	comp=Z,317nm,4.1s					
SNY			LR		LR	
	comp=E,438nm,16.5s					
SNY			LR		LR	
	comp=Z,493nm,16.2s,MS4.0					
BILL	**Bilibino**	**22.58 13**	*e*P		**P**	**17 15 36.3 +1.2**
BILL			pmax		pmax	
	comp=Z,8.0nm,0.5s,mb4.4					
BILL	**Bilibino**	**22.58 13**	*e*P		**P**	**17 15 36.3 +1.2**
	comp=Z,8.1nm,0.5s,mb4.4					
HIA	**Hailar**	**22.59 289**	*e*P		**P**	**17 15 33.4 -1.7**
HIA			pmax		pmax	
	comp=Z,9.0nm,0.6s					
HIA	**Hailar**	**22.59 289**	*e*P		**P**	**17 15 33.4 -1.7**
	comp=Z,9.2nm,0.6s,mb4.4					
DL2	**Dalian**	**24.39 263**	⇑P		**P**	**17 15 52.7 -0.1**
DL2			S		**S**	**17 20 12.0 +1.3**
DL2			XS		sS	17 20 20.8 -3.1
DL2			AMB		AMB	
	comp=Z,20nm,0.8s,mb4.6					
DL2			AMB		AMB	
	comp=Z,120nm,5.1s					
DL2			LR		LR	
	comp=N,180nm,14.1s,MS3.8					
DL2			LR		LR	
	comp=E,110nm,12.2s,MS3.8					
DL2			LR		LR	
	comp=Z,140nm,14.5s,MS3.6					
BOD	**Bodaibo**	**26.25 310**	*e*P		**P**	**17 16 07.5 -2.2**
BOD			pmax		pmax	
	comp=Z,9.0nm,1.1s,mb4.2					
BJI	**Beijing**	**27.63 270**	P		**P**	**17 16 22.3 +0.2**
BJI			AP		pP	17 16 23.5 -6.6
BJI			AMB		AMB	
	comp=Z,10.0nm,0.9s,mb4.5					
BJI			AMB		AMB	
	comp=Z,188nm,5.4s					
BJI			LR		LR	
	comp=N,591nm,14.1s,MS4.3					
BJI			LR		LR	
	comp=E,242nm,15.2s,MS4.3					
BJI			LR		LR	
	comp=Z,377nm,16.4s,MS4.0					
BJT	**Baijiatuau**	**27.64 270**	*e*P		**P**	**17 16 23.2 +1.0**
BJT			pmax		pmax	
	comp=Z,23nm,1.0s					
BJT	**Baijiatuau**	**27.64 270**	*e*P		**P**	**17 16 23.2 +1.0**
	comp=Z,23nm,1.0s,mb4.8					
SSE	**Sheshan**	**29.16 250**	*e*P		**P**	**17 16 36.3 +0.6**
SSE			XP		sP	17 16 40.8 -6.4
SSE			S		**S**	**17 21 26.3 +0.1**
SSE			AMB		AMB	
	comp=Z,18nm,0.8s,mb4.8					
SSE			AMB		AMB	
	comp=Z,132nm,5.5s					
SSE			LR		LR	
	comp=N,123nm,23.4s,MS3.6					
SSE			LR		LR	
	comp=E,101nm,23.4s,MS3.6					
SSE			LR		LR	
	comp=Z,140nm,24.1s,MS3.5					
NJ2	**Nanjing**	**30.08 254**	*e*P		**P**	**17 16 45.0 +1.2**
NJ2			AP		pP	17 16 55.5 +3.6
NJ2			XP		sP	17 16 58.3 +3.0
NJ2			PP		PP	17 17 43.5 -8.4
NJ2			S		**S**	**17 21 39.0 -1.6**
NJ2			XS		sS	17 21 56.0 +2.0
NJ2			AMB		AMB	
	comp=Z,20nm,0.8s,mb4.9					
NJ2			AMB		AMB	
	comp=Z,670nm,4.6s					
NJ2			LR		LR	
	comp=N,720nm,20.6s,MS4.3					
NJ2			LR		LR	
	comp=E,490nm,23.2s,MS4.3					
NJ2			LR		LR	
	comp=Z,7μm,23.1s,MS5.2					
HHC	**Hu-ho-hao-te**	**30.46 275**	*e*P		**P**	**17 16 47.7 +0.4**
HHC			AP		pP	17 16 52.6 -2.7
HHC			XP		sP	17 16 55.0 -3.7
HHC			PP		PP	17 17 48.1 -8.1
HHC			S		**S**	**17 21 47.5 +0.8**
HHC			XS		sS	17 21 54.2 -5.8
HHC			SS		SS	17 23 24.1 -33
HHC			PCS		PcS	17 23 29.5 -0.3
HHC			SCS		ScS	17 27 23.6 +0.8
HHC			AMB		AMB	
	comp=Z,29nm,0.8s,mb5.1					
HHC			LR		LR	
	comp=N,235nm,12.9s,MS4.3					
HHC			LR		LR	
	comp=E,391nm,14.3s,MS4.3					
HHC			LR		LR	
	comp=Z,530nm,16.2s,MS4.3					
SONM	**Songino Array**	**31.56 290**	P		**P**	**17 16 56.0 -0.9**
	comp=Z,2.7nm,0.9s,mb4.0,baz=68,slow=8.8,SNR=12					
SONM			PcP		PcP	17 19 49.1 +0.1
	comp=Z,1.4nm,1.0s,baz=110,slow=1.6,SNR=3.7					
SONM			ScP		ScP	17 23 32.1 +1.8
	comp=Z,0.2nm,0.9s,baz=122,slow=1.9,SNR=4.0					
SONM			LR		LR	17 30 43.2
	comp=Z,701nm,18.3s,MS4.4,baz=66,slow=38					
TLY	**Talaya**	**32.42 298**	*ce*P		**P**	**17 17 03.4 -1.1**
TLY			pmax		pmax	
	comp=Z,7.0nm,1.0s,mb4.5					
TLY	**Talaya**	**32.42 298**	*e*P		**P**	**17 17 03.8 -0.6**
	comp=Z,4.0nm,0.7s,mb4.4					
ZAK	**Zakamensk**	**32.92 295**	*e*P		**P**	**17 17 08.1 -0.7**
WHN	**Wuhan**	**34.02 256**	P		**P**	**17 17 19.0 +0.5**
WHN			AMB		AMB	
	comp=Z,40nm,1.2s,mb5.2					
KDAK	**Kodiak Island**	**34.13 51**	P		**P**	**17 17 16.9 -2.5**
	comp=Z,11nm,0.9s,mb4.8,baz=131,slow=9.3,SNR=4.3					
XAN	**Xi'an**	**35.65 266**	P		**P**	**17 17 32.6 +0.1**
XAN			AP		pP	17 17 38.2 -2.5
XAN			AMB		AMB	
	comp=Z,8.0nm,2.3s,mb4.2					
COLA	**College**	**36.22 38**⇓	*i*P		**P**	**17 17 37.5 +0.1**
KRAR	**Krasnoyarsk**	**37.85 307**⇓	*e*P		**P**	**17 17 52.8 +1.6**
KRAR			pmax		pmax	
	comp=Z,16nm,1.0s,mb4.7					
KRAR			MLR		MLR	
	comp=Z,600nm,16.0s,MS4.5					
LZH	**Lanzhou**	**38.05 272**	*e*P		**P**	**17 17 54.5 +1.6**
LZH			AP		pP	17 17 58.0 -3.1
LZH			XP		sP	17 18 01.0 -3.5
LZH			PCP		PcP	17 20 09.7 +1.8
LZH			*e*S		**S**	**17 23 43.1 -0.6**
LZH			XS		sS	17 23 50.0 -7.2
LZH			SS		SS	17 26 19.0 -12
LZH			AMB		AMB	
	comp=Z,32nm,1.0s,mb5.0					
LZH			AMB		AMB	
	comp=Z,149nm,4.7s					
LZH			LR		LR	
	comp=N,1μm,14.4s					
LZH			LR		LR	
	comp=Z,1μm,15.0s,MS4.9					
LZH	**Lanzhou**	**38.05 272**	*e*P		**P**	**17 17 54.5 +1.6**
LZH			*SP		sP	17 18 01.0 -3.5
LZH						17 19 28.4
LZH						17 20 09.7
LZH			*e*S		**S**	**17 23 43.1 -0.6**
LZH			SS		SS	17 26 19.0 -12
LZH	**Lanzhou**	**38.05 272**	*e*P		**P**	**17 17 54.5 +1.6**
LZH			pP		pP	17 17 58.0 -3.1
LZH			sP		sP	17 18 01.0 -3.5
LZH			PP		PP	17 19 28.4 +8.3
LZH			PcP		PcP	17 20 09.7 +1.8
LZH			*e*S		**S**	**17 23 43.1 -0.6**
LZH			sS		sS	17 23 50.0 -7.2
LZH			SS		SS	17 26 19.0 -12
EGAK	**Eagle**	**39.09 38**	*e*P		**P**	**17 18 00.5 -1.1**
GTA	**Gaotai**	**39.16 279**	*e*P		**P**	**17 18 03.2 +1.0**
GTA			AP		pP	17 18 07.5 -2.9
GTA			XP		sP	17 18 10.6 -3.2
GTA			PP		PP	17 19 38.1 +5.9
GTA			PCP		PcP	17 20 12.8 +1.5
GTA			S		**S**	**17 24 04.1 +3.6**
GTA			XS		sS	17 24 11.7 -2.3
GTA			SS		SS	17 26 48.7 -5.0
GTA			AMB		AMB	
	comp=Z,17nm,1.4s,mb4.6					
GTA			AMB		AMB	
	comp=Z,135nm,7.6s					
GTA			LR		LR	
	comp=N,259nm,14.1s,MS4.4					
GTA			LR		LR	
	comp=E,260nm,11.5s,MS4.4					
GTA			LR		LR	
	comp=Z,300nm,14.5s,MS4.3					
CD2	**Chengdu**	**41.02 266**	P		**P**	**17 18 17.7 +0.1**
CD2			AP		pP	17 18 22.2 -3.7
CD2			XP		sP	17 18 24.8 -4.4
CD2			SS		SS	17 27 26.7 -4.1
CD2			AMB		AMB	
	comp=Z,20nm,0.6s,mb4.9					
CD2			AMB		AMB	
	comp=Z,30nm,5.2s					
CD2			LR		LR	
	comp=N,170nm,14.2s					
CD2			LR		LR	
	comp=Z,170nm,12.0s,MS4.1					
INK	**Inuvik**	**41.76 32**	P		**P**	**17 18 23.4 -0.3**
	comp=Z,1.6nm,0.5s,mb3.9,baz=282,slow=5.9,SNR=7.4					
INK	**Inuvik**	**41.76 32**	*e*P		**P**	**17 18 23.6 -0.1**
GYA	**Guiyang**	**41.82 258**⇑	*i*P		**P**	**17 18 25.1 +0.9**
GYA			AP		pP	17 18 29.6 -2.8
GYA			XP		sP	17 18 32.6 -3.2
GYA			PP		PP	17 20 05.2 +4.1
GYA			SCP		ScP	17 24 10.3 +2.0
GYA			S		**S**	**17 24 42.0 +1.9**
GYA			SCS		ScS	17 28 25.6 +0.4
GYA			AMB		AMB	
	comp=Z,50nm,0.9s,mb5.1					
GYA			AMB		AMB	
	comp=Z,110nm,5.4s					
GYA			LR		LR	
	comp=N,460nm,17.0s,MS4.6					
GYA			LR		LR	
	comp=E,490nm,17.2s,MS4.6					
GYA			LR		LR	
	comp=Z,510nm,16.8s,MS4.5					
NVS	**Novosibirsk**	**43.45 308**	*i*P		**P**	**17 18 35.8 -1.7**
NVS			*e*			17 20 22.9
NVS			pmax		pmax	
	comp=Z,16nm,1.8s,mb4.5					
NVS			pmax		pmax	
	comp=N,9.0nm,1.9s					
NVS			pmax		pmax	
	comp=E,18nm,2.1s					
WMQ	**Urumqi**	**45.15 292**	P		**P**	**17 18 51.6 +0.5**
WMQ			AP		pP	17 18 56.0 -3.4
WMQ			XP		sP	17 18 58.5 -4.2
WMQ			PCP		PcP	17 20 33.0 +1.8
WMQ			PPP			17 21 19.0
WMQ			SCP		ScP	17 24 23.0 +1.2
WMQ			S		**S**	**17 25 30.0 +1.1**
WMQ			XS		sS	17 25 38.0 -4.6
WMQ			SCS		ScS	17 28 46.0 -0.1
WMQ			AMB		AMB	
	comp=Z,8.0nm,0.7s,mb4.7					
WMQ			AMB		AMB	
	comp=Z,105nm,4.9s					
WMQ			LR		LR	
	comp=N,511nm,14.3s,MS4.7					
WMQ			LR		LR	
	comp=E,438nm,14.8s,MS4.7					
WMQ			LR		LR	
	comp=Z,593nm,15.6s,MS4.6					
KMI	**Kunming**	**45.35 260**	P		**P**	**17 18 53.7 +1.0**
KMI			S		**S**	**17 25 30.1 -1.7**
KMI			AMB		AMB	
	comp=Z,20nm,1.1s,mb4.9					
KMI			LR		LR	
	comp=Z,79nm,15.6s,MS3.8					
LSA	**Lhasa**	**50.44 273**	P		**P**	**17 19 35.0 +2.9**
LSA	**Lhasa**	**50.44 273**	*e*P		**P**	**17 19 34.9 +2.8**
LSA			pmax		pmax	
	comp=Z,14nm,0.6s,mb5.2					
LSA	**Lhasa**	**50.44 273**	*e*P		**P**	**17 19 34.9 +2.8**
	comp=Z,14nm,0.6s,mb5.2					
YKA	**Yellowknife Ar**	**51.02 37**	P		**P**	**17 19 36.2 -0.2**
	comp=Z,2.4nm,0.5s,mb4.3,baz=296,slow=6.9,SNR=4.1					
YKA			LR		LR	17 43 49.4
	comp=Z,66nm,19.3s,MS3.7,baz=50,slow=39					
YKA	**Yellowknife Ar**	**51.02 37**	P		**P**	**17 19 36.2 -0.2**
YKA			pmax		pmax	
	comp=Z,2.0nm,0.5s					
YKA			MLR		MLR	
	comp=Z,67nm,19.3s					
YKA	**Yellowknife Ar**	**51.02 37**	P		**P**	**17 19 36.2 -0.2**
YKA			LR		LR	17 43 49.4
NANT	**Nan**	**51.05 256**⇓	P		**P**	**17 19 35.0 -1.6**
	comp=Z,62nm,1.0s,mb5.5					
BVAR	**Borovoye Array**	**51.12 310**	P		**P**	**17 19 36.3 -0.9**
	comp=Z,2.7nm,0.4s,mb4.5,baz=54,slow=8.0,SNR=32					
BVAR			LR		LR	17 43 46.1
	comp=Z,338nm,18.0s,MS4.4,baz=132,slow=39					
BVAR	**Borovoye Array**	**51.12 310**	P		**P**	**17 19 36.3 -0.9**
BVAR			pmax		pmax	
	comp=Z,3.0nm,0.4s					
BVAR			MLR		MLR	
	comp=Z,339nm,18.0s					
BRVK	**Borovoye**	**51.16 310**	*e*P		**P**	**17 19 35.8 -1.7**
BRVK			pmax		pmax	
	comp=Z,6.0nm,0.6s,mb4.7					
BRVK	**Borovoye**	**51.16 310**	*e*P		**P**	**17 19 35.8 -1.7**
	comp=Z,6.0nm,0.6s,mb4.7					
ZRNK	**Zerenda**	**51.89 310**	*e*P		**P**	**17 19 41.7 -1.3**
ZRNK			pmax		pmax	
	comp=Z,9.0nm,0.9s,mb4.7					
ZRNK	**Zerenda**	**51.89 310**	*e*P		**P**	**17 19 41.7 -1.3**
	comp=Z,8.9nm,0.9s,mb4.7					
CHG	**Chiang Mai**	**52.22 257**	⇑P		**P**	**17 19 47.0 +1.6**
	comp=Z,30nm,0.9s,mb5.2					
CHTO	**Chiang Mai**	**52.22 257**	P		**P**	**17 19 47.4 +2.0**
	SNR=7.6					
CHTO	**Chiang Mai**	**52.22 257**	*e*P		**P**	**17 19 46.8 +1.4**
CHTO			pmax		pmax	
	comp=Z,24nm,0.9s,mb5.1					
CHTO	**Chiang Mai**	**52.22 257**	*e*P		**P**	**17 19 46.8 +1.5**
	comp=Z,24nm,0.9s,mb5.1					
FRU	**Bishkek**	**53.89 297**	*e*P		**P**	**17 19 57.7 0.0**
AAK	**Ala-Archa**	**54.08 297**	P		**P**	**17 19 58.9 -0.2**
	SNR=5.4					
AAK	**Ala-Archa**	**54.08 297**	*c i*P		**P**	**17 19 58.1 -1.0**
AAK			pmax		pmax	
	comp=Z,11nm,1.0s,mb4.7					
AAK			MLR		MLR	
	comp=Z,500nm,19.0s,MS4.6					
AAK	**Ala-Archa**	**54.08 297**	*e*P		**P**	**17 19 58.1 -0.9**
	comp=Z,10nm,0.9s,mb4.8					
KSH	**Kashi**	**54.88 293**	*e*P		**P**	**17 20 05.2 +0.3**
KSH			*e*AP		pP	17 20 10.5 -2.9
KSH			*e*XP		sP	17 20 13.9 -2.8
KSH			*e*PCP		PcP	17 21 07.8 +1.0
KSH			*e*PP		PP	17 22 09.1 +1.2
KSH			*e*PPP			17 23 21.9
KSH			*e*SCP		ScP	17 25 03.7 +0.3
KSH			*e*S		**S**	**17 27 43.9 -0.7**
KSH			*e*XS		sS	17 27 52.6 -5.9
KSH			*e*PS			17 28 01.7
KSH			*e*SCS		ScS	17 29 49.9 -2.3
KSH			*e*SS		SS	17 31 27.2 -0.9
KSH			AMB		AMB	
	comp=Z,105nm,1.0s,mb5.8					
KSH			LR		LR	
	comp=N,451nm,7.2s					
KSH			LR		LR	
	comp=E,699nm,10.7s					
KSH			LR		LR	
	comp=Z,893nm,16.2s					
JIRN	**Jiri**	**55.12 275**	*e*P		**P**	**17 20 08.7 +2.1**
	comp=Z,33nm,0.5s,mb5.6					
GUN	**Gumba**	**55.17 275**	*e*P		**P**	**17 20 08.5 +1.5**
	comp=Z,35nm,0.5s,mb5.6					
ARU	**Arti**	**55.29 318**⇓	*i*P		**P**	**17 20 05.9 -1.9**
ARU			*e*			17 22 06.1
ARU			*e*S		**S**	**17 27 48.0 -1.9**
ARU			*e*SS		SS	17 31 31.3 -3.1
ARU			pmax		pmax	
	comp=Z,8.0nm,0.7s,mb4.9					
ARU			MLR		MLR	
	comp=E,100nm,17.0s					
ARU			MLR		MLR	
	comp=Z,100nm,17.0s,MS4.0					
ARU			MLR		MLR	
	comp=N,90nm,23.0s					
ARU	**Arti**	**55.29 318**	*e*P		**P**	**17 20 05.4 -2.4**
	comp=N,6.9nm,0.6s,mb4.9					
KKN	**Kakani**	**55.66 276**	*e*P		**P**	**17 20 12.3 +1.8**
	comp=N,30nm,0.5s,mb5.6					
PKI	**Pulchoki**	**55.71 275**	*e*P		**P**	**17 20 12.5 +1.6**
	comp=N,17nm,0.5s,mb5.3					

DMN Daman 55.90 276 *eP* **P 17 20 14.0 +1.8**
comp=N,44nm,0.7s,mb5.6
GKN Gorkha 55.97 276 *eP* **P 17 20 14.3 +1.6**
comp=N,55nm,0.6s,mb5.8
KOLN Koldanda 56.83 277 *eP* **P 17 20 20.6 +1.7**
comp=N,26nm,0.7s,mb5.4
KEV Kevo 57.61 341 *ep* **P 17 20 21.9 -2.5**
comp=N,3.1nm,0.6s,mb4.5
KEV Kevo 57.61 341 *eP* **P 17 20 21.9 -2.5**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BOK Bokaro 57.81 272 *eP* **P 17 20 25.7 0.0**
BOK AMb AMB 17 20 34.9
comp=Z,21nm,1.7s,mb4.9
ARCES ARCESS Array B 58.12 341 P **P 17 20 28.1 +0.1**
comp=Z,1.9nm,0.7s,mb4.3,baz=32,slow=7.1,SNR=10
ARCES LR LR 17 51 14.2
comp=Z,118nm,19.1s,MS4.0,baz=199,slow=42
ARCES ARCESS Array B 58.12 341 P **P 17 20 28.1 +0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,118nm,19.1s
SDNR Sundarnagar 59.00 284 *eP* **P 17 20 33.8 -0.3**
BMO Blue Mountains 59.08 56 *eP* **P 17 20 34.3 -0.3**
comp=Z,3.7nm,1.0s,mb4.4
THN Thein Dam 59.25 286 *eP* **P 17 20 36.1 +0.3**
NDI New Delhi 60.60 282 *eP* **P 17 20 46.8 +1.7**
SUMG Summit 60.92 4 *eP* **P 17 20 47.2 -0.1**
comp=Z,42nm,1.0s,mb5.5
HLID Hailey 61.51 56 P **P 17 20 49.5 -1.7**
JOF Joensuu 61.61 334 *ep* **P 17 20 49.9 -2.0**
comp=Z,5.8nm,0.6s,mb4.9
JOF Joensuu 61.61 334 *eP* **P 17 20 49.9 -2.0**
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
MCMT McKenzie Canyo 61.61 54 *eP* **P 17 20 51.4 -0.5**
QLMT Earthquake Lak 62.39 53 *eP* **P 17 20 57.3 +0.1**
GCMT Greycliff 62.75 51 *eP* **P 17 20 59.5 0.0**
TPAW Teton Pass 63.51 54 *eP* **P 17 21 05.4 +0.7**
comp=Z,7.4nm,0.8s,mb4.8
REDW Red Top Meadow 63.65 54 *eP* **P 17 21 06.0 +0.4**
VIS Vishakhapatnam 63.65 268 *eP* **P 17 21 03.8 -1.7**
VIS AMb AMB 17 21 21.9
comp=Z,20nm,0.9s,mb5.1
KAF Kangasniemi 63.72 335 *ep* **P 17 21 03.8 -2.2**
baz=37,slow=6.2
AJM Ajmer 63.76 282 *eP* **P 17 21 05.7 -0.6**
AJM AMb AMB 17 21 09.7
comp=Z,23nm,0.7s,mb5.3
BHPL Bhopal 64.00 277 *eP* **P 17 21 08.1 +0.3**
BHPL AMb AMB 17 21 09.7
comp=Z,30nm,0.9s,mb5.3
FINES FINESS Array B 64.31 335 P **P 17 21 08.9 -1.0**
comp=Z,6.9nm,0.5s,mb5.0,baz=36,slow=7.6,SNR=86
FINES LR LR 17 52 10.9
comp=Z,197nm,19.3s,MS4.3,baz=178,slow=39
FINES FINESS Array B 64.31 335 P **P 17 21 08.9 -1.0**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES MLR MLR
comp=Z,197nm,19.3s
BW06 Boulder Array 64.76 54 *eP* **P 17 21 12.5 -0.3**
comp=Z,5.8nm,0.9s,mb4.6
PDAR Pinedale Array 64.76 54 P **P 17 21 12.7 -0.2**
comp=Z,3.4nm,0.8s,mb4.4,baz=325,slow=2.3,SNR=16
PDAR LR LR 17 50 48.0
comp=Z,45nm,20.1s,MS3.7,baz=134,slow=37
OBN Obninsk 65.59 326⇑ *eP* **P 17 21 16.9 -1.3**
OBN pmax pmax
comp=Z,29nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
ULM Lac du Bonnet 66.60 41 P **P 17 21 25.6 +0.9**
comp=Z,4.9nm,0.9s,mb4.5,baz=309,slow=9.7,SNR=4.2
ULM LR LR 17 52 18.6
comp=Z,59nm,19.4s,MS3.8,baz=339,slow=38
SRU San Rafael 66.61 57 *eP* **P 17 21 24.4 -0.4**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 66.61 57 *eP* **P 17 21 24.4 -0.4**
comp=Z,6.5nm,0.8s,mb4.7
RSSD Black Hills 66.86 50 *eP* **P 17 21 26.0 -0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RSSD Black Hills 66.86 50 *eP* **P 17 21 26.0 -0.3**
comp=Z,3.4nm,0.8s,mb4.4
PV10 Paradox Valley 67.97 57 *eP* **P 17 21 33.5 +0.2**
WRAB Tennant Creek 68.33 199⇑ *eP* **P 17 21 34.9 -0.8**
NB2 NORSAR Subarra 68.50 341 P **P 17 21 35.8 -0.9**
comp=Z,10nm,0.7s,mb5.0,baz=28,slow=6.5
NB2 NORSAR Subarra 68.50 341 P **P 17 21 35.8 -0.9**
NB2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
NOA NORSAR Array B 68.50 341 P **P 17 21 35.9 -0.8**
comp=Z,7.5nm,0.6s,mb4.9,baz=27,slow=6.3,SNR=33
NOA LR LR 17 57 49.2
comp=Z,116nm,19.2s,MS4.1,baz=25,slow=41
NOA NORSAR Array B 68.50 341 P **P 17 21 35.9 -0.8**
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA MLR MLR
comp=Z,116nm,19.2s
HFS Hagfors 68.73 340 LR LR 17 57 00.5
comp=Z,148nm,18.7s,MS4.2,baz=19,slow=40
NAO01 NORSAR Array S 68.74 341 *eP* **P 17 21 37.7 -0.5**
comp=Z,18nm,1.0s,mb5.0
FITZ Fitzroy Crossi 69.01 208 *eP* **P 17 21 39.5 -0.4**
comp=Z,9.3nm,0.9s,mb4.7
MVCO Mesa Verde 69.07 58 *eP* **P 17 21 40.0 -0.2**
POO Poona 69.64 276 *eP* **P 17 21 43.0 -0.7**
POO *ex* x 17 22 42.8
POO AMb AMB 17 22 43.3
comp=Z,26nm,1.5s,mb4.9
KONO Kongsberg 70.10 341⇑ *eP* **P 17 21 47.5 +0.9**
KAD Karad 70.25 275 *eP* **P 17 21 48.1 +0.6**
KAD AMb AMB 17 21 59.1
comp=Z,21nm,1.0s,mb5.0
ECSD EROS,Sioux Fal 70.93 46 *eP* **P 17 21 52.9 +1.2**
KIV Kislovodsk 71.07 314 *c iP* **P 17 21 53.1 +0.6**
KIV pmax pmax
comp=Z,16nm,1.7s,mb4.7
ZEI Tsey 71.33 313 *eP* **P 17 21 52.9 -1.2**
ZEI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GOA Goa 71.75 273 *ex* x 17 22 01.6
LAZ Ladron 71.80 59 P **P 17 21 57.2 +0.3**
ANMO Albuquerque 71.82 58⇑ *eP* **P 17 21 56.5 -0.5**
AKASG Malin Array Be 71.83 326 P **P 17 21 56.1 -1.0**
comp=Z,10nm,0.6s,mb4.9,baz=35,slow=6.3,SNR=62
AKASG LR LR 17 55 19.9
comp=Z,89nm,19.6s,MS4.0,baz=355,slow=37
AKASG Malin Array Be 71.83 326 P **P 17 21 56.1 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG MLR MLR
comp=Z,89nm,19.6s
AKBB Malin Array Si 71.83 326 *eP* **P 17 21 56.0 -1.1**
AS31 Alice Springs 72.04 199 *eP* **P 17 21 58.1 -0.2**
ASAR Alice Springs 72.04 199 P **P 17 21 58.3 0.0**
comp=Z,2.6nm,0.7s,mb4.3,baz=11,slow=5.4,SNR=44
ASAR Alice Springs 72.04 199 P **P 17 21 58.3 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASPA Alice Springs 72.04 199 *eP* **P 17 21 58.1 -0.2**
GNI Garni 72.80 310 *eP* **P 17 22 04.4 +1.5**
GNI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 72.80 310 *eP* **P 17 22 04.4 +1.5**
comp=Z,13nm,1.0s,mb4.8
SCHQ Schefferville 73.46 23 LR LR 18 00 25.5
comp=Z,52nm,19.0s,MS3.8,baz=97,slow=41
OJC Ojcow 75.60 331 *eP* **P 17 22 18.9 -0.3**
BURAR Bucovina Array 75.87 327⇑ *iP* **P 17 22 20.3 -0.4**
BURAR Bucovina Array 75.87 327 ⇑P **P 17 22 20.3 -0.4**
OKC Ostrava-Krasne 76.47 332 *eP* **P 17 22 23.8 -0.4**
OKC AMS AMS 18 01 50.0
comp=Z,200nm,13.5s
UPC Upice 76.56 334 *eP* **P 17 22 18.7 -6.0**
DPC Dobruska-Polom 76.60 333 *eP* **P 17 22 24.2 -0.7**
MORC Moravsky Berou 76.72 332⇓ *iP* **P 17 22 25.9 +0.3**
MORC Moravsky Berou 76.72 332 *eP* **P 17 22 25.3 -0.3**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC Moravsky Berou 76.72 332 *eP* **P 17 22 25.3 -0.3**
comp=Z,6.6nm,0.8s,mb4.6

CFR Carcaliu 76.72 324⇑ *iP* **P 17 22 25.8 +0.2**
CFR Carcaliu 76.72 324 ⇑P **P 17 22 25.8 +0.2**
VRI Vrincioaia 76.72 325⇑ *iP* **P 17 22 25.7 +0.1**
BOYT Boyabat 76.74 317 *i P* **P 17 22 26.8 +1.2**
CLL Collm 76.74 336 *eP* **P 17 22 24.5 -1.2**
comp=Z,14nm,0.7s,mb5.0
CLL Collm 76.74 336⇑ *iP* **P 17 22 25.0 -0.7**
comp=Z,14nm,0.7s,mb5.0
CLL *e*(PcP) PcP 17 22 40.0 +3.1
CLL LmH 17 55 00.0
comp=N,100nm,20.9s
CLL LmH 17 55 00.0
comp=E,100nm,19.3s
BRG Berggiesshubel 76.86 335 *eP* **P 17 22 25.7 -0.6**
BRG Berggiesshubel 76.86 335 *eP* **P 17 22 28.2 +1.9**
comp=E,6.6nm,1.4s,mb4.4
BRG Berggiesshubel 76.86 335 *eP* **P 17 22 28.2 +1.9**
BRG pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
PVCC Panska Ves 76.98 334 *eP* **P 17 22 27.2 +0.2**
ELZG Elazig 77.00 313 *i P* **P 17 22 28.7 +1.6**
HATD Hatta, Dubai 77.10 292 P **P 17 22 29.3 +1.6**
SNR=6.4
HOQ Hoqain 77.22 291 P **P 17 22 29.4 +1.0**
SNR=6.8
MLR Muntele Rosu 77.34 325⇑ *iP* **P 17 22 30.0 +0.9**
MLR Muntele Rosu 77.34 325 P **P 17 22 30.1 +1.0**
BALT Daday 77.35 318 *i P* **P 17 22 30.1 +1.0**
CTKT Corum 77.41 317 *i P* **P 17 22 29.9 +0.4**
MALT Malatya 77.42 313⇑ *iP* **P 17 22 31.5 +2.0**
MALT Malatya 77.42 313 *eP* **P 17 22 30.8 +1.3**
MALT pmax pmax
comp=Z,19nm,1.3s,mb4.9
MALT Malatya 77.42 313 *eP* **P 17 22 30.8 +1.2**
comp=Z,19nm,1.3s,mb4.9
VRAC Vranov 77.43 333 LR LR 18 00 13.0
comp=Z,199nm,18.9s,MS4.5,baz=5.1,slow=38
VRAC Vranov 77.43 333⇑ *iP* **P 17 22 30.0 +0.4**
VRAC Vranov 77.43 333 ⇑P **P 17 22 30.0 +0.5**
PRU Pruhonice 77.46 334 *eP* **P 17 22 29.3 -0.5**
PRU AMS AMS 18 00 00.0
comp=Z,200nm,15.6s
PSZ Piszkesteto 77.54 330⇓ *iP* **P 17 22 30.9 +0.7**
PSZ Piszkesteto 77.54 330 ⇓P **P 17 22 30.9 +0.7**
JMDO Jabal Madar 77.56 289 P **P 17 22 32.1 +1.8**
SNR=5.4
TANN Tannenbergstha 77.69 336 *eP* **P 17 22 29.9 -1.1**
comp=Z,9.0nm,1.5s,mb4.5
MOX Moxa 77.72 336 *eP* **P 17 22 30.7 -0.5**
comp=Z,10.0nm,1.1s,mb4.7
MOX Moxa 77.72 336 *eP* **P 17 22 31.1 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
MOX Moxa 77.72 336 *eP* **P 17 22 31.1 -0.1**
MOX pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VOIR 77.74 326⇓ *iP* **P 17 22 32.2 +0.9**
VOIR 77.74 326 ⇓P **P 17 22 32.2 +0.9**
TREC Trest 77.79 333 AMS AMS 18 01 10.0
comp=Z,200nm,15.4s
NKC Novy Kostel 77.86 336 *eP* **P 17 22 31.6 -0.4**
CCM Cathedral Cave 77.88 47 *eP* **P 17 22 33.8 +1.7**
CCM pmax pmax
comp=Z,15nm,1.0s,mb4.9
CCM Cathedral Cave 77.88 47 *eP* **P 17 22 33.8 +1.8**
comp=Z,15nm,1.0s,mb4.9
BSY Bisya 77.88 290 P **P 17 22 33.8 +1.7**
SNR=8.1
UBBA Unterbreizbach 78.01 337 *eP* **P 17 22 31.6 -1.2**
comp=Z,4.0nm,0.8s,mb4.4
ELDT Eldivan 78.16 318 *i P* **P 17 22 34.6 +1.0**
MANZ Manzenberg 78.18 336 *eP* **P 17 22 33.4 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
ROTZ Rotzenmuhle 78.35 335 *eP* **P 17 22 34.4 -0.3**
comp=Z,7.0nm,0.9s,mb4.6
KHC Kasperske Hory 78.51 334 *eP* **P 17 22 35.6 0.0**
KHC AMS AMS 18 00 40.0
comp=Z,200nm,11.6s
GZT Gaziantep 78.60 313 *i P* **P 17 22 37.8 +1.7**
GZR Gura Zlata 78.65 327⇑ *iP* **P 17 22 37.3 +1.0**
GZR Gura Zlata 78.65 327 P **P 17 22 36.6 +0.2**
BR131 Keskin Array S 78.66 317 *eP* **P 17 22 37.0 +0.5**
comp=Z,2.7nm,0.8s,mb4.2
BRTR Keskin Array B 78.66 317 P **P 17 22 37.0 +0.6**
comp=Z,2.0nm,0.7s,mb4.2,baz=56,slow=3.1,SNR=15
BRTR Keskin Array B 78.66 317 P **P 17 22 37.1 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
GRA1 Grafenberg Arr 78.69 336 *eP* **P 17 22 36.6 0.0**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.69 336 *eP* **P 17 22 36.6 0.0**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.69 336 *eP* **P 17 22 36.6 0.0**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 78.69 336 *eP* **P 17 22 36.6 0.0**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
WET Wettzell 78.71 335 *eP* **P 17 22 36.5 -0.2**
comp=Z,12nm,1.1s,mb4.7
WET Wettzell 78.71 335 *eP* **P 17 22 36.5 -0.2**
WET pmax pmax
comp=Z,12nm,1.1s,mb4.7
SGKT Sivrigoynuk 78.73 318 *i P* **P 17 22 38.0 +1.2**
GEC2 GERESS Array S 78.73 334 *eP* **P 17 22 36.6 -0.2**
comp=Z,4.0nm,0.8s,mb4.4
GEC2 GERESS Array S 78.73 334 *eP* **P 17 22 36.6 -0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GERES GERESS Array B 78.73 334 P **P 17 22 36.6 -0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=35,slow=4.9,SNR=21
GERES GERESS Array B 78.73 334 P **P 17 22 36.6 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 78.75 190 P **P 17 22 35.0 -1.8**
comp=Z,2.5nm,1.0s,mb4.1,baz=320,slow=19,SNR=2.6
CONA Conrad Observa 78.87 332⇓ *iP* **P 17 22 37.4 -0.2**
comp=Z,5.6nm,0.9s,mb4.5
UMR Umm Al-Rimmam 78.88 301 *eP* **P 17 22 38.8 +1.2**
UMR AMb AMB 17 22 39.6
comp=Z,32nm,0.7s,mb5.4
BZS Buzias 78.89 328⇓ *iP* **P 17 22 38.5 +0.8**
BZS Buzias 78.89 328 P **P 17 22 37.5 -0.1**
MIB Mutribah 78.92 302 *eP* **P 17 22 38.9 +1.1**
MIB AMb AMB 17 22 40.6
comp=Z,49nm,0.7s,mb5.5
TNS Taunus Mts 78.96 338 *eP* **P 17 22 36.5 -1.5**
comp=Z,8.0nm,0.7s,mb4.8
TNS Taunus Mts 78.96 338 *eP* **P 17 22 36.5 -1.5**
TNS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BEBN Eben Emael 79.12 340 PKPbc **P 17 22 32.8 -6.1**
MEM Membach 79.22 340 PKPbc **P 17 22 32.8 -6.6**
MEM Membach 79.22 340 P **P 17 22 39.9 +0.5**
RST Umm Al-Ruwaisa 79.34 302 *eP* **P 17 22 40.6 +0.4**
RST AMb AMB 17 22 42.6
comp=Z,31nm,0.7s,mb5.3
QRN Al-Qurain 79.35 301 *eP* **P 17 22 41.3 +1.1**
QRN AMb AMB 17 22 44.8
comp=Z,34nm,0.6s,mb5.4
NAY Al-Naaiem 79.38 301 *eP* **P 17 22 41.6 +1.3**
NAY AMb AMB 17 22 43.2
comp=Z,12nm,0.9s,mb4.8
UCC Uccle 79.43 341 PKPbc **P 17 22 33.8 -6.8**
PKSM Moragy 79.44 330⇓ *iP* **P 17 22 40.4 -0.3**
PKSM Moragy 79.44 330 ⇓P **P 17 22 40.4 -0.3**
BCLA Clavier 79.56 340 PKPbc **P 17 22 33.6 -7.8**
BCLA Clavier 79.56 340 P **P 17 22 42.9 +1.5**
SNF Seneffe 79.72 341 PKPbc **P 17 22 35.4 -6.8**
DOU Dourbes 80.03 340 PKPbc **P 17 22 35.6 -8.3**
WLF Walferdange 80.06 339 PKPbc **P 17 22 35.8 -8.2**
ESKT Eskisehir 80.12 319 *i P* **P 17 22 43.3 -1.0**
BAIF Baives 80.16 340⇑ *iP* **P 17 22 44.1 -0.4**
PERS Pernice 80.25 332 *eP* **P 17 22 45.1 0.0**
KBA Koelnbreinsper 80.42 334⇑ *iP* **P 17 22 46.4 +0.4**
comp=Z,25nm,0.9s,mb5.1
KBA Koelnbreinsper 80.42 334⇑ *iP* **P 17 22 46.4 +0.5**
KBA pmax pmax
comp=Z,25nm,0.9s,mb5.1
DOBS Dobrina 80.57 332 *eP* **P 17 22 46.0 -0.8**
BFO Black Forest 80.73 337 *eP* **P 17 22 47.2 -0.4**
comp=Z,12nm,1.0s,mb4.8
BFO Black Forest 80.73 337 *eP* **P 17 22 47.2 -0.4**
BFO pmax pmax
comp=Z,12nm,1.0s,mb4.8
WTTA Wattenberg 80.76 335⇓ *iP* **P 17 22 48.2 +0.4**

comp=Z,24nm,1.5s,mb4.9
WTTA Wattenberg 80.76 335⇓ *iP* **P 17 22 48.2 +0.4**
WTTA pmax pmax
comp=Z,24nm,1.5s,mb4.9
LEGS Legarje 80.79 332 *eP* **P 17 22 48.3 +0.3**
MOTA Moosalm 80.85 335⇑ *iP* **P 17 22 48.2 0.0**
comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 80.85 335⇑ *iP* **P 17 22 48.2 -0.1**
MOTA pmax pmax
comp=Z,17nm,1.1s,mb4.9
VTS Vitosha 80.85 325⇑ *iP* **P 17 22 48.3 0.0**
VTS Vitosha 80.85 325 ⇑P **P 17 22 48.4 +0.1**
VTS Vitosha 80.85 325 P **P 17 22 48.5 +0.3**
CDF Champ du Feu 80.93 338⇑ *iP* **P 17 22 48.3 -0.4**
comp=Z,28nm,1.2s,mb4.8
CDF Champ du Feu 80.93 338⇑ *iP* **P 17 22 48.3 -0.4**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CDF Champ du Feu 80.93 338⇑ *iP* **P 17 22 48.3 -0.4**
comp=Z,14nm,1.2s,mb4.8
MEZF Maizieres J'vi 81.41 339⇑ *iP* **P 17 22 51.1 -0.1**
comp=Z,27nm,0.8s,mb4.9
MEZF Maizieres J'vi 81.41 339⇑ *iP* **P 17 22 51.1 -0.1**
comp=Z,27nm,0.8s,mb5.2
TKTP Tekketepe 81.56 318 *i P* **P 17 22 51.6 -0.4**
LDF La Druitiere 82.49 343⇑ *iP* **P 17 22 56.1 -0.8**
comp=Z,28nm,1.1s,mb4.8
LDF La Druitiere 82.49 343⇑ *iP* **P 17 22 56.1 -0.8**
LDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
LDF La Druitiere 82.49 343⇑ *iP* **P 17 22 56.1 -0.8**
comp=Z,14nm,1.1s,mb4.8
SWET Sewanee 82.75 45 P **P 17 22 57.3 -1.0**
GRR Gorron 82.83 343 *eP* **P 17 22 58.2 -0.5**
LOR Lormes 82.85 340⇑ *iP* **P 17 22 58.5 -0.3**
comp=Z,27nm,1.2s,mb4.8
LOR *e*MLR MLR
comp=Z,125nm,17.8s
LOR Lormes 82.85 340⇑ *iP* **P 17 22 58.5 -0.3**
LOR pmax pmax
comp=Z,13nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,120nm,17.8s,MS4.3
LOR Lormes 82.85 340⇑ *iP* **P 17 22 58.5 -0.3**
comp=Z,13nm,1.2s,mb4.8
LOR LR LR
comp=Z,120nm,17.8s,MS4.3
SSF Saint Saulge 83.13 340⇑ *iP* **P 17 22 59.9 -0.3**
comp=Z,16nm,1.0s,mb4.7
SSF Saint Saulge 83.13 340⇑ *iP* **P 17 22 59.9 -0.3**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SSF Saint Saulge 83.13 340⇑ *iP* **P 17 22 59.9 -0.3**
comp=Z,7.9nm,1.0s,mb4.7
ROSF Rostrenen 83.35 345 *eP* **P 17 23 00.9 -0.5**
comp=Z,46nm,1.3s,mb5.1
ROSF Rostrenen 83.35 345 *eP* **P 17 23 00.9 -0.5**
ROSF pmax pmax
comp=Z,23nm,1.3s,mb5.0
ROSF Rostrenen 83.35 345 *eP* **P 17 23 00.9 -0.5**
comp=Z,23nm,1.3s,mb5.0
AVF Avril sur Loir 83.42 340⇑ *iP* **P 17 23 01.5 -0.2**
comp=Z,39nm,1.2s,mb5.0
AVF Avril sur Loir 83.42 340⇑ *iP* **P 17 23 01.5 -0.2**
AVF pmax pmax
comp=Z,20nm,1.2s,mb5.0
AVF Avril sur Loir 83.42 340⇑ *iP* **P 17 23 01.5 -0.2**
comp=Z,20nm,1.2s,mb5.0
SMF Signal de Mont 83.44 339⇑ *iP* **P 17 23 01.7 -0.1**
comp=Z,52nm,1.1s,mb5.2
SMF Signal de Mont 83.44 339⇑ *iP* **P 17 23 01.7 -0.1**
SMF pmax pmax
comp=Z,26nm,1.1s,mb5.2
SMF Signal de Mont 83.44 339⇑ *iP* **P 17 23 01.7 -0.1**
comp=Z,26nm,1.1s,mb5.2
QUIF Quistinic 83.73 344 *eP* **P 17 23 02.7 -0.6**
comp=Z,94nm,1.6s,mb5.4
QUIF Quistinic 83.73 344 *eP* **P 17 23 02.7 -0.6**
QUIF pmax pmax
comp=Z,47nm,1.5s,mb5.4
QUIF Quistinic 83.73 344 *eP* **P 17 23 02.7 -0.6**
comp=Z,47nm,1.5s,mb5.4
LPL La Plagne 83.75 337⇑ *iP* **P 17 23 04.2 +0.8**
comp=Z,17nm,1.1s,mb4.8
LPL La Plagne 83.75 337⇑ *iP* **P 17 23 04.2 +0.8**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPL La Plagne 83.75 337⇑ *iP* **P 17 23 04.2 +0.8**
comp=Z,8.4nm,1.0s,mb4.8
LPG La Plagne 83.76 337⇑ *iP* **P 17 23 04.3 +0.8**
comp=Z,8.8nm,0.9s,mb4.6
LPG La Plagne 83.76 337⇑ *iP* **P 17 23 04.3 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LPG La Plagne 83.76 337⇑ *iP* **P 17 23 04.3 +0.8**
comp=Z,4.4nm,0.9s,mb4.6
TCF Toulx Ste Croi 84.16 340 *eP* **P 17 23 05.3 -0.2**
comp=Z,36nm,1.3s,mb5.0
TCF Toulx Ste Croi 84.16 340 *eP* **P 17 23 05.3 -0.2**
TCF pmax pmax
comp=Z,18nm,1.3s,mb5.0
TCF Toulx Ste Croi 84.16 340 *eP* **P 17 23 05.3 -0.2**
comp=Z,18nm,1.3s,mb5.0
ORIF Oris-en-Rattie 84.53 337⇑ *iP* **P 17 23 07.9 +0.5**
comp=Z,20nm,1.0s,mb4.9
ORIF *e*MLR MLR
comp=Z,123nm,23.0s
ORIF Oris-en-Rattie 84.53 337⇑ *iP* **P 17 23 07.9 +0.5**
ORIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
ORIF Oris-en-Rattie 84.53 337⇑ *iP* **P 17 23 07.9 +0.5**
comp=Z,9.9nm,1.0s,mb4.9
LFF La Frestale 85.77 341 *eP* **P 17 23 12.7 -0.9**
LASF Ste Croix 85.83 338 *eP* **P 17 23 13.8 -0.1**
KEST Kesra 91.95 331 P **P 17 23 44.2 +1.3**
comp=Z,0.4nm,0.7s,mb3.8,baz=90,slow=2.5,SNR=3.9
PLCA Paso Flores 148.03 96 PKPbc PKPbc 17 30 18.8 -1.0
comp=Z,3.0nm,0.8s,baz=318,slow=2.7,SNR=7.0
PLCA Paso Flores 148.03 96 PKP2 PKPbc 17 30 18.8 -1.0
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 148.03 96 *e*PKPbc PKPbc 17 30 18.8 -1.0
CPUP Villa Florida 148.44 61 PKPbc PKPbc 17 30 20.2 -0.6
comp=Z,1.2nm,0.5s,baz=344,slow=2.2,SNR=7.0
CPUP Villa Florida 148.44 61 PKP2 PKPbc 17 30 20.2 -0.7
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 148.44 61 PKPbc PKPbc 17 30 20.3 -0.5
SNAA Sanae 152.38 196 PKPbc PKPbc 17 30 27.3 -3.0
comp=Z,0.5nm,0.8s,baz=152,slow=10,SNR=9.2
SNAA Sanae 152.38 196 *e*PKPdf PKPdf 17 30 26.1 +2.7
SNAA *e* 17 30 38.8
SNAA *e* 17 30 49.3
SNAA *e* 17 30 52.8
SNAA *e* 17 30 58.4
SNAA Sanae 152.38 196 *e*PKPbc PKPbc 17 30 27.4 -2.9
VNA3 Neumayer Olymp 153.90 192 *e*PKPdf PKPdf 17 30 28.8 +3.1
VNA3 *e* 17 30 42.9
VNA3 *e* 17 30 53.3
VNA3 *e* 17 30 56.0
VNA3 *e* 17 30 59.7
VNA3 *e* 17 31 01.4

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*IDC **03** 17:22:21.6±1.6,2389S×17493W,h0km,mb3.9/3,*
mb1 4.3/5,mb1mx4.1/12,mbtmp4.2/5,ML4.4/2,Error
ellipse: s-maj=87.0km s-min=26.1km az=159.0
*ISCJB **03** 17:22:24.4±0.7,2298S±008×17497W±0.10,h33km,*
mb4.1/5,Error ellipse: s-maj=15.2km s-min=8.8km
az=75.8
*NEIC **03** 17:22:36.8±6.2,2324S×17552W,h102km±52km,mb4.4/2,*
Error ellipse: s-maj=31.3km s-min=23.9km az=78.0

ISC 03 17:22:30.1±3.1,229S±02×1750W±01,h70km±36km,n17,
σ1§20/12,mb4.0/5,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.48**	**20**	Pn		**Pn**	**17 24 44.0**	**+0.2**
	3.4nm,0.3s,baz=44,slow=8.7,SNR=5.0							
AFI	**Afiamalu**	**9.48**	**20**	*e*P		**Pn**	**17 24 44.5**	**+0.8**
AFI				*e*Sn		**Sn**	**17 26 28.6**	**0.0**
RAR	**Rarotonga**	**14.26**	**86**	Pn		**Pn**	**17 25 44.0**	**-4.4**
	7.2nm,0.3s,baz=239,slow=8.2,SNR=12							
DZM	**Mont Dzumac**	**17.13**	**269**	P		**Pn**	**17 26 25.5**	**+0.6**
	0.3nm,0.3s,baz=81,slow=18,SNR=7.9							

CTAO	Charters Tower	36.05	267	*e*P	P	17 29 24.4	-0.4
STKA	Stephens Creek	39.31	247	P	P	17 29 50.0	-2.3
	2.4nm,0.8s,mb4.1,baz=108,slow=13,SNR=2.9						
AS31	Alice Springs	46.69	259	*e*P	P	17 30 52.6	+0.8
ASAR	Alice Springs	46.69	259	P	P	17 30 51.0	-0.8
	1.0nm,0.7s,mb3.7,baz=99,slow=6.4,SNR=16						
SBA	Scott Base	55.68	185	*e*P	P	17 32 00.2	+1.1
	2.3nm,0.9s,mb4.2						
QSPA	South Pole Qui	67.17	180	*e*P	P	17 33 17.3	+0.7
	7.6nm,1.1s,mb4.4						
PDAR	Pinedale Array	88.86	42	P	P	17 35 21.1	+4.5
	0.2nm,0.4s,mb3.5,baz=264,slow=2.6,SNR=3.5						
BVAR	Borovoye Array	122.69	319	PKP	PKPdf	17 41 20.5	+2.7
	0.5nm,0.7s,baz=57,slow=5.3,SNR=3.2						
AKASG	Malin Array Be	146.44	332	PKPbc	PKPbc	17 42 07.3	+4.1
	0.4nm,0.3s,baz=38,slow=4.1,SNR=6.5						
BRTR	Keskin Array B	150.49	311	PKPbc	PKPbc	17 42 17.9	+4.2
	0.9nm,0.8s,baz=33,slow=4.2,SNR=2.9						
CLL	Collm	150.98	350	*e*PKPbc	PKPbc	17 42 21.0	+6.1
BRG	Berggiesshubel	151.23	348	*e*(P)	PKPbc	17 42 20.8	+5.4
	1.8nm,1.0s						
BRG				*e*		17 42 33.6	
	1.7nm,0.7s						
BRG							
	comp=N,76nm,20.8s						
BRG							
	comp=E,37nm,11.9s						
BRG							
	comp=Z,106nm,14.6s						
GERES	GERESS Array B	153.21	347	PKPab	PKPab	17 42 35.1	+3.2
	comp=Z,0.1nm,0.3s,baz=9.8,slow=24,SNR=2.4						

ISCJB ***03*** *17:30:16.4±4.9, 579S±02×254W±03, h38km±45km, mb4.0/4, MS3.3/1, Error ellipse: s-maj=31.4km s-min=24.6km az=68.1*

NEIC ***03*** *17:30:20.7±4.4, 5791S×2528W, h66km±40km, Error ellipse: s-maj=26.5km s-min=20.0km az=212.0*

IDC ***03*** *17:30:22.2±7.2, 5794S×2546W, h75km±64km, mb3.8/4, mb1 3.9/6, mb1mx3.6/17, mbtmp4.0/6, ML4.1/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/25, Error ellipse: s-maj=35.8km s-min=25.9km az=76.0*

ISC 03 17:30:19.2±4.0, 580S±02×254W±03, h51km±38km, n15, σ0=57/12, mb4.0/4, MS3.3/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	14.83	160	*e*	Pn	17 33 44.9	-0.8
VNA3				*e*		17 33 45.6	
VNA3				*e*		17 33 47.2	
VNA3				*e*		17 33 48.6	
VNA3				*e*		17 33 49.6	
VNA3				*e*		17 33 51.8	
VNA3				*e*		17 36 14.5	
SNAA	Sanae	16.56	155	P	Pn	17 34 08.5	+0.6
	0.3nm,0.3s,baz=323,slow=12,SNR=45						
SNAA				S	S	17 36 56.8	-23
	0.0nm,0.3s,baz=275,slow=15,SNR=2.6						
SNAA				LR	LR	17 38 41.4	
	comp=Z,15nm,21.9s,baz=205,slow=30						
SNAA	Sanae	16.56	155	*e*	Pn	17 34 08.5	+0.6
SNAA				*e*		17 34 10.2	
SNAA				*e*		17 34 12.7	
SNAA				*e*		17 34 17.3	
SNAA				*e*		17 34 26.1	
SNAA	Sanae	16.56	155	*e*Pn	Pn	17 34 08.5	+0.6
SNAA				S	S	17 36 56.8	-23
SNAA				LR	LR	17 38 41.4	
PMSA	Palmer Station	19.45	234	P	Pn	17 34 43.5	+0.4
	0.1nm,0.3s,baz=110,slow=9.3,SNR=3.6						
PMSA				S	S	17 38 27.3	+8.7
	0.1nm,0.3s,baz=326,slow=7.4,SNR=2.2						
PMSA	Palmer Station	19.45	234	P	Pn	17 34 43.2	+0.1
PMSA				S	S	17 38 27.3	+8.7
USHA	Ushuaia	23.72	259	LR	LR	17 42 13.1	
	comp=Z,98nm,20.0s,MS3.3,baz=44,slow=30						
MAW	Mawson	38.01	142	PcP	PcP	17 39 47.4	+0.4
	0.9nm,0.6s,baz=297,slow=5.4,SNR=7.8						
VNDA	Vanda	44.67	182	P	P	17 38 27.4	+0.5
	1.6nm,0.8s,mb3.9,baz=195,slow=5.4,SNR=10						
LPAZ	La Paz	52.30	305	P	P	17 39 25.1	-0.5
	0.7nm,0.5s,mb3.8,baz=182,slow=4.2,SNR=4.1						
TORD	Torodi Ar. Bea	74.30	27	P	P	17 41 51.6	+0.5
	1.4nm,0.5s,mb4.2,baz=198,slow=6.2,SNR=15						
TORD				pP	pP	17 42 07.4	+1.9
	1.5nm,0.8s,baz=195,slow=6.4,SNR=4.8						
ASAR	Alice Springs	96.83	161	P	P	17 43 44.0	-0.7
	0.5nm,0.7s,mb4.1,baz=180,slow=4.1,SNR=9.7						
FINES	FINESS Array B	125.65	28	PKP	PKPdf	17 49 12.3	-2.6
	0.6nm,0.5s,baz=176,slow=5.4,SNR=5.6						
FINES	FINESS Array B	125.65	28	PKP	PKPdf	17 49 12.3	-2.6
SONM	Songino Array	149.83	88	PKPbc	PKPbc	17 50 02.4	-1.2
	1.6nm,0.5s,baz=224,slow=3.7,SNR=21						
SONM				pPKPbc	pPKPbc	17 50 18.9	+0.1
	0.6nm,0.4s,baz=222,slow=3.4,SNR=5.2						

MAN 03 17:30:57.3, 1881N×12160E, h80km, mb2.8, ML4.2, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.70	143	*e*P	Pn	17 31 14.7	+1.7
SGCP				*e*S	Sn	17 31 27.9	+3.3
ABRA	Dolores	1.43	216	*e*P	Pn	17 31 22.1	+0.5
ABRA				*e*S	Sn	17 31 41.4	+1.3
PALP	Palanan	1.91	156	*e*P	Pn	17 31 29.2	+1.3
PALP				*e*S	Sn	17 31 52.2	+1.0

NEIC ***03*** *17:37:54.2±4.4, 3629N×7069E, h33km±35km, mb3.5/2, Error ellipse: s-maj=24.0km s-min=13.5km az=119.0*

IDC ***03*** *17:37:56.8±5.6, 3621N×7056E, h58km±54km, mb3.4/6, mb1 3.5/9, mb1mx3.3/23, mbtmp3.7/9, ML3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/38, Error ellipse: s-maj=37.2km s-min=27.7km az=131.0*

ISCJB ***03*** *17:37:58.3±0.5, 3644N±003×7160E±007, h124km±8km, mb3.6/7, Error ellipse: s-maj=9.6km s-min=4.6km az=158.4*

NNC ***03*** *17:38:06.2±6.9, 3702N×7109E, h158km±71km, mb3.0, mpv3.9, Error ellipse: s-maj=58.5km s-min=37.5km az=27.0*

NDI ***03*** *17:38:08.0±4.2, 2993N×70.17E, h33km, ML3.9*

ISC 03 17:37:59.4±0.4, 3644N±003×7159E±007, h123km±8km, n46, σ1=06/53, mb3.6/7, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.62	174	P	Pn	17 38 41.3	+0.5
CEP				S	Sn	17 39 13.0	+0.4
CHCP	Chirah Chowk	3.09	153	P	Pn	17 38 48.7	+1.7
THW	Thamme Wali	3.63	178	P	Pn	17 38 54.2	+0.1
SBDP	Sheikh Budin	4.17	189	P	Pn	17 39 00.7	-0.6
SARP	Sargodha	4.59	168	P	Pn	17 39 06.0	-0.9
SARP				S	Sn	17 39 55.0	-4.3
THN	Thein Dam	5.25	138	*e*P	Pn	17 39 16.8	+1.1
THN				*e*S	Sn	17 40 15.1	0.0
DLH	Dalhousie	5.30	136	*ex*	x	17 40 13.0	
DLH				*e*S	Sn	17 40 26.0	+10
AML	Almayashu	5.92	15	P	Pn	17 39 24.8	+0.1
	SNR=39						
UCH	Uchtor	6.21	20	P	Pn	17 39 29.2	+0.5
	SNR=30						
EKS2	Erkin-Say	6.44	15	P	Pn	17 39 31.9	+0.1
	SNR=60						
AAK	Ala-Archa	6.58	19	P	Pn	17 39 34.0	+0.2
	SNR=34						
AAK	Ala-Archa	6.58	19	*e*Pn	Pn	17 39 33.0	-0.8
	29nm,0.6s						
SDNR	Sundarnagar	6.65	136	*e*P	Pn	17 39 35.5	+0.9
SDNR				*e*SB	Sn	17 40 44.0	-4.9
KK31	Karatay Array	6.71	353	⇓P	Pn	17 39 33.9	-1.6
	7.5nm,0.2s,baz=184,slow=14,SNR=181						
KK31				⇑S	Sn	17 40 44.9	-5.5
	7.4nm,0.5s,baz=196,slow=20,SNR=6.3						
KBK	Karagaybulak	6.73	22	P	Pn	17 39 36.6	+0.8
	SNR=7.7						
ULHL	Ulahol	6.83	30	P	Pn	17 39 38.5	+1.5
	SNR=14						
CHMS	Chumysh	6.99	19	P	Pn	17 39 39.3	0.0
	SNR=21						
TKM2	Tokmak 2	7.18	24	P	Pn	17 39 42.4	+0.7
	SNR=21						
TKM2	Tokmak 2	7.18	24	⇓P	Pn	17 39 42.4	+0.6
	1.7nm,0.6s						
TKM2				⇑S	Sn	17 41 01.5	-0.2
	0.1nm,0.5s						
USP	Ospenovka	7.18	17	P	Pn	17 39 41.1	-0.7
	SNR=13						
KLP	Kalpa	7.38	130	⇓*e*P	Pn	17 39 49.4	+4.9
KLP				*e*S	Sn	17 41 05.9	-0.7
KLP				AML	AML	17 41 10.5	
	comp=N,89nm,0.5s						
KLP				AML	AML	17 41 11.0	
	comp=E,100nm,0.4s						
KOLN	Koldanda	13.34	127	*e*P	Pn	17 41 03.0	-0.9
	comp=E,3.3nm,0.4s						
DMN	Daman	14.44	124	*e*P	Pn	17 41 18.2	+0.3
	comp=E,6.5nm,0.4s						
KKN	Kakani	14.44	123	*e*P	Pn	17 41 17.7	-0.3
	comp=E,5.6nm,0.4s						
PKI	Pulchoki	14.67	123	*e*P	Pn	17 41 19.5	-1.3
	comp=E,5.6nm,0.4s						
JIRN	Jiri	15.14	121	*e*P	Pn	17 41 25.5	-1.3
	comp=E,4.9nm,0.2s						
AB31	Akbulak array	15.37	330	⇑P	Pn	17 41 27.0	-2.7
	comp=E,0.6nm,0.2s,baz=140,slow=13,SNR=56						
AB31				⇓S	S	17 44 04.7	-23
	comp=E,1.3nm,0.4s,baz=152,slow=25,SNR=8.6						
VOSK	Vostochnaya	16.29	359	⇓P	Pn	17 41 38.6	-2.5
	comp=E,2.2nm,0.9s						
BVA0	Borovoye Array	16.61	357	⇑P	Pn	17 41 44.0	-0.9
	comp=E,0.2nm,0.5s,baz=193,slow=10.0,SNR=10						
BVAR	Borovoye Array	16.61	357	P	Pn	17 41 46.3	+1.4
	comp=E,0.6nm,0.3s,baz=166,slow=12,SNR=13						
ZRNK	Zerenda	16.61	355	⇑P	Pn	17 41 44.8	-0.2
	comp=E,1.4nm,0.6s						
ZRNK	Zerenda	16.61	355	*e*Pn	Pn	17 41 44.5	-0.5
	comp=E,2.4nm,0.5s						
BRVK	Borovoye	16.65	357	*e*P	Pn	17 41 46.2	+0.8
	comp=E,4.3nm,0.7s						
AKTK	Aktyubinsk	17.08	329	P	Pn	17 41 49.5	-1.1
AKTO	Aktyubinsk	17.08	329	⇓P	Pn	17 41 49.2	-1.4
AKTO				⇓S	S	17 44 45.8	-15
	comp=E,0.1nm,1.1s						
AKTO	Aktyubinsk	17.08	329	P	Pn	17 41 49.5	-1.1
	comp=E,0.8nm,0.3s,baz=125,slow=11,SNR=11						
WSAR	Wadi Sarin	17.28	224	P	Pn	17 41 45.6	-7.4
	comp=E,0.1nm,0.3s,baz=12,slow=9.3,SNR=3.0						
SONM	Songino Array	27.98	55	P	Pn	17 43 49.7	+11
	comp=E,0.2nm,0.8s,mb2.7,baz=264,slow=6.5,SNR=2.7						
SONM	Songino Array	27.98	55	P	P	17 43 49.7	+11
JOF	Joensuu	36.16	330	*ep*	P	17 44 50.6	+0.7
	comp=E,0.9nm,0.4s,mb4.0						
FINES	FINESS Array B	37.80	326	P	P	17 45 05.3	+1.6
	comp=E,0.8nm,0.7s,mb3.7,baz=126,slow=9.6,SNR=8.9						
ARCES	ARCESS Array B	41.39	337	P	P	17 45 35.2	+1.8
	comp=E,1.0nm,0.8s,mb3.7,baz=106,slow=7.9,SNR=6.2						
HFS	Hagfors	43.41	322	P	P	17 45 51.3	+1.4
	comp=E,1.8nm,0.7s,mb3.9,baz=106,slow=11,SNR=6.8						
NOA	NORSAR Array B	44.72	323	P	P	17 46 01.4	+1.1
	comp=E,1.0nm,0.7s,mb3.6,baz=97,slow=7.7,SNR=3.0						
VAE	Valguarnera	45.09	289	LR	LR	18 07 16.4	
	comp=E,107nm,19.9s,baz=247,slow=40						
TORD	Torodi Ar. Bea	66.19	269	P	P	17 48 32.9	-1.0
	comp=E,0.3nm,0.5s,mb3.4,baz=46,slow=5.9,SNR=5.0						

SZGRF ***03*** *18:02:51.4, 1987S×17187E, h33km, Vanuatu Islands region*

MOS ***03*** *18:03:11.6±1.0, 1895S×16908E, h153km, mb6.0/60, MS5.3/27, Error ellipse: s-maj=7.4km s-min=6.7km az=53.1*

CRAAG ***03*** *18:03:11.9, 1895S×16893E, Mw6.3*

BJI ***03*** *18:03:13.3, 1878S×169.16E, h171km, mB5.9, mb5.7*

NEIC ***03*** *18:03:13.4±0.1, 1884S×16900E, h161km, mb5.9/120, ME5.7, MW6.3, Error ellipse: s-maj=4.1km s-min=3.3km az=96.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^18^Nm; M_{rr}2.61; $M_{\theta\theta}$0.43; $M_{\phi\phi}$-3.05; $M_{r\theta}$0.59; $M_{\theta\phi}$0.87; $M_{\phi r}$-1.92; Best double couple: $M_0$3.60000×10^18^ NP1:φs164.00000°, δ62.00000°, λ87.00000°. NP2: φs350.00000°, δ28.00000°, λ95.00000°. Principal axes: T 3.2400, Plg73.0000°, Azm67.0000°; N 0.6400, Plg3.0000°, Azm165.0000°; P -3.8800, Plg17.0000°, Azm256.0000°; Broadband fault plane solution: P waves. NP1: φs340.00000°, δ25.00000°, λ90.00000°. NP2: φs160.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm250.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Port-Vila.

ISCJB ***03*** *18:03:13.4±0.1, 1890S±002×16894E±002, h167km, mb5.9/150 Error ellipse: s-maj=2.9km s-min=2.5km az=55.8*

IDC ***03*** *18:03:13.2±0.4, 1890S×16907E, h158km±2km, mb5.7/18, mb1 5.7/22, mb1mx5.7/22, mbtmp6.1/22, MS5.3/10, Ms1 5.3/10, ms1mx5.0/24, Error ellipse: s-maj=6.4km s-min=6.3km az=166.0*

GCMT ***03*** *18:03:14.6±0.1, 1901S×16891E, h166km, MW6.3/120, Moment Tensor Solution. s115, c295; s120, c477; Duration: 3s5 Moment tensor: Scale 10^18^Nm; M_{rr}2.13±.02; $M_{\theta\theta}$-0.91±.02; $M_{\phi\phi}$-1.23±.02; $M_{r\theta}$0.81±.01; $M_{\theta\phi}$1.47±.02; $M_{\phi r}$-2.60±.01; Best double couple: $M_0$3.60700×10^18^ NP1:φs298.00000°, δ24.00000°, λ53.00000°. NP2:φs157.00000°, δ71.00000°, λ105.00000°. Principal axes: T 3.5460, Plg61.0000°, Azm90.0000°; N 0.1170, Plg14.0000°, Azm332.0000°; P -3.6680, Plg24.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

LDG ***03*** *18:03:16.7±0.2, 1874S×16852E, h180km, Mb5.9/4, Ms5.3/10 Error ellipse: s-maj=22.2km s-min=11.9km az=113.0*

ISC 03 18:03:15.1±0.1, 1893S±002×16902E±002, h169km, h169km±1.1km; pP-P, n1426, σ0=84/752, mb5.9/150, 307C-245D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.95	217	*e*P	Pn	18 04 13.8	-1.4
DZM	Mont Dzumac	3.95	217	P	Pn	18 04 15.0	-0.2
	469nm,0.3s,baz=45,slow=18,SNR=727						
DZM				S	Sn	18 04 59.8	-2.3
	1μm,0.3s,baz=67,slow=22,SNR=4.4						
DZM				LR	LR	18 05 40.3	
	comp=Z,74μm,20.4s,baz=38,slow=37						
DZM				ScP	ScP	18 14 43.6	+3.3
	0.8nm,0.3s,baz=97,slow=7.2,SNR=5.8						
DZM				ScS	ScS	18 18 19.2	+6.4
	baz=310,slow=20,SNR=6.8						
HNR	Honiara	12.90	316	P	Pn	18 06 12.4	+0.1
	22nm,0.3s,baz=250,slow=1.7,SNR=31						
HNR				S	Sn	18 08 37.1	+1.8
	9.9nm,0.3s,baz=274,slow=10,SNR=1.8						
HNR				ScS	ScS	18 18 25.3	-0.8
	9.1nm,0.3s,baz=125,slow=2.8,SNR=4.1						
HNR				PKKP		18 34 52.4	
	14nm,0.3s,baz=80,slow=3.6,SNR=5.0						
HNR	Honiara	12.90	316	P	Pn	18 06 12.4	+0.1
HNR				S	Sn	18 08 37.1	+1.7
HNR				pmax	pmax		
	comp=Z,22nm,0.3s						
HNR				smax			
	comp=N,10.0nm,0.3s						
HNR	Honiara	12.90	316	⇓*e*Pn	Pn	18 06 12.7	+0.4
	comp=N,2μm,0.9s						
HNR				*e*Sn	Sn	18 08 42.5	+7.2
FUNA	Funafuti	14.30	45	⇑*i*Pn	Pn	18 06 32.3	+2.4
	comp=N,2μm,1.1s						
RAO	Raoul Island	15.73	133	P	Pn	18 06 46.4	-1.1
	comp=N,50nm,0.3s,baz=63,slow=24,SNR=3.4						
RAO				S	S	18 09 44.3	+1.8
	comp=N,89nm,0.3s,baz=90,slow=22,SNR=2.6						
RAO	Raoul Island	15.73	133	P	Pn	18 06 46.4	-1.1
RAO				S	S	18 09 44.3	+1.9
RAO				pmax	pmax		
	comp=Z,50nm,0.3s						
RAO				smax			
	comp=N,89nm,0.3s						
RAO	Raoul Island	15.73	133	⇑*e*P	Pn	18 06 47.2	-0.3
	comp=N,2μm,0.8s						
WCZ	Waipu Caves	17.59	166	*e*P	Pn	18 07 09.9	+0.1
WCZ	Waipu Caves	17.59	166	PN	Pn	18 07 09.9	+0.1
WCZ				SN	Sn	18 10 28.6	+1.2
WCZ				PcP	PcP	18 11 43.2	+4.1
KAAZ	Kauri Point	18.51	166	P	P	18 07 21.0	+2.5
KAAZ	Kauri Point	18.51	166	PN	Pn	18 07 20.8	0.0
WTAZ	Waiatarua	18.59	166	*e*P	P	18 07 20.6	+1.3
WTAZ	Waiatarua	18.59	166	PN	Pn	18 07 21.1	-0.6
OTAZ	Otara	18.69	165	P	P	18 07 21.9	+1.5
OTAZ	Otara	18.69	165	PN	Pn	18 07 21.8	-1.0
KUZ	Kuaotunu	18.70	163	*e*P	P	18 07 21.4	+0.8
KUZ	Kuaotunu	18.70	163	PN	Pn	18 07 21.4	-1.5
MKAZ	Moumakai	18.90	165	P	P	18 07 23.6	+0.9
MKAZ	Moumakai	18.90	165	PN	Pn	18 07 23.5	-1.7
AFI	Afiamalu	19.08	78	P	P	18 07 22.5	-2.2
	comp=N,7.5nm,0.3s,baz=87,slow=1.9,SNR=29						
AFI				pP		18 07 49.8	
	comp=N,6.2nm,0.3s,baz=52,slow=23,SNR=2.2						
AFI				S	S	18 10 53.6	+1.6
	comp=N,3.6nm,0.3s,baz=137,slow=24,SNR=1.9						
AFI				PcP	PcP	18 11 42.5	+0.9
	comp=N,4.6nm,0.3s,baz=291,slow=9.9,SNR=4.1						
AFI				ScP	ScP	18 15 02.9	+1.4
	baz=77,slow=6.9,SNR=4.1						
AFI	Afiamalu	19.08	78	P	P	18 07 22.5	-2.1
AFI				S	S	18 10 53.6	+1.6
AFI				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AFI				smax			
	comp=N,4.0nm,0.3s						
AFI	Afiamalu	19.08	78	⇑*e*P	P	18 07 21.5	-3.2
	comp=N,612nm,0.8s						
ARMA	Armidale	19.48	231	*e*P	P	18 07 30.4	+1.4
ARMA				*e*S	S	18 11 01.9	+2.0
ARMA				*e*SCP	ScP	18 15 05.8	+3.4
HIZ	Hauiti	20.16	167	*e*P	P	18 07 37.8	+1.5
HIZ	Hauiti	20.16	167	PN	P	18 07 37.7	+1.4
MXZ	Matakaoa Point	20.26	158	*e*P	P	18 07 37.7	+0.3
MXZ	Matakaoa Point	20.26	158	PN	P	18 07 37.6	+0.2
URZ	Urewera	20.51	162	P	P	18 07 40.5	+0.5
	comp=N,652nm,0.6s,baz=332,slow=4.8,SNR=282						
URZ				S	S	18 11 24.8	+4.8
	comp=N,36nm,0.6s,baz=207,slow=23,SNR=7.6						
URZ				LR	LR	18 14 29.7	
	comp=N,7μm,21.8s,baz=169,slow=33						
URZ				ScP	ScP	18 15 05.9	+1.1
	comp=N,37nm,1.0s,baz=332,slow=2.5,SNR=4.3						
URZ				ScS	ScS	18 18 43.5	-4.6
	comp=N,20nm,1.1s,baz=158,slow=22,SNR=4.2						
URZ				PKKP		18 34 38.0	
	comp=N,8.0nm,0.5s,baz=93,slow=23,SNR=13						
URZ	Urewera	20.51	162	*e*P	P	18 07 40.4	+0.4
URZ	Urewera	20.51	162	PN	P	18 07 40.4	+0.4
URZ				SN	S	18 11 24.1	+4.1
WATZ	Wairara	20.55	165	*e*P	P	18 07 41.3	+0.8
WATZ	Wairara	20.55	165	PN	P	18 07 41.3	+0.8
PUZ	Puketiti	20.70	159	*e*P	P	18 07 41.5	-0.6
PUZ	Puketiti	20.70	159	PN	P	18 07 41.5	-0.6
MWZ	Matawai	20.71	161	*e*P	P	18 07 42.1	0.0
MWZ	Matawai	20.71	161	PN	P	18 07 42.1	-0.1
NEZ	North Egmont	20.74	169	*e*P	P	18 07 45.3	+2.8
NEZ	North Egmont	20.74	169	PN	P	18 07 45.3	+2.8
NRZ	Ngariki Road	20.78	169	*e*P	P	18 07 45.0	+2.1
NRZ	Ngariki Road	20.78	169	PN	P	18 07 45.7	+2.8
RAEZ	Rainy Point	20.81	168	P	P	18 07 46.2	+2.9
RAEZ	Rainy Point	20.81	168	PN	P	18 07 45.5	+2.3
NGZ	Ngauruhoe	20.97	166	*e*P	P	18 07 46.1	+1.2
NGZ	Ngauruhoe	20.97	166	PN	P	18 07 45.6	+0.7
OTVZ	Oturere	20.97	165	PN	P	18 07 46.0	+1.0
FWVZ	Far West T-bar	21.03	166	*e*P	P	18 07 47.5	+1.9
FWVZ	Far West T-bar	21.03	166	PN	P	18 07 46.4	+0.9
WNVZ	Wahianoa	21.11	166	*e*P	P	18 07 48.7	+2.3
WNVZ	Wahianoa	21.11	166	PN	P	18 07 48.5	+2.1
BKZ	Black Stump Fm	21.18	164	*e*P	P	18 07 47.1	0.0
BKZ	Black Stump Fm	21.18	164	PN	P	18 07 47.0	-0.1
MOVZ	Moawhango	21.22	165	*e*P	P	18 07 48.2	+0.6
MOVZ	Moawhango	21.22	165	PN	P	18 07 48.1	+0.5
KNZ	Kokohu	21.38	161	*e*P	P	18 07 48.4	-0.9
KNZ	Kokohu	21.38	161	PN	P	18 07 47.9	-1.4
CTA	Charters Tower	21.49	263	*e*P	P	18 07 49.7	-0.7
	comp=N,441nm,0.8s,mb5.8						
CTA				*e*S	S	18 11 31.8	-6.3
CTA				*e*SCP	ScP	18 15 09.3	+2.1
CTA				*e*PKIKP	PKiKP	18 19 32.0	-0.7
CTA	Charters Tower	21.49	263	P	P	18 07 50.2	-0.3
	comp=N,450nm,0.7s,mb5.9,baz=87,slow=11,SNR=138						
CTA				pP		18 08 16.8	
	comp=N,268nm,0.9s,baz=74,slow=13,SNR=2.8						
CTA				S	S	18 11 41.0	+2.9
	comp=N,73nm,1.1s,baz=243,slow=21,SNR=4.4						
CTA				ScP	ScP	18 15 09.3	+2.1
	comp=N,28nm,0.9s,baz=152,slow=2.1,SNR=4.8						
CTA				ScS	ScS	18 18 53.5	+2.0
	comp=N,2.4nm,0.8s,baz=137,slow=23,SNR=4.1						
CTA				PKiKP	PKiKP	18 19 31.4	-1.3
	comp=N,6.6nm,0.9s,baz=284,slow=4.2,SNR=3.1						
CTA				P3KPbc		18 41 40.3	
	comp=N,5.3nm,0.7s,baz=274,slow=7.4,SNR=4.5						
CTA	Charters Tower	21.49	263	P	P	18 07 50.2	-0.2
CTA				*PP		18 08 16.8	
CTA				S	S	18 11 41.0	+2.9
CTA						18 18 53.6	
CTA				pmax	pmax		
	comp=Z,450nm,0.7s						
CTA				pmax	pmax		
	comp=Z,268nm,0.9s						
CTA				smax			
	comp=N,73nm,1.1s						
CTA	Charters Tower	21.49	263	*e*P	P	18 07 49.7	-0.7
	comp=N,441nm,0.8s,mb5.8						
CTA				*e*S	S	18 11 31.8	-6.3
CTA				*e*ScP	ScP	18 15 09.3	+2.1
CTAO	Charters Tower	21.49	263	⇓*e*P	P	18 07 49.6	-0.8
CTAO				pmax	pmax		
	comp=Z,630nm,0.9s,mb6.0						
CTAO	Charters Tower	21.49	263	⇓*e*P	P	18 07 49.6	-0.8
	comp=Z,630nm,0.9s,mb6.0						
CTAO				*e*pP		18 08 17.2	
CTAO				*e*ScP	ScP	18 15 08.8	+1.6
RIV	Riverview	21.77	224	*e*P	P	18 07 53.9	+0.5
TSZ	Takapari Road	21.89	166	*e*P	P	18 07 54.8	+0.2
TSZ	Takapari Road	21.89	166	PN	P	18

KHZ	**Kahutara**	**23.73 172**	PN	**P**	**18 08 10.9**	**-0.8**
CNB	**Canberra Magne**	**23.85 223**	*e*P	**P**	**18 08 13.4**	**+0.6**
	comp=N,3μm,0.7s,mb7.0					
CNB			*e*SCP	ScP	18 15 16.9	+3.5
LTZ	**Lake Taylor**	**23.94 174**	*e*P	**P**	**18 08 13.7**	**+0.1**
LTZ	**Lake Taylor**	**23.94 174**	PN	**P**	**18 08 13.3**	**-0.3**
FOZ	**Fox Glacier**	**24.57 179**	*e*P	**P**	**18 08 19.1**	**-0.2**
FOZ	**Fox Glacier**	**24.57 179**	PN	**P**	**18 08 18.8**	**-0.5**
FOZ			PcP	PcP	18 11 53.3	+0.7
FOZ			*e*SN	**S**	**18 12 24.4**	**-3.2**
RPZ	**Rata Peaks**	**24.77 176**	P	**P**	**18 08 20.7**	**-0.5**
	comp=N,230nm,0.6s,mb5.9,baz=320,slow=1.6,SNR=117					
RPZ			pP		18 08 52.9	
	comp=N,88nm,0.9s,baz=278,slow=7.7,SNR=1.1					
RPZ			PcP	PcP	18 11 52.6	-0.5
	comp=N,24nm,0.7s,baz=38,slow=4.1,SNR=3.2					
RPZ			S	**S**	**18 12 30.2**	**-0.6**
	comp=N,24nm,0.9s,baz=357,slow=17,SNR=3.0					
RPZ			ScP	ScP	18 15 17.0	+1.1
	comp=N,51nm,1.1s,baz=291,slow=5.8,SNR=3.1					
RPZ			ScS	ScS	18 19 05.6	+1.3
	comp=N,20nm,0.9s,baz=132,slow=20,SNR=3.4					
RPZ	**Rata Peaks**	**24.77 176**	*e*P	**P**	**18 08 20.2**	**-0.9**
RPZ	**Rata Peaks**	**24.77 176**	PN	**P**	**18 08 20.7**	**-0.4**
JCZ	**Jackson Bay**	**25.07 180**	*e*P	**P**	**18 08 24.3**	**+0.4**
JCZ	**Jackson Bay**	**25.07 180**	PN	**P**	**18 08 24.6**	**+0.8**
LBZ	**Lake Benmore**	**25.40 178**	*e*P	**P**	**18 08 27.2**	**+0.4**
LBZ	**Lake Benmore**	**25.40 178**	PN	**P**	**18 08 25.8**	**-1.1**
LBZ			PcP	PcP	18 11 54.3	-0.2
TOO	**Toolangi**	**27.70 223**	*e*P	**P**	**18 08 47.6**	**+0.2**
	comp=N,204nm,0.8s,mb5.9					
TOO			*e*pP	pP	18 09 30.9	+8.5
TOO			*e*S	**S**	**18 13 18.0**	**+0.9**
TOO			*e*SCP	ScP	18 15 27.3	+2.7
TOO	**Toolangi**	**27.70 223**	*e*P	**P**	**18 08 47.6**	**+0.2**
TOO			*e*S	**S**	**18 13 18.0**	**+0.9**
TOO			pmax	pmax		
	comp=Z,204nm,0.8s,mb5.9					
STKA	**Stephens Creek**	**27.84 237**	*e*P	**P**	**18 08 48.8**	**+0.2**
	comp=Z,415nm,0.6s,mb6.3					
STKA			*e*PCP	PcP	18 12 00.7	+0.5
STKA			*e*S	**S**	**18 13 21.9**	**+2.7**
STKA			*e*SCP	ScP	18 15 27.4	+2.4
STKA			*e*PKIKP	PKiKP	18 19 35.9	-0.3
STKA	**Stephens Creek**	**27.84 237**	P	**P**	**18 08 48.9**	**+0.3**
	comp=Z,407nm,0.6s,mb6.3,baz=70,slow=8.3,SNR=660					
STKA			PcP	PcP	18 12 00.4	+0.2
	comp=Z,68nm,0.7s,baz=85,slow=5.9,SNR=4.4					
STKA			S	**S**	**18 13 21.2**	**+2.0**
	comp=Z,22nm,0.8s,baz=353,slow=12,SNR=1.9					
STKA			ScP	ScP	18 15 27.4	+2.4
	comp=Z,82nm,1.0s,baz=94,slow=4.5,SNR=8.5					
STKA			LR	LR	18 18 24.4	
	comp=Z,8μm,19.5s,baz=75,slow=33					
STKA			ScS	ScS	18 19 19.0	+1.5
	comp=Z,8.0nm,1.1s,baz=268,slow=22,SNR=5.7					
STKA			PKiKP	PKiKP	18 19 35.2	-1.0
	comp=Z,8.9nm,0.8s,baz=62,slow=3.9,SNR=6.1					
STKA			P3KPbc		18 41 11.8	
	comp=Z,16nm,1.0s,baz=274,slow=3.3,SNR=11					
STKA	**Stephens Creek**	**27.84 237**	⇓*i*P	**P**	**18 08 48.7**	**+0.1**
	comp=Z,447nm,0.6s,mb6.4					
STKA			*e*PcP	PcP	18 12 00.7	+0.5
STKA			*e*S	**S**	**18 13 21.9**	**+2.7**
STKA			*e*ScP	ScP	18 15 27.2	+2.2
STKA			*e*ScP	ScP	18 15 27.4	+2.4
RAR	**Rarotonga**	**29.38 100**	P	**P**	**18 09 00.3**	**-1.9**
	comp=Z,27nm,0.8s,mb5.0,baz=218,slow=5.8,SNR=4.9					
RAR			sP	sP	18 09 52.6	-4.3
	comp=Z,91nm,0.8s,baz=293,slow=7.5,SNR=3.5					
RAR			LR	LR	18 17 24.9	
	comp=Z,5μm,20.5s,baz=266,slow=29					
RAR	**Rarotonga**	**29.38 100**	P	**P**	**18 09 00.3**	**-1.9**
RAR			*SP	sP	18 09 52.6	-4.3
RAR			pmax	pmax		
	comp=Z,91nm,0.8s					
RAR			MLR	MLR		
	comp=Z,5μm,20.5s					
TAU	**Tasmania Unive**	**30.13 213**	P	**P**	**18 09 08.3**	**-0.6**
	comp=Z,1μm,0.8s,mb6.7,SNR=26					
TAU	**Tasmania Unive**	**30.13 213**	⇓*i*P	**P**	**18 09 08.6**	**-0.3**
TAU			pmax	pmax		
	comp=Z,210nm,1.0s,mb5.8					
TAU	**Tasmania Unive**	**30.13 213**	⇓*i*P	**P**	**18 09 08.6**	**-0.3**
	comp=Z,210nm,0.9s,mb5.9					
TAU			*e*PcP	PcP	18 12 06.2	+0.2
ADE	**Adelaide**	**31.23 233**	⇓*i*P	**P**	**18 09 19.0**	**+0.4**
WB2	**Warramunga Arr**	**32.68 262**	*e*P	**P**	**18 09 29.3**	**-1.9**
WB2			*e*S	**S**	**18 14 30.9**	**-3.9**
WB2			*e*SCP	ScP	18 15 43.1	+2.2
WB2			*e*PKIKP	PKiKP	18 19 41.2	+1.8
WB2	**Warramunga Arr**	**32.68 262**	*e*P	**P**	**18 09 29.3**	**-1.9**
WB2			*e*S	**S**	**18 14 30.9**	**-3.9**
WB2			*e*ScP	ScP	18 15 43.1	+2.2
WRAB	**Tennant Creek**	**32.68 262**	P	**P**	**18 09 29.0**	**-2.2**
	comp=Z,2μm,0.9s,mb6.9					
WRAB	**Tennant Creek**	**32.68 262**	P	**P**	**18 09 29.8**	**-1.5**
AS31	**Alice Springs**	**33.00 256**	⇓*i*P	**P**	**18 09 33.1**	**-0.9**
AS31			*e*pP	pP	18 10 05.8	-3.7
ASAR	**Alice Springs**	**33.00 256**	P	**P**	**18 09 33.1**	**-0.9**
	comp=Z,878nm,0.8s,mb6.6,baz=82,slow=8.2,SNR=3869					
ASAR			pP	pP	18 10 06.8	-2.8
	comp=Z,129nm,0.8s,baz=82,slow=9.1,SNR=1.4					
ASAR			S	**S**	**18 14 38.6**	**-1.3**
	comp=Z,47nm,1.0s,baz=83,slow=17,SNR=8.1					
ASAR			ScP	ScP	18 15 44.0	+2.0
	comp=Z,47nm,1.1s,baz=107,slow=3.6,SNR=9.8					
ASAR			SS	SS	18 16 47.7	-22
	comp=Z,4.4nm,0.9s,baz=66,slow=34,SNR=2.3					
ASAR			PKiKP	PKiKP	18 19 38.7	-0.9
	comp=Z,7.7nm,0.8s,baz=105,slow=1.8,SNR=13					
ASAR			LR	LR	18 22 52.4	
	comp=Z,11μm,18.7s,baz=98,slow=36					
ASAR			P3KPbc		18 40 49.4	
	comp=Z,6.7nm,0.9s,baz=271,slow=4.2,SNR=24					
ASAR	**Alice Springs**	**33.00 256**	P	**P**	**18 09 33.2**	**-0.9**
ASAR			*PP	pP	18 10 06.8	-2.8
ASAR			S	**S**	**18 14 38.6**	**-1.3**
ASAR			SS	SS	18 16 47.7	-22
ASAR			*i*		18 19 38.7	
ASAR			pmax	pmax		
	comp=Z,878nm,0.8s					
ASAR			smax			
	comp=N,47nm,1.0s					
ASAR			MLR	MLR		
	comp=Z,11μm,18.7s					
ASAR	**Alice Springs**	**33.00 256**	P	**P**	**18 09 33.1**	**-0.9**
ASAR			pP	pP	18 10 06.8	-2.8
ASAR			S	**S**	**18 14 38.6**	**-1.3**
ASAR			ScP	ScP	18 15 44.0	+2.0
ASAR			SS	SS	18 16 47.7	-22
ASPA	**Alice Springs**	**33.01 256**	*e*P	pP	18 10 04.8	-4.8
ASPA			*e*S	**S**	**18 14 30.9**	**-9.0**
ASPA			*e*PKIKP	PKiKP	18 19 40.2	+0.6
KAKA	**Kakadu**	**35.69 274**	*e*P	**P**	**18 09 56.3**	**-0.8**
	comp=Z,704nm,1.1s,mb6.2					
KAKA			*e*S	**S**	**18 15 15.8**	**-5.2**
KAKA			*e*SCP	ScP	18 15 53.7	+2.1
MCQ	**Macquarie Isla**	**36.33 190**	*e*P	**P**	**18 10 02.3**	**-0.3**
FORT	**Forrest**	**38.80 244**	*e*P	**P**	**18 10 22.7**	**-0.6**
	comp=Z,960nm,0.7s,mb6.5					
FORT			*e*pP	pP	18 10 58.7	-0.9
FORT			*e*SCP	ScP	18 16 05.6	+2.4
FORT			*e*S	**S**	**18 16 09.7**	**+1.6**
TBI	**Tubuai**	**38.88 104**	*e*LR	LR	18 21 34.2	
	comp=Z,24μm,46.5s					
PAE	**Paea**	**39.26 95**	*e*P	**P**	**18 10 25.4**	**-1.8**
	comp=Z,196nm,0.9s,mb5.7					
PAE	**Paea**	**39.26 95**	*e*P	**P**	**18 10 25.4**	**-1.8**
PAE			pmax	pmax		
	comp=Z,196nm,0.9s,mb5.7					
PPT	**Papeete**	**39.28 95**	*e*P	**P**	**18 10 25.9**	**-1.4**
	comp=Z,161nm,1.1s,mb5.5					
PPT	**Papeete**	**39.28 95**	*e*LR	LR	18 21 42.4	
	comp=Z,119μm,58.2s					
PPT	**Papeete**	**39.28 95**	P	**P**	**18 10 26.4**	**-0.9**
	comp=Z,118nm,0.8s,mb5.6,baz=220,slow=1.5,SNR=10					
PPT	**Papeete**	**39.28 95**	P	**P**	**18 10 26.4**	**-0.9**
PPT			pmax	pmax		
	comp=Z,118nm,0.8s					
TVO	**Taravao**	**39.55 95**	*e*P	**P**	**18 10 28.1**	**-1.5**
	comp=Z,132nm,0.7s,mb5.7					
TVO	**Taravao**	**39.55 95**	*e*P	**P**	**18 10 28.1**	**-1.5**
TVO			pmax	pmax		
	comp=Z,132nm,0.7s,mb5.7					
GUMO	**Guam**	**40.13 322**	P	**P**	**18 10 35.0**	**+0.6**
	comp=Z,333nm,0.7s,mb6.1,baz=154,slow=13,SNR=7.1					
GUMO			S	**S**	**18 16 30.7**	**+2.7**
	comp=Z,37nm,0.3s,baz=47,slow=23,SNR=2.0					
GUMO			SS	SS	18 19 36.0	+3.3
	comp=Z,53nm,0.4s,baz=191,slow=23,SNR=2.2					
GUMO	**Guam**	**40.13 322**	P	**P**	**18 10 35.0**	**+0.7**
GUMO			S	**S**	**18 16 30.7**	**+2.7**
GUMO			pmax	pmax		
	comp=Z,333nm,0.7s,mb6.1					
GUMO			smax			
	comp=N,37nm,0.3s					
FITZ	**Fitzroy Crossi**	**41.07 264**	*e*P	**P**	**18 10 41.2**	**-0.8**
	comp=N,1μm,0.9s,mb6.5					
FITZ			*e*pP	pP	18 11 18.3	-0.4
FITZ			*e*S	**S**	**18 16 33.3**	**-8.6**
FITZ	**Fitzroy Crossi**	**41.07 264**	LR	LR	18 26 21.9	
	comp=N,7μm,21.4s,baz=87,slow=34					
PMOR	**Pomariorio Ree**	**41.32 91**	*e*P	**P**	**18 10 42.9**	**-1.2**
	comp=N,293nm,0.9s,mb5.9					
PMOR			*e*pP	pP	18 11 26.8	+6.0
	comp=N,244nm,1.1s					
VAH	**Vaihoa**	**41.53 92**	*e*P	**P**	**18 10 44.3**	**-1.4**
	comp=N,364nm,0.9s,mb6.0					
VAH			*e*pP	pP	18 11 28.2	+5.7
MBWA	**Marble Bar**	**46.21 259**	⇓*i*P	**P**	**18 11 22.8**	**-0.3**
	comp=N,751nm,0.9s,mb6.3					
MBWA			*e*pP	pP	18 11 58.2	-2.3
MBWA			*e*sP	sP	18 12 16.8	-2.6
MBWA			*e*PP	PP	18 13 13.8	-0.4
MBWA			*e*S	**S**	**18 17 60.0**	**+3.4**
KLBR	**Kellerberrin**	**47.66 244**	*e*P	**P**	**18 11 33.0**	**-1.3**
	comp=N,1μm,0.9s,mb6.5					
KLBR			*e*pP	pP	18 12 16.5	+4.6
NWAO	**Narrogin (SRO)**	**48.17 242**	⇓*e*P	**P**	**18 11 37.1**	**-1.1**
NWAO			pmax	pmax		
	comp=Z,690nm,1.0s					
NWAO	**Narrogin (SRO)**	**48.17 242**	⇓*e*P	**P**	**18 11 37.1**	**-1.1**
	comp=Z,691nm,1.0s,mb6.2					
NWAO			*e*pP	pP	18 12 14.0	-1.9
NWAO			*e*PP	PP	18 13 30.7	-1.3
NWAO			*e*S	**S**	**18 18 26.4**	**+2.1**
MUN	**Mundaring**	**48.99 244**	*e*P	**P**	**18 11 46.5**	**+2.0**
MUN			*e*S	**S**	**18 18 37.8**	**+2.1**
KAPI	**Kappang**	**49.96 280**	P	**P**	**18 11 51.5**	**-0.3**
	comp=Z,2μm,1.1s,mb6.7,SNR=63					
DAV	**Davao City (W)**	**50.01 297**	*e*P	**P**	**18 11 52.5**	**+0.3**
	comp=Z,198nm,0.6s,mb5.9					
TAOE	**Nuku Hiva Isla**	**50.20 86**	*e*LR	LR	18 26 55.4	
	comp=Z,71μm,58.7s					
KCP	**Kidapawan**	**50.39 297**	*e*P	**P**	**18 11 56.7**	**+1.7**
KCP	**Kidapawan**	**50.39 297**	*e*P	**P**	**18 11 56.7**	**+1.7**
BUKP	**Musuan**	**50.87 298**	*e*P	**P**	**18 11 58.9**	**+0.3**
BUTP	**Butuan**	**50.99 299**	*e*P	**P**	**18 11 59.7**	**+0.2**
DRV	**Dumont d'Urvil**	**51.28 194**	P	**P**	**18 11 58.0**	**-3.7**
DRV			S	**S**	**18 19 04.0**	**-3.4**
HPO	**Honuapo**	**51.34 45**	*e*P	**P**	**18 12 02.5**	**+0.3**
HON	**Honolulu**	**51.41 40**	P	**P**	**18 12 05.3**	**+2.7**
HON	**Honolulu**	**51.41 40**	*e*P	**P**	**18 12 03.0**	**+0.4**
KKH	**Kailua Kona**	**51.44 44**	*e*P	**P**	**18 12 02.7**	**-0.2**
KIP	**Kipapa**	**51.47 40**	*e*P	**P**	**18 12 02.6**	**-0.5**
KIP			pmax	pmax		
	comp=Z,320nm,0.8s,mb6.0					
KIP	**Kipapa**	**51.47 40**	*e*P	**P**	**18 12 02.6**	**-0.5**
	comp=Z,324nm,0.8s,mb6.0					
CGP	**Cagayan de Oro**	**51.48 298**	*e*P	**P**	**18 12 02.9**	**-0.2**
CGP	**Cagayan de Oro**	**51.48 298**	*e*P	**P**	**18 12 02.9**	**-0.2**
SCPH	**Surigao**	**51.54 300**	*e*P	**P**	**18 12 03.0**	**-0.5**
SCPH	**Surigao**	**51.54 300**	*e*P	**P**	**18 12 03.0**	**-0.5**
HKL	**Haleakala**	**52.05 43**	P	**P**	**18 12 08.3**	**+0.9**
HKL	**Haleakala**	**52.05 43**	*e*P	**P**	**18 12 07.7**	**+0.3**
RKT	**Rikitea**	**52.18 105**	*e*P	**P**	**18 12 06.8**	**-1.6**
	comp=Z,215nm,1.0s,mb5.8					
RKT	**Rikitea**	**52.18 105**	*e*LR	LR	18 27 42.2	
	comp=Z,14μm,45.2s					
RKT	**Rikitea**	**52.18 105**	*e*P	**P**	**18 12 06.8**	**-1.6**
RKT			pmax	pmax		
	comp=Z,215nm,1.0s,mb5.7					
MSLP	**Maasin**	**52.25 300**	*e*P	**P**	**18 12 09.1**	**+0.3**
CBIJ	**Chichi jima**	**52.63 330**	S	**S**	**18 19 25.5**	**-0.4**
	comp=Z,119nm,0.9s,baz=270,slow=16,SNR=3.0					
CBIJ			LR	LR	18 30 19.3	
	comp=Z,884nm,21.0s,baz=149,slow=31					
PLP	**Palo**	**52.72 301**	*e*P	**P**	**18 12 10.9**	**-1.4**
OCLP	**Ormoc**	**52.96 301**	*e*P	**P**	**18 12 14.1**	**0.0**
GUIM	**Jordan**	**54.39 299**	*e*P	**P**	**18 12 23.0**	**-1.5**
PVCP	**Virac**	**54.76 303**	⇑*e*P	**P**	**18 12 27.9**	**+0.8**
PVCP	**Virac**	**54.76 303**	⇑*e*P	**P**	**18 12 27.9**	**+0.8**
PVCP	**Virac**	**54.76 303**	*e*P	**P**	**18 12 27.6**	**+0.5**
RCP	**Roxas**	**54.76 300**	⇓*e*P	**P**	**18 12 27.3**	**+0.2**
RCP	**Roxas**	**54.76 300**	⇓*e*P	**P**	**18 12 27.3**	**+0.2**
KALP	**Kalibo**	**55.16 300**	*e*P	**P**	**18 12 31.6**	**+1.6**
KALP	**Kalibo**	**55.16 300**	*e*P	**P**	**18 12 31.6**	**+1.6**
TSM	**Tawau**	**55.38 289**	P	**P**	**18 12 32.6**	**+1.0**
OTRP	**Odiongan**	**55.79 300**	*e*P	**P**	**18 12 34.2**	**-0.3**
BOAC	**Boac**	**56.54 301**	*e*P	**P**	**18 12 38.8**	**-1.0**
BUSP	**Coron**	**57.10 299**	*e*P	**P**	**18 12 43.5**	**-0.2**
POLP	**Polilio Island**	**57.17 303**	*e*P	**P**	**18 12 43.9**	**-0.3**
ENPP	**El Nido**	**57.33 297**	*e*P	**P**	**18 12 45.4**	**0.0**
BATP	**Bataraza**	**57.52 294**	*e*P	**P**	**18 12 46.9**	**+0.2**
TGY	**Tagaytay City**	**57.62 301**	⇑*i*P	**P**	**18 12 49.3**	**+1.9**
TGY	**Tagaytay City**	**57.62 301**	⇑*i*P	**P**	**18 12 49.3**	**+1.9**
TGY	**Tagaytay City**	**57.62 301**	S	**S**	**18 20 35.0**	**+2.7**
	comp=Z,31nm,0.4s,baz=59,slow=9.5,SNR=1.6					
KKM	**Kota Kinabalu**	**57.63 290**	P	**P**	**18 12 49.2**	**+1.7**
KKM	**Kota Kinabalu**	**57.63 290**	*e*P	**P**	**18 12 47.2**	**-0.2**
KKM			*e*pP	pP	18 13 26.3	-0.2
LUBP	**Lubang**	**57.99 300**	*e*P	**P**	**18 12 47.1**	**-2.8**
BALP	**Baler**	**58.03 303**	*e*P	**P**	**18 12 49.4**	**-0.8**
PALP	**Palanan**	**58.12 305**	*e*P	**P**	**18 12 51.4**	**+0.5**
CAUP	**Cauayan**	**58.52 305**	*e*P	**P**	**18 12 55.5**	**+1.8**
VNDA	**Vanda**	**58.73 182**	P	**P**	**18 12 54.1**	**-1.0**
VNDA			S	**S**	**18 20 47.7**	**+1.1**
VNDA	**Vanda**	**58.73 182**	P	**P**	**18 12 54.2**	**-0.9**
	comp=Z,64nm,0.8s,mb5.5,baz=0.1,slow=7.2,SNR=138					
VNDA			pP	pP	18 13 31.3	-3.0
	comp=Z,28nm,0.9s,baz=14,slow=11,SNR=1.7					
VNDA			S	**S**	**18 20 42.4**	**-4.2**
	comp=Z,2.0nm,0.9s,baz=63,slow=22,SNR=1.8					
VNDA	**Vanda**	**58.73 182**	P	**P**	**18 12 54.2**	**-0.9**
VNDA			*PP	pP	18 13 31.3	-3.0
VNDA			S	**S**	**18 20 42.4**	**-4.2**
VNDA			pmax	pmax		
	comp=Z,64nm,0.8s					
VNDA			smax			
	comp=N,2.0nm,0.9s					
VNDA	**Vanda**	**58.73 182**	*e*P	**P**	**18 12 53.8**	**-1.2**
	comp=N,88nm,0.9s,mb5.6					
VNDA			*e*pP	pP	18 13 30.3	-4.0
VNDA			*e*sP	sP	18 13 48.4	-4.3
JHJ	**Hachijo jima 2**	**58.81 331**	S	**S**	**18 20 47.5**	**-0.1**
	comp=N,84nm,1.0s,baz=219,slow=18,SNR=1.9					
CVP	**Callao Caves**	**58.96 305**	*e*P	**P**	**18 12 57.0**	**+0.3**
SBA	**Scott Base**	**58.97 181**	*e*P	**P**	**18 12 56.9**	**+0.2**
SBA			pmax	pmax		
	comp=Z,640nm,1.0s,mb6.4					
SBA	**Scott Base**	**58.97 181**	*e*P	**P**	**18 12 56.9**	**+0.2**
	comp=Z,635nm,1.0s,mb6.4					
SBA			*e*pP	pP	18 13 33.9	-2.0
SBA			*e*sP	sP	18 13 51.5	-2.9
SBA			*e*S	**S**	**18 20 55.1**	**+5.5**
SCZP	**Santa Cruz**	**59.37 302**	*e*P	**P**	**18 13 02.9**	**+3.4**
ABRA	**Dolores**	**59.79 305**	*e*P	**P**	**18 13 02.2**	**-0.2**
JOW	**Kunigami**	**60.26 318**	S	**S**	**18 21 09.6**	**+3.4**
	comp=Z,14nm,0.9s,baz=197,slow=21,SNR=1.6					
CASY	**Casey**	**60.33 203**	*e*P	**P**	**18 13 04.8**	**-1.2**
CASY			*e*pP	pP	18 13 45.9	+0.5
CASY			*e*S	**S**	**18 21 05.9**	**-1.1**
KSM	**Kuching**	**61.11 283**	⇓*i*P	**P**	**18 13 10.8**	**-0.5**
KSM			*e*pP	pP	18 13 48.5	-2.2
KSM			*e*PP	PP	18 15 27.0	-0.8
MJAR	**Matsushiro Arr**	**62.38 332**	P	**P**	**18 13 18.7**	**-1.1**
	comp=Z,248nm,0.9s,mb6.0,baz=163,slow=6.7,SNR=124					
MJAR			pP	pP	18 13 57.4	-2.0
	comp=Z,30nm,1.0s,baz=156,slow=1.2,SNR=1.0					
MJAR			S	**S**	**18 21 32.9**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=203,slow=31,SNR=2.7					
MJAR			PKPPKP		18 42 21.1	
	comp=Z,4.9nm,1.0s,baz=348,slow=2.7,SNR=5.7					
MJAR	**Matsushiro Arr**	**62.38 332**	P	**P**	**18 13 18.7**	**-1.1**
MJAR			*PP	pP	18 13 57.4	-2.0
MJAR			S	**S**	**18 21 32.9**	**0.0**
MJAR			pmax	pmax		
	comp=Z,248nm,0.9s					
MJAR			smax			
	comp=N,2.0nm,0.9s					
MAJO	**Matsushiro**	**62.38 332**	*e*P	**P**	**18 13 18.7**	**-1.1**
MAJO			*e*PP	pP	18 13 58.7	-0.7
MAJO			pmax	pmax		
	comp=Z,260nm,1.0s,mb6.0					
MAJO	**Matsushiro**	**62.38 332**	*e*P	**P**	**18 13 18.7**	**-1.1**
	comp=Z,271nm,0.9s,mb6.1					
MAJO			*e*pP	pP	18 13 58.7	-0.7
MAT	**Matsushiro**	**62.38 332**	P	**P**	**18 13 19.0**	**-0.8**
MAT			S	**S**	**18 21 34.0**	**+1.0**
NACB	**Ninganchiao**	**63.03 311**	*e*P	**P**	**18 13 23.4**	**-0.7**
NACB			*e*pP	pP	18 14 03.1	-0.6
YHNB	**Yeheng**	**63.49 311**	*e*P	**P**	**18 13 26.8**	**-0.3**
YHNB			*e*pP	pP	18 14 05.6	-1.2
TATO	**Taipei**	**63.60 312**	*e*P	**P**	**18 13 27.8**	**-0.1**
	comp=Z,571nm,1.0s,mb6.4					
ERM	**Erimo**	**65.18 339**	P	**P**	**18 13 40.9**	**+2.8**
	comp=Z,775nm,0.8s,mb6.6,SNR=9.6					
ERM	**Erimo**	**65.18 339**	*de*P	**P**	**18 13 40.0**	**+1.9**
ERM	**Erimo**	**65.18 339**	*e*P	**P**	**18 13 39.3**	**+1.2**
	comp=Z,95nm,0.8s,mb5.7					
QZH	**Quanzhou**	**65.66 310**	P	**P**	**18 13 42.6**	**+1.4**
QZH			AP	pP	18 14 20.0	-1.1
QZH			S	S	18 22 15.0	+1.7
QZH			XS	sS	18 23 22.4	-0.2
QZH			AMB	AMB		
	comp=Z,200nm,0.9s,mb6.0					
QZH			AMB	AMB		
	comp=Z,3μm,5.0s					
YUK	**Yuzh-Kuril'sk**	**66.15 342**	P	**P**	**18 13 45.0**	**+0.7**
YUK			*e*		18 22 15.0	
YUK			pmax	pmax		
	comp=Z,2μm,4.0s					
MIR	**Mirnyy**	**67.22 205**	*d*⇓*i*P	**P**	**18 13 53.0**	**+1.9**
MIR			*i*	pP	18 14 33.0	+1.7
MIR			*e*		18 16 28.0	
MIR			*e*PS		18 22 34.0	
MIR			*e*SSS		18 26 54.0	
MIR			pmax	pmax		
	comp=Z,2μm,2.0s,mb6.5					
MIR			pmax	pmax		
	comp=Z,2μm,4.0s					
ASAJ	**Asahikawa**	**67.24 340**	S	S	18 22 34.9	+2.6
	comp=Z,6.7nm,1.0s,baz=270,slow=26,SNR=2.7					
HKC	**Hong Kong**	**67.48 305**	⇑*i*P	**P**	**18 13 56.0**	**+3.3**
SSE	**Sheshan**	**67.70 317**	⇑P	**P**	**18 13 55.9**	**+1.8**
SSE			AP	pP	18 14 33.9	-0.4
SSE			XP	sP	18 14 55.3	+2.8
SSE			S	S	18 22 38.5	+0.6
SSE			XS	sS	18 23 51.5	+3.9
SSE			AMB	AMB		
	comp=Z,73nm,1.2s,mb5.3					
SSE			AMB	AMB		
	comp=Z,899nm,12.0s					
SSE			LR	LR		
	comp=N,1μm,32.6s					
SSE			LR	LR		
	comp=E,2μm,32.8s					
SSE			LR	LR		
	comp=Z,1μm,24.7s					
SSE	**Sheshan**	**67.70 317**	⇑P	**P**	**18 13 55.9**	**+1.8**
	comp=Z,73nm,1.2s,mb5.3					
SSE			pP	pP	18 14 33.9	-0.4
SSE			sP	sP	18 14 55.3	+2.8
SSE			S	S	18 22 38.5	+0.6
SSE			ScS	ScS	18 23 38.4	+2.0
SSE			sS	sS	18 23 51.5	+3.9
SSE			LR	LR		
	comp=Z,1μm,24.7s					
KGM	**Kluang**	**67.79 280**	P	**P**	**18 13 55.2**	**+0.6**
GZH	**Guangzhou**	**68.55 305**	P	**P**	**18 13 59.9**	**+0.6**
GZH			S	S	18 22 46.4	-1.4
GZH			LR	LR		
	comp=N,1μm,14.9s					
GZH			LR	LR		
	comp=E,1μm,15.2s					
GZH			LR	LR		
	comp=Z,2μm,20.8s					
INCN	**Inchon**	**68.85 325**	*e*P	**P**	**18 14 01.9**	**+0.7**
	comp=Z,472nm,0.9s,mb6.2					
INCN			*e*pP	pP	18 14 40.9	-0.7
QIZ	**Qiongzhong**	**69.25 300**	P	**P**	**18 14 03.8**	**+0.1**
QIZ			AP	pP	18 14 45.2	+1.1
QIZ			S	S	18 22 56.4	+0.3
QIZ			AMB	AMB		
	comp=Z,72nm,1.2s,mb5.3					
QIZ			AMB	AMB		
	comp=Z,1μm,5.0s					
QIZ	**Qiongzhong**	**69.25 300**	⇓*i*P	**P**	**18 14 04.4**	**+0.7**
	comp=Z,96nm,0.8s,mb5.6					
YSS	**Yuzh-Sakhalins**	**69.72 341**	⇑*e*P	**P**	**18 14 06.4**	**-0.2**
YSS			*e*PP	pP	18 14 47.4	+0.4
YSS			pmax	pmax		
	comp=Z,416nm,0.9s,mb6.2					
YSS	**Yuzh-Sakhalins**	**69.72 341**	⇑*e*P	**P**	**18 14 06.4**	**-0.2**
	com

WHN	**Wuhan**	**71.99 312**	P	**P**	**18 14 20.2**	**-0.1**
WHN			AP	pP	18 14 56.7	-4.2
WHN			S	S	18 23 29.7	+1.9
WHN			AMB	AMB		
	comp=Z,2μm,18.6s					
WHN			LR	LR		
	comp=Z,4μm,33.4s					
PSI	**Prapat**	**72.17 279**	S	S	18 23 29.5	-0.4
	comp=Z,2.0nm,0.4s,baz=166,slow=20,SNR=2.1					
SNG	**Songkhla**	**72.20 284**	P	PcP	18 14 42.2	+3.4
	comp=Z,200nm,1.0s					
PET	**Petropavlovsk**	**72.21 353**α	*i*P	**P**	**18 14 20.7**	**-0.9**
PET			*e*		18 14 36.3	
PET			*i* *PP	pP	18 15 00.9	-1.4
PET			*e*		18 17 06.8	
PET			*e*PPP		18 18 42.2	
PET			*i* S	S	18 23 30.3	0.0
PET			*e*SP		18 24 00.1	
PET			pmax	pmax		
	comp=Z,2μm,8.8s					
PET			pmax	pmax		
	comp=Z,307nm,0.6s,mb6.2					
PET	**Petropavlovsk**	**72.21 353**⇑	*e*P	**P**	**18 14 20.6**	**-1.0**
	comp=Z,195nm,0.7s,mb5.9					
DL2	**Dalian**	**72.64 323**⇑	*i*P	**P**	**18 14 24.6**	**+0.5**
DL2			AP	pP	18 15 01.2	-3.7
DL2			S	S	18 23 36.4	+1.1
DL2			AMB	AMB		
	comp=Z,450nm,0.7s,mb6.3					
DL2			AMB	AMB		
	comp=Z,810nm,6.9s					
MDJ	**Mudanjiang**	**72.75 332**	P	**P**	**18 14 24.7**	**-0.1**
MDJ			AP	pP	18 15 04.7	-0.8
MDJ			XP	sP	18 15 23.9	+0.3
MDJ			PP	PP	18 17 08.1	-0.8
MDJ			S	S	18 23 38.6	+2.1
MDJ			SCS	ScS	18 24 16.3	0.0
MDJ			XS	sS	18 24 48.7	+1.5
MDJ			AMB	AMB		
	comp=Z,96nm,1.0s,mb5.5					
MDJ			AMB	AMB		
	comp=Z,2μm,8.7s					
MDJ			LR	LR		
	comp=N,817nm,24.1s					
MDJ			LR	LR		
	comp=E,510nm,21.1s					
MDJ			LR	LR		
	comp=Z,1μm,22.1s					
MDJ	**Mudanjiang**	**72.75 332**	*e*P	**P**	**18 14 24.4**	**-0.3**
	comp=Z,224nm,0.9s,mb5.9					
MDJ			*e*pP	pP	18 15 01.7	-3.8
TIA	**Tai'an**	**73.58 318**	⇓P	**P**	**18 14 29.3**	**-0.3**
TIA			S	S	18 23 43.5	-2.3
TIA			AMB	AMB		
	comp=Z,284nm,1.1s,mb5.9					
TIA			AMB	AMB		
	comp=Z,739nm,5.0s					
TIA			LR	LR		
	comp=N,521nm,17.0s					
TIA			LR	LR		
	comp=E,222nm,17.0s					
SNY	**Shenyang**	**73.61 326**	⇑P	**P**	**18 14 29.5**	**-0.3**
SNY			S	S	18 23 49.3	+3.1
SNY			SS	SS	18 28 28.3	-4.5
SNY			AMB	AMB		
	comp=Z,61nm,1.0s,mb5.3					
SNY			AMB	AMB		
	comp=Z,1μm,8.4s					
KKTK	**Khon Kaen**	**73.94 294**	⇓P	**P**	**18 14 32.0**	**+0.3**
	comp=Z,2μm,0.5s					
CN2	**Changchun**	**74.09 329**	⇑P	**P**	**18 14 32.5**	**-0.1**
CN2			*e*AP	pP	18 15 13.6	+0.1
CN2			*e*S	S	18 23 50.5	-1.0
CN2			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
RPN	**Rapa Nui**	**74.41 114**	P	**P**	**18 14 34.4**	**0.0**
	comp=Z,146nm,0.8s,mb5.8,baz=292,slow=3.7,SNR=8.0					
RPN			S	S	18 23 56.0	+1.0
	comp=Z,30nm,0.9s,baz=276,slow=23,SNR=2.0					
RPN	**Rapa Nui**	**74.41 114**	*e*P	**P**	**18 14 33.8**	**-0.6**
	comp=Z,321nm,1.0s,mb6.0					
NNT	**Nongplab**	**75.11 289**	P	**P**	**18 14 39.5**	**+1.1**
GYA	**Guiyang**	**75.47 305**⇓	*i*P	**P**	**18 14 40.6**	**+0.1**
GYA			XP	sP	18 15 42.0	+2.4
GYA			PP	PP	18 17 35.2	+3.3
GYA			S	S	18 24 07.6	+0.8
GYA			SKS		18 24 33.7	
GYA			AMB	AMB		
	comp=Z,120nm,1.0s,mb5.5					
GYA			AMB	AMB		
	comp=Z,1μm,8.1s					
GYA			LR	LR		
	comp=N,2μm,21.8s					
GYA			LR	LR		
	comp=E,2μm,21.4s					
GYA			LR	LR		
	comp=Z,3μm,21.6s					
AKUT	**Akutan**	**75.92 15**	*e*P	**P**	**18 14 39.8**	**-3.3**
	comp=Z,201nm,0.9s,mb5.8					
NST	**Nakhon Sawan**	**76.00 292**	⇑P	**P**	**18 14 45.2**	**+1.7**
	comp=Z,154nm,1.0s,mb5.6					
BJT	**Baijiatuau**	**76.56 321**	*e*P	**P**	**18 14 46.8**	**+0.1**
BJT			*e**PP	pP	18 15 27.4	-0.4
BJT			pmax	pmax		
	comp=Z,317nm,0.8s					
BJT	**Baijiatuau**	**76.56 321**	*e*P	**P**	**18 14 46.8**	**+0.1**
	comp=Z,317nm,0.8s,mb6.0					
BJT			*e*pP	pP	18 15 27.4	-0.4
BJI	**Beijing**	**76.57 321**	P	**P**	**18 14 47.1**	**+0.4**
BJI			AP	pP	18 15 25.9	-2.0
BJI			XP	sP	18 15 47.4	+1.5
BJI			S	S	18 24 21.8	+3.0
BJI			AMB	AMB		
	comp=Z,168nm,1.0s,mb5.6					
BJI			AMB	AMB		
	comp=Z,2μm,9.9s					
BJI	**Beijing**	**76.57 321**	P	**P**	**18 14 47.1**	**+0.4**
BJI			*PP	pP	18 15 25.9	-2.0
BJI			S	S	18 24 21.8	+3.0
BJI					18 24 49.6	
BJI			pmax	pmax		
	comp=Z,168nm,1.0s,mb5.6					
BJI	**Beijing**	**76.57 321**	P	**P**	**18 14 47.1**	**+0.4**
	comp=Z,168nm,1.0s,mb5.6					
BJI			pP	pP	18 15 25.9	-2.0
BJI			sP	sP	18 15 47.4	+1.5
BJI			PP	PP	18 17 51.3	+10
BJI			S	S	18 24 21.8	+3.0
BJI			ScS	ScS	18 24 49.6	+2.6
BJI			sS	sS	18 25 57.3	+27
NANT	**Nan**	**76.82 295**	⇓P	**P**	**18 14 46.0**	**-2.2**
	comp=Z,1μm,1.0s,mb6.5					
XAN	**Xi'an**	**77.75 313**	P	**P**	**18 14 49.9**	**-3.4**
XAN			S	S	18 24 22.8	-8.8
XAN			AMB	AMB		
	comp=Z,1μm,16.1s					
XAN			LR	LR		
	comp=N,1μm,19.2s					
XAN			LR	LR		
	comp=E,2μm,21.7s					
XAN			LR	LR		
	comp=Z,1μm,16.1s					
KMI	**Kunming**	**77.94 302**	P	**P**	**18 14 55.9**	**+1.6**
KMI			PCP	PcP	18 15 05.1	+1.6
KMI			AP	pP	18 15 34.3	-1.3
KMI			XP	sP	18 15 50.9	-2.7
KMI			PP	PP	18 17 56.6	+4.1
KMI			PPP		18 19 46.9	
KMI			S	S	18 24 36.9	+3.4
KMI			SS	SS	18 29 44.4	+6.3
KMI			SSS		18 33 05.4	
KMI			AMB	AMB		
	comp=Z,254nm,1.0s,mb5.8					
KMI			AMB	AMB		
	comp=Z,1μm,23.0s					
KMI	**Kunming**	**77.94 302**	P	**P**	**18 14 55.9**	**+1.6**
	comp=Z,254nm,1.0s,mb5.8					
KMI			PcP	PcP	18 15 05.1	+1.6
KMI			pP	pP	18 15 34.3	-1.3
KMI			sP	sP	18 15 50.9	-2.7
KMI			PP	PP	18 17 56.6	+4.1
KMI			PPP		18 19 46.9	
KMI			S	S	18 24 36.9	+3.4
KMI			SS	SS	18 29 44.4	+6.3
KMI			SSS		18 33 05.4	
KMI			LR	LR		
	comp=Z,1μm,23.0s					
CHG	**Chiang Mai**	**78.34 295**	⇓P	**P**	**18 14 57.6**	**+1.1**
	comp=Z,150nm,0.8s,mb5.7					
CHTO	**Chiang Mai**	**78.34 295**	P	**P**	**18 14 57.5**	**+1.0**
CHTO			pmax	pmax		
	comp=Z,140nm,0.8s,mb5.6					
CHTO	**Chiang Mai**	**78.34 295**⇓	*i*P	**P**	**18 14 57.3**	**+0.8**
	comp=Z,142nm,0.8s,mb5.7					
CHTO			*e*pP	pP	18 15 37.4	-0.5
SDPT	**Sand Point**	**78.39 17**⇑	*e*P	**P**	**18 14 53.9**	**-3.0**
	comp=Z,371nm,1.0s,mb6.0					
MAW	**Mawson**	**78.64 202**	*e*P	**P**	**18 14 57.6**	**-0.6**
	comp=Z,147nm,0.8s,mb5.7					
MAW			*e*pP	pP	18 15 40.0	+0.4
MAW			*e*S	S	18 24 42.8	+1.7
MAW	**Mawson**	**78.64 202**	P	**P**	**18 14 58.5**	**+0.3**
	comp=Z,185nm,0.8s,mb5.8,baz=111,slow=6.6,SNR=182					
MAW			pP	pP	18 15 35.2	-4.4
	comp=Z,36nm,0.9s,baz=221,slow=22,SNR=1.5					
MAW			PKiKP	PKiKP	18 20 32.6	+0.3
	comp=Z,5.0nm,0.9s,baz=163,slow=8.2,SNR=3.3					
MAW			S	S	18 24 43.1	+2.1
	comp=Z,5.3nm,1.1s,baz=293,slow=19,SNR=5.6					
MAW			LR	LR	18 42 09.5	
	comp=Z,2μm,20.8s,baz=111,slow=30					
MAW	**Mawson**	**78.64 202**	*e*P	**P**	**18 14 57.6**	**-0.6**
MAW			*e**PP	pP	18 15 40.0	+0.4
MAW			*e*S	S	18 24 42.8	+1.7
MAW			pmax	pmax		
	comp=Z,147nm,0.8s					
MA2	**Magadan**	**79.63 351**	*e*P	**P**	**18 15 03.3**	**-0.3**
MA2			*i* *PP	pP	18 15 44.8	-0.2
MA2			*e*S	S	18 24 50.3	-1.2
MA2			pmax	pmax		
	comp=Z,200nm,0.9s,mb5.8					
MA2			MLR	MLR		
	comp=Z,1μm,19.2s					
MA2	**Magadan**	**79.63 351**⇑	*e*P	**P**	**18 15 01.7**	**-1.9**
	comp=Z,130nm,1.0s,mb5.5					
MA2			*e*pP	pP	18 15 40.7	-4.3
CHGN	**Chignik**	**79.81 18**	*e*P	**P**	**18 15 03.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**79.85 319**	*e*P	**P**	**18 15 06.2**	**+1.4**
HHC			AP	pP	18 15 46.1	-0.1
HHC			XP	sP	18 16 04.5	+0.4
HHC			PP	PP	18 18 09.4	+0.9
HHC			S	S	18 24 54.6	+0.8
HHC			SKS		18 25 03.7	
HHC			SCS	ScS	18 25 12.7	-1.0
HHC			AMB	AMB		
	comp=Z,204nm,0.9s,mb5.8					
HHC			AMB	AMB		
	comp=Z,2μm,9.8s					
HHC			LR	LR		
	comp=N,1μm,17.4s					
HHC			LR	LR		
	comp=E,2μm,20.0s					
HHC			LR	LR		
	comp=Z,3μm,32.8s					
CD2	**Chengdu**	**79.89 308**⇓	*i*P	**P**	**18 15 05.4**	**+0.5**
CD2			AP	pP	18 15 43.0	-3.4
CD2			XP	sP	18 16 03.0	-1.3
CD2			PP	PP	18 18 09.9	+1.2
CD2			S	S	18 24 51.1	-3.1
CD2			SKS		18 25 02.1	
CD2			SCS	ScS	18 25 10.5	-3.5
CD2			XS	sS	18 26 02.5	-3.6
CD2			SS	SS	18 30 08.5	+1.2
CD2			AMB	AMB		
	comp=Z,80nm,1.0s,mb5.3					
CD2			AMB	AMB		
	comp=Z,980nm,6.3s					
CD2			LR	LR		
	comp=N,840nm,18.0s					
CD2			LR	LR		
	comp=Z,910nm,38.4s					
BTO	**Baotou**	**80.67 319**	*e*P	**P**	**18 15 08.9**	**-0.2**
BTO			S	S	18 24 56.7	-5.7
HIA	**Hailar**	**80.74 330**	*e*P	**P**	**18 15 08.8**	**-0.7**
HIA			*e**PP	pP	18 15 49.2	-1.9
HIA			*e*		18 18 12.8	
HIA			pmax	pmax		
	comp=Z,117nm,0.8s					
HIA	**Hailar**	**80.74 330**	*e*P	**P**	**18 15 08.8**	**-0.7**
	comp=Z,117nm,0.8s,mb5.6					
HIA			*e*pP	pP	18 15 49.2	-1.8
HIA			*e*PP	PP	18 18 12.8	-3.0
LZH	**Lanzhou**	**82.37 312**	*e*P	**P**	**18 15 19.5**	**+1.4**
LZH			AP	pP	18 16 01.5	+1.7
LZH			PP	PP	18 18 32.1	+2.9
LZH			SKS		18 25 14.1	
LZH			*e*S	S	18 25 20.0	+0.2
LZH			XS	sS	18 26 37.1	+4.9
LZH			AMB	AMB		
	comp=Z,86nm,1.2s,mb5.3					
LZH			AMB	AMB		
	comp=Z,450nm,5.2s					
LZH	**Lanzhou**	**82.37 312**	*e*P	**P**	**18 15 19.5**	**+1.4**
	comp=Z,86nm,1.2s,mb5.3					
LZH			pP	pP	18 16 01.5	+1.7
LZH			sP	sP	18 16 32.5	+15
LZH			PP	PP	18 18 32.1	+2.9
LZH			SKS		18 25 14.1	
LZH			*e*S	S	18 25 20.0	+0.2
LZH			sS	sS	18 26 37.1	+4.9
LZH			SS	SS	18 30 52.0	+7.8
SEY	**Seymchan**	**82.64 352**d	*e*P	**P**	**18 15 18.7**	**-0.7**
SEY	**Seymchan**	**82.64 352**	*e*P	**P**	**18 15 18.7**	**-0.7**
KDAK	**Kodiak Island**	**82.81 20**	P	**P**	**18 15 20.0**	**-0.3**
	comp=Z,1μm,1.0s,mb6.7,SNR=9.0					
KDAK	**Kodiak Island**	**82.81 20**	P	**P**	**18 15 20.2**	**-0.2**
	comp=Z,246nm,0.8s,mb6.0,baz=197,slow=3.8,SNR=37					
KDAK			S	S	18 25 24.7	+0.4
	comp=Z,12nm,1.1s,baz=255,slow=21,SNR=2.0					
KDAK	**Kodiak Island**	**82.81 20**⇑	*e*P	**P**	**18 15 19.4**	**-0.9**
	comp=Z,163nm,0.8s,mb5.8					
CLNS	**Chul'man**	**84.03 337**	*e*P	**P**	**18 15 26.6**	**+0.1**
CLNS			*e*S	S	18 25 28.3	-8.2
CLNS			*e*PS		18 26 28.3	
CLNS			pmax	pmax		
	comp=N,155nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,494nm,1.0s,mb6.2					
CLNS			pmax	pmax		
	comp=E,129nm,0.8s					
CLNS			smax			
	comp=N,2μm,13.5s					
CLNS			smax			
	comp=Z,495nm,16.1s					
CLNS			smax			
	comp=E,2μm,12.8s					
SVW2	**Sparrevohn**	**84.66 16**	*e*P	**P**	**18 15 28.8**	**-0.9**
IMP	**Imphal**	**85.01 298**	*i* P	**P**	**18 15 31.0**	**-0.5**
IMP			*i* x	x	18 16 12.0	
FARB	**Farallon Islan**	**85.11 48**	⇓P	**P**	**18 15 31.9**	**-0.1**
	baz=85,SNR=33					
SYO	**Syowa Base**	**85.17 196**⇑	*e*P	**P**	**18 15 30.8**	**-1.5**
SYO	**Syowa Base**	**85.17 196**⇓	*e*PcP	PcP	18 15 33.3	-1.8
MCCM	**Marconi Confer**	**85.41 47**⇑	*i*P	**P**	**18 15 33.1**	**-0.4**
	comp=E,159nm,0.8s,mb5.8					
MCCM			*e*pP	pP	18 16 14.8	-0.7
MCCM	**Marconi Confer**	**85.41 47**	P	**P**	**18 15 33.4**	**-0.1**
	baz=86,SNR=49					
BNLO	**Ben Lomond (Sa**	**85.43 48**	P	**P**	**18 15 33.5**	**0.0**
	baz=86,SNR=50					
SAC	**San Andreas**	**85.47 48**	P	**P**	**18 15 34.4**	**+0.7**
SAC	**San Andreas**	**85.47 48**	*e*P	**P**	**18 15 33.7**	**-0.1**
JRSC	**Jasper Ridge**	**85.51 48**	⇑P	**P**	**18 15 34.1**	**+0.2**
	baz=86,SNR=21					
CIT	**Chita**	**85.52 329**	*e*P	**P**	**18 15 33.7**	**-0.3**
CIT			*e*	pP	18 16 12.6	-3.4
CIT			*e*		18 16 33.4	
CIT			pmax	pmax		
	comp=Z,408nm,2.0s,mb5.8					
HAST	**UC Hastings Re**	**85.53 49**	⇓P	**P**	**18 15 34.4**	**+0.4**
	baz=86,SNR=144					
V03C	**Hunter Liggett**	**85.59 50**	⇓P	**P**	**18 15 35.0**	**+0.6**
	baz=86,SNR=143					
SNCC	**San Nicolas Is**	**85.62 53**	⇑P	**P**	**18 15 34.9**	**+0.4**
	baz=86,SNR=11					
HOPS	**Hopland**	**85.68 46**⇑	*i*P	**P**	**18 15 34.8**	**0.0**
	comp=Z,203nm,1.0s,mb5.8					
HOPS	**Hopland**	**85.68 46**	⇓P	**P**	**18 15 34.9**	**+0.2**
	baz=86,SNR=78					
V04C	**Ramage Ranch,**	**85.68 50**	⇑P	**P**	**18 15 35.4**	**+0.6**
	baz=86,SNR=24					
O01C	**Eel River Cons**	**85.72 45**	⇑P	**P**	**18 15 35.6**	**+0.6**
	baz=86,SNR=48					
P01C	**Double 8 Ranch**	**85.72 46**	P	**P**	**18 15 35.2**	**+0.3**
	baz=86,SNR=107					
SLKM	**Skilak Lake**	**85.72 19**	P	**P**	**18 15 34.0**	**-1.0**
SLKM	**Skilak Lake**	**85.72 19**	*e*P	**P**	**18 15 33.8**	**-1.2**
SLKM			*e*pP	pP	18 16 19.0	+2.0
SAO	**San Andreas Ge**	**85.78 49**	P	**P**	**18 15 35.5**	**+0.2**
SAO			pmax	pmax		
	comp=Z,180nm,1.0s,mb5.8					
SAO	**San Andreas Ge**	**85.78 49**⇑	*i*P	**P**	**18 15 35.5**	**+0.2**
	comp=Z,177nm,1.0s,mb5.8					
SAO			*e*pP	pP	18 16 18.3	+1.0
SAO			*e*sP	sP	18 16 37.0	+2.0
KIPM	**Iron Peak**	**85.79 46**	*e*P	**P**	**18 15 35.8**	**+0.5**
CVS	**Carmenet Viney**	**85.79 47**	P	**P**	**18 15 35.2**	**-0.2**
	baz=86,SNR=51					
BSC	**Santa Cruz Isl**	**85.86 52**	⇓P	**P**	**18 15 35.9**	**+0.2**
	baz=86,SNR=12					
JCC	**Jacoby Creek**	**85.91 44**	P	**P**	**18 15 36.5**	**+0.6**
	baz=86,SNR=47					
LRV	**Little Rabbit**	**85.93 49**	*e*P	**P**	**18 15 36.3**	**+0.3**
WENL	**Wente Brothers**	**85.95 48**	⇑P	**P**	**18 15 36.6**	**+0.4**
	baz=86,SNR=12					
SBC	**Santa Barbara**	**86.00 52**	⇑P	**P**	**18 15 36.4**	**+0.1**
	baz=86					
PACP	**Pacheco Peak**	**86.00 49**	⇑P	**P**	**18 15 36.7**	**+0.4**
	baz=86,SNR=126					
BDM	**Black Diamond**	**86.03 48**	⇓P	**P**	**18 15 36.8**	**+0.3**
	baz=86,SNR=16					
MNRC	**McLaughlin Nat**	**86.06 47**	P	**P**	**18 15 37.2**	**+0.6**
	baz=86,SNR=198					
PKD	**Parkfield**	**86.06 50**	⇓P	**P**	**18 15 36.8**	**+0.2**
	baz=86,SNR=119					
TTA	**Tatalina**	**86.09 15**	*e*P	**P**	**18 15 39.9**	**+3.1**
PKM	**Peak Mountain**	**86.12 51**	⇑P	**P**	**18 15 37.5**	**+0.5**
	baz=86,SNR=55					
KHMM	**Horse Mountain**	**86.13 44**⇑	*i*P	**P**	**18 15 37.8**	**+0.8**
PTRM	**Twissleman Ran**	**86.17 50**	*e*P	**P**	**18 15 37.4**	**+0.2**
SMMC	**Simmler**	**86.17 51**	⇓P	**P**	**18 15 37.7**	**+0.5**
	baz=86,SNR=24					
S04C	**Ingram Canyon,**	**86.20 48**	⇓P	**P**	**18 15 37.5**	**+0.2**
	baz=86,SNR=121					
GASB	**Alder Springs**	**86.23 46**	P	**P**	**18 15 38.5**	**+1.0**
	baz=86,SNR=327					
Q03C	**Winters**	**86.24 47**	⇓P	**P**	**18 15 37.9**	**+0.4**
	baz=86,SNR=8.8					
SCI	**San Clemente I**	**86.25 53**	⇓P	**P**	**18 15 37.2**	**-0.3**
	baz=86,SNR=7.6					
KRMB	**Red Mountain**	**86.33 44**	*e*P	**P**	**18 15 38.6**	**+0.6**
KRMB			*e*pP	pP	18 16 20.8	+0.8
M01C	**Crescent City**	**86.35 44**	P	**P**	**18 15 38.6**	**+0.6**
	baz=87,SNR=43					
T05C	**Eagle Field, D**	**86.39 49**	⇑P	**P**	**18 15 39.0**	**+0.8**
	baz=87					
N02C	**Big Bar**	**86.39 45**	P	**P**	**18 15 38.7**	**+0.4**
	baz=87,SNR=251					
O02C	**Red Bluff**	**86.43 45**	P	**P**	**18 15 39.3**	**+0.8**
	baz=87,SNR=724					
KBO	**Bosley Butte**	**86.46 43**⇑	*e*P	**P**	**18 15 38.6**	**0.0**
V05C	**Boulder Hill,**	**86.49 50**	⇑P	**P**	**18 15 39.6**	**+0.9**
	baz=87,SNR=14					
YAK	**Yakutsk**	**86.52 343**c	*i*P	**P**	**18 15 37.3**	**-1.6**
YAK			*e*S	S	18 25 52.5	-8.4
YAK			pmax	pmax		
	comp=Z,68nm,1.2s,mb5.3					
YAK			pmax	pmax		
	comp=N,54nm,1.3s					
YAK			pmax	pmax		
	comp=E,32nm,1.1s					
YAK			smax			
	comp=E,78nm,3.0s					
YAK			smax			
	comp=N,360nm,7.6s					
YAK	**Yakutsk**	**86.52 343**⇑	*e*P	**P**	**18 15 37.2**	**-1.7**
	comp=N,491nm,0.9s,mb6.3					
YAK			*e*pP	pP	18 16 18.4	-2.5
U05C	**Westside ANR,**	**86.54 50**	⇑P	**P**	**18 15 39.4**	**+0.4**
	baz=87					
CIS	**Catalina Islan**	**86.54 53**	⇓P	**P**	**18 15 38.6**	**-0.3**
	baz=87,SNR=9.4					
SUTB	**Sutter Butte**	**86.67 47**	⇓P	**P**	**18 15 39.2**	**-0.4**
	baz=87,SNR=35					
KEBM	**Edson Butte**	**86.72 43**⇑	*e*P	**P**	**18 15 40.1**	**+0.3**
KEBM			*e*pP	pP	18 16 22.4	+0.5
BILL	**Bilibino**	**86.74 359**c	*i*P	**P**	**18 15 38.4**	**-1.6**
BILL			*i* *PP	pP	18 16 21.4	-0.7
BILL			pmax	pmax		
	comp=Z,201nm,1.2s,mb5.8					
BILL	**Bilibino**	**86.74 359**	*e*P	**P**	**18 15 38.5**	**-1.5**
	comp=Z,96nm,0.7s,mb5.7					
FMP	**Fort Macarthur**	**86.75 53**	⇓P	**P**	**18 15 39.7**	**-0.3**
	baz=87,SNR=6.7					
GTA	**Gaotai**	**86.77 313**	P	**P**	**18 15 40.5**	**+0.4**
GTA			AP	pP	18 16 24.3	+2.1
GTA			XP	sP	18 16 42.2	+2.3
GTA			PP	PP	18 19 09.2	+4.3
GTA			SKS		18 25 48.4	
GTA			S	S	18 26 03.3	0.0
GTA			XS	sS	18 27 19.6	+3.2
GTA			AMB	AMB		
	comp=Z,69nm,1.0s,mb5.4					
GTA			AMB	AMB		
	comp=Z,1μm,10.3s					
GTA			LR	LR		
	comp=N,635nm,19.9s					
GTA			LR	LR		
	comp=E,443nm,18.7s					
GTA			LR	LR		
	comp=Z,646nm,22.9s					
Q04C	**Lincoln**	**86.77 47**	⇓P	**P**	**18 15 40.0**	**-0.1**
	baz=87,SNR=6.3					
WDC	**Whiskeytown Da**	**86.79 45**⇑	*i*P	**P**	**18 15 40.0**	**-0.2**
WDC			*e*		18 19 03.6	
WDC			pmax	pmax		
	comp=Z,176nm,1.0s,mb5.8					
WDC	**Whiskeytown Da**	**86.79 45**⇑	*i*P	**P**	**18 15 40.0**	**-0.2**
	comp=Z,176nm,1.0s,mb5.8					
WDC			*e*pP	pP	18 16 24.1	+1.8
WDC			*e*PP	PP	18 19 03.6	-1.5
WDC	**Whiskeytown Da**	**86.79 45**	P	**P**	**18 15 40.4**	**+0.2**
	baz=87,SNR=142					
WDC			⇑S	S	18 26 04.3	+0.7
	baz=87					
OSI	**Osito Adit**	**86.81 52**	⇓P	**P**	**18 15 40.3**	**0.0**
	baz=87					
R04C	**Big Horse Ranc**	**86.82 48**	⇑P	**P**	**18 15 40.1**	**-0.2**
	baz=87,SNR=8.3					
R04C			⇑S	S	18 26 04.8	+1.0
	baz=87					
S05C	**Merced**	**86.84 49**	⇓P	**P**	**18 15 40.3**	**-0.1**
	baz=87,SNR=88					
L02A	**Cave Junction**	**86.84 43**	⇓P	**P**	**18 15 40.6**	**+0.2**
	baz=87,SNR=40					
SONM	**Songino Array**	**86.85 323**	P	**P**	**18 15 40.1**	**-0.4**
	comp=Z,236nm,0.8s,mb6.0,baz=143,slow=4.7,SNR=167					
SONM			pP	pP	18 16 18.8	-3.8
	comp=Z,42nm,0.8s,baz=145,slow=5.8,SNR=1.3					
SONM			PP	PP	18 19 06.8	+1.3
	comp=Z,7.5nm,1.1s,baz=120,slow=8.5,SNR=2.5					
SONM			PKiKP	PKiKP	18 20 46.7	+1.4
	comp=Z,3.1nm,0.8s,baz=107,slow=1.5,SNR=10					
SONM			S	SKSac	18 25 52.1	+0.7

comp=Z,2.4nm,1.0s,baz=180,slow=1.5,SNR=6.5
SONM PKKP PKKPbc 18 33 29.2 -3.9
comp=Z,10nm,0.9s,baz=286,slow=2.0,SNR=20
SONM PKKPbc PKKPbc 18 33 33.6 +0.5
comp=Z,10.0nm,0.9s,baz=291,slow=2.5,SNR=18
SONM PKPPKP 18 41 35.8
comp=Z,3.5nm,0.9s,baz=271,slow=1.5,SNR=9.4
SONM Songino Array 86.85 323 P P 18 15 40.1 -0.4
SONM *PP pP 18 16 18.8 -3.8
SONM 18 19 06.8
SONM S SKSac 18 25 52.1 +0.7
SONM pmax pmax
comp=Z,236nm,0.9s
SONM smax
comp=N,2.0nm,1.0s
SONM Songino Array 86.85 323 P P 18 15 40.1 -0.4
SONM pP pP 18 16 18.8 -3.8
SONM PP PP 18 19 06.8 +1.3
O03C Acorn Hollow, 86.86 46 ⇓P P 18 15 40.5 0.0
baz=87,SNR=23
PMR Palmer 86.90 19 P P 18 15 39.1 -1.7
PMR pmax pmax
comp=Z,56nm,0.7s,mb5.5
PMR Palmer 86.90 19 eP P 18 15 37.9 -2.9
comp=Z,56nm,0.7s,mb5.5
PMR epP pP 18 16 21.3 -1.5
PMR LR LR
comp=Z,2μm,19.0s
AGT Agartala 86.92 296 *i* P **P 18 15 42.0 +1.2**
AGT *i x* x 18 16 19.0
OHCM Honcut 86.93 47 *eP* **P 18 15 40.7 -0.2**
DECC Green Verdugo 86.95 52 ⇓P P 18 15 40.5 -0.5
baz=87,SNR=9.6
ARVC Arvin 86.95 51 ⇓P P 18 15 41.0 0.0
baz=87,SNR=15
M02C Callahan 86.96 44 P P 18 15 41.8 +0.7
baz=87,SNR=270
M02C ⇓S S 18 26 06.8 +1.6
baz=87
ORV Oroville 87.02 46 P P 18 15 41.2 -0.1
baz=87,SNR=189
ORV ⇑S S 18 26 07.1 +1.3
baz=87
SHL Shillong 87.02 298 ⇓*iP* **P 18 15 42.5 +1.2**
comp=Z,190nm,1.0s,mb5.9
SHL *i* S SKSac 18 25 54.0 +1.5
VES Vestal, Richgr 87.08 51 ⇓P P 18 15 41.3 -0.3
baz=87,SNR=7.8
VES ⇓S S 18 26 08.1 +1.8
baz=87
CMB Columbia Colle 87.10 48 P P 18 15 41.7 0.0
CMB pmax pmax
comp=Z,270nm,1.0s,mb6.0
CMB Columbia Colle 87.10 48 ⇑*iP* **P 18 15 41.3 -0.4**
comp=Z,265nm,1.0s,mb6.0
CMB epP pP 18 16 25.0 +1.1
CMB Columbia Colle 87.10 48 P P 18 15 41.7 0.0
baz=87,SNR=187
CMB ⇑S S 18 26 09.2 +2.6
baz=87
T06C Millerton Lake 87.13 49 P P 18 15 41.8 0.0
baz=87,SNR=112
T06C ⇓S S 18 26 07.6 +0.8
baz=87
RCTC Rector, Farmer 87.16 50 ⇓P P 18 15 41.7 -0.4
baz=87
LAVA Lava Cap Winer 87.18 47 P P 18 15 42.1 0.0
baz=87,SNR=68
LAVA ⇑S S 18 26 09.6 +2.3
baz=87
K02A Glendale 87.21 43 P P 18 15 42.4 +0.2
baz=87,SNR=48
K02A ⇓S S 18 26 08.0 +0.5
baz=87
YBH Yreka Blue Hor 87.22 44 P P 18 15 42.8 +0.5
YBH pmax pmax
comp=Z,200nm,1.0s
YBH Yreka Blue Hor 87.22 44 ⇑*iP* **P 18 15 42.6 +0.4**
comp=Z,204nm,0.9s,mb6.0
YBH epP pP 18 16 25.0 +0.6
YBH ePP PP 18 19 06.4 -2.1
YBH Yreka Blue Hor 87.22 44 P P 18 15 42.9 +0.6
baz=87,SNR=244
YBH ⇓S S 18 26 08.5 +0.8
baz=87
PMSA Palmer Station 87.27 160 ⇑*iP* **P 18 15 41.0 -1.6**
comp=Z,269nm,0.9s,mb6.1
PMSA epP pP 18 16 20.1 -4.6
109C Camp Elliot, M 87.31 54 ⇓P P 18 15 42.6 -0.1
baz=88,SNR=18
109C ⇓S S 18 26 10.9 +2.4
baz=88
S06C San Francisco 87.42 49 P P 18 15 43.2 0.0
baz=88,SNR=220
S06C ⇓S S 18 26 11.1 +1.6
baz=88
J02A Umpqua 87.44 42 ⇓P P 18 15 43.6 +0.3
baz=88
J02A ⇓S S 18 26 10.4 +0.7
baz=88
ISA Isabella 87.44 51 ⇓P P 18 15 43.5 +0.1
baz=88,SNR=308
ISA ⇓S S 18 26 11.6 +1.8
baz=88
BFSC Mount Baldy St 87.45 53 P P 18 15 43.2 -0.1
baz=88,SNR=54
BFSC ⇓S S 18 26 10.3 +0.5
baz=88
EDW2 Edwards Air Fo 87.47 52 P P 18 15 43.7 +0.3
baz=88,SNR=128
EDW2 ⇑S S 18 26 13.0 +3.0
baz=88
HELL Mitchell Peak, 87.48 50 ⇓P P 18 15 43.4 -0.2
baz=88
HELL ⇓S S 18 26 12.2 +2.1
baz=88
P05C Yuba Gap, Truc 87.52 47 P P 18 15 44.1 +0.4
baz=88,SNR=134
P05C ⇓S S 18 26 11.6 +1.1
baz=88
MURC Murrieta 87.53 53 ⇓P P 18 15 43.7 -0.1
baz=88,SNR=23
MURC ⇓S S 18 26 12.9 +2.2
baz=88
KCC Kaiser Creek 87.55 49 ⇓P P 18 15 43.8 -0.1
baz=88,SNR=83
KCC ⇑S S 18 26 13.4 +2.6
baz=88
I02A Mapleton 87.59 42 ⇓P P 18 15 44.3 +0.3
baz=88,SNR=55
I02A ⇑S S 18 26 14.2 +3.0
baz=88
RNO Roman Nose 87.60 42 P P 18 15 44.6 +0.5
O05C Quincy 87.60 46 P P 18 15 44.4 +0.3
baz=88,SNR=62
O05C ⇓S S 18 26 12.4 +1.1
baz=88
R05C Kirkwood Meado 87.62 48 P P 18 15 44.5 +0.3
baz=88,SNR=90
R05C ⇑S S 18 26 13.8 +2.3
baz=88
HATC Hat Creek Radi 87.62 45 P P 18 15 44.6 +0.4
baz=88,SNR=152
HATC ⇓S S 18 26 13.0 +1.5
baz=88
O04C Chester 87.65 46 ⇑P P 18 15 44.6 +0.3
baz=88,SNR=48
O04C ⇑S S 18 26 14.0 +2.2
baz=88
BUOR Burton Butte 87.78 44 P P 18 15 45.3 +0.4
H02A Toledo 87.81 41 ⇓P P 18 15 45.6 +0.5
baz=88,SNR=9.7
M04C Macdoel 87.82 44 P P 18 15 45.5 +0.3
baz=88,SNR=193
M04C ⇑S S 18 26 14.8 +1.4
baz=88
MONP Monument Peak 87.83 54 ⇓P P 18 15 45.6 +0.5
baz=88,SNR=186
MONP ⇑S S 18 26 16.0 +2.5
baz=88
J03A Ideyld Park 87.83 43 ⇓P P 18 15 45.4 +0.2
baz=88,SNR=74
J03A ⇑S S 18 26 16.2 +2.7
baz=88
I03A Eugene 87.92 42 ⇓P P 18 15 45.7 +0.1
baz=88,SNR=21
I03A ⇓S S 18 26 14.9 +0.5
baz=88
BEKR Beckwourth 87.94 47 P P 18 15 45.9 +0.2
baz=88,SNR=146
BEKR ⇓S S 18 26 16.6 +2.1
baz=88
LRMC Laurel Mountai 87.95 51 P P 18 15 46.1 +0.4
baz=88,SNR=80
LRMC ⇓S S 18 26 18.3 +3.8
baz=88
L04A Klamath Falls 87.97 44 ⇓P P 18 15 45.9 +0.1
baz=88,SNR=48
L04A ⇑S S 18 26 16.8 +2.0
baz=88
R06C Coleville 87.98 48 ⇑P P 18 15 46.4 +0.6
baz=88,SNR=181
R06C ⇓S S 18 26 16.8 +1.9
baz=88
DVTC Desert V Tower 87.99 55 ⇓P P 18 15 46.2 +0.3
baz=88,SNR=64
BBRC Big Bear Sol-O 88.02 53 ⇓P P 18 15 46.2 +0.2
baz=88
BBRC ⇓S S 18 26 18.2 +3.0
baz=88
MLAC Mammoth Lakes 88.03 49 ⇓P P 18 15 46.6 +0.5
baz=88,SNR=9.6
MLAC ⇓S S 18 26 19.2 +3.8
baz=88
ELFS Eagle Lake Fie 88.03 46 ⇑P P 18 15 46.6 +0.5
baz=88,SNR=7.2
ELFS ⇑S S 18 26 17.1 +1.7
baz=88
CWC Cottonwood Cre 88.06 50 P P 18 15 46.6 +0.3
baz=88,SNR=19
R07C Lee Vining 88.08 49 ⇓P P 18 15 46.8 +0.4
baz=88,SNR=57
R07C ⇓S S 18 26 18.1 +2.3
baz=88
M05C Lookout 88.08 45 P P 18 15 46.6 +0.2
baz=88,SNR=188
M05C ⇑S S 18 26 16.5 +0.6
baz=88
PFO Pinyon Flat Ob 88.10 54 P P 18 15 46.3 -0.2
comp=Z,460nm,1.0s,mb6.3,SNR=21
PFO Pinyon Flat Ob 88.10 54 ⇑*iP* **P 18 15 46.4 -0.1**
PFO *e**PP pP 18 16 30.3 +1.6
PFO pmax pmax
comp=Z,78nm,0.9s,mb5.5
PFO Pinyon Flat Ob 88.10 54 ⇑*iP* **P 18 15 46.4 -0.1**
comp=Z,78nm,0.9s,mb5.5
PFO epP pP 18 16 30.3 +1.6
PFO Pinyon Flat Ob 88.10 54 ⇑P P 18 15 46.5 +0.1
baz=88,SNR=39
PFO ⇓S S 18 26 19.0 +3.0
baz=88
MTUM Tungsten Hills 88.10 49 *eP* **P 18 15 46.9 +0.4**
MTUM epP pP 18 16 29.6 +0.9
WCN Washoe City 88.11 47 ⇑P P 18 15 46.7 +0.2
baz=88,SNR=32
WCN ⇑S S 18 26 18.7 +2.6
baz=88
P06A Stead Airport, 88.18 47 ⇓P P 18 15 47.2 +0.4
baz=88,SNR=9.1
P06A ⇓S S 18 26 18.6 +1.8
baz=88
COR Corvallis 88.20 41 ⇑*iP* **P 18 15 47.1 +0.2**
COR pmax pmax
comp=Z,99nm,0.8s,mb5.7
COR Corvallis 88.20 41 ⇑*iP* **P 18 15 47.0 +0.1**
comp=Z,99nm,0.8s,mb5.7
RRX Edison Barstow 88.21 52 ⇓P P 18 15 47.0 0.0
baz=88
TIN Tinemaha 88.22 50 ⇓P P 18 15 47.5 +0.4
baz=88,SNR=8.0
TIN ⇓S S 18 26 20.5 +3.3
baz=88
H03A Soap Creek Ran 88.25 41 ⇓P P 18 15 47.6 +0.4
baz=88
H03A ⇓S S 18 26 18.2 +0.7
baz=88
K04A Chilquin 88.28 44 ⇓P P 18 15 47.6 +0.3
baz=88,SNR=22
K04A ⇓S S 18 26 18.7 +1.0
baz=88
SWSC Sam W. Stewart 88.33 54 P P 18 15 47.8 +0.3
baz=88,SNR=68
MPMC Manual Prospec 88.34 51 P P 18 15 47.9 +0.3
baz=88,SNR=162
MPMC ⇓S S 18 26 22.3 +4.1
baz=88
DAC Darwin (Calif) 88.35 51 P P 18 15 47.7 +0.1
DAC pmax pmax
comp=Z,170nm,1.3s,mb5.7
DAC Darwin (Calif) 88.35 51 ⇑*iP* **P 18 15 47.7 0.0**
comp=Z,172nm,1.3s,mb5.7
DAC epP pP 18 16 31.0 +1.1
O06A Flanigan 88.44 47 P P 18 15 48.4 +0.3
baz=89,SNR=242
S08C White Mtn Res 88.45 49 P P 18 15 48.9 +0.8
baz=89,SNR=164
S08C ⇓S S 18 26 22.4 +3.1
baz=89
M06C Likely Place G 88.46 45 P P 18 15 48.7 +0.5
baz=89,SNR=61
M06C ⇓S S 18 26 21.7 +2.2
baz=89
HBO Huckleberry Mo 88.47 42 P P 18 15 48.3 +0.1
GSC Goldstone 88.53 52 P P 18 15 48.6 +0.1
baz=89,SNR=50
GSC ⇑S S 18 26 22.3 +2.3
baz=89
PAHR Pah Rah Range 88.55 47 ⇑*iP* **P 18 15 48.7 +0.1**
comp=Z,69nm,0.8s,mb5.6
PAHR epP pP 18 16 31.5 +0.7
G03A Yamhill 88.57 41 ⇑P P 18 15 48.5 -0.2
baz=89,SNR=15
G03A ⇓S S 18 26 21.4 +0.9
baz=89
BELC Belle Mtn. 88.61 53 P P 18 15 49.4 +0.5
baz=89,SNR=112
BELC ⇓S S 18 26 24.0 +3.2
baz=89
L05A Lakeview 88.61 44 ⇑P P 18 15 49.3 +0.5
baz=89,SNR=170
L05A ⇑S S 18 26 23.2 +2.5
baz=89
Q07A Schurz 88.61 48 ⇓P P 18 15 49.0 +0.1
baz=89
Q07A ⇑S S 18 26 23.2 +2.4
baz=89
HEC Hector,Ludlow 88.69 53 ⇑P P 18 15 49.1 -0.2
baz=89,SNR=34
HEC ⇑S S 18 26 24.8 +3.2
baz=89
N06A Buffalo Meadow 88.69 46 ⇑P P 18 15 49.6 +0.3
baz=89
N06A ⇓S S 18 26 21.9 +0.3
baz=89
F03A Seaside 88.70 40 ⇓P P 18 15 49.4 +0.1
baz=89,SNR=17
F03A ⇓S S 18 26 22.4 +0.8
baz=89
SIT Sitka 88.75 27 *eP* **P 18 15 49.1 -0.4**
comp=Z,904nm,2.8s,mb6.2
SIT LR LR
comp=Z,2μm,18.0s
CRAG Craig 88.75 29 *eP* **P 18 15 49.6 +0.1**
comp=Z,470nm,2.2s,mb6.0
CRAG LR LR
comp=Z,2μm,20.0s
P07A Fallon 88.82 47 ⇓P P 18 15 50.0 +0.2
baz=89
P07A ⇓S S 18 26 25.5 +2.7
baz=89
GRAC Grapevine Rang 88.82 50 ⇑P P 18 15 50.1 +0.3
baz=89,SNR=62
GRAC ⇑S S 18 26 24.1 +1.4
baz=89
R08A Mina 88.86 49 P P 18 15 50.4 +0.4
baz=89,SNR=44
R08A ⇓S S 18 26 25.6 +2.5
baz=89
K05A Summer Lake 88.88 44 ⇑P P 18 15 50.5 +0.4
baz=89
K05A ⇑S S 18 26 24.9 +1.6
baz=89
BC3 Big Chuckw Mtn 88.88 54 P P 18 15 50.7 +0.5
baz=89,SNR=92
BC3 ⇑S S 18 26 27.4 +4.0
baz=89
WIFE Three Sisters- 88.89 42 P P 18 15 50.5 +0.3
MOD Modoc 88.89 45 ⇓*iP* **P 18 15 50.2 +0.1**
comp=Z,326nm,0.9s,mb6.3
MOD epP pP 18 16 34.1 +1.6
MOD *e*PP PP 18 19 19.9 -2.0
MOD Modoc 88.89 45 P P 18 15 50.5 +0.3
baz=89,SNR=213
MOD ⇑S S 18 26 24.6 +1.1
baz=89
J05A Fort Rock 88.91 43 ⇓P P 18 15 50.7 +0.4
baz=89
J05A ⇓S S 18 26 25.1 +1.5
baz=89
H04A Detroit Lake 88.95 42 P P 18 15 50.1 -0.3
baz=89,SNR=174
H04A ⇓S S 18 26 23.6 -0.4
baz=89
BOD Bodaibo 88.97 334 *eP* **P 18 15 49.1 -1.4**
BOD *e* 18 26 00.4
BOD pmax pmax
comp=Z,183nm,0.9s,mb6.0
FURC Furnace Creek, 88.97 51 P P 18 15 50.8 +0.3
baz=89,SNR=66
FURC ⇓S S 18 26 25.3 +1.1
baz=89
E03A Lebam 88.99 40 ⇑P P 18 15 50.7 +0.1
baz=89,SNR=112
E03A ⇑S S 18 26 25.5 +1.1
baz=89
G04A Mulino 89.01 41 ⇑P P 18 15 50.4 -0.3
baz=89,SNR=30
G04A ⇓S S 18 26 26.1 +1.5
baz=89
C03A Quillayute Air 89.09 38 ⇑P P 18 15 51.9 +0.9
baz=89,SNR=21
C03A ⇑S S 18 26 27.3 +2.0
baz=89
O07A Toulon 89.09 47 P P 18 15 51.5 +0.4
baz=89,SNR=98
O07A ⇓S S 18 26 27.6 +2.3
baz=89
GLA Glamis 89.13 55 ⇓P P 18 15 51.7 +0.4
baz=89,SNR=108
GLA ⇓S S 18 26 27.2 +1.6
baz=89
NVL N'lazarevskaya 89.14 187 *c iP* **P 18 15 49.0 -2.3**
NVL *i* *PP pP 18 16 31.2 -2.4
NVL *e**SP sP 18 16 48.0 -3.3
NVL *i* S SKSac 18 26 01.6 -3.5
NVL *i* 18 26 20.4
NVL *i* 18 27 31.3
NVL *i* SSS 18 35 53.5
NVL pmax pmax
comp=Z,121nm,0.8s,mb5.9
MAIT Maitri 89.14 187 *eP* **P 18 15 50.4 -0.9**
D03A Wishkah Elem. 89.14 39 ⇑P P 18 15 51.8 +0.5
baz=89,SNR=42
D03A ⇑S S 18 26 29.3 +3.5
baz=89
LSA Lhasa 89.19 302 P P 18 15 47.8 -3.8
LSA Lhasa 89.19 302 ⇓*iP* **P 18 15 52.2 +0.6**
LSA *e**PP pP 18 16 31.2 -2.7
LSA pmax pmax
comp=Z,70nm,0.7s,mb5.7
LSA Lhasa 89.19 302 ⇓*iP* **P 18 15 52.2 +0.6**
comp=Z,70nm,0.7s,mb5.7
LSA epP pP 18 16 31.2 -2.7
STDB Stepnoy Dvoret 89.21 327 P P 18 15 54.2 +2.5
S09A Goldfield 89.22 50 ⇓P P 18 15 51.7 -0.1
baz=89,SNR=87
S09A ⇓S S 18 26 28.2 +1.7
baz=89
TUQ Turquoise Mtn. 89.24 52 P P 18 15 52.1 +0.3
baz=89,SNR=148
TUQ ⇑S S 18 26 29.6 +2.8
baz=89
IMA2 Indian Mountai 89.27 14 *eP* **P 18 15 52.9 +1.0**
I05A Bend 89.29 42 ⇑P P 18 15 52.2 +0.2
baz=90,SNR=29
I05A ⇑S S 18 26 27.8 +0.6
baz=90
N07B Gerlach 89.30 46 ⇓P P 18 15 52.3 +0.2
baz=90
N07B ⇑S S 18 26 28.2 +0.9
baz=90
IRM Iron Mountain 89.31 54 P P 18 15 52.7 +0.5
baz=90,SNR=164
IRM ⇑S S 18 26 29.9 +2.5
baz=90
K06A Valley Falls 89.33 44 P P 18 15 52.5 +0.3
baz=90,SNR=402
K06A ⇑S S 18 26 29.7 +2.1
baz=90
TPH Tonopah 89.37 49 ⇓*iP* **P 18 15 52.5 +0.1**
TPH *e**PP pP 18 16 36.5 +1.8
TPH pmax pmax
comp=Z,170nm,1.1s,mb5.9
TPH Tonopah 89.37 49 ⇓*iP* **P 18 15 52.5 +0.1**
comp=Z,170nm,1.1s,mb5.9
TPH epP pP 18 16 36.5 +1.7
F04A Amboy 89.39 41 P P 18 15 52.5 -0.1
baz=90,SNR=92
F04A ⇓S S 18 26 26.5 -1.6
baz=90
M07A Soldier Meadow 89.43 46 P P 18 15 53.1 +0.5
baz=90,SNR=452
M07A ⇑S S 18 26 30.1 +1.6
baz=90
P08A Dixie Valley 89.45 48 ⇑P P 18 15 53.3 +0.5
baz=90
P08A ⇑S S 18 26 31.9 +3.3
baz=90
SNAA Sanae 89.46 183 *eP* **P 18 15 51.1 -1.7**
SNAA *e* 18 15 52.6
SNAA *e* 18 16 04.6
SNAA *e* pP 18 16 31.0 -4.2
SNAA *e* 18 16 49.8
TDH Tom, Dick, Har 89.48 41 P P 18 15 52.8 -0.1
H05A Madras 89.54 42 ⇑P P 18 15 53.1 -0.1
baz=90,SNR=34
H05A ⇓S S 18 26 30.7 +1.2
baz=90
R09A Tonopah 89.55 49 ⇑P P 18 15 53.2 0.0
baz=90,SNR=117
R09A ⇑S S 18 26 32.8 +3.2
baz=90
L07A Adell 89.59 45 P P 18 15 54.2 +0.7
baz=90,SNR=433
L07A ⇓S S 18 26 31.7 +1.8
baz=90
MENT Mentasta 89.59 20 *eP* **P 18 15 51.7 -1.8**
J06A Christmas Vall 89.60 44 P P 18 15 53.4 -0.1
baz=90,SNR=309
J06A ⇓S S 18 26 31.3 +1.3
baz=90
Y12C Blythe 89.63 54 ⇓P P 18 15 54.1 +0.4
baz=90,SNR=70
Y12C ⇑S S 18 26 32.6 +2.3
baz=90
O08A Rochester Mine 89.65 47 ⇓P P 18 15 54.2 +0.5
baz=90
O08A ⇓S S 18 26 31.1 +0.6
baz=90
STD Studebaker Rid 89.66 40 P P 18 15 54.2 +0.4
WRAK Wrangell Islan 89.67 28 ⇑*eP* **P 18 15 52.9 -0.9**
comp=Z,196nm,0.9s,mb6.0
Q09A Carvers 89.72 49 ⇑P P 18 15 54.4 +0.3
baz=90,SNR=15
Q09A ⇓S S 18 26 33.6 +2.4
baz=90
D04A Dobbs Creek Ra 89.72 39 ⇓P P 18 15 54.7 +0.6
baz=90,SNR=13
D04A ⇓S S 18 26 31.1 -0.1
baz=90
G05A Wamic 89.76 41 ⇑P P 18 15 54.1 -0.1
baz=90,SNR=64
G05A ⇓S S 18 26 31.2 -0.2
baz=90
B04A Port Angeles 89.76 38 P P 18 15 54.7 +0.5
baz=90,SNR=70
B04A ⇑S S 18 26 32.6 +1.1
baz=90
V11A Goodsprings 89.77 52 P P 18 15 54.7 +0.4
baz=90,SNR=61
V11A ⇓S S 18 26 35.5 +3.9
baz=90

COLA	**College**	**89.81**	**17**	*e*P	**P**	**18 15 51.3**	**-3.1**
COLA				*e**PP	pP	18 16 35.1	-1.7
COLA				pmax	pmax		
	comp=Z,74nm,0.8s,mb5.7						
COLA	**College**	**89.81**	**17**	*e*P	**P**	**18 15 51.3**	**-3.2**
	comp=Z,74nm,0.8s,mb5.7						
COLA				*e*pP	pP	18 16 35.1	-1.7
I06A	**Prineville**	**89.87**	**43**	P	**P**	**18 15 55.3**	**+0.6**
	baz=90,SNR=312						
N08A	**GE Springer Mi**	**89.87**	**47**	P	**P**	**18 15 55.1**	**+0.3**
	baz=90,SNR=249						
N08A				⇊S	S	18 26 34.3	+1.8
	baz=90						
C04A	**Brinnon**	**89.91**	**39**	⇊P	**P**	**18 15 55.1**	**+0.1**
	baz=90,SNR=33						
C04A				⇑S	S	18 26 34.2	+1.2
	baz=90						
ZAK	**Zakamensk**	**89.93**	**324**	⇑*i*P	**P**	**18 15 54.2**	**-0.8**
ZAK				*e*	pP	18 16 38.6	+1.3
ZAK				pmax	pmax		
	comp=Z,57nm,1.9s,mb5.2						
K07A	**Rock Creek Ran**	**89.95**	**44**	P	**P**	**18 15 55.5**	**+0.4**
	baz=90,SNR=472						
K07A				⇊S	S	18 26 34.2	+1.0
	baz=90						
F05A	**White Salmon**	**89.97**	**41**	⇑P	**P**	**18 15 55.0**	**-0.2**
	baz=90,SNR=32						
F05A				⇊S	S	18 26 34.4	+1.0
	baz=90						
W12A	**Cal Nev Ari**	**89.98**	**53**	⇊P	**P**	**18 15 55.4**	**+0.1**
	baz=90,SNR=10.0						
W12A				⇊S	S	18 26 36.9	+3.4
	baz=90						
M08A	**Happy Creek Ra**	**89.99**	**46**	P	**P**	**18 15 55.9**	**+0.6**
	baz=90,SNR=239						
M08A				⇊S	S	18 26 36.2	+2.5
	baz=90						
U11A	**Corn Creek**	**90.04**	**51**	⇊P	**P**	**18 15 55.7**	**+0.2**
	baz=90,SNR=35						
U11A				⇑S	S	18 26 37.2	+3.1
	baz=90						
P09A	**Austin**	**90.05**	**48**	⇑P	**P**	**18 15 55.8**	**+0.2**
	baz=90						
P09A				⇑S	S	18 26 34.2	+0.1
	baz=90						
VNA3	**Neumayer Olymp**	**90.06**	**180**	*e*P	**P**	**18 15 53.6**	**-2.0**
VNA3				*e*		18 15 55.7	
VNA3				*e*		18 16 07.7	
VNA3				*e*	pP	18 16 34.5	-3.5
VNA3				*e*		18 16 52.0	
PGC	**Sidney**	**90.08**	**38**	⇑*i*P	**P**	**18 15 55.6**	**-0.1**
	comp=Z,608nm,1.0s,mb6.5						
E05A	**Randle**	**90.09**	**40**	⇊P	**P**	**18 15 55.5**	**-0.3**
	baz=90						
E05A				⇊S	S	18 26 34.5	0.0
	baz=90						
R10A	**Warm Springs**	**90.12**	**49**	⇊P	**P**	**18 15 56.3**	**+0.4**
	baz=90,SNR=15						
R10A				⇊S	S	18 26 38.0	+3.2
	baz=90						
PDMCI	**Parker Dam,Lak**	**90.14**	**54**	P	**P**	**18 15 56.4**	**+0.4**
	baz=90,SNR=138						
PDMCI				⇑S	S	18 26 38.5	+3.5
	baz=90						
H06A	**Lindquist Farm**	**90.15**	**42**	P	**P**	**18 15 56.1**	**+0.1**
	baz=90,SNR=699						
H06A				⇊S	S	18 26 35.6	+0.6
	baz=90						
LON	**Longmire**	**90.15**	**40**	P	**P**	**18 15 55.6**	**-0.5**
V12A	**Nelson**	**90.16**	**52**	P	**P**	**18 15 56.5**	**+0.4**
	baz=90,SNR=61						
V12A				⇑S	S	18 26 37.7	+2.5
	baz=90						
G06A	**Carlson Farm,**	**90.18**	**42**	P	**P**	**18 15 56.0**	**-0.2**
	baz=90,SNR=137						
G06A				⇊S	S	18 26 36.7	+1.3
	baz=90						
Y13A	**Salome**	**90.19**	**54**	⇊P	**P**	**18 15 56.8**	**+0.5**
	baz=90,SNR=135						
Y13A				⇊S	S	18 26 38.7	+3.2
	baz=90						
J07A	**Hines**	**90.20**	**44**	P	**P**	**18 15 56.6**	**+0.3**
	baz=90,SNR=187						
J07A				⇑S	S	18 26 36.7	+1.2
	baz=90						
WVOR	**Wild Horse Val**	**90.24**	**45**	P	**P**	**18 15 56.5**	**0.0**
WVOR				pmax	pmax		
	comp=Z,370nm,1.0s,mb6.3						
WVOR	**Wild Horse Val**	**90.24**	**45**	⇑*i*P	**P**	**18 15 56.5**	**0.0**
	comp=Z,345nm,1.0s,mb6.2						
WVOR				*e*pP	pP	18 16 39.2	+0.4
WVOR				*e*PP	PP	18 19 31.1	-1.5
D05A	**Enumclaw**	**90.25**	**40**	P	**P**	**18 15 57.1**	**+0.6**
	baz=90,SNR=78						
D05A				⇑S	S	18 26 36.1	+0.1
	baz=90						
SKAG	**Skagway**	**90.26**	**25**	*e*P	**P**	**18 15 55.6**	**-0.9**
	comp=Z,274nm,1.9s,mb5.9						
SKAG				LR	LR		
	comp=Z,2µm,17.0s						
O09A	**Fish Creek Ran**	**90.27**	**47**	P	**P**	**18 15 57.0**	**+0.4**
	baz=90,SNR=132						
O09A				⇑S	S	18 26 37.4	+1.2
	baz=90						
N09A	**Rock Creek Ran**	**90.32**	**47**	⇑P	**P**	**18 15 57.1**	**+0.3**
	baz=90						
N09A				⇊S	S	18 26 38.5	+1.9
	baz=90						
L08A	**Fields**	**90.33**	**45**	⇑P	**P**	**18 15 57.2**	**+0.4**
	baz=90						
L08A				⇑S	S	18 26 38.6	+1.9
	baz=90						
F06A	**Goldendale**	**90.33**	**41**	P	**P**	**18 15 57.1**	**+0.2**
	baz=90,SNR=97						
F06A				⇑S	S	18 26 37.4	+0.6
	baz=90						
IRK	**Irkutsk**	**90.34**	**326**	*e*P	**P**	**18 15 56.7**	**-0.3**
IRK				*e*	pP	18 16 39.3	0.0
IRK				*e*S	SKSac	18 26 11.6	-0.5
IRK				pmax	pmax		
	comp=Z,178nm,1.7s,mb5.7						
BMN	**Battle Mountai**	**90.35**	**47**	⇑*i*P	**P**	**18 15 57.2**	**+0.2**
BMN				*e**PP	pP	18 16 41.1	+1.8
BMN				pmax	pmax		
	comp=Z,199nm,1.0s,mb6.0						
BMN	**Battle Mountai**	**90.35**	**47**	⇑*i*P	**P**	**18 15 57.1**	**+0.2**
	comp=Z,199nm,1.0s,mb6.0						
BMN				*e*pP	pP	18 16 41.1	+1.7
I07A	**Izee**	**90.39**	**43**	P	**P**	**18 15 57.5**	**+0.3**
	baz=91,SNR=538						
I07A				⇊S	S	18 26 39.8	+2.5
	baz=91						
TLY	**Talaya**	**90.39**	**326**	P	**P**	**18 15 56.5**	**-0.7**
	comp=Z,891nm,0.7s,mb6.8,SNR=21						
TLY	**Talaya**	**90.39**	**326**	*e*P	**P**	**18 15 56.1**	**-1.1**
TLY				*e*		18 16 31.6	
TLY				*e*		18 26 11.4	
TLY				*e*S	S	18 26 34.0	-3.3
TLY				*e*PS	SP	18 27 40.7	-4.1
TLY				pmax	pmax		
	comp=Z,94nm,0.7s,mb5.8						
TLY	**Talaya**	**90.39**	**326**	*e*P	**P**	**18 15 56.1**	**-1.1**
	comp=Z,104nm,0.8s,mb5.8						
TLY				*e*pP	pP	18 16 35.2	-4.3
K08A	**Mann Creek Ran**	**90.47**	**45**	P	**P**	**18 15 57.9**	**+0.4**
	baz=91,SNR=173						
K08A				⇑S	S	18 26 41.0	+3.0
	baz=91						
RMW	**Rattlesnake Mo**	**90.48**	**39**	P	**P**	**18 15 57.7**	**+0.1**
X13A	**Yucca**	**90.49**	**54**	P	**P**	**18 15 58.0**	**+0.4**
	baz=91,SNR=231						
X13A				⇊S	S	18 26 40.1	+1.9
	baz=91						
A04A	**Legoe Bay, Lum**	**90.55**	**38**	⇊P	**P**	**18 15 57.9**	**+0.1**
	baz=91,SNR=105						
A04A				⇊S	S	18 26 38.0	-0.8
	baz=91						
P10A	**Eureka**	**90.55**	**48**	⇊P	**P**	**18 15 58.0**	**+0.1**
	baz=91						
P10A				⇑S	S	18 26 38.3	-0.5
	baz=91						
E06A	**Yakima**	**90.56**	**40**	P	**P**	**18 15 58.0**	**0.0**
	baz=91,SNR=256						
E06A				⇊S	S	18 26 39.7	+0.9
	baz=91						
H07A	**Lands Inn, Kim**	**90.58**	**43**	⇊P	**P**	**18 15 58.0**	**0.0**
	baz=91						
H07A				⇑S	S	18 26 39.8	+0.8
	baz=91						
M09A	**Marrel Ranch,**	**90.61**	**46**	⇑P	**P**	**18 15 58.6**	**+0.4**
	baz=91						
M09A				⇊S	S	18 26 41.2	+1.9
	baz=91						
VNA1	**Neumayer--Stat**	**90.64**	**181**	*e*P	**P**	**18 15 57.2**	**-1.1**
VNA1				*e*		18 15 57.7	
VNA1				*e*	pP	18 16 36.4	-4.3
VNA1				*e*		18 16 57.4	
W13A	**Hualapai Mount**	**90.64**	**53**	⇑P	**P**	**18 15 58.9**	**+0.5**
	baz=91						
W13A				⇑S	S	18 26 42.5	+2.9
	baz=91						
TRCR	**Troy Canyon**	**90.66**	**50**	⇑*i*P	**P**	**18 15 58.4**	**-0.1**
TRCR				*e*pP	pP	18 16 42.2	+1.4
C05A	**Tolt Reservoir**	**90.66**	**39**	P	**P**	**18 15 58.3**	**-0.1**
	baz=91,SNR=131						
C05A				⇊S	S	18 26 38.5	-1.3
	baz=91						
U12A	**Valley of Fire**	**90.67**	**52**	P	**P**	**18 15 59.1**	**+0.7**
	baz=91,SNR=61						
U12A				⇊S	S	18 26 43.5	+3.7
	baz=91						
B05A	**Bryant**	**90.69**	**39**	P	**P**	**18 15 58.6**	**+0.1**
	baz=91,SNR=116						
B05A				⇑S	S	18 26 39.9	-0.1
	baz=91						
Z14A	**Wintersburg**	**90.70**	**55**	⇊P	**P**	**18 15 59.1**	**+0.5**
	baz=91,SNR=57						
Z14A				⇑S	S	18 26 44.1	+4.0
	baz=91						
L09A	**Wilkinson Ranc**	**90.72**	**46**	⇊P	**P**	**18 15 58.9**	**+0.2**
	baz=91,SNR=296						
L09A				⇊S	S	18 26 42.1	+1.9
	baz=91						
J08A	**Circle Bar Ran**	**90.75**	**44**	P	**P**	**18 15 58.9**	**+0.1**
	baz=91,SNR=288						
J08A				⇑S	S	18 26 42.3	+1.7
	baz=91						
PALK	**Pallekele**	**90.75**	**277**	P	**P**	**18 15 59.1**	**+0.3**
	comp=Z,372nm,1.1s,mb6.3,SNR=7.0						
PALK	**Pallekele**	**90.75**	**277**	*e*P	**P**	**18 15 59.5**	**+0.7**
	comp=Z,79nm,1.1s,mb5.7						
O10A	**Cortez Mining,**	**90.80**	**47**	P	**P**	**18 15 59.5**	**+0.5**
	baz=91,SNR=56						
O10A				⇑S	S	18 26 41.6	+0.6
	baz=91						
G07A	**Ruggs Ranch, H**	**90.81**	**42**	P	**P**	**18 15 59.0**	**-0.1**
	baz=91,SNR=266						
G07A				⇊S	S	18 26 40.4	-0.7
	baz=91						
Q11A	**Duckwater**	**90.81**	**49**	P	**P**	**18 15 59.3**	**+0.2**
	baz=91,SNR=278						
Q11A				⇑S	S	18 26 42.1	+1.0
	baz=91						
Y14A	**Wickenburg**	**90.87**	**54**	⇑P	**P**	**18 15 59.5**	**+0.1**
	baz=91						
Y14A				⇑S	S	18 26 45.7	+4.1
	baz=91						
I08A	**Drewsey**	**90.92**	**44**	⇊P	**P**	**18 15 59.7**	**+0.1**
	baz=91						
I08A				⇊S	S	18 26 42.7	+0.5
	baz=91						
F07A	**Phinny Hill Vi**	**90.92**	**41**	⇑P	**P**	**18 15 59.6**	**0.0**
	baz=91,SNR=27						
F07A				⇊S	S	18 26 42.7	+0.6
	baz=91						
D06A	**Cle Elum**	**90.94**	**40**	⇊P	**P**	**18 15 59.6**	**-0.2**
	baz=91,SNR=64						
D06A				⇑S	S	18 26 42.8	+0.5
	baz=91						
K09A	**Rome**	**90.96**	**45**	⇑P	**P**	**18 15 60.0**	**+0.2**
	baz=91						
K09A				⇑S	S	18 26 45.4	+2.9
	baz=91						
N10A	**Dunphy**	**90.97**	**47**	⇑P	**P**	**18 15 60.0**	**+0.1**
	baz=91						
N10A				⇑S	S	18 26 43.7	+1.1
	baz=91						
115A	**Sonoran Desert**	**91.01**	**56**	⇑P	**P**	**18 16 00.2**	**+0.2**
	baz=91,SNR=55						
115A				⇊S	S	18 26 46.8	+3.9
	baz=91						
P11A	**Circle Ranch,**	**91.02**	**48**	⇑P	**P**	**18 16 00.3**	**+0.2**
	baz=91,SNR=9.4						
P11A				⇊S	S	18 26 44.4	+1.3
	baz=91						
A05A	**Maple Falls**	**91.04**	**38**	⇊P	**P**	**18 15 59.5**	**-0.6**
	baz=91,SNR=17						
A05A				⇑S	S	18 26 43.7	+0.5
	baz=91						
TBM	**Table Mountain**	**91.08**	**40**	P	**P**	**18 16 00.2**	**-0.2**
H08A	**Prairie City**	**91.12**	**43**	⇑P	**P**	**18 16 00.2**	**-0.4**
	baz=91,SNR=48						
H08A				⇑S	S	18 26 44.9	+1.0
	baz=91						
X14A	**Yava**	**91.16**	**54**	P	**P**	**18 16 01.6**	**+0.8**
	baz=91,SNR=197						
X14A				⇊S	S	18 26 47.9	+3.7
	baz=91						
B06A	**Marblemount**	**91.17**	**39**	⇊P	**P**	**18 16 00.1**	**-0.7**
	baz=91,SNR=21						
B06A				⇊S	S	18 26 44.7	+0.4
	baz=91						
J09A	**Fry Pan Ranch,**	**91.22**	**44**	⇊P	**P**	**18 16 01.1**	**+0.1**
	baz=91,SNR=161						
J09A				⇊S	S	18 26 45.3	+0.5
	baz=91						
E07A	**Sunnyside**	**91.26**	**41**	⇊P	**P**	**18 16 01.2**	**-0.1**
	baz=92,SNR=112						
E07A				⇊S	S	18 26 45.1	-0.1
	baz=92						
G08A	**Pilot Rock**	**91.27**	**42**	P	**P**	**18 16 01.1**	**-0.1**
	baz=92,SNR=632						
G08A				⇑S	S	18 26 45.6	+0.3
	baz=92						
M10A	**I.L. Ranch, Tu**	**91.28**	**46**	P	**P**	**18 16 01.9**	**+0.6**
	baz=92,SNR=287						
M10A				⇑S	S	18 26 47.7	+2.4
	baz=92						
W14A	**Seligman**	**91.29**	**53**	P	**P**	**18 16 02.2**	**+0.9**
	baz=92,SNR=183						
W14A				⇊S	S	18 26 49.0	+3.5
	baz=92						
O11A	**Cowboy Ranch,**	**91.32**	**48**	P	**P**	**18 16 01.8**	**+0.3**
	baz=92,SNR=78						
O11A				⇊S	S	18 26 48.4	+2.6
	baz=92						
116A	**Eloy**	**91.37**	**56**	⇑P	**P**	**18 16 02.2**	**+0.5**
	baz=92,SNR=66						
116A				⇊S	S	18 26 47.6	+1.4
	baz=92						
HAWA	**Hanford**	**91.39**	**41**	⇑*i*P	**P**	**18 16 01.6**	**-0.1**
	comp=Z,289nm,0.9s,mb6.3						
HAWA				*e*pP	pP	18 16 44.7	+0.5
HAWA				*e*PP	PP	18 19 39.6	-2.0
Q12A	**Willow Creek R**	**91.48**	**49**	P	**P**	**18 16 02.6**	**+0.4**
	baz=92,SNR=82						
Q12A				⇑S	S	18 26 49.0	+1.9
	baz=92						
I09A	**Lost Marbles R**	**91.49**	**44**	P	**P**	**18 16 02.0**	**-0.2**
	baz=92,SNR=61						
I09A				⇑S	S	18 26 47.9	+0.6
	baz=92						
N11A	**Elko Archery C**	**91.54**	**47**	⇑P	**P**	**18 16 02.4**	**-0.1**
	baz=92						
N11A				⇑S	S	18 26 49.8	+2.1
	baz=92						
P12A	**McGill**	**91.59**	**49**	⇊P	**P**	**18 16 03.0**	**+0.3**
	baz=92						
P12A				⇑S	S	18 26 50.0	+1.8
	baz=92						
F08A	**Pendleton**	**91.60**	**42**	P	**P**	**18 16 02.5**	**-0.3**
	baz=92,SNR=132						
F08A				⇊S	S	18 26 47.5	-0.7
	baz=92						
C07A	**Waterville**	**91.64**	**40**	P	**P**	**18 16 02.4**	**-0.5**
	baz=92,SNR=68						
C07A				⇑S	S	18 26 47.3	-1.3
	baz=92						
X15A	**Humboldt**	**91.67**	**54**	P	**P**	**18 16 03.9**	**+0.8**
	baz=92,SNR=229						
X15A				⇊S	S	18 26 53.3	+4.5
	baz=92						
EGAK	**Eagle**	**91.70**	**19**	⇑*i*P	**P**	**18 16 01.2**	**-2.0**
	comp=Z,67nm,0.6s,mb5.8						
EGAK				*e*pP	pP	18 16 44.4	-1.2
VIS	**Vishakhapatnam**	**91.71**	**288**	*i*P	**P**	**18 16 02.4**	**-0.8**
VIS				*i*S	SKSac	18 26 18.7	-1.2
M11A	**Holland Ranch,**	**91.75**	**47**	⇑P	**P**	**18 16 04.0**	**+0.5**
	baz=92						
M11A				⇑S	S	18 26 51.2	+1.6
	baz=92						
DAWY	**Dawson**	**91.78**	**20**	*e*P	**P**	**18 16 01.5**	**-2.1**
H09A	**Durkee**	**91.83**	**43**	P	**P**	**18 16 03.8**	**0.0**
	baz=92,SNR=54						
H09A				⇊S	S	18 26 50.7	+0.4
	baz=92						
ELK	**Elko**	**91.86**	**47**	⇑*i*P	**P**	**18 16 04.0**	**0.0**
ELK				*e**PP	pP	18 16 47.9	+1.5
ELK				*e*		18 19 46.8	
ELK				pmax	pmax		
	comp=Z,71nm,0.9s						
ELK	**Elko**	**91.86**	**47**	⇑*i*P	**P**	**18 16 04.0**	**0.0**
	comp=Z,71nm,0.9s,mb5.7						
ELK				*e*pP	pP	18 16 47.9	+1.5
ELK				*e*PP	PP	18 19 46.8	+1.4
W15A	**Williams**	**91.90**	**53**	⇑P	**P**	**18 16 05.0**	**+0.9**
	baz=92,SNR=56						
W15A				⇊S	S	18 26 52.7	+1.7
	baz=92						
B07A	**Winthrop**	**91.95**	**39**	P	**P**	**18 16 03.9**	**-0.5**
	baz=92,SNR=97						
B07A				⇑S	S	18 26 50.5	-0.9
	baz=92						
CCUT	**Cedar City**	**91.97**	**51**	⇑*i*P	**P**	**18 16 05.2**	**+0.7**
CCUT				*e*pP	pP	18 16 48.8	+1.9
ARUT	**Antelope Range**	**92.00**	**51**	*e*P	**P**	**18 16 04.8**	**+0.1**
ARUT				*e*pP	pP	18 16 50.0	+3.0
TUC	**Tucson**	**92.01**	**57**	⇑*i*P	**P**	**18 16 05.2**	**+0.6**
TUC				*e**PP	pP	18 16 49.0	+2.0
TUC				*e*		18 19 45.7	
TUC				pmax	pmax		
	comp=Z,173nm,1.0s,mb6.0						
TUC	**Tucson**	**92.01**	**57**	⇑*i*P	**P**	**18 16 05.2**	**+0.5**
	comp=Z,173nm,1.0s,mb6.0						
TUC				*e*pP	pP	18 16 49.0	+1.9
TUC				*e*PP	PP	18 19 45.7	-0.8
O12A	**Currie**	**92.02**	**48**	⇑P	**P**	**18 16 04.8**	**+0.1**
	baz=92						
O12A				⇑S	S	18 26 54.1	+2.2
	baz=92						
N12A	**Clover Valley,**	**92.04**	**47**	⇑P	**P**	**18 16 05.0**	**+0.2**
	baz=92,SNR=66						
N12A				⇑S	S	18 26 54.7	+2.5
	baz=92						
D08A	**Wollman Farm,**	**92.06**	**41**	P	**P**	**18 16 04.8**	**-0.1**
	baz=92,SNR=32						
D08A				⇑S	S	18 26 53.1	+0.8
	baz=92						
F09A	**S2 Ranch, Elgi**	**92.11**	**42**	⇊P	**P**	**18 16 04.7**	**-0.5**
	baz=92						
F09A				⇊S	S	18 26 52.5	-0.3
	baz=92						
C08A	**Higginbotham F**	**92.30**	**40**	⇑P	**P**	**18 16 05.3**	**-0.7**
	baz=92,SNR=34						
C08A				⇊S	S	18 26 53.4	-1.1
	baz=92						
E09A	**Wood Farm, Sta**	**92.31**	**41**	P	**P**	**18 16 05.6**	**-0.5**
	baz=92,SNR=88						
E09A				⇊S	S	18 26 53.4	-1.2
	baz=92						
M12A	**Wells**	**92.35**	**47**	⇑P	**P**	**18 16 06.1**	**-0.1**
	baz=92						
M12A				⇊S	S	18 26 55.7	+0.7
	baz=92						
D09A	**Jones Farm, Ri**	**92.44**	**41**	⇑P	**P**	**18 16 06.3**	**-0.3**
	baz=93,SNR=34						
D09A				⇊S	S	18 26 54.9	-0.9
	baz=93						
MAIG	**Mazatlaan**	**92.50**	**66**	*i*P	**P**	**18 16 07.4**	**+0.5**
JIRN	**Jiri**	**92.53**	**298**	*e*P	**P**	**18 16 07.3**	**+0.2**
N13A	**Wendover, West**	**92.63**	**48**	⇊P	**P**	**18 16 07.5**	**0.0**
	baz=93,SNR=28						
N13A				⇑S	S	18 26 58.2	+0.9
	baz=93						
WUAZ	**Wupatki**	**92.70**	**53**	⇑*e*P	**P**	**18 16 08.1**	**+0.3**
	comp=Z,179nm,1.0s,mb6.2						
WUAZ				*e*pP	pP	18 16 52.2	+2.0
WUAZ				*e*PP	PP	18 19 48.5	-3.5
C09A	**Chrisman Ranch**	**92.78**	**40**	⇑P	**P**	**18 16 07.5**	**-0.7**
	baz=93,SNR=17						
C09A				⇊S	S	18 26 58.6	-0.1
	baz=93						
GUN	**Gumba**	**92.87**	**298**	*e*P	**P**	**18 16 08.1**	**-0.5**
	comp=Z,98nm,0.8s,mb6.0						
MDRS	**Chennai**	**93.02**	**283**	⇑*e*P	**P**	**18 16 10.4**	**+1.1**
MDRS				*i* x	x	18 16 48.4	
MDRS				*ex*	x	18 19 55.4	
A09A	**Danville**	**93.09**	**39**	⇊P	**P**	**18 16 09.2**	**-0.5**
	baz=93,SNR=33						
A09A				⇑S	S	18 27 00.0	-1.4
	baz=93						
B09A	**Rice**	**93.11**	**40**	⇑P	**P**	**18 16 09.0**	**-0.8**
	baz=93,SNR=40						
B09A				⇊S	S	18 27 01.0	-0.7
	baz=93						
PKI	**Pulchoki**	**93.15**	**298**	*e*P	**P**	**18 16 09.5**	**-0.4**
	comp=Z,102nm,1.0s,mb5.9						
MSU	**Marysvale**	**93.19**	**50**	*e*P	**P**	**18 16 10.7**	**+0.6**
KKN	**Kakani**	**93.33**	**298**	*e*P	**P**	**18 16 10.2**	**-0.6**
	comp=Z,69nm,0.8s,mb5.8						
DUG	**Dugway**	**93.36**	**49**	⇑*i*P	**P**	**18 16 10.6**	**-0.3**
DUG				*e**PP	pP	18 16 54.4	+1.1
DUG				*e*		18 19 55.7	
DUG				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.6						
DUG	**Dugway**	**93.36**	**49**	⇑*i*P	**P**	**18 16 10.6**	**-0.3**
	comp=Z,62nm,1.3s,mb5.6						
DUG				*e*pP	pP	18 16 54.4	+1.1
DUG				*e*sP	sP	18 17 11.4	+0.4
DUG				*e*PP	PP	18 19 55.7	-1.3
DUG				*e*PKPdf	PKiKP	18 20 54.2	-2.0
C10A	**Spilker Farm,**	**93.37**	**40**	⇑P	**P**	**18 16 09.8**	**-1.1**
	baz=94,SNR=7.5						
C10A				⇊S	S	18 27 04.3	+0.4
	baz=94						
DMN	**Daman**	**93.42**	**298**	*e*P	**P**	**18 16 11.0**	**-0.2**
	comp=Z,150nm,0.9s,mb6.1						
BGU	**Big Grassy Mou**	**93.48**	**48**	⇑*i*P	**P**	**18 16 10.9**	**-0.5**
HLID	**Hailey**	**93.53**	**45**	⇑*e*P	**P**	**18 16 11.5**	**-0.2**
	comp=Z,85nm,0.9s,mb5.9						
HLID				*e*pP	pP	18 16 55.2	+1.1
HLID				*e*sP	sP	18 17 13.5	+1.8
HLID				*e*PP	PP	18 19 51.5	-6.9
HLID				*e*PKPdf	PKiKP	18 20 55.6	-0.9
B10A	**Chitwood Farm,**	**93.62**	**40**	⇊P	**P**	**18 16 11.3**	**-0.8**
	baz=94						
NEW	**Newport**	**93.67**	**40**	P	**P**	**18 16 11.0**	**-1.3**
	comp=Z,60nm,0.9s,mb5.7,baz=248,slow=3.2,SNR=25						
NEW				PP	PP	18 19 57.3	-2.2
	comp=Z,3.3nm,0.6s,baz=228,slow=8.0,SNR=3.8						
NEW				S	SKSac	18 26 25.7	-5.1
	comp=Z,1.8nm,0.3s,baz=324,slow=4.2,SNR=2.4						
NEW	**Newport**	**93.67**	**40**	⇑*i*P	**P**	**18 16 11.1**	**-1.2**
NEW				*e**PP	pP	18 16 53.9	-0.8
NEW				pmax	pmax		
	comp=Z,60nm,1.0s						
NEW	**Newport**	**93.67**	**40**	⇑*i*P	**P**	**18 16 11.1**	**-1.2**
	comp=Z,60nm,1.0s,mb5.7						
NEW				*e*pP	pP	18 16 53.9	-0.8
A10A	**Northport**	**93.70**	**39**	⇑P	**P**	**18 16 11.7**	**-0.7**
	baz=94,SNR=43						
A10A				⇑S	S	18 27 07.6	+0.7
	baz=94						
NLU	**North Lily Min**	**93.80**	**49**	⇑*i*P	**P**	**18 16 12.6**	**-0.3**
NLU				*e*pP	pP	18 16 56.5	+1.2
GKN	**Gorkha**	**93.94**	**298**	*e*P	**P**	**18 16 12.6**	**-0.9**

comp=Z,50nm,0.8s,mb5.7
CTU eP P 18 16 58.7 +1.1
TIXI Tiksi 94.40 348⇑ eP P 18 16 13.2 -2.4
TIXI pmax pmax
comp=Z,31nm,1.3s,mb5.3
C12A Trout Creek 94.45 41 ⇓P P 18 16 14.7 -1.2
baz=95,SNR=7.1
C12A ⇓S S 18 27 14.0 +0.6
baz=95
DAU Daniels Canyon 94.55 49 P P 18 16 17.0 +0.7
DAU Daniels Canyon 94.55 49 eP P 18 16 16.4 +0.1
SFJM Santa Fe 94.60 70 i P P 18 16 15.8 -0.8
SRU San Rafael 94.61 50⇑ iP P 18 16 16.2 -0.4
SRU pmax pmax
comp=Z,48nm,0.8s,mb5.8
SRU San Rafael 94.61 50⇑ iP P 18 16 16.2 -0.4
comp=Z,48nm,0.8s,mb5.8
TRD Trivandrum 94.65 277⇑ ex x 18 17 04.1
TCUT Toone Canyon 94.69 48⇑ iP P 18 16 16.6 -0.3
TCUT eP pP 18 17 00.7 +1.3
B12A Libby 94.69 40 ⇓P P 18 16 16.1 -0.9
baz=95
B12A ⇓S S 18 27 15.1 -0.3
baz=95
KOLN Koldanda 94.73 298 eP P 18 16 16.1 -1.1
comp=Z,53nm,0.9s,mb5.8
HWUT Hardware Ranch 94.75 48⇑ iP P 18 16 16.3 -1.0
comp=Z,35nm,0.8s,mb5.6
HWUT ePP PP 18 20 01.6 -6.3
A12A Yaak River Ran 94.83 40 ⇓P P 18 16 17.0 -0.7
baz=95
A12A ⇑S S 18 27 17.0 +0.4
baz=95
C13A Hot Springs 95.01 41 ⇓P P 18 16 17.8 -0.6
baz=95
C13A ⇑S S 18 27 17.8 -0.4
baz=95
MCMT McKenzie Canyo 95.05 44 eP P 18 16 18.4 -0.2
MSO Missoula 95.08 42⇑ eP P 18 16 17.2 -1.6
comp=Z,9.8nm,0.9s,mb5.0
MSO epP pP 18 17 01.0 -0.2
MSO ePP PP 18 20 10.9 +0.4
B13A Whitefish 95.34 41 ⇓P P 18 16 19.0 -1.0
baz=96,SNR=20
B13A ⇓S S 18 27 20.2 -0.9
baz=96
DLMT Dillon 95.41 44 eP P 18 16 19.8 -0.5
comp=Z,62nm,0.9s,mb5.8
PV10 Paradox Valley 95.45 51 eP P 18 16 20.4 -0.1
MVCO Mesa Verde 95.47 53 eP P 18 16 20.5 0.0
comp=Z,24nm,1.0s,mb5.4
AHID Auburn Hatcher 95.49 47 eP P 18 16 20.1 -0.6
comp=Z,18nm,0.8s,mb5.3
AHID ePP PP 18 20 14.5 +0.8
LAZ Ladron 95.59 56 eP P 18 16 21.3 +0.3
A13A Flathead Natio 95.59 40 ⇑P P 18 16 20.2 -0.8
baz=96
A13A ⇑S S 18 27 23.0 -0.2
baz=96
LENM Lemitar 95.64 56 eP P 18 16 21.1 -0.2
LENM epP pP 18 17 05.3 +1.5
Y22C IRIS PASSCAL I 95.65 56 ⇑P P 18 16 21.5 +0.1
baz=96
PV01 Paradox Valley 95.72 52 eP P 18 16 21.3 -0.4
DCID1 Drake Creek 95.72 46 eP P 18 16 19.3 -2.4
TPAW Teton Pass 95.84 46⇑ iP P 18 16 21.6 -0.7
comp=Z,29nm,0.9s,mb5.6
REDW Red Top Meadow 95.87 46⇑ iP P 18 16 21.9 -0.4
comp=Z,78nm,1.2s,mb5.9
HYB Hyderabad 95.93 286 i P pP 18 16 58.0 -7.1
HYB eSKS 18 26 42.0
HYB eS S 18 27 28.0 +1.8
WALA Waterton Lakes 95.94 40⇑ eP P 18 16 23.9 +1.2
comp=Z,18nm,0.8s,mb5.4
LPM Los Pinos Moun 95.95 56 eP P 18 16 23.0 +0.2
SNOW Snow King Moun 95.97 46⇑ iP P 18 16 22.2 -0.6
comp=Z,45nm,1.1s,mb5.7
QLMT Earthquake Lak 95.99 45 eP P 18 16 22.8 -0.2
IMW Indian Meadow 95.99 46⇑ eP P 18 16 22.3 -0.6
comp=Z,31nm,0.9s,mb5.6
CAIG El Cayaco 96.04 74 i P P 18 16 23.2 0.0
MOOW Moose Ponds 96.07 46⇑ iP P 18 16 22.7 -0.6
comp=Z,13nm,0.9s,mb5.3
MNTX Cornudas Mount 96.12 59⇑ eP P 18 16 23.1 -0.4
comp=Z,74nm,1.3s,mb5.8
MNTX epP pP 18 17 06.4 +0.5
MNTX epP PP 18 20 16.4 -2.2
LOHW Long Hollow 96.12 46⇑ iP P 18 16 21.7 -1.8
comp=Z,673nm,1.0s,mb6.9
FLWY Flagg Ranch 96.22 46⇑ iP P 18 16 23.8 -0.2
comp=Z,45nm,0.9s,mb5.8
YMR Madison River 96.25 45⇑ eP P 18 16 24.3 +0.3
comp=Z,33nm,0.9s,mb5.7
YFT Old Faithful 96.26 45⇑ eP P 18 16 25.0 +0.9
ANMO Albuquerque 96.29 55 c iP P 18 16 24.1 -0.2
ANMO Albuquerque 96.29 55⇑ eP P 18 16 24.0 -0.3
comp=Z,46nm,1.1s,mb5.7
ANMO ePP PP 18 20 18.4 -1.4
INK Inuvik 96.32 18 P P 18 16 22.2 -2.2
comp=Z,24nm,0.6s,mb5.7,baz=213,slow=5.0,SNR=28
INK pP pP 18 17 03.0 -3.9
comp=Z,21nm,0.9s,baz=222,slow=6.9,SNR=1.7
INK PP PP 18 20 18.6 -1.4
comp=Z,5.5nm,0.9s,baz=210,slow=11,SNR=3.2
INK PKiKP PKiKP 18 21 00.7 -0.7
comp=Z,3.2nm,0.5s,baz=184,slow=1.1,SNR=5.0
INK S SKSac 18 26 42.0 -2.8
comp=Z,2.8nm,0.9s,baz=203,slow=33,SNR=8.9
INK PKKP PKKPbc 18 33 07.9 -1.2
comp=Z,2.8nm,0.6s,baz=34,slow=4.1,SNR=10
INK Inuvik 96.32 18 P P 18 16 22.2 -2.2
INK *PP pP 18 17 03.0 -3.9
INK 18 20 18.7
INK S SKSac 18 26 42.0 -2.8
INK pmax pmax
comp=Z,24nm,0.6s
INK smax
comp=N,3.0nm,0.9s
INK Inuvik 96.32 18⇑ eP P 18 16 21.7 -2.7
comp=N,225nm,1.2s,mb6.4
INK epP pP 18 17 06.3 -0.5
HRY Holter Researc 96.39 43 eP P 18 16 21.7 -3.0
JBP Jabalpur 96.40 292 ⇓iP P 18 16 24.8 0.0
JBP i S SKSac 18 26 45.5 +0.2
YNR Norris Junctio 96.45 45 eP P 18 16 26.6 +1.6
PDAR Pinedale Array 96.56 47 P P 18 16 24.1 -1.3
comp=N,19nm,1.1s,mb5.3,baz=222,slow=3.6,SNR=47
PDAR PP PP 18 20 09.3 -13
comp=N,2.0nm,1.0s,baz=216,slow=4.3,SNR=2.4
PDAR S SKSac 18 26 46.4 +0.3
comp=N,0.4nm,0.8s,baz=224,slow=4.1,SNR=2.2
PDAR PKKP PKKPbc 18 33 04.0 -4.5
comp=N,1.4nm,1.0s,baz=95,slow=6.4,SNR=2.9
PDAR LR LR 18 52 47.5
comp=N,1μm,20.3s,baz=266,slow=31
LKWY Lake 96.59 45⇑ eP P 18 16 26.4 +0.8
LKWY e 18 20 23.1
LKWY pmax pmax
comp=Z,20nm,0.9s,mb5.5
LKWY Lake 96.59 45⇑ eP P 18 16 26.4 +0.8
comp=Z,20nm,0.9s,mb5.4
LKWY ePP PP 18 20 23.1 +1.0
NGP Nagpur 96.62 290 eP P 18 16 23.8 -2.0
NGP ex x 18 28 59.0
WMQ Urumqi 96.84 314 ⇓iP P 18 16 26.7 -0.1
WMQ AP pP 18 17 08.0 -1.3
WMQ XP sP 18 17 25.0 -1.9
WMQ PP PP 18 20 27.0 +2.9
WMQ PPP 18 22 33.9
WMQ SKS 18 26 47.0
WMQ S S 18 27 31.0 -3.0
WMQ XS sS 18 28 43.0 -5.4
WMQ PS PS 18 29 19.0 +1.9
WMQ SS SS 18 34 15.0 +1.6
WMQ AMB AMB
comp=Z,81nm,1.2s,mb5.9
WMQ AMB AMB
comp=Z,864nm,7.0s
WMQ LR LR
comp=N,2μm,16.6s
WMQ LR LR
comp=E,2μm,16.0s
WMQ LR LR
comp=Z,2μm,22.3s
GCMT Greycliff 97.49 44 eP P 18 16 29.3 -0.4

RLMT Red Lodge 97.53 45⇑ eP P 18 16 29.3 -0.6
comp=Z,24nm,1.0s,mb5.6
RLMT ePP PP 18 20 22.1 -7.3
EDM Edmonton 97.80 36 eP P 18 16 31.5 +0.4
RWWY Rawlins 97.86 49⇑ eP P 18 16 30.5 -0.8
comp=Z,49nm,1.0s,mb5.9
RWWY epP pP 18 17 14.4 +0.6
SDCO Great Sand Dun 97.90 53⇑ eP P 18 16 31.0 -0.5
comp=Z,18nm,0.9s,mb5.5
SDCO epP pP 18 17 15.1 +1.0
SDCO ePP PP 18 20 29.0 -3.1
KRAR Krasnoyarsk 98.02 327⇓ eP P 18 16 31.8 -0.3
KRAR pmax pmax
comp=Z,30nm,0.9s,mb5.7
EGMT Eagleton 98.17 42⇑ iP P 18 16 31.8 -1.0
comp=Z,30nm,0.9s,mb5.7
EGMT ePP PP 18 20 29.0 -5.2
ISCO Idaho Springs 98.43 51 P P 18 16 34.4 +0.5
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ISCO Idaho Springs 98.43 51 eP P 18 16 33.1 -0.8
comp=Z,8.2nm,0.9s,mb5.2
ISCO ePP PP 18 20 33.0 -3.2
EFI East Falkland 98.57 153 P P 18 16 33.7 -0.8
EFI pmax pmax
comp=Z,86nm,0.8s,mb6.2
PLCA Paso Flores 98.90 138 P P 18 16 35.6 -0.4
comp=Z,19nm,0.7s,mb5.6,baz=214,slow=5.2,SNR=20
PLCA PP PP 18 20 36.1 -3.7
comp=Z,6.3nm,1.1s,baz=246,slow=7.0,SNR=3.2
PLCA PKKPbc PKKPbc 18 33 04.3 +2.4
comp=Z,8.5nm,0.8s,baz=39,slow=3.2,SNR=14
PLCA LR LR 18 50 34.2
comp=Z,849nm,19.4s,baz=144,slow=29
PLCA Paso Flores 98.90 138 P P 18 16 35.6 -0.4
PLCA 18 20 36.1
PLCA pmax pmax
comp=Z,19nm,0.7s
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA MLR MLR
comp=Z,849nm,19.4s
PLCA Paso Flores 98.90 138⇑ eP P 18 16 34.9 -1.1
comp=Z,27nm,0.9s,mb5.7
PLCA ePP PP 18 20 36.5 -3.2
LAO LASA Array 100.04 44⇑ ePdif Pdif 18 16 40.9 -0.1
comp=Z,24nm,0.9s
LAO ePP PP 18 20 47.1 -1.3
JCT Junction City 100.34 61 eP Pdif 18 16 43.0 +0.6
JCT pmax pmax
comp=Z,15nm,0.9s
JCT Junction City 100.34 61⇑ ePdif Pdif 18 16 41.5 -0.8
comp=Z,15nm,0.8s
YKA Yellowknife Ar 100.49 27 P Pdif 18 16 43.1 0.0
comp=Z,22nm,0.5s,baz=256,slow=4.5,SNR=34
YKA pP 18 17 21.5
comp=Z,12nm,0.7s,baz=252,slow=4.5,SNR=1.8
YKA PP PP 18 20 48.3 -3.5
comp=Z,3.5nm,0.8s,baz=278,slow=5.7,SNR=3.1
YKA S SKSac 18 27 03.3 -2.5
comp=Z,1.7nm,0.8s,baz=126,slow=19,SNR=2.5
YKA SS SS 18 35 03.5 -0.7
comp=Z,1.3nm,0.7s,baz=105,slow=16,SNR=2.5
YKA Yellowknife Ar 100.49 27 P Pdif 18 16 43.1 0.0
YKA 18 20 48.3
YKA S SKSac 18 27 03.3 -2.5
YKA SS SS 18 35 03.6 -0.7
YKA smax
comp=N,2.0nm,0.8s
YKA Yellowknife Ar 100.49 27 P Pdif 18 16 43.1 0.0
YKA pP 18 17 21.5
YKA PP PP 18 20 48.3 -3.5
YKA S SKSac 18 27 03.3 -2.5
YKA SS SS 18 35 03.5 -0.7
POO Poona 100.53 286 eP Pdif 18 16 40.0 -3.3
RSSD Black Hills 100.80 47⇑ eP Pdif 18 16 43.3 -1.1
RSSD pmax pmax
comp=Z,27nm,1.0s
RSSD Black Hills 100.80 47⇑ ePdif Pdif 18 16 43.2 -1.2
comp=Z,27nm,1.0s
RSSD ePP PP 18 20 48.5 -5.6
DGMT Dagmar 101.85 43 ePdif Pdif 18 16 49.2 +0.1
comp=Z,32nm,1.0s
WMOK Wichita Mounta 102.29 57 P Pdif 18 16 50.7 -0.3
WMOK pmax pmax
comp=Z,7.0nm,1.0s
WMOK Wichita Mounta 102.29 57 ePdif Pdif 18 16 49.4 -1.6
comp=Z,6.7nm,1.0s
THN Thein Dam 102.61 300 eP Pdif 18 16 51.8 -0.7
THN ex x 18 21 13.6
NVS Novosibirsk 102.87 324⇑ iP Pdif 18 16 54.6 +0.9
NVS i 18 27 15.7
NVS i 18 28 19.7
NVS pmax pmax
comp=Z,36nm,1.8s
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=E,21nm,1.9s
AAK Ala-Archa 105.83 310 eP Pdif 18 17 06.4 -0.4
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 105.83 310 ePdif Pdif 18 17 06.4 -0.4
comp=Z,3.0nm,0.8s
AAK ePKPdf PKiKP 18 21 18.0 -0.6
ECSD EROS,Sioux Fal 105.92 49 ePdif Pdif 18 17 06.1 -1.1
comp=Z,13nm,0.9s
ECSD ePP PP 18 21 28.6 -3.7
MIAR Mount Ida 106.42 59 eP Pdif 18 17 11.7 +2.3
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR Mount Ida 106.42 59 ePdif Pdif 18 17 11.7 +2.3
comp=Z,6.8nm,0.9s
ULM Lac du Bonnet 107.53 42 Pdiff Pdif 18 17 13.9 -0.5
comp=Z,3.5nm,0.9s,baz=290,slow=9.7,SNR=3.3
ULM PKiKP PKiKP 18 21 19.0 -2.7
comp=Z,6.2nm,0.8s,baz=304,slow=3.7,SNR=5.0
ULM PKKPbc PKKPbc 18 32 36.0 -0.5
comp=Z,7.8nm,0.7s,baz=70,slow=4.7,SNR=8.1
ULM PKKPab PKKPab 18 32 49.0 -2.5
comp=Z,5.2nm,0.9s,baz=6.4,slow=3.6,SNR=3.5
ULM Lac du Bonnet 107.53 42 Pdif Pdif 18 17 13.9 -0.4
ULM PKPdf PKiKP 18 21 19.0 -2.7
ULM PKKPbc PKKPbc 18 32 36.0 -0.5
ULM PKKPab PKKPab 18 32 49.0 -2.5
CCM Cathedral Cave 108.92 55 P Pdif 18 17 21.3 +0.8
CCM pmax pmax
comp=Z,6.0nm,0.7s
CCM Cathedral Cave 108.92 55 ePdif Pdif 18 17 21.1 +0.5
comp=Z,6.2nm,0.7s
BVAR Borovoye Array 110.05 321 Pdiff Pdif 18 17 25.1 -0.5
comp=Z,5.7nm,0.9s,baz=114,slow=7.2,SNR=6.0
BVAR pPdiff 18 18 03.7
comp=Z,1.9nm,0.7s,baz=88,slow=7.0,SNR=2.2
BVAR PKiKP PKiKP 18 21 24.9 -1.6
comp=Z,20nm,0.5s,baz=128,slow=1.5,SNR=45
BVAR PP PP 18 21 53.5 -8.8
comp=Z,7.6nm,0.9s,baz=181,slow=4.4,SNR=2.0
BVAR SP SP 18 31 14.8 +1.1
comp=Z,0.1nm,0.3s,baz=319,slow=48,SNR=2.1
BVAR PKKPbc PKKPbc 18 32 28.3 -0.2
comp=Z,9.7nm,0.8s,baz=291,slow=4.1,SNR=21
BVAR Borovoye Array 110.05 321 P Pdif 18 17 25.1 -0.5
BVAR i 18 21 24.9
BVAR SP SP 18 31 14.8 +1.1
BVAR 18 32 28.3
JFWS Jewell Farm 110.38 50 eP Pdif 18 17 30.2 +3.2
SIUC Southern Illin 110.45 56 ePKPdf PKiKP 18 21 27.5 +0.3
ZRNK Zerenda 110.88 320⇑ ePdif Pdif 18 17 30.0 +0.8
ZRNK epP 18 18 10.0
ZRNK ePKPdf PKiKP 18 21 25.8 -2.2
PLAL Pickwick Lake 110.95 59 ePdif Pdif 18 17 31.1 +1.5
WVT Waverly 111.32 58 eP Pdif 18 17 35.3 +4.1
COWI Conover 111.52 47 ePKPdf PKiKP 18 21 26.4 -2.8
LPAZ La Paz 113.78 118 Pdiff Pdif 18 17 45.8 +3.6
comp=Z,1.4nm,0.8s,baz=333,slow=5.6,SNR=3.4
LPAZ PKiKP PKiKP 18 21 33.8 +0.3
comp=Z,9.6nm,0.8s,baz=358,slow=1.9,SNR=20
LPAZ PP PP 18 22 30.0 +1.1
comp=Z,2.9nm,0.6s,baz=325,slow=9.3,SNR=1.9
LPAZ SKP 18 24 55.0
comp=Z,3.8nm,1.0s,baz=23,slow=5.5,SNR=3.0
LPAZ PKKPbc PKKPbc 18 32 16.6 +0.4
comp=Z,3.3nm,0.8s,baz=101,slow=0.6,SNR=6.8
LPAZ La Paz 113.78 118 P Pdif 18 17 45.8 +3.7

LPAZ i 18 21 33.8
LPAZ 18 22 30.0
LPAZ 18 24 55.1
LPAZ La Paz 113.78 118 Pdif Pdif 18 17 45.8 +3.6
LPAZ ePKPdf PKiKP 18 21 33.8 +0.2
WSAR Wadi Sarin 115.46 287 PKP PKPdf 18 21 36.0 -0.7
comp=Z,15nm,0.9s,baz=190,slow=1.6,SNR=12
WSAR SKP 18 24 57.1
comp=Z,7.0nm,1.1s,baz=260,slow=3.9,SNR=3.0
WSAR SP SP 18 32 04.5 +1.2
comp=Z,1.6nm,0.8s,baz=105,slow=18,SNR=2.0
WSAR PKKPbc PKKPbc 18 32 10.4 -0.1
comp=Z,13nm,0.8s,baz=222,slow=3.5,SNR=13
ACSO Alum Creek Sta 115.55 54 ePdif Pdif 18 17 45.7 -4.3
ACSO ePKPdf PKPdf 18 21 34.9 -2.0
CPUP Villa Florida 116.37 134 PKP PKPdf 18 21 37.2 -1.3
comp=Z,19nm,0.9s,baz=229,slow=1.9,SNR=27
CPUP PP PP 18 22 44.7 -2.4
comp=Z,4.6nm,1.0s,baz=191,slow=4.6,SNR=1.7
CPUP SKP 18 24 59.1
comp=Z,4.4nm,0.8s,baz=275,slow=1.1,SNR=3.9
CPUP PKKPbc PKKPbc 18 32 07.2 -0.2
comp=Z,3.9nm,0.6s,baz=26,slow=3.5,SNR=14
CPUP SKKP 18 35 48.0
comp=Z,3.2nm,0.9s,baz=337,slow=4.0,SNR=3.9
CPUP Villa Florida 116.37 134 PKIKP PKPdf 18 21 37.2 -1.3
CPUP 18 22 44.7
CPUP 18 32 07.2
CPUP pmax pmax
comp=Z,19nm,0.9s
CPUP Villa Florida 116.37 134 ePKPdf PKPdf 18 21 37.9 -0.6
CPUP eSKP 18 24 58.5
ROSC El Rosal 116.75 94 PKP PKPdf 18 21 39.1 -0.1
comp=Z,9.8nm,0.5s,baz=97,slow=16,SNR=6.3
ROSC PP PP 18 22 48.6 -1.1
comp=Z,2.4nm,0.3s,baz=266,slow=22,SNR=1.4
ROSC El Rosal 116.75 94 ePKPdf PKPdf 18 21 38.4 -0.9
ARU Arti 116.87 324 i PKIKP PKPdf 18 21 37.6 -1.9
ARU e 18 22 48.4
ARU e 18 28 18.6
ARU eSP SP 18 32 18.0 +1.9
ARU ePS PS 18 32 29.7 -6.0
ARU eSSS 18 43 12.4
ARU Arti 116.87 324⇑ iPKP PKPdf 18 21 37.5 -2.0
BLA Blacksburg 117.36 57 ePKPdf PKPdf 18 21 39.2 -1.2
BLA eSKP 18 24 57.5
AKTK Aktyubinsk 117.70 318 PKP PKPdf 18 21 39.5 -1.5
AKTK PKKPbc PKKPbc 18 32 00.7 -1.9
AKTK SP SP 18 32 24.4 +0.7
AKTO Aktyubinsk 117.70 318 PKP PKPdf 18 21 39.5 -1.5
comp=Z,75nm,0.6s,baz=100,slow=2.2,SNR=67
AKTO PKKPbc PKKPbc 18 32 00.7 -1.9
comp=Z,8.1nm,0.8s,baz=273,slow=3.0,SNR=11
AKTO SP SP 18 32 24.4 +0.7
comp=Z,2.0nm,0.6s,baz=62,slow=14,SNR=2.6
AKTO Aktyubinsk 117.70 318 PKIKP PKPdf 18 21 39.5 -1.6
AKTO SP SP 18 32 24.4 +0.7
AKTO pmax pmax
comp=Z,75nm,0.6s
KBS Kingsbay 119.01 355 e Pdif 18 18 05.6 +0.2
KBS ePP PP 18 23 04.1 -1.2
KBS Kingsbay 119.01 355 ⇓iPKIKP PKPdf 18 21 42.5 -1.1
KBS Kingsbay 119.01 355 ePKPdf PKPdf 18 21 41.5 -2.0
SPB4 Spitsbergen Ar 119.27 354 ePKPdf PKPdf 18 21 40.9 -3.2
SSPA Standing Stone 119.45 54 ePKPdf PKPdf 18 21 42.9 -1.5
SIV San Ignacio 119.72 122 PKKPab PKKPab 18 31 59.1 +1.4
comp=Z,5.4nm,0.8s,baz=106,slow=4.7,SNR=11
SIV PKKP PKKPdf 18 32 29.4 +2.9
comp=Z,2.1nm,1.0s,baz=192,slow=1.2,SNR=4.4
SUR Sutherland 120.59 211 PKKPbc PKKPbc 18 31 51.4 -0.7
comp=Z,15nm,0.9s,baz=262,slow=5.0,SNR=8.8
SUR SP SP 18 32 47.9 -1.7
comp=Z,3.9nm,0.8s,baz=124,slow=17,SNR=1.5
MVL Millersville 120.63 54 ePKPdf PKPdf 18 21 45.5 -1.2
BOSA Boshof 121.18 217 PKP PKPdf 18 21 47.9 +0.1
comp=Z,44nm,0.8s,baz=135,slow=2.3,SNR=43
BOSA PKKPbc PKKPbc 18 31 49.3 -0.7
comp=Z,9.5nm,0.8s,baz=289,slow=2.8,SNR=20
BOSA SP SP 18 32 53.8 -1.0
comp=Z,5.7nm,1.1s,baz=71,slow=6.4,SNR=1.7
BOSA Boshof 121.18 217 PKIKP PKPdf 18 21 47.9 +0.2
BOSA SP SP 18 32 53.8 -1.0
BOSA pmax pmax
comp=Z,44nm,0.8s
BOSA Boshof 121.18 217 ePKPdf PKPdf 18 21 48.1 +0.4
BOSA epPKPdf pPKPdf 18 22 33.1 +1.0
BOSA eSKP 18 25 05.1
SDV Santo Domingo 121.47 91 ePKPdf PKPdf 18 21 47.2 -1.1
MSNY Massena 121.53 48 ePKPdf PKPdf 18 21 47.0 -1.5
SAML Samuel 121.55 114 ePKPdf PKPdf 18 21 47.3 -1.2
SAML eSKP 18 25 08.3
LONY Lake Ozonia 121.75 49 ePKPdf PKPdf 18 21 47.0 -1.9
DAG Danmarks Havn 121.99 2 ⇓iP PKPdf 18 21 47.1 -2.2
comp=Z,21nm,0.5s
DAG Danmarks Havn 121.99 2 ⇓iPKIKP PKPdf 18 21 47.1 -2.2
DAG pmax pmax
comp=Z,21nm,0.5s
NCB Newcomb 122.06 50 ePKPdf PKPdf 18 21 48.0 -1.4
PAL Palisades 122.47 53 ePKIKP PKPdf 18 21 49.1 -1.1
ACCN Adirondack Com 122.50 50 ePKPdf PKPdf 18 21 48.6 -1.7
LVZ Lovozero 123.30 341⇑ iPKIKP PKPdf 18 21 50.9 -0.9
LVZ e 18 23 33.2
LVZ e 18 28 34.7
LVZ eSP SP 18 33 18.4 +4.8
LVZ ePS PS 18 33 27.5 -5.5
LVZ Lovozero 123.30 341 i PKP PKPdf 18 21 50.8 -1.0
HNH Hanover 123.48 50 ePKPdf PKPdf 18 21 51.4 -0.8
LBTB Lobatse 123.65 220 PKPdf PKPdf 18 21 52.6 +0.1
LBTB Lobatse 123.65 220 PKKPbc PKKPbc 18 31 40.8 +0.3
comp=Z,7.5nm,0.6s,baz=315,slow=6.2,SNR=13
LBTB SP SP 18 33 13.1 -3.6
comp=Z,2.0nm,0.8s,baz=168,slow=20,SNR=1.7
LBTB Lobatse 123.65 220 ePKPdf PKPdf 18 21 52.6 +0.2
LBNH Lisbon 123.68 49 ePKIKP PKPdf 18 21 51.0 -1.5
APA Apatity 123.88 341⇑ ePKIKP PKPdf 18 21 53.0 +0.1
APA e 18 22 33.0
APA e 18 33 31.0
APA i SS SS 18 40 11.0 -3.0
HRV Harvard--Oak R 124.12 51 ePKIKP PKPdf 18 21 51.9 -1.5
TMCR Tamitsa 124.19 336 ePKIKP PKPdf 18 21 52.1 -1.4
TMCR pmax pmax
comp=Z,79nm,1.5s
KEV Kevo 124.19 345 epkp PKPdf 18 21 51.1 -2.4
WES Weston 124.30 51 ePKIKP PKPdf 18 21 52.6 -1.1
ARCES ARCESS Array B 124.72 345 PKP PKPdf 18 21 52.2 -2.4
comp=Z,44nm,0.5s,baz=67,slow=1.6,SNR=88
ARCES PKKPab 18 31 34.4
comp=Z,3.6nm,0.9s,baz=213,slow=4.2,SNR=7.5
ARCES ARCESS Array B 124.72 345 PKIKP PKPdf 18 21 52.2 -2.3
ARCES pmax pmax
comp=Z,44nm,0.5s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARE0 ARCESS Array S 124.72 345 ePKPdf PKPdf 18 21 52.6 -1.9
PECR Pechory 124.74 326 ePKIKP PKPdf 18 21 53.0 -1.6
PECR i 18 22 36.7
PECR pmax pmax
comp=Z,2μm,1.0s
PECR pmax pmax
comp=Z,300nm,2.4s
SCHQ Schefferville 124.78 36 PKP PKPdf 18 21 52.0 -2.6
comp=Z,15nm,0.7s,baz=281,slow=3.0,SNR=10
SCHQ PP PP 18 23 41.1 -3.3
comp=Z,12nm,1.0s,baz=289,slow=6.9,SNR=3.1
SCHQ PKKPbc 18 31 35.9
comp=Z,8.0nm,0.8s,baz=114,slow=5.0,SNR=6.1
SCHQ Schefferville 124.78 36 ePKPdf PKPdf 18 21 52.6 -2.0
MATP Matopo 124.99 227 PKKPbc 18 31 34.9
comp=Z,5.4nm,0.5s,baz=302,slow=4.1,SNR=19
PKME Peaks-Kenny Pk 125.41 48 ePKPdf PKPdf 18 21 54.7 -1.2
VAO Valinhos 125.48 138 ⇓iP PKPdf 18 21 56.2 +0.2
VAO i 18 22 40.2
MAK Makhachkala 125.61 310 ePKIKP PKPdf 18 21 55.3 -0.9
MAK i 18 22 35.8
MAK i 18 23 49.2
MAK i 18 28 47.5
MAK eSS SS 18 40 31.6 -4.1
MAK pmax pmax
comp=Z,13nm,0.8s
KTK1 Kautokeino 125.65 346 ePKPdf PKPdf 18 21 54.7 -1.6
SFJD Kangerlussuaq 125.66 18 i P PKPdf 18 21 53.8 -2.5
comp=Z,25nm,1.0s
SFJD i 18 23 46.2
SFJD e 18 31 49.6

SFJD *i* 18 40 27.5
SFJD *i* 18 41 43.9
SFJD
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 125.66 18 *i* PKIKP PKPdf 18 21 53.8 -2.5
SFJD *i* 18 23 46.2
SFJD pmax pmax
comp=Z,25nm,1.0s
SFJD MLR MLR
comp=Z,1µm,18.0s
QRN Al-Qurain 125.71 292 *e*P PKPdf 18 21 56.8 +0.4
QRN AMb AMB 18 22 00.4
comp=Z,623nm,0.7s
KBD Kabd 125.93 293 *e*P PKPdf 18 21 57.0 +0.1
KBD AMb AMB 18 22 00.7
comp=Z,525nm,0.7s
UMR Umm Al-Rimmam 125.93 293 *e*P PKPdf 18 21 57.2 +0.3
UMR AMb AMB 18 22 00.8
comp=Z,551nm,0.9s
RDF Al-Radifah 126.04 292 *e*P PKPdf 18 21 56.9 -0.1
RDF AMb AMB 18 22 00.0
comp=Z,368nm,0.9s
TRO Tromso 126.11 348 *e*PKPdf PKPdf 18 21 55.0 -2.2
TRO *e*pPKP pPKPdf 18 22 38.5 -3.0
TRO *e*PP PP 18 23 49.2 -4.0
TRO Tromso 126.11 348 *e*P PKPdf 18 21 54.2 -3.0
MIB Mutribah 126.27 293 *e*P PKPdf 18 21 58.1 +0.6
MIB AMb AMB 18 22 01.3
comp=Z,405nm,1.0s
NAY Al-Naaiem 126.33 293 *e*P PKPdf 18 21 57.5 -0.1
NAY AMb AMB 18 22 01.2
comp=Z,117nm,0.9s
DGRG David-gareji 127.37 308 P PKPdf 18 22 01.0 +1.4
JOF Joensuu 127.39 337 *e*pkp PKPdf 18 21 56.4 -3.2
ATD Arta Tunnel 127.71 270 PKP PKPdf 18 22 02.2 +2.0
comp=Z,17nm,0.8s,baz=297,slow=3.4,SNR=9.5
ATD pPKP pPKPdf 18 22 43.7 -0.9
comp=Z,6.8nm,0.8s,baz=233,slow=20,SNR=1.1
ATD Arta Tunnel 127.71 270 PKP PKPdf 18 22 02.2 +2.0
ATD pPKP pPKPdf 18 22 43.7 -0.9
MTA Mtatsminda 127.77 308 P PKPdf 18 22 00.8 +0.4
SJG San Juan 127.86 81 *e*PKIKP PKPdf 18 21 59.6 -0.9
SJG *e* 18 22 43.6
SJG San Juan 127.86 81 *e*PKPdf PKPdf 18 21 59.6 -1.0
SJG *e*pPKP pPKPdf 18 22 43.5 -1.4
SJG *e*SKP 18 25 00.4
JMIC Jan Mayen 127.92 359 PKP PKPdf 18 22 00.4 -0.2
comp=Z,38nm,0.9s,baz=118,slow=12,SNR=1.7
JMIC PP PP 18 24 01.5 -3.7
comp=Z,41nm,0.8s,baz=151,slow=20,SNR=2.3
JMIC Jan Mayen 127.92 359 *e*P PKPdf 18 21 59.3 -1.4
JMIC *e*pPKP pPKPdf 18 22 44.0 -1.0
JMIC *e*PP PP 18 24 03.3 -1.9
GNI Garni 128.01 307 PKP PKPdf 18 22 01.7 +0.9
comp=Z,69nm,0.8s,baz=333,slow=2.5,SNR=24
GNI pPKP pPKPdf 18 22 42.4 -2.8
comp=Z,36nm,0.9s,baz=326,slow=13,SNR=1.9
GNI SP SP 18 33 53.9 -1.0
comp=Z,1.1nm,0.4s,baz=198,slow=13,SNR=2.2
GNI Garni 128.01 307 *e*PKPdf PKPdf 18 22 01.9 +1.1
SCO Scoresbysund 128.03 5 *i* P PKPdf 18 21 59.7 -1.2
comp=Z,18nm,1.0s
SCO Scoresbysund 128.03 5 *i* PKIKP PKPdf 18 21 59.7 -1.2
SCO pmax pmax
comp=Z,18nm,1.0s
CPD Cerro la Pandu 128.07 82 *e*PKIKP PKPdf 18 21 59.6 -1.3
ZEI Tsey 128.26 310 *e*PKIKP PKPdf 18 22 02.6 +1.3
MOS Moscow 128.31 327 *e*PKIKP PKPdf 18 21 59.3 -2.1
MOS *e* 18 22 42.9
MOS *e* 18 24 06.5
MOS pmax pmax
comp=Z,300nm,1.1s
MOS pmax pmax
comp=Z,182nm,0.9s
LOF Lofoten 128.44 349 *e* PKPdf 18 22 03.4 +1.8
SEMD Semdilli 128.47 303 *e*P PKPdf 18 22 03.9 +2.2
LSZ Lusaka 128.60 231 PP PP 18 24 09.1 -0.5
comp=Z,20nm,1.2s,baz=134,slow=8.2,SNR=6.0
LSZ SP SP 18 33 58.1 -2.0
comp=Z,0.6nm,0.4s,baz=132,slow=14,SNR=3.2
LSZ Lusaka 128.60 231 *e*PKIKP PKPdf 18 21 59.8 -2.1
LSZ *e* 18 24 05.5
LSZ Lusaka 128.60 231 *e*PKPdf PKPdf 18 21 59.8 -2.2
LSZ *e*pPKPdf pPKPdf 18 22 46.4 +0.1
LSZ *e*PP PP 18 24 05.5 -4.1
LSZ *e*SKP 18 25 09.4
ONI Oni 128.62 310 P PKPdf 18 22 01.9 -0.1
KMBO Kilima Mbogo 128.62 253 PKPdf PKPdf 18 22 04.2 +2.2
KMBO pPKPdf pPKPdf 18 22 47.1 +0.8
KMBO Kilima Mbogo 128.62 253 PKhKP 18 21 57.4
comp=Z,2.5nm,0.7s,baz=43,slow=6.9,SNR=8.1
KMBO PKP PKPdf 18 22 04.2 +2.2
comp=Z,17nm,0.9s,baz=34,slow=3.1,SNR=24
KMBO pPKP pPKPdf 18 22 44.6 -1.7
comp=Z,9.1nm,1.0s,baz=89,slow=2.7,SNR=2.9
KMBO Kilima Mbogo 128.62 253 *e*PKPdf PKPdf 18 21 57.6 -4.4
KMBO PKP PKPdf 18 22 04.2 +2.2
KMBO pPKP pPKPdf 18 22 44.6 -1.7
KMBO *e*pPKPdf pPKPdf 18 22 46.8 +0.5
KMBO *e*SKP 18 25 10.3
CAM4 Nova Friburgo 128.65 142 *e*P PKPdf 18 22 02.6 +0.5
CLDR Caldiran 128.76 305 *e*P PKPdf 18 22 03.6 +1.4
KIV Kislovodsk 128.91 312 *i* PKIKP PKPdf 18 22 02.7 +0.2
KIV *e*SS SS 18 41 23.1 +6.4
KIV pmax pmax
comp=Z,70nm,1.1s
KIV MLR MLR
comp=Z,394nm,21.0s
KIV Kislovodsk 128.91 312 *e*PKPdf PKPdf 18 22 03.1 +0.6
KIV *e*SKP 18 25 09.6
HKR Hakkari 129.06 303 *e*P PKPdf 18 22 05.1 +2.2
OBN Obninsk 129.12 327 *c i* PKIKP PKPdf 18 22 01.9 -1.0
OBN *i* 18 22 46.4
OBN *e* 18 23 00.7
OBN *i* 18 24 14.3
OBN *i* SS SS 18 41 23.6 +4.2
OBN pmax pmax
comp=Z,185nm,1.4s
OBN Obninsk 129.12 327 *e*PKPdf PKPdf 18 22 02.5 -0.4
VRSR Storozhevoye 129.20 321 *i* PKIKP PKPdf 18 22 01.3 -1.8
VRSR *e* 18 24 13.3
VRSR pmax pmax
comp=Z,90nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,0.7s
CUKT Cukurca 129.20 303 *e*P PKPdf 18 22 03.8 +0.7
VORD Divnogorie 129.23 321 *i* PKIKP PKPdf 18 22 02.0 -1.1
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.9s
VANB Van 129.23 305 *e*P PKPdf 18 22 06.2 +3.1
PUL Pulkovo 129.64 334 *i* PKIKP PKPdf 18 22 04.4 +0.5
PUL *e* 18 24 12.6
PUL *e*SS SS 18 41 25.6 -0.1
PUL MLR MLR
comp=Z,742nm,18.0s
PUL MLR MLR
comp=N,326nm,16.0s
PUL MLR MLR
comp=E,649nm,20.0s
KAF Kangasniemi 129.70 338 *e*pkp PKPdf 18 22 00.2 -3.8
BDFB Brasilia 129.91 131 PKP PKPdf 18 22 04.0 -0.5
comp=E,78nm,0.8s,baz=218,slow=2.0,SNR=34
BDFB PP PP 18 24 15.1 -3.1
comp=E,9.4nm,1.1s,baz=122,slow=15,SNR=1.6
BDFB SKPbc 18 25 11.8
comp=E,27nm,0.9s,baz=226,slow=2.2,SNR=6.1
MOR8 Moi Rana 129.94 347 *e*PKPdf PKPdf 18 22 02.5 -2.0
SIRT Sirnak 130.10 303 *e*P PKPdf 18 22 07.8 +3.0
FIA1 FINESS Array S 130.22 338 *e*PKPpre 18 21 54.8
FIA1 *e*SKP 18 25 10.9
FINES FINESS Array B 130.22 338 PKhKP 18 21 42.9
comp=E,1.1nm,0.7s,baz=72,slow=4.5,SNR=3.9
FINES SKPbc SKPbc 18 25 11.1 -1.1
comp=E,23nm,0.7s,baz=90,slow=5.7,SNR=14
EZM Erzurum 130.61 307 *e*P PKPdf 18 22 08.8 +3.0
DESE Dese 130.64 269 *e*P PKPdf 18 22 10.7 +4.8
BTMT Batman 130.76 304 *e*P PKPdf 18 22 08.6 +2.6
BNGL BINGOL 130.92 305 *i* P PKPdf 18 22 08.8 +2.4

CAM3 Guarapari 131.10 142 *e*P PKPdf 18 22 05.7 -1.0
CAM3 *i* 18 22 07.1
CAM3 *i* 18 25 08.9
CAM3 *i* 18 25 16.4
MARD Mardin 131.44 303 *i* P PKPdf 18 22 09.5 +2.1
DIY Diyarbakir 131.79 304 *e*P PKPdf 18 22 10.1 +2.1
MGG Marie-Galante 132.00 85 *e*P PKPdf 18 22 07.9 -0.5
KELT Kelkit 132.16 307 *i* P PKPdf 18 22 10.0 +1.3
PTK Pertek 132.28 306 *e*P PKPdf 18 22 11.1 +2.1
DEG La Desirade 132.32 85 *e*P PKPdf 18 22 07.9 -1.1
ANN Anapa 132.36 314 *i* PKIKP PKPdf 18 22 08.6 -0.5
ANN *e* 18 24 32.6
ANN *e*PS PS 18 34 25.7 -26
ANN pmax pmax
comp=Z,76nm,0.9s
TSUM Tsumeb 132.87 218 *e*PKPdf PKPdf 18 22 11.3 +1.3
TSUM *e*PP PP 18 24 32.4 -4.8
TSUM *e*SKP 18 25 24.7
URFA Urfa 132.96 304 *e*P PKPdf 18 22 12.2 +2.0
MYA Malataya 133.13 305 *e*P PKPdf 18 22 13.7 +3.2
MALT Malatya 133.13 305 ⇓*i*P PKPdf 18 22 11.5 +1.0
MALT Malatya 133.13 305 *e*PKHKP 18 21 57.3
MALT *e* 18 22 12.0
MALT *e* 18 24 34.8
MALT Malatya 133.13 305 *e*PKPpre 18 21 57.2
MALT *e*PKPdf PKPdf 18 22 12.0 +1.5
MALT *e*PP PP 18 24 34.8 -4.0
MALT *e*SKP 18 25 24.6
MALT *e*PKKP 18 32 00.2
BORG Borgarnes 133.69 6 SKPbc SKPbc 18 25 19.9 -4.6
comp=Z,43nm,0.9s,baz=355,slow=1.6,SNR=5.8
IZAR Zarasai 133.80 332 *e*P PKPdf 18 22 09.2 -2.6
IZAR AMb AMB 18 22 15.5
comp=Z,2µm,0.7s
MNK Minsk 133.80 330 *e*PKIKP PKPdf 18 22 06.0 -5.8
IDID Didziasalis 133.84 331 *e*P PKPdf 18 22 07.1 -4.8
IDID AMb AMB 18 22 08.6
comp=Z,5µm,0.3s
SVSK Karacayir 133.90 308 *e*P PKPdf 18 22 13.6 +1.7
IIGN Ignalina 134.05 331 *e*P PKPdf 18 22 07.6 -4.6
GAZ Gaziantep 134.27 304 *e*P PKPdf 18 22 15.3 +2.6
KVT Kavak 134.34 309 *e*P PKPdf 18 22 14.4 +1.6
KMRS Kahramanmaras 134.46 304 *e*P PKPdf 18 22 13.5 +0.5
SIM Simferopol' 134.55 315 *e*PKIKP PKPdf 18 22 15.5 +2.3
SIM *e* 18 24 52.0
SIM pmax pmax
comp=Z,71nm,0.8s
SIM MLR MLR
comp=Z,400nm,19.0s
DOMB Dombas 134.71 347 *e* PKPdf 18 22 09.2 -4.2
DIKM Dikmen 134.76 310 *e*P PKPdf 18 22 13.5 -0.1
BNN Bunyan 135.01 306 *e*P PKPdf 18 22 15.0 +1.0
BOYT Boyabat 135.08 310 *i* P 18 22 03.7
NB2 NORSAR Subarra 135.09 345 PKPdf 18 22 06.3
comp=Z,5.7nm,0.5s,baz=31,slow=1.9
NB2 NORSAR Subarra 135.09 345 PKPdf 18 22 06.3
baz=31,slow=1.9
NOA NORSAR Array B 135.09 345 PKhKP 18 22 00.3
comp=Z,1.6nm,0.7s,baz=329,slow=22,SNR=3.5
NOA PKP PKPdf 18 22 13.7 -0.5
comp=Z,5.9nm,0.5s,baz=37,slow=2.7,SNR=19
NOA SKPbc SKPbc 18 25 28.0 -1.0
comp=Z,20nm,1.1s,baz=18,slow=4.2,SNR=4.2
NOA NORSAR Array B 135.09 345 PKIKP PKPdf 18 22 13.7 -0.5
NOA pmax pmax
comp=Z,60nm,0.5s
AKASG Malin Array Be 135.12 324 PKhKP 18 22 01.1
comp=Z,3.2nm,0.7s,baz=47,slow=4.3,SNR=11
AKASG PKP PKPdf 18 22 13.0 -1.3
comp=Z,36nm,0.8s,baz=59,slow=2.2,SNR=35
AKASG pPKP pPKPdf 18 22 55.2 -3.5
comp=Z,3.6nm,0.8s,baz=40,slow=13,SNR=1.3
AKASG PP PP 18 24 43.4 -8.1
comp=Z,0.5nm,0.4s,baz=293,slow=15,SNR=2.4
AKASG SKPbc SKPbc 18 25 28.4 -0.7
comp=Z,16nm,0.7s,baz=45,slow=4.0,SNR=14
AKASG PKKP 18 31 55.7
comp=Z,2.7nm,0.8s,baz=261,slow=2.7,SNR=7.3
AKASG Malin Array Be 135.12 324 PKHKP 18 22 01.1
AKASG 18 22 13.0
AKASG 18 22 55.2
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 135.12 324 PKP 18 22 01.1
AKASG PKP PKPdf 18 22 13.0 -1.3
AKASG pPKP pPKPdf 18 22 55.2 -3.5
AKASG PP PP 18 24 43.4 -8.0
AKASG SKPbc SKPbc 18 25 28.4 -0.7
AKASG PKKP 18 31 55.7
AKBB Malin Array Si 135.12 324 *e*PKHKP 18 22 01.0
AKBB *e* 18 22 14.3
AKBB Malin Array Si 135.12 324 *e*PKPpre 18 22 01.0
AKBB *e*PKPdf PKPdf 18 22 14.3 +0.1
AKBB *e*SKP 18 25 28.6
BYBT Boyabat 135.17 310 *e*P PKPdf 18 22 19.4 +5.1
ASF Jabal al Asfar 135.18 297 PKhKP 18 22 04.3
comp=Z,2.3nm,0.7s,baz=258,slow=4.0,SNR=4.5
ASF PKP PKPdf 18 22 15.8 +1.5
comp=Z,32nm,0.9s,baz=321,slow=1.2,SNR=24
ASF pPKP pPKPdf 18 22 56.4 -2.4
comp=Z,5.0nm,0.8s,baz=222,slow=13,SNR=1.1
ASF PP PP 18 24 55.9 +4.1
comp=Z,1.3nm,0.4s,baz=349,slow=1.1,SNR=4.3
ASF SKPab 18 25 32.7
comp=Z,11nm,1.1s,baz=248,slow=1.8,SNR=8.8
ASF PKKP 18 31 57.0
comp=Z,1.8nm,0.5s,baz=243,slow=2.3,SNR=3.9
ASF Jabal al Asfar 135.18 297 PKHKP 18 22 04.3
ASF 18 22 15.8
ASF 18 22 56.4
ASF 18 24 55.9
ASF pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 135.21 343 PKhKP 18 21 59.5
comp=Z,1.4nm,0.4s,baz=69,slow=4.9,SNR=9.9
HFS SKPbc SKPbc 18 25 27.8 -1.6
comp=Z,22nm,1.0s,baz=325,slow=2.3,SNR=6.6
HFS SKPab 18 25 33.4
comp=Z,14nm,0.8s,baz=38,slow=5.6,SNR=4.1
YOZ Yozgat 135.23 308 *e*P PKPdf 18 22 15.6 +1.2
KOZT Kozan 135.30 304 *e*P PKPdf 18 22 14.4 -0.2
NAO01 NORSAR Array S 135.34 345 *e*PKPpre 18 22 09.5
NAO01 *e*SKP 18 25 27.1
FKH Fakeheh 135.37 300 *e*P PKPdf 18 22 16.6 +1.9
CEYT Ceyhan 135.45 304 *e*P PKPdf 18 22 17.7 +2.8
BZK Bozkurt 135.58 311 *e*P PKPdf 18 22 16.2 +1.1
CORM Corum 135.61 308 *e*P PKPdf 18 22 15.5 +0.3
CDAG Cicekdag 135.94 308 *i* P PKPdf 18 22 12.2 -3.5
KARA Karaisali 135.95 304 *e*P PKPdf 18 22 17.8 +2.0
BHL Bhannes 136.03 299 *e*P PKPdf 18 22 16.5 +0.6
CANT Cankiri 136.24 309 *e*P PKPdf 18 22 18.7 +2.4
SUW Suwalki 136.27 331 *e*PKP 18 22 04.3
SUW *e* 18 22 17.6
MERS Mersin 136.44 304 *e*P PKPdf 18 22 12.4 -4.3
BR131 Keskin Array S 136.46 308 *e*PKPpre 18 22 05.8
BR131 *e*PKPdf PKPdf 18 22 20.4 +3.7
BR131 *e*PP PP 18 25 01.2 +1.4
BR131 *e*SKP 18 25 33.7
BRTR Keskin Array B 136.46 308 PKhKP 18 22 06.1
comp=Z,3.2nm,0.6s,baz=123,slow=4.6,SNR=13
BRTR PKP PKPdf 18 22 18.8 +2.0
comp=Z,27nm,0.7s,baz=128,slow=2.8,SNR=34
BRTR PP PP 18 25 00.3 +0.5
comp=Z,8.1nm,0.9s,baz=123,slow=4.6,SNR=4.1
BRTR SKPbc SKPbc 18 25 34.8 +1.6
comp=Z,5.0nm,0.8s,baz=180,slow=1.2,SNR=3.7
BRTR PKKP 18 31 54.3
comp=Z,2.3nm,0.8s,baz=183,slow=4.4,SNR=6.3
BRTR Keskin Array B 136.46 308 PKHKP 18 22 06.1
BRTR 18 22 18.8
BRTR 18 25 00.3
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR pmax pmax
comp=Z,27nm,0.7s
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR pmax pmax
comp=N,5.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KAMT Kaman 136.50 308 *e*P PKPdf 18 22 17.7 +0.9
KONO Kongsberg 136.70 345 *e*PKPdf PKPdf 18 22 09.2 -8.0

KONO *e*PP PP 18 25 00.4 -0.9
KONO Kongsberg 136.70 345 ⇓*i*PKIKP PKPdf 18 22 18.2 +1.0
KONO Kongsberg 136.70 345 *e*PKPpre 18 22 10.9
SAFT Safranbolu 136.73 311 *e*P PKPdf 18 22 16.6 -0.6
BER Bergen 136.98 348 *e*P 18 22 03.5
BER *e*PP PP 18 25 03.5 +0.4
ANTO Ankara 137.05 309 ⇑*i*P PKPdf 18 22 12.9 -4.9
ANTO Ankara 137.05 309 PKIKP PKPdf 18 22 13.5 -4.3
ANTO Ankara 137.05 309 *e*PKPpre 18 22 12.9
ANTO *e*PKPdf PKPdf 18 22 19.2 +1.3
ANTO *e*SKP 18 25 36.3
KIS Kishinev 137.13 320 *e*PKIKP PKPdf 18 22 18.0 0.0
KIS *i* 18 22 59.0
KIS *e* 18 25 02.0
KIS *e* 18 29 10.0
KIS *i* SS SS 18 42 50.0 -6.0
KIS Kishinev 137.13 320 *e*PKP PKPdf 18 22 18.0 0.0
KIS *i* pPKP pPKPdf 18 22 59.0 -3.4
KIS Kishinev 137.13 320 *e*PP PP 18 25 02.0 -2.0
KIS *i* SKP 18 25 34.0
KIS *e*SKS SKSdf 18 29 10.0 -2.8
KIS *i* SS SS 18 42 50.0 -6.0
KIS LRM 19 23 38.0
comp=Z,500nm,20.0s
IKL Isikli 137.23 303 *e*P PKPdf 18 22 16.7 -1.5
BLS5 Blasjo 137.63 347 *e*PKPdf PKPdf 18 22 16.4 -2.5
ERMK Ermenek 137.75 304 *i* P PKPdf 18 22 10.6 -8.6
CSS Prodhromos 137.76 301 ⇑P PKPdf 18 22 09.6 -10
comp=Z,2.5nm,1.0s
CSS Prodhromos 137.76 301 *e*PKPpre 18 22 10.6
CSS *e*PKPdf PKPdf 18 22 20.2 +1.1
CSS *e*SKP 18 25 35.7
KONT Konya--Tatoy 137.88 306 *e*P PKPdf 18 22 15.1 -4.3
KDHN Kadinhani 137.92 307 *i* P PKPdf 18 22 18.7 -0.8
HDMB Hadim 138.02 305 *e*P PKPdf 18 22 14.9 -4.7
SZAC Souni-Zanaja 138.16 301 P PKPdf 18 22 12.7 -7.2
comp=Z,5.2nm,0.8s
ALFC Alevga 138.31 302 ⇑P PKPdf 18 22 10.6 -10
comp=Z,3.8nm,0.8s
CFR Carcaliu 138.37 318 ⇑*i*P PKPdf 18 22 16.5 -3.8
CFR Carcaliu 138.37 318 P PKPdf 18 22 16.5 -3.7
LVV L'vov 138.41 326 *e*PKIKP PKPdf 18 22 16.8 -3.5
LVV *e* 18 43 08.4
TIRR Tirgusor 138.50 317 ⇑*i*P PKPdf 18 22 14.6 -5.9
TIRR Tirgusor 138.50 317 ⇓PKIKP PKPdf 18 22 23.1 +2.6
TIRR Tirgusor 138.50 317 P PKPdf 18 22 23.6 +3.1
PPCY Paphos 138.57 302 P PKPdf 18 22 13.2 -7.4
ESKT Eskisehir 138.59 309 *e*P PKPdf 18 22 16.9 -3.7
HARR Harsova 138.71 317 ⇓*i*P PKPdf 18 22 13.4 -7.5
HARR Harsova 138.71 317 P PKPdf 18 22 15.7 -5.2
CVD Cernavoda 138.81 317 ⇓*i*P PKPdf 18 22 21.3 +0.2
CVD Cernavoda 138.81 317 ⇓P PKPdf 18 22 21.3 +0.2
BSD Bornholm Skovb 138.87 338 *i* P 18 22 09.5
comp=Z,46nm,0.7s
BSD *i* 18 26 00.0
BSD Bornholm Skovb 138.87 338 *e*PKHKP 18 22 09.5
BSD pmax pmax
comp=Z,46nm,0.7s
BSD Bornholm Skovb 138.87 338 *e*P 18 22 09.5
BSD *i* 18 26 00.0
BRD Bordesti 138.90 319 ⇓*i*P PKPdf 18 22 18.4 -2.8
BRD Bordesti 138.90 319 ⇓P PKPdf 18 22 18.4 -2.9
VRI Vrincioaia 138.94 319 ⇑*i*P PKPdf 18 22 15.1 -6.2
VRI Vrincioaia 138.94 319 PKIKP PKPdf 18 22 20.6 -0.7
VRI Vrincioaia 138.94 319 ⇑P PKPdf 18 22 15.1 -6.2
VRI P 18 22 20.6
BURAR Bucovina Array 138.96 323 ⇑*i*P PKPdf 18 22 13.1 -8.2
BURAR Bucovina Array 138.96 323 ⇑P PKPdf 18 22 13.1 -8.3
BURAR P 18 22 18.3
PLOR Plostina 138.99 319 ⇑*i*P PKPdf 18 22 17.3 -4.1
HRT Hereke 139.03 311 *e*P PKPdf 18 22 18.5 -3.0
ADVT Abdulvahap 139.11 310 *e*P PKPdf 18 22 21.4 -0.2
KWP Kalwaria 139.21 326 *e*PKP PKPdf 18 22 16.6 -5.2
KWP *e* 18 22 22.3
COP Copenhagen 139.26 340 *i* P PKPdf 18 22 16.0 -5.9
comp=Z,55nm,0.8s
COP *i* 18 23 02.4
COP *i* 18 25 20.7
COP *i* 18 26 05.5
COP *i* 18 43 30.1
COP
comp=Z,390nm,20.0s
COP Copenhagen 139.26 340 *i* PKIKP PKPdf 18 22 16.0 -5.9
COP *i* 18 25 20.7
COP pmax pmax
comp=Z,55nm,0.8s
COP MLR MLR
comp=Z,390nm,20.0s
KLYT Kilyos 139.32 312 *e*P PKPdf 18 22 22.1 +0.1
YLV Yalova 139.33 311 *e*P PKPdf 18 22 20.6 -1.4
GKP Gorka Klasztor 139.36 334 *e*PKP PKPdf 18 22 15.1 -7.0
ISK Istanbul-Kandi 139.38 312 *e*P PKPdf 18 22 20.1 -2.0
GEMT Gemlik 139.50 311 *e*P PKPdf 18 22 20.0 -2.3
MLR Muntele Rosu 139.60 319 PKhKP 18 22 14.7
comp=Z,22nm,0.8s,baz=322,slow=3.1,SNR=13
MLR PKP PKPdf 18 22 24.2 +1.7
comp=Z,47nm,0.7s,baz=164,slow=5.0,SNR=20
MLR pPKP pPKPdf 18 23 02.9 -4.0
comp=Z,11nm,0.8s,baz=246,slow=21,SNR=0.8
MLR PP PP 18 25 17.7 -1.6
comp=Z,12nm,0.9s,baz=4.8,slow=21,SNR=1.4
MLR SKPbc SKPbc 18 25 41.5 -0.7
comp=Z,6.4nm,0.6s,baz=227,slow=16,SNR=3.9
MLR SKPab 18 25 53.9
comp=Z,9.5nm,1.0s,baz=62,slow=8.0,SNR=3.0
MLR Muntele Rosu 139.60 319 ⇑*i*P PKPdf 18 22 15.3 -7.2
MLR Muntele Rosu 139.60 319 PKHKP 18 22 14.7
MLR 18 22 24.2
MLR 18 23 02.9
MLR 18 25 17.7
MLR pmax pmax
comp=Z,22nm,0.8s
MLR Muntele Rosu 139.60 319 P PKPdf 18 22 17.7 -4.8
MLR PKP PKPdf 18 22 24.2 +1.7
MLR pPKP pPKPdf 18 23 02.9 -4.0
MLR PP PP 18 25 17.7 -1.6
MLR SKPbc SKPbc 18 25 41.5 -0.7
MLR SKPab 18 25 53.9
MUD Monsted U'grnd 139.60 343 *i* P PKPdf 18 22 13.7 -8.8
comp=Z,34nm,0.8s
MUD *i* 18 23 03.5
MUD *i* 18 25 27.1
MUD *i* 18 26 01.9
MUD *i* 18 37 32.6
MUD
comp=Z,670nm,20.0s
MUD Monsted U'grnd 139.60 343 *i* PKHKP 18 22 13.7
MUD *i* 18 25 27.1
MUD *i* 18 37 32.6
MUD pmax pmax
comp=Z,34nm,0.8s
MUD MLR MLR
comp=Z,670nm,20.0s
MUD Monsted U'grnd 139.60 343 *i* P PKPdf 18 22 13.7 -8.8
MUD *i* 18 23 03.5
MUD *i* 18 25 27.1
MUD *i* 18 26 01.9
MUD *i* 18 37 32.6
GDZ Gediz 139.73 309 *i* P PKPdf 18 22 14.6 -8.2
KOLS Kolonicke sedl 139.86 326 *e*PKP PKPdf 18 22 19.6 -3.4
KOLS *e* 18 22 25.6
KOLS *e*SKP 18 25 44.8
KOLS *e* 18 34 16.9
SNX Sinaia 139.93 319 ⇑*i*P PKPdf 18 22 18.1 -5.0
UZH Uzhgorod 140.02 325 *e*PKHKP 18 22 16.5
UZH *e* 18 22 25.8
UZH *i* 18 25 25.0
UZH pmax pmax
comp=Z,153nm,1.0s
ELL Elmali 140.07 305 *e*P PKPdf 18 22 23.4 +0.1
STHS Stebnicka Huta 140.10 327 *e*PKP PKPdf 18 22 17.9 -5.5
STHS *e*SKPDF 18 25 41.5
VOIR 140.17 320 ⇑*i*P PKPdf 18 22 19.8 -3.8
VOIR 140.17 320 ⇑P PKPdf 18 22 19.8 -3.8
MTUR Matau 140.27 319 ⇑*i*P PKPdf 18 22 17.0 -6.7
MTUR Matau 140.27 319 ⇑P PKPdf 18 22 17.0 -6.7
CRVS Cervenica-Dubn 140.30 326 *e*PKP PKPdf 18 22 17.3 -6.5
CRVS *e*SKPDF 18 25 43.9
CRVS Cervenica-Dubn 140.30 326 *e*PKP PKPdf 18 22 17.3 -6.5
CRVS *e*PP SKPdf 18 25 43.9 +1.4
OJC Ojcow 140.31 329 *e*PKPdf PKPdf 18 22 18.9 -4.9
OJC *e*PP PP 18 25 18.8 -4.8

OJC eSS SS 18 43 38.1 +4.6
OJC L 19 23 44.5
comp=Z,4.4nm,22.4s
AKAS Kas 140.44 304 *i* P PKPdf 18 22 18.1 -5.9
DENT Denizli 140.47 307 *e*P PKPdf 18 22 21.4 -2.7
NIE Niedzica 140.57 328 *e*PKP PKPdf 18 22 20.1 -4.2
NIE *e*PP 18 25 45.6
MRMT Marmara Adasi 140.58 312 *e*P PKPdf 18 22 16.7 -7.6
EDRB Edirne 140.69 314 *e*P PKPdf 18 22 18.5 -5.9
MFT Murefte 140.73 312 *e*P PKPdf 18 22 18.9 -5.6
ZIMR 140.82 317⇑ *i*P PKPdf 18 22 20.8 -3.9
ZIMR 140.82 317 P PKPdf 18 22 20.8 -3.9
SART Tekirdag 140.84 312 *i*P PKPdf 18 22 17.7 -7.6
RKY Sarkoy-Tekirda 140.84 312 *e*P PKPdf 18 22 17.7 -7.0
DRGR 140.85 323⇓ *i*P PKPdf 18 22 20.9 -3.9
DRGR 140.85 323 P PKPdf 18 22 20.9 -3.9
PVL Pavlikeni 141.05 316 *e*P PKPdf 18 22 19.4 -5.7
DALT Dalyan (Mudla) 141.05 305 *e*P PKPdf 18 22 21.9 -3.2
KECS Kecovo 141.07 326 *e*PKP PKPdf 18 22 20.1 -5.1
RUE Ruedersdorf 141.34 336 *e*PKPpre 18 22 20.8
OKC Ostrava-Krasne 141.37 330 *e*PKP PKPdf 18 22 23.0 -2.7
OKC *e*SKKP 18 34 10.4
OKC eSS SS 18 43 49.2 +3.5
OKC AMS AMS 19 22 00.0
comp=Z,700nm,20.7s
OKC Ostrava-Krasne 141.37 330 *e*PKP PKPdf 18 22 23.0 -2.7
OKC *e* 18 43 49.2
BSEG Bad Segeberg 141.40 340 *e*PKPbc PKPdf 18 22 19.2 -6.6
BSEG *e*SKP 18 25 46.6
CRAR CRAIOVA 141.50 319 PKIKP PKPdf 18 22 23.2 -2.7
KSP Ksiaz 141.52 332 *e*PKP PKPdf 18 22 21.3 -4.7
KSP *e* 18 22 25.9
KSP Ksiaz 141.52 332 *e*PKHKP 18 22 20.6
KSP *i* 18 22 25.3
KSP *e* 18 25 27.0
KSP Ksiaz 141.52 332 *e*PKP PKPdf 18 22 20.6 -5.4
KSP *e*PKPdf PKPdf 18 22 25.3 -0.7
KSP *e*PP PP 18 25 27.0 -3.9
KSP eSS SS 18 43 41.0 -6.4
ALN Alexandroupoli 141.55 313 *e*P PKPdf 18 22 19.1 -6.9
MLSB Milas 141.56 307 *e*P PKPdf 18 22 21.4 -4.6
GZR Gura Zlata 141.57 321⇑ *i*P PKPdf 18 22 21.3 -4.8
GZR Gura Zlata 141.57 321 P PKPdf 18 22 22.1 -4.0
IZM Izmir 141.59 308 *e*P PKPdf 18 22 21.3 -4.8
ARG Arkhangelos 141.60 305 *e*P PKPdf 18 22 23.4 -2.7
KDZ Kurdzhali 141.68 314 *e*P PKPdf 18 22 23.0 -3.3
MORC Moravsky Berou 141.69 330⇑ *i*P PKPdf 18 22 21.8 -4.5
MORC Moravsky Berou 141.69 330 P PKPdf 18 22 22.4 -3.9
PSZ Piszkesteto 141.73 326⇓ *e*PKP PKPdf 18 22 23.7 -2.7
PSZ Piszkesteto 141.73 326⇑ *i*P PKPdf 18 22 23.7 -2.7
PSZ Piszkesteto 141.73 326 P PKPdf 18 22 23.4 -2.9
RDO Rodhopi 141.81 313 *e*P PKPdf 18 22 22.6 -3.9
DPC Dobruska-Polom 141.86 332 *e*PKP PKPdf 18 22 20.8 -5.8
DPC eSS SS 18 43 55.9 +4.5
DPC AMS AMS 19 25 30.0
comp=Z,1µm,18.9s
KAR1 Arisaig 141.88 355 *e*P PKPdf 18 22 24.3 -2.3
DAT Datca 141.88 306 *e*P PKPdf 18 22 22.1 -4.6
UPC Upice 141.88 332 *e*PKP PKPdf 18 22 21.7 -4.9
VYHS Vyhne 141.91 328 *e*PKP PKPdf 18 22 23.2 -3.5
VYHS *e* 18 34 07.1
BOZC Bozcaada 141.96 311 *i*P 18 22 14.2
PLD Plovdiv 141.96 315 *e*P PKPdf 18 22 23.4 -3.4
BODT Bodrum 141.98 306 *e*P PKPdf 18 22 22.1 -4.7
PRK Paraskevi 142.02 310 *e*P PKPdf 18 22 22.9 -4.0
PGB Panagyurishte 142.11 316 *e*P PKPdf 18 22 24.1 -2.9
BZS Buzias 142.13 322⇑ *i*P PKPdf 18 22 24.4 -2.7
BZS Buzias 142.13 322 P PKPdf 18 22 24.3 -2.7
BUD Budapest 142.46 326⇓ *e*PKP PKPdf 18 22 26.2 -1.5
VRAC Vranov 142.47 330 PKhKP 18 22 24.0
comp=Z,51nm,0.9s,baz=66,slow=3.7,SNR=35
VRAC PP PP 18 25 36.4 -0.3
comp=Z,19nm,1.0s,baz=118,slow=7.0,SNR=2.8
VRAC Vranov 142.47 330⇓ *i*P PKPdf 18 22 21.9 -5.8
VRAC Vranov 142.47 330 P PKPdf 18 22 24.5 -3.2
EAB Aberfoyle 142.47 354 *e*P PKPdf 18 22 23.9 -3.7
PVCC Panska Ves 142.50 333 *e*PKP PKPdf 18 22 23.6 -4.1
PVCC *ex* x 18 44 09.3
PVCC AMS AMS 19 23 50.0
comp=Z,900nm,22.9s
BRG Berggiesshubel 142.50 334 *e*PKPbc PKPdf 18 22 23.7 -4.0
BRG *e*SKP 18 25 49.0
BRG Berggiesshubel 142.50 334 *i* PKP PKPdf 18 22 23.7 -4.0
comp=Z,39nm,0.7s
BRG pPKP pPKPdf 18 23 00.0 -12
BRG *i* 18 24 13.5
comp=Z,20nm,0.9s
BRG *i* 18 25 49.3
comp=Z,24nm,0.9s
BRG SS SS 18 43 44.0 -15
BRG
comp=N,800nm,39.5s
BRG
comp=E,1µm,33.7s
BRG
comp=Z,242nm,21.3s
BRG Berggiesshubel 142.50 334 *i* PKIKP PKPdf 18 22 23.7 -4.0
BRG 18 23 00.0
BRG pmax pmax
comp=Z,39nm,0.7s
BRG MLR MLR
comp=N,800nm,39.6s
BRG MLR MLR
comp=E,1µm,33.7s
BRG MLR MLR
comp=Z,242nm,21.3s
BRG Berggiesshubel 142.50 334 *i* PKP PKPdf 18 22 23.7 -4.0
BRG pPKP pPKPdf 18 23 00.0 -12
BRG *i* 18 24 13.5
BRG *i* 18 25 26.0
BRG *i* 18 25 49.3
BRG SS SS 18 43 44.0 -15
BRG LR LR
comp=Z,240nm,21.3s
KAP Karpathos 142.53 304 *e*P PKPdf 18 22 21.6 -6.2
ESY Stoneypath 142.54 352 *e*P PKPdf 18 22 24.7 -3.0
CLL Collm 142.55 335 *e*PKPbc PKPdf 18 22 22.8 -5.0
CLL *e*SKP 18 25 49.1
CLL Collm 142.55 335 *e*PKP PKPdf 18 22 23.0 -4.8
CLL *e*PKP PKPdf 18 22 27.0 -0.8
CLL LR LR
comp=Z,1µm,23.0s
CLL Collm 142.55 335 *e*PKPpre 18 22 23.0
CLL *i* PKPdf PKPdf 18 22 26.1 -1.7
comp=Z,115nm,0.8s
CLL *ep*PKPdf pPKPdf 18 23 09.0 -3.2
CLL *i* SKPbc SKPbc 18 25 49.6 -0.2
CLL *ep*PP 18 26 13.0
CLL *es*PP 18 26 28.0
CLL *e*SKKSab 18 32 16.0
CLL eSS SS 18 44 12.0 +13
CLL *e*PSPS 18 45 15.0
CLL *e*SSS 18 49 12.0
CLL *e*SSSS 18 53 36.0
EDI Edinburgh 142.60 353 *e*P PKPdf 18 22 25.7 -2.2
EDI AMb AMB 18 22 29.8
comp=Z,66nm,1.2s
SMOL Smolenice 142.61 329 *e*PKP PKPdf 18 22 25.5 -2.4
LOS Limnos 142.61 312 *e*P PKPdf 18 22 22.7 -5.2
NRDL Niedersach Rie 142.67 339 *e*PKPbc PKPdf 18 22 23.4 -4.6
EAU Auchinoon 142.71 353 *e*P PKPdf 18 22 24.2 -3.9
VTS Vitosha 142.72 317 *e*P PKPdf 18 22 27.5 -0.6
VTS Vitosha 142.72 317⇑ *i*P PKPdf 18 22 24.0 -4.1
VTS Vitosha 142.72 317 P PKPdf 18 22 25.7 -2.4
EBL Broad Law 142.73 353 *e*P PKPdf 18 22 25.3 -2.9
NVR Nevrokopi 142.86 315 *e*P PKPdf 18 22 22.9 -5.5
XSO Sourhope Farm 142.90 352 *e*P PKPdf 18 22 24.3 -4.1
PRU Pruhonice 142.91 333 *e*PKP PKPdf 18 22 24.7 -3.7
PRU *e*SKKP 18 34 05.7
PRU eSS SS 18 44 09.3 +5.8
PRU AMS AMS 19 15 00.0
comp=Z,1µm,29.0s
ZST Bratislava 142.98 328 *e*PKP PKPdf 18 22 27.0 -1.6
TREC Trest 142.99 331 *e*PKP PKPdf 18 22 25.2 -3.4
TREC AMS AMS 19 24 50.0
comp=Z,1µm,20.0s
CLZ Clausthal 143.12 338 *e*PKPbc PKPdf 18 22 25.2 -3.6
KKB Krupnik 143.14 316 *e*P PKPdf 18 22 26.7 -2.2
SRS Serrai 143.15 314 *e*P PKPdf 18 22 24.7 -4.2
EKA Eskdalemuir Ar 143.18 353 PKhKP 18 22 24.2
comp=Z,11nm,0.6s,baz=349,slow=2.5,SNR=26
EKA Eskdalemuir Ar 143.18 353 PKHKP 18 22 24.2

EKA pmax pmax
comp=Z,11nm,0.6s
ESK Eskdalemuir 143.20 353 *e*P PKPdf 18 22 26.6 -2.3
ESK AMb AMB 18 22 36.4
comp=Z,54nm,1.2s
OUR Ouranopolis 143.22 313 *e*P PKPdf 18 22 25.1 -3.9
ECK Cauldkaine Hil 143.32 352 *e*P PKPdf 18 22 26.7 -2.5
APE Apeiranthos 143.33 307 *e*P PKPdf 18 22 24.9 -4.3
APE Apeiranthos 143.33 307 *e*P PKPdf 18 22 23.8 -5.4
APE Apeiranthos 143.33 307⇑ *i*P PKPdf 18 22 25.1 -4.1
BWH Wardlaw 143.39 353 *e*P PKPdf 18 22 26.5 -2.8
ZKR Zakros 143.40 304 *e*P PKPdf 18 22 26.7 -2.6
GMK Mull of Kintyr 143.42 355⇑ *e*P PKPdf 18 22 25.1 -4.2
SOH Sokhos 143.44 314 *e*P PKPdf 18 22 24.8 -4.6
TANN Tannenbergstha 143.46 335 *e*PKPbc PKPdf 18 22 25.9 -3.5
PKSM Moragy 143.46 325⇑ *i*P PKPdf 18 22 26.1 -3.3
PKSM Moragy 143.46 325 P PKPdf 18 22 26.7 -2.7
WIT Witteveen 143.49 342 PKiKP PKiKP 18 22 28.8 -4.1
comp=Z,810nm,1.4s
PLG Polygyros 143.57 313 *e*P PKPdf 18 22 25.9 -3.7
SOP Sopron 143.60 328⇑ *e*PKP PKPdf 18 22 28.2 -1.5
IBBN Ibbenburen 143.60 341 *e*PKPbc PKPdf 18 22 26.7 -3.0
IBBN *e*SKP 18 25 51.9
NKC Novy Kostel 143.61 335 *e*PKP PKPdf 18 22 26.7 -3.0
NKC *ex* x 18 44 07.9
SANT Santorini 143.61 306 *e*P PKPdf 18 22 25.2 -4.5
MOX Moxa 143.62 336 *e*PKPbc PKPdf 18 22 26.2 -3.5
MOX Moxa 143.62 336 *e*PKP PKPdf 18 22 26.4 -3.3
comp=Z,358nm,1.1s
MOX Moxa 143.62 336 *e*PKIKP PKPdf 18 22 26.4 -3.3
MOX pmax pmax
comp=Z,9.0nm,1.1s
MOX Moxa 143.62 336 *e*PKP PKPdf 18 22 26.4 -3.3
MOX *e*PP PP 18 25 49.0 +5.4
MOX *e*SKSP 18 36 04.0
MOX eSS SS 18 44 24.0 +12
HORT Hortiatis 143.71 314 *e*P PKPdf 18 22 25.9 -3.9
GCL Cushendall 143.73 355 *e*P PKPdf 18 22 27.6 -2.3
GCD Castle Douglas 143.73 353 *e*P PKPdf 18 22 29.1 -0.8
VAY Valandovo 143.74 315 *e*P PKPdf 18 22 26.1 -3.8
VAY Valandovo 143.74 315 *i*P PKPdf 18 22 26.0 -3.9
AOS Alonnisos 143.77 311 *e*P PKPdf 18 22 26.6 -3.3
CONA Conrad Observa 143.77 329⇑ *i*PKPdf PKPdf 18 22 27.6 -2.3
comp=Z,390nm,1.1s,SNR=135
LWH Whinny Nab 143.78 350 *e*P PKPdf 18 22 29.6 -0.4
THE Thessaloniki 143.79 314 *e*P PKPdf 18 22 26.8 -3.2
GAL1 Galloway 143.81 354 *e*P PKPdf 18 22 27.3 -2.7
GAL1 *e*P 18 22 27.3
GAL1 AMb AMB 18 22 33.2
comp=Z,200nm,0.9s
STIP Stip 143.81 316 *e*P PKPdf 18 22 26.2 -3.9
STIP Stip 143.81 316 *i*P PKPdf 18 22 27.5 -2.5
NPS Neapolis 143.83 304 *e*P PKPdf 18 22 28.5 -1.6
CKE Keswick 143.90 352 *e*P PKPdf 18 22 29.7 -0.5
MANZ Manzenberg 143.94 335 *e*PKPbc PKPdf 18 22 27.8 -2.5
MANZ *e*SKP 18 25 54.2
KHC Kasperske Hory 143.97 332 *e*PKP PKPdf 18 22 27.8 -2.5
KHC AMS AMS 19 21 50.0
comp=Z,1µm,24.5s
LAST Lasithi 143.97 304 *e*P PKPdf 18 22 28.7 -1.6
GRG Griva 144.02 315 *e*P PKPdf 18 22 27.4 -3.0
XDE Dent Fell 144.03 353 *e*P PKPdf 18 22 28.6 -1.8
ROTZ Rotzenmuhle 144.07 334 *e*PKPbc PKPdf 18 22 28.5 -2.0
UBBA Unterbreizbach 144.09 337 *e*PKPbc PKPdf 18 22 27.9 -2.6
GEC2 GERESS Array S 144.12 332 *e*PKPbc PKPdf 18 22 28.1 -2.5
GEC2 *e*SKP 18 25 53.4
GERES GERESS Array B 144.12 332 PKP PKPdf 18 22 27.9 -2.6
comp=Z,315nm,0.9s,baz=32,slow=3.8,SNR=209
GERES pPKP pPKPdf 18 23 10.8 -4.2
comp=Z,21nm,0.9s,baz=173,slow=14,SNR=1.0
GERES PP PP 18 25 48.9 +2.3
comp=Z,3.6nm,0.8s,baz=222,slow=20,SNR=1.9
GERES SKPbc SKPbc 18 25 53.4 -0.1
comp=Z,9.2nm,0.7s,baz=45,slow=2.3,SNR=3.6
SKO Skopje 144.17 317 *e*P PKPdf 18 22 29.5 -1.1
XOR Xorichti 144.18 312 *e*P PKPdf 18 22 27.8 -2.9
NEO Neokhori 144.18 312 *e*P PKPdf 18 22 27.6 -3.1
WTSB Winterswijk 144.19 341⇑ *i*PKiKP PKiKP 18 22 28.0 -6.3
comp=Z,189nm,1.4s
WET Wettzell 144.26 333 *e*PKPbc PKPdf 18 22 28.8 -2.0
LIT Litokhoron 144.35 313 *e*P PKPdf 18 22 28.3 -2.7
ATH Athens Observa 144.36 309 *e*P PKPdf 18 22 28.4 -2.6
ARSA Arzberg 144.41 329 *i*P PKPdf 18 22 29.5 -1.6
comp=Z,3µm,2.9s,SNR=174
BRG *i* 18 25 26.0
CLL *e*PP 18 25 33.0
CLL *e*SKSP 18 35 34.0
CLL *es*SKSP 18 36 45.0
BUG Bochum--Univer 144.50 340 *e*PKPbc PKPdf 18 22 28.8 -2.4
BUG *e*SKP 18 25 53.3
WIM Isle of Man 144.51 354 *e*P PKPdf 18 22 29.9 -1.4
GRA1 Grafenberg Arr 144.53 335 *e*PKP PKPdf 18 22 29.7 -1.6
GRA1 *e*SS SS 18 44 29.7 +7.6
GRF Grafenberg Arr 144.53 335 *e*PKP PKPdf 18 22 29.7 -1.6
GRF *e*SS SS 18 44 29.7 +7.6
SIVA Sivas 144.53 304 *e*P PKPdf 18 22 30.6 -0.7
GMM Mts of Mourne 144.54 355 *e*P PKPdf 18 22 30.2 -1.1
KOGS Kog 144.58 327 *e*PKPbc PKPdf 18 22 29.7 -1.6
KOGS *e* 18 26 24.1
MOA Molln 144.59 330 *i*P PKPdf 18 22 30.3 -1.1
comp=Z,927nm,1.3s,SNR=590
LKR Lokris 144.61 311 *e*P PKPdf 18 22 28.8 -2.6
IVA Berane 144.67 319⇓ *i*PKP PKPdf 18 22 30.9 -0.7
BIA Bitola 144.71 316 *e*P PKPdf 18 22 29.8 -1.8
BIA Bitola 144.71 316 *i*P PKPdf 18 22 30.6 -1.0
PLE Pljevlja 144.73 320⇓ *i*PKP PKPdf 18 22 31.6 -0.1
LHO Holmfirth 144.74 351 *e*P PKPdf 18 22 29.2 -2.4
KZN Kozani 144.75 314 *e*P PKPdf 18 22 29.7 -2.0
PVY Plav 144.78 319⇓ *i*PKP PKPdf 18 22 29.8 -1.9
FNA Florina 144.79 315 *e*P PKPdf 18 22 29.3 -1.8
ABA1 Baconsthorpe 144.82 347⇑ *e*P PKPdf 18 22 29.3 -2.5
VAM Vamos 144.89 305 *e*P PKPdf 18 22 31.6 -0.3
THL Klokotos Trika 144.91 313 *e*P PKPdf 18 22 29.4 -2.5
AGG Agios Georgios 144.93 312 *e*P PKPdf 18 22 29.9 -2.1
KBI1 Birley Grange 144.97 350⇑ *e*P PKPdf 18 22 30.1 -1.9
OHR Ohrid 145.01 316 *e*P PKPbc 18 22 30.8 -1.0
OHR Ohrid 145.01 316 *i*P PKPbc 18 22 30.8 -1.1
AEU East Anglia Un 145.05 347 *e*P PKPbc 18 22 30.2 -1.8
UPM Unac-Piva 145.09 320⇓ *i*PKP PKPdf 18 22 30.7 -1.5
KARN Karanos 145.11 305 *e*P PKPbc 18 22 31.8 -0.3
TNS Taunus Mts 145.14 338 *e*PKPbc PKPbc 18 22 31.7 -0.6
GVD Gavdhos 145.15 304 *e*P PKPbc 18 22 31.8 -0.5
SISC Sisak 145.16 326 P PKPbc 18 22 32.4 +0.1
KWE Weaver Farm 145.25 350⇑ *e*P PKPdf 18 22 31.2 -1.3
NKY Niksic 145.26 320⇓ *i*PKP PKPdf 18 22 31.3 -1.3
WCB1 Church Bay 145.26 353⇑ *e*P PKPdf 18 22 30.8 -1.7
GCIS Gornji Cirnik 145.29 327 *e*PKPbc PKPbc 18 22 32.5 -0.2
WPM1 Penmaenmawr 145.30 353⇑ *e*P PKPdf 18 22 31.1 -1.5
TTG Podgorica 145.31 319⇓ *i*PKP PKPdf 18 22 31.7 -0.9
WLF1 Llynfaes 145.33 353 *e*P PKPdf 18 22 30.7 -2.0
EVR Evrytania 145.34 312 *e*P PKPdf 18 22 32.2 -0.5
MEV Metsovon 145.35 314 *e*P PKPdf 18 22 32.9 +0.2
YRC Rhoscolyn 145.39 353⇑ *e*P PKPdf 18 22 31.4 -1.3
OBKA Obir 145.40 328⇑ *i*P PKPdf 18 22 32.3 -0.5
comp=Z,594nm,1.3s,SNR=66
VLI Velial 145.40 308 *e*P PKPdf 18 22 31.4 -1.4
CRES Cresnjev 145.41 327 *e*PKPbc PKPbc 18 22 32.7 -0.4
CRES *ep*PKPbc pPKPbc 18 23 15.0 -1.8
CRES *e* 18 26 33.7
BRY Bratogost 145.48 320⇓ *i*PKP PKPdf 18 22 31.7 -1.2
HGN Heimansgroeve 145.51 341⇑ *i*PKiKP PKiKP 18 22 32.5 -4.5
comp=Z,506nm,2.9s
HGN *ep*PKiKP 18 23 15.8
HGN *ex* x 18 23 28.0
HGN *ex* x 18 23 41.6
HGN *e*PKS 18 26 04.5
HGN *e*SKS SKSdf 18 29 18.9 -7.2
HGN Heimansgroeve 145.51 341 *e*SS SS 18 44 36.1 +2.8
HGN *ex* x 18 49 32.1
TOD Tromm 145.52 337 PKP2 PKPab 18 22 33.4 -0.5
DLF Lyons Farm 145.53 355⇑ *i*P PKPdf 18 22 32.0 -1.0
DCN Croghan 145.53 356⇑ *i*P PKPdf 18 22 32.1 -0.9
SBD1 Bryn Du 145.56 352 *e*P PKPdf 18 22 32.0 -1.0
DSB Dublin 145.56 355 *e*PKPdf PKPdf 18 22 32.1 -1.0
DSB *ep*PKPdf pPKPdf 18 23 12.7 -4.8
ULC Ulcinj 145.57 318⇓ *i*PKP PKPdf 18 22 32.5 -0.6
KBA Koelnbreinsper 145.58 330⇑ *i*P PKPdf 18 22 32.6 -0.5
comp=Z,2µm,2.9s,SNR=68
BUM Brajici-Budva 145.60 319⇓ *i*PKP PKPdf 18 22 32.1 -1.0
YRE Yr Eifl 145.63 353 *e*P PKPdf 18 22 32.5 -0.7
JAN Janina 145.67 314 *e*P PKPdf 18 22 33.7 +0.5

FUR Furstenfeldbru 145.69 333 *e*PKPbc PKPbc 18 22 33.5 -0.5
FUR *e*SKP 18 25 56.5
LJU Ljubljana 145.74 328 *i*PKPbc PKPbc 18 22 33.6 -0.5
LJU *ep*PKPbc pPKPbc 18 23 16.7 -1.1
HCY Herceg Novi 145.77 320⇓ *i*PKP PKPdf 18 22 31.3 -2.1
HLM1 Long Mynd 145.89 351 *e*P PKPdf 18 22 32.9 -0.7
RLS Riolos of Patr 145.95 311 *e*P PKPdf 18 22 34.6 +0.9
ITM Ithomi 145.97 309 *e*P PKPdf 18 22 31.5 -2.3
CADS Cadrg 146.00 329 *i*PKPbc PKPbc 18 22 33.4 -1.5
CADS *ep*PKPbc pPKPbc 18 23 16.9 -1.8
STON Ston 146.01 321 *i*P PKPdf 18 22 34.2 +0.4
KTD Kalmit 146.02 338 PKP2 PKPab 18 22 36.4 +0.6
STU Stuttgart 146.06 336 *e*PKPbc PKPbc 18 22 33.7 -1.4
STU *e*SKP 18 25 56.6
VOY Vojsko 146.06 328 *e*PKPbc PKPbc 18 22 33.9 -1.2
VOY *e* 18 23 24.9
RUP Ruppelstein 146.06 339 PKP2 PKPab 18 22 35.3 -0.7
IGT Igoumenitsa 146.09 314 *e*P PKPdf 18 22 34.5 +0.5
WATA Walderalm 146.20 332⇑ *i*P PKPdf 18 22 33.9 -0.3
comp=Z,264nm,1.0s,SNR=64
GMNA Gemona 146.21 329 PKP PKPdf 18 22 33.8 -0.4
WTTA Wattenberg 146.23 332⇑ *i*P PKPdf 18 22 33.0 -1.1
comp=Z,953nm,1.3s,SNR=166
LKD Levkas 146.25 312 *e*P PKPdf 18 22 34.7 +0.5
SSW Stow on the Wo 146.26 350⇑ *e*P PKPdf 18 22 34.7 +0.4
SKP1 Kophill 146.31 349⇑ *e*P PKPdf 18 22 34.2 -0.2
TRI Trieste 146.35 328 PKP2 PKPab 18 22 34.9 -2.2
KEK Kerkira 146.36 315 *e*P PKPdf 18 22 33.1 -1.3
HTR Trewern Hill 146.37 351⇑ *e*P PKPdf 18 22 34.4 0.0
WLF Walferdange 146.40 340 *e*PKPbc PKPbc 18 22 34.3 -1.8
WLF *e*SKP 18 25 58.7
MOTA Moosalm 146.40 332⇑ *i*P PKPdf 18 22 32.7 -1.8
comp=Z,388nm,0.9s,SNR=307
LANF Langenberg 146.41 337 PKP PKPdf 18 22 36.2 +1.7
MCH1 Michaelchurch 146.41 351 *e*P PKPdf 18 22 34.4 -0.1
MCH1 *e*P 18 22 34.4
MCH1 AMb AMB 18 22 40.9
comp=Z,202nm,1.2s
SQTA Sankt Quirin 146.45 332⇓ *i*P PKPdf 18 22 33.7 -0.8
comp=Z,312nm,0.9s,SNR=269
VLS Valsamata 146.52 312 *e*P PKPdf 18 22 35.7 +1.0
NVLJ Novalja 146.56 326⇑ *i*P PKPdf 18 22 35.4 +0.6
BAIF Baives 146.65 342 *e*PKIKP PKPdf 18 22 36.2 +1.3
comp=Z,637nm,1.1s
SWN1 Swindon 146.69 350⇑ *e*P PKPdf 18 22 34.5 -0.5
SWN1 *e*P 18 22 34.5
SWN1 AMb AMB 18 22 40.0
comp=Z,354nm,0.7s
HGH Gray Hill 146.73 351 *e*P PKPdf 18 22 35.5 +0.4
BFO Black Forest 146.75 336 *e*PKPbc PKPbc 18 22 35.1 -2.0
MENF Mencas 146.75 345 PKP PKPdf 18 22 36.8 +1.7
STR Strasbourg 146.75 337 PKP PKPdf 18 22 37.7 +2.6
SPAK Spaichingen-Ko 146.76 336 PKP PKPdf 18 22 38.1 +3.0
DAVA Damuels 146.97 334⇑ *i*P PKPdf 18 22 36.5 +1.0
comp=Z,706nm,1.2s,SNR=153
APPI Appiano 147.00 331 PKP PKPdf 18 22 35.2 -0.3
WLS Welschbruch 147.05 337 PKP PKPdf 18 22 37.9 +2.3
VAL Valentia 147.06 359⇑ *i*P PKPdf 18 22 33.0 -2.6
CDF Champ du Feu 147.08 337 *e*PKIKP PKPdf 18 22 34.2 -1.4
comp=Z,1µm,0.9s
SWK Warminster 147.12 350 *e*P PKPdf 18 22 36.1 +0.4
CTI Castel Tesino 147.13 330 PKIKP PKPdf 18 22 35.3 -0.4
LCI Lecce 147.16 317 PKP2 PKPab 18 22 38.5 -1.8
LIBD Limburg 147.18 337 PKP2 PKPab 18 22 38.3 -2.0
FELD Feldberg im Sc 147.25 336 PKP PKPdf 18 22 38.6 +2.7
ECH Echery 147.28 337 PKP PKPdf 18 22 37.9 +1.9
HEX Exmoor 147.43 352⇑ *e*P PKPdf 18 22 37.5 +1.3
HTL Hartland 147.59 352 *e*P PKPdf 18 22 38.5 +2.1
HTL AMb AMB 18 22 46.5
comp=Z,143nm,1.1s
MOF Molkenrain 147.60 337 PKP PKPbc 18 22 40.1 +0.7
MABI Malga Bissina 147.65 332 PKP PKPdf 18 22 38.2 +1.6
THEF They Montfort 147.69 339 PKP PKPbc 18 22 40.1 +0.5
HINF Hinteralfeld 147.73 337 *e*PKIKP PKPdf 18 22 35.7 -1.0
comp=Z,291nm,0.9s
FGMS Monte Sant'Ang 147.74 321 PKP PKPdf 18 22 39.0 +2.3
HAU Haudompre 147.75 338 *e*PKIKP PKPdf 18 22 35.6 -1.1
comp=Z,875nm,0.9s
HAU *e*MLR MLR
comp=Z,820nm,20.5s
HAU Haudompre 147.75 338 *e*PKPdf PKPdf 18 22 35.6 -1.1
HAU LR LR
comp=Z,820nm,20.5s
MEZF Maizieres J'vi 147.77 340 *e*PKIKP PKPdf 18 22 36.5 -0.3
comp=Z,1µm,1.1s
BBS Basel-Blauen 147.78 336 PKP2 PKPab 18 22 39.9 -2.8
TUE Stuetta 147.84 333 PKP PKPdf 18 22 38.0 +1.1
DYA Yadsworthy 148.07 351 *e*P PKPdf 18 22 38.9 +1.7
LOMF Lomont 148.13 337 PKP PKPbc 18 22 40.7 -0.1
CING Cingoli 148.25 325 PKP PKPdf 18 22 36.9 -0.7
CSA1 St Austell 148.27 353 *e*P PKPdf 18 22 39.6 +2.0
CCA1 Carnmenellis 148.48 353 *e*P PKPdf 18 22 39.0 +1.0
CRQ2 Rosemanowes 2 148.49 353 *e*P PKPdf 18 22 37.2 -0.7
CMA1 Manaccan 148.57 353 *e*P PKPdf 18 22 39.3 +1.3
CGH1 Goonhilly 148.60 353 *e*P PKPdf 18 22 38.8 +0.7
TIP Timpagrande 148.66 316 *e*PKPbc PKPbc 18 22 43.9 +1.7
MURB Monte Urbino 148.69 326 PKP PKPdf 18 22 40.3 +2.0
FNVD Fontana Vidola 148.76 329 PKP PKPdf 18 22 38.4 0.0
MIDA Miranda 148.79 322 PKP PKPdf 18 22 40.4 +2.0
AQU L'Aquila 148.82 324⇓ *i*P PKPdf 18 22 40.1 +1.6
AQU L'Aquila 148.82 324 *e*PKIKP PKPdf 18 22 38.2 -0.3
AQU *e* 18 22 41.9
AQU L'Aquila 148.82 324 *e*PKPdf PKPdf 18 22 38.2 -0.3
AQU P 18 22 41.6
AQU *e*PKPbc PKPbc 18 22 41.9 -0.7
CUC Castrocucco 148.82 318 PKP PKPdf 18 22 37.7 -0.8
CABF La Chapelle 149.03 337 *e*PKIKP PKPdf 18 22 37.7 -1.1
comp=Z,1µm,0.9s
OG01 Vacheresse 149.04 336 PKP PKPbc 18 22 43.6 +0.5
FLN La Foliniere 149.05 346 *e*PKIKP PKPdf 18 22 37.9 -1.0
comp=Z,311nm,0.6s
FLN *e*MLR MLR
comp=Z,772nm,22.2s
FLN La Foliniere 149.05 346 *e*PKPdf PKPdf 18 22 37.9 -1.0
FLN LR LR
comp=Z,770nm,22.3s
BOB Bobbio (Coli) 149.12 331 PKP2 PKPbc 18 22 43.3 0.0
LDF La Druitiere 149.13 346 *e*PKIKP PKPdf 18 22 38.9 -0.1
comp=Z,220nm,0.6s
VLC Villacollemand 149.13 329 *e*PKPbc PKPbc 18 22 42.0 -1.4
RFI Roccamonfina 149.16 322 PKP PKPdf 18 22 40.6 +1.6
CSNT Castellina Chi 149.18 327 PKP PKPbc 18 22 43.1 -0.4
LOR Lormes 149.24 340 *e*PKIKP PKPdf 18 22 37.9 -1.2
comp=Z,808nm,0.9s
LOR *e*MLR MLR
comp=Z,634nm,20.5s
LOR Lormes 149.24 340 *e*PKPdf PKPdf 18 22 37.9 -1.2
LOR LR LR
comp=Z,630nm,20.5s
CERT Cerreto 149.32 324 PKP PKPdf 18 22 38.2 -1.1
GRR Gorron 149.49 347 *e*PKIKP PKPdf 18 22 38.8 -0.7
comp=Z,321nm,0.7s
SSF Saint Saulge 149.53 340 *e*PKIKP PKPdf 18 22 39.0 -0.6
comp=Z,718nm,0.9s
RSL Roselend 149.59 335 PKP PKPbc 18 22 44.7 +0.2
HYF Humbligny 149.62 342 *e*PKIKP PKPdf 18 22 40.8 +1.1
LPL La Plagne 149.69 335 *e*PKIKP PKPdf 18 22 40.6 +0.7
comp=Z,667nm,0.9s
LPG La Plagne 149.70 335 *e*PKIKP PKPdf 18 22 40.5 +0.6
comp=Z,768nm,0.9s
OG05 Jujurieux 149.74 337 PKP PKPbc 18 22 45.2 +0.4
TOLF Tolfa 149.79 325 PKP PKPdf 18 22 44.0 +4.0
SMF Signal de Mont 149.79 340 *e*PKIKP PKPdf 18 22 39.1 -0.9
comp=Z,356nm,1.0s
AVF Avril sur Loir 149.82 340 *e*PKIKP PKPdf 18 22 39.0 -1.1
comp=Z,295nm,1.0s
SCLL Scilla 149.84 315 PKP PKPdf 18 22 41.4 +1.3
SGMF Saint Gilles 149.96 349 *e*PKIKP PKPdf 18 22 38.7 -1.6
comp=Z,312nm,0.8s
MAON Monte Argentar 150.00 326 PKP PKPbc 18 22 45.9 +0.4
ROSF Rostrenen 150.01 350 *e*PKIKP PKPdf 18 22 39.9 -0.5
comp=Z,322nm,1.0s
BNI Bardonecchia 150.09 334 *e*PKIKP PKPdf 18 22 41.0 +0.5
BNI *e* 18 22 45.7
BNI Bardonecchia 150.09 334 *e*PKPdf PKPdf 18 22 41.0 +0.5
BNI *e*PKPbc PKPbc 18 22 45.7 0.0
BNI *ep*PKPdf pPKPdf 18 23 29.3 +4.3
FIN Finale Ligure 150.11 332 PKIKP PKPdf 18 22 44.1 +3.6
BGF Bois d'Agland 150.19 341 *e*PKIKP PKPdf 18 22 40.8 +0.1
comp=Z,501nm,0.8s
DOI San Damiano 150.30 333 PKIKP PKPdf 18 22 44.8 +4.0
MBDF Montbardon 150.32 334 *e*PKIKP PKPdf 18 22 39.8 -1.1
comp=Z,384nm,0.8s

QUIF	Quistinic	150.39	349	*e*PKIKP	PKPdf	18 22 40.4	-0.6
	comp=Z,89nm,0.7s						
PLDF	La Plantade	150.46	339	PKP	PKPbc	18 22 47.0	+0.5
ORIF	Oris-en-Rattie	150.52	335	*e*PKIKP	PKPdf	18 22 42.4	+1.2
	comp=Z,910nm,0.8s						
ORIF				*e*MLR	MLR		
	comp=Z,385nm,17.8s						
AGO	Saint Agoulin	150.54	340	PKP	PKPbc	18 22 46.3	-0.5
SAOF	Saorge	150.58	332	PKP	PKPbc	18 22 46.7	-0.1
AUTN	L'Aution	150.62	332	PKP	PKPbc	18 22 47.3	+0.4
TCF	Toulx Ste Croi	150.63	341	*e*PKIKP	PKPdf	18 22 40.0	-1.3
	comp=Z,421nm,1.0s						
TOUF	Mont Tournerai	150.69	333	PKP	PKPbc	18 22 48.1	+1.0
SBF	Sospel	150.73	332	*e*PKIKP	PKPdf	18 22 41.6	+0.1
	comp=Z,1μm,0.9s						
LUCF	Luceram	150.74	332	PKP	PKPdf	18 22 45.7	+4.2
COLF	Collangettes	150.82	339	PKP	PKPbc	18 22 47.8	+0.4
MVIF	Mont Vial	150.82	333	PKP	PKPdf	18 22 46.5	+4.9
PYM	Petit Puy Mans	150.85	340	PKP	PKPbc	18 22 47.9	+0.4
REVF	Revere	150.85	332	PKP	PKPbc	18 22 47.5	0.0
OG25	Le Caire	150.90	334	PKP	PKPbc	18 22 47.8	+0.2
MFF	Saint Martin d	151.00	344	*e*PKIKP	PKPdf	18 22 40.7	-1.2
	comp=Z,433nm,1.0s						
PGF	Pioggiola	151.00	329	*e*PKIKP	PKPdf	18 22 41.8	-0.1
	comp=Z,2μm,0.7s						
OCF	Saint Nazaire	151.03	336	PKP	PKPbc	18 22 47.3	-0.6
OG26	St.-Nazaire-De	151.03	336	PKP	PKPbc	18 22 47.3	-0.6
VIVF	Saint-Julien-l	151.04	337	*e*PKIKP	PKPdf	18 22 41.9	-0.1
	comp=Z,463nm,0.9s						
CSLB	Castelbuono	151.11	316	PKP	PKPbc	18 22 50.8	+2.7
VAE	Valguarnera	151.13	315	PKP	PKPdf	18 22 41.6	-0.5
	comp=Z,15nm,1.0s,baz=202,slow=20,SNR=2.6						
VAE				PKPbc	PKPbc	18 22 50.1	+1.9
	comp=Z,113nm,0.9s,baz=22,slow=1.8,SNR=19						
HMDC	Modica	151.15	314	PKP	PKPbc	18 22 48.0	-0.2
LBL	Lubilhac	151.23	339	PKP	PKPbc	18 22 49.0	+0.7
USI	Ustica	151.23	318	PKP	PKPdf	18 22 44.3	+2.0
STOF	St-Etienne Org	151.27	334	PKP	PKPbc	18 22 48.8	+0.4
FRF	La Foret Royal	151.31	333	*e*PKIKP	PKPdf	18 22 43.5	+1.1
	comp=Z,702nm,0.9s						
TAVF	Tavernes	151.52	334	PKP	PKPbc	18 22 49.5	+0.5
LMR	La Mourre	151.55	333	*e*PKIKP	PKPdf	18 22 44.3	+1.6
	comp=Z,758nm,0.9s						
RJF	Les Rejaudoux	151.72	341	*e*PKIKP	PKPdf	18 22 43.1	+0.1
	comp=Z,219nm,1.1s						
RJF				*e*MLR	MLR		
	comp=Z,996nm,19.8s						
RJF	Les Rejaudoux	151.72	341	*e*PKPdf	PKPdf	18 22 43.1	+0.1
RJF				LR	LR		
	comp=Z,1μm,19.8s						
PRAF	Pradon	151.73	335	PKP	PKPbc	18 22 50.3	+0.8
CLTB	Caltabellotta	151.86	316	PKP	PKPdf	18 22 44.4	+1.2
CAF	Calviac	151.89	340	*e*PKIKP	PKPdf	18 22 44.1	+0.8
	comp=Z,34nm,0.5s						
GELF	Grande-Etoile	151.97	334	PKP	PKPbc	18 22 49.9	-0.1
LASF	Ste Croix	152.01	337	*e*PKIKP	PKPdf	18 22 43.0	-0.4
	comp=Z,323nm,0.9s						
LFF	La Frestale	152.29	342	*e*PKIKP	PKPdf	18 22 44.4	+0.6
	comp=Z,226nm,0.8s						
VSL	Villasalto	152.99	324	*e*PKPdf	PKPdf	18 22 44.7	-0.2
VSL				*e*PKPbc	PKPbc	18 22 51.7	-0.7
MTLF	Montolieu	153.24	338	*e*PKIKP	PKPdf	18 22 45.0	-0.2
	comp=Z,124nm,1.0s						
EJON	La Jonquera	153.77	336	PKP	PKPdf	18 22 46.4	+0.4
EPF	Esparros	154.14	341	*e*PKIKP	PKPdf	18 22 46.0	-0.5
	comp=Z,90nm,1.0s						
RESF	Ens	154.34	341	PKP	PKPdf	18 22 50.3	+3.5
VIEF	Viey	154.37	341	PKP	PKPdf	18 22 48.6	+1.8
EBIE	Bielsa	154.51	341	PKP	PKPdf	18 22 47.9	+0.9
SJPF	Ste Jean	154.52	343	*e*PKIKP	PKPdf	18 22 47.9	+0.9
	comp=Z,144nm,1.2s						
LARF	Larrau	154.53	343	PKP	PKPdf	18 22 47.1	0.0
EMIR	Miracle	154.74	338	PKP	PKPdf	18 22 47.9	+0.6
STGR	Santa Cruz	155.08	33	*e*PKP	PKPab	18 23 17.0	+3.8
PAMA	Santo Amaro	155.29	34	*e*PKP	PKPab	18 23 16.3	+2.2
PCND	Candelaria	155.30	34	*e*PKP	PKPab	18 23 17.4	+3.3
PTEI	Pico do Teixo	155.34	34	*e*PKP	PKPab	18 23 18.6	+4.3
PBOI	Pico dos Bois	155.37	34	*e*PKP	PKPab	18 23 16.7	+2.3
EPOB	Poblet	155.39	338	PKP	PKPdf	18 22 48.8	+0.6
KEST	Kesra	155.46	317	PKP	PKPdf	18 22 47.7	-0.6
	comp=Z,111nm,1.0s,baz=293,slow=2.7,SNR=25						
KEST				PKPbc	PKPdf	18 23 00.3	+12
	comp=Z,33nm,0.9s,baz=60,slow=1.3,SNR=27						
KEST				PP	PP	18 26 51.8	-0.1
	comp=Z,3.2nm,0.8s,baz=38,slow=23,SNR=2.5						
ESAC	San Caprasio	155.58	341	PKP	PKPdf	18 22 47.2	-1.3
ASBA	Santa Barbara	155.70	32	*e*PKP	PKPab	18 23 17.8	+2.0
PBIS	Biscoitos	155.71	32	*e*PKP	PKPab	18 23 16.9	+1.0
PPAD	Pico dos Padre	155.74	32	*e*PKP	PKPab	18 23 17.6	+1.6
PVNV	Vila Nova	155.75	32	*e*PKP	PKPab	18 23 16.5	+0.4
RIB2	Ribeirinha	155.82	32	*e*PKP	PKPab	18 23 16.9	+0.6
PFAV	Pico das Favas	155.83	32	*e*PKP	PKPab	18 23 16.9	+0.5
ERTA	Horta de San J	156.00	339	PKP	PKPdf	18 22 49.2	+0.2
CMAH	Djebel Manchou	156.08	321	P	PKPdf	18 22 49.0	-0.1
ERUA	La Rua	156.38	353	PKIKP	PKPdf	18 22 47.7	-1.8
CASM	Ain Smara	156.88	322	P	PKPdf	18 22 52.0	+1.8
PBRG	Braganca	156.91	352	*e*PKPbc	PKPdf	18 22 52.5	+2.3
DFRA	Djebel Bou Aff	157.03	323	P	PKPdf	18 22 53.0	+2.6
CTEI	Djebel Teioual	157.06	322	P	PKPdf	18 22 56.0	+5.6
PCAB	Cabril	157.15	354	*e*PKPab	PKPab	18 23 22.2	+0.1
PVER	Pico Vermelho	157.32	31	*e*PKP	PKPab	18 23 24.9	+2.1
CML	Cha da Macela	157.32	31	*e*PKP	PKPab	18 23 24.9	+2.1
CMLA	Cha da Macela	157.34	31	*e*PKP	PKPab	18 23 21.7	-1.2
LFA	Lagoa do Fogo	157.35	31	*e*PKP	PKPab	18 23 25.6	+2.6
MESC	Monte Escuro	157.35	31	*e*PKP	PKPab	18 23 26.3	+3.3
PFAD	Fenais da Ajud	157.38	31	*e*PKP	PKPab	18 23 23.8	+0.7
PRCH	Ribeira Ch	157.39	31	*e*PKP	PKPab	18 23 24.9	+1.8
VIF	Vila Franca	157.40	31	*e*PKP	PKPab	18 23 27.0	+3.9
PCNG	Congro	157.40	31	*e*PKP	PKPab	18 23 24.7	+1.5
FRA1	Furnas	157.44	31	*e*PKP	PKPab	18 23 24.7	+1.4
MIRA	Miradouro	157.44	31	*e*PKP	PKPab	18 23 23.4	+0.1
SET	Setif	157.55	323	P	PKPdf	18 22 53.0	+2.0
PVRL	Vila Real	157.55	354	*e*PKPbc	PKPdf	18 22 52.8	+1.8
PVRL	Vila Real	157.55	354	*e*PKPab	PKPab	18 23 24.7	+0.9
CKHR	Kef el Ahmar	157.61	323	P	PKPdf	18 22 55.0	+3.9
CMER	Merouana	157.66	322	P	PKPdf	18 22 52.0	+0.8
PVIS	Viseu	158.13	354	*e*PKPbc	PKPdf	18 22 53.7	+2.0
PVIS	Viseu	158.13	354	*e*PKPab	PKPab	18 23 26.8	+0.5
EBEN	Beniarda	158.19	337	PKP	PKPdf	18 22 53.2	+1.4
ABA	Alger-Bouzarea	158.36	328	P	PKPdf	18 22 51.0	-1.0
MTE	Manteigas	158.40	353	*e*PKPbc	PKPdf	18 22 52.4	+0.3
MTE	Manteigas	158.40	353	*e*PKPdf	PKPdf	18 22 51.8	-0.3
MTE				*e*PKPab	PKPab	18 23 27.8	+0.4
ESDC	Sonseca Array	158.46	345	PKP	PKPdf	18 22 53.0	+0.9
	comp=Z,3.4nm,0.9s,baz=9.6,slow=2.6,SNR=8.8						
ESDC				PKPab	PKPab	18 23 26.9	-0.9
	comp=Z,11nm,0.6s,baz=10,slow=4.1,SNR=20						
ESDC				PP	PP	18 27 10.3	+1.9
	comp=Z,2.6nm,0.8s,baz=12,slow=5.8,SNR=3.8						
ESDC	Sonseca Array	158.46	345	PKP	PKPdf	18 22 53.5	+1.4
ESLA	Sonseca Array	158.46	345	*e*PKPdf	PKPdf	18 22 51.9	-0.3
ESLA				*e*PKPab	PKPab	18 23 29.2	+1.5
ETOB	Tobarra	158.71	339	PKP	PKPdf	18 22 53.9	+1.4
EMHD	Djebel Mahouad	158.86	327	P	PKPdf	18 22 52.0	-0.6
PCBR	Castelo Branco	158.94	352	*e*PKPbc	PKPdf	18 22 52.8	+0.1
EVIA	Vianos	159.02	341	PKIKP	PKPdf	18 22 53.5	+0.7
PTOM	Tomar	159.26	354	*e*PKPbc	PKPdf	18 22 53.2	+0.1
EMUR	La Murta	159.33	338	PKP	PKPdf	18 22 54.5	+1.3
EBNR	Beni Rached	159.49	330	P	PKPdf	18 22 54.0	+0.7
ECHA	Ech Chlef	159.69	330	P	PKPdf	18 22 55.0	+1.4
EBAN	Banos Encina	159.84	343	PKIKP	PKPdf	18 22 55.9	+2.2
PESTR	Estremoz	159.92	352	*e*PKPbc	PKPdf	18 22 54.5	+0.7
EBAD	Badajoz	159.95	351	PKP	PKPdf	18 22 51.7	-2.1
EQES	Quesada	159.97	341	PKP	PKPdf	18 22 56.0	+2.1
EANR	'Ain N'Sour	159.97	330	P	PKPdf	18 22 56.0	+2.1
EADA	Adamuz	160.04	345	PKIKP	PKPdf	18 22 54.7	+0.7
LIS	Lisbon	160.22	356	*e*P	PKPdf	18 22 53.2	-0.9
EVO	Evora	160.30	353	*e*PKIKP	PKPdf	18 22 53.0	-1.2
	comp=Z,68nm,0.9s						
EVO				*e*MLR	MLR		
	comp=Z,1μm,23.0s						
ETRT	Tiaret	160.33	329	P	PKPdf	18 22 57.0	+2.7
ENIJ	Nijar	160.45	339	PKIKP	PKPdf	18 22 56.6	+2.2
ECOG	Cogollos-Vega	160.60	342	PKIKP	PKPdf	18 22 54.3	-0.3
PBEJ	Beja	160.78	353	*e*PKPbc	PKPdf	18 22 54.5	-0.3
PBEJ	Beja	160.78	353	*e*PKPab	PKPab	18 23 37.7	-0.2
EMIN	Mina Concepcio	160.86	350	PKP	PKPdf	18 22 54.5	-0.4
ERON	Agron	160.91	342	PKP	PKPdf	18 22 52.1	-2.9
EGRO	El Granado	161.21	351	PKP	PKPdf	18 22 56.7	+1.5
PTEO	Sao Teotonio	161.35	354	*e*PKPbc	PKPdf	18 22 54.8	-0.6
PTEO	Sao Teotonio	161.35	354	*e*PKPab	PKPab	18 23 40.2	-0.1
ESPR	Espera	161.57	347	PKP	PKPdf	18 22 55.3	-0.3
MORF	Marmelete	161.58	354	*e*P	PKPdf	18 22 53.0	-2.6
EJIF	Jimena Fronter	161.88	346	PKIKP	PKPdf	18 22 54.6	-1.3
MDT	Midelt	165.04	339	PP	PP	18 27 43.8	+0.4
	comp=Z,8.4nm,1.1s,baz=20,slow=7.2,SNR=3.3						
PMPS	Porto Santo	165.13	18	*e*PKPbc	PKPdf	18 22 59.3	+0.3
DBIC	Dimbokro	166.44	207	PKP	PKPdf	18 22 59.5	-0.5
	comp=Z,41nm,1.0s,baz=115,slow=1.5,SNR=20						
DBIC				pPKP	pPKPdf	18 23 41.1	-3.6
	comp=Z,10.0nm,0.8s,baz=145,slow=17,SNR=1.6						
DBIC				PKPab	PKPab	18 24 02.6	-0.1
	comp=Z,49nm,0.8s,baz=145,slow=5.5,SNR=11						
DBIC	Dimbokro	166.44	207⇑	*e*PKPdf	PKPdf	18 22 59.4	-0.6
DBIC				*e*pPKPdf	pPKPdf	18 23 42.4	-2.3
DBIC			⇑	*e*PKPab	PKPab	18 24 01.4	-1.3
TOA0	Torodi Ar. Sit	166.53	247	*e*PKPdf	PKPdf	18 22 59.5	-0.6
TOA0				*e*PKPab	PKPab	18 24 03.2	+0.1
TORD	Torodi Ar. Bea	166.53	247	PKP	PKPdf	18 22 59.7	-0.4
	comp=Z,93nm,0.9s,baz=7.8,slow=0.4,SNR=169						
TORD				pPKP	pPKPdf	18 23 40.4	-4.4
	comp=Z,8.3nm,1.0s,baz=104,slow=3.9,SNR=0.6						
TORD				PKPab	PKPab	18 24 03.1	-0.1
	comp=Z,43nm,1.0s,baz=99,slow=3.7,SNR=9.0						
TORD				pPKPab	pPKPab	18 24 42.0	-3.8
	comp=Z,23nm,1.1s,baz=127,slow=3.4,SNR=2.3						
TORD	Torodi Ar. Bea	166.53	247	PKP	PKPdf	18 22 59.7	-0.4
TORD				pPKP	pPKPdf	18 23 40.4	-4.4
TORD				PKPab	PKPab	18 24 03.1	-0.1
TORD				pPKPab	pPKPab	18 24 42.0	-3.8
EFAM	Famara	169.58	12	PKP	PKPdf	18 22 60.0	-2.2
EOSO	Osorio	169.98	24	PKP	PKPdf	18 22 58.2	-4.2
CFTV	Fuerteventura	170.14	16	PKP	PKPdf	18 23 00.1	-2.4

NEIC ***03*** *18:12:43.3, 4507S×16734E, h128km, MG3.9(WEL), After WEL.*
WEL 03 18:12:43.6±0.4, 4508S×16736E, h125km±3km, ML3.2/10, 2C, Error ellipse: s-maj=4.4km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.42	200	P	Pn	18 13 01.4	-0.2
DCZ				S	Sn	18 13 14.5	-0.7
DCZ	Deep Cove	0.42	200	PN	Pn	18 13 01.4	-0.3
DCZ				SN	Sn	18 13 14.2	-1.0
MSZ	Milford Sound	0.58	45	P	Pn	18 13 02.8	+0.2
MSZ				S	Sn	18 13 16.8	0.0
MSZ	Milford Sound	0.58	45	⇑PN	Pn	18 13 02.8	+0.2
MSZ				SN	Sn	18 13 16.5	-0.3
MLZ	Mavora Lakes	0.64	115	*e*P	Pn	18 13 02.8	-0.2
MLZ	Mavora Lakes	0.64	115	⇑PN	Pn	18 13 02.8	-0.2
WKZ	Wanaka	1.21	78	*e*P	Pn	18 13 08.1	0.0
WKZ	Wanaka	1.21	78	PN	Pn	18 13 08.0	-0.1
EAZ	Earnscleugh	1.39	97	*e*P	Pn	18 13 10.0	-0.1
EAZ	Earnscleugh	1.39	97	PN	Pn	18 13 09.9	-0.2
JCZ	Jackson Bay	1.42	45	*e*P	Pn	18 13 10.1	-0.3
JCZ	Jackson Bay	1.42	45	PN	Pn	18 13 10.1	-0.3
APZ	The Paps	1.81	166	PN	Pn	18 13 14.9	-0.1
TUZ	Tuapeka	1.82	119	*e*P	Pn	18 13 15.1	0.0
TUZ	Tuapeka	1.82	119	PN	Pn	18 13 15.0	-0.2
SYZ	Scrubby Hill	1.92	140	PN	Pn	18 13 16.4	+0.1
LBZ	Lake Benmore	2.13	72	PN	Pn	18 13 17.4	-1.5
FOZ	Fox Glacier	2.26	49	*e*PN	Pn	18 13 20.1	-0.4
FOZ				SN	Sn	18 13 47.5	-1.3
ODZ	Otahua Downs	2.33	90	*e*P	Pn	18 13 20.3	-1.1
ODZ	Otahua Downs	2.33	90	PN	Pn	18 13 20.3	-1.1

NIED ***03*** *18:16:00, 4330N×14780E, h11km, Mw4.2 Best double couple: M0:1.97000×10^15 NP1:φ=60.00000°, δ78.00000°, λ104.00000°. NP2:φ=190.00000°, δ18.00000°, λ41.00000°.*
JMA ***03*** *18:16:16.5±0.3, 4330N×14775E, h4km, M4.3*
ISCJB ***03*** *18:16:17.6±1.4, 4330N±009×1477E±01, h10km, Error ellipse: s-maj=13.7km s-min=10.7km az=47.0*
SKHL ***03*** *18:16:18.2±0.9, 4339N×14803E, h50km±19km, mb4.5/2*
ISC 03 18:16:19.0±1.5, 434N±01×1477E±01, h10km, n17, σ0=84/23, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.43	271	P	Pn	18 16 43.7	-1.3
NEM2				*e*S	Sn	18 17 04.0	+0.1
YUK	Yuzh-Kuril'sk	1.50	298	*e*P	Pn	18 16 44.5	-1.5
YUK				AMB	AMB	18 16 50.2	
	280nm,0.4s						
YUK				AMB	AMB	18 16 50.2	
	440nm,0.3s						
YUK				AMB	AMB	18 16 50.2	
	420nm,0.5s						
YUK				*e*S	Sn	18 17 04.9	-0.7
YUK				A		18 17 11.5	
	6μm,0.8s						
YUK				A		18 17 11.5	
	8μm,0.9s						
YUK				A		18 17 12.6	
	6μm,0.6s						
YUK				A		18 17 12.6	
	6μm,0.7s						
KUR	Kuril'sk	1.89	3	⇓*i*P	Pn	18 16 45.7	-5.5
JRA	Rausu	1.96	288	P	Pn	18 16 51.9	-0.4
JRA				*e*S	Sn	18 17 17.6	+0.6
JNK	Nakash	2.19	277	P	Pn	18 16 54.5	-0.9
JNK				*e*S	Sn	18 17 22.4	-0.1
JAK	Akkeshi	2.23	262	P	Pn	18 16 55.1	-0.9
JAK				*e*S	Sn	18 17 23.5	-0.1
JTKR	Abashiri--Toko	2.82	284	P	Pn	18 17 04.3	+0.2
JOB	Onbets	2.87	262	P	Pn	18 17 04.3	-0.5
JAR	Ashorobuto	2.87	270	P	Pn	18 17 04.9	+0.1
JMP	Maruseppu	3.22	283	P	Pn	18 17 10.3	+0.7
JCH	Churui	3.27	258	P	Pn	18 17 09.7	-0.6
JCH				*e*S	Sn	18 17 49.3	+0.1
JEM	Erimo	3.61	250	P	Pn	18 17 15.7	+0.8
JKK2	Kamakawa 2	3.64	280	P	Pn	18 17 16.5	+1.2
JFR	Furan	3.74	269	P	Pn	18 17 17.4	+0.7
JNBK	Urakawa-nobuka	3.80	255	P	Pn	18 17 17.1	-0.4
JWK2	Keihoku	4.61	297	P	Pn	18 17 30.9	+2.3
JEW	Eniwo	4.61	266	P	Pn	18 17 30.0	+1.3

BJI ***03*** *18:25:27.8, 983S×16130E, h55km, mB5.0, mb4.9*
ISCJB ***03*** *18:25:28.3±1.5, 1037S±007×1613E±01, h86km±11km, mb4.6/16, Error ellipse: s-maj=20.1km s-min=10.7km az=152.7*
IDC ***03*** *18:25:29.8±2.5, 1040S×16125E, h78km±19km, mb4.3/7, mb1 4.4/9, mb1mx4.4/12, mbtmp4.6/9, Error ellipse: s-maj=29.5km s-min=15.5km az=74.0*
NEIC ***03*** *18:25:29.3±1.0, 1036S×16130E, h77km±8km, mb4.7/13, Error ellipse: s-maj=12.3km s-min=7.6km az=78.0*
ISC 03 18:25:29.0±1.3, 1038S±007×1613E±01, h75km±10km, n30, σ0=59/34, mb4.6/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.66	304	P	Pn	18 25 56.0	-0.2
	2μm,0.3s,baz=113,slow=3.3,SNR=826						
HNR				S	Sn	18 26 16.6	-0.1
	2μm,0.3s,baz=102,slow=13,SNR=6.9						
HNR	Honiara	1.66	304	*e*Pn	Pn	18 25 55.8	-0.4
HNR				S	Sn	18 26 16.6	-0.1
DZM	Mont Dzumac	12.62	158	*e*P	Pn	18 28 25.1	-0.4
DZM				*e*S	Sn	18 30 36.5	-7.6
DZM	Mont Dzumac	12.62	158	P	Pn	18 28 26.0	+0.5
	3.8nm,0.3s,baz=322,slow=13,SNR=72						
DZM				S	Sn	18 30 33.2	-11
	0.3nm,0.3s,baz=339,slow=21,SNR=2.3						
PMG	Port Moresby	14.00	273	*e*Pn	Pn	18 28 53.4	+10
	19nm,1.0s						
CTA	Charters Tower	17.45	235	*e*P	Pn	18 29 28.8	+1.4
	15nm,0.7s						
CTA	Charters Tower	17.45	235	P	Pn	18 29 28.9	+1.5
	0.9nm,0.3s,baz=63,slow=14,SNR=9.1						
CTAO	Charters Tower	17.45	235	*e*Pn	Pn	18 29 28.4	+1.0
	31nm,0.9s						
WB2	Warramunga Arr	27.69	247	*e*P	P	18 31 09.5	-0.5
STKA	Stephens Creek	28.13	218	*e*P	P	18 31 14.3	+0.4
	5.4nm,0.8s,mb4.1						
STKA	Stephens Creek	28.13	218	P	P	18 31 14.6	+0.6
	4.9nm,1.1s,mb3.9,baz=19,slow=11,SNR=3.1						
ASAR	Alice Springs	29.30	240	P	P	18 31 23.4	-0.9
	1.1nm,0.5s,mb3.7,baz=63,slow=10.0,SNR=20						
FITZ	Fitzroy Crossi	35.39	253	*e*P	P	18 32 17.0	-0.5
	10nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	35.39	253	P	P	18 32 17.4	-0.2
	7.8nm,0.6s,mb4.7,baz=100,slow=11,SNR=39						
MBWA	Marble Bar	41.33	250	*e*P	P	18 33 07.2	-0.1
	9.0nm,0.9s,mb4.6						
MJAR	Matsushiro Arr	51.49	336	P	P	18 34 26.7	-0.2
	4.3nm,0.7s,mb4.6,baz=168,slow=8.6,SNR=15						
MAJO	Matsushiro	51.49	336	*e*P	P	18 34 26.4	-0.6
	9.4nm,0.7s,mb4.9						
MAT	Matsushiro	51.49	336	P	P	18 34 26.8	-0.1
MDJ	Mudanjiang	61.81	335	*e*P	P	18 35 40.7	+0.6
	13nm,1.1s,mb4.9						
KULM	Kulim	62.40	282	P	P	18 35 44.5	+0.6
CN2	Changchun	63.01	332	*e*P	P	18 35 48.4	+0.3
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CASY	Casey	65.47	200	*e*P	P	18 36 03.1	-1.0
	comp=Z,3.2nm,0.8s,mb4.2						
VNDA	Vanda	67.13	180	P	P	18 36 14.8	0.0
	comp=Z,7.4nm,0.7s,mb4.6,baz=342,slow=6.6,SNR=37						
SBA	Scott Base	67.52	179	*e*P	P	18 36 17.9	+0.7
	comp=Z,7.3nm,1.0s,mb4.5						
HIA	Hailar	69.71	332	*e*P	P	18 36 30.8	0.0
	comp=Z,5.2nm,0.7s,mb4.5						
SONM	Songino Array	75.61	325	P	P	18 37 06.9	+1.1
	comp=Z,5.5nm,0.7s,mb4.4,baz=143,slow=5.8,SNR=24						
YAK	Yakutsk	76.29	345	*e*P	P	18 37 09.4	-0.2
	comp=Z,28nm,0.7s,mb5.1						
QSPA	South Pole Qui	79.62	180	*e*P	P	18 37 27.4	-0.8
	comp=Z,12nm,0.8s,mb4.8						
MAW	Mawson	83.70	202	P	P	18 37 49.8	+0.2
	comp=Z,8.4nm,0.7s,mb4.7,baz=104,slow=6.8,SNR=25						
MAW	Mawson	83.70	202	*e*P	P	18 37 49.3	-0.3
	comp=Z,26nm,1.1s,mb5.0						

CSEM ***03*** *18:35:14.4, 67.18N×2068E, h4km, ML3.1, Mining explosion. After UPP*
UPP ***03*** *18:35:14.4, 67.18N×2068E, h4km, ML3.1, Mining explosion.*
HEL 03 18:35:14.9±0.1, 6718N×2067E, h0km, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	212	*i*P	Pg	18 35 16.0	-0.3
MASU	Masugnsbyn	0.58	61	*i*P	Pg	18 35 25.2	-0.9
KUA	Kurravaara	0.78	351	*i*P	Pg	18 35 29.2	-0.8
SALU	Saltoluokta	0.86	284	*i*P	Pg	18 35 30.6	-0.9
ERTU	Ertsjaerv	0.87	136	*i*P	Pg	18 35 31.0	-0.6
ERTU	Ertsjaerv	0.87	136	P	Pg	18 35 31.0	-0.6
	baz=284						
NIKU	Nikkaluokta	0.93	318	*e*P	Pg	18 35 31.5	-1.3
PAJU	Pajala	0.97	98	*e*P	Pg	18 35 32.0	-1.5
LANU	Lannavaara	1.00	30	*e*P	Pg	18 35 32.6	-1.6
HARU	Harads	1.03	173	*e*P	Pg	18 35 33.1	-1.6
HARU				*e*S	Sg	18 35 47.4	-0.7
HARU	Harads	1.03	173	P	Pg	18 35 33.1	-1.6
	baz=333						
HARU				S	Sg	18 35 47.4	-0.7
KALU	Kalix	1.71	140	*e*P	Pn	18 35 45.1	-0.8
KALU	Kalix	1.71	140	P	Pn	18 35 45.1	-0.8
	baz=330						
SJUU	Sjulsmark	1.73	167	*e*P	Pn	18 35 45.3	-0.8
KIF	Kilpisjarvi	1.83	1	*e*P	Pn	18 35 47.6	0.0
KIF				*e*S	Sn	18 36 12.7	+1.2
LILU	Lilltraesk	1.94	190	*e*P	Pn	18 35 48.7	-0.3
SGF	Sodankyl	2.

PMSA	Palmer Station	80.32	157	eP	P	18 50 10.6	+0.3
	comp=Z,11nm,0.8s,mb4.2						
KIPM	Iron Peak	80.45	40	eP	P	18 50 11.8	+0.8
MDJ	Mudanjiang	81.16	326	P	P	18 50 15.0	+0.3
MDJ				AP	pP	18 52 07.2	+0.7
MDJ				XP	sP	18 53 00.9	+1.4
MDJ				PP	PP	18 53 28.8	-0.3
MDJ				S	S	18 59 41.9	+0.1
MDJ				XS	sS	19 03 03.5	+2.5
MDJ				SS	SS	19 05 11.7	+0.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,241nm,11.8s						
CMB	Columbia Colle	81.28	43	eP	P	18 50 15.7	+0.4
	comp=Z,1.4nm,0.6s,mb3.6						
MTUM	Tungsten Hills	82.05	44	eP	P	18 50 20.4	+1.1
SYO	Syowa Base	85.03	193⇑	eP	P	18 50 32.3	-1.8
SNAA	Sanae	86.53	179	eP	P	18 50 39.5	-1.7
	comp=Z,1.5nm,0.6s,mb3.8						
BMO	Blue Mountains	87.14	39	eP	P	18 50 44.3	+0.2
	comp=Z,3.2nm,1.0s,mb3.9						
HLID	Hailey	88.15	41	eP	P	18 50 49.4	+0.6
	comp=Z,3.7nm,1.0s,mb4.1						
SRU	San Rafael	88.32	46	eP	P	18 50 48.6	-1.0
	comp=Z,7.0nm,1.2s,mb4.3						
PLCA	Paso Flores	88.99	134	P	P	18 50 54.1	+1.4
	comp=Z,2.1nm,0.7s,mb4.1,baz=230,slow=6.7,SNR=3.6						
PLCA	Paso Flores	88.99	134	eP	P	18 50 53.7	+0.9
	comp=Z,2.2nm,0.7s,mb4.1						
KMI	Kunming	89.11	297	P	P	18 50 56.2	+2.9
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
ANMO	Albuquerque	89.16	52	eP	P	18 50 53.8	+0.2
	comp=Z,1.7nm,0.7s,mb4.0						
COLA	College	89.90	13	P	P	18 50 54.5	-2.5
RRI2	Red Ridge	89.95	42	eP	P	18 51 02.6	+5.4
	comp=Z,9.3nm,0.9s,mb4.6						
IMW	Indian Meadow	90.47	42	eP	P	18 51 00.2	+0.7
	comp=Z,6.1nm,1.1s,mb4.3						
PDAR	Pinedale Array	90.77	44	P	P	18 51 01.2	+0.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=222,slow=3.1,SNR=16						
SDCO	Great Sand Dun	91.13	50	eP	P	18 51 03.0	+0.4
	comp=Z,1.8nm,0.8s,mb4.0						
WALA	Waterton Lakes	91.42	37	eP	P	18 51 02.9	-1.1
	comp=Z,3.9nm,1.0s,mb4.3						
BVAR	Borovoye Array	119.55	319	PKP	PKPdf	18 56 41.9	-2.1
	comp=Z,2.2nm,0.4s,baz=121,slow=2.1,SNR=18						
AKTK	Aktyubinsk	127.48	317	PKP	PKPdf	18 56 58.4	-0.9
AKTO	Aktyubinsk	127.48	317	PKP	PKPdf	18 56 58.4	-0.9
	comp=Z,1.4nm,0.5s,baz=148,slow=2.1,SNR=5.6						
ARCES	ARCESS Array B	130.20	349	PKP	PKPdf	18 57 02.1	-2.3
	comp=Z,2.7nm,0.6s,baz=9.8,slow=0.9,SNR=18						
JOF	Joensuu	134.23	341	ep	PKPdf	18 57 08.7	-3.3
	comp=Z,4.9nm,0.5s						
KAF	Kangasniemi	136.29	343	ep	PKPdf	18 57 13.1	-2.8
FINES	FINESS Array B	136.91	343	PKhKP		18 57 04.1	
	comp=Z,7.7nm,1.4s,baz=29,slow=4.4,SNR=3.5						
FINES				PKP	PKPdf	18 57 15.7	-1.3
	comp=Z,1.5nm,0.6s,baz=94,slow=4.4,SNR=7.9						
NB2	NORSAR Subarra	140.34	352	PKP	PKPdf	18 57 13.7	-10
	comp=Z,1.3nm,0.6s,baz=14,slow=4.0						
NOA	NORSAR Array B	140.34	352	PKhKP		18 57 14.2	
	comp=Z,1.0nm,0.6s,baz=34,slow=5.4,SNR=3.2						
NOA				PKP	PKPdf	18 57 23.9	+0.6
	comp=Z,1.2nm,0.6s,baz=14,slow=4.0,SNR=5.4						
HFS	Hagfors	140.85	350	PKhKP		18 57 16.6	
	comp=Z,1.6nm,0.4s,baz=45,slow=2.3,SNR=18						
HFS				PKP	PKPdf	18 57 24.4	+0.3
	comp=Z,1.3nm,0.5s,baz=354,slow=1.4,SNR=4.7						
AKASG	Malin Array Be	143.80	329	PKP	PKPdf	18 57 26.0	-3.4
	comp=Z,1.8nm,0.3s,baz=42,slow=4.3,SNR=30						
MALT	Malatya	143.98	305	ePKPdf	PKPdf	18 57 29.1	-0.6
BR131	Keskin Array S	147.04	310	ePKPbc	PKPbc	18 57 36.7	-1.2
BRTR	Keskin Array B	147.04	310	PKPbc	PKPbc	18 57 37.0	-0.8
	comp=Z,3.1nm,0.6s,baz=138,slow=3.9,SNR=22						
BSEG	Bad Segeberg	147.33	350	ePKPbc	PKPbc	18 57 37.6	-1.0
KWP	Kalwaria	147.48	333	ePKPbc	PKPbc	18 57 38.0	-1.0
ANTO	Ankara	147.58	311	⇓iP	PKPdf	18 57 38.5	+2.7
ANTO	Ankara	147.58	311	⇓P	PKPdf	18 57 38.5	+2.7
BURAR	Bucovina Array	147.82	328	⇓iP	PKPdf	18 57 39.3	+3.1
BURAR	Bucovina Array	147.82	328	⇓P	PKPdf	18 57 39.3	+3.1
KOLS	Kolonicke sedl	148.20	333	ePKP	PKPdf	18 57 39.5	+2.7
KOLS	Kolonicke sedl	148.20	333	ePKP	PKPdf	18 57 39.6	+2.8
STHS	Stebnicka Huta	148.25	334	ePKP	PKPbc	18 57 40.5	-0.5
CRVS	Cervenica-Dubn	148.56	334	ePKP	PKPbc	18 57 41.1	-0.6
NRDL	Niedersach Rie	148.75	349	ePKPbc	PKPbc	18 57 40.7	-1.5
KSP	Ksiaz	148.80	341	eP	PKPbc	18 57 41.4	-0.9
MLR	Muntele Rosu	148.88	325⇑	iP	PKPbc	18 57 41.3	-1.2
MLR	Muntele Rosu	148.88	325	⇑P	PKPbc	18 57 41.3	-1.2
UPC	Upice	149.18	341	ePKPbc	PKPbc	18 57 42.3	-0.9
UPC				ePKPab	PKPab	18 57 48.5	-1.3
DPC	Dobruska-Polom	149.22	341	ePKPbc	PKPbc	18 57 42.7	-0.6
CLL	Collm	149.27	345	ePKPbc	PKPbc	18 57 42.1	-1.4
CLL	Collm	149.27	345	⇓iPKPbc	PKPbc	18 57 42.4	-1.1
	comp=Z,21nm,1.0s						
CLL				ePKPab	PKPab	18 57 49.0	-1.2
KECS	Kecovo	149.29	334	ePKP	PKPbc	18 57 43.0	-0.5
MORC	Moravsky Berou	149.32	339	⇓iP	PKPbc	18 57 42.8	-0.8
MORC	Moravsky Berou	149.32	339	⇓P	PKPbc	18 57 42.8	-0.8
CLZ	Clausthal	149.32	348	ePKPbc	PKPbc	18 57 42.7	-0.9
VOIR		149.39	326	⇓iP	PKPdf	18 57 40.5	+1.8
VOIR		149.39	326	⇓P	PKPdf	18 57 40.5	+1.9
BRG	Berggiesshubel	149.43	344	ePKPbc	PKPbc	18 57 42.8	-1.0
BRG	Berggiesshubel	149.43	344	i PKP	PKPbc	18 57 42.7	-1.1
	comp=Z,8.9nm,0.9s						
BRG				e		18 57 49.5	
	comp=Z,4.2nm,1.0s						
PVCC	Panska Ves	149.58	343	ePKPbc	PKPbc	18 57 43.4	-0.8
DRGR		149.61	330⇑	iP	PKPbc	18 57 43.8	-0.5
DRGR		149.61	330	⇑P	PKPbc	18 57 43.8	-0.5
VYHS	Vyhne	149.93	336	ePKP	PKPbc	18 57 44.1	-0.9
PSZ	Piszkesteto	149.98	334	⇓iP	PKPbc	18 57 44.5	-0.7
PSZ	Piszkesteto	149.98	334	⇓P	PKPbc	18 57 44.5	-0.7
VRAC	Vranov	150.04	339	⇓iP	PKPbc	18 57 44.3	-1.0
VRAC	Vranov	150.04	339	⇓P	PKPbc	18 57 44.2	-1.0
PRU	Pruhonice	150.07	342	ePKPbc	PKPbc	18 57 44.2	-1.2
MOX	Moxa	150.21	346	ePKPbc	PKPbc	18 57 44.4	-1.3
MOX	Moxa	150.21	346	ePKP	PKPbc	18 57 44.7	-1.0
MOX							
	comp=Z,300nm,22.0s						
TANN	Tannenbergstha	150.22	345	ePKPbc	PKPbc	18 57 44.2	-1.5
UBBA	Unterbreizbach	150.37	348	ePKPbc	PKPbc	18 57 44.6	-1.5
NKC	Novy Kostel	150.40	345	ePKPbc	PKPbc	18 57 45.3	-0.8
GZR	Gura Zlata	150.59	328	⇓iP	PKPbc	18 57 45.1	-1.5
GZR	Gura Zlata	150.59	328	⇓P	PKPbc	18 57 45.1	-1.4
MANZ	Manzenberg	150.71	345	ePKPbc	PKPbc	18 57 45.9	-0.9
ROTZ	Rotzenmuhle	150.89	345	ePKPbc	PKPbc	18 57 46.2	-1.0
BZS	Buzias	150.99	329	⇓P	PKPbc	18 57 46.2	-1.3
KHC	Kasperske Hory	151.12	343	ePKPbc	PKPbc	18 57 46.7	-1.1
KHC				ePKPab	PKPab	18 57 57.6	-0.3
MEM	Membach	151.17	353	PKPbc	PKPbc	18 57 46.7	-1.2
GRA1	Grafenberg Arr	151.19	346	ePKPbc	PKPbc	18 57 46.3	-1.6
GRF	Grafenberg Arr	151.19	346	ePKPbc	PKPbc	18 57 46.3	-1.6
TNS	Taunus Mts	151.22	350	ePKPbc	PKPbc	18 57 46.9	-1.1
GEC2	GERESS Array S	151.34	342	ePKPbc	PKPbc	18 57 46.9	-1.4
GERES	GERESS Array B	151.34	342	PKPbc	PKPbc	18 57 47.3	-0.9
	comp=Z,3.5nm,0.7s,baz=48,slow=2.0,SNR=15						
PKSM	Moragy	151.86	333	⇓P	PKPbc	18 57 47.9	-1.5
DBIC	Dimbokro	163.78	159	PKP	PKPdf	18 57 56.2	-0.6
	comp=Z,4.8nm,0.8s,baz=185,slow=7.3,SNR=5.7						
DBIC				PKPab	PKPab	18 58 53.3	+0.5
	comp=Z,6.4nm,0.9s,baz=175,slow=7.2,SNR=5.6						
DBIC	Dimbokro	163.78	159	PKP	PKPdf	18 57 56.2	-0.7
DBIC				PKPab	PKPab	18 58 53.3	+0.5
TORD	Torodi Ar. Bea	171.15	185	PKP	PKPdf	18 58 00.8	-1.2
	comp=Z,2.3nm,0.8s,baz=288,slow=0.8,SNR=14						
TORD				PKPab	PKPab	18 59 25.2	-0.2
	comp=Z,3.1nm,0.7s,baz=169,slow=3.8,SNR=17						
TORD	Torodi Ar. Bea	171.15	185	PKP	PKPdf	18 58 00.8	-1.2
TORD				PKPab	PKPab	18 59 25.2	-0.2

*NEIC **03** 19:02:01.7, 3268S×7179W, h14km, ML3.1(GUC), After GUC.*

GUC 03 19:02:01.7±0.7, 3268S×7179W, h14km±4km, MD3.5, ML3.1, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ROCH	El Roble	0.72	114	⇑iP		Pg	19 02 15.4	-0.3
ROCH				i S		Sg	19 02 25.6	+0.4
LCCH	Las Cruces	0.82	167	i P		Pg	19 02 16.5	-1.1
LCCH				i S		Sg	19 02 27.6	-0.7
CHNG	Los Chungos	0.83	17	⇑iP		Pg	19 02 16.7	-1.1
PTCH	Petorca	0.83	61	⇑iP		Pg	19 02 17.3	-0.6
PTCH				i S		Sg	19 02 28.6	-0.3
PTCH				AML		AML	19 02 38.6	
	comp=N,2μm,0.7s							
PTCH	Petorca	0.83	61	⇑iP		Pg	19 02 17.3	-0.6
PTCH				i S		Sg	19 02 28.6	-0.3
JACH	Jahuel	1.01	91	⇑iP		Pb	19 02 19.5	-1.4
JACH				i S		Sb	19 02 33.6	-0.5
PEL	Peldehue	1.04	117	⇑iP		Pb	19 02 20.5	-0.9
PEL				i S		Sb	19 02 34.5	-0.4
PEL				AML		AML	19 02 37.5	
	comp=E,1μm,0.2s							
PEL	Peldehue	1.04	117	⇑iP		Pb	19 02 20.5	-0.9
PEL				i S		Sb	19 02 34.5	-0.4
RCDM	Rinconada Maip	1.16	135	i P		Pn	19 02 21.9	-1.5
RCDM				i S		Sb	19 02 37.4	-0.9
RCDM				AML		AML	19 02 37.5	
	comp=E,461nm,0.2s							
TACH	Talagante	1.21	144	⇑iP		Pn	19 02 22.7	-1.4
CLCH	Cerro Calan	1.27	125	⇑iP		Pn	19 02 24.2	-0.8
CLCH				i S		Sb	19 02 40.9	-0.7
CLCH				AML		AML	19 02 44.9	
	comp=N,504nm,0.3s							
LNV	Longovilo	1.31	166	i P		Pn	19 02 23.4	-2.1
LNV				i S		Sb	19 02 40.7	-2.1
FCH	Farellones	1.42	118	⇓iP		Pn	19 02 26.5	-0.5
FCH				i S		Sn	19 02 45.6	+0.2
FCH				AML		AML	19 02 47.0	
	comp=N,387nm,0.1s							
PCH	Pirque	1.42	132	⇓iP		Pn	19 02 26.6	-0.5
PCH				i S		Sn	19 02 45.2	-0.4
CMCH	Combarbala	1.64	24	⇑iP		Pn	19 02 29.1	-1.0
CMCH				i S		Sn	19 02 50.3	-0.7
CMCH				AML		AML	19 02 57.2	
	comp=E,808nm,0.6s							
CMCH	Combarbala	1.64	24	⇑iP		Pn	19 02 29.1	-1.0
CMCH				i S		Sn	19 02 50.3	-0.7
CACH	El Canelo	1.75	146	⇑iP		Pn	19 02 32.1	+0.6
CACH				i S		Sn	19 02 55.6	+2.0
LMEL	Las Melosas	1.77	132	i P		Pn	19 02 32.2	+0.4
LMEL				i S		Sn	19 02 55.4	+1.3
LMEL				AML		AML	19 03 01.0	
	comp=N,480nm,0.1s							
LMEL	Las Melosas	1.77	132	i P		Pn	19 02 32.2	+0.4
LMEL				i S		Sn	19 02 55.4	+1.3
CICH	Cipreses	2.00	145	i P		Pn	19 02 35.3	+0.3
CICH				i S		Sn	19 03 01.4	+1.7
TLL	Tololo Astrono	2.64	19	AML		AML	19 03 29.2	
	comp=E,92nm,0.3s							

*CSEM **03** 19:59:31.8±0.3, 3580N×2773E, h10km, MD3.0, Error ellipse: s-maj=8.9km s-min=4.7km az=136.0*
*ATH **03** 19:59:31.8, 3591N×2758E, h16km, MD3.1/3*
*ISK **03** 19:59:31.9, 3576N×2749E, h43km, MD3.0*
*ISCJB **03** 19:59:32.5±4.0, 358N±0.1×277E±0.1, h33km±48km, Error ellipse: s-maj=19.7km s-min=11.4km az=117.4*

ISC 03 19:59:32.3±1.1, 3583N±006×2764E±008, h15km±6km, n7, σ0°74/11, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.48	234	ePN		Pg	19 59 41.7	-0.1
ARG	Arkhangelos	0.55	46	ePN		Pg	19 59 42.2	-0.9
ARG				eSN		Sg	19 59 50.4	-0.1
DAT	Datca	0.90	357	PG		Pg	19 59 49.7	+0.1
DAT				SG		Sg	20 00 02.5	+1.1
DALT	Dalyan (Mudla)	1.24	40	ePN		Pn	19 59 55.3	+0.3
DALT				eSN		Sn	20 00 12.5	+1.1
BODT	Bodrum	1.26	348	ePN		Pn	19 59 54.4	-0.9
BODT				eSN		Sn	20 00 11.0	-0.9
MLSB	Milas	1.47	4	ePN		Pn	19 59 57.7	-0.5
NPS	Neapolis	1.75	252	ePN		Pn	20 00 03.0	+1.0

*IDC **03** 19:59:31.9±5.3, 4641N×152.39E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=316.1km s-min=32.1km az=85.0*
*ISCJB **03** 19:59:34.7±1.4, 465N±02×1525E±04, h33km, mb3.8/4, Error ellipse: s-maj=45.5km s-min=20.2km az=52.2*
*MOS **03** 19:59:34.7±1.4, 4652N×152.27E, h33km, mb4.2/3, Error ellipse: s-maj=77.8km s-min=27.2km az=85.0*

ISC 03 19:59:36.8±1.3, 465N±02×1524E±04, h35km, n10, σ0°99/10, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.87	30	ePN		Pn	20 00 47.5	0.0
JOF	Joensuu	61.32	333	eP		P	20 09 46.3	-2.5
FINES	FINESS Array B	64.03	334	P		P	20 10 07.5	+0.6
	0.7nm,0.5s,mb4.0,baz=32,slow=12,SNR=6.0							
FINES	FINESS Array B	64.03	334	P		P	20 10 07.5	+0.6
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NB2	NORSAR Subarra	68.29	341	P		P	20 10 33.7	-0.5
	comp=Z,0.7nm,0.7s,mb3.8,baz=29,slow=6.2							
NOA	NORSAR Array B	68.29	341	P		P	20 10 35.0	+0.8
	comp=Z,1.6nm,0.9s,mb4.0,baz=29,slow=6.3,SNR=3.7							
NOA	NORSAR Array B	68.29	341	P		P	20 10 35.0	+0.8
NOA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AKASG	Malin Array Be	71.45	326	P		P	20 10 54.4	+0.7
	comp=Z,0.6nm,0.5s,mb3.8,baz=32,slow=6.3,SNR=7.5							
AKASG	Malin Array Be	71.45	326	P		P	20 10 54.4	+0.8
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	Alice Springs	71.81	198	P		P	20 10 55.7	-0.1
	comp=Z,0.3nm,0.8s,mb3.3,baz=8.7,slow=5.3,SNR=5.5							

*ISCJB **03** 20:00:11.2±0.7, 4387N±005×105.17W±009, h0km, mb4.2/1, Error ellipse: s-maj=10.2km s-min=6.5km az=65.0*
*IDC **03** 20:00:12.2±2.2, 4357N×10534W, h0km, mb4.3/1, mb1 4.1/3, mb1mx3.6/21, mbtmp3.9/3, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/26, Error ellipse: s-maj=59.0km s-min=9.4km az=154.0*
*NEIC **03** 20:00:13.5±0.7, 4392N×10539W, h0km, ML3.2, Error ellipse: s-maj=9.4km s-min=7.1km az=158.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SSE of Gillette.

ISC 03 20:00:13.7±0.6, 4391N±005×10536W±006, h0km, n31, σ1°43/32, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.98	77	ePg		Pg	20 00 33.2	+0.8
RWWY	Rawlins	2.60	212	ePn		Pn	20 00 56.8	-0.2
RWWY				eSn		Sn	20 01 29.9	+0.5
LAO	LASA Array	2.85	348	ePn		Pn	20 00 54.8	-5.6
RLMT	Red Lodge	3.05	295	ePn		Pn	20 01 05.6	+2.5
RLMT				eSn		Sn	20 01 45.3	+5.0
PDAR	Pinedale Array	3.27	251	Pn		Pn	20 01 07.1	+0.9
	3.4nm,0.3s,baz=73,slow=16,SNR=50							
PDAR				Lg			20 01 51.9	
	11nm,0.3s,baz=76,slow=32,SNR=14							
GCMT	Greycliff	3.60	303	ePn		Pn	20 01 13.9	+3.2
LKWY	Lake	3.68	282	Pn		Pn	20 01 10.9	-1.0
LOHW	Long Hollow	3.81	267	ePn		Pn	20 01 14.2	+0.5
FLWY	Flagg Ranch	3.86	274	ePn		Pn	20 01 16.6	+2.3
MOOW	Moose Ponds	3.90	270	ePn		Pn	20 01 16.1	+1.2
YNR	Norris Junctio	3.90	284	ePg		Pg	20 01 26.9	-1.7
SNOW	Snow King Moun	3.94	265	ePg		Pg	20 01 23.6	-5.6
YFT	Old Faithful	3.98	280	ePg		Pg	20 01 27.9	-2.1
REDW	Red Top Meadow	4.03	264	ePn		Pn	20 01 17.7	+1.1
IMW	Indian Meadow	4.03	272	ePn		Pn	20 01 18.3	+1.6
TPAW	Teton Pass	4.08	266	ePn		Pn	20 01 18.6	+1.3
YMR	Madison River	4.10	283	ePg		Pg	20 01 30.8	-1.5
ISCO	Idaho Springs	4.11	183	ePn		Pn	20 01 15.5	-2.3
AHID	Auburn Hatcher	4.34	257	ePg		Pg	20 01 32.3	-4.7
RRI2	Red Ridge	4.37	265	ePn		Pn	20 01 26.3	+5.0
QLMT	Earthquake Lak	4.45	284	ePg		Pg	20 01 36.4	-2.7
DGMT	Dagmar	4.63	10	ePg		Pg	20 01 41.2	-1.3
HWUT	Hardware Ranch	5.12	245	ePn		Pn	20 01 31.4	-0.2
	6.3nm,0.4s							
EGMT	Eagleton	5.13	325	ePn		Pn	20 01 34.9	+3.1
	12nm,0.5s							
TCUT	Toone Canyon	5.27	240	ePn		Pn	20 01 33.9	+0.2
DAU	Daniels Canyon	5.61	233	ePn		Pn	20 01 39.6	+1.2
SRU	San Rafael	6.17	221	ePn		Pn	20 01 44.5	-1.5
	8.6nm,0.4s							
TMUT	Trail Mountain	6.36	226	ePn		Pn	20 01 47.6	-1.1
ULM	Lac du Bonnet	9.05	42	Pn		Pn	20 02 25.7	0.0
	0.8nm,0.3s,baz=231,slow=12,SNR=7.6							
NEW	Newport	9.26	302	LR		LR	20 06 45.0	
	comp=Z,131nm,19.6s,baz=192,slow=42							
ARCES	ARCESS Array B	61.27	18	P		P	20 10 29.7	-1.1
	1.6nm,0.8s,mb4.2,baz=316,slow=8.4,SNR=6.0							

*NEIC **03** 20:02:14.4, 40.14N×1954E, h19km, MD3.1(ROM), MD3.2(PDG), MD3.7(ATH), ML3.7(THE), After ATH.*
*ATH **03** 20:02:14.4, 40.14N×1954E, h19km±1km, MD3.6/10*
*NAO **03** 20:02:15.9, 3975N×1891E, h33km, mb3.2*
*ROM **03** 20:02:16.0±0.3, 4005N×1972E, h12km, Md3.1/1, Ml3.0/8, Error ellipse: s-maj=3.9km s-min=3.3km az=125.0*
*TIR **03** 20:02:16.1, 40.12N×1989E, h17km, Ml3.0*
*ISCJB **03** 20:02:16.4±0.4, 4006N±002×1974E±002, h8km±3km, Error ellipse: s-maj=2.7km s-min=2.4km az=104.8*
*PDG **03** 20:02:16.7±0.5, 4006N×1968E, h14km±1km*
*CSEM **03** 20:02:16.5±0.1, 4002N×1968E, h2km, MD3.1/1, Error ellipse: s-maj=2.0km s-min=1.1km az=14.0*
*THE **03** 20:02:19.2, 4007N×1980E, h19km, ML3.3*

ISC 03 20:02:17.4±0.4, 4006N±002×1975E±002, h10km±2km, n77, σ1°12/121, 5C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SRN	Sarande	0.26	132	i Pg		Pg	20 02 21.9	-0.8
SRN				i Sg		Sg	20 02 28.2	+2.0
TPE	Tepelena	0.31	40	i Pg		Pg	20 02 20.8	-2.8
TPE				i Sg		Sg	20 02 25.7	-2.1
KEK	Kerkira	0.34	174	Pn		Pg	20 02 23.8	-0.4
	1μm,0.3s							
KEK	Kerkira	0.34	174	ePb		Pg	20 02 24.0	-0.2
KEK				eSb		Sg	20 02 30.9	+2.1
VLO	Vlora	0.46	335	i Pg		Pg	20 02 26.0	-0.3
VLO				i Sg		Sg	20 02 34.3	+2.0
LSK	Leskovik	0.66	82	i Pg		Pg	20 02 27.7	-2.4
LSK				i Sg		Sg	20 02 39.7	+1.0
IGT	Igoumenitsa	0.69	139	ePg		Pg	20 02 29.8	-0.9
IGT				eSg		Sg	20 02 42.0	+2.3
JAN	Janina	0.94	115	ePN		Pn	20 02 35.3	-1.3
JAN				eSN		Sn	20 02 50.7	+0.7
JAN	Janina	0.94	115	ePn		Pn	20 02 35.2	-1.4
JAN				eSn		Sn	20 02 50.7	+0.7
SCTE	Santa Cesarea	0.98	271	Pn		Pn	20 02 36.0	-1.2
MEV	Metsovon	1.17	103	ePg		Pg	20 02 39.5	-0.3
LCI	Lecce	1.28	283	Pn		Pn	20 02 39.9	-1.4
LCI				Sn		Sn	20 03 00.1	+1.5
	141nm,0.2s							
TIR	Tirane	1.29	4	Pn		Pn	20 02 40.8	-0.7
TIR				Sn		Sg	20 03 01.7	+2.7
	547nm,0.6s							
TIR	Tirane	1.29	4	ePg		Pg	20 02 41.1	-1.1
TIR				eSg		Sg	20 02 58.4	-0.6
TIR	Tirane	1.29	4	ePg		Pg	20 02 41.1	-1.1
TIR				eSg		Sg	20 02 58.4	-0.6
TIR				Sn		Sg	20 03 01.7	+2.7
OHR	Ohrid	1.32	37	ePg		Pn	20 02 40.8	-1.1
OHR				eSg		Sb	20 02 58.0	-1.3
OHR	Ohrid	1.32	37	i Pn		Pn	20 02 40.6	-1.3
OHR				i Sn		Sg	20 03 02.3	+2.4
OHR	Ohrid	1.32	37	i Pn		Pn	20 02 40.5	-1.4
OHR	Ohrid	1.32	37	ePg		Pn	20 02 40.8	-1.1
OHR				eSg		Sn	20 02 58.0	-1.5
OHR				i Sn		Sg	20 03 02.3	+2.4
FNA	Florina	1.44	59	ePg		Pn	20 02 42.4	-1.0
FNA				eSg		Sn	20 03 01.6	-0.8
LKD	Levkas	1.52	152	ePg		Pn	20 02 44.7	+0.2
LKD				eSg		Sn	20 03 03.8	-0.6
BIA	Bitola	1.54	51	ePg		Pn	20 02 43.7	-1.1
BIA				eSg		Sn	20 03 03.6	-1.2
BIA	Bitola	1.54	51	i Pn		Pn	20 02 43.5	-1.3
BIA				i Sn		Sg	20 03 09.3	+2.5
BIA	Bitola	1.54	51	ePg		Pn	20 02 43.7	-1.1
BIA				i Sn		Sg	20 03 09.3	+2.5
KZN	Kozani	1.57	80	ePN		Pn	20 02 45.5	+0.3
THL	Klokotos Trika	1.81	105	ePN		Pn	20 02 49.4	+0.8
THL				e

*ISCJB **03** 20:45:24.5±0.8, 08S±02×160W±0.1, h10km, mb4.1/5, MS3.7/8, Error ellipse: s-maj=34.5km s-min=13.6km az=118.2*
*IDC **03** 20:45:24.5±1.5, 078S×1606W, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.7/22, mbtmp4.0/5, ML3.6/1, MS3.7/9, Ms1 3.8/9, ms1mx3.6/22, Error ellipse: s-maj=50.0km s-min=26.0km az=143.0*
*NEIC **03** 20:45:26.3±0.8, 076S×1594W, h10km, mb4.4/1, Error ellipse: s-maj=33.2km s-min=12.6km az=149.0*
ISC 03 20:45:26.9±0.8, 08S±02×159W±01, h10km, n14, σ0.9 86/8, mb4.1/5, MS3.7/8, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.30**	**56**	Pn	**Pn**	**20 48 34.9**	**-0.8**
	0.3nm,0.3s,baz=224,slow=17,SNR=5.0						
DBIC				LR	LR	20 52 41.8	
	comp=Z,376nm,18.4s,baz=196,slow=33						
DBIC	**Dimbokro**	**13.30**	**56**	*e*Pn	**Pn**	**20 48 34.6**	**-1.1**
DBIC				LR	LR	20 52 41.8	
TOA0	**Torodi Ar. Sit**	**22.29**	**51**	*e*P	**P**	**20 50 23.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**22.29**	**51**	P	**P**	**20 50 24.9**	**+0.8**
	3.4nm,0.8s,mb3.8,baz=230,slow=9.7,SNR=21						
TORD				LR	LR	20 57 58.4	
	comp=Z,360nm,20.1s,MS3.8,baz=245,slow=34						
BDFB	**Brasilia**	**34.93**	**243**	P	**P**	**20 52 17.3**	**-1.5**
	2.1nm,0.6s,mb4.3,baz=95,slow=9.3,SNR=3.5						
ESDC	**Sonseca Array**	**41.71**	**14**	LR	LR	21 11 14.5	
	comp=Z,123nm,19.4s,MS3.8,baz=210,slow=37						
KEST	**Kesra**	**43.28**	**30**	LR	LR	21 12 07.5	
	comp=Z,54nm,18.9s,MS3.5,baz=236,slow=37						
CPUP	**Villa Florida**	**47.23**	**234**	LR	LR	21 10 45.2	
	comp=Z,97nm,20.2s,MS3.8,baz=217,slow=32						
SAML	**Samuel**	**47.73**	**259**	P	**P**	**20 54 04.9**	**+1.1**
	3.5nm,1.1s,mb4.3						
BOSA	**Boshof**	**48.10**	**129**	P	**P**	**20 54 07.1**	**+0.4**
	3.9nm,0.8s,mb4.5,baz=281,slow=4.7,SNR=4.5						
BOSA				LR	LR	21 09 40.8	
	comp=Z,83nm,21.9s,MS3.7,baz=0.6,slow=30						
LPAZ	**La Paz**	**53.68**	**250**	LR	LR	21 15 40.7	
	comp=Z,85nm,21.1s,MS3.8,baz=283,slow=34						
BRTR	**Keskin Array B**	**60.55**	**42**	P	**P**	**20 55 37.9**	**+0.5**
	0.7nm,0.9s,mb3.8,baz=262,slow=4.2,SNR=4.0						
PLCA	**Paso Flores**	**63.35**	**224**	LR	LR	21 21 36.1	
	comp=Z,72nm,18.1s,MS3.9,baz=0.2,slow=34						
NOA	**NORSAR Array B**	**65.07**	**14**	LR	LR	21 28 26.3	
	comp=Z,47nm,18.4s,MS3.7,baz=205,slow=40						

*IDC **03** 20:49:56.2±6.1, 5.12S×15073E, h229km±38km, mb3.7/2, mb1 3.8/2, mb1mx3.3/8, mbtmp4.2/2, Error ellipse: s-maj=105.8km s-min=42.3km az=97.0*
NEIC 03 20:49:54.3±4.4, 518S×15095E, h224km±25km, mb4.3/4, Error ellipse: s-maj=52.7km s-min=40.7km az=82.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.64**	**222**	*e*Pn	Pn	20 51 17.5	+0.2
	133nm,0.9s						
WB2	**Warramunga Arr**	**21.83**	**226**	*e*P	P	20 54 28.2	-0.6
AS31	**Alice Springs**	**24.65**	**220**	*e*P	P	20 54 55.6	+1.1
ASAR	**Alice Springs**	**24.65**	**220**	P	P	20 54 55.4	+0.9
	2.0nm,0.3s,baz=52,slow=9.1,SNR=50						
ASAR				ScP	ScP	21 01 43.6	+0.7
	0.5nm,0.7s,baz=59,slow=2.4,SNR=5.7						
ASPA	**Alice Springs**	**24.66**	**220**	*e*P	P	20 54 55.6	+1.1
FITZ	**Fitzroy Crossi**	**27.87**	**240**	*e*P	P	20 55 23.4	+0.1
	6.2nm,1.5s						
STKA	**Stephens Creek**	**27.97**	**197**	*e*P	P	20 55 23.8	-0.4
	2.8nm,0.9s						
STKA	**Stephens Creek**	**27.97**	**197**	P	P	20 55 25.7	+1.5
	2.5nm,0.6s,baz=16,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**27.97**	**197**	P	P	20 55 22.9	-1.3
FORT	**Forrest**	**33.35**	**218**	*e*P	P	20 56 11.7	+0.4
	12nm,0.9s						
CASY	**Casey**	**67.12**	**197**	P	P	21 00 24.8	+0.9
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.66**	**287**	PKPbc	PKPbc	21 09 16.2	+1.3
	0.4nm,0.6s,baz=88,slow=2.5,SNR=7.7						
TORD	**Torodi Ar. Bea**	**148.66**	**287**	PKPbc	PKPbc	21 09 16.2	+1.3

*NEIC **03** 21:05:17.7, 3327S×7087W, h71km, MD3.1(GUC), After GUC.*
GUC 03 21:05:17.7±0.6, 3327S×7087W, h71km±2km, MD3.3, ML3.5, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.23**	**167**	*i* P	Pn	21 05 28.7	+0.1
RCDM				*i* S	Sn	21 05 36.8	+0.4
SAN	**Santiago**	**0.25**	**138**	*i* P	Pn	21 05 28.8	+0.2
SAN				*i* S	Sn	21 05 37.1	+0.4
STL	**Santa Lucia**	**0.26**	**132**	*i* P	Pn	21 05 28.8	+0.1
STL				*i* S	Sn	21 05 36.8	+0.1
CLCH	**Cerro Calan**	**0.31**	**115**	⇓*i* P	Pn	21 05 29.6	+0.6
CLCH				*i* S	Sn	21 05 38.2	+0.9
ROCH	**El Roble**	**0.32**	**337**	⇓*i* P	Pn	21 05 29.4	+0.3
ROCH				*i* S	Sn	21 05 38.2	+0.8
ANTU	**Antumapu**	**0.36**	**147**	⇑*i* P	Pn	21 05 29.6	+0.2
ANTU				*i* S	Sn	21 05 38.7	+0.7
TACH	**Talagante**	**0.39**	**189**	⇑*i* P	Pn	21 05 29.7	+0.1
TACH				*i* S	Sn	21 05 38.5	+0.1
PCH	**Pirque**	**0.46**	**140**	⇑*i* P	Pn	21 05 30.6	+0.3
PCH				*i* S	Sn	21 05 40.2	+0.8
FCH	**Farellones**	**0.49**	**98**	⇑*i* P	Pn	21 05 31.5	+1.0
FCH				*i* S	Sn	21 05 41.6	+1.7
SJCH	**San Jose de Ma**	**0.57**	**131**	⇓*i* P	Pn	21 05 31.5	+0.2
SJCH				*i* S	Sn	21 05 41.8	+0.6
LCCH	**Las Cruces**	**0.62**	**250**	*i* P	Pn	21 05 32.0	+0.1
LCCH				*i* S	Sn	21 05 42.7	+0.5
JACH	**Jahuel**	**0.62**	**22**	⇑*i* P	Pn	21 05 32.1	+0.2
JACH				*i* S	Sn	21 05 42.8	+0.5
CHCH	**Chadas Angostu**	**0.69**	**165**	⇑*i* P	Pn	21 05 32.5	0.0
CHCH				*i* S	Sn	21 05 44.3	+0.8
LNV	**Longovilo**	**0.82**	**213**	*i* P	Pn	21 05 33.7	-0.4
LNV				*i* S	Sn	21 05 46.5	+0.2
CACH	**El Canelo**	**0.88**	**165**	⇓*i* P	Pn	21 05 35.4	+0.7
CACH				*i* S	Sn	21 05 49.1	+1.8
PTCH	**Petorca**	**1.00**	**357**	AML	AML	21 05 54.2	
	comp=N,2μm,0.2s						
CICH	**Cipreses**	**1.12**	**161**	*i* P	Pn	21 05 38.4	+0.7
CICH				*i* S	Sn	21 05 53.8	+1.2
SFDO	**San Fernando**	**1.35**	**185**	⇑*i* P	Pn	21 05 41.1	+0.4
SFDO				*i* S	Sn	21 05 59.2	+1.2
CHNG	**Los Chungos**	**1.48**	**339**	*i* P	Pn	21 05 42.9	+0.6
CHNG				*i* S	Sn	21 06 01.7	+0.7
CMCH	**Combarbala**	**2.09**	**357**	AML	AML	21 06 25.1	
	comp=N,588nm,0.4s						
TLL	**Tololo Astrono**	**3.09**	**1**	*i* P	Pn	21 06 05.0	+0.9
TLL				*i* S	Sn	21 06 41.7	+1.9

*INMG **03** 21:13:02.7±1.1, 3682N×965W, h15km±4km, ML2.2, Error ellipse: s-maj=5.0km s-min=3.2km az=48.0*
*CSEM **03** 21:13:02.1±0.8, 3672N×933W, h10km, ML3.2/6, Error ellipse: s-maj=14.4km s-min=8.0km az=42.0*
*IGIL **03** 21:13:02.7, 3670N×970W, h31km, ML2.2*
MDD 03 21:13:02.1±1.7, 3683N×969W, h18km±15km, mbLg2.3/6, Error ellipse: s-maj=18.7km s-min=9.7km az=43.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.96**	**60**	*e*P	Pb	21 13 19.8	-0.4
MORF				*e*S	Sb	21 13 32.2	-0.2
MORF				*e*S	Sb	21 13 32.2	-0.2
MORF				AML	AML	21 13 33.9	
	comp=N,46nm,0.1s						
MORF	**Marmelete**	**0.96**	**60**	*e*P	Pb	21 13 19.8	-0.3
MORF				*e*S	Sb	21 13 32.2	-0.2
MORF	**Marmelete**	**0.96**	**60**	P	Pb	21 13 19.8	-0.4
MORF				S	Sb	21 13 32.2	-0.2
PTEO	**Sao Teotonio**	**1.05**	**47**	*e*P	Pb	21 13 21.1	-0.7
PTEO				*e*S	Sb	21 13 34.9	-0.3
PTEO							
	comp=N,11nm,0.1s						
PBEJ	**Beja**	**1.88**	**50**	*e*Pn	Pn	21 13 32.1	-1.2
PBEJ				*e*Sn	Sn	21 13 54.3	-2.2
PBEJ							
	comp=N,5.6nm,0.1s						
PBEJ	**Beja**	**1.88**	**50**	*e*Pn	Pn	21 13 32.1	-1.2
PBEJ				*e*Sn	Sn	21 13 54.3	-2.2
	comp=N,5.6nm,0.1s						
EGRO	**El Granado**	**1.90**	**67**	P	Pn	21 13 32.7	-0.8
	comp=N,0.1nm,0.2s,SNR=7.9						
EGRO				S	Sn	21 13 55.1	-1.8
	comp=N,4.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.90**	**67**	P	Pn	21 13 32.7	-0.8
	comp=N,0.1nm,0.2s,SNR=7.9						
EGRO				S	Sn	21 13 55.1	-1.8
	comp=N,4.2nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.00**	**32**	*e*Pn	Pn	21 13 34.5	-0.4
MOE				*e*Sn	Sn	21 13 57.9	-1.6
PLOU	**Loures**	**2.10**	**11**	*e*Sn	Sn	21 14 00.5	-1.5
PLOU							
	comp=N,28nm,0.1s						
PLOU	**Loures**	**2.10**	**11**	*e*Sn	Sn	21 14 00.5	-1.5
	comp=N,28nm,0.1s						
PMAFR	**Mafra**	**2.15**	**8**	*e*Pn	Pn	21 13 36.3	-0.7
PMAFR				*e*Sn	Sn	21 14 01.4	-1.8
EMIN	**Mina Concepcio**	**2.58**	**68**	P	Pn	21 13 41.6	-1.4
	comp=N,1.1nm,0.1s,SNR=23						
EMIN				S	Sn	21 14 10.9	-3.0
	comp=N,2.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.58**	**68**	P	Pn	21 13 41.6	-1.3
	comp=N,1.1nm,0.1s,SNR=23						
EMIN				S	Sn	21 14 10.9	-2.9
	comp=N,2.3nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**2.63**	**38**	*e*Pn	Pn	21 13 42.2	-1.4
PESTR				*e*Sn	Sn	21 14 12.8	-2.2
PESTR							
	comp=N,2.4nm,0.2s						
PESTR	**Estremoz**	**2.63**	**38**	*e*Pn	Pn	21 13 42.2	-1.4
PESTR				*e*Sn	Sn	21 14 12.8	-2.2
	comp=N,2.4nm,0.2s						
PTOM	**Tomar**	**2.96**	**19**	*e*Pn	Pn	21 13 47.3	-0.9
PTOM				*e*Sn	Sn	21 14 20.5	-2.8
PTOM							
	comp=N,7.8nm,0.1s						
PTOM	**Tomar**	**2.96**	**19**	*e*Pn	Pn	21 13 47.3	-0.9
PTOM				*e*Sn	Sn	21 14 20.5	-2.8
	comp=N,7.8nm,0.1s						
ESPR	**Espera**	**3.07**	**88**	P	Pn	21 13 48.4	-1.3
	comp=N,0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 14 23.0	-3.0
	comp=N,2.6nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.07**	**88**	P	Pn	21 13 48.4	-1.3
	comp=N,0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 14 23.0	-3.0
	comp=N,2.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.47**	**29**	*e*Pn	Pn	21 13 54.5	-0.7
PCBR				*e*Sn	Sn	21 14 33.3	-2.6
PCBR							
	comp=N,1.2nm,0.1s						
PCBR	**Castelo Branco**	**3.47**	**29**	*e*Pn	Pn	21 13 54.5	-0.7
PCBR				*e*Sn	Sn	21 14 33.3	-2.6
	comp=N,1.2nm,0.1s						
MTE	**Manteigas**	**3.94**	**25**	*e*Sn	Sn	21 14 44.5	-3.0
MTE							
	comp=N,3.6nm,0.5s						
MTE	**Manteigas**	**3.94**	**25**	*e*Sn	Sn	21 14 44.5	-3.0
	comp=N,3.6nm,0.5s						
PVIS	**Viseu**	**4.13**	**19**	*e*Pn	Pn	21 14 03.7	-0.5
PVIS				*e*Sn	Sn	21 14 48.7	-3.3
PVIS							
	comp=N,6.0nm,0.1s						
EADA	**Adamuz**	**4.28**	**70**	P	Pn	21 14 05.3	-1.0
	SNR=11						
EADA				S	Sn	21 14 51.6	-4.1
	comp=N,1.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.70**	**18**	*e*Sn	Sn	21 15 01.6	-4.5
PVRL							
	comp=N,8.9nm,0.1s						
PVRL	**Vila Real**	**4.70**	**18**	Sn	Sn	21 15 01.6	-4.5
	comp=N,4.4nm,0.1s						
EQUE	**Quentar**	**5.01**	**84**	S	Sn	21 15 10.8	-3.1
	comp=N,0.0nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.04**	**14**	*e*Pn	Pn	21 14 15.6	-1.2
PCAB				*e*Sn	Sn	21 15 11.0	-3.6
PCAB							
	comp=N,2.8nm,0.1s						
ESDC	**Sonseca Array**	**5.33**	**56**	P	Pn	21 14 19.6	-1.1
	comp=N,2.4nm,0.2s,baz=241,slow=13,SNR=21						
ESDC				S	Sn	21 15 17.2	-4.4
	comp=N,0.8nm,0.4s,baz=242,slow=24,SNR=7.7						
ESDC	**Sonseca Array**	**5.33**	**56**	P	Pn	21 14 19.6	-1.1
	comp=N,2.4nm,0.2s,SNR=21						
ESDC				S	Sn	21 15 17.2	-4.4
	comp=N,0.8nm,0.4s,SNR=7.7						
EQES	**Quesada**	**5.36**	**78**	P	Pn	21 14 19.9	-1.3
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	21 15 18.6	-3.9
	comp=N,0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.36**	**78**	P	Pn	21 14 19.9	-1.3
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	21 15 18.6	-3.8
	comp=N,0.3nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.47**	**24**	*e*Pn	Pn	21 14 21.6	-1.1
PBRG				*e*Sn	Sn	21 15 20.5	-4.6
PBRG							
	comp=N,1.9nm,0.2s						
ECAL	**Calabor**	**5.59**	**23**	P	Pn	21 14 22.5	-1.9
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL				S	Sn	21 15 23.7	-4.5
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.59**	**23**	P	Pn	21 14 22.5	-1.9
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL				S	Sn	21 15 23.7	-4.5
	comp=N,1.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.70**	**72**	S	Sn	21 15 50.3	-5.1
	comp=N,0.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.70**	**72**	S	Sn	21 15 50.3	-5.1
	comp=N,0.2nm,0.1s,SNR=7.9						

*NEIC **03** 22:10:18.8, 1934N×6433W, h76km, MD3.7(RSPR), After RSPR.*
RSPR 03 22:10:18.8, 1934N×6433W, h76km±19km, MD3.7/5, MD3.7/5, 5C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.70**	**223**	⇑*e*P	Pn	22 10 45.6	-0.9
MTP				*e*S	Sn	22 11 07.2	-0.3
CBYP	**Canovanas**	**1.80**	**234**	⇑*e*P	Pn	22 10 46.7	-1.1
CBYP				*e*S	Sn	22 11 09.3	-0.6
HUMP	**Col San Antoni**	**1.87**	**231**	⇑*e*P	Pn	22 10 48.2	-0.6
HUMP				*e*S	Sn	22 11 10.9	-0.7
CPD	**Cerro la Pandu**	**1.99**	**229**	⇑*e*P	Pn	22 10 49.8	-0.6
CPD				*e*S	Sn	22 11 13.9	-0.5
CRPR	**Cabo Rojo, PR**	**2.95**	**244**	⇑*e*P	Pn	22 11 03.7	+0.3
CRPR				*e*S	Sn	22 11 37.4	-0.3

MAN 03 22:24:49.9, 1568N×11979E, h32km, mb2.1, ML3.8, MS3.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.15**	**52**	*e*P	Pb	22 24 57.3	+1.4
SCZP				*e*S	Sb	22 25 02.5	+2.5
BOLP	**Bolinao**	**0.70**	**10**	*e*P	Pn	22 25 03.7	0.0
PCPH	**Palayan**	**1.27**	**95**	⇓*e*P	Pn	22 25 10.6	-0.8
PCPH				*e*S	Sn	22 25 26.8	-0.5
PCPH	**Palayan**	**1.27**	**95**	⇓*e*P	Pn	22 25 10.6	-0.8
PCPH				*e*S	Sn	22 25 26.8	-0.5
BALP	**Baler**	**1.72**	**88**	*e*P	Pn	22 25 18.7	+1.0
BALP				*e*S	Sn	22 25 39.7	+1.2
LUBP	**Lubang**	**1.99**	**167**	*e*P	Pn	22 25 22.0	+0.8

*CSEM **03** 22:25:38.7, 6720N×2065E, h3km, ML2.8, Mining explosion. After UPP*
*UPP **03** 22:25:38.7, 6720N×2065E, h3km, ML2.8, Mining explosion.*
HEL 03 22:25:39.2±0.1, 6719N×2064E, h0km, ML2.0, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**202**	*i* P	Pg	22 25 40.4	-0.3
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	22 25 49.7	-0.8
KUA	**Kurravaara**	**0.78**	**352**	*i* P	Pg	22 25 53.0	-1.1
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	Pg	22 25 54.7	-0.8
SALU	**Saltoluokta**	**0.85**	**284**	P	Pg	22 25 54.7	-0.8
	baz=111						
ERTU	**Ertsjaerv**	**0.89**	**136**	*i* P	Pg	22 25 55.6	-0.6
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	22 25 55.8	-1.0
PAJU	**Pajala**	**0.98**	**99**	*e*P	Pg	22 25 56.5	-1.6
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	22 25 57.1	-1.3
HARU	**Harads**	**1.04**	**172**	*e*P	Pg	22 25 57.6	-1.5
KALU	**Kalix**	**1.72**	**140**	*e*P	Pn	22 26 09.8	-0.6
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 26 09.7	-0.9
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	Pn	22 26 11.9	+0.1
KIF				*e*S	Sn	22 26 35.0	-0.6
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 26 13.1	-0.3
SGF	**Sodankyl**	**2.30**	**81**	*e*P	Pn	22 26 18.6	+0.3
SGF				*e*S	Sn	22 26 47.1	-0.2
SGF				*e*SG	Sg	22 26 49.9	-3.1
SGF				MSG		22 26 52.0	
	comp=Z,6.2nm,0.2s						
BURU	**Burvik**	**2.64**	**173**	*e*P	Pn	22 26 23.0	+0.1
MSF	**Maaselka**	**3.60**	**107**	*e*P	Pn	22 26 36.2	+0.1
MSF				*e*S	Sn	22 27 19.1	-0.2
KU4	**Liikasenvaara**	**3.64**	**99**	*e*P	Pn	22 26 37.4	+0.7
KU4				*e*S	Sn	22 27 18.9	-1.5

*NEIC **03** 22:46:58.5, 38.13S×17643E, h153km, MG3.8(WEL), After WEL.*
WEL 03 22:46:59.2±0.5, 3809S×17642E, h144km±24km, ML3.6/7, Error ellipse: s-maj=4.1km s-min=3.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.57**	**107**	*e*P	Pn	22 47 20.2	0.0
URZ	**Urewera**	**0.57**	**107**	PN	Pn	22 47 20.1	-0.1
MWZ	**Matawai**	**0.91**	**106**	P	Pn	22 47 22.9	+0.3
MWZ				S	Sn	22 47 40.7	+0.3
MWZ	**Matawai**	**0.91**	**106**	PN	Pn	22 47 22.9	+0.3
MWZ				SN	Sn	22 47 40.3	-0.1
KATZ	**Kakaramea**	**1.05**	**212**	P	Pn	22 47 24.5	+0.7
KATZ	**Kakaramea**	**1.05**	**212**	PN	Pn	22 47 24.5	+0.7
BKZ	**Black Stump Fm**	**1.07**	**177**	P	Pn	22 47 24.2	+0.2
BKZ				S	Sn	22 47 43.1	+0.1
BKZ	**Black Stump Fm**	**1.07**	**177**	PN	Pn	22 47 24.2	+0.1
BKZ				SN	Sn	22 47 43.0	+0.1
WTVZ	**West Tongariro**	**1.21**	**212**	P	Pn	22 47 25.5	+0.2
WTVZ	**West Tongariro**	**1.21**	**212**	PN	Pn	22 47 25.5	+0.2
OTVZ	**Oturere**	**1.22**	**209**	PN	Pn	22 47 26.0	+0.6
KNZ	**Kokohu**	**1.35**	**134**	PN	Pn	22 47 27.0	+0.3
WNVZ	**Wahianoa**	**1.39**	**207**	P	Pn	22 47 27.3	+0.2
WNVZ	**Wahianoa**	**1.39**	**207**	PN	Pn	22 47 27.3	+0.2
MOVZ	**Moawhango**	**1.41**	**201**	P	Pn	22 47 27.0	-0.3
MOVZ	**Moawhango**	**1.41**	**201**	PN	Pn	22 47 27.0	-0.3
PUZ	**Puketiti**	**1.45**	**90**	P	Pn	22 47 27.3	-0.5
PUZ	**Puketiti**	**1.45**	**90**	PN	Pn	22 47 27.1	-0.6
MTVZ	**Mangateitei**	**1.49**	**209**	PN	Pn	22 47 27.9	-0.2
PXZ	**Pawanui**	**1.97**	**170**	PN	Pn	22 47 33.1	-0.4
TSZ	**Takapari Road**	**2.00**	**190**	*e*P	Pn	22 47 33.0	-0.9
TSZ	**Takapari Road**	**2.00**	**190**	PN	Pn	22 47 33.0	-0.8
BFZ	**Birch Farm**	**2.59**	**183**	*e*P	Pn	22 47 39.6	-1.5
MRZ	**Mangatainoka R**	**2.65**	**194**	P	Pn	22 47 40.1	-1.7
MRZ	**Mangatainoka R**	**2.65**	**194**	PN	Pn	22 47 40.0	-1.8
TIWZ	**Tintock**	**2.71**	**189**	PN	Pn	22 47 41.0	-1.7
MTW	**Mount Morrison**	**3.14**	**193**	PN	Pn	22 47 45.4	-2.7
CAW	**Cannon Point**	**3.19**	**199**	PN	Pn	22 47 46.0	-2.7
TRWZ	**Traveller**	**3.35**	**189**	PN	Pn	22 47 48.2	-2.6
MSWZ	**Moikau Station**	**3.44**	**195**	P	Pn	22 47 48.9	-3.0
MSWZ	**Moikau Station**	**3.44**	**195**	PN	Pn	22 47 48.9	-3.0
TCW	**Tory Channel**	**3.53**	**207**	P	Pn	22 47 50.0	-3.0
TCW	**Tory Channel**	**3.53**	**207**	PN	Pn	22 47 50.0	-3.0
TUWZ	**Tuamarina**	**3.84**	**209**	PN	Pn	22 47 53.6	-3.5
NNZ	**Nelson**	**3.90**	**216**	*e*P	Pn	22 47 54.8	-3.2
NNZ	**Nelson**	**3.90**	**216**	PN	Pn	22 47 54.8	-3.2
KHZ	**Kahutara**	**4.85**	**206**	PN	Pn	22 48 06.6	-3.8
MQZ	**McQueen's Vall**	**6.29**	**206**	SN	Sn	22 49 30.4	-10

*ISCJB **03** 22:50:38.9±0.6, 2152S±005×682W±0.1, h136km±10km, mb3.6/1, Error ellipse: s-maj=16.1km s-min=8.1km az=175.5*
*IDC **03** 22:50:40.2±0.8, 2151S×68.12W, h125km±17km, mb3.6/1, mb1 3.5/5, mb1mx3.4/17, mbtmp4.0/5, Error ellipse: s-maj=40.9km s-min=11.5km az=102.0*
*NEIC **03** 22:50:40.4±0.8, 2149S×6808W, h126km±12km, mb3.8/2, Error ellipse: s-maj=14.1km s-min=10.6km az=94.0*
ISC 03 22:50:40.2±0.6, 2149S±005×6818W±010, h128km±10km, n13, σ1.9 38/18, mb3.6/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.31**	**211**	P	**Pn**	**22 51 06.9**	**+0.9**
	19nm,0.3s,baz=8.9,slow=7.6,SNR=158						
LVC				S	**Sn**	**22 51 25.9**	**+0.2**
	52nm,0.3s,baz=261,slow=22,SNR=44						
LPAZ	**La Paz**	**5.17**	**1**	P	**Pn**	**22 51 57.8**	**+2.2**
	4.0nm,0.3s,baz=173,slow=7.9,SNR=40						
LPAZ				S	**Sn**	**22 52 55.7**	**+1.5**
	baz=62,slow=24,SNR=1.7						
ARE	**Arequipa**	**5.90**	**327**	*e*P	**Pn**	**22 52 03.0**	**-2.3**
ARE				*e*S	**Sn**	**22 53 09.0**	**-2.7**
SIV	**San Ignacio**	**8.67**	**52**	P	**Pn**	**22 52 41.1**	**-1.6**
	3.8nm,0.3s,baz=240,slow=12,SNR=63						
CFAA	**Coronel Fontan**	**10.07**	**180**	P	**Pn**	**22 52 57.7**	**-3.8**
	0.1nm,0.3s,baz=347,slow=14,SNR=6.7						
CFAA				S

SLNA Salina 1.95 186⇓iPn Pn 23 03 28.8 +0.6
150nm,0.4s
GRI Girifalco 1.98 148 Pn Pn 23 03 27.9 -0.5
GRI Sn S 23 04 05.0 -0.7
142nm,0.5s
LLI Lipari 2.06 183 Pn Pn 23 03 30.2 +1.2
216nm,0.9s
FAGN Fagnano 2.09 328⇓iPn Pn 23 03 29.5 +0.3
54nm,0.5s
VPL Vulcano Piano 2.13 182 Pn Pn 23 03 30.7 +1.1
153nm,1.3s
AQU L'Aquila 2.23 326⇑iP Pn 23 03 31.0 +0.5
MSRU Castanea 2.27 171⇑iPn Pn 23 03 29.9 -0.8
PLAC Placanica 2.31 152⇑ePn Pn 23 03 30.2 -0.9
PLAC Sn S 23 04 08.0 -2.6
52nm,0.5s
MTTG Motta San Giov 2.55 169 Pn Pn 23 03 33.2 0.0
63nm,0.6s
SOI Samo 2.55 162 Pn Pn 23 03 32.2 -1.0
SOI Sn S 23 04 12.2 -2.2
66nm,0.8s
MMME Mongiuffi-Meli 2.57 177⇑iPn Pn 23 03 34.0 +0.6
MMME Sn S 23 04 15.8 +0.9
176nm,0.8s
GIB Gibilmanna 2.64 198 Pn Pn 23 03 34.8 +0.7
222nm,1.2s
CORL Corleone 2.95 208 Pn Pn 23 03 38.0 +1.0
120nm,1.2s
VAE Valguarnera 3.07 190 P Pn 23 03 40.0 +1.8
1.2nm,0.3s,baz=100,slow=11,SNR=4.6
ASS Assisi 3.13 325 Pn Pn 23 03 38.6 -0.2
3.0nm,0.9s
SNTG Esanatoglia 3.18 331⇓iPn Pn 23 03 39.0 -0.2
28nm,0.3s
CLTB Caltabellotta 3.27 207 Pn Pn 23 03 40.9 +0.8
23nm,0.4s
HVZN Vizzini 3.34 185⇓iPn Pn 23 03 41.1 +0.3
111nm,0.7s
FSSB Fossombrone 3.61 332⇓iPn Pn 23 03 43.3 -0.4
44nm,0.4s
KEK Kerkira 3.70 101⇑iPn Pn 23 03 45.0 +0.3
42nm,0.8s
NVLJ Novalja 4.06 358 iP Pn 23 03 48.2 -0.3
NVLJ Novalja 4.06 358 iP Pn 23 03 48.1 -0.4
IGT Igoumenitsa 4.15 102 eP Pn 23 03 49.7 +0.2
LKD Levkas 4.66 111 eP Pn 23 03 55.3 +0.1
FNA Florina 4.80 85 eP Pn 23 03 57.4 +0.6
PGF Pioggiola 5.00 296 eP Pn 23 03 58.2 -0.9
10nm,0.5s
PGF Pioggiola 5.00 296 eP Pn 23 03 58.2 -0.9
PGF pmax pmax
comp=Z,5.0nm,0.5s
PGF Pioggiola 5.00 296 eP Pn 23 03 58.2 -0.9
comp=Z,5.0nm,0.5s
GCIS Gornji Cirnik 5.37 4 iP Pn 23 04 03.2 -0.3
CTI Castel Tesino 6.08 337⇓iPn Pn 23 04 10.9 -0.9
PKSM Moragy 6.26 23⇓iP Pn 23 04 13.5 -0.5
PKSM Moragy 6.26 23⇓iP Pn 23 04 13.5 -0.5
PLG Polygyros 6.38 88 eP Pn 23 04 15.7 +0.2
VTS Vitosha 6.44 68⇑iP Pn 23 04 17.4 +1.2
VTS Vitosha 6.44 68⇑iP Pn 23 04 17.4 +1.2
KEST Kesra 6.57 225 P Pn 23 04 18.6 +0.9
comp=Z,0.2nm,0.3s,baz=352,slow=4.9,SNR=11
SBF Sospel 6.59 303 eP Pn 23 04 18.3 +0.3
comp=Z,29nm,0.7s
SBF Sospel 6.59 303 eP Pn 23 04 18.3 +0.3
SBF pmax pmax
comp=Z,15nm,0.7s
SBF Sospel 6.59 303 eP Pn 23 04 18.3 +0.3
comp=Z,14nm,0.7s
ARSA Arzberg 6.75 3⇓iP Pn 23 04 19.8 0.0
comp=Z,6.7nm,0.9s
OUR Ouranopolis 6.79 89 eP Pn 23 04 20.3 -0.1
LMR La Mourre 6.99 297 eP Pn 23 04 21.9 -0.8
comp=Z,40nm,1.1s
BZS Buzias 7.00 41⇑iP Pn 23 04 23.1 +0.2
BZS Buzias 7.00 41⇑iP Pn 23 04 23.1 +0.2
SQTA Sankt Quirin 7.27 339⇓iP Pn 23 04 27.6 +1.5
comp=Z,2.7nm,0.7s
SQTA Sankt Quirin 7.27 339⇓iP Pn 23 04 27.6 +1.4
SQTA pmax pmax
comp=Z,3.0nm,0.7s
MOA Molln 7.36 356⇓iP Pn 23 04 27.4 +0.1
comp=Z,8.6nm,0.6s
MOTA Moosalm 7.41 339⇑iP Pn 23 04 28.6 +0.7
comp=Z,8.7nm,0.9s
MOTA Moosalm 7.41 339⇑iP Pn 23 04 28.6 +0.7
MOTA pmax pmax
comp=Z,9.0nm,0.9s
MOTA Moosalm 7.41 339⇑iP Pn 23 04 28.6 +0.7
comp=Z,8.7nm,0.9s
MBDF Montbardon 7.44 307 eP Pn 23 04 29.0 +0.8
comp=Z,18nm,0.6s
MBDF Montbardon 7.44 307 eP Pn 23 04 29.0 +0.8
MBDF pmax pmax
comp=Z,9.0nm,0.6s
MBDF Montbardon 7.44 307 eP Pn 23 04 29.0 +0.8
comp=Z,9.2nm,0.6s
GZR Gura Zlata 7.46 47⇓iP Pn 23 04 28.0 -0.5
GZR Gura Zlata 7.46 47⇓iP Pn 23 04 28.0 -0.5
LPG La Plagne 7.88 312 eP Pn 23 04 34.4 +0.8
comp=Z,13nm,0.7s
LPG La Plagne 7.88 312 eP Pn 23 04 34.4 +0.8
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 7.88 312 eP Pn 23 04 34.4 +0.8
comp=Z,6.5nm,0.7s
LPL La Plagne 7.90 312 eP Pn 23 04 33.9 0.0
comp=Z,4.4nm,0.4s
LPL La Plagne 7.90 312 eP Pn 23 04 33.9 0.0
LPL pmax pmax
comp=Z,2.0nm,0.4s
LPL La Plagne 7.90 312 eP Pn 23 04 33.9 0.0
comp=Z,2.2nm,0.4s
ORIF Oris-en-Rattie 8.08 306 eP Pn 23 04 38.1 +2.1
PSZ Piszkesteto 8.17 23⇓iP Pn 23 04 37.3 +0.1
PSZ Piszkesteto 8.17 23⇓iP Pn 23 04 37.3 +0.1
GERES GERESS Array B 8.39 354 P Pn 23 04 39.1 -0.7
comp=Z,0.6nm,0.3s,baz=168,slow=14,SNR=7.1
GERES GERESS Array B 8.39 354 P Pn 23 04 39.1 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.3s
VYHS Vyhne 8.42 17 e Pn 23 04 40.1 -0.1
KHC Kasperske Hory 8.69 353 eP Pn 23 04 42.8 -0.7
KHC ex x 23 04 52.6
VOIR 8.81 53⇑iP Pn 23 04 47.8 +2.8
VOIR 8.81 53⇑iP Pn 23 04 47.9 +2.9
KECS Kecovo 8.86 24 eP Pn 23 04 43.6 -2.0
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 8.86 24 eP Pn 23 04 43.6 -2.0
comp=Z,1.6nm,0.7s
VRAC Vranov 8.87 6 P Pn 23 04 45.6 -0.1
comp=Z,0.6nm,0.3s,baz=192,slow=12,SNR=15
VRAC Vranov 8.87 6⇓iP Pn 23 04 45.5 -0.2
VRAC Vranov 8.87 6⇓iP Pn 23 04 45.5 -0.1
CABF La Chapelle 8.93 316 eP Pn 23 04 44.3 -2.2
comp=Z,7.7nm,0.4s
CABF La Chapelle 8.93 316 eP Pn 23 04 44.3 -2.2
CABF pmax pmax
comp=Z,4.0nm,0.4s
CABF La Chapelle 8.93 316 eP Pn 23 04 44.3 -2.2
comp=Z,3.8nm,0.4s
MLR Muntele Rosu 9.39 54 P Pn 23 04 53.8 +1.8
comp=Z,0.3nm,0.3s,baz=236,slow=4.5,SNR=15
MLR Muntele Rosu 9.39 54⇓iP Pn 23 04 54.0 +2.0
MLR Muntele Rosu 9.39 54⇓iP Pn 23 04 54.0 +1.9
HINF Hinteralfeld 9.39 324 eP Pn 23 04 50.8 -1.3
MORC Moravsky Berou 9.43 10⇓iP Pn 23 04 53.1 +0.5
MORC Moravsky Berou 9.43 10⇓iP Pn 23 04 53.1 +0.5
NIE Niedzica 9.65 21 eP Pn 23 04 57.2 +2.0
CDF Champ du Feu 9.67 327 eP Pn 23 04 55.0 -0.5
comp=Z,7.2nm,0.4s
CDF Champ du Feu 9.67 327 eP Pn 23 04 55.0 -0.5
CDF pmax pmax
comp=Z,4.0nm,0.4s
CDF Champ du Feu 9.67 327 eP Pn 23 04 55.0 -0.5
comp=Z,3.6nm,0.4s
HAU Haudompre 9.76 323 eP Pn 23 04 55.3 -1.4
KOLS Kolonicke sedl 9.85 29 e Pn 23 04 58.3 +0.6
DPC Dobruska-Polom 9.88 5 eP Pn 23 05 01.9 +3.8
STHS Stebnicka Huta 9.92 24 eP Pn 23 04 59.6 +1.1
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 9.92 24 eP Pn 23 04 59.6 +1.1
comp=Z,5.4nm,0.9s
PLOR Plostina 9.99 54⇓iP Pn 23 05 01.1 +1.6
UPC Upice 10.02 3 eP Pn 23 04 59.5 -0.3
SMF Signal de Mont 10.20 311 eP Pn 23 05 03.3 +1.3
comp=Z,2.3nm,0.4s
SMF Signal de Mont 10.20 311 eP Pn 23 05 03.3 +1.3
SMF pmax pmax
comp=Z,1.0nm,0.4s
SMF Signal de Mont 10.20 311 eP Pn 23 05 03.3 +1.3
comp=Z,1.1nm,0.4s
BRG Bergiesshubel 10.40 356 eP Pn 23 05 04.5 0.0
comp=Z,2.1nm,0.9s
BRG e 23 05 08.8
comp=Z,2.6nm,0.9s
AVF Avril sur Loir 10.56 310 eP Pn 23 05 08.4 +2.0
comp=Z,0.8nm,0.3s
AVF Avril sur Loir 10.56 310 eP Pn 23 05 08.4 +2.0
comp=Z,0.4nm,0.3s
KWP Kalwaria 10.59 28 eP Pn 23 05 09.2 +2.4
SSF Saint Saulge 10.62 312 eP Pn 23 05 08.6 +1.5
BGF Bois d'Agland 10.74 308 eP Pn 23 05 10.7 +2.1
BAIF Baives 12.23 325 eP Pn 23 05 26.4 -0.3
AKASG Malin Array Be 14.18 39 P P 23 05 49.8 +0.5
comp=Z,2.9nm,0.3s,baz=227,slow=10.0,SNR=7.0
AKASG Malin Array Be 14.18 39 P P 23 05 49.8 +0.5
AKASG pmax pmax
comp=Z,3.0nm,0.3s
BR131 Keskin Array S 14.23 87 P P 23 05 42.5 -7.3
comp=Z,0.8nm,0.5s
BR131 Keskin Array S 14.23 87 P P 23 05 42.5 -7.3
comp=Z,0.8nm,0.5s
BRTR Keskin Array B 14.23 87 P P 23 05 51.9 +2.1
comp=Z,0.3nm,0.3s,baz=273,slow=10,SNR=9.6
HFS Hagfors 19.67 358 P P 23 06 46.7 -1.9
comp=Z,0.7nm,0.3s,baz=177,slow=11,SNR=25
HFS Hagfors 19.67 358 P P 23 06 46.7 -1.9
HFS pmax pmax
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 20.70 355 P P 23 06 57.0 -2.2
comp=Z,0.8nm,0.5s,baz=174,slow=12,SNR=3.8
NOA NORSAR Array B 20.70 355 P P 23 06 57.0 -2.2
NOA pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 22.02 14 P P 23 07 10.2 -1.0
comp=Z,2.4nm,0.3s,mb4.0,baz=191,slow=9.1,SNR=46
FINES FINESS Array B 22.02 14 P P 23 07 10.3 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.3s
GNI Garni 22.57 81 P P 23 07 18.9 +2.6
comp=Z,1.8nm,0.4s,mb3.8,baz=195,slow=18,SNR=3.5
GNI Garni 22.57 81 P P 23 07 18.9 +2.6
GNI pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 22.68 14 ep P 23 07 15.4 -1.9
baz=201,slow=10
JOF Joensuu 24.45 18 ep P 23 07 32.2 -1.1
ARCES ARCESS Array B 29.61 7 P P 23 08 17.0 -2.1
comp=Z,1.3nm,0.7s,mb3.5,baz=194,slow=9.7,SNR=6.1
ARCES ARCESS Array B 29.61 7 P P 23 08 17.0 -2.1
ARCES pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 29.68 207 P P 23 08 19.3 -0.5
comp=Z,0.8nm,0.4s,mb3.6,baz=21,slow=9.3,SNR=35
DBIC Dimbokro 38.13 213 P P 23 09 31.1 -0.9
comp=Z,1.7nm,0.5s,mb3.8,baz=91,slow=8.5,SNR=4.8
DBIC Dimbokro 38.13 213 P P 23 09 31.1 -0.9
DBIC pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 53.86 315 P P 23 11 31.8 -2.0
comp=Z,3.8nm,1.1s,mb3.6,baz=65,slow=14,SNR=1.9

IDC 03 23:15:46.9±2.1, 694N×9425E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.7/3, Error ellipse: s-maj=92.6km s-min=31.4km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**42.05**	**12**	P	P	23 23 40.3	+0.1
	0.4nm,0.8s,baz=181,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**49.24**	**129**	P	P	23 24 37.5	+0.4
	0.6nm,0.6s,baz=303,slow=7.9,SNR=7.7						
FINES	**FINESS Array B**	**73.58**	**332**	P	P	23 27 21.8	-0.1
	1.3nm,0.8s,baz=90,slow=5.9,SNR=7.4						

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*NIED **03** 23:36:00, 46.70N×153.20E, h8km, Mw4.0 Best double couple: M0=1.4000×10^15 NP1:φ=335.00000°, δ=67.00000°, λ=38.00000°. NP2:φ=228.00000°, δ=56.00000°, λ=151.00000°.*
*BJI **03** 23:36:31.4, 46.61N×153.61E, h29km, mB4.8, mb4.4, Ms4.0, Msz3.8*
*NEIC **03** 23:36:33.5±0.5, 46.43N×153.15E, h10km, mb4.4/14, MS3.8/1, Error ellipse: s-maj=12.8km s-min=7.3km az=145.0*
*MOS **03** 23:36:33.8±1.3, 46.35N×153.34E, h33km, mb4.6/21, Error ellipse: s-maj=10.1km s-min=7.6km az=101.7*
*ISCJB **03** 23:36:36.3±1.0, 46.30N±0.07×152.96E±0.08, h42km±8km, mb4.6/43, MS4.0/3, Error ellipse: s-maj=13.4km s-min=7.4km az=113.2*
*IDC **03** 23:36:41.1±4.5, 46.34N×152.98E, h76km±39km, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp4.2/11, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=26.1km s-min=23.8km az=141.0*
ISC 03 23:36:39.0±0.9, 4634N±0.07×15291E±0.09, h50km±7km, h53km±15.2km: pP-P, n123, σ1=31/132, mb4.5/43, MS4.0/3, 7C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.84**	**25**	ePN	**Pn**	**23 37 42.2**	**-7.0**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
NEM2	**Nemuro 2**	**5.90**	**242**	P	**Pn**	**23 38 01.9**	**-1.9**
NEM2				eS	**Sn**	**23 39 07.2**	**-2.9**
JRA	**Rausu**	**6.01**	**249**	P	**Pn**	**23 38 06.3**	**+1.0**
JNK	**Nakash**	**6.43**	**248**	P	**Pn**	**23 38 11.4**	**+0.3**
JAK	**Akkeshi**	**6.75**	**243**	eS	**Sn**	**23 39 28.8**	**-2.0**
JTKR	**Abashiri--Toko**	**6.79**	**253**	P	**Pn**	**23 38 17.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.02**	**279**	ePN	**Pn**	**23 38 22.5**	**+3.4**
YSS	**Yuzh-Sakhalins**	**7.02**	**279**	ePn	**Pn**	**23 38 19.7**	**+0.6**
JMP	**Maruseppu**	**7.14**	**254**	P	**Pn**	**23 38 22.5**	**+1.7**
JAR	**Ashorobuto**	**7.18**	**248**	P	**Pn**	**23 38 21.6**	**+0.3**
JAR				eS	**Sn**	**23 39 42.0**	**+0.5**
JOB	**Onbets**	**7.33**	**245**	P	**Pn**	**23 38 22.6**	**-0.8**
JOB				eS	**Sn**	**23 39 43.7**	**-1.5**
JKK2	**Kamakawa 2**	**7.60**	**255**	P	**Pn**	**23 38 28.8**	**+1.7**
ASAJ	**Asahikawa**	**7.62**	**257**	P	**Pn**	**23 38 29.9**	**+2.6**
	comp=Z,2.2nm,0.3s,baz=95,slow=17,SNR=7.1						
ASAJ				LR	LR	23 41 21.0	
	comp=Z,192nm,19.0s,baz=359,slow=37						
PET	**Petropavlovsk**	**7.65**	**27**	ePN	**Pn**	**23 38 23.0**	**-4.8**
PET				pmax	pmax		
	comp=Z,15nm,0.4s						
JCH	**Churui**	**7.78**	**245**	P	**Pn**	**23 38 28.5**	**-1.0**
JCH				eS	**Sn**	**23 39 53.1**	**-3.1**
JFR	**Furan**	**8.00**	**250**	P	**Pn**	**23 38 35.0**	**+2.4**
ERM	**Erimo**	**8.24**	**242**	ePN	**Pn**	**23 38 36.7**	**+0.9**
ERM				pmax	pmax		
	comp=Z,29nm,0.5s						
ERM	**Erimo**	**8.24**	**242**	ePn	**Pn**	**23 38 36.7**	**+0.9**
	comp=Z,29nm,0.5s						
ERM				eSn	**Sn**	**23 40 05.2**	**-2.2**
JEM	**Erimo**	**8.24**	**242**	eS	**Sn**	**23 40 03.4**	**-4.0**
JNBK	**Urakawa-nobuka**	**8.34**	**244**	P	**Pn**	**23 38 35.2**	**-2.0**
JNBK				eS	**Sn**	**23 40 06.7**	**-3.3**
JNB	**Noboribetsu**	**9.34**	**250**	P	**Pn**	**23 38 51.1**	**+0.2**
JYM2	**Yakumo 2**	**9.94**	**249**	P	**Pn**	**23 38 58.3**	**-0.8**
JANG	**Nango**	**10.22**	**238**	P	**Pn**	**23 38 58.4**	**-4.5**
JANG				eS	**Sn**	**23 40 47.5**	**-8.5**
JTM	**Tenmabayashi**	**10.23**	**241**	eS	**Sn**	**23 40 49.9**	**-6.4**
JRG	**Rokugo**	**11.37**	**237**	eS	**Sn**	**23 41 17.0**	**-7.1**
MA2	**Magadan**	**13.32**	**355**	ePN	**Pn**	**23 39 45.7**	**+0.5**
KLR	**Kul'dur**	**14.51**	**289**	eP	**Pn**	**23 40 02.1**	**+0.8**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,900nm,14.0s						
MJAR	**Matsushiro Arr**	**14.72**	**234**	P	**Pn**	**23 40 01.9**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=31,slow=15,SNR=6.1						
MJAR	**Matsushiro Arr**	**14.72**	**234**	P	**Pn**	**23 40 01.9**	**-2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.72**	**234**	P	**Pn**	**23 40 01.9**	**-2.2**
MAJO	**Matsushiro**	**14.73**	**234**	eP	**Pn**	**23 40 04.2**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MAJO	**Matsushiro**	**14.73**	**234**	ePn	**Pn**	**23 40 04.2**	**+0.1**
	comp=Z,8.4nm,0.6s						
MAJO				e		23 40 10.5	
MAJO				e		23 40 23.0	
MDJ	**Mudanjiang**	**16.44**	**272**	P	**Pn**	**23 40 26.7**	**+0.6**
MDJ				S	**S**	**23 43 29.0**	**-8.5**
MDJ				PCP	PcP	23 45 15.2	-0.6
MDJ				SCP	ScP	23 48 44.3	-1.8
MDJ				PCS	PcS	23 48 51.2	-0.4
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,58nm,5.1s						
MDJ				LR	LR		
	comp=N,138nm,15.9s						
MDJ				LR	LR		
	comp=E,90nm,16.9s						
MDJ				LR	LR		
	comp=Z,156nm,17.5s						
MDJ	**Mudanjiang**	**16.44**	**272**	ePn	**Pn**	**23 40 27.7**	**+1.6**
	comp=Z,7.6nm,0.7s						
YAK	**Yakutsk**	**20.59**	**328⇑**	eP	**P**	**23 41 12.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**20.59**	**328**	P	**P**	**23 41 13.1**	**-0.6**
HIA	**Hailar**	**22.37**	**290**	P	**P**	**23 41 32.6**	**-0.1**
BJI	**Beijing**	**27.34**	**270**	P	**P**	**23 42 22.2**	**+3.1**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=N,144nm,16.9s,MS3.7						
BJI				LR	LR		
	comp=E,85nm,16.9s,MS3.7						
BJI				LR	LR		
	comp=Z,213nm,18.2s,MS3.8						
BJI	**Beijing**	**27.34**	**270**	P	**P**	**23 42 22.2**	**+3.1**
	comp=Z,10.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,210nm,18.2s,MS3.8						
NJ2	**Nanjing**	**29.75**	**253**	eP	**P**	**23 42 43.1**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.1						
HHC	**Hu-ho-hao-te**	**30.19**	**275**	eP	**P**	**23 42 45.1**	**+0.7**
HHC				AP	pP	23 42 59.5	+2.1
HHC				PP	PP	23 43 44.3	-8.9
HHC				PCP	PcP	23 45 47.2	+2.7
HHC				S	**S**	**23 47 37.6**	**-2.5**
HHC				XS	sS	23 48 02.8	+0.8
HHC				SCP	ScP	23 49 18.3	-4.2
HHC				SS	SS	23 49 22.0	-28
HHC				PCS	PcS	23 49 29.8	+1.8
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,107nm,4.5s						
HHC				LR	LR		
	comp=N,141nm,7.3s						
HHC				LR	LR		
	comp=E,213nm,5.3s						
HHC				LR	LR		
	comp=Z,191nm,4.7s						
SONM	**Songino Array**	**31.34**	**290**	P	**P**	**23 42 54.5**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.6,baz=69,slow=8.6,SNR=6.2						
SONM				PcP	PcP	23 45 44.6	-2.9
	comp=Z,0.3nm,0.3s,baz=57,slow=4.0,SNR=5.0						
SONM	**Songino Array**	**31.34**	**290**	P	**P**	**23 42 54.5**	**-0.1**
SONM						23 45 44.6	
SONM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TLY	**Talaya**	**32.24**	**298**	eP	**P**	**23 43 02.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
TLY	**Talaya**	**32.24**	**298**	eP	**P**	**23 43 02.6**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**32.73**	**296**	eP	**P**	**23 43 06.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TATO	**Taipei**	**32.93**	**241**	P	**P**	**23 43 08.5**	**0.0**
LZH	**Lanzhou**	**37.76**	**272**	eP	**P**	**23 43 52.5**	**+2.5**
LZH				AP	pP	23 44 01.0	-2.2
LZH				XP	sP	23 44 09.0	-0.1
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**37.76**	**272**	eP	**P**	**23 43 52.5**	**+2.5**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	23 44 01.0	-2.2
LZH				sP	sP	23 44 09.0	-0.1
GTA	**Gaotai**	**38.90**	**279**	eP	**P**	**23 44 01.0**	**+1.4**
GTA				AP	pP	23 44 05.1	-7.7
GTA				XP	sP	23 44 08.3	-10
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
CD2	**Chengdu**	**40.71**	**265**	eP	**P**	**23 44 15.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
INK	**Inuvik**	**42.07**	**32**	P	**P**	**23 44 24.4**	**-1.4**
	comp=Z,4.5nm,1.0s,mb4.1,baz=307,slow=4.7,SNR=7.1						
INK	**Inuvik**	**42.07**	**32**	P	**P**	**23 44 24.4**	**-1.4**
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**42.07**	**32**	eP	**P**	**23 44 24.4**	**-1.3**
	comp=Z,52nm,0.5s,mb5.4						
WMQ	**Urumqi**	**44.95**	**292**	eP	**P**	**23 44 50.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,76nm,4.8s						
WMQ				LR	LR		
	comp=Z,204nm,15.4s,MS4.2						
KMI	**Kunming**	**45.03**	**260**	P	**P**	**23 44 51.3**	**+1.7**
KMI				*PP	pP	23 45 07.7	+4.7
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
KMI	**Kunming**	**45.03**	**260**	P	**P**	**23 44 51.3**	**+1.7**
	comp=Z,7.0nm,1.2s,mb4.4						
KMI				pP	pP	23 45 07.7	+4.7
KMI				sP	sP	23 45 14.9	+6.0
LSA	**Lhasa**	**50.16**	**273**	P	**P**	**23 45 32.7**	**+3.4**
BVAR	**Borovoye Array**	**51.01**	**310**	P	**P**	**23 45 34.8**	**-1.0**
	comp=Z,1.5nm,0.4s,mb4.3,baz=51,slow=7.3,SNR=17						
BVAR	**Borovoye Array**	**51.01**	**310**	P	**P**	**23 45 34.8**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.05**	**310**	eP	**P**	**23 45 35.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	**Borovoye**	**51.05**	**310**	eP	**P**	**23 45 35.5**	**-0.5**
	comp=Z,2.1nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**51.78**	**310**	eP	**P**	**23 45 40.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.78**	**310**	eP	**P**	**23 45 40.8**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**53.89**	**297**	eP	**P**	**23 45 56.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**53.89**	**297**	eP	**P**	**23 45 56.6**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3						
JIRN	**Jiri**	**54.84**	**275**	eP	**P**	**23 46 06.5**	**+2.5**
	comp=Z,6.3nm,0.2s,mb5.3						
GUN	**Gumba**	**54.90**	**275**	eP	**P**	**23 46 06.5**	**+2.1**
	comp=Z,10nm,0.4s,mb5.2						
ARU	**Arti**	**55.22**	**318⇓iP**		**P**	**23 46 05.2**	**-1.5**
ARU				eS	**S**	**23 53 44.8**	**-1.7**
ARU				eSS	SS	23 57 26.7	-4.4
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KKN	**Kakani**	**55.39**	**275**	eP	**P**	**23 46 10.0**	**+2.1**
	comp=Z,14nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.44**	**275**	eP	**P**	**23 46 10.2**	**+1.9**
	comp=Z,6.1nm,0.6s,mb4.8						
DMN	**Daman**	**55.62**	**275**	eP	**P**	**23 46 11.8**	**+2.2**
	comp=Z,19nm,0.8s,mb5.2						
GKN	**Gorkha**	**55.70**	**276**	eP	**P**	**23 46 12.1**	**+1.9**
	comp=Z,19nm,0.6s,mb5.3						
KOLN	**Koldanda**	**56.56**	**277**	eP	**P**	**23 46 18.4**	**+2.1**
	comp=Z,13nm,0.7s,mb5.1						
KEV	**Kevo**	**57.68**	**341**	ep	**P**	**23 46 21.8**	**-2.4**

comp=Z,1.0nm,0.3s,mb4.3
KEV Kevo 57.68 341 *e*P **P 23 46 21.8 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 58.19 341 P **P 23 46 26.8 -1.0**
comp=Z,1.4nm,0.5s,mb4.3,baz=23,slow=7.7,SNR=12
ARCES ARCESS Array B 58.19 341 P **P 23 46 26.8 -1.0**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
SUMG Summit 61.12 4 *e*P **P 23 46 47.7 -0.2**
comp=Z,14nm,0.9s,mb5.1
JOF Joensuu 61.64 334 *e*p **P 23 46 49.9 -1.5**
comp=Z,1.0nm,0.5s,mb4.2
JOF Joensuu 61.64 334 *e*P **P 23 46 49.9 -1.5**
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
GCMT Greycliff 63.09 51 P **P 23 47 01.1 0.0**
KAF Kangasniemi 63.75 335 *e*p **P 23 47 03.3 -2.2**
comp=Z,1.2nm,0.4s,mb4.3,baz=36,slow=6.1
KAF Kangasniemi 63.75 335 *e*P **P 23 47 03.3 -2.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 64.35 335 P **P 23 47 08.3 -1.1**
comp=Z,2.7nm,0.4s,mb4.6,baz=36,slow=7.5,SNR=53
FINES FINESS Array B 64.35 335 P **P 23 47 08.3 -1.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 64.35 335 P **P 23 47 08.3 -1.1**
PDAR Pinedale Array 65.10 54 P **P 23 47 13.2 -1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=336,slow=3.3,SNR=4.9
NB2 NORSAR Subarra 68.57 341 P **P 23 47 35.3 -1.1**
comp=Z,3.1nm,0.5s,mb4.5,baz=29,slow=6.5
NB2 NORSAR Subarra 68.57 341 P **P 23 47 35.3 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
NOA NORSAR Array B 68.57 341 P **P 23 47 35.5 -0.9**
comp=Z,2.5nm,0.5s,mb4.4,baz=28,slow=6.4,SNR=14
NOA NORSAR Array B 68.57 341 P **P 23 47 35.5 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.5s
WUAZ Wupatki 68.85 61 *e*P **P 23 47 39.6 +1.4**
comp=Z,13nm,1.0s,mb4.8
KIV Kislovodsk 70.98 314 *e*P **P 23 47 51.3 +0.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
ASAR Alice Springs 71.78 198 P **P 23 47 55.6 -0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=11,slow=6.4,SNR=4.5
ASAR Alice Springs 71.78 198 P **P 23 47 55.6 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 71.81 326 P **P 23 47 55.5 -0.8**
comp=Z,5.4nm,0.5s,mb4.8,baz=33,slow=6.2,SNR=35
AKASG Malin Array Be 71.81 326 P **P 23 47 55.5 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 71.81 326 *e*P **P 23 47 55.3 -0.9**
LAZ Ladron 72.14 59 *e*P **P 23 47 57.7 -0.5**
BURAR Bucovina Array 75.85 326 ⇓*i*P **P 23 48 20.1 +0.2**
BURAR Bucovina Array 75.85 326 ⇓P **P 23 48 20.1 +0.2**
CLL Collm 76.78 335 *i* P **P 23 48 25.3 +0.2**
comp=Z,6.0nm,0.6s,mb4.7
MLR Muntele Rosu 77.32 325 ⇓*i*P **P 23 48 28.6 +0.4**
MLR Muntele Rosu 77.32 325 ⇓P **P 23 48 28.6 +0.5**
VOIR 77.72 325 ⇑*i*P **P 23 48 31.2 +0.8**
VOIR 77.72 325 ⇑P **P 23 48 31.2 +0.8**
KHC Kasperske Hory 78.55 334 *e*P **P 23 48 33.9 -1.1**
GZR Gura Zlata 78.64 327 ⇑*i*P **P 23 48 35.8 +0.3**
GZR Gura Zlata 78.64 327 ⇑P **P 23 48 35.8 +0.3**
GERES GERESS Array B 78.76 334 P **P 23 48 36.0 -0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=32,slow=5.8,SNR=3.3
GERES GERESS Array B 78.76 334 P **P 23 48 36.0 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
BZS Buzias 78.88 327 ⇓*i*P **P 23 48 36.8 0.0**
BZS Buzias 78.88 327 ⇓P **P 23 48 36.9 0.0**
PKSM Moragy 79.45 330 ⇑*i*P **P 23 48 38.7 -1.2**
PKSM Moragy 79.45 330 ⇑P **P 23 48 38.7 -1.2**
VTS Vitosha 80.82 325 ⇓*i*P **P 23 48 47.9 +0.6**
CDF Champ du Feu 80.98 338 *e*P **P 23 48 47.7 -0.5**
comp=Z,9.9nm,0.9s,mb4.4
LOR Lormes 82.91 339 *e*P **P 23 48 57.8 -0.5**
comp=Z,8.0nm,0.7s,mb4.5
AVF Avril sur Loir 83.48 339 *e*P **P 23 49 01.1 -0.1**
comp=Z,17nm,1.2s,mb4.7
SMF Signal de Mont 83.50 339 *e*P **P 23 49 01.3 0.0**
comp=Z,28nm,1.1s,mb4.9
TCF Toulx Ste Croi 84.22 340 *e*P **P 23 49 04.9 -0.1**
comp=Z,40nm,1.5s,mb5.0
CPUP Villa Florida 148.79 61 PKPbc PKPbc 23 56 19.6 -1.2
comp=Z,0.2nm,0.3s,baz=3.0,slow=8.9,SNR=2.9

NIED ***03*** *23:46:00, 46.70N×152.70E, h5km, Mw4.2 Best double couple: M0=2.35000×10^15 NP1:φs=41.00000°, δ=58.00000°, λ=105.00000°. NP2:φs=194.00000°, δ=35.00000°, λ=68.00000°.*
IDC ***03*** *23:46:29.4±1.4, 46.21N×153.01E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML3.9/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/28, Error ellipse: s-maj=35.1km s-min=24.0km az=125.0*
BJI ***03*** *23:46:29.8, 46.72N×153.58E, h32km, mB4.9, mb4.5, Ms4.2, Msz3.9*
MOS ***03*** *23:46:31.8±1.6, 46.13N×153.20E, h33km, mb4.6/16, Error ellipse: s-maj=12.6km s-min=9.9km az=111.4*
NEIC ***03*** *23:46:32.6±0.7, 46.43N×152.88E, h10km, mb4.5/10, Error ellipse: s-maj=18.9km s-min=12.8km az=143.0*
ISCJB ***03*** *23:46:33.8±1.1, 46.17N±009×152.8E±01, h33km±8km, mb4.6/41, MS3.9/11, Error ellipse: s-maj=18.7km s-min=8.1km az=107.0*
ISC 03 23:46:36.7±1.0, 46.19N±009×152.8E±01, h45km±7km, n109, σ1§47/112, mb4.6/41, MS3.9/11, 6C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.58**	**256**	⇑*i*PN	**Pn**	**23 47 28.0**	**-1.7**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,320nm,0.6s						
SKR	**Severo-Kuril's**	**5.01**	**25**	*e*PN	**Pn**	**23 47 43.4**	**-5.9**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.36**	**249**	PN	**Pn**	**23 47 43.5**	**-11**
NEM2	**Nemuro 2**	**5.76**	**243**	P	**Pn**	**23 47 58.0**	**-1.6**
NEM2				*e*S	**Sn**	**23 49 02.0**	**-2.3**
JRA	**Rausu**	**5.88**	**250**	P	**Pn**	**23 48 02.4**	**+1.1**
JNK	**Nakash**	**6.30**	**248**	P	**Pn**	**23 48 07.6**	**+0.6**
JAK	**Akkeshi**	**6.61**	**244**	*e*S	**Sn**	**23 49 22.3**	**-2.8**
JTKR	**Abashiri--Toko**	**6.67**	**254**	P	**Pn**	**23 48 13.4**	**+1.3**
YSS	**Yuzh-Sakhalins**	**6.96**	**280**	*e*PN	**Pn**	**23 48 26.0**	**+10**
YSS	**Yuzh-Sakhalins**	**6.96**	**280**	*e*Pn	**Pn**	**23 48 26.6**	**+10**
JMP	**Maruseppu**	**7.03**	**255**	P	**Pn**	**23 48 18.3**	**+1.4**
JAR	**Ashorobuto**	**7.05**	**249**	P	**Pn**	**23 48 17.7**	**+0.5**
JAR				*e*S	**Sn**	**23 49 37.5**	**+1.5**
JOB	**Onbets**	**7.20**	**246**	P	**Pn**	**23 48 19.5**	**+0.2**
JKK2	**Kamakawa 2**	**7.49**	**256**	P	**Pn**	**23 48 24.5**	**+1.3**
ASAJ	**Asahikawa**	**7.50**	**258**	Pn	**Pn**	**23 48 23.4**	**0.0**
ASAJ				LR	LR	23 51 15.3	
	comp=Z,2.0nm,0.3s,baz=141,slow=24,SNR=4.6						
	comp=Z,279nm,18.3s,baz=180,slow=37						
ASAJ	**Asahikawa**	**7.50**	**258**	PN	**Pn**	**23 48 23.5**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,279nm,18.3s						
JCH	**Churui**	**7.64**	**245**	P	**Pn**	**23 48 24.3**	**-1.1**
JCH				*e*S	**Sn**	**23 49 46.7**	**-3.9**
PET	**Petropavlovsk**	**7.82**	**27**	*e*PN	**Pn**	**23 48 29.7**	**+1.8**
PET				pmax	pmax		
	comp=Z,17nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
JEM	**Erimo**	**8.09**	**242**	*e*S	**Sn**	**23 49 58.6**	**-3.1**
JNBK	**Urakawa-nobuka**	**8.20**	**245**	P	**Pn**	**23 48 31.8**	**-1.2**
JANG	**Nango**	**10.07**	**239**	P	**Pn**	**23 48 54.7**	**-3.9**
JANG				*e*S	**Sn**	**23 50 40.7**	**-9.4**
JTM	**Tenmabayashi**	**10.09**	**242**	*e*S	**Sn**	**23 50 43.6**	**-7.0**
JOSM	**Okushiri--Mats**	**10.42**	**252**	P	**Pn**	**23 49 02.8**	**-0.6**
OFUJ	**Ofunato**	**10.84**	**233**	*e*S	**Sn**	**23 51 00.1**	**-9.0**
JRG	**Rokugo**	**11.21**	**237**	*e*S	**Sn**	**23 51 08.7**	**-10**
MA2	**Magadan**	**13.46**	**356**	*e*P	**Pn**	**23 49 51.0**	**+6.0**
KLR	**Kul'dur**	**14.48**	**290**	*e*P	**Pn**	**23 50 02.3**	**+3.4**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
MAJO	**Matsushiro**	**14.57**	**234**	*e*P	**Pn**	**23 50 06.8**	**+6.8**
MJAR	**Matsushiro Arr**	**14.57**	**234**	Pn	**Pn**	**23 49 57.0**	**-3.0**
	baz=30,slow=15,SNR=5.1						
MJAR				LR	LR	23 55 54.5	
	comp=Z,98nm,18.3s,baz=90,slow=38						
MDJ	**Mudanjiang**	**16.36**	**273**	P	**Pn**	**23 50 28.5**	**+5.3**
MDJ				S	**S**	**23 53 30.4**	**-4.0**
MDJ				PCP	PcP	23 55 13.2	-0.9
MDJ				PCS	PcS	23 58 49.3	-0.5
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,54nm,6.3s						
MDJ				LR	LR		
	comp=N,104nm,17.4s						
MDJ				LR	LR		
	comp=E,152nm,18.4s						
MDJ				LR	LR		
	comp=Z,165nm,17.4s						
YAK	**Yakutsk**	**20.68**	**328**	P	**P**	**23 51 14.8**	**+2.0**
INCN	**Inchon**	**21.27**	**255**	P	**P**	**23 51 23.0**	**+3.8**
BJT	**Baijiatuau**	**27.27**	**270**	P	**P**	**23 52 20.1**	**+3.4**
NJ2	**Nanjing**	**29.63**	**254**	*e*P	**P**	**23 52 43.1**	**+5.4**
NJ2				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.5						
HHC	**Hu-ho-hao-te**	**30.12**	**275**	*e*P	**P**	**23 52 44.9**	**+2.9**
HHC				PP	PP	23 53 48.0	-2.5
HHC				PCP	PcP	23 55 38.3	-4.4
HHC				PCS	PcS	23 59 26.8	+0.6
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,140nm,6.1s						
HHC				LR	LR		
	comp=N,130nm,5.7s						
HHC				LR	LR		
	comp=E,192nm,6.5s						
HHC				LR	LR		
	comp=Z,138nm,13.7s,MS3.8						
SONM	**Songino Array**	**31.32**	**290**	P	**P**	**23 52 52.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.6,baz=74,slow=7.9,SNR=5.5						
SONM				LR	LR	00 06 25.5	
	comp=Z,71nm,20.2s,MS3.3,baz=246,slow=38						
SONM	**Songino Array**	**31.32**	**290**	P	**P**	**23 52 52.3**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,71nm,20.2s						
TATO	**Taipei**	**32.78**	**241**	*e*P	**P**	**23 53 07.6**	**+2.1**
	comp=Z,13nm,0.4s,mb5.2						
LZH	**Lanzhou**	**37.69**	**272**	*e*P	**P**	**23 53 50.0**	**+2.3**
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH	**Lanzhou**	**37.69**	**272**	*e*P	**P**	**23 53 50.0**	**+2.3**
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	23 54 20.5	+21
LZH				sP	sP	23 54 38.5	+33
GTA	**Gaotai**	**38.84**	**280**	*e*P	**P**	**23 53 57.3**	**-0.1**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
INK	**Inuvik**	**42.24**	**32**	P	**P**	**23 54 22.9**	**-2.6**
	comp=Z,2.2nm,0.8s,mb3.8,baz=215,slow=3.7,SNR=3.6						
INK	**Inuvik**	**42.24**	**32**	P	**P**	**23 54 22.9**	**-2.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	**Zalesovo**	**42.78**	**306**	LR	LR	00 14 19.6	
	comp=Z,266nm,18.5s,MS4.2,baz=51,slow=39						
KMI	**Kunming**	**44.93**	**260**	P	**P**	**23 54 48.8**	**+1.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,82nm,4.0s						
KMI	**Kunming**	**44.93**	**260**	P	**P**	**23 54 48.8**	**+1.8**
	comp=Z,8.0nm,1.1s,mb4.5						
KMI				pP	pP	23 55 21.5	+22
KMI				sP	sP	23 55 37.6	+33
WMQ	**Urumqi**	**44.93**	**292**	*e*P	**P**	**23 54 49.5**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,91nm,4.2s						
WMQ				LR	LR		
	comp=Z,190nm,15.8s,MS4.1						
LSA	**Lhasa**	**50.09**	**273**	P	**P**	**23 55 28.7**	**+1.6**
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**23 55 33.0**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=45,slow=7.3,SNR=15						
BVAR				LR	LR	00 19 05.6	
	comp=Z,77nm,18.1s,MS3.8,baz=357,slow=38						
BVAR	**Borovoye Array**	**51.05**	**310**	P	**P**	**23 55 33.0**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,77nm,18.1s						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**23 55 33.5**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**51.09**	**310**	*e*P	**P**	**23 55 33.5**	**-1.1**
	comp=Z,3.2nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.82**	**310**	*e*P	**P**	**23 55 38.8**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.82**	**310**	*e*P	**P**	**23 55 38.8**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**53.89**	**297**	*e*P	**P**	**23 55 54.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**53.89**	**297**	*e*P	**P**	**23 55 54.7**	**-0.6**
	comp=Z,4.4nm,0.8s,mb4.4						
JIRN	**Jiri**	**54.77**	**275**	*e*P	**P**	**23 56 04.7**	**+2.9**
	comp=Z,4.3nm,0.2s,mb5.1						
GUN	**Gumba**	**54.83**	**275**	*e*P	**P**	**23 56 04.4**	**+2.2**
	comp=Z,7.4nm,0.4s,mb5.0						
ARU	**Arti**	**55.28**	**318**	⇑*i*P	**P**	**23 56 03.5**	**-2.0**
ARU				*e*		23 58 06.1	
ARU				*e*S	**S**	**00 03 44.3**	**-1.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU				MLR	MLR		
	comp=N,20nm,18.0s,MS3.8						
ARU				MLR	MLR		
	comp=E,70nm,18.0s,MS3.8						
ARU				MLR	MLR		
	comp=Z,80nm,18.0s,MS3.8						
KKN	**Kakani**	**55.32**	**275**	*e*P	**P**	**23 56 07.9**	**+2.1**
	comp=Z,13nm,0.6s,mb5.1						
PKI	**Pulchoki**	**55.37**	**275**	*e*P	**P**	**23 56 07.8**	**+1.7**
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**23 56 09.5**	**+2.1**
	comp=Z,17nm,0.7s,mb5.2						
PMG	**Port Moresby**	**55.57**	**187**	LR	LR	00 15 49.6	
	comp=Z,75nm,19.6s,MS3.8,baz=210,slow=32						
GKN	**Gorkha**	**55.63**	**276**	*e*P	**P**	**23 56 09.6**	**+1.6**
	comp=Z,22nm,0.8s,mb5.3						
KOLN	**Koldanda**	**56.49**	**277**	*e*P	**P**	**23 56 15.9**	**+1.7**
	comp=Z,16nm,0.7s,mb5.2						
KEV	**Kevo**	**57.80**	**341**	*e*p	**P**	**23 56 21.1**	**-2.3**
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**23 56 25.8**	**-1.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=19,slow=7.7,SNR=4.6						
ARCES	**ARCESS Array B**	**58.31**	**341**	P	**P**	**23 56 25.8**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BMO	**Blue Mountains**	**59.57**	**56**	P	**P**	**23 56 36.5**	**+0.8**
JOF	**Joensuu**	**61.74**	**334**	*e*p	**P**	**23 56 48.6**	**-1.9**
	comp=Z,1.8nm,0.5s,mb4.5						
JOF	**Joensuu**	**61.74**	**334**	*e*P	**P**	**23 56 48.6**	**-1.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**63.86**	**335**	*e*p	**P**	**23 57 02.5**	**-2.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=37,slow=6.2						
KAF	**Kangasniemi**	**63.86**	**335**	*e*P	**P**	**23 57 02.5**	**-2.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RRI2	**Red Ridge**	**63.89**	**54**	*e*P	**P**	**23 57 05.4**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**23 57 07.1**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.5,baz=34,slow=8.1,SNR=34						
FINES				LR	LR	00 28 03.4	
	comp=Z,48nm,18.3s,MS3.7,baz=172,slow=39						
FINES	**FINESS Array B**	**64.45**	**335**	P	**P**	**23 57 07.1**	**-1.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,48nm,18.3s						
NB2	**NORSAR Subarra**	**68.69**	**341**	P	**P**	**23 57 34.2**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**	**23 57 34.5**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=29,slow=6.4,SNR=8.4						
NOA	**NORSAR Array B**	**68.69**	**341**	P	**P**	**23 57 34.5**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	**Kislovodsk**	**71.03**	**314**	*e*P	**P**	**23 57 52.2**	**+2.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KIV				MLR	MLR		
	comp=Z,72nm,18.0s,MS4.0						
KIV	**Kislovodsk**	**71.03**	**314**	*e*P	**P**	**23 57 50.8**	**+0.9**
	comp=Z,4.8nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**71.61**	**198**	P	**P**	**23 57 52.8**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=16,slow=5.1,SNR=4.7						
AKASG	**Malin Array Be**	**71.89**	**326**	P	**P**	**23 57 54.1**	**-1.0**
	comp=Z,5.9nm,0.5s,mb4.8,baz=35,slow=6.2,SNR=30						
AKASG	**Malin Array Be**	**71.89**	**326**	P	**P**	**23 57 54.1**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BURAR	**Bucovina Array**	**75.94**	**326**	⇓*i*P	**P**	**23 58 18.4**	**-0.3**
BURAR	**Bucovina Array**	**75.94**	**326**	⇓P	**P**	**23 58 18.4**	**-0.3**
CLL	**Collm**	**76.88**	**335**	*e*P	**P**	**23 58 23.0**	**-1.1**
	comp=Z,6.0nm,1.0s,mb4.5						
VRAC	**Vranov**	**77.55**	**332**	⇑*i*P	**P**	**23 58 27.7**	**-0.1**
VRAC	**Vranov**	**77.55**	**332**	⇑P	**P**	**23 58 27.7**	**-0.1**
BR131	**Keskin Array S**	**78.65**	**317**	*e*P	**P**	**23 58 35.0**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.8						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**23 58 35.0**	**+1.2**
	comp=Z,1.6nm,0.9s,mb3.9,baz=64,slow=2.9,SNR=9.5						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**23 58 35.1**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**78.86**	**334**	P	**P**	**23 58 35.1**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=64,slow=12,SNR=4.1						
GERES				LR	LR	00 37 22.1	
	comp=Z,61nm,18.3s,MS4.0,baz=297,slow=39						
GERES	**GERESS Array B**	**78.86**	**334**	P	**P**	**23 58 35.1**	**0.0**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,61nm,18.3s						
BZS	**Buzias**	**78.97**	**327**	⇓*i*P	**P**	**23 58 35.0**	**-0.7**
BZS	**Buzias**	**78.97**	**327**	⇓P	**P**	**23 58 35.0**	**-0.6**
VTS	**Vitosha**	**80.90**	**325**	⇑*i*P	**P**	**23 58 46.4**	**+0.3**
VTS	**Vitosha**	**80.90**	**325**	⇑P	**P**	**23 58 46.4**	**+0.3**
CDF	**Champ du Feu**	**81.09**	**338**	*e*P	**P**	**23 58 46.7**	**-0.4**
	comp=Z,5.6nm,0.7s,mb4.3						
MEZF	**Maizieres J'vi**	**81.58**	**339**	*e*P	**P**	**23 58 49.3**	**-0.4**
HAU	**Haudompre**	**81.71**	**338**	*e*P	**P**	**23 58 49.4**	**-1.0**
	comp=Z,12nm,1.0s,mb4.5						
PPT	**Papeete**	**82.01**	**126**	LR	LR	00 34 06.5	
	comp=Z,152nm,18.6s,MS4.4,baz=115,slow=35						
LOR	**Lormes**	**83.02**	**339**	*e*P	**P**	**23 58 56.6**	**-0.6**
	comp=Z,10nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**83.30**	**339**	*e*P	**P**	**23 58 59.8**	**+1.1**
	comp=Z,7.1nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**83.59**	**339**	*e*P	**P**	**23 58 59.7**	**-0.5**
	comp=Z,15nm,1.1s,mb4.7						
SMF	**Signal de Mont**	**83.61**	**339**	*e*P	**P**	**23 58 59.9**	**-0.4**
	comp=Z,46nm,1.4s,mb5.1						
QUIF	**Quistinic**	**83.95**	**344**	*e*P	**P**	**23 59 00.3**	**-1.7**
	comp=Z,42nm,1.1s,mb5.2						
TCF	**Toulx Ste Croi**	**84.34**	**340**	*e*P	**P**	**23 59 04.5**	**+0.5**
	comp=Z,9.7nm,0.9s,mb4.6						
VIVF	**Saint-Julien-l**	**85.06**	**338**	*e*P	**P**	**23 59 07.7**	**+0.1**
	comp=Z,22nm,1.2s,mb4.9						

NEIC ***03*** *23:49:15.8, 1786N×6884W, h108km, MD3.5(RSPR), After RSPR.*
RSPR 03 23:49:15.8, 1786N×6884W, h108km±5km, MD3.5/8, MD3.5/8, 6C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.66**	**85**	⇓*e*P	Pn	23 49 43.8	-0.5
CRPR				*e*S	Sn	23 50 06.1	+0.1
LSP	**Las Mesas**	**1.70**	**79**	⇑*e*P	Pn	23 49 44.6	-0.2
LSP				*e*S	Sn	23 50 07.7	+0.6
AGPR	**Aguadilla, PR**	**1.75**	**69**	⇓*e*P	Pn	23 49 45.5	0.0
AGPR				*e*S	Sn	23 50 08.3	+0.1
LRS	**Lares**	**1.95**	**77**	⇑*e*P	Pn	23 49 48.2	+0.3
LRS				*e*S	Sn	23 50 12.1	-0.5
AOPR	**Arecibo Observ**	**2.05**	**76**	⇑*e*P	Pn	23 49 48.2	-1.0
AOPR				*e*S	Sn	23 50 14.8	+0.1
CELP	**Cerrillos**	**2.17**	**84**	⇑*e*P	Pn	23 49 50.7	-0.1
CELP				*e*S	Sn	23 50 17.1	-0.3
HUMP	**Col San Antoni**	**2.86**	**84**	⇓*e*P	Pn	23 50 00.2	+0.3
HUMP				*e*S	Sn	23 50 33.9	+0.1
CBYP	**Canovanas**	**2.87**	**81**	⇑*e*P	Pn	23 49 59.0	-1.0
CBYP				*e*S	Sn	23 50 34.6	+0.6
MTP	**Monte Pirata**	**3.14**	**85**	⇑*e*P	Pn	23 50 03.3	-0.2
MTP				*e*S	Sn	23 50 40.6	+0.2

IDC 03 23:53:34.4±34.0, 4542N×15422E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=814.3km s-min=267.7km az=145.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**65.58**	**335**	P	P	00 04 20.0	+0.1
	0.5nm,0.6s,baz=47,slow=8.2,SNR=4.2						
NOA	**NORSAR Array B**	**69.74**	**342**	P	P	00 04 45.8	-0.5
	0.7nm,0.8s,baz=22,slow=7.7,SNR=2.7						
AKASG	**Malin Array Be**	**73.09**	**327**	P	P	00 05 05.7	-0.8
	0.7nm,0.4s,baz=33,slow=6.1,SNR=5.2						

IDC ***04*** *00:01:19.1±1.0, 4.11N×126.39E, h0km, mb4.0/

comp=Z,2.5nm,0.2s,mb4.8
DMN Daman 45.82 305 *e*P **P 00 09 43.2 +0.2**
GKN Gorkha 46.36 305 *e*P **P 00 09 47.3 +0.1**
comp=E,5.3nm,0.6s,mb4.6
SONM Songino Array 46.86 341 P **P 00 09 51.4 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=158,slow=8.9,SNR=7.8
KOLN Koldanda 47.12 305 *e*P **P 00 09 54.0 +0.9**
comp=Z,9.1nm,0.6s,mb4.9
ZAL Zalesovo 60.14 333 P **P 00 11 27.9 -0.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=339,slow=2.4,SNR=4.1
BVAR Borovoye Array 66.87 327 P **P 00 12 13.1 +0.1**
comp=Z,0.6nm,0.6s,mb3.8,baz=155,slow=11,SNR=6.1
BRVK Borovoye 66.94 327 *e*P **P 00 12 13.4 -0.1**
comp=Z,1.4nm,0.4s,mb4.3
ZRNK Zerenda 67.60 326 *e*P **P 00 12 17.4 -0.2**
comp=Z,2.5nm,0.7s,mb4.3
CASY Casey 71.18 187 *e*P **P 00 12 40.8 +1.1**
comp=Z,1.9nm,0.5s,mb4.3
VNDA Vanda 83.84 173 P **P 00 13 50.3 -0.1**
comp=Z,1.0nm,0.7s,mb4.1,baz=322,slow=4.8,SNR=6.9
VNDA Vanda 83.84 173 *e*P **P 00 13 51.1 +0.6**
comp=Z,0.7nm,0.6s,mb4.0
BRTR Keskin Array B 89.60 310 P **P 00 14 17.1 -1.5**
comp=Z,0.7nm,1.0s,mb4.0,baz=101,slow=6.4,SNR=3.8
ARCES ARCESS Array B 90.01 340 P **P 00 14 20.7 +0.3**
comp=Z,1.4nm,0.8s,mb4.4,baz=91,slow=4.9,SNR=4.3
FINES FINESS Array B 91.38 332 P **P 00 14 26.6 -0.2**
comp=Z,2.4nm,0.9s,mb4.5,baz=56,slow=11,SNR=5.8
TORD Torodi Ar. Bea 122.58 288 PKP PKPdf 00 20 17.1 +0.8
comp=Z,0.6nm,0.9s,baz=71,slow=2.3,SNR=4.5

NIED ***04*** *00:37:00,3820N×14480E,h8km,Mw4.2 Best double couple: M0=2.58000×10^15 NP1:φs=66.00000°,δ58.00000°, λ-97.00000°. NP2:φs=260.00000°,δ33.00000°, λ-78.00000°.*
BJI ***04*** *00:37:46.5,3825N×14499E,h26km,mB5.1,mb4.5,Ms4.2, Msz3.8*
ISCJB ***04*** *00:37:47.7±0.3,3821N±004×14484E±003,h34km, mb4.5/58,MS3.7/10,Error ellipse: s-maj=5.7km s-min=3.6km az=174.9*
MOS ***04*** *00:37:47.0±1.2,3815N×14496E,h33km,mb4.6/28,Error ellipse: s-maj=11.4km s-min=6.8km az=108.1*
NEIC ***04*** *00:37:49.0±0.2,3814N×14498E,mb4.5/21,MW4.2(NIED), Error ellipse: s-maj=6.5km s-min=5.3km az=158.0*
IDC ***04*** *00:37:48.7±0.5,3809N×14501E,h34km±3km,mb4.0/14, mb1 4.3/17,mb1mx4.2/25,mbtmp4.3/17,ML4.6/3,MS3.4/4, Ms1 3.4/4,ms1mx3.0/30,Error ellipse: s-maj=15.8km s-min=11.9km az=103.0*
JMA ***04*** *00:37:48.2±0.2,3820N×14476E,h53km,M4.9*
ISC 04 00:37:49.8±0.2,3831N±003×14485E±003,h36km, h36km±1.0km:pP-P,n152,σ1§15/158,mb4.5/58,MS3.7/10, 9C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.61**	**288**	P	**Pn**	**00 38 28.8**	**-0.7**
OFUJ				S	**Sn**	**00 38 59.0**	**-0.9**
MIYJ	**Miyakonagasawa**	**2.68**	**299**	P	**Pn**	**00 38 29.8**	**-0.7**
MIYJ				S	**Sn**	**00 39 00.8**	**-0.9**
JIO	**Ouri**	**2.76**	**274**	P	**Pn**	**00 38 30.4**	**-1.1**
JIO				S	**Sn**	**00 39 01.8**	**-1.8**
JMK	**Ichinoseki**	**2.92**	**284**	P	**Pn**	**00 38 33.1**	**-0.6**
JMK				S	**Sn**	**00 39 06.6**	**-0.9**
ERM	**Erimo**	**3.92**	**341**	*c iP*	**Pn**	**00 38 47.1**	**-0.4**
ERM	**Erimo**	**3.92**	**341**	*e*Pn	**Pn**	**00 38 47.1**	**-0.4**
ERM				*e*Sn	**Sn**	**00 39 31.0**	**-1.2**
JOT	**Ohata**	**4.24**	**317**	P	**Pn**	**00 38 52.0**	**+0.1**
JOT				S	**Sn**	**00 39 38.7**	**-1.4**
JCH	**Churui**	**4.44**	**346**	P	**Pn**	**00 38 53.7**	**-1.0**
JCH				*e*S	**Sn**	**00 39 43.4**	**-1.8**
JKB	**Kayabe**	**4.62**	**322**	P	**Pn**	**00 38 58.0**	**+0.9**
JKB				*e*S	**Sn**	**00 39 48.1**	**-1.4**
MJAR	**Matsushiro Arr**	**5.58**	**254**	Pn	**Pn**	**00 39 09.7**	**-0.5**
	6.1nm,0.3s,baz=79,slow=15,SNR=57						
MJAR				Sn	**Sn**	**00 40 13.7**	**+0.6**
	5.4nm,0.3s,baz=79,slow=27,SNR=4.7						
MJAR	**Matsushiro Arr**	**5.58**	**254**	P	**Pn**	**00 39 09.7**	**-0.6**
MJAR						00 40 13.7	
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax			
	comp=N,5.0nm,0.3s						
MAJO	**Matsushiro**	**5.58**	**254**	*e*P	**Pn**	**00 39 10.0**	**-0.3**
MAT	**Matsushiro**	**5.58**	**254**	P	**Pn**	**00 39 10.1**	**-0.2**
MAT				S	**Sn**	**00 40 13.7**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**5.77**	**7⇑**	*i* P	**Pn**	**00 39 10.0**	**-2.9**
YUK				*i* S	**Sn**	**00 40 12.9**	**-4.9**
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=N,380nm,0.4s						
YUK				pmax	pmax		
	comp=E,360nm,0.5s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,520nm,0.3s						
YUK				smax			
	comp=N,3μm,2.0s						
YUK				smax			
	comp=E,2μm,0.8s						
ASAJ	**Asahikawa**	**6.04**	**344**	Pn	**Pn**	**00 39 16.9**	**+0.2**
	comp=E,27nm,0.3s,baz=196,slow=10,SNR=44						
ASAJ				Sn	**Sn**	**00 40 22.6**	**-2.0**
	comp=E,5.6nm,0.3s,baz=37,slow=20,SNR=1.9						
ASAJ				LR	LR	00 42 24.6	
	comp=E,178nm,18.2s,baz=204,slow=44						
ASAJ	**Asahikawa**	**6.04**	**344**	P	**Pn**	**00 39 16.9**	**+0.2**
ASAJ						00 40 22.6	
ASAJ				pmax	pmax		
	comp=Z,27nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
JHJ	**Hachijo jima 2**	**6.62**	**220**	Pn	**Pn**	**00 39 20.4**	**-4.3**
	comp=N,26nm,0.3s,baz=47,slow=11,SNR=7.7						
JHJ				Sn	**Sn**	**00 40 28.3**	**-11**
	comp=N,74nm,0.3s,baz=262,slow=22,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**8.77**	**351**	*e*P	**Pn**	**00 39 54.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.77**	**351**	*e*Pn	**Pn**	**00 39 53.9**	**-0.2**
VLA	**Vladivostok**	**10.94**	**300**	*d iP*	**Pn**	**00 40 30.6**	**+6.7**
VLA				pmax	pmax		
	comp=Z,92nm,1.3s						
CBIJ	**Chichi jima**	**11.41**	**192**	Pn	**Pn**	**00 40 21.2**	**-9.0**
	comp=Z,9.3nm,0.3s,baz=288,slow=20,SNR=6.9						
CBIJ				Sn	Sn	00 42 15.3	-21
	comp=Z,2.2nm,0.3s,baz=107,slow=19,SNR=3.0						
MDJ	**Mudanjiang**	**13.05**	**304**	P	**Pn**	**00 40 53.5**	**+0.8**
MDJ				AP		00 41 00.8	
MDJ				XP		00 41 05.5	
MDJ				S	**Sn**	**00 43 18.4**	**+1.8**
MDJ				PCP	PcP	00 46 22.7	-1.1
MDJ				SCP	ScP	00 49 53.6	-0.6
MDJ				PCS	PcS	00 49 56.7	-1.5
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,40nm,5.6s						
MDJ				LR	LR		
	comp=N,159nm,11.4s						
MDJ				LR	LR		
	comp=E,157nm,16.7s						
MDJ				LR	LR		
	comp=Z,271nm,15.4s						
MDJ	**Mudanjiang**	**13.05**	**304**	*e*Pn	**Pn**	**00 40 54.4**	**+1.7**
KLR	**Kul'dur**	**14.42**	**323**	*e*P	**Pn**	**00 41 07.2**	**-4.2**
SKR	**Severo-Kuril's**	**14.72**	**29**	*e*P	**Pn**	**00 41 10.1**	**-5.4**
DL2	**Dalian**	**18.16**	**279**	P	**Pn**	**00 42 02.3**	**+3.3**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**21.08**	**309⇑**	*e*P	**P**	**00 42 30.9**	**0.0**
MA2	**Magadan**	**21.61**	**8⇓**	*e*P	**P**	**00 42 41.2**	**+4.5**
MA2				pmax	pmax		
	comp=Z,55nm,1.7s,mb4.7						
NJ2	**Nanjing**	**22.11**	**261**	*e*P	**P**	**00 42 38.3**	**-3.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
BJI	**Beijing**	**22.26**	**283**	P	**P**	**00 42 45.2**	**+1.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
BJI				LR	LR		
	comp=N,321nm,15.7s,MS3.9						
BJI				LR	LR		
	comp=E,197nm,15.8s,MS3.9						
BJI				LR	LR		
	comp=Z,74nm,16.1s,MS3.2						
BJI	**Beijing**	**22.26**	**283**	P	**P**	**00 42 45.2**	**+1.6**
	comp=Z,10.0nm,0.8s,mb4.3						
BJI				LR	LR		
	comp=Z,70nm,16.1s,MS3.2						
CLNS	**Chul'man**	**22.76**	**331**	*e*P	**P**	**00 42 50.9**	**+2.1**
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,33nm,1.2s						
CLNS				pmax	pmax		
	comp=E,25nm,1.1s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s,MS3.6						
CLNS				MLR	MLR		
	comp=Z,100nm,13.0s,MS3.4						
CLNS				MLR	MLR		
	comp=E,100nm,15.0s,MS3.6						
TATO	**Taipei**	**23.85**	**243**	P	**P**	**00 42 58.7**	**-1.0**
GUMO	**Guam**	**24.62**	**180**	P	**P**	**00 43 03.9**	**-2.9**
SEY	**Seymchan**	**25.07**	**8⇑**	*e*P	**P**	**00 43 11.8**	**+0.9**
YAK	**Yakutsk**	**25.52**	**343**	*e*P	**P**	**00 43 19.1**	**+4.2**
YAK				*e*	pP	00 43 28.2	+3.1
YAK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
BOD	**Bodaibo**	**28.00**	**324**	*e*P	**P**	**00 43 37.7**	**+0.5**
BOD				*e*	pP	00 43 46.1	-1.3
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BOD				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
SONM	**Songino Array**	**29.39**	**301**	P	**P**	**00 43 51.5**	**+1.8**
	comp=Z,0.7nm,0.6s,mb3.6,baz=91,slow=8.4,SNR=5.0						
SONM				LR	LR	00 55 48.0	
	comp=Z,109nm,19.1s,MS3.5,baz=350,slow=36						
SONM	**Songino Array**	**29.39**	**301**	P	**P**	**00 43 51.5**	**+1.9**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,109nm,19.1s						
BILL	**Biiibino**	**32.06**	**15**	*e*P	**P**	**00 44 16.3**	**+3.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.8						
LZH	**Lanzhou**	**32.55**	**279**	*e*P	**P**	**00 44 20.5**	**+3.0**
LZH				AP	pP	00 44 30.2	+2.4
LZH				XP	sP	00 44 34.1	+2.0
LZH				PP	PP	00 45 30.6	-0.8
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,52nm,5.3s						
LZH				LR	LR		
	comp=N,497nm,13.3s						
LZH				LR	LR		
	comp=Z,893nm,17.2s,MS4.5						
LZH	**Lanzhou**	**32.55**	**279**	*e*P	**P**	**00 44 20.5**	**+3.0**
LZH				*PP	pP	00 44 30.2	+2.4
LZH				*SP	sP	00 44 34.1	+2.0
LZH						00 45 30.6	
LZH				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
LZH				MLR	MLR		
	comp=Z,890nm,17.2s,MS4.5						
LZH	**Lanzhou**	**32.55**	**279**	*e*P	**P**	**00 44 20.5**	**+3.0**
	comp=Z,21nm,1.1s,mb5.0						
LZH				pP	pP	00 44 30.2	+2.4
LZH				sP	sP	00 44 34.1	+2.0
LZH				PP	PP	00 45 30.6	-0.8
LZH				LR	LR		
	comp=Z,890nm,17.2s,MS4.5						
CD2	**Chengdu**	**34.40**	**270**	*e*P	**P**	**00 44 34.9**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**34.81**	**286**	*e*P	**P**	**00 44 39.4**	**+2.3**
GTA				AP	pP	00 44 44.1	-3.3
GTA				XP	sP	00 44 47.6	-4.2
GTA				PP	PP	00 46 01.3	+4.9
GTA				S	**S**	**00 50 15.0**	**+10**
GTA				XS	sS	00 50 22.2	-0.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,66nm,4.9s						
GTA				LR	LR		
	comp=N,113nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=E,137nm,15.6s,MS3.9						
GTA				LR	LR		
	comp=Z,190nm,17.1s,MS3.9						
KMI	**Kunming**	**37.85**	**262**	P	**P**	**00 45 04.1**	**+1.1**
KMI				AP	pP	00 45 13.2	-0.2
KMI				XP	sP	00 45 17.6	-0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=Z,52nm,18.1s,MS3.4						
KMI	**Kunming**	**37.85**	**262**	P	**P**	**00 45 04.1**	**+1.1**
	comp=Z,8.0nm,0.8s,mb4.5						
KMI				pP	pP	00 45 13.2	-0.2
KMI				sP	sP	00 45 17.6	-0.1
KMI				LR	LR		
	comp=Z,50nm,18.1s,MS3.4						
WMQ	**Urumqi**	**42.71**	**296**	*e*P	**P**	**00 45 46.5**	**+3.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,121nm,4.2s						
WMQ				LR	LR		
	comp=Z,138nm,21.8s,MS3.8						
ZAL	**Zalesovo**	**43.11**	**311**	P	**P**	**00 45 48.0**	**+1.5**
	comp=Z,1.0nm,0.3s,mb4.0,baz=30,slow=8.4,SNR=9.1						
ZAL				PcP	PcP	00 47 35.8	-0.1
	comp=Z,1.6nm,0.6s,baz=51,slow=1.9,SNR=5.0						
ZAL	**Zalesovo**	**43.11**	**311**	P	**P**	**00 45 48.0**	**+1.5**
ZAL						00 47 35.8	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KDAK	**Kodiak Island**	**44.31**	**43**	P	**P**	**00 45 55.0**	**-1.2**
	comp=Z,13nm,0.9s,mb4.6,baz=306,slow=13,SNR=3.7						
KDAK				pP	pP	00 46 05.8	-0.9
	comp=Z,8.7nm,0.6s,baz=255,slow=2.5,SNR=2.7						
KDAK	**Kodiak Island**	**44.31**	**43**	P	**P**	**00 45 55.0**	**-1.2**
KDAK				pP	pP	00 46 05.8	-0.9
GUN	**Gumba**	**49.74**	**276**	*e*P	**P**	**00 46 40.0**	**+1.5**
	comp=Z,29nm,1.0s,mb5.2						
KKN	**Kakani**	**50.26**	**277**	*e*P	**P**	**00 46 43.9**	**+1.4**
	comp=Z,14nm,0.8s,mb5.1						
DMN	**Daman**	**50.48**	**276**	*e*P	**P**	**00 46 45.7**	**+1.5**
GKN	**Gorkha**	**50.66**	**277**	*e*P	**P**	**00 46 46.7**	**+1.2**
	comp=Z,56nm,1.1s,mb5.4						
KOLN	**Koldanda**	**51.58**	**277**	*e*P	**P**	**00 46 53.6**	**+1.2**
	comp=Z,9.4nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**51.74**	**312**	P	**P**	**00 46 54.7**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=88,slow=9.0,SNR=17						
BVAR	**Borovoye Array**	**51.74**	**312**	P	**P**	**00 46 54.7**	**+1.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**51.79**	**312**	*e*P	**P**	**00 46 54.6**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**51.79**	**312**	*e*P	**P**	**00 46 54.5**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.4						
INK	**Inuvik**	**51.99**	**28**	P	**P**	**00 46 54.9**	**-0.6**
	comp=Z,3.7nm,0.9s,mb4.3,baz=32,slow=3.8,SNR=4.8						
INK	**Inuvik**	**51.99**	**28**	*e*P	**P**	**00 46 55.6**	**+0.1**
	comp=Z,118nm,0.7s						
KAKA	**Kakadu**	**52.07**	**195**	*e*P	**P**	**00 46 53.4**	**-2.7**
	comp=Z,15nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**52.28**	**299⇑**	*e*P	**P**	**00 46 56.1**	**-1.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
ZRNK	**Zerenda**	**52.56**	**312**	*e*P	**P**	**00 47 00.5**	**+0.8**
ARU	**Arti**	**57.21**	**319⇓**	*i iP*	**P**	**00 47 33.6**	**+0.3**
ARU				*e*		00 49 37.4	
ARU				*e*S	**S**	**00 55 29.4**	**+3.0**
ARU				*e*SS	SS	00 59 15.7	-0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**57.21**	**319**	*e*P	**P**	**00 47 33.5**	**+0.2**
WRAB	**Tennant Creek**	**58.77**	**192⇑**	*e*P	**P**	**00 47 42.0**	**-2.3**
WB2	**Warramunga Arr**	**58.78**	**192⇑**	*i iP*	**P**	**00 47 41.7**	**-2.6**
WRA	**Warramunga Arr**	**58.78**	**192**	P	**P**	**00 47 41.8**	**-2.5**
	comp=Z,4.4nm,0.8s,mb4.5,baz=11,slow=7.3,SNR=24						
WRA				pP	pP	00 47 52.1	-3.0
	comp=Z,6.9nm,0.8s,baz=12,slow=7.3,SNR=16						
WRA				PcP	PcP	00 48 33.0	-0.8
	comp=Z,1.1nm,0.6s,baz=3.0,slow=4.7,SNR=3.4						
WRA				pPcP		00 48 43.8	
	comp=Z,1.6nm,0.7s,baz=2.9,slow=4.0,SNR=5.9						
FITZ	**Fitzroy Crossi**	**58.95**	**201**	*e*P	**P**	**00 47 44.2**	**-1.3**
	comp=Z,9.0nm,1.2s,mb4.7						
ASAR	**Alice Springs**	**62.50**	**191**	P	**P**	**00 48 07.7**	**-2.0**
	comp=Z,1.9nm,0.8s,mb4.3,baz=11,slow=6.2,SNR=18						
ASAR				pP	pP	00 48 17.6	-3.0
	comp=Z,1.8nm,0.7s,baz=8.3,slow=6.4,SNR=8.0						
ASAR				PcP	PcP	00 48 47.9	-0.8
	comp=Z,0.7nm,0.6s,baz=18,slow=5.0,SNR=4.2						
ASAR	**Alice Springs**	**62.50**	**191**	P	**P**	**00 48 07.7**	**-2.0**
ASAR				*PP	pP	00 48 17.6	-3.0
ASAR						00 48 47.9	
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JOF	**Joensuu**	**66.10**	**333**	*e*p	pP	00 48 42.3	-1.9
	comp=Z,0.5nm,0.3s						
NEW	**Newport**	**67.30**	**46**	P	**P**	**00 48 40.7**	**-0.1**
	comp=Z,2.9nm,0.9s,mb4.3,baz=307,slow=5.1,SNR=3.9						
NEW				pP	pP	00 48 51.8	0.0
	comp=Z,1.9nm,0.6s,baz=252,slow=3.2,SNR=2.5						
NEW	**Newport**	**67.30**	**46**	P	**P**	**00 48 40.7**	**-0.2**
NEW				*PP	pP	00 48 51.8	-0.1
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	**Newport**	**67.30**	**46**	P	**P**	**00 48 40.7**	**-0.1**
NEW				pP	pP	00 48 51.8	0.0
KAF	**Kangasniemi**	**68.40**	**334**	*e*p	pP	00 48 56.9	-1.9
	comp=Z,2.9nm,0.6s,baz=48,slow=5.9						
KAF	**Kangasniemi**	**68.40**	**334**	*e*P	pP	00 48 56.9	-1.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
OBN	**Obninsk**	**68.68**	**324**	*d iP*	**P**	**00 48 49.5**	**-0.1**
OBN				*e*		00 49 12.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
FIA1	**FINESS Array S**	**68.93**	**333**	*e*P	**P**	**00 48 51.2**	**+0.1**
FINES	**FINESS Array B**	**68.93**	**333**	P	**P**	**00 48 51.0**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=46,slow=8.2,SNR=10						
FINES				pP	pP	00 49 02.3	+0.1
	comp=Z,2.2nm,0.6s,baz=46,slow=11,SNR=5.4						
FINES				LR	LR	01 22 58.1	
	comp=Z,30nm,18.7s,MS3.5,baz=41,slow=39						
FINES	**FINESS Array B**	**68.93**	**333**	P	**P**	**00 48 51.0**	**-0.1**
FINES				*PP	pP	00 49 02.3	+0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,30nm,18.7s						
BMO	**Blue Mountains**	**69.05**	**49**	*e*P	**P**	**00 48 52.0**	**+0.2**
LRM	**Limekiln Ridge**	**71.31**	**46**	*e*P	**P**	**00 49 06.0**	**+0.2**
LRM				*e*pP	pP	00 49 16.9	+0.1
HLID	**Hailey**	**71.49**	**49**	*e*P	**P**	**00 49 06.3**	**-0.5**
ZEI	**Tsey**	**72.08**	**311**	*e*P	**P**	**00 49 10.6**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KIV	**Kislovodsk**	**72.11**	**312⇑**	*e*P	**P**	**00 49 12.0**	**+1.5**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**72.11**	**312**	*e*P	**P**	**00 49 10.5**	**0.0**
IMW	**Indian Meadow**	**73.32**	**47**	*e*P	**P**	**00 49 18.7**	**+1.0**
	comp=Z,4.8nm,0.8s,mb4.5						
IMW				*e*pP	pP	00 49 29.8	+1.0
RRI2	**Red Ridge**	**73.43**	**48**	*e*P	**P**	**00 49 24.0**	**+5.7**
	comp=Z,3.7nm,0.8s,mb4.4						
MOOW	**Moose Ponds**	**73.52**	**47**	*e*P	**P**	**00 49 19.9**	**+1.0**
	comp=Z,4.4nm,1.0s,mb4.3						
TPAW	**Teton Pass**	**73.56**	**47**	*e*P	**P**	**00 49 19.9**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.5						
REDW	**Red Top Meadow**	**73.70**	**47**	*e*P	**P**	**00 49 19.9**	**0.0**
	comp=Z,9.8nm,1.3s,mb4.6						
BGU	**Big Grassy Mou**	**73.87**	**50**	P	**P**	**00 49 15.2**	**-5.7**
NB2	**NORSAR Subarra**	**74.03**	**339**	P	**P**	**00 49 21.4**	**-0.5**
	comp=Z,1.3nm,0.9s,mb3.9,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**74.03**	**339**	P	**P**	**00 49 21.7**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.0,baz=37,slow=6.0,SNR=6.1						
NOA				pP	pP	00 49 32.2	-0.8
	comp=Z,1.1nm,0.7s,baz=38,slow=5.8,SNR=3.3						
NOA				LR	LR	01 25 41.1	
	comp=Z,16nm,18.7s,MS3.3,baz=25,slow=39						
NOA	**NORSAR Array B**	**74.03**	**339**	P	**P**	**00 49 21.7**	**-0.2**
NOA				*PP	pP	00 49 32.2	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,16nm,18.7s						
NOA	**NORSAR Array B**	**74.03**	**339**	P	**P**	**00 49 21.7**	**-0.2**
NOA				pP	pP	00 49 32.2	-0.8
NOA				LR	LR	01 25 41.1	
HWUT	**Hardware Ranch**	**74.34**	**49**	*e*P	**P**	**00 49 23.9**	**+0.2**
	comp=Z,7.1nm,1.3s,mb4.4						
DUG	**Dugway**	**74.44**	**51**	*e*P	**P**	**00 49 24.9**	**+0.6**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
DUG	**Dugway**	**74.44**	**51**	*e*P	**P**	**00 49 24.9**	**+0.6**
	comp=Z,6.4nm,1.3s,mb4.4						
BW06	**Boulder Array**	**74.81**	**47**	*e*P	**P**	**00 49 26.4**	**0.0**
BW06				*e*pP	pP	00 49 37.3	-0.2
PDAR	**Pinedale Array**	**74.81**	**47**	P	**P**	**00 49 26.2**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=293,slow=3.4,SNR=9.8						
PDAR				pP	pP	00 49 37.0	-0.6
	comp=Z,2.4nm,0.6s,baz=283,slow=1.6,SNR=8.7						
AKASG	**Malin Array Be**	**74.92**	**324**	P	**P**	**00 49 26.8**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=44,slow=5.9,SNR=13						
AKASG				pP	pP	00 49 37.6	-0.6
	comp=Z,0.7nm,0.5s,baz=44,slow=5.5,SNR=3.2						
AKASG	**Malin Array Be**	**74.92**	**324**	P	**P**	**00 49 26.8**	**-0.3**
AKASG				*PP	pP	00 49 37.6	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SUW	**Suwalki**	**75.25**	**329**	*e*P	**P**	**00 49 20.6**	**-8.4**
MSU	**Marysvale**	**75.86**	**

PERS e pP 00 50 28.7 -0.1
MNTX Cornudas Mount 84.49 54 eP P 00 50 18.5 -0.4
comp=Z,3.3nm,0.8s,mb4.5
MNTX epP pP 00 50 29.6 -0.6
GDL2 Guadalupe Moun 84.79 53 eP P 00 50 20.6 +0.2
GDL2 epP pP 00 50 31.5 -0.2
VISS Visnje 84.99 327 *i* P **P 00 50 23.8 +2.4**
VISS *i* pP 00 50 35.6 +2.9
GIVF Givet 85.18 335 *eP* **P 00 50 21.7 -0.7**
BAIF Baives 85.41 336 *eP* **P 00 50 23.1 -0.4**
CDF Champ du Feu 85.79 333 *eP* **P 00 50 25.2 -0.2**
comp=Z,22nm,1.2s,mb5.0
HAU Haudompre 86.46 334 *eP* **P 00 50 28.1 -0.6**
HAU eMLR MLR
comp=Z,42nm,18.5s
MEZF Maizieres J'vi 86.48 335 *eP* **P 00 50 28.7 -0.1**
SANT Santorini 86.97 315 *epP* pP 00 50 41.6 -1.0
LOR Lormes 87.95 335 *eP* **P 00 50 35.6 -0.3**
comp=Z,14nm,0.9s,mb4.9
LOR eMLR MLR
comp=Z,38nm,18.8s
FLN La Foliniere 88.01 338 *eP* **P 00 50 35.6 -0.6**
comp=Z,49nm,1.1s,mb5.3
FLN eMLR MLR
comp=Z,34nm,22.2s
CCM Cathedral Cave 88.13 41 *eP* **P 00 50 35.0 -1.8**
SSF Saint Saulge 88.25 335 *eP* **P 00 50 37.0 -0.3**
comp=Z,21nm,1.2s,mb4.9
SMF Signal de Mont 88.50 334 *eP* **P 00 50 38.2 -0.3**
comp=Z,27nm,1.2s,mb5.0
AVF Avril sur Loir 88.54 335 *eP* **P 00 50 38.4 -0.3**
comp=Z,33nm,1.2s,mb5.2
BGF Bois d'Agland 88.91 335 *eP* **P 00 50 39.4 -1.1**
comp=Z,14nm,1.0s,mb5.0
SNAA Sanae 142.75 196 *e* PKPdf 00 57 15.3 -4.0
SNAA *e* 00 57 16.8
SNAA *e* 00 57 18.9
SNAA *e* 00 57 20.5
SNAA *e* 00 57 24.5
SNAA *e* 00 57 27.4
LPAZ La Paz 143.69 62 PKP PKPdf 00 57 18.3 -2.6
comp=Z,1.0nm,0.8s,baz=0.0,slow=3.0,SNR=5.5
LPAZ La Paz 143.69 62 PKIKP PKPdf 00 57 18.3 -2.6
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 143.69 62 PKP PKPdf 00 57 18.3 -2.6
VNA3 Neumayer Olymp 144.48 194 *e* PKPdf 00 57 21.2 -1.1
VNA3 *e* 00 57 23.3
VNA3 *e* 00 57 27.6
VNA3 *e* 00 57 29.2
VNA3 *e* 00 57 37.1
VNA1 Neumayer--Stat 144.68 195 *e* PKPdf 00 57 23.0 +0.4
VNA1 *e* 00 57 24.5
VNA1 *e* 00 57 29.2
VNA1 *e* 00 57 30.5
VNA1 *e* 00 57 32.7
VNA1 *e* 00 57 38.0

IDC 04 00:54:13.5±5.9, 1931S×17658W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=283.4km s-min=58.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.74**	**290**	LR	LR	01 08 03.6	
	comp=Z,53nm,18.3s,baz=359,slow=34						
ASAR	**Alice Springs**	**46.10**	**255**	P	P	01 02 39.6	+0.3
	2.7nm,0.5s,baz=96,slow=7.6,SNR=41						
WRA	**Warramunga Arr**	**46.10**	**261**	P	P	01 02 39.6	+0.2
	1.1nm,0.3s,baz=97,slow=7.4,SNR=86						
FITZ	**Fitzroy Crossi**	**54.52**	**261**	P	P	01 03 43.7	+0.6
	1.9nm,0.9s,baz=79,slow=5.2,SNR=4.0						
AKASG	**Malin Array Be**	**142.59**	**333**	PKP	PKPdf	01 13 45.6	-2.9
	1.3nm,0.5s,baz=40,slow=4.5,SNR=7.4						
BRTR	**Keskin Array B**	**146.99**	**315**	PKPbc	PKPbc	01 13 58.5	+0.4
	0.5nm,0.5s,baz=140,slow=5.2,SNR=4.3						

*CSEM **04** 00:55:54.5±1.2, 3906N×2926W, h10km, ML2.4, Error ellipse: s-maj=8.2km s-min=4.7km az=106.0, After PDA*
*PDA **04** 00:55:54.5±1.2, 3906N×2926W, h10km, MD3.4, ML2.4, Error ellipse: s-maj=8.2km s-min=4.7km az=106.0*
SVSA 04 00:55:54.5±1.2, 3906N×2926W, h10km, MD3.4, ML2.4, Error ellipse: s-maj=8.2km s-min=4.7km az=106.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.22**	**100**	*eS*	Sg	00 56 21.4	+19
PLUZ	21nm,0.1s						
PCED	**Cedros**	**0.61**	**134**	*i* P	Pg	00 56 04.1	-2.2
PCED				*eS*	Sg	00 56 11.5	-2.8
PCED	298nm,0.1s						
PCED	**Cedros**	**0.61**	**134**	*eS*	Sg	00 56 11.5	-2.8
CALA	**Caldeira**	**0.64**	**137**	*eP*	Pg	00 56 04.9	-2.0
CALA				*eS*	Sg	00 56 12.3	-3.0
HOR	**Horta**	**0.72**	**137**	*eP*	Pg	00 56 05.8	-2.6
HOR				*eS*	Sg	00 56 14.8	-3.0
PCND	**Candelaria**	**0.85**	**133**	*eS*	Sg	00 56 18.2	-3.9
PCND	132nm,0.2s						
PICO	**Pico**	**0.85**	**130**	*eP*	Pg	00 56 08.3	-2.7
PICO				*eS*	Sg	00 56 18.1	-4.0
ROSA	**Rosais**	**0.86**	**113**	*eP*	Pg	00 56 07.9	-3.2
ROSA				*eS*	Sg	00 56 17.6	-4.7
PTEI	**Pico do Teixo**	**0.90**	**128**	*eS*	Sg	00 56 20.0	-3.5
PTEI	116nm,0.3s						
PAMA	**Santo Amaro**	**0.92**	**114**	*eS*	Sg	00 56 19.8	-4.4
PAMA	48nm,0.1s						
PBOI	**Pico dos Bois**	**0.93**	**132**	*eS*	Sg	00 56 20.1	-4.3
PBOI	112nm,0.1s						
PVIA	**Vitoria**	**0.94**	**89**	*eS*	Sg	00 56 19.7	-5.1
PVIA	10nm,0.1s						
SRBC	**Serra Branca**	**0.95**	**91**	*eP*	Pg	00 56 18.9	+6.2
STGR	**Santa Cruz**	**0.98**	**88**	*eS*	Sg	00 56 21.1	-4.9
STGR	29nm,0.2s						
PGRA	**Graciosa**	**0.99**	**91**	*eP*	Pg	00 56 09.9	-3.7
PGRA				*eS*	Sg	00 56 21.0	-5.5
PGRA	30nm,0.4s						
PGRA	**Graciosa**	**0.99**	**91**	*eP*	Pg	00 56 09.9	-3.7
PGRA				*eS*	Sg	00 56 21.0	-5.5
PMAN	**Manadas**	**1.00**	**114**	*eP*	Pg	00 56 09.9	-3.9
PMAN				*eS*	Sg	00 56 21.4	-5.5
PMAN	70nm,0.1s						
PMAN	**Manadas**	**1.00**	**114**	*eP*	Pg	00 56 09.9	-3.9
PMAN				*eS*	Sg	00 56 21.4	-5.5
PID	**Ribeirinha**	**1.08**	**124**	*eP*	Pg	00 56 21.7	+6.4

*IDC **04** 01:16:33.0±1.9, 2355S×17975W, h507km±15km, mb3.9/8, mb1 4.0/8, mb1mx3.9/13, mbtmp4.8/8, Error ellipse: s-maj=23.6km s-min=15.5km az=56.0*
*ISCJB **04** 01:16:38.5±1.8, 2378S×008×1799E±0.1, h569km±20km, mb4.5/25, Error ellipse: s-maj=18.1km s-min=10.5km az=133.7*
*MOS **04** 01:16:43.2±3.2, 2399S×17923E, h577km, mb5.4/5, Error ellipse: s-maj=15.7km s-min=13.3km az=160.5*
*NEIC **04** 01:16:43.1±1.1, 2377S×17958E, h597km±12km, mb4.6/15, Error ellipse: s-maj=13.6km s-min=10.9km az=135.0*
*BJI **04** 01:16:43.0, 2380S×17960E, h597km, mB4.9, mb4.6*
ISC 04 01:16:38.5±1.8, 2378S±009×1800E±01, h559km±18km, h580km±9.6km: pP-P, n127, σ0=92/65, mb4.5/25, 8C-16D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.53**	**40**	S	**S**	**01 21 21.3**	**-16**
	5.0nm,0.3s,baz=99,slow=21,SNR=5.0						
AFI	**Afiamalu**	**12.53**	**40**	*eP*	**P**	**01 19 30.5**	**+8.1**
AFI	**Afiamalu**	**12.53**	**40**	P	**P**	**01 19 30.4**	**+8.0**
DZM	**Mont Dzumac**	**12.60**	**275**	P	**P**	**01 19 23.2**	**+0.1**
	0.3nm,0.3s,baz=94,slow=18,SNR=5.6						
URZ	**Urewera**	**14.64**	**189**	S	**S**	**01 22 12.4**	**-4.4**
	1.3nm,0.3s,baz=345,slow=23,SNR=6.6						
ARMA	**Armidale**	**26.06**	**249**	*eP*	**P**	**01 21 29.4**	**+1.5**
CNB	**Canberra Magne**	**28.90**	**240**	*eP*	**P**	**01 21 53.8**	**+1.0**
	21nm,0.9s,mb4.8						
CTA	**Charters Tower**	**31.47**	**270**	||*iP*	**P**	**01 22 15.1**	**+0.2**
	20nm,0.3s,mb5.1						
CTA	**Charters Tower**	**31.47**	**270**	P	**P**	**01 22 15.3**	**+0.4**
	28nm,0.3s,mb5.2,baz=93,slow=13,SNR=23						
CTA	**Charters Tower**	**31.47**	**270**	||*iP*	**P**	**01 22 15.1**	**+0.2**
CTA				pmax	pmax		
	comp=Z,20nm,0.3s						
CTAO	**Charters Tower**	**31.47**	**270**	*eP*	**P**	**01 22 15.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.2						
CTAO	**Charters Tower**	**31.47**	**270**	*eP*	**P**	**01 22 15.4**	**+0.5**
	comp=Z,28nm,0.4s,mb5.1						
TOO	**Toolangi**	**32.51**	**237**	*eP*	**P**	**01 22 23.5**	**-0.2**
	comp=Z,8.2nm,0.8s,mb4.3						
TAU	**Tasmania Unive**	**33.01**	**227**	*eP*	**P**	**01 22 28.6**	**+0.7**
TAU				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**33.01**	**227**	*eP*	**P**	**01 22 28.6**	**+0.6**
	comp=Z,12nm,0.6s,mb4.6						
PMG	**Port Moresby**	**34.45**	**289**	P	**P**	**01 22 39.8**	**-0.2**
	comp=Z,36nm,0.8s,mb4.9,baz=82,slow=5.9,SNR=8.6						
PMG	**Port Moresby**	**34.45**	**289**	*eP*	**P**	**01 22 38.8**	**-1.2**
PMG	**Port Moresby**	**34.45**	**289**	*eP*	**P**	**01 22 37.7**	**-2.3**
	comp=Z,38nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**34.76**	**248**	||*iP*	**P**	**01 22 42.8**	**+0.2**
	comp=Z,7.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**01 22 43.0**	**+0.4**
	comp=Z,8.2nm,0.8s,mb4.3,baz=93,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**34.76**	**248**	*eP*	**P**	**01 22 42.5**	**-0.1**
STKA				*epP*		01 24 18.2	
AS31	**Alice Springs**	**42.05**	**260**	*eP*	**P**	**01 23 41.5**	**-0.1**
ASAR	**Alice Springs**	**42.05**	**260**	P	**P**	**01 23 41.5**	**0.0**
	comp=Z,21nm,0.8s,mb4.7,baz=94,slow=8.1,SNR=150						
ASAR				PcP	PcP	01 25 24.1	+0.9
	comp=Z,1.7nm,0.9s,baz=120,slow=4.9,SNR=4.9						
ASAR				ScP	ScP	01 28 26.9	+6.3
	comp=Z,4.3nm,0.8s,baz=111,slow=4.0,SNR=18						
ASAR				S	**S**	**01 29 21.3**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=99,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**42.05**	**260**	P	**P**	**01 23 41.6**	**0.0**
ASAR					pP	01 25 24.2	+3.8
ASAR				S	**S**	**01 29 21.3**	**+0.7**
ASPA	**Alice Springs**	**42.05**	**260**	*eP*	**P**	**01 23 41.5**	**-0.1**
WB2	**Warramunga Arr**	**42.40**	**266**	||*iP*	**P**	**01 23 43.5**	**-0.8**
WRAB	**Tennant Creek**	**42.40**	**266**	*d*||*iP*	**P**	**01 23 43.5**	**-0.8**
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**01 23 43.8**	**-0.6**
	comp=Z,9.0nm,0.3s,mb4.8,baz=90,slow=6.0,SNR=482						
WRA				PcP	PcP	01 25 24.5	0.0
	comp=Z,2.8nm,0.9s,baz=101,slow=3.5,SNR=4.8						
WRA				ScP	ScP	01 28 28.5	+6.4
	comp=Z,2.5nm,0.9s,baz=102,slow=4.1,SNR=9.3						
WRA				S	**S**	**01 29 25.6**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=101,slow=14,SNR=9.4						
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**01 23 43.8**	**-0.6**
WRA					pP	01 25 24.5	+1.1
WRA				S	**S**	**01 29 25.6**	**-0.2**
KAKA	**Kakadu**	**46.29**	**275**	*eP*	**P**	**01 24 13.4**	**-0.9**
	comp=Z,14nm,0.8s,mb4.5						
FORT	**Forrest**	**46.34**	**249**	*eP*	**P**	**01 24 12.1**	**-2.6**
	comp=Z,64nm,0.7s,mb5.3						
GUMO	**Guam**	**50.58**	**314**	*eP*	**P**	**01 24 46.1**	**0.0**
FITZ	**Fitzroy Crossi**	**50.83**	**266**	*eP*	**P**	**01 24 48.7**	**+0.8**
	comp=Z,26nm,0.8s,mb4.6						
SBA	**Scott Base**	**54.49**	**183**	*eP*	**P**	**01 25 15.3**	**+1.3**
SBA				pmax	pmax		
	comp=Z,40nm,0.7s,mb4.9						
SBA	**Scott Base**	**54.49**	**183**	*eP*	**P**	**01 25 15.2**	**+1.2**
	comp=Z,3.9nm,0.7s,mb3.9						
VNDA	**Vanda**	**54.49**	**185**	P	**P**	**01 25 14.9**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.3,baz=346,slow=7.7,SNR=8.6						
VNDA				PcP	PcP	01 26 08.9	+0.2
	comp=Z,0.8nm,1.0s,baz=1.8,slow=4.4,SNR=3.6						
VNDA				ScP	ScP	01 29 16.1	+2.6
	comp=Z,0.8nm,0.7s,baz=349,slow=5.7,SNR=5.8						
VNDA	**Vanda**	**54.49**	**185**	P	**P**	**01 25 15.0**	**+1.0**
VNDA						01 26 08.9	
KLBR	**Kellerberrin**	**55.03**	**247**	*eP*	**P**	**01 25 17.3**	**-0.4**
	comp=Z,25nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**55.38**	**260**	*eP*	**P**	**01 25 20.0**	**-0.2**
	comp=Z,15nm,0.8s,mb4.3						
CASY	**Casey**	**60.21**	**206**	*eP*	**P**	**01 25 52.1**	**-0.8**
QSPA	**South Pole Qui**	**66.30**	**180**	*eP*	**P**	**01 26 32.4**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.1						
MJAR	**Matsushiro Arr**	**71.80**	**326**	P	**P**	**01 27 03.9**	**-0.9**
	comp=Z,3.4nm,0.7s,mb3.9,baz=159,slow=5.5,SNR=8.4						
MAW	**Mawson**	**77.86**	**200**	||*iP*	**P**	**01 27 38.9**	**+0.2**
	comp=Z,4.4nm,0.8s,mb3.8						
MAW	**Mawson**	**77.86**	**200**	P	**P**	**01 27 39.5**	**+0.7**
	comp=Z,7.6nm,0.9s,mb4.0,baz=122,slow=6.4,SNR=18						
MAW	**Mawson**	**77.86**	**200**	||*iP*	**P**	**01 27 38.9**	**+0.2**
MAW				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2	**Nanjing**	**80.58**	**311**	*eP*	**P**	**01 27 52.2**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
MDJ	**Mudanjiang**	**82.16**	**326**	P	**P**	**01 28 01.5**	**+0.3**
MDJ				AP	pP	01 30 08.2	+7.5
MDJ				XP	sP	01 31 08.9	+11
MDJ				PP	PP	01 31 20.3	+0.6
MDJ				S	S	01 37 27.1	-3.2
MDJ				XS	sS	01 41 13.7	+10
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,73nm,3.1s						
KULM	**Kulim**	**82.42**	**279**	*eP*	**P**	**01 28 04.1**	**+1.6**
WHN	**Wuhan**	**82.92**	**308**	*eP*	**P**	**01 28 06.0**	**+1.0**
SYO	**Syowa Base**	**83.12**	**193**‖	*eP*	**P**	**01 28 04.0**	**-2.0**
KLR	**Kul'dur**	**84.43**	**331**	*eP*	**P**	**01 28 05.0**	**-7.5**
SNAA	**Sanae**	**84.78**	**179**	*eP*	**P**	**01 28 14.0**	**-0.2**
SNAA				*e*		01 28 17.1	
SNAA				*e*		01 28 33.0	
SNAA	**Sanae**	**84.78**	**179**	*eP*	**P**	**01 28 12.3**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,30nm,1.2s						
SNAA	**Sanae**	**84.78**	**179**	*eP*	**P**	**01 28 12.3**	**-1.9**
	comp=Z,2.9nm,1.2s,mb3.7						
VNA3	**Neumayer Olymp**	**84.99**	**177**	*eP*	**P**	**01 28 14.4**	**-0.8**
VNA3				*e*		01 28 17.0	
VNA3				*e*		01 28 31.4	
BJI	**Beijing**	**86.94**	**316**	P	**P**	**01 28 25.4**	**+0.9**
SEY	**Seymchan**	**89.15**	**348**‖	*eP*	**P**	**01 28 29.8**	**-5.0**
KMI	**Kunming**	**89.20**	**298**	P	**P**	**01 28 36.3**	**+1.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**90.33**	**315**	*eP*	**P**	**01 28 40.2**	**0.0**
HHC				S	S	01 38 39.6	-7.8
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,90nm,4.6s						
BILL	**Bilibino**	**92.11**	**355**‖	*eP*	**P**	**01 28 37.4**	**-11**
BILL				*e*PP	pP	01 30 40.2	-11
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
LZH	**Lanzhou**	**93.30**	**308**	P	**P**	**01 28 54.5**	**+0.6**
LZH				AP	pP	01 31 05.6	+9.2
LZH				XP	sP	01 32 04.5	+12
LZH				PP	PP	01 32 51.3	+3.9
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,47nm,8.6s						
WMQ	**Urumqi**	**107.65**	**311**	*e*PKP	PKiKP	01 34 03.0	+0.7
BRVK	**Borovoye**	**120.41**	**319**	*e*PKIKP	PKPdf	01 34 25.3	-1.3
ZRNK	**Zerenda**	**121.18**	**319**	*e*PKIKP	PKPdf	01 34 26.7	-1.4
ARU	**Arti**	**126.78**	**324**	*i* PKIKP	PKPdf	01 34 36.4	-2.4
ARU				*e*		01 36 40.1	
ARU				*e*SS	SS	01 53 36.1	+28
ARCES	**ARCESS Array B**	**131.77**	**348**	PKP	PKPdf	01 34 46.5	-1.8
	comp=Z,2.6nm,0.7s,baz=86,slow=2.6,SNR=13						
ARCES	**ARCESS Array B**	**131.77**	**348**	PKP	PKPdf	01 34 46.5	-1.8
JOF	**Joensuu**	**135.62**	**340**	*e*pkp	PKPdf	01 34 53.3	-2.2
KAF	**Kangasniemi**	**137.73**	**342**	*e*pkp	PKPdf	01 34 58.6	-0.8
FINES	**FINESS Array B**	**138.33**	**341**	PKP	PKPdf	01 35 01.0	+0.5
	comp=Z,1.6nm,0.8s,baz=85,slow=2.9,SNR=6.8						
FINES				SKPbc	SKPbc	01 37 45.2	+2.7
	comp=Z,3.4nm,0.8s,baz=86,slow=7.8,SNR=9.3						
FINES	**FINESS Array B**	**138.33**	**341**	PKP	PKPdf	01 35 01.0	+0.5
FINES				SKPbc	SKPbc	01 37 45.2	+2.7
NB2	**NORSAR Subarra**	**141.97**	**351**	PKP		01 35 01.4	
	comp=Z,0.8nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**141.97**	**351**	PKhKP		01 35 01.8	
	comp=Z,2.1nm,0.8s,baz=16,slow=4.7,SNR=7.5						
NOA				SKPbc	SKPbc	01 37 53.3	+1.2
	comp=Z,2.4nm,1.0s,baz=14,slow=4.5,SNR=3.4						
NOA	**NORSAR Array B**	**141.97**	**351**	PKP		01 35 01.8	
NOA				SKPbc	SKPbc	01 37 53.3	+1.2
ANN	**Anapa**	**143.07**	**314**	*i* PKHKP		01 35 05.7	
ANN				pmax	pmax		
	comp=Z,32nm,0.8s						
KONO	**Kongsberg**	**143.53**	**352**‖	*i*PKHKP		01 35 07.0	
MALT	**Malatya**	**144.30**	**303**‖	*i*P	PKPdf	01 35 11.6	+0.5
MALT	**Malatya**	**144.30**	**303**	*e*PKP	PKPdf	01 35 11.6	+0.5
AKASG	**Malin Array Be**	**144.87**	**327**	PKP	PKPdf	01 35 11.4	-0.7
	comp=Z,2.3nm,0.3s,baz=42,slow=4.2,SNR=40						
AKASG				SKPbc	SKPbc	01 38 02.5	+3.5
	comp=Z,2.8nm,0.7s,baz=46,slow=2.4,SNR=11						
AKASG	**Malin Array Be**	**144.87**	**327**	PKP	PKPdf	01 35 11.4	-0.7
AKASG				SKPbc	SKPbc	01 38 02.5	+3.5
AKBB	**Malin Array Si**	**144.87**	**327**	*e*PKHKP		01 35 11.1	
SUW	**Suwalki**	**145.16**	**336**	*e*PKP	PKPdf	01 35 12.8	+0.2
SIM	**Simferopol'**	**145.17**	**316**	*d i*PKIKP	PKPdf	01 35 15.0	+2.4
SIM				pmax	pmax		
	comp=Z,17nm,1.0s						
BR131	**Keskin Array S**	**147.50**	**307**	*e*PKPdf	PKPdf	01 35 19.5	+3.0
BR131				*e*PKPab	PKPab	01 35 24.5	+0.4
BRTR	**Keskin Array B**	**147.50**	**307**	PKP	PKPdf	01 35 15.2	-1.4
	comp=Z,2.1nm,0.6s,baz=176,slow=5.9,SNR=5.1						
BRTR				PKPbc	PKPbc	01 35 19.9	-0.2
	comp=Z,3.9nm,0.7s,baz=94,slow=3.9,SNR=20						
GKP	**Gorka Klasztor**	**147.79**	**340**	*e*PKP	PKPab	01 35 28.1	+2.8
ANTO	**Ankara**	**148.07**	**308**	*e*PKHKP		01 35 18.5	
ANTO				*e*		01 35 21.9	
ANTO				*e*		01 35 27.1	
EIL	**Elat**	**148.31**	**288**	*e*PKPbc	PKPbc	01 35 22.9	+0.9
EIL				*e*PKPab	PKPab	01 35 28.9	+1.5
KWP	**Kalwaria**	**148.66**	**331**	*e*PKP	PKPbc	01 35 22.7	-0.2
BURAR	**Bucovina Array**	**148.87**	**326**‖	*i*P	PKPdf	01 35 13.1	-5.6
VRI	**Vrincioaia**	**149.15**	**322**‖	*i*P	PKPbc	01 35 24.4	+0.3
KOLS	**Kolonicke sedl**	**149.37**	**331**	*e*PKP	PKPbc	01 35 25.0	+0.4
OJC	**Ojcow**	**149.43**	**335**	*e*PKP	PKPdf	01 35 23.5	+3.9
STHS	**Stebnicka Huta**	**149.46**	**332**	*e*PKP	PKPbc	01 35 24.8	-0.1
UZH	**Uzhgorod**	**149.58**	**330**	*e*PKHKP	PKPbc	01 35 24.0	-1.2
UZH				*e*S	PKPab	01 35 40.0	+7.3
CRVS	**Cervenica-Dubn**	**149.75**	**331**	*e*PKP	PKPbc	01 35 25.6	0.0
MLR	**Muntele Rosu**	**149.82**	**322**‖	*i*P	PKPdf	01 35 20.3	+0.1
NIE	**Niedzica**	**149.85**	**333**	*e*PKPdf	PKPbc	01 35 26.0	+0.2
KSP	**Ksiaz**	**150.18**	**339**	*e*PKP	PKPbc	01 35 26.4	-0.2
KSP	**Ksiaz**	**150.18**	**339**	*e*PKP	PKPbc	01 35 25.9	-0.7
OKC	**Ostrava-Krasne**	**150.37**	**336**	*e*PKPbc	PKPbc	01 35 26.6	-0.4
OKC				*e*PKPab	PKPab	01 35 34.7	-1.2
KECS	**Kecovo**	**150.49**	**332**	*e*PKP	PKPdf	01 35 19.4	-1.9
KECS				*e*		01 35 36.2	
UPC	**Upice**	**150.56**	**339**	*e*PKPbc	PKPbc	01 35 27.0	-0.4
DPC	**Dobruska-Polom**	**150.59**	**338**	*e*PKPbc	PKPbc	01 35 27.3	-0.2
DPC				*e*PKPab	PKPab	01 35 36.8	-0.1
MORC	**Moravsky Berou**	**150.64**	**336**‖	*i*P	PKPdf	01 35 23.9	+2.4
DRGR		**150.69**	**327**‖	*i*P	PKPdf	01 35 24.6	+3.0
CLL	**Collm**	**150.74**	**343**‖	*i*PKIKP	PKPbc	01 35 27.2	-0.7
CLL				*i*		01 35 36.5	
CLL	**Collm**	**150.74**	**343**‖	*i*PKPbc	PKPbc	01 35 27.2	-0.7
	comp=Z,14nm,0.7s						
CLL				*i* PKPab	PKPab	01 35 36.5	-1.0
	comp=Z,8.0nm,0.9s						
BRG	**Berggiesshubel**	**150.87**	**342**	*i* PKP	PKPbc	01 35 27.5	-0.7
	comp=Z,6.0nm,0.9s						
PVCC	**Panska Ves**	**150.99**	**341**	*e*PKPbc	PKPbc	01 35 28.1	-0.3
VYHS	**Vyhne**	**151.18**	**334**	*e*PKP	PKPbc	01 35 27.5	-1.4
VYHS				*e*		01 35 39.1	
PRU	**Pruhonice**	**151.48**	**340**	*e*PKPbc	PKPbc	01 35 28.8	-0.7
PRU				*e*PKPab	PKPab	01 35 39.6	-1.0
NKC	**Novy Kostel**	**151.87**	**343**	*e*PKPbc	PKPbc	01 35 29.2	-1.2
BZS	**Buzias**	**152.05**	**327**‖	*i*P	PKPbc	01 35 29.9	-0.9
KHC	**Kasperske Hory**	**152.53**	**340**	*e*PKPbc	PKPbc	01 35 31.4	-0.4
KHC				*e*PKPab	PKPab	01 35 44.5	-0.6
GRF	**Grafenberg Arr**	**152.68**	**344**	*e*PKP	PKPab	01 35 45.1	-0.6
GERES	**GERESS Array B**	**152.74**	**340**	PKPbc	PKPbc	01 35 31.9	-0.4
	comp=Z,0.7nm,0.8s,baz=0.0,slow=2.0,SNR=3.6						
CONA	**Conrad Observa**	**152.80**	**336**‖	*i*PKPbc	PKPbc	01 35 32.3	-0.1
	comp=Z,4.0nm,1.2s						
CONA	**Conrad Observa**	**152.80**	**336**		PKPab	01 35 46.5	+0.2
	comp=Z,5.4nm,0.9s						
PKSM	**Moragy**	**153.03**	**331**‖	*i*P	PKPbc	01 35 32.0	-0.9
VTS	**Vitosha**	**153.14**	**320**‖	*i*P	PKPab	01 35 40.1	-7.6
PERS	**Pernice**	**154.16**	**336**	*i* PKPbc	PKPab	01 35 51.5	-0.5
PERS				*i*		01 36 00.1	
CRES	**Cresnjev**	**154.69**	**334**	*i* PKPdf	PKPab	01 35 45.1	-9.2
BOJS	**Bojanci**	**155.04**	**334**	*i* PKPbc	PKPab	01 35 55.1	-0.7
DBIC	**Dimbokro**	**162.36**	**164**	PKPab	PKPab	01 36 26.9	-0.9
	comp=Z,8.3nm,1.1s,baz=117,slow=3.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**169.30**	**189**	PKP	PKPdf	01 35 40.2	-1.6
	comp=Z,1.7nm,1.1s,baz=229,slow

18nm,0.3s,baz=12,slow=2.9,SNR=42
FOZ Fox Glacier 17.98 201 PN **P 01 52 34.5 -0.7**
WKZ Wanaka 19.33 201 PN **P 01 52 46.8 -0.7**
EAZ Earnscleugh 19.60 200 PN **P 01 52 50.0 +0.1**
WHZ Wether Hill Ro 20.62 201 PN **P 01 52 59.5 +0.4**
ARMA Armidale 23.82 256⇑*iP* **P 01 53 29.5 +1.9**
TAU Tasmania Unive 29.87 230 *eP* **P 01 54 21.1 +0.7**
9.1nm,0.6s,mb4.6
CTA Charters Tower 30.33 276⇑*iP* **P 01 54 25.1 +0.8**
38nm,0.6s,mb5.2
CTA Charters Tower 30.33 276 P **P 01 54 25.2 +0.9**
50nm,0.5s,mb5.4,baz=104,slow=11,SNR=43
STKA Stephens Creek 32.42 252⇑*iP* **P 01 54 42.6 +0.5**
2.3nm,0.3s,mb4.3
STKA Stephens Creek 32.42 252 P **P 01 54 42.7 +0.6**
4.1nm,0.5s,mb4.3,baz=97,slow=12,SNR=14
STKA Stephens Creek 32.42 252 *eP* **P 01 54 42.8 +0.7**
PMG Port Moresby 34.44 295 *eP* **P 01 54 58.7 -0.2**
AS31 Alice Springs 40.32 265 *eP* **P 01 55 46.7 0.0**
ASAR Alice Springs 40.32 265 P **P 01 55 46.6 -0.1**
8.0nm,0.4s,mb4.6,baz=95,slow=6.9,SNR=198
ASAR S **S 02 01 03.0 -9.5**
0.9nm,0.8s,baz=98,slow=15,SNR=5.2
ASPA Alice Springs 40.33 265 *eP* **P 01 55 46.7 -0.1**
WB2 Warramunga Arr 40.98 270⇑*iP* **P 01 55 51.4 -0.5**
WRA Warramunga Arr 40.99 270 P **P 01 55 51.6 -0.4**
16nm,0.4s,mb4.9,baz=104,slow=7.9,SNR=315
WRA S **S 02 01 17.1 -4.9**
1.1nm,0.7s,baz=106,slow=14,SNR=6.5
FORT Forrest 44.05 253 *eP* **P 01 56 14.6 -1.3**
23nm,0.5s,mb5.0
KAKA Kakadu 45.38 279 *eP* **P 01 56 25.0 -1.0**
29nm,0.4s,mb5.2
FITZ Fitzroy Crossi 49.36 269⇑*iP* **P 01 56 55.3 -0.4**
13nm,0.6s,mb4.5
FITZ Fitzroy Crossi 49.36 269 P **P 01 56 55.7 0.0**
7.3nm,0.5s,mb4.3,baz=141,slow=7.5
VNDA Vanda 51.16 185 P **P 01 57 09.7 +0.9**
3.7nm,0.4s,mb4.1,baz=4.4,slow=8.5,SNR=65
VNDA Vanda 51.16 185 *eP* **P 01 57 09.6 +0.9**
3.8nm,0.6s,mb4.0
SBA Scott Base 51.18 183 *eP* **P 01 57 11.0 +2.1**
17nm,0.8s,mb4.5
KLBR Kellerberrin 52.61 250 *eP* **P 01 57 18.7 -0.4**
24nm,1.1s,mb4.4
MBWA Marble Bar 53.60 263 *eP* **P 01 57 25.3 -0.8**
5.1nm,0.6s,mb4.0
CASY Casey 56.73 207 *eP* **P 01 57 47.1 -0.7**
QSPA South Pole Qui 63.06 180 *eP* **P 01 58 30.6 +1.0**
25nm,0.4s,mb4.9
MAW Mawson 74.36 201⇓*iP* **P 01 59 37.2 -0.2**
3.9nm,0.5s,mb4.2
MAW Mawson 74.36 201 P **P 01 59 37.6 +0.2**
4.8nm,0.5s,mb4.3,baz=136,slow=5.4,SNR=33
PMSA Palmer Station 76.55 157 P **P 01 59 49.8 +0.3**
6.2nm,0.9s,mb4.0,baz=237,slow=3.0,SNR=4.5
COCO West Island 77.25 263 *eP* **P 01 59 53.4 0.0**
26nm,0.4s,mb5.0
SYO Syowa Base 79.66 194⇑*eP* **P 02 00 04.6 -1.5**
SYO Syowa Base 79.66 194⇓*e*PcP PcP 02 00 10.0 -1.6
SNAA Sanae 81.56 180⇓*i* **P 02 00 15.1 -0.8**
SNAA *e* 02 00 16.1
SNAA Sanae 81.56 180 *eP* **P 02 00 15.0 -0.9**
5.1nm,0.5s,mb4.3
NJ2 Nanjing 81.75 312 *eP* **P 02 00 16.4 -0.5**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb4.9
VNA3 Neumayer Olymp 81.82 177⇓*i* **P 02 00 16.7 -0.6**
VNA3 *e* 02 00 18.0
VNA1 Neumayer--Stat 82.47 178 *e* **P 02 00 20.5 0.0**
VNA1 *e* 02 00 21.3
MDJ Mudanjiang 84.15 327 P **P 02 00 30.4 +1.5**
MDJ AP pP 02 02 34.2 -2.3
MDJ XP sP 02 03 33.0 -4.0
MDJ PP PP 02 03 55.9 +1.4
MDJ S S 02 10 07.9 +3.2
MDJ XS sS 02 13 49.6 -2.6
MDJ AMB AMB
comp=Z,38nm,3.9s
PLCA Paso Flores 87.02 135 P **P 02 00 44.6 +2.1**
comp=Z,2.8nm,1.0s,mb3.9,baz=207,slow=6.8,SNR=3.2
BJI Beijing 88.40 317 P **P 02 00 49.0 0.0**
KMI Kunming 89.58 298 P **P 02 00 54.4 0.0**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI Kunming 89.58 298 P **P 02 00 54.4 0.0**
comp=Z,10.0nm,0.8s,mb4.7
CD2 Chengdu 91.71 304 *eP* **P 02 01 03.5 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,8.8s
HHC Hu-ho-hao-te 91.72 316 *eP* **P 02 01 04.2 -0.1**
HHC AP pP 02 03 14.9 +0.6
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,100nm,5.0s
BVAR Borovoye Array 121.88 317 PKP PKPdf 02 06 45.0 -1.8
comp=Z,1.2nm,0.8s,baz=93,slow=3.0,SNR=4.0
AKTK Aktyubinsk 129.59 314 PKP PKPdf 02 07 00.2 -1.3
AKTO Aktyubinsk 129.59 314 PKP PKPdf 02 07 00.2 -1.3
comp=Z,0.4nm,0.5s,baz=45,slow=2.9,SNR=3.4
KMBO Kilima Mbogo 133.39 239 SKPbc SKPbc 02 09 41.4 -0.1
comp=Z,1.0nm,0.6s,baz=183,slow=1.3,SNR=5.4
ARCES ARCESS Array B 134.66 347 PKP PKPdf 02 07 10.5 -0.5
comp=Z,2.6nm,0.8s,baz=33,slow=1.8,SNR=9.4
ARCES SKPbc SKPbc 02 09 41.8 -3.7
comp=Z,1.2nm,0.7s,baz=345,slow=2.9,SNR=5.1
ARCES ARCESS Array B 134.66 347 PKP PKPdf 02 07 10.5 -0.5
ARCES SKPbc SKPbc 02 09 41.8 -3.7
FINES FINESS Array B 140.95 339 PKP PKPdf 02 07 23.6 +1.1
comp=Z,0.8nm,0.7s,baz=101,slow=4.1,SNR=5.6
FINES SKPbc SKPbc 02 10 00.8 -2.5
comp=Z,0.6nm,0.7s,baz=292,slow=6.0,SNR=3.5
NB2 NORSAR Subarra144.94 349 PKP PKPdf 02 07 28.3 -1.2
comp=Z,0.9nm,0.5s,baz=14,slow=2.9
NOA NORSAR Array B144.94 349 PKP PKPdf 02 07 28.7 -0.8
comp=Z,1.4nm,0.6s,baz=16,slow=4.3,SNR=4.6
NOA NORSAR Array B144.94 349 PKP PKPdf 02 07 28.7 -0.8
AKASG Malin Array Be 146.80 324 PKPbc PKPbc 02 07 34.0 -1.5
comp=Z,1.2nm,0.5s,baz=45,slow=3.9,SNR=8.5
DBIC Dimbokro 159.49 170 PKPab PKPab 02 08 33.5 +0.7
comp=Z,1.2nm,0.5s,baz=178,slow=4.2,SNR=3.8
TORD Torodi Ar. Bea 165.87 193 PKP PKPdf 02 07 56.4 -0.3
comp=Z,1.1nm,1.0s,baz=36,slow=1.0,SNR=4.9
TORD PKPab PKPab 02 09 01.2 +0.3
comp=Z,3.2nm,0.7s,baz=161,slow=3.0,SNR=19

IDC 04 01:55:42.7±5.0,1639S×17575W,h0km,mb4.0/3, mb1 4.2/3,mb1mx4.0/12,mbtmp4.0/3,MS3.5/2,Ms1 3.5/2, ms1mx2.9/23,Error ellipse: s-maj=186.9km s-min=101.1km az=157.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.59 240**		P	P	02 03 31.7	-0.5
	1.3nm,0.7s,baz=90,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**47.43 258**		P	P	02 04 19.8	+1.0
	0.5nm,0.6s,baz=90,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**47.66 253**		P	P	02 04 20.9	+0.2
	2.8nm,0.4s,baz=89,slow=8.2,SNR=38						
ASAR				PcP	PcP	02 05 50.8	+0.5
	0.3nm,0.7s,baz=91,slow=4.6,SNR=4.8						
GUMO	**Guam**	**49.01 305**		LR	LR	02 20 49.3	
	comp=Z,161nm,19.0s,baz=278,slow=31						
TGY	**Tagaytay City**	**69.49 292**		LR	LR	02 30 00.1	
	comp=Z,13nm,21.8s,baz=240,slow=30						

IDC 04 02:02:53.9±4.3,2216S×14787E,h0km,mb1 3.5/4, mb1mx3.4/10,mbtmp3.4/4,ML3.3/4,Error ellipse: s-maj=42.1km s-min=22.7km az=80.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.55 324**		Pn	Pn	02 03 37.1	+0.6
	4.9nm,0.3s,baz=133,slow=16,SNR=38						
CTA				Lg		02 04 15.2	
	29nm,0.3s,baz=230,slow=23,SNR=24						
STKA	**Stephens Creek**	**11.18 209**		Pn	Pn	02 05 34.3	-0.5
	0.2nm,0.3s,baz=8.7,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**12.82 277**		Pn	Pn	02 05 56.6	-0.8
	0.1nm,0.3s,baz=94,slow=12,SNR=5.9						
WRA				Lg		02 09 41.7	
	0.1nm,0.3s,baz=97,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**12.96 261**		Pn	Pn	02 05 59.9	+0.7
	0.1nm,0.3s,baz=92,slow=14,SNR=3.2						
ASAR				Sn	Sn	02 08 24.2	+0.2
	0.1nm,0.3s,baz=80,slow=21,SNR=4.6						
ASAR				Lg		02 09 45.6	
	0.1nm,0.3s,baz=81,slow=31,SNR=3.7						

IDC 04 02:04:07.4±1.3,4606N×15359E,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.9/19,mbtmp4.0/7,Error ellipse: s-maj=35.1km s-min=29.8km az=162.0
ISCJB 04 02:04:10.4±1.0,46.1N±02×1535E±01,h33km,mb3.9/7, Error ellipse: s-maj=27.1km s-min=9.9km az=138.4
MOS 04 02:04:12.3±2.4,4657N×15324E,h33km,mb4.2/5,Error ellipse: s-maj=34.0km s-min=20.9km az=76.8

ISC 04 02:04:12.2±1.0,461N±02×1535E±01,h35km,n16, σ1§24/17,mb3.9/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.04 260**		*e*PN	**Pn**	**02 05 09.6**	**-1.9**
KUR				*e*S	**Sn**	**02 05 58.5**	**+1.0**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,170nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
SKR	**Severo-Kuril's**	**4.91**	**20**	*e*PN	**Pn**	**02 05 17.2**	**-6.3**
SKR				pmax	pmax		
	comp=Z,60μm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SONM	**Songino Array**	**31.80 291**		P	**P**	**02 10 36.2**	**+2.9**
	comp=Z,0.5nm,0.6s,mb3.5,baz=64,slow=9.8,SNR=3.1						
SONM	**Songino Array**	**31.80 291**		P	**P**	**02 10 36.2**	**+2.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**42.06**	**32**	P	**P**	**02 12 01.1**	**+0.7**
	comp=Z,2.9nm,1.0s,mb3.9,baz=306,slow=8.7,SNR=2.9						
INK	**Inuvik**	**42.06**	**32**	P	**P**	**02 12 01.2**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KAF	**Kangasniemi**	**64.14 335**		*e*p	**P**	**02 14 40.4**	**-2.6**
FINES	**FINESS Array B**	**64.74 335**		P	**P**	**02 14 46.9**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=36,slow=7.3,SNR=7.8						
FINES	**FINESS Array B**	**64.74 335**		P	**P**	**02 14 46.9**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.92**	**54**	P	**P**	**02 14 48.9**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=306,slow=5.0,SNR=4.0						
NB2	**NORSAR Subarra**	**68.93 341**		P	**P**	**02 15 13.6**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.93 341**		P	**P**	**02 15 13.8**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=27,slow=6.2,SNR=6.9						
NOA	**NORSAR Array B**	**68.93 341**		P	**P**	**02 15 13.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**72.23 327**		P	**P**	**02 15 33.3**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=32,slow=6.1,SNR=8.3						
AKASG	**Malin Array Be**	**72.23 327**		P	**P**	**02 15 33.3**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STKA	**Stephens Creek**	**78.36 190**		P	**P**	**02 16 08.8**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=117,slow=4.6,SNR=2.9						

JMA 04 02:15:42.2±0.3,3771N×14444E,h36km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.55 288**		P	Pn	02 16 23.0	+2.0
JIO				S	Sn	02 16 52.9	+2.1
OFUJ	**Ofunato**	**2.57 303**		P	Pn	02 16 23.0	+1.7
OFUJ				*e*S	Sn	02 16 53.9	+2.5
JMK	**Ichinoseki**	**2.82 297**		*e*S	Sn	02 16 59.6	+2.1

CSEM 04 02:19:37.8±1.0,7126N×180E,h35km,ML2.1,Error ellipse: s-maj=28.1km s-min=13.8km az=75.0
NAO 04 02:19:38.4±8.2,7152N×258E,ML2.5
ISCJB 04 02:19:40.0±2.0,7126N±008×32E±03,h10km,Error ellipse: s-maj=14.7km s-min=11.1km az=57.5
BER 04 02:19:39.5±4.2,7155N×194E,h15km±59km,MD2.6,ML2.1, ML2.5(NAO)

ISC 04 02:19:40.1±1.7,7135N±008×29E±03,h10km,n14, σ1§51/24,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**4.92 126**		*e*P	**Pn**	**02 20 57.0**	**+2.9**
LOF				*e*S	**Sn**	**02 21 51.9**	**+1.0**
TRO	**Tromso**	**5.64 100**		*e*P	**Pn**	**02 21 03.4**	**-0.6**
TRO				*e*Sn	**Sn**	**02 22 06.9**	**-2.0**
TRO				AML	AML	02 22 11.0	
	comp=Z,2.3nm,0.6s						
TRO	**Tromso**	**5.64 100**		*e*P	**Pn**	**02 21 03.4**	**-0.6**
	SNR=53						
TRO				*e*Sn	**Sn**	**02 22 06.9**	**-2.0**
	SNR=55						
STOK	**Stokkvaagen**	**6.23 139**		*e*P	**Pn**	**02 21 12.9**	**+0.9**
STOK				*e*S	**Sn**	**02 22 21.3**	**-2.0**
STOK	**Stokkvaagen**	**6.23 139**		AML	AML	02 22 30.3	
	comp=Z,8.9nm,0.8s						
STOK	**Stokkvaagen**	**6.23 139**		*e*P	**Pn**	**02 21 12.9**	**+0.8**
	SNR=51						
STOK				*e*S	**Sn**	**02 22 21.3**	**-2.0**
	comp=Z,8.9nm,0.8s,SNR=51						
STOK2	**Flostrand**	**6.29 138**		*e*S	**Sn**	**02 22 22.3**	**-2.7**
MOR8	**Moi Rana**	**6.67 136**		*e*P	**Pn**	**02 21 19.5**	**+1.3**
MOR8				*e*S	**Sn**	**02 22 35.2**	**+0.9**
MOR8				AML	AML	02 22 39.5	
	comp=Z,4.0nm,0.3s						
MOR8	**Moi Rana**	**6.67 136**		*e*P	**Pn**	**02 21 19.5**	**+1.3**
	SNR=51						
MOR8				*e*S	**Sn**	**02 22 35.2**	**+0.9**
	comp=Z,4.0nm,0.3s,SNR=51						
KTK1	**Kautokeino**	**7.29**	**99**	*e*P	**Pn**	**02 21 28.4**	**+1.8**
KTK1				*e*Sn	**Sn**	**02 22 50.3**	**+0.8**
KTK1				AML	AML	02 22 55.3	
	comp=Z,1.3nm,0.7s						
KTK1	**Kautokeino**	**7.29**	**99**	*e*P	**Pn**	**02 21 28.5**	**+1.9**
	SNR=51						
KTK1				*e*Sn	**Sn**	**02 22 50.3**	**+0.9**
	SNR=55						
NSS	**Namsos**	**7.65 149**		*e*P	**Pn**	**02 21 30.3**	**-1.3**
NSS				*e*S	**Sn**	**02 22 53.7**	**-4.6**
SPA0	**Spitsbergen Ar**	**7.69**	**21**	Pn	**Pn**	**02 21 28.3**	**-3.9**
	baz=211,slow=14						
ARA0	**ARCESS Array S**	**7.79**	**93**	Pn	**Pn**	**02 21 34.0**	**+0.6**
	baz=288,slow=12						
ARA0				Sn	**Sn**	**02 23 01.7**	**0.0**
	baz=294,slow=22						

IDC 04 02:20:11.7±1.2,1380N×14477E,h109km±14km,mb3.7/5, mb1 3.9/5,mb1mx3.6/18,mbtmp4.1/5,Error ellipse: s-maj=98.8km s-min=25.5km az=95.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.23 156**		P	Pn	02 20 28.4	+1.3
	539nm,0.3s,baz=161,slow=3.5,SNR=168						
GUMO				S	Sn	02 20 40.2	+1.6
	555nm,0.3s,baz=359,slow=23,SNR=42						
WRA	**Warramunga Arr**	**35.06 197**		P	P	02 26 54.0	-0.1
	1.9nm,0.6s,baz=19,slow=9.6,SNR=32						
FITZ	**Fitzroy Crossi**	**36.89 211**		P	P	02 27 10.2	+0.6
	1.3nm,0.3s,baz=41,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**38.72 196**		P	P	02 27 25.5	+0.4
	0.5nm,0.4s,baz=20,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**45.52 184**		P	P	02 28 19.9	-0.3
	2.5nm,0.9s,baz=11,slow=8.6,SNR=2.9						
FINES	**FINESS Array B**	**90.93 335**		P	P	02 33 02.2	-1.0
	1.1nm,0.7s,baz=70,slow=6.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**134.67 305**		PKP	PKPdf	02 39 18.1	+0.8
	0.3nm,1.0s,baz=71,slow=2.2,SNR=4.5						

IDC 04 02:29:07.8±3.1,686S×14963E,h0km,mb4.0/2,mb1 4.2/4, mb1mx3.8/12,mbtmp4.0/4,ML3.5/2,Error ellipse: s-maj=101.7km s-min=36.0km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52 224**		Pn	Pn	02 30 05.9	+2.3
	4.6nm,0.3s,baz=50,slow=8.3,SNR=8.0						
PMG				Sn	Sn	02 30 49.2	+3.2
	11nm,0.3s,baz=168,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**19.73 227**		P	Pn	02 33 38.3	-2.0
	0.6nm,0.3s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.53 220**		P	P	02 34 08.0	-1.1
	1.2nm,0.4s,baz=54,slow=9.4,SNR=17						
FITZ	**Fitzroy Crossi**	**25.91 242**		P	P	02 34 42.0	+0.5
	3.3nm,0.5s,baz=58,slow=11,SNR=22						
TORD	**Torodi Ar. Bea**	**147.83 284**		PKPbc	PKPbc	02 48 55.6	+0.9
	0.3nm,0.5s,baz=70,slow=4.2,SNR=8.1						

ATH 04 02:41:18.7,3477N×2247E,h4km±3km,MD3.6/4
NEIC 04 02:41:20.3,3473N×2253E,h21km,MD3.6(ATH),After ATH.
ISCJB 04 02:41:21.2±0.9,3476N±005×2252E±009,h10km,Error ellipse: s-maj=10.3km s-min=7.6km az=20.3
CSEM 04 02:41:21.0±0.7,3475N×2259E,h0km±6km,MD3.6,Error ellipse: s-maj=8.0km s-min=3.7km az=99.0
HLW 04 02:41:46.7,3349N×2360E,h18km,Mb3.3

ISC 04 02:41:23.1±0.9,3484N±006×2259E±009,h10km,n15, σ1§17/17,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.23**	**90**	*e*PB	**Pb**	**02 41 44.0**	**-2.4**
GVD	**Gavdhos**	**1.23**	**90**	*e*Pn	**Pn**	**02 41 45.0**	**-1.3**
VAM	**Vamos**	**1.44**	**66**	*e*PG	**Pn**	**02 41 47.7**	**-1.4**
VAM				*e*SB	**Sb**	**02 42 09.6**	**+1.3**
VAM	**Vamos**	**1.44**	**66**	*e*Pb	**Pn**	**02 41 47.7**	**-1.4**
VAM				*e*Sn	**Sn**	**02 42 09.7**	**+1.6**
KYTH	**Kithira**	**1.48**	**14**	*e*PB	**Pn**	**02 41 48.3**	**-1.5**
KYTH	**Kithira**	**1.48**	**14**	*e*Pb	**Pn**	**02 41 48.5**	**-1.3**
VLI	**Veliai**	**1.89**	**9**	*e*PN	**Pn**	**02 41 55.2**	**-0.2**
VLI	**Veliai**	**1.89**	**9**	*e*Pn	**Pn**	**02 41 55.8**	**+0.4**
NPS	**Neapolis**	**2.52**	**80**	*e*Pn	**Pn**	**02 42 03.5**	**-0.5**
KARP	**Karpathos**	**3.81**	**78**	*e*Pn	**Pn**	**02 42 21.4**	**-0.4**
EVR	**Evrytania**	**4.12**	**352**	*e*Pn	**Pn**	**02 42 27.7**	**+1.7**
HMAT	**Matruh**	**5.32**	**133**	P	**Pn**	**02 42 43.1**	**+0.5**
SWA2		**6.09**	**156**	P	**Pn**	**02 42 53.6**	**+0.6**
SWA1		**6.16**	**154**	P	**Pn**	**02 42 54.4**	**+0.4**
HFRF	**Wahat Farafira**	**9.10**	**146**	P	**Pn**	**02 43 35.2**	**+0.7**

MOS 04 02:53:28.9±1.4,4786N×15182E,h33km,mb4.1/6,Error ellipse: s-maj=28.8km s-min=15.5km az=70.5
ISCJB 04 02:53:29.6±1.3,479N±01×1518E±03,h33km,mb3.9/6, Error ellipse: s-maj=35.2km s-min=12.1km az=58.4
NEIC 04 02:53:29.2±1.3,4788N×15121E,h10km,Error ellipse: s-maj=39.8km s-min=13.4km az=104.0
IDC 04 02:53:33.2±2.0,4786N×15120E,h36km±7km,mb3.7/6, mb1 3.8/7,mb1mx3.6/20,mbtmp3.9/7,ML3.0/1,Error ellipse: s-maj=77.2km s-min=27.5km az=89.0

ISC 04 02:53:31.5±1.3,479N±01×1518E±03,h35km, (h40km±7km:pP-P),n20,σ0§96/20,mb3.9/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83 227**		*e*PN	**Pn**	**02 54 26.5**	**-1.4**
ASAJ	**Asahikawa**	**7.46 243**		Pn	**Pn**	**02 55 19.7**	**+2.0**
	1.2nm,0.3s,baz=72,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**7.46 243**		PN	**Pn**	**02 55 19.7**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.17 226**		Pn	**Pn**	**02 56 58.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=35,slow=9.7,SNR=6.0						
BILL	**Bilibino**	**21.46**	**15**	*e*P	**P**	**02 58 16.7**	**0.0**
BVAR	**Borovoye Array**	**49.42 308**		P	**P**	**03 02 16.9**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=61,slow=9.0,SNR=4.0						
BVAR	**Borovoye Array**	**49.42 308**		P	**P**	**03 02 16.9**	**-0.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**59.88 333**		*e*p	**P**	**03 03 32.8**	**-0.8**
FINES	**FINESS Array B**	**62.59 334**		P	**P**	**03 03 52.2**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.2,baz=42,slow=7.6,SNR=8.3						
FINES				pP	pP	03 04 03.2	+0.5
	comp=Z,2.4nm,1.0s,baz=35,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**62.59 334**		P	**P**	**03 03 52.2**	**+0.2**
FINES				*PP	pP	03 04 03.2	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**62.59 334**		P	**P**	**03 03 52.2**	**+0.2**
FINES				pP	pP	03 04 03.2	+0.5
NB2	**NORSAR Subarra**	**66.82 340**		P	**P**	**03 04 19.4**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**66.82 340**		P	**P**	**03 04 19.8**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=7.7						
NOA				pP	pP	03 04 31.3	+1.0
	comp=Z,1.6nm,0.7s,baz=27,slow=6.3,SNR=5.1						
NOA	**NORSAR Array B**	**66.82 340**		P	**P**	**03 04 19.8**	**+0.2**
NOA				*PP	pP	03 04 31.3	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**70.07 325**		P	**P**	**03 04 39.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=34,slow=6.2,SNR=7.9						
AKASG				pP	pP	03 04 51.3	+0.6
	comp=Z,0.5nm,0.4s,baz=35,slow=6.7,SNR=4.4						
AKASG	**Malin Array Be**	**70.07 325**		P	**P**	**03 04 39.9**	**0.0**
AKASG				*PP	pP	03 04 51.3	+0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.06 197**		P	**P**	**03 04 58.4**	**+0.4**
	comp=Z,0.7nm,1.0s,mb3.5,baz=10,slow=4.8,SNR=5.1						
ASAR	**Alice Springs**	**73.06 197**		P	**P**	**03 04 58.4**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRTR	**Keskin Array B**	**76.92 316**		P	**P**	**03 05 21.2**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=42,slow=4.9,SNR=6.0						
BRTR	**Keskin Array B**	**76.92 316**		P	**P**	**03 05 21.2**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

INMG 04 03:03:42.9±1.4,3658N×733W,h11km±5km,ML2.1,Error ellipse: s-maj=5.6km s-min=3.9km az=30.0
CSEM 04 03:03:43.8±0.4,3662N×7.19W,h12km,ML2.5/6,Error ellipse: s-maj=8.1km s-min=2.6km az=32.0
NEIC 04 03:03:44.3,3666N×725W,h21km,MN2.5(MDD),After MDD.

MDD 04 03:03:43.3±1.4,3660N×730W,h18km±6km,mbLg2.3/9, 1C,Error ellipse: s-maj=11.2km s-min=6.8km az=21.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.78**	**2**	⇑Pg	Pg	03 03 57.8	-0.6
	14nm,0.1s,SNR=18						
ERIP				Lg		03 04 08.2	
	85nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**0.95 351**		Pg	Pg	03 04 00.4	-1.3
	4.2nm,0

PBEJ							
	12nm,0.2s						
MOE	**Montemor**	**2.10**	**337**	*e*Sg	Sg	03 04 48.1	-2.7
EBAD	**Badajoz**	**2.17**	**6**	Pg	Pg	03 04 21.4	-3.5
	0.8nm,0.1s,SNR=7.9						
EBAD				Lg		03 04 48.6	
	9.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.17**	**6**	Pg	Pg	03 04 21.4	-3.5
	0.8nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.28**	**354**	*e*Pn	Pn	03 04 19.4	-0.5
PESTR				*e*Sg	Sg	03 04 53.4	-3.2
PESTR							
	8.4nm,0.3s						
PESTR	**Estremoz**	**2.28**	**354**	*e*Pn	Pn	03 04 19.4	-0.5
PESTR				*e*Sg	Sg	03 04 53.4	-3.2
	8.4nm,0.3s						
EADA	**Adamuz**	**2.67**	**53**	Pn	Pn	03 04 24.8	-0.5
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	03 04 53.8	-3.4
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.67**	**53**	Pn	Pn	03 04 24.8	-0.6
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	03 04 53.8	-3.4
	0.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.83**	**327**	*e*Sg	Sg	03 05 11.7	-2.6
PTOM	**Tomar**	**3.14**	**344**	*e*Sg	Sg	03 05 19.7	-4.5
PTOM							
	6.5nm,0.4s						
PTOM	**Tomar**	**3.14**	**344**	*e*Sg	Sg	03 05 19.7	-4.5
	6.5nm,0.4s						
EQUE	**Quentar**	**3.15**	**78**	Pn	Pn	03 04 31.1	-0.9
	0.1nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	03 05 05.6	-3.4
	0.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.20**	**60**	Pn	Pn	03 04 31.3	-1.3
	SNR=7.9						
EBAN				Sn	Sn	03 05 08.5	-1.8
	0.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.24**	**358**	*e*Pn	Pn	03 04 31.9	-1.3
PCBR				*e*Sn	Sn	03 05 08.9	-2.4
PCBR							
	2.5nm,0.4s						
EQES	**Quesada**	**3.58**	**69**	Pn	Pn	03 04 38.2	+0.4
	0.1nm,0.1s,SNR=7.9						
EQES				Sn	Sn	03 05 16.6	-3.0
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.58**	**69**	Pn	Pn	03 04 38.2	+0.4
	0.1nm,0.1s,SNR=7.9						
EQES				Sn	Sn	03 05 16.6	-3.0
	0.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.80**	**357**	*e*Sg	Sg	03 05 40.5	-4.9
MTE							
	4.5nm,0.4s						
MTE	**Manteigas**	**3.80**	**357**	Lg		03 05 40.5	
	2.2nm,0.4s						
PVIS	**Viseu**	**4.14**	**354**	*e*Sn	Sn	03 05 31.3	-2.1
PVIS				*e*Sg	Sg	03 05 51.4	-4.8
ETOB	**Tobarra**	**5.00**	**64**	Pn	Pn	03 04 56.3	-1.0
	SNR=7.9						
ETOB				Sn	Sn	03 05 51.0	-3.7
	SNR=7.9						
ETOB	**Tobarra**	**5.00**	**64**	Pn	Pn	03 04 56.3	-1.0
	SNR=7.9						
ETOB				Sn	Sn	03 05 51.0	-3.6

IDC ***04*** *03:53:33.7±0.4, 4.19N×12654E, h0km, mb5.2/24, mb1 5.2/24, mb1mx5.1/26, mbtmp5.2/24, MS4.5/17, Ms1 4.5/17, ms1mx4.4/29, Error ellipse: s-maj=19.9km s-min=10.7km az=78.0*

BJI ***04*** *03:53:35.1, 389N×12662E, h35km, mB5.3, mb5.4, Ms4.9, Msz4.8*

ISCJB ***04*** *03:53:36.5±0.2, 4.17N±002×12661E±004, h27km, mb5.4/131, MS4.8/60, Error ellipse: s-maj=5.2km s-min=3.2km az=143.5*

MOS ***04*** *03:53:38.5±1.0, 431N×12645E, h33km, mb5.6/47, MS5.0/22, Error ellipse: s-maj=11.2km s-min=5.1km az=116.4*

NEIC ***04*** *03:53:39.3±1.8, 4.16N×12642E, h32km±12km, mb5.4/60, MS4.6/16, MW5.3, Error ellipse: s-maj=6.6km s-min=3.8km az=69.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}1.05; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.00; $M_{\theta\phi}$0.56; $M_{\phi r}$0.09; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s323.00000°, δ47.00000°, λ94.00000°. NP2: ϕ_s137.00000°, δ43.00000°, λ86.00000°. Principal axes: T 1.0500, Plg86.0000°, Azm290.0000°; N 0.0400, Plg3.0000°, Azm140.0000°; P -1.0900, Plg2.0000°, Azm50.0000°;*

NEIC Felt [III] at Tahuna.

GCMT ***04*** *03:53:39.3±0.1, 423N×12673E, h28km, MW5.4/86, Moment Tensor Solution. s86,c154; s83,c155; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.51±.03; $M_{\theta\theta}$0.16±.02; $M_{\phi\phi}$-1.67±.02; $M_{r\theta}$-0.08±.04; $M_{\theta\phi}$-0.46±.02; $M_{\phi r}$-0.14±.04; Best double couple: $M_0$1.65400×10^{17} NP1:ϕ_s11.00000°, δ42.00000°, λ87.00000°. NP2:ϕ_s195.00000°, δ48.00000°, λ93.00000°. Principal axes: T 1.5190, Plg87.0000°, Azm138.0000°; N 0.2700, Plg2.0000°, Azm14.0000°; P -1.7880, Plg3.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 04 03:53:38.3±0.2, 418N±002×12670E±004, h28km, h28km±1.3km:pP-P, n478,σ1§13/379, mb5.4/131, MS4.8/60, 38C-20D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.08**	**339**	⇑*e*P	**Pn**	**03 54 27.0**	**+2.0**
DAV	**Davao City (W)**	**3.08**	**339**	P	**Pn**	**03 54 29.8**	**+4.8**
	SNR=36						
DAV	**Davao City (W)**	**3.08**	**339**	*e*Pn	**Pn**	**03 54 26.8**	**+1.7**
KCP	**Kidapawan**	**3.23**	**330**	⇓*i*P	**Pn**	**03 54 31.5**	**+4.3**
BUKP	**Musuan**	**4.02**	**336**	*e*P	**Pn**	**03 54 40.3**	**+2.3**
CGP	**Cagayan de Oro**	**4.69**	**335**	*e*P	**Pn**	**03 54 48.5**	**+1.3**
CGP						06 14 32.6	
BUTP	**Butuan**	**4.88**	**347**	*e*P	**Pn**	**03 54 54.2**	**+4.5**
PAGZ	**Pagadian**	**4.91**	**318**	*e*P	**Pn**	**03 54 52.7**	**+2.5**
IPIL	**Ipil**	**5.45**	**311**	*e*P	**Pn**	**03 54 59.2**	**+1.6**
DCPH	**Dipolog City**	**5.49**	**323**	*e*P	**Pn**	**03 55 03.1**	**+4.9**
SCPH	**Surigao**	**5.69**	**348**	*e*P	**Pn**	**03 55 08.3**	**+7.4**
SCPH				*e*S	**Sn**	**03 56 13.6**	**+8.2**
TBP	**Tagbilaran**	**6.15**	**333**	*e*P	**Pn**	**03 55 12.1**	**+4.8**
SNPH	**Sibulan**	**6.17**	**326**	*e*P	**Pn**	**03 55 15.0**	**+7.4**
MSLP	**Maasin**	**6.19**	**343**	*e*P	**Pn**	**03 55 14.7**	**+6.9**
LLP	**Lapu-Lapu**	**6.67**	**336**	*e*P	**Pn**	**03 55 17.3**	**+2.9**
LLP				*e*S	**Sn**	**03 56 36.1**	**+6.7**
OCLP	**Ormoc**	**7.13**	**343**	*e*P	**Pn**	**03 55 28.2**	**+7.5**
PLP	**Palo**	**7.14**	**346**	*e*P	**Pn**	**03 55 25.5**	**+4.6**
GUIM	**Jordan**	**7.59**	**328**	*e*P	**Pn**	**03 55 30.5**	**+3.5**
RCP	**Roxas**	**8.31**	**332**	*e*P	**Pn**	**03 55 40.5**	**+3.6**
PCI	**Palu**	**8.52**	**234**	P	**Pn**	**03 55 45.4**	**+5.7**
	172nm,1.4s						
CUYO	**Cuyo Island**	**8.69**	**320**	*e*P	**Pn**	**03 55 44.8**	**+2.7**
TSM	**Tawau**	**8.80**	**271**	P	**Pn**	**03 55 46.3**	**+2.7**
OTRP	**Odiongan**	**9.35**	**331**	*e*P	**Pn**	**03 55 59.5**	**+8.3**
PVCP	**Virac**	**9.69**	**345**	*e*P	**Pn**	**03 56 04.2**	**+8.5**
BATP	**Bataraza**	**9.96**	**298**	*e*P	**Pn**	**03 56 04.2**	**+4.8**
KKM	**Kota Kinabalu**	**10.60**	**280**	P	**Pn**	**03 56 12.5**	**+4.2**
KKM	**Kota Kinabalu**	**10.60**	**280**	*e*Pn	**Pn**	**03 56 11.8**	**+3.5**
TGY	**Tagaytay City**	**11.38**	**330**	Pn	**Pn**	**03 56 24.3**	**+5.4**
	47nm,0.3s,baz=233,slow=5.1,SNR=2.4						
TGY				LR	LR	04 01 22.0	
	comp=Z,29nm,19.5s,baz=272,slow=42						
LUBP	**Lubang**	**11.43**	**327**	*e*P	**Pn**	**03 56 22.6**	**+3.0**
TLE	**Tual**	**11.47**	**148**	P	**Pn**	**03 56 33.6**	**+13**
	2μm,1.2s						
POLP	**Polilio Island**	**11.48**	**336**	*e*P	**Pn**	**03 56 29.1**	**+8.8**
BALP	**Baler**	**12.54**	**337**	*e*P	**Pn**	**03 56 45.1**	**+10**
CAUP	**Cauayan**	**13.55**	**340**	*e*P	**Pn**	**03 56 52.8**	**+4.1**
CVP	**Callao Caves**	**14.26**	**341**	*e*P	**Pn**	**03 57 07.0**	**+8.7**
JAY	**Jayapura**	**15.50**	**115**	P	**Pn**	**03 57 26.8**	**+12**
	96nm,2.4s						
KSM	**Kuching**	**16.59**	**261**	*e*P	**Pn**	**03 57 31.2**	**+2.4**
KMMI	**Kalianget**	**16.91**	**229**	P	**Pn**	**03 57 34.5**	**+1.7**
	154nm,1.2s						
KAKA	**Kakadu**	**17.73**	**161**	*e*P	**Pn**	**03 57 41.9**	**-1.1**
	138nm,0.6s						
KRKI	**Karangkates**	**18.77**	**229**	P	**Pn**	**03 57 57.7**	**+2.0**
	361nm,0.8s						
GUMO	**Guam**	**20.22**	**61**	LR	LR	04 04 23.3	
	comp=Z,2μm,20.9s,MS4.5,baz=238,slow=32						
BJII	**Banjamegara**	**20.45**	**236**	P	**P**	**03 58 14.1**	**+0.6**
	185nm,1.6s						
YHNB	**Yeheng**	**21.00**	**346**	*e*P	**P**	**03 58 19.9**	**+0.4**
HKC	**Hong Kong**	**21.72**	**327**	*e*P	**P**	**03 58 22.0**	**-5.2**
LEM	**Lembang**	**21.96**	**240**	P	**P**	**03 58 29.8**	**0.0**
	126nm,1.6s,mb5.1						
QZH	**Quanzhou**	**22.07**	**340**	P	**P**	**03 58 32.5**	**+1.6**
QZH				AP		03 58 39.2	
QZH				S	**S**	**04 02 33.7**	**+1.0**
QZH				AMB	AMB		
	comp=Z,400nm,1.2s,mb5.7						
QZH				LR	LR		
	comp=N,12μm,26.2s,MS5.3						
QZH				LR	LR		
	comp=E,6μm,24.4s,MS5.3						
QZH				LR	LR		
	comp=Z,6μm,22.7s,MS5.0						
QIZ	**Qiongzhong**	**22.11**	**313**	P	**P**	**03 58 30.9**	**-0.4**
QIZ				AP		03 58 37.9	
QIZ				S	**S**	**04 02 27.2**	**-6.3**
QIZ				LR	LR		
	comp=N,2μm,18.5s						
QIZ				LR	LR		
	comp=Z,2μm,23.5s,MS4.5						
QIZ	**Qiongzhong**	**22.11**	**313**	*e*P	**P**	**03 58 30.8**	**-0.5**
	comp=Z,62nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	⇓*i*P	**P**	**03 58 31.2**	**-0.8**
	comp=Z,78nm,0.6s,mb5.3						
FITZ				*e*S	**S**	**04 02 40.0**	**+5.3**
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	**P**	**03 58 31.4**	**-0.6**
	comp=Z,29nm,0.4s,mb5.1,baz=16,slow=10,SNR=31						
CBJI	**Citeko**	**22.44**	**242**	P	**P**	**03 58 35.5**	**+0.6**
	comp=Z,330nm,0.9s,mb5.8						
JOW	**Kunigami**	**22.57**	**4**	P	**P**	**03 58 36.9**	**+0.6**
	comp=Z,79nm,0.6s,mb5.3,baz=169,slow=11,SNR=14						
GZH	**Guangzhou**	**22.80**	**327**	P	**P**	**03 58 40.8**	**+2.1**
GZH				LR	LR		
	comp=N,3μm,19.6s,MS4.8						
GZH				LR	LR		
	comp=E,3μm,22.1s,MS4.8						
GZH				LR	LR		
	comp=Z,3μm,17.7s,MS4.8						
SBJI	**Serang**	**22.94**	**244**	P	**P**	**03 58 40.8**	**+0.6**
	comp=Z,338nm,1.6s,mb5.5						
KGM	**Kluang**	**23.44**	**265**	P	**P**	**03 58 47.1**	**+1.7**
PMG	**Port Moresby**	**24.46**	**124**	P	**P**	**03 58 57.2**	**+2.6**
	comp=Z,9.1nm,0.7s,baz=294,slow=10.0,SNR=1.8						
WRAB	**Tennant Creek**	**25.12**	**163**	P	**P**	**03 59 00.6**	**-0.1**
	comp=Z,611nm,0.6s,mb6.3,SNR=26						
WRAB	**Tennant Creek**	**25.12**	**163**	P	**P**	**03 59 00.7**	**0.0**
WRA	**Warramunga Arr**	**25.12**	**163**	P	**P**	**03 58 59.2**	**-1.6**
	comp=Z,21nm,0.8s,mb4.7,baz=329,slow=11,SNR=60						
WB2	**Warramunga Arr**	**25.13**	**163**	*e*P	**P**	**03 59 00.2**	**-0.6**
WB2				*e*S	**S**	**04 03 22.9**	**-0.9**
IPM	**Ipoh**	**25.60**	**272**	P	**P**	**03 59 08.1**	**+3.0**
CHAT	**Chantaburi**	**25.62**	**290**	P	**P**	**03 59 07.5**	**+2.2**
KULM	**Kulim**	**25.98**	**273**	*e*P	**P**	**03 59 08.6**	**0.0**
MBWA	**Marble Bar**	**26.09**	**195**	P	**P**	**03 59 09.8**	**+0.2**
	SNR=9.8						
MBWA	**Marble Bar**	**26.09**	**195**	*e*P	**P**	**03 59 09.2**	**-0.4**
	comp=Z,67nm,0.8s,mb5.2						
KKTK	**Khon Kaen**	**26.37**	**299**	P	**P**	**03 59 12.0**	**-0.1**
PPI	**Padang Panjang**	**26.68**	**261**	P	**P**	**03 59 17.0**	**+2.2**
	comp=Z,129nm,1.6s,mb5.2						
CBIJ	**Chichi jima**	**27.17**	**31**	P	**P**	**03 59 18.6**	**-0.7**
	comp=Z,123nm,0.6s,mb5.6,baz=247,slow=16,SNR=7.0						
CBIJ				LR	LR	04 08 49.5	
	comp=Z,797nm,20.6s,MS4.3,baz=223,slow=34						
SSE	**Sheshan**	**27.27**	**350**	P	**P**	**03 59 22.2**	**+2.0**
SSE				AP	pP	03 59 30.8	+2.3
SSE				XP	sP	03 59 34.8	+2.9
SSE				S	**S**	**04 03 59.5**	**+1.8**
SSE				XS	sS	04 04 14.8	+3.4
SSE				AMB	AMB		
	comp=Z,41nm,1.2s,mb4.8						
SSE				AMB	AMB		
	comp=Z,281nm,5.2s						
SSE				LR	LR		
	comp=N,621nm,20.1s,MS4.3						
SSE				LR	LR		
	comp=E,547nm,20.1s,MS4.3						
SSE				LR	LR		
	comp=Z,954nm,16.1s,MS4.5						
SSE	**Sheshan**	**27.27**	**350**	P	**P**	**03 59 22.2**	**+2.0**
	comp=Z,41nm,1.2s,mb4.8						
SSE				pP	pP	03 59 30.8	+2.3
SSE				sP	sP	03 59 34.8	+2.9
SSE				S	**S**	**04 03 59.5**	**+1.8**
SSE				sS	sS	04 04 14.8	+3.4
SSE				LR	LR		
	comp=Z,950nm,16.1s,MS4.5						
PSI	**Prapat**	**27.75**	**268**	P	**P**	**03 59 24.1**	**-0.4**
	comp=Z,32nm,1.0s,mb4.9,baz=95,slow=1.4,SNR=15						
NST	**Nakhon Sawan**	**28.50**	**295**	P	**P**	**03 59 31.0**	**-0.2**
	comp=Z,50nm,0.9s,mb5.2						
AS31	**Alice Springs**	**28.56**	**166**	*e*P	**P**	**03 59 32.4**	**+0.8**
ASPA	**Alice Springs**	**28.56**	**166**	*e*P	**P**	**03 59 32.4**	**+0.7**
ASAR	**Alice Springs**	**28.56**	**166**	P	**P**	**03 59 31.3**	**-0.4**
	comp=Z,5.2nm,0.5s,mb4.5,baz=347,slow=7.2,SNR=49						
NJ2	**Nanjing**	**28.68**	**346**	*e*P	**P**	**03 59 33.3**	**+0.5**
NJ2				AP	pP	03 59 43.0	+1.9
NJ2				XP	sP	03 59 46.3	+1.7
NJ2				PP	PP	04 00 27.0	-11
NJ2				S	**S**	**04 04 18.0**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,440nm,4.0s						
NJ2				LR	LR		
	comp=N,700nm,16.6s,MS4.5						
NJ2				LR	LR		
	comp=E,700nm,14.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,11μm,15.7s,MS5.6						
WHN	**Wuhan**	**28.69**	**337**	⇑P	**P**	**03 59 33.0**	**+0.1**
WHN				AP	pP	03 59 41.4	+0.2
WHN				S	**S**	**04 04 11.0**	**-9.1**
WHN				LR	LR		
	comp=Z,8μm,24.7s,MS5.2						
GYA	**Guiyang**	**29.30**	**321**	⇑*i*P	**P**	**03 59 39.0**	**+0.8**
GYA				PP	PP	04 00 34.5	-10
GYA				PCP	PcP	04 02 45.0	+0.6
GYA				S	**S**	**04 04 32.1**	**+2.5**
GYA				SS	SS	04 05 59.7	-35
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,300nm,4.8s						
GYA				LR	LR		
	comp=N,2μm,20.9s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,19.4s,MS4.8						
GYA				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
CM31	**Chiang Mai Arr**	**30.62**	**300**	*e*P	**P**	**03 59 49.9**	**0.0**
	comp=Z,20nm,0.8s,mb5.0						
CHG	**Chiang Mai**	**30.76**	**300**	⇑P	**P**	**03 59 51.2**	**0.0**
	comp=Z,49nm,0.7s,mb5.5						
CHTO	**Chiang Mai**	**30.76**	**300**	P	**P**	**03 59 51.5**	**+0.3**
	SNR=15						
CHTO	**Chiang Mai**	**30.76**	**300**	P	**P**	**03 59 51.5**	**+0.3**
	SNR=15						
CHTO	**Chiang Mai**	**30.76**	**300**	P	**P**	**03 59 51.5**	**+0.3**
	SNR=15						
CHTO	**Chiang Mai**	**30.76**	**300**	P	**P**	**03 59 51.5**	**+0.3**
	SNR=15						
CHTO	**Chiang Mai**	**30.76**	**300**	*e*P	**P**	**03 59 51.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.3						
CHTO				MLR	MLR		
	comp=Z,838nm,19.0s,MS4.4						
CHTO	**Chiang Mai**	**30.76**	**300**	*e*P	**P**	**03 59 51.1**	**-0.1**
	comp=Z,48nm,1.0s,mb5.3						
CHTO				LR	LR		
	comp=Z,838nm,19.0s,MS4.4						
CTA	**Charters Tower**	**30.84**	**142**	*e*P	**P**	**03 59 55.3**	**+3.4**
	comp=Z,16nm,1.1s,mb4.8						
CTA				*e*S	**S**	**04 04 55.8**	**+2.1**
CTA	**Charters Tower**	**30.84**	**142**	LR	LR	04 13 45.6	
	comp=Z,980nm,19.0s,MS4.5,baz=91,slow=39						
CTA	**Charters Tower**	**30.84**	**142**	*e*P	**P**	**03 59 55.3**	**+3.4**
CTA				*e*S	**S**	**04 04 55.8**	**+2.1**
CTA				pmax	pmax		
	comp=Z,16nm,1.1s						
KMI	**Kunming**	**31.04**	**314**	P	**P**	**03 59 54.7**	**+1.1**
KMI				AP	pP	04 00 02.3	+0.3
KMI				PP	PP	04 00 54.3	-10
KMI				S	**S**	**04 04 52.0**	**-4.9**
KMI				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,234nm,4.9s						
KMI				LR	LR		
	comp=N,1μm,17.1s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,19.6s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,18.4s,MS4.9						
KMI	**Kunming**	**31.04**	**314**	P	**P**	**03 59 54.7**	**+1.1**
KMI				*PP	pP	04 00 02.3	+0.3
KMI						04 00 54.3	
KMI				S	**S**	**04 04 52.0**	**-4.9**
KMI				*SS	sS	04 05 04.8	-5.9
KMI				SSS		04 06 53.0	
KMI				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.9						
KMI				MLR	MLR		
	comp=Z,2μm,18.4s,MS4.9						
KMI	**Kunming**	**31.04**	**314**	P	**P**	**03 59 54.7**	**+1.1**
	comp=Z,28nm,1.5s,mb4.9						
KMI				pP	pP	04 00 02.3	+0.3
KMI				PP	PP	04 00 54.3	-10
KMI				S	**S**	**04 04 52.0**	**-4.9**
KMI				sS	sS	04 05 04.8	-5.9
KMI				SSS		04 06 53.0	
KMI				LR	LR		
	comp=Z,2μm,18.4s,MS4.9						
TIA	**Tai'an**	**33.07**	**346**	*e*P	**P**	**04 00 11.0**	**-0.5**
TIA				AMB	AMB		
	comp=Z,61nm,1.2s,mb5.4						
MJAR	**Matsushiro Arr**	**33.90**	**17**	P	**P**	**04 00 17.5**	**-1.2**
	comp=Z,16nm,1.1s,mb4.8,baz=199,slow=8.7,SNR=24						
MJAR				PcP	PcP	04 02 58.3	+1.4
	comp=Z,7.3nm,0.9s,baz=190,slow=2.7,SNR=7.4						
MJAR				LR	LR	04 14 07.2	
	comp=Z,2μm,19.7s,MS4.8,baz=195,slow=36						
MJAR	**Matsushiro Arr**	**33.90**	**17**	P	**P**	**04 00 17.5**	**-1.2**
MJAR						04 02 58.3	
MAJO	**Matsushiro**	**33.90**	**17**	*e*P	**P**	**04 00 17.0**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
MAJO	**Matsushiro**	**33.90**	**17**	*e*P	**P**	**04 00 17.0**	**-1.7**
	comp=Z,21nm,0.9s,mb5.1						
MAT	**Matsushiro**	**33.90**	**17**	P	**P**	**04 00 17.2**	**-1.5**
MAT				S	**S**	**04 05 35.0**	**-6.4**
XAN	**Xi'an**	**34.00**	**333**	P	**P**	**04 00 18.7**	**-0.9**
XAN				AP	pP	04 00 26.2	-1.7
XAN				PP	PP	04 01 37.4	+0.7
XAN				AMB	AMB		
	comp=Z,194nm,0.9s,mb6.0						
XAN				LR	LR		
	comp=N,754nm,19.1s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,19.6s,MS4.7						
XAN				LR	LR		
	comp=Z,3μm,19.1s,MS5.0						
CD2	**Chengdu**	**34.26**	**323**	⇑*i*P	**P**	**04 00 21.9**	**+0.1**
CD2				PP	PP	04 01 33.5	-6.1
CD2				PCP	PcP	04 02 58.7	+0.8
CD2				S	**S**	**04 05 45.6**	**-1.4**
CD2				SS	SS	04 07 55.7	-20
CD2				SCS	ScS	04 10 42.9	-0.4
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
CD2				AMB	AMB		
	comp=Z,90nm,5.8s						
CD2				LR	LR		
	comp=N,1μm,18.6s,MS4.8						
CD2				LR	LR		
	comp=E,1μm,18.6s,MS4.8						
CD2				LR	LR		
	comp=Z,2μm,18.6s,MS4.8						
FORT	**Forrest**	**34.79**	**178**	*e*P	**P**	**04 00 26.3**	**-0.1**
	comp=Z,63nm,0.7s,mb5.7						
DL2	**Dalian**	**34.87**	**353**	⇑*i*P	**P**	**04 00 28.5**	**+1.4**
DL2				AP	pP	04 00 38.4	+2.9
DL2				S	**S**	**04 05 59.3**	**+2.9**
DL2				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.8						
DL2				AMB	AMB		
	comp=Z,200nm,3.6s						
DL2				LR	LR		
	comp=N,370nm,20.1s,MS4.3						
DL2				LR	LR		
	comp=E,500nm,20.0s,MS4.3						
DL2				LR	LR		
	comp=Z,820nm,21.1s,MS4.5						
HNR	**Honiara**	**35.79**	**112**	LR	LR	04 14 01.2	
	comp=Z,961nm,20.1s,MS4.6,baz=0.2,slow=34						
KLBR	**Kellerberrin**	**36.58**	**193**	*e*P	**P**	**04 00 40.9**	**-0.8**
	comp=Z,28nm,0.6s,mb5.3						
BJT	**Baijiatuau**	**36.92**	**346**	*e*P	**P**	**04 00 45.1**	**+0.4**
BJT				pmax	pmax		
	comp=Z,107nm,0.8s						
BJT				MLR	MLR		
	comp=Z,660nm,20.0s						
BJT	**Baijiatuau**	**36.92**	**346**	*e*P	**P**	**04 00 45.1**	**+0.4**
	comp=Z,106nm,0.8s,mb5.7						
BJT				LR	LR		
	comp=Z,660nm,20.0s,MS4.4						
BJI	**Beijing**	**36.94**	**347**	P	**P**	**04 00 45.2**	**+0.4**
BJI				S	**S**	**04 06 19.2**	**-8.9**
BJI				SS	SS	04 09 00.9	-9.4
BJI				AMB	AMB		
	comp=Z,112nm,0.9s,mb5.7						
BJI				AMB	AMB		
	comp=Z,426nm,3.5s						
BJI				LR	LR		
	comp=N,483nm,17.8s						
BJI				LR	LR		
	comp=E,1μm,25.2s						
BJI				LR	LR		
	comp=Z,493nm,30.3s						
BJI	**Beijing**	**36.94**	**347**	P	**P**	**04 00 45.2**	**+0.4**
	comp=Z,112nm,0.9s,mb5.7						
BJI				S	**S**	**04 06 19.2**	**-8.9**
BJI				SS	SS	04 09 00.9	-9.4
BJI				LR	LR		
	comp=Z,490nm,30.3s,MS4.1						
MUN	**Mundaring**	**37.32**	**195**	*e*P	**P**	**04 00 49.9**	**+1.9**
IMP	**Imphal**	**37.58**	**306**	*e*P	**P**	**04 00 49.0**	**-1.2**
IMP				*ex*	x	04 03 09.0	
SNY	**Shenyang**	**37.59**	**356**	⇑P	**P**	**04 00 51.4**	**+1.1**
SNY				S	**S**	**04 06 36.2**	**-1.7**
SNY				AMB	AMB		
	comp=Z,106nm,1.4s,mb5.4						
SNY				LR	LR		
	comp=N,757nm,20.1s						
SNY			

LZH Lanzhou 38.10 329⇑ *i*P P 04 00 55.0 +0.4
comp=Z,135nm,1.4s,mb5.5
LZH pP pP 04 01 01.3 -1.8
LZH sP sP 04 01 04.2 -2.3
LZH PP PP 04 02 25.4 +3.5
LZH PcP PcP 04 03 10.2 +0.9
LZH S S 04 06 06.3 -39
LZH sS sS 04 06 54.9 -4.7
LZH ScP ScP 04 06 56.3 +1.3
LZH PcS PcS 04 06 58.5 +0.3
LZH SS SS 04 09 23.2 -10
LZH ScS ScS 04 11 04.3 -0.1
LZH LR LR
comp=Z,5μm,17.4s,MS5.4
STKA Stephens Creek 38.56 159⇑ *i*P P 04 00 58.7 +0.2
comp=Z,60nm,0.8s,mb5.4
STKA Stephens Creek 38.56 159 P **P 04 00 58.5 0.0**
comp=Z,81nm,0.8s,mb5.5,baz=328,slow=8.4,SNR=42
STKA LR LR 04 19 20.8
comp=Z,890nm,18.6s,MS4.6,baz=334,slow=40
HHC Hu-ho-hao-te 38.96 342 *e*P **P 04 01 02.7 +0.8**
HHC AP pP 04 01 10.0 -0.3
HHC XP sP 04 01 13.7 -0.1
HHC PP PP 04 02 35.9 +4.5
HHC PCP PcP 04 03 12.7 +0.7
HHC S **S 04 06 58.8 +0.1**
HHC SS SS 04 09 45.0 -6.0
HHC SCS ScS 04 11 09.1 -0.3
HHC AMB AMB
comp=Z,53nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,507nm,4.1s
HHC LR LR
comp=N,969nm,23.0s,MS4.6
HHC LR LR
comp=E,646nm,23.0s,MS4.6
HHC LR LR
comp=Z,1μm,22.9s,MS4.7
VLA Vladivostok 39.05 6*d* *i*P P 04 01 03.5 +0.9
VLA *e* 04 01 14.3
VLA *i* 04 01 21.0
VLA pmax pmax
comp=Z,165nm,1.8s,mb5.5
VLA MLR MLR
comp=Z,700nm,18.2s,MS4.5
BTO Baotou 39.25 340 *e*P **P 04 01 02.0 -2.3**
BTO S **S 04 07 05.7 +2.7**
BTO LR LR
comp=N,406nm,24.5s
BTO LR LR
comp=E,193nm,16.7s
CN2 Changchun 39.47 359 ⇑P **P 04 01 06.9 +0.8**
CN2 *e*XP sP 04 01 16.9 -1.1
CN2 *e*S **S 04 07 08.2 +1.8**
CN2 *e*SS SS 04 09 57.0 -4.2
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,18.0s,MS4.7
CN2 LR LR
comp=E,700nm,18.0s,MS4.7
CN2 LR LR
comp=Z,700nm,19.0s,MS4.5
SHL Shillong 39.58 306 *e*P **P 04 01 05.6 -1.5**
SHL *e*S **S 04 07 06.5 -1.6**
MDJ Mudanjiang 40.35 3 P **P 04 01 14.7 +1.3**
MDJ AP pP 04 01 20.9 -1.0
MDJ XP sP 04 01 23.5 -1.9
MDJ PP PP 04 02 46.8 +0.3
MDJ PCP PcP 04 03 17.3 +0.9
MDJ SCP ScP 04 07 05.3 +1.6
MDJ PCS PcS 04 07 07.8 +0.9
MDJ S **S 04 07 22.7 +3.2**
MDJ XS sS 04 07 33.3 -0.2
MDJ AMB AMB
comp=Z,66nm,1.8s,mb5.1
MDJ AMB AMB
comp=Z,215nm,5.1s
MDJ LR LR
comp=N,497nm,24.7s,MS4.4
MDJ LR LR
comp=E,482nm,27.4s,MS4.4
MDJ LR LR
comp=Z,948nm,23.1s,MS4.6
MDJ Mudanjiang 40.35 3 *e*P **P 04 01 14.1 +0.6**
comp=Z,49nm,0.9s,mb5.2
MDJ LR LR
comp=Z,772nm,19.0s,MS4.6
ARMA Armidale 41.86 147⇑ *i*P P 04 01 27.0 +1.2
LSA Lhasa 42.12 311 P **P 04 01 29.0 +1.0**
LSA Lhasa 42.12 311 *e*P **P 04 01 29.2 +1.2**
LSA pmax pmax
comp=Z,27nm,0.7s,mb5.0
LSA Lhasa 42.12 311 *e*P **P 04 01 29.2 +1.3**
comp=Z,27nm,0.7s,mb5.0
ASAJ Asahikawa 42.17 17 P **P 04 01 28.8 +0.4**
comp=Z,16nm,0.6s,mb4.8,baz=223,slow=19,SNR=11
GTA Gaotai 42.70 329 P **P 04 01 32.3 -0.3**
GTA AP pP 04 01 39.8 -1.4
GTA XP sP 04 01 43.3 -1.3
GTA PP PP 04 03 14.3 +2.4
GTA PCP PcP 04 03 26.5 +2.4
GTA SCP ScP 04 07 13.9 +0.9
GTA PCS PcS 04 07 17.1 +0.9
GTA S **S 04 07 51.2 -3.1**
GTA XS sS 04 08 06.8 -1.5
GTA SCS ScS 04 11 32.9 +1.1
GTA AMB AMB
comp=Z,45nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,236nm,6.1s
GTA LR LR
comp=N,1μm,20.5s,MS5.0
GTA LR LR
comp=E,2μm,20.5s,MS5.0
GTA LR LR
comp=Z,2μm,20.1s,MS5.1
BOK Bokaro 43.90 300 *e*P **P 04 01 42.0 -0.4**
RIV Riverview 44.31 150 *e*P **P 04 01 47.8 +2.1**
VIS Vishakhapatnam 44.52 291 *e*P **P 04 01 46.1 -1.2**
CNB Canberra Magne 44.68 153 *e*P **P 04 01 50.1 +1.4**
comp=Z,76nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 44.82 16 *e*P **P 04 01 50.5 +0.8**
YSS *e**SP sP 04 02 04.5 +2.8
YSS *e* 04 03 32.0
YSS MLR MLR
comp=N,500nm,18.0s,MS4.7
YSS MLR MLR
comp=E,600nm,18.0s,MS4.7
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.0
YSS Yuzh-Sakhalins 44.82 16 *e*P **P 04 01 50.4 +0.7**
TOO Toolangi 45.07 159 *e*P **P 04 01 53.3 +1.6**
comp=Z,31nm,1.5s,mb4.9
TOO Toolangi 45.07 159 *e*P **P 04 01 53.3 +1.6**
TOO pmax pmax
comp=Z,31nm,1.5s,mb4.9
KLR Kul'dur 45.09 5⇓ *i*P P 04 01 49.2 -2.7
KLR *e*S **S 04 08 36.0 +6.8**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,130nm,1.8s,mb5.5
HIA Hailar 45.31 354*c* *i*P P 04 01 54.5 +0.9
HIA Hailar 45.31 354 *e*P **P 04 01 54.7 +1.1**
comp=Z,353nm,1.8s,mb5.9
GUN Gumba 45.44 306 *e*P **P 04 01 54.7 +0.1**
comp=Z,125nm,0.8s,mb5.8
PKI Pulchoki 45.68 305 *e*P **P 04 01 55.7 -0.9**
comp=Z,55nm,1.0s,mb5.4
PALK Pallekele 45.85 276 *e*P **P 04 01 57.5 -0.5**
comp=Z,25nm,1.1s,mb5.0
KKN Kakani 45.87 305 *e*P **P 04 01 57.8 -0.3**
comp=Z,13nm,0.3s,mb5.3
DMN Daman 45.95 305 *e*P **P 04 01 58.0 -0.6**
comp=Z,96nm,1.2s,mb5.6
GKN Gorkha 46.48 305 *e*P **P 04 02 02.2 -0.7**
comp=Z,42nm,0.7s,mb5.5
MDRS Chennai 46.70 284 *ex* x 04 01 51.0
MDRS AMb AMB 04 01 53.8
comp=Z,73nm,0.1s
DZM Mont Dzumac 46.82 126 *e*P **P 04 02 06.7 +1.2**
SONM Songino Array 46.86 341 P **P 04 02 06.1 +0.2**
comp=Z,20nm,0.8s,mb5.1,baz=160,slow=7.8,SNR=89
SONM LR LR 04 24 41.0
comp=Z,880nm,21.4s,MS4.7,baz=254,slow=40
KOLN Koldanda 47.24 304 *e*P **P 04 02 08.5 -0.3**
comp=Z,91nm,0.6s,mb5.9
CIT Chita 48.92 349 *e*P **P 04 02 23.4 +1.6**
CIT *e* 04 09 28.3
CIT pmax pmax
comp=Z,393nm,1.5s,mb6.2
TRD Trivandrum 49.59 278 *e*P **P 04 02 26.4 -0.5**
TRD AMb AMB 04 02 38.2
comp=Z,52nm,0.9s,mb5.5
ZAK Zakamensk 50.09 341⇓ *i*P P 04 02 30.4 -0.3
ZAK *e* 04 03 47.8
TLY Talaya 51.09 342 P **P 04 02 38.3 0.0**
comp=Z,378nm,0.8s,SNR=17
TLY Talaya 51.09 342 P **P 04 02 39.4 +1.1**
SNR=21
TLY Talaya 51.09 342 P **P 04 02 39.4 +1.1**
SNR=21
TLY Talaya 51.09 342 P **P 04 02 39.4 +1.1**
SNR=21
TLY Talaya 51.09 342 *e*P **P 04 02 38.9 +0.6**
TLY *e*S **S 04 09 52.9 -1.2**
TLY *e* 04 12 30.0
TLY pmax pmax
comp=Z,58nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,1μm,23.0s,MS4.8
TLY Talaya 51.09 342 *e*P **P 04 02 39.0 +0.7**
comp=Z,51nm,0.8s,mb5.5
TLY LR LR
comp=Z,176nm,21.0s,MS4.1
BHPL Bhopal 51.17 297 *e*P **P 04 02 38.1 -0.7**
IRK Irkutsk 51.39 343 *e*P **P 04 02 38.5 -2.0**
IRK pmax pmax
comp=Z,90nm,1.9s,mb5.4
MOY Mondy 51.95 340 *e*P **P 04 02 45.4 +0.7**
MOY pmax pmax
comp=Z,138nm,1.9s,mb5.6
WMQ Urumqi 52.34 325⇑ *i*P P 04 02 47.6 0.0
WMQ PCP PcP 04 03 59.5 +1.1
WMQ PP PP 04 04 47.0 +0.7
WMQ PPP 04 05 51.0
WMQ PCS PcS 04 07 55.0 -1.8
WMQ S **S 04 10 11.0 -0.3**
WMQ SCS ScS 04 12 33.0 -2.5
WMQ SS SS 04 13 47.0 -2.1
WMQ AMB AMB
comp=Z,56nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,323nm,5.0s
WMQ LR LR
comp=N,4μm,15.5s,MS5.6
WMQ LR LR
comp=E,2μm,16.5s,MS5.6
WMQ LR LR
comp=Z,3μm,21.0s,MS5.3
CLNS Chul'man 52.53 359 *e*P **P 04 02 47.7 -1.3**
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=Z,44nm,0.9s,mb5.4
CLNS pmax pmax
comp=E,11nm,0.8s
NDI New Delhi 52.85 303 *e*P **P 04 02 49.4 -2.0**
NDI AMb AMB 04 02 52.0
comp=Z,63nm,1.1s,mb5.4
KAD Karad 53.04 288 *e*P **P 04 02 50.8 -1.9**
KAD AMb AMB 04 02 52.7
comp=Z,79nm,1.2s,mb5.5
GOA Goa 53.16 286 *ex* x 04 02 47.3
GOA AMb AMB 04 02 51.1
comp=Z,76nm,0.5s,mb5.9
POO Poona 53.53 290 *e*P **P 04 02 53.0 -3.4**
BOD Bodaibo 54.41 352⇓ *i*P P 04 03 03.2 +0.4
BOD pmax pmax
comp=Z,84nm,1.4s,mb5.5
AJM Ajmer 54.42 300 *e*P **P 04 03 02.1 -0.7**
AJM AMb AMB 04 03 03.5
comp=Z,55nm,1.1s,mb5.4
THN Thein Dam 55.27 307 *e*P **P 04 03 07.5 -1.5**
PET Petropavlovsk 55.33 23*c* *i*P P 04 03 09.8 +0.4
PET pmax pmax
comp=Z,38nm,1.3s,mb5.3
PET Petropavlovsk 55.33 23 *e*P **P 04 03 09.1 -0.3**
comp=Z,90nm,1.5s,mb5.6
KSH Kashi 57.70 315 *e*P **P 04 03 27.0 +0.7**
KSH *e*PCP PcP 04 04 21.2 +2.1
KSH *e*PP PP 04 05 36.4 +2.0
KSH *e*S **S 04 11 20.7 -2.5**
KSH *e*PS 04 11 39.8
KSH *e*SCS ScS 04 13 11.0 -2.8
KSH *e*SS SS 04 15 12.7 -1.0
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=N,968nm,10.2s
KSH LR LR
comp=E,1μm,16.2s
KSH LR LR
comp=Z,968nm,10.2s,MS5.2
YAK Yakutsk 57.76 2*c* *i*P P 04 03 27.2 +0.5
YAK *e* 04 04 23.2
YAK *e* 04 05 37.3
YAK pmax pmax
comp=Z,83nm,1.0s,mb5.7
YAK pmax pmax
comp=N,40nm,1.3s
YAK pmax pmax
comp=E,40nm,1.2s
YAK pmax pmax
comp=Z,97nm,2.7s,mb5.4
YAK pmax pmax
comp=N,29nm,1.9s
YAK pmax pmax
comp=E,40nm,2.1s
YAK Yakutsk 57.76 2 *e*P **P 04 03 26.9 +0.1**
comp=E,228nm,0.9s,mb6.2
MA2 Magadan 58.28 14 *e*P **P 04 03 31.3 +0.9**
MA2 *e* 04 05 39.6
MA2 *e*S **S 04 11 31.4 +0.7**
MA2 pmax pmax
comp=Z,60nm,1.3s,mb5.5
MA2 MLR MLR
comp=Z,500nm,21.7s,MS4.6
TKM2 Tokmak 2 59.39 318 P **P 04 03 37.9 -0.2**
SNR=21
KBK Karagaybulak 59.71 318 P **P 04 03 40.8 +0.5**
SNR=14
UCH Uchtor 59.82 317 P **P 04 03 41.7 +0.7**
SNR=46
AAK Ala-Archa 60.00 318 P **P 04 03 41.6 -0.7**
comp=Z,121nm,1.2s,mb5.8,SNR=9.0
AAK Ala-Archa 60.00 318 P **P 04 03 41.8 -0.5**
SNR=14
AAK Ala-Archa 60.00 318 P **P 04 03 41.5 -0.8**
SNR=27
AAK Ala-Archa 60.00 318 P **P 04 03 41.5 -0.8**
SNR=27
AAK Ala-Archa 60.00 318 P **P 04 03 41.5 -0.8**
SNR=27
AAK Ala-Archa 60.00 318 *e*P **P 04 03 43.3 +1.0**
AAK Ala-Archa 60.00 318 *e*P **P 04 03 40.9 -1.4**
comp=Z,32nm,1.2s,mb5.2
AAK LR LR
comp=Z,326nm,22.0s,MS4.4
FRU Bishkek 60.00 318 *e*P **P 04 03 42.0 -0.3**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,700nm,20.0s,MS4.8
ZAL Zalesovo 60.17 333 P **P 04 03 42.9 -0.6**
comp=Z,10nm,0.5s,mb5.1,baz=352,slow=6.5,SNR=41
USP Ospenovka 60.26 318 P **P 04 03 43.5 -0.5**
SNR=23
AML Almayashu 60.34 317 P **P 04 03 47.3 +2.7**
SNR=6.4
EKS2 Erkin-Say 60.50 317 P **P 04 03 45.7 +0.1**
SNR=25
KURK Kurchatov 61.34 327 P **P 04 03 50.6 -0.8**
comp=Z,1μm,0.7s,SNR=48
NVS Novosibirsk 61.46 333⇑ *i*P P 04 03 50.7 -1.5
NVS *e* 04 04 31.9
NVS *e* 04 06 15.5
NVS *e*S **S 04 12 10.7 -0.9**
NVS pmax pmax
comp=N,41nm,1.4s
NVS pmax pmax
comp=E,39nm,1.4s
NVS pmax pmax
comp=Z,70nm,1.4s,mb5.6
NVS pmax pmax
comp=Z,17nm,1.5s,mb5.0
NVS pmax pmax
comp=N,21nm,2.0s
NVS pmax pmax
comp=E,29nm,1.7s
NVS smax
comp=N,25nm,1.7s
NVS smax
comp=E,41nm,1.7s
AFI Afiamalu 63.61 108 P **P 04 04 10.3 +3.7**
AFI *e* pP 04 04 17.7 +2.2
AFI pmax pmax
comp=Z,46nm,1.1s,mb5.4
AFI Afiamalu 63.61 108 *e*P **P 04 04 09.9 +3.3**
comp=Z,28nm,1.0s,mb5.2
BVAR Borovoye Array 66.92 327 P **P 04 04 27.1 -0.9**
comp=Z,20nm,0.8s,mb5.2,baz=131,slow=8.5,SNR=64
BVAR LR LR 04 35 41.1
comp=Z,516nm,20.7s,MS4.7,baz=319,slow=38
BRVK Borovoye 67.00 327 P **P 04 04 27.2 -1.3**
comp=Z,291nm,1.0s,mb6.3,SNR=21
BRVK Borovoye 67.00 327 P **P 04 04 27.8 -0.7**
SNR=31
BRVK Borovoye 67.00 327 P **P 04 04 27.8 -0.7**
SNR=29
BRVK Borovoye 67.00 327 P **P 04 04 27.8 -0.7**
SNR=29
BRVK Borovoye 67.00 327 *e*P **P 04 04 29.9 +1.4**
BRVK pmax pmax
comp=Z,58nm,1.0s,mb5.6
BRVK Borovoye 67.00 327 *e*P **P 04 04 27.5 -1.0**
comp=Z,92nm,0.9s,mb5.8
BRVK LR LR
comp=Z,159nm,21.0s,MS4.2
TIXI Tiksi 67.39 1*c* *i*P P 04 04 30.2 -0.8
TIXI pmax pmax
comp=Z,12nm,1.7s,mb4.7
TIXI Tiksi 67.39 1 *e*P **P 04 04 30.1 -0.9**
BIDO Bidbid 68.70 293 P **P 04 04 38.4 -0.8**
SNR=7.4
BIDO Bidbid 68.70 293 P **P 04 04 38.4 -0.8**
SNR=7.4
BILL Bilibino 69.13 15*c* *i*P P 04 04 41.4 -0.5
BILL *e* pP 04 04 49.8 -1.0
BILL *e* 04 04 53.6
BILL *e* 04 07 14.7
BILL pmax pmax
comp=Z,18nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,900nm,19.0s,MS5.0
HOQ Hoqain 69.45 293 P **P 04 04 43.5 -0.5**
SNR=6.0
HOQ Hoqain 69.45 293 P **P 04 04 43.5 -0.5**
SNR=6.0
ABKT Ailbek 70.59 309 P **P 04 04 51.4 +0.5**
comp=Z,232nm,1.1s,mb6.0,SNR=6.3
HATD Hatta, Dubai 70.62 295 P **P 04 04 50.5 -0.6**
SNR=5.7
HATD Hatta, Dubai 70.62 295 P **P 04 04 50.5 -0.6**
SNR=5.7
CASY Casey 71.26 187 *e*P **P 04 04 55.0 +0.1**
DRV Dumont d'Urvil 71.33 174 P **P 04 04 55.0 -0.3**
DRV S S 04 14 21.0 +10
WHFO Wadi Hawf 72.48 287 P **P 04 05 01.1 -1.2**
SNR=8.3
WHFO Wadi Hawf 72.48 287 P **P 04 05 01.1 -1.2**
SNR=8.3
AKTK Aktyubinsk 73.29 322 P **P 04 05 06.0 -1.1**
AKTO Aktyubinsk 73.29 322 P **P 04 05 06.0 -1.1**
comp=Z,16nm,0.7s,mb5.1,baz=109,slow=6.8,SNR=45
ARU Arti 74.54 328 P **P 04 05 13.9 -0.5**
comp=Z,292nm,0.5s,mb6.5,SNR=5.5
ARU Arti 74.54 328⇑ *i*P P 04 05 12.6 -1.8
ARU *e* 04 05 26.2
ARU *e*S S 04 14 45.1 -2.7
ARU *e*SS SS 04 19 30.3 -4.5
ARU pmax pmax
comp=Z,26nm,0.7s,mb5.3
ARU MLR MLR
comp=E,400nm,21.0s,MS4.7
ARU MLR MLR
comp=Z,600nm,21.0s,MS4.9
ARU MLR MLR
comp=N,80nm,20.0s,MS4.7
ARU Arti 74.54 328 *e*P **P 04 05 12.9 -1.5**
comp=N,29nm,0.6s,mb5.4
ARU LR LR
comp=Z,181nm,22.0s,MS4.3
MIR Mirnyy 74.59 193*c* *i*P P 04 05 16.0 +1.3
MIR *i* pP 04 05 23.0 -0.7
MIR pmax pmax
comp=Z,55nm,1.4s,mb5.3
QRN Al-Qurain 78.17 298 *e*P **P 04 05 33.7 -1.2**
QRN AMb AMB 04 05 36.1
comp=Z,74nm,0.8s,mb5.7
RDF Al-Radifah 78.49 299 *e*P **P 04 05 35.5 -1.3**
RDF AMb AMB 04 05 38.9
comp=Z,65nm,0.9s,mb5.6
MIB Mutribah 78.70 299 *e*P **P 04 05 36.6 -1.3**
MIB AMb AMB 04 05 40.0
comp=Z,60nm,0.6s,mb5.7
NAY Al-Naaiem 78.77 299 *e*P **P 04 05 36.8 -1.5**
NAY AMb AMB 04 05 40.2
comp=Z,29nm,0.9s,mb5.2
RST Umm Al-Ruwaisa 78.99 299 *e*P **P 04 05 37.9 -1.6**
RST AMb AMB 04 05 39.8
comp=Z,37nm,0.5s,mb5.6
SVW2 Sparrevohn 80.42 29 *e*P **P 04 05 48.8 +1.5**
TTA Tatalina 80.52 27 *e*P **P 04 05 48.4 +0.6**
TTA pmax pmax
comp=Z,88nm,1.3s,mb5.5
TTA Tatalina 80.52 27 *e*P **P 04 05 48.4 +0.6**
comp=Z,88nm,1.3s,mb5.5
DGRG David-gareji 80.74 311 P **P 04 05 49.3 +0.3**
GNI Garni 81.17 310 P **P 04 05 52.0 +0.7**
comp=Z,3.0nm,0.4s,mb4.6,baz=358,slow=11,SNR=7.7
GNI Garni 81.17 310⇑ *e*P P 04 05 54.1 +2.8
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 81.17 310 *e*P **P 04 05 55.2 +4.0**
comp=Z,53nm,1.4s,mb5.3
MTA Mtatsminda 81.19 311 P **P 04 05 50.7 -0.6**
KDAK Kodiak Island 81.53 32 P **P 04 05 52.7 -0.5**
comp=Z,250nm,1.0s,mb6.1,SNR=7.2
KDAK Kodiak Island 81.53 32 *e*P **P 04 05 54.3 +1.1**
comp=Z,44nm,1.0s,mb5.3
ZEI Tsey 81.89 312 *e*P **P 04 05 54.7 -0.4**
ZEI *e**PP pP 04 06 04.6 +0.4
ZEI pmax pmax
comp=Z,22nm,1.2s,mb5.0
IMA2 Indian Mountai 81.98 24 *e*P **P 04 05 56.8 +1.2**
ONI Oni 82.22 312 P **P 04 05 56.8 0.0**
KIV Kislovodsk 82.80 314 *e*P **P 04 06 00.5 +0.7**
KIV *e*S S 04 16 16.7 +0.5
KIV *e*SS SS 04 21 40.4 +1.4
KIV pmax pmax
comp=Z,12nm,0.7s,mb5.0
KIV MLR MLR
comp=Z,269nm,17.0s,MS4.7
SLKM Skilak Lake 82.97 30 P **P 04 06 01.1 +0.4**
SLKM Skilak Lake 82.97 30 *e*P **P 04 06 00.9 +0.2**
PMR Palmer 83.57 29 *e*P **P 04 06 03.9 +0.1**
PMR pmax pmax
comp=Z,108nm,1.2s,mb5.8
PMR MLR MLR
comp=Z,405nm,20.0s,MS4.8
PMR Palmer 83.57 29 *e*P **P 04 06 03.9 +0.1**
comp=Z,108nm,1.2s,mb5.8
PMR LR LR
comp=Z,405nm,20.0s,MS4.8
VRHR Novokhopersk 83.67 321 *e*P **P 04 06 05.3 +1.0**
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.5s
VNDA Vanda 83.88 173 P **P 04 06 05.2 -0.2**
comp=N,22nm,1.1s,mb5.2,baz=319,slow=5.7,SNR=55

VNDA Vanda 83.88 173 P **P** **04 06 05.1 -0.3**
VNDA pmax pmax
comp=Z,33nm,1.1s
VNDA Vanda 83.88 173 *e*P **P** **04 06 04.8 -0.5**
comp=Z,33nm,1.1s,mb5.4
MAW Mawson 84.16 200 *e*P **P** **04 06 06.8 0.0**
comp=Z,19nm,1.1s,mb5.1
MAW Mawson 84.16 200 P **P** **04 06 06.5 -0.3**
comp=Z,24nm,1.1s,mb5.2,baz=60,slow=6.4,SNR=31
MAW LR LR 04 39 53.0
comp=Z,150nm,21.5s,MS4.3,baz=332,slow=33
MAW Mawson 84.16 200 P **P** **04 06 07.0 +0.2**
MAW pmax pmax
comp=Z,74nm,1.4s
COLA College 84.30 25 P **P** **04 06 07.8 +0.3**
COLA pmax pmax
comp=Z,16nm,1.0s,mb5.1
COLA College 84.30 25 *e*P **P** **04 06 06.9 -0.6**
comp=Z,16nm,1.0s,mb5.1
COLA LR LR
comp=Z,283nm,20.0s,MS4.7
SBA Scott Base 84.78 172 *e*P **P** **04 06 11.2 +1.2**
SBA pmax pmax
comp=Z,42nm,1.3s,mb5.4
SBA Scott Base 84.78 172 *e*P **P** **04 06 10.5 +0.5**
comp=Z,42nm,1.4s,mb5.4
VORD Divnogorie 85.14 321 *e*P **P** **04 06 10.2 -1.6**
VORD pmax pmax
comp=Z,50nm,1.2s,mb5.5
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,40nm,0.9s
VRSR Storozhevoye 85.20 321 *e*P **P** **04 06 11.4 -0.7**
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,6.0nm,0.8s
PPT Papeete 85.28 108 *e*S S 04 16 43.5 +2.4
comp=N,436nm,24.8s
PPT *e*SS SS 04 22 19.0 +3.4
comp=N,404nm,29.2s
PPT *e*LR LR 04 33 32.5
comp=N,295nm,24.8s
PPT Papeete 85.28 108 LR LR 04 42 38.9
comp=N,195nm,18.4s,MS4.5,baz=284,slow=34
TMCR Tamitsa 85.68 334 *e*P **P** **04 06 14.4 -0.1**
TMCR *e**PP pP 04 06 24.6 +1.0
TMCR *e**SP sP 04 06 29.1 +2.2
TMCR pmax pmax
comp=Z,31nm,1.7s,mb5.3
TBI Tubuai 86.00 114 *e*S S 04 16 49.1 +1.0
comp=Z,363nm,28.5s
TBI *e*SS SS 04 22 26.2 0.0
comp=Z,331nm,34.8s
TBI *e*LR LR 04 33 58.2
comp=Z,625nm,26.5s
MOS Moscow 86.05 325 *e*P **P** **04 06 13.8 -2.5**
MOS *e* 04 06 30.1
MOS *e* 04 09 31.8
MOS pmax pmax
comp=Z,500nm,1.7s,mb6.5
MOS pmax pmax
comp=Z,289nm,1.3s,mb6.3
MOS MLR MLR
comp=Z,900nm,21.0s,MS5.1
MALT Malatya 86.08 308⇑ *i*P **P** **04 06 17.4 +1.0**
MALT Malatya 86.08 308 *e*P **P** **04 06 17.4 +1.0**
MALT pmax pmax
comp=Z,19nm,1.1s,mb5.2
MALT Malatya 86.08 308 *e*P **P** **04 06 17.4 +0.9**
comp=Z,19nm,1.1s,mb5.2
ANN Anapa 86.56 315 *e*P **P** **04 06 17.7 -1.1**
ANN *e* 04 16 55.3
ANN pmax pmax
comp=Z,42nm,0.8s,mb5.7
PMOR Pomariorio Ree 86.65 105 *e*P **P** **04 06 23.3 +4.1**
comp=Z,70nm,1.3s,mb5.7
OBN Obninsk 86.67 325 P **P** **04 06 19.4 0.0**
comp=Z,867nm,1.0s,SNR=11
OBN Obninsk 86.67 325 *c i*P **P** **04 06 18.3 -1.1**
OBN *e* 04 09 41.8
OBN pmax pmax
comp=Z,360nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,600nm,17.0s,MS5.1
OBN Obninsk 86.67 325 *e*P **P** **04 06 19.1 -0.3**
comp=Z,340nm,1.3s,mb6.4
OBN LR LR
comp=Z,176nm,19.0s,MS4.5
VAH Vaihoa 86.92 105 *e*P **P** **04 06 24.4 +3.8**
comp=Z,85nm,1.4s,mb5.8
LVZ Lovozero 86.93 338⇓ *e*P **P** **04 06 21.2 +0.6**
LVZ *e*S S 04 16 39.9 -17
LVZ pmax pmax
comp=Z,49nm,1.2s,mb5.6
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ MLR MLR
comp=Z,698nm,14.0s,MS5.2
LVZ MLR MLR
comp=N,186nm,15.0s,MS5.2
LVZ MLR MLR
comp=E,777nm,19.0s,MS5.2
DAWY Dawson 87.99 26 *e*P **P** **04 06 26.4 +0.7**
JOF Joensuu 88.76 333 *e*p **P** **04 06 28.2 -1.2**
comp=E,66nm,0.7s,mb6.1
SIM Simferopol' 88.91 315 *e*P **P** **04 06 31.7 +1.7**
SIM *e* 04 16 56.0
SIM *e*S S 04 17 16.2 +0.2
SIM pmax pmax
comp=Z,16nm,1.7s,mb5.1
KEV Kevo 89.46 340 *e*p **P** **04 06 32.3 -0.3**
comp=Z,1.5nm,0.5s,mb4.6
KEV Kevo 89.46 340 *e*P **P** **04 06 32.3 -0.3**
KEV pmax pmax
comp=Z,20nm,0.5s,mb5.7
EIL Elat 89.47 300 *e*P **P** **04 06 32.6 -0.1**
comp=Z,500nm,1.3s
KMBO Kilima Mbogo 89.53 269 P **P** **04 06 33.3 +0.4**
comp=Z,6.8nm,0.9s,mb5.0,baz=39,slow=6.0,SNR=16
KMBO LR LR 04 42 49.5
comp=Z,200nm,22.0s,MS4.5,baz=94,slow=33
KMBO Kilima Mbogo 89.53 269 P **P** **04 06 34.7 +1.8**
SNR=8.5
KMBO Kilima Mbogo 89.53 269 *e*P **P** **04 06 32.4 -0.5**
KMBO pmax pmax
comp=Z,18nm,1.1s
KMBO Kilima Mbogo 89.53 269 *e*P **P** **04 06 32.4 -0.5**
comp=Z,18nm,1.1s,mb5.3
PUL Pulkovo 89.63 330⇑ *e*P **P** **04 06 32.0 -1.4**
PUL *e* 04 17 17.4
PUL pmax pmax
comp=Z,142nm,0.8s,mb6.3
PUL MLR MLR
comp=Z,619nm,19.0s,MS5.0
PUL MLR MLR
comp=E,471nm,18.0s
BR131 Keskin Array S 89.71 310 *e*P **P** **04 06 32.9 -0.9**
comp=E,5.0nm,0.8s,mb4.9
BRTR Keskin Array B 89.71 310 P **P** **04 06 32.5 -1.3**
comp=E,6.8nm,0.9s,mb5.0,baz=128,slow=3.9,SNR=25
INK Inuvik 89.76 21 *e*P **P** **04 06 34.1 +0.1**
INK pmax pmax
comp=Z,1μm,1.3s
INK Inuvik 89.76 21 *e*P **P** **04 06 34.1 +0.1**
comp=Z,1μm,1.3s
ARCES ARCESS Array B 90.02 340 P **P** **04 06 34.3 -0.9**
comp=Z,12nm,0.8s,mb5.3,baz=80,slow=6.9,SNR=29
ARCES LR LR 04 50 24.0
comp=Z,505nm,21.6s,MS4.9,baz=80,slow=38
ARE0 ARCESS Array S 90.02 340 *e*P **P** **04 06 34.4 -0.8**
KBS Kingsbay 90.56 350 *e*P **P** **04 06 37.9 +0.2**
KBS *e*SKS 04 17 04.0
KBS *e*SKS 04 17 06.2
KBS AMS AMS 04 51 41.5
comp=Z,388nm,22.9s,MS4.8
KAF Kangasniemi 91.18 332 *e*p **P** **04 06 39.5 -1.2**
comp=Z,18nm,0.5s,mb5.7,baz=77,slow=4.3
KAF Kangasniemi 91.18 332 *e*P **P** **04 06 39.5 -1.2**
KAF pmax pmax
comp=Z,18nm,0.5s,mb5.7
FIA1 FINESS Array S 91.42 332 *e*P **P** **04 06 40.4 -1.4**
FINES FINESS Array B 91.42 332 P **P** **04 06 41.1 -0.7**
comp=Z,19nm,0.9s,mb5.4,baz=91,slow=7.6,SNR=45
FINES LR LR 04 53 24.4
comp=Z,369nm,20.7s,MS4.8,baz=269,slow=39
AKASG Malin Array Be 91.52 321 P **P** **04 06 40.6 -1.6**
comp=Z,4.8nm,0.6s,mb5.0,baz=70,slow=4.1,SNR=52
AKASG LR LR 04 51 33.8
comp=Z,369nm,21.7s,MS4.8,baz=75,slow=38
AKBB Malin Array Si 91.52 321 *e*P **P** **04 06 41.2 -1.0**
MNK Minsk 91.77 325 *e*P **P** **04 06 38.0 -5.4**
MNK pmax pmax
comp=Z,300nm,8.0s
TRO Tromso 92.22 341 *e*P **P** **04 06 44.6 -0.9**
TRO *e*PP PP 04 10 23.7 -2.1
TRO *e*SKS 04 17 14.7
TRO *i* 04 18 51.3
TRO *e*SS SS 04 23 51.8 -4.7
TRO AMS AMS 04 51 44.7
comp=Z,451nm,25.9s,MS4.8
WRAK Wrangell Islan 92.59 33 *e*P **P** **04 06 47.5 +0.4**
SYO Syowa Base 92.83 201⇓ *e*P **P** **04 06 47.8 -0.5**
SYO Syowa Base 92.83 201⇓ *e*pP pP 04 06 55.6 -1.9
CFR Carcaliu 93.08 316⇑ *i*P **P** **04 06 50.2 +0.8**
CFR Carcaliu 93.08 316 ⇑P **P** **04 06 50.2 +0.7**
TAOE Nuku Hiva Isla 93.75 99 *e*PS PS 04 19 24.3 +7.3
comp=Z,610nm,33.8s
TAOE Nuku Hiva Isla 93.75 99 *e*SS SS 04 24 26.5 +8.1
comp=Z,505nm,28.8s
TAOE *e*LR LR 04 36 43.8
comp=Z,1μm,22.9s
VRI Vrincioaia 93.95 316⇑ *i*P **P** **04 06 53.8 +0.4**
VRI Vrincioaia 93.95 316 ⇑P **P** **04 06 53.8 +0.4**
QSPA South Pole Qui 94.08 180 *e*P **P** **04 06 54.2 +0.1**
comp=Z,35nm,1.2s,mb5.7
SUW Suwalki 94.54 325 *e*P **P** **04 06 55.3 -0.8**
SUW Suwalki 94.54 325 *e*P **P** **04 06 55.5 -0.6**
MLR Muntele Rosu 94.55 316⇑ *i*P **P** **04 06 55.6 -0.6**
MLR Muntele Rosu 94.55 316 P **P** **04 06 56.2 0.0**
MLR Muntele Rosu 94.55 316 ⇑P **P** **04 06 55.6 -0.6**
BURAR Bucovina Array 94.64 318⇓ *i*P **P** **04 06 56.3 -0.3**
BURAR Bucovina Array 94.64 318 ⇓P **P** **04 06 56.4 -0.3**
LVV L'vov 94.96 321 *e*P **P** **04 06 57.9 -0.2**
KWP Kalwaria 95.84 321 *e*P **P** **04 07 01.7 -0.4**
KOLS Kolonicke sedl 96.28 320 *e*P **P** **04 07 04.0 -0.1**
UZH Uzhgorod 96.34 320⇓ *i*P **P** **04 07 03.4 -0.9**
UZH *i* 04 07 09.8
UZH *i* 04 07 18.4
UZH pmax pmax
comp=Z,96nm,1.1s,mb6.1
DRGR 96.49 318⇑ *i*P **P** **04 07 05.3 +0.3**
DRGR 96.49 318 ⇑P **P** **04 07 05.3 +0.3**
GZR Gura Zlata 96.76 316⇑ *i*P **P** **04 07 04.5 -1.7**
GZR Gura Zlata 96.76 316 ⇑P **P** **04 07 04.5 -1.8**
DAG Danmarks Havn 96.80 352⇓ *i*P **P** **04 07 05.3 -1.2**
comp=Z,8.7nm,0.6s,mb5.4
DAG Danmarks Havn 96.80 352⇓ *e*P **P** **04 07 05.3 -1.2**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
DAG Danmarks Havn 96.80 352⇓ *e*P **P** **04 07 05.3 -1.2**
comp=Z,8.7nm,0.6s,mb5.4
CRVS Cervenica-Dubn 96.81 320 *e*P **P** **04 07 06.5 0.0**
STHS Stebnicka Huta 96.82 321 *e*P **P** **04 07 06.0 -0.5**
STHS pmax pmax
comp=Z,13nm,1.3s,mb5.2
STHS Stebnicka Huta 96.82 321 *e*P **P** **04 07 06.0 -0.5**
comp=Z,12nm,1.3s,mb5.2
NIE Niedzica 97.40 321 *e*P **P** **04 07 09.2 0.0**
BZS Buzias 97.50 317⇓ *i*P **P** **04 07 08.9 -0.7**
OJC Ojcow 97.51 322 *e*P **P** **04 07 08.9 -0.8**
KECS Kecovo 97.54 320 *e*P **P** **04 07 08.9 -0.9**
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb5.2
KECS Kecovo 97.54 320 *e*P **P** **04 07 08.9 -0.9**
comp=Z,8.1nm,1.0s,mb5.2
HFS Hagfors 97.61 332 P **P** **04 07 08.9 -1.2**
comp=Z,29nm,1.1s,mb5.7,baz=62,slow=3.5,SNR=15
PSZ Piszkesteto 98.07 319⇓ *i*P **P** **04 07 11.8 -0.4**
PSZ Piszkesteto 98.07 319 *e*P **P** **04 07 14.7 +2.5**
PSZ pmax pmax
comp=Z,16nm,1.2s,mb5.4
PSZ Piszkesteto 98.07 319 *e*P **P** **04 07 11.6 -0.5**
comp=Z,16nm,1.2s,mb5.4
NB2 NORSAR Subarra 98.37 334 P **P** **04 07 12.4 -1.1**
comp=Z,25nm,1.2s,mb5.6,baz=68,slow=4.4
NB2 NORSAR Subarra 98.37 334 P **P** **04 07 12.4 -1.1**
NB2 pmax pmax
comp=Z,25nm,1.2s,mb5.6
NOA NORSAR Array B 98.37 334 P **P** **04 07 12.3 -1.2**
comp=Z,8.9nm,1.0s,mb5.2,baz=69,slow=4.5,SNR=14
NOA LR LR 04 56 30.3
comp=Z,628nm,20.9s,MS5.1,baz=60,slow=38
NOA NORSAR Array B 98.37 334 P **P** **04 07 12.3 -1.2**
NOA LR LR 04 56 30.3
VYHS Vyhne 98.59 320 *e*P **P** **04 07 13.9 -0.6**
VYHS pmax pmax
comp=Z,8.0nm,1.5s,mb5.0
VYHS Vyhne 98.59 320 *e*P **P** **04 07 13.9 -0.6**
comp=Z,7.8nm,1.5s,mb5.0
NAO01 NORSAR Array S 98.60 334 *e*P **P** **04 07 13.9 -0.7**
comp=Z,15nm,1.1s,mb5.4
OKC Ostrava-Krasne 98.64 322 *e*PDIF **P** **04 07 14.5 -0.2**
OKC AMS AMS 04 55 00.0
comp=Z,400nm,22.0s
MORC Moravsky Berou 99.03 322⇑ *i*P **P** **04 07 16.9 +0.4**
MORC Moravsky Berou 99.03 322 *e*P **P** **04 07 16.9 +0.4**
MORC pmax pmax
comp=Z,23nm,1.4s,mb5.5
MORC Moravsky Berou 99.03 322 *e*P **P** **04 07 16.9 +0.4**
comp=Z,23nm,1.4s,mb5.5
RKT Rikitea 99.28 113 *e*PS PS 04 20 21.7 +4.2
comp=Z,172nm,32.5s
RKT Rikitea 99.28 113 *e*LR LR 04 39 55.2
comp=Z,313nm,26.2s
LSZ Lusaka 99.29 255 *e*P **P** **04 07 17.3 -0.3**
LSZ pmax pmax
comp=Z,14nm,1.1s,mb5.4
LSZ Lusaka 99.29 255 *e*P **P** **04 07 17.3 -0.4**
comp=Z,14nm,1.1s,mb5.4
PKSM Moragy 99.35 318⇓ *i*P **P** **04 07 17.7 -0.2**
PKSM Moragy 99.35 318 ⇓P **P** **04 07 17.7 -0.2**
KSP Ksiaz 99.47 323 *e*P **P** **04 07 18.8 +0.4**
KSP Ksiaz 99.47 323 *e*P **P** **04 07 18.5 +0.1**
KSP *e*SKS 04 17 55.0
KSP *e*SS SS 04 25 38.0 -1.2
KSP LR LR
comp=Z,1μm,19.6s,MS5.4
DPC Dobruska-Polom 99.60 322 *e*PDIF Pdif 04 07 19.0 0.0
DPC AMS AMS 04 55 10.0
comp=Z,500nm,18.0s
UPC Upice 99.74 323 *e*PDIF Pdif 04 07 19.8 +0.2
VRAC Vranov 99.77 321 P Pdif 04 07 20.8 +1.1
TREC Trest 100.46 322 *e*PDIF Pdif 04 07 23.2 +0.4
GNW Green Mountain 100.55 40 *e*Pdif Pdif 04 07 25.2 +2.0
PVCC Panska Ves 100.60 323 *e*PDIF Pdif 04 07 23.6 +0.1
PVCC AMS AMS 04 55 50.0
comp=Z,600nm,17.5s
PRU Pruhonice 100.81 323 *e*PDIF Pdif 04 07 24.0 -0.4
PRU AMS AMS 04 56 20.0
comp=Z,500nm,15.0s
BRG Berggiesshubel 100.86 323 *e*PKP Pdif 04 07 24.5 -0.1
comp=Z,17nm,1.0s
BRG *e* 04 11 39.5
comp=Z,3.4nm,1.1s
BRG
comp=N,183nm,18.8s
BRG
comp=E,254nm,19.2s
BRG
comp=Z,420nm,20.8s
BRG Berggiesshubel 100.86 323 *e*P Pdif 04 07 24.5 -0.1
BRG *e* 04 11 39.5
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=Z,420nm,20.8s,MS4.9
BRG Berggiesshubel 100.86 323 *e*PKP Pdif 04 07 24.5 -0.1
comp=Z,17nm,1.0s
BRG *e* 04 11 39.5
BRG LR LR
comp=Z,420nm,20.8s,MS4.9
CLL Collm 101.26 324 *e*P Pdif 04 07 27.0 +0.6
CLL *e* 04 18 06.0
CLL *e*S Sdif 04 19 06.0 +2.0
CLL pmax pmax
comp=Z,34nm,1.4s
CLL MLR MLR
comp=Z,600nm,23.5s,MS5.0
CLL Collm 101.26 324 *e*Pdif Pdif 04 07 27.0 +0.6
comp=Z,34nm,1.4s
CLL *e*SKS 04 18 06.0
CLL *e*Sdif Sdif 04 19 06.0 +2.0
CLL LR LR
comp=Z,600nm,23.5s,MS5.0
CLL Collm 101.26 324 *e*Pdif Pdif 04 07 27.0 +0.6
comp=Z,34nm,1.4s
CLL *e*PP PP 04 11 31.0 -4.5
CLL *e*SKSac SKSac 04 18 06.0 +2.4
CLL *e*Sdif Sdif 04 19 06.0 +2.0
CLL *e*PS PS 04 20 24.0 -15
KHC Kasperske Hory 101.69 322 *e*PDIF Pdif 04 07 27.9 -0.4
KHC AMS AMS 04 56 20.0
comp=Z,400nm,14.6s
KHC Kasperske Hory 101.69 322⇑ *e*P Pdif 04 07 28.1 -0.2
MOA Molln 101.70 321⇑ *i*P Pdif 04 07 28.0 -0.3
comp=Z,20nm,1.6s
GEC2 GERESS Array S 101.71 322 P Pdif 04 07 28.8 +0.4
GEC2 GERESS Array S 101.71 322 *e*Pdif Pdif 04 07 28.3 -0.1
GERES GERESS Array B 101.71 322 P Pdif 04 07 27.4 -1.0
comp=Z,4.4nm,1.0s,baz=70,slow=4.4,SNR=6.6
NKC Novy Kostel 101.98 323 *e*PDIF Pdif 04 07 29.9 +0.3
MOX Moxa 102.32 324 *e*P Pdif 04 07 31.9 +0.8
MOX pmax pmax
comp=Z,25nm,1.8s
MOX Moxa 102.32 324 *e*P Pdif 04 07 31.9 +0.8
comp=Z,25nm,1.8s
GRA1 Grafenberg Arr 102.92 323 *e*Pdif Pdif 04 07 34.3 +0.6
GRA1 LR LR
comp=Z,800nm,20.3s,MS5.2
GRF Grafenberg Arr 102.92 323 *e*Pdiff Pdif 04 07 34.3 +0.6
GRF *e*L 04 57 46.9
comp=Z,765nm,20.3s
NEW Newport 103.90 38 *e*P Pdif 04 07 39.3 +1.2
MOD Modoc 104.05 45 *e*PP PP 04 11 59.0 +2.6
WVOR Wild Horse Val 105.04 44 *e*PKP PKiKP 04 12 00.2 +2.4
BMO Blue Mountains 105.07 41 *e*PKP PKiKP 04 11 58.9 +1.0
MSO Missoula 106.45 39 *e*PP PP 04 12 15.3 +1.1
HLID Hailey 107.49 42 *e*PKP PKiKP 04 12 04.2 +1.9
DAC Darwin (Calif) 107.88 50 *e*PKP PKiKP 04 12 05.4 +2.4
DLMT Dillon 107.92 40 *e*PKP PKiKP 04 12 05.0 +1.9
TPAW Teton Pass 109.80 41 *e*PKiKP PKiKP 04 12 09.4 +2.8
REDW Red Top Meadow 109.92 41 *e*PKiKP PKiKP 04 12 09.5 +2.6
SNOW Snow King Moun 109.94 41 *e*PKiKP PKiKP 04 12 10.0 +3.1
DUG Dugway 109.94 45 *e*PKiKP PKiKP 04 12 09.2 +2.3
LOHW Long Hollow 109.97 41 *e*PKiKP PKiKP 04 12 09.6 +2.6
HWUT Hardware Ranch 110.22 43 *e*PKiKP PKiKP 04 12 09.8 +2.4
BW06 Boulder Array 111.04 41 *e*PKP PKiKP 04 12 10.9 +1.9
PDAR Pinedale Array 111.04 41 PKKPab PKKPab 04 23 15.3 -0.5
comp=Z,3.4nm,1.0s,baz=104,slow=4.7,SNR=18
MSU Marysvale 111.07 46 *e*PKiKP PKiKP 04 12 12.8 +3.8
LAO LASA Array 111.19 36 *e*PKiKP PKiKP 04 12 14.6 +5.4
SRU San Rafael 112.00 45 *e*PKiKP PKiKP 04 12 12.8 +2.0
WUAZ Wupatki 112.86 49 *e*PKiKP PKiKP 04 12 16.3 +3.8
RWWY Rawlins 113.08 41 *e*PKiKP PKiKP 04 12 15.0 +2.2
PV01 Paradox Valley 113.80 45 *e*PKP PKiKP 04 12 16.4 +2.1
RSSD Black Hills 113.86 38 *e*PKiKP PKiKP 04 12 15.9 +1.6
MVCO Mesa Verde 114.26 46 *e*PKP PKiKP 04 12 18.1 +3.0
TUC Tucson 114.55 52 *e*PKiKP PKiKP 04 12 18.3 +2.6
ULM Lac du Bonnet 114.58 29 PKP PKiKP 04 12 16.4 +0.6
comp=Z,3.5nm,0.9s,baz=346,slow=7.1,SNR=3.3
ISCO Idaho Springs 115.06 42 *e*PKIKP PKiKP 04 12 19.2 +2.5
SDCO Great Sand Dun 116.13 44 *e*PKPdf PKPdf 04 12 20.9 +2.2
LAZ Ladron 116.48 48 *e*PKPdf PKPdf 04 12 21.5 +2.1
ANMO Albuquerque 116.74 47 *e*PKIKP PKPdf 04 12 22.0 +2.1
LPM Los Pinos Moun 116.90 48 *e*PKPdf PKPdf 04 12 22.6 +2.4
ECSD EROS,Sioux Fal 118.44 34 *e*PKPdf PKPdf 04 12 23.8 +0.6
MNTX Cornudas Mount 118.99 50 *e*PKPdf PKPdf 04 12 26.5 +2.3
GDL2 Guadalupe Moun 119.54 49 *e*PKPdf PKPdf 04 12 28.1 +2.8
SCHQ Schefferville 120.13 9 PKP PKPdf 04 12 27.2 +0.8
comp=Z,8.5nm,0.9s,baz=212,slow=1.7,SNR=5.2
SCHQ Schefferville 120.13 9 PKP PKPdf 04 12 27.2 +0.8
KSU1 Kansas State U 121.28 39 *e*PKPdf PKPdf 04 12 29.8 +1.2
WMOK Wichita Mounta 122.33 44 *e*PKIKP PKPdf 04 12 32.5 +1.9
JFWS Jewell Farm 122.44 32 *e*PKIKP PKPdf 04 12 31.6 +0.7
TORD Torodi Ar. Bea 122.75 288 PKP PKPdf 04 12 31.8 +0.4
comp=Z,3.1nm,0.7s,baz=56,slow=1.7,SNR=44
TORD PKKPbc PKKPbc 04 22 26.6 +2.5
comp=Z,1.1nm,0.8s,baz=268,slow=2.9,SNR=7.7
JCT Junction City 123.79 49 *e*PKIKP PKPdf 04 12 35.3 +1.9
CCM Cathedral Cave 125.20 36 *e*PKIKP PKPdf 04 12 36.3 +0.2
MIAR Mount Ida 125.97 41 *e*PKIKP PKPdf 04 12 39.7 +2.1
SIUC Southern Illin 126.62 35 *e*PKPdf PKPdf 04 12 40.8 +1.9
UALR University of 126.63 40 *e*PKPdf PKPdf 04 12 40.9 +2.1
NATX Nacogdoches 126.85 45 *e*PKPdf PKPdf 04 12 42.2 +2.9
HKT Hockley 127.01 47 *e*PKIKP PKPdf 04 12 41.4 +1.8
PARMO Parma 127.02 37 *e*PKPdf PKPdf 04 12 41.0 +1.4
BLO Bloomington 127.09 32 *e*PKIKP PKPdf 04 12 41.2 +1.5
USIN University of 127.33 34 *e*PKPdf PKPdf 04 12 42.1 +1.9
GLAT Glass 127.56 37 *e*PKPdf PKPdf 04 12 43.2 +2.5
LONY Lake Ozonia 127.81 19 *e*PKPdf PKPdf 04 12 42.4 +1.2
WCI Wyandotte Cave 127.89 33 *e*PKIKP PKPdf 04 12 43.0 +1.7
WCI Wyandotte Cave 127.89 33 *e*PKPdf PKPdf 04 12 42.5 +1.2
FRNY Flat Rock 127.93 18 *e*PKPdf PKPdf 04 12 42.5 +1.1
ACSO Alum Creek Sta 128.08 29 *e*PKPdf PKPdf 04 12 42.4 +0.8
NCB Newcomb 128.50 19 *e*PKPdf PKPdf 04 12 44.1 +1.7
WVT Waverly 128.51 36 PKIKP PKPdf 04 12 43.5 +1.0
WVT Waverly 128.51 36 *e*PKPdf PKPdf 04 12 43.4 +0.9
OXF Oxford 128.65 39 *e*PKIKP PKPdf 04 12 44.1 +1.4
PLAL Pickwick Lake 129.15 37 *e*PKPdf PKPdf 04 12 44.5 +0.8
ACCN Adirondack Com 129.21 19 *e*PKPdf PKPdf 04 12 46.1 +2.3
HNH Hanover 129.35 18 *e*PKPdf PKPdf 04 12 46.4 +2.4
BINY Binghamton 129.44 22 *e*PKPdf PKPdf 04 12 46.3 +2.1
MCWV Mont Chateau 130.00 27 *e*PKPdf PKPdf 04 12 47.9 +2.6
SSPA Standing Stone 130.03 24 *e*PKPdf PKPdf 04 12 46.6 +1.2
SWET Sewanee 130.26 35 *e*PKPdf PKPdf 04 12 45.7 0.0
DBIC Dimbokro 130.45 282 PKP PKPdf 04 12 46.8 +0.7
comp=Z,5.5nm,0.9s,baz=92,slow=4.4,SNR=6.4
TZTN Tazewell 130.61 32 *e*PKPdf PKPdf 04 12 49.3 +2.8
MVL Millersville 131.20 24 *e*PKPdf PKPdf 04 12 50.1 +2.5
PAL Palisades 131.24 21 *e*PKIKP PKPdf 04 12 51.0 +3.4
ELN Prospectdale 131.52 29 *e*PKPdf PKPdf 04 12 49.6 +1.4
PLCA Paso Flores 140.44 159 PKhKP 04 13 01.2
comp=Z,2.6nm,0.9s,baz=264,slow=3.2,SNR=2.9
PLCA Paso Flores 140.44 159 PKP 04 13 01.2
PLCA *e*PKPdf PKPdf 04 13 06.3 +1.5
TGUH Tegucigalpa,Un 141.74 61 *e*PKPdf PKPdf 04 13 09.0 +1.9
CCCC Cccc 145.20 43 *e*P PKPbc 04 13 15.8 +2.9
JTS JuntasAbangare 145.36 65 PKIKP PKPdf 04 13 14.6 +1.2
JTS JuntasAbangare 145.36 65 *e*PKPbc PKPbc 04 13 14.5 +1.2
TRQA Tornquist 145.37 168 *e*PKPbc PKPbc 04 13 14.5 +1.1
HLGC Holguin 146.55 41 *e*P PKPdf 04 13 18.2 +2.7
FCH Farellones 146.95 153 *e*P PKPdf 04 13 19.2 +3.1
RCC Rio Carpintero 147.42 42 *e*P PKPdf 04 13 18.7 +1.8
CMCH Combarbala 148.40 150⇓ *e*P PKPbc 04 13 23.2 +1.1
OTAV Otavalo 154.49 81 *e*PKPdf PKPdf 04 13 30.6 +2.9
HUMP Col San Antoni 154.60 29 *e*PKPdf PKPdf 04 13 30.7 +2.7
CPD Cerro la Pandu 154.66 29 *e*PKIKP PKPdf 04 13 30.5 +2.5
CPD *e* 04 13 38.5
CPD *e* 04 13 52.7
ROSC El Rosal 157.16 67 PKP PKPdf 04 13 34.2 +2.9
comp=Z,9.6nm,1.0s,baz=256,slow=23,SNR=13
ROSC El Rosal 157.16 67 *e*PKPdf PKPdf 04 13 34.8 +3.5
CPUP Villa Florida 157.64 170 PKP PKPdf 04 13 33.7 +1.8
comp=Z,2.8nm,0.9s,baz=344,slow=4.6,SNR=4.4
CPUP PKPab PKPab 04 14 04.1 0.0
comp=Z,9.9nm,1.0s,baz=186,slow=4.6,SNR=8.6
CPUP Villa Florida 157.64 170 *e*PKPdf PKPdf 04 13 32.6 +0.6
CPUP *e*PKPab PKPab 04 14 05.5 +1.3
SDV Santo Domingo 158.39 53 *e*PKPdf PKPdf 04 13 35.1 +2.2
LPAZ La Paz 161.11 131 PKP PKPdf 04 13 39.1 +3.2
comp=Z,9.0nm,1.2s,baz=1.4,slow=1.3,SNR=19
LPAZ La Paz 161.11 131 *e*PKPdf PKPdf 04 13 39.3 +3.4
BDFB Brasilia 167.48 204 PKPab PKPab 04 14 48.5 +1.2
comp=Z,8.7nm,1.0s,baz=112,slow=3.8,SNR=8.4
SAML Samuel 169.10 116 *e*PKPdf PKPdf 04 13 44.4 +1.7

IDC 04 04:02:06.5±1.4,**432N**×**12697E, h0**km,**mb3.9**/5,**mb1 4.1**/5,
mb1mx3.8/17,**mbtmp3.9**/5,**Error ellipse:**
s-maj=108.4km s-min=22.8km az=75.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.32**	**183**	P	P	04 07 05.8	+0.2
	2.4nm,0.7s,baz=356,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**25.18**	**164**	P	P	04 07 32.5	-1.0
	4.4nm,0.7s,baz=344,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**28.63**	**167**	P	P	04 08 05.5	+1.0
	0.5nm,0.5s,baz=339,slow=7.9,SNR=4.4						

STKA	**Stephens Creek**	**38.59**	**160**	P	P	04 09 32.1	+1.0
	3.0nm,0.8s,baz=355,slow=7.7,SNR=4.7						
SONM	**Songino Array**	**46.82**	**341**	P	P	04 10 38.1	+0.2
	0.5nm,0.7s,baz=154,slow=7.0,SNR=3.1						

KRSC 04 04:16:00,5333N×16045E,h44km,ML3.9,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.35**	**228**	*e*P	Pn	04 16 08.7	-0.4
SPN				*i* S	Sn	04 16 15.5	+0.1
NLC	**Nalytchevo**	**0.68**	**257**	*e*P	Pn	04 16 13.6	+0.3
NLC				*i* S	Sn	04 16 23.6	+0.8
KII	**Karymskiy**	**0.93**	**320**	*e*P	Pn	04 16 16.4	-0.2
KII				*i* S	Sn	04 16 28.8	+0.1
AVH	**Avacha**	**1.03**	**267**	*e*P	Pn	04 16 18.9	+0.9
AVH				*i* S	Sn	04 16 32.8	+1.6
PET	**Petropavlovsk**	**1.12**	**255**	*e*P	Pn	04 16 19.6	+0.3
PET				*i* S	Sn	04 16 34.1	+0.6
MKZ	**Mys Kozlova**	**1.44**	**31**	*e*P	Pn	04 16 22.1	-1.5
RUS	**Russkaya**	**1.48**	**233**	*e*P	Pn	04 16 24.2	+0.1
RUS				*i* S	Sn	04 16 42.4	+0.2
GNL	**Ganaly**	**1.54**	**285**	*e*P	Pn	04 16 26.4	+1.4
GNL				*i* S	Sn	04 16 46.3	+2.5
GRL	**Gorelyy**	**1.64**	**242**	*e*P	Pn	04 16 27.2	+0.9
GRL				*i* S	Sn	04 16 47.4	+1.3
TUMR	**Tumrok**	**1.96**	**355**	*e*P	Pn	04 16 31.8	+1.0
TUMR				*i* S	Sn	04 16 54.3	+0.1
KMNR	**Kamenistaya**	**2.43**	**357**	*e*P	Pn	04 16 39.2	+2.0
KMNR				*i* S	Sn	04 17 08.3	+2.5
MIPR	**Malaya Ipel'ka**	**2.48**	**246**	*e*P	Pn	04 16 40.4	+2.6
KPT	**Kopyto**	**2.65**	**357**	*e*P	Pn	04 16 41.8	+1.7
KPT				*i* S	Sn	04 17 11.9	+0.9
ZLN	**Zelenaya**	**2.70**	**4**	*e*P	Pn	04 16 42.6	+1.7
ZLN				*i* S	Sn	04 17 13.4	+1.1
KOZ	**Kozyrevsk**	**2.75**	**353**	*e*P	Pn	04 16 44.3	+2.7
KOZ				*i* S	Sn	04 17 17.2	+3.5
KRSR	**Krestovskiy**	**2.89**	**1**	*e*P	Pn	04 16 45.5	+1.9
KRSR				*i* S	Sn	04 17 18.9	+1.8
KLY	**Klyuchi**	**2.99**	**2**	*e*P	Pn	04 16 47.3	+2.4
KLY				*i* S	Sn	04 17 21.9	+2.4
SRDR	**Sredinnyy**	**3.02**	**352**	*e*P	Pn	04 16 46.5	+1.2
SRDR				*i* S	Sn	04 17 21.0	+0.7
KBTR	**Krutoberegovo**	**3.19**	**24**	*e*P	Pn	04 16 47.8	+0.1
KBTR				*i* S	Sn	04 17 23.6	-0.9
SRKR	**Sorokina**	**3.36**	**7**	*e*P	Pn	04 16 53.0	+3.1
SRKR				*i* S	Sn	04 17 31.4	+2.9

IDC ***04*** *04:19:32.7±1.8,3926N×7271E,h0km,mb4.0/8, mb1 4.1/11,mb1mx3.9/25,mbtmp4.0/11,ML3.6/3,Error ellipse: s-maj=31.8km s-min=22.4km az=143.0*
ISCJB ***04*** *04:19:38.1±0.8,3933N±004×7285E±010,h62km±11km, mb4.0/11,Error ellipse: s-maj=13.5km s-min=5.1km az=133.1*
NEIC ***04*** *04:19:40.5±3.1,3964N×7267E,h44km±22km,mb3.6/1, Error ellipse: s-maj=31.0km s-min=13.9km az=170.0*
MOS ***04*** *04:19:41.8±0.9,3984N×7263E,h61km,mb4.2/9,Error ellipse: s-maj=17.9km s-min=9.5km az=104.6*
NNC ***04*** *04:19:42.5±7.5,4017N×7352E,h0km,mb3.6,mpv3.5, Error ellipse: s-maj=60.3km s-min=28.8km az=178.0*
ISC 04 04:19:40.0±0.6,3938N±004×7283E±009,h63km±10km, n54,σ1°37/59,mb4.0/11,5C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.83**	**13**	P	**Pn**	**04 20 23.2**	**+0.4**
	SNR=60						
UCH	**Uchtor**	**3.12**	**24**	P	**Pn**	**04 20 27.4**	**+0.5**
	SNR=36						
EKS2	**Erkin-Say**	**3.36**	**12**	P	**Pn**	**04 20 30.4**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**3.49**	**21**	P	**Pn**	**04 20 32.9**	**+1.0**
	SNR=25						
AAK	**Ala-Archa**	**3.49**	**21**	*e*Pn	**Pn**	**04 20 31.4**	**-0.5**
AAK				*e*Sn	**Sn**	**04 21 18.4**	**+6.5**
KBK	**Karagaybulak**	**3.65**	**25**	P	**Pn**	**04 20 35.8**	**+1.8**
	SNR=9.9						
ULHL	**Ulahol**	**3.86**	**41**	P	**Pn**	**04 20 37.8**	**+0.8**
	SNR=19						
CHMS	**Chumysh**	**3.90**	**21**	P	**Pn**	**04 20 38.0**	**+0.6**
	SNR=15						
USP	**Ospenovka**	**4.09**	**17**	P	**Pn**	**04 20 40.2**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**4.11**	**30**	P	**Pn**	**04 20 41.8**	**+1.5**
	SNR=11						
TKM2	**Tokmak 2**	**4.11**	**30**	⇑Pg	**Pn**	**04 20 41.3**	**+1.0**
	3.1nm,0.8s						
TKM2				⇑Lg		04 21 22.9	
	11nm,0.8s						
KK31	**Karatay Array**	**4.11**	**336**	⇑Pn	**Pn**	**04 20 39.0**	**-1.3**
	17nm,0.3s,baz=130,slow=13,SNR=301						
KK31				⇓Sn	**Sn**	**04 21 26.9**	**-0.3**
	37nm,0.3s,baz=133,slow=24						
KK31				⇑Lg		04 21 39.4	
	132nm,0.6s,baz=133,slow=28						
THN	**Thein Dam**	**7.31**	**160**	*e*P	**Pn**	**04 21 26.3**	**+2.2**
THN				*e*x	x	04 22 52.7	
KLP	**Kalpa**	**8.99**	**149**	*e*P	**Pn**	**04 21 47.6**	**+0.6**
KLP				*e*S	**Sn**	**04 23 28.2**	**+1.5**
KLP				AML	AML	04 23 37.5	
	comp=E,88nm,0.5s						
KLP				AML	AML	04 23 39.0	
	comp=N,72nm,0.6s						
RTK	**Rohtak**	**10.73**	**163**	*e*P	**Pn**	**04 22 21.6**	**+11**
RTK				*e*S	**Sn**	**04 24 15.5**	**+6.1**
KHET	**Khetri**	**11.54**	**167**	*e*P	**Pn**	**04 22 19.7**	**-2.2**
KHET				*e*S	**Sn**	**04 24 22.2**	**-6.9**
KHET				AML	AML	04 24 29.7	
	comp=N,8.8nm,0.1s						
KHET				AML	AML	04 24 30.9	
	comp=E,9.0nm,0.3s						
SONA	**Sohna**	**11.64**	**161**	*e*P	**Pn**	**04 22 23.7**	**+0.4**
SONA				*e*S	**Sn**	**04 24 27.5**	**-4.2**
SONA				AML	AML	04 24 37.1	
	comp=E,10nm,0.1s						
SONA				AML	AML	04 24 37.1	
	comp=N,6.0nm,0.3s						
VOSK	**Vostochnaya**	**13.41**	**355**	⇓Pn	**Pn**	**04 22 44.7**	**-2.7**
	comp=N,3.4nm,1.3s						
VOSK				⇑Lg		04 26 24.9	
	comp=N,12nm,1.1s						
BVAR	**Borovoye Array**	**13.76**	**354**	Pn	**Pn**	**04 22 47.8**	**-4.2**
	comp=N,0.4nm,0.3s,baz=163,slow=11,SNR=5.3						
BVAR				Lg		04 26 57.8	
	comp=N,0.0nm,0.3s,baz=166,slow=28,SNR=6.7						
BRVK	**Borovoye**	**13.80**	**354**	*e*P	**Pn**	**04 22 49.7**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**13.80**	**354**	*e*Pn	**Pn**	**04 22 49.7**	**-2.8**
	comp=Z,3.7nm,0.6s						
GKN	**Gorkha**	**14.99**	**136**	*e*P	**Pn**	**04 23 04.2**	**-4.0**
	comp=Z,10nm,0.4s						
GKN				*e*S	Sn	04 25 46.6	-6.5
AKTK	**Aktyubinsk**	**15.21**	**321**	Pn	**Pn**	**04 23 07.0**	**-4.0**
AKTK				Lg		04 27 43.8	
AKTO	**Aktyubinsk**	**15.21**	**321**	⇓P	**Pn**	**04 23 14.6**	**+3.6**
	comp=Z,0.1nm,0.5s						
AKTO	**Aktyubinsk**	**15.21**	**321**	Pn	**Pn**	**04 23 07.0**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=122,slow=18,SNR=9.3						
AKTO				Lg		04 27 43.8	
	comp=Z,0.0nm,0.3s,baz=207,slow=13,SNR=1.7						
KKN	**Kakani**	**15.51**	**134**	*e*P	**Pn**	**04 23 11.5**	**-3.3**
DMN	**Daman**	**15.56**	**135**	*e*P	**Pn**	**04 23 12.4**	**-3.0**
GUN	**Gumba**	**15.76**	**133**	*e*P	**Pn**	**04 23 16.0**	**-1.9**
JIRN	**Jiri**	**16.12**	**132**	*e*P	**Pn**	**04 23 20.8**	**-1.8**
ZAL	**Zalesovo**	**16.69**	**25**	Pn	**Pn**	**04 23 27.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=120,slow=10,SNR=2.4						
ZAL	**Zalesovo**	**16.69**	**25**	P	**Pn**	**04 23 27.9**	**-1.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**19.49**	**336**	*e*P	**Pn**	**04 24 01.4**	**-2.2**
GNI	**Garni**	**21.57**	**281**	P	**P**	**04 24 26.1**	**+1.8**
	comp=Z,5.7nm,0.5s,mb4.3,baz=32,slow=16,SNR=2.8						
GNI	**Garni**	**21.57**	**281**	P	**P**	**04 24 26.1**	**+1.8**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KIV	**Kislovodsk**	**22.91**	**291**	*e*P	**P**	**04 24 38.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
IMP	**Imphal**	**22.98**	**123**	*e*x	x	04 21 23.0	
IMP				*e*x	x	04 22 56.0	
SONM	**Songino Array**	**25.57**	**60**	P	**P**	**04 25 04.7**	**+1.7**
	comp=Z,0.3nm,0.5s,mb3.0,baz=255,slow=8.0,SNR=2.8						
BRTR	**Keskin Array B**	**30.06**	**283**	P	**P**	**04 25 43.9**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.5,baz=100,slow=8.6,SNR=5.4						
BRTR	**Keskin Array B**	**30.06**	**283**	P	**P**	**04 25 43.9**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JOF	**Joensuu**	**34.17**	**327**	*e*p	**P**	**04 26 18.7**	**-0.4**
	comp=Z,2.1nm,0.4s,mb4.4						
JOF	**Joensuu**	**34.17**	**327**	*e*P	**P**	**04 26 18.7**	**-0.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**35.97**	**323**	P	**P**	**04 26 34.6**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.3,baz=110,slow=9.7,SNR=23						
FINES	**FINESS Array B**	**35.97**	**323**	P	**P**	**04 26 34.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**39.08**	**336**	P	**P**	**04 27 01.3**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=112,slow=8.2,SNR=18						
ARCES	**ARCESS Array B**	**39.08**	**336**	P	**P**	**04 27 01.3**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**39.08**	**336**	P	**P**	**04 27 01.3**	**+0.4**
HFS	**Hagfors**	**41.75**	**320**	P	**P**	**04 27 23.0**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.3,baz=98,slow=11,SNR=46						
GERES	**GERESS Array B**	**42.52**	**303**	P	**P**	**04 27 30.6**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.1,baz=64,slow=9.1,SNR=6.0						
GERES	**GERESS Array B**	**42.52**	**303**	P	**P**	**04 27 30.6**	**+1.4**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**43.00**	**321**	P	**P**	**04 27 33.0**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=92,slow=8.6						
NB2	**NORSAR Subarra**	**43.00**	**321**	P	**P**	**04 27 33.0**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**43.00**	**321**	P	**P**	**04 27 33.0**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.7,baz=92,slow=8.0,SNR=5.2						
NOA	**NORSAR Array B**	**43.00**	**321**	P	**P**	**04 27 33.0**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**67.23**	**269**	P	**P**	**04 30 28.4**	**+0.8**
	comp=Z,1.6nm,0.5s,mb4.3,baz=51,slow=5.6,SNR=108						

KRSC 04 04:22:38,5101N×15675E,h142km,ML4.0,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.27**	**0**	*e*P	Pn	04 23 05.6	+1.1
MIPR				*i* S	Sn	04 23 24.9	+0.2
GRL	**Gorelyy**	**1.75**	**28**	*e*P	Pn	04 23 12.6	+2.9
GRL				*i* S	Sn	04 23 36.7	+2.7
RUS	**Russkaya**	**1.80**	**37**	*e*P	Pn	04 23 12.3	+2.0
RUS				*i* S	Sn	04 23 36.5	+1.5
PET	**Petropavlovsk**	**2.33**	**30**	*e*P	Pn	04 23 19.2	+2.5
PET				*i* S	Sn	04 23 48.1	+1.7
AVH	**Avacha**	**2.57**	**28**	*e*P	Pn	04 23 23.6	+4.0
NLC	**Nalytchevo**	**2.69**	**35**	*e*P	Pn	04 23 23.1	+2.0
NLC				*i* S	Sn	04 23 56.1	+1.8
GNL	**Ganaly**	**2.79**	**15**	*e*P	Pn	04 23 24.8	+2.5
GNL				*i* S	Sn	04 23 58.2	+1.7
SPN	**Mys Shipunski**	**2.91**	**43**	*e*P	Pn	04 23 26.4	+2.6
SPN				*i* S	Sn	04 24 01.2	+2.0
KII	**Karymskiy**	**3.45**	**27**	*e*P	Pn	04 23 34.8	+4.0
MKZ	**Mys Kozlova**	**4.66**	**38**	*e*P	Pn	04 23 48.7	+1.9
MKZ				*i* S	Sn	04 24 39.9	-0.4
TUMR	**Tumrok**	**4.74**	**24**	*e*P	Pn	04 23 52.0	+4.2
KMNR	**Kamenistaya**	**5.19**	**22**	*e*P	Pn	04 23 57.7	+3.9
KPT	**Kopyto**	**5.38**	**21**	*e*P	Pn	04 23 59.7	+3.4
KOZ	**Kozyrevsk**	**5.39**	**19**	*e*P	Pn	04 23 58.1	+1.7
ZLN	**Zelenaya**	**5.57**	**24**	*e*P	Pn	04 24 03.5	+4.7
SRDR	**Sredinnyy**	**5.60**	**17**	*e*P	Pn	04 24 03.3	+4.0
KRSR	**Krestovskiy**	**5.69**	**22**	*e*P	Pn	04 24 03.6	+3.2
KLY	**Klyuchi**	**5.80**	**22**	*e*P	Pn	04 24 06.2	+4.3
SRKR	**Sorokina**	**6.23**	**23**	*e*P	Pn	04 24 11.2	+3.6
KBTR	**Krutoberegovo**	**6.33**	**32**	*e*P	Pn	04 24 11.0	+1.9
KBTR				*i* S	Sn	04 25 19.5	-0.8

IDC ***04*** *04:24:24.1±0.8,4.18N×12675E,h0km,mb4.5/14, mb1 4.6/14,mb1mx4.5/20,mbtmp4.5/14,MS4.0/7, Ms1 4.0/7,ms1mx3.5/38,Error ellipse: s-maj=64.1km s-min=11.4km az=72.0*
NEIC ***04*** *04:24:26.7±0.3,4.10N×12643E,h10km,mb4.8/13,Error ellipse: s-maj=19.5km s-min=6.1km az=73.0*
BJI ***04*** *04:24:26.5,4.35N×12654E,h7km,mB5.1,mb4.7,Ms4.3, Msz4.2*
GCMT ***04*** *04:24:26.7±0.5,4.25N×12674E,h28km±1km,MW4.9/46, Moment Tensor Solution. s26,c29; s46,c59; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.63±.19; Mθθ-0.06±.11; Mφφ-2.58±.13; Mrθ-0.24±.19; Mφθ-0.67±.09; Mφr-0.13±.20; Best double couple: M=2.70300×10^16 NP1:φ=9.00000°,δ43.00000°,λ83.00000°. NP2: φ=198.00000°,δ47.00000°,λ96.00000°. Principal axes: T 2.6520, Plg85.0000°, Azm170.0000°; N 0.0940, Plg4.0000°, Azm14.0000°; P -2.7530, Plg2.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***04*** *04:24:28.4±1.2,4.15N×12657E,h33km,mb4.8/12 Error ellipse: s-maj=24.9km s-min=8.4km az=107.8*
ISCJB ***04*** *04:24:30.5±1.3,4.11N±005×1266E±0.1,h54km±12km, mb4.7/41,MS4.0/12,Error ellipse: s-maj=18.1km s-min=5.9km az=142.2*
ISC 04 04:24:34.5±1.2,412N±005×1266E±01,h75km±11km, h32km±11.2km:pP-P,n93,σ0°99/81,mb4.6/41,7C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.03**	**338**	*e*P	**Pn**	**04 25 31.1**	**-2.7**
CGP	**Cagayan de Oro**	**4.70**	**337**	⇑*i*P	**Pn**	**04 25 45.8**	**+2.9**
BUTP	**Butuan**	**4.91**	**349**	*e*P	**Pn**	**04 25 46.1**	**+0.3**
SWI	**Sorong**	**6.81**	**137**	P	**Pn**	**04 26 16.8**	**+5.1**
	116nm,0.8s						
TLE	**Tual**	**11.48**	**148**	P	**Pn**	**04 27 19.4**	**+4.0**
	7μm,1.1s						
KAKA	**Kakadu**	**17.70**	**161**	*e*P	**Pn**	**04 28 32.4**	**-3.6**
	47nm,0.6s						
GUMO	**Guam**	**20.35**	**61**	LR	LR	04 35 23.6	
	comp=Z,456nm,19.1s,baz=260,slow=33						
QIZ	**Qiongzhong**	**22.07**	**314**	P	**P**	**04 29 23.2**	**+0.1**
QIZ				*e*S	**S**	**04 33 18.6**	**-3.5**
QIZ				LR	LR		
	comp=Z,401nm,14.5s						
FITZ	**Fitzroy Crossi**	**22.10**	**182**	⇓*i*P	**P**	**04 29 22.1**	**-1.4**
	comp=Z,38nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**22.10**	**182**	P	**P**	**04 29 22.3**	**-1.2**
	comp=Z,7.7nm,0.4s,mb4.4,baz=23,slow=12,SNR=17						
WRAB	**Tennant Creek**	**25.09**	**163**	⇑*e*P	**P**	**04 29 52.2**	**+0.1**
WRA	**Warramunga Arr**	**25.10**	**163**	P	**P**	**04 29 50.0**	**-2.1**
	comp=Z,7.2nm,0.4s,mb4.4,baz=330,slow=11,SNR=77						
WRA				S	**S**	**04 34 16.3**	**+5.0**
	comp=Z,3.9nm,1.2s,baz=340,slow=18,SNR=5.9						
WB2	**Warramunga Arr**	**25.10**	**163**	*e*P	**P**	**04 29 51.0**	**-1.1**
MBWA	**Marble Bar**	**26.00**	**195**	*e*P	**P**	**04 30 00.5**	**+0.1**
	comp=Z,19nm,0.8s,mb4.6						
CBIJ	**Chichi jima**	**27.28**	**32**	LR	LR	04 38 33.7	
	comp=Z,203nm,21.1s,baz=34,slow=31						
AS31	**Alice Springs**	**28.52**	**166**	*e*P	**P**	**04 30 24.0**	**+1.1**
ASAR	**Alice Springs**	**28.52**	**166**	P	**P**	**04 30 22.4**	**-0.5**
	comp=Z,1.2nm,0.3s,mb3.9,baz=343,slow=7.2,SNR=14						
ASPA	**Alice Springs**	**28.52**	**166**	*e*P	**P**	**04 30 24.0**	**+1.1**
WHN	**Wuhan**	**28.71**	**338**	*e*P	**P**	**04 30 25.2**	**+0.7**
NJ2	**Nanjing**	**28.72**	**346**	*e*P	**P**	**04 30 23.4**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**30.70**	**301**	*e*P	**P**	**04 30 42.0**	**-0.1**
JHJ	**Hachijo jima 2**	**31.38**	**22**	LR	LR	04 42 53.4	
	comp=Z,220nm,18.1s,baz=326,slow=36						
MJAR	**Matsushiro Arr**	**33.99**	**17**	LR	LR	04 44 58.0	
	comp=Z,258nm,19.0s,baz=200,slow=36						
XAN	**Xi'an**	**34.01**	**333**	P	**P**	**04 31 10.0**	**-1.1**
XAN				AP	pP	04 31 16.3	-13
XAN				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.8						
CD2	**Chengdu**	**34.24**	**324**	*e*P	**P**	**04 31 13.5**	**+0.4**
CD2				XP	sP	04 31 20.5	-19
CD2				PP	PP	04 32 28.2	-3.7
CD2				S	**S**	**04 36 38.6**	**+4.1**
CD2				XS	sS	04 36 45.9	-19
CD2				SS	SS	04 38 47.3	-18
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,150nm,16.8s						
CD2				LR	LR		
	comp=Z,260nm,18.0s						
DL2	**Dalian**	**34.92**	**353**	P	**P**	**04 31 20.2**	**+1.3**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
BJT	**Baijiatuau**	**36.96**	**347**	*e*P	**P**	**04 31 36.3**	**-0.1**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**36.96**	**347**	*e*P	**P**	**04 31 36.2**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0						
BJI	**Beijing**	**36.98**	**347**	P	**P**	**04 31 36.4**	**-0.1**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
BJI	**Beijing**	**36.98**	**347**	P	**P**	**04 31 36.4**	**-0.1**
	comp=Z,10.0nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**37.89**	**193**	P	**P**	**04 31 44.3**	**+0.1**
	comp=Z,15nm,0.9s,mb4.8,baz=351,slow=10,SNR=5.1						
LZH	**Lanzhou**	**38.09**	**330**	⇓P	**P**	**04 31 46.2**	**+0.2**
LZH				AP	pP	04 31 55.2	-8.8
LZH				XP	sP	04 31 57.6	-15
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,52nm,5.6s						
LZH				LR	LR		
	comp=E,215nm,12.7s						
LZH				LR	LR		
	comp=Z,698nm,16.8s						
LZH	**Lanzhou**	**38.09**	**330**	⇓P	**P**	**04 31 46.2**	**+0.2**
	comp=Z,25nm,1.2s,mb4.9						
LZH				pP	pP	04 31 55.2	-8.8
LZH				sP	sP	04 31 57.6	-15
LZH				LR	LR		
	comp=Z,700nm,16.8s						
STKA	**Stephens Creek**	**38.54**	**159**	*e*P	**P**	**04 31 49.5**	**-0.2**
	comp=Z,24nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**38.54**	**159**	P	**P**	**04 31 49.1**	**-0.6**
	comp=Z,26nm,0.9s,mb5.0,baz=332,slow=7.8,SNR=22						
MDJ	**Mudanjiang**	**40.42**	**3**	P	**P**	**04 32 05.5**	**+0.2**
MDJ				AP	pP	04 32 08.5	-15
MDJ				XP	sP	04 32 09.9	-22
MDJ				PP	PP	04 33 38.0	-1.6
MDJ				PCP	PcP	04 34 07.9	+0.9
MDJ				SCP	ScP	04 37 57.0	+7.4
MDJ				PCS	PcS	04 37 58.8	+1.2
MDJ				S	**S**	**04 38 14.8**	**+6.6**
MDJ				XS	sS	04 38 20.1	-19
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,163nm,4.5s						
MDJ				LR	LR		
	comp=N,71nm,23.0s						
MDJ				LR	LR		
	comp=E,75nm,27.0s						
MDJ				LR	LR		
	comp=Z,125nm,28.2s						
ARMA	**Armidale**	**41.87**	**147**	*e*P	**P**	**04 32 18.0**	**+0.8**
CNB	**Canberra Magne**	**44.68**	**153**	*e*P	**P**	**04 32 41.4**	**+1.6**
	comp=Z,24nm,1.3s,mb4.8						
HIA	**Hailar**	**45.36**	**354**	⇓*e*P	**P**	**04 32 46.0**	**+0.8**
GUN	**Gumba**	**45.38**	**306**	*e*P	**P**	**04 32 46.0**	**+0.6**
	comp=Z,8.7nm,0.3s,mb4.9						
PKI	**Pulchoki**	**45.63**	**305**	*e*P	**P**	**04 32 48.4**	**+1.1**
KKN	**Kakani**	**45.82**	**305**	*e*P	**P**	**04 32 48.9**	**+0.1**
DMN	**Daman**	**45.89**	**305**	*e*P	**P**	**04 32 49.3**	**-0.1**
GKN	**Gorkha**	**46.42**	**305**	*e*P	**P**	**04 32 53.5**	**-0.1**
	comp=Z,4.5nm,0.3s,mb4.7						
SONM	**Songino Array**	**46.88**	**341**	P	**P**	**04 32 56.6**	**-0.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=161,slow=8.6,SNR=9.8						
KOLN	**Koldanda**	**47.18**	**305**	*e*P	**P**	**04 32 59.6**	**+0.1**
	comp=Z,10nm,0.3s,mb5.0						
CIT	**Chita**	**48.96**	**349**	*e*P	**P**	**04 33 14.8**	**+1.6**
CIT				*e*		04 33 20.8	
ZAK	**Zakamensk**	**50.11**	**341**	*e*P	**P**	**04 33 30.1**	**+8.1**
TLY	**Talaya**	**51.12**	**342**	⇑*e*P	**P**	**04 33 29.9**	**+0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
WMQ	**Urumqi**	**52.32**	**325**	*e*P	**P**	**04 33 39.5**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,115nm,4.3s						
BOD	**Bodaibo**	**54.46**	**352**	*e*P	**P**	**04 33 52.3**	**-1.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.5						
YAK	**Yakutsk**	**57.83**	**2**	⇑*e*P	**P**	**04 34 17.9**	**-0.3**
YAK				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.4						
AAK	**Ala-Archa**	**59.97**	**318**	⇑*e*P	**P**	**04 34 35.0**	**+2.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
ZAL	**Zalesovo**	**60.18**	**333**	P	**P**	**04 34 34.2**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=3.1,slow=4.5,SNR=2.3					

KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
FINES FINESS Array B 91.42 332 P P 04 37 33.0 +0.7
comp=Z,2.9nm,1.1s,mb4.3,baz=44,slow=10,SNR=8.4
AKASG Malin Array Be 91.50 321 P P 04 37 32.4 -0.2
comp=Z,0.3nm,0.3s,mb4.0,baz=66,slow=4.3,SNR=6.8
QSPA South Pole Qui 94.02 180 *eP* **P 04 37 45.7 +1.4**
comp=Z,6.9nm,1.1s,mb4.9
UZH Uzhgorod 96.31 320 *eP* **P 04 37 56.0 +1.3**
ANMO Albuquerque 116.87 47 *e*PKIKP PKPdf 04 43 14.2 +3.8
MNTX Cornudas Mount 119.12 50 *e*PKPdf PKPdf 04 43 17.8 +3.1
TORD Torodi Ar. Bea 122.66 288 PKP PKPdf 04 43 22.8 +1.3
comp=Z,0.8nm,0.8s,baz=76,slow=1.9,SNR=10
JCT Junction City 123.92 49 *e*PKIKP PKPdf 04 43 26.8 +2.9
WVT Waverly 128.63 36 *e*PKIKP PKPdf 04 43 35.6 +2.7
TRQA Tornquist 145.33 168 *e*PKPdf PKPdf 04 44 06.0 +2.4
OTAV Otavalo 154.62 81 *e*PKPdf PKPdf 04 44 21.5 +3.4
SDV Santo Domingo 158.52 53 *e*PKPdf PKPdf 04 44 27.0 +3.8
LPAZ La Paz 161.16 131 *e*PKIKP PKPdf 04 44 30.7 +4.5
SAML Samuel 169.18 117 *e*PKPdf PKPdf 04 44 35.7 +2.7

IDC 04 04:56:16.9±4.1, 1948S×16887E, h0km, mb4.4/2, mb1 4.6/3, mb1mx4.0/11, mbtmp4.4/3, ML4.3/1, MS3.8/4, Ms1 3.8/4, ms1mx3.2/22, Error ellipse: s-maj=94.1km s-min=41.6km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.44**	**221**	*e*P	Pn	04 57 11.3	-0.4
DZM				*e*S	Sn	04 57 54.2	+1.1
DZM	**Mont Dzumac**	**3.44**	**221**	Pn	Pn	04 57 11.4	-0.2
28nm,0.3s,baz=126,slow=14,SNR=300							
DZM				Sn	Sn	04 57 53.9	+0.8
15nm,0.3s,baz=99,slow=21,SNR=16							
STKA	**Stephens Creek**	**27.42**	**238**	LR	LR	05 11 19.9	
comp=Z,123nm,21.0s,baz=209,slow=33							
WRA	**Warramunga Arr**	**32.48**	**263**	P	P	05 02 49.4	+0.4
0.9nm,0.3s,baz=92,slow=6.8,SNR=47							
ASAR	**Alice Springs**	**32.73**	**256**	P	P	05 02 51.5	+0.3
8.9nm,0.5s,baz=89,slow=8.3,SNR=128							
ASAR				LR	LR	05 14 15.9	
comp=Z,113nm,20.9s,baz=201,slow=33							
CBIJ	**Chichi jima**	**53.03**	**330**	LR	LR	05 25 00.5	
comp=Z,183nm,18.2s,baz=96,slow=32							
VNDA	**Vanda**	**58.18**	**182**	LR	LR	05 26 46.3	
comp=Z,81nm,19.9s,baz=3.8,slow=31							
DPC	**Dobruska-Polom**	**142.26**	**331**	*e*P	PKPdf	05 15 48.9	-2.3
UPC	**Upice**	**142.29**	**332**	*e*P	PKPdf	05 15 49.4	-1.9
GERES	**GERESS Array B**	**144.53**	**331**	PKP	PKPdf	05 15 55.1	-0.2
1.1nm,0.6s,baz=12,slow=5.0,SNR=5.0							

IDC 04 05:00:45.9±1.5, 480N×12647E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=111.0km s-min=24.7km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.77**	**182**	P	P	05 05 49.8	0.0
2.5nm,0.8s,baz=11,slow=7.8,SNR=5.5							
WRA	**Warramunga Arr**	**25.77**	**163**	P	P	05 06 18.1	-0.3
2.8nm,0.6s,baz=343,slow=9.5,SNR=18							
ASAR	**Alice Springs**	**29.20**	**166**	P	P	05 06 50.0	+0.9
0.4nm,0.4s,baz=344,slow=7.1,SNR=7.5							
STKA	**Stephens Creek**	**39.21**	**159**	P	P	05 08 16.1	+0.4
2.1nm,0.3s,baz=340,slow=9.9,SNR=5.4							
SONM	**Songino Array**	**46.21**	**341**	P	P	05 09 12.7	+0.1
0.3nm,0.5s,baz=141,slow=7.4,SNR=4.2							

WEL 04 05:19:20.3±0.6, 4519S×16698E, h5km, ML3.5/7, Error ellipse: s-maj=5.8km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**157**	PG	Pg	05 19 27.2	+0.8
DCZ				SG	Sg	05 19 31.2	+0.8
MSZ	**Milford Sound**	**0.85**	**53**	P*	Pb	05 19 36.1	-1.4
MSZ				S*	Sb	05 19 48.8	-0.4
WHZ	**Wether Hill Ro**	**0.98**	**136**	P*	Pb	05 19 38.3	-1.4
WHZ				S*	Sb	05 19 51.6	-1.3
WKZ	**Wanaka**	**1.49**	**77**	PN	Pn	05 19 47.5	-0.2
WKZ				SN	Sn	05 20 07.0	-0.5
EAZ	**Earnscleugh**	**1.65**	**92**	PN	Pn	05 19 49.6	-0.3
EAZ				SN	Sn	05 20 10.2	-1.2
APZ	**The Paps**	**1.79**	**157**	PN	Pn	05 19 50.6	-1.2
FOZ	**Fox Glacier**	**2.53**	**51**	PN	Pn	05 20 01.1	-0.9
ODZ	**Otahua Downs**	**2.60**	**88**	PN	Pn	05 20 01.8	-1.2
RPZ	**Rata Peaks**	**3.27**	**65**	PN	Pn	05 20 11.7	-0.5
LTZ	**Lake Taylor**	**4.51**	**60**	PN	Pn	05 20 27.9	-1.3

IDC 04 06:19:05.1±3.6, 340S×14899E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.1/11, mbtmp4.2/4, MS3.8/8, Ms1 3.8/8, ms1mx3.5/17, Error ellipse: s-maj=114.1km s-min=28.5km az=104.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.36**	**346**	LR	LR	06 28 03.4	
comp=Z,276nm,20.8s,baz=249,slow=31							
WB2	**Warramunga Arr**	**21.78**	**220**	*e*P	P	06 23 58.0	-0.5
WRA	**Warramunga Arr**	**21.78**	**220**	P	P	06 23 57.8	-0.8
6.2nm,0.8s,baz=43,slow=11,SNR=19							
WRA				LR	LR	06 33 04.5	
comp=Z,129nm,18.0s,baz=120,slow=38							
ASAR	**Alice Springs**	**24.87**	**215**	P	P	06 24 29.3	-0.1
6.4nm,1.0s,baz=41,slow=7.0,SNR=25							
ASAR				LR	LR	06 34 21.3	
comp=Z,209nm,20.2s,baz=28,slow=37							
DZM	**Mont Dzumac**	**25.13**	**139**	LR	LR	06 33 04.7	
comp=Z,200nm,18.5s,baz=20,slow=33							
FITZ	**Fitzroy Crossi**	**27.14**	**236**	*e*P	P	06 24 51.7	+1.8
19nm,1.0s							
FITZ	**Fitzroy Crossi**	**27.14**	**236**	P	P	06 24 51.5	+1.6
11nm,1.0s,baz=76,slow=8.4,SNR=11							
FITZ				LR	LR	06 35 58.0	
comp=Z,182nm,20.0s,baz=200,slow=37							
MJAR	**Matsushiro Arr**	**40.99**	**347**	LR	LR	06 42 49.1	
comp=Z,71nm,18.2s,baz=165,slow=35							
NWAO	**Narrogin (SRO)**	**41.77**	**222**	LR	LR	06 46 16.4	
comp=Z,336nm,20.6s,baz=312,slow=39							
SONM	**Songino Array**	**63.15**	**329**	P	P	06 29 34.8	0.0
1.2nm,0.9s,baz=126,slow=7.0,SNR=4.6							
MAW	**Mawson**	**85.39**	**203**	LR	LR	07 03 56.6	
comp=Z,42nm,20.7s,baz=52,slow=32							
TORD	**Torodi Ar. Bea**	**146.26**	**289**	PKPbc	PKPbc	06 38 48.1	+0.5
1.7nm,1.0s,baz=84,slow=2.4,SNR=7.1							

MEX 04 06:20:42.8±1.0, 1597N×9764W, h16km±86km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**312**	*i*P	Pg	06 20 53.1	-2.2
PNIG				*i*S	Sg	06 21 01.1	-2.6
VHO	**Vista Hermosa**	**1.40**	**38**	*e*P	Pn	06 21 04.1	-3.5
VHO				*i*S	Sn	06 21 20.7	-5.0
OXX	**Oaxaca**	**1.41**	**38**	*i*P	Pn	06 21 05.2	-2.6
OXX				*i*S	Sn	06 21 22.2	-3.8
UTMO	**Huajuapan**	**1.86**	**355**	*e*P	Pn	06 21 12.1	-1.8
UTMO				*i*S	Sn	06 21 33.9	-3.2

NIED 04 07:01:00, 4670N×15370E, h8km, Mw3.8 Best double couple: $M_0$5.89000×10^{14} **NP1:**ϕ_s218.00000°, δ81.00000°, λ162.00000°. **NP2:**ϕ_s311.00000°, δ72.00000°, λ10.00000°., **Kuril Islands**

MOS ***04*** *07:24:06.7±1.0, 3102S×17949W, h209km, mb5.0/12, Error ellipse: s-maj=13.0km s-min=9.7km az=47.7*
ISCJB ***04*** *07:24:09.5±0.7, 3111S±005×17957W±005, h237km±7km, mb4.8/46, Error ellipse: s-maj=8.3km s-min=5.8km az=110.8*
NEIC ***04*** *07:24:09.8±0.7, 3105S×17952W, h230km±6km, mb4.9/32, Error ellipse: s-maj=9.0km s-min=5.8km az=139.0*
BJI ***04*** *07:24:09.8, 3059S×17953W, h221km, mB5.2, mb4.9*
IDC ***04*** *07:24:15.0±0.9, 3091S×17954W, h281km±8km, mb4.3/13, mb1 4.5/15, mb1mx4.5/16, mbtmp4.9/15, Error ellipse:*
s-maj=12.8km s-min=10.0km az=172.0
ISC 04 07:24:11.6±0.5, 3122S±004×17954W±005, h249km±4km, h227km±2.6km; pP-P, n355, c0 s83/309, mb4.8/46, 80C-70D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.41**	**36**	P	Pn	07 24 59.8	+2.0
640nm,0.3s,baz=74,slow=21,SNR=16							
RAO				S	S	07 25 36.1	+1.7
1μm,0.3s,baz=97,slow=23,SNR=9.8							
RAO	**Raoul Island**	**2.41**	**36**	*e*Pn	Pn	07 24 52.6	-5.3
RAO				S	S	07 25 36.1	+1.7
KUZ	**Kuaotunu**	**6.78**	**214**	*e*P	Pn	07 25 56.0	+6.5
KUZ	**Kuaotunu**	**6.78**	**214**	PN	Pn	07 25 56.0	+6.5
WCZ	**Waipu Caves**	**6.95**	**226**	*e*P	Pn	07 25 59.4	+7.8
WCZ	**Waipu Caves**	**6.95**	**226**	PN	Pn	07 25 59.4	+7.8
PUZ	**Puketiti**	**7.08**	**194**	*e*P	Pn	07 25 53.5	+0.3
PUZ				S	S	07 27 18.2	+3.4
PUZ	**Puketiti**	**7.08**	**194**	PN	Pn	07 25 53.6	+0.4
PUZ				SN	S	07 27 16.7	+1.9
URZ	**Urewera**	**7.55**	**201**	P	Pn	07 26 01.1	+2.0
22nm,0.3s,baz=35,slow=1.4,SNR=36							
URZ				S	S	07 27 26.1	+0.5
58nm,0.3s,baz=40,slow=19,SNR=8.3							
URZ	**Urewera**	**7.55**	**201**	P	Pn	07 25 59.5	+0.3
URZ	**Urewera**	**7.55**	**201**	PN	Pn	07 25 59.5	+0.3
URZ				SN	S	07 27 30.3	+4.6
BKZ	**Black Stump Fm**	**8.57**	**201**	*e*P	Pn	07 26 11.9	-0.2
BKZ				S	S	07 27 49.7	+0.4
BKZ	**Black Stump Fm**	**8.57**	**201**	PN	Pn	07 26 11.9	-0.2
BKZ				SN	S	07 27 48.7	-0.7
OTVZ	**Oturere**	**8.85**	**205**	PN	Pn	07 26 15.8	+0.2
FWVZ	**Far West T-bar**	**8.97**	**205**	PN	Pn	07 26 18.2	+1.0
DRZ	**Dome Shelter**	**8.98**	**205**	P	Pn	07 26 20.5	+3.2
DRZ	**Dome Shelter**	**8.98**	**205**	PN	Pn	07 26 17.5	+0.2
WNVZ	**Wahianoa**	**9.02**	**205**	P	Pn	07 26 18.4	+0.7
WNVZ	**Wahianoa**	**9.02**	**205**	PN	Pn	07 26 18.4	+0.7
MOVZ	**Moawhango**	**9.03**	**204**	P	Pn	07 26 17.0	-0.9
MOVZ	**Moawhango**	**9.03**	**204**	PN	Pn	07 26 17.0	-0.9
PXZ	**Pawanui**	**9.27**	**197**	PN	Pn	07 26 19.1	-1.8
WAZ	**Wanganui**	**9.62**	**206**	*e*P	Pn	07 26 26.3	+1.0
WAZ	**Wanganui**	**9.62**	**206**	PN	Pn	07 26 25.3	0.0
KIW	**Kapiti Island**	**10.62**	**203**	PN	Pn	07 26 36.4	-1.6
MTW	**Mount Morrison**	**10.70**	**201**	PN	Pn	07 26 36.8	-2.1
CAW	**Cannon Point**	**10.79**	**202**	PN	Pn	07 26 37.2	-2.9
MSWZ	**Moikau Station**	**11.01**	**201**	PN	Pn	07 26 40.6	-2.3
MRW	**Makara Radio**	**11.02**	**203**	PN	Pn	07 26 40.2	-2.8
WEL	**Wellington**	**11.05**	**203**	P	Pn	07 26 41.4	-1.9
SNZO	**South Karori**	**11.09**	**203**	*e*Pn	Pn	07 26 44.7	+0.9
TCW	**Tory Channel**	**11.15**	**205**	P	Pn	07 26 41.9	-2.7
QRZ	**Quartz Range**	**11.54**	**212**	*e*P	Pn	07 26 49.5	+0.1
MQZ	**McQueen's Vall**	**13.92**	**204**	PN	Pn	07 27 15.4	-3.4
RPZ	**Rata Peaks**	**14.53**	**208**	P	Pn	07 27 24.4	-1.7
6.5nm,0.3s,baz=22,slow=1.9,SNR=20							
RPZ				S	S	07 29 57.2	-9.5
12nm,0.3s,baz=176,slow=12,SNR=18							
RPZ	**Rata Peaks**	**14.53**	**208**	PN	Pn	07 27 23.7	-2.4
FOZ	**Fox Glacier**	**14.99**	**212**	*e*PN	Pn	07 27 27.8	-3.9
DZM	**Mont Dzumac**	**15.48**	**303**	*e*P	Pn	07 27 38.6	+1.0
DZM	**Mont Dzumac**	**15.48**	**303**	P	Pn	07 27 39.1	+1.6
2.8nm,0.3s,baz=107,slow=16,SNR=54							
ODZ	**Otahua Downs**	**15.80**	**206**	*e*PN	Pn	07 27 40.2	-1.2
AFI	**Afiamalu**	**18.64**	**24**	P	P	07 28 09.6	-1.6
12nm,0.3s,baz=288,slow=0.3,SNR=16							
AFI	**Afiamalu**	**18.64**	**24**	*e*P	P	07 28 09.1	-2.0
AFI				pmax	pmax		
comp=Z,31nm,0.6s							
AFI	**Afiamalu**	**18.64**	**24**	*e*P	P	07 28 09.1	-2.1
comp=Z,31nm,0.6s							
ARMA	**Armidale**	**24.75**	**264**	⇑*i*P	P	07 29 15.0	+4.4
CNB	**Canberra Magne**	**26.27**	**253**	*e*P	P	07 29 28.1	+3.9
comp=Z,33nm,0.8s,mb5.0							
TAU	**Tasmania Unive**	**28.73**	**237**	*e*P	P	07 29 48.7	+2.7
TAU				pmax	pmax		
comp=Z,35nm,1.1s,mb4.9							
TAU	**Tasmania Unive**	**28.73**	**237**	*e*P	P	07 29 48.7	+2.7
comp=Z,35nm,1.1s,mb4.9							
HNR	**Honiara**	**28.88**	**314**	*e*P	P	07 29 47.4	+0.1
HNR				pmax	pmax		
comp=Z,151nm,1.0s,mb5.6							
HNR	**Honiara**	**28.88**	**314**	*e*P	P	07 29 47.4	+0.1
comp=Z,151nm,1.0s,mb5.6							
TOO	**Toolangi**	**29.43**	**248**	*e*P	P	07 29 55.2	+3.0
TOO				pmax	pmax		
comp=Z,21nm,1.3s,mb4.6							
TOO	**Toolangi**	**29.43**	**248**	*e*P	P	07 29 55.2	+3.0
comp=Z,21nm,1.3s,mb4.6							
PAE	**Paea**	**30.32**	**71**	*e*P	P	07 29 59.8	-0.2
comp=Z,90nm,1.0s,mb5.3							
PAE	**Paea**	**30.32**	**71**	*e*P	P	07 29 59.8	-0.2
PAE				pmax	pmax		
comp=Z,91nm,1.0s,mb5.4							
PPT	**Papeete**	**30.37**	**70**	*e*P	P	07 30 00.3	-0.1
comp=Z,44nm,1.2s,mb5.0							
PPT	**Papeete**	**30.37**	**70**	P	P	07 30 00.5	0.0
comp=Z,24nm,0.8s,mb4.9,baz=188,slow=5.3,SNR=3.6							
TVO	**Taravao**	**30.52**	**71**	*e*P	P	07 30 01.8	0.0
comp=Z,58nm,0.9s,mb5.2							
TVO	**Taravao**	**30.52**	**71**	*e*P	P	07 30 01.8	0.0
TVO				pmax	pmax		
comp=Z,59nm,0.9s,mb5.2							
CTA	**Charters Tower**	**32.64**	**282**	⇑*i*P	P	07 30 22.4	+2.1
comp=Z,78nm,0.6s,mb5.4							
CTA	**Charters Tower**	**32.64**	**282**	P	P	07 30 22.4	+2.2
comp=Z,111nm,0.6s,mb5.5,baz=105,slow=10,SNR=121							
CTA				ScP	ScP	07 36 15.5	-4.3
comp=Z,7.1nm,0.8s,baz=20,slow=2.8,SNR=4.9							
CTA	**Charters Tower**	**32.64**	**282**	⇑*i*P	P	07 30 22.4	+2.1
CTA				pmax	pmax		
comp=Z,78nm,0.6s							
CTAO	**Charters Tower**	**32.64**	**282**	*e*P	P	07 30 22.4	+2.1
CTAO				pmax	pmax		
comp=Z,115nm,0.7s,mb5.5							
CTAO	**Charters Tower**	**32.64**	**282**	*e*P	P	07 30 22.4	+2.1
comp=Z,115nm,0.7s,mb5.5							
STKA	**Stephens Creek**	**33.01**	**258**	⇑*i*P	P	07 30 26.1	+2.6
comp=Z,73nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**33.01**	**258**	P	P	07 30 26.3	+2.8
comp=Z,53nm,0.4s,mb5.5,baz=98,slow=9.9,SNR=225							
STKA				ScP	ScP	07 36 17.0	-4.0
comp=Z,3.2nm,0.8s,baz=313,slow=18,SNR=3.9							
VAH	**Vaihoa**	**33.20**	**69**	*e*P	P	07 30 24.9	-0.2
comp=Z,105nm,1.1s,mb5.3							
PMG	**Port Moresby**	**37.79**	**298**	*e*P	P	07 31 03.2	-0.8
PMG				pmax	pmax		
comp=Z,49nm,1.4s							
PMG	**Port Moresby**	**37.79**	**298**	*e*P	P	07 31 03.2	-0.8
comp=Z,49nm,1.4s,mb4.8							
AS31	**Alice Springs**	**41.76**	**269**	*e*P	P	07 31 37.0	+0.4
AS31				*e*		07 36 50.8	
ASAR	**Alice Springs**	**41.76**	**269**	P	P	07 31 37.1	+0.5
comp=Z,7.7nm,0.4s,mb4.5,baz=106,slow=7.2,SNR=166							
ASAR				pP	pP	07 32 40.5	+12
comp=Z,12nm,0.7s,baz=104,slow=7.9,SNR=9.4							
ASAR				PcP	PcP	07 33 26.9	-0.9
comp=Z,6.2nm,0.8s,baz=108,slow=6.3,SNR=7.3							
ASAR				ScP	ScP	07 36 50.8	-3.2
comp=Z,7.7nm,0.8s,baz=114,slow=4.2,SNR=22							
ASAR				S	S	07 37 34.0	-0.6
comp=Z,0.8nm,0.7s,baz=108,slow=16,SNR=4.1							
ASAR	**Alice Springs**	**41.76**	**269**	P	P	07 31 37.1	+0.5
ASAR				pP	pP	07 33 26.9	
ASAR				S	S	07 37 34.0	-0.6
ASPA	**Alice Springs**	**41.76**	**269**	*e*P	P	07 31 37.0	+0.4
ASPA				*e*		07 36 50.8	
WB2	**Warramunga Arr**	**42.81**	**274**	⇑*i*P	P	07 31 45.0	-0.1
WB2				*e*		07 36 54.7	
WB2	**Warramunga Arr**	**42.81**	**274**	*e*P	P	07 31 45.1	+0.1
WB2				*e*		07 36 54.7	
WRAB	**Tennant Creek**	**42.81**	**274**	*i*P	P	07 31 44.8	-0.3
WRA	**Warramunga Arr**	**42.82**	**274**	P	P	07 31 45.4	+0.2
comp=Z,15nm,0.3s,mb4.9,baz=111,slow=8.1,SNR=374							
WRA				pP	pP	07 32 48.4	+11
comp=Z,15nm,0.9s,baz=111,slow=8.3,SNR=9.2							
WRA				PcP	PcP	07 33 30.7	-0.7
comp=Z,4.3nm,0.7s,baz=120,slow=3.4,SNR=5.3							
WRA				ScP	ScP	07 36 54.5	-3.7
comp=Z,10nm,1.1s,baz=112,slow=4.2,SNR=13							
WRA				S	S	07 37 46.6	-3.6
comp=Z,0.5nm,0.7s,baz=115,slow=13,SNR=2.6							
WRA				PKiKP	PKiKP	07 40 32.9	-1.7
comp=Z,0.8nm,1.1s,baz=86,slow=0.4,SNR=5.4							
WRA	**Warramunga Arr**	**42.82**	**274**	P	P	07 31 45.4	+0.3
WRA						07 33 30.7	
WRA				S	S	07 37 46.6	-3.6
WRA	**Warramunga Arr**	**42.82**	**274**	P	P	07 31 45.4	+0.2
WRA				pP	pP	07 32 48.4	+11
WRA				PcP	PcP	07 33 30.7	-0.7
WRA				ScP	ScP	07 36 54.5	-3.7
WRA				S	S	07 37 46.6	-3.6
FORT	**Forrest**	**44.56**	**256**	*e*P	P	07 31 59.2	+0.2
comp=Z,72nm,0.5s,mb5.3							
SBA	**Scott Base**	**47.13**	**184**	*e*P	P	07 32 22.8	+3.8
SBA				pmax	pmax		
comp=Z,15nm,0.7s,mb4.4							
SBA	**Scott Base**	**47.13**	**184**	*e*P	P	07 32 22.8	+3.8
comp=Z,15nm,0.7s,mb4.4							
VNDA	**Vanda**	**47.16**	**185**	P	P	07 32 21.5	+2.3
comp=Z,3.6nm,0.6s,mb3.9,baz=2.7,slow=8.2,SNR=46							
VNDA				ScP	ScP	07 37 12.8	-3.4
comp=Z,4.0nm,0.7s,baz=358,slow=4.0,SNR=14							
VNDA	**Vanda**	**47.16**	**185**	*e*P	P	07 32 21.5	+2.3
KAKA	**Kakadu**	**47.78**	**282**	*e*P	P	07 32 23.2	-0.8
comp=Z,62nm,1.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**51.05**	**271**	*e*P	P	07 32 47.7	-0.8
comp=Z,34nm,0.6s,mb5.0							
KLBR	**Kellerberrin**	**52.84**	**252**	*e*P	P	07 33 00.7	-1.0
comp=Z,29nm,1.1s,mb4.6							
CASY	**Casey**	**53.80**	**208**	*e*P	P	07 33 07.9	-0.8
CASY	**Casey**	**53.80**	**208**	*e*P	P	07 33 08.0	-0.7
comp=Z,16nm,0.7s,mb4.7							
QSPA	**South Pole Qui**	**58.90**	**180**	⇑*i*P	P	07 33 47.1	+2.5
comp=Z,102nm,1.0s,mb5.4							
MIR	**Mirnyy**	**60.80**	**207**	*c i*P	P	07 33 59.0	+1.5
MIR				pmax	pmax		
comp=Z,200nm,1.2s,mb5.6							
MAW	**Mawson**	**71.08**	**201**	⇑*i*P	P	07 35 02.4	-0.4
comp=Z,8.0nm,0.7s,mb4.5							
MAW	**Mawson**	**71.08**	**201**	P	P	07 35 02.7	-0.1
comp=Z,9.5nm,0.7s,mb4.5,baz=118,slow=6.8,SNR=37							
MAW	**Mawson**	**71.08**	**201**	⇑*i*P	P	07 35 02.4	-0.4
MAW				pmax	pmax		
comp=Z,80nm,0.7s							
PMSA	**Palmer Station**	**72.06**	**156**	*e*P	P	07 35 10.8	+2.1
comp=Z,1.5nm,0.5s,mb3.9							
SYO	**Syowa Base**	**76.02**	**194**	⇓*i*P	P	07 35 30.2	-1.3
SYO	**Syowa Base**	**76.02**	**194**	⇓*e*pP	pP	07 36 24.0	-5.9
SNAA	**Sanae**	**77.37**	**179**	⇑*i*P	P	07 35 39.3	+0.3
SNAA				*e*		07 35 41.2	
SNAA				*e*		07 35 44.8	
SNAA				*e*		07 35 48.0	
SNAA				*e*	pP	07 36 34.5	-3.1
SNAA				*e*		07 36 58.2	
SNAA	**Sanae**	**77.37**	**179**	*e*P	P	07 35 39.4	+0.4
SNAA				pmax	pmax		
comp=Z,19nm,0.9s							
SNAA	**Sanae**	**77.37**	**179**	*e*P	P	07 35 39.4	+0.4
comp=Z,19nm,0.9s,mb4.7							
VNA3	**Neumayer Olymp**	**77.58**	**177**	⇑*i*P	P	07 35 40.7	+0.6
VNA3				*e*		07 35 42.3	
VNA3				*e*		07 35 46.8	
VNA3				*e*		07 35 49.8	
VNA3				*e*	pP	07 36 35.9	-2.9
VNA3				*e*		07 36 59.3	
VNA3				*e*		07 37 10.5	
VNA3				*e*		07 50 20.9	
MAIT	**Maitri**	**77.98**	**184**	*e*P	P	07 35 43.6	+1.2
NVL	**N'lazarevskaya**	**77.98**	**184**	*c i*P	P	07 35 42.6	+0.2
NVL				pmax	pmax		
comp=N,25nm,1.1s							
NVL				pmax	pmax		
comp=Z,55nm,1.1s,mb5.1							
NVL				pmax	pmax		
comp=E,9.0nm,0.8s							
MJAR	**Matsushiro Arr**	**78.17**	**326**	P	P	07 35 41.7	-1.7
comp=E,4.0nm,0.9s,mb4.1,baz=160,slow=5.6,SNR=8.3							
VNA1	**Neumayer--Stat**	**78.23**	**177**	⇑*i*P	P	07 35 44.9	+1.2
VNA1				*e*		07 35 46.4	
VNA1				*e*		07 35 49.6	
VNA1				*e*		07 35 53.2	
VNA1				*e*	pP	07 36 40.2	-2.3
VNA1				*e*		07 37 02.4	
VNA1				*e*		07 37 14.2	
PLCA	**Paso Flores**	**82.91**	**134**	P	P	07 36 10.5	+2.0
comp=E,9.5nm,0.7s,mb4.6,baz=226,slow=4.7,SNR=29							
YSS	**Yuzh-Sakhalins**	**84.92**	**335**	*e*P	P	07 36 18.0	-0.6
YSS	**Yuzh-Sakhalins**	**84.92**	**335**	*e*P	P	07 36 18.8	+0.1
comp=E,24nm,0.8s,mb5.0							
NJ2	**Nanjing**	**85.78**	**311**	*e*P	P	07 36 23.7	+0.8
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.2							
V04C	**Ramage Ranch,**	**86.34**	**44**	⇓P	P	07 36 26.0	+0.4
baz=86							
V03C	**Hunter Liggett**	**86.39**	**44**	⇓P	P	07 36 26.1	+0.2
baz=86							
HAST	**UC Hastings Re**	**86.45**	**43**	P	P	07 36 26.3	+0.1
baz=86,SNR=8.5							
PKM	**Peak Mountain**	**86.48**	**45**	⇑P	P	07 36 26.8	+0.5
baz=86							

baz=88,SNR=7.3
KCC Kaiser Creek 88.40 44 ⇓P P 07 36 35.0 -0.4
baz=88
GLA Glamis 88.43 49 eP P 07 36 36.5 +1.0
GLA Glamis 88.43 49 ⇓P P 07 36 36.2 +0.7
baz=88,SNR=16
LAVA Lava Cap Winer 88.54 42 ⇑P P 07 36 35.3 -0.7
baz=89
MDJ Mudanjiang 88.56 326 P P 07 36 36.2 +0.1
MDJ AP pP 07 37 29.7 -6.7
MDJ XP sP 07 37 53.2 -9.2
MDJ PP PP 07 40 06.1 -2.0
MDJ AMB AMB
comp=Z,4.0nm,1.6s,mb4.0
MDJ AMB AMB
comp=Z,46nm,4.2s
MDJ LR LR
comp=N,390nm,13.4s
MDJ LR LR
comp=E,471nm,16.3s
MDJ LR LR
comp=Z,587nm,17.7s
HEC Hector,Ludlow 88.60 47 ⇓P P 07 36 36.3 0.0
baz=89,SNR=13
ORV Oroville 88.65 41 ⇓P P 07 36 36.9 +0.3
baz=89
O03C Acorn Hollow, 88.66 40 ⇑P P 07 36 36.8 +0.2
baz=89
DAC Darwin (Calif) 88.75 46 eP P 07 36 36.9 -0.1
WDC Whiskeytown Da 88.78 40 ⇑P P 07 36 37.4 +0.2
baz=89
MTUM Tungsten Hills 88.87 44 eP P 07 36 38.1 +0.5
R05C Kirkwood Meado 88.88 42 ⇓P P 07 36 37.5 -0.1
baz=89,SNR=7.7
MLAC Mammoth Lakes 88.89 44 ⇓P P 07 36 37.8 +0.1
baz=89
IRM Iron Mountain 88.92 48 P P 07 36 38.6 +0.8
baz=89,SNR=13
P05C Yuba Gap, Truc 88.98 42 P P 07 36 38.0 -0.1
baz=89,SNR=5.2
Y12C Blythe 89.06 49 ⇓P P 07 36 39.0 +0.5
baz=89,SNR=7.8
WAKR Walker 89.12 43 eP P 07 36 38.8 0.0
R06C Coleville 89.12 43 ⇓P P 07 36 38.9 +0.1
baz=89,SNR=9.6
M02C Callahan 89.18 39 ⇑P P 07 36 39.2 +0.2
baz=89,SNR=5.2
S08C White Mtn Res 89.20 44 P P 07 36 39.5 +0.4
baz=89,SNR=9.6
TUQ Turquoise Mtn. 89.24 47 P P 07 36 39.7 +0.4
baz=89,SNR=5.7
O05C Quincy 89.26 41 ⇓P P 07 36 39.4 0.0
baz=89
FURC Furnace Creek, 89.32 46 ⇓P P 07 36 39.6 -0.1
baz=89
GRAC Grapevine Rang 89.36 45 ⇓P P 07 36 40.0 +0.1
baz=89
O04C Chester 89.41 41 ⇓P P 07 36 39.8 -0.3
baz=89
WCN Washoe City 89.47 42 ⇑P P 07 36 40.5 +0.1
baz=90
YBH Yreka Blue Hor 89.49 39 ⇓P P 07 36 40.3 -0.2
baz=90
BEKR Beckwourth 89.51 41 ⇑P P 07 36 40.2 -0.4
baz=90,SNR=6.2
HATC Hat Creek Radi 89.54 40 ⇓P P 07 36 40.5 -0.2
baz=90
Y13A Salome 89.55 49 ⇑P P 07 36 41.5 +0.7
baz=90
PDMCI Parker Dam,Lak 89.66 49 ⇓P P 07 36 41.8 +0.5
baz=90,SNR=5.2
R08A Mina 89.80 44 ⇑P P 07 36 42.4 +0.5
baz=90
K02A Glendale 89.80 38 ⇑P P 07 36 42.0 0.0
baz=90
CFAA Coronel Fontan 89.81 127 P P 07 36 43.4 +1.5
comp=Z,1.1nm,0.8s,baz=232,slow=3.1,SNR=11
CFAA Coronel Fontan 89.81 127 P P 07 36 43.4 +1.5
V11A Goodsprings 89.81 47 ⇑P P 07 36 42.1 +0.1
baz=90
W12A Cal Nev Ari 89.82 48 ⇓P P 07 36 42.5 +0.5
baz=90
Z14A Wintersburg 89.85 50 ⇓P P 07 36 42.8 +0.6
baz=90
S09A Goldfield 89.92 45 ⇑P P 07 36 42.1 -0.3
baz=90
115A Sonoran Desert 89.92 51 ⇑P P 07 36 43.3 +0.8
baz=90,SNR=9.4
PAHR Pah Rah Range 89.95 42 eP P 07 36 43.1 +0.5
comp=Z,10nm,1.2s,mb4.5
M04C Macdoel 90.00 39 ⇓P P 07 36 42.7 -0.2
baz=90
CN2 Changchun 90.00 324 eP P 07 36 42.5 -0.4
CN2 eAP pP 07 37 36.5 -6.7
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
O06A Flanigan 90.01 41 ⇑P P 07 36 42.5 -0.4
baz=90
X13A Yucca 90.04 49 ⇓P P 07 36 43.2 +0.2
baz=90,SNR=9.4
M05C Lookout 90.08 40 ⇓P P 07 36 42.9 -0.4
baz=90
V12A Nelson 90.10 47 ⇑P P 07 36 43.5 +0.2
baz=90
TPH Tonopah 90.15 44 eP P 07 36 43.5 0.0
Y14A Wickenburg 90.17 50 P P 07 36 44.1 +0.5
baz=90,SNR=12
116A Eloy 90.19 51 ⇑P P 07 36 44.5 +0.8
baz=90,SNR=11
L04A Klamath Falls 90.24 39 P P 07 36 43.5 -0.4
baz=90,SNR=5.3
Q08A Gabbs 90.24 43 ⇑P P 07 36 43.3 -0.6
baz=90,SNR=5.9
W13A Hualapai Mount 90.32 48 ⇓P P 07 36 44.6 +0.2
baz=90
R09A Tonopah 90.34 44 P P 07 36 44.1 -0.3
baz=90,SNR=9.0
M06C Likely Place G 90.35 40 ⇑P P 07 36 44.1 -0.4
baz=90
N06A Buffalo Meadow 90.40 41 ⇑P P 07 36 44.4 -0.3
baz=90,SNR=6.4
SHPR Sheep Range 90.40 47 eP P 07 36 45.1 +0.4
J03A Ideyld Park 90.50 37 ⇑P P 07 36 45.2 0.0
baz=90
O07A Toulon 90.55 42 ⇑P P 07 36 44.9 -0.5
baz=91
X14A Yava 90.57 49 ⇑P P 07 36 46.3 +0.8
baz=91,SNR=9.5
K04A Chilquin 90.62 39 ⇓P P 07 36 45.9 +0.1
baz=91
TUC Tucson 90.65 52 eP P 07 36 46.2 +0.3
TUC pmax pmax
comp=Z,12nm,0.9s,mb4.8
TUC Tucson 90.65 52 eP P 07 36 46.2 +0.3
comp=Z,12nm,0.9s,mb4.8
L05A Lakeview 90.72 40 ⇑P P 07 36 46.4 +0.2
baz=91
U12A Valley of Fire 90.74 47 ⇓P P 07 36 46.6 +0.3
baz=91,SNR=5.9
I03A Eugene 90.76 37 ⇑P P 07 36 46.3 -0.1
baz=91
GYA Guiyang 90.82 301 P P 07 36 46.0 -0.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
R10A Warm Springs 90.84 45 ⇑P P 07 36 46.9 +0.1
baz=91
W14A Seligman 90.90 49 P P 07 36 48.0 +1.0
baz=91,SNR=8.6
MOD Modoc 90.92 40 ⇓P P 07 36 47.0 -0.1
baz=91
X15A Humboldt 91.01 50 ⇑P P 07 36 48.2 +0.7
baz=91,SNR=9.3
P09A Austin 91.16 43 ⇓P P 07 36 47.8 -0.4
baz=91
M07A Soldier Meadow 91.20 41 ⇑P P 07 36 48.1 -0.3
baz=91
J05A Fort Rock 91.35 38 ⇑P P 07 36 49.0 -0.1
baz=91
L07A Adell 91.53 40 ⇓P P 07 36 49.7 -0.2
baz=92,SNR=6.5
O09A Fish Creek Ran 91.53 43 ⇓P P 07 36 49.5 -0.4
baz=92
Q11A Duckwater 91.58 45 ⇓P P 07 36 49.8 -0.4
baz=92
M08A Happy Creek Ra 91.68 41 ⇓P P 07 36 50.6 0.0
baz=92
N09A Rock Creek Ran 91.78 42 ⇑P P 07 36 50.9 -0.2
baz=92
H04A Detroit Lake 91.81 37 ⇑P P 07 36 50.5 -0.8
baz=92
I05A Bend 91.93 38 ⇑P P 07 36 51.5 -0.3
baz=92
P11A Circle Ranch, 91.97 44 ⇓P P 07 36 51.5 -0.5
baz=92
O10A Cortez Mining, 92.01 43 ⇑P P 07 36 51.7 -0.5
baz=92
K07A Rock Creek Ran 92.03 40 P P 07 36 51.9 -0.3
baz=92,SNR=6.0
G04A Mulino 92.03 36 ⇓P P 07 36 51.4 -0.9
baz=92
L08A Fields 92.19 41 P P 07 36 52.8 -0.3
baz=92,SNR=7.1
M09A Marrel Ranch, 92.19 42 ⇓P P 07 36 52.7 -0.3
baz=92,SNR=5.5
WUAZ Wupatki 92.19 49 eP P 07 36 53.2 +0.2
comp=Z,7.1nm,1.1s,mb4.5
WUAZ Wupatki 92.19 49 ⇓P P 07 36 53.4 +0.4
baz=92,SNR=5.8
Q12A Willow Creek R 92.20 45 ⇑P P 07 36 52.7 -0.4
baz=92,SNR=6.1
N10A Dunphy 92.28 43 ⇓P P 07 36 53.2 -0.3
baz=92
H05A Madras 92.29 37 ⇑P P 07 36 53.0 -0.4
baz=92
I06A Prineville 92.34 38 P P 07 36 53.7 0.0
baz=92,SNR=8.6
O11A Cowboy Ranch, 92.40 44 ⇑P P 07 36 53.8 -0.2
baz=92,SNR=5.8
P12A McGill 92.43 44 ⇓P P 07 36 53.9 -0.2
baz=92
J07A Hines 92.45 39 ⇓P P 07 36 53.8 -0.4
baz=92
L09A Wilkinson Ranc 92.46 41 ⇑P P 07 36 53.7 -0.5
baz=92,SNR=6.4
K08A Mann Creek Ran 92.47 40 ⇑P P 07 36 53.8 -0.5
baz=92
M10A I.L. Ranch, Tu 92.78 42 P P 07 36 55.9 +0.1
baz=93,SNR=5.0
H06A Lindquist Farm 92.81 38 ⇑P P 07 36 55.3 -0.6
baz=93,SNR=5.7
I07A Izee 92.81 39 P P 07 36 55.8 -0.1
baz=93,SNR=8.1
K09A Rome 92.87 41 ⇓P P 07 36 55.6 -0.6
baz=93
J08A Circle Bar Ran 92.89 40 ⇑P P 07 36 55.6 -0.6
baz=93
G06A Carlson Farm, 93.00 37 ⇓P P 07 36 56.0 -0.7
baz=93
KMI Kunming 93.02 298 P P 07 36 57.8 +1.0
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
KMI Kunming 93.02 298 P P 07 36 57.8 +1.0
comp=Z,8.0nm,1.2s,mb4.6
O12A Currie 93.03 44 ⇓P P 07 36 56.4 -0.5
baz=93
H07A Lands Inn, Kim 93.12 38 ⇑P P 07 36 56.7 -0.6
baz=93,SNR=7.2
M11A Holland Ranch, 93.15 42 ⇓P P 07 36 57.2 -0.3
baz=93
I08A Drewsey 93.20 39 ⇓P P 07 36 57.0 -0.6
baz=93
N12A Clover Valley, 93.22 43 ⇑P P 07 36 57.3 -0.5
baz=93
F06A Goldendale 93.28 37 ⇓P P 07 36 57.5 -0.5
baz=93
J09A Fry Pan Ranch, 93.28 40 ⇓P P 07 36 57.2 -0.9
baz=93
E05A Randle 93.33 36 ⇑P P 07 36 57.4 -0.8
baz=93
MSU Marysvale 93.50 47 eP P 07 36 58.4 -0.6
C04A Brinnon 93.53 34 ⇓P P 07 36 59.1 -0.1
baz=94
H08A Prairie City 93.55 39 ⇑P P 07 36 59.1 -0.2
baz=94
M12A Wells 93.65 43 ⇑P P 07 36 59.2 -0.5
baz=94
I09A Lost Marbles R 93.70 40 ⇑P P 07 36 58.8 -1.2
baz=94
E06A Yakima 93.71 36 ⇑P P 07 37 00.1 +0.1
baz=94
N13A Wendover, West 93.72 44 ⇑P P 07 37 00.0 0.0
baz=94
G08A Pilot Rock 93.91 38 P P 07 37 00.6 -0.4
baz=94,SNR=6.1
C05A Tolt Reservoir 94.14 35 ⇑P P 07 37 01.3 -0.6
baz=94
H09A Durkee 94.19 39 ⇓P P 07 37 02.0 -0.2
baz=94
D06A Cle Elum 94.22 36 ⇑P P 07 37 02.1 -0.2
baz=94
B05A Bryant 94.33 34 ⇑P P 07 37 02.9 +0.1
baz=94
F08A Pendleton 94.34 38 ⇓P P 07 37 02.5 -0.4
baz=94
LVC Limon Verde 94.69 120 P P 07 37 07.0 +2.5
comp=Z,0.9nm,0.5s,mb4.2,baz=287,slow=4.0,SNR=4.3
F09A S2 Ranch, Elgi 94.74 38 ⇑P P 07 37 04.3 -0.5
baz=95
SRU San Rafael 94.89 47 eP P 07 37 05.4 0.0
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
SRU San Rafael 94.89 47 eP P 07 37 05.4 0.0
comp=Z,2.5nm,0.7s,mb4.5
D08A Wollman Farm, 95.10 37 ⇓P P 07 37 05.6 -0.8
baz=95
ANMO Albuquerque 95.12 52 P P 07 37 07.4 +1.0
comp=Z,0.2nm,0.3s,baz=163,slow=6.0,SNR=5.1
ANMO Albuquerque 95.12 52 eP P 07 37 06.1 -0.4
comp=Z,1.1nm,0.9s,mb4.0
E09A Wood Farm, Sta 95.14 37 ⇑P P 07 37 05.4 -1.2
baz=95
HLID Hailey 95.29 41 eP P 07 37 07.5 +0.3
HLID Hailey 95.29 41 ⇓P P 07 37 07.4 +0.2
baz=95
CD2 Chengdu 95.41 303 eP P 07 37 09.5 +1.7
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,60nm,5.8s
D09A Jones Farm, Ri 95.42 37 ⇓P P 07 37 06.8 -1.0
baz=96
PV01 Paradox Valley 95.56 49 eP P 07 37 08.0 -0.4
HHC Hu-ho-hao-te 95.86 315 eP P 07 37 12.9 +3.1
HHC AP pP 07 38 06.2 -4.1
HHC XP sP 07 38 31.5 -4.8
HHC PP PP 07 41 10.2 +5.0
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,113nm,4.5s
HHC LR LR
comp=N,607nm,14.5s
HHC LR LR
comp=E,321nm,10.6s
HHC LR LR
comp=Z,402nm,15.5s
C09A Chrisman Ranch 95.92 36 ⇓P P 07 37 11.1 +1.1
baz=96
C12A Trout Creek 97.30 38 ⇓P P 07 37 16.1 -0.2
baz=97
PDAR Pinedale Array 97.64 44 P P 07 37 16.4 -1.4
comp=Z,0.7nm,0.8s,mb4.1,baz=208,slow=2.9,SNR=5.4
LZH Lanzhou 98.15 307 eP P 07 37 23.5 +3.4
LZH AP pP 07 38 18.7 -2.0
LZH XP sP 07 38 41.6 -5.1
LZH PP PP 07 41 28.5 +5.7
LZH AMB AMB
comp=Z,23nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,76nm,8.6s
LZH LR LR
comp=E,259nm,15.8s
LZH LR LR
comp=Z,317nm,18.3s
LZH Lanzhou 98.15 307 eP P 07 37 23.5 +3.4
LZH *PP pP 07 38 18.7 -2.0
LZH *SP sP 07 38 41.6 -5.1
LZH 07 41 28.5
LZH pmax pmax
comp=Z,23nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,320nm,18.3s
LZH Lanzhou 98.15 307 eP P 07 37 23.5 +3.4
comp=Z,23nm,1.3s,mb5.3
LZH pP pP 07 38 18.7 -2.0
LZH sP sP 07 38 41.6 -5.1
LZH PP PP 07 41 28.5 +5.7
LZH LR LR
comp=Z,320nm,18.3s
B13A Whitefish 98.25 38 ⇑P P 07 37 22.4 +1.8
baz=98
YKA Yellowknife Ar 106.75 26 PKiKP PKiKP 07 42 04.5 -2.7
comp=Z,0.6nm,0.7s,baz=239,slow=1.7,SNR=5.4
YKA PKKPbc PKKPbc 07 53 25.4 -0.7
comp=Z,0.7nm,0.6s,baz=30,slow=3.4,SNR=5.8
YKA Yellowknife Ar 106.75 26 PKPdf PKiKP 07 42 04.5 -2.7
YKA PKKPbc PKKPbc 07 53 25.4 -0.7
WMQ Urumqi 112.69 308 ePKP PKiKP 07 42 19.5 +1.1
WMQ ePP PP 07 43 15.0 +5.4
WMQ PKS 07 45 55.0
WMQ SKS SKSdf 07 49 08.0 +1.5
WMQ PP PP
comp=Z,94nm,4.2s
BOSA Boshof 115.99 204 PKP PKPdf 07 42 25.5 +0.8
comp=Z,2.7nm,0.6s,baz=68,slow=3.8,SNR=7.4
BOSA Boshof 115.99 204 PKP PKPdf 07 42 25.5 +0.8
BVAR Borovoye Array 126.06 315 PKP PKPdf 07 42 42.7 -1.4
comp=Z,3.4nm,0.7s,baz=99,slow=2.0,SNR=16
KMBO Kilima Mbogo 132.53 234 PKP PKPdf 07 42 58.9 +2.5
comp=Z,1.4nm,0.9s,baz=45,slow=6.2,SNR=3.9
KMBO SKPbc SKPbc 07 45 56.9 -2.7
comp=Z,2.1nm,0.7s,baz=80,slow=4.4,SNR=6.3
KMBO Kilima Mbogo 132.53 234 PKP PKPdf 07 42 58.9 +2.5
KMBO SKPbc SKPbc 07 45 56.9 -2.7
ARU Arti 132.87 320 *i* PKiKP PKPdf 07 42 55.3 -1.7
ARU eSS SS 08 02 52.4 +6.1
ARU Arti 132.87 320 *e*PKPdf PKPdf 07 42 56.0 -1.0
SFJD Kangerlussuaq 133.29 25 SKPbc SKPbc 07 45 56.5 -5.7
comp=Z,8.3nm,0.6s,baz=156,slow=4.8,SNR=5.2
AKTK Aktyubinsk 133.66 312 PKP PKPdf 07 42 57.4 -1.1
AKTK SKPbc SKPbc 07 45 60.0 -3.5
AKTO Aktyubinsk 133.66 312 PKhKP 07 42 42.6
comp=Z,1.1nm,0.5s,baz=102,slow=4.4,SNR=4.5
AKTO PKP PKPdf 07 42 57.4 -1.1
comp=Z,1.2nm,0.6s,baz=121,slow=5.9,SNR=5.7
AKTO SKPbc SKPbc 07 45 60.0 -3.5
comp=Z,3.4nm,0.8s,baz=78,slow=4.4,SNR=7.9
AKTO Aktyubinsk 133.66 312 PKIKP PKPdf 07 42 57.4 -1.1
LVZ Lovozero 138.21 341⇑ *i*PKIKP PKPdf 07 43 06.4 -0.5
KEV Kevo 138.61 346 *e*pkp PKPdf 07 43 02.3 -5.4
ARCES ARCESS Array B 139.09 347 PKhKP 07 42 57.3
comp=Z,2.3nm,0.7s,baz=43,slow=2.2,SNR=14
ARCES PKP PKPdf 07 43 07.3 -1.3
comp=Z,2.9nm,0.6s,baz=58,slow=1.6,SNR=14
ARCES SKPbc SKPbc 07 46 12.6 -7.2
comp=Z,3.9nm,0.7s,baz=29,slow=2.8,SNR=7.8
ARCES ARCESS Array B 139.09 347 PKIKP PKPdf 07 43 07.3 -1.3
ARCES 07 46 12.6
JOF Joensuu 142.67 337 *e*pkp PKPdf 07 43 08.5 -6.5
GNI Garni 143.26 297 PKP PKPdf 07 43 13.9 -2.1
comp=Z,6.3nm,0.5s,baz=338,slow=10,SNR=4.1
GNI Garni 143.26 297 *e*PKPdf PKPdf 07 43 12.6 -3.4
KIV Kislovodsk 144.58 303 *e*PKIKP PKPdf 07 43 17.2 -1.1
KIV Kislovodsk 144.58 303 *e*PKPdf PKPdf 07 43 17.2 -1.1
KAF Kangasniemi 144.86 339 *e*pkp PKPdf 07 43 15.2 -3.6
OBN Obninsk 145.06 324*c i* PKIKP PKPdf 07 43 17.8 -1.4
OBN pmax pmax
comp=Z,19nm,0.6s
OBN Obninsk 145.06 324 *e*PKPdf PKPdf 07 43 16.6 -2.6
VRSR Storozhevoye 145.22 316 *e*PKIKP PKPdf 07 43 18.2 -1.2
VRSR pmax pmax
comp=Z,40nm,0.8s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,40nm,0.9s
FINES FINESS Array B 145.44 339 PKPbc PKPbc 07 43 17.9 -2.4
comp=E,41nm,0.7s,baz=53,slow=4.6,SNR=136
MALT Malatya 148.19 293⇑ *i*P PKPdf 07 43 28.0 +3.6
MALT Malatya 148.19 293 *e*PKPdf PKPdf 07 43 26.3 +1.9
MALT *e*PKPbc PKPbc 07 43 30.4 +2.3
ASF Jabal al Asfar 149.08 281 PKPbc PKPbc 07 43 30.5 +0.3
comp=E,6.7nm,0.7s,baz=32,slow=2.7,SNR=9.3
NB2 NORSAR Subarra149.34 350 PKP PKPdf 07 43 28.4 +2.1
comp=Z,6.1nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B149.34 350 PKPbc PKPbc 07 43 28.9 -2.0
comp=Z,7.4nm,0.5s,baz=14,slow=4.1,SNR=45
HFS Hagfors 149.76 347 PKPbc PKPbc 07 43 29.4 -2.5
comp=Z,12nm,0.6s,baz=102,slow=3.6,SNR=53
HFS PKPab PKPab 07 43 35.6 -2.5
comp=Z,7.6nm,0.7s,baz=96,slow=3.0,SNR=8.2
EIL Elat 150.29 276 *e*PKPbc PKPbc 07 43 33.1 -0.1
EIL *e*PKPdf PKPdf 07 43 33.5 +5.7
KONO Kongsberg 150.91 350 *e*PKIKP PKPdf 07 43 32.8 +4.1
KONO *e* 07 43 40.6
AKASG Malin Array Be 151.12 321 PKPbc PKPbc 07 43 33.6 -1.5
comp=Z,6.9nm,0.6s,baz=58,slow=2.3,SNR=26
AKASG PKPab PKPab 07 43 41.5 -2.3
comp=Z,1.7nm,0.5s,baz=52,slow=4.3,SNR=4.1
BRTR Keskin Array B 151.80 297 PKPbc PKPbc 07 43 35.5 -1.2
comp=Z,2.5nm,0.5s,baz=118,slow=3.3,SNR=13
BRTR PKPab PKPab 07 43 45.6 -1.1
comp=Z,5.6nm,0.8s,baz=115,slow=3.8,SNR=17
KIS Kishinev 153.13 314 *e*PKP PKPdf 07 43 30.0 -2.0
LIC Lamto 154.61 167 *e*PKIKP PKPdf 07 43 35.9 +1.8
comp=Z,41nm,1.2s
BURAR Bucovina Array 154.98 318⇑ *i*P PKPab 07 43 59.3 -0.9
PLOR Plostina 154.98 313⇓ *i*P PKPab 07 43 59.7 -0.5
DBIC Dimbokro 155.08 167 PKPbc PKPdf 07 43 45.6 +11
comp=Z,1.8nm,0.3s,baz=177,slow=2.2,SNR=12
MLR Muntele Rosu 155.59 313⇓ *i*P PKPab 07 44 02.7 -0.1
CLL Collm 157.88 339 *e*PKPdif 07 43 48.0
CLL *e*PKPab PKPab 07 44 11.0 -1.7
comp=Z,12nm,0.7s
BRG Berggiesshubel 157.95 337 *e*PKP PKPab 07 44 11.6 -1.4
comp=Z,4.0nm,0.9s
GERES GERESS Array B 159.74 334 PKPab PKPab 07 44 19.3 -1.4
comp=Z,0.5nm,0.2s,baz=34,slow=3.6,SNR=5.5
TORD Torodi Ar. Bea 161.98 184 PKP PKPdf 07 43 43.3 +0.3
comp=Z,1.5nm,0.8s,baz=230,slow=0.4,SNR=7.6
TORD PKPab PKPab 07 44 31.4 +0.9
comp=Z,10nm,0.6s,baz=164,slow=4.6,SNR=27
CDF Champ du Feu 162.06 345 *e*PKP2 PKPab 07 44 27.9 -3.0
comp=Z,8.1nm,0.9s
MEZF Maizieres J'vi 162.39 350 *e*PKP2 PKPab 07 44 29.4 -2.9
LOR Lormes 163.76 352 *e*PKP2 PKPab 07 44 35.1 -3.3
comp=Z,3.3nm,0.5s
SSF Saint Saulge 164.00 352 *e*PKP2 PKPab 07 44 36.3 -3.2
comp=Z,18nm,0.8s
CABF La Chapelle 164.02 346 *e*PKP2 PKPab 07 44 36.8 -2.7
comp=Z,40nm,1.4s
AVF Avril sur Loir 164.29 353 *e*PKP2 PKPab 07 44 37.4 -3.3
comp=Z,12nm,0.9s
SMF Signal de Mont 164.37 351 *e*PKP2 PKPab 07 44 38.0 -3.1
comp=Z,30nm,0.9s
BGF Bois d'Agland 164.57 354 *e*PKP2 PKPab 07 44 38.8 -3.1
TCF Toulx Ste Croi 164.89 355 *e*PKP2 PKPab 07 44 40.1 -3.3
LPG La Plagne 164.92 343 *e*PKP2 PKPab 07 44 41.8 -1.7
comp=Z,39nm,1.2s
MBDF Montbardon 165.63 342 *e*PKP2 PKPab 07 44 44.0 -2.6
comp=Z,23nm,1.0s

ISCJB ***04*** *07:28:41.4±0.4,3706N±003×7185E±006,h152km±6km, mb3.7/11, Error ellipse: s-maj=8.3km s-min=4.5km az=169.9*

IDC ***04*** *07:28:41.9±7.7,3690N×7177E,h144km±69km,mb3.3/9, mb1 3.5/12,mb1mx3.4/23,mbtmp3.9/12, Error ellipse: s-maj=33.9km s-min=18.7km az=4.0*

NEIC ***04*** *07:28:41.3±2.4,3699N×7179E,h132km±21km,mb3.6/2, Error ellipse: s-maj=19.7km s-min=12.3km az=201.0*

BJI ***04*** *07:28:41.0,3694N×7187E,h119km,mb3.8*

NNC ***04*** *07:28:46.4±5.2,3745N×7165E,h170km±54km,mb3.1, mpv4.1, Error ellipse: s-maj=45.5km s-min=27.6km az=11.0*

ISC 04 07:28:42.5±0.4,3706N±003×7186E±007,h147km±6km, n52,σ1$03/54,mb3.7/11,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.23**	**179**	⇓P	**Pn**	**07 29 33.9**	**+1.4**
CHCP	**Chirah Chowk**	**3.58**	**161**	P	**Pn**	**07 29 39.2**	**+2.1**
CHCP				S	**Sn**	**07 30 19.0**	**-0.5**
KSH	**Kashi**	**4.06**	**52**	P	**Pn**	**07 29 45.7**	**+2.3**
KSH				S	**Sn**	**07 30 31.7**	**+1.0**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH					Smax		
	comp=N,395nm,1.1s						
KSH					Smax		
	comp=E,365nm,0.5s						
THW	**Thamme Wali**	**4.25**	**181**	P	**Pn**	**07 29 46.3**	**+0.4**
SBDP	**Sheikh Budin**	**4.82**	**191**	P	**Pn**	**07 29 52.5**	**-0.9**
SARP	**Sargodha**	**5.17**	**172**	P	**Pn**	**07 29 57.9**	**-0.1**
AML	**Almayashu**	**5.26**	**15**	P	**Pn**	**07 29 59.2**	**0.0**
	SNR=135						
DRP	**Derazinda**	**5.47**	**195**	⇓P	**Pn**	**07 30 02.8**	**+0.7**
UCH	**Uchtor**	**5.55**	**21**	P	**Pn**	**07 30 03.3**	**+0.2**
	SNR=109						
THN	**Thein Dam**	**5.60**	**144**	*ex*	x	07 30 04.1	
THN				*ex*	x	07 31 06.9	
KZA	**Kyzart**	**5.66**	**27**	P	**Pn**	**07 30 04.4**	**-0.1**
	SNR=7.7						
EKS2	**Erkin-Say**	**5.79**	**14**	P	**Pn**	**07 30 06.3**	**0.0**
	SNR=124						
AAK	**Ala-Archa**	**5.93**	**19**	P	**Pn**	**07 30 08.4**	**+0.3**
	SNR=74						
AAK	**Ala-Archa**	**5.93**	**19**	*e*Pn	**Pn**	**07 30 07.2**	**-0.9**
KBK	**Karagaybulak**	**6.08**	**22**	P	**Pn**	**07 30 10.4**	**+0.4**
	SNR=18						
KK31	**Karatay Array**	**6.13**	**351**	⇓P	**Pn**	**07 30 09.8**	**-1.0**
	comp=E,17nm,0.3s,baz=168,slow=12,SNR=640						
KK31				⇑S	**Sn**	**07 31 15.5**	**-4.3**
	comp=E,73nm,0.3s,baz=173,slow=21						
ULHL	**Ulahol**	**6.19**	**32**	P	**Pn**	**07 30 11.4**	**-0.1**
	SNR=19						
CHMS	**Chumysh**	**6.33**	**20**	P	**Pn**	**07 30 13.2**	**-0.3**
	SNR=25						
TKM2	**Tokmak 2**	**6.52**	**25**	P	**Pn**	**07 30 16.0**	**0.0**
	SNR=50						
TKM2	**Tokmak 2**	**6.52**	**25**	⇑P	**Pn**	**07 30 15.8**	**-0.2**
	comp=E,3.8nm,0.7s						
TKM2				⇓S	**Sn**	**07 31 28.2**	**-1.1**
	comp=E,0.8nm,0.6s						
USP	**Ospenovka**	**6.52**	**17**	P	**Pn**	**07 30 15.7**	**-0.4**
	SNR=38						
SDNR	**Sundarnagar**	**6.97**	**141**	*ex*	x	07 30 21.0	
SDNR				*ex*	x	07 31 34.4	
KOLN	**Koldanda**	**13.55**	**130**	*e*P	**Pn**	**07 31 46.9**	**-1.9**
	comp=E,7.7nm,0.3s						
GKN	**Gorkha**	**14.04**	**126**	*e*P	**Pn**	**07 31 53.6**	**-1.4**
	comp=E,14nm,0.3s						
KKN	**Kakani**	**14.61**	**125**	*e*P	**Pn**	**07 32 00.5**	**-1.5**
	comp=E,5.7nm,0.2s						
DMN	**Daman**	**14.62**	**126**	*e*P	**Pn**	**07 32 01.5**	**-0.6**
	comp=E,8.1nm,0.3s						
PKI	**Pulchoki**	**14.84**	**126**	*e*P	**Pn**	**07 32 04.6**	**-0.3**
	comp=E,10nm,0.4s						
GUN	**Gumba**	**14.92**	**124**	*e*P	**Pn**	**07 32 05.1**	**-0.8**
	comp=E,11nm,0.4s						
JIRN	**Jiri**	**15.29**	**124**	*e*P	**Pn**	**07 32 10.2**	**-0.3**
	comp=E,11nm,0.2s						
VOSK	**Vostochnaya**	**15.68**	**358**	⇓P	**Pn**	**07 32 12.9**	**-2.4**
	comp=E,2.8nm,1.1s						
BVAR	**Borovoye Array**	**16.00**	**357**	P	**Pn**	**07 32 18.7**	**-0.5**
	comp=E,0.5nm,0.3s,baz=163,slow=12,SNR=4.2						
BRVK	**Borovoye**	**16.04**	**357**	*e*P	**Pn**	**07 32 21.1**	**+1.3**
	comp=E,1.6nm,0.4s						
AKTK	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**07 32 26.7**	**-0.6**
AKTO	**Aktyubinsk**	**16.66**	**328**	⇑P	**Pn**	**07 32 27.1**	**-0.2**
AKTO				⇑S	**S**	**07 35 23.7**	**-8.9**
	comp=E,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**07 32 26.7**	**-0.6**
	comp=E,0.9nm,0.3s,baz=141,slow=9.0,SNR=12						
ZAL	**Zalesovo**	**19.11**	**24**	P	**P**	**07 32 55.2**	**+1.4**
	comp=E,1.6nm,0.3s,baz=246,slow=7.7,SNR=7.7						
GTA	**Gaotai**	**22.05**	**75**	*e*P	**P**	**07 33 28.4**	**+3.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.9						
SONM	**Songino Array**	**27.45**	**56**	P	**P**	**07 34 16.7**	**+2.1**
	comp=Z,0.4nm,0.5s,mb3.3,baz=248,slow=7.8,SNR=3.7						
BR131	**Keskin Array S**	**29.93**	**287**	*e*P	**P**	**07 34 38.1**	**+1.6**
	comp=Z,0.7nm,0.3s,mb3.9						
BRTR	**Keskin Array B**	**29.93**	**287**	P	**P**	**07 34 38.1**	**+1.6**
	comp=Z,0.8nm,0.7s,mb3.6,baz=106,slow=9.1,SNR=4.3						
AKASG	**Malin Array Be**	**33.14**	**308**	P	**P**	**07 35 04.9**	**+0.2**
	comp=Z,0.8nm,0.4s,mb3.8,baz=86,slow=6.3,SNR=6.5						
JOF	**Joensuu**	**35.74**	**329**	*e*p	**P**	**07 35 27.0**	**0.0**
	comp=Z,2.7nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**37.41**	**325**	P	**P**	**07 35 41.4**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=117,slow=9.4,SNR=7.9						
ARCES	**ARCESS Array B**	**40.90**	**337**	P	**P**	**07 36 10.4**	**+0.3**
	comp=Z,2.2nm,0.7s,mb3.9,baz=112,slow=7.6,SNR=14						
KULM	**Kulim**	**41.14**	**133**	*e*P	**P**	**07 36 13.6**	**+1.5**
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**07 36 37.8**	**-0.2**
	comp=Z,1.4nm,0.7s,mb3.7,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**07 36 37.8**	**-0.2**
	comp=Z,2.0nm,0.7s,mb3.9,baz=94,slow=7.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**66.42**	**269**	P	**P**	**07 39 14.4**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.6,baz=54,slow=5.7,SNR=6.7						
YKA	**Yellowknife Ar**	**80.66**	**3**	P	**P**	**07 40 38.8**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.4,baz=350,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**80.66**	**3**	P	**P**	**07 40 38.8**	**-0.1**
WRA	**Warramunga Arr**	**81.70**	**123**	P	**P**	**07 40 44.2**	**-0.2**
	comp=Z,0.4nm,0.9s,mb3.0,baz=325,slow=5.1,SNR=6.4						
LPAZ	**La Paz**	**139.09**	**289**	PKP	PKPdf	07 47 53.0	+1.4
	comp=Z,1.9nm,0.8s,baz=274,slow=3.8,SNR=7.9						

NIED ***04*** *07:40:00, 4650N× 15370E, h23km, Mw4.8 Best double couple: M0 1.84000×10^16 NP1:*ϕ_S*70.00000°,* δ*70.00000°, λ123.00000°. NP2:*ϕ_S*189.00000°,* δ*38.00000°, λ34.00000°.*
BJI ***04*** *07:40:53.6, 4686N× 15394E, h25km, mB5.0, mb4.9, Ms4.6, Msz4.3*
IDC ***04*** *07:40:54.1±0.5, 4656N× 15349E, h0km, mb4.9/28, mb1 5.0/29, mb1mx5.0/31, mbtmp4.9/29, ML4.0/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/32, Error ellipse: s-maj=15.4km s-min=13.6km az=132.0*
NEIC ***04*** *07:40:56.0±0.1, 4655N× 15350E, h10km, mb5.2/136, Error ellipse: s-maj=4.2km s-min=2.4km az=171.0*
SKHL ***04*** *07:40:56.2±2.6, 4650N× 15390E, h50km± 18km, mb5.5/6, mbh6.6/1, mbv6.3/1, ms4.8/3, msh5.3/1*
JMA ***04*** *07:40:56.6±0.9, 4650N× 15371E, h30km, M5.4*
GCMT ***04*** *07:40:56.0±0.3, 4656N× 15368E, h18km± 1km, MW4.9/63, Moment Tensor Solution. s24,c31; s63,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.92±.16; Mθθ-1.41±.10; Mφφ-0.51±.11; Mrθ 1.53±.24; Mθφ-1.58±.06; Mφr-0.25±.23; Best double couple: M0 2.80400×10^16 NP1:*ϕ_S*206.00000°,* δ*39.00000°, λ45.00000°. NP2:*ϕ_S*78.00000°,* δ*63.00000°, λ120.00000°. Principal axes: T 2.7450, Plg60.0000°, Azm33.0000°; N 0.1110, Plg26.0000°, Azm244.0000°; P -2.8630, Plg14.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***04*** *07:40:57.9±0.1, 4638N± 003× 15357E± 002, h40km, mb5.1/202, MS4.4/47 Error ellipse: s-maj=4.3km s-min=1.7km az=152.4*
MOS ***04*** *07:40:57.3±1.0, 4650N× 15352E, h31km, mb5.3/97, MS4.4/30, Error ellipse: s-maj=6.9km s-min=4.3km az=97.7*
SZGRF ***04*** *07:40:58.1, 4650N× 15250E, h33km, mb5.2, MS4.4, Kuril Islands, Russia*

ISC 04 07:41:00.2±0.1, 4651N±003×15350E±002, h42km, h42km±.5km: pP-P, n815, σ0.9 86/833, mb5.1/202, MS4.4/47, 160C-93D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.13**	**254**	*e*P	**Pn**	**07 41 57.8**	**-3.0**
KUR				AMB	AMB	07 42 08.4	
	3μm,1.6s						
KUR				AMB	AMB	07 42 10.0	
	300nm,0.6s						
KUR				AMB	AMB	07 42 10.0	
	230nm,0.6s						
KUR				AMB	AMB	07 42 10.0	
	620nm,0.6s						
KUR				sP		07 42 18.0	
KUR				*e*S	**Sn**	**07 42 46.0**	**-1.9**
KUR				A		07 43 06.3	
	3μm,0.6s						
KUR				A		07 43 06.3	
	1μm,0.6s						
KUR				A		07 43 08.0	
	8μm,1.6s						
KUR				A		07 43 08.0	
	10μm,1.6s						
KUR				AMS	AMS	07 43 33.0	
	10μm,16.0s						
KUR				AMS	AMS	07 43 33.0	
	8μm,16.0s						
KUR				AMS	AMS	07 43 33.0	
	5μm,16.0s						
SKR	**Severo-Kuril's**	**4.52**	**22**	*e*P	**Pn**	**07 42 01.2**	**-4.9**
SKR				AMB	AMB	07 42 04.0	
	2μm,2.0s						
SKR				AMB	AMB	07 42 05.5	
	140nm,0.5s						
SKR				AMB	AMB	07 42 05.5	
	900nm,1.0s						
SKR				AMB	AMB	07 42 05.5	
	2μm,1.0s						
SKR				*e*S	**Sn**	**07 42 48.0**	**-9.4**
SKR				A		07 43 02.0	
	2μm,6.0s						
SKR				A		07 43 02.0	
	6μm,8.0s						
SKR				A		07 43 02.0	
	3μm,8.0s						
SKR				A		07 43 02.0	
	6μm,8.0s						
SKR				A		07 43 21.9	
	290nm,0.5s						
SKR				A		07 43 21.9	
	2μm,0.9s						
SKR				A		07 43 21.9	
	980nm,0.9s						
SKR				AMS	AMS	07 43 42.0	
	4μm,14.0s						
SKR				AMS	AMS	07 43 42.0	
	8μm,14.0s						
SKR				AMS	AMS	07 43 42.0	
	5μm,14.0s						
SKR				AMS	AMS	07 43 42.0	
	4μm,14.0s						
SKR				AMS	AMS	07 43 42.0	
	9μm,14.0s						
SKR				AMS	AMS	07 43 42.0	
	5μm,14.0s						
SKR				*e*rx	rx	07 49 46.8	
SKR	**Severo-Kuril's**	**4.52**	**22**	*e*PN	**Pn**	**07 42 01.2**	**-4.9**
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=E,900nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				pmax	pmax		
	comp=N,140nm,0.5s						
SKR				MLR	MLR		
	comp=N,4μm,14.0s						
SKR				MLR	MLR		
	comp=E,8μm,14.0s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**248**	*e*P	**Pn**	**07 42 26.6**	**+1.1**
YUK				AMB	AMB	07 42 28.4	
	comp=Z,460nm,0.4s						
YUK				AMB	AMB	07 42 28.4	
	comp=Z,180nm,0.5s						
YUK				AMB	AMB	07 42 33.9	
	comp=Z,2μm,1.0s						
YUK				AMB	AMB	07 42 33.9	
	comp=Z,2μm,1.0s						
YUK				AMB	AMB	07 42 33.9	
	comp=Z,3μm,2.0s						
YUK				AMB	AMB	07 42 33.9	
	comp=Z,2μm,2.0s						
YUK				*e*S	**Sn**	**07 43 31.1**	**-1.0**
YUK				A		07 43 54.0	
	comp=Z,6μm,1.0s						
YUK				A		07 43 54.0	
	comp=Z,5μm,1.0s						
YUK				A		07 43 59.4	
	comp=Z,2μm,0.6s						
YUK				A		07 43 59.4	
	comp=Z,2μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**248**	PN	**Pn**	**07 42 26.6**	**+1.1**
YUK				pmax	pmax		
	comp=Z,460nm,0.4s						
YUK				pmax	pmax		
	comp=N,180nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,3μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
NEM2	**Nemuro 2**	**6.34**	**243**	P	**Pn**	**07 42 28.6**	**-2.5**
NEM2				*e*S	**Sn**	**07 43 38.3**	**-3.9**
JRA	**Rausu**	**6.45**	**249**	P	**Pn**	**07 42 33.2**	**+0.6**
JRA				*e*S	**Sn**	**07 43 46.9**	**+2.0**
JNK	**Nakash**	**6.87**	**248**	P	**Pn**	**07 42 39.2**	**+0.8**
JNK				*e*S	**Sn**	**07 43 53.1**	**-2.2**
JAK	**Akkeshi**	**7.18**	**244**	P	**Pn**	**07 42 40.1**	**-2.6**
JAK				*e*S	**Sn**	**07 43 56.2**	**-6.7**
JTKR	**Abashiri--Toko**	**7.23**	**253**	P	**Pn**	**07 42 43.6**	**+0.3**
PET	**Petropavlovsk**	**7.32**	**25**	⇑*i*PN	**Pn**	**07 42 40.4**	**-4.2**
PET				pmax	pmax		
	comp=Z,200nm,9.6s						
PET				pmax	pmax		
	comp=Z,500nm,7.3s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**7.32**	**25**	*e*Pn	**Pn**	**07 42 41.4**	**-3.2**
PET				*e*Sn	**Sn**	**07 43 53.1**	**-13**
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	⇑*e*P	**Pn**	**07 42 48.8**	**+3.2**
YSS				AMB	AMB	07 42 50.0	
	comp=Z,40nm,1.0s						
YSS				*e*S	**Sn**	**07 44 12.0**	**+3.8**
YSS				A		07 44 15.0	
	comp=Z,140nm,0.9s						
YSS				AMS	AMS	07 45 17.0	
	comp=Z,800nm,16.0s						
YSS				AMS	AMS	07 45 17.0	
	comp=Z,2μm,17.0s						
YSS				AMS	AMS	07 45 17.0	
	comp=Z,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.40**	**277**	*e*Pn	**Pn**	**07 42 49.0**	**+3.5**
YSS				*e*Sn	**Sn**	**07 44 07.3**	**-0.9**
JMP	**Maruseppu**	**7.58**	**254**	P	**Pn**	**07 42 49.2**	**+1.1**
JAR	**Ashorobuto**	**7.62**	**249**	P	**Pn**	**07 42 48.6**	**0.0**
JAR				*e*S	**Sn**	**07 44 12.1**	**-1.5**
JOB	**Onbets**	**7.77**	**246**	P	**Pn**	**07 42 49.9**	**-0.8**
JOB				*e*S	**Sn**	**07 44 15.2**	**-2.2**
JSE	**Soyaes**	**7.79**	**262**	P	**Pn**	**07 42 53.7**	**+2.7**
JKK2	**Kamakawa 2**	**8.04**	**255**	P	**Pn**	**07 42 55.4**	**+1.0**
ASAJ	**Asahikawa**	**8.05**	**257**	Pn	**Pn**	**07 42 55.2**	**+0.7**
	comp=Z,7.2nm,0.3s,baz=89,slow=16,SNR=20						
ASAJ				LR	LR	07 45 55.3	
	comp=Z,999nm,19.1s,baz=72,slow=37						
ASAJ	**Asahikawa**	**8.05**	**257**	P	**Pn**	**07 42 56.3**	**+1.8**
UGL	**Uglegorsk**	**8.11**	**293**	*e*P	**Pn**	**07 42 59.6**	**+4.2**
UGL				AMB	AMB	07 43 02.0	
	comp=Z,120nm,0.8s						
UGL				AMB	AMB	07 43 03.0	
	comp=Z,800nm,1.6s						
UGL				*e*S	**Sn**	**07 44 30.6**	**+4.8**
UGL				A		07 44 35.0	
	comp=Z,110nm,0.7s						
UGL				A		07 44 35.0	
	comp=Z,120nm,0.7s						
UGL				AMS	AMS	07 46 02.0	
	comp=Z,2μm,14.0s						
UGL				AMS	AMS	07 46 02.0	
	comp=Z,2μm,14.0s						
UGL				AMS	AMS	07 46 02.0	
	comp=Z,1μm,16.0s						
UGL	**Uglegorsk**	**8.11**	**293**	*e*PN	**Pn**	**07 42 59.6**	**+4.2**
UGL				*e*		07 44 42.0	
UGL				pmax	pmax		
	comp=Z,120nm,0.8s						
UGL				pmax	pmax		
	comp=Z,800nm,1.6s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,14.0s						
UGL				MLR	MLR		
	comp=E,2μm,14.0s						
JWK2	**Keihoku**	**8.18**	**266**	P	**Pn**	**07 43 00.8**	**+4.5**
JCH	**Churui**	**8.22**	**245**	P	**Pn**	**07 42 55.3**	**-1.5**
JCH				*e*S	**Sn**	**07 44 22.4**	**-6.0**
JFR	**Furan**	**8.44**	**251**	P	**Pn**	**07 43 00.7**	**+0.8**
JAB	**Ashibetsu**	**8.54**	**253**	P	**Pn**	**07 43 03.0**	**+1.8**
ERM	**Erimo**	**8.67**	**242**	Pn	**Pn**	**07 43 04.6**	**+1.5**
	comp=E,777nm,0.4s,SNR=11						
ERM	**Erimo**	**8.67**	**242**	*e*Pn	**Pn**	**07 43 02.2**	**-0.9**
	comp=E,196nm,0.8s						
ERM				*e*Sn	**Sn**	**07 44 27.2**	**-12**
JEM	**Erimo**	**8.67**	**242**	P	**Pn**	**07 43 01.6**	**-1.5**
JEM				*e*S	**Sn**	**07 44 36.3**	**-3.2**
JBT2	**Biratori 2**	**8.77**	**249**	P	**Pn**	**07 43 04.2**	**-0.2**
JHR	**Hokuryu**	**8.77**	**256**	P	**Pn**	**07 43 08.2**	**+3.8**
JNBK	**Urakawa-nobuka**	**8.78**	**245**	P	**Pn**	**07 43 02.4**	**-2.1**
JNBK				*e*S	**Sn**	**07 44 38.4**	**-3.7**
JEW	**Eniwo**	**9.33**	**251**	P	**Pn**	**07 43 12.9**	**+0.8**
JNB	**Noboribetsu**	**9.78**	**250**	P	**Pn**	**07 43 17.6**	**-0.6**
JNB				*e*S	**Sn**	**07 45 01.1**	**-5.5**
JKB	**Kayabe**	**10.07**	**247**	P	**Pn**	**07 43 19.9**	**-2.3**
JKB				*e*S	**Sn**	**07 45 06.2**	**-7.7**
JSH	**Shimam**	**10.35**	**253**	P	**Pn**	**07 43 26.9**	**+0.9**
JYM2	**Yakumo 2**	**10.38**	**250**	P	**Pn**	**07 43 25.1**	**-1.4**
NKL	**Nikolayevsk**	**10.61**	**313**	*i* P	**Pn**	**07 43 30.0**	**+0.5**
NKL				AMB	AMB	07 43 31.1	
	comp=E,140nm,1.4s						
NKL				AMB	AMB	07 43 31.1	
	comp=E,280nm,1.4s						
JANG	**Nango**	**10.65**	**239**	P	**Pn**	**07 43 25.5**	**-4.7**
JANG				*e*S	**Sn**	**07 45 16.4**	**-12**
JTM	**Tenmabayashi**	**10.67**	**242**	P	**Pn**	**07 43 27.0**	**-3.4**
JTM				*e*S	**Sn**	**07 45 18.8**	**-10**
JTH	**Tanohata**	**10.73**	**236**	*e*S	**Sn**	**07 45 18.2**	**-12**
JOSM	**Okushiri--Mats**	**10.98**	**251**	P	**Pn**	**07 43 34.0**	**-0.7**
OFUJ	**Ofunato**	**11.42**	**234**	P	**Pn**	**07 43 36.6**	**-4.1**
OFUJ				*e*S	**Sn**	**07 45 34.7**	**-12**
JRG	**Rokugo**	**11.80**	**238**	P	**Pn**	**07 43 41.6**	**-4.3**
JRG				*e*S	**Sn**	**07 45 45.4**	**-11**
JIO	**Ouri**	**12.04**	**232**	P	**Pn**	**07 43 44.0**	**-5.2**
JIO				*e*S	**Sn**	**07 45 48.7**	**-13**
MA2	**Magadan**	**13.19**	**354**	*e*PN	**Pn**	**07 44 05.5**	**+0.7**
MA2				*e*S	**Sn**	**07 46 34.4**	**+4.3**
MA2				pmax	pmax		
	comp=Z,40nm,0.6s						
MA2				MLR	MLR		
	comp=Z,2μm,12.1s						
MA2	**Magadan**	**13.19**	**354**	*e*Pn	**Pn**	**07 44 02.1**	**-2.7**
KLR	**Kul'dur**	**14.84**	**288**	*e*P	**Pn**	**07 44 28.0**	**+0.8**
KLR				*e*		07 47 16.0	
KLR				MLR	MLR		
	comp=E,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
MJAR	**Matsushiro Arr**	**15.15**	**234**	Pn	**Pn**	**07 44 28.3**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=9.8						
MJAR	**Matsushiro Arr**	**15.15**	**234**	P	**Pn**	**07 44 28.3**	**-3.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**15.15**	**234**	*e*Pn	**Pn**	**07 44 29.5**	**-1.8**
	comp=Z,26nm,0.6s						
MAT	**Matsushiro**	**15.15**	**234**	P	**Pn**	**07 44 29.1**	**-2.2**
VLA	**Vladivostok**	**15.69**	**265**	*e*P	**Pn**	**07 44 41.6**	**+3.3**
VLA				pmax	pmax		
	comp=Z,40nm,0.9s						
MDJ	**Mudanjiang**	**16.84**	**272**	P	**Pn**	**07 44 52.4**	**-0.4**
MDJ				AP	pP	07 44 56.9	-7.6
MDJ				S	**S**	**07 48 01.7**	**-6.2**
MDJ				XS	sS	07 48 15.9	-8.1
MDJ				PCP	PcP	07 49 39.1	+0.4
MDJ				SCP	ScP	07 53 13.9	+3.8
MDJ				PCS	PcS	07 53 15.2	+0.5
MDJ				AMB	AMB		
	comp=Z,12nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,16nm,3.1s						
MDJ				LR	LR		
	comp=N,390nm,13.7s						
MDJ				LR	LR		
	comp=E,471nm,15.5s						
MDJ				LR	LR		
	comp=Z,587nm,16.8s						
CN2	**Changchun**	**19.92**	**272**	*e*P	**Pn**	**07 45 26.8**	**-3.5**
CN2				*e*S	**S**	**07 49 03.8**	**-6.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,17.0s						
CN2				LR	LR		
	comp=E,400nm,17.0s						
CN2				LR	LR		
	comp=Z,600nm,17.0s						
CLNS	**Chul'man**	**20.38**	**311**	*e*P	**P**	**07 45 34.8**	**+1.5**
CLNS				*e*		07 45 47.4	
CLNS				*e*PPP		07 46 00.0	
CLNS				*e*		07 49 47.6	
CLNS				*e*		07 57 02.3	
CLNS				pmax	pmax		
	comp=Z,34nm,1.6s						
CLNS				pmax	pmax		
	comp=N,26nm,1.2s						
CLNS				pmax	pmax		
	comp=E,17nm,0.9s						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s,MS4.5						
CLNS				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s,MS4.5						
YAK	**Yakutsk**	**20.66**	**327**	*e*P	**P**	**07 45 36.3**	**-0.1**
YAK				*e**PP		07 45 45.4	
YAK				*e*		07 45 56.5	
YAK				*e*S	**S**	**07 49 29.2**	**+4.2**
YAK				*e**SS	sS	07 49 44.4	+3.0
YAK				*e*SS		07 49 55.5	
YAK				pmax	pmax		
	comp=Z,29nm,0.7s						
YAK				pmax	pmax		
	comp=N,18nm,1.4s						
YAK				pmax	pmax		
	comp=E,22nm,1.2s						
YAK				pmax	pmax		
	comp=Z,73nm,1.0s						
YAK				pmax	pmax		
	comp=N,79nm,1.5s						
YAK				pmax	pmax		
	comp=E,122nm,1.8s						
YAK				smax			
	comp=N,242nm,4.0s						
YAK				smax			
	comp=Z,79nm,1.9s						
YAK				smax			
	comp=E,187nm,2.6s						
YAK				MLR	MLR		
	comp=Z,642nm,17.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,840nm,16.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,391nm,13.0s,MS4.3						
YAK	**Yakutsk**	**20.66**	**327**	*e*P	**P**	**07 45 35.1**	**-1.3**
	comp=E,108nm,0.7s						
CBIJ	**Chichi jima**	**21.35**	**209**	LR	LR	07 54 27.6	
	comp=E,222nm,18.6s,MS3.6,baz=106,slow=38						
INCN	**Inchon**	**21.82**	**255**	*e*P	**P**	**07 45 48.7**	**-0.2**
	comp=E,24nm,0.7s,mb4.7						
SNY	**Shenyang**	**21.89**	**269**	⇓P	**P**	**07 45 50.1**	**+0.5**
SNY				S	**S**	**07 49 38.2**	**-11**
SNY				AMB	AMB		
	comp=Z,23nm,0.5s,mb4.9						
SNY				LR	LR		
	comp=N,279nm,12.3s,MS4.2						
SNY				LR	LR		
	comp=E,690nm,15.9s,MS4.2						
SNY				LR	LR		
	comp=Z,696nm,16.2s,MS4.2						
BILL	**Bilibino**	**22.57**	**13**	*e*P	**P**	**07 45 55.5**	**-1.3**
BILL				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.8						
BILL	**Bilibino**	**22.57**	**13**	*

comp=Z,230nm,14.0s,MS3.8
BOD Bodaibo 26.34 310⇑ iP P 07 46 29.6 -2.6
BOD pmax pmax
comp=Z,19nm,1.3s,mb4.5
BJI Beijing 27.74 270 P **P 07 46 46.5 +1.7**
BJI S **S 07 51 33.3 +8.9**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.6
BJI LR LR
comp=N,692nm,18.3s,MS4.3
BJI LR LR
comp=E,329nm,17.6s,MS4.3
BJI LR LR
comp=Z,450nm,18.7s,MS4.1
BJI Beijing 27.74 270 P **P 07 46 46.5 +1.7**
comp=Z,13nm,0.8s,mb4.6
BJI S **S 07 51 33.3 +8.9**
BJI LR LR
comp=Z,450nm,18.7s,MS4.1
SSE Sheshan 29.26 250 P **P 07 46 58.0 -0.3**
SSE S **S 07 51 48.9 +0.6**
SSE AMB AMB
comp=Z,18nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,102nm,6.5s
SSE LR LR
comp=N,165nm,23.1s,MS3.8
SSE LR LR
comp=E,228nm,23.1s,MS3.8
SSE LR LR
comp=Z,252nm,19.7s,MS3.8
SSE Sheshan 29.26 250 P **P 07 46 58.0 -0.3**
comp=Z,18nm,0.8s,mb4.8
SSE sP sP 07 47 02.1 -12
SSE S **S 07 51 48.9 +0.6**
SSE sS sS 07 51 54.0 -13
SSE LR LR
comp=Z,250nm,19.7s,MS3.8
NJ2 Nanjing 30.18 254 eP **P 07 47 05.5 -1.0**
NJ2 AP pP 07 47 14.6 -3.2
NJ2 XP sP 07 47 19.4 -3.3
NJ2 PP PP 07 48 04.8 -10
NJ2 S **S 07 52 01.0 -1.8**
NJ2 XS sS 07 52 16.0 -5.7
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.3
NJ2 AMB AMB
comp=Z,880nm,5.0s
NJ2 LR LR
comp=N,700nm,16.6s,MS4.6
NJ2 LR LR
comp=E,700nm,14.8s,MS4.6
HHC Hu-ho-hao-te 30.57 275 eP **P 07 47 10.0 +0.1**
HHC AP pP 07 47 14.9 -6.3
HHC XP sP 07 47 17.1 -9.1
HHC PP PP 07 48 07.3 -12
HHC PCP PcP 07 50 08.5 +0.7
HHC S **S 07 52 09.1 +0.2**
HHC PCS PcS 07 53 53.7 +2.1
HHC SCS ScS 07 57 44.5 +1.2
HHC AMB AMB
comp=Z,38nm,0.9s,mb5.2
HHC LR LR
comp=N,207nm,12.9s,MS4.4
HHC LR LR
comp=E,504nm,13.9s,MS4.4
HHC LR LR
comp=Z,398nm,14.7s,MS4.2
SONM Songino Array 31.66 290 P **P 07 47 17.9 -1.6**
comp=Z,2.5nm,0.8s,mb4.1,baz=75,slow=8.6,SNR=4.6
SONM PcP PcP 07 50 11.3 +0.6
comp=Z,2.0nm,0.7s,baz=98,slow=2.2,SNR=4.9
SONM LR LR 08 01 23.5
comp=Z,436nm,18.5s,MS4.2,baz=242,slow=39
SONM Songino Array 31.66 290 P **P 07 47 17.9 -1.6**
SONM 07 50 11.3
SONM pmax pmax
comp=Z,30nm,0.8s
SONM MLR MLR
comp=Z,436nm,18.5s
TLY Talaya 32.52 298 P **P 07 47 26.0 -1.1**
comp=Z,53nm,0.9s,mb5.5,SNR=5.5
TLY Talaya 32.52 298 P **P 07 47 26.4 -0.7**
SNR=6.0
TLY Talaya 32.52 298 eP **P 07 47 25.4 -1.7**
TLY ePPP 07 48 39.3
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,653nm,15.0s,MS4.5
TLY Talaya 32.52 298 eP **P 07 47 26.1 -0.9**
comp=Z,5.6nm,0.7s,mb4.6
ZAK Zakamensk 33.02 295⇑ iP P 07 47 30.1 -1.3
ZAK e 07 50 13.7
GUMO Guam 33.61 195 LR LR 07 58 36.0
comp=Z,349nm,20.5s,MS4.1,baz=2.8,slow=32
KDAK Kodiak Island 34.05 51 P **P 07 47 38.3 -2.0**
comp=Z,369nm,0.8s,SNR=5.3
KDAK Kodiak Island 34.05 51 P **P 07 47 38.8 -1.5**
comp=Z,46nm,0.8s,mb5.5,baz=292,slow=4.0,SNR=15
WHN Wuhan 34.13 256 P **P 07 47 41.9 +0.9**
PMR Palmer 35.59 44 eP **P 07 47 53.3 -0.3**
PMR pmax pmax
comp=Z,30nm,1.0s,mb5.2
PMR Palmer 35.59 44 eP **P 07 47 53.3 -0.4**
comp=Z,30nm,1.1s,mb5.1
XAN Xi'an 35.76 266 P **P 07 47 56.0 +0.9**
XAN AP pP 07 47 59.9 -6.6
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.7
COLA College 36.16 38 c iP **P 07 47 58.2 -0.3**
COLA College 36.16 38 eP **P 07 47 58.1 -0.4**
comp=Z,42nm,1.1s,mb5.3
LZH Lanzhou 38.16 272 ⇑P **P 07 48 16.8 +1.3**
LZH AP pP 07 48 20.1 -6.9
LZH PP PP 07 49 46.7 +3.5
LZH eS **S 07 54 08.4 +2.5**
LZH SS SS 07 56 44.6 -10
LZH AMB AMB
comp=Z,74nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,257nm,5.2s
LZH LR LR
comp=N,1μm,13.9s
LZH LR LR
comp=Z,2μm,15.2s,MS5.1
LZH Lanzhou 38.16 272 ⇑P **P 07 48 16.8 +1.3**
LZH *SP sP 07 48 21.5 -10
LZH 07 49 46.7
LZH eS **S 07 54 08.4 +2.5**
LZH SS SS 07 56 44.6 -10
LZH pmax pmax
comp=Z,74nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.2s,MS5.1
LZH Lanzhou 38.16 272 ⇑P **P 07 48 16.8 +1.3**
comp=Z,74nm,1.3s,mb5.3
LZH pP pP 07 48 20.1 -6.9
LZH sP sP 07 48 21.5 -10
LZH PP PP 07 49 46.7 +3.5
LZH eS **S 07 54 08.4 +2.5**
LZH sS sS 07 54 14.9 -10
LZH SS SS 07 56 44.6 -10
LZH LR LR
comp=Z,2μm,15.2s,MS5.1
EGAK Eagle 39.02 38 eP **P 07 48 21.6 -1.2**
GTA Gaotai 39.27 280 eP **P 07 48 26.2 +1.4**
GTA AP pP 07 48 30.3 -6.0
GTA XP sP 07 48 33.5 -7.7
GTA PP PP 07 50 01.7 +6.4
GTA PCP PcP 07 50 34.8 +1.8
GTA S **S 07 54 25.9 +3.3**
GTA SS SS 07 57 10.6 -6.4
GTA AMB AMB
comp=Z,17nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,103nm,4.2s
GTA LR LR
comp=N,389nm,17.9s,MS4.4
GTA LR LR
comp=E,184nm,14.4s,MS4.4
GTA LR LR
comp=Z,378nm,16.0s,MS4.3
DAWY Dawson 39.86 39 eP **P 07 48 29.6 -0.1**
CD2 Chengdu 41.12 266 eP **P 07 48 38.7 -1.5**
CD2 PCP PcP 07 50 39.3 +0.3
CD2 S **S 07 54 50.3 0.0**
CD2 SCS ScS 07 58 40.9 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.3s
CD2 LR LR
comp=E,190nm,14.0s
CD2 LR LR
comp=Z,170nm,13.2s,MS4.1
INK Inuvik 41.71 32 P **P 07 48 44.9 -0.1**
comp=Z,13nm,0.9s,mb4.5,baz=286,slow=6.8,SNR=14
INK Inuvik 41.71 32 P **P 07 48 44.9 -0.1**
INK pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 41.71 32 eP **P 07 48 44.9 -0.1**
comp=Z,274nm,0.6s,mb6.1
GYA Guiyang 41.92 258⇓ iP P 07 48 47.2 +0.5
GYA AP pP 07 48 51.7 -6.6
GYA XP sP 07 48 54.8 -8.4
GYA PP PP 07 50 27.9 +3.7
GYA SCP ScP 07 54 31.5 +2.9
GYA S **S 07 55 05.4 +3.3**
GYA SCS ScS 07 58 47.2 +1.3
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,820nm,17.6s,MS4.8
GYA LR LR
comp=E,680nm,17.0s,MS4.8
GYA LR LR
comp=Z,940nm,16.8s,MS4.7
ZAL Zalesovo 42.98 306 P **P 07 48 54.0 -1.3**
comp=Z,2.8nm,0.5s,mb4.2,baz=48,slow=6.1,SNR=12
ZAL LR LR 08 07 43.5
comp=Z,329nm,19.6s,MS4.2,baz=42,slow=38
ZAL Zalesovo 42.98 306 P **P 07 48 54.0 -1.3**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL MLR MLR
comp=Z,329nm,19.6s
NVS Novosibirsk 43.54 308 eP **P 07 48 58.2 -1.6**
NVS e 07 50 45.5
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.5
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,21nm,1.8s
QIZ Qiongzhong 45.00 247 P **P 07 49 12.6 +1.1**
QIZ S **S 07 55 49.6 +2.5**
QIZ LR LR
comp=E,353nm,16.4s
QIZ LR LR
comp=Z,593nm,17.1s,MS4.6
WRAK Wrangell Islan 45.09 49 eP **P 07 49 13.4 +1.3**
WMQ Urumqi 45.26 292 P **P 07 49 13.3 -0.2**
WMQ AP pP 07 49 17.5 -7.7
WMQ XP sP 07 49 20.0 -10
WMQ PCP PcP 07 50 55.0 +2.1
WMQ PPP 07 51 41.0
WMQ PCS PcS 07 54 46.0 -0.8
WMQ S **S 07 55 52.0 +1.1**
WMQ SCS ScS 07 59 08.0 +1.2
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,186nm,4.6s
WMQ LR LR
comp=N,2μm,15.8s,MS5.1
WMQ LR LR
comp=E,858nm,15.8s,MS5.1
WMQ LR LR
comp=Z,1μm,16.8s,MS5.0
KMI Kunming 45.46 260 P **P 07 49 16.4 +1.3**
KMI AP pP 07 49 20.6 -6.2
KMI XP sP 07 49 22.5 -9.2
KMI PPP 07 51 44.9
KMI S **S 07 55 55.5 +1.7**
KMI SS SS 07 59 14.6 -3.3
KMI SSS 08 00 09.2
KMI AMB AMB
comp=Z,15nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,133nm,3.7s
KMI LR LR
comp=N,397nm,16.9s,MS4.5
KMI LR LR
comp=E,316nm,16.2s,MS4.5
KMI LR LR
comp=Z,292nm,16.9s,MS4.3
KMI Kunming 45.46 260 P **P 07 49 16.4 +1.3**
KMI *SP sP 07 49 22.5 -9.2
KMI PPP 07 51 44.9
KMI S **S 07 55 55.5 +1.7**
KMI SS SS 07 59 14.6 -3.3
KMI SSS 08 00 09.2
KMI pmax pmax
comp=Z,15nm,1.2s,mb4.7
KMI MLR MLR
comp=Z,290nm,16.9s,MS4.3
KMI Kunming 45.46 260 P **P 07 49 16.4 +1.3**
comp=Z,15nm,1.2s,mb4.7
KMI pP pP 07 49 20.6 -6.2
KMI sP sP 07 49 22.5 -9.2
KMI PPP 07 51 44.9
KMI S **S 07 55 55.5 +1.7**
KMI SS SS 07 59 14.6 -3.3
KMI SSS 08 00 09.2
KMI LR LR
comp=Z,290nm,16.9s,MS4.3
KURK Kurchatov 47.72 304 P **P 07 49 31.6 -1.2**
comp=Z,211nm,0.7s,SNR=7.9
ALE Alert 49.95 6 P **P 07 49 49.0 -1.0**
comp=Z,172nm,0.9s,mb6.1,SNR=13
LSA Lhasa 50.55 274 P **P 07 49 56.3 +1.8**
YKW3 Yellowknife Ar 50.92 37 eP **P 07 49 56.9 -0.3**
YKA Yellowknife Ar 50.96 37 P **P 07 49 57.1 -0.4**
comp=Z,26nm,0.8s,mb5.2,baz=297,slow=7.3,SNR=44
YKA Yellowknife Ar 50.96 37 i P **P 07 49 57.0 -0.5**
YKA pmax pmax
comp=Z,26nm,0.8s
RES Resolute Bay 50.98 19 eP **P 07 49 55.3 -2.4**
comp=Z,298nm,0.8s
BVAR Borovoye Array 51.21 310 P **P 07 49 58.3 -1.2**
comp=Z,12nm,0.8s,mb4.9,baz=52,slow=8.1,SNR=45
BVAR LR LR 08 13 49.3
comp=Z,477nm,18.1s,MS4.6,baz=324,slow=39
BVAR Borovoye Array 51.21 310 P **P 07 49 58.3 -1.2**
BVAR pmax pmax
comp=Z,12nm,0.8s
BVAR MLR MLR
comp=Z,477nm,18.1s
BRVK Borovoye 51.25 310 P **P 07 49 58.6 -1.2**
comp=Z,152nm,0.7s,mb6.0,SNR=7.4
BRVK Borovoye 51.25 310 P **P 07 49 58.8 -1.0**
SNR=7.3
BRVK Borovoye 51.25 310 eP **P 07 49 58.6 -1.2**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 51.25 310 eP **P 07 49 58.5 -1.2**
comp=Z,17nm,0.8s,mb5.0
KKTK Khon Kaen 51.51 252 P **P 07 50 03.5 +1.8**
CHG Chiang Mai 52.32 257 ⇑P **P 07 50 09.3 +1.6**
comp=Z,22nm,0.9s,mb5.1
CHTO Chiang Mai 52.32 257 eP **P 07 50 09.4 +1.7**
CHTO pmax pmax
comp=Z,18nm,0.9s,mb5.0
CHTO Chiang Mai 52.32 257 eP **P 07 50 09.4 +1.6**
comp=Z,18nm,0.9s,mb5.0
CM31 Chiang Mai Arr 52.57 257 eP **P 07 50 11.7 +2.1**
comp=Z,3.7nm,0.3s,mb4.8
SHL Shillong 52.63 269 ex x 07 50 05.8
ULHL Ulahol 53.30 295 P **P 07 50 15.5 +0.5**
SNR=5.0
TKM2 Tokmak 2 53.34 296 P **P 07 50 15.6 +0.4**
SNR=6.2
B04A Port Angeles 53.65 56 ⇑P **P 07 50 17.3 -0.2**
baz=53
USP Ospenovka 53.83 297 P **P 07 50 18.9 0.0**
SNR=12
KBK Karagaybulak 53.88 296 P **P 07 50 19.6 +0.4**
SNR=7.3
A05A Maple Falls 53.95 54 ⇑P **P 07 50 18.9 -0.8**
baz=54
D03A Wishkah Elem. 53.99 57 ⇑P **P 07 50 19.1 -0.9**
baz=54
C04A Brinnon 54.13 56 ⇑P **P 07 50 20.3 -0.8**
baz=54
AAK Ala-Archa 54.18 297 P **P 07 50 20.6 -0.8**
comp=Z,112nm,1.0s,mb5.8,SNR=9.1
AAK Ala-Archa 54.18 297 P **P 07 50 21.6 +0.2**
SNR=13
AAK Ala-Archa 54.18 297 eP **P 07 50 20.5 -0.9**
comp=Z,12nm,0.8s,mb4.9
CMW Cultus Mountai 54.24 55 P **P 07 50 21.9 +0.1**
B05A Bryant 54.34 55 ⇓P **P 07 50 21.6 -1.0**
baz=54
B06A Marblemount 54.55 54 ⇑P **P 07 50 23.1 -1.0**
baz=54
EKS2 Erkin-Say 54.60 297 P **P 07 50 24.9 +0.5**
SNR=13
C05A Tolt Reservoir 54.87 55 ⇓P **P 07 50 25.9 -0.5**
baz=55
AML Almayashu 54.95 297 P **P 07 50 27.8 +0.8**
SNR=5.5
D05A Enumclaw 54.98 56 ⇑P **P 07 50 27.4 +0.2**
baz=55
KSH Kashi 54.99 293 eP **P 07 50 26.3 -0.9**
KSH eAP pP 07 50 31.3 -7.9
KSH eXP sP 07 50 34.7 -9.3
KSH ePCP PcP 07 51 27.6 -1.0
KSH ePP PP 07 52 29.7 -0.8
KSH ePPP 07 53 42.5
KSH eSCP ScP 07 55 24.7 +0.9
KSH eS **S 07 58 04.4 -1.9**
KSH ePS 07 58 20.3
KSH eSCS ScS 08 00 11.1 -1.9
KSH eSS SS 08 01 46.4 -3.9
KSH LR LR
comp=N,425nm,6.0s
KSH LR LR
comp=E,579nm,5.7s
KSH LR LR
comp=Z,788nm,14.8s,MS4.9
H02A Toledo 55.18 60 ⇑P **P 07 50 28.4 -0.2**
baz=55
JIRN Jiri 55.23 275 eP **P 07 50 30.9 +1.9**
comp=Z,5.1nm,0.2s,mb5.2
GUN Gumba 55.29 275 eP **P 07 50 30.9 +1.5**
comp=Z,42nm,0.6s,mb5.7
B07A Winthrop 55.34 54 ⇓P **P 07 50 29.2 -0.6**
baz=55,SNR=6.6
ARU Arti 55.37 318⇑ iP P 07 50 28.2 -1.8
ARU e 07 52 29.4
ARU eS **S 07 58 10.7 -0.7**
ARU eSS SS 08 01 49.1 -7.1
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU MLR MLR
comp=N,200nm,16.0s,MS4.4
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU MLR MLR
comp=E,200nm,17.0s,MS4.4
ARU Arti 55.37 318 eP **P 07 50 28.3 -1.7**
comp=E,20nm,0.8s,mb5.2
F04A Amboy 55.42 57 ⇓P **P 07 50 30.0 -0.4**
baz=55
E05A Randle 55.45 57 ⇑P **P 07 50 30.1 -0.5**
baz=55
H03A Soap Creek Ran 55.60 59 ⇑P **P 07 50 31.4 -0.2**
baz=55
D06A Cle Elum 55.63 55 ⇓P **P 07 50 31.4 -0.5**
baz=55
COR Corvallis 55.64 59 P **P 07 50 30.6 -1.3**
KKN Kakani 55.77 276 eP **P 07 50 34.5 +1.6**
comp=E,62nm,0.7s,mb5.8
G04A Mulino 55.78 58 ⇓P **P 07 50 32.8 -0.2**
baz=56
C07A Waterville 55.80 55 P **P 07 50 32.4 -0.6**
baz=56,SNR=5.8
PKI Pulchoki 55.82 275 eP **P 07 50 34.6 +1.4**
comp=E,34nm,0.7s,mb5.5
WTV Waterville 55.85 55 P **P 07 50 32.9 -0.5**
A09A Danville 55.91 53 P **P 07 50 33.7 -0.1**
baz=56,SNR=14
E06A Yakima 55.91 56 ⇓P **P 07 50 33.6 -0.3**
baz=56
EBG Ellensburg 55.94 56 P **P 07 50 34.3 +0.2**
SSOR Sweet Springs 55.99 59 P **P 07 50 35.3 +0.9**
I03A Eugene 56.00 60 ⇑P **P 07 50 34.6 +0.1**
baz=56
F05A White Salmon 56.00 57 ⇑P **P 07 50 33.8 -0.7**
baz=56
DMN Daman 56.01 276 eP **P 07 50 36.3 +1.7**
comp=E,72nm,0.9s,mb5.7
GKN Gorkha 56.08 276 eP **P 07 50 36.5 +1.4**
comp=E,65nm,0.6s,mb5.8
HOOD Mount Hood Mea 56.20 58 eP **P 07 50 36.7 +0.8**
H04A Detroit Lake 56.25 59 ⇓P **P 07 50 36.2 -0.1**
baz=56,SNR=6.9
EDM Edmonton 56.29 46 eP **P 07 50 36.3 -0.3**
C08A Higginbotham F 56.31 54 ⇑P **P 07 50 35.9 -0.9**
baz=56
G05A Wamic 56.44 58 P **P 07 50 38.0 +0.3**
baz=56,SNR=6.2
B09A Rice 56.45 53 P **P 07 50 37.4 -0.3**
baz=56,SNR=5.0
F06A Goldendale 56.46 57 ⇓P **P 07 50 37.1 -0.7**
baz=56
A10A Northport 56.47 52 P **P 07 50 37.5 -0.4**
baz=56,SNR=8.0
J03A Ideyld Park 56.53 60 ⇓P **P 07 50 38.0 -0.3**
baz=56
E07A Sunnyside 56.55 56 ⇓P **P 07 50 38.0 -0.4**
baz=56
K02A Glendale 56.55 61 ⇓P **P 07 50 38.8 +0.3**
baz=56
M01C Crescent City 56.70 62 ⇑P **P 07 50 39.5 +0.1**
baz=56
C09A Chrisman Ranch 56.73 54 ⇑P **P 07 50 39.0 -0.7**
baz=56
D08A Wollman Farm, 56.79 55 ⇑P **P 07 50 39.3 -0.9**
baz=56
HAWA Hanford 56.82 56 eP **P 07 50 40.2 -0.1**
comp=E,9.1nm,0.9s,mb4.8
HAWA e pP 07 50 51.9 -0.4
H05A Madras 56.83 58 P **P 07 50 40.8 +0.3**
baz=57,SNR=8.9
L02A Cave Junction 56.84 62 ⇑P **P 07 50 40.6 +0.2**
baz=57
G06A Carlson Farm, 56.84 57 P **P 07 50 40.2 -0.3**
baz=57,SNR=6.0
F07A Phinny Hill Vi 56.88 56 ⇑P **P 07 50 40.5 -0.2**
baz=57
DAG Danmarks Havn 56.89 358 i P **P 07 50 39.8 -1.1**
comp=E,29nm,1.0s,mb5.3
DAG Danmarks Havn 56.89 358⇓ iP P 07 50 39.8 -1.1
DAG pmax pmax
comp=Z,29nm,1.0s,mb5.3
KOLN Koldanda 56.94 277 eP **P 07 50 42.7 +1.5**
comp=Z,76nm,0.9s,mb5.7
B10A Chitwood Farm, 57.03 53 ⇑P **P 07 50 41.5 -0.4**
baz=57
I05A Bend 57.09 59 ⇓P **P 07 50 42.3 0.0**
baz=57
NEW Newport 57.11 53 eP **P 07 50 41.6 -0.8**
NEW e*PP pP 07 50 53.7 -0.7
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 57.11 53 eP **P 07 50 41.6 -0.8**
comp=Z,16nm,1.1s,mb5.0
NEW epP pP 07 50 53.7 -0.7
D09A Jones Farm, Ri 57.13 54 ⇑P **P 07 50 41.9 -0.7**
baz=57
C10A Spilker Farm, 57.26 53 ⇑P **P 07 50 42.9 -0.6**
baz=57
H06A Lindquist Farm 57.30 58 ⇓P **P 07 50 43.6 -0.2**
baz=57,SNR=11
A12A Yaak River Ran 57.53 51 ⇑P **P 07 50 45.0 -0.3**
baz=57
E09A Wood Farm, Sta 57.54 55 P **P 07 50 45.1 -0.4**
baz=57,SNR=11
F08A Pendleton 57.59 56 ⇑P **P 07 50 45.7 -0.1**
baz=57
J05A Fort Rock 57.61 60 ⇑P **P 07 50 46.3 +0.3**
baz=57
YBH Yreka Blue Hor 57.62 62 eP **P 07 50 46.7 +0.7**

YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 57.62 62 *e*P **P 07 50 46.7 +0.6**
comp=Z,9.2nm,1.0s,mb4.8
YBH Yreka Blue Hor 57.62 62 ⇓P **P 07 50 46.6 +0.6**
baz=57,SNR=5.1
KEV Kevo 57.66 341 *e*p **P 07 50 44.9 -1.3**
comp=Z,1.1nm,0.4s,mb4.2
K04A Chiloquin 57.70 60 ⇓P **P 07 50 46.2 -0.4**
baz=58
M02C Callahan 57.73 62 ⇓P **P 07 50 47.0 +0.2**
baz=58
G08A Pilot Rock 57.78 56 P **P 07 50 47.0 -0.1**
baz=58,SNR=8.9
B12A Libby 57.83 52 ⇑P **P 07 50 47.3 -0.1**
baz=58
I06A Prineville 57.83 58 ⇑P **P 07 50 47.8 +0.3**
baz=58,SNR=8.3
H07A Lands Inn, Kim 57.84 57 ⇑P **P 07 50 47.4 -0.1**
baz=58,SNR=5.8
L04A Klamath Falls 57.86 61 ⇑P **P 07 50 47.6 -0.1**
baz=58
BOK Bokaro 57.92 272 *e*P **P 07 50 49.7 +1.6**
BOK AMb AMB 07 50 56.2
comp=Z,28nm,1.0s,mb5.2
LHEM Herd Peak 57.98 62 P **P 07 50 49.3 +0.7**
M04C Macdoel 58.12 61 ⇓P **P 07 50 49.8 +0.3**
baz=58
F09A S2 Ranch, Elgi 58.14 56 ⇓P **P 07 50 49.7 +0.1**
baz=58
ARCES ARCESS Array B 58.16 341 P **P 07 50 47.9 -1.9**
comp=Z,11nm,0.9s,mb4.9,baz=35,slow=7.0,SNR=15
ARCES LR LR 08 18 38.5
comp=Z,243nm,21.4s,MS4.3,baz=39,slow=39
ARCES ARCESS Array B 58.16 341 P **P 07 50 47.9 -1.9**
ARCES pmax pmax
comp=Z,11nm,0.9s
ARCES MLR MLR
comp=Z,243nm,21.4s
ARE0 ARCESS Array S 58.16 341 *e*P **P 07 50 49.1 -0.7**
I07A Izee 58.17 58 ⇓P **P 07 50 50.0 +0.1**
baz=58,SNR=7.6
LGTI Lohaghat 58.17 281 *i* P **P 07 50 51.0 +1.1**
KIPM Iron Peak 58.28 64 *e*P **P 07 50 51.3 +0.7**
C12A Trout Creek 58.33 53 ⇑P **P 07 50 50.8 -0.2**
baz=58
WALA Waterton Lakes 58.39 51 *e*P **P 07 50 51.3 -0.1**
comp=Z,24nm,0.8s,mb5.3
WALA *e* pP 07 51 02.9 -0.5
WALA *e*PcP PcP 07 51 41.7 -0.1
H08A Prairie City 58.40 57 ⇓P **P 07 50 51.6 +0.2**
baz=58,SNR=13
WDC Whiskeytown Da 58.40 63 *e*P **P 07 50 52.0 +0.5**
WDC Whiskeytown Da 58.40 63 *e*P **P 07 50 51.4 -0.1**
comp=Z,8.6nm,1.0s,mb4.7
WDC *e* pP 07 51 03.8 +0.3
WDC Whiskeytown Da 58.40 63 ⇑P **P 07 50 51.5 0.0**
baz=58
O02C Red Bluff 58.49 63 ⇑P **P 07 50 52.4 +0.3**
baz=58
B13A Whitefish 58.49 51 P **P 07 50 52.3 +0.2**
baz=58,SNR=15
P01C Double 8 Ranch 58.57 64 ⇓P **P 07 50 52.7 0.0**
baz=58
L05A Lakeview 58.57 61 ⇑P **P 07 50 53.2 +0.6**
baz=58,SNR=9.1
BSMT Bassoo Peak 58.63 52 P **P 07 50 53.1 +0.1**
TMCR Tamitsa 58.67 332 *e*P **P 07 50 51.1 -2.2**
TMCR pmax pmax
comp=Z,29nm,0.7s,mb5.4
LTIM Timbered Crate 58.69 62 P **P 07 50 54.1 +0.6**
J07A Hines 58.70 58 ⇓P **P 07 50 54.0 +0.5**
baz=58
M05C Lookout 58.79 61 ⇑P **P 07 50 54.6 +0.4**
baz=59,SNR=7.1
I08A Drewsey 58.81 58 ⇓P **P 07 50 54.6 +0.2**
baz=59
C13A Hot Springs 58.84 52 ⇓P **P 07 50 54.6 +0.1**
baz=59
GASB Alder Springs 58.84 64 ⇑P **P 07 50 54.8 +0.3**
baz=59
H09A Durkee 58.89 56 ⇓P **P 07 50 55.3 +0.4**
baz=59,SNR=7.3
HATC Hat Creek Radi 58.92 62 ⇑P **P 07 50 55.2 +0.1**
baz=59
MOD Modoc 58.98 60 ⇓P **P 07 50 54.9 -0.6**
baz=59
BMO Blue Mountains 58.99 56 *e*P **P 07 50 55.6 +0.1**
comp=Z,15nm,1.0s,mb5.0
BMO *e* pP 07 51 07.6 0.0
HOPS Hopland 59.02 65 ⇓P **P 07 50 55.7 0.0**
baz=59
O03C Acorn Hollow, 59.06 63 ⇑P **P 07 50 55.7 -0.4**
baz=59
AKTK Aktyubinsk 59.08 312 P **P 07 50 55.1 -1.1**
AKTO Aktyubinsk 59.08 312 P **P 07 50 55.1 -1.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=59,slow=6.2,SNR=14
AKTO Aktyubinsk 59.08 312 P **P 07 50 55.1 -1.1**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
K07A Rock Creek Ran 59.14 59 ⇓P **P 07 50 56.8 +0.2**
baz=59,SNR=9.9
J08A Circle Bar Ran 59.20 58 P **P 07 50 57.5 +0.5**
baz=59,SNR=8.9
I09A Lost Marbles R 59.26 57 P **P 07 50 57.8 +0.4**
baz=59,SNR=11
M06C Likely Place G 59.29 61 ⇓P **P 07 50 57.7 0.0**
baz=59
THN Thein Dam 59.36 286 *e*P **P 07 50 57.5 -0.6**
O04C Chester 59.45 62 ⇓P **P 07 50 59.0 +0.3**
baz=59,SNR=6.4
MNRC McLaughlin Nat 59.48 64 ⇓P **P 07 50 59.4 +0.5**
baz=59,SNR=5.5
L07A Adell 59.48 60 ⇓P **P 07 50 59.5 +0.5**
baz=59,SNR=9.8
ELFS Eagle Lake Fie 59.49 62 ⇓P **P 07 50 59.4 +0.4**
baz=59
K08A Mann Creek Ran 59.56 59 ⇓P **P 07 50 59.4 -0.1**
baz=59
J09A Fry Pan Ranch, 59.63 58 ⇓P **P 07 51 00.0 +0.1**
baz=59,SNR=13
WVOR Wild Horse Val 59.65 59 *e*P **P 07 51 00.1 0.0**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb5.0
WVOR Wild Horse Val 59.65 59 *e*P **P 07 51 00.1 0.0**
comp=Z,14nm,1.0s,mb5.0
ORV Oroville 59.66 63 ⇓P **P 07 50 59.2 -1.0**
baz=59
SUTB Sutter Butte 59.67 64 ⇓P **P 07 50 59.5 -0.8**
baz=60
MSO Missoula 59.70 53 *e*P **P 07 51 00.3 -0.1**
comp=Z,17nm,1.0s,mb5.0
MSO *e* pP 07 51 11.6 -0.9
O05C Quincy 59.77 62 ⇓P **P 07 51 00.7 -0.3**
baz=60
OHCM Honcut 59.80 63 *e*P **P 07 51 00.6 -0.6**
OHCM *e* pP 07 51 12.2 -1.0
Q03C Winters 59.89 64 ⇓P **P 07 51 02.5 +0.7**
baz=60
N06A Buffalo Meadow 59.95 61 ⇓P **P 07 51 02.3 +0.1**
baz=60,SNR=9.2
M07A Soldier Meadow 59.97 60 ⇓P **P 07 51 02.7 +0.4**
baz=60
L08A Fields 59.97 59 P **P 07 51 02.8 +0.5**
baz=60,SNR=11
CHMT Chamberlain Mo 60.02 52 *e*P **P 07 51 02.4 -0.3**
CHMT *e* pP 07 51 14.7 -0.1
K09A Rome 60.03 58 ⇓P **P 07 51 02.7 0.0**
baz=60
Q04C Lincoln 60.16 64 ⇑P **P 07 51 03.4 -0.2**
baz=60
BEKR Beckwourth 60.17 62 P **P 07 51 03.6 -0.1**
baz=60,SNR=13
O06A Flanigan 60.31 62 P **P 07 51 04.8 +0.2**
baz=60,SNR=7.8
P05C Yuba Gap, Truc 60.36 63 ⇑P **P 07 51 04.6 -0.3**
baz=60
M08A Happy Creek Ra 60.40 60 P **P 07 51 05.9 +0.6**
baz=60,SNR=7.9
L09A Wilkinson Ranc 60.48 59 P **P 07 51 06.2 +0.5**
baz=60,SNR=8.3
JRSC Jasper Ridge 60.50 66 ⇓P **P 07 51 05.5 -0.4**
baz=60
P06A Stead Airport, 60.56 62 ⇑P **P 07 51 06.5 +0.1**
baz=60
LAVA Lava Cap Winer 60.61 63 ⇓P **P 07 51 06.3 -0.4**
baz=60,SNR=7.6

NDI New Delhi 60.71 282 *e*P **P 07 51 08.4 +1.0**
NDI AMb AMB 07 51 09.0
comp=Z,56nm,1.6s,mb5.4
BNLO Ben Lomond (Sa 60.71 66 ⇓P **P 07 51 06.8 -0.6**
baz=60
R04C Big Horse Ranc 60.79 64 ⇓P **P 07 51 07.3 -0.6**
baz=61
PAHR Pah Rah Range 60.86 62 *e*P **P 07 51 13.6 +5.2**
comp=Z,19nm,1.3s,mb5.1
PAHR *e*pP pP 07 51 18.9 -1.6
WCN Washoe City 60.88 62 ⇓P **P 07 51 08.6 0.0**
baz=61
O07A Toulon 60.89 61 ⇓P **P 07 51 08.8 +0.2**
baz=61,SNR=13
SUMG Summit 60.92 4 *e*P **P 07 51 08.8 0.0**
comp=Z,46nm,0.7s,mb5.7
M09A Marrel Ranch, 60.97 59 ⇑P **P 07 51 09.4 +0.2**
baz=61,SNR=5.4
S04C Ingram Canyon, 61.01 65 ⇓P **P 07 51 09.3 -0.2**
baz=61
R05C Kirkwood Meado 61.05 63 ⇑P **P 07 51 09.8 +0.1**
baz=61,SNR=5.4
LRM Limekiln Ridge 61.13 53 *e*P **P 07 51 10.3 +0.1**
EGMT Eagleton 61.21 50 *e*P **P 07 51 10.6 -0.2**
comp=Z,36nm,0.9s,mb5.5
EGMT *e* pP 07 51 22.4 -0.4
EGMT Eagleton 61.21 50 P **P 07 51 10.8 0.0**
baz=61,SNR=8.6
P07A Fallon 61.26 62 ⇓P **P 07 51 11.0 -0.2**
baz=61
CMB Columbia Colle 61.27 64 P **P 07 51 11.4 +0.2**
CMB pmax pmax
comp=Z,16nm,1.3s,mb5.0
CMB Columbia Colle 61.27 64 *e*P **P 07 51 16.1 +4.9**
CMB Columbia Colle 61.27 64 P **P 07 51 11.2 0.0**
baz=61,SNR=9.0
N09A Rock Creek Ran 61.28 60 ⇓P **P 07 51 11.3 +0.1**
baz=61,SNR=11
DLMT Dillon 61.33 53 *e*P **P 07 51 11.7 +0.1**
comp=Z,12nm,1.0s,mb5.0
PACP Pacheco Peak 61.34 65 ⇓P **P 07 51 11.5 -0.1**
baz=61
SAO San Andreas Ge 61.40 66 *e*P **P 07 51 12.0 -0.1**
comp=Z,3.7nm,0.9s,mb4.5
HLID Hailey 61.42 56 P **P 07 51 12.6 +0.4**
baz=61,SNR=21
LCCM Lewis and Clar 61.43 53 P **P 07 51 12.4 +0.1**
M10A I.L. Ranch, Tu 61.45 59 ⇑P **P 07 51 12.8 +0.4**
baz=61,SNR=11
MCMT McKenzie Canyo 61.52 54 *e*P **P 07 51 13.1 +0.2**
MCMT *e* pP 07 51 24.6 -0.4
R06C Coleville 61.55 63 P **P 07 51 13.6 +0.6**
baz=61,SNR=11
HAST UC Hastings Re 61.56 66 ⇑P **P 07 51 12.9 -0.2**
baz=61
WAKR Walker 61.57 63 *e*P **P 07 51 13.5 +0.3**
P08A Dixie Valley 61.66 61 ⇓P **P 07 51 14.3 +0.5**
baz=61
JOF Joensuu 61.66 334 *e*p **P 07 51 12.1 -1.7**
comp=Z,13nm,0.6s,mb5.2
JOF Joensuu 61.66 334 *e*P **P 07 51 12.1 -1.7**
JOF pmax pmax
comp=Z,13nm,0.6s,mb5.2
BMN Battle Mountai 61.72 60 *e*P **P 07 51 14.6 +0.4**
BMN *e* pP 07 51 27.0 +0.7
BMN pmax pmax
comp=Z,14nm,1.0s,mb5.0
BMN Battle Mountai 61.72 60 *e*P **P 07 51 14.6 +0.4**
comp=Z,14nm,1.0s,mb5.0
O09A Fish Creek Ran 61.90 60 P **P 07 51 16.1 +0.7**
baz=62,SNR=8.1
M11A Holland Ranch, 61.95 58 ⇓P **P 07 51 16.3 +0.6**
baz=62,SNR=13
V03C Hunter Liggett 61.99 66 ⇓P **P 07 51 15.9 -0.1**
baz=62
O10A Cortez Mining, 62.24 60 ⇑P **P 07 51 18.3 +0.6**
baz=62
Q08A Gabbs 62.27 62 P **P 07 51 18.1 +0.2**
baz=62,SNR=15
QLMT Earthquake Lak 62.31 53 *e*P **P 07 51 18.6 +0.5**
P09A Austin 62.32 61 ⇓P **P 07 51 18.4 +0.2**
baz=62
T06C Millerton Lake 62.33 64 P **P 07 51 17.9 -0.4**
baz=62,SNR=6.0
N11A Elko Archery C 62.36 59 ⇓P **P 07 51 18.8 +0.3**
baz=62
KCC Kaiser Creek 62.38 64 P **P 07 51 18.9 +0.3**
baz=62,SNR=6.1
M12A Wells 62.47 58 P **P 07 51 19.9 +0.7**
baz=62,SNR=16
PKD Parkfield 62.48 66 ⇑P **P 07 51 18.5 -0.7**
baz=62
MLAC Mammoth Lakes 62.48 63 ⇓P **P 07 51 20.0 +0.7**
baz=62
Q09A Carvers 62.74 61 ⇑P **P 07 51 21.1 0.0**
baz=62
N12A Clover Valley, 62.75 59 P **P 07 51 21.7 +0.6**
baz=62,SNR=8.5
YNR Norris Junctio 62.80 53 *e*P **P 07 51 23.5 +2.1**
MTUM Tungsten Hills 62.83 64 *e*P **P 07 51 22.3 +0.7**
MTUM *e*pP pP 07 51 34.0 +0.3
O11A Cowboy Ranch, 62.84 60 P **P 07 51 22.2 +0.5**
baz=63,SNR=6.7
YFT Old Faithful 62.88 53 *e*P **P 07 51 23.8 +1.9**
V05C Boulder Hill, 62.93 66 ⇑P **P 07 51 22.4 +0.1**
baz=63
S08C White Mtn Res 62.98 63 P **P 07 51 23.2 +0.6**
baz=63,SNR=8.8
LKWY Lake 63.05 53 *e*P **P 07 51 25.4 +2.3**
LKWY *e*PP pP 07 51 36.9 +1.7
LKWY pmax pmax
comp=Z,21nm,0.9s,mb5.3
LKWY Lake 63.05 53 *e*P **P 07 51 25.4 +2.3**
comp=Z,16nm,0.9s,mb5.1
LKWY *e*pP pP 07 51 36.9 +1.6
RCTC Rector, Farmer 63.06 65 ⇓P **P 07 51 23.1 -0.1**
baz=63
P11A Circle Ranch, 63.15 60 ⇑P **P 07 51 23.9 +0.1**
baz=63
IMW Indian Meadow 63.17 54 *e*P **P 07 51 25.0 +1.0**
comp=Z,28nm,1.0s,mb5.3
R09A Tonopah 63.18 62 P **P 07 51 24.1 +0.1**
baz=63,SNR=27
FLWY Flagg Ranch 63.19 53 *e*P **P 07 51 25.6 +1.5**
comp=Z,19nm,0.9s,mb5.2
TPH Tonopah 63.19 62 *e*P **P 07 51 24.7 +0.6**
TPH pmax pmax
comp=Z,16nm,1.0s,mb5.1
SMMC Simmler 63.22 66 ⇑P **P 07 51 23.9 -0.3**
baz=63
DCID1 Drake Creek 63.23 54 *e*P **P 07 51 25.8 +1.5**
N13A Wendover, West 63.24 58 ⇓P **P 07 51 24.5 +0.2**
baz=63,SNR=11
O12A Currie 63.30 59 ⇑P **P 07 51 24.7 0.0**
baz=63,SNR=18
RLMT Red Lodge 63.31 52 *e*P **P 07 51 25.4 +0.6**
RRI2 Red Ridge 63.31 54 *e*P **P 07 51 30.9 +6.0**
comp=Z,41nm,0.8s,mb5.6
MOOW Moose Ponds 63.38 54 *e*P **P 07 51 26.1 +0.8**
comp=Z,16nm,1.0s,mb5.1
S09A Goldfield 63.41 62 P **P 07 51 25.6 +0.1**
baz=63,SNR=12
VES Vestal, Richgr 63.46 65 ⇑P **P 07 51 24.9 -0.9**
baz=63
HVU Hansel Valley 63.48 57 *e*P **P 07 51 26.2 +0.2**
HVU pmax pmax
comp=Z,13nm,1.0s,mb5.0
HVU Hansel Valley 63.48 57 *e*P **P 07 51 26.2 +0.3**
comp=Z,13nm,1.0s,mb5.0
LOHW Long Hollow 63.54 54 *e*P **P 07 51 27.3 +0.9**
comp=Z,29nm,1.1s,mb5.2
SNOW Snow King Moun 63.55 54 *e*P **P 07 51 27.6 +1.1**
comp=Z,23nm,0.9s,mb5.2
REDW Red Top Meadow 63.56 54 *e*P **P 07 51 27.4 +0.9**
comp=Z,27nm,0.9s,mb5.3
PKM Peak Mountain 63.60 66 ⇑P **P 07 51 26.8 +0.1**
baz=63
R10A Warm Springs 63.62 61 ⇑P **P 07 51 26.9 0.0**
baz=63,SNR=8.4
Q11A Duckwater 63.66 61 P **P 07 51 27.2 +0.1**
baz=63,SNR=5.3
P12A McGill 63.70 60 ⇑P **P 07 51 27.4 0.0**
baz=64,SNR=5.3
VIS Vishakhapatnam 63.76 268 *e*P **P 07 51 26.5 -1.3**
VIS AMb AMB 07 51 26.8
comp=Z,34nm,0.5s,mb5.6
KAF Kangasniemi 63.77 335 *e*p **P 07 51 25.7 -2.2**
comp=Z,24nm,0.7s,mb5.3,baz=37,slow=6.1
KAF Kangasniemi 63.77 335 *e*P **P 07 51 25.7 -2.2**
KAF pmax pmax
comp=Z,24nm,0.7s,mb5.3
DGMT Dagmar 63.78 46 *e*P **P 07 51 27.8 -0.2**
comp=Z,34nm,0.9s,mb5.4
GRAC Grapevine Rang 63.79 63 ⇓P **P 07 51 27.8 -0.1**
baz=64
AHID Auburn Hatcher 63.81 55 *e*P **P 07 51 28.5 +0.4**
comp=Z,12nm,0.9s,mb4.9
AJM Ajmer 63.87 282 *e*P **P 07 51 29.4 +0.9**
AJM AMb AMB 07 51 31.9
comp=Z,35nm,1.1s,mb5.3
BGU Big Grassy Mou 63.88 57 *e*P **P 07 51 28.7 +0.1**
ISA Isabella 63.95 65 *e*P **P 07 51 28.3 -0.8**
ISA *e*PP pP 07 51 40.1 -1.1
ISA Isabella 63.95 65 ⇓P **P 07 51 27.8 -1.2**
baz=64,SNR=5.8
TRCR Troy Canyon 64.01 61 *e*P **P 07 51 29.7 +0.2**
Q12A Willow Creek R 64.03 60 P **P 07 51 29.9 +0.4**
baz=64,SNR=6.5
BHPL Bhopal 64.11 277 *e*P **P 07 51 31.3 +1.2**
BHPL AMb AMB 07 51 32.0
comp=Z,41nm,1.3s,mb5.3
DAC Darwin (Calif) 64.11 64 *e*P **P 07 51 29.9 -0.2**
comp=Z,3.7nm,0.9s,mb4.4
PSI Prapat 64.22 245 P **P 07 51 32.4 +1.6**
comp=Z,2.9nm,0.5s,mb4.5,baz=85,slow=5.0,SNR=3.7
PSI Prapat 64.22 245 P **P 07 51 32.4 +1.6**
PSI pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BSC Santa Cruz Isl 64.29 67 ⇑P **P 07 51 31.7 +0.5**
baz=64
HWUT Hardware Ranch 64.29 56 *e*P **P 07 51 31.6 +0.3**
comp=Z,15nm,1.0s,mb5.0
FIA1 FINESS Array S 64.37 335 *e*P **P 07 51 30.7 -1.1**
FIA1 *e*PcP PcP 07 52 07.7 +1.7
FINES FINESS Array B 64.37 335 P **P 07 51 30.6 -1.1**
comp=Z,26nm,0.7s,mb5.3,baz=45,slow=8.4,SNR=82
FINES LR LR 08 22 31.3
comp=Z,287nm,19.8s,MS4.5,baz=13,slow=39
FINES FINESS Array B 64.37 335 P **P 07 51 30.7 -1.1**
FINES pmax pmax
comp=Z,26nm,0.7s
FINES MLR MLR
comp=Z,287nm,19.8s
FURC Furnace Creek, 64.44 63 P **P 07 51 32.3 +0.1**
baz=64,SNR=13
OSI Osito Adit 64.47 66 ⇓P **P 07 51 32.3 -0.2**
baz=64
DUG Dugway 64.48 58 *e*P **P 07 51 32.8 +0.3**
DUG pmax pmax
comp=Z,26nm,1.0s,mb5.2
DUG Dugway 64.48 58 *e*P **P 07 51 32.8 +0.3**
comp=Z,26nm,1.1s,mb5.2
DUG Dugway 64.48 58 ⇓P **P 07 51 32.5 0.0**
baz=64,SNR=26
LRMC Laurel Mountai 64.56 65 ⇑P **P 07 51 32.2 -0.8**
baz=64
BW06 Boulder Array 64.67 54 *e*P **P 07 51 33.8 +0.1**
comp=Z,26nm,0.9s,mb5.3
PDAR Pinedale Array 64.67 54 P **P 07 51 33.8 0.0**
comp=Z,13nm,0.8s,mb5.0,baz=288,slow=1.9,SNR=87
TCUT Toone Canyon 64.70 56 *e*P **P 07 51 35.3 +1.4**
EDW2 Edwards Air Fo 64.76 65 P **P 07 51 34.2 -0.1**
baz=64,SNR=12
CTU Camp Tracy 64.77 57 *e*P **P 07 51 34.3 -0.1**
CTU *e* pP 07 51 46.5 -0.2
DECC Green Verdugo 64.95 66 ⇑P **P 07 51 35.2 -0.4**
baz=65
NLU North Lily Min 65.06 58 *e*P **P 07 51 37.0 +0.7**
MWC Mount Wilson 65.14 66 *e*P **P 07 51 37.6 +0.8**
MPU Maple Canyon 65.28 57 *e*P **P 07 51 38.4 +0.7**
comp=Z,17nm,0.9s,mb5.1
MPU *e* pP 07 51 50.2 +0.2
SFJD Kangerlussuaq 65.34 10 *i* P **P 07 51 37.6 -0.5**
comp=Z,11nm,0.9s,mb4.9
SFJD
comp=Z,190nm,19.0s
SFJD Kangerlussuaq 65.34 10 *e*P **P 07 51 37.6 -0.5**
SFJD pmax pmax
comp=Z,11nm,0.9s,mb4.9
SFJD MLR MLR
comp=Z,200nm,19.0s,MS4.3
SFJD Kangerlussuaq 65.34 10 *e*P **P 07 51 37.6 -0.5**
comp=Z,11nm,0.9s,mb4.9
SFJD LR LR
comp=Z,200nm,19.0s,MS4.3
BFSC Mount Baldy St 65.38 66 ⇓P **P 07 51 38.0 -0.4**
baz=65
SHPR Sheep Range 65.46 62 *e*P **P 07 51 39.0 +0.1**
OBN Obninsk 65.66 326 *c i*P **P 07 51 38.7 -1.4**
OBN *e* 07 54 04.5
OBN *e*S S 08 00 26.3 +3.4
OBN *e*SS SS 08 04 38.4 +1.0
OBN pmax pmax
comp=Z,64nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 65.66 326 *e*P **P 07 51 38.9 -1.2**
comp=Z,18nm,0.4s,mb5.5
ARUT Antelope Range 65.67 60 *e*P **P 07 51 40.5 +0.3**
TUQ Turquoise Mtn. 65.69 64 P **P 07 51 40.3 0.0**
baz=66,SNR=16
V11A Goodsprings 65.73 63 ⇓P **P 07 51 40.3 -0.3**
baz=66,SNR=7.4
HEC Hector,Ludlow 65.83 64 P **P 07 51 41.2 -0.1**
baz=66,SNR=14
CCUT Cedar City 65.87 60 *e*P **P 07 51 41.8 +0.3**
CCUT *e* pP 07 51 54.0 +0.2
U12A Valley of Fire 65.89 62 ⇓P **P 07 51 41.5 -0.1**
baz=66
MSU Marysvale 65.95 59 P **P 07 51 42.1 +0.1**
MSU Marysvale 65.95 59 *e*P **P 07 51 42.6 +0.6**
TMUT Trail Mountain 66.00 58 *e*P **P 07 51 43.1 +0.8**
TMUT *e* pP 07 51 55.1 +0.5
MURC Murrieta 66.09 66 ⇑P **P 07 51 42.0 -0.9**
baz=66
V12A Nelson 66.16 63 ⇑P **P 07 51 42.7 -0.7**
baz=66,SNR=8.0
W12A Cal Nev Ari 66.42 63 ⇑P **P 07 51 44.6 -0.5**
baz=66,SNR=9.0
SRU San Rafael 66.52 58 *e*P **P 07 51 45.9 +0.2**
comp=Z,23nm,0.9s,mb5.2
SRU *e* pP 07 51 58.0 0.0
ULM Lac du Bonnet 66.53 41 P **P 07 51 44.8 -0.9**
comp=Z,13nm,0.8s,mb5.0,baz=312,slow=7.2,SNR=14
ULM LR LR 08 22 48.6
comp=Z,149nm,19.4s,MS4.2,baz=341,slow=38
ULM Lac du Bonnet 66.53 41 *e*P **P 07 51 44.9 -0.8**
comp=Z,14nm,0.8s,mb5.0
ULM *e* pP 07 51 56.8 -1.1
PFO Pinyon Flat Ob 66.55 65 *e*P **P 07 51 45.8 -0.1**
PFO pmax pmax
comp=Z,15nm,1.3s,mb4.9
PFO Pinyon Flat Ob 66.55 65 *e*P **P 07 51 45.8 0.0**
comp=Z,16nm,1.4s,mb4.8
PFO Pinyon Flat Ob 66.55 65 ⇓P **P 07 51 45.1 -0.8**
baz=66
109C Camp Elliot, M 66.61 66 ⇓P **P 07 51 45.8 -0.5**
baz=66
RWWY Rawlins 66.69 54 *e*P **P 07 51 47.0 +0.3**
comp=Z,28nm,0.9s,mb5.3
RWWY *e*pP pP 07 51 58.6 -0.4
RSSD Black Hills 66.78 50 P **P 07 51 47.1 -0.2**
RSSD pmax pmax
comp=Z,36nm,0.9s,mb5.4
RSSD Black Hills 66.78 50 *e*P **P 07 51 47.0 -0.3**
comp=Z,24nm,0.8s,mb5.3
RSSD *e* pP 07 51 58.9 -0.6
IRM Iron Mountain 67.00 64 P **P 07 51 48.7 -0.1**
baz=67,SNR=10
W13A Hualapai Mount 67.16 63 ⇑P **P 07 51 49.3 -0.4**
baz=67
X13A Yucca 67.53 63 ⇑P **P 07 51 51.9 -0.2**
baz=67,SNR=14
PDMCI Parker Dam,Lak 67.54 64 P **P 07 51 52.0 -0.1**
baz=67,SNR=6.6
W14A Seligman 67.58 62 ⇑P **P 07 51 52.5 +0.1**
baz=67,SNR=21
Y12C Blythe 67.66 64 ⇑P **P 07 51 52.4 -0.6**
baz=67,SNR=7.5
PV10 Paradox Valley 67.88 57 *e*P **P 07 51 54.7 +0.4**
GLA Glamis 67.94 65 *e*P **P 07 51 54.6 -0.1**
GLA Glamis 67.94 65 ⇓P **P 07 51 54.1 -0.5**
baz=68,SNR=10

Y13A Salome 68.05 64 ⇑P P 07 51 55.0 -0.4
baz=68,SNR=5.7
W15A Williams 68.10 62 ⇑P P 07 51 55.8 +0.1
baz=68
X14A Yava 68.19 63 ⇓P P 07 51 56.4 +0.2
baz=68,SNR=14
PV01 Paradox Valley 68.31 57 *e*P **P 07 51 57.3 +0.3**
WRAB Tennant Creek 68.36 199 *i* P **P 07 51 56.6 -0.7**
WB2 Warramunga Arr 68.37 199 *e*P **P 07 51 56.8 -0.6**
WRA Warramunga Arr 68.37 199 P **P 07 51 57.2 -0.3**
comp=Z,8.1nm,0.8s,mb4.8,baz=18,slow=6.7,SNR=21
WRA LR LR 08 22 34.8
comp=Z,130nm,19.7s,MS4.2,baz=25,slow=37
WRA Warramunga Arr 68.37 199 P **P 07 51 57.2 -0.2**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA MLR MLR
comp=Z,130nm,19.7s
WUAZ Wupatki 68.41 61 *e*P **P 07 51 58.1 +0.5**
comp=Z,14nm,1.0s,mb5.0
WUAZ Wupatki 68.41 61 ⇑P P 07 51 57.6 -0.1
baz=68,SNR=7.0
Y14A Wickenburg 68.48 63 P **P 07 51 56.4 -1.6**
baz=68,SNR=7.9
NB2 NORSAR Subarra 68.54 341 P **P 07 51 57.6 -0.8**
comp=Z,33nm,0.8s,mb5.3,baz=28,slow=6.5
NB2 NORSAR Subarra 68.54 341 P **P 07 51 57.6 -0.8**
NB2 pmax pmax
comp=Z,33nm,0.8s,mb5.3
NOA NORSAR Array B 68.54 341 P **P 07 51 57.6 -0.9**
comp=Z,23nm,0.7s,mb5.2,baz=27,slow=6.3,SNR=82
NOA LR LR 08 25 04.0
comp=Z,161nm,19.6s,MS4.3,baz=35,slow=39
NOA NORSAR Array B 68.54 341 P **P 07 51 57.6 -0.8**
NOA pmax pmax
comp=Z,23nm,0.7s
NOA MLR MLR
comp=Z,161nm,19.6s
X15A Humboldt 68.58 62 P **P 07 51 59.4 +0.6**
baz=68,SNR=24
HFS Hagfors 68.77 340 P **P 07 51 58.9 -1.0**
comp=Z,26nm,0.5s,mb5.5,baz=56,slow=5.6,SNR=84
HFS Hagfors 68.77 340 P **P 07 51 58.9 -1.0**
HFS pmax pmax
comp=Z,26nm,0.5s
NAO01 NORSAR Array S 68.79 341 *e*P **P 07 51 59.2 -0.7**
comp=Z,14nm,0.8s,mb5.0
ISCO Idaho Springs 68.86 54 *e*P **P 07 52 01.1 +0.6**
ISCO pmax pmax
comp=Z,23nm,1.0s,mb5.1
ISCO Idaho Springs 68.86 54 *e*P **P 07 52 01.1 +0.6**
comp=Z,22nm,1.0s,mb5.0
ISCO *e* pP 07 52 12.9 +0.2
Z14A Wintersburg 68.90 64 ⇑P P 07 52 00.3 -0.4
baz=69
MVCO Mesa Verde 68.98 58 *e*P **P 07 52 01.4 +0.2**
MVCO *e* pP 07 52 13.3 -0.1
MVCO Mesa Verde 68.98 58 ⇓P P 07 52 01.2 0.0
baz=69,SNR=11
BORG Borgarnes 69.01 358 P **P 07 52 00.8 -0.6**
comp=Z,30nm,0.8s,mb5.3,baz=355,slow=7.9,SNR=7.1
BORG Borgarnes 69.01 358 *e*P **P 07 52 00.2 -1.1**
comp=Z,94nm,1.3s,mb5.6
FITZ Fitzroy Crossi 69.06 208 *e*P **P 07 52 02.1 +0.4**
comp=Z,12nm,0.9s,mb4.8
POO Poona 69.75 276 *e*P **P 07 52 05.0 -0.9**
115A Sonoran Desert 69.79 64 ⇓P P 07 52 06.2 +0.1
baz=70,SNR=5.6
KONO Kongsberg 70.15 341 *e*P **P 07 52 07.4 -1.0**
KONO Kongsberg 70.15 341 *e*P **P 07 52 08.2 -0.2**
comp=Z,22nm,0.8s,mb5.1
EYMN Ely 70.18 40 *e*P **P 07 52 08.3 -0.2**
comp=Z,22nm,1.0s,mb5.0
116A Eloy 70.21 63 ⇑P P 07 52 08.4 -0.3
baz=70,SNR=5.1
SDCO Great Sand Dun 70.34 56 *e*P **P 07 52 09.9 +0.3**
comp=Z,5.2nm,0.9s,mb4.5
KAD Karad 70.36 275 *e*P **P 07 52 10.9 +1.2**
KAD AMb AMB 07 52 11.8
comp=Z,29nm,1.6s,mb5.0
ECSD EROS,Sioux Fal 70.86 46 *e*P **P 07 52 11.8 -0.9**
ECSD *e* pP 07 52 23.5 -1.5
TUC Tucson 70.95 63 P **P 07 52 13.3 0.0**
TUC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TUC Tucson 70.95 63 *e*P **P 07 52 13.3 0.0**
comp=Z,6.6nm,1.1s,mb4.5
KIV Kislovodsk 71.16 314 P **P 07 52 15.5 +1.0**
SNR=8.5
KIV Kislovodsk 71.16 314 *e*P **P 07 52 15.2 +0.7**
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,577nm,17.0s,MS4.9
KIV Kislovodsk 71.16 314 *e*P **P 07 52 15.2 +0.7**
comp=Z,21nm,0.9s,mb5.1
SUW Suwalki 71.33 332 *e*P **P 07 52 14.9 -0.7**
ZEI Tsey 71.41 313 *e*P **P 07 52 14.9 -1.2**
ZEI *e**PP pP 07 52 24.0 -4.4
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DGRG David-gareji 71.61 311 P pP 07 52 26.9 -2.7
LAZ Ladron 71.71 59 *e*P **P 07 52 18.3 +0.4**
ANMO Albuquerque 71.73 58 ⇑*i*P **P 07 52 17.3 -0.7**
ANMO Albuquerque 71.73 58 *e*P **P 07 52 18.3 +0.3**
comp=Z,8.1nm,0.9s,mb4.7
ANMO *e* pP 07 52 30.4 +0.1
MTA Mtatsminda 71.74 312 P **P 07 52 18.6 +0.6**
TBLG Delisi 71.74 312 *e*P **P 07 52 20.1 +2.1**
TBLG Delisi 71.74 312 P **P 07 52 20.1 +2.1**
ONI Oni 71.78 313 P **P 07 52 19.1 +0.9**
GOA Goa 71.86 274 *e*P **P 07 52 19.1 +0.3**
GOA AMb AMB 07 52 29.3
comp=Z,58nm,0.4s,mb5.9
AKASG Malin Array Be 71.89 326 P **P 07 52 17.9 -1.0**
comp=Z,32nm,0.7s,mb5.3,baz=33,slow=6.1,SNR=137
AKASG LR LR 08 26 21.9
comp=Z,206nm,18.4s,MS4.4,baz=50,slow=38
AKASG Malin Array Be 71.89 326 *i* P **P 07 52 17.8 -1.2**
AKASG pmax pmax
comp=Z,32nm,0.7s
AKASG Malin Array Be 71.89 326 P **P 07 52 17.9 -1.0**
AKASG LR LR 08 26 21.9
AKBB Malin Array Si 71.89 326 *e*P **P 07 52 17.9 -1.1**
LENM Lemitar 71.97 59 *e*P **P 07 52 19.7 +0.3**
LENM *e* pP 07 52 32.5 +0.7
AS31 Alice Springs 72.06 199 *e*P **P 07 52 20.6 +0.6**
ASAR Alice Springs 72.07 199 P **P 07 52 20.6 +0.6**
comp=Z,6.8nm,0.7s,mb4.7,baz=13,slow=5.6,SNR=44
ASAR Alice Springs 72.07 199 P **P 07 52 20.7 +0.7**
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASPA Alice Springs 72.07 199 *e*P **P 07 52 20.6 +0.6**
LPM Los Pinos Moun 72.07 59 *e*P **P 07 52 20.8 +0.8**
CBKS Cedar Bluff 72.79 52 *e*P **P 07 52 23.1 -1.2**
CBKS *e**PP pP 07 52 35.0 -1.7
CBKS pmax pmax
comp=Z,19nm,0.8s,mb5.1
CBKS Cedar Bluff 72.79 52 *e*P **P 07 52 23.1 -1.2**
comp=Z,19nm,0.8s,mb5.1
CBKS *e*pP pP 07 52 35.0 -1.6
BSD Bornholm Skovb 72.88 337 *i* P **P 07 52 24.8 0.0**
BSD pmax pmax
comp=Z,20nm,0.9s,mb5.0
BSD Bornholm Skovb 72.88 337 *i* P **P 07 52 24.8 0.0**
comp=Z,20nm,0.9s,mb5.0
BSD *e* 08 24 08.1
GNI Garni 72.89 311 P **P 07 52 25.0 +0.1**
comp=Z,5.5nm,0.4s,mb4.8,baz=221,slow=2.4,SNR=8.5
GNI Garni 72.89 311 *c i*P **P 07 52 26.0 +1.1**
GNI pmax pmax
comp=Z,52nm,1.9s
GNI Garni 72.89 311 *e*P **P 07 52 27.2 +2.4**
comp=Z,19nm,0.8s,mb5.1
ANN Anapa 73.03 318 *e*P **P 07 52 24.6 -1.1**
ANN *e*S S 08 01 52.3 +2.4
ANN pmax pmax
comp=Z,68nm,1.6s,mb5.3
MUD Monsted U'grnd 73.14 340 *i* P **P 07 52 27.3 +0.9**
comp=Z,16nm,0.8s,mb5.0
MUD Monsted U'grnd 73.14 340 *i* P **P 07 52 27.3 +0.9**
MUD pmax pmax
comp=Z,16nm,0.8s,mb5.0
SCHQ Schefferville 73.43 23 P **P 07 52 27.1 -1.0**
comp=Z,8.9nm,0.8s,mb4.7,baz=344,slow=8.1,SNR=7.5
SCHQ LR LR 08 29 58.3
comp=Z,144nm,18.8s,MS4.3,baz=128,slow=40
SCHQ Schefferville 73.43 23 *e*P **P 07 52 27.2 -0.8**
comp=Z,13nm,0.9s,mb4.9
SCIA State Center 73.89 46 *e*P **P 07 52 30.6 -0.3**
CLDR Caldiran 74.06 310 *e*P **P 07 52 33.3 +1.6**
SIM Simferopol' 74.42 320 *e*P **P 07 52 35.7 +1.8**
SIM *e* pP 07 52 47.0 +0.7
SIM pmax pmax
comp=Z,38nm,0.9s,mb5.3
LVV L'vov 74.54 329 *e*P **P 07 52 33.9 -0.7**
MNTX Cornudas Mount 74.66 60 *e*P **P 07 52 35.1 -0.2**
comp=Z,8.2nm,0.9s,mb4.7
MNTX *e* pP 07 52 47.2 -0.4
EZM Erzurum 74.81 312 *e*P **P 07 52 37.2 +1.0**
GDL2 Guadalupe Moun 74.91 59 *e*P **P 07 52 36.7 0.0**
KIS Kishinev 75.03 324 *e*P **P 07 52 36.0 -1.4**
KIS *e* pP 07 52 50.0 +0.2
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
SEMD Semdili 75.06 309 *e*P **P 07 52 38.2 +0.7**
BSEG Bad Segeberg 75.15 338 *e*P **P 07 52 38.4 +0.3**
comp=Z,33nm,1.0s,mb5.2
BSEG Bad Segeberg 75.15 338 *e*P **P 07 52 38.4 +0.3**
BSEG pmax pmax
comp=Z,33nm,1.0s,mb5.2
CUKT Cukurca 75.62 309 *e*P **P 07 52 42.0 +1.2**
OJC Ojcow 75.66 331 *e*P **P 07 52 40.7 -0.3**
STHS Stebnicka Huta 75.85 330 *e*P **P 07 52 42.5 +0.4**
STHS pmax pmax
comp=Z,13nm,0.7s,mb5.0
STHS Stebnicka Huta 75.85 330 *e*P **P 07 52 42.5 +0.4**
comp=Z,13nm,0.7s,mb5.0
KOLS Kolonicke sedl 75.91 329 *e*P **P 07 52 42.2 -0.2**
BURAR Bucovina Array 75.93 327 ⇓*i*P **P 07 52 42.4 -0.2**
BURAR Bucovina Array 75.93 327 ⇓P **P 07 52 42.4 -0.1**
UZH Uzhgorod 76.15 329 ⇓*i*P **P 07 52 42.2 -1.6**
UZH pmax pmax
comp=Z,52nm,1.3s,mb5.3
NIE Niedzica 76.17 331 *e*P **P 07 52 44.4 +0.5**
CRVS Cervenica-Dubn 76.22 330 *e*P **P 07 52 43.8 -0.4**
KSP Ksiaz 76.23 334 *e*P **P 07 52 44.3 0.0**
KSP Ksiaz 76.23 334 *e*P **P 07 52 44.0 -0.3**
KSP LR LR
comp=Z,900nm,17.7s,MS5.1
WMOK Wichita Mounta 76.28 54 *e*P **P 07 52 43.9 -0.7**
comp=Z,11nm,0.9s,mb4.8
WMOK *e* pP 07 52 55.9 -1.1
DIKM Dikmen 76.47 317 *e*P **P 07 52 46.3 +0.6**
NRDL Niedersach Rie 76.51 338 *e*P **P 07 52 45.4 -0.4**
comp=Z,19nm,0.9s,mb5.0
OKC Ostrava-Krasne 76.53 332 *e*P **P 07 52 45.8 -0.2**
KVT Kavak 76.54 316 *e*P **P 07 52 47.4 +1.4**
PTK Pertek 76.58 313 *e*P **P 07 52 48.2 +1.9**
UPC Upice 76.61 334 *e*P **P 07 52 46.5 +0.1**
DPC Dobruska-Polom 76.66 333 *e*P **P 07 52 46.7 0.0**
DPC AMS AMS 08 30 50.0
comp=Z,500nm,16.0s
WSAR Wadi Sarin 76.71 290 P **P 07 52 48.1 +1.1**
comp=Z,11nm,1.0s,mb4.7,baz=94,slow=6.6,SNR=6.4
WSAR LR LR 08 31 04.0
comp=Z,118nm,18.4s,MS4.2,baz=233,slow=39
MORC Moravsky Berou 76.77 332 ⇓*i*P **P 07 52 47.3 0.0**
MORC Moravsky Berou 76.77 332 P **P 07 52 47.5 +0.2**
MORC Moravsky Berou 76.77 332 ⇓P **P 07 52 47.3 0.0**
CFR Carcaliu 76.79 324 ⇓*i*P **P 07 52 47.6 +0.2**
CFR Carcaliu 76.79 324 P **P 07 52 49.3 +1.9**
CLL Collm 76.79 336 *e*P **P 07 52 46.8 -0.7**
comp=Z,40nm,0.7s,mb5.5
CLL Collm 76.79 336 ⇑*i*P **P 07 52 46.9 -0.6**
comp=Z,40nm,0.7s,mb5.5
CLL *e*PcP PcP 07 52 58.0 -0.6
CLL *e*PP PP 07 55 39.0 -1.5
CLL *e*PPP 07 57 25.0
CLL LmV 08 32 00.0
comp=Z,200nm,18.0s
VRI Vrincioaia 76.79 325 P **P 07 52 48.7 +1.2**
PLOR Plostina 76.83 325 ⇑*i*P **P 07 52 47.8 +0.1**
BRG Berggiesshubel 76.91 335 *e*P **P 07 52 47.6 -0.5**
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 76.91 335 *e*P **P 07 52 47.7 -0.5**
comp=Z,4.5nm,1.0s,mb4.4
BRG *i* 07 53 09.6
comp=Z,5.4nm,0.9s
KECS Kecovo 76.91 330 *e*P **P 07 52 47.9 -0.2**
KECS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KECS Kecovo 76.91 330 *e*P **P 07 52 47.9 -0.2**
comp=Z,7.2nm,0.8s,mb4.7
SVSK Karacayir 76.98 315 *e*P **P 07 52 49.8 +1.3**
CLZ Clausthal 77.03 338 *e*P **P 07 52 48.8 0.0**
comp=Z,38nm,0.8s,mb5.4
CLZ Clausthal 77.03 338 *e*P **P 07 52 48.8 0.0**
CLZ pmax pmax
comp=Z,38nm,0.8s,mb5.4
PVCC Panska Ves 77.03 335 *e*P **P 07 52 49.0 +0.2**
PVCC AMS AMS 08 32 20.0
comp=Z,300nm,15.1s
HATD Hatta, Dubai 77.20 292 P **P 07 52 51.3 +1.5**
SNR=8.1
TIRR Tirgusor 77.26 323 ⇓*i*P **P 07 52 51.8 +1.7**
TIRR Tirgusor 77.26 323 ⇓P **P 07 52 51.8 +1.7**
HARR Harsova 77.27 323 ⇑*i*P **P 07 52 50.4 +0.3**
HARR Harsova 77.27 323 ⇑P **P 07 52 50.4 +0.2**
IBBN Ibbenburen 77.27 339 *e*P **P 07 52 50.5 +0.4**
comp=Z,42nm,0.9s,mb5.4
HOQ Hoqain 77.33 291 P **P 07 52 51.9 +1.4**
SNR=12
ASHO Ashiyiah 77.35 292 P **P 07 52 52.2 +1.6**
SNR=6.6
MLR Muntele Rosu 77.41 325 P **P 07 52 51.2 +0.2**
comp=Z,27nm,0.7s,mb5.3,baz=187,slow=17,SNR=12
MLR Muntele Rosu 77.41 325 ⇑*i*P **P 07 52 51.7 +0.8**
MLR Muntele Rosu 77.41 325 P **P 07 52 51.2 +0.3**
MLR pmax pmax
comp=Z,27nm,0.7s
MLR Muntele Rosu 77.41 325 P **P 07 52 52.2 +1.2**
VYHS Vyhne 77.46 331 *i* P **P 07 52 51.4 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VYHS Vyhne 77.46 331 *i* P **P 07 52 51.4 +0.2**
comp=Z,10nm,1.0s,mb4.7
VRAC Vranov 77.48 333 P **P 07 52 51.6 +0.3**
comp=Z,17nm,0.8s,mb5.0,baz=41,slow=6.1,SNR=11
VRAC Vranov 77.48 333 ⇑*i*P **P 07 52 51.6 +0.3**
VRAC Vranov 77.48 333 P **P 07 52 51.6 +0.3**
VRAC pmax pmax
comp=Z,17nm,0.8s
MALT Malatya 77.51 313 ⇑*i*P **P 07 52 52.8 +1.3**
MALT Malatya 77.51 313 P **P 07 52 53.3 +1.8**
MALT Malatya 77.51 313 *e*P **P 07 52 53.2 +1.7**
comp=Z,32nm,1.0s,mb5.2
PRU Pruhonice 77.52 334 *e*P **P 07 52 51.4 -0.1**
PRU AMS AMS 08 30 10.0
comp=Z,300nm,13.6s
DRGR 77.56 328 ⇑*i*P **P 07 52 51.6 -0.1**
DRGR 77.56 328 P **P 07 52 52.1 +0.3**
PSZ Piszkesteto 77.60 330 ⇑*e*P **P 07 52 52.3 +0.3**
PSZ Piszkesteto 77.60 330 ⇑*i*P **P 07 52 52.2 +0.2**
PSZ Piszkesteto 77.60 330 *e*P **P 07 52 52.2 +0.2**
comp=Z,12nm,0.8s,mb4.9
JMDO Jabal Madar 77.67 289 P **P 07 52 54.1 +1.8**
SNR=7.2
TANN Tannenbergstha 77.74 336 *e*P **P 07 52 52.3 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
MOX Moxa 77.78 336 *e*P **P 07 52 52.6 -0.4**
comp=Z,22nm,0.9s,mb5.1
MOX
comp=Z,200nm,18.0s
CCM Cathedral Cave 77.80 47 *e*P **P 07 52 51.2 -1.9**
CCM *e* pP 07 53 03.1 -2.5
CCM pmax pmax
comp=Z,60nm,1.6s,mb5.3
CCM Cathedral Cave 77.80 47 *e*P **P 07 52 51.1 -2.0**
comp=Z,60nm,1.6s,mb5.3
CCM *e* pP 07 53 03.1 -2.5
WTSB Winterswijk 77.82 340 ⇑*e*P **P 07 52 52.7 -0.4**
comp=Z,30nm,1.1s,mb5.1
NKC Novy Kostel 77.91 336 *e*P **P 07 52 53.6 -0.1**
CORM Corum 77.92 317 *e*P **P 07 52 55.2 +1.5**
URFA Urfa 77.98 312 *e*P **P 07 52 55.9 +1.9**
BSY Bisya 77.99 290 P **P 07 52 55.7 +1.6**
SNR=9.9
ARQ Araqi 78.01 291 P **P 07 52 55.9 +1.7**
SNR=5.0
UBBA Unterbreizbach 78.06 337 *e*P **P 07 52 54.1 -0.4**
comp=Z,12nm,0.9s,mb4.8
BUD Budapest 78.27 330 ⇓*e*P **P 07 52 56.5 +0.8**
ZST Bratislava 78.30 332 *e*P **P 07 52 56.8 +1.0**
comp=Z,19nm,0.9s,mb5.0
ZST LR LR
comp=Z,300nm,18.7s,MS4.7
BNN Bunyan 78.37 315 *e*P **P 07 52 57.1 +0.8**
ROTZ Rotzenmuhle 78.40 336 *e*P **P 07 52 56.5 +0.1**
comp=Z,17nm,0.9s,mb5.0
KHC Kasperske Hory 78.57 334 *e*P **P 07 52 57.5 +0.2**
KHC AMS AMS 08 30 40.0
comp=Z,300nm,15.6s
KHC Kasperske Hory 78.57 334 *c i*P **P 07 52 57.6 +0.3**
GZR Gura Zlata 78.72 327 ⇑*i*P **P 07 52 58.2 0.0**
GZR Gura Zlata 78.72 327 P **P 07 52 58.4 +0.3**
BR131 Keskin Array S 78.74 317 *e*P **P 07 52 58.5 +0.1**
comp=Z,8.0nm,0.8s,mb4.7
BRTR Keskin Array B 78.75 317 P **P 07 52 58.9 +0.5**
comp=Z,9.3nm,0.9s,mb4.7,baz=66,slow=4.2,SNR=41
BRTR LR LR 08 33 40.4
comp=Z,113nm,19.1s,MS4.2,baz=111,slow=40
GRA1 Grafenberg Arr 78.75 336 *e*P **P 07 52 58.6 +0.3**
comp=Z,41nm,0.8s,mb5.4
GRA1 LR LR
comp=Z,200nm,19.4s,MS4.5
GRF Grafenberg Arr 78.75 336 *e*P **P 07 52 58.6 +0.3**
comp=Z,41nm,0.8s,mb5.4
GRF *e*L 08 30 30.7
comp=Z,159nm,19.4s
GRF Grafenberg Arr 78.75 336 *e*P **P 07 52 58.6 +0.3**
GRF pmax pmax
comp=Z,41nm,0.8s,mb5.4
GRF MLR MLR
comp=Z,200nm,19.4s,MS4.5
GRF Grafenberg Arr 78.75 336 *e*P **P 07 52 58.6 +0.3**
GRF pmax pmax
comp=Z,41nm,0.8s,mb5.4
GRF MLR MLR
comp=Z,200nm,19.4s,MS4.5
STKA Stephens Creek 78.76 190 LR LR 08 23 23.6
comp=Z,177nm,19.7s,MS4.4,baz=24,slow=32
GEC2 GERESS Array S 78.79 334 *e*P **P 07 52 58.8 +0.3**
comp=Z,10.0nm,0.7s,mb4.8
GEC2 GERESS Array S 78.79 334 *e*P **P 07 52 58.8 +0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GERES GERESS Array B 78.79 334 P **P 07 52 58.3 -0.2**
comp=Z,7.2nm,0.8s,mb4.7,baz=100,slow=4.7,SNR=36
GERES LR LR 08 32 15.7
comp=Z,292nm,18.2s,MS4.7,baz=119,slow=39
GERES GERESS Array B 78.79 334 P **P 07 52 58.3 -0.2**
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES MLR MLR
comp=Z,292nm,18.2s
JCT Junction City 78.83 57 *e*P **P 07 52 58.3 -0.5**
JCT pmax pmax
comp=Z,32nm,1.2s,mb5.1
JCT Junction City 78.83 57 *e*P **P 07 52 58.3 -0.5**
comp=Z,32nm,1.2s,mb5.1
SOP Sopron 78.92 332 ⇓*e*P **P 07 53 00.3 +1.0**
BZS Buzias 78.96 328 ⇓*i*P **P 07 52 59.3 -0.2**
BZS Buzias 78.96 328 P **P 07 52 59.7 +0.2**
UMR Umm Al-Rimmam 78.98 301 *e*P **P 07 53 00.2 +0.6**
UMR AMb AMB 07 53 02.3
comp=Z,81nm,0.7s,mb5.8
KAMT Kaman 78.99 317 *e*P **P 07 52 58.2 -1.5**
TNS Taunus Mts 79.01 338 *e*P **P 07 52 59.6 -0.2**
comp=Z,22nm,1.0s,mb5.0
TNS Taunus Mts 79.01 338 *e*P **P 07 52 59.6 -0.2**
TNS pmax pmax
comp=Z,22nm,1.0s,mb5.0
MIB Mutribah 79.01 302 *e*P **P 07 53 00.5 +0.7**
MIB AMb AMB 07 53 02.5
comp=Z,98nm,0.7s,mb5.9
ANTO Ankara 79.03 318 P **P 07 53 01.3 +1.4**
SNR=6.2
ANTO Ankara 79.03 318 ⇑*i*P **P 07 53 00.9 +1.0**
ANTO Ankara 79.03 318 *e*P **P 07 53 00.9 +1.0**
comp=Z,17nm,0.6s,mb5.2
SIUC Southern Illin 79.08 46 *e*P **P 07 52 59.8 -0.3**
SIUC *e*pP pP 07 53 11.5 -1.1
HGN Heimansgroeve 79.14 340 ⇑*e*P **P 07 53 00.1 -0.4**
comp=Z,26nm,1.3s,mb5.0
BEBN Eben Emael 79.17 340 P **P 07 53 00.8 +0.1**
BLO Bloomington 79.24 43 *e*P **P 07 53 00.5 -0.5**
BLO pmax pmax
comp=Z,12nm,0.7s,mb4.9
BLO Bloomington 79.24 43 *e*P **P 07 53 00.5 -0.6**
comp=Z,12nm,0.7s,mb4.9
MEM Membach 79.26 340 P **P 07 53 00.9 -0.3**
MIAR Mount Ida 79.27 51 *e*P **P 07 53 01.0 -0.2**
QRN Al-Qurain 79.45 301 *e*P **P 07 53 03.1 +0.9**
QRN AMb AMB 07 53 04.4
comp=Z,66nm,0.8s,mb5.6
KOZT Kozan 79.45 314 *e*P **P 07 53 03.1 +0.9**
NAY Al-Naaiem 79.48 301 *e*P **P 07 53 03.0 +0.7**
NAY AMb AMB 07 53 04.4
comp=Z,25nm,0.7s,mb5.2
PKSM Moragy 79.51 330 ⇓*i*P **P 07 53 01.9 -0.6**
PKSM Moragy 79.51 330 P **P 07 53 02.1 -0.4**
RDF Al-Radifah 79.53 301 *e*P **P 07 53 03.6 +1.0**
RDF AMb AMB 07 53 05.0
comp=Z,65nm,0.8s,mb5.6
BCLA Clavier 79.61 340 P **P 07 53 03.0 0.0**
PARMO Parma 79.63 47 *e*P **P 07 53 03.0 -0.2**
PARMO *e* pP 07 53 15.2 -0.5
USIN University of 79.64 45 *e*P **P 07 53 02.8 -0.4**
comp=Z,51nm,0.9s,mb5.5
USIN *e*pP pP 07 53 15.1 -0.6
SNF Seneffe 79.76 341 P **P 07 53 04.0 +0.1**
KARA Karaisali 80.01 315 *e*P **P 07 53 05.9 +0.7**
GIVF Givet 80.02 340 *e*P **P 07 53 04.8 -0.4**
comp=Z,29nm,0.9s,mb4.9
GIVF Givet 80.02 340 *e*P **P 07 53 04.8 -0.4**
GIVF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GIVF Givet 80.02 340 *e*P **P 07 53 04.8 -0.4**
comp=Z,14nm,0.9s,mb4.9
ACSO Alum Creek Sta 80.02 40 *e*P **P 07 53 04.4 -0.8**
comp=Z,15nm,0.7s,mb5.0
ACSO *e* pP 07 53 16.7 -1.1
DOU Dourbes 80.08 340 P **P 07 53 05.1 -0.4**
WCI Wyandotte Cave 80.10 44 *e*P **P 07 53 05.2 -0.5**
comp=Z,23nm,0.8s,mb5.2
WCI *e* pP 07 53 16.9 -1.2
ALLY Alegheny Colle 80.10 38 *e*P **P 07 53 05.5 -0.2**
ALLY *e*pP pP 07 53 17.3 -0.9
STU Stuttgart 80.14 337 *e*P **P 07 53 05.6 -0.3**
comp=Z,16nm,0.6s,mb5.1
STU Stuttgart 80.14 337 *e*P **P 07 53 05.6 -0.3**
STU pmax pmax
comp=Z,11nm,0.4s,mb5.1
STU Stuttgart 80.14 337 *e*P **P 07 53 05.6 -0.3**
comp=Z,11nm,0.4s,mb5.1
BAIF Baives 80.20 340 *e*P **P 07 53 05.9 -0.3**
ESKT Eskisehir 80.20 319 *e*P **P 07 53 05.7 -0.5**
KIZT Kizilcal 80.24 318 *e*P **P 07 53 06.9 +0.5**
PERS Pernice 80.31 332 *i* P **P 07 53 06.7 -0.1**
WATA Walderalm 80.77 335 ⇑*i*P **P 07 53 09.7 +0.4**
comp=Z,19nm,1.0s,mb5.0,SNR=5.4
WATA Walderalm 80.77 335 ⇑*i*P **P 07 53 09.7 +0.4**
WATA pmax pmax
comp=Z,19nm,1.0s,mb5.0
BFO Black Forest 80.78 337 P **P 07 53 09.6 +0.3**
comp=Z,107nm,1.0s,mb5.7,SNR=6.2
BFO Black Forest 80.78 337 *e*P **P 07 53 09.0 -0.3**
comp=Z,24nm,1.1s,mb5.0
BFO Black Forest 80.78 337 *e*P **P 07 53 09.0 -0.3**
BFO pmax pmax
comp=Z,24nm,1.1s,mb5.0
NATX Nacogdoches 80.80 53 *e*P **P 07 53 09.6 +0.1**
comp=Z,63nm,1.0s,mb5.5
NATX *e* pP 07 53 21.6 -0.3
WTTA Wattenberg 80.82 335 ⇑*i*P **P 07 53 10.2 +0.6**
comp=Z,40nm,0.9s,mb5.3
WTTA Wattenberg 80.82 335 ⇑*i*P **P 07 53 10.2 +0.6**
WTTA pmax pmax
comp=Z,40nm,0.9s,mb5.3
MOTA Moosalm 80.90 335 ⇓*i*P **P 07 53 10.4 +0.4**
comp=Z,30nm,1.1s,mb5.2,SNR=11
MOTA Moosalm 80.90 335 ⇓*i*P **P 07 53 10.4 +0.4**
MOTA pmax pmax

comp=Z,30nm,1.1s,mb5.1
VTS Vitosha 80.92 325⇑iP P 07 53 10.0 -0.1
VTS Vitosha 80.92 325 P P 07 53 10.2 +0.1
WLS Welschbruch 80.96 338 eP P 07 53 10.0 -0.3
CDF Champ du Feu 80.98 338⇑iP P 07 53 10.3 -0.1
comp=Z,58nm,1.1s,mb5.1
CDF Champ du Feu 80.98 338⇑iP P 07 53 10.3 -0.1
CDF pmax pmax
comp=Z,29nm,1.1s,mb5.1
CDF Champ du Feu 80.98 338⇑iP P 07 53 10.3 -0.1
comp=Z,29nm,1.1s,mb5.1
SQTA Sankt Quirin 80.98 335⇑iP P 07 53 10.9 +0.4
comp=Z,18nm,1.0s,mb5.0
SQTA Sankt Quirin 80.98 335⇑iP P 07 53 10.9 +0.5
SQTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
WVT Waverly 81.01 46 eP P 07 53 10.0 -0.6
WVT e pP 07 53 22.0 -1.1
WVT pmax pmax
comp=Z,17nm,0.8s,mb5.0
WVT Waverly 81.01 46 eP P 07 53 10.0 -0.6
comp=Z,17nm,0.8s,mb5.0
WVT e pP 07 53 22.0 -1.1
VISS Visnje 81.14 332 eP P 07 53 10.7 -0.6
ECH Echery 81.19 338 eP P 07 53 10.9 -0.6
ACCN Adirondack Com 81.22 33 eP P 07 53 10.9 -0.8
FELD Feldberg im Sc 81.28 337 eP P 07 53 11.5 -0.5
DAVA Damuels 81.30 336⇑iP P 07 53 12.6 +0.5
comp=Z,17nm,0.8s,mb5.0
MEZF Maizieres J'vi 81.45 339⇑iP P 07 53 13.0 +0.1
comp=Z,78nm,1.0s,mb5.3
MEZF Maizieres J'vi 81.45 339⇑iP P 07 53 13.0 +0.1
comp=Z,78nm,1.0s,mb5.6
THEF They Montfort 81.48 339 eP P 07 53 12.4 -0.7
OXF Oxford 81.48 48 eP P 07 53 12.3 -0.7
comp=Z,28nm,0.8s,mb5.2
OXF epP pP 07 53 24.3 -1.3
MOF Molkenrain 81.53 338 eP P 07 53 14.6 +1.3
HAU Haudompre 81.59 338⇑iP P 07 53 13.3 -0.4
comp=Z,28nm,0.8s,mb4.9
HAU eMLR MLR
comp=Z,260nm,17.2s
HAU Haudompre 81.59 338⇑iP P 07 53 13.3 -0.4
HAU pmax pmax
comp=Z,14nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,260nm,17.3s,MS4.7
HAU Haudompre 81.59 338⇑iP P 07 53 13.3 -0.4
comp=Z,14nm,0.8s,mb4.9
HAU LR LR
comp=Z,260nm,17.3s,MS4.7
HINF Hinterlalfeld 81.64 338 eP P 07 53 13.4 -0.5
comp=Z,21nm,0.9s,mb4.8
HINF Hinterlalfeld 81.64 338 eP P 07 53 13.4 -0.5
HINF pmax pmax
comp=Z,11nm,0.9s,mb4.8
HINF Hinterlalfeld 81.64 338 eP P 07 53 13.4 -0.5
comp=Z,11nm,0.9s,mb4.8
PLAL Pickwick Lake 81.79 47 eP P 07 53 13.7 -1.0
comp=Z,10nm,0.8s,mb4.8
PLAL epP pP 07 53 25.6 -1.6
PPT Papeete 81.80 126 eLR LR 08 17 45.5
comp=Z,201nm,24.5s
PPT Papeete 81.80 126 LR LR 08 20 56.0
comp=Z,126nm,20.1s,MS4.3,baz=317,slow=29
MCWV Mont Chateau 81.87 39 eP P 07 53 14.9 -0.2
comp=Z,26nm,1.1s,mb5.1
MCWV epP pP 07 53 26.7 -0.9
SSPA Standing Stone 81.89 37 eP P 07 53 14.6 -0.6
comp=Z,15nm,0.9s,mb4.9
SSPA epP pP 07 53 26.1 -1.7
LOMF Lomont 82.07 338 eP P 07 53 15.7 -0.5
FLN La Foliniere 82.44 343⇑iP P 07 53 17.7 -0.4
comp=Z,58nm,0.9s,mb5.2
FLN eMLR MLR
comp=Z,210nm,17.5s
FLN La Foliniere 82.44 343⇑iP P 07 53 17.7 -0.4
FLN pmax pmax
comp=Z,29nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,210nm,17.5s,MS4.6
FLN La Foliniere 82.44 343⇑iP P 07 53 17.7 -0.4
comp=Z,29nm,0.9s,mb5.2
FLN LR LR
comp=Z,210nm,17.5s,MS4.6
LDF La Druitiere 82.53 343⇑iP P 07 53 18.1 -0.5
comp=Z,26nm,0.8s,mb5.0
LDF La Druitiere 82.53 343⇑iP P 07 53 18.1 -0.5
LDF pmax pmax
comp=Z,13nm,0.8s,mb5.0
LDF La Druitiere 82.53 343⇑iP P 07 53 18.1 -0.5
comp=Z,13nm,0.8s,mb5.0
SWET Sewanee 82.67 45 eP P 07 53 18.8 -0.5
SWET epP pP 07 53 30.3 -1.5
IZM Izmir 82.73 320 eP P 07 53 17.9 -1.7
TZTN Tazewell 82.75 43 eP P 07 53 19.6 -0.1
TZTN epP pP 07 53 31.1 -1.1
GRR Gorron 82.87 343⇑iP P 07 53 20.2 -0.2
comp=Z,103nm,1.0s,mb5.5
GRR Gorron 82.87 343⇑iP P 07 53 20.2 -0.2
GRR pmax pmax
comp=Z,52nm,1.0s,mb5.5
GRR Gorron 82.87 343⇑iP P 07 53 20.2 -0.2
comp=Z,52nm,1.0s,mb5.5
ELL Elmali 82.88 318 eP P 07 53 20.7 +0.3
LOR Lormes 82.89 340⇑iP P 07 53 20.2 -0.3
comp=Z,64nm,1.1s,mb5.3
LOR eMLR MLR
comp=Z,250nm,22.2s
LOR Lormes 82.89 340⇑iP P 07 53 20.2 -0.3
LOR pmax pmax
comp=Z,32nm,1.1s,mb5.3
LOR MLR MLR
comp=Z,250nm,22.3s,MS4.5
LOR Lormes 82.89 340⇑iP P 07 53 20.2 -0.3
comp=Z,32nm,1.1s,mb5.3
LOR LR LR
comp=Z,250nm,22.3s,MS4.5
CABF La Chapelle 82.95 338 eP P 07 53 20.1 -0.7
comp=Z,33nm,1.2s,mb4.9
CABF La Chapelle 82.95 338 eP P 07 53 20.1 -0.7
CABF pmax pmax
comp=Z,17nm,1.2s,mb5.0
CABF La Chapelle 82.95 338 eP P 07 53 20.1 -0.7
comp=Z,16nm,1.2s,mb4.9
ASF Jabal al Asfar 83.05 310 P P 07 53 21.9 +0.6
comp=Z,10nm,0.9s,mb4.8,baz=289,slow=1.8,SNR=12
ASF Jabal al Asfar 83.05 310 P P 07 53 21.9 +0.6
ASF pmax pmax
comp=Z,10.0nm,0.9s
MVL Millersville 83.06 36 eP P 07 53 20.3 -1.0
MVL epP pP 07 53 32.7 -1.2
SSF Saint Saulge 83.17 340⇑iP P 07 53 21.8 -0.1
comp=Z,36nm,1.0s,mb5.1
SSF Saint Saulge 83.17 340⇑iP P 07 53 21.8 -0.1
SSF pmax pmax
comp=Z,18nm,1.0s,mb5.1
SSF Saint Saulge 83.17 340⇑iP P 07 53 21.8 -0.1
comp=Z,18nm,1.0s,mb5.0
HYF Humbligny 83.18 340 eP P 07 53 22.2 +0.3
SGMF Saint Gilles 83.33 344⇑iP P 07 53 22.6 -0.1
comp=Z,72nm,1.0s,mb5.4
SGMF Saint Gilles 83.33 344⇑iP P 07 53 22.6 -0.1
SGMF pmax pmax
comp=Z,36nm,1.0s,mb5.4
SGMF Saint Gilles 83.33 344⇑iP P 07 53 22.6 -0.1
comp=Z,36nm,1.0s,mb5.4
ROSF Rostrenen 83.39 345⇑iP P 07 53 22.9 -0.1
comp=Z,68nm,0.9s,mb5.4
ROSF Rostrenen 83.39 345⇑iP P 07 53 22.9 -0.1
ROSF pmax pmax
comp=Z,34nm,0.9s,mb5.4
ROSF Rostrenen 83.39 345⇑iP P 07 53 22.9 -0.1
comp=Z,34nm,0.9s,mb5.4
AVF Avril sur Loir 83.46 340⇑iP P 07 53 23.4 0.0
comp=Z,101nm,1.1s,mb5.5
AVF Avril sur Loir 83.46 340⇑iP P 07 53 23.4 0.0
AVF pmax pmax
comp=Z,51nm,1.1s,mb5.5
AVF Avril sur Loir 83.46 340⇑iP P 07 53 23.4 0.0
comp=Z,50nm,1.1s,mb5.5
ELN Prospectdale 83.48 41 eP P 07 53 22.8 -0.7
ELN epP pP 07 53 35.0 -1.0
SMF Signal de Mont 83.48 339⇑iP P 07 53 23.6 +0.1
comp=Z,168nm,1.0s,mb5.7
SMF Signal de Mont 83.48 339⇑iP P 07 53 23.6 +0.1
SMF pmax pmax
comp=Z,84nm,1.0s,mb5.7
SMF Signal de Mont 83.48 339⇑iP P 07 53 23.6 +0.1
comp=Z,84nm,1.0s,mb5.7
BLA Blacksburg 83.64 40 P P 07 53 24.1 -0.2
BLA e pP 07 53 35.9 -1.0
BLA Blacksburg 83.64 40 eP P 07 53 23.7 -0.6
comp=Z,23nm,1.0s,mb5.3
BLA epP pP 07 53 35.7 -1.2
QUIF Quistinic 83.77 344 eP P 07 53 24.7 -0.3
LPL La Plagne 83.79 337⇑iP P 07 53 25.9 +0.8
comp=Z,53nm,1.1s,mb5.3
LPL La Plagne 83.79 337⇑iP P 07 53 25.9 +0.8
LPL pmax pmax
comp=Z,27nm,1.1s,mb5.3
LPL La Plagne 83.79 337⇑iP P 07 53 25.9 +0.8
comp=Z,27nm,1.1s,mb5.3
BGF Bois d'Agland 83.80 340 eP P 07 53 25.1 0.0
LPG La Plagne 83.81 337⇑iP P 07 53 26.1 +0.9
comp=Z,112nm,1.4s,mb5.5
LPG La Plagne 83.81 337⇑iP P 07 53 26.1 +0.9
LPG pmax pmax
comp=Z,56nm,1.4s,mb5.5
LPG La Plagne 83.81 337⇑iP P 07 53 26.1 +0.9
comp=Z,56nm,1.4s,mb5.5
PLDF La Plantade 84.17 339 eP P 07 53 27.5 +0.5
TCF Toulx Ste Croi 84.20 340⇑iP P 07 53 27.2 0.0
comp=Z,51nm,1.1s,mb5.2
TCF Toulx Ste Croi 84.20 340⇑iP P 07 53 27.2 0.0
TCF pmax pmax
comp=Z,25nm,1.1s,mb5.3
TCF Toulx Ste Croi 84.20 340⇑iP P 07 53 27.2 0.0
comp=Z,25nm,1.1s,mb5.3
AGO Saint Agoulin 84.21 340 eP P 07 53 28.2 +1.0
MFF Saint Martin d 84.43 342 eP P 07 53 28.4 +0.1
PYM Petit Puy Mans 84.52 340 eP P 07 53 29.6 +0.8
ORIF Oris-en-Rattie 84.58 338⇑iP P 07 53 29.8 +0.7
comp=Z,58nm,0.9s,mb5.4
ORIF eMLR MLR
comp=Z,150nm,20.2s
ORIF Oris-en-Rattie 84.58 338⇑iP P 07 53 29.8 +0.7
ORIF pmax pmax
comp=Z,29nm,0.9s,mb5.4
ORIF Oris-en-Rattie 84.58 338⇑iP P 07 53 29.8 +0.7
comp=Z,29nm,0.9s,mb5.4
APE Apeiranthos 84.59 321⇑iP P 07 53 28.0 -1.2
APE Apeiranthos 84.59 321⇑P P 07 53 28.0 -1.2
AQU L'Aquila 84.68 331⇓iP P 07 53 29.1 -0.5
VIVF Saint-Julien-l 84.95 338⇑iP P 07 53 31.4 +0.5
comp=Z,55nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.95 338⇑iP P 07 53 31.4 +0.5
VIVF pmax pmax
comp=Z,28nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.95 338⇑iP P 07 53 31.4 +0.5
comp=Z,28nm,1.0s,mb5.3
RJF Les Rejaudoux 85.29 341 eP P 07 53 32.2 -0.5
comp=Z,52nm,1.3s,mb5.2
RJF eMLR MLR
comp=Z,164nm,20.0s
RJF Les Rejaudoux 85.29 341 eP P 07 53 32.2 -0.5
RJF pmax pmax
comp=Z,26nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,160nm,20.0s,MS4.4
RJF Les Rejaudoux 85.29 341 eP P 07 53 32.2 -0.5
comp=Z,26nm,1.3s,mb5.2
RJF LR LR
comp=Z,160nm,20.0s,MS4.4
CAF Calviac 85.52 340 eP P 07 53 33.7 -0.1
comp=Z,32nm,1.0s,mb5.2
CAF Calviac 85.52 340 eP P 07 53 33.7 -0.1
CAF pmax pmax
comp=Z,16nm,1.0s,mb5.2
CAF Calviac 85.52 340 eP P 07 53 33.7 -0.1
comp=Z,16nm,1.0s,mb5.2
FRF La Foret Royal 85.63 337 eP P 07 53 34.2 -0.1
comp=Z,60nm,1.1s,mb5.4
FRF La Foret Royal 85.63 337 eP P 07 53 34.2 -0.1
FRF pmax pmax
comp=Z,30nm,1.1s,mb5.4
FRF La Foret Royal 85.63 337 eP P 07 53 34.2 -0.1
comp=Z,30nm,1.1s,mb5.4
LFF La Frestale 85.81 341 eP P 07 53 34.7 -0.6
comp=Z,29nm,0.9s,mb5.2
LFF La Frestale 85.81 341 eP P 07 53 34.7 -0.6
LFF pmax pmax
comp=Z,14nm,0.9s,mb5.2
LFF La Frestale 85.81 341 eP P 07 53 34.7 -0.6
comp=Z,14nm,0.9s,mb5.2
LMR La Mourre 85.87 337⇑iP P 07 53 35.7 +0.1
comp=Z,85nm,1.1s,mb5.6
LMR La Mourre 85.87 337⇑iP P 07 53 35.7 +0.1
LMR pmax pmax
comp=Z,43nm,1.1s,mb5.6
LMR La Mourre 85.87 337⇑iP P 07 53 35.7 +0.1
comp=Z,43nm,1.1s,mb5.6
LASF Ste Croix 85.88 339 eP P 07 53 35.5 -0.1
TBI Tubuai 86.54 129 eLR LR 08 19 56.5
comp=Z,204nm,35.8s
MTLF Montolieu 86.98 339 eP P 07 53 40.5 -0.5
comp=Z,34nm,1.2s,mb5.1
MTLF Montolieu 86.98 339 eP P 07 53 40.5 -0.5
MTLF pmax pmax
comp=Z,17nm,1.2s,mb5.2
MTLF Montolieu 86.98 339 eP P 07 53 40.5 -0.5
comp=Z,17nm,1.2s,mb5.2
ESDC Sonseca Array 91.86 343 P P 07 54 03.2 -0.7
comp=Z,3.1nm,0.8s,mb4.7,baz=14,slow=3.5,SNR=9.5
KEST Kesra 92.01 332 P P 07 54 04.1 -0.5
comp=Z,3.3nm,1.0s,mb4.6,baz=17,slow=3.3,SNR=5.4
KEST LR LR 08 40 33.3
comp=Z,68nm,18.3s,MS4.1,baz=200,slow=39
RKT Rikitea 94.64 119 eLR LR 08 23 42.3
comp=Z,140nm,33.2s
TORD Torodi Ar. Bea 115.43 329 PKP PKPdf 07 59 37.2 -0.2
comp=Z,1.0nm,0.7s,baz=5.1,slow=1.6,SNR=5.8
TORD PP PP 08 00 22.1 -17
comp=Z,0.9nm,0.9s,baz=13,slow=9.8,SNR=3.5
TORD Torodi Ar. Bea 115.43 329 PKP PKPdf 07 59 37.2 -0.2
TORD PP PP 08 00 22.1 -17
VNDA Vanda 123.86 178 PKP PKPdf 07 59 50.8 -2.8
comp=Z,0.5nm,0.6s,baz=331,slow=6.2,SNR=4.5
VNDA Vanda 123.86 178 PKIKP PKPdf 07 59 50.8 -2.8
VNDA pmax pmax
comp=Z,10.0nm,0.6s
VNDA Vanda 123.86 178 ePKPdf PKPdf 07 59 51.8 -1.9
LSZ Lusaka 125.07 286 PKP PKPdf 07 59 57.8 +1.8
comp=Z,2.6nm,0.9s,baz=28,slow=1.9,SNR=5.2
LSZ Lusaka 125.07 286 PKIKP PKPdf 07 59 57.8 +1.8
LSZ pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 132.14 211 PKP PKPdf 08 00 09.3 -0.1
comp=Z,2.1nm,0.8s,baz=41,slow=3.8,SNR=5.7
MAW Mawson 132.14 211 PKIKP PKPdf 08 00 09.3 -0.1
MAW pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 134.22 63 ePKIKP PKPdf 08 00 14.3 +1.0
BDFB Brasilia 144.37 37 PKP PKPdf 08 00 30.2 -1.6
comp=Z,7.7nm,1.0s,baz=128,slow=1.5,SNR=9.0
BDFB Brasilia 144.37 37 PKIKP PKPdf 08 00 30.2 -1.6
BDFB pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 147.92 96 PKPbc PKPbc 08 00 40.9 0.0
comp=Z,2.7nm,0.6s,baz=262,slow=2.2,SNR=5.8
PLCA Paso Flores 147.92 96 ePKPdf PKPdf 08 00 37.4 -0.4
PLCA ePKPbc PKPbc 08 00 40.6 -0.2
PLCA ePKPab PKPab 08 00 44.0 +0.5
CPUP Villa Florida 148.35 61 PKPbc PKPbc 08 00 41.4 -0.6
comp=Z,5.1nm,0.7s,baz=317,slow=2.0,SNR=15
CPUP Villa Florida 148.35 61 PKP2 PKPbc 08 00 41.4 -0.6
CPUP pmax pmax
comp=Z,5.0nm,0.7s
CPUP Villa Florida 148.35 61 ePKPdf PKPdf 08 00 38.6 +0.1
CPUP ePKPbc PKPbc 08 00 41.3 -0.6
SNAA Sanae 152.40 196 PKPbc PKPbc 08 00 49.6 -2.0
comp=Z,1.1nm,0.8s,baz=115,slow=2.2,SNR=11
SNAA Sanae 152.40 196 ePKPdf PKPbc 08 00 49.7 -2.0
SNAA e 08 00 53.1
SNAA e 08 00 59.1
SNAA e 08 01 02.9
SNAA e 08 01 11.8
SNAA e 08 01 18.9
SNAA e 08 01 31.2
SNAA Sanae 152.40 196 ePKPbc PKPbc 08 00 49.7 -2.0
SNAA ePKPab PKPab 08 01 02.4 +0.5
VNA3 Neumayer Olymp 153.92 192 ePKPdf PKPbc 08 00 52.7 -2.3
VNA3 e 08 00 56.3
VNA3 e 08 01 05.6
VNA3 e 08 01 09.6
VNA3 e 08 01 15.0
VNA3 e 08 01 20.0
VNA3 e 08 01 25.0
VNA3 e 08 01 28.7
VNA3 e 08 01 40.1
VNA3 e 08 01 52.2
VNA1 Neumayer--Stat 154.22 194 ePKPdf PKPbc 08 00 52.0 -3.7
VNA1 e 08 00 56.0
VNA1 e 08 01 02.4
VNA1 e 08 01 06.1
VNA1 e 08 01 14.3
VNA1 e 08 01 22.8
VNA1 e 08 01 36.9
VNA1 e 08 01 47.1

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*NEIC **04** 07:53:40.0±0.6, 473N×94.66E, h30km, Error ellipse: s-maj=23.2km s-min=8.8km az=217.0*
*IDC **04** 07:53:42.0±4.2, 479N×94.82E, h46km±39km, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, mbtmp4.0/11, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/35, Error ellipse: s-maj=51.7km s-min=17.9km az=51.0*
*ISCJB **04** 07:53:42.8±3.4, 49N±02×949E±02, h69km±28km, mb3.9/10, Error ellipse: s-maj=45.4km s-min=15.4km az=103.8*
ISC 04 07:53:44.4±3.2, 49N±02×949E±02, h65km±27km, n17, σ0°53/18, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.51**	**117**	P	**Pn**	**07 54 50.7**	**+0.6**
	3.3nm,0.3s,baz=318,slow=7.6,SNR=9.0						
PSI				S	**Sn**	**07 55 41.0**	**-0.4**
	2.1nm,0.3s,baz=280,slow=20,SNR=2.7						
PSI				LR	LR	07 56 44.6	
	comp=Z,147nm,19.2s,baz=226,slow=40						
PSI	**Prapat**	**4.51**	**117**	P	**Pn**	**07 54 50.7**	**+0.5**
PSI				S	**Sn**	**07 55 41.0**	**-0.4**
PSI				LR	LR	07 56 44.5	
KULM	**Kulim**	**5.74**	**86**	ePn	**Pn**	**07 55 06.7**	**-0.2**
SONM	**Songino Array**	**43.91**	**11**	P	**P**	**08 01 44.8**	**+0.2**
	1.1nm,0.6s,mb3.8,baz=188,slow=8.8,SNR=6.1						
SONM				PcP	PcP	08 03 30.0	+0.3
	0.7nm,0.5s,baz=198,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**45.95**	**124**	P	**P**	**08 02 00.9**	**+0.1**
	2.0nm,0.6s,mb4.2,baz=302,slow=9.2,SNR=24						
WB2	**Warramunga Arr**	**45.96**	**124**	eP	**P**	**08 02 00.9**	**0.0**
ASAR	**Alice Springs**	**47.45**	**128**	P	**P**	**08 02 12.7**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=299,slow=7.9,SNR=14						
ZAL	**Zalesovo**	**49.59**	**352**	P	**P**	**08 02 29.7**	**+0.7**
	1.9nm,0.6s,mb4.3,baz=331,slow=6.8,SNR=9.0						
ZAL	**Zalesovo**	**49.59**	**352**	P	**P**	**08 02 29.7**	**+0.7**
BVAR	**Borovoye Array**	**52.04**	**341**	P	**P**	**08 02 47.4**	**0.0**
	2.2nm,0.6s,mb4.3,baz=140,slow=9.8,SNR=9.1						
BRTR	**Keskin Array B**	**64.96**	**312**	P	**P**	**08 04 16.9**	**-0.4**
	1.0nm,0.5s,mb4.1,baz=132,slow=8.4,SNR=5.3						
AKASG	**Malin Array Be**	**70.96**	**322**	P	**P**	**08 04 54.0**	**-1.0**
	1.4nm,0.6s,mb4.1,baz=100,slow=4.2,SNR=6.1						
AKASG	**Malin Array Be**	**70.96**	**322**	P	**P**	**08 04 54.0**	**-1.0**
BOSA	**Boshof**	**74.67**	**239**	LR	LR	08 32 12.5	
	comp=Z,64nm,20.0s,baz=170,slow=31						
FINES	**FINESS Array B**	**75.69**	**332**	P	**P**	**08 05 22.1**	**-0.7**
	0.8nm,0.6s,mb3.8,baz=111,slow=8.4,SNR=4.4						
ARCES	**ARCESS Array B**	**78.32**	**340**	P	**P**	**08 05 37.3**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=97,slow=6.9,SNR=14						
GERES	**GERESS Array B**	**80.55**	**319**	P	**P**	**08 05 50.8**	**+1.2**
	0.6nm,0.2s,mb4.1,baz=94,slow=4.0,SNR=5.4						

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*BJI **04** 08:04:27.4, 342N×12679E, h55km, mB5.1, mb4.8, Ms4.4, Msz4.2*
*IDC **04** 08:04:27.8±0.6, 423N×12656E, h0km, mb4.7/20, mb1 4.8/20, mb1mx4.7/23, mbtmp4.7/20, MS4.0/4, Ms1 3.9/4, ms1mx3.4/26, Error ellipse: s-maj=27.5km s-min=12.2km az=75.0*
*MOS **04** 08:04:32.0±1.2, 422N×12662E, h39km, mb5.1/13, Error ellipse: s-maj=18.8km s-min=7.4km az=104.8*
*ISCJB **04** 08:04:33.0±0.3, 4.10N±003×12660E±007, h51km, mb4.8/48, MS4.0/8, Error ellipse: s-maj=10.4km s-min=4.1km az=149.4*
*GCMT **04** 08:04:35.0±0.4, 429N×12684E, h28km, MW5.0/48, Moment Tensor Solution. s20,c26; s48,c66; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.12±.20; $M_{\theta\theta}$-0.43±.12; $M_{\phi\phi}$-2.69±.15; $M_{r\theta}$-0.45±.23; $M_{\theta\phi}$-1.28±.09; $M_{\phi r}$0.77±.25; Best double couple: $M_0$3.31800×10^{16} NP1:ϕ_s217.00000°, δ42.00000°, λ109.00000°. NP2: ϕ_s12.00000°, δ51.00000°, λ74.00000°. Principal axes: T 3.3260, Plg76.0000°, Azm223.0000°; N -0.0170, Plg13.0000°, Azm22.0000°; P -3.3100, Plg5.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 08:04:35.0±0.3, 4.15N×12673E, mb4.9/20 Error ellipse: s-maj=10.7km s-min=5.4km az=75.0*
*MAN **04** 08:04:37.4, 4.16N×126.18E, h77km, mb4.6, ML5.4, MS6.4*
ISC 04 08:04:35.0±0.3, 411N±003×12665E±007, h53km, h53km±4.3km: pP-P, n113, σ0°97/110, mb4.8/48, MS4.0/8, 4C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.13**	**340**	eP	**Pn**	**08 05 21.0**	**-0.8**
DAV	**Davao City (W)**	**3.13**	**340**	ePn	**Pn**	**08 05 21.0**	**-0.8**
DAV				eSn	**Sn**	**08 05 58.0**	**+0.1**
KCP	**Kidapawan**	**3.27**	**332**	⇓iP	**Pn**	**08 05 27.1**	**+3.3**
CGP	**Cagayan de Oro**	**4.73**	**336**	⇑iP	**Pn**	**08 05 43.5**	**-0.3**
BUTP	**Butuan**	**4.93**	**348**	eP	**Pn**	**08 05 53.2**	**+6.7**
PAGZ	**Pagadian**	**4.93**	**319**	eP	**Pn**	**08 05 46.6**	**0.0**
IPIL	**Ipil**	**5.46**	**312**	eP	**Pn**	**08 05 53.1**	**-0.7**
SCPH	**Surigao**	**5.75**	**349**	eP	**Pn**	**08 06 01.6**	**+3.8**
SCPH				eS	**Sn**	**08 07 04.5**	**+2.1**
SWI	**Sorong**	**6.75**	**137**	P	**Pn**	**08 06 18.4**	**+6.9**
	117nm,1.0s						
PLP	**Palo**	**7.20**	**347**	eP	**Pn**	**08 06 19.7**	**+2.1**
KKM	**Kota Kinabalu**	**10.57**	**281**	ePn	**Pn**	**08 07 05.0**	**+1.2**
KSM	**Kuching**	**16.53**	**261**	eP	**Pn**	**08 08 27.1**	**+4.0**
KAKA	**Kakadu**	**17.67**	**161**	eP	**Pn**	**08 08 34.6**	**-2.8**
	40nm,0.6s						
GUMO	**Guam**	**20.30**	**61**	LR	LR	08 15 24.6	
	comp=Z,527nm,19.2s,MS3.9,baz=246,slow=32						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	eP	**P**	**08 09 25.2**	**-0.5**
	44nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	P	**P**	**08 09 25.3**	**-0.3**
	23nm,0.9s,mb4.6,baz=15,slow=9.8,SNR=19						
QIZ	**Qiongzhong**	**22.12**	**313**	P	**P**	**08 09 27.1**	**+1.1**
QIZ				S	**S**	**08 13 28.6**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.4						
QIZ				LR	LR		
	comp=Z,459nm,16.6s,MS4.0						
GZH	**Guangzhou**	**22.84**	**327**	P	**P**	**08 09 34.5**	**+1.0**
GZH				LR	LR		
	comp=N,713nm,17.1s,MS4.2						
GZH				LR	LR		
	comp=E,427nm,18.0s,MS4.2						
GZH				LR	LR		
	comp=Z,714nm,15.8s,MS4.2						
WRAB	**Tennant Creek**	**25.06**	**163**	d iP	**P**	**08 09 54.0**	**-0.4**
WRA	**Warramunga Arr**	**25.07**	**163**	P	**P**	**08 09 54.8**	**+0.3**
	comp=Z,11nm,0.7s,mb4.5,baz=342,slow=10,SNR=67						
WB2	**Warramunga Arr**	**25.07**	**163**	eP	**P**	**08 09 54.9**	**+0.4**
WB2				eS	**S**	**08 14 19.6**	**+4.4**
KULM	**Kulim**	**25.94**	**274**	eP	**P**	**08 10 02.2**	**-0.1**
KULM				epP	pP	08 10 16.6	+1.0
MBWA	**Marble Bar**	**26.01**	**195**	eP	**P**	**08 10 03.3**	**+0.3**
	comp=Z,27nm,0.8s,mb4.8						
KKTK	**Khon Kaen**	**26.37**	**299**	P	**P**	**08 10 06.0**	**-0.2**
SSE	**Sheshan**	**27.33**	**350**	P	**P**	**08 10 16.2**	**+1.3**
SSE				AP	pP	08 10 24.6	-3.6
SSE				S	**S**	**08 14 53.4**	**+2.6**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,148nm,7.0s						
SSE				LR	LR		
	comp=N,99nm,16.5s,MS3.6						
SSE				LR	LR		

comp=E,82nm,16.5s,MS3.6
SSE LR LR
comp=Z,216nm,17.4s,MS3.8
SSE Sheshan 27.33 350 P **P** **08 10 16.2 +1.3**
comp=Z,45nm,0.7s,mb5.1
SSE pP pP 08 10 24.6 -3.6
SSE sP sP 08 10 28.9 -5.6
SSE S **S** **08 14 53.4 +2.6**
SSE sS sS 08 15 08.5 -5.0
SSE LR LR
comp=Z,220nm,17.4s,MS3.8
PSI Prapat 27.71 268 P **P** **08 10 18.2 0.0**
comp=Z,13nm,1.0s,mb4.5,baz=110,slow=4.1,SNR=6.9
NST Nakhon Sawan 28.49 296 P **P** **08 10 25.0 -0.2**
AS31 Alice Springs 28.50 166 *eP* **P** **08 10 25.8 +0.5**
ASPA Alice Springs 28.50 166 *eP* **P** **08 10 25.8 +0.5**
ASAR Alice Springs 28.50 166 P **P** **08 10 25.4 +0.1**
comp=Z,2.3nm,0.5s,mb4.0,baz=338,slow=6.5,SNR=25
WHN Wuhan 28.74 338 P **P** **08 10 27.3 -0.1**
JHJ Hachijo jima 2 31.36 21 LR LR 08 20 23.1
comp=Z,269nm,21.1s,MS3.9,baz=261,slow=30
MJAR Matsushiro Arr 33.98 17 P **P** **08 11 11.5 -2.0**
comp=Z,1.8nm,0.8s,mb4.0,baz=182,slow=8.4,SNR=3.3
XAN Xi'an 34.04 333 P **P** **08 11 12.9 -1.1**
DL2 Dalian 34.93 353 P **P** **08 11 22.6 +0.9**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
HNR Honiara 35.81 112 LR LR 08 23 50.9
comp=Z,200nm,18.2s,MS3.9,baz=360,slow=32
KLBR Kellerberrin 36.50 193 *eP* **P** **08 11 35.2 +0.1**
comp=Z,14nm,0.7s,mb4.9
BJT Baijiatuau 36.98 347 *eP* **P** **08 11 39.2 0.0**
BJT *e**PP pP 08 11 53.0 +0.1
BJT pmax pmax
comp=Z,39nm,1.0s
BJT Baijiatuau 36.98 347 *eP* **P** **08 11 39.2 0.0**
comp=Z,39nm,1.0s,mb5.2
BJT *e*pP pP 08 11 53.0 +0.1
BJI Beijing 37.00 347 P **P** **08 11 39.1 -0.3**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.8
BJI Beijing 37.00 347 P **P** **08 11 39.1 -0.3**
comp=Z,13nm,0.8s,mb4.8
MUN Mundaring 37.24 195 *eP* **P** **08 11 45.2 +3.8**
SNY Shenyang 37.65 356 ||P **P** **08 11 45.9 +1.0**
SNY AMB AMB
comp=Z,17nm,0.6s,mb5.0
NWAO Narrogin (SRO) 37.90 193 P **P** **08 11 47.5 +0.5**
comp=Z,33nm,1.1s,mb5.0,baz=47,slow=10,SNR=3.4
LZH Lanzhou 38.14 329 ||P **P** **08 11 49.5 +0.5**
LZH AP pP 08 12 07.3 +4.6
LZH XP sP 08 12 13.7 +4.8
LZH AMB AMB
comp=Z,35nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,159nm,4.1s
LZH Lanzhou 38.14 329 ||P **P** **08 11 49.5 +0.5**
comp=Z,35nm,1.1s,mb5.0
LZH pP pP 08 12 07.3 +4.6
LZH sP sP 08 12 13.7 +4.8
STKA Stephens Creek 38.51 159 *eP* **P** **08 11 52.7 +0.6**
comp=Z,22nm,1.0s,mb4.8
STKA Stephens Creek 38.51 159 P **P** **08 11 53.2 +1.0**
comp=Z,28nm,1.0s,mb5.0,baz=333,slow=8.0,SNR=22
MDJ Mudanjiang 40.42 3 *eP* **P** **08 12 08.6 +0.5**
comp=Z,17nm,0.9s,mb4.8
MDJ *e*pP pP 08 12 21.5 -0.3
MDJ *e*sP sP 08 12 28.4 +0.4
ARMA Armidale 41.83 147 *eP* **P** **08 12 19.9 +0.3**
GTA Gaotai 42.73 329 *eP* **P** **08 12 26.4 -0.6**
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KLR Kul'dur 45.16 5 *eP* **P** **08 12 43.3 -3.2**
HIA Hailar 45.38 354 *eP* **P** **08 12 49.0 +0.9**
HIA *e**PP pP 08 13 00.6 -1.5
HIA pmax pmax
comp=Z,32nm,1.1s
HIA Hailar 45.38 354 *eP* **P** **08 12 49.0 +0.9**
comp=Z,32nm,1.1s,mb5.1
HIA *e*pP pP 08 13 00.6 -1.5
GUN Gumba 45.44 306 *eP* **P** **08 12 48.2 -0.4**
comp=Z,33nm,0.7s,mb5.2
PKI Pulchoki 45.69 305 *eP* **P** **08 12 49.9 -0.7**
KKN Kakani 45.88 305 *eP* **P** **08 12 50.9 -1.2**
DMN Daman 45.95 305 *eP* **P** **08 12 52.3 -0.3**
GKN Gorkha 46.48 305 *eP* **P** **08 12 55.0 -1.9**
SONM Songino Array 46.91 341 P **P** **08 12 59.6 -0.6**
comp=Z,4.8nm,0.6s,mb4.6,baz=148,slow=8.5,SNR=7.4
KOLN Koldanda 47.24 305 *eP* **P** **08 13 02.2 -0.6**
comp=Z,19nm,0.5s,mb5.2
CIT Chita 48.98 349 *eP* **P** **08 13 17.7 +1.5**
ZAK Zakamensk 50.14 341 *eP* **P** **08 13 24.5 -0.5**
TLY Talaya 51.14 342 *eP* **P** **08 13 33.1 +0.5**
TLY *e**PP pP 08 13 49.2 +2.4
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY Talaya 51.14 342 *eP* **P** **08 13 33.1 +0.5**
comp=Z,10nm,0.9s,mb4.8
TLY *e*pP pP 08 13 49.2 +2.4
BOD Bodaibo 54.48 352 *eP* **P** **08 13 56.9 -0.3**
BOD pmax pmax
comp=Z,14nm,1.8s,mb4.6
YAK Yakutsk 57.83 2↑ *eP* **P** **08 14 21.5 +0.4**
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.6
AAK Ala-Archa 60.02 318 *eP* **P** **08 14 35.7 -0.6**
AAK *e* 08 15 21.7
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
AAK Ala-Archa 60.02 318 *eP* **P** **08 14 35.7 -0.6**
comp=Z,6.7nm,1.2s,mb4.5
AAK *e*PcP PcP 08 15 21.7 -0.1
ZAL Zalesovo 60.22 333 P **P** **08 14 36.7 -0.9**
comp=Z,2.0nm,0.3s,mb4.6,baz=122,slow=12,SNR=9.0
ZAL Zalesovo 60.22 333 P **P** **08 14 36.7 -0.9**
NVS Novosibirsk 61.50 333 *eP* **P** **08 14 45.0 -1.3**
NVS pmax pmax
comp=Z,14nm,1.0s,mb5.0
NVS pmax pmax
comp=N,7.0nm,0.8s
BVAR Borovoye Array 66.96 327 P **P** **08 15 21.1 -0.9**
comp=N,7.2nm,0.9s,mb4.7,baz=117,slow=8.5,SNR=20
BRVK Borovoye 67.03 327 *eP* **P** **08 15 22.4 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 67.03 327 *eP* **P** **08 15 22.4 -0.1**
comp=Z,9.4nm,0.8s,mb4.9
BILL Bilibino 69.21 15 *eP* **P** **08 15 36.9 +0.7**
BILL *e* pP 08 15 51.6 +0.7
BILL *e* 08 16 00.5
BILL *e* 08 18 07.9
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,600nm,16.0s,MS4.9
CASY Casey 71.18 187↑ *iP* **P** **08 15 49.0 +0.8**
MIR Mirnyy 74.51 193 *diP* **P** **08 16 10.0 +2.1**
MIR *i* 08 16 18.0
MIR pmax pmax
comp=Z,210nm,1.0s
ARU Arti 74.57 328 ||*iP* **P** **08 16 07.2 -1.1**
ARU *e* pP 08 16 20.2 -3.0
ARU *e* 08 18 53.0
ARU *e*PPP 08 20 34.6
ARU *e*S S 08 25 41.7 +1.9
ARU *e*SS SS 08 30 28.2 +0.7
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ARU Arti 74.57 328 *eP* **P** **08 16 08.7 +0.4**
comp=Z,9.7nm,0.8s,mb4.8
OPO Ambohidratompo 81.34 251 P **P** **08 16 46.8 +0.9**
comp=Z,2.3nm,0.9s,mb4.1,baz=346,slow=4.2,SNR=3.1
ZEI Tsey 81.90 312 *eP* **P** **08 16 48.2 -0.6**
ZEI *e**PP pP 08 16 57.7 -6.2
VNDA Vanda 83.81 173 P **P** **08 16 59.0 +0.3**
comp=Z,7.1nm,0.9s,mb4.8,baz=314,slow=6.4,SNR=33
VNDA Vanda 83.81 173 *eP* **P** **08 16 59.0 +0.3**
VNDA pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 83.81 173 *eP* **P** **08 16 59.0 +0.3**
comp=Z,10nm,1.0s,mb4.9
MAW Mawson 84.08 200 *eP* **P** **08 17 00.6 +0.5**
comp=Z,5.8nm,1.2s,mb4.6
MAW Mawson 84.08 200 P **P** **08 17 01.0 +0.9**
comp=Z,7.4nm,1.1s,mb4.8,baz=56,slow=5.2,SNR=13
MAW LR LR 08 53 09.6
comp=Z,44nm,19.0s,MS3.9,baz=242,slow=35
MAW Mawson 84.08 200 *eP* **P** **08 17 00.6 +0.5**
MAW pmax pmax
comp=Z,6.0nm,1.2s
TMCR Tamitsa 85.72 334 P **P** **08 17 07.3 -1.0**
TMCR pmax pmax
comp=Z,61nm,0.8s,mb5.9
MOS Moscow 86.08 325 *eP* **P** **08 17 09.0 -1.1**
MOS pmax pmax
comp=Z,53nm,1.1s,mb5.7
OBN Obninsk 86.71 325 *ciP* **P** **08 17 12.3 -0.9**
OBN *e* pP 08 17 25.7 -2.7
OBN *e* 08 27 36.1
OBN *e*SS SS 08 33 30.0 +1.5
OBN pmax pmax
comp=Z,65nm,1.7s,mb5.6
JOF Joensuu 88.81 333 *ep* **P** **08 17 21.8 -1.4**
comp=Z,15nm,0.8s,mb5.4
BRTR Keskin Array B 89.72 310 P **P** **08 17 27.5 0.0**
comp=Z,2.4nm,0.8s,mb4.6,baz=104,slow=5.2,SNR=11
ARCES ARCESS Array B 90.07 340 P **P** **08 17 29.7 +0.6**
comp=Z,5.2nm,0.9s,mb4.8,baz=119,slow=4.3,SNR=7.4
KAF Kangasniemi 91.22 332 *ep* **P** **08 17 32.5 -2.0**
comp=Z,4.5nm,0.5s,mb5.0,baz=77,slow=4.3
KAF Kangasniemi 91.22 332 *eP* **P** **08 17 32.5 -2.0**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
FINES FINESS Array B 91.46 332 P **P** **08 17 34.9 -0.7**
comp=Z,5.5nm,0.8s,mb4.9,baz=101,slow=6.0,SNR=14
FINES FINESS Array B 91.46 332 P **P** **08 17 34.9 -0.7**
AKASG Malin Array Be 91.55 321 P **P** **08 17 35.0 -1.0**
comp=Z,0.4nm,0.3s,mb4.2,baz=70,slow=4.2,SNR=11
QSPA South Pole Qui 94.01 180 *eP* **P** **08 17 48.0 +0.6**
comp=Z,10.0nm,1.1s,mb5.2
UZH Uzhgorod 96.36 320 *eP* **P** **08 17 50.6 -7.5**
UZH *e* pP 08 18 08.2 -5.2
NB2 NORSAR Subarra 98.41 334 P **P** **08 18 06.4 -0.9**
comp=Z,6.9nm,1.2s,mb5.1,baz=68,slow=4.6
NB2 NORSAR Subarra 98.41 334 P **P** **08 18 06.4 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,1.2s,mb5.1
NOA NORSAR Array B 98.41 334 P **P** **08 18 06.2 -1.1**
comp=Z,2.9nm,1.0s,mb4.8,baz=69,slow=4.6,SNR=5.8
MATP Matopo 99.05 250 P **P** **08 18 11.2 +1.0**
comp=Z,2.1nm,0.8s,mb4.7,baz=153,slow=2.3,SNR=3.7
LSZ Lusaka 99.22 255 P **P** **08 18 11.2 +0.2**
comp=Z,3.3nm,0.9s,mb4.9,baz=84,slow=5.0,SNR=4.8
TORD Torodi Ar. Bea 122.72 288 PKP PKPdf 08 23 25.8 +0.9
comp=Z,1.5nm,0.9s,baz=28,slow=2.1,SNR=5.8
JCT Junction City 123.87 49 *eP*KIKP PKPdf 08 23 29.4 +2.3
MIAR Mount Ida 126.05 41 *eP*KIKP PKPdf 08 23 32.0 +0.7
CPUP Villa Florida 157.58 171 PKPab PKPab 08 24 59.8 +2.3
comp=Z,1.7nm,0.6s,baz=168,slow=3.3,SNR=5.2
LPAZ La Paz 161.10 131 PKP PKPdf 08 24 33.6 +4.2
comp=Z,2.3nm,1.1s,baz=188,slow=3.0,SNR=4.4
LPAZ PKPab PKPab 08 25 16.9 +4.1
comp=Z,1.6nm,1.0s,baz=184,slow=4.8,SNR=2.9
BDFB Brasilia 167.40 204 PKP PKPdf 08 24 36.7 +1.6
comp=Z,1.1nm,0.5s,baz=277,slow=7.8,SNR=3.4
BDFB PKPab PKPab 08 25 42.2 +1.7
comp=Z,3.6nm,0.9s,baz=194,slow=3.5,SNR=3.9

IDC 04 08:07:41.7±44.0, 717S×10922E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=736.8km s-min=174.4km az=131.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.47**	**120**	P	P	08 13 30.4	+0.9
	1.1nm,0.7s,baz=294,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**28.82**	**127**	P	P	08 13 41.5	+0.1
	0.6nm,0.5s,baz=304,slow=8.9,SNR=3.0						
STKA	**Stephens Creek**	**38.91**	**134**	P	P	08 15 09.0	0.0
	2.6nm,0.4s,baz=317,slow=12,SNR=4.0						

BJI 04 08:07:48.6, 2199N×9938E, h15km, ML3.9, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.19**	**187**	PG	Pg	08 08 54.6	+4.9
CHG				SG	Sg	08 09 40.1	+9.1
KMI	**Kunming**	**4.38**	**44**	PG	Pg	08 09 08.1	-4.5
KMI				SG	Sg	08 10 00.2	-9.2
KMI				Smax			
	comp=N,37nm,1.1s						
KMI				Smax			
	comp=E,41nm,1.3s						
CD2	**Chengdu**	**9.71**	**23**	*eP*	Pn	08 10 06.4	-1.3

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*IDC **04** 08:09:31.1±5.4, 499N×12632E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/17, mbtmp4.1/5, Error ellipse: s-maj=115.0km s-min=92.7km az=93.0*
*NEIC **04** 08:09:35.8±0.8, 509N×12659E, h35km, mb4.3/1, Error ellipse: s-maj=79.2km s-min=13.2km az=78.0*
*ISCJB **04** 08:09:52.3±1.8, 52N±02×1262E±08, h252km±27km, mb3.9/5, Error ellipse: s-maj=139.0km s-min=22.6km az=157.8*
ISC 04 08:09:53.5±1.7, 52N±02×1261E±08, h246km±26km, n8, σ0s75/8, mb3.9/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.86**	**339**	*eP*	**Pn**	**08 10 44.2**	**0.0**
NACB	**Ninganchiao**	**19.36**	**348**	*eP*	**P**	**08 14 00.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.15**	**181**	*eP*	**P**	**08 14 38.4**	**+0.2**
	8.2nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**23.15**	**181**	P	**P**	**08 14 38.4**	**+0.2**
	1.9nm,0.4s,mb4.0,baz=4.0,slow=9.9,SNR=6.7						
WRA	**Warramunga Arr**	**26.26**	**162**	P	**P**	**08 15 05.6**	**-0.7**
	1.6nm,0.3s,mb4.1,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**29.68**	**165**	P	**P**	**08 15 36.0**	**-0.5**
	0.9nm,0.6s,mb3.6,baz=340,slow=8.2,SNR=6.4						
STKA	**Stephens Creek**	**39.71**	**159**	P	**P**	**08 17 03.1**	**+1.0**
	4.0nm,0.7s,mb4.0,baz=342,slow=9.7,SNR=5.0						
VNDA	**Vanda**	**84.94**	**173**	P	**P**	**08 22 06.5**	**+5.5**
	1.3nm,0.9s,mb3.6,baz=312,slow=9.3,SNR=4.7						

IDC 04 08:19:36.1±30.0, 551N×12561E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=506.1km s-min=117.4km az=150.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.46**	**180**	*eP*	P	08 24 47.4	+0.2
	11nm,1.4s						
FITZ	**Fitzroy Crossi**	**23.46**	**180**	P	P	08 24 47.1	-0.2
	2.2nm,0.7s,baz=29,slow=9.4,SNR=6.6						
WRA	**Warramunga Arr**	**26.71**	**161**	P	P	08 25 16.3	-0.7
	1.7nm,0.5s,baz=342,slow=9.2,SNR=24						
WB2	**Warramunga Arr**	**26.71**	**161**	*eP*	P	08 25 15.8	-1.2
ASAR	**Alice Springs**	**30.11**	**165**	P	P	08 25 47.7	+0.4
	0.4nm,0.4s,baz=345,slow=7.1,SNR=7.4						
STKA	**Stephens Creek**	**40.18**	**159**	P	P	08 27 15.6	+1.6
	2.8nm,0.9s,baz=340,slow=11,SNR=3.4						

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*KRSC **04** 08:28:15, 6073N×166.14E, h2km, ML5.2*
*MOS **04** 08:28:21.2±1.0, 6064N×165.71E, h10km, mb5.1/69, MS4.6/27, Error ellipse: s-maj=8.8km s-min=4.7km az=87.1*
*BJI **04** 08:28:21.0, 6053N×166.01E, h19km, mB5.1, mb5.0, Ms5.2, Msz5.0*
*ISCJB **04** 08:28:22.2±0.1, 6065N±002×16573E±003, h16km, mb5.0/130, MS4.7/50, Error ellipse: s-maj=3.3km s-min=2.0km az=159.0*
*NEIC **04** 08:28:23.3±0.2, 6069N×16569E, h10km, mb5.1/73, Error ellipse: s-maj=5.6km s-min=3.2km az=181.0*
*GCMT **04** 08:28:23.3±0.2, 6064N×16593E, h18km±1km, MW5.0/83, Moment Tensor Solution. s39,c52; s83,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.57±.13; $M_{\theta\theta}$3.46±.12; $M_{\phi\phi}$-4.03±.12; $M_{r\theta}$-0.95±.30; $M_{\theta\phi}$-1.09±.09; $M_{\phi r}$-0.94±.25; Best double couple: M=4.12100×10^{16} NP1:ϕ_s323.00000°, δ71.00000°, λ2.00000°. NP2: ϕ_s232.00000°, δ88.00000°, λ161.00000°. Principal axes: T 3.8270, Plg15.0000°, Azm186.0000°; N 0.5850, Plg71.0000°, Azm48.0000°; P -4.4150, Plg12.0000°,*

Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*SZGRF **04** 08:28:26.6, 6059N×16651E, h33km, mb4.9, MS4.4, Eastern Siberia, Russia*
*IDC **04** 08:28:26.7±5.0, 6070N×16579E, h40km±44km, mb4.4/21, mb1 4.5/21, mb1mx4.5/25, mbtmp4.6/21, MS4.5/21, Ms1 4.5/21, ms1mx4.3/37, Error ellipse: s-maj=16.6km s-min=11.9km az=137.0*
ISC 04 08:28:24.0±0.1, 6069N±002×16574E±003, h17km, h17km±2.3km: pP-P, n587, σ0s82/597, mb5.0/130, MS4.7/50, 118C-97D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**4.75**	**200**	*eP*	**Pn**	**08 29 32.1**	**-2.7**
KBTR				*i* S	**Sn**	**08 30 30.0**	**+0.5**
KLY	**Klyuchi**	**5.13**	**214**	*eP*	**Pn**	**08 29 38.1**	**-2.0**
ZLN	**Zelenaya**	**5.36**	**211**	*eP*	**Pn**	**08 29 42.6**	**-0.6**
SRDR	**Sredinnyy**	**5.40**	**218**	*eP*	**Pn**	**08 29 45.3**	**+1.5**
KMNR	**Kamenistaya**	**5.74**	**213**	*eP*	**Pn**	**08 29 48.4**	**0.0**
TUMR	**Tumrok**	**6.18**	**211**	*eP*	**Pn**	**08 29 55.3**	**+0.8**
MKZ	**Mys Kozlova**	**6.51**	**201**	*eP*	**Pn**	**08 29 56.7**	**-2.4**
MKZ				*i* S	**Sn**	**08 31 12.4**	**-0.6**
BILL	**Bilibino**	**7.38**	**2**	||*iP*N	**Pn**	**08 30 12.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,65nm,1.3s						
BILL	**Bilibino**	**7.38**	**2**	*e*Pn	**Pn**	**08 30 12.1**	**+1.1**
BILL				*e*Sn	**Sn**	**08 31 34.8**	**+0.3**
MA2	**Magadan**	**7.56**	**268**	*i* PN	**Pn**	**08 30 12.4**	**-1.1**
MA2				pmax	pmax		
	comp=Z,122nm,0.9s						
MA2	**Magadan**	**7.56**	**268**	*e*Pn	**Pn**	**08 30 12.4**	**-1.0**
MA2				*e*Sn	**Sn**	**08 31 37.4**	**-1.4**
MA2	**Magadan**	**7.56**	**268**	*eP*	**Pn**	**08 30 12.1**	**-1.4**
MA2				*i* S	**Sn**	**08 31 38.6**	**-0.2**
INSR	**Institute**	**8.58**	**210**	*eP*	**Pn**	**08 30 28.1**	**+0.7**
INSR				*i* S	**Sn**	**08 32 05.3**	**+1.5**
PET	**Petropavlovsk**	**8.60**	**210**	α *i*PN	**Pn**	**08 30 27.4**	**-0.4**
PET				pmax	pmax		
	comp=Z,700nm,3.1s						
PET				pmax	pmax		
	comp=Z,200nm,3.4s						
PET				pmax	pmax		
	comp=Z,99nm,0.9s						
PET				MLR	MLR		
	comp=E,10μm,14.0s						
PET				MLR	MLR		
	comp=Z,10μm,15.0s						
PET				MLR	MLR		
	comp=N,13μm,14.0s						
PET	**Petropavlovsk**	**8.60**	**210**	*e*Pn	**Pn**	**08 30 28.0**	**+0.2**
PET	**Petropavlovsk**	**8.60**	**210**	*eP*	**Pn**	**08 30 27.9**	**+0.1**
SKR	**Severo-Kuril's**	**11.39**	**213**	*e*PN	**Pn**	**08 31 01.2**	**-4.7**
SKR				pmax	pmax		
	comp=N,40nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				pmax	pmax		
	comp=E,90nm,1.0s						
YAK	**Yakutsk**	**17.20**	**290**	*eP*	**Pn**	**08 32 25.2**	**+1.7**
YAK				*e*S	**Sn**	**08 35 36.3**	**+1.9**
YAK				pmax	pmax		
	comp=Z,160nm,1.0s						
YAK				pmax	pmax		
	comp=N,24nm,1.1s						
YAK				pmax	pmax		
	comp=E,62nm,1.2s						
YAK				smax			
	comp=N,1μm,5.2s						
YAK				smax			
	comp=Z,398nm,4.6s						
YAK				smax			
	comp=E,529nm,3.7s						
YAK				MLR	MLR		
	comp=Z,4μm,11.0s						
YAK				MLR	MLR		
	comp=N,2μm,9.0s						
YAK				MLR	MLR		
	comp=E,4μm,13.0s						
YAK	**Yakutsk**	**17.20**	**290**	*e*Pn	**Pn**	**08 32 25.0**	**+1.5**
	comp=E,178nm,0.7s						
UGL	**Uglegorsk**	**17.78**	**240**	P	**Pn**	**08 32 33.5**	**+2.8**
UGL				pmax	pmax		
	comp=Z,90nm,0.8s						
UGL				MLR	MLR		
	comp=E,4μm,13.0s						
UGL				MLR	MLR		
	comp=Z,4μm,13.0s						
UGL				MLR	MLR		
	comp=N,4μm,14.0s						
TTA	**Tatalina**	**18.03**	**66**	*eP*	**Pn**	**08 32 35.5**	**+1.7**
TIXI	**Tiksi**	**18.12**	**322**	*eP*	**Pn**	**08 32 33.8**	**-1.1**
TIXI				*e*S	**Sn**	**08 35 53.9**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,3μm,15.0s						
TIXI	**Tiksi**	**18.12**	**322**	*eP*	**Pn**	**08 32 37.4**	**+2.5**
SDPT	**Sand Point**	**18.53**	**92**	*eP*	**Pn**	**08 32 40.3**	**+0.4**
SVW2	**Sparrevohn**	**18.64**	**72**	*eP*	**Pn**	**08 32 41.3**	**+0.1**
IMA2	**Indian Mountai**	**18.68**	**56**	*eP*	**Pn**	**08 32 42.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**19.17**	**235**	P	**Pn**	**08 32 48.0**	**+0.3**
YSS				MLR	MLR		
	comp=E,5μm,14.0s						
YSS				MLR	MLR		
	comp=Z,5μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,12.0s						
YSS	**Yuzh-Sakhalins**	**19.17**	**235**	*e*Pn	**Pn**	**08 32 48.5**	**+0.8**
COLA	**College**	**21.24**	**59**	||*iP*	**P**	**08 33 08.0**	**-1.2**
COLA	**College**	**21.24**	**59**	*eP*	**P**	**08 33 08.4**	**-0.8**
	comp=N,159nm,1.5s,mb5.1						
KDAK	**Kodiak Island**	**21.25**	**79**	P	**P**	**08 33 09.5**	**+0.2**
	comp=N,17nm,0.8s,mb4.5,baz=29,slow=2.7,SNR=4.9						
KDAK				LR	LR	08 42 51.6	
	comp=N,1μm,18.3s,MS4.4,baz=297,slow=41						
CLNS	**Chul'man**	**21.27**	**278**	*eP*	**P**	**08 33 11.6**	**+2.0**
CLNS				*e**PP		08 33 16.4	
CLNS				*e*		08 33 31.8	
CLNS				*e*PPP		08 33 41.7	
CLNS				*e*S	**S**	**08 36 51.8**	**-13**
CLNS				*e*SS		08 37 33.5	
CLNS				pmax	pmax		
	comp=E,75nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,48nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,28nm,1.5s						
CLNS				pmax	pmax		
	comp=E,60nm,1.1s						
CLNS				smax			
	comp=E,585nm,12.4s						
CLNS				smax			
	comp=Z,73nm,12.8s						
CLNS				smax			
	comp=N,121nm,11.6s						
CLNS				MLR	MLR		
	comp=E,3μm,12.0s,MS5.0						
CLNS				MLR	MLR		
	comp=Z,4μm,12.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,400nm,11.0s,MS5.0						
SLKM	**Skilak Lake**	**21.32**	**71**	*eP*	**P**	**08 33 10.8**	**+0.7**
PMR	**Palmer**	**21.48**	**68**	*eP*	**P**	**08 33 12.0**	**+0.3**
ASAJ	**Asahikawa**	**21.60**	**230**	P	**P**	**08 33 14.2**	**+1.2**
	comp=N,22nm,1.0s,mb4.6,baz=340,slow=5.9,SNR=4.8						
ASAJ				LR	LR	08 41 37.5	
	comp=N,2μm,19.9s,MS4.5,baz=39,slow=37						
ASAJ	**Asahikawa**	**21.60**	**230**	P	**P**	**08 33 14.2**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,22nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.9s						
KLR	**Kul'dur**	**22.35**	**255**	*eP*	**P**	**08 33 17.2**	**-3.9**
KLR				*e*S	**S**	**08 37 24.5**	**-1.8**
KLR				pmax	pmax		
	comp=E,50nm,1.2s						
KLR				pmax	pmax		
	comp=Z,64nm,1.2s,mb4.9						
KLR				smax			
	comp=N,1μm,10.0s						

KLR smax
comp=E,900nm,10.0s
KLR MLR MLR
comp=N,2µm,13.0s
KLR MLR MLR
comp=Z,15µm,13.0s,MS5.6
EGAK Eagle 24.05 57 *e*P **P 08 33 36.0 -2.2**
DAWY Dawson 24.99 58 *e*P **P 08 33 46.8 -0.1**
BOD Bodaibo 26.04 287 ⇓*i*P **P 08 33 55.3 -1.1**
BOD pmax pmax
comp=Z,74nm,1.0s,mb5.2
INK Inuvik 26.16 47 P **P 08 33 56.3 -1.1**
comp=Z,35nm,0.9s,mb4.9,baz=289,slow=11,SNR=17
INK Inuvik 26.16 47 P **P 08 33 56.3 -1.1**
INK pmax pmax
comp=Z,35nm,0.9s
INK Inuvik 26.16 47 *e*P **P 08 33 57.1 -0.3**
comp=Z,2µm,1.0s
MDJ Mudanjiang 26.73 249 P **P 08 34 02.6 0.0**
MDJ AP pP 08 34 05.6 -2.0
MDJ PCP PcP 08 37 26.2 +0.5
MDJ S **S 08 38 38.5 +1.0**
MDJ XS sS 08 38 43.6 -2.3
MDJ SCP ScP 08 41 06.2 +1.2
MDJ PCS PcS 08 41 07.6 +0.6
MDJ SCS ScS 08 44 56.9 +1.3
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.2
MDJ AMB AMB
comp=Z,62nm,4.7s
MDJ LR LR
comp=N,3µm,18.0s,MS5.0
MDJ LR LR
comp=E,2µm,17.1s,MS5.0
MDJ LR LR
comp=Z,2µm,15.3s,MS4.8
HIA Hailar 28.15 267 *e*P **P 08 34 16.3 +0.9**
HIA pmax pmax
comp=Z,40nm,1.3s
HIA Hailar 28.15 267 *e*P **P 08 34 16.3 +1.0**
comp=Z,40nm,1.3s,mb4.9
CN2 Changchun 29.28 253 *e*P **P 08 34 25.8 +0.4**
CN2 *e*XP sP 08 34 32.0 -0.5
CN2 *e*S **S 08 39 16.5 -1.2**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,17.0s,MS4.9
CN2 LR LR
comp=E,1µm,17.0s,MS4.9
CN2 LR LR
comp=Z,1µm,18.0s,MS4.6
CIT Chita 29.44 277 *e*P **P 08 34 26.8 0.0**
CIT *e* pP 08 34 33.2 +1.3
CIT pmax pmax
comp=Z,46nm,1.1s,mb5.1
MAJO Matsushiro 29.83 228 *e*P **P 08 34 30.7 +0.4**
MAT Matsushiro 29.83 228 P **P 08 34 29.6 -0.7**
MJAR Matsushiro Arr 29.83 228 P **P 08 34 29.9 -0.3**
comp=Z,5.8nm,0.9s,mb4.3,baz=8.3,slow=8.0,SNR=14
MJAR LR LR 08 48 11.3
comp=Z,757nm,19.2s,MS4.3,baz=65,slow=40
MJAR Matsushiro Arr 29.83 228 P **P 08 34 30.0 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR MLR MLR
comp=Z,757nm,19.2s
IRK Irkutsk 33.79 284 *e*P **P 08 35 05.8 +0.7**
IRK *e* 08 45 21.8
IRK pmax pmax
comp=Z,57nm,0.6s,mb5.7
TLY Talaya 34.45 283 P **P 08 35 11.4 +0.6**
SNR=9.0
TLY Talaya 34.45 283 *e*P **P 08 35 10.4 -0.4**
TLY *e*S **S 08 40 45.2 +6.9**
TLY pmax pmax
comp=Z,17nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,2µm,12.0s,MS5.0
TLY Talaya 34.45 283 *e*P **P 08 35 11.3 +0.6**
DL2 Dalian 34.90 252 P **P 08 35 16.6 +2.0**
DL2 S **S 08 40 49.1 +3.9**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DL2 LR LR
comp=N,950nm,16.4s,MS4.7
DL2 LR LR
comp=E,810nm,17.9s,MS4.7
DL2 LR LR
comp=Z,700nm,12.5s
ZAK Zakamensk 35.47 282 *e*P **P 08 35 19.2 -0.4**
YKW3 Yellowknife Ar 35.66 51 *e*P **P 08 35 22.7 +1.5**
SONM Songino Array 35.67 276 P **P 08 35 21.7 +0.4**
comp=Z,30nm,1.1s,mb5.2,baz=54,slow=5.6,SNR=44
SONM PcP PcP 08 37 49.0 -0.5
comp=Z,3.0nm,0.9s,baz=32,slow=1.3,SNR=4.4
SONM LR LR 08 50 49.5
comp=Z,2µm,20.5s,MS4.8,baz=62,slow=38
SONM Songino Array 35.67 276 P **P 08 35 21.7 +0.4**
SONM 08 37 49.0
SONM pmax pmax
comp=Z,31nm,1.1s
SONM MLR MLR
comp=Z,2µm,20.5s
YKA Yellowknife Ar 35.70 52 P **P 08 35 19.5 -2.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=306,slow=8.1,SNR=8.8
YKA PcP PcP 08 37 48.4 -1.1
comp=Z,1.3nm,0.8s,baz=308,slow=3.5,SNR=4.8
YKA LR LR 08 53 22.7
comp=Z,495nm,18.5s,MS4.3,baz=350,slow=42
YKA Yellowknife Ar 35.70 52 P **P 08 35 19.5 -2.1**
YKA 08 37 48.4
YKA MLR MLR
comp=Z,495nm,18.5s
YKA Yellowknife Ar 35.70 52 P **P 08 35 19.6 -2.0**
YKA PcP PcP 08 37 48.4 -1.1
YKA LR LR 08 53 22.7
BJI Beijing 36.60 259 P **P 08 35 28.9 -0.3**
BJI S **S 08 41 14.2 +3.0**
BJI AMB AMB
comp=Z,76nm,1.1s,mb5.4
BJI AMB AMB
comp=Z,177nm,3.8s
BJI LR LR
comp=N,2µm,12.5s,MS5.2
BJI LR LR
comp=E,2µm,13.0s,MS5.2
BJI LR LR
comp=Z,562nm,19.2s
BJI Beijing 36.60 259 P **P 08 35 28.9 -0.3**
comp=Z,76nm,1.1s,mb5.4
BJI S **S 08 41 14.2 +3.0**
BJI SS SS 08 44 04.2 +13
BJI LR LR
comp=Z,560nm,19.2s,MS4.4
BJT Baijiatuau 36.62 259 *e*P **P 08 35 28.6 -0.8**
BJT pmax pmax
comp=Z,74nm,0.9s
BJT Baijiatuau 36.62 259 *e*P **P 08 35 28.6 -0.8**
comp=Z,74nm,0.9s,mb5.5
HHC Hu-ho-hao-te 38.22 264 *e*P **P 08 35 43.0 +0.1**
HHC AP pP 08 35 47.6 -0.5
HHC XP sP 08 35 50.2 +0.1
HHC PP PP 08 37 14.2 +3.9
HHC PCP PcP 08 38 00.9 +3.7
HHC S **S 08 41 35.3 -0.5**
HHC PCS PcS 08 41 45.3 -0.9
HHC SS SS 08 44 10.9 -13
HHC SCS ScS 08 45 52.0 -1.9
HHC AMB AMB
comp=Z,25nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,138nm,5.0s
HHC LR LR
comp=N,2µm,11.6s
HHC LR LR
comp=E,1µm,7.6s
HHC LR LR
comp=Z,2µm,9.5s
BTO Baotou 39.16 265 *e*P **P 08 35 50.1 -0.7**
SPB4 Spitsbergen Ar 40.13 351 *e*P **P 08 35 58.9 -0.1**
SPB4 *e* 08 36 07.3
SPB4 *e*PP PP 08 37 31.9 +0.5

C03A Quillayute Air 40.60 76 ⇑P **P 08 36 03.6 +0.7**
baz=40
PGC Sidney 40.64 74 *e*P **P 08 36 03.8 +0.6**
comp=Z,24nm,0.8s,mb4.9
A04A Legoe Bay, Lum 40.94 73 ⇑P **P 08 36 05.9 +0.3**
baz=41
B04A Port Angeles 41.03 75 ⇓P **P 08 36 06.8 +0.4**
baz=41,SNR=7.1
A05A Maple Falls 41.04 73 ⇑P **P 08 36 06.5 +0.1**
baz=41,SNR=5.4
C04A Brinnon 41.52 75 ⇓P **P 08 36 10.3 -0.1**
baz=41
B05A Bryant 41.55 74 ⇑P **P 08 36 10.9 +0.3**
baz=41,SNR=6.1
SSE Sheshan 41.57 245 P **P 08 36 10.1 -0.7**
SSE S **S 08 42 25.0 -1.0**
SSE SS SS 08 45 28.2 -2.8
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,168nm,5.7s
SSE LR LR
comp=N,172nm,16.0s,MS4.4
SSE LR LR
comp=E,356nm,16.0s,MS4.4
SSE LR LR
comp=Z,508nm,16.1s,MS4.5
SSE Sheshan 41.57 245 P **P 08 36 10.1 -0.7**
comp=Z,31nm,0.8s,mb5.0
SSE sP sP 08 36 14.6 -3.4
SSE S **S 08 42 25.0 -1.0**
SSE sS sS 08 42 29.5 -5.0
SSE SS SS 08 45 28.2 -2.8
SSE LR LR
comp=Z,510nm,16.1s,MS4.5
D03A Wishkah Elem. 41.57 76 ⇓P **P 08 36 11.1 +0.3**
baz=41
ZAL Zalesovo 41.59 298 LR LR 08 55 49.8
comp=Z,2µm,19.1s,MS5.1,baz=66,slow=40
B06A Marblemount 41.66 73 ⇑P **P 08 36 11.5 0.0**
baz=42
GNW Green Mountain 41.70 75 *e*P **P 08 36 13.3 +1.4**
NJ2 Nanjing 41.81 248 *e*P **P 08 36 08.3 -4.5**
NJ2 AP pP 08 36 17.9 -0.1
NJ2 XP sP 08 36 22.1 +2.1
NJ2 PP PP 08 37 48.1 -1.4
NJ2 S **S 08 42 23.0 -6.7**
NJ2 XS sS 08 42 39.0 +0.8
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,370nm,10.0s
NJ2 LR LR
comp=N,2µm,16.3s,MS5.2
NJ2 LR LR
comp=E,1µm,13.5s,MS5.2
EDM Edmonton 42.07 62 P **P 08 36 14.6 -0.3**
EDM Edmonton 42.07 62 *e*P **P 08 36 15.0 +0.1**
E03A Lebam 42.08 76 ⇓P **P 08 36 15.2 +0.2**
baz=42
C05A Tolt Reservoir 42.15 74 ⇓P **P 08 36 15.5 0.0**
baz=42
B07A Winthrop 42.34 72 ⇑P **P 08 36 17.0 -0.1**
baz=42,SNR=7.0
D05A Enumclaw 42.37 75 ⇑P **P 08 36 17.6 +0.3**
baz=42,SNR=7.9
E04A Onalaska 42.45 76 ⇓P **P 08 36 18.4 +0.4**
baz=42
F03A Seaside 42.53 77 ⇓P **P 08 36 19.0 +0.3**
baz=42
A09A Danville 42.69 70 ⇓P **P 08 36 19.7 -0.2**
baz=42,SNR=15
LON Longmire 42.77 75 *e*P **P 08 36 21.6 +1.0**
D06A Cle Elum 42.91 74 ⇓P **P 08 36 21.7 0.0**
baz=43
C07A Waterville 42.92 73 ⇑P **P 08 36 21.6 -0.2**
baz=43,SNR=9.2
TWW Teanaway 42.94 74 P **P 08 36 23.4 +1.4**
F04A Amboy 43.07 76 ⇑P **P 08 36 23.1 0.0**
baz=43
A10A Northport 43.16 70 ⇑P **P 08 36 23.8 0.0**
baz=43
EBG Ellensburg 43.24 74 P **P 08 36 25.5 +1.1**
B09A Rice 43.28 71 ⇓P **P 08 36 25.2 +0.5**
baz=43,SNR=7.2
E06A Yakima 43.31 75 ⇑P **P 08 36 25.3 +0.3**
baz=43,SNR=9.0
C08A Higginbotham F 43.33 72 ⇓P **P 08 36 24.8 -0.3**
baz=43
H03A Soap Creek Ran 43.57 78 ⇑P **P 08 36 27.2 +0.1**
baz=43
G04A Mulino 43.58 77 ⇑P **P 08 36 26.9 -0.2**
baz=43
COR Corvallis 43.64 78 *e*P **P 08 36 28.4 +0.8**
C09A Chrisman Ranch 43.67 71 ⇓P **P 08 36 27.7 -0.2**
baz=44
OD2 Odessa Site #2 43.77 72 P **P 08 36 29.2 +0.5**
B10A Chitwood Farm, 43.80 70 ⇓P **P 08 36 28.7 -0.2**
baz=44
E07A Sunnyside 43.83 74 ⇓P **P 08 36 29.0 -0.2**
baz=44,SNR=5.5
NEW Newport 43.87 70 P **P 08 36 29.1 -0.5**
comp=E,3.9nm,0.8s,mb4.2,baz=338,slow=7.1,SNR=11
NEW Newport 43.87 70 *e*P **P 08 36 30.2 +0.7**
comp=E,40nm,1.7s,mb4.9
HOOD Mount Hood Mea 43.89 76 *e*P **P 08 36 30.8 +1.2**
D08A Wollman Farm, 43.91 73 ⇓P **P 08 36 29.4 -0.5**
baz=44,SNR=8.5
F06A Goldendale 43.97 75 ⇑P **P 08 36 30.1 -0.3**
baz=44,SNR=8.8
A12A Yak River Ran 44.07 68 ⇑P **P 08 36 31.2 +0.1**
baz=44,SNR=5.7
H04A Detroit Lake 44.10 77 ⇓P **P 08 36 31.3 -0.1**
baz=44,SNR=9.8
I03A Eugene 44.10 79 ⇑P **P 08 36 31.4 +0.1**
baz=44
G05A Wamic 44.10 76 ⇓P **P 08 36 31.5 +0.2**
baz=44
HAWA Hanford 44.11 74 *e*P **P 08 36 32.1 +0.7**
C10A Spilker Farm, 44.11 71 ⇓P **P 08 36 30.8 -0.6**
baz=44
D09A Jones Farm, Ri 44.19 72 ⇑P **P 08 36 31.6 -0.5**
baz=44,SNR=5.8
F07A Phinny Hill Vi 44.28 74 ⇑P **P 08 36 32.8 0.0**
baz=44,SNR=6.5
B12A Libby 44.43 69 ⇑P **P 08 36 34.3 +0.3**
baz=44
G06A Carlson Farm, 44.44 76 ⇑P **P 08 36 34.0 0.0**
baz=44
H05A Madras 44.59 77 ⇓P **P 08 36 34.6 -0.6**
baz=44,SNR=11
E09A Wood Farm, Sta 44.67 72 ⇓P **P 08 36 35.2 -0.7**
baz=44,SNR=16
J03A Ideyld Park 44.70 79 ⇑P **P 08 36 36.1 0.0**
baz=44,SNR=6.6
WALA Waterton Lakes 44.77 67 *e*P **P 08 36 37.8 +1.1**
comp=E,48nm,1.4s,mb5.1
XAN Xi'an 44.87 260 P **P 08 36 37.4 -0.1**
XAN AP pP 08 36 46.0 +3.3
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
XAN LR LR
comp=N,934nm,13.5s,MS5.0
XAN LR LR
comp=E,1µm,15.5s,MS5.0
XAN LR LR
comp=Z,1µm,14.8s,MS5.0
F08A Pendleton 44.90 74 ⇑P **P 08 36 37.3 -0.4**
K02A Glendale 44.90 80 ⇓P **P 08 36 37.6 -0.2**
baz=45
I05A Bend 44.93 77 ⇑P **P 08 36 38.0 0.0**
baz=45,SNR=7.2
H06A Lindquist Farm 44.95 76 ⇓P **P 08 36 38.0 -0.1**
baz=45,SNR=14
B13A Whitefish 45.01 68 ⇑P **P 08 36 38.6 0.0**
baz=45,SNR=7.1
C12A Trout Creek 45.04 69 ⇑P **P 08 36 39.0 +0.2**
baz=45,SNR=5.9
GTA Gaotai 45.09 273 *e*P **P 08 36 38.8 -0.4**
GTA AP pP 08 36 43.0 -1.4
GTA XP sP 08 36 46.5 0.0
GTA S **S 08 43 14.1 -3.6**
GTA AMB AMB
comp=Z,19nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,148nm,4.6s

GTA LR LR
comp=N,1µm,13.4s,MS5.2
GTA LR LR
comp=E,1µm,13.0s,MS5.2
GTA LR LR
comp=Z,2µm,15.3s,MS5.1
WHN Wuhan 45.16 252 P **P 08 36 39.5 -0.3**
WHN S **S 08 43 10.7 -8.0**
WHN LR LR
comp=Z,2µm,13.3s,MS5.2
G08A Pilot Rock 45.19 74 ⇓P **P 08 36 39.6 -0.4**
baz=45
BSMT Bassoo Peak 45.25 69 P **P 08 36 41.8 +1.3**
F09A S2 Ranch, Elgi 45.38 73 ⇓P **P 08 36 41.6 +0.1**
baz=45
H07A Lands Inn, Kim 45.42 75 ⇑P **P 08 36 41.6 -0.3**
baz=45,SNR=9.9
C13A Hot Springs 45.47 69 ⇓P **P 08 36 42.6 +0.3**
baz=45,SNR=8.6
I06A Prineville 45.60 76 ⇓P **P 08 36 43.4 +0.2**
baz=45,SNR=6.5
J05A Fort Rock 45.60 78 ⇑P **P 08 36 43.4 +0.1**
baz=45
LZH Lanzhou 45.71 267 *e*P **P 08 36 45.1 +0.9**
LZH AP pP 08 36 48.3 -1.1
LZH XP sP 08 36 51.7 +0.3
LZH *e*PP PP 08 38 32.6 +1.3
LZH *e*S **S 08 43 26.9 +0.3**
LZH *e*SS SS 08 46 40.8 -10
LZH AMB AMB
comp=Z,32nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,187nm,7.2s
LZH LR LR
comp=N,1µm,14.7s
LZH LR LR
comp=Z,2µm,16.8s,MS5.1
LZH Lanzhou 45.71 267 *e*P **P 08 36 45.1 +0.9**
LZH *PP pP 08 36 48.3 -1.1
LZH *SP sP 08 36 51.7 +0.3
LZH *e* 08 38 32.6
LZH *e*S **S 08 43 26.9 +0.3**
LZH *SS sS 08 43 33.5 -1.7
LZH *e*SS SS 08 46 40.8 -10
LZH pmax pmax
comp=Z,32nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,2µm,16.8s,MS5.1
LZH Lanzhou 45.71 267 *e*P **P 08 36 45.1 +0.9**
comp=Z,32nm,1.5s,mb5.0
LZH pP pP 08 36 48.3 -1.1
LZH sP sP 08 36 51.7 +0.3
LZH *e*PP PP 08 38 32.6 +1.3
LZH *e*S **S 08 43 26.9 +0.3**
LZH sS sS 08 43 33.5 -1.7
LZH *e*SS SS 08 46 40.8 -10
LZH LR LR
comp=Z,2µm,16.8s,MS5.1
I07A Izee 45.83 76 P **P 08 36 45.6 +0.5**
baz=46,SNR=6.9
H08A Prairie City 45.90 75 ⇑P **P 08 36 45.5 -0.1**
baz=46,SNR=15
SUMG Summit 45.98 10 *e*P **P 08 36 46.5 +0.2**
YBH Yreka Blue Hor 46.06 80 *e*P **P 08 36 48.1 +1.2**
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 46.06 80 *e*P **P 08 36 48.1 +1.2**
comp=Z,25nm,1.2s,mb5.0
YBH Yreka Blue Hor 46.06 80 ⇑P **P 08 36 47.1 +0.1**
baz=46,SNR=13
L04A Klamath Falls 46.12 79 ⇑P **P 08 36 47.4 0.0**
baz=46,SNR=6.0
KHMM Horse Mountain 46.22 82 *e*P **P 08 36 50.2 +2.1**
M02C Callahan 46.25 81 ⇑P **P 08 36 48.4 0.0**
baz=46
H09A Durkee 46.27 74 ⇑P **P 08 36 48.0 -0.6**
baz=46
BMO Blue Mountains 46.30 73 *e*P **P 08 36 48.0 -0.7**
comp=Z,40nm,1.4s,mb5.2
MSO Missoula 46.39 69 *e*P **P 08 36 49.2 -0.3**
comp=Z,40nm,1.9s,mb5.0
I08A Drewsey 46.41 75 ⇑P **P 08 36 49.2 -0.4**
baz=46
M04C Macdoel 46.45 80 ⇑P **P 08 36 50.1 +0.1**
baz=46,SNR=9.0
J07A Hines 46.46 76 ⇓P **P 08 36 50.1 0.0**
baz=46
KURK Kurchatov 46.55 299 P **P 08 36 50.9 +0.1**
comp=Z,156nm,1.1s,mb5.8,SNR=6.1
KEV Kevo 46.58 342 *e*p **P 08 36 48.1 -2.9**
comp=Z,6.7nm,0.8s,mb4.6
KEV Kevo 46.58 342 *e*P **P 08 36 48.1 -2.9**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CHMT Chamberlain Mo 46.65 69 *e*P **P 08 36 51.8 +0.3**
LASM Arnica Sink 46.71 80 P **P 08 36 53.1 +1.1**
L05A Lakeview 46.73 79 ⇓P **P 08 36 52.4 +0.2**
baz=47,SNR=22
O01C Eel River Cons 46.74 83 ⇑P **P 08 36 52.6 +0.3**
baz=47,SNR=5.4
I09A Lost Marbles R 46.75 75 ⇓P **P 08 36 52.2 -0.1**
baz=47,SNR=6.6
J08A Circle Bar Ran 46.87 76 ⇑P **P 08 36 53.1 -0.1**
baz=47,SNR=9.4
K07A Rock Creek Ran 47.01 77 ⇓P **P 08 36 54.5 +0.2**
baz=47,SNR=17
ARCES ARCESS Array B 47.01 342 P **P 08 36 51.8 -2.5**
comp=Z,4.6nm,0.7s,mb4.5,baz=18,slow=8.2,SNR=8.2
ARCES ARCESS Array B 47.01 342 P **P 08 36 51.8 -2.5**
ARCES pmax pmax
comp=Z,50nm,0.7s
WDC Whiskeytown Da 47.03 81 *e*P **P 08 36 55.4 +0.9**
WDC Whiskeytown Da 47.03 81 ⇓P **P 08 36 54.1 -0.4**
baz=47,SNR=8.6
LTIM Timbered Crate 47.08 80 P **P 08 36 54.5 -0.4**
MOD Modoc 47.10 78 *e*P **P 08 36 55.6 +0.6**
comp=Z,9.1nm,1.1s,mb4.6
MOD *e* 08 37 03.5
MOD Modoc 47.10 78 ⇑P **P 08 36 54.6 -0.4**
baz=47
M05C Lookout 47.11 79 ⇑P **P 08 36 55.0 -0.1**
baz=47
O02C Red Bluff 47.22 82 ⇑P **P 08 36 55.9 -0.1**
baz=47,SNR=12
J09A Fry Pan Ranch, 47.22 75 ⇑P **P 08 36 55.6 -0.4**
baz=47,SNR=18
K08A Mann Creek Ran 47.34 76 ⇓P **P 08 36 56.8 -0.1**
baz=47,SNR=12
HATC Hat Creek Radi 47.37 80 ⇑P **P 08 36 57.0 -0.1**
baz=47
EGMT Eagleton 47.40 65 ⇓P **P 08 36 56.9 -0.5**
baz=47,SNR=5.2
L07A Adell 47.47 78 ⇑P **P 08 36 58.0 +0.1**
baz=47,SNR=13
WVOR Wild Horse Val 47.49 77 *e*P **P 08 36 58.9 +0.8**
WVOR pmax pmax
comp=Z,33nm,1.4s,mb5.1
WVOR Wild Horse Val 47.49 77 *e*P **P 08 36 58.9 +0.8**
comp=Z,33nm,1.4s,mb5.1
P01C Double 8 Ranch 47.50 83 ⇓P **P 08 36 58.0 -0.2**
baz=47
M06C Likely Place G 47.55 79 ⇓P **P 08 36 58.3 -0.3**
baz=47,SNR=13
WMQ Urumqi 47.59 286 P **P 08 37 00.2 +1.3**
WMQ AP pP 08 37 04.5 +0.4
WMQ XP sP 08 37 07.0 +0.9
WMQ PP PP 08 38 51.0 +0.6
WMQ PPP 08 39 40.0
WMQ PCS PcS 08 42 23.0 -0.9
WMQ S **S 08 43 54.0 +0.5**
WMQ XS sS 08 44 02.0 -0.1
WMQ SCS ScS 08 46 51.0 -0.9
WMQ AMB AMB
comp=Z,39nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,147nm,5.0s
WMQ LR LR
comp=N,1µm,12.4s,MS5.2
WMQ LR LR
comp=E,964nm,11.6s,MS5.2
WMQ LR LR
comp=Z,2µm,18.4s
GASB Alder Springs 47.66 82 ⇑P **P 08 36 59.4 0.0**
baz=48,SNR=8.9
O03C Acorn Hollow, 47.72 81 ⇓P **P 08 36 60.0 0.0**
baz=48

K09A	Rome	47.73	76	⇑P	P	08 36 59.6	-0.4
	baz=48,SNR=14						
L08A	Fields	47.82	77	⇑P	P	08 37 00.2	-0.5
	baz=48,SNR=23						
LRM	Limekiln Ridge	47.83	69	eP	P	08 37 01.6	+0.9
ELFS	Eagle Lake Fie	47.88	80	⇓P	P	08 37 01.2	+0.1
	baz=48						
O04C	Chester	47.93	80	⇑P	P	08 37 01.2	-0.4
	baz=48,SNR=22						
HOPS	Hopland	47.99	83	eP	P	08 37 02.8	+0.8
	comp=Z,46nm,1.6s,mb5.3						
HOPS	Hopland	47.99	83	⇓P	P	08 37 01.8	-0.2
	baz=48						
M07A	Soldier Meadow	48.04	78	⇑P	P	08 37 01.9	-0.4
	baz=48						
DLMT	Dillon	48.11	70	eP	P	08 37 03.8	+0.9
N06A	Buffalo Meadow	48.21	79	⇓P	P	08 37 03.4	-0.3
	baz=48						
BVAR	Borovoye Array	48.24 306		LR	LR	08 59 40.8	
	comp=Z,1μm,18.0s,MS4.9,baz=319,slow=39						
BRVK	Borovoye	48.25 306		P	P	08 37 03.7	-0.3
	comp=Z,181nm,1.0s,SNR=11						
BRVK	Borovoye	48.25 306		P	P	08 37 06.0	+2.0
	SNR=12						
BRVK	Borovoye	48.25 306		eP	P	08 37 03.5	-0.5
BRVK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
BRVK	Borovoye	48.25 306		eP	P	08 37 03.5	-0.5
	comp=Z,33nm,0.9s,mb5.4						
L09A	Wilkinson Ranc	48.27	76	⇓P	P	08 37 04.0	-0.2
	baz=48,SNR=11						
O05C	Quincy	48.29	81	⇓P	P	08 37 04.2	-0.1
	baz=48,SNR=5.9						
ORV	Oroville	48.33	81	⇑P	P	08 37 03.7	-0.9
	baz=48,SNR=15						
M08A	Happy Creek Ra	48.37	77	⇓P	P	08 37 04.9	-0.1
	baz=48,SNR=18						
MNRC	McLaughlin Nat	48.39	83	⇑P	P	08 37 04.9	-0.2
	baz=48,SNR=11						
MCMT	McKenzie Canyo	48.40	70	eP	P	08 37 04.8	-0.4
MCMT				ePcP	PcP	08 38 30.9	-0.6
MCMT				ePP	PP	08 39 00.6	+2.8
SUTB	Sutter Butte	48.44	82	⇓P	P	08 37 04.3	-1.2
	baz=48						
OHCM	Honcut	48.50	81	eP	P	08 37 05.5	-0.4
HLID	Hailey	48.63	72	⇓P	P	08 37 06.8	-0.2
	baz=48,SNR=9.8						
BEKR	Beckwourth	48.64	80	⇓P	P	08 37 06.3	-0.7
	baz=48,SNR=15						
O06A	Flanigan	48.66	79	⇑P	P	08 37 06.4	-0.8
	baz=48,SNR=11						
MCCM	Marconi Confer	48.75	84	⇓P	P	08 37 06.9	-1.0
	baz=49						
Q03C	Winters	48.79	83	⇓P	P	08 37 08.2	+0.1
	baz=49,SNR=5.1						
CVS	Carmenet Viney	48.80	83	⇑P	P	08 37 07.9	-0.3
	baz=49,SNR=14						
M09A	Marrel Ranch,	48.84	77	⇓P	P	08 37 07.9	-0.6
	baz=49,SNR=6.8						
Q04C	Lincoln	48.94	82	⇓P	P	08 37 08.2	-1.1
	baz=49						
P05C	Yuba Gap, Truc	48.95	81	⇑P	P	08 37 08.4	-1.0
	baz=49,SNR=11						
P06A	Stead Airport,	49.01	80	⇑P	P	08 37 09.2	-0.7
	baz=49						
QLMT	Earthquake Lak	49.05	69	eP	P	08 37 11.1	+0.9
GCMT	Greycliff	49.12	67	eP	P	08 37 11.8	+1.1
O07A	Toulon	49.12	79	⇓P	P	08 37 10.0	-0.7
	baz=49,SNR=20						
M10A	I.L. Ranch, Tu	49.19	76	⇓P	P	08 37 11.2	-0.1
	baz=49						
PAHR	Pah Rah Range	49.23	80	eP	P	08 37 12.3	+0.7
N09A	Rock Creek Ran	49.24	77	⇓P	P	08 37 11.6	-0.1
	baz=49,SNR=12						
LAVA	Lava Cap Winer	49.32	81	⇓P	P	08 37 11.7	-0.5
	baz=49,SNR=16						
WCN	Washoe City	49.37	80	⇑P	P	08 37 12.2	-0.4
	baz=49,SNR=5.4						
YMR	Madison River	49.39	69	eP	P	08 37 13.0	+0.2
	comp=Z,34nm,1.4s,mb5.2						
BDM	Black Diamond	49.40	83	⇑P	P	08 37 11.7	-1.1
	baz=49						
TMCR	Tamitsa	49.41 333		eP	P	08 37 11.4	-1.5
TMCR				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
GUMO	Guam	49.43 207		LR	LR	09 01 22.0	
	comp=Z,336nm,18.1s,MS4.4,baz=273,slow=40						
YNR	Norris Junctio	49.49	69	eP	P	08 37 15.2	+1.8
P07A	Fallon	49.60	79	⇑P	P	08 37 14.0	-0.4
	baz=49						
R04C	Big Horse Ranc	49.61	82	⇑P	P	08 37 14.0	-0.5
	baz=49						
YFT	Old Faithful	49.62	69	eP	P	08 37 17.2	+2.7
M11A	Holland Ranch,	49.62	75	⇓P	P	08 37 14.3	-0.2
	baz=49,SNR=7.2						
JRSC	Jasper Ridge	49.65	84	⇑P	P	08 37 14.3	-0.4
	baz=50						
R05C	Kirkwood Meado	49.68	81	⇓P	P	08 37 14.8	-0.2
	baz=50,SNR=14						
BMN	Battle Mountai	49.71	77	eP	P	08 37 16.5	+1.3
BMN				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
BMN	Battle Mountai	49.71	77	eP	P	08 37 16.4	+1.2
	comp=Z,23nm,1.4s,mb5.0						
LKWY	Lake	49.73	69	eP	P	08 37 17.0	+1.7
LKWY				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3						
LKWY	Lake	49.73	69	eP	P	08 37 17.0	+1.7
	comp=Z,26nm,1.3s,mb5.1						
RLMT	Red Lodge	49.82	67	eP	P	08 37 15.4	-0.6
N10A	Dunphy	49.83	76	⇑P	P	08 37 16.5	+0.3
	baz=50						
SFJD	Kangerlussuaq	49.85	18	iP	P	08 37 16.2	-0.1
	comp=Z,18nm,0.8s,mb5.2						
SFJD	Kangerlussuaq	49.85	18	iP	P	08 37 16.2	-0.1
SFJD				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
P08A	Dixie Valley	49.87	78	⇑P	P	08 37 16.7	+0.3
	baz=50						
BNLO	Ben Lomond (Sa	49.89	84	⇓P	P	08 37 15.9	-0.7
	baz=50						
O09A	Fish Creek Ran	49.93	77	⇓P	P	08 37 16.7	-0.2
	baz=50,SNR=17						
CD2	Chengdu	49.94 262		eP	P	08 37 16.9	0.0
CD2				AP	pP	08 37 21.4	-0.7
CD2				XP	sP	08 37 23.9	-0.3
CD2				PCS	PcS	08 42 33.2	-0.7
CD2				S	S	08 44 24.7	-1.8
CD2				SCS	ScS	08 47 05.0	-2.7
CD2				SS	SS	08 47 53.6	-5.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,5.6s						
CD2				LR	LR		
	comp=N,550nm,13.2s,MS4.9						
CD2				LR	LR		
	comp=E,580nm,14.4s,MS4.9						
CD2				LR	LR		
	comp=Z,510nm,13.2s,MS4.7						
FLWY	Flagg Ranch	49.96	69	eP	P	08 37 17.5	+0.4
	comp=Z,17nm,0.8s,mb5.1						
ARU	Arti	49.98 316		⇓iP	P	08 37 17.1	-0.1
ARU				e		08 38 33.7	
ARU				e		08 39 13.9	
ARU				eS	S	08 44 30.8	+3.7
ARU				eSS	SS	08 48 02.2	+2.2
ARU				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
ARU				MLR	MLR		
	comp=E,600nm,16.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,300nm,15.0s,MS4.8						
ARU	Arti	49.98 316		eP	P	08 37 16.4	-0.8
LAO	LASA Array	49.98	64	eP	P	08 37 18.6	+1.4
	comp=N,17nm,1.0s,mb5.0						
IMW	Indian Meadow	49.99	70	eP	P	08 37 18.4	+1.1
	comp=N,103nm,1.9s,mb5.5						
IMW				ePP	PP	08 39 13.8	+1.5
S04C	Ingram Canyon,	50.01	83	⇑P	P	08 37 17.5	0.0
	baz=50,SNR=5.0						
M12A	Wells	50.05	75	⇑P	P	08 37 17.9	+0.2
	baz=50,SNR=7.7						
CMB	Columbia Colle	50.05	82	P	P	08 37 18.6	+0.8
CMB				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
CMB	Columbia Colle	50.05	82	eP	P	08 37 19.3	+1.5
CMB	Columbia Colle	50.05	82	P	P	08 37 17.7	-0.1
	baz=50,SNR=7.5						
N11A	Elko Archery C	50.12	76	⇓P	P	08 37 18.1	-0.2
	baz=50						
R06C	Coleville	50.13	81	⇓P	P	08 37 18.4	+0.1
	baz=50,SNR=16						
WAKR	Walker	50.15	81	eP	P	08 37 19.0	+0.5
O10A	Cortez Mining,	50.17	77	⇑P	P	08 37 18.6	0.0
	baz=50						
MOOW	Moose Ponds	50.20	70	eP	P	08 37 18.9	0.0
	comp=Z,58nm,2.0s,mb5.3						
MOOW				ePcP	PcP	08 38 38.2	+0.2
RRI2	Red Ridge	50.24	70	eP	P	08 37 24.7	+5.4
	comp=Z,20nm,1.3s,mb5.0						
ELK	Elko	50.42	75	eP	P	08 37 21.3	+0.8
ELK				pmax	pmax		
	comp=Z,13nm,0.9s						
ELK	Elko	50.42	75	eP	P	08 37 21.3	+0.8
	comp=Z,13nm,0.9s,mb5.0						
PACP	Pacheco Peak	50.42	83	⇓P	P	08 37 20.5	-0.1
	baz=50,SNR=5.8						
N12A	Clover Valley,	50.43	75	⇓P	P	08 37 20.6	-0.1
	baz=50,SNR=8.2						
P09A	Austin	50.44	78	⇓P	P	08 37 21.0	+0.3
	baz=50						
REDW	Red Top Meadow	50.45	70	eP	P	08 37 21.4	+0.6
	comp=Z,47nm,1.6s,mb5.3						
SAO	San Andreas Ge	50.54	84	eP	P	08 37 22.2	+0.7
Q08A	Gabbs	50.60	79	⇑P	P	08 37 21.5	-0.4
	baz=50,SNR=15						
S05C	Merced	50.62	82	⇑P	P	08 37 21.3	-0.8
	baz=50						
R07C	Lee Vining	50.66	81	⇓P	P	08 37 22.1	-0.3
	baz=50						
O11A	Cowboy Ranch,	50.70	76	⇓P	P	08 37 22.6	-0.1
	baz=50,SNR=6.0						
HVU	Hansel Valley	50.78	73	eP	P	08 37 24.8	+1.5
HAST	UC Hastings Re	50.79	84	⇑P	P	08 37 23.2	-0.1
	baz=51,SNR=8.0						
T05C	Eagle Field, D	50.81	83	⇑P	P	08 37 23.7	+0.1
	baz=51						
N13A	Wendover, West	50.82	75	⇑P	P	08 37 23.1	-0.5
	baz=51						
R08A	Mina	50.91	80	⇑P	P	08 37 24.2	-0.1
	baz=51						
Q09A	Carvers	50.98	78	⇓P	P	08 37 24.8	0.0
	baz=51						
LRV	Little Rabbit	51.02	83	eP	P	08 37 25.9	+0.8
O12A	Currie	51.02	75	⇑P	P	08 37 25.1	-0.1
	baz=51,SNR=11						
P11A	Circle Ranch,	51.10	77	⇓P	P	08 37 25.6	-0.2
	baz=51						
MLAC	Mammoth Lakes	51.13	81	⇑P	P	08 37 26.7	+0.8
	baz=51						
KCC	Kaiser Creek	51.13	81	⇑P	P	08 37 25.4	-0.6
	baz=51,SNR=9.4						
T06C	Millerton Lake	51.20	82	⇑P	P	08 37 25.7	-0.7
	baz=51,SNR=15						
V03C	Hunter Liggett	51.23	84	⇓P	P	08 37 26.5	-0.2
	baz=51						
MTUM	Tungsten Hills	51.48	81	eP	P	08 37 29.7	+1.2
HWUT	Hardware Ranch	51.48	72	eP	P	08 37 29.4	+0.9
R09A	Tonopah	51.50	79	⇑P	P	08 37 28.9	+0.2
	baz=51,SNR=15						
BW06	Boulder Array	51.51	70	eP	P	08 37 27.9	-0.8
	comp=Z,27nm,1.4s,mb5.0						
PDAR	Pinedale Array	51.51	70	P	P	08 37 27.8	-1.0
	comp=Z,6.1nm,0.7s,mb4.6,baz=330,slow=5.1,SNR=27						
PDAR				LR	LR	08 59 26.9	
	comp=Z,460nm,18.7s,MS4.5,baz=345,slow=36						
U05C	Westside ANR,	51.53	83	⇓P	P	08 37 29.6	+0.7
	baz=51						
S08C	White Mtn Res	51.55	80	⇓P	P	08 37 29.4	+0.3
	baz=51,SNR=14						
TPH	Tonopah	51.56	79	P	P	08 37 30.9	+1.8
TPH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
TPH	Tonopah	51.56	79	eP	P	08 37 31.1	+1.9
P12A	McGill	51.57	76	⇓P	P	08 37 29.2	0.0
	baz=51,SNR=10						
ULM	Lac du Bonnet	51.58	54	P	P	08 37 29.1	-0.3
	comp=Z,7.5nm,1.1s,mb4.5,baz=318,slow=12,SNR=4.2						
ULM				LR	LR	09 00 36.8	
	comp=Z,297nm,18.4s,MS4.3,baz=348,slow=37						
PKD	Parkfield	51.63	83	⇓P	P	08 37 29.3	-0.4
	baz=52,SNR=6.5						
Q11A	Duckwater	51.70	77	⇑P	P	08 37 29.8	-0.4
	baz=52,SNR=13						
V04C	Ramage Ranch,	51.72	84	⇓P	P	08 37 30.5	+0.2
	baz=52						
R10A	Warm Springs	51.83	78	⇓P	P	08 37 30.8	-0.4
	baz=52,SNR=11						
S09A	Goldfield	51.83	79	⇑P	P	08 37 30.7	-0.5
	baz=52,SNR=14						
TCUT	Toone Canyon	51.94	72	eP	P	08 37 32.6	+0.7
Q12A	Willow Creek R	51.95	76	⇑P	P	08 37 31.7	-0.3
	baz=52,SNR=6.5						
JOF	Joensuu	51.95 335		ep	P	08 37 29.8	-2.3
	comp=Z,6.3nm,0.8s,mb4.6						
JOF	Joensuu	51.95 335		eP	P	08 37 29.8	-2.3
JOF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
RCTC	Rector, Farmer	51.98	82	⇑P	P	08 37 31.7	-0.5
	baz=52,SNR=6.1						
DUG	Dugway	52.00	74	eP	P	08 37 33.2	+0.8
DUG	Dugway	52.00	74	⇑P	P	08 37 32.5	0.0
	baz=52,SNR=11						
V05C	Boulder Hill,	52.01	83	⇑P	P	08 37 33.0	+0.6
	baz=52						
GYA	Guiyang	52.23 257		⇑iP	P	08 37 32.9	-1.3
GYA				AP	pP	08 37 37.2	-2.2
GYA				XP	sP	08 37 39.9	-1.5
GYA				PCP	PcP	08 38 46.0	+0.5
GYA				PP	PP	08 39 31.4	-1.2
GYA				SCP	ScP	08 42 40.9	-0.9
GYA				S	S	08 44 58.1	-0.2
GYA				SS	SS	08 48 27.6	-8.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,640nm,18.9s,MS4.9						
GYA				LR	LR		
	comp=E,710nm,18.4s,MS4.9						
GYA				LR	LR		
	comp=Z,740nm,18.6s,MS4.8						
GRAC	Grapevine Rang	52.34	80	⇑P	P	08 37 35.5	+0.5
	baz=52						
SMMC	Simmler	52.40	83	⇓P	P	08 37 35.7	+0.3
	baz=52,SNR=6.2						
VES	Vestal, Richgr	52.43	82	⇑P	P	08 37 34.7	-1.0
	baz=52,SNR=11						
NLU	North Lily Min	52.54	74	eP	P	08 37 37.6	+1.2
MPU	Maple Canyon	52.70	73	eP	P	08 37 38.1	+0.5
	comp=Z,34nm,1.6s,mb5.0						
DAC	Darwin (Calif)	52.80	81	eP	P	08 37 38.2	-0.2
DAC				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
DAC	Darwin (Calif)	52.80	81	eP	P	08 37 38.2	-0.2
	comp=Z,23nm,1.4s,mb4.9						
PKM	Peak Mountain	52.82	84	⇑P	P	08 37 38.7	+0.1
	baz=53,SNR=6.4						
ISA	Isabella	52.87	82	eP	P	08 37 39.3	+0.4
ISA				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
ISA	Isabella	52.87	82	eP	P	08 37 39.2	+0.4
	comp=Z,31nm,1.6s,mb5.0						
ISA	Isabella	52.87	82	⇑P	P	08 37 38.1	-0.8
	baz=53,SNR=5.0						
RSSD	Black Hills	52.95	64	eP	P	08 37 40.2	+0.7
FURC	Furnace Creek,	53.01	80	⇓P	P	08 37 39.5	-0.4
	baz=53,SNR=8.8						
ARVC	Arvin	53.12	83	P	P	08 37 39.7	-1.0
	baz=53						
LRMC	Laurel Mountai	53.40	81	⇑P	P	08 37 42.8	0.0
	baz=53						
OSI	Osito Adit	53.59	83	⇑P	P	08 37 43.8	-0.4
	baz=53						
ARUT	Antelope Range	53.60	76	eP	P	08 37 44.3	0.0
MSU	Marysvale	53.63	75	P	P	08 37 44.4	-0.1
MSU	Marysvale	53.63	75	eP	P	08 37 45.8	+1.3
BSC	Santa Cruz Isl	53.64	84	⇑P	P	08 37 44.2	-0.3
	baz=54						
KAF	Kangasniemi	53.66 338		ep	P	08 37 42.8	-1.9
	baz=20,slow=7.1						
EDW2	Edwards Air Fo	53.73	82	⇑P	P	08 37 45.2	0.0
	baz=54,SNR=9.8						
SHPR	Sheep Range	53.80	79	eP	P	08 37 46.5	+0.8
CCUT	Cedar City	53.83	76	eP	P	08 37 46.3	+0.4
SRU	San Rafael	53.94	73	eP	P	08 37 46.7	0.0
DECC	Green Verdugo	54.07	83	⇑P	P	08 37 47.6	-0.1
	baz=54						
U12A	Valley of Fire	54.16	78	⇓P	P	08 37 48.7	+0.3
	baz=54,SNR=6.2						
V11A	Goodsprings	54.20	79	⇓P	P	08 37 48.8	+0.1
	baz=54,SNR=5.6						
RRX	Edison Barstow	54.21	81	⇑P	P	08 37 48.7	-0.1
	baz=54						
MWC	Mount Wilson	54.23	83	eP	P	08 37 48.8	0.0
TUQ	Turquoise Mtn.	54.29	80	⇓P	P	08 37 49.1	-0.1
	baz=54,SNR=18						
FINES	FINESS Array B	54.32 337		P	P	08 37 46.8	-2.7
	comp=Z,3.5nm,0.7s,mb4.4,baz=28,slow=8.6,SNR=11						
FINES	FINESS Array B	54.32 337		P	P	08 37 46.8	-2.7
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BFSC	Mount Baldy St	54.41	82	⇑P	P	08 37 50.1	-0.1
	baz=54,SNR=5.9						
FMP	Fort Macarthur	54.53	83	⇑P	P	08 37 51.1	+0.1
	baz=54						
V12A	Nelson	54.57	79	⇓P	P	08 37 51.5	+0.1
	baz=54,SNR=18						
HEC	Hector,Ludlow	54.58	81	⇑P	P	08 37 51.1	-0.3
	baz=54,SNR=7.8						
AAK	Ala-Archa	54.58 295		P	P	08 37 52.1	+0.7
	comp=Z,67nm,1.0s,mb5.6,SNR=5.3						
AAK	Ala-Archa	54.58 295		P	P	08 37 53.0	+1.6
	SNR=5.6						
AAK	Ala-Archa	54.58 295		⇑eP	P	08 37 51.1	-0.3
AAK				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.0						
AAK				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
AAK	Ala-Archa	54.58 295		eP	P	08 37 52.5	+1.1
CIS	Catalina Islan	54.72	84	⇓P	P	08 37 52.5	+0.1
	baz=54						
W12A	Cal Nev Ari	54.91	79	⇑P	P	08 37 54.2	+0.4
	baz=55						
SCI	San Clemente I	54.99	84	⇑P	P	08 37 54.5	+0.1
	baz=55						
AKTO	Aktyubinsk	55.01 312		iP	P	08 37 54.9	+0.4
MURC	Murrieta	55.15	82	⇓P	P	08 37 55.5	0.0
	baz=55						
PV10	Paradox Valley	55.22	72	eP	P	08 37 56.8	+0.8
KMI	Kunming	55.24 259		P	P	08 37 56.8	+0.6
KMI				AP	pP	08 38 00.2	-1.3
KMI				PCP	PcP	08 38 58.2	+1.2
KMI				PPP		08 41 14.2	
KMI				SCP	ScP	08 42 55.4	+0.4
KMI				PCS	PcS	08 42 56.5	-0.5
KMI				S	S	08 45 37.9	-1.2
KMI				SS	SS	08 49 21.8	-1.5
KMI				SSS		08 51 22.3	
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.1						
KMI				LR	LR		
	comp=N,797nm,12.1s,MS5.1						
KMI				LR	LR		
	comp=E,875nm,14.6s,MS5.1						
KMI				LR	LR		
	comp=Z,702nm,13.5s,MS4.9						
KMI	Kunming	55.24 259		P	P	08 37 56.8	+0.6
KMI				*PP	pP	08 38 00.2	-1.3
KMI						08 38 58.2	
KMI				PPP		08 41 14.2	
KMI				S	S	08 45 37.9	-1.2
KMI				SS	SS	08 49 21.8	-1.5
KMI				SSS		08 51 22.3	
KMI				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
KMI				MLR	MLR		
	comp=Z,700nm,13.5s,MS4.9						
KMI	Kunming	55.24 259		P	P	08 37 56.8	+0.6
	comp=Z,22nm,1.0s,mb5.1						
KMI				pP	pP	08 38 00.2	-1.3
KMI				PcP	PcP	08 38 58.2	+1.2
KMI				PPP		08 41 14.2	
KMI				ScP	ScP	08 42 55.4	+0.4
KMI				PcS	PcS	08 42 56.5	-0.5
KMI				S	S	08 45 37.9	-1.2
KMI				SS	SS	08 49 21.8	-1.5
KMI				SSS		08 51 22.3	
KMI				LR	LR		
	comp=Z,700nm,13.5s,MS4.9						
PFO	Pinyon Flat Ob	55.50	82	eP	P	08 37 56.5	-1.6
	comp=Z,25nm,1.3s,mb5.1						
PFO	Pinyon Flat Ob	55.50	82	⇓P	P	08 37 57.6	-0.5
	baz=55,SNR=7.0						
W13A	Hualapai Mount	55.55	79	⇑P	P	08 37 58.2	-0.2
	baz=55,SNR=6.1						
PV01	Paradox Valley	55.63	72	eP	P	08 37 59.0	0.0
ISCO	Idaho Springs	55.67	69	P	P	08 38 00.6	+1.3
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ISCO	Idaho Springs	55.67	69	eP	P	08 38 00.7	+1.4
	comp=Z,24nm,1.6s,mb5.0						
IRM	Iron Mountain	55.69	80	P	P	08 37 59.3	-0.1
	baz=56,SNR=31						
109C	Camp Elliot, M	55.77	83	⇓P	P	08 37 59.7	-0.3
	baz=56						
W14A	Seligman	55.84	78	⇑P	P	08 38 00.2	-0.3
	baz=56,SNR=26						
KK31	Karatay Array	55.95 298		iP	P	08 38 01.9	+0.6
KK31				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BC3	Big Chuckw Mtn	55.95	81	⇑P	P	08 38 01.4	+0.1
	baz=56						
X13A	Yucca	55.98	79	⇓P	P	08 38 01.1	-0.4
	baz=56,SNR=14						
PDMCI	Parker Dam,Lak	56.07	79	⇑P	P	08 38 01.7	-0.4
	baz=56,SNR=6.2						
MONP	Monument Peak	56.10	82	⇑P	P	08 38 02.7	+0.3
	baz=56						
W15A	Williams	56.26	77	⇓P	P	08 38 04.0	+0.5
	baz=56,SNR=8.4						
Y12C	Blythe	56.33	80	⇑P	P	08 38 03.9	-0.1
	baz=56,SNR=17						
SWSC	Sam W. Stewart	56.37	82	⇑P	P	08 38 03.9	-0.3
	baz=56						
MVCO	Mesa Verde	56.41	73	⇓P	P	08 38 04.4	-0.2
	baz=56						
WUAZ	Wupatki	56.41	76	eP	P	08 38 04.9	+0.3
WUAZ	Wupatki	56.41	76	P	P	08 38 05.0	+0.4
	baz=56,SNR=13						
ECSD	EROS,Sioux Fal	56.48	60	eP	P	08 38 04.7	-0.4
ECSD				e		08 38 27.0	
ECSD				ePcP	PcP	08 38 58.1	-3.6
X14A	Yava	56.53	78	⇑P	P	08 38 05.7	+0.3
	baz=56,SNR=18						
Y13A	Salome	56.61	80	⇑P	P	08 38 05.6	-0.4
	baz=56						
GLA	Glamis	56.75	81	eP	P	08 38 07.0	0.0
GLA	Glamis	56.75	81	⇑P	P	08 38

SDCO **Great Sand Dun** 57.38 70 *e*P P 08 38 12.4 +1.0
Z14A **Wintersburg** 57.41 79 ⇓P P 08 38 11.8 +0.2
baz=57
SCHQ **Schefferville** 57.52 33 P P 08 38 10.5 -1.9
comp=Z,9.0nm,0.9s,mb4.8,baz=348,slow=6.5,SNR=7.1
SCHQ LR LR 09 07 25.9
comp=Z,345nm,18.8s,MS4.5,baz=349,slow=41
OBN **Obninsk** 57.73 328 *e*P P 08 38 14.6 +0.7
OBN *e* 08 40 21.7
OBN *e*S S 08 46 14.7 +2.7
OBN pmax pmax
comp=Z,11nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,600nm,15.0s,MS4.8
115A **Sonoran Desert** 58.29 79 ⇑P P 08 38 18.3 +0.5
baz=58,SNR=8.0
116A **Eloy** 58.66 79 ⇓P P 08 38 20.9 +0.5
baz=58,SNR=7.0
CBKS **Cedar Bluff** 59.13 65 *e*P P 08 38 23.1 -0.6
CBKS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CBKS **Cedar Bluff** 59.13 65 *e*P P 08 38 23.1 -0.6
comp=Z,9.9nm,0.7s,mb5.0
CBKS *e* 08 38 38.5
ANMO **Albuquerque** 59.20 73 *e*P P 08 38 24.3 +0.1
TUC **Tucson** 59.31 78 P P 08 38 25.4 +0.5
TUC pmax pmax
comp=Z,11nm,1.3s,mb4.7
TUC **Tucson** 59.31 78 *e*P P 08 38 25.6 +0.6
comp=Z,11nm,1.3s,mb4.7
Y22C **IRIS PASSCAL I** 59.71 74 ⇓P P 08 38 29.0 +1.3
baz=60
VOR **Voronezh** 60.03 325 P P 08 38 30.0 +0.1
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.6
KSU1 **Kansas State U** 60.27 63 *e*P P 08 38 31.5 0.0
GUN **Gumba** 61.18 276 *e*P P 08 38 38.3 +0.5
comp=Z,116nm,1.1s,mb5.9
KKN **Kakani** 61.58 277 *e*P P 08 38 41.0 +0.6
comp=Z,22nm,0.7s,mb5.4
PKI **Pulchoki** 61.70 276 *e*P P 08 38 41.2 0.0
comp=Z,42nm,1.1s,mb5.5
GKN **Gorkha** 61.71 277 *e*P P 08 38 41.7 +0.4
comp=Z,110nm,1.2s,mb5.8
DMN **Daman** 61.81 277 *e*P P 08 38 41.9 -0.1
comp=Z,21nm,1.0s,mb5.2
MNTX **Cornudas Mount** 62.39 74 *e*P P 08 38 45.6 -0.3
comp=Z,30nm,1.4s,mb5.2
KOLN **Koldanda** 62.41 278 *e*P P 08 38 46.5 +0.5
comp=Z,52nm,1.2s,mb5.5
CHTO **Chiang Mai** 62.44 259 P P 08 38 47.0 +0.8
SNR=5.6
CHTO **Chiang Mai** 62.44 259 P P 08 38 46.6 +0.4
CHTO pmax pmax
comp=Z,13nm,1.1s,mb5.0
CHTO **Chiang Mai** 62.44 259 *e*P P 08 38 46.6 +0.4
comp=Z,13nm,1.1s,mb5.0
WMOK **Wichita Mounta** 62.93 67 *e*P P 08 38 48.3 -1.2
CCM **Cathedral Cave** 63.45 59 *e*P P 08 38 50.7 -2.3
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CCM **Cathedral Cave** 63.45 59 *e*P P 08 38 50.7 -2.3
comp=Z,9.1nm,1.0s,mb4.9
AKASG **Malin Array Be** 63.59 331 P P 08 38 52.9 -0.9
comp=Z,6.2nm,0.7s,mb4.7,baz=23,slow=6.7,SNR=23
AKASG LR LR 09 09 45.5
comp=Z,267nm,19.4s,MS4.4,baz=30,slow=39
AKASG **Malin Array Be** 63.59 331 P P 08 38 52.9 -1.0
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG MLR MLR
comp=Z,267nm,19.4s
AKASG **Malin Array Be** 63.59 331 P P 08 38 52.9 -0.9
AKASG LR LR 09 09 45.5
AKBB **Malin Array Si** 63.59 331 *e*P P 08 38 53.3 -0.6
BOK **Bokaro** 64.62 274 *e*P P 08 39 02.6 +2.0
NDI **New Delhi** 64.73 284 *e*P P 08 39 01.9 +0.6
MIV **Mineville/With** 65.03 43 *e*P P 08 39 00.4 -2.9
MIV *e*PcP PcP 08 39 37.7 +1.6
LBNH **Lisbon** 65.41 42 *e*P P 08 39 06.0 +0.2
LBNH pmax pmax
comp=Z,16nm,0.9s,mb5.0
LBNH **Lisbon** 65.41 42 *e*P P 08 39 06.0 +0.2
comp=Z,16nm,0.9s,mb5.0
MIAR **Mount Ida** 65.41 63 *e*P P 08 39 06.3 +0.5
KIV **Kislovodsk** 65.90 318⇑*i*P P 08 39 10.5 +1.6
KIV pmax pmax
comp=Z,20nm,1.4s,mb5.0
JCT **Junction City** 66.03 70 *e*P P 08 39 10.0 +0.3
JCT pmax pmax
comp=Z,30nm,1.3s,mb5.2
JCT **Junction City** 66.03 70 *e*P P 08 39 10.0 +0.2
comp=Z,30nm,1.3s,mb5.2
KWP **Kalwaria** 66.06 335 *e*P P 08 39 04.2 -5.8
KWP pmax pmax
comp=Z,60nm,0.6s,mb5.8
KWP **Kalwaria** 66.06 335 *e*P P 08 39 12.5 +2.5
OJC **Ojcow** 66.09 337 *e*P P 08 39 09.0 -1.2
CLZ **Clausthal** 66.09 344 *e*P P 08 39 10.4 +0.2
comp=Z,28nm,1.5s,mb5.1
CLZ **Clausthal** 66.09 344 *e*P P 08 39 10.4 +0.2
CLZ pmax pmax
comp=Z,28nm,1.5s,mb5.1
CLL **Collm** 66.23 342 *e*P P 08 39 11.0 0.0
comp=Z,8.0nm,1.0s,mb4.7
CLL **Collm** 66.23 342 *i*P P 08 39 11.2 +0.2
CLL *e*S S 08 48 02.0 +2.6
CLL pmax pmax
comp=Z,40nm,1.1s,mb5.4
CLL **Collm** 66.23 342 *i*P P 08 39 11.2 +0.2
comp=Z,10.0nm,1.1s,mb4.8
CLL *e*S S 08 48 02.0 +2.6
CLL **Collm** 66.23 342 *i*P P 08 39 11.2 +0.2
comp=Z,10.0nm,1.1s,mb4.8
CLL *e*S S 08 48 02.0 +2.6
CLL *e*SSS 08 55 36.0
BRG **Berggiesshubel** 66.50 341 *e*P pP 08 39 22.8 +4.6
comp=Z,2.4nm,1.1s
BRG *e* 08 39 31.1
comp=Z,3.9nm,1.0s
UPC **Upice** 66.51 339 *e*P P 08 39 12.8 0.0
SSPA **Standing Stone** 66.52 48 *e*P P 08 39 10.6 -2.3
comp=Z,45nm,1.6s,mb5.2
WVT **Waverly** 66.53 58 *e*P P 08 39 10.7 -2.2
WVT pmax pmax
comp=Z,71nm,1.7s,mb5.4
WVT **Waverly** 66.53 58 *e*P P 08 39 10.7 -2.2
comp=Z,71nm,1.7s,mb5.4
ZEI **Tsey** 66.56 317 *e*P P 08 39 12.3 -0.8
ZEI *e* 08 41 39.1
ZEI pmax pmax
comp=Z,13nm,1.2s,mb4.8
STHS **Stebnicka Huta** 66.57 336 *e*P P 08 39 13.8 +0.6
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
STHS **Stebnicka Huta** 66.57 336 *e*P P 08 39 13.8 +0.6
comp=Z,8.6nm,1.0s,mb4.7
DPC **Dobruska-Polom** 66.61 339 *e*P P 08 39 13.4 -0.1
DPC *ex* x 08 39 22.5
OKC **Ostrava-Krasne** 66.77 338 *e*P P 08 39 14.8 +0.3
ANN **Anapa** 66.79 323 *e*P P 08 39 13.1 -1.5
ANN MLR MLR
comp=N,459nm,18.0s,MS4.8
ANN MLR MLR
comp=E,230nm,18.0s,MS4.8
ANN MLR MLR
comp=Z,371nm,18.0s,MS4.6
KOLS **Kolonicke sedl** 66.82 335 *e*P P 08 39 14.6 -0.2
CRVS **Cervenica-Dubn** 67.01 335 *e*P P 08 39 16.4 +0.3
MOX **Moxa** 67.08 342 *e*P P 08 39 18.2 +1.7
comp=Z,7.0nm,1.0s,mb4.7
MOX **Moxa** 67.08 342 *e*P P 08 39 18.3 +1.8
MOX
comp=Z,200nm,20.0s
UZH **Uzhgorod** 67.10 335 *e*P P 08 39 18.0 +1.4
UZH pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIS **Kishinev** 67.13 330 *e*P P 08 39 16.0 -0.8
KIS *e* 08 39 40.0
KIS MLR MLR
comp=Z,600nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
OXF **Oxford** 67.24 60 *e*P P 08 39 15.4 -2.1
OXF pmax pmax
comp=Z,42nm,1.3s,mb5.3
OXF **Oxford** 67.24 60 *e*P P 08 39 15.4 -2.1
comp=Z,42nm,1.3s,mb5.3
PRU **Pruhonice** 67.26 340 *e*P P 08 39 18.2 +0.6
PRU *ex* x 08 39 28.2
NKC **Novy Kostel** 67.36 342 *e*P P 08 39 18.7 +0.5
PLAL **Pickwick Lake** 67.41 59 *e*P P 08 39 17.4 -1.1
comp=Z,25nm,1.4s,mb5.0
BURAR **Bucovina Array** 67.42 332⇓*i*P P 08 39 18.2 -0.4
KECS **Kecovo** 67.61 336 *e*P P 08 39 18.8 -1.0
KECS pmax pmax
comp=Z,30nm,0.9s,mb5.3
KECS **Kecovo** 67.61 336 *e*P P 08 39 18.8 -1.0
comp=Z,3.0nm,0.9s,mb4.3
AJM **Ajmer** 67.81 285 *e*P P 08 39 21.8 +0.6
AJM AMb AMB 08 39 23.0
comp=Z,14nm,0.8s,mb5.0
VYHS **Vyhne** 67.93 337 *e*P P 08 39 21.0 -0.8
VYHS pmax pmax
comp=Z,60nm,1.0s,mb5.6
VYHS **Vyhne** 67.93 337 *e*P P 08 39 21.0 -0.8
comp=Z,5.9nm,1.0s,mb4.6
GRA1 **Grafenberg Arr** 68.07 342 *e*P P 08 39 22.5 -0.2
comp=Z,6.0nm,0.8s,mb4.7
GRA1 LR LR
comp=Z,300nm,22.0s,MS4.5
GRF **Grafenberg Arr** 68.07 342 *e*P P 08 39 22.5 -0.2
comp=Z,6.0nm,0.8s,mb4.7
GRF *e*L 09 08 35.6
comp=Z,265nm,22.0s
GRF **Grafenberg Arr** 68.07 342 *e*P P 08 39 22.5 -0.2
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.5
FWV **Forest Hill** 68.09 52 *e*P P 08 39 20.7 -2.2
SWET **Sewanee** 68.10 57 *e*P P 08 39 22.4 -0.5
KHC **Kasperske Hory** 68.25 341 *e*P P 08 39 23.3 -0.5
HKT **Hockley** 68.30 68 *e*P P 08 39 24.0 -0.1
HKT pmax pmax
comp=Z,42nm,1.7s,mb5.2
HKT **Hockley** 68.30 68 *e*P P 08 39 23.9 -0.2
comp=Z,42nm,1.7s,mb5.2
WET **Wettzell** 68.35 341 *e*P P 08 39 24.5 0.0
comp=Z,4.0nm,0.9s,mb4.5
WET **Wettzell** 68.35 341 *e*P P 08 39 24.5 0.0
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ELN **Prospectdale** 68.42 52 *e*P P 08 39 23.6 -1.3
GEC2 **GERESS Array S** 68.50 341 *e*P P 08 39 26.0 +0.5
comp=Z,7.0nm,1.3s,mb4.4
GEC2 **GERESS Array S** 68.50 341 *e*P P 08 39 26.0 +0.5
GEC2 pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
GERES **GERESS Array B** 68.50 341 P P 08 39 24.8 -0.6
comp=Z,1.7nm,0.7s,mb4.1,baz=40,slow=4.4,SNR=8.0
GERES LR LR 09 13 20.1
comp=Z,431nm,18.8s,MS4.7,baz=241,slow=39
ZST **Bratislava** 68.54 338 *e*P P 08 39 27.1 +1.4
comp=Z,11nm,0.8s,mb4.8
ZST LR LR
comp=Z,300nm,19.6s,MS4.5
BLA **Blacksburg** 68.57 52 *e*P P 08 39 25.2 -0.6
BLA pmax pmax
comp=Z,38nm,1.2s,mb5.2
BLA **Blacksburg** 68.57 52 *e*P P 08 39 25.1 -0.7
comp=Z,38nm,1.2s,mb5.2
GNI **Garni** 68.60 315 LR LR 09 14 20.1
comp=Z,651nm,18.7s,MS4.9,baz=220,slow=40
GNI **Garni** 68.60 315 *e*P P 08 39 27.7 +1.6
GNI pmax pmax
comp=Z,4.0nm,0.6s
GNI **Garni** 68.60 315 *e*P P 08 39 27.7 +1.6
comp=Z,3.8nm,0.6s,mb4.5
VRI **Vrincioaia** 68.70 331⇑*i*P P 08 39 32.3 +5.6
BHPL **Bhopal** 69.21 280 *e*P P 08 39 30.2 +0.3
BHPL AMb AMB 08 39 32.3
comp=Z,30nm,0.8s,mb5.2
MLR **Muntele Rosu** 69.24 331⇓*i*P P 08 39 31.1 +1.1
TIRR **Tirgusor** 69.60 329⇑*i*P P 08 39 31.7 -0.6
ARSA **Arzberg** 69.74 339⇑*i*P P 08 39 36.1 +3.0
comp=Z,7.1nm,1.1s,mb4.5
CDF **Champ du Feu** 69.87 345 *e*P P 08 39 33.7 -0.2
comp=Z,12nm,0.9s,mb4.5
CDF **Champ du Feu** 69.87 345 *e*P P 08 39 33.7 -0.2
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CDF **Champ du Feu** 69.87 345 *e*P P 08 39 33.7 -0.2
comp=Z,5.8nm,0.9s,mb4.5
GZR **Gura Zlata** 70.07 333⇑*i*P P 08 39 35.4 +0.3
BZS **Buzias** 70.11 334⇓*i*P P 08 39 35.2 -0.2
FLN **La Foliniere** 70.34 350 *e*P P 08 39 36.6 -0.2
FLN *e*MLR MLR
comp=Z,317nm,20.8s
FLN **La Foliniere** 70.34 350 *e*P P 08 39 36.6 -0.2
FLN LR LR
comp=Z,320nm,20.8s,MS4.5
HAU **Haudompre** 70.38 345 *e*P P 08 39 37.0 -0.1
HAU *e*MLR MLR
comp=Z,288nm,17.8s
HAU **Haudompre** 70.38 345 *e*P P 08 39 37.0 -0.1
HAU LR LR
comp=Z,290nm,17.8s,MS4.6
GRR **Gorron** 70.74 351 *e*P P 08 39 39.3 +0.1
VIS **Vishakhapatnam** 71.02 272 *e*P P 08 39 41.5 +0.6
QUIF **Quistinic** 71.38 352 *e*P P 08 39 43.7 +0.6
comp=Z,82nm,1.4s,mb5.2
QUIF **Quistinic** 71.38 352 *e*P P 08 39 43.7 +0.6
QUIF pmax pmax
comp=Z,41nm,1.4s,mb5.2
QUIF **Quistinic** 71.38 352 *e*P P 08 39 43.7 +0.6
comp=Z,41nm,1.4s,mb5.2
LOR **Lormes** 71.40 347 *e*P P 08 39 41.9 -1.3
comp=Z,33nm,1.1s,mb4.9
LOR *e*MLR MLR
comp=Z,296nm,17.2s
LOR **Lormes** 71.40 347 *e*P P 08 39 41.9 -1.3
LOR pmax pmax
comp=Z,16nm,1.1s,mb4.9
LOR MLR MLR
comp=Z,300nm,17.3s,MS4.6
LOR **Lormes** 71.40 347 *e*P P 08 39 41.9 -1.3
comp=Z,16nm,1.1s,mb4.9
LOR LR LR
comp=Z,300nm,17.3s,MS4.6
PMG **Port Moresby** 71.40 199 LR LR 09 08 45.7
comp=Z,172nm,19.6s,MS4.3,baz=48,slow=34
SSF **Saint Saulge** 71.64 347 *e*P P 08 39 44.6 -0.1
AVF **Avril sur Loir** 71.93 347 *e*P P 08 39 46.3 -0.1
comp=Z,32nm,1.1s,mb4.9
AVF **Avril sur Loir** 71.93 347 *e*P P 08 39 46.3 -0.1
AVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
AVF **Avril sur Loir** 71.93 347 *e*P P 08 39 46.3 -0.1
comp=Z,16nm,1.1s,mb4.9
SMF **Signal de Mont** 72.02 347 *e*P P 08 39 46.9 -0.1
BGF **Bois d'Agland** 72.21 348 *e*P P 08 39 48.0 -0.1
MALT **Malatya** 72.37 319 *e*P P 08 39 50.4 +1.3
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.6
MALT **Malatya** 72.37 319 *e*P P 08 39 50.4 +1.3
comp=Z,11nm,1.3s,mb4.6
MFF **Saint Martin d** 72.45 350 *e*P P 08 39 48.6 -1.0
comp=Z,62nm,1.4s,mb5.0
MFF **Saint Martin d** 72.45 350 *e*P P 08 39 48.6 -1.0
MFF pmax pmax
comp=Z,31nm,1.4s,mb5.0
MFF **Saint Martin d** 72.45 350 *e*P P 08 39 48.6 -1.0
comp=Z,31nm,1.4s,mb5.0
TCF **Toulx Ste Croi** 72.54 348 *e*P P 08 39 50.3 +0.2
BR131 **Keskin Array S** 72.56 323 *e*P P 08 39 51.2 +1.1
comp=Z,3.4nm,0.8s,mb4.3
BRTR **Keskin Array B** 72.56 323 P P 08 39 50.2 0.0
comp=Z,3.6nm,0.9s,mb4.3,baz=76,slow=1.5,SNR=12
BRTR **Keskin Array B** 72.56 323 P P 08 39 50.2 0.0
BRTR pmax pmax
comp=Z,40nm,0.9s
VTS **Vitosha** 72.63 332⇑*i*P P 08 39 50.4 -0.2
LPL **La Plagne** 72.78 345 *e*P P 08 39 51.3 -0.2
LPG **La Plagne** 72.80 345 *e*P P 08 39 51.6 0.0
comp=Z,27nm,1.1s,mb4.8
LPG **La Plagne** 72.80 345 *e*P P 08 39 51.6 0.0
LPG pmax pmax
comp=Z,13nm,1.1s,mb4.8
LPG **La Plagne** 72.80 345 *e*P P 08 39 51.6 0.0
comp=Z,13nm,1.1s,mb4.8
ORIF **Oris-en-Rattie** 73.48 345 *e*P P 08 39 55.4 -0.2
ORIF *e*MLR MLR
comp=Z,285nm,17.2s
MBDF **Montbardon** 73.55 345 *e*P P 08 39 55.4 -0.7
RJF **Les Rejaudoux** 73.59 348 *e*P P 08 39 56.2 -0.1
RJF *e*MLR MLR
comp=Z,356nm,18.2s
RJF **Les Rejaudoux** 73.59 348 *e*P P 08 39 56.2 -0.1
RJF LR LR
comp=Z,360nm,18.3s,MS4.7
CAF **Calviac** 73.91 348 *e*P P 08 39 57.6 -0.5
LASF **Ste Croix** 74.55 347 *e*P P 08 40 01.7 -0.2
comp=Z,25nm,1.2s,mb4.7
POO **Poona** 74.95 281 *ex* x 08 40 03.0
KAD **Karad** 75.84 280 *e*P P 08 40 10.1 +0.7
KAD AMb AMB 08 40 11.3
comp=Z,44nm,1.6s,mb5.1
AFI **Afiamalu** 76.49 158 LR LR 09 07 45.8
comp=Z,218nm,19.3s,MS4.5,baz=311,slow=31
KAKA **Kakadu** 77.82 213 *e*P P 08 40 14.8 -5.7
comp=Z,20nm,0.9s,mb5.0
WSAR **Wadi Sarin** 77.97 296 LR LR 09 18 36.5
comp=Z,186nm,18.8s,MS4.4,baz=208,slow=39
ASF **Jabal al Asfar** 78.49 318 LR LR 09 16 17.6
comp=Z,179nm,21.0s,MS4.4,baz=71,slow=37
ESDC **Sonseca Array** 79.64 352 P P 08 40 29.7 -0.8
comp=Z,2.9nm,0.7s,mb4.3,baz=4.8,slow=5.7,SNR=7.2
CTA **Charters Tower** 82.02 198 *e*P P 08 40 41.9 -1.3
comp=Z,12nm,1.2s,mb4.7
CTA **Charters Tower** 82.02 198 P P 08 40 42.1 -1.2
comp=Z,13nm,1.1s,mb4.8,baz=5.4,slow=9.0,SNR=3.8
CTA **Charters Tower** 82.02 198 *e*P P 08 40 41.9 -1.3
CTA pmax pmax
comp=Z,12nm,1.2s
WRAB **Tennant Creek** 84.25 210 P P 08 40 52.6 -2.2
comp=Z,132nm,1.3s,mb5.9,SNR=5.6
WRAB **Tennant Creek** 84.25 210 P P 08 40 52.8 -2.0
WB2 **Warramunga Arr** 84.26 210 *e*P P 08 40 52.6 -2.2
WRA **Warramunga Arr** 84.26 210 P P 08 40 52.7 -2.1
comp=Z,17nm,1.1s,mb5.1,baz=18,slow=5.4,SNR=30
WRA **Warramunga Arr** 84.26 210 P P 08 40 52.7 -2.1
WRA pmax pmax
comp=Z,17nm,1.1s
FITZ **Fitzroy Crossi** 84.89 218 *e*P P 08 40 56.9 -1.1
comp=Z,17nm,1.1s,mb5.1
FITZ **Fitzroy Crossi** 84.89 218 P P 08 40 57.1 -0.8
comp=Z,9.2nm,1.0s,mb4.8,baz=42,slow=5.3,SNR=8.8
PPT **Papeete** 85.84 138 *e*LR LR 09 07 21.1
comp=Z,241nm,22.0s,baz=343
PPT **Papeete** 85.84 138 LR LR 09 11 08.0
comp=Z,235nm,19.5s,MS4.6,baz=317,slow=30
ASAR **Alice Springs** 87.95 209 P P 08 41 11.6 -1.4
comp=Z,2.6nm,1.0s,mb4.4,baz=16,slow=4.0,SNR=8.7
ASAR **Alice Springs** 87.95 209 P P 08 41 11.6 -1.4
ASAR pmax pmax
comp=Z,30nm,1.0s
TBI **Tubuai** 91.27 140 *e*LQ 09 06 07.6
comp=Z,225nm,36.5s
TBI *e*LR LR 09 10 08.8
comp=Z,187nm,24.0s,baz=346
CPD **Cerro la Pandu** 91.29 48 *e*P P 08 41 28.8 +0.1
STKA **Stephens Creek** 94.33 200 LR LR 09 23 17.9
comp=Z,182nm,21.4s,MS4.5,baz=23,slow=35
RKT **Rikitea** 96.23 127 *e*LQ 09 07 59.3
comp=Z,230nm,39.8s
RKT *e*LR LR 09 12 16.1
comp=Z,258nm,28.2s,baz=327
ROSC **El Rosal** 99.87 61 LR LR 09 29 30.9
comp=Z,181nm,19.8s,MS4.6,baz=19,slow=37
VNDA **Vanda** 137.98 181 PKP PKPdf 08 47 45.8 -2.0
comp=Z,0.8nm,1.0s,baz=1.8,slow=3.2,SNR=3.6
MAW **Mawson** 147.79 224 *e*P PKPdf 08 48 04.6 -0.5
comp=Z,6.2nm,0.9s
MAW **Mawson** 147.79 224 PKPbc PKPdf 08 48 04.3 -0.8
comp=Z,7.0nm,1.0s,baz=1.2,slow=2.6,SNR=12
MAW **Mawson** 147.79 224 PKP2 PKPdf 08 48 04.3 -0.8
MAW pmax pmax
comp=Z,7.0nm,1.0s
QSPA **South Pole Qui** 150.46 180 *e*P PKPdf 08 48 10.3 +0.9
SYO **Syowa Base** 156.44 227⇓*e*X PKPab 08 48 44.8 -1.7
SNAA **Sanae** 168.08 198 PKPab PKPab 08 49 33.7 -3.7
comp=Z,2.1nm,1.4s,baz=201,slow=5.2,SNR=4.5
SNAA **Sanae** 168.08 198 PKP2 PKPab 08 49 33.7 -3.7
SNAA pmax pmax
comp=Z,2.0nm,1.4s

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*ISCJB **04** 08:40:11.7±6.0,38N±06×1268E±06,h33km,mb4.0/4, Error ellipse: s-maj=97.2km s-min=81.6km az=64.3*
*NEIC **04** 08:40:13.3±4.9,383N×12677E,h35km,mb4.3/3,Error ellipse: s-maj=76.0km s-min=69.7km az=138.0*
*IDC **04** 08:40:22.1±8.7,246N×12760E,h0km,mb4.0/4,mb1 4.3/4, mb1mx3.9/15,mbtmp4.1/4,Error ellipse: s-maj=139.3km s-min=97.6km az=143.0*

ISC 04 08:40:14.4±5.9,38N±06×1269E±06,h35km,n9,σ0°59/9, mb4.0/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	17.28	161	*e*P	Pn	08 44 13.0	+0.2
	10nm,0.5s						
FITZ	**Fitzroy Crossi**	21.77	183	*e*P	P	08 45 02.6	-0.4
	11nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	21.77	183	P	P	08 45 03.2	+0.2
	2.2nm,0.5s,mb3.9,baz=18,slow=12,SNR=11						
WRA	**Warramunga Arr**	24.68	163	P	P	08 45 30.9	-1.0
	4.9nm,0.8s,mb4.1,baz=341,slow=11,SNR=40						
WB2	**Warramunga Arr**	24.68	163	*e*P	P	08 45 31.5	-0.4
AS31	**Alice Springs**	28.12	166	*e*P	P	08 46 03.9	+1.0
ASAR	**Alice Springs**	28.12	166	P	P	08 46 02.9	0.0
	0.8nm,0.5s,mb3.6,baz=343,slow=7.1,SNR=13						
STKA	**Stephens Creek**	38.12	160	*e*P	P	08 47 30.3	+0.4
	6.2nm,0.8s,mb4.4						
STKA	**Stephens Creek**	38.12	160	P	P	08 47 30.3	+0.4
	7.0nm,0.7s,mb4.5,baz=338,slow=6.9,SNR=9.4						

IDC 04 08:52:57.9±3.1,1867N×14694E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.7/16,mbtmp3.8/4,Error ellipse: s-maj=154.3km s-min=25.9km az=88.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	40.31	198	P	P	09 00 35.4	-1.5
	0.5nm,0.7s,baz=22,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	43.96	197	P	P	09 01 08.2	+1.6
	0.2nm,0.7s,baz=24,slow=14,SNR=3.1						
BVAR	**Borovoye Array**	67.25	320	P	P	09 03 53.8	-0.3
	0.6nm,0.4s,baz=89,slow=9.7,SNR=3.7						
ARCES	**ARCESS Array B**	82.88	342	P	P	09 05 24.4	+0.1
	2.7nm,0.9s,baz=58,slow=6.8,SNR=7.2						

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*NEIC **04** 09:04:54.6±2.7,3634N×7123E,h224km±28km,mb3.9/2, Error ellipse: s-maj=51.7km s-min=22.1km az=119.0*
*ISCJB **04** 09:04:55.9±1.2,3664N±006×709E±02,h226km±19km, mb3.3/5,Error ellipse: s-maj=24.9km s-min=8.5km az=154.3*
*IDC **04** 09:04:55.8±14.0,3636N×7125E,h235km±105km,mb3.2/5, mb1 3.3/7,mb1mx3.0/24,mbtmp3.9/7,Error ellipse: s-maj=134.1km s-min=30.2km az=124.0*
*NNC **04** 09:05:02.8±7.2,3704N×7109E,h231km±78km,mb2.2, mpv3.2,Error ellipse: s-maj=72.7km s-min=44.3km az=8.0*

ISC 04 09:04:57.5±1.2,3663N±006×711E±02,h231km±22km,n15, σ0°85/18,mb3.3/5,5C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	5.65	136	*e*P	Pn	09 06 22.0	+1.2
THN				*e*S	S	09 07 26.6	-0.6
KK31	**Karatay Array**	6.49	356	⇑P	Pn	09 06 31.5	+0.1
	5.4nm,0.5s,baz=171,slow=11,SNR=31						
KK31				⇑S	S	09 07 42.1	-4.3
	6.5nm,0.5s,baz=189,slow=25						
AAK	**Ala-Archa**	6.54	22	*e*Pn	Pn	09 06 32.0	-0.2
	3.8nm,0.5s						
TKM2	**Tokmak 2**	7.17	27	⇑P	Pn	09 06 40.7	+0.6
	0.2nm,0.5s						
TKM2				⇑S	S	09 08 00.5	-1.8
	2.6nm,0.9s						
VOSK	**Vostochnaya**	16.10	360	⇑P	P	09 08 31.8	+1.4
	2.9nm,1.1s						
BVAR	**Borovoye Array**	16.41	358	P	P	09 08 34.9	+1.0
	1.1nm,0.3s,baz=165,slow=9.8,SNR=15						

BRVK	Borovoye	16.44 358	P	P	09 08 34.9	+0.7
	4.3nm,0.5s					
AKTK	Aktyubinsk	16.72 330	P	P	09 08 37.3	+0.1
AKTO	Aktyubinsk	16.72 330	⇓P	P	09 08 37.7	+0.4
	0.1nm,0.6s					
AKTO	Aktyubinsk	16.72 330	P	P	09 08 37.3	+0.1
	1.0nm,0.3s,baz=136,slow=9.8,SNR=22					
ASF	Jabal al Asfar	28.48 271	P	P	09 10 30.9	-0.4
	1.4nm,0.4s,mb3.9,baz=117,slow=11,SNR=2.9					
FINES	FINESS Array B	37.43 326	P	P	09 11 48.3	-0.2
	0.7nm,0.5s,mb3.4,baz=111,slow=10,SNR=3.5					
ARCES	ARCESS Array B	41.06 338	P	P	09 12 18.6	0.0
	0.7nm,0.5s,mb3.3,baz=106,slow=8.2,SNR=8.6					
NOA	NORSAR Array B	44.33 323	P	P	09 12 44.1	-0.7
	0.5nm,0.7s,mb2.9,baz=109,slow=11,SNR=2.7					
TORD	Torodi Ar. Bea	65.81 269	P	P	09 15 16.5	-1.5
	0.3nm,0.6s,mb3.1,baz=46,slow=5.8,SNR=6.8					

KRSC 04 09:24:25,5223N×16077E,h22km,ML3.6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.98	333	eP	Pb	09 24 44.5	+1.2
SPN				i S	Sb	09 24 58.2	+2.4
NLC	Nalytchevo	1.28	318	eP	Pn	09 24 49.4	+1.8
NLC				i S	Sn	09 25 06.7	+2.7
RUS	Russkaya	1.40	279	eP	Pn	09 24 50.3	+1.1
RUS				i S	Sn	09 25 08.4	+1.4
PET	Petropavlovsk	1.52	302	eP	Pn	09 24 52.3	+1.5
PET				i S	Sn	09 25 11.8	+2.0
AVH	Avacha	1.61	311	eP	Pn	09 24 55.1	+3.0
AVH				i S	Sn	09 25 15.9	+3.7
GRL	Gorelyy	1.68	282	eP	Pn	09 24 55.6	+2.5
GNL	Ganaly	2.25	312	eP	Pn	09 25 04.8	+3.9
GNL				i S	Sn	09 25 33.5	+5.4
MKZ	Mys Kozlova	2.40	13	eP	Pn	09 25 04.2	+1.2
MKZ				i S	Sn	09 25 32.2	+0.5
TUMR	Tumrok	3.08	353	eP	Pn	09 25 15.9	+3.6
TUMR				i S	Sn	09 25 53.5	+5.0
KMNR	Kamenistaya	3.55	355	eP	Pn	09 25 22.5	+3.8
KBTR	Krutoberegovo	4.16	16	eP	Pn	09 25 29.2	+2.0

*ISCJB **04** 09:35:16.4±0.7, 6480N±003×306E±0.1, h0km, Error ellipse: s-maj=8.4km s-min=3.8km az=9.4*
*IDC **04** 09:35:17.9±2.6, 6464N×3144E, h0km, mb1 3.1/4, mb1mx3.0/20, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=38.1km s-min=9.0km az=106.0*
*HEL **04** 09:35:17.9±0.2, 6478N×3075E, h0km, ML1.9, ML2.1(NAO), Explosion*
*BER **04** 09:35:18.3±7.9, 6481N×3062E, h0km, ML2.1(NAO), Suspected explosion*
*NAO **04** 09:35:21.1±1.8, 6484N×2994E, ML2.1*

ISC 04 09:35:17.4±0.7,6481N±003×306E±01,h0km,n19, σ1§20/34,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	Maaselka	1.29	330	eP	Pg	09 35 42.0	-0.1
MSF				eS	Sg	09 35 58.9	+0.1
KJN	Kajaani	1.44	241	eP	Pn	09 35 44.7	-0.1
KJN				eS	Sg	09 36 03.1	-0.7
KU4	Liikasenvaara	1.62	345	eP	Pn	09 35 47.8	+0.5
KU4				eS	Sn	09 36 08.5	-0.3
JOF	Joensuu	1.92	170	eP	Pn	09 35 50.8	-0.6
JOF				eS	Sn	09 36 16.4	+0.1
JOF				MSG		09 36 18.8	
	comp=Z,4.9nm,0.1s						
OUL	Oulu	2.02	280	eP	Pn	09 35 54.6	+1.9
OUL				eS	Sn	09 36 21.0	+2.4
SUF	Sumiainen	2.88	225	ePB	Pb	09 36 07.8	-1.8
SUF				eSB	Sb	09 36 44.0	-1.3
SUF				MSG		09 36 47.4	
	comp=Z,3.5nm,0.2s						
KEF	Keuruu	3.69	227	MSG		09 37 17.2	
	comp=Z,4.3nm,0.3s						
FIA0	FINESS Array S	3.95	213	Pn	Pn	09 36 20.4	+1.2
	baz=29,slow=14						
FIA0				Pg	Pg	09 36 28.7	-4.4
	baz=31,slow=18						
FIA0				Sn	Sn	09 37 06.5	+0.3
	baz=35,slow=22						
FIA0				Lg		09 37 19.9	
	baz=30,slow=28						
FIA0				Rg		09 37 39.2	
	baz=27,slow=37						
FIA0	FINESS Array S	3.95	213	ePG	Pg	09 36 29.1	-4.0
FIA0				eSG		09 37 19.9	
FINES	FINESS Array B	3.95	213	Pn	Pn	09 36 20.4	+1.2
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=6.4						
FINES				Pg	Pg	09 36 28.8	-4.3
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=8.0						
FINES				Sn	Sn	09 37 07.1	+0.8
	comp=Z,0.3nm,0.3s,baz=38,slow=23,SNR=6.9						
FINES				Lg		09 37 20.1	
	comp=Z,1.1nm,0.3s,baz=36,slow=26,SNR=26						
ARA0	ARCESS Array S	5.14	340	Pn	Pn	09 36 36.2	+0.5
	baz=154,slow=14						
ARA0				Pg	Pb	09 36 45.6	-2.7
	baz=153,slow=10						
ARA0				Sn	Sn	09 37 34.5	-1.3
	baz=157,slow=28						
ARA0				Lg		09 37 54.0	
	baz=151,slow=37						
ARA0	ARCESS Array S	5.14	340	eP	Pn	09 36 36.2	+0.5
ARA0				ePB	Pb	09 36 45.6	-2.7
ARA0				eS	Sn	09 37 34.5	-1.3
ARA0				eSB		09 37 54.0	
ARCES	ARCESS Array B	5.14	340	Pn	Pn	09 36 36.2	+0.5
	comp=Z,0.7nm,0.3s,baz=152,slow=12,SNR=64						
ARCES				Pg	Pg	09 36 51.2	-4.8
	comp=Z,0.2nm,0.3s,baz=152,slow=16,SNR=6.1						
ARCES				Sn	Sn	09 37 34.3	-1.4
	comp=Z,0.5nm,0.3s,baz=158,slow=25,SNR=7.3						
ARCES				Lg		09 37 54.9	
	comp=Z,1.6nm,0.3s,baz=152,slow=31,SNR=15						
HFS	Hagfors	9.10	247	Pn	Pn	09 37 31.5	+1.5
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=2.8						
HFS	Hagfors	9.10	247	Pn		09 37 28.7	-1.3
	baz=67,slow=16						
HFS				Lg		09 40 01.1	
	baz=56,slow=28						
HFS	Hagfors	9.10	247	eP	Pn	09 37 28.7	-1.3
HFS				eSG		09 40 01.1	
NB2	NORSAR Subarra	9.59	256	eP	Pn	09 37 37.4	+0.7
NB2				eSG	Sn	09 40 14.8	+50
NOA	NORSAR Array B	9.59	256	Pn	Pn	09 37 37.8	+1.1
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=2.2						
SPA0	Spitsbergen Ar	14.09	348	P	Pn	09 38 40.3	+2.0
	baz=40,slow=18						

*NEIC **04** 09:41:50.8, 38.11S×176.14E, h159km, MG4.1(WEL), After WEL.*

WEL 04 09:41:50.5±0.5,3813S×17617E,h163km±4km,ML4.0/14, Error ellipse: s-maj=5.5km s-min=4.8km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.76	100	P	Pn	09 42 14.7	0.0
URZ	Urewera	0.76	100	PN	Pn	09 42 14.7	0.0
URZ				SN	Sn	09 42 33.2	0.0
BKZ	Black Stump Fm	1.07	166	P	Pn	09 42 17.4	+0.4
BKZ				S	Sn	09 42 37.3	-0.1
BKZ	Black Stump Fm	1.07	166	PN	Pn	09 42 17.4	+0.4
BKZ				SN	Sn	09 42 37.3	-0.1
TWVZ	Taurewa	1.10	211	P	Pn	09 42 17.7	+0.4
TWVZ	Taurewa	1.10	211	PN	Pn	09 42 17.7	+0.4
TWVZ				SN	Sn	09 42 38.6	+0.7
WPVZ	Whakapapa	1.18	204	PN	Pn	09 42 17.4	-0.6
TUVZ	Tukino	1.21	199	P	Pn	09 42 18.7	+0.5
TUVZ	Tukino	1.21	199	PN	Pn	09 42 18.7	+0.5
WNVZ	Wahianoa	1.28	200	PN	Pn	09 42 19.3	+0.5
MOVZ	Moawhango	1.32	194	P	Pn	09 42 19.1	-0.1
MOVZ	Moawhango	1.32	194	PN	Pn	09 42 19.1	-0.1
VRZ	Vera Road	1.49	227	P	Pn	09 42 21.1	+0.3
VRZ	Vera Road	1.49	227	PN	Pn	09 42 21.1	+0.2
PUZ	Puketiti	1.65	89	eP	Pn	09 42 22.8	+0.3
PUZ	Puketiti	1.65	89	PN	Pn	09 42 22.8	+0.3
WAZ	Wanganui	1.87	209	P	Pn	09 42 24.8	-0.1
WAZ	Wanganui	1.87	209	PN	Pn	09 42 24.8	-0.1
TIWZ	Tintock	2.66	185	PN	Pn	09 42 32.8	-1.3
KIW	Kapiti Island	2.90	199	P	Pn	09 42 35.0	-2.1
KIW	Kapiti Island	2.90	199	PN	Pn	09 42 35.0	-2.1
MTW	Mount Morrison	3.07	189	P	Pn	09 42 37.1	-2.1
MTW	Mount Morrison	3.07	189	PN	Pn	09 42 37.1	-2.1
CAW	Cannon Point	3.10	196	P	Pn	09 42 37.4	-2.1
CAW	Cannon Point	3.10	196	PN	Pn	09 42 37.4	-2.1
DUWZ	D'Urville Isla	3.19	212	PN	Pn	09 42 38.1	-2.5
TRWZ	Traveller	3.29	186	PN	Pn	09 42 39.7	-2.2
TRWZ				SN	Sn	09 43 18.2	-3.7
MRW	Makara Radio	3.30	200	P	Pn	09 42 39.5	-2.5
MRW	Makara Radio	3.30	200	PN	Pn	09 42 39.5	-2.5
PAWZ	Paruwai Farm	3.30	190	P	Pn	09 42 39.6	-2.5
PAWZ	Paruwai Farm	3.30	190	PN	Pn	09 42 39.6	-2.4
MSWZ	Moikau Station	3.36	192	P	Pn	09 42 40.3	-2.5
MSWZ				S	Sn	09 43 18.3	-5.2

CASC 04 10:03:23.3±2.7,1318N×8993W,h28km±6km,MD4.3, ML3.7,7C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.71	24	⇓iP	x	10 03 38.3	
SNJE	San Jose	0.75	25	⇓iP	x	10 03 38.8	
RTR	El Retiro	0.76	21	⇓iP	x	10 03 39.1	
BOQS	Boqueron	0.83	49	eP	x	10 03 39.7	
BOQS				eS	x	10 03 51.1	
SNET	Serv Nac Est T	0.84	53	⇓eP	x	10 03 36.7	
SNET				eS	x	10 03 48.8	
LFRS	El Faro	0.95	62	⇓iP	x	10 03 41.1	
RBDL	Robledal	0.95	14	⇓iP	x	10 03 42.1	
LFU	La Fuente	0.97	55	⇑eP	x	10 03 41.4	
LBRS	Las Brisas	1.02	57	⇓eP	x	10 03 42.4	
LCBS	La Ceiba	1.03	63	⇓eP	x	10 03 42.1	
SNVI	San Vicente	1.14	68	eP	x	10 03 44.0	
SNVI				eS	x	10 03 58.3	
SNVI				eS	x	10 03 58.7	
MTO2	Montecristo 2	1.33	24	⇑eP	x	10 03 47.1	
MTO2				eS	x	10 04 03.7	
TER	Terranova	1.33	327	⇑eP	Pn	10 03 45.5	-0.5
PCG	Pacaya	1.37	331	eP	Pn	10 03 47.0	+0.5
GCG	Guatemala City	1.51	337	⇑eP	Pn	10 03 49.3	+0.8
GCG				eS	Sn	10 04 10.4	+3.2
FUG	Fuego 3	1.54	325	⇑eP	Pn	10 03 48.8	-0.1
VSM	San Miguel	1.63	81	eP	x	10 03 51.5	
VSM				eS	x	10 04 13.6	
BLLM	Bellamira	1.66	81	⇓eP	x	10 03 51.7	
BLLM				eS	x	10 04 11.5	
TP2	Tecpan 2	1.91	326	⇑eP	Pn	10 03 54.5	+0.5
TP2				eS	Sn	10 04 18.9	+1.8
JAT	Jato	2.01	304	eP	Pn	10 03 55.9	+0.6
CNCH	Conchagua	2.04	87	⇑eP	x	10 03 56.6	
CNCH				eS	x	10 04 21.6	
LEON	Leon	3.06	104	eP	Pn	10 04 09.4	-0.3
CNGN	Cerro Negro	3.22	102	eP	Pn	10 04 10.9	-1.0
CNGN				i		10 04 49.8	
	comp=E,582nm,0.3s						
MIRN	Miramar	3.22	103	eP	Pn	10 04 11.4	-0.6
MOMJ	Momotombo	3.39	103	eP	Pn	10 04 13.9	-0.4
COPN	Copaltepe	3.40	107	eP	Pn	10 04 13.8	-0.6
XAVN	Gruta Xavier	3.66	106	eP	Pn	10 04 18.1	+0.1
TISN	Laguna Tiscapa	3.72	106	eP	Pn	10 04 19.1	+0.3
TICN	Ticuantepe	3.78	107	eP	Pn	10 04 19.7	0.0
BOA	Boaco	4.16	99	eP	Pn	10 04 24.2	-0.7
SSNN	San Juan del S	4.41	115	eP	Pn	10 04 28.1	-0.2
JCR	Jicaral	5.76	125	eP	Pn	10 04 47.0	+0.1
PRS1	Puriscal	6.35	119	eP	Pn	10 04 55.9	+0.8
LAJ	Bijagual	6.58	120	eP	Pn	10 04 54.4	-3.6
BUS	Buena Vista	7.04	120	eP	Pn	10 05 07.4	+2.9

IDC 04 10:38:31.7±1.1,1689S×6945W,h194km±7km,mb3.5/5, mb1 3.6/7,mb1mx3.4/18,mbtmp4.1/7,Error ellipse: s-maj=19.5km s-min=14.6km az=106.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.40	65	P	Pn	10 39 05.5	+1.6
	104nm,0.3s,baz=280,slow=7.5,SNR=2912						
LPAZ				S	Sn	10 39 29.9	+1.1
	18nm,0.3s,baz=15,slow=21,SNR=8.7						
LVC	Limon Verde	5.71	175	P	Pn	10 39 56.6	+1.5
	2.3nm,0.3s,baz=24,slow=8.6,SNR=34						
LVC				S	Sn	10 41 00.4	-0.5
	7.1nm,0.3s,baz=344,slow=11,SNR=4.0						
SIV	San Ignacio	8.09	85	P	Pn	10 40 26.2	+0.2
	1.9nm,0.3s,baz=275,slow=13,SNR=20						
SIV				S	Sn	10 41 56.5	-0.4
	0.4nm,0.3s,baz=333,slow=18,SNR=4.3						
BDFB	Brasilia	20.61	90	P	P	10 42 57.0	+1.1
	3.3nm,0.5s,baz=293,slow=4.7,SNR=4.9						
DBIC	Dimbokro	67.99	75	P	P	10 49 10.5	+0.7
	2.2nm,0.4s,baz=105,slow=16,SNR=7.8						
PDAR	Pinedale Array	69.89	330	P	P	10 49 21.2	-0.3
	0.3nm,0.4s,baz=120,slow=8.8,SNR=3.6						
TORD	Torodi Ar. Bea	76.34	72	P	P	10 50 00.0	+0.7
	3.4nm,0.5s,baz=273,slow=5.3,SNR=34						
YKA	Yellowknife Ar	86.69	341	P	P	10 50 53.7	+0.2
	0.3nm,0.7s,baz=130,slow=4.6,SNR=4.6						

IDC 04 11:10:16.3±75.0,1650S×17002W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/13,mbtmp4.0/3,Error ellipse: s-maj=1480.0km s-min=218.0km az=82.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.34	242	P	P	11 18 44.0	0.0
	0.6nm,0.4s,baz=96,slow=9.2,SNR=4.1						
WRA	Warramunga Arr	52.77	257	P	P	11 19 33.0	-0.1
	0.3nm,0.4s,baz=96,slow=6.7,SNR=6.8						
ASAR	Alice Springs	52.88	253	P	P	11 19 34.9	+1.0
	2.9nm,0.6s,baz=90,slow=7.8,SNR=65						

IDC 04 11:23:40.1±8.5,266N×12797E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.7/16,mbtmp3.7/4,Error ellipse: s-maj=133.5km s-min=94.5km az=148.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.76	186	P	P	11 28 21.8	-0.6
	1.5nm,0.6s,baz=360,slow=8.9,SNR=7.5						
WRA	Warramunga Arr	23.32	165	P	P	11 28 50.0	+0.3
	1.3nm,0.5s,baz=346,slow=11,SNR=20						
ASAR	Alice Springs	26.80	168	P	P	11 29 22.6	+0.7
	0.2nm,0.4s,baz=341,slow=7.5,SNR=4.8						
STKA	Stephens Creek	36.70	160	P	P	11 30 49.0	+0.2
	1.7nm,0.5s,baz=332,slow=12,SNR=4.1						

*ISCJB **04** 11:45:23.3±1.0, 4265N±003×4341E±008, h10km, Error ellipse: s-maj=8.8km s-min=4.0km az=13.8*
*MOS **04** 11:45:23.7±0.5, 4264N×4349E, h2km, mb3.8/1, Error ellipse: s-maj=19.5km s-min=8.4km az=56.5*

ISC 04 11:45:23.8±0.9,4264N±003×4344E±007,h10km,n13, σ0§86/26,5C,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.06	171	P	Pg	11 45 26.0	+0.1
ONI				S	Sg	11 45 27.7	+0.3
DIGR	Digorskoe uzhe	0.28	22	⇑iPG	Pg	11 45 30.3	+0.8
DIGR				i S	Sg	11 45 35.1	+1.8
ZEI	Tsey	0.36	68	⇑iPG	Pg	11 45 31.3	+0.3
ZEI				i S	Sg	11 45 36.8	+0.9
KORR	Kora	0.65	46	⇑iPG	Pg	11 45 36.2	-0.1
KORR				i S	Sg	11 45 45.2	+0.4
LACR	Lac	0.66	73	⇑iPG	Pg	11 45 36.2	-0.4
LACR				i S	Sg	11 45 45.2	0.0
ARNR	Ardon	0.83	48	⇑iPG	Pg	11 45 39.5	-0.3
ARNR				i S	Sg	11 45 51.0	+0.4
KMSR	Komsomolskaya	0.96	40	ePG	Pg	11 45 42.0	-0.4
KMSR				eS	Sg	11 45 55.2	+0.2
SNJR	Sundja	1.10	66	ePG	Pg	11 45 43.8	-1.1
SNJR				eS	Sg	11 45 58.5	-0.7
PRTR	Priterechnaya	1.27	29	ePG	Pg	11 45 46.9	-1.4
PRTR				eS	Sb	11 46 03.9	-0.4
TBLG	Delisi	1.32	133	ePG	Pg	11 45 48.0	-1.2
TBLG				eS	Sb	11 46 05.3	-0.5
TBLG	Delisi	1.32	133	P	Pn	11 45 48.0	-0.3
TBLG				S	Sb	11 46 05.3	-0.5
TRKR	Terskaya	1.44	41	ePG	Pn	11 45 49.5	-0.5
TRKR				eS	Sn	11 46 08.2	-0.7
DGRG	David-gareji	1.87	129	P	Pn	11 45 57.4	+1.6
DGRG				S	Sn	11 46 22.2	+2.8

*NIED **04** 12:45:00, 4660N×15370E, h14km, Mw3.7 Best double couple: M=4.37000×10^14 NP1:φ=169.00000°, δ53.00000°, λ53.00000°. NP2:φ=41.00000°, δ51.00000°, λ128.00000°.*
*MOS **04** 12:46:00.6±1.6, 4669N×15335E, h28km, mb4.3/7, Error ellipse: s-maj=22.9km s-min=14.3km az=69.5*
*ISCJB **04** 12:46:03.2±1.4, 464N±0.1×1532E±0.1, h46km±13km, mb4.4/17, Error ellipse: s-maj=26.2km s-min=9.9km az=125.5*
*IDC **04** 12:46:10.2±4.5, 4642N×15302E, h99km±41km, mb3.6/9, mb1 3.7/10, mb1mx3.6/21, mbtmp3.9/10, Error ellipse: s-maj=24.6km s-min=23.2km az=40.0*

ISC 04 12:46:04.3±1.2,465N±01×1533E±01,h36km±11km,n48, σ1§55/58,mb4.4/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.00	254	ePN	Pn	12 47 01.8	-1.3
KUR				pmax	pmax		
	comp=N,140nm,0.4s						
KUR				pmax	pmax		
	comp=Z,320nm,0.4s						
SKR	Severo-Kuril's	4.62	23	ePN	Pn	12 47 05.2	-6.5
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
NEM2	Nemuro 2	6.20	243	P	Pn	12 47 32.1	-1.2
NEM2				eS	Sn	12 48 41.8	-1.2
JRA	Rausu	6.31	249	P	Pn	12 47 36.4	+1.5
JNK	Nakash	6.73	248	P	Pn	12 47 41.3	+0.6
JNK				eS	Sn	12 48 57.1	+1.0
JAK	Akkeshi	7.04	244	P	Pn	12 47 43.4	-1.5
JAK				eS	Sn	12 49 00.9	-2.8
JTKR	Abashiri--Toko	7.09	253	P	Pn	12 47 47.3	+1.7
PET	Petropavlovsk	7.43	26	ePN	Pn	12 47 46.0	-4.2
PET				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JAR	Ashorobuto	7.48	248	P	Pn	12 47 51.6	+0.7
JAR				eS	Sn	12 49 15.6	+1.2
JOB	Onbets	7.63	246	P	Pn	12 47 54.0	+1.0
JOB				eS	Sn	12 49 17.2	-1.0
JKK2	Kamakawa 2	7.90	255	P	Pn	12 47 58.9	+2.2
ASAJ	Asahikawa	7.91	257	P	Pn	12 47 59.5	+2.7
	comp=Z,1.3nm,0.3s,baz=79,slow=20,SNR=11						
ASAJ	Asahikawa	7.91	257	P	Pn	12 48 00.3	+3.5
ASAJ	Asahikawa	7.91	257	PN	Pn	12 47 59.6	+2.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	Churui	8.08	245	P	Pn	12 47 58.6	-0.5
JCH				eS	Sn	12 49 26.3	-2.9
JFR	Furan	8.30	251	P	Pn	12 48 04.7	+2.5
JBT2	Biratori 2	8.63	249	P	Pn	12 48 07.4	+0.7
JNBK	Urakawa-nobuka	8.64	245	P	Pn	12 48 05.6	-1.2
JNBK				eS	Sn	12 49 38.9	-4.1
JNB	Noboribetsu	9.64	250	P	Pn	12 48 21.6	+1.1
JNB				eS	Sn	12 50 06.9	-0.6
JKB	Kayabe	9.93	247	P	Pn	12 48 23.4	-1.1
JKB				eS	Sn	12 50 10.7	-4.0
JYM2	Yakumo 2	10.24	250	P	Pn	12 48 28.4	-0.4
JANG	Nango	10.51	239	P	Pn	12 48 27.9	-4.6
JANG				eS	Sn	12 50 20.2	-8.7
JTH	Tanohata	10.59	236	eS	Sn	12 50 21.5	-9.3
JOSM	Okushiri--Mats	10.84	251	P	Pn	12 48 36.6	-0.4
SONM	Songino Array	31.57	290	P	P	12 52 21.1	-2.2
	comp=Z,0.3nm,0.6s,mb3.3,baz=84,slow=7.0,SNR=2.6						
BVAR	Borovoye Array	51.16	310	P	P	12 55 02.1	-1.7
	comp=Z,0.7nm,0.5s,mb3.8,baz=52,slow=9.3,SNR=3.0						
BVAR	Borovoye Array	51.16	310	P	P	12 55 02.1	-1.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JIRN	Jiri	55.11	275	eP	P	12 55 34.8	+2.0
	comp=Z,9.9nm,0.5s,mb5.1						
GUN	Gumba	55.17	275	eP	P	12 55 35.4	+2.2
	comp=Z,6.3nm,0.4s,mb5.0						
KKN	Kakani	55.66	276	eP	P	12 55 39.2	+2.5
	comp=Z,11nm,0.5s,mb5.1						
PKI	Pulchoki	55.70	275	eP	P	12 55 38.7	+1.6
	comp=Z,5.1nm,0.6s,mb4.8						
DMN	Daman	55.89	276	eP	P	12 55 40.5	+2.1
	comp=Z,11nm,0.6s,mb5.1						
GKN	Gorkha	55.96	276	eP	P	12 55 40.9	+1.9
	comp=Z,17nm,0.5s,mb5.3						
KOLN	Koldanda	56.82	277	eP	P	12 55 47.0	+1.9
	comp=Z,5.8nm,0.6s,mb4.8						
YBH	Yreka Blue Hor	57.76	62	P	P	12 55 53.0	+1.3
	comp=Z,0.7nm,0.3s,mb4.1,baz=304,slow=3.6,SNR=6.3						
YBH	Yreka Blue Hor	57.76	62	P	P	12 55 53.0	+1.3
YBH				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	ARCESS Array B	58.18	341	P	P	12 55 53.6	-1.0
	comp=Z,1.1nm,0.8s,mb3.9,baz=42,slow=8.2,SNR=6.0						
ARCES	ARCESS Array B	58.18	341	P	P	12 55 53.6	-1.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAF	Kangasniemi	63.77	335	ep	P	12 56 30.5	-2.1
	comp=Z,1.1nm,0.4s,mb4.2,baz=35,slow=6.1						
FINES	FINESS Array B	64.37	335	P	P	12 56 35.2	-1.3
	comp=Z,2.1nm,0.5s,mb4.5,baz=37,slow=7.7,SNR=20						
FINES	FINESS Array B	64.37	335	P	P	12 56 35.3	-1.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	Pinedale Array	64.81	54	P	P	12 56 38.1	-1.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=252,slow=0.9,SNR=3.7						
NB2	NORSAR Subarra	68.56	341	P	P	12 57 02.3	-1.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=6.5						
NOA	NORSAR Array B	68.56	341	P	P	12 57 02.1	-1.2
	comp=Z,1.9nm,0.8s,mb4.1,baz=27,slow=6.4,SNR=5.6						
NOA	NORSAR Array B	68.56	341	P	P	12 57 02.1	-1.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	71.87	326	P	P	12 57 19.8	-3.8
	comp=Z,1.7nm,0.4s,mb4.3,baz=35,slow=6.3,SN

CCIG	**Comitan**	**2.90**	**334**	*i* P	Pn	12 57 15.8	+1.3
CCIG				*i* S	Sn	12 57 50.0	+1.5
CNCH	**Conchagua**	**2.91**	**97**	*e*P	x	12 57 15.3	
SCX	**San Cristobal**	**3.53**	**330**	*e*P	Pn	12 57 23.0	-0.1
OXX	**Oaxaca**	**6.64**	**301**	*e*P	Pn	12 58 03.0	-2.9
VHO	**Vista Hermosa**	**6.65**	**301**	*i* P	Pn	12 58 01.4	-4.5
VHO				*i* S	Sn	12 59 10.6	-10
UTMO	**Huajuapan**	**7.91**	**302**	*i* S	Sn	12 59 42.4	-9.4

IDC 04 13:28:43.2±8.5, 332N×12705E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=140.9km s-min=96.2km az=142.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.33**	**184**	P	P	13 33 32.2	+0.4
	1.4nm,0.5s,baz=12,slow=8.4,SNR=7.2						
WRA	**Warramunga Arr**	**24.20**	**163**	P	P	13 34 00.7	-0.7
	1.4nm,0.4s,baz=343,slow=10,SNR=24						
WB2	**Warramunga Arr**	**24.21**	**163**	*e*P	P	13 34 01.7	+0.3
ASAR	**Alice Springs**	**27.64**	**166**	P	P	13 34 33.0	+0.4
	0.4nm,0.5s,baz=343,slow=7.4,SNR=8.9						
STKA	**Stephens Creek**	**37.64**	**160**	P	P	13 36 01.0	+1.1
	2.3nm,0.7s,baz=343,slow=9.3,SNR=4.6						

*MOS **04** 13:33:37.3±0.9, 109N×9749E, h44km, mb5.4/52, MS4.7/15, Error ellipse: s-maj=7.6km s-min=4.7km az=113.0*

*BJI **04** 13:33:37.7, 103N×9757E, h53km, mB5.3, mb5.4, Ms5.1, Msz5.0*

*ISCJB **04** 13:33:38.1±0.2, 109N±003×9751E±003, h51km, mb5.2/143, MS4.7/53, Error ellipse: s-maj=4.0km s-min=3.6km az=71.8*

*NEIC **04** 13:33:39.5±0.1, 107N×9747E, mb5.1/81, Error ellipse: s-maj=3.9km s-min=3.1km az=211.0*

NEIC Felt [IV] at Gunungsitoli. Felt [III] at Sibolga, Sumatra.

*GCMT **04** 13:33:39.5±1.0, 1.15N×9761E, h37km±1km, MW5.0/46, Moment Tensor Solution. s39,c59; s46,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.66±.22; $M_{\theta\theta}$-2.31±.13; $M_{\phi\phi}$-0.35±.18; $M_{r\theta}$1.47±.18; $M_{r\phi}$2.74±.11; $M_{\theta\phi}$-0.42±.25; Best double couple: $M_0$3.82100×10^{16} NP1:ϕ_s325.00000°, δ37.00000°, λ120.00000°. NP2: ϕ_s110.00000°, δ59.00000°, λ70.00000°. Principal axes: T 3.1080, Plg69.0000°, Azm336.0000°; N 1.4200, Plg17.0000°, Azm121.0000°; P -4.5340, Plg11.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **04** 13:33:40.1±1.9, 106N×9751E, h56km±16km, mb4.6/23, mb1 4.6/24, mb1mx4.6/26, mbtmp4.8/24, ML4.1/1, MS4.5/18, Ms1 4.5/18, ms1mx4.4/30 Error ellipse: s-maj=14.7km s-min=9.0km az=41.0*

*SZGRF **04** 13:33:45.0, 158N×9686E, h33km, mb5.2, MS4.3, Off west coast of northern Sumatera, Indonesia*

ISC 04 13:33:40.2±0.2, 109N±003×9751E±003, h53km, h53km±1.1km: pP-P, n378, σ0.88/392, mb5.2/143, MS4.7/53, 58C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.21**	**40**	P	**Pn**	**13 34 13.5**	**-0.9**
	60nm,0.3s,baz=204,slow=7.1,SNR=156						
PSI				LR	LR	13 34 53.7	
	comp=Z,6μm,20.0s,baz=283,slow=34						
PSI	**Prapat**	**2.21**	**40**	P	**Pn**	**13 34 13.5**	**-0.9**
PSI				LR	LR	13 34 53.7	
TSI	**Tuntungan**	**2.62**	**24**	P	**Pn**	**13 34 19.2**	**-0.8**
	5μm,0.8s						
PPI	**Padang Panjang**	**3.27**	**118**	P	**Pn**	**13 34 27.8**	**-1.2**
	699nm,0.7s						
IPM	**Ipoh**	**4.87**	**46**	P	**Pn**	**13 34 50.7**	**-0.2**
BSI	**Banda Aceh**	**4.90**	**333**	P	**Pn**	**13 34 47.0**	**-4.3**
	269nm,1.1s						
KULM	**Kulim**	**5.22**	**37⇑**	*e*Pn	**Pn**	**13 34 55.4**	**-0.2**
KGM	**Kluang**	**5.88**	**81**	P	**Pn**	**13 35 05.4**	**+0.6**
SNG	**Songkhla**	**6.80**	**27**	P	**Pn**	**13 35 16.0**	**-1.3**
	28nm,0.9s						
NNT	**Nongplab**	**11.64**	**11**	P	**Pn**	**13 36 22.5**	**-1.0**
CBJI	**Citeko**	**11.94**	**129**	P	**Pn**	**13 36 29.9**	**+2.2**
	243nm,0.8s						
CHAT	**Chantaburi**	**12.26**	**22**	P	**Pn**	**13 36 34.0**	**+2.0**
KSM	**Kuching**	**12.80**	**88**	*e*Pn	**Pn**	**13 36 41.2**	**+1.8**
NST	**Nakhon Sawan**	**14.72**	**10**	P	**Pn**	**13 37 00.0**	**-5.2**
	50nm,0.9s						
KKTK	**Khon Kaen**	**16.03**	**19**	P	**Pn**	**13 37 21.0**	**-1.1**
CM31	**Chiang Mai Arr**	**17.32**	**5**	*e*P	**Pn**	**13 37 37.0**	**-1.2**
	50nm,0.6s						
CHG	**Chiang Mai**	**17.67**	**4**	⇑P	**Pn**	**13 37 40.7**	**-1.8**
	77nm,1.0s						
CHTO	**Chiang Mai**	**17.67**	**4⇑**	*e*P	**Pn**	**13 37 40.7**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,63nm,0.9s						
CHTO	**Chiang Mai**	**17.67**	**4⇑**	*e*P	**Pn**	**13 37 40.7**	**-1.8**
	comp=Z,62nm,0.9s						
CHTO				*e*		13 37 52.2	
PALK	**Pallekele**	**17.84**	**291**	*e*P	**Pn**	**13 37 43.4**	**-1.2**
	comp=Z,48nm,1.5s						
PALK				*e*		13 37 53.9	
KKM	**Kota Kinabalu**	**19.30**	**75**	P	**Pn**	**13 38 01.9**	**-0.3**
KKM	**Kota Kinabalu**	**19.30**	**75**	*e*P	**Pn**	**13 38 01.2**	**-1.0**
TARAI	**Tarakan**	**20.17**	**83**	P	**P**	**13 38 14.6**	**+4.4**
	comp=Z,602nm,1.0s						
TSM	**Tawau**	**20.59**	**81**	P	**P**	**13 38 15.1**	**+0.4**
MDRS	**Chennai**	**20.83**	**306**	*e*P	**P**	**13 38 17.0**	**-0.3**
MDRS				AMb	AMB	13 38 21.4	
	comp=Z,60nm,0.3s						
MDRS				*ex*	x	13 42 10.4	
QIZ	**Qiongzhong**	**21.54**	**33**	P	**P**	**13 38 24.5**	**-0.5**
QIZ				AP		13 38 36.6	
QIZ				XS	sS	13 42 40.4	0.0
QIZ				AMB	AMB		
	comp=Z,83nm,1.3s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,268nm,5.4s						
QIZ				LR	LR		
	comp=N,2μm,15.0s						
QIZ				LR	LR		
	comp=Z,2μm,12.7s,MS4.6						
QIZ	**Qiongzhong**	**21.54**	**33⇑**	*e*P	**P**	**13 38 24.3**	**-0.7**
	comp=Z,104nm,1.1s,mb5.2						
VIS	**Vishakhapatnam**	**21.62**	**321**	*e*P	**P**	**13 38 26.6**	**+0.8**
VIS				AMb	AMB	13 38 29.0	
	comp=Z,197nm,1.0s,mb5.5						
VIS				*i* x	x	13 42 17.2	
TRD	**Trivandrum**	**21.75**	**290⇓**	*ex*	x	13 38 57.1	
TRD				*ex*	x	13 42 39.1	
PCI	**Palu**	**22.42**	**95**	P	**P**	**13 38 33.8**	**-0.5**
	comp=Z,80nm,1.1s,mb5.1						
CAL	**Calcutta**	**23.11**	**338**	*ex*	x	13 36 56.0	
CAL				*ex*	x	13 38 11.8	
CAL				*ex*	x	13 42 54.7	
IMP	**Imphal**	**23.81**	**352**	*e*P	**P**	**13 38 50.0**	**+1.9**
IMP				*ex*	x	13 42 06.0	
KMI	**Kunming**	**24.42**	**12**	P	**P**	**13 38 54.8**	**+1.1**
KMI				AP		13 39 07.5	
KMI				XP	sP	13 39 14.4	+1.1
KMI				S	**S**	**13 43 08.2**	**-1.7**
KMI				SS		13 44 05.1	
KMI				AMB	AMB		
	comp=Z,145nm,1.4s,mb5.2						
KMI				AMB	AMB		
	comp=Z,819nm,6.9s						
KMI				LR	LR		
	comp=N,3μm,12.9s,MS5.1						
KMI				LR	LR		
	comp=E,3μm,12.9s,MS5.1						
KMI				LR	LR		
	comp=Z,4μm,13.5s,MS5.1						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**13 38 54.8**	**+1.1**
KMI				*PP		13 39 07.5	
KMI				*SP	sP	13 39 14.4	+1.1
KMI				S	**S**	**13 43 08.2**	**-1.7**
KMI				SS		13 44 05.1	
KMI				pmax	pmax		
	comp=Z,145nm,1.4s,mb5.2						
KMI				MLR	MLR		
	comp=Z,4μm,13.5s,MS5.1						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**13 38 54.8**	**+1.1**
	comp=Z,145nm,1.4s,mb5.2						
KMI				pP		13 39 07.5	
KMI				sP	sP	13 39 14.4	+1.1
KMI				S	**S**	**13 43 08.2**	**-1.7**
KMI				SS		13 44 05.1	
KMI				LR	LR		
	comp=Z,4μm,13.5s,MS5.1						
HYB	**Hyderabad**	**24.71**	**312**	*i* P	**P**	**13 38 57.0**	**+0.6**
	comp=Z,90nm,1.0s,mb5.2						
HYB				*e*pP		13 39 07.0	
HYB				*e*S	**S**	**13 43 16.0**	**+1.4**
HYB	**Hyderabad**	**24.71**	**312**	*e*P	**P**	**13 38 57.0**	**+0.6**
HYB				*e*		13 39 07.0	
HYB				*e*S	**S**	**13 43 16.0**	**+1.4**
HYB				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
HYB	**Hyderabad**	**24.71**	**312**	*e*P	**P**	**13 38 57.0**	**+0.6**
	comp=Z,90nm,1.0s,mb5.2						
HYB				*e*		13 39 07.0	
HYB				*e*S	**S**	**13 43 16.0**	**+1.4**
BOK	**Bokaro**	**25.23**	**334**	*e*P	**P**	**13 39 01.6**	**+0.6**
BOK				AMb	AMB	13 39 04.2	
	comp=Z,232nm,0.7s,mb5.8						
DGAR	**Diego Garcia**	**26.38**	**251**	*e*P	**P**	**13 39 11.1**	**-0.4**
DGAR				*e*PP	pP	13 39 23.8	-1.0
DGAR				pmax	pmax		
	comp=Z,134nm,1.0s,mb5.4						
DGAR	**Diego Garcia**	**26.38**	**251**	*e*P	**P**	**13 39 11.1**	**-0.4**
	comp=Z,134nm,1.0s,mb5.4						
DGAR				*e*pP	pP	13 39 23.8	-1.0
GYA	**Guiyang**	**26.72**	**18⇑**	*i* P	**P**	**13 39 14.2**	**-0.3**
GYA				AP	pP	13 39 28.7	+0.8
GYA				XP	sP	13 39 36.1	+1.9
GYA				PP		13 40 01.2	
GYA				S	**S**	**13 43 42.6**	**-3.7**
GYA				XS	sS	13 44 07.6	-1.4
GYA				SS		13 44 57.2	
GYA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,370nm,5.1s						
GYA				LR	LR		
	comp=N,2μm,13.2s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,16.7s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,11.7s,MS5.0						
JBP	**Jabalpur**	**27.77**	**324⇑**	*i* P	**P**	**13 39 25.1**	**+1.2**
JBP				*ex*	x	13 39 33.1	
	comp=Z,38nm,1.3s						
JBP				*i* x	x	13 39 33.9	
KAD	**Karad**	**28.04**	**306**	*e*P	**P**	**13 39 26.8**	**+0.4**
KAD				AMb	AMB	13 39 33.5	
	comp=Z,20nm,1.4s,mb4.6						
JIRN	**Jiri**	**28.56**	**339**	*e*P	**P**	**13 39 32.2**	**+1.2**
	comp=Z,263nm,0.9s,mb6.0						
PKI	**Pulchoki**	**28.77**	**337**	*e*P	**P**	**13 39 33.4**	**+0.5**
	comp=Z,164nm,1.1s,mb5.7						
GUN	**Gumba**	**28.90**	**338**	*e*P	**P**	**13 39 35.0**	**+1.0**
	comp=Z,333nm,0.8s,mb6.1						
DMN	**Daman**	**28.93**	**337**	*e*P	**P**	**13 39 34.9**	**+0.7**
	comp=Z,134nm,0.9s,mb5.7						
POO	**Poona**	**28.97**	**308**	*e*P	**P**	**13 39 37.0**	**+2.4**
KKN	**Kakani**	**29.02**	**337**	*e*P	**P**	**13 39 35.7**	**+0.6**
	comp=Z,183nm,1.0s,mb5.8						
LSA	**Lhasa**	**29.09**	**349**	P	**P**	**13 39 36.7**	**+1.0**
LSA				XP	sP	13 39 55.9	+0.5
LSA				S	**S**	**13 44 19.8**	**-3.8**
LSA				XS	sS	13 44 47.1	+0.7
LSA				LR	LR		
	comp=N,650nm,24.9s,MS4.5						
LSA				LR	LR		
	comp=E,1μm,23.8s,MS4.5						
LSA				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
LSA	**Lhasa**	**29.09**	**349⇑**	*e*P	**P**	**13 39 36.9**	**+1.2**
LSA				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.5						
LSA	**Lhasa**	**29.09**	**349⇑**	*e*P	**P**	**13 39 36.9**	**+1.3**
	comp=Z,77nm,0.8s,mb5.5						
BHPL	**Bhopal**	**29.41**	**320**	*e*P	**P**	**13 39 38.7**	**+0.2**
BHPL				AMb	AMB	13 39 40.8	
	comp=Z,13nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.46**	**336**	*e*P	**P**	**13 39 39.5**	**+0.5**
	comp=Z,130nm,0.9s,mb5.6						
KOLN	**Koldanda**	**29.69**	**335**	*e*P	**P**	**13 39 42.0**	**+1.0**
	comp=Z,158nm,0.9s,mb5.8						
CD2	**Chengdu**	**30.25**	**11**	P	**P**	**13 39 45.1**	**-0.8**
CD2				AP	pP	13 39 57.0	-2.4
CD2				XP	sP	13 40 02.5	-3.1
CD2				PP	PP	13 40 45.7	-9.2
CD2				S	**S**	**13 44 41.4**	**-0.4**
CD2				XS	sS	13 45 01.6	-3.0
CD2				SS	SS	13 46 23.2	-29
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,150nm,4.5s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS5.1						
CD2				LR	LR		
	comp=E,2μm,13.8s,MS5.1						
CD2				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
MBWA	**Marble Bar**	**31.00**	**137**	*e*P	**P**	**13 39 54.0**	**+1.4**
QZH	**Quanzhou**	**31.26**	**39**	P	**P**	**13 39 55.2**	**+0.3**
QZH				*e*S	**S**	**13 44 59.2**	**+1.5**
QZH				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.5						
QZH				LR	LR		
	comp=N,4μm,12.8s,MS5.3						
QZH				LR	LR		
	comp=E,3μm,13.8s,MS5.3						
QZH				LR	LR		
	comp=Z,5μm,13.6s,MS5.4						
LGTI	**Lohaghat**	**32.65**	**331**	*e*P	**P**	**13 40 06.5**	**-0.5**
NACB	**Ninganchiao**	**32.72**	**44**	*e*P	**P**	**13 40 07.8**	**+0.2**
WHN	**Wuhan**	**33.37**	**27**	⇓P	**P**	**13 40 14.0**	**+0.7**
WHN				LR	LR		
	comp=Z,5μm,12.1s,MS5.5						
AJM	**Ajmer**	**33.48**	**321**	*e*P	**P**	**13 40 14.2**	**-0.1**
AJM				AMb	AMB	13 40 15.8	
	comp=Z,29nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.62**	**126**	*e*P	**P**	**13 40 13.7**	**-1.8**
	comp=Z,35nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**33.62**	**126**	P	**P**	**13 40 13.3**	**-2.1**
	comp=Z,3.4nm,0.5s,mb4.5,baz=304,slow=8.4,SNR=24						
XAN	**Xi'an**	**34.48**	**17**	P	**P**	**13 40 22.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,149nm,1.0s,mb5.9						
XAN				LR	LR		
	comp=N,1μm,20.2s,MS4.9						
XAN				LR	LR		
	comp=E,2μm,15.7s,MS4.9						
XAN				LR	LR		
	comp=Z,2μm,14.4s,MS5.1						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	**P**	**13 40 30.1**	**-0.1**
LZH				AP	pP	13 40 43.7	-0.1
LZH				XP	sP	13 40 50.2	+0.2
LZH				PP	PP	13 41 51.3	+0.3
LZH				*e*S	**S**	**13 46 01.5**	**+1.0**
LZH				XS	sS	13 46 24.2	+0.7
LZH				SS	SS	13 48 22.5	-13
LZH				AMB	AMB		
	comp=Z,33nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,165nm,5.6s						
LZH				LR	LR		
	comp=E,1μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	**P**	**13 40 30.1**	**-0.1**
LZH				*PP	pP	13 40 43.7	-0.1
LZH				*SP	sP	13 40 50.2	+0.2
LZH						13 41 51.3	
LZH				*e*S	**S**	**13 46 01.5**	**+1.0**
LZH				*SS	sS	13 46 24.2	+0.7
LZH				SS	SS	13 48 22.5	-13
LZH				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2μm,17.4s,MS4.8						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	**P**	**13 40 30.1**	**-0.1**
	comp=Z,33nm,1.3s,mb5.1						
LZH				pP	pP	13 40 43.7	-0.1
LZH				sP	sP	13 40 50.2	+0.2
LZH				PP	PP	13 41 51.3	+0.3
LZH				*e*S	**S**	**13 46 01.5**	**+1.0**
LZH				sS	sS	13 46 24.2	+0.7
LZH				SS	SS	13 48 22.5	-13
LZH				SS	SS	13 48 22.5	-13
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
NJ2	**Nanjing**	**36.80**	**31**	*e*P	**P**	**13 40 41.1**	**-1.7**
NJ2				PP	PP	13 42 08.0	+0.6
NJ2				S	**S**	**13 46 24.0**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,180nm,1.4s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,920nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,16.3s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,18.7s,MS5.1						
NJ2				LR	LR		
	comp=Z,3μm,11.2s						
KAKA	**Kakadu**	**37.28**	**113**	*e*P	**P**	**13 40 44.7**	**-2.2**
	comp=Z,13nm,0.6s,mb4.9						
SSE	**Sheshan**	**37.33**	**35**	P	**P**	**13 40 48.2**	**+0.9**
SSE				XP	sP	13 41 10.5	+3.3
SSE				PP	PP	13 42 14.3	+1.1
SSE				S	**S**	**13 46 32.5**	**+1.3**
SSE				XS	sS	13 46 58.9	+4.6
SSE				SCS	ScS	13 50 54.5	-1.8
SSE				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,266nm,5.8s						
SSE				LR	LR		
	comp=N,690nm,20.6s,MS4.5						
SSE				LR	LR		
	comp=E,231nm,20.7s,MS4.5						
SSE				LR	LR		
	comp=Z,967nm,14.9s						
SSE	**Sheshan**	**37.33**	**35**	P	**P**	**13 40 48.2**	**+0.9**
	comp=Z,51nm,0.9s,mb5.3						
SSE				sP	sP	13 41 10.5	+3.3
SSE				PP	PP	13 42 14.3	+1.1
SSE				S	**S**	**13 46 32.5**	**+1.3**
SSE				sS	sS	13 46 58.9	+4.6
SSE				SS	SS	13 49 19.6	+3.2
SSE				ScS	ScS	13 50 54.5	-1.8
SSE				LR	LR		
	comp=Z,970nm,14.9s,MS4.7						
THN	**Thein Dam**	**37.33**	**329**	*e*P	**P**	**13 40 46.1**	**-1.2**
GTA	**Gaotai**	**38.20**	**3**	P	**P**	**13 40 54.4**	**-0.3**
GTA				AP	pP	13 41 07.1	-1.3
GTA				XP	sP	13 41 11.7	-2.9
GTA				PP	PP	13 42 26.7	+4.0
GTA				PCP	PcP	13 43 09.1	+0.8
GTA				S	**S**	**13 46 42.5**	**-1.9**
GTA				XS	sS	13 47 03.6	-4.0
GTA				SS	SS	13 49 21.3	-13
GTA				AMB	AMB		
	comp=Z,85nm,1.2s,mb5.3						
GTA				AMB	AMB		
	comp=Z,298nm,6.1s						
GTA				LR	LR		
	comp=N,982nm,16.1s,MS4.8						
GTA				LR	LR		
	comp=E,743nm,14.1s,MS4.8						
GTA				LR	LR		
	comp=Z,1μm,16.1s,MS4.7						
NWAO	**Narrogin (SRO)**	**38.62**	**153**	P	**P**	**13 40 58.4**	**+0.1**
	comp=Z,19nm,0.8s,mb4.9,baz=315,slow=6.7,SNR=7.3						
JOW	**Kunigami**	**39.09**	**46**	P	**P**	**13 41 02.2**	**+0.1**
	comp=Z,175nm,0.9s,mb5.8,baz=266,slow=6.7,SNR=12						
JOW				LR	LR	13 55 56.0	
	comp=Z,680nm,21.1s,MS4.5,baz=100,slow=34						
JOW	**Kunigami**	**39.09**	**46**	P	**P**	**13 41 02.2**	**+0.1**
JOW				LR	LR	13 55 56.0	
BTO	**Baotou**	**40.94**	**15**	*e*P	**P**	**13 41 17.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**41.58**	**16**	*e*P	**P**	**13 41 24.1**	**+1.4**
HHC				AP	pP	13 41 39.0	+2.4
HHC				XP	sP	13 41 45.3	+2.6
HHC				PP	PP	13 43 04.7	+5.2
HHC				PCP	PcP	13 43 20.0	+0.9
HHC				SCP	ScP	13 47 05.2	+0.5
HHC				PCS	PcS	13 47 11.3	+0.8
HHC				S	**S**	**13 47 35.6**	**+0.6**
HHC				XS	sS	13 47 56.5	-1.8
HHC				SS	SS	13 50 37.1	-4.3
HHC				SCS	ScS	13 51 18.2	-3.1
HHC				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,338nm,6.7s						
HHC				LR	LR		
	comp=N,2μm,15.3s,MS5.3						
HHC				LR	LR		
	comp=E,1μm,13.7s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,15.7s,MS5.1						
WRA	**Warramunga Arr**	**41.72**	**122**	P	**P**	**13 41 22.8**	**-1.0**
	comp=Z,7.7nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=70						
WRA				S	**S**	**13 47 35.2**	**-1.8**
	comp=Z,2.1nm,1.1s,baz=290,slow=21,SNR=6.5						
WRA				LR	LR	14 02 36.4	
	comp=Z,471nm,18.6s,MS4.4,baz=300,slow=42						
WRA	**Warramunga Arr**	**41.72**	**122**	P	**P**	**13 41 22.8**	**-1.0**
WRA				S	**S**	**13 47 35.2**	**-1.8**
WRAB	**Tennant Creek**	**41.72**	**122**	P	**P**	**13 41 23.2**	**-0.7**
	comp=Z,181nm,0.6s,mb5.9,SNR=11						
WRAB	**Tennant Creek**	**41.72**	**122**	P	**P**	**13 41 23.5**	**-0.4**
WB2	**Warramunga Arr**	**41.73**	**122**	*e*P	**P**	**13 41 22.6**	**-1.3**
WB2				*e*S	**S**	**13 47 36.1**	**-1.1**
BJT	**Baijiatuau**	**42.31**	**21⇑**	*e*P	**P**	**13 41 29.9**	**+1.2**
BJT				pmax	pmax		
	comp=Z,153nm,0.8s						
BJT	**Baijiatuau**	**42.31**	**21⇑**	*e*P	**P**	**13 41 29.9**	**+1.2**
	comp=Z,153nm,0.8s,mb5.7						
BJI	**Beijing**	**42.33**	**21**	P	**P**	**13 41 29.9**	**+1.1**
BJI				AP	pP	13 41 42.9	+0.2
BJI				XP	sP	13 41 48.9	0.0
BJI				AMB	AMB		
	comp=Z,171nm,0.8s,mb5.7						
BJI				LR	LR		
	comp=N,1μm,14.8s,MS5.0						
BJI				LR	LR		
	comp=E,861nm,16.3s,MS5.0						
BJI				LR	LR		
	comp=Z,621nm,16.7s,MS4.6						
BJI	**Beijing**	**42.33**	**21**	P	**P**	**13 41 29.9**	**+1.1**
BJI				*PP	pP	13 41 42.9	+0.2
BJI				*SP	sP	13 41 48.9	0.0
BJI				S	**S**	**13 47 54.9**	**+8.9**
BJI				pmax	pmax		
	comp=Z,171nm,0.8s,mb5.7						
BJI				MLR	MLR		
	comp=Z,620nm,16.7s,MS4.6						
BJI	**Beijing**	**42.33**	**21**	P	**P**	**13 41 29.9**	**+1.1**
	comp=Z,171nm,0.8s,mb5.7						
BJI				pP	pP	13 41 42.9	+0.2
BJI				sP	sP	13 41 48.9	0.0
BJI				S	**S**	**13 47 54.9**	**+8.9**
BJI				SS	SS	13 51 16.3	+20
BJI				LR	LR		
	comp=Z,620nm,16.7s,MS4.6						
FORT	**Forrest**	**42.99**	**140**	*e*P	**P**	**13 41 35.7**	**+1.5**
	comp=Z,73nm,0.8s,mb5.5						
KSH	**Kashi**	**43.00**	**335**	P	**P**	**13 41 35.0**	**+0.7**
KSH				*e*AP	pP	13 41 48.3	+0.1
KSH				*e*XP	sP	13 41 53.8	-0.5
KSH				*e*PP	PP	13 43 14.5	-0.3
KSH				*e*S	**S**	**13 47 55.3**	**-0.6**
KSH				*e*PS		13 48 10.0	
KSH				*e*XS	sS	13 48 17.7	-1.6
KSH				*e*SCS	ScS	13 51 30.1	+0.1
KSH				LR	LR		
	comp=N,717nm,8.5s						
KSH				LR	LR		
	comp=E,2μm,15.4s						
KSH				LR	LR		
	comp=Z,788nm,14.8s,MS4.7						
ASAR	**Alice Springs**	**43

WMQ AP pP 13 41 52.0 +0.3
WMQ XP sP 13 41 57.0 -0.9
WMQ PCP PcP 13 43 28.0 +2.7
WMQ PPP 13 43 58.0
WMQ PCS PcS 13 47 16.0 -2.0
WMQ S **S** **13 48 03.0 +0.7**
WMQ XS sS 13 48 24.0 -1.7
WMQ SCS ScS 13 51 32.0 -0.7
WMQ AMB AMB
comp=Z,99nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,225nm,3.7s
WMQ LR LR
comp=N,1μm,18.4s,MS5.0
WMQ LR LR
comp=E,1μm,19.0s,MS5.0
WMQ LR LR
comp=Z,1μm,24.2s
DL2 Dalian 43.63 28⇑ *i*P **P** **13 41 40.1 +0.7**
DL2 AP pP 13 41 55.0 +1.7
DL2 S **S** **13 48 05.5 +0.3**
DL2 XS sS 13 48 28.1 -0.5
DL2 AMB AMB
comp=Z,130nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,160nm,4.2s
DL2 LR LR
comp=N,470nm,16.0s,MS4.6
DL2 LR LR
comp=E,370nm,16.9s,MS4.6
DL2 LR LR
comp=Z,540nm,14.0s,MS4.6
INCN Inchon 45.07 33 *e*P **P** **13 41 50.9 0.0**
comp=Z,122nm,1.4s,mb5.5
KZA Kyzart 45.45 337 P **P** **13 41 55.0 +1.1**
SNR=5.3
KS15 Wonju Array Si 45.73 34 *e*P **P** **13 41 56.6 +0.5**
TKM2 Tokmak 2 46.04 338 P **P** **13 41 58.9 +0.4**
SNR=16
KBK Karagaybulak 46.06 337 P **P** **13 42 00.1 +1.4**
SNR=39
AML Almayashu 46.13 335 P **P** **13 42 00.6 +1.3**
SNR=6.0
AAK Ala-Archa 46.22 336 P **P** **13 41 59.7 -0.3**
comp=Z,119nm,1.1s,mb5.7,SNR=8.1
AAK Ala-Archa 46.22 336 P **P** **13 42 00.4 +0.4**
SNR=8.8
AAK Ala-Archa 46.22 336*c* *i*P **P** **13 41 59.6 -0.4**
AAK pmax pmax
comp=Z,24nm,1.9s,mb4.8
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.5
AAK Ala-Archa 46.22 336 *e*P **P** **13 42 00.0 +0.1**
comp=Z,22nm,1.0s,mb5.0
FRU Bishkek 46.34 337 *e*P **P** **13 42 01.0 +0.1**
FRU *e* pP 13 42 15.0 +0.1
FRU MLR MLR
comp=Z,600nm,20.0s,MS4.5
CHMS Chumysh 46.43 337 P **P** **13 42 02.1 +0.5**
SNR=9.7
EKS2 Erkin-Say 46.54 336 P **P** **13 42 03.6 +1.2**
SNR=23
USP Ospenovka 46.75 337 P **P** **13 42 04.7 +0.6**
SNR=49
SNY Shenyang 46.86 27⇑P **P** **13 42 04.7 -0.3**
SNY S **S** **13 48 45.6 -6.2**
SNY AMB AMB
comp=Z,85nm,0.9s,mb5.7
SNY LR LR
comp=N,719nm,15.0s,MS5.0
SNY LR LR
comp=E,933nm,12.9s,MS5.0
SNY LR LR
comp=Z,2μm,14.1s,MS5.2
SONM Songino Array 47.20 8 P **P** **13 42 08.2 +0.6**
comp=Z,19nm,0.5s,mb5.3,baz=190,slow=9.8,SNR=202
SONM PcP PcP 13 43 38.9 +0.6
comp=Z,10.0nm,0.8s,baz=188,slow=4.2,SNR=6.2
SONM LR LR 14 04 36.2
comp=Z,2μm,19.0s,MS5.1,baz=194,slow=39
SONM Songino Array 47.20 8 P **P** **13 42 08.2 +0.6**
SONM 13 43 38.9
KK31 Karatay Array 48.29 334 *i* P **P** **13 42 15.6 -0.4**
GUMO Guam 48.48 73 LR LR 14 05 23.2
comp=Z,363nm,19.0s,MS4.4,baz=257,slow=39
GUMO Guam 48.48 73 *e*P **P** **13 42 18.0 +0.5**
GUMO pmax pmax
comp=Z,200nm,0.7s,mb6.3
GUMO Guam 48.48 73 *e*P **P** **13 42 18.0 +0.5**
comp=Z,200nm,0.7s,mb6.3
CN2 Changchun 49.26 27⇑P **P** **13 42 23.6 +0.1**
CN2 *e*XP sP 13 42 43.7 -0.1
CN2 *e*S **S** **13 49 25.5 -0.2**
CN2 AMB AMB
comp=Z,90nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,2μm,17.0s,MS5.2
ZAK Zakamensk 49.36 5 *e*P **P** **13 42 24.1 -0.1**
MOY Mondy 50.48 3 *e*P **P** **13 42 33.6 +0.8**
PMG Port Moresby 50.53 103 P **P** **13 42 33.3 +0.2**
comp=Z,27nm,0.8s,mb5.2,baz=174,slow=2.6,SNR=5.2
PMG Port Moresby 50.53 103 *e*P **P** **13 42 33.3 +0.2**
PMG pmax pmax
comp=Z,31nm,0.9s
PMG Port Moresby 50.53 103 *e*P **P** **13 42 33.3 +0.1**
comp=Z,31nm,0.9s,mb5.2
TLY Talaya 50.68 5 P **P** **13 42 35.7 +1.5**
comp=Z,204nm,0.7s,mb6.2,SNR=12
TLY Talaya 50.68 5 P **P** **13 42 35.4 +1.2**
SNR=8.8
TLY Talaya 50.68 5 *e*P **P** **13 42 35.1 +0.9**
TLY *e* 13 44 35.2
TLY *e*S **S** **13 49 58.7 +13**
TLY pmax pmax
comp=Z,24nm,0.7s,mb5.2
TLY MLR MLR
comp=Z,2μm,18.0s,MS5.1
TLY Talaya 50.68 5 *e*P **P** **13 42 35.0 +0.8**
comp=Z,24nm,0.7s,mb5.2
IRK Irkutsk 51.29 5 *e*P **P** **13 42 38.8 0.0**
IRK *e* 13 44 38.8
IRK pmax pmax
comp=Z,57nm,1.4s,mb5.3
MAJO Matsushiro 51.56 42 *e*P **P** **13 42 41.2 +0.3**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 51.56 42 *e*P **P** **13 42 41.2 +0.3**
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 51.56 42 P **P** **13 42 40.3 -0.6**
MAT S **S** **13 50 01.0 +3.3**
MJAR Matsushiro Arr 51.57 42 P **P** **13 42 40.5 -0.4**
comp=Z,15nm,0.8s,mb5.0,baz=221,slow=6.3,SNR=31
MJAR LR LR 14 05 27.9
comp=Z,361nm,21.1s,MS4.4,baz=250,slow=37
HIA Hailar 51.65 18⇑ *e*P **P** **13 42 41.6 +0.1**
HIA pmax pmax
comp=Z,68nm,1.0s
HIA Hailar 51.65 18⇑ *e*P **P** **13 42 41.6 +0.1**
comp=Z,68nm,1.0s,mb5.5
MDJ Mudanjiang 51.81 29 P **P** **13 42 43.1 +0.4**
MDJ AP pP 13 42 56.8 -0.2
MDJ XP sP 13 43 02.8 -0.3
MDJ PCP PcP 13 43 54.6 -0.6
MDJ PP PP 13 44 41.3 +0.4
MDJ SCP ScP 13 47 47.3 -0.1
MDJ PCS PcS 13 47 53.0 -0.3
MDJ S **S** **13 50 03.4 +2.3**
MDJ XS sS 13 50 27.0 +2.0
MDJ AMB AMB
comp=Z,20nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,240nm,5.2s
MDJ LR LR
comp=N,1μm,16.6s,MS5.0
MDJ LR LR
comp=E,554nm,18.1s,MS5.0
MDJ LR LR
comp=Z,2μm,16.6s,MS5.1
MDJ Mudanjiang 51.81 29 *e*P **P** **13 42 43.4 +0.6**
comp=Z,30nm,0.9s,mb5.2

VLA Vladivostok 51.90 32*d* *i*P **P** **13 42 44.2 +0.8**
VLA pmax pmax
comp=Z,82nm,1.5s,mb5.4
VLA MLR MLR
comp=Z,500nm,14.0s,MS4.7
VLA Vladivostok 51.90 32 *i* P **P** **13 42 44.3 +0.9**
KURK Kurchatov 51.98 345 P **P** **13 42 43.1 -0.9**
comp=Z,414nm,1.3s,mb6.2,SNR=26
CTA Charters Tower 52.18 117 P **P** **13 42 45.9 +0.5**
comp=Z,6.7nm,0.9s,mb4.6,baz=281,slow=5.9,SNR=4.3
CTA LR LR 14 08 05.3
comp=Z,672nm,20.1s,MS4.7,baz=285,slow=40
CIT Chita 52.51 12 *e*P **P** **13 42 49.1 +1.2**
CIT *e* 13 42 57.2
CIT pmax pmax
comp=Z,170nm,1.4s,mb5.8
STKA Stephens Creek 53.05 132 *e*P **P** **13 42 52.4 +0.5**
comp=Z,11nm,0.6s,mb5.0
STKA Stephens Creek 53.05 132 P **P** **13 42 52.7 +0.8**
comp=Z,16nm,0.9s,mb4.9,baz=319,slow=8.9,SNR=15
STKA LR LR 14 07 38.4
comp=Z,963nm,20.6s,MS4.8,baz=285,slow=38
ZAL Zalesovo 53.71 351 P **P** **13 42 57.2 +0.5**
comp=Z,51nm,0.5s,mb5.8,baz=312,slow=5.6,SNR=166
ZAL Zalesovo 53.71 351 P **P** **13 42 57.2 +0.5**
NVS Novosibirsk 54.84 350 *i* P **P** **13 43 04.1 -0.8**
NVS *i* S **S** **13 50 42.8 +0.7**
NVS pmax pmax
comp=Z,49nm,1.0s,mb5.5
NVS pmax pmax
comp=N,28nm,0.8s
NVS pmax pmax
comp=E,18nm,0.8s
NVS smax
comp=N,18nm,1.6s
NVS smax
comp=E,26nm,1.6s
KRAR Krasnoyarsk 54.88 357 *i* P **P** **13 43 05.4 +0.2**
KRAR pmax pmax
comp=Z,169nm,1.1s,mb6.0
KRAR MLR MLR
comp=Z,400nm,21.0s,MS4.5
RDF Al-Radifah 55.04 305 *e*P **P** **13 43 05.5 -0.9**
RDF AMb AMB 13 43 21.3
comp=Z,58nm,0.8s,mb5.7
NAY Al-Naaiem 55.41 305 *e*P **P** **13 43 07.9 -1.2**
NAY AMb AMB 13 43 18.7
comp=Z,11nm,0.6s,mb5.1
MIB Mutribah 55.53 306 *e*P **P** **13 43 09.4 -0.5**
MIB AMb AMB 13 43 25.0
comp=Z,65nm,1.0s,mb5.6
RST Umm Al-Ruwaisa 55.70 305 *e*P **P** **13 43 10.2 -0.9**
RST AMb AMB 13 43 25.7
comp=Z,32nm,0.8s,mb5.4
KLR Kul'dur 56.22 26⇓ *i*P **P** **13 43 12.7 -2.1**
KLR pmax pmax
comp=E,80nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.8
KLR MLR MLR
comp=N,1μm,13.0s,MS5.3
KLR MLR MLR
comp=E,1μm,13.0s,MS5.3
KLR MLR MLR
comp=Z,4μm,13.0s,MS5.7
BRVK Borovoye 56.52 341 P **P** **13 43 16.9 -0.1**
comp=Z,230nm,0.6s,SNR=14
BRVK Borovoye 56.52 341 P **P** **13 43 16.4 -0.5**
SNR=12
BRVK Borovoye 56.52 341 *e*P **P** **13 43 16.1 -0.9**
BRVK pmax pmax
comp=Z,46nm,0.9s,mb5.5
BRVK Borovoye 56.52 341 *e*P **P** **13 43 16.1 -0.9**
comp=Z,46nm,0.9s,mb5.5
ZRNK Zerenda 56.86 340 *e*P **P** **13 43 18.5 -0.9**
ZRNK pmax pmax
comp=Z,28nm,0.9s,mb5.3
ZRNK Zerenda 56.86 340 *e*P **P** **13 43 18.5 -0.9**
comp=Z,28nm,0.9s,mb5.3
BOD Bodaibo 58.06 10⇓ *i*P **P** **13 43 27.8 -0.1**
BOD pmax pmax
comp=Z,66nm,0.9s,mb5.7
AKTK Aktyubinsk 59.47 332 *i* P **P** **13 43 35.7 -2.0**
AKTO Aktyubinsk 59.47 332 *i* P **P** **13 43 35.7 -2.0**
CLNS Chul'man 59.76 17 *e*P **P** **13 43 37.7 -1.9**
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS MLR MLR
comp=N,600nm,14.0s,MS5.8
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,5μm,15.0s,MS5.8
ARMA Armidale 60.22 126 *e*P **P** **13 43 45.3 +2.5**
YSS Yuzh-Sakhalins 60.27 34 *e*P **P** **13 43 43.2 +0.1**
YSS *e* pP 13 43 57.6 0.0
YSS pmax pmax
comp=Z,40nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 60.27 34 *e*P **P** **13 43 43.1 0.0**
comp=Z,40nm,0.8s,mb5.5
YSS *e* pP 13 43 57.6 -0.1
KMBO Kilima Mbogo 60.29 268 P **P** **13 43 43.1 -0.1**
comp=Z,5.6nm,0.9s,mb4.6,baz=57,slow=10,SNR=14
KMBO LR LR 14 08 34.3
comp=Z,304nm,18.2s,MS4.5,baz=96,slow=35
KMBO Kilima Mbogo 60.29 268 *e*P **P** **13 43 43.6 +0.3**
comp=Z,8.5nm,1.0s,mb4.7
KMBO *e* 13 43 51.3
GNI Garni 61.59 316 *e*P **P** **13 43 51.7 -0.4**
GNI *e**PP pP 13 44 06.8 +0.2
GNI pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 61.59 316 *e*P **P** **13 43 51.7 -0.4**
comp=Z,3.7nm,0.4s,mb4.9
GNI *e*pP pP 13 44 06.8 +0.1
HNR Honiara 63.04 101 P **P** **13 44 02.1 +0.3**
comp=Z,79nm,0.9s,mb5.8,baz=259,slow=1.2,SNR=4.4
HNR Honiara 63.04 101 *e*P **P** **13 44 02.1 +0.3**
HNR pmax pmax
comp=Z,214nm,1.5s,mb6.0
HNR Honiara 63.04 101 *e*P **P** **13 44 02.1 +0.3**
comp=Z,214nm,1.5s,mb6.0
ZEI Tsey 63.28 318 *e*P **P** **13 44 02.8 -0.6**
ZEI *e**PP pP 13 44 12.9 -5.1
ARU Arti 63.40 337 P **P** **13 44 03.7 -0.5**
comp=Z,176nm,1.3s,mb6.0,SNR=13
ARU Arti 63.40 337⇑ *i*P **P** **13 44 02.5 -1.7**
ARU *e* 13 44 37.4
ARU *e* 13 46 19.4
ARU *e*PPP 13 47 50.8
ARU *e*S **S** **13 52 35.7 +2.8**
ARU *e* 13 53 53.5
ARU *e*SS SS 13 56 39.1 -1.3
ARU pmax pmax
comp=Z,30nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.7
ARU MLR MLR
comp=N,300nm,20.0s,MS4.6
ARU MLR MLR
comp=E,200nm,17.0s,MS4.6
ARU Arti 63.40 337 *e*P **P** **13 44 02.8 -1.3**
comp=E,29nm,0.9s,mb5.4
ARU *e*pP pP 13 44 17.0 -1.8
KIV Kislovodsk 64.59 319*c* *i*P **P** **13 44 11.5 -0.5**
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.2
KIV Kislovodsk 64.59 319 *e*P **P** **13 44 10.9 -1.1**
comp=Z,32nm,1.1s,mb5.3
MALT Malatya 65.43 312 *e*P **P** **13 44 17.0 -0.4**
comp=Z,6.0nm,0.9s,mb4.6
MALT *e*pP pP 13 44 29.0 -3.1
YAK Yakutsk 65.44 16 *e*P **P** **13 44 16.7 -0.8**
YAK pmax pmax
comp=Z,87nm,0.9s,mb5.8
YAK MLR MLR
comp=Z,100nm,17.0s,MS4.1
YAK Yakutsk 65.44 16 *e*P **P** **13 44 16.7 -0.8**
comp=Z,60nm,0.7s,mb5.7
EIL Elat 65.77 302 *e*P **P** **13 44 19.6 0.0**
comp=Z,85nm,0.8s,mb5.8
EIL *e*pP pP 13 44 33.1 -1.2

CASY Casey 67.86 174 *e*P **P** **13 44 32.4 -0.5**
comp=Z,6.2nm,1.1s,mb4.5
BR131 Keskin Array S 69.41 312 *e*P **P** **13 44 41.7 -0.9**
comp=Z,1.4nm,0.4s,mb4.2
BRTR Keskin Array B 69.41 312 P **P** **13 44 41.5 -1.1**
comp=Z,4.1nm,0.8s,mb4.4,baz=132,slow=7.6,SNR=22
BRTR LR LR 14 15 40.6
comp=Z,138nm,21.9s,MS4.2,baz=113,slow=36
VRSR Storozhevoye 69.82 325 *e*P **P** **13 44 43.3 -1.8**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
LSZ Lusaka 70.38 253 *e*P **P** **13 44 48.6 +0.1**
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LSZ Lusaka 70.38 253 *e*P **P** **13 44 48.6 +0.1**
comp=Z,6.0nm,0.9s,mb4.5
SIM Simferopol' 70.65 318 *e*P **P** **13 44 50.9 +0.7**
SIM *e*S S 13 54 04.4 +4.2
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.1
MA2 Magadan 71.30 26 *e*P **P** **13 44 53.7 -0.4**
MA2 pmax pmax
comp=Z,32nm,0.6s,mb5.4
MA2 Magadan 71.30 26 *e*P **P** **13 44 53.7 -0.4**
comp=Z,32nm,0.6s,mb5.4
PET Petropavlovsk 72.15 34⇑ *i*P **P** **13 44 59.3 +0.1**
PET *e* pP 13 45 17.0 +2.9
PET *e* 13 47 44.3
PET *e*S S 13 54 17.3 -0.2
PET *e**SS sS 13 54 43.7 +1.1
PET *e*SS SS 13 58 56.3 +0.6
PET pmax pmax
comp=Z,44nm,0.6s,mb5.6
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
PET Petropavlovsk 72.15 34 *e*P **P** **13 44 58.8 -0.4**
comp=Z,21nm,0.5s,mb5.3
MOS Moscow 72.58 329 *e*P **P** **13 44 59.9 -1.9**
MOS *e* pP 13 45 15.5 -1.2
MOS pmax pmax
comp=Z,100nm,1.2s,mb5.6
MOS pmax pmax
comp=Z,68nm,0.8s,mb5.6
MAW Mawson 72.67 193⇓ *i*P **P** **13 45 02.0 -0.3**
comp=Z,6.8nm,0.9s,mb4.6
MAW Mawson 72.67 193 P **P** **13 45 02.1 -0.2**
comp=Z,8.1nm,0.8s,mb4.7,baz=17,slow=6.4,SNR=22
MAW LR LR 14 13 39.8
comp=Z,446nm,18.0s,MS4.8,baz=180,slow=33
MAW Mawson 72.67 193⇓ *i*P **P** **13 45 02.0 -0.3**
MAW pmax pmax
comp=Z,70nm,0.9s
OBN Obninsk 72.87 328*c* *i*P **P** **13 45 02.6 -0.9**
OBN *e*SS SS 13 59 09.3 +2.6
OBN pmax pmax
comp=Z,30nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 72.87 328 *e*P **P** **13 45 02.6 -0.9**
comp=Z,27nm,0.9s,mb5.2
TIXI Tiksi 73.24 10⇑ *e*P **P** **13 45 04.2 -1.5**
LBTB Lobatse 74.11 244 *e*P **P** **13 45 10.9 +0.1**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.9
LBTB Lobatse 74.11 244 *e*P **P** **13 45 10.9 +0.1**
comp=Z,13nm,0.9s,mb4.8
TIRR Tirgusor 74.42 316⇓ *i*P **P** **13 45 12.2 -0.3**
TIRR Tirgusor 74.42 316 ⇓P **P** **13 45 12.2 -0.4**
KIS Kishinev 74.78 319 *e*P **P** **13 45 12.0 -2.7**
KIS LRM 14 21 20.0
comp=Z,300nm,16.0s
BOSA Boshof 74.99 240 P **P** **13 45 15.3 -0.5**
comp=Z,7.8nm,0.9s,mb4.6,baz=91,slow=6.0,SNR=7.2
BOSA LR LR 14 16 10.1
comp=Z,352nm,18.3s,MS4.7,baz=59,slow=34
BOSA Boshof 74.99 240 *e*P **P** **13 45 15.5 -0.4**
BOSA pmax pmax
comp=Z,13nm,1.0s,mb4.8
BOSA Boshof 74.99 240 *e*P **P** **13 45 15.5 -0.3**
comp=Z,13nm,1.0s,mb4.8
AKASG Malin Array Be 75.53 322 P **P** **13 45 17.6 -1.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=89,slow=4.7,SNR=42
AKASG LR LR 14 26 48.4
comp=Z,114nm,18.3s,MS4.2,baz=100,slow=42
AKBB Malin Array Si 75.53 322 *e*P **P** **13 45 17.2 -1.8**
VRI Vrincioaia 75.91 317⇓ *i*P **P** **13 45 21.5 +0.4**
PLOR Plostina 75.96 317⇑ *i*P **P** **13 45 22.5 +1.1**
TMCR Tamitsa 76.14 337 *e*P **P** **13 45 21.2 -1.3**
TMCR pmax pmax
comp=Z,38nm,1.0s,mb5.3
MLR Muntele Rosu 76.36 317⇓ *i*P **P** **13 45 24.1 +0.4**
MLR Muntele Rosu 76.36 317 ⇓P **P** **13 45 24.1 +0.4**
BURAR Bucovina Array 77.31 319⇓ *i*P **P** **13 45 30.0 +1.0**
PUL Pulkovo 77.73 331*c**e*P **P** **13 45 31.2 -0.2**
PUL *e*S S 13 55 09.1 -11
JOF Joensuu 78.38 335 *e*p **P** **13 45 33.4 -1.6**
comp=Z,16nm,1.0s,mb4.9
GZR Gura Zlata 78.53 316⇓ *i*P **P** **13 45 36.7 +0.9**
GZR Gura Zlata 78.53 316 ⇓P **P** **13 45 36.7 +0.9**
DRGR 78.82 317⇓ *i*P **P** **13 45 37.9 +0.5**
DRGR 78.82 317 ⇓P **P** **13 45 37.9 +0.5**
RPZ Rata Peaks 78.91 135 P **P** **13 45 38.7 +0.8**
comp=Z,9.1nm,0.7s,mb4.8,baz=357,slow=16,SNR=6.4
RPZ LR LR 14 20 05.5
comp=Z,944nm,19.8s,MS5.1,baz=265,slow=35
LVZ Lovozero 79.04 340*c**e*P **P** **13 45 38.4 -0.2**
LVZ *e*S S 13 55 32.6 -1.0
LVZ *e* 13 55 46.1
LVZ *e*SS SS 14 00 37.4 -2.7
LVZ smax
comp=N,90nm,2.2s
LVZ smax
comp=E,84nm,2.7s
LVZ MLR MLR
comp=Z,339nm,15.0s,MS4.8
LVZ MLR MLR
comp=E,263nm,16.0s
KWP Kalwaria 79.35 320 *e*P **P** **13 45 40.4 +0.1**
SUR Sutherland 79.36 237 *e*P **P** **13 45 40.4 0.0**
comp=E,21nm,0.9s,mb5.1
SUR *e*PcP PcP 13 45 48.3 0.0
SUR *e*pP pP 13 45 56.0 +0.5
SUR *e*sP sP 13 45 59.9 -1.4
UZH Uzhgorod 79.43 319⇓ *i*P **P** **13 45 43.0 +2.2**
UZH pmax pmax
comp=Z,20nm,1.0s,mb5.0
KOLS Kolonicke sedl 79.50 320 *e*P **P** **13 45 41.7 +0.6**
KOLS *e*PCP PcP 13 45 50.4 +1.4
KOLS *e*pP pP 13 45 55.7 -0.5
KOLS *e*sP sP 13 46 02.6 +0.5
KOLS *e*PP PP 13 48 40.0 -2.0
KOLS *e*S S 13 55 37.5 -1.0
KOLS Kolonicke sedl 79.50 320 *e*P **P** **13 45 41.7 +0.6**
KOLS *e* 13 45 50.4
KOLS *e* pP 13 45 55.7 -0.5
KOLS *e* 13 46 02.6
KOLS *e* 13 48 40.1
KOLS *e*S S 13 55 37.5 -1.0
KOLS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KOLS Kolonicke sedl 79.50 320 *e*P **P** **13 45 41.7 +0.6**
comp=Z,8.6nm,1.0s,mb4.6
KOLS *e* 13 45 50.4
KOLS *e* pP 13 45 55.7 -0.5
KOLS *e* 13 46 02.6
KOLS *e*PP PP 13 48 40.1 -1.9
KOLS *e*S S 13 55 37.5 -1.0
SUW Suwalki 79.94 325 *e*P **P** **13 45 42.5 -1.0**
SYO Syowa Base 79.99 198⇑ *e*P **P** **13 45 43.0 -0.8**
SYO Syowa Base 79.99 198⇑ *e*PcP PcP 13 45 51.0 -0.1
CRVS Cervenica-Dubn 80.02 319 *e*P **P** **13 45 43.7 -0.3**
CRVS *e*sP sP 13 46 01.4 -3.5
FINES FINESS Array B 80.24 332 P **P** **13 45 44.3 -0.8**
comp=Z,8.1nm,0.8s,mb4.7,baz=104,slow=8.0,SNR=22
FINES LR LR 14 28 11.4
comp=Z,176nm,19.9s,MS4.4,baz=309,slow=41
STHS Stebnicka Huta 80.25 320 *e*P **P** **13 45 45.8 +0.6**
STHS *e* pP 13 46 00.0 -0.3
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8

STHS Stebnicka Huta 80.25 320 *eP* **P 13 45 45.8 +0.6**
comp=Z,9.5nm,0.8s,mb4.8
STHS *e* pP 13 46 00.0 -0.3
KAF Kangasniemi 80.32 333 *ep* **P 13 45 44.3 -1.3**
comp=Z,13nm,0.6s,mb5.0,baz=102,slow=5.0
KAF Kangasniemi 80.32 333 *eP* **P 13 45 44.3 -1.3**
KAF pmax pmax
comp=Z,13nm,0.6s,mb5.0
KECS Kecovo 80.59 319 *eP* **P 13 45 46.8 -0.2**
KECS *e* 13 45 55.6
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KECS Kecovo 80.59 319 *eP* **P 13 45 46.8 -0.2**
comp=Z,5.1nm,0.9s,mb4.5
KECS *e* 13 45 55.6
TSUM Tsumeb 80.84 250 *eP* **P 13 45 49.2 +0.8**
comp=Z,3.8nm,0.8s,mb4.4
TSUM *e*PcP PcP 13 45 56.0 +1.2
PSZ Piszkesteto 80.89 318⇑*iP* **P 13 45 48.8 +0.2**
PSZ Piszkesteto 80.89 318 *eP* **P 13 45 48.2 -0.4**
comp=Z,12nm,0.9s,mb4.8
BILL Bilibino 81.16 21 *eP* **P 13 45 49.7 -0.3**
BILL *e*S S 13 55 58.4 +2.5
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BILL Bilibino 81.16 21 *eP* **P 13 45 49.6 -0.5**
comp=Z,4.0nm,0.6s,mb4.5
BILL *e*PcP PcP 13 45 55.8 -0.4
BILL *e*pP pP 13 46 04.3 -0.9
OJC Ojcow 81.30 321 *eP* **P 13 45 50.6 -0.2**
PKSM Moragy 81.51 316⇑*iP* **P 13 45 51.8 -0.1**
PKSM Moragy 81.51 316 ⇑**P 13 45 51.9 0.0**
VYHS Vyhne 81.68 319 *eP* **P 13 45 52.5 -0.3**
VYHS *e*PCP PcP 13 46 00.0 +1.5
VYHS *e*PP PP 13 48 58.0 -2.0
VYHS *e*S S 13 56 01.2 -0.1
VYHS Vyhne 81.68 319 *eP* **P 13 45 52.5 -0.3**
VYHS *e* 13 48 58.1
VYHS *e*S S 13 56 01.2 -0.1
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 81.68 319 *eP* **P 13 45 52.5 -0.3**
comp=Z,5.1nm,1.1s,mb4.4
VYHS *e* 13 46 00.0
VYHS *e*PP PP 13 48 58.1 -1.9
VYHS *e*S S 13 56 01.2 -0.1
OKC Ostrava-Krasne 82.30 320 *eP* **P 13 45 56.2 +0.1**
OKC AMS AMS 14 31 30.0
comp=Z,300nm,29.1s
KEV Kevo 82.31 341 *ep* **P 13 45 54.5 -1.6**
comp=Z,15nm,0.9s,mb4.9
KEV Kevo 82.31 341 *eP* **P 13 45 54.5 -1.6**
KEV pmax pmax
comp=Z,15nm,0.9s,mb4.9
MORC Moravsky Berou 82.69 320⇑*iP* **P 13 45 58.4 +0.3**
MORC Moravsky Berou 82.69 320 *eP* **P 13 45 57.7 -0.4**
comp=Z,11nm,0.9s,mb4.9
ARCES ARCESS Array B 82.74 340 P **P 13 45 58.0 -0.4**
comp=Z,18nm,0.9s,mb5.1,baz=100,slow=4.8,SNR=26
ARCES LR LR 14 27 00.6
comp=Z,397nm,21.5s,MS4.8,baz=234,slow=39
ARCES ARCESS Array B 82.74 340 P **P 13 45 58.0 -0.4**
ARCES LR LR 14 27 00.6
ARE0 ARCESS Array S 82.74 340 *eP* **P 13 45 57.6 -0.8**
ZST Bratislava 82.79 318 *eP* **P 13 45 58.5 -0.1**
ZST *e*PCP PcP 13 46 07.3 +4.0
ZST Bratislava 82.79 318 *eS* S 13 56 12.3 -0.3
ZST Bratislava 82.79 318 *eP* **P 13 45 58.5 -0.1**
ZST *e* 13 46 07.3
ZST *e*S S 13 56 12.3 -0.3
ZST pmax pmax
comp=Z,17nm,0.8s,mb5.1
ZST Bratislava 82.79 318 *eP* **P 13 45 58.5 -0.1**
comp=Z,17nm,0.8s,mb5.1
ZST *e* 13 46 07.3
ZST *e*S S 13 56 12.3 -0.3
DPC Dobruska-Polom 83.53 320 *eP* **P 13 46 02.9 +0.5**
UPC Upice 83.75 321 *eP* **P 13 46 03.7 +0.2**
ARSA Arzberg 83.75 317⇑*iP* **P 13 46 03.6 +0.1**
comp=Z,16nm,1.3s,mb5.0
BOJS Bojanci 83.79 315 *iP* **P 13 46 03.5 -0.2**
TREC Trest 83.97 319 *eP* **P 13 46 04.5 -0.1**
PERS Pernice 83.98 317 *eP* **P 13 46 04.8 +0.1**
PERS *i* 13 46 13.2
VISS Visnje 84.10 316 *iP* **P 13 46 05.3 0.0**
LJU Ljubljana 84.34 316 *eP* **P 13 46 07.1 +0.6**
PRU Pruhonice 84.64 320 *eP* **P 13 46 07.8 -0.2**
PRU AMS AMS 14 30 10.0
comp=Z,200nm,20.2s
PVCC Panska Ves 84.67 320 *eP* **P 13 46 08.1 -0.1**
BRG Berggiesshubel 85.09 321 *eP* **P 13 46 10.2 -0.1**
comp=Z,6.1nm,0.9s,mb4.7
BRG *e* 13 46 18.0
comp=Z,2.6nm,0.8s
BRG
comp=N,104nm,21.9s
BRG
comp=E,123nm,28.2s
BRG
comp=Z,92nm,20.1s
BRG Berggiesshubel 85.09 321 *eP* **P 13 46 10.3 0.0**
BRG *e* 13 46 18.0
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BRG MLR MLR
comp=Z,90nm,20.1s,MS4.2
BRG Berggiesshubel 85.09 321 *eP* **P 13 46 10.2 -0.1**
comp=Z,6.1nm,0.9s,mb4.7
BRG *e* 13 46 18.0
BRG LR LR
comp=Z,90nm,20.1s,MS4.2
GEC2 GERESS Array S 85.10 319 *eP* **P 13 46 10.4 0.0**
comp=Z,20nm,1.1s,mb5.2
GEC2 GERESS Array S 85.10 319 *eP* **P 13 46 10.4 0.0**
GEC2 pmax pmax
comp=Z,20nm,1.1s,mb5.2
GERES GERESS Array B 85.10 319 P **P 13 46 10.2 -0.1**
comp=Z,11nm,0.9s,mb5.0,baz=97,slow=5.5,SNR=47
KHC Kasperske Hory 85.20 319 *eP* **P 13 46 10.5 -0.4**
KHC AMS AMS 14 30 40.0
comp=Z,200nm,16.4s
VNDA Vanda 85.66 169 P **P 13 46 12.7 -0.4**
comp=Z,1.1nm,1.0s,baz=329,slow=6.2,SNR=2.7
VNDA Vanda 85.66 169 *eP* **P 13 46 12.4 -0.7**
VNDA *e* pP 13 46 27.2 -1.2
WET Wettzell 85.66 319 *eP* **P 13 46 13.2 0.0**
comp=Z,15nm,1.0s,mb5.2
WET Wettzell 85.66 319 *eP* **P 13 46 13.2 0.0**
WET pmax pmax
comp=Z,15nm,1.0s,mb5.2
CLL Collm 85.71 321 *eP* **P 13 46 13.0 -0.4**
CLL *e*S S 13 56 39.0 -2.8
CLL Collm 85.71 321 *eP* **P 13 46 13.0 -0.4**
CLL *e*pP pP 13 46 28.0 -0.6
CLL *e*S S 13 56 39.0 -2.8
CLL *e*PS 13 57 54.0
CLL LmV 14 27 00.0
comp=Z,100nm,21.5s
ROTZ Rotzenmuhle 86.13 320 *eP* **P 13 46 15.6 +0.1**
comp=Z,10.0nm,0.9s,mb5.0
MANZ Manzenberg 86.20 320 *eP* **P 13 46 15.9 0.0**
comp=Z,18nm,0.9s,mb5.3
MOX Moxa 86.55 320 *eP* **P 13 46 18.0 +0.5**
MOX *e* 13 46 26.0
MOX *e* pP 13 46 34.0 +1.2
GRA1 Grafenberg Arr 86.77 320 *eP* **P 13 46 18.7 +0.1**
comp=Z,13nm,0.7s,mb5.3
GRA1 LR LR
comp=Z,100nm,20.8s,MS4.2
GRF Grafenberg Arr 86.77 320 *eP* **P 13 46 18.7 +0.1**
comp=Z,13nm,0.7s,mb5.3
GRF *e*L 14 32 06.9
comp=Z,141nm,20.8s
GRF Grafenberg Arr 86.77 320 *eP* **P 13 46 18.7 +0.1**
GRF pmax pmax
comp=Z,13nm,0.7s,mb5.3
GRF MLR MLR
comp=Z,100nm,20.8s,MS4.2
GRF Grafenberg Arr 86.77 320 *eP* **P 13 46 18.7 +0.1**
GRF pmax pmax
comp=Z,13nm,0.7s,mb5.3
GRF MLR MLR
comp=Z,100nm,20.8s,MS4.2
NB2 NORSAR Subarra 87.25 331 P **P 13 46 19.9 -1.1**
comp=Z,14nm,1.0s,mb5.2,baz=91,slow=5.6
NB2 NORSAR Subarra 87.25 331 P **P 13 46 19.9 -1.1**
NB2 pmax pmax
comp=Z,14nm,1.0s,mb5.2
NOA NORSAR Array B 87.25 331 P **P 13 46 20.2 -0.7**
comp=Z,8.7nm,0.8s,mb5.0,baz=94,slow=5.0,SNR=27
NOA LR LR 14 32 40.6
comp=Z,199nm,18.2s,MS4.6,baz=90,slow=41
CLZ Clausthal 87.37 322 *eP* **P 13 46 21.5 -0.1**
comp=Z,9.0nm,0.9s,mb5.0
CLZ Clausthal 87.37 322 *eP* **P 13 46 21.5 -0.1**
CLZ pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
BSEG Bad Segeberg 87.47 324 *eP* **P 13 46 22.2 +0.2**
comp=Z,23nm,0.9s,mb5.4
NRDL Niedersach Rie 87.56 322 *eP* **P 13 46 22.7 +0.3**
comp=Z,20nm,1.1s,mb5.3
DAVA Damuels 87.59 317⇑*iP* **P 13 46 22.7 +0.1**
comp=Z,19nm,1.1s,mb5.2
KEST Kesra 87.88 306 P **P 13 46 24.6 +0.7**
comp=Z,2.2nm,0.8s,mb4.4,baz=267,slow=3.3,SNR=5.6
KONO Kongsberg 88.01 329⇑*eP* **P 13 46 25.1 +0.5**
PGF Pioggiola 88.17 312 *eP* **P 13 46 25.2 -0.1**
comp=Z,48nm,1.1s,mb5.3
PGF Pioggiola 88.17 312 *eP* **P 13 46 25.2 -0.1**
PGF pmax pmax
comp=Z,24nm,1.1s,mb5.3
PGF Pioggiola 88.17 312 *eP* **P 13 46 25.2 -0.1**
comp=Z,24nm,1.1s,mb5.3
TNS Taunus Mts 88.57 320 *eP* **P 13 46 27.3 +0.1**
comp=Z,9.0nm,0.9s,mb5.1
TNS Taunus Mts 88.57 320 *eP* **P 13 46 27.3 +0.1**
TNS pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
IBBN Ibbenburen 88.99 322 *eP* **P 13 46 29.6 +0.4**
comp=Z,33nm,1.0s,mb5.6
SBF Sospel 89.31 314 *eP* **P 13 46 30.0 -0.7**
comp=Z,50nm,0.9s,mb5.5
SBF Sospel 89.31 314 *eP* **P 13 46 30.0 -0.7**
SBF pmax pmax
comp=Z,25nm,0.9s,mb5.5
SBF Sospel 89.31 314 *eP* **P 13 46 30.0 -0.7**
comp=Z,25nm,0.9s,mb5.5
CDF Champ du Feu 89.35 318⇑*iP* **P 13 46 30.5 -0.4**
NVL N'lazarevskaya 89.59 199*c iP* **P 13 46 33.4 +1.4**
NVL pmax pmax
comp=Z,33nm,1.1s,mb5.6
NVL MLR MLR
comp=Z,443nm,17.2s,MS5.0
MAIT Maitri 89.62 199 *eP* **P 13 46 33.7 +1.5**
LPG La Plagne 89.76 315⇑*iP* **P 13 46 33.3 +0.5**
comp=Z,19nm,0.9s,mb5.1
LPG La Plagne 89.76 315⇑*iP* **P 13 46 33.3 +0.5**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
LPG La Plagne 89.76 315⇑*iP* **P 13 46 33.3 +0.5**
comp=Z,9.6nm,0.9s,mb5.1
MBDF Montbardon 89.77 315 *eP* **P 13 46 32.3 -0.5**
LPL La Plagne 89.78 315⇑*iP* **P 13 46 33.3 +0.4**
comp=Z,12nm,0.6s,mb5.1
LPL La Plagne 89.78 315⇑*iP* **P 13 46 33.3 +0.4**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
LPL La Plagne 89.78 315⇑*iP* **P 13 46 33.3 +0.4**
comp=Z,5.8nm,0.6s,mb5.1
WLF Walferdange 90.06 319 P **P 13 46 35.2 +1.0**
CABF La Chapelle 90.19 316 *eP* **P 13 46 34.4 -0.4**
comp=Z,30nm,1.1s,mb5.2
CABF La Chapelle 90.19 316 *eP* **P 13 46 34.4 -0.4**
CABF pmax pmax
comp=Z,15nm,1.1s,mb5.2
CABF La Chapelle 90.19 316 *eP* **P 13 46 34.4 -0.4**
comp=Z,15nm,1.1s,mb5.2
ORIF Oris-en-Rattie 90.39 315 *eP* **P 13 46 35.8 0.0**
comp=Z,8.8nm,0.7s,mb4.9
ORIF *e*MLR MLR
comp=Z,195nm,20.8s
ORIF Oris-en-Rattie 90.39 315 *eP* **P 13 46 35.8 0.0**
ORIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
ORIF Oris-en-Rattie 90.39 315 *eP* **P 13 46 35.8 0.0**
comp=Z,4.4nm,0.6s,mb5.0
SMRF Simiane la Rot 90.65 314 *eP* **P 13 46 37.0 +0.1**
comp=Z,21nm,1.0s,mb5.1
SMRF Simiane la Rot 90.65 314 *eP* **P 13 46 37.0 +0.1**
comp=Z,21nm,1.0s,mb5.4
MEZF Maizieres J'vi 90.83 318 *eP* **P 13 46 38.0 +0.2**
GIVF Givet 90.90 320 *eP* **P 13 46 38.3 +0.2**
comp=Z,24nm,1.0s,mb5.2
GIVF Givet 90.90 320 *eP* **P 13 46 38.3 +0.2**
GIVF pmax pmax
comp=Z,12nm,1.0s,mb5.2
GIVF Givet 90.90 320 *eP* **P 13 46 38.3 +0.2**
comp=Z,12nm,1.0s,mb5.2
AFI Afiamalu 90.95 104 P **P 13 46 40.1 +1.7**
comp=Z,9.3nm,0.6s,mb5.3,baz=44,slow=6.7,SNR=4.4
DOU Dourbes 91.05 320 P **P 13 46 39.1 +0.3**
SNF Seneffe 91.22 320 P **P 13 46 39.9 +0.3**
BAIF Baives 91.30 320 *eP* **P 13 46 40.5 +0.5**
comp=Z,35nm,0.8s,mb5.4
BAIF Baives 91.30 320 *eP* **P 13 46 40.5 +0.5**
BAIF pmax pmax
comp=Z,18nm,0.8s,mb5.5
BAIF Baives 91.30 320 *eP* **P 13 46 40.5 +0.5**
comp=Z,18nm,0.8s,mb5.4
LOR Lormes 91.69 317⇑*iP* **P 13 46 41.9 +0.1**
comp=Z,29nm,0.9s,mb5.3
LOR *e*MLR MLR
comp=Z,205nm,21.8s
LOR Lormes 91.69 317⇑*iP* **P 13 46 41.9 +0.1**
LOR pmax pmax
comp=Z,15nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,200nm,21.8s,MS4.5
LOR Lormes 91.69 317⇑*iP* **P 13 46 41.9 +0.1**
comp=Z,15nm,0.9s,mb5.3
LOR LR LR
comp=Z,200nm,21.8s,MS4.5
SMF Signal de Mont 91.74 317⇑*iP* **P 13 46 42.0 0.0**
comp=Z,38nm,1.0s,mb5.4
SMF Signal de Mont 91.74 317⇑*iP* **P 13 46 42.0 0.0**
SMF pmax pmax
comp=Z,19nm,1.0s,mb5.4
SMF Signal de Mont 91.74 317⇑*iP* **P 13 46 42.0 0.0**
comp=Z,19nm,1.0s,mb5.4
LASF Ste Croix 91.88 314 *eP* **P 13 46 43.2 +0.5**
comp=Z,15nm,0.9s,mb5.0
SSF Saint Saulge 91.94 317 *eP* **P 13 46 43.4 +0.4**
AVF Avril sur Loir 92.07 317⇑*iP* **P 13 46 43.6 +0.1**
comp=Z,29nm,1.1s,mb5.2
AVF Avril sur Loir 92.07 317⇑*iP* **P 13 46 43.6 +0.1**
AVF pmax pmax
comp=Z,15nm,1.1s,mb5.2
AVF Avril sur Loir 92.07 317⇑*iP* **P 13 46 43.6 +0.1**
comp=Z,15nm,1.1s,mb5.2
BGF Bois d'Agland 92.43 316⇑*iP* **P 13 46 45.7 +0.5**
comp=Z,30nm,0.9s,mb5.3
BGF Bois d'Agland 92.43 316⇑*iP* **P 13 46 45.7 +0.5**
BGF pmax pmax
comp=Z,15nm,0.9s,mb5.3
BGF Bois d'Agland 92.43 316⇑*iP* **P 13 46 45.7 +0.5**
comp=Z,15nm,0.9s,mb5.3
MTLF Montolieu 93.11 313 *eP* **P 13 46 48.9 +0.5**
comp=Z,10nm,1.1s,mb4.9
MTLF Montolieu 93.11 313 *eP* **P 13 46 48.9 +0.5**
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
MTLF Montolieu 93.11 313 *eP* **P 13 46 48.9 +0.5**
comp=Z,5.3nm,1.0s,mb4.9
SNAA Sanae 94.28 198 *eP* **P 13 46 55.7 +2.0**
SNAA *e* pP 13 47 09.8 +0.7
SNAA Sanae 94.28 198 *eP* **P 13 46 53.0 -0.7**
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 94.28 198 *eP* **P 13 46 53.0 -0.8**
comp=Z,2.6nm,1.0s,mb4.6
TORD Torodi Ar. Bea 95.42 283 LR LR 14 29 37.4
comp=Z,180nm,18.3s,MS4.6,baz=145,slow=35
ESLA Sonseca Array 98.13 310 P **P 13 47 11.2 0.0**
comp=Z,2.7nm,1.2s,mb4.7
ESLA *e*pP pP 13 47 25.3 -1.3
TBI Tubuai 111.53 115 *e*LR LR 14 25 24.0
comp=Z,337nm,24.0s
PPT Papeete 112.15 108 *e*LR LR 14 25 42.5
comp=Z,229nm,24.5s
TAOE Nuku Hiva Isla 122.11 100 *e*LR LR 14 30 20.8
comp=Z,500nm,23.9s
RKT Rikitea 124.61 117 *e*LR LR 14 31 27.0
comp=Z,274nm,25.8s
MSO Missoula 124.89 26 *e*PKPdf PKPdf 13 52 34.0 -0.1
PDAR Pinedale Array 130.01 26 PKP PKPdf 13 52 45.5 +1.6
comp=Z,0.2nm,0.4s,baz=316,slow=2.5,SNR=3.3
MSU Marysvale 132.05 32 *e*PKIKP PKPdf 13 52 48.6 +0.8
MSU *e* 13 53 00.4
MSU *e* 13 55 09.1
WUAZ Wupatki 134.69 34 *e*PKPdf PKPdf 13 52 53.3 +0.6
ANMO Albuquerque 137.71 30⇑*i*PKIKP PKPdf 13 53 01.6 +3.2
MNTX Cornudas Mount 140.83 32 *e*PKPdf PKPdf 13 53 04.2 +0.1
MNTX *e*pPKPdf pPKPdf 13 53 20.3 +0.4
MNTX *e*PP PP 13 56 04.4 -0.3
JCT Junction City 144.54 26 *e*PKIKP PKPdf 13 53 10.0 -0.6
CPUP Villa Florida 145.13 222 PKPbc PKPbc 13 53 11.8 +0.5
comp=Z,11nm,0.8s,baz=102,slow=4.6,SNR=20
CPUP Villa Florida 145.13 222 *e*PKPbc PKPbc 13 53 11.2 0.0
CPUP *e* 13 53 19.0
NATX Nacogdoches 145.35 18 *e*PKPbc PKPbc 13 53 13.2 +1.2

BJI ***04*** *13:34:14.7, 1735S×7188W, h60km, mB5.1, Ms5.1, Msz5.1*
ISCJB ***04*** *13:34:16.5±1.1, 1827S±005×7135W±008, h82km±11km, mb4.1/9, Error ellipse: s-maj=14.3km s-min=7.5km az=131.8*
NEIC ***04*** *13:34:16.9±1.4, 1826S×7143W, h73km±13km, mb4.3/7, Error ellipse: s-maj=15.4km s-min=8.8km az=84.0*
IDC ***04*** *13:34:19.3±1.7, 1848S×7123W, h94km±17km, mb3.9/5, mb1 4.0/10, mb1mx3.9/21, mbtmp4.3/10, MS3.3/7, Ms1 3.3/7, ms1mx3.2/27, Error ellipse: s-maj=22.2km s-min=14.4km az=57.0*

ISC 04 13:34:18.4±0.8, 1828S±005×7134W±008, h84km±9km, n40, σ1§34/36, mb4.1/9, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.82**	**355**	⇑*iP*	**Pn**	**13 34 41.2**	**-6.7**
ARE				*i* S	**Sn**	**13 35 03.3**	**-7.1**
LPAZ	**La Paz**	**3.65**	**58**	P	**Pn**	**13 35 13.8**	**+1.2**
LPAZ	1.2nm,0.3s,baz=242,slow=11,SNR=27			LR	LR	13 36 56.9	
	comp=Z,900nm,19.5s,baz=266,slow=43						
LPAZ	**La Paz**	**3.65**	**58**	*e*Pn	**Pn**	**13 35 14.3**	**+1.7**
LVC	**Limon Verde**	**4.87**	**153**	P	**Pn**	**13 35 26.0**	**-3.1**
LVC	3.5nm,0.3s,baz=322,slow=8.9,SNR=46			S	**Sn**	**13 36 25.0**	**+0.7**
	25nm,0.3s,baz=93,slow=21,SNR=18						
LVC				LR	LR	13 37 25.0	
	comp=Z,327nm,19.2s,baz=333,slow=40						
LVC	**Limon Verde**	**4.87**	**153**	*e*Pn	**Pn**	**13 35 25.7**	**-3.5**
LVC				*e*Sn	**Sn**	**13 36 25.0**	**+0.7**
NNA	**Nana**	**8.21**	**319**	P	**Pn**	**13 36 17.0**	**+2.4**
NNA	3.3nm,0.3s,baz=169,slow=9.2,SNR=13			S	**Sn**	**13 37 57.1**	**+11**
	2.4nm,0.3s,baz=238,slow=23,SNR=12						
NNA	**Nana**	**8.21**	**319**	*e*Pn	**Pn**	**13 36 16.7**	**+2.0**
NNA	31nm,0.7s			*e*Sn	**Sn**	**13 37 45.1**	**-0.7**
SIV	**San Ignacio**	**10.08**	**78**	P	**Pn**	**13 36 39.7**	**-0.4**
	0.8nm,0.3s,baz=262,slow=12,SNR=25						
SAML	**Samuel**	**12.20**	**42**	*e*Pn	**Pn**	**13 37 06.6**	**-2.4**
	9.4nm,0.8s						
ATAH	**Atahualpa**	**13.15**	**328**	P	**Pn**	**13 37 23.9**	**+2.1**
	0.4nm,0.3s,baz=7.4,slow=13,SNR=5.0						
ATAH				LR	LR	13 42 09.2	
	comp=Z,128nm,20.6s,baz=132,slow=35						
CFAA	**Coronel Fontan**	**13.56**	**169**	P	**Pn**	**13 37 25.5**	**-1.5**
	0.0nm,0.3s,baz=322,slow=14,SNR=3.7						
CFAA				LR	LR	13 42 35.2	
	comp=Z,20nm,19.1s,baz=350,slow=37						
CFAA	**Coronel Fontan**	**13.56**	**169**	P	**Pn**	**13 37 25.5**	**-1.5**
CFAA				LR	LR	13 42 35.2	
CPUP	**Villa Florida**	**15.23**	**124**	LR	LR	13 44 23.6	
	comp=Z,129nm,18.7s,baz=286,slow=40						
OTAV	**Otavalo**	**19.69**	**338**	*e*P	**Pn**	**13 38 40.5**	**-2.5**
	12nm,1.1s						
PLCA	**Paso Flores**	**22.38**	**178**	P	**P**	**13 39 09.3**	**-0.3**
	5.4nm,0.9s,mb3.9,baz=6.6,slow=13,SNR=7.0						
PLCA	**Paso Flores**	**22.38**	**178**	*e*P	**P**	**13 39 09.8**	**+0.2**
	6.2nm,0.9s,mb3.9						
BDFB	**Brasilia**	**22.46**	**87**	P	**P**	**13 39 11.9**	**+1.5**
	3.3nm,0.6s,mb3.9,baz=256,slow=8.4,SNR=6.3						
BDFB				LR	LR	13 49 22.5	
	comp=Z,124nm,19.8s,baz=214,slow=40						
BDFB	**Brasilia**	**22.46**	**87**	*e*P	**P**	**13 39 12.1**	**+1.6**
BDFB				*e*		13 39 20.6	
SDV	**Santo Domingo**	**27.00**	**2**	P	**P**	**13 39 55.6**	**+3.2**
	4.4nm,0.7s,mb4.1,baz=196,slow=18,SNR=4.2						
SDV	**Santo Domingo**	**27.00**	**2**	*e*P	**P**	**13 39 50.9**	**-1.4**
	9.6nm,0.9s,mb4.3						
PCRV	**Puerto La Cruz**	**29.04**	**14**	LR	LR	13 51 41.1	
	comp=Z,129nm,20.2s,baz=17,slow=36						
VNA3	**Neumayer Olymp**	**63.84**	**162**	*e*	**P**	**13 44 43.5**	**+1.6**
VNA3				*e*		13 44 50.9	
VNA3				*e*	pP	13 45 01.6	-1.6
SDCO	**Great Sand Dun**	**64.33**	**330**	*e*P	**P**	**13 44 44.6**	**-0.5**
	1.9nm,0.8s,mb4.0						
SNAA	**Sanae**	**66.05**	**161**	*e*	**P**	**13 44 56.5**	**+0.3**
SNAA				*e*		13 44 59.4	
SNAA				*e*		13 45 03.4	
SNAA				*e*		13 45 05.3	
SNAA				*e*		13 45 09.3	
SNAA	**Sanae**	**66.05**	**161**	*e*P	**P**	**13 44 56.8**	**+0.6**
	4.5nm,0.9s,mb4.3						
MSU	**Marysvale**	**68.25**	**326**	*e*P	**P**	**13 45 10.4**	**+0.3**
ARUT	**Antelope Range**	**68.39**	**325**	*e*P	**P**	**13 45 11.8**	**+0.7**
DAC	**Darwin (Calif)**	**69.68**	**322**	*e*P	**P**	**13 45 18.9**	**-0.1**
	9.1nm,1.6s,mb4.3						
QSPA	**South Pole Qui**	**71.89**	**180**	*e*P	**P**	**13 45 32.1**	**-0.3**
	13nm,1.5s,mb4.5						
TORD	**Torodi Ar. Bea**	**78.49**	**72**	P	**P**	**13 46 10.9**	**+0.6**
	1.1nm,0.8s,mb3.6,baz=251,slow=5.9,SNR=5.0						
YKA	**Yellowknife Ar**	**87.42**	**341**	P	**P**	**13 46 55.2**	**-1.2**
	4.0nm,0.9s,mb4.4,baz=134,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**87.42**	**341**	P	**P**	**13 46 55.2**	**-1.2**
INK	**Inuvik**	**97.16**	**341**	P	**P**	**13 47 40.4**	**-1.0**
MDJ	**Mudanjiang**	**148.44**	**331**	PKP	PKPdf	13 53 50.2	-1.4
WMQ	**Urumqi**	**149.02**	**30**	*e*PKP	PKPdf	13 53 52.5	0.0
SONM	**Songino Array**	**150.47**	**3**	PKPbc	PKPbc	13 53 59.5	-0.7
	1.2nm,1.1s,baz=358,slow=4.7,SNR=4.7						
PALK	**Pallekele**	**150.67**	**108**	PKPab	PKPab	13 54 08.6	+0.7
BJI	**Beijing**	**157.37**	**345**	PKP	PKPdf	13 54 04.0	-0.6
LZH	**Lanzhou**	**161.76**	**13**	*e*PKP	PKPdf	13 54 08.7	-0.9
LZH				LR	LR		
	comp=N,127nm,18.2s						
LZH				LR	LR		
	comp=Z,183nm,20.5s						
NJ2	**Nanjing**	**163.49**	**328**	*e*PKP	PKPdf	13 54 10.3	-1.0

MAN 04 13:47:12.7, 805N×12459E, h33km, mb2.0, ML3.7, MS0.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.42**	**14**	*e*P	Pb	13 47 23.3	+1.3
CGP				*i* S	Sb	13 47 30.9	+2.4
BUKP	**Musuan**	**0.50**	**110**	*e*P	Pb	13 47 24.3	+1.1

ISCJB ***04*** *14:23:27.8±0.4, 5760N±004×17.11E±006, h0km, Error ellipse: s-maj=5.9km s-min=3.6km az=107.5*
CSEM ***04*** *14:23:28.7, 5761N×1695E, h0km, ML2.8, Mining explosion. After UPP*
UPP ***04*** *14:23:28.7, 5761N×1695E, h0km, ML2.8, Mining explosion.*
HEL ***04*** *14:23:29.4±0.1, 5760N×1696E, h0km, ML2.0, ML2.8(UPP), Explosion*

ISC 04 14:23:28.8±0.4, 5762N±003×1703E±006, h0km, n28, σ1§06/38, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSTU	**Vaestervik**	**0.27**	**280**	*i* P	**Pg**	**14 23 33.5**	**-0.5**
VSTU				*i* S	**Sg**	**14 23 36.5**	**-1.0**
VSTU	**Vaestervik**	**0.27**	**280**	P	**Pg**	**14 23 33.5**	**-0.5**
VSTU				S	**Sg**	**14 23 36.5**	**-1.0**
BYXU	**Byxelkrok**	**0.33**	**182**	*i* P	**Pg**	**14 23 35.0**	**-0.1**
OSKU	**Oskarshamn**	**0.66**	**231**	*i* P	**Pg**	**14 23 40.6**	**-0.8**
OSKU	**Oskarshamn**	**0.66**	**231**	P	**Pg**	**14 23 40.6**	**-0.8**
	baz=194						
GOTU	**Gotland**	**0.83**	**84**	*i* P	**Pg**	**14 23 44.6**	**-0.1**
VIKU	**Vikbolandet**	**0.91**	**349**	*eP*	**Pg**	**14 23 45.6**	**-0.6**
LNKU	**Linkoeping**	**1.02**	**307**	*eP*	**Pg**	**14 23 47.2**	**-1.2**

NYNU	**Nynaeshamn**	**1.48**	**20**	*eP*	**Pn**	**14 23 56.2**	**-0.5**
ESKU	**Eskilstuna**	**1.66**	**349**	*eP*	**Pn**	**14 23 58.8**	**-0.3**
ASKU	**Askersund**	**1.73**	**319**	*eP*	**Pn**	**14 23 59.8**	**-0.4**
DEL	**Delary**	**2.08**	**238**	*eP*	**Pn**	**14 24 04.8**	**0.0**
NRAU	**Nora**	**2.22**	**333**	*eP*	**Pn**	**14 24 08.2**	**+1.3**
NRTU	**Norrtaelje**	**2.23**	**21**	*eP*	**Pn**	**14 24 08.5**	**+1.5**
NRTU	**Norrtaelje**	**2.23**	**21**	P	**Pn**	**14 24 08.5**	**+1.5**
	baz=179						
BACU	**Backbrunna**	**2.25**	**1**	*eP*	**Pn**	**14 24 08.8**	**+1.6**
UPP	**Uppsala**	**2.27**	**8**	*eP*	**Pn**	**14 24 09.4**	**+1.9**
NASU	**Vaermlandsnaes**	**2.42**	**305**	P	**Pn**	**14 24 10.4**	**+0.8**
OSTU	**Oestervaala**	**2.62**	**1**	*eP*	**Pn**	**14 24 13.8**	**+1.4**
BSD	**Bornholm Skovb**	**2.77**	**206**	*i P*	**Pn**	**14 24 13.6**	**-0.8**
BSD				*i* S	**Sn**	**14 24 48.5**	**-0.1**
GRAU	**Graesoe**	**2.84**	**15**	*eP*	**Pn**	**14 24 16.6**	**+1.3**
RAF	**Rauma**	**4.19**	**33**	*eP*	**Pn**	**14 24 34.9**	**+0.9**
RAF				*e*S	**Sn**	**14 25 22.9**	**-0.7**
RAF				MSG		14 25 42.5	
	comp=Z,2.3nm,0.3s						
MEF	**Metsahovi**	**4.62**	**53**	*eP*	**Pn**	**14 24 40.8**	**+0.9**
MEF				*e*S	**Sn**	**14 25 34.1**	**-0.1**
MEF				MSG		14 25 54.3	
	comp=Z,2.9nm,0.3s						
PVF	**Pernaja**	**5.42**	**53**	*eP*	**Pn**	**14 24 51.9**	**+1.0**
PVF				*e*S	**Sn**	**14 25 52.6**	**-1.2**
PVF				MSG		14 26 18.6	
	comp=Z,1.3nm,0.2s						
FIA0	**FINESS Array S**	**5.99**	**46**	*eP*	**Pn**	**14 24 60.0**	**+1.3**
FIA0				*e*S	**Sn**	**14 26 07.1**	**-0.9**
KEF	**Keuruu**	**6.03**	**38**	*eP*	**Pn**	**14 24 59.4**	**+0.2**
KEF				*e*S	**Sn**	**14 26 06.8**	**-2.2**
KAF	**Kangasniemi**	**6.49**	**42**	*eP*	**Pn**	**14 25 06.5**	**+1.0**
KAF				*e*S	**Sn**	**14 26 18.5**	**-1.8**
SUF	**Sumiainen**	**6.84**	**38**	*eP*	**Pn**	**14 25 10.6**	**+0.2**
SUF				*e*S	**Sn**	**14 26 26.7**	**-2.3**

NIED ***04*** *14:41:00,46.40N×15.400E,h14km,Mw4.4 Best double couple: M0:4.18000×10^15 NP1:φs212.00000°,δ79.00000°, λ160.00000°. NP2:φs306.00000°,δ70.00000°,λ12.00000°.*
SKHL ***04*** *14:41:01.2±1.7,46.19N×15.439E,h53km±17km,mb5.4/3, Ms4.3/1*
BJI ***04*** *14:41:04.1,46.75N×15.379E,h23km,mB4.8,mb4.4,Ms4.2, Msz3.9*
JMA ***04*** *14:41:04.0±1.0,46.43N×15.399E,h30km,M4.8*
ISCJB ***04*** *14:41:05.4±1.3,46.21N±0.007×15.358E±0.006,h27km±10km, mb4.5/36,MS3.9/5,Error ellipse: s-maj=13.0km s-min=4.8km az=128.9*
NEIC ***04*** *14:41:05.1±0.4,46.49N×15.350E,h10km,mb4.4/13,Error ellipse: s-maj=12.4km s-min=6.5km az=139.0*
MOS ***04*** *14:41:07.3±1.4,46.53N×15.348E,h40km,mb4.5/14,Error ellipse: s-maj=12.7km s-min=9.2km az=57.1*
IDC ***04*** *14:41:10.7±4.4,46.50N×15.345E,h53km±40km,mb4.0/13, mb1 4.2/14,mb1mx4.0/23,mbtmp4.3/14,ML4.0/1,MS3.5/4, Ms1 3.5/4,ms1mx3.2/26,Error ellipse: s-maj=20.3km s-min=15.3km az=135.0*

ISC 04 14:41:06.9±1.3,4638N±0.006×15355E±0.006,h22km±9km, h15km±.5km:pP-P,n111,σ1§42/129,mb4.5/36,MS3.9/5,2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.13**	**256**	⇓*i P*	**Pn**	**14 42 08.0**	**-0.7**
KUR				AMB	AMB	14 42 08.8	
	300nm,0.6s						
KUR				AMB	AMB	14 42 08.8	
	150nm,0.6s						
KUR				AMB	AMB	14 42 08.8	
	830nm,0.6s						
KUR				*e*S	**Sn**	**14 42 56.8**	**+0.4**
KUR				A		14 43 13.6	
	620nm,0.7s						
KUR				A		14 43 13.6	
	180nm,0.7s						
KUR	**Kuril'sk**	**4.13**	**256**	⇓*i* PN	**Pn**	**14 42 08.0**	**-0.7**
KUR				*e*S	**Sn**	**14 42 56.8**	**+0.4**
KUR				pmax	pmax		
	comp=N,300nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,830nm,0.6s						
KUR				smax			
	comp=N,620nm,0.7s						
KUR				smax			
	comp=E,180nm,0.7s						
SKR	**Severo-Kuril's**	**4.63**	**21**	*eP*	**Pn**	**14 42 09.1**	**-6.5**
SKR				AMB	AMB	14 42 14.1	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	14 42 14.1	
	comp=E,110nm,0.5s						
SKR				*e*S	**Sn**	**14 43 01.2**	**-7.5**
SKR				A		14 43 06.0	
	comp=E,190nm,0.9s						
SKR				A		14 43 06.0	
	comp=E,220nm,0.9s						
SKR				A		14 43 06.0	
	comp=E,90nm,0.9s						
SKR				AMS	AMS	14 44 14.0	
	comp=E,2μm,10.0s						
SKR				AMS	AMS	14 44 14.0	
	comp=E,3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.91**	**249**	*eP*	**Pn**	**14 42 34.7**	**+1.5**
YUK				AMB	AMB	14 42 35.0	
	comp=E,210nm,0.5s						
YUK				*e*S	**Sn**	**14 43 45.0**	**+4.8**
YUK				A		14 43 54.0	
	comp=E,460nm,0.6s						
YUK				A		14 43 54.0	
	comp=E,380nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.91**	**249**	*e*PN	**Pn**	**14 42 34.7**	**+1.5**
YUK				S	**Sn**	**14 43 45.0**	**+4.8**
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				smax			
	comp=N,460nm,0.6s						
YUK				smax			
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**6.31**	**244**	P	**Pn**	**14 42 38.1**	**-0.5**
NEM2				*e*S	**Sn**	**14 43 47.7**	**-2.3**
JRA	**Rausu**	**6.44**	**251**	P	**Pn**	**14 42 42.5**	**+2.1**
JNK	**Nakash**	**6.85**	**249**	P	**Pn**	**14 42 47.5**	**+1.4**
JAK	**Akkeshi**	**7.16**	**245**	P	**Pn**	**14 42 49.9**	**-0.3**
JAK				*e*S	**Sn**	**14 44 08.6**	**-2.2**
JTKR	**Abashiri--Toko**	**7.22**	**254**	P	**Pn**	**14 42 53.4**	**+2.2**
PET	**Petropavlovsk**	**7.43**	**25**	*e*PN	**Pn**	**14 42 51.7**	**-2.3**
PET				pmax	pmax		
	comp=Z,37nm,0.9s						
PET				MLR	MLR		
	comp=Z,300nm,20.0s						
PET	**Petropavlovsk**	**7.43**	**25**	*eP*	**Pn**	**14 42 50.1**	**-3.9**
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.45**	**278**	*eP*	**Pn**	**14 42 58.5**	**+4.3**
YSS	**Yuzh-Sakhalins**	**7.45**	**278**	*eP*	**Pn**	**14 42 58.1**	**+3.9**
JAR	**Ashorobuto**	**7.60**	**250**	P	**Pn**	**14 42 57.8**	**+1.5**
JAR				*e*S	**Sn**	**14 44 22.6**	**+0.8**
JOB	**Onbets**	**7.75**	**247**	P	**Pn**	**14 42 58.8**	**+0.5**
JOB				*e*S	**Sn**	**14 44 24.0**	**-1.4**
JSE	**Soyaes**	**7.81**	**263**	P	**Pn**	**14 43 03.9**	**+4.7**
JKK2	**Kamakawa 2**	**8.04**	**256**	P	**Pn**	**14 43 05.0**	**+2.7**
ASAJ	**Asahikawa**	**8.05**	**258**	P	**Pn**	**14 43 05.8**	**+3.2**
	comp=Z,2.2nm,0.3s,baz=96,slow=15,SNR=18						
ASAJ				LR	LR	14 46 02.8	
	comp=Z,141nm,18.4s,baz=87,slow=36						
ASAJ	**Asahikawa**	**8.05**	**258**	P	**Pn**	**14 43 05.7**	**+3.2**
ASAJ	**Asahikawa**	**8.05**	**258**	PN	**Pn**	**14 43 05.8**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,141nm,18.4s						
JCH	**Churui**	**8.19**	**246**	P	**Pn**	**14 43 04.5**	**0.0**
JCH				*e*S	**Sn**	**14 44 32.3**	**-4.1**
JWK2	**Keihoku**	**8.20**	**267**	P	**Pn**	**14 43 10.4**	**+5.8**
JFR	**Furan**	**8.43**	**252**	P	**Pn**	**14 43 10.7**	**+3.0**
JAB	**Ashibetsu**	**8.53**	**254**	P	**Pn**	**14 43 12.1**	**+3.0**
JEM	**Erimo**	**8.64**	**243**	P	**Pn**	**14 43 11.2**	**+0.6**
JEM				*e*S	**Sn**	**14 44 46.0**	**-1.4**
ERM	**Erimo**	**8.64**	**243**	*e*PN	**Pn**	**14 43 11.4**	**+0.8**
JNBK	**Urakawa-nobuka**	**8.75**	**246**	P	**Pn**	**14 43 11.7**	**-0.4**
JNBK				*e*S	**Sn**	**14 44 48.9**	**-1.2**
JBT2	**Biratori 2**	**8.75**	**250**	P	**Pn**	**14 43 13.0**	**+0.8**
JEW	**Eniwo**	**9.32**	**252**	P	**Pn**	**14 43 21.7**	**+1.7**
JNB	**Noboribetsu**	**9.76**	**251**	P	**Pn**	**14 43 26.6**	**+0.6**
JNB				*e*S	**Sn**	**14 45 12.8**	**-2.1**
JKB	**Kayabe**	**10.05**	**248**	P	**Pn**	**14 43 29.3**	**-0.6**
JKB				*e*S	**Sn**	**14 45 15.9**	**-6.1**
JSH	**Shimam**	**10.34**	**254**	P	**Pn**	**14 43 35.7**	**+1.8**
JYM2	**Yakumo 2**	**10.37**	**250**	P	**Pn**	**14 43 34.2**	**-0.1**
JANG	**Nango**	**10.61**	**240**	P	**Pn**	**14 43 34.7**	**-2.9**
JANG				*e*S	**Sn**	**14 45 26.4**	**-9.3**
JSR	**Shiriuchi**	**10.63**	**248**	P	**Pn**	**14 43 36.2**	**-1.7**
JTM	**Tenmabayashi**	**10.63**	**243**	P	**Pn**	**14 43 36.4**	**-1.5**
JTH	**Tanohata**	**10.68**	**237**	P	**Pn**	**14 43 35.9**	**-2.7**
JTH				*e*S	**Sn**	**14 45 27.8**	**-10**
JOSM	**Okushiri--Mats**	**10.97**	**252**	P	**Pn**	**14 43 42.7**	**+0.2**
JRG	**Rokugo**	**11.76**	**238**	P	**Pn**	**14 43 51.9**	**-1.4**
JRG				*e*S	**Sn**	**14 45 57.4**	**-6.4**
JIO	**Ouri**	**11.99**	**233**	P	**Pn**	**14 43 54.0**	**-2.4**
JIO				*e*S	**Sn**	**14 45 58.7**	**-11**
MA2	**Magadan**	**13.32**	**354**	*e*PN	**Pn**	**14 44 13.2**	**-1.5**
JFY	**Yanaizu**	**13.64**	**234**	P	**Pn**	**14 44 17.9**	**-1.2**
MJAR	**Matsushiro Arr**	**15.10**	**235**	P	**Pn**	**14 44 36.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=12,SNR=9.7						
MAJO	**Matsushiro**	**15.10**	**235**	*e*P	**Pn**	**14 44 37.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s						
MAJO	**Matsushiro**	**15.10**	**235**	*e*Pn	**Pn**	**14 44 37.3**	**-1.6**
	comp=Z,18nm,0.7s						
MAJO				*e*		14 44 46.2	
MAT	**Matsushiro**	**15.10**	**235**	P	**Pn**	**14 44 37.2**	**-1.7**
MDJ	**Mudanjiang**	**16.87**	**273**	P	**Pn**	**14 45 01.0**	**-0.7**
MDJ				AP	pP	14 45 06.1	-3.6
MDJ				S	**Sn**	**14 48 08.5**	**0.0**
MDJ				XS	sS	14 48 23.9	-4.4
MDJ				PCP	PcP	14 49 48.9	+0.6
MDJ				SCP	ScP	14 53 23.6	+1.9
MDJ				PCS	PcS	14 53 24.9	+0.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,87nm,4.8s						
MDJ	**Mudanjiang**	**16.87**	**273**	*eP*	**Pn**	**14 45 02.1**	**+0.5**
	comp=Z,12nm,0.8s						
INCN	**Inchon**	**21.82**	**256**	*eP*	**P**	**14 45 59.5**	**+1.9**
	comp=Z,25nm,0.7s,mb4.8						
BILL	**Bilibino**	**22.69**	**12**	*eP*	**P**	**14 46 05.5**	**-1.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**22.69**	**12**	*eP*	**P**	**14 46 05.5**	**-1.4**
	comp=Z,5.0nm,0.6s,mb4.1						
DL2	**Dalian**	**24.52**	**264**	P	**P**	**14 46 26.7**	**+2.0**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
BJI	**Beijing**	**27.77**	**270**	P	**P**	**14 46 54.6**	**+0.5**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.0						
BJI				LR	LR		
	comp=N,254nm,14.7s,MS4.0						
BJI				LR	LR		
	comp=E,209nm,15.7s,MS4.0						
NJ2	**Nanjing**	**30.18**	**254**	*eP*	**P**	**14 47 18.3**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**30.62**	**275**	*eP*	**P**	**14 47 19.9**	**+0.5**
HHC				AP	pP	14 47 24.3	-1.7
HHC				XP	sP	14 47 27.1	-1.6
HHC				AMB	AMB		
	comp=Z,22nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,164nm,4.0s						
SONM	**Songino Array**	**31.74**	**290**	P	**P**	**14 47 27.1**	**-2.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=73,slow=8.3,SNR=2.8						
SONM				LR	LR	15 01 15.9	
	comp=Z,109nm,19.2s,MS3.5,baz=74,slow=38						
SONM	**Songino Array**	**31.74**	**290**	P	**P**	**14 47 27.1**	**-2.1**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,109nm,19.2s						
KDAK	**Kodiak Island**	**34.11**	**51**	P	**P**	**14 47 48.1**	**-1.8**
	comp=Z,7.4nm,0.6s,mb4.8,baz=209,slow=10,SNR=7.2						
COLA	**College**	**36.24**	**38**	*eP*	**P**	**14 48 08.0**	**-0.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
COLA	**College**	**36.24**	**38**	*eP*	**P**	**14 48 08.0**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.4						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**14 48 54.4**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.0,baz=318,slow=9.5,SNR=5.0						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**14 48 54.4**	**-0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**41.81**	**32**	*eP*	**P**	**14 48 54.7**	**-0.1**
	comp=Z,62nm,0.6s,mb5.4						
WMQ	**Urumqi**	**45.34**	**292**	*eP*	**P**	**14 49 24.0**	**+0.7**
WMQ				AP	pP	14 49 28.0	-2.1
WMQ				XP	sP	14 49 31.0	-1.8
WMQ				*e*S	**S**	**14 56 03.0**	**+0.2**
WMQ				XS	sS	14 56 11.0	-3.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,63nm,4.5s						
WMQ				LR	LR		
	comp=N,260nm,18.4s,MS4.4						
WMQ				LR	LR		
	comp=E,246nm,15.6s,MS4.4						
WMQ				LR	LR		
	comp=Z,207nm,16.8s,MS4.1						
KMI	**Kunming**	**45.47**	**260**	P	**P**	**14 49 25.9**	**+1.5**
KMI				AP	pP	14 49 30.3	-0.9
KMI				XP	sP	14 49 32.1	-1.7
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
KMI	**Kunming**	**45.47**	**260**	P	**P**	**14 49 25.9**	**+1.5**
KMI				pP	pP	14 49 30.3	-0.9
KMI				sP	sP	14 49 32.1	-1.7
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**14 49 38.2**	**-1.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=66,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**14 49 38.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LSA	**Lhasa**	**50.59**	**274**	P	**P**	**14 50 07.0**	**+3.0**
LSA	**Lhasa**	**50.59**	**274**	*eP*	**P**	**14 50 04.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
LSA	**Lhasa**	**50.59**	**274**	*eP*	**P**	**14 50 04.6**	**+0.6**
	comp=Z,4.4nm,0.5s,mb4.6						
YKA	**Yellowknife Ar**	**51.04**	**37**	P	**P**	**14 50 06.9**	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.5,baz=299,slow=7.7,SNR=9.2						
YKA	**Yellowknife Ar**	**51.04**	**37**	P	**P**	**14 50 06.9**	**-0.5**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA	**Yellowknife Ar**	**51.04**	**37**	P	**P**	**14 50 06.9**	**-0.5**
BVAR	**Borovoye Array**	**51.33**	**310**	P	**P**	**14 50 08.2**	**-1.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=44,slow=8.8,SNR=8.3						
BVAR	**Borovoye Array**	**51.33**	**310**	P	**P**	**14 50 08.2**	**-1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.37**	**310**	P	**P**	**14 50 08.5**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.37**	**310**	P	**P**	**14 50 08.5**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1						
CHTO	**Chiang Mai**	**52.33**	**257**	*eP*	**P**	**14 50 18.7**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**52.33**	**257**	*eP*	**P**	**14 50 18.7**	**+1.7**
	comp=Z,10nm,0.8s,mb4.8						
GUN	**Gumba**	**55.33**	**276**	*eP*	**P**	**14 50 40.7**	**+1.8**
	comp=Z,11nm,0.5s,mb5.1						
KKN	**Kakani**	**55.82**	**276**	*eP*	**P**	**14 50 44.5**	**+2.1**
	comp=Z,17nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.87**	**276**	*eP*	**P**	**14 50 44.3**	**+1.5**
	comp=Z,8.5nm,0.6s,mb5.0						
DMN	**Daman**	**56.05**	**276**	*eP*	**P**	**14 50 46.1**	**+2.0**
	comp=Z,18nm,0.7s,mb5.2						
GKN	**Gorkha**	**56.13**	**276**	*eP*	**P**	**14 50 46.1**	**+1.4**
	comp=Z,13nm,0.5s,mb5.2						
KOLN	**Koldanda**	**56.99**	**277**	*eP*	**P**	**14 50 52.5**	**+1.7**
	comp=Z,12nm,0.7s,mb5.0						
AKTO	**Aktyubinsk**	**59.20**	**312**	LR	LR	15 21 44.8	
	comp=Z,40nm,18.1s,MS3.6,baz=230,slow=41						
WVOR	**Wild Horse Val**	**59.69**	**59**	P	**P**	**14 51 10.2**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WVOR	**Wild Horse Val**	**59.69**	**59**	P	**P**	**14 51 10.2**	**+0.5**
	comp=Z,3.6nm,1.1s,mb4.3						
HLID	**Hailey**	**61.47**	**56**	*eP*	**P**	**14 51 21.7**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.1						
JOF	**Joensuu**	**61.80**	**334**	*ep*	**P**	**14 51 21.2**	**-2.8**
HWUT	**Hardware Ranch**	**64.34**	**56**	*eP*	**P**	**14 51 41.3**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**14 51 40.3**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=37,slow=5.9,SNR=13						
FINES	**FINESS Array B**	**64.50**	**335**	P	**P**	**14 51 40.3**	**-1.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BW06	**Boulder Array**	**64.72**	**54**	*eP*	**P**	**14 51 43.6**	**+0.2**
PDAR	**Pinedale Array**	**64.72**	**54**	P	**P**	**14 51 43.8**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=322,slow=2.5,SNR=19						
OBN	**Obninsk**	**65.78**	**326**	*eP*	**P**	**14 51 57.3**	**+7.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CTA	**Charters Tower**	**66.48**	**187**	LR	LR	15 15 52.4	
	comp=Z,76nm,22.0s,MS3.9,baz=96,slow=31						
ULM	**Lac du Bonnet**	**66.61**	**41**	P	**P**	**14 51 54.2**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.3,baz=152,slow=1.4,SNR=3.3						
WB2	**Warramunga Arr**	**68.26**	**199**	*eP*	**P**	**14 52 06.0**	**0.0**
WRA	**Warramunga Arr**	**68.26**	**199**	P	**P**	**14 52 05.7**	**-0.3**
	comp=Z,5.8nm,0.9s,mb4.6,baz=18,slow=6.7,SNR=26						
WRA	**Warramunga Arr**	**68.26**	**199**	P	**P**	**14 52 05.7**	**-0.3**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.67**	**341**	P	**P**	**14 52 08.2**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.67**	**341**	P	**P**	**14 52 08.3**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=28,slow=6.4,SNR=5.7						
NOA	**NORSAR Array B**	**68.67**	**341**	P	**P**	**14 52 08.3**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**68.96**	**208**	*eP*	**P**	**14 52 11.4**	**+1.1**
	comp=Z,8.7nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**71.95**	**199**	P	**P**	**14 52 29.9**	**+1.3**
	comp=Z,4.7nm,0.8s,mb4.5,baz=13,slow=5.3,SNR=39						
ASAR	**Alice Springs**	**71.95**	**199**	P	**P**	**14 52 29.9**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**72.02**	**326**	P	**P**	**14 52 28.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=34,slow=6.5,SNR=5.3						
AKASG	**Malin Array Be**	**72.02**	**326**	P	**P**	**14 52 28.4**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***04*** *14:42:21.8±0.5,45.74N±0.002×2.84E±0.004,h8km±6km,Error ellipse: s-maj=4.9km s-min=3.2km az=0.9*
LDG ***04*** *14:42:23.2±0.1,45.74N×2.80E,h3km,Md2.1/1,Ml2.3/9, Error ellipse: s-maj=1.4km s-min=1.0km az=82.0*
STR ***04*** *14:42:24.4±0.8,45.72N×2.96E,h5km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 14:42:22.6±0.4,4574N±0.002×281E±0.004,h12km±6km,n18, σ0§55/31,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.14**	**85**	Pg	**Pg**	**14 42 26.0**	**0.0**
AGO	**Saint Agoulin**	**0.39**	**35**	Pg	**Pg**	**14 42 30.7**	**+0.4**
AGO				Sg	**Sg**	**14 42 36.4**	**+0.9**
LBL	**Lubilhac**	**0.59**	**149**	Pg	**Pg**	**14 42 35.0**	**+0.8**
LBL				Sg	**Sg**	**14 42 41.3**	**-0.7**
PLDF	**La Plantade**	**0.61**	**67**	Pg	**Pg**	**14 42 36.2**	**+1.7**
PLDF				Sg	**Sg**	**14 42 41.3**	**-1.3**
TCF	**Toulx Ste Croi**	**0.69**	**323**	*e*Pg	**Pg**	**14 42 35.9**	**-0.1**
TCF	**Toulx Ste Croi**	**0.69**	**323**	*e*Pn	**Pn**	**14 42 38.0**	**-0.2**
TCF				*e*Sg	**Sg**	**14 42 45.1**	**0.0**
	8.2nm,0.2s						
BGF	**Bois d'Agland**	**0.82**	**2**	*e*Pg	**Pg**	**14 42 38.6**	**+0.1**
BGF	**Bois d'Agland**	**0.82**	**2**	*e*Pn	**Pn**	**14 42 40.1**	**+0.2**
BGF				*e*Sg	**Sg**	**14 42 49.2**	**0.0**
BGF				*e*Sn	**Sn**	**14 42 52.2**	**+0.2**
	32nm,0.3s						
CAF	**Calviac**	**0.97**	**213**	*e*Pg	**Pg**	**14 42 41.9**	**+0.6**
CAF				*e*Sg	**Sg**	**14 42 54.2**	**+0.3**
	5.4nm,0.2s						
AVF	**Avril sur Loir**	**1.12**	**19**	*e*Pg	**Pg**	**14 42 44.1**	**0.0**
AVF				*e*Sg	**Sg**	**14 42 59.1**	**+0.4**
	7.0nm,0.2s						
SMF	**Signal de Mont**	**1.16**	**38**	*e*Pn	**Pn**	**14 42 44.7**	**+0.1**
SMF	**Signal de Mont**	**1.16**	**38**	*e*Pg	**Pg**	**14 42 45.0**	**+0.1**
SMF				*e*Sg	**Sg**	**14 42 59.9**	**0.0**
	5.6nm,0.2s						
SSF	**Saint Saulge**	**1.41**	**20**	*e*Pg	**Pg**	**14 42 49.4**	**-0.3**
SSF				*e*Sg	**Sg**	**14 43 08.1**	**+0.1**
	5.7nm,0.3s						
VIVF	**Saint-Julien-l**	**1.58**	**123**	*e*Pg	**Pg**	**14 42 52.8**	**-0.2**
VIVF				*e*Sg	**Sg**	**14 43 13.7**	**+0.1**
	9.2nm,0.3s						
LOR	**Lormes**	**1.69**	**25**	*e*Pg	**Pg**	**14 42 54.6**	**-0.5**
	baz=211						
LOR				*e*Sg	**Sg**	**14 43 16.5**	**-0.6**
	4.8nm,0.2s,baz=207						
LASF	**Ste Croix**	**1.82**	**156**	*e*Pg	**Pg**	**14 42 57.2**	**-0.4**
LASF				*e*Sg	**Sg**	**14 43 21.0**	**-0.2**
	1.9nm,0.2s						
MFF	**

TORD Torodi Ar. Bea 79.43 75 P **P 15 11 39.5 -0.6**
1.8nm,0.4s,mb4.3,baz=263,slow=4.7,SNR=25
TORD Torodi Ar. Bea 79.43 75 P **P 15 11 39.5 -0.6**
ASAR Alice Springs 137.60 222 PKP PKPdf 15 18 56.0 -1.9
0.6nm,0.9s,baz=147,slow=1.6,SNR=6.3
WRA Warramunga Arr 139.78 227 PKP PKPdf 15 18 59.6 -2.2
0.9nm,0.7s,baz=127,slow=2.3,SNR=5.1
FITZ Fitzroy Crossi 146.94 219 PKPbc PKPbc 15 19 15.2 -1.2
2.2nm,0.8s,baz=157,slow=6.6,SNR=3.8

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*IDC **04** 15:35:29.7±1.8, 4657N×15369E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/20, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=52.6km s-min=30.3km az=93.0*
*ISCJB **04** 15:35:31.7±3.7, 467N±02×1536E±03, h26km±27km, mb3.8/4, Error ellipse: s-maj=41.2km s-min=11.4km az=82.0*
*NEIC **04** 15:35:32.1±1.4, 4658N×15359E, h10km, Error ellipse: s-maj=40.8km s-min=15.6km az=127.0*
*MOS **04** 15:35:32.9±0.8, 4668N×15350E, h33km, mb4.2/3, Error ellipse: s-maj=33.9km s-min=17.1km az=65.8*

ISC 04 15:35:35.2±1.8, 467N±02×1536E±03, h36km±14km, n13, σ0§90/14, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.32**	**22**	*e*PN	**Pn**	**15 36 37.6**	**-0.8**
PET	**Petropavlovsk**	**7.12**	**25**	Pn	**Pn**	**15 37 18.8**	**+2.0**
PET				*e*Sn	**Sn**	**15 38 35.5**	**-0.9**
ASAJ	**Asahikawa**	**8.17**	**256**	Pn	**Pn**	**15 37 31.1**	**-0.1**
	0.3nm,0.3s,baz=96,slow=10,SNR=4.0						
ERM	**Erimo**	**8.83**	**242**	PN	**Pn**	**15 37 40.3**	**0.0**
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**15 44 04.2**	**-0.6**
	0.9nm,0.8s,mb3.8,baz=68,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**15 44 04.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.28**	**298**	P	**P**	**15 44 04.2**	**-0.6**
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**15 46 06.6**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=42,slow=6.6,SNR=9.6						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**15 46 06.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.40**	**341**	P	**P**	**15 46 34.0**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.9,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**15 46 34.4**	**+1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=27,slow=6.3,SNR=4.8						
NOA	**NORSAR Array B**	**68.40**	**341**	P	**P**	**15 46 34.4**	**+1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**	**15 46 56.0**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=11,slow=4.8,SNR=7.5						

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*ISCJB **04** 15:38:24.1±1.2, 249N±0.1×1227E±0.1, h10km, mb3.6/5, MS3.3/4, Error ellipse: s-maj=17.7km s-min=14.1km az=95.4*
*IDC **04** 15:38:24.6±2.2, 2477N×12255E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.3/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=163.4km s-min=25.2km az=64.0*
*NEIC **04** 15:38:26.1±0.8, 2480N×12256E, h10km, Error ellipse: s-maj=12.2km s-min=9.6km az=145.0*

ISC 04 15:38:26.2±1.1, 248N±01×1226E±01, h10km, n11, σ0§22/9, mb3.6/5, MS3.3/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.98**	**280**	*e*P	**Pg**	**15 38 44.9**	**-0.1**
NACB	**Ninganchiao**	**1.07**	**234**	*e*P	**Pg**	**15 38 47.2**	**+0.4**
YHNB	**Yeheng**	**1.07**	**263**	*e*P	**Pg**	**15 38 46.5**	**-0.3**
ASAJ	**Asahikawa**	**25.27**	**35**	LR	LR	15 53 57.7	
	comp=Z,46nm,20.0s,MS3.0,baz=160,slow=37						
SONM	**Songino Array**	**26.30**	**335**	P	**P**	**15 44 01.9**	**0.0**
	0.3nm,0.5s,mb3.1,baz=149,slow=8.6,SNR=3.6						
SONM				LR	LR	15 54 54.2	
	comp=Z,68nm,19.5s,MS3.2,baz=82,slow=38						
MKAR	**Makanchi Array**	**38.77**	**315**	P	**P**	**15 45 50.6**	**-0.1**
	1.2nm,1.0s,mb3.6,baz=116,slow=9.8,SNR=4.5						
ZAL	**Zalesovo**	**40.41**	**326**	P	**P**	**15 46 04.7**	**+0.2**
	0.8nm,0.3s,mb4.0,baz=87,slow=19,SNR=2.7						
ZAL				LR	LR	16 03 40.1	
	comp=Z,32nm,18.1s,MS3.2,baz=88,slow=38						
ZAL	**Zalesovo**	**40.41**	**326**	P	**P**	**15 46 04.7**	**+0.2**
ZAL				LR	LR	16 03 40.1	
WRA	**Warramunga Arr**	**45.94**	**164**	P	**P**	**15 46 48.9**	**-0.2**
	0.9nm,0.8s,mb3.7,baz=346,slow=8.7,SNR=5.5						
BVAR	**Borovoye Array**	**47.99**	**320**	P	**P**	**15 47 05.4**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=99,slow=8.9,SNR=3.0						
NOA	**NORSAR Array B**	**78.25**	**332**	LR	LR	16 28 37.5	
	comp=Z,36nm,19.2s,MS3.7,baz=250,slow=38						

CASC 04 15:57:21.3±5.5, 1550N×9002W, h0km±53km, MD3.8, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.21**	**234**⇑	*e*P	Pg	15 57 46.4	+2.0
TP2				*e*S	Sg	15 58 02.8	+2.7
RBDL	**Robledal**	**1.42**	**167**	*e*P	x	15 58 00.6	+12
RBDL				*e*S	x	15 58 24.7	+18
SBLS	**San Blas**	**1.70**	**167**	*e*P	x	15 58 00.5	+8.3
SBLS				*e*S	x	15 58 23.2	+8.6
BOQS	**Boqueron**	**1.90**	**158**	*e*P	x	15 58 05.9	+11
BOQS				*e*S	x	15 58 32.7	+13
SNVI	**San Vicente**	**2.20**	**149**	*e*P	x	15 58 13.1	+14
SNVI				*e*S	x	15 58 43.9	+17

IDC 04 16:01:37.2±5.4, 696N×7306W, h170km±65km, mb1 3.3/2, mb1mx3.0/21, mbtmp3.8/2, Error ellipse: s-maj=503.7km s-min=15.2km az=133.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.44**	**211**	P	Pn	16 02 19.1	+0.5
	11nm,0.3s,baz=274,slow=12,SNR=33						
ROSC				S	Sn	16 02 45.5	-5.1
	13nm,0.3s,baz=117,slow=18,SNR=17						
SDV	**Santo Domingo**	**3.07**	**51**	P	Pn	16 02 27.6	+1.4
	14nm,0.3s,baz=239,slow=5.9,SNR=47						
SDV				S	Sn	16 03 04.8	+0.5
	8.6nm,0.3s,baz=91,slow=23,SNR=14						
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc	PKPbc	16 21 06.3	+0.7
	0.3nm,0.8s,baz=116,slow=3.8,SNR=6.3						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	16 21 09.1	+0.6
	0.2nm,0.4s,baz=110,slow=2.4,SNR=12						
WRA				pPKPbc	pPKPbc	16 21 51.9	-1.0
	0.6nm,1.1s,baz=108,slow=2.7,SNR=1.7						

NEIC 04 16:06:41.5, 3946N×12311W, h5km, MD3.0(NCEDC), 1C, After NCEDC., Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIPM	**Iron Peak**	**0.45**	**320**	*i* Pg	Pg	16 06 50.5	+0.3
HOPS	**Hopland**	**0.47**	**177**⇑	*e*Pg	Pg	16 06 51.0	+0.5
HOPS				*e*Sg	Sg	16 06 58.8	+2.2
WDC	**Whiskeytown Da**	**1.20**	**21**	*e*Pg	Pg	16 07 04.0	-0.5
WDC				*e*S	Sg	16 07 21.9	+1.7
OHCM	**Honcut**	**1.26**	**95**	*e*P	Pg	16 07 03.7	-2.1
OHCM				*e*S	Sg	16 07 21.6	-0.5
MCCM	**Marconi Confer**	**1.32**	**172**	*e*Pn	Pn	16 07 04.6	-2.1
KHMM	**Horse Mountain**	**1.49**	**341**	*e*Pn	Pn	16 07 07.8	-1.2
KRMB	**Red Mountain**	**2.15**	**344**	*e*Pn	Pn	16 07 16.5	-1.5
YBH	**Yreka Blue Hor**	**2.29**	**7**	*e*Pn	Pn	16 07 20.1	+0.2
YBH				*e*Sg	Sg	16 07 55.5	+0.4
CMB	**Columbia Colle**	**2.56**	**123**	*e*P	Pn	16 07 23.5	-0.1
KBO	**Bosley Butte**	**2.88**	**343**	*e*P	Pn	16 07 27.3	-0.8
PAHR	**Pah Rah Range**	**2.89**	**84**	*e*Pg	Pg	16 07 31.9	-5.0
WVOR	**Wild Horse Val**	**4.50**	**47**	Pg	Pg	16 08 07.1	-0.7

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*ISK **04** 16:43:33.8, 3592N×3584E, h17km, MD3.6*
*CSEM **04** 16:43:34.3±0.1, 3601N×3581E, h15km, MD3.6, Error ellipse: s-maj=1.8km s-min=1.4km az=155.0*
*ISCJB **04** 16:43:35.2±0.8, 3601N±003×3581E±004, h11km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=160.2*
*GRAL **04** 16:43:35.0±4.5, 3609N×3577E, h0km±38km, MD3.7*

ISC 04 16:43:35.6±0.8, 3602N±003×3582E±005, h10km±6km, n22, σ0§88/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.28**	**68**	PG	**Pg**	**16 43 40.6**	**-0.6**
HTY				SG	**Sg**	**16 43 46.3**	**+1.3**
COBT	**Iskenderun**	**0.61**	**35**	*i* P	**Pg**	**16 43 47.1**	**-0.4**
COBT				*i* S	**Sg**	**16 43 55.6**	**+0.1**
KRTS	**Karatas**	**0.66**	**327**	PG	**Pg**	**16 43 48.9**	**+0.6**
CEYT	**Ceyhan**	**0.99**	**357**	PN	**Pn**	**16 43 55.3**	**-0.2**
CEYT				SN	**Sn**	**16 44 10.4**	**+0.9**
MERS	**Mersin**	**1.34**	**309**	PN	**Pn**	**16 43 59.5**	**-0.8**
KARA	**Karaisali**	**1.38**	**334**	PN	**Pn**	**16 44 00.1**	**-0.8**
KOZT	**Kozan**	**1.46**	**0**	PN	**Pn**	**16 44 01.3**	**-0.6**
MEST	**Erdemli**	**1.47**	**293**	*i* P	**Pn**	**16 44 01.4**	**-0.6**
MEST				*i* S	**Sn**	**16 44 21.0**	**-0.2**
GAZ	**Gaziantep**	**1.61**	**44**	PN	**Pn**	**16 44 03.3**	**-0.6**
KMRS	**Kahramanmaras**	**1.72**	**30**	PN	**Pn**	**16 44 04.9**	**-0.6**
HWQ	**Hawqa**	**1.74**	**176**	*e*P	**Pn**	**16 44 04.6**	**-1.1**
HWQ				*e*S	**Sn**	**16 44 27.0**	**-0.9**
IKL	**Isikli**	**1.74**	**278**	PN	**Pn**	**16 44 04.8**	**-1.0**
FKH	**Fakeheh**	**1.84**	**165**	*e*P	**Pn**	**16 44 06.7**	**-0.4**
FKH				*e*S	**Sn**	**16 44 31.6**	**+1.1**
GZT	**Gaziantep**	**1.94**	**46**	*i* P	**Pb**	**16 44 11.4**	**+0.5**
GZT				*i* S	**Sg**	**16 44 41.8**	**+4.0**
BHL	**Bhannes**	**2.11**	**184**	*e*P	**Pn**	**16 44 09.6**	**-1.3**
BHL				*e*S	**Sn**	**16 44 38.3**	**+1.2**
ERMK	**Ermenek**	**2.43**	**286**	*i* P	**Pn**	**16 44 16.9**	**+1.7**
ERMK				*i* S	**Sn**	**16 44 47.3**	**+2.4**
RCY	**Rachaya**	**2.53**	**180**	*e*S	**Sb**	**16 44 53.1**	**+1.0**
URFA	**Urfa**	**2.80**	**59**	*e*PN	**Pn**	**16 44 20.0**	**-0.3**
HDMB	**Hadim**	**2.84**	**290**	*e*PN	**Pn**	**16 44 20.6**	**-0.4**
MYA	**Malataya**	**3.11**	**41**	*e*PN	**Pn**	**16 44 24.5**	**0.0**
KONT	**Konya--Tatoy**	**3.37**	**306**	*e*PN	**Pn**	**16 44 28.3**	**+0.1**
PTK	**Pertek**	**4.04**	**44**	*e*PN	**Pn**	**16 44 37.9**	**+0.5**

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*IDC **04** 17:00:29.2±0.8, 1102S×16367E, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.5/17, mbtmp4.5/13, ML4.8/2, MS3.8/9, Ms1 3.8/9, ms1mx3.6/21, Error ellipse: s-maj=20.4km s-min=19.4km az=19.0*
*NEIC **04** 17:00:31.9±7.5, 1095S×16364E, h19km±47km, mb4.5/5, Error ellipse: s-maj=21.6km s-min=15.4km az=207.0*
*BJI **04** 17:00:31.9, 1090S×16360E, h19km, mb4.5*
*ISCJB **04** 17:00:32.6±0.6, 1115S±007×16365E±007, h33km, mb4.3/14, MS3.8/9, Error ellipse: s-maj=11.2km s-min=6.8km az=87.6*

ISC 04 17:00:34.6±0.6, 1108S±006×16368E±007, h35km, n30, σ1§24/28, mb4.3/14, MS3.8/9, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.02**	**294**	Pn	**Pn**	**17 01 32.8**	**-0.9**
	140nm,0.3s,baz=109,slow=2.3,SNR=40						
HNR				Sn	**Sn**	**17 02 21.0**	**+1.5**
	125nm,0.3s,baz=275,slow=6.6,SNR=3.6						
HNR	**Honiara**	**4.02**	**294**	*e*Pn	**Pn**	**17 01 31.9**	**-1.8**
HNR				*e*Sn	**Sn**	**17 02 21.5**	**+1.9**
DZM	**Mont Dzumac**	**11.25**	**167**	Pn	**Pn**	**17 03 14.1**	**+1.2**
	3.1nm,0.3s,baz=348,slow=18,SNR=28						
DZM				Sn	**Sn**	**17 05 17.2**	**-0.1**
	1.7nm,0.3s,baz=90,slow=15,SNR=5.5						
CTA	**Charters Tower**	**19.01**	**240**	*e*P	**Pn**	**17 04 55.9**	**+1.7**
	17nm,0.9s						
CTA	**Charters Tower**	**19.01**	**240**	P	**Pn**	**17 04 55.8**	**+1.6**
	1.0nm,0.3s,baz=61,slow=12,SNR=14						
AFI	**Afiamalu**	**24.12**	**99**	P	**P**	**17 05 45.5**	**-1.6**
	27nm,0.9s,mb4.7,baz=273,slow=22,SNR=5.2						
AFI				LR	LR	17 13 12.4	
	comp=Z,369nm,19.4s,MS3.9,baz=279,slow=32						
STKA	**Stephens Creek**	**29.05**	**221**	*e*P	**P**	**17 06 32.2**	**+0.7**
	5.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**29.05**	**221**	P	**P**	**17 06 32.2**	**+0.7**
	7.4nm,0.9s,mb4.4,baz=52,slow=13,SNR=6.9						
STKA				LR	LR	17 17 30.1	
	comp=Z,228nm,18.5s,MS3.8,baz=27,slow=35						
WB2	**Warramunga Arr**	**29.56**	**249**	*e*P	**P**	**17 06 33.8**	**-2.2**
WRA	**Warramunga Arr**	**29.57**	**249**	P	**P**	**17 06 35.5**	**-0.6**
	7.2nm,0.6s,mb4.6,baz=80,slow=9.2,SNR=88						
URZ	**Urewera**	**29.62**	**158**	LR	LR	17 16 33.3	
	comp=Z,89nm,21.6s,MS3.4,baz=138,slow=32						
KAKA	**Kakadu**	**30.60**	**264**	*e*P	**P**	**17 06 42.7**	**-2.5**
	6.3nm,0.6s,mb4.6						
GUMO	**Guam**	**30.80**	**322**	LR	LR	17 17 39.2	
	comp=Z,220nm,21.7s,MS3.8,baz=141,slow=34						
AS31	**Alice Springs**	**30.97**	**242**	*e*P	**P**	**17 06 47.3**	**-1.2**
ASAR	**Alice Springs**	**30.97**	**242**	P	**P**	**17 06 47.5**	**-0.9**
	3.5nm,0.6s,mb4.4,baz=64,slow=10,SNR=60						
ASAR				LR	LR	17 19 05.3	
	comp=Z,217nm,18.9s,MS3.8,baz=335,slow=36						
FITZ	**Fitzroy Crossi**	**37.41**	**255**	⇓*i*P	**P**	**17 07 42.7**	**-1.6**
	13nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**37.41**	**255**	P	**P**	**17 07 43.1**	**-1.2**
	6.4nm,0.6s,mb4.7,baz=90,slow=7.5,SNR=46						
PPT	**Papeete**	**45.66**	**104**	*e*S	**S**	**17 15 32.4**	**+0.1**
	54nm,23.8s						
PPT				*e*LR	LR	17 21 30.9	
	135nm,21.8s						
PPT	**Papeete**	**45.66**	**104**	LR	LR	17 23 51.3	
	comp=Z,225nm,18.6s,MS4.1,baz=282,slow=31						
TBI	**Tubuai**	**46.20**	**112**	*e*LR	LR	17 22 02.2	
	184nm,28.0s						
ASAJ	**Asahikawa**	**58.18**	**342**	P	**P**	**17 10 25.0**	**0.0**
	13nm,1.1s,mb4.9,baz=190,slow=24,SNR=4.1						
ASAJ				LR	LR	17 35 10.0	
	comp=Z,35nm,18.2s,MS3.5,baz=147,slow=36						
RKT	**Rikitea**	**59.48**	**110**	*e*LR	LR	17 27 53.9	
	238nm,24.8s						
VNDA	**Vanda**	**66.44**	**180**	P	**P**	**17 11 21.5**	**+1.2**
	0.9nm,0.8s,mb3.9,baz=333,slow=9.0,SNR=5.5						
SONM	**Songino Array**	**77.50**	**325**	P	**P**	**17 12 26.8**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=147,slow=6.2,SNR=9.4						
SONM				LR	LR	17 44 49.2	
	comp=Z,89nm,18.9s,MS4.1,baz=253,slow=34						
GTA	**Gaotai**	**77.63**	**315**	*e*P	**P**	**17 12 29.1**	**+1.8**
GTA				AP	pP	17 12 34.3	-4.0
GTA				XP	sP	17 12 37.8	-4.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s,mb3.9						
QSPA	**South Pole Qui**	**78.93**	**180**	*e*P	**P**	**17 12 35.4**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.3						
MAW	**Mawson**	**83.93**	**202**	P	**P**	**17 13 01.4**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.2,baz=96,slow=7.3,SNR=3.0						
MAW				LR	LR	17 48 29.4	
	comp=Z,46nm,18.6s,MS3.9,baz=246,slow=34						
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**17 13 42.0**	**+1.5**
	comp=Z,1.2nm,0.9s,mb4.2,baz=87,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**17 13 42.0**	**+1.5**
PDAR	**Pinedale Array**	**95.07**	**48**	P	**P**	**17 13 53.5**	**-0.3**
	comp=Z,0.3nm,0.4s,mb4.0,baz=235,slow=5.2,SNR=4.1						

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*NEIC **04** 17:06:43.6±0.5, 303S×12964E, h10km, mb4.2/6, Error ellipse: s-maj=19.3km s-min=7.3km az=66.0*
*ISCJB **04** 17:06:44.8±0.6, 303S±008×1296E±02, h33km, mb4.0/11, Error ellipse: s-maj=25.0km s-min=7.5km az=135.5*
*IDC **04** 17:06:47.4±4.5, 3145S×12945E, h36km±36km, mb3.9/9, mb1 4.1/11, mb1mx4.0/18, mbtmp4.2/11, ML4.1/2, Error ellipse: s-maj=56.4km s-min=11.2km az=72.0*

ISC 04 17:06:46.1±3.9, 308S±008×1296E±02, h27km±28km, n23, σ0§82/23, mb4.0/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.43**	**194**	*e*P	**Pn**	**17 10 21.8**	**0.0**
	13nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.43**	**194**	Pn	**Pn**	**17 10 22.6**	**+0.8**
	0.4nm,0.3s,baz=15,slow=8.5,SNR=8.5						
WRA	**Warramunga Arr**	**17.39**	**165**	P	**Pn**	**17 10 45.5**	**-1.2**
	0.9nm,0.3s,baz=351,slow=12,SNR=25						
WRA				S	**Sn**	**17 13 59.4**	**0.0**
	0.1nm,0.3s,baz=341,slow=20,SNR=2.7						
WB2	**Warramunga Arr**	**17.39**	**165**	*e*P	**Pn**	**17 10 44.1**	**-2.6**
KSM	**Kuching**	**19.81**	**283**	*e*P	**Pn**	**17 11 16.2**	**+0.1**
AS31	**Alice Springs**	**20.89**	**169**	*e*P	**P**	**17 11 26.5**	**+0.4**
ASAR	**Alice Springs**	**20.89**	**169**	P	**P**	**17 11 27.1**	**+1.1**
	34nm,0.8s,baz=348,slow=11,SNR=184						
ASAR				S	**S**	**17 15 17.1**	**-0.4**
	2.0nm,0.9s,baz=345,slow=19,SNR=5.3						
ASAR				PcP	PcP	17 15 34.5	+1.0
	0.6nm,0.6s,baz=344,slow=1.1,SNR=6.9						
CTA	**Charters Tower**	**23.45**	**137**	*e*P	**P**	**17 11 55.3**	**+1.9**
	8.5nm,0.9s,mb4.2						
CTA	**Charters Tower**	**23.45**	**137**	P	**P**	**17 11 54.3**	**+0.9**
	7.3nm,0.8s,mb4.2,baz=330,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**30.79**	**160**	P	**P**	**17 13 00.1**	**+0.8**
	5.2nm,1.0s,mb4.3,baz=331,slow=12,SNR=4.0						
CHTO	**Chiang Mai**	**37.19**	**307**	*e*P	**P**	**17 13 55.8**	**+1.0**
	3.7nm,0.9s,mb4.2						
SONM	**Songino Array**	**54.62**	**341**	P	**P**	**17 16 12.1**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=150,slow=9.3,SNR=2.9						
CASY	**Casey**	**64.50**	**188**	*e*P	**P**	**17 17 20.2**	**-0.1**
	2.6nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**	**17 17 21.8**	**-0.2**
	1.4nm,0.8s,mb4.0,baz=128,slow=7.9,SNR=6.9						
ZAL	**Zalesovo**	**67.92**	**333**	P	**P**	**17 17 42.2**	**0.0**
	1.0nm,0.7s,mb3.9,baz=359,slow=5.5,SNR=6.3						
ZAL	**Zalesovo**	**67.92**	**333**	P	**P**	**17 17 42.2**	**0.0**
BVAR	**Borovoye Array**	**74.56**	**327**	P	**P**	**17 18 21.7**	**-0.7**
	0.8nm,0.7s,mb3.7,baz=136,slow=9.5,SNR=5.5						
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**17 18 22.1**	**-0.7**
	1.6nm,0.7s,mb4.1						
VNDA	**Vanda**	**76.36**	**173**	P	**P**	**17 18 32.3**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=322,slow=4.1,SNR=9.2						
VNDA	**Vanda**	**76.36**	**173**	*e*P	**P**	**17 18 32.5**	**-0.2**
	1.5nm,0.8s,mb4.0						
MAW	**Mawson**	**78.44**	**201**	P	**P**	**17 18 44.3**	**0.0**
	1.1nm,0.6s,mb4.0,baz=82,slow=9.4,SNR=3.7						
CPUP	**Villa Florida**	**150.01**	**167**	PKPbc	PKPbc	17 26 35.9	+2.0
	0.9nm,0.6s,baz=210,slow=3.3,SNR=5.9						
CPUP	**Villa Florida**	**150.01**	**167**	PKPbc	PKPbc	17 26 35.9	+2.0

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*IDC **04** 17:18:59.1±3.0, 359N×12925E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=105.9km s-min=52.5km az=87.0*
*ISCJB **04** 17:19:18.6±1.6, 19N±02×130.1E±05, h33km, mb3.6/3, Error ellipse: s-maj=78.0km s-min=12.5km az=139.2*

ISC 04 17:19:20.7±1.6, 20N±02×1302E±05, h35km, n6, σ1§41/6, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**17.55**	**325**	*e*P	**Pn**	**17 23 22.4**	**-0.1**
ABRA	**Dolores**	**18.17**	**330**	*e*P	**Pn**	**17 23 30.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.43**	**192**	P	**P**	**17 23 54.8**	**0.0**
	1.1nm,0.8s,baz=16,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**22.14**	**170**	P	**P**	**17 24 15.1**	**+1.9**
	1.0nm,0.5s,mb3.5,baz=346,slow=11,SNR=38						
ASAR	**Alice Springs**	**25.72**	**172**	P	**P**	**17 24 46.0**	**-1.7**
	0.5nm,0.5s,mb3.3,baz=352,slow=7.5,SNR=32						
ASAR				PcP	PcP	17 28 05.8	-11
	0.2nm,0.4s,baz=354,slow=2.2,SNR=8.9						
STKA	**Stephens Creek**	**35.34**	**163**	P	**P**	**17 26 12.4**	**-0.2**
	1.6nm,0.8s,mb4.0,baz=3.7,slow=10.0,SNR=4.1						

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*CSEM **04** 17:23:57.9, 6786N×2018E, h1km, ML2.6, Suspected Mining explosion. After UPP*
*UPP **04** 17:23:57.9, 6786N×2018E, h1km, ML2.6, Suspected Mining explosion.*

HEL 04 17:23:58.5±0.1, 6786N×2018E, h0km, ML2.6(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**32**	*i* P	Pg	17 24 00.2	-0.4
KUA				*i* S	Sg	17 24 01.9	-0.2
NIKU	**Nikkaluokta**	**0.44**	**271**	*i* P	Pg	17 24 06.1	-0.8
NIKU				*i* S	Sg	17 24 12.2	-0.2
NIKU	**Nikkaluokta**	**0.44**	**271**	P	Pg	17 24 06.1	-0.8
NIKU				S	Sg	17 24 12.2	-0.3
LANU	**Lannavaara**	**0.71**	**74**	*i* P	Pg	17 24 11.2	-0.9
LANU				*i* S	Sg	17 24 20.3	-0.9
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pg	17 24 20.6	-0.4
KIF				*e*S	Sg	17 24 35.9	-0.3
SGF	**Sodankyl**	**2.46**	**97**	*e*SB	Sb	17 25 12.9	-1.5

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*ZUR **04** 17:34:14.8, 4170N×1590E, h100km*
*IPEC **04** 17:34:18.6±59.0, 4209N×1572E, h15km±519km, ML3.2/2, Error ellipse: s-maj=1.9km s-min=1.0km az=46.0*
*ISCJB **04** 17:34:18.8±0.1, 42200N±0009×1569E±001, h33km, mb4.1/9, Error ellipse: s-maj=1.4km s-min=1.2km az=108.3*
*MOS **04** 17:34:19.0±1.2, 4219N×1557E, h33km, mb4.7/4, Error ellipse: s-maj=3.9km s-min=2.6km az=118.0*
*LDG **04** 17:34:19.4±0.1, 4212N×1578E, h30km, Ml4.5/28, Error ellipse: s-maj=2.4km s-min=1.7km az=33.0*
*ROM **04** 17:34:20.5±0.1, 4207N×1575E, h37km±1km, Ml4.2/69, Error ellipse: s-maj=2.4km s-min=1.4km az=22.0*
*NEIC **04** 17:34:20.5, 4207N×1575E, h37km, ML4.2(PDG), ML4.2(ROM), ML4.5(LDG), ML4.9(THE), After ROM.*
*CSEM **04** 17:34:20.1±0.0, 4211N×1572E, h40km, ML4.6/27, Error ellipse: s-maj=1.1km s-min=0.7km az=59.0*
*PDG **04** 17:34:20.1±1.0, 4213N×1572E, h45km±11km*
*PRU **04** 17:34:22.8, 4258N×1542E, h0km*

MRLC **Muro Lucano** 1.39 187 Pg Pn 17 34 42.7 -0.8
3µm,0.5s
MOCO **Biccari - m.te** 1.40 237 Pg Pn 17 34 36.1 -7.4
MOCO Sg Sn 17 34 48.3 -12
5µm,0.7s
AMUR **Altamura** 1.40 151⇓*i*Pg Pn 17 34 43.0 -0.5
2µm,0.2s
MCRV **Calabrutti - M** 1.42 197 Pg Pn 17 34 43.0 -0.8
4µm,0.6s
VCEL **Villa Celiera** 1.42 281 Pg Pn 17 34 44.9 +1.1
3µm,0.5s
RFI **Roccamonfina** 1.54 238⇓*i*Pg Pn 17 34 46.6 +1.1
90nm,0.4s
VVLD **Villa Vallelon** 1.58 261 Pg Pn 17 34 46.4 +0.3
3µm,0.7s
FAGN **Fagnano** 1.59 275 Pg Pn 17 34 47.2 +1.0
SGO **Sicignano** 1.61 191⇓*i*Pg Pn 17 34 46.6 +0.2
140nm,0.4s
MIGL **Miglionico** 1.63 160⇓*i*Pg Pn 17 34 46.3 -0.4
14µm,1.1s
STON **Ston** 1.64 63 *i* Pn Pn 17 34 46.9 +0.1
STON *i* Sg Sn 17 35 07.2 +0.6
TERO **Teramo** 1.64 288 Pg Pn 17 34 48.1 +1.2
3µm,0.6s
CDRU **Civita di Ruta** 1.68 191 Pg Pn 17 34 46.5 -0.9
2µm,0.5s
NOCI **Noci** 1.69 143⇓*i*Pg Pn 17 34 47.1 -0.4
3µm,0.3s
OFFI **Offida** 1.70 299 Pg Pn 17 34 49.6 +1.9
6µm,0.6s
AQU **L'Aquila** 1.73 278 Pg Pn 17 34 50.6 +2.5
2µm,0.7s
AQU **L'Aquila** 1.73 278 *e*Pg Pn 17 34 50.4 +2.2
AQU Pg Pn 17 34 50.6 +2.5
AQU **L'Aquila** 1.73 278 *e*Pg Pn 17 34 50.4 +2.3
GUAR **Guarcino** 1.83 260 Pg Pn 17 34 51.2 +1.8
1µm,0.9s
CMPR **Campora** 1.85 190⇓*i*Pg Pn 17 34 49.1 -0.6
CMPR Sg Sn 17 35 12.6 +0.8
3µm,0.4s
PE1 **Pezze di Greco** 1.85 136 *e*Pg Pn 17 34 49.4 -0.3
PE1 *e*Sg Sn 17 35 10.3 -1.6
CRAC **Craco** 1.85 163⇓*i*Pg Pn 17 34 49.2 -0.6
4µm,0.4s
GIUL **Giuliano Di Ro** 1.93 253 Pg Pn 17 34 51.5 +0.7
483nm,0.6s
FIAM **Fiamignano** 1.94 275 Pg Pn 17 34 53.1 +2.2
1µm,0.5s
SCHR **S. Chirico Rap** 1.96 172⇓*i*Pg Pn 17 34 50.3 -0.9
998nm,0.5s
TREB **Trebinje** 2.03 73 P Pn 17 34 52.2 0.0
LNSS **Leonessa** 2.04 284⇓*i*Pg Pn 17 34 53.8 +1.5
2µm,0.6s
CERT **Cerreto** 2.05 266 Pg Pn 17 34 53.6 +1.2
1µm,0.6s
HCY **Herceg Novi** 2.08 81⇓*i*Pn Pn 17 34 53.4 +0.4
HCY *e*Sn Sn 17 35 17.6 -0.1
HCY **Herceg Novi** 2.08 81⇓*i*Pn Pn 17 34 53.3 +0.3
HCY *e*Sn Sn 17 35 17.6 -0.1
AOI **Ancona** 2.10 313 Pg Pn 17 34 53.8 +0.6
2µm,0.9s
CUC **Castrocucco** 2.15 178⇓*i*Pg Pn 17 34 53.6 -0.2
CUC Sg Sn 17 35 19.1 -0.1
2µm,0.5s
ORI **Oriolo Calabro** 2.15 165 Pg Pn 17 34 54.1 +0.3
2µm,0.4s
VENT **Ventotene** 2.19 233⇑*i*Pg Pn 17 34 53.7 -0.7
546nm,0.3s
MTCE **Montecelio** 2.22 268 Pg Pn 17 34 55.6 +0.8
711nm,0.5s
BRY **Bratogost** 2.22 69⇑*i*Pn Pn 17 34 55.2 +0.3
BRY *e*Sn Sn 17 35 21.9 +0.8
CING **Cingoli** 2.23 304⇓*i*Pg Pn 17 34 55.8 +0.8
836nm,0.5s
RDP **Rocca di Papa** 2.27 261 Pg Pn 17 34 56.7 +1.2
1µm,0.5s
LAV9 **Lanuvio** 2.30 259 Pg Pn 17 34 56.8 +0.9
665nm,0.4s
MA9 **Marino** 2.31 262 Pg Pn 17 34 57.7 +1.6
411nm,0.4s
SNTG **Esanatoglia** 2.33 300⇓*i*Pg Pn 17 34 57.2 +0.8
BUM **Brajici-Budva** 2.37 85⇓*i*Pn Pn 17 34 57.3 +0.4
BUM *e*Sn Sn 17 35 24.6 0.0
ASS **Assisi** 2.44 293⇓*i*Pg Pn 17 34 59.6 +1.7
49nm,0.4s
NVLJ **Novalja** 2.50 346 *i* Pn Pn 17 34 59.4 +0.7
NVLJ *i* Sn Sn 17 35 28.3 +0.4
NVLJ **Novalja** 2.50 346 *i* Pn Pn 17 34 59.3 +0.6
NVLJ *i* Sn Sn 17 35 28.3 +0.4
NKY **Niksic** 2.52 73⇑*i*Pn Pn 17 34 59.7 +0.8
NKY *e*Sn Sn 17 35 29.4 +1.1
LCI **Lecce** 2.55 134 Pg Pn 17 34 59.3 -0.1
453nm,0.5s
UPM **Unac-Piva** 2.58 65⇓*i*Pn Pn 17 35 01.0 +1.2
UPM *e*Sn Sn 17 35 31.5 +1.5
MURB **Monte Urbino** 2.61 297⇓*i*Pg Pn 17 35 01.8 +1.6
MURB Sg Sn 17 35 32.8 +2.2
4µm,0.3s
ULC **Ulcinj** 2.63 93⇑*i*Pn Pn 17 35 00.9 +0.4
ULC *e*Sn Sn 17 35 30.9 -0.4
TTG **Podgorica** 2.64 83⇓*i*Pn Pn 17 35 01.6 +0.9
TTG *e*Sn Sn 17 35 32.6 +1.1
FSSB **Fossombrone** 2.66 307⇓*i*Pg Pn 17 35 01.8 +0.9
3µm,0.5s
TOLF **Tolfa** 2.77 270 Pg Pn 17 35 03.2 +0.9
487nm,0.9s
BLY **Banja Luka** 2.82 22 P Pn 17 35 04.1 +1.1
CDCA **Citt' di Caste** 2.88 298 Pg Pn 17 35 06.1 +2.2
1µm,0.6s
BADI **Badiali** 2.90 299 Pg Pn 17 35 06.1 +1.9
1µm,0.6s
SACS **San Casciano d** 2.91 285 Pg Pn 17 35 05.4 +1.2
540nm,0.6s
SCTE **Santa Cesarea** 2.93 134⇓*i*Pg Pn 17 35 04.4 -0.1
PLE **Pljevlja** 2.96 65⇑*i*Pn Pn 17 35 06.5 +1.6
PLE *e*Sn Sn 17 35 40.3 +1.1
RSM **Repubblica di** 2.99 308⇓*i*Pg Pn 17 35 06.7 +1.3
268nm,0.4s
TIP **Timpagrande** 3.06 165⇓*i*Pg Pn 17 35 07.1 +0.7
307nm,1.3s
TIP **Timpagrande** 3.06 165 *e*Pn Pn 17 35 06.7 +0.4
TIP ⇓*i*Pg Pn 17 35 07.1 +0.7
TIP **Timpagrande** 3.06 165 *e*Pn Pn 17 35 06.7 +0.3
TIP **Timpagrande** 3.06 165⇓*i*Pg Pn 17 35 07.1 +0.7
307nm,1.3s
CRE **Caprese Michel** 3.14 299⇓*i*Pg Pn 17 35 08.7 +1.3
264nm,0.3s
IVA **Berane** 3.18 75⇓*i*Pn Pn 17 35 09.0 +1.1
IVA *e*Sn Sn 17 35 45.3 +0.8
PVY **Plav** 3.19 80⇑*i*Pn Pn 17 35 09.0 +0.9
PVY *e*Sn Sn 17 35 45.8 +1.0
SERS **Sersale** 3.19 166 Pg Pn 17 35 08.6 +0.5
235nm,0.5s
TIR **Tirane** 3.20 103 Pg Pn 17 35 09.2 +0.9
1µm,0.6s
TIR **Tirane** 3.20 103 *e*Pn Pn 17 35 09.1 +0.8
TIR *e*Sn Sn 17 35 40.4 -4.8
BBLS **Bajina Basta -** 3.21 56 *i* Pn Pn 17 35 10.2 +1.8
BBLS Sn Sn 17 35 46.4 +0.9
SJES **Sjenica** 3.31 69 Pn Pn 17 35 09.6 -0.2
SJES Sn Sn 17 35 45.4 -2.5
SFI **Santa Sofia** 3.34 303 Pg Pn 17 35 12.1 +1.9
460nm,0.7s
GRI **Girifalco** 3.36 171 Pg Pn 17 35 10.4 0.0
329nm,0.6s
SISC **Sisak** 3.36 8 *e*Pn Pn 17 35 10.8 +0.3
SISC *i* Sn Sn 17 35 45.6 -3.6
SISC **Sisak** 3.36 8 *e*Pn Pn 17 35 10.8 +0.3
BOJS **Bojanci** 3.38 354 *e*Pn Pn 17 35 12.0 +1.2
BOJS *i* Sn Sn 17 35 50.3 +0.7
BOJS
comp=Z,264nm,0.3s
BOJS **Bojanci** 3.38 354 *e*Pn Pn 17 35 12.0 +1.2
BOJS *i* Sn Sn 17 35 50.3 +0.7
comp=Z,264nm,0.3s
MAON **Monte Argentar** 3.42 276 Pg Pn 17 35 12.1 +0.9
comp=Z,337nm,0.7s
CSNT **Castellina Chi** 3.52 294⇓*i*Pg Pn 17 35 13.6 +0.9
comp=Z,260nm,0.4s
VMG **Vicchio** 3.56 302 Pg Pn 17 35 15.2 +2.0
comp=Z,432nm,0.5s
SLNA **Salina** 3.63 191 Pg Pn 17 35 15.1 +0.9
comp=Z,307nm,0.4s
GRFL **Gerfalco** 3.64 288 Pg Pn 17 35 15.4 +1.1
comp=Z,41nm,0.6s

DIVS **Divcibare** 3.69 57 *i* Pn Pn 17 35 15.5 +0.5
DIVS Sn Sn 17 35 57.5 +0.3
CRES **Cresnjev** 3.69 357 *e*Pn Pn 17 35 16.2 +1.2
CEY **Cerknica** 3.72 346 *i* Pn Pn 17 35 15.8 +0.4
CEY *i* Sn Sn 17 35 57.9 0.0
CEY **Cerknica** 3.72 346 *e*Pn Pn 17 35 15.9 +0.5
CEY *i* Sn Sn 17 35 57.9 0.0
VISS **Visnje** 3.72 350 *i* Pn Pn 17 35 16.4 +1.0
VISS *i* Sn Sn 17 35 57.5 -0.4
VISS
comp=Z,120nm,0.2s
VISS **Visnje** 3.72 350 *i* Pn Pn 17 35 16.4 +1.0
VISS *i* Sn Sn 17 35 57.5 -0.4
comp=Z,120nm,0.2s
SEI **Scarperia** 3.72 302 Pg Pn 17 35 17.4 +1.9
comp=Z,1µm,0.4s
PLAC **Placanica** 3.73 171 Pg Pn 17 35 16.2 +0.7
comp=Z,107nm,0.7s
LLI **Lipari** 3.74 189 Pg Pn 17 35 16.5 +0.9
comp=Z,706nm,0.5s
VPL **Vulcano Piano** 3.80 189 Pg Pn 17 35 16.9 +0.4
comp=Z,271nm,0.6s
TRI **Trieste** 3.84 339 *e*Pn Pn 17 35 16.9 -0.1
MSRU **Castanea** 3.88 182⇓*i*Pg Pn 17 35 16.9 -0.6
comp=Z,518nm,0.4s
SCLL **Scilla** 3.88 180 Pg Pn 17 35 17.2 -0.4
comp=Z,35nm,0.3s
KEK **Kerkira** 3.93 127⇓*i*Pg Pn 17 35 18.7 +0.4
comp=Z,548nm,0.4s
KEK **Kerkira** 3.93 127 *e*Pn Pn 17 35 18.6 +0.3
MSI **Messina ING** 3.93 182 Pg Pn 17 35 18.1 -0.2
comp=Z,460nm,0.4s
OHR **Ohrid** 3.94 103 *e*Pn Pn 17 35 19.4 +0.9
OHR *e*Sn Sn 17 36 00.1 -3.4
OHR **Ohrid** 3.94 103 *i* Pn Pn 17 35 19.5 +1.0
OHR *i* Sn Sn 17 36 00.8 -2.6
FIU **Minerbio Fiu** 3.97 310 Pg Pn 17 35 20.2 +1.4
LJU **Ljubljana** 4.00 348 *i* Pn Pn 17 35 20.2 +1.0
LJU *i* 17 35 28.9
LJU *i* Sn Sn 17 36 04.9 +0.1
LJU *e*Sg Sn 17 36 22.0 +17
LJU
comp=Z,144nm,0.2s
LJU **Ljubljana** 4.00 348 *i* Pn Pn 17 35 20.2 +1.0
LJU *i* 17 35 28.9
LJU *i* Sn Sn 17 36 03.8 -1.0
LJU **Ljubljana** 4.00 348 *e*Pn Pn 17 35 20.3 +1.1
LJU *i* Sn Sn 17 36 03.8 -1.0
comp=Z,144nm,0.2s
GRUS **Gruza** 4.06 63 *i* Pn Pn 17 35 19.1 -0.9
GRUS Sn Sn 17 36 02.5 -3.9
SOI **Samo** 4.07 176 Pg Pn 17 35 19.7 -0.5
comp=Z,192nm,0.8s
VOY **Vojsko** 4.11 342⇓*e*Pn Pn 17 35 20.9 +0.2
VOY *e*Sn Sn 17 36 06.3 -1.2
ZCCA **Zocca** 4.11 304 Pg Pn 17 35 23.4 +2.6
comp=Z,116nm,0.4s
PII **Pisa** 4.13 294 Pg Pn 17 35 21.8 +0.8
comp=Z,142nm,0.4s
MTTG **Motta San Giov** 4.13 180 Pg Pn 17 35 20.8 -0.3
comp=Z,210nm,0.5s
RHK3 **Tenkes** 4.17 25⇑*e*P Pn 17 35 21.8 +0.2
BDI **Bagni Di Lucca** 4.21 299 Pg Pn 17 35 22.9 +0.7
comp=Z,325nm,0.5s
MMME **Mongiuffi-Meli** 4.21 185 Pg Pn 17 35 22.1 -0.1
comp=Z,228nm,0.5s
MAIM 4.22 297 Pg Pn 17 35 23.2 +0.9
SKO **Skopje** 4.26 90 *e*Pn Pn 17 35 24.9 +2.0
SKO *e*Sn Sn 17 36 09.4 -2.0
SKO **Skopje** 4.26 90 *i* Pn Pn 17 35 25.2 +2.3
SKO *i* Sn Sn 17 36 10.2 -1.2
MNO **Monte Soro** 4.27 191 Pg Pn 17 35 24.4 +1.4
comp=Z,102nm,0.3s
DRE **Drenchia** 4.30 340⇓*i*Pn Pn 17 35 23.8 +0.4
CADS **Cadrg** 4.33 341 *i* Pn Pn 17 35 23.9 +0.2
CADS *e*Sn Sn 17 36 10.6 -2.4
CADS
comp=Z,100nm,0.2s
CADS **Cadrg** 4.33 341 *i* Pn Pn 17 35 23.9 +0.1
CADS *e*Sn Sn 17 36 10.6 -2.4
comp=Z,100nm,0.2s
COLI **Coloredo** 4.33 338⇓*i*Pn Pn 17 35 24.2 +0.3
GIB **Gibilmanna** 4.34 198 Pg Pn 17 35 25.1 +1.1
comp=Z,46nm,0.4s
BIA **Bitola** 4.35 103 *e*Pn Pn 17 35 24.5 +0.4
BIA *e*Sn Sn 17 36 09.5 -4.0
BIA **Bitola** 4.35 103 *i* Pn Pn 17 35 24.7 +0.6
BIA *i* Sn Sn 17 36 10.7 -2.8
GSCL **Gusciola** 4.35 302 Pg Pn 17 35 25.8 +1.7
comp=Z,94nm,0.5s
IGT **Igoumenitsa** 4.36 125 *e*Pn Pn 17 35 23.8 -0.5
IGT *e*Sn Sn 17 36 08.6 -5.1
CSLB **Castelbuono** 4.39 197 Pg Pn 17 35 25.8 +1.2
comp=Z,53nm,0.5s
VLC **Villacollemand** 4.39 299 *e*Pn Pn 17 35 24.9 +0.3
VLC **Villacollemand** 4.39 299 *e*Pn Pn 17 35 25.0 +0.3
SARO **Sassorosso** 4.39 300 P Pn 17 35 24.9 +0.2
ROBS **Robic** 4.40 340 *i* Pn Pn 17 35 24.7 -0.1
ROBS *i* Sn Sn 17 36 13.7 -1.1
ROBS **Robic** 4.40 340 *i* Pn Pn 17 35 24.7 -0.1
ROBS *i* Sn Sn 17 36 13.6 -1.1
OBKA **Obir** 4.45 350⇓*i*Pn Pn 17 35 25.7 +0.3
SNR=94
OBKA ⇓*i*Sn Sn 17 36 15.9 0.0
OBKA **Obir** 4.45 350 *e*Pn Pn 17 35 26.1 +0.7
OBKA Sn Sn 17 36 15.9 0.0
FNA **Florina** 4.46 106 *e*Pn Pn 17 35 26.5 +0.9
FNA *e*Sn Sn 17 36 13.2 -3.1
BAD **Bernadia** 4.47 337⇓*i*Pn Pn 17 35 25.6 -0.1
BAD **Bernadia** 4.47 337 *i* Pn Pn 17 35 25.5 -0.2
BUA **Buia** 4.49 336⇓*i*Pn Pn 17 35 26.0 +0.1
ERBM **Eremo** 4.49 302 Pg Pn 17 35 28.3 +2.3
comp=Z,90nm,0.4s
MTLO **Montello** 4.51 326 *e*Pn Pn 17 35 26.0 -0.2
PERS **Pernice** 4.52 355 *i* Pn Pn 17 35 26.9 +0.5
PERS *i* Sn Sn 17 36 16.6 -1.0
CAE **Caneva** 4.53 330⇓*i*Pn Pn 17 35 26.5 -0.1
VINC **Vinca** 4.54 298 P Pn 17 35 27.2 +0.6
MPRI **Monte Prat** 4.55 335⇓*i*Pn Pn 17 35 26.8 0.0
PKSM **Moragy** 4.58 26⇑*i*P Pn 17 35 27.6 +0.3
PKSM **Moragy** 4.58 26 ⇑P Pn 17 35 27.6 +0.4
PKSM **Moragy** 4.58 26⇑*e*P Pn 17 35 27.3 +0.1
BOO **Bordano** 4.58 337 *e*Pn Pn 17 35 27.0 -0.3
MLNI **Malnisio** 4.59 332⇓*i*Pn Pn 17 35 27.4 0.0
LSR **Lussari** 4.61 341⇓*i*Pn Pn 17 35 28.0 +0.3
BACM 4.65 299 P Pn 17 35 28.5 +0.3
CGRP **Cima Grappa** 4.69 324⇓*i*Pn Pn 17 35 28.2 -0.5
GRAM 4.75 302 P Pn 17 35 31.3 +1.8
VAE **Valguarnera** 4.76 193 P Pn 17 35 33.8 +4.0
comp=Z,2.1nm,0.3s,baz=271,slow=1.9,SNR=5.6
VAE S Sn 17 36 31.6 +7.9
comp=Z,1.9nm,0.3s,baz=85,slow=22,SNR=2.3
PLRO **Paularo** 4.78 338⇓*i*Pn Pn 17 35 29.9 0.0
ZOU **Zoufplan** 4.83 337⇓*i*Pn Pn 17 35 30.7 0.0
CODM 4.84 300 P Pn 17 35 31.8 +1.0
STIP **Stip** 4.85 93 *e*Pn Pn 17 35 32.0 +1.1
STIP *e*Sn Sn 17 36 22.5 -3.2
STIP **Stip** 4.85 93 *i* Pn Pn 17 35 32.0 +1.1
STIP *i* Sn Sn 17 36 22.4 -3.3
STIP **Stip** 4.85 93 *e*Pn Pn 17 35 32.0 +1.1
STIP *i* Sn Sn 17 36 22.3 -3.4
AGST **Augusta-Monte** 4.89 185 Pg Pn 17 35 31.8 +0.3
comp=Z,45nm,0.2s
CSMI **Casera Mimoias** 4.89 334⇓*i*Pn Pn 17 35 31.4 -0.1
FAU **Forcella Aurin** 4.89 328 *e*Pn Pn 17 35 31.4 -0.1
PGF **Pioggiola** 5.00 277 *e*Pn Pn 17 35 34.3 +1.4
PGF *e*Sn Sn 17 36 25.6 -3.8
comp=Z,58nm,0.6s
PGF **Pioggiola** 5.00 277 *e*Pn Pn 17 35 34.3 +1.4
PGF *e*Sn Sn 17 36 25.6 -3.8
comp=Z,29nm,0.6s
SSY **Sortino** 5.00 186 Pg Pn 17 35 34.0 +1.0
comp=Z,190nm,0.6s
SC2M **Scurtabr** 5.05 299 P Pn 17 35 35.2 +1.5
AFL **Alpe Faloria** 5.07 331 *e*Pn Pn 17 35 34.4 +0.4
LKD **Levkas** 5.09 131 *e*Pn Pn 17 35 34.3 +0.1
LKD *e*Sn Sn 17 36 26.7 -5.0
ARSA **Arzberg** 5.11 359 *i* Pn Pn 17 35 35.1 +0.6
SNR=93
ARSA ⇓*i*Sn Sn 17 36 30.9 -1.4
SALO **Salr** 5.12 315⇓*i*Pg Pn 17 35 34.6 0.0
comp=Z,2µm,0.4s
GRG **Griva** 5.15 101 *e*Pn Pn 17 35 35.5 +0.4

GRG *e*Sn Sn 17 36 29.4 -3.8
VAY **Valandovo** 5.19 97 *e*Pn Pn 17 35 35.8 +0.2
VAY **Valandovo** 5.19 97 *i* Pn Pn 17 35 36.0 +0.3
VAY *i* Sn Sn 17 36 29.5 -4.7
VAY **Valandovo** 5.19 97 *e*Pn Pn 17 35 35.8 +0.2
VAY *i* Sn Sn 17 36 29.5 -4.7
HAVL **Avola** 5.19 185 Pg Pn 17 35 36.1 +0.5
comp=Z,285nm,1.2s
KBA **Koelnbreinsper** 5.22 342 *i* Pn Pn 17 35 36.8 +0.8
SNR=166
KBA ⇑*i*Sn Sn 17 36 33.8 -1.1
BOB **Bobbio (Coli)** 5.27 302 Pg Pn 17 35 38.4 +1.8
comp=Z,322nm,0.5s
APPI **Appiano** 5.40 325⇑*i*Pg Pn 17 35 39.0 +0.5
comp=Z,537nm,0.4s
MABI **Malga Bissina** 5.42 318 Pg Pn 17 35 38.7 0.0
comp=Z,65nm,0.3s
VSL **Villasalto** 5.49 243 *e*P Pn 17 35 39.6 0.0
comp=Z,27nm,0.8s
VSL **Villasalto** 5.49 243 *e*Pn Pn 17 35 39.7 0.0
KKB **Krupnik** 5.49 90 P Pn 17 35 41.4 +1.6
KKB S Sn 17 36 38.5 -3.1
LIT **Litokhoron** 5.50 109 *e*Pn Pn 17 35 40.0 +0.1
LIT *e*Sn Sn 17 36 36.9 -5.0
VTS **Vitosha** 5.57 83 P Pn 17 35 42.6 +1.8
VTS S Sn 17 36 40.8 -2.6
VTS **Vitosha** 5.57 83⇓*i*P Pn 17 35 42.7 +1.9
VTS **Vitosha** 5.57 83 ⇓P Pn 17 35 42.7 +2.0
VTS **Vitosha** 5.57 83 *e*Pn Pn 17 35 42.7 +1.9
SOP **Sopron** 5.58 6⇑*e*Pn Pn 17 35 41.6 +0.7
SOP *e*Sn Sn 17 36 40.0 -3.7
THE **Thessaloniki** 5.66 103 *e*Pn Pn 17 35 41.9 0.0
HORT **Hortiatis** 5.76 103 *e*Pn Pn 17 35 43.0 -0.4
BRMO **Bormio** 5.79 320 Pg Pn 17 35 44.6 +0.8
comp=Z,69nm,0.5s
CONA **Conrad Observa** 5.79 1⇑*i*Pn Pn 17 35 44.4 +0.5
SNR=42
CONA ⇑*i*Sn Sn 17 36 47.6 -1.3
MOA **Molln** 5.80 350⇓*i*Pn Pn 17 35 44.5 +0.5
SNR=181
MOA ⇑*i*Sn Sn 17 36 48.7 -0.6
MOA **Molln** 5.80 350 *e*Pn Pn 17 35 44.8 +0.8
BGLD **Berchtesgaden** 5.84 342⇓*i*Pn Pn 17 35 45.1 +0.6
FIN **Finale Ligure** 5.87 293 Pg Pn 17 35 45.4 +0.5
comp=Z,72nm,0.4s
FIN **Finale Ligure** 5.87 293 P Pn 17 35 45.4 +0.5
FIN pmax pmax
comp=Z,72nm,0.4s
SOH **Sokhos** 5.88 100 *e*Pn Pn 17 35 45.4 +0.3
WTTA **Wattenberg** 5.89 332⇑*i*Pn Pn 17 35 45.9 +0.7
SNR=58
WTTA ⇑*i*Sn Sn 17 36 52.0 +0.6
BERNI **Berninapass** 5.91 318 *e*Pn Pn 17 35 38.3 -7.2
comp=Z,86nm,0.4s
AGG **Agios Georgios** 5.92 120 *e*Pn Pn 17 35 46.5 +0.9
AGG *e*Sn Sn 17 36 48.4 -3.6
WATA **Walderalm** 5.97 332⇓*i*Pn Pn 17 35 47.4 +1.0
SNR=78
WATA ⇓*i*Sn Sn 17 36 55.2 +1.7
MMB **Musomiste** 6.00 93 *e*Pn Pn 17 35 48.6 +1.9
MMB *e*Sn Sn 17 36 51.4 -2.8
MMB **Musomiste** 6.00 93 P Pn 17 35 48.5 +1.7
SQTA **Sankt Quirin** 6.01 329⇓*i*Pn Pn 17 35 47.6 +0.7
SNR=99
SQTA ⇓*i*Sn Sn 17 36 55.2 +0.8
SQTA **Sankt Quirin** 6.01 329 *e*Pn Pn 17 35 47.8 +0.9
PLG **Polygyros** 6.08 104 *e*Pn Pn 17 35 48.0 +0.1
MUGIO **Muggio** 6.12 310 *e*Pn Pn 17 35 41.5 -6.9
comp=Z,59nm,0.1s
ZST **Bratislava** 6.13 9 *e*PN Pn 17 35 49.2 +0.6
ZST *e*SN Sn 17 36 53.1 -4.3
ZST **Bratislava** 6.13 9 *e*Pn Pn 17 35 49.3 +0.7
ZST *e*Sn Sn 17 36 53.1 -4.3
MOTA **Moosalm** 6.16 329⇓*i*Pn Pn 17 35 49.7 +0.9
SNR=64
MOTA ⇓*i*Sn Sn 17 36 58.8 +0.9
PENC **Penc** 6.19 23 *e*Pn Pn 17 35 50.4 +1.1
PENC *e*Sn Sn 17 36 56.4 -2.4
DAVOX **Davos/Dischmat** 6.24 320 *e*Pn Pn 17 35 47.9 -2.1
comp=Z,107nm,0.3s
DAVOX **Davos/Dischmat** 6.24 320 Pg Pn 17 35 51.4 +1.4
VDL **Val di Lei** 6.24 316 *e*Pn Pn 17 35 46.3 -3.7
comp=Z,86nm,0.2s
SAOF **Saorge** 6.26 290 P Pn 17 35 51.4 +1.1
SAOF S Sn 17 36 59.4 -1.0
PGB **Panagyurishte** 6.27 83 P Pn 17 35 52.5 +2.0
PGB S Sn 17 36 58.5 -2.3
TUE **Stuetta** 6.30 316 Pg Pn 17 35 51.1 +0.3
comp=Z,140nm,0.3s
SBF **Sospel** 6.31 289 *e*Pn Pn 17 35 51.9 +0.9
SNR=1.0
SBF *e*Sn Sn 17 36 56.5 -5.3
comp=Z,105nm,0.5s
SBF **Sospel** 6.31 289 *e*Pn Pn 17 35 51.9 +0.9
SNR=1.0
SBF *e*Sn Sn 17 36 56.5 -5.3
comp=Z,52nm,0.5s
XOR **Xorichti** 6.31 114 *e*Pn Pn 17 35 50.8 -0.3
XOR *e*Sn Sn 17 36 56.3 -5.5
AUTN **L'Aution** 6.35 290 P Pn 17 35 54.5 +3.0
AUTN S Sn 17 37 04.3 +1.6
LUCF **Luceram** 6.38 289 P Pn 17 35 53.5 +1.5
TOUF **Mont Tournerai** 6.48 290 P Pn 17 35 55.6 +2.3
OUR **Ouranopolis** 6.49 103 *e*Pn Pn 17 35 52.7 -0.7
OUR *e*Sn Sn 17 37 03.9 -2.1
SMOL **Smolenice** 6.49 10 *e*PN Pn 17 35 54.3 +0.9
SMOL *e*SN Sn 17 37 02.0 -4.1
PSZ **Piszkesteto** 6.49 26⇑*e*Pn Pn 17 35 55.8 +2.3
PSZ **Piszkesteto** 6.49 26⇓*i*P Px 17 36 20.1
PSZ **Piszkesteto** 6.49 26 *e*P Pn 17 35 53.3 -0.2
PSZ pmax pmax
comp=Z,13nm,0.6s
PSZ **Piszkesteto** 6.49 26 *e*Pn Pn 17 35 53.3 -0.1
comp=Z,13nm,0.6s
PSZ **Piszkesteto** 6.49 26 *e*Pn Pn 17 35 53.3 -0.2
comp=Z,13nm,0.6s
DAVA **Damuels** 6.62 323⇑*i*Pn Pn 17 35 55.8 +0.6
SNR=34
DAVA ⇑*i*Sn Sn 17 37 08.3 -0.9
DAVA **Damuels** 6.62 323 *e*Pn Pn 17 35 56.7 +1.5
DOI **San Damiano** 6.62 294 Pg Pn 17 35 54.8 -0.4
comp=Z,9.0nm,0.3s
DOI **San Damiano** 6.62 294 P Pn 17 35 54.8 -0.4
DOI pmax pmax
comp=Z,9.0nm,0.3s
PLONS **Plons/SG** 6.67 319 *e*Pn Pn 17 35 54.3 -1.7
comp=Z,95nm,0.3s
LLS **Linth-Limmern** 6.72 317 *e*Pn Pn 17 35 54.5 -2.1
comp=Z,97nm,0.4s
VYHS **Vyhne** 6.72 18 *e*PN Pn 17 35 58.8 +2.2
VYHS *e*SN Sn 17 37 08.5 -3.4
RZN **Rozhen** 6.73 91 P Pn 17 35 58.3 +1.6
RZN S Sn 17 37 08.7 -3.3
LIENZ **Kamor/St.Gall** 6.80 321 *e*Pn Pn 17 35 54.9 -2.8
comp=Z,45nm,0.3s
MMK **Mattmark** 6.81 308 *e*Pn Pn 17 35 54.6 -3.3
comp=Z,39nm,0.2s
FRF **La Foret Royal** 6.82 285 *e*Pn Pn 17 35 58.0 +0.1
SNR=1.0
FRF *e*Sn Sn 17 37 09.0 -5.2
comp=Z,36nm,0.5s
FRF **La Foret Royal** 6.82 285 *e*Pn Pn 17 35 58.0 +0.1
SNR=1.0
FRF *e*Sn Sn 17 37 09.0 -5.2
comp=Z,18nm,0.5s
GEC2 **GERESS Array S** 6.85 349 *e*Pn Pn 17 35 58.3 -0.1
GEC2 *e*Sn Sn 17 37 11.5 -3.6
GERES **GERESS Array B** 6.85 349 P Pn 17 35 58.4 0.0
comp=Z,12nm,0.3s,baz=175,slow=13,SNR=239
GERES S Sn 17 37 11.2 -3.9
comp=Z,26nm,0.3s,baz=166,slow=24,SNR=21
GERES LR LR 17 39 16.9
comp=Z,120nm,18.0s,baz=193,slow=44
GERES **GERESS Array B** 6.85 349 P Pn 17 35 58.4 0.0
GERES S Sn 17 37 11.2 -3.9
GERES pmax pmax
comp=Z,13nm,0.3s
GERES smax
comp=N,26nm,0.3s
GERES MLR MLR
comp=Z,120nm,18.0s
AOS **Alonnisos** 6.88 113 *e*Pn Pn 17 35 57.2 -1.5
AOS *e*Sn Sn 17 37 13.0 -2.6
LMR **La Mourre** 6.89 283 *e*Pn Pn 17 35 59.8 +0.9

SNR=1.0
LMR eSn Sn 17 37 10.7 -5.2
comp=Z,14nm,0.3s
LMR La Mourre 6.89 283 ePn Pn 17 35 59.8 +0.9
SNR=1.0
LMR eSn Sn 17 37 10.7 -5.2
comp=Z,7.2nm,0.3s
ITM Ithomi 6.89 134 ePn Pn 17 35 59.0 +0.1
OG22 Abries 6.92 296 P Pn 17 35 58.4 -1.0
KRUC Moravsky 6.94 4 ePn Pn 17 36 00.4 +0.8
MUO Muotathal 6.99 316 ePn Pn 17 35 56.0 -4.3
comp=Z,155nm,0.5s
MBDF Montbardon 7.01 295 ePn Pn 17 35 59.4 -1.1
SNR=1.0
MBDF eSn Sn 17 37 12.8 -6.1
comp=Z,73nm,0.5s,SNR=1.0
BNALP Bannalp 7.04 315 ePn Pn 17 35 56.8 -4.2
comp=Z,136nm,0.4s
BNALP Bannalp 7.04 315 ePn Pn 17 36 01.5 +0.5
HASLI Hasliberg/Brie 7.11 313 ePn Pn 17 35 57.4 -4.6
comp=Z,151nm,0.5s
KHC Kasperske Hory 7.15 349 ePN Pn 17 36 02.5 0.0
KHC ex x 17 36 11.0
KHC eSN Sn 17 37 18.0 -4.4
KHC ex x 17 37 31.0
KHC Kasperske Hory 7.15 349 eP Pn 17 36 02.5 0.0
KHC e 17 37 18.0
TREC Trest 7.16 359 ePN Pn 17 36 03.0 +0.4
DIX Grande Dixence 7.16 306 ePn Pn 17 35 58.2 -4.4
comp=Z,78nm,0.4s
DIX Grande Dixence 7.16 306 Pg Pn 17 36 02.6 0.0
WILA Wila 7.16 320 ePn Pn 17 36 01.3 -1.3
comp=Z,40nm,0.3s
PVL Pavlikeni 7.17 78 P Pn 17 35 56.4 -6.3
KECS Kecovo 7.18 26 ePN Pn 17 36 05.2 +2.3
KECS eSN Sn 17 37 19.1 -4.0
BNI Bardonecchia 7.18 297 eP Pn 17 36 01.9 -1.0
BNI pmax pmax
comp=Z,15nm,0.6s
BNI Bardonecchia 7.18 297 eP Pn 17 36 01.9 -1.0
comp=Z,15nm,0.6s
BNI eS Sn 17 37 11.7 -11
LKBD Leukerbad 7.19 309 ePn Pn 17 36 01.0 -2.1
comp=Z,441nm,0.4s
VRAC Vranov 7.20 5 P Pn 17 36 03.9 +0.7
comp=Z,1.3nm,0.3s,baz=196,slow=10,SNR=5.5
VRAC S Sn 17 37 19.5 -4.1
comp=Z,4.3nm,0.3s,baz=103,slow=14,SNR=6.6
VRAC Vranov 7.20 5 ⇓iP Pn 17 36 04.2 +1.1
VRAC Vranov 7.20 5 ⇓P Pn 17 36 04.2 +1.0
VRAC Vranov 7.20 5 ePn Pn 17 36 04.0 +0.9
WEIN Weingarten 7.21 321 ePn Pn 17 36 01.4 -1.8
comp=Z,29nm,0.3s
MRGE Morge 7.22 303 Pg Pn 17 36 03.1 -0.4
KDZ Kurdzhali 7.25 91 eP Pn 17 36 05.0 +1.1
KDZ eS Sn 17 37 24.0 -0.9
WET Wettzell 7.28 345 ePn Pn 17 36 03.7 -0.6
WET eSn Sn 17 37 20.2 -5.4
ZUR Degenried 7.29 318 ePn Pn 17 36 01.8 -2.6
comp=Z,53nm,0.4s
LPG La Plagne 7.30 300 eP Pn 17 36 07.0 +2.4
LPG eSn Sn 17 37 19.4 -6.7
comp=Z,101nm,0.4s
LPG La Plagne 7.30 300 ePn Pn 17 36 02.7 -1.9
LPG eP 17 36 07.0
LPG eSn Sn 17 37 19.4 -6.7
LPL La Plagne 7.32 300 eP Pn 17 36 07.7 +2.9
LPL eSn Sn 17 37 19.9 -6.7
comp=Z,124nm,0.4s
LPL La Plagne 7.32 300 ePn Pn 17 36 03.3 -1.5
LPL eP 17 36 07.7
LPL eSn Sn 17 37 19.9 -6.7
WIMIS Wimmis 7.35 311 ePn Pn 17 36 02.7 -2.6
comp=Z,61nm,0.3s
STEIN Stein am Rhein 7.36 321 ePn Pn 17 36 03.3 -2.1
comp=Z,25nm,0.3s
SENIN Lac Senin/Sane 7.37 308 ePn Pn 17 36 02.8 -2.7
comp=Z,100nm,0.5s
SENIN Lac Senin/Sane 7.37 308 ePn Pn 17 36 05.6 +0.1
LOS Limnos 7.41 104 ePn Pn 17 36 05.4 -0.7
RDO Rodhopi 7.42 94 ePn Pn 17 36 07.0 +0.8
GRYON Gryon 7.42 307 ePn Pn 17 36 05.0 -1.3
comp=Z,106nm,0.7s
SALAN Lac Salanfe 7.46 305 ePn Pn 17 36 05.2 -1.5
comp=Z,133nm,0.4s
EMV Vieux Emosson 7.46 305 ePn Pn 17 36 05.3 -1.5
comp=Z,70nm,0.4s
RSL Roselend 7.46 301 P Pn 17 36 05.9 -0.9
VOIR 7.51 61 ⇓iP Pn 17 36 11.6 +4.1
VOIR 7.51 61 ⇓P Pn 17 36 11.7 +4.2
AIGLE Aigle 7.57 307 ePn Pn 17 36 06.1 -2.1
comp=Z,91nm,0.8s
SLE Schleitheim 7.61 320 ePn Pn 17 36 06.9 -1.9
comp=Z,31nm,0.2s
SZH Strazhica 7.61 78 P Pn 17 36 10.6 +1.8
SMRF Simiane la Rot 7.65 287 eP Pn 17 36 12.3 +2.9
SMRF eSn Sn 17 37 29.0 -5.7
comp=Z,16nm,0.5s
SMRF Simiane la Rot 7.65 287 ePn Pn 17 36 09.9 +0.5
SMRF eP 17 36 12.3
SMRF eSn Sn 17 37 29.0 -5.7
SMRF Simiane la Rot 7.65 287 ePn Pn 17 36 09.9 +0.5
SNR=1.0
SMRF eSn Sn 17 37 29.0 -5.7
comp=Z,7.8nm,0.5s
ORIF Oris-en-Rattie 7.67 295 ePn Pn 17 36 09.9 +0.3
SNR=1.0
ORIF eSn Sn 17 37 29.6 -5.6
comp=Z,66nm,0.5s
ORIF Oris-en-Rattie 7.67 295 ePn Pn 17 36 09.9 +0.3
SNR=1.0
ORIF eSn Sn 17 37 29.6 -5.6
comp=Z,33nm,0.5s
BALST Balsthal 7.72 315 ePn Pn 17 36 07.1 -3.2
comp=Z,60nm,0.3s
OG01 Vacheresse 7.72 306 P Pn 17 36 10.0 -0.3
OG01 S Sn 17 37 32.3 -4.1
MORC Moravsky Berou 7.74 9 ⇑iP Pn 17 36 11.8 +1.2
MORC Moravsky Berou 7.74 9 eP Pn 17 36 11.5 +0.9
comp=Z,5.2nm,0.8s
MORC eS Sn 17 37 31.8 -5.2
MORC Moravsky Berou 7.74 9 ePn Pn 17 36 12.6 +2.0
TORNY Torny/Romont 7.79 309 ePn Pn 17 36 07.8 -3.5
comp=Z,59nm,0.3s
ALN Alexandroupoli 7.85 96 ePn Pn 17 36 12.2 +0.1
CRVS Cervenica-Dubn 7.87 29 ePn Pn 17 36 18.0 +5.6
CRVS eSn Sn 17 37 40.0 -0.1
OKC Ostrava-Krasne 7.88 12 eSN Sn 17 37 35.9 -4.5
PRU Pruhonice 7.89 354 ePN Pn 17 36 12.2 -0.5
PRU ex x 17 36 20.7
PRU eSN Sn 17 37 35.3 -5.3
PRU ex x 17 37 50.1
PRU Pruhonice 7.89 354 eP Pn 17 36 12.2 -0.5
PRU e 17 37 35.3
BBS Basel-Blauen 7.90 315 P Pn 17 36 12.0 -0.7
FELD Feldberg im Sc 7.92 319 eP Pn 17 36 12.1 -1.0
FELD Feldberg im Sc 7.92 319 P Pn 17 36 12.4 -0.7
FELD S Sn 17 37 37.2 -4.1
UZH Uzhgorod 7.97 33 eP Pn 17 36 15.0 +1.3
UZH pmax pmax
comp=Z,14nm,0.8s
BOURR Bourrignon 8.00 314 ePn Pn 17 36 07.8 -6.4
comp=Z,28nm,0.3s
BOURR Bourrignon 8.00 314 ePn Pn 17 36 14.0 -0.2
ROTZ Rotzenmuhle 8.01 343 ePn Pn 17 36 13.1 -1.2
ROTZ eSn Sn 17 37 36.9 -6.6
JMB Yambol 8.06 84 ePn Pn 17 36 16.0 +1.1
GIMEL St. Georges / 8.07 306 ePn Pn 17 36 07.9 -7.3
comp=Z,19nm,0.4s
BFO Black Forest 8.09 322 ePn Pn 17 36 14.4 -1.0
BFO eSn Sn 17 37 40.6 -4.9
KEST Kesra 8.10 220 P Pn 17 36 19.3 +3.8
comp=Z,1.5nm,0.3s,baz=300,slow=6.6,SNR=47
KEST LR LR 17 39 51.3
comp=Z,32nm,18.6s,baz=169,slow=40
MLR Muntele Rosu 8.12 62 P Pn 17 36 19.5 +3.7
comp=Z,0.9nm,0.3s,baz=197,slow=5.1,SNR=19
MLR Muntele Rosu 8.12 62 ⇓iP Pn 17 36 19.9 +4.1
MLR Muntele Rosu 8.12 62 P Pn 17 36 19.5 +3.7
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 8.12 62 ⇓P Pn 17 36 19.9 +4.1
BRANT Les Verrieres 8.16 309 ePn Pn 17 36 09.4 -6.9
comp=Z,30nm,0.3s

GRF Grafenberg Arr 8.18 339 eSn Sn 17 37 42.0 -5.6
LOMF Lomont 8.20 312 P Pn 17 36 15.9 -0.9
LOMF S Sn 17 37 41.9 -6.1
KOLS Kolonicke sedl 8.20 32 ePN Pn 17 36 20.0 +3.1
KOLS eSN Sn 17 37 43.5 -4.7
CABF La Chapelle 8.22 306 ePn Pn 17 36 15.8 -1.3
SNR=1.0
CABF eSn Sn 17 37 41.8 -6.8
comp=Z,129nm,0.7s
CABF La Chapelle 8.22 306 ePn Pn 17 36 15.8 -1.3
SNR=1.0
CABF eSn Sn 17 37 41.8 -6.8
comp=Z,64nm,0.7s
STHS Stebnicka Huta 8.24 26 ePn Pn 17 36 26.7 +9.3
STHS eSn Sn 17 37 46.3 -2.8
MANZ Manzenberg 8.24 344 ePn Pn 17 36 16.1 -1.3
MANZ eSn Sn 17 37 42.9 -6.2
MOF Molkenrain 8.34 316 P Pn 17 36 18.0 -0.8
OG05 Jujurieux 8.35 301 P Pn 17 36 17.4 -1.5
NKC Novy Kostel 8.41 345 ePN Pn 17 36 19.3 -0.4
NKC eSN Sn 17 37 47.4 -5.9
HINF Hinteralfeld 8.46 315 ePn Pn 17 36 18.8 -1.7
SNR=1.0
HINF eSn Sn 17 37 46.9 -7.8
comp=Z,146nm,0.3s,SNR=1.0
HINF Hinteralfeld 8.46 315 ePn Pn 17 36 18.8 -1.7
SNR=1.0
HINF eSn Sn 17 37 46.9 -7.8
comp=Z,73nm,0.3s,SNR=1.0
WERN Wernitzgruen 8.47 345 ePn Pn 17 36 20.1 -0.5
WERN eSn Sn 17 37 48.0 -6.9
VIVF Saint-Julien-l 8.48 292 ePn Pn 17 36 19.3 -1.4
SNR=1.0
VIVF eSn Sn 17 37 48.4 -6.6
comp=Z,14nm,0.4s
VIVF Saint-Julien-l 8.48 292 ePn Pn 17 36 19.3 -1.4
SNR=1.0
VIVF eSn Sn 17 37 48.4 -6.6
comp=Z,6.8nm,0.4s
GUNZ Gunzen 8.55 345 ePn Pn 17 36 21.2 -0.5
ECH Echery 8.57 318 P Pn 17 36 21.6 -0.3
ECH S Sn 17 37 51.1 -6.1
TANN Tannenbergstha 8.58 346 eSn Sn 17 37 51.2 -6.3
WLS Welschbruch 8.61 320 P Pn 17 36 21.9 -0.6
WLS S Sn 17 37 55.7 -2.5
WERD Werda 8.64 345 ePn Pn 17 36 22.6 -0.3
CDF Champ du Feu 8.64 319 ePn Pn 17 36 21.7 -1.3
CDF eSn Sn 17 37 50.9 -8.2
comp=Z,50nm,0.5s,SNR=1.0
BURAR Bucovina Array 8.68 48 ⇓iP Pn 17 36 27.8 +4.3
BURAR Bucovina Array 8.68 48 ⇓P Pn 17 36 27.8 +4.3
PLOR Plostina 8.71 61 ⇑iP Pn 17 36 27.0 +3.2
VRI Vrincioaia 8.77 61 ⇑iP Pn 17 36 27.7 +3.1
VRI Vrincioaia 8.77 61 ⇑P Pn 17 36 27.7 +3.1
LANF Langenberg 8.81 324 P Pn 17 36 25.4 +0.2
BRG Berggiesshubel 8.82 353 PN Pn 17 36 24.4 -1.0
BRG i 17 36 33.0
BRG i 17 37 59.3
BRG Berggiesshubel 8.82 353 SG Sx 17 38 23.3
comp=Z,7.8nm,0.7s
BRG
comp=N,61nm,11.2s
BRG
comp=E,125nm,12.7s
BRG
comp=Z,95nm,12.2s
BRG Berggiesshubel 8.82 353 P Pn 17 36 24.4 -1.0
BRG i 17 37 59.3
BRG smax
comp=N,2.0nm,0.7s
BRG MLR MLR
comp=N,8μm,11.3s
BRG MLR MLR
comp=E,61nm,12.7s
BRG MLR MLR
comp=Z,125nm,12.2s
BRG Berggiesshubel 8.82 353 Pn Pn 17 36 24.4 -1.0
comp=Z,7.8nm,0.6s
BRG i 17 36 33.0
BRG i 17 37 59.3
BRG Sg Sn 17 38 23.3 +20
HAU Haudompre 8.85 315 ePn Pn 17 36 24.0 -1.8
LASF Ste Croix 8.89 287 ePn Pn 17 36 26.3 -0.1
SNR=1.0
FBE Freiberg 8.93 350 ePn Pn 17 36 26.6 -0.3
MOX Moxa 8.97 343 ePn Pn 17 36 25.9 -1.5
MOX eSn Sn 17 37 59.6 -7.4
MOX Moxa 8.97 343 ePn Pn 17 36 26.0 -1.4
MOX eSn Sn 17 37 59.8 -7.2
APE Apeiranthos 9.11 121 ePn Pn 17 36 28.3 -1.0
THEF They Montfort 9.18 315 P Pn 17 36 29.2 -1.1
THEF S Sn 17 38 06.6 -5.5
KARN Karanos 9.28 134 ePn Pn 17 36 30.9 -0.9
CLL Collm 9.36 349 ePn Pn 17 36 25.0 -7.8
CLL eSg Sn 17 38 28.0 +11
CLL Collm 9.36 349 ePn Pn 17 36 33.0 +0.2
CLL eSn Sn 17 38 10.0 -6.6
CLL ex x 17 38 28.0
CLL eSg Sn 17 39 22.0 +65
CLL ex x 17 39 31.0
SANT Santorini 9.50 124 eP Pn 17 36 33.5 -1.1
comp=Z,45nm,0.6s
SANT Santorini 9.50 124 ePn Pn 17 36 33.7 -0.9
PLDF La Plantade 9.51 298 P Pn 17 36 32.8 -2.1
TNS Taunus Mts 9.52 331 ePn Pn 17 36 33.8 -1.2
TNS eSn Sn 17 38 13.5 -7.2
SMF Signal de Mont 9.62 302 ePn Pn 17 36 33.3 -3.0
SNR=1.0
SMF eSn Sn 17 38 11.1 -12
comp=Z,133nm,0.6s
SFTF Sexfontaines 9.67 312 ePn Pn 17 36 35.2 -1.9
baz=134
RFYF Reffroy 9.69 316 ePn Pn 17 36 35.8 -1.5
baz=142
MEZF Maizieres J'vi 9.84 314 ePn Pn 17 36 37.2 -2.1
MEZF eSn Sn 17 38 21.2 -7.2
comp=Z,49nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 9.84 314 ePn Pn 17 36 37.2 -2.1
MEZF eSn Sn 17 38 21.2 -7.2
comp=Z,25nm,0.4s,SNR=1.0
AGO Saint Agoulin 9.86 298 P Pn 17 36 37.8 -1.9
LOR Lormes 9.88 305 ePn Pn 17 36 37.7 -2.1
baz=124,SNR=1.0
LOR eSn Sn 17 38 17.5 -12
comp=Z,87nm,0.3s,SNR=1.0
AVF Avril sur Loir 9.99 302 ePn Pn 17 36 38.8 -2.5
SNR=1.0
AVF eSn Sn 17 38 22.7 -9.3
comp=Z,23nm,0.4s,SNR=1.0
AVF Avril sur Loir 9.99 302 ePn Pn 17 36 38.8 -2.5
SNR=1.0
AVF eSn Sn 17 38 22.7 -9.3
comp=Z,12nm,0.4s,SNR=1.0
SSF Saint Saulge 10.00 304 ePn Pn 17 36 39.3 -2.2
SNR=1.0
SSF eSn Sn 17 38 19.6 -13
comp=Z,38nm,0.4s
MTLF Montolieu 10.01 281 eP Pn 17 36 45.0 +3.4
WLF Walferdange 10.05 322 eP Pn 17 36 44.2 +2.0
WLF pmax pmax
comp=Z,24nm,0.4s
WLF Walferdange 10.05 322 eP Pn 17 36 44.1 +2.0
comp=Z,24nm,0.4s
WLF Walferdange 10.05 322 ePn Pn 17 36 43.8 +1.6
BGF Bois d'Agland 10.22 300 ePn Pn 17 36 42.5 -2.1
SNR=1.0
BGF eSn Sn 17 38 28.2 -10
comp=Z,66nm,0.4s,SNR=1.0
BGF Bois d'Agland 10.22 300 ePn Pn 17 36 42.5 -2.1
SNR=1.0
BGF eSn Sn 17 38 28.2 -10
comp=Z,33nm,0.4s,SNR=1.0
CAF Calviac 10.30 290 ePn Pn 17 36 45.0 -0.6
TCF Toulx Ste Croi 10.54 298 ePn Pn 17 36 47.3 -1.7
SNR=1.0
TCF eSn Sn 17 38 37.7 -8.0
comp=Z,26nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 10.54 298 ePn Pn 17 36 47.3 -1.7
SNR=1.0
TCF eSn Sn 17 38 37.7 -8.0
comp=Z,13nm,0.4s,SNR=1.0
HYF Humbligny 10.62 303 ePn Pn 17 36 47.8 -2.3
HYF eSn Sn 17 38 37.8 -10
GIVF Givet 10.97 320 ePn Pn 17 36 54.5 -0.3

GIVF eSn Sn 17 38 48.3 -7.8
comp=Z,15nm,0.5s
GIVF Givet 10.97 320 ePn Pn 17 36 54.5 -0.3
GIVF eSn Sn 17 38 48.3 -7.8
comp=Z,7.4nm,0.5s
BAIF Baives 11.24 319 ePn Pn 17 36 56.4 -2.1
SNR=1.0
BAIF eSn Sn 17 38 55.2 -7.5
comp=Z,12nm,0.6s
BAIF Baives 11.24 319 ePn Pn 17 36 56.4 -2.1
SNR=1.0
BAIF eSn Sn 17 38 55.2 -7.5
comp=Z,6.2nm,0.6s
MFF Saint Martin d 12.20 297 ePn Pn 17 37 10.1 -1.4
MFF eSn Sn 17 39 16.8 -9.2
comp=Z,6.8nm,0.4s,SNR=1.0
MFF Saint Martin d 12.20 297 ePn Pn 17 37 10.1 -1.4
MFF eSn Sn 17 39 16.8 -9.2
comp=Z,3.4nm,0.4s,SNR=1.0
AKASG Malin Array Be 12.64 43 P Pn 17 37 18.4 +0.9
comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=4.6
FLN La Foliniere 13.15 306 ePn Pn 17 37 22.4 -2.2
baz=129,SNR=1.0
FLN eSn Sn 17 39 39.9 -9.4
comp=Z,12nm,0.5s
FLN La Foliniere 13.15 306 ePn Pn 17 37 22.4 -2.2
SNR=1.0
FLN eSn Sn 17 39 39.9 -9.4
comp=Z,5.8nm,0.5s
GRR Gorron 13.23 304 ePn Pn 17 37 23.7 -2.0
SNR=1.0
GRR eSn Sn 17 39 41.0 -10
comp=Z,12nm,0.6s
GRR Gorron 13.23 304 ePn Pn 17 37 23.7 -2.0
SNR=1.0
GRR eSn Sn 17 39 41.0 -10
comp=Z,5.9nm,0.6s
BRTR Keskin Array B 13.76 94 P Pn 17 37 35.8 +2.8
comp=Z,0.1nm,0.3s,baz=291,slow=10,SNR=4.6
SGMF Saint Gilles 14.25 302 ePn Pn 17 37 37.6 -1.9
ANN Anapa 15.98 73 eP pP 17 38 14.7 -0.9
ANN pmax pmax
comp=Z,42nm,1.2s
HFS Hagfors 18.06 357 P Pn 17 38 27.7 -0.3
comp=Z,0.1nm,0.3s,baz=180,slow=40,SNR=3.4
HFS LR LR 17 46 02.4
comp=Z,38nm,19.2s,baz=177,slow=39
EKA Eskdalemuir Ar 18.07 323 P Pn 17 38 28.6 +0.4
comp=Z,0.6nm,0.3s,baz=137,slow=11,SNR=9.0
EKA Eskdalemuir Ar 18.07 323 P Pn 17 38 28.6 +0.5
EKA pmax pmax
comp=Z,1.0nm,0.3s
MDT Midelt 18.59 247 P Pn 17 38 35.8 +1.3
comp=Z,0.2nm,0.3s,baz=85,slow=12,SNR=4.3
MDT LR LR 17 44 50.3
comp=Z,33nm,19.4s,baz=20,slow=34
OBN Obninsk 18.84 39 ⇑iP Pn 17 38 45.1 +7.7
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,100nm,19.0s
NOA NORSAR Array B 19.12 353 P Pn 17 38 39.9 -1.0
comp=Z,0.2nm,0.3s,baz=167,slow=11,SNR=7.0
NOA LR LR 17 46 54.4
comp=Z,32nm,21.4s,baz=190,slow=40
KIV Kislovodsk 19.77 76 eP pP 17 38 59.6 +2.2
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV MLR MLR
comp=Z,12nm,13.0s
FINES FINESS Array B 20.32 14 P P 17 38 52.2 -0.5
comp=Z,1.0nm,0.5s,baz=215,slow=9.0,SNR=8.4
FINES FINESS Array B 20.32 14 P P 17 38 52.2 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 20.32 14 P P 17 38 52.2 -0.5
FIA1 FINESS Array S 20.32 14 P P 17 38 46.0 -6.7
ZEI Tsey 20.77 79 eP pP 17 39 13.1 +4.8
ZEI e*PP pP 17 39 19.7 +11
ZEI e 17 39 29.7
KAF Kangasniemi 20.98 14 ep P 17 39 08.2 +8.3
comp=Z,0.7nm,0.3s,baz=199,slow=11
KAF Kangasniemi 20.98 14 eP P 17 39 08.2 +8.3
KAF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 22.75 19 ep P 17 39 28.4 +10
comp=Z,3.1nm,0.5s,mb4.0
JOF Joensuu 22.75 19 eP P 17 39 28.4 +10
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
ARCES ARCESS Array B 27.93 7 P P 17 40 05.5 -1.0
comp=Z,1.0nm,0.7s,mb3.6,baz=179,slow=6.8,SNR=7.2
ARCES ARCESS Array B 27.93 7 P P 17 40 05.5 -0.9
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 27.93 7 P P 17 40 05.5 -1.0
AKTK Aktyubinsk 30.04 59 P P 17 40 29.1 +4.0
AKTO Aktyubinsk 30.04 59 P P 17 40 29.1 +4.0
comp=Z,0.3nm,0.4s,mb3.4,baz=233,slow=5.1,SNR=2.5
ARU Arti 30.82 48 eP P 17 40 41.1 +9.0
ARU pmax pmax
comp=Z,18nm,0.9s,mb4.9
ARU Arti 30.82 48 eP P 17 40 41.1 +9.0
comp=Z,18nm,0.9s,mb4.9
TORD Torodi Ar. Bea 31.35 207 P P 17 40 36.2 -0.6
comp=Z,0.6nm,0.4s,mb3.8,baz=14,slow=9.6,SNR=5.7
TORD LR LR 17 53 52.1
comp=Z,38nm,19.1s,baz=0.0,slow=37
TORD Torodi Ar. Bea 31.35 207 P P 17 40 36.2 -0.6
TORD LR LR 17 53 52.1
ZRNK Zerenda 36.75 54 i P pP 17 41 34.7 -1.0
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ZRNK Zerenda 36.75 54 eP pP 17 41 34.6 -1.0
BRVK Borovoye 37.51 54 i P pP 17 41 41.2 -0.9
VOSK Vostochnaya 37.97 54 i P pP 17 41 44.6 -1.4
KK31 Karatay Array 39.72 69 i P pP 17 42 00.8 +0.1
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.6
AAK Ala-Archa 42.64 69 ⇓eP pP 17 42 23.9 -0.9
AAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
ZAL Zalesovo 45.88 50 pP pP 17 42 50.2 -0.6
comp=Z,2.7nm,0.8s,baz=187,slow=8.7,SNR=8.0
MKAR Makanchi Array 46.46 60 P P 17 42 44.3 +1.3
comp=Z,0.3nm,0.4s,mb3.5,baz=272,slow=8.5,SNR=3.3
MKAR pP pP 17 42 54.6 -0.7
comp=Z,7.1nm,0.6s,baz=286,slow=7.1,SNR=31
SONM Songino Array 60.79 51 pP pP 17 44 40.3 -0.3
comp=Z,1.9nm,0.8s,baz=286,slow=7.6,SNR=5.4

IDC 04 17:54:18.1±28.0, 4563N×15366E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/19, mbtmp4.0/3, Error ellipse: s-maj=675.3km s-min=268.1km az=142.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**65.21**	**335**	P	P	18 05 00.4	-0.8
	1.1nm,0.5s,baz=43,slow=8.6,SNR=10						
NOA	**NORSAR Array B**	**69.41**	**342**	P	P	18 05 27.7	-0.1
	0.9nm,0.7s,baz=26,slow=6.0,SNR=4.1						
AKASG	**Malin Array Be**	**72.69**	**327**	P	P	18 05 47.5	-0.2
	0.8nm,0.5s,baz=35,slow=6.4,SNR=6.0						

*ISCJB **04** 18:04:03.2±0.3, 4937N±001×687E±003, h0km, Error ellipse: s-maj=2.9km s-min=2.0km az=154.0*
*CSEM **04** 18:04:04.6±0.1, 4940N×690E, h1km, ML2.6/13, Error ellipse: s-maj=1.5km s-min=1.3km az=88.0*
*BGR **04** 18:04:04.5±0.4, 4939N×691E, h1km, ML1.8/3, Error ellipse: s-maj=6.7km s-min=4.4km az=31.0*
*LDG **04** 18:04:05.6±0.1, 4937N×687E, h1km, Md2.7/1, Ml2.7/13, Error ellipse: s-maj=2.0km s-min=1.6km az=179.0, Suspected Mining induced.*
*NEIC **04** 18:04:06.1, 4933N×690E, h10km, ML2.3(STR), ML2.7(LDG), After STR.*
*BNS **04** 18:04:07.3±0.7, 4946N×698E, h1km, ML1.6*

ISC 04 18:04:04.2±0.3, 4937N±001×687E±003, h0km, n50, σ1$03/88, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**302**	ePg	**Pg**	**18 04 16.1**	**+1.3**

SNR=3.3
WLF eSg Sg 18 04 21.8 -0.1
SNR=3.9
WLF Walferdange 0.55 302 P Pg 18 04 16.2 +1.4
WLF Walferdange 0.55 302 eP Pg 18 04 16.0 +1.3
LANF Langenberg 0.73 122 Pg Pg 18 04 18.7 +0.5
BGG Burgeitz 0.89 20 ePg Pg 18 04 22.2 +1.0
BGG eSg Sg 18 04 33.0 +0.2
20nm,0.5s
CDF Champ du Feu 1.00 164 ePn Pn 18 04 24.6 -0.8
CDF eSn Sn 18 04 38.9 -1.3
23nm,0.3s
CDF Champ du Feu 1.00 164 ePg Pg 18 04 24.1 +0.8
CDF ePn Pn 18 04 24.6 -0.8
CDF eSn Sn 18 04 38.9 -1.3
CDF Champ du Feu 1.00 164 ePn Pn 18 04 24.6 -0.8
CDF eSn Sn 18 04 38.9 -1.3
11nm,0.3s
WLS Welschbruch 1.01 161 Pg Pg 18 04 24.9 +1.3
WLS Sg Sg 18 04 39.7 +3.0
ECH Echery 1.17 171 Pg Pg 18 04 28.0 +1.3
ECH Sg Sg 18 04 42.7 +0.8
RFYF Reffroy 1.18 232 ePg Pg 18 04 27.7 +0.8
baz=51
RFYF eSg Sg 18 04 43.2 +1.0
27nm,0.3s
RFYF Reffroy 1.18 232 ePg Pg 18 04 27.7 +0.8
RFYF eSg Sg 18 04 43.2 +1.0
14nm,0.3s
THEF They Montfort 1.29 207 Pg Pg 18 04 29.2 +0.3
THEF Sg Sg 18 04 47.2 +1.6
KLL Kalltalsperre 1.32 344 ePg Pg 18 04 29.8 +0.2
TNS Taunus Mts 1.33 50 ePg Pg 18 04 29.2 -0.5
SNR=4.0
TNS eSg Sg 18 04 45.4 -1.5
SNR=6.0
DREG Dreilaegerbach 1.36 343 ePg Pg 18 04 30.7 +0.5
DREG eSg Sg 18 04 48.4 +0.6
9.0nm,0.6s
MEM Membach 1.36 336 P Pg 18 04 30.7 +0.5
MEM Membach 1.36 336 P Pg 18 04 30.6 +0.4
BFO Black Forest 1.42 137 ePg Pg 18 04 31.4 -0.1
SNR=6.2
BFO eSg Sg 18 04 49.1 -0.8
SNR=7.9
BCLA Clavier 1.46 317 P Pn 18 04 32.0 +0.3
MEZF Maizieres J'vi 1.48 235 ePg Pg 18 04 32.9 +0.3
baz=56
MEZF eSg Sg 18 04 52.2 +0.4
14nm,0.4s
MEZF Maizieres J'vi 1.48 235 ePg Pg 18 04 32.9 +0.3
MEZF eSg Sg 18 04 52.2 +0.4
7.2nm,0.4s
GIVF Givet 1.52 300 ePn Pn 18 04 32.1 -0.5
GIVF eSg Sg 18 04 53.3 +0.4
20nm,0.4s
GIVF Givet 1.52 300 ePn Pn 18 04 32.1 -0.5
GIVF eSg Sg 18 04 53.3 +0.4
10nm,0.4s
HGN Heimansgroeve 1.52 337 ePg Pg 18 04 32.7 -0.6
1.4nm,0.3s
HGN eSg Sg 18 04 52.4 -0.6
MOF Molkenrain 1.53 173 Pg Pg 18 04 34.4 +0.8
MOF Sg Sg 18 04 54.4 +1.0
HINF Hinteralfeld 1.56 180 ePg Pg 18 04 34.2 +0.2
HINF eSg Sg 18 04 54.0 -0.2
28nm,0.3s
HINF Hinteralfeld 1.56 180 ePg Pg 18 04 34.2 +0.2
HINF eSg Sg 18 04 54.0 -0.2
14nm,0.3s
HOBG Hohbusch 1.64 10 ePg Pg 18 04 35.0 -0.7
HOBG eSg Sg 18 04 54.0 -3.0
DOU Dourbes 1.64 297 P Pn 18 04 34.6 +0.3
FELD Feldberg im Sc 1.68 153 Pg Pg 18 04 36.7 +0.4
FELD Sg Sg 18 04 58.3 +0.2
SFTF Sexfontaines 1.68 227 ePn Pn 18 04 34.7 -0.2
baz=45
SFTF eSg Sg 18 04 58.2 -0.1
6.7nm,0.2s
SFTF Sexfontaines 1.68 227 ePn Pn 18 04 34.7 -0.2
SFTF eSg Sg 18 04 58.2 -0.1
3.3nm,0.2s
BAIF Baives 1.86 293 ePg Pg 18 04 40.5 +0.7
BAIF eSg Sg 18 05 05.7 +1.7
6.4nm,0.4s
BAIF Baives 1.86 293 ePn Pn 18 04 38.0 +0.7
BAIF ePg Pg 18 04 40.5 +0.7
BAIF eSg Sg 18 05 05.7 +1.7
BAIF Baives 1.86 293 ePg Pg 18 04 40.5 +0.7
BAIF eSg Sg 18 05 05.7 +1.7
3.2nm,0.4s
CABF La Chapelle 2.81 191 eSg Sg 18 05 33.4 -1.2
4.4nm,0.4s
CABF La Chapelle 2.81 191 eSg Sg 18 05 33.4 -1.2
2.2nm,0.4s
LOR Lormes 2.91 225 ePn Pn 18 04 50.3 -1.4
baz=50
LOR eSn Sn 18 05 24.7 -2.7
LOR eSg Sg 18 05 35.9 -1.8
5.0nm,0.3s
LOR Lormes 2.91 225 ePn Pn 18 04 50.3 -1.4
LOR eSn Sn 18 05 24.7 -2.7
LOR eSg Sg 18 05 35.9 -1.8
2.5nm,0.3s
SSF Saint Saulge 3.23 225 ePn Pn 18 04 54.4 -1.7
SSF eSg Sg 18 05 47.8 -0.1
3.4nm,0.4s
SSF Saint Saulge 3.23 225 ePn Pn 18 04 54.4 -1.7
SSF eSg Sg 18 05 47.8 -0.1
1.7nm,0.4s
SMF Signal de Mont 3.40 218 ePn Pn 18 04 57.3 -1.2
SMF eSg Sg 18 05 51.2 -2.3
2.9nm,0.2s
SMF Signal de Mont 3.40 218 ePn Pn 18 04 57.3 -1.2
SMF eSg Sg 18 05 51.2 -2.3
1.5nm,0.2s
BGF Bois d'Agland 3.90 225 eSg Sg 18 06 07.3 -2.3
11nm,0.4s
BGF Bois d'Agland 3.90 225 eSg Sg 18 06 07.3 -2.3
5.6nm,0.4s
GEC2 GERESS Array S 4.52 94 ePn Pn 18 05 14.5 +0.6
SNR=6.3
GEC2 GERESS Array S 4.52 94 ePn Pn 18 05 14.1 +0.3
GEC2 GERESS Array S 4.52 94 ePn Pn 18 05 14.1 +0.2
FLN La Foliniere 4.87 266 ePn Pn 18 05 18.5 -0.2

*IDC **04** 18:06:45.0±2.2,4307N×10507W,h0km,mb4.0/1, mb1 4.1/3,mb1mx3.6/24,mbtmp3.9/3,ML3.5/2,MS2.6/1, Ms1 2.6/1,ms1mx2.3/29,Error ellipse: s-maj=43.3km s-min=7.4km az=155.0*
*ISCJB **04** 18:06:47.8±0.6,4366N±004×105.17W±007,h0km,mb4.2/1, Error ellipse: s-maj=7.3km s-min=5.4km az=59.1*
*NEIC **04** 18:06:49.9±0.4,4369N×105.19W,h0km,ML3.4,Error ellipse: s-maj=5.4km s-min=4.7km az=115.0,Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 04 18:06:49.2±0.5,4369N±004×10514W±006,h0km,n43, σ0°96/46,mb4.2/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**61**	*eP*	**Pg**	**18 07 07.7**	**+1.0**
PHWY	**Pilot Hill**	**2.40**	**186**	*eP*	**Pn**	18 07 30.4	+0.7
RWWY	**Rawlins**	**2.51**	**218**	*eP*	**Pn**	18 07 31.8	+0.5
RWWY				*eS*	**Sn**	18 08 04.1	+1.4
LAO	**LASA Array**	**3.10**	**346**	*eP*	**Pn**	18 07 39.6	+0.3
RLMT	**Red Lodge**	**3.29**	**297**	*ePn*	**Pn**	18 07 41.4	-0.5
BW06	**Boulder Array**	**3.35**	**256**	*eP*	**Pn**	18 07 42.0	-0.9
PDAR	**Pinedale Array**	**3.35**	**256**	Pn	**Pn**	18 07 42.0	-0.8
	2.6nm,0.3s,baz=75,slow=16,SNR=63						
PDAR				Pg	**Pg**	**18 07 47.2**	**-6.3**
	12nm,0.3s,baz=76,slow=22,SNR=83						
PDAR				Lg		18 08 28.7	
	19nm,0.3s,baz=88,slow=33,SNR=16						
GCMT	**Greycliff**	**3.85**	**305**	*ePn*	**Pn**	18 07 49.5	-0.2
ISCO	**Idaho Springs**	**3.90**	**185**	*eP*	**Pn**	18 07 51.4	+1.0
LOHW	**Long Hollow**	**3.96**	**271**	*eP*	**Pn**	18 07 52.1	+0.8
FLWY	**Flagg Ranch**	**4.04**	**278**	*ePn*	**Pn**	18 07 53.0	+0.7
MOOW	**Moose Ponds**	**4.06**	**273**	*eP*	**Pn**	18 07 52.7	+0.1
SNOW	**Snow King Moun**	**4.08**	**269**	*eP*	**Pn**	18 07 54.0	+1.0
REDW	**Red Top Meadow**	**4.16**	**267**	*eP*	**Pn**	18 07 54.8	+0.7
IMW	**Indian Meadow**	**4.20**	**275**	*eP*	**Pn**	18 07 54.8	+0.2
TPAW	**Teton Pass**	**4.22**	**269**	*eP*	**Pn**	**18 07 55.3**	**+0.5**
YMR	**Madison River**	**4.30**	**285**	Pn	**Pn**	**18 07 56.6**	**+0.7**
AHID	**Auburn Hatcher**	**4.45**	**260**	P	**Pn**	**18 07 57.1**	**-0.8**
RRI2	**Red Ridge**	**4.50**	**268**	Pn	**Pn**	**18 07 59.6**	**+0.9**
QLMT	**Earthquake Lak**	**4.66**	**286**	*ePn*	**Pn**	**18 08 00.9**	**+0.1**
SMCO	**Snowmass**	**4.71**	**198**	*ePg*	**Pg**	**18 08 13.3**	**-6.3**
DGMT	**Dagmar**	**4.83**	**8**	*ePn*	**Pn**	**18 08 04.3**	**+1.1**
HWUT	**Hardware Ranch**	**5.17**	**248**	*ePn*	**Pn**	**18 08 07.4**	**-0.5**
	10nm,0.5s						
TCUT	**Toone Canyon**	**5.30**	**243**	*ePn*	**Pn**	**18 08 07.9**	**-1.7**
DLMT	**Dillon**	**5.58**	**290**	*ePn*	**Pn**	**18 08 09.7**	**-3.9**
	4.7nm,0.6s						
DAU	**Daniels Canyon**	**5.61**	**236**	*ePn*	**Pn**	**18 08 12.8**	**-1.0**
MCMT	**McKenzie Canyo**	**5.65**	**284**	*ePn*	**Pn**	**18 08 16.2**	**+1.8**
SPUT	**South Promonto**	**5.90**	**249**	*eP*	**Pn**	**18 08 16.9**	**-1.0**
SRU	**San Rafael**	**6.11**	**223**	*ePn*	**Pn**	**18 08 19.0**	**-1.7**
	14nm,0.6s						
PV01	**Paradox Valley**	**6.12**	**206**	*ePn*	**Pn**	**18 08 21.8**	**+0.8**
ECSD	**EROS,Sioux Fal**	**6.18**	**87**	*eP*	**Pn**	**18 08 26.8**	**+5.1**
TMUT	**Trail Mountain**	**6.32**	**228**	*ePn*	**Pn**	**18 08 23.3**	**-0.4**
NLU	**North Lily Min**	**6.38**	**237**	Pn	**Pn**	**18 08 22.9**	**-1.6**
BGU	**Big Grassy Mou**	**6.46**	**247**	*ePn*	**Pn**	**18 08 23.7**	**-1.9**
CHMT	**Chamberlain Mo**	**6.56**	**302**	*ePn*	**Pn**	**18 08 26.4**	**-0.6**
HLID	**Hailey**	**6.73**	**272**	*ePn*	**Pn**	**18 08 30.4**	**+1.1**
	1.8nm,0.6s						
MSU	**Marysvale**	**7.41**	**228**	*eP*	**Pn**	**18 08 39.2**	**+0.6**
CCUT	**Cedar City**	**8.75**	**228**	*eP*	**Pn**	**18 08 57.7**	**+0.7**
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 09 01.6**	**-0.5**
	1.5nm,0.3s,baz=232,slow=14,SNR=13						
ULM				Pg	Pn	18 09 35.7	+34
	0.5nm,0.3s,baz=220,slow=17,SNR=3.9						
ULM				Sn	**Sn**	**18 10 44.5**	**-0.9**
	0.4nm,0.3s,baz=43,slow=8.3,SNR=3.3						
ULM				Lg		18 11 38.5	
	0.4nm,0.3s,baz=140,slow=23,SNR=5.1						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 09 01.6**	**-0.5**
ULM				Pg	Pn	18 09 35.7	+34
ULM				Sn	**Sn**	**18 10 44.5**	**-0.9**
ULM				Lg		18 11 38.5	
WUAZ	**Wupatki**	**9.47**	**213**	P	**Pn**	**18 09 06.3**	**-0.5**
NEW	**Newport**	**9.51**	**303**	LR	LR	18 13 34.5	
	comp=Z,29nm,18.0s,baz=179,slow=41						
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**18 17 06.0**	**-1.4**
	1.1nm,0.6s,mb4.2,baz=337,slow=5.9,SNR=9.6						

PRE 04 18:08:33.2±1.3,3308S×3010E,h5km,ML3.5,Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSD	**Kokstad**	**2.60**	**347**	*eP*	Pn	18 09 17.1	+1.2
KSD				*eS*	Sn	18 09 49.3	+1.6
KSD				AML	AML	18 10 00.8	
	comp=Z,43nm,0.3s						
GRM	**Grahamstown**	**3.02**	**265**	*eP*	Pn	18 09 21.4	-0.3
GRM				*eS*	Sn	18 09 56.1	-2.2
GRM				AML	AML	18 10 02.3	
	comp=Z,88nm,0.4s						
HVD	**Hendrik Verwoe**	**4.63**	**301**	*eP*	Pn	18 09 44.8	+1.0
HVD				*eS*	Sn	18 10 37.2	-0.7
HVD				AML	AML	18 11 05.9	
	comp=Z,32nm,0.4s						
POGA	**Pongola**	**5.84**	**13**	*eP*	Pn	18 10 02.0	+1.6
POGA				*eS*	Sn	18 11 05.7	-2.0
POGA				AML	AML	18 11 15.2	
	comp=Z,16nm,0.7s						
BOSA	**Boshof**	**6.09**	**316**	*eP*	Pn	18 10 04.3	+0.4
BOSA				*eS*	Sn	18 11 12.0	-2.0
BOSA				AML	AML	18 11 22.8	
	comp=Z,5.9nm,0.4s						
SUR	**Sutherland**	**7.86**	**273**	*eP*	Pn	18 10 29.7	+1.5
SUR				*eS*	Sn	18 11 54.5	-3.0
CVNA	**Calvinia**	**8.90**	**278**	*eP*	Pn	18 10 43.6	+1.3
CVNA				*eS*	Sn	18 12 18.6	-4.4
CVNA				AML	AML	18 13 11.7	
	comp=Z,13nm,0.5s						
LBTB	**Lobatse**	**8.95**	**333**	*eP*	Pn	18 10 44.6	+1.6
LBTB				*eS*	Sn	18 12 19.3	-4.9
LBTB				AML	AML	18 12 39.3	
	comp=Z,3.7nm,0.6s						
UPI	**Upington**	**8.95**	**299**	*eS*	Sn	18 12 19.7	-4.5
UPI				AML	AML	18 12 30.4	
	comp=Z,4.5nm,0.3s						

*ISK **04** 18:09:52.9,41.16N×3442E,h5km,MD3.5*
*IDC **04** 18:09:52.9±1.4,41.16N×3435E,h0km,mb3.7/3,mb1 3.8/7, mb1mx3.6/22,mbtmp3.6/7,ML3.6/4,MS2.7/2,Ms1 2.7/2, ms1mx2.4/28,Error ellipse: s-maj=22.1km s-min=9.7km az=91.0*
*CSEM **04** 18:09:52.2±0.1,41.15N×3442E,h0km,MD3.5,Error ellipse: s-maj=1.2km s-min=1.2km az=39.0*
*ISCJB **04** 18:09:53.7±0.2,41.15N±002×3440E±003,h10km,mb3.6/4, MS2.7/1,Error ellipse: s-maj=3.1km s-min=2.4km az=6.5*
*MOS **04** 18:09:53.5±1.2,41.15N×3431E,h10km,mb4.2/3,Error ellipse: s-maj=14.9km s-min=8.2km az=89.6*
*NEIC **04** 18:09:53.0,41.16N×3441E,h6km,mb3.9/1,MD3.6(ISK), After ISK.*

ISC 04 18:09:54.5±0.2,4115N±002×3439E±003,h10km,n80, σ1°27/94,mb3.6/4,MS2.7/1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.30**	**248**	*i* PG	**Pg**	**18 09 59.4**	**-1.1**
BYBT	**Boyabat**	**0.43**	**41**	*i* PG	**Pg**	**18 10 01.5**	**-1.4**
BYBT				*i* SG	**Sg**	**18 10 07.6**	**-0.9**
BOYT	**Boyabat**	**0.47**	**55**	*i* P	**Pg**	**18 10 02.2**	**-1.5**
CTKT	**Corum**	**0.60**	**150**	*i* P	**Pg**	**18 10 04.7**	**-1.6**
CTKT				*i* S	**Sg**	**18 10 14.7**	**+0.5**
CANT	**Cankiri**	**0.80**	**228**	*i* PG	**Pg**	**18 10 08.9**	**-1.0**
DIKM	**Dikmen**	**0.82**	**52**	*i* PG	**Pg**	**18 10 09.0**	**-1.3**
BALT	**Daday**	**0.85**	**297**	*i* P	**Pg**	**18 10 08.8**	**-2.1**
BZK	**Bozkurt**	**0.86**	**340**	*i* PG	**Pg**	**18 10 10.1**	**-1.0**
BZK				*i* SG	**Sg**	**18 10 22.5**	**+0.1**
ELDT	**Eldivan**	**0.98**	**228**	*i* P	**Pg**	**18 10 12.0**	**-1.5**
ELDT				*i* S	**Sg**	**18 10 26.1**	**-0.1**
CORM	**Corum**	**0.98**	**169**	*i* PG	**Pg**	**18 10 12.2**	**-1.2**
KVT	**Kavak**	**1.25**	**93**	*i* PN	**Pn**	**18 10 16.6**	**-1.4**
SAFT	**Safranbolu**	**1.29**	**275**	*i* PN	**Pn**	**18 10 17.5**	**-1.1**
CDAG	**Cicekdag**	**1.52**	**181**	*i* P	**Pn**	**18 10 21.0**	**-0.8**
CDAG				*i* S	**Sn**	**18 10 41.6**	**0.0**
BR131	**Keskin Array S**	**1.53**	**202**	*eP*	**Pn**	**18 10 21.1**	**-0.8**
BR131				*eS*	**Sn**	**18 10 41.8**	**-0.1**
BRTR	**Keskin Array B**	**1.53**	**202**	Pg	**Pg**	**18 10 21.1**	**-2.8**
	38nm,0.3s,baz=28,slow=12,SNR=399						
BRTR				Lg		18 10 41.3	
	44nm,0.3s,baz=18,slow=23,SNR=17						
BRTR	**Keskin Array B**	**1.53**	**202**	P	**Pn**	**18 10 21.2**	**-0.7**
BRTR						18 10 41.3	
BRTR				pmax	pmax		
	comp=Z,38nm,0.3s						
BRTR	**Keskin Array B**	**1.53**	**202**	Pg	**Pn**	**18 10 21.1**	**-0.8**
BRTR	**Keskin Array B**	**1.53**	**202**	P	**Pn**	**18 10 21.2**	**-0.7**
	comp=Z,38nm,0.3s						
YOZ	**Yozgat**	**1.66**	**155**	*i* PN	**Pn**	**18 10 24.1**	**+0.4**
ANTO	**Ankara**	**1.77**	**224**	*eP*	**Pn**	**18 10 24.7**	**-0.4**
TOKT	**Tokat**	**1.83**	**116**	PN	**Pn**	**18 10 25.8**	**-0.2**
KAMT	**Kaman**	**1.85**	**197**	*i* PN	**Pn**	**18 10 26.7**	**+0.4**
SGKT	**Sivrigoynuk**	**1.86**	**253**	*i* P	**Pn**	**18 10 26.3**	**-0.2**
KDZE	**Karadeniz Ereo**	**2.23**	**275**	PN	**Pn**	**18 10 32.1**	**+0.6**
SVSK	**Karacayir**	**2.33**	**121**	PN	**Pn**	**18 10 32.8**	**-0.1**
SVST	**Sivas**	**2.39**	**124**	*i* P	**Pn**	**18 10 37.5**	**+3.9**
AVNT	**Avonos**	**2.39**	**171**	*i* P	**Pn**	**18 10 35.0**	**+1.3**
AVNT				*i* S	**Sn**	**18 11 01.9**	**-1.2**
BNN	**Bunyan**	**2.55**	**154**	PN	**Pn**	**18 10 36.0**	**+0.1**
HENT	**Hendek**	**2.66**	**264**	*i* P	**Pn**	**18 10 41.4**	**+4.0**
GRSN	**GIRESUNGRSN**	**2.94**	**93**	*i* P	**Pn**	**18 10 37.9**	**-3.3**
KIZT	**Kizilcal**	**2.98**	**221**	PN	**Pn**	**18 10 42.6**	**+0.9**
ESKT	**Eskisehir**	**3.16**	**240**	PN	**Pn**	**18 10 45.3**	**+1.1**
ESKT	**Eskisehir**	**3.16**	**240**	*i* P	**Pn**	**18 10 42.2**	**-2.1**
SEYT	**Eskypehyr**	**3.16**	**240**	*i* P	**Pn**	**18 10 42.2**	**-2.0**
YAL	**Yalta**	**3.34**	**357**	*eP*	**Pn**	**18 10 48.7**	**+1.9**
YAL				*eS*	**Sn**	**18 11 28.5**	**+2.0**
YAL				pmax	pmax		
	comp=Z,40nm,1.0s						
YAL				smax			
	comp=E,40nm,0.6s						
YAL				smax			
	comp=N,50nm,0.9s						
YAL	**Yalta**	**3.34**	**357**	*eP*	**Pn**	**18 10 48.7**	**+1.9**
	comp=N,40nm,1.0s						
ALU	**Alushta**	**3.53**	**0**	*eP*	**Pn**	**18 10 49.7**	**+0.3**
ALU				*eS*	**Sn**	**18 11 32.2**	**+1.0**
ALU				pmax	pmax		
	comp=Z,30nm,0.6s						
ALU				smax			
	comp=N,100nm,0.7s						
ALU	**Alushta**	**3.53**	**0**	*eP*	**Pn**	**18 10 49.7**	**+0.3**
	comp=N,30nm,0.6s						
KONT	**Konya--Tatoy**	**3.56**	**207**	PN	**Pn**	**18 10 51.1**	**+1.3**
HRT	**Hereke**	**3.59**	**266**	*ePN*	**Pn**	**18 10 51.5**	**+1.3**
ADVT	**Abdulvahap**	**3.60**	**260**	*ePN*	**Pn**	**18 10 51.8**	**+1.4**
SUDU	**Sudak**	**3.77**	**7**	*eP*	**Pn**	**18 10 54.0**	**+1.4**
SUDU				*eS*	**Sn**	**18 11 40.0**	**+3.0**
SUDU				pmax	pmax		
	comp=Z,60nm,0.9s						
SUDU				smax			
	comp=N,50nm,0.6s						
SUDU	**Sudak**	**3.77**	**7**	*eP*	**Pn**	**18 10 54.0**	**+1.4**
	comp=N,60nm,0.9s						
SIM	**Simferopol'**	**3.81**	**357**	*eP*	**Pn**	**18 10 56.0**	**+2.9**
SIM				*eS*	**Sn**	**18 11 42.1**	**+4.2**
SIM				pmax	pmax		
	comp=Z,16nm,1.2s						
SIM	**Simferopol'**	**3.81**	**357**	*eP*	**Pn**	**18 10 56.0**	**+2.9**
	comp=Z,16nm,1.2s						
KOZT	**Kozan**	**3.83**	**163**	*ePN*	**Pn**	**18 10 54.9**	**+1.5**
KELT	**Kelkit**	**3.83**	**104**	*i* P	**Pn**	**18 10 52.8**	**-0.7**
KELT				*i* S	**Sg**	**18 11 53.5**	**-4.1**
YLV	**Yalova**	**3.85**	**263**	*ePN*	**Pn**	**18 10 55.1**	**+1.3**
KARA	**Karaisali**	**3.92**	**172**	*ePN*	**Pn**	**18 10 55.9**	**+1.2**
KLYT	**Kilyos**	**4.04**	**273**	*ePN*	**Pn**	**18 10 57.8**	**+1.4**
ULDT	**Uludag**	**4.12**	**258**	*i* P	**Pb**	**18 11 06.2**	**-0.9**
KMRS	**Kahramanmaras**	**4.12**	**151**	*ePN*	**Pn**	**18 10 58.9**	**+1.4**
MALT	**Malatya**	**4.21**	**131**	*eP*	**Pn**	**18 11 00.1**	**+1.5**
CEYT	**Ceyhan**	**4.26**	**165**	*ePN*	**Pn**	**18 11 00.6**	**+1.1**
GDZ	**Gediz**	**4.29**	**243**	*i* P	**Pg**	**18 11 13.3**	**-3.4**
ELZG	**Elazig**	**4.42**	**125**	*i* P	**Pb**	**18 11 11.5**	**-0.6**
ELZG				*i* S	**Sg**	**18 12 14.5**	**-1.8**
TKTP	**Tekketepe**	**4.42**	**227**	*i* P	**Pn**	**18 11 01.4**	**-0.2**
HDMB	**Hadim**	**4.43**	**200**	*ePN*	**Pn**	**18 11 03.3**	**+1.5**
PTK	**Pertek**	**4.45**	**119**	*ePN*	**Pn**	**18 11 02.6**	**+0.6**
GZT	**Gaziantep**	**4.52**	**146**	*i* P	**Pb**	**18 11 16.6**	**+2.8**
GAZ	**Gaziantep**	**4.53**	**150**	*ePN*	**Pn**	**18 11 04.6**	**+1.4**
MEST	**Erdemli**	**4.56**	**183**	*i* P	**Pn**	**18 11 07.7**	**+4.2**
URFA	**Urfa**	**5.05**	**136**	*ePN*	**Pn**	**18 11 11.7**	**+1.5**
TIRR	**Tirgusor**	**5.50**	**309**	*eP*	**Pn**	**18 11 16.3**	**-0.2**
TIRR				*eS*	**Sn**	**18 12 16.8**	**-3.0**
KIV	**Kislovodsk**	**6.74**	**63**	*eP*	**Pn**	**18 11 37.6**	**+4.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,24nm,9.0s						
MLR	**Muntele Rosu**	**7.53**	**308**	Pn	**Pn**	**18 11 43.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=172,slow=6.9,SNR=5.0						
MLR				Sn	**Sn**	**18 13 09.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=23,SNR=2.4						
AKASG	**Malin Array Be**	**10.21**	**341**	Pn	**Pn**	**18 12 18.2**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=154,slow=13,SNR=6.8						
AKASG				Sn	**Sn**	**18 14 09.3**	**-6.2**
	comp=Z,1.2nm,0.3s,baz=156,slow=24,SNR=8.5						
AKASG	**Malin Array Be**	**10.21**	**341**	P	**Pn**	**18 12 18.2**	**-2.8**
AKASG						18 14 09.3	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
VRAC	**Vranov**	**14.94**	**309**	LR	LR	18 18 59.9	
	comp=N,29nm,21.8s,baz=168,slow=37						
GERES	**GERESS Array B**	**16.50**	**305**	Pn	**Pn**	**18 13 48.0**	**+2.0**
	comp=N,0.2nm,0.3s,baz=134,slow=7.6,SNR=3.9						
AKTK	**Aktyubinsk**	**18.84**	**53**	P	**Pn**	**18 14 14.9**	**-0.1**
AKTO	**Aktyubinsk**	**18.84**	**53**	P	**Pn**	**18 14 14.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=249,slow=12,SNR=3.6						
ARU	**Arti**	**21.91**	**38**	*eP*	**P**	**18 14 47.2**	**-0.6**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
ARU	**Arti**	**21.91**	**38**	*eP*	**P**	**18 14 47.2**	**-0.6**
	comp=Z,2.9nm,0.6s,mb3.9						
HFS	**Hagfors**	**22.92**	**333**	LR	LR	18 24 49.4	
	comp=Z,25nm,19.8s,MS2.7,baz=210,slow=39						
NOA	**NORSAR Array B**	**24.43**	**332**	P	**P**	**18 15 13.0**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.1,baz=129,slow=9.6,SNR=2.6						
NOA	**NORSAR Array B**	**24.43**	**332**	P	**P**	**18 15 13.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**28.83**	**354**	P	**P**	**18 15 52.0**	**-0.9**
	comp=Z,1.9nm,1.0s,mb3.8,baz=171,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**28.83**	**354**	P	**P**	**18 15 52.0**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**39.89**	**235**	P	**P**	**18 17 28.4**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=35,slow=9.3,SNR=8.2						

*ISCJB **04** 18:14:21.1±0.6,1832S×005×6699W±008,h274km±7km, mb3.7/4,Error ellipse: s-maj=12.2km s-min=7.8km az=157.6*
*IDC **04** 18:14:21.2±0.8,1832S×6696W,h259km±8km,mb3.4/4, mb1 3.5/10,mb1mx3.4/21,mbtmp4.0/10,Error ellipse: s-maj=19.2km s-min=10.0km az=90.0*
*NEIC **04** 18:14:21.8±0.5,1828S×6697W,h267km±7km,mb4.0/2, Error ellipse: s-maj=11.0km s-min=8.2km az=66.0*

ISC 04 18:14:22.0±0.6,1831S±006×6699W±008,h266km±7km, n19,σ0°81/26,mb3.7/4,1C,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.29**	**331**	P	**Pn**	**18 15 09.6**	**+1.2**
	38nm,0.3s,baz=127,slow=7.0,SNR=762						
LPAZ				S	**S**	**18 15 44.8**	**-0.4**
	3.1nm,0.3s,baz=359,slow=19,SNR=5.3						
LVC	**Limon Verde**	**4.64**	**202**	P	**Pn**	**18 15 34.6**	**+0.7**
	3.3nm,0.3s,baz=22,slow=9.1,SNR=30						
LVC				S	**S**	**18 16 29.6**	**-1.8**
	8.9nm,0.3s,baz=116,slow=22,SNR=33						
LVC	**Limon Verde**	**4.64**	**202**	*eP*	**Pn**	**18 15 34.1**	**+0.2**
LVC				*eS*	**S**	**18 16 27.9**	**-3.5**
ARE	**Arequipa**	**4.67**	**293⇑**	*i* P	**Pn**	**18 15 34.2**	**-0.1**
ARE				*eS*	**S**	**18 16 32.0**	**-0.1**
SIV	**San Ignacio**	**6.11**	**69**	P	**Pn**	**18 15 51.4**	**-0.4**
	2.5nm,0.3s,baz=261,slow=12,SNR=38						
NNA	**Nana**	**11.40**	**302**	P	**Pn**	**18 16 58.3**	**+0.6**
	3.7

ellipse: s-maj=17.5km s-min=13.1km az=111.0

ISC 04 18:17:57.9±0.8, 6072S±009×263W±02, h10km, n32, σ1§22/19, mb4.3/9, MS4.0/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.36**	**151**	*e*	**Pn**	**18 20 53.6**	**-0.3**
VNA1				*e*		18 20 54.1	
VNA1				*e*		18 20 55.2	
VNA1				*e*		18 20 57.8	
VNA1				*e*		18 22 57.4	
VNA1				*e*		18 23 06.7	
VNA1				*e*		18 23 10.1	
VNA1				*e*		18 23 12.9	
VNA3	**Neumayer Olymp**	**12.48**	**155**	*e*	**Pn**	**18 20 54.2**	**-1.3**
VNA3				*e*		18 20 54.9	
VNA3				*e*		18 20 55.3	
VNA3				*e*		18 20 56.3	
VNA3				*e*		18 20 57.8	
VNA3				*e*		18 21 01.5	
VNA3				*e*		18 22 59.2	
VNA3				*e*		18 23 07.1	
VNA3				*e*		18 23 10.1	
SNAA	**Sanae**	**14.36**	**149**	Pn	**Pn**	**18 21 20.6**	**-0.6**
	1.3nm,0.3s,baz=316,slow=13,SNR=69						
SNAA				Sn	**Sn**	**18 23 53.8**	**-6.7**
	0.3nm,0.3s,baz=318,slow=20,SNR=7.9						
SNAA				LR	LR	18 25 44.2	
	comp=Z,178nm,18.9s,baz=23,slow=32						
SNAA	**Sanae**	**14.36**	**149**	*e*	**Pn**	**18 21 20.3**	**-0.9**
SNAA				*e*		18 21 23.0	
SNAA				*e*		18 21 24.2	
SNAA				*e*		18 21 25.4	
SNAA				*e*		18 21 28.8	
SNAA				*e*		18 23 25.9	
SNAA				*e*		18 23 28.7	
PMSA	**Palmer Station**	**17.55**	**240**	LR	LR	18 27 45.7	
	comp=Z,383nm,18.2s,baz=55,slow=34						
PMSA	**Palmer Station**	**17.55**	**240**	*e*P	**Pn**	**18 22 01.7**	**-0.9**
	6.3nm,0.5s						
QSPA	**South Pole Qui**	**29.51**	**180**	*e*P	**P**	**18 24 05.3**	**+2.9**
	13nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**33.52**	**286**	LR	LR	18 38 16.8	
	comp=Z,102nm,18.7s,MS3.6,baz=180,slow=37						
MAW	**Mawson**	**36.19**	**140**	P	**P**	**18 24 52.3**	**-8.3**
	1.1nm,0.4s,mb4.2,baz=278,slow=7.1,SNR=6.7						
MAW				LR	LR	18 38 28.3	
	comp=Z,94nm,18.4s,MS3.6,baz=53,slow=34						
CPUP	**Villa Florida**	**40.34**	**314**	P	**P**	**18 25 29.6**	**-5.9**
	0.6nm,0.3s,mb3.8,baz=137,slow=5.2,SNR=5.6						
CPUP				LR	LR	18 40 40.7	
	comp=Z,116nm,19.7s,MS3.7,baz=153,slow=34						
CPUP	**Villa Florida**	**40.34**	**314**	P	**P**	**18 25 29.4**	**-6.2**
	7.9nm,0.4s,mb4.8						
CPUP				LR	LR	18 40 40.7	
SBA	**Scott Base**	**41.44**	**184**	*e*P	**P**	**18 25 46.9**	**+2.3**
	12nm,1.4s,mb4.3						
VNDA	**Vanda**	**41.91**	**183**	P	**P**	**18 25 49.9**	**+1.3**
	2.1nm,0.8s,mb3.8,baz=183,slow=8.1,SNR=24						
VNDA				LR	LR	18 41 38.2	
	comp=Z,146nm,20.4s,MS3.9,baz=160,slow=34						
VNDA	**Vanda**	**41.91**	**183**	*e*P	**P**	**18 25 49.2**	**+0.6**
	1.5nm,0.6s,mb3.8						
VNDA				LR	LR	18 41 38.2	
BOSA	**Boshof**	**46.88**	**71**	P	**P**	**18 26 29.8**	**+1.5**
	2.5nm,0.8s,mb4.2,baz=263,slow=3.2,SNR=3.3						
BOSA				LR	LR	18 40 38.4	
	comp=Z,80nm,21.7s,MS3.6,baz=177,slow=29						
BOSA	**Boshof**	**46.88**	**71**	*e*P	**P**	**18 26 29.9**	**+1.5**
	7.0nm,1.2s,mb4.5						
BOSA				LR	LR	18 40 38.4	
BDFB	**Brasilia**	**47.67**	**331**	LR	LR	18 43 30.3	
	comp=Z,83nm,19.3s,MS3.7,baz=167,slow=32						
SAML	**Samuel**	**58.46**	**316**	*e*P	**P**	**18 27 48.0**	**-6.0**
	2.3nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**69.27**	**23**	LR	LR	18 50 59.9	
	comp=Z,84nm,21.6s,MS4.0,baz=88,slow=29						
KMBO	**Kilima Mbogo**	**76.36**	**67**	LR	LR	19 01 09.2	
	comp=Z,96nm,18.5s,MS4.1,baz=90,slow=34						
TOA0	**Torodi Ar. Sit**	**76.94**	**28**	*e*P	**P**	**18 29 49.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.94**	**28**	P	**P**	**18 29 49.8**	**-0.8**
	6.5nm,0.5s,mb4.8,baz=198,slow=6.2,SNR=36						
TORD				LR	LR	18 56 28.2	
	comp=Z,116nm,20.7s,MS4.2,baz=180,slow=30						
SDV	**Santo Domingo**	**77.65**	**315**	LR	LR	19 00 43.7	
	comp=Z,68nm,20.4s,MS4.0,baz=208,slow=33						
STKA	**Stephens Creek**	**87.21**	**170**	LR	LR	19 06 49.3	
	comp=Z,137nm,18.9s,MS4.4,baz=205,slow=34						
PPT	**Papeete**	**89.76**	**233**	LR	LR	19 02 47.1	
	comp=Z,141nm,20.7s,MS4.4,baz=122,slow=30						
ASAR	**Alice Springs**	**94.39**	**162**	P	**P**	**18 31 17.8**	**-0.2**
	0.5nm,0.7s,mb4.1,baz=182,slow=3.9,SNR=9.9						
ASAR				LR	LR	19 11 33.3	
	comp=Z,181nm,20.3s,MS4.5,baz=137,slow=34						
CTA	**Charters Tower**	**99.25**	**173**	LR	LR	19 15 00.7	
	comp=Z,164nm,18.9s,MS4.5,baz=216,slow=34						
FINES	**FINESS Array B**	**128.29**	**29**	PKP	PKPdf	18 37 02.1	-2.5
	0.6nm,0.6s,baz=96,slow=1.9,SNR=4.2						
KAF	**Kangasniemi**	**128.92**	**29**	*e*p	PKPdf	18 37 02.7	-3.1
ARCES	**ARCESS Array B**	**135.10**	**23**	PKP	PKPdf	18 37 15.9	-1.6
	1.0nm,0.7s,baz=222,slow=1.6,SNR=5.1						
ZAL	**Zalesovo**	**143.81**	**69**	PKP	PKPdf	18 37 32.2	-1.1
	0.5nm,0.3s,baz=140,slow=4.7,SNR=3.3						
SONM	**Songino Array**	**150.25**	**94**	PKPbc	PKPbc	18 37 47.8	-1.4
	3.0nm,1.0s,baz=225,slow=2.9,SNR=13						
SONM				PKPab	PKPab	18 37 56.1	+0.7
	1.1nm,0.6s,baz=218,slow=3.2,SNR=6.1						

*ISCJB **04** 18:47:15.4±4.6, 364N±03×709E±03, h186km±39km, mb3.3/3, Error ellipse: s-maj=51.8km s-min=31.2km az=64.9*

*IDC **04** 18:47:21.9±12.0, 3654N×71.17E, h230km±117km, mb3.0/3, mb1 3.1/6, mb1mx2.8/23, mbtmp3.6/6, Error ellipse: s-maj=81.9km s-min=30.5km az=35.0*

ISC 04 18:47:16.0±4.6, 363N±03×708E±03, h179km±40km, n7, σ1§20/8, mb3.3/3, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.76**	**358**	⇑P	**Pn**	**18 48 52.3**	**-0.6**
	0.4nm,0.2s,baz=174,slow=12,SNR=3.5						
KK31				⇓S	**Sn**	**18 50 02.4**	**-6.9**
	5.0nm,0.3s,baz=182,slow=22						
MKAR	**Makanchi Array**	**13.50**	**36**	P	**Pn**	**18 50 21.9**	**+1.5**
	0.1nm,0.3s,baz=234,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**16.85**	**331**	P	**Pn**	**18 51 01.7**	**+0.2**
	0.2nm,0.3s,baz=135,slow=10.0,SNR=4.2						
ZAL	**Zalesovo**	**20.10**	**25**	P	**P**	**18 51 34.5**	**-1.3**
	0.3nm,0.3s,baz=246,slow=9.6,SNR=4.6						
ARCES	**ARCESS Array B**	**41.24**	**338**	P	**P**	**18 54 43.9**	**+0.6**
	2.9nm,1.1s,mb3.8,baz=105,slow=9.3,SNR=3.9						
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**18 59 16.0**	**0.0**
	0.5nm,1.0s,mb3.1,baz=324,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**84.28**	**125**	P	**P**	**18 59 27.4**	**-0.1**
	0.2nm,0.8s,mb2.9,baz=313,slow=5.0,SNR=4.6						

*NEIC **04** 18:51:42.9, 4559N×2638E, h142km, MD3.6(BUC), After BUC.*

*CSEM **04** 18:51:42.6±1.0, 4561N×2646E, h143km±10km, MD3.9/3, Error ellipse: s-maj=13.9km s-min=5.1km az=48.0, After BUC*

BUC 04 18:51:42.3±0.7, 4562N×2644E, h146km±6km, MD3.9/3, 19C-4D, Error ellipse: s-maj=5.5km s-min=4.0km az=356.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.32**	**39**	⇑*i*P	Pn	18 52 02.4	-0.1
VRI				S	Sn	18 52 17.2	-0.6
VRI	**Vrincioaia**	**0.32**	**39**	⇑P	Pn	18 52 02.5	0.0
VRI				S	Sn	18 52 17.8	0.0
VRI	**Vrincioaia**	**0.32**	**39**	⇑*i*P	Pn	18 52 02.5	0.0
VRI				*i* S	Sn	18 52 17.6	-0.2
MLR	**Muntele Rosu**	**0.37**	**250**	⇑*i*P	Pn	18 52 02.9	+0.3
MLR				*i* S	Sn	18 52 17.4	-0.7
MLR	**Muntele Rosu**	**0.37**	**250**	⇑P	Pn	18 52 02.9	+0.3
MLR				S	Sn	18 52 18.5	+0.5
PETR		**0.57**	**79**	⇑*i*P	Pn	18 52 04.2	+0.6
PETR				*i* S	Sn	18 52 20.1	+0.4
SNX	**Sinaia**	**0.70**	**249**	⇑*i*P	Pn	18 52 05.1	+0.7
SNX	**Sinaia**	**0.70**	**249**	⇑P	Pn	18 52 05.1	+0.8
GHRR		**0.81**	**56**	⇑*i*P	Pn	18 52 05.3	+0.1
GHRR				*i* S	Sn	18 52 22.6	0.0
TUDR		**0.86**	**91**	⇑*i*P	Pn	18 52 05.5	-0.1
TUDR				*i* S	Sn	18 52 23.3	0.0
SULR		**0.94**	**188**	⇑*i*P	Pn	18 52 07.0	+0.8
SULR				*i* S	Sn	18 52 24.8	+0.3
VOIR		**0.99**	**260**	⇑*i*P	Pn	18 52 06.6	0.0
VOIR				*i* S	Sn	18 52 24.1	-1.1
VOIR		**0.99**	**260**	⇑P	Pn	18 52 06.7	0.0
VOIR				S	Sn	18 52 24.0	-1.2
VARR		**1.03**	**75**	⇑*i*P	Pn	18 52 07.1	+0.2
VARR				*i* S	Sn	18 52 25.3	-0.4
MTUR	**Matau**	**1.04**	**249**	⇓*i*P	Pn	18 52 07.6	+0.5
MTUR	**Matau**	**1.04**	**249**	⇑P	Pn	18 52 07.6	+0.5
CFR	**Carcaliu**	**1.27**	**109**	⇑*i*P	Pn	18 52 09.1	-0.1
CFR				*i* S	Sn	18 52 29.1	-0.7
CFR	**Carcaliu**	**1.27**	**109**	⇑P	Pn	18 52 09.4	+0.2
CFR	**Carcaliu**	**1.27**	**109**	⇑*i*P	Pn	18 52 09.2	0.0
HARR	**Harsova**	**1.40**	**131**	⇓*i*P	Pn	18 52 11.0	+0.4
HARR	**Harsova**	**1.40**	**131**	⇓P	Pn	18 52 10.9	+0.4
BURAR	**Bucovina Array**	**2.17**	**338**	⇓*i*P	Pn	18 52 20.3	+1.1
BURAR	**Bucovina Array**	**2.17**	**338**	⇑P	Pn	18 52 20.3	+1.1

*TIR **04** 19:16:43.4, 4238N×1984E, h17km, Ml2.5*

*ISCJB **04** 19:16:44.6±0.3, 4236N±002×1985E±002, h2km±4km, Error ellipse: s-maj=3.5km s-min=2.4km az=90.5*

*CSEM **04** 19:16:44.7±0.1, 4237N×1986E, h5km, ML2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=50.0*

*NEIC **04** 19:16:45.5, 4238N×1981E, h6km, ML2.8(PDG), After PDG.*

*PDG **04** 19:16:45.5±0.1, 4238N×1981E, h6km±2km*

*THE **04** 19:16:46.2, 4243N×1977E, h20km, ML2.9*

ISC 04 19:16:45.2±0.3, 4237N±002×1987E±003, h1km±4km, n35, σ1§00/66, 8C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.15**	**89**	*i* Pg	**Pg**	**19 16 47.8**	**-0.3**
BCI				*i* Sg	**Sg**	**19 16 50.6**	**+0.6**
PVY	**Plav**	**0.24**	**19**	⇑*i*Pg	**Pg**	**19 16 49.5**	**-0.3**
PVY				*i* Sg	**Sg**	**19 16 54.0**	**+1.0**
PVY	**Plav**	**0.24**	**19**	⇑*i*Pg	**Pg**	**19 16 49.5**	**-0.4**
PVY				*i* Sg	**Sg**	**19 16 54.0**	**+1.0**
PUK	**Puka**	**0.32**	**176**	*i* Pg	**Pg**	**19 16 50.9**	**-0.5**
PUK				*i* Sg	**Sg**	**19 16 55.8**	**+0.3**
TTG	**Podgorica**	**0.45**	**278**	⇑*i*Pg	**Pg**	**19 16 52.4**	**-1.4**
TTG				*i* Sg	**Sg**	**19 16 59.5**	**-0.2**
IVA	**Berane**	**0.51**	**3**	⇑*i*Pg	**Pg**	**19 16 54.6**	**-0.3**
IVA				*i* Sg	**Sg**	**19 17 02.5**	**+1.0**
ULC	**Ulcinj**	**0.61**	**229**	⇓*i*Pg	**Pg**	**19 16 56.6**	**-0.3**
ULC				*i* Sg	**Sg**	**19 17 05.7**	**+1.0**
BUM	**Brajici-Budva**	**0.72**	**265**	⇑*i*Pg	**Pg**	**19 16 58.2**	**-0.8**
BUM				*i* Sg	**Sg**	**19 17 08.9**	**+0.6**
NKY	**Niksic**	**0.78**	**305**	⇑*i*Pg	**Pg**	**19 16 59.0**	**-1.2**
NKY				*i* Sg	**Sg**	**19 17 10.5**	**+0.2**
PHP	**Peshkopia**	**0.80**	**148**	*i* Pg	**Pg**	**19 17 00.0**	**-0.6**
PHP				*i* Sg	**Sg**	**19 17 12.6**	**+1.6**
HCY	**Herceg Novi**	**1.02**	**275**	⇓*i*Pg	**Pg**	**19 17 03.6**	**-1.1**
HCY				*i* Sg	**Sg**	**19 17 18.7**	**+0.9**
TIR	**Tirane**	**1.02**	**180**	*e*Pg	**Pg**	**19 17 04.8**	**+0.2**
TIR				*e*Sg	**Sg**	**19 17 21.2**	**+3.4**
PLE	**Pljevlja**	**1.02**	**340**	⇑*i*Pg	**Pg**	**19 17 03.9**	**-0.9**
PLE				*i* Sg	**Sg**	**19 17 19.3**	**+1.2**
UPM	**Unac-Piva**	**1.09**	**320**	⇓*i*Pg	**Pg**	**19 17 05.0**	**-1.1**
UPM				*i* Sg	**Sg**	**19 17 21.7**	**+1.3**
BRY	**Bratogost**	**1.11**	**299**	⇑*i*Pg	**Pg**	**19 17 05.0**	**-1.5**
BRY				*i* Sg	**Sg**	**19 17 21.9**	**+1.0**
TREB	**Trebinje**	**1.17**	**288**	P	**Pg**	**19 17 06.3**	**-1.4**
SKO	**Skopje**	**1.23**	**108**	*e*Pg	**Pg**	**19 17 08.5**	**-0.4**
SKO				*e*Sg	**Sg**	**19 17 29.0**	**+4.1**
SKO	**Skopje**	**1.23**	**108**	*i* Pn	**Pn**	**19 17 08.3**	**-1.2**
SKO				*e*Sn	**Sn**	**19 17 26.6**	**-0.2**
SKO	**Skopje**	**1.23**	**108**	*i* Pn	**Pn**	**19 17 08.2**	**-1.3**
SKO	**Skopje**	**1.23**	**108**	*e*Pg	**Pg**	**19 17 08.5**	**-0.3**
SKO				*e*Sn	**Sn**	**19 17 26.6**	**-0.2**
SKO				*e*Sg	**Sg**	**19 17 29.0**	**+4.2**
OHR	**Ohrid**	**1.43**	**151**	*e*Pg	**Pg**	**19 17 12.4**	**-0.2**
OHR				*e*Sg	**Sg**	**19 17 30.7**	**-0.5**
OHR	**Ohrid**	**1.43**	**151**	*i* Pn	**Pn**	**19 17 12.8**	**+0.5**
OHR	**Ohrid**	**1.43**	**151**	*i* Pn	**Pn**	**19 17 12.7**	**+0.4**
OHR				*e*Sg	**Sg**	**19 17 30.7**	**-0.6**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**19 17 14.9**	**-0.7**
STON				*i* Sn	**Sg**	**19 17 41.2**	**+2.1**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**19 17 14.9**	**-0.7**
STON				*i* Sn	**Sg**	**19 17 41.1**	**+2.0**
BIA	**Bitola**	**1.73**	**140**	*e*Pb	**Pb**	**19 17 17.1**	**-0.6**
BIA				*e*Sb	**Sb**	**19 17 37.6**	**-2.4**
BIA	**Bitola**	**1.73**	**140**	*i* Pn	**Pg**	**19 17 19.2**	**+0.8**
DIVS	**Divcibare**	**1.73**	**3**	*i* Pn	**Pn**	**19 17 15.8**	**-0.6**
DIVS				Sn	**Sn**	**19 17 38.8**	**-0.3**
STIP	**Stip**	**1.85**	**110**	*e*Pb	**Pn**	**19 17 16.6**	**-1.4**
STIP				*e*Sb	**Sb**	**19 17 42.2**	**-1.3**
STIP	**Stip**	**1.85**	**110**	*i* Pn	**Pn**	**19 17 16.4**	**-1.7**
STIP				*e*Sn	**Sn**	**19 17 43.2**	**+1.1**
STIP	**Stip**	**1.85**	**110**	*i* Pn	**Pn**	**19 17 16.3**	**-1.7**
STIP				*e*Sn	**Sn**	**19 17 43.1**	**+1.0**
FNA	**Florina**	**1.94**	**144**	*e*Pn	**Pn**	**19 17 19.6**	**+0.3**
FNA				*e*Sn	**Sn**	**19 17 44.8**	**+0.5**
VAY	**Valandovo**	**2.27**	**116**	*i* Pn	**Pn**	**19 17 26.2**	**+2.4**
GRG	**Griva**	**2.36**	**126**	*e*Pn	**Pn**	**19 17 25.3**	**+0.3**
GRG				*e*Sn	**Sn**	**19 17 56.0**	**+1.3**
HORT	**Hortiatis**	**3.00**	**125**	*e*Pn	**Pn**	**19 17 34.0**	**+0.2**
HORT				*e*Sn	**Sn**	**19 18 11.2**	**+0.7**

*NIED **04** 19:44:00, 4680N×1539.0E, h11km, Mw4.7 Best double couple: M0 1.39000×10^16 NP1:φs180.00000°, δ61.00000°, λ103.00000°. NP2:φs335.00000°, δ32.00000°, λ68.00000°.*

*SKHL **04** 19:44:12.0±1.2, 4610N×1547.2E, h50km±18km, mb5.4/4, Ms4.8/5, msh5.7/2*

*IDC **04** 19:44:15.6±0.6, 4640N×1536.2E, h0km, mb4.5/16, mb1 4.7/18, mb1mx4.6/23, mbtmp4.6/18, ML3.9/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/32, Error ellipse: s-maj=18.5km s-min=15.1km az=119.0*

*BJI **04** 19:44:15.9, 4656N×1537.0E, h10km, mB5.0, mb4.7, Ms4.7, Ms2.4*

*JMA **04** 19:44:15.7±0.7, 4678N×1539.1E, h30km, M4.9*

*ISCJB **04** 19:44:15.7±1.0, 4630N±005×1537.6E±005, h11km±6km, mb4.9/122, MS4.3/39, Error ellipse: s-maj=9.2km s-min=3.2km az=122.5*

*NEIC **04** 19:44:17.7±2.4, 4647N×1537.3E, h10km±14km, mb5.0/75, Error ellipse: s-maj=7.0km s-min=4.2km az=162.0*

*GCMT **04** 19:44:17.7±0.4, 4634N×1538.8E, h15km±1km, MW4.7/70, Moment Tensor Solution. s19,c23; s70,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.67±.11; Mθθ-0.25±.07; Mφφ-1.41±.07; Mrθ0.30±.15; Mrφ-0.25±.04; Mθr-0.17±.12; Best double couple: M0 1.59800×10^16 NP1:φs21.00000°, δ44.00000°, λ104.00000°. NP2: φs182.00000°, δ48.00000°, λ77.00000°. Principal axes: T 1.7290, Plg80.0000°, Azm23.0000°; N -0.2540, Plg10.0000°, Azm191.0000°; P -1.4660, Plg2.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **04** 19:44:21.4±1.1, 4681N×1535.9E, h33km, mb5.1/60, MS4.3/26 Error ellipse: s-maj=10.0km s-min=5.0km az=107.8*

*SZGRF **04** 19:44:29.3, 4765N×1520.7E, h33km, mb5.0, MS4.0, Kuril Islands, Russia*

ISC 04 19:44:18.8±1.1, 4644N±005×15371E±005, h19km±6km, h32km±2.1km: pP-P, n381, σ1§10/393, mb4.9/122, MS4.3/39, 20C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.26**	**256**	⇓*i*P	**Pn**	**19 45 21.0**	**-1.7**
KUR				AMB	AMB	19 45 22.0	
	2μm,1.0s						
KUR				AMB	AMB	19 45 22.0	
	312nm,0.5s						
KUR				AMB	AMB	19 45 22.0	
	80nm,0.5s						
KUR				AMB	AMB	19 45 22.0	
	866nm,0.5s						
KUR				*e*S	**Sn**	**19 46 12.5**	**+0.7**
KUR				A		19 46 17.0	
	8μm,1.2s						
KUR				A		19 46 17.0	
	3μm,1.2s						
KUR				AMS	AMS	19 47 17.0	
	6μm,15.0s						
KUR				AMS	AMS	19 47 17.0	
	3μm,15.0s						
KUR				AMS	AMS	19 47 17.0	
	6μm,15.0s						
KUR	**Kuril'sk**	**4.26**	**256**	⇑*i*PN	**Pn**	**19 45 21.0**	**-1.7**
SKR	**Severo-Kuril's**	**4.54**	**20**	*e*P	**Pn**	**19 45 20.5**	**-6.0**
SKR				AMB	AMB	19 45 23.5	
	180nm,1.0s						
SKR				AMB	AMB	19 45 23.5	
	270nm,1.0s						
SKR				*e*S	**Sn**	**19 46 11.1**	**-7.6**
SKR				A		19 46 22.0	
	250nm,1.0s						
SKR				A		19 46 22.0	
	450nm,1.0s						
SKR				A		19 46 22.0	
	270nm,1.0s						
SKR				A		19 46 48.0	
	2μm,5.0s						
SKR				A		19 46 48.0	
	5μm,8.0s						
SKR				A		19 46 48.0	
	3μm,8.0s						
SKR				AMS	AMS	19 47 50.0	
	4μm,14.0s						
SKR				AMS	AMS	19 47 50.0	
	10μm,14.0s						
SKR				AMS	AMS	19 47 50.0	
	6μm,14.0s						
SKR				AMS	AMS	19 47 50.0	
	5μm,14.0s						
SKR				AMS	AMS	19 47 50.0	
	5μm,14.0s						
SKR				AMS	AMS	19 47 50.0	
	10μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**6.04**	**249**	*e*P	**Pn**	**19 45 49.0**	**+1.8**
YUK				AMB	AMB	19 45 49.1	
	110nm,0.3s						
YUK				*e*S	**Sn**	**19 46 56.6**	**+0.8**
YUK				A		19 46 59.0	
	180nm,0.4s						
YUK				A		19 46 59.0	
	400nm,0.6s						
YUK				A		19 47 11.0	
	5μm,2.0s						
NEM2	**Nemuro 2**	**6.44**	**244**	P	**Pn**	**19 45 51.4**	**-1.2**
NEM2				*e*S	**Sn**	**19 47 02.4**	**-3.2**
JRA	**Rausu**	**6.56**	**251**	P	**Pn**	**19 45 55.6**	**+1.3**
JNK	**Nakash**	**6.98**	**249**	P	**Pn**	**19 46 00.4**	**+0.3**
JAK	**Akkeshi**	**7.28**	**245**	P	**Pn**	**19 46 02.9**	**-1.3**
JAK				*e*S	**Sn**	**19 47 21.7**	**-4.7**
PET	**Petropavlovsk**	**7.33**	**24**	*e*PN	**Pn**	**19 46 01.9**	**-2.9**
PET				pmax	pmax		
	comp=Z,104nm,1.3s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET	**Petropavlovsk**	**7.33**	**24**	*e*P	**Pn**	**19 46 03.9**	**-0.9**
	comp=Z,87nm,0.9s						
JTKR	**Abashiri--Toko**	**7.35**	**254**	P	**Pn**	**19 46 06.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.55**	**278**	*e*P	**Pn**	**19 46 12.0**	**+4.1**
YSS				*e*S	**Sn**	**19 47 43.0**	**+10**
YSS				AMS	AMS	19 49 18.0	
	comp=Z,2μm,16.0s						
YSS				AMS	AMS	19 49 18.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.55**	**278**	*e*P	**Pn**	**19 46 09.8**	**+1.9**
	comp=Z,128nm,1.2s						
JMP	**Maruseppu**	**7.70**	**255**	P	**Pn**	**19 46 12.3**	**+2.3**
JAR	**Ashorobuto**	**7.73**	**250**	P	**Pn**	**19 46 10.8**	**+0.5**
JAR				*e*S	**Sn**	**19 47 39.0**	**+1.7**
JKK2	**Kamakawa 2**	**8.16**	**256**	P	**Pn**	**19 46 17.9**	**+1.6**
ASAJ	**Asahikawa**	**8.18**	**257**	Pn	**Pn**	**19 46 18.9**	**+2.4**
	comp=Z,2.0nm,0.3s,baz=102,slow=16,SNR=14						
ASAJ	**Asahikawa**	**8.18**	**257**	P	**Pn**	**19 46 18.7**	**+2.2**
ASAJ	**Asahikawa**	**8.18**	**257**	PN	**Pn**	**19 46 18.9**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UGL	**Uglegorsk**	**8.28**	**293**	*e*P	**Pn**	**19 46 29.5**	**+12**
UGL				AMB	AMB	19 46 33.0	
	comp=Z,220nm,1.0s						
UGL				AMS	AMS	19 49 55.0	
	comp=Z,2μm,16.0s						
UGL				AMS	AMS	19 49 55.0	
	comp=Z,1μm,16.0s						
UGL				AMS	AMS	19 49 55.0	
	comp=Z,1μm,14.0s						
JCH	**Churui**	**8.32**	**246**	P	**Pn**	**19 46 18.0**	**-0.5**
JCH				*e*S	**Sn**	**19 47 47.8**	**-4.1**
JFR	**Furan**	**8.55**	**251**	P	**Pn**	**19 46 23.7**	**+2.0**
ERM	**Erimo**	**8.77**	**243**	*e*PN	**Pn**	**19 46 24.9**	**+0.3**
ERM				pmax	pmax		
	comp=Z,142nm,1.1s						
ERM	**Erimo**	**8.77**	**243**	*e*P	**Pn**	**19 46 24.9**	**+0.3**
	comp=Z,142nm,1.1s						
ERM				*e*S	**Sn**	**19 47 55.7**	**-7.3**
JNBK	**Urakawa-nobuka**	**8.88**	**246**	P	**Pn**	**19 46 24.6**	**-1.5**
JBT2	**Biratori 2**	**8.88**	**250**	P	**Pn**	**19 46 25.5**	**-0.7**
JNB	**Noboribetsu**	**9.89**	**251**	P	**Pn**	**19 46 40.3**	**+0.3**
JNB				*e*S	**Sn**	**19 48 27.6**	**-2.9**
JKB	**Kayabe**	**10.18**	**248**	P	**Pn**	**19 46 42.4**	**-1.5**
JKB				*e*S	**Sn**	**19 48 31.2**	**-6.4**
JSH	**Shimam**	**10.47**	**254**	P	**Pn**	**19 46 49.7**	**+1.8**
JYM2	**Yakumo 2**	**10.49**	**250**	P	**Pn**	**19 46 47.6**	**-0.6**
JYM2				*e*S	**Sn**	**19 48 45.2**	**-0.1**
JANG	**Nango**	**10.74**	**240**	P	**Pn**	**19 46 47.6**	**-4.0**
JANG				*e*S	**Sn**	**19 48 41.0**	**-10**

MDJ Mudanjiang 16.98 273 *eP* **Pn** **19 48 14.9 -0.5**
comp=Z,122nm,1.5s
JHJ Hachijo jima 2 17.04 224 Pn **Pn** **19 48 12.8 -3.2**
comp=Z,4.5nm,0.3s,baz=204,slow=23,SNR=1.9
CN2 Changchun 20.07 273 *eP* **P** **19 48 48.4 -2.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CLNS Chul'man 20.53 311 *eP* **P** **19 48 45.3 -11**
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,19nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS MLR MLR
comp=E,2µm,14.0s,MS4.6
CLNS MLR MLR
comp=Z,2µm,14.0s,MS4.6
CLNS MLR MLR
comp=N,700nm,13.0s,MS4.6
YAK Yakutsk 20.80 327⇑ *eP* **P** **19 48 57.9 -1.1**
YAK pmax pmax
comp=Z,34nm,1.6s
YAK MLR MLR
comp=Z,500nm,13.0s,MS4.1
YAK Yakutsk 20.80 327 *eP* **P** **19 48 57.3 -1.7**
comp=Z,42nm,1.0s
INCN Inchon 21.95 256 *eP* **P** **19 49 12.3 +1.0**
comp=Z,38nm,1.0s,mb4.8
BILL Bilibino 22.60 12 *eP* **P** **19 49 19.0 +0.7**
BILL *e*SS 19 53 56.3
BILL pmax pmax
comp=Z,61nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,800nm,15.0s,MS4.3
BILL Bilibino 22.60 12 *eP* **P** **19 49 16.7 -1.6**
comp=Z,52nm,1.2s,mb4.8
DL2 Dalian 24.64 264 P **P** **19 49 38.7 +0.6**
DL2 S **S** **19 54 02.4 +3.9**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.6
DL2 AMB AMB
comp=Z,100nm,6.2s
DL2 LR LR
comp=N,190nm,12.6s,MS3.9
DL2 LR LR
comp=E,140nm,11.0s,MS3.9
DL2 LR LR
comp=Z,200nm,13.6s,MS3.8
BOD Bodaibo 26.50 310 *eP* **P** **19 49 52.3 -2.7**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.4
BJI Beijing 27.89 270 P **P** **19 50 11.2 +3.7**
BJI S **S** **19 54 57.4 +7.4**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.5
BJI LR LR
comp=N,526nm,15.1s,MS4.5
BJI LR LR
comp=E,895nm,15.5s,MS4.5
BJI LR LR
comp=Z,527nm,16.7s,MS4.2
SSE Sheshan 29.38 250 P **P** **19 50 22.4 +1.7**
SSE AP pP 19 50 31.2 +4.7
SSE XP sP 19 50 35.0 +6.2
SSE S **S** **19 55 12.5 -1.0**
SSE XS sS 19 55 27.6 +4.7
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,159nm,7.2s
SSE LR LR
comp=N,43nm,19.1s,MS3.6
SSE LR LR
comp=E,128nm,19.0s,MS3.6
SSE LR LR
comp=Z,166nm,19.8s,MS3.7
NJ2 Nanjing 30.30 254 *eP* **P** **19 50 27.6 -1.3**
NJ2 PP PP 19 51 25.0 -12
NJ2 S **S** **19 55 23.0 -5.0**
NJ2 XS sS 19 55 39.0 +1.5
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,420nm,4.6s
NJ2 LR LR
comp=N,2µm,16.3s,MS5.0
NJ2 LR LR
comp=E,2µm,18.7s,MS5.0
NJ2 LR LR
comp=Z,3µm,11.2s
HHC Hu-ho-hao-te 30.73 275 *eP* **P** **19 50 33.9 +1.2**
HHC AP pP 19 50 42.9 +4.5
HHC XP sP 19 50 47.5 +6.7
HHC PP PP 19 51 34.4 -7.7
HHC PCP PcP 19 53 31.1 +1.0
HHC S **S** **19 55 32.2 -2.5**
HHC XS sS 19 55 47.0 +2.9
HHC PCS PcS 19 57 10.4 -3.6
HHC SS SS 19 57 14.1 -32
HHC SCS ScS 20 01 06.8 -1.5
HHC AMB AMB
comp=Z,22nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,106nm,4.3s
HHC LR LR
comp=N,430nm,14.2s,MS4.4
HHC LR LR
comp=E,457nm,14.7s,MS4.4
HHC LR LR
comp=Z,609nm,14.7s,MS4.4
SONM Songino Array 31.82 290 P **P** **19 50 41.2 -1.1**
comp=Z,1.7nm,0.8s,mb3.9,baz=84,slow=7.3,SNR=8.0
SONM PcP PcP 19 53 33.4 +0.3
comp=Z,1.5nm,1.1s,baz=169,slow=1.5,SNR=5.1
SONM LR LR 20 04 30.2
comp=Z,380nm,18.2s,MS4.1,baz=76,slow=38
TLY Talaya 32.69 298 *eP* **P** **19 50 48.4 -1.5**
TLY pmax pmax
comp=Z,13nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,973nm,15.0s,MS4.6
TLY Talaya 32.69 298 *eP* **P** **19 50 48.2 -1.7**
comp=Z,16nm,1.3s,mb4.8
ZAK Zakamensk 33.18 296⇑ *iP* **P** **19 50 53.1 -1.1**
ZAK *e* 19 53 34.0
IMA2 Indian Mountai 33.82 36 *eP* **P** **19 50 59.7 0.0**
KDAK Kodiak Island 33.98 51 P **P** **19 50 59.5 -1.7**
comp=Z,12nm,0.9s,mb4.8,baz=225,slow=1.4,SNR=4.1
WHN Wuhan 34.25 256 ⇓P **P** **19 51 04.5 +0.9**
PMR Palmer 35.54 44 P **P** **19 51 14.6 0.0**
PMR *e* 19 51 26.1
PMR pmax pmax
comp=Z,19nm,1.3s,mb4.9
PMR Palmer 35.54 44 P **P** **19 51 14.6 0.0**
comp=Z,19nm,1.3s,mb4.9
PMR *e* 19 51 26.1
MCK McKinley 35.62 40 *eP* **P** **19 51 14.5 -0.9**
MCK pmax pmax
comp=Z,12nm,1.2s,mb4.7
MCK McKinley 35.62 40 *eP* **P** **19 51 14.5 -0.9**
comp=Z,12nm,1.2s,mb4.7
XAN Xi'an 35.90 266 P **P** **19 51 17.5 -0.3**
XAN S **S** **19 56 56.9 +2.0**
XAN AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
XAN LR LR
comp=N,267nm,12.6s,MS4.3
XAN LR LR
comp=E,231nm,13.8s,MS4.3
XAN LR LR
comp=Z,400nm,15.5s,MS4.3
COLA College 36.12 38⇓ *iP* **P** **19 51 20.5 +0.8**
COLA College 36.12 38 *eP* **P** **19 51 20.1 +0.4**
comp=Z,16nm,1.1s,mb4.9
LZH Lanzhou 38.31 273⇑P **P** **19 51 39.7 +1.5**
LZH AP pP 19 51 49.2 +5.2
LZH XP sP 19 51 52.5 +6.1
LZH PP PP 19 53 10.7 +4.8
LZH *e*S **S** **19 57 31.2 -0.4**
LZH XS sS 19 57 46.8 +5.7
LZH SS SS 20 00 09.6 -10
LZH AMB AMB
comp=Z,29nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,105nm,5.2s
LZH LR LR
comp=E,612nm,13.2s
LZH LR LR
comp=Z,987nm,15.3s,MS4.7
LZH Lanzhou 38.31 273⇑P **P** **19 51 39.7 +1.5**
LZH pP pP 19 51 49.2 +5.2
LZH sP sP 19 51 52.5 +6.1
LZH PP PP 19 53 10.7 +4.8
LZH *e*S **S** **19 57 31.2 -0.4**
LZH sS sS 19 57 46.8 +5.7
LZH SS SS 20 00 09.6 -10
EGAK Eagle 38.99 38 *eP* **P** **19 51 43.4 -0.5**
EGAK *e* 19 51 55.7
GTA Gaotai 39.43 280 *eP* **P** **19 51 49.1 +1.5**
GTA AP pP 19 51 56.4 +3.0
GTA XP sP 19 52 00.4 +4.7
GTA PCP PcP 19 53 56.6 +1.2
GTA AMB AMB
comp=Z,15nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,146nm,7.7s
GTA LR LR
comp=N,274nm,15.7s,MS4.4
GTA LR LR
comp=E,310nm,14.1s,MS4.4
GTA LR LR
comp=Z,456nm,14.5s,MS4.5
DAWY Dawson 39.82 39 *eP* **P** **19 51 50.7 -0.2**
CD2 Chengdu 41.27 266 *eP* **P** **19 52 02.3 -0.5**
CD2 AP pP 19 52 12.1 +3.5
CD2 XP sP 19 52 16.1 +5.1
CD2 PP PP 19 53 41.1 +3.0
CD2 S **S** **19 58 13.4 -2.4**
CD2 XS sS 19 58 29.7 +4.2
CD2 SS SS 20 01 12.5 -6.8
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,140nm,14.4s,MS4.3
CD2 LR LR
comp=E,220nm,13.2s,MS4.3
CD2 LR LR
comp=Z,240nm,15.6s,MS4.2
INK Inuvik 41.69 32 P **P** **19 52 05.9 -0.4**
comp=Z,3.4nm,0.6s,mb4.2,baz=278,slow=3.1,SNR=3.6
INK Inuvik 41.69 32 P **P** **19 52 05.9 -0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 41.69 32 P **P** **19 52 06.6 +0.3**
GYA Guiyang 42.05 258⇑ *iP* **P** **19 52 10.1 +0.9**
GYA AP pP 19 52 20.0 +4.9
GYA XP sP 19 52 23.9 +6.5
GYA PP PP 19 53 51.0 +4.4
GYA SCP ScP 19 57 52.2 -1.2
GYA S **S** **19 58 26.5 -1.0**
GYA SCS ScS 20 02 08.4 -2.5
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,460nm,17.0s,MS4.6
GYA LR LR
comp=E,510nm,17.2s,MS4.6
GYA LR LR
comp=Z,520nm,16.8s,MS4.5
ZAL Zalesovo 43.14 306 P **P** **19 52 16.5 -1.6**
comp=Z,1.9nm,0.4s,mb4.2,baz=78,slow=4.4,SNR=10.0
ZAL LR LR 20 13 14.6
comp=Z,393nm,18.1s,MS4.3,baz=48,slow=40
ZAL Zalesovo 43.14 306 P **P** **19 52 16.5 -1.6**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,393nm,18.1s
ZAL Zalesovo 43.14 306 P **P** **19 52 16.5 -1.6**
ZAL LR LR 20 13 14.6
NVS Novosibirsk 43.70 308 *eP* **P** **19 52 20.7 -1.9**
NVS pmax pmax
comp=Z,12nm,1.4s,mb4.4
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
WMQ Urumqi 45.42 292 *eP* **P** **19 52 37.2 +0.8**
WMQ AP pP 19 52 47.0 +4.8
WMQ XP sP 19 52 51.0 +6.4
WMQ PCP PcP 19 54 18.0 +2.6
WMQ PPP 19 55 06.0
WMQ S **S** **19 59 15.0 -1.7**
WMQ XS sS 19 59 32.0 +5.6
WMQ SS SS 20 02 30.0 -10
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,158nm,4.4s
WMQ LR LR
comp=N,482nm,12.8s,MS4.8
WMQ LR LR
comp=E,577nm,13.3s,MS4.8
WMQ LR LR
comp=Z,704nm,15.4s,MS4.7
KMI Kunming 45.59 260 P **P** **19 52 38.8 +1.1**
KMI AMB AMB
comp=Z,21nm,1.4s,mb4.9
MKAR Makanchi Array 47.45 298 P **P** **19 52 51.1 -1.1**
comp=Z,5.4nm,0.7s,mb4.6,baz=64,slow=8.2,SNR=28
MKAR Makanchi Array 47.45 298 P **P** **19 52 51.2 -1.1**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 47.88 304 P **P** **19 52 54.9 -0.7**
comp=Z,79nm,1.0s,mb5.7,SNR=12
BBB Bella Bella 48.97 53 LR LR 20 13 57.9
comp=Z,70nm,19.7s,MS3.6,baz=180,slow=36
LSA Lhasa 50.70 274 P **P** **19 53 20.1 +2.9**
LSA Lhasa 50.70 274 *eP* **P** **19 53 19.9 +2.7**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 50.70 274 *eP* **P** **19 53 19.9 +2.7**
comp=Z,8.8nm,0.6s,mb4.9
YKA Yellowknife Ar 50.93 37 P **P** **19 53 19.2 +0.4**
comp=Z,11nm,1.0s,mb4.8,baz=296,slow=7.0,SNR=8.8
BRVK Borovoye 51.41 310 *eP* **P** **19 53 20.8 -1.7**
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRVK Borovoye 51.41 310 *eP* **P** **19 53 20.8 -1.7**
comp=Z,12nm,1.1s,mb4.7
ZRNK Zerenda 52.14 310 *eP* **P** **19 53 26.2 -1.8**
ZRNK pmax pmax
comp=Z,11nm,1.2s,mb4.7
ZRNK Zerenda 52.14 310 *eP* **P** **19 53 26.2 -1.8**
comp=Z,11nm,1.2s,mb4.7
CHTO Chiang Mai 52.45 257 P **P** **19 53 32.8 +2.5**
SNR=6.4
CHTO Chiang Mai 52.45 257 *eP* **P** **19 53 31.7 +1.4**
CHTO pmax pmax
comp=Z,28nm,1.3s,mb5.0
CHTO Chiang Mai 52.45 257 *eP* **P** **19 53 31.7 +1.5**
comp=Z,28nm,1.3s,mb5.0
CM31 Chiang Mai Arr 52.70 257 *eP* **P** **19 53 33.6 +1.5**
AAK Ala-Archa 54.34 297⇓ *iP* **P** **19 53 42.8 -1.4**
AAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
AAK MLR MLR
comp=Z,400nm,15.0s,MS4.6
AAK Ala-Archa 54.34 297 *eP* **P** **19 53 43.0 -1.2**
comp=Z,12nm,1.3s,mb4.7
KSH Kashi 55.15 293 *eP* **P** **19 53 52.6 +2.6**
KSH *e*AP pP 19 54 02.7 +6.7
KSH *e*PCP PcP 19 54 53.6 +2.5
KSH *e*PP PP 19 55 57.9 +4.5
KSH *e*PPP 19 57 10.7
KSH *e*SCP ScP 19 58 47.5 -1.3
KSH *e*S **S** **20 01 31.5 -0.6**
KSH *e*XS sS 20 01 40.5 -1.5
KSH *e*PS 20 01 48.1
KSH *e*SCS ScS 20 03 36.1 -2.2
KSH *e*SS SS 20 05 17.9 +1.8
KSH LR LR
comp=N,390nm,4.2s
KSH LR LR
comp=E,342nm,5.0s
KSH LR LR
comp=Z,1µm,21.3s,MS4.9
GUN Gumba 55.44 276 *eP* **P** **19 53 53.8 +1.7**
comp=Z,13nm,0.5s,mb5.2
ARU Arti 55.52 318 P **P** **19 53 50.3 -2.4**
comp=Z,59nm,0.6s,mb5.8,SNR=6.0
ARU Arti 55.52 318⇑ *iP* **P** **19 53 50.9 -1.8**
ARU *e* 19 54 51.0
ARU *e* 19 55 53.7
ARU *e*PPP 19 57 05.3
ARU *e*S **S** **20 01 33.8 -3.2**
ARU *e*SS SS 20 05 20.8 -1.1
ARU pmax pmax
comp=Z,12nm,1.3s,mb4.8
ARU MLR MLR
comp=N,100nm,16.0s,MS4.3
ARU MLR MLR
comp=E,200nm,16.0s,MS4.3
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU Arti 55.52 318 *eP* **P** **19 53 50.5 -2.1**
comp=Z,13nm,1.0s,mb4.9
KKN Kakani 55.93 276 *eP* **P** **19 53 57.2 +1.6**
comp=Z,28nm,0.6s,mb5.5
PKI Pulchoki 55.98 276 *eP* **P** **19 53 57.4 +1.4**
comp=Z,29nm,0.8s,mb5.3
DMN Daman 56.16 276 *eP* **P** **19 53 59.1 +1.8**
comp=Z,92nm,1.1s,mb5.7
EDM Edmonton 56.23 46 *eP* **P** **19 53 57.6 -0.2**
EDM *e* 19 54 08.9
GKN Gorkha 56.23 277 *eP* **P** **19 53 59.4 +1.6**
comp=Z,37nm,0.7s,mb5.5
NEW Newport 57.04 53 LR LR 20 15 44.1
comp=Z,67nm,19.3s,MS3.8,baz=178,slow=33
KOLN Koldanda 57.09 277 *eP* **P** **19 54 05.4 +1.5**
comp=Z,82nm,1.3s,mb5.6
KEV Kevo 57.77 341 *ep* **P** **19 54 06.3 -2.4**
comp=Z,0.9nm,0.4s,mb4.2
KEV Kevo 57.77 341 *eP* **P** **19 54 06.3 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 58.28 341 P **P** **19 54 11.9 -0.4**
comp=Z,1.3nm,0.4s,mb4.3,baz=31,slow=7.1,SNR=20
ARCES LR LR 20 21 48.9
comp=Z,108nm,19.1s,MS4.0,baz=236,slow=39
ARCES ARCESS Array B 58.28 341 P **P** **19 54 11.9 -0.4**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES MLR MLR
comp=Z,108nm,19.1s
WALA Waterton Lakes 58.32 51 *eP* **P** **19 54 12.2 -0.3**
comp=Z,7.4nm,1.2s,mb4.6
BMO Blue Mountains 58.91 56 *eP* **P** **19 54 17.1 +0.4**
comp=Z,8.2nm,1.4s,mb4.6
AKTO Aktyubinsk 59.24 312 LR LR 20 22 33.0
comp=Z,226nm,18.2s,MS4.3,baz=234,slow=39
WVOR Wild Horse Val 59.57 59 P **P** **19 54 20.6 -0.6**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WVOR Wild Horse Val 59.57 59 P **P** **19 54 20.6 -0.6**
comp=Z,3.2nm,0.8s,mb4.4
SUMG Summit 60.98 4 *eP* **P** **19 54 29.7 -1.2**
comp=Z,46nm,1.2s,mb5.5
HLID Hailey 61.34 56 *eP* **P** **19 54 33.9 +0.5**
comp=Z,7.4nm,1.3s,mb4.7
JOF Joensuu 61.79 334 *ep* **P** **19 54 35.2 -1.2**
comp=Z,1.5nm,0.4s,mb4.5
JOF Joensuu 61.79 334 *eP* **P** **19 54 35.2 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
QLMT Earthquake Lak 62.24 53 *eP* **P** **19 54 39.7 +0.4**
GCMT Greycliff 62.60 52 *eP* **P** **19 54 42.8 +1.0**
MOOW Moose Ponds 63.30 54 *eP* **P** **19 54 46.6 +0.1**
comp=Z,12nm,1.3s,mb4.9
TPAW Teton Pass 63.35 54 *eP* **P** **19 54 48.0 +1.3**
comp=Z,28nm,1.3s,mb5.2
REDW Red Top Meadow 63.49 54 *eP* **P** **19 54 47.8 +0.1**
comp=Z,26nm,1.3s,mb5.2
KAF Kangasniemi 63.90 335 *ep* **P** **19 54 48.2 -2.2**
comp=Z,4.2nm,0.5s,mb4.7,baz=37,slow=6.2
KAF Kangasniemi 63.90 335 *eP* **P** **19 54 48.2 -2.2**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
DUG Dugway 64.39 58 *eP* **P** **19 54 53.9 +0.3**
FIA1 FINESS Array S 64.49 335 *eP* **P** **19 54 53.3 -1.0**
FINES FINESS Array B 64.50 335 P **P** **19 54 53.5 -0.8**
comp=Z,8.3nm,0.7s,mb4.9,baz=36,slow=8.1,SNR=84
FINES LR LR 20 25 44.6
comp=Z,130nm,18.8s,MS4.2,baz=32,slow=39
FINES FINESS Array B 64.50 335 P **P** **19 54 53.5 -0.8**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,130nm,18.8s
PDAR Pinedale Array 64.60 54 P **P** **19 54 55.3 +0.3**
comp=Z,5.2nm,1.1s,mb4.5,baz=316,slow=4.1,SNR=26
PDAR LR LR 20 21 20.8
comp=Z,46nm,18.4s,MS3.7,baz=137,slow=34
MOS Moscow 64.93 326 *eP* **P** **19 54 55.5 -1.6**
OBN Obninsk 65.80 326 *c iP* **P** **19 55 01.4 -1.3**
OBN *e* 19 55 12.0
OBN *e* 19 55 32.8
OBN *e* 19 57 25.3
OBN *e*S S 20 03 45.1 -3.3
OBN *e*SS SS 20 08 00.7 -2.3
OBN pmax pmax
comp=Z,46nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.2
OBN Obninsk 65.80 326 *eP* **P** **19 55 01.4 -1.3**
comp=Z,8.4nm,0.5s,mb5.0
MSU Marysvale 65.86 59 *eP* **P** **19 55 02.2 -0.9**
SRU San Rafael 66.44 58 *eP* **P** **19 55 07.2 +0.3**
SRU pmax pmax
comp=Z,12nm,1.2s,mb4.8
SRU San Rafael 66.44 58 *eP* **P** **19 55 07.2 +0.3**
comp=Z,12nm,1.2s,mb4.8
RSSD Black Hills 66.71 50 *eP* **P** **19 55 07.8 -0.8**
RSSD pmax pmax
comp=Z,16nm,1.3s,mb4.9
RSSD Black Hills 66.71 50 *eP* **P** **19 55 07.8 -0.8**
comp=Z,16nm,1.3s,mb4.9
VRSR Storozhevoye 67.60 322 *eP* **P** **19 55 13.8 -0.4**
VRSR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,9.0nm,1.1s
WRAB Tennant Creek 68.34 200⇑ *eP* **P** **19 55 17.7 -1.2**
WB2 Warramunga Arr 68.35 200 *eP* **P** **19 55 18.2 -0.8**
WRA Warramunga Arr 68.36 200 P **P** **19 55 18.2 -0.8**
comp=E,4.9nm,1.1s,mb4.5,baz=22,slow=6.8,SNR=10
WRA Warramunga Arr 68.36 200 P **P** **19 55 18.2 -0.8**
WRA pmax pmax
comp=Z,5.0nm,1.1s
NB2 NORSAR Subarra 68.65 341 P **P** **19 55 20.1 -0.8**
comp=Z,21nm,1.1s,mb5.0,baz=26,slow=6.5
NB2 NORSAR Subarra 68.65 341 P **P** **19 55 20.1 -0.8**
NB2 pmax pmax
comp=Z,21nm,1.1s,mb5.0
NOA NORSAR Array B 68.65 341 P **P** **19 55 20.1 -0.8**
comp=Z,9.7nm,0.9s,mb4.7,baz=26,slow=6.3,SNR=20
NOA NORSAR Array B 68.65 341 P **P** **19 55 20.1 -0.8**
NOA pmax pmax
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 69.07 209 *eP* **P** **19 55 23.2 -0.2**
comp=Z,10nm,1.5s,mb4.5
ECSD EROS,Sioux Fal 70.80 46 P **P** **19 55 32.5 -1.6**
KIV Kislovodsk 71.31 315 P **P** **19 55 38.9 +1.7**
SNR=10
KIV Kislovodsk 71.31 315 *eP* **P** **19 55 37.1 -0.1**
KIV pmax pmax
comp=Z,29nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,427nm,17.0s,MS4.8
KIV Kislovodsk 71.31 315 *eP* **P** **19 55 38.0 +0.8**
comp=Z,38nm,1.3s,mb5.2
SUW Suwalki 71.46 332 *eP* **P** **19 55 38.3 +0.2**
ZEI Tsey 71.57 313 *eP* **P** **19 55 37.1 -1.6**
ZEI pmax pmax
comp=Z,13nm,1.1s,mb4.8
LAZ Ladron 71.62 59 *eP* **P** **19 55 40.1 +1.0**
AKASG Malin Array Be 72.03 327 P **P** **19 55 40.6 -0.9**
comp=Z,3.0nm,0.4s,mb4.5,baz=33,slow=6.1,SNR=52
AKASG Malin Array Be 72.03 327 P **P** **19 55 40.6 -0.9**
AKASG pmax pmax

comp=Z,3.0nm,0.4s
ASAR Alice Springs 72.05 199 P **P 19 55 41.9 +0.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=11,slow=5.1,SNR=21
ASAR Alice Springs 72.05 199 P **P 19 55 41.9 +0.3**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
SCHQ Schefferville 73.43 23 P **P 19 55 49.9 0.0**
comp=Z,5.2nm,0.8s,mb4.5,baz=35,slow=12,SNR=3.7
SCHQ LR LR 20 29 01.4
comp=Z,45nm,21.9s,MS3.7,baz=252,slow=36
SIM Simferopol' 74.57 320 *e*P **P 19 55 58.2 +1.7**
SIM pmax pmax
comp=Z,1μm,1.2s
SIM MLR MLR
comp=Z,280nm,16.7s,MS4.6
ERZM Erzurum 74.97 313 *i* P **P 19 56 00.8 +2.0**
KIS Kishinev 75.18 324 *e*P **P 19 55 59.0 -1.0**
KIS *e* 19 56 16.0
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
KWP Kalwaria 75.30 330 *e*P **P 19 56 01.0 +0.3**
OJC Ojcow 75.79 331 *e*P **P 19 56 01.3 -2.2**
KELT Kelkit 75.85 314 *i* P **P 19 56 04.3 +0.5**
STHS Stebnicka Huta 75.99 330 *e*P **P 19 56 05.3 +0.6**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
STHS Stebnicka Huta 75.99 330 *e*P **P 19 56 05.3 +0.6**
comp=Z,5.8nm,0.7s,mb4.6
KOLS Kolonicke sedl 76.04 329 *e*P **P 19 56 05.0 +0.1**
KOLS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
KOLS Kolonicke sedl 76.04 329 *e*P **P 19 56 05.0 +0.1**
comp=Z,6.7nm,1.2s,mb4.5
BURAR Bucovina Array 76.07 327⇓*i*P **P 19 56 05.4 +0.3**
BURAR Bucovina Array 76.07 327 ⇓P **P 19 56 05.4 +0.3**
UZH Uzhgorod 76.29 329 *e*P **P 19 56 05.0 -1.4**
UZH pmax pmax
comp=Z,27nm,1.2s,mb5.0
NIE Niedzica 76.30 331 *e*P **P 19 56 07.1 +0.7**
CRVS Cervenica-Dubn 76.35 330 *e*P **P 19 56 07.0 +0.3**
OKC Ostrava-Krasne 76.66 332 *e*P **P 19 56 08.9 +0.5**
OKC AMS AMS 20 36 00.0
comp=Z,200nm,13.9s
UPC Upice 76.74 334 *e*P **P 19 56 09.0 +0.1**
MSL Mosul 76.77 309 *ex* x 19 56 09.0
DPC Dobruska-Polom 76.78 334 *e*P **P 19 56 08.9 -0.3**
DPC AMS AMS 20 34 20.0
comp=Z,300nm,15.8s
WSAR Wadi Sarin 76.87 290 LR LR 20 35 13.1
comp=Z,167nm,19.3s,MS4.4,baz=246,slow=40
MORC Moravsky Berou 76.90 333⇓*i*P **P 19 56 10.1 +0.3**
MORC Moravsky Berou 76.90 333 *e*P **P 19 56 09.9 +0.1**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 76.90 333 *e*P **P 19 56 09.9 0.0**
comp=Z,10nm,1.0s,mb4.7
CLL Collm 76.92 336 *e*P **P 19 56 09.3 -0.6**
comp=Z,21nm,1.0s,mb5.0
CLL Collm 76.92 336⇑*i*P **P 19 56 09.4 -0.5**
comp=Z,21nm,1.0s,mb5.0
CLL LmV 20 40 00.0
comp=Z,100nm,18.1s
BOYT Boyabat 76.97 317 *i* P **P 19 56 10.6 +0.4**
BRG Berggiesshubel 77.03 335 *e*P **P 19 56 10.0 -0.6**
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 77.03 335 *e*P **P 19 56 10.1 -0.5**
comp=Z,4.4nm,1.2s,mb4.2
BRG
comp=N,117nm,15.4s
BRG
comp=E,89nm,12.2s
BRG
comp=Z,89nm,12.2s
KECS Kecovo 77.05 330 *e*P **P 19 56 11.3 +0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 77.05 330 *e*P **P 19 56 11.3 +0.7**
comp=Z,3.4nm,1.0s,mb4.2
CLZ Clausthal 77.15 338 *e*P **P 19 56 11.5 +0.3**
comp=Z,21nm,1.0s,mb5.0
CLZ Clausthal 77.15 338 *e*P **P 19 56 11.5 +0.3**
CLZ pmax pmax
comp=Z,21nm,1.0s,mb5.0
PVCC Panska Ves 77.16 335 *e*P **P 19 56 11.7 +0.4**
PVCC AMS AMS 20 36 00.0
comp=Z,300nm,12.3s
HATD Hatta, Dubai 77.36 293 P **P 19 56 14.1 +1.6**
SNR=5.1
MLR Muntele Rosu 77.55 325⇑*i*P **P 19 56 14.8 +1.3**
MLR Muntele Rosu 77.55 325 P **P 19 56 14.9 +1.4**
BALT Daday 77.58 318 *i* P **P 19 56 15.0 +1.4**
VYHS Vyhne 77.60 331 *e*P **P 19 56 13.9 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VYHS Vyhne 77.60 331 *e*P **P 19 56 13.9 +0.2**
comp=Z,4.2nm,1.0s,mb4.3
VRAC Vranov 77.61 333⇑*i*P **P 19 56 15.0 +1.2**
VRAC Vranov 77.61 333 P **P 19 56 14.6 +0.8**
PRU Pruhonice 77.64 334 *e*P **P 19 56 13.6 -0.4**
PRU AMS AMS 20 34 00.0
comp=Z,300nm,17.5s
CTKT Corum 77.65 317 *i* P **P 19 56 14.1 +0.1**
MALT Malatya 77.66 313⇑*i*P **P 19 56 16.8 +2.7**
MALT Malatya 77.66 313 *e*P **P 19 56 15.6 +1.5**
MALT pmax pmax
comp=Z,18nm,1.3s,mb4.8
MALT Malatya 77.66 313 *e*P **P 19 56 15.6 +1.5**
comp=Z,18nm,1.3s,mb4.8
DRGR 77.69 328⇓*i*P **P 19 56 14.4 +0.1**
DRGR 77.69 328 P **P 19 56 15.0 +0.7**
PSZ Piszkesteto 77.73 330⇑*i*P **P 19 56 15.9 +1.4**
PSZ Piszkesteto 77.73 330⇑P **P 19 56 15.9 +1.4**
TANN Tannenbergstha 77.87 336 *e*P **P 19 56 15.6 +0.4**
comp=Z,10.0nm,1.4s,mb4.5
MOX Moxa 77.90 336 *e*P **P 19 56 15.3 -0.1**
comp=Z,19nm,1.3s,mb4.9
MOX Moxa 77.90 336 *e*P **P 19 56 16.0 +0.6**
comp=Z,25nm,1.4s,mb5.0
WTSB Winterswijk 77.93 340 *e*P **P 19 56 14.8 -0.8**
comp=Z,43nm,1.6s,mb5.1
TREC Trest 77.97 334 *e*P **P 19 56 15.9 +0.1**
NKC Novy Kostel 78.04 336 *e*P **P 19 56 16.5 +0.3**
SMOL Smolenice 78.04 332 *e*P **P 19 56 17.4 +1.2**
BSY Bisya 78.15 290 P **P 19 56 18.6 +1.7**
SNR=6.0
UBBA Unterbreizbach 78.18 337 *e*P **P 19 56 17.6 +0.6**
comp=Z,9.0nm,1.1s,mb4.6
BUG Bochum--Univer 78.31 339 *e*P **P 19 56 17.6 -0.1**
comp=Z,33nm,1.3s,mb5.1
MANZ Manzenberg 78.36 336 *e*P **P 19 56 18.2 +0.3**
comp=Z,13nm,1.2s,mb4.7
ELDT Eldivan 78.39 318 *i* P **P 19 56 19.2 +1.0**
ZST Bratislava 78.43 332 *e*P **P 19 56 19.3 +1.0**
ZST *e* pP 19 56 25.5 +1.0
ZST *e* 19 56 32.8
ZST pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZST Bratislava 78.43 332 *e*P **P 19 56 19.3 +1.0**
comp=Z,12nm,1.1s,mb4.7
ZST *e* pP 19 56 25.5 +1.0
ZST *e* 19 56 32.8
ROTZ Rotzenmuhle 78.52 336 *e*P **P 19 56 19.7 +0.8**
comp=Z,16nm,1.2s,mb4.8
KHC Kasperske Hory 78.69 335 *e*P **P 19 56 19.9 +0.1**
KHC AMS AMS 20 34 40.0
comp=Z,300nm,18.0s
KHC Kasperske Hory 78.69 335⇑*e*P **P 19 56 19.3 -0.5**
JCT Junction City 78.75 58 *e*P **P 19 56 19.9 -0.2**
JCT pmax pmax
comp=Z,19nm,1.3s,mb4.9
JCT Junction City 78.75 58 *e*P **P 19 56 19.9 -0.2**
comp=Z,19nm,1.3s,mb4.9
GRA1 Grafenberg Arr 78.87 336 *e*P **P 19 56 20.9 +0.1**
comp=Z,22nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,100nm,18.7s,MS4.2
GRF Grafenberg Arr 78.87 336 *e*P **P 19 56 20.9 +0.1**
comp=Z,22nm,1.1s,mb5.0
GRF *e*L 20 42 20.1
comp=Z,67nm,18.7s
GRF Grafenberg Arr 78.87 336 *e*P **P 19 56 20.9 +0.1**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,100nm,18.7s,MS4.2
GRF Grafenberg Arr 78.87 336 *e*P **P 19 56 20.9 +0.1**
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,100nm,18.7s,MS4.2
WET Wettzell 78.89 335 *e*P **P 19 56 20.8 -0.1**
comp=Z,25nm,1.3s,mb5.0
WET Wettzell 78.89 335 *e*P **P 19 56 20.8 -0.1**
WET pmax pmax
comp=Z,25nm,1.3s,mb5.0
BR131 Keskin Array S 78.90 317 *e*P **P 19 56 21.7 +0.8**
comp=Z,3.5nm,0.8s,mb4.3
BRTR Keskin Array B 78.90 317 P **P 19 56 21.9 +1.0**
comp=Z,4.3nm,0.9s,mb4.4,baz=85,slow=2.9,SNR=19
BRTR Keskin Array B 78.90 317 P **P 19 56 22.0 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 78.91 334 *e*P **P 19 56 21.2 +0.2**
GERES GERESS Array B 78.91 334 P **P 19 56 21.0 0.0**
comp=Z,2.5nm,0.8s,mb4.2,baz=46,slow=5.8,SNR=17
GERES LR LR 20 35 38.9
comp=Z,288nm,18.0s,MS4.7,baz=47,slow=39
GERES GERESS Array B 78.91 334 P **P 19 56 21.0 0.0**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,288nm,18.0s
SGKT Sivrigoynuk 78.96 319 *i* P **P 19 56 21.9 +0.7**
AVNT Avonos 79.06 316 *i* P **P 19 56 22.6 +0.7**
BZS Buzias 79.09 328⇓*i*P **P 19 56 22.3 +0.3**
BZS Buzias 79.09 328 P **P 19 56 22.5 +0.5**
TNS Taunus Mts 79.13 338 *e*P **P 19 56 22.6 +0.4**
comp=Z,21nm,1.2s,mb4.9
TNS Taunus Mts 79.13 338 *e*P **P 19 56 22.6 +0.4**
TNS pmax pmax
comp=Z,21nm,1.2s,mb4.9
MIB Mutribah 79.18 302 *e*P **P 19 56 23.1 +0.7**
MIB AMb AMB 19 56 28.9
comp=Z,29nm,0.7s,mb5.3
ANTO Ankara 79.18 318 *e*P **P 19 56 22.7 +0.2**
ANTO pmax pmax
comp=Z,12nm,0.9s,mb4.8
ANTO Ankara 79.18 318 *e*P **P 19 56 22.6 +0.2**
comp=Z,12nm,0.9s,mb4.8
HGN Heimansgroeve 79.25 340 *e*P **P 19 56 22.1 -0.7**
comp=Z,28nm,2.1s,mb4.8
MEM Membach 79.38 340 P **P 19 56 23.5 0.0**
RST Umm Al-Ruwaisa 79.60 302 *e*P **P 19 56 25.2 +0.4**
RST AMb AMB 19 56 27.9
comp=Z,26nm,0.7s,mb5.3
NAY Al-Naaiem 79.64 302 *e*P **P 19 56 25.6 +0.6**
NAY AMb AMB 19 56 28.4
comp=Z,9.4nm,0.8s,mb4.8
PKSM Moragy 79.64 330⇑*i*P **P 19 56 25.0 0.0**
PKSM Moragy 79.64 330 P **P 19 56 25.3 +0.3**
RDF Al-Radifah 79.70 301 *e*P **P 19 56 26.2 +0.9**
RDF AMb AMB 19 56 29.2
comp=Z,42nm,1.0s,mb5.3
BCLA Clavier 79.72 340 P **P 19 56 26.2 +0.7**
GIVF Givet 80.13 340 *e*P **P 19 56 27.2 -0.4**
BAIF Baives 80.31 341 *e*P **P 19 56 28.2 -0.4**
comp=Z,48nm,1.5s,mb4.9
BAIF Baives 80.31 341 *e*P **P 19 56 28.2 -0.4**
BAIF pmax pmax
comp=Z,24nm,1.5s,mb4.9
BAIF Baives 80.31 341 *e*P **P 19 56 28.2 -0.4**
comp=Z,24nm,1.5s,mb4.9
ESKT Eskisehir 80.35 319 *i* P **P 19 56 29.4 +0.6**
KBA Koelnbreinsper 80.60 334⇓*i*P **P 19 56 31.2 +1.1**
comp=Z,31nm,0.9s,mb5.2
KBA Koelnbreinsper 80.60 334⇓*i*P **P 19 56 31.2 +1.0**
KBA pmax pmax
comp=Z,31nm,0.9s,mb5.2
ULDT Uludag 80.62 320 *i* P **P 19 56 31.4 +1.1**
BFO Black Forest 80.90 337 P **P 19 56 32.2 +0.4**
comp=Z,81nm,1.1s,mb5.6,SNR=5.5
BFO Black Forest 80.90 337 *e*P **P 19 56 31.7 -0.1**
comp=Z,31nm,1.5s,mb5.0
BFO Black Forest 80.90 337 *e*P **P 19 56 31.7 -0.1**
BFO pmax pmax
comp=Z,31nm,1.5s,mb5.0
WTTA Wattenberg 80.94 335⇑*i*P **P 19 56 31.4 -0.6**
comp=Z,20nm,1.3s,mb4.9
WTTA Wattenberg 80.94 335⇑*i*P **P 19 56 31.4 -0.6**
WTTA pmax pmax
comp=Z,20nm,1.3s,mb4.9
MOTA Moosalm 81.03 335⇓*i*P **P 19 56 33.4 +0.9**
comp=Z,24nm,1.2s,mb5.0
MOTA Moosalm 81.03 335⇓*i*P **P 19 56 33.4 +1.0**
MOTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
VTS Vitosha 81.06 325⇑*i*P **P 19 56 32.9 +0.3**
VTS Vitosha 81.06 325 P **P 19 56 33.0 +0.4**
WLS Welschbruch 81.08 338 *e*P **P 19 56 33.6 +0.9**
CDF Champ du Feu 81.10 338 *e*P **P 19 56 32.3 -0.5**
comp=Z,50nm,1.2s,mb5.0
CDF Champ du Feu 81.10 338 *e*P **P 19 56 32.3 -0.5**
CDF pmax pmax
comp=Z,25nm,1.2s,mb5.0
CDF Champ du Feu 81.10 338 *e*P **P 19 56 32.3 -0.5**
comp=Z,25nm,1.2s,mb5.0
SQTA Sankt Quirin 81.11 335⇓*i*P **P 19 56 34.1 +1.2**
comp=Z,24nm,1.3s,mb5.0
SQTA Sankt Quirin 81.11 335⇓*i*P **P 19 56 34.1 +1.2**
SQTA pmax pmax
comp=Z,24nm,1.3s,mb5.0
MEST Erdemli 81.14 315 *i* P **P 19 56 33.6 +0.6**
ECH Echery 81.31 338 *e*P **P 19 56 34.2 +0.3**
FELD Feldberg im Sc 81.40 337 *e*P **P 19 56 34.2 -0.2**
MEZF Maizieres J'vi 81.57 340 *e*P **P 19 56 35.0 -0.3**
comp=Z,59nm,1.3s,mb5.1
MEZF Maizieres J'vi 81.57 340 *e*P **P 19 56 35.0 -0.3**
comp=Z,59nm,1.3s,mb5.4
THEF They Montfort 81.60 339 *e*P **P 19 56 35.8 +0.3**
PPT Papeete 81.64 126 LR LR 20 32 16.7
comp=Z,197nm,18.2s,MS4.5,baz=316,slow=35
MOF Molkenrain 81.65 338 *e*P **P 19 56 36.2 +0.4**
HINF Hinteralfeld 81.76 338 *e*P **P 19 56 35.5 -0.8**
LOMF Lomont 82.19 338 *e*P **P 19 56 38.1 -0.5**
LDF La Druitiere 82.64 343 *e*P **P 19 56 40.1 -0.8**
comp=Z,37nm,1.3s,mb5.0
LDF La Druitiere 82.64 343 *e*P **P 19 56 40.1 -0.8**
LDF pmax pmax
comp=Z,19nm,1.3s,mb5.0
LDF La Druitiere 82.64 343 *e*P **P 19 56 40.1 -0.8**
comp=Z,18nm,1.3s,mb5.0
GRR Gorron 82.98 343 *e*P **P 19 56 42.0 -0.7**
comp=Z,86nm,1.4s,mb5.3
GRR Gorron 82.98 343 *e*P **P 19 56 42.0 -0.7**
GRR pmax pmax
comp=Z,43nm,1.4s,mb5.3
GRR Gorron 82.98 343 *e*P **P 19 56 42.0 -0.7**
comp=Z,43nm,1.4s,mb5.3
LOR Lormes 83.01 340 *e*P **P 19 56 42.2 -0.7**
comp=Z,31nm,1.1s,mb5.0
LOR *e*MLR MLR
comp=Z,115nm,18.0s
LOR Lormes 83.01 340 *e*P **P 19 56 42.2 -0.7**
LOR pmax pmax
comp=Z,15nm,1.1s,mb4.9
LOR MLR MLR
comp=Z,120nm,18.0s,MS4.3
LOR Lormes 83.01 340 *e*P **P 19 56 42.2 -0.7**
comp=Z,15nm,1.1s,mb5.0
LOR LR LR
comp=Z,120nm,18.0s,MS4.3
CABF La Chapelle 83.07 338 *e*P **P 19 56 43.1 -0.1**
comp=Z,82nm,1.7s,mb5.2
CABF La Chapelle 83.07 338 *e*P **P 19 56 43.1 -0.1**
CABF pmax pmax
comp=Z,41nm,1.7s,mb5.2
CABF La Chapelle 83.07 338 *e*P **P 19 56 43.1 -0.1**
comp=Z,41nm,1.7s,mb5.2
URLA Izmir 83.20 321 *i* P **P 19 56 43.5 -0.4**
AYDN Tasoluk 83.21 320 *i* P **P 19 56 44.7 +0.8**
SSF Saint Saulge 83.29 340 *e*P **P 19 56 43.8 -0.5**
comp=Z,16nm,1.0s,mb4.7
SSF Saint Saulge 83.29 340 *e*P **P 19 56 43.8 -0.5**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SSF Saint Saulge 83.29 340 *e*P **P 19 56 43.8 -0.5**
comp=Z,7.8nm,1.0s,mb4.7
HYF Humbligny 83.30 341 *e*P **P 19 56 44.2 -0.1**
TKL Tuckaleechee C 83.31 44 LR LR 20 38 11.6
comp=Z,93nm,18.2s,MS4.2,baz=286,slow=39
SGMF Saint Gilles 83.44 344 *e*P **P 19 56 44.5 -0.6**
comp=Z,112nm,1.6s,mb5.3
SGMF Saint Gilles 83.44 344 *e*P **P 19 56 44.5 -0.6**
SGMF pmax pmax
comp=Z,56nm,1.6s,mb5.3
SGMF Saint Gilles 83.44 344 *e*P **P 19 56 44.5 -0.6**
comp=Z,56nm,1.6s,mb5.3
ROSF Rostrenen 83.49 345 *e*P **P 19 56 44.9 -0.4**
comp=Z,123nm,1.5s,mb5.4
ROSF Rostrenen 83.49 345 *e*P **P 19 56 44.9 -0.4**
ROSF pmax pmax
comp=Z,62nm,1.5s,mb5.4
ROSF Rostrenen 83.49 345 *e*P **P 19 56 44.9 -0.4**
comp=Z,62nm,1.5s,mb5.4
AVF Avril sur Loir 83.58 340 *e*P **P 19 56 45.4 -0.4**
comp=Z,106nm,1.5s,mb5.5
AVF Avril sur Loir 83.58 340 *e*P **P 19 56 45.4 -0.4**
AVF pmax pmax
comp=Z,53nm,1.5s,mb5.5
AVF Avril sur Loir 83.58 340 *e*P **P 19 56 45.4 -0.4**
comp=Z,53nm,1.5s,mb5.5
SMF Signal de Mont 83.60 340 *e*P **P 19 56 45.6 -0.3**
comp=Z,102nm,1.3s,mb5.5
SMF Signal de Mont 83.60 340 *e*P **P 19 56 45.6 -0.3**
SMF pmax pmax
comp=Z,51nm,1.3s,mb5.5
SMF Signal de Mont 83.60 340 *e*P **P 19 56 45.6 -0.3**
comp=Z,51nm,1.3s,mb5.5
BDRM Kayabasi 83.90 320 *i* P **P 19 56 47.6 +0.2**
BGF Bois d'Agland 83.92 340 *e*P **P 19 56 47.1 -0.4**
comp=Z,39nm,1.3s,mb5.1
BGF Bois d'Agland 83.92 340 *e*P **P 19 56 47.1 -0.4**
BGF pmax pmax
comp=Z,20nm,1.3s,mb5.1
BGF Bois d'Agland 83.92 340 *e*P **P 19 56 47.1 -0.4**
comp=Z,20nm,1.3s,mb5.1
LPL La Plagne 83.92 337 *e*P **P 19 56 48.1 +0.6**
comp=Z,48nm,1.3s,mb5.2
LPL La Plagne 83.92 337 *e*P **P 19 56 48.1 +0.6**
LPL pmax pmax
comp=Z,24nm,1.3s,mb5.2
LPL La Plagne 83.92 337 *e*P **P 19 56 48.1 +0.6**
comp=Z,24nm,1.3s,mb5.2
LPG La Plagne 83.93 337 *e*P **P 19 56 48.2 +0.6**
comp=Z,70nm,1.4s,mb5.3
LPG La Plagne 83.93 337 *e*P **P 19 56 48.2 +0.6**
LPG pmax pmax
comp=Z,35nm,1.4s,mb5.3
LPG La Plagne 83.93 337 *e*P **P 19 56 48.2 +0.6**
comp=Z,35nm,1.4s,mb5.3
PLDF La Plantade 84.28 340 *e*P **P 19 56 50.1 +0.7**
TCF Toulx Ste Croi 84.32 341 *e*P **P 19 56 49.4 -0.2**
comp=Z,48nm,1.5s,mb5.1
TCF Toulx Ste Croi 84.32 341 *e*P **P 19 56 49.4 -0.2**
TCF pmax pmax
comp=Z,24nm,1.5s,mb5.1
TCF Toulx Ste Croi 84.32 341 *e*P **P 19 56 49.4 -0.2**
comp=Z,24nm,1.5s,mb5.1
AGO Saint Agoulin 84.33 340 *e*P **P 19 56 51.4 +1.8**
MBDF Montbardon 84.64 337 *e*P **P 19 56 51.4 +0.2**
comp=Z,79nm,1.6s,mb5.3
MBDF Montbardon 84.64 337 *e*P **P 19 56 51.4 +0.2**
MBDF pmax pmax
comp=Z,39nm,1.6s,mb5.3
MBDF Montbardon 84.64 337 *e*P **P 19 56 51.4 +0.2**
comp=Z,39nm,1.6s,mb5.3
ORIF Oris-en-Rattie 84.70 338 *e*P **P 19 56 51.8 +0.3**
ORIF *e*MLR MLR
comp=Z,123nm,18.5s
VIVF Saint-Julien-l 85.07 338 *e*P **P 19 56 53.4 +0.1**
comp=Z,53nm,1.4s,mb5.2
VIVF Saint-Julien-l 85.07 338 *e*P **P 19 56 53.4 +0.1**
VIVF pmax pmax
comp=Z,27nm,1.4s,mb5.2
VIVF Saint-Julien-l 85.07 338 *e*P **P 19 56 53.4 +0.1**
comp=Z,27nm,1.4s,mb5.2
CAF Calviac 85.64 340 *e*P **P 19 56 55.7 -0.5**
LFF La Frestale 85.93 341 *e*P **P 19 56 56.8 -0.8**
comp=Z,11nm,1.0s,mb5.0
LFF La Frestale 85.93 341 *e*P **P 19 56 56.8 -0.8**
LFF pmax pmax
comp=Z,11nm,1.0s,mb5.0
LFF La Frestale 85.93 341 *e*P **P 19 56 56.8 -0.8**
comp=Z,11nm,1.0s,mb5.0
LMR La Mourre 86.00 337 *e*P **P 19 56 57.6 -0.4**
comp=Z,152nm,1.5s,mb5.7
LMR La Mourre 86.00 337 *e*P **P 19 56 57.6 -0.4**
LMR pmax pmax
comp=Z,76nm,1.5s,mb5.7
LMR La Mourre 86.00 337 *e*P **P 19 56 57.6 -0.4**
comp=Z,76nm,1.5s,mb5.7
LASF Ste Croix 86.00 339 *e*P **P 19 56 57.3 -0.7**
comp=Z,70nm,1.7s,mb5.3
SJPF Ste Jean 88.10 342 *e*P **P 19 57 07.3 -0.9**
comp=Z,32nm,1.2s,mb5.1
SJPF Ste Jean 88.10 342 *e*P **P 19 57 07.3 -0.9**
SJPF pmax pmax
comp=Z,16nm,1.2s,mb5.1
SJPF Ste Jean 88.10 342 *e*P **P 19 57 07.3 -0.9**
comp=Z,16nm,1.2s,mb5.1
CMIG Matias Romero 91.74 63 LR LR 20 36 01.7
comp=Z,42nm,21.0s,MS3.9,baz=11,slow=34
KEST Kesra 92.14 332 LR LR 20 44 32.0
comp=Z,54nm,19.2s,MS4.0,baz=220,slow=39
TORD Torodi Ar. Bea 115.57 330 PKP PKPdf 20 02 58.8 -0.8
comp=Z,0.2nm,0.4s,baz=36,slow=2.3,SNR=5.7
PLCA Paso Flores 147.77 96 PKPbc PKPbc 20 04 01.6 -0.7
comp=Z,11nm,1.2s,baz=271,slow=2.1,SNR=3.7
PLCA Paso Flores 147.77 96 PKIKP PKPdf 20 04 01.7 +2.2
PLCA pmax pmax
comp=Z,11nm,1.2s
SNAA Sanae 152.37 196 PKPbc PKPbc 20 04 10.8 -2.7
comp=Z,0.6nm,0.7s,baz=180,slow=3.5,SNR=5.7
SNAA PKPab PKPab 20 04 21.5 -2.1
comp=Z,2.5nm,1.2s,baz=173,slow=5.3,SNR=3.7
SNAA Sanae 152.37 196 *e*PKPdf PKPdf 20 04 02.9 -3.8
SNAA *e* 20 04 11.3
SNAA *e* 20 04 21.3
SNAA Sanae 152.37 196 PKIKP PKPdf 20 04 10.8 +4.1
SNAA 20 04 21.5
SNAA pmax pmax
comp=Z,1.0nm,0.7s
SNAA pmax pmax
comp=Z,3.0nm,1.3s
VNA3 Neumayer Olymp 153.88 192 *e*PKPdf PKPdf 20 04 05.6 -3.3
VNA3 *e* 20 04 16.8
VNA3 *e* 20 04 19.8
VNA3 *e* 20 04 27.3

*IGIL **04** 20:36:08.6, 3677N×1375W, h30km, ML2.9*
*CSEM **04** 20:36:09.1±0.5, 3662N×1364W, h30km, ML4.0/8, Error ellipse: s-maj=27.8km s-min=6.2km az=136.0*
*MDD **04** 20:36:10.0±2.1, 3694N×1347W, h10km±89km, mb4.2/6, Error ellipse: s-maj=110.0km s-min=16.3km az=60.0, PRXIMO*
INMG 04 20:36:11.5±1.0, 3678N×1375W, h10km, MD3.0, ML2.7, Error ellipse: s-maj=5.6km s-min=3.5km az=122.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**4.09**	**78**	*e*Pn	Pn	20 37 08.0	-6.0
PTEO				*e*Sn	Sn	20 37 50.0	-12
PTEO							
	6.3nm,0.1s						
MORF	**Marmelete**	**4.11**	**81**	*e*P	Pn	20 37 08.3	-6.0
MORF				*e*S	Sn	20 37 51.1	-11
MORF				*e*S	Sn	20 37 51.1	-11
MORF				AML	AML	20 37 56.0	
	comp=E,27nm,0.2s						
MORF	**Marmelete**	**4.11**	**81**	*e*P	Pn	20 37 08.3	-6.1
MORF				*e*S	Sn	20 37 51.1	-11
MORF	**Marmelete**	**4.11**	**81**	P	Pn	20 37 08.3	-6.1
MORF				S	Sn	20 37 51.1	-11
PMAFR	**Mafra**	**4.15**	**57**	*e*Pn	Pn	20 37 09.6	-5.2
PMAFR				*e*Sn	Sn	20 37 51.6	-12
PLOU	**Loures**	**4.20**	**59**	*e*Pn	Pn	20 37 09.9	-5.7
PLOU				*e*Sn	Sn	20 37 53.3	-11
PLOU							
	comp=E,18nm,0.1s						
PLOU	**Loures**	**4.20**	**59**	*e*Pn	Pn	20 37 09.9	-5.7
PLOU				*e*Sn	Sn	20 37 53.3	-11
	comp=E,18nm,0.1s						

PMPS	**Porto Santo**	**4.28**	**210**	*e*Pn	Pn	20 37 10.4	-6.3
PMPS				*e*Sn	Sn	20 37 53.5	-13
MOE	**Montemor**	**4.62**	**66**	*e*Pn	Pn	20 37 15.2	-6.2
MOE				*e*Sn	Sn	20 38 02.3	-13
ALMR	**Almeirim**	**4.72**	**58**	*e*P	Pn	20 37 16.6	-6.2
ALMR				*e*S	Sn	20 38 05.6	-12
ALMR				*e*S	Sn	20 38 05.6	-12
ALMR				AML	AML	20 38 10.9	
	comp=N,20nm,0.2s						
ALMR	**Almeirim**	**4.72**	**58**	*e*P	Pn	20 37 16.6	-6.2
ALMR				*e*S	Sn	20 38 05.6	-12
PBEJ	**Beja**	**4.85**	**73**	*e*Pn	Pn	20 37 18.3	-6.2
PBEJ				*e*Sn	Sn	20 38 08.2	-12
PBEJ							
	comp=N,4.5nm,0.1s						
PBEJ	**Beja**	**4.85**	**73**	*e*Pn	Pn	20 37 18.3	-6.2
PBEJ				*e*Sn	Sn	20 38 08.2	-12
	comp=N,4.5nm,0.1s						
EGRO	**El Granado**	**5.06**	**80**	P	Pn	20 37 21.2	-6.2
	comp=N,1.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	20 38 14.6	-11
	comp=N,6.0nm,0.1s,SNR=4.6						
EGRO	**El Granado**	**5.06**	**80**	P	Pn	20 37 21.2	-6.2
	comp=N,1.4nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**5.07**	**54**	*e*Pn	Pn	20 37 21.8	-5.7
PTOM				*e*Sn	Sn	20 38 14.0	-12
PTOM							
	comp=N,13nm,0.1s						
PTOM	**Tomar**	**5.07**	**54**	*e*Pn	Pn	20 37 21.8	-5.7
PTOM				*e*Sn	Sn	20 38 14.0	-12
	comp=N,13nm,0.1s						
PESTR	**Estremoz**	**5.30**	**65**	*e*Pn	Pn	20 37 26.4	-4.3
PESTR				*e*Sn	Sn	20 38 19.6	-12
PESTR							
	comp=N,4.1nm,0.3s						
PESTR	**Estremoz**	**5.30**	**65**	*e*Pn	Pn	20 37 26.4	-4.3
PESTR				*e*Sn	Sn	20 38 19.6	-12
	comp=N,4.1nm,0.3s						
EBAD	**Badajoz**	**5.69**	**68**	P	Pn	20 37 29.4	-6.6
	comp=N,0.9nm,0.1s,SNR=8.5						
EBAD				S	Sn	20 38 27.3	-14
	comp=N,3.9nm,0.2s,SNR=6.3						
EMIN	**Mina Concepcio**	**5.73**	**78**	P	Pn	20 37 30.6	-6.0
	comp=N,0.8nm,0.1s,SNR=12						
EMIN				S	Sn	20 38 29.4	-13
	comp=N,1.5nm,0.1s,SNR=7.5						
PCBR	**Castelo Branco**	**5.80**	**56**	*e*Pn	Pn	20 37 31.2	-6.4
PCBR				*e*Sn	Sn	20 38 31.3	-13
PCBR							
	comp=N,3.3nm,0.4s						
PCBR	**Castelo Branco**	**5.80**	**56**	*e*Pn	Pn	20 37 31.2	-6.4
PCBR				*e*Sn	Sn	20 38 31.3	-13
	comp=N,3.3nm,0.4s						
PTO	**Porto**	**5.92**	**41**	*e*Sn	Sn	20 38 34.3	-13
PTO							
	comp=N,31nm,0.1s						
PTO	**Porto**	**5.92**	**41**	*e*Sn	Sn	20 38 34.3	-13
	comp=N,31nm,0.1s						
PVIS	**Viseu**	**6.03**	**48**	*e*Sn	Sn	20 38 36.4	-13
PVIS							
	comp=N,7.0nm,0.1s						
PVIS	**Viseu**	**6.03**	**48**	*e*Sn	Sn	20 38 36.4	-13
	comp=N,7.0nm,0.1s						
MTE	**Manteigas**	**6.05**	**52**	*e*Pn	Pn	20 37 35.0	-6.1
MTE				*e*Sn	Sn	20 38 37.2	-13
MTE							
	comp=N,9.3nm,0.4s						
ESPR	**Espera**	**6.33**	**87**	P	Pn	20 37 39.6	-5.2
	comp=N,1.8nm,0.1s,SNR=7.9						
ESPR				S	Sn	20 38 46.8	-10
	comp=N,6.5nm,0.2s,SNR=4.8						
PVRL	**Vila Real**	**6.49**	**44**	*e*Sn	Sn	20 38 48.2	-13
PVRL							
	comp=N,7.4nm,0.1s						
PVRL	**Vila Real**	**6.49**	**44**	Sn	Sn	20 38 48.2	-13
	comp=N,3.7nm,0.1s						
PCAB	**Cabril**	**6.63**	**40**	*e*Pn	Pn	20 37 43.0	-5.9
PCAB				*e*Sn	Sn	20 38 51.0	-13
PCAB							
	comp=N,4.9nm,0.1s						
EMAZ	**Mazaricos**	**7.17**	**29**	P	Pn	20 37 50.5	-5.9
	comp=N,2.6nm,0.3s,SNR=7.0						
EMAZ				S	Sn	20 39 00.2	-18
	comp=N,1.8nm,0.2s,SNR=8.2						
STS	**Santiago**	**7.29**	**32**	S	Sn	20 39 05.4	-15
	comp=N,5.4nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**7.39**	**45**	*e*Pn	Pn	20 37 52.9	-6.5
PBRG				*e*Sn	Sn	20 39 09.7	-14
PBRG							
	comp=N,1.9nm,0.1s						
EADA	**Adamuz**	**7.42**	**77**	P	Pn	20 37 53.7	-6.1
	comp=N,0.7nm,0.2s,SNR=5.6						
EADA				S	Sn	20 39 10.6	-14
	comp=N,1.3nm,0.1s						
ECAL	**Calabor**	**7.48**	**44**	P	Pn	20 37 53.9	-6.8
	comp=N,2.1nm,0.3s,SNR=7.9						
ECAL				S	Sn	20 39 11.7	-14
	comp=N,2.6nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**7.58**	**40**	S	Sn	20 39 13.8	-14
	comp=N,1.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**8.22**	**67**	P	Pn	20 38 05.2	-5.7
	comp=N,0.7nm,0.2s,baz=253,slow=13,SNR=8.2						
ESDC				S	Sn	20 39 30.1	-14
	comp=N,0.2nm,0.3s,baz=254,slow=23,SNR=3.7						
EPON	**Pontenova**	**8.26**	**36**	P	Pn	20 38 04.9	-6.5
	comp=N,0.5nm,0.1s,SNR=7.9						
EPON				S	Sn	20 39 28.0	-17
	comp=N,1.9nm,0.2s,SNR=7.9						

IDC ***04*** *21:34:51.7±1.1,2969N×8052E,h0km,mb3.7/7,mb1 3.9/7, mb1mx3.7/21,mbtmp3.7/7,Error ellipse: s-maj=32.9km s-min=24.2km az=40.0*
NEIC ***04*** *21:34:53.6±0.9,2973N×8037E,h10km,mb3.9/1,Error ellipse: s-maj=22.4km s-min=12.3km az=201.0*
ISCJB ***04*** *21:34:54.8±0.5,2972N±004×8066E±004,h33km, mb3.8/10,Error ellipse: s-maj=5.2km s-min=4.8km az=10.2*
MOS ***04*** *21:34:55.2±0.4,2974N×8046E,h33km,mb4.1/6,Error ellipse: s-maj=26.4km s-min=18.5km az=111.8*
NDI ***04*** *21:35:00.0±3.3,2975N×8039E,h12km±7km,ML3.8, mb3.9(NEIC)*

ISC 04 21:34:57.0±0.5,2976N±003×8065E±004,h35km,n41, σ1§37/52,mb3.8/10,1D,Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.43**	**240**	*e*P	**Pn**	**21 35 04.0**	**-2.7**
PTH				*e*S	**Sn**	**21 35 09.0**	**-4.4**
LGTI	**Lohaghat**	**0.47**	**228**	*e*x	x	21 35 05.2	
LGTI				*e*S	**Sn**	**21 35 15.5**	**+1.2**
DDI	**Dehra Dun**	**2.31**	**285**	*e*P	**Pn**	**21 35 37.0**	**+4.4**
DDI				*e*S	**Sn**	**21 35 00.0**	**+0.1**
KLP	**Kalpa**	**2.72**	**311**	*e*P	**Pn**	**21 35 43.3**	**+5.1**
KLP				*e*x	x	21 36 18.9	
KLP				AML	AML	21 36 19.6	
	comp=N,393nm,0.4s						
KLP				AML	AML	21 36 19.8	
	comp=E,644nm,0.6s						
NDI	**New Delhi**	**3.19**	**251**	*e*PN	**Pn**	**21 35 45.0**	**+0.4**
NDI				*e*SN	**Sn**	**21 36 21.0**	**-0.4**
AYAN	**Aya Nagar**	**3.33**	**248**	*e*P	**Pn**	**21 35 48.8**	**+2.2**
AYAN				*e*S	**Sn**	**21 36 25.6**	**+0.6**
SONA	**Sohna**	**3.47**	**245**	*e*P	**Pn**	**21 35 52.2**	**+3.7**
SONA				*e*S	**Sn**	**21 36 29.5**	**+1.2**
SDNR	**Sundarnagar**	**3.61**	**300**	*e*P	**Pn**	**21 35 53.0**	**+2.5**
SDNR				*e*x	x	21 36 43.4	
BHK	**Bhakra**	**4.00**	**295**	*e*x	x	21 36 14.0	
KHET	**Khetri**	**4.57**	**250**	*e*P	**Pn**	**21 36 06.5**	**+3.0**
KHET				*e*S	**Sn**	**21 36 54.5**	**-0.8**
DLH	**Dalhousie**	**4.88**	**306**	*e*x	x	21 36 19.0	
DLH				*e*S	**Sn**	**21 37 04.0**	**+1.0**
THN	**Thein Dam**	**5.00**	**303**	*e*P	**Pn**	**21 36 11.2**	**+1.7**
THN				*e*x	x	21 37 27.8	
AJM	**Ajmer**	**6.23**	**240**	*e*P	**Pn**	**21 36 29.0**	**+2.6**
AJM				*e*S	**Sn**	**21 37 33.8**	**-2.6**
JBP	**Jabalpur**	**6.60**	**185**	‖ *i*P	**Pn**	**21 36 36.1**	**+4.6**
JBP				*i* S	**Sn**	**21 37 45.6**	**+0.2**
BHPL	**Bhopal**	**7.11**	**205**	*e*P	**Pn**	**21 36 41.7**	**+3.2**
BHPL				*e*S	**Sn**	**21 37 56.0**	**-2.0**
CHCP	**Chirah Chowk**	**7.39**	**304**	P	**Pn**	**21 36 41.8**	**-0.6**
BOK	**Bokaro**	**7.57**	**141**	*e*P	**Pn**	**21 36 44.4**	**-0.4**
BOK				*e*S	**Sn**	**21 38 08.4**	**-0.9**
THW	**Thamme Wali**	**8.20**	**294**	P	**Pn**	**21 36 51.5**	**-1.9**
THW				S	**Sn**	**21 38 22.0**	**-2.8**
CEP	**Cherat**	**8.47**	**301**	P	**Pn**	**21 36 55.8**	**-1.3**
CEP				S	**Sn**	**21 38 27.0**	**-4.4**
LSA	**Lhasa**	**9.13**	**88**	*e*P	**Pn**	**21 37 10.5**	**+4.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LSA	**Lhasa**	**9.13**	**88**	*e*P	**Pn**	**21 37 10.5**	**+4.3**
	comp=Z,3.9nm,0.6s						
DRP	**Derazinda**	**9.20**	**285**	P	**Pn**	**21 37 06.3**	**-0.9**
KAD	**Karad**	**13.74**	**207**	*e*S	**Sn**	**21 40 31.5**	**-9.1**
ZAL	**Zalesovo**	**24.34**	**6**	P	**P**	**21 40 11.0**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.4,baz=282,slow=10,SNR=4.0						
ZAL	**Zalesovo**	**24.34**	**6**	P	**P**	**21 40 11.0**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**24.70**	**343**	*e*P	**P**	**21 40 14.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ZRNK	**Zerenda**	**24.70**	**343**	*e*P	**P**	**21 40 14.3**	**-0.4**
	comp=Z,1.3nm,0.4s,mb3.8						
SONM	**Songino Array**	**26.79**	**40**	P	**P**	**21 40 34.8**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.2,baz=226,slow=10,SNR=5.1						
SONM	**Songino Array**	**26.79**	**40**	P	**P**	**21 40 34.8**	**+1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VLA	**Vladivostok**	**42.70**	**57**	*i* P	**P**	**21 42 56.2**	**+5.7**
VLA				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.2						
AKASG	**Malin Array Be**	**43.45**	**314**	P	**P**	**21 42 56.3**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=82,slow=7.0,SNR=3.2						
JOF	**Joensuu**	**45.70**	**331**	*e*p	**P**	**21 43 13.6**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.2						
JOF	**Joensuu**	**45.70**	**331**	*e*P	**P**	**21 43 13.6**	**-0.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**47.52**	**328**	P	**P**	**21 43 28.5**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=115,slow=9.1,SNR=23						
FINES	**FINESS Array B**	**47.52**	**328**	P	**P**	**21 43 28.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**50.42**	**338**	P	**P**	**21 43 51.0**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=111,slow=6.6,SNR=4.9						
ARCES	**ARCESS Array B**	**50.42**	**338**	P	**P**	**21 43 51.0**	**0.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**71.52**	**127**	P	**P**	**21 46 15.2**	**+0.9**
	comp=Z,1.2nm,0.8s,mb3.9,baz=322,slow=6.1,SNR=10						
WRA	**Warramunga Arr**	**71.52**	**127**	P	**P**	**21 46 15.2**	**+0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.10**	**276**	P	**P**	**21 46 29.2**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=55,slow=4.3,SNR=8.5						
TORD	**Torodi Ar. Bea**	**74.10**	**276**	P	**P**	**21 46 29.2**	**-0.4**

MAN 04 21:55:34.0,744N×12134E,h14km,mb2.5,ML4.0,MS4.2, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.27**	**74**	‖ *i*P	Pn	21 55 55.9	-1.4
IPIL				*i* S	Sb	21 56 07.6	-6.3
IPIL	**Ipil**	**1.27**	**74**	*e*P	Pn	21 55 55.9	-1.4
IPIL				*e*S	Sb	21 56 07.7	-6.2
PAGZ	**Pagadian**	**2.07**	**78**	*e*P	Pn	21 56 09.0	+0.7
DCPH	**Dipolog City**	**2.30**	**60**	*e*P	Pn	21 56 11.5	+0.1
DCPH				*e*S	Sn	21 56 40.7	+1.2
CUYO	**Cuyo Island**	**3.41**	**355**	*e*P	Pn	21 56 36.5	+10
BUKP	**Musuan**	**3.72**	**83**	*e*P	Pn	21 56 32.0	+1.1

ISCJB ***04*** *22:11:51.7±0.3,4936N±001×684E±003,h0km,Error ellipse: s-maj=2.5km s-min=1.8km az=1.6*
NEIC ***04*** *22:11:53.0,4930N×690E,h1km,ML2.5(STR), ML3.0(LDG),After SZGRF.*
BGR ***04*** *22:11:53.1±0.4,4937N×692E,h1km,ML2.0/3,Error ellipse: s-maj=7.8km s-min=4.4km az=32.0*
LDG ***04*** *22:11:54.4±0.1,4937N×687E,h1km,Md2.9/1,Ml3.0/14, Error ellipse: s-maj=1.8km s-min=1.4km az=168.0, Suspected Mining induced.*
PRU ***04*** *22:11:54.7,4707N×789E,h0km*
CSEM ***04*** *22:11:54.2±0.1,4937N×689E,h1km,ML2.9/14,Error ellipse: s-maj=1.0km s-min=0.9km az=122.0*
BNS ***04*** *22:11:55.8±0.9,4944N×692E,h1km,ML1.7*
STR ***04*** *22:11:55.8±0.7,4928N×691E,h1km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 22:11:52.8±0.2,4936N±001×684E±002,h0km,n61, σ1§11/125,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**22 12 05.0**	**+1.8**
	SNR=8.9						
WLF				*e*Sg	**Sg**	**22 12 10.7**	**+0.5**
	SNR=4.9						
WLF	**Walferdange**	**0.54**	**304**	P	**Pg**	**22 12 04.9**	**+1.7**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**22 12 07.7**	**+0.8**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg	**Pg**	**22 12 10.9**	**+0.8**
BGG				*e*Sg	**Sg**	**22 12 22.5**	**+0.8**
	28nm,0.5s						
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**22 12 13.6**	**-0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 12 25.7**	**+1.0**
	22nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sn**	**22 12 27.8**	**-0.9**
	25nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	**Pg**	**22 12 13.1**	**+1.3**
CDF				*e*Pn	**Pn**	**22 12 13.6**	**-0.4**
CDF				*e*Sg	**Sg**	**22 12 25.7**	**+1.0**
CDF				*e*Sn	**Sn**	**22 12 27.8**	**-0.9**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**22 12 13.6**	**-0.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 12 25.7**	**+1.0**
	11nm,0.2s,SNR=1.0						
CDF				*e*Sn	**Sn**	**22 12 27.8**	**-0.9**
	12nm,0.2s,SNR=1.0						
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**22 12 13.9**	**+1.8**
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**22 12 16.7**	**+1.6**
	baz=51						
RFYF				*e*Sg	**Sg**	**22 12 32.0**	**+1.8**
	64nm,0.4s						
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**22 12 16.7**	**+1.6**
RFYF				*e*Sg	**Sg**	**22 12 32.0**	**+1.8**
	32nm,0.4s						
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**22 12 16.9**	**+1.7**
ECH				Sg	**Sg**	**22 12 31.6**	**+1.3**
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**22 12 18.2**	**+1.0**
THEF				Sg	**Sg**	**22 12 34.9**	**+1.3**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**22 12 18.9**	**+0.6**
KLL				*e*Sg	**Sg**	**22 12 35.4**	**0.0**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**22 12 18.1**	**-0.5**
	SNR=6.5						
TNS				*e*Sg	**Sg**	**22 12 34.3**	**-1.8**
	SNR=4.8						
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**22 12 19.1**	**+0.5**
TNS				*e*Sg	**Sg**	**22 12 36.9**	**+0.8**
MEM	**Membach**	**1.36**	**337**	P	**Pg**	**22 12 19.4**	**+0.6**
MEM	**Membach**	**1.36**	**337**	P	**Pg**	**22 12 19.3**	**+0.5**
DREG	**Dreilaegerbach**	**1.36**	**343**	*e*Pg	**Pg**	**22 12 19.3**	**+0.4**
DREG				*e*Sg	**Sg**	**22 12 37.2**	**+0.8**
	9.9nm,0.3s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**22 12 19.6**	**-0.5**
	SNR=8.5						
BFO				*e*Sg	**Sg**	**22 12 37.3**	**-1.3**
	SNR=7.2						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**22 12 19.0**	**-1.1**
BFO				*e*Sg	**Sg**	**22 12 39.0**	**+0.4**
BCLA	**Clavier**	**1.45**	**317**	P	**Pn**	**22 12 20.1**	**-0.2**
BCLA	**Clavier**	**1.45**	**317**	P	**Pn**	**22 12 20.0**	**-0.3**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**22 12 22.0**	**+1.2**
	baz=50,SNR=1.0						
MEZF				*e*Sn	**Sn**	**22 12 39.4**	**-0.9**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 12 41.1**	**+1.3**
	17nm,0.3s						
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**22 12 22.0**	**+1.2**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**22 12 39.4**	**-0.9**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 12 41.1**	**+1.3**
	8.4nm,0.3s						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**22 12 21.2**	**+0.2**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**22 12 42.5**	**+1.4**
	34nm,0.6s,SNR=1.0						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**22 12 21.2**	**+0.2**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**22 12 42.5**	**+1.4**
	17nm,0.6s,SNR=1.0						
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pg	**Pg**	**22 12 21.8**	**-0.1**
	7.1nm,0.6s						
HGN				*e*Sg	**Sg**	**22 12 41.0**	**-0.6**
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pg	**Pg**	**22 12 21.8**	**-0.1**
	7.1nm,0.6s						
HGN				*e*Sg	**Sg**	**22 12 41.0**	**-0.6**
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**22 12 23.3**	**+1.3**
MOF				Sg	**Sg**	**22 12 43.2**	**+1.4**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**22 12 23.2**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**22 12 41.0**	**-1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 12 43.3**	**+0.7**
	67nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**22 12 23.2**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**22 12 41.0**	**-1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 12 43.3**	**+0.7**
	33nm,0.3s						
DOU	**Dourbes**	**1.63**	**298**	P	**Pn**	**22 12 23.3**	**+0.6**
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	**Pg**	**22 12 23.9**	**-0.5**
HOBG				*e*Sg	**Sg**	**22 12 44.0**	**-1.9**
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn	**Pn**	**22 12 23.7**	**+0.5**
SFTF				*e*Sg	**Sg**	**22 12 47.2**	**+0.9**
	25nm,0.3s						
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn	**Pn**	**22 12 23.7**	**+0.5**
SFTF				*e*Sg	**Sg**	**22 12 47.2**	**+0.9**
	12nm,0.3s						
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg	**Pg**	**22 12 25.6**	**+0.7**
FELD				Sg	**Sg**	**22 12 45.9**	**-0.8**
LOMF	**Lomont**	**2.02**	**180**	Pg	**Pg**	**22 12 32.1**	**+0.7**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**22 12 38.8**	**0.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 13 22.6**	**-0.2**
	12nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**22 12 38.8**	**0.0**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 13 22.6**	**-0.2**
	6.1nm,0.6s,SNR=1.0						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**22 12 39.4**	**-0.7**
	baz=48,SNR=1.0						
LOR	**Lormes**	**2.89**	**225**	*e*Pg	**Pg**	**22 12 48.4**	**+0.2**
	baz=45,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 13 13.7**	**-1.9**
LOR				*e*Sg	**Sg**	**22 13 25.1**	**-0.6**
	10nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**22 12 39.4**	**-0.7**
LOR				*e*Pg	**Pg**	**22 12 48.4**	**+0.2**
LOR				*e*Sn	**Sn**	**22 13 13.7**	**-1.9**
LOR				*e*Sg	**Sg**	**22 13 25.1**	**-0.6**
LOR	**Lormes**	**2.89**	**225**	*e*Pg	**Pg**	**22 12 48.4**	**+0.2**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**22 13 13.7**	**-1.9**
LOR				*e*Sg	**Sg**	**22 13 25.1**	**-0.6**
	5.1nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**22 12 43.4**	**-1.0**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 13 21.1**	**-2.2**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 13 36.1**	**+0.2**
	8.5nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**22 12 43.4**	**-1.0**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**22 13 21.1**	**-2.2**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 13 36.1**	**+0.2**
	4.2nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**22 12 46.2**	**-0.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 13 25.1**	**-2.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 13 40.1**	**-1.5**
	4.9nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**22 12 46.2**	**-0.7**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 13 25.1**	**-2.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 13 40.1**	**-1.5**
	2.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**22 12 47.1**	**-1.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**22 13 27.5**	**-2.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 13 44.2**	**-0.4**
	3.8nm,0.3s						
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**22 12 47.1**	**-1.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**22 13 27.5**	**-2.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**22 13 44.2**	**-0.4**
	1.9nm,0.3s						
NKC	**Novy Kostel**	**3.73**	**74**	*e*PN	**Pg**	**22 13 02.4**	**-1.9**
NKC				*e*SN	**Sg**	**22 13 51.0**	**-1.7**
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	**Pn**	**22 12 53.0**	**-0.7**
BGF				*e*Sn	**Sn**	**22 13 37.6**	**-2.5**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 13 56.2**	**-1.4**
	20nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	**Pn**	**22 12 53.0**	**-0.7**
BGF				*e*Sn

*CSEM **04** 23:21:15.9, 6784N×2020E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **04** 23:21:15.9, 6784N×2020E, h0km, ML2.8, Mining explosion.*

HEL 04 23:21:16.5±0.0, 6784N×2019E, h0km, ML1.6, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i* P	Pg	23 21 18.6	-0.4
KUA				*i* S	Sg	23 21 20.5	-0.2
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	23 21 24.4	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	23 21 29.3	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 21 29.5	-1.1
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 21 30.7	-0.9
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	23 21 30.8	-0.9
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	23 21 30.8	-0.9
	baz=53						
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	23 21 38.8	-0.6
KIF				*e*S	Sg	23 21 54.4	-0.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	23 21 41.3	-1.8
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 21 47.0	-0.6
KALU	**Kalix**	**2.35**	**146**	*e*P	Pn	23 21 56.6	+0.3
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	23 21 58.5	+1.4
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 21 57.8	0.0
SGF				*e*S	Sn	23 22 28.9	+0.4
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	23 22 06.6	-0.6
KEV				*e*S	Sn	23 22 44.3	-1.0
KEV				MSG		23 22 52.1	
	comp=Z,1.7nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*PG	Pg	23 22 20.7	-4.6
OUL				*e*SB	Sb	23 23 04.5	-0.4
OUL				MSG		23 23 05.8	
	comp=Z,0.9nm,0.2s						
VAF	**Ylistaro**	**4.93**	**167**	*e*S	Sn	23 23 26.9	-2.5

IDC 04 23:23:10.5±34.0, 2086S×17605W, h520km±377km, mb3.1/3, mb1 3.3/3, mb1mx3.0/14, mbtmp4.1/3, Error ellipse: s-maj=266.6km s-min=135.5km az=21.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.27**	**264**	P	P	23 29 21.9	+0.6
	1.5nm,0.3s,baz=107,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**46.21**	**257**	P	P	23 30 47.5	-0.9
	0.5nm,0.5s,baz=100,slow=7.1,SNR=7.3						
WRA	**Warramunga Arr**	**46.36**	**262**	P	P	23 30 50.4	+0.9
	1.3nm,0.3s,baz=98,slow=8.3,SNR=44						
TORD	**Torodi Ar. Bea**	**172.03**	**164**	PKPab	PKPab	23 43 46.3	+0.1
	0.3nm,0.9s,baz=212,slow=2.7,SNR=4.7						

*ISCJB **05** 00:02:32.8±0.3, 44.11N±003×11.19E±003, h14km±3km, Error ellipse: s-maj=5.4km s-min=3.4km az=40.2*
*ROM **05** 00:02:32.4±0.1, 44.10N×1118E, h5km, Md2.4/19, Ml2.2/8, Error ellipse: s-maj=2.1km s-min=1.2km az=23.0*
*LDG **05** 00:02:35.9±0.3, 4385N×1110E, h10km, Ml2.4/4, Error ellipse: s-maj=6.8km s-min=3.1km az=113.0*

ISC 05 00:02:33.4±0.3, 4411N±003×1119E±003, h11km±3km, n33, σ1§18/45, 2C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.07**	**320**	⇓*i*Pg	**Pg**	**00 02 34.7**	**-1.0**
FNVD				Sg	**Sg**	**00 02 36.6**	**-0.8**
	10μm,0.2s						
SEI	**Scarperia**	**0.14**	**116**	⇓*i*Pg	**Pg**	**00 02 36.0**	**-0.6**
SEI				Sg	**Sg**	**00 02 38.1**	**-0.8**
	881nm,0.2s						
PZZT	**Monte Pizzetto**	**0.23**	**274**	Pg	**Pg**	**00 02 37.7**	**-0.6**
PZZT				Sg	**Sg**	**00 02 41.8**	**+0.3**
	768nm,0.7s						
ZCCA	**Zocca**	**0.28**	**328**	⇑*i*Pg	**Pg**	**00 02 38.6**	**-0.5**
	13nm,0.4s						
VMG	**Vicchio**	**0.30**	**120**	⇑*i*Pg	**Pg**	**00 02 38.6**	**-0.9**
VMG				Sg	**Sg**	**00 02 43.7**	**+0.2**
	325nm,0.2s						
BDI	**Bagni Di Lucca**	**0.43**	**263**	Pg	**Pg**	**00 02 41.3**	**-0.5**
BDI				Sg	**Sg**	**00 02 49.5**	**+2.0**
	225nm,0.5s						
GSCL	**Gusciola**	**0.49**	**299**	Pg	**Pg**	**00 02 41.9**	**-1.1**
	20nm,0.2s						
SFI	**Santa Sofia**	**0.52**	**113**	Pg	**Pg**	**00 02 42.7**	**-0.9**
SFI				Sg	**Sg**	**00 02 51.1**	**+0.6**
	152nm,0.6s						
MAIM		**0.54**	**248**	Pg	**Pg**	**00 02 43.9**	**0.0**
	153nm,0.6s						
FIU	**Minerbio Fiu**	**0.57**	**23**	Pg	**Pg**	**00 02 45.5**	**+1.0**
	12μm,7.3s						
PII	**Pisa**	**0.62**	**231**	⇓*i*Pg	**Pg**	**00 02 45.8**	**+0.4**
PII				Sg	**Sg**	**00 02 55.3**	**+1.8**
	183nm,0.2s						
ERBM	**Eremo**	**0.63**	**299**	Pg	**Pg**	**00 02 45.3**	**-0.4**
	54nm,0.6s						
RAVA	**Ravarino**	**0.64**	**356**	Pg	**Pg**	**00 02 46.9**	**+1.0**
CSNT	**Castellina Chi**	**0.65**	**173**	Pg	**Pg**	**00 02 45.6**	**-0.3**
CSNT				Sg	**Sg**	**00 02 56.9**	**+2.5**
BRSN	**Barisano**	**0.66**	**75**	Pg	**Pg**	**00 02 47.7**	**+1.4**
CRE	**Caprese Michel**	**0.74**	**131**	Pg	**Pg**	**00 02 47.6**	**-0.2**
	22nm,0.3s						
BADI	**Badiali**	**0.98**	**128**	Pg	**Pg**	**00 02 52.1**	**-0.1**
	193nm,1.8s						
GRFL	**Gerfalco**	**0.98**	**189**	Pg	**Pg**	**00 02 53.2**	**+0.9**
	24nm,0.7s						
FSSB	**Fossombrone**	**1.23**	**110**	Pg	**Pg**	**00 02 56.1**	**-0.9**
	24nm,0.4s						
SNTG	**Esanatoglia**	**1.54**	**123**	Pg	**Pg**	**00 03 03.1**	**+0.2**
PGF	**Pioggiola**	**2.23**	**226**	*e*Pn	**Pn**	**00 03 08.7**	**-1.7**
PGF				*e*Sn	**Sn**	**00 03 32.4**	**-5.6**
	3.0nm,0.3s						
SBF	**Sospel**	**2.72**	**266**	*e*Pn	**Pn**	**00 03 15.8**	**-1.2**
SBF				*e*Sn	**Sn**	**00 03 47.6**	**-2.3**
	5.8nm,0.3s						
MBDF	**Montbardon**	**3.22**	**282**	*e*Pn	**Pn**	**00 03 25.5**	**+1.5**
FRF	**La Foret Royal**	**3.33**	**262**	*e*Pn	**Pn**	**00 03 24.2**	**-1.3**
FRF				*e*Sn	**Sn**	**00 04 01.3**	**-3.7**
	3.3nm,0.5s						
LPG	**La Plagne**	**3.45**	**295**	*e*Pn	**Pn**	**00 03 28.9**	**+1.9**
LPL	**La Plagne**	**3.46**	**295**	*e*Pn	**Pn**	**00 03 29.4**	**+2.1**
LMR	**La Mourre**	**3.48**	**259**	*e*Pn	**Pn**	**00 03 26.4**	**-1.1**
LMR				*e*Sn	**Sn**	**00 04 04.8**	**-3.9**
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.88**	**284**	*e*Pn	**Pn**	**00 03 34.3**	**+1.3**
SMRF	**Simiane la Rot**	**4.05**	**270**	*e*Pn	**Pn**	**00 03 34.9**	**-0.4**
HINF	**Hinteralfeld**	**4.78**	**322**	*e*Pn	**Pn**	**00 03 48.4**	**+3.0**
CDF	**Champ du Feu**	**5.08**	**329**	*e*Pn	**Pn**	**00 03 52.9**	**+3.4**
LASF	**Ste Croix**	**5.28**	**272**	*e*Pn	**Pn**	**00 03 52.0**	**-0.2**
MTLF	**Montolieu**	**6.54**	**266**	*e*Pn	**Pn**	**00 04 08.9**	**-0.7**

*ISCJB **05** 00:11:49.9±0.7, 464N±0.1×1534E±0.1, h33km, mb3.8/10, Error ellipse: s-maj=21.1km s-min=8.5km az=131.3*
*MOS **05** 00:11:52.0±1.9, 4652N×15337E, h43km, mb4.1/7, Error ellipse: s-maj=19.3km s-min=12.9km az=86.4*
*IDC **05** 00:11:53.1±4.7, 4643N×15347E, h44km±44km, mb3.6/10, mb1 3.9/11, mb1mx3.7/21, mbtmp3.9/11, MS2.9/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=25.0km s-min=19.7km az=110.0*

ISC 05 00:11:51.9±0.7, 465N±01×1534E±01, h35km, n23, σ0§96/22, mb3.8/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.09**	**254**	⇑*i*PN	**Pn**	**00 12 50.5**	**-1.5**
KUR				*i* S	**Sn**	**00 13 38.5**	**-0.2**
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,340nm,0.7s						
KUR				smax			
	comp=N,240nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	**Severo-Kuril's**	**4.54**	**22**	*e*PN	**Pn**	**00 12 55.0**	**-3.1**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
ASAJ	**Asahikawa**	**8.01**	**257**	P	**Pn**	**00 13 47.6**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=114,slow=20,SNR=2.6						
ASAJ				LR	LR	00 17 11.8	
	comp=Z,71nm,18.5s,baz=160,slow=40						
SONM	**Songino Array**	**31.62**	**290**	P	**P**	**00 18 10.7**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.3,baz=96,slow=8.1,SNR=3.0						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**00 19 36.8**	**-0.8**
	comp=Z,2.5nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=3.4						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**00 19 36.8**	**-0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**	**00 22 11.4**	**+0.5**
	comp=Z,0.9nm,0.7s,mb4.0,baz=287,slow=8.1,SNR=4.4						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**00 22 24.2**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=27,slow=7.5,SNR=8.8						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**00 22 24.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**64.71**	**54**	P	**P**	**00 22 26.9**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=337,slow=3.4,SNR=8.1						
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**00 22 49.2**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=27,slow=7.5,SNR=9.4						
WRA	**Warramunga Arr**	**68.36**	**199**	P	**P**	**00 22 49.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**68.53**	**341**	P	**P**	**00 22 51.3**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**00 22 51.4**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=26,slow=6.2,SNR=6.0						
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**00 22 51.4**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**00 23 11.7**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=6.0,SNR=8.5						
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**00 23 11.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.05**	**199**	P	**P**	**00 23 12.2**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=27,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**72.05**	**199**	P	**P**	**00 23 12.2**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.77**	**334**	P	**P**	**00 23 52.1**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=66,slow=4.7,SNR=4.4						
GERES	**GERESS Array B**	**78.77**	**334**	P	**P**	**00 23 52.1**	**+1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**147.96**	**96**	PKPbc	PKPbc	00 31 32.4	-1.1
	comp=Z,2.2nm,0.9s,baz=271,slow=3.2,SNR=3.4						
PLCA	**Paso Flores**	**147.96**	**96**	PKP2	PKPbc	00 31 32.4	-1.1
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

SKHL 05 00:32:40.6±1.9, 5272N×14283E, h10km, mb4.0/3, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.83**	**4**	⇑*i*Pg	Pg	00 32 58.3	+1.6
OKH				AMB	AMB	00 32 59.1	
	500nm,0.5s						
OKH				⇑*i*Sg	Sg	00 33 10.7	+3.2
OKH				A		00 33 12.0	
	4μm,0.5s						
OKH				A		00 33 12.0	
	2μm,0.4s						
NKL	**Nikolayevsk**	**1.37**	**289**	*i* Pg	Pg	00 33 07.5	+0.6
NKL				AMB	AMB	00 33 07.7	
	40nm,0.3s						
NKL				AMB	AMB	00 33 07.7	
	50nm,0.3s						
NKL				*e*Sg	Sg	00 33 25.5	+0.8
NKL				A		00 33 28.0	
	350nm,0.3s						
NKL				A		00 33 28.0	
	470nm,0.3s						
TYV	**Tymovskoe**	**1.86**	**183**	*e*rx	rx	00 33 27.2	
EKMR	**Ekimchan**	**5.99**	**277**	*e*Pg	Pg	00 34 40.5	+5.2
EKMR				AMB	AMB	00 34 40.9	
	3.0nm,0.5s						
EKMR				*e*Sg	Sg	00 36 01.6	+8.7
EKMR				A		00 36 02.3	
	8.0nm,0.6s						

KRSC 05 00:47:12, 5139N×16073E, h51km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.73**	**308**	*e*P	Pn	00 47 41.7	+2.1
RUS				*e*S	Sn	00 48 02.8	+2.4
SPN	**Mys Shipunski**	**1.77**	**346**	*e*P	Pn	00 47 43.3	+3.2
SPN				*e*S	Sn	00 48 05.3	+3.9
NLC	**Nalytchevo**	**1.98**	**335**	*e*P	Pn	00 47 46.9	+3.9
NLC				*e*S	Sn	00 48 11.7	+5.1
GRL	**Gorelyy**	**2.01**	**306**	*e*P	Pn	00 47 46.7	+3.2
GRL				*e*S	Sn	00 48 12.0	+4.5
PET	**Petropavlovsk**	**2.08**	**323**	*e*P	Pn	00 47 47.8	+3.4
PET				*e*S	Sn	00 48 13.0	+4.0
AVH	**Avacha**	**2.24**	**328**	*e*P	Pn	00 47 50.4	+3.8
AVH				*e*S	Sn	00 48 17.8	+4.7
MIPR	**Malaya Ipel'ka**	**2.62**	**291**	*e*P	Pn	00 47 54.2	+2.4
KII	**Karymskiy**	**2.76**	**344**	*e*S	Sn	00 48 31.4	+5.5
GNL	**Ganaly**	**2.87**	**325**	*e*P	Pn	00 47 59.4	+4.2
GNL				*e*S	Sn	00 48 34.2	+5.7
MKZ	**Mys Kozlova**	**3.23**	**10**	*e*P	Pn	00 48 03.7	+3.5
MKZ				*e*S	Sn	00 48 40.3	+2.9
TUMR	**Tumrok**	**3.92**	**355**	*e*P	Pn	00 48 13.9	+4.3
TUMR				*e*S	Sn	00 48 58.2	+3.9
ZLN	**Zelenaya**	**4.64**	**1**	*e*P	Pn	00 48 23.4	+3.9
ZLN				*e*S	Sn	00 49 14.9	+2.9
KBTR	**Krutoberegovo**	**4.98**	**14**	*e*P	Pn	00 48 27.5	+3.3
KBTR				*e*S	Sn	00 49 22.1	+1.6

*ATH **05** 01:06:12.8, 3809N×2689E, h54km, MD3.1/3*
*ISCJB **05** 01:06:14.0±0.5, 3815N±002×2664E±005, h5km, Error ellipse: s-maj=5.6km s-min=3.0km az=149.6*
*CSEM **05** 01:06:15.0±0.1, 3809N×2689E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=1.1km az=94.0*
*ISK **05** 01:06:15.1, 38.11N×2684E, h5km, MD3.0*

ISC 05 01:06:14.0±0.7, 3813N±003×2662E±006, h2km±6km, n19, σ1§20/28, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.23**	**355**	*i* P	**Pg**	**01 06 17.9**	**-0.6**
URLA				*i* S	**Sg**	**01 06 21.2**	**-0.2**
SMG	**Samos**	**0.45**	**158**	⇑*i*P	**Pg**	**01 06 23.7**	**+1.0**
SMG				*e*S	**Sg**	**01 06 31.5**	**+2.9**
IZM	**Izmir**	**0.57**	**62**	*i* PG	**Pg**	**01 06 24.1**	**-0.8**
IZM				*i* SG	**Sg**	**01 06 31.0**	**-1.3**
KDAG	**Bornova**	**0.57**	**62**	*i* P	**Pg**	**01 06 24.5**	**-0.6**
KDAG				*i* S	**Sg**	**01 06 32.4**	**-0.1**
AYDN	**Tasoluk**	**1.10**	**115**	*i* P	**Pg**	**01 06 35.5**	**+0.4**
AYDN				*i* S	**Sg**	**01 06 50.0**	**+0.6**
PRK	**Paraskevi**	**1.15**	**346**	*e*P	**Pg**	**01 06 35.0**	**-1.0**
AYVA	**Ayvalik**	**1.18**	**3**	*i* P	**Pg**	**01 06 35.9**	**-0.7**
AYVA				*i* S	**Sg**	**01 06 52.2**	**+0.3**
BODT	**Bodrum**	**1.20**	**153**	PN	**Pn**	**01 06 36.6**	**-1.2**
BODT				SN	**Sn**	**01 06 53.0**	**-1.6**
MLSB	**Milas**	**1.24**	**132**	PN	**Pn**	**01 06 36.6**	**-1.7**
BDRM	**Kayabasi**	**1.25**	**148**	*i* P	**Pg**	**01 06 37.4**	**-0.5**
BDRM				*i* S	**Sg**	**01 06 55.9**	**+1.8**
APE	**Apeiranthos**	**1.37**	**220**	*e*P	**Pn**	**01 06 38.5**	**-1.6**
DAT	**Datca**	**1.59**	**151**	*e*PN	**Pn**	**01 06 43.0**	**-0.2**
EZN	**Ezine**	**1.71**	**352**	*e*PN	**Pg**	**01 06 47.2**	**+0.4**
BOZC	**Bozcaada**	**1.77**	**346**	*i* P	**Pn**	**01 06 44.2**	**-1.4**
BOZC				*i* S	**Sn**	**01 07 10.2**	**+1.7**
DALT	**Dalyan (Mudla)**	**2.10**	**130**	*e*PN	**Pn**	**01 06 50.0**	**-0.2**
MRMT	**Marmara Adasi**	**2.58**	**17**	*e*PN	**Pn**	**01 06 58.5**	**+1.7**
RKY	**Sarkoy-Tekirda**	**2.59**	**9**	*e*PN	**Pn**	**01 06 59.0**	**+2.1**
MFT	**Murefte**	**2.70**	**11**	*e*PN	**Pn**	**01 07 00.7**	**+2.3**
YLV	**Yalova**	**3.23**	**40**	*e*PN	**Pn**	**01 07 06.6**	**+0.8**

IDC 05 01:19:49.9±34.0, 1729S×17533W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=664.5km s-min=162.3km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.50**	**241**	P	P	01 27 39.5	+0.9
	1.1nm,0.4s,baz=45,slow=5.7,SNR=4.5						
WRA	**Warramunga Arr**	**47.63**	**259**	P	P	01 28 28.1	+0.4
	0.6nm,0.4s,baz=97,slow=8.2,SNR=6.8						
ASAR	**Alice Springs**	**47.78**	**254**	P	P	01 28 28.9	0.0
	1.0nm,0.4s,baz=89,slow=7.7,SNR=16						
FITZ	**Fitzroy Crossi**	**56.03**	**260**	P	P	01 29 30.5	+0.2
	0.7nm,0.5s,baz=85,slow=8.0,SNR=4.9						

*NIED **05** 01:53:00, 4530N×15000E, h56km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs244.00000°, δ62.00000°, λ-132.00000°. NP2:φs127.00000°, δ49.00000°, λ-38.00000°.*

JMA 05 01:53:42.4±0.9, 4525N×15001E, h30km, M4.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.60**	**240**	P	Pn	01 54 34.1	-2.0
NEM2				*e*S	Sn	01 55 12.7	-4.8
JRA	**Rausu**	**3.73**	**251**	P	Pn	01 54 39.0	+1.1
JAK	**Akkeshi**	**4.44**	**241**	P	Pn	01 54 47.0	-0.7
JAK				*e*S	Sn	01 55 34.9	-3.4
JAR	**Ashorobuto**	**4.89**	**249**	P	Pn	01 54 55.1	+1.3
JMP	**Maruseppu**	**4.91**	**258**	P	Pn	01 54 55.9	+1.8
JOB	**Onbets**	**5.03**	**244**	P	Pn	01 54 56.1	+0.3
JOB				*e*S	Sn	01 55 50.6	-2.3
JKK2	**Kamakawa 2**	**5.37**	**258**	P	Pn	01 55 02.4	+2.0
ASAJ	**Asahikawa**	**5.41**	**261**	P	Pn	01 55 04.2	+3.3
JCH	**Churui**	**5.48**	**244**	P	Pn	01 55 01.5	-0.4
JCH				*e*S	Sn	01 55 59.6	-4.2
JAB	**Ashibetsu**	**5.85**	**255**	P	Pn	01 55 10.3	+3.3
JEM	**Erimo**	**5.93**	**239**	P	Pn	01 55 09.0	+0.9
JNBK	**Urakawa-nobuka**	**6.04**	**243**	P	Pn	01 55 08.7	-0.9
JBT2	**Biratori 2**	**6.04**	**249**	P	Pn	01 55 09.9	+0.2
JNB	**Noboribetsu**	**7.05**	**250**	P	Pn	01 55 24.2	+0.6
JKB	**Kayabe**	**7.33**	**246**	P	Pn	01 55 26.9	-0.5
JANG	**Nango**	**7.92**	**235**	P	Pn	01 55 32.2	-3.2
JANG				*e*S	Sn	01 56 55.3	-8.7
JTM	**Tenmabayashi**	**7.92**	**239**	*e*S	Sn	01 56 57.3	-6.8
JTH	**Tanohata**	**8.02**	**231**	*e*S	Sn	01 56 57.0	-9.4
OFUJ	**Ofunato**	**8.74**	**228**	*e*S	Sn	01 57 14.9	-9.2
JIO	**Ouri**	**9.37**	**227**	*e*S	Sn	01 57 29.5	-10

*ISCJB **05** 01:57:25.6±3.0, 69S±01×1560E±02, h186km±25km, mb4.2/10, Error ellipse: s-maj=26.3km s-min=20.1km az=128.2*
*NEIC **05** 01:57:26.9±2.0, 683S×15592E, h184km±17km, mb4.6/4, Error ellipse: s-maj=15.3km s-min=12.2km az=65.0*
*IDC **05** 01:57:27.1±6.1, 686S×15590E, h182km±54km, mb3.8/7, mb1 3.8/9, mb1mx3.7/16, mbtmp4.2/9, Error ellipse: s-maj=28.5km s-min=25.3km az=75.0*

ISC 05 01:57:26.9±2.9, 68S±01×1559E±01, h182km±24km, n19, σ0§50/16, mb4.2/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.06**	**253**	Pn	**Pn**	**01 59 33.9**	**-0.1**
CTA	**Charters Tower**	**16.19**	**215**	P	**Pn**	**02 01 03.8**	**-0.5**
	0.4nm,0.3s,baz=24,slow=10.0,SNR=2.1						
DZM	**Mont Dzumac**	**18.24**	**147**	P	**P**	**02 01 26.7**	**+0.3**
	0.6nm,0.3s,baz=286,slow=20,SNR=7.1						
WB2	**Warramunga Arr**	**24.67**	**236**	*e*P	**P**	**02 02 31.4**	**+0.6**
WRA	**Warramunga Arr**	**24.68**	**236**	P	**P**	**02 02 31.4**	**+0.4**
	1.5nm,0.4s,mb3.9,baz=59,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**26.98**	**229**	P	**P**	**02 02 51.5**	**-0.2**
	1.2nm,0.5s,mb3.8,baz=58,slow=9.4,SNR=19						
ASAR				PcP	PcP	02 06 09.7	+1.3
	0.8nm,0.6s,baz=70,slow=2.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**31.57**	**246**	*e*P	**P**	**02 03 32.3**	**+0.1**
	8.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.57**	**246**	P	**P**	**02 03 32.2**	**0.0**
	3.8nm,0.5s,mb4.4,baz=89,slow=6.5,SNR=20						
FORT	**Forrest**	**35.35**	**224**	*e*P	**P**	**02 04 05.1**	**+0.3**
	13nm,1.0s,mb4.5						
KLBR	**Kellerberrin**	**43.31**	**230**	*e*P	**P**	**02 05 10.4**	**-0.2**
	22nm,1.3s,mb4.6						
CASY	**Casey**	**67.04**	**198**	P	**P**	**02 08 00.3**	**0.0**
SONM	**Songino Array**	**69.70**	**327**	P	**P**	**02 08 17.9**	**+1.1**
	1.1nm,0.4s,mb4.0,baz=141,slow=6.2,SNR=14						
ZAL	**Zalesovo**	**84.57**	**326**	P	**P**	**02 09 38.6**	**-0.9**
	1.2nm,0.5s,mb3.9,baz=320,slow=5.5,SNR=3.9						
MAW	**Mawson**	**84.91**	**203**	P	**P**	**02 09 40.9**	**-0.4**
	2.0nm,0.6s,mb4.0,baz=81,slow=6.3,SNR=5.8						
BVAR	**Borovoye Array**	**92.72**	**323**	P	**P**	**02 10 17.6**	**-0.7**
	0.8nm,0.6s,mb4.0,baz=117,slow=5.5,SNR=3.6						
BRVK	**Borovoye**	**92.79**	**323**	*e*P	**P**	**02 10 18.8**	**+0.2**
	1.7nm,0.4s,mb4.5						
AKASG	**Malin Array Be**	**117.94**	**325**	PKP	PKPdf	02 15 50.7	-1.0
	0.4nm,0.4s,baz=45,slow=2.1,SNR=4.2						
GERES	**GERESS Array B**	**127.39**	**329**	PKP	PKPdf	02 16 11.2	+1.4
	0.5nm,0.5s,baz=56,slow=2.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**153.88**	**286**	PKPbc	PKPbc	02 17 04.8	+0.3
	0.5nm,0.8s,baz=37,slow=1.5,SNR=8.5						

IDC 05 02:04:13.4±3.8, 1984S×17935W, h524km±30km, mb2.6/2, mb1 3.1/3, mb1mx2.9/13, mbtmp3.9/3, Error ellipse: s-maj=166.4km s-min=22.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.35**	**52**	P	P	02 06 24.2	+0.1
	6.3nm,0.3s,baz=172,slow=8.2,SNR=4.9		

ms1mx2.2/22, Error ellipse: s-maj=43.8km s-min=28.7km az=76.0
ISCJB ***05*** *02:20:41.1±0.7, 2974S×003×714W±0.1, h52km±6km, mb3.8/2, Error ellipse: s-maj=14.9km s-min=5.3km az=18.7*
NEIC ***05*** *02:20:41.2, 2974S×7128W, h48km, mb4.2/1, MD4.2(GUC), After GUC.*
NEIC Felt [II] at La Serena.
GUC ***05*** *02:20:41.2±1.5, 2974S×7128W, h48km±8km, MD4.2, ML4.2*

ISC 05 02:20:42.7±0.7, 2976S±003×7142W±010, h43km±7km, n36, σ1§05/48, mb3.8/2, 3C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.21**	**134**	⇓*i*P	**Pn**	**02 20 49.5**	**-0.8**
LSCH				*i* S	**Sn**	**02 20 55.0**	**-0.6**
TLL	**Tololo Astrono**	**0.67**	**127**	⇓*i*P	**Pn**	**02 20 54.7**	**-1.1**
TLL				*i* S	**Sn**	**02 21 04.5**	**-0.6**
OVCH	**Ovalle**	**0.86**	**167**	⇓*i*P	**Pn**	**02 20 57.4**	**-0.9**
OVCH				*i* S	**Sn**	**02 21 09.2**	**-0.6**
OVCH				AML	AML	02 21 13.3	
	comp=N,8μm,0.3s						
OVCH	**Ovalle**	**0.86**	**167**	⇓*i*P	**Pn**	**02 20 57.4**	**-0.9**
OVCH				*i* S	**Sn**	**02 21 09.2**	**-0.6**
VACH	**Vallenar**	**1.32**	**26**	⇓*i*P	**Pn**	**02 21 07.4**	**+2.8**
VACH				*i* S	**Sn**	**02 21 23.2**	**+2.3**
CMCH	**Combarbala**	**1.45**	**166**	⇑*i*P	**Pn**	**02 21 05.9**	**-0.5**
CMCH				*i* S	**Sn**	**02 21 24.0**	**-0.3**
CMCH				AML	AML	02 21 29.1	
	comp=E,10μm,0.6s						
CMCH	**Combarbala**	**1.45**	**166**	⇑*i*P	**Pn**	**02 21 05.9**	**-0.5**
CMCH				*i* S	**Sn**	**02 21 24.0**	**-0.3**
CHNG	**Los Chungos**	**2.12**	**182**	*e*P	**Pn**	**02 21 16.1**	**+0.5**
CHNG				*i* S	**Sn**	**02 21 40.5**	**-0.1**
PTCH	**Petorca**	**2.53**	**171**	*e*P	**Pn**	**02 21 21.0**	**-0.2**
PTCH				*i* S	**Sn**	**02 21 50.0**	**-0.7**
PTCH				AML	AML	02 22 00.1	
	comp=E,3μm,0.2s						
PTCH	**Petorca**	**2.53**	**171**	*e*P	**Pn**	**02 21 21.0**	**-0.2**
PTCH				*i* S	**Sn**	**02 21 50.0**	**-0.7**
CPCH	**Copiapo**	**2.57**	**22**	⇓*i*P	**Pn**	**02 21 21.2**	**-0.6**
CDCH	**Caldera**	**2.73**	**11**	*e*P	**Pn**	**02 21 22.1**	**-1.9**
ZON	**Zonda**	**2.96**	**128**	*e*P	**Pn**	**02 21 27.7**	**+0.7**
JACH	**Jahuel**	**3.00**	**167**	*e*P	**Pn**	**02 21 28.8**	**+1.2**
CFAA	**Coronel Fontan**	**3.30**	**125**	Pn	**Pn**	**02 21 32.9**	**+1.1**
	comp=E,1.5nm,0.3s,baz=314,slow=13,SNR=50						
CFAA				Sn	**Sn**	**02 22 15.5**	**+5.7**
	comp=E,5.0nm,0.3s,baz=56,slow=15,SNR=9.4						
PEL	**Peldehue**	**3.43**	**170**	*e*P	**Pn**	**02 21 34.1**	**+0.5**
PEL				AML	AML	02 22 29.9	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**3.68**	**165**	*e*P	**Pn**	**02 21 39.7**	**+2.6**
FCH				AML	AML	02 22 40.8	
	comp=N,373nm,0.5s						
CLCH	**Cerro Calan**	**3.70**	**168**	*e*P	**Pn**	**02 21 37.6**	**+0.3**
LCCH	**Las Cruces**	**3.70**	**182**	*e*P	**Pn**	**02 21 37.3**	**0.0**
RCDM	**Rinconada Maip**	**3.75**	**172**	⇑*i*P	**Pn**	**02 21 39.2**	**+1.1**
TACH	**Talagante**	**3.90**	**174**	*e*P	**Pn**	**02 21 40.9**	**+0.9**
PCH	**Pirque**	**3.92**	**169**	*i* P	**Pn**	**02 21 41.7**	**+1.4**
LNV	**Longovilo**	**4.18**	**180**	*i* P	**Pn**	**02 21 41.9**	**-2.1**
CHCH	**Chadas Angostu**	**4.21**	**171**	*i* P	**Pn**	**02 21 45.1**	**+0.8**
CACH	**El Canelo**	**4.40**	**171**	*e*P	**Pn**	**02 21 47.6**	**+0.7**
CICH	**Cipreses**	**4.62**	**170**	*i* P	**Pn**	**02 21 51.0**	**+1.0**
SFDO	**San Fernando**	**4.85**	**176**	⇓*e*P	**Pn**	**02 21 52.4**	**-0.7**
LVC	**Limon Verde**	**7.47**	**18**	Pn	**Pn**	**02 22 27.9**	**-1.1**
	comp=N,0.2nm,0.3s,baz=265,slow=18,SNR=3.9						
LVC				Sn	**Sn**	**02 24 10.2**	**+18**
	comp=N,1.2nm,0.3s,baz=4.1,slow=20,SNR=3.8						
PLCA	**Paso Flores**	**10.97**	**177**	Pn	**Pn**	**02 23 10.2**	**-6.7**
	comp=N,0.1nm,0.3s,baz=354,slow=10,SNR=2.2						
PLCA				LR	LR	02 27 34.4	
	comp=N,42nm,18.1s,baz=352,slow=39						
TRQA	**Tornquist**	**11.39**	**139**	*e*Pn	**Pn**	**02 23 22.6**	**-0.1**
	comp=N,8.4nm,0.6s						
CPUP	**Villa Florida**	**12.90**	**78**	Pn	**Pn**	**02 23 43.1**	**-0.3**
	comp=N,0.4nm,0.3s,baz=245,slow=12,SNR=3.6						
SIV	**San Ignacio**	**16.68**	**37**	P	**Pn**	**02 24 33.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=210,slow=7.4,SNR=5.2						
SNAA	**Sanae**	**55.32**	**159**	*e*P	**P**	**02 30 10.7**	**-1.3**
	comp=N,1.8nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**82.28**	**70**	P	**P**	**02 32 58.3**	**-1.3**
	comp=N,0.5nm,0.9s,mb3.4,baz=256,slow=3.3,SNR=7.4						
ZAL	**Zalesovo**	**150.32**	**29**	PKPbc	PKPbc	02 40 28.4	-0.8
	comp=N,1.5nm,0.4s,baz=158,slow=4.3,SNR=3.5						

CSEM ***05*** *02:25:40.7±1.6, 3866N×2856W, h6km±3km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.4km az=79.0, After PDA*
PDA ***05*** *02:25:40.7±1.6, 3866N×2856W, h6km±3km, MD3.3, ML3.0, Error ellipse: s-maj=3.6km s-min=2.4km az=79.0*

SVSA 05 02:25:40.7±1.6, 3866N×2856W, h6km±3km, MD3.3, ML3.0, Error ellipse: s-maj=3.6km s-min=2.4km az=79.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**256**	*i* P	Pg	02 25 43.1	-0.1
PCED				*e*S	Sg	02 25 45.3	+0.4
PCED							
	8μm,0.2s						
PCED	**Cedros**	**0.12**	**256**	*e*S	Sg	02 25 45.3	+0.4
CALA	**Caldeira**	**0.14**	**237**	*i* P	Pg	02 25 43.5	0.0
HOR	**Horta**	**0.14**	**204**	*i* P	Pg	02 25 43.0	-0.6
HOR				*e*S	Sg	02 25 45.5	-0.1
HOR	**Horta**	**0.14**	**204**	*e*S	Sg	02 25 45.5	-0.1
PICO	**Pico**	**0.19**	**146**	*e*P	Pg	02 25 44.0	-0.4
PCND	**Candelaria**	**0.20**	**158**	*i* P	Pg	02 25 44.8	+0.1
PCND				*e*S	Sg	02 25 47.0	-0.4
PTEI	**Pico do Teixo**	**0.23**	**136**	*e*P	Pg	02 25 45.2	+0.1
PTEI				*e*S	Sg	02 25 48.2	+0.1
ROSA	**Rosais**	**0.26**	**76**	*i* P	Pg	02 25 45.4	-0.3
ROSA				*e*S	Sg	02 25 49.1	0.0
ROSA	**Rosais**	**0.26**	**76**	*e*S	Sg	02 25 49.1	0.0
PBOI	**Pico dos Bois**	**0.26**	**147**	*e*P	Pg	02 25 45.5	-0.3
PBOI				*i* S	Sg	02 25 49.1	-0.2
PBOI							
	737nm,0.2s						
PAMA	**Santo Amaro**	**0.30**	**85**	*i* P	Pg	02 25 46.3	-0.2
PAMA				*e*S	Sg	02 25 50.4	0.0
PAMA							
	2μm,0.2s						
PAMA	**Santo Amaro**	**0.30**	**85**	*e*S	Sg	02 25 50.4	0.0
PMAN	**Manadas**	**0.37**	**93**	*i* P	Pg	02 25 46.6	-1.2
PMAN				*e*S	Sg	02 25 52.0	-0.6
PMAN							
	1μm,0.2s						
PMAN	**Manadas**	**0.37**	**93**	*e*S	Sg	02 25 52.0	-0.6
PIED	**Piedade**	**0.46**	**121**	*e*P	Pg	02 25 48.8	-0.8
PLUZ	**Luz**	**0.49**	**318**	*e*P	Pg	02 25 50.6	+0.5
PLUZ				*e*S	Sg	02 25 58.0	+1.5
PLUZ							
	240nm,0.2s						
SRBC	**Serra Branca**	**0.55**	**47**	*e*P	Pg	02 25 49.7	-1.7
PVIA	**Vitoria**	**0.57**	**44**	*e*P	Pg	02 25 50.3	-1.4
PVIA				*e*S	Sg	02 25 57.9	-1.2
PVIA							
	59nm,0.1s						
PGRA	**Graciosa**	**0.58**	**50**	*i* P	Pg	02 25 50.0	-1.9
PGRA				*e*S	Sg	02 25 57.5	-2.0
PGRA							
	562nm,0.2s						
PGRA	**Graciosa**	**0.58**	**50**	*e*S	Sg	02 25 57.5	-2.0
STGR	**Santa Cruz**	**0.60**	**45**	*e*P	Pg	02 25 51.0	-1.4
STGR				*e*S	Sg	02 25 58.9	-1.3
STGR							
	180nm,0.2s						
STGR	**Santa Cruz**	**0.60**	**45**	*e*P	Pg	02 25 51.0	-1.4
STGR				*e*S	Sg	02 25 58.9	-1.3
ASBA	**Santa Barbara**	**0.97**	**86**	*e*P	Pg	02 25 55.6	-3.6
ASBA				*e*S	Sg	02 26 07.0	-4.8
ASBA							
	191nm,0.1s						
ASBA	**Santa Barbara**	**0.97**	**86**	*e*P	Pg	02 25 55.6	-3.6
ASBA				*e*S	Sg	02 26 07.0	-4.8
PSBA	**Serra de Santa**	**0.97**	**83**	*i* P	Pg	02 25 55.0	-4.3
PSBA				*e*S	Sg	02 26 07.0	-4.9
PSBA							
	266nm,0.2s						
PPAD	**Pico dos Padre**	**0.99**	**87**	*e*P	Pg	02 25 56.0	-3.8
PPAD				*e*S	Sg	02 26 08.0	-4.7
PPAD							
	143nm,0.1s						
PPAD	**Pico dos Padre**	**0.99**	**87**	*e*P	Pg	02 25 56.0	-3.8
PPAD				*e*S	Sg	02 26 08.0	-4.7
PBIS	**Biscoitos**	**1.03**	**84**	*e*P	Pg	02 25 56.4	-4.0
PBIS				*e*S	Sg	02 26 08.3	-5.4
PBIS							
	108nm,0.2s						
PBIS	**Biscoitos**	**1.03**	**84**	*e*P	Pg	02 25 56.4	-4.0
PBIS				*e*S	Sg	02 26 08.3	-5.4
ADH	**Angra Heroismo**	**1.03**	**90**	*e*P	Pg	02 25 55.5	-5.1
ADH				*e*S	Sg	02 26 08.5	-5.5
RIB2	**Ribeirinha**	**1.08**	**89**	*e*P	Pg	02 25 57.1	-4.4
RIB2				*e*S	Sg	02 26 09.6	-6.0
RIB2							
	237nm,0.2s						
RIB2	**Ribeirinha**	**1.08**	**89**	*e*P	Pg	02 25 57.1	-4.4
RIB2				*e*S	Sg	02 26 09.6	-6.0
PVNV	**Vila Nova**	**1.10**	**84**	*e*P	Pg	02 25 57.5	-4.3
PVNV				*e*S	Sg	02 26 10.6	-5.5
PVNV							
	46nm,0.1s						
PVNV	**Vila Nova**	**1.10**	**84**	*e*P	Pg	02 25 57.5	-4.3
PVNV				*e*S	Sg	02 26 10.6	-5.5
PFAV	**Pico das Favas**	**1.15**	**87**	*e*P	Pg	02 25 58.2	-4.6
PFAV				*e*S	Sg	02 26 11.8	-6.0
PFAV							
	79nm,0.2s						
PFAV	**Pico das Favas**	**1.15**	**87**	*e*P	Pg	02 25 58.2	-4.6
PFAV				*e*S	Sg	02 26 11.8	-6.0
SET4	**Mosteiros**	**2.31**	**109**	*e*P	Pn	02 26 14.7	-4.5
SET2	**Ginetes**	**2.31**	**110**	*e*P	Pn	02 26 14.6	-4.7
SET2				*e*S	Sn	02 26 40.7	-7.3
PFET	**Feteiras**	**2.33**	**110**	*e*P	Pn	02 26 14.6	-5.0
PFET				*e*S	Sn	02 26 40.6	-8.0
PSAN	**Santo Antonio**	**2.37**	**109**	*e*P	Pn	02 26 15.7	-4.3
PSAN				*e*S	Sn	02 26 41.2	-8.2
FAC	**Faja de Cima**	**2.45**	**110**	*e*P	Pn	02 26 16.7	-4.5
FAC				*e*S	Sn	02 26 43.2	-8.3
CML	**Cha da Macela**	**2.53**	**110**	*e*P	Pn	02 26 17.9	-4.4
CML				*e*S	Sn	02 26 45.3	-8.1
PVER	**Pico Vermelho**	**2.54**	**109**	*e*S	Sn	02 26 46.5	-7.2
PVER							
	16nm,0.2s						
CMLA	**Cha da Macela**	**2.55**	**110**	*e*P	Pn	02 26 17.7	-4.8
CMLA				*e*S	Sn	02 26 45.9	-8.0
CMLA							
	64nm,0.3s						
CMLA	**Cha da Macela**	**2.55**	**110**	*e*P	Pn	02 26 17.7	-4.8
CMLA				*e*S	Sn	02 26 45.9	-8.0
PMAT	**Coroa da Mata**	**2.57**	**108**	*e*P	Pn	02 26 18.1	-4.7
PMAT				*e*S	Sn	02 26 46.7	-7.7
PMAT							
	23nm,0.2s						
PMAT	**Coroa da Mata**	**2.57**	**108**	*e*P	Pn	02 26 18.1	-4.7
PMAT				*e*S	Sn	02 26 46.7	-7.7
LFA	**Lagoa do Fogo**	**2.58**	**109**	*e*P	Pn	02 26 18.5	-4.4
PRCH	**Ribeira Ch**	**2.59**	**110**	*e*S	Sn	02 26 47.3	-7.7
PRCH							
	29nm,0.2s						
VIF	**Vila Franca**	**2.62**	**109**	*e*S	Sn	02 26 48.9	-6.7
VIF							
	16nm,0.2s						
PCNG	**Congro**	**2.64**	**109**	*e*S	Sn	02 26 49.8	-6.4
PCNG							
	16nm,0.1s						
PFAD	**Fenais da Ajud**	**2.67**	**107**	*e*S	Sn	02 26 49.1	-7.8
FRA1	**Furnas**	**2.68**	**109**	*e*S	Sn	02 26 48.9	-8.2
MIRA	**Miradouro**	**2.72**	**108**	*e*P	Pn	02 26 20.6	-4.3
MIRA				*e*S	Sn	02 26 50.4	-7.8
PSMN	**Pico do Norte,**	**3.22**	**120**	*e*P	Pn	02 26 27.4	-4.3
PSMN				*e*S	Sn	02 27 01.4	-9.0

ISCJB ***05*** *02:35:50.7±0.3, 6180N±003×15162W±007, h98km, mb4.2/43, Error ellipse: s-maj=5.4km s-min=3.7km az=88.8*
BJI ***05*** *02:35:50.3, 6208N×152.44W, h64km, mB4.7, mb4.7, Ms4.7, Msz4.4*
IDC ***05*** *02:35:51.4±0.7, 6164N×15199W, h100km±5km, mb3.9/14, mb1 4.1/16, mb1mx4.1/21, mbtmp4.3/16, MS2.8/2, Ms1 2.8/2, ms1mx2.5/25, Error ellipse: s-maj=15.1km s-min=9.6km az=78.0*
NEIC ***05*** *02:35:52.5, 6172N×15160W, h90km, mb4.3/30, After AEIC.*
NEIC Felt at Anchorage and Talkeetna.

ISC 05 02:35:52.0±0.3, 6179N±003×15163W±007, h100km, h100km±1.2km: pP-P, n105, σ1§19/108, mb4.2/43, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.94**	**131**	P	**Pn**	**02 36 11.7**	**0.0**
FIB				S	**Sn**	**02 36 26.2**	**-0.3**
RC01	**Rabbit Creek A**	**1.15**	**127**	P	**Pn**	**02 36 12.4**	**-1.6**
RC01				S	**Sn**	**02 36 29.5**	**-1.1**
PMR	**Palmer**	**1.21**	**98**	P	**Pn**	**02 36 13.3**	**-1.4**
PMR				S	**Sn**	**02 36 30.3**	**-1.5**
GHO	**Glory Hole Cre**	**1.28**	**90**	P	**Pn**	**02 36 14.8**	**-0.8**
SLKM	**Skilak Lake**	**1.46**	**152**	P	**Pn**	**02 36 16.0**	**-1.7**
KNK	**Knik Glacier**	**1.56**	**103**	P	**Pn**	**02 36 17.7**	**-1.3**
TRF	**Thorofare Moun**	**1.78**	**20**	P	**Pn**	**02 36 22.2**	**+0.6**
KTH	**Kantishna Hill**	**1.80**	**10**	P	**Pn**	**02 36 22.4**	**+0.5**
SEW	**Seward**	**2.00**	**147**	P	**Pn**	**02 36 23.2**	**-1.3**
SVW2	**Sparrevohn**	**2.02**	**252**	P	**Pn**	**02 36 23.6**	**-1.2**
MCK	**McKinley**	**2.31**	**31**	P	**Pn**	**02 36 28.8**	**+0.3**
TT01	**Tatalina**	**2.33**	**301**	P	**Pn**	**02 36 28.3**	**-0.5**
AUL	**Augustine Lava**	**2.58**	**201**	P	**Pn**	**02 36 31.4**	**-0.6**
DIV	**Divide**	**2.89**	**101**	P	**Pn**	**02 36 34.1**	**-2.1**
EYAK	**Cordova Ski Ar**	**3.11**	**111**	P	**Pn**	**02 36 36.8**	**-2.3**
BMRM	**Bremner River**	**3.48**	**101**	P	**Pn**	**02 36 41.7**	**-2.4**
MID	**Middleton Isla**	**3.52**	**130**	*e*P	**Pn**	**02 36 43.8**	**-0.9**
COLA	**College**	**3.53**	**27**	P	**Pn**	**02 36 44.6**	**-0.2**
RAGM	**Ragged Mountai**	**3.66**	**110**	P	**Pn**	**02 36 44.6**	**-1.9**
MENT	**Mentasta**	**3.86**	**69**	*e*P	**Pn**	**02 36 49.1**	**-0.1**
DOT	**Dot Lake**	**3.95**	**59**	P	**Pn**	**02 36 50.3**	**-0.2**
KDAK	**Kodiak Island**	**4.05**	**187**	P	**Pn**	**02 36 48.9**	**-2.9**
	3.7nm,0.3s,baz=27,slow=11,SNR=58						
KDAK				S	**Sn**	**02 37 31.8**	**-6.4**
	27nm,0.3s,baz=176,slow=22,SNR=17						
KDAK	**Kodiak Island**	**4.05**	**187**	P	**Pn**	**02 36 50.6**	**-1.2**
IMA2	**Indian Mountai**	**4.39**	**349**	P	**Pn**	**02 36 56.6**	**+0.2**
COLD	**Coldfoot**	**5.49**	**6**	P	**Pn**	**02 37 11.2**	**-0.2**
EGAK	**Eagle**	**5.59**	**53**	P	**Pn**	**02 37 12.3**	**-0.4**
DAWY	**Dawson**	**6.03**	**62**	P	**Pn**	**02 37 18.4**	**-0.3**
CHGN	**Chignik**	**6.52**	**215**	*e*P	**Pn**	**02 37 24.1**	**-1.2**
WHY	**Whitehorse**	**8.16**	**91**	P	**Pn**	**02 37 46.3**	**-1.3**
SKAG	**Skagway**	**8.34**	**99**	*e*P	**Pn**	**02 37 49.4**	**-0.7**
INK	**Inuvik**	**10.02**	**42**	P	**Pn**	**02 38 12.4**	**-0.5**
	5.5nm,0.3s,baz=248,slow=16,SNR=89						
INK				S	**Sn**	**02 39 59.9**	**-3.5**
	0.3nm,0.3s,baz=347,slow=14,SNR=2.4						
INK				LR	LR	02 42 33.2	
	comp=Z,40nm,21.0s,baz=189,slow=39						
INK	**Inuvik**	**10.02**	**42**	*e*Pn	**Pn**	**02 38 12.2**	**-0.8**
	3μm,1.0s						
BBB	**Bella Bella**	**15.93**	**116**	P	**Pn**	**02 39 28.2**	**-2.1**
	0.1nm,0.3s,baz=327,slow=17,SNR=2.0						
BBB				S	**S**	**02 42 21.9**	**-12**
	0.2nm,0.3s,baz=60,slow=20,SNR=2.7						
BBB	**Bella Bella**	**15.93**	**116**	P	**Pn**	**02 39 28.2**	**-2.1**
BBB				S	**S**	**02 42 21.9**	**-12**
YKA	**Yellowknife Ar**	**17.17**	**71**	P	**Pn**	**02 39 45.3**	**-0.2**
	0.8nm,0.3s,baz=283,slow=11,SNR=14						
YKA				ScP	ScP	02 47 47.9	-1.6
	0.1nm,0.3s,baz=273,slow=2.1,SNR=5.7						
YKA	**Yellowknife Ar**	**17.17**	**71**	P	**Pn**	**02 39 45.3**	**-0.2**
YKA				ScP	ScP	02 47 47.9	-1.6
EDM	**Edmonton**	**21.97**	**95**	*e*P	**P**	**02 40 38.1**	**+0.5**
NEW	**Newport**	**23.61**	**109**	P	**P**	**02 40 54.0**	**+0.2**
	4.7nm,1.0s,mb3.8,baz=272,slow=5.6,SNR=4.4						
NEW	**Newport**	**23.61**	**109**	*e*P	**P**	**02 40 54.9**	**+1.1**
	2.4nm,0.6s,mb3.7						
WALA	**Waterton Lakes**	**24.50**	**104**	*e*P	**P**	**02 41 02.8**	**+0.9**
	8.8nm,1.2s,mb4.0						
BMO	**Blue Mountains**	**26.15**	**115**	*e*P	**P**	**02 41 17.5**	**+0.7**
	1.4nm,0.9s,mb3.4						
EGMT	**Eagleton**	**27.17**	**101**	*e*P	**P**	**02 41 26.5**	**+0.6**
	9.7nm,0.8s,mb4.4						
EGMT				*e*pP	pP	02 41 48.1	+0.1
WVOR	**Wild Horse Val**	**27.55**	**119**	*e*P	**P**	**02 41 30.8**	**+1.4**
	2.1nm,0.8s,mb3.7						
FCC	**Fort Churchill**	**27.89**	**70**	*e*P	**P**	**02 41 33.2**	**+0.8**
	22nm,0.7s,mb4.8						
HLID	**Hailey**	**28.44**	**113**	*e*P	**P**	**02 41 38.6**	**+1.3**
	1.4nm,0.7s,mb3.6						
TPAW	**Teton Pass**	**30.04**	**109**	*e*P	**P**	**02 41 53.3**	**+1.9**
	2.3nm,0.7s,mb3.9						
TPAW				*e*pP	pP	02 42 15.6	+1.9
LOHW	**Long Hollow**	**30.10**	**108**	*e*P	**P**	**02 41 53.4**	**+1.5**
	1.5nm,0.8s,mb3.7						
LOHW				*e*pP	pP	02 42 16.9	+2.6
NVAR	**Mina Array Bea**	**31.08**	**123**	P	**P**	**02 42 02.1**	**+1.5**
	1.3nm,0.6s,mb3.8,baz=310,slow=9.9,SNR=11						
NVAR				pP	pP	02 42 24.4	+1.5
	0.2nm,0.3s,baz=6.3,slow=40,SNR=2.5						
NVAR				ScP	ScP	02 48 28.2	+0.7
	0.5nm,0.7s,baz=289,slow=4.2,SNR=4.2						
NVAR	**Mina Array Bea**	**31.08**	**123**	P	**P**	**02 42 02.1**	**+1.5**
NVAR				pP	pP	02 42 24.4	+1.5
NVAR				ScP	ScP	02 48 28.2	+0.7
BW06	**Boulder Array**	**31.23**	**108**	*e*P	**P**	**02 42 03.5**	**+1.5**
	1.1nm,0.4s,mb3.9						
PDAR	**Pinedale Array**	**31.23**	**108**	P	**P**	**02 42 03.4**	**+1.5**
	0.8nm,0.5s,mb3.7,baz=327,slow=4.0,SNR=11						
PDAR				pP	pP	02 42 26.3	+1.9
	0.8nm,0.7s,baz=324,slow=7.3,SNR=3.5						
PDAR				ScP	ScP	02 48 26.8	-1.3
	0.4nm,0.6s,baz=71,slow=2.1,SNR=4.5						
HWUT	**Hardware Ranch**	**31.26**	**112**	*e*P	**P**	**02 42 03.5**	**+1.3**
	2.3nm,0.9s,mb3.9						
ULM	**Lac du Bonnet**	**32.19**	**85**	P	**P**	**02 42 10.9**	**+0.6**
	10nm,0.6s,mb4.8,baz=306,slow=9.0,SNR=21						
ULM				LR	LR	02 55 09.2	
	comp=Z,25nm,19.8s,baz=308,slow=36						
ULM	**Lac du Bonnet**	**32.19**	**85**	*e*P	**P**	**02 42 10.9**	**+0.5**
	13nm,0.7s,mb4.8						
RSSD	**Black Hills**	**32.73**	**100**	*e*P	**P**	**02 42 16.6**	**+1.6**
	4.4nm,0.6s,mb4.5						
RSSD				*e*pP	pP	02 42 38.6	+1.0
MSU	**Marysvale**	**33.54**	**116**	*e*P	**P**	**02 42 24.4**	**+2.2**
MSU				*e*pP	pP	02 42 47.7	+3.0
SRU	**San Rafael**	**33.76**	**113**	*e*P	**P**	**02 42 26.2**	**+2.2**
	7.5nm,1.0s,mb4.5						
SRU				*e*pP	pP	02 42 48.7	+2.1
PV01	**Paradox Valley**	**35.43**	**112**	*e*P	**P**	**02 42 40.0**	**+1.6**
PV01				*e*pP	pP	02 43 01.8	+0.7
WUAZ	**Wupatki**	**36.42**	**117**	*e*P	**P**	**02 42 49.2**	**+2.4**
	2.6nm,0.8s,mb4.2						
WUAZ				*e*pP	pP	02 43 11.9	+2.3
ECSD	**EROS,Sioux Fal**	**36.52**	**94**	*e*P	**P**	**02 42 48.1**	**+0.4**
SDCO	**Great Sand Dun**	**37.11**	**109**	*e*P	**P**	**02 42 54.6**	**+1.9**
	1.3nm,1.0s,mb3.8						
SUMG	**Summit**	**38.49**	**26**	*e*P	**P**	**02 43 05.0**	**+0.7**
	5.1nm,0.6s,mb4.5						
KSU1	**Kansas State U**	**40.12**	**98**	*e*P	**P**	**02 43 18.6**	**+0.7**
KSU1				*e*pP	pP	02 43 41.3	+0.3
SCHQ	**Schefferville**	**42.04**	**59**	P	**P**	**02 43 33.7**	**0.0**
	5.0nm,0.6s,mb4.4,baz=314,slow=8.3,SNR=17						
SCHQ	**Schefferville**	**42.04**	**59**	P	**P**	**02 43 33.7**	**0.0**
MNTX	**Cornudas Mount**	**42.25**	**114**	*e*P	**P**	**02 43 37.2**	**+1.9**
	1.6nm,0.6s,mb3.9						
MNTX				*e*pP	pP	02 43 59.7	+1.2
WMOK	**Wichita Mounta**	**42.66**	**104**	*e*P	**P**	**02 43 39.5**	**+0.9**
	4.8nm,0.8s,mb4.3						
WMOK				*e*pP	pP	02 44 02.1	+0.2
WCI	**Wyandotte Cave**	**45.70**	**90**	*e*P	**P**	**02 44 03.1**	**+0.3**
	3.9nm,0.6s,mb4.3						
JCT	**Junction City**	**45.76**	**109**	*e*P	**P**	**02 44 04.6**	**+1.2**
	12nm,0.6s,mb4.8						
OXF	**Oxford**	**47.22**	**96**	*e*P	**P**	**02 44 15.5**	**+0.7**
	28nm,0.8s,mb5.0						
HKT	**Hockley**	**48.02**	**105**	*e*P	**P**	**02 44 22.5**	**+1.6**
	7.4nm,1.3s,mb4.4						
KEV	**Kevo**	**48.74**	**1**	*e*p	**P**	**02 44 23.9**	**-2.5**
	1.1nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**48.95**	**1**	P	**P**	**02 44 26.8**	**-1.3**
	1.9nm,0.6s,mb4.2,baz=0.6,slow=6.9,SNR=20						
ARCES				PcP	PcP	02 45 50.0	-0.8
	1.6nm,0.7s,baz=338,slow=2.9,SNR=5.4						
ARCES	**ARCESS Array B**	**48.95**	**1**	P	**P**	**02 44 26.8**	**-1.3**
ARCES				PcP	PcP	02 45 50.0	-0.8
ELN	**Prospectdale**	**49.13**	**86**	*e*P	**P**	**02 44 29.7**	**+0.3**
ELN				*e*pP	pP	02 44 53.5	+0.2
SONM	**Songino Array**	**54.28**	**306**	P	**P**	**02 45 08.2**	**+0.4**

*ISCJB **05** 02:47:00.6±0.5, 2432S×003×6700W±005, h170km±5km, mb4.0/29, Error ellipse: s-maj=8.2km s-min=5.6km az=170.5*
*NEIC **05** 02:47:01.8±0.5, 2425S×6696W, h166km±5km, mb4.1/27, Error ellipse: s-maj=7.7km s-min=5.7km az=78.0*
*IDC **05** 02:47:02.1±1.0, 2417S×6693W, h171km±9km, mb3.7/9, mb1 3.8/15, mb1mx3.8/20, mbtmp4.2/15, Error ellipse: s-maj=13.9km s-min=12.0km az=55.0*
*GUC **05** 02:47:05.1±0.5, 2433S×6766W, h220km±81km, ML4.9*
ISC 05 02:47:01.6±0.5, 2435S±003×6701W±005, h164km±5km, n68, σ1§07/76, mb4.0/29, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.46**	**314**	P		**Pn**	**02 47 45.0**	**+2.1**
	143nm,0.3s,baz=134,slow=6.1,SNR=1215						
LVC				S		**Sn**	**02 48 15.4**	**+0.6**
	171nm,0.3s,baz=36,slow=23,SNR=6.3						
LVC	**Limon Verde**	**2.46**	**314**	*e*Pn		**Pn**	**02 47 44.7**	**+1.8**
LVC				*e*Sn		**Sn**	**02 48 15.6**	**+0.8**
CEN1	**Los Morros**	**3.07**	**288**	⇓*i*P		**Pn**	**02 47 52.6**	**+2.1**
CEN1				*i* S		**Sn**	**02 48 28.7**	**+0.4**
CEN1				AML		AML	02 48 32.0	
	comp=E,2μm,0.5s						
ANCH	**Antofagasta**	**3.18**	**281**	⇑*i*P		**Pn**	**02 47 53.0**	**+1.2**
ANCH				*i* S		**Sn**	**02 48 29.1**	**-1.6**
ANCH				AML		AML	02 48 33.2	
	comp=N,4μm,0.6s						
ANCH	**Antofagasta**	**3.18**	**281**	⇑*i*P		**Pn**	**02 47 53.0**	**+1.2**
ANCH				*i* S		**Sn**	**02 48 29.1**	**-1.6**
CPCH	**Copiapo**	**4.25**	**224**	*e*P		**Pn**	**02 48 05.3**	**0.0**
CPCH				*i* S		**Sn**	**02 48 53.7**	**-1.4**
CDCH	**Caldera**	**4.38**	**231**	*e*P		**Pn**	**02 48 06.5**	**-0.6**
CDCH				*i* S		**Sn**	**02 48 55.7**	**-2.6**
TLL	**Tololo Astrono**	**6.70**	**209**	*e*P		**Pn**	**02 48 38.3**	**+0.6**
TLL				*i* S		**Sn**	**02 49 53.0**	**-0.3**
CFAA	**Coronel Fontan**	**7.31**	**188**	P		**Pn**	**02 48 47.3**	**+1.6**
	comp=N,0.2nm,0.3s,baz=2.1,slow=12,SNR=21						
CFAA				S		**Sn**	**02 50 05.2**	**-2.4**
	comp=N,0.8nm,0.3s,baz=271,slow=22,SNR=15						
LPAZ	**La Paz**	**8.09**	**352**	P		**Pn**	**02 48 56.7**	**+0.6**
	comp=N,3.5nm,0.3s,baz=168,slow=8.4,SNR=116						
LPAZ				S		**Sn**	**02 50 22.5**	**-4.0**
	comp=N,0.4nm,0.3s,baz=249,slow=22,SNR=3.7						
LPAZ	**La Paz**	**8.09**	**352**	*e*Pn		**Pn**	**02 48 56.4**	**+0.3**
	comp=N,7.9nm,0.4s						
LPAZ				*e*Sn		**Sn**	**02 50 18.3**	**-8.2**
ARE	**Arequipa**	**8.90**	**331**	*e*P		**Pn**	**02 49 07.0**	**+0.2**
ARE				*e*S		**Sn**	**02 50 39.0**	**-6.9**
CPUP	**Villa Florida**	**8.98**	**105**	P		**Pn**	**02 49 08.1**	**+0.3**
	comp=N,0.5nm,0.3s,baz=277,slow=12,SNR=7.2						
CPUP	**Villa Florida**	**8.98**	**105**	*e*Pn		**Pn**	**02 49 08.2**	**+0.4**
	comp=N,21nm,0.5s						
SIV	**San Ignacio**	**10.01**	**35**	P		**Pn**	**02 49 20.0**	**-1.5**
	comp=N,3.6nm,0.3s,baz=217,slow=13,SNR=107						
SIV				S		**Sn**	**02 51 06.4**	**-6.1**
	comp=N,0.2nm,0.3s,baz=231,slow=16,SNR=2.8						
TRQA	**Tornquist**	**14.32**	**164**	*e*Pn		**Pn**	**02 50 20.9**	**+4.1**
	comp=N,8.5nm,0.7s						
SAML	**Samuel**	**15.75**	**14**	*e*Pn		**Pn**	**02 50 32.6**	**-1.8**
	comp=N,3.7nm,0.8s						
PLCA	**Paso Flores**	**16.60**	**189**	P		**Pn**	**02 50 45.9**	**+1.0**
	comp=N,0.1nm,0.3s,baz=340,slow=13,SNR=3.6						
PLCA	**Paso Flores**	**16.60**	**189**	*e*P		**Pn**	**02 50 47.8**	**+3.0**
	comp=N,5.3nm,0.8s						
BDFB	**Brasilia**	**19.83**	**68**	P		**P**	**02 51 19.3**	**-0.3**
	comp=N,1.1nm,0.3s,baz=249,slow=10.0,SNR=43						
VNA3	**Neumayer Olymp**	**56.82**	**161**	*e*PKPdf		**P**	**02 56 28.6**	**-0.2**
VNA3				*e*			02 56 35.6	
VNA1	**Neumayer--Stat**	**57.02**	**160**	*e*PKPdf		**P**	**02 56 31.2**	**+1.0**
VNA1				*e*			02 56 39.6	
SNAA	**Sanae**	**59.02**	**161**	*e*P		**P**	**02 56 44.3**	**+0.2**
	comp=N,2.2nm,0.8s,mb4.0						
ELN	**Prospectdale**	**62.60**	**348**	*e*P		**P**	**02 57 07.8**	**-0.5**
JCT	**Junction City**	**62.94**	**328**	*e*P		**P**	**02 57 09.9**	**-0.6**
	comp=N,5.7nm,0.7s,mb4.5						
WVT	**Waverly**	**63.29**	**341**	*e*P		**P**	**02 57 10.8**	**-2.0**
	comp=N,9.5nm,0.9s,mb4.6						
WCI	**Wyandotte Cave**	**64.83**	**343**	*e*P		**P**	**02 57 20.5**	**-2.3**
	comp=N,7.9nm,0.6s,mb4.7						
WMOK	**Wichita Mounta**	**66.05**	**332**	*e*P		**P**	**02 57 29.1**	**-1.5**
	comp=N,1.2nm,0.6s,mb3.9						
MNTX	**Cornudas Mount**	**66.73**	**325**	*e*P		**P**	**02 57 33.9**	**-1.0**
	comp=N,3.5nm,0.9s,mb4.2						
DBIC	**Dimbokro**	**67.92**	**71**	P		**P**	**02 57 42.1**	**-0.4**
	comp=N,0.7nm,0.4s,mb3.8,baz=225,slow=8.6,SNR=3.0						
LAZ	**Ladron**	**69.76**	**325**	*e*P		**P**	**02 57 54.7**	**+0.9**
ANMO	**Albuquerque**	**69.84**	**326**	*e*P		**P**	**02 57 54.7**	**+0.4**
	comp=N,3.1nm,0.9s,mb4.0						
TUC	**Tucson**	**70.15**	**321**	*e*P		**P**	**02 57 56.9**	**+0.7**
	comp=N,2.3nm,1.0s,mb3.9						
SDCO	**Great Sand Dun**	**71.58**	**329**	*e*P		**P**	**02 58 05.4**	**+0.5**
	comp=N,3.8nm,0.8s,mb4.2						
MVCO	**Mesa Verde**	**72.63**	**326**	*e*P		**P**	**02 58 11.6**	**+0.5**
SYO	**Syowa Base**	**73.23**	**159**	⇑*e*P		**P**	**02 58 14.8**	**+0.2**
SMCO	**Snowmass**	**73.42**	**329**	*e*P		**P**	**02 58 16.8**	**+1.0**
	comp=N,4.7nm,1.0s,mb4.2						
VNDA	**Vanda**	**74.35**	**190**	P		**P**	**02 58 21.7**	**+0.6**
	comp=N,0.9nm,0.9s,mb3.5,baz=167,slow=7.3,SNR=3.7						
VNDA	**Vanda**	**74.35**	**190**	*e*P		**P**	**02 58 21.5**	**+0.4**
	comp=N,2.0nm,1.2s,mb3.7						
SRU	**San Rafael**	**75.11**	**326**	*e*P		**P**	**02 58 25.8**	**+0.3**
CCUT	**Cedar City**	**75.43**	**324**	*e*P		**P**	**02 58 29.0**	**+1.6**
MSU	**Marysvale**	**75.51**	**325**	*e*P		**P**	**02 58 28.7**	**+0.9**
ARUT	**Antelope Range**	**75.65**	**324**	*e*P		**P**	**02 58 30.3**	**+1.8**
RSSD	**Black Hills**	**76.11**	**333**	*e*P		**P**	**02 58 30.6**	**-0.6**
	comp=N,2.8nm,0.9s,mb3.9						
TOA0	**Torodi Ar. Sit**	**76.70**	**69**	*e*P		**P**	**02 58 34.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P		**P**	**02 58 33.9**	**-0.6**
	comp=N,1.7nm,0.5s,mb3.9,baz=260,slow=5.4,SNR=48						
DUG	**Dugway**	**77.09**	**326**	*e*P		**P**	**02 58 36.9**	**+0.3**
	comp=N,2.0nm,1.0s,mb3.7						
BW06	**Boulder Array**	**77.44**	**329**	*e*P		**P**	**02 58 38.3**	**-0.3**
	comp=N,0.8nm,0.4s,mb3.7						
PDAR	**Pinedale Array**	**77.44**	**329**	P		**P**	**02 58 37.8**	**-0.9**
	comp=N,0.9nm,0.8s,mb3.5,baz=132,slow=7.4,SNR=8.3						
HWUT	**Hardware Ranch**	**77.52**	**327**	*e*P		**P**	**02 58 39.1**	**+0.1**
	comp=N,3.1nm,0.8s,mb4.0						
SNOW	**Snow King Moun**	**78.54**	**329**	*e*P		**P**	**02 58 44.3**	**-0.4**
	comp=N,5.5nm,0.9s,mb4.2						
ULM	**Lac du Bonnet**	**78.56**	**342**	P		**P**	**02 58 43.1**	**-1.7**
	comp=N,2.6nm,0.6s,mb4.1,baz=156,slow=5.4,SNR=8.2						
ULM	**Lac du Bonnet**	**78.56**	**342**	*e*P		**P**	**02 58 43.0**	**-1.8**
	comp=N,4.2nm,0.7s,mb4.2						
LOHW	**Long Hollow**	**78.58**	**329**	*e*P		**P**	**02 58 45.0**	**+0.1**
	comp=N,2.9nm,0.7s,mb4.0						
TPAW	**Teton Pass**	**78.65**	**329**	*e*P		**P**	**02 58 45.3**	**0.0**
	comp=N,5.0nm,1.1s,mb4.1						
MOOW	**Moose Ponds**	**78.75**	**329**	*e*P		**P**	**02 58 45.7**	**-0.1**
	comp=N,1.5nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**78.81**	**321**	P		**P**	**02 58 46.4**	**+0.3**
	comp=N,0.5nm,0.5s,mb3.4,baz=170,slow=6.1,SNR=7.3						
SCHQ	**Schefferville**	**78.86**	**0**	P		**P**	**02 58 44.2**	**-2.2**
	comp=N,1.1nm,0.5s,mb3.8,baz=195,slow=16,SNR=3.4						
HLID	**Hailey**	**80.38**	**327**	*e*P		**P**	**02 58 55.3**	**+0.7**
	comp=N,9.1nm,1.0s,mb4.4						
MCMT	**McKenzie Canyo**	**80.56**	**329**	*e*P		**P**	**02 58 56.5**	**+0.9**
BOSA	**Boshof**	**80.58**	**117**	P		**P**	**02 58 56.4**	**+0.7**
	comp=N,1.6nm,0.7s,mb3.7,baz=202,slow=9.0,SNR=3.7						
MAW	**Mawson**	**81.10**	**163**	P		**P**	**02 58 58.5**	**+0.1**
	comp=N,1.4nm,0.8s,mb3.6,baz=224,slow=6.2,SNR=6.7						
LBTB	**Lobatse**	**82.25**	**114**	*e*P		**P**	**02 59 05.7**	**+1.2**
	comp=N,2.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**131.31**	**207**	PKP		PKPdf	03 05 54.8	+0.6
	comp=N,0.8nm,0.6s,baz=170,slow=1.5,SNR=5.5						
ZRNK	**Zerenda**	**136.35**	**38**	*e*PKPdf		PKPdf	03 06 03.7	+0.1
ZAL	**Zalesovo**	**143.71**	**28**	PKP		PKPdf	03 06 15.0	-1.9
	comp=N,2.4nm,0.3s,baz=82,slow=2.8,SNR=5.8						
ZAL	**Zalesovo**	**143.71**	**28**	PKP		PKPdf	03 06 15.0	-1.9
MKAR	**Makanchi Array**	**146.80**	**40**	PKP		PKPdf	03 06 21.5	-0.8
	comp=N,2.6nm,0.5s,baz=7.1,slow=1.9,SNR=20						
MKAR				PKPbc		PKPbc	03 06 24.0	-0.3
	comp=N,2.6nm,0.5s,baz=305,slow=3.3,SNR=18						

*MOS **05** 02:49:09.1±0.8, 542N×12688E, h107km, mb4.7/12, Error ellipse: s-maj=26.9km s-min=10.4km az=123.0*
*ISCJB **05** 02:49:10.7±1.0, 544N±006×1270E±0.1, h122km±8km, mb4.5/39, Error ellipse: s-maj=19.9km s-min=6.8km az=133.5*
*IDC **05** 02:49:10.3±3.4, 548N×12693E, h105km±29km, mb4.0/14, mb1 4.1/14, mb1mx4.0/19, mbtmp4.3/14, Error ellipse: s-maj=35.9km s-min=12.0km az=68.0*

*BJI **05** 02:49:10.2, 526N×12671E, h120km, mB4.9, mb4.6*
*NEIC **05** 02:49:11.2±1.1, 553N×12706E, h115km±9km, mb4.5/12, Error ellipse: s-maj=17.0km s-min=5.8km az=66.0*
ISC 05 02:49:11.9±1.1, 547N±006×1270E±01, h116km±8km, n74, σ0§88/74, mb4.5/39, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.13**	**318**	⇓*i*P		**Pn**	**02 49 47.5**	**+0.7**
DAV	**Davao City (W)**	**2.13**	**318**	*e*Pn		**Pn**	**02 49 45.6**	**-1.2**
DAV				*e*Sn		**Sn**	**02 50 13.0**	**-0.6**
KSM	**Kuching**	**17.14**	**257**	*e*P		**Pn**	**02 53 05.3**	**+1.2**
KAKA	**Kakadu**	**18.85**	**163**	*e*P		**P**	**02 53 22.5**	**-0.4**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.46**	**183**	*e*P		**P**	**02 54 11.7**	**+0.8**
	7.5nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.46**	**183**	P		**P**	**02 54 11.7**	**+0.8**
	2.5nm,0.5s,mb3.8,baz=25,slow=13,SNR=11						
WRAB	**Tennant Creek**	**26.26**	**164**	*i* P		**P**	**02 54 36.3**	**+0.1**
WRA	**Warramunga Arr**	**26.27**	**164**	P		**P**	**02 54 35.5**	**-0.8**
	6.8nm,0.6s,mb4.2,baz=340,slow=10,SNR=23						
WRA				ScP		ScP	03 01 30.3	+1.6
	0.6nm,0.8s,baz=339,slow=3.0,SNR=5.7						
WB2	**Warramunga Arr**	**26.27**	**164**	*e*P		**P**	**02 54 36.7**	**+0.4**
NJ2	**Nanjing**	**27.52**	**345**	*e*P		**P**	**02 54 48.1**	**+0.6**
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb4.8						
PSI	**Prapat**	**28.14**	**266**	P		**P**	**02 54 52.0**	**-1.0**
	comp=Z,8.3nm,0.7s,mb4.4,baz=112,slow=5.7,SNR=8.4						
AS31	**Alice Springs**	**29.73**	**167**	*e*P		**P**	**02 55 07.2**	**+0.1**
ASAR	**Alice Springs**	**29.73**	**167**	P		**P**	**02 55 06.8**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.6,baz=344,slow=6.6,SNR=16						
ASAR				PcP		PcP	02 58 08.7	+0.4
	comp=Z,1.0nm,0.5s,baz=346,slow=2.2,SNR=7.7						
ASPA	**Alice Springs**	**29.73**	**167**	*e*P		**P**	**02 55 07.2**	**+0.1**
CHTO	**Chiang Mai**	**30.41**	**298**	*e*P		**P**	**02 55 12.7**	**-0.4**
CHTO				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
CHTO	**Chiang Mai**	**30.41**	**298**	*e*P		**P**	**02 55 12.7**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.3						
CD2	**Chengdu**	**33.43**	**322**	*e*P		**P**	**02 55 40.8**	**+1.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
FORT	**Forrest**	**36.06**	**178**	*e*P		**P**	**02 56 03.1**	**+1.0**
	comp=Z,6.6nm,0.5s,mb4.8						
LZH	**Lanzhou**	**37.16**	**328**	*e*P		**P**	**02 56 12.5**	**+1.0**
LZH				AMB		AMB		
	comp=Z,36nm,1.3s,mb5.1						
LZH	**Lanzhou**	**37.16**	**328**	*e*P		**P**	**02 56 12.5**	**+1.0**
	comp=Z,36nm,1.3s,mb5.1						
LZH				pP		pP	02 56 16.8	-21
LZH				sP		sP	02 56 20.1	-31
HHC	**Hu-ho-hao-te**	**37.85**	**341**	*e*P		**P**	**02 56 18.9**	**+1.6**
HHC				AP		pP	02 56 44.0	+0.7
HHC				XP		sP	02 56 57.0	+0.4
HHC				AMB		AMB		
	comp=Z,13nm,0.4s,mb5.1						
HHC				AMB		AMB		
	comp=Z,120nm,4.4s						
MDJ	**Mudanjiang**	**39.05**	**3**	P		**P**	**02 56 28.0**	**+0.7**
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
MDJ				AMB		AMB		
	comp=Z,92nm,3.1s						
STKA	**Stephens Creek**	**39.66**	**160**	P		**P**	**02 56 32.4**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.4,baz=358,slow=8.8,SNR=10						
STKA	**Stephens Creek**	**39.66**	**160**	*e*P		**P**	**02 56 32.4**	**+0.1**
GTA	**Gaotai**	**41.77**	**328**	*e*P		**P**	**02 56 50.4**	**+0.7**
GTA				AMB		AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
GUN	**Gumba**	**44.95**	**305**	*e*P		**P**	**02 57 15.1**	**-0.2**
	comp=Z,21nm,0.7s,mb5.0						
PKI	**Pulchoki**	**45.21**	**304**	*e*P		**P**	**02 57 16.1**	**-1.2**
	comp=Z,6.9nm,0.6s,mb4.6						
KKN	**Kakani**	**45.40**	**304**	*e*P		**P**	**02 57 17.5**	**-1.3**
	comp=Z,13nm,0.8s,mb4.7						
DMN	**Daman**	**45.48**	**304**	*e*P		**P**	**02 57 19.2**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8						
SONM	**Songino Array**	**45.75**	**341**	P		**P**	**02 57 21.8**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=156,slow=8.1,SNR=14						
SONM				PcP		PcP	02 58 57.6	+0.2
	comp=Z,0.7nm,0.9s,baz=164,slow=3.2,SNR=3.0						
GKN	**Gorkha**	**46.01**	**304**	*e*P		**P**	**02 57 22.7**	**-0.9**
	comp=Z,6.9nm,0.5s,mb4.7						
KOLN	**Koldanda**	**46.78**	**303**	*e*P		**P**	**02 57 29.5**	**-0.1**
	comp=Z,28nm,0.8s,mb5.0						
WMQ	**Urumqi**	**51.47**	**324**	*e*P		**P**	**02 58 07.0**	**+1.6**
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
WMQ				AMB		AMB		
	comp=Z,92nm,4.6s						
WMQ				LR		LR		
	comp=Z,125nm,18.6s						
MKAR	**Makanchi Array**	**56.30**	**324**	P		**P**	**02 58 40.6**	**+0.2**
	comp=Z,6.7nm,0.4s,mb5.0,baz=114,slow=7.6,SNR=66						
MKAR	**Makanchi Array**	**56.30**	**324**	⇑*e*P		**P**	**02 58 40.5**	**+0.1**
TKM2	**Tokmak 2**	**58.64**	**318**	P		**P**	**02 58 57.7**	**+0.9**
	SNR=6.3						
UCH	**Uchtor**	**59.10**	**317**	P		**P**	**02 59 01.2**	**+1.2**
	SNR=9.7						
ZAL	**Zalesovo**	**59.18**	**332**	P		**P**	**02 58 59.0**	**-1.6**
	comp=Z,2.1nm,0.4s,mb4.5,baz=16,slow=4.8,SNR=5.7						
ZAL	**Zalesovo**	**59.18**	**332**	*i* P		**P**	**02 58 59.9**	**-0.7**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**59.27**	**317**	⇑*e*P		**P**	**02 59 00.8**	**-0.4**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
AAK	**Ala-Archa**	**59.27**	**317**	*e*P		**P**	**02 59 00.9**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.1						
USP	**Ospenovka**	**59.52**	**318**	P		**P**	**02 59 03.4**	**+0.5**
	SNR=9.8						
AML	**Almayashu**	**59.62**	**316**	P		**P**	**02 59 05.0**	**+1.4**
	SNR=7.0						
EKS2	**Erkin-Say**	**59.77**	**317**	P		**P**	**02 59 05.7**	**+1.1**
	SNR=7.6						
KK31	**Karatay Array**	**62.16**	**316**	*i* P		**P**	**02 59 20.5**	**-0.3**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
VOSK	**Vostochnaya**	**65.57**	**326**	*i* P		**P**	**02 59 49.5**	**+6.4**
BRVK	**Borovoye**	**66.10**	**326**	*e*P		**P**	**02 59 46.1**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.0						
BRVK	**Borovoye**	**66.10**	**326**	*e*P		**P**	**02 59 46.1**	**-0.4**
	comp=Z,26nm,1.1s,mb5.0						
ZRNK	**Zerenda**	**66.76**	**326**	*i* P		**P**	**02 59 50.4**	**-0.3**
ZRNK				pmax		pmax		
	comp=Z,21nm,1.3s,mb4.8						
ZRNK	**Zerenda**	**66.76**	**326**	*e*P		**P**	**02 59 50.3**	**-0.5**
	comp=Z,21nm,1.0s,mb4.9						
AKTO	**Aktyubinsk**	**72.48**	**321**	*i* P		**P**	**03 00 25.7**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ARU	**Arti**	**73.62**	**327**	⇑*i*P		**P**	**03 00 31.3**	**-1.3**
ARU				*e*			03 03 13.9	
ARU				*e*PPP			03 04 57.9	
ARU				*e*S		S	03 10 00.5	+7.0
ARU				*e*SS		SS	03 14 43.8	+4.9
ARU				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ARU	**Arti**	**73.62**	**327**	*e*P		**P**	**03 00 30.8**	**-1.8**
	comp=Z,5.4nm,0.6s,mb4.5						
ZEI	**Tsey**	**81.26**	**312**	*e*P		**P**	**03 01 15.3**	**+0.3**
ZEI				*e*			03 04 18.9	
ZEI				pmax		pmax		
	comp=Z,14nm,0.6s,mb5.0						
KIV	**Kislovodsk**	**82.15**	**313**	*e*P		**P**	**03 01 20.8**	**+1.1**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**82.15**	**313**	*e*P		**P**	**03 01 20.8**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.5						
VNDA	**Vanda**	**85.11**	**173**	P		**P**	**03 01 34.2**	**-0.7**
	comp=Z,1.8nm,1.2s,mb3.9,baz=320,slow=5.7,SNR=3.8						
VNDA	**Vanda**	**85.11**	**173**	*e*P		**P**	**03 01 34.1**	**-0.7**
VNDA				pmax		pmax		
	comp=Z,3.0nm,1.2s						
VNDA	**Vanda**	**85.11**	**173**	*e*P		**P**	**03 01 34.1**	**-0.7**
	comp=Z,2.6nm,1.2s,mb4.0						
OBN	**Obninsk**	**85.81**	**325**	⇓*e*P		**P**	**03 01 37.7**	**-0.6**
OBN				*e**PP		pP	03 02 04.4	-3.8
OBN				*e*S		S	03 11 57.4	-4.2
OBN				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
ANN	**Anapa**	**85.88**	**314**	*e*P		**P**	**03 01 32.3**	**-6.4**
ANN				*e*S		S	03 11 53.2	-9.2
ANN				pmax		pmax		
	comp=Z,40nm,1.0s,mb5.3						
JOF	**Joensuu**	**87.77**	**333**	*e*pkp		**P**	**03 01 46.0**	**-1.8**
ARCES	**ARCESS Array B**	**88.92**	**340**	P		**P**	**03 01 51.5**	**-1.7**
	comp=Z,2.7nm,0.9s,mb4.2,baz=86,slow=6.3,SNR=9.8						
BR131	**Keskin Array S**	**89.13**	**310**	*e*P		**P**	**03 01 54.8**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**89.13**	**310**	P		**P**	**03 01 53.5**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.2,baz=115,slow=5.6,SNR=14						
BRTR	**Keskin Array B**	**89.13**	**310**	⇑*e*P		**P**	**03 01 53.7**	**-0.5**
KMBO	**Kilima Mbogo**	**89.86**	**269**	P		**P**	**03 01 58.6**	**+0.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=56,slow=7.3,SNR=4.3						
KAF	**Kangasniemi**	**90.19**	**332**	*e*pkp		**P**	**03 01 59.3**	**+0.1**
FINES	**FINESS Array B**	**90.44**	**332**	P		**P**	**03 01 59.0**	**-1.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=69,slow=6.3,SNR=8.1						
FINES	**FINESS Array B**	**90.44**	**332**	*i* P		**P**	**03 01 59.2**	**-1.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**03 02 00.2**	**-1.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=63,slow=3.5,SNR=5.0						
AKASG	**Malin Array Be**	**90.72**	**321**	*i* P		**P**	**03 02 01.3**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**03 02 00.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**122.63**	**289**	PKP		PKPdf	03 07 54.0	+0.2
	comp=Z,1.6nm,0.6s,baz=30,slow=1.9,SNR=17						

*CSEM **05** 03:15:38.7±0.9, 3866N×2857W, h15km, ML1.3, Error ellipse: s-maj=3.5km s-min=2.8km az=9.0, After PDA*
*PDA **05** 03:15:38.7±0.9, 3866N×2857W, h15km, MD2.9, ML1.3, Error ellipse: s-maj=3.5km s-min=2.8km az=9.0*
SVSA 05 03:15:38.7±0.9, 3866N×2857W, h15km, MD2.9, ML1.3, Error ellipse: s-maj=3.5km s-min=2.8km az=9.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.10**	**253**	*i* P		Pg	03 15 41.4	-0.6
PCED				*i* S		Sg	03 15 44.0	-0.2
PCED								
	30nm,0.1s						
PCED	**Cedros**	**0.10**	**253**	*i* S		Sg	03 15 44.0	-0.2
CALA	**Caldeira**	**0.13**	**232**	*e*P		Pg	03 15 41.9	-0.4
CALA				*e*S		Sg	03 15 44.4	-0.2
HOR	**Horta**	**0.14**	**198**	*i* P		Pg	03 15 41.3	-1.1
PICO	**Pico**	**0.20**	**144**	*e*P		Pg	03 15 42.9	-0.4
PICO				*e*S		Sg	03 15 45.5	-0.9
PCND	**Candelaria**	**0.21**	**155**	*e*S		Sg	03 15 46.3	-0.4
PCND								
	31nm,0.1s						
PTEI	**Pico do Teixo**	**0.24**	**134**	*e*S		Sg	03 15 46.8	-0.7
PTEI								
	7.3nm,0.1s						
ROSA	**Rosais**	**0.27**	**77**	*e*P		Pg	03 15 43.7	-0.7
ROSA				*e*S		Sg	03 15 47.2	-1.1
PBOI	**Pico dos Bois**	**0.27**	**145**	*e*S		Sg	03 15 47.6	-0.8
PBOI								
	12nm,0.2s						

*CSEM **05** 03:58:02.3±0.5, 3863N×2857W, h15km±7km, ML1.2, Error ellipse: s-maj=3.0km s-min=2.0km az=64.0, After PDA*
*PDA **05** 03:58:02.3±0.5, 3863N×2857W, h15km±7km, MD2.7, ML1.2, Error ellip

0.5nm,0.3s,baz=14,slow=19,SNR=2.2
AKTO Aktyubinsk 20.44 298 P **P 04 07 54.7 +1.3**
0.8nm,0.5s,baz=89,slow=15,SNR=3.6
JOF Joensuu 36.51 321 *ep* **P 04 10 18.9 -2.5**
FINES FINESS Array B 38.94 318 P **P 04 10 41.0 -0.9**
0.5nm,0.3s,mb3.7,baz=75,slow=8.1,SNR=4.7
FINES LR LR 04 27 43.0
comp=Z,39nm,18.1s,MS3.3,baz=6.6,slow=38
ARCES ARCESS Array B 39.52 331 P **P 04 10 45.5 -1.3**
1.4nm,0.9s,mb3.7,baz=96,slow=11,SNR=5.6
NOA NORSAR Array B 46.09 319 P **P 04 11 38.0 -2.2**
1.1nm,0.8s,mb3.8,baz=76,slow=7.9,SNR=3.3
GERES GERESS Array B 48.76 303 LR LR 04 33 19.3
comp=Z,32nm,21.3s,MS3.3,baz=319,slow=37
TORD Torodi Ar. Bea 77.50 276 P **P 04 15 07.0 -4.7**
0.4nm,0.7s,mb3.5,baz=47,slow=5.1,SNR=5.8

IDC 05 04:04:52.0±6.6, 1080S×16054E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=190.8km s-min=39.4km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.82**	**247**	P	P	04 10 34.5	+0.6
	0.4nm,0.5s,baz=76,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**28.41**	**240**	P	P	04 10 48.3	+0.1
	0.3nm,0.5s,baz=66,slow=9.9,SNR=3.2						
SONM	**Songino Array**	**75.52**	**326**	P	P	04 16 38.9	+0.7
	0.5nm,0.7s,baz=138,slow=6.2,SNR=4.7						
MKAR	**Makanchi Array**	**89.88**	**318**	P	P	04 17 52.5	-0.3
	0.8nm,0.8s,baz=109,slow=6.5,SNR=4.7						

IDC 05 04:13:36.2±2.4, 2212S×14804E, h0km, mb1 3.7/4, mb1mx3.6/11, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=31.9km s-min=17.6km az=71.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.62**	**320**	Pn	Pn	04 14 20.4	+0.6
	2.2nm,0.3s,baz=132,slow=16,SNR=15						
CTA				Pg	Pg	04 14 25.3	-1.3
	7.8nm,0.3s,baz=130,slow=17,SNR=21						
CTA				Sn	Sn	04 14 53.1	+0.8
	6.6nm,0.3s,baz=131,slow=15,SNR=9.9						
CTA				Lg		04 14 59.5	
	14nm,0.3s,baz=240,slow=20,SNR=11						
STKA	**Stephens Creek**	**11.28**	**209**	Pn	Pn	04 16 18.2	-0.5
	0.2nm,0.3s,baz=39,slow=15,SNR=3.2						
STKA				Sn	Sn	04 18 22.0	-3.5
	0.2nm,0.3s,baz=343,slow=17,SNR=3.1						
STKA				Lg		04 19 32.8	
	0.1nm,0.3s,baz=108,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**12.98**	**277**	Pn	Pn	04 16 41.2	-0.7
	0.2nm,0.3s,baz=97,slow=13,SNR=7.7						
WRA				Lg		04 20 29.1	
	0.2nm,0.3s,baz=102,slow=26,SNR=7.7						
ASAR	**Alice Springs**	**13.12**	**261**	Pn	Pn	04 16 43.2	-0.6
	0.1nm,0.3s,baz=82,slow=14,SNR=7.9						
ASAR				Sn	Sn	04 19 04.3	-6.2
	0.1nm,0.3s,baz=73,slow=23,SNR=4.0						
ASAR				Lg		04 20 33.2	
	0.1nm,0.3s,baz=75,slow=30,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.77**	**260**	PKPbc	PKPbc	04 33 20.4	+0.2
	1.2nm,0.8s,baz=117,slow=3.4,SNR=9.2						

WEL 05 04:46:29.1±0.3, 3770S×17664E, h157km±3km, ML3.5/6, Error ellipse: s-maj=6.1km s-min=4.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.67**	**146**	PN	Pn	04 46 52.0	-0.2
URZ				SN	Sn	04 47 10.1	+0.2
MWZ	**Matawai**	**0.95**	**132**	PN	Pn	04 46 54.0	-0.1
MWZ				SN	Sn	04 47 13.7	+0.4
MXZ	**Matakaoa Point**	**1.33**	**85**	PN	Pn	04 46 57.8	+0.3
BKZ	**Black Stump Fm**	**1.47**	**184**	PN	Pn	04 46 59.2	+0.3
BKZ				SN	Sn	04 47 21.7	0.0
KNZ	**Kokohu**	**1.55**	**149**	PN	Pn	04 47 00.0	+0.3
WNVZ	**Wahianoa**	**1.82**	**206**	PN	Pn	04 47 03.2	+0.6
MOVZ	**Moawhango**	**1.84**	**202**	PN	Pn	04 47 02.8	-0.1
TSZ	**Takapari Road**	**2.42**	**192**	PN	Pn	04 47 09.2	-0.3
BFZ	**Birch Farm**	**2.99**	**186**	PN	Pn	04 47 15.5	-1.1
MRZ	**Mangatainoka R**	**3.07**	**195**	PN	Pn	04 47 16.1	-1.5
MRZ				SN	Sn	04 47 53.5	-1.8
TIWZ	**Tintock**	**3.13**	**190**	PN	Pn	04 47 17.1	-1.3
TCW	**Tory Channel**	**3.96**	**207**	SN	Sn	04 48 11.6	-3.9
NNZ	**Nelson**	**4.33**	**215**	SN	Sn	04 48 21.5	-2.6
THZ	**Tophouse**	**4.97**	**214**	SN	Sn	04 48 37.9	-1.5

*MOS **05** 04:52:59.9±0.8, 1329N×9226E, h31km, mb4.8/27, Error ellipse: s-maj=12.0km s-min=5.6km az=127.9*
*ISCJB **05** 04:52:59.4±0.2, 1331N±004×92.17E±003, h27km, mb4.6/58, MS3.9/24, Error ellipse: s-maj=6.3km s-min=4.4km az=56.8*
*NEIC **05** 04:53:01.3±0.2, 1325N×92.19E, mb4.7/33, Error ellipse: s-maj=6.1km s-min=4.6km az=213.0*
*BJI **05** 04:53:01.0, 1302N×9230E, h41km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*SZGRF **05** 04:53:01.4, 1311N×9245E, h33km, mb4.8, Andaman Islands, India, region*
*IDC **05** 04:53:01.0±0.5, 1332N×9228E, h25km±2km, mb4.2/19, mb1 4.3/19, mb1mx4.2/24, mbtmp4.4/19, MS3.8/17, Ms1 3.8/17, ms1mx3.6/32, Error ellipse: s-maj=23.6km s-min=9.9km az=52.0*

ISC 05 04:53:02.0±0.2, 1337N±004×9220E±003, h28km, h28km±.7km: pP-P, n205, σ1°15/208, mb4.6/58, MS3.9/24, 10C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.78**	**163**	*eP*	x	04 53 19.2	
PBA				*eS*	x	04 53 41.6	
NST	**Nakhon Sawan**	**8.02**	**72**	P	**Pn**	**04 54 54.6**	**-1.9**
	67nm,0.5s						
CM31	**Chiang Mai Arr**	**8.22**	**51**	Pn	**Pn**	**04 55 01.3**	**+2.0**
CM31				*e*Sn	**Sn**	**04 56 26.0**	**-5.3**
CHG	**Chiang Mai**	**8.44**	**49**	PG	**Pn**	**04 54 53.0**	**-9.4**
CHG				SG	**Sn**	**04 56 23.9**	**-13**
CHTO	**Chiang Mai**	**8.44**	**49**	*eP*	**Pn**	**04 55 02.6**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,581nm,0.8s						
CHTO	**Chiang Mai**	**8.44**	**49**	*e*Pn	**Pn**	**04 55 02.6**	**+0.2**
	comp=Z,581nm,0.8s						
VIS	**Vishakhapatnam**	**9.58**	**298**	*eP*	**Pn**	**04 55 16.4**	**-1.6**
VIS				AMb	AMB	04 55 20.1	
	comp=Z,64nm,0.9s						
VIS				*eS*	**Sn**	**04 56 55.2**	**-9.4**
SNG	**Songkhla**	**10.32**	**126**	P	**Pn**	**04 55 29.0**	**+1.0**
MDRS	**Chennai**	**11.64**	**270**	*ex*	x	04 55 11.6	
BOK	**Bokaro**	**11.97**	**331**	*eP*	**Pn**	**04 55 49.5**	**-1.2**
BOK				AMb	AMB	04 55 51.8	
	comp=Z,11nm,0.3s						
SHL	**Shillong**	**12.14**	**359**	*eP*	**Pn**	**04 55 50.8**	**-2.2**
SHL				*eS*	**Sn**	**04 57 58.8**	**-8.5**
PSI	**Prapat**	**12.43**	**147**	LR	LR	05 01 45.5	
	comp=Z,455nm,18.2s,baz=149,slow=42						
PALK	**Pallekele**	**12.83**	**243**	*e*Pn	**Pn**	**04 56 01.8**	**-0.6**
HYB	**Hyderabad**	**13.76**	**289**	*i* P	**Pn**	**04 56 16.0**	**+0.9**
HYB				*eS*	**Sn**	**04 58 52.0**	**+5.1**
HYB	**Hyderabad**	**13.76**	**289**	*eP*	**Pn**	**04 56 16.0**	**+0.9**
HYB				*eS*	**Sn**	**04 58 48.0**	**+1.1**
NGP	**Nagpur**	**14.74**	**303**	*eP*	**Pn**	**04 56 28.3**	**-0.2**
NGP				*ex*	**Sn**	**04 59 04.0**	**-6.9**
JBP	**Jabalpur**	**15.14**	**312**	⇓*i*P	**Pn**	**04 56 31.5**	**-2.3**
JBP				*ex*	x	04 56 50.7	
	comp=Z,37nm,1.2s						
JBP				*i* x	**Sn**	**04 59 14.1**	**-6.5**
JIRN	**Jiri**	**15.29**	**339**	*eP*	**Pn**	**04 56 33.8**	**-1.9**
KMI	**Kunming**	**15.34**	**39**	P	**Pn**	**04 56 38.5**	**+2.1**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
KMI	**Kunming**	**15.34**	**39**	P	**Pn**	**04 56 38.5**	**+2.1**
	comp=Z,8.0nm,1.1s						
PKI	**Pulchoki**	**15.49**	**337**	*eP*	**Pn**	**04 56 36.2**	**-2.2**
	comp=Z,29nm,0.4s						
GUN	**Gumba**	**15.62**	**339**	*eP*	**Pn**	**04 56 37.8**	**-2.3**
	comp=Z,35nm,0.6s						
DMN	**Daman**	**15.64**	**336**	*eP*	**Pn**	**04 56 38.8**	**-1.5**
	comp=Z,64nm,0.6s						
KKN	**Kakani**	**15.73**	**337**	*eP*	**Pn**	**04 56 40.8**	**-0.8**
GKN	**Gorkha**	**16.18**	**335**	*eP*	**Pn**	**04 56 45.8**	**-1.5**
	comp=Z,36nm,0.3s						
LSA	**Lhasa**	**16.28**	**357**	P	**Pn**	**04 56 50.1**	**+1.5**
LSA	**Lhasa**	**16.28**	**357**	*eP*	**Pn**	**04 56 53.2**	**+4.6**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	**16.28**	**357**	*eP*	**Pn**	**04 56 53.2**	**+4.7**
	comp=Z,16nm,0.6s						
KOLN	**Koldanda**	**16.42**	**332**	*eP*	**Pn**	**04 56 49.3**	**-1.1**
	comp=Z,91nm,0.7s						
MNGI	**Mangalore**	**16.93**	**271**	*eP*	**Pn**	**04 56 52.8**	**-3.9**
MNGI				AMb	AMB	04 56 59.6	
	comp=Z,41nm,1.1s						
BHPL	**Bhopal**	**17.11**	**307**	*eP*	**Pn**	**04 56 57.9**	**-1.1**
BHPL				AMb	AMB	04 57 04.1	
	comp=Z,35nm,1.1s						
KAD	**Karad**	**17.81**	**285**	*eP*	**Pn**	**04 57 03.9**	**-3.8**
KAD				AMb	AMB	04 57 13.2	
	comp=Z,31nm,0.8s						
QIZ	**Qiongzhong**	**17.85**	**69**	P	**Pn**	**04 57 08.8**	**+0.6**
QIZ				AP	pP	04 57 16.5	+0.2
QIZ				S	**Sn**	**05 00 19.0**	**-7.3**
QIZ				AMB	AMB		
	comp=Z,24nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,158nm,4.3s						
QIZ				LR	LR		
	comp=E,601nm,14.7s						
QIZ				LR	LR		
	comp=Z,987nm,14.5s						
POO	**Poona**	**18.37**	**289**	*ex*	**Pn**	**04 57 17.5**	**+2.9**
	comp=Z,17nm,0.9s						
POO				*ex*	x	04 57 31.0	
POO				*ex*	x	05 00 20.0	
POO				*ex*	**Sn**	**05 00 42.0**	**+3.1**
CD2	**Chengdu**	**20.45**	**30**	*eP*	**P**	**04 57 39.8**	**+2.7**
CD2				AP		04 57 46.5	
CD2				XP	sP	04 57 50.2	+1.8
CD2				PP		04 58 01.3	
CD2				S	**S**	**05 01 23.9**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,240nm,19.2s						
CD2				LR	LR		
	comp=E,250nm,12.0s						
CD2				LR	LR		
	comp=Z,150nm,12.0s						
AJM	**Ajmer**	**21.00**	**311**	*eP*	**P**	**04 57 41.3**	**-1.8**
AJM				AMb	AMB	04 57 43.3	
	comp=Z,5.0nm,0.2s,mb4.5						
KSM	**Kuching**	**21.47**	**122**	*eP*	**P**	**04 57 48.9**	**+0.7**
SDNR	**Sundarnagar**	**22.84**	**325**	*eP*	**P**	**04 58 01.1**	**-1.6**
SDNR				*ex*	x	04 58 49.9	
KKM	**Kota Kinabalu**	**24.75**	**105**	*eP*	**P**	**04 58 20.9**	**-0.1**
LZH	**Lanzhou**	**24.93**	**23**	*eP*	**P**	**04 58 25.4**	**+2.8**
LZH				AP		04 58 32.3	
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,46nm,4.9s						
LZH				LR	LR		
	comp=N,195nm,13.5s						
LZH				LR	LR		
	comp=Z,287nm,17.3s,MS3.8						
LZH	**Lanzhou**	**24.93**	**23**	*eP*	**P**	**04 58 25.4**	**+2.8**
	comp=Z,19nm,1.2s,mb4.5						
LZH				sP	sP	04 58 26.5	-7.9
LZH				pP		04 58 32.3	
LZH				PP		04 59 22.3	
LZH				LR	LR		
	comp=Z,290nm,17.3s,MS3.8						
GTA	**Gaotai**	**26.80**	**13**	*eP*	**P**	**04 58 40.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb3.7						
WMQ	**Urumqi**	**30.59**	**354**	*eP*	**P**	**04 59 16.0**	**+2.7**
WMQ				AP	pP	04 59 23.0	+1.3
WMQ				PP	PP	05 00 16.0	-6.6
WMQ				*e*S	**S**	**05 04 16.0**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,97nm,4.5s						
WMQ				LR	LR		
	comp=N,490nm,10.8s,MS4.6						
WMQ				LR	LR		
	comp=E,520nm,12.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,408nm,22.0s						
NJ2	**Nanjing**	**30.69**	**48**	*eP*	**P**	**04 59 12.9**	**-1.3**
NJ2				AP	pP	04 59 22.4	-0.1
NJ2				S	**S**	**05 04 10.0**	**-5.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,520nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,15.2s,MS4.7						
NJ2				LR	LR		
	comp=E,120nm,14.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,15.1s,MS4.6						
SSE	**Sheshan**	**31.96**	**52**	P	**P**	**04 59 25.8**	**+0.4**
SSE				XP	sP	04 59 38.6	+1.4
SSE				S	**S**	**05 04 34.8**	**-0.2**
SSE				XS	sS	05 04 49.9	+1.1
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,149nm,6.1s						
SSE				LR	LR		
	comp=N,76nm,18.2s,MS3.6						
SSE				LR	LR		
	comp=E,98nm,18.2s,MS3.6						
SSE				LR	LR		
	comp=Z,94nm,16.1s,MS3.6						
SSE	**Sheshan**	**31.96**	**52**	P	**P**	**04 59 25.8**	**+0.4**
	comp=Z,21nm,0.8s,mb5.0						
SSE				sP	sP	04 59 38.6	+1.4
SSE				S	**S**	**05 04 34.8**	**-0.2**
SSE				sS	sS	05 04 49.9	+1.1
SSE				LR	LR		
	comp=Z,90nm,16.1s,MS3.5						
HHC	**Hu-ho-hao-te**	**32.19**	**28**	*eP*	**P**	**04 59 30.2**	**+2.8**
HHC				AP	pP	04 59 35.7	-0.1
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,103nm,5.8s						
AAK	**Ala-Archa**	**32.94**	**336**	⇑*eP*	**P**	**04 59 34.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**32.94**	**336**	*eP*	**P**	**04 59 34.7**	**+0.7**
	comp=Z,9.2nm,1.1s,mb4.6						
MKAR	**Makanchi Array**	**34.34**	**348**	P	**P**	**04 59 46.4**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.5,baz=163,slow=8.9,SNR=25						
MKAR	**Makanchi Array**	**34.34**	**348**	⇑*eP*	**P**	**04 59 46.9**	**+0.7**
MKAR	**Makanchi Array**	**34.34**	**348**	P	**P**	**04 59 46.4**	**+0.2**
SONM	**Songino Array**	**36.34**	**16**	P	**P**	**05 00 05.0**	**+1.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=197,slow=7.8,SNR=5.1						
SONM				LR	LR	05 16 20.3	
	comp=Z,73nm,18.6s,MS3.5,baz=118,slow=38						
ZAL	**Zalesovo**	**40.89**	**353**	P	**P**	**05 00 41.9**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.2,baz=270,slow=4.6,SNR=5.1						
ZAL				LR	LR	05 20 13.3	
	comp=Z,69nm,20.8s,MS3.5,baz=284,slow=40						
ZAL	**Zalesovo**	**40.89**	**353**	*i* P	**P**	**05 00 42.0**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**43.20**	**341**	P	**P**	**05 01 00.2**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.8,baz=125,slow=7.8,SNR=6.6						
BRVK	**Borovoye**	**43.27**	**341**	*eP*	**P**	**05 01 01.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**43.27**	**341**	*eP*	**P**	**05 01 01.0**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**43.60**	**340**	*eP*	**P**	**05 01 03.5**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**43.60**	**340**	*eP*	**P**	**05 01 03.5**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**44.52**	**38**	P	**P**	**05 01 12.6**	**+1.6**
MDJ				AP	pP	05 01 19.4	-0.1
MDJ				PP	PP	05 02 54.2	-0.8
MDJ				S	**S**	**05 07 39.7**	**-4.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,52nm,3.6s						
MDJ				LR	LR		
	comp=N,74nm,18.1s,MS3.7						
MDJ				LR	LR		
	comp=E,46nm,21.5s,MS3.7						
MDJ				LR	LR		
	comp=Z,36nm,20.6s,MS3.3						
FITZ	**Fitzroy Crossi**	**45.45**	**133**	*eP*	**P**	**05 01 16.6**	**-1.8**
	comp=Z,16nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**45.45**	**133**	P	**P**	**05 01 16.6**	**-1.8**
	comp=Z,6.2nm,0.5s,mb4.7,baz=316,slow=5.7,SNR=46						
ARU	**Arti**	**50.12**	**336**	⇓*i*P	**P**	**05 01 54.1**	**-0.5**
ARU				*e*		05 03 47.1	
ARU				*e*S	**S**	**05 09 06.6**	**+2.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ARU	**Arti**	**50.12**	**336**	*eP*	**P**	**05 01 54.3**	**-0.3**
ARU				*e*pP	pP	05 02 02.3	-0.9
MUN	**Mundaring**	**50.62**	**153**	*eP*	**P**	**05 02 02.1**	**+3.7**
ZEI	**Tsey**	**50.79**	**315**	*eP*	**P**	**05 02 00.8**	**+1.2**
ZEI				*e*		05 03 13.3	
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**50.98**	**152**	*eP*	**P**	**05 02 00.2**	**-0.9**
	comp=Z,50nm,1.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**51.88**	**153**	P	**P**	**05 02 07.0**	**-0.9**
	comp=Z,4.7nm,0.4s,mb4.8,baz=306,slow=7.6,SNR=9.9						
KIV	**Kislovodsk**	**52.03**	**316**	*eP*	**P**	**05 02 10.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
KIV				MLR	MLR		
	comp=Z,51nm,18.0s,MS3.6						
KIV	**Kislovodsk**	**52.03**	**316**	*eP*	**P**	**05 02 10.3**	**+1.4**
	comp=Z,12nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**53.06**	**128**	P	**P**	**05 02 15.3**	**-1.2**
	comp=Z,3.8nm,0.6s,mb4.5,baz=306,slow=8.3,SNR=20						
WRA				PcP	PcP	05 03 25.2	+0.4
	comp=Z,0.7nm,0.6s,baz=323,slow=3.1,SNR=2.5						
WRA				pPcP		05 03 33.3	
	comp=Z,1.7nm,0.7s,baz=311,slow=3.3,SNR=5.5						
WRA	**Warramunga Arr**	**53.06**	**128**	P	**P**	**05 02 15.3**	**-1.2**
WRA						05 03 25.2	
WRA	**Warramunga Arr**	**53.06**	**128**	*i* P	**P**	**05 02 15.5**	**-1.0**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WB2	**Warramunga Arr**	**53.06**	**128**	*eP*	**P**	**05 02 15.5**	**-1.1**
MALT	**Malatya**	**53.54**	**308**	*eP*	**P**	**05 02 20.5**	**+0.4**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MALT	**Malatya**	**53.54**	**308**	*eP*	**P**	**05 02 20.5**	**+0.5**
	comp=Z,5.5nm,0.9s,mb4.5						
GRSN	**GIRESUNGRSN**	**54.26**	**311**	*i* P	**P**	**05 02 25.2**	**-0.1**
ASPA	**Alice Springs**	**54.93**	**132**	*eP*	**P**	**05 02 28.5**	**-1.7**
AS31	**Alice Springs**	**54.93**	**132**	*eP*	**P**	**05 02 28.5**	**-1.7**
ASAR	**Alice Springs**	**54.93**	**132**	P	**P**	**05 02 29.1**	**-1.1**
	comp=Z,2.6nm,0.4s,mb4.6,baz=313,slow=7.0,SNR=36						
ASAR				pP	pP	05 02 36.8	-2.2
	comp=Z,4.1nm,0.7s,baz=312,slow=6.8,SNR=14						
ASAR				pPcP		05 03 41.1	
	comp=Z,1.6nm,0.7s,baz=310,slow=3.6,SNR=7.1						
ASAR				LR	LR	05 29 41.4	
	comp=Z,87nm,18.2s,MS3.9,baz=92,slow=40						
ASAR	**Alice Springs**	**54.93**	**132**	P	**P**	**05 02 29.1**	**-1.1**
ASAR				*PP	pP	05 02 36.8	-2.2
KMBO	**Kilima Mbogo**	**56.33**	**260**	LR	LR	05 25 20.5	
	comp=Z,97nm,18.3s,MS3.9,baz=90,slow=34						
AVNT	**Avonos**	**56.37**	**308**	*i* P	**P**	**05 02 39.1**	**-1.5**
BOYT	**Boyabat**	**56.84**	**311**	*i* P	**P**	**05 02 44.3**	**+0.4**
BR131	**Keskin Array S**	**57.47**	**309**	*eP*	**P**	**05 02 48.2**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.6						
BR131				*e*pP	pP	05 02 56.0	-1.1
BRTR	**Keskin Array B**	**57.47**	**309**	P	**P**	**05 02 48.1**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.7,baz=122,slow=7.1,SNR=38						
BRTR				pP	pP	05 02 56.2	-0.9
	comp=Z,5.8nm,0.8s,baz=129,slow=7.1,SNR=14						
BRTR				LR	LR	05 31 08.3	
	comp=Z,47nm,19.3s,MS3.6,baz=116,slow=40						
BRTR	**Keskin Array B**	**57.47**	**309**	P	**P**	**05 02 48.2**	**-0.1**
BRTR				*PP	pP	05 02 56.3	-0.8
ELDT	**Eldivan**	**57.76**	**310**	*i* P	**P**	**05 02 50.6**	**+0.2**
BALT	**Daday**	**57.99**	**311**	*i* P	**P**	**05 02 47.8**	**-4.2**
PMG	**Port Moresby**	**59.06**	**110**	*eP*	**P**	**05 03 00.2**	**+0.7**
PMG				pmax	pmax		
	comp=Z,36nm,1.0s						
PMG	**Port Moresby**	**59.06**	**110**	*eP*	**P**	**05 03 00.2**	**+0.7**
	comp=Z,36nm,1.0s,mb5.4						
OBN	**Obninsk**	**59.75**	**327**	⇑*eP*	**P**	**05 03 03.9**	**-0.3**
OBN				*e*		05 05 16.3	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
CFR	**Carcaliu**	**62.39**	**314**	⇓*i*P	**P**	**05 03 22.3**	**+0.2**
CFR	**Carcaliu**	**62.39**	**314**	⇓P	**P**	**05 03 22.3**	**+0.2**
AKASG	**Malin Array Be**	**62.71**	**320**	P	**P**	**05 03 23.2**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=87,slow=5.3,SNR=11						
AKASG				pP	pP	05 03 31.6	-1.5
	comp=Z,2.1nm,0.7s,baz=85,slow=5.9,SNR=6.5						
VRI	**Vrincioaia**	**63.47**	**315**	⇓*i*P	**P**	**05 03 30.8**	**+1.5**
VRI	**Vrincioaia**	**63.47**	**315**	⇓P	**P**	**05 03 30.8**	**+1.5**
PLOR	**Plostina**	**63.52**	**315**	⇓*i*P	**P**	**05 03 30.7**	**+1.1**
MLR	**Muntele Rosu**	**63.96**	**314**	⇑*i*P	**P**	**05 03 33.7**	**+1.2**
MLR	**Muntele Rosu**	**63.96**	**314**	⇑P	**P**	**05 03 33.7**	**+1.2**
VOIR		**64.58**	**314**	⇓*i*P	**P**	**05 03 37.7**	**+1.1**
VOIR		**64.58**	**314**	⇓P	**P**	**05 03 37.7**	**+1.1**
BURAR	**Bucovina Array**	**64.74**	**316**	⇑*i*P	**P**	**05 03 38.1**	**+0.4**
BURAR	**Bucovina Array**	**64.74**	**316**	⇑P	**P**	**05 03 38.1**	**+0.4**
JOF	**Joensuu**	**65.10**	**334**	*ep*	**P**	**05 03 38.1**	**-1.9**
	comp=Z,4.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**65.28**	**135**	*eP*	**P**	**05 03 40.7**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.5				

comp=Z,9.0nm,1.1s,mb4.6
BRG Berggiesshubel 72.35 319 *e*P **P 05 04 25.8 +0.6**
comp=Z,5.4nm,1.1s,mb4.4
BRG *e* pP 05 04 33.3 -0.8
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 72.35 319 *e*P **P 05 04 25.8 +0.7**
BRG *e* pP 05 04 33.3 -0.8
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GEC2 GERESS Array S 72.50 317 *e*P **P 05 04 26.5 +0.4**
comp=Z,9.0nm,1.2s,mb4.6
GEC2 GERESS Array S 72.50 317 *e*P **P 05 04 26.5 +0.4**
GEC2 pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GERES GERESS Array B 72.50 317 P **P 05 04 26.3 +0.3**
comp=Z,3.2nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=24
GERES pP pP 05 04 35.1 0.0
comp=Z,2.5nm,0.6s,baz=91,slow=5.5,SNR=6.2
GERES LR LR 05 41 02.1
comp=Z,26nm,18.4s,MS3.5,baz=126,slow=40
GERES GERESS Array B 72.50 317 P **P 05 04 26.3 +0.2**
GERES *PP pP 05 04 35.1 +0.1
KHC Kasperske Hory 72.58 318 *e*P **P 05 04 26.8 +0.3**
KHC *e*pP pP 05 04 35.6 +0.1
HFS Hagfors 72.78 329 LR LR 05 39 58.0
comp=Z,72nm,19.0s,MS4.0,baz=91,slow=39
CLL Collm 72.94 320 *e*P **P 05 04 28.7 0.0**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 72.94 320 *e*P **P 05 04 29.0 +0.3**
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CLL Collm 72.94 320 *e*P **P 05 04 29.0 +0.3**
comp=Z,8.0nm,1.1s,mb4.6
WET Wettzell 73.04 318 *e*P **P 05 04 29.6 +0.3**
comp=Z,10.0nm,1.3s,mb4.6
WET Wettzell 73.04 318 *e*P **P 05 04 29.6 +0.3**
WET pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TANN Tannenbergstha 73.29 319 *e*P **P 05 04 31.2 +0.5**
comp=Z,8.0nm,1.2s,mb4.5
ROTZ Rotzenmuhle 73.47 318 *e*P **P 05 04 32.8 +1.0**
comp=Z,13nm,1.4s,mb4.7
MANZ Manzenberg 73.53 318 *e*P **P 05 04 33.1 +1.0**
comp=Z,13nm,1.2s,mb4.7
MOX Moxa 73.83 319 *e*P **P 05 04 34.3 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
MOX Moxa 73.83 319 *e*(P) **P 05 04 34.1 +0.2**
NB2 NORSAR Subarra 74.04 330 P **P 05 04 34.1 -1.0**
comp=Z,14nm,1.4s,mb4.7,baz=89,slow=5.9
NB2 NORSAR Subarra 74.04 330 P **P 05 04 34.1 -1.0**
NB2 pmax pmax
comp=Z,14nm,1.4s,mb4.7
NOA NORSAR Array B 74.04 330 P **P 05 04 34.5 -0.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=91,slow=5.7,SNR=5.0
NOA pP pP 05 04 43.1 -1.0
comp=Z,1.5nm,0.6s,baz=90,slow=5.8,SNR=4.1
NOA LR LR 05 42 50.5
comp=Z,51nm,18.2s,MS3.9,baz=100,slow=40
NOA NORSAR Array B 74.04 330 P **P 05 04 34.5 -0.6**
NOA *PP pP 05 04 43.2 -0.9
NOA NORSAR Array B 74.04 330 P **P 05 04 34.5 -0.7**
NOA pP pP 05 04 43.1 -1.0
NOA LR LR 05 42 50.5
GRA1 Grafenberg Arr 74.11 318 *e*P **P 05 04 36.4 +0.9**
comp=Z,8.0nm,0.9s,mb4.7
GRA1 *e*pP pP 05 04 45.8 +1.3
GRF Grafenberg Arr 74.11 318 *e*P **P 05 04 36.4 +0.9**
comp=Z,8.0nm,0.9s,mb4.7
GRF *e*pP pP 05 04 45.8 +1.3
GRF Grafenberg Arr 74.11 318 *e*P **P 05 04 36.4 +0.9**
GRF *e*PP pP 05 04 45.8 +1.3
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 74.11 318 *e*P **P 05 04 36.4 +0.9**
GRF *e*PP pP 05 04 45.8 +1.3
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BSEG Bad Segeberg 74.54 323 *e*P **P 05 04 38.7 +0.6**
comp=Z,13nm,0.8s,mb4.9
CLZ Clausthal 74.57 320 *e*P **P 05 04 38.7 +0.5**
comp=Z,13nm,1.2s,mb4.7
CLZ Clausthal 74.57 320 *e*P **P 05 04 38.7 +0.5**
CLZ pmax pmax
comp=Z,13nm,1.2s,mb4.7
PGF Pioggiola 76.12 311 *e*P pP 05 04 56.5 +0.4
KEST Kesra 76.58 304 P **P 05 04 50.1 +0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=220,slow=8.1,SNR=5.8
CDF Champ du Feu 76.78 317 *e*P **P 05 04 50.4 -0.5**
BOSA Boshof 76.96 236 P **P 05 04 53.2 +1.4**
comp=Z,3.4nm,0.6s,mb4.4,baz=73,slow=6.1,SNR=9.5
BOSA LR LR 05 38 24.2
comp=Z,48nm,19.4s,MS3.8,baz=176,slow=35
BOSA Boshof 76.96 236 *e*P **P 05 04 53.1 +1.2**
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BOSA Boshof 76.96 236 *e*P **P 05 04 53.1 +1.2**
comp=Z,4.3nm,0.7s,mb4.5
SBF Sospel 77.12 312 *e*P **P 05 04 52.5 -0.3**
comp=Z,118nm,1.2s,mb5.4
SBF Sospel 77.12 312 *e*P **P 05 04 52.5 -0.3**
SBF pmax pmax
comp=Z,59nm,1.2s,mb5.4
SBF Sospel 77.12 312 *e*P **P 05 04 52.5 -0.3**
comp=Z,59nm,1.2s,mb5.4
LPG La Plagne 77.43 314 *e*P **P 05 04 54.9 +0.4**
comp=Z,12nm,0.7s,mb4.7
LPG La Plagne 77.43 314 *e*P **P 05 04 54.9 +0.4**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LPG La Plagne 77.43 314 *e*P **P 05 04 54.9 +0.4**
comp=Z,6.3nm,0.7s,mb4.7
LPL La Plagne 77.44 314 *e*P **P 05 04 55.0 +0.4**
comp=Z,26nm,0.7s,mb5.0
LPL La Plagne 77.44 314 *e*P **P 05 04 55.0 +0.4**
LPL pmax pmax
comp=Z,13nm,0.7s,mb5.0
LPL La Plagne 77.44 314 *e*P **P 05 04 55.0 +0.4**
comp=Z,13nm,0.7s,mb5.0
MBDF Montbardon 77.50 313 *e*P **P 05 04 54.8 -0.1**
BNI Bardonecchia 77.53 314 *e*P **P 05 04 57.1 +2.0**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BNI Bardonecchia 77.53 314 *e*P **P 05 04 57.1 +2.0**
comp=Z,5.8nm,0.8s,mb4.6
ORIF Oris-en-Rattie 78.11 314 *e*P **P 05 04 58.4 +0.1**
ORIF *e*MLR MLR
comp=Z,46nm,22.0s
GIVF Givet 78.20 319 *e*P **P 05 04 57.5 -1.3**
LOR Lormes 79.20 316 *e*P **P 05 05 03.7 -0.6**
LOR *e*MLR MLR
comp=Z,42nm,19.0s
LOR Lormes 79.20 316 *e*P **P 05 05 03.7 -0.6**
LOR LR LR
comp=Z,40nm,19.0s,MS3.8
SMF Signal de Mont 79.30 316 *e*P **P 05 05 04.3 -0.5**
SSF Saint Saulge 79.47 316 *e*P **P 05 05 04.8 -0.9**
AVF Avril sur Loir 79.61 316 *e*P **P 05 05 06.0 -0.5**
comp=Z,5.4nm,0.7s,mb4.3
AVF Avril sur Loir 79.61 316 *e*P **P 05 05 06.0 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AVF Avril sur Loir 79.61 316 *e*P **P 05 05 06.0 -0.5**
comp=Z,2.7nm,0.6s,mb4.3
CAF Calviac 80.79 314 *e*P **P 05 05 13.0 +0.1**
comp=Z,11nm,1.0s,mb4.4
CAF Calviac 80.79 314 *e*P **P 05 05 13.0 +0.1**
CAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CAF Calviac 80.79 314 *e*P **P 05 05 13.0 +0.1**
comp=Z,5.3nm,1.0s,mb4.4
MTLF Montolieu 80.95 312 *e*P **P 05 05 13.8 +0.1**
comp=Z,23nm,1.1s,mb4.7
MTLF Montolieu 80.95 312 *e*P **P 05 05 13.8 +0.1**
MTLF pmax pmax
comp=Z,12nm,1.1s,mb4.7
MTLF Montolieu 80.95 312 *e*P **P 05 05 13.8 +0.1**
comp=Z,12nm,1.1s,mb4.7
MFF Saint Martin d 82.01 316 *e*P **P 05 05 19.1 -0.3**
comp=Z,7.3nm,0.6s,mb4.5
MFF Saint Martin d 82.01 316 *e*P **P 05 05 19.1 -0.3**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MFF Saint Martin d 82.01 316 *e*P **P 05 05 19.1 -0.3**
comp=Z,3.7nm,0.6s,mb4.5
GRR Gorron 82.14 318 *e*P **P 05 05 19.0 -1.1**
MAW Mawson 83.52 191 LR LR 05 36 55.4
comp=Z,43nm,19.8s,MS3.8,baz=246,slow=32
ESDC Sonseca Array 86.25 310 P **P 05 05 41.2 +0.3**
comp=Z,0.7nm,0.6s,mb4.0,baz=50,slow=4.3,SNR=5.0
ESDC pP pP 05 05 49.6 -0.5
comp=Z,0.6nm,0.5s,baz=61,slow=3.9,SNR=3.0
TORD Torodi Ar. Bea 87.50 283 P **P 05 05 47.7 +0.7**
comp=Z,4.1nm,0.9s,mb4.7,baz=81,slow=4.3,SNR=25
TORD pP pP 05 05 56.6 +0.4
comp=Z,3.7nm,0.7s,baz=79,slow=2.7,SNR=13
TORD PP PP 05 09 10.9 -1.1
comp=Z,0.7nm,1.0s,baz=75,slow=6.4,SNR=3.8
TORD LR LR 05 48 29.0
comp=Z,70nm,18.2s,MS4.1,baz=210,slow=38
TORD Torodi Ar. Bea 87.50 283 P **P 05 05 47.7 +0.7**
TORD pP pP 05 05 56.6 +0.4
TORD PP PP 05 09 10.9 -1.1
TORD LR LR 05 48 28.9
DBIC Dimbokro 95.29 278 LR LR 05 52 42.0
comp=Z,41nm,18.0s,MS3.9,baz=105,slow=38
VNDA Vanda 98.66 168 LR LR 05 47 48.4
comp=Z,59nm,19.9s,MS4.1,baz=327,slow=33
NVAR Mina Array Bea 121.09 28 pPKP pPKPdf 05 12 01.8 +0.5
comp=Z,0.4nm,0.5s,baz=298,slow=2.1,SNR=3.1
TRQA Tornquist 146.37 218 *e*PKPbc PKPbc 05 12 38.1 -2.0
CPUP Villa Florida 148.67 241 PKPbc PKPbc 05 12 46.2 -0.1
comp=Z,1.3nm,0.6s,baz=94,slow=7.3,SNR=3.9
PLCA Paso Flores 148.84 206 PKPbc PKPbc 05 12 47.9 +1.1
comp=Z,1.2nm,0.7s,baz=187,slow=3.5,SNR=3.6

ROM ***05*** *05:03:31.9±0.4, 4386N×1669E, h12km, Md3.4/20, Ml3.6/11, Error ellipse: s-maj=7.2km s-min=3.0km az=122.0*
PDG ***05*** *05:03:33.5±0.9, 4389N×1648E, h3km±1km*
PRU ***05*** *05:03:33.5, 4389N×1650E, h0km*
ISCJB ***05*** *05:03:33.8±0.2, 4396N±002×1638E±002, h10km, Error ellipse: s-maj=2.9km s-min=1.9km az=92.2*
NEIC ***05*** *05:03:34.7±0.3, 4390N×1647E, h10km, MD3.5(PDG), ML3.6(ROM), ML3.6(BUC), Error ellipse: s-maj=5.3km s-min=4.0km az=200.0*
CSEM ***05*** *05:03:35.7±0.1, 4396N×1624E, h2km, ML3.7/7, Error ellipse: s-maj=3.0km s-min=2.2km az=21.0*
LDG ***05*** *05:03:35.6±0.14, 4378N×1641E, h10km, Ml3.7/9, Error ellipse: s-maj=5.7km s-min=2.2km az=23.0*

ISC 05 05:03:35.0±0.2, 4396N±002×1644E±002, h10km, n111, σ1§38/177, 24C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**1.28**	**299**	*i* Pn	**Pn**	**Pn**	**05 03 57.7**	**-1.2**
NVLJ				*i* Pg	**Pg**	**Pg**	**05 03 57.7**	**-1.8**
NVLJ				*i* Sn	**Sn**	**Sn**	**05 04 17.4**	**+1.4**
NVLJ	**Novalja**	**1.28**	**299**	*i* Pn	**Pn**	**Pn**	**05 03 57.6**	**-1.3**
NVLJ				*i* Sn	**Sn**	**Sn**	**05 04 17.4**	**+1.4**
STON	**Ston**	**1.42**	**139**	*i* Pn	**Pn**	**Pn**	**05 03 56.9**	**-4.0**
STON				*i* Sn	**Sn**	**Sn**	**05 04 17.5**	**-2.1**
BOJS	**Bojanci**	**1.76**	**332**	*i* Pn	**Pn**	**Pn**	**05 04 06.4**	**+0.8**
BOJS				*i* Sn	**Sg**	**Sg**	**05 04 31.7**	**0.0**
BOJS								
comp=Z,138nm,0.4s								
BOJS	**Bojanci**	**1.76**	**332**	*i* Pn	**Pn**	**Pn**	**05 04 06.4**	**+0.9**
BOJS				*i* Sn	**Sg**	**Sg**	**05 04 31.7**	**0.0**
comp=Z,138nm,0.4s								
BRY	**Bratogost**	**1.86**	**124**	⇓*i* Pn	**Pn**	**Pn**	**05 04 05.2**	**-1.7**
BRY				*e*Sn	**Sn**	**Sn**	**05 04 33.0**	**+2.5**
UPM	**Unac-Piva**	**1.95**	**112**	⇓*i* Pn	**Pn**	**Pn**	**05 04 08.4**	**+0.2**
UPM				*e*Sn	**Sg**	**Sg**	**05 04 35.8**	**-1.9**
AOI	**Ancona**	**2.09**	**260**	Pn	**Pn**	**Pn**	**05 04 10.3**	**+0.2**
AOI				Sn	**Sg**	**Sg**	**05 04 41.4**	**-0.8**
comp=Z,487nm,0.9s								
HCY	**Herceg Novi**	**2.13**	**134**	⇓*i* Pn	**Pn**	**Pn**	**05 04 09.3**	**-1.4**
HCY				*e*Sn	**Sn**	**Sn**	**05 04 38.5**	**+1.3**
LEGS	**Legarje**	**2.15**	**339**	*i* Pn	**Pn**	**Pn**	**05 04 13.1**	**+2.3**
LEGS				*i* Sn	**Sb**	**Sb**	**05 04 41.8**	**+1.2**
LEGS								
comp=Z,64nm,0.3s								
LEGS	**Legarje**	**2.15**	**339**	*i* Pn	**Pn**	**Pn**	**05 04 13.1**	**+2.3**
LEGS				*i* Sn	**Sb**	**Sb**	**05 04 41.8**	**+1.2**
LEGS	**Legarje**	**2.15**	**339**	*i* Pn	**Pn**	**Pn**	**05 04 13.1**	**+2.3**
LEGS				*i* Sn	**Sb**	**Sb**	**05 04 41.8**	**+1.2**
NKY	**Niksic**	**2.19**	**121**	⇓*i* Pn	**Pn**	**Pn**	**05 04 11.2**	**-0.2**
NKY				*e*Sn	**Sn**	**Sn**	**05 04 41.0**	**+2.4**
PLE	**Pljevlja**	**2.24**	**105**	⇓*i* Pn	**Pn**	**Pn**	**05 04 13.4**	**+1.3**
PLE				*e*Sn	**Sb**	**Sb**	**05 04 43.6**	**+0.3**
SGRT	**San Giovanni R**	**2.26**	**193**	Pn	**Pn**	**Pn**	**05 04 10.0**	**-2.4**
FGMS	**Monte Sant'Ang**	**2.27**	**189**	Pn	**Pn**	**Pn**	**05 04 11.4**	**-1.2**
comp=Z,100nm,0.4s								
MSAG	**Monte S. Angel**	**2.28**	**190**	Pn	**Pn**	**Pn**	**05 04 10.6**	**-2.0**
comp=Z,242nm,0.5s								
CEY	**Cerknica**	**2.28**	**322**	*i* Pn	**Pn**	**Pn**	**05 04 14.7**	**+2.0**
CEY				*i* Sn	**Sg**	**Sg**	**05 04 47.2**	**-1.2**
CEY								
comp=Z,158nm,0.4s								
CEY	**Cerknica**	**2.28**	**322**	*i* Pn	**Pn**	**Pn**	**05 04 14.7**	**+2.0**
CEY				*i* Sn	**Sg**	**Sg**	**05 04 47.2**	**-1.2**
CEY	**Cerknica**	**2.28**	**322**	*i* Pn	**Pn**	**Pn**	**05 04 14.7**	**+2.0**
CEY				*i* Sn	**Sg**	**Sg**	**05 04 47.2**	**-1.2**
RHK3	**Tenkes**	**2.32**	**33⇑**	*e*P	**Pn**	**Pn**	**05 04 11.8**	**-1.5**
RGNG	**Rignano Grg**	**2.36**	**196**	Pn	**Pn**	**Pn**	**05 04 11.9**	**-1.9**
BUM	**Brajici-Budva**	**2.45**	**132**	⇓*i* Pn	**Pn**	**Pn**	**05 04 14.2**	**-0.7**
BUM				*e*Sn	**Sn**	**Sn**	**05 04 47.0**	**+2.0**
LJU	**Ljubljana**	**2.49**	**328**	*i* Pn	**Pb**	**Pb**	**05 04 19.0**	**-0.7**
LJU				*i* Sn	**Sb**	**Sb**	**05 04 53.9**	**+3.5**
TTG	**Podgorica**	**2.57**	**125**	⇑*i* Pn	**Pn**	**Pn**	**05 04 16.3**	**-0.3**
TTG				*e*Sn	**Sn**	**Sn**	**05 04 49.4**	**+1.5**
SNTG	**Esanatoglia**	**2.63**	**256**	Pn	**Pn**	**Pn**	**05 04 17.7**	**+0.2**
comp=Z,42nm,0.4s								
FSSB	**Fossombrone**	**2.66**	**266**	Pn	**Pn**	**Pn**	**05 04 19.0**	**+1.1**
comp=Z,220nm,0.4s								
FAGN	**Fagnano**	**2.69**	**232**	Pn	**Pn**	**Pn**	**05 04 18.6**	**+0.4**
comp=Z,223nm,0.5s								
PKSM	**Moragy**	**2.74**	**34⇑**	*i*P	**Pn**	**Pn**	**05 04 17.3**	**-1.8**
PKSM	**Moragy**	**2.74**	**34⇑**	P	**Pn**	**Pn**	**05 04 17.3**	**-1.7**
IVA	**Berane**	**2.75**	**112**	⇓*i* Pn	**Pn**	**Pn**	**05 04 20.1**	**+1.0**
IVA				*e*Sn	**Sn**	**Sn**	**05 04 55.0**	**+2.6**
IVA	**Berane**	**2.75**	**112**	⇓*i* Pn	**Pn**	**Pn**	**05 04 20.0**	**+0.9**
IVA				*e*Sn	**Sn**	**Sn**	**05 04 55.0**	**+2.7**
FG5	**Orsara di Pugl**	**2.81**	**198**	Pn	**Pn**	**Pn**	**05 04 17.3**	**-2.6**
comp=Z,33nm,0.2s								
LNSS	**Leonessa**	**2.82**	**243**	Pn	**Pn**	**Pn**	**05 04 20.3**	**+0.2**
comp=Z,224nm,0.3s								
ULC	**Ulcinj**	**2.87**	**133**	⇓*i* Pn	**Pn**	**Pn**	**05 04 20.3**	**-0.5**
ULC				*e*Sn	**Sn**	**Sn**	**05 04 56.8**	**+1.4**
OBKA	**Obir**	**2.88**	**333**	⇑*i* Sn	**Sb**	**Sb**	**05 05 00.8**	**-0.9**
OBKA	**Obir**	**2.88**	**333**	⇓*i* Pn	**Pn**	**Pn**	**05 04 22.0**	**+1.1**
OBKA				⇑*i* Sn	**Sn**	**Sn**	**05 04 57.9**	**+2.3**
OBKA	**Obir**	**2.88**	**333**	⇓*i* Pn	**Pn**	**Pn**	**05 04 22.0**	**+1.1**
OBKA				*i* Sn	**Sb**	**Sb**	**05 05 00.8**	**-0.9**
OBKA	**Obir**	**2.88**	**333**	Pn	**Pn**	**Pn**	**05 04 22.0**	**+1.1**
OBKA				Sn	**Sb**	**Sb**	**05 05 00.8**	**-0.9**
ASS	**Assisi**	**2.89**	**253**	Pn	**Pn**	**Pn**	**05 04 21.4**	**+0.3**
comp=Z,5.0nm,0.4s								
PVY	**Plav**	**2.92**	**117**	⇑*i* Pn	**Pn**	**Pn**	**05 04 22.4**	**+0.9**
PVY				*e*Sn	**Sn**	**Sn**	**05 04 59.1**	**+2.5**
MURB	**Monte Urbino**	**2.92**	**258**	Pn	**Pn**	**Pn**	**05 04 22.5**	**+1.0**
comp=Z,409nm,0.5s								
VVLD	**Villa Vallelon**	**2.93**	**226**	Pn	**Pn**	**Pn**	**05 04 20.8**	**-0.9**
comp=Z,80nm,0.4s								
BADI	**Badiali**	**3.07**	**263**	Pn	**Pn**	**Pn**	**05 04 24.7**	**+1.2**
comp=Z,134nm,0.5s								
MNS	**Montasola**	**3.16**	**242**	Pn	**Pn**	**Pn**	**05 04 24.9**	**+0.1**
comp=Z,57nm,0.3s								
PE1	**Pezze di Greco**	**3.23**	**167**	*e*Pn	**Pn**	**Pn**	**05 04 23.0**	**-2.8**
CRE	**Caprese Michel**	**3.26**	**266**	Pn	**Pn**	**Pn**	**05 04 27.9**	**+1.7**
comp=Z,24nm,0.4s								
PTCC	**Patocco-Chiusa**	**3.28**	**319**	Pn	**Pn**	**Pn**	**05 04 27.7**	**+1.3**
MCRV	**Calabrutti - M**	**3.31**	**197**	Pn	**Pn**	**Pn**	**05 04 25.9**	**-0.9**
comp=Z,84nm,0.5s								
ARSA	**Arzberg**	**3.36**	**349**	⇑*i* Pn	**Pn**	**Pn**	**05 04 27.6**	**+0.1**
ARSA				⇑*i* Sn	**Sn**	**Sn**	**05 05 11.7**	**+4.3**
VMG	**Vicchio**	**3.53**	**272**	Pn	**Pn**	**Pn**	**05 04 31.8**	**+1.9**
comp=Z,42nm,0.6s								
PKSG		**3.70**	**21⇑**	*i*P	**Pn**	**Pn**	**05 04 31.9**	**-0.3**
SOP	**Sopron**	**3.73**	**1⇓**	*e*Pn	**Pn**	**Pn**	**05 04 31.8**	**-0.8**
SOP				*e*Sn	**Sn**	**Sn**	**05 05 14.8**	**-1.8**
KBA	**Koelnbreinsper**	**3.80**	**326**	⇓*i* Sn	**Sn**	**Sn**	**05 05 23.7**	**+5.3**
KBA	**Koelnbreinsper**	**3.80**	**326**	⇓*i* Pn	**Pn**	**Pn**	**05 04 35.0**	**+1.4**
KBA				⇓*i* Sn	**Sn**	**Sn**	**05 05 20.0**	**+1.6**
KBA	**Koelnbreinsper**	**3.80**	**326**	⇓*i* Pn	**Pn**	**Pn**	**05 04 35.0**	**+1.4**
KBA				*i* Sn	**Sn**	**Sn**	**05 05 23.7**	**+5.3**
KBA	**Koelnbreinsper**	**3.80**	**326**	Pn	**Pn**	**Pn**	**05 04 35.0**	**+1.4**
KBA				Sn	**Sn**	**Sn**	**05 05 23.7**	**+5.3**
CONA	**Conrad Observa**	**3.99**	**354⇑**	*i* Pn	**Pn**	**Pn**	**05 04 36.3**	**+0.1**
CONA				⇑*i* Sn	**Sn**	**Sn**	**05 05 24.6**	**+1.6**
BZS	**Buzias**	**4.04**	**64⇑**	*i* P	**Pn**	**Pn**	**05 04 34.7**	**-2.2**
BZS	**Buzias**	**4.04**	**64**	S	**Sn**	**Sn**	**05 05 21.4**	**-3.0**
BZS	**Buzias**	**4.04**	**64⇑**	P	**Pn**	**Pn**	**05 04 34.7**	**-2.2**
BZS				S	**Sn**	**Sn**	**05 05 21.4**	**-2.9**
MOA	**Molln**	**4.18**	**340⇑**	*i* Sn	**Sn**	**Sn**	**05 05 32.3**	**+4.7**
MOA	**Molln**	**4.18**	**340⇑**	*i* Pn	**Pn**	**Pn**	**05 04 40.1**	**+1.3**
MOA				⇑*i* Sn	**Sn**	**Sn**	**05 05 29.4**	**+1.8**
MOA	**Molln**	**4.18**	**340⇑**	*i* Pn	**Pn**	**Pn**	**05 04 40.1**	**+1.3**
MOA				*i* Sn	**Sn**	**Sn**	**05 05 32.3**	**+4.7**
MOA	**Molln**	**4.18**	**340**	Pn	**Pn**	**Pn**	**05 04 40.1**	**+1.3**
MOA				Sn	**Sn**	**Sn**	**05 05 32.3**	**+4.7**
ZST	**Bratislava**	**4.27**	**6**	*e*Pn	**Pn**	**Pn**	**05 04 40.5**	**+0.5**
ZST				*e*Sn	**Sn**	**Sn**	**05 05 29.6**	**-0.2**
APPI	**Appiano**	**4.46**	**306**	Pn	**Pn**	**Pn**	**05 04 43.8**	**+1.2**
MAGA	**Magasa**	**4.51**	**296**	Pn	**Pn**	**Pn**	**05 04 43.8**	**+0.5**
comp=Z,170nm,0.8s								
PSZ	**Piszkesteto**	**4.64**	**30⇑**	*i* P	**Pn**	**Pn**	**05 04 43.7**	**-1.4**
PSZ	**Piszkesteto**	**4.64**	**30⇑**	P	**Pn**	**Pn**	**05 04 43.7**	**-1.4**
PSZ				S	**Sn**	**Sn**	**05 05 36.6**	**-2.4**
PSZ	**Piszkesteto**	**4.64**	**30⇑**	P	**Pn**	**Pn**	**05 04 43.7**	**-1.4**
PSZ				S	**Sn**	**Sn**	**05 05 36.6**	**-2.4**
MABI	**Malga Bissina**	**4.69**	**299**	Pn	**Pn**	**Pn**	**05 04 46.7**	**+0.8**
WTTA	**Wattenberg**	**4.72**	**316**	⇓*i* Sn	**Sn**	**Sn**	**05 05 45.9**	**+4.9**
WTTA	**Wattenberg**	**4.72**	**316**	⇓*i* Pn	**Pn**	**Pn**	**05 04 47.3**	**+1.1**
WTTA				⇑*i* Sn	**Sn**	**Sn**	**05 05 44.3**	**+3.3**
WTTA	**Wattenberg**	**4.72**	**316**	⇓*i* Pn	**Pn**	**Pn**	**05 04 47.3**	**+1.1**
WTTA				*i* Sn	**Sn**	**Sn**	**05 05 45.9**	**+4.9**
WTTA	**Wattenberg**	**4.72**	**316**	Pn	**Pn**	**Pn**	**05 04 47.3**	**+1.1**
WTTA				Sn	**Sn**	**Sn**	**05 05 45.9**	**+4.9**
GZR	**Gura Zlata**	**4.75**	**70**	⇓*i* P	**Pn**	**Pn**	**05 04 42.4**	**-4.2**
GZR	**Gura Zlata**	**4.75**	**70**	⇓P	**Pn**	**Pn**	**05 04 42.4**	**-4.2**
WATA	**Walderalm**	**4.80**	**316**	⇑*i* Sn	**Sn**	**Sn**	**05 05 49.3**	**+6.4**
WATA	**Walderalm**	**4.80**	**316**	⇓*i* Pn	**Pn**	**Pn**	**05 04 48.3**	**+1.0**
WATA				⇑*i* Sn	**Sn**	**Sn**	**05 05 43.9**	**+1.0**
WATA	**Walderalm**	**4.80**	**316**	⇓*i* Pn	**Pn**	**Pn**	**05 04 48.2**	**+1.0**
WATA				*i* Sn	**Sn**	**Sn**	**05 05 49.3**	**+6.4**
WATA	**Walderalm**	**4.80**	**316**	⇓*i* Pn	**Pn**	**Pn**	**05 04 48.2**	**+0.9**
WATA				*i* Sn	**Sn**	**Sn**	**05 05 49.3**	**+6.4**
VYHS	**Vyhne**	**4.83**	**19**	*e*Pn	**Pn**	**Pn**	**05 04 47.3**	**-0.5**
VYHS				*e*Sn	**Sn**	**Sn**	**05 05 44.1**	**+0.3**
KECS	**Kecovo**	**5.33**	**30**	*e*Pn	**Pn**	**Pn**	**05 04 54.6**	**0.0**
KECS				*e*Sn	**Sn**	**Sn**	**05 05 52.2**	**-3.8**
KECS	**Kecovo**	**5.33**	**30**	*e*Pn	**Pn**	**Pn**	**05 04 54.7**	**+0.1**
KECS				*e*Sn	**Sn**	**Sn**	**05 05 52.2**	**-3.8**
KHC	**Kasperske Hory**	**5.54**	**340**	*e*Pn	**Pn**	**Pn**	**05 04 58.5**	**+1.0**
KHC				*e*Sn	**Sn**	**Sn**	**05 06 00.1**	**-1.1**
PGF	**Pioggiola**	**5.61**	**258**	*e*P	**Pn**	**Pn**	**05 05 00.8**	**+2.4**
MORC	**Moravsky Berou**	**5.87**	**7**	*e*Sn	**Sn**	**Sn**	**05 06 07.4**	**-2.0**
STHS	**Stebnicka Huta**	**6.38**	**29**	*e*Pn	**Pn**	**Pn**	**05 05 11.7**	**+2.6**
STHS				*e*Sn	**Sn**	**Sn**	**05 06 20.5**	**-1.5**
SBF	**Sospel**	**6.50**	**272**	*e*Pn	**Pn**	**Pn**	**05 05 09.5**	**-1.2**
SBF				*e*Sn	**Sn**	**Sn**	**05 06 19.8**	**-5.1**
comp=Z,12nm,0.4s								
SBF	**Sospel**	**6.50**	**272**	*e*Pn	**Pn**	**Pn**	**05 05 09.5**	**-1.2**
SBF				*e*Sn	**Sn**	**Sn**	**05 06 19.8**	**-5.1**
comp=Z,5.9nm,0.4s								
MBDF	**Montbardon**	**6.97**	**280**	*e*Pn	**Pn**	**Pn**	**05 05 16.4**	**-0.8**
MBDF				*e*Sn	**Sn**	**Sn**	**05 06 30.7**	**-5.8**
comp=Z,7.3nm,0.4s								
MBDF	**Montbardon**	**6.97**	**280**	*e*Pn	**Pn**	**Pn**	**05 05 16.4**	**-0.8**
MBDF				*e*Sn	**Sn**	**Sn**	**05 06 30.7**	**-5.8**
comp=Z,3.7nm,0.4s								
LPG	**La Plagne**	**7.07**	**286**	*e*Pn	**Pn**	**Pn**	**05 05 20.0**	**+1.5**
LPG				*e*Sn	**Sn**	**Sn**	**05 06 33.8**	**-5.0**
comp=Z,23nm,0.6s								
LPG	**La Plagne**	**7.07**	**286**	*e*Pn	**Pn**	**Pn**	**05 05 20.0**	**+1.5**
LPG				*e*Sn	**Sn**	**Sn**	**05 06 33.8**	**-5.0**
comp=Z,11nm,0.6s								
LPL	**La Plagne**	**7.08**	**286**	*e*Pn	**Pn**	**Pn**	**05 05 19.7**	**+1.0**
LPL				*e*Sn	**Sn**	**Sn**	**05 06 34.3**	**-4.9**
comp=Z,14nm,0.4s								
LPL	**La Plagne**	**7.08**	**286**	*e*Pn	**Pn**	**Pn**	**05 05 19.7**	**+1.0**
LPL				*e*Sn	**Sn**	**Sn**	**05 06 34.3**	**-4.9**
comp=Z,6.9nm,0.4s								
FRF	**La Foret Royal**	**7.10**	**270**	*e*Pn	**Pn**	**Pn**	**05 05 17.1**	**-1.8**
FRF				*e*P			05 05 22.1	
LMR	**La Mourre**	**7.23**	**268**	*e*Pn	**Pn**	**Pn**	**05 05 19.6**	**-1.1**
ORIF	**Oris-en-Rattie**	**

ASAR LR LR 05 56 43.4
comp=Z,63nm,19.1s,baz=352,slow=33
FITZ Fitzroy Crossi 29.96 244 *e*P **P 05 48 36.2 -1.4**
5.7nm,0.6s,mb4.4
FITZ Fitzroy Crossi 29.96 244 P **P 05 48 36.3 -1.2**
3.5nm,0.7s,mb4.1,baz=90,slow=7.1,SNR=12
SONM Songino Array 67.93 328 P **P 05 53 27.8 +0.5**
0.3nm,0.3s,mb3.6,baz=128,slow=4.0,SNR=3.6
MKAR Makanchi Array 81.93 319 P **P 05 54 49.1 +1.2**
1.1nm,0.8s,mb3.8,baz=98,slow=6.1,SNR=8.7
ZAL Zalesovo 82.77 326 P **P 05 54 52.0 -0.3**
2.6nm,0.3s,mb4.6,baz=44,slow=4.9,SNR=3.7
ZAL Zalesovo 82.77 326 P **P 05 54 52.0 -0.3**
QSPA South Pole Qui 83.89 180 *e*P **P 05 54 57.7 -0.4**
2.4nm,0.8s,mb4.1
PDAR Pinedale Array 98.97 48 LR LR 06 37 05.7
comp=Z,35nm,19.6s,baz=256,slow=33
TORD Torodi Ar. Bea 151.63 286 PKPbc PKPbc 06 02 23.4 +1.3
1.4nm,0.7s,baz=87,slow=2.0,SNR=9.1

*IDC **05** 06:02:20.2±0.6, 660S×13023E, h0km, mb4.6/8, mb1 4.9/11, mb1mx4.7/17, mbtmp4.8/11, ML5.2/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/18, Error ellipse: s-maj=28.4km s-min=15.2km az=75.0*
*NEIC **05** 06:02:21.7±0.5, 658S×13029E, h10km, mb4.5/11, Error ellipse: s-maj=14.0km s-min=8.5km az=82.0*
*BJI **05** 06:02:21.2, 701S×13045E, h33km, mB5.0, mb4.8, Ms4.8, Msz4.5*
*ISCJB **05** 06:02:22.8±3.5, 670S±005×13035E±009, h28km±26km, mb4.7/24, MS3.4/3, Error ellipse: s-maj=15.7km s-min=8.2km az=145.0*
ISC 05 06:02:26.1±1.5, 672S±006×13034E±009, h35km±15km, n58, σ1§08/58, mb4.7/24, MS3.4/3, 4C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.30**	**161**	⇑*i*P	**Pn**	**06 04 00.0**	**+3.5**
KAKA	287nm,0.5s			*e*S	**Sn**	**06 05 07.2**	**0.0**
FITZ	**Fitzroy Crossi**	**12.21**	**202**	*e*P	**Pn**	**06 05 17.0**	**-0.4**
FITZ	58nm,0.4s			*e*S	**Sn**	**06 07 22.5**	**-10**
FITZ	**Fitzroy Crossi**	**12.21**	**202**	Pn	**Pn**	**06 05 17.1**	**-0.2**
FITZ	11nm,0.3s,baz=30,slow=11,SNR=72			Sn	**Sn**	**06 07 22.7**	**-9.4**
WRA	**Warramunga Arr**	**13.70**	**164**	Pn	**Pn**	**06 05 36.5**	**-1.3**
WRA	4.0nm,0.3s,baz=345,slow=13,SNR=56			Sn	**Sn**	**06 08 01.4**	**-7.3**
WB2	**Warramunga Arr**	**13.71**	**164**	⇓*i*P	**Pn**	**06 05 36.9**	**-1.0**
WB2	6.4nm,0.3s,baz=341,slow=22,SNR=8.3			*e*S	**Sn**	**06 08 01.7**	**-7.1**
PMG	**Port Moresby**	**16.86**	**100**	Pn	**Pn**	**06 06 22.6**	**+3.4**
PMG	2.0nm,0.3s,baz=280,slow=11,SNR=4.7			Pn	**Pn**	**06 06 22.6**	**+3.4**
PMG	**Port Moresby**	**16.86**	**100**	*e*P	**Pn**	**06 06 18.1**	**-1.2**
PMG	21nm,0.8s			Pn	**Pn**	**06 06 22.6**	**+3.4**
AS31	**Alice Springs**	**17.19**	**169**	*e*P	**Pn**	**06 06 22.9**	**-0.5**
AS31				*e*S	**S**	**06 09 23.1**	**-19**
ASPA	**Alice Springs**	**17.19**	**169**	*e*P	**Pn**	**06 06 22.9**	**-0.5**
ASPA				*e*S	**S**	**06 09 23.1**	**-19**
ASAR	**Alice Springs**	**17.19**	**169**	P	**Pn**	**06 06 22.9**	**-0.5**
ASAR	10nm,0.3s,baz=343,slow=8.9,SNR=208			S	**S**	**06 09 25.0**	**-17**
KLBR	**Kellerberrin**	**27.40**	**204**	*e*P	**P**	**06 08 08.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**28.78**	**203**	P	**P**	**06 08 21.2**	**+0.7**
HNR	**Honiara**	**29.43**	**97**	LR	LR	06 20 38.0	
DZM	**Mont Dzumac**	**38.02**	**117**	P	**P**	**06 09 42.6**	**+1.8**
NJ2	**Nanjing**	**40.08**	**345**	*e*P	**P**	**06 09 58.1**	**+0.1**
NJ2	comp=Z,30nm,1.0s,mb5.0			AMB	AMB		
MJAR	**Matsushiro Arr**	**43.66**	**9**	P	**P**	**06 10 25.4**	**-1.9**
MAJO	**Matsushiro**	**43.66**	**9**	*e*P	**P**	**06 10 25.1**	**-2.1**
CD2	**Chengdu**	**45.25**	**327**	*e*P	**P**	**06 10 40.4**	**+0.4**
CD2	comp=Z,10.0nm,0.8s,mb4.7			AMB	AMB		
HHC	**Hu-ho-hao-te**	**50.39**	**342**	*e*P	**P**	**06 11 21.3**	**+1.6**
HHC				AP	pP	06 11 28.0	-2.3
HHC				XP	sP	06 11 29.8	-4.7
HHC	comp=Z,11nm,0.5s,mb5.1			AMB	AMB		
HHC	comp=Z,207nm,5.1s			AMB	AMB		
MDJ	**Mudanjiang**	**51.10**	**359**	P	**P**	**06 11 25.0**	**-0.1**
MDJ	comp=Z,7.0nm,0.6s,mb4.8			AMB	AMB		
MDJ	comp=Z,123nm,3.1s			AMB	AMB		
GTA	**Gaotai**	**53.90**	**331**	*e*P	**P**	**06 11 46.0**	**+0.2**
GTA	comp=Z,3.0nm,1.2s,mb4.1			AMB	AMB		
GUN	**Gumba**	**55.03**	**311**	*e*P	**P**	**06 11 54.7**	**+0.7**
KKN	**Kakani**	**55.42**	**310**	*e*P	**P**	**06 11 57.1**	**+0.3**
DMN	**Daman**	**55.45**	**310**	*e*P	**P**	**06 11 57.4**	**+0.3**
GKN	**Gorkha**	**56.01**	**310**	*e*P	**P**	**06 12 01.3**	**+0.2**
KOLN	**Koldanda**	**56.69**	**309**	*e*P	**P**	**06 12 06.5**	**+0.6**
SONM	**Songino Array**	**58.29**	**341**	P	**P**	**06 12 16.5**	**-0.7**
WMQ	**Urumqi**	**63.35**	**327**	*e*P	**P**	**06 12 52.0**	**+0.4**
WMQ	comp=Z,5.0nm,1.0s,mb4.6			AMB	AMB		
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**06 13 22.1**	**-0.6**
TKM2	**Tokmak 2**	**69.99**	**320**	P	**P**	**06 13 34.4**	**+0.4**
UCH	**Uchtor**	**70.34**	**319**	P	**P**	**06 13 35.8**	**-0.3**
AAK	**Ala-Archa**	**70.55**	**320**	P	**P**	**06 13 38.1**	**+0.7**
AAK	**Ala-Archa**	**70.55**	**320**	*e*P	**P**	**06 13 36.5**	**-0.9**
AML	**Almayashu**	**70.83**	**319**	P	**P**	**06 13 39.9**	**+0.8**
USP	**Ospenovka**	**70.86**	**320**	P	**P**	**06 13 39.2**	**-0.1**
EKS2	**Erkin-Say**	**71.03**	**319**	P	**P**	**06 13 40.7**	**+0.4**
VNDA	**Vanda**	**72.68**	**173**	LR	LR	06 45 55.4	
MAW	**Mawson**	**75.33**	**201**	P	**P**	**06 14 05.5**	**-0.2**
MAW	**Mawson**	**75.33**	**201**	*e*P	**P**	**06 14 05.5**	**-0.2**
ZRNK	**Zerenda**	**78.72**	**327**	*e*P	**P**	**06 14 23.4**	**-1.3**
QSPA	**South Pole Qui**	**83.25**	**180**	*e*P	**P**	**06 14 47.2**	**-1.7**
SYO	**Syowa Base**	**84.04**	**201**	⇑*e*P	**P**	**06 14 50.2**	**-2.8**
SYO	**Syowa Base**	**84.04**	**201**	⇓*e*PcP	PcP	06 14 54.2	-2.6
SNAA	**Sanae**	**96.01**	**193**	*e*P	**P**	**06 15 49.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**129.09**	**281**	PKP	PKPdf	06 21 30.3	0.0
USIN	**University of**	**133.61**	**42**	*e*PKPdf	PKPdf	06 21 39.5	+0.7
JTS	**JuntasAbangare**	**144.93**	**82**	PKPbc	PKPdf	06 21 58.5	-0.9

comp=Z,12nm,1.0s,baz=337,slow=8.4,SNR=4.7
CPUP Villa Florida 146.31 168 PKPbc PKPbc 06 22 01.9 -1.1
comp=Z,4.8nm,0.8s,baz=185,slow=1.2,SNR=9.0
CPUP Villa Florida 146.31 168 *e*PKPbc PKPbc 06 22 03.1 +0.2
LPAZ La Paz 150.73 142 PKPbc PKPbc 06 22 15.8 +1.3
comp=Z,2.0nm,0.4s,baz=44,slow=3.7,SNR=26
LPAZ PKPab PKPab 06 22 23.0 +1.5
comp=Z,3.5nm,0.6s,baz=302,slow=1.9,SNR=12
LPAZ La Paz 150.73 142 *e*PKPbc PKPbc 06 22 16.2 +1.7
LPAZ *e*PKPab PKPab 06 22 24.1 +2.6
SIV San Ignacio 154.76 153 PKPab PKPab 06 22 39.4 +0.9
comp=Z,1.4nm,0.7s,baz=238,slow=6.8,SNR=4.6

*ISCJB **05** 06:44:44.0±1.1, 179S±05×1785W±03, h592km±17km, mb4.4/10, Error ellipse: s-maj=85.2km s-min=13.4km az=126.5*
*IDC **05** 06:44:45.0±1.4, 1739S×17876W, h574km±24km, mb3.8/5, mb1 3.9/7, mb1mx3.6/15, mbtmp4.7/7, Error ellipse: s-maj=104.9km s-min=12.1km az=152.0*
*NEIC **05** 06:44:44.6±1.1, 1792S×17847W, h582km±15km, mb4.5/3, Error ellipse: s-maj=85.8km s-min=13.2km az=153.0*
ISC 05 06:44:44.5±1.1, 179S±05×1784W±03, h577km±15km, n17, σ0§62/19, mb4.4/10, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**06 46 39.1**	**+0.6**
AFI	5.2nm,0.3s,baz=272,slow=12,SNR=7.7			S	**S**	**06 48 11.1**	**-1.0**
DZM	**Mont Dzumac**	**14.80**	**251**	P	**P**	**06 47 51.9**	**+0.4**
CTA	**Charters Tower**	**33.42**	**261**	⇓*i*P	**P**	**06 50 36.8**	**+0.5**
STKA	**Stephens Creek**	**38.60**	**241**	*e*P	**P**	**06 51 19.7**	**+0.7**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**06 51 19.5**	**+0.5**
WB2	**Warramunga Arr**	**44.59**	**260**	⇓*i*P	**P**	**06 52 05.7**	**-0.4**
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**06 52 05.8**	**-0.4**
AS31	**Alice Springs**	**44.76**	**254**	⇓*i*P	**P**	**06 52 07.7**	**+0.3**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**06 52 07.8**	**+0.3**
ASAR	41nm,0.7s,mb5.1,baz=87,slow=8.6,SNR=396			S	**S**	**06 58 00.9**	**-2.0**
ASPA	**Alice Springs**	**44.77**	**254**	⇓*i*P	**P**	**06 52 07.7**	**+0.3**
KAKA	**Kakadu**	**47.56**	**269**	*e*P	**P**	**06 52 28.5**	**0.0**
FORT	**Forrest**	**49.98**	**245**	*e*P	**P**	**06 52 45.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.00**	**261**	*e*P	**P**	**06 53 08.4**	**+0.3**
KLBR	**Kellerberrin**	**58.80**	**244**	*e*P	**P**	**06 53 47.3**	**-0.8**
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**06 55 52.4**	**+0.8**
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**06 56 30.9**	**+0.1**
	1.8nm,0.6s,mb4.0,baz=224,slow=3.2,SNR=17						

OTT 05 07:26:55.5±1.4, 7141N×7540W, h18km, MN2.5/6, 80km southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIFN	**Gifford Fjord,**	**2.51**	**239**	PN	Pn	07 27 34.4	-1.0
GIFN				SN	Sn	07 28 04.5	-1.1
GIFN				SG	Sg	07 28 12.2	-4.1
GIFN				Trac		07 28 14.9	
	comp=Z,7.9nm,0.2s						
ILON	**Igloolik, Nuna**	**2.98**	**230**	PN	Pn	07 27 42.8	+0.9
ILON				SN	Sn	07 28 17.2	+0.1
ILON				LG		07 28 27.0	
ILON				Trac		07 28 29.7	
	comp=Z,3.6nm,0.5s						
AP3N	**Apex site 3 Nu**	**3.62**	**242**	PN	Pn	07 27 48.8	-1.9
AP3N				SN	Sn	07 28 30.8	-2.2
AP3N				LG		07 28 46.9	
AP3N				Trac		07 28 49.9	
	comp=Z,3.6nm,0.2s						
SRLN	**Sarcpa Lake, N**	**3.96**	**227**	PN	Pn	07 27 55.1	-0.2
SRLN				SN	Sn	07 28 43.5	+2.3
SRLN				LG		07 28 57.1	
SRLN				Trac		07 28 59.3	
	comp=Z,3.0nm,0.2s						
QILN	**Qililugaq Expl**	**6.18**	**225**	PN	Pn	07 28 24.4	-1.4
QILN				SN	Sn	07 29 33.5	-2.6
QILN				LG		07 30 04.3	
QILN				Trac		07 30 09.8	
	comp=Z,19nm,0.8s						
STLN	**Stellar Camp,**	**7.43**	**245**	PN	Pn	07 28 41.5	-1.6
STLN				SN	Sn	07 30 00.3	-6.5
STLN				LG		07 30 42.6	
STLN				Trac		07 30 47.4	
	comp=Z,16nm,1.2s						
BULN	**Bullion Camp,**	**8.11**	**240**	SN	Sn	07 30 17.3	-6.2
BULN				LG		07 31 05.2	
FRB	**Frobisher Bay**	**8.12**	**158**	SN	Sn	07 30 14.1	-10
FRB				LG		07 31 00.2	

NEIC 05 07:31:10.8, 5358N×16474W, h9km, ML3.6(AEIC), ML3.9(PMR), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.82**	**313**	P	Pg	07 31 26.0	-0.7
AKUT				S	Sg	07 31 37.6	+0.2
AKLV	**Akutan Long Va**	**0.92**	**309**	P	Pg	07 31 27.2	-1.4
AKLV				S	Sg	07 31 40.2	-0.4
OKCD	**Okmok Cone D**	**2.02**	**267**	P	Pn	07 31 43.5	-1.5
OKCE	**Okmok Cone E**	**2.05**	**267**	P	Pn	07 31 43.8	-1.7
NIKO	**Nikolski**	**2.54**	**258**	P	Pn	07 31 50.0	-2.2
SDPT	**Sand Point**	**3.05**	**53**	P	Pn	07 31 57.3	-2.0
CHGN	**Chignik**	**4.55**	**51**	*e*P	Pn	07 32 18.8	-1.0
ATKA	**Atka Island**	**5.89**	**260**	P	Pn	07 32 36.7	-1.5
DAWY	**Dawson**	**16.67**	**41**	*e*Pn	Pn	07 35 04.1	-0.5

NEIC 05 07:54:31.2, 6126N×14683W, h15km, ML3.8(AEIC), 1C, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIV	**Divide**	**0.53**	**104**	P	Pg	07 54 40.4	-1.2
DIV				S	Sg	07 54 48.2	-0.5
KNK	**Knik Glacier**	**0.80**	**282**	P	Pg	07 54 45.2	-1.6
EYAK	**Cordova Ski Ar**	**0.89**	**143**	P	Pb	07 54 46.9	-1.4
EYAK				S	Sb	07 55 00.1	+0.1
BMRM	**Bremner River**	**1.12**	**104**	P	Pb	07 54 49.4	-2.9
GHO	**Glory Hole Cre**	**1.13**	**298**	P	Pb	07 54 50.0	-2.5
PMR	**Palmer**	**1.16**	**288**	⇑*i*P	Pn	07 54 50.4	-2.5
RAGM	**Ragged Mountai**	**1.37**	**129**	P	Pn	07 54 54.5	-1.3
RC01	**Rabbit Creek A**	**1.42**	**264**	P	Pn	07 54 54.8	-1.7
FIB	**Fire Island**	**1.62**	**268**	P	Pn	07 54 58.0	-1.3
SEW	**Seward**	**1.73**	**229**	P	Pn	07 54 59.4	-1.4
SLKM	**Skilak Lake**	**1.82**	**247**	*e*P	Pn	07 55 01.2	-0.8
MID	**Middleton Isla**	**1.85**	**172**	P	Pn	07 55 01.2	-1.2
MENT	**Mentasta**	**2.23**	**40**	P	Pn	07 55 06.7	-1.0
MCK	**McKinley**	**2.67**	**339**	P	Pn	07 55 12.8	-0.9
MCK				*e*Pn	Pn	07 55 13.3	-0.4
DOT	**Dot Lake**	**2.72**	**27**	P	Pn	07 55 13.9	-0.5
TRF	**Thorofare Moun**	**2.73**	**325**	P	Pn	07 55 13.8	-0.8
KTH	**Kantishna Hill**	**2.99**	**322**	P	Pn	07 55 17.3	-0.8
COLA	**College**	**3.66**	**353**	P	Pn	07 55 25.9	-1.5
SVW2	**Sparrevohn**	**4.24**	**272**	P	Pn	07 55 32.8	-2.5
EGAK	**Eagle**	**4.38**	**34**	*e*Pn	Pn	07 55 36.5	-0.7
EGAK				*e*Pg	Pg	07 55 56.0	+0.9
EGAK				*e*Sg	Sg	07 56 51.4	-0.4
DAWY	**Dawson**	**4.44**	**47**	P	Pn	07 55 37.3	-0.7
KDAK	**Kodiak Island**	**4.55**	**223**	P	Pn	07 55 37.9	-1.7
IMA2	**Indian Mountai**	**5.71**	**331**	P	Pn	07 55 54.2	-1.4
WHY	**Whitehorse**	**5.85**	**91**	P	Pn	07 55 55.2	-2.3
SKAG	**Skagway**	**5.99**	**102**	*e*P	Pn	07 55 58.4	-0.9
COLD	**Coldfoot**	**6.17**	**348**	P	Pn	07 56 00.5	-1.4
SIT	**Sitka**	**7.25**	**120**	*e*P	Pn	07 56 14.5	-2.2

JMA 05 07:58:47.7±0.1, 2711N×13003E, h45km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.17**	**305**	P	Pn	07 59 08.2	+0.6
JTK				*e*S	Sn	07 59 22.3	-0.1
JAM	**Amami Oshima**	**1.35**	**344**	P	Pn	07 59 10.8	+0.7
JAM				*e*S	Sn	07 59 27.1	+0.3
JOW	**Kunigami**	**1.59**	**260**	P	Pn	07 59 14.4	+1.0
JOW				*e*S	Sn	07 59 32.9	+0.2
JMZ	**Minamidaito 2**	**1.67**	**140**	P	Pn	07 59 15.2	+0.7
JMZ				*e*S	Sn	07 59 35.0	+0.3
JIH	**Iheya**	**1.84**	**268**	P	Pn	07 59 18.1	+1.3
JIH				*e*S	Sn	07 59 39.4	+0.5
NAH1	**Naha**	**2.28**	**247**	*e*S	Sn	07 59 50.2	+0.5
JAGN	**Aguni-jima**	**2.54**	**259**	P	Pn	07 59 27.3	+0.8
JAGN				*e*S	Sn	07 59 56.6	+0.4
JKE	**Kume jima 2**	**3.00**	**256**	P	Pn	07 59 33.4	+0.6
JKE				*e*S	Sn	08 00 08.4	+0.9

*CSEM **05** 08:12:42.7±0.7, 3861N×2855W, h8km±4km, ML1.1, Error ellipse: s-maj=3.8km s-min=2.2km az=40.0, After PDA*
*PDA **05** 08:12:42.7±0.7, 3861N×2855W, h8km±4km, MD2.9, ML1.1, Error ellipse: s-maj=3.8km s-min=2.2km az=40.0*
SVSA 05 08:12:42.7±0.7, 3861N×2855W, h8km±4km, MD2.9, ML1.1, Error ellipse: s-maj=3.8km s-min=2.2km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.11**	**215**	*e*P	Pg	08 12 44.7	-0.4
HOR				*e*S	Sg	08 12 46.8	0.0
CALA	**Caldeira**	**0.12**	**254**	*e*S	Sg	08 12 47.4	+0.2
PICO	**Pico**	**0.15**	**138**	*e*P	Pg	08 12 45.6	-0.3
PICO				*e*S	Sg	08 12 48.1	+0.1
PCND	**Candelaria**	**0.16**	**154**	*e*P	Pg	08 12 46.3	+0.2
PCND				*e*S	Sg	08 12 48.5	+0.2
PCND	19nm,0.1s						
PTEI	**Pico do Teixo**	**0.20**	**128**	*e*S	Sg	08 12 48.3	-1.0
PTEI	20nm,0.2s						
PBOI	**Pico dos Bois**	**0.23**	**142**	*e*S	Sg	08 12 47.8	-2.5
PBOI	17nm,0.2s						
ROSA	**Rosais**	**0.27**	**67**	*e*P	Pg	08 12 47.7	-0.3
ROSA				*e*S	Sg	08 12 51.1	-0.4
PID	**Ribeirinha**	**0.38**	**117**	*e*P	Pg	08 12 49.3	-0.8
PID				*e*S	Sg	08 12 54.3	-0.8

*IGIL **05** 08:17:35.3, 3678N×736W, h31km, ML2.8*
*MDD **05** 08:17:36.2±0.6, 3675N×740W, h41km±15km, mb4.0/15, Error ellipse: s-maj=7.2km s-min=3.5km az=32.0, PRXIMO*
*SFS **05** 08:17:36.0, 3678N×734W, h28km, ML2.7*
*ISCJB **05** 08:17:36.1±0.6, 3695N±003×725W±003, h70km±6km, Error ellipse: s-maj=6.3km s-min=2.7km az=65.3*
*LDG **05** 08:17:36.4±0.2, 3674N×740W, h25km, Ml3.2/3, Error ellipse: s-maj=4.9km s-min=2.0km az=32.0*
*NEIC **05** 08:17:36.7, 3677N×736W, h38km, MN2.8(MDD), After MDD.*
*CSEM **05** 08:17:37.1±0.2, 3683N×718W, h42km±3km, ML3.7/6, Error ellipse: s-maj=5.1km s-min=2.2km az=37.0*
*INMG **05** 08:17:37.1±1.1, 3677N×736W, h31km, ML2.8, Error ellipse: s-maj=3.6km s-min=1.7km az=43.0*
ISC 05 08:17:36.9±0.6, 3690N±003×728W±003, h54km±8km, n74, σ1§06/139, 5C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.47**	**3**	⇑P	**Pn**	**08 17 48.2**	**+0.1**
ERIP	119nm,0.1s,SNR=18			S	**Sn**	**08 17 57.0**	**+0.8**
ERIP	**Rio Piedras**	**0.47**	**3**	⇑Pg	**Pn**	**08 17 48.2**	**+0.1**
ERIP	616nm,0.1s,SNR=7.9			Lg		08 17 57.0	
EGRO	**El Granado**	**0.65**	**346**	P	**Pn**	**08 17 50.5**	**+0.2**
EGRO	22nm,0.1s,SNR=40			S	**Sn**	**08 18 00.1**	**+0.2**
EGRO	**El Granado**	**0.65**	**346**	P	**Pn**	**08 17 50.5**	**+0.2**
EGRO	360nm,0.1s			S	**Sn**	**08 18 00.1**	**+0.2**
EMIN	**Mina Concepcio**	**0.99**	**29**	⇑P	**Pn**	**08 17 55.4**	**+0.7**
EMIN	10nm,0.1s,SNR=18			S	**Sn**	**08 18 09.9**	**+2.1**
EMIN	**Mina Concepcio**	**0.99**	**29**	P	**Pn**	**08 17 55.4**	**+0.7**
EMIN	42nm,0.1s,SNR=14			S	**Sn**	**08 18 09.9**	**+2.2**
GIBL	**Gibalbin**	**1.06**	**93**	P	**Pn**	**08 17 56.5**	**+0.9**
GIBL				S	**Sn**	**08 18 08.5**	**-0.7**
GIBL	**Gibalbin**	**1.06**	**93**	*e*P	**Pn**	**08 17 56.5**	**+1.0**
GIBL				*e*S	**Sn**	**08 18 08.5**	**-0.8**
CNIL	**Conil**	**1.12**	**118**	P	**Pn**	**08 17 56.0**	**-0.4**
CNIL				S	**Sn**	**08 18 07.8**	**-3.0**
CNIL	**Conil**	**1.12**	**118**	*e*P	**Pn**	**08 17 56.0**	**-0.4**
CNIL				*e*S	**Sn**	**08 18 07.8**	**-3.0**
ESPR	**Espera**	**1.14**	**91**	⇓P	**Pn**	**08 17 56.6**	**-0.1**
ESPR	44nm,0.1s,SNR=18			S	**Sn**	**08 18 10.5**	**-0.8**
ESPR	**Espera**	**1.14**	**91**	P	**Pn**	**08 17 56.6**	**-0.1**
ESPR	581nm,0.3s,SNR=18			S	**Sn**	**08 18 10.5**	**-0.8**
MORF	**Marmelete**	**1.17**	**291**	*e*P	**Pn**	**08 17 54.4**	**-2.6**
MORF				*e*S	**Sn**	**08 18 07.5**	**-4.3**
MORF				*e*S	**Sn**	**08 18 07.6**	**-4.3**
MORF				AML	AML	08 18 18.1	
	comp=N,147nm,0.2s						
MORF	**Marmelete**	**1.17**	**291**	P	**Pn**	**08 17 54.4**	**-2.6**
MORF				S	**Sn**	**08 18 07.5**	**-4.4**
MORF	**Marmelete**	**1.17**	**291**	*e*P	**Pn**	**08 17 54.4**	**-2.6**
MORF				*e*S	**Sn**	**08 18 07.5**	**-4.4**
PBEJ	**Beja**	**1.22**	**338**	*i*P	**Pn**	**08 17 57.7**	**+0.1**
PBEJ				*e*S	**Sn**	**08 18 13.3**	**+0.2**
PBEJ	comp=N,36nm,0.1s						
PTEO	**Sao Teotonio**	**1.32**	**300**	*i*P	**Pn**	**08 17 57.3**	**-1.7**
PTEO				*e*S	**Sn**	**08 18 13.9**	**-1.6**
PTEO	comp=N,30nm,0.2s						
LIJA	**Lijar**	**1.51**	**89**	P	**Pn**	**08 18 02.7**	**+1.2**
LIJA				S	**Sn**	**08 18 18.5**	**-1.6**
LIJA	**Lijar**	**1.51**	**89**	*i*P	**Pn**	**08 18 02.7**	**+1.1**
LIJA				*e*S	**Sn**	**08 18 18.5**	**-1.6**
EJIF	**Jimena Fronter**	**1.53**	**107**	P	**Pn**	**08 18 01.8**	**0.0**
EJIF	comp=N,2.7nm,0.2s,SNR=7.2			S	**Sn**	**08 18 18.1**	**-2.5**
EJIF	**Jimena Fronter**	**1.53**	**107**	P	**Pn**	**08 18 01.8**	**0.0**
EJIF	comp=N,4.8nm,0.2s,SNR=6.4			S	**Sn**	**08 18 18.1**	**-2.5**
EVO	**Evora**	**1.73**	**341**	*e*Pn	**Pn**	**08 18 05.2**	**+0.6**
EVO	**Evora**	**1.73**	**341**	*e*Pg	**Pn**	**08 18 11.9**	**+7.3**
EVO				*e*Sn	**Sn**	**08 18 25.1**	**-0.4**
	comp=N,59nm,0.3s						
EVO				*e*Sg	**Sn**	**08 18 35.9**	**+10**
MOE	**Montemor**	**1.83**	**333**	*e*Pn	**Pn**	**08 18 06.2**	**+0.3**
MOE				*e*Sn	**Sn**	**08 18 27.6**	**-0.3**
EBAD	**Badajoz**	**1.86**	**6**	⇑P	**Pn**	**08 18 07.2**	**+0.7**
EBAD	comp=N,4.6nm,0.1s,SNR=18			S	**Sn**	**08 18 30.6**	**+1.7**
EBAD	**Badajoz**	**1.86**	**6**	P	**Pn**	**08 18 07.2**	**+0.8**
EBAD	comp=N,4.6nm,0.1s,SNR=18			S	**Sn**	**08 18 30.6**	**+1.8**
	comp=N,33nm,0.1s,SNR=9.5						
PESTR	**Estremoz**	**1.98**	**353**	*e*Pn	**Pn**	**08 18 08.5**	**+0.5**
PESTR				*e*Sn	**Sn**	**08 18 31.9**	**+0.3**
PESTR	comp=N,36nm,0.3s						
PESTR	**Estremoz**	**1.98**	**353**	*e*Pn	**Pn**	**08 18 08.5**	**+0.5**
PESTR				*e*Sn	**Sn**	**08 18 31.9**	**+0.3**
	comp=N,36nm,0.3s						
EMIJ	**Mijas**	**2.04**	**99**	P	**Pn**	**08 18 08.7**	**-0.2**
EMIJ	comp=N,0.7nm,0.1s,SNR=7.9			S	**Sn**	**08 18 31.2**	**-2.0**
	comp=N,2.5nm,0.1s,SNR=7.9						

PLOU	**Loures**	**2.47**	**324**	*i* Pn	**Pn**	**08 18 14.8**	**+0.1**
PLOU				*e*Sn	**Sn**	**08 18 43.0**	**-0.7**
PLOU							
	comp=N,24nm,0.1s						
EADA	**Adamuz**	**2.50**	**59**	P	**Pn**	**08 18 16.0**	**+1.0**
	comp=N,7.7nm,0.1s,SNR=74						
EADA				S	**Sn**	**08 18 45.3**	**+1.0**
	comp=N,8.5nm,0.1s						
EADA	**Adamuz**	**2.50**	**59**	P	**Pn**	**08 18 16.0**	**+0.9**
	comp=N,7.7nm,0.1s,SNR=74						
EADA				S	**Sn**	**08 18 45.3**	**+1.0**
	comp=N,8.5nm,0.1s						
ELUQ	**Luque**	**2.50**	**74**	P	**Pn**	**08 18 15.7**	**+0.6**
	comp=N,5.2nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**08 18 44.1**	**-0.2**
	comp=N,9.2nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.52**	**83**	P	**Pn**	**08 18 15.9**	**+0.5**
	comp=N,1.0nm,0.1s,SNR=8.4						
ELOJ				S	**Sn**	**08 18 43.7**	**-1.1**
	comp=N,4.1nm,0.2s						
ELOJ	**Sierra Loja**	**2.52**	**83**	P	**Pn**	**08 18 15.9**	**+0.5**
ELOJ				S	**Sn**	**08 18 43.7**	**-1.1**
PMAFR	**Mafra**	**2.59**	**323**	*e*Pn	**Pn**	**08 18 16.2**	**-0.2**
PMAFR				*e*Sn	**Sn**	**08 18 45.8**	**-0.8**
ERON	**Agron**	**2.79**	**87**	S	**Sn**	**08 18 50.4**	**-1.0**
	comp=N,2.7nm,0.1s,SNR=5.9						
PTOM	**Tomar**	**2.85**	**342**	*e*Pn	**Pn**	**08 18 20.5**	**+0.5**
PTOM				*e*Sn	**Sn**	**08 18 53.0**	**-0.1**
PTOM							
	comp=N,34nm,0.1s						
PTOM	**Tomar**	**2.85**	**342**	*e*Pn	**Pn**	**08 18 20.5**	**+0.5**
PTOM				*e*Sn	**Sn**	**08 18 53.0**	**-0.1**
	comp=N,34nm,0.1s						
PCBR	**Castelo Branco**	**2.94**	**357**	*e*Pn	**Pn**	**08 18 22.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**08 18 55.4**	**+0.2**
PCBR							
	comp=N,28nm,0.1s						
PCBR	**Castelo Branco**	**2.94**	**357**	*e*Pn	**Pn**	**08 18 22.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**08 18 55.4**	**+0.2**
	comp=N,28nm,0.1s						
EGUA	**Guajares**	**2.98**	**90**	P	**Pn**	**08 18 22.0**	**+0.3**
	comp=N,0.4nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**08 18 50.7**	**-5.5**
	comp=N,1.4nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.00**	**82**	P	**Pn**	**08 18 22.9**	**+1.0**
	comp=N,1.1nm,0.1s,SNR=4.0						
ECOG				S	**Sn**	**08 18 51.7**	**-4.9**
	comp=N,4.0nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.05**	**65**	P	**Pn**	**08 18 23.3**	**+0.6**
	comp=N,41nm,0.1s,SNR=40						
EBAN				S	**Sn**	**08 18 56.6**	**-1.4**
	comp=N,6.0nm,0.1s,SNR=7.8						
EQUE	**Quentar**	**3.09**	**83**	P	**Pn**	**08 18 24.2**	**+1.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**08 18 59.3**	**+0.5**
	comp=N,3.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.48**	**74**	P	**Pn**	**08 18 28.9**	**+0.4**
	comp=N,2.2nm,0.1s,SNR=13						
EQES				S	**Sn**	**08 19 09.2**	**+0.9**
	comp=N,3.7nm,0.1s						
EQES	**Quesada**	**3.48**	**74**	P	**Pn**	**08 18 28.9**	**+0.4**
	comp=N,2.2nm,0.1s,SNR=13						
EQES				S	**Sn**	**08 19 09.2**	**+0.8**
	comp=N,3.7nm,0.1s						
MTE	**Manteigas**	**3.50**	**357**	*e*Pn	**Pn**	**08 18 29.6**	**+0.8**
MTE				*e*Sn	**Sn**	**08 19 08.8**	**-0.2**
MTE							
	comp=N,20nm,0.3s						
EBER	**Berja**	**3.52**	**89**	P	**Pn**	**08 18 28.8**	**-0.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**08 19 11.1**	**+1.6**
	comp=N,8.6nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.52**	**89**	P	**Pn**	**08 18 28.8**	**-0.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**08 19 11.1**	**+1.6**
	comp=N,8.6nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.81**	**42**	⇑P	**Pn**	**08 18 34.5**	**+1.4**
	comp=N,49nm,0.1s,baz=227,slow=13,SNR=18						
ESDC				S	**Sn**	**08 19 16.0**	**-0.5**
	comp=N,1.9nm,0.2s,baz=226,slow=23,SNR=3.8						
ESDC	**Sonseca Array**	**3.81**	**42**	P	**Pn**	**08 18 34.5**	**+1.5**
	comp=N,49nm,0.1s,SNR=18						
ESDC				S	**Sn**	**08 19 16.0**	**-0.5**
	comp=N,1.9nm,0.2s,SNR=3.8						
PVIS	**Viseu**	**3.84**	**353**	*e*Sn	**Sn**	**08 19 16.7**	**-0.6**
PVIS							
	comp=N,26nm,0.1s						
PVIS	**Viseu**	**3.84**	**353**	Sn	**Sn**	**08 19 16.7**	**-0.6**
	comp=N,13nm,0.1s						
EHUE	**Huescar**	**3.85**	**75**	⇓P	**Pn**	**08 18 33.9**	**+0.3**
	comp=N,1.5nm,0.1s,SNR=18						
EHUE				S	**Sn**	**08 19 18.4**	**+0.9**
	comp=N,3.3nm,0.2s						
EVIA	**Vianos**	**4.17**	**64**	P	**Pn**	**08 18 38.1**	**+0.2**
	comp=N,13nm,0.1s,SNR=40						
EVIA				S	**Sn**	**08 19 23.9**	**-1.4**
	comp=N,2.9nm,0.1s						
PVRL	**Vila Real**	**4.38**	**356**	*e*Sn	**Sn**	**08 19 29.7**	**-1.0**
PCAB	**Cabril**	**4.84**	**353**	*e*Sn	**Sn**	**08 19 40.5**	**-1.4**
PCAB							
	comp=N,16nm,0.1s						
PCAB	**Cabril**	**4.84**	**353**	Sn	**Sn**	**08 19 40.5**	**-1.4**
	comp=N,8.0nm,0.1s						
ETOB	**Tobarra**	**4.87**	**67**	⇓P	**Pn**	**08 18 47.6**	**+0.1**
	comp=N,3.7nm,0.1s,SNR=18						
ETOB				S	**Sn**	**08 19 42.2**	**-0.3**
	comp=N,6.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.87**	**67**	P	**Pn**	**08 18 47.6**	**+0.1**
	comp=N,3.7nm,0.1s,SNR=18						
ETOB				S	**Sn**	**08 19 42.2**	**-0.3**
	comp=N,6.1nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**4.92**	**5**	*e*Pn	**Pn**	**08 18 49.0**	**+0.8**
PBRG				*e*Sn	**Sn**	**08 19 42.8**	**-1.0**
PBRG							
	comp=N,14nm,0.2s						
ECAL	**Calabor**	**5.05**	**5**	P	**Pn**	**08 18 51.3**	**+1.3**
	comp=N,1.0nm,0.1s,SNR=9.3						
ECAL				S	**Sn**	**08 19 47.2**	**+0.1**
	comp=N,7.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.05**	**5**	P	**Pn**	**08 18 51.3**	**+1.2**
	comp=N,1.0nm,0.1s,SNR=9.3						
ECAL				S	**Sn**	**08 19 47.2**	**+0.1**
	comp=N,7.2nm,0.1s,SNR=7.9						
ETOR	**Torete**	**5.65**	**45**	P	**Pn**	**08 18 59.8**	**+1.4**
	comp=N,33nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**08 20 00.1**	**-1.8**
	comp=N,16nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.65**	**45**	P	**Pn**	**08 18 59.8**	**+1.4**
ETOR				S	**Sn**	**08 20 00.1**	**-1.8**
EMAZ	**Mazaricos**	**6.18**	**348**	S	**Sn**	**08 20 13.4**	**-1.5**
	comp=N,1.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.35**	**55**	P	**Pn**	**08 19 09.7**	**+1.8**
	comp=N,1.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**08 20 17.7**	**-1.4**
	comp=N,0.6nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**7.75**	**35**	*e*Pn	**Pn**	**08 19 29.0**	**+1.9**
SJPF				*e*Sn	**Sn**	**08 20 51.6**	**-1.8**
	comp=N,1.4nm,0.3s						
SJPF	**Ste Jean**	**7.75**	**35**	*e*Pn	**Pn**	**08 19 29.0**	**+1.9**
SJPF				*e*Sn	**Sn**	**08 20 51.6**	**-1.8**
	comp=N,0.7nm,0.3s						
ETSF	**Etsaut**	**7.91**	**39**	*e*Pn	**Pn**	**08 19 30.7**	**+1.5**
ETSF				*e*Sn	**Sn**	**08 20 55.0**	**-2.3**
	comp=N,1.4nm,0.3s						
ETSF	**Etsaut**	**7.91**	**39**	*e*Pn	**Pn**	**08 19 30.7**	**+1.5**
ETSF				*e*Sn	**Sn**	**08 20 55.0**	**-2.3**
	comp=N,0.7nm,0.3s						
EPF	**Esparros**	**8.47**	**41**	*e*Pn	**Pn**	**08 19 38.0**	**+1.1**
MFF	**Saint Martin d**	**11.06**	**27**	*e*Pn	**Pn**	**08 20 12.5**	**+0.2**

*NAO **05** 08:28:10.6±2.3, 7815N×855E, ML2.6*
BER 05 08:28:11.6±7.8, 7806N×859E, h0km±57km, MD2.5, ML2.6(NAO), Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.10**	**36**	Pg	Pg	08 28 30.9	-1.9
KBS				Lg		08 28 44.5	
KBS	**Kingsbay**	**1.10**	**36**	*e*P	Pg	08 28 30.9	-1.8
KBS				*e*S	Sg	08 28 44.2	-2.8
SPA0	**Spitsbergen Ar**	**1.61**	**82**	Pg	Pg	08 28 40.6	-2.0
	baz=270,slow=12						
SPA0				Lg		08 29 01.9	
	baz=223,slow=18						
HOPEN	**Hopen**	**3.94**	**105**	*e*P	Pn	08 29 11.4	-1.9
HOPEN				*e*S	Sn	08 29 55.9	-4.3
ARA0	**ARCESS Array S**	**9.71**	**143**	Pn	Pn	08 30 31.1	-1.4
	baz=321,slow=12						
ARA0				Sn	Sn	08 32 14.9	-7.5
	baz=333,slow=18						

*ISCJB **05** 08:34:05.3±0.3, 2642S×002×2762E×003, h10km, mb4.1/11, Error ellipse: s-maj=3.6km s-min=3.1km az=63.3*
*PRE **05** 08:34:05.2±0.8, 2641S×2763E, h2km, ML3.8*
*IDC **05** 08:34:06.2±0.8, 2640S×2760E, h0km, mb4.1/10, mb1 4.3/16, mb1mx4.1/28, mbtmp4.2/16, ML4.4/5, Error ellipse: s-maj=15.3km s-min=12.5km az=104.0*
*NEIC **05** 08:34:06.5±0.6, 2639S×2766E, h5km, mb4.5/2, Error ellipse: s-maj=13.0km s-min=7.2km az=106.0*
ISC 05 08:34:06.6±0.3, 2641S×002×2761E×003, h10km, (h9km±5.1km:pP-P), n44, σ1⇑21/69, mb4.1/11, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**204**	*e*P	**Pg**	**08 34 15.8**	**-1.6**
PRYS				*e*S	**Sg**	**08 34 23.9**	**-0.9**
PRYS				AML	AML	08 34 30.9	
	comp=Z,4μm,0.7s						
ERPM	**east rand prop**	**0.59**	**74**	*e*P	**Pg**	**08 34 16.6**	**-1.4**
ERPM				*e*S	**Sg**	**08 34 24.2**	**-1.5**
ERPM				AML	AML	08 34 24.7	
	comp=Z,2μm,0.4s						
KSR	**Koster**	**0.85**	**311**	*e*P	**Pg**	**08 34 22.0**	**-0.9**
KSR				*e*S	**Sg**	**08 34 33.6**	**-0.4**
KSR				AML	AML	08 34 41.7	
	comp=Z,818nm,0.2s						
SLR	**Silverton**	**0.90**	**42**	*e*P	**Pg**	**08 34 22.3**	**-1.7**
SLR				*e*S	**Sg**	**08 34 34.7**	**-1.0**
SLR				AML	AML	08 34 42.1	
	comp=Z,1μm,0.9s						
SEK	**Senekal**	**1.91**	**180**	*e*P	**Pn**	**08 34 39.9**	**+0.8**
SEK				*e*S	**Sn**	**08 35 04.7**	**+1.6**
SEK				AML	AML	08 35 05.9	
	comp=Z,909nm,0.5s						
SWZ	**Schweizer**	**2.18**	**249**	*e*P	**Pn**	**08 34 43.5**	**+0.7**
SWZ				*e*S	**Sn**	**08 35 11.3**	**+1.4**
SWZ				AML	AML	08 35 16.1	
	comp=Z,865nm,0.2s						
LBTB	**Lobatse**	**2.29**	**307**	*e*P	**Pn**	**08 34 44.7**	**+0.3**
LBTB				*e*S	**Sn**	**08 35 13.4**	**+0.8**
LBTB				AML	AML	08 35 20.1	
	comp=Z,442nm,0.3s						
LBTB	**Lobatse**	**2.29**	**307**	Pn	**Pn**	**08 34 46.7**	**+2.4**
	comp=Z,156nm,0.3s,baz=138,slow=15,SNR=778						
LBTB				Pg	**Pg**	**08 34 48.3**	**-2.1**
	comp=Z,156nm,0.3s,baz=137,slow=17,SNR=757						
LBTB				Lg		08 35 18.1	
	comp=Z,230nm,0.3s,baz=225,slow=23,SNR=33						
LBTB				Rg		08 35 27.1	
	comp=Z,175nm,0.3s,baz=242,slow=13,SNR=7.3						
LBTB	**Lobatse**	**2.29**	**307**	*e*Pn	**Pn**	**08 34 46.7**	**+2.4**
LBTB				*e*Sg	**Sg**	**08 35 18.4**	**-1.8**
BOSA	**Boshof**	**3.03**	**223**	*e*P	**Pn**	**08 34 55.1**	**+0.5**
BOSA				*e*S	**Sn**	**08 35 31.6**	**+0.6**
BOSA				AML	AML	08 35 41.9	
	comp=Z,153nm,0.3s						
BOSA	**Boshof**	**3.03**	**223**	Pn	**Pn**	**08 34 55.5**	**+0.8**
	comp=Z,30nm,0.3s,baz=48,slow=13,SNR=400						
BOSA				Pg	**Pg**	**08 35 02.9**	**-1.8**
	comp=Z,37nm,0.3s,baz=47,slow=14,SNR=41						
BOSA				Sn	**Sn**	**08 35 30.2**	**-0.8**
	comp=Z,34nm,0.3s,baz=34,slow=14,SNR=11						
BOSA				Lg		08 35 40.4	
	comp=Z,57nm,0.3s,baz=318,slow=17,SNR=12						
BOSA				Rg		08 35 57.6	
	comp=Z,62nm,0.3s,baz=301,slow=15,SNR=2.3						
BOSA	**Boshof**	**3.03**	**223**	*e*Pn	**Pn**	**08 34 55.4**	**+0.8**
BOSA				*e*Sn	**Sn**	**08 35 29.1**	**-1.9**
POGA	**Pongola**	**3.70**	**106**	*e*P	**Pn**	**08 35 04.7**	**+1.0**
POGA				*e*S	**Sn**	**08 35 48.2**	**+0.8**
POGA				AML	AML	08 36 03.7	
	comp=Z,554nm,0.4s						
KSD	**Kokstad**	**4.41**	**159**	*e*P	**Pn**	**08 35 13.7**	**+0.2**
KSD				*e*S	**Sn**	**08 36 03.2**	**-1.8**
KSD				AML	AML	08 36 27.0	
	comp=Z,208nm,0.5s						
HVD	**Hendrik Verwoe**	**4.58**	**204**	*e*P	**Pn**	**08 35 15.6**	**-0.2**
HVD				*e*S	**Sn**	**08 36 08.1**	**-0.9**
HVD				AML	AML	08 36 30.5	
	comp=Z,155nm,0.5s						
UPI	**Upington**	**5.98**	**250**	*e*P	**Pn**	**08 35 35.9**	**+0.8**
UPI				*e*S	**Sn**	**08 36 41.6**	**-2.0**
UPI				AML	AML	08 37 26.3	
	comp=Z,102nm,0.5s						
MATP	**Matopo**	**6.01**	**8**	Pn	**Pn**	**08 35 35.8**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=186,slow=12,SNR=65						
MATP				Sn	**Sn**	**08 36 43.2**	**-1.2**
	comp=Z,7.0nm,0.3s,baz=188,slow=11,SNR=7.1						
MATP				Lg		08 37 13.2	
	comp=Z,25nm,0.3s,baz=273,slow=23,SNR=13						
MATP				Rg		08 37 40.0	
	comp=Z,36nm,0.6s,baz=114,slow=23,SNR=3.4						
GRM	**Grahamstown**	**6.95**	**188**	*e*P	**Pn**	**08 35 48.7**	**+0.3**
GRM				*e*S	**Sn**	**08 37 05.5**	**-1.9**
GRM				AML	AML	08 37 54.5	
	comp=Z,52nm,0.5s						
SUR	**Sutherland**	**8.40**	**223**	*e*P	**Pn**	**08 36 09.6**	**+1.3**
SUR				*e*S	**Sn**	**08 37 39.8**	**-3.4**
SUR	**Sutherland**	**8.40**	**223**	Pn	**Pn**	**08 36 09.9**	**+1.6**
	comp=Z,7.6nm,0.3s,baz=53,slow=14,SNR=84						
SUR				Sn	**Sn**	**08 37 39.0**	**-4.2**
	comp=Z,5.7nm,0.3s,baz=335,slow=19,SNR=6.6						
SUR				Lg		08 38 28.8	
	comp=Z,8.1nm,0.3s,baz=141,slow=23,SNR=6.4						
SUR	**Sutherland**	**8.40**	**223**	*e*Pn	**Pn**	**08 36 09.3**	**+1.0**
	comp=Z,42nm,0.6s						
CVNA	**Calvinia**	**8.53**	**232**	*e*P	**Pn**	**08 36 11.0**	**+0.9**
CVNA				*e*S	**Sn**	**08 37 43.0**	**-3.5**
LSZ	**Lusaka**	**11.09**	**3**	Pn	**Pn**	**08 36 44.7**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=185,slow=13,SNR=15						
LSZ				Sn	**Sn**	**08 38 44.2**	**-5.1**
	comp=Z,1.1nm,0.3s,baz=102,slow=11,SNR=6.4						
LSZ				Lg		08 39 51.8	
	comp=Z,0.7nm,0.3s,baz=258,slow=21,SNR=6.1						
LSZ	**Lusaka**	**11.09**	**3**	*e*Pn	**Pn**	**08 36 44.4**	**-0.8**
	comp=Z,7.2nm,0.5s						
LSZ				*e*Sn	**Sn**	**08 38 43.7**	**-5.5**
TSUM	**Tsumeb**	**11.70**	**306**	Pn	**Pn**	**08 36 54.0**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=129,slow=11,SNR=41						
TSUM				Sn	**Sn**	**08 38 52.9**	**-11**
	comp=Z,0.3nm,0.3s,baz=236,slow=22,SNR=3.0						
TSUM				Lg		08 40 14.2	
	comp=Z,1.4nm,0.3s,baz=75,slow=13,SNR=6.7						
TSUM	**Tsumeb**	**11.70**	**306**	*e*Pn	**Pn**	**08 36 54.2**	**+0.6**
	comp=Z,10nm,0.6s						
TSUM				*e*Sn	**Sn**	**08 39 09.1**	**+4.9**
KMBO	**Kilima Mbogo**	**26.79**	**22**	P	**P**	**08 39 48.8**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.4,baz=207,slow=17,SNR=2.3						
KMBO	**Kilima Mbogo**	**26.79**	**22**	*e*P	**P**	**08 39 47.8**	**+1.1**
SYO	**Syowa Base**	**43.22**	**174⇓**	*e*P	**P**	**08 42 06.5**	**-1.3**
DBIC	**Dimbokro**	**45.53**	**312**	P	**P**	**08 42 26.8**	**+0.5**
	comp=Z,1.6nm,0.5s,mb4.2,baz=124,slow=11,SNR=3.2						
DBIC	**Dimbokro**	**45.53**	**312**	*e*P	**P**	**08 42 27.2**	**+0.9**
	comp=Z,3.6nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**46.70**	**324**	P	**P**	**08 42 36.4**	**+0.8**
	comp=Z,3.3nm,0.6s,mb4.5,baz=138,slow=6.7,SNR=58						
SNAA	**Sanae**	**48.37**	**192**	*e*	**P**	**08 42 48.8**	**+0.3**
SNAA				*e*	pP	08 42 50.2	-1.5
SNAA				*e*	pP	08 42 53.2	+1.5
SNAA	**Sanae**	**48.37**	**192**	*e*P	**P**	**08 42 49.6**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.7						
VNA1	**Neumayer--Stat**	**48.75**	**195**	*e*	**P**	**08 42 52.9**	**+1.4**
VNA1				*e*	pP	08 42 53.8	-0.8
VNA1				*e*	pP	08 42 57.2	+2.6
VNA3	**Neumayer Olymp**	**49.50**	**195**	*e*	**P**	**08 42 57.6**	**+0.4**
VNA3				*e*	pP	08 42 58.5	-1.9
VNA3				*e*	pP	08 43 01.9	+1.6
ESDC	**Sonseca Array**	**72.04**	**335**	P	**P**	**08 45 31.4**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=156,slow=5.7,SNR=5.0						
VNDA	**Vanda**	**72.80**	**171**	P	**P**	**08 45 35.9**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=252,slow=7.4,SNR=7.6						
GERES	**GERESS Array B**	**75.94**	**351**	P	**P**	**08 45 55.0**	**+1.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=185,slow=7.4,SNR=5.1						
AKASG	**Malin Array Be**	**76.78**	**1**	P	**P**	**08 45 59.1**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=189,slow=5.5,SNR=5.7						
FINES	**FINESS Array B**	**87.55**	**359**	P	**P**	**08 46 55.5**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.2,baz=155,slow=5.2,SNR=10.0						
LPAZ	**La Paz**	**87.87**	**253**	P	**P**	**08 46 58.8**	**+2.5**
	comp=Z,1.3nm,0.9s,mb4.1,baz=63,slow=6.8,SNR=3.1						
MKAR	**Makanchi Array**	**88.00**	**34**	P	**P**	**08 46 57.8**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.2,baz=237,slow=2.6,SNR=7.9						
NVAR	**Mina Array Bea**	**149.00**	**301**	PKPbc	PKPbc	08 53 58.2	+3.4
	comp=Z,0.6nm,0.5s,baz=59,slow=6.0,SNR=7.9						

IDC 05 08:40:06.7±2.0, 125N×12666E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=169.9km s-min=24.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**161**	P	P	08 45 06.0	-0.3
	1.4nm,0.4s,baz=339,slow=11,SNR=46						
WB2	**Warramunga Arr**	**22.37**	**161**	*e*P	P	08 45 06.1	-0.3
ASAR	**Alice Springs**	**25.75**	**165**	P	P	08 45 39.8	+0.8
	0.4nm,0.3s,baz=342,slow=11,SNR=16						
MKAR	**Makanchi Array**	**59.55**	**326**	P	P	08 50 12.0	+0.1
	0.5nm,0.4s,baz=122,slow=7.2,SNR=8.4						

WEL 05 08:58:26.7±0.6, 3808S×17636E, h153km±6km, ML3.5/4, 1C, Error ellipse: s-maj=9.3km s-min=8.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.61**	**107**	PN	Pn	08 58 48.6	-0.4
URZ				SN	Sn	08 59 05.2	-0.7
MWZ	**Matawai**	**0.95**	**106**	PN	Pn	08 58 51.6	+0.3
MWZ				SN	Sn	08 59 10.1	-0.1
BKZ	**Black Stump Fm**	**1.09**	**175**	⇑PN	Pn	08 58 52.7	+0.2
WNVZ	**Wahianoa**	**1.38**	**206**	PN	Pn	08 58 55.6	+0.4
MOVZ	**Moawhango**	**1.41**	**200**	PN	Pn	08 58 55.4	-0.1
MXZ	**Matakaoa Point**	**1.62**	**72**	PN	Pn	08 58 57.6	-0.1
PXZ	**Pawanui**	**1.98**	**169**	PN	Pn	08 59 01.7	-0.1
TSZ	**Takapari Road**	**2.00**	**189**	PN	Pn	08 59 01.4	-0.5
MRZ	**Mangatainoka R**	**2.65**	**193**	PN	Pn	08 59 08.4	-1.3
MRZ				SN	Sn	08 59 40.0	-2.9
MTW	**Mount Morrison**	**3.14**	**192**	PN	Pn	08 59 13.8	-2.2
CAW	**Cannon Point**	**3.18**	**198**	PN	Pn	08 59 14.5	-2.0
CAW				SN	Sn	08 59 51.4	-3.6
MSWZ	**Moikau Station**	**3.44**	**194**	PN	Pn	08 59 17.2	-2.5
TUWZ	**Tuamarina**	**3.83**	**208**	PN	Pn	08 59 22.4	-2.3
QRZ	**Quartz Range**	**4.04**	**226**	PN	Pn	08 59 24.2	-3.3
THZ	**Tophouse**	**4.54**	**215**	PN	Pn	08 59 30.9	-3.1
KHZ	**Kahutara**	**4.84**	**206**	PN	Pn	08 59 34.8	-3.2

*NEIC **05** 09:27:32.0, 3036S×7203W, h34km, ML4.0(GUC), After GUC.*
GUC 05 09:27:32.0±0.9, 3036S×7203W, h34km±4km, MD4.2, ML4.0, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.81**	**57⇓**	*i*P	Pn	09 27 47.3	+0.3
LSCH				*i* S	Sn	09 27 58.2	+0.3
TLL	**Tololo Astrono**	**1.07**	**80⇓**	*i*P	Pn	09 27 51.6	+1.0
TLL				*i* S	Sn	09 28 06.7	+2.3
TLL				AML	AML	09 28 09.6	
	comp=N,4μm,0.3s						
TLL	**Tololo Astrono**	**1.07**	**80⇓**	*i*P	Pn	09 27 51.6	+1.0
TLL				*i* S	Sn	09 28 06.7	+2.3
CHNG	**Los Chungos**	**1.58**	**164**	*e*P	Pn	09 27 58.8	+1.2
CHNG				*i* S	Sn	09 28 20.9	+4.0
LCO	**Las Campanas**	**1.77**	**41⇑**	*i*P	Pn	09 28 02.1	+1.9
LCO				*i* S	Sn	09 28 25.5	+4.0
LCO				AML	AML	09 28 33.3	
	comp=N,968nm,0.8s						
LCO	**Las Campanas**	**1.77**	**41⇑**	*i*P	Pn	09 28 02.1	+1.9
LCO				*i* S	Sn	09 28 25.5	+4.0
VACH	**Vallenar**	**2.10**	**32⇓**	*i*P	Pn	09 28 10.8	+6.2
VACH				*i* S	Sn	09 28 36.0	+6.5
VACH				AML	AML	09 28 48.6	
	comp=E,1μm,0.5s						
JACH	**Jahuel**	**2.62**	**152**	*e*P	Pn	09 28 13.5	+1.7
PEL	**Peldehue**	**3.00**	**158**	*e*P	Pn	09 28 18.6	+1.5
PEL				*i* S	Sn	09 28 54.0	+2.1
PEL				AML	AML	09 29 09.3	
	comp=E,765nm,0.5s						
PEL	**Peldehue**	**3.00**	**158**	*e*P	Pn	09 28 18.6	+1.5
PEL				*i* S	Sn	09 28 54.0	+2.1
ZON	**Zonda**	**3.11**	**113**	*e*P	Pn	09 28 22.9	+4.4
ZON				AML	AML	09 29 16.0	
	comp=N,222nm,0.5s						
CLCH	**Cerro Calan**	**3.28**	**158**	*e*P	Pn	09 28 22.4	+1.5
CLCH				AML	AML	09 29 16.9	
	comp=E,762nm,0.4s						
FCH	**Farellones**	**3.31**	**154**	*e*P	Pn	09 28

6.1nm,0.9s,mb4.3,baz=99,slow=11,SNR=12
FITZ LR LR 10 12 48.9
comp=Z,319nm,19.1s,MS4.2,baz=110,slow=35
TBI Tubuai 40.30 105 *e*S **S 10 03 02.0 +0.7**
96nm,27.0s
TBI *e*LQ 10 06 37.3
399nm,26.2s
TBI *e*LR LR 10 07 56.5
180nm,30.2s
PPT Papeete 40.61 96 *e*S **S 10 03 05.5 -0.5**
109nm,23.8s
PPT *e*LQ 10 06 36.4
354nm,27.2s
PPT *e*LR LR 10 08 04.9
312nm,25.2s
PPT Papeete 40.61 96 LR LR 10 09 10.5
comp=Z,223nm,19.9s,MS4.0,baz=136,slow=29
TAOE Nuku Hiva Isla 51.40 87 *e*S **S 10 05 43.2 +2.3**
271nm,24.4s
TAOE *e*LR LR 10 13 12.5
840nm,25.6s
RKT Rikitea 53.61 106 *e*S **S 10 06 11.8 +0.7**
96nm,27.5s
RKT *e*LR LR 10 14 07.1
105nm,27.5s
MJAR Matsushiro Arr 61.10 333 P **P 09 59 32.3 -0.6**
4.6nm,1.0s,mb4.5,baz=169,slow=8.3,SNR=6.1
QSPA South Pole Qui 71.92 180 *e*P **P 10 00 42.7 +0.7**
QSPA *e*P 10 00 43.0
RPN Rapa Nui 75.88 114 LR LR 10 28 24.7
comp=Z,48nm,19.5s,MS3.8,baz=352,slow=31
SONM Songino Array 85.46 324 P **P 10 01 57.4 +1.0**
3.7nm,1.1s,mb4.4,baz=121,slow=3.1,SNR=12
CMB Columbia Colle 87.52 49 *e*P **P 10 02 05.2 -1.3**
4.2nm,0.9s,mb4.7
CMB *e*pP pP 10 02 14.5 -3.1
NVAR Mina Array Bea 89.18 49 P **P 10 02 13.6 -0.7**
2.1nm,0.9s,mb4.5,baz=233,slow=9.0,SNR=13
SNAA Sanae 90.19 183 *e* **P 10 02 19.0 -0.1**
SNAA *e* 10 02 21.2
SNAA *e* pP 10 02 28.6 -1.6
WVOR Wild Horse Val 90.57 45 *e*P **P 10 02 19.8 -1.0**
4.3nm,1.1s,mb4.7
WVOR *e*pP pP 10 02 28.9 -3.1
VNA3 Neumayer Olymp 90.84 181 *e* **P 10 02 22.3 +0.2**
VNA3 *e* pP 10 02 30.4 -2.8
VNA3 *e* 10 02 36.2
VNA3 *e* 10 02 40.8
TUC Tucson 92.63 57 *e*P **P 10 02 30.1 -0.3**
2.3nm,1.1s,mb4.5
PDAR Pinedale Array 96.94 47 LR LR 10 36 24.3
comp=Z,33nm,20.8s,MS3.8,baz=79,slow=29
CDF Champ du Feu 145.85 337 *e*PKP1 PKPbc 10 08 57.7 -0.2
44nm,1.3s
HINF Hinteralfeld 146.50 336 *e*PKP1 PKPbc 10 08 59.2 -0.6
HAU Haudompre 146.54 337 *e*PKP1 PKPbc 10 08 59.5 -0.4
CABF La Chapelle 147.79 336 *e*PKP1 PKPbc 10 09 03.7 +0.3
22nm,1.0s
FLN La Foliniere 147.97 345 *e*PKP1 PKPbc 10 09 03.1 -0.8
83nm,1.4s
LDF La Druitiere 148.04 345 *e*PKP1 PKPbc 10 09 03.1 -1.0
12nm,0.9s
LOR Lormes 148.05 339 *e*PKP1 PKPbc 10 09 03.7 -0.4
17nm,1.0s
SSF Saint Saulge 148.35 339 *e*PKP1 PKPbc 10 09 04.7 -0.2
24nm,1.1s
LPL La Plagne 148.43 334 *e*PKP1 PKPbc 10 09 05.5 +0.4
LPG La Plagne 148.44 334 *e*PKP1 PKPbc 10 09 05.6 +0.5
AVF Avril sur Loir 148.64 339 *e*PKP1 PKPbc 10 09 05.1 -0.6
BGF Bois d'Agland 149.01 339 *e*PKP1 PKPbc 10 09 06.3 -0.3
15nm,0.7s
ORIF Oris-en-Rattie 149.27 334 *e*PKP1 PKPbc 10 09 07.1 -0.1
SBF Sospel 149.43 331 *e*PKP1 PKPbc 10 09 08.1 +0.4
TCF Toulx Ste Croi 149.46 340 *e*PKP1 PKPbc 10 09 07.5 -0.2
34nm,1.2s
PGF Pioggiola 149.67 328 *e*PKP1 PKPbc 10 09 08.0 -0.2
40nm,0.9s
VIVF Saint-Julien-l 149.80 336 *e*PKP1 PKPbc 10 09 08.5 -0.1
18nm,0.9s
MFF Saint Martin d 149.88 343 *e*PKP1 PKPbc 10 09 08.4 -0.4
35nm,1.1s
FRF La Foret Royal 150.02 332 *e*PKP1 PKPbc 10 09 09.8 +0.7
RJF Les Rejaudoux 150.56 340 *e*PKP1 PKPbc 10 09 10.3 -0.1
21nm,1.0s
CAF Calviac 150.71 339 *e*PKP1 PKPbc 10 09 10.7 0.0
LASF Ste Croix 150.78 336 *e*PKP1 PKPbc 10 09 10.9 0.0
33nm,1.2s
TORD Torodi Ar. Bea 165.63 252 PKP PKPdf 10 09 24.0 +0.8
1.7nm,1.1s,baz=76,slow=0.6,SNR=4.7

NEIC ***05*** *09:54:51.9±1.1, 4653N×15409E, h10km, mb4.2/1, Error ellipse: s-maj=25.8km s-min=15.3km az=105.0*
ISCJB ***05*** *09:54:54.8±1.9, 465N±0.1×1538E±02, h36km±16km, mb3.8/10, Error ellipse: s-maj=25.6km s-min=13.1km az=80.7*
MOS ***05*** *09:54:54.2±1.6, 4653N×15369E, h33km, mb4.1/7, Error ellipse: s-maj=21.3km s-min=15.6km az=62.8*
IDC ***05*** *09:55:00.3±5.3, 4644N×15359E, h68km±46km, mb3.5/9, mb1 3.7/11, mb1mx3.6/23, mbtmp3.8/11, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/31, Error ellipse: s-maj=32.8km s-min=20.7km az=84.0*
ISC 05 09:54:57.3±1.7, 466N±01×1538E±02, h43km±14km, n24, σ0°77/24, mb3.8/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.33**	**255**	⇑*i* PN	**Pn**	**09 55 55.5**	**-5.2**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR	**Severo-Kuril's**	**4.42**	**20**	*e*PN	**Pn**	**09 56 01.2**	**-0.6**
ASAJ	**Asahikawa**	**8.25**	**257**	P	**Pn**	**09 56 54.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=91,slow=26,SNR=6.4						
ASAJ				LR	LR	10 00 52.1	
	comp=Z,45nm,18.8s,baz=357,slow=44						
MJAR	**Matsushiro Arr**	**15.33**	**235**	P	**Pn**	**09 58 31.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=38,slow=8.1,SNR=4.6						
INCN	**Inchon**	**22.02**	**255**	*e*P	**P**	**09 59 47.8**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.2						
SONM	**Songino Array**	**31.84**	**290**	P	**P**	**10 01 19.2**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.2,baz=69,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**47.45**	**298**	P	**P**	**10 03 26.6**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=64,slow=8.2,SNR=6.8						
MKAR	**Makanchi Array**	**47.45**	**298**	P	**P**	**10 03 26.6**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**10 03 56.7**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=55,slow=7.9,SNR=3.2						
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**10 03 56.7**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**10 05 28.9**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=42,slow=8.8,SNR=10.0						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**10 05 29.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**64.49**	**54**	P	**P**	**10 05 31.1**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=323,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**68.47**	**200**	P	**P**	**10 05 53.9**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=19,slow=6.8,SNR=4.3						
WRA	**Warramunga Arr**	**68.47**	**200**	P	**P**	**10 05 53.9**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.57**	**341**	P	**P**	**10 05 55.6**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**10 05 56.0**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=28,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**10 05 56.0**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**10 05 56.0**	**+0.4**
AKASG	**Malin Array Be**	**71.97**	**327**	P	**P**	**10 06 16.1**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=34,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	**71.97**	**327**	P	**P**	**10 06 16.1**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.16**	**199**	P	**P**	**10 06 16.8**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=14,slow=5.4,SNR=9.7						
ASAR	**Alice Springs**	**72.16**	**199**	P	**P**	**10 06 16.8**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**76.84**	**336**	*e*P	**P**	**10 06 45.0**	**+0.4**

IDC ***05*** *09:56:16.9±1.2, 4.11N×12693E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=97.7km s-min=16.7km az=71.0*
ISCJB ***05*** *09:56:20.0±1.0, 4.1N±02×1269E±06, h33km, mb3.8/7, Error ellipse: s-maj=85.1km s-min=13.5km az=141.7*
NEIC ***05*** *09:56:21.4±0.8, 4.14N×12701E, h30km, mb3.9/1, Error ellipse: s-maj=61.7km s-min=10.4km az=71.0*
ISC 05 09:56:22.3±1.0, 41N±02×1269E±05, h35km, n9, σ0°46/9, mb3.8/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.11**	**183**	*e*P	**P**	**10 01 15.2**	**+0.7**
	3.5nm,0.7s,mb3.9						
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	**P**	**10 01 14.6**	**+0.1**
	2.3nm,0.8s,mb3.7,baz=6.5,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**24.99**	**163**	P	**P**	**10 01 42.6**	**-0.1**
	2.8nm,0.8s,mb3.9,baz=343,slow=9.5,SNR=31						
WB2	**Warramunga Arr**	**24.99**	**163**	*e*P	**P**	**10 01 43.0**	**+0.3**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**10 02 13.4**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=348,slow=7.1,SNR=8.4						
STKA	**Stephens Creek**	**38.41**	**160**	P	**P**	**10 03 40.1**	**-0.3**
	1.0nm,0.4s,mb3.9,baz=330,slow=14,SNR=2.4						
SONM	**Songino Array**	**47.00**	**341**	P	**P**	**10 04 50.8**	**+0.7**
	0.5nm,0.5s,mb3.7,baz=165,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**10 06 06.2**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=122,slow=8.0,SNR=6.5						
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**10 07 12.4**	**+0.1**
	0.7nm,0.5s,mb4.0,baz=124,slow=7.3,SNR=4.1						

IDC 05 10:05:09.5±2.2, 667S×12977E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=92.5km s-min=28.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.05**	**199**	Pn	Pn	10 08 03.7	+1.2
	0.9nm,0.3s,baz=38,slow=11,SNR=24						
FITZ				Sn	Sn	10 10 04.2	-13
	0.5nm,0.3s,baz=197,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**13.92**	**162**	Pn	Pn	10 08 27.2	-0.7
	0.5nm,0.3s,baz=342,slow=12,SNR=14						
WRA				Sn	Sn	10 10 49.6	-14
	0.9nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.36**	**167**	P	Pn	10 09 13.1	0.0
	0.2nm,0.3s,baz=339,slow=9.4,SNR=12						
ASAR				S	Sn	10 12 15.2	-12
	0.2nm,0.3s,baz=353,slow=26,SNR=5.5						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	10 16 09.5	+0.1
	0.3nm,0.4s,baz=121,slow=8.0,SNR=5.9						

IDC 05 10:09:32.4±1.8, 1727S×17903W, h492km±32km, mb3.1/6, mb1 3.4/7, mb1mx3.2/15, mbtmp4.0/7, Error ellipse: s-maj=112.7km s-min=13.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.74**	**65**	P	P	10 11 26.4	+0.6
	4.0nm,0.3s,baz=232,slow=18,SNR=12						
AFI				S	S	10 12 59.5	+0.6
	0.6nm,0.3s,baz=299,slow=21,SNR=2.1						
STKA	**Stephens Creek**	**38.43**	**240**	P	P	10 16 11.1	+0.1
	1.6nm,0.4s,baz=122,slow=12,SNR=7.9						
WRA	**Warramunga Arr**	**44.17**	**259**	P	P	10 16 56.5	-0.2
	0.4nm,0.4s,baz=94,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**44.40**	**254**	P	P	10 16 58.8	+0.3
	7.3nm,0.7s,baz=88,slow=8.2,SNR=80						
FITZ	**Fitzroy Crossi**	**52.55**	**261**	P	P	10 18 00.2	+1.0
	0.5nm,0.6s,baz=39,slow=22,SNR=4.5						
NVAR	**Mina Array Bea**	**79.38**	**44**	P	P	10 20 47.1	+0.4
	0.6nm,0.7s,baz=225,slow=12,SNR=5.6						
PDAR	**Pinedale Array**	**87.30**	**44**	P	P	10 21 26.1	-0.1
	0.4nm,0.5s,baz=231,slow=3.4,SNR=5.0						
GERES	**GERESS Array B**	**146.84**	**345**	PKPbc	PKPbc	10 28 18.8	-0.1
	0.3nm,0.3s,baz=20,slow=4.3,SNR=4.2						

IDC 05 10:32:29.1±1.3, 5019N×2926W, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, MS3.4/11, Ms1 3.4/11, ms1mx3.1/32, Error ellipse: s-maj=34.0km s-min=31.4km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**22.96**	**17**	LR	LR	10 44 10.3	
	comp=Z,64nm,21.9s,baz=75,slow=30						
NOA	**NORSAR Array B**	**24.88**	**49**	LR	LR	10 46 49.8	
	comp=Z,66nm,18.8s,baz=265,slow=35						
MDT	**Midelt**	**25.16**	**124**	LR	LR	10 44 51.0	
	comp=Z,31nm,18.9s,baz=138,slow=30						
DAVOX	**Davos/Dischmat**	**25.96**	**82**	LR	LR	10 48 20.5	
	comp=Z,75nm,18.4s,baz=87,slow=37						
HFS	**Hagfors**	**26.02**	**51**	LR	LR	10 47 25.4	
	comp=Z,122nm,18.2s,baz=255,slow=34						
GERES	**GERESS Array B**	**27.64**	**76**	LR	LR	10 48 36.6	
	comp=Z,56nm,18.8s,baz=98,slow=35						
VRAC	**Vranov**	**29.29**	**74**	LR	LR	10 49 48.1	
	comp=Z,91nm,19.5s,baz=244,slow=36						
ARCES	**ARCESS Array B**	**32.05**	**33**	P	P	10 38 57.9	+0.3
	0.8nm,0.7s,baz=247,slow=8.7,SNR=3.3						
FINES	**FINESS Array B**	**32.06**	**48**	P	P	10 38 56.1	-1.5
	1.5nm,0.9s,baz=282,slow=9.2,SNR=3.7						
FINES				LR	LR	10 51 04.6	
	comp=Z,82nm,19.7s,baz=347,slow=35						
AKASG	**Malin Array Be**	**36.40**	**66**	P	P	10 39 34.5	-0.7
	0.3nm,0.3s,baz=290,slow=8.6,SNR=4.1						
ULM	**Lac du Bonnet**	**41.31**	**297**	LR	LR	10 55 27.2	
	comp=Z,40nm,18.5s,baz=47,slow=33						
TORD	**Torodi Ar. Bea**	**44.76**	**135**	P	P	10 40 44.3	0.0
	1.2nm,0.8s,baz=335,slow=6.2,SNR=7.7						
PDAR	**Pinedale Array**	**53.27**	**295**	P	P	10 41 49.1	-0.4
	0.3nm,0.6s,baz=64,slow=8.1,SNR=2.6						
ZAL	**Zalesovo**	**62.43**	**38**	LR	LR	11 11 48.7	
	comp=Z,33nm,18.1s,baz=141,slow=38						
MKAR	**Makanchi Array**	**66.77**	**44**	P	P	10 43 22.3	-0.1
	0.9nm,0.7s,baz=330,slow=7.0,SNR=6.1						
BDFB	**Brasilia**	**67.60**	**200**	LR	LR	11 07 25.7	
	comp=Z,61nm,18.2s,baz=323,slow=31						
SONM	**Songino Array**	**75.14**	**29**	P	P	10 44 13.3	+0.1
	0.8nm,1.0s,baz=2.9,slow=3.0,SNR=4.0						
WRA	**Warramunga Arr**	**147.12**	**29**	PKPbc	PKPbc	10 52 14.5	+0.4
	0.6nm,0.8s,baz=340,slow=3.4,SNR=5.1						
ASAR	**Alice Springs**	**150.44**	**33**	PKPbc	PKPbc	10 52 21.8	-0.8
	0.7nm,0.9s,baz=5.0,slow=2.1,SNR=6.5						
ASAR				PKPab	PKPab	10 52 28.1	-0.9
	0.8nm,1.0s,baz=333,slow=2.9,SNR=4.9						

IDC 05 10:33:29.5±14.0, 376N×12628E, h220km±150km, mb3.2/7, mb1 3.4/7, mb1mx3.2/18, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx2.9/12, Error ellipse: s-maj=88.9km s-min=22.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*e*P	P	10 38 03.3	-0.1
FITZ	**Fitzroy Crossi**	**21.73**	**182**	P	P	10 38 03.5	+0.1
	2.2nm,0.9s,baz=16,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**24.85**	**162**	P	P	10 38 31.8	0.0
	1.8nm,0.6s,baz=344,slow=11,SNR=18						
WB2	**Warramunga Arr**	**24.86**	**162**	*e*P	P	10 38 30.8	-1.0
ASAR	**Alice Springs**	**28.26**	**165**	P	P	10 39 02.6	+0.5
	0.3nm,0.5s,baz=346,slow=7.5,SNR=8.8						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	10 40 29.2	+0.3
	1.8nm,0.6s,baz=317,slow=13,SNR=3.4						
SONM	**Songino Array**	**47.12**	**342**	P	P	10 41 39.6	+0.1
	0.5nm,0.5s,baz=159,slow=8.5,SNR=5.0						
SONM				LR	LR	11 01 43.3	
	comp=Z,33nm,20.2s,baz=172,slow=36						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	10 42 54.2	+0.1
	0.6nm,0.4s,baz=125,slow=7.7,SNR=7.4						
ARCES	**ARCESS Array B**	**90.26**	**340**	P	P	10 46 04.7	-0.5
	1.0nm,0.7s,baz=74,slow=8.9,SNR=4.8						

MEX 05 10:34:36.7±0.9, 1678N×10113W, h10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.87**	**72**	*i* P	Pg	10 34 50.6	-2.8
CAIG				*i* S	Sg	10 35 02.8	-1.9
ACX	**Acapulco**	**1.17**	**86**	*i* P	Pb	10 34 55.0	-3.9
ACX				*i* S	Sb	10 35 10.0	-4.1
MEIG	**Mezcala**	**1.84**	**52**	*i* P	Pn	10 35 05.7	-2.5
MEIG				*i* S	Sn	10 35 26.3	-5.2

JMA 05 10:41:04.5±0.2, 3819N×14474E, h53km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.56**	**291**	P	Pn	10 41 44.9	+1.3
OFUJ				S	Sn	10 42 15.3	+1.8
MIYJ	**Miyakonagasawa**	**2.67**	**302**	P	Pn	10 41 46.0	+1.0
MIYJ				S	Sn	10 42 17.1	+1.0
JIO	**Ouri**	**2.68**	**277**	P	Pn	10 41 46.5	+1.3
JIO				S	Sn	10 42 17.6	+1.2
JMK	**Ichinoseki**	**2.86**	**286**	P	Pn	10 41 49.3	+1.7
JMK				*e*S	Sn	10 42 22.8	+1.9
JOT	**Ohata**	**4.27**	**319**	P	Pn	10 42 09.0	+2.0
JCH	**Churui**	**4.54**	**347**	P	Pn	10 42 10.2	-0.5
JCH				*e*S	Sn	10 43 00.6	-1.6
JKB	**Kayabe**	**4.66**	**324**	P	Pn	10 42 14.2	+1.9
JKB				*e*S	Sn	10 43 05.2	+0.1
JRY	**Ryogami san**	**5.15**	**247**	P	Pn	10 42 20.6	+1.6
JRY				*e*S	Sn	10 43 16.2	-0.8
NEM2	**Nemuro 2**	**5.22**	**8**	P	Pn	10 42 17.4	-2.6
NEM2				*e*S	Sn	10 43 12.9	-6.1
JTKR	**Abashiri--Toko**	**5.81**	**354**	P	Pn	10 42 27.1	-0.9
JTKR				*e*S	Sn	10 43 29.5	-3.8

KRSC 05 10:46:16, 5022N×15753E, h104km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.30**	**15**	*e*P	Pn	10 46 55.4	+2.8
RUS				*e*S	Sn	10 47 24.7	+4.1
GRL	**Gorelyy**	**2.36**	**8**	*e*P	Pn	10 46 56.9	+3.5
GRL				*e*S	Sn	10 47 26.5	+4.5
PET	**Petropavlovsk**	**2.89**	**14**	*e*S	Sn	10 47 38.6	+4.0
AVH	**Avacha**	**3.14**	**13**	*e*P	Pn	10 47 07.4	+3.7
AVH				*e*S	Sn	10 47 44.0	+3.5
NLC	**Nalytchevo**	**3.16**	**20**	*e*S	Sn	10 47 44.3	+3.3
SPN	**Mys Shipunski**	**3.27**	**27**	*e*P	Pn	10 47 09.4	+3.9
SPN				*e*S	Sn	10 47 47.2	+3.6
GNL	**Ganaly**	**3.49**	**4**	*e*P	Pn	10 47 11.6	+3.3
MKZ	**Mys Kozlova**	**5.05**	**29**	*e*S	Sn	10 48 29.3	+2.9

ISK ***05*** *11:17:13.6, 3692N×2783E, h27km, MD3.2*
ISCJB ***05*** *11:17:14.2±0.4, 3690N±002×2791E±003, h12km±4km, Error ellipse: s-maj=4.1km s-min=3.9km az=171.0*
ATH ***05*** *11:17:14.3, 3689N×2790E, h29km±1km, MD3.3/5*
NEIC ***05*** *11:17:14.3, 3689N×2790E, h29km, MD3.3(ATH), After ATH.*
CSEM ***05*** *11:17:14.4±0.1, 3692N×2787E, h15km, MD3.2, Error ellipse: s-maj=2.8km s-min=2.3km az=60.0*
ISC 05 11:17:14.9±0.4, 3689N±003×2788E±003, h15km±3km, n22, σ0°88/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.29**	**237**	PG	**Pg**	**11 17 21.0**	**-0.1**
DAT				SG	**Sg**	**11 17 26.1**	**+0.8**
BDRM	**Kayabasi**	**0.39**	**297**	*i* P	**Pg**	**11 17 22.6**	**-0.3**
BDRM				*i* S	**Sg**	**11 17 28.6**	**+0.4**
MLSB	**Milas**	**0.41**	**348**	PG	**Pg**	**11 17 22.8**	**-0.5**
MLSB				SG	**Sg**	**11 17 28.7**	**-0.2**
BODT	**Bodrum**	**0.49**	**291**	PG	**Pg**	**11 17 24.3**	**-0.3**
BODT				SG	**Sg**	**11 17 30.9**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.62**	**101**	PG	**Pg**	**11 17 26.9**	**-0.1**
NISR	**Nisiros**	**0.67**	**246**	*e*PN	**Pg**	**11 17 28.0**	**+0.1**
ARG	**Arkhangelos**	**0.70**	**164**	*e*PN	**Pg**	**11 17 28.5**	**-0.1**
AYDN	**Tasoluk**	**0.77**	**360**	*i* P	**Pg**	**11 17 29.6**	**-0.3**
AYDN				*i* S	**Sg**	**11 17 39.7**	**-0.3**
SMG	**Samos**	**1.17**	**315**	*e*PN	**Pn**	**11 17 36.2**	**-0.4**
SMG				*e*SN	**Sn**	**11 17 52.7**	**+0.4**
SMG	**Samos**	**1.17**	**315**	*e*Pn	**Pn**	**11 17 36.0**	**-0.6**
SMG				*e*Sn	**Sn**	**11 17 52.8**	**+0.5**
DNZL	**Cakiroluk**	**1.22**	**49**	*i* P	**Pn**	**11 17 44.5**	**+7.1**
DNZL				*i* S	**Sb**	**11 18 02.8**	**+10**
DENT	**Denizli**	**1.26**	**46**	PN	**Pn**	**11 17 36.6**	**-1.3**
KARP	**Karpathos**	**1.46**	**204**	*e*PN	**Pn**	**11 17 40.9**	**+0.2**
KARP				*e*SN	**Sn**	**11 18 00.0**	**+0.5**
AKAS	**Kas**	**1.53**	**115**	*i* P	**Pg**	**11 17 44.3**	**-0.1**
AKAS				*i* S	**Sg**	**11 18 07.8**	**+3.4**
IZM	**Izmir**	**1.58**	**342**	PN	**Pn**	**11 17 39.8**	**-2.5**
KDAG	**Bornova**	**1.59**	**342**	*i* P	**Pn**	**11 17 42.0**	**-0.4**
KDAG				*i* S	**Sn**	**11 18 05.2**	**+2.5**
ELL	**Elmali**	**1.63**	**94**	PN	**Pn**	**11 17 42.1**	**-0.9**
URLA	**Izmir**	**1.79**	**326**	*i* P	**Pn**	**11 17 45.9**	**+0.7**
URLA				*i* S	**Sg**	**11 18 12.9**	**+0.4**
APE	**Apeiranthos**	**1.89**	**276**	*e*PN	**Pn**	**11 17 46.6**	**0.0**
APE	**Apeiranthos**	**1.89**	**276**	*e*Pn	**Pn**	**11 17 46.5**	**-0.1**
TKTP	**Tekketepe**	**2.25**	**59**	*i* P	**Pg**	**11 17 57.9**	**-0.2**
TKTP				*i* S	**Sg**	**11 18 28.2**	**+0.8**
GDZ	**Gediz**	**2.53**	**29**	*i* P	**Pg**	**11 18 02.4**	**-1.1**
GDZ				*i* S	**Sg**	**11 18 38.5**	**+2.2**

ISCJB ***05*** *11:20:47.0±1.4, 62N±02×1263E±03, h153km±12km, mb3.9/7, Error ellipse: s-maj=56.0km s-min=16.9km az=137.5*
IDC ***05*** *11:20:47.5±20.0, 605N×12595E, h137km±200km, mb3.8/6, mb1 3.9/6, mb1mx3.5/19, mbtmp4.2/6, Error ellipse: s-maj=65.8km s-min=30.9km az=64.0*
MAN ***05*** *11:20:48.1, 6.12N×126.10E, h160km, mb3.3, ML4.5, MS4.8*
ISC 05 11:20:48.2±1.4, 62N±02×1263E±03, h149km±12km, n10, σ0°50/12, mb3.9/7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**1.19**	**318**	⇑*i* P	**Pn**	**11 21 14.6**	**0.0**
DMPH		

RCDM	**Rinconada Maip**	**1.47**	**34**⇑	*i* P	Pn	11 44 57.3	+0.7
RCDM				*i* S	Sn	11 45 16.2	+1.5
PCH	**Pirque**	**1.52**	**44**⇓	*i* P	Pn	11 44 58.6	+1.3
PCH				*i* S	Sn	11 45 18.7	+2.8
LMEL	**Las Melosas**	**1.57**	**57**	*e*P	Pn	11 44 59.4	+1.4
LMEL				*i* S	Sn	11 45 19.6	+2.4
LMEL				AML	AML	11 45 24.0	
	comp=N,359nm,0.2s						
LMEL	**Las Melosas**	**1.57**	**57**	*e*P	Pn	11 44 59.4	+1.4
LMEL				*i* S	Sn	11 45 19.6	+2.4
CLCH	**Cerro Calan**	**1.68**	**39**	*e*P	Pn	11 44 59.2	-0.3
CLCH				*i* S	Sn	11 45 22.2	+2.5
CLCH				AML	AML	11 45 28.1	
	comp=N,214nm,0.8s						
PEL	**Peldehue**	**1.82**	**31**	*e*P	Pn	11 45 02.4	+0.9
PEL				*e*S	Sn	11 45 25.0	+1.8
PEL				AML	AML	11 45 32.3	
	comp=N,271nm,0.3s						
PEL	**Peldehue**	**1.82**	**31**	*e*P	Pn	11 45 02.4	+0.9
PEL				*e*S	Sn	11 45 25.0	+1.8
FCH	**Farellones**	**1.86**	**42**	*e*P	Pn	11 45 03.6	+1.6
FCH				*i* S	Sn	11 45 27.4	+3.1
FCH				AML	AML	11 45 33.4	
	comp=E,232nm,0.2s						

ATH ***05*** *11:46:42.1, 3663N×2848E, h20km, MD3.3/3*
CSEM ***05*** *11:46:43.8±0.2, 3665N×2835E, h10km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.4km az=18.0*
ISCJB ***05*** *11:46:44.4±0.9, 3661N±005×2833E±004, h6km±7km, Error ellipse: s-maj=8.8km s-min=4.8km az=11.2*
ISK ***05*** *11:46:44.3, 3669N×2834E, h20km, MD2.9*
ISC 05 11:46:45.0±0.6, 3661N±003×2835E±004, h11km±5km, n12, σ1§17/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.28**	**56**	*e*PG	**Pg**	**11 46 50.7**	**0.0**
DALT				*e*SG	**Sg**	**11 46 55.2**	**+0.7**
ARG	**Arkhangelos**	**0.43**	**204**	*e*PN	**Sg**	**11 46 52.3**	**-1.1**
ARG				*e*SN	**Sg**	**11 46 59.8**	**+0.7**
DAT	**Datca**	**0.63**	**281**	PG	**Pg**	**11 46 56.4**	**-0.8**
DAT				SG	**Sg**	**11 47 06.2**	**+0.8**
MLSB	**Milas**	**0.82**	**326**	*e*PG	**Pg**	**11 46 59.7**	**-1.1**
BDRM	**Kayabasi**	**0.85**	**302**	*i* P	**Pg**	**11 47 00.3**	**-1.1**
BDRM				*i* S	**Sg**	**11 47 14.1**	**+1.5**
BODT	**Bodrum**	**0.95**	**299**	*e*PG	**Pg**	**11 47 02.0**	**-1.2**
BODT				*e*SG	**Sg**	**11 47 15.7**	**+0.2**
AKAS	**Kas**	**1.08**	**110**	*i* P	**Pb**	**11 47 05.6**	**-0.2**
AKAS				*i* S	**Sb**	**11 47 22.4**	**+2.5**
ELL	**Elmali**	**1.26**	**83**	PN	**Pn**	**11 47 07.8**	**-0.8**
DENT	**Denizli**	**1.27**	**25**	*e*PN	**Pn**	**11 47 06.1**	**-2.6**
KARP	**Karpathos**	**1.43**	**223**	*e*PN	**Pn**	**11 47 10.4**	**-0.5**
KARP				*e*SN	**Sn**	**11 47 30.9**	**+1.2**
SMG	**Samos**	**1.63**	**313**	*e*PN	**Pn**	**11 47 12.8**	**-0.9**
KDAG	**Bornova**	**1.99**	**335**	*i* P	**Pn**	**11 47 19.6**	**+1.1**
KDAG				*i* S	**Sg**	**11 47 50.9**	**+2.1**

IDC 05 11:55:35.5±6.1, 1913N×14576E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=203.9km s-min=33.5km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.58**	**338**	LR	LR	11 59 47.9	
	comp=Z,240nm,19.1s,baz=142,slow=29						
WRA	**Warramunga Arr**	**40.41**	**197**	P	P	12 03 15.8	+0.5
	0.5nm,0.5s,baz=19,slow=10,SNR=16						
FITZ	**Fitzroy Crossi**	**41.95**	**209**	P	P	12 03 28.2	+0.2
	0.4nm,0.3s,baz=39,slow=9.8,SNR=8.1						
ASAR	**Alice Springs**	**44.08**	**196**	P	P	12 03 45.0	-0.3
	0.2nm,0.5s,baz=15,slow=5.9,SNR=6.2						
MKAR	**Makanchi Array**	**58.21**	**314**	P	P	12 05 31.5	+0.1
	0.2nm,0.5s,baz=87,slow=7.7,SNR=2.2						

MOS 05 11:56:31.1±0.7, 4259N×4344E, h10km, mb3.6/1, 2C-2D, Error ellipse: s-maj=40.8km s-min=12.4km az=49.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.33**	**19**⇓	*i*PG	Pg	11 56 38.7	+1.1
DIGR				*i* S	Sg	11 56 44.2	+2.2
ZEI	**Tsey**	**0.39**	**62**⇑	*i*PG	Pg	11 56 39.5	+0.8
ZEI				*i* S	Sg	11 56 45.5	+1.7
LACR	**Lac**	**0.68**	**69**⇓	*i*PG	Pg	11 56 44.5	+0.3
LACR				*e*S	Sg	11 56 54.2	+1.2
KORR	**Kora**	**0.68**	**43**⇑	*i*PG	Pg	11 56 45.0	+0.8
KORR				*i* S	Sg	11 56 55.1	+2.0
KMSR	**Komsomolskaya**	**1.00**	**38**	*e*PG	Pg	11 56 51.1	+0.7
KMSR				*e*S	Sg	11 57 05.6	+2.2
VLKR	**Vladikavkaz**	**1.02**	**63**	*e*PG	Pg	11 56 51.1	+0.4
VLKR				*e*S	Sg	11 57 05.6	+1.6
SNJR	**Sundja**	**1.12**	**64**	*e*PG	Pg	11 56 52.9	+0.3
SNJR				*e*S	Sb	11 57 08.8	+1.7

BJI ***05*** *11:59:36.3, 2788N×14001E, h437km, mB5.0, mb4.4*
IDC ***05*** *11:59:39.8±0.5, 2832N×13976E, h425km±6km, mb3.6/18, mb1 3.7/23, mb1mx3.7/27, mbtmp4.5/23, Error ellipse: s-maj=14.4km s-min=7.8km az=78.0*
ISCJB ***05*** *11:59:39.3±0.4, 2831N±004×13983E±008, h436km±4km, mb4.1/38, Error ellipse: s-maj=10.7km s-min=5.9km az=159.6*
JMA ***05*** *11:59:39.9±0.3, 2840N×140.18E, h446km±4km, M4.2*
MOS ***05*** *11:59:39.2±1.0, 2829N×13969E, h435km, mb4.4/24, Error ellipse: s-maj=18.4km s-min=7.7km az=111.0*
NEIC ***05*** *11:59:40.8±0.9, 2835N×13975E, h437km±9km, mb4.3/13, Error ellipse: s-maj=11.6km s-min=7.8km az=92.0*
ISC 05 11:59:40.3±0.3, 2835N±004×13991E±008, h434km±4km, h427km±6.0km: pP-P, n110, σ1§06/108, mb4.1/38, 4C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.37**	**121**	P	**P**	**12 00 41.7**	**+0.1**
	219nm,0.3s,baz=304,slow=4.3,SNR=19						
CBIJ				S	**S**	**12 01 30.4**	**-0.9**
	231nm,0.3s,baz=281,slow=22,SNR=8.9						
CBIJ	**Chichi jima**	**2.37**	**121**	P	**P**	**12 00 41.6**	**0.0**
CBIJ				S	**S**	**12 01 30.0**	**-1.3**
JHHJ	**Haha-jima-NKT**	**2.64**	**130**	P	**P**	**12 00 43.5**	**+0.1**
JHHJ				S	**S**	**12 01 33.9**	**-0.7**
JHJ2	**Mitsune**	**4.75**	**359**	P	**P**	**12 01 02.4**	**+1.0**
JHJ2				*e*S	**S**	**12 02 06.9**	**-0.6**
JHJ	**Hachijo jima 2**	**4.76**	**359**	P	**P**	**12 01 01.6**	**+0.1**
	61nm,0.3s,baz=166,slow=10,SNR=6.4						
JHJ				S	**S**	**12 02 05.5**	**-2.1**
	87nm,0.3s,baz=78,slow=22,SNR=7.0						
JWZ	**Kozaga**	**6.30**	**326**	P	**P**	**12 01 18.9**	**+1.7**
BSO1	**Boso 1**	**6.35**	**8**	P	**P**	**12 01 18.5**	**+0.8**
BSO1				*e*S	**S**	**12 02 35.5**	**-1.8**
JIE	**Ise**	**6.62**	**336**	P	**P**	**12 01 23.0**	**+2.4**
JOD2	**Odawara 2**	**6.93**	**354**	P	**P**	**12 01 24.2**	**+0.3**
JTO	**Tosashimizu**	**7.60**	**308**	P	**P**	**12 01 33.1**	**+2.0**
JRY	**Ryogami san**	**7.70**	**354**	P	**P**	**12 01 32.2**	**+0.1**
MJAR	**Matsushiro Arr**	**8.30**	**350**	P	**P**	**12 01 37.7**	**-1.0**
	4.7nm,0.3s,baz=170,slow=10,SNR=30						
MJAR				S	**S**	**12 03 12.6**	**-3.4**
	1.0nm,0.3s,baz=164,slow=12,SNR=3.6						
MJAR	**Matsushiro Arr**	**8.30**	**350**	P	**P**	**12 01 37.7**	**-1.0**
MJAR				S	**S**	**12 03 12.6**	**-3.3**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**8.30**	**350**	*e*P	**P**	**12 01 38.4**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,25nm,0.4s						
MAJO	**Matsushiro**	**8.30**	**350**	*e*Pn	**P**	**12 01 38.4**	**-0.3**
	comp=Z,25nm,0.4s						
MAT	**Matsushiro**	**8.30**	**350**	P	**P**	**12 01 38.2**	**-0.5**
MAT				*e*S	**S**	**12 03 13.9**	**-2.0**
MAT	**Matsushiro**	**8.30**	**350**	P	**P**	**12 01 38.6**	**-0.1**
JHS	**Saijyo**	**8.80**	**321**	P	**P**	**12 01 46.2**	**+2.0**
JOW	**Kunigami**	**10.44**	**264**	P	**P**	**12 02 02.2**	**0.0**
	comp=Z,6.9nm,0.3s,baz=124,slow=11,SNR=3.8						
JMK	**Ichinoseki**	**10.63**	**6**	P	**P**	**12 02 05.8**	**+1.5**
JKB	**Kayabe**	**13.54**	**4**	P	**P**	**12 02 37.8**	**+1.8**
JOSM	**Okushiri--Mats**	**13.71**	**359**	P	**P**	**12 02 39.7**	**+1.8**
ASAJ	**Asahikawa**	**15.89**	**7**	P	**P**	**12 03 03.2**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=216,slow=15,SNR=9.7						
ASAJ	**Asahikawa**	**15.89**	**7**	P	**P**	**12 03 03.2**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VLA	**Vladivostok**	**16.10**	**338**⇑	*i* P	**P**	**12 03 03.9**	**+0.4**
VLA				pmax	pmax		
	comp=Z,63nm,0.6s						
YSS	**Yuzh-Sakhalins**	**18.71**	**6**	*e*P	**P**	**12 03 31.9**	**+1.2**
SNY	**Shenyang**	**18.92**	**320**	⇑P	**P**	**12 03 33.5**	**+0.8**
SNY				AMB	AMB		
	comp=Z,42nm,0.8s						
HIA	**Hailar**	**25.99**	**329**	*e*P	**P**	**12 04 36.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
HIA	**Hailar**	**25.99**	**329**	*e*P	**P**	**12 04 36.7**	**+0.3**
	comp=Z,6.5nm,0.4s,mb4.4						
GYA	**Guiyang**	**29.53**	**274**⇑	*i* P	**P**	**12 05 07.4**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
LZH	**Lanzhou**	**31.34**	**294**	*e*P	**P**	**12 05 18.5**	**-4.8**
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.3						
LZH	**Lanzhou**	**31.34**	**294**	*e*P	**P**	**12 05 18.5**	**-4.8**
	comp=Z,19nm,1.1s,mb4.3						
SONM	**Songino Array**	**32.42**	**316**	P	**P**	**12 05 32.7**	**+0.2**
	comp=Z,3.9nm,0.6s,mb3.9,baz=127,slow=8.7,SNR=24						
SONM				PcP	PcP	12 08 07.8	+0.2
	comp=Z,0.9nm,0.4s,baz=132,slow=3.0,SNR=7.0						
SONM	**Songino Array**	**32.42**	**316**	P	**P**	**12 05 32.7**	**+0.1**
SONM						12 08 07.8	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMI	**Kunming**	**33.27**	**273**	P	**P**	**12 05 40.3**	**+0.5**
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.2						
KMI	**Kunming**	**33.27**	**273**	P	**P**	**12 05 40.3**	**+0.5**
	comp=Z,13nm,1.0s,mb4.2						
GTA	**Gaotai**	**34.82**	**299**	*e*P	**P**	**12 05 52.1**	**-0.8**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.0						
ZAK	**Zakamensk**	**35.35**	**319**	*e*P	**P**	**12 05 52.2**	**-5.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
PSI	**Prapat**	**46.57**	**244**	P	**P**	**12 07 27.4**	**+0.1**
	comp=Z,10nm,0.7s,mb4.2,baz=48,slow=5.0,SNR=8.4						
PSI	**Prapat**	**46.57**	**244**	P	**P**	**12 07 27.4**	**+0.1**
PSI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
JIRN	**Jiri**	**47.10**	**283**	*e*P	**P**	**12 07 32.0**	**+0.7**
ZAL	**Zalesovo**	**47.24**	**319**	P	**P**	**12 07 32.1**	**-0.2**
	comp=Z,1.6nm,0.5s,mb3.6,baz=7.2,slow=8.8,SNR=8.1						
ZAL				PcP	PcP	12 08 55.4	-0.1
	comp=Z,3.3nm,0.5s,baz=336,slow=2.4,SNR=9.2						
ZAL	**Zalesovo**	**47.24**	**319**	P	**P**	**12 07 32.2**	**-0.2**
ZAL					pP	12 08 55.4	-1.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUN	**Gumba**	**47.31**	**283**	*e*P	**P**	**12 07 33.2**	**+0.3**
	comp=Z,40nm,0.8s,mb4.8						
PKI	**Pulchoki**	**47.80**	**283**	*e*P	**P**	**12 07 36.5**	**-0.1**
DMN	**Daman**	**48.05**	**283**	*e*P	**P**	**12 07 38.3**	**-0.2**
	comp=Z,11nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**48.13**	**309**	P	**P**	**12 07 38.6**	**-0.5**
	comp=Z,3.2nm,0.6s,mb3.8,baz=87,slow=9.1,SNR=32						
MKAR				PcP	PcP	12 08 58.4	-0.3
	comp=Z,4.5nm,0.6s,baz=72,slow=6.0,SNR=21						
MKAR				ScP	ScP	12 12 09.9	-1.1
	comp=Z,2.2nm,0.6s,baz=72,slow=5.4,SNR=16						
MKAR	**Makanchi Array**	**48.13**	**309**	P	**P**	**12 07 38.6**	**-0.5**
MKAR						12 08 58.4	
FITZ	**Fitzroy Crossi**	**48.19**	**198**	P	**P**	**12 07 39.2**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.5,baz=5.8,slow=8.0,SNR=11						
FITZ				PcP	PcP	12 08 60.0	+1.1
	comp=Z,1.0nm,0.5s,baz=16,slow=5.8,SNR=3.9						
NVS	**Novosibirsk**	**48.29**	**320**	*e*P	**P**	**12 07 39.1**	**-1.2**
WRA	**Warramunga Arr**	**48.30**	**187**	P	**P**	**12 07 40.1**	**-0.3**
	comp=Z,1.7nm,0.5s,mb3.7,baz=6.7,slow=7.5,SNR=57						
WRA				PcP	PcP	12 09 00.3	+1.0
	comp=Z,3.3nm,0.6s,baz=359,slow=3.8,SNR=17						
WRA				ScP	ScP	12 12 11.6	-0.2
	comp=Z,0.9nm,0.7s,baz=3.1,slow=4.6,SNR=5.5						
WRA	**Warramunga Arr**	**48.30**	**187**	P	**P**	**12 07 40.1**	**-0.3**
WRA						12 09 00.3	
GKN	**Gorkha**	**48.35**	**283**	*e*P	**P**	**12 07 40.7**	**-0.1**
KOLN	**Koldanda**	**49.30**	**283**	*e*P	**P**	**12 07 47.7**	**-0.2**
	comp=Z,13nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**52.03**	**187**	P	**P**	**12 08 07.5**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.4,baz=3.6,slow=6.3,SNR=42						
ASAR				PcP	PcP	12 09 14.3	+1.2
	comp=Z,2.3nm,0.7s,baz=10.0,slow=4.1,SNR=16						
AAK	**Ala-Archa**	**53.89**	**304**	*e*P	**P**	**12 08 20.2**	**-1.1**
AAK				*e*		12 09 19.4	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.2						
AAK	**Ala-Archa**	**53.89**	**304**	*e*P	**P**	**12 08 20.2**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.3						
AAK				*e*PcP	PcP	12 09 19.4	-0.9
CHKZ	**Chkalovo**	**55.60**	**318**	*e*P	**P**	**12 08 32.5**	**-0.8**
CHKZ				*e*		12 09 25.8	
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**55.60**	**318**	*e*P	**P**	**12 08 32.5**	**-0.8**
	comp=Z,9.7nm,0.8s,mb4.2						
CHKZ				*e*PcP	PcP	12 09 25.8	-1.1
BRVK	**Borovoye**	**55.82**	**317**	*e*P	**P**	**12 08 34.6**	**-0.3**
BRVK				*e*		12 09 27.7	
BRVK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.4						
BRVK	**Borovoye**	**55.82**	**317**	*e*P	**P**	**12 08 34.6**	**-0.3**
	comp=Z,19nm,1.0s,mb4.4						
BRVK				*e*PcP	PcP	12 09 27.7	0.0
ZRNK	**Zerenda**	**56.60**	**317**	*i* P	**P**	**12 08 39.9**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**56.60**	**317**	*e*P	**P**	**12 08 39.9**	**-0.4**
	comp=Z,11nm,0.8s,mb4.2						
ZRNK				*e*PcP	PcP	12 09 30.1	-0.7
STKA	**Stephens Creek**	**59.91**	**178**	P	**P**	**12 09 03.3**	**+0.4**
	comp=Z,2.3nm,0.5s,mb3.8,baz=328,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**59.91**	**178**	*e*P	**P**	**12 09 03.5**	**+0.6**
ARU	**Arti**	**62.20**	**322**⇑	*i* P	**P**	**12 09 17.4**	**-0.6**
ARU				*e*		12 09 51.5	
ARU				*e*		12 11 37.9	
ARU				*e*SSS		12 24 19.1	
ARU				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.7						
ARU	**Arti**	**62.20**	**322**	*e*P	**P**	**12 09 17.6**	**-0.4**
	comp=Z,14nm,0.4s,mb4.8						
INK	**Inuvik**	**62.74**	**25**	P	**P**	**12 09 22.2**	**+0.7**
	comp=Z,2.7nm,0.8s,mb3.9,baz=16,slow=11,SNR=5.2						
INK	**Inuvik**	**62.74**	**25**	P	**P**	**12 09 22.3**	**+0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KEV	**Kevo**	**71.14**	**340**	*e*p	**P**	**12 10 13.1**	**-0.5**
	comp=Z,2.7nm,0.4s,mb4.1						
KEV	**Kevo**	**71.14**	**340**	*e*P	**P**	**12 10 13.1**	**-0.5**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**71.70**	**340**	P	**P**	**12 10 17.2**	**+0.3**
	comp=Z,4.0nm,0.5s,mb4.2,baz=70,slow=8.4,SNR=48						
ARCES	**ARCESS Array B**	**71.70**	**340**	P	**P**	**12 10 17.2**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JOF	**Joensuu**	**73.07**	**333**	*e*p	**P**	**12 10 23.7**	**-1.2**
	comp=Z,9.6nm,0.4s,mb4.7						
JOF	**Joensuu**	**73.07**	**333**	*e*P	**P**	**12 10 23.7**	**-1.2**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.7						
OBN	**Obninsk**	**74.35**	**325**⇓	*i* P	**P**	**12 10 31.4**	**-0.9**
OBN				*e**PP	pP	12 12 03.9	-3.1
OBN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
KAF	**Kangasniemi**	**75.47**	**334**	*e*p	**P**	**12 10 36.8**	**-1.8**
	comp=Z,5.7nm,0.4s,mb4.5,baz=55,slow=5.4						
KAF	**Kangasniemi**	**75.47**	**334**	*e*P	**P**	**12 10 36.8**	**-1.8**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
KIV	**Kislovodsk**	**75.72**	**312**	*e*P	**P**	**12 10 41.6**	**+1.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
FINES	**FINESS Array B**	**75.93**	**333**	P	**P**	**12 10 40.8**	**-0.3**
	comp=Z,6.5nm,0.3s,mb4.7,baz=75,slow=5.2,SNR=59						
FINES	**FINESS Array B**	**75.93**	**333**	*i* P	**P**	**12 10 40.7**	**-0.5**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.4s						
GNI	**Garni**	**75.97**	**308**	*i* P	**P**	**12 10 42.5**	**+1.1**
GNI				pmax	pmax		
	comp=Z,13nm,1.5s						
AKASG	**Malin Array Be**	**80.42**	**323**	P	**P**	**12 11 04.8**	**-0.6**
	comp=Z,2.8nm,0.4s,mb4.2,baz=48,slow=5.9,SNR=16						
AKASG	**Malin Array Be**	**80.42**	**323**	P	**P**	**12 11 04.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MALT	**Malatya**	**81.17**	**309**	*e*P	**P**	**12 11 07.6**	**-1.7**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MALT	**Malatya**	**81.17**	**309**	*e*P	**P**	**12 11 07.6**	**-1.7**
	comp=Z,9.9nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**81.32**	**51**	P	**P**	**12 11 12.7**	**+2.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=302,slow=6.1,SNR=7.3						
NVAR				pP	pP	12 12 51.0	+4.2
	comp=Z,1.3nm,0.7s,baz=282,slow=6.9,SNR=10						
HFS	**Hagfors**	**81.48**	**336**	P	**P**	**12 11 10.1**	**-0.8**
	comp=Z,5.3nm,0.4s,mb4.6,baz=92,slow=4.6,SNR=33						
HFS	**Hagfors**	**81.48**	**336**	P	**P**	**12 11 10.1**	**-0.8**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NB2	**NORSAR Subarra**	**81.70**	**337**	P	**P**	**12 11 11.2**	**-0.8**
	comp=Z,3.6nm,0.5s,mb4.4,baz=51,slow=4.6						
NB2	**NORSAR Subarra**	**81.70**	**337**	P	**P**	**12 11 11.2**	**-0.8**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**81.70**	**337**	P	**P**	**12 11 11.5**	**-0.6**
	comp=Z,4.0nm,0.5s,mb4.4,baz=46,slow=5.0,SNR=14						
NOA	**NORSAR Array B**	**81.70**	**337**	P	**P**	**12 11 11.5**	**-0.6**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LVV	**L'vov**	**83.65**	**324**	*e*P	**P**	**12 11 15.3**	**-6.6**
BRTR	**Keskin Array B**	**83.68**	**312**	P	**P**	**12 11 22.1**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4,baz=96,slow=3.4,SNR=25						
BRTR	**Keskin Array B**	**83.68**	**312**	P	**P**	**12 11 22.1**	**0.0**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PDAR	**Pinedale Array**	**84.73**	**44**	P	**P**	**12 11 29.1**	**+1.8**
	comp=Z,0.2nm,0.3s,mb3.3,baz=276,slow=1.5,SNR=5.2						
GERES	**GERESS Array B**	**89.39**	**328**	P	**P**	**12 11 47.9**	**-1.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=42,slow=4.2,SNR=6.9						
GERES	**GERESS Array B**	**89.39**	**328**	P	**P**	**12 11 47.9**	**-1.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**122.24**	**310**	PKP	PKPdf	12 17 44.4	-0.4
	comp=Z,1.5nm,0.5s,baz=68,slow=0.9,SNR=20						
BOSA	**Boshof**	**123.25**	**253**	PKP	PKPdf	12 17 47.2	+0.5
	comp=Z,1.3nm,0.5s,baz=225,slow=1.4,SNR=4.3						
BOSA	**Boshof**	**123.25**	**253**	PKIKP	PKPdf	12 17 47.2	+0.5
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	**Boshof**	**123.25**	**253**	PKP	PKPdf	12 17 47.2	+0.5
DBIC	**Dimbokro**	**131.35**	**310**	PKP	PKPdf	12 18 03.1	+1.0
	comp=Z,7.2nm,1.1s,baz=45,slow=4.3,SNR=3.9						
DBIC				SKPbc	SKPbc	12 20 46.1	+0.1
	comp=Z,1.7nm,0.4s,baz=6.7,slow=3.6,SNR=6.9						
LPAZ	**La Paz**	**151.49**	**71**	PKPbc	PKPbc	12 18 46.0	+1.9
	comp=Z,1.2nm,0.5s,baz=334,slow=4.0,SNR=7.0						
LPAZ	**La Paz**	**151.49**	**71**	PKIKP	PKPbc	12 18 46.0	+1.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	**La Paz**	**151.49**	**71**	*e*PKPbc	PKPbc	12 18 46.8	+2.7
PLCA	**Paso Flores**	**152.17**	**124**	PKPbc	PKPbc	12 18 46.7	+1.1
	comp=Z,1.5nm,0.4s,baz=220,slow=2.9,SNR=10						
PLCA	**Paso Flores**	**152.17**	**124**	PKIKP	PKPbc	12 18 46.7	+1.1
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PLCA	**Paso Flores**	**152.17**	**124**	PKPbc	PKPbc	12 18 46.7	+1.1

MAN 05 12:30:09.8, 1115N×12586E, h48km, mb2.0, ML3.7, MS3.4, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.86**	**271**	*e*P	Pn	12 30 25.5	-0.1

ISCJB ***05*** *12:38:13.0±8.2, 56.1S±0.1×265W±02, h27km±59km, mb4.4/16, MS3.7/6, Error ellipse: s-maj=20.5km s-min=11.3km az=87.1*
IDC ***05*** *12:38:18.7±5.2, 56.18S×2658W, h60km±46km, mb4.1/10, mb1 4.1/11, mb1mx4.0/18, mbtmp4.3/11, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.5/19, Error ellipse: s-maj=23.1km s-min=16.8km az=56.0*
NEIC ***05*** *12:38:18.2±3.1, 56.13S×2660W, h56km±27km, mb4.5/12, Error ellipse: s-maj=15.1km s-min=8.7km

SDV	**Santo Domingo**	**74.35**	**314**	*e*P	**P**	**12 49 49.4**	**-0.3**
	4.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**98.76**	**162**	P	**P**	**12 51 50.9**	**-0.8**
	0.5nm,0.6s,mb4.2,baz=182,slow=4.6,SNR=6.3						
ULM	**Lac du Bonnet**	**120.59**	**316**	PKP	PKPdf	12 57 04.2	+0.7
	1.8nm,0.6s,baz=191,slow=5.2,SNR=3.2						
ULM	**Lac du Bonnet**	**120.59**	**316**	PKP	PKPdf	12 57 04.2	+0.7
PDAR	**Pinedale Array**	**120.72**	**302**	PKP	PKPdf	12 57 01.0	-2.8
	0.4nm,0.6s,baz=140,slow=4.4,SNR=3.9						
NVAR	**Mina Array Bea**	**121.78**	**293**	PKP	PKPdf	12 57 05.3	-0.5
	0.2nm,0.5s,baz=121,slow=3.2,SNR=4.2						
FINES	**FINESS Array B**	**124.32**	**28**	PKP	PKPdf	12 57 08.6	-2.1
	1.6nm,0.7s,baz=191,slow=5.7,SNR=2.4						
ARCES	**ARCESS Array B**	**130.92**	**22**	PKP	PKPdf	12 57 21.4	-1.9
	1.4nm,0.6s,baz=166,slow=2.0,SNR=14						
BVAR	**Borovoye Array**	**134.54**	**57**	PKP	PKPdf	12 57 29.2	-0.9
	0.7nm,0.5s,baz=318,slow=2.0,SNR=4.4						
NJ2	**Nanjing**	**145.96**	**120**	*e*PKP	PKPdf	12 57 51.7	+1.0
INK	**Inuvik**	**146.13**	**320**	*e*PKPdf	PKPdf	12 57 49.8	-1.2
DAWY	**Dawson**	**147.14**	**312**	*e*PKPdf	PKPdf	12 57 52.4	-0.3
SONM	**Songino Array**	**150.37**	**86**	PKPbc	PKPbc	12 58 02.2	-1.0
	2.0nm,0.8s,baz=224,slow=2.9,SNR=11						
COLA	**College**	**150.89**	**311**	*e*PKPbc	PKPbc	12 58 01.6	-2.9
COLA				*e*PKPab	PKPab	12 58 10.4	-1.4
MCK	**McKinley**	**151.13**	**309**	*e*PKPbc	PKPbc	12 58 02.9	-2.0
KDAK	**Kodiak Island**	**151.20**	**296**	PKPbc	PKPbc	12 58 03.3	-1.9
	5.5nm,0.4s,baz=125,slow=3.6,SNR=16						

IDC ***05*** *12:40:52.7±0.6, 841N×13756E, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.5/22, mbtmp4.5/16, MS4.5/26, Ms1 4.5/26, ms1mx4.5/27, Error ellipse: s-maj=27.1km s-min=13.9km az=76.0*

BJI ***05*** *12:40:55.1, 798N×138.17E, h59km, mB5.2, mb4.8, Ms4.9, Msz4.7*

ISCJB ***05*** *12:40:57.9±0.3, 840N±004×13775E±006, h53km, mb4.7/56, MS4.6/47, Error ellipse: s-maj=8.8km s-min=5.0km az=148.5*

MOS ***05*** *12:40:58.8±1.3, 844N×13768E, h61km, mb5.1/18, MS4.6/11, Error ellipse: s-maj=15.5km s-min=7.8km az=109.0*

NEIC ***05*** *12:40:59.4±0.3, 844N×13780E, mb4.8/19, Error ellipse: s-maj=11.5km s-min=7.1km az=77.0*

GCMT ***05*** *12:40:59.4±0.2, 854N×13768E, h20km, MW5.2/78, Moment Tensor Solution. s60,c97; s78,c146; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.83±.19; $M_{\theta\theta}$-1.05±.12; $M_{\phi\phi}$-5.78±.14; $M_{r\theta}$1.76±.24; $M_{r\phi}$-2.81±.09; $M_{\theta\phi}$2.55±.24; Best double couple: $M_0$7.61800×10^{16} NP1:ϕ_s201.00000°, δ33.00000°, λ83.00000°. NP2: ϕ_s29.00000°, δ57.00000°, λ94.00000°. Principal axes: T 7.5070, Plg78.0000°, Azm314.0000°; N 0.2240, Plg4.0000°, Azm207.0000°; P -7.7300, Plg12.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 12:41:00.0±0.3, 843N±004×13781E±006, h55km, h55km±2.2km: pP-P, n132, σ1§17/128, mb4.7/56, MS4.6/47, 6C-5D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.62**	**53**	LR	LR	12 45 39.2	
	comp=Z,939nm,18.9s,baz=38,slow=32						
DAV	**Davao City (W)**	**12.19**	**265**	*e*Pn	**Pn**	**12 43 51.9**	**+1.0**
TGY	**Tagaytay City**	**17.47**	**290**	LR	LR	12 51 01.4	
	comp=Z,12nm,20.5s,baz=284,slow=35						
CBIJ	**Chichi jima**	**19.03**	**12**	LR	LR	12 52 19.2	
	comp=Z,1μm,18.6s,baz=121,slow=36						
PMG	**Port Moresby**	**20.02**	**152**	P	**P**	**12 45 28.7**	**+0.6**
	46nm,1.1s,baz=360,slow=7.0,SNR=5.7						
PMG				LR	LR	12 52 28.2	
	comp=Z,2μm,19.9s,MS4.5,baz=328,slow=35						
PMG	**Port Moresby**	**20.02**	**152**	*e*P	**P**	**12 45 29.3**	**+1.2**
PMG				pmax	pmax		
	comp=Z,58nm,1.1s						
PMG	**Port Moresby**	**20.02**	**152**	*e*P	**P**	**12 45 29.3**	**+1.1**
	comp=Z,58nm,1.1s						
JOW	**Kunigami**	**20.42**	**335**	LR	LR	12 51 42.5	
	comp=Z,3μm,20.3s,MS4.6,baz=112,slow=32						
KKM	**Kota Kinabalu**	**21.55**	**265**	*e*P	**P**	**12 45 47.4**	**+2.8**
KAKA	**Kakadu**	**21.66**	**194**	*e*P	**P**	**12 45 47.3**	**+1.4**
	comp=Z,66nm,1.3s,mb4.9						
YHNB	**Yeheng**	**22.52**	**318**	*e*P	**P**	**12 45 55.4**	**+0.5**
QZH	**Quanzhou**	**24.61**	**314**	*i*P	**P**	**12 46 16.6**	**+1.6**
QZH				S	**S**	**12 50 36.1**	**+3.7**
QZH				LR	LR		
	comp=Z,2μm,16.4s,MS4.8						
JHJ	**Hachijo jima 2**	**24.64**	**4**	LR	LR	12 53 40.2	
	comp=Z,2μm,20.6s,MS4.5,baz=318,slow=31						
SSE	**Sheshan**	**27.37**	**328**	P	**P**	**12 46 41.9**	**+1.9**
SSE				AP	pP	12 46 56.4	+2.6
SSE				XP	sP	12 47 03.9	+3.6
SSE				S	**S**	**12 51 16.2**	**+0.2**
SSE				XS	sS	12 51 41.4	+1.9
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,441nm,5.3s						
SSE				LR	LR		
	comp=N,492nm,23.4s,MS4.2						
SSE				LR	LR		
	comp=E,641nm,23.3s,MS4.2						
SSE				LR	LR		
	comp=Z,935nm,20.7s,MS4.3						
SSE	**Sheshan**	**27.37**	**328**	P	**P**	**12 46 41.9**	**+1.9**
	comp=Z,35nm,0.7s,mb5.0						
SSE				pP	pP	12 46 56.4	+2.6
SSE				sP	sP	12 47 03.9	+3.6
SSE				S	**S**	**12 51 16.2**	**+0.2**
SSE				sS	sS	12 51 41.4	+1.9
SSE				LR	LR		
	comp=Z,940nm,20.7s,MS4.3						
GZH	**Guangzhou**	**27.62**	**305**	P	**P**	**12 46 43.2**	**+1.0**
GZH				S	**S**	**12 51 26.6**	**+6.6**
GZH				LR	LR		
	comp=N,521nm,12.4s						
GZH				LR	LR		
	comp=E,1μm,18.3s						
GZH				LR	LR		
	comp=Z,2μm,17.7s						
MJAR	**Matsushiro Arr**	**27.99**	**1**	LR	LR	12 57 31.0	
	comp=Z,936nm,18.6s,MS4.4,baz=195,slow=36						
KSM	**Kuching**	**28.23**	**257**	*e*P	**P**	**12 46 51.1**	**+3.4**
HNR	**Honiara**	**28.30**	**128**	LR	LR	12 56 52.6	
	comp=Z,820nm,21.2s,MS4.3,baz=360,slow=34						
WRAB	**Tennant Creek**	**28.38**	**187**	*i*P	**P**	**12 46 48.2**	**-0.8**
WB2	**Warramunga Arr**	**28.39**	**187**	*e*P	**P**	**12 46 48.2**	**-0.9**
WRA	**Warramunga Arr**	**28.39**	**187**	P	**P**	**12 46 47.5**	**-1.7**
	comp=Z,5.1nm,1.0s,mb4.1,baz=5.1,slow=9.8,SNR=14						
WRA				LR	LR	12 59 01.4	
	comp=Z,484nm,18.3s,MS4.1,baz=10.0,slow=38						
FITZ	**Fitzroy Crossi**	**28.97**	**204**	*e*P	**P**	**12 46 53.0**	**-1.2**
	comp=Z,10.0nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.97**	**204**	P	**P**	**12 46 53.0**	**-1.2**
	comp=Z,5.6nm,1.0s,mb4.2,baz=34,slow=9.0,SNR=6.4						
FITZ				LR	LR	12 57 15.2	
	comp=Z,492nm,18.5s,MS4.2,baz=172,slow=34						
QIZ	**Qiongzhong**	**29.09**	**294**	P	**P**	**12 46 55.0**	**-0.3**
QIZ				PP	PP	12 47 49.6	-12
QIZ				S	**S**	**12 51 45.7**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,266nm,6.2s						
QIZ				LR	LR		
	comp=E,600nm,16.2s						
QIZ				LR	LR		
	comp=Z,1μm,16.8s,MS4.5						
NJ2	**Nanjing**	**29.37**	**326**	*e*P	**P**	**12 46 56.5**	**-1.3**
NJ2				S	**S**	**12 51 46.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,6.1s						
NJ2				LR	LR		
	comp=N,2μm,12.4s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,5μm,16.6s,MS5.2						
CTA	**Charters Tower**	**29.53**	**164**	LR	LR	12 58 46.4	
	comp=Z,1μm,18.9s,MS4.5,baz=340,slow=36						
AS31	**Alice Springs**	**32.12**	**187**	*e*P	**P**	**12 47 22.4**	**+0.4**
ASAR	**Alice Springs**	**32.12**	**187**	P	**P**	**12 47 22.6**	**+0.6**
	comp=Z,3.1nm,0.5s,mb4.4,baz=17,slow=12,SNR=95						
ASAR				LR	LR	13 00 30.3	
	comp=Z,826nm,21.5s,MS4.4,baz=10,slow=37						
ASPA	**Alice Springs**	**32.12**	**187**	*e*P	**P**	**12 47 22.4**	**+0.4**
GYA	**Guiyang**	**34.55**	**305**	⇑*i*P	**P**	**12 47 50.0**	**+6.8**
GYA				AP	pP	12 48 04.8	+7.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,340nm,17.2s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,17.0s,MS4.3						
GYA				LR	LR		
	comp=Z,480nm,17.6s,MS4.3						
SNY	**Shenyang**	**35.56**	**342**	⇑P	**P**	**12 47 50.5**	**-1.4**
SNY				AP	pP	12 48 03.9	-2.1
SNY				XP	sP	12 48 12.2	-0.3
SNY				S	**S**	**12 53 32.7**	**+8.9**
SNY				AMB	AMB		
	comp=Z,23nm,2.5s,mb4.7						
SNY				AMB	AMB		
	comp=Z,443nm,5.3s						
SNY				LR	LR		
	comp=N,1μm,17.6s,MS4.8						
SNY				LR	LR		
	comp=E,456nm,13.2s,MS4.8						
SNY				LR	LR		
	comp=Z,2μm,14.7s,MS4.9						
MDJ	**Mudanjiang**	**36.75**	**350**	P	**P**	**12 48 06.0**	**+3.9**
MDJ				AP	pP	12 48 18.5	+2.3
MDJ				XP	sP	12 48 25.8	+3.1
MDJ				PP	PP	12 49 27.9	+1.4
MDJ				S	**S**	**12 53 45.2**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,128nm,4.0s						
MDJ				LR	LR		
	comp=N,748nm,17.8s,MS4.6						
MDJ				LR	LR		
	comp=E,562nm,19.9s,MS4.6						
MDJ				LR	LR		
	comp=Z,1μm,18.5s,MS4.7						
XAN	**Xi'an**	**36.83**	**318**	P	**P**	**12 48 03.0**	**+0.3**
XAN				S	**S**	**12 53 48.0**	**+5.0**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.3						
XAN				LR	LR		
	comp=N,463nm,18.0s,MS4.5						
XAN				LR	LR		
	comp=E,394nm,16.1s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,17.4s,MS4.7						
CN2	**Changchun**	**36.85**	**345**	*e*P	**P**	**12 48 05.5**	**+2.6**
CN2				PCP	PcP	12 50 25.8	+2.1
CN2				*e*S	**S**	**12 53 46.1**	**+2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
BJT	**Baijiatuau**	**36.92**	**332**	*e*P	**P**	**12 48 03.8**	**+0.3**
BJT				pmax	pmax		
	comp=Z,48nm,1.3s						
BJT	**Baijiatuau**	**36.92**	**332**	*e*P	**P**	**12 48 03.8**	**+0.3**
	comp=Z,48nm,1.3s,mb5.2						
BJI	**Beijing**	**36.93**	**332**	P	**P**	**12 48 04.8**	**+1.2**
BJI				SS	SS	12 56 27.5	-0.5
BJI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.7						
BJI				AMB	AMB		
	comp=Z,438nm,4.7s						
BJI				LR	LR		
	comp=N,1μm,19.7s,MS4.8						
BJI				LR	LR		
	comp=E,925nm,17.4s,MS4.8						
BJI				LR	LR		
	comp=Z,930nm,21.1s,MS4.5						
BJI	**Beijing**	**36.93**	**332**	P	**P**	**12 48 04.8**	**+1.2**
	comp=Z,15nm,1.2s,mb4.7						
BJI				S	**S**	**12 53 34.5**	**-10**
BJI				SS	SS	12 56 27.5	-0.5
BJI				LR	LR		
	comp=Z,930nm,21.1s,MS4.5						
KMI	**Kunming**	**37.30**	**301**	P	**P**	**12 48 05.0**	**-1.7**
KMI				PP	PP	12 49 35.5	+3.0
KMI				S	**S**	**12 53 49.2**	**-1.0**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.2						
KMI				AMB	AMB		
	comp=Z,190nm,6.7s						
KMI				LR	LR		
	comp=N,396nm,19.9s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,15.5s,MS4.8						
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.9						
KMI	**Kunming**	**37.30**	**301**	P	**P**	**12 48 05.0**	**-1.7**
KMI				*SP	sP	12 48 22.5	-4.8
KMI						12 49 35.5	
KMI				PPP		12 49 53.3	
KMI				S	**S**	**12 53 49.2**	**-1.0**
KMI				SS	SS	12 56 16.3	-19
KMI				SSS		12 56 49.2	
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.2						
KMI				MLR	MLR		
	comp=Z,1μm,14.8s,MS4.9						
KMI	**Kunming**	**37.30**	**301**	P	**P**	**12 48 05.0**	**-1.7**
	comp=Z,6.0nm,1.6s,mb4.2						
KMI				pP	pP	12 48 16.6	-4.2
KMI				sP	sP	12 48 22.5	-4.8
KMI				PP	PP	12 49 35.5	+3.0
KMI				PPP		12 49 53.3	
KMI				S	**S**	**12 53 49.2**	**-1.0**
KMI				sS	sS	12 54 04.6	-9.5
KMI				SS	SS	12 56 16.3	-19
KMI				SSS		12 56 49.2	
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.9						
YSS	**Yuzh-Sakhalins**	**38.62**	**5**	P	**P**	**12 48 08.7**	**-9.1**
YSS				MLR	MLR		
	comp=N,600nm,19.0s,MS4.6						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,500nm,17.0s,MS4.6						
CD2	**Chengdu**	**38.83**	**310**	*e*P	**P**	**12 48 19.0**	**-0.6**
CD2				AP	pP	12 48 32.7	-1.1
CD2				XP	sP	12 48 42.0	+1.7
CD2				PP	PP	12 49 52.4	+3.1
CD2				S	**S**	**12 54 10.3**	**-3.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,150nm,4.5s						
CD2				LR	LR		
	comp=E,440nm,17.4s						
CD2				LR	LR		
	comp=Z,540nm,17.4s,MS4.4						
PSI	**Prapat**	**39.08**	**264**	P	**P**	**12 48 19.4**	**-2.3**
	comp=Z,9.4nm,0.8s,mb4.5,baz=102,slow=4.7,SNR=7.6						
HHC	**Hu-ho-hao-te**	**39.82**	**328**	*e*P	**P**	**12 48 29.4**	**+1.5**
HHC				AP	pP	12 48 45.0	+2.9
HHC				XP	sP	12 48 52.8	+4.3
HHC				PP	PP	12 50 04.4	+4.2
HHC				PCP	PcP	12 50 33.7	+0.7
HHC				SCP	ScP	12 54 18.1	+1.0
HHC				PCS	PcS	12 54 22.5	-0.6
HHC				S	**S**	**12 54 29.5**	**+1.2**
HHC				XS	sS	12 54 55.4	+3.1
HHC				SCS	ScS	12 58 28.8	-1.3
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,285nm,7.4s						
HHC				LR	LR		
	comp=N,615nm,16.1s,MS4.7						
HHC				LR	LR		
	comp=E,751nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=Z,1μm,15.9s,MS4.8						
FORT	**Forrest**	**40.09**	**193**	*e*P	**P**	**12 48 29.5**	**-0.5**
	comp=Z,14nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**40.24**	**175**	*e*P	**P**	**12 48 31.0**	**-0.3**
	comp=Z,8.2nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**40.24**	**175**	P	**P**	**12 48 31.1**	**-0.1**
	comp=Z,9.3nm,1.0s,mb4.5,baz=335,slow=6.7,SNR=7.7						
STKA				LR	LR	13 05 15.5	
	comp=Z,801nm,20.2s,MS4.6,baz=19,slow=36						
KLR	**Kul'dur**	**40.99**	**354**	*e*P	**P**	**12 48 34.3**	**-3.2**
KLR				pmax	pmax		
	comp=E,64nm,1.8s						
KLR				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.0						
KLR				MLR	MLR		
	comp=N,1μm,14.0s,MS4.9						
KLR				MLR	MLR		
	comp=E,500nm,14.0s,MS4.9						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.1						
DZM	**Mont Dzumac**	**41.32**	**138**	P	**P**	**12 48 40.9**	**+0.8**
	comp=Z,9.1nm,1.0s,mb4.3,baz=305,slow=17,SNR=2.7						
LZH	**Lanzhou**	**41.41**	**317**	⇓P	**P**	**12 48 42.2**	**+1.3**
LZH				AP	pP	12 48 56.4	+1.2
LZH				XP	sP	12 49 03.1	+1.5
LZH				PP	PP	12 50 22.3	+5.0
LZH				*e*S	**S**	**12 54 54.6**	**+2.8**
LZH				XS	sS	12 55 18.2	+2.2
LZH				SS	SS	12 57 55.8	-1.7
LZH				AMB	AMB		
	comp=Z,33nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,145nm,6.7s						
LZH				LR	LR		
	comp=E,439nm,15.2s						
LZH				LR	LR		
	comp=Z,985nm,17.3s,MS4.7						
LZH	**Lanzhou**	**41.41**	**317**	⇓P	**P**	**12 48 42.2**	**+1.3**
LZH				*PP	pP	12 48 56.4	+1.2
LZH				*SP	sP	12 49 03.1	+1.5
LZH						12 50 22.3	
LZH				*e*S	**S**	**12 54 54.6**	**+2.8**
LZH				*SS	sS	12 55 18.2	+2.2
LZH				SS	SS	12 57 55.8	-1.7
LZH				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.8						
LZH				MLR	MLR		
	comp=Z,990nm,17.3s,MS4.7						
LZH	**Lanzhou**	**41.41**	**317**	⇓P	**P**	**12 48 42.2**	**+1.3**
	comp=Z,33nm,1.4s,mb4.8						
LZH				pP	pP	12 48 56.4	+1.2
LZH				sP	sP	12 49 03.1	+1.5
LZH				PP	PP	12 50 22.3	+5.0
LZH				*e*S	**S**	**12 54 54.6**	**+2.8**
LZH				sS	sS	12 55 18.2	+2.2
LZH				SS	SS	12 57 55.8	-1.7
LZH				LR	LR		
	comp=Z,990nm,17.3s,MS4.7						
MUN	**Mundaring**	**45.17**	**206**	*e*P	**P**	**12 49 14.7**	**+3.5**
NWAO	**Narrogin (SRO)**	**45.55**	**204**	P	**P**	**12 49 13.8**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0,baz=57,slow=4.6,SNR=5.0						
NWAO	**Narrogin (SRO)**	**45.55**	**204**	P	**P**	**12 49 13.8**	**-0.5**
GTA	**Gaotai**	**45.88**	**318**	*e*P	**P**	**12 49 16.8**	**-0.1**
GTA				AP	pP	12 49 32.3	+0.9
GTA				XP	sP	12 49 39.7	+1.9
GTA				PCP	PcP	12 50 54.4	+1.1
GTA				PP	PP	12 51 06.5	+1.3
GTA				S	**S**	**12 55 56.3**	**-0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,258nm,8.7s						
GTA				LR	LR		
	comp=N,311nm,16.0s,MS4.6						
GTA				LR	LR		
	comp=E,492nm,17.1s,MS4.6						
GTA				LR	LR		
	comp=Z,714nm,18.3s,MS4.7						
SONM	**Songino Array**	**47.43**	**332**	P	**P**	**12 49 28.7**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.2,baz=142,slow=7.1,SNR=12						
SONM				PcP	PcP	12 50 59.0	+0.3
	comp=Z,2.2nm,0.8s,baz=156,slow=5.6,SNR=2.7						
SONM				LR	LR	13 11 04.1	
	comp=Z,1μm,18.1s,MS5.0,baz=121,slow=38						
SONM	**Songino Array**	**47.43**	**332**	P	**P**	**12 49 28.7**	**-0.3**
SONM				PcP	PcP	12 50 59.0	+0.3
PET	**Petropavlovsk**	**47.58**	**17**	*e*P	**P**	**12 49 31.1**	**+0.9**
PET				*e*S	**S**	**12 56 23.4**	**+1.9**
PET				pmax	pmax		
	comp=Z,100nm,13.9s						
PET				smax			
	comp=E,200nm,16.3s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.4						
LSA	**Lhasa**	**48.50**	**302**	P	**P**	**12 49 36.0**	**-1.3**
LSA	**Lhasa**	**48.50**	**302**	*e*P	**P**	**12 49 38.7**	**+1.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
LSA	**Lhasa**	**48.50**	**302**	*e*P	**P**	**12 49 38.7**	**+1.5**
	comp=Z,4.7nm,0.4s,mb4.9						
ZAK	**Zakamensk**	**50.68**	**332**	*e*P	**P**	**12 49 53.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
TLY	**Talaya**	**51.42**	**333**	*e*P	**P**	**12 49 49.5**	**-10**
TLY				*e*		12 57 24.9	
TLY				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
GUN	**Gumba**	**52.58**	**299**	*e*P	**P**	**12 50 07.7**	**-0.3**
	comp=Z,52nm,0.8s,mb5.5						
PKI	**Pulchoki**	**52.92**	**298**	*e*P	**P**	**12 50 09.6**	**-0.9**
	comp=Z,17nm,1.0s,mb4.9						
KKN	**Kakani**	**53.07**	**298**	*e*P	**P**	**12 50 11.0**	**-0.6**
	comp=Z,25nm,0.9s,mb5.2						
DMN	**Daman**	**53.19**	**298**	*e*P	**P**	**12 50 12.1**	**-0.4**
	comp=Z,15nm,0.7s,mb5.0						
GKN	**Gorkha**	**53.67**	**299**	*e*P	**P**	**12 50 16.2**	**+0.2**
	comp=Z,42nm,1.3s,mb5.2						
YAK	**Yakutsk**	**53.83**	**355**	*e*P	**P**	**12 50 16.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
YAK	**Yakutsk**	**53.83**	**355**	*e*P	**P**	**12 50 15.9**	**-1.3**
	comp=Z,16nm,0.8s,mb5.0						
KOLN	**Koldanda**	**54.53**	**298**	*e*P	**P**	**12 50 21.8**	**-0.5**
	comp=Z,21nm,0.9s,mb5.2						
SEY	**Seymchan**	**55.43**	**8**	*i*P	**P**	**12 50 28.7**	**-0.1**
WMQ	**Urumqi**	**55.97**	**318**	⇑*i*P	**P**	**12 50 33.2**	**+0.6**
WMQ				AP	pP	12 50 49.0	+1.5
WMQ				XP	sP	12 50 56.0	+2.2
WMQ				PCP	PcP	12 51 31.0	+0.5
WMQ				PP	PP	12 52 40.0	+2.2
WMQ				PPP		12 53 57.0	
WMQ				SCP	ScP	12 55 24.0	-0.9
WMQ				S	**S**	**12 58 15.0**	**-1.6**
WMQ				PS		12 58 37.0	
WMQ				SCS	ScS	13 00 13.0	-3.9
WMQ				SS	SS	13 02 02.0	-1.1
WMQ				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,189nm,6.6s						
WMQ				LR	LR		
	comp=N,874nm,18.2s,MS5.1						
WMQ				LR	LR		
	comp=E,846nm,15.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,518nm,18.0s,MS4.7						
MKAR	**Makanchi Array**	**60.62**	**319**	P	**P**	**12 51 05.0**	**0.0**
	comp=Z,10nm,0.8s,mb5.0,baz=98,slow=8.7,SNR=68						
ZAL	**Zalesovo**	**62.01**	**328**	P	**P**	**12 51 14.1**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.2,baz=344,slow=4.2,SNR=3.2						
ZAL				LR	LR	13 18 50.1	
	comp=Z,669nm,19.2s,MS4.8,baz=352,slow=37						
BILL	**Bilibino**	**62.48**	**12**	⇓*e*P	**P**	**12 51 17.3**	**-0.3**
BILL				*e*		12 53 31.1	
BILL				*e*S	**S**	**12 59 36.7**	**-4.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.

comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.8s
AAK Ala-Archa 64.78 313⇓ *e*P **P 12 51 33.0 +0.3**
AAK pmax pmax
comp=Z,9.0nm,2.2s,mb4.4
AAK MLR MLR
comp=Z,700nm,24.0s,MS4.8
AAK Ala-Archa 64.78 313 *e*P **P 12 51 31.8 -0.9**
comp=Z,10nm,1.3s,mb4.7
KK31 Karatay Array 67.74 313 *i* P **P 12 51 51.5 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BVAR Borovoye Array 69.79 324 LR LR 13 24 39.4
comp=Z,267nm,18.5s,MS4.5,baz=315,slow=38
CHKZ Chkalovo 69.81 324 *e*P **P 12 52 02.0 -2.6**
CHKZ pmax pmax
comp=Z,19nm,1.3s,mb4.9
CHKZ Chkalovo 69.81 324 *e*P **P 12 52 01.9 -2.6**
comp=Z,19nm,1.3s,mb4.9
CHKZ *e* 12 52 10.2
BRVK Borovoye 69.86 324 *e*P **P 12 52 04.0 -0.9**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BRVK Borovoye 69.86 324 *e*P **P 12 52 04.0 -0.9**
comp=Z,15nm,0.8s,mb5.0
ZRNK Zerenda 70.59 323 *i* P **P 12 52 08.8 -0.5**
ZRNK pmax pmax
comp=Z,15nm,1.0s,mb4.9
ZRNK Zerenda 70.59 323 *e*P **P 12 52 08.6 -0.7**
comp=Z,12nm,0.8s,mb4.9
KDAK Kodiak Island 72.09 32 LR LR 13 23 23.2
comp=Z,200nm,18.2s,MS4.4,baz=106,slow=35
IMA2 Indian Mountai 73.69 23 *e*P **P 12 52 28.2 +0.3**
IMA2 *e* 12 52 35.3
PMR Palmer 74.59 28 *e*P **P 12 52 32.2 -0.9**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMR Palmer 74.59 28 *e*P **P 12 52 32.2 -0.9**
comp=Z,9.1nm,0.8s,mb4.8
MCK McKinley 75.10 26 *e*P **P 12 52 35.7 -0.4**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MCK McKinley 75.10 26 *e*P **P 12 52 35.7 -0.3**
comp=Z,6.8nm,0.8s,mb4.6
COLA College 75.78 25 *i* P **P 12 52 39.7 -0.3**
PPT Papeete 76.22 110 *e*S S 13 02 23.4 +0.9
comp=Z,740nm,29.0s
PPT *e*SS SS 13 07 20.4 +3.5
comp=Z,178nm,27.8s
PPT *e*LR LR 13 16 13.1
comp=Z,534nm,24.5s,baz=284
PPT Papeete 76.22 110 LR LR 13 19 43.6
comp=Z,316nm,19.1s,MS4.6,baz=295,slow=30
ARU Arti 77.08 326 *e*P **P 12 52 41.2 -6.1**
ARU *e* pP 12 52 52.5 -10
ARU *e*S S 13 02 25.4 -6.5
ARU *e*SS SS 13 07 23.0 -6.9
ARU Arti 77.08 326 *e*P **P 12 52 46.2 -1.1**
comp=Z,12nm,1.0s,mb4.8
CASY Casey 77.14 191 *e*P **P 12 52 47.2 -0.4**
TBI Tubuai 77.73 116 *e*S S 13 02 40.7 +1.7
comp=Z,572nm,28.5s
TBI *e*SS SS 13 07 39.8 0.0
comp=Z,153nm,25.8s
TBI *e*LR LR 13 16 54.5
comp=Z,548nm,34.2s,baz=293
DAWY Dawson 79.33 26 *e*P **P 12 52 59.6 -0.1**
DAWY *e* pP 12 53 13.7 -1.7
MIR Mirnyy 81.51 197 *e*P **P 12 53 13.0 +1.5**
MIR *e* pP 12 53 30.0 +2.9
INK Inuvik 81.74 22 LR LR 13 30 34.7
comp=Z,113nm,20.6s,MS4.2,baz=154,slow=36
TAOE Nuku Hiva Isla 83.51 100 *e*SS SS 13 09 04.9 -1.2
comp=Z,331nm,26.1s
TAOE *e*LR LR 13 19 26.5
comp=Z,2μm,30.9s,baz=283
MAK Makhachkala 84.55 312 *i* P **P 12 53 30.5 +3.4**
MAK *i* 12 56 48.2
MAK *e*S S 13 03 50.3 +0.6
MAK *e*SS SS 13 09 25.0 +3.6
VNDA Vanda 86.88 175 P **P 12 53 39.2 +0.5**
comp=Z,1.4nm,1.0s,mb4.1,baz=320,slow=4.1,SNR=5.4
VNDA LR LR 13 30 06.6
comp=Z,349nm,18.5s,MS4.8,baz=336,slow=34
VNDA Vanda 86.88 175 P **P 12 53 39.2 +0.5**
GNI Garni 86.96 310 *i* P **P 12 53 42.5 +3.4**
GNI pmax pmax
comp=Z,15nm,1.5s
GNI MLR MLR
comp=Z,100nm,19.0s
APA Apatity 87.71 338⇑ *e*P **P 12 53 42.5 -0.2**
KIV Kislovodsk 87.88 314 *e*P **P 12 53 43.4 -0.1**
KIV *e* 13 04 08.1
KIV *e*SS SS 13 10 11.8 +1.5
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,206nm,20.0s,MS4.5
OBN Obninsk 89.52 326⇑ *e*P **P 12 53 50.1 -1.1**
OBN *e* 12 57 29.3
OBN *e*PS PS 13 05 48.8 -0.8
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
ARCES ARCESS Array B 89.76 341 P **P 12 53 52.5 +0.1**
comp=Z,2.1nm,0.9s,mb4.5,baz=84,slow=5.0,SNR=5.5
ARCES LR LR 13 38 56.3
comp=Z,527nm,18.5s,MS5.0,baz=62,slow=39
YKA Yellowknife Ar 90.57 26 LR LR 13 34 08.1
comp=Z,199nm,19.9s,MS4.5,baz=250,slow=35
RKT Rikitea 90.73 113 *e*SS SS 13 10 51.7 +0.1
comp=Z,159nm,35.8s
RKT *e*LR LR 13 22 29.9
comp=Z,375nm,24.5s,baz=287
ANN Anapa 91.41 316 *e*P **P 12 53 55.8 -4.2**
ANN pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
MAW Mawson 92.06 202 P **P 12 54 03.6 +0.6**
comp=Z,4.1nm,1.1s,mb4.7,baz=55,slow=3.3,SNR=4.8
MAW LR LR 13 30 39.2
comp=Z,143nm,20.6s,MS4.4,baz=61,slow=32
FINES FINESS Array B 92.77 333 P **P 12 54 04.5 -1.8**
comp=Z,2.5nm,0.9s,mb4.7,baz=64,slow=3.2,SNR=4.6
FINES LR LR 13 40 36.5
comp=Z,400nm,18.0s,MS4.9,baz=264,slow=39
AKASG Malin Array Be 95.06 323 LR LR 13 42 02.6
comp=Z,276nm,18.1s,MS4.8,baz=55,slow=39
BRTR Keskin Array B 95.40 311 LR LR 13 45 59.8
comp=Z,86nm,18.2s,MS4.3,baz=113,slow=41
NVAR Mina Array Bea 95.53 50 P **P 12 54 21.1 +2.1**
comp=Z,1.2nm,0.7s,mb4.4,baz=267,slow=5.4,SNR=13
KIS Kishinev 96.56 319 *e*P **P 12 54 19.0 -4.7**
KIS *e* 13 07 06.0
KIS MLR MLR
comp=Z,400nm,19.0s,MS4.9
KIS MLR MLR
comp=Z,400nm,20.0s
NOA NORSAR Array B 99.20 337 LR LR 13 42 35.7
comp=Z,360nm,19.4s,MS4.9,baz=50,slow=37
BRG Berggiesshubel 103.69 327 *i* (P) PKiKP 12 59 17.0 +3.5
BRG *e* 13 14 18.0
BRG
comp=N,241nm,17.7s
BRG
comp=E,221nm,17.7s
BRG
comp=Z,398nm,18.3s
CLL Collm 103.95 328 *e*PP PP 12 59 16.0 +1.6
CLL *e*SS SS 13 14 00.0 +2.1
CLL LmV 13 45 00.0
comp=Z,500nm,19.7s
TORD Torodi Ar. Bea 131.43 296 PKP PKPdf 13 00 07.6 +1.4
comp=Z,0.8nm,0.8s,baz=47,slow=1.8,SNR=4.5
SDV Santo Domingo 146.86 59 *e*PKPab PKPab 13 00 38.0 +0.5
LVC Limon Verde 150.72 122 *e*PKPbc PKPbc 13 00 48.4 +2.4
LPAZ La Paz 153.51 110 PKP PKPdf 13 00 46.9 +2.3
comp=Z,0.4nm,0.5s,baz=56,slow=3.6,SNR=3.9
LPAZ PKPbc PKPbc 13 00 55.7 +3.4
comp=Z,1.8nm,0.7s,baz=272,slow=4.0,SNR=8.8
LPAZ La Paz 153.51 110 PKP PKPdf 13 00 46.9 +2.3
LPAZ *e*PKPbc PKPbc 13 00 54.9 +2.6
LPAZ PKPbc PKPbc 13 00 55.7 +3.4

MOS 05 12:50:10.5±0.6, 4274N×4654E, h20km, mb3.7/1, Error ellipse: s-maj=26.2km s-min=18.6km az=92.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.19**	**98**	*i* PG	Pb	12 50 17.0	+1.5
UNCR				*i* S	Sb	12 50 24.0	+5.1
UNCR				pmax	pmax		
comp=Z,50nm,0.2s							
XNZR	**Khunzakh**	**0.23**	**148**	*i* PG	Pb	12 50 18.5	+2.4
XNZR				*e*S	Sb	12 50 25.5	+5.6
XNZR				pmax	pmax		
comp=Z,39nm,0.1s							
KRNR	**Karanay**	**0.28**	**72**	*e*PG	Pb	12 50 18.5	+1.6
KRNR				*i* S	Sb	12 50 26.5	+5.2
DLMR	**Dylym**	**0.34**	**12**	PG	Pb	12 50 19.0	+1.2
DLMR				*i* S	Sb	12 50 27.5	+4.8
DLMR				pmax	pmax		
comp=Z,175nm,0.2s							
DBC	**Dubki**	**0.35**	**37**	PG	Pb	12 50 20.0	+1.9
DBC				*e*S	Sb	12 50 29.0	+5.8
KMKR	**Kumukh**	**0.74**	**146**	*i* PG	Pb	12 50 24.5	-0.1
KMKR				*e*S	Sb	12 50 37.5	+3.2
KMKR				pmax	pmax		
comp=Z,25nm,0.2s							

ISCJB ***05*** *12:54:54.4±1.0, 6092N±004×29.16E±0.10, h0km, Error ellipse: s-maj=8.4km s-min=4.1km az=86.1*
HEL ***05*** *12:54:57.1±0.3, 6092N×2910E, h0km, ML1.8, ML2.1(NAO), Explosion*
IDC ***05*** *12:54:58.4±1.9, 6088N×2892E, h0km, mb1 3.3/3, mb1mx3.1/21, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=16.5km s-min=10.4km az=159.0*
NAO ***05*** *12:54:58.3±1.9, 6094N×2893E, ML2.1*
BER ***05*** *12:54:58.3±5.0, 6097N×2898E, h0km, ML2.1(NAO), Suspected explosion*
ISC 05 12:54:56.0±0.8, 6099N±004×2905E±009, h0km, n20, σ1§13/37, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.86**	**239**	*e*P	**Pg**	**12 55 12.5**	**-0.1**
VJF				*e*S	**Sg**	**12 55 24.3**	**+0.6**
FIA0	**FINESS Array S**	**1.51**	**289**	Pg	**Pg**	**12 55 24.2**	**-0.7**
baz=116,slow=16							
FIA0				Lg		12 55 45.0	
baz=108,slow=37							
FIA0				Rg		12 55 52.0	
baz=119,slow=37							
FIA0	**FINESS Array S**	**1.51**	**289**	*e*P	**Pn**	**12 55 24.3**	**0.0**
FIA0				*e*S	**Sg**	**12 55 44.9**	**+0.4**
FINES	**FINESS Array B**	**1.51**	**289**	Pg	**Pg**	**12 55 24.2**	**-0.7**
1.4nm,0.3s,baz=110,slow=16,SNR=38							
FINES				Lg		12 55 45.2	
3.6nm,0.3s,baz=114,slow=31,SNR=27							
FINES				Rg		12 55 52.0	
23nm,0.7s,baz=106,slow=35,SNR=29							
PVF	**Pernaja**	**1.63**	**255**	*e*P	**Pn**	**12 55 25.5**	**-0.4**
PVF				*e*S	**Sn**	**12 55 47.5**	**-0.1**
KAF	**Kangasniemi**	**1.73**	**312**	*e*P	**Pn**	**12 55 29.2**	**+1.9**
KAF				*e*S	**Sn**	**12 55 51.1**	**+1.0**
KAF				MSG		12 55 55.3	
comp=Z,6.1nm,0.1s							
JOF	**Joensuu**	**2.21**	**28**	*e*PB	**Pb**	**12 55 36.5**	**-0.3**
JOF				*e*SB	**Sb**	**12 56 04.8**	**0.0**
SUF	**Sumiainen**	**2.21**	**323**	*e*PB	**Pb**	**12 55 37.2**	**+0.3**
SUF				*e*SB	**Sb**	**12 56 06.3**	**+1.5**
SUF				MSG		12 56 08.0	
comp=Z,2.9nm,0.1s							
KEF	**Keuruu**	**2.32**	**302**	*e*P	**Pn**	**12 55 37.7**	**+2.2**
KEF				*e*SB	**Sb**	**12 56 08.7**	**+0.7**
KEF				MSG		12 56 10.7	
comp=Z,3.5nm,0.1s							
MEF	**Metsahovi**	**2.42**	**253**	*e*PB	**Pb**	**12 55 38.9**	**-1.6**
MEF				*e*SB	**Sb**	**12 56 09.2**	**-1.6**
KJN	**Kajaani**	**3.17**	**349**	*e*PB	**Pb**	**12 55 52.0**	**-1.2**
KJN				*e*SB	**Sb**	**12 56 32.0**	**-0.3**
VAF	**Ylistaro**	**3.64**	**307**	*e*P	**Pn**	**12 55 56.8**	**+3.2**
VAF				*e*SG	**Sg**	**12 56 51.5**	**-1.6**
HFS	**Hagfors**	**7.62**	**270**	Pn	**Pn**	**12 56 48.6**	**+0.4**
comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=3.0							
HFS				Sn	**Sn**	**12 58 10.2**	**-5.1**
comp=Z,0.2nm,0.3s,baz=65,slow=22,SNR=3.0							
HFS				Lg		12 58 56.8	
comp=Z,0.4nm,0.3s,baz=76,slow=30,SNR=3.7							
HFS	**Hagfors**	**7.62**	**270**	Pn	**Pn**	**12 56 48.1**	**-0.1**
baz=104,slow=18							
HFS				Sn	**Sn**	**12 58 11.5**	**-3.7**
baz=91,slow=37							
HFS	**Hagfors**	**7.62**	**270**	*e*P	**Pn**	**12 56 48.1**	**-0.1**
HFS				*e*S	**Sn**	**12 58 11.5**	**-3.7**
NB2	**NORSAR Subarra**	**8.66**	**278**	*e*P	**Pn**	**12 57 02.5**	**0.0**
NOA	**NORSAR Array B**	**8.66**	**278**	Pn	**Pn**	**12 57 02.9**	**+0.4**
comp=Z,0.1nm,0.3s,baz=120,slow=9.1,SNR=2.5							
NOA				Sn	**Sn**	**12 58 35.6**	**-5.3**
comp=Z,0.1nm,0.3s,baz=303,slow=15,SNR=2.6							
ARA0	**ARCESS Array S**	**8.71**	**352**	Pn	**Pn**	**12 57 04.2**	**+1.0**
baz=162,slow=14							
ARA0				Sn	**Sn**	**12 58 40.4**	**-1.7**
baz=168,slow=28							
ARA0				Lg		12 59 23.9	
baz=158,slow=37							
ARA0	**ARCESS Array S**	**8.71**	**352**	*e*P	**Pn**	**12 57 04.2**	**+1.0**
ARA0				*e*S	**Sn**	**12 58 40.4**	**-1.7**
ARA0				*e*SG		12 59 23.9	
ARCES	**ARCESS Array B**	**8.71**	**352**	Pn	**Pn**	**12 57 04.2**	**+1.0**
comp=Z,0.3nm,0.3s,baz=170,slow=13,SNR=19							
ARCES				Sn	**Sn**	**12 58 40.1**	**-1.9**
comp=Z,0.2nm,0.3s,baz=168,slow=24,SNR=5.4							
ARCES				Lg		12 59 22.8	
comp=Z,0.4nm,0.3s,baz=154,slow=31,SNR=6.1							

IDC 05 13:13:56.4±2.1, 2639N×14186E, h81km±43km, mb3.6/4, mb1 3.8/4, mb1mx3.3/19, mbtmp4.0/4, Error ellipse: s-maj=172.6km s-min=24.9km az=89.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.77**	**23**	P	Pn	13 14 14.2	+1.4
138nm,0.3s,baz=304,slow=24,SNR=6.5							
CBIJ				S	Sn	13 14 26.2	+1.2
380nm,0.3s,baz=135,slow=18,SNR=35							
WRA	**Warramunga Arr**	**46.63**	**190**	P	P	13 22 16.7	+0.2
3.9nm,0.4s,baz=11,slow=8.7,SNR=45							
WRA				pP	pP	13 22 36.3	+0.1
1.9nm,0.5s,baz=9.3,slow=8.7,SNR=5.5							
FITZ	**Fitzroy Crossi**	**46.94**	**201**	P	P	13 22 18.6	-0.3
1.8nm,0.8s,baz=24,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**50.35**	**189**	P	P	13 22 45.1	+0.1
0.2nm,0.4s,baz=10,slow=5.7,SNR=7.7							
FINES	**FINESS Array B**	**78.45**	**334**	P	P	13 25 48.1	-0.2
0.4nm,0.3s,baz=54,slow=6.9,SNR=5.4							

IDC 05 13:17:11.2±9.2, 261S×12765E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=173.6km s-min=127.8km az=82.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**160**	P	Pn	13 21 26.5	-1.5
0.1nm,0.3s,baz=339,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**21.79**	**164**	P	P	13 22 05.0	+0.3
0.3nm,0.3s,baz=344,slow=12,SNR=13							
STKA	**Stephens Creek**	**31.94**	**157**	P	P	13 23 39.6	+1.0
1.0nm,0.5s,baz=346,slow=8.3,SNR=2.6							

NIED ***05*** *13:43:00, 3570N×140.10E, h65km, Mw3.6 Best double couple: M0 3.22000×10^14 NP1:φs=341.00000°, δ71.00000°, λ65.00000°. NP2:φs=217.00000°, δ31.00000°, λ141.00000°.*
ISCJB ***05*** *13:43:41.0±0.6, 3562N±004×14006E±007, h77km±4km, mb3.6/3, Error ellipse: s-maj=9.9km s-min=5.0km az=118.2*
JMA ***05*** *13:43:41.6±0.2, 3569N×14007E, h69km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs185.00000°, δ24.00000°, λ90.00000°. NP2:φs5.00000°, δ66.00000°, λ90.00000°. Principal axes: T Plg69.0000°, Azm275.0000°; N Plg0.0000°, Azm5.0000°; P Plg21.0000°, Azm95.0000°;*
JMA Felt I J1.
IDC ***05*** *13:43:44.0±2.8, 3549N×139.71E, h73km±16km, mb3.3/3, mb1 3.7/5, mb1mx3.4/22, mbtmp4.0/5 Error ellipse: s-maj=61.1km s-min=12.5km az=69.0*
ISC 05 13:43:42.0±0.6, 3563N±004×14006E±006, h71km±5km, n17, σ0§95/29, mb3.6/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.24**	**151**	⇑P	**Pn**	**13 43 53.3**	**+0.4**
JCN				*e*S	**Sn**	**13 44 02.2**	**+1.3**
TOK	**Tokyo**	**0.25**	**284**	P	**Pn**	**13 43 53.3**	**+0.3**
TOK				*e*S	**Sn**	**13 44 01.9**	**+0.9**
JOD2	**Odawara 2**	**0.87**	**246**	⇓P	**Pn**	**13 43 58.7**	**-0.3**
JOD2				*e*S	**Sn**	**13 44 10.7**	**-0.9**
BSO3	**Boso 3**	**0.90**	**156**	⇑P	**Pn**	**13 43 58.9**	**-0.4**
BSO3				*e*S	**Sn**	**13 44 13.1**	**+0.9**
JAG	**Ashikaga**	**0.94**	**328**	⇓P	**Pn**	**13 43 59.0**	**-0.8**
JAG				*e*S	**Sn**	**13 44 11.4**	**-1.5**
JRY	**Ryogami san**	**1.02**	**293**	⇓P	**Pn**	**13 44 00.9**	**+0.1**
JRY				*e*S	**Sn**	**13 44 14.9**	**+0.2**
JIM2	**Oshima 3**	**1.04**	**210**	P	**Pn**	**13 44 00.6**	**-0.5**
JIM2				*e*S	**Sn**	**13 44 14.1**	**-1.2**
BSO1	**Boso 1**	**1.23**	**142**	P	**Pn**	**13 44 02.4**	**-1.1**
JYN	**Shimob**	**1.24**	**264**	⇓P	**Pn**	**13 44 03.6**	**0.0**
JYN				*e*S	**Sn**	**13 44 20.0**	**+0.2**
JKT	**Katashina**	**1.31**	**330**	P	**Pn**	**13 44 03.9**	**-0.7**
JKT				*e*S	**Sn**	**13 44 20.1**	**-1.4**
MJAR	**Matsushiro Arr**	**1.76**	**302**	P	**Pn**	**13 44 09.9**	**-0.5**
16nm,0.3s,baz=128,slow=15,SNR=94							
MJAR				S	**Sn**	**13 44 34.6**	**+2.7**
8.5nm,0.3s,baz=51,slow=15,SNR=7.7							
MAT	**Matsushiro**	**1.76**	**302**	P	**Pn**	**13 44 10.6**	**+0.2**
MAT				S	**Sn**	**13 44 34.0**	**+2.0**
JHJ	**Hachijo jima 2**	**2.51**	**185**	P	**Pn**	**13 44 21.1**	**+0.5**
24nm,0.3s,baz=233,slow=20,SNR=2.8							
JHJ				S	**Sn**	**13 44 49.2**	**-0.9**
34nm,0.3s,baz=250,slow=21,SNR=3.2							
CBIJ	**Chichi jima**	**8.70**	**167**	P	**Pn**	**13 45 45.2**	**+0.2**
31nm,0.3s,baz=241,slow=19,SNR=3.9							
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**13 51 42.2**	**+0.2**
0.6nm,0.5s,mb3.6,baz=81,slow=9.1,SNR=8.2							
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**13 53 09.5**	**-0.4**
0.7nm,0.5s,mb3.9,baz=0.5,slow=7.5,SNR=21							
ASAR	**Alice Springs**	**59.26**	**187**	P	**P**	**13 53 38.2**	**+2.2**
0.3nm,0.9s,mb3.3,baz=1.4,slow=6.1,SNR=4.5							

ISK ***05*** *13:51:27.1, 38.19N×2497E, h33km, MD3.4*
ATH ***05*** *13:51:28.7, 3827N×2520E, h51km±17km, MD3.8/15, ML3.7*
THE ***05*** *13:51:28.4, 3829N×25.16E, h10km, ML3.1*
CSEM ***05*** *13:51:28.9±0.1, 3823N×2521E, h60km, ML3.7, Error ellipse: s-maj=1.7km s-min=1.5km az=29.0*
NEIC ***05*** *13:51:28.7, 3826N×2520E, h49km, MD3.8(ATH), After ATH.*
ISCJB ***05*** *13:51:29.9±0.3, 3823N±002×25.18E±003, h51km, Error ellipse: s-maj=3.5km s-min=2.9km az=101.2*
ISC 05 13:51:27.7±0.4, 3824N±002×2516E±002, h5km±3km, n71, σ1§02/96, 4C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**1.04**	**260**	*e*P	**Pg**	**13 51 48.3**	**+0.7**
PTL	**Penteli**	**1.04**	**260**	*e*P	**Pg**	**13 51 48.5**	**+0.9**
URLA	**Izmir**	**1.14**	**84**	*i* P	**Pg**	**13 51 49.6**	**0.0**
URLA				*i* S	**Sg**	**13 52 04.9**	**+0.5**
ATH	**Athens Observa**	**1.17**	**257**	*e*P	**Pg**	**13 51 50.3**	**+0.2**
KVR	**Kavouri**	**1.17**	**250**	*e*P	**Pg**	**13 51 50.0**	**-0.2**
APE	**Apeiranthos**	**1.21**	**166**	*e*P	**Pg**	**13 51 50.4**	**-0.5**
APE				*e*S	**Sg**	**13 52 06.3**	**-0.3**
APE	**Apeiranthos**	**1.21**	**166**	*e*P	**Pg**	**13 51 50.4**	**-0.5**
APE				*e*S	**Sg**	**13 52 05.9**	**-0.7**
APE	**Apeiranthos**	**1.21**	**166**	*e*Pg	**Pg**	**13 51 50.5**	**-0.4**
PRK	**Paraskevi**	**1.33**	**41**	*e*P	**Pn**	**13 51 51.4**	**-1.6**
AOS	**Alonnisos**	**1.36**	**313**	*e*Pg	**Pg**	**13 51 52.9**	**-0.9**
AOS				*e*Sg	**Sg**	**13 52 11.3**	**-0.2**
NAIG	**Nisos Aigina**	**1.40**	**250**	*e*P	**Pn**	**13 51 53.8**	**-0.2**
SMG	**Samos**	**1.43**	**111**	*e*P	**Pn**	**13 51 53.2**	**-1.2**
MGER	**Gerania Oros**	**1.52**	**261**	*e*P	**Pn**	**13 51 55.0**	**-0.6**
AYVA	**Ayvalik**	**1.60**	**48**	*i* P	**Pn**	**13 51 56.4**	**-0.4**
AYVA				*i* S	**Sg**	**13 52 22.5**	**+3.3**
IZM	**Izmir**	**1.66**	**84**	*e*PN	**Pn**	**13 51 56.8**	**-0.8**
IZM				*e*SN	**Sn**	**13 52 18.7**	**-0.6**
KDAG	**Bornova**	**1.67**	**84**	*i* P	**Pn**	**13 51 56.6**	**-1.0**
KDAG				*i* S	**Sg**	**13 52 22.2**	**+0.9**
LOS	**Limnos**	**1.69**	**358**	*e*Pb	**Pb**	**13 51 58.8**	**-0.5**
LKR	**Lokris**	**1.74**	**284**	P	**Pn**	**13 51 59.0**	**+0.4**
BOZC	**Bozcaada**	**1.74**	**23**	*i* P	**Pn**	**13 51 57.8**	**-0.9**
BOZC				*i* S	**Sg**	**13 52 25.8**	**+2.1**
EZN	**Ezine**	**1.82**	**30**	*e*PN	**Pn**	**13 51 58.3**	**-1.5**
EZN				*e*SN	**Sn**	**13 52 22.2**	**-1.1**
NEO	**Neokhori**	**1.85**	**306**	*e*P	**Pn**	**13 51 59.7**	**-0.4**
NEO	**Neokhori**	**1.85**	**306**	*e*P	**Pn**	**13 51 59.9**	**-0.2**
SANT	**Santorini**	**1.89**	**173**	*e*Pb	**Pb**	**13 52 00.6**	**-2.1**
SANT				*e*Sb	**Sg**	**13 52 28.6**	**+0.3**
SANT	**Santorini**	**1.89**	**173**	*e*Pb	**Pb**	**13 52 00.6**	**-2.0**
SANT				*e*Sb	**Sg**	**13 52 28.6**	**+0.3**
XOR	**Xorichti**	**1.90**	**307**	*e*Pb	**Pb**	**13 52 00.6**	**-2.3**
XOR				*e*Sb	**Sb**	**13 52 26.6**	**-0.3**
BODT	**Bodrum**	**2.08**	**124**	*e*PN	**Pn**	**13 52 01.7**	**-1.6**
BDRM	**Kayabasi**	**2.16**	**122**	*i* P	**Pn**	**13 52 03.4**	**-1.1**
BDRM				*i* S	**Sg**	**13 52 37.9**	**+0.7**
AYDN	**Tasoluk**	**2.23**	**104**	*i* P	**Pg**	**13 52 10.2**	**-0.2**
AYDN				*i* S	**Sg**	**13 52 42.2**	**+2.8**
OUR	**Ouranopolis**	**2.28**	**337**	*e*Pn	**Pn**	**13 52 05.7**	**-0.3**
VLI	**Veliai**	**2.33**	**230**	*e*P	**Pn**	**13 52 06.3**	**-0.5**
VLI	**Veliai**	**2.33**	**230**	*e*P	**Pn**	**13 52 05.9**	**-0.9**
AGG	**Agios Georgios**	**2.34**	**290**	*e*Pn	**Pn**	**13 52 07.1**	**+0.1**
AGG				*e*Sn	**Sn**	**13 52 37.0**	**+0.8**
DAT	**Datca**	**2.45**	**127**	*e*PN	**Pn**	**13 52 07.7**	**-0.7**
PLG	**Polygyros**	**2.51**	**329**	*e*Pn	**Pn**	**13 52 08.9**	**-0.2**
PLG				*e*Sn	**Sn**	**13 52 41.8**	**+1.6**
KYTH	**Kithira**	**2.59**	**221**	*e*P	**Pn**	**13 52 10.0**	**-0.3**
BTOK	**Tokmak**	**2.70**	**55**	*i* P	**Pg**	**13 52 18.4**	**-1.1**
BTOK				*i* S	**Sg**	**13 52 55.4**	**+0.7**
BTOK	**Tokmak**	**2.70**	**55**	*i* P	**Pg**	**13 52 18.4**	**-1.1**
BTOK				*i* S	**Sg**	**13 52 55.4**	**+0.7**
EVR	**Evrytania**	**2.71**	**285**	*e*P	**Pn**	**13 52 11.5**	**-0.4**
EVR	**Evrytania**	**2.71**	**285**	*e*P	**Pn**	**13 52 11.0**	**-0.9**
ALN	**Alexandroupoli**	**2.74**	**14**	*e*Pn	**Pn**	**13 52 11.1**	**-1.3**
ALN				*e*Sn	**Sn**	**13 52 47.0**	**+1.2**
ITM	**Ithomi**	**2.77**	**248**	*e*P	**Pn**	**13 52 13.2**	**+0.4**
ITM	**Ithomi**	**2.77**	**248**	*e*P	**Pn**	**13 52 13.7**	**+0.9**
LIT	**Litokhoron**	**2.78**	**313**	*e*Pn	**Pn**	**13 52 12.7**	**-0.3**
LIT	**Litokhoron**	**2.78**	**313**	*e*Pn	**Pn**	**13 52 12.6**	**-0.3**
HORT	**Hortiatis**	**2.84**	**327**	*e*Pn	**Pn**	**13 52 14.3**	**+0.5**
RDO	**Rodhopi**	**2.91**	**6**	*e*P	**Pn**	**13 52 13.6**	**-1.2**
SOH	**Sokhos**	**2.93**	**332**	*e*Pn	**Pn**	**13 52 15.1**	**+0.2**
THE	**Thessaloniki**	**2.93**	**325**	*e*Pn	**Pn**	**13 52 15.4**	**+0.5**
VAM	**Vamos**	**2.93**	**195**	*e*P	**Pn**	**13 52 14.9**	**-0.1**
VAM	**Vamos**	**2.93**	**195**	*e*P	**Pn**	**13 52 14.5**	**-0.5**
EDC	**Edincik**	**2.97**	**44**	*e*PN	**Pn**	**13 52 15.7**	**+0.2**
LAST	**Lasithi**	**3.09**	**175**	*e*Pn	**Pn**	**13 52 18.8**	**+1.6**
LAST				*e*Sn	**Sn**	**13 52 57.1**	**+2.6**
SRS	**Serrai**	**3.11**	**338**	*e*Pn	**Pn**	**13 52 17.4**	**-0.1**
DNZL	**Cakiroluk**	**3.12**	**99**	*i* P	**Pg**	**13 52 27.8**	**+

*ISCJB **05** 14:20:15.7±2.5, 3281S±0.010×177.4W±0.04, h33km, mb4.6/6, MS3.9/3, Error ellipse: s-maj=49.3km s-min=7.2km az=29.3*
*IDC **05** 14:20:18.4±1.1, 3277S×178.11W, h0km, mb4.7/3, mb1 4.7/5, mb1mx4.2/15, mbtmp4.6/5, ML4.1/2, MS3.9/4, Ms1 3.9/4, ms1mx3.3/21, Error ellipse: s-maj=35.5km s-min=27.3km az=131.0*
*NEIC **05** 14:20:19.5±0.8, 3262S×17822W, h10km, mb4.6/6, Error ellipse: s-maj=25.1km s-min=12.2km az=115.0*

ISC 05 14:20:17.5±2.5, 3279S±0.010×1774W±0.04, h35km, n40, σ0=91/20, mb4.6/6, MS3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.56**	**352**	Pn		**Pn**	**Pn**	**14 21 09.9**	**-0.4**
	80nm,0.3s,baz=72,slow=20,SNR=2.0								
RAO				Sn			**Sn**	**14 21 49.7**	**-1.4**
	193nm,0.3s,baz=87,slow=22,SNR=4.0								
RAO	**Raoul Island**	**3.56**	**352**	*e*Pn			**Pn**	**14 21 09.3**	**-0.9**
RAO				Sn			**Sn**	**14 21 49.7**	**-1.4**
URZ	**Urewera**	**7.08**	**218**	Pn			**Pn**	**14 21 58.8**	**+0.2**
	4.7nm,0.3s,baz=19,slow=8.6,SNR=30								
URZ				Sn			**Sn**	**14 23 16.6**	**-1.3**
	7.6nm,0.3s,baz=120,slow=23,SNR=11								
RPZ	**Rata Peaks**	**14.20**	**216**	Pn			**Pn**	**14 23 34.2**	**-1.8**
	0.8nm,0.3s,baz=326,slow=4.3,SNR=6.1								
RPZ				Sn			**Sn**	**14 25 57.1**	**-15**
	0.8nm,0.3s,baz=33,slow=22,SNR=8.3								
DZM	**Mont Dzumac**	**17.89**	**303**	LR		LR	LR	14 29 24.7	
	comp=Z,380nm,18.9s,baz=212,slow=32								
TBI	**Tubuai**	**26.28**	**76**	*e*LR			LR	14 32 28.7	
	140nm,29.8s								
PPT	**Papeete**	**29.23**	**66**	*e*LQ				14 32 35.2	
	178nm,22.5s								
PPT				*e*LR			LR	14 33 48.3	
	116nm,26.8s								
STKA	**Stephens Creek**	**34.55**	**260**	LR			LR	14 40 35.2	
	comp=Z,217nm,19.3s,MS3.9,baz=24,slow=36								
CTA	**Charters Tower**	**34.79**	**282**	*e*P			**P**	**14 27 06.2**	**+1.5**
	5.4nm,0.5s,mb4.7								
CTA	**Charters Tower**	**34.79**	**282**	P			**P**	**14 27 06.7**	**+2.0**
	6.3nm,0.5s,mb4.8,baz=121,slow=8.9,SNR=16								
RKT	**Rikitea**	**38.44**	**87**	*e*LR			LR	14 38 09.1	
	96nm,33.5s								
AS31	**Alice Springs**	**43.58**	**269**	*e*P			**P**	**14 28 18.6**	**+0.4**
ASAR	**Alice Springs**	**43.58**	**269**	P			**P**	**14 28 18.8**	**+0.7**
	0.4nm,0.4s,baz=109,slow=7.6,SNR=4.1								
ASAR				LR			LR	14 46 47.2	
	comp=Z,99nm,19.7s,MS3.7,baz=158,slow=37								
ASPA	**Alice Springs**	**43.58**	**269**	*e*P			**P**	**14 28 18.8**	**+0.7**
WB2	**Warramunga Arr**	**44.77**	**274**	*e*P			**P**	**14 28 27.9**	**+0.2**
WRA	**Warramunga Arr**	**44.78**	**274**	P			**P**	**14 28 28.1**	**+0.4**
	3.3nm,0.3s,mb4.6,baz=116,slow=8.1,SNR=77								
FORT	**Forrest**	**46.02**	**257**	*e*P			**P**	**14 28 37.8**	**+0.3**
	14nm,0.6s,mb5.1								
FITZ	**Fitzroy Crossi**	**52.94**	**271**	*e*P			**P**	**14 29 29.7**	**-0.6**
	3.6nm,0.6s,mb4.5								
FITZ	**Fitzroy Crossi**	**52.94**	**271**	LR			LR	14 52 23.9	
	comp=Z,124nm,18.2s,MS4.0,baz=268,slow=37								
CASY	**Casey**	**53.30**	**209**	*e*P			**P**	**14 29 38.1**	**+5.1**
	1.6nm,0.7s,mb4.1								
MBWA	**Marble Bar**	**56.54**	**265**	*e*P			**P**	**14 29 56.5**	**+0.1**
	6.5nm,0.9s,mb4.7								
QSPA	**South Pole Qui**	**57.33**	**180**	*e*P			pP	14 30 19.2	+6.6
SNAA	**Sanae**	**75.76**	**178**	*e*			pP	14 32 13.0	+2.4
SNAA				*e*				14 32 15.0	
SNAA				*e*				14 32 17.0	
SNAA	**Sanae**	**75.76**	**178**	*e*P			pP	14 32 15.1	+4.6
	4.7nm,0.9s								
VNA3	**Neumayer Olymp**	**75.89**	**176**	*e*			pP	14 32 14.2	+2.9
VNA3				*e*				14 32 16.2	
VNA3				*e*				14 32 18.6	
VNA1	**Neumayer--Stat**	**76.56**	**176**	*e*			pP	14 32 18.6	+3.5
VNA1				*e*				14 32 21.4	
VNA1				*e*				14 32 23.2	
COCO	**West Island**	**80.03**	**262**	*e*P			**P**	**14 32 24.2**	**+0.8**
	126nm,0.7s								
MKAR	**Makanchi Array**	**119.72**	**309**	PKP			PKPdf	14 39 08.3	+4.6
	0.8nm,0.8s,baz=40,slow=2.1,SNR=5.6								
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP				14 39 43.2	
	2.6nm,1.1s,baz=62,slow=2.9,SNR=6.7								
ARCES	**ARCESS Array B**	**141.03**	**347**	PKP			PKPdf	14 39 43.2	-0.8
JOF	**Joensuu**	**144.84**	**338**	*e*pkp			PKPdf	14 39 51.8	+1.1
KAF	**Kangasniemi**	**146.98**	**340**	*e*pkp			PKPdf	14 39 59.9	+5.6
FIA1	**FINESS Array S**	**147.57**	**339**	*e*PKPbc			PKPbc	14 40 02.0	+4.0
FINES	**FINESS Array B**	**147.57**	**339**	PKPbc			PKPbc	14 40 02.4	+4.4
	4.8nm,0.6s,baz=53,slow=3.9,SNR=26								
NB2	**NORSAR Subarra**	**151.19**	**351**	PKP			PKPbc	14 40 13.3	+6.3
	comp=Z,7.0nm,1.1s,baz=18,slow=3.1								
NOA	**NORSAR Array B**	**151.19**	**351**	PKPbc			PKPbc	14 40 12.5	+5.4
	comp=Z,1.3nm,0.7s,baz=15,slow=4.2,SNR=4.8								
EIL	**Elat**	**152.26**	**272**	*e*PKPbc			PKPbc	14 40 14.6	+5.1
EIL				*e*PKPab			PKPab	14 40 24.9	+5.4
AKASG	**Malin Array Be**	**153.51**	**320**	PKPbc			PKPbc	14 40 17.3	+5.1
	comp=Z,1.0nm,0.5s,baz=65,slow=2.5,SNR=6.5								
BRTR	**Keskin Array B**	**154.16**	**294**	PKPbc			PKPbc	14 40 18.7	+5.1
	comp=Z,1.3nm,0.6s,baz=142,slow=2.9,SNR=7.5								
TORD	**Torodi Ar. Bea**	**160.43**	**177**	PKPab			PKPab	14 41 01.9	+7.4
	comp=Z,0.4nm,0.6s,baz=159,slow=3.5,SNR=2.6								

*ISCJB **05** 14:41:48.5±0.2, 3746S±0.005×51.10E±0.007, h10km, mb4.8/53, MS4.1/25, Error ellipse: s-maj=8.0km s-min=7.2km az=135.2*
*BJI **05** 14:41:48.8, 3780S×51.19E, h21km, mB5.6, mb5.1, Ms5.2, Msz4.7*
*IDC **05** 14:41:48.5±0.5, 3748S×5104E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.3/31, mbtmp4.3/25, MS4.1/21, Ms1 4.1/21, ms1mx4.0/27, Error ellipse: s-maj=17.7km s-min=13.1km az=40.0*
*NEIC **05** 14:41:50.0±0.2, 3749S×5102E, h10km, mb5.1/22, Error ellipse: s-maj=8.0km s-min=6.5km az=210.0*
*MOS **05** 14:41:49.1±1.2, 3747S×5112E, h10km, mb5.2/13, Error ellipse: s-maj=18.7km s-min=10.3km az=95.4*
*GCMT **05** 14:41:50.0±0.4, 3742S×5139E, h12km, MW4.9/58, Moment Tensor Solution. s18,c18; s58,c70; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.17±.10; Mθθ 1.97±.08; Mφφ 0.20±.12; Mrθ 0.29±.38; Mrφ 0.13±.09; Mθφ -1.77±.54; Best double couple: M0 2.56200×10^16 NP1: φs 294.00000°, δ 58.00000°, λ -55.00000°. NP2: φs 29.00000°, δ 55.00000°, λ -95.00000°. Principal axes: T 1.9900, Plg 4.0000°, Azm 360.0000°; N 1.1460, Plg 28.0000°, Azm 92.0000°; P -3.1340, Plg 62.0000°, Azm 263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 14:41:50.1±0.2, 3746S±0.005×5106E±0.07, h10km, (h15km±2.7km:pP-P), n130, σ0=83/100, mb4.8/53, MS4.1/25, 6C-2D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**23.30**	**285**	P			**P**	**14 46 58.0**	**-0.2**
	5.4nm,0.9s,mb4.0,baz=140,slow=12,SNR=4.7								
BOSA				LR			LR	14 54 15.4	
	comp=Z,275nm,20.6s,MS3.7,baz=170,slow=32								
LBTB	**Lobatse**	**24.97**	**292**	P			**P**	**14 47 12.4**	**-1.3**
	2.1nm,0.6s,mb3.9,baz=122,slow=9.4,SNR=4.4								
LBTB				LR			LR	14 55 03.5	
	comp=Z,173nm,20.8s,MS3.5,baz=138,slow=32								
LBTB	**Lobatse**	**24.97**	**292**	*e*P			**P**	**14 47 11.0**	**-2.7**
LBTB				pmax			pmax		
	comp=Z,42nm,1.6s,mb4.7								
LBTB	**Lobatse**	**24.97**	**292**	*e*P			**P**	**14 47 11.0**	**-2.7**
	comp=Z,42nm,1.6s,mb4.7								
LBTB				LR			LR	14 55 03.5	
SUR	**Sutherland**	**25.25**	**272**	P			**P**	**14 47 15.8**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.2,baz=106,slow=10,SNR=4.1								
SUR				LR			LR	14 55 18.6	
	comp=Z,183nm,20.6s,MS3.6,baz=100,slow=32								
MATP	**Matopo**	**25.93**	**305**	P			**P**	**14 47 22.2**	**-0.2**
	comp=Z,3.1nm,1.0s,mb3.8,baz=147,slow=9.3,SNR=5.2								
MATP				LR			LR	14 56 03.4	
	comp=Z,712nm,20.3s,MS4.2,baz=136,slow=33								
LSZ	**Lusaka**	**29.98**	**311**	P			**P**	**14 47 58.8**	**+0.2**
	comp=Z,1.8nm,0.7s,mb3.9,baz=138,slow=10,SNR=4.1								
LSZ				LR			LR	14 58 52.9	
	comp=Z,488nm,18.3s,MS4.2,baz=294,slow=34								
MAW	**Mawson**	**30.93**	**171**	P			**P**	**14 48 06.8**	**-0.3**
	comp=Z,2.7nm,0.9s,mb4.1,baz=339,slow=14,SNR=5.1								
MAW	**Mawson**	**30.93**	**171**	P			**P**	**14 48 06.8**	**-0.2**
MAW				pmax			pmax		
	comp=Z,5.0nm,1.4s								
SYO	**Syowa Base**	**32.23**	**188**	*e*P			**P**	**14 48 18.4**	**-0.1**
SYO	**Syowa Base**	**32.23**	**188**	*e*P			**P**	**14 48 22.6**	**+4.1**
TSUM	**Tsumeb**	**34.38**	**293**	*e*P			**P**	**14 48 37.1**	**-0.1**
	comp=Z,22nm,1.5s,mb4.9								
MIR	**Mirnyy**	**37.65**	**154**	*d*	*i*P		**P**	**14 49 06.5**	**+1.3**
MIR				pmax			pmax		
	comp=Z,30nm,1.5s,mb4.8								
KMBO	**Kilima Mbogo**	**38.33**	**337**	P			**P**	**14 49 12.9**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=216,slow=23,SNR=4.7								
KMBO				LR			LR	15 03 16.2	
	comp=Z,478nm,20.6s,MS4.3,baz=276,slow=34								
NVL	**N'lazarevskaya**	**39.14**	**199**	*e*P			**P**	**14 49 22.6**	**+4.8**
NVL				pmax			pmax		
	comp=Z,33nm,1.7s,mb4.8								
SNAA	**Sanae**	**43.71**	**202**	P			**P**	**14 49 54.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=81,slow=7.6,SNR=26								
SNAA	**Sanae**	**43.71**	**202**	*e*P			**P**	**14 49 54.9**	**-0.4**
SNAA				*e*			pP	14 49 57.0	-1.4
SNAA				*e*				14 50 04.3	
SNAA				*e*				14 50 08.0	
SNAA				*e*				14 50 17.7	
CASY	**Casey**	**44.17**	**150**	*e*P			**P**	**14 49 58.5**	**-0.5**
	comp=Z,34nm,1.3s,mb4.9								
CASY				*e*				14 50 04.3	
VNA1	**Neumayer--Stat**	**45.07**	**204**	*e*P			**P**	**14 50 07.3**	**+1.1**
VNA1				*e*				14 50 16.1	
VNA1				*e*				14 50 19.4	
VNA3	**Neumayer Olymp**	**45.66**	**203**	*e*P			**P**	**14 50 10.2**	**-0.7**
VNA3				*e*			pP	14 50 12.5	-1.5
VNA3				*e*				14 50 15.2	
VNA3				*e*				14 50 19.1	
VNA3				*e*				14 50 21.3	
VNA3				*e*				14 50 24.1	
VNA3				*e*				14 50 26.2	
VNA3				*e*				14 50 30.2	
VNA3				*e*				14 57 04.6	
VNA3				*e*				14 57 08.9	
COCO	**West Island**	**47.95**	**71**	*e*P			**P**	**14 50 24.6**	**-4.2**
	comp=Z,173nm,0.6s								
QSPA	**South Pole Qui**	**52.73**	**180**	*e*P			**P**	**14 51 03.4**	**-1.6**
	comp=Z,61nm,1.2s,mb5.4								
QSPA				*e*				14 51 09.0	
VNDA	**Vanda**	**58.02**	**166**	P			**P**	**14 51 43.1**	**0.0**
	comp=Z,7.3nm,1.2s,mb4.6,baz=255,slow=8.1,SNR=5.6								
VNDA				LR			LR	15 14 55.9	
	comp=Z,470nm,18.5s,MS4.6,baz=238,slow=34								
SBA	**Scott Base**	**58.75**	**167**	P			**P**	**14 51 50.3**	**+2.1**
SBA				*e*			pP	14 51 53.7	+2.3
SBA				pmax			pmax		
	comp=Z,22nm,1.3s,mb5.0								
SBA	**Scott Base**	**58.75**	**167**	P			**P**	**14 51 50.3**	**+2.0**
	comp=Z,22nm,1.3s,mb5.0								
SBA				*e*			pP	14 51 53.6	+2.2
PSI	**Prapat**	**59.75**	**59**	P			**P**	**14 51 55.4**	**+0.3**
	comp=Z,2.0nm,0.4s,mb4.5,baz=144,slow=13,SNR=4.1								
WSAR	**Wadi Sarin**	**60.79**	**8**	LR			LR	15 12 46.9	
	comp=Z,365nm,19.2s,MS4.5,baz=188,slow=31								
MBWA	**Marble Bar**	**60.83**	**95**	*e*P			**P**	**14 52 02.4**	**-0.1**
	comp=Z,16nm,1.1s,mb5.0								
KULM	**Kulim**	**62.73**	**59**	*e*P			**P**	**14 52 15.8**	**+0.6**
KSM	**Kuching**	**66.97**	**69**	*e*P			**P**	**14 52 43.3**	**+0.4**
KSM				*e*				14 52 49.0	
FITZ	**Fitzroy Crossi**	**67.16**	**96**	*e*P			**P**	**14 52 43.6**	**-0.5**
	comp=Z,17nm,1.2s,mb4.9								
FITZ	**Fitzroy Crossi**	**67.16**	**96**	P			**P**	**14 52 44.1**	**0.0**
	comp=Z,8.5nm,1.1s,mb4.7,baz=248,slow=6.6,SNR=7.8								
DBIC	**Dimbokro**	**68.09**	**298**	P			**P**	**14 52 50.4**	**+0.4**
	comp=Z,4.3nm,0.7s,mb4.6,baz=142,slow=3.8,SNR=6.8								
DBIC				LR			LR	15 18 22.8	
	comp=Z,75nm,19.7s,MS3.9,baz=118,slow=32								
TOA0	**Torodi Ar. Sit**	**68.41**	**307**	*e*P			**P**	**14 52 52.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**68.41**	**307**	P			**P**	**14 52 52.2**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=119,slow=5.9,SNR=16								
TORD				LR			LR	15 22 17.2	
	comp=Z,195nm,18.6s,MS4.4,baz=135,slow=36								
ASF	**Jabal al Asfar**	**70.52**	**347**	P			**P**	**14 53 05.0**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.3,baz=316,slow=6.3,SNR=4.8								
ASPA	**Alice Springs**	**70.57**	**105**	*e*P			**P**	**14 53 05.6**	**+0.2**
ASAR	**Alice Springs**	**70.58**	**105**	P			**P**	**14 53 05.7**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=234,slow=5.9,SNR=48								
ASAR				LR			LR	15 19 08.6	
	comp=Z,186nm,19.2s,MS4.4,baz=297,slow=32								
AS31	**Alice Springs**	**70.58**	**105**	*e*P			**P**	**14 53 05.6**	**+0.2**
CM31	**Chiang Mai Arr**	**71.58**	**48**	*e*P			**P**	**14 53 11.7**	**+0.2**
	comp=Z,21nm,1.0s,mb5.0								
KOLN	**Koldanda**	**71.71**	**30**	*e*P			**P**	**14 53 12.0**	**-0.3**
	comp=Z,107nm,1.5s,mb5.5								
STKA	**Stephens Creek**	**71.83**	**116**	*e*P			**P**	**14 53 13.0**	**0.0**
	comp=Z,7.5nm,1.1s,mb4.5								
STKA	**Stephens Creek**	**71.83**	**116**	P			**P**	**14 53 12.3**	**-0.7**
	comp=Z,9.6nm,1.2s,mb4.6,baz=204,slow=8.8,SNR=4.3								
STKA				LR			LR	15 17 10.2	
	comp=Z,161nm,20.6s,MS4.3,baz=206,slow=30								
STKA	**Stephens Creek**	**71.83**	**116**	*e*P			**P**	**14 53 12.8**	**-0.2**
STKA				*e*			pP	14 53 17.8	+1.5
EFI	**East Falkland**	**71.85**	**218**	P			**P**	**14 53 13.6**	**+0.5**
EFI				pmax			pmax		
	comp=Z,9.0nm,1.2s,mb4.6								
EFI	**East Falkland**	**71.85**	**218**	P			**P**	**14 53 13.6**	**+0.5**
	comp=Z,89nm,1.2s,mb5.6								
DMN	**Daman**	**72.18**	**31**	*e*P			**P**	**14 53 15.1**	**0.0**
	comp=Z,52nm,1.2s,mb5.3								
PKI	**Pulchoki**	**72.28**	**32**	*e*P			**P**	**14 53 15.4**	**-0.3**
	comp=Z,72nm,1.5s,mb5.4								
GKN	**Gorkha**	**72.34**	**31**	*e*P			**P**	**14 53 15.7**	**-0.3**
	comp=Z,85nm,1.3s,mb5.5								
KKN	**Kakani**	**72.42**	**32**	*e*P			**P**	**14 53 16.3**	**-0.2**
	comp=Z,67nm,1.3s,mb5.4								
GUN	**Gumba**	**72.77**	**32**	*e*P			**P**	**14 53 18.8**	**+0.2**
	comp=Z,99nm,1.2s,mb5.6								
WB2	**Warramunga Arr**	**72.98**	**102**	*e*P			**P**	**14 53 18.9**	**-0.9**
WB2	**Warramunga Arr**	**72.98**	**102**	*e*P			**P**	**14 53 18.6**	**-1.2**
WRAB	**Tennant Creek**	**72.98**	**102**	P			**P**	**14 53 19.0**	**-0.9**
	comp=Z,82nm,1.5s,mb5.4,SNR=9.9								
WRAB	**Tennant Creek**	**72.98**	**102**	*e*P			**P**	**14 53 19.1**	**-0.8**
MALT	**Malatya**	**76.29**	**350**	*e*P			**P**	**14 53 40.3**	**+1.2**
MALT				pmax			pmax		
	comp=Z,12nm,1.4s,mb4.6								
MALT	**Malatya**	**76.29**	**350**	*e*P			**P**	**14 53 40.3**	**+1.2**
	comp=Z,12nm,1.4s,mb4.7								
LSA	**Lhasa**	**76.63**	**35**	P			**P**	**14 53 41.0**	**0.0**
LSA	**Lhasa**	**76.63**	**35**	*e*P			**P**	**14 53 41.9**	**+0.9**
LSA				*e*				14 53 48.5	
LSA				pmax			pmax		
	comp=Z,27nm,1.2s,mb5.0								
LSA	**Lhasa**	**76.63**	**35**	*e*P			**P**	**14 53 41.9**	**+0.9**
	comp=Z,27nm,1.2s,mb5.1								
LSA				*e*				14 53 48.5	
SANT	**Santorini**	**77.19**	**339**	P			**P**	**14 53 41.1**	**-3.1**
	comp=Z,28nm,1.0s,mb5.1								
GNI	**Garni**	**77.45**	**355**	*i* P			**P**	**14 53 48.0**	**+2.4**
GNI				pmax			pmax		
	comp=Z,21nm,1.3s								
GNI				MLR			MLR		
	comp=Z,100nm,16.0s								
GNI	**Garni**	**77.45**	**355**	P			**P**	**14 53 44.8**	**-0.8**
	comp=Z,39nm,1.4s,mb5.1								
BRTR	**Keskin Array B**	**78.45**	**346**	LR			LR	15 25 52.4	
	comp=Z,46nm,21.6s,MS3.8,baz=115,slow=34								
KMI	**Kunming**	**78.95**	**46**	P			**P**	**14 53 54.6**	**+0.7**
KMI				AP			pP	14 54 00.7	+3.5
KMI				XP			sP	14 54 04.3	+5.9
KMI				AMB			AMB		
	comp=Z,7.0nm,1.8s,mb4.3								
KMI				AMB			AMB		
	comp=Z,174nm,4.5s								
KMI				LR			LR		
	comp=N,456nm,14.1s,MS5.0								
KMI				LR			LR		
	comp=E,176nm,14.1s,MS5.0								
KMI				LR			LR		
	comp=Z,151nm,14.4s,MS4.5								
KMI	**Kunming**	**78.95**	**46**	P			**P**	**14 53 54.6**	**+0.7**
	comp=Z,7.0nm,1.8s,mb4.3								
KMI				pP			pP	14 54 00.7	+3.5
KMI				sP			sP	14 54 04.3	+5.9
KMI				SSS				15 00 43.0	
KMI				LR			LR		
	comp=Z,150nm,14.4s,MS4.5								
KIV	**Kislovodsk**	**81.39**	**354**	*e*P			**P**	**14 54 08.0**	**+0.9**
KIV				*e*S			S	15 04 17.6	-0.6
KIV				pmax			pmax		
	comp=Z,18nm,1.1s,mb4.9								
KIV				MLR			MLR		
	comp=Z,67nm,18.0s,MS4.0								
KIV	**Kislovodsk**	**81.39**	**354**	*e*P			**P**	**14 54 07.4**	**+0.3**
	comp=Z,44nm,1.6s,mb5.1								
KEST	**Kesra**	**82.46**	**327**	P			**P**	**14 54 13.9**	**+1.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=267,slow=6.4,SNR=4.7								
KEST				LR			LR	15 32 45.8	
	comp=Z,113nm,18.2s,MS4.3,baz=188,slow=37								
AAK	**Ala-Archa**	**82.52**	**17**	P			**P**	**14 54 13.5**	**+0.5**
	comp=Z,69nm,1.1s,mb5.6,SNR=7.6								
AAK	**Ala-Archa**	**82.52**	**17**	*d*	*i*P		**P**	**14 54 12.9**	**-0.1**
AAK				pmax			pmax		
	comp=Z,21nm,1.5s,mb5.0								
AAK	**Ala-Archa**	**82.52**	**17**	*e*P			**P**	**14 54 13.5**	**+0.5**
	comp=Z,26nm,1.4s,mb5.1								
TRQA	**Tornquist**	**82.77**	**227**	*e*P			**P**	**14 54 15.1**	**+0.8**
	comp=Z,38nm,1.2s,mb5.3								
CD2	**Chengdu**	**83.98**	**43**	*e*P			**P**	**14 54 20.4**	**-0.1**
CD2				AMB			AMB		
	comp=Z,10.0nm,1.1s,mb4.9								
PLCA	**Paso Flores**	**85.60**	**220**	P			**P**	**14 54 28.9**	**+0.2**
	comp=Z,9.2nm,1.1s,mb4.9,baz=56,slow=4.8,SNR=3.6								
PLCA				LR			LR	15 28 51.8	
	comp=Z,69nm,19.2s,MS4.1,baz=176,slow=33								
PLCA	**Paso Flores**	**85.60**	**220**	*e*P			**P**	**14 54 28.8**	**+0.1**
PLCA				*e*				14 54 34.1	
PLCA				pmax			pmax		
	comp=Z,22nm,1.2s								
PLCA	**Paso Flores**	**85.60**	**220**	*e*P			**P**	**14 54 28.8**	**+0.1**
	comp=Z,22nm,1.2s,mb5.3								
PLCA				*e*				14 54 34.1	
PLCA				LR			LR	15 28 51.8	
MLR	**Muntele Rosu**	**85.61**	**343**	P			**P**	**14 54 28.7**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.6,baz=200,slow=6.5,SNR=7.0								
CPUP	**Villa Florida**	**87.60**	**238**	LR			LR	15 27 25.0	
	comp=Z,35nm,19.4s,MS3.8,baz=172,slow=31								
BDFB	**Brasilia**	**87.63**	**252**	LR			LR	15 27 08.3	
	comp=Z,62nm,18.2s,MS4.1,baz=295,slow=31								
AKTK	**Aktyubinsk**	**87.73**	**4**	P			**P**	**14 54 38.8**	**-0.3**
AKTO	**Aktyubinsk**	**87.73**	**4**	P			**P**	**14 54 38.8**	**-0.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=227,slow=8.6,SNR=3.6								
LZH	**Lanzhou**	**88.01**	**40**	*e*P			**P**	**14 54 41.1**	**+0.6**
LZH				AP			pP	14 54 47.5	+3.7
LZH				XP			sP	14 54 51.2	+6.2
LZH				AMB			AMB		
	comp=Z,20nm,1.2s,mb5.2								
LZH	**Lanzhou**	**88.01**	**40**	*e*P			**P**	**14 54 41.1**	**+0.6**
LZH				*PP			pP	14 54 47.5	+3.7
LZH				pmax			pmax		
	comp=Z,20nm,1.2s,mb5.2								
LZH	**Lanzhou**	**88.01**	**40**	*e*P			**P**	**14 54 41.1**	**+0.6**
	comp=Z,20nm,1.2s,mb5.2								
LZH				pP			pP	14 54 47.5	+3.7
LZH				sP			sP	14 54 51.2	+6.2
MKAR	**Makanchi Array**	**88.42**	**21**	P			**P**	**14 54 42.2**	**-0.2**
	comp=Z,1.0nm,0.9s,mb4.1,baz=212,slow=4.1,SNR=6.8								
MKAR	**Makanchi Array**	**88.42**	**21**	*i* P			**P**	**14 54 43.0**	**+0.6**
MKAR	**Makanchi Array**	**88.42**	**21**	P			**P**	**14 54 42.2**	**-0.2**
GTA	**Gaotai**	**88.65**	**36**	*e*P			**P**	**14 54 43.1**	**-0.4**
GTA				AP			pP	14 54 49.3	+2.5
GTA				XP			sP	14 54 53.1	+5.1
GTA				AMB			AMB		
	comp=Z,3.0nm,1.4s,mb4.4								
AKASG	**Malin Array Be**	**89.86**	**346**	P			**P**	**14 54 48.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=174,slow=4.2,SNR=7.1								
AKASG				LR			LR	15 33 00.5	
	comp=Z,30nm,21.6s,MS3.7,baz=75,slow=34								
AKASG	**Malin Array Be**	**89.86**	**346**	*i* P			**P**	**14 54 49.2**	**0.0**
ZRNK	**Zerenda**

ellipse: s-maj=39.0km s-min=33.9km az=168.0
*ISCJB **05** 14:45:21.8±2.3, 330S±02×1780W±03, h140km±21km, mb4.1/4, Error ellipse: s-maj=47.2km s-min=17.7km az=45.0*

ISC 05 14:45:24.1±2.5, 330S±02×1781W±03, h138km±23km, n16, σ1°01/15, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.40**	**212**	PN	**Pn**	**14 46 43.1**	**+0.4**
URZ	**Urewera**	**6.52**	**216**	Pn	**Pn**	**14 46 59.9**	**+2.2**
	7.6nm,0.3s,baz=272,slow=3.2,SNR=51						
URZ				Sn	**Sn**	**14 48 18.6**	**+7.8**
	3.4nm,0.3s,baz=153,slow=20,SNR=9.2						
URZ	**Urewera**	**6.52**	**216**	SN	**Sn**	**14 48 18.9**	**+8.0**
OUZ	**Omahuta**	**7.25**	**250**	PN	**Pn**	**14 47 06.8**	**-0.6**
BKZ	**Black Stump Fm**	**7.53**	**214**	PN	**Pn**	**14 47 10.6**	**-0.6**
BKZ				SN	**Sn**	**14 48 40.8**	**+5.6**
QRZ	**Quartz Range**	**10.81**	**221**	SN	**Sn**	**14 49 54.6**	**+0.2**
THZ	**Tophouse**	**11.28**	**217**	PN	**Pn**	**14 47 57.6**	**-3.6**
THZ				SN	**Sn**	**14 50 05.8**	**+0.1**
KHZ	**Kahutara**	**11.47**	**213**	PN	**Pn**	**14 48 01.4**	**-2.4**
CTA	**Charters Tower**	**34.25**	**283**	P	**P**	**14 51 56.6**	**-0.1**
	1.7nm,0.5s,mb4.1,baz=119,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**42.98**	**270**	P	**P**	**14 53 09.9**	**+0.5**
	2.4nm,0.6s,mb4.0,baz=105,slow=7.7,SNR=50						
WRA	**Warramunga Arr**	**44.20**	**275**	P	**P**	**14 53 19.0**	**-0.3**
	4.5nm,0.3s,mb4.5,baz=114,slow=8.0,SNR=143						
FITZ	**Fitzroy Crossi**	**52.34**	**272**	P	**P**	**14 54 22.2**	**+0.5**
	2.1nm,0.6s,mb3.7,baz=96,slow=3.3,SNR=7.6						
KAF	**Kangasniemi**	**147.00**	**339**	*e*pkp	PKPdf	15 04 50.4	+2.1
FINES	**FINESS Array B**	**147.59**	**338**	PKPbc	PKPbc	15 04 52.8	+0.7
	2.2nm,0.6s,baz=47,slow=4.7,SNR=17						
HFS	**Hagfors**	**151.81**	**348**	PKPbc	PKPbc	15 05 03.2	+0.8
	1.2nm,0.5s,baz=74,slow=6.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**160.20**	**179**	PKPab	PKPab	15 05 57.9	+10
	0.4nm,0.5s,baz=166,slow=2.5,SNR=6.3						

GUC 05 15:27:19.6±1.2, 2779S×7105W, h42km±20km, MD3.6, ML3.5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.74**	**16**	*e*P	Pn	15 27 33.7	+0.1
CDCH				*i* S	Sn	15 27 44.5	+0.8
CPCH	**Copiapo**	**0.75**	**56**	⇓*i*P	Pn	15 27 34.5	+0.7
CPCH				*i* S	Sn	15 27 44.9	+0.9
CPCH				AML	AML	15 27 46.0	
	comp=N,11μm,0.3s						
VACH	**Vallenar**	**0.83**	**162**	*e*P	Pn	15 27 39.9	+5.1
VACH				*i* S	Sn	15 27 51.0	+5.2
VACH				AML	AML	15 27 51.3	
	comp=E,3μm,0.3s						
TLL	**Tololo Astrono**	**2.38**	**175**	*e*P	Pn	15 27 58.0	+1.9
TLL				*i* S	Sn	15 28 26.5	+2.4
TLL				AML	AML	15 28 39.2	
	comp=N,130nm,0.6s						

*UPP **05** 15:32:50.6, 67.12N×2102E, h0km, ML2.8, Mining explosion.*
*CSEM **05** 15:32:50.6, 67.12N×2102E, h0km, ML2.8, Mining explosion. After UPP*
*NAO **05** 15:32:51.3±1.2, 67.20N×2113E, ML2.0*
*BER **05** 15:32:55.3±4.1, 67.10N×2084E, h0km, ML1.6, ML2.0(NAO), Suspected explosion*

HEL 05 15:32:52.2±0.2, 6710N×2088E, h0km, ML1.8, ML2.8(UPP), ML1.6(BER), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.76**	**136**	*i* P	Pg	15 33 04.5	-2.2
PAJU	**Pajala**	**0.88**	**94**	*i* P	Pg	15 33 05.8	-3.2
KUA	**Kurravaara**	**0.88**	**346**	*i* P	Pg	15 33 07.4	-1.7
SALU	**Saltoluokta**	**0.96**	**288**	*e*P	Pg	15 33 09.5	-1.2
LANU	**Lannavaara**	**1.04**	**24**	*e*P	Pg	15 33 09.7	-2.5
LANU	**Lannavaara**	**1.04**	**24**	P	Pg	15 33 09.6	-2.5
NIKU	**Nikkaluokta**	**1.05**	**318**	*e*P	Pg	15 33 09.9	-2.4
KALU	**Kalix**	**1.60**	**140**	*e*P	Pn	15 33 19.4	-2.2
KIF	**Kilpisjarvi**	**1.91**	**359**	*e*P	Pn	15 33 26.4	+0.4
KIF				*e*S	Sn	15 33 52.7	+1.9
KTK1	**Kautokeino**	**2.11**	**24**	*e*P	Pn	15 33 30.3	+1.5
KTK1				*e*Sg	Sg	15 34 01.9	+1.8
KTK1				AML	AML	15 34 04.1	
	comp=Z,8.8nm,0.2s						
SGF	**Sodankyl**	**2.22**	**79**	*e*P	Pn	15 33 30.3	+0.1
SGF				*e*S	Sn	15 34 00.5	+2.1
TRO	**Tromso**	**2.64**	**345**	*e*Sg	Sg	15 34 16.4	-0.7
TRO				AML	AML	15 34 20.7	
	comp=Z,4.6nm,0.1s						
MOR8	**Moi Rana**	**2.73**	**253**	*e*Sg	Sg	15 34 16.4	-3.6
OUL	**Oulu**	**2.88**	**132**	*e*PB	Pb	15 33 42.6	-1.8
OUL				*e*SB	Sb	15 34 19.4	-0.8
ARA0	**ARCESS Array S**	**2.98**	**33**	P	Pn	15 33 39.0	-1.8
	baz=208,slow=14						
ARA0				S	Sn	15 34 19.9	+2.7
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**2.98**	**33**	*e*P	Pn	15 33 39.0	-1.8
ARA0				*e*S	Sn	15 34 19.9	+2.7
LOF	**Lofoten**	**2.99**	**294**	*e*P	Pn	15 33 42.1	+1.3
STOK1	**Konsvik**	**3.13**	**262**	*e*P	Pn	15 33 44.2	+1.4
STOK	**Stokkvaagen**	**3.22**	**260**	*e*P	Pn	15 33 44.4	+0.4
MSF	**Maaselka**	**3.48**	**106**	*e*P	Pn	15 33 47.9	+0.3
MSF				*e*SB	Sb	15 34 37.1	-0.4
KEV	**Kevo**	**3.49**	**38**	*e*P	Pn	15 33 47.2	-0.5
KEV				*e*S	Sn	15 34 30.4	+0.6
KEV				MSG		15 34 50.2	
	comp=Z,2.9nm,0.2s						
KU4	**Liikasenvaara**	**3.53**	**98**	*e*P	Pn	15 33 48.2	-0.1
KU4				*e*S	Sn	15 34 31.8	+1.1
KU4				*e*SG	Sg	15 34 42.4	-3.2
KU4				MSG		15 34 54.5	
	comp=Z,1.4nm,0.2s						
KJN	**Kajaani**	**4.15**	**134**	*e*P	Pn	15 33 56.4	-0.3
KJN				*e*S	Sn	15 34 44.4	-1.6
KJN				*e*SG	Sg	15 35 01.8	-3.7
KJN				MSG		15 35 05.3	
	comp=Z,1.4nm,0.2s						
VAF	**Ylistaro**	**4.15**	**169**	*e*P	Pn	15 33 57.7	+0.9
VAF				*e*S	Sn	15 34 43.3	-2.7
JOF	**Joensuu**	**6.09**	**129**	*e*P	Pn	15 34 21.7	-1.8
JOF				*e*S	Sn	15 35 32.1	-1.9
FIA0	**FINESS Array S**	**6.12**	**156**	Pn	Pn	15 34 24.6	+0.9
	baz=339,slow=14						
FIA0				Sn	Sn	15 35 32.8	-1.6
	baz=354,slow=22						
FIA0	**FINESS Array S**	**6.12**	**156**	*e*P	Pn	15 34 24.6	+0.9
FIA0				*e*S	Sn	15 35 32.8	-1.6
NB2	**NORSAR Subarra**	**7.41**	**219**	*e*P	Pn	15 34 40.6	-1.0
HFS	**Hagfors**	**7.69**	**208**	Pn	Pn	15 34 44.1	-1.3
	baz=38,slow=11						
HFS	**Hagfors**	**7.69**	**208**	*e*P	Pn	15 34 44.1	-1.3

*IDC **05** 15:46:37.6±3.4, 000N×12380E, h102km±30km, mb3.8/6, mb1 4.0/7, mb1mx3.7/17, mbtmp4.1/7, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=52.6km s-min=15.3km az=72.0*
*NEIC **05** 15:46:39.8±2.6, 008S×12391E, h121km±29km, mb4.4/4, Error ellipse: s-maj=32.1km s-min=9.9km az=72.0*
*ISCJB **05** 15:46:40.4±3.0, 008S±010×1239E±02, h145km±33km, mb4.1/9, Error ellipse: s-maj=33.2km s-min=10.2km az=132.5*

ISC 05 15:46:40.6±2.8, 007S±010×1239E±02, h128km±31km, n19, σ0°83/19, mb4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.79**	**308**	*e*Pn	**Pn**	**15 48 58.4**	**+0.3**
KKM				*e*Sn	**Sn**	**15 50 46.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.00**	**175**	*e*P	**P**	**15 50 42.1**	**+0.8**
	3.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.00**	**175**	P	**P**	**15 50 41.4**	**0.0**
	0.3nm,0.3s,baz=25,slow=15,SNR=12						
MBWA	**Marble Bar**	**21.36**	**191**	*e*P	**P**	**15 51 15.3**	**-2.3**
	6.4nm,0.4s,mb4.2,baz=335,slow=10,SNR=129						
WRA	**Warramunga Arr**	**22.24**	**153**	P	**P**	**15 51 26.4**	**-0.5**
	5.8nm,0.4s,mb4.2,baz=335,slow=10,SNR=129						
WB2	**Warramunga Arr**	**22.24**	**153**	*e*P	**P**	**15 51 25.6**	**-1.3**
AS31	**Alice Springs**	**25.38**	**158**	*e*P	**P**	**15 51 56.0**	**+0.1**
ASAR	**Alice Springs**	**25.38**	**158**	P	**P**	**15 51 56.6**	**+0.7**
	1.1nm,0.3s,mb3.7,baz=333,slow=9.0,SNR=72						
ASAR				ScP	ScP	15 58 55.2	+3.0
	0.3nm,1.0s,baz=336,slow=2.6,SNR=4.0						
ASPA	**Alice Springs**	**25.38**	**158**	*e*P	**P**	**15 51 56.7**	**+0.8**
FORT	**Forrest**	**30.80**	**173**	*e*P	**P**	**15 52 44.5**	**+0.5**
	10nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.79**	**154**	*e*P	**P**	**15 53 28.5**	**+1.2**
	3.2nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**35.79**	**154**	P	**P**	**15 53 28.3**	**+1.0**
	5.2nm,0.5s,mb4.8,baz=329,slow=8.5,SNR=30						
STKA	**Stephens Creek**	**35.79**	**154**	*e*P	**P**	**15 53 28.2**	**+0.8**
HNR	**Honiara**	**37.05**	**106**	LR	LR	16 07 40.0	
	comp=Z,73nm,19.2s,baz=14,slow=34						
MJAR	**Matsushiro Arr**	**38.77**	**19**	P	**P**	**15 53 52.1**	**-0.4**
	2.3nm,0.7s,mb4.1,baz=190,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**59.15**	**328**	P	**P**	**15 56 26.8**	**-1.0**
	1.2nm,0.5s,mb4.2,baz=119,slow=8.6,SNR=15						
MKAR				PcP	PcP	15 57 14.3	-0.7
	0.3nm,0.4s,baz=151,slow=2.8,SNR=4.6						
MKAR	**Makanchi Array**	**59.15**	**328**	P	**P**	**15 56 26.8**	**-1.0**
MKAR				PcP	PcP	15 57 14.3	-0.7
YAK	**Yakutsk**	**62.09**	**3**	*e*P	**P**	**15 56 47.9**	**+0.2**
	6.3nm,0.6s,mb4.8						
VNDA	**Vanda**	**80.06**	**172**	P	**P**	**15 58 36.6**	**+0.6**
	0.3nm,0.6s,mb3.3,baz=304,slow=7.5,SNR=3.7						

*ISCJB **05** 16:00:51.2±2.8, 47S±02×1517E±02, h157km±19km, mb3.8/7, Error ellipse: s-maj=43.3km s-min=18.6km az=49.3*
*NEIC **05** 16:00:52.8±2.8, 474S×15176E, h160km±19km, mb4.2/4, Error ellipse: s-maj=31.1km s-min=17.0km az=98.0*
*IDC **05** 16:00:53.7±2.7, 473S×15166E, h162km±15km, mb3.4/5, mb1 3.6/6, mb1mx3.4/15, mbtmp3.9/6, Error ellipse: s-maj=64.8km s-min=13.7km az=117.0*

ISC 05 16:00:52.6±2.2, 47S±01×1518E±02, h156km±14km, n16, σ0°47/20, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**225**	P	**Pn**	**16 02 26.2**	**-0.3**
	5.6nm,0.3s,baz=52,slow=10,SNR=22						
PMG				S	**Sn**	**16 03 40.3**	**+0.2**
	9.2nm,0.3s,baz=173,slow=18,SNR=8.6						
PMG	**Port Moresby**	**6.54**	**225**	P	**Pn**	**16 02 26.2**	**-0.3**
PMG				*e*Sn	**Sn**	**16 03 40.1**	**0.0**
PMG				S	**Sn**	**16 03 40.4**	**+0.2**
KAKA	**Kakadu**	**20.71**	**246**	*e*P	**P**	**16 05 20.5**	**0.0**
	8.2nm,0.6s						
WB2	**Warramunga Arr**	**22.75**	**227**	*e*P	**P**	**16 05 41.7**	**+0.3**
WRA	**Warramunga Arr**	**22.76**	**227**	P	**P**	**16 05 41.6**	**+0.2**
	3.2nm,0.3s,mb4.2,baz=50,slow=9.9,SNR=85						
WRA				S	**S**	**16 09 39.0**	**+0.8**
	0.7nm,0.8s,baz=54,slow=15,SNR=3.5						
AS31	**Alice Springs**	**25.54**	**221**	*e*P	**P**	**16 06 07.0**	**+0.2**
ASAR	**Alice Springs**	**25.54**	**221**	P	**P**	**16 06 06.8**	**+0.1**
	0.8nm,0.7s,mb3.5,baz=52,slow=9.1,SNR=39						
ASAR				S	**S**	**16 10 21.9**	**-0.8**
	0.1nm,0.6s,baz=45,slow=14,SNR=3.2						
ASPA	**Alice Springs**	**25.54**	**221**	*e*P	**P**	**16 06 07.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**28.83**	**240**	*e*P	**P**	**16 06 36.2**	**+0.1**
	4.5nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.83**	**240**	P	**P**	**16 06 35.4**	**-0.7**
	1.1nm,0.3s,mb4.0,baz=61,slow=11,SNR=18						
MBWA	**Marble Bar**	**35.15**	**239**	*e*P	**P**	**16 07 30.2**	**-1.0**
	4.3nm,0.8s,mb4.1						
SONM	**Songino Array**	**65.75**	**328**	P	**P**	**16 11 21.2**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=135,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**79.63**	**319**	P	**P**	**16 12 42.2**	**-0.3**
	0.4nm,0.5s,mb3.3,baz=92,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**79.63**	**319**	P	**P**	**16 12 42.2**	**-0.3**
QSPA	**South Pole Qui**	**85.22**	**180**	*e*P	**P**	**16 13 11.2**	**-0.2**
	1.1nm,0.5s,mb3.8						
TORD	**Torodi Ar. Bea**	**149.35**	**288**	PKPbc	PKPbc	16 20 23.4	+0.4
	0.8nm,0.4s,baz=90,slow=2.4,SNR=12						

*ISCJB **05** 16:04:39.5±1.5, 1382N±010×9235W±007, h41km±49km, Error ellipse: s-maj=16.6km s-min=9.9km az=36.7*
*CASC **05** 16:04:39.2±3.4, 1415N×9242W, h67km±49km, MD4.2*
*MEX **05** 16:04:40.7±0.3, 1378N×9229W, h15km±226km, MD4.2*

ISC 05 16:04:38.0±1.2, 1364N±010×9229W±006, h55km±35km, n15, σ1°56/26, 5C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.93**	**43**	⇑*e*P	**Pn**	**16 04 55.8**	**+0.9**
JAT				*e*S	**Sn**	**16 05 06.2**	**-1.1**
FUG	**Fuego 3**	**1.62**	**60**	⇓*e*P	**Pn**	**16 05 05.3**	**+1.1**
TP2	**Tecpan 2**	**1.68**	**47**	⇑*e*P	**Pn**	**16 05 05.3**	**+0.3**
TER	**Terranova**	**1.69**	**67**	*e*P	**Pn**	**16 05 07.1**	**+1.9**
TER				*e*S	**Sn**	**16 05 29.2**	**+3.4**
PCG	**Pacaya**	**1.80**	**65**	⇓*e*P	**Pn**	**16 05 09.0**	**+2.3**
PCG				*e*S	**Sn**	**16 05 28.9**	**+0.5**
RBDL	**Robledal**	**2.58**	**79**	⇓*e*P	**x**	**16 05 14.5**	**-2.8**
RBDL				*e*S	**x**	**16 05 46.9**	**-0.4**
RTR	**El Retiro**	**2.59**	**84**	⇑*e*P	**x**	**16 05 14.9**	**-2.5**
RTR				*e*S	**x**	**16 05 49.0**	**+1.4**
SBLS	**San Blas**	**2.60**	**85**	*e*P	**x**	**16 05 15.3**	**-2.4**
SBLS				*e*S	**x**	**16 05 46.5**	**-1.5**
SNJE	**San Jose**	**2.62**	**85**	⇑*e*P	**x**	**16 05 15.1**	**-2.8**
SNJE				*e*S	**x**	**16 05 50.3**	**+1.8**
CCIG	**Comitan**	**2.63**	**3**	*e*P	**Pn**	**16 05 17.9**	**-0.1**
CCIG				*i* S	**Sn**	**16 05 46.9**	**-1.8**
BOQS	**Boqueron**	**2.93**	**88**	⇑*e*P	**x**	**16 05 20.2**	**-1.9**
BOQS				*e*S	**x**	**16 05 58.2**	**+2.1**
SCX	**San Cristobal**	**3.09**	**354**	*i* P	**Pn**	**16 05 24.8**	**+0.5**
SCX				*i* S	**Sn**	**16 05 59.2**	**-0.9**
SNVI	**San Vicente**	**3.36**	**90**	*e*P	**x**	**16 05 25.5**	**-2.5**
SNVI				*e*S	**x**	**16 06 07.4**	**+0.8**
VHO	**Vista Hermosa**	**5.47**	**309**	*i* S	**Sn**	**16 06 59.5**	**+0.9**
UTMO	**Huajuapan**	**6.74**	**309**	*i* S	**Sn**	**16 07 30.8**	**+1.1**

IDC 05 16:07:07.8±24.0, 3798N×7240E, h105km±138km, mb3.6/1, mb1 3.4/4, mb1mx3.1/24, mbtmp3.7/4, ML3.5/1, 2C-1D, Error ellipse: s-maj=245.6km s-min=91.0km az=4.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.32**	**345**	Pn	Pn	16 08 15.7	-9.1
	2.2nm,0.3s,baz=155,slow=11,SNR=59						
KK31				⇓Sn	Sn	16 09 13.7	-11
	6.1nm,0.6s,baz=171,slow=13,SNR=12						
KK31				⇑Lg		16 09 38.7	
	12nm,0.8s,baz=184,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**11.44**	**37**	P	Pn	16 09 47.8	+0.1
	0.1nm,0.3s,baz=223,slow=14,SNR=5.1						
AB31	**Akbulak array**	**14.41**	**325**	Pn	Pn	16 10 12.6	-14
	0.3nm,0.4s,baz=140,slow=12,SNR=5.8						
AB31				⇑Sn	Sn	16 12 43.1	-22
	0.5nm,0.6s,baz=131,slow=13,SNR=3.6						
BVAR	**Borovoye Array**	**15.11**	**355**	P	Pn	16 10 35.3	-0.2
	0.2nm,0.3s,baz=174,slow=10,SNR=4.0						
ZAL	**Zalesovo**	**18.09**	**24**	P	P	16 11 11.0	-0.1
	0.9nm,0.3s,baz=244,slow=7.5,SNR=9.0						
ARCES	**ARCESS Array B**	**40.22**	**337**	P	P	16 14 33.4	-0.5
	1.8nm,0.9s,baz=105,slow=7.0,SNR=6.5						

*NIED **05** 16:48:00, 4100N×14200E, h53km, Mw3.7 Best double couple: M0=4.58000×10^14 NP1:φ=30.00000°, δ=77.00000°, λ=92.00000°. NP2:φ=201.00000°, δ=13.00000°, λ=82.00000°.*
*ISCJB **05** 16:48:10.2±0.4, 4096N±003×14194E±007, h72km±3km, mb3.8/11, Error ellipse: s-maj=8.8km s-min=4.7km az=51.0*
*JMA **05** 16:48:10.8±0.1, 4097N×14201E, h55km±2km, M3.6*
JMA Felt I J1.
*NEIC **05** 16:48:11.7±0.7, 4129N×14157E, h35km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=10.6km az=121.0*
*IDC **05** 16:48:12.2±2.1, 4097N×14211E, h78km±19km, mb3.6/8, mb1 3.6/10, mb1mx3.5/23, mbtmp3.8/10, MS3.7/1, Ms1 3.7/1, ms1mx2.5/26, Error ellipse: s-maj=38.3km s-min=14.1km az=92.0*

ISC 05 16:48:11.2±0.4, 4096N±003×14194E±006, h65km±4km, n29, σ0°79/38, mb3.8/11, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.67**	**209**	P	**Pn**	**16 48 24.8**	**-0.6**
JANG				S	**Sn**	**16 48 34.6**	**-1.2**
JTM	**Tenmabayashi**	**0.68**	**255**	⇓P	**Pn**	**16 48 25.3**	**-0.2**
JTM				S	**Sn**	**16 48 35.8**	**-0.2**
JOT	**Ohata**	**0.79**	**302**	⇓P	**Pn**	**16 48 26.3**	**-0.5**
JOT				*e*S	**Sn**	**16 48 37.9**	**-0.4**
JKB	**Kayabe**	**1.15**	**324**	⇓P	**Pn**	**16 48 31.0**	**-0.3**
JKB				*e*S	**Sn**	**16 48 45.8**	**-0.5**
JAH	**Hinai**	**1.26**	**232**	⇓P	**Pn**	**16 48 33.1**	**+0.3**
JAH				S	**Sn**	**16 48 50.1**	**+1.2**
JSR	**Shiriuchi**	**1.28**	**297**	⇓P	**Pn**	**16 48 33.2**	**+0.2**
ERM	**Erimo**	**1.39**	**41**	*e*Pg	**Pn**	**16 48 34.7**	**+0.1**
ERM				*e*Sg	**Sn**	**16 48 45.3**	**-6.9**
JEM	**Erimo**	**1.40**	**41**	P	**Pn**	**16 48 34.5**	**-0.1**
JEM				*e*S	**Sn**	**16 48 51.5**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.45**	**25**	P	**Pn**	**16 48 35.6**	**+0.3**
JNBK				*e*S	**Sn**	**16 48 54.4**	**+0.9**
JIW	**Iwasaki**	**1.51**	**256**	P	**Pn**	**16 48 36.5**	**+0.4**
JOM	**Ohasama**	**1.57**	**199**	P	**Pn**	**16 48 37.0**	**+0.1**
JOM				*e*S	**Sn**	**16 48 55.7**	**-0.6**
ASAJ	**Asahikawa**	**3.19**	**9**	P	**Pn**	**16 48 58.6**	**-0.3**
	4.0nm,0.3s,baz=224,slow=8.5,SNR=69						
ASAJ				S	**Sn**	**16 49 37.3**	**+1.6**
	4.1nm,0.3s,baz=146,slow=20,SNR=3.7						
MAJO	**Matsushiro**	**5.29**	**215**	P	**Pn**	**16 49 29.3**	**+1.7**
MJAR	**Matsushiro Arr**	**5.29**	**215**	P	**Pn**	**16 49 30.5**	**+2.8**
	0.7nm,0.3s,baz=22,slow=15,SNR=4.6						
JHJ	**Hachijo jima 2**	**8.02**	**193**	LR	LR	16 52 54.2	
	comp=Z,510nm,20.1s,baz=320,slow=35						
MKAR	**Makanchi Array**	**42.48**	**299**	P	**P**	**16 55 59.7**	**-0.2**
	0.5nm,0.4s,mb3.6,baz=77,slow=12,SNR=11						
CHKZ	**Chkalovo**	**47.99**	**311**	*e*P	**P**	**16 56 42.9**	**-0.6**
	1.5nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**48.30**	**310**	P	**P**	**16 56 46.3**	**+0.4**
	1.3nm,0.3s,mb4.2,baz=78,slow=9.8,SNR=13						
AAK	**Ala-Archa**	**49.07**	**296**	*e*P	**P**	**16 56 53.7**	**+1.9**
ZRNK	**Zerenda**	**49.12**	**310**	*e*P	**P**	**16 56 51.9**	**-0.3**
	1.2nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**60.48**	**339**	P	**P**	**16 58 13.8**	**-0.5**
	1.5nm,1.0s,mb4.0,baz=73,slow=9.0,SNR=4.5						
WRA	**Warramunga Arr**	**61.00**	**188**	P	**P**	**16 58 17.4**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=5.0,slow=6.9,SNR=8.7						
JOF	**Joensuu**	**62.71**	**331**	*e*p	**P**	**16 58 28.6**	**-0.7**
ASAR	**Alice Springs**	**64.73**	**188**	P	**P**	**16 58 42.6**	**0.0**
	0.2nm,0.6s,mb3.1,baz=4.2,slow=7.3,SNR=4.5						
KAF	**Kangasniemi**	**65.02**	**332**	*e*p	**P**	**16 58 43.5**	**-0.9**
	2.2nm,0.5s,mb4.2,baz=47,slow=6.2						
FINES	**FINESS Array B**	**65.54**	**332**	P	**P**	**16 58 47.8**	**0.0**
	2.2nm,0.5s,mb4.3,baz=44,slow=8.2,SNR=24						
NB2	**NORSAR Subarra**	**70.73**	**337**	P	**P**	**16 59 20.1**	**-0.2**
	comp=Z,0.1nm,0.6s,mb2.8,baz=40,slow=6.5						
NOA	**NORSAR Array B**	**70.73**	**337**	P	**P**	**16 59 18.9**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=39,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**71.45**	**322**	P	**P**	**16 59 24.9**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=43,slow=5.3,SNR=5.1						

*MDD **05** 17:03:40.2±2.4, 3641N×1057W, h0km, mbLg2.2/4, Error ellipse: s-maj=21.9km s-min=17.9km az=100.0, PRXIMO*
*CSEM **05** 17:03:40.3±0.3, 3630N×1065W, h10km, ML1.7, Error ellipse: s-maj=7.0km s-min=4.3km az=107.0*
*IGIL **05** 17:03:40.4, 3637N×1060W, h1km, ML2.1*

INMG 05 17:03:40.4±0.6, 3634N×1070W, h10km, ML1.7, Error ellipse: s-maj=5.2km s-min=2.7km az=79.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.91**	**59**	*e*P	Pn	17 04 10.9	-2.0
MORF				*e*S	Sn	17 04 33.2	-3.8
MORF				*e*S	Sn	17 04 33.2	-3.8
MORF				AML	AML	17 04 36.1	
	comp=N,14nm,0.2s						
MORF	**Marmelete**	**1.91**	**59**	*e*P	Pn	17 04 10.9	-2.1
MORF				*e*S	Sn	17 04 33.2	-3.8
PTEO	**Sao Teotonio**	**1.99**	**52**	*e*Pn	Pn	17 04 12.1	-2.0
PTEO				*e*Sn	Sn	17 04 35.4	-3.6
PBEJ	**Beja**	**2.82**	**52**	*e*Sn	Sn	17 04 55.9	-3.7
PLOU	**Loures**	**2.82**	**25**	*e*Sn	Sn	17 04 56.5	-3.1
EGRO	**El Granado**	**2.84**	**64**	P	Pn	17 04 24.1	-1.7
	comp=N,0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 04 56.5	-3.5
	comp=N,1.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.84**	**64**	P	Pn	17 04 24.1	-1.7
	comp=N,0.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.84**	**23**	*e*Sn	Sn	17 04 56.5	-3.6
MOE	**Montemor**	**2.87**	**40**	*e*Pn	Pn	17 04 24.2	-2.0
MOE				*e*Sn	Sn	17 04 57.2	-3

comp=Z,30nm,20.3s,MS3.8,baz=44,slow=30
ARCES ARCESS Array B 125.76 352 PKP PKPdf 17 23 39.7 +0.9
2.4nm,1.0s,baz=11,slow=1.2,SNR=9.4
CLL Collm 144.94 354 *i* PKPbc PKPdf 17 24 14.9 +0.6
comp=Z,6.0nm,0.9s
CLL *i* PKiKP PKiKP 17 24 19.8 +1.7
CLL LmV 17 42 00.0
comp=Z,100nm,18.8s
STHS Stebnicka Huta 145.29 344 *e*PKP PKPdf 17 24 17.0 +2.1
MALT Malatya 145.33 315 ||*i*P PKPbc 17 24 18.8 +3.9
MALT Malatya 145.33 315 *e*PKPdf PKPdf 17 24 18.3 +3.3
MALT ||P 17 24 18.8
BURAR Bucovina Array 145.70 339 ||*i*P PKPdf 17 24 18.9 +3.3
BURAR Bucovina Array 145.70 339 ||P PKPdf 17 24 18.9 +3.2
MOX Moxa 145.71 356 *e*P PKPdf 17 24 17.8 +2.1
comp=Z,13nm,1.3s
MORC Moravsky Berou 145.78 349 *e*P PKPdf 17 24 17.0 +1.2
KMBO Kilima Mbogo 146.02 242 PKPbc PKPbc 17 24 17.6 +0.5
comp=Z,2.1nm,0.9s,baz=60,slow=22,SNR=4.9
KECS Kecovo 146.35 345 *e*PKP PKPbc 17 24 20.5 +2.5
VYHS Vyhne 146.73 346 *e*PKP PKPbc 17 24 21.3 +2.2
ROSF Rostrenen 146.92 13 *e*PKP1 PKPbc 17 24 20.3 +0.7
PSZ Piszkesteto 147.02 345 *e*PKPdf PKPdf 17 24 18.2 +0.4
FLN La Foliniere 147.06 10 *e*PKP1 PKPbc 17 24 21.1 +1.1
SGMF Saint Gilles 147.15 13 *e*PKP1 PKPbc 17 24 20.7 +0.4
DRGR 147.25 341 ||*i*P PKPbc 17 24 22.2 +1.6
LDF La Druitiere 147.28 10 *e*PKP1 PKPbc 17 24 22.1 +1.5
comp=Z,12nm,0.8s
GERES GERESS Array B 147.29 353 PKPbc PKPbc 17 24 22.5 +1.8
comp=Z,1.2nm,0.7s,baz=29,slow=3.0,SNR=13
BR131 Keskin Array S 147.61 321 *e*PKPbc PKPbc 17 24 23.8 +2.2
BRTR Keskin Array B 147.61 321 PKPbc PKPbc 17 24 23.4 +1.8
comp=Z,2.3nm,0.8s,baz=120,slow=2,SNR=13
CDF Champ du Feu 148.09 1 *e*PKP1 PKPbc 17 24 25.4 +2.5
HINF Hinteralfeld 148.68 1 *e*PKP1 PKPbc 17 24 25.7 +1.3
SSF Saint Saulge 149.25 6 *e*PKP1 PKPbc 17 24 27.6 +1.8
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 149.50 6 *e*PKP1 PKPbc 17 24 27.8 +1.4
BGF Bois d'Agland 149.68 7 *e*PKP1 PKPbc 17 24 28.4 +1.5
comp=Z,19nm,0.9s
CABF La Chapelle 149.87 2 *e*PKP1 PKPbc 17 24 29.5 +2.2
comp=Z,31nm,1.1s
TCF Toulx Ste Croi 149.87 8 *e*PKP1 PKPbc 17 24 28.6 +1.3
LPL La Plagne 150.98 1 *e*PKP1 PKPbc 17 24 32.6 +2.6
comp=Z,7.5nm,0.8s
LPG La Plagne 151.00 1 *e*PKP1 PKPbc 17 24 32.7 +2.7
comp=Z,9.3nm,0.8s
VIVF Saint-Julien-l 151.54 5 *e*PKP1 PKPbc 17 24 33.9 +2.6
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 151.55 3 *e*PKP1 PKPbc 17 24 34.1 +2.8
comp=Z,12nm,0.9s
MBDF Montbardon 151.77 1 *e*PKP1 PKPbc 17 24 34.6 +2.8
comp=Z,7.2nm,0.8s
LASF Ste Croix 152.24 6 *e*PKP1 PKPbc 17 24 35.5 +2.6
ETSF Etsaut 152.68 13 *e*PKP1 PKPbc 17 24 35.6 +1.7
EPF Esparros 152.74 12 *e*PKP1 PKPbc 17 24 35.6 +1.6
comp=Z,14nm,1.1s
MTLF Montolieu 152.76 9 *e*PKP1 PKPbc 17 24 36.0 +2.0
comp=Z,4.8nm,0.7s
TORD Torodi Ar. Bea 173.34 118 PKPab PKPab 17 26 14.1 -0.8
comp=Z,1.4nm,0.8s,baz=247,slow=3.8,SNR=5.7

ISCJB ***05*** *17:20:54.1±0.8, 3239N±010×1380E±02, h367km±6km, mb3.2/7, Error ellipse: s-maj=21.4km s-min=15.2km az=35.0*
IDC ***05*** *17:20:54.8±2.1, 3233N×13799E, h356km±25km, mb2.9/6, mb1 3.0/7, mb1mx2.9/21, mbtmp3.6/7, Error ellipse: s-maj=56.0km s-min=14.9km az=75.0*
JMA ***05*** *17:20:59.5±0.4, 3265N×13781E, h333km, M3.1*
ISC 05 17:20:55.4±0.8, 324N±01×1380E±02, h363km±6km, n22, σ0§65/23, mb3.2/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.52**	**352**	P	**Pn**	**17 21 45.0**	**+0.1**
TK03	**Tokai 3**	**1.73**	**359**	P	**Pn**	**17 21 46.5**	**+0.5**
TK04	**Tokai 4**	**1.95**	**357**	P	**Pn**	**17 21 47.9**	**+0.5**
JWZ	**Kozaga**	**2.21**	**300**	P	**Pn**	**17 21 48.6**	**-0.7**
JIE	**Ise**	**2.23**	**331**	P	**Pn**	**17 21 49.6**	**+0.2**
JOD2	**Odawara 2**	**2.96**	**17**	P	**Pn**	**17 21 55.3**	**0.0**
JYN	**Shimob**	**3.09**	**8**	P	**Pn**	**17 21 57.5**	**+1.1**
JAI	**Aioi**	**3.27**	**295**	P	**Pn**	**17 21 57.8**	**-0.3**
JHU	**Hanno**	**3.57**	**17**	*e*S	**S**	**17 22 49.7**	**-4.0**
JWT	**Wachi**	**3.57**	**323**	P	**Pn**	**17 22 01.0**	**+0.1**
JRY	**Ryogami san**	**3.65**	**12**	P	**Pn**	**17 22 02.1**	**+0.5**
JMN	**Monobe**	**3.69**	**292**	P	**Pn**	**17 22 02.1**	**+0.1**
MJAR	**Matsushiro Arr**	**4.10**	**2**	P	**Pn**	**17 22 06.1**	**0.0**
	1.0nm,0.3s,baz=174,slow=10,SNR=10						
MAT	**Matsushiro**	**4.10**	**2**	P	**Pn**	**17 22 06.1**	**0.0**
MAT				*e*S	**S**	**17 23 00.7**	**-2.5**
MAT	**Matsushiro**	**4.10**	**2**	P	**Pn**	**17 22 06.3**	**+0.2**
SONM	**Songino Array**	**28.40**	**312**	P	**P**	**17 26 18.3**	**+0.6**
	0.3nm,0.4s,mb2.8,baz=128,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**44.34**	**306**	P	**P**	**17 28 31.1**	**+0.2**
	0.6nm,0.6s,mb2.9,baz=74,slow=9.7,SNR=6.4						
WRA	**Warramunga Arr**	**52.20**	**184**	P	**P**	**17 29 29.4**	**-0.9**
	0.3nm,0.4s,mb2.9,baz=0.6,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**55.92**	**185**	P	**P**	**17 29 56.5**	**-0.3**
	0.3nm,0.7s,mb2.8,baz=12,slow=13,SNR=5.4						
ARCES	**ARCESS Array B**	**67.30**	**339**	P	**P**	**17 31 12.3**	**+0.2**
	1.7nm,1.0s,mb3.7,baz=68,slow=7.0,SNR=8.0						
JOF	**Joensuu**	**68.69**	**332**	*e*p	**P**	**17 31 20.3**	**-0.3**
	0.7nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**71.55**	**332**	P	**P**	**17 31 38.1**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=66,slow=6.7,SNR=6.1						

CASC 05 17:29:43.3±2.8, 1078N×8693W, h77km±55km, MD3.9, ML3.5, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZC	**La Cruz**	**1.32**	**82**	*e*P	Pn	17 30 05.2	-1.0
CRZC				*e*S	Sn	17 30 25.3	+1.9
VCR	**Vista de Mar**	**1.43**	**117**	*e*P	Pn	17 30 09.8	+2.2
COPN	**Copaltepe**	**1.43**	**13**	||*e*P	Pn	17 30 07.7	+0.1
CONN	**Concepcion**	**1.50**	**58**	*e*P	Pn	17 30 08.2	-0.2
CONN				*e*S	Sn	17 30 28.3	+0.8
CONN				*i*		17 30 35.9	
	comp=Z,617nm,0.6s						
TISN	**Laguna Tiscapa**	**1.50**	**25**	*e*P	Pn	17 30 08.6	+0.1
MADN	**Villa Maderas**	**1.51**	**65**	*e*P	Pn	17 30 08.6	+0.1
MGAN	**Managua**	**1.52**	**26**	*e*P	Pn	17 30 08.7	+0.1
MGAN				*e*S	Sn	17 30 28.3	+0.4
LEON	**Leon**	**1.63**	**1**	*e*P	Pn	17 30 11.2	+1.1
MOMJ	**Momotombo**	**1.67**	**13**	⇑*i*P	Pn	17 30 11.3	+0.6
MIRN	**Miramar**	**1.67**	**7**	⇑*i*P	Pn	17 30 11.4	+0.7
CNGN	**Cerro Negro**	**1.73**	**7**	*e*P	Pn	17 30 11.1	-0.3
CNGN				*e*S	Sn	17 30 35.2	+2.4
BOA	**Boaco**	**2.07**	**35**	*e*P	Pn	17 30 14.3	-1.7
BOA				*e*S	Sn	17 30 41.8	+0.8
PRS1	**Puriscal**	**2.69**	**107**	*e*P	Pn	17 30 26.3	+1.9
BUS	**Buena Vista**	**3.35**	**111**	*e*P	Pn	17 30 36.2	+2.9

MAN ***05*** *17:41:34.0, 1009N×12621E, h67km, mb4.8, ML5.5, MS4.9*
IDC ***05*** *17:41:35.2±2.5, 1006N×12592E, h52km±21km, mb4.6/20, mb1 4.7/20, mb1mx4.7/21, mbtmp4.8/20, MS4.0/24, Ms1 4.0/24, ms1mx3.9/35, Error ellipse: s-maj=23.9km s-min=10.7km az=76.0*
ISCJB ***05*** *17:41:36.8±0.5, 1009N±002×12604E±004, h83km±3km, mb5.0/110, Error ellipse: s-maj=5.8km s-min=3.7km az=161.5*
BJI ***05*** *17:41:37.2, 976N×12604E, h114km, mB5.1, mb4.9*
GCMT ***05*** *17:41:41.1±0.3, 1007N×12629E, h45km±1km, MW5.0/52, Moment Tensor Solution. s49,c60; s52,c79; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.27±.16; Mθθ0.80±.12; Mφφ-4.07±.12; Mrθ0.64±.12; Mφθ0.24±.10; Mφr1.53±.16; Best double couple: M0=4.05400×10¹⁶ NP1:φs163.00000°, δ36.00000°, λ67.00000°. NP2: φs10.00000°, δ57.00000°, λ105.00000°. Principal axes: T 3.7290, Plg73.0000°, Azm319.0000°; N 0.6460, Plg13.0000°, Azm181.0000°; P -4.3790, Plg11.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***05*** *17:41:41.0±0.7, 999N×12594E, h107km±6km, mb4.9/59 Error ellipse: s-maj=6.7km s-min=4.0km az=77.0*
NEIC Felt [IV PIVS] at Surigao.
MOS ***05*** *17:41:43.5±0.9, 1035N×12574E, h124km, mb5.0/49, Error ellipse: s-maj=12.6km s-min=5.6km az=118.3*
ISC 05 17:41:38.1±0.5, 1009N±002×12605E±003, h79km±3km, h106km±2.6km; pP-P, n324, σ1§02/340, mb5.0/110, 39C-18D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.64**	**241**	*e*P	**Pn**	**17 41 47.9**	**-5.0**
SCPH				*e*S	**Sn**	**17 41 57.3**	**-6.7**
PLP	**Palo**	**1.50**	**315**	*e*P	**Pn**	**17 42 00.8**	**-2.5**
PLP				*e*S	**Sn**	**17 42 22.3**	**-0.1**
LLP	**Lapu-Lapu**	**2.07**	**276**	||*i*P	**Pn**	**17 42 09.9**	**-0.9**
LLP				*i* S	**Sn**	**17 42 36.6**	**+0.8**
CGP	**Cagayan de Oro**	**2.11**	**220**	⇑*i*P	**Pn**	**17 42 09.2**	**-2.2**
CGP				*i* S	**Sn**	**17 42 34.4**	**-2.3**
TBP	**Tagbilaran**	**2.19**	**260**	*e*P	**Pn**	**17 42 13.6**	**+1.1**
TBP				*e*S	**Sn**	**17 42 39.0**	**+0.2**
BUKP	**Musuan**	**2.41**	**204**	*e*P	**Pn**	**17 42 14.7**	**-0.7**
BUKP				*e*S	**Sn**	**17 42 45.9**	**+2.0**
SNPH	**Sibulan**	**2.88**	**255**	⇑*i*P	**Pn**	**17 42 22.0**	**+0.3**
DMPH	**Davao City--Mi**	**3.04**	**190**	||*e*P	**Pn**	**17 42 24.4**	**+0.5**
DMPH				*i* S	**Sn**	**17 43 07.5**	**+8.3**
DAV	**Davao City (W)**	**3.04**	**189**	*e*P	**Pn**	**17 42 23.5**	**-0.4**
DAV	**Davao City (W)**	**3.04**	**189**	*e*Pn	**Pn**	**17 42 24.3**	**+0.3**
DCPH	**Dipolog City**	**3.06**	**241**	||*i*P	**Pn**	**17 42 22.9**	**-1.3**
DCPH				*i* S	**Sn**	**17 42 59.0**	**-0.7**
KCP	**Kidapawan**	**3.21**	**197**	⇑*i*P	**Pn**	**17 42 28.2**	**+2.0**
KCP				*i* S	**Sn**	**17 43 06.3**	**+3.0**
RCP	**Roxas**	**3.56**	**294**	||*e*P	**Pn**	**17 42 30.6**	**-0.4**
PVCP	**Virac**	**3.95**	**332**	⇑*i*P	**Pn**	**17 42 35.6**	**-0.6**
PVCP				*i* S	**Sn**	**17 43 33.6**	**+12**
IPIL	**Ipil**	**4.13**	**237**	⇑*i*P	**Pn**	**17 42 39.0**	**+0.2**
IPIL				*i* S	**Sn**	**17 43 27.2**	**+1.4**
AUQP	**San Andres**	**4.61**	**314**	*e*P	**Pn**	**17 42 46.0**	**+0.8**
CUYO	**Cuyo Island**	**5.01**	**279**	*e*P	**Pn**	**17 42 50.5**	**-0.2**
BOAC	**Boac**	**5.31**	**309**	*e*P	**Pn**	**17 42 53.4**	**-1.3**
BUSP	**Coron**	**6.05**	**289**	*e*P	**Pn**	**17 43 04.7**	**-0.2**
POLP	**Polilio Island**	**6.11**	**319**	*e*P	**Pn**	**17 43 04.5**	**-1.3**
TGY	**Tagaytay City**	**6.39**	**309**	P	**Pn**	**17 43 11.7**	**+2.1**
	34nm,0.3s,baz=165,slow=5.1,SNR=18						
ENPP	**El Nido**	**6.61**	**280**	*e*P	**Pn**	**17 43 12.7**	**+0.1**
LUBP	**Lubang**	**6.74**	**303**	*e*P	**Pn**	**17 43 15.3**	**+1.1**
BALP	**Baler**	**7.11**	**323**	*e*P	**Pn**	**17 43 19.0**	**-0.4**
PALP	**Palanan**	**7.77**	**333**	*e*P	**Pn**	**17 43 22.7**	**-5.7**
CAUP	**Cauayan**	**7.95**	**329**	*e*P	**Pn**	**17 43 28.1**	**-2.9**
BCPH	**Baguio City Da**	**8.21**	**320**	⇑*i*P	**Pn**	**17 43 34.2**	**-0.2**
SCZP	**Santa Cruz**	**8.23**	**314**	*e*P	**Pn**	**17 43 36.0**	**+1.3**
BATP	**Bataraza**	**8.24**	**262**	*e*P	**Pn**	**17 43 31.3**	**-3.5**
CVP	**Callao Caves**	**8.61**	**332**	*e*P	**Pn**	**17 43 40.0**	**+0.2**
ABRA	**Dolores**	**9.12**	**326**	*e*P	**Pn**	**17 43 44.8**	**-2.1**
TSM	**Tawau**	**9.95**	**235**	P	**Pn**	**17 44 06.3**	**+8.2**
KKM	**Kota Kinabalu**	**10.54**	**248**	P	**Pn**	**17 44 09.5**	**+3.4**
KKM	**Kota Kinabalu**	**10.54**	**248**	*e*Pn	**Pn**	**17 44 09.0**	**+2.8**
KKM				*e*Sn	**Sn**	**17 46 01.6**	**-0.8**
NACB	**Ninganchiao**	**14.63**	**344**	Pn	**Pn**	**17 45 05.0**	**+4.0**
YHNB	**Yeheng**	**15.16**	**344**	*e*P	**Pn**	**17 45 11.9**	**+4.2**
JOW	**Kunigami**	**16.78**	**7**	P	**Pn**	**17 45 32.9**	**+4.8**
	3.5nm,0.3s,baz=208,slow=8.9,SNR=4.3						
JOW				LR	LR	17 50 34.8	
	comp=Z,688nm,20.2s,baz=308,slow=32						
JOW	**Kunigami**	**16.78**	**7**	P	**Pn**	**17 45 32.9**	**+4.8**
JOW				LR	LR	17 50 34.8	
GZH	**Guangzhou**	**17.74**	**318**	P	**Pn**	**17 45 43.1**	**+3.4**
GZH				LR	LR		
	comp=N,954nm,20.2s						
GZH				LR	LR		
	comp=E,625nm,18.3s						
GZH				LR	LR		
	comp=Z,2μm,21.8s						
KSM	**Kuching**	**17.84**	**242**	*e*P	**Pn**	**17 45 41.9**	**+0.9**
QIZ	**Qiongzhong**	**18.02**	**301**	P	**Pn**	**17 45 43.9**	**+0.8**
QIZ				S	**S**	**17 49 05.6**	**+1.3**
QIZ				AMB	AMB		
	comp=Z,23nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,373nm,8.0s						
QIZ				LR	LR		
	comp=N,642nm,18.0s						
QIZ				LR	LR		
	comp=Z,862nm,19.9s						
QIZ	**Qiongzhong**	**18.02**	**301**	*e*P	**Pn**	**17 45 44.1**	**+1.0**
	comp=Z,28nm,0.9s						
GUMO	**Guam**	**18.74**	**77**	LR	LR	17 51 36.3	
	comp=Z,405nm,21.4s,baz=282,slow=32						
GUMO	**Guam**	**18.74**	**77**	P	**Pn**	**17 45 47.5**	**-4.3**
GUMO				pmax	pmax		
	comp=Z,276nm,0.8s						
GUMO	**Guam**	**18.74**	**77**	P	**Pn**	**17 45 47.5**	**-4.3**
	comp=Z,276nm,0.8s						
SSE	**Sheshan**	**21.38**	**348**	P	**P**	**17 46 20.0**	**+0.9**
SSE				XP	sP	17 46 54.6	+10
SSE				S	**S**	**17 50 07.6**	**-4.3**
SSE				XS	sS	17 50 44.4	+6.0
SSE				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,351nm,6.3s						
SSE				LR	LR		
	comp=N,180nm,18.4s						
SSE				LR	LR		
	comp=E,108nm,18.4s						
SSE				LR	LR		
	comp=Z,250nm,20.1s						
SSE	**Sheshan**	**21.38**	**348**	P	**P**	**17 46 20.0**	**+0.9**
	comp=Z,120nm,1.0s,mb5.2						
SSE				sP	sP	17 46 54.6	+10
SSE				S	**S**	**17 50 07.6**	**-4.3**
SSE				sS	sS	17 50 44.4	+6.0
SSE				LR	LR		
	comp=Z,250nm,20.1s						
NJ2	**Nanjing**	**22.84**	**344**	*e*P	**P**	**17 46 33.6**	**-1.0**
NJ2				AP		17 46 54.5	
NJ2				PP		17 47 07.0	
NJ2				S	**S**	**17 50 33.0**	**-4.9**
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,560nm,6.2s						
NJ2				LR	LR		
	comp=N,1μm,15.2s						
NJ2				LR	LR		
	comp=E,520nm,14.0s						
NJ2				LR	LR		
	comp=Z,1μm,15.1s						
WHN	**Wuhan**	**23.08**	**333**	*e*P	**P**	**17 46 38.0**	**+1.0**
KKTK	**Khon Kaen**	**23.44**	**288**	P	**P**	**17 46 39.6**	**-0.6**
	comp=Z,432nm,0.9s,mb5.8						
KAKA	**Kakadu**	**23.53**	**164**	*e*P	**P**	**17 46 39.7**	**-1.3**
	comp=Z,119nm,0.6s,mb5.4						
KGM	**Kluang**	**23.97**	**252**	P	**P**	**17 46 47.3**	**+2.2**
GYA	**Guiyang**	**24.52**	**314**	||*i*P	**P**	**17 46 50.5**	**+0.5**
GYA				AP		17 47 14.0	
GYA				XP	sP	17 47 27.4	+10
GYA				S	**S**	**17 50 57.6**	**-7.3**
GYA				XS	sS	17 51 38.9	+2.8
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,430nm,16.2s						
GYA				LR	LR		
	comp=E,440nm,16.0s						
GYA				LR	LR		
	comp=Z,340nm,15.0s						
IPM	**Ipoh**	**25.43**	**259**	P	**P**	**17 47 00.7**	**+2.3**
KULM	**Kulim**	**25.61**	**261**	*e*P	**P**	**17 47 01.0**	**+1.0**
NST	**Nakhon Sawan**	**25.86**	**285**	P	**P**	**17 47 02.8**	**+0.6**
	comp=Z,38nm,0.8s,mb4.9						
KMI	**Kunming**	**26.71**	**307**	P	**P**	**17 47 14.0**	**+4.1**
KMI				AP	pP	17 47 37.1	+9.0
KMI				XP	sP	17 47 52.6	+15
KMI				PP		17 48 00.9	
KMI				PPP		17 48 16.1	
KMI				S	**S**	**17 51 42.0**	**+2.3**
KMI				XS	sS	17 52 22.3	+11
KMI				SS		17 52 57.4	
KMI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,177nm,3.8s						
KMI				LR	LR		
	comp=N,301nm,18.6s						
KMI				LR	LR		
	comp=E,396nm,19.5s						
KMI				LR	LR		
	comp=Z,530nm,19.5s						
KMI	**Kunming**	**26.71**	**307**	P	**P**	**17 47 14.0**	**+4.1**
KMI				**PP*	pP	17 47 37.1	+9.0
KMI				**SP*	sP	17 47 52.6	+15
KMI				SS		17 52 57.4	
KMI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
KMI				MLR	MLR		
	comp=Z,530nm,19.5s						
KMI	**Kunming**	**26.71**	**307**	P	**P**	**17 47 14.0**	**+4.1**
	comp=Z,13nm,1.2s,mb4.3						
KMI				pP	pP	17 47 37.1	+9.0
KMI				sP	sP	17 47 52.6	+15
KMI				PP		17 48 00.9	
KMI				PPP		17 48 16.1	
KMI				S	**S**	**17 51 42.0**	**+2.3**
KMI				sS	sS	17 52 22.3	+11
KMI				SS		17 52 57.4	
KMI				LR	LR		
	comp=Z,530nm,19.5s						
CM31	**Chiang Mai Arr**	**27.53**	**291**	*e*P	**P**	**17 47 17.2**	**0.0**
	comp=Z,57nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**27.61**	**291**	P	**P**	**17 47 18.9**	**+0.9**
	SNR=5.7						
CHTO	**Chiang Mai**	**27.61**	**291**	*e*P	**P**	**17 47 17.8**	**-0.2**
CHTO				*e*		17 50 35.0	
CHTO				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**27.61**	**291**	*e*P	**P**	**17 47 17.8**	**-0.2**
	comp=Z,27nm,1.1s,mb4.7						
CHTO				*e*PcP	PcP	17 50 35.0	+1.3
PSI	**Prapat**	**27.89**	**257**	P	**P**	**17 47 21.1**	**+0.6**
	comp=Z,5.8nm,0.7s,mb4.2,baz=355,slow=2.6,SNR=4.2						
PSI				LR	LR	18 00 37.1	
	comp=Z,485nm,18.6s,baz=309,slow=41						
FITZ	**Fitzroy Crossi**	**28.02**	**181**	⇑*i*P	**P**	**17 47 21.4**	**-0.2**
	comp=Z,26nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**28.02**	**181**	P	**P**	**17 47 21.5**	**-0.1**
	comp=Z,4.9nm,0.5s,mb4.3,baz=15,slow=8.8,SNR=56						
MJAR	**Matsushiro Arr**	**28.54**	**21**	P	**P**	**17 47 25.3**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=193,slow=9.3,SNR=4.2						
MJAR				LR	LR	17 56 50.8	
	comp=Z,306nm,18.3s,baz=220,slow=32						
XAN	**Xi'an**	**28.55**	**329**	P	**P**	**17 47 25.1**	**-1.2**
XAN				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.5						
PMG	**Port Moresby**	**28.57**	**132**	P	**P**	**17 47 26.5**	**0.0**
PMG				pmax	pmax		
	comp=Z,47nm,1.1s						
PMG	**Port Moresby**	**28.57**	**132**	P	**P**	**17 47 26.5**	**-0.1**
	comp=Z,47nm,1.1s,mb5.0						
DL2	**Dalian**	**28.96**	**353**	P	**P**	**17 47 30.9**	**+0.9**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2	**Chengdu**	**29.30**	**318**	*e*P	**P**	**17 47 32.2**	**-0.8**
CD2				AP	pP	17 47 56.5	+5.2
CD2				XP	sP	17 48 09.7	+9.2
CD2				PP	PP	17 48 31.9	-8.4
CD2				PCP	PcP	17 50 35.6	-2.2
CD2				S	**S**	**17 52 16.3**	**-4.1**
CD2				XS	sS	17 52 59.2	+7.2
CD2				SS	SS	17 53 57.1	-30
CD2				SCS	ScS	17 57 59.1	-7.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
CD2				AMB	AMB		
	comp=Z,150nm,5.8s						
CD2				LR	LR		
	comp=E,480nm,18.6s						
CD2				LR	LR		
	comp=Z,490nm,21.0s						
WRAB	**Tennant Creek**	**30.93**	**165**	P	**P**	**17 47 46.0**	**-1.4**
	comp=Z,75nm,0.5s,mb5.7,SNR=11						
WRAB	**Tennant Creek**	**30.93**	**165**	P	**P**	**17 47 46.6**	**-0.8**
WRA	**Warramunga Arr**	**30.94**	**165**	P	**P**	**17 47 45.9**	**-1.5**
	comp=Z,7.2nm,0.6s,mb4.6,baz=343,slow=9.4,SNR=52						
WRA				PcP	PcP	17 50 43.0	+0.9
	comp=Z,3.1nm,0.8s,baz=331,slow=3.0,SNR=4.8						
WRA				S	**S**	**17 52 41.0**	**-5.1**
	comp=Z,3.5nm,1.0s,baz=341,slow=15,SNR=5.1						
WRA				LR	LR	18 01 45.4	
	comp=Z,104nm,19.7s,baz=340,slow=39						
WRA	**Warramunga Arr**	**30.94**	**165**	P	**P**	**17 47 45.9**	**-1.6**
WRA						17 50 43.0	
WRA				S	**S**	**17 52 41.0**	**-5.1**
WB2	**Warramunga Arr**	**30.95**	**165**	*e*P	**P**	**17 47 46.2**	**-1.3**
BJT	**Baijiatuau**	**31.07**	**345**	*e*P	**P**	**17 47 48.5**	**-0.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	**Baijiatuau**	**31.07**	**345**	*e*P	**P**	**17 47 48.5**	**-0.1**
	comp=Z,7.3nm,0.5s,mb4.7						
BJI	**Beijing**	**31.09**	**345**	P	**P**	**17 47 49.0**	**+0.2**
BJI				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.6						
BJI				LR	LR		
	comp=N,162nm,32.2s						
BJI				LR	LR		
	comp=E,135nm,28.2s						
BJI				LR	LR		
	comp=Z,162nm,36.3s						
BJI	**Beijing**	**31.09**	**345**	P	**P**	**17 47 49.0**	**+0.2**
	comp=Z,18nm,1.4s,mb4.6						
BJI				LR	LR		
	comp=Z,160nm,36.3s						
MBWA	**Marble Bar**	**31.67**	**191**	*e*P	**P**	**17 47 53.0**	**-0.9**
	comp=Z,13nm,0.8s,mb4.7						
SNY	**Shenyang**	**31.68**	**356**	⇑*i*P	**P**	**17 47 54.9**	**+0.9**
SNY				AP	pP	17 48 18.6	+6.2
SNY				XP	sP	17 48 30.5	+8.9
SNY				S	**S**	**17 53 03.5**	**+5.8**
SNY				AMB	AMB		
	comp=Z,38nm,1.3s,mb5.0						
SNY				AMB	AMB		
	comp=Z,117nm,6.5s						
SNY				LR	LR		
	comp=N,315nm,5.3s						
SNY				LR	LR		
	comp=E,492nm,4.9s						
SNY				LR	LR		
	comp=Z,212nm,21.4s						
LZH	**Lanzhou**	**32.80**	**326**	⇑P	**P**	**17 48 04.5**	**+0.7**
LZH				AP	pP	17 48 29.3	+7.1
LZH				XP	sP	17 48 42.5	+

LZH ScS ScS 17 58 17.8 -6.3
LZH LR LR
comp=Z,1μm,16.3s
HHC Hu-ho-hao-te 33.21 340 *e*P **P** **17 48 08.6 +1.3**
HHC AP pP 17 48 32.0 +6.2
HHC XP sP 17 48 46.9 +12
HHC PP PP 17 49 25.2 +1.5
HHC PCP PcP 17 50 46.8 -1.5
HHC S **S** **17 53 20.1 -1.3**
HHC XS sS 17 54 03.8 +11
HHC SCP ScP 17 54 21.2 -4.3
HHC PCS PcS 17 54 31.0 -2.9
HHC SS SS 17 55 30.4 -17
HHC SCS ScS 17 58 19.5 -6.7
HHC AMB AMB
comp=Z,46nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,108nm,4.1s
HHC LR LR
comp=N,341nm,13.1s
HHC LR LR
comp=E,178nm,5.7s
HHC LR LR
comp=Z,425nm,15.6s
BTO Baotou 33.54 338 *e*P **P** **17 48 09.4 -0.9**
CN2 Changchun 33.59 359 *e*P **P** **17 48 14.4 +3.8**
CN2 *e*XP sP 17 48 52.3 +14
CN2 *e*S **S** **17 53 29.2 +1.9**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,14.0s
AS31 Alice Springs 34.42 167 *e*P **P** **17 48 17.1 -0.7**
ASAR Alice Springs 34.42 167 P **P** **17 48 17.1 -0.7**
comp=Z,8.6nm,0.6s,mb4.8,baz=350,slow=6.8,SNR=103
ASAR PcP PcP 17 50 52.8 +1.0
comp=Z,2.6nm,0.5s,baz=345,slow=3.0,SNR=5.3
ASAR S **S** **17 53 36.4 -3.8**
comp=Z,7.1nm,1.1s,baz=355,slow=21,SNR=11
ASAR ScP ScP 17 54 31.2 +1.4
comp=Z,1.7nm,1.0s,baz=327,slow=2.8,SNR=2.9
ASAR LR LR 18 02 44.9
comp=Z,147nm,20.0s,baz=359,slow=37
ASAR Alice Springs 34.42 167 P **P** **17 48 17.2 -0.6**
ASAR 17 50 52.8
ASAR S **S** **17 53 36.4 -3.7**
ASPA Alice Springs 34.42 167 *e*P **P** **17 48 17.1 -0.7**
MDJ Mudanjiang 34.53 4 P **P** **17 48 20.4 +1.6**
MDJ AP pP 17 48 43.9 +6.5
MDJ XP sP 17 48 55.6 +9.1
MDJ PP PP 17 49 45.2 +6.8
MDJ S **S** **17 53 44.9 +3.0**
MDJ XS sS 17 54 25.8 +12
MDJ AMB AMB
comp=Z,21nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,125nm,4.0s
MDJ LR LR
comp=N,140nm,23.9s
MDJ LR LR
comp=E,37nm,26.5s
MDJ LR LR
comp=Z,170nm,23.9s
MDJ Mudanjiang 34.53 4 *e*P **P** **17 48 20.4 +1.6**
comp=Z,16nm,1.0s,mb4.8
CTA Charters Tower 35.98 146 *e*P **P** **17 48 32.3 +1.0**
comp=Z,5.7nm,0.8s,mb4.5
CTA Charters Tower 35.98 146 *e*P **P** **17 48 32.3 +1.0**
CTA pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 36.80 20 P **P** **17 48 39.6 +1.4**
comp=Z,10nm,1.0s,mb4.7,baz=242,slow=16,SNR=7.9
GTA Gaotai 37.40 326 P **P** **17 48 43.4 +0.1**
GTA AP pP 17 49 07.7 +5.6
GTA XP sP 17 49 21.4 +10
GTA PP PP 17 50 16.1 +6.1
GTA PCP PcP 17 51 03.0 +2.4
GTA S **S** **17 54 23.2 -2.6**
GTA XS sS 17 55 06.9 +9.0
GTA SS SS 17 57 02.1 -10
GTA AMB AMB
comp=Z,24nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,115nm,4.6s
GTA LR LR
comp=N,180nm,16.0s
GTA LR LR
comp=E,384nm,16.4s
GTA LR LR
comp=Z,384nm,17.9s
LSA Lhasa 37.95 306 P **P** **17 48 48.2 +0.2**
LSA Lhasa 37.95 306 *e*P **P** **17 48 48.3 +0.3**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LSA Lhasa 37.95 306 *e*P **P** **17 48 48.3 +0.3**
comp=Z,6.7nm,0.6s,mb4.7
KLR Kul'dur 39.30 6 *e*P **P** **17 48 56.8 -2.4**
KLR pmax pmax
comp=Z,74nm,1.8s,mb5.2
YSS Yuzh-Sakhalins 39.38 18 *e*P **P** **17 48 57.4 -2.5**
YSS pmax pmax
comp=Z,19nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 39.38 18 *e*P **P** **17 48 57.4 -2.5**
comp=Z,19nm,1.0s,mb4.9
HIA Hailar 39.40 353 *e*P **P** **17 49 00.4 +0.3**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 39.40 353 *e*P **P** **17 49 00.4 +0.3**
comp=Z,20nm,1.0s,mb4.9
FORT Forrest 40.68 177⇑ *i*P **P** **17 49 11.0 +0.3**
comp=Z,95nm,0.6s,mb5.8
SONM Songino Array 41.11 340 P **P** **17 49 14.7 +0.5**
comp=Z,10.0nm,0.6s,mb4.8,baz=158,slow=9.4,SNR=70
SONM PcP PcP 17 51 13.3 +0.9
comp=Z,3.5nm,0.7s,baz=176,slow=3.2,SNR=4.1
SONM ScP ScP 17 54 58.9 +3.8
comp=Z,1.8nm,1.1s,baz=177,slow=3.8,SNR=4.7
SONM LR LR 18 08 58.5
comp=Z,221nm,18.6s,baz=138,slow=40
SONM Songino Array 41.11 340 P **P** **17 49 14.7 +0.5**
SONM 17 51 13.3
JIRN Jiri 41.34 301 *e*P **P** **17 49 16.8 +0.8**
comp=Z,19nm,0.5s,mb5.2
GUN Gumba 41.67 301 *e*P **P** **17 49 18.9 +0.1**
comp=Z,74nm,0.6s,mb5.6
PKI Pulchoki 41.97 300 *e*P **P** **17 49 21.4 +0.1**
comp=Z,27nm,0.5s,mb5.2
KKN Kakani 42.15 300 *e*P **P** **17 49 22.7 0.0**
comp=Z,18nm,0.5s,mb5.0
KLBR Kellerberrin 42.20 191 *e*P **P** **17 49 23.6 +0.5**
comp=Z,14nm,0.6s,mb4.9
DMN Daman 42.24 300 *e*P **P** **17 49 24.1 +0.7**
comp=Z,17nm,0.5s,mb5.0
GKN Gorkha 42.75 300 *e*P **P** **17 49 26.6 -1.0**
comp=Z,16nm,0.5s,mb5.0
MUN Mundaring 42.88 192⇓ *i*P **P** **17 49 33.4 +4.8**
CIT Chita 43.03 349 *e*P **P** **17 49 31.1 +1.3**
CIT pmax pmax
comp=Z,103nm,1.9s,mb5.2
KOLN Koldanda 43.57 300 *e*P **P** **17 49 33.9 -0.3**
comp=Z,41nm,0.8s,mb5.2
STKA Stephens Creek 44.30 161⇑ *i*P **P** **17 49 40.0 0.0**
comp=Z,6.2nm,0.6s,mb4.5
STKA Stephens Creek 44.30 161 P **P** **17 49 40.0 0.0**
comp=Z,9.8nm,0.7s,mb4.7,baz=348,slow=7.7,SNR=16
STKA LR LR 18 09 46.8
comp=Z,115nm,20.6s,baz=13,slow=38
STKA Stephens Creek 44.30 161 *e*P **P** **17 49 39.3 -0.7**
comp=Z,19nm,0.8s,mb4.9
ZAK Zakamensk 44.35 339 *e*P **P** **17 49 38.6 -1.8**
TLY Talaya 45.33 341 P **P** **17 49 49.9 +1.7**
comp=Z,209nm,0.9s,mb5.9,SNR=6.4
TLY Talaya 45.33 341 P **P** **17 49 49.2 +1.1**
SNR=5.5
TLY Talaya 45.33 341 *e*P **P** **17 49 48.7 +0.5**
TLY *e* 17 51 37.5
TLY *e*S **S** **17 56 31.3 +8.3**
TLY pmax pmax
comp=Z,34nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,135nm,18.0s
TLY Talaya 45.33 341 *e*P **P** **17 49 48.3 +0.1**
comp=Z,32nm,1.0s,mb5.0
CLNS Chul'man 46.64 359 *e*P **P** **17 49 59.6 +1.1**

CLNS *e* 17 51 32.2
CLNS *e* 17 51 42.6
CLNS *e*S **S** **17 56 35.1 -6.7**
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=Z,47nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,164nm,12.0s
CLNS smax
comp=Z,51nm,12.9s
CLNS smax
comp=E,138nm,13.1s
CLNS MLR MLR
comp=Z,100nm,16.0s
CLNS MLR MLR
comp=N,100nm,15.0s
CLNS MLR MLR
comp=E,100nm,14.0s
WMQ Urumqi 47.23 322⇓ *i*P **P** **17 50 03.8 +0.7**
WMQ AP pP 17 50 29.0 +6.6
WMQ XP sP 17 50 42.0 +11
WMQ PCP PcP 17 51 34.0 +0.8
WMQ PPP 17 52 46.0
WMQ PCS PcS 17 55 24.0 -4.5
WMQ S **S** **17 56 48.0 -2.2**
WMQ XS sS 17 57 33.0 +10
WMQ SCS ScS 17 59 44.0 -5.5
WMQ SS SS 18 00 11.0 -7.3
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.6
WMQ AMB AMB
comp=Z,109nm,3.7s
WMQ LR LR
comp=N,824nm,18.2s
WMQ LR LR
comp=E,790nm,15.5s
WMQ LR LR
comp=Z,969nm,18.2s
BOD Bodaibo 48.51 351 *e*P **P** **17 50 13.0 0.0**
BOD pmax pmax
comp=Z,25nm,1.0s,mb5.1
PET Petropavlovsk 50.22 25 *e*P **P** **17 50 27.3 +1.3**
PET pmax pmax
comp=Z,22nm,0.9s,mb5.1
PET Petropavlovsk 50.22 25 *e*P **P** **17 50 27.3 +1.3**
comp=Z,22nm,0.9s,mb5.1
DZM Mont Dzumac 50.90 129 *e*P **P** **17 50 30.2 -0.9**
YAK Yakutsk 51.91 2 *e*P **P** **17 50 38.9 +0.2**
YAK pmax pmax
comp=Z,106nm,1.1s,mb5.8
YAK pmax pmax
comp=N,46nm,1.2s
YAK pmax pmax
comp=E,14nm,1.4s
YAK Yakutsk 51.91 2 *e*P **P** **17 50 38.6 -0.1**
comp=E,97nm,0.9s,mb5.8
MKAR Makanchi Array 52.04 323 P **P** **17 50 39.4 -0.2**
comp=E,26nm,0.7s,mb5.4,baz=115,slow=8.2,SNR=201
MKAR PcP PcP 17 51 51.2 +0.5
comp=E,6.0nm,0.6s,baz=102,slow=4.1,SNR=8.1
TKM2 Tokmak 2 54.64 316 P **P** **17 50 58.8 +0.1**
SNR=5.4
ZAL Zalesovo 54.68 331 P **P** **17 50 58.4 -0.5**
comp=E,6.4nm,0.6s,mb4.8,baz=350,slow=6.3,SNR=42
ZAL PcP PcP 17 52 00.2 -0.6
comp=E,1.9nm,0.5s,baz=342,slow=9.2,SNR=3.1
ZAL LR LR 18 17 31.6
comp=E,213nm,18.9s,baz=341,slow=40
ZAL Zalesovo 54.68 331 P **P** **17 50 58.4 -0.5**
ZAL 17 52 00.2
ZAL Zalesovo 54.68 331 P **P** **17 50 58.4 -0.5**
ZAL PcP PcP 17 52 00.2 -0.6
ZAL LR LR 18 17 31.6
KBK Karagaybulak 54.99 315 P **P** **17 51 01.8 +0.6**
SNR=5.6
UCH Uchtor 55.15 315 P **P** **17 51 02.0 -0.3**
SNR=11
CHMS Chumysh 55.25 316 P **P** **17 51 02.7 -0.4**
SNR=5.0
AAK Ala-Archa 55.30 315 *e*P **P** **17 51 02.5 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK Ala-Archa 55.30 315 *e*P **P** **17 51 02.5 -0.9**
comp=Z,4.2nm,0.9s,mb4.5
USP Ospenovka 55.52 316 P **P** **17 51 04.6 -0.4**
SNR=6.9
AML Almayashu 55.69 315 P **P** **17 51 06.9 +0.8**
SNR=7.2
EKS2 Erkin-Say 55.80 315 P **P** **17 51 07.5 +0.4**
SNR=10
NVS Novosibirsk 55.95 332 *e*P **P** **17 51 06.6 -1.5**
NVS *e* 17 52 04.2
NVS pmax pmax
comp=Z,17nm,0.8s,mb5.1
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,0.7s
SEY Seymchan 56.04 14⇓ *e*P **P** **17 51 11.0 +2.3**
KK31 Karatay Array 58.22 315 *i*P **P** **17 51 23.5 -0.6**
TIXI Tiksi 61.53 1 *i*P **P** **17 51 47.2 +0.4**
TIXI Tiksi 61.53 1 *i*P **P** **17 51 47.2 +0.4**
BRVK Borovoye 61.76 325 P **P** **17 51 47.1 -1.2**
comp=E,190nm,0.7s,SNR=18
BRVK Borovoye 61.76 325 *e*P **P** **17 51 47.5 -0.8**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.3
BRVK Borovoye 61.76 325 *e*P **P** **17 51 47.5 -0.8**
comp=Z,23nm,0.8s,mb5.2
CHKZ Chkalovo 61.82 326 *e*P **P** **17 51 47.4 -1.3**
CHKZ *e* 17 52 28.2
CHKZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CHKZ Chkalovo 61.82 326 *e*P **P** **17 51 47.4 -1.2**
comp=Z,10nm,1.0s,mb4.8
CHKZ *e* 17 52 28.2
ZRNK Zerenda 62.44 325⇑ *i*P **P** **17 51 52.1 -0.7**
ZRNK pmax pmax
comp=Z,25nm,0.7s,mb5.3
ZRNK Zerenda 62.44 325⇑ *i*P **P** **17 51 52.1 -0.7**
comp=Z,25nm,0.7s,mb5.4
BILL Biiibino 63.63 16⇓ *e*P **P** **17 52 02.0 +1.3**
BIDO Bidbid 65.87 291 P **P** **17 52 16.4 +1.1**
SNR=11
HOQ Hoqain 66.62 291 P **P** **17 52 20.5 +0.4**
SNR=7.2
AB31 Akbulak array 66.87 319 *i*P **P** **17 52 21.0 -0.7**
NIKO Nikolski 67.08 37 P **P** **17 52 23.7 +0.7**
RPZ Rata Peaks 67.36 146 LR LR 18 19 60.0
comp=Z,202nm,19.5s,baz=112,slow=34
AKTK Aktyubinsk 68.32 320 *i*P **P** **17 52 30.1 -0.7**
AKTO Aktyubinsk 68.32 320 LR LR 18 24 50.7
comp=Z,263nm,19.0s,baz=248,slow=38
AKTO Aktyubinsk 68.32 320 *i*P **P** **17 52 30.1 -0.7**
ARU Arti 69.25 327⇑ *i*P **P** **17 52 35.4 -1.2**
ARU *e* pP 17 52 55.5 -1.6
ARU *e* 17 55 08.5
ARU *e*PPP 17 56 51.8
ARU *e*S S 18 01 36.1 -0.6
ARU *e*SS SS 18 06 01.7 -2.9
ARU pmax pmax
comp=Z,24nm,0.6s,mb5.2
ARU Arti 69.25 327 *e*P **P** **17 52 35.3 -1.3**
comp=Z,36nm,0.6s,mb5.4
ORR Orenburg 70.55 321 *e*P **P** **17 52 44.0 -0.6**
ORR pmax pmax
comp=Z,20nm,0.5s,mb5.2
QRN Al-Qurain 74.86 297 *e*P **P** **17 53 09.8 -0.3**
QRN AMb AMB 17 53 10.4
comp=Z,58nm,0.6s,mb5.5
UMR Umm Al-Rimmam 75.00 298 *e*P **P** **17 53 10.7 -0.1**
UMR AMb AMB 17 53 11.3
comp=Z,75nm,0.7s,mb5.5
RDF Al-Radifah 75.18 297 *e*P **P** **17 53 11.8 -0.2**
RDF AMb AMB 17 53 13.3
comp=Z,45nm,0.8s,mb5.3
MIB Mutribah 75.31 298 *e*P **P** **17 53 12.3 -0.4**

MIB AMb AMB 17 53 13.7
comp=Z,91nm,0.7s,mb5.6
NAY Al-Naaiem 75.43 298 *e*P **P** **17 53 12.9 -0.4**
NAY AMb AMB 17 53 14.6
comp=Z,40nm,1.0s,mb5.1
SVW2 Sparrevohn 75.60 29 *e*P **P** **17 53 15.9 +1.5**
RST Umm Al-Ruwaisa 75.62 298 *e*P **P** **17 53 13.8 -0.7**
RST AMb AMB 17 53 15.5
comp=Z,66nm,0.9s,mb5.3
IMA2 Indian Mountai 76.88 24 *e*P **P** **17 53 23.3 +1.7**
GNI Garni 76.95 309 LR LR 18 32 34.2
comp=Z,107nm,21.6s,baz=234,slow=40
GNI Garni 76.95 309*c* *i*P **P** **17 53 22.9 +0.9**
GNI pmax pmax
comp=Z,29nm,1.6s
GNI MLR MLR
comp=Z,100nm,31.0s
GNI Garni 76.95 309 P **P** **17 53 17.4 -4.5**
comp=Z,9.7nm,0.7s,mb4.6
GNI ⇑ *i*P 17 53 22.9
CASY Casey 77.02 186 *e*P **P** **17 53 22.5 +0.1**
ZEI Tsey 77.48 312 *e*P **P** **17 53 24.4 -0.6**
ZEI pmax pmax
comp=Z,26nm,0.8s,mb5.0
SLKM Skilak Lake 78.20 30 P **P** **17 53 29.3 +0.4**
KIV Kislovodsk 78.31 313 P **P** **17 53 29.3 -0.3**
comp=Z,244nm,0.8s,mb6.0,SNR=7.3
KIV Kislovodsk 78.31 313 P **P** **17 53 30.3 +0.7**
SNR=8.2
KIV Kislovodsk 78.31 313 *e*P **P** **17 53 30.1 +0.5**
KIV *e*S S 18 03 19.6 +1.0
KIV pmax pmax
comp=Z,35nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,177nm,18.0s
KIV Kislovodsk 78.31 313 *e*P **P** **17 53 29.1 -0.5**
comp=Z,22nm,0.7s,mb5.0
PMR Palmer 78.73 29 P **P** **17 53 32.3 +0.4**
PMR pmax pmax
comp=Z,17nm,0.9s,mb4.9
PMR Palmer 78.73 29 P **P** **17 53 32.3 +0.4**
comp=Z,17nm,0.9s,mb4.9
VRHR Novokhopersk 78.73 320 *e*P **P** **17 53 31.2 -0.7**
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.4
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.5s
MCK McKinley 78.81 27 *e*P **P** **17 53 32.9 +0.6**
MCK pmax pmax
comp=Z,17nm,0.7s,mb5.0
MCK McKinley 78.81 27 *e*P **P** **17 53 32.9 +0.5**
comp=Z,36nm,0.7s,mb5.3
COLA College 79.28 26⇓ *e*P **P** **17 53 35.5 +0.6**
COLA College 79.28 26 *e*P **P** **17 53 35.3 +0.4**
comp=Z,12nm,0.8s,mb4.8
ERZM Erzurum 79.55 309 *i*P **P** **17 53 37.9 +1.5**
BEST Besiri 79.79 307 *i*P **P** **17 53 38.4 +0.8**
MIR Mirnyy 80.17 193*c* *i*P **P** **17 53 41.5 +1.8**
MIR *i* 17 54 13.0
MIR pmax pmax
comp=Z,40nm,1.0s,mb5.2
VRSR Storozhevoye 80.25 320*c* *i*P **P** **17 53 38.9 -1.2**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
MENT Mentasta 81.20 28 *e*P **P** **17 53 46.7 +1.5**
OBN Obninsk 81.51 324⇑ *e*P **P** **17 53 45.8 -1.0**
OBN *e*S S 18 03 47.0 -5.2
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
OBN MLR MLR
comp=Z,200nm,26.0s
OBN Obninsk 81.51 324 *e*P **P** **17 53 45.7 -1.1**
comp=Z,13nm,0.7s,mb4.9
ELZG Elazig 81.52 308 *i*P **P** **17 53 48.4 +1.5**
APA Apatity 81.76 337⇑ *e*P **P** **17 53 48.0 -0.1**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.7
MALT Malatya 81.98 307⇓ *i*P **P** **17 53 50.4 +1.1**
MALT Malatya 81.98 307 *e*P **P** **17 53 50.3 +1.0**
comp=Z,19nm,1.1s,mb4.8
ANN Anapa 82.00 314 *e*P **P** **17 53 47.4 -2.0**
ANN pmax pmax
comp=Z,63nm,1.3s,mb5.3
ANN MLR MLR
comp=Z,231nm,22.0s
EGAK Eagle 82.14 26 *e*P **P** **17 53 51.1 +1.0**
comp=Z,9.6nm,1.0s,mb4.6
GZT Gaziantep 82.77 307 *i*P **P** **17 53 54.0 +0.6**
DAWY Dawson 82.99 26 *e*P **P** **17 53 56.1 +1.5**
JOF Joensuu 83.25 333 *e*p **P** **17 53 54.4 -1.5**
comp=Z,10nm,0.5s,mb4.9
KEV Kevo 83.72 340 *e*p **P** **17 53 56.9 -1.4**
comp=Z,3.3nm,0.7s,mb4.3
COBT Iskenderun 83.92 306 *i*P **P** **17 54 00.3 +1.0**
ASF Jabal al Asfar 84.00 301 LR LR 18 36 24.9
comp=Z,82nm,21.0s,baz=306,slow=39
BOYT Boyabat 84.27 311 *i*P **P** **17 54 00.9 -0.1**
ARCES ARCESS Array B 84.28 340 P **P** **17 54 00.9 -0.3**
comp=Z,6.5nm,0.6s,mb4.7,baz=82,slow=6.7,SNR=44
ARCES LR LR 18 36 35.8
comp=Z,114nm,19.2s,baz=238,slow=39
ARE0 ARCESS Array S 84.28 340 *e*P **P** **17 54 01.0 -0.2**
SIM Simferopol' 84.32 315*c* *i*P **P** **17 54 03.0 +1.7**
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,160nm,23.9s
CTKT Corum 84.47 310 *i*P **P** **17 54 02.4 +0.3**
INK Inuvik 84.53 22 *e*P **P** **17 54 03.2 +0.8**
comp=Z,2μm,1.6s
AVNT Avonos 84.69 308 *i*P **P** **17 54 04.0 +0.8**
CDAG Cicekdag 84.94 309 *i*P **P** **17 54 01.8 -2.7**
BALT Daday 85.38 311 *i*P **P** **17 54 07.5 +0.9**
BR131 Keskin Array S 85.48 309 *e*P **P** **17 54 06.7 -0.5**
comp=Z,8.6nm,0.8s,mb4.7
BRTR Keskin Array B 85.48 309 P **P** **17 54 06.8 -0.3**
comp=Z,10nm,0.7s,mb4.8,baz=107,slow=4.3,SNR=62
BRTR LR LR 18 38 12.0
comp=Z,80nm,21.2s,baz=272,slow=40
ELDT Eldivan 85.51 310 *i*P **P** **17 54 07.7 +0.3**
MEST Erdemli 85.59 306 *i*P **P** **17 54 06.9 -0.8**
KAF Kangasniemi 85.68 332 *e*p **P** **17 54 06.6 -1.6**
comp=Z,16nm,0.8s,mb5.0,baz=73,slow=4.7
KAF Kangasniemi 85.68 332 *e*P **P** **17 54 06.6 -1.6**
KAF pmax pmax
comp=Z,16nm,0.8s,mb5.0
FIA1 FINESS Array S 85.94 332 *e*P **P** **17 54 08.7 -0.8**
FINES FINESS Array B 85.94 332 P **P** **17 54 09.1 -0.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=72,slow=5.3,SNR=85
FINES LR LR 18 33 38.9
comp=Z,67nm,20.8s,baz=236,slow=36
FINES FINESS Array B 85.94 332 P **P** **17 54 09.1 -0.4**
FINES LR LR 18 33 38.9
ANTO Ankara 86.10 310⇓ *i*P **P** **17 54 09.9 -0.3**
ANTO Ankara 86.10 310 *e*P **P** **17 54 10.2 0.0**
ANTO pmax pmax
comp=Z,12nm,0.9s,mb4.8
ANTO Ankara 86.10 310 *e*P **P** **17 54 10.2 0.0**
comp=Z,12nm,0.9s,mb4.8
CSS Prodhromos 86.51 305 *e*P **P** **17 54 12.5 +0.3**
comp=Z,103nm,0.8s,mb5.8
SGKT Sivrigoynuk 86.53 310 *i*P **P** **17 54 12.4 +0.1**
AKASG Malin Array Be 86.56 321 P **P** **17 54 11.6 -0.9**
comp=Z,11nm,0.7s,mb4.9,baz=67,slow=4.6,SNR=48
AKASG LR LR 18 36 56.8
comp=Z,69nm,20.8s,baz=85,slow=38
AKASG Malin Array Be 86.56 321 P **P** **17 54 11.6 -0.9**
AKASG LR LR 18 36 56.8
AKBB Malin Array Si 86.56 321 *e*P **P** **17 54 11.2 -1.3**
ESKT Eskisehir 87.63 310 *i*P **P** **17 54 16.9 -0.8**
PPT Papeete 87.71 108 LR LR 18 25 19.9
comp=Z,106nm,20.4s,baz=307,slow=30
TKTP Tekketepe 88.33 308 *i*P **P** **17 54 19.6 -1.4**
TIRR Tirgusor 88.41 315⇑ *i*P **P** **17 54 21.1 -0.2**
TIRR Tirgusor 88.41 315⇑ P **P** **17 54 21.1 -0.3**
ULDT Uludag 88.80 310 *i*P **P** **17 54 12.0 -11**
KMBO Kilima Mbogo 89.01 269 P **P** **17 54 25.1 +0.9**
comp=Z,6.5nm,1.1s,mb4.6,baz=50,slow=7.7,SNR=9.4
KMBO LR LR 18 35 54.8

comp=Z,98nm,18.2s,baz=93,slow=37
KMBO Kilima Mbogo 89.01 269 *e*P **P 17 54 25.5 +1.3**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 89.01 269 *e*P **P 17 54 25.4 +1.3**
comp=Z,9.3nm,1.2s,mb4.7
KMBO *e* pP 17 54 42.3 -3.2
PLOR Plostina 89.31 316⇑*i*P **P 17 54 26.2 +0.6**
SUW Suwalki 89.36 325 *e*P **P 17 54 25.2 -0.6**
SUW pmax pmax
comp=Z,38nm,1.1s,mb5.3
SUW Suwalki 89.36 325 *e*P **P 17 54 25.2 -0.7**
comp=Z,38nm,1.1s,mb5.3
MAW Mawson 89.46 200 *e*P **P 17 54 26.2 -0.1**
comp=Z,6.9nm,1.1s,mb4.6
MAW Mawson 89.46 200 P **P 17 54 26.3 0.0**
comp=Z,8.1nm,0.9s,mb4.8,baz=57,slow=4.9,SNR=16
MAW LR LR 18 27 29.2
comp=Z,73nm,21.4s,baz=250,slow=31
MAW Mawson 89.46 200 *e*P **P 17 54 26.2 -0.1**
MAW pmax pmax
comp=Z,7.0nm,1.1s
BTOK Tokmak 89.71 310 *i*P **P 17 54 31.6 +4.1**
VNDA Vanda 89.78 173 P **P 17 54 27.8 0.0**
comp=Z,6.5nm,0.8s,mb4.8,baz=318,slow=5.8,SNR=30
VNDA LR LR 18 34 44.7
comp=Z,75nm,21.6s,baz=329,slow=36
VNDA Vanda 89.78 173 *e*P **P 17 54 27.5 -0.3**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 89.78 173 *e*P **P 17 54 27.5 -0.3**
comp=Z,6.3nm,0.8s,mb4.8
BURAR Bucovina Array 89.83 318⇑*i*P **P 17 54 28.2 +0.2**
BURAR Bucovina Array 89.83 318⇑P **P 17 54 28.2 +0.2**
MLR Muntele Rosu 89.87 316⇓*i*P **P 17 54 28.7 +0.5**
MLR Muntele Rosu 89.87 316⇓P **P 17 54 28.7 +0.5**
AYDN Tasoluk 90.30 308 *i*P **P 17 54 29.9 -0.3**
KWP Kalwaria 90.89 321 *e*P **P 17 54 33.3 +0.4**
DAG Danmarks Havn 90.90 352⇑*i*P **P 17 54 32.4 -0.6**
comp=Z,9.3nm,0.6s,mb5.1
DAG Danmarks Havn 90.90 352⇑*i*P **P 17 54 32.4 -0.6**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
KOLS Kolonicke sedl 91.36 320 *e*P **P 17 54 35.2 +0.1**
UZH Uzhgorod 91.44 320⇓*i*P **P 17 54 34.5 -1.0**
UZH pmax pmax
comp=Z,50nm,0.9s,mb5.6
DRGR 91.70 318⇑*i*P **P 17 54 36.7 0.0**
DRGR 91.70 318⇑P **P 17 54 36.7 0.0**
STHS Stebnicka Huta 91.86 321 *e*P **P 17 54 37.9 +0.4**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
STHS Stebnicka Huta 91.86 321 *e*P **P 17 54 37.9 +0.4**
comp=Z,5.8nm,0.8s,mb4.9
CRVS Cervenica-Dubn 91.88 320 *e*P **P 17 54 38.1 +0.6**
SANT Santorini 92.48 307 *e*P **P 17 54 39.0 -1.3**
comp=Z,20nm,0.9s,mb5.3
OJC Ojcow 92.50 322 *e*P **P 17 54 40.3 -0.1**
KECS Kecovo 92.63 320 *e*P **P 17 54 41.1 +0.1**
KECS pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
KECS Kecovo 92.63 320 *e*P **P 17 54 41.1 +0.1**
comp=Z,4.0nm,0.7s,mb4.9
NB2 NORSAR Subarra 92.82 334 P **P 17 54 40.0 -1.9**
comp=Z,1.7nm,0.6s,mb4.5,baz=66,slow=4.6
NB2 NORSAR Subarra 92.82 334 P **P 17 54 40.0 -1.9**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
NOA NORSAR Array B 92.82 334 P **P 17 54 40.8 -1.1**
comp=Z,2.3nm,0.7s,mb4.6,baz=65,slow=4.6,SNR=7.0
NOA LR LR 18 39 47.8
comp=Z,83nm,20.4s,baz=60,slow=38
PSZ Piszkesteto 93.18 320 P **P 17 54 43.0 -0.5**
PSZ pmax pmax
comp=Z,14nm,1.4s,mb5.1
PSZ Piszkesteto 93.18 320 P **P 17 54 43.0 -0.6**
comp=Z,14nm,1.4s,mb5.1
JMIC Jan Mayen 93.55 346 LR LR 18 37 46.2
comp=Z,51nm,21.1s,baz=64,slow=36
VYHS Vyhne 93.66 320 *e*P **P 17 54 46.0 +0.3**
YKA Yellowknife Ar 94.00 24 P **P 17 54 48.5 +1.2**
comp=Z,5.8nm,0.6s,mb5.1,baz=296,slow=4.3,SNR=8.9
YKA Yellowknife Ar 94.00 24 P **P 17 54 48.5 +1.2**
MORC Moravsky Berou 94.02 322 P **P 17 54 46.9 -0.5**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
MORC Moravsky Berou 94.02 322 P **P 17 54 46.9 -0.5**
comp=Z,2.3nm,0.8s,mb4.6
DPC Dobruska-Polom 94.55 323 *e*PDIF **P 17 54 48.0 -1.8**
UPC Upice 94.67 323 *e*PDIF **P 17 54 50.3 -0.1**
VRAC Vranov 94.77 322⇑*i*P **P 17 54 51.4 +0.6**
VRAC Vranov 94.77 322⇑P **P 17 54 51.4 +0.6**
PRU Pruhonice 95.74 323 *e*PDIF **P 17 54 55.5 +0.2**
BRG Berggiesshubel 95.75 324 *e*P **P 17 54 55.2 -0.1**
comp=Z,6.1nm,1.4s,mb4.8
BRG Berggiesshubel 95.75 324 *e*P **P 17 54 55.2 -0.1**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.8
CLL Collm 96.11 324 *e*P **P 17 54 57.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
CLL Collm 96.11 324 *e*P **P 17 54 57.0 +0.1**
comp=Z,6.0nm,1.2s,mb4.9
KHC Kasperske Hory 96.66 322 *e*PDIF **P 17 54 59.1 -0.3**
KHC Kasperske Hory 96.66 322⇓*e*P **P 17 54 59.7 +0.3**
GEC2 GERESS Array S 96.70 322 *e*P **P 17 54 59.5 -0.1**
GERES GERESS Array B 96.70 322 P **P 17 54 59.7 +0.1**
comp=Z,4.0nm,0.8s,mb4.9,baz=57,slow=4.9,SNR=26
GERES LR LR 18 44 12.1
comp=Z,69nm,20.6s,baz=278,slow=39
MOA Molln 96.75 321⇑*i*P **P 17 55 00.2 +0.4**
comp=Z,35nm,1.4s,mb5.6
WTTA Wattenberg 98.61 321⇑*i*P **P 17 55 08.1 -0.1**
comp=Z,8.7nm,1.0s,mb5.2
WTTA Wattenberg 98.61 321⇑*i*P **P 17 55 08.1 -0.1**
WTTA pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
SQTA Sankt Quirin 98.89 321⇓*i*P **P 17 55 09.4 0.0**
comp=Z,5.9nm,1.0s,mb5.1
SQTA Sankt Quirin 98.89 321⇓*i*P **P 17 55 09.4 -0.1**
SQTA pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
MOTA Moosalm 98.91 321⇑*i*P **P 17 55 09.1 -0.4**
comp=Z,9.6nm,1.2s,mb5.2
MOTA Moosalm 98.91 321⇑*i*P **P 17 55 09.2 -0.3**
MOTA pmax pmax
comp=Z,10.0nm,1.2s,mb5.2
NVAR Mina Array Bea 103.12 47 PKKPbc PKKPbc 18 11 24.9 +1.1
comp=Z,0.7nm,0.7s,baz=166,slow=4.8,SNR=5.2
PDAR Pinedale Array 106.97 39 PKKPbc PKKPbc 18 11 12.2 0.0
comp=Z,0.5nm,0.7s,baz=122,slow=5.6,SNR=3.5
TOA0 Torodi Ar. Sit 120.13 292 *e*PKPdf PKPdf 18 00 20.1 +0.4
TORD Torodi Ar. Bea 120.13 292 PKP PKPdf 18 00 20.4 +0.6
comp=Z,4.4nm,0.8s,baz=57,slow=1.6,SNR=27
JCT Junction City 120.28 46 *e*PKIKP PKPdf 18 00 21.8 +1.8
DBIC Dimbokro 128.35 287 PKP PKPdf 18 00 37.1 +1.6
comp=Z,5.7nm,0.9s,baz=350,slow=3.5,SNR=5.0
PLCA Paso Flores 146.13 157 PKPbc PKPbc 18 01 09.7 +0.6
comp=Z,11nm,1.0s,baz=231,slow=4.0,SNR=17
CPD Cerro la Pandu 149.65 23 *e*PKPbc PKPab 18 01 19.6 +1.0
CPD *e*PKPab PKPab 18 01 25.2 +1.3
OTAV Otavalo 153.55 69 *e*PKPab PKPab 18 01 44.0 +3.8
SDV Santo Domingo 154.87 42 *e*PKPdf PKPdf 18 01 20.7 -0.9
SDV *e*PKPbc PKPbc 18 01 32.5 +2.1
CPUP Villa Florida 163.54 169 PKPab PKPab 18 02 25.2 +1.7
comp=Z,2.3nm,0.7s,baz=179,slow=4.0,SNR=5.4
LPAZ La Paz 164.88 116 PKP PKPdf 18 01 36.0 +3.2
comp=Z,2.2nm,0.9s,baz=17,slow=3.6,SNR=6.5
LPAZ PKPab PKPab 18 02 33.1 +3.7
comp=Z,1.5nm,0.9s,baz=225,slow=5.7,SNR=2.7

*INMG **05** 17:47:16.4±0.8, 4206N×781W, h0km, ML1.4, Error ellipse: s-maj=2.1km s-min=1.3km az=96.0*
MDD 05 17:47:16.7±0.4, 4204N×782W, h0km, mbLg1.7/8, Error ellipse: s-maj=3.9km s-min=3.2km az=122.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAB	**Cabril**	**0.37**	**205**	*e*Pg	Pg	17 47 23.5	-0.3
PCAB				*e*Sg	Sg	17 47 28.5	0.0
PCAB							
18nm,0.1s							
ERUA	**La Rua**	**0.61**	**55**	Lg		17 47 39.8	
18nm,0.2s,SNR=4.0							
PVRL	**Vila Real**	**0.77**	**174**	*e*Sg	Sg	17 47 41.2	-0.3
ECAL	**Calabor**	**0.81**	**97**	Pg	Pg	17 47 31.0	-1.3
2.8nm,0.3s,SNR=16							
ECAL				Lg		17 47 44.6	
12nm,0.1s,SNR=28							
PBRG	**Braganca**	**0.84**	**106**	*e*P	Pg	17 47 31.9	-0.9
PBRG				*e*S	Sg	17 47 42.5	-1.1
PBRG							
5.2nm,0.2s							
STS	**Santiago**	**1.00**	**327**	Pg	Pg	17 47 35.8	-0.1
SNR=7.9							
STS				Lg		17 47 50.0	
6.0nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**1.25**	**317**	Pg	Pg	17 47 39.3	-1.3
3.7nm,0.3s,SNR=6.9							
EMAZ				Lg		17 47 55.6	
3.4nm,0.1s,SNR=5.0							
PVIS	**Viseu**	**1.33**	**183**	*e*P	Pg	17 47 41.0	-1.2
PVIS				*e*S	Sg	17 47 59.2	-0.2
PVIS							
5.9nm,0.1s							
EPON	**Pontenova**	**1.37**	**21**	Pg	Pg	17 47 41.1	-1.9
2.6nm,0.3s,SNR=6.5							
EPON				Lg		17 47 59.4	
4.2nm,0.2s,SNR=5.0							
EARI	**Arriondas**	**2.30**	**56**	Lg		17 48 29.6	
0.3nm,0.1s,SNR=7.9							

IDC 05 18:15:56.0±22.0, 1929S×17663W, h365km±138km, mb3.3/4, mb1 3.5/6, mb1mx3.2/16, mbtmp4.2/6, Error ellipse: s-maj=254.7km s-min=36.1km az=48.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.08**	**257**	P	P	18 19 21.7	+0.2
0.9nm,0.3s,baz=73,slow=20,SNR=9.8							
URZ	**Urewera**	**19.67**	**195**	P	P	18 19 59.4	-0.3
0.9nm,0.3s,baz=56,slow=20,SNR=8.0							
CTA	**Charters Tower**	**34.91**	**262**	P	P	18 22 15.1	+0.6
3.6nm,0.4s,baz=86,slow=8.8,SNR=11							
STKA	**Stephens Creek**	**39.48**	**243**	P	P	18 22 52.2	-0.2
0.7nm,0.6s,baz=98,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**46.06**	**261**	P	P	18 23 44.7	0.0
0.5nm,0.3s,baz=96,slow=7.6,SNR=28							
ASAR	**Alice Springs**	**46.06**	**255**	P	P	18 23 45.0	+0.4
1.6nm,0.6s,baz=94,slow=8.1,SNR=30							

MAN 05 18:25:55.5, 941N×12249E, h15km, mb2.0, ML3.7, MS3.3, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.74**	**95**	*i*P	Pg	18 26 09.5	-0.5
DCPH	**Dipolog City**	**1.18**	**134**	*e*P	Pn	18 26 14.7	-2.8
DCPH				*e*S	Sb	18 26 30.0	-2.9
IPIL	**Ipil**	**1.61**	**177**⇑	*i*P	Pn	18 26 22.7	-0.7
IPIL				*i*S	Sn	18 26 43.0	-0.9

*IDC **05** 18:26:09.1±0.8, 1512S×17361W, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.2/15, mbtmp4.1/9, MS3.5/9, Ms1 3.4/9, ms1mx3.3/27, Error ellipse: s-maj=38.5km s-min=19.1km az=134.0*
*NEIC **05** 18:26:10.6±0.5, 1510S×17363W, h10km, Error ellipse: s-maj=20.7km s-min=10.9km az=136.0*
*ISCJB **05** 18:26:12.3±0.7, 15.1S±02×1737W±02, h33km, mb4.0/9, MS3.5/6, Error ellipse: s-maj=28.2km s-min=15.1km az=97.3*
ISC 05 18:26:14.5±0.7, 152S±02×1736W±02, h35km, n24, σ0°47/15, mb4.0/9, MS3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**55**	Pn	**Pn**	**18 26 40.8**	**-7.1**
83nm,0.3s,baz=20,slow=1.2,SNR=70							
AFI				Sn	**Sn**	**18 27 00.2**	**-13**
289nm,0.3s,baz=78,slow=20,SNR=25							
AFI				LR	LR	18 27 36.6	
comp=Z,503nm,18.4s,baz=70,slow=41							
RAR	**Rarotonga**	**14.45**	**117**	LR	LR	18 33 33.5	
comp=Z,161nm,19.8s,baz=198,slow=31							
RAO	**Raoul Island**	**14.58**	**195**	LR	LR	18 33 59.3	
comp=Z,111nm,21.3s,baz=266,slow=32							
PPT	**Papeete**	**23.17**	**99**	*e*LR	LR	18 36 30.8	
116nm,26.0s							
PPT	**Papeete**	**23.17**	**99**	LR	LR	18 37 10.8	
comp=Z,98nm,19.3s,MS3.3,baz=269,slow=28							
TBI	**Tubuai**	**24.18**	**113**	*e*LR	LR	18 37 03.5	
183nm,27.5s							
URZ	**Urewera**	**24.43**	**198**	P	**P**	**18 31 29.3**	**-0.4**
7.7nm,0.8s,mb4.2,baz=45,slow=14,SNR=3.2							
HNR	**Honiara**	**26.45**	**279**	LR	LR	18 40 16.6	
comp=Z,71nm,21.2s,MS3.2,baz=360,slow=32							
RKT	**Rikitea**	**37.25**	**108**	*e*LR	LR	18 43 04.7	
62nm,28.5s							
STKA	**Stephens Creek**	**43.99**	**240**	P	**P**	**18 34 17.7**	**-0.6**
1.5nm,0.6s,mb3.9,baz=95,slow=11,SNR=7.3							
STKA				LR	LR	18 50 00.6	
comp=Z,42nm,18.2s,MS3.4,baz=206,slow=32							
STKA	**Stephens Creek**	**43.99**	**240**	*e*P	**P**	**18 34 18.2**	**-0.1**
STKA				LR	LR	18 50 00.6	
WB2	**Warramunga Arr**	**49.70**	**257**	*e*P	**P**	**18 35 03.0**	**0.0**
WRA	**Warramunga Arr**	**49.71**	**257**	P	**P**	**18 35 03.2**	**+0.2**
0.9nm,0.5s,mb4.0,baz=91,slow=6.9,SNR=30							
AS31	**Alice Springs**	**50.00**	**252**	*e*P	**P**	**18 35 05.5**	**+0.2**
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**18 35 05.3**	**0.0**
2.7nm,0.5s,mb4.5,baz=89,slow=7.8,SNR=46							
ASAR				LR	LR	18 53 45.9	
comp=Z,86nm,20.8s,MS3.7,baz=234,slow=33							
VNDA	**Vanda**	**63.60**	**186**	P	**P**	**18 36 42.7**	**+1.0**
0.7nm,0.8s,mb3.8,baz=3.4,slow=7.1,SNR=4.4							
VNDA	**Vanda**	**63.60**	**186**	P	**P**	**18 36 42.7**	**+1.0**
YBH	**Yreka Blue Hor**	**73.52**	**37**	P	**P**	**18 37 43.9**	**+0.3**
1.4nm,0.6s,mb4.1,baz=203,slow=4.5,SNR=4.9							
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**18 37 48.4**	**+0.3**
0.4nm,0.5s,mb3.6,baz=253,slow=5.6,SNR=2.6							
PDAR	**Pinedale Array**	**82.21**	**42**	P	**P**	**18 38 31.2**	**-0.7**
1.0nm,0.9s,mb3.7,baz=132,slow=2.2,SNR=6.2							
MAW	**Mawson**	**87.96**	**199**	P	**P**	**18 39 00.2**	**-0.5**
0.9nm,0.6s,mb4.2,baz=100,slow=7.3,SNR=4.9							
MAW				LR	LR	19 15 47.5	
comp=Z,45nm,20.3s,MS3.9,baz=243,slow=34							
TKL	**Tuckaleechee C**	**98.53**	**55**	LR	LR	19 18 40.7	
comp=Z,34nm,21.5s,MS3.8,baz=67,slow=32							
BRTR	**Keskin Array B**	**145.85**	**321**	PKPbc	PKPbc	18 45 51.5	+1.5
1.0nm,0.6s,baz=91,slow=2.2,SNR=6.4							
GERES	**GERESS Array B**	**145.87**	**351**	PKPbc	PKPbc	18 45 50.1	0.0
0.6nm,0.6s,baz=352,slow=5.4,SNR=7.4							

MAN 05 19:27:35.1, 1190N×12549E, h27km, mb3.7, ML4.8, MS1.8, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.89**	**214**	*e*P	Pn	19 27 50.8	-1.0
PLP				*e*S	Sb	19 28 01.7	-1.6
OCLP	**Ormoc**	**1.21**	**226**	*e*P	Pn	19 27 55.9	-0.3
MSLP	**Maasin**	**1.86**	**199**	*e*P	Pn	19 28 06.5	+1.3
MSLP				*e*S	Sn	19 28 29.6	+1.8
SCPH	**Surigao**	**2.11**	**180**	*e*P	Pn	19 28 06.4	-2.2
PVCP	**Virac**	**2.13**	**322**	*e*P	Pn	19 28 09.8	+0.9
OTRP	**Odiongan**	**3.42**	**278**	*e*P	Pn	19 28 27.3	+0.7
IPIL	**Ipil**	**5.00**	**215**	*e*P	Pn	19 28 50.7	+2.4

WEL 05 19:27:43.3±0.2, 4511S×16734E, h114km±1km, ML3.5/8, 3C-1D, Error ellipse: s-maj=2.5km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**200**	PN	Pn	19 27 59.5	-0.3
DCZ				SN	Sn	19 28 11.5	-0.8
MSZ	**Milford Sound**	**0.60**	**44**	PN	Pn	19 28 01.4	+0.2
MSZ				SN	Sn	19 28 14.4	-0.3
MLZ	**Mavora Lakes**	**0.63**	**112**	⇑PN	Pn	19 28 01.1	-0.3
MLZ				SN	Sn	19 28 14.2	-0.9
WHZ	**Wether Hill Ro**	**0.89**	**152**	PN	Pn	19 28 03.7	+0.1
WHZ				SN	Sn	19 28 18.4	-0.7
WKZ	**Wanaka**	**1.22**	**77**	⇑PN	Pn	19 28 07.1	0.0
EAZ	**Earnscleugh**	**1.40**	**96**	PN	Pn	19 28 08.8	-0.2
JCZ	**Jackson Bay**	**1.45**	**45**	PN	Pn	19 28 09.3	-0.3
APZ	**The Paps**	**1.78**	**166**	PN	Pn	19 28 13.5	-0.2
TUZ	**Tuapeka**	**1.82**	**119**	PN	Pn	19 28 13.8	-0.3
SYZ	**Scrubby Hill**	**1.90**	**139**⇓	PN	Pn	19 28 15.0	-0.1
LBZ	**Lake Benmore**	**2.15**	**71**⇑	PN	Pn	19 28 16.7	-1.5
FOZ	**Fox Glacier**	**2.28**	**48**	PN	Pn	19 28 19.5	-0.5
ODZ	**Otahua Downs**	**2.34**	**90**	PN	Pn	19 28 19.5	-1.2
HHSZ	**Highcliff Hill**	**2.42**	**110**	PN	Pn	19 28 21.2	-0.5
RPZ	**Rata Peaks**	**3.00**	**64**	*e*PN	Pn	19 28 27.3	-2.1

IDC 05 19:54:59.3±1.9, 4783N×15243E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=56.2km s-min=30.6km az=97.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.79**	**245**	Pn	Pn	19 56 53.4	-0.5
0.6nm,0.3s,baz=64,slow=24,SNR=5.8							
MKAR	**Makanchi Array**	**46.04**	**296**	P	P	20 03 24.4	-0.3
0.6nm,0.6s,baz=54,slow=6.2,SNR=4.8							
FINES	**FINESS Array B**	**62.87**	**334**	P	P	20 05 27.3	+0.3
0.8nm,0.5s,baz=34,slow=7.9,SNR=14							
NB2	**NORSAR Subarra**	**67.06**	**341**	P	P	20 05 54.4	+0.1
comp=Z,0.7nm,0.6s,baz=27,slow=6.2							
NOA	**NORSAR Array B**	**67.06**	**341**	P	P	20 05 52.8	-1.5
comp=Z,1.1nm,0.7s,baz=26,slow=6.4,SNR=5.4							
ASAR	**Alice Springs**	**73.09**	**198**	P	P	20 06 31.4	0.0
comp=Z,0.1nm,0.5s,baz=9.8,slow=6.0,SNR=4.7							

*INMG **05** 20:25:35.9±1.0, 4252N×1124W, h9km±27km, ML2.1, Error ellipse: s-maj=15.6km s-min=4.7km az=108.0*
*NEIC **05** 20:25:36.4, 4235N×1060W, h0km, MN2.6(MDD), After MDD.*
*CSEM **05** 20:25:36.8±0.6, 4256N×1054W, h10km, ML3.1/4, Error ellipse: s-maj=12.0km s-min=6.1km az=106.0*
MDD 05 20:25:35.0±1.8, 4245N×1106W, h39km±47km, mbLg2.7/8, Error ellipse: s-maj=22.8km s-min=8.0km az=115.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**1.62**	**71**	P	Pn	20 26 00.5	-0.6
3.0nm,0.1s,SNR=16							
EMAZ				S	Sn	20 26 18.4	-2.2
55nm,0.2s,SNR=17							
EMAZ	**Mazaricos**	**1.62**	**71**	P	Pn	20 26 00.5	-0.5
3.0nm,0.1s,SNR=16							
EMAZ				S	Sn	20 26 18.4	-2.2
55nm,0.2s,SNR=17							
STS	**Santiago**	**1.90**	**76**	P	Pn	20 26 04.0	-0.9
4.1nm,0.2s,SNR=7.9							
STS				S	Sn	20 26 25.4	-2.3
25nm,0.1s,SNR=7.9							
PTO	**Porto**	**2.26**	**125**	*e*Pn	Pn	20 26 09.3	-0.6
PTO				*e*Sn	Sn	20 26 35.4	-1.1
PCAB	**Cabril**	**2.38**	**107**	*e*Pn	Pn	20 26 11.2	-0.3
PCAB				*e*Sn	Sn	20 26 38.2	-1.2
PCAB							
13nm,0.1s							
PCAB	**Cabril**	**2.38**	**107**	*e*Pn	Pn	20 26 11.2	-0.3
PCAB				*e*Sn	Sn	20 26 38.2	-1.2
13nm,0.1s							
PVRL	**Vila Real**	**2.76**	**114**	*e*Pn	Pn	20 26 16.7	-0.1
ERUA	**La Rua**	**2.90**	**90**	P	Pn	20 26 18.6	-0.1
3.1nm,0.1s,SNR=7.9							
ERUA				S	Sn	20 26 48.4	-4.0
11nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**2.94**	**125**	*e*Pn	Pn	20 26 18.5	-0.8
PVIS				*e*Sn	Sn	20 26 51.1	-2.2
PVIS							
5.0nm,0.1s							
PVIS	**Viseu**	**2.94**	**125**	*e*Pn	Pn	20 26 18.5	-0.8
PVIS				*e*Sn	Sn	20 26 51.1	-2.2
5.0nm,0.1s							
EPON	**Pontenova**	**3.01**	**72**	P	Pn	20 26 20.2	+0.1
0.8nm,0.1s,SNR=10							
EPON				S	Sn	20 26 51.5	-3.4
10nm,0.1s,SNR=16							
EPON	**Pontenova**	**3.01**	**72**	P	Pn	20 26 20.2	+0.1
0.8nm,0.1s,SNR=10							
EPON				S	Sn	20 26 51.5	-3.4
10nm,0.1s,SNR=16							
ECAL	**Calabor**	**3.25**	**98**	P	Pn	20 26 23.4	-0.1
2.2nm,0.2s,SNR=11							
ECAL				S	Sn	20 26 57.7	-3.3
10nm,0.3s,SNR=10.0							
ECAL	**Calabor**	**3.25**	**98**	P	Pn	20 26 23.4	-0.1
2.2nm,0.2s,SNR=11							
ECAL				S	Sn	20 26 57.7	-3.3
10nm,0.3s,SNR=10.0							
PBRG	**Braganca**	**3.28**	**100**	*e*Sn	Sn	20 26 59.5	-2.1
PBRG							
3.0nm,0.4s							
PBRG	**Braganca**	**3.28**	**100**	*e*Sn	Sn	20 26 59.5	-2.1
3.0nm,0.4s							
MTE	**Manteigas**	**3.35**	**127**	*e*Pn	Pn	20 26 24.0	-0.8
MTE				*e*Sn	Sn	20 27 00.8	-2.5
MTE							
3.0nm,0.2s							
MTE	**Manteigas**	**3.35**	**127**	*e*Pn	Pn	20 26 24.0	-0.8
MTE				*e*Sn	Sn	20 27 00.8	-2.5
3.0nm,0.2s							
PTOM	**Tomar**	**3.47**	**144**	*e*Pn	Pn	20 26 25.9	-0.6
PTOM				*e*Sn	Sn	20 27 03.2	-3.1
PTOM							
4.7nm,0.1s							
PTOM	**Tomar**	**3.47**	**144**	*e*Pn	Pn	20 26 25.9	-0.6
PTOM				*e*Sn	Sn	20 27 03.2	-3.1
4.7nm,0.1s							
PCBR	**Castelo Branco**	**3.76**	**133**	*e*Pn	Pn	20 26 29.8	-0.7
PCBR				*e*Sn	Sn	20 27 10.7	-2.8
PCBR							
1.2nm,0.2s							
PCBR	**Castelo Branco**	**3.76**	**133**	*e*Pn	Pn	20 26 29.8	-0.7
PCBR				*e*Sn	Sn	20 27 10.7	-2.8
1.2nm,0.2s							
EARI	**Arriondas**	**4.38**	**77**	P	Pn	20 26 39.3	+0.2
1.4nm,0.3s,SNR=15							
EARI				S	Sn	20 27 25.3	-3.6
2.4nm,0.4s							
EARI	**Arriondas**	**4.38**	**77**	P	Pn	20 26 39.3	+0.2
1.4nm,0.3s,SNR=15							
EARI				S	Sn	20 27 25.3	-3.6
2.4nm,0.4s							
MOE	**Montemor**	**4.44**	**151**	*e*Pn	Pn	20 26 38.7	-1.1
MOE				*e*Sn	Sn	20 27 26.1	-4.0
EBAD	**Badajoz**	**4.81**	**139**	P	Pn	20 26 44.0	-0.9
2.6nm,0.1s,SNR=29							
EBAD				S	Sn	20 27 34.2	-5.1
2.1nm,0.3s							
EBAD	**Badajoz**	**4.81**	**139**	P	Pn	20 26 44.0	-0.9
2.6nm,0.1s,SNR=29							
EBAD				S	Sn	20 27 34.2	-5.1
2.1nm,0.3s							
PBEJ	**Beja**	**5.05**	**150**	*e*Pn	Pn	20 26 47.1	-1.1
PBEJ				*e*Sn	Sn	20 27 40.8	-4.5
PTEO	**Sao Teotonio**	**5.22**	**159**	*e*Pn	Pn	20 26 49.7	-0.8
PTEO				*e*Sn	Sn	20 27 44.9	-4.5
PTEO							
6.9nm,0.5s							
ELAN	**Lanestosa**	**5.66**	**80**	P	Pn	20 26 57.5	+0.9
1.7nm,0.2s,SNR=7.9							
ELAN

0.6nm,0.1s,SNR=9.1
EADA S Sn 20 28 16.9 -5.3
0.5nm,0.1s
EADA Adamuz 6.55 129 P Pn 20 27 08.2 -0.6
0.6nm,0.1s,SNR=9.1
EADA S Sn 20 28 16.9 -5.3
0.5nm,0.1s
ESPR Espera 6.87 143 P Pn 20 27 13.1 -0.1
1.8nm,0.2s,SNR=4.8
ESPR Espera 6.87 143 P Pn 20 27 13.1 -0.1

IDC 05 21:00:25.6±1.6, 813S×12895E, h0km, mb3.9/2, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML3.8/3, Error ellipse: s-maj=62.7km s-min=24.1km az=74.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.71**	**143**	*e*P	Pn	21 01 51.9	+0.3
	23nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.43**	**198**	*e*P	Pn	21 03 00.0	+3.7
	13nm,0.4s						
FITZ				*e*S	Sn	21 04 48.1	-5.7
FITZ	**Fitzroy Crossi**	**10.43**	**198**	Pn	Pn	21 02 58.1	+1.8
	1.7nm,0.3s,baz=23,slow=12,SNR=32						
FITZ				Sn	Sn	21 04 53.0	-0.9
	0.7nm,0.3s,baz=79,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**12.86**	**157**	Pn	Pn	21 03 27.7	-1.9
	0.3nm,0.3s,baz=332,slow=13,SNR=38						
WRA				Sn	Sn	21 05 45.2	-8.2
	0.5nm,0.3s,baz=337,slow=22,SNR=5.1						
WB2	**Warramunga Arr**	**12.86**	**157**	*e*P	Pn	21 03 27.6	-2.0
WB2				*e*S	Sn	21 05 42.7	-11
ASPA	**Alice Springs**	**16.16**	**163**	*e*P	Pn	21 04 14.5	+0.4
ASPA				*e*S	Sn	21 07 12.3	-1.7
ASAR	**Alice Springs**	**16.17**	**163**	Pn	Pn	21 04 13.2	-0.9
	0.2nm,0.3s,baz=343,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**26.40**	**155**	*e*P	P	21 06 05.7	+1.9
	2.8nm,0.9s						
STKA	**Stephens Creek**	**26.40**	**155**	P	P	21 06 04.7	+1.0
	0.9nm,0.4s,baz=334,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**68.60**	**328**	P	P	21 11 30.3	-0.1
	0.5nm,0.7s,baz=114,slow=6.2,SNR=5.5						

IDC 05 21:21:08.0±1.7, 1312N×5768E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/27, Error ellipse: s-maj=91.5km s-min=29.0km az=2.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.71**	**237**	P	P	21 26 31.4	+0.6
	1.1nm,0.9s,baz=51,slow=17,SNR=4.4						
KMBO				LR	LR	21 37 16.4	
	comp=Z,58nm,18.7s,baz=96,slow=39						
BRTR	**Keskin Array B**	**33.93**	**326**	LR	LR	21 43 32.5	
	comp=Z,55nm,19.8s,baz=55,slow=40						
ZAL	**Zalesovo**	**46.01**	**22**	LR	LR	21 50 53.6	
	comp=Z,87nm,21.4s,baz=239,slow=39						
GERES	**GERESS Array B**	**50.77**	**324**	LR	LR	21 53 57.8	
	comp=Z,28nm,20.0s,baz=40,slow=39						
BOSA	**Boshof**	**52.00**	**217**	LR	LR	21 49 42.0	
	comp=Z,68nm,18.8s,baz=357,slow=33						
TORD	**Torodi Ar. Bea**	**54.42**	**277**	P	P	21 30 37.4	+0.6
	0.4nm,0.6s,baz=86,slow=6.6,SNR=4.5						
NOA	**NORSAR Array B**	**58.43**	**336**	LR	LR	21 58 17.5	
	comp=Z,21nm,16.4s,baz=100,slow=38						
WRA	**Warramunga Arr**	**82.24**	**113**	P	P	21 33 31.5	+0.4
	0.4nm,0.5s,baz=298,slow=4.2,SNR=6.3						
ASAR	**Alice Springs**	**82.95**	**116**	P	P	21 33 35.8	+1.0
	0.7nm,0.8s,baz=293,slow=5.0,SNR=6.7						

IDC 05 21:21:58.4±6.1, 553S×14729E, h185km±63km, mb2.9/2, mb1 3.2/4, mb1mx3.1/13, mbtmp3.6/4, Error ellipse: s-maj=95.2km s-min=45.7km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**182**	P	Pn	21 22 59.0	+1.2
	9.7nm,0.3s,baz=15,slow=12,SNR=25						
PMG				S	Sn	21 23 44.3	0.0
	6.7nm,0.3s,baz=182,slow=22,SNR=10						
WRA	**Warramunga Arr**	**19.08**	**220**	P	P	21 26 07.5	+0.7
	0.4nm,0.3s,baz=38,slow=11,SNR=36						
ASAR	**Alice Springs**	**22.17**	**214**	P	P	21 26 40.2	+1.0
	0.4nm,0.5s,baz=48,slow=8.6,SNR=9.9						
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	P	21 27 00.9	-0.1
	0.6nm,0.5s,baz=49,slow=13,SNR=5.8						
TORD	**Torodi Ar. Bea**	**145.25**	**285**	PKPbc	PKPbc	21 41 13.8	-0.1
	0.4nm,0.6s,baz=76,slow=3.0,SNR=8.8						

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*MDD **05** 22:16:51.0±0.4, 3819N×833W, h0km, mbLg1.6/5, Error ellipse: s-maj=3.9km s-min=2.4km az=68.0, PRXIMO*
*IGIL **05** 22:16:51.3, 3819N×832W, h0km, ML1.8*
INMG 05 22:16:51.0±1.3, 3819N×833W, h4km±5km, MD2.2, ML1.4, 1D, Error ellipse: s-maj=2.2km s-min=1.5km az=71.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.33**	**357**	*e*Pg	Pg	22 16 57.3	-0.1
MOE				*e*Sg	Sg	22 17 01.7	0.0
PBEJ	**Beja**	**0.40**	**114**	*e*Pg	Pg	22 16 58.1	-0.6
PBEJ				*e*Sg	Sg	22 17 03.7	-0.1
PBEJ							
	10.0nm,0.1s						
PTEO	**Sao Teotonio**	**0.72**	**206**	*e*P	Pg	22 17 03.9	-0.9
PTEO				*e*S	Sg	22 17 14.2	+0.1
PTEO							
	8.7nm,0.2s						
PESTR	**Estremoz**	**0.89**	**40**	*e*P	Pg	22 17 07.2	-0.8
PESTR				*e*S	Sg	22 17 19.0	-0.6
PESTR							
	5.4nm,0.1s						
MORF	**Marmelete**	**0.92**	**196**	*e*P	Pg	22 17 07.8	-0.8
MORF				*e*S	Sg	22 17 19.7	-0.9
MORF				*e*S	Sg	22 17 19.7	-0.9
MORF				AML	AML	22 17 22.3	
	comp=E,17nm,0.1s						
MORF	**Marmelete**	**0.92**	**196**	*e*P	Pg	22 17 07.8	-0.8
MORF				*e*S	Sg	22 17 19.7	-0.9
MORF	**Marmelete**	**0.92**	**196**	P	Pg	22 17 07.8	-0.8
MORF				S	Sg	22 17 19.7	-0.9
EGRO	**El Granado**	**0.94**	**134**	Pg	Pg	22 17 07.9	-1.0
	comp=E,1.8nm,0.4s,SNR=6.5						
EGRO				Lg		22 17 21.7	
	comp=E,3.6nm,0.1s,SNR=13						
PLOU	**Loures**	**0.95**	**317**	*e*S	Sg	22 17 21.5	0.0
ALMR	**Almeirim**	**0.98**	**349**	*e*P	Pg	22 17 09.1	-0.7
ALMR				*e*S	Sg	22 17 21.7	-0.9
ALMR				*e*S	Sg	22 17 21.7	-0.9
ALMR				AML	AML	22 17 23.8	
	comp=E,28nm,0.3s						
ALMR	**Almeirim**	**0.98**	**349**	*e*P	Pg	22 17 09.1	-0.7
ALMR				*e*S	Sg	22 17 21.7	-0.9
PMAFR	**Mafra**	**1.07**	**316**	*e*P	Pg	22 17 10.6	-0.9
PMAFR				*e*S	Sg	22 17 25.3	-0.1
PMAFR							
	comp=E,13nm,0.2s						
EBAD	**Badajoz**	**1.17**	**61**	⇓Pg	Pg	22 17 13.0	-0.5
	comp=E,1.3nm,0.3s,SNR=18						
EBAD				Lg		22 17 28.5	
	comp=E,1.4nm,0.0s,SNR=22						
EMIN	**Mina Concepcio**	**1.37**	**107**	Pg	Pg	22 17 15.8	-1.6
	comp=E,1.4nm,0.1s,SNR=7.9						
EMIN				Lg		22 17 35.1	
	comp=E,0.7nm,0.1s,SNR=12						
PTOM	**Tomar**	**1.43**	**357**	*e*P	Pn	22 17 16.9	-0.8
PTOM				*e*S	Sb	22 17 35.1	-1.6
PTOM							
	comp=E,11nm,0.2s						
PCBR	**Castelo Branco**	**1.77**	**22**	*e*P	Pn	22 17 23.5	+1.0
PCBR				S	Sn	22 17 43.2	-2.3
PCBR							
	comp=E,1.4nm,0.2s						
ESPR	**Espera**	**2.37**	**123**	Lg		22 18 08.3	
	SNR=7.9						
EADA	**Adamuz**	**2.95**	**89**	Sn	Sn	22 18 14.4	-0.3
	SNR=4.0						
EADA				Lg		22 18 25.2	
	comp=E,0.9nm,0.1s,SNR=7.9						

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*NEIC **05** 22:22:48.5, 4159N×8.18W, h10km, MN2.5(MDD), After MDD.*
*CSEM **05** 22:22:49.5±0.1, 4159N×8.16W, h20km, ML2.8/9, Error ellipse: s-maj=3.5km s-min=2.4km az=89.0*
*INMG **05** 22:22:49.9±1.2, 4159N×8.19W, h26km±2km, MD2.8, ML2.7, Error ellipse: s-maj=3.0km s-min=1.6km az=115.0*
MDD 05 22:22:49.8±0.3, 4159N×821W, h23km±1km, mbLg2.8/15, 1C, Error ellipse: s-maj=3.8km s-min=2.5km az=106.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAB	**Cabril**	**0.18**	**48**	*e*Pg	Pb	22 22 55.0	0.0
PCAB				*e*Sg	Sb	22 22 58.7	+0.2
PCAB							
	1μm,0.1s						
PCAB	**Cabril**	**0.18**	**48**	*e*Pg	Pb	22 22 55.0	0.0
PCAB				*e*Sg	Sb	22 22 58.7	+0.2
	1μm,0.1s						
PVRL	**Vila Real**	**0.48**	**130**	*e*Pg	Pb	22 22 59.6	-0.1
PVRL				*e*Sg	Sb	22 23 06.4	0.0
PVRL							
	2μm,0.1s						
PVRL	**Vila Real**	**0.48**	**130**	*e*Pg	Pb	22 22 59.6	-0.1
PVRL				*e*Sg	Sb	22 23 06.4	0.0
	2μm,0.1s						
PTO	**Porto**	**0.54**	**214**	*e*Pg	Pb	22 23 00.5	-0.1
PTO				*e*Sg	Sb	22 23 07.7	-0.3
PTO							
	985nm,0.1s						
PTO	**Porto**	**0.54**	**214**	*e*Pg	Pb	22 23 00.5	-0.1
PTO				*e*Sg	Sb	22 23 07.7	-0.3
	985nm,0.1s						
PVIS	**Viseu**	**0.90**	**165**	*e*P	Pb	22 23 06.0	-0.8
PVIS				*e*S	Sb	22 23 17.5	-0.9
PVIS							
	404nm,0.1s						
PBRG	**Braganca**	**1.12**	**78**	*e*P	Pn	22 23 08.6	-1.5
PBRG				*e*S	Sb	22 23 22.4	-2.2
PBRG							
	96nm,0.1s						
ERUA	**La Rua**	**1.13**	**44**	Pg	Pn	22 23 08.8	-1.4
	9.0nm,0.1s,SNR=31						
ERUA				Lg		22 23 24.6	
	34nm,0.1s,SNR=23						
ECAL	**Calabor**	**1.15**	**72**	⇑Pg	Pn	22 23 09.1	-1.4
	1.5nm,0.1s,SNR=18						
ECAL				Lg		22 23 25.8	
	7.6nm,0.1s,SNR=12						
ECAL	**Calabor**	**1.15**	**72**	Pg	Pn	22 23 09.1	-1.5
	1.5nm,0.1s,SNR=18						
MTE	**Manteigas**	**1.29**	**157**	*e*P	Pn	22 23 11.0	-1.4
MTE				*e*S	Sn	22 23 26.8	-2.2
MTE							
	48nm,0.3s						
MTE	**Manteigas**	**1.29**	**157**	*e*Pn	Pn	22 23 11.1	-1.3
MTE				*e*Sn	Sn	22 23 30.8	+1.8
MTE	**Manteigas**	**1.29**	**157**	*e*Pn	Pn	22 23 11.1	-1.3
MTE				*e*Sn	Sn	22 23 30.8	+1.8
STS	**Santiago**	**1.32**	**349**	Pg	Pn	22 23 12.6	-0.3
	3.8nm,0.1s,SNR=14						
STS				Lg		22 23 30.7	
	39nm,0.2s,SNR=18						
EMAZ	**Mazaricos**	**1.47**	**337**	Pn	Pn	22 23 13.5	-1.5
	3.3nm,0.1s,SNR=21						
EMAZ				Pg	Pn	22 23 15.7	+0.7
	0.8nm,0.0s,SNR=11						
EMAZ				Lg		22 23 34.6	
	6.3nm,0.1s,SNR=9.5						
EMAZ	**Mazaricos**	**1.47**	**337**	Pn	Pn	22 23 13.5	-1.4
	3.3nm,0.1s,SNR=21						
EMAZ	**Mazaricos**	**1.47**	**337**	Pg	Pn	22 23 15.6	+0.7
PCBR	**Castelo Branco**	**1.83**	**162**	*e*Pn	Pn	22 23 18.9	-1.0
PCBR				*e*Sn	Sn	22 23 39.3	-3.1
PCBR							
	21nm,0.3s						
PCBR	**Castelo Branco**	**1.83**	**162**	*e*Pn	Pn	22 23 18.9	-1.0
PCBR				*e*Sn	Sn	22 23 39.3	-3.1
	21nm,0.3s						
EPON	**Pontenova**	**1.91**	**24**	Pn	Pn	22 23 19.7	-1.2
	0.2nm,0.1s,SNR=13						
EPON				Pg	Pn	22 23 23.8	+3.0
	0.1nm,0.0s,SNR=15						
EPON				Lg		22 23 48.0	
	2.5nm,0.1s						
EPON	**Pontenova**	**1.91**	**24**	Pn	Pn	22 23 19.7	-1.2
	0.2nm,0.1s,SNR=13						
EPON	**Pontenova**	**1.91**	**24**	Pg	Pn	22 23 23.8	+2.9
	0.1nm,0.0s,SNR=15						
PTOM	**Tomar**	**1.98**	**185**	*e*Pn	Pn	22 23 21.1	-0.7
PTOM				*e*Sn	Sn	22 23 44.1	-1.8
PTOM							
	42nm,0.1s						
PTOM	**Tomar**	**1.98**	**185**	*e*Pn	Pn	22 23 21.1	-0.7
PTOM				*e*Sn	Sn	22 23 44.1	-1.8
	42nm,0.1s						
PMAFR	**Mafra**	**2.76**	**198**	*e*Sn	Sn	22 24 02.4	-2.8
PESTR	**Estremoz**	**2.76**	**170**	*e*Pn	Pn	22 23 31.6	-1.0
PESTR				*e*Sn	Sn	22 24 02.8	-2.4
PESTR							
	13nm,0.5s						
EARI	**Arriondas**	**2.80**	**51**	Pn	Pn	22 23 32.5	-0.7
	0.3nm,0.1s,SNR=24						
EARI				Pg	Pn	22 23 39.5	+6.3
	0.1nm,0.1s,SNR=11						
EARI				Sn	Sn	22 24 05.2	-1.0
	0.5nm,0.1s,SNR=4.5						
EARI				Lg		22 24 16.3	
	0.8nm,0.1s						
EARI	**Arriondas**	**2.80**	**51**	Pn	Pn	22 23 32.5	-0.7
	0.3nm,0.1s,SNR=24						
EARI	**Arriondas**	**2.80**	**51**	Pg	Pn	22 23 39.5	+6.3
	0.1nm,0.1s,SNR=11						
EARI				Sn	Sn	22 24 05.2	-1.1
	0.5nm,0.1s,SNR=4.5						
EBAD	**Badajoz**	**2.97**	**162**	Pn	Pn	22 23 34.5	-1.1
	1.6nm,0.1s,SNR=17						
EBAD				Pg	Pn	22 23 43.4	+7.8
	1.0nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	22 24 07.1	-3.5
	1.8nm,0.1s,SNR=9.7						
EBAD				Lg		22 24 22.4	
	3.8nm,0.1s,SNR=4.8						
EBAD	**Badajoz**	**2.97**	**162**	Pn	Pn	22 23 34.5	-1.1
	1.6nm,0.1s,SNR=17						
EBAD	**Badajoz**	**2.97**	**162**	Pg	Pn	22 23 43.4	+7.8
	1.0nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	22 24 07.1	-3.4
	1.8nm,0.1s,SNR=9.7						
MOE	**Montemor**	**3.06**	**182**	*e*Sn	Sn	22 24 09.1	-3.7
PBEJ	**Beja**	**3.57**	**176**	*e*Pn	Pn	22 23 43.1	-0.6
PBEJ				*e*Sn	Sn	22 24 22.2	-3.0
PBEJ							
	7.9nm,0.7s						
ESDC	**Sonseca Array**	**3.75**	**119**	Pn	Pn	22 23 45.6	-0.7
	1.4nm,0.1s,baz=305,slow=13,SNR=44						
ESDC				Pg	Pn	22 23 54.6	+8.3
	0.8nm,0.1s,baz=304,slow=13,SNR=11						
ESDC				Sn	Sn	22 24 27.3	-2.5
	0.8nm,0.1s,baz=306,slow=24,SNR=9.9						
ESDC				Lg		22 24 45.4	
	1.7nm,0.1s,baz=305,slow=29,SNR=17						
ESDC	**Sonseca Array**	**3.75**	**119**	Pn	Pn	22 23 45.6	-0.7
	1.4nm,0.1s,SNR=44						
ESDC	**Sonseca Array**	**3.75**	**119**	Pg	Pn	22 23 54.6	+8.3
	0.8nm,0.1s,SNR=11						
ESDC				Sn	Sn	22 24 27.3	-2.4
	0.8nm,0.1s,SNR=9.9						
ELAN	**Lanestosa**	**3.90**	**64**	Pn	Pn	22 23 47.5	-0.8
	0.0nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	22 24 30.0	-3.3
	1.0nm,0.1s,SNR=7.9						
ELAN				Lg		22 24 52.0	
	0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.90**	**64**	Pn	Pn	22 23 47.5	-0.8
	SNR=7.9						
ELAN				Sn	Sn	22 24 30.0	-3.3
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.00**	**162**	Pn	Pn	22 23 48.8	-0.8
	0.9nm,0.1s,SNR=25						
EMIN				Sn	Sn	22 24 31.0	-4.7
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		22 24 55.6	
	0.4nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**4.00**	**162**	Pn	Pn	22 23 48.8	-0.8
	0.9nm,0.1s,SNR=25						
EMIN				Sn	Sn	22 24 31.0	-4.7
	0.2nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.06**	**186**	*e*Pn	Pn	22 23 50.2	-0.3
PTEO				*e*Sn	Sn	22 24 34.4	-2.9
PTEO							
	9.3nm,0.6s						
EGRO	**El Granado**	**4.09**	**172**	Pn	Pn	22 23 49.9	-0.9
	1.1nm,0.1s,SNR=4.0						
EGRO				Pg	Pn	22 24 02.7	+12
	0.2nm,0.0s,SNR=7.9						
EGRO				Sn	Sn	22 24 34.1	-4.0
	0.2nm,0.0s,SNR=7.9						
EGRO				Lg		22 24 57.9	
	4.4nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.09**	**172**	Pn	Pn	22 23 50.0	-0.9
EGRO				Pg	Pn	22 24 02.7	+12
EGRO				Sn	Sn	22 24 34.1	-4.0
EGRO				Lg		22 24 57.9	
EGRO	**El Granado**	**4.09**	**172**	Pn	Pn	22 23 50.0	-0.9
EGRO	**El Granado**	**4.09**	**172**	Pg	Pn	22 24 02.7	+12
	0.2nm,0.0s,SNR=7.9						
EGRO				Sn	Sn	22 24 34.1	-3.9
	0.2nm,0.0s,SNR=7.9						
EADA	**Adamuz**	**4.41**	**140**	Pn	Pn	22 23 54.6	-0.8
	0.8nm,0.1s,SNR=11						
EADA				Sn	Sn	22 24 41.8	-4.3
	0.3nm,0.1s,SNR=5.6						
EADA				Lg		22 25 09.1	
	3.7nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.41**	**140**	Pn	Pn	22 23 54.6	-0.8
	0.8nm,0.1s,SNR=11						
EADA				Sn	Sn	22 24 41.8	-4.2
	0.3nm,0.1s,SNR=5.6						
ETOR	**Torete**	**4.70**	**97**	Pn	Pn	22 23 58.2	-1.1
	0.5nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	22 24 50.3	-2.9
	3.2nm,0.2s,SNR=7.9						
ETOR				Lg		22 25 17.1	
	2.8nm,0.1s,SNR=7.9						
ETOR	**Torete**	**4.70**	**97**	Pn	Pn	22 23 58.2	-1.2
	0.5nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	22 24 50.3	-2.9
	3.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.47**	**132**	Pn	Pn	22 24 08.5	-1.4
	0.1nm,0.1s,SNR=7.9						
EQES				Sn	Sn	22 25 07.4	-4.9
	0.0nm,0.1s,SNR=7.9						
EQES				Lg		22 25 43.1	
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.47**	**132**	Pn	Pn	22 24 08.5	-1.5
	0.1nm,0.1s,SNR=7.9						
EQES				Sn	Sn	22 25 07.4	-4.8
	SNR=7.9						
EQUE	**Quentar**	**5.73**	**138**	Pn	Pn	22 24 12.6	-0.8
	0.0nm,0.1s,SNR=7.9						
EQUE				Lg		22 25 50.5	
	0.1nm,0.0s,SNR=7.9						
ETOB	**Tobarra**	**5.89**	**118**	Pn	Pn	22 24 14.5	-1.1
	0.7nm,0.3s,SNR=4.0						
ETOB				Sn	Sn	22 25 17.3	-5.1
	0.0nm,0.0s,SNR=7.9						
ETOB				Lg		22 25 55.7	
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.89**	**118**	Pn	Pn	22 24 14.5	-1.2
	0.7nm,0.3s,SNR=4.0						
ETOB				Sn	Sn	22 25 17.3	-5.1
	SNR=7.9						
EMOS	**Mosqueruela**	**5.98**	**99**	Pn	Pn	22 24 17.1	+0.2
	0.0nm,0.1s,SNR=4.0						
EMOS				Sn	Sn	22 25 20.0	-4.7
	0.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**5.98**	**99**	Pn	Pn	22 24 17.0	+0.1
EMOS				Sn	Sn	22 25 20.0	-4.7
	SNR=7.9						
ERTA	**Horta de San J**	**6.47**	**93**	Sn	Sn	22 25 31.5	-5.1
	0.1nm,0.1s,SNR=7.9						

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*ISCJB **05** 22:43:42.3±0.7, 669N±009×7287W±0.10, h173km±8km, mb3.8/3, Error ellipse: s-maj=20.2km s-min=8.9km az=87.1.*
*IDC **05** 22:43:43.1±2.0, 659N×7284W, h167km±25km, mb3.6/3, mb1 3.7/4, mb1mx3.2/21, mbtmp4.2/4, Error ellipse: s-maj=36.0km s-min=31.5km az=142.0*
*NEIC **05** 22:43:43.5±0.8, 671N×7294W, h170km±10km, mb3.4/1, Error ellipse: s-maj=16.4km s-min=12.2km az=138.0*
ISC 05 22:43:43.6±0.7, 674N±009×7293W±010, h164km±8km, n10, σ0:70/11, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**217**	P	**Pn**	**22 44 23.7**	**+0.3**
	159nm,0.3s,baz=291,slow=19,SNR=121						
ROSC				S	**Sn**	**22 44 53.8**	**-0.3**
	172nm,0.3s,baz=294,slow=11,SNR=13						
SDV	**Santo Domingo**	**3.12**	**47**	*e*Pn	**Pn**	**22 44 33.6**	**+0.7**
SDV				*e*Sn	**Sn**	**22 45 10.7**	**-0.5**
OTAV	**Otavalo**	**8.49**	**221**	Pn	**Pn**	**22 45 42.3**	**-1.0**
JTS	**JuntasAbangare**	**12.41**	**287**	Pn	**Pn**	**22 46 35.3**	**+0.7**
SAML	**Samuel**	**18.36**	**148**	*e*P	**P**	**22 47 47.0**	**+1.3**
	1.0nm,0.5s						
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**22 52 07.5**	**0.0**
	3.7nm,0.6s,mb4.2,baz=189,slow=12,SNR=6.1						
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**22 52 07.5**	**0.0**
DBIC	**Dimbokro**	**67.55**	**86**	P	**P**	**22 54 21.9**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=240,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**73.57**	**78**	P	**P**	**22 54 57.8**	**-0.9**
	0.8nm,1.2s,mb3.3,baz=287,slow=6.3,SNR=8.4						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	23 03 15.7	0.0
	0.3nm,0.4s,baz=106,slow=2.8,SNR=2.2						

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*LDG **05** 22:59:54.4±0.1, 4311N×070W, h3km, Md1.8/2, Ml1.7/2, Error ellipse: s-maj=3.8km s-min=1.8km az=12.0*
*STR **05** 22:59:54.0±0.3, 4307N×073W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 05 22:59:55.0±0.3, 4311N×068W, h0km, mbLg1.3/10, Error ellipse: s-maj=3.5km s-min=1.5km az=18.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.21**	**100**	Pg	Pg	22 59 58.9	-0.2
REYF				Sg	Sg	23 00 02.4	+0.5
ORDF	**Ordiarp**	**0.22**	**300**	P	Pg	22 59 59.2	0.0
ORDF				S	Sg	23 00 02.5	+0.6
ETSF	**Etsaut**	**0.23**	**157**	*e*Pg	Pg	22 59 59.3	0.0
ETSF				*e*Sg	Sg	23 00 01.4	-0.9
	38nm,0.4s						
ETSF	**Etsaut**	**0.23**	**157**	Pg	Pg	22 59 59.3	0.0
ETSF				Lg		23 00 01.4	
	19nm,0.4s						
LARF	**Larrau**	**0.24**	**253**	P	Pg	22 59 59.4	-0.1
LARF				S	Sg	23 00 03.1	+0.5
FDAF	**Les Forges d'A**	**0.30**	**164**	P	Pg	23 00 00.5	-0.2
FDAF				S	Sg	23 00 04.5	-0.2
SJPF	**Ste Jean**	**0.40**	**271**	*e*Pg	Pg	23

ELIZ				Lg		23 00 15.3	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.66**	**256**	Pg	Pg	23 00 06.9	-0.7
	SNR=7.9						
IUSE				Lg		23 00 15.9	
	3.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.74**	**125**	Pg	Pg	23 00 08.3	-0.9
	1.4nm,0.4s,SNR=7.6						
EBIE				Lg		23 00 18.2	
	1.1nm,0.1s,SNR=11						
EPF	**Esparros**	**0.75**	**95**	*e*Pg	Pg	23 00 08.4	-1.0
EPF				*e*Sg	Sg	23 00 19.8	+0.7
	3.5nm,0.2s						
EPF	**Esparros**	**0.75**	**95**	Pg	Pg	23 00 08.4	-1.0
EPF				Lg		23 00 19.8	
	1.8nm,0.2s						
ESAC	**San Caprasio**	**1.39**	**174**	Pg	Pg	23 00 22.6	+0.9
	SNR=4.0						
ESAC				Lg		23 00 40.3	
	14nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.02**	**125**	Pg	Pg	23 00 32.2	-1.6
	SNR=7.9						
EMIR				Lg		23 00 59.8	
	1.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.10**	**29**	*e*Sg	Sg	23 01 00.7	-1.8
	1.0nm,0.3s						
LFF	**La Frestale**	**2.10**	**29**	Lg		23 01 00.7	
	0.5nm,0.3s						
MTLF	**Montolieu**	**2.13**	**83**	*e*Sg	Sg	23 01 01.6	-1.9
	1.0nm,0.3s						
MTLF	**Montolieu**	**2.13**	**83**	Lg		23 01 01.6	
	0.5nm,0.3s						
EPOB	**Poblet**	**2.19**	**143**	Pg	Pg	23 00 34.3	-2.6
	SNR=7.9						
EPOB				Lg		23 01 05.4	
	0.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.28**	**160**	Pn	Pn	23 00 34.0	+0.2
	SNR=4.0						
ERTA				Lg		23 01 05.1	
	1.1nm,0.2s,SNR=7.9						

*IDC **05** 23:16:24.7±0.8,069S×13151E,h0km,mb4.3/10, mb1 4.4/13,mb1mx4.2/20,mbtmp4.3/13,ML3.9/3,MS3.7/5, Ms1 3.7/5,ms1mx3.2/21,Error ellipse: s-maj=37.7km s-min=14.1km az=67.0*
*ISCJB **05** 23:16:28.3±0.4,077S±005×13140E±009,h33km, mb4.3/17,MS3.7/5,Error ellipse: s-maj=14.0km s-min=6.9km az=145.8*
*MOS **05** 23:16:28.2±1.1,073S×13144E,h33km,mb4.6/6,Error ellipse: s-maj=26.0km s-min=11.9km az=120.2*
*NEIC **05** 23:16:30.7±0.4,069S×13153E,h40km,mb4.3/9,Error ellipse: s-maj=14.9km s-min=7.3km az=69.0*

ISC 05 23:16:25.7±2.4,071S±005×1315E±01,h4km±15km,n40, σ0°99/46,mb4.3/17,MS3.7/5,1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.96**	**176**	*e*P	**Pn**	**23 19 15.0**	**-1.8**
	22nm,0.6s						
KAKA				*e*S	**Sn**	**23 21 23.4**	**-7.2**
KKM	**Kota Kinabalu**	**16.67**	**294**	Pn	**Pn**	**23 20 19.9**	**-0.3**
PMG	**Port Moresby**	**17.81**	**119**	P	**Pn**	**23 20 34.9**	**+0.5**
	0.9nm,0.3s,baz=182,slow=21,SNR=4.0						
FITZ	**Fitzroy Crossi**	**18.21**	**198**	*e*P	**Pn**	**23 20 41.4**	**+2.1**
	8.9nm,0.8s						
FITZ				*e*S	**Sn**	**23 23 55.4**	**-7.5**
FITZ	**Fitzroy Crossi**	**18.21**	**198**	P	**Pn**	**23 20 38.6**	**-0.7**
	0.2nm,0.3s,baz=53,slow=12,SNR=6.3						
FITZ				S	**Sn**	**23 23 53.0**	**-10**
	0.1nm,0.3s,baz=151,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**19.31**	**172**	P	**Pn**	**23 20 51.6**	**-1.0**
	0.5nm,0.3s,baz=351,slow=11,SNR=24						
WRA				S	**Sn**	**23 24 14.5**	**-15**
	0.3nm,0.3s,baz=348,slow=22,SNR=3.9						
WB2	**Warramunga Arr**	**19.31**	**172**	⇓*i*P	**Pn**	**23 20 51.8**	**-0.8**
WB2				*e*S	**Sn**	**23 24 14.4**	**-15**
AS31	**Alice Springs**	**22.93**	**174**	*e*P	**P**	**23 21 31.4**	**+0.7**
AS31				*e*S	**S**	**23 25 42.0**	**+0.6**
ASAR	**Alice Springs**	**22.93**	**174**	P	**P**	**23 21 30.9**	**+0.3**
	7.2nm,0.7s,mb4.2,baz=350,slow=11,SNR=68						
ASAR				S	**S**	**23 25 37.9**	**-3.5**
	0.3nm,0.6s,baz=360,slow=26,SNR=3.3						
ASPA	**Alice Springs**	**22.93**	**174**	*e*P	**P**	**23 21 31.4**	**+0.7**
ASPA				*e*S	**S**	**23 25 42.0**	**+0.6**
MBWA	**Marble Bar**	**23.34**	**209**	*e*P	**P**	**23 21 38.5**	**+3.4**
	5.4nm,0.6s,mb4.2						
CTA	**Charters Tower**	**24.07**	**144**	P	**P**	**23 21 42.8**	**+0.9**
	13nm,1.2s,mb4.2,baz=324,slow=8.4,SNR=4.9						
NACB	**Ninganchiao**	**26.54**	**339**	*e*P	**P**	**23 22 04.4**	**0.0**
JOW	**Kunigami**	**27.56**	**354**	LR	LR	23 32 33.9	
	comp=Z,202nm,18.6s,MS3.7,baz=167,slow=35						
STKA	**Stephens Creek**	**32.43**	**164**	P	**P**	**23 22 56.4**	**-0.3**
	3.3nm,0.7s,mb4.3,baz=336,slow=11,SNR=4.3						
STKA				LR	LR	23 35 17.0	
	comp=Z,74nm,19.8s,MS3.4,baz=205,slow=35						
STKA	**Stephens Creek**	**32.43**	**164**	P	**P**	**23 22 56.4**	**-0.3**
STKA				LR	LR	23 35 17.0	
PSI	**Prapat**	**32.75**	**276**	P	**P**	**23 23 00.1**	**+0.5**
	8.0nm,1.0s,mb4.6,baz=244,slow=3.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**37.59**	**9**	LR	LR	23 36 19.9	
	comp=Z,121nm,18.0s,MS3.7,baz=70,slow=32						
SONM	**Songino Array**	**53.06**	**339**	P	**P**	**23 25 42.1**	**-1.9**
	1.5nm,0.8s,mb4.0,baz=36,slow=27,SNR=4.0						
MKAR	**Makanchi Array**	**63.91**	**325**	P	**P**	**23 27 00.6**	**+1.0**
	3.7nm,0.9s,mb4.4,baz=106,slow=7.7,SNR=9.8						
MKAR	**Makanchi Array**	**63.91**	**325**	P	**P**	**23 27 00.6**	**+1.0**
ZAL	**Zalesovo**	**66.70**	**332**	P	**P**	**23 27 17.9**	**+0.2**
	1.3nm,0.2s,mb4.5,baz=319,slow=11,SNR=4.9						
ZAL				LR	LR	23 55 54.3	
	comp=Z,33nm,19.9s,MS3.5,baz=122,slow=36						
CASY	**Casey**	**67.10**	**189**	P	**P**	**23 27 21.3**	**+1.0**
BVAR	**Borovoye Array**	**73.62**	**327**	P	**P**	**23 27 59.9**	**-0.3**
	2.7nm,0.7s,mb4.3,baz=115,slow=7.0,SNR=13						
BRVK	**Borovoye**	**73.70**	**327**	*e*P	**P**	**23 28 01.3**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**73.70**	**327**	*e*P	**P**	**23 28 01.3**	**+0.8**
	comp=Z,3.2nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**73.77**	**327**	*e*P	**P**	**23 28 01.3**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**73.77**	**327**	*e*P	**P**	**23 28 01.3**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**74.36**	**326**	*e*P	**P**	**23 28 04.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**74.36**	**326**	*e*P	**P**	**23 28 04.5**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.4						
VNDA	**Vanda**	**78.47**	**174**	P	**P**	**23 28 27.4**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=318,slow=7.1,SNR=12						
VNDA				LR	LR	00 03 41.9	
	comp=Z,77nm,21.4s,MS4.0,baz=324,slow=36						
VNDA	**Vanda**	**78.47**	**174**	*e*P	**P**	**23 28 28.5**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**78.47**	**174**	*e*P	**P**	**23 28 28.4**	**+0.6**
	comp=Z,1.1nm,0.7s,mb3.9						
ARU	**Arti**	**81.22**	**327**	*e*P	**P**	**23 28 42.3**	**-0.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ARU	**Arti**	**81.22**	**327**	*e*P	**P**	**23 28 42.3**	**-0.4**
	comp=Z,7.1nm,0.9s,mb4.6						
MCK	**McKinley**	**86.01**	**26**	*e*P	**P**	**23 29 08.2**	**+0.9**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
MCK	**McKinley**	**86.01**	**26**	*e*P	**P**	**23 29 08.2**	**+0.9**
	comp=Z,1.1nm,0.4s,mb4.4						
COLA	**College**	**86.66**	**25**	P	**P**	**23 29 09.5**	**-1.0**
QSPA	**South Pole Qui**	**89.22**	**180**	*e*P	**P**	**23 29 23.3**	**+0.6**
	comp=Z,3.6nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**96.23**	**340**	P	**P**	**23 29 53.5**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.6,baz=74,slow=6.4,SNR=4.2						

*ATH **06** 00:02:50.3,3694N×2726E,h10km,MD2.8/3*
*ISCJB **06** 00:02:53.7±0.9,3678N±005×2749E±009,h12km±7km, Error ellipse: s-maj=12.7km s-min=6.8km az=140.2*
*CSEM **06** 00:02:53.6±0.1,3679N×2747E,h5km,MD3.2,Error ellipse: s-maj=2.9km s-min=1.6km az=72.0*
*ISK **06** 00:02:53.0,3678N×2749E,h15km,MD3.2*

ISC 06 00:02:53.7±0.9,3676N±005×2747E±009,h13km±8km,n7, σ0°39/10,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.10**	**110**	PG	**Pg**	**00 02 56.5**	**-0.1**
DAT				SG	**Sg**	**00 02 58.9**	**+0.2**
BODT	**Bodrum**	**0.33**	**337**	PG	**Pg**	**00 03 00.0**	**-0.3**
BODT				SG	**Sg**	**00 03 05.0**	**+0.2**
MLSB	**Milas**	**0.59**	**25**	*e*PG	**Pg**	**00 03 05.3**	**+0.1**
MLSB				*e*SG	**Sg**	**00 03 13.0**	**0.0**
ARG	**Arkhangelos**	**0.76**	**135**	*e*PB	**Pb**	**00 03 09.5**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.94**	**89**	*e*PG	**Pg**	**00 03 11.1**	**-0.7**
SMG	**Samos**	**1.07**	**332**	*e*PB	**Pb**	**00 03 06.1**	**-7.9**
KARP	**Karpathos**	**1.24**	**192**	*e*PB	**Pb**	**00 03 16.6**	**-0.3**

IDC 06 00:20:44.8±1.4,3286N×9606E,h0km,mb3.6/3,mb1 3.7/5, mb1mx3.4/22,mbtmp3.6/5,ML3.5/2,MS3.9/1,Ms1 3.9/1, ms1mx2.7/19,Error ellipse: s-maj=74.2km s-min=24.7km az=59.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.88**	**25**	Pn	Pn	00 24 42.3	-0.2
	0.2nm,0.3s,baz=207,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**17.44**	**327**	P	Pn	00 24 50.4	+0.9
	0.2nm,0.3s,baz=128,slow=13,SNR=8.9						
JOW	**Kunigami**	**28.51**	**94**	LR	LR	00 40 03.6	
	comp=Z,191nm,18.1s,baz=241,slow=41						
FINES	**FINESS Array B**	**52.26**	**325**	P	P	00 29 57.1	-0.7
	0.5nm,0.7s,baz=94,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**63.99**	**140**	P	P	00 31 20.2	+0.2
	0.3nm,0.3s,baz=317,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**66.81**	**142**	P	P	00 31 38.5	+0.3
	0.2nm,0.4s,baz=326,slow=6.7,SNR=5.0						

*ISK **06** 00:33:40.8,3677N×2746E,h11km,MD3.2*
*CSEM **06** 00:33:40.7±0.1,3679N×2748E,h12km,MD3.2,Error ellipse: s-maj=2.8km s-min=1.8km az=57.0*
*ISCJB **06** 00:33:41.1±0.6,3678N±004×2748E±006,h13km±4km, Error ellipse: s-maj=8.9km s-min=5.3km az=132.5*
*ATH **06** 00:33:41.1,3678N×2744E,h28km,MD2.9/4*
*NEIC **06** 00:33:41.1,3678N×2744E,h28km,MD2.9(ATH),After ATH.*

ISC 06 00:33:41.3±0.6,3677N±003×2748E±006,h14km±4km,n9, σ0°58/15,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.09**	**117**	*i* PG	**Pg**	**00 33 43.9**	**-0.4**
DAT				*i* SG	**Sg**	**00 33 46.0**	**-0.4**
BODT	**Bodrum**	**0.32**	**335**	*i* PG	**Pg**	**00 33 47.5**	**-0.4**
BODT				*i* SG	**Sg**	**00 33 52.5**	**+0.1**
NISR	**Nisiros**	**0.33**	**241**	*e*PB	**Pg**	**00 33 48.5**	**+0.5**
MLSB	**Milas**	**0.58**	**24**	PG	**Pg**	**00 33 52.9**	**+0.3**
MLSB				SG	**Sg**	**00 34 01.0**	**+0.8**
ARG	**Arkhangelos**	**0.76**	**137**	*e*PN	**Pn**	**00 33 56.5**	**-1.0**
ARG				*e*SN	**Sn**	**00 34 08.3**	**-0.4**
DALT	**Dalyan (Mudla)**	**0.93**	**90**	*e*PG	**Pg**	**00 33 59.2**	**0.0**
SMG	**Samos**	**1.07**	**331**	*e*PN	**Pn**	**00 34 01.2**	**-0.6**
SMG				*e*SN	**Sn**	**00 34 15.9**	**-0.6**
KARP	**Karpathos**	**1.25**	**192**	*e*PN	**Pn**	**00 34 04.7**	**+0.5**
KARP				*e*SN	**Sn**	**00 34 21.4**	**+0.6**
ELL	**Elmali**	**1.95**	**90**	*e*PN	**Pn**	**00 34 15.0**	**+1.1**

*IDC **06** 01:43:04.8±2.1,4135S×15260E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.8/14,mbtmp3.8/5,MS2.6/1,Ms1 2.6/1, ms1mx2.5/18,Error ellipse: s-maj=53.7km s-min=41.8km az=122.0*
*ISCJB **06** 01:43:09.2±4.6,4135S±06×15261E±03,h33km,mb3.8/6, Error ellipse: s-maj=88.5km s-min=38.9km az=25.0*
*NEIC **06** 01:43:09.8±1.5,4135S×15261E,h35km,mb4.2/2,Error ellipse: s-maj=33.3km s-min=29.0km az=146.0*

ISC 06 01:43:12.0±1.5,44S±07×1526E±03,h35km,n12,σ0°24/9, mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.32**	**227**	LR	LR	01 47 13.0	
	comp=Z,45nm,18.3s,baz=58,slow=33						
WB2	**Warramunga Arr**	**23.53**	**228**	*e*P	**P**	**01 48 19.1**	**0.0**
WRA	**Warramunga Arr**	**23.54**	**228**	P	**P**	**01 48 19.4**	**+0.3**
	2.2nm,0.5s,mb3.9,baz=52,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**26.29**	**222**	P	**P**	**01 48 43.6**	**-0.5**
	0.8nm,0.9s,mb3.2,baz=54,slow=8.4,SNR=4.2						
STKA	**Stephens Creek**	**29.19**	**199**	P	**P**	**01 49 10.3**	**+0.2**
	1.5nm,0.8s,mb3.8,baz=36,slow=8.7,SNR=3.0						
FITZ	**Fitzroy Crossi**	**29.66**	**241**	*e*P	**P**	**01 49 14.3**	**0.0**
	3.8nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**29.66**	**241**	P	**P**	**01 49 14.3**	**0.0**
	0.6nm,0.4s,mb3.7,baz=53,slow=10,SNR=6.4						
MBWA	**Marble Bar**	**35.98**	**240**	*e*P	**P**	**01 50 09.5**	**+0.1**
	2.5nm,0.6s,mb4.3						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**01 54 39.2**	**0.0**
	0.5nm,0.9s,mb3.4,baz=12,slow=4.8,SNR=3.6						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**01 54 39.2**	**0.0**
TORD	**Torodi Ar. Bea**	**150.01**	**289**	PKPbc	PKPbc	02 02 57.4	-1.3
	0.2nm,0.3s,baz=70,slow=2.2,SNR=15						
TORD	**Torodi Ar. Bea**	**150.01**	**289**	PKPbc	PKPbc	02 02 57.4	-1.3

*ISCJB **06** 01:44:36.0±3.7,1845S±02×17810W±0.1,h623km±48km, mb3.8/9,Error ellipse: s-maj=31.2km s-min=21.2km az=1.9*
*IDC **06** 01:44:37.8±3.5,1844S×17801W,h626km±41km,mb2.9/4, mb1 3.1/4,mb1mx3.0/13,mbtmp4.0/4,Error ellipse: s-maj=46.5km s-min=23.4km az=17.0*
*NEIC **06** 01:44:42.9±4.6,1841S×17818W,h697km±65km,mb3.9/5, Error ellipse: s-maj=28.1km s-min=20.7km az=100.0*

ISC 06 01:44:38.0±3.8,185S±02×1779W±01,h630km±47km,n16, σ0°57/17,mb3.8/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**01 51 10.6**	**+0.2**
	1.8nm,0.5s,mb3.9,baz=69,slow=8.6,SNR=6.4						
WB2	**Warramunga Arr**	**44.96**	**260**	*e*P	**P**	**01 51 58.9**	**-0.1**
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**01 51 58.8**	**-0.3**
	0.4nm,0.3s,mb3.4,baz=97,slow=7.8,SNR=4.9						
WRA				PcP	PcP	01 53 26.4	+0.2
	0.4nm,0.3s,baz=92,slow=3.6,SNR=5.5						
ASAR	**Alice Springs**	**45.07**	**255**	P	**P**	**01 51 60.0**	**+0.1**
	1.8nm,0.5s,mb3.8,baz=91,slow=7.5,SNR=19						
ASAR				PcP	PcP	01 53 26.9	+0.4
	0.2nm,0.4s,baz=96,slow=4.6,SNR=4.8						
ASAR				S	**S**	**01 57 55.4**	**+0.8**
	1.2nm,0.6s,baz=91,slow=16,SNR=12						
MBWA	**Marble Bar**	**58.37**	**256**	P	**P**	**01 53 34.5**	**-0.3**
SBA	**Scott Base**	**59.83**	**184**	*e*P	**P**	**01 53 45.9**	**+1.3**
	4.4nm,0.2s,mb4.3						
VNDA	**Vanda**	**59.87**	**185**	P	**P**	**01 53 44.9**	**+0.1**
	0.7nm,0.5s,mb3.1,baz=8.9,slow=6.8,SNR=12						
VNDA	**Vanda**	**59.87**	**185**	P	**P**	**01 53 44.9**	**+0.1**
CASY	**Casey**	**65.77**	**205**	*e*P	**P**	**01 54 21.9**	**-0.6**
	1.4nm,0.5s,mb3.6						
QSPA	**South Pole Qui**	**71.53**	**180**	*e*P	**P**	**01 54 57.1**	**+0.1**
	5.4nm,0.6s,mb4.2						
SNCC	**San Nicolas Is**	**75.86**	**47**	P	**P**	**01 55 21.8**	**+0.4**
MAW	**Mawson**	**83.44**	**200**	*e*P	**P**	**01 56 00.7**	**-0.2**
	1.1nm,0.4s,mb3.7						
SNAA	**Sanae**	**89.97**	**178**	*e*	**P**	**01 56 30.5**	**-1.3**
SNAA	**Sanae**	**89.97**	**178**	*e*P	**P**	**01 56 30.7**	**-1.1**
	0.8nm,0.5s,mb3.8						
VNA3	**Neumayer Olymp**	**90.09**	**176**	*e*	**P**	**01 56 31.8**	**-0.6**
VNA1	**Neumayer--Stat**	**90.77**	**177**	*e*	**P**	**01 56 36.0**	**+0.6**

KRSC 06 02:16:40,4990N×15616E,h123km,ML3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**2.92**	**24**	*e*P	Pn	02 17 30.1	+4.8
GRL				*i* S	Sn	02 18 06.6	+6.5
RUS	**Russkaya**	**2.94**	**29**	*e*P	Pn	02 17 30.7	+5.2
RUS				*i* S	Sn	02 18 07.5	+6.9
AVH	**Avacha**	**3.73**	**25**	*e*P	Pn	02 17 41.6	+5.6
AVH				*i* S	Sn	02 18 26.4	+7.0
GNL	**Ganaly**	**3.96**	**16**	*e*P	Pn	02 17 43.6	+4.6
MKZ	**Mys Kozlova**	**5.78**	**34**	*e*P	Pn	02 18 07.1	+3.6

*NEIC **06** 02:22:56.8,4123S×17274E,h177km,MG3.7(WEL),After WEL.*

WEL 06 02:22:57.7±0.3,4124S×17275E,h167km±2km,ML3.7/15, 9C-1D,Error ellipse: s-maj=2.0km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.45**	**338**	P	Pn	02 23 20.8	0.0
QRZ	**Quartz Range**	**0.45**	**338**	⇑PN	Pn	02 23 20.8	0.0
QRZ				SN	Sn	02 23 37.3	-1.1
NNZ	**Nelson**	**0.47**	**88**	P	Pn	02 23 20.9	0.0
NNZ				S	Sn	02 23 38.4	-0.3
NNZ	**Nelson**	**0.47**	**88**	⇑PN	Pn	02 23 20.9	0.0
NNZ				SN	Sn	02 23 38.4	-0.2
THZ	**Tophouse**	**0.54**	**168**	P	Pn	02 23 21.5	+0.3
THZ	**Tophouse**	**0.54**	**168**	⇑PN	Pn	02 23 21.5	+0.3
THZ				SN	Sn	02 23 39.0	-0.2
DSZ	**Denniston Nort**	**0.87**	**234**	P	Pn	02 23 22.8	-0.4
DSZ	**Denniston Nort**	**0.87**	**234**	PN	Pn	02 23 22.8	-0.4
DSZ				SN	Sn	02 23 41.0	-1.7
TUWZ	**Tuamarina**	**0.92**	**102**	⇑PN	Pn	02 23 23.8	+0.3
TUWZ				SN	Sn	02 23 43.2	-0.1
BSWZ	**Blackbirch Sta**	**0.97**	**120**	PN	Pn	02 23 24.1	+0.2
DUWZ	**D'Urville Isla**	**0.99**	**64**	PN	Pn	02 23 24.2	+0.2
TCW	**Tory Channel**	**1.15**	**89**	P	Pn	02 23 25.6	+0.2
TCW				S	Sn	02 23 45.6	-1.0
TCW	**Tory Channel**	**1.15**	**89**	PN	Pn	02 23 25.6	+0.2
TCW				SN	Sn	02 23 45.6	-1.0
KHZ	**Kahutara**	**1.32**	**154**	P	Pn	02 23 27.0	+0.2
KHZ	**Kahutara**	**1.32**	**154**	⇑PN	Pn	02 23 27.0	+0.1
KHZ				SN	Sn	02 23 48.2	-1.1
MRW	**Makara Radio**	**1.47**	**90**	P	Pn	02 23 28.1	-0.2
MRW	**Makara Radio**	**1.47**	**90**	PN	Pn	02 23 28.1	-0.2
SNZO	**South Karori**	**1.48**	**93**	P	Pn	02 23 28.1	-0.3
SNZO	**South Karori**	**1.48**	**93**	⇑PN	Pn	02 23 28.1	-0.3
LTZ	**Lake Taylor**	**1.58**	**193**	P	Pn	02 23 29.3	-0.1
LTZ	**Lake Taylor**	**1.58**	**193**	⇓PN	Pn	02 23 29.3	-0.1
BHW	**Baring Head**	**1.61**	**97**	PN	Pn	02 23 29.3	-0.4
KIW	**Kapiti Island**	**1.68**	**78**	P	Pn	02 23 30.2	-0.2
KIW	**Kapiti Island**	**1.68**	**78**	⇑PN	Pn	02 23 30.2	-0.2
KIW				SN	Sn	02 23 54.4	-1.1
CAW	**Cannon Point**	**1.75**	**86**	P	Pn	02 23 30.8	-0.4
CAW	**Cannon Point**	**1.75**	**86**	⇑PN	Pn	02 23 30.8	-0.4
MSWZ	**Moikau Station**	**1.89**	**96**	P	Pn	02 23 32.3	-0.4
MSWZ	**Moikau Station**	**1.89**	**96**	⇑PN	Pn	02 23 32.3	-0.4
PAWZ	**Paruwai Farm**	**2.02**	**95**	P	Pn	02 23 33.6	-0.5
PAWZ	**Paruwai Farm**	**2.02**	**95**	PN	Pn	02 23 33.6	-0.5
MTW	**Mount Morrison**	**2.08**	**89**	P	Pn	02 23 34.3	-0.5
MTW	**Mount Morrison**	**2.08**	**89**	PN	Pn	02 23 34.2	-0.5
MRZ	**Mangatainoka R**	**2.22**	**76**	*e*P	Pn	02 23 35.6	-0.8
MRZ	**Mangatainoka R**	**2.22**	**76**	PN	Pn	02 23 35.6	-0.8
TRWZ	**Traveller**	**2.22**	**95**	PN	Pn	02 23 36.1	-0.2
MQZ	**McQueen's Vall**	**2.47**	**182**	P	Pn	02 23 37.8	-1.5
BFZ	**Birch Farm**	**2.71**	**79**	*e*P	Pn	02 23 41.5	-0.7
RPZ	**Rata Peaks**	**2.77**	**206**	P	Pn	02 23 41.8	-1.2
WNVZ	**Wahianoa**	**2.90**	**50**	P	Pn	02 23 43.8	-0.7
MOVZ	**Moawhango**	**2.94**	**52**	P	Pn	02 23 43.7	-1.3
FOZ	**Fox Glacier**	**3.25**	**223**	*e*P	Pn	02 23 44.9	-3.9
LBZ	**Lake Benmore**	**3.67**	**210**	P	Pn	02 23 52.2	-2.0
JCZ	**Jackson Bay**	**4.08**	**225**	P	Pn	02 23 57.2	-2.3
ODZ	**Otahua Downs**	**4.10**	**201**	*e*P	Pn	02 23 58.3	-1.4

*IDC **06** 02:46:12.0±9.3,3290S×17823W,h68km±81km,mb3.8/2, mb1 4.0/3,mb1mx3.6/13,mbtmp4.1/3,ML3.8/1,MS3.7/2, Ms1 3.6/2,ms1mx2.9/18,Error ellipse: s-maj=70.6km s-min=53.3km az=176.0*

NEIC 06 02:46:25.8±1.6,3419S×17846W,h200km,mb3.9/1,Error ellipse: s-maj=40.5km s-min=23.0km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.41**	**220**	P	Pn	02 47 45.3	-0.1
	1.9nm,0.3s,baz=343,slow=20,SNR=8.8						
URZ				S	Sn	02 49 00.4	+12
	1.9nm,0.3s,baz=142,slow=22,SNR=3.7						
DZM	**Mont Dzumac**	**17.95**	**308**	LR	LR	02 55 48.1	
	comp=Z,225nm,18.3s,baz=347,slow=33						
STKA	**Stephens Creek**	**33.42**	**263**	LR	LR	03 06 10.0	
	comp=Z,117nm,18.7s,baz=198,slow=35						
ASAR	**Alice Springs**	**42.66**	**271**	P	P	02 54 04.0	+1.4
	1.7nm,0.7s,baz=110,slow=7.6,SNR=17						
WB2	**Warramunga Arr**	**43.98**	**276**	*e*P	P	02 54 13.6	+0.5
WB2	**Warramunga Arr**	**43.98**	**276**	*e*P	P	02 54 13.2	+0.1
WRA	**Warramunga Arr**	**43.99**	**276**	P	P	02 54 12.7	-0.5
	1.4nm,0.3s,baz=116,slow=7.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**52.07**	**273**	*e*P	P	02 55 12.4	-2.6
	5.5nm,1.6s						
FINES	**FINESS Array B**	**148.53**	**338**	PKPbc	PKPbc	03 05 48.0	-0.8

NAIG	**Nisos Aigina**	**1.55 192**	*e*Pn	**Pn**	**03 20 15.5**	**-0.1**
SOH	**Sokhos**	**1.60 346**	*e*Pg	**Pg**	**03 20 17.0**	**-1.9**
SOH			*e*Sg	**Sg**	**03 20 37.7**	**-1.8**
EVR	**Evrytania**	**1.65 258**	*e*PN	**Pn**	**03 20 17.4**	**+0.3**
EVR	**Evrytania**	**1.65 258**	*e*Pn	**Pn**	**03 20 17.6**	**+0.5**
SRS	**Serrai**	**1.85 353**	*e*Pb	**Pb**	**03 20 20.4**	**-1.6**
SRS			*e*Sb	**Sb**	**03 20 42.5**	**-2.6**
PRK	**Paraskevi**	**1.86 90**	*e*PN	**Pn**	**03 20 19.6**	**-0.3**
GRG	**Griva**	**2.03 326**	*e*Pn	**Pn**	**03 20 23.1**	**+0.9**
GRG			*e*Sn	**Sn**	**03 20 47.4**	**0.0**
NVR	**Nevrokopi**	**2.07 360**	*e*PN	**Pn**	**03 20 23.7**	**+0.9**
MEV	**Metsovon**	**2.11 285**	*e*Pn	**Pn**	**03 20 23.4**	**0.0**
RDO	**Rodhopi**	**2.26 34**	*e*PN	**Pn**	**03 20 25.8**	**+0.4**
RDO	**Rodhopi**	**2.26 34**	*e*Pn	**Pn**	**03 20 25.5**	**+0.1**
MMB	**Musomiste**	**2.31 357**	*i* P	**Pn**	**03 20 26.7**	**+0.5**
ALN	**Alexandroupoli**	**2.32 45**	*e*Pn	**Pn**	**03 20 26.3**	**0.0**
FNA	**Florina**	**2.44 309**	*e*Pn	**Pn**	**03 20 28.7**	**+0.8**
RZN	**Rozhen**	**2.49 15**	*i* P	**Pn**	**03 20 29.4**	**+0.8**
APE	**Apeiranthos**	**2.56 149**	*e*Pn	**Pn**	**03 20 28.8**	**-0.8**
APE	**Apeiranthos**	**2.56 149**	*e*PN	**Pn**	**03 20 29.0**	**-0.5**
APE	**Apeiranthos**	**2.56 149**	*e*Pn	**Pn**	**03 20 28.5**	**-1.0**
LKD	**Levkas**	**2.58 258**	*e*Pn	**Pn**	**03 20 31.1**	**+1.3**
LKD			*e*Sn	**Sn**	**03 21 00.8**	**-0.4**
KKB	**Krupnik**	**2.66 347**	*i* P	**Pn**	**03 20 31.8**	**+0.9**
KKB			*i* S	**Sn**	**03 21 03.0**	**-0.1**
VTS	**Vitosha**	**3.35 351**	*i* P	**Pn**	**03 20 41.8**	**+1.4**
VTS			*e*S	**Sn**	**03 21 21.7**	**+1.5**

*NEIC **06** 03:19:56.3, 1690N×9994W, h32km, MD4.1(MEX), After MEX.*

MEX 06 03:19:56.4±0.8, 1690N×9994W, h31km±7km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.04**	**152**	*i* P		Pb	03 20 00.8	-0.8
CAIG	**El Cayaco**	**0.35**	**295**	*i* P		Pb	03 20 02.9	-1.7
CAIG				*i* S		Sb	03 20 08.5	-1.6
MEIG	**Mezcala**	**1.06**	**17**	*i* P		Pn	03 20 12.6	-2.6
MEIG				*i* S		Sn	03 20 25.4	-3.5
PLIG	**Platanillo**	**1.54**	**16**	*i* P		Pn	03 20 20.1	-1.6
PLIG				*i* S		Sn	03 20 39.0	-1.6
ZIIG	**Zihuatanejo**	**1.62**	**296**	*i* P		Pn	03 20 21.2	-1.6
ZIIG				*i* S		Sn	03 20 40.3	-2.3
ZIIG	**Zihuatanejo**	**1.62**	**296**	*e*P		Pn	03 20 19.7	-3.1
ZIIG				*i* S		Sn	03 20 40.3	-2.3
PNIG	**Pinotepa**	**1.81**	**106**	*e*P		Pn	03 20 22.5	-2.9
PNIG				*i* S		Sn	03 20 45.2	-2.1
YAIG	**Yautepec**	**2.12**	**23**	*i* P		Pn	03 20 27.7	-1.9
YAIG				*i* S		Sn	03 20 54.5	-0.4
UTMO	**Huajuapan**	**2.24**	**65**	*e*P		Pn	03 20 29.8	-1.5
UTMO				*i* S		Sn	03 20 56.8	-1.1
PPM	**Popocatepetl**	**2.49**	**30**	*i* P		Pn	03 20 33.3	-1.4
PPM				*i* S		Sn	03 21 02.5	-1.5
TPIG	**Tehuac#an**	**2.88**	**58**	*i* P		Pn	03 20 37.7	-2.5
TPIG				*i* S		Sn	03 21 12.9	-0.9
IIO	**Organos**	**2.91**	**23**	*i* P		Pn	03 20 40.1	-0.5
IIO				*i* S		Sn	03 21 13.7	-0.9
MOIG	**Morelia**	**3.00**	**337**	*e*P		Pn	03 20 41.6	-0.3
MOIG				*e*S		Sn	03 21 14.2	-2.7
VHO	**Vista Hermosa**	**3.07**	**86**	*e*P		Pn	03 20 40.3	-2.4
VHO				*e*S		Sn	03 21 15.2	-3.3

*INET **06** 03:24:46.1, 1132N×8728W, h18km, MD3.6*

CASC 06 03:24:44.3±2.1, 1131N×8741W, h22km±18km, MD3.9, 5C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.18**	**43**	⇓*e*P		Pn	03 25 05.3	-0.1
LEON	**Leon**	**1.21**	**24**	⇓*e*P		Pn	03 25 06.4	+0.5
MIRN	**Miramar**	**1.31**	**31**	⇓*e*P		Pn	03 25 07.5	+0.2
XAVN	**Gruta Xavier**	**1.35**	**52**	*e*P		Pn	03 25 07.2	-0.5
TICN	**Ticuantepe**	**1.36**	**58**	⇓*e*P		Pn	03 25 08.1	+0.1
CNGN	**Cerro Negro**	**1.37**	**30**	⇑*e*P		Pn	03 25 08.1	0.0
MOMJ	**Momotombo**	**1.38**	**38**	⇑*e*P		Pn	03 25 08.1	-0.2
TISN	**Laguna Tiscapa**	**1.39**	**53**	⇓*e*P		Pn	03 25 07.8	-0.5
MGAN	**Managua**	**1.41**	**54**	⇑*e*P		Pn	03 25 08.0	-0.6
MGAN				*e*S		Sn	03 25 28.1	+1.6
SSNN	**San Juan del S**	**1.53**	**91**	*e*P		Pn	03 25 09.6	-0.6
CONN	**Concepcion**	**1.76**	**82**	*e*P		Pn	03 25 13.3	-0.2
MADN	**Villa Maderas**	**1.84**	**87**	⇑*e*P		Pn	03 25 12.9	-1.6
PRS1	**Puriscal**	**3.31**	**113**	*e*P		Pn	03 25 36.4	+1.5
BUS	**Buena Vista**	**3.99**	**116**	*e*P		Pn	03 25 45.2	+1.1

*ISCJB **06** 03:31:15.4±0.5, 1800S±007×17193W±0.10, h34km, mb4.2/10, MS3.2/2, Error ellipse: s-maj=13.2km s-min=10.3km az=22.1*
*IDC **06** 03:31:17.6±0.7, 1803S×17207W, h34km±5km, mb3.7/6, mb1 4.1/8, mb1mx3.9/17, mbtmp4.1/8, ML4.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=26.4km s-min=17.3km az=142.0*
*NEIC **06** 03:31:17.5±0.4, 1806S×17199W, mb4.3/2, Error ellipse: s-maj=11.6km s-min=10.5km az=140.0*
*BJI **06** 03:31:17.9, 1731S×17115W, h45km, mB5.0, mb4.8, Ms4.7, Msz4.3*

ISC 06 03:31:17.6±0.5, 1800S±007×17192W±009, h36km, h36km±2.7km: pP-P, n33, σ1§05/21, mb4.2/10, MS3.2/2, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.07**	**2**	Pn		**Pn**	**03 32 16.1**	**-1.2**
	16nm,0.3s,baz=114,slow=6.1,SNR=11						
AFI				Sn		**Sn**	**03 33 01.2**	**-2.6**
	45nm,0.3s,baz=213,slow=23,SNR=15						
AFI	**Afiamalu**	**4.07**	**2**	*e*Pn		**Pn**	**03 32 17.6**	**+0.3**
AFI				*e*Sn		**Sn**	**03 33 01.3**	**-2.5**
RAR	**Rarotonga**	**11.89**	**108**	Pn		**Pn**	**03 34 04.3**	**-0.2**
	3.2nm,0.3s,baz=264,slow=8.7,SNR=6.7						
RAR				Sn		**Sn**	**03 36 08.0**	**-7.8**
	0.9nm,0.3s,baz=52,slow=17,SNR=2.0						
RAR				LR		LR	03 37 13.6	
	comp=Z,35nm,18.4s,baz=341,slow=30						
DZM	**Mont Dzumac**	**20.72**	**255**	LR		LR	03 42 14.6	
	comp=Z,80nm,19.8s,MS3.1,baz=16,slow=32						
PPT	**Papeete**	**21.28**	**92**	*e*LR		LR	03 40 48.8	
	116nm,28.0s						
TBI	**Tubuai**	**21.67**	**108**	*e*LR		LR	03 41 02.2	
	108nm,27.5s						
HNR	**Honiara**	**28.59**	**284**	LR		LR	03 46 54.9	
	comp=Z,86nm,19.8s,MS3.4,baz=173,slow=33						
RKT	**Rikitea**	**34.91**	**105**	*e*LR		LR	03 47 10.2	
	59nm,29.5s						
WB2	**Warramunga Arr**	**50.67**	**259**	*e*P		**P**	**03 40 12.3**	**-1.0**
WB2				*ep*P		pP	03 40 28.8	+4.8
WRA	**Warramunga Arr**	**50.68**	**259**	P		**P**	**03 40 12.6**	**-0.8**
	1.4nm,0.6s,mb4.1,baz=96,slow=8.4,SNR=8.2						
AS31	**Alice Springs**	**50.70**	**254**	*e*P		**P**	**03 40 14.1**	**+0.6**
ASAR	**Alice Springs**	**50.70**	**254**	P		**P**	**03 40 12.6**	**-1.0**
	2.3nm,0.8s,mb4.2,baz=94,slow=7.5,SNR=26						
ASAR				pP		pP	03 40 22.4	-1.9
	2.2nm,0.7s,baz=81,slow=8.8,SNR=9.2						
ASPA	**Alice Springs**	**50.71**	**254**	*e*P		**P**	**03 40 14.1**	**+0.5**
VNDA	**Vanda**	**60.95**	**186**	P		**P**	**03 41 26.6**	**-0.3**
	2.1nm,1.0s,mb4.2,baz=14,slow=4.4,SNR=11						
QSPA	**South Pole Qui**	**72.06**	**180**	*e*P		**P**	**03 42 37.7**	**-0.2**
	2.5nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**75.33**	**41**	P		**P**	**03 42 57.3**	**+0.2**
	0.3nm,0.6s,mb3.4,baz=231,slow=6.9,SNR=2.5						
NVAR				pP		pP	03 43 08.8	+0.5
	0.7nm,0.6s,baz=239,slow=9.8,SNR=3.7						
MDJ	**Mudanjiang**	**81.94**	**322**	P		**P**	**03 43 35.4**	**+1.9**
MDJ				XP		sP	03 43 48.3	-0.7
MDJ				AMB		AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
MDJ				AMB		AMB		
	comp=Z,59nm,4.2s						
NJ2	**Nanjing**	**82.85**	**307**	*e*P		**P**	**03 43 39.9**	**+1.7**
PDAR	**Pinedale Array**	**83.27**	**41**	P		**P**	**03 43 41.9**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.5,baz=131,slow=4.1,SNR=3.5						
PDAR				pP		pP	03 43 53.0	+1.3
	comp=Z,1.0nm,0.8s,baz=222,slow=2.0,SNR=7.4						
MAW	**Mawson**	**85.79**	**198**	P		**P**	**03 43 52.4**	**-0.7**
	comp=Z,2.5nm,1.0s,mb4.4,baz=150,slow=1.3,SNR=5.6						
SNAA	**Sanae**	**90.24**	**177**	*e*P		**P**	**03 44 13.2**	**-1.2**
	comp=Z,1.1nm,0.7s,mb4.3						
HHC	**Hu-ho-hao-te**	**91.82**	**312**	*e*P		**P**	**03 44 22.5**	**+0.8**
HHC				AP		pP	03 44 32.1	-1.1
HHC				AMB		AMB		
	comp=Z,10.0nm,0.4s						
HHC				AMB		AMB		
	comp=Z,129nm,5.0s						
KMI	**Kunming**	**93.42**	**295**	P		**P**	**03 44 33.7**	**+4.6**
KMI				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb5.1						
WMQ	**Urumqi**	**109.64**	**311**	*e*PKP		PKiKP	03 49 45.0	+0.6
ARCES	**ARCESS Array B**	**127.36**	**352**	PKP		PKPdf	03 50 18.8	+0.4
	comp=Z,1.7nm,0.9s,baz=344,slow=3.9,SNR=5.3						
ARCES	**ARCESS Array B**	**127.36**	**352**	PKP		PKPdf	03 50 18.8	+0.4
KMBO	**Kilima Mbogo**	**145.56**	**240**	PKPbc		PKPbc	03 50 54.0	+1.9
	comp=Z,1.7nm,0.6s,baz=87,slow=3.4,SNR=6.4						
KMBO	**Kilima Mbogo**	**145.56**	**240**	*e*PKPdf		PKPdf	03 50 54.2	+2.4
CLL	**Collm**	**146.54**	**354**	⇓*i*PKPbc		PKPbc	03 50 56.4	+1.4
	comp=Z,14nm,1.2s						
CLL				*i* pPKPbc		pPKPbc	03 51 06.9	+0.2
GERES	**GERESS Array B**	**148.90**	**353**	PKPbc		PKPbc	03 51 02.8	+1.4
	comp=Z,1.3nm,0.9s,baz=90,slow=1.3,SNR=7.2						
GERES				pPKPbc		pPKPbc	03 51 13.3	+0.2
	comp=Z,0.7nm,0.7s,baz=264,slow=1.3,SNR=4.9						
BR131	**Keskin Array S**	**149.05**	**320**	*e*PKPbc		PKPbc	03 51 02.8	+1.1
BRTR	**Keskin Array B**	**149.05**	**320**	PKPbc		PKPbc	03 51 02.5	+0.7
	comp=Z,0.9nm,0.7s,baz=161,slow=4.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**172.18**	**127**	PKPab		PKPab	03 52 48.0	+1.8
	comp=Z,0.7nm,0.9s,baz=265,slow=3.8,SNR=6.1						

*NEIC **06** 03:33:32.2, 2700S×6976W, h3km, ML3.2(GUC), After GUC.*

GUC 06 03:33:32.2±1.2, 2700S×6976W, h3km±4km, MD3.6, ML3.2, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.64**	**236**	*e*P		Pg	03 33 45.2	+0.7
CPCH				*i* S		Sg	03 33 55.0	+2.2
CPCH				AML		AML	03 33 55.9	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**0.64**	**236**	*e*P		Pg	03 33 45.2	+0.7
CPCH				*i* S		Sg	03 33 55.0	+2.2
CDCH	**Caldera**	**0.96**	**265**	⇓*i*P		Pg	03 33 50.5	-0.1
CDCH				*i* S		Sg	03 34 04.5	+1.5
VACH	**Vallenar**	**1.81**	**209**	*e*P		Pn	03 34 08.6	+4.4
VACH				*i* S		Sn	03 34 31.8	+4.3
TLL	**Tololo Astrono**	**3.29**	**196**	*e*P		Pn	03 34 26.0	+1.4
TLL				*i* S		Sn	03 35 07.8	+3.7
CEN1	**Los Morros**	**3.61**	**354**	*e*P		Pn	03 34 27.3	-1.7
CEN1				*i* S		Sn	03 35 10.0	-2.1
CEN1				AML		AML	03 35 19.7	
	comp=E,35nm,0.5s						

IDC 06 03:43:08.5±6.4, 798S×12773E, h184km±66km, mb3.0/1, mb1 3.2/4, mb1mx3.1/14, mbtmp3.7/4, Error ellipse: s-maj=71.8km s-min=30.2km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.27**	**191**	P		Pn	03 45 31.2	-0.1
	0.4nm,0.3s,baz=36,slow=10,SNR=25						
FITZ				S		Sn	03 47 26.8	+1.1
	1.0nm,0.3s,baz=127,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**13.51**	**152**	P		Pn	03 46 11.4	-1.4
	0.5nm,0.3s,baz=329,slow=12,SNR=5.6						
WRA				S		Sn	03 48 35.2	-7.9
	1.3nm,0.3s,baz=330,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**16.68**	**160**	P		Pn	03 46 53.0	+1.3
	0.3nm,0.3s,baz=340,slow=10,SNR=31						
ASAR				S		S	03 49 55.5	-0.1
	0.4nm,0.3s,baz=332,slow=20,SNR=7.2						
MKAR	**Makanchi Array**	**67.83**	**328**	P		P	03 53 46.7	+0.1
	0.3nm,0.5s,baz=119,slow=8.1,SNR=3.0						

*ISCJB **06** 04:05:01.8±0.2, 4192N±002×2062E±002, h1km, Error ellipse: s-maj=2.5km s-min=1.6km az=83.5*
*TIR **06** 04:05:01.6, 4193N×2050E, h3km, Ml2.8*
*CSEM **06** 04:05:01.9±0.2, 4193N×2060E, h2km, ML2.7, Error ellipse: s-maj=4.7km s-min=2.9km az=39.0*
*PDG **06** 04:05:02.4±0.3, 4189N×2055E, h1km±1km*
*NEIC **06** 04:05:02.4, 4189N×2055E, h1km, MD3.0(PDG), ML3.0(BUC), After PDG.*
*SKO **06** 04:05:02.0, 4182N×2060E, h18km, M0.8, ML2.8*
*THE **06** 04:05:03.2, 4189N×2067E, h10km, ML2.7*

ISC 06 04:05:02.7±0.2, 4191N±002×2062E±002, h1km, n64, σ1§08/110, 13C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.26**	**211**	*i* Pg	**Pg**	**04 05 06.5**	**-1.2**
PHP				*i* Sg	**Sg**	**04 05 10.3**	**-0.7**
PUK	**Puka**	**0.56**	**284**	*i* Pg	**Pg**	**04 05 11.6**	**-1.8**
PUK				*i* Sg	**Sg**	**04 05 19.5**	**-1.1**
BCI	**Bajram Curri**	**0.61**	**318**	*i* Pg	**Pg**	**04 05 13.0**	**-1.5**
BCI				*i* Sg	**Sg**	**04 05 23.9**	**+1.5**
SKO	**Skopje**	**0.62**	**84**	*e*Pg	**Pg**	**04 05 14.8**	**+0.3**
SKO				*e*Sg	**Sg**	**04 05 24.3**	**+1.8**
SKO	**Skopje**	**0.62**	**84**	⇑*i*Pg	**Pg**	**04 05 14.8**	**+0.3**
SKO				*i* Sg	**Sg**	**04 05 24.3**	**+1.8**
SKO				*e*Lg		04 05 24.5	
	comp=E,498nm,0.4s						
SKO				*e*Lg		04 05 24.6	
	comp=N,514nm,0.3s						
SKO	**Skopje**	**0.62**	**84**	*e*Pg	**Pg**	**04 05 14.8**	**+0.3**
SKO				*e*Sg	**Sg**	**04 05 24.3**	**+1.8**
SKO				*e*Lg		04 05 24.5	
	comp=N,498nm,0.4s						
TIR	**Tirane**	**0.80**	**225**	*e*Pg	**Pg**	**04 05 16.7**	**-1.2**
TIR				*e*Sg	**Sg**	**04 05 30.4**	**+2.1**
TIR	**Tirane**	**0.80**	**225**	*i* Pg	**Pg**	**04 05 16.7**	**-1.2**
OHR	**Ohrid**	**0.81**	**170**	*e*Pg	**Pg**	**04 05 17.1**	**-1.1**
OHR				*e*Sg	**Sg**	**04 05 29.0**	**+0.3**
OHR	**Ohrid**	**0.81**	**170**	*e*Pg	**Pg**	**04 05 17.1**	**-1.1**
OHR				*e*Sg	**Sg**	**04 05 29.0**	**+0.4**
OHR				*e*Lg		04 05 29.3	
	comp=E,407nm,0.4s						
OHR				*e*Lg		04 05 29.6	
	comp=N,453nm,0.4s						
OHR	**Ohrid**	**0.81**	**170**	*e*Pg	**Pg**	**04 05 17.0**	**-1.2**
OHR				*e*Sg	**Sg**	**04 05 29.0**	**+0.4**
OHR				*e*Lg		04 05 29.2	
	comp=N,407nm,0.4s						
PVY	**Plav**	**0.84**	**325**	⇑*i*Pg	**Pg**	**04 05 17.3**	**-1.5**
PVY				*e*Sg	**Sg**	**04 05 30.2**	**+0.7**
ULC	**Ulcinj**	**1.02**	**274**	⇑*i*Pg	**Pg**	**04 05 20.7**	**-1.6**
ULC				*e*Sg	**Sg**	**04 05 36.1**	**+0.5**
BIA	**Bitola**	**1.03**	**149**	*e*Pg	**Pg**	**04 05 21.3**	**-1.2**
BIA				*e*Sg	**Sg**	**04 05 37.1**	**+1.1**
BIA	**Bitola**	**1.03**	**149**	*e*Pg	**Pg**	**04 05 21.2**	**-1.3**
BIA				*e*Sg	**Sg**	**04 05 36.5**	**+0.5**
BIA				*e*Lg		04 05 37.8	
	comp=N,105nm,0.3s						
BIA				*e*Lg		04 05 38.2	
	comp=E,113nm,0.4s						
BIA	**Bitola**	**1.03**	**149**	*e*Pg	**Pg**	**04 05 21.3**	**-1.2**
BIA				*e*Sg	**Sg**	**04 05 37.1**	**+1.2**
BIA				*e*Lg		04 05 37.8	
	comp=E,105nm,0.3s						
IVA	**Berane**	**1.10**	**331**	⇓*i*Pg	**Pg**	**04 05 22.3**	**-1.4**
IVA				*e*Sg	**Sg**	**04 05 39.5**	**+1.4**
TTG	**Podgorica**	**1.14**	**298**	⇓*i*Pg	**Pg**	**04 05 21.8**	**-2.7**
TTG				*e*Sg	**Sg**	**04 05 39.8**	**+0.6**
FNA	**Florina**	**1.26**	**153**	*e*Pg	**Pg**	**04 05 25.4**	**-1.5**
FNA				*e*Sg	**Sg**	**04 05 43.7**	**+0.6**
KBN	**Korca**	**1.29**	**174**	*i* Pn	**Pn**	**04 05 27.8**	**-0.1**
KBN				*i* Sn	**Sn**	**04 05 45.6**	**-0.2**
BUM	**Brajici-Budva**	**1.34**	**288**	⇓*i*Pg	**Pg**	**04 05 26.3**	**-2.0**
BUM				*e*Sg	**Sg**	**04 05 46.6**	**+0.9**
NKY	**Niksic**	**1.50**	**308**	⇑*i*Pg	**Pn**	**04 05 29.1**	**-1.6**
NKY				*e*Sg	**Sg**	**04 05 52.5**	**+1.5**
VAY	**Valandovo**	**1.58**	**111**	*e*Pg	**Pn**	**04 05 30.7**	**-1.1**
VAY				*e*Sg	**Sg**	**04 05 52.8**	**-0.5**
VAY	**Valandovo**	**1.58**	**111**	*i* Pg	**Pn**	**04 05 30.9**	**-0.9**
VAY				*i* Sg	**Sg**	**04 05 53.8**	**+0.4**
VAY				*e*Lg		04 05 54.4	
	comp=E,70nm,0.8s						
VAY				*e*Lg		04 05 55.1	
	comp=N,92nm,0.7s						
VAY	**Valandovo**	**1.58**	**111**	*i* Pg	**Pn**	**04 05 30.9**	**-0.9**
VAY				*i* Sg	**Sg**	**04 05 53.7**	**+0.3**
VAY				*e*Lg		04 05 54.3	
	comp=N,70nm,0.8s						
GRG	**Griva**	**1.64**	**125**	*e*Pg	**Pn**	**04 05 32.6**	**-0.1**
HCY	**Herceg Novi**	**1.67**	**290**	⇑*i*Pn	**Pn**	**04 05 32.0**	**-1.0**
HCY				*e*Sn	**Sg**	**04 05 57.9**	**+1.7**
PLE	**Pljevlja**	**1.68**	**328**	⇑*i*Pn	**Pn**	**04 05 33.4**	**+0.1**
PLE				*e*Sn	**Sg**	**04 05 58.3**	**+1.5**
UPM	**Unac-Piva**	**1.81**	**316**	⇓*i*Pn	**Pn**	**04 05 35.4**	**+0.4**
UPM				*e*Sn	**Sg**	**04 06 01.5**	**+0.7**
BRY	**Bratogost**	**1.83**	**304**	⇑*i*Pn	**Pn**	**04 05 35.3**	**0.0**
BRY				*e*Sn	**Sg**	**04 06 01.8**	**+0.3**
TREB	**Trebinje**	**1.87**	**296**	P		**Pn**	**04 05 36.7**	**+0.9**
VTS	**Vitosha**	**2.04**	**70**	*e*Pn		**Pn**	**04 05 37.7**	**-0.5**
VTS				*e*Sn		**Sn**	**04 06 04.6**	**+0.3**
VTS	**Vitosha**	**2.04**	**70**	⇑*i*P		**Pn**	**04 05 39.6**	**+1.4**
VTS	**Vitosha**	**2.04**	**70**	⇑P		**Pn**	**04 05 39.6**	**+1.4**
VTS				S		**Sg**	**04 06 09.5**	**+1.3**
VTS	**Vitosha**	**2.04**	**70**	⇑P		**Pn**	**04 05 39.6**	**+1.4**
VTS				*e*Sn		**Sn**	**04 06 04.6**	**+0.3**
VTS				S		**Sg**	**04 06 09.5**	**+1.2**
SRN	**Sarande**	**2.08**	**193**	*i* Pn		**Pn**	**04 05 39.7**	**+1.0**
SRN				*i* Sn		**Sn**	**04 06 06.8**	**+1.5**
MEV	**Metsovon**	**2.17**	**167**	*e*Pn		**Pn**	**04 05 41.2**	**+1.2**
MEV				*e*Sn		**Sn**	**04 06 08.7**	**+1.2**
THE	**Thessaloniki**	**2.18**	**125**	*e*Pn		**Pn**	**04 05 38.7**	**-1.4**
DIVS	**Divcibare**	**2.24**	**348**	*i* Pn		**Pn**	**04 05 37.8**	**-3.1**
DIVS	**Divcibare**	**2.24**	**348**	*e*Pn		**Pn**	**04 05 41.6**	**+0.7**
DIVS				*e*Sn		**Sn**	**04 06 11.0**	**+1.9**
HORT	**Hortiatis**	**2.28**	**124**	*e*Pn		**Pn**	**04 05 41.4**	**-0.1**
LIT	**Litokhoron**	**2.29**	**141**	*e*Pn		**Pn**	**04 05 40.5**	**-1.1**
LIT				*e*Sn		**Sn**	**04 06 11.5**	**+0.9**
LIT	**Litokhoron**	**2.29**	**141**	*e*Pn		**Pn**	**04 05 40.5**	**-1.2**
SOH	**Sokhos**	**2.33**	**117**	*e*Pn		**Pn**	**04 05 42.4**	**+0.3**
SOH				*e*Sn		**Sn**	**04 06 12.1**	**+0.7**
MMB	**Musomiste**	**2.35**	**97**	*e*Pn		**Pn**	**04 05 42.5**	**0.0**
MMB				*e*Sn		**Sn**	**04 06 11.0**	**-0.9**
STON	**Ston**	**2.37**	**295**	*i* Pn		**Pn**	**04 05 43.5**	**+0.8**
STON				*i* Sn		**Sn**	**04 06 11.5**	**-0.8**
STON	**Ston**	**2.37**	**295**	*i* Pn		**Pn**	**04 05 43.4**	**+0.7**
STON				*i* Sn		**Sn**	**04 06 11.5**	**-0.8**
SRS	**Serrai**	**2.37**	**109**	*e*Pn		**Pn**	**04 05 42.3**	**-0.4**
SRS				*e*Sn		**Sn**	**04 06 11.7**	**-0.7**
IGT	**Igoumenitsa**	**2.38**	**185**	*e*Pn		**Pn**	**04 05 44.2**	**+1.3**
IGT				*e*Sn		**Sn**	**04 06 12.9**	**+0.2**
PLG	**Polygyros**	**2.63**	**125**	*e*Pn		**Pn**	**04 05 46.7**	**+0.5**
OUR	**Ouranopolis**	**2.99**	**121**	*e*Pn		**Pn**	**04 05 51.2**	**0.0**
AGG	**Agios Georgios**	**3.17**	**155**	*e*Pn		**Pn**	**04 05 54.0**	**+0.4**
AGG				*e*Sn		**Sn**	**04 06 31.8**	**-0.2**
AGG	**Agios Georgios**	**3.17**	**155**	*e*Pn		**Pn**	**04 05 54.0**	**+0.4**
LKD	**Levkas**	**3.20**	**180**	*e*Pn		**Pn**	**04 05 54.4**	**+0.3**
LKD				*e*Sn		**Sn**	**04 06 33.3**	**+0.5**
XOR	**Xorichti**	**3.21**	**142**	*e*Pn		**Pn**	**04 05 54.3**	**+0.1**
AOS	**Alonnisos**	**3.70**	**137**	*e*Pn		**Pn**	**04 06 01.2**	**+0.2**
BZS	**Buzias**	**3.78**	**11**	⇑*i*P		**Pn**	**04 05 59.7**	**-2.4**
BZS	**Buzias**	**3.78**	**11**	⇑P		**Pn**	**04 05 59.7**	**-2.4**
BZS				S		**Sn**	**04 06 45.4**	**-1.8**
BZS	**Buzias**	**3.78**	**11**	⇑P		**Pn**	**04 05 59.7**	**-2.4**
BZS				S		**Sn**	**04 06 45.3**	**-1.8**
GZR	**Gura Zlata**	**3.82**	**23**	⇓*i*P		**Pn**	**04 06 01.9**	**-0.7**
GZR	**Gura Zlata**	**3.82**	**23**	⇓P		**Pn**	**04 06 01.9**	**-0.7**
ALN	**Alexandroupoli**	**4.21**	**102**	*e*Pn		**Pn**	**04 06 07.5**	**-0.4**
PKSM	**Moragy**	**4.53**	**342**	⇓*i*P		**Pn**	**04 06 05.2**	**-7.2**
PKSM	**Moragy**	**4.53**	**342**

NST	Nakhon Sawan	9.28	47	⇑P	Pn	04 25 22.1	+1.8
IPM	Ipoh	9.29	121	P	Pn	04 25 22.4	+1.9
CHAT	Chantaburi	9.45	70	P	Pn	04 25 24.0	+1.4
CHG	Chiang Mai	10.94	31	⇑P	Pn	04 25 45.0	+2.1
	44nm,0.8s						
CHTO	Chiang Mai	10.94	31	*e*P	Pn	04 25 41.2	-1.7
CHTO				pmax	pmax		
	comp=Z,44nm,1.0s						
CHTO	Chiang Mai	10.94	31	*e*Pn	Pn	04 25 41.2	-1.8
	comp=Z,44nm,1.0s						
KKTK	Khon Kaen	11.73	53	P	Pn	04 25 55.0	+1.2
	comp=Z,370nm,0.5s						
PALK	Pallekele	12.42	261	*e*Pn	Pn	04 26 02.4	-0.8
PALK				*e*Sn	Sn	04 28 10.8	-9.1
VIS	Vishakhapatnam	12.56	312	*e*P	Pn	04 26 03.8	-1.3
VIS				AMb	AMB	04 26 05.3	
	comp=Z,48nm,1.1s						
VIS				*e*S	Sn	04 28 10.7	-12
KGM	Kluang	12.56	125	P	Pn	04 26 07.0	+1.9
IMP	Imphal	15.30	3	*e*x	x	04 26 43.0	
IMP				*e*x	x	04 29 40.0	
BOK	Bokaro	15.86	335	*e*P	Pn	04 26 48.3	-0.2
BOK				AMb	AMB	04 27 08.8	
	comp=Z,42nm,1.4s						
BOK				*e*x	x	04 29 34.7	
TRD	Trivandrum	15.94	268	*e*P	Pn	04 26 46.9	-2.6
TRD				AMb	AMB	04 26 50.8	
	comp=Z,37nm,1.1s						
TRD				*e*x	x	04 30 05.1	
SHL	Shillong	16.10	356	*e*P	Pn	04 26 49.0	-2.6
SHL				*e*x	x	04 29 40.0	
HYB	Hyderabad	16.20	301	*i*P	Pn	04 26 52.0	-0.8
HYB				*e*S	S	04 29 52.0	-9.3
HYB	Hyderabad	16.20	301	*e*P	Pn	04 26 52.0	-0.8
HYB				*e*S	S	04 29 52.0	-9.3
KMI	Kunming	18.13	29	P	Pn	04 27 16.9	+0.3
KMI				PP		04 27 33.0	
KMI				S	S	04 30 34.3	-5.0
KMI				SS		04 30 58.3	
KMI				SSS		04 31 12.9	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.6s						
KMI				AMB	AMB		
	comp=Z,219nm,4.2s						
KMI				LR	LR		
	comp=N,562nm,16.9s						
KMI				LR	LR		
	comp=E,429nm,19.4s						
KMI				LR	LR		
	comp=Z,637nm,20.6s						
KMI	Kunming	18.13	29	P	Pn	04 27 16.9	+0.3
KMI				pP	pP	04 27 21.9	-7.7
KMI				sP	sP	04 27 24.8	-13
KMI				PP		04 27 33.0	
KMI				PPP		04 27 40.1	
KMI				S	S	04 30 34.3	-5.0
KMI				sS	sS	04 30 48.9	-13
KMI				SS		04 30 58.3	
KMI				SSS		04 31 12.9	
LATR	Latur	18.34	301	*e*x	x	04 30 22.8	
JBP	Jabalpur	18.55	319	⇑*i*x	x	04 27 26.2	
JBP				*i*x	x	04 30 31.8	
QIZ	Qiongzhong	18.84	58	P	Pn	04 27 24.8	-0.3
QIZ				AP	pP	04 27 40.4	+3.0
QIZ				PP		04 27 46.3	
QIZ				S	S	04 30 55.0	+0.2
QIZ				XS	sS	04 31 12.2	-4.4
QIZ				AMB	AMB		
	comp=Z,34nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,235nm,8.0s						
QIZ				LR	LR		
	comp=E,394nm,20.3s						
QIZ				LR	LR		
	comp=Z,605nm,23.3s						
QIZ	Qiongzhong	18.84	58	*e*P	Pn	04 27 24.9	-0.3
	comp=Z,56nm,1.3s						
KSM	Kuching	18.87	114	*e*P	Pn	04 27 25.8	+0.3
JIRN	Jiri	19.27	341	*e*P	Pn	04 27 30.9	+0.6
PKI	Pulchoki	19.45	339	*e*P	Pn	04 27 32.5	+0.1
DMN	Daman	19.59	338	*e*P	Pn	04 27 33.5	-0.6
GUN	Gumba	19.61	341	*e*P	Pn	04 27 33.4	-0.8
	comp=Z,165nm,0.8s						
KKN	Kakani	19.70	339	*e*P	Pn	04 27 34.1	-1.2
	comp=Z,37nm,0.6s						
KAD	Karad	19.97	295	*e*P	Pn	04 27 36.3	-2.2
KAD				AMb	AMB	04 27 42.8	
	comp=Z,40nm,1.3s						
KAD				*e*x	x	04 31 08.0	
GKN	Gorkha	20.12	338	*e*P	P	04 27 38.9	+0.9
	comp=Z,56nm,0.3s						
LSA	Lhasa	20.26	355	P	P	04 27 40.0	+0.6
LSA	Lhasa	20.26	355	*e*P	P	04 27 39.2	-0.2
LSA				*e*S	S	04 31 24.6	+1.5
LSA				pmax	pmax		
	comp=Z,32nm,0.3s						
LSA	Lhasa	20.26	355	*e*P	P	04 27 39.2	-0.3
	comp=Z,32nm,0.3s						
LSA				*e*S	S	04 31 24.6	+1.5
KOLN	Koldanda	20.32	335	*e*P	P	04 27 41.3	+1.2
	comp=Z,99nm,0.9s						
BHPL	Bhopal	20.33	314	*e*P	P	04 27 39.2	-0.9
BHPL				*e*x	x	04 31 21.1	
POO	Poona	20.72	298	⇓*i*P	P	04 27 45.0	+0.6
	comp=Z,50nm,1.0s						
POO				*i*x	x	04 31 31.0	
GYA	Guiyang	21.28	35	⇑*i*P	P	04 27 50.2	-0.3
GYA				AP		04 28 07.2	
GYA				PP		04 28 22.0	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.4						
GYA				AMB	AMB		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,700nm,13.0s						
GYA				LR	LR		
	comp=E,850nm,12.7s						
GYA				LR	LR		
	comp=Z,760nm,12.2s						
KKM	Kota Kinabalu	23.17	97	P	P	04 28 10.3	-0.2
KKM	Kota Kinabalu	23.17	97	*e*P	P	04 28 09.8	-0.6
CD2	Chengdu	23.59	23	P	P	04 28 12.8	-1.4
CD2				AP		04 28 29.8	
CD2				PP		04 28 47.2	
CD2				S	S	04 32 22.1	-1.7
CD2				SS		04 33 13.9	
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.4s						
CD2				LR	LR		
	comp=N,210nm,16.8s						
CD2				LR	LR		
	comp=E,230nm,15.6s						
CD2				LR	LR		
	comp=Z,210nm,20.4s						
GZH	Guangzhou	23.69	53	P	P	04 28 18.3	+3.1
GZH				LR	LR		
	comp=N,238nm,13.4s						
GZH				LR	LR		
	comp=E,328nm,7.2s						
GZH				LR	LR		
	comp=Z,568nm,25.5s						
AJM	Ajmer	24.34	317	*e*P	P	04 28 19.8	-1.4
TSM	Tawau	25.14	100	P	P	04 28 28.1	-0.2
LZH	Lanzhou	28.30	19	*e*P	P	04 28 56.5	-0.3
LZH				AP	pP	04 29 12.0	-0.2
LZH				PP	PP	04 29 47.1	-14
LZH				PCP	PcP	04 32 09.4	+1.0
LZH				*e*S	S	04 33 34.0	-4.5
LZH				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,210nm,4.5s						
LZH				LR	LR		
	comp=E,589nm,13.5s						
LZH				LR	LR		
	comp=Z,798nm,14.1s						
LZH	Lanzhou	28.30	19	*e*P	P	04 28 56.5	-0.3
LZH				*PP	pP	04 29 12.0	-0.2
LZH				*SP	sP	04 29 17.0	-2.7
LZH						04 29 47.1	
LZH						04 32 09.4	
LZH				*e*S	S	04 33 34.0	-4.5
LZH				*SS	sS	04 33 57.2	-7.7
LZH	Lanzhou	28.30	19	*e*P	P	04 28 56.5	-0.3
LZH				pP	pP	04 29 12.0	-0.2
LZH				sP	sP	04 29 17.0	-2.7
LZH				PP	PP	04 29 47.1	-14
LZH				PcP	PcP	04 32 09.4	+1.0
LZH				*e*S	S	04 33 34.0	-4.5
LZH				sS	sS	04 33 57.2	-7.7
XAN	Xi'an	28.50	28	P	P	04 28 56.8	-1.8
XAN				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.9						
XAN				LR	LR		
	comp=N,131nm,16.2s						
XAN				LR	LR		
	comp=E,322nm,22.3s						
XAN				LR	LR		
	comp=Z,541nm,22.0s						
GTA	Gaotai	30.47	10	⇑P	P	04 29 16.1	+0.1
GTA				AP	pP	04 29 29.2	-2.3
GTA				PP	PP	04 30 16.5	-9.2
GTA				PCP	PcP	04 32 14.4	+0.5
GTA				S	S	04 34 14.9	+2.3
GTA				SS	SS	04 35 57.9	-27
GTA				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,104nm,4.9s						
GTA				LR	LR		
	comp=N,109nm,15.6s						
GTA				LR	LR		
	comp=E,163nm,14.5s						
GTA				LR	LR		
	comp=Z,211nm,20.9s						
NJ2	Nanjing	32.83	43	*e*P	P	04 29 31.5	-5.2
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
BTO	Baotou	34.51	23	*e*P	P	04 29 49.8	-1.5
WMQ	Urumqi	34.59	353	⇓*i*P	P	04 29 52.8	+0.8
WMQ				AP	pP	04 30 05.0	-2.7
WMQ				PP	PP	04 31 10.0	-1.4
WMQ				PCP	PcP	04 32 27.0	+1.7
WMQ				S	S	04 35 18.0	+1.4
WMQ				SS	SS	04 37 32.0	-17
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,222nm,5.2s						
WMQ				LR	LR		
	comp=N,760nm,26.6s						
WMQ				LR	LR		
	comp=E,1μm,26.6s						
WMQ				LR	LR		
	comp=Z,824nm,26.6s						
HHC	Hu-ho-hao-te	35.33	25	*e*P	P	04 29 58.1	-0.3
HHC				AP	pP	04 30 15.2	+1.1
HHC				S	S	04 35 29.8	+1.7
HHC				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,173nm,5.3s						
HHC				LR	LR		
	comp=N,203nm,18.6s						
HHC				LR	LR		
	comp=E,481nm,12.3s						
HHC				LR	LR		
	comp=Z,252nm,22.9s						
UCH	Uchtor	36.53	337	P	P	04 30 10.2	+1.6
	SNR=8.8						
KBK	Karagaybulak	36.72	337	P	P	04 30 11.9	+1.6
	SNR=13						
BJT	Baijiatuau	36.76	30	*e*P	P	04 30 11.3	+0.7
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
BJT	Baijiatuau	36.76	30	*e*P	P	04 30 11.3	+0.7
	comp=Z,14nm,0.6s,mb5.0						
AML	Almayashu	36.77	336	P	P	04 30 12.6	+1.9
	SNR=22						
BJI	Beijing	36.78	30	P	P	04 30 10.4	-0.4
BJI				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.0						
BJI				LR	LR		
	comp=N,417nm,10.5s						
BJI				LR	LR		
	comp=E,287nm,13.4s						
BJI				LR	LR		
	comp=Z,444nm,27.3s						
CHMS	Chumysh	37.09	338	P	P	04 30 14.5	+1.1
	SNR=8.8						
EKS2	Erkin-Say	37.18	336	P	P	04 30 15.8	+1.6
	SNR=9.5						
USP	Ospenovka	37.42	337	P	P	04 30 17.1	+0.9
	SNR=17						
MKAR	Makanchi Array	38.36	348	P	P	04 30 23.5	-0.6
	comp=Z,4.6nm,0.6s,mb4.4,baz=174,slow=8.2,SNR=31						
MKAR				ScP	ScP	04 36 19.9	+1.0
	comp=Z,0.5nm,0.8s,baz=201,slow=1.0,SNR=3.6						
MKAR	Makanchi Array	38.36	348	P	P	04 30 23.5	-0.6
MKAR				ScP	ScP	04 36 19.9	+1.0
KK31	Karatay Array	38.92	333	*i*P	P	04 30 29.2	+0.4
KK31				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.7						
DL2	Dalian	38.93	36	P	P	04 30 29.8	+0.9
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
SONM	Songino Array	39.91	14	P	P	04 30 36.9	-0.1
	comp=Z,19nm,0.9s,mb4.8,baz=197,slow=8.5,SNR=58						
SONM				PcP	PcP	04 32 42.3	+0.8
	comp=Z,2.7nm,0.6s,baz=206,slow=3.6,SNR=7.1						
SONM				LR	LR	04 49 00.5	
	comp=Z,350nm,20.7s,baz=322,slow=39						
SONM	Songino Array	39.91	14	P	P	04 30 36.9	-0.2
SONM						04 32 42.3	
MBWA	Marble Bar	40.12	139	*e*P	P	04 30 36.8	-1.9
	comp=Z,1.8nm,0.5s,mb4.1						
ZAK	Zakamensk	41.70	10	*e*P	P	04 30 49.9	-1.9
ZAK				*e*		04 32 34.9	
SNY	Shenyang	41.98	35	⇑P	P	04 30 53.8	-0.3
SNY				S	S	04 37 14.3	+6.2
SNY				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.8						
SNY				AMB	AMB		
	comp=Z,224nm,5.3s						
SNY				LR	LR		
	comp=E,223nm,22.8s						
SNY				LR	LR		
	comp=Z,385nm,24.6s						
FITZ	Fitzroy Crossi	42.21	130	*e*P	P	04 30 56.0	+0.1
	comp=Z,9.1nm,1.2s,mb4.3						
FITZ				*e*PCP	PcP	04 32 50.2	+1.2
FITZ	Fitzroy Crossi	42.21	130	P	P	04 30 56.0	+0.1
	comp=Z,2.1nm,0.4s,mb4.1,baz=322,slow=3.7,SNR=5.6						
FITZ				PcP	PcP	04 32 50.5	+1.5
	comp=Z,4.4nm,0.4s,baz=330,slow=4.2,SNR=12						
TLY	Talaya	43.02	10	*i*P	P	04 31 03.1	+0.6
CN2	Changchun	44.31	34	*e*P	P	04 31 12.5	-0.4
CN2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
ZAL	Zalesovo	44.89	353	P	P	04 31 17.7	+0.2
	comp=Z,4.8nm,0.5s,mb4.6,baz=308,slow=5.4,SNR=25						
ZAL	Zalesovo	44.89	353	P	P	04 31 17.7	+0.2
HIA	Hailar	45.54	24	*e*P	P	04 31 22.1	-0.5
HIA				pmax	pmax		
	comp=Z,40nm,1.2s						
HIA	Hailar	45.54	24	*e*P	P	04 31 22.1	-0.5
	comp=Z,40nm,1.2s,mb5.2						
NVS	Novosibirsk	45.98	352	⇑*i*P	P	04 31 24.5	-1.5
NVS				*i*	pP	04 31 43.2	+1.0
NVS				pmax	pmax		
	comp=N,17nm,1.5s						
NVS				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
KRAR	Krasnoyarsk	46.48	360	*i*P	P	04 31 30.6	+0.6
KRAR				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
KRAR				MLR	MLR		
	comp=Z,500nm,20.0s						
MUN	Mundaring	46.73	153	*e*P	P	04 31 35.0	+3.0
VOSK	Vostochnaya	46.75	342	*i*P	P	04 31 30.6	-1.6
KLBR	Kellerberrin	47.13	151	*e*P	P	04 31 34.6	-0.5
	comp=Z,5.4nm,0.4s,mb4.8						
MDJ	Mudanjiang	47.15	35	P	P	04 31 35.5	+0.3
MDJ				AP	pP	04 31 51.6	+0.1
MDJ				PCP	PcP	04 33 06.0	0.0
MDJ				PCS	PcS	04 37 01.3	+0.1
MDJ				S	S	04 38 27.0	+4.0
MDJ				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,73nm,4.8s						
MDJ				LR	LR		
	comp=N,82nm,25.5s						
MDJ				LR	LR		
	comp=E,51nm,25.5s						
MDJ				LR	LR		
	comp=Z,158nm,27.0s						
BRVK	Borovoye	47.26	341	*e*P	P	04 31 35.2	-0.9
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BRVK	Borovoye	47.26	341	*e*P	P	04 31 35.2	-0.9
	comp=Z,7.7nm,0.8s,mb4.7						
ZRNK	Zerenda	47.58	340	*e*P	P	04 31 37.7	-0.9
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ZRNK	Zerenda	47.58	340	*e*P	P	04 31 37.7	-0.8
	comp=Z,9.7nm,1.0s,mb4.8						
CHKZ	Chkalovo	47.69	342	*e*P	P	04 31 38.9	-0.5
CHKZ				pmax	pmax		
	comp=Z,19nm,0.5s,mb5.4						
CHKZ	Chkalovo	47.69	342	*e*P	P	04 31 38.9	-0.5
	comp=Z,19nm,0.5s,mb5.4						
NWAO	Narrogin (SRO)	47.99	152	P	P	04 31 41.5	-0.3
	comp=Z,11nm,0.5s,mb5.1,baz=314,slow=6.7,SNR=17						
MJAR	Matsushiro Arr	48.94	49	P	P	04 31 50.6	+1.6
	comp=Z,1.1nm,0.3s,mb4.3,baz=246,slow=10,SNR=5.3						
MJAR				PcP	PcP	04 33 12.8	+0.4
	comp=Z,5.5nm,0.8s,baz=251,slow=3.2,SNR=7.0						
MJAR				LR	LR	04 52 45.6	
	comp=Z,238nm,20.5s,baz=225,slow=36						
MJAR	Matsushiro Arr	48.94	49	P	P	04 31 50.6	+1.6
MJAR						04 33 12.8	
MJAR	Matsushiro Arr	48.94	49	P	P	04 31 50.6	+1.6
MJAR				PcP	PcP	04 33 12.8	+0.4
MJAR				LR	LR	04 52 45.6	
WRA	Warramunga Arr	50.01	126	P	P	04 31 56.3	-1.0
	comp=Z,11nm,0.5s,mb5.2,baz=304,slow=8.7,SNR=55						
WRA				PcP	PcP	04 33 17.2	+0.9
	comp=Z,2.6nm,0.5s,baz=315,slow=2.9,SNR=10						
WRA				S	S	04 39 00.4	-3.0
	comp=Z,1.2nm,0.8s,baz=300,slow=16,SNR=6.2						
WRAB	Tennant Creek	50.02	126	⇓*e*P	P	04 31 56.8	-0.5
WB2	Warramunga Arr	50.02	126	⇑*i*P	P	04 31 56.2	-1.1
WB2				*e*PCP	PcP	04 33 17.2	+0.8
BOD	Bodaibo	50.91	14	⇑*i*P	P	04 32 03.3	-0.7
BOD				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
KLR	Kul'dur	51.12	32	*e*P	P	04 32 02.2	-3.3
ASPA	Alice Springs	51.71	130	*e*P	P	04 32 08.6	-1.4
ASPA				*e*PCP	PcP	04 33 23.6	+1.0
ASAR	Alice Springs	51.71	130	P	P	04 32 08.7	-1.3
	comp=Z,5.9nm,0.5s,mb4.8,baz=303,slow=7.3,SNR=99						
ASAR				PcP	PcP	04 33 23.6	+0.9
	comp=Z,3.5nm,0.6s,baz=311,slow=3.0,SNR=8.4						
ASAR				ScP	ScP	04 37 14.4	+0.6
	comp=Z,2.4nm,1.1s,baz=289,slow=3.7,SNR=5.8						
ASAR				LR	LR	04 53 45.3	
	comp=Z,175nm,22.0s,baz=299,slow=36						
ASAR	Alice Springs	51.71	130	P	P	04 32 08.7	-1.3
ASAR						04 33 23.6	
AS31	Alice Springs	51.71	130	*e*P	P	04 32 08.6	-1.4
AS31				*e*PcP	PcP	04 33 23.6	+1.0
GNI	Garni	52.61	314	*i*P	P	04 32 17.9	+1.2
GNI				pmax	pmax		
	comp=Z,19nm,1.4s						
GNI				MLR	MLR		
	comp=Z,200nm,32.0s						
GNI	Garni	52.61	314	*e*P	P	04 32 17.8	+1.2
	comp=Z,16nm,1.1s,mb4.8						
CLNS	Chul'man	53.37	21	*e*P	P	04 32 20.2	-2.1
CLNS				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
ARU	Arti	54.06	337	⇓*i*P	P	04 32 26.6	-0.7
ARU				*e*	pP	04 32 45.2	+1.3
ARU				*e*		04 33 25.2	
ARU				*e*		04 34 28.0	
ARU				*e*PPP		04 35 41.8	
ARU				*e*S	S	04 39 59.6	+0.7
ARU				*e*SS	SS	04 43 40.6	-0.4
ARU				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
ARU				MLR	MLR		
	comp=Z,200nm,21.0s						
ARU				MLR	MLR		
	comp=N,100nm,20.0s						
ARU				MLR	MLR		
	comp=E,100nm,20.0s						
ARU	Arti	54.06	337	*e*P	P	04 32 26.7	-0.7
	comp=E,10nm,0.8s,mb4.8						
ZEI	Tsey	54.20	317	*e*P	P	04 32 29.5	+1.2
ZEI				*e**PP	pP	04 32 51.2	+6.3
ZEI				*e*		04 33 25.6	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
KIV	Kislovodsk	55.47	318	⇓*i*P	P	04 32 38.7	+1.2
KIV				*i*	pP	04 32 58.2	+4.1
KIV				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
KIV	Kislovodsk	55.47	318	*e*P	P	04 32 38.0	+0.5
	comp=Z,16nm,0.8s,mb5.1						
YSS	Yuzh-Sakhalins	56.24	39	⇑*e*P	P	04 32 42.7	-0.3
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
YSS	Yuzh-Sakhalins	56.24	39	*e*P	P	04 32 43.3	+0.3
	comp=Z,22nm,0.6s,mb5.4						
KMBO	Kilima Mbogo	56.56	262	LR	LR	04 53 06.9	
	comp=Z,274nm,21.2s,baz=94,slow=32						
MALT	Malatya	56.67	310	⇑*i*P	P	04 32 48.4	+2.4
MALT	Malatya	56.67	310	*e*P	P	04 32 46.8	+0.8
	comp=Z,3.5nm,0.9s,mb4.4						
EIL	Elat	57.75	299	*e*P	P	04 32 54.8	+1.1
	comp=Z,96nm,0.8s						
YAK	Yakutsk	58.88	19*c*	*i*P	P	04 33 00.4	-1.2
YAK				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.5						
YAK				MLR	MLR		
	comp=Z,300nm,26.0s						
YAK	Yakutsk	58.88	19	*e*P	P	04 33 00.5	-1.1
	comp=Z,66nm,1.1s,mb5.6						
VRHR	Novokhopersk	59.07	325	*e*P	P	04 33 02.6	-0.3
VRHR				pmax	pmax		
	comp=N,9.0nm,0.4s						
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
ANN	Anapa	59.29	317	*e*P	P	04 33 03.7	-0.7
ANN				*e*S	S	04 41 06.3	-1.6
ANN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CSS	Prodhromos	59.93	305	*e*P	P	04 33 10.8	+2.1
	comp=Z,9.0nm,0.5s,mb5.1						
CTA	Charters Tower	59.98	120	⇑*i*P	P	04 33 09.5	+0.4
	comp=Z,20nm,1.1s,mb5.1						
CTA	Charters Tower	59.98	120	P	P	04 33 10.0	+0.9
	comp=Z,19nm,0.9s,mb5.1,baz=286,slow=8.5,SNR=14						
CTA	Charters Tower	59.98	120	⇑*i*P	P	04 33 09.5	+0.4
CTA				pmax	pmax		
	comp=Z,20nm,1.1s						
VRSR	Storozhevoye	60.52	324	*e*P	P	04 33 11.3	-1.5
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
VRSR				pmax	pmax		
	comp=N,10.0nm,2.3s						
BR131	Keskin Array S	60.63	310	*e*P	P	04 33 12.8	-0.7
	comp=N,2.4nm,0.6s,mb4.5						
BRTR	Keskin Array B	60.63	310	P	P	04 33 13.1	-0.5
	comp=N,3.5nm,0.7s,mb4.6,baz=126,slow=6.6,SNR=21						

BRTR LR LR 05 01 49.8
comp=N,66nm,21.4s,baz=99,slow=38
STKA Stephens Creek 61.93 134⇑ *i*P **P 04 33 21.8 -0.5**
comp=N,3.9nm,1.1s,mb4.5
STKA Stephens Creek 61.93 134 P **P 04 33 21.9 -0.4**
comp=N,4.4nm,0.6s,mb4.7,baz=321,slow=5.7,SNR=11
OBN Obninsk 63.52 328⇓ *i*P **P 04 33 32.7 -0.2**
OBN *i* 04 35 47.7
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,100nm,25.0s
TIXI Tiksi 65.94 12*c i*P **P 04 33 47.2 -1.4**
TIXI pmax pmax
comp=Z,34nm,0.5s,mb5.6
AKASG Malin Array Be 66.30 321 P **P 04 33 49.6 -1.3**
comp=Z,1.3nm,0.4s,mb4.3,baz=87,slow=5.9,SNR=11
AKASG LR LR 05 06 31.0
comp=Z,43nm,21.5s,baz=90,slow=39
VRI Vrincioaia 66.86 316⇓ *i*P **P 04 33 55.5 +0.9**
VRI Vrincioaia 66.86 316 ⇓P **P 04 33 55.5 +0.9**
MLR Muntele Rosu 67.34 315⇓ *i*P **P 04 33 57.7 +0.2**
MLR Muntele Rosu 67.34 315 ⇓P **P 04 33 57.7 +0.2**
TOO Toolangi 67.70 137 *e*P **P 04 34 01.5 +1.7**
comp=Z,9.3nm,1.2s,mb4.7
TOO Toolangi 67.70 137 *e*P **P 04 34 01.5 +1.7**
TOO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
BURAR Bucovina Array 68.20 318⇓ *i*P **P 04 34 03.3 +0.3**
BURAR Bucovina Array 68.20 318 ⇓P **P 04 34 03.3 +0.4**
ARMA Armidale 68.73 128 *e*P **P 04 34 04.2 -2.1**
LSZ Lusaka 68.80 250 LR LR 04 59 30.0
comp=Z,227nm,20.5s,baz=342,slow=32
KOLS Kolonicke sedl 70.36 319 *e*P **P 04 34 18.2 +1.9**
BZS Buzias 70.36 315⇑ *i*P **P 04 34 16.7 +0.4**
SUW Suwalki 70.64 324 *e*P **P 04 34 17.8 -0.3**
FINES FINESS Array B 70.86 332 P **P 04 34 17.6 -1.8**
comp=Z,1.1nm,0.5s,mb4.1,baz=104,slow=6.1,SNR=9.4
FINES LR LR 05 11 25.1
comp=Z,113nm,19.8s,baz=152,slow=41
CRVS Cervenica-Dubn 70.88 318 *e*P **P 04 34 19.9 +0.4**
CRVS Cervenica-Dubn 70.88 318 *e*P **P 04 34 20.0 +0.5**
STHS Stebnicka Huta 71.09 319 *e*P **P 04 34 19.4 -1.4**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 71.09 319 *e*P **P 04 34 19.4 -1.4**
comp=Z,3.4nm,0.8s,mb4.3
KECS Kecovo 71.47 318 *e*P **P 04 34 22.4 -0.6**
NIE Niedzica 71.69 319 *e*P **P 04 34 25.0 +0.6**
PSZ Piszkesteto 71.80 317 *e*P **P 04 34 24.7 -0.3**
PSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PSZ Piszkesteto 71.80 317 *e*P **P 04 34 24.7 -0.3**
comp=Z,2.9nm,0.6s,mb4.4
OJC Ojcow 72.12 320 *e*P **P 04 34 26.9 -0.1**
PKSM Moragy 72.49 315⇓ *i*P **P 04 34 28.9 -0.3**
VYHS Vyhne 72.56 318 *e*P **P 04 34 29.6 0.0**
ARCES ARCESS Array B 73.47 340 P **P 04 34 34.5 -0.4**
comp=Z,1.3nm,0.5s,mb4.2,baz=98,slow=5.8,SNR=19
ARCES LR LR 05 09 28.3
comp=Z,159nm,20.1s,baz=346,slow=38
ARCES ARCESS Array B 73.47 340 P **P 04 34 34.5 -0.4**
ARCES LR LR 05 09 28.3
MORC Moravsky Berou 73.52 319⇓ *i*P **P 04 34 35.8 +0.5**
MORC Moravsky Berou 73.52 319 *e*P **P 04 34 35.4 +0.1**
comp=Z,9.6nm,1.1s,mb4.6
DPC Dobruska-Polom 74.35 320 *e*P **P 04 34 40.6 +0.5**
UPC Upice 74.56 320 *e*P **P 04 34 42.1 +0.8**
ARSA Arzberg 74.70 316⇓ *i*P **P 04 34 42.4 +0.3**
comp=Z,4.4nm,0.9s,mb4.4
BILL Bilibino 75.05 22⇑ *i*P **P 04 34 42.3 -1.9**
BILL *i* pP 04 35 04.0 +2.5
BILL pmax pmax
comp=Z,17nm,1.0s,mb4.9
PRU Pruhonice 75.47 319 *e*P **P 04 34 47.2 +0.6**
BOSA Boshof 75.52 237 P **P 04 34 48.6 +1.8**
comp=Z,1.6nm,0.6s,mb4.1,baz=191,slow=3.8,SNR=3.6
BOSA Boshof 75.52 237 *e*P **P 04 34 49.5 +2.7**
BOSA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BOSA Boshof 75.52 237 *e*P **P 04 34 49.5 +2.7**
comp=Z,5.6nm,0.9s,mb4.5
BRG Berggiesshubel 75.90 320 *e*P **P 04 34 48.8 -0.2**
comp=Z,32nm,1.9s,mb4.9
BRG Berggiesshubel 75.90 320 *e*P **P 04 34 49.1 +0.1**
comp=Z,9.7nm,1.5s,mb4.5
BRG Berggiesshubel 75.90 320 *e*P **P 04 34 49.1 +0.1**
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
GEC2 GERESS Array S 75.98 318 *e*P **P 04 34 49.5 0.0**
comp=Z,9.0nm,1.3s,mb4.5
GERES GERESS Array B 75.98 318 P **P 04 34 49.8 +0.4**
comp=Z,2.6nm,0.7s,mb4.3,baz=91,slow=5.6,SNR=16
KHC Kasperske Hory 76.07 318 *e*P **P 04 34 49.2 -0.8**
KHC Kasperske Hory 76.07 318⇑ *e*P **P 04 34 51.1 +1.1**
FBE Freiberg 76.27 320 *e*P **P 04 34 51.4 +0.3**
comp=Z,12nm,1.2s,mb4.7
WET Wettzell 76.53 318 *e*P **P 04 34 53.7 +1.1**
comp=Z,6.0nm,1.0s,mb4.5
WET Wettzell 76.53 318 *e*P **P 04 34 53.7 +1.1**
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CASY Casey 76.58 173 *e*P **P 04 34 53.2 +0.4**
GUNZ Gunzen 76.91 320 *e*P **P 04 34 56.0 +1.3**
comp=Z,20nm,1.5s,mb4.8
ROTZ Rotzenmuhle 76.98 319 *e*P **P 04 34 55.8 +0.7**
comp=Z,12nm,1.3s,mb4.7
MANZ Manzenberg 77.05 319 *e*P **P 04 34 56.3 +0.8**
comp=Z,9.0nm,1.2s,mb4.6
WTTA Wattenberg 77.34 316⇑ *i*P **P 04 34 56.5 -0.7**
comp=Z,11nm,1.2s,mb4.7
WTTA Wattenberg 77.34 316⇑ *i*P **P 04 34 56.5 -0.6**
WTTA pmax pmax
comp=Z,11nm,1.2s,mb4.7
GRA1 Grafenberg Arr 77.62 319 *e*P **P 04 34 58.9 +0.2**
comp=Z,7.0nm,0.5s,mb4.8
GRF Grafenberg Arr 77.62 319 *e*P **P 04 34 58.9 +0.2**
comp=Z,7.0nm,0.5s,mb4.8
GRF Grafenberg Arr 77.62 319 *e*P **P 04 34 58.9 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
GRF Grafenberg Arr 77.62 319 *e*P **P 04 34 58.9 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
NB2 NORSAR Subarra 77.88 330 P **P 04 34 59.0 -1.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=93,slow=5.6
NOA NORSAR Array B 77.88 330 P **P 04 34 59.0 -1.1**
comp=Z,0.8nm,0.4s,mb4.0,baz=93,slow=5.7,SNR=4.4
NOA LR LR 05 13 11.7
comp=Z,52nm,22.0s,baz=90,slow=38
DAVA Damuels 78.54 316⇑ *i*P **P 04 35 04.0 +0.2**
comp=Z,12nm,1.2s,mb4.7
KEST Kesra 79.50 305 P **P 04 35 10.0 +1.0**
comp=Z,1.9nm,0.8s,mb4.1,baz=32,slow=10,SNR=5.0
KEST LR LR 05 11 34.2
comp=Z,28nm,18.9s,baz=185,slow=36
TSUM Tsumeb 79.60 248 LR LR 05 06 55.9
comp=Z,128nm,18.9s,baz=74,slow=33
MAW Mawson 79.83 191 *e*P **P 04 35 11.2 +0.4**
comp=Z,1.5nm,0.8s,mb4.0
MAW Mawson 79.83 191 P **P 04 35 10.9 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=8.2,slow=5.7,SNR=4.2
LPG La Plagne 80.79 315 *e*P **P 04 35 16.5 +0.5**
comp=Z,19nm,0.8s,mb4.8
LPG La Plagne 80.79 315 *e*P **P 04 35 16.5 +0.5**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 80.79 315 *e*P **P 04 35 16.5 +0.5**
comp=Z,9.6nm,0.8s,mb4.8
BNI Bardonecchia 80.87 314 *e*P **P 04 35 18.5 +2.1**
BNI pmax pmax
comp=Z,13nm,1.2s,mb4.7
BNI Bardonecchia 80.87 314 *e*P **P 04 35 18.4 +2.0**
comp=Z,13nm,1.2s,mb4.7
SYO Syowa Base 86.56 197⇓ *e*P **P 04 35 46.6 +1.1**
TORD Torodi Ar. Bea 89.22 283 P **P 04 35 59.6 +1.5**
comp=Z,1.5nm,0.8s,mb4.3,baz=92,slow=3.5,SNR=8.8
TORD PKKPbc PKKPbc 04 53 36.2 +1.8
comp=Z,0.3nm,0.4s,baz=296,slow=3.2,SNR=10.0
ESDC Sonseca Array 89.42 310 LR LR 05 19 33.5
comp=Z,42nm,19.0s,baz=155,slow=38
SUMG Summit 92.41 347 *e*P **P 04 36 12.8 -0.2**
comp=Z,8.9nm,1.0s,mb5.0
COLA College 93.31 22 *e*P **P 04 36 17.6 +0.5**
COLA pmax pmax
comp=Z,3.0nm,0.5s,mb5.0
COLA College 93.31 22 *e*P **P 04 36 17.6 +0.4**
comp=Z,2.8nm,0.5s,mb5.0
MCK McKinley 93.47 23 *e*P **P 04 36 17.3 -0.6**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
MCK McKinley 93.47 23 *e*P **P 04 36 17.3 -0.5**
comp=Z,8.7nm,1.1s,mb5.1
KDAK Kodiak Island 94.62 29 P **P 04 36 23.3 +0.1**
comp=Z,5.3nm,0.4s,mb5.3,baz=319,slow=7.0,SNR=8.3
VNDA Vanda 94.64 168 P **P 04 36 23.5 +0.2**
comp=Z,0.8nm,0.6s,mb4.3,baz=310,slow=4.9,SNR=11
VNDA Vanda 94.64 168 *e*P **P 04 36 23.4 +0.2**
comp=Z,4.3nm,1.3s,mb4.7
INK Inuvik 95.81 16 *e*P **P 04 36 28.0 -0.6**
comp=Z,398nm,0.9s
HLID Hailey 121.65 23 *e*PKPdf PKPdf 04 41 57.1 +1.3
TPAW Teton Pass 122.99 21 *e*PKPdf PKPdf 04 41 59.9 +1.6
LOHW Long Hollow 123.00 20 *e*PKPdf PKPdf 04 41 59.2 +0.8
SNOW Snow King Moun 123.08 21 *e*PKPdf PKPdf 04 41 59.8 +1.3
BW06 Boulder Array 124.10 20 *e*PKPdf PKPdf 04 42 00.7 +0.2
PDAR Pinedale Array 124.10 20 PKP PKPdf 04 42 00.9 +0.4
comp=Z,1.4nm,0.9s,baz=29,slow=3.4,SNR=10.0
NVAR Mina Array Bea 124.13 30 PKP PKPdf 04 42 02.2 +1.7
comp=Z,1.4nm,0.8s,baz=258,slow=4.0,SNR=9.4
NVAR Mina Array Bea 124.13 30 PKP PKPdf 04 42 02.2 +1.6
HWUT Hardware Ranch 124.41 22 *e*PKPdf PKPdf 04 42 01.9 +0.9
RSSD Black Hills 124.50 15 *e*PKIKP PKPdf 04 42 02.2 +1.0
DUG Dugway 125.13 24 *e*PKIKP PKPdf 04 42 03.8 +1.3
MSU Marysvale 126.82 25 *e*PKIKP PKPdf 04 42 07.5 +1.8
ANMO Albuquerque 132.16 22 *e*PKIKP PKPdf 04 42 17.3 +1.5
WVT Waverly 134.69 1 *e*PKIKP PKPdf 04 42 21.8 +1.2
MNTX Cornudas Mount 135.46 23 *e*PKPdf PKPdf 04 42 21.9 -0.1
JCT Junction City 138.45 17 *e*PKIKP PKPdf 04 42 29.2 +1.7
PLCA Paso Flores 145.60 202 PKPbc PKPbc 04 42 42.3 +1.7
comp=Z,10nm,1.0s,baz=137,slow=3.9,SNR=6.9
PLCA Paso Flores 145.60 202 *e*PKPbc PKPbc 04 42 42.1 +1.5
SJG San Juan 145.81 323 *e*PKP2 PKPab 04 42 42.5 +0.8
CPUP Villa Florida 147.32 235 PKPbc PKPbc 04 42 47.2 +1.6
comp=Z,1.1nm,0.6s,baz=101,slow=0.4,SNR=5.5
LPAZ La Paz 160.45 248 PKPab PKPab 04 43 45.6 +2.6
comp=Z,0.9nm,0.7s,baz=342,slow=6.4,SNR=3.8
LPAZ La Paz 160.45 248 *e*PKIKP PKPdf 04 43 04.5 +2.9

SZGRF ***06*** *04:42:23.8, 2554S×1242W, h33km, mb4.9, Southern Mid-Atlantic Ridge*
IDC ***06*** *04:42:35.0±0.5, 2264S×1285W, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, MS3.9/3, Ms1 3.9/3, ms1mx3.3/26, Error ellipse: s-maj=16.7km s-min=13.3km az=163.0*
ISCJB ***06*** *04:42:36.4±0.5, 2341S±009×1296W±008, h10km, mb4.5/41, MS3.9/4, Error ellipse: s-maj=14.7km s-min=9.2km az=115.4*
NEIC ***06*** *04:42:37.0±0.4, 2368S×1291W, h10km, mb4.8/30, Error ellipse: s-maj=12.7km s-min=8.0km az=163.0*
ISC 06 04:42:40.3±0.4, 2307S±007×1329W±009, h10km, n86, σ0972/83, mb4.5/41, MS3.9/4, 1C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.02**	**88**	P	**P**	**04 48 32.5**	**-7.9**
	1.2nm,0.7s,mb3.7,baz=235,slow=12,SNR=3.0						
TSUM	**Tsumeb**	**29.02**	**88**	*e*P	**P**	**04 48 33.7**	**-6.7**
	4.8nm,0.9s,mb4.2						
DBIC	**Dimbokro**	**30.68**	**17**	P	**P**	**04 48 55.2**	**+0.1**
	5.5nm,0.9s,mb4.4,baz=162,slow=8.5,SNR=6.0						
BDFB	**Brasilia**	**33.52**	**276**	P	**P**	**04 49 19.5**	**-0.5**
	7.8nm,1.0s,mb4.6,baz=105,slow=11,SNR=6.5						
BDFB				LR	LR	05 00 34.2	
	comp=Z,153nm,20.1s,MS3.7,baz=111,slow=32						
BDFB	**Brasilia**	**33.52**	**276**	P	**P**	**04 49 19.5**	**-0.5**
BDFB				LR	LR	05 00 34.2	
BOSA	**Boshof**	**35.02**	**107**	P	**P**	**04 49 26.6**	**-6.5**
	5.0nm,0.9s,mb4.4,baz=292,slow=11,SNR=5.1						
BOSA	**Boshof**	**35.02**	**107**	*e*P	**P**	**04 49 26.8**	**-6.2**
	46nm,1.7s,mb5.1						
LBTB	**Lobatse**	**35.49**	**101**	P	**P**	**04 49 29.9**	**-7.2**
	3.6nm,0.9s,mb4.3,baz=268,slow=10,SNR=3.1						
LBTB	**Lobatse**	**35.49**	**101**	*e*P	**P**	**04 49 29.6**	**-7.4**
	12nm,1.1s,mb4.8						
TOA0	**Torodi Ar. Sit**	**38.87**	**24**	*e*P	**P**	**04 49 58.0**	**-7.7**
TORD	**Torodi Ar. Bea**	**38.87**	**24**	P	**P**	**04 49 57.6**	**-8.2**
	6.7nm,0.9s,mb4.3,baz=202,slow=8.7,SNR=29						
LSZ	**Lusaka**	**39.83**	**86**	P	**P**	**04 50 07.8**	**-6.0**
	3.5nm,0.8s,mb4.1,baz=245,slow=9.3,SNR=8.0						
LSZ	**Lusaka**	**39.83**	**86**	*e*P	**P**	**04 50 07.6**	**-6.2**
	6.8nm,1.0s,mb4.3						
CPUP	**Villa Florida**	**40.00**	**256**	P	**P**	**04 50 16.3**	**+1.1**
	4.0nm,0.9s,mb4.2,baz=87,slow=6.7,SNR=5.9						
CPUP				LR	LR	05 04 14.8	
	comp=Z,195nm,19.2s,MS4.0,baz=86,slow=32						
TRQA	**Tornquist**	**44.02**	**239**	*e*P	**P**	**04 50 48.7**	**+0.7**
	35nm,1.4s,mb4.9						
SIV	**San Ignacio**	**45.42**	**270**	P	**P**	**04 50 59.7**	**+0.5**
	3.5nm,0.9s,mb4.2,baz=107,slow=9.0,SNR=10						
VNA1	**Neumayer--Stat**	**47.69**	**178**	*e*	**P**	**04 51 19.6**	**+2.6**
VNA1				*e*		04 51 25.6	
VNA1				*e*		04 51 31.1	
VNA1				*e*		04 51 37.4	
VNA1				*e*		04 51 44.0	
VNA3	**Neumayer Olymp**	**48.24**	**178**	*e*	**P**	**04 51 23.0**	**+1.7**
VNA3				*e*		04 51 29.6	
VNA3				*e*		04 51 34.1	
VNA3				*e*		04 51 39.3	
VNA3				*e*		04 51 46.6	
SNAA	**Sanae**	**48.99**	**176**	P	**P**	**04 51 26.1**	**-1.0**
	0.9nm,0.9s,mb3.8,baz=355,slow=10,SNR=10						
SNAA	**Sanae**	**48.99**	**176**	*e*	**P**	**04 51 27.5**	**+0.4**
SNAA				*e*		04 51 34.2	
SNAA				*e*		04 51 40.5	
SNAA				*e*		04 51 45.1	
SNAA				*e*		04 51 50.6	
SNAA	**Sanae**	**48.99**	**176**	*e*P	**P**	**04 51 26.2**	**-0.9**
	22nm,1.5s,mb5.0						
CFAA	**Coronel Fontan**	**49.12**	**247**	P	**P**	**04 51 27.1**	**-0.9**
	0.3nm,0.7s,baz=66,slow=6.6,SNR=4.5						
SAML	**Samuel**	**49.73**	**278**	*e*P	**P**	**04 51 32.9**	**+0.2**
	61nm,1.8s,mb5.3						
MAIT	**Maitri**	**49.91**	**169**	*e*P	**P**	**04 51 34.0**	**-0.1**
PLCA	**Paso Flores**	**50.82**	**236**	LR	LR	05 11 19.2	
	comp=Z,131nm,18.8s,MS4.0,baz=3.8,slow=34						
LPAZ	**La Paz**	**51.84**	**267**	P	**P**	**04 51 48.5**	**-0.1**
	3.1nm,1.0s,mb4.2,baz=146,slow=6.3,SNR=5.9						
LPAZ	**La Paz**	**51.84**	**267**	*e*P	**P**	**04 51 48.3**	**-0.3**
	5.4nm,1.1s,mb4.4						
EVO	**Evora**	**61.47**	**5**	*e*P	**P**	**04 52 57.8**	**+0.7**
	16nm,0.8s,mb4.9						
EVO				*e*MLR	MLR		
	comp=Z,75nm,22.2s						
KEST	**Kesra**	**62.28**	**21**	P	**P**	**04 52 54.5**	**-8.1**
	comp=Z,1.5nm,0.9s,mb4.1,baz=252,slow=9.6,SNR=2.8						
ESDC	**Sonseca Array**	**63.02**	**8**	P	**P**	**04 53 00.9**	**-6.6**
	comp=Z,0.5nm,0.3s,mb4.1,baz=188,slow=6.2,SNR=8.4						
MAW	**Mawson**	**63.62**	**155**	P	**P**	**04 53 09.6**	**-1.9**
	comp=Z,2.3nm,0.8s,mb4.3,baz=271,slow=8.4,SNR=6.6						
SDV	**Santo Domingo**	**64.45**	**293**	*e*P	**P**	**04 53 15.6**	**-1.3**
	comp=Z,17nm,1.4s,mb4.9						
ROSC	**El Rosal**	**65.69**	**287**	P	**P**	**04 53 23.6**	**-1.4**
	comp=Z,3.6nm,0.7s,mb4.5,baz=135,slow=4.3,SNR=4.4						
ETSF	**Etsaut**	**66.68**	**10**	*e*P	**P**	**04 53 31.5**	**+0.2**
SJPF	**Ste Jean**	**66.78**	**10**	*e*P	**P**	**04 53 32.4**	**+0.4**
	comp=Z,22nm,1.0s,mb4.9						
SJPF	**Ste Jean**	**66.78**	**10**	*e*P	**P**	**04 53 32.4**	**+0.4**
	comp=Z,11nm,1.0s,mb4.8						
EPF	**Esparros**	**66.96**	**11**	*e*P	**P**	**04 53 34.0**	**+0.9**
OTAV	**Otavalo**	**67.34**	**280**	*e*P	**P**	**04 53 36.4**	**+0.9**
	comp=Z,12nm,1.5s,mb4.7						
MTLF	**Montolieu**	**67.60**	**12**	*e*P	**P**	**04 53 37.2**	**0.0**
LASF	**Ste Croix**	**68.64**	**13**	*e*P	**P**	**04 53 43.6**	**-0.1**
LFF	**La Frestale**	**68.88**	**11**	*e*P	**P**	**04 53 45.2**	**0.0**
	comp=Z,97nm,1.4s,mb5.2						
LFF	**La Frestale**	**68.88**	**11**	*e*P	**P**	**04 53 45.2**	**0.0**
	comp=Z,48nm,1.4s,mb5.2						
CAF	**Calviac**	**69.10**	**12**	*e*P	**P**	**04 53 46.3**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.1						
CAF	**Calviac**	**69.10**	**12**	*e*P	**P**	**04 53 46.3**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.1						
SBF	**Sospel**	**69.26**	**16**	*e*P	**P**	**04 53 47.3**	**-0.3**
	comp=Z,41nm,1.0s,mb5.0						
SBF	**Sospel**	**69.26**	**16**	*e*P	**P**	**04 53 47.3**	**-0.3**
	comp=Z,20nm,1.0s,mb5.0						
RJF	**Les Rejaudoux**	**69.37**	**11**	*e*P	**P**	**04 53 48.0**	**-0.2**
RJF				*e*MLR	MLR		
	comp=Z,114nm,21.2s						
RJF	**Les Rejaudoux**	**69.37**	**11**	*e*P	**P**	**04 53 48.0**	**-0.2**
RJF				LR	LR		
	comp=Z,110nm,21.3s,MS4.1						
VIVF	**Saint-Julien-l**	**69.56**	**14**	*e*P	**P**	**04 53 49.3**	**-0.1**
ORIF	**Oris-en-Rattie**	**69.88**	**14**	*e*P	**P**	**04 53 51.7**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.3						
ORIF				*e*MLR	MLR		
	comp=Z,90nm,18.0s						
ORIF	**Oris-en-Rattie**	**69.88**	**14**	*e*P	**P**	**04 53 51.7**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.4						
MBDF	**Montbardon**	**69.91**	**15**	*e*P	**P**	**04 53 52.0**	**+0.4**
	comp=Z,19nm,1.0s,mb4.7						
MBDF	**Montbardon**	**69.91**	**15**	*e*P	**P**	**04 53 52.0**	**+0.4**
	comp=Z,9.6nm,1.0s,mb4.7						
MFF	**Saint Martin d**	**70.35**	**10**	*e*P	**P**	**04 53 54.3**	**0.0**
	comp=Z,16nm,0.8s,mb4.7						
MFF	**Saint Martin d**	**70.35**	**10**	*e*P	**P**	**04 53 54.3**	**0.0**
	comp=Z,8.2nm,0.8s,mb4.7						
TCF	**Toulx Ste Croi**	**70.44**	**11**	*e*P	**P**	**04 53 54.8**	**0.0**
	comp=Z,14nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**70.44**	**11**	*e*P	**P**	**04 53 54.8**	**0.0**
	comp=Z,7.0nm,1.0s,mb4.5						
LPG	**La Plagne**	**70.63**	**15**	*e*P	**P**	**04 53 56.5**	**+0.5**
	comp=Z,16nm,0.9s,mb4.7						
LPG	**La Plagne**	**70.63**	**15**	*e*P	**P**	**04 53 56.5**	**+0.5**
	comp=Z,7.9nm,0.9s,mb4.6						
LPL	**La Plagne**	**70.65**	**15**	*e*P	**P**	**04 53 56.5**	**+0.4**
	comp=Z,19nm,0.8s,mb4.8						
LPL	**La Plagne**	**70.65**	**15**	*e*P	**P**	**04 53 56.5**	**+0.4**
	comp=Z,9.3nm,0.8s,mb4.8						
BGF	**Bois d'Agland**	**70.82**	**12**	*e*P	**P**	**04 53 57.2**	**+0.1**
	comp=Z,18nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**70.82**	**12**	*e*P	**P**	**04 53 57.2**	**+0.1**
	comp=Z,8.9nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**71.09**	**12**	*e*P	**P**	**04 53 58.6**	**-0.2**
	comp=Z,23nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**71.09**	**12**	*e*P	**P**	**04 53 58.6**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8						
AVF	**Avril sur Loir**	**71.14**	**12**	*e*P	**P**	**04 53 59.1**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**71.14**	**12**	*e*P	**P**	**04 53 59.1**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**71.43**	**12**	*e*P	**P**	**04 54 00.7**	**-0.1**
	comp=Z,22nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**71.43**	**12**	*e*P	**P**	**04 54 00.7**	**-0.1**
	comp=Z,11nm,1.2s,mb4.7						
CABF	**La Chapelle**	**71.53**	**14**	*e*P	**P**	**04 54 01.1**	**-0.3**
	comp=Z,18nm,0.8s,mb4.7						
CABF	**La Chapelle**	**71.53**	**14**	*e*P	**P**	**04 54 01.1**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.7						
BAIF	**Baives**	**74.44**	**12**	*e*P	**P**	**04 54 18.3**	**-0.4**
PKSM	**Moragy**	**74.78**	**22⇓**	*i*P	**P**	**04 54 20.3**	**-0.4**
BZS	**Buzias**	**75.37**	**25⇓**	*i*P	**P**	**04 54 23.4**	**-0.6**
GERES	**GERESS Array B**	**75.54**	**18**	P	**P**	**04 54 18.9**	**-6.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=215,slow=3.1,SNR=4.9						
GRA1	**Grafenberg Arr**	**75.64**	**16**	*e*P	**P**	**04 54 19.9**	**-5.7**
	comp=Z,13nm,1.3s,mb4.7						
GRF	**Grafenberg Arr**	**75.64**	**16**	*e*P	**P**	**04 54 19.9**	**-5.7**
	comp=Z,13nm,1.3s,mb4.7						
BR131	**Keskin Array S**	**76.28**	**35**	*e*P	**P**	**04 54 24.0**	**-5.3**
	comp=Z,1.5nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**76.28**	**35**	P	**P**	**04 54 23.4**	**-5.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=191,slow=5.9,SNR=8.3						
PSZ	**Piszkesteto**	**76.69**	**22**	*e*P	**P**	**04 54 24.5**	**-7.1**
	comp=Z,2.5nm,0.5s,mb4.4						
MLR	**Muntele Rosu**	**77.00**	**27⇑**	*i*P	**P**	**04 54 26.4**	**-6.9**
VNDA	**Vanda**	**79.59**	**179**	P	**P**	**04 54 46.8**	**-0.9**
	comp=Z,1.2nm,0.8s,mb3.9,baz=217,slow=4.5,SNR=7.4						
VNDA	**Vanda**	**79.59**	**179**	*e*P	**P**	**04 54 47.4**	**-0.3**
	comp=Z,1.3nm,0.9s,mb3.9						
AKASG	**Malin Array Be**	**82.47**	**26**	P	**P**	**04 54 55.7**	**-7.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=222,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**123.66**	**143**	PKP	PKPdf	05 01 34.4	-3.8
	comp=Z,0.8nm,0.8s,baz=190,slow=1.3,SNR=5.6						
MJAR	**Matsushiro Arr**	**151.98**	**55**	PKPbc	PKPbc	05 02 31.4	-4.2
	comp=Z,0.9nm,0.3s,baz=302,slow=7.3,SNR=3.3						
MJAR				PKPab	PKPab	05 02 38.5	-6.4
	comp=Z,3.8nm,1.0s,baz=267,slow=3.3,SNR=4.1						

IDC 06 04:47:32.9±1.3, 4154S×8091E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, MS4.0/1, Ms1 4.0/1, ms1mx3.4/27, Error ellipse: s-maj=78.7km s-min=24.3km az=4.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**30.00**	**85**	LR	LR	05 02 53.4	
	comp=Z,278nm,19.2s,baz=31,slow=31						
BOSA	**Boshof**	**46.59**	**268**	P	P	04 56 02.8	+0.2
	3.5nm,0.9s,baz=108,slow=6.4,SNR=3.7						
ASAR	**Alice Springs**	**47.32**	**85**	P	P	04 56 06.4	-1.8
	1.9nm,1.2s,baz=234,slow=6.5,SNR=5.2						
STKA	**Stephens Creek**	**48.71**	**99**	P	P	04 56 20.6	+1.6
	2.2nm,1.0s,baz=262,slow=7.1,SNR=2.2						
WRA	**Warramunga Arr**	**49.85**	**81**	P	P	04 56 27.5	-0.2
	0.7nm,0.7s,baz=232,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**87.96**	**1**	P	P	05 00 25.1	+0.4
	0.6nm,0.8s,baz=152,slow=6.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**90.71**	**287**	P	P	05 00 36.9	-0.7
	0.2nm,0.8s,baz=132,slow=4.1,SNR=2.4						

NEIC ***06*** *04:47:54.5, 1594N×9840W, h2km, MD4.3(MEX), After MEX.*
MEX 06 04:47:54.8±0.7, 1595N×9841W, h4km±5km, MD4.3, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**32**	*i*

MAN 06 05:05:44.1, 928N×12394E, h26km, mb3.0, ML4.3, MS2.1, 1C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.42**	**350**	*e*P	Pb	05 05 54.9	+1.9
TBP				*e*S	Sb	05 06 00.4	+1.4
SNPH	**Sibulan**	**0.69**	**276**	↓*i*P	Pb	05 05 58.0	+0.5
SNPH				*i* S	Sb	05 06 08.5	+1.8
DCPH	**Dipolog City**	**0.90**	**220**	↑*e*P	Pb	05 06 00.4	-0.6
DCPH				*i* S	Sb	05 06 12.8	+0.2
LLP	**Lapu-Lapu**	**1.04**	**2**	↓↓*i*P	Pn	05 06 02.9	0.0
LLP				*i* S	Sb	05 06 16.4	-0.1
CGP	**Cagayan de Oro**	**1.11**	**137**	↓↓*i*P	Pn	05 06 01.2	-2.7
CGP				*i* S	Sn	05 06 12.6	-5.7
MSLP	**Maasin**	**1.25**	**47**	*e*P	Pn	05 06 04.8	-1.0
MSLP				*e*S	Sn	05 06 24.0	+2.2
PAGZ	**Pagadian**	**1.52**	**201**	*e*P	Pn	05 06 09.9	+0.3
PAGZ				*e*S	Sn	05 06 29.7	+1.3
BUKP	**Musuan**	**1.78**	**141**	*e*P	Pn	05 06 13.0	-0.1
GUIM	**Jordan**	**1.89**	**315**	*e*P	Pn	05 06 15.8	+1.2

*NEIC **06** 05:05:46.2±0.7, 4958N×15476E, h10km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=8.3km az=131.0*
*MOS **06** 05:05:48.9±1.8, 4923N×155.19E, h66km, mb4.2/8, Error ellipse: s-maj=15.3km s-min=9.7km az=65.1*
*ISCJB **06** 05:05:52.0±1.1, 4930N±008×155.1E±0.1, h90km±11km, mb3.9/9, Error ellipse: s-maj=18.2km s-min=6.7km az=82.9*
*IDC **06** 05:05:56.2±4.2, 4926N×15482E, h109km±38km, mb3.7/7, mb1 3.9/9, mb1mx3.6/24, mbtmp4.1/9, MS3.4/2, Ms1 3.4/2, ms1mx3.1/33, Error ellipse: s-maj=24.5km s-min=17.9km az=118.0*

ISC 06 05:05:53.6±1.0, 4932N±008×1550E±01, h91km±9km, n32, σ1§15/35, mb3.9/9, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**27**	*e*PN	**Pn**	**05 06 12.0**	**-7.8**
SKR				*i* S	**Sn**	**05 06 31.9**	**-7.8**
SKR				pmax	pmax		
	comp=N,90nm,0.3s						
SKR				pmax	pmax		
	comp=Z,130nm,0.3s						
SKR				smax			
	comp=N,3μm,0.3s						
SKR				smax			
	comp=E,2μm,0.3s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,6μm,4.0s						
PET	**Petropavlovsk**	**4.36**	**30**	*e*PN	**Pn**	**05 06 57.0**	**-0.4**
PET				*i* S	**Sn**	**05 07 46.4**	**-0.6**
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PET				smax			
	comp=N,164nm,0.5s						
PET				smax			
	comp=E,168nm,0.5s						
KUR	**Kuril'sk**	**6.35**	**233**	*e*PN	**Pn**	**05 07 20.4**	**-4.2**
KUR				*e*S	**Sn**	**05 08 38.0**	**+2.4**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,270nm,0.9s						
KUR				smax			
	comp=E,230nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.54**	**259**	↓*e*PN	**Pn**	**05 07 55.8**	**+1.5**
ASAJ	**Asahikawa**	**9.99**	**243**	P	**Pn**	**05 08 15.1**	**+1.0**
	comp=E,5.2nm,0.3s,baz=71,slow=15,SNR=18						
ASAJ				LR	LR	05 11 25.3	
	comp=E,247nm,22.0s,baz=0.5,slow=33						
ERM	**Erimo**	**11.05**	**233**	*e*PN	**Pn**	**05 08 25.2**	**-3.3**
KLR	**Kul'dur**	**15.18**	**279**	*e*P	**Pn**	**05 09 22.8**	**-0.1**
MJAR	**Matsushiro Arr**	**17.68**	**230**	P	**Pn**	**05 09 53.2**	**-0.7**
	comp=E,1.0nm,0.3s,baz=23,slow=11,SNR=11						
MJAR				LR	LR	05 16 21.4	
	comp=E,146nm,21.6s,baz=25,slow=36						
MJAR	**Matsushiro Arr**	**17.68**	**230**	P	**Pn**	**05 09 53.3**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,146nm,21.6s						
MAJO	**Matsushiro**	**17.68**	**230**	*e*P	**Pn**	**05 09 52.9**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**17.68**	**230**	*e*P	**Pn**	**05 09 52.9**	**-1.1**
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**17.68**	**230**	P	**Pn**	**05 09 54.5**	**+0.6**
YAK	**Yakutsk**	**18.97**	**322**	*i* P	**Pn**	**05 10 11.1**	**+1.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS	**Chul'man**	**19.47**	**304**	*e*P	**Pn**	**05 10 14.1**	**-1.1**
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
INK	**Inuvik**	**38.80**	**34**	P	**P**	**05 13 10.1**	**+0.7**
	comp=E,2.9nm,0.9s,mb4.1,baz=136,slow=8.4,SNR=4.6						
INK	**Inuvik**	**38.80**	**34**	P	**P**	**05 13 10.1**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**46.93**	**296**	P	**P**	**05 14 14.9**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=63,slow=8.2,SNR=11						
MKAR				PcP	PcP	05 15 46.5	+0.2
	comp=Z,0.6nm,0.7s,baz=126,slow=2.0,SNR=3.8						
MKAR	**Makanchi Array**	**46.93**	**296**	P	**P**	**05 14 15.0**	**0.0**
MKAR						05 15 46.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RES	**Resolute Bay**	**47.99**	**20**	*e*P	**P**	**05 14 24.1**	**+0.9**
	comp=Z,2μm,1.2s						
CHKZ	**Chkalovo**	**49.78**	**309**	*e*P	**P**	**05 14 36.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**49.78**	**309**	*e*P	**P**	**05 14 36.0**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**05 14 39.8**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=52,slow=9.6,SNR=5.1						
BVAR				PcP	PcP	05 15 57.9	-0.2
	comp=Z,1.3nm,0.6s,baz=50,slow=4.6,SNR=6.2						
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**05 14 39.8**	**-0.5**
BVAR						05 15 57.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**50.98**	**309**	*e*P	**P**	**05 14 45.3**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**50.98**	**309**	*e*P	**P**	**05 14 45.3**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**62.22**	**56**	P	**P**	**05 16 07.7**	**+2.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=336,slow=3.3,SNR=9.3						
FINES	**FINESS Array B**	**62.25**	**335**	P	**P**	**05 16 05.5**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=45,slow=8.4,SNR=4.8						
FINES	**FINESS Array B**	**62.25**	**335**	P	**P**	**05 16 05.6**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**71.36**	**201**	P	**P**	**05 17 02.6**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.0,baz=13,slow=6.0,SNR=7.1						
WRA	**Warramunga Arr**	**71.36**	**201**	P	**P**	**05 17 02.6**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**75.06**	**200**	P	**P**	**05 17 25.6**	**+0.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=13,slow=5.6,SNR=16						
ASAR	**Alice Springs**	**75.06**	**200**	P	**P**	**05 17 25.6**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*BJI **06** 05:08:50.2, 4139S×80.11E, h16km, mB5.6, mb5.0, Ms5.7, Msz5.4*
*ISCJB **06** 05:08:52.1±0.2, 4118S±004×8062E±006, h10km, mb5.1/65, MS5.4/98, Error ellipse: s-maj=6.9km s-min=6.1km az=41.4*
*IDC **06** 05:08:52.2±0.5, 4128S×8063E, h0km, mb4.5/19, mb1 4.5/19, mb1mx4.5/23, mbtmp4.5/19, MS5.6/11, Ms1 5.5/11, ms1mx5.5/12, Error ellipse: s-maj=18.6km s-min=13.6km az=166.0*
*NEIC **06** 05:08:53.7±0.2, 4119S×8064E, h10km, mb5.1/33, MS5.4/82, MW5.7, Error ellipse: s-maj=7.9km s-min=6.7km az=174.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12; $M_{\theta\theta}$4.02; $M_{\phi\phi}$-3.89; $M_{r\theta}$0.91; $M_{\theta\phi}$0.91; $M_{\phi r}$-0.96; Best double couple: M_o4.30000×10^{17} NP1:ϕ_s308.00000°, δ87.00000°, λ-18.00000°. NP2: ϕ_s39.00000°, δ72.00000°, λ-177.00000°. Principal axes: T 4.2700, Plg11.0000°, Azm355.0000°; N 0.0000, Plg72.0000°, Azm120.0000°; P -4.2700, Plg15.0000°, Azm262.0000°;*
*MOS **06** 05:08:53.3±2.5, 4125S×8070E, h10km, mb5.2/20, MS5.4/22 Error ellipse: s-maj=13.3km s-min=9.0km az=83.7*
*GCMT **06** 05:08:53.7±0.1, 4122S×8070E, h12km, MW5.7/98, Moment Tensor Solution. s89,c163; s98,c278; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.10±.04; $M_{\theta\theta}$4.51±.04; $M_{\phi\phi}$-4.61±.04; $M_{r\theta}$-0.03±.11; $M_{\theta\phi}$-0.57±.04; $M_{\phi r}$0.43±.12; Best double couple: M_o4.61500×10^{17} NP1:ϕ_s229.00000°, δ86.00000°, λ-177.00000°. NP2:ϕ_s138.00000°, δ87.00000°, λ-4.00000°. Principal axes: T 4.5460, Plg1.0000°, Azm184.0000°; N 0.1410, Plg85.0000°, Azm282.0000°; P -4.6830, Plg5.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 06 05:08:53.7±0.2, 4120S±004×8060E±006, h10km, (h14km±1.8km:pP-P), n289, σ1§12/152, mb5.1/65, MS5.4/98, 5C-4D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIR	**Mirnyy**	**26.33**	**169**	*d*iP	**P**	**05 14 30.5**	**+0.8**
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.4						
MIR				MLR	MLR		
	comp=Z,18μm,19.0s,MS5.6						
MAW	**Mawson**	**28.18**	**194**	↑*i*P	**P**	**05 14 44.8**	**-1.5**
	comp=Z,14nm,0.8s,mb4.7						
MAW	**Mawson**	**28.18**	**194**	P	**P**	**05 14 45.0**	**-1.3**
	comp=Z,16nm,0.9s,mb4.7,baz=24,slow=10,SNR=26						
MAW				LR	LR	05 23 33.9	
	comp=Z,8μm,21.4s,MS5.2,baz=20,slow=31						
MAW	**Mawson**	**28.18**	**194**	↑*i*P	**P**	**05 14 44.8**	**-1.5**
MAW				pmax	pmax		
	comp=Z,14nm,0.8s						
MUN	**Mundaring**	**29.86**	**84**	*e*P	**P**	**05 15 02.8**	**+1.6**
CASY	**Casey**	**30.16**	**156**	*e*P	**P**	**05 15 03.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**30.20**	**86**	P	**P**	**05 15 04.2**	**0.0**
	comp=Z,6.9nm,0.9s,mb4.4,baz=236,slow=11,SNR=3.0						
NWAO				LR	LR	05 24 26.3	
	comp=Z,6μm,20.4s,MS5.2,baz=249,slow=31						
KLBR	**Kellerberrin**	**31.20**	**84**	*e*P	**P**	**05 15 06.1**	**-7.0**
	comp=Z,45nm,1.4s,mb5.1						
COCO	**West Island**	**32.21**	**31**	PFAKE		05 15 30.0	+8.0
COCO				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
DGAR	**Diego Garcia**	**34.42**	**346**	PFAKE		05 15 50.0	+8.8
DGAR				LR	LR		
	comp=Z,828nm,19.0s,MS4.5						
SYO	**Syowa Base**	**35.19**	**204**	↓*e*P	**P**	**05 15 48.0**	**+0.1**
OPO	**Ambohidratompo**	**36.37**	**298**	P	**P**	**05 16 01.3**	**+3.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=131,slow=11,SNR=4.0						
MBWA	**Marble Bar**	**38.57**	**71**	P	**P**	**05 16 16.4**	**-0.2**
	comp=Z,48nm,1.4s,mb5.0						
MBWA				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
FORT	**Forrest**	**39.35**	**90**	↓*i*P	**P**	**05 16 23.5**	**+0.3**
	comp=Z,67nm,0.8s,mb5.4						
FORT				*e*S	**S**	**05 22 34.8**	**+10**
MSEY	**Mahe Island**	**42.77**	**321**	PFAKE		05 17 00.0	+8.7
MSEY				LR	LR		
	comp=Z,686nm,19.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**44.78**	**73**	*e*P	**P**	**05 17 07.3**	**-0.2**
	comp=Z,14nm,1.5s,mb4.6						
FITZ				*e*S	**S**	**05 23 46.9**	**+2.4**
FITZ	**Fitzroy Crossi**	**44.78**	**73**	P	**P**	**05 17 07.3**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.2,baz=203,slow=11,SNR=5.1						
NVL	**N'lazarevskaya**	**44.79**	**206**	↑*i*P	**P**	**05 17 06.8**	**-0.8**
NVL				*i*		05 18 52.3	
NVL				*i* S	**S**	**05 23 49.0**	**+4.2**
NVL				*i*		05 27 06.7	
NVL				*i* SSS		05 28 02.2	
NVL				pmax	pmax		
	comp=Z,32nm,1.5s,mb4.9						
NVL				MLR	MLR		
	comp=Z,3μm,16.2s,MS5.2						
MAIT	**Maitri**	**44.83**	**206**	*e*P	**P**	**05 17 06.9**	**-1.0**
BOSA	**Boshof**	**46.38**	**268**	P	**P**	**05 17 21.2**	**+1.1**
	comp=Z,9.1nm,1.0s,mb4.7,baz=133,slow=11,SNR=7.6						
BOSA				LR	LR	05 33 33.6	
	comp=Z,8μm,18.4s,MS5.7,baz=127,slow=32						
BOSA	**Boshof**	**46.38**	**268**	*e*P	**P**	**05 17 21.2**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
BOSA				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.7						
BOSA	**Boshof**	**46.38**	**268**	*e*P	**P**	**05 17 21.2**	**+1.1**
	comp=Z,17nm,0.9s,mb5.0						
BOSA				LR	LR		
	comp=Z,8μm,20.0s,MS5.7						
PSI	**Prapat**	**46.87**	**25**	P	**P**	**05 17 24.7**	**+0.7**
	comp=Z,11nm,0.9s,mb4.8,baz=174,slow=10,SNR=7.3						
ASPA	**Alice Springs**	**47.51**	**85**	*e*P	**P**	**05 17 29.7**	**+0.7**
ASPA				*e*S	**S**	**05 24 31.0**	**+7.2**
ASAR	**Alice Springs**	**47.52**	**85**	P	**P**	**05 17 29.9**	**+0.9**
	comp=Z,9.2nm,1.1s,mb4.7,baz=232,slow=6.9,SNR=24						
ASAR				LR	LR	05 35 20.0	
	comp=Z,8μm,18.7s,MS5.7,baz=244,slow=33						
ASAR	**Alice Springs**	**47.52**	**85**	P	**P**	**05 17 29.9**	**+0.9**
ASAR	**Alice Springs**	**47.52**	**85**	P	**P**	**05 17 29.9**	**+0.9**
ASAR				LR	LR	05 35 20.0	
AS31	**Alice Springs**	**47.52**	**85**	*e*P	**P**	**05 17 29.7**	**+0.6**
AS31				*e*S	**S**	**05 24 31.0**	**+7.1**
SUR	**Sutherland**	**47.86**	**260**	P	**P**	**05 17 34.0**	**+2.3**
	comp=Z,20nm,1.2s,mb5.0,baz=154,slow=8.2,SNR=3.3						
SUR	**Sutherland**	**47.86**	**260**	*e*P	**P**	**05 17 32.9**	**+1.1**
	comp=Z,126nm,1.6s,mb5.7						
SUR				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
LBTB	**Lobatse**	**48.04**	**272**	P	**P**	**05 17 32.5**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.5,baz=144,slow=3.9,SNR=5.7						
LBTB	**Lobatse**	**48.04**	**272**	*e*P	**P**	**05 17 32.8**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
LBTB				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.5						
LBTB	**Lobatse**	**48.04**	**272**	*e*P	**P**	**05 17 32.8**	**-0.3**
	comp=Z,18nm,1.1s,mb5.0						
LBTB				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
PALK	**Pallekele**	**48.23**	**0**	PFAKE		05 17 50.0	+15
PALK				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
VNDA	**Vanda**	**48.28**	**163**	P	**P**	**05 17 33.7**	**-1.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=275,slow=7.0,SNR=13						
VNDA				LR	LR	05 36 28.4	
	comp=Z,12μm,18.2s,MS5.9,baz=271,slow=34						
VNDA	**Vanda**	**48.28**	**163**	*e*P	**P**	**05 17 34.2**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,81nm,1.9s						
VNDA				MLR	MLR		
	comp=Z,12μm,20.0s						
VNDA	**Vanda**	**48.28**	**163**	*e*P	**P**	**05 17 34.2**	**-0.8**
	comp=Z,81nm,1.9s,mb5.4						
VNDA				LR	LR		
	comp=Z,12μm,20.0s,MS5.9						
TAU	**Tasmania Unive**	**48.37**	**115**	PFAKE		05 17 50.0	+14
TAU				LR	LR		
	comp=Z,957nm,19.0s,MS4.8						
QSPA	**South Pole Qui**	**48.96**	**180**	*e*P	**P**	**05 17 39.3**	**-0.9**
	comp=Z,78nm,1.3s,mb5.6						
QSPA				LR	LR		
	comp=Z,15μm,21.0s,MS6.0						
STKA	**Stephens Creek**	**48.99**	**100**	*e*P	**P**	**05 17 40.4**	**0.0**
	comp=Z,22nm,0.9s,mb5.2						
STKA				*e*S	**S**	**05 24 45.8**	**+1.1**
STKA	**Stephens Creek**	**48.99**	**100**	P	**P**	**05 17 39.3**	**-1.2**
	comp=Z,7.7nm,0.9s,mb4.8,baz=238,slow=4.7,SNR=9.6						
STKA				LR	LR	05 34 21.0	
	comp=Z,7μm,21.1s,MS5.6,baz=233,slow=31						
SBA	**Scott Base**	**49.31**	**164**	*e*P	**P**	**05 17 43.6**	**+0.7**
SBA				pmax	pmax		
	comp=Z,62nm,1.8s,mb5.3						
SBA				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.7						
SBA	**Scott Base**	**49.31**	**164**	*e*P	**P**	**05 17 43.5**	**+0.7**
	comp=Z,62nm,1.8s,mb5.3						
SBA				LR	LR		
	comp=Z,7μm,19.0s,MS5.7						
SNAA	**Sanae**	**49.48**	**204**	P	**P**	**05 17 42.3**	**-1.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=100,slow=7.0,SNR=9.5						
SNAA	**Sanae**	**49.48**	**204**	*e*P	**P**	**05 17 45.8**	**+1.6**
SNAA				*e*	pP	05 17 48.8	+1.5
SNAA				*e*		05 17 52.6	
SNAA				*e*		05 17 57.2	
SNAA				*e*		05 18 05.8	
SNAA	**Sanae**	**49.48**	**204**	*e*P	**P**	**05 17 43.8**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,31nm,1.5s						
SNAA	**Sanae**	**49.48**	**204**	*e*P	**P**	**05 17 43.8**	**-0.4**
	comp=Z,31nm,1.5s,mb5.1						
KULM	**Kulim**	**49.77**	**27**	*e*P	**P**	**05 17 47.7**	**+1.3**
WRA	**Warramunga Arr**	**50.03**	**82**	P	**P**	**05 17 48.1**	**-0.2**
	comp=Z,18nm,1.1s,mb5.0,baz=233,slow=6.9,SNR=19						
WRA				LR	LR	05 36 53.6	
	comp=Z,2μm,18.5s,MS5.2,baz=250,slow=34						
WB2	**Warramunga Arr**	**50.04**	**82**	*e*P	**P**	**05 17 48.4**	**0.0**
WB2				*e*S	**S**	**05 25 02.4**	**+3.0**
WRAB	**Tennant Creek**	**50.04**	**82**	P	**P**	**05 17 48.0**	**-0.5**
	comp=Z,197nm,1.5s,mb5.9,SNR=6.2						
WRAB	**Tennant Creek**	**50.04**	**82**	*i* P	**P**	**05 17 48.8**	**+0.3**
WRAB	**Tennant Creek**	**50.04**	**82**	P	**P**	**05 17 48.9**	**+0.4**
VNA1	**Neumayer--Stat**	**51.42**	**205**	*e*P	**P**	**05 18 00.2**	**+1.4**
VNA1				*e*	pP	05 18 03.6	+1.6
VNA1				*e*		05 18 05.5	
VNA1				*e*		05 18 10.0	
VNA1				*e*		05 18 19.6	
VNA3	**Neumayer Olymp**	**51.70**	**204**	*e*P	**P**	**05 18 03.4**	**+2.4**
VNA3				*e*	pP	05 18 06.5	+2.3
VNA3				*e*		05 18 08.5	
VNA3				*e*		05 18 12.3	
VNA3				*e*		05 18 20.8	
LSZ	**Lusaka**	**51.97**	**284**	*e*P	**P**	**05 18 03.7**	**+0.7**
	comp=Z,7.4nm,0.9s,mb4.6						
LSZ				LR	LR		
	comp=Z,4μm,21.0s,MS5.4						
KAKA	**Kakadu**	**53.24**	**73**	*e*P	**P**	**05 18 10.0**	**-2.4**
	comp=Z,13nm,0.7s,mb5.0						
MNGI	**Mangalore**	**54.13**	**353**	*i* P	**P**	**05 18 19.6**	**+0.7**
MNGI				*i* S	**S**	**05 25 58.0**	**+2.5**
MNGI				*ex*	x	05 36 09.3	
	comp=Z,3μm,22.6s						
KMBO	**Kilima Mbogo**	**55.84**	**304**	LR	LR	05 37 22.6	
	comp=Z,3μm,19.8s,MS5.4,baz=131,slow=31						
KMBO	**Kilima Mbogo**	**55.84**	**304**	*e*P	**P**	**05 18 30.9**	**-0.4**
KMBO				pmax	pmax		
	comp=Z,16nm,1.5s						
KMBO				MLR	MLR		
	comp=Z,3μm,20.0s						
KMBO	**Kilima Mbogo**	**55.84**	**304**	*e*P	**P**	**05 18 30.9**	**-0.4**
	comp=Z,16nm,1.5s,mb4.8						
KMBO				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
ARMA	**Armidale**	**57.15**	**103**	*e*P	**P**	**05 18 45.1**	**+4.5**
TSUM	**Tsumeb**	**57.45**	**272**	*e*P	**P**	**05 18 43.6**	**+0.9**
	comp=Z,98nm,2.1s,mb5.5						
TSUM				LR	LR		
	comp=Z,6μm,22.0s,MS5.6						
HYB	**Hyderabad**	**58.35**	**358**	*i* P	**P**	**05 18 50.0**	**+1.0**
HYB				*e*S	**S**	**05 26 52.0**	**+0.5**
HYB	**Hyderabad**	**58.35**	**358**	*e*P	**P**	**05 18 50.0**	**+1.0**
HYB				*e*S	**S**	**05 26 52.0**	**+0.5**
KAD	**Karad**	**58.51**	**353**	*e*P	**P**	**05 18 52.0**	**+1.9**
CTA	**Charters Tower**	**58.91**	**90**	*e*P	**P**	**05 18 53.2**	**+0.3**
	comp=Z,13nm,0.9s,mb5.0						
CTA				*e*S	**S**	**05 27 05.0**	**+6.2**
CTA	**Charters Tower**	**58.91**	**90**	*e*P	**P**	**05 18 53.2**	**+0.3**
CTA				*e*S	**S**	**05 27 05.0**	**+6.2**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**58.91**	**90**	*e*P	**P**	**05 18 50.6**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.6						
CTAO	**Charters Tower**	**58.91**	**90**	*e*P	**P**	**05 18 50.6**	**-2.3**
	comp=Z,76nm,1.1s,mb5.6						
POO	**Poona**	**59.75**	**353**	↓↓*i*P	**P**	**05 18 57.0**	**-1.7**
	comp=Z,30nm,1.0s,mb5.3						
CM31	**Chiang Mai Arr**	**61.74**	**20**	*e*P	**P**	**05 19 12.2**	**-0.1**
	comp=Z,27nm,0.8s,mb5.4						
CM31				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
CHTO	**Chiang Mai**	**62.09**	**20**	*e*P	**P**	**05 19 13.5**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.2						
CHTO				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.5						
CHTO	**Chiang Mai**	**62.09**	**20**	*e*P	**P**	**05 19 13.5**	**-1.1**
	comp=Z,22nm,1.1s,mb5.2						
CHTO				LR	LR		
	comp=Z,3μm,21.0s,MS5.5						
QIZ	**Qiongzhong**	**65.78**	**30**	P	**P**	**05 19 42.2**	**+3.3**
QIZ				PP	PP	05 22 07.7	+4.1
QIZ				S	S	05 28 29.3	+3.9
QIZ				XS	sS	05 28 35.2	+4.5
QIZ				PS		05 28 54.6	
QIZ				SS	SS	05 32 44.9	+5.1
QIZ				AMB	AMB		
	comp=Z,238nm,7.0s						
QIZ				LR	LR		
	comp=N,2μm,18.8s						
QIZ				LR	LR		
	comp=Z,3μm,20.5s,MS5.4						
QIZ	**Qiongzhong**	**65.78**	**30**	PFAKE		05 19 50.0	+11
QIZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
PMG	**Port Moresby**	**66.25**	**82**	P	**P**	**05 19 42.8**	**+0.8**
	comp=Z,22nm,0.7s,mb5.3,baz=239,slow=5.9,SNR=3.6						
PMG	**Port Moresby**	**66.25**	**82**	*e*P	**P**	**05 19 41.3**	**-0.6**
PMG				pmax	pmax		
	comp=Z,55nm,0.9s						
PMG				MLR	MLR		
	comp=Z,2μm,21.0s						
PMG	**Port Moresby**	**66.25**	**82**	*e*P	**P**	**05 19 41.3**	**-0.7**
	comp=Z,56nm,0.9s,mb5.6						
PMG				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
IMP	**Imphal**	**66.80**	**13**	*e

KMI 05 22 31.2
KMI PPP 05 24 16.0
KMI S S 05 29 04.6 -0.8
KMI SS SS 05 33 36.6 +5.2
KMI SSS 05 36 41.9
KMI pmax pmax
comp=Z,16nm,1.6s,mb4.7
KMI MLR MLR
comp=Z,2μm,19.6s,MS5.5
KMI Kunming 69.11 21 P **P** **05 20 00.0 0.0**
comp=Z,16nm,1.6s,mb4.7
KMI pP pP 05 20 08.1 +4.8
KMI sP sP 05 20 12.9 +8.4
KMI PP PP 05 22 31.2 -1.4
KMI PPP 05 24 16.0
KMI S S 05 29 04.6 -0.8
KMI sS sS 05 29 22.8 +12
KMI SS SS 05 33 36.6 +5.2
KMI SSS 05 36 41.9
KMI LR LR
comp=Z,2μm,19.6s,MS5.5
PMSA Palmer Station 70.79 195 *e*P **P** **05 20 09.4 -0.9**
comp=Z,15nm,1.0s,mb4.9
PMSA LR LR
comp=Z,5μm,21.0s,MS5.8
LSA Lhasa 71.21 10 *e*P **P** **05 20 12.1 -0.8**
comp=Z,40nm,1.3s,mb5.2
LSA LR LR
comp=Z,10μm,20.0s,MS6.1
GYA Guiyang 71.52 25⇑ *i*P **P** **05 20 14.9 +0.1**
GYA AP pP 05 20 19.8 +1.8
GYA XP sP 05 20 21.9 +2.7
GYA PP PP 05 22 55.0 +1.6
GYA S S 05 29 34.9 +1.3
GYA SKS 05 30 12.8
GYA SS SS 05 34 05.7 -2.8
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,330nm,8.1s
GYA LR LR
comp=N,1μm,18.8s,MS5.2
GYA LR LR
comp=E,740nm,20.0s,MS5.2
GYA LR LR
comp=Z,1μm,20.3s,MS5.2
SDNR Sundarnagar 72.41 357 *e*P **P** **05 20 18.8 -1.3**
DZM Mont Dzumac 72.79 104 LR LR 05 47 07.9
comp=Z,4μm,21.1s,MS5.6,baz=199,slow=32
CD2 Chengdu 74.87 20 P **P** **05 20 34.0 -0.6**
CD2 AP pP 05 20 39.4 +1.6
CD2 XP sP 05 20 41.9 +2.9
CD2 PP PP 05 23 24.6 +2.6
CD2 S S 05 30 11.1 -0.6
CD2 SKS 05 30 37.8
CD2 PS 05 30 49.0
CD2 SS SS 05 35 02.8 +3.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,110nm,3.8s
CD2 LR LR
comp=N,1μm,22.2s,MS5.3
CD2 LR LR
comp=E,840nm,19.8s,MS5.3
CD2 LR LR
comp=Z,2μm,21.0s,MS5.3
HNR Honiara 75.85 90 P **P** **05 20 44.7 +4.5**
HNR Honiara 75.85 90 PFAKE 05 20 50.0 +10
HNR LR LR
comp=Z,2μm,20.0s,MS5.3
RAO Raoul Island 79.18 119 P **P** **05 21 03.2 +4.4**
XAN Xi'an 79.28 24 P **P** **05 20 58.2 -1.1**
XAN AP pP 05 21 04.6 +2.0
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
LZH Lanzhou 79.81 19 *e*P **P** **05 21 02.4 +0.2**
LZH AP pP 05 21 05.7 +0.2
LZH PP PP 05 24 06.0 +2.6
LZH *e*S S 05 31 05.5 +0.2
LZH SKS 05 31 12.5
LZH SS SS 05 36 16.0 +1.8
LZH AMB AMB
comp=Z,47nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,210nm,4.5s
LZH LR LR
comp=N,3μm,19.7s
LZH LR LR
comp=Z,3μm,20.9s,MS5.6
LZH Lanzhou 79.81 19 *e*P **P** **05 21 02.4 +0.2**
LZH *PP pP 05 21 05.7 +0.2
LZH *SP sP 05 21 06.8 +0.1
LZH 05 24 06.0
LZH *e*S S 05 31 05.5 +0.2
LZH 05 31 12.5
LZH SS SS 05 36 16.0 +1.8
LZH pmax pmax
comp=Z,47nm,1.4s,mb5.2
LZH MLR MLR
comp=Z,3μm,20.9s,MS5.6
LZH Lanzhou 79.81 19 *e*P **P** **05 21 02.4 +0.2**
comp=Z,47nm,1.4s,mb5.2
LZH pP pP 05 21 05.7 +0.2
LZH sP sP 05 21 06.8 +0.1
LZH PP PP 05 24 06.0 +2.6
LZH *e*S S 05 31 05.5 +0.2
LZH sS sS 05 31 11.1 +0.3
LZH SKS 05 31 12.5
LZH SS SS 05 36 16.0 +1.8
LZH LR LR
comp=Z,3μm,20.9s,MS5.6
GUMO Guam 80.48 63 P **P** **05 21 10.3 +4.5**
EFI East Falkland 80.76 205 PFAKE 05 21 20.0 +13
EFI LR LR
comp=Z,373nm,19.0s,MS4.8
NJ2 Nanjing 80.98 32 *e*P **P** **05 21 07.3 -1.2**
NJ2 AP pP 05 21 11.4 -0.5
NJ2 XP sP 05 21 21.4 +8.4
NJ2 PP PP 05 24 14.1 +0.9
NJ2 S S 05 31 13.0 -4.6
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,4.4s
NJ2 LR LR
comp=N,2μm,18.0s,MS5.7
NJ2 LR LR
comp=E,2μm,15.2s,MS5.7
NJ2 LR LR
comp=Z,6μm,14.8s,MS6.1
SSE Sheshan 81.12 34 P **P** **05 21 09.8 +0.6**
SSE AP pP 05 21 13.0 +0.4
SSE S S 05 31 21.3 +2.3
SSE XS sS 05 31 27.0 +2.6
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,322nm,5.0s
SSE LR LR
comp=N,543nm,20.0s,MS5.2
SSE LR LR
comp=E,1μm,20.0s,MS5.2
SSE LR LR
comp=Z,509nm,19.3s,MS4.9
SSE Sheshan 81.12 34 P **P** **05 21 09.8 +0.6**
comp=Z,44nm,0.7s,mb5.5
SSE pP pP 05 21 13.0 +0.4
SSE S S 05 31 21.3 +2.3
SSE sS sS 05 31 27.0 +2.6
SSE LR LR
comp=Z,510nm,19.3s,MS4.9
GTA Gaotai 82.12 15 *e*P **P** **05 21 14.3 -0.2**
GTA AP pP 05 21 17.8 0.0
GTA XP sP 05 21 20.8 +1.8
GTA PP PP 05 24 23.9 +1.4
GTA S S 05 31 26.7 -2.6
GTA SKS 05 31 29.7
GTA SS SS 05 36 49.1 +0.5
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,435nm,6.1s
GTA LR LR
comp=N,1μm,18.3s,MS5.5
GTA LR LR
comp=E,1μm,16.7s,MS5.5
GTA LR LR
comp=Z,1μm,17.5s,MS5.4
EIL Elat 82.19 321 *e*P **P** **05 21 11.1 -3.8**
comp=Z,426nm,1.3s
AAK Ala-Archa 83.63 355 *e*P **P** **05 21 21.1 -1.3**
AAK pmax pmax
comp=Z,19nm,1.2s,mb5.1
AAK MLR MLR
comp=Z,1μm,20.0s,MS5.2
AAK Ala-Archa 83.63 355 *e*P **P** **05 21 21.1 -1.3**
comp=Z,19nm,1.2s,mb5.1
AAK LR LR
comp=Z,1μm,20.0s,MS5.2
FRU Bishkek 83.82 356 *e*P **P** **05 21 26.0 +2.6**
FRU *e* 05 31 46.0
WMQ Urumqi 84.88 5 *e*P **P** **05 21 28.4 -0.3**
WMQ AP pP 05 21 33.0 +1.0
WMQ XP sP 05 21 35.5 +2.3
WMQ PP PP 05 24 46.0 +0.9
WMQ PPP 05 26 42.0
WMQ SKS 05 31 49.5
WMQ SS SS 05 37 33.0 +3.5
WMQ AMB AMB
comp=Z,17nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,202nm,5.8s
WMQ LR LR
comp=N,3μm,19.8s,MS5.7
WMQ LR LR
comp=E,2μm,17.3s,MS5.7
WMQ LR LR
comp=Z,4μm,27.2s
HHC Hu-ho-hao-te 86.37 23 *e*P **P** **05 21 37.3 +1.2**
HHC AP pP 05 21 41.6 +2.1
HHC XP sP 05 21 44.7 +4.1
HHC SKS 05 32 02.6
HHC S S 05 32 12.8 +0.9
HHC XS sS 05 32 24.6 +7.2
HHC AMB AMB
comp=Z,15nm,0.3s,mb5.7
HHC AMB AMB
comp=Z,202nm,3.7s
HHC LR LR
comp=N,2μm,21.1s,MS5.5
HHC LR LR
comp=E,1μm,20.1s,MS5.5
HHC LR LR
comp=Z,2μm,22.1s,MS5.5
BJT Baijiatuau 87.07 27 P **P** **05 21 43.6 +4.0**
BJT Baijiatuau 87.07 27 PFAKE 05 21 50.0 +10
BJT LR LR
comp=Z,2μm,22.0s,MS5.5
BJI Beijing 87.09 27 P **P** **05 21 38.2 -1.5**
BJI S S 05 32 06.7 -12
BJI AMB AMB
comp=Z,6.0nm,1.2s,mb4.7
BJI LR LR
comp=N,864nm,20.6s,MS5.5
BJI LR LR
comp=E,2μm,22.3s,MS5.5
BJI LR LR
comp=Z,2μm,23.1s,MS5.4
BJI Beijing 87.09 27 P **P** **05 21 38.2 -1.5**
comp=Z,6.0nm,1.2s,mb4.7
BJI S S 05 32 06.7 -12
BJI SS SS 05 38 21.8 +20
BJI LR LR
comp=Z,2μm,23.1s,MS5.4
GNI Garni 87.29 333 P **P** **05 21 42.5 +1.9**
GNI Garni 87.29 333 PFAKE 05 21 50.0 +9.4
GNI LR LR
comp=Z,989nm,20.0s,MS5.2
MKAR Makanchi Array 87.62 1 P **P** **05 21 40.5 -1.8**
comp=Z,1.9nm,0.8s,mb4.4,baz=164,slow=4.8,SNR=11
MALT Malatya 88.00 328 P **P** **05 21 48.7 +4.6**
DL2 Dalian 88.06 31 *e*P **P** **05 21 45.2 +0.9**
DL2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
DL2 LR LR
comp=N,460nm,16.5s,MS5.1
DL2 LR LR
comp=E,430nm,18.7s,MS5.1
DL2 LR LR
comp=Z,480nm,18.1s,MS5.0
INCN Inchon 88.90 35 PFAKE 05 22 00.0 +12
INCN LR LR
comp=Z,1μm,22.0s,MS5.2
MAK Makhachkala 88.94 336 *i*P **P** **05 21 48.4 -0.1**
MAK *e* 05 25 18.7
MAK *e* 05 32 39.9
MAK pmax pmax
comp=Z,32nm,0.4s,mb6.0
TOA0 Torodi Ar. Sit 90.39 287 *e*P **P** **05 21 55.2 0.0**
TORD Torodi Ar. Bea 90.39 287 P **P** **05 21 55.6 +0.3**
comp=Z,3.3nm,0.9s,mb4.6,baz=115,slow=3.6,SNR=7.9
TORD LR LR 05 59 46.4
comp=Z,5μm,20.9s,MS6.0,baz=125,slow=34
FUNA Funafuti 90.85 102 PFAKE 05 22 10.0 +13
FUNA LR LR
comp=Z,7μm,19.0s,MS6.1
DBIC Dimbokro 90.94 278 LR LR 05 59 16.2
comp=Z,4μm,19.1s,MS5.9,baz=117,slow=33
DBIC Dimbokro 90.94 278 P **P** **05 22 03.1 +5.3**
DBIC Dimbokro 90.94 278 PFAKE 05 22 10.0 +12
DBIC LR LR
comp=Z,4μm,20.0s,MS5.9
ISP Isparta 91.01 323 P **P** **05 21 50.4 -7.7**
BR131 Keskin Array S 91.17 326 *e*P **P** **05 21 59.9 +1.0**
comp=Z,2.4nm,0.9s,mb4.5
BR131 LR LR
comp=Z,688nm,19.0s,MS5.1
BRTR Keskin Array B 91.17 326 P **P** **05 21 59.6 +0.7**
comp=Z,2.4nm,1.0s,mb4.5,baz=156,slow=6.4,SNR=8.1
KIV Kislovodsk 91.37 334 *i*P **P** **05 22 05.3 +5.5**
KIV pmax pmax
comp=Z,16nm,1.1s,mb5.3
KIV Kislovodsk 91.37 334 PFAKE 05 22 10.0 +10
KIV LR LR
comp=Z,177nm,19.0s,MS4.5
SONM Songino Array 91.55 17 P **P** **05 21 59.7 -1.0**
comp=Z,4.6nm,1.1s,mb4.7,baz=208,slow=5.0,SNR=5.9
ANTO Ankara 91.66 325 PFAKE 05 22 10.0 +8.9
ANTO LR LR
comp=Z,865nm,19.0s,MS5.2
ZAK Zakamensk 93.34 14 *e*P **P** **05 22 07.3 -1.6**
AKTK Aktyubinsk 93.38 346 P **P** **05 22 08.8 -0.3**
AKTO Aktyubinsk 93.38 346 P **P** **05 22 08.8 -0.3**
comp=Z,1.6nm,0.8s,mb4.5,baz=166,slow=1.5,SNR=4.3
MAJO Matsushiro 93.64 43 P **P** **05 22 14.4 +4.1**
CN2 Changchun 93.74 31 *e*P **P** **05 22 11.7 +1.0**
CN2 *e*XP sP 05 22 19.3 +4.0
CN2 *e*S S 05 33 18.7 -1.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,20.0s,MS5.4
CN2 LR LR
comp=E,900nm,20.0s,MS5.4
CN2 LR LR
comp=Z,1μm,22.0s,MS5.3
TRQA Tornquist 94.03 209 PFAKE 05 22 20.0 +7.9
TRQA LR LR
comp=Z,2μm,19.0s,MS5.5
BVAR Borovoye Array 94.26 354 P **P** **05 22 11.3 -1.9**
comp=Z,1.7nm,0.9s,mb4.5,baz=183,slow=8.9,SNR=6.2
BRVK Borovoye 94.30 354 P **P** **05 22 14.6 +1.2**
BRVK pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
BRVK Borovoye 94.30 354 *e*P **P** **05 22 10.8 -2.5**
comp=Z,6.3nm,1.1s,mb5.0
BRVK LR LR
comp=Z,533nm,20.0s,MS5.0
ZRNK Zerenda 94.31 353 P **P** **05 22 17.2 +3.8**
ZRNK pmax pmax
comp=Z,5.0nm,1.3s,mb4.8
ZRNK Zerenda 94.31 353 *e*P **P** **05 22 11.0 -2.4**
comp=Z,4.6nm,1.3s,mb4.8
PLCA Paso Flores 94.35 202 P **P** **05 22 18.4 +4.8**
PLCA Paso Flores 94.35 202 PFAKE 05 22 20.0 +6.4
PLCA LR LR
comp=Z,3μm,19.0s,MS5.8
TLY Talaya 94.65 14 P **P** **05 22 18.9 +4.0**
TLY Talaya 94.65 14 PFAKE 05 22 30.0 +15
TLY LR LR
comp=Z,663nm,20.0s,MS5.1
ZAL Zalesovo 94.83 2 P **P** **05 22 19.7 +3.9**
comp=Z,0.9nm,0.4s,mb4.6,baz=332,slow=1.4,SNR=5.6
CHKZ Chkalovo 94.89 354 P **P** **05 22 17.3 +1.3**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
CHKZ Chkalovo 94.89 354 *e*P **P** **05 22 11.1 -4.9**
comp=Z,4.6nm,1.0s,mb4.9
NVS Novosibirsk 95.69 2 *e*P **P** **05 22 23.3 +3.6**
MDJ Mudanjiang 96.06 33 P **P** **05 22 22.7 +1.3**
MDJ AP pP 05 22 26.1 +1.4
MDJ XP sP 05 22 27.4 +1.5
MDJ PP PP 05 26 13.7 -0.2
MDJ S S 05 33 37.2 -3.1
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.8
MDJ AMB AMB
comp=Z,75nm,6.1s
MDJ LR LR
comp=N,663nm,39.5s,MS5.0
MDJ LR LR
comp=E,892nm,39.5s,MS5.0
MDJ LR LR
comp=Z,753nm,39.5s,MS4.9
MDJ Mudanjiang 96.06 33 PFAKE 05 22 30.0 +8.6
MDJ LR LR
comp=Z,1μm,19.0s,MS5.3
HIA Hailar 96.45 25 *i*P **P** **05 22 22.3 -0.9**
HIA Hailar 96.45 25 PFAKE 05 22 30.0 +6.8
HIA LR LR
comp=Z,2μm,21.0s,MS5.5
ARU Arti 99.03 348 PFAKE 05 22 50.0 +15
ARU LR LR
comp=Z,227nm,19.0s,MS4.7
ERM Erimo 100.27 42 PFAKE 05 22 50.0 +10
ERM LR LR
comp=Z,158nm,19.0s,MS4.5
TBI Tubuai 100.76 134 *e*S Sdif 05 34 18.9 -1.2
comp=Z,310nm,29.5s
TBI *e*SS SS 05 41 16.3 -0.8
comp=Z,758nm,29.8s
TBI *e*LQ 05 51 17.2
comp=Z,676nm,35.0s
TBI *e*LR LR 05 55 44.9
comp=Z,788nm,23.8s
OBN Obninsk 103.02 336 PFAKE 05 23 00.0 +7.5
OBN LR LR
comp=Z,149nm,20.0s,MS4.5
YSS Yuzh-Sakhalins 103.68 39 PFAKE 05 23 10.0 +15
YSS LR LR
comp=Z,469nm,20.0s,MS5.0
PPT Papeete 105.32 131 *e*S Sdif 05 34 55.8 -2.3
comp=Z,450nm,25.2s
PPT *e*LQ 05 53 17.5
comp=Z,4μm,33.2s
PPT *e*LR LR 05 57 58.4
comp=Z,1μm,26.5s
RCBR Riachuelo 105.60 248 PFAKE 05 27 30.0 +13
RCBR LR LR
comp=Z,2μm,19.0s,MS5.6
BDFB Brasilia 106.14 232 PFAKE 05 27 30.0 +12
BDFB LR LR
comp=Z,2μm,21.0s,MS5.5
RKT Rikitea 107.99 146 *e*LQ 05 53 58.6
comp=Z,1μm,34.5s
RKT Rikitea 107.99 146 *e*PP PP 05 27 28.6 -15
comp=Z,237nm,31.2s
RKT Rikitea 107.99 146 *e*SP SP 05 37 03.1 -2.4
comp=Z,156nm,31.5s
RKT *e*SS SS 05 43 01.6 +5.2
comp=Z,527nm,29.5s
RKT *e*LR LR 05 59 00.2
comp=Z,985nm,23.5s
RKT Rikitea 107.99 146 *e*PP PP 05 27 28.6 -15
RKT *e*SP SP 05 37 03.1 -2.4
RKT *e*LQ 05 53 58.6
GRF Grafenberg Arr 109.05 320 *e*SS SS 05 43 06.8 -3.9
GRF *e*L 06 22 49.4
comp=Z,563nm,19.8s
CLL Collm 109.29 322 *e*PP PP 05 27 45.0 -8.1
CLL LmV 05 23 00.0
comp=Z,600nm,18.0s
CLL *e*SS SS 05 43 18.0 +4.2
CLL *e*SSS 05 47 18.0
YAK Yakutsk 110.22 22 PFAKE 05 27 40.0 +14
YAK LR LR
comp=Z,3μm,21.0s,MS5.8
LVC Limon Verde 110.49 210 PFAKE 05 27 40.0 +14
LVC LR LR
comp=Z,1μm,20.0s,MS5.5
ESLA Sonseca Array 111.23 304 PFAKE 05 27 40.0 +12
ESLA LR LR
comp=Z,7μm,20.0s,MS6.2
RPN Rapa Nui 111.40 170 PFAKE 05 27 40.0 +12
RPN LR LR
comp=Z,542nm,20.0s,MS5.1
PET Petropavlovsk 115.37 41 PFAKE 05 27 50.0 +14
PET LR LR
comp=Z,595nm,19.0s,MS5.2
MA2 Magadan 115.75 32 PFAKE 05 27 50.0 +14
MA2 LR LR
comp=Z,862nm,19.0s,MS5.4
LPAZ La Paz 115.89 214 PFAKE 05 27 50.0 +13
LPAZ LR LR
comp=Z,1μm,22.0s,MS5.4
KONO Kongsberg 116.14 328 PFAKE 05 27 50.0 +13
KONO LR LR
comp=Z,775nm,20.0s,MS5.3
KEV Kevo 117.34 342 PFAKE 05 27 50.0 +11
KEV LR LR
comp=Z,847nm,21.0s,MS5.3
TIXI Tiksi 117.60 15 PFAKE 05 27 50.0 +10
TIXI LR LR
comp=Z,2μm,21.0s,MS5.7
TAOE Nuku Hiva Isla 117.68 133 *e*SS SS 05 45 09.7 +4.8
comp=Z,3μm,31.4s
TAOE *e*LR LR 06 03 28.8
comp=Z,2μm,22.1s
ESK Eskdalemuir 119.46 319 PFAKE 05 27 50.0 +6.5
ESK LR LR
comp=Z,256nm,19.0s,MS4.9
SAML Samuel 120.01 222 PFAKE 05 28 00.0 +15
SAML LR LR
comp=Z,2μm,20.0s,MS5.7
NNA Nana 123.13 207 PFAKE 05 28 00.0 +9.5
NNA LR LR
comp=Z,222nm,19.0s,MS4.8
BILL Bilibino 125.91 28 PFAKE 05 28 10.0 +14
BILL LR LR
comp=Z,1μm,21.0s,MS5.6
ADH Angra Heroismo 126.10 293 *e*LR LR 06 08 32.5
KBS Kingsbay 126.21 347 PFAKE 05 28 10.0 +14
KBS LR LR
comp=Z,590nm,20.0s,MS5.3
POHA Pohakuloa 128.06 97 PFAKE 05 28 10.0 +10
POHA LR LR
comp=Z,2μm,22.0s,MS5.7
UNV Unalaska Valle 134.63 50 PFAKE 05 28 20.0 +7.6
UNV LR LR
comp=Z,2μm,20.0s,MS5.8
OTAV Otavalo 135.03 210 *e*PKPdf PKPdf 05 28 17.1 +3.9
OTAV LR LR
comp=Z,703nm,19.0s,MS5.4
TNA Tin City 135.37 33 PFAKE 05 28 20.0 +6.2
TNA LR LR
comp=Z,708nm,20.0s,MS5.4
PAYG Puerto Ayora 137.51 194 PFAKE 05 28 30.0 +12
PAYG LR LR
comp=Z,2μm,19.0s,MS5.8
SDV Santo Domingo 138.97 226 PFAKE 05 28 30.0 +10
SDV LR LR
comp=Z,916nm,19.0s,MS5.5
KDAK Kodiak Island 142.78 45 PFAKE 05 28 40.0 +13
KDAK LR LR
comp=Z,231nm,20.0s,MS4.9
SJG San Juan 143.41 241 *e*PKIKP PKPdf 05 28 25.8 -2.6
SJG MLR MLR
comp=Z,920nm,21.0s
MCK McKinley 143.66 35 PFAKE 05 28 40.0 +11
MCK LR LR
comp=Z,482nm,20.0s,MS5.3
COLA College 143.81 33 PFAKE 05 28 40.0 +11

COLA LR LR
comp=Z,804nm,20.0s,MS5.5
PMR Palmer 144.05 38 PFAKE 05 28 40.0 +10
PMR LR LR
comp=Z,821nm,20.0s,MS5.5
DIV Divide 145.73 39 *e*PKPbc PKPbc 05 28 32.2 -0.6
DIV LR LR
comp=Z,2μm,20.0s,MS6.0
EGAK Eagle 146.52 31 *e*PKPbc PKPbc 05 28 33.3 -1.9
JTS JuntasAbangare 146.68 207 *e*PKP2 PKPab 05 28 38.6 +1.8
JTS MLR MLR
comp=Z,286nm,21.0s
INK Inuvik 147.29 23 PKPbc PKPbc 05 28 37.5 0.0
comp=Z,7.8nm,0.9s,baz=250,slow=3.2,SNR=9.4
INK Inuvik 147.29 23 *e*PKPbc PKPbc 05 28 34.2 -3.2
DAWY Dawson 147.51 32 *e*PKPbc PKPbc 05 28 36.5 -1.6
TGUH Tegucigalpa,Un 150.97 205 *e*PKPbc PKPbc 05 28 46.9 +0.2
BBSR BB Station 151.00 264 PFAKE 05 28 50.0 +9.0
BBSR LR LR
comp=Z,669nm,20.0s,MS5.4
SIT Sitka 152.06 43 PFAKE 05 28 50.0 +7.4
SIT LR LR
comp=Z,2μm,21.0s,MS5.8
SCHQ Schefferville 154.58 314 PFAKE 05 29 00.0 +14
SCHQ LR LR
comp=Z,3μm,21.0s,MS6.2
WES Weston 159.07 283 PFAKE 05 29 00.0 +8.0
WES LR LR
comp=Z,1μm,22.0s,MS5.7
HRV Harvard--Oak R 159.25 283 PFAKE 05 29 00.0 +7.7
HRV LR LR
comp=Z,1μm,22.0s,MS5.7
LBNH Lisbon 159.62 288 PFAKE 05 29 00.0 +7.3
LBNH LR LR
comp=Z,1μm,21.0s,MS5.8
DWPF Disney 160.33 234 PFAKE 05 29 00.0 +6.5
DWPF LR LR
comp=Z,1μm,19.0s
NCB Newcomb 161.28 287 PFAKE 05 29 00.0 +5.5
NCB LR LR
comp=Z,1μm,20.0s
HOPS Hopland 161.76 89 PFAKE 05 29 10.0 +15
HOPS LR LR
comp=Z,1μm,20.0s
SNCC San Nicolas Is 162.14 110 PFAKE 05 29 10.0 +15
SNCC LR LR
comp=Z,1μm,20.0s
COR Corvallis 162.18 71 PFAKE 05 29 10.0 +15
COR LR LR
comp=Z,2μm,20.0s
SAO San Andreas Ge 162.31 97 PFAKE 05 29 10.0 +14
SAO LR LR
comp=Z,1μm,20.0s
WDC Whiskeytown Da 162.49 84 PFAKE 05 29 10.0 +14
WDC LR LR
comp=Z,1μm,21.0s
BINY Binghamton 162.50 281 PFAKE 05 29 10.0 +14
BINY LR LR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 162.52 81 PFAKE 05 29 10.0 +14
YBH LR LR
comp=Z,1μm,21.0s
CBN Corbin 162.80 267 PFAKE 05 29 10.0 +14
CBN LR LR
comp=Z,1μm,20.0s
CMB Columbia Colle 163.52 94 PFAKE 05 29 10.0 +13
CMB LR LR
comp=Z,2μm,19.0s
SSPA Standing Stone 163.73 275 PFAKE 05 29 10.0 +13
SSPA LR LR
comp=Z,1μm,20.0s
ISA Isabella 164.07 104 PFAKE 05 29 10.0 +13
ISA LR LR
comp=Z,308nm,20.0s
MOD Modoc 164.33 81 PFAKE 05 29 10.0 +13
MOD LR LR
comp=Z,917nm,19.0s
PFO Pinyon Flat Ob 164.49 114 PFAKE 05 29 10.0 +12
PFO LR LR
comp=Z,261nm,19.0s
HAWA Hanford 164.57 64 PFAKE 05 29 10.0 +12
HAWA LR LR
comp=Z,2μm,21.0s
BLA Blacksburg 164.76 261 PFAKE 05 29 10.0 +12
BLA LR LR
comp=Z,1μm,20.0s
DAC Darwin (Calif) 164.98 103 PFAKE 05 29 10.0 +12
DAC LR LR
comp=Z,1μm,19.0s
MCWV Mont Chateau 165.03 271 PFAKE 05 29 10.0 +12
MCWV LR LR
comp=Z,2μm,20.0s
NVAR Mina Array Bea 165.21 95 PKP PKPdf 05 29 04.0 +5.7
comp=Z,2.0nm,1.0s,baz=230,slow=4.2,SNR=3.6
NVAR PKPab PKPab 05 29 57.1 +1.5
comp=Z,2.1nm,0.9s,baz=232,slow=8.0,SNR=6.1
NVAR Mina Array Bea 165.21 95 PKP PKPdf 05 29 04.0 +5.7
NVAR PKPab PKPab 05 29 57.1 +1.6
NEW Newport 165.57 55 PFAKE 05 29 10.0 +11
NEW LR LR
comp=Z,2μm,22.0s
WVOR Wild Horse Val 165.60 79 PFAKE 05 29 10.0 +11
WVOR LR LR
comp=Z,1μm,20.0s
TPH Tonopah 165.91 97 PFAKE 05 29 10.0 +11
TPH LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 166.40 68 PFAKE 05 29 10.0 +11
BMO LR LR
comp=Z,2μm,21.0s
BMN Battle Mountai 166.47 87 PFAKE 05 29 10.0 +11
BMN LR LR
comp=Z,1μm,20.0s
TUC Tucson 167.28 131 *e*PKPdf PKPdf 05 29 00.0 +0.2
TUC LR LR
comp=Z,977nm,21.0s
ACSO Alum Creek Sta 167.50 271 PFAKE 05 29 10.0 +10
ACSO LR LR
comp=Z,2μm,20.0s
ELK Elko 168.01 87 PFAKE 05 29 10.0 +10
ELK LR LR
comp=Z,2μm,21.0s
MSO Missoula 168.12 57 PFAKE 05 29 10.0 +10
MSO LR LR
comp=Z,1μm,21.0s
AAM Ann Arbor 168.19 281 PFAKE 05 29 10.0 +9.5
AAM LR LR
comp=Z,2μm,20.0s
HKT Hockley 168.41 196 PFAKE 05 29 10.0 +9.3
HKT LR LR
comp=Z,1μm,21.0s
CCUT Cedar City 168.59 104 *e*PKPdf PKPdf 05 29 01.3 +0.5
HLID Hailey 168.64 73 *e*PKPab PKPab 05 30 12.9 +2.2
HLID LR LR
comp=Z,2μm,20.0s
WUAZ Wupatki 169.02 117 PFAKE 05 29 10.0 +8.9
WUAZ LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 169.14 239 PFAKE 05 29 10.0 +8.9
PLAL LR LR
comp=Z,2μm,20.0s
JCT Junction City 169.30 178 *e*PKPdf PKPdf 05 29 01.1 -0.1
JCT LR LR
comp=Z,1μm,21.0s
MNTX Cornudas Mount 169.37 151 *e*PKPdf PKPdf 05 29 01.9 +0.6
MNTX LR LR
comp=Z,1μm,21.0s
WCI Wyandotte Cave 169.48 258 PFAKE 05 29 10.0 +8.7
WCI LR LR
comp=Z,997nm,19.0s
WVT Waverly 169.64 244 PFAKE 05 29 10.0 +8.6
WVT LR LR
comp=Z,1μm,21.0s
OXF Oxford 169.66 233 PFAKE 05 29 10.0 +8.6
OXF LR LR
comp=Z,2μm,20.0s
DUG Dugway 169.76 91 PFAKE 05 29 10.0 +8.5
DUG LR LR
comp=Z,1μm,21.0s
MVU Marysvale 169.78 101 PFAKE 05 29 10.0 +8.5
MVU LR LR
comp=Z,2μm,21.0s
MSU Marysvale 169.81 101 *e*PKPdf PKPdf 05 29 03.1 +1.6
NATX Nacogdoches 169.84 203 PFAKE 05 29 10.0 +8.5
NATX LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 169.95 44 PFAKE 05 29 10.0 +8.4
EGMT LR LR
comp=Z,930nm,22.0s
MPU Maple Canyon 170.62 93 PFAKE 05 29 10.0 +8.0
MPU LR LR
comp=Z,2μm,19.0s
ULM Lac du Bonnet 170.62 346 PFAKE 05 29 10.0 +8.0
ULM LR LR
comp=Z,2μm,20.0s
YMR Madison River 170.83 64 PFAKE 05 29 10.0 +7.9
YMR LR LR
comp=Z,3μm,22.0s
HWUT Hardware Ranch 170.84 83 PFAKE 05 29 10.0 +7.9
HWUT LR LR
comp=Z,2μm,21.0s
AHID Auburn Hatcher 171.14 76 PFAKE 05 29 10.0 +7.7
AHID LR LR
comp=Z,1μm,21.0s
TPAW Teton Pass 171.14 71 *e*PKPdf PKPdf 05 29 02.1 -0.1
EYMN Ely 171.21 323 PFAKE 05 29 10.0 +7.7
EYMN LR LR
comp=Z,2μm,20.0s
SRU San Rafael 171.23 100 *e*PKPdf PKPdf 05 29 03.2 +0.9
MOOW Moose Ponds 171.23 69 *e*PKPdf PKPdf 05 29 02.6 +0.3
LKWY Lake 171.25 64 PFAKE 05 29 10.0 +7.7
LKWY LR LR
comp=Z,3μm,22.0s
LOHW Long Hollow 171.36 70 *e*PKPdf PKPdf 05 29 03.1 +0.7
ANMO Albuquerque 171.64 136 *e*PKPdf PKPdf 05 29 03.1 +0.6
ANMO LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 171.92 217 PFAKE 05 29 10.0 +7.4
MIAR LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 171.97 23 PFAKE 05 29 10.0 +7.3
DGMT LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 172.27 75 *e*PKPdf PKPdf 05 29 03.0 +0.2
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 172.27 75 PKP PKPdf 05 29 02.5 -0.3
comp=Z,0.9nm,0.9s,baz=132,slow=2.2,SNR=5.4
PDAR PKPab PKPab 05 30 27.1 +0.3
comp=Z,0.2nm,0.3s,baz=318,slow=3.9,SNR=2.2
PDAR PP PP 05 34 21.1 +3.2
comp=Z,1.2nm,1.0s,baz=210,slow=4.8,SNR=5.5
LAO LASA Array 172.63 40 PFAKE 05 29 10.0 +7.0
LAO LR LR
comp=Z,2μm,21.0s
CCM Cathedral Cave 172.97 246 PFAKE 05 29 10.0 +6.9
CCM LR LR
comp=Z,1μm,19.0s
JFWS Jewell Farm 172.98 287 PFAKE 05 29 10.0 +6.9
JFWS LR LR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 173.53 185 *e*PKPdf PKPdf 05 29 03.0 -0.4
WMOK LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 174.15 124 *e*PKPdf PKPdf 05 29 04.0 +0.4
SDCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 175.06 104 *e*PKPdf PKPdf 05 29 04.9 +1.1
ISCO LR LR
comp=Z,2μm,20.0s
RSSD Black Hills 175.50 48 PFAKE 05 29 10.0 +6.1
RSSD LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 177.60 174 PFAKE 05 29 10.0 +5.6
CBKS LR LR
comp=Z,1μm,19.0s

*ISCJB **06** 05:11:19.7±0.8, 414S±02×806E±02, h10km, mb4.3/8, Error ellipse: s-maj=28.8km s-min=18.3km az=166.9*
*IDC **06** 05:11:19.8±1.0, 4131S×8056E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/14, mbtmp4.2/6, Error ellipse: s-maj=36.2km s-min=24.6km az=165.0*
*NEIC **06** 05:11:21.4±0.7, 4133S×8060E, h10km, mb4.5/3, Error ellipse: s-maj=23.8km s-min=15.3km az=171.0*
ISC 06 05:11:21.5±0.8, 414S±02×806E±02, h10km, n10, σ0§62/10, mb4.3/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.03**	**194**	P	**P**	**05 17 12.2**	**-0.5**
5.4nm,0.9s,mb4.2,baz=19,slow=9.7,SNR=8.2							
BOSA	**Boshof**	**46.37**	**268**	P	**P**	**05 19 47.9**	**+0.1**
8.8nm,1.1s,mb4.6,baz=121,slow=9.3,SNR=3.7							
BOSA	**Boshof**	**46.37**	**268**	*e*P	**P**	**05 19 48.2**	**+0.3**
4.4nm,1.0s,mb4.3							
ASAR	**Alice Springs**	**47.53**	**85**	P	**P**	**05 19 57.5**	**+0.5**
4.2nm,1.0s,mb4.4,baz=243,slow=6.8,SNR=5.2							
VNDA	**Vanda**	**48.14**	**163**	P	**P**	**05 20 06.2**	**+4.5**
1.7nm,0.7s,mb4.2,baz=279,slow=7.3,SNR=5.7							
VNDA	**Vanda**	**48.14**	**163**	*e*P	**P**	**05 20 06.7**	**+5.0**
2.4nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**50.05**	**82**	P	**P**	**05 20 16.5**	**+0.2**
5.1nm,1.0s,mb4.5,baz=232,slow=7.7,SNR=3.5							
LSZ	**Lusaka**	**52.01**	**284**	*e*P	**P**	**05 20 31.7**	**+0.7**
12nm,1.2s,mb4.7							
MKAR	**Makanchi Array**	**87.77**	**1**	P	**P**	**05 24 09.5**	**-1.2**
0.7nm,0.6s,mb4.0,baz=182,slow=6.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**90.44**	**287**	P	**P**	**05 24 23.3**	**+0.1**
0.7nm,0.8s,mb4.0,baz=141,slow=3.0,SNR=2.9							

*ISCJB **06** 05:21:18.9±0.6, 194S±01×1746W±01, h12km, mb4.3/9, Error ellipse: s-maj=16.9km s-min=11.5km az=96.8*
*IDC **06** 05:21:19.7±1.0, 1935S×17483W, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.3/16, mbtmp4.4/7, ML2.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=36.7km s-min=20.6km az=120.0*
*NEIC **06** 05:21:21.2±5.7, 1938S×17480W, h12km±36km, mb4.4/4, Error ellipse: s-maj=19.1km s-min=11.0km az=119.0*
ISC 06 05:21:19.9±7.3, 195S±01×1746W±01, h4km±48km, n20, σ0§85/21, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.15**	**27**	Pn	**Pn**	**05 22 52.3**	**+0.8**
8.3nm,0.3s,baz=257,slow=10,SNR=14							
AFI				Sn	**Sn**	**05 23 49.9**	**-12**
17nm,0.3s,baz=203,slow=23,SNR=4.0							
RAR	**Rarotonga**	**14.04**	**100**	Pn	**Pn**	**05 24 38.5**	**-1.0**
3.4nm,0.3s,baz=253,slow=12,SNR=19							
RAR				Sn	**Sn**	**05 26 58.5**	**-17**
3.2nm,0.3s,baz=91,slow=13,SNR=4.4							
RAR				LR	LR	05 28 18.6	
comp=Z,106nm,19.0s,baz=344,slow=29							
DZM	**Mont Dzumac**	**17.89**	**258**	*e*P	**Pn**	**05 25 35.0**	**+5.3**
DZM	**Mont Dzumac**	**17.89**	**258**	P	**Pn**	**05 25 36.2**	**+6.6**
2.2nm,0.3s,baz=80,slow=18,SNR=24							
DZM				S	Sn	05 28 21.3	-28
0.6nm,0.3s,baz=109,slow=23,SNR=6.3							
URZ	**Urewera**	**20.07**	**199**	P	**P**	**05 25 54.5**	**+0.3**
19nm,0.8s,baz=47,slow=12,SNR=11							
URZ				S	**S**	**05 29 30.0**	**-10**
7.7nm,0.8s,baz=269,slow=13,SNR=3.2							
RPZ	**Rata Peaks**	**27.01**	**203**	P	**P**	**05 27 02.8**	**0.0**
9.1nm,0.4s,mb4.6,baz=238,slow=9.5,SNR=3.4							
STKA	**Stephens Creek**	**41.10**	**244**	P	**P**	**05 29 08.3**	**+3.6**
1.6nm,0.6s,mb3.9,baz=96,slow=9.2,SNR=4.6							
STKA	**Stephens Creek**	**41.10**	**244**	P	**P**	**05 29 08.3**	**+3.6**
AS31	**Alice Springs**	**47.85**	**255**	*e*P	**P**	**05 29 59.0**	**+0.3**
ASAR	**Alice Springs**	**47.85**	**255**	P	**P**	**05 29 58.4**	**-0.4**
9.3nm,0.6s,mb5.0,baz=90,slow=8.4,SNR=38							
WB2	**Warramunga Arr**	**47.89**	**260**	*e*P	**P**	**05 29 58.0**	**-1.0**
WRA	**Warramunga Arr**	**47.90**	**260**	P	**P**	**05 29 58.3**	**-0.8**
2.7nm,0.6s,mb4.5,baz=95,slow=8.4,SNR=14							
VNDA	**Vanda**	**59.24**	**186**	P	**P**	**05 31 23.9**	**+1.6**
1.3nm,0.9s,mb4.0,baz=22,slow=7.9,SNR=7.3							
VNDA	**Vanda**	**59.24**	**186**	*e*P	**P**	**05 31 24.2**	**+1.9**
2.0nm,1.0s,mb4.1							
CASY	**Casey**	**66.26**	**205**	*e*P	**P**	**05 32 08.7**	**-0.4**
4.2nm,1.1s,mb4.4							
QSPA	**South Pole Qui**	**70.61**	**180**	*e*P	**P**	**05 32 37.0**	**+0.7**
5.5nm,0.9s,mb4.5							
NVAR	**Mina Array Bea**	**78.11**	**42**	P	**P**	**05 33 20.0**	**0.0**
0.5nm,0.7s,mb3.6,baz=228,slow=9.9,SNR=3.9							
SNAA	**Sanae**	**88.93**	**177**	*e*P	**P**	**05 34 14.9**	**-0.7**
0.8nm,0.8s,mb4.1							
BRTR	**Keskin Array B**	**148.40**	**316**	PKPbc	PKPbc	05 41 07.2	-0.4
1.2nm,0.7s,baz=116,slow=2.9,SNR=5.8							
GERES	**GERESS Array B**	**149.92**	**349**	PKPbc	PKPbc	05 41 12.7	+1.3
0.4nm,0.2s,baz=56,slow=2.5,SNR=3.0							

CASC 06 05:35:41.7±2.6, 949N×8420W, h26km±4km, MD3.6, 5C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.38**	**11**	⇓*i*P	Pb	05 35 51.1	+1.0
BUS	**Buena Vista**	**0.44**	**81**	⇓*i*P	Pb	05 35 51.0	0.0
OCM	**Ochomogo**	**0.47**	**30**	⇓*i*P	Pb	05 35 51.0	-0.4
OCM				*e*S	Sb	05 35 58.8	+0.8
SJS	**Escuela Geolog**	**0.47**	**17**	*e*P	Pb	05 35 51.4	-0.1
PRS1	**Puriscal**	**0.51**	**347**	⇑*i*P	Pb	05 35 50.8	-1.3
CGA2	**Cerro Gallo 2**	**0.59**	**333**	⇓*e*P	Pb	05 35 53.1	-0.3
CGA2				*e*S	Sb	05 36 01.9	+0.5
EPA	**Esparza**	**0.64**	**322**	*e*P	Pb	05 35 53.2	-1.0
EPA				*e*S	Sb	05 36 05.0	+2.2
POA2	**Poas 2**	**0.69**	**355**	⇑*e*P	Pb	05 35 54.8	-0.4
POA2				*e*S	Sb	05 36 05.0	+0.8
CAO	**Cobano**	**0.92**	**283**	⇑*e*P	Pn	05 35 57.0	-1.9
JCR	**Jicaral**	**0.97**	**292**	*e*P	Pn	05 35 58.1	-1.5
JCR				*e*S	Sb	05 36 12.8	+0.5
FORC	**Fortuna**	**1.08**	**335**	⇑*e*P	Pn	05 36 01.0	-0.1
FORC				*e*S	Sn	05 36 16.3	+1.0
VACR	**Volcan Arenal**	**1.09**	**334**	*e*P	Pn	05 36 01.0	-0.2
VACR				*e*S	Sn	05 36 16.5	+1.0
JTS	**JuntasAbangare**	**1.09**	**317**	⇑*e*P	Pn	05 35 59.7	-1.6
JTS				*e*S	Sn	05 36 14.8	-0.8
CTCR	**Cotoan**	**1.53**	**112**	*e*P	Pn	05 36 06.7	-0.6
CTCR				*e*S	Sn	05 36 26.8	+0.4
LIM1	**Limonal**	**1.59**	**319**	*e*P	Pn	05 36 07.9	-0.2

WEL 06 06:13:46.1±0.1, 4329S×17049E, h5km, ML3.7/16, 3C-3D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.27**	**40**	⇑PG	Pg	06 13 51.5	+0.1
WVZ				SG	Sg	06 13 55.2	+0.1
RPZ	**Rata Peaks**	**0.59**	**137**	⇓P*	Pg	06 13 57.8	+0.3
RPZ				*e*SG	Sg	06 14 05.4	+0.2
FOZ	**Fox Glacier**	**0.65**	**244**	⇑PG	Pg	06 13 57.2	-1.4
FOZ				*e*SG	Sg	06 14 05.4	-1.6
LBZ	**Lake Benmore**	**1.12**	**191**	⇑P*	Pb	06 14 07.2	-0.8
LTZ	**Lake Taylor**	**1.40**	**69**	PN	Pn	06 14 12.2	0.0
JCZ	**Jackson Bay**	**1.49**	**237**	⇓PN	Pn	06 14 12.5	-1.0
CRLZ	**Canterbury Las**	**1.58**	**101**	*e*PN	Pn	06 14 14.1	-0.6
MQZ	**McQueen's Vall**	**1.63**	**106**	PN	Pn	06 14 14.5	-0.9
ODZ	**Otahua Downs**	**1.76**	**177**	PN	Pn	06 14 16.9	-0.3
DSZ	**Denniston Nort**	**1.82**	**33**	⇓PN	Pn	06 14 17.0	-1.0
WKZ	**Wanaka**	**1.87**	**214**	PN	Pn	06 14 18.6	-0.2
EAZ	**Earnscleugh**	**2.12**	**203**	PN	Pn	06 14 21.2	-1.1
THZ	**Tophouse**	**2.34**	**50**	PN	Pn	06 14 25.0	-0.3
KHZ	**Kahutara**	**2.40**	**70**	*e*PN	Pn	06 14 26.2	+0.2

*ISCJB **06** 06:15:39.2±0.9, 1570S±007×7388W±008, h81km±11km, mb3.8/5, Error ellipse: s-maj=16.5km s-min=6.9km az=93.1*
*IDC **06** 06:15:40.1±1.8, 1569S×7389W, h74km±20km, mb3.7/6, mb1 3.7/10, mb1mx3.6/21, mbtmp3.9/10, Error ellipse: s-maj=29.9km s-min=12.2km az=55.0*
*NEIC **06** 06:15:40.2±1.1, 1566S×7381W, h74km±13km, Error ellipse: s-maj=16.4km s-min=10.0km az=61.0*
ISC 06 06:15:40.1±0.9, 1570S±007×7388W±008, h71km±10km, n16, σ1§36/22, mb3.8/5, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.42**	**109**	⇑*i*P	**Pn**	**06 16 18.3**	**+0.9**
ARE				*i* S	**Sn**	**06 16 47.0**	**+1.0**
NNA	**Nana**	**4.68**	**322**	P	**Pn**	**06 16 47.5**	**-0.7**
5.5nm,0.3s,baz=149,slow=13,SNR=20							
NNA				S	**Sn**	**06 17 41.2**	**0.0**
58nm,0.3s,baz=216,slow=19,SNR=4.9							
NNA	**Nana**	**4.68**	**322**	P	**Pn**	**06 16 47.5**	**-0.7**
NNA				*e*Sn	**Sn**	**06 17 40.2**	**-0.9**
NNA				S	**Sn**	**06 17 41.2**	**0.0**
LPAZ	**La Paz**	**5.56**	**97**	P	**Pn**	**06 17 02.4**	**+2.1**
5.7nm,0.3s,baz=274,slow=10,SNR=170							
LVC	**Limon Verde**	**8.33**	**146**	P	**Pn**	**06 17 38.2**	**+0.2**
18nm,0.3s,baz=321,slow=12,SNR=174							
LVC				S	**Sn**	**06 19 07.2**	**-3.4**
14nm,0.3s,baz=94,slow=18,SNR=13							
ATAH	**Atahualpa**	**9.71**	**332**	P	**Pn**	**06 18 01.2**	**+4.3**
1.5nm,0.3s,baz=100,slow=5.6,SNR=8.2							
ATAH				S	**Sn**	**06 19 49.1**	**+4.8**
0.5nm,0.3s,baz=156,slow=20,SNR=2.4							
SIV	**San Ignacio**	**12.33**	**93**	P	**Pn**	**06 18 30.1**	**-2.6**
0.7nm,0.3s,baz=278,slow=13,SNR=17							
SAML	**Samuel**	**12.41**	**59**	*e*Pn	**Pn**	**06 18 32.3**	**-1.5**
5.1nm,0.7s							
CFAA	**Coronel Fontan**	**16.65**	**163**	P	**Pn**	**06 19 29.6**	**+0.7**
0.1nm,0.3s,baz=347,slow=11,SNR=5.9							
CPUP	**Villa Florida**	**18.70**	**127**	P	**Pn**	**06 19 51.2**	**-2.6**
0.1nm,0.3s,baz=333,slow=9.0,SNR=2.2							
ROSC	**El Rosal**	**20.43**	**359**	P	**P**	**06 20 13.5**	**+2.1**
2.6nm,0.4s,baz=116,slow=13,SNR=3.2							
SDV	**Santo Domingo**	**24.63**	**8**	P	**P**	**06 20 54.5**	**+0.6**
4.0nm,0.7s,mb3.9,baz=201,slow=8.6,SNR=5.6							
BDFB	**Brasília**	**24.90**	**93**	P	**P**	**06 20 55.4**	**-0.9**
1.8nm,0.7s,mb3.6,baz=259,slow=10,SNR=5.5							
PLCA	**Paso Flores**	**25.11**	**174**	P	**P**	**06 20 59.1**	**+0.9**
2.0nm,0.8s,mb3.6,baz=326,slow=7.6,SNR=3.8							
ULM	**Lac du Bonnet**	**68.46**	**345**	P	**P**	**06 26 33.6**	**-0.9**
1.3nm,0.4s,mb4.1,baz=149,slow=5.9,SNR=5.3							
TORD	**Torodi Ar. Bea**	**80.04**	**73**	P	**P**	**06 27 42.4**	**+0.5**
0.8nm,0.7s,mb3.7,baz=265,slow=5.3,SNR=5.2							

*ATH **06** 06:26:22.8, 3896N×24.16E, h23km±1km, MD3.5/16, ML3.6*
*NEIC **06** 06:26:23.0, 3894N×24.15E, h26km, ML3.6(CSEM), ML3.6(ATH), ML3.6(THE), After ATH.*
*ISCJB **06** 06:26:24.3±0.5, 3898N±002×24.14E±003, h23km±5km, Error ellipse: s-maj=4.4km s-min=3.0km az=159.0*
*THE **06** 06:26:25.4, 3901N×24.14E, h20km, ML3.2*
*CSEM **06** 06:26:25.7±0.1, 3895N×24.17E, h40km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.6km az=75.0*
ISC 06 06:26:24.7±0.5, 3897N±002×2412E±003, h19km±3km, n61, σ1§00/85, 2C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.27**	**317**	*e*Pg	**Pg**	**06 26 30.3**	**-0.5**
NEO	**Neokhori**	**0.77**	**296**	*e*PN	**Pg**	**06 26 38.9**	**-0.9**
NEO	**Neokhori**	**0.77**	**296**	*e*Pn	**Pg**	**06 26 39.4**	**-0.4**
XOR	**Xorichti**	**0.82**	**299**	*e*Pg	**Pg**	**06 26 40.2**	**-0.5**
XOR				*e*Sg	**Sg**	**06 26 51.6**	**-0.1**
LKR	**Lokris**	**0.93**	**250**	*e*PN	**Pb**	**06 26 41.0**	**-1.2**
LKR	**Lokris**	**0.93**	**250**	*e*Pn	**Pb**	**06 26 40.9**	**-1.3**
PTL	**Penteli**	**0.94**	**192**	*e*PN	**Pb**	**06 26 40.5**	**-1.9**
ATH	**Athens Observa**	**1.05**	**198**	*e*PN	**Pb**	**06 26 42.6**	**-1.5**
ATH				*e*SN	**Sb**	**06 26 57.3**	**-0.2**
ATH	**Athens Observa**	**1.05**	**198**	*e*Pn	**Pb**	**06 26 42.6**	**-1.5**
ATH				*e*Sn	**Sb**	**06 26 57.5**	**0.0**
KVR	**Kavouri**	**1.17**	**194**	*e*PN	**Pn**	**06 26 44.8**	**-1.2**
KVR				*e*SN	**Sb**	**06 27 01.5**	**+0.4**
KVR	**Kavouri**	**1.17**	**194**	*e*Pn	**Pn**	**06 26 44.5**	**-1.5**
KVR				*e*Sn	**Sb**	**06 27 01.5**	**+0.4**
MGER	**Gerania Oros**	**1.19**	**215**	*e*PN	**Pn**	**06 26 45.3**	**-1.0**
MGER	**Gerania Oros**	**1.19**	**215**	*e*Pn	**Pn**	**06 26 45.0**	**-1.3**
LOS	**Limnos**	**1.22**	**37**	*e*Pg	**Pn**	**06 26 46.0**	**-0.6**
LOS				*e*Sg	**Sb**	**06 27 02.2**	**-0.1**
LOS	**Limnos**	**1.22**	**37**	*e*Pg	**Pn**	**06 26 46.0**	**-0.6**
LOS				*e*Sg	**Sb**	**06 27 02.2**	**-0.1**
NAIG	**Nisos Aigina**	**1.31**	**202**	*e*PB	**Pn**	**06 26 46.0**	**-1.9**
NAIG	**Nisos Aigina**	**1.31**	**202**	*e*Pb	**Pn**	**06 26 46.5**	**-1.4**
OUR	**Ouranopolis**	**1.36**	**356**	*e*Pg	**Pn**	**06 26 48.6**	**0.0**
OUR				*e*Sg	**Sn**	**06 27 05.8**	**-0.4**
AGG	**Agios Georgios**	**1.40**	**273**	*e*Pg	**Pn**	**06 26 48.7**	**-0.4**
AGG				*e*Sg	**Sn**	**06 27 06.9**	**0.0**
PLG	**Polygyros**	**1.49**	**340**	*e*Pg	**Pn**	**06 26 50.3**	**-0.1**
PLG				*e*Sg	**Sn**	**06 27 08.5**	**-0.9**
PLG	**Polygyros**	**1.49**	**340**	*e*PN	**Pn**	**06 26 50.4**	**0.0**
LIT	**Litokhoron**	**1.69**	**312**	*e*Pb	**Pn**	**06 26 53.4**	**+0.2**
PRK	**Paraskevi**	**1.70**	**80**	*e*PN	**Pn**	**06 26 52.5**	**-0.7**
BOZC	**Bozcaada**	**1.73**	**59**	*i* P	**Pn**	**06 26 52.8**	**-0.9**
BOZC				*i* S	**Sg**	**06 27 20.2**	**-0.4**

THL	Klokotos Trika	1.74 291	*e*PN	Pn	06 26 54.2	+0.4
EVR	Evrytania	1.80 269	*e*PN	Pn	06 26 55.0	+0.3
HORT	Hortiatis	1.80 335	*e*Pb	Pn	06 26 55.0	+0.3
HORT			*e*Sb	Sn	06 27 15.6	-1.5
THE	Thessaloniki	1.88 332	*e*Pb	Pn	06 26 56.1	+0.3
THE			*e*Sb	Sn	06 27 19.1	+0.2
SOH	Sokhos	1.94 343	*e*Pb	Pn	06 26 56.9	+0.4
SOH			*e*Sb	Sn	06 27 19.2	-1.2
AYVA	Ayvalik	2.03 80	*i* P	Pn	06 26 59.0	+1.2
AYVA			*i* S	Sn	06 27 26.8	+4.2
URLA	Izmir	2.03 107	*i* P	Pn	06 26 57.0	-0.8
URLA			*i* S	Sg	06 27 30.3	+0.2
SRS	Serrai	2.18 349	*e*Pn	Pn	06 27 00.6	+0.7
SRS			*e*Sn	Sn	06 27 25.3	-1.1
APE	Apeiranthos	2.20 149	*e*Pn	Pn	06 26 59.2	-0.9
APE			*e*Sn	Sn	06 27 28.2	+1.3
APE	Apeiranthos	2.20 149 ⇓	*i*P	Pn	06 26 59.1	-1.1
GRG	Griva	2.38 327	*e*Pn	Pn	06 27 03.1	+0.5
GRG			*e*Sn	Sn	06 27 31.0	-0.3
MEV	Metsovon	2.38 291	*e*Pn	Pn	06 27 03.7	+1.0
NVR	Nevrokopi	2.38 355	*e*PN	Pn	06 27 03.0	+0.3
ALN	Alexandroupoli	2.43 37	*e*Pn	Pn	06 27 02.4	-0.8
RDO	Rodhopi	2.43 26	*e*PN	Pn	06 27 03.3	0.0
VLI	Veliai	2.44 203	*e*PN	Pn	06 27 03.2	-0.2
VLI	Veliai	2.44 203	*e*Pn	Pn	06 27 02.5	-0.9
SMG	Samos	2.48 120	*e*PN	Pn	06 27 04.0	0.0
ITM	Ithomi	2.49 225	*e*PB	Pn	06 27 05.0	+0.9
KDAG	Bornova	2.53 102	*i* P	Pn	06 27 07.7	+3.0
VAY	Valandovo	2.63 334	*e*Pn	Pn	06 27 06.6	+0.5
MMB	Musomiste	2.63 354	*e*Pn	Pn	06 27 06.0	-0.1
MMB			*e*Sn	Sn	06 27 36.9	-0.6
LKD	Levkas	2.72 266	*e*Pn	Pn	06 27 09.8	+2.5
FNA	Florina	2.78 311	*e*Pn	Pn	06 27 09.0	+0.9
SART	Tekirdag	2.92 53	*i* P	Pn	06 27 09.8	-0.2
SART			*i* S	Sg	06 27 59.6	+1.2
IGT	Igoumenitsa	2.99 282	*e*Pn	Pn	06 27 11.5	+0.4
IGT	Igoumenitsa	2.99 282	P	Pn	06 27 11.5	+0.4
IGT			S	Sg	06 28 03.1	+2.2
KARN	Karanos	3.57 183	*e*Pn	Pn	06 27 20.8	+1.9
KARN			*e*Sn	Sn	06 28 03.1	+2.5
VTS	Vitosha	3.68 349	*e*Pn	Pn	06 27 20.5	0.0
VTS			*e*Sn	Sn	06 28 03.8	+0.4
VTS	Vitosha	3.68 349 ⇑	*i*P	Pn	06 27 22.2	+1.7
LAST	Lasithi	3.96 164	*e*Pn	Pn	06 27 23.5	-0.8
ZKR	Zakros	4.20 156	*e*Pn	Pn	06 27 27.1	-0.5
GZR	Gura Zlata	6.49 352 ⇓	*i*P	Pn	06 28 01.8	+2.6
GZR	Gura Zlata	6.49 352 ⇓	P	Pn	06 28 01.8	+2.7
VOIR		6.50 6 ⇓	*i*P	Pn	06 27 59.4	+0.2
VOIR		6.50 6 ⇓	P	Pn	06 27 59.4	+0.2
MLR	Muntele Rosu	6.65 11 ⇑	*i*P	Pn	06 28 04.1	+2.7

IDC 06 06:38:07.0±3.7, 599S×12760E, h404km±44km, mb3.1/1, mb1 3.0/3, mb1mx2.8/15, mbtmp3.8/3, Error ellipse: s-maj=110.1km s-min=14.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.34**	**155**	P	P	06 41 23.3	+0.5
	0.6nm,0.3s,baz=336,slow=12,SNR=11						
WRA				S	S	06 44 03.6	-1.3
	0.2nm,0.3s,baz=326,slow=21,SNR=5.5						
WB2	**Warramunga Arr**	**15.34**	**155**	*e*P	P	06 41 23.3	+0.4
ASPA	**Alice Springs**	**18.59**	**162**	*e*P	P	06 41 58.1	+0.7
ASAR	**Alice Springs**	**18.59**	**162**	P	P	06 41 58.0	+0.6
	0.2nm,0.3s,baz=347,slow=12,SNR=14						
ASAR				S	S	06 45 08.2	+0.9
	0.1nm,0.3s,baz=348,slow=22,SNR=6.0						
MKAR	**Makanchi Array**	**66.09**	**328**	P	P	06 48 12.2	0.0
	0.5nm,0.5s,baz=121,slow=7.1,SNR=14						

*IDC **06** 06:50:12.5±2.0, 3461N×7316E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=54.3km s-min=29.1km az=63.0*

*ISCJB **06** 06:50:16.6±2.8, 350N±0.1×736E±0.2, h33km±25km, mb3.5/2, Error ellipse: s-maj=33.2km s-min=6.0km az=111.2*

*NNC **06** 06:50:21.8±5.8, 3503N×7200E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=88.1km s-min=39.4km az=112.0*

ISC 06 06:50:16.9±2.9, 3471N±010×732E±02, h29km±24km, n18, σ1§22/22, mb3.5/2, 1C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.12**	**136**	*e*P	Pn	06 51 07.5	+3.5
THN				*ex*	x	06 51 52.9	
DLH	**Dalhousie**	**3.19**	**132**	*e*P	Pn	06 51 05.0	0.0
DLH				*e*S	Sn	06 51 46.0	+4.0
SDNR	**Sundarnagar**	**4.52**	**134**	*e*P	Pn	06 51 25.2	+1.8
SDNR				*e*S	Sn	06 52 17.2	+2.3
KK31	**Karatay Array**	**8.63**	**347**	⇓P	Pn	06 52 21.4	+1.7
	1.0nm,0.2s,baz=150,slow=12,SNR=42						
KK31				⇑S	Sn	06 53 55.3	-0.8
	4.5nm,0.8s,baz=170,slow=23,SNR=8.7						
KOLN	**Koldanda**	**11.29**	**125**	*e*P	Pn	06 52 55.5	-0.7
	3.2nm,0.2s						
KOLN				*e*S	Sn	06 54 59.4	-2.0
GKN	**Gorkha**	**11.87**	**121**	*e*P	Pn	06 53 03.2	-0.8
	10nm,0.2s						
KKN	**Kakani**	**12.45**	**120**	*e*P	Pn	06 53 11.8	-0.2
	4.0nm,0.2s						
PKI	**Pulchoki**	**12.67**	**121**	*e*P	Pn	06 53 13.7	-1.3
GUN	**Gumba**	**12.81**	**118**	*e*P	Pn	06 53 15.8	-1.1
	7.5nm,0.3s						
JIRN	**Jiri**	**13.18**	**119**	*e*P	Pn	06 53 21.6	-0.4
	8.7nm,0.2s						
MKAR	**Makanchi Array**	**13.90**	**27**	Pn	Pn	06 53 33.9	+2.0
	0.1nm,0.3s,baz=210,slow=11,SNR=3.7						
AB31	**Akbulak array**	**17.50**	**330**	P	Pn	06 54 17.6	-1.1
	0.6nm,0.6s,baz=145,slow=14,SNR=8.3						
BVAR	**Borovoye Array**	**18.42**	**355**	P	Pn	06 54 30.2	+0.3
	0.8nm,0.3s,baz=162,slow=9.7,SNR=7.1						
AKTO	**Aktyubinsk**	**19.21**	**329**	⇓P	Pn	06 54 38.8	-0.7
AKTO	**Aktyubinsk**	**19.21**	**329**	P	Pn	06 54 38.6	-0.9
	0.6nm,0.3s,baz=138,slow=11,SNR=12						
ZAL	**Zalesovo**	**20.90**	**20**	P	P	06 54 56.7	-0.1
	2.1nm,0.4s,baz=312,slow=0.6,SNR=4.5						
ARCES	**ARCESS Array B**	**43.47**	**338**	P	P	06 58 17.8	+0.5
	0.8nm,0.6s,mb3.6,baz=108,slow=7.6,SNR=6.5						
WRA	**Warramunga Arr**	**79.55**	**123**	P	P	07 02 21.2	+0.3
	0.3nm,0.6s,mb3.4,baz=328,slow=4.9,SNR=4.1						

*ISCJB **06** 07:18:16.7±1.0, 1463N±003×5588E±003, h2km±6km, mb4.9/146, MS4.5/45, Error ellipse: s-maj=5.4km s-min=4.4km az=36.7*

*CSEM **06** 07:18:17.8±0.0, 1451N×5579E, h11km, mb4.9/80, Ms4.2, Error ellipse: s-maj=2.5km s-min=1.9km az=35.0*

*STR **06** 07:18:18.1±0.0, 1385N×5520E, Mb4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*IDC **06** 07:18:18.2±0.5, 1459N×5589E, h0km, mb4.4/25, mb1 4.5/26, mb1mx4.5/29, mbtmp4.4/26, ML4.2/1, MS4.5/26, Ms1 4.5/26, ms1mx4.3/39, Error ellipse: s-maj=14.0km s-min=11.7km az=105.0*

*NEIC **06** 07:18:19.6±0.3, 1456N×5585E, h10km, mb5.0/87, MS4.3/2, Error ellipse: s-maj=7.4km s-min=5.7km az=218.0*

*BJI **06** 07:18:19.5, 1460N×5580E, h10km, mB5.3, mb4.7, Ms4.9, Msz4.6*

*GCMT **06** 07:18:19.6±0.2, 1461N×5563E, h12km, MW5.2/91, Moment Tensor Solution. s52,c80; s91,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.41±.14; $M_{\theta\theta}$6.38±.13; $M_{\phi\phi}$0.03±.16; $M_{r\theta}$1.05±.41; $M_{\theta\phi}$-2.19±.12; $M_{\phi r}$-1.39±.43; Best double couple: $M_0$6.96800×10^{16} NP1:ϕ98.00000°, δ40.00000°, λ-105.00000°, NP2: ϕ297.00000°, δ52.00000°, λ-78.00000°. Principal axes: T 7.2110, Plg6.0000°, Azm18.0000°; N -0.4820, Plg9.0000°, Azm109.0000°; P -6.7250, Plg79.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **06** 07:18:21.8±1.5, 1463N×5575E, h33km, mb5.2/58, MS4.4/13 Error ellipse: s-maj=8.1km s-min=3.9km az=119.9*

ISC 06 07:18:19.8±1.1, 1463N±003×5589E±003, h9km±7km, h17km±2.0km: pP-P, n446, σ1§28/439, mb4.9/146, MS4.5/45, 32C-13D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBK	**Rabkut**	**3.29**	**331**	⇑P	Pn	07 19 09.4	-2.1
	SNR=14						
SHAO	**Shalim**	**3.39**	**356**	⇑P	Pn	07 19 11.5	-1.4
	SNR=58						
ABTO	**Aybut**	**3.68**	**318**	⇑P	Pn	07 19 15.0	-1.9
	SNR=14						
WHFO	**Wadi Hawf**	**3.85**	**328**	⇑P	Pn	07 19 18.2	-1.1
	SNR=16						
JMDO	**Jabal Madar**	**7.98**	**15**	P	Pn	07 20 15.3	-0.7
	SNR=7.3						
BSY	**Bisya**	**8.17**	**9**	⇑P	Pn	07 20 17.6	-1.0
	SNR=11						
WBK	**Wadi Bani Khal**	**8.46**	**20**	P	Pn	07 20 22.2	-0.4
	SNR=7.5						
SMDO	**Samad**	**8.63**	**13**	P	Pn	07 20 25.4	+0.5
	SNR=14						
ARQ	**Araqi**	**8.68**	**4**	⇓P	Pn	07 20 24.6	-1.0
	SNR=20						
WSAR	**Wadi Sarin**	**8.95**	**16**	Pn	Pn	07 20 28.6	-0.7
	2.8nm,0.3s,baz=203,slow=5.9,SNR=48						
WSAR				Sn	Sn	07 22 03.0	-7.1
	0.4nm,0.3s,baz=346,slow=19,SNR=3.2						
WSAR				LR	LR	07 23 57.0	
	comp=Z,8μm,18.7s,baz=209,slow=38						
WSAR	**Wadi Sarin**	**8.95**	**16**	Pn	Pn	07 20 28.5	-0.7
WSAR				Sn	Sn	07 22 03.0	-7.2
HOQ	**Hoqain**	**9.01**	**8**	P	Pn	07 20 29.0	-1.1
	SNR=17						
ATD	**Arta Tunnel**	**13.07**	**258**	Pn	Pn	07 21 27.6	+2.0
	1.0nm,0.3s,baz=64,slow=9.0,SNR=6.0						
ATD				LR	LR	07 25 03.8	
	comp=Z,3μm,21.9s,baz=79,slow=31						
ATD	**Arta Tunnel**	**13.07**	**258**	Pn	Pn	07 21 27.6	+1.9
NAY	**Al-Naaiem**	**16.60**	**333**	*e*P	Pn	07 22 09.1	-3.7
NAY				AMb	AMB	07 22 11.6	
	comp=Z,51nm,0.9s						
UMR	**Umm Al-Rimmam**	**16.66**	**334**	*e*P	Pn	07 22 10.0	-3.5
UMR				AMb	AMB	07 22 16.4	
	comp=Z,155nm,0.9s						
RST	**Umm Al-Ruwaisa**	**16.93**	**332**	*e*P	Pn	07 22 13.3	-3.5
RST				AMb	AMB	07 22 17.6	
	comp=Z,104nm,0.9s						
MIB	**Mutribah**	**17.04**	**334**	*e*P	Pn	07 22 14.9	-3.4
MIB				AMb	AMB	07 22 17.2	
	comp=Z,112nm,0.8s						
GOA	**Goa**	**17.34**	**85**	*e*P	Pn	07 22 18.9	-3.2
GOA				AMb	AMB	07 22 19.2	
	comp=Z,60nm,0.0s						
POO	**Poona**	**17.64**	**75**	*ex*	x	07 22 09.0	
KAD	**Karad**	**17.79**	**79**	*e*P	Pn	07 22 27.7	+0.1
KAD				AMb	AMB	07 22 35.0	
	comp=Z,53nm,1.2s						
MNGI	**Mangalore**	**18.46**	**93**	*e*P	Pn	07 22 35.3	-0.6
MNGI				AMb	AMB	07 22 40.2	
	comp=Z,26nm,1.0s						
AJM	**Ajmer**	**21.12**	**53**	*e*P	P	07 23 05.6	+0.8
AJM				AMb	AMB	07 23 10.0	
	comp=Z,44nm,1.2s,mb4.7						
BHD	**Baghdad**	**21.30**	**333**	*ex*	x	07 22 49.0	
BHD				*ex*	x	07 26 19.0	
BHD				*ex*	x	07 26 51.0	
BHD				*ex*	x	07 27 04.0	
BHD				*ex*	x	07 28 56.0	
BHD				*ex*	x	07 30 50.0	
TRD	**Trivandrum**	**21.51**	**104** ⇑	*e*P	P	07 23 20.1	+11
TRD				*e*S	S	07 27 22.1	+15
HYB	**Hyderabad**	**21.95**	**80**	*i* P	P	07 23 16.0	+2.2
HYB	**Hyderabad**	**21.95**	**80**	*e*P	P	07 23 17.0	+3.2
BHPL	**Bhopal**	**22.07**	**64**	*e*P	P	07 23 15.4	+0.4
BHPL				AMb	AMB	07 23 24.4	
	comp=Z,91nm,1.4s,mb5.0						
ABKT	**Ailbek**	**23.29**	**4**	P	P	07 23 27.5	-0.5
	comp=Z,202nm,0.9s,mb5.5,SNR=7.5						
MDRS	**Chennai**	**23.70**	**91**	*e*P	P	07 23 31.8	-0.2
MDRS				AMb	AMB	07 23 35.5	
	comp=Z,72nm,0.3s,mb5.6						
KMBO	**Kilima Mbogo**	**24.20**	**231**	P	P	07 23 37.7	+1.1
	comp=Z,27nm,1.1s,mb4.6,baz=38,slow=11,SNR=24						
KMBO				LR	LR	07 32 43.1	
	comp=Z,2μm,20.3s,MS4.6,baz=45,slow=36						
KMBO	**Kilima Mbogo**	**24.20**	**231**	*e*P	P	07 23 37.7	+1.1
KMBO				pmax	pmax		
	comp=Z,56nm,1.3s						
KMBO	**Kilima Mbogo**	**24.20**	**231**	*e*P	P	07 23 37.7	+1.1
	comp=Z,56nm,1.3s,mb4.8						
KMBO	**Kilima Mbogo**	**24.20**	**231**	*e*P	P	07 23 37.7	+1.1
	comp=Z,56nm,1.3s,mb4.8						
MSL	**Mosul**	**24.42**	**334**	*ex*	x	07 23 40.0	
MSL				*ex*	x	07 28 02.0	
MSL				*ex*	x	07 32 23.5	
MSL				*ex*	x	07 33 17.5	
EIL	**Elat**	**24.44**	**311**	*e*P	P	07 23 38.9	+0.1
	comp=Z,527nm,1.2s,mb5.8						
EIL	**Elat**	**24.44**	**311**	*e*P	P	07 23 38.8	0.0
	comp=Z,527nm,1.2s,mb5.8						
ASF	**Jabal al Asfar**	**24.61**	**318**	P	P	07 23 42.2	+1.9
	comp=Z,12nm,0.9s,mb4.4,baz=27,slow=8.4,SNR=13						
ASF				LR	LR	07 34 11.5	
	comp=Z,834nm,18.2s,MS4.3,baz=155,slow=39						
KSDI	**Kefar Szold**	**26.06**	**319**	P	P	07 23 55.6	+2.1
MARD	**Mardin**	**26.29**	**332**	*i* P	P	07 23 53.9	-1.7
BHL	**Bhannes**	**26.53**	**320**	*e*P	P	07 24 00.7	+2.9
GNI	**Garni**	**27.23**	**341**	P	P	07 24 07.6	+3.5
	comp=Z,12nm,0.6s,mb4.6,baz=311,slow=11,SNR=4.6						
GNI				LR	LR	07 36 47.2	
	comp=Z,2μm,19.9s,MS4.6,baz=318,slow=41						
GNI	**Garni**	**27.23**	**341** ⇑	*e*P	P	07 24 05.7	+1.6
GNI				pmax	pmax		
	comp=Z,101nm,2.1s						
GNI				MLR	MLR		
	comp=Z,2μm,15.0s						
GNI	**Garni**	**27.23**	**341**	*e*P	P	07 24 06.2	+2.1
	comp=Z,38nm,0.9s,mb4.9						
GNI				*e*		07 24 27.3	
GNI	**Garni**	**27.23**	**341**	*e*P	P	07 24 06.2	+2.1
BNGL	**BINGOL**	**27.49**	**335**	*i* P	P	07 24 15.1	+8.6
GZT	**Gaziantep**	**27.89**	**328**	*i* P	P	07 24 12.7	+2.7
ELZG	**Elazig**	**28.08**	**331**	*i* P	P	07 24 17.6	+5.9
MALT	**Malatya**	**28.20**	**330**	*e*P	P	07 24 14.8	+2.1
MALT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
MALT	**Malatya**	**28.20**	**330**	*e*P	P	07 24 14.8	+2.1
	comp=Z,11nm,1.0s,mb4.4						
MALT				*e*		07 24 37.8	
MALT	**Malatya**	**28.20**	**330**	*e*P	P	07 24 14.8	+2.1
DGRG	**David-gareji**	**28.24**	**343**	P	P	07 24 13.4	+0.3
MAK	**Makhachkala**	**29.14**	**347**	*i* P	P	07 24 20.7	-0.4
MAK				*e*		07 25 17.4	
MAK				*e*S	S	07 29 11.1	-2.1
MAK				*e*SS	SS	07 30 39.8	-37
MAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
MAK				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.6						
ZEI	**Tsey**	**29.89**	**342**	*e*P	P	07 24 28.3	+0.6
ZEI				*e**PP	pP	07 24 34.1	+3.6
ZEI				*e*		07 25 30.5	
ERMK	**Ermenek**	**30.01**	**321**	*i* P	P	07 24 31.6	+2.7
GRSN	**GIRESUNGRSN**	**30.36**	**333**	*i* P	P	07 24 37.0	+5.1
KSH	**Kashi**	**30.43**	**32**	*e*P	P	07 24 36.7	+4.2
KSH				*e*AP	pP	07 24 42.4	+7.2
KSH				*e*XP	sP	07 24 45.2	+8.9
KSH				*e*PP	PP	07 25 38.2	-2.9
KSH				*e*PPP		07 25 52.4	
KSH				*e*PCP	PcP	07 27 34.1	+2.1
KSH				*e*S	S	07 29 38.5	+5.1
KSH				*e*XS	sS	07 29 45.7	+7.8
KSH				*e*SS	SS	07 31 16.1	-27
KSH				*e*SCS	ScS	07 35 10.2	-0.4
KSH				LR	LR		
	comp=N,713nm,10.2s						
KSH				LR	LR		
	comp=E,2μm,16.6s						
KSH				LR	LR		
	comp=Z,1μm,21.3s						
CDAG	**Cicekdag**	**31.25**	**327**	*i* P	P	07 24 46.9	+7.1
KIV	**Kislovodsk**	**31.33**	**342** ⇑	*e*P	P	07 24 42.1	+1.6
KIV				*i*		07 24 47.3	
KIV				*e*		07 25 42.3	
KIV				*e*		07 26 01.0	
KIV				*e*S	S	07 29 51.7	+4.2
KIV				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.8						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.6						
KIV	**Kislovodsk**	**31.33**	**342**	*e*P	P	07 24 46.6	+6.1
	comp=Z,39nm,1.2s,mb5.1						
KIV				*e*PP	PP	07 25 51.5	+0.4
KIV	**Kislovodsk**	**31.33**	**342**	*e*P	P	07 24 46.6	+6.1
	comp=Z,39nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**31.33**	**342**	*e*PP	PP	07 25 51.5	+0.4
BRTR	**Keskin Array B**	**31.71**	**326**	P	P	07 24 45.5	+1.7
	comp=Z,1.5nm,0.9s,mb3.8,baz=141,slow=12,SNR=4.7						
BRTR				LR	LR	07 38 52.6	
	comp=Z,516nm,19.9s,MS4.2,baz=129,slow=39						
KDHN	**Kadinhani**	**31.73**	**323**	*i* P	P	07 24 44.0	0.0
AAK	**Ala-Archa**	**32.18**	**26** ⇑	*e*P	P	07 24 50.1	+2.2
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.3						
AAK				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.3						
AAK	**Ala-Archa**	**32.18**	**26**	*e*P	P	07 24 49.8	+1.8
	comp=Z,20nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**32.18**	**26**	*e*P	P	07 24 49.8	+1.9
	comp=Z,20nm,1.3s,mb4.8						
ELDT	**Eldivan**	**32.38**	**327**	*i* P	P	07 24 50.0	+0.4
FRU	**Bishkek**	**32.40**	**26**	*e*P	P	07 24 57.0	+7.2
SGKT	**Sivrigoynuk**	**33.17**	**326**	*i* P	P	07 24 54.8	-1.8
GDZ	**Gediz**	**33.66**	**321**	*i* P	P	07 25 02.4	+1.4
ANN	**Anapa**	**33.91**	**336**	*e*P	P	07 25 08.2	+5.2
ANN				*i*		07 26 14.4	
ANN				*e*S	S	07 30 32.4	+4.7
ANN				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
OPO	**Ambohidratompo**	**34.08**	**195**	P	P	07 25 04.7	+0.1
	comp=Z,8.4nm,1.0s,mb4.6,baz=336,slow=6.0,SNR=5.3						
IDI	**Anoyia**	**34.60**	**312**	P	P	07 25 10.2	+1.1
SANT	**Santorini**	**34.73**	**314**	*e*P	P	07 25 10.2	0.0
	comp=Z,41nm,0.9s,mb5.4						
SANT	**Santorini**	**34.73**	**314**	*e*P	P	07 25 10.2	0.0
	comp=Z,41nm,0.9s,mb5.4						
APE	**Apeiranthos**	**35.05**	**315** ⇑	*i*P	P	07 25 13.4	+0.5
APE	**Apeiranthos**	**35.05**	**315** ⇑	P	P	07 25 13.4	+0.5
SIM	**Simferopol'**	**35.41**	**333**	*e*P	P	07 25 15.9	-0.1
SIM				*e*S	S	07 30 55.0	+4.2
SIM				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8						
AKTK	**Aktyubinsk**	**35.75**	**2**	P	P	07 25 18.8	-0.2
AKTK				LR	LR	07 42 48.9	
AKTK	**Aktyubinsk**	**35.75**	**2**	P	P	07 25 18.8	-0.2
AKTO	**Aktyubinsk**	**35.75**	**2**	P	P	07 25 18.8	-0.2
	comp=Z,6.1nm,0.6s,mb4.7,baz=189,slow=11,SNR=16						
AKTO				LR	LR	07 42 48.9	
	comp=Z,657nm,19.0s,MS4.4,baz=3.8,slow=41						
LOS	**Limnos**	**36.90**	**319**	P	P	07 25 31.5	+2.7
RDO	**Rodhopi**	**37.31**	**321**	P	P	07 25 33.9	+1.6
SOH	**Sokhos**	**38.49**	**319**	P	P	07 25 44.1	+1.9
SRS	**Serrai**	**38.50**	**320**	P	P	07 25 44.7	+2.4
LIT	**Litokhoron**	**38.66**	**317**	P	P	07 25 44.9	+1.2
MKAR	**Makanchi Array**	**38.92**	**29**	P	P	07 25 46.8	+1.0
	comp=Z,2.1nm,0.7s,mb4.0,baz=216,slow=6.7,SNR=14						
MKAR				PcP	PcP	07 27 56.4	-0.1
	comp=Z,0.8nm,0.7s,baz=281,slow=2.2,SNR=3.6						
MKAR	**Makanchi Array**	**38.92**	**29** ⇑	*e*P	P	07 25 46.7	+0.9
KIS	**Kishinev**	**39.38**	**331**	*e*P	P	07 25 57.0	+7.3
KIS				*e*S	S	07 31 52.0	+0.8
KIS				LRM		07 44 28.0	
	comp=Z,500nm,16.0s						
VTS	**Vitosha**	**39.57**	**321** ⇑	*i*P	P	07 25 52.9	+1.6
VTS	**Vitosha**	**39.57**	**321** ⇑	P	P	07 25 52.9	+1.7
WMQ	**Urumqi**	**39.77**	**37**	*e*P	P	07 25 53.2	+0.3
WMQ				AP	pP	07 25 57.5	+1.8
WMQ				XP	sP	07 26 00.0	+3.2
WMQ				PP	PP	07 27 28.0	+3.8
WMQ				PPP		07 27 57.0	
WMQ				PCS	PcS	07 31 48.0	-1.3
WMQ				S	S	07 31 57.0	0.0
WMQ				SS	SS	07 34 46.0	-6.8
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,180nm,4.4s						
WMQ				LR	LR		
	comp=N,2μm,18.1s,MS5.2						
WMQ				LR	LR		
	comp=E,3μm,16.6s,MS5.2						
WMQ				LR	LR		
	comp=Z,3μm,26.6s						
MLR	**Muntele Rosu**	**39.79**	**327** ⇑	*i*P	P	07 25 56.5	+3.4
MLR	**Muntele Rosu**	**39.79**	**327** ⇑	P	P	07 25 56.5	+3.3
BVAR	**Borovoye Array**	**40.00**	**14**	P	P	07 25 54.6	-0.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=198,slow=9.0,SNR=9.1						
BVAR				PcP	PcP	07 27 58.8	-1.1
	comp=Z,1.4nm,0.8s,baz=222,slow=5.6,SNR=3.0						
BVAR				LR	LR	07 45 14.2	
	comp=Z,378nm,19.1s,MS4.3,baz=140,slow=40						
BVAR	**Borovoye Array**	**40.00**	**14**	P	P	07 25 54.6	-0.2
BVAR						07 27 58.8	
BVAR	**Borovoye Array**	**40.00**	**14**	PcP	PcP	07 27 58.8	-1.1
BRVK	**Borovoye**	**40.00**	**13**	*e*P	P	07 25 55.4	+0.5
BRVK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
BRVK	**Borovoye**	**40.00**	**13**	*e*P	P	07 25 55.4	+0.5
	comp=Z,13nm,1.1s,mb4.6						
LSZ	**Lusaka**	**40.41**	**224**	P	P	07 25 58.9	+0.6
	comp=Z,24nm,1.2s,mb4.8,baz=40,slow=9.6,SNR=11						
LSZ				LR	LR	07 43 30.4	
	com

OBN *i* 07 28 06.8
OBN *e*S **S** **07 32 48.9 +2.6**
OBN pmax pmax
comp=Z,17nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.5
OBN Obninsk 43.09 344 *e*P **P** **07 26 20.4 +0.1**
comp=Z,50nm,1.2s,mb5.1
OBN *e*PP PP 07 28 01.7 +1.4
OBN Obninsk 43.09 344 *e*P **P** **07 26 20.4 +0.2**
comp=Z,50nm,1.2s,mb5.1
OBN Obninsk 43.09 344 *e*PP PP 07 28 01.7 +1.4
MOS Moscow 43.38 345 *e*P **P** **07 26 27.6 +5.1**
MOS *e* 07 28 10.4
MOS *e*PPP 07 28 46.8
MOS pmax pmax
comp=Z,43nm,0.7s,mb5.3
UZH Uzhgorod 43.73 328 *e*P **P** **07 26 20.0 -5.3**
UZH pmax pmax
comp=Z,24nm,1.0s,mb4.9
KOLS Kolonicke sedl 43.93 328 *e*P **P** **07 26 28.5 +1.6**
KOLS pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
KOLS Kolonicke sedl 43.93 328 *e*P **P** **07 26 28.5 +1.6**
comp=Z,7.2nm,1.1s,mb4.3
PSI Prapat 44.03 101 P **P** **07 26 28.9 +1.1**
comp=Z,3.3nm,0.4s,mb4.3,baz=262,slow=6.8,SNR=3.0
PSI LR LR 07 41 56.3
comp=Z,467nm,20.6s,MS4.4,baz=280,slow=32
PKSM Moragy 44.30 323 ⇓*i*P **P** **07 26 30.7 +0.7**
PKSM Moragy 44.30 323 ⇓P **P** **07 26 30.7 +0.8**
CRVS Cervenica-Dubn 44.32 328 *e*P **P** **07 26 31.8 +1.7**
KECS Kecovo 44.58 327 *e*P **P** **07 26 33.2 +1.0**
comp=Z,2.4nm,0.7s,mb4.1
KECS *e*PP PP 07 28 19.5 +3.4
STHS Stebnicka Huta 44.76 328 *e*P **P** **07 26 32.9 -0.7**
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
STHS Stebnicka Huta 44.76 328 *e*P **P** **07 26 32.9 -0.7**
comp=Z,3.9nm,1.0s,mb4.2
KULM Kulim 44.97 97 *e*P **P** **07 26 35.6 +0.3**
KULM Kulim 44.97 97 *e*P **P** **07 26 35.6 +0.3**
KMI Kunming 45.08 69 P **P** **07 26 38.3 +2.1**
KMI AP pP 07 26 44.3 +5.3
KMI XP sP 07 26 47.5 +7.4
KMI PP PP 07 28 22.8 +1.3
KMI PPP 07 29 04.7
KMI S **S** **07 33 15.9 +0.6**
KMI AMB AMB
comp=Z,5.0nm,1.1s,mb4.3
KMI AMB AMB
comp=Z,128nm,4.1s
KMI LR LR
comp=N,297nm,19.9s,MS4.5
KMI LR LR
comp=E,426nm,19.9s,MS4.5
KMI LR LR
comp=Z,451nm,21.7s,MS4.4
KMI Kunming 45.08 69 P **P** **07 26 38.3 +2.1**
comp=Z,5.0nm,1.1s,mb4.3
KMI pP pP 07 26 44.3 +5.3
KMI sP sP 07 26 47.5 +7.4
KMI PP PP 07 28 22.8 +1.3
KMI PPP 07 29 04.7
KMI S **S** **07 33 15.9 +0.6**
KMI sS sS 07 33 21.1 +1.2
KMI SS SS 07 36 28.8 -8.6
KMI SSS 07 37 27.6
KMI LR LR
comp=Z,450nm,21.7s,MS4.4
KMI Kunming 45.08 69 P **P** **07 26 38.3 +2.1**
comp=Z,5.0nm,1.1s,mb4.3
KMI pP pP 07 26 44.3 +5.3
KMI SS SS 07 36 28.8 -8.6
ZAL Zalesovo 45.30 24 P **P** **07 26 38.1 +0.3**
comp=Z,4.5nm,0.7s,mb4.4,baz=245,slow=7.8,SNR=14
ZAL LR LR 07 48 46.4
comp=Z,700nm,20.0s,MS4.6,baz=238,slow=40
NVS Novosibirsk 45.41 22 ⇑*i*P **P** **07 26 38.7 0.0**
NVS pmax pmax
comp=Z,39nm,1.3s,mb5.1
NVS pmax pmax
comp=N,29nm,1.6s
VYHS Vyhne 45.47 326 *e*P **P** **07 26 41.4 +2.1**
VYHS *e* 07 28 14.3
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
VYHS Vyhne 45.47 326 *e*P **P** **07 26 41.4 +2.1**
comp=Z,5.1nm,1.1s,mb4.3
VYHS *e*PP PP 07 28 14.3 -11
KOGS Kog 45.84 322 P **P** **07 26 44.9 +2.7**
BOJS Bojanci 45.97 320 *i*P **P** **07 26 43.8 +0.6**
CRES Cresnjev 46.01 321 P **P** **07 26 46.0 +2.5**
ZST Bratislava 46.26 325 *e*P **P** **07 26 47.3 +1.8**
ZST pmax pmax
comp=Z,21nm,1.4s,mb4.9
ZST MLR MLR
comp=Z,300nm,15.8s,MS4.3
ZST Bratislava 46.26 325 *e*P **P** **07 26 47.3 +1.8**
comp=Z,21nm,1.4s,mb4.9
ZST LR LR
comp=Z,300nm,15.8s,MS4.3
ZST Bratislava 46.26 325 *e*P **P** **07 26 47.3 +1.8**
comp=Z,21nm,1.4s,mb4.9
SOP Sopron 46.30 324⇓*e*P **P** **07 26 47.9 +2.1**
VISS Visnje 46.37 321 *i*P **P** **07 26 46.7 +0.3**
KEST Kesra 46.56 306 P **P** **07 26 48.6 +0.8**
comp=Z,3.0nm,1.0s,mb4.2,baz=256,slow=8.3,SNR=3.4
KEST LR LR 07 47 55.0
comp=Z,115nm,19.2s,MS3.9,baz=356,slow=38
OKC Ostrava-Krasne 46.62 327 *e*S **S** **07 33 42.1 +4.7**
CD2 Chengdu 46.65 61 P **P** **07 26 47.9 -0.7**
CD2 AP pP 07 26 52.4 +1.0
CD2 XP sP 07 26 54.9 +2.4
CD2 PP PP 07 28 37.3 -0.8
CD2 PCS PcS 07 32 15.7 -1.4
CD2 S **S** **07 33 35.6 -2.3**
CD2 SCS ScS 07 36 39.8 -3.9
CD2 SS SS 07 36 54.1 -10
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,200nm,16.8s
CD2 LR LR
comp=Z,190nm,15.8s,MS4.2
ARSA Arzberg 46.67 323⇓*i*P **P** **07 26 50.0 +1.2**
comp=Z,23nm,1.5s,mb4.9
LJU Ljubljana 46.68 321 *e*P **P** **07 26 51.0 +2.2**
LJU Ljubljana 46.68 321 P **P** **07 26 51.1 +2.3**
CONA Conrad Observa 46.83 324⇑*i*P **P** **07 26 50.8 +0.9**
comp=Z,28nm,1.4s,mb5.0
OBKA Obir 46.89 321⇑*i*P **P** **07 26 51.8 +1.4**
comp=Z,30nm,1.5s,mb5.0
MORC Moravsky Berou 46.90 327⇑*i*P **P** **07 26 52.6 +2.1**
MORC Moravsky Berou 46.90 327 *e*P **P** **07 26 52.5 +2.0**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 46.90 327 *e*P **P** **07 26 52.5 +1.9**
comp=Z,5.3nm,0.9s,mb4.5
MORC Moravsky Berou 46.90 327 *e*P **P** **07 26 52.5 +2.0**
comp=Z,5.3nm,0.9s,mb4.5
ROBS Robic 47.40 321 *e*P **P** **07 26 54.4 0.0**
SFI Santa Sofia 47.44 317 P **P** **07 26 55.8 +1.1**
PTCC Patocco-Chiusa 47.57 321 P **P** **07 26 56.3 +0.6**
comp=Z,25nm,1.1s,mb5.2
MOA Molln 47.71 323⇓*i*P **P** **07 26 57.7 +0.9**
comp=Z,19nm,1.1s,mb5.0
LZH Lanzhou 47.76 54 *e*P **P** **07 27 00.0 +2.8**
LZH AP pP 07 27 04.6 +4.6
LZH XP sP 07 27 07.5 +6.4
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,61nm,4.5s
LZH LR LR
comp=E,485nm,13.6s
LZH LR LR
comp=Z,770nm,15.1s,MS4.8
LZH Lanzhou 47.76 54 *e*P **P** **07 27 00.0 +2.8**
comp=Z,14nm,1.0s,mb5.0
LZH pP pP 07 27 04.6 +4.6
LZH sP sP 07 27 07.5 +6.4
LZH LR LR
comp=Z,770nm,15.1s,MS4.8
DPC Dobruska-Polom 47.88 327 *e*P **P** **07 27 01.2 +3.1**
KBA Koelnbreinsper 47.89 321⇓*i*P **P** **07 26 58.4 +0.2**
comp=Z,15nm,1.0s,mb5.0
KBA Koelnbreinsper 47.89 321⇓*i*P **P** **07 26 58.4 +0.2**
KBA pmax pmax
comp=Z,15nm,1.0s,mb5.0
UPC Upice 48.13 327 *e*P **P** **07 27 02.8 +2.7**
GSCL Gusciola 48.45 317 P **P** **07 27 03.3 +0.8**
comp=Z,63nm,1.0s,mb5.6
COCO West Island 48.53 121 *e*P **P** **07 27 03.2 +0.1**
comp=Z,60nm,0.8s,mb5.7
COCO West Island 48.53 121 *e*P **P** **07 27 03.2 +0.1**
comp=Z,60nm,0.8s,mb5.7
GEC2 GERESS Array S 48.53 324 *e*P **P** **07 27 02.5 -0.7**
comp=Z,36nm,2.0s,mb5.1
GERES GERESS Array B 48.53 324 P **P** **07 27 05.1 +1.9**
comp=Z,1.6nm,0.7s,mb4.2,baz=120,slow=8.0,SNR=6.3
ERBM Eremo 48.59 317 P **P** **07 27 04.7 +1.1**
comp=Z,77nm,1.2s,mb5.6
PRU Pruhonice 48.65 325 *e*P **P** **07 27 07.2 +3.2**
PRU *e*S **S** **07 33 59.2 -7.0**
PRU AMS AMS 07 53 40.0
comp=Z,400nm,13.4s
PRU Pruhonice 48.65 325 *e*P **P** **07 27 07.2 +3.2**
PRU *e*S **S** **07 33 59.2 -7.0**
GYA Guiyang 48.70 68 P **P** **07 27 04.9 +0.4**
GYA AP pP 07 27 09.4 +2.1
GYA XP sP 07 27 11.9 +3.5
GYA PP PP 07 28 57.2 -0.3
GYA S **S** **07 34 05.0 -2.0**
GYA SS SS 07 37 30.5 -6.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,300nm,6.0s
GYA LR LR
comp=N,540nm,18.4s,MS4.7
GYA LR LR
comp=E,490nm,18.6s,MS4.7
GYA LR LR
comp=Z,430nm,18.7s,MS4.5
KHC Kasperske Hory 48.75 324 *e*P **P** **07 27 03.3 -1.5**
KHC *e*S **S** **07 34 01.3 -6.3**
KHC AMS AMS 07 54 50.0
comp=Z,200nm,15.2s
KHC Kasperske Hory 48.75 324⇑*e*P **P** **07 27 04.1 -0.7**
KHC Kasperske Hory 48.75 324 *e*P **P** **07 27 03.3 -1.5**
KHC *e*S **S** **07 34 01.3 -6.3**
PGF Pioggiola 48.86 314 *e*P **P** **07 27 03.0 -2.7**
comp=Z,70nm,1.2s,mb5.3
PGF Pioggiola 48.86 314 *e*P **P** **07 27 03.0 -2.7**
PGF pmax pmax
comp=Z,35nm,1.2s,mb5.3
PGF Pioggiola 48.86 314 *e*P **P** **07 27 03.0 -2.7**
comp=Z,35nm,1.2s,mb5.3
WTTA Wattenberg 49.01 321⇓*i*P **P** **07 27 06.9 0.0**
comp=Z,29nm,1.1s,mb5.2
WTTA Wattenberg 49.01 321⇓*i*P **P** **07 27 06.9 +0.1**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb5.2
WET Wettzell 49.15 324 *e*P **P** **07 27 07.9 0.0**
comp=Z,22nm,1.8s,mb4.9
WET Wettzell 49.15 324 *e*P **P** **07 27 07.9 0.0**
WET pmax pmax
comp=Z,22nm,1.8s,mb4.9
LBTB Lobatse 49.25 217 *e*P **P** **07 27 09.1 +0.4**
LBTB pmax pmax
comp=Z,28nm,1.1s,mb5.2
LBTB Lobatse 49.25 217 *e*P **P** **07 27 09.1 +0.5**
comp=Z,28nm,1.1s,mb5.2
LBTB Lobatse 49.25 217 *e*P **P** **07 27 09.1 +0.4**
comp=Z,28nm,1.1s,mb5.2
MOTA Moosalm 49.37 321⇑*i*P **P** **07 27 08.6 -1.0**
comp=Z,17nm,1.1s,mb5.0
MOTA Moosalm 49.37 321⇑*i*P **P** **07 27 08.6 -1.0**
MOTA pmax pmax
comp=Z,17nm,1.1s,mb5.0
BRG Berggiesshubel 49.44 326 *e*P **P** **07 27 12.9 +2.8**
comp=Z,11nm,1.5s,mb4.7
BRG Berggiesshubel 49.44 326 *e*P **P** **07 27 15.1 +5.0**
comp=Z,6.8nm,1.6s,mb4.4
BRG
comp=N,82nm,13.2s
BRG
comp=E,172nm,20.0s
BRG
comp=Z,213nm,25.6s
BRMO Bormio 49.45 320 P **P** **07 27 11.0 +0.8**
FUR Furstenfeldbru 49.63 322 *e*P **P** **07 27 10.8 -0.8**
FBE Freiberg 49.78 326 *e*P **P** **07 27 14.7 +2.0**
comp=Z,16nm,1.3s,mb4.9
ROTZ Rotzenmuhle 49.84 324 *e*P **P** **07 27 14.0 +0.8**
comp=Z,11nm,1.4s,mb4.7
NKC Novy Kostel 49.93 325 *e*P **P** **07 27 14.3 +0.4**
FIN Finale Ligure 49.98 316 P **P** **07 27 13.2 -1.1**
WERN Wernitzgruen 50.00 325 *e*P **P** **07 27 15.7 +1.3**
comp=Z,35nm,1.7s,mb5.1
MANZ Manzenberg 50.00 324 *e*P **P** **07 27 15.2 +0.8**
comp=Z,15nm,1.4s,mb4.8
TANN Tannenbergstha 50.01 325 *e*P **P** **07 27 16.3 +1.8**
comp=Z,63nm,2.3s,mb5.2
GUNZ Gunzen 50.06 325 *e*P **P** **07 27 16.0 +1.1**
comp=Z,89nm,2.3s,mb5.4
DAVA Damuels 50.10 320⇑*i*P **P** **07 27 14.4 -0.7**
comp=Z,39nm,1.5s,mb5.2
WERD Werda 50.12 325 *e*P **P** **07 27 16.3 +1.0**
comp=Z,12nm,1.3s,mb4.8
CLL Collm 50.17 326 *e*P **P** **07 27 18.1 +2.4**
comp=Z,47nm,1.9s,mb5.2
CLL Collm 50.17 326 *e*P **P** **07 27 19.0 +3.3**
CLL *e*S **S** **07 34 30.0 +2.4**
CLL pmax pmax
comp=Z,106nm,2.6s,mb5.4
CLL Collm 50.17 326 *e*(P) **P** **07 27 19.0 +3.3**
comp=Z,106nm,2.6s,mb5.4
CLL *e*x x 07 27 36.0
comp=Z,47nm,1.9s
CLL *e*S **S** **07 34 30.0 +2.4**
SAOF Saorge 50.34 316 *e*P **P** **07 27 17.0 0.0**
GRA1 Grafenberg Arr 50.36 324 *e*P **P** **07 27 18.4 +1.2**
comp=Z,26nm,0.9s,mb5.3
GRF Grafenberg Arr 50.36 324 *e*P **P** **07 27 18.4 +1.2**
comp=Z,26nm,0.9s,mb5.3
GRF Grafenberg Arr 50.36 324 *e*P **P** **07 27 18.4 +1.2**
GRF pmax pmax
comp=Z,26nm,0.9s,mb5.3
GRF Grafenberg Arr 50.36 324 *e*P **P** **07 27 18.4 +1.2**
GRF pmax pmax
comp=Z,26nm,0.9s,mb5.3
SBF Sospel 50.38 315 *e*P **P** **07 27 15.4 -1.9**
comp=Z,42nm,0.9s,mb5.2
SBF Sospel 50.38 315 *e*P **P** **07 27 15.4 -1.9**
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.2
SBF Sospel 50.38 315 *e*P **P** **07 27 15.4 -1.9**
comp=Z,21nm,0.9s,mb5.2
TSUM Tsumeb 50.52 229 *e*P **P** **07 27 19.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
TSUM Tsumeb 50.52 229 *e*P **P** **07 27 19.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
TOUF Mont Tournerai 50.56 315 *e*P **P** **07 27 19.8 +1.1**
MOX Moxa 50.60 325 *e*P **P** **07 27 19.6 +0.7**
comp=Z,24nm,1.7s,mb4.8
MOX Moxa 50.60 325 *e*P **P** **07 27 20.5 +1.6**
FRF La Foret Royal 50.82 315 *e*P **P** **07 27 19.2 -1.4**
comp=Z,61nm,1.1s,mb5.2
FRF La Foret Royal 50.82 315 *e*P **P** **07 27 19.2 -1.4**
FRF pmax pmax
comp=Z,31nm,1.1s,mb5.2
FRF La Foret Royal 50.82 315 *e*P **P** **07 27 19.2 -1.4**
comp=Z,31nm,1.1s,mb5.2
LMR La Mourre 50.84 314 *e*P **P** **07 27 19.5 -1.3**
comp=Z,84nm,1.1s,mb5.3
LMR La Mourre 50.84 314 *e*P **P** **07 27 19.5 -1.3**
LMR pmax pmax
comp=Z,42nm,1.1s,mb5.3
LMR La Mourre 50.84 314 *e*P **P** **07 27 19.5 -1.3**
comp=Z,42nm,1.1s,mb5.3
TMCR Tamitsa 51.00 350 *e*P **P** **07 27 21.6 -0.4**
TMCR pmax pmax
comp=Z,30nm,0.7s,mb5.3
MBDF Montbardon 51.13 316 *e*P **P** **07 27 21.0 -1.9**
comp=Z,18nm,0.7s,mb4.8
MBDF Montbardon 51.13 316 *e*P **P** **07 27 21.0 -1.9**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MBDF Montbardon 51.13 316 *e*P **P** **07 27 21.0 -1.9**
comp=Z,8.8nm,0.7s,mb4.8
JOF Joensuu 51.24 346 *e*p **P** **07 27 22.8 -1.0**
comp=Z,20nm,1.1s,mb5.0
BNI Bardonecchia 51.30 317 *e*P **P** **07 27 25.1 +0.9**
BNI pmax pmax
comp=Z,13nm,1.0s,mb4.8
BNI Bardonecchia 51.30 317 *e*P **P** **07 27 25.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
BNI Bardonecchia 51.30 317 *e*P **P** **07 27 25.1 +0.9**
comp=Z,13nm,1.0s,mb4.8
LPG La Plagne 51.41 317 *e*P **P** **07 27 23.3 -1.7**
comp=Z,55nm,0.9s,mb5.2
LPG La Plagne 51.41 317 *e*P **P** **07 27 23.3 -1.7**
LPG pmax pmax
comp=Z,28nm,0.9s,mb5.2
LPG La Plagne 51.41 317 *e*P **P** **07 27 23.3 -1.7**
comp=Z,28nm,0.9s,mb5.2
FINES FINESS Array B 51.42 342 P **P** **07 27 24.6 -0.5**
comp=Z,8.1nm,1.1s,mb4.6,baz=174,slow=21,SNR=7.1
FINES LR LR 07 51 48.5
comp=Z,378nm,21.6s,MS4.4,baz=141,slow=39
LPL La Plagne 51.42 317 *e*P **P** **07 27 23.4 -1.8**
comp=Z,39nm,0.7s,mb5.1
LPL La Plagne 51.42 317 *e*P **P** **07 27 23.4 -1.8**
LPL pmax pmax
comp=Z,20nm,0.7s,mb5.2
LPL La Plagne 51.42 317 *e*P **P** **07 27 23.4 -1.8**
comp=Z,20nm,0.7s,mb5.1
XAN Xi'an 51.45 58 P **P** **07 27 25.5 +0.2**
OG25 Le Caire 51.48 316 *e*P **P** **07 27 25.5 0.0**
BFO Black Forest 51.48 321 P **P** **07 27 25.1 -0.5**
RSL Roselend 51.56 317 *e*P **P** **07 27 25.2 -0.9**
QIZ Qiongzhong 51.67 77 P **P** **07 27 26.3 -0.7**
QIZ AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
QIZ LR LR
comp=Z,320nm,29.5s,MS4.2
SMRF Simiane la Rot 51.69 315 *e*P **P** **07 27 26.1 -1.0**
comp=Z,19nm,0.8s,mb4.8
SMRF Simiane la Rot 51.69 315 *e*P **P** **07 27 26.1 -1.0**
comp=Z,9.6nm,0.8s,mb4.8
KAF Kangasniemi 51.88 343 *e*p **P** **07 27 28.9 +0.3**
comp=Z,12nm,1.0s,mb4.8,baz=142,slow=7.7
KAF Kangasniemi 51.88 343 *e*P **P** **07 27 28.9 +0.3**
KAF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 52.16 321 *e*P **P** **07 27 28.6 -2.0**
comp=Z,26nm,0.9s,mb4.9
CDF Champ du Feu 52.16 321 *e*P **P** **07 27 28.6 -2.0**
CDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
CDF Champ du Feu 52.16 321 *e*P **P** **07 27 28.6 -2.0**
comp=Z,13nm,0.9s,mb4.9
TNS Taunus Mts 52.20 323 *e*P **P** **07 27 30.2 -0.8**
comp=Z,48nm,2.0s,mb5.1
TNS Taunus Mts 52.20 323 *e*P **P** **07 27 30.2 -0.8**
TNS pmax pmax
comp=Z,48nm,2.0s,mb5.1
BOSA Boshof 52.21 215 P **P** **07 27 31.3 +0.3**
comp=Z,21nm,1.1s,mb5.0,baz=46,slow=8.6,SNR=12
BOSA LR LR 07 50 12.3
comp=Z,797nm,18.4s,MS4.8,baz=40,slow=37
BOSA Boshof 52.21 215 *e*P **P** **07 27 31.1 +0.1**
BOSA pmax pmax
comp=Z,21nm,1.0s,mb5.0
BOSA Boshof 52.21 215 *e*P **P** **07 27 31.1 +0.1**
comp=Z,21nm,1.0s,mb5.0
BOSA Boshof 52.21 215 *e*P **P** **07 27 31.1 +0.1**
comp=Z,21nm,1.0s,mb5.0
CABF La Chapelle 52.23 318 *e*P **P** **07 27 29.8 -1.4**
comp=Z,93nm,1.1s,mb5.3
CABF La Chapelle 52.23 318 *e*P **P** **07 27 29.8 -1.4**
CABF pmax pmax
comp=Z,47nm,1.1s,mb5.3
CABF La Chapelle 52.23 318 *e*P **P** **07 27 29.8 -1.4**
comp=Z,47nm,1.1s,mb5.3
ZAK Zakamensk 52.24 37 *e*P **P** **07 27 32.0 +0.8**
NRDL Niedersach Rie 52.31 326 *e*P **P** **07 27 33.3 +1.5**
comp=Z,22nm,1.2s,mb5.0
TOA0 Torodi Ar. Sit 52.53 275 *e*P **P** **07 27 33.0 -0.4**
TOA0 *e*PcP PcP 07 28 44.2 +0.5
TOA0 Torodi Ar. Sit 52.53 275 *e*P **P** **07 27 33.0 -0.4**
TOA0 Torodi Ar. Sit 52.53 275 *e*PcP PcP 07 28 44.2 +0.5
TORD Torodi Ar. Bea 52.53 275 P **P** **07 27 32.9 -0.5**
comp=Z,6.0nm,0.9s,mb4.5,baz=94,slow=7.0,SNR=25
TORD PcP PcP 07 28 44.2 +0.4
comp=Z,2.2nm,0.8s,baz=79,slow=3.9,SNR=4.6
TORD LR LR 07 48 33.4
comp=Z,417nm,21.6s,MS4.4,baz=85,slow=35
TORD Torodi Ar. Bea 52.53 275 P **P** **07 27 32.9 -0.5**
TORD PcP PcP 07 28 44.2 +0.4
TORD LR LR 07 48 33.4
TORD Torodi Ar. Bea 52.53 275 PcP PcP 07 28 44.2 +0.5
VIVF Saint-Julien-I 52.58 316 *e*P **P** **07 27 31.1 -2.7**
comp=Z,24nm,0.9s,mb4.8
VIVF Saint-Julien-I 52.58 316 *e*P **P** **07 27 31.1 -2.7**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
VIVF Saint-Julien-I 52.58 316 *e*P **P** **07 27 31.1 -2.7**
comp=Z,12nm,0.9s,mb4.8
LASF Ste Croix 52.90 315 *e*P **P** **07 27 33.6 -2.5**
comp=Z,28nm,1.0s,mb4.8
LASF Ste Croix 52.90 315 *e*P **P** **07 27 33.6 -2.5**
comp=Z,14nm,1.0s,mb4.8
SONM Songino Array 53.11 41 P **P** **07 27 39.5 +1.9**
comp=Z,3.1nm,0.9s,mb4.2,baz=241,slow=8.1,SNR=12
SONM PcP PcP 07 28 45.8 -0.1
comp=Z,1.5nm,1.0s,baz=224,slow=4.1,SNR=3.9
SONM LR LR 07 53 00.0
comp=Z,363nm,18.7s,MS4.5,baz=260,slow=39
SONM Songino Array 53.11 41 P **P** **07 27 39.6 +1.9**
SONM 07 28 45.8
SONM Songino Array 53.11 41 P **P** **07 27 39.5 +1.8**
SONM Songino Array 53.11 41 PcP PcP 07 28 45.8 -0.1
MEZF Maizieres J'vi 53.56 320 *e*P **P** **07 27 39.4 -1.6**
comp=Z,90nm,1.0s,mb5.3
MEZF Maizieres J'vi 53.56 320 *e*P **P** **07 27 39.4 -1.6**
comp=Z,45nm,1.0s,mb5.3
PLDF La Plantade 53.63 317 *e*P **P** **07 27 41.1 -0.4**
LBL Lubilhac 53.66 316 *e*P **P** **07 27 41.8 +0.1**
SMF Signal de Mont 53.70 318 *e*P **P** **07 27 39.9 -2.1**
MTLF Montolieu 53.84 313 *e*P **P** **07 27 41.1 -2.0**
comp=Z,29nm,1.2s,mb4.8
MTLF Montolieu 53.84 313 *e*P **P** **07 27 41.1 -2.0**
MTLF pmax pmax
comp=Z,14nm,1.2s,mb4.8
MTLF Montolieu 53.84 313 *e*P **P** **07 27 41.1 -2.0**
comp=Z,14nm,1.2s,mb4.8
LOR Lormes 53.89 318 *e*P **P** **07 27 41.6 -1.8**
comp=Z,62nm,1.1s,mb5.2
LOR *e*MLR MLR
comp=Z,226nm,21.8s
LOR Lormes 53.89 318 *e*P **P** **07 27 41.6 -1.8**
LOR pmax pmax
comp=Z,31nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,230nm,21.8s,MS4.2
LOR Lormes 53.89 318 *e*P **P** **07 27 41.6 -1.8**
comp=Z,31nm,1.1s,mb5.2
LOR LR LR
comp=Z,230nm,21.8s,MS4.2
AGO Saint Agoulin 53.98 317 *e*P **P** **07 27 44.0 -0.1**
SSF Saint Saulge 54.05 318 *e*P **P** **07 27 42.6 -2.0**
comp=Z,47nm,1.0s,mb5.1
SSF Saint Saulge 54.05 318 *e*P **P** **07 27 42.6 -2.0**
SSF pmax pmax
comp=Z,24nm,1.0s,mb5.1
SSF Saint Saulge 54.05 318 *e*P **P** **07 27 42.6 -2.0**
comp=Z,24nm,1.0s,mb5.1
AVF Avril sur Loir 54.06 318 *e*P **P** **07 27 42.4 -2.3**
comp=Z,18nm,0.8s,mb4.8
AVF Avril sur Loir 54.06 318 *e*P **P** **07 27 42.4 -2.3**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 54.06 318 *e*P **P** **07 27 42.4 -2.3**
comp=Z,9.1nm,0.8s,mb4.8
BCLA Clavier 54.12 322 P **P** **07 27 51.4 +6.3**
GIVF Givet 54.29 322 *e*P **P** **07 27 44.7 -1.6**
comp=Z,44nm,1.0s,mb5.0
GIVF Givet 54.29 322 *e*P **P** **07 27 44.7 -1.6**
GIVF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GIVF Givet 54.29 322 *e*P **P** **07 27 44.7 -1.6**
comp=Z,22nm,1.0s,mb5.0

BGF	**Bois d'Agland**	**54.32**	**317**	*e*P	**P**	**07 27 45.0**	**-1.6**
	comp=Z,55nm,0.8s,mb5.2						
BGF	**Bois d'Agland**	**54.32**	**317**	*e*P	**P**	**07 27 45.0**	**-1.6**
BGF				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
BGF	**Bois d'Agland**	**54.32**	**317**	*e*P	**P**	**07 27 45.0**	**-1.6**
	comp=Z,28nm,0.8s,mb5.2						
DOU	**Dourbes**	**54.42**	**322**	P	**P**	**07 27 47.2**	**-0.1**
DOU				AP	pP	07 27 49.2	-0.9
DOU				XP	sP	07 27 52.5	+1.3
TCF	**Toulx Ste Croi**	**54.66**	**317**	*e*P	**P**	**07 27 47.2**	**-1.8**
	comp=Z,35nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**54.66**	**317**	*e*P	**P**	**07 27 47.2**	**-1.8**
TCF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
TCF	**Toulx Ste Croi**	**54.66**	**317**	*e*P	**P**	**07 27 47.2**	**-1.8**
	comp=Z,18nm,1.0s,mb5.0						
HHC	**Hu-ho-hao-te**	**54.72**	**50**	*e*P	**P**	**07 27 51.4**	**+2.0**
HHC				AP	pP	07 27 56.3	+4.0
HHC				XP	sP	07 27 59.3	+5.9
HHC				PCP	PcP	07 28 55.9	+3.8
HHC				PP	PP	07 29 55.6	+3.6
HHC				SCP	ScP	07 32 49.9	-0.8
HHC				PCS	PcS	07 32 51.2	-0.5
HHC				S	**S**	**07 35 31.1**	**+1.2**
HHC				XS	sS	07 35 38.9	+4.3
HHC				SCS	ScS	07 37 34.0	-5.0
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,186nm,4.5s						
HHC				LR	LR		
	comp=N,448nm,19.8s						
HHC				LR	LR		
	comp=E,782nm,25.9s						
HHC				LR	LR		
	comp=Z,981nm,22.5s,MS4.8						
EPF	**Esparros**	**55.10**	**312**	*e*P	**P**	**07 27 50.5**	**-1.7**
KSM	**Kuching**	**55.29**	**98**	*e*P	**P**	**07 27 54.0**	**+0.5**
KSM	**Kuching**	**55.29**	**98**	*e*P	**P**	**07 27 54.0**	**+0.5**
ETSF	**Etsaut**	**55.71**	**312**	*e*P	**P**	**07 27 54.9**	**-1.7**
	comp=Z,35nm,0.8s,mb5.1						
ETSF	**Etsaut**	**55.71**	**312**	*e*P	**P**	**07 27 54.9**	**-1.7**
ETSF				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
ETSF	**Etsaut**	**55.71**	**312**	*e*P	**P**	**07 27 54.9**	**-1.7**
	comp=Z,17nm,0.8s,mb5.1						
SGF	**Sodankyl**	**56.15**	**347**	P	**P**	**07 28 00.1**	**+0.3**
SJPF	**Ste Jean**	**56.24**	**312**	*e*P	**P**	**07 27 58.7**	**-1.7**
	comp=Z,43nm,0.8s,mb5.2						
SJPF	**Ste Jean**	**56.24**	**312**	*e*P	**P**	**07 27 58.7**	**-1.7**
SJPF				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
SJPF	**Ste Jean**	**56.24**	**312**	*e*P	**P**	**07 27 58.7**	**-1.7**
	comp=Z,22nm,0.8s,mb5.2						
MFF	**Saint Martin d**	**56.31**	**317**	*e*P	**P**	**07 27 58.6**	**-2.3**
	comp=Z,73nm,1.3s,mb5.3						
MFF	**Saint Martin d**	**56.31**	**317**	*e*P	**P**	**07 27 58.6**	**-2.3**
MFF				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
MFF	**Saint Martin d**	**56.31**	**317**	*e*P	**P**	**07 27 58.6**	**-2.3**
	comp=Z,37nm,1.3s,mb5.3						
NB2	**NORSAR Subarra**	**56.34**	**336**	P	**P**	**07 27 59.8**	**-1.3**
	comp=Z,13nm,1.4s,mb4.8,baz=120,slow=7.9						
NB2	**NORSAR Subarra**	**56.34**	**336**	P	**P**	**07 27 59.8**	**-1.3**
NB2				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
NOA	**NORSAR Array B**	**56.34**	**336**	P	**P**	**07 28 00.3**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.1,baz=130,slow=5.3,SNR=3.7						
NOA				LR	LR	07 56 58.3	
	comp=Z,254nm,18.7s,MS4.3,baz=125,slow=41						
EVIA	**Vianos**	**56.40**	**307**	P	**P**	**07 28 01.6**	**+0.1**
EVIA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
EVIA	**Vianos**	**56.40**	**307**	P	**P**	**07 28 01.6**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.4						
EALB	**Alboran**	**56.49**	**304**	P	**P**	**07 28 02.1**	**-0.1**
	comp=Z,2.7nm,0.4s,mb4.6						
EALB	**Alboran**	**56.49**	**304**	P	**P**	**07 28 02.1**	**-0.1**
	comp=Z,2.7nm,0.4s,mb4.6						
LDF	**La Druitiere**	**56.84**	**319**	*e*P	**P**	**07 28 02.4**	**-2.3**
	comp=Z,92nm,1.2s,mb5.4						
LDF	**La Druitiere**	**56.84**	**319**	*e*P	**P**	**07 28 02.4**	**-2.3**
LDF				pmax	pmax		
	comp=Z,46nm,1.2s,mb5.4						
LDF	**La Druitiere**	**56.84**	**319**	*e*P	**P**	**07 28 02.4**	**-2.3**
	comp=Z,46nm,1.2s,mb5.4						
ECOG	**Cogollos-Vega**	**57.06**	**305**	P	**P**	**07 28 05.8**	**-0.4**
ECOG				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ECOG	**Cogollos-Vega**	**57.06**	**305**	P	**P**	**07 28 05.8**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.3						
ECOG	**Cogollos-Vega**	**57.06**	**305**	P	**P**	**07 28 05.8**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.3						
FLN	**La Foliniere**	**57.12**	**319**	*e*P	**P**	**07 28 05.4**	**-1.3**
FLN				*e*MLR	MLR		
	comp=Z,214nm,23.0s						
FLN	**La Foliniere**	**57.12**	**319**	*e*P	**P**	**07 28 05.4**	**-1.3**
FLN				LR	LR		
	comp=Z,210nm,23.0s,MS4.2						
ERON	**Agron**	**57.22**	**305**	P	**P**	**07 28 06.7**	**-0.6**
	comp=Z,1.0nm,0.2s,mb4.5						
ERON	**Agron**	**57.22**	**305**	P	**P**	**07 28 06.7**	**-0.7**
	comp=Z,1.0nm,0.2s,mb4.5						
MDT	**Midelt**	**57.54**	**300**	P	**P**	**07 28 10.1**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.5,baz=92,slow=9.2,SNR=7.0						
SUR	**Sutherland**	**57.55**	**215**	*e*P	**P**	**07 28 10.9**	**+1.2**
	comp=Z,9.8nm,0.8s,mb4.9						
SUR				*e*		07 28 17.0	
ESDC	**Sonseca Array**	**57.67**	**308**	P	**P**	**07 28 09.6**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.9,baz=85,slow=6.4,SNR=28						
ESDC	**Sonseca Array**	**57.67**	**308**	P	**P**	**07 28 09.6**	**-0.9**
	comp=Z,0.7nm,0.3s,mb4.2						
ESLA	**Sonseca Array**	**57.67**	**308**	*e*P	**P**	**07 28 09.8**	**-0.7**
ESLA				*e*		07 28 15.9	
ESLA	**Sonseca Array**	**57.67**	**308**	*e*P	**P**	**07 28 09.8**	**-0.7**
EMIJ	**Mijas**	**57.95**	**304**	P	**P**	**07 28 10.9**	**-1.6**
	comp=Z,1.3nm,0.2s,mb4.6						
EMIJ	**Mijas**	**57.95**	**304**	P	**P**	**07 28 10.9**	**-1.6**
	comp=Z,1.3nm,0.2s,mb4.6						
EADA	**Adamuz**	**57.96**	**306**	P	**P**	**07 28 11.3**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.9						
EADA	**Adamuz**	**57.96**	**306**	P	**P**	**07 28 11.3**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.9						
KEV	**Kevo**	**57.98**	**349**	*e*p	**P**	**07 28 11.9**	**-0.8**
	comp=Z,14nm,0.8s,mb5.0						
KEV	**Kevo**	**57.98**	**349**	*e*P	**P**	**07 28 11.9**	**-0.8**
KEV				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
BJI	**Beijing**	**58.05**	**52**	P	**P**	**07 28 15.2**	**+2.0**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
BJI				LR	LR		
	comp=N,594nm,17.6s,MS4.9						
BJI				LR	LR		
	comp=E,600nm,21.8s,MS4.9						
BJI				LR	LR		
	comp=Z,699nm,26.1s,MS4.7						
BJI	**Beijing**	**58.05**	**52**	P	**P**	**07 28 15.2**	**+2.0**
	comp=Z,7.0nm,1.0s,mb4.7						
BJI				S	S	07 35 49.2	-25
BJI				LR	LR		
	comp=Z,700nm,26.1s,MS4.7						
ARCES	**ARCESS Array B**	**58.09**	**348**	P	**P**	**07 28 11.9**	**-1.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=134,slow=6.9,SNR=21						
ARCES				LR	LR	07 56 54.9	
	comp=Z,674nm,19.7s,MS4.8,baz=150,slow=40						
ARCES	**ARCESS Array B**	**58.09**	**348**	P	**P**	**07 28 11.9**	**-1.6**
ESPR	**Espera**	**58.84**	**304**	P	**P**	**07 28 17.5**	**-1.3**
	comp=Z,4.2nm,0.3s,mb5.0						
ESPR	**Espera**	**58.84**	**304**	P	**P**	**07 28 17.5**	**-1.2**
	comp=Z,4.2nm,0.3s,mb5.0						
EMIN	**Mina Concepcio**	**59.57**	**305**	P	**P**	**07 28 22.6**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2						
EMIN	**Mina Concepcio**	**59.57**	**305**	P	**P**	**07 28 22.6**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2						
NJ2	**Nanjing**	**59.59**	**61**	*e*P	**P**	**07 28 24.5**	**+0.6**
NJ2				AP	pP	07 28 34.1	+7.3
NJ2				XP	sP	07 28 37.8	+10
NJ2				PP	PP	07 30 39.5	+4.1
NJ2				S	**S**	**07 36 31.0**	**-3.1**
NJ2				XS	sS	07 36 47.0	+8.2
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,750nm,15.4s,MS5.0						
NJ2				LR	LR		
	comp=E,440nm,18.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,15.0s,MS5.2						
KKM	**Kota Kinabalu**	**59.81**	**91**	*e*P	**P**	**07 28 24.5**	**-0.9**
KKM	**Kota Kinabalu**	**59.81**	**91**	*e*P	**P**	**07 28 24.5**	**-0.9**
EBAD	**Badajoz**	**59.92**	**306**	P	**P**	**07 28 25.1**	**-1.0**
	comp=Z,0.3nm,0.2s,mb4.0						
EBAD	**Badajoz**	**59.92**	**306**	P	**P**	**07 28 25.1**	**-1.1**
	comp=Z,0.3nm,0.2s,mb4.0						
PBRG	**Braganca**	**60.04**	**310**	*e*P	**P**	**07 28 26.3**	**-0.7**
	comp=Z,23nm,1.5s,mb5.0						
DBIC	**Dimbokro**	**60.08**	**269**	P	**P**	**07 28 26.9**	**-0.3**
	comp=Z,6.3nm,0.9s,mb4.7,baz=86,slow=4.6,SNR=4.7						
DBIC				LR	LR	07 54 26.6	
	comp=Z,156nm,19.3s,MS4.2,baz=59,slow=36						
DBIC	**Dimbokro**	**60.08**	**269**	*e*P	**P**	**07 28 26.7**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,21nm,1.3s						
DBIC	**Dimbokro**	**60.08**	**269**	*e*P	**P**	**07 28 26.7**	**-0.5**
	comp=Z,21nm,1.3s,mb5.0						
DBIC	**Dimbokro**	**60.08**	**269**	*e*P	**P**	**07 28 26.7**	**-0.6**
	comp=Z,21nm,1.3s,mb5.0						
LIC	**Lamto**	**60.34**	**269**	*e*P	**P**	**07 28 28.4**	**-0.7**
	comp=Z,76nm,1.4s,mb5.2						
LIC				*e*MLR	MLR		
	comp=Z,194nm,23.0s						
LIC	**Lamto**	**60.34**	**269**	*e*P	**P**	**07 28 28.4**	**-0.7**
	comp=Z,38nm,1.4s,mb5.2						
LIC				LR	LR		
	comp=Z,100nm,23.0s,MS3.9						
LIC	**Lamto**	**60.34**	**269**	*e*P	**P**	**07 28 28.4**	**-0.7**
	comp=Z,38nm,1.4s,mb5.2						
PCBR	**Castelo Branco**	**60.38**	**308**	*e*P	**P**	**07 28 28.2**	**-1.1**
	comp=Z,22nm,1.4s,mb5.0						
MTE	**Manteigas**	**60.49**	**308**	*e*P	**P**	**07 28 29.3**	**-0.8**
	comp=Z,21nm,1.5s,mb5.0						
PBEJ	**Beja**	**60.53**	**306**	*e*P	**P**	**07 28 29.4**	**-1.0**
	comp=Z,25nm,1.5s,mb5.1						
EVO	**Evora**	**60.68**	**306**	*e*P	**P**	**07 28 30.7**	**-0.7**
	comp=Z,29nm,1.1s,mb5.0						
EVO				*e*MLR	MLR		
	comp=Z,145nm,22.8s						
PVRL	**Vila Real**	**60.71**	**309**	*e*P	**P**	**07 28 30.7**	**-0.9**
	comp=Z,33nm,1.6s,mb5.2						
PVIS	**Viseu**	**60.78**	**309**	*e*P	**P**	**07 28 31.7**	**-0.4**
	comp=Z,46nm,1.3s,mb5.4						
SSE	**Sheshan**	**61.58**	**62**	P	**P**	**07 28 36.7**	**-0.7**
SSE				S	**S**	**07 36 58.2**	**-1.3**
SSE				SS	SS	07 41 00.3	-0.2
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,282nm,5.4s						
SSE				LR	LR		
	comp=N,145nm,22.4s,MS4.2						
SSE				LR	LR		
	comp=E,126nm,22.4s,MS4.2						
SSE				LR	LR		
	comp=Z,176nm,23.7s,MS4.1						
SSE	**Sheshan**	**61.58**	**62**	P	**P**	**07 28 36.7**	**-0.7**
	comp=Z,30nm,0.7s,mb5.5						
SSE				pP	pP	07 28 39.9	-0.4
SSE				S	**S**	**07 36 58.2**	**-1.3**
SSE				sS	sS	07 37 03.9	-0.3
SSE				SS	SS	07 41 00.3	-0.2
SSE				LR	LR		
	comp=Z,180nm,23.7s,MS4.2						
SSE	**Sheshan**	**61.58**	**62**	P	**P**	**07 28 36.7**	**-0.7**
	comp=Z,30nm,0.7s,mb5.5						
SSE				pP	pP	07 28 39.9	-0.4
SSE				SS	SS	07 41 00.3	-0.2
CN2	**Changchun**	**65.30**	**48**	*e*P	**P**	**07 29 04.4**	**+2.3**
CN2				*e*XP	sP	07 29 11.4	+5.3
CN2				*e*S	S	07 37 46.7	+0.8
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.5						
MDJ	**Mudanjiang**	**68.31**	**48**	P	**P**	**07 29 21.0**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,176nm,5.3s						
TIXI	**Tiksi**	**70.87**	**19**	*e*P	**P**	**07 29 36.9**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
BORG	**Borgarnes**	**71.42**	**334**	LR	LR	08 02 13.9	
	comp=Z,218nm,18.2s,MS4.5,baz=16,slow=37						
MBWA	**Marble Bar**	**72.04**	**118**	*e*P	**P**	**07 29 43.2**	**-1.0**
	comp=Z,19nm,1.4s,mb4.8						
MBWA	**Marble Bar**	**72.04**	**118**	*e*P	**P**	**07 29 43.2**	**-1.0**
	comp=Z,19nm,1.4s,mb4.8						
DAG	**Danmarks Havn**	**72.33**	**347⇑**	*i*P	**P**	**07 29 44.5**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.6						
DAG	**Danmarks Havn**	**72.33**	**347⇑**	*e*P	**P**	**07 29 44.5**	**-1.4**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
DAG	**Danmarks Havn**	**72.33**	**347⇑**	*e*P	**P**	**07 29 44.5**	**-1.4**
	comp=Z,6.0nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**75.35**	**56**	LR	LR	08 04 12.4	
	comp=Z,205nm,21.6s,MS4.4,baz=270,slow=36						
YSS	**Yuzh-Sakhalins**	**77.34**	**45**	*e*P	**P**	**07 30 15.2**	**+0.3**
YSS				*e*		07 30 25.8	
YSS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
YSS	**Yuzh-Sakhalins**	**77.34**	**45**	*e*P	**P**	**07 30 15.2**	**+0.3**
	comp=Z,11nm,1.1s,mb4.7						
YSS				*e*PcP	PcP	07 30 25.8	+0.4
YSS	**Yuzh-Sakhalins**	**77.34**	**45**	*e*P	**P**	**07 30 15.2**	**+0.3**
	comp=Z,11nm,1.1s,mb4.7						
YSS				*e*PcP	PcP	07 30 25.8	+0.4
SUMG	**Summit**	**77.46**	**342**	*e*P	**P**	**07 30 16.0**	**+0.5**
	comp=Z,30nm,1.1s,mb5.1						
SUMG	**Summit**	**77.46**	**342**	*e*P	**P**	**07 30 16.0**	**+0.5**
	comp=Z,30nm,1.1s,mb5.1						
MAW	**Mawson**	**82.16**	**177**	P	**P**	**07 30 41.0**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=355,slow=6.1,SNR=12						
MAW				LR	LR	07 57 59.1	
	comp=Z,445nm,19.1s,MS4.8,baz=71,slow=29						
MAW	**Mawson**	**82.16**	**177**	*e*P	**P**	**07 30 40.7**	**-0.3**
MAW				*e*		07 30 46.9	
MAW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAW	**Mawson**	**82.16**	**177**	*e*P	**P**	**07 30 40.7**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.6						
MAW				*e*		07 30 46.9	
BILL	**Bilibino**	**83.93**	**21**	*e*P	**P**	**07 30 48.3**	**-1.9**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
SYO	**Syowa Base**	**84.22**	**186⇓**	*e*P	**P**	**07 30 51.4**	**-0.3**
WRA	**Warramunga Arr**	**84.42**	**112**	P	**P**	**07 30 52.2**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.7,baz=296,slow=4.1,SNR=32						
WRAB	**Tennant Creek**	**84.42**	**112**	*e*P	**P**	**07 30 50.9**	**-1.8**
WB2	**Warramunga Arr**	**84.43**	**112**	*e*P	**P**	**07 30 52.1**	**-0.6**
ASPA	**Alice Springs**	**85.17**	**116**	*e*P	**P**	**07 30 55.8**	**-0.7**
AS31	**Alice Springs**	**85.17**	**116**	*e*P	**P**	**07 30 55.8**	**-0.7**
ASAR	**Alice Springs**	**85.17**	**116**	P	**P**	**07 30 55.9**	**-0.6**
	comp=Z,4.4nm,0.8s,mb4.7,baz=291,slow=4.7,SNR=51						
ASAR				LR	LR	08 04 06.9	
	comp=Z,313nm,18.6s,MS4.7,baz=0.4,slow=32						
ASAR	**Alice Springs**	**85.17**	**116**	P	**P**	**07 30 55.8**	**-0.7**
CASY	**Casey**	**90.17**	**161**	*e*P	**P**	**07 31 18.8**	**-1.7**
	comp=Z,2.9nm,0.9s,mb4.6						
CASY	**Casey**	**90.17**	**161**	*e*P	**P**	**07 31 18.8**	**-1.7**
	comp=Z,2.9nm,0.9s,mb4.6						
NVL	**N'lazarevskaya**	**90.36**	**193**	*e*P	**P**	**07 31 22.6**	**+1.2**
NVL				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.2						
MAIT	**Maitri**	**90.39**	**193**	*e*P	**P**	**07 31 22.2**	**+0.7**
STKA	**Stephens Creek**	**94.03**	**122**	LR	LR	08 08 36.0	
	comp=Z,320nm,18.1s,MS4.8,baz=308,slow=32						
SNAA	**Sanae**	**94.53**	**196**	*e*P	**P**	**07 31 39.4**	**-1.3**
SNAA				pmax	pmax		
	comp=Z,30nm,1.1s						
SNAA	**Sanae**	**94.53**	**196**	*e*P	**P**	**07 31 39.4**	**-1.3**
	comp=Z,2.9nm,1.1s,mb4.6						
SNAA	**Sanae**	**94.53**	**196**	*e*P	**P**	**07 31 39.4**	**-1.3**
	comp=Z,2.9nm,1.1s,mb4.6						
SCHQ	**Schefferville**	**95.63**	**331**	LR	LR	08 16 46.5	
	comp=Z,80nm,21.5s,MS4.2,baz=348,slow=37						
HNR	**Honiara**	**105.83**	**96**	*e*PKP	PKiKP	07 36 43.4	-0.5
HNR	**Honiara**	**105.83**	**96**	*e*PKIKP	PKiKP	07 36 43.4	-0.5
VNDA	**Vanda**	**107.63**	**167**	*e*PKP	PKiKP	07 36 45.9	-1.4
VNDA	**Vanda**	**107.63**	**167**	*e*PKIKP	PKiKP	07 36 45.9	-1.3
SBA	**Scott Base**	**108.56**	**168**	*e*PKP	PKiKP	07 36 48.2	-0.8
BW06	**Boulder Array**	**121.35**	**347**	*e*PKPdf	PKPdf	07 37 13.1	-0.3
PDAR	**Pinedale Array**	**121.35**	**347**	PKP	PKPdf	07 37 13.1	-0.4
	comp=Z,1.5nm,0.8s,baz=73,slow=3.5,SNR=12						
HWUT	**Hardware Ranch**	**122.86**	**349**	*e*PKPdf	PKPdf	07 37 16.0	-0.3
SMCO	**Snowmass**	**124.13**	**344**	*e*PKPdf	PKPdf	07 37 18.6	-0.2
WMOK	**Wichita Mounta**	**125.33**	**334**	*e*PKIKP	PKPdf	07 37 20.8	-0.2
LPAZ	**La Paz**	**126.16**	**260**	PKP	PKPdf	07 37 23.7	+1.0
	comp=Z,1.2nm,0.7s,baz=193,slow=7.6,SNR=6.3						
LPAZ	**La Paz**	**126.16**	**260**	PKP	PKPdf	07 37 23.7	+1.0
PLCA	**Paso Flores**	**126.88**	**230**	PKP	PKPdf	07 37 23.6	-0.4
	comp=Z,3.0nm,1.0s,baz=62,slow=2.3,SNR=3.2						
NVAR	**Mina Array Bea**	**126.94**	**354**	PKP	PKPdf	07 37 25.6	+1.5
	comp=Z,2.4nm,0.9s,baz=275,slow=1.5,SNR=13						
RAO	**Raoul Island**	**128.43**	**116**	*e*PKIKP	PKPdf	07 37 27.0	0.0
DAC	**Darwin (Calif)**	**129.00**	**353**	*e*PKIKP	PKPdf	07 37 29.3	+1.2

BJI ***06*** *07:29:16.3,25.97N×125.48E,h202km,mB4.9,mb4.6*
ISCJB ***06*** *07:29:20.0±0.3,26.11N±005×124.91E±004,h190km±3km, mb4.3/25, Error ellipse: s-maj=8.4km s-min=4.0km az=120.5*
MOS ***06*** *07:29:21.5±0.7,26.17N×124.99E,h213km,mb4.3/5, Error ellipse: s-maj=21.7km s-min=11.3km az=133.3*
NEIC ***06*** *07:29:22.3±0.3,26.17N×124.97E,mb4.4/7, Error ellipse: s-maj=9.2km s-min=6.4km az=54.0*
JMA ***06*** *07:29:22.0±0.3,26.24N×124.75E,h165km,M4.5*
IDC ***06*** *07:29:22.1±0.6,26.24N×125.17E,h204km±6km,mb3.7/15, mb1 3.8/16,mb1mx3.7/27,mbtmp4.3/16, Error ellipse: s-maj=12.9km s-min=8.4km az=45.0*

ISC 06 07:29:21.0±0.3,2614N±005×12490E±004,h182km±3km, h206km±1.7km:pP-P,n67,σ0.98/81,mb4.3/25,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.36**	**165**	P	**Pn**	**07 29 53.2**	**+1.3**
JMJ				*e*S	**Sn**	**07 30 16.3**	**+0.5**
JOGS	**Gusukube**	**1.45**	**161**	P	**Pn**	**07 29 53.6**	**+0.9**
JOGS				*e*S	**Sn**	**07 30 17.9**	**+0.8**
JTJ	**Tarama**	**1.50**	**187**	P	**Pn**	**07 29 54.1**	**+0.9**
JTJ				*e*S	**Sn**	**07 30 17.5**	**-0.5**
JKE	**Kume jima 2**	**1.71**	**83**	P	**Pn**	**07 29 56.4**	**+1.2**
JIJ	**Ishigaki jima**	**1.89**	**201**	P	**Pn**	**07 29 57.1**	**0.0**
JIJ				*e*S	**Sn**	**07 30 22.9**	**-2.1**
JKRS	**Kuro-shima**	**2.06**	**203**	P	**Pn**	**07 29 59.1**	**+0.3**
JKRS				*e*S	**Sn**	**07 30 26.6**	**-1.5**
IRIF	**Iriomote-Funau**	**2.08**	**211**	P	**Pn**	**07 29 59.1**	**0.0**
IRIF				*e*S	**Sn**	**07 30 27.4**	**-1.2**
JAGN	**Aguni-jima**	**2.15**	**77**	P	**Pn**	**07 30 00.8**	**+0.9**
JAGN				*e*S	**Sn**	**07 30 29.5**	**-0.5**
HATJ	**Hateruma jima**	**2.29**	**206**	*e*S	**Sn**	**07 30 31.2**	**-1.7**
YOJ	**Yonaguni jima**	**2.39**	**226**	P	**Pn**	**07 30 03.0**	**+0.5**
YOJ				*e*S	**Sn**	**07 30 33.9**	**-0.8**
NAH1	**Naha**	**2.51**	**88**	P	**Pn**	**07 30 05.4**	**+1.5**
NAH1				*e*S	**Sn**	**07 30 39.8**	**+2.5**
JJT2	**Tamagusuku 2**	**2.56**	**89**	P	**Pn**	**07 30 06.1**	**+1.5**
JJT2				*e*S	**Sn**	**07 30 40.2**	**+1.8**
JIH	**Iheya**	**2.89**	**71**	P	**Pn**	**07 30 09.1**	**+0.7**
JIH				*e*S	**Sn**	**07 30 43.7**	**-1.6**
JOW	**Kunigami**	**3.10**	**76**	P	**Pn**	**07 30 11.5**	**+0.5**
	149nm,0.3s,baz=222,slow=8.9,SNR=80						
JOW				S	**Sn**	**07 30 47.5**	**-2.5**
	112nm,0.3s,baz=121,slow=26,SNR=19						
JOW	**Kunigami**	**3.10**	**76**	P	**Pn**	**07 30 11.4**	**+0.4**
JOW				*e*S	**Sn**	**07 30 47.8**	**-2.2**
YHNB	**Yeheng**	**3.50**	**246**	*e*Pn	**Pn**	**07 30 17.3**	**+1.4**
NACB	**Ninganchiao**	**3.57**	**238**	*e*Pn	**Pn**	**07 30 16.0**	**-0.8**
JTK	**Tokunoshima**	**3.97**	**65**	P	**Pn**	**07 30 21.4**	**-0.4**
JTK				*e*S	**Sn**	**07 31 06.3**	**-3.1**
JAM	**Amami Oshima**	**4.76**	**61**	P	**Pn**	**07 30 31.1**	**-0.8**
JAM				*e*S	**Sn**	**07 31 22.8**	**-4.8**
JMZ	**Minamidaito 2**	**5.70**	**92**	P	**Pn**	**07 30 43.9**	**-0.2**
JMZ				*e*S	**Sn**	**07 31 48.3**	**-1.2**
QIZ

ASPA	Alice Springs	50.27 169	*e*P	P	07 37 59.0	+0.3
AKTK	Aktyubinsk	55.77 315	P	P	07 38 38.1	-0.8
AKTO	Aktyubinsk	55.77 315	P	P	07 38 38.1	-0.8
	comp=Z,3.4nm,0.7s,mb4.3,baz=107,slow=7.9,SNR=5.5					
WSAR	Wadi Sarin	59.69 283	P	P	07 39 07.5	+1.2
	comp=Z,2.2nm,0.6s,mb4.1,baz=96,slow=9.2,SNR=4.0					
WSAR	Wadi Sarin	59.69 283	P	P	07 39 07.5	+1.2
STKA	Stephens Creek	59.85 164	P	P	07 39 06.7	-0.6
	comp=Z,1.9nm,0.6s,mb4.1,baz=359,slow=6.8,SNR=4.3					
STKA	Stephens Creek	59.85 164	P	P	07 39 06.7	-0.6
KIV	Kislovodsk	66.98 309	*e*P	P	07 39 54.5	+0.4
KIV			pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8					
FINES	FINESS Array B	71.46 330	P	P	07 40 20.6	-1.0
	comp=Z,1.0nm,0.6s,mb3.8,baz=45,slow=4.3,SNR=5.0					
AKASG	Malin Array Be	73.64 319	P	P	07 40 33.0	-1.5
	comp=Z,1.4nm,0.5s,mb4.0,baz=56,slow=6.8,SNR=6.9					
AKASG			pP	pP	07 41 21.4	+3.2
	comp=Z,0.2nm,0.3s,baz=53,slow=5.9,SNR=1.8					
BRTR	Keskin Array B	74.71 307	P	P	07 40 40.5	-0.2
	comp=Z,0.9nm,0.7s,mb3.5,baz=100,slow=6.4,SNR=4.4					
BRTR			pP	pP	07 41 29.6	+5.1
	comp=Z,1.8nm,1.0s,baz=84,slow=5.6,SNR=4.4					
BRTR	Keskin Array B	74.71 307	P	P	07 40 40.5	-0.2
BRTR			*PP	pP	07 41 29.6	+5.1
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
NOA	NORSAR Array B	78.05 333	P	P	07 40 58.6	-0.8
	comp=Z,0.6nm,0.7s,mb3.3,baz=98,slow=5.9,SNR=2.8					
NOA	NORSAR Array B	78.05 333	P	P	07 40 58.6	-0.9
NOA			pmax	pmax		
	comp=Z,1.0nm,0.7s					

ISCJB ***06*** *07:32:47.7±0.8, 146N±01×559E±01, h10km, mb3.7/11, MS3.9/3, Error ellipse: s-maj=21.7km s-min=12.3km az=63.8*
IDC ***06*** *07:32:47.8±1.0, 1458N×5585E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/25, mbtmp3.8/12, ML3.1/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/39, Error ellipse: s-maj=29.5km s-min=19.0km az=125.0*
NEIC ***06*** *07:32:49.4±0.7, 1458N×5585E, h10km, Error ellipse: s-maj=19.9km s-min=11.4km az=123.0*

ISC 06 07:32:49.8±0.8, 146N±01×559E±01, h10km, n20, σ0§78/16, mb3.7/11, MS3.9/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.97	17	Pn	Pn	07 34 60.0	+0.6
	0.2nm,0.3s,baz=235,slow=13,SNR=4.2						
WSAR				LR	LR	07 38 26.8	
	comp=Z,780nm,18.6s,baz=163,slow=38						
WSAR	Wadi Sarin	8.97	17	Pn	Pn	07 34 60.0	+0.6
WSAR				LR	LR	07 38 26.8	
ATD	Arta Tunnel	13.04	258	LR	LR	07 39 42.5	
	comp=Z,293nm,18.9s,baz=3.7,slow=32						
KMBO	Kilima Mbogo	24.17	231	P	P	07 38 07.2	+1.1
	1.3nm,0.8s,mb3.4,baz=35,slow=14,SNR=3.4						
KMBO				LR	LR	07 47 01.4	
	comp=Z,263nm,20.1s,MS3.7,baz=185,slow=35						
KMBO	Kilima Mbogo	24.17	231	P	P	07 38 07.2	+1.1
KMBO				LR	LR	07 47 01.4	
ASF	Jabal al Asfar	24.59	319	P	P	07 38 10.7	+0.6
	0.7nm,0.5s,mb3.5,baz=139,slow=9.3,SNR=2.7						
DLH	Dalhousie	25.57	42	*ex*	x	07 37 52.0	
GNI	Garni	27.24	341	LR	LR	07 51 25.4	
	comp=Z,345nm,18.2s,MS4.0,baz=278,slow=41						
AKTK	Aktyubinsk	35.77	2	P	P	07 39 48.9	-0.1
AKTO	Aktyubinsk	35.77	2	P	P	07 39 48.8	-0.1
	1.4nm,0.6s,mb4.1,baz=217,slow=10,SNR=2.5						
MKAR	Makanchi Array	38.94	29	P	P	07 40 16.6	+0.8
	0.3nm,0.6s,mb3.2,baz=249,slow=3.4,SNR=3.5						
BVAR	Borovoye Array	40.01	14	P	P	07 40 25.1	+0.3
	0.3nm,0.3s,mb3.5,baz=120,slow=5.3,SNR=3.6						
BOSA	Boshof	52.19	215	P	P	07 42 01.2	+0.6
	1.9nm,0.9s,mb4.0,baz=22,slow=6.9,SNR=3.5						
TORD	Torodi Ar. Bea	52.50	275	P	P	07 42 02.5	-0.5
	0.9nm,0.9s,mb3.7,baz=112,slow=5.0,SNR=5.2						
SONM	Songino Array	53.14	41	P	P	07 42 07.8	+0.1
	0.5nm,0.6s,mb3.6,baz=256,slow=5.8,SNR=3.3						
ESDC	Sonseca Array	57.66	308	P	P	07 42 38.9	-1.4
	0.5nm,0.4s,mb3.9,baz=96,slow=6.4,SNR=5.7						
ARCES	ARCESS Array B	58.09	348	P	P	07 42 42.2	-1.1
	1.3nm,0.8s,mb4.0,baz=138,slow=8.2,SNR=3.3						
ARCES	ARCESS Array B	58.09	348	P	P	07 42 42.2	-1.1
FITZ	Fitzroy Crossi	76.06	113	LR	LR	08 10 51.8	
	comp=Z,98nm,19.8s,MS4.1,baz=182,slow=30						
ASAR	Alice Springs	85.19	116	P	P	07 45 25.2	-1.2
	1.2nm,1.0s,mb4.0,baz=292,slow=4.9,SNR=4.1						

IDC ***06*** *07:36:36.2±1.1, 4958S×126.17E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/13, mbtmp4.2/6, ML2.7/1, MS4.2/12, Ms1 4.2/12, ms1mx4.0/21, Error ellipse: s-maj=53.4km s-min=18.6km az=100.0*
ISCJB ***06*** *07:36:37.3±0.6, 4947S±007×1265E±03, h10km, mb4.0/5, MS4.2/11, Error ellipse: s-maj=28.8km s-min=9.7km az=16.9*
NEIC ***06*** *07:36:38.4±0.8, 4956S×12626E, h10km, mb4.2/3, Error ellipse: s-maj=32.3km s-min=12.2km az=94.0*
GCMT ***06*** *07:36:38.4±0.2, 4956S×12601E, h17km±1km, MW5.1/62, Moment Tensor Solution. s25,c29; s62,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.66±.27; Mθθ=2.40±.22; Mφφ=0.74±.26; Mrθ=0.50±.48; Mrφ=4.73±.14; Mθφ=1.17±.62; Best double couple: M=5.14700×10¹⁶ NP1:φs=279.00000°, δ74.00000°, λ=4.00000°. NP2: φs=10.00000°, δ86.00000°, λ=164.00000°. Principal axes: T 5.9710, Plg8.0000°, Azm144.0000°; N -1.6490, Plg73.0000°, Azm25.0000°; P -4.3230, Plg14.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 07:36:38.9±0.6, 4949S±007×1264E±03, h10km, (h9km±.6km:pP-P), n28, σ1§17/15, mb4.0/5, MS4.2/11, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.89	334	P	Pn	07 40 47.9	+0.1
	1.3nm,0.3s,baz=170,slow=9.5,SNR=8.9						
NWAO				LR	LR	07 46 02.5	
	comp=Z,1μm,20.3s,baz=142,slow=32						
FORT	Forrest	18.73	5	*e*P	Pn	07 40 58.9	+0.8
	23nm,0.7s						
STKA	Stephens Creek	20.98	39	*e*P	P	07 41 23.8	+1.6
	7.7nm,0.9s						
STKA	Stephens Creek	20.98	39	P	P	07 41 23.5	+1.3
	5.5nm,0.9s,baz=209,slow=9.0,SNR=7.4						
STKA				LR	LR	07 48 39.3	
	comp=Z,206nm,19.6s,MS3.5,baz=205,slow=34						
ASPA	Alice Springs	26.44	16	*e*P	P	07 42 15.4	-0.5
ASAR	Alice Springs	26.45	16	P	P	07 42 15.0	-0.9
	3.5nm,0.5s,mb4.1,baz=194,slow=8.8,SNR=30						
AS31	Alice Springs	26.45	16	*e*P	P	07 42 15.4	-0.6
WRA	Warramunga Arr	30.16	15	P	P	07 42 48.0	-1.1
	3.0nm,1.0s,mb4.0,baz=195,slow=8.2,SNR=6.0						
WRA				LR	LR	07 54 02.5	
	comp=Z,212nm,21.2s,MS3.8,baz=215,slow=34						
WB2	Warramunga Arr	30.16	15	*e*P	P	07 42 49.8	+0.7
RPZ	Rata Peaks	30.88	97	LR	LR	07 52 17.6	
	comp=Z,553nm,20.4s,MS4.2,baz=243,slow=30						
VNDA	Vanda	31.19	166	P	P	07 42 55.1	-3.1
	1.1nm,0.9s,mb3.7,baz=311,slow=8.2,SNR=6.5						
VNDA				LR	LR	07 54 17.8	
	comp=Z,699nm,19.9s,MS4.3,baz=322,slow=34						
QSPA	South Pole Qui	40.63	180	*e*P	P	07 44 20.0	+1.0
	5.1nm,1.1s,mb4.1						
SNAA	Sanae	53.93	198	P	P	07 46 00.2	-2.5
	2.4nm,0.9s,mb4.2,baz=145,slow=7.8,SNR=19						
SNAA	Sanae	53.93	198	*e*	P	07 46 01.6	-1.0
SNAA				*e*	pP	07 46 04.6	-1.2
SNAA				*e*		07 46 09.8	
SNAA				*e*		07 46 21.6	
SNAA				*e*		07 46 26.1	
VNA3	Neumayer Olymp	55.56	196	*e*	P	07 46 16.2	+1.7
VNA3				*e*	pP	07 46 18.7	+1.0
VNA3				*e*		07 46 24.6	
VNA3				*e*		07 46 32.8	
VNA3				*e*		07 46 37.5	
VNA1	Neumayer--Stat	55.80	197	*e*	P	07 46 16.7	+0.5
VNA1				*e*	pP	07 46 19.1	-0.3
VNA1				*e*		07 46 24.2	
VNA1				*e*		07 46 34.3	
VNA1				*e*		07 46 38.8	
PMSA	Palmer Station	65.79	175	LR	LR	08 17 47.7	
	comp=Z,245nm,18.2s,MS4.5,baz=173,slow=38						
TBI	Tubuai	68.92	102	*e*LR	LR	08 08 53.2	
	135nm,30.8s						
PPT	Papeete	73.03	97	*e*LR	LR	08 10 49.1	
	116nm,23.5s,baz=226						
USHA	Ushuaia	75.31	171	LR	LR	08 19 34.6	
	comp=Z,330nm,18.6s,MS4.7,baz=116,slow=34						
BOSA	Boshof	75.48	243	LR	LR	08 15 50.4	
	comp=Z,108nm,18.9s,MS4.2,baz=176,slow=31						
RKT	Rikitea	78.14	112	*e*LR	LR	08 13 10.2	
	339nm,28.5s,baz=211						
KMBO	Kilima Mbogo	88.57	270	LR	LR	08 19 10.0	
	comp=Z,72nm,20.3s,MS4.1,baz=99,slow=29						
PLCA	Paso Flores	88.93	167	LR	LR	08 28 00.6	
	comp=Z,337nm,18.9s,MS4.8,baz=178,slow=35						
WSAR	Wadi Sarin	94.02	301	LR	LR	08 25 57.4	
	comp=Z,136nm,18.0s,MS4.5,baz=109,slow=32						
SONM	Songino Array	98.47	347	LR	LR	08 38 44.4	
	comp=Z,76nm,19.0s,MS4.2,baz=232,slow=38						
YKA	Yellowknife Ar	144.92	45	PKPbc	PKPdf	07 56 14.4	-1.8
	2.4nm,0.8s,baz=270,slow=4.3,SNR=3.9						
YKA	Yellowknife Ar	144.92	45	PKPbc	PKPdf	07 56 14.4	-1.8

NNC 06 07:43:11.0±5.5, 5353N×9051E, h5km±27km, mb4.2, mpv4.0, 4C-3D, Error ellipse: s-maj=38.3km s-min=30.2km az=30.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	Makanchi Array	8.57	221	⇑Pn	Pn	07 45 15.6	0.0
	6.6nm,1.0s,baz=33,slow=11						
MK02				⇓Sn	Sn	07 46 54.6	+1.8
	9.2nm,0.9s,baz=45,slow=27						
MK02				⇑Lg		07 47 41.6	
	15nm,0.9s						
VOSK	Vostochnaya	11.76	274	⇓Sn	Sn	07 48 06.6	-4.4
	12nm,1.1s						
VOSK				⇓Lg		07 49 26.0	
	14nm,1.2s						
CHKZ	Chkalovo	11.82	279	⇑Sn	Sn	07 48 14.5	+2.1
	11nm,1.2s						
BVA0	Borovoye Array	12.05	276	⇑Sn	Sn	07 48 18.1	-0.1
	1.5nm,1.1s,baz=72,slow=25,SNR=5.3						

NEIC ***06*** *07:43:17.3, 1926N×6878W, h138km, MD3.8(RSPR), After RSPR.*

RSPR 06 07:43:17.3, 1926N×6878W, h138km±7km, MD3.8/7, MD3.8/7, 5C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.77	116	⇓*e*P	Pn	07 43 48.5	-0.4
AGPR				*e*S	Sn	07 44 13.4	+0.3
LSP	Las Mesas	1.94	123	⇓*e*P	Pn	07 43 50.3	-0.6
LSP				*e*S	Sn	07 44 17.3	+0.7
CRPR	Cabo Rojo, PR	2.02	128	⇑*e*P	Pn	07 43 51.2	-0.6
CRPR				*e*S	Sn	07 44 18.6	+0.3
LRS	Lares	2.07	117	⇑*e*P	Pn	07 43 52.9	+0.3
LRS				*e*S	Sn	07 44 19.7	+0.1
AOPR	Arecibo Observ	2.13	115	⇑*e*P	Pn	07 43 53.7	+0.6
AOPR				*e*S	Sn	07 44 21.3	+0.6
CELP	Cerrillos	2.40	119	⇑*e*P	Pn	07 43 56.9	+0.4
CELP				*e*S	Sn	07 44 27.3	+0.6
HUMP	Col San Antoni	2.99	111	⇑*e*P	Pn	07 44 04.2	+0.2
HUMP				*e*S	Sn	07 44 40.5	+0.4

BJI 06 08:24:21.9, 4396N×8600E, h21km, ML2.5, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.23	96	PG	Pn	08 24 44.0	+0.1
WMQ				SG	Sn	08 25 02.7	+2.8
WMQ				Smax			
	comp=N,79nm,0.2s						
WMQ				Smax			
	comp=E,69nm,0.2s						
MK09	Makanchi Array	3.85	318	⇓Pn	Pn	08 25 21.0	+1.1
	comp=E,0.5nm,0.5s,baz=132,slow=13						
MK09				⇑Pg	Pn	08 25 30.6	+11
	comp=E,1.6nm,0.5s,baz=132,slow=15						
MK09				⇑Lg		08 26 21.9	
	comp=E,3.8nm,0.3s,baz=137,slow=27						

CASC 06 08:45:50.6±3.1, 911N×8284W, h6km±8km, MD4.0, 3C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	Changuinola	0.44	46	⇑*i*P	Pg	08 45 57.8	-1.3
DVD	David	0.77	150	⇑*i*P	Pg	08 46 04.3	-1.0
DVD				*e*S	Sg	08 46 16.8	+1.4
BUS	Buena Vista	1.01	296	⇑*e*P	Pg	08 46 08.3	-1.8
BUS				*e*S	Sg	08 46 23.0	-0.1
OCM	Ochomogo	1.36	305	⇓*i*P	Pn	08 46 14.5	-1.5
OCM				*e*S	Sb	08 46 33.4	-0.6
SJS	Escuela Geolog	1.46	305	*e*P	Pn	08 46 17.1	-0.4
SJS				*e*S	Sn	08 46 36.7	-0.1
LAJ	Bijagual	1.47	301	*e*P	Pn	08 46 22.6	+5.0
LAJ				*e*S	Sn	08 46 47.0	+10
PRS1	Puriscal	1.69	301	*e*P	Pn	08 46 20.4	-0.4
PRS1				*e*S	Sn	08 46 43.2	+0.5
VPS2	Volcan Poas 2	1.75	308	*e*P	Pn	08 46 22.6	+1.1
POA2	Poas 2	1.75	307	*e*P	Pn	08 46 22.9	+1.4
POA2				*e*S	Sn	08 46 45.2	+1.1
EPA	Esparza	1.94	297	⇓*e*P	Pn	08 46 24.6	+0.5
EPA				*e*S	Sn	08 46 50.0	+1.2
JCR	Jicaral	2.36	288	*e*P	Pn	08 46 31.5	+1.6
JTS	JuntasAbangare	2.39	300	*e*P	Pn	08 46 31.7	+1.4
JTS				*e*S	Sn	08 47 02.6	+2.6
AZU	Azuero	2.85	117	*e*P	Pn	08 46 36.1	-0.6
AZU				*e*S	Sn	08 47 12.0	+0.7
ACH	Altos	2.91	99	*e*P	Pn	08 46 36.5	-0.9
ACH				*e*S	Sn	08 47 13.0	+0.4

MOS ***06*** *08:54:57.9±1.4, 1413N×14534E, h135km, mb4.6/5, Error ellipse: s-maj=28.6km s-min=11.5km az=101.8*
ISCJB ***06*** *08:54:59.0±0.3, 1397N±005×1445E±01, h127km, mb4.5/23, Error ellipse: s-maj=14.7km s-min=6.5km az=170.7*
IDC ***06*** *08:55:00.2±0.4, 1389N×14460E, h127km±3km, mb4.2/12, mb1 4.3/12, mb1mx4.1/22, mbtmp4.6/12, MS3.8/9, Ms1 3.8/9, ms1mx3.4/32, Error ellipse: s-maj=23.5km s-min=10.1km az=87.0*
NEIC ***06*** *08:55:00.7±0.7, 1399N×14464E, h131km±6km, mb4.6/11, Error ellipse: s-maj=15.2km s-min=6.5km az=93.0*
BJI ***06*** *08:55:00.6, 1400N×14460E, h131km, mB5.1, mb4.5*

ISC 06 08:55:00.7±0.6, 1400N±005×1446E±01, h130km±5km, n59, σ0§85/48, mb4.4/23, 1C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.47	150	P	Pn	08 55 19.7	+0.3
GUMO				S	Sn	08 55 33.6	-0.1
	4μm,0.3s,baz=34,slow=22,SNR=99						
GUMO	Guam	0.47	150	⇑*i*P	Pn	08 55 19.8	+0.3
GUMO				*e*Sn	Sn	08 55 33.2	-0.5
MJAR	Matsushiro Arr	23.18	347	P	P	08 59 55.1	-0.7
	6.3nm,0.7s,mb4.2,baz=166,slow=9.3,SNR=13						
MAJO	Matsushiro	23.18	347	P	P	08 59 54.9	-0.9
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
MAJO	Matsushiro	23.18	347	P	P	08 59 54.9	-0.9
	comp=Z,20nm,0.8s,mb4.6						
MAT	Matsushiro	23.18	347	P	P	08 59 54.6	-1.2
PMG	Port Moresby	23.39	174	P	P	08 59 56.7	-1.0
	comp=Z,52nm,0.7s,mb5.0,baz=13,slow=6.9,SNR=9.1						
PMG				LR	LR	09 08 24.9	
	comp=Z,109nm,18.9s,baz=164,slow=35						
YHNB	Yeheng	24.34	299	*e*P	P	08 59 59.3	-7.0
HNR	Honiara	27.80	146	LR	LR	09 09 21.4	
	comp=Z,100nm,19.4s,baz=359,slow=31						
ASAJ	Asahikawa	30.07	357	P	P	09 00 58.0	+0.4
	comp=Z,2.2nm,0.3s,mb4.4,baz=96,slow=10,SNR=5.7						
CTA	Charters Tower	33.91	177	⇓*i*P	P	09 01 31.3	+0.2
	comp=Z,6.3nm,0.7s,mb4.5						
CTA	Charters Tower	33.91	177	⇓*i*P	P	09 01 31.3	+0.2
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WB2	Warramunga Arr	35.21	197	⇓*i*P	P	09 01 42.4	+0.1
WRA	Warramunga Arr	35.21	197	P	P	09 01 42.4	0.0
	comp=Z,19nm,0.7s,mb4.8,baz=18,slow=9.0,SNR=82						
WRA				PcP	PcP	09 04 10.2	-0.2
	comp=Z,1.1nm,0.5s,baz=12,slow=3.3,SNR=4.7						
WRA				S	S	09 07 03.0	-3.1
	comp=Z,1.3nm,0.9s,baz=18,slow=16,SNR=5.0						
WRA				ScP	ScP	09 07 42.9	-1.2
	comp=Z,4.3nm,0.8s,baz=16,slow=3.9,SNR=18						
WRA	Warramunga Arr	35.21	197	P	P	09 01 42.4	0.0
WRA						09 04 10.2	
WRA				S	S	09 07 03.0	-3.1
KLR	Kul'dur	36.70	346	*e*P	P	09 01 51.7	-3.3
FITZ	Fitzroy Crossi	36.99	211	*e*P	P	09 01 58.1	+0.6
	comp=Z,6.9nm,1.0s,mb4.2						
AS31	Alice Springs	38.87	196	*e*P	P	09 02 13.3	0.0
ASAR	Alice Springs	38.87	196	P	P	09 02 13.2	0.0
	comp=Z,6.0nm,0.8s,mb4.3,baz=16,slow=10,SNR=75						
ASAR				PcP	PcP	09 04 21.6	-0.1
	comp=Z,0.7nm,0.7s,baz=20,slow=3.7,SNR=5.1						
ASAR				ScP	ScP	09 07 56.5	-1.3
	comp=Z,1.6nm,0.9s,baz=14,slow=3.5,SNR=7.2						
ASPA	Alice Springs	38.87	196	*e*P	P	09 02 13.3	0.0
DZM	Mont Dzumac	41.74	149	*e*P	P	09 02 37.2	+0.3
LZH	Lanzhou	42.59	309	*e*P	P	09 02 47.7	+4.0
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,60nm,4.5s						
LZH	Lanzhou	42.59	309	*e*P	P	09 02 47.7	+4.0
	comp=Z,16nm,1.2s,mb4.5						
LZH				pP	pP	09 02 58.5	-14
LZH				sP	sP	09 03 03.0	-25
MBWA	Marble Bar	42.64	215	*e*P	P	09 02 44.6	+0.4
ARMA	Armidale	44.67	171	*e*P	P	09 03 00.5	+0.1
STKA	Stephens Creek	45.70	184	⇓*i*P	P	09 03 07.9	-0.7
	comp=Z,4.6nm,0.5s,mb4.4						
STKA	Stephens Creek	45.70	184	P	P	09 03 07.8	-0.7
	comp=Z,5.2nm,0.4s,mb4.5,baz=353,slow=9.0,SNR=32						
SONM	Songino Array	46.27	325	P	P	09 03 14.4	+1.4
	comp=Z,0.9nm,0.7s,mb3.5,baz=142,slow=7.0,SNR=5.0						
SONM				ScP	ScP	09 08 25.5	-2.0
	comp=Z,1.0nm,0.8s,baz=124,slow=3.8,SNR=4.0						
SONM				LR	LR	09 24 50.7	
	comp=Z,78nm,18.7s,baz=69,slow=39						
FORT	Forrest	47.28	200	*e*P	P	09 03 21.4	+0.5
	comp=Z,14nm,0.5s,mb4.8						
CNB	Canberra Magne	49.24	175	*e*P	P	09 03 36.1	+0.2
	comp=Z,19nm,1.2s,mb4.6						
ZAK	Zakamensk	49.37	326	*e*P	P	09 03 37.7	+0.8
TOO	Toolangi	51.30	179	⇓*i*P	P	09 03 52.5	+1.1
	comp=Z,21nm,0.9s,mb4.8						
TOO	Toolangi	51.30	179	⇓*i*P	P	09 03 52.5	+1.1
TOO				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.8						
KLBR	Kellerberrin	52.15	209	*e*P	P	09 03 56.8	-0.9
	comp=Z,40nm,1.5s,mb4.8						
WMQ	Urumqi	56.69	313	*e*P	P	09 04 31.0	+0.5
MKAR	Makanchi Array	61.04	316	P	P	09 05 01.6	+1.1
	comp=Z,1.3nm,0.5s,mb4.0,baz=89,slow=8.9,SNR=16						
ZAL	Zalesovo	61.17	324	LR	LR	09 31 11.7	
	comp=Z,116nm,18.9s,baz=262,slow=36						
RPZ	Rata Peaks	62.30	159	LR	LR	09 28 11.3	
	comp=Z,127nm,21.0s,baz=160,slow=32						
KDAK	Kodiak Island	63.85	32	P	P	09 05 19.9	+0.7
	comp=Z,4.8nm,0.7s,mb4.4,baz=282,slow=14,SNR=2.7						
BVAR	Borovoye Array	69.47	322	P	P	09 05 54.3	-0.5
	comp=Z,1.1nm,0.4s,mb3.9,baz=103,slow=7.3,SNR=6.3						
PPT	Papeete	72.09	114	LR	LR	09 37 07.8	
	comp=Z,153nm,18.1s,baz=172,slow=35						
BMO	Blue Mountains	85.87	45	*e*P	P	09 07 24.8	-1.0
BMO				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.3						
BMO	Blue Mountains	85.87	45	*e*P	P	09 07 24.8	-1.0
	comp=Z,10nm,1.7s,mb4.3						
ARCES	ARCESS Array B	86.63	342	LR	LR	09 47 52.7	
	comp=Z,61nm,19.5s,baz=51,slow=37						
NVAR	Mina Array Bea	86.85	51	P	P	09 07 31.3	+0.7
	comp=Z,1.0nm,0.6s,mb3.8,baz=276,slow=6.6,SNR=7.1						
MCMT	McKenzie Canyo	88.91	44	*e*P	P	09 07 41.8	+1.5
FINES	FINESS Array B	90.70	335	P	P	09 07 47.1	-1.6
	comp=Z,1.1nm,0.7s,mb4.0,baz=66,slow=3.5,SNR=3.8						
MVU	Marysvale	91.40	50	*e*P	P	09 07 43.2	-8.7
	comp=Z,0.9nm,0.4s,mb4.2						
VNDA	Vanda	91.88	176	P	P	09 07 53.2	-1.0
	comp=Z,7.1nm,0.9s,mb4.7,baz=325,slow=5.1,SNR=40						
NOA	NORSAR Array B	96.59	339	LR	LR	09 56 57.3	
	comp=Z,25nm,19.0s,baz=60,slow=38						
MAW	Mawson	99.71	203	LR	LR	09 52 01.8	
	comp=Z,82nm,21.3s,baz=242,slow=34						
SNAA	Sanae	119.14	191	PKP	PKPdf	09 13 32.1	-2.1
	comp=Z,0.5nm,0.6s,baz=196,slow=3.2,SNR=21						
TORD	Torodi Ar. Bea	134.44	305	PKP	PKPdf	09 14 03.9	+0.5
	comp=Z,0.2nm,0.5s,baz=4.6,slow=2.2,SNR=4.8						
PLCA	Paso Flores	139.39	138	PKP	PKPdf	09 14 13.2	+0.7
	comp=Z,1.3nm,0.6s,baz=302,slow=6.8,SNR=4.2						
DBIC	Dimbokro	143.41	302	PKP	PKPdf	09 14 18.0	-1.7
	comp=Z,3.0nm,0.6s,baz=92,slow=7.2,SNR=3.8						
CFAA	Coronel Fontan	145.19	126	PKPbc	PKPbc	09 14 22.5	-0.2
	comp=Z,1.5nm,0.6s,baz=250,slow=3.3,SNR=24						
LVC	Limon Verde	147.09	110	PKPbc	PKPbc	09 14 29.3	+1.0
	comp=Z,11nm,0.8s,baz=244,slow=4.5,SN

VLS	**Valsamata**	**1.45**	**320**	*e*PN	**Pn**	**09 11 53.2**	**-0.1**
VLS	**Valsamata**	**1.45**	**320**	*e*Pn	**Pn**	**09 11 53.0**	**-0.3**
MGER	**Gerania Oros**	**1.49**	**52**	*e*PN	**Pn**	**09 11 54.2**	**+0.2**
NAIG	**Nisos Aigina**	**1.53**	**63**	*e*PB	**Pn**	**09 11 54.0**	**-0.5**
KVR	**Kavouri**	**1.76**	**64**	*e*PB	**Pn**	**09 11 57.5**	**-0.2**
ATH	**Athens Observa**	**1.79**	**59**	*e*PN	**Pn**	**09 11 57.7**	**-0.4**
ATH	**Athens Observa**	**1.79**	**59**	*e*Pb	**Pn**	**09 11 57.5**	**-0.6**
EVR	**Evrytania**	**1.84**	**1**	*e*PB	**Pn**	**09 11 59.0**	**+0.3**
LKR	**Lokris**	**1.85**	**31**	*e*PB	**Pn**	**09 11 59.2**	**+0.3**
LKD	**Levkas**	**1.85**	**332**	*e*Pb	**Pn**	**09 11 59.5**	**+0.5**
LKD				*e*Sb	**Sn**	**09 12 21.8**	**+0.1**
PTL	**Penteli**	**1.93**	**59**	*e*PB	**Pn**	**09 12 00.0**	**0.0**
AGG	**Agios Georgios**	**1.99**	**13**	*e*Pb	**Pn**	**09 12 01.0**	**+0.1**
AGG				*e*Sb	**Sn**	**09 12 24.7**	**-0.4**
KARN	**Karanos**	**2.41**	**133**	*e*Pn	**Pn**	**09 12 07.2**	**+0.6**
KARN				*e*Sn	**Sn**	**09 12 36.6**	**+1.2**
THL	**Klokotos Trika**	**2.49**	**4**	*e*PN	**Pn**	**09 12 08.3**	**+0.6**
NEO	**Neokhori**	**2.51**	**27**	*e*PN	**Pn**	**09 12 08.0**	**+0.1**
XOR	**Xorichti**	**2.55**	**26**	*e*Pn	**Pn**	**09 12 08.7**	**+0.3**
XOR				*e*Sn	**Sn**	**09 12 38.1**	**-0.6**
VAM	**Vamos**	**2.58**	**130**	*e*PN	**Pn**	**09 12 09.6**	**+0.7**
VAM	**Vamos**	**2.58**	**130**	*e*Pn	**Pn**	**09 12 10.0**	**+1.1**
AOS	**Alonnisos**	**2.67**	**38**	*e*Pn	**Pn**	**09 12 10.2**	**-0.1**
AOS	**Alonnisos**	**2.67**	**38**	*e*Pn	**Pn**	**09 12 10.1**	**-0.1**
IGT	**Igoumenitsa**	**2.70**	**336**	*e*Pn	**Pn**	**09 12 10.7**	**0.0**
IGT				*e*Sn	**Sn**	**09 12 41.9**	**-0.6**
IGT	**Igoumenitsa**	**2.70**	**336**	*e*Pn	**Pn**	**09 12 10.6**	**0.0**
IGT				*e*Sn	**Sn**	**09 12 41.9**	**-0.6**
MEV	**Metsovon**	**2.74**	**351**	*e*Pn	**Pn**	**09 12 12.1**	**+1.0**
MEV				*e*Sn	**Sn**	**09 12 44.5**	**+1.0**
APE	**Apeiranthos**	**3.01**	**89**	*e*Pn	**Pn**	**09 12 15.1**	**+0.2**
APE				*e*Sn	**Sn**	**09 12 48.6**	**-1.6**
APE	**Apeiranthos**	**3.01**	**89**	*e*PN	**Pn**	**09 12 15.0**	**+0.2**
SANT	**Santorini**	**3.05**	**102**	*e*Pn	**Pn**	**09 12 15.6**	**+0.2**
SANT				*e*Sn	**Sn**	**09 12 52.0**	**+0.9**
LIT	**Litokhoron**	**3.07**	**10**	*e*Pn	**Pn**	**09 12 16.1**	**+0.4**
LIT				*e*Sn	**Sn**	**09 12 52.2**	**+0.5**
PLG	**Polygyros**	**3.54**	**21**	*e*Pn	**Pn**	**09 12 21.6**	**-0.6**
PLG				*e*Sn	**Sn**	**09 13 03.5**	**+0.1**
PLG	**Polygyros**	**3.54**	**21**	*e*Pn	**Pn**	**09 12 22.0**	**-0.2**
PLG				*e*Sn	**Sn**	**09 13 03.5**	**+0.1**
LAST	**Lasithi**	**3.56**	**121**	*e*Pn	**Pn**	**09 12 22.9**	**+0.5**
LAST				*e*Sn	**Sn**	**09 13 03.4**	**-0.3**
HORT	**Hortiatis**	**3.67**	**16**	*e*Pn	**Pn**	**09 12 23.4**	**-0.5**
HORT				*e*Sn	**Sn**	**09 13 05.5**	**-0.9**
OUR	**Ouranopolis**	**3.69**	**27**	*e*Pn	**Pn**	**09 12 24.2**	**0.0**
FNA	**Florina**	**3.72**	**355**	*e*Pn	**Pn**	**09 12 24.1**	**-0.5**
FNA				*e*Sn	**Sn**	**09 13 07.4**	**-0.2**
LOS	**Limnos**	**3.86**	**41**	*e*Pn	**Pn**	**09 12 26.6**	**0.0**
LOS	**Limnos**	**3.86**	**41**	*e*Pn	**Pn**	**09 12 26.5**	**0.0**
GRG	**Griva**	**3.91**	**7**	*e*Pn	**Pn**	**09 12 27.0**	**-0.2**
SOH	**Sokhos**	**3.94**	**18**	*e*Pn	**Pn**	**09 12 28.1**	**+0.5**
SOH				*e*Sn	**Sn**	**09 13 11.8**	**-1.3**
SMG	**Samos**	**4.08**	**80**	P	**Pn**	**09 12 31.3**	**+1.7**
ZKR	**Zakros**	**4.10**	**117**	*e*Pn	**Pn**	**09 12 30.8**	**+1.0**
ZKR				*e*Sn	**Sn**	**09 13 17.2**	**+0.2**
KNT	**Kendrikon**	**4.17**	**12**	*e*Pn	**Pn**	**09 12 31.2**	**+0.3**
KNT				*e*Sn	**Sn**	**09 13 19.6**	**+0.7**
SRS	**Serrai**	**4.28**	**19**	*e*Pn	**Pn**	**09 12 31.7**	**-0.5**
SRS				*e*Sn	**Sn**	**09 13 21.6**	**+0.1**
MMB	**Musomiste**	**4.76**	**18**	*e*Pn	**Pn**	**09 12 38.3**	**-0.6**
HMAT	**Matruh**	**7.42**	**142**	P	**Pn**	**09 13 12.1**	**-3.4**
HMAT				S	**Sn**	**09 14 24.9**	**-14**
SWA2		**8.40**	**157**	⇓P	**Pn**	**09 13 25.6**	**-3.3**
SWA1		**8.46**	**156**	⇓P	**Pn**	**09 13 26.7**	**-3.0**
HFRF	**Wahat Farafira**	**11.34**	**149**	⇓P	**Pn**	**09 14 05.5**	**-3.7**

BJI ***06*** *09:12:55.4, 1320N×8880W, h81km, mB4.8*
ISCJB ***06*** *09:12:57.8±0.4, 1304N±007×8899W±004, h77km±6km, mb4.2/7, Error ellipse: s-maj=12.9km s-min=3.3km az=62.3*
IDC ***06*** *09:12:58.1±2.0, 1346N×8871W, h50km±25km, mb3.6/2, mb1 3.9/5, mb1mx3.5/23, mbtmp4.0/5, ML4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=58.3km s-min=12.1km az=39.0*
CASC ***06*** *09:12:58.6±1.9, 1301N×8903W, h45km±19km, MD4.3, ML4.1, mb4.4(NEIC)*
NEIC ***06*** *09:13:00.5±1.1, 1317N×8884W, h82km±11km, mb4.4/5, MD3.8(SNET), Error ellipse: s-maj=25.1km s-min=9.7km az=216.0*
NEIC Felt [III] at San Salvador.

ISC 06 09:12:59.3±0.4, 1313N±008×8895W±005, h68km±6km, n57, σ1º00/49, mb4.2/7, 3C-18D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.49**	**12**	⇓*e*P	x	09 13 11.8	
SNVI				*e*S	x	09 13 21.8	
LFRS	**El Faro**	**0.51**	**347**	⇓*e*P	x	09 13 11.4	
LCBS	**La Ceiba**	**0.53**	**357**	⇓*i*P	x	09 13 11.9	
LBRS	**Las Brisas**	**0.61**	**351**	⇓*e*P	x	09 13 13.3	
SNET	**Serv Nac Est T**	**0.62**	**333**	⇓*e*P	x	09 13 11.0	
SNET				*e*S	x	09 13 21.1	
SNET				*i*		09 13 25.2	
	comp=Z,9μm,0.2s						
BOQS	**Boqueron**	**0.69**	**332**	⇑*e*P	x	09 13 13.7	
BOQS				*e*S	x	09 13 24.8	
VSM	**San Miguel**	**0.72**	**65**	⇓*e*P	x	09 13 15.0	
VSM				*e*S	x	09 13 26.9	
BLLM	**Bellamira**	**0.76**	**65**	⇓*e*P	x	09 13 15.4	
BLLM				*e*S	x	09 13 27.2	
SBLS	**San Blas**	**0.97**	**317**	⇓*e*P	x	09 13 16.9	
SBLS				*e*S	x	09 13 32.0	
SNJE	**San Jose**	**0.98**	**319**	⇓*e*P	x	09 13 16.9	
RTR	**El Retiro**	**1.02**	**318**	⇓*e*P	x	09 13 18.0	
RTR				*e*S	x	09 13 32.5	
CNCH	**Conchagua**	**1.09**	**82**	⇓*e*P	x	09 13 19.5	
CNCH				*e*S	x	09 13 35.6	
RBDL	**Robledal**	**1.22**	**324**	⇓*e*P	x	09 13 20.7	
TGUH	**Tegucigalpa,Un**	**1.87**	**60**	*e*Pn	**Pn**	**09 13 29.6**	**+0.5**
TGUH				*e*S	**Sn**	**09 13 54.8**	**+3.0**
CRIN	**San Cristobal**	**1.90**	**103**	*e*P	**Pn**	**09 13 30.1**	**+0.6**
PCG	**Pacaya**	**2.05**	**308**	*e*P	**Pn**	**09 13 30.7**	**-0.8**
TER	**Terranova**	**2.05**	**305**	⇓*e*P	**Pn**	**09 13 31.5**	**-0.1**
TER				*e*S	**Sn**	**09 13 54.7**	**-1.5**
LEON	**Leon**	**2.12**	**109**	*e*P	**Pn**	**09 13 31.4**	**-1.2**
TELN	**Telica**	**2.13**	**104**	*e*P	**Pn**	**09 13 31.7**	**-0.8**
FUG	**Fuego 3**	**2.26**	**306**	⇓*e*P	**Pn**	**09 13 34.3**	**-0.1**
FUG				*e*S	**Sn**	**09 14 01.9**	**+0.7**
CNGN	**Cerro Negro**	**2.28**	**106**	⇑*e*P	**Pn**	**09 13 34.0**	**-0.7**
MIRN	**Miramar**	**2.28**	**107**	⇓*e*P	**Pn**	**09 13 33.9**	**-0.8**
MOMJ	**Momotombo**	**2.45**	**107**	⇑*e*P	**Pn**	**09 13 36.5**	**-0.5**
COPN	**Copaltepe**	**2.48**	**112**	*e*P	**Pn**	**09 13 36.5**	**-0.9**
TP2	**Tecpan 2**	**2.60**	**309**	*e*P	**Pn**	**09 13 39.1**	**+0.1**
TP2				*e*S	**Sn**	**09 14 11.9**	**+2.4**
XAVN	**Gruta Xavier**	**2.74**	**111**	⇓*e*P	**Pn**	**09 13 40.5**	**-0.3**
TISN	**Laguna Tiscapa**	**2.79**	**110**	⇓*e*P	**Pn**	**09 13 41.0**	**-0.5**
MGAN	**Managua**	**2.81**	**110**	*e*P	**Pn**	**09 13 41.1**	**-0.7**
MGAN				*e*S	**Sn**	**09 14 13.7**	**-0.8**
MGAN				*i*		09 14 14.7	
	comp=N,578nm,0.4s						
TICN	**Ticuantepe**	**2.86**	**112**	*e*P	**Pn**	**09 13 42.0**	**-0.6**
JAT	**Jato**	**2.87**	**295**	*e*P	**Pn**	**09 13 42.4**	**-0.3**
JAT				*e*S	**Sn**	**09 14 16.1**	**0.0**
CONN	**Concepcion**	**3.60**	**115**	*e*P	**Pn**	**09 13 52.6**	**0.0**
CCIG	**Comitan**	**4.40**	**316**	*i* P	**Pn**	**09 14 07.7**	**+4.2**
CCIG				*i* S	**Sn**	**09 15 04.9**	**+11**
JTS	**JuntasAbangare**	**4.82**	**125**	P	**Pn**	**09 14 08.4**	**-0.9**
	comp=N,7.5nm,0.3s,baz=315,slow=15,SNR=35						
JTS				S	**Sn**	**09 15 04.2**	**+0.4**
	baz=141,slow=22,SNR=2.4						
JTS	**JuntasAbangare**	**4.82**	**125**	*e*Pn	**Pn**	**09 14 09.7**	**+0.4**
JTS				*e*Sn	**Sn**	**09 15 03.8**	**0.0**
EPA	**Esparza**	**5.28**	**126**	⇓*e*P	**Pn**	**09 14 16.9**	**+1.3**
EPA				*e*S	**Sn**	**09 15 15.2**	**+0.1**
POA2	**Poas 2**	**5.45**	**122**	*e*P	**Pn**	**09 14 19.0**	**+1.0**
PRS1	**Puriscal**	**5.51**	**124**	*e*P	**Pn**	**09 14 20.3**	**+1.5**
BUS	**Buena Vista**	**6.20**	**124**	*e*P	**Pn**	**09 14 30.0**	**+1.8**
CMIG	**Matias Romero**	**6.96**	**305**	P	**Pn**	**09 14 38.3**	**-0.2**
	comp=N,1.5nm,0.3s,baz=123,slow=10,SNR=36						
CMIG				S	**Sn**	**09 15 55.6**	**-0.6**
	comp=N,2.2nm,0.3s,baz=89,slow=23,SNR=3.4						
CTCR	**Cotoan**	**7.39**	**124**	*e*P	**Pn**	**09 14 45.8**	**+1.4**
SDV	**Santo Domingo**	**18.46**	**101**	P	**Pn**	**09 17 08.4**	**-1.9**
	comp=N,0.8nm,0.3s,baz=306,slow=8.7,SNR=4.3						
TKL	**Tuckaleechee C**	**22.91**	**11**	LR	LR	09 26 48.0	
	comp=N,52nm,21.1s,baz=83,slow=37						
CCM	**Cathedral Cave**	**24.91**	**356**	*e*P	**P**	**09 18 14.6**	**-1.3**
	comp=N,4.5nm,0.7s,mb4.0						
WUAZ	**Wupatki**	**30.10**	**322**	*e*P	**P**	**09 19 08.2**	**+5.9**
	comp=N,4.9nm,0.4s,mb4.5						
REDW	**Red Top Meadow**	**35.55**	**332**	*e*P	**P**	**09 19 50.2**	**+0.4**
	comp=N,3.0nm,0.7s,mb4.3						
SNOW	**Snow King Moun**	**35.58**	**332**	*e*P	**P**	**09 19 51.1**	**+1.0**
	comp=N,2.9nm,0.6s,mb4.4						
MCMT	**McKenzie Canyo**	**37.59**	**332**	*e*P	**P**	**09 20 08.4**	**+1.2**
EGMT	**Eagleton**	**38.87**	**338**	*e*P	**P**	**09 20 18.6**	**+0.7**
	comp=N,4.2nm,0.5s,mb4.5						
SIV	**San Ignacio**	**39.96**	**136**	P	**P**	**09 20 27.9**	**+0.9**
	comp=N,0.5nm,0.5s,mb3.6,baz=310,slow=8.9,SNR=7.5						
EDM	**Edmonton**	**44.46**	**339**	*e*P	**P**	**09 21 02.7**	**-0.9**
EDM				*e*pP	pP	09 21 33.3	+13
YKA	**Yellowknife Ar**	**52.58**	**345**	P	**P**	**09 22 04.6**	**-1.4**
	comp=N,0.8nm,0.4s,mb4.1,baz=130,slow=8.5,SNR=6.6						
YKA	**Yellowknife Ar**	**52.58**	**345**	P	**P**	**09 22 04.6**	**-1.4**
HHC	**Hu-ho-hao-te**	**123.04**	**342**	*e*PKP	PKPdf	09 31 42.0	-5.9
WMQ	**Urumqi**	**123.25**	**3**	*e*PKP	PKPdf	09 31 43.0	-5.3
NJ2	**Nanjing**	**127.78**	**330**	*e*PKP	PKPdf	09 31 53.1	-3.8
WRA	**Warramunga Arr**	**138.05**	**255**	PKP	PKPdf	09 32 19.0	+2.7
	comp=N,0.3nm,0.4s,baz=88,slow=2.6,SNR=16						
ASAR	**Alice Springs**	**138.15**	**249**	PKP	PKPdf	09 32 19.9	+3.4
	comp=N,0.3nm,0.7s,baz=94,slow=2.2,SNR=4.4						

IDC 06 09:17:48.2±1.6, 922S×12390E, h0km, mb4.0/1, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=122.7km s-min=25.6km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.99**	**169**	*e*P	Pn	09 19 59.5	+0.2
	3.6nm,0.3s						
FITZ				*e*S	Sn	09 21 31.2	-10
FITZ	**Fitzroy Crossi**	**8.99**	**169**	Pn	Pn	09 19 59.4	+0.1
	0.6nm,0.3s,baz=2.8,slow=12,SNR=18						
FITZ				Sn	Sn	09 21 29.7	-12
	2.1nm,0.3s,baz=1.3,slow=10,SNR=23						
KAKA	**Kakadu**	**9.07**	**113**	*e*P	Pn	09 20 08.8	+8.4
	7.6nm,0.6s						
KAKA				*e*S	Sn	09 21 44.2	+1.0
WRA	**Warramunga Arr**	**14.68**	**138**	Pn	Pn	09 21 17.0	0.0
	0.5nm,0.3s,baz=313,slow=13,SNR=36						
WRA				Sn	Sn	09 23 48.9	-12
	1.7nm,0.3s,baz=260,slow=20,SNR=14						
WB2	**Warramunga Arr**	**14.69**	**138**	*e*P	Pn	09 21 16.8	-0.4
WB2				*e*S	Sn	09 23 47.8	-13
ASPA	**Alice Springs**	**17.26**	**148**	*e*P	Pn	09 21 52.7	+2.1
ASPA				*e*S	Sn	09 24 50.6	-13
ASAR	**Alice Springs**	**17.26**	**148**	P	Pn	09 21 51.0	+0.4
	0.4nm,0.3s,baz=322,slow=11,SNR=22						
ASAR				S	Sn	09 24 49.9	-13
	0.3nm,0.3s,baz=311,slow=20,SNR=6.6						
MKAR	**Makanchi Array**	**66.95**	**330**	P	P	09 28 42.7	+0.1
	0.9nm,0.5s,baz=131,slow=7.3,SNR=12						

ISCJB ***06*** *09:17:48.1±4.2, 76S±0.1×1548E±02, h50km±35km, mb4.0/7, MS3.9/1, Error ellipse: s-maj=26.5km s-min=24.6km az=149.3*
IDC ***06*** *09:17:51.5±6.1, 761S×15474E, h68km±49km, mb3.8/7, mb1 3.9/9, mb1mx3.8/15, mbtmp4.1/9, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/28, Error ellipse: s-maj=40.3km s-min=24.6km az=91.0*

ISC 06 09:17:50.7±3.7, 77S±01×1549E±02, h59km±30km, n12, σ0§83/11, mb4.0/7, MS3.9/1, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**257**	P	**Pn**	**09 19 41.5**	**-0.2**
	1.7nm,0.3s,baz=67,slow=6.1,SNR=5.1						
PMG				S	**Sn**	**09 21 09.7**	**+0.9**
	1.6nm,0.3s,baz=200,slow=17,SNR=3.0						
CTA	**Charters Tower**	**14.90**	**213**	P	**Pn**	**09 21 17.3**	**-0.4**
	0.3nm,0.3s,baz=33,slow=18,SNR=3.4						
CTA				LR	LR	09 26 15.3	
	comp=Z,155nm,21.6s,baz=239,slow=34						
WRA	**Warramunga Arr**	**23.34**	**236**	P	**P**	**09 22 51.9**	**-1.7**
	3.1nm,0.8s,mb3.8,baz=60,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**25.64**	**229**	P	**P**	**09 23 14.5**	**-0.1**
	0.9nm,0.6s,mb3.5,baz=61,slow=9.1,SNR=8.7						
STKA	**Stephens Creek**	**27.07**	**205**	⇓*i*P	**P**	**09 23 27.7**	**+0.2**
	1.9nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**27.07**	**205**	P	**P**	**09 23 27.7**	**+0.1**
	2.2nm,0.8s,mb3.7,baz=12,slow=12,SNR=4.0						
NWAO	**Narrogin (SRO)**	**42.96**	**226**	LR	LR	09 43 30.8	
	comp=Z,147nm,20.4s,MS3.9,baz=296,slow=36						
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**09 28 54.5**	**-0.5**
	1.9nm,0.5s,mb4.3,baz=146,slow=5.7,SNR=16						
MAW	**Mawson**	**83.73**	**203**	P	**P**	**09 30 14.5**	**+1.3**
	0.5nm,0.5s,mb3.9,baz=128,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**83.83**	**319**	P	**P**	**09 30 13.2**	**-0.4**
	2.7nm,0.7s,mb4.5,baz=91,slow=5.2,SNR=24						
NVAR	**Mina Array Bea**	**92.23**	**52**	P	**P**	**09 30 54.9**	**+0.9**
	0.8nm,0.7s,mb4.2,baz=251,slow=8.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**153.08**	**284**	PKPbc	PKPbc	09 37 42.0	+0.6
	1.4nm,0.7s,baz=66,slow=2.5,SNR=8.2						
TORD				PKPab	PKPab	09 37 51.8	-1.3
	1.1nm,0.9s,baz=90,slow=2.6,SNR=4.1						

CASC 06 09:29:21.5±1.7, 1301N×8906W, h32km±4km, MD3.5, ML3.0, 6C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.61**	**359**	⇓*e*P	x	09 29 33.9	
LFRS				*e*S	x	09 29 43.4	
SNVI	**San Vicente**	**0.64**	**19**	⇑*e*P	x	09 29 34.2	
SNVI				*e*S	x	09 29 44.4	
LCBS	**La Ceiba**	**0.65**	**7**	⇓*e*P	x	09 29 34.3	
LCBS				*e*S	x	09 29 44.4	
SNET	**Serv Nac Est T**	**0.70**	**346**	⇓*e*P	x	09 29 33.3	
SNET				*e*S	x	09 29 43.7	
SNET				*i*		09 29 49.2	
	comp=Z,439nm,0.2s						
LBRS	**Las Brisas**	**0.73**	**1**	⇓*e*P	x	09 29 35.7	
LBRS				*e*S	x	09 29 46.8	
LFU	**La Fuente**	**0.74**	**356**	⇑*e*P	x	09 29 36.0	
LFU				*e*S	x	09 29 47.0	
BOQS	**Boqueron**	**0.76**	**343**	⇑*e*P	x	09 29 36.1	
BOQS				*e*S	x	09 29 47.6	
VSM	**San Miguel**	**0.87**	**61**	*e*P	x	09 29 37.8	
VSM				*e*S	x	09 29 50.8	
BLLM	**Bellamira**	**0.91**	**61**	⇑*e*P	x	09 29 38.1	
BLLM				*e*S	x	09 29 51.3	
SBLS	**San Blas**	**0.99**	**326**	⇓*e*P	x	09 29 39.9	
SBLS				*e*S	x	09 29 53.7	
SNJE	**San Jose**	**1.01**	**328**	⇓*e*P	x	09 29 39.7	
SNJE				*e*S	x	09 29 54.4	
RTR	**El Retiro**	**1.05**	**327**	⇑*e*P	x	09 29 40.6	
RTR				*e*S	x	09 29 55.3	
CNCH	**Conchagua**	**1.22**	**77**	⇑*e*P	x	09 29 42.1	
CNCH				*e*S	x	09 29 58.2	
RBDL	**Robledal**	**1.26**	**331**	*e*S	x	09 29 59.9	
TP2	**Tecpan 2**	**2.60**	**313**	*e*P	Pn	09 30 04.0	+2.7

IDC 06 09:35:34.7±1.7, 409N×12360E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/19, mbtmp4.3/4, Error ellipse: s-maj=125.5km s-min=22.5km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.14**	**175**	*e*P	P	09 40 31.4	-0.5
	2.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**22.14**	**175**	P	P	09 40 30.9	-0.9
	1.6nm,0.3s,baz=353,slow=13,SNR=11						
WRA	**Warramunga Arr**	**26.11**	**157**	P	P	09 41 10.7	+0.6
	2.5nm,0.4s,baz=338,slow=10.0,SNR=72						
WB2	**Warramunga Arr**	**26.11**	**157**	*e*P	P	09 41 11.1	+0.9
ASPA	**Alice Springs**	**29.36**	**160**	*e*P	P	09 41 40.2	+1.0
ASAR	**Alice Springs**	**29.36**	**160**	P	P	09 41 40.2	+1.0
	0.5nm,0.4s,baz=336,slow=7.1,SNR=16						
MKAR	**Makanchi Array**	**55.51**	**327**	P	P	09 45 11.4	0.0
	4.8nm,0.5s,baz=108,slow=8.1,SNR=10						

IDC ***06*** *10:01:52.5±1.2, 1800S×65.11W, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.8/20, mbtmp3.9/5, ML4.2/3, MS3.3/8, Ms1 3.3/8, ms1mx3.0/35, Error ellipse: s-maj=28.1km s-min=16.1km az=22.0*
NEIC ***06*** *10:01:57.7±0.9, 1787S×6506W, h38km±14km, mb3.8/1, Error ellipse: s-maj=14.2km s-min=10.6km az=109.0*
ISCJB ***06*** *10:01:58.0±1.1, 1806S±007×6496W±006, h47km±19km, mb3.7/2, MS3.6/4, Error ellipse: s-maj=12.5km s-min=8.9km az=156.5*

ISC 06 10:02:00.1±0.8, 1806S±007×6498W±006, h50km±17km, n16, σ0§97/15, mb3.7/2, MS3.6/4, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.49**	**300**	Pn	**Pn**	**10 02 47.5**	**-4.4**
	2.8nm,0.3s,baz=124,slow=11,SNR=41						
LPAZ				Pg	**Pn**	**10 02 52.5**	**+0.7**
	30nm,0.3s,baz=116,slow=12,SNR=112						
LPAZ				Sn	**Sn**	**10 03 31.5**	**-0.4**
	35nm,0.3s,baz=36,slow=21,SNR=11						
LPAZ				Lg		10 03 40.6	
	38nm,0.3s,baz=217,slow=25,SNR=9.0						
LPAZ				LR	LR	10 04 15.4	
	comp=Z,220nm,20.4s,baz=120,slow=43						
LPAZ	**La Paz**	**3.49**	**300**	Pn	**Pn**	**10 02 47.5**	**-4.4**
LPAZ				Pg	**Pn**	**10 02 52.5**	**+0.7**
LPAZ				Sn	**Sn**	**10 03 31.5**	**-0.4**
LPAZ				Lg		10 03 40.6	
LPAZ				LR	LR	10 04 15.4	
SIV	**San Ignacio**	**4.27**	**62**	Pn	**Pn**	**10 03 01.0**	**-1.5**
	45nm,0.3s,baz=264,slow=11,SNR=1024						
SIV				Sn	**Sn**	**10 03 52.1**	**+1.1**
	12nm,0.3s,baz=327,slow=19,SNR=8.4						
LVC	**Limon Verde**	**5.84**	**219**	Pn	**Pn**	**10 03 24.9**	**+0.8**
	0.9nm,0.3s,baz=32,slow=10,SNR=12						
SAML	**Samuel**	**9.22**	**11**	*e*P	**Pn**	**10 04 05.0**	**-5.4**
CPUP	**Villa Florida**	**10.86**	**141**	Pn	**Pn**	**10 04 32.0**	**-0.8**
	0.6nm,0.3s,baz=301,slow=15,SNR=4.5						
CPUP				LR	LR	10 08 59.2	
	comp=Z,70nm,18.9s,baz=123,slow=39						
CFAA	**Coronel Fontan**	**13.80**	**192**	Pn	**Pn**	**10 05 13.8**	**+0.8**
	0.0nm,0.3s,baz=319,slow=11,SNR=1.9						
BDFB	**Brasilia**	**16.42**	**84**	LR	LR	10 12 32.3	
	comp=Z,96nm,20.9s,baz=8.4,slow=39						
ATAH	**Atahualpa**	**17.08**	**308**	LR	LR	10 11 44.0	
	comp=Z,34nm,20.0s,baz=339,slow=35						
PLCA	**Paso Flores**	**23.10**	**191**	P	**P**	**10 07 00.5**	**-1.0**
	3.0nm,0.8s,mb3.8,baz=4.8,slow=12,SNR=3.0						
PLCA				LR	LR	10 15 56.1	
	comp=Z,79nm,19.2s,MS3.2,baz=183,slow=36						
PLCA	**Paso Flores**	**23.10**	**191**	P	**P**	**10 07 00.5**	**-1.1**
	3.3nm,0.9s,mb3.8						
PLCA				LR	LR	10 15 56.1	
PCRV	**Puerto La Cruz**	**28.06**	**1**	LR	LR	10 18 47.5	
	comp=Z,65nm,18.7s,MS3.2,baz=165,slow=36						
TORD	**Torodi Ar. Bea**	**72.70**	**70**	P	**P**	**10 13 23.3**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=256,slow=5.3,SNR=6.8						
RAR	**Rarotonga**	**87.90**	**249**	LR	LR	10 47 10.6	
	comp=Z,64nm,18.2s,MS4.1,baz=34,slow=31						
YKA	**Yellowknife Ar**	**89.24**	**339**	LR	LR	10 55 22.9	
	comp=Z,49nm,18.1s,MS4.0,baz=25,slow=36						
SONM	**Songino Array**	**149.48**	**11**	PKPbc	PKPbc	10 21 42.9	-0.7
	0.4nm,0.5s,baz=12,slow=1.9,SNR=3.6						

ISCJB ***06*** *10:25:26.3±1.2, 4169N±008×7307E±008, h10km, Error ellipse: s-maj=11.2km s-min=7.7km az=136.8*
KNET ***06*** *10:25:26.3±0.6, 4173N×7320E, h14km±2km, ml3.0, Error ellipse: s-maj=3.7km s-min=3.2km az=108.0*

ISC 06 10:25:27.2±1.1, 4174N±007×7310E±008, h10km, n12, σ1§21/21, 10C-7D, Kyrgyzstan

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

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**12.39**	**138**	Pn		**Pn**	**10 38 33.0**	**-1.2**
ARCES				Sn		**Sn**	**10 40 46.2**	**-6.1**
NOA	**NORSAR Array B** comp=Z,41nm,18.6s,baz=340,slow=33	**19.68**	**166**	LR		LR	10 46 31.8	
FIA0	**FINESS Array S** baz=329,slow=8.6	**20.32**	**145**	P		**P**	**10 40 13.0**	**-0.9**
FINES	**FINESS Array B** 1.7nm,0.8s,baz=324,slow=9.4,SNR=3.4	**20.32**	**145**	P		**P**	**10 40 13.1**	**-0.7**
HFS	**Hagfors** 4.3nm,0.9s,baz=14,slow=11,SNR=3.2	**20.70**	**163**	P		**P**	**10 40 19.3**	**+1.3**
HFS				LR		LR	10 46 55.6	
ESK	**Eskdalemuir** comp=Z,54nm,20.3s,MS2.9,baz=323,slow=32	**25.26**	**186**	*e*P		**P**	**10 41 02.9**	**-1.1**
ESK	**Eskdalemuir**	**25.26**	**186**	*e*P		**P**	**10 41 02.9**	**-1.1**
AKASG	**Malin Array Be** 0.2nm,0.4s,mb3.3,baz=350,slow=9.0,SNR=3.2	**31.22**	**145**	P		**P**	**10 41 58.7**	**+1.5**
CHKZ	**Chkalovo** 1.4nm,0.7s,mb4.0	**34.12**	**98**	*e*P		**P**	**10 42 22.2**	**-0.4**
CHKZ	**Chkalovo**	**34.12**	**98**	*e*P		**P**	**10 42 22.2**	**-0.4**
ZAL	**Zalesovo** comp=Z,80nm,18.4s,MS3.5,baz=337,slow=45	**36.24**	**83**	LR		LR	11 02 29.6	
MKAR	**Makanchi Array** 1.1nm,0.7s,mb3.7,baz=355,slow=7.7,SNR=11	**42.72**	**89**	P		**P**	**10 43 34.2**	**-0.7**
MKAR	**Makanchi Array**	**42.72**	**89**	P		**P**	**10 43 34.2**	**-0.7**
PDAR	**Pinedale Array** 0.6nm,1.0s,mb3.5,baz=21,slow=5.3,SNR=4.8	**51.49**	**299**	P		**P**	**10 44 44.2**	**+0.9**
PV01	**Paradox Valley**	**55.88**	**296**	*e*P		**P**	**10 45 17.5**	**+2.0**
PV01	**Paradox Valley**	**55.88**	**296**	*e*P		**P**	**10 45 17.5**	**+2.0**
NVAR	**Mina Array Bea** 0.7nm,0.9s,mb3.7,baz=358,slow=5.4,SNR=4.7	**56.98**	**306**	P		**P**	**10 45 22.0**	**-1.4**

IDC 06 10:39:54.6±31.0, 481N×12648E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=530.0km s-min=114.5km az=149.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 4.0nm,1.2s,baz=359,slow=8.2,SNR=2.4	**22.78**	**182**	P		P	10 44 59.6	+1.0
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=342,slow=9.9,SNR=10	**25.78**	**163**	P		P	10 45 26.8	-0.3
ASAR	**Alice Springs** 0.3nm,1.0s,baz=348,slow=7.3,SNR=2.9	**29.21**	**166**	P		P	10 45 57.8	-0.1
STKA	**Stephens Creek** 1.3nm,0.7s,baz=333,slow=14,SNR=3.2	**39.22**	**159**	P		P	10 47 25.2	+0.7

*IDC **06** 10:46:42.3±0.5, 942S×10764E, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.5/21, mbtmp4.5/15, ML3.7/2, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=23.1km s-min=13.3km az=51.0*

*BJI **06** 10:46:42.9, 960S×10750E, h10km, mB5.2, mb5.0, Ms4.7, Msz4.6*

*NEIC **06** 10:46:44.0±0.2, 957S×10751E, h10km, mb4.9/15, Error ellipse: s-maj=9.5km s-min=4.9km az=55.0*

*ISCJB **06** 10:46:46.2±0.3, 950S±004×10762E±005, h37km, mb4.9/47, MS4.0/14, Error ellipse: s-maj=8.3km s-min=5.2km az=114.1*

*MOS **06** 10:46:46.2±1.2, 938S×10771E, h33km, mb5.2/20, Error ellipse: s-maj=15.2km s-min=7.6km az=110.1*

ISC 06 10:46:48.2±0.3, 952S±004×10760E±005, h39km, h39km±1.3km: pP-P, n121, σ0°96/102, mb4.9/47, MS4.0/14, 6C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang** 3μm,0.9s	**2.68**	**0**	P		**Pn**	**10 47 28.8**	**0.0**
BJII	**Banjamegara** 219nm,1.4s	**3.01**	**44**	P		**Pn**	**10 47 33.8**	**+0.4**
JCJI	**Jatiwangi** 2μm,0.8s	**3.08**	**12**	P		**Pn**	**10 47 32.2**	**-2.2**
CBJI	**Citeko** 1μm,0.7s	**3.17**	**346**	P		**Pn**	**10 47 31.0**	**-4.6**
SBJI	**Serang** 554nm,1.1s	**3.68**	**337**	P		**Pn**	**10 47 41.7**	**-0.9**
KRKI	**Karangkates** 1μm,0.6s	**4.98**	**75**	P		**Pn**	**10 48 00.7**	**+0.2**
KSM	**Kuching**	**11.25**	**14**	*e*P		**Pn**	**10 49 27.1**	**+0.7**
PSI	**Prapat** 0.4nm,0.3s,baz=127,slow=15,SNR=2.9	**14.99**	**324**	Pn		**Pn**	**10 50 15.9**	**-1.4**
PSI				LR		LR	10 56 33.0	
MBWA	**Marble Bar** comp=Z,168nm,20.6s,baz=148,slow=40	**16.44**	**136**	*e*P		**Pn**	**10 50 31.5**	**-4.5**
FITZ	**Fitzroy Crossi** 14nm,0.9s	**19.47**	**118**	*e*P		**Pn**	**10 51 12.7**	**-0.4**
FITZ				*ep*P		pP	10 51 25.9	+4.5
FITZ				*e*S		**S**	**10 54 33.9**	**-16**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=279,slow=6.4,SNR=11	**19.47**	**118**	P		**Pn**	**10 51 11.2**	**-1.9**
FITZ				S		**S**	**10 54 34.1**	**-15**
BUKP	**Musuan**	**24.52**	**46**	*e*P		**P**	**10 52 05.5**	**+1.5**
KAKA	**Kakadu** 22nm,0.8s,mb4.8	**24.57**	**100**	*e*P		**P**	**10 52 05.1**	**+0.6**
KAKA				*ep*P			10 52 15.6	
NWAO	**Narrogin (SRO)** comp=Z,178nm,20.1s,MS3.6,baz=203,slow=37	**24.93**	**160**	LR		LR	11 01 57.0	
NST	**Nakhon Sawan**	**26.10**	**343**	P		**P**	**10 52 18.0**	**-0.3**
WRA	**Warramunga Arr** 7.1nm,1.0s,mb4.3,baz=288,slow=11,SNR=36	**27.81**	**115**	P		**P**	**10 52 33.4**	**-0.4**
WRA				PcP		PcP	10 55 49.8	+0.6
WRAB	**Tennant Creek** 2.2nm,0.7s,baz=297,slow=2.2,SNR=11	**27.82**	**115**	*e*P		**P**	**10 52 34.7**	**+0.9**
WB2	**Warramunga Arr**	**27.82**	**115**	*e*P		**P**	**10 52 33.5**	**-0.3**
WB2				*ep*P		pP	10 52 44.8	+0.3
ASPA	**Alice Springs**	**28.79**	**122**	*e*P		**P**	**10 52 42.5**	**+0.1**
ASPA				*ep*P		pP	10 52 57.9	+4.8
AS31	**Alice Springs**	**28.79**	**122**	*e*P		**P**	**10 52 42.5**	**+0.1**
AS31				*ep*P		pP	10 52 57.9	+4.7
ASAR	**Alice Springs** 3.1nm,0.8s,mb4.1,baz=304,slow=8.9,SNR=18	**28.79**	**122**	P		**P**	**10 52 42.6**	**+0.2**
ASAR				PcP		PcP	10 55 52.5	+0.8
ASAR	2.1nm,0.7s,baz=287,slow=2.0,SNR=12 comp=Z,117nm,20.8s,MS3.5,baz=312,slow=35			LR		LR	11 03 31.8	
ASAR	**Alice Springs**	**28.79**	**122**	P		**P**	**10 52 42.7**	**+0.3**
ASAR							10 55 52.5	
CM31	**Chiang Mai Arr**	**29.08**	**343**	*e*P		**P**	**10 52 44.6**	**-0.5**
CHG	**Chiang Mai** 42nm,0.7s,mb5.3	**29.42**	**343**	⇓P		**P**	**10 52 48.5**	**+0.5**
CHTO	**Chiang Mai** comp=Z,31nm,1.1s,mb5.0	**29.42**	**343**	*e*P		**P**	**10 52 48.0**	**0.0**
CHTO				pmax		pmax		
CHTO	**Chiang Mai** comp=Z,31nm,1.1s,mb4.9	**29.42**	**343**	*e*P		**P**	**10 52 48.0**	**0.0**
KMI	**Kunming**	**34.76**	**352**	P		**P**	**10 53 36.9**	**+2.1**
KMI				AP		pP	10 53 47.6	+2.0
KMI	comp=Z,28nm,1.1s,mb5.1			AMB		AMB		
KMI	comp=Z,175nm,6.1s			AMB		AMB		
KMI	comp=N,220nm,24.7s			LR		LR		
KMI	comp=E,292nm,19.2s			LR		LR		
KMI	comp=Z,269nm,13.7s			LR		LR		
KMI	**Kunming**	**34.76**	**352**	P		**P**	**10 53 36.9**	**+2.1**
KMI				pP		pP	10 53 47.6	+2.0
KMI				sP		sP	10 53 53.2	+3.0
KMI				PP		PP	10 55 07.2	+13
KMI				PPP			10 55 29.6	
KMI				S		S	10 59 27.4	+25
KMI				sS		sS	10 59 43.2	+23
KMI				SS		SS	11 02 04.3	+30
KMI				SSS			11 02 34.5	
GYA	**Guiyang**	**35.77**	**359**	⇑*i*P		**P**	**10 53 45.3**	**+1.7**
GYA	comp=Z,30nm,1.0s,mb5.2			AMB		AMB		
IMP	**Imphal**	**36.61**	**339**	*ex*		x	10 53 51.0	
STKA	**Stephens Creek** comp=Z,4.4nm,0.6s,mb4.4	**38.54**	**130**	*e*P		**P**	**10 54 07.1**	**+0.1**
STKA				*ep*P		pP	10 54 18.3	+0.4
STKA	**Stephens Creek** comp=Z,5.7nm,0.7s,mb4.4,baz=304,slow=7.7,SNR=16	**38.54**	**130**	P		**P**	**10 54 07.0**	**-0.1**
STKA				PcP		PcP	10 56 19.6	+0.5
STKA	comp=Z,2.2nm,0.6s,baz=294,slow=8.7,SNR=3.3			LR		LR	11 08 59.4	
CTA	**Charters Tower** comp=Z,7.3nm,0.7s,mb4.5	**38.73**	**110**	⇑*i*P		**P**	**10 54 10.6**	**+2.0**
CTA				*ep*P		pP	10 54 21.2	+1.7
CTA	**Charters Tower** comp=Z,8.2nm,0.7s,mb4.6,baz=263,slow=12,SNR=12	**38.73**	**110**	P		**P**	**10 54 09.2**	**+0.6**
CTA	**Charters Tower**	**38.73**	**110**	⇑*i*P		**P**	**10 54 10.6**	**+2.0**
CTA				*e**PP		pP	10 54 21.2	+1.7
CTA	comp=Z,7.0nm,0.7s			pmax		pmax		
HYB	**Hyderabad**	**39.25**	**313**	*i*P		**P**	**10 54 14.0**	**+1.0**
WHN	**Wuhan**	**40.36**	**9**	P		**P**	**10 54 23.7**	**+1.5**
CD2	**Chengdu**	**40.37**	**355**	P		**P**	**10 54 22.4**	**+0.2**
CD2	comp=Z,20nm,0.9s,mb4.8			AMB		AMB		
LSA	**Lhasa**	**42.09**	**338**	P		**P**	**10 54 35.0**	**-1.4**
LSA	**Lhasa**	**42.09**	**338**	*e*P		**P**	**10 54 37.9**	**+1.5**
LSA				*e*		pP	10 54 48.4	+1.0
LSA	comp=Z,25nm,0.9s,mb4.8			pmax		pmax		
LSA	**Lhasa** comp=Z,25nm,0.9s,mb4.8	**42.09**	**338**	*e*P		**P**	**10 54 37.9**	**+1.5**
LSA				*e*		pP	10 54 48.4	+1.0
JIRN	**Jiri**	**42.38**	**331**	*e*P		**P**	**10 54 40.2**	**+1.4**
PKI	**Pulchoki**	**42.68**	**330**	*e*P		**P**	**10 54 41.6**	**+0.4**
NJ2	**Nanjing**	**42.72**	**14**	*e*P		**P**	**10 54 39.5**	**-2.0**
NJ2				AP		pP	10 54 49.8	-2.7
NJ2				XP		sP	10 54 52.9	-4.1
NJ2				PP		PP	10 56 21.4	+0.4
NJ2				S		**S**	**11 00 59.0**	**-3.4**
NJ2				XS		sS	11 01 16.0	-4.6
NJ2	comp=Z,80nm,1.1s,mb5.4			AMB		AMB		
NJ2	comp=Z,202nm,3.8s			AMB		AMB		
NJ2	comp=N,750nm,15.4s,MS4.8			LR		LR		
NJ2	comp=E,540nm,15.0s,MS4.8			LR		LR		
NJ2	comp=Z,1μm,15.0s,MS5.0			LR		LR		
GUN	**Gumba** comp=Z,84nm,0.8s,mb5.5	**42.74**	**331**	*e*P		**P**	**10 54 42.6**	**+0.9**
DMN	**Daman** comp=Z,86nm,0.8s,mb5.5	**42.86**	**330**	*e*P		**P**	**10 54 43.4**	**+0.7**
KKN	**Kakani** comp=Z,88nm,0.9s,mb5.5	**42.93**	**330**	*e*P		**P**	**10 54 43.8**	**+0.6**
XAN	**Xi'an**	**43.34**	**2**	P		**P**	**10 54 46.4**	**-0.1**
XAN				AP		pP	10 54 56.2	-1.3
XAN	comp=Z,34nm,0.9s,mb5.1			AMB		AMB		
GKN	**Gorkha** comp=Z,92nm,0.9s,mb5.5	**43.42**	**330**	*e*P		**P**	**10 54 47.7**	**+0.5**
KOLN	**Koldanda** comp=Z,108nm,0.8s,mb5.6	**43.75**	**329**	*e*P		**P**	**10 54 50.5**	**+0.6**
LZH	**Lanzhou**	**45.50**	**356**	*e*P		**P**	**10 55 05.4**	**+1.6**
LZH				AP		pP	10 55 14.9	0.0
LZH	comp=Z,50nm,1.2s,mb5.2			AMB		AMB		
LZH	comp=Z,190nm,4.0s			AMB		AMB		
LZH	comp=E,385nm,14.9s			LR		LR		
LZH	comp=Z,533nm,16.0s,MS4.6			LR		LR		
GTA	**Gaotai**	**49.22**	**352**	P		**P**	**10 55 34.3**	**+1.6**
GTA				AP		pP	10 55 44.5	+0.7
GTA				XP		sP	10 55 48.7	+0.3
GTA	comp=Z,17nm,0.9s,mb5.1			AMB		AMB		
GTA	comp=Z,109nm,5.3s			AMB		AMB		
GTA	comp=N,224nm,14.1s,MS4.5			LR		LR		
GTA	comp=E,207nm,13.7s,MS4.5			LR		LR		
GTA	comp=Z,138nm,15.2s,MS4.1			LR		LR		
BJT	**Baijiatuau**	**49.92**	**9**	*e*P		**P**	**10 55 38.5**	**+0.4**
BJT				pmax		pmax		
BJT	comp=Z,25nm,1.1s **Baijiatuau** comp=Z,25nm,1.1s,mb5.2	**49.92**	**9**	*e*P		**P**	**10 55 38.5**	**+0.4**
SDNR	**Sundarnagar**	**50.24**	**326**	*e*P		**P**	**10 55 40.3**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,7.2nm,0.8s,mb4.6,baz=208,slow=7.0,SNR=11	**54.10**	**30**	P		**P**	**10 56 06.6**	**-2.6**
CASY	**Casey**	**56.71**	**179**	*e*P		**P**	**10 56 27.1**	**-0.8**
CASY				*ep*P		pP	10 56 37.9	-1.4
SONM	**Songino Array** comp=Z,5.3nm,0.7s,mb4.7,baz=172,slow=6.9,SNR=27	**57.11**	**359**	P		**P**	**10 56 30.7**	**0.0**
SONM				LR		LR	11 21 57.4	
WSAR	**Wadi Sarin** comp=Z,5.1nm,0.7s,mb4.7,baz=170,slow=6.6,SNR=6.6	**57.92**	**305**	P		**P**	**10 56 36.8**	**+0.4**
HIA	**Hailar**	**59.50**	**9**	*e*P		**P**	**10 56 46.6**	**-0.8**
ZAK	**Zakamensk**	**59.77**	**357**	*e*P		**P**	**10 56 47.9**	**-1.4**
ZAK				*e*		pP	10 56 59.6	-1.1
AAK	**Ala-Archa**	**60.08**	**332**	*e*P		**P**	**10 56 50.6**	**-0.8**
AAK	comp=Z,8.0nm,1.7s,mb4.5			pmax		pmax		
MKAR	**Makanchi Array** comp=Z,11nm,0.7s,mb5.0,baz=134,slow=6.9,SNR=75	**60.44**	**340**	P		**P**	**10 56 53.9**	**0.0**
TLY	**Talaya**	**61.05**	**357**	*e*P		**P**	**10 56 57.2**	**-0.8**
TLY	comp=Z,11nm,1.4s,mb4.8			pmax		pmax		
MOY	**Mondy**	**61.20**	**355**	*e*P		**P**	**10 56 59.9**	**+0.8**
KLR	**Kul'dur**	**62.23**	**18**	*e*P		**P**	**10 57 01.8**	**-4.2**
KLR	comp=Z,30nm,1.2s,mb5.3			pmax		pmax		
YSS	**Yuzh-Sakhalins**	**64.36**	**26**	*e*P		**P**	**10 57 19.9**	**-0.2**
YSS				*e*		pP	10 57 30.0	-1.6
YSS	comp=Z,11nm,0.7s,mb5.0			pmax		pmax		
YSS	**Yuzh-Sakhalins** comp=Z,11nm,0.7s,mb5.0	**64.36**	**26**	*e*P		**P**	**10 57 19.9**	**-0.2**
YSS				*e*		pP	10 57 30.0	-1.5
MAW	**Mawson** comp=Z,5.3nm,0.8s,mb4.6	**65.14**	**197**	*e*P		**P**	**10 57 25.2**	**0.0**
MAW				*ep*P		pP	10 57 36.4	-0.3
MAW	**Mawson** comp=Z,6.7nm,0.8s,mb4.7,baz=59,slow=6.7,SNR=28	**65.14**	**197**	P		**P**	**10 57 25.4**	**+0.2**
MAW				LR		LR	11 20 32.7	
MAW	comp=Z,49nm,19.2s,MS3.7,baz=60,slow=31 **Mawson**	**65.14**	**197**	*e*P		**P**	**10 57 25.2**	**0.0**
MAW				*e**PP		pP	10 57 36.4	-0.3
MAW	comp=Z,5.0nm,0.8s			pmax		pmax		
ZAL	**Zalesovo** comp=Z,74nm,18.9s,MS3.9,baz=229,slow=39	**66.10**	**345**	LR		LR	11 29 30.7	
ZAL	**Zalesovo**	**66.10**	**345**	*i*P		**P**	**10 57 31.5**	**+0.1**
BOD	**Bodaibo**	**67.31**	**4**	⇓*i*P		**P**	**10 57 38.7**	**-0.4**
BOD	comp=Z,13nm,1.0s,mb4.9			pmax		pmax		
VOSK	**Vostochnaya**	**69.45**	**337**	*i*P		**P**	**10 57 50.3**	**-2.1**
BVAR	**Borovoye Array** comp=Z,42nm,18.2s,MS3.7,baz=220,slow=39	**69.91**	**337**	LR		LR	11 31 50.0	
BRVK	**Borovoye** comp=Z,12nm,1.1s,mb4.7	**69.97**	**337**	*e*P		**P**	**10 57 55.6**	**-0.1**
BRVK				pmax		pmax		
BRVK	**Borovoye** comp=Z,12nm,1.1s,mb4.7	**69.97**	**337**	*e*P		**P**	**10 57 55.6**	**-0.1**
CHKZ	**Chkalovo** comp=Z,15nm,0.8s,mb5.0	**70.33**	**338**	*e*P		**P**	**10 57 57.5**	**-0.3**
CHKZ				pmax		pmax		
CHKZ	**Chkalovo** comp=Z,15nm,0.8s,mb5.0	**70.33**	**338**	*e*P		**P**	**10 57 57.5**	**-0.3**
KMBO	**Kilima Mbogo** comp=Z,47nm,18.2s,MS3.8,baz=87,slow=33	**70.44**	**272**	LR		LR	11 25 10.8	
KMBO	**Kilima Mbogo**	**70.44**	**272**	⇑*e*P		**P**	**10 58 02.5**	**+4.0**
YAK	**Yakutsk**	**73.38**	**11**	*e*P		**P**	**10 58 14.7**	**-1.5**
YAK				*e*		pP	10 58 26.1	-1.7
YAK	comp=Z,19nm,0.8s,mb5.1			pmax		pmax		
YAK	**Yakutsk** comp=Z,19nm,0.8s,mb5.1	**73.38**	**11**	*e*P		**P**	**10 58 14.7**	**-1.5**
YAK				*e*		pP	10 58 26.1	-1.7
VNDA	**Vanda** comp=Z,1.2nm,0.8s,mb3.9,baz=322,slow=5.0,SNR=7.9	**73.39**	**169**	P		**P**	**10 58 15.7**	**-0.6**
VNDA				LR		LR	11 25 29.8	
MA2	**Magadan** comp=Z,34nm,1.3s,mb5.1	**77.01**	**21**	*e*P		**P**	**10 58 37.1**	**0.0**
MA2				pmax		pmax		
ARU	**Arti**	**77.14**	**335**	⇓*i*P		**P**	**10 58 37.4**	**-0.4**
ARU				*e*		pP	10 58 47.4	-2.1
ARU				*e*			11 01 30.4	
ARU				*e*PPP			11 03 14.8	
ARU				*e*S		S	11 08 23.5	-0.6
ARU				*e*SS		SS	11 13 19.1	-2.9
ARU	comp=Z,15nm,1.2s,mb4.8			pmax		pmax		
ARU	**Arti** comp=Z,21nm,1.3s,mb4.9	**77.14**	**335**	*e*P		**P**	**10 58 36.9**	**-0.9**
ZEI	**Tsey**	**77.84**	**318**	*e*P		**P**	**10 58 42.3**	**+0.6**
ZEI				*e**PP		pP	10 58 51.0	-2.5
ZEI				*e*			11 01 36.1	
ZEI	comp=Z,6.0nm,0.9s,mb4.5			pmax		pmax		
BOSA	**Boshof** comp=Z,81nm,18.1s,MS4.1,baz=176,slow=30	**78.83**	**243**	LR		LR	11 26 28.3	
KIV	**Kislovodsk** comp=Z,12nm,1.2s,mb4.7	**79.14**	**318**	*e*P		**P**	**10 58 49.7**	**+0.8**
KIV				pmax		pmax		
SEY	**Seymchan**	**79.97**	**19**	⇑*e*P		**P**	**10 58 54.0**	**+0.6**
QSPA	**South Pole Qui** comp=Z,6.1nm,0.9s,mb4.5	**80.48**	**180**	*e*P		**P**	**10 58 56.0**	**-0.1**
TIXI	**Tiksi** comp=Z,41nm,1.7s,mb5.1	**82.22**	**7**	*e*P		**P**	**10 59 03.5**	**-1.9**
TIXI				pmax		pmax		
VRHR	**Novokhopersk** comp=E,10.0nm,0.4s	**82.78**	**325**	*e*P		**P**	**10 59 08.5**	**+0.2**
VRHR				pmax		pmax		
VRHR	comp=Z,10.0nm,0.4s,mb5.2			pmax		pmax		
VRHR	comp=N,20nm,0.7s			pmax		pmax		
ANN	**Anapa** comp=Z,4.0nm,0.4s,mb4.8	**82.94**	**318**	*e*P		**P**	**10 59 09.3**	**+0.2**
ANN				pmax		pmax		
BR131	**Keskin Array S** comp=Z,1.4nm,0.7s,mb4.2	**83.94**	**312**	*e*P		**P**	**10 59 14.5**	**+0.3**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.7s,mb4.4,baz=137,slow=5.7,SNR=13	**83.94**	**312**	P		**P**	**10 59 13.9**	**-0.3**
VRSR	**Storozhevoye** comp=Z,20nm,0.9s,mb5.2	**84.23**	**324**	*e*P		**P**	**10 59 15.4**	**-0.3**
VRSR				pmax		pmax		
VRSR	comp=N,4.0nm,0.6s			pmax		pmax		
VRSR	comp=E,20nm,0.9s			pmax		pmax		
OBN	**Obninsk**	**87.15**	**327**	⇓*i*P		**P**	**10 59 30.1**	**-0.1**
OBN				*i*		pP	10 59 42.2	+0.1
OBN	comp=Z,45nm,1.0s,mb5.7			pmax		pmax		
SNAA	**Sanae**	**87.31**	**197**	*e*P		**P**	**10 59 31.1**	**+0.1**
SNAA				*e*		pP	10 59 42.2	-0.7
VNA1	**Neumayer--Stat**	**89.34**	**197**	*e*P		**P**	**10 59 40.4**	**-0.2**
VNA1				*e*		pP	10 59 52.9	+0.4
VNA3	**Neumayer Olymp**	**89.47**	**197**	*e*P		**P**	**10 59 41.8**	**+0.6**
VNA3				*e*		pP	10 59 53.1	0.0
AKASG	**Malin Array Be** comp=Z,0.3nm,0.2s,mb4.2,baz=86,slow=4.9,SNR=6.2	**90.03**	**321**	P		**P**	**10 59 42.3**	**-1.5**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.7s,mb4.5,baz=90,slow=8.5,SNR=4.8	**96.09**	**339**	P		**P**	**11 00 10.5**	**-1.3**
ARCES				LR		LR	11 47 05.2	
NVAR	**Mina Array Bea** comp=Z,43nm,18.5s,MS4.0,baz=158,slow=38	**129.85**	**47**	PKP		PKPdf	11 05 55.2	+1.7
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.7s,baz=244,slow=4.0,SNR=7.5	**129.85**	**47**	PKP		PKPdf	11 05 55.2	+1.7
MSU	**Marysvale**	**134.16**	**44**	*e*PKIKP		PKPdf	11 06 02.3	+0.7
ANMO	**Albuquerque**	**139.91**	**46**	⇑*i*PKIKP		PKPdf	11 06 17.6	+5.4
WMOK	**Wichita Mounta**	**145.18**	**40**	*e*PKIKP		PKPdf	11 06 22.5	+0.9
BDFB	**Brasilia** comp=Z,7.0nm,0.7s,baz=170,slow=0.2,SNR=11	**145.24**	**224**	PKPbc		PKPbc	11 06 23.2	+1.8
CCM	**Cathedral Cave**	**146.91**	**28**	*e*PKP2		PKPab	11 06 26.4	-1.5
JCT	**Junction City**	**147.03**	**47**	*e*PKP2		PKPab	11 06 28.9	+0.5
MIAR	**Mount Ida**	**148.43**	**35**	*e*PKP2		PKPab	11 06 31.9	-2.0
WVT	**Waverly**	**150.03**	**26**	*e*PKP2		PKPbc	11 06 35.7	+1.1
OXF	**Oxford**	**150.65**	**30**	*e*PKIKP		PKPbc	11 06 37.5	+1.4
PLAL	**Pickwick Lake**	**150.88**	**27**	*e*PKPbc		PKPbc	11 06 37.2	+0.6
PLAL				*e*			11 06 47.4	
TZTN	**Tazewell**	**151.26**	**19**	*e*PKPbc		PKPbc	11 06 38.7	+1.2
TZTN				*e*			11 06 50.6	
CPCT	**Cooper Cave**	**151.92**	**21**	*e*PKPbc		PKPbc	11 06 40.3	+1.3
TKL	**Tuckaleechee C** comp=Z,9.5nm,0.8s,baz=158,slow=1.6,SNR=11	**151.99**	**20**	PKPbc		PKPbc	11 06 39.6	+0.4
LPAZ	**La Paz** comp=Z,1.3nm,0.5s,baz=18,slow=6.1,SNR=6.5	**154.01**	**189**	PKPbc		PKPbc	11 06 45.2	+1.6

MAN 06 11:54:52.7, 919N×12575E, h29km, mb2.5, ML4.0, MS5.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.25**	**210**	*e*P		Pb	11 55 00.8	+1.4
SCPH	**Surigao**	**0.65**	**336**	*e*P		Pb	11 55 05.9	+0.4
SCPH				*i*S		Sb	11 55 21.2	+7.1
BUKP	**Musuan**	**1.47**	**208**	*e*P		Pn	11 55 17.2	+0.1

*ISCJB **06** 11:55:53.6±1.2, 6090N±007×290E±0.1, h0km, Error ellipse: s-maj=12.1km s-min=5.4km az=100.7*

*HEL **06** 11:55:55.7±0.2, 6091N×2899E, h0km, ML1.4, Explosion*

*IDC **06** 11:55:56.9±1.8, 6095N×2890E, h0km, mb1 3.3/3, mb1mx3.1/21, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=17.4km s-min=11.7km az=171.0*

ISC 06 11:55:55.0±1.1, 6092N±006×289E±01, h0km, n9, σ0°77/15, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.76**	**240**	*e*P		**Pg**	**11 56 10.5**	**+0.8**
VJF				*e*S		**Sg**	**11 56 20.1**	**+0.6**
FIA0	**FINESS Array S**	**1.46**	**292**	*e*P		**Pn**	**11 56 22.2**	**-0.4**
FIA0				*e*S		**Sg**	**11 56 42.8**	**+0.9**
FINES	**FINESS Array B** 1.7nm,0.3s,baz=113,slow=16,SNR=46	**1.46**	**292**	Pg		**Pg**	**11 56 22.1**	**-0.9**
FINES	1.9nm,0.3s,baz=106,slow=33,SNR=21			Lg			11 56 42.8	
FINES	20nm,0.8s,baz=113,slow=32,SNR=27			Rg			11 56 51.1	
PVF	**Pernaja**	**1.54**	**257**	*e*P		**Pn**	**11 56 23.6**	**0.0**
PVF				*e*S		**Sn**	**11 56 43.8**	**-0.5**
KAF	**Kangasniemi**	**1.72**	**315**	*e*P		**Pn**	**11 56 27.1**	**+0.9**
KAF				*e*S		**Sn**	**11 56 49.5**	**+0.7**
JOF	**Joensuu**	**2.31**	**29**	*e*P		**Pn**	**11 56 34.7**	**+0.5**
JOF				*e*S		**Sn**	**11 57 03.1**	**-0.2**
JOF	comp=Z,1.6nm,0.1s			MSG			11 57 04.6	
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=72,slow=15,SNR=3.7	**7.54**	**271**	Pn		**Pn**	**11 57 46.2**	**0.0**
HFS				Sn		**Sn**	**11 59 10.3**	**-2.1**
HFS	comp=Z,0.1nm,0.3s,baz=87,slow=26,SN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**0.48**	**141**	*e*P	Pb	12 06 14.1	-0.8
GIRL	346nm,0.2s			*e*S	Sb	12 06 20.9	-0.7
MBWA	**Marble Bar**	**5.53**	**80**	*e*P	Pn	12 07 24.2	-1.3
MBWA				*e*S	Sn	12 08 21.1	-7.2
MEEK	**Meekatharra**	**6.11**	**136**	*e*P	Pn	12 07 32.0	-1.5
MEEK				*e*S	Sn	12 08 35.0	-7.5
MORW	**Morawa**	**7.04**	**165**	*e*P	Pn	12 07 43.4	-2.9
MORW				*e*S	Sn	12 08 54.8	-11
MORW	**Morawa**	**7.04**	**165**	*e*P	Pn	12 07 43.4	-2.9
MORW	15nm,0.2s			*e*S	Sn	12 08 54.8	-11
BLDU	**Ballidu**	**8.68**	**164**	*e*P	Pn	12 08 05.9	-2.9
BLDU				*e*S	Sn	12 09 36.6	-9.3
BLDU	**Ballidu**	**8.68**	**164**	*e*P	Pn	12 08 05.9	-2.9
BLDU	2.3nm,0.4s			*e*S	Sn	12 09 36.6	-9.3
MUN	**Mundaring**	**9.89**	**169**	*e*P	Pn	12 08 26.8	+1.5
MUN				*e*S	Sn	12 10 09.1	-6.3
KLBR	**Kellerberrin**	**9.90**	**161**	*e*P	Pn	12 08 21.4	-4.1
KLBR				*e*S	Sn	12 09 59.7	-16
KLBR	**Kellerberrin**	**9.90**	**161**	*e*P	Pn	12 08 21.4	-4.1
KLBR	28nm,1.2s			*e*S	Sn	12 09 59.7	-16
NWAO	**Narrogin (SRO)**	**11.02**	**165**	*e*P	Pn	12 08 36.5	-4.3
NWAO				*e*S	Sn	12 10 28.9	-14
NWAO	**Narrogin (SRO)**	**11.02**	**165**	*e*P	Pn	12 08 36.5	-4.3
NWAO	76nm,1.2s			*e*S	Sn	12 10 28.9	-14
FITZ	**Fitzroy Crossi**	**11.77**	**71**	*e*P	Pn	12 08 48.6	-2.5
FITZ				*e*S	Sn	12 10 47.4	-14
FITZ	**Fitzroy Crossi**	**11.77**	**71**	*e*P	Pn	12 08 48.6	-2.5
FITZ	1.5nm,0.6s			*e*S	Sn	12 10 47.4	-14
FORT	**Forrest**	**15.23**	**127**	*e*P	Pn	12 09 31.8	-6.4
FORT	5.1nm,0.7s			*e*S	Sn	12 12 07.8	-18

SKO ***06*** *12:33:54.9, 3937N×2061E, h7km*
SOF ***06*** *12:33:54.8, 3945N×2065E, h10km, MD2.6*
THE ***06*** *12:33:55.7, 3948N×2069E, h2km, ML3.2*
ATH ***06*** *12:33:55.5, 3957N×2066E, h12km±1km, MD3.5/10*
ISCJB ***06*** *12:33:55.2±0.5, 3950N±002×2070E±003, h0km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=114.7*
NEIC ***06*** *12:33:55.7, 3948N×2069E, h2km, MD3.5(ATH), ML3.5(THE), After THE.*
CSEM ***06*** *12:33:56.0±0.1, 3961N×2063E, h2km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.5km az=170.0*

ISC 06 12:33:55.7±0.4, 3949N±002×2068E±003, h1km±3km, n49, σ0§96/82, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**38**	‖ *i*PG	**Pg**	**12 33 59.3**	**-0.5**
JAN				*e*SG	**Sg**	**12 34 02.4**	**-0.2**
JAN	**Janina**	**0.21**	**38**	‖ *i*Pg	**Pg**	**12 33 59.3**	**-0.5**
JAN				*e*Sg	**Sg**	**12 34 02.6**	**0.0**
IGT	**Igoumenitsa**	**0.27**	**279**	*e*Pg	**Pg**	**12 34 00.2**	**-0.7**
IGT				*e*Sg	**Sg**	**12 34 04.6**	**+0.1**
IGT	**Igoumenitsa**	**0.27**	**279**	*e*Pg	**Pg**	**12 34 00.2**	**-0.7**
IGT				*e*Sg	**Sg**	**12 34 04.6**	**+0.1**
MEV	**Metsovon**	**0.52**	**55**	*e*Pg	**Pg**	**12 34 05.7**	**0.0**
SRN	**Sarande**	**0.65**	**307**	*i* Pg	**Pg**	**12 34 07.1**	**-1.1**
SRN				*i* Sg	**Sg**	**12 34 18.0**	**+1.3**
KEK	**Kerkira**	**0.72**	**288**	*e*PB	**Pg**	**12 34 08.6**	**-0.8**
LKD	**Levkas**	**0.78**	**182**	*e*Pg	**Pg**	**12 34 10.9**	**+0.2**
LKD				*e*Sg	**Sg**	**12 34 21.1**	**+0.3**
THL	**Klokotos Trika**	**1.03**	**85**	*e*PG	**Pg**	**12 34 14.9**	**-0.7**
THL	**Klokotos Trika**	**1.03**	**85**	*e*Pg	**Pg**	**12 34 14.8**	**-0.8**
EVR	**Evrytania**	**1.05**	**123**	*e*PG	**Pg**	**12 34 16.0**	**+0.2**
KZN	**Kozani**	**1.17**	**45**	*e*PN	**Pg**	**12 34 16.7**	**-1.5**
VLS	**Valsamata**	**1.31**	**183**	*e*PB	**Pg**	**12 34 22.1**	**+1.2**
AGG	**Agios Georgios**	**1.36**	**109**	*e*Pg	**Pg**	**12 34 20.7**	**-1.2**
AGG				*e*Sg	**Sg**	**12 34 41.3**	**+1.7**
FNA	**Florina**	**1.40**	**22**	*e*Pg	**Pn**	**12 34 20.9**	**-1.4**
FNA				*e*Sg	**Sg**	**12 34 42.6**	**+1.9**
LIT	**Litokhoron**	**1.52**	**66**	*e*Pg	**Pn**	**12 34 22.3**	**-1.7**
LIT				*e*Sg	**Sg**	**12 34 44.2**	**-0.5**
RLS	**Riolos of Patr**	**1.56**	**156**	*e*PB	**Pb**	**12 34 26.5**	**+1.2**
BIA	**Bitola**	**1.61**	**18**	*e*Pg	**Pn**	**12 34 24.6**	**-0.6**
BIA				*e*Sg	**Sn**	**12 34 45.9**	**-0.6**
BIA	**Bitola**	**1.61**	**18**	*e*Pn	**Pn**	**12 34 25.1**	**-0.1**
BIA	**Bitola**	**1.61**	**18**	*e*Pn	**Pn**	**12 34 25.0**	**-0.2**
BIA				*e*Sg	**Sn**	**12 34 45.9**	**-0.7**
OHR	**Ohrid**	**1.62**	**3**	*e*Pb	**Pn**	**12 34 25.1**	**-0.3**
OHR				*e*Sb	**Sn**	**12 34 47.2**	**+0.2**
OHR	**Ohrid**	**1.62**	**3**	*e*Pn	**Pn**	**12 34 26.8**	**+1.3**
OHR				*e*Sg	**Sg**	**12 34 49.4**	**+1.5**
OHR	**Ohrid**	**1.62**	**3**	*e*Pn	**Pn**	**12 34 26.7**	**+1.3**
OHR				*e*Sg	**Sg**	**12 34 49.3**	**+1.4**
XOR	**Xorichti**	**1.95**	**93**	*e*Pb	**Pn**	**12 34 30.4**	**+0.5**
XOR				*e*Sb	**Sn**	**12 34 53.2**	**-1.9**
TIR	**Tirane**	**1.96**	**342**	*e*Pb	**Pn**	**12 34 29.9**	**-0.2**
TIR				*e*Sb	**Sn**	**12 34 56.6**	**+1.3**
GRG	**Griva**	**1.97**	**41**	*e*Pb	**Pn**	**12 34 28.4**	**-1.8**
GRG				*e*Sb	**Sn**	**12 34 55.4**	**-0.2**
NEO	**Neokhori**	**1.98**	**94**	*e*PN	**Pn**	**12 34 31.5**	**+1.1**
LKR	**Lokris**	**1.99**	**114**	*e*PN	**Pn**	**12 34 32.1**	**+1.6**
LKR	**Lokris**	**1.99**	**114**	*e*Pn	**Pn**	**12 34 32.2**	**+1.7**
THE	**Thessaloniki**	**2.09**	**56**	*e*Pn	**Pn**	**12 34 32.5**	**+0.6**
THE				*e*Sn	**Sn**	**12 34 59.0**	**+0.4**
HORT	**Hortiatis**	**2.16**	**58**	*e*Pn	**Pn**	**12 34 31.8**	**-1.1**
HORT				*e*Sn	**Sn**	**12 35 00.8**	**+0.5**
PLG	**Polygyros**	**2.30**	**67**	*e*Pn	**Pn**	**12 34 34.6**	**-0.2**
PLG				*e*Sn	**Sn**	**12 35 03.6**	**-0.2**
PLG	**Polygyros**	**2.30**	**67**	*e*PN	**Pn**	**12 34 34.9**	**+0.1**
VAY	**Valandovo**	**2.33**	**38**	*e*Pn	**Pn**	**12 34 34.3**	**-0.9**
VAY				*e*Sn	**Sn**	**12 35 04.8**	**+0.4**
VAY	**Valandovo**	**2.33**	**38**	*e*Pn	**Pn**	**12 34 35.0**	**-0.1**
VAY	**Valandovo**	**2.33**	**38**	*e*Pn	**Pn**	**12 34 35.0**	**-0.2**
VAY				*e*Sn	**Sn**	**12 35 04.8**	**+0.4**
SOH	**Sokhos**	**2.44**	**56**	*e*Pn	**Pn**	**12 34 35.5**	**-1.2**
SOH				*e*Sn	**Sn**	**12 35 07.6**	**+0.4**
SOH	**Sokhos**	**2.44**	**56**	*e*Pn	**Pn**	**12 34 35.5**	**-1.2**
SOH				*e*Sn	**Sn**	**12 35 07.6**	**+0.4**
AOS	**Alonnisos**	**2.50**	**96**	*e*Pn	**Pn**	**12 34 37.8**	**+0.3**
AOS				*e*Sn	**Sn**	**12 35 08.2**	**-0.4**
AOS	**Alonnisos**	**2.50**	**96**	*e*Pn	**Pn**	**12 34 37.8**	**+0.3**
AOS				*e*Sn	**Sn**	**12 35 08.2**	**-0.5**
SKO	**Skopje**	**2.55**	**13**	*e*Pn	**Pn**	**12 34 37.5**	**-0.6**
SRS	**Serrai**	**2.76**	**53**	*e*Pn	**Pn**	**12 34 40.4**	**-0.6**
SRS				*e*Sn	**Sn**	**12 35 14.4**	**-0.6**
KKB	**Krupnik**	**3.00**	**37**	*i* P	**Pn**	**12 34 45.0**	**+0.7**
KKB				*i* S	**Sn**	**12 35 22.1**	**+1.2**
MMB	**Musomiste**	**3.13**	**47**	*i* P	**Pn**	**12 34 46.0**	**-0.2**
MMB				*i* S	**Sn**	**12 35 25.0**	**+0.8**
VTS	**Vitosha**	**3.64**	**31**	*e*Pn	**Pn**	**12 34 53.4**	**+0.2**
VTS				*e*Sn	**Sn**	**12 35 37.3**	**+0.5**
VTS	**Vitosha**	**3.64**	**31**	*i* P	**Pn**	**12 34 53.8**	**+0.6**
VTS				*i* S	**Sn**	**12 35 37.7**	**+0.9**
RZN	**Rozhen**	**3.78**	**53**	*i* Pn	**Pn**	**12 34 56.0**	**+0.9**
STON	**Ston**	**4.06**	**327**	*i* Pn	**Pn**	**12 34 56.2**	**-2.8**
STON				*i* Sn	**Sn**	**12 35 42.0**	**-5.1**
STON	**Ston**	**4.06**	**327**	*i* Pn	**Pn**	**12 34 56.1**	**-2.8**
STON				*i* Sn	**Sn**	**12 35 42.0**	**-5.1**

NIED ***06*** *13:04:00, 4660N×15370E, h5km, Mw4.1 Best double couple: M0 1.34000×10^15 NP1:φ=239.00000°, δ=71.00000°, λ=140.00000°. NP2:φ=345.00000°, δ=53.00000°, λ=25.00000°.*
JMA ***06*** *13:04:47.8±0.6, 4656N×15367E, h30km, M4.4*
BJI ***06*** *13:04:48.0, 4638N×15351E, h16km, mB4.6, mb4.2*
NEIC ***06*** *13:04:49.8±0.9, 4643N×15340E, h10km, mb4.5/5, Error ellipse: s-maj=25.0km s-min=16.7km az=160.0*
ISCJB ***06*** *13:04:52.0±1.6, 463N±0.1×1532E±0.1, h36km±14km, mb4.3/18, MS3.8/6, Error ellipse: s-maj=20.2km s-min=12.2km az=128.9*
MOS ***06*** *13:04:52.0±2.1, 4669N×15301E, h27km, mb4.5/9, Error ellipse: s-maj=15.3km s-min=13.7km az=68.9*
IDC ***06*** *13:04:55.6±4.9, 4644N×15308E, h52km±45km, mb3.7/9, mb1 3.9/11, mb1mx3.8/22, mbtmp4.0/11, ML3.5/2, MS3.7/6, Ms1 3.8/6, ms1mx3.2/37, Error ellipse: s-maj=29.9km s-min=23.4km az=23.0*

ISC 06 13:04:54.5±1.4, 464N±01×1532E±01, h41km±12km, n60, σ1§36/60, mb4.3/18, MS3.8/6, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**255**	*e*PN	**Pn**	**13 05 50.0**	**-1.6**
KUR				*e*S	**Sn**	**13 06 36.0**	**+0.2**
KUR	comp=N,80nm,0.5s			pmax	pmax		
KUR	comp=E,80nm,0.5s			pmax	pmax		
KUR	comp=Z,330nm,0.5s			pmax	pmax		
KUR	comp=N,430nm,0.9s			smax			
KUR	comp=E,280nm,0.9s			smax			
SKR	**Severo-Kuril's**	**4.74**	**23**	*e*PN	**Pn**	**13 05 57.0**	**-6.5**
SKR	comp=Z,200nm,0.9s			pmax	pmax		
SKR	comp=E,80nm,0.6s			pmax	pmax		
SKR	comp=N,310nm,1.0s			pmax	pmax		
SKR	comp=Z,310nm,1.0s			pmax	pmax		
NEM2	**Nemuro 2**	**6.07**	**243**	P	**Pn**	**13 06 20.2**	**-1.5**
NEM2				*e*S	**Sn**	**13 07 28.1**	**-1.8**
JRA	**Rausu**	**6.18**	**250**	P	**Pn**	**13 06 25.3**	**+2.0**
JNK	**Nakash**	**6.61**	**248**	P	**Pn**	**13 06 29.6**	**+0.5**
JAK	**Akkeshi**	**6.91**	**244**	P	**Pn**	**13 06 31.7**	**-1.6**
JAK				*e*S	**Sn**	**13 07 48.2**	**-2.4**
JTKR	**Abashiri--Toko**	**6.97**	**253**	P	**Pn**	**13 06 35.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**7.19**	**278**	‖ *e*PN	**Pn**	**13 06 42.0**	**+4.9**
YSS				S	**Sn**	**13 08 04.0**	**+6.6**
YSS	comp=Z,20nm,0.9s			pmax	pmax		
YSS	comp=E,300nm,16.0s			MLR	MLR		
YSS	comp=Z,400nm,16.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.19**	**278**	*e*P	**Pn**	**13 06 41.7**	**+4.6**
JAR	**Ashorobuto**	**7.35**	**249**	P	**Pn**	**13 06 40.1**	**+0.8**
JAR				*e*S	**Sn**	**13 08 02.5**	**+1.1**
PET	**Petropavlovsk**	**7.55**	**26**	*e*PN	**Pn**	**13 06 50.2**	**+8.2**
PET	comp=Z,100nm,14.0s			MLR	MLR		
JKK2	**Kamakawa 2**	**7.78**	**255**	P	**Pn**	**13 06 47.2**	**+2.0**
ASAJ	**Asahikawa**	**7.79**	**257**	P	**Pn**	**13 06 46.5**	**+1.2**
ASAJ	comp=Z,0.9nm,0.3s,baz=98,slow=14,SNR=7.1						
ASAJ	**Asahikawa**	**7.79**	**257**	P	**Pn**	**13 06 48.4**	**+3.1**
ASAJ	**Asahikawa**	**7.79**	**257**	PN	**Pn**	**13 06 46.5**	**+1.2**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
JCH	**Churui**	**7.95**	**245**	*e*S	**Sn**	**13 08 12.8**	**-3.3**
JBT2	**Biratori 2**	**8.50**	**249**	P	**Pn**	**13 06 56.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**8.51**	**245**	*e*S	**Sn**	**13 08 26.1**	**-3.7**
JKB	**Kayabe**	**9.80**	**247**	*e*S	**Pn**	**13 07 11.6**	**-1.3**
KLR	**Kul'dur**	**14.67**	**289**	*e*P	**Pn**	**13 08 19.2**	**-0.1**
MJAR	**Matsushiro Arr**	**14.88**	**234**	P	**Pn**	**13 08 22.0**	**0.0**
MDJ	**Mudanjiang**	**16.61**	**272**	P	**Pn**	**13 08 44.4**	**+0.1**
MDJ	comp=Z,9.0nm,1.1s			AMB	AMB		
MDJ	comp=Z,152nm,5.4s			AMB	AMB		
CN2	**Changchun**	**19.70**	**273**	*e*P	**Pn**	**13 09 17.7**	**-4.3**
SONM	**Songino Array**	**31.50**	**290**	P	**P**	**13 11 11.1**	**-1.3**
SONM	comp=Z,0.2nm,0.4s,mb3.3,baz=96,slow=10,SNR=3.2			LR	LR	13 24 56.1	
SONM	comp=Z,116nm,18.9s,MS3.6,baz=232,slow=38						
LZH	**Lanzhou**	**37.94**	**272**	*e*P	**P**	**13 12 09.9**	**+1.9**
LZH				AP	pP	13 12 14.4	-5.0
LZH				XP	sP	13 12 16.5	-7.8
LZH	comp=Z,26nm,1.2s,mb4.8			AMB	AMB		
LZH	comp=Z,115nm,4.1s			AMB	AMB		
LZH	**Lanzhou**	**37.94**	**272**	*e*P	**P**	**13 12 09.9**	**+1.9**
LZH	comp=Z,26nm,1.2s,mb4.8			pP	pP	13 12 14.4	-5.0
LZH				sP	sP	13 12 16.5	-7.8
GTA	**Gaotai**	**39.07**	**280**	*e*P	**P**	**13 12 18.9**	**+1.5**
GTA				AP	pP	13 12 26.8	-2.1
GTA				XP	sP	13 12 29.3	-4.5
GTA	comp=Z,4.0nm,0.8s,mb4.2			AMB	AMB		
GYA	**Guiyang**	**41.67**	**258**	‖ *i*P	**P**	**13 12 40.1**	**+1.1**
GYA	comp=Z,10.0nm,1.0s,mb4.4			AMB	AMB		
ZAL	**Zalesovo**	**42.88**	**306**	LR	LR	13 32 21.8	
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 13 22.0**	**-0.8**
MKAR	**Makanchi Array**	**47.15**	**298**	P	**P**	**13 13 22.0**	**-0.7**
MKAR	comp=Z,3.0nm,0.8s			pmax	pmax		
CHKZ	**Chkalovo**	**50.71**	**310**	*e*P	**P**	**13 13 47.4**	**-2.6**
CHKZ	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax		
CHKZ	**Chkalovo**	**50.71**	**310**	*e*P	**P**	**13 13 47.4**	**-2.6**
AAK	**Ala-Archa**	**54.04**	**297**	*e*P	**P**	**13 14 14.0**	**-0.7**
AAK				pmax	pmax		
AAK	**Ala-Archa**	**54.04**	**297**	*e*P	**P**	**13 14 14.0**	**-0.7**
KKN	**Kakani**	**55.56**	**276**	*e*P	**P**	**13 14 27.9**	**+2.2**
DMN	**Daman**	**55.79**	**276**	*e*P	**P**	**13 14 29.3**	**+1.9**
GKN	**Gorkha**	**55.87**	**276**	*e*P	**P**	**13 14 29.5**	**+1.6**
KOLN	**Koldanda**	**56.73**	**277**	*e*P	**P**	**13 14 35.8**	**+1.8**
SUMG	**Summit**	**61.08**	**4**	*e*P	**P**	**13 15 05.2**	**+1.0**
NVAR	**Mina Array Bea**	**62.58**	**62**	P	**P**	**13 15 14.3**	**0.0**
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 15 24.6**	**-1.7**
FINES				LR	LR	13 47 59.9	
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**13 15 24.6**	**-1.8**
FINES	comp=Z,3.0nm,0.7s			pmax	pmax		
FINES	comp=Z,47nm,18.2s			MLR	MLR		
FINES	**FINESS Array B**	**64.40**	**335**	*i* P	**P**	**13 15 32.2**	**+5.8**
FINES	comp=Z,1.0nm,0.5s			pmax	pmax		
PDAR	**Pinedale Array**	**64.94**	**54**	P	**P**	**13 15 29.5**	**-0.4**
WRA	**Warramunga Arr**	**68.16**	**199**	P	**P**	**13 15 50.0**	**-0.5**
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**13 15 52.2**	**-1.0**
NB2	**NORSAR Subarra**	**68.60**	**341**	P	**P**	**13 15 52.2**	**-1.0**
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**13 15 52.3**	**-0.9**
NOA	comp=Z,3.9nm,0.6s,mb4.5,baz=33,slow=6.0,SNR=15			LR	LR	13 50 31.1	
NOA	**NORSAR Array B**	**68.60**	**341**	P	**P**	**13 15 52.3**	**-0.9**
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**13 16 52.6**	**-0.5**
GERES				LR	LR	13 55 27.4	
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**13 16 52.6**	**-0.5**
GERES	comp=Z,1.0nm,0.7s			pmax	pmax		
GERES	comp=Z,56nm,18.3s			MLR	MLR		
PPT	**Papeete**	**81.90**	**126**	LR	LR	13 49 30.0	
PLCA	**Paso Flores**	**148.13**	**96**	PKPbc	PKPbc	13 24 35.5	-0.2
PLCA	**Paso Flores**	**148.13**	**96**	PKP2	PKPbc	13 24 35.5	-0.3
PLCA	comp=Z,1.0nm,0.6s			pmax	pmax		
CPUP	**Villa Florida**	**148.62**	**61**	PKPbc	PKPbc	13 24 36.5	-0.6

IDC ***06*** *13:07:00.8±0.9, 370N×12638E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=93.0km s-min=16.1km az=71.0*
NEIC ***06*** *13:07:02.0±0.8, 373N×12647E, h10km, mb3.9/1, Error ellipse: s-maj=73.8km s-min=13.2km az=71.0*
ISCJB ***06*** *13:07:03.9±0.9, 37N±02×1264E±05, h33km, mb4.0/8, Error ellipse: s-maj=74.1km s-min=12.6km az=141.4*

ISC 06 13:07:05.8±0.9, 37N±02×1265E±05, h35km, n14, σ1§10/12, mb4.0/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.33**	**160**	*e*P	**Pn**	**13 10 51.1**	**-14**
FITZ	**Fitzroy Crossi**	**21.68**	**182**	*e*P	**P**	**13 11 53.5**	**0.0**
FITZ	**Fitzroy Crossi**	**21.68**	**182**	P	**P**	**13 11 53.1**	**-0.5**
WRA	**Warramunga Arr**	**24.72**	**162**	P	**P**	**13 12 22.5**	**-1.3**
WB2	**Warramunga Arr**	**24.72**	**162**	*e*P	**P**	**13 12 22.6**	**-1.2**
ASAR	**Alice Springs**	**28.14**	**166**	P	**P**	**13 12 56.9**	**+2.3**
ASAR				PcP	PcP	13 16 08.6	+0.6
STKA	**Stephens Creek**	**38.18**	**159**	P	**P**	**13 14 23.6**	**+1.7**
SONM	**Songino Array**	**47.26**	**342**	P	**P**	**13 15 35.8**	**+0.2**
SONM				PcP	PcP	13 17 07.1	+0.8
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**13 16 51.5**	**+0.3**
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**13 20 01.2**	**+0.1**
ARCES	**ARCESS Array B**	**90.40**	**340**	P	**P**	**13 20 02.7**	**-0.9**
ARCES	**ARCESS Array B**	**90.40**	**340**	P	**P**	**13 20 02.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	PKPdf	13 25 58.7	+0.8
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	PKPdf	13 25 58.7	+0.8

IDC ***06*** *13:30:55.5±0.8, 4998N×17895W, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.1/25, mbtmp4.1/15, MS3.5/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=25.0km s-min=18.2km az=128.0*
ISCJB ***06*** *13:30:56.0±3.1, 5012N±008×17890W±008, h11km±19km, mb4.2/19, MS3.6/2, Error ellipse: s-maj=13.8km s-min=8.8km az=160.0*
NEIC ***06*** *13:31:00.2, 5017N×17891W, h42km, ML3.6(AEIC), After AEIC.*

ISC 06 13:30:57.8±4.1, 5017N±008×17888W±008, h12km±25km, n32, σ0§91/30, mb4.2/19, MS3.6/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.67**	**317**	P	**Pn**	**13 31 26.2**	**-0.6**
AMKA				S	**Sn**	**13 31 47.0**	**-1.2**
ATKA	**Atka Island**	**3.58**	**54**	P	**Pn**	**13 31 53.1**	**+0.1**
KDAK	**Kodiak Island**	**17.15**	**54**	**Pn**	**Pn**	**13 34 54.5**	**-2.7**
KDAK	0.6nm,0.3s,baz=112,slow=7.2,SNR=11			Sn	**Sn**	**13 38 07.4**	**-0.5**
SLKM	**Skilak Lake**	**19.14**	**46**	*e*P	**Pn**	**13 35 21.8**	**+0.2**
EGAK	**Eagle**	**24.50**	**39**	*e*P	**P**	**13 36 16.7**	**-0.1**
INK	**Inuvik**	**28.48**	**34**	P	**P**	**13 36 53.0**	**+0.3**
YKA	**Yellowknife Ar**	**36.11**	**45**	P	**P**	**13 38 00.7**	**+1.2**
YKA	**Yellowknife Ar**	**36.11**	**45**	P	**P**	**13 38 00.7**	**+1.2**
PDAR	**Pinedale Array**	**46.74**	**71**	P	**P**	**13 39 27.2**	**+0.6**
SONM	**Songino Array**	**47.15**	**298**	P	**P**	**13 39 30.8**	**+0.9**
ZAL	**Zalesovo**	**54.85**	**314**	P	**P**	**13 40 28.3**	**+0.5**
ARCES	**ARCESS Array B**	**59.27**	**350**	P	**P**	**13 40 58.8**	**-0.3**
ARCES				LR	LR	14 09 43.9	
MKAR	**Makanchi Array**	**60.75**	**309**	P	**P**	**13 41 09.1**	**-0.2**
MKAR	**Makanchi Array**	**60.75**	**309**	P	**P**	**13 41 09.1**	**-0.2**
BVAR	**Borovoye Array**	**61.78**	**320**	P	**P**	**13 41 16.3**	**0.0**
FINES	**FINESS Array B**	**66.95**	**347**	P	**P**	**13 41 49.9**	**-0.3**
NB2	**NORSAR Subarra**	**68.84**	**355**	P	**P**	**13 42 02.5**	**+0.5**
NOA	**NORSAR Array B**	**68.84**	**355**	P	**P**	**13 42 02.8**	**+0.8**
GUN	**Gumba**	**72.26**	**292**	*e*P	**P**	**13 42 24.2**	**+1.3**
KKN	**Kakani**	**72.71**	**293**	*e*P	**P**	**13 42 26.7**	**+1.1**
GKN	**Gorkha**	**72.93**	**293**	*e*P	**P**	**13 42 27.8**	**+0.9**
DMN	**Daman**	**72.95**	**293**	*e*P	**P**	**13 42 28.1**	**+1.1**
KOLN	**Koldanda**	**73.72**	**294**	*e*P	**P**	**13 42 31.0**	**-0.5**
AKASG	**Malin Array Be**	**76.68**	**342**	P	**P**	**13 42 49.1**	**+0.5**
RAO	**Raoul Island**	**79.08**	**179**	LR	LR	14 10 18.8	
GERES	**GERESS Array B**	**80.77**	**352**	P	**P**	**13 43 11.2**	**+0.1**
GERES	comp=Z,35nm,18.2s,MS3.8,baz=338,slow=36			LR	LR	14 19 18.7	
WRA	**Warramunga Arr**	**81.11**	**224**	P	**P**	**13 43 11.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**83.68**	**232**	P	**P**	**13 43 24.7**	**-1.7**
ASAR	**Alice Springs**	**84.56**	**223**	P	**P**	**13 43 29.6**	**-1.3**
MAW	**Mawson**	**145.49**	**217**	PKPbc	PKPbc	13 50 33.6	-2.2
BOSA	**Boshof**	**151.74**	**311**	PKPbc	PKPbc	13 50 51.9	-0.2
BOSA	**Boshof**	**151.74**	**311**	PKPbc	PKPbc	13 50 51.9	-0.3

NEIC ***06*** *13:40:13.8±1.6, 1027S×16151E, h97km±12km, mb3.9/3, Error ellipse: s-maj=22.0km s-min=13.5km az=55.0*
ISCJB ***06*** *13:40:14.1±1.4, 104S±0.1×1614E±0.1, h111km±10km, mb3.7/8, Error ellipse: s-maj=25.1km s-min=15.3km az=107.4*
IDC ***06*** *13:40:14.9±2.4, 1038S×16145E, h103km±17km, mb3.6/8, mb1 3.8/9, mb1mx3.7/15, mbtmp4.0/9, MS3.1/3, Ms1 3.1/3, ms1mx2.9/23, Error ellipse: s-maj=30.0km s-min=18.1km az=67.0*

ISC 06 13:40:14.2±1.5, 103S±01×1615E±01, h102km±11km, n21, σ1§00/21, mb3.7/8, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.79**	**298**	P	**Pn**	**13 40 42.9**	**-1.2**
HNR	125nm,0.3s,baz=112,slow=2.3,SNR=34			S	**Sn**	**13 41 07.6**	**+0.7**
DZM	**Mont Dzumac**	**12.63**	**159**	P	**Pn**	**13 43 09.6**	**-0.5**
DZM	1.5nm,0.3s,baz=312,slow=19,SNR=32			LR	LR	13 47 31.9	
PMG	**Port Moresby**	**14.20**	**272**	LR	LR	13 48 31.4	
CTA	**Charters Tower**	**17.67**	**235**	‖ *i*P	**Pn**	**13 44 15.3**	**+1.6**
CTA	**Charters Tower**	**17.67**	**235**	P	**Pn**	**13 44 15.5**	**+1.8**

CTA				LR	LR	13 50 09.9	
	comp=Z,91nm,20.6s,baz=179,slow=34						
ARMA	**Armidale**	**22.06**	**203**	*e*P	**P**	**13 45 02.4**	**+1.8**
WB2	**Warramunga Arr**	**27.91**	**247**	⇓*i*P	**P**	**13 45 54.9**	**+0.3**
WRA	**Warramunga Arr**	**27.92**	**247**	P	**P**	**13 45 54.4**	**-0.3**
	1.3nm,0.6s,mb3.6,baz=77,slow=9.0,SNR=20						
STKA	**Stephens Creek**	**28.32**	**218**	*e*P	**P**	**13 45 59.4**	**+1.2**
	1.4nm,0.8s,mb3.5						
STKA	**Stephens Creek**	**28.32**	**218**	P	**P**	**13 45 59.5**	**+1.2**
	1.6nm,0.7s,mb3.7,baz=61,slow=7.6,SNR=3.3						
AS31	**Alice Springs**	**29.52**	**240**	*e*P	**P**	**13 46 07.3**	**-1.5**
ASAR	**Alice Springs**	**29.52**	**240**	P	**P**	**13 46 07.7**	**-1.1**
	0.7nm,0.6s,mb3.4,baz=65,slow=10,SNR=18						
ASPA	**Alice Springs**	**29.52**	**240**	*e*P	**P**	**13 46 07.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**35.61**	**253**	*e*P	**P**	**13 47 01.3**	**-0.7**
	2.6nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**35.61**	**253**	P	**P**	**13 47 01.5**	**-0.5**
	1.9nm,0.6s,mb4.2,baz=88,slow=7.9,SNR=11						
MBWA	**Marble Bar**	**41.55**	**250**	*e*P	**P**	**13 47 51.2**	**-0.4**
VNDA	**Vanda**	**67.22**	**180**	P	**P**	**13 50 57.5**	**0.0**
	0.4nm,0.6s,mb3.5,baz=344,slow=6.2,SNR=7.5						
SONM	**Songino Array**	**75.65**	**325**	P	**P**	**13 51 49.6**	**+1.5**
	1.1nm,0.6s,mb3.7,baz=145,slow=6.2,SNR=7.8						
QSPA	**South Pole Qui**	**79.71**	**180**	*e*P	**P**	**13 52 10.4**	**-0.3**
MAW	**Mawson**	**83.86**	**202**	P	**P**	**13 52 32.7**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=130,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**90.16**	**318**	P	**P**	**13 53 03.1**	**+0.1**
	0.5nm,0.4s,mb4.0,baz=86,slow=7.0,SNR=13						

ISCJB ***06*** *13:45:24.6±1.4, 4142N±006×4433E±006, h10km, Error ellipse: s-maj=9.6km s-min=4.9km az=76.3*
MOS ***06*** *13:45:26.6±3.4, 4140N×44.10E, h34km, mb3.7/1, Error ellipse: s-maj=51.2km s-min=12.4km az=86.7*
CSEM ***06*** *13:45:26.6, 4140N×44.10E, h34km, mb3.7, After OBN*
ISC 06 13:45:25.7±1.4, 4141N±006×4438E±006, h10km, n9, σ1°25/18, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.42**	**40**	P	**Pg**	**13 45 33.4**	**-0.5**
TBLG				S	**Sg**	**13 45 39.9**	**+0.3**
MTA	**Mtatsminda**	**0.42**	**47**	P	**Pg**	**13 45 32.9**	**-1.1**
MTA				S	**Sg**	**13 45 39.1**	**-0.5**
DGRG	**David-gareji**	**0.75**	**86**	P	**Pg**	**13 45 38.9**	**-1.3**
DGRG				S	**Sg**	**13 45 50.4**	**+0.5**
ZEI	**Tsey**	**1.41**	**345**	*e*Pg	**Pg**	**13 45 51.3**	**-1.4**
ZEI				*i* Sg	**Sg**	**13 46 12.1**	**+1.1**
LACR	**Lac**	**1.42**	**358**	*e*Pg	**Pg**	**13 45 53.4**	**+0.4**
LACR				*e*Sg	**Sg**	**13 46 13.1**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.61**	**339**	*e*Pg	**Pg**	**13 45 55.1**	**-1.4**
DIGR				*e*Sg	**Sg**	**13 46 16.0**	**-1.4**
SNJR	**Sundja**	**1.69**	**11**	*e*Pn	**Pn**	**13 45 58.0**	**+2.7**
SNJR				*e*Sg	**Sg**	**13 46 20.9**	**+0.8**
KORR	**Kora**	**1.69**	**352**	*e*Pn	**Pn**	**13 45 57.0**	**+1.7**
KORR				*e*Sg	**Sg**	**13 46 19.2**	**-1.0**
ARNR	**Ardon**	**1.78**	**358**	*e*Pn	**Pn**	**13 45 58.6**	**+2.0**
ARNR				*e*Sg	**Sg**	**13 46 21.8**	**-1.2**

ISCJB ***06*** *13:48:44.0±0.7, 4980N±003×14192E±006, h4km±5km, mb3.9/5, Error ellipse: s-maj=6.7km s-min=4.0km az=150.4*
IDC ***06*** *13:48:44.3±2.0, 4984N×14251E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=85.4km s-min=20.8km az=72.0*
SKHL ***06*** *13:48:44.7±1.6, 4979N×14199E, h5km±1km, mb4.3/6, Ms4.2/2*
MOS ***06*** *13:48:48.1±0.6, 4969N×14192E, h33km, mb4.1/5, Error ellipse: s-maj=38.4km s-min=17.6km az=99.9*
ISC 06 13:48:45.9±0.7, 4977N±003×14212E±007, h7km±5km, n22, σ0°99/33, mb3.9/5, 3C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.69**	**183**	⇑*i*Pg	**Pg**	**13 48 59.0**	**-0.2**
UGL				⇑*i*Pg	**Pg**	**13 48 59.0**	**-0.2**
UGL				AMB	AMB	13 49 01.5	
	410nm,0.4s						
UGL				AMB	AMB	13 49 01.5	
	240nm,0.4s						
UGL				AMB	AMB	13 49 01.5	
	360nm,0.4s						
UGL				AMB	AMB	13 49 02.0	
	1μm,1.2s						
UGL				*e*Sg	**Sg**	**13 49 09.0**	**+0.8**
UGL				A		13 49 13.0	
	2μm,0.5s						
UGL				A		13 49 13.0	
	4μm,0.5s						
UGL				A		13 49 13.0	
	860nm,0.5s						
UGL				A		13 49 13.0	
	2μm,0.5s						
UGL				A		13 49 13.0	
	1μm,0.5s						
UGL				A		13 49 13.5	
	2μm,0.3s						
UGL				A		13 49 13.5	
	4μm,0.3s						
TYV	**Tymovskoe**	**1.15**	**17**	*e*Pg	**Pg**	**13 49 08.2**	**+0.2**
TYV				AMB	AMB	13 49 13.0	
	367nm,0.5s						
TYV				*e*Sg	**Sg**	**13 49 23.0**	**+0.1**
TYV				A		13 49 31.0	
	2μm,2.0s						
TYV				A		13 49 31.0	
	2μm,2.0s						
TYV				A		13 49 32.5	
	600nm,0.8s						
TYV				AMS	AMS	13 49 51.0	
	2μm,4.0s						
TYV				AMS	AMS	13 49 51.0	
	2μm,4.0s						
TYV				AMS	AMS	13 49 51.0	
	2μm,5.0s						
YSS	**Yuzh-Sakhalins**	**2.85**	**171**	*e*P	**Pn**	**13 49 31.5**	**-0.3**
YSS				AMB	AMB	13 49 32.0	
	30nm,0.7s						
YSS				AMB	AMB	13 49 32.0	
	50nm,0.7s						
YSS				*e*Pg	**Pg**	**13 49 39.7**	**-0.8**
YSS				AMB	AMB	13 49 40.0	
	122nm,0.4s						
YSS				*i* Sb	**Sb**	**13 50 12.1**	**-0.1**
YSS				A		13 50 18.0	
	180nm,0.9s						
YSS				A		13 50 18.0	
	80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**2.85**	**171**	⇑*e*PN	**Pn**	**13 49 31.2**	**-0.6**
YSS				pmax	pmax		
	comp=N,30nm,0.7s						
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
NKL	**Nikolayevsk**	**3.50**	**346**	⇓*i*P	**Pn**	**13 49 37.0**	**-3.8**
NKL				AMB	AMB	13 49 39.0	
	comp=Z,40nm,0.5s						
NKL				AMB	AMB	13 49 39.0	
	comp=Z,10.0nm,0.5s						
NKL				AMB	AMB	13 49 39.0	
	comp=Z,50nm,0.5s						
NKL				*e*Pb	**Pb**	**13 49 48.0**	**-0.3**
NKL				*e*S	**Sn**	**13 50 18.0**	**-4.5**
NKL				*e*Sg	**Sg**	**13 50 38.0**	**-0.5**
NKL				AMS	AMS	13 50 53.7	
	comp=Z,480nm,0.8s						
GRNR	**Gornyy**	**3.79**	**288**	*e*P	**Pn**	**13 49 42.2**	**-2.5**
GRNR				AMB	AMB	13 49 42.4	
	comp=Z,24nm,0.5s						
GRNR				*e*Sg	**Sg**	**13 50 45.5**	**-2.1**
GRNR				A		13 50 45.7	
	comp=Z,230nm,0.5s						
ASAJ	**Asahikawa**	**5.66**	**176**	Pn	**Pn**	**13 50 11.0**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=1.8,slow=11,SNR=34						
ASAJ	**Asahikawa**	**5.66**	**176**	PN	**Pn**	**13 50 11.0**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TEY	**Ternei**	**6.03**	**220**	*e*S	**Sn**	**13 51 25.0**	**+0.1**
EKMR	**Ekimchan**	**6.62**	**303**	*e*P	**Pn**	**13 50 25.1**	**+1.5**
EKMR				*e*Pg	**Pg**	**13 50 54.0**	**+1.3**
EKMR				AMB	AMB	13 50 57.9	
	comp=Z,3.0nm,0.4s						
EKMR				AMB	AMB	13 50 57.9	
	comp=Z,4.0nm,0.4s						
EKMR				*e*Sg	**Sg**	**13 52 19.5**	**+1.1**
EKMR				A		13 52 24.9	
	comp=Z,31nm,0.7s						
EKMR				A		13 52 24.9	
	comp=Z,11nm,0.7s						
EKMR				A		13 52 24.9	
	comp=Z,12nm,0.7s						
KLR	**Kul'dur**	**6.78**	**269**	*e*P	**Pn**	**13 50 25.8**	**0.0**
KLR				AMS	AMS	13 53 20.5	
	comp=Z,900nm,13.0s						
ZAK	**Zakamensk**	**24.75**	**286**	*e*P	**P**	**13 54 11.2**	**+3.2**
MKAR	**Makanchi Array**	**39.01**	**289**	P	**P**	**13 56 13.7**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.4,baz=71,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**39.01**	**289**	P	**P**	**13 56 13.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**57.94**	**329**	P	**P**	**13 58 38.2**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=6.0,SNR=8.4						
FINES	**FINESS Array B**	**57.94**	**329**	P	**P**	**13 58 38.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**64.72**	**320**	P	**P**	**13 59 24.7**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.2,baz=37,slow=7.3,SNR=6.9						
AKASG	**Malin Array Be**	**64.72**	**320**	P	**P**	**13 59 24.7**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**69.74**	**188**	P	**P**	**13 59 55.9**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=4.9,slow=4.9,SNR=9.9						
WRA	**Warramunga Arr**	**69.74**	**188**	P	**P**	**13 59 55.9**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**73.47**	**188**	P	**P**	**14 00 19.6**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=1.2,slow=5.3,SNR=19						
ASAR	**Alice Springs**	**73.47**	**188**	P	**P**	**14 00 19.6**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 06 14:09:22.6±1.9, 289N×12422E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=204.2km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**157**	P	P	14 14 46.2	+0.3
	0.6nm,0.6s,baz=335,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.03**	**161**	P	P	14 15 15.8	+0.5
	0.3nm,0.8s,baz=331,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**56.85**	**327**	P	P	14 19 08.9	+0.1
	0.2nm,0.5s,baz=112,slow=6.8,SNR=4.9						

ISCJB ***06*** *14:33:55.4±0.9, 328N±0.1×962E±02, h10km, mb3.4/3, Error ellipse: s-maj=19.7km s-min=14.9km az=19.1*
IDC ***06*** *14:33:55.7±1.6, 3281N×9620E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/24, Error ellipse: s-maj=83.1km s-min=23.4km az=66.0*
BJI ***06*** *14:33:57.8, 3289N×9600E, h9km, mb3.9, ML3.3*
ISC 06 14:33:57.4±0.9, 328N±01×962E±02, h10km, n6, σ0°35/6, mb3.4/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.32**	**235**	P	**Pn**	**14 35 17.0**	**+0.1**
SONM	**Songino Array**	**16.86**	**24**	Pn	**Pn**	**14 37 53.5**	**+0.1**
	0.2nm,0.3s,baz=207,slow=15,SNR=7.0						
SONM				LR	LR	14 43 38.9	
	comp=Z,31nm,19.8s,baz=6.3,slow=34						
MKAR	**Makanchi Array**	**17.51**	**327**	P	**Pn**	**14 38 01.2**	**-0.4**
	0.2nm,0.3s,baz=132,slow=13,SNR=14						
ZAL	**Zalesovo**	**22.60**	**342**	P	**P**	**14 38 58.4**	**+0.4**
	0.8nm,0.3s,mb3.6,baz=332,slow=3.2,SNR=3.3						
WRA	**Warramunga Arr**	**63.91**	**140**	P	**P**	**14 44 30.3**	**-0.2**
	0.2nm,0.7s,mb3.2,baz=340,slow=5.9,SNR=3.5						
ASAR	**Alice Springs**	**66.73**	**142**	P	**P**	**14 44 48.7**	**0.0**
	0.3nm,0.6s,mb3.5,baz=329,slow=6.5,SNR=9.5						

IDC ***06*** *14:48:59.0±0.4, 128N×9720E, h0km, mb4.6/22, mb1 4.7/23, mb1mx4.7/24, mbtmp4.6/23, ML4.3/1, MS4.9/18, Ms1 4.9/18, ms1mx4.7/33, Error ellipse: s-maj=15.5km s-min=12.4km az=60.0*
MOS ***06*** *14:49:02.8±1.1, 135N×9723E, h33km, mb5.3/50, MS5.0/28, Error ellipse: s-maj=8.6km s-min=5.1km az=107.8*
ISCJB ***06*** *14:49:02.4±0.2, 126N±003×9726E±003, h32km, mb5.1/121, MS5.1/78, Error ellipse: s-maj=4.4km s-min=3.7km az=54.6*
BJI ***06*** *14:49:02.1, 1.14N×9721E, h38km, mB5.6, mb5.3, Ms5.5, Msz5.3*
NEIC ***06*** *14:49:03.8±0.2, 132N×9725E, mb5.0/54, MS4.9/40, MW5.4, Error ellipse: s-maj=6.2km s-min=4.9km az=218.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.50000×10^{17} NP1: ϕ_s131.00000°, δ72.00000°, λ109.00000°. NP2: ϕ_s263.00000°, δ26.00000°, λ45.00000°. Principal axes: T 1.4400, Plg59.0000°, Azm67.0000°; N 0.1100, Plg18.0000°, Azm305.0000°; P -1.5500, Plg24.0000°, Azm206.0000°;*
NEIC Felt [IV] at Gunungsitoli. Felt [II] at Sibolga, Sumatra.
GCMT ***06*** *14:49:03.8±0.3, 076N×9722E, h34km, MW5.3/70, Moment Tensor Solution. s65,c107; s70,c101; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.55±.03; $M_{\theta\theta}$-0.57±.02; $M_{\phi\phi}$0.02±.03; $M_{r\theta}$0.60±.03; $M_{\theta\phi}$0.78±.02; $M_{\phi r}$-0.20±.04; Best double couple: $M_0$1.07600×10^{17} NP1:ϕ_s339.00000°, δ36.00000°, λ142.00000°. NP2:ϕ_s101.00000°, δ69.00000°, λ60.00000°. Principal axes: T 0.8430, Plg56.0000°, Azm332.0000°; N 0.4660, Plg28.0000°, Azm113.0000°; P -1.3090, Plg18.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 14:49:04.7±0.2, 126N±003×9725E±003, h34km, h34km±1.4km: pP-P, n341, σ1°07/344, mb5.1/121, MS5.1/78, 45C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.27**	**47**	Pn	**Pn**	**14 49 39.4**	**-0.4**
	90nm,0.3s,baz=224,slow=6.5,SNR=152						
PSI				Sn	**Sn**	**14 50 15.8**	**+9.2**
	150nm,0.3s,baz=200,slow=21,SNR=6.6						
PSI	**Prapat**	**2.27**	**47**	Pn	**Pn**	**14 49 39.4**	**-0.4**
PSI				Sn	**Sn**	**14 50 15.8**	**+9.2**
TSI	**Tuntungan**	**2.59**	**30**	P	**Pn**	**14 49 44.4**	**+0.3**
	2μm,1.1s						
PPI	**Padang Panjang**	**3.58**	**118**	P	**Pn**	**14 49 57.7**	**0.0**
	641nm,1.1s						
BSI	**Banda Aceh**	**4.64**	**335**	P	**Pn**	**14 50 09.0**	**-3.4**
	191nm,0.5s						
IPM	**Ipoh**	**4.95**	**50**	P	**Pn**	**14 50 17.8**	**+1.3**
KULM	**Kulim**	**5.25**	**40**	⇑*e*Pn	**Pn**	**14 50 20.6**	**-0.1**
KGM	**Kluang**	**6.11**	**83**	P	**Pn**	**14 50 34.5**	**+1.9**
SNG	**Songkhla**	**6.77**	**30**	P	**Pn**	**14 50 42.0**	**+0.4**
	1μm,1.0s						
PBA	**Port Blair**	**11.26**	**337**	*ex*	x	14 52 47.5	
PBA				*ex*	x	14 55 31.0	
NNT	**Nongplab**	**11.53**	**12**	P	**Pn**	**14 51 46.9**	**+0.1**
KSM	**Kuching**	**13.06**	**89**	⇑*e*Pn	**Pn**	**14 52 09.8**	**+2.1**
NST	**Nakhon Sawan**	**14.61**	**11**	P	**Pn**	**14 52 30.5**	**+1.7**
KKTK	**Khon Kaen**	**15.96**	**20**	P	**Pn**	**14 52 49.0**	**+2.4**
	432nm,0.5s						
CM31	**Chiang Mai Arr**	**17.18**	**5**	*e*P	**Pn**	**14 53 06.1**	**+4.2**
	17nm,0.8s						
CM31				*e*pP	pP	14 53 15.0	+2.8
CHTO	**Chiang Mai**	**17.53**	**5**	⇑*e*P	**Pn**	**14 53 03.9**	**-2.4**
CHTO				pmax	pmax		
	comp=Z,44nm,1.1s						
CHTO	**Chiang Mai**	**17.53**	**5**	⇑*e*Pn	**Pn**	**14 53 03.9**	**-2.5**
	comp=Z,44nm,1.1s						
PALK	**Pallekele**	**17.54**	**290**	*e*P	**Pn**	**14 53 06.5**	**0.0**
	comp=Z,32nm,0.9s						
KKM	**Kota Kinabalu**	**19.51**	**75**	P	**Pn**	**14 53 29.9**	**-0.5**
KKM	**Kota Kinabalu**	**19.51**	**75**	⇑*e*P	**Pn**	**14 53 29.8**	**-0.6**
MDRS	**Chennai**	**20.53**	**306**	*e*P	**P**	**14 53 42.2**	**+2.2**
TSM	**Tawau**	**20.82**	**81**	P	**P**	**14 53 43.7**	**+0.6**
VIS	**Vishakhapatnam**	**21.33**	**321**	*e*P	**P**	**14 53 49.0**	**+0.3**
VIS				AMb	AMB	14 54 04.2	
	comp=Z,186nm,1.7s,mb5.1						
VIS				*ex*	x	14 57 37.2	
TRD	**Trivandrum**	**21.45**	**290**	*e*P	**P**	**14 53 51.8**	**+1.8**
TRD				AMb	AMB	14 53 57.5	
	comp=Z,65nm,1.2s,mb4.8						
TRD				*e*S	**S**	**14 57 51.1**	**+5.1**
QIZ	**Qiongzhong**	**21.55**	**34**	⇓P	**P**	**14 53 51.0**	**0.0**
QIZ				AP		14 53 58.9	
QIZ				*e*S	**S**	**14 57 51.0**	**+3.1**
QIZ				XS	sS	14 58 01.1	-1.3
QIZ				AMB	AMB		
	comp=Z,74nm,1.8s,mb4.8						
QIZ				LR	LR		
	comp=N,6μm,13.9s,MS5.3						
QIZ				LR	LR		
	comp=E,6μm,15.3s,MS5.3						
QIZ				LR	LR		
	comp=Z,7μm,13.5s,MS5.2						
QIZ	**Qiongzhong**	**21.55**	**34**	⇑*e*P	**P**	**14 53 49.7**	**-1.3**
	comp=Z,88nm,1.3s,mb5.0						
QIZ				LR	LR		
	comp=Z,3μm,21.0s,MS4.7						
PCI	**Palu**	**22.69**	**95**	P	**P**	**14 54 03.6**	**+0.4**
	comp=Z,90nm,1.6s,mb5.0						
CAL	**Calcutta**	**22.86**	**338**	*e*P	**P**	**14 54 05.4**	**+0.3**
CAL				*e*S	**S**	**14 58 13.8**	**+1.5**
CAL				*i* x	x	15 04 28.2	
	comp=Z,1μm,0.2s						
AGT	**Agartala**	**23.23**	**346**	*i* P	**P**	**14 54 10.0**	**+1.1**
AGT				*i* x	x	14 55 05.0	
KMI	**Kunming**	**24.31**	**12**	P	**P**	**14 54 19.7**	**+0.7**
KMI				AP		14 54 27.9	
KMI				XP	sP	14 54 33.3	+0.5
KMI				PP		14 54 58.0	
KMI				S	**S**	**14 58 38.3**	**+2.4**
KMI				XS	sS	14 58 53.2	+1.3
KMI				AMB	AMB		
	comp=Z,221nm,1.5s,mb5.4						
KMI				AMB	AMB		
	comp=Z,2μm,4.9s						
KMI				LR	LR		
	comp=N,15μm,16.0s,MS5.6						
KMI				LR	LR		
	comp=E,6μm,13.4s,MS5.6						
KMI				LR	LR		
	comp=Z,16μm,15.7s,MS5.6						
KMI	**Kunming**	**24.31**	**12**	P	**P**	**14 54 19.7**	**+0.7**
KMI				*PP		14 54 27.9	
KMI				*SP	sP	14 54 33.3	+0.5
KMI						14 54 58.0	
KMI				PPP		14 55 07.4	
KMI				S	**S**	**14 58 38.3**	**+2.4**
KMI				*SS	sS	14 58 53.2	+1.3
KMI				SS		14 59 37.6	
KMI	**Kunming**	**24.31**	**12**	P	**P**	**14 54 19.7**	**+0.7**
KMI				pP		14 54 27.9	
KMI				sP	sP	14 54 33.3	+0.5
KMI				PP		14 54 58.0	
KMI				PPP		14 55 07.4	
KMI				S	**S**	**14 58 38.3**	**+2.4**
KMI				sS	sS	14 58 53.2	+1.3
KMI				SS		14 59 37.6	
KMI				SSS		14 59 54.8	
HYB	**Hyderabad**	**24.41**	**312**	*i* P	**P**	**14 54 22.0**	**+2.1**
HYB				*e*S	**S**	**14 58 37.5**	**0.0**
HYB	**Hyderabad**	**24.41**	**312**	*e*P	**P**	**14 54 22.0**	**+2.1**
HYB				*e*S	**S**	**14 58 40.0**	**+2.5**
SHL	**Shillong**	**24.72**	**348**	⇑*i*P	**P**	**14 54 23.8**	**+1.1**
SHL				*e*S	**S**	**14 58 42.0**	**-0.4**
BOK	**Bokaro**	**24.97**	**335**	*e*P	**P**	**14 54 26.1**	**+1.1**
BOK				*ex*	x	14 58 35.5	
MNGI	**Mangalore**	**25.07**	**299**	*e*P	**P**	**14 54 28.4**	**+2.6**
MNGI				*i* S	**S**	**14 58 52.3**	**+4.3**
DGAR	**Diego Garcia**	**26.19**	**250**	PFAKE		14 54 50.0	+14
DGAR				LR	LR		
	comp=Z,729nm,19.0s,MS4.2						
NGP	**Nagpur**	**26.57**	**319**	*e*P	**P**	**14 54 40.0**	**+0.5**
NGP				*ex*	x	14 54 48.3	
	comp=Z,59nm,1.4s						
NGP				*e*S	**S**	**14 59 11.8**	**0.0**
HKC	**Hong Kong**	**26.62**	**37**	P	**P**	**14 54 44.0**	**+4.1**
GYA	**Guiyang**	**26.64**	**19**	⇓*i*P	**P**	**14 54 39.8**	**-0.3**
GYA				AP	pP	14 54 49.6	-0.2
GYA				XP	sP	14 54 53.1	-0.9
GYA				AMB	AMB		
	comp=Z,60nm,1.4s,mb4.9						
GYA				AMB	AMB		
	comp=Z,710nm,7.2s						
GYA				LR	LR		
	comp=N,4μm,19.2s,MS5.3						
GYA				LR	LR		
	comp=E,6μm,17.7s,MS5.3						
GYA				LR	LR		
	comp=Z,6μm,18.3s,MS5.2						
GZH	**Guangzhou**	**26.74**	**35**	P	**P**	**14 54 46.2**	**+5.2**
GZH				LR	LR		
	comp=N,5μm,13.4s,MS5.4						
GZH				LR	LR		
	comp=E,5μm,14.0s,MS5.4						
GZH				LR	LR		
	comp=Z,12μm,14.0s,MS5.6						
BCPH	**Baguio City Da**	**27.46**	**56**	⇑*e*P	**P**	**14 54 47.6**	**+0.1**
JBP	**Jabalpur**	**27.48**	**324**	⇑*i*P	**P**	**14 54 49.3**	**+1.6**
JBP				*ex*	x	14 55 03.7	
	comp=Z,61nm,1.5s						
JBP				*e*S	**S**	**14 59 28.0**	**+1.8**
KAD	**Karad**	**27.73**	**306**	*e*P	**P**	**14 54 50.6**	**+0.7**
KAD				AMb	AMB	14 54 56.3	
	comp=Z,18nm,1.2s,mb4.6						
JIRN	**Jiri**	**28.31**	**339**	*e*P	**P**	**14 54 56.5**	**+1.4**
	comp=Z,6.1nm,0.3s,mb4.7						
PKI	**Pulchoki**	**28.52**	**338**	*e*P	**P**	**14 54 57.9**	**+1.0**
GUN	**Gumba**	**28.65**	**339**	*e*P	**P**	**14 54 58.9**	**+0.8**
	comp=Z,281nm,0.8s,mb6.0						
POO	**Poona**	**28.67**	**308**	*e*P	**P**	**14 54 57.0**	**-1.2**
	comp=Z,20nm,1.0s,mb4.8						
POO				*ex*	x	14 55 52.5	
DMN	**Daman**	**28.67**	**337**	*e*P	**P**	**14 54 59.4**	**+1.1**
	comp=Z,92nm,0.9s,mb5.5						
KKN	**Kakani**	**28.77**	**338**	*e*P	**P**	**14 54 59.7**	**+0.6**
	comp=Z,158nm,1.0s,mb5.7						
DAV	**Davao City (W)**	**28.83**	**78**	P	**P**	**14 55 02.0**	**+2.4**
DAV				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
LSA	**Lhasa**	**28.88**	**349**	P	**P**	**14 55 01.8**	**+1.7**
LSA	**Lhasa**	**28.88**	**349**	⇑*e*P	**P**	**14 55 00.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.1						
LSA				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.9						
LSA	**Lhasa**	**28.88**	**349**	⇑*e*P	**P**	**14 55 00.7**	**+0.6**
	comp=Z,28nm,0.7s,mb5.1						
LSA				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
BHPL	**Bhopal**	**29.12**	**320**	*e*P	**P**	**14 55 03.1**	**+0.9**
BHPL				AMb	AMB	14 55 12.3	
	comp=Z,

comp=E,5μm,13.4s,MS5.8
QZH LR LR
comp=Z,13μm,14.4s,MS5.8
MBWA Marble Bar 31.30 137 *e*P **P 14 55 20.9 -0.7**
comp=Z,27nm,1.1s,mb5.0
MBWA LR LR
comp=Z,4μm,21.0s,MS5.0
NACB Ninganchiao 32.78 44 P **P 14 55 34.0 -0.5**
YHNB Yeheng 32.95 43 P **P 14 55 33.8 -2.2**
AJM Ajmer 33.19 321 *e*P **P 14 55 38.8 +0.7**
AJM AMb AMB 14 55 53.1
comp=Z,54nm,1.1s,mb5.4
NDI New Delhi 33.31 327 *e*P **P 14 55 38.8 -0.4**
NDI AMb AMB 14 55 59.1
comp=Z,119nm,0.2s
WHN Wuhan 33.34 27 ⇑P **P 14 55 39.3 -0.1**
FITZ Fitzroy Crossi 33.92 126 ⇓*i*P **P 14 55 42.8 -1.7**
comp=Z,13nm,0.8s,mb4.9
FITZ Fitzroy Crossi 33.92 126 P **P 14 55 43.3 -1.2**
comp=Z,6.1nm,0.6s,mb4.7,baz=330,slow=12
XAN Xi'an 34.40 17 P **P 14 55 47.2 -1.4**
XAN PP PP 14 57 07.5 +0.7
XAN S **S 15 01 12.5 -1.7**
XAN AMB AMB
comp=Z,92nm,1.4s,mb5.5
XAN AMB AMB
comp=Z,395nm,14.2s
XAN LR LR
comp=N,2μm,17.2s,MS5.3
XAN LR LR
comp=E,5μm,16.9s,MS5.3
XAN LR LR
comp=Z,7μm,16.9s,MS5.5
LZH Lanzhou 35.19 9 ⇑P **P 14 55 55.6 +0.1**
LZH AP pP 14 56 03.3 -2.0
LZH XP sP 14 56 08.3 -1.1
LZH PP PP 14 57 15.8 +0.2
LZH PPP 14 57 34.0
LZH *e*S **S 15 01 25.0 -1.5**
LZH XS sS 15 01 40.0 -2.7
LZH SS SS 15 03 48.0 -12
LZH AMB AMB
comp=Z,72nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,250nm,4.5s
LZH LR LR
comp=N,6μm,15.8s
LZH LR LR
comp=Z,7μm,17.6s,MS5.5
LZH Lanzhou 35.19 9 ⇑P **P 14 55 55.6 +0.1**
LZH pP pP 14 56 03.3 -2.0
LZH sP sP 14 56 08.3 -1.1
LZH PP PP 14 57 15.8 +0.2
LZH PPP 14 57 34.0
LZH *e*S **S 15 01 25.0 -1.5**
LZH sS sS 15 01 40.0 -2.7
LZH SS SS 15 03 48.0 -12
SDNR Sundarnagar 35.67 329 *e*P **P 14 56 00.3 +0.7**
NJ2 Nanjing 36.79 31 *e*P **P 14 56 07.9 -1.2**
NJ2 AP pP 14 56 17.3 -1.7
NJ2 XP sP 14 56 21.2 -1.9
NJ2 PP PP 14 57 34.1 +0.9
NJ2 S **S 15 01 49.0 -1.9**
NJ2 XS sS 15 02 06.0 -1.2
NJ2 AMB AMB
comp=Z,180nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,150nm,15.4s,MS4.5
NJ2 LR LR
comp=E,640nm,14.0s,MS4.5
NJ2 LR LR
comp=Z,1μm,15.0s,MS4.8
THN Thein Dam 37.05 329 *e*P **P 14 56 10.2 -1.2**
SSE Sheshan 37.34 35 P **P 14 56 14.0 +0.2**
SSE AP pP 14 56 22.9 -0.8
SSE PP PP 14 57 39.4 +0.1
SSE S **S 15 01 59.8 +0.5**
SSE SCS ScS 15 06 25.8 +0.8
SSE AMB AMB
comp=Z,49nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,405nm,5.3s
SSE LR LR
comp=N,952nm,21.6s,MS4.8
SSE LR LR
comp=E,2μm,21.6s,MS4.8
SSE LR LR
comp=Z,2μm,15.6s
KAKA Kakadu 37.58 113 *e*P **P 14 56 14.1 -1.7**
comp=Z,12nm,0.5s,mb4.9
KLBR Kellerberrin 38.02 151 *e*P **P 14 56 21.7 +2.1**
comp=Z,20nm,1.0s,mb4.8
GTA Gaotai 38.05 3 P **P 14 56 19.4 -0.4**
GTA AP pP 14 56 30.0 +0.3
GTA XP sP 14 56 33.8 +0.1
GTA PP PP 14 57 49.0 +2.0
GTA PCP PcP 14 58 35.6 +1.0
GTA S **S 15 02 08.7 -1.3**
GTA XS sS 15 02 23.6 -2.7
GTA SS SS 15 04 46.1 -12
GTA SCS ScS 15 06 28.0 -1.1
GTA AMB AMB
comp=Z,44nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,529nm,6.1s
GTA LR LR
comp=N,3μm,15.2s,MS5.4
GTA LR LR
comp=E,3μm,14.8s,MS5.4
GTA LR LR
comp=Z,4μm,19.4s,MS5.2
NWAO Narrogin (SRO) 38.88 153 LR LR 15 11 55.6
comp=Z,3μm,21.4s,MS5.1,baz=328,slow=35
JOW Kunigami 39.17 47 P **P 14 56 30.1 +0.9**
comp=Z,32nm,0.4s,mb5.4,baz=198,slow=7.6,SNR=4.3
BTO Baotou 40.85 15 *e*P **P 14 56 42.7 -0.4**
BTO LR LR
comp=N,2μm,14.2s,MS5.2
BTO LR LR
comp=E,2μm,16.7s,MS5.2
HHC Hu-ho-hao-te 41.49 16 *e*P **P 14 56 49.4 +1.0**
HHC AP pP 14 56 59.4 +1.0
HHC XP sP 14 57 03.8 +1.4
HHC PP PP 14 58 28.0 +3.4
HHC PCP PcP 14 58 45.9 +0.3
HHC S **S 15 03 03.9 +2.3**
HHC XS sS 15 03 19.1 +1.1
HHC SS SS 15 06 04.7 -2.0
HHC AMB AMB
comp=Z,42nm,2.2s,mb4.7
HHC AMB AMB
comp=Z,557nm,6.8s
HHC LR LR
comp=N,5μm,15.9s,MS5.6
HHC LR LR
comp=E,3μm,14.5s,MS5.6
HHC LR LR
comp=Z,6μm,16.9s,MS5.5
WRA Warramunga Arr 42.02 122 P **P 14 56 52.0 -0.8**
comp=Z,12nm,0.6s,mb4.7,baz=301,slow=9.1,SNR=140
WRA LR LR 15 18 02.5
comp=Z,2μm,19.7s,MS4.9,baz=290,slow=41
WRAB Tennant Creek 42.03 122 P **P 14 56 52.2 -0.6**
comp=Z,152nm,0.5s,mb5.9,SNR=16
WRAB Tennant Creek 42.03 122 P **P 14 56 52.6 -0.2**
WB2 Warramunga Arr 42.03 122 *e*P **P 14 56 51.9 -0.9**
BJT Baijiatuau 42.25 22 *e*P **P 14 56 54.9 +0.3**
BJT pmax pmax
comp=Z,33nm,0.7s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 42.25 22 *e*P **P 14 56 54.9 +0.3**
comp=Z,33nm,0.7s,mb5.1
BJT LR LR
comp=Z,2μm,19.0s,MS5.0
BJI Beijing 42.27 22 P **P 14 56 54.9 +0.1**
BJI AMB AMB
comp=Z,53nm,0.9s,mb5.2
BJI AMB AMB
comp=Z,1μm,4.4s
BJI LR LR
comp=N,1μm,17.8s,MS5.2
BJI LR LR
comp=E,2μm,16.7s,MS5.2
BJI LR LR
comp=Z,2μm,25.4s
KSH Kashi 42.74 336 P **P 14 56 59.1 +0.5**
KSH *e*AP pP 14 57 09.0 +0.4
KSH *e*XP sP 14 57 13.1 +0.5
KSH *e*PP PP 14 58 41.4 +3.4
KSH *e*PCP PcP 14 58 51.1 +1.4
KSH *e*PPP 14 59 15.4
KSH *e*SCP ScP 15 02 37.3 -0.8
KSH *e*S **S 15 03 19.7 -0.3**
KSH *e*XS sS 15 03 36.8 +0.3
KSH *e*SS SS 15 06 26.2 -5.2
KSH *e*SCS ScS 15 06 55.2 -1.8
KSH AMB AMB
comp=Z,515nm,6.3s
KSH LR LR
comp=N,2μm,16.8s,MS5.4
KSH LR LR
comp=E,4μm,18.4s,MS5.4
KSH LR LR
comp=Z,3μm,17.0s,MS5.2
WMQ Urumqi 43.23 350 ⇑*i*P **P 14 57 03.1 +0.6**
WMQ AP pP 14 57 15.5 +3.0
WMQ XP sP 14 57 21.0 +4.4
WMQ PP PP 14 58 46.0 +2.7
WMQ PPP 14 59 21.0
WMQ SCP ScP 15 02 41.0 +1.0
WMQ S **S 15 03 25.0 -2.2**
WMQ XS sS 15 03 46.0 +2.3
WMQ SCS ScS 15 06 57.0 -3.1
WMQ AMB AMB
comp=Z,59nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,583nm,5.6s
WMQ LR LR
comp=N,6μm,17.2s,MS5.7
WMQ LR LR
comp=E,6μm,20.4s,MS5.7
WMQ LR LR
comp=Z,5μm,24.7s,MS5.3
FORT Forrest 43.29 140 *e*P **P 14 57 03.9 +0.9**
comp=Z,43nm,0.7s,mb5.3
WSAR Wadi Sarin 43.36 303 LR LR 15 15 29.6
comp=Z,613nm,18.9s,MS4.5,baz=38,slow=37
ASPA Alice Springs 43.39 127 *e*P **P 14 57 03.3 -0.5**
ASAR Alice Springs 43.39 127 P **P 14 57 03.4 -0.4**
comp=Z,3.3nm,0.4s,mb4.5,baz=300,slow=7.3,SNR=184
ASAR ScP ScP 15 02 43.9 +3.2
comp=Z,0.8nm,0.9s,baz=311,slow=3.2,SNR=4.1
AS31 Alice Springs 43.39 127 *e*P **P 14 57 03.3 -0.5**
DL2 Dalian 43.60 28 ⇑*i*P **P 14 57 06.3 +0.7**
DL2 AP pP 14 57 16.7 +1.1
DL2 XP sP 14 57 20.2 +0.6
DL2 S **S 15 03 35.9 +3.2**
DL2 XS sS 15 03 49.6 +0.4
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
DL2 AMB AMB
comp=Z,220nm,4.2s
DL2 LR LR
comp=N,740nm,15.1s,MS4.9
DL2 LR LR
comp=E,1μm,16.8s,MS4.9
DL2 LR LR
comp=Z,1μm,14.4s,MS5.0
UCH Uchtor 45.62 336 P **P 14 57 22.6 +1.0**
SNR=30
TKM2 Tokmak 2 45.78 338 P **P 14 57 23.5 +0.6**
SNR=17
KBK Karagaybulak 45.81 337 P **P 14 57 24.0 +0.9**
SNR=23
AML Almayashu 45.87 336 P **P 14 57 24.3 +0.7**
SNR=23
AAK Ala-Archa 45.97 337 P **P 14 57 25.1 +0.7**
comp=Z,98nm,0.6s,mb5.9,SNR=8.3
AAK Ala-Archa 45.97 337 P **P 14 57 26.4 +2.0**
SNR=12
AAK Ala-Archa 45.97 337 ⇑*e*P **P 14 57 25.0 +0.6**
AAK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
AAK Ala-Archa 45.97 337 ⇑*e*P **P 14 57 23.9 -0.5**
comp=Z,47nm,1.2s,mb5.3
AAK LR LR
comp=Z,485nm,19.0s,MS4.5
FRU Bishkek 46.09 337 *e*P **P 14 57 26.0 +0.6**
FRU *i* 14 57 42.5
FRU *e*S **S 15 04 08.0 -0.7**
FRU *e* 15 04 22.0
FRU pmax pmax
comp=Z,270nm,3.0s
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.0
CHMS Chumysh 46.18 337 P **P 14 57 26.2 +0.2**
SNR=6.9
EKS2 Erkin-Say 46.28 336 P **P 14 57 27.8 +0.9**
SNR=24
USP Ospenovka 46.50 337 P **P 14 57 28.7 +0.1**
SNR=25
SNY Shenyang 46.83 27 ⇓P **P 14 57 31.0 -0.2**
SNY AP pP 14 57 41.8 +0.5
SNY XP sP 14 57 44.6 -0.7
SNY PP PP 14 59 23.5 +2.0
SNY XS sS 15 04 40.6 +4.7
SNY AMB AMB
comp=Z,55nm,1.3s,mb5.3
SNY AMB AMB
comp=Z,410nm,5.9s
SNY LR LR
comp=N,2μm,15.0s,MS5.5
SNY LR LR
comp=E,3μm,16.2s,MS5.5
SNY LR LR
comp=Z,4μm,14.4s,MS5.5
SONM Songino Array 47.07 8 P **P 14 57 32.8 -0.2**
comp=Z,9.5nm,0.5s,mb5.0,baz=190,slow=9.6,SNR=87
SONM PcP PcP 14 59 04.7 +0.1
comp=Z,4.9nm,0.5s,baz=184,slow=4.0,SNR=9.2
MKAR Makanchi Array 47.20 346 P **P 14 57 33.8 -0.2**
comp=Z,22nm,0.5s,mb5.3,baz=161,slow=8.5,SNR=300
MKAR Makanchi Array 47.20 346 *i* P **P 14 57 33.7 -0.4**
MKAR pmax pmax
comp=Z,22nm,0.5s
KK31 Karatay Array 48.03 334 *i* P **P 14 57 40.1 -0.4**
KK31 pmax pmax
comp=Z,11nm,0.7s,mb5.0
ZAK Zakamensk 49.21 5 *e*P **P 14 57 49.0 -0.6**
CN2 Changchun 49.23 27 ⇑P **P 14 57 51.4 +1.7**
CN2 *e*AP pP 14 57 58.6 -1.3
CN2 *e*XP sP 14 58 02.5 -1.4
CN2 *e*S **S 15 04 54.2 +0.9**
CN2 AMB AMB
comp=Z,40nm,1.4s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,15.0s,MS5.6
CN2 LR LR
comp=E,2μm,15.0s,MS5.6
CN2 LR LR
comp=Z,4μm,15.0s,MS5.5
MOY Mondy 50.33 3 *e*P **P 14 57 59.1 +1.0**
MOY pmax pmax
comp=Z,73nm,2.3s,mb5.3
TLY Talaya 50.53 5 *e*P **P 14 58 00.1 +0.5**
TLY *e* 14 59 58.1
TLY *e*S **S 15 05 11.1 -0.4**
TLY *e*PS 15 05 28.5
TLY pmax pmax
comp=Z,15nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.4
TLY Talaya 50.53 5 *e*P **P 14 57 59.7 +0.1**
comp=Z,13nm,0.8s,mb4.9
TLY LR LR
comp=Z,941nm,19.0s,MS4.8
IRK Irkutsk 51.15 6 *e*P **P 14 58 03.6 -0.7**
IRK *e* 14 59 16.8
IRK pmax pmax
comp=Z,83nm,1.8s,mb5.4
VAN Vannovskaya 51.22 320 *e*P **P 14 58 03.5 -1.3**
VAN *e*S **S 15 05 19.8 -1.2**
HIA Hailar 51.57 19⇓*e*P **P 14 58 06.8 -0.6**
HIA pmax pmax
comp=Z,65nm,1.4s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 51.57 19⇓*e*P **P 14 58 06.8 -0.6**
comp=Z,65nm,1.4s,mb5.4
HIA LR LR
comp=Z,2μm,19.0s,MS5.2
MAJO Matsushiro 51.62 42 *e*P **P 14 58 07.6 -0.1**
MAJO pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAJO MLR MLR
comp=Z,2μm,21.0s,MS5.0
MAJO Matsushiro 51.62 42 *e*P **P 14 58 07.6 -0.1**
comp=Z,16nm,0.8s,mb5.0
MAJO LR LR
comp=Z,2μm,21.0s,MS5.0
MAT Matsushiro 51.62 42 P **P 14 58 07.3 -0.5**
MJAR Matsushiro Arr 51.62 42 P **P 14 58 07.3 -0.4**
comp=Z,6.8nm,0.7s,mb4.7,baz=224,slow=6.2,SNR=13
MJAR LR LR 15 20 13.6
comp=Z,1μm,20.9s,MS4.9,baz=240,slow=36
KURK Kurchatov 51.75 345 P **P 14 58 08.7 -0.1**
comp=Z,156nm,0.8s,mb6.0,SNR=9.8
MDJ Mudanjiang 51.80 29 P **P 14 58 09.6 +0.5**
MDJ AP pP 14 58 18.7 -0.6
MDJ XP sP 14 58 22.5 -0.8
MDJ PCP PcP 14 59 21.7 -0.2
MDJ PP PP 15 00 07.7 +0.7
MDJ SCP ScP 15 03 16.5 +0.4
MDJ PCS PcS 15 03 20.1 +0.2
MDJ S **S 15 05 33.8 +4.9**
MDJ XS sS 15 05 47.7 +2.0
MDJ SCS ScS 15 07 57.2 +0.6
MDJ AMB AMB
comp=Z,35nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,528nm,8.2s
MDJ LR LR
comp=N,1μm,21.2s,MS5.1
MDJ LR LR
comp=E,941nm,20.0s,MS5.1
MDJ LR LR
comp=Z,2μm,18.8s,MS5.2
MDJ Mudanjiang 51.80 29⇑*e*P **P 14 58 09.8 +0.7**
comp=Z,34nm,0.9s,mb5.3
MDJ LR LR
comp=Z,3μm,19.0s,MS5.4
VLA Vladivostok 51.90 32*d i*P **P 14 58 10.7 +0.8**
VLA *e*S **S 15 05 46.8 +17**
VLA pmax pmax
comp=Z,194nm,1.6s,mb5.8
VLA MLR MLR
comp=Z,3μm,13.4s,MS5.5
CIT Chita 52.41 13 *e*P **P 14 58 14.7 +1.1**
CIT pmax pmax
comp=Z,199nm,1.8s,mb5.7
CTA Charters Tower 52.48 117⇓*i*P **P 14 58 15.8 +1.6**
comp=Z,8.9nm,1.3s,mb4.5
CTA Charters Tower 52.48 117 LR LR 15 24 50.7
comp=Z,2μm,19.0s,MS5.2,baz=284,slow=41
CTA Charters Tower 52.48 117⇓*i*P **P 14 58 15.8 +1.6**
CTA pmax pmax
comp=Z,9.0nm,1.3s
STKA Stephens Creek 53.36 132⇓*i*P **P 14 58 21.0 +0.4**
comp=Z,9.5nm,0.6s,mb4.9
STKA *e*S **S 15 05 54.9 +4.7**
STKA Stephens Creek 53.36 132 P **P 14 58 20.8 +0.2**
comp=Z,6.3nm,0.6s,mb4.8,baz=312,slow=7.3,SNR=22
STKA LR LR 15 23 27.0
comp=Z,3μm,21.4s,MS5.3,baz=295,slow=39
ZAL Zalesovo 53.50 351 P **P 14 58 21.3 -0.4**
comp=Z,24nm,0.5s,mb5.4,baz=305,slow=5.8,SNR=84
ZAL LR LR 15 27 15.5
comp=Z,1μm,18.2s,MS5.0,baz=297,slow=43
ZAL Zalesovo 53.50 351 *i* P **P 14 58 21.6 -0.1**
ZAL pmax pmax
comp=Z,24nm,0.5s
NVS Novosibirsk 54.63 350 *e*P **P 14 58 27.6 -2.3**
NVS *e*S **S 15 06 05.8 -1.6**
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,30nm,1.3s
NVS pmax pmax
comp=Z,67nm,1.3s,mb5.5
NVS smax
comp=N,40nm,2.0s
NVS smax
comp=E,23nm,1.6s
KRAR Krasnoyarsk 54.70 357 *e*P **P 14 58 28.6 -1.9**
KRAR pmax pmax
comp=Z,37nm,1.3s,mb5.2
RDF Al-Radifah 54.74 305 *e*P **P 14 58 31.1 +0.4**
RDF AMb AMB 14 58 32.5
comp=Z,48nm,0.8s,mb5.6
NAY Al-Naaiem 55.10 305 *e*P **P 14 58 33.0 -0.4**
NAY AMb AMB 14 58 34.9
comp=Z,22nm,0.8s,mb5.3
MIB Mutribah 55.23 306 *e*P **P 14 58 34.1 -0.1**
MIB AMb AMB 14 58 35.3
comp=Z,44nm,0.8s,mb5.6
RST Umm Al-Ruwaisa 55.39 305 *e*P **P 14 58 34.8 -0.6**
RST AMb AMB 14 58 36.7
comp=Z,24nm,0.8s,mb5.3
KLR Kul'dur 56.18 27*de*P **P 14 58 37.7 -3.4**
KLR *e*S **S 15 06 28.0 -0.2**
KLR *e*SS SS 15 10 20.0 +5.1
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.8
KLR pmax pmax
comp=Z,1μm,6.5s
BVAR Borovoye Array 56.21 341 P **P 14 58 40.1 -1.3**
comp=Z,11nm,0.5s,mb5.1,baz=143,slow=9.0,SNR=82
BRVK Borovoye 56.28 341 P **P 14 58 40.2 -1.6**
comp=Z,156nm,0.6s,SNR=13
BRVK Borovoye 56.28 341 *e*P **P 14 58 40.3 -1.5**
BRVK pmax pmax
comp=Z,20nm,0.8s,mb5.2
BRVK MLR MLR
comp=Z,360nm,20.0s,MS4.5
BRVK Borovoye 56.28 341 *e*P **P 14 58 40.3 -1.5**
comp=Z,20nm,0.8s,mb5.2
BRVK LR LR
comp=Z,360nm,20.0s,MS4.5
ZRNK Zerenda 56.62 340 *e*P **P 14 58 42.5 -1.7**
ZRNK pmax pmax
comp=Z,19nm,0.8s,mb5.2
ZRNK Zerenda 56.62 340 *e*P **P 14 58 42.5 -1.7**
comp=Z,19nm,0.8s,mb5.2
BOD Bodaibo 57.95 10 *e*P **P 14 58 53.0 -0.6**
BOD pmax pmax
comp=Z,37nm,1.6s,mb5.2
CLNS Chul'man 59.67 17 *e*P **P 14 59 03.6 -2.0**
CLNS *e* 14 59 50.6
CLNS *e*S **S 15 07 09.6 -4.2**
CLNS *e* 15 08 49.3
CLNS pmax pmax
comp=Z,15nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS smax
comp=N,163nm,12.6s
CLNS smax
comp=Z,158nm,12.4s
CLNS smax
comp=E,138nm,12.8s
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.5
CLNS MLR MLR
comp=Z,4μm,15.0s,MS5.7
CLNS MLR MLR
comp=E,3μm,16.0s,MS5.5
KMBO Kilima Mbogo 60.04 268 P **P 14 59 08.5 +0.4**
comp=E,0.8nm,0.5s,mb4.0,baz=231,slow=24,SNR=3.6
KMBO LR LR 15 23 35.5
comp=E,801nm,18.6s,MS4.9,baz=276,slow=35
KMBO Kilima Mbogo 60.04 268 *i* P **P 14 59 10.5 +2.4**

KMBO Kilima Mbogo 60.04 268 P **P** **14 59 09.5 +1.4**
comp=E,7.9nm,1.0s,mb4.7
KMBO LR LR
comp=Z,724nm,20.0s,MS4.8
YSS Yuzh-Sakhalins 60.27 34⇑ *i*P **P** **14 59 10.0 +0.3**
YSS *e**PP pP 14 59 20.5 +0.4
YSS *e**SP sP 14 59 24.0 0.0
YSS S **S** **15 07 19.0 -2.6**
YSS *e*PS 15 07 34.0
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.5
YSS MLR MLR
comp=N,1μm,15.0s,MS5.4
YSS MLR MLR
comp=E,2μm,15.0s,MS5.4
YSS MLR MLR
comp=Z,2μm,15.0s,MS5.4
YSS Yuzh-Sakhalins 60.27 34⇑ *e*P **P** **14 59 10.1 +0.3**
comp=Z,62nm,1.0s,mb5.6
YSS *e*pP pP 14 59 21.7 +1.6
YSS LR LR
comp=Z,717nm,20.0s,MS4.8
ARMA Armidale 60.53 126 *e*P **P** **14 59 08.4 -3.0**
MAK Makhachkala 60.72 320 *i* P **P** **14 59 10.4 -2.4**
MAK *e* 15 01 27.5
MAK *e*S **S** **15 07 23.9 -3.4**
MAK *e* 15 08 57.3
MAK pmax pmax
comp=Z,108nm,1.0s,mb5.9
MSL Mosul 60.94 311 *e*x x 14 59 13.0
GNI Garni 61.29 316 P **P** **14 59 16.4 -0.2**
GNI *e**PP pP 14 59 26.4 -0.6
GNI pmax pmax
comp=Z,20nm,0.9s
GNI MLR MLR
comp=Z,524nm,20.0s
GNI Garni 61.29 316 P **P** **14 59 16.4 -0.2**
comp=Z,20nm,0.9s,mb5.3
GNI *e*pP pP 14 59 26.4 -0.5
GNI LR LR
comp=Z,524nm,20.0s,MS4.7
ZEI Tsey 62.99 318 *e*P **P** **14 59 28.4 +0.4**
ZEI *e**PP pP 14 59 35.8 -2.6
ZEI *e* 15 01 49.3
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.1
ARU Arti 63.15 337⇓ *i*P **P** **14 59 27.5 -1.6**
ARU *e* 15 00 03.6
ARU *e* 15 01 51.8
ARU *e*PPP 15 03 17.6
ARU *e*S **S** **15 07 56.5 -1.5**
ARU *e* 15 09 16.9
ARU *e*SS SS 15 11 57.5 -6.7
ARU pmax pmax
comp=Z,15nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.1
ARU MLR MLR
comp=N,200nm,17.0s,MS5.1
ARU MLR MLR
comp=E,1μm,17.0s,MS5.1
ARU Arti 63.15 337 *e*P **P** **14 59 26.7 -2.4**
comp=E,60nm,1.5s,mb5.5
ARU *e*pP pP 14 59 35.5 -3.9
ARU LR LR
comp=Z,269nm,20.0s,MS4.4
HNR Honiara 63.33 101 P **P** **14 59 31.1 +0.9**
HNR *e**PP pP 14 59 39.1 -1.5
HNR pmax pmax
comp=Z,77nm,0.9s,mb5.8
HNR MLR MLR
comp=Z,752nm,20.0s,MS4.9
HNR Honiara 63.33 101 P **P** **14 59 31.1 +0.8**
comp=Z,77nm,0.9s,mb5.8
HNR *e*pP pP 14 59 39.1 -1.6
HNR LR LR
comp=Z,752nm,20.0s,MS4.9
KIV Kislovodsk 64.30 319⇑ *i*P **P** **14 59 36.2 -0.4**
KIV *i* pP 14 59 47.7 +0.6
KIV *e* 15 01 58.1
KIV *i*S **S** **15 08 11.9 -0.3**
KIV *e*SS SS 15 12 24.8 +2.7
KIV pmax pmax
comp=Z,15nm,0.8s,mb5.1
KIV Kislovodsk 64.30 319 *e*P **P** **14 59 34.5 -2.1**
comp=Z,18nm,0.8s,mb5.2
KIV pP pP 14 59 43.7 -3.3
KIV LR LR
comp=Z,138nm,19.0s,MS4.2
MALT Malatya 65.13 312⇑ *i*P **P** **14 59 43.3 +1.2**
MALT Malatya 65.13 312 *e*P **P** **14 59 42.0 -0.1**
MALT pmax pmax
comp=Z,18nm,1.2s,mb5.0
MALT Malatya 65.13 312 *e*P **P** **14 59 42.0 0.0**
comp=Z,18nm,1.2s,mb5.0
YAK Yakutsk 65.35 16 *e*P **P** **14 59 42.4 -1.1**
YAK *i* *PP pP 14 59 49.4 -4.5
YAK *i* 15 00 14.1
YAK *e*S S 15 08 21.2 -4.0
YAK *i* 15 09 25.2
YAK pmax pmax
comp=Z,96nm,1.4s,mb5.6
YAK pmax pmax
comp=N,34nm,1.3s
YAK pmax pmax
comp=E,39nm,1.2s
YAK smax
comp=E,90nm,14.8s
YAK smax
comp=Z,197nm,22.0s
YAK smax
comp=N,396nm,17.7s
YAK MLR MLR
comp=N,3μm,21.0s,MS5.5
YAK MLR MLR
comp=Z,4μm,21.0s,MS5.6
YAK MLR MLR
comp=E,2μm,17.0s,MS5.5
YAK Yakutsk 65.35 16 *e*P **P** **14 59 41.6 -1.9**
comp=E,72nm,0.8s,mb5.8
YAK pP pP 14 59 50.0 -3.9
YAK LR LR
comp=Z,2μm,22.0s,MS5.4
EIL Elat 65.47 302 *e*P **P** **14 59 44.6 +0.4**
comp=Z,266nm,1.0s
CASY Casey 68.05 174 *e*P **P** **15 00 01.6 +0.9**
comp=Z,9.5nm,1.1s,mb4.7
CASY LR LR
comp=Z,1μm,19.0s,MS5.2
ANN Anapa 68.09 318 *e*P **P** **15 00 01.2 +0.2**
ANN *e*S S 15 08 57.8 -0.5
ANN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ANN MLR MLR
comp=N,666nm,24.0s,MS4.8
ANN MLR MLR
comp=E,296nm,24.0s,MS4.8
ANN MLR MLR
comp=Z,570nm,24.0s,MS4.7
BR131 Keskin Array S 69.11 312 *e*P **P** **15 00 06.3 -1.0**
comp=Z,5.9nm,0.8s,mb4.6
BRTR Keskin Array B 69.11 312 P **P** **15 00 06.0 -1.3**
comp=Z,3.5nm,0.7s,mb4.4,baz=133,slow=7.1,SNR=23
BRTR Keskin Array B 69.11 312 *i* P **P** **15 00 06.5 -0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
VRSR Storozhevoye 69.54 325 *e*P **P** **15 00 08.2 -1.8**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SKR Severo-Kuril's 69.78 35 *e*P **P** **15 00 04.0 -7.5**
LSZ Lusaka 70.18 253 PFAKE 15 00 30.0 +16
LSZ LR LR
comp=Z,1μm,19.0s,MS5.2
SIM Simferopol' 70.36 318 P **P** **15 00 19.5 +4.5**
SIM *e*S S 15 09 28.0 +2.9
SIM pmax pmax
comp=Z,16nm,1.0s,mb4.9
PET Petropavlovsk 72.16 34 *e*P **P** **15 00 27.0 +1.1**
PET *e* 15 03 02.8
PET *e*S S 15 09 44.8 -1.1
PET pmax pmax
comp=Z,300nm,15.6s
PET pmax pmax
comp=Z,100nm,12.9s
PET smax
comp=N,500nm,19.2s
PET smax
comp=E,400nm,15.8s
PET MLR MLR
comp=Z,1μm,16.0s,MS5.2
PET MLR MLR
comp=Z,1μm,14.0s
MOS Moscow 72.31 329 *e*P **P** **15 00 19.7 -7.1**
OBN Obninsk 72.60 328⇑ *e*P **P** **15 00 27.4 -1.1**
OBN *i* 15 00 45.0
OBN *e* 15 03 09.1
OBN *i*S S 15 09 51.1 +0.2
OBN *e*SS SS 15 14 27.7 -2.6
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,500nm,19.0s,MS4.8
OBN Obninsk 72.60 328 *e*P **P** **15 00 26.0 -2.5**
OBN LR LR
comp=Z,170nm,20.0s,MS4.3
MAW Mawson 72.78 193 *e*P **P** **15 00 29.8 +0.2**
comp=Z,6.0nm,1.3s,mb4.4
MAW Mawson 72.78 193 P **P** **15 00 29.2 -0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=28,slow=6.0,SNR=8.6
MAW LR LR 15 29 12.8
comp=Z,898nm,19.0s,MS5.1,baz=41,slow=33
TIXI Tiksi 73.12 10 *e*P **P** **15 00 28.8 -2.8**
TIXI *e*S S 15 09 49.4 -7.5
TIXI *e*SS SS 15 14 32.8 -5.6
TIXI pmax pmax
comp=Z,16nm,0.7s,mb5.1
TIXI MLR MLR
comp=Z,5μm,16.0s,MS5.8
SEY Seymchan 73.69 23⇑ *e*P **P** **15 00 34.5 -0.5**
LBTB Lobatse 73.95 244 *e*P **P** **15 00 37.1 +0.6**
LBTB pmax pmax
comp=Z,20nm,1.3s,mb4.9
LBTB MLR MLR
comp=Z,1μm,19.0s,MS5.2
LBTB Lobatse 73.95 244 *e*P **P** **15 00 37.1 +0.6**
comp=Z,20nm,1.3s,mb4.9
LBTB LR LR
comp=Z,1μm,19.0s,MS5.2
TIRR Tirgusor 74.12 316⇑ *i*P **P** **15 00 36.6 -0.9**
TIRR Tirgusor 74.12 316 ⇑P **P** **15 00 36.6 -0.8**
KIS Kishinev 74.49 319 *e* **P** **15 00 37.0 -2.6**
KIS LRM 15 36 52.0
comp=Z,500nm,20.0s
BOSA Boshof 74.85 240 P **P** **15 00 41.3 -0.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=88,slow=7.5,SNR=6.1
BOSA LR LR 15 28 28.0
comp=Z,926nm,19.0s,MS5.1,baz=62,slow=32
BOSA Boshof 74.85 240 *e*P **P** **15 00 41.3 -0.4**
BOSA pmax pmax
comp=Z,12nm,1.1s,mb4.7
BOSA MLR MLR
comp=Z,1μm,20.0s,MS5.2
BOSA Boshof 74.85 240 *e*P **P** **15 00 41.3 -0.4**
comp=Z,12nm,1.1s,mb4.7
BOSA LR LR
comp=Z,1μm,20.0s,MS5.2
AKASG Malin Array Be 75.25 322 P **P** **15 00 41.9 -2.1**
comp=Z,4.8nm,0.7s,mb4.6,baz=89,slow=4.8,SNR=16
AKASG Malin Array Be 75.25 322 *i* P **P** **15 00 42.7 -1.3**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 75.25 322 P **P** **15 00 41.9 -2.1**
AKBB Malin Array Si 75.25 322 *e*P **P** **15 00 41.0 -3.0**
VRI Vrincioaia 75.61 317⇑ *i*P **P** **15 00 46.1 0.0**
VRI Vrincioaia 75.61 317 ⇑P **P** **15 00 46.1 0.0**
PLOR Plostina 75.66 317⇑ *i*P **P** **15 00 47.3 +0.9**
MLR Muntele Rosu 76.06 317⇑ *i*P **P** **15 00 48.7 0.0**
MLR Muntele Rosu 76.06 317 ⇑P **P** **15 00 48.7 0.0**
BURAR Bucovina Array 77.02 319⇑ *i*P **P** **15 00 54.6 +0.5**
BURAR Bucovina Array 77.02 319 ⇑P **P** **15 00 54.6 +0.6**
JOF Joensuu 78.12 335 *e*p **P** **15 01 06.2 +6.0**
comp=Z,9.2nm,0.7s,mb4.8
LVV L'vov 78.25 321 *e*P **P** **15 01 01.1 +0.1**
DRGR 78.53 317⇓ *i*P **P** **15 01 02.8 +0.3**
DRGR 78.53 317 ⇓P **P** **15 01 02.8 +0.4**
LVZ Lovozero 78.80 340 *e*P **P** **15 01 03.2 -0.8**
LVZ *e* 15 04 00.8
LVZ *e*PPP 15 05 45.9
LVZ *e*S S 15 10 53.0 -6.4
LVZ pmax pmax
comp=Z,17nm,1.0s,mb4.9
LVZ pmax pmax
comp=N,2.0nm,0.9s
LVZ pmax pmax
comp=E,6.0nm,1.4s
LVZ smax
comp=N,110nm,8.9s
LVZ smax
comp=Z,21nm,7.1s
LVZ smax
comp=E,86nm,8.6s
LVZ MLR MLR
comp=Z,1μm,21.0s,MS5.2
LVZ MLR MLR
comp=N,554nm,25.0s,MS5.1
LVZ MLR MLR
comp=E,914nm,22.0s,MS5.1
APA Apatity 79.09 339⇑ *e*P **P** **15 01 04.6 -1.0**
APA *i* pP 15 01 15.8 -0.4
APA *e*S S 15 11 00.0 -2.5
APA pmax pmax
comp=Z,18nm,1.2s,mb4.9
UZH Uzhgorod 79.14 319 *e*P **P** **15 01 05.8 0.0**
UZH *e* pP 15 01 17.0 +0.5
UZH pmax pmax
comp=Z,47nm,1.3s,mb5.3
KOLS Kolonicke sedl 79.21 320 *e*P **P** **15 01 06.5 +0.3**
KOLS *e* 15 01 33.6
RPZ Rata Peaks 79.21 135 LR LR 15 35 30.4
comp=Z,2μm,21.1s,MS5.4,baz=242,slow=35
SUR Sutherland 79.23 237 P **P** **15 01 08.2 +1.8**
comp=Z,9.6nm,1.1s,mb4.6,baz=93,slow=11,SNR=5.8
SUR Sutherland 79.23 237 P **P** **15 01 07.4 +1.0**
comp=Z,28nm,1.2s,mb5.1
SUR LR LR
comp=Z,424nm,19.0s,MS4.8
SUW Suwalki 79.66 325 *e*P **P** **15 01 07.7 -1.0**
CRVS Cervenica-Dubn 79.73 319 *e*P **P** **15 01 10.0 +1.0**
CRVS *e* 15 01 36.0
STHS Stebnicka Huta 79.96 320 *e*P **P** **15 01 11.0 +0.7**
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
STHS Stebnicka Huta 79.96 320 *e*P **P** **15 01 11.0 +0.7**
comp=Z,8.7nm,1.0s,mb4.6
FIA1 FINESS Array S 79.97 332 *e*P **P** **15 01 07.6 -2.8**
FINES FINESS Array B 79.97 332 P **P** **15 01 08.9 -1.4**
comp=Z,2.9nm,0.6s,mb4.4,baz=99,slow=6.8,SNR=13
FINES LR LR 15 43 28.8
comp=Z,470nm,18.5s,MS4.9,baz=292,slow=41
FINES FINESS Array B 79.97 332 *i* P **P** **15 01 09.6 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 80.06 333 *e*p **P** **15 01 16.5 +5.7**
comp=Z,13nm,0.8s,mb4.9,baz=103,slow=5.0
KAF Kangasniemi 80.06 333 *e*P **P** **15 01 16.5 +5.7**
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SYO Syowa Base 80.07 198⇓ *e*P **P** **15 01 11.9 +1.0**
SYO Syowa Base 80.07 198⇓ *e*PcP PcP 15 01 17.6 -0.6
KECS Kecovo 80.30 319 *e*P **P** **15 01 11.7 -0.4**
KECS *e* 15 01 18.7
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 80.30 319 *e*P **P** **15 01 11.7 -0.4**
comp=Z,4.0nm,1.1s,mb4.3
KECS *e* 15 01 18.7
NIE Niedzica 80.56 320 *e*P **P** **15 01 14.1 +0.6**
PSZ Piszkesteto 80.60 318⇑ *e*P **P** **15 01 13.8 +0.1**
PSZ Piszkesteto 80.60 318 ⇓ *i*P **P** **15 01 13.6 -0.1**
PSZ Piszkesteto 80.60 318 *e*P **P** **15 01 13.3 -0.4**
PSZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
PSZ Piszkesteto 80.60 318 ⇓P **P** **15 01 13.6 -0.1**
PSZ Piszkesteto 80.60 318 *e*P **P** **15 01 13.3 -0.4**
comp=Z,17nm,1.1s,mb4.9
TSUM Tsumeb 80.66 250 *e*P **P** **15 01 15.7 +1.6**
comp=Z,8.5nm,0.9s,mb4.7
TSUM LR LR
comp=Z,587nm,21.0s,MS4.9
OJC Ojcow 81.01 321 *e*P **P** **15 01 15.8 -0.1**
BILL Bilibino 81.09 21 PFAKE 15 01 30.0 +14
BILL LR LR
comp=Z,2μm,19.0s,MS5.5
PKSM Moragy 81.21 316⇑ *i*P **P** **15 01 16.4 -0.6**
PKSM Moragy 81.21 316 ⇑P **P** **15 01 16.4 -0.6**
VYHS Vyhne 81.38 319 *e*P **P** **15 01 17.5 -0.4**
VYHS *e* 15 01 31.3
VYHS pmax pmax
comp=Z,94nm,3.4s
VYHS Vyhne 81.38 319 *e*P **P** **15 01 17.5 -0.4**
comp=Z,94nm,3.4s
VYHS *e* 15 01 31.3
OKC Ostrava-Krasne 82.01 320 *e*P **P** **15 01 19.5 -1.7**
OKC AMS AMS 15 47 20.0
comp=Z,400nm,20.6s
MORC Moravsky Berou 82.39 320⇑ *i*P **P** **15 01 23.7 +0.5**
MORC Moravsky Berou 82.39 320 ⇑P **P** **15 01 23.7 +0.5**
ZST Bratislava 82.49 318 *e*P **P** **15 01 24.1 +0.3**
ZST pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZST MLR MLR
comp=Z,300nm,20.1s,MS4.7
ZST Bratislava 82.49 318 *e*P **P** **15 01 24.1 +0.3**
comp=Z,8.0nm,0.8s,mb4.7
ZST LR LR
comp=Z,300nm,20.1s,MS4.7
ARCES ARCESS Array B 82.50 340 P **P** **15 01 23.4 -0.4**
comp=Z,3.3nm,0.6s,mb4.6,baz=98,slow=4.5,SNR=31
ARCES LR LR 15 42 29.7
comp=Z,1μm,20.1s,MS5.2,baz=226,slow=39
DPC Dobruska-Polom 83.24 320 *e*P **P** **15 01 27.7 +0.1**
DPC AMS AMS 15 46 50.0
comp=Z,500nm,21.2s
ARSA Arzberg 83.46 317⇑ *i*P **P** **15 01 28.8 +0.1**
comp=Z,7.6nm,1.1s,mb4.7
ARSA Arzberg 83.46 317⇑ *i*P **P** **15 01 28.8 +0.1**
comp=Z,7.6nm,1.0s,mb4.7
BOJS Bojanci 83.49 315 *i* P **P** **15 01 35.6 +6.7**
PERS Pernice 83.68 317 *i* P **P** **15 01 30.4 +0.5**
VISS Visnje 83.81 316 *e*P **P** **15 01 30.7 +0.2**
LJU Ljubljana 84.04 316 *e*P **P** **15 01 32.5 +0.8**
PRU Pruhonice 84.35 320 *e*P **P** **15 01 32.2 -1.1**
PRU AMS AMS 15 45 00.0
comp=Z,500nm,19.4s
PVCC Panska Ves 84.37 320 AMS AMS 15 45 00.0
comp=Z,500nm,17.6s
BRG Berggiesshubel 84.80 321 *e*P **P** **15 01 34.6 -1.0**
comp=Z,5.0nm,0.8s,mb4.7
BRG Berggiesshubel 84.80 321 *e*P **P** **15 01 35.7 +0.1**
comp=Z,3.0nm,0.8s,mb4.5
BRG *e* 15 02 36.7
comp=Z,5.4nm,1.4s
BRG S S 15 12 03.0 +1.8
BRG *i* 15 13 05.0
BRG
comp=N,141nm,18.8s
BRG
comp=E,252nm,24.6s
BRG
comp=Z,178nm,28.0s
BRG Berggiesshubel 84.80 321 *e*P **P** **15 01 35.7 +0.1**
BRG S S 15 12 03.0 +1.8
BRG *i* 15 13 05.0
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BRG MLR MLR
comp=Z,180nm,28.0s,MS4.3
BRG Berggiesshubel 84.80 321 *e*P **P** **15 01 35.7 +0.1**
comp=Z,3.0nm,0.8s,mb4.5
BRG *e* 15 02 36.7
BRG S S 15 12 03.0 +1.8
BRG *i* 15 13 05.0
BRG LR LR
comp=Z,180nm,28.0s,MS4.3
GEC2 GERESS Array S 84.81 319 *e*P **P** **15 01 35.5 -0.1**
comp=Z,14nm,1.3s,mb4.9
GERES GERESS Array B 84.81 319 P **P** **15 01 35.3 -0.3**
comp=Z,2.8nm,0.8s,mb4.4,baz=99,slow=4.5,SNR=20
KHC Kasperske Hory 84.91 319 *e*P **P** **15 01 35.9 -0.2**
KHC AMS AMS 15 45 40.0
comp=Z,400nm,19.9s
FBE Freiberg 85.17 321 *e*P **P** **15 01 37.5 +0.1**
comp=Z,5.0nm,0.8s,mb4.7
WET Wettzell 85.36 319 *e*P **P** **15 01 38.4 0.0**
comp=Z,6.0nm,0.9s,mb4.7
WET Wettzell 85.36 319 *e*P **P** **15 01 38.4 0.0**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CLL Collm 85.42 321 *e*(P) **P** **15 01 36.0 -2.7**
CLL *e*S S 15 12 11.0 +3.6
CLL *e*(PPS) 15 13 24.0
VNDA Vanda 85.87 169 P **P** **15 01 44.6 +3.7**
comp=Z,1.7nm,0.7s,mb4.4,baz=307,slow=5.7,SNR=12
VNDA LR LR 15 37 28.4
comp=Z,918nm,19.1s,MS5.2,baz=307,slow=34
VNDA Vanda 85.87 169 *e*P **P** **15 01 45.9 +5.0**
VNDA pmax pmax
comp=Z,11nm,1.3s
VNDA MLR MLR
comp=Z,946nm,20.0s
VNDA Vanda 85.87 169 *e*P **P** **15 01 45.9 +5.0**
comp=Z,11nm,1.3s,mb4.9
VNDA LR LR
comp=Z,946nm,20.0s,MS5.2
MANZ Manzenberg 85.91 320 *e*P **P** **15 01 41.1 0.0**
comp=Z,6.0nm,0.9s,mb4.8
WTTA Wattenberg 86.10 317⇑ *i*P **P** **15 01 41.6 -0.4**
comp=Z,5.8nm,0.8s,mb4.8
WTTA Wattenberg 86.10 317⇑ *i*P **P** **15 01 41.6 -0.4**
WTTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
MOX Moxa 86.26 320 *e*P **P** **15 01 41.7 -1.1**
comp=Z,46nm,2.0s,mb5.4
MOX Moxa 86.26 320 *e*P **P** **15 01 42.8 0.0**
comp=Z,52nm,2.3s,mb5.3
MOX
comp=Z,400nm,21.0s
MOX Moxa 86.26 320 *e*P **P** **15 01 42.8 0.0**
MOX *e*S S 15 12 18.0 +2.4
MOX pmax pmax
comp=Z,52nm,2.3s,mb5.3
MOX Moxa 86.26 320 *e*P **P** **15 01 42.8 0.0**
comp=Z,52nm,2.3s,mb5.3
MOX *e*S S 15 12 18.0 +2.4
GRA1 Grafenberg Arr 86.47 320 *e*P **P** **15 01 44.6 +0.7**
comp=Z,47nm,1.8s,mb5.4
GRA1 *e*S S 15 12 20.6 +2.9
GRA1 *e*SS SS 15 18 01.2 +3.0
GRA1 LR LR
comp=Z,500nm,21.2s,MS4.9
GRF Grafenberg Arr 86.47 320 *e*P **P** **15 01 44.6 +0.7**
comp=Z,47nm,1.8s,mb5.4
GRF *e*S S 15 12 20.6 +2.9
GRF *e*SS SS 15 18 01.2 +3.0
GRF *e*L 15 46 49.5
comp=Z,473nm,21.2s
GRF Grafenberg Arr 86.47 320 *e*P **P** **15 01 44.6 +0.7**
GRF *e*S S 15 12 20.6 +2.9
GRF *e*SS SS 15 18 01.2 +3.0
GRF pmax pmax
comp=Z,47nm,1.8s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.2s,MS4.9
GRF Grafenberg Arr 86.47 320 *e*P **P** **15 01 44.6 +0.7**
GRF *e*S S 15 12 20.6 +2.9
GRF *e*SS SS 15 18 01.3 +3.1
GRF pmax pmax
comp=Z,47nm,1.8s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.2s,MS4.9
GRF Grafenberg Arr 86.47 320 *e*P **P** **15 01 44.6 +0.7**
comp=Z,47nm,1.8s,mb5.4
GRF *e*S S 15 12 20.6 +2.9
GRF *e*SS SS 15 18 01.3 +3.1
GRF LR LR
comp=Z,500nm,21.2s,MS4.9
SBA Scott Base 86.97 169 *e*P **P** **15 01 53.1 +6.8**
SBA pmax pmax
comp=Z,16nm,1.4s,mb5.1
SBA MLR MLR
comp=Z,694nm,21.0s,MS5.0
SBA Scott Base 86.97 169 *e*P **P** **15 01 53.1 +6.8**

comp=Z,16nm,1.4s,mb5.1
SBA LR LR
comp=Z,694nm,21.0s,MS5.0
NB2 NORSAR Subarra 86.98 331 P **P** **15 01 45.3 -1.1**
comp=Z,7.6nm,0.9s,mb4.9,baz=95,slow=5.1
NB2 NORSAR Subarra 86.98 331 P **P** **15 01 45.3 -1.1**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
NOA NORSAR Array B 86.98 331 P **P** **15 01 44.9 -1.5**
comp=Z,3.3nm,0.9s,mb4.6,baz=94,slow=4.8,SNR=11
NOA LR LR 15 46 35.1
comp=Z,485nm,20.9s,MS4.9,baz=90,slow=40
BSEG Bad Segeberg 87.18 324 *e*P **P** **15 01 47.7 +0.4**
comp=Z,21nm,1.2s,mb5.2
KEST Kesra 87.57 306 P **P** **15 01 48.5 -0.8**
comp=Z,2.4nm,0.9s,mb4.4,baz=188,slow=5.6,SNR=4.9
KEST LR LR 15 41 25.6
comp=Z,244nm,20.6s,MS4.6,baz=357,slow=36
LPG La Plagne 89.46 315 *e*P **P** **15 01 57.0 -1.2**
comp=Z,9.7nm,0.8s,mb4.9
LPG La Plagne 89.46 315 *e*P **P** **15 01 57.0 -1.2**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LPG La Plagne 89.46 315 *e*P **P** **15 01 57.0 -1.2**
comp=Z,4.8nm,0.8s,mb4.9
NVL N'lazarevskaya 89.66 199 *e*P **P** **15 02 04.6 +5.5**
NVL *i*S S 15 12 37.4 -11
NVL *i*PS PS 15 14 33.5 +36
NVL pmax pmax
comp=Z,31nm,1.5s,mb5.4
NVL MLR MLR
comp=Z,750nm,16.8s,MS5.2
MAIT Maitri 89.69 199 *e*P **P** **15 01 59.0 -0.2**
QSPA South Pole Qui 91.20 180 *e*P **P** **15 02 13.1 +6.9**
comp=Z,5.4nm,1.0s,mb4.8
SNAA Sanae 94.36 198 P **P** **15 02 19.7 -1.1**
comp=Z,0.3nm,1.0s,baz=180,slow=3.0,SNR=2.3
SNAA Sanae 94.36 198 P **P** **15 02 22.0 +1.2**
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA Sanae 94.36 198 P **P** **15 02 22.0 +1.1**
comp=Z,1.9nm,1.0s,mb4.5
DAG Danmarks Havn 94.56 348 *i*P pP 15 02 32.0 -0.5
DAG Danmarks Havn 94.56 348 *e*P pP 15 02 32.0 -0.5
TORD Torodi Ar. Bea 95.13 283 P **P** **15 02 24.6 +0.3**
comp=Z,0.4nm,0.9s,baz=82,slow=4.5,SNR=2.9
TORD LR LR 15 44 30.4
comp=Z,667nm,19.4s,MS5.1,baz=105,slow=35
IMA2 Indian Mountai 96.51 23 *e*P **P** **15 02 30.1 -0.6**
ESDC Sonseca Array 97.83 310 LR LR 15 48 47.0
comp=Z,233nm,20.9s,MS4.7,baz=295,slow=37
ESLA Sonseca Array 97.83 310 PFAKE 15 02 50.0 +13
ESLA LR LR
comp=Z,2μm,20.0s,MS5.7
COLA College 99.21 23 PFAKE 15 02 50.0 +7.2
COLA LR LR
comp=Z,504nm,20.0s,MS5.0
MCK McKinley 99.22 24 *e*P **P** **15 02 42.2 -0.6**
MCK pmax pmax
comp=Z,13nm,1.6s,mb5.2
MCK MLR MLR
comp=Z,401nm,20.0s,MS4.9
MCK McKinley 99.22 24 *e*P **P** **15 02 42.2 -0.6**
comp=Z,13nm,1.6s,mb5.2
MCK LR LR
comp=Z,401nm,20.0s,MS4.9
PMR Palmer 99.93 26 PFAKE 15 03 00.0 +14
PMR LR LR
comp=Z,489nm,20.0s,MS5.0
DBIC Dimbokro 101.87 277 PFAKE 15 03 10.0 +15
DBIC LR LR
comp=Z,455nm,19.0s,MS5.0
TBI Tubuai 111.83 115 *e*SS SS 15 23 57.1 +4.1
comp=Z,496nm,27.5s
TBI *e*LR LR 15 40 51.0
comp=Z,878nm,24.0s
PPT Papeete 112.45 108 *e*PP PP 15 08 27.1 +3.8
comp=Z,71nm,28.0s
PPT Papeete 112.45 108 *e*PS PS 15 17 56.5 -0.9
comp=Z,157nm,27.0s
TAOE Nuku Hiva Isla 122.39 100 *e*PP PP 15 09 31.2 -1.3
comp=Z,330nm,31.7s
RKT Rikitea 124.91 117 *e*SS SS 15 26 47.7 +5.3
comp=Z,242nm,30.5s
RKT *e*LQ 15 41 29.7
comp=Z,1μm,36.8s
RKT *e*LR LR 15 46 25.3
comp=Z,589nm,24.2s
MCMT McKenzie Canyo 126.89 26 *e*PKPdf PKPdf 15 08 05.6 +0.7
ULM Lac du Bonnet 127.47 11 PKP PKPdf 15 08 06.0 0.0
comp=Z,2.6nm,0.6s,baz=264,slow=6.6,SNR=2.9
ULM Lac du Bonnet 127.47 11 PKP PKPdf 15 08 06.0 0.0
NVAR Mina Array Bea 128.71 36 PKP PKPdf 15 08 09.2 +0.9
comp=Z,0.6nm,0.6s,baz=246,slow=3.5,SNR=5.2
PDAR Pinedale Array 129.97 26 PKP PKPdf 15 08 11.7 +0.9
comp=Z,1.0nm,0.6s,baz=226,slow=0.8,SNR=9.2
PDAR PP PP 15 10 24.1 +1.3
comp=Z,2.7nm,1.2s,baz=343,slow=3.1,SNR=3.9
DUG Dugway 130.45 30 *e*PKIKP PKPdf 15 08 12.5 +0.9
MSU Marysvale 132.04 31 *e*PKIKP PKPdf 15 08 17.3 +2.7
PLCA Paso Flores 139.18 194 PKP PKPdf 15 08 29.0 +1.1
comp=Z,2.5nm,0.9s,baz=55,slow=4.3,SNR=2.5
MIAR Mount Ida 142.97 15 *e*PKIKP PKPdf 15 08 31.4 -3.3
JCT Junction City 144.51 26 *e*PKIKP PKPdf 15 08 35.8 -1.6
CPUP Villa Florida 145.08 222 PKPbc PKPbc 15 08 39.1 +1.2
comp=Z,0.6nm,0.3s,baz=95,slow=5.6,SNR=6.6
CPUP Villa Florida 145.08 222 *e*PKPdf PKPdf 15 08 38.6 +0.2
HKT Hockley 146.55 21 *e*PKP2 PKPab 15 08 42.3 -1.2
LPAZ La Paz 159.25 223 PKP PKPdf 15 09 02.3 +3.0
comp=Z,0.5nm,0.7s,baz=72,slow=3.2,SNR=3.0
LPAZ PKPab PKPab 15 09 39.8 +3.1
comp=Z,1.2nm,0.8s,baz=95,slow=11,SNR=2.0

KRSC 06 14:57:10, 5255N×15937E, h24km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.54**	**258**	*e*P			Pb	14 57 20.9	+0.1
RUS				*i*S			Sb	14 57 28.3	+0.2
NLC	**Nalytchevo**	**0.62**	**359**	*e*P			Pb	14 57 22.7	+0.5
NLC				*i*S			Sb	14 57 31.5	+1.0
PET	**Petropavlovsk**	**0.64**	**318**	*e*P			Pb	14 57 23.1	+0.5
PET				*i*S			Sb	14 57 32.6	+1.4
SPN	**Mys Shipunski**	**0.68**	**36**	*e*P			Pb	14 57 23.0	-0.1
SPN				*i*S			Sb	14 57 32.2	+0.1
GRL	**Gorelyy**	**0.79**	**271**	*e*P			Pb	14 57 25.5	+0.4
GRL				*i*S			Sb	14 57 35.9	+0.5
AVH	**Avacha**	**0.81**	**332**	*e*P			Pb	14 57 26.0	+0.6
AVH				*i*S			Sb	14 57 37.4	+1.4
GNL	**Ganaly**	**1.43**	**324**	*e*P			Pn	14 57 35.2	+0.7
GNL				*i*S			Sn	14 57 52.7	+0.1
KII	**Karymskiy**	**1.49**	**2**	*e*P			Pn	14 57 37.3	+2.1
KII				*i*S			Sn	14 57 56.3	+2.4
MKZ	**Mys Kozlova**	**2.45**	**34**	*e*P			Pn	14 57 48.8	+0.3
MKZ				*i*S			Sn	14 58 17.4	-0.3
TUMR	**Tumrok**	**2.78**	**9**	*e*P			Pn	14 57 55.3	+2.4
TUMR				*i*S			Sn	14 58 28.7	+3.0
KMNR	**Kamenistaya**	**3.25**	**9**	*e*P			Pn	14 58 02.9	+3.4
KMNR				*i*S			Sn	14 58 41.6	+4.2
ZLN	**Zelenaya**	**3.57**	**13**	*e*P			Pn	14 58 06.7	+2.8
ZLN				*i*S			Sn	14 58 47.6	+2.2
SRDR	**Sredinnyy**	**3.78**	**3**	*e*P			Pn	14 58 09.7	+3.0
KBTR	**Krutoberegovo**	**4.18**	**27**	*e*P			Pn	14 58 13.4	+1.1
KBTR				*i*S			Sn	14 59 00.9	+0.5
SRKR	**Sorokina**	**4.24**	**14**	*e*P			Pn	14 58 17.6	+4.5

IDC 06 15:17:02.0±2.9, 3251S×17829W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=70.5km s-min=44.7km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.86**	**212**	Pn			Pn	15 18 42.1	-1.7
	0.8nm,0.3s,baz=186,slow=20,SNR=9.0								
URZ				Sn			Sn	15 19 58.3	-4.3
	0.8nm,0.3s,baz=341,slow=22,SNR=6.4								
ASAR	**Alice Springs**	**42.80**	**269**	P			P	15 25 01.9	+0.6
	0.3nm,0.6s,baz=108,slow=8.0,SNR=6.7								
WRA	**Warramunga Arr**	**43.98**	**274**	P			P	15 25 11.1	+0.2
	0.6nm,0.3s,baz=113,slow=8.1,SNR=29								
FINES	**FINESS Array B**	**147.03**	**339**	PKPbc			PKPbc	15 36 45.2	-1.4
	1.2nm,0.9s,baz=347,slow=4.3,SNR=2.5								

*NEIC **06** 15:20:28.8, 3506S×7225W, h33km, ML3.4(GUC), After GUC.*

GUC 06 15:20:28.8±0.7, 3506S×7225W, h33km±4km, MD3.8, ML3.4, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.61**	**124**	⇓*i*P			Pn	15 20 37.0	-4.1
TALC				*i*S			Sb	15 20 45.8	-3.8
TALC				AML			AML	15 20 46.3	
	comp=N,13μm,0.1s								
TALC	**Talca**	**0.61**	**124**	⇓*i*P			Pn	15 20 37.0	-4.1
TALC				*i*S			Sb	15 20 45.8	-3.8
NICH	**Los Niches**	**0.84**	**86**	⇓*i*P			Pn	15 20 44.6	+0.4
NICH				*i*S			Sn	15 20 56.0	+0.5
SFDO	**San Fernando**	**1.11**	**67**	⇑*i*P			Pn	15 20 48.4	+0.4
SFDO				*i*S			Sn	15 21 03.4	+1.2
COCH	**Cobquecura**	**1.16**	**202**	⇑*i*P			Pn	15 20 48.8	+0.2
COCH				*i*S			Sn	15 21 04.4	+1.2
CACH	**El Canelo**	**1.66**	**56**	*e*P			Pn	15 20 57.3	+1.8
CACH				*i*S			Sn	15 21 19.2	+3.6
CICH	**Cipreses**	**1.68**	**64**	*e*P			Pn	15 20 57.7	+1.9
CICH				*i*S			Sn	15 21 19.4	+3.2
CHCH	**Chadas Angostu**	**1.73**	**50**	*e*P			Pn	15 20 58.2	+1.7
PCH	**Pirque**	**2.03**	**46**	⇓*i*P			Pn	15 21 03.7	+3.0
PCH				*i*S			Sn	15 21 31.2	+6.3
LMEL	**Las Melosas**	**2.08**	**55**	*e*P			Pn	15 21 03.3	+1.9
LMEL				*i*S			Sn	15 21 29.1	+3.0
LMEL				AML			AML	15 21 35.9	
	comp=N,264nm,0.6s								
LMEL	**Las Melosas**	**2.08**	**55**	*e*P			Pn	15 21 03.3	+1.9
LMEL				*i*S			Sn	15 21 29.1	+3.0
FCH	**Farellones**	**2.37**	**44**	*e*P			Pn	15 21 06.9	+1.6
FCH				AML			AML	15 21 45.4	
	comp=N,107nm,0.2s								

JMA 06 15:23:00.6±0.1, 2883N×12929E, h48km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.50**	**146**	P			Pn	15 23 11.5	-0.2
JAM				S			Sn	15 23 19.7	0.0
JZK	**Kikaishima**	**0.79**	**130**	P			Pn	15 23 15.5	+0.1
JZK				S			Sn	15 23 27.2	+1.0
JTK	**Tokunoshima**	**1.08**	**196**	P			Pn	15 23 20.0	+0.6
JTK				*e*S			Sn	15 23 34.1	+0.8
JNN	**Nakanoshima**	**1.13**	**27**	P			Pn	15 23 20.5	+0.5
JNN				S			Sn	15 23 35.4	+1.0
JKC	**Kuchinoerabu**	**1.81**	**26**	P			Pn	15 23 29.7	+0.4
JKC				S			Sn	15 23 51.6	+0.6
JIH	**Iheya**	**2.14**	**214**	*e*S			Sn	15 24 00.6	+1.5
JOW	**Kunigami**	**2.18**	**205**	P			Pn	15 23 34.7	+0.3
JTN	**Tanegashima 3**	**2.34**	**39**	P			Pn	15 23 36.8	+0.3
JJT2	**Tamagusuku 2**	**3.01**	**207**	P			Pn	15 23 46.3	+0.5
JKE	**Kume jima 2**	**3.34**	**222**	P			Pn	15 23 51.6	+1.3
JKE				*e*S			Sn	15 24 30.1	+1.4

*IDC **06** 15:53:26.1±1.1, 126N×122.15E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=121.0km s-min=19.5km az=67.0*
*ISCJB **06** 15:53:29.0±0.9, 12N±02×122.0E±06, h33km, mb3.5/6, Error ellipse: s-maj=88.1km s-min=14.8km az=136.1*
*NEIC **06** 15:53:31.2±0.7, 127N×122.21E, h35km, Error ellipse: s-maj=67.8km s-min=11.5km az=68.0*

ISC 06 15:53:31.3±0.9, 11N±02×121.9E±06, h35km, n8, σ0°61/8, mb3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.46**	**169**	P			Pn	15 57 56.0	-0.3
	0.3nm,0.3s,baz=22,slow=4.5,SNR=14								
WRA	**Warramunga Arr**	**24.23**	**150**	P			P	15 58 44.2	-0.6
	1.0nm,0.5s,mb3.5,baz=336,slow=9.6,SNR=13								
AS31	**Alice Springs**	**27.27**	**155**	P			P	15 59 12.2	0.0
ASAR	**Alice Springs**	**27.27**	**155**	P			P	15 59 13.4	+1.2
	0.4nm,0.7s,mb3.0,baz=344,slow=14,SNR=9.7								
STKA	**Stephens Creek**	**37.76**	**152**	P			P	16 00 44.1	+0.3
	1.6nm,0.7s,mb3.9,baz=321,slow=8.5,SNR=4.5								
SONM	**Songino Array**	**48.43**	**346**	P			P	16 02 09.6	-0.5
	0.5nm,0.8s,mb3.6,baz=151,slow=7.3,SNR=3.9								
MKAR	**Makanchi Array**	**57.08**	**329**	P			P	16 03 14.6	+0.6
	0.2nm,0.3s,mb3.6,baz=141,slow=6.2,SNR=4.3								
VNDA	**Vanda**	**81.50**	**172**	P			P	16 05 44.5	-0.6
	0.7nm,0.8s,mb3.6,baz=313,slow=7.0,SNR=4.5								

*ISCJB **06** 15:55:33.6±1.2, 2425S±009×1798W±0.1, h538km±18km, mb4.1/14, Error ellipse: s-maj=17.5km s-min=14.0km az=134.3*
*NEIC **06** 15:55:33.5±0.9, 24.17S×17982W, h519km±10km, mb4.3/12, Error ellipse: s-maj=11.7km s-min=10.2km az=134.0*
*IDC **06** 15:55:35.3±2.0, 2425S×18000E, h524km±19km, mb3.7/6, mb1 3.7/8, mb1mx3.5/14, mbtmp4.6/8, Error ellipse: s-maj=23.3km s-min=16.0km az=19.0*

ISC 06 15:55:33.9±1.1, 2431S±010×1798W±0.1, h525km±16km, n40, σ0°81/34, mb4.1/14, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.81**	**38**	P			P	15 58 20.6	-0.2
	1.7nm,0.3s,baz=228,slow=14,SNR=4.1								
AFI	**Afiamalu**	**12.81**	**38**	*e*P			P	15 58 19.4	-1.4
	19nm,0.8s								
DZM	**Mont Dzumac**	**12.87**	**277**	P			P	15 58 22.3	+0.8
	0.6nm,0.3s,baz=349,slow=19,SNR=6.5								
URZ	**Urewera**	**14.16**	**190**	P			P	15 58 35.0	+0.1
	1.1nm,0.3s,baz=239,slow=13,SNR=8.5								
QRZ	**Quartz Range**	**17.69**	**200**	*e*PN			P	15 59 09.1	-1.0
NNZ	**Nelson**	**17.80**	**197**	PN			P	15 59 10.0	-1.1
THZ	**Tophouse**	**18.44**	**198**	*e*PN			P	15 59 15.6	-1.4
CNB	**Canberra Magne**	**28.82**	**240**	*e*P			P	16 00 50.7	+1.2
	13nm,1.2s,mb4.4								
CTA	**Charters Tower**	**31.68**	**271**	⇓*i*P			P	16 01 14.7	+0.6
	11nm,0.4s,mb4.8								
CTA	**Charters Tower**	**31.68**	**271**	P			P	16 01 14.9	+0.8
	13nm,0.3s,mb4.9,baz=95,slow=11,SNR=59								
TOO	**Toolangi**	**32.40**	**238**	*e*P			P	16 01 21.0	+0.8
	3.0nm,0.5s,mb4.1								
STKA	**Stephens Creek**	**34.76**	**249**	⇓*i*P			P	16 01 40.4	+0.3
	3.0nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**34.76**	**249**	P			P	16 01 40.6	+0.5
	2.7nm,0.4s,mb4.2,baz=91,slow=9.5,SNR=20								
AS31	**Alice Springs**	**42.17**	**261**	*e*P			P	16 02 40.3	+0.1
ASAR	**Alice Springs**	**42.17**	**261**	P			P	16 02 40.4	+0.1
	2.6nm,0.5s,mb4.0,baz=93,slow=6.6,SNR=99								
ASAR				S			**S**	**16 08 20.8**	**-1.2**
	0.1nm,0.6s,baz=97,slow=16,SNR=3.0								
ASPA	**Alice Springs**	**42.17**	**261**	*e*P			P	16 02 40.3	0.0
WB2	**Warramunga Arr**	**42.57**	**267**	⇓*i*P			P	16 02 43.0	-0.4
WRA	**Warramunga Arr**	**42.58**	**267**	P			P	16 02 43.2	-0.3
	6.5nm,0.4s,mb4.6,baz=99,slow=8.3,SNR=172								
WRA				S			**S**	**16 08 26.9**	**-1.1**
	0.7nm,1.1s,baz=101,slow=13,SNR=2.7								
FORT	**Forrest**	**46.36**	**250**	*e*P			P	16 03 11.8	-0.8
	15nm,0.5s,mb4.8								
KAKA	**Kakadu**	**46.55**	**275**	*e*P			P	16 03 13.4	-0.7
	5.4nm,0.3s,mb4.6								
FITZ	**Fitzroy Crossi**	**51.00**	**266**	*e*P			P	16 03 46.4	-0.7
	7.7nm,0.6s,mb4.2								
FITZ	**Fitzroy Crossi**	**51.00**	**266**	P			P	16 03 47.4	+0.4
	5.1nm,0.6s,mb4.1,baz=122,slow=6.7,SNR=26								
SBA	**Scott Base**	**53.98**	**183**	P			P	16 04 10.3	+1.9
	1.7nm,1.0s,mb3.3								
VNDA	**Vanda**	**53.99**	**185**	P			P	16 04 09.9	+1.4
	0.2nm,0.5s,mb2.7,baz=10,slow=5.7,SNR=4.1								
VNDA	**Vanda**	**53.99**	**185**	*e*P			P	16 04 08.8	+0.3
	1.5nm,1.2s,mb3.2								
KLBR	**Kellerberrin**	**55.02**	**247**	*e*P			P	16 04 15.4	-0.3
	3.2nm,0.2s,mb4.2								
MBWA	**Marble Bar**	**55.50**	**260**	*e*P			P	16 04 18.8	-0.3
	10nm,0.9s,mb4.1								
CASY	**Casey**	**59.83**	**206**	*e*P			P	16 04 48.1	-0.5
KKM	**Kota Kinabalu**	**69.22**	**287**	*e*P			P	16 05 48.6	+0.7
KSM	**Kuching**	**72.37**	**280**	*e*P			P	16 06 07.0	+0.5
MAW	**Mawson**	**77.44**	**200**	*e*P			P	16 06 35.8	+0.9
	1.5nm,0.5s,mb3.7								
MAW	**Mawson**	**77.44**	**200**	P			P	16 06 35.7	+0.8
	0.6nm,0.5s,mb3.3,baz=146,slow=7.0,SNR=16								
BVAR	**Borovoye Array**	**120.88**	**319**	PKP			PKPdf	16 13 26.5	+0.1
	0.7nm,0.4s,baz=260,slow=0.9,SNR=5.6								
ARCES	**ARCESS Array B**	**132.33**	**348**	PKP			PKPdf	16 13 47.4	-0.9
	1.5nm,0.7s,baz=17,slow=6.3,SNR=5.1								
FINES	**FINESS Array B**	**138.90**	**341**	PKhKP				16 13 52.7	
	0.5nm,0.6s,baz=70,slow=6.3,SNR=4.8								
FINES				PKP			PKPdf	16 14 02.2	+1.8
	0.7nm,0.4s,baz=89,slow=2.2,SNR=9.2								
FINES				SKPbc			SKPbc	16 16 47.9	+2.0
	1.2nm,0.8s,baz=113,slow=5.0,SNR=4.0								
FINES	**FINESS Array B**	**138.90**	**341**	PKP			PKPdf	16 13 52.7	-7.8
FINES				PKP			PKPdf	16 14 02.2	+1.8
FINES				SKPbc			SKPbc	16 16 47.9	+2.0
AKASG	**Malin Array Be**	**145.42**	**327**	PKPbc			PKPbc	16 14 12.0	-1.2
	2.4nm,0.6s,baz=42,slow=3.5,SNR=8.6								
BR131	**Keskin Array S**	**147.98**	**307**	*e*PKPbc			PKPbc	16 14 21.2	+1.1
BR131				*e*PKPab			PKPab	16 14 25.6	+0.9
BRTR	**Keskin Array B**	**147.98**	**307**	PKPbc			PKPbc	16 14 21.1	+1.0
	1.3nm,0.6s,baz=147,slow=4.6,SNR=10								
CLL	**Collm**	**151.30**	**343**	⇑*i*PKPbc			PKPbc	16 14 28.9	+0.9
	comp=Z,8.0nm,0.7s								
CLL				*e*PKPab			PKPab	16 14 39.0	+0.5

*IDC **06** 16:08:34.0±1.0, 5001N×17883W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=36.7km s-min=22.8km az=135.0*
*ISCJB **06** 16:08:34.2±0.8, 502N±0.1×1789W±0.1, h10km, mb3.8/7, Error ellipse: s-maj=17.1km s-min=10.9km az=61.1*
*NEIC **06** 16:08:38.4, 50.13N×17895W, h10km, ML3.4(AEIC), After AEIC.*

ISC 06 16:08:35.2±6.6, 502N±01×1789W±02, h7km±41km, n12, σ0°94/14, mb3.8/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.65**	**318**	P			**Pn**	**16 09 05.0**	**+0.5**
AMKA				*e*Sn			**Sn**	**16 09 24.3**	**-1.6**
AMKA				S			**Sn**	**16 09 25.7**	**-0.3**
KDAK	**Kodiak Island**	**17.18**	**54**	P			**Pn**	**16 12 33.9**	**-1.9**
	0.4nm,0.3s,baz=266,slow=11,SNR=7.2								
INK	**Inuvik**	**28.50**	**34**	P			**P**	**16 14 30.6**	**-0.6**
	3.2nm,1.1s,mb4.0,baz=9.4,slow=8.9,SNR=5.4								
RES	**Resolute Bay**	**40.88**	**24**	P			**P**	**16 16 18.8**	**+0.9**
PDAR	**Pinedale Array**	**46.77**	**71**	P			**P**	**16 17 06.0**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=298,slow=3.2,SNR=4.4								
MKAR	**Makanchi Array**	**60.72**	**309**	P			**P**	**16 18 48.0**	**+0.7**
	0.2nm,0.2s,mb3.8,baz=48,slow=8.7,SNR=3.1								
FINES	**FINESS Array B**	**66.94**	**347**	P			**P**	**16 19 28.8**	**+0.4**
	2.9nm,1.2s,mb4.2,baz=17,slow=8.0,SNR=3.4								
FINES	**FINESS Array B**	**66.94**	**347**	P			**P**	**16 19 28.8**	**+0.4**
NOA	**NORSAR Array B**	**68.84**	**355**	P			**P**	**16 19 41.5**	**+1.2**
	0.5nm,0.8s,mb3.5,baz=343,slow=7.8,SNR=3.5								
NOA	**NORSAR Array B**	**68.84**	**355**	P			**P**	**16 19 41.5**	**+1.2**
WRA	**Warramunga Arr**	**81.08**	**224**	P			**P**	**16 20 50.0**	**-1.0**
	0.5nm,0.5s,mb3.7,baz=30,slow=5.8,SNR=8.8								
ASAR	**Alice Springs**	**84.54**	**222**	P			**P**	**16 21 08.6**	**-0.4**
	0.3nm,0.6s,mb3.6,baz=21,slow=5.6,SNR=11								

*ISCJB **06** 16:20:16.3±0.4, 4236N±002×1988E±003, h10km, Error ellipse: s-maj=3.7km s-min=2.8km az=64.8*
*NEIC **06** 16:20:17.5, 4240N×1982E, h11km, ML2.7(PDG), After PDG.*
*PDG **06** 16:20:17.5±0.2, 4240N×1982E, h11km±2km*
*SKO **06** 16:20:20.2, 4232N×1993E, h1km*

ISC 06 16:20:17.2±0.4, 4237N±002×1988E±003, h10km, n15, σ0°86/28, 4C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.23**	**17**	⇓*i*Pg			**Pg**	**16 20 22.0**	**0.0**
PVY				*e*Sg			**Sg**	**16 20 25.9**	**+0.7**
TTG	**Podgorica**	**0.46**	**278**	⇓*i*Pg			**Pg**	**16 20 24.7**	**-1.4**
TTG				*e*Sg			**Sg**	**16 20 31.9**	**-0.4**
IVA	**Berane**	**0.50**	**2**	⇓*i*Pg			**Pg**	**16 20 26.7**	**-0.2**
IVA				*e*Sg			**Sg**	**16 20 34.1**	**+0.6**
ULC	**Ulcinj**	**0.62**	**229**	⇓*i*Pg			**Pg**	**16 20 28.7**	**-0.5**
ULC				*e*Sg			**Sg**	**16 20 38.4**	**+1.1**
BUM	**Brajici-Budva**	**0.73**	**265**	⇑*i*Pg			**Pg**	**16 20 30.5**	**-0.7**
BUM				*e*Sg			**Sg**	**16 20 41.5**	**+0.7**
NKY	**Niksic**	**0.79**	**304**	⇑*i*Pg			**Pg**	**16 20 30.7**	**-1.6**
NKY				*e*Sg			**Sg**	**16 20 42.9**	**+0.3**
PLE	**Pljevlja**	**1.02**	**340**	⇑*i*Pg			**Pg**	**16 20 35.0**	**-1.8**
PLE				*e*Sg			**Sg**	**16 20 50.8**	**+0.6**
HCY	**Herceg Novi**	**1.02**	**275**	⇑*i*Pg			**Pg**	**16 20 35.7**	**-1.1**
HCY				*e*Sg			**Sg**	**16 20 51.1**	**+0.9**
UPM	**Unac-Piva**	**1.09**	**320**	⇓*i*Pg			**Pg**	**16 20 37.4**	**-0.8**
UPM				*e*Sg			**Sg**	**16 20 53.4**	**+0.9**
BRY	**Bratogost**	**1.12**	**299**	⇓*i*Pg			**Pg**	**16 20 37.1**	**-1.6**
BRY				*e*Sg			**Sg**	**16 20 54.0**	**+0.8**
SKO	**Skopje**	**1.23**	**108**	*e*Pg			**Pg**	**16 20 40.9**	**+0.1**
SKO				*e*Sg			**Sg**	**16 20 57.2**	**+0.6**
OHR	**Ohrid**	**1.44**	**151**	*e*Pg			**Pg**	**16 20 45.1**	**+0.4**
OHR				*e*Sg			**Sg**	**16 21 03.3**	**0.0**
STON	**Ston**	**1.68**	**288**	*i*Pn			**Pn**	**16 20 47.1**	**+0.4**
STON				*i*Sn			**Sg**	**16 21 12.9**	**+1.6**
BIA	**Bitola**	**1.73**	**141**	*e*Pn			**Pg**	**16 20 50.4**	**0.0**
VAY	**Valandovo**	**2.27**	**117**	*e*Pn			**Pb**	**16 20 58.4**	**+0.2**

*ISCJB **06** 16:25:26.7±0

comp=Z,57nm,1.8s,mb5.1
PLCA LR LR
EFI East Falkland 35.06 115 PFAKE 16 32 30.0 +8.9
EFI LR LR
comp=Z,2µm,20.0s,MS4.9
TBI Tubuai 37.96 302 *e*S **S** **16 38 37.1 -0.6**
comp=Z,1µm,28.8s
TBI *e*LQ 16 41 18.0
comp=Z,4µm,26.2s
TBI *e*LR LR 16 42 56.8
comp=Z,10µm,28.0s,baz=150
CFAA Coronel Fontan 38.97 80 P **P** **16 32 53.3 -1.1**
comp=Z,2.3nm,1.1s,mb3.8,baz=224,slow=10,SNR=8.4
CFAA LR LR 16 44 56.2
comp=Z,680nm,21.4s,MS4.4,baz=227,slow=30
TRQA Tornquist 38.98 93 *e*P **P** **16 32 53.6 -0.9**
comp=Z,37nm,1.3s,mb5.0
TRQA LR LR
comp=Z,5µm,22.0s,MS5.3
SBA Scott Base 39.30 199 *e*P **P** **16 32 54.1 -3.1**
SBA pmax pmax
comp=Z,53nm,1.8s,mb5.0
SBA MLR MLR
comp=Z,2µm,21.0s,MS4.9
SBA Scott Base 39.30 199 *e*P **P** **16 32 54.1 -3.1**
comp=Z,53nm,1.8s,mb5.0
SBA *e* 16 33 05.5
SBA LR LR
comp=Z,2µm,21.0s,MS4.9
QSPA South Pole Qui 40.20 180 *e*P **P** **16 33 06.7 +2.0**
comp=Z,23nm,0.9s,mb4.9
QSPA LR LR
comp=Z,2.0nm,21.0s
VNDA Vanda 40.39 199 P **P** **16 33 07.6 +1.5**
comp=Z,2.4nm,1.1s,mb3.8,baz=98,slow=7.0,SNR=6.1
VNDA Vanda 40.39 199 *e*P **P** **16 33 08.5 +2.3**
VNDA pmax pmax
comp=Z,22nm,1.6s
VNDA MLR MLR
comp=Z,2µm,19.0s
VNDA Vanda 40.39 199 *e*P **P** **16 33 08.5 +2.4**
comp=Z,22nm,1.6s,mb4.6
VNDA LR LR
comp=Z,2µm,19.0s,MS5.0
PPT Papeete 42.75 307 *e*S **S** **16 39 48.7 -0.5**
comp=Z,3µm,25.5s
PPT *e*LQ 16 43 13.5
comp=Z,25µm,27.5s
PPT *e*LR LR 16 44 51.2
comp=Z,19µm,27.0s,baz=149
PPT Papeete 42.75 307 LR LR 16 46 59.0
comp=Z,5µm,18.3s,MS5.4,baz=143,slow=30
LVC Limon Verde 44.96 70 P **P** **16 33 43.6 +0.3**
comp=Z,15nm,1.1s,mb4.8,baz=223,slow=7.4,SNR=7.3
LVC LR LR 16 47 34.9
comp=Z,5µm,18.7s,MS5.5,baz=225,slow=30
LVC Limon Verde 44.96 70 *e*P **P** **16 33 42.4 -0.9**
comp=Z,18nm,1.0s,mb4.9
LVC LR LR
comp=Z,5µm,20.0s,MS5.4
RAR Rarotonga 45.56 292 LR LR 16 47 42.4
comp=Z,806nm,19.4s,MS4.7,baz=142,slow=29
TAOE Nuku Hiva Isla 46.15 324 *e*S **S** **16 40 36.2 -2.5**
comp=Z,9µm,28.7s
TAOE *e*LQ 16 44 26.3
comp=Z,7µm,23.9s
TAOE *e*LR LR 16 46 45.1
comp=Z,42µm,26.7s,baz=176
VNA3 Neumayer Olymp 48.04 155 ⇓ *i*P **P** **16 34 04.0 -3.5**
VNA3 *e* pP 16 34 07.7 -3.0
VNA3 *e* 16 34 12.1
VNA3 *e* 16 34 17.4
VNA3 *e* 16 34 23.3
VNA3 *e* 16 34 30.6
VNA3 *e* 16 34 43.1
VNA3 *e* 16 34 55.9
SNZO South Karori 48.39 252 PFAKE 16 34 20.0 +10
SNZO LR LR
comp=Z,5µm,20.0s,MS5.5
URZ Urewera 48.70 257 LR LR 16 50 25.9
comp=Z,5µm,19.2s,MS5.5,baz=124,slow=31
VNA1 Neumayer--Stat 48.76 155 ⇓ *i*P **P** **16 34 13.0 0.0**
VNA1 *e* pP 16 34 16.2 0.0
VNA1 *e* 16 34 20.1
VNA1 *e* 16 34 23.8
VNA1 *e* 16 34 29.6
VNA1 *e* 16 34 40.2
VNA1 *e* 16 34 46.1
NNA Nana 49.00 53 PFAKE 16 34 30.0 +15
NNA LR LR
comp=Z,2µm,20.0s,MS5.0
RPZ Rata Peaks 49.21 247 LR LR 16 49 32.6
comp=Z,3µm,21.5s,MS5.3,baz=105,slow=29
CPUP Villa Florida 49.53 84 P **P** **16 34 18.5 -0.4**
comp=Z,6.7nm,1.0s,mb4.6,baz=222,slow=8.7,SNR=4.5
CPUP LR LR 16 51 39.6
comp=Z,6µm,20.7s,MS5.6,baz=215,slow=32
CPUP Villa Florida 49.53 84 *e*P **P** **16 34 18.2 -0.7**
CPUP pmax pmax
comp=Z,69nm,1.4s
CPUP MLR MLR
comp=Z,825nm,20.0s
CPUP Villa Florida 49.53 84 *e*P **P** **16 34 18.2 -0.7**
comp=Z,69nm,1.4s,mb5.5
CPUP LR LR
comp=Z,825nm,20.0s,MS4.7
SNAA Sanae 49.57 157 P **P** **16 34 18.0 -1.3**
comp=Z,2.5nm,1.1s,mb4.2,baz=266,slow=6.4,SNR=9.1
SNAA Sanae 49.57 157 ⇓ *i*P **P** **16 34 16.7 -2.5**
SNAA *e* pP 16 34 21.0 -1.4
SNAA *e* 16 34 24.3
SNAA *e* 16 34 37.3
SNAA *e* 16 34 44.6
SNAA *e* 16 34 48.4
SNAA *e* 16 34 58.3
SNAA Sanae 49.57 157 *e*P **P** **16 34 17.8 -1.4**
SNAA pmax pmax
comp=Z,36nm,1.6s
SNAA Sanae 49.57 157 *e*P **P** **16 34 17.8 -1.5**
comp=Z,36nm,1.6s,mb5.2
LPAZ La Paz 50.30 65 P **P** **16 34 25.1 +0.3**
comp=Z,6.8nm,0.9s,mb4.7,baz=184,slow=7.3,SNR=11
LPAZ LR LR 16 50 36.0
comp=Z,3µm,19.1s,MS5.3,baz=33,slow=30
LPAZ La Paz 50.30 65 *e*P **P** **16 34 24.4 -0.4**
LPAZ pmax pmax
comp=Z,119nm,2.1s
LPAZ MLR MLR
comp=Z,3µm,19.0s
LPAZ La Paz 50.30 65 *e*P **P** **16 34 24.4 -0.4**
comp=Z,119nm,2.1s,mb5.5
LPAZ LR LR
comp=Z,3µm,19.0s,MS5.4
RAO Raoul Island 51.27 269 LR LR 16 50 24.5
comp=Z,1µm,19.1s,MS5.0,baz=234,slow=29
RAO Raoul Island 51.27 269 PFAKE 16 34 40.0 +7.9
RAO LR LR
comp=Z,3µm,19.0s,MS5.4
PAYG Puerto Ayora 53.39 31 PFAKE 16 35 00.0 +12
PAYG LR LR
comp=Z,5µm,20.0s,MS5.6
MAIT Maitri 53.58 161 *e*P **P** **16 34 50.0 +0.8**
NVL N'lazarevskaya 53.60 161 ⇑ *i*P **P** **16 34 50.7 +1.3**
NVL *i* 16 36 04.6
NVL *i*S **S** **16 42 30.7 +7.9**
NVL *e*SSS 16 48 00.1
NVL pmax pmax
comp=Z,31nm,1.6s,mb5.0
OTAV Otavalo 58.86 44 PFAKE 16 35 40.0 +13
OTAV LR LR
comp=Z,2µm,20.0s,MS5.2
SAML Samuel 59.03 64 *e*P **P** **16 35 25.5 -2.6**
comp=Z,18nm,1.5s,mb4.9
SAML LR LR
comp=Z,2µm,20.0s,MS5.3
SYO Syowa Base 59.80 170 ⇑ *e*P **P** **16 35 32.8 -0.7**
SYO Syowa Base 59.80 170 ⇓ *e*PcP PcP 16 36 14.2 -5.9
MIR Mirnyy 61.87 192 *e*P **P** **16 35 52.0 +4.5**
MIR pmax pmax
comp=Z,200nm,2.0s
MIR MLR MLR
comp=N,2µm,17.0s
MAW Mawson 62.71 179 P **P** **16 35 52.9 -0.3**
comp=N,5.9nm,1.1s,mb4.6,baz=190,slow=9.4,SNR=8.6
MAW LR LR 17 02 10.2
comp=N,7µm,18.0s,MS5.9,baz=178,slow=35
MAW Mawson 62.71 179 *e*P **P** **16 35 53.2 0.0**
comp=N,14nm,1.1s,mb5.0
MAW LR LR
comp=Z,11µm,20.0s,MS6.0
TAU Tasmania Unive 63.09 235 PFAKE 16 36 10.0 +14
TAU LR LR
comp=Z,2µm,20.0s,MS5.2
BDFB Brasilia 63.23 82 LR LR 17 00 27.8
comp=Z,4µm,19.9s,MS5.6,baz=58,slow=33
BDFB Brasilia 63.23 82 PFAKE 16 36 10.0 +13
BDFB LR LR
comp=Z,6µm,19.0s,MS5.8
ROSC El Rosal 64.82 46 LR LR 17 00 26.5
comp=Z,2µm,18.2s,MS5.4,baz=19,slow=32
JTS JuntasAbangare 65.44 33 *e*P **P** **16 36 11.8 +0.7**
JTS JuntasAbangare 65.44 33 P **P** **16 36 09.6 -1.5**
comp=Z,12nm,1.0s,mb4.9
JTS LR LR
comp=Z,694nm,21.0s,MS4.8
DZM Mont Dzumac 66.34 263 LR LR 16 58 18.3
comp=Z,3µm,21.3s,MS5.4,baz=304,slow=30
CNB Canberra Magne 67.34 242 *e*P **P** **16 36 24.4 +1.1**
comp=Z,11nm,1.1s,mb4.8
CNB *e*pP pP 16 36 27.6 +1.1
RIV Riverview 67.37 244 *e*pP pP 16 36 27.8 +1.1
TOO Toolangi 67.87 238 *e*P **P** **16 36 25.5 -1.1**
comp=Z,9.0nm,1.2s,mb4.7
TOO *e*pP pP 16 36 31.1 +1.2
TOO Toolangi 67.87 238 *e*P **P** **16 36 25.5 -1.1**
TOO *e**PP pP 16 36 31.1 +1.2
TOO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
ARMA Armidale 69.55 247 *e*P **P** **16 36 36.4 -0.7**
ARMA *e*pP pP 16 36 41.6 +1.2
SDV Santo Domingo 70.08 47 P **P** **16 36 41.1 +0.8**
comp=Z,13nm,1.3s,mb4.7
SDV LR LR
comp=Z,1µm,20.0s,MS5.2
STKA Stephens Creek 74.24 239 *e*P **P** **16 37 05.5 +0.2**
comp=Z,4.2nm,1.4s,mb4.2
STKA *e*pP pP 16 37 08.9 +0.4
STKA Stephens Creek 74.24 239 P **P** **16 37 05.2 0.0**
comp=Z,8.4nm,0.8s,mb4.7,baz=128,slow=7.6,SNR=12
STKA LR LR 17 04 31.0
comp=Z,2µm,18.9s,MS5.5,baz=144,slow=32
RCBR Riachuelo 78.38 85 PFAKE 16 37 40.0 +11
RCBR LR LR
comp=Z,5µm,20.0s,MS5.9
HNR Honiara 79.85 267 LR LR 17 06 43.7
comp=Z,514nm,20.2s,MS4.9,baz=179,slow=31
HNR Honiara 79.85 267 PFAKE 16 37 50.0 +13
HNR LR LR
comp=Z,814nm,19.0s,MS5.1
SJG San Juan 80.21 46 PFAKE 16 37 50.0 +11
SJG LR LR
comp=Z,1µm,22.0s,MS5.2
CTA Charters Tower 80.46 250 *e*P **P** **16 37 40.0 -0.1**
comp=Z,4.6nm,0.9s,mb4.4
CTA *e*pP pP 16 37 43.9 +0.5
CTA Charters Tower 80.46 250 P **P** **16 37 40.2 +0.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=126,slow=3.0,SNR=6.4
CTA LR LR 17 08 02.9
comp=Z,683nm,21.4s,MS5.0,baz=357,slow=32
CTA Charters Tower 80.46 250 *e*P **P** **16 37 40.0 -0.1**
CTA *e**PP pP 16 37 43.9 +0.5
CTA pmax pmax
comp=Z,5.0nm,0.9s
JCT Junction City 81.21 13 *e*P **P** **16 37 42.9 -1.2**
JCT pmax pmax
comp=Z,20nm,0.9s,mb5.0
JCT Junction City 81.21 13 *e*P **P** **16 37 42.9 -1.3**
comp=Z,20nm,0.9s,mb5.0
MNTX Cornudas Mount 81.76 8 *e*P **P** **16 37 46.1 -1.0**
comp=Z,12nm,1.6s,mb4.6
TUC Tucson 82.02 3 P **P** **16 37 43.2 -5.2**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC Tucson 82.02 3 P **P** **16 37 43.1 -5.2**
comp=Z,6.1nm,1.0s,mb4.5
ASAR Alice Springs 84.88 239 P **P** **16 38 01.8 -1.3**
comp=Z,7.4nm,0.8s,mb4.8,baz=151,slow=3.6,SNR=23
ASAR LR LR 17 12 00.8
comp=Z,2µm,18.3s,MS5.5,baz=157,slow=33
AS31 Alice Springs 84.88 239 *e*P **P** **16 38 01.1 -2.0**
ANMO Albuquerque 84.89 7 *e*P **P** **16 38 04.4 +1.2**
ANMO pmax pmax
comp=Z,41nm,1.9s
ANMO MLR MLR
comp=Z,1µm,20.0s
ANMO Albuquerque 84.89 7 *e*P **P** **16 38 04.4 +1.2**
comp=Z,41nm,1.9s,mb5.2
ANMO LR LR
comp=Z,1µm,20.0s,MS5.3
ISA Isabella 85.35 357 *e*P **P** **16 38 05.4 -0.1**
ISA MLR MLR
comp=Z,856nm,21.0s,MS5.1
NWAO Narrogin (SRO) 85.48 222 LR LR 17 06 58.4
comp=Z,2µm,21.6s,MS5.5,baz=141,slow=29
DAC Darwin (Calif) 85.94 358 *e*P **P** **16 38 08.4 0.0**
DAC pmax pmax
comp=Z,11nm,1.3s,mb4.9
DAC Darwin (Calif) 85.94 358 *e*P **P** **16 38 08.4 0.0**
comp=Z,11nm,1.3s,mb4.9
MVCO Mesa Verde 87.01 5 *e*P **P** **16 38 13.7 +0.1**
OXF Oxford 87.08 21 PFAKE 16 38 20.0 +6.0
OXF LR LR
comp=Z,727nm,20.0s,MS5.1
CCUT Cedar City 87.18 1 *e*P **P** **16 38 15.9 +1.4**
ARUT Antelope Range 87.42 1 P **P** **16 38 16.7 +1.1**
WRA Warramunga Arr 87.59 242 P **P** **16 38 17.2 +0.8**
comp=Z,1.7nm,0.8s,mb4.3,baz=146,slow=4.2,SNR=6.7
WRA LR LR 17 14 25.6
comp=Z,2µm,18.4s,MS5.5,baz=180,slow=34
TPH Tonopah 87.72 358 PFAKE 16 38 30.0 +13
TPH LR LR
comp=Z,2µm,22.0s,MS5.4
SDCO Great Sand Dun 87.75 7 *e*P **P** **16 38 19.4 +2.2**
comp=Z,16nm,1.5s,mb5.0
SDCO LR LR
comp=Z,1µm,19.0s,MS5.3
CMB Columbia Colle 87.80 356 PFAKE 16 38 30.0 +13
CMB LR LR
comp=Z,3µm,19.0s,MS5.7
PV01 Paradox Valley 87.92 5 *e*P **P** **16 38 19.4 +1.4**
PMG Port Moresby 88.04 258 PFAKE 16 38 30.0 +11
PMG LR LR
comp=Z,2µm,21.0s,MS5.5
NVAR Mina Array Bea 88.11 357 P **P** **16 38 19.3 +0.4**
comp=Z,1.2nm,0.9s,mb4.1,baz=195,slow=7.5,SNR=5.8
MSU Marysvale 88.16 2 *e*P **P** **16 38 20.5 +1.3**
SUR Sutherland 89.00 144 PFAKE 16 38 30.0 +6.8
SUR LR LR
comp=Z,980nm,22.0s,MS5.2
HWUT Hardware Ranch 91.27 2 P **P** **16 38 33.4 -0.4**
comp=Z,2.9nm,0.9s,mb4.6
HWUT LR LR
comp=Z,2µm,20.0s,MS5.6
YBH Yreka Blue Hor 91.62 354 LR LR 17 10 20.8
comp=Z,3µm,21.5s,MS5.7,baz=188,slow=29
WVOR Wild Horse Val 92.11 357 *e*P **P** **16 38 37.7 +0.1**
WVOR pmax pmax
comp=Z,17nm,1.4s,mb5.2
WVOR Wild Horse Val 92.11 357 *e*P **P** **16 38 37.6 0.0**
comp=Z,17nm,1.4s,mb5.2
PDAR Pinedale Array 92.49 4 P **P** **16 38 38.0 -1.4**
comp=Z,2.7nm,0.9s,mb4.6,baz=178,slow=4.5,SNR=14
PDAR LR LR 17 12 50.8
comp=Z,968nm,20.1s,MS5.2,baz=192,slow=31
HLID Hailey 93.18 0 *e*P **P** **16 38 44.7 +2.1**
comp=Z,5.7nm,1.1s,mb4.9
BBSR BB Station 93.22 41 PFAKE 16 38 50.0 +7.2
BBSR LR LR
comp=Z,758nm,21.0s,MS5.1
MOOW Moose Ponds 93.43 3 *e*P **P** **16 38 44.3 +0.6**
comp=Z,6.8nm,1.4s,mb4.9
FITZ Fitzroy Crossi 93.88 236 *e*P **P** **16 38 44.8 -1.0**
comp=Z,4.2nm,0.9s,mb4.9
FITZ *e*pP pP 16 38 47.8 -1.3
FITZ Fitzroy Crossi 93.88 236 P **P** **16 38 45.8 0.0**
comp=Z,4.1nm,0.8s,mb4.9,baz=164,slow=6.3,SNR=6.4
BOSA Boshof 94.05 145 LR LR 17 15 07.6
comp=Z,2µm,18.5s,MS5.5,baz=203,slow=32
RSSD Black Hills 94.20 8 *e*P **P** **16 38 46.0 -1.3**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
RSSD Black Hills 94.20 8 *e*P **P** **16 38 46.0 -1.2**
comp=Z,4.5nm,0.8s,mb5.0
MBWA Marble Bar 94.36 230 PFAKE 16 39 00.0 +12
MBWA LR LR
comp=Z,2µm,19.0s,MS5.5
MCMT McKenzie Canyo 94.46 1 *e*P **P** **16 38 50.5 +2.0**
QLMT Earthquake Lak 94.49 2 *e*P **P** **16 38 51.8 +3.2**
NEW Newport 97.90 358 PFAKE 16 39 10.0 +5.9
NEW LR LR
comp=Z,3µm,19.0s,MS5.8
TSUM Tsumeb 99.25 135 PFAKE 16 39 20.0 +10
TSUM LR LR
comp=Z,1µm,19.0s,MS5.4
LSZ Lusaka 107.27 142 PFAKE 16 44 10.0 +15
LSZ LR LR
comp=Z,2µm,21.0s,MS5.6
DBIC Dimbokro 107.82 101 PFAKE 16 44 10.0 +14
DBIC LR LR
comp=Z,1µm,21.0s,MS5.5
PMR Palmer 114.60 343 PFAKE 16 44 20.0 +11
PMR LR LR
comp=Z,1µm,21.0s,MS5.5
MCK McKinley 116.53 344 PFAKE 16 44 20.0 +7.8
MCK LR LR
comp=Z,864nm,21.0s,MS5.3
COLA College 117.39 345 PFAKE 16 44 20.0 +6.1
COLA LR LR
comp=Z,2µm,19.0s,MS5.8
JOW Kunigami 127.21 269 PKP PKPdf 16 44 31.8 -1.0
comp=Z,17nm,0.3s,baz=183,slow=17,SNR=2.9
BILL Bilibino 131.41 331 PFAKE 16 44 50.0 +9.3
BILL LR LR
comp=Z,2µm,22.0s,MS5.8
ESDC Sonseca Array 131.48 74 PKP PKPdf 16 44 39.4 -1.5
comp=Z,0.4nm,0.3s,baz=243,slow=5.6,SNR=6.3
CHAT Chantaburi 131.95 232 P Pdif 16 41 26.0 -10
comp=Z,1µm,0.5s
QIZ Qiongzhong 133.04 245 PKP PKPdf 16 44 46.3 +2.5
QIZ PP PP 16 47 15.0 +5.4
QIZ LR LR
comp=N,345nm,18.4s
QIZ LR LR
comp=Z,539nm,20.1s,MS5.2
MA2 Magadan 133.11 316 PFAKE 16 44 50.0 +6.1
MA2 LR LR
comp=Z,1µm,22.0s,MS5.6
SSE Sheshan 134.66 267 PKP PKPdf 16 44 48.0 +1.2
SSE PP PP 16 47 25.3 +5.4
SSE SS SS 17 05 16.9 +5.2
SSE PP PP
comp=Z,221nm,4.8s
SSE LR LR
comp=N,142nm,25.0s,MS4.9
SSE LR LR
comp=E,254nm,25.0s,MS4.9
SSE LR LR
comp=Z,329nm,25.0s,MS5.0
SSE Sheshan 134.66 267 PKP PKPdf 16 44 48.2 +1.4
SSE PP PP 16 47 25.3 +5.4
SSE SS SS 17 05 16.9 +5.2
NJ2 Nanjing 136.78 266 *e*PKP PKPdf 16 44 47.8 -3.0
MDJ Mudanjiang 137.26 288 PKP PKPdf 16 44 50.9 -0.8
MDJ XPKP 16 44 55.1
MDJ PP PP 16 47 37.9 +1.6
MDJ PKS 16 48 26.4
MDJ SKS SKSdf 16 52 01.8 -0.7
MDJ SS SS 17 05 49.3 +6.5
MDJ LR LR
comp=N,510nm,45.9s,MS5.0
MDJ LR LR
comp=E,396nm,43.6s,MS5.0
MDJ LR LR
comp=Z,492nm,27.5s
MDJ Mudanjiang 137.26 288 PFAKE 16 45 00.0 +8.3
MDJ LR LR
comp=Z,594nm,21.0s,MS5.3
CN2 Changchun 139.40 285 *e*PKP PKPdf 16 44 52.4 -3.2
CN2 *e*PP PP 16 47 51.5 +1.9
CN2 SS SS 17 06 10.3 +2.2
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,17.0s,MS5.3
CN2 LR LR
comp=E,200nm,17.0s,MS5.3
CN2 LR LR
comp=Z,500nm,19.0s,MS5.3
ESK Eskdalemuir 139.65 55 PFAKE 16 45 10.0 +14
ESK LR LR
comp=Z,279nm,19.0s,MS5.0
ENH Enshi 141.56 256 PFAKE 16 45 10.0 +10
ENH LR LR
comp=Z,3.0nm,20.0s
KMI Kunming 141.89 243 PKIKP PKPdf 16 44 58.7 -1.4
KMI 16 45 06.9
KMI 16 48 10.6
KMI SS SS 17 06 38.6 +1.3
KMI SSS 17 11 54.3
KMI Kunming 141.89 243 PKP PKPdf 16 44 58.7 -1.4
KMI sPKP 16 45 06.9
KMI PP PP 16 48 10.6 +5.8
KMI SKKS SKKSac 16 54 58.9 +0.5
KMI SS SS 17 06 38.6 +1.3
KMI SSS 17 11 54.3
BJT Baijiatuau 143.31 274 PFAKE 16 45 10.0 +7.4
BJT LR LR
comp=Z,643nm,19.0s,MS5.4
BJI Beijing 143.32 274 PKP PKPdf 16 45 03.0 +0.4
BJI SS SS 17 06 57.3 +3.6
BJI LR LR
comp=N,552nm,45.9s
BJI LR LR
comp=E,502nm,35.8s
BJI LR LR
comp=Z,615nm,42.8s,MS5.0
YAK Yakutsk 143.62 314 *e*PKIKP PKPdf 16 45 00.6 -2.6
YAK pmax pmax
comp=Z,8.0nm,1.3s
YAK Yakutsk 143.62 314 *e*PKPdf PKPdf 16 44 58.1 -5.1
STU Stuttgart 144.20 70 *e*PKPbc PKPdf 16 44 59.3 -4.9
TNS Taunus Mts 144.32 67 *e*PKPbc PKPdf 16 44 59.9 -4.5
XAN Xi'an 144.43 260 PKP PKPdf 16 45 03.3 -1.3
TIXI Tiksi 144.63 331 *e*PKIKP PKPdf 16 45 01.2 -3.7
TIXI *i* 16 45 05.6
TIXI pmax pmax
comp=Z,36nm,0.9s
IBBN Ibbenburen 144.66 64 *e*PKPbc PKPdf 16 45 00.8 -4.2
MOTA Moosalm 144.78 73 ⇓ *i*P PKPdf 16 45 02.6 -2.6
comp=Z,13nm,1.1s
SQTA Sankt Quirin 144.79 73 ⇑ *i*P PKPdf 16 45 02.8 -2.5
comp=Z,10.0nm,0.8s
CLNS Chul'man 144.84 305 *e*PKIKP PKPdf 16 45 02.2 -3.1
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
WTTA Wattenberg 145.08 73 ⇑ *i*P PKPbc 16 45 03.9 -1.2
comp=E,44nm,1.1s
FUR Furstenfeldbru 145.23 72 *e*PKPbc PKPbc 16 45 02.8 -2.8
HIA Hailar 145.37 290 PFAKE 16 45 20.0 +14
HIA LR LR
comp=Z,812nm,21.0s,MS5.5
UBBA Unterbreizbach 145.46 67 *e*PKPbc PKPbc 16 45 03.8 -2.6
HYB Hyderabad 145.78 203 *i* PKP PKPdf 16 45 08.5 +1.6
HYB Hyderabad 145.78 203 *e*P PKPdf 16 45 10.0 +3.1
GRA1 Grafenberg Arr 145.78 69 *e*PKPbc PKPbc 16 45 05.4 -2.0
GRA1 *e*PP PP 16 48 32.3 +4.1
GRA1 *e*SS SS 17 07 26.3 +4.3
GRA1 LR LR
comp=Z,900nm,21.1s,MS5.5
GRF Grafenberg Arr 145.78 69 *e*PKPbc PKPbc 16 45 05.4 -2.0
GRF *e*PP PP 16 48 32.3 +4.1
GRF *e*SS SS 17 07 26.3 +4.3
GRF *e*L 17 42 30.6
comp=Z,868nm,21.1s
VOY Vojsko 145.96 76 *e*PKPdf PKPdf 16 45 06.0 -1.2
VOY *e* 16 45 17.7
VOY *e* 16 45 28.9
VOY Vojsko 145.96 76 *e*PKPdf PKPdf 16 45 06.0 -1.2
VOY *e* 16 45 17.7
CLZ Clausthal 146.03 65 *e*PKPbc PKPbc 16 45 05.9 -2.2
KBA Koelnbreinsper 146.06 75 ⇑ *i*P PKPdf 16 45 05.5 -1.9

comp=Z,12nm,0.9s
NRDL Niedersach Rie 146.08 64 *e*PKPbc PKPbc 16 45 06.0 -2.3
LJU Ljubljana 146.36 77 *e*PKPdf PKPdf 16 45 09.0 +1.1
MOX Moxa 146.36 68 *e*PKPbc PKPbc 16 45 07.1 -2.0
MOX *e* 16 45 18.0
MOX Moxa 146.36 68 *e*PKP PKPdf 16 45 05.3 -2.6
comp=Z,26nm,1.3s
MOX
comp=Z,600nm,20.0s
MOX Moxa 146.36 68 *e*PKP PKPdf 16 45 05.3 -2.6
MOX *e* 16 45 18.0
MOX *e*SS SS 17 07 44.0 +15
ROTZ Rotzenmuhle 146.41 70 *e*PKPbc PKPbc 16 45 07.1 -2.2
ROTZ *e* 16 45 18.0
MANZ Manzenberg 146.43 69 *e*PKPbc PKPbc 16 45 06.8 -2.5
VISS Visnje 146.45 77 *i* PKPdf PKPdf 16 45 08.3 +0.2
VISS *i* 16 45 18.2
BOJS Bojanci 146.58 78 *i* PKPdf PKPdf 16 45 07.0 -1.3
BOJS *i* PKPbc PKPbc 16 45 10.7 +0.9
BOJS *i* 16 45 18.9
WET Wettzell 146.59 71 *e*PKPbc PKPbc 16 45 07.7 -2.1
BSEG Bad Segeberg 146.63 62 *e*PKPbc PKPbc 16 45 07.1 -2.8
GUNZ Gunzen 146.69 69 *e*PKPbc PKPbc 16 45 07.7 -2.4
GUNZ *e* 16 45 19.5
WERN Wernitzgruen 146.69 69 *e*PKPbc PKPbc 16 45 07.7 -2.4
WERD Werda 146.71 68 *e*PKPbc PKPbc 16 45 07.5 -2.6
NKC Novy Kostel 146.72 69 *e*PKP PKPdf 16 45 09.4 +0.9
NKC *ex* x 16 45 19.9
NKC AMS AMS 17 42 00.0
comp=Z,1μm,21.5s
NKC Novy Kostel 146.72 69 *e*PKP PKPdf 16 45 09.4 +0.9
NKC *e* 16 45 19.9
HHC Hu-ho-hao-te 146.72 272 *e*PKP PKPdf 16 45 09.8 +1.3
HHC PP PP 16 48 40.3 +6.6
HHC SKS SKSdf 16 52 15.1 -2.3
HHC SKKS SKKSac 16 55 29.6 +3.7
HHC SS SS 17 07 30.8 -1.9
HHC PP PP
comp=Z,262nm,5.1s
HHC LR LR
comp=N,298nm,18.4s,MS5.4
HHC LR LR
comp=E,530nm,21.6s,MS5.4
HHC LR LR
comp=Z,652nm,22.7s,MS5.3
TANN Tannenbergstha 146.79 69 *e*PKPbc PKPbc 16 45 07.9 -2.5
MOA Molln 146.94 74 ⇓*i*P PKPdf 16 45 08.6 -0.3
comp=Z,17nm,0.9s
GEC2 GERESS Array S 146.98 72 *e*PKPbc PKPbc 16 45 07.9 -3.0
GERES GERESS Array B 146.98 72 PKPbc PKPbc 16 45 08.8 -2.1
comp=Z,7.3nm,0.8s,baz=224,slow=2.7,SNR=30
KHC Kasperske Hory 147.01 71 *e*PKP PKPdf 16 45 08.7 -0.3
KHC *ex* x 17 07 13.7
KHC AMS AMS 17 47 00.0
comp=Z,500nm,15.8s
KHC Kasperske Hory 147.01 71 *i* PKIKP PKPdf 16 45 07.8 -1.2
CLL Collm 147.41 67 *e*PKP PKPdf 16 45 10.0 +0.3
CLL LR LR
comp=Z,700nm,21.3s,MS5.4
CLL Collm 147.41 67 *e*PKPdf PKPdf 16 45 09.0 -0.7
CLL *e*PKiKP PKiKP 16 45 14.0 -0.3
CLL *ep*PKiKP 16 45 21.0
CLL *e*SS SS 17 08 00.0 +20
CLL LmV 17 43 00.0
comp=Z,700nm,21.3s
FBE Freiberg 147.49 68 *e*PKPbc PKPbc 16 45 09.8 -2.6
BRG Berggiesshubel 147.83 68 *e*PKPbc PKPbc 16 45 10.6 -2.7
BRG *e* 16 45 22.1
BRG Berggiesshubel 147.83 68 *e*PKP PKPdf 16 45 11.9 +1.6
comp=Z,4.3nm,1.1s
BRG *e* 16 45 14.7
comp=Z,6.0nm,0.9s
BRG *e* 16 45 22.6
comp=Z,11nm,1.1s
BRG *e* 16 50 52.8
comp=Z,3.6nm,1.0s
BRG Berggiesshubel 147.83 68 *e*PKP PKPdf 16 45 11.9 +1.6
BRG *e* 16 45 14.7
BRG *e* 16 45 22.6
BRG *e* 16 50 52.8
BRG *i* 17 07 55.0
BRG LR LR
comp=Z,470nm,19.0s,MS5.3
POO Poona 147.86 195 *e*P PKPdf 16 45 12.0 +1.6
PRU Pruhonice 147.90 70 *e*PKP PKPdf 16 45 13.6 +3.1
PRU *ep*PKP pPKPdf 16 45 21.5 +7.6
PRU *e*SS SS 17 07 44.9 -1.1
PRU AMS AMS 17 43 30.0
comp=Z,700nm,21.9s
CONA Conrad Observa 147.96 74 ⇓*i*PKPbc PKPbc 16 45 12.5 -1.1
comp=Z,14nm,0.9s
PVCC Panska Ves 148.09 69 *e*PKP PKPdf 16 45 11.9 +1.1
PVCC *ep*PKP pPKPdf 16 45 20.1 +5.9
PVCC AMS AMS 17 43 10.0
comp=Z,1μm,26.4s
RUE Ruedersdorf 148.22 65 *e*PKPbc PKPbc 16 45 13.8 -0.5
TREC Trest 148.23 72 *e*PKP PKPdf 16 45 14.0 +3.0
TREC *ep*PKP pPKPdf 16 45 21.1 +6.7
TREC AMS AMS 17 48 10.0
comp=Z,800nm,17.4s
SOP Sopron 148.30 75⇑*e*PKP PKPdf 16 45 14.2 +3.1
NB2 NORSAR Subarra148.39 49 PKPdf PKPdf 16 45 11.8 +0.5
comp=Z,8.7nm,1.2s,baz=265,slow=1.7
NB2 NORSAR Subarra148.39 49 PKPdf PKPdf 16 45 11.8 +0.5
baz=265,slow=1.7
NOA NORSAR Array B148.39 49 PKPbc PKPbc 16 45 11.6 -3.1
comp=Z,1.3nm,0.8s,baz=260,slow=2.2,SNR=3.4
VRAC Vranov 148.92 72⇑*i*P PKPdf 16 45 13.4 +1.3
VRAC Vranov 148.92 72 ⇑P PKPdf 16 45 13.3 +1.2
LZH Lanzhou 148.94 258 *e*PKP PKPdf 16 45 06.4 -5.8
LZH APKP 16 45 10.0
LZH XPKP 16 45 11.9
LZH PP PP 16 48 45.3 -1.5
LZH PP PP
comp=Z,110nm,5.0s
LZH LR LR
comp=E,339nm,18.5s
LZH LR LR
comp=Z,563nm,21.0s,MS5.3
UPC Upice 148.96 70 *e*PKP PKPdf 16 45 14.5 +2.3
UPC *ex* x 16 45 25.1
PKSM Moragy 149.03 79⇑*i*P PKPbc 16 45 16.5 +0.1
PKSM Moragy 149.03 79 ⇑P PKPbc 16 45 16.5 +0.1
DPC Dobruska-Polom 149.10 70 *e*PKP PKPdf 16 45 14.8 +2.4
DPC *ex* x 16 45 25.6
DPC *ex* x 17 07 51.9
DPC AMS AMS 17 44 40.0
comp=Z,600nm,21.6s
KSP Ksiaz 149.24 69 *e*PKP2 PKPab 16 45 17.2 -4.2
KSP *e*SS SS 17 08 06.0 +5.0
KSP MLR MLR
comp=Z,2μm,22.9s,MS5.8
EIL Elat 149.43 120 *e*PKPbc PKPbc 16 45 16.3 -1.1
MORC Moravsky Berou 149.66 72⇓*i*P PKPbc 16 45 18.4 +0.5
MORC Moravsky Berou 149.66 72 *e*PKPbc PKPbc 16 45 16.9 -1.0
BUD Budapest 149.77 77⇑*e*sPKP/F 16 45 26.1
CIT Chita 150.00 293 *e*PKIKP PKPbc 16 45 17.9 -0.9
VYHS Vyhne 150.02 75 *e*PKP PKPdf 16 45 16.9 +3.0
VYHS *e* 16 45 27.6
VYHS *e* 16 50 41.5
VYHS Vyhne 150.02 75 *e*PKP PKPdf 16 45 16.9 +3.0
VYHS *e* 16 45 27.6
VYHS *e* 16 50 41.5
OKC Ostrava-Krasne 150.05 72 *e*SS SS 17 08 10.0 -0.1
OKC AMS AMS 17 44 50.0
comp=Z,600nm,33.0s
VTS Vitosha 150.33 88⇑*i*P PKPbc 16 45 18.7 -0.9
VTS Vitosha 150.33 88 ⇑P PKPbc 16 45 18.7 -0.8
PSZ Piszkesteto 150.48 76 *e*PKP PKPab 16 45 25.9 -0.6
PSZ Piszkesteto 150.48 76⇑*i*P PKPdf 16 45 17.5 +2.9
PSZ Piszkesteto 150.48 76 *e*PKPbc PKPbc 16 45 16.6 -3.3
BZS Buzias 150.67 82⇑*i*P PKPbc 16 45 19.0 -1.4
BZS Buzias 150.67 82 ⇑P PKPbc 16 45 19.1 -1.3
BOD Bodaibo 150.82 304 *e*PKIKP PKPdf 16 45 15.9 +0.8
BOD pmax pmax
comp=Z,17nm,2.0s
KECS Kecovo 151.05 76 *e*PKP PKPbc 16 45 21.3 0.0
KECS *e* 16 45 30.1
KECS Kecovo 151.05 76 *e*PKP PKPbc 16 45 21.3 0.0
KECS *e* 16 45 30.1
OJC Ojcow 151.18 72 *e*PKP PKPbc 16 45 21.6 0.0
NIE Niedzica 151.25 74 *e*P PKPbc 16 45 22.7 +1.0
STHS Stebnicka Huta 151.82 74 *e*PKP PKPbc 16 45 21.7 -1.4
DRGR 151.84 80⇑*i*P PKPbc 16 45 22.8 -0.3
DRGR 151.84 80 ⇑P PKPbc 16 45 22.8 -0.3
LSA Lhasa 151.85 234 PFAKE 16 45 30.0 +13
LSA LR LR
comp=Z,1μm,22.0s,MS5.7
KOLS Kolonicke sedl 152.31 75 *e*PKP PKPab 16 45 32.5 -1.6
SONM Songino Array 153.13 281 PKP PKPdf 16 45 16.8 -1.8
comp=Z,0.1nm,0.5s,baz=110,slow=2.4,SNR=3.6
SONM PKPbc PKPbc 16 45 26.6 +0.7
comp=Z,2.0nm,0.7s,baz=130,slow=2.6,SNR=14
MLR Muntele Rosu 153.39 84⇑*i*P PKPbc 16 45 26.5 -0.1
MLR Muntele Rosu 153.39 84 ⇑P PKPbc 16 45 26.5 0.0
BURAR Bucovina Array 153.73 80⇑*i*P PKPbc 16 45 26.3 -1.0
PLOR Plostina 153.99 84⇑*i*P PKPdf 16 45 24.8 +5.0
BR131 Keskin Array S 155.51 103 *e*PKPdf PKPdf 16 45 19.5 -2.4
BRTR Keskin Array B 155.51 103 PKP PKPdf 16 45 21.0 -0.9
comp=Z,1.1nm,0.8s,baz=201,slow=1.3,SNR=7.2
BRTR PKPab PKPab 16 45 47.8 +0.1
comp=Z,4.7nm,0.9s,baz=207,slow=4.3,SNR=11
KIS Kishinev 155.81 83 *e*PKP PKPab 16 45 50.0 +1.0
KIS LRM 17 50 28.0
comp=Z,500nm,20.0s
AKASG Malin Array Be 157.12 74 PKP PKPdf 16 45 21.7 -2.3
comp=Z,0.3nm,0.4s,baz=263,slow=1.8,SNR=5.9
OBN Obninsk 161.89 63 PFAKE 16 45 40.0 +10
OBN LR LR
comp=Z,285nm,20.0s
GNI Garni 162.52 116 PFAKE 16 45 40.0 +10
GNI LR LR
comp=Z,1μm,22.0s
KIV Kislovodsk 163.47 103 PFAKE 16 45 40.0 +8.9
KIV LR LR
comp=Z,250nm,22.0s
WMQ Urumqi 163.51 257 PKP PKPdf 16 45 29.0 -2.1
WMQ APKP 16 45 39.0
WMQ PKP2 PKPab 16 46 23.0 +0.6
WMQ PKS 16 49 01.0
WMQ PP PP 16 50 09.0 +1.4
WMQ SKS SKSdf 16 52 30.0 -5.7
WMQ SKKS SKKSac 16 56 54.0 -1.8
WMQ PP PP
comp=Z,261nm,6.4s
WMQ LR LR
comp=N,508nm,19.8s
WMQ LR LR
comp=E,415nm,18.4s
WMQ LR LR
comp=Z,610nm,21.8s
MKAR Makanchi Array 168.24 261 PKPab PKPab 16 46 44.9 +1.6
comp=Z,1.8nm,0.7s,baz=104,slow=5.1,SNR=12
ARU Arti 172.41 29 PFAKE 16 45 50.0 +13
ARU LR LR
comp=Z,324nm,22.0s
BVAR Borovoye Array 175.60 315 PKPab PKPab 16 47 16.6 +0.6
comp=Z,0.9nm,0.8s,baz=57,slow=5.5,SNR=4.2

*IDC **06** 16:30:60.0±0.8, 4985S×11483W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, Error ellipse: s-maj=45.2km s-min=19.5km az=155.0*
*ISCJB **06** 16:31:00.4±0.6, 501S±02×1146W±02, h10km, mb4.3/13, Error ellipse: s-maj=27.5km s-min=15.6km az=115.1*
*NEIC **06** 16:31:01.2±0.5, 5036S×11458W, h10km, mb4.6/4, Error ellipse: s-maj=21.3km s-min=13.1km az=147.0*
ISC 06 16:31:01.9±0.6, 500S±02×1147W±02, h10km, n20, σ0$81/13, mb4.3/13, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**38.98**	**80**	P		**P**	**16 38 27.2 -1.0**
	0.6nm,0.8s,mb3.4,baz=230,slow=9.4,SNR=6.8						
QSPA	**South Pole Qui**	**40.17**	**180**	*e*P		**P**	**16 38 32.7 -5.4**
	7.6nm,1.2s,mb4.3						
LVC	**Limon Verde**	**44.97**	**70**	P		**P**	**16 39 17.7 +0.6**
	6.7nm,1.0s,mb4.4,baz=223,slow=7.6,SNR=3.9						
CPUP	**Villa Florida**	**49.54**	**84**	P		**P**	**16 39 51.6 -1.1**
	0.5nm,0.5s,mb3.8,baz=213,slow=6.5,SNR=2.8						
LPAZ	**La Paz**	**50.31**	**65**	P		**P**	**16 39 59.3 +0.7**
	4.7nm,0.8s,mb4.5,baz=193,slow=7.6,SNR=9.3						
MAW	**Mawson**	**62.68**	**179**	P		**P**	**16 41 27.8 +1.1**
	2.8nm,1.0s,mb4.3,baz=208,slow=7.9,SNR=3.8						
JTS	**JuntasAbangare**	**65.47**	**32**	P		**P**	**16 41 46.2 +1.2**
	10nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**74.22**	**239**	P		**P**	**16 42 39.1 +0.2**
	2.4nm,0.8s,mb4.2,baz=76,slow=16,SNR=2.9						
JCT	**Junction City**	**81.24**	**13**	*e*P		**P**	**16 43 18.1 +0.1**
	12nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**84.86**	**239**	P		**P**	**16 43 36.9 +0.1**
	3.4nm,1.0s,mb4.5,baz=146,slow=4.6,SNR=12						
ANMO	**Albuquerque**	**84.93**	**7**	P		**P**	**16 43 37.2 +0.1**
	2.1nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**87.57**	**242**	P		**P**	**16 43 48.9 -1.2**
	0.9nm,0.9s,mb4.0,baz=139,slow=4.5,SNR=4.6						
PDAR	**Pinedale Array**	**92.53**	**4**	P		**P**	**16 44 12.5 -0.8**
	0.8nm,0.8s,mb4.2,baz=167,slow=4.4,SNR=4.8						
HIA	**Hailar**	**145.38**	**290**	*e*P		PKPbc	16 50 39.2 -0.6
GERES	**GERESS Array B**	**146.99**	**72**	PKPbc		PKPbc	16 50 42.9 -1.8
	2.4nm,0.9s,baz=242,slow=2.1,SNR=9.9						
CLL	**Collm**	**147.42**	**67**	*e*PKPdf		PKPdf	16 50 42.0 -1.4
VYHS	**Vyhne**	**150.03**	**75**	*e*PKP		PKPab	16 50 58.3 -0.1
KECS	**Kecovo**	**151.06**	**76**	*e*PKP		PKPbc	16 50 54.8 -0.3
SONM	**Songino Array**	**153.13**	**281**	PKPbc		PKPbc	16 50 58.5 -1.3
	0.6nm,0.6s,baz=103,slow=1.4,SNR=4.2						
BRTR	**Keskin Array B**	**155.50**	**103**	PKPab		PKPab	16 51 21.3 -0.1
	1.1nm,0.9s,baz=194,slow=4.6,SNR=4.5						

PGC 06 16:48:58.8, 7133N×13457W, h35km, MLSn2.2/1, 334km southwest of Sachs Harbour, Nt Beaufort Sea., Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.06**	**173**	Pn	Pn	16 49 43.9	-0.7
INK				Sn	Sn	16 50 17.7	-2.3
INK				Trac		16 50 20.5	
	comp=Z,4.0nm,0.1s						
DAWY	**Dawson**	**7.52**	**196**	Pn	Pn	16 50 43.3	-2.6
DAWY				Sn	Sn	16 52 02.8	-7.2
DAWY				Trac		16 52 06.1	
	comp=Z,2.0nm,0.1s						
HYT	**Haines Junctio**	**10.62**	**188**	Pn	Pn	16 51 26.6	-1.8
YKW3	**Yellowknife Ar**	**11.69**	**129**	Trac		16 53 46.8	
	comp=Z,2.0nm,0.3s						
YKW3	**Yellowknife Ar**	**11.69**	**129**	Pn	Pn	16 51 41.0	-2.1
YKW3				Sn	Sn	16 53 40.2	-12
YKW3				Sn	Sn	16 53 40.5	-12
YKW3				Trac		16 53 44.9	

*SKHL **06** 17:07:24.1±1.9, 4677N×15177E, h33km, mb4.8/3*
*MOS **06** 17:07:26.4±1.4, 4718N×15087E, h138km, mb4.4/7, Error ellipse: s-maj=24.7km s-min=10.9km az=65.9*
*NEIC **06** 17:07:29.7±1.4, 4676N×15125E, h176km±13km, mb4.5/9, Error ellipse: s-maj=24.7km s-min=10.1km az=154.0*
*ISCJB **06** 17:07:30.2±0.9, 4659N±010×1511E±01, h204km±11km, mb3.9/15, Error ellipse: s-maj=17.9km s-min=10.9km az=103.7*
*IDC **06** 17:07:32.9±3.2, 4678N×15104E, h204km±47km, mb3.5/9, mb1 3.7/10, mb1mx3.4/23, mbtmp4.1/10, Error ellipse: s-maj=68.6km s-min=14.9km az=174.0*
*JMA **06** 17:07:32.2±0.5, 4603N×15146E, h134km, M3.6*
ISC 06 17:07:29.8±0.9, 4668N±010×1513E±01, h181km±11km, n58, σ1$20/67, mb4.1/15, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.79**	**240**	*i* P		**Pn**	**17 08 14.0 -1.9**
KUR				AMB	AMB	17 08 14.5	
	80nm,0.5s						
KUR				AMB	AMB	17 08 14.5	
	490nm,0.5s						
KUR				*i* S		**Sn**	**17 08 50.0 -1.8**
KUR				A		17 08 55.0	
	400nm,0.9s						
KUR				A		17 08 55.0	
	312nm,0.9s						
KUR	**Kuril'sk**	**2.79**	**240**	⇑*i*PN		**Pn**	**17 08 14.0 -1.9**
KUR				*i* S		**Sn**	**17 08 50.0 -1.8**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,490nm,0.5s						
KUR				smax			
	comp=N,400nm,0.9s						
KUR				smax			
	comp=E,310nm,0.9s						
SKR	**Severo-Kuril's**	**5.13**	**37**	*e*P		**Pn**	**17 08 37.5 -7.9**
SKR				AMB	AMB	17 08 42.5	
	comp=E,100nm,0.6s						
SKR				AMB	AMB	17 08 42.5	
	comp=E,80nm,0.6s						
SKR				AMB	AMB	17 08 42.5	
	comp=E,140nm,0.6s						
SKR				*e*rx	rx	17 08 44.4	
SKR				*e*S	**Sn**	**17 09 34.0 -11**	
SKR				A		17 09 37.0	
	comp=E,330nm,0.2s						
SKR				A		17 09 37.0	
	comp=E,190nm,0.2s						
SKR				A		17 09 37.0	
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**5.13**	**37**	*e*PN		**Pn**	**17 08 37.5 -7.9**
SKR				*e*S		**Sn**	**17 09 34.0 -11**
SKR				pmax	pmax		
	comp=N,100nm,0.6s						
SKR				pmax	pmax		
	comp=E,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,140nm,0.6s						
SKR				smax			
	comp=N,330nm,0.2s						
SKR				smax			
	comp=E,190nm,0.2s						
NEM2	**Nemuro 2**	**5.14**	**232**	P		**Pn**	**17 08 44.6 -0.9**
NEM2				*e*S		**Sn**	**17 09 40.5 -4.5**
JNK	**Nakash**	**5.58**	**239**	P		**Pn**	**17 08 51.7 +0.4**
JTKR	**Abashiri--Toko**	**5.87**	**245**	P		**Pn**	**17 08 56.2 +1.2**
YSS	**Yuzh-Sakhalins**	**5.87**	**276**	*e*PN		**Pn**	**17 08 56.2 +1.2**
YSS				pmax	pmax		
	comp=Z,14nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.87**	**276**	*e*P		**Pn**	**17 08 56.2 +1.3**
	comp=Z,14nm,0.9s						
JAK	**Akkeshi**	**5.96**	**234**	P		**Pn**	**17 08 55.5 -0.7**
JAK				*e*S		**Sn**	**17 10 00.4 -3.8**
JMP	**Maruseppu**	**6.19**	**247**	P		**Pn**	**17 09 00.8 +1.6**
JAR	**Ashorobuto**	**6.31**	**240**	P		**Pn**	**17 09 02.1 +1.3**
JOB	**Onbets**	**6.51**	**237**	P		**Pn**	**17 09 03.3 -0.1**
JOB				*e*S		**Sn**	**17 10 13.4 -3.8**
ASAJ	**Asahikawa**	**6.63**	**250**	P		**Pn**	**17 09 06.9 +1.9**
	comp=Z,2.7nm,0.3s,baz=80,slow=15,SNR=24						
ASAJ	**Asahikawa**	**6.63**	**250**	P		**Pn**	**17 09 06.8 +1.8**
ASAJ	**Asahikawa**	**6.63**	**250**	PN		**Pn**	**17 09 06.9 +1.9**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	**Kamakawa 2**	**6.65**	**248**	P		**Pn**	**17 09 06.9 +1.7**
JCH	**Churui**	**6.96**	**237**	P		**Pn**	**17 09 09.0 -0.3**
JCH				*e*S		**Sn**	**17 10 21.7 -6.2**
TYV	**Tymovskoe**	**7.08**	**309**	*e*P		**Pn**	**17 09 11.0 +0.2**
TYV				AMB	AMB	17 09 12.0	
	comp=Z,10.0nm,0.8s						
JFR	**Furan**	**7.10**	**243**	P		**Pn**	**17 09 12.9 +1.7**
JBT2	**Biratori 2**	**7.46**	**242**	P		**Pn**	**17 09 17.0 +1.2**
JEM	**Erimo**	**7.46**	**234**	P		**Pn**	**17 09 16.6 +0.7**
JNBK	**Urakawa-nobuka**	**7.52**	**237**	P		**Pn**	**17 09 15.8 -0.9**
JNBK				*e*S		**Sn**	**17 10 34.9 -6.4**
PET	**Petropavlovsk**	**7.94**	**34**	*e*PN		**Pn**	**17 09 19.1 -3.0**
JNB	**Noboribetsu**	**8.44**	**244**	*e*S		**Sn**	**17 10 58.4 -4.8**
JKB	**Kayabe**	**8.78**	**241**	*e*S		**Sn**	**17 11 02.8 -8.4**
JSH	**Shimam**	**8.97**	**247**	P		**Pn**	**17 09 36.6 +0.9**
JYM2	**Yakumo 2**	**9.05**	**244**	P		**Pn**	**17 09 36.9 +0.2**
JTM	**Tenmabayashi**	**9.45**	**235**	*e*S		**Sn**	**17 11 17.5 -10**
JRG	**Rokugo**	**10.66**	**231**	*e*S		**Sn**	**17 11 49.2 -7.1**
MAJO	**Matsushiro**	**14.06**	**229**	*e*P		**Pn**	**17 10 41.1 0.0**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
MAJO	**Matsushiro**	**14.06**	**229**	*e*Pn		**Pn**	**17 10 41.1 0.0**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**30.17**	**289**	P		**P**	**17 13 22.0 -0.8**
	comp=Z,0.7nm,1.1s,mb3.3,baz=19,slow=14,SNR=3.2						
SONM	**Songino Array**	**30.17**	**289**	P		**P**	**17 13 22.0 -0.8**
SONM				pmax	pmax		
	comp=Z,10.0nm,1.1s						
IMA2	**Indian Mountai**	**34.60**	**36**	*e*P		**P**	**17 14 01.5 +0.1**
KDAK	**Kodiak Island**	**35.12**	**51**	P		**P**	**17 14 05.7 -0.2**
	comp=Z,6.4nm,0.9s,mb4.2,baz=282,slow=9.3,SNR=4.9						
MCK	**McKinley**	**36.52**	**40**	*e*P		**P**	**17 14 18.1 +0.4**
MCK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
MCK	**McKinley**	**36.52**	**40**	*e*P		**P**	**17 14 18.1 +0.4**
	comp=Z,3.1nm,1.0s,mb3.9						
COLA	**College**	**36.97**	**38**	*e*P		**P**	**17 14 22.3 +0.7**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
COLA	**College**	**36.97**	**38**	*e*P		**P**	**17 14 22.3 +0.8**
	comp=Z,10nm,0.7s,mb4.6						
INK	**Inuvik**	**42.38**	**32**	P		**P**	**17 15 07.1 +0.9**
	comp=Z,3.5nm,0.5s,mb4.2,baz=309,slow=5.3,SNR=17						
INK	**Inuvik**	**42.38**	**32**	P		**P**	**17 15 07.1 +0.9**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**42.38**	**32**	*e*P		**P**	**17 15 06.6 +0.4**
	comp=Z,174nm,0.8s						
MKAR	**Makanchi Array**	**45.86**	**297**	P		**P**	**17 15 32.9 -0.8**
	comp=Z,0.3nm,0.3s,mb3.4,baz=67,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**45.86**	**297**	P		**P**	**17 15 32.9 -0.8**
BVAR	**Borovoye Array**	**49.93**	**309**	P		**P**	**17 16 04.1 -0.9**
	comp=Z,0.3nm,0.5s,mb3.2,baz=34,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**51.73**	**36**	P		**P**	**17 16 18.9 +0.4**
	comp=Z,4.4nm,0.7s,mb4.2,baz=299,slow=7.1,SNR=8.2						
YKA	**Yellowknife Ar**	**51.73**	**36**	P		**P**	**17 16 18.9 +0.5**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SUMG	**Summit**	**60.85**	**3**	*e*P		**P**	**17 17 23.2 +0.2**
	comp=Z,11nm,0.8s,mb4.7						
FCC	**Fort Churchill**	**62.01**	**32**	*e*P		**P**	**17 17 30.2 -0.4**
	comp=Z,57nm,1.3s,mb5.2						
FINES	**FINESS Array B**	**63.56**	**334**	P		**P**	**17 17 39.9 -1.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=67,slow=6.4,SNR=7.0						
FINES	**FINESS Array B**	**63.56**	**334**	P		**P**	**17 17 39.9 -1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**65.80**	**53**	P		**P**	**17 17 57.0 +1.6**
	comp=Z,1.8nm,0.7s,mb4.0,baz=318,slow=1.6,SNR=12						
NOA	**NORSAR Array B**	**67.88**	**340**	P		**P**	**17 18 07.7 -0.9**
	comp=Z,0.7nm,0.7s,mb3.5,baz=27,slow=6.5,SNR=2.6						
JFWS	**Jewell Farm**	**75.47**	**42**	P		**P**	**17 18 53.8 0.0**
JFWS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
JFWS	**Jewell Farm**	**75.47**	**42**	P		**P**	**17 18 53.8 0.0**
	comp=Z,7.5nm,0.6s,mb4.5						
MIAR	**Mount Ida**	**80.33**	**49**	*e*P		**P**	**17 19 19.0 -1.7**
MIAR				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
MIAR	**Mount Ida**	**80.33**	**49**	*e*P		**P**	**17 19 19.0 -1.7**
	comp=Z,18nm,1.0s,mb4.7						

*IDC **06** 17:20:56.3±0.9, 548N×7997W, h0km, mb4.1/11, mb1 4.4/16, mb1mx4.2/27, mbtmp4.2/16, ML3.9/5, MS3.7/5, Ms1 3.7/5, ms1mx3.4/37, Error ellipse: s-maj=28.4km s-min=15.0km az=40.0*
*ISCJB **06** 17:20:57.3±0.5, 559N±006×7985W±006, h10km, mb4.2/20, MS4.4/2, Error ellipse: s-maj=10.1km s-min=5.7km az=90.1*
*NEIC **06** 17:20:57.9±0.6, 538N×7998W, h10km, mb4.4/11, Error ellipse: s-maj=18.8km s-min=8.9km az=212.0*
*BJI **06** 17:20:57.8, 540N×8000W, h10km, mB5.2, Ms4.9, Msz4.6*
*CASC **06** 17:21:00.3±1.8, 583N×7989W, h0km±48km, MD4.6, mb4.4(NEIC)*
ISC 06 17:20:59.3±0.5, 561N±006×7984W±006, h10km, n45, σ1$24/40, mb4.2/20, MS4.4/2, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**2.21**	**349**	⇑*i*P		**Pn**	**17 21 35.3 -0.8**
AZU				*e*S		**Sn**	**17 22 01.2 -2.2**
ACH	**Altos**	**3.04**	**358**	*e*P		**Pn**	**17 21 41.9 -5.5**
UPA	**Univ. de Panam**	**3.37**	**5**	*e*S		**Sn**	**17 22 31.4 -0.5**
BUS	**Buena Vista**	**5.52**	**316**	*e*P		**Pn**	**17 22 21.1 -0.5**
BUS				*e*S		**Sn**	**17 23 27.0 +2.0**
ROSC	**El Rosal**	**5.54**	**97**	Pn		**Pn**	**17 22 23.5 +1.7**
	47nm,0.3s,baz=269,slow=14,SNR=30						
ROSC				Sn		**Sn**	**17 23 30.8 +5.4**
	baz=90,slow=20,SNR=2.2						
ROSC				LR	LR	17 24 34.4	
	comp=Z,483nm,18.8s,baz=225,slow=38						

ROSC El Rosal 5.54 97 *e*Pn **Pn 17 22 24.8 +3.1**
PRS1 Puriscal 6.21 315 *e*P **Pn 17 22 31.5 +0.5**
JTS JuntasAbangare 6.88 313 Pn **Pn 17 22 39.7 -0.4**
2.1nm,0.3s,baz=142,slow=16,SNR=11
JTS LR LR 17 25 14.0
comp=Z,385nm,20.0s,baz=146,slow=38
JTS JuntasAbangare 6.88 313 *e*Pn **Pn 17 22 38.5 -1.6**
21nm,0.8s
SDV Santo Domingo 9.70 70 Pn **Pn 17 23 19.2 +0.4**
4.9nm,0.3s,baz=305,slow=11,SNR=27
SDV Santo Domingo 9.70 70 *e*Pn **Pn 17 23 19.6 +0.7**
21nm,0.6s
ATAH Atahualpa 12.61 173 LR LR 17 28 35.0
comp=Z,419nm,19.0s,baz=350,slow=36
PCRV Puerto La Cruz 15.72 72 Pn **Pn 17 24 41.1 +0.3**
1.1nm,0.3s,baz=310,slow=7.9,SNR=2.7
NNA Nana 17.73 170 LR LR 17 31 29.6
comp=Z,210nm,19.0s,baz=230,slow=36
CMIG Matias Romero 18.63 309 P **Pn 17 25 15.7 -1.6**
0.1nm,0.3s,baz=51,slow=8.4,SNR=4.3
SAML Samuel 22.02 131 *e*P **P 17 25 50.9 -2.8**
38nm,0.8s,mb4.9
LPAZ La Paz 24.65 152 P **P 17 26 19.4 -0.6**
2.6nm,0.9s,mb3.8,baz=337,slow=14,SNR=8.0
LPAZ La Paz 24.65 152 *e*P **P 17 26 19.2 -0.8**
3.6nm,0.8s,mb4.0
SIV San Ignacio 28.38 139 P **P 17 26 52.6 -1.1**
4.6nm,0.8s,mb4.1,baz=309,slow=9.3,SNR=18
BDFB Brasilia 37.93 124 LR LR 17 44 14.2
comp=Z,191nm,19.2s,MS3.9,baz=231,slow=37
RSSD Black Hills 43.85 335 P **P 17 29 07.5 +1.9**
2.6nm,0.8s,mb4.0
PDAR Pinedale Array 45.40 329 P **P 17 29 17.8 -0.2**
0.5nm,0.7s,mb3.5,baz=119,slow=5.2,SNR=4.1
HWUT Hardware Ranch 45.65 327 P **P 17 29 21.7 +1.8**
1.5nm,0.5s,mb4.2
REDW Red Top Meadow 46.49 329 *e*P **P 17 29 26.4 -0.2**
6.6nm,0.9s,mb4.6
ULM Lac du Bonnet 46.49 346 P **P 17 29 25.8 -0.8**
2.3nm,0.5s,mb4.3,baz=182,slow=7.7,SNR=3.1
MOOW Moose Ponds 46.70 329 *e*P **P 17 29 29.7 +1.4**
2.1nm,0.8s,mb4.1
IMW Indian Meadow 46.91 329 *e*P **P 17 29 31.5 +1.6**
4.2nm,0.6s,mb4.5
NVAR Mina Array Bea 47.77 319 P **P 17 29 35.3 -1.3**
0.2nm,0.5s,mb3.4,baz=126,slow=9.0,SNR=2.2
HLID Hailey 48.52 327 *e*P **P 17 29 43.9 +1.5**
2.3nm,0.9s,mb4.2
YKA Yellowknife Ar 62.25 343 P **P 17 31 18.4 -2.9**
2.1nm,0.8s,mb4.3,baz=135,slow=7.2,SNR=6.0
YKA Yellowknife Ar 62.25 343 P **P 17 31 18.4 -2.9**
SUMG Summit 71.49 12 *e*P **P 17 32 20.7 +0.6**
13nm,1.0s,mb4.8
INK Inuvik 71.98 342 P **P 17 32 22.9 -0.2**
4.4nm,0.8s,mb4.4,baz=140,slow=11,SNR=5.9
INK Inuvik 71.98 342 *e*P **P 17 32 23.0 -0.1**
290nm,1.0s
ESDC Sonseca Array 75.57 51 P **P 17 32 45.0 +0.8**
1.5nm,0.7s,mb4.0,baz=262,slow=5.7,SNR=9.7
ESLA Sonseca Array 75.57 51 *e*P **P 17 32 45.2 +1.1**
1.3nm,0.9s,mb3.9
EKA Eskdalemuir Ar 77.84 35 P **P 17 32 56.8 -0.2**
3.1nm,0.8s,mb4.3,baz=252,slow=3.9,SNR=6.2
TORD Torodi Ar. Bea 80.52 78 P **P 17 33 10.4 -1.3**
0.9nm,0.8s,mb3.8,baz=290,slow=6.0,SNR=4.3
NOA NORSAR Array B 85.65 29 P **P 17 33 38.2 0.0**
2.4nm,0.9s,mb4.4,baz=273,slow=4.8,SNR=3.7
NOA NORSAR Array B 85.65 29 P **P 17 33 38.2 0.0**
MDJ Mudanjiang 123.44 335 PKP PKPdf 17 39 56.2 -0.5
MDJ XPKP 17 40 00.9
MDJ PP PP 17 41 37.0 -0.8
MDJ PKS 17 43 32.8
SONM Songino Array 126.50 355 PKP PKPdf 17 40 02.2 -0.4
0.5nm,0.5s,baz=139,slow=1.3,SNR=4.3
LZH Lanzhou 138.38 356 *e*PKP PKPdf 17 40 20.0 -4.9
LZH XPKP 17 40 26.9
LZH LR LR
comp=N,125nm,19.3s
LZH LR LR
comp=Z,246nm,20.4s,MS4.9
ASAR Alice Springs 142.90 238 PKhKP 17 40 28.1
comp=Z,0.2nm,0.6s,baz=114,slow=3.9,SNR=5.4
ASAR PKP PKPdf 17 40 32.3 -0.8
comp=Z,0.5nm,0.9s,baz=106,slow=2.4,SNR=4.1
WRA Warramunga Arr 143.85 244 PKP PKPdf 17 40 31.8 -3.0
comp=Z,2.1nm,0.9s,baz=111,slow=3.3,SNR=9.8

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*IDC **06** 17:21:08.3±0.9,29.19S×68.44W,h0km,mb3.9/2,mb1 4.0/4, mb1mx3.8/17,mbtmp3.8/4,ML4.5/2,Error ellipse: s-maj=29.1km s-min=13.6km az=90.0*
*GUC **06** 17:21:12.7±0.5,2909S×6809W,h136km±10km,ML4.3*
*ISCJB **06** 17:21:13.9±0.9,2905S±005×6805W±007,h45km±13km, mb4.0/3,Error ellipse: s-maj=10.2km s-min=7.7km az=175.0*
*NEIC **06** 17:21:15.3±0.8,29.13S×68.15W,h48km±9km,mb4.4/1, Error ellipse: s-maj=12.8km s-min=9.7km az=110.0*
ISC 06 17:21:15.9±0.8,2907S±005×6808W±007,h47km±12km, **n21**,σ0°**89**/25,**mb4.0**/3,**2C,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**2.40**	**281**	*e*P	**Pn**	**17 21 57.8**	**+5.1**
VACH				*i* S	**Sn**	**17 22 27.9**	**+7.1**
ZON	**Zonda**	**2.52**	**192**	*e*P	**Pn**	**17 21 53.9**	**-0.4**
ZON				*i* S	**Sn**	**17 22 24.7**	**+0.9**
ZON				AML	AML	17 22 35.3	
comp=N,211nm,0.7s							
CFAA	**Coronel Fontan**	**2.53**	**183**	Pg	**Pn**	**17 21 54.1**	**-0.4**
comp=N,5.5nm,0.3s,baz=354,slow=16,SNR=21							
CFAA				Lg		17 22 25.3	
comp=N,20nm,0.3s,baz=92,slow=19,SNR=37							
CFAA	**Coronel Fontan**	**2.53**	**183**	Pg	**Pn**	**17 21 54.1**	**-0.4**
CFAA				Lg		17 22 25.3	
TLL	**Tololo Astrono**	**2.61**	**245**	*e*P	**Pn**	**17 21 55.5**	**0.0**
TLL				*e*S	**Sn**	**17 22 28.0**	**+2.0**
TLL				AML	AML	17 22 34.1	
comp=E,1μm,0.8s							
TLL	**Tololo Astrono**	**2.61**	**245**	*e*P	**Pn**	**17 21 55.5**	**0.0**
TLL				*e*S	**Sn**	**17 22 28.0**	**+2.0**
CDCH	**Caldera**	**3.14**	**309**	*e*P	**Pn**	**17 22 01.9**	**-0.9**
CDCH				*i* S	**Sn**	**17 22 39.2**	**+0.3**
CMCH	**Combarbala**	**3.29**	**230**	⇑*i*P	**Pn**	**17 22 03.5**	**-1.3**
CMCH				*i* S	**Sn**	**17 22 42.5**	**-0.1**
CMCH				AML	AML	17 23 00.1	
comp=N,2μm,0.7s							
CMCH	**Combarbala**	**3.29**	**230**	⇑*i*P	**Pn**	**17 22 03.5**	**-1.3**
CMCH				*i* S	**Sn**	**17 22 42.5**	**-0.1**
PEL	**Peldehue**	**4.63**	**208**	*e*P	**Pn**	**17 22 19.4**	**-3.9**
FCH	**Farellones**	**4.65**	**203**	*e*P	**Pn**	**17 22 23.2**	**-0.3**
LVC	**Limon Verde**	**6.47**	**353**	Pn	**Pn**	**17 22 48.5**	**0.0**
comp=N,1.0nm,0.3s,baz=162,slow=11,SNR=3.1							
LVC				Lg		17 24 37.7	
comp=N,2.2nm,0.3s,baz=77,slow=10,SNR=5.4							
CPUP	**Villa Florida**	**9.91**	**77**	Pn	**Pn**	**17 23 37.0**	**+1.4**
comp=N,0.9nm,0.3s,baz=235,slow=13,SNR=4.5							
CPUP				Lg		17 26 34.5	
comp=N,2.0nm,0.3s,baz=292,slow=10,SNR=2.9							
CPUP	**Villa Florida**	**9.91**	**77**	*e*Pn	**Pn**	**17 23 36.0**	**+0.3**
comp=N,13nm,0.4s							
CPUP				Lg		17 26 34.5	
QSPA	**South Pole Qui**	**61.16**	**180**	*e*P	**P**	**17 31 24.5**	**-1.0**
comp=N,2.0nm,0.6s,mb4.4							
TORD	**Torodi Ar. Bea**	**79.31**	**68**	P	**P**	**17 33 17.8**	**+1.3**
comp=N,1.0nm,0.6s,mb3.9,baz=259,slow=2.9,SNR=8.6							
TORD	**Torodi Ar. Bea**	**79.31**	**68**	P	**P**	**17 33 17.8**	**+1.3**
PDAR	**Pinedale Array**	**81.02**	**330**	P	**P**	**17 33 25.4**	**-0.3**
comp=N,0.5nm,0.7s,mb3.6,baz=103,slow=4.7,SNR=4.0							
ASAR	**Alice Springs**	**123.46**	**204**	PKP	PKPdf	17 40 06.3	-1.5
comp=N,0.3nm,0.8s,baz=139,slow=2.3,SNR=4.9							
WRA	**Warramunga Arr**	**126.69**	**207**	PKP	PKPdf	17 40 13.3	-0.7
comp=N,0.2nm,0.3s,baz=161,slow=1.8,SNR=11							
MKAR	**Makanchi Array**	**150.93**	**44**	PKPbc	PKPbc	17 41 03.3	0.0
comp=N,1.0nm,0.6s,baz=336,slow=2.7,SNR=9.8							
MKAR				PKPab	PKPab	17 41 10.8	0.0
comp=N,1.4nm,0.8s,baz=280,slow=3.5,SNR=7.5							

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*CRAAG **06** 17:22:31.5,3685N×423E,Ml4.1*
*IDC **06** 17:22:32.1±0.9,3689N×429E,h0km,mb4.0/9,mb1 4.1/15, mb1mx4.0/28,mbtmp4.0/15,ML4.3/6,MS2.8/1,Ms1 2.8/1, ms1mx2.5/31,Error ellipse: s-maj=19.1km s-min=16.9km az=138.0*
*ISCJB **06** 17:22:32.3±0.2,3697N±002×417E±002,h10km,mb4.2/22, Error ellipse: s-maj=2.6km s-min=2.1km az=166.0*
*CSEM **06** 17:22:32.0±0.1,3691N×421E,h10km,mb4.4/7,ML4.2/5, Error ellipse: s-maj=1.9km s-min=1.7km az=108.0*
*BJI **06** 17:22:33.3,3680N×430E,h10km,mB5.4,mb4.8,Ms4.7, Msz4.3*
*NEIC **06** 17:22:33.4±0.3,3684N×432E,h10km,mb4.3/9,Error ellipse: s-maj=4.0km s-min=2.6km az=150.0*
*MOS **06** 17:22:33.7±0.7,3698N×429E,h22km,mb4.3/10,Error ellipse: s-maj=7.3km s-min=2.9km az=88.1*
*MDD **06** 17:22:34.3±0.6,3687N×424E,h6km±7km,mb4.8/28,Error ellipse: s-maj=5.3km s-min=3.7km az=2.0,PRXIMO*
*LDG **06** 17:22:38.5±0.2,3690N×426E,h30km,Ml4.1/15,Error ellipse: s-maj=5.6km s-min=2.4km az=148.0*
*STR **06** 17:22:46.1±0.6,3776N×423E,h10km±1km,Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 06 17:22:33.9±0.2,3688N±002×420E±002,h10km,**n252**, σ**1°26**/328,**mb4.2**/22,**1C-4D,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKF	**Akfadou**	**0.38**	**130**	P	**Pg**	**17 22 40.2**	**-1.2**
ABMS	**Boumerdes**	**0.60**	**258**	P	**Pg**	**17 22 45.3**	**-0.1**
AKET	**Djebel Ketaf**	**0.87**	**197**	P	**Pg**	**17 22 50.5**	**-0.2**
ABA	**Alger-Bouzarea**	**0.94**	**266**	P	**Pg**	**17 22 49.5**	**-2.5**
ADJB	**Djebel Djouab**	**0.95**	**221**	P	**Pg**	**17 22 51.7**	**-0.5**
SET	**Setif**	**1.18**	**125**	P	**Pb**	**17 22 57.0**	**+0.7**
DFRA	**Djebel Bou Aff**	**1.39**	**104**	P	**Pn**	**17 22 58.4**	**-0.8**
CMER	**Merouana**	**1.86**	**132**	P	**Pn**	**17 23 10.0**	**+4.2**
CASM	**Ain Smara**	**1.94**	**108**	P	**Pn**	**17 23 06.0**	**-0.9**
CTEI	**Djebel Teioual**	**1.95**	**114**	P	**Pn**	**17 23 06.5**	**-0.6**
CKFL	**Kef-Lekhel**	**2.08**	**103**	P	**Pn**	**17 23 08.0**	**-0.8**
CAEH	**'Ain El Ouahch**	**2.12**	**92**	P	**Pn**	**17 23 09.0**	**-0.4**
EBNR	**Beni Rached**	**2.23**	**255**	P	**Pn**	**17 23 15.0**	**+4.1**
ECHA	**Ech Chlef**	**2.40**	**253**	P	**Pn**	**17 23 13.0**	**-0.2**
ECHF	**Ech Chlef**	**2.42**	**253**	P	**Pn**	**17 23 13.0**	**-0.4**
CMAH	**Djebel Manchou**	**2.59**	**95**	P	**Pn**	**17 23 14.0**	**-1.9**
EANR	**'Ain N'Sour**	**2.67**	**251**	P	**Pn**	**17 23 17.0**	**+0.1**
ETRT	**Tiaret**	**2.78**	**239**	P	**Pn**	**17 23 18.0**	**-0.5**
OKGL	**Djebel Kef Gue**	**2.99**	**255**	P	**Pg**	**17 23 36.0**	**+4.8**
ETOS	**Mallorca**	**3.08**	**340**	⇓Pn	**Pn**	**17 23 22.2**	**-0.3**
158nm,0.4s,SNR=18							
ETOS				Sn	**Sn**	**17 23 56.6**	**-2.9**
141nm,0.4s							
ETOS	**Mallorca**	**3.08**	**340**	P	**Pn**	**17 23 22.2**	**-0.4**
158nm,0.4s,SNR=18							
EIBI	**Ibiza**	**3.12**	**314**	Pn	**Pn**	**17 23 23.2**	**+0.2**
55nm,0.3s,SNR=50							
EIBI				Sn	**Sn**	**17 23 57.5**	**-2.8**
72nm,0.4s,SNR=4.5							
EIBI	**Ibiza**	**3.12**	**314**	P	**Pn**	**17 23 23.2**	**+0.2**
55nm,0.3s,SNR=50							
OJBR	**Djebel Berber**	**3.38**	**249**	P	**Pb**	**17 23 36.0**	**+2.2**
EBEN	**Beniarda**	**3.95**	**299**	Pn	**Pn**	**17 23 33.8**	**-0.8**
9.9nm,0.2s,SNR=36							
EBEN				Sn	**Sn**	**17 24 17.1**	**-3.8**
24nm,0.3s							
USTO	**Oran**	**4.01**	**255**	P	**Pg**	**17 23 50.0**	**-0.6**
CART	**Cartagena**	**4.21**	**281**	*e*Pn	**Pn**	**17 23 37.6**	**-0.5**
CART				*e*Sn	**Sn**	**17 24 24.4**	**-3.0**
CART	**Cartagena**	**4.21**	**281**	*e*Pn	**Pn**	**17 23 37.6**	**-0.5**
CART				*e*Sn	**Sn**	**17 24 24.4**	**-3.0**
KEST	**Kesra**	**4.31**	**104**	Pn	**Pn**	**17 23 39.4**	**0.0**
4.3nm,0.3s,baz=249,slow=4.2,SNR=97							
KEST				Sn	**Sn**	**17 24 30.3**	**+0.6**
10nm,0.3s,baz=240,slow=14,SNR=12							
KEST				LR	LR	17 24 35.0	
comp=Z,124nm,20.5s,baz=250,slow=29							
EMUR	**La Murta**	**4.44**	**284**	Pn	**Pn**	**17 23 41.8**	**+0.6**
12nm,0.4s,SNR=12							
EMUR				Sn	**Sn**	**17 24 29.7**	**-3.4**
25nm,0.5s							
VSL	**Villasalto**	**4.84**	**56**	*e*Pn	**Pn**	**17 23 45.3**	**-1.5**
VSL				*e*Sn	**Sn**	**17 24 34.4**	**-8.4**
VSL	**Villasalto**	**4.84**	**56**	*e*Pn	**Pn**	**17 23 45.3**	**-1.4**
VSL				*e*Sn	**Sn**	**17 24 34.4**	**-8.4**
ETOB	**Tobarra**	**4.89**	**293**	Pn	**Pn**	**17 23 48.0**	**+0.6**
34nm,0.3s,SNR=69							
ETOB				Sn	**Sn**	**17 24 40.4**	**-3.6**
34nm,0.5s							
ETOB	**Tobarra**	**4.89**	**293**	P	**Pn**	**17 23 48.0**	**+0.6**
34nm,0.3s,SNR=69							
EMOS	**Mosqueruela**	**5.05**	**315**	Pn	**Pn**	**17 23 50.2**	**+0.6**
17nm,0.3s,SNR=41							
EMOS				Sn	**Sn**	**17 24 43.9**	**-4.1**
48nm,0.7s							
EMOS	**Mosqueruela**	**5.05**	**315**	P	**Pn**	**17 23 50.2**	**+0.6**
17nm,0.3s,SNR=41							
ERTA	**Horta de San J**	**5.07**	**325**	Pn	**Pn**	**17 23 49.7**	**-0.1**
5.7nm,0.3s,SNR=12							
ERTA				Sn	**Sn**	**17 24 43.3**	**-5.1**
24nm,0.5s							
ERTA	**Horta de San J**	**5.07**	**325**	P	**Pn**	**17 23 49.7**	**-0.1**
5.7nm,0.3s,SNR=12							
EPOB	**Poblet**	**5.08**	**332**	Pn	**Pn**	**17 23 50.0**	**-0.1**
46nm,0.4s,SNR=42							
EPOB				Sn	**Sn**	**17 24 43.2**	**-5.7**
13nm,0.4s							
EPOB	**Poblet**	**5.08**	**332**	P	**Pn**	**17 23 50.0**	**-0.1**
46nm,0.4s,SNR=42							
ENIJ	**Nijar**	**5.14**	**273**	Pn	**Pn**	**17 23 51.0**	**+0.2**
12nm,0.4s,SNR=6.7							
ENIJ				Sn	**Sn**	**17 24 46.9**	**-3.3**
9.2nm,0.4s							
EMIR	**Miracle**	**5.44**	**338**	Pn	**Pn**	**17 23 56.3**	**+1.4**
42nm,0.2s,SNR=42							
EMIR				Sn	**Sn**	**17 24 52.7**	**-4.9**
44nm,0.5s							
DGI	**Dorgali Grotta**	**5.45**	**49**	Pn	**Pn**	**17 23 54.7**	**-0.4**
EHUE	**Huescar**	**5.50**	**282**	Pn	**Pn**	**17 23 58.3**	**+2.5**
6.4nm,0.3s,SNR=4.6							
EHUE				Sn	**Sn**	**17 24 56.3**	**-2.7**
5.1nm,0.4s							
EVIA	**Vianos**	**5.60**	**290**	Pn	**Pn**	**17 23 57.8**	**+0.7**
23nm,0.3s,SNR=32							
EVIA				Sn	**Sn**	**17 24 56.6**	**-4.8**
40nm,0.8s							
EJON	**La Jonquera**	**5.65**	**350**	⇓Pn	**Pn**	**17 23 58.2**	**+0.3**
71nm,0.3s,SNR=18							
EJON				Sn	**Sn**	**17 24 57.2**	**-5.7**
8.1nm,0.5s							
EBER	**Berja**	**5.69**	**272**	Pn	**Pn**	**17 23 57.5**	**-0.9**
5.0nm,0.3s,SNR=10.0							
EBER				Sn	**Sn**	**17 25 00.7**	**-3.0**
9.5nm,0.5s							
VALF	**Valcebollere**	**5.77**	**344**	P	**Pn**	**17 24 00.9**	**+1.4**
FILF	**Fillols**	**5.81**	**348**	P	**Pn**	**17 24 01.4**	**+1.3**
EQES	**Quesada**	**5.87**	**281**	⇓Pn	**Pn**	**17 24 02.7**	**+1.8**
45nm,0.3s,SNR=18							
EQES				Sn	**Sn**	**17 25 06.3**	**-1.9**
19nm,0.4s							
EALB	**Alboran**	**5.91**	**263**	Pn	**Pn**	**17 24 00.7**	**-0.8**
36nm,0.6s,SNR=5.1							
EALB				Sn	**Sn**	**17 25 05.4**	**-3.9**
11nm,0.5s							
ESAC	**San Caprasio**	**6.04**	**325**	Pn	**Pn**	**17 24 04.2**	**+1.0**
65nm,0.3s,SNR=24							
ESAC				Sn	**Sn**	**17 25 09.1**	**-3.4**
56nm,0.4s							
CARF	**Carcanieres**	**6.05**	**345**	P	**Pn**	**17 24 04.8**	**+1.5**
CARF				S	**Sn**	**17 25 09.0**	**-3.6**
EQUE	**Quentar**	**6.12**	**275**	Pn	**Pn**	**17 24 05.4**	**+1.1**
2.7nm,0.3s,SNR=9.4							
EQUE				Sn	**Sn**	**17 25 14.5**	**0.0**
11nm,0.5s,SNR=4.6							
LRDF	**Laroque-de-Fa**	**6.18**	**349**	P	**Pn**	**17 24 06.1**	**+0.9**
ECOG	**Cogollos-Vega**	**6.23**	**276**	Pn	**Pn**	**17 24 08.2**	**+2.4**
2.5nm,0.2s,SNR=6.4							
ECOG				Sn	**Sn**	**17 25 19.0**	**+2.0**
10nm,0.3s,SNR=6.0							
EGUA	**Guajares**	**6.23**	**272**	Pn	**Pn**	**17 24 06.1**	**+0.2**
0.6nm,0.2s,SNR=7.9							
EGUA				Sn	**Sn**	**17 25 14.8**	**-2.3**
SNR=7.9							
ETOR	**Torete**	**6.27**	**311**	Pn	**Pn**	**17 24 08.4**	**+2.0**
39nm,0.3s,SNR=32							
ETOR				Sn	**Sn**	**17 25 16.9**	**-1.2**
48nm,0.5s,SNR=4.6							
SALF	**Salau**	**6.31**	**339**	P	**Pn**	**17 24 08.7**	**+1.7**
SALF				S	**Sn**	**17 25 16.5**	**-2.6**
ERON	**Agron**	**6.42**	**274**	Pn	**Pn**	**17 24 10.6**	**+2.2**
10nm,0.7s,SNR=7.9							
ERON				Sn	**Sn**	**17 25 20.4**	**-1.3**
8.6nm,0.6s,SNR=7.9							
MELF	**Melles**	**6.54**	**337**	P	**Pn**	**17 24 11.9**	**+1.8**
MELF				S	**Sn**	**17 25 21.2**	**-3.6**
EBIE	**Bielsa**	**6.59**	**333**	⇓Pn	**Pn**	**17 24 11.9**	**+1.2**
14nm,0.5s,SNR=18							
EBIE				Sn	**Sn**	**17 25 21.6**	**-4.2**
8.3nm,0.4s							
RESF	**Ens**	**6.62**	**335**	P	**Pn**	**17 24 12.5**	**+1.3**
MTLF	**Montolieu**	**6.63**	**347**	*e*Pn	**Pn**	**17 24 12.5**	**+1.2**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**17 25 19.9**	**-7.0**
25nm,0.4s							
MTLF	**Montolieu**	**6.63**	**347**	Pn	**Pn**	**17 24 12.5**	**+1.2**
MTLF				Sn	**Sn**	**17 25 19.9**	**-7.0**
12nm,0.4s							
LMR	**La Mourre**	**6.68**	**15**	*e*Pn	**Pn**	**17 24 11.0**	**-1.0**
SNR=1.0							
LMR				*e*Sn	**Sn**	**17 25 22.0**	**-6.2**
31nm,0.3s							
LMR	**La Mourre**	**6.68**	**15**	*e*Pn	**Pn**	**17 24 11.0**	**-1.0**
SNR=1.0							
LMR				*e*Sn	**Sn**	**17 25 22.0**	**-6.2**
16nm,0.3s							
ELOJ	**Sierra Loja**	**6.69**	**275**	Pn	**Pn**	**17 24 14.3**	**+2.1**
3.2nm,0.3s,SNR=12							
ELOJ				Sn	**Sn**	**17 25 25.4**	**-3.1**
4.4nm,0.6s							
PGF	**Pioggiola**	**6.76**	**32**	*e*Pn	**Pn**	**17 24 11.7**	**-1.4**
SNR=1.0							
PGF				*e*Sn	**Sn**	**17 25 22.5**	**-7.6**
50nm,0.4s,SNR=1.0							
PGF	**Pioggiola**	**6.76**	**32**	*e*Pn	**Pn**	**17 24 11.7**	**-1.4**
SNR=1.0							
PGF				*e*Sn	**Sn**	**17 25 22.5**	**-7.6**
25nm,0.4s,SNR=1.0							
VIEF	**Viey**	**6.80**	**333**	P	**Pn**	**17 24 14.9**	**+1.2**
VIEF				S	**Sn**	**17 25 27.7**	**-3.5**
EPF	**Esparros**	**6.82**	**335**	*e*Pn	**Pn**	**17 24 15.2**	**+1.3**
SNR=1.0							
EPF				*e*Sn	**Sn**	**17 25 27.5**	**-4.1**
16nm,0.2s,SNR=1.0							
EPF	**Esparros**	**6.82**	**335**	Pn	**Pn**	**17 24 15.2**	**+1.3**
EPF				Sn	**Sn**	**17 25 27.5**	**-4.1**
7.9nm,0.2s							
LABF	**Labassere**	**6.93**	**334**	P	**Pn**	**17 24 17.1**	**+1.7**
FRF	**La Foret Royal**	**6.93**	**15**	*e*Pn	**Pn**	**17 24 14.3**	**-1.1**
SNR=1.0							
FRF				*e*Sn	**Sn**	**17 25 28.0**	**-6.3**
35nm,0.4s							
FRF	**La Foret Royal**	**6.93**	**15**	*e*Pn	**Pn**	**17 24 14.3**	**-1.1**
SNR=1.0							
FRF				*e*Sn	**Sn**	**17 25 28.0**	**-6.3**
17nm,0.4s							
ESDC	**Sonseca Array**	**7.00**	**296**	Pn	**Pn**	**17 24 17.0**	**+0.5**
9.6nm,0.3s,baz=111,slow=14,SNR=44							
ESDC				Sn	**Sn**	**17 25 31.1**	**-5.0**
1.9nm,0.3s,baz=107,slow=25,SNR=3.1							
ESDC	**Sonseca Array**	**7.00**	**296**	Pn	**Pn**	**17 24 17.0**	**+0.6**
8.1nm,0.4s,baz=110,slow=13,SNR=24							
ESDC				Sn	**Sn**	**17 25 32.1**	**-4.0**
4.1nm,0.5s,baz=115,slow=27,SNR=4.7							
ESLA	**Sonseca Array**	**7.00**	**296**	*e*Pn	**Pn**	**17 24 17.6**	**+1.1**
2.2nm,0.6s							
ETSF	**Etsaut**	**7.04**	**330**	*e*Pn	**Pn**	**17 24 17.7**	**+0.8**
SNR=1.0							
ETSF				*e*Sn	**Sn**	**17 25 31.4**	**-5.5**
14nm,0.3s,SNR=1.0							
ETSF	**Etsaut**	**7.04**	**330**	Pn	**Pn**	**17 24 17.7**	**+0.8**
ETSF				Sn	**Sn**	**17 25 31.4**	**-5.5**
6.8nm,0.3s							
EADA	**Adamuz**	**7.10**	**283**	Pn	**Pn**	**17 24 17.7**	**0.0**
0.8nm,0.2s,SNR=5.5							
EADA				Sn	**Sn**	**17 25 34.3**	**-4.1**
4.3nm,0.5s							
EADA	**Adamuz**	**7.10**	**283**	P	**Pn**	**17 24 17.8**	**+0.1**
REYF	**Montagne du Re**	**7.12**	**332**	P	**Pn**	**17 24 19.6**	**+1.6**
SMRF	**Simiane la Rot**	**7.16**	**8**	*e*Pn	**Pn**	**17 24 18.7**	**0.0**
SNR=1.0							
SMRF				*e*Sn	**Sn**	**17 25 34.0**	**-6.1**
13nm,0.4s							
SMRF	**Simiane la Rot**	**7.16**	**8**	*e*Pn	**Pn**	**17 24 18.7**	**0.0**
SNR=1.0							
SMRF				*e*Sn	**Sn**	**17 25 34.0**	**-6.1**
6.4nm,0.4s							
LASF	**Ste Croix**	**7.19**	**358**	*e*Pn	**Pn**	**17 24 18.6**	**-0.4**
SNR=1.0							
LASF				*e*Sn	**Sn**	**17 25 31.5**	**-9.3**
28nm,0.4s,SNR=1.0							
LASF	**Ste Croix**	**7.19**	**358**	Pn	**Pn**	**17 24 18.6**	**-0.4**
LASF				Sn	**Sn**	**17 25 31.5**	**-9.3**
14nm,0.4s							
EMIJ	**Mijas**	**7.22**	**270**	Pn	**Pn**	**17 24 19.0**	**-0.4**
1.9nm,0.2s,SNR=7.9							
EMIJ				Sn	**Sn**	**17 25 35.6**	**-5.8**
SNR=7.9							
IPRE	**Itoiz**	**7.30**	**326**	Pn	**Pn**	**17 24 21.3**	**+0.8**
3.6nm,0.3s,SNR=17							
IPRE				Sn	**Sn**	**17 25 37.7**	**-5.7**
4.3nm,0.4s,SNR=4.6							
LARF	**Larrau**	**7.33**	**329**	P	**Pn**	**17 24 22.3**	**+1.4**
MVIF	**Mont Vial**	**7.36**	**17**	P	**Pn**	**17 24 21.3**	**0.0**
SBF	**Sospel**	**7.40**	**18**	*e*Pn	**Pn**	**17 24 20.1**	**-1.8**
SNR=1.0							
SBF				*e*Sn	**Sn**	**17 25 37.5**	**-8.3**
56nm,0.5s,SNR=1.0							
SBF	**Sospel**	**7.40**	**18**	Pn	**Pn**	**17 24 20.1**	**-1.8**
SBF				Sn	**Sn**	**17 25 37.5**	**-8.3**
28nm,0.5s							
SJPF	**Ste Jean**	**7.49**	**328**	*e*Pn	**Pn**	**17 24

comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 8.13 8 *e*Pn **Pn 17 24 32.4 +0.5**
SNR=1.0
ORIF *e*Sn **Sn 17 25 58.0 -5.8**
comp=Z,7.2nm,0.7s
CAF Calviac 8.20 349 *e*Pn **Pn 17 24 33.8 +1.0**
SNR=1.0
OG22 Abries 8.20 14 P **Pn 17 24 33.5 +0.6**
MDT Midelt 8.30 243 Pn **Pn 17 24 34.7 +0.4**
comp=Z,0.8nm,0.3s,baz=75,slow=17,SNR=22
BNI Bardonecchia 8.37 12 *e*P **Pn 17 24 35.6 +0.3**
BNI pmax pmax
comp=Z,14nm,0.9s
BNI Bardonecchia 8.37 12 *e*Pn **Pn 17 24 35.6 +0.3**
comp=Z,14nm,0.9s
BNI Bardonecchia 8.37 12 *e*Pn **Pn 17 24 35.6 +0.3**
comp=Z,14nm,0.9s
LBL Lubilhac 8.37 355 P **Pn 17 24 35.2 -0.1**
GDM Grand'Maison 8.44 9 P **Pn 17 24 37.4 +1.2**
LFF La Frestale 8.46 343 *e*Pn **Pn 17 24 37.5 +1.0**
RSP Reno Superiore 8.58 15 P **Pn 17 24 39.4 +1.3**
RSP pmax pmax
comp=Z,22nm,0.4s
RSP Reno Superiore 8.58 15 Pn **Pn 17 24 39.4 +1.3**
comp=Z,22nm,0.4s
FRNF Fournols 8.59 352 P **Pn 17 24 38.9 +0.7**
ELAN Lanestosa 8.63 320 Pn **Pn 17 24 39.4 +0.6**
comp=Z,7.0nm,0.5s,SNR=8.5
ELAN Sn **Sn 17 26 03.0 -13**
SNR=7.9
COLF Collangettes 8.64 358 P **Pn 17 24 38.6 -0.3**
RJF Les Rejaudoux 8.66 347 *e*Pn **Pn 17 24 39.3 +0.2**
SNR=1.0
VLC Villacollemand 8.66 31 Pn **Pn 17 24 37.0 -2.2**
VLC Villacollemand 8.66 31 Pn **Pn 17 24 37.0 -2.2**
EMIN Mina Concepcio 8.71 279 Pn **Pn 17 24 39.9 0.0**
comp=Z,1.5nm,0.3s,SNR=8.8
EMIN Sn **Sn 17 26 11.9 -6.2**
comp=Z,4.7nm,0.6s,SNR=5.7
LPG La Plagne 8.82 12 *e*Pn **Pn 17 24 42.4 +1.0**
SNR=1.0
LPG *e*Sn **Sn 17 26 14.1 -6.7**
comp=Z,13nm,0.5s
LPG La Plagne 8.82 12 *e*Pn **Pn 17 24 42.4 +1.0**
SNR=1.0
LPG *e*Sn **Sn 17 26 14.1 -6.7**
comp=Z,6.6nm,0.5s
LPL La Plagne 8.83 12 *e*Pn **Pn 17 24 42.5 +0.9**
SNR=1.0
LPL *e*Sn **Sn 17 26 14.7 -6.5**
comp=Z,18nm,0.6s
LPL La Plagne 8.83 12 *e*Pn **Pn 17 24 42.5 +0.9**
SNR=1.0
LPL *e*Sn **Sn 17 26 14.7 -6.5**
comp=Z,9.0nm,0.6s
PYM Petit Puy Mans 8.91 355 P **Pn 17 24 43.4 +0.8**
VERF Verneugheol 8.95 352 P **Pn 17 24 44.0 +0.8**
RSL Roselend 8.98 11 P **Pn 17 24 45.2 +1.6**
EBAD Badajoz 9.07 285 Pn **Pn 17 24 45.9 +1.1**
comp=Z,5.1nm,0.7s,SNR=4.7
EBAD Sn **Sn 17 26 20.5 -6.5**
SNR=7.9
PLDF La Plantade 9.09 357 P **Pn 17 24 45.1 0.0**
AGO Saint Agoulin 9.20 355 P **Pn 17 24 46.6 0.0**
OG05 Jujurieux 9.20 5 P **Pn 17 24 46.8 +0.2**
EGRO El Granado 9.35 278 Pn **Pn 17 24 49.5 +0.8**
comp=Z,4.1nm,0.5s,SNR=7.9
TCF Toulx Ste Croi 9.52 352 *e*Pn **Pn 17 24 51.6 +0.7**
SNR=1.0
PESTR Estremoz 9.54 286 *e*LR LR 17 27 05.9
PCBR Castelo Branco 9.64 291 *e*P **Pn 17 24 53.8 +1.2**
comp=Z,31nm,1.2s
EARI Arriondas 9.65 315 Pn **Pn 17 24 53.8 +1.1**
comp=Z,23nm,0.9s,SNR=9.2
EARI Sn **Sn 17 26 33.6 -7.5**
comp=Z,11nm,0.5s,SNR=4.8
EARI Arriondas 9.65 315 P **Pn 17 24 53.8 +1.1**
EARI S **Sn 17 26 33.6 -7.5**
PBEJ Beja 9.67 280 *e*P **Pn 17 24 53.9 +0.9**
comp=Z,11nm,1.4s
BGF Bois d'Agland 9.72 354 *e*Pn **Pn 17 24 53.9 +0.2**
SNR=1.0
SMF Signal de Mont 9.76 359 *e*Pn **Pn 17 24 54.4 +0.1**
SNR=1.0
PBRG Braganca 9.80 303 *e*P **Pn 17 24 55.2 +0.4**
comp=Z,25nm,1.5s
CABF La Chapelle 9.82 8 *e*Pn **Pn 17 24 55.4 +0.3**
SNR=1.0
MTE Manteigas 9.84 294 *e*P **Pn 17 24 55.6 +0.3**
comp=Z,33nm,1.4s
MTE *e*LR LR 17 27 12.5
comp=Z,748nm,17.0s
ECAL Calabor 9.86 304 Pn **Pn 17 24 56.5 +0.9**
comp=Z,23nm,0.3s,SNR=26
ECAL Sn **Sn 17 26 36.8 -9.4**
SNR=7.9
ECAL Calabor 9.86 304 P **Pn 17 24 56.5 +0.9**
ECAL S **Sn 17 26 36.8 -9.5**
AVF Avril sur Loir 9.92 357 *e*Pn **Pn 17 24 57.4 +0.9**
SNR=1.0
SSF Saint Saulge 10.19 357 *e*Pn **Pn 17 24 59.4 -0.7**
SNR=1.0
PVIS Viseu 10.19 296 *e*P **Pn 17 25 01.3 +1.2**
comp=Z,40nm,2.2s
MFF Saint Martin d 10.24 343 *e*Pn **Pn 17 25 01.5 +0.7**
SNR=1.0
PVRL Vila Real 10.25 299 *e*P **Pn 17 25 01.7 +0.7**
comp=Z,28nm,0.9s
LOR Lormes 10.38 359 *e*Pn **Pn 17 25 02.9 +0.1**
baz=177,SNR=1.0
EPON Pontenova 10.81 310 Pn **Pn 17 25 09.9 +1.2**
comp=Z,6.1nm,0.3s,SNR=8.7
EPON Sn **Sn 17 26 59.3 -10**
comp=Z,8.8nm,0.6s,SNR=4.8
EPON Pontenova 10.81 310 P **Pn 17 25 09.9 +1.2**
comp=Z,6.1nm,0.3s
EPON S **Sn 17 26 59.3 -10**
HINF Hinteralfeld 11.10 9 *e*Pn **Pn 17 25 11.7 -0.9**
SNR=1.0
HAU Haudompre 11.23 7 *e*Pn **Pn 17 25 13.4 -1.0**
SNR=1.0
SFTF Sexfontaines 11.33 3 *e*Pn **Pn 17 25 15.7 -0.1**
baz=176
MEZF Maizieres J'vi 11.63 3 *e*Pn **Pn 17 25 18.5 -1.4**
baz=170
CDF Champ du Feu 11.74 10 *e*Pn **Pn 17 25 20.3 -1.1**
SNR=1.0
GRR Gorron 12.09 344 *e*Pn **Pn 17 25 25.0 -1.1**
SNR=1.0
LDF La Druitiere 12.13 346 *e*Pn **Pn 17 25 26.9 +0.2**
QUIF Quistinic 12.29 336 *e*Pn **Pn 17 25 29.5 +0.6**
SGMF Saint Gilles 12.40 339 *e*Pn **Pn 17 25 31.0 +0.6**
ROSF Rostrenen 12.70 337 *e*Pn **Pn 17 25 34.7 +0.3**
WLF Walferdange 12.86 6 Pn **Pn 17 25 36.6 0.0**
BAIF Baives 13.17 0 *e*Pn **Pn 17 25 41.1 +0.1**
SNR=1.0
DOU Dourbes 13.21 1 P **Pn 17 25 42.5 +1.0**
GIVF Givet 13.22 2 *e*Pn **Pn 17 25 41.8 +0.2**
SNR=1.0
BCLA Clavier 13.56 3 P **Pn 17 25 47.7 +1.5**
SNF Seneffe 13.62 0 P **Pn 17 25 48.1 +1.0**
MEM Membach 13.78 5 P **Pn 17 25 49.0 -0.3**
GEC2 GERESS Array S 13.82 27 *e*Pn **Pn 17 25 47.3 -2.5**
GERES GERESS Array B 13.82 27 Pn **Pn 17 25 48.3 -1.6**
comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=9.7
KHC Kasperske Hory 14.02 26 *e*P **Pn 17 25 52.4 -0.1**
CLL Collm 15.73 21⇑*i*(P) **Pn 17 26 20.8 +5.4**
comp=Z,9.0nm,1.0s
MLR Muntele Rosu 18.44 55 Pn **Pn 17 26 51.1 +1.6**
comp=Z,0.2nm,0.3s,baz=132,slow=22,SNR=7.3
ESK Eskdalemuir 19.12 347 *e*P **Pn 17 27 00.4 +2.6**
ESK pmax pmax
comp=Z,20nm,1.0s
ESK Eskdalemuir 19.12 347 *e*P **Pn 17 27 00.4 +2.7**
comp=Z,20nm,1.0s
ESK Eskdalemuir 19.12 347 *e*P **Pn 17 27 00.4 +2.6**
comp=Z,20nm,1.0s
EKA Eskdalemuir Ar 19.13 347 P **Pn 17 26 58.2 +0.3**
comp=Z,0.7nm,0.3s,baz=160,slow=14,SNR=13
EKA Eskdalemuir Ar 19.13 347 P **Pn 17 26 58.2 +0.3**
EKA pmax pmax
comp=Z,1.0nm,0.3s
SUW Suwalki 21.58 31 *e*P **P 17 27 20.8 -2.8**
SUW pmax pmax
comp=Z,15nm,0.7s,mb4.5
SUW Suwalki 21.58 31 *e*P **P 17 27 20.8 -2.8**
comp=Z,15nm,0.7s,mb4.5
SUW Suwalki 21.58 31 *e*P **P 17 27 20.8 -2.8**
comp=Z,15nm,0.7s,mb4.5
AKASG Malin Array Be 22.60 44 P **P 17 27 32.5 -2.0**
comp=Z,1.9nm,0.5s,mb3.8,baz=243,slow=10,SNR=4.7
AKASG Malin Array Be 22.60 44 P **P 17 27 32.5 -2.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 22.60 44 *e*P **P 17 27 33.6 -0.9**
AKBB Malin Array Si 22.60 44 *e*P **P 17 27 33.5 -1.0**
KONO Kongsberg 23.05 7 *e*P **P 17 27 38.1 -1.2**
KONO pmax pmax
comp=Z,27nm,1.2s,mb4.5
KONO Kongsberg 23.05 7 *e*P **P 17 27 38.1 -1.2**
comp=Z,26nm,1.2s,mb4.5
KONO Kongsberg 23.05 7 *e*P **P 17 27 38.1 -1.2**
comp=Z,26nm,1.2s,mb4.5
BRTR Keskin Array B 23.23 74 P **P 17 27 40.4 -0.8**
comp=Z,0.2nm,0.3s,baz=277,slow=12,SNR=2.5
TOA0 Torodi Ar. Sit 23.74 186 *e*P **P 17 27 47.1 +0.8**
TOA0 Torodi Ar. Sit 23.74 186 *e*P **P 17 27 47.1 +0.8**
TORD Torodi Ar. Bea 23.74 186 P **P 17 27 45.5 -0.8**
comp=Z,1.8nm,0.7s,mb3.6,baz=359,slow=10,SNR=9.9
TORD PcP PcP 17 31 30.2 +0.3
comp=Z,0.4nm,0.5s,baz=8.1,slow=1.9,SNR=4.2
TORD Torodi Ar. Bea 23.74 186 P **P 17 27 45.5 -0.8**
TORD PcP PcP 17 31 30.2 +0.3
HFS Hagfors 24.05 12 P **P 17 27 47.1 -2.0**
comp=Z,8.0nm,1.1s,mb4.1,baz=193,slow=6.1,SNR=4.4
HFS Hagfors 24.05 12 P **P 17 27 47.1 -2.1**
HFS pmax pmax
comp=Z,8.0nm,1.1s
NOA NORSAR Array B 24.59 8 P **P 17 27 52.3 -1.7**
comp=Z,0.7nm,0.7s,mb3.3,baz=200,slow=9.3,SNR=3.3
NOA NORSAR Array B 24.59 8 P **P 17 27 52.3 -1.7**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ANN Anapa 26.21 62 *e*P **P 17 28 08.2 -0.6**
ANN *e**PP pP 17 28 21.6 +10
ANN *e*S **S 17 32 31.4 -9.5**
ANN pmax pmax
comp=Z,14nm,1.9s,mb4.2
EIL Elat 26.61 97 *e*P **P 17 28 15.8 +3.4**
comp=Z,84nm,0.8s,mb5.3
EIL Elat 26.61 97 *e*P **P 17 28 15.8 +3.4**
comp=Z,84nm,0.8s,mb5.3
MALT Malatya 27.07 76 *e*P **P 17 28 16.6 +0.1**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
MALT Malatya 27.07 76 *e*P **P 17 28 16.6 +0.1**
comp=Z,3.4nm,0.9s,mb3.9
MALT Malatya 27.07 76 *e*P **P 17 28 16.6 +0.1**
comp=Z,3.4nm,0.9s,mb3.9
FINES FINESS Array B 28.16 22 P **P 17 28 26.0 -0.3**
comp=Z,1.3nm,0.9s,mb3.6,baz=186,slow=5.7,SNR=3.8
FINES FINESS Array B 28.16 22 P **P 17 28 26.0 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 34.70 13 P **P 17 29 22.3 -1.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=107,slow=4.2,SNR=4.7
ARCES ARCESS Array B 34.70 13 P **P 17 29 22.3 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 34.70 13 P **P 17 29 22.3 -1.5**
ARU Arti 40.85 44 *e*P **P 17 30 12.3 -3.5**
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
ARU Arti 40.85 44 *e*P **P 17 30 12.3 -3.5**
comp=Z,4.8nm,0.9s,mb4.1
ARU Arti 40.85 44 *e*P **P 17 30 12.3 -3.5**
comp=Z,4.8nm,0.9s,mb4.1
SUMG Summit 41.63 342 *e*P **P 17 30 22.8 +0.6**
comp=Z,3.7nm,0.8s,mb4.1
SUMG Summit 41.63 342 *e*P **P 17 30 22.8 +0.6**
comp=Z,3.7nm,0.8s,mb4.1
CHKZ Chkalovo 47.84 47 *e*P **P 17 31 11.2 -0.5**
CHKZ pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
CHKZ Chkalovo 47.84 47 *e*P **P 17 31 11.2 -0.5**
comp=Z,1.3nm,0.9s,mb4.0
MKAR Makanchi Array 56.78 53 P **P 17 32 17.5 -0.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=292,slow=6.4,SNR=12
MKAR Makanchi Array 56.78 53 P **P 17 32 17.5 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
TSUM Tsumeb 57.19 165 *e*P **P 17 32 21.6 +0.6**
comp=Z,2.7nm,1.1s,mb4.2
TSUM Tsumeb 57.19 165 *e*P **P 17 32 21.6 +0.6**
comp=Z,2.7nm,1.1s,mb4.2
WMQ Urumqi 61.44 55 *e*P **P 17 32 50.0 -0.4**
LBTB Lobatse 64.78 159 *e*P **P 17 33 13.0 +0.4**
LBTB pmax pmax
comp=Z,11nm,1.3s,mb4.7
LBTB Lobatse 64.78 159 *e*P **P 17 33 13.0 +0.4**
comp=Z,11nm,1.3s,mb4.7
LBTB Lobatse 64.78 159 *e*P **P 17 33 13.0 +0.4**
comp=Z,11nm,1.3s,mb4.7
HHC Hu-ho-hao-te 78.00 48 *e*P **P 17 34 30.0 -2.4**
HHC AP pP 17 34 37.1 +1.4
HHC AMB AMB
comp=Z,6.0nm,0.3s,mb5.0
HHC Hu-ho-hao-te 78.00 48 *e*PKP PKiKP 17 40 14.3 +3.7
PDAR Pinedale Array 80.42 317 P **P 17 34 46.1 +0.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=46,slow=4.3,SNR=6.6
KMI Kunming 81.70 65 P **P 17 34 55.5 +3.0**
KMI AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
KDAK Kodiak Island 83.69 348 P **P 17 35 03.8 +0.9**
comp=Z,4.7nm,0.7s,mb4.7,baz=302,slow=9.5,SNR=3.0
MDJ Mudanjiang 85.03 36 P **P 17 35 07.8 -1.8**
MDJ AMB AMB
comp=Z,4.0nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,283nm,8.0s
NJ2 Nanjing 88.19 51 *e*P **P 17 35 24.3 -0.8**
NJ2 PP PP 17 38 51.3 -0.7
NJ2 AMB AMB
comp=Z,40nm,1.0s
NJ2 LR LR
comp=N,930nm,15.2s
NJ2 LR LR
comp=E,710nm,17.4s
STKA Stephens Creek 144.70 95 PKP PKPdf 17 42 09.8 -1.0
comp=E,3.4nm,0.5s,baz=292,slow=5.4,SNR=16
STKA Stephens Creek 144.70 95 PKP PKPdf 17 42 09.8 -1.0

IDC 06 17:27:24.3±6.5, 155S×13318E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=119.2km s-min=25.6km az=132.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.12**	**184**	*e*P	Pn	17 30 08.5	+4.0
	24nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.04**	**204**	P	Pn	17 31 36.4	0.0
	0.1nm,0.3s,baz=38,slow=15,SNR=3.5						
FITZ				S	Sn	17 34 59.6	+1.4
	0.1nm,0.3s,baz=37,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**18.32**	**177**	P	Pn	17 31 40.8	+1.1
	0.2nm,0.3s,baz=356,slow=11,SNR=11						
WB2	**Warramunga Arr**	**18.32**	**176**	*e*P	Pn	17 31 41.3	+1.5
ASAR	**Alice Springs**	**22.00**	**178**	*e*P	P	17 32 20.9	+0.9
	0.7nm,0.3s,baz=360,slow=9.4,SNR=41						
ASPA	**Alice Springs**	**22.00**	**178**	*e*P	P	17 32 22.3	+2.3
STKA	**Stephens Creek**	**31.20**	**166**	P	P	17 33 44.4	-0.7
	1.4nm,0.9s,baz=346,slow=8.6,SNR=2.8						

THR ***06*** *17:29:23.9±0.3, 3704N×5644E, h15km, ML3.2*
ISCJB ***06*** *17:29:25.9±0.6, 37.11N±006×5633E±003, h10km, Error ellipse: s-maj=9.0km s-min=2.6km az=160.6*
CSEM ***06*** *17:29:26.3±0.1, 3723N×5638E, h20km, ML3.8, Error ellipse: s-maj=3.7km s-min=1.3km az=173.0*
TEH ***06*** *17:29:28.2, 3732N×5637E, h21km, Mn3.8*
ISC 06 17:29:27.6±1.0, 3713N±007×5636E±003, h14km±7km, n25, σ1§17/42, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	**Esferayen**	**1.32**	**93**	*e*Pg	**Pg**	**17 29 51.3**	**-1.7**
ISFR				*e*Sg	**Sg**	**17 30 10.7**	**+0.6**
IEMG	**Emamqoli**	**1.85**	**81**	*e*Sn	**Sn**	**17 30 21.0**	**-1.2**
IAKL	**Akhlamad**	**1.97**	**105**	*e*Pn	**Pn**	**17 30 01.6**	**+1.0**
IAKL				*e*Sn	**Sn**	**17 30 25.6**	**+0.4**
IPAY	**Payeh**	**2.22**	**107**	*e*Pn	**Pn**	**17 30 04.8**	**+0.7**
IPAY				*e*Sn	**Sn**	**17 30 32.5**	**+1.1**
IKIA	**Kiasar**	**2.34**	**248**	*e*Pn	**Pn**	**17 30 06.7**	**+1.0**
IKIA				*e*Sn	**Sn**	**17 30 35.2**	**+1.0**
IANJ	**Anjiloo**	**2.58**	**231**	*e*Sn	**Sn**	**17 30 42.0**	**+1.9**
IMOG	**Moghan**	**2.61**	**112**	*e*Pn	**Pn**	**17 30 10.0**	**+0.6**
IMOG				*e*Sn	**Sn**	**17 30 41.5**	**+0.6**
ISHM	**Shahmirzad**	**2.80**	**243**	*e*Pn	**Pn**	**17 30 13.5**	**+1.5**
ISHM				*e*Sn	**Sn**	**17 30 46.9**	**+1.3**
IMYA	**Miamay**	**3.11**	**103**	*e*Pn	**Pn**	**17 30 16.3**	**0.0**
IMYA				*e*Sn	**Sn**	**17 30 51.6**	**-1.7**
ILAS	**Lasjerd**	**3.25**	**239**	*e*Pn	**Pn**	**17 30 19.9**	**+1.6**
ILAS				*e*Sn	**Sn**	**17 30 58.3**	**+1.5**
IFIR	**Firoozkooh**	**3.26**	**244**	*e*Pn	**Pn**	**17 30 19.8**	**+1.4**
IFIR				*e*Sn	**Sn**	**17 30 57.8**	**+0.7**
IDMV	**Damavand**	**3.82**	**247**	*e*Pn	**Pn**	**17 30 26.6**	**+0.6**
IDMV				*e*Sn	**Sn**	**17 31 10.6**	**-0.1**
IVRN	**Varamin**	**4.31**	**242**	*e*Pn	**Pn**	**17 30 33.7**	**+0.9**
IVRN				*e*Sn	**Sn**	**17 31 22.3**	**-0.6**
ISFB	**Sefidab**	**4.35**	**232**	*e*Pn	**Pn**	**17 30 32.1**	**-1.2**
ISFB				*e*Sn	**Sn**	**17 31 23.5**	**-0.3**
THKV	**Tehran--Karaj**	**4.57**	**256**	*e*PN	**Pn**	**17 30 35.4**	**-1.0**
NASN	**Na'in**	**5.21**	**215**	*e*PN	**Pn**	**17 30 43.3**	**-1.9**
IZEF	**Zefreh**	**5.36**	**219**	*e*Pn	**Pn**	**17 30 48.6**	**+1.3**
IZEF				*e*Sn	**Sn**	**17 31 48.4**	**-0.4**
IKLH	**Kalahroud**	**5.45**	**227**	*e*Pn	**Pn**	**17 30 47.8**	**-0.7**
IKLH				*e*Sn	**Sn**	**17 31 49.8**	**-1.2**
IRAZ	**Razeghan**	**5.47**	**254**	*e*Pn	**Pn**	**17 30 47.3**	**-1.5**
IRAZ				*e*Sn	**Sn**	**17 31 48.2**	**-3.3**
ISAD	**Sadrabad**	**5.65**	**204**	*e*Sn	**Sn**	**17 31 55.7**	**-0.2**
ASAO	**Ashtian**	**5.75**	**245**	*e*PN	**Pn**	**17 30 51.5**	**-1.1**
ASAO				AML	AML	17 32 37.4	
	comp=E,8.9nm,0.8s						
ASAO				AML	AML	17 32 42.8	
	comp=N,8.2nm,0.6s						
IGAR	**Garneh**	**5.96**	**216**	*e*Sn	**Sn**	**17 32 01.3**	**-2.1**
IPIR	**Pirpir**	**6.31**	**227**	*e*Pn	**Pn**	**17 31 01.3**	**+1.0**
IPIR				*e*Sn	**Sn**	**17 32 10.2**	**-1.9**
GRMI	**Germi**	**6.89**	**287**	*e*PN	**Pn**	**17 31 08.1**	**-0.2**
GRMI				AML	AML	17 31 15.4	
	comp=N,3.8nm,0.3s						
GRMI				AML	AML	17 31 18.5	
	comp=E,3.6nm,0.2s						
IBST	**Bostanabad**	**7.55**	**277**	*e*Pn	**Pn**	**17 31 16.1**	**-1.3**
IBST				*e*Sn	**Sn**	**17 32 35.0**	**-7.8**

BJI ***06*** *17:37:41.8, 802S×12861E, h126km, mB5.3, mb5.0*
MOS ***06*** *17:37:45.2±1.1, 742S×128.17E, h109km, mb5.1/28, Error ellipse: s-maj=13.8km s-min=6.8km az=113.9*
IDC ***06*** *17:37:48.1±2.7, 746S×128.15E, h124km±24km, mb4.5/18, mb1 4.5/21, mb1mx4.5/23, mbtmp4.9/21, MS3.7/2, Ms1 3.7/2, ms1mx3.0/29, Error ellipse: s-maj=16.2km s-min=9.7km az=68.0*
NEIC ***06*** *17:37:48.1±0.9, 752S×12821E, h126km±8km, mb4.9/31, Error ellipse: s-maj=8.4km s-min=5.5km az=63.0*
ISCJB ***06*** *17:37:49.1±0.7, 763S±003×12831E±006, h156km±7km, mb4.8/73, Error ellipse: s-maj=9.5km s-min=3.9km az=148.3*
ISC 06 17:37:50.3±0.7, 760S±003×12836E±006, h148km±6km, h133km±12.4km: pP-P, n234, σ1§21/200, mb4.8/73, 12C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.89**	**358**	P	**Pn**	**17 38 50.7**	**+1.7**
	2μm,1.0s						
KAKA	**Kakadu**	**6.48**	**142**	*e*P	**Pn**	**17 39 24.8**	**+1.5**
	211nm,0.1s						
KAKA				*e*S	**Sn**	**17 40 23.2**	**-13**
SWI	**Sorong**	**7.29**	**24**	P	**Pn**	**17 39 33.8**	**-0.3**
	924nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.77**	**194**	⇓*i*P	**Pn**	**17 40 17.7**	**-2.7**
	487nm,1.2s						
FITZ				*e*S	**Sn**	**17 42 12.2**	**-7.3**
FITZ	**Fitzroy Crossi**	**10.77**	**194**	P	**Pn**	**17 40 18.3**	**-2.1**
	18nm,0.3s,baz=25,slow=10,SNR=366						
FITZ				S	**Sn**	**17 42 11.3**	**-8.2**
	20nm,0.3s,baz=93,slow=14,SNR=16						
WRAB	**Tennant Creek**	**13.57**	**155**	Pn	**Pn**	**17 40 55.0**	**-1.7**
	1μm,0.8s						
WRAB	**Tennant Creek**	**13.57**	**155**	Pn	**Pn**	**17 40 55.5**	**-1.2**
WRA	**Warramunga Arr**	**13.57**	**155**	P	**Pn**	**17 40 53.9**	**-2.8**
	14nm,0.3s,baz=344,slow=13,SNR=221						
WRA				S	**Sn**	**17 43 19.1**	**-7.9**
	16nm,0.3s,baz=327,slow=24,SNR=8.0						
WB2	**Warramunga Arr**	**13.58**	**155**	*e*P	**Pn**	**17 40 54.7**	**-2.1**
WB2				*e*S	**Sn**	**17 43 19.3**	**-7.8**
MATI	**Mati**	**14.60**	**352**	*e*P	**Pn**	**17 41 15.1**	**+5.4**
BUKP	**Musuan**	**15.72**	**348**	*e*P	**Pn**	**17 41 26.0**	**+2.4**
TSM	**Tawau**	**15.78**	**318**	P	**Pn**	**17 41 27.2**	**+2.9**
MBWA	**Marble Bar**	**15.85**	**211**	P	**Pn**	**17 41 25.1**	**-0.1**
	SNR=5.8						
MBWA	**Marble Bar**	**15.85**	**211**	*e*Pn	**Pn**	**17 41 24.2**	**-1.0**
	5.9nm,1.3s						
MBWA				*e*Sn	**Sn**	**17 44 08.0**	**-14**
PAGZ	**Pagadian**	**16.12**	**342**	*e*P	**Pn**	**17 41 19.0**	**-10**
BUTP	**Butuan**	**16.68**	**351**	*e*P	**Pn**	**17 41 38.5**	**+3.3**
AS31	**Alice Springs**	**16.84**	**162**	*e*P	**Pn**	**17 41 37.2**	**0.0**
AS31				*e*S	**S**	**17 44 35.9**	**-8.5**
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**17 41 37.1**	**-0.1**
	12nm,0.3s,baz=345,slow=14,SNR=313						
ASAR				S	**S**	**17 44 36.4**	**-8.0**
	4.7nm,0.3s,baz=332,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**16.84**	**162**	P	**Pn**	**17 41 37.1**	**-0.1**
ASAR				S	**S**	**17 44 36.4**	**-8.0**
ASPA	**Alice Springs**	**16.84**	**162**	*e*P	**Pn**	**17 41 37.2**	**0.0**
ASPA				*e*S	**S**	**17 44 35.9**	**-8.6**
SCPH	**Surigao**	**17.50**	**351**	*e*P	**Pn**	**17 41 46.8**	**+1.7**
MSLP	**Maasin**	**17.95**	**349**	*e*P	**Pn**	**17 41 50.8**	**+0.2**
KKM	**Kota Kinabalu**	**18.18**	**318**	P	**P**	**17 41 53.7**	**+2.2**
KKM	**Kota Kinabalu**	**18.18**	**318**	*e*P	**P**	**17 41 53.0**	**+1.5**
PMG	**Port Moresby**	**18.68**	**97**	P	**P**	**17 41 59.6**	**+2.6**
	0.3nm,0.3s,baz=306,slow=19,SNR=2.6						
PMG				LR	LR	17 49 10.4	
	comp=Z,150nm,21.4s,baz=58,slow=36						
OCLP	**Ormoc**	**18.90**	**349**	*e*P	**P**	**17 42 00.8**	**+1.5**
GUIM	**Jordan**	**18.99**	**342**	*e*P	**P**	**17 41 59.5**	**-0.8**
BATP	**Bataraza**	**19.39**	**327**	*e*P	**P**	**17 42 07.5**	**+2.9**
CUYO	**Cuyo Island**	**19.73**	**338**	*e*P	**P**	**17 42 09.7**	**+1.4**
KSM	**Kuching**	**20.13**	**296**⇑	*e*P	**P**	**17 42 12.3**	**-0.4**
ENPP	**El Nido**	**20.69**	**334**	*e*P	**P**	**17 42 18.8**	**+0.2**
OTRP	**Odiongan**	**20.80**	**342**	*e*P	**P**	**17 42 22.4**	**+2.5**
BUSP	**Coron**	**21.09**	**337**	*e*P	**P**	**17 42 22.4**	**-0.6**
CTA	**Charters Tower**	**21.33**	**127**	*e*P	**P**	**17 42 29.2**	**+3.8**
	6.1nm,0.6s,mb4.1						
CTA				*e*S	**S**	**17 46 29.4**	**+16**
CTA	**Charters Tower**	**21.33**	**127**	P	**P**	**17 42 28.9**	**+3.6**
	8.0nm,0.5s,mb4.3,baz=299,slow=12,SNR=14						
CTA	**Charters Tower**	**21.33**	**127**	*e*P	**P**	**17 42 29.2**	**+3.8**
CTA				*e*S	**S**	**17 46 29.4**	**+16**
CTA				pmax	pmax		
	comp=Z,60nm,0.6s						
CBJI	**Citeko**	**21.38**	**272**	P	**P**	**17 42 22.0**	**-4.0**
	comp=Z,165nm,1.1s,mb5.3						
PVCP	**Virac**	**21.46**	**349**⇓	*e*P	**P**	**17 42 27.3**	**+0.5**
PVCP	**Virac**	**21.46**	**349**	*e*P	**P**	**17 42 26.6**	**-0.2**
AUQP	**San Andres**	**21.54**	**345**	*e*P	**P**	**17 42 29.7**	**+2.1**
BOAC	**Boac**	**21.90**	**343**	*e*P	**P**	**17 42 31.2**	**-0.2**
LUBP	**Lubang**	**22.67**	**339**	*e*P	**P**	**17 42 38.1**	**-0.9**
TGY	**Tagaytay City**	**22.78**	**341**	P	**P**	**17 42 39.7**	**-0.4**
	comp=Z,257nm,0.5s,baz=150,slow=8.2,SNR=10						
FORT	**Forrest**	**23.07**	**181**	*e*P	**P**	**17 42 44.5**	**+1.9**
	comp=Z,71nm,0.6s,mb5.3						
FORT				*e*S	**S**	**17 46 59.9**	**+18**
POLP	**Polilio Island**	**23.07**	**344**	*e*P	**P**	**17 42 42.0**	**-0.7**
BALP	**Baler**	**24.14**	**344**	*e*P	**P**	**17 42 51.4**	**-1.1**
SCZP	**Santa Cruz**	**24.68**	**340**	*e*P	**P**	**17 42 55.3**	**-2.1**
CAUP	**Cauayan**	**25.23**	**345**	*e*P	**P**	**17 43 01.4**	**-0.9**
KLBR	**Kellerberrin**	**25.84**	**201**	*e*P	**P**	**17 43 10.9**	**+3

NWAO Narrogin (SRO) 27.24 201 P **P** **17 43 20.9 +0.6**
comp=Z,7.8nm,0.6s,mb4.5,baz=81,slow=13,SNR=7.4
NWAO LR LR 17 56 02.3
comp=Z,248nm,19.6s,baz=290,slow=40
NWAO Narrogin (SRO) 27.24 201 P **P** **17 43 20.9 +0.6**
NWAO LR LR 17 56 02.3
IPM Ipoh 29.79 293 P **P** **17 43 43.6 +0.6**
KULM Kulim 30.46 294 *eP* **P** **17 43 48.1 -0.9**
PSI Prapat 31.13 288 P **P** **17 43 53.5 -1.3**
comp=Z,56nm,0.7s,mb5.4,baz=141,slow=7.1,SNR=44
PSI Prapat 31.13 288 P **P** **17 43 53.5 -1.3**
QIZ Qiongzhong 32.14 326 P **P** **17 44 03.5 -0.1**
QZH Quanzhou 33.71 344 P **P** **17 44 16.5 -0.8**
GZH Guangzhou 33.85 335 P **P** **17 44 21.3 +2.8**
GZH S **S** **17 49 43.1 +12**
GZH LR LR
comp=N,351nm,15.2s
GZH LR LR
comp=E,399nm,19.0s
GZH LR LR
comp=Z,562nm,18.0s
CM31 Chiang Mai Arr 38.89 312 *eP* **P** **17 45 01.3 +0.1**
comp=Z,14nm,0.6s,mb4.8
TAU Tasmania Unive 38.93 158 *eP* **P** **17 45 01.5 -0.1**
TAU pmax pmax
comp=Z,61nm,1.3s,mb5.1
TAU Tasmania Unive 38.93 158 *eP* **P** **17 45 01.5 0.0**
comp=Z,61nm,1.3s,mb5.1
CHTO Chiang Mai 39.12 312 *eP* **P** **17 45 03.2 +0.1**
CHTO pmax pmax
comp=Z,18nm,0.7s,mb4.8
CHTO Chiang Mai 39.12 312 *eP* **P** **17 45 03.2 +0.1**
comp=Z,18nm,0.7s,mb4.8
DZM Mont Dzumac 39.39 116 P **P** **17 45 08.8 +3.5**
comp=Z,4.0nm,0.7s,mb4.2,baz=279,slow=8.8,SNR=3.6
GYA Guiyang 39.87 329⇓ *iP* **P** **17 45 09.6 +0.3**
GYA AP pP 17 45 37.9 -3.9
GYA XP sP 17 45 52.5 -6.1
GYA PP PP 17 46 47.6 +3.6
GYA PCP PcP 17 47 13.4 +1.3
GYA S **S** **17 51 05.5 +2.7**
GYA XS sS 17 51 54.8 -4.7
GYA SS SS 17 54 01.6 -3.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,460nm,17.9s
GYA LR LR
comp=E,430nm,17.6s
GYA LR LR
comp=Z,510nm,17.8s
WHN Wuhan 40.23 341⇑ P **P** **17 45 12.5 +0.2**
WHN AMB AMB
comp=Z,110nm,1.0s,mb5.4
NJ2 Nanjing 40.46 348 *eP* **P** **17 45 13.6 -0.6**
NJ2 AMB AMB
comp=Z,90nm,0.6s,mb5.6
KMI Kunming 40.99 323 P **P** **17 45 19.2 +0.7**
KMI AMB AMB
comp=Z,31nm,1.3s,mb4.8
MJAR Matsushiro Arr 44.87 11 P **P** **17 45 48.1 -1.6**
comp=Z,11nm,0.7s,mb4.6,baz=188,slow=8.7,SNR=17
MAJO Matsushiro 44.87 11 *eP* **P** **17 45 48.9 -0.8**
MAJO pmax pmax
comp=Z,42nm,1.4s,mb4.9
MAJO Matsushiro 44.87 11 *eP* **P** **17 45 48.9 -0.9**
comp=Z,42nm,1.4s,mb4.9
MAT Matsushiro 44.87 11 P **P** **17 45 47.8 -1.9**
CD2 Chengdu 44.96 330⇑ *iP* **P** **17 45 49.8 -0.7**
CD2 AP pP 17 46 15.4 -8.2
CD2 XP sP 17 46 28.4 -12
CD2 PP PP 17 47 37.5 -0.9
CD2 S **S** **17 52 19.2 +1.7**
CD2 SS SS 17 55 35.1 -7.1
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CD2 AMB AMB
comp=Z,30nm,6.2s
XAN Xi'an 45.32 337 P **P** **17 45 52.3 -1.0**
XAN AMB AMB
comp=Z,30nm,1.1s,mb4.8
DL2 Dalian 46.69 353 P **P** **17 46 03.6 -0.4**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
BJT Baijiatuau 48.70 348 *eP* **P** **17 46 18.8 -0.7**
BJT pmax pmax
comp=Z,76nm,1.4s
BJT Baijiatuau 48.70 348 *eP* **P** **17 46 18.8 -0.7**
comp=Z,76nm,1.4s,mb5.1
LZH Lanzhou 49.19 334 *eP* **P** **17 46 23.5 +0.3**
LZH AP pP 17 46 50.0 -6.9
LZH XP sP 17 47 02.5 -11
LZH PCP PcP 17 47 45.5 +1.3
LZH PP PP 17 48 19.7 +1.4
LZH SCP ScP 17 51 27.8 +2.4
LZH PCS PcS 17 51 40.5 -0.3
LZH *eS* **S** **17 53 21.0 +3.6**
LZH SS SS 17 56 47.0 -3.5
LZH AMB AMB
comp=Z,63nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,180nm,4.0s
LZH Lanzhou 49.19 334 *eP* **P** **17 46 23.5 +0.3**
LZH *PP pP 17 46 50.0 -6.9
LZH *SP sP 17 47 02.5 -11
LZH 17 47 45.5
LZH 17 48 19.7
LZH *eS* **S** **17 53 21.0 +3.6**
LZH SS SS 17 56 47.0 -3.5
LZH Lanzhou 49.19 334 *eP* **P** **17 46 23.5 +0.3**
LZH pP pP 17 46 50.0 -6.9
LZH sP sP 17 47 02.5 -11
LZH PcP PcP 17 47 45.5 +1.3
LZH PP PP 17 48 19.7 +1.4
LZH ScP ScP 17 51 27.8 +2.4
LZH PcS PcS 17 51 40.5 -0.3
LZH *eS* **S** **17 53 21.0 +3.6**
LZH sS sS 17 54 00.5 -15
LZH SS SS 17 56 47.0 -3.5
SNY Shenyang 49.38 355⇓ P **P** **17 46 24.6 -0.1**
SNY AMB AMB
comp=Z,30nm,1.1s,mb4.8
SNY AMB AMB
comp=Z,380nm,12.0s
SNY LR LR
comp=E,429nm,13.8s
SNY LR LR
comp=Z,411nm,16.8s
HHC Hu-ho-hao-te 50.62 344 *eP* **P** **17 46 34.3 +0.2**
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,255nm,8.6s
CN2 Changchun 51.22 357 *eP* **P** **17 46 40.7 +2.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
LSA Lhasa 51.52 318 P **P** **17 46 42.4 +1.7**
LSA Lhasa 51.52 318 *eP* **P** **17 46 42.0 +1.3**
LSA pmax pmax
comp=Z,27nm,0.6s,mb5.0
LSA Lhasa 51.52 318 *eP* **P** **17 46 42.0 +1.2**
comp=Z,28nm,0.6s,mb5.1
RPZ Rata Peaks 51.77 141 P **P** **17 46 43.9 +1.3**
comp=Z,31nm,0.9s,mb5.0,baz=256,slow=2.8,SNR=6.8
MDJ Mudanjiang 51.98 1 P **P** **17 46 44.8 +0.6**
MDJ AMB AMB
comp=Z,14nm,1.9s,mb4.3
MDJ AMB AMB
comp=Z,280nm,8.1s
MDJ LR LR
comp=Z,399nm,28.0s
MDJ Mudanjiang 51.98 1 *eP* **P** **17 46 44.9 +0.8**
comp=Z,12nm,1.0s,mb4.5
ASAJ Asahikawa 53.06 13 P **P** **17 46 51.5 -0.5**
comp=Z,12nm,1.0s,mb4.6,baz=25,slow=22,SNR=5.1
GTA Gaotai 53.73 333⇑ P **P** **17 46 57.1 +0.1**
GTA AP pP 17 47 21.7 -9.5
GTA AMB AMB
comp=Z,24nm,1.1s,mb4.8
JIRN Jiri 53.77 312 *eP* **P** **17 46 57.1 -0.1**
comp=Z,3.5nm,0.2s,mb4.7
GUN Gumba 54.13 312 *eP* **P** **17 46 59.5 -0.4**
comp=Z,68nm,0.6s,mb5.5

PKI Pulchoki 54.29 312 *eP* **P** **17 47 00.5 -0.5**
comp=Z,27nm,0.5s,mb5.2
KKN Kakani 54.51 312 *eP* **P** **17 47 01.9 -0.7**
comp=Z,96nm,1.2s,mb5.4
DMN Daman 54.53 312 *eP* **P** **17 47 02.4 -0.4**
comp=Z,129nm,1.2s,mb5.5
RAO Raoul Island 54.80 120 *eP* **P** **17 47 13.6 +8.9**
comp=Z,544nm,0.9s
GKN Gorkha 55.10 312 *eP* **P** **17 47 06.3 -0.6**
comp=Z,81nm,0.7s,mb5.5
KOLN Koldanda 55.74 311 *eP* **P** **17 47 11.0 -0.5**
comp=Z,66nm,0.7s,mb5.6
YSS Yuzh-Sakhalins 55.80 12⇑ *eP* **P** **17 47 11.5 -0.4**
YSS pmax pmax
comp=Z,18nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 55.80 12 *eP* **P** **17 47 11.1 -0.8**
comp=Z,18nm,0.8s,mb4.9
KLR Kul'dur 56.66 3 *eP* **P** **17 47 14.2 -3.8**
KLR *e* pP 17 47 49.3 -3.2
KLR pmax pmax
comp=Z,35nm,1.8s,mb4.9
HIA Hailar 57.12 353 P **P** **17 47 21.0 -0.2**
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 57.12 353 P **P** **17 47 21.0 -0.2**
comp=Z,6.0nm,0.7s,mb4.5
SONM Songino Array 58.51 343 P **P** **17 47 31.1 +0.2**
comp=Z,9.5nm,0.7s,mb4.8,baz=167,slow=6.2,SNR=54
CASY Casey 59.87 188 P **P** **17 47 37.3 -3.0**
comp=Z,2.2nm,0.8s,mb4.0
ZAK Zakamensk 61.71 342 *eP* **P** **17 47 52.6 -0.1**
TLY Talaya 62.75 343 *eP* **P** **17 47 59.9 +0.3**
TLY pmax pmax
comp=Z,15nm,1.4s,mb4.6
TLY Talaya 62.75 343 *eP* **P** **17 47 59.8 +0.2**
comp=Z,13nm,1.1s,mb4.7
WMQ Urumqi 63.02 328⇓ *iP* **P** **17 48 02.1 +0.7**
WMQ AP pP 17 48 29.0 -7.6
WMQ PP PP 17 50 24.0 +2.3
WMQ PPP 17 51 55.0
WMQ PCS PcS 17 52 41.0 -0.6
WMQ S **S** **17 56 22.0 +2.0**
WMQ SCS ScS 17 57 41.0 +1.2
WMQ AMB AMB
comp=Z,22nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,90nm,5.7s
WMQ LR LR
comp=N,647nm,18.5s
WMQ LR LR
comp=E,558nm,15.2s
WMQ LR LR
comp=Z,936nm,21.8s
IRK Irkutsk 63.07 344 *eP* **P** **17 48 01.2 -0.5**
IRK pmax pmax
comp=Z,27nm,1.1s,mb5.0
THN Thein Dam 63.99 312 *eP* **P** **17 48 06.0 -1.7**
MKAR Makanchi Array 67.84 328 P **P** **17 48 31.9 -0.5**
comp=Z,6.0nm,0.5s,mb4.6,baz=118,slow=6.4,SNR=74
MA2 Magadan 69.31 12 P **P** **17 48 36.7 -4.8**
MA2 pmax pmax
comp=Z,25nm,0.8s,mb5.0
MA2 Magadan 69.31 12 P **P** **17 48 36.7 -4.7**
comp=Z,25nm,0.8s,mb5.0
TKM2 Tokmak 2 69.42 321 P **P** **17 48 42.8 +0.6**
SNR=5.7
YAK Yakutsk 69.42 1 *eP* **P** **17 48 41.4 -0.8**
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.1
YAK Yakutsk 69.42 1 *eP* **P** **17 48 41.2 -1.0**
comp=Z,61nm,0.8s,mb5.4
KRAR Krasnoyarsk 69.84 340 *eP* **P** **17 48 43.4 -1.3**
KRAR pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
AAK Ala-Archa 69.95 321 P **P** **17 48 44.4 -1.0**
comp=Z,45nm,0.7s,mb5.3,SNR=5.8
AAK Ala-Archa 69.95 321 P **P** **17 48 46.0 +0.5**
SNR=6.5
AAK Ala-Archa 69.95 321 P **P** **17 48 45.3 -0.1**
SNR=5.8
AAK Ala-Archa 69.95 321 *c iP* **P** **17 48 44.7 -0.7**
AAK pmax pmax
comp=Z,19nm,1.7s,mb4.5
AAK Ala-Archa 69.95 321 *eP* **P** **17 48 44.6 -0.8**
comp=Z,15nm,1.3s,mb4.6
FRU Bishkek 69.98 321 *eP* **P** **17 48 46.0 +0.4**
FRU MLR MLR
comp=Z,1μm,19.0s
AML Almayashu 70.20 320 P **P** **17 48 47.6 +0.7**
SNR=8.6
USP Ospenovka 70.28 321 P **P** **17 48 47.3 -0.1**
SNR=5.6
EKS2 Erkin-Say 70.42 320 P **P** **17 48 49.2 +1.0**
SNR=8.0
VNDA Vanda 72.06 173 P **P** **17 48 59.3 +1.2**
comp=Z,2.2nm,0.7s,mb4.0,baz=318,slow=6.3,SNR=19
VNDA Vanda 72.06 173 *eP* **P** **17 48 59.1 +1.0**
VNDA pmax pmax
comp=Z,10.0nm,1.4s
VNDA Vanda 72.06 173 *eP* **P** **17 48 59.1 +1.0**
comp=Z,9.6nm,1.4s,mb4.3
NVS Novosibirsk 72.69 335⇑ *iP* **P** **17 49 00.3 -1.6**
NVS pmax pmax
comp=N,22nm,1.1s
NVS pmax pmax
comp=E,24nm,1.1s
NVS pmax pmax
comp=Z,39nm,1.1s,mb5.0
SEY Seymchan 72.70 11⇑ *eP* **P** **17 49 00.9 -1.0**
SBA Scott Base 72.97 172 *eP* **P** **17 49 05.2 +1.7**
SBA *e* 17 49 46.8
MAW Mawson 73.81 201 P **P** **17 49 09.6 +1.2**
comp=Z,4.2nm,0.8s,mb4.2,baz=54,slow=3.9,SNR=12
MAW Mawson 73.81 201 *eP* **P** **17 49 09.7 +1.3**
MAW pmax pmax
comp=Z,12nm,1.2s
MAW Mawson 73.81 201 *eP* **P** **17 49 09.7 +1.3**
comp=Z,12nm,1.2s,mb4.5
WSAR Wadi Sarin 74.67 297 P **P** **17 49 13.5 +0.1**
comp=Z,7.6nm,0.8s,mb4.4,baz=147,slow=12,SNR=7.6
BVAR Borovoye Array 77.71 328 P **P** **17 49 29.6 -0.9**
comp=Z,14nm,0.6s,mb4.8,baz=125,slow=7.7,SNR=90
BRVK Borovoye 77.78 328 P **P** **17 49 30.0 -0.9**
comp=Z,179nm,1.1s,mb5.6,SNR=17
BRVK Borovoye 77.78 328 P **P** **17 49 30.8 -0.2**
SNR=11
BRVK Borovoye 77.78 328 *eP* **P** **17 49 30.1 -0.8**
BRVK *e* pP 17 50 09.6 +2.1
BRVK pmax pmax
comp=Z,23nm,0.9s,mb4.8
BRVK Borovoye 77.78 328 *eP* **P** **17 49 30.1 -0.8**
comp=Z,23nm,0.9s,mb4.8
BRVK *e* pP 17 50 09.6 +2.0
CHKZ Chkalovo 77.92 329 *eP* **P** **17 49 30.7 -1.0**
CHKZ pmax pmax
comp=Z,24nm,0.9s,mb4.8
CHKZ Chkalovo 77.92 329 *eP* **P** **17 49 30.7 -1.0**
comp=Z,24nm,0.9s,mb4.8
ZRNK Zerenda 78.39 328 *eP* **P** **17 49 33.4 -0.9**
ZRNK pmax pmax
comp=Z,31nm,0.8s,mb5.0
ZRNK Zerenda 78.39 328 *eP* **P** **17 49 33.4 -0.9**
comp=Z,31nm,0.8s,mb5.0
TIXI Tiksi 79.08 0⇑ *eP* **P** **17 49 37.2 -0.9**
TIXI pmax pmax
comp=Z,25nm,1.3s,mb4.7
QSPA South Pole Qui 82.38 180 *eP* **P** **17 49 56.6 +1.0**
comp=Z,5.4nm,0.8s,mb4.2
SYO Syowa Base 82.52 201⇓ *eP* **P** **17 49 57.0 +0.7**
AKTK Aktyubinsk 83.55 323 P **P** **17 50 01.1 -0.6**
AKTO Aktyubinsk 83.55 323 P **P** **17 50 01.1 -0.6**
comp=Z,14nm,0.9s,mb4.7,baz=111,slow=4.8,SNR=31
ARU Arti 85.35 328⇑ *eP* **P** **17 50 09.4 -1.3**
ARU pmax pmax
comp=Z,37nm,1.1s,mb5.0
ARU Arti 85.35 328 *eP* **P** **17 50 09.0 -1.7**
comp=Z,39nm,1.0s,mb5.1
KDAK Kodiak Island 90.58 32 P **P** **17 50 37.0 +1.4**
comp=Z,7.1nm,0.8s,mb4.8,baz=191,slow=8.2,SNR=4.0
ZEI Tsey 91.05 313 *eP* **P** **17 50 36.4 -1.4**
ZEI *e* 17 54 11.9
ZEI pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
KIV Kislovodsk 92.11 314 *eP* **P** **17 50 41.7 -1.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s,mb4.3

MCK McKinley 93.53 26 *eP* **P** **17 50 47.2 -2.0**
MCK pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
MCK McKinley 93.53 26 *eP* **P** **17 50 47.2 -2.1**
comp=Z,9.3nm,1.3s,mb4.8
MALT Malatya 94.60 308 *eP* **P** **17 50 53.9 -0.2**
MALT pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
MALT Malatya 94.60 308 *eP* **P** **17 50 53.9 -0.2**
comp=Z,5.3nm,1.4s,mb4.6
SNAA Sanae 94.70 194⇓ *iP* **P** **17 50 56.3 +1.7**
SNAA *e* 17 50 59.6
SNAA Sanae 94.70 194 *eP* **P** **17 50 55.6 +1.0**
SNAA *e* pP 17 51 33.9 +1.7
SNAA pmax pmax
comp=Z,11nm,1.1s
SNAA Sanae 94.70 194 *eP* **P** **17 50 55.5 +0.9**
comp=Z,11nm,1.1s,mb5.0
SNAA *e* pP 17 51 33.9 +1.7
VNA3 Neumayer Olymp 96.56 193 *eP* **P** **17 51 05.2 +2.2**
VNA3 *e* 17 51 09.1
EIL Elat 96.66 299 *eP* **P** **17 51 05.6 +2.1**
comp=Z,71nm,0.9s
OBN Obninsk 97.20 325⇑ *eP* **P** **17 51 03.0 -2.9**
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
LSZ Lusaka 97.73 253 *eP* **P** **17 51 08.7 +0.4**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
LSZ Lusaka 97.73 253 *eP* **P** **17 51 08.7 +0.4**
comp=Z,2.9nm,0.7s,mb4.8
BOSA Boshof 97.76 240 P **P** **17 51 09.6 +1.1**
comp=Z,3.6nm,0.9s,mb4.8,baz=291,slow=19,SNR=4.0
BOSA Boshof 97.76 240 *eP* **P** **17 51 09.6 +1.1**
BOSA pmax pmax
comp=Z,12nm,1.2s,mb5.2
BOSA Boshof 97.76 240 *eP* **P** **17 51 09.6 +1.2**
comp=Z,12nm,1.2s,mb5.2
DAWY Dawson 97.76 26 *eP* **P** **17 51 08.1 -0.4**
LBTB Lobatse 98.25 243 *eP* **P** **17 51 11.6 +1.0**
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
LBTB Lobatse 98.25 243 *eP* **P** **17 51 11.6 +1.0**
comp=Z,4.1nm,0.9s,mb4.9
BRTR Keskin Array B 98.42 309 P **P** **17 51 09.9 -1.5**
comp=Z,0.4nm,0.7s,mb4.0,baz=134,slow=7.1,SNR=4.2
ARCES ARCESS Array B 101.57 340 P Pdif 17 51 23.6 -1.8
comp=Z,3.5nm,0.9s,baz=74,slow=5.7,SNR=10
FINES FINESS Array B 102.50 331 P Pdif 17 51 27.1 -2.5
comp=Z,1.4nm,1.0s,baz=28,slow=6.3,SNR=3.8
FINES PKIKP PKiKP 17 55 50.6 +0.4
comp=Z,0.7nm,0.6s,baz=97,slow=4.1,SNR=7.9
YKA Yellowknife Ar 109.00 26 PKiKP PKiKP 17 56 01.4 -0.7
comp=Z,1.2nm,0.6s,baz=300,slow=1.8,SNR=4.6
YKA Yellowknife Ar 109.00 26 PKPdf PKiKP 17 56 01.4 -0.8
NOA NORSAR Array B 109.56 333 PKiKP PKiKP 17 56 03.0 -0.2
comp=Z,0.3nm,0.6s,baz=78,slow=2.0,SNR=3.2
NOA PP PP 17 56 30.9 -5.2
comp=Z,1.0nm,0.8s,baz=70,slow=3.7,SNR=3.3
GERES GERESS Array B 111.83 320 PKiKP PKiKP 17 56 07.5 0.0
comp=Z,1.3nm,0.5s,baz=71,slow=2.4,SNR=15
NVAR Mina Array Bea 112.94 52 PKiKP PKiKP 17 56 11.1 +1.5
comp=Z,0.7nm,0.7s,baz=261,slow=3.8,SNR=6.0
NVAR Mina Array Bea 112.94 52 PKPdf PKiKP 17 56 11.1 +1.5
HLID Hailey 114.83 45 *e*PKPdf PKiKP 17 56 14.6 +1.4
HINF Hinteralfeld 116.50 320 *e*PKIKP PKPdf 17 56 15.9 -0.5
comp=Z,7.2nm,0.7s
RRI2 Red Ridge 117.06 45 *e*PKPdf PKPdf 17 56 20.9 +3.4
LPG La Plagne 117.31 318 *e*PKIKP PKPdf 17 56 18.4 +0.4
comp=Z,2.3nm,0.5s
LPL La Plagne 117.31 318 *e*PKIKP PKPdf 17 56 18.4 +0.4
comp=Z,6.3nm,0.6s
SBF Sospel 117.33 316 *e*PKIKP PKPdf 17 56 17.9 -0.1
comp=Z,13nm,0.7s
REDW Red Top Meadow 117.38 45 *e*PKPdf PKPdf 17 56 19.7 +1.6
CABF La Chapelle 117.39 319 *e*PKIKP PKPdf 17 56 18.5 +0.4
comp=Z,24nm,0.8s
SNOW Snow King Moun 117.42 45 *e*PKPdf PKPdf 17 56 19.7 +1.5
MSU Marysvale 117.64 50 *e*PKIKP PKPdf 17 56 20.9 +2.3
KEST Kesra 117.88 306 PKP PKPdf 17 56 19.8 +0.7
comp=Z,2.0nm,1.0s,baz=356,slow=8.4,SNR=4.1
ORIF Oris-en-Rattie 118.08 317 *e*PKIKP PKPdf 17 56 19.5 0.0
comp=Z,3.7nm,0.5s
TMUT Trail Mountain 118.20 49 *e*P PKPdf 17 56 15.6 -4.1
PDAR Pinedale Array 118.46 45 PKP PKPdf 17 56 21.0 +0.8
comp=Z,2.4nm,0.7s,baz=330,slow=0.6,SNR=16
PDAR PKKPbc PKKPbc 18 06 39.2 +1.6
comp=Z,1.2nm,0.6s,baz=108,slow=4.8,SNR=9.8
LOR Lormes 118.59 320 *e*PKIKP PKPdf 17 56 20.8 +0.3
SMF Signal de Mont 118.83 320 *e*PKIKP PKPdf 17 56 21.0 +0.1
SSF Saint Saulge 118.89 320 *e*PKIKP PKPdf 17 56 21.1 +0.1
comp=Z,7.5nm,0.6s
AVF Avril sur Loir 119.09 320 *e*PKIKP PKPdf 17 56 21.0 -0.4
comp=Z,3.1nm,0.5s
BGF Bois d'Agland 119.50 320 *e*PKIKP PKPdf 17 56 22.5 +0.3
comp=Z,12nm,0.6s
TCF Toulx Ste Croi 120.01 320 *e*PKIKP PKPdf 17 56 23.4 +0.2
comp=Z,5.1nm,0.6s
PV01 Paradox Valley 120.49 50 *e*PKPdf PKPdf 17 56 26.1 +1.9
CAF Calviac 120.62 318 *e*PKIKP PKPdf 17 56 25.0 +0.6
comp=Z,4.2nm,0.6s
MTLF Montolieu 121.09 317 *e*PKIKP PKPdf 17 56 25.3 0.0
RSSD Black Hills 121.79 42 *e*PKIKP PKPdf 17 56 27.0 +0.4
EPF Esparros 122.48 317 *e*PKIKP PKPdf 17 56 28.9 +1.0
comp=Z,4.2nm,0.6s
SDCO Great Sand Dun 122.92 50 *e*PKPdf PKPdf 17 56 30.7 +1.9
ANMO Albuquerque 122.96 53⇑ *i*PKIKP PKPdf 17 56 30.5 +1.6
ETSF Etsaut 123.14 317 *e*PKIKP PKPdf 17 56 29.6 +0.4
comp=Z,6.6nm,0.7s
ULM Lac du Bonnet 123.83 33 PKP PKPdf 17 56 30.6 +0.1
comp=Z,3.5nm,0.7s,baz=143,slow=5.4,SNR=3.8
MNTX Cornudas Mount 124.64 57 *e*PKPdf PKPdf 17 56 33.7 +1.6
TOA0 Torodi Ar. Sit 127.32 281 *e*PKPdf PKPdf 17 56 38.3 +1.1
TORD Torodi Ar. Bea 127.32 281 PKP PKPdf 17 56 38.0 +0.8
comp=Z,4.0nm,0.7s,baz=74,slow=2.0,SNR=24
PLCA Paso Flores 128.85 162 PKP PKPdf 17 56 41.9 +1.8
comp=Z,3.2nm,0.8s,baz=74,slow=4.5,SNR=4.7
JCT Junction City 129.58 57 *e*PKIKP PKPdf 17 56 42.9 +1.4
EVO Evora 130.11 315 *e*PKIKP PKPdf 17 56 42.9 +0.4
MIAR Mount Ida 133.07 49 *e*PKIKP PKPdf 17 56 50.3 +2.2
DBIC Dimbokro 133.58 272 PKP PKPdf 17 56 50.0 +1.0
comp=Z,2.8nm,0.6s,baz=88,slow=5.2,SNR=5.8
DBIC Dimbokro 133.58 272 *e*PKPdf PKPdf 17 56 50.3 +1.3
WCI Wyandotte Cave 136.32 40 *e*PKHKP 17 56 43.2
TKL Tuckaleechee C 139.45 42 PKP PKPdf 17 57 00.7 +0.8
comp=Z,5.1nm,0.6s,baz=166,slow=6.2,SNR=6.2
LVC Limon Verde 145.54 151 *e*PKPdf PKPdf 17 57 14.6 +3.9
LVC *e* 17 57 55.2
CPUP Villa Florida 145.83 171 PKPbc PKPbc 17 57 13.1 +1.1
comp=Z,5.9nm,0.6s,baz=160,slow=2.1,SNR=21
CPUP Villa Florida 145.83 171 *e*PKPdf PKPdf 17 57 13.6 +2.4
CPUP *e* 17 57 50.0
JTS JuntasAbangare 147.00 83 *e*PKP2 PKPab 17 57 16.9 -0.3
LPAZ La Paz 151.20 146 PKP PKPdf 17 57 23.1 +3.1
comp=Z,0.6nm,0.3s,baz=330,slow=3.0,SNR=5.6
LPAZ PKPbc PKPbc 17 57 29.6 +3.6
comp=Z,8.7nm,0.4s,baz=7.2,slow=0.6,SNR=57
LPAZ La Paz 151.20 146 *e*PKPdf PKPdf 17 57 23.5 +3.6
LPAZ *e*PKPbc PKPbc 17 57 29.4 +3.4

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*VIE **06** 17:39:41.6±0.2, 46.40N×15.08E, h0km, mb1.5/3, ML1.5/3,*
Error ellipse: s-maj=1.4km s-min=1.2km az=122.0 23 km
NW of Celje Suspected Mining induced.

LJU 06 17:39:41.4, 46.39N×15.07E, h0km, ML1.0, 5C-2D
Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*e*Pg	Pg	17 39 46.7	+0.5
BISS	**Bistriski jare**	**0.26**	**9**	*e*Pg	Pg	17 39 46.7	+0.3
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	17 39 47.4	+0.1
PDKS	**Podkum**	**0.33**	**189**	*e*Pg	Pg	17 39 48.1	+0.3
PDKS				*e*Sg	Sg	17 39 52.7	+0.6
PDKS							
	comp=Z,76nm,1.0s						
DOBS	**Dobrina**	**0.37**	**131**	*e*Pg	Pg	17 39 48.6	+0.2
OBKA	**Obir**	**0.38**	**288**	⇑ *i*Pg	Pg	17 39 49.2	+0.5
OBKA				⇑ *i*Sg	Sg	17 39 54.6	+1.0
	comp=Z,30nm,0.6s						
LEGS	**Legarje**	**0.47**	**159**	*e*Pg	Pg	17 39 50.8	+0.3
LEGS				*e*Sg	Sg	17 39 57.3	+0.7
GOLS	**Golise**	**0.54**	**134**	*i* Pg	Pg	17 39 52.1	+0.4
VISS	**Visnje**	**0.61**	**195**	*e*Pg	Pg	17 39 53.2	+0.1
ARSA	**Arzberg**	**0.92**	**20**⇑ *i*Sg		Sg	17 40 11.5	+0.7

comp=Z,4.6nm,0.6s
ARSA **Arzberg** **0.92** **20**⇑*i*Pg Pg 17 39 58.6 -0.4
ARSA ⇑*i*Sg Sg 17 40 11.5 +0.7
comp=Z,4.6nm,0.6s
KBA **Koelnbreinsper** **1.37** **301**⇓*i*Pg Pg 17 40 07.6 -0.1
KBA ⇓*i*Sg Sg 17 40 26.0 +0.5
comp=Z,2.6nm,0.5s

IDC 06 17:56:27.3±2.9, 916S×11369E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, Error ellipse: s-maj=138.1km s-min=21.3km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.62**	**129**	Pn	Pn	17 59 53.9	-1.3
	baz=308,slow=11						
WRA	**Warramunga Arr**	**22.65**	**121**	P	P	18 01 30.9	+1.0
	0.2nm,0.5s,baz=299,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.12**	**129**	P	P	18 01 44.8	+0.1
	0.5nm,0.8s,baz=301,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**57.11**	**354**	P	P	18 06 16.5	+1.0
	0.4nm,0.5s,baz=173,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**62.34**	**336**	P	P	18 06 50.9	-0.7
	0.4nm,0.4s,baz=144,slow=7.2,SNR=8.6						

IDC 06 18:02:57.6±8.8, 2120S×6812W, h152km±62km, mb3.5/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.7/3, Error ellipse: s-maj=83.9km s-min=51.2km az=33.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.89**	**360**	P	Pn	18 04 10.2	+0.6
	0.4nm,0.3s,baz=183,slow=7.0,SNR=15						
LPAZ				S	Sn	18 05 07.4	+1.8
	0.2nm,0.3s,baz=212,slow=13,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.56**	**70**	P	P	18 14 31.6	+0.6
	0.3nm,0.4s,baz=259,slow=5.7,SNR=8.2						
YKA	**Yellowknife Ar**	**91.15**	**340**	P	P	18 15 44.4	-0.7
	0.8nm,0.5s,baz=134,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	**144.96**	**36**	PKP	PKPdf	18 22 16.5	-0.1
	0.6nm,0.8s,baz=300,slow=4.9,SNR=4.7						

IDC 06 18:15:25.2±2.0, 716S×13176E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.8/11, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=95.3km s-min=25.3km az=83.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.40**	**208**	Pn	Pn	18 18 23.5	+0.5
	0.5nm,0.3s,baz=36,slow=11,SNR=28						
FITZ				Sn	Sn	18 20 33.7	-8.2
	2.4nm,0.3s,baz=216,slow=18,SNR=14						
WRA	**Warramunga Arr**	**12.95**	**169**	Pn	Pn	18 18 30.4	-0.1
	0.4nm,0.3s,baz=350,slow=13,SNR=12						
WRA				Sn	Sn	18 20 48.0	-7.3
	1.1nm,0.3s,baz=345,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.54**	**173**	Pn	Pn	18 19 18.9	+0.4
	0.4nm,0.3s,baz=349,slow=9.3,SNR=41						
ASAR				Sn	Sn	18 22 15.2	-7.6
	0.4nm,0.3s,baz=346,slow=26,SNR=6.2						
SONM	**Songino Array**	**59.16**	**340**	P	P	18 25 28.5	+0.7
	0.2nm,0.4s,baz=157,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**69.32**	**326**	P	P	18 26 34.2	-0.3
	1.1nm,0.5s,baz=117,slow=7.9,SNR=16						

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*ISCJB **06** 18:27:31.5±0.3, 3691N×003×5641E±002, h10km, Error ellipse: s-maj=4.0km s-min=2.8km az=156.9*
*THR **06** 18:27:31.1±0.5, 3693N×5648E, h18km±9km, ML3.5*
*CSEM **06** 18:27:33.2±0.1, 3702N×5638E, h30km, ML3.5, Error ellipse: s-maj=1.6km s-min=1.1km az=8.0*
*TEH **06** 18:27:34.3, 3708N×5641E, h24km, Mn3.8*
*NNC **06** 18:27:41.4±15.0, 3783N×5645E, h0km, mb3.0, Error ellipse: s-maj=168.9km s-min=91.6km az=58.0*
ISC 06 18:27:32.8±0.3, 3695N±003×5640E±002, h10km, n30, σ1§21/51, 3C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.75**	**341**	*e*Pg	**Pg**	**18 27 46.4**	**-0.8**
MRVT				*e*Sg	**Sg**	**18 27 57.2**	**+0.1**
ISFR	**Esferayen**	**1.28**	**85**	*e*Pg	**Pg**	**18 27 57.3**	**-0.1**
ISFR				*e*Sg	**Sg**	**18 28 14.4**	**+0.3**
IQHU	**Quchan**	**1.72**	**85**	*e*Pn	**Pn**	**18 28 02.4**	**-0.3**
IEMG	**Emamqoli**	**1.86**	**75**	*e*Pn	**Pn**	**18 28 07.2**	**+2.6**
IEMG				*e*Sn	**Sn**	**18 28 26.6**	**-1.5**
IAKL	**Akhlamad**	**1.90**	**100**	*e*Pn	**Pn**	**18 28 07.5**	**+2.3**
IAKL				*e*Sn	**Sn**	**18 28 28.8**	**-0.3**
IKIA	**Kiasar**	**2.31**	**252**	*e*Pn	**Pn**	**18 28 12.7**	**+1.9**
IKIA				*e*Sn	**Sn**	**18 28 39.3**	**0.0**
IANJ	**Anjiloo**	**2.50**	**234**	*e*Pn	**Pn**	**18 28 14.2**	**+0.8**
IANJ				*e*Sn	**Sn**	**18 28 44.4**	**+0.5**
ISHM	**Shahmirzad**	**2.75**	**246**	*e*Pn	**Pn**	**18 28 18.1**	**+1.1**
ISHM				*e*Sn	**Sn**	**18 28 49.8**	**-0.5**
ILAS	**Lasjerd**	**3.19**	**242**	*e*Pn	**Pn**	**18 28 23.8**	**+0.8**
ILAS				*e*Sn	**Sn**	**18 29 00.7**	**-0.4**
IFIR	**Firoozkooh**	**3.22**	**247**	*e*Pn	**Pn**	**18 28 24.8**	**+1.4**
IFIR				*e*Sn	**Sn**	**18 29 01.2**	**-0.6**
IDMV	**Damavand**	**3.79**	**250**	*e*Pn	**Pn**	**18 28 34.5**	**+3.4**
IDMV				*e*Sn	**Sn**	**18 29 14.5**	**-1.2**
IVRN	**Varamin**	**4.26**	**244**	*e*Pn	**Pn**	**18 28 38.3**	**+0.6**
IVRN				*e*Sn	**Sn**	**18 29 25.9**	**-1.5**
ISFB	**Sefidab**	**4.27**	**234**	*e*Pn	**Pn**	**18 28 38.1**	**+0.4**
ISFB				*e*Sn	**Sn**	**18 29 25.8**	**-1.8**
ITEG		**4.48**	**154**	*e*Pn	**Pn**	**18 28 42.0**	**+1.3**
ITEG				*e*Sn	**Sn**	**18 29 32.1**	**-0.7**
THKV	**Tehran--Karaj**	**4.57**	**259**	*e*Pn	**Pn**	**18 28 42.2**	**+0.3**
THKV				*e*Sg	**Sg**	**18 29 54.7**	**-4.8**
THKV				AML	AML	18 30 03.9	
	comp=E,62nm,0.6s						
THKV				AML	AML	18 30 09.7	
	comp=N,54nm,0.8s						
IMON		**4.61**	**143**	*e*Pn	**Pn**	**18 28 43.9**	**+1.5**
IMON				*e*Sn	**Sn**	**18 29 34.8**	**-1.1**
IKOO		**5.00**	**154**	*e*Pn	**Pn**	**18 28 48.8**	**+1.0**
IKOO				*e*Sn	**Sn**	**18 29 44.3**	**-1.3**
IDAH		**5.08**	**145**	*e*Pn	**Pn**	**18 28 50.0**	**+1.1**
IDAH				*e*Sn	**Sn**	**18 29 45.9**	**-1.6**
NASN	**Na'in**	**5.08**	**217**	*e*Pn	**Pn**	**18 28 49.3**	**+0.3**
IRAZ	**Razeghan**	**5.46**	**256**	*e*Pn	**Pn**	**18 28 54.3**	**+0.2**
IRAZ				*e*Sn	**Sn**	**18 29 53.4**	**-3.5**
ISAD	**Sadrabad**	**5.50**	**205**	*e*Sn	**Sn**	**18 29 56.0**	**-2.0**
ASAO	**Ashtian**	**5.71**	**247**	*e*Pn	**Pn**	**18 28 58.4**	**+0.8**
ASAO				AML	AML	18 30 48.9	
	comp=N,11nm,0.6s						
ASAO	**Ashtian**	**5.71**	**247**	*e*Pn	**Pn**	**18 28 58.3**	**+0.7**
	SNR=52						
IMEH	**Mehriz**	**5.74**	**195**	*e*Pn	**Pn**	**18 28 58.9**	**+0.9**
KK31	**Karatay Array**	**12.43**	**56**	⇓P	**Pn**	**18 30 31.4**	**+1.6**
	comp=N,0.3nm,0.4s,baz=258,slow=8.3,SNR=3.5						
KK31				⇑S	**Sn**	**18 32 45.3**	**-3.0**
	comp=N,3.0nm,0.9s,baz=262,slow=47						
AB31	**Akbulak array**	**12.57**	**11**	P	**Pn**	**18 30 29.6**	**-2.0**
	comp=N,0.5nm,0.4s,baz=188,slow=13,SNR=12						
AB31				⇑S	**Sn**	**18 32 43.8**	**-7.8**
	comp=N,2.2nm,0.7s						
AKTO	**Aktyubinsk**	**13.53**	**4**	⇑P	**Pn**	**18 30 42.5**	**-2.2**
	comp=N,0.1nm,0.9s						
AKTO				⇓S	**Sn**	**18 33 07.7**	**-7.5**
	comp=N,0.1nm,0.8s						
BVA0	**Borovoye Array**	**18.82**	**27**	P	**Pn**	**18 31 53.2**	**+0.2**
	comp=N,0.1nm,0.8s,baz=228,slow=8.9,SNR=13						
BVAR	**Borovoye Array**	**18.82**	**27**	P	**Pn**	**18 31 53.2**	**+0.2**
	comp=N,0.1nm,0.8s,SNR=13						
CHKZ	**Chkalovo**	**19.42**	**26**	P	**Pn**	**18 31 59.9**	**-0.4**

IDC 06 18:57:03.1±33.0, 192N×12219E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=592.0km s-min=135.0km az=130.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**8.66**	**3**	*e*P	Pg	19 00 40.4	+52
FITZ	**Fitzroy Crossi**	**20.18**	**170**	P	P	19 01 39.0	-0.2
	1.4nm,0.6s,baz=17,slow=14,SNR=11						
WRA	**Warramunga Arr**	**24.78**	**152**	P	P	19 02 26.7	+0.1
	0.7nm,0.4s,baz=332,slow=8.4,SNR=35						
WB2	**Warramunga Arr**	**24.79**	**152**	*e*P	P	19 02 27.5	+0.9
ASAR	**Alice Springs**	**27.87**	**157**	P	P	19 02 55.0	+0.6
	0.3nm,0.5s,baz=328,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**38.33**	**153**	P	P	19 04 25.8	+0.3
	0.8nm,0.4s,baz=323,slow=10,SNR=5.7						

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*MOS **06** 18:58:09.1±1.3, 470N×9529E, h33km, mb4.8/11, Error ellipse: s-maj=18.3km s-min=8.3km az=108.2*
*BJI **06** 18:58:10.7, 425N×9523E, h77km, mB5.1, mb4.8, Ms4.7, Msz4.2*
*ISCJB **06** 18:58:11.4±0.3, 453N±005×9506E±005, h53km, mb4.6/48, MS3.8/8, Error ellipse: s-maj=8.7km s-min=4.9km az=94.6*
*IDC **06** 18:58:13.3±0.6, 466N×95.16E, h55km±5km, mb4.1/17, mb1 4.2/18, mb1mx4.1/22, mbtmp4.4/18, MS3.7/6, Ms1 3.7/6, ms1mx3.3/30, Error ellipse: s-maj=20.9km s-min=11.0km az=54.0*
*NEIC **06** 18:58:13.1±0.3, 461N×9509E, mb4.8/13, Error ellipse: s-maj=9.4km s-min=5.4km az=51.0*
ISC 06 18:58:13.7±0.3, 457N±005×9507E±005, h55km, h55km±2.0km: pP-P, n112, σ1§13/100, mb4.6/48, MS3.8/8, 1C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.23**	**114**	P	**Pn**	**18 59 16.6**	**+1.1**
	28nm,0.3s,baz=308,slow=9.6,SNR=56						
KULM	**Kulim**	**5.60**	**82**	*e*P	**Pn**	**18 59 34.5**	**+0.1**
IPM	**Ipoh**	**5.94**	**91**	P	**Pn**	**18 59 39.9**	**+1.0**
KGM	**Kluang**	**8.62**	**107**	P	**Pn**	**19 00 16.0**	**+0.4**
NNT	**Nongplab**	**9.20**	**30**	P	**Pn**	**19 00 27.0**	**+3.3**
NST	**Nakhon Sawan**	**12.10**	**24**	P	**Pn**	**19 01 06.2**	**+2.9**
CHG	**Chiang Mai**	**14.65**	**15**	⇑P	**Pn**	**19 01 42.6**	**+4.9**
	32nm,0.7s						
CHTO	**Chiang Mai**	**14.65**	**15**	*e*P	**Pn**	**19 01 41.3**	**+3.6**
CHTO				pmax	pmax		
	comp=Z,21nm,0.7s						
CHTO	**Chiang Mai**	**14.65**	**15**	*e*P	**Pn**	**19 01 41.3**	**+3.6**
	comp=Z,21nm,0.7s						
KSM	**Kuching**	**15.52**	**101**	*e*P	**Pn**	**19 01 52.1**	**+3.1**
VIS	**Vishakhapatnam**	**17.41**	**320**	*i*P	**Pn**	**19 02 11.1**	**-1.5**
VIS				*i*S	**S**	**19 05 13.8**	**-17**
KKM	**Kota Kinabalu**	**21.10**	**85**	P	**P**	**19 02 53.5**	**0.0**
KMI	**Kunming**	**21.72**	**19**	P	**P**	**19 03 03.0**	**+2.8**
KMI				AP		19 03 17.9	
KMI				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=N,168nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=E,235nm,17.3s,MS3.8						
KMI				LR	LR		
	comp=Z,160nm,20.4s,MS3.4						
GYA	**Guiyang**	**24.43**	**26**	⇓*i*P	**P**	**19 03 26.9**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
JIRN	**Jiri**	**24.47**	**341**	*e*P	**P**	**19 03 28.1**	**+0.7**
	comp=Z,3.8nm,0.2s,mb4.5						
DMN	**Daman**	**24.80**	**339**	*e*P	**P**	**19 03 31.2**	**+0.8**
	comp=Z,24nm,0.7s,mb4.8						
GUN	**Gumba**	**24.81**	**340**	*e*P	**P**	**19 03 30.2**	**-0.3**
KKN	**Kakani**	**24.90**	**339**	*e*P	**P**	**19 03 31.3**	**0.0**
	comp=Z,17nm,0.6s,mb4.7						
LSA	**Lhasa**	**25.27**	**352**	*e*P	**P**	**19 03 34.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
LSA	**Lhasa**	**25.27**	**352**	*e*P	**P**	**19 03 34.6**	**0.0**
	comp=Z,12nm,0.6s,mb4.6						
GKN	**Gorkha**	**25.33**	**338**	*e*P	**P**	**19 03 34.2**	**-1.0**
KOLN	**Koldanda**	**25.53**	**336**	*e*P	**P**	**19 03 36.7**	**-0.3**
	comp=Z,48nm,0.8s,mb5.1						
CD2	**Chengdu**	**27.45**	**16**	P	**P**	**19 03 53.3**	**-1.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.1						
XAN	**Xi'an**	**32.02**	**22**	P	**P**	**19 04 33.7**	**-1.1**
XAN				AMB	AMB		
	comp=Z,58nm,0.8s,mb5.5						
GTA	**Gaotai**	**34.95**	**6**	P	**P**	**19 04 59.2**	**-1.0**
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**35.19**	**137**	*e*P	**P**	**19 05 01.8**	**-0.5**
	comp=Z,4.5nm,0.6s,mb4.6						
NJ2	**Nanjing**	**35.27**	**36**	*e*P	**P**	**19 04 57.9**	**-5.1**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**37.63**	**128**	*e*P	**P**	**19 05 22.3**	**-0.8**
	comp=Z,17nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**37.63**	**128**	P	**P**	**19 05 22.1**	**-1.0**
	comp=Z,8.8nm,0.7s,mb4.6,baz=305,slow=5.0,SNR=44						
KSH	**Kashi**	**38.85**	**336**	*e*P	**P**	**19 05 34.6**	**+1.3**
KSH				*e*SCS	ScS	19 15 28.1	-10
KSH				LR	LR		
	comp=N,275nm,4.7s						
KSH				LR	LR		
	comp=E,210nm,5.1s						
KSH				LR	LR		
	comp=Z,1μm,21.3s,MS4.7						
WMQ	**Urumqi**	**39.63**	**352**	⇓*i*P	**P**	**19 05 40.1**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,140nm,5.1s						
BJT	**Baijiatuau**	**40.10**	**25**	*e*P	**P**	**19 05 44.1**	**+0.3**
BJT				pmax	pmax		
	comp=Z,61nm,1.3s						
BJT	**Baijiatuau**	**40.10**	**25**	*e*P	**P**	**19 05 44.1**	**+0.3**
	comp=Z,61nm,1.3s,mb5.2						
UCH	**Uchtor**	**41.73**	**337**	P	**P**	**19 05 58.1**	**+0.9**
	SNR=22						
DL2	**Dalian**	**41.82**	**32**	P	**P**	**19 05 58.6**	**+0.7**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
TKM2	**Tokmak 2**	**41.92**	**338**	P	**P**	**19 05 60.0**	**+1.2**
	SNR=15						
KBK	**Karagaybulak**	**41.93**	**338**	P	**P**	**19 06 00.5**	**+1.6**
	SNR=26						
AML	**Almayashu**	**41.98**	**336**	P	**P**	**19 06 00.1**	**+0.9**
	SNR=22						
AAK	**Ala-Archa**	**42.09**	**337**	P	**P**	**19 06 01.6**	**+1.5**
	SNR=11						
AAK	**Ala-Archa**	**42.09**	**337**	*e*P	**P**	**19 06 00.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**42.09**	**337**	*e*P	**P**	**19 06 00.3**	**+0.3**
	comp=Z,9.6nm,0.8s,mb4.5						
FRU	**Bishkek**	**42.21**	**338**	*e*P	**P**	**19 06 02.5**	**+1.4**
FRU				*e*	pP	19 06 19.0	+3.5
CHMS	**Chumysh**	**42.30**	**338**	P	**P**	**19 06 02.9**	**+1.0**
	SNR=6.0						
EKS2	**Erkin-Say**	**42.39**	**337**	P	**P**	**19 06 03.6**	**+1.1**
	SNR=10						
USP	**Ospenovka**	**42.62**	**338**	P	**P**	**19 06 05.5**	**+1.0**
	SNR=6.5						
MKAR	**Makanchi Array**	**43.49**	**347**	P	**P**	**19 06 10.8**	**-0.7**
	comp=Z,18nm,0.8s,mb4.9,baz=160,slow=7.5,SNR=133						
MKAR	**Makanchi Array**	**43.49**	**347**	P	**P**	**19 06 10.8**	**-0.7**
SONM	**Songino Array**	**44.19**	**11**	P	**P**	**19 06 16.0**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.1,baz=192,slow=8.2,SNR=19						
SONM				pPcP		19 08 16.7	
	comp=Z,0.9nm,0.4s,baz=194,slow=3.6,SNR=6.4						
WRA	**Warramunga Arr**	**45.63**	**124**	P	**P**	**19 06 28.6**	**+0.1**
	comp=Z,16nm,0.5s,mb5.2,baz=300,slow=9.5,SNR=239						
WRA				LR	LR	19 25 54.3	
	comp=Z,77nm,21.8s,MS3.6,baz=215,slow=36						
WRAB	**Tennant Creek**	**45.64**	**124**	*e*P	**P**	**19 06 26.3**	**-2.3**
WB2	**Warramunga Arr**	**45.65**	**124**	⇓*i*P	**P**	**19 06 28.7**	**+0.1**
ASPA	**Alice Springs**	**47.12**	**128**	⇓*i*P	**P**	**19 06 40.2**	**0.0**
AS31	**Alice Springs**	**47.12**	**128**	⇓*i*P	**P**	**19 06 40.2**	**0.0**
ASAR	**Alice Springs**	**47.12**	**128**	P	**P**	**19 06 40.2**	**0.0**
	comp=Z,6.9nm,0.4s,mb4.9,baz=301,slow=8.1,SNR=327						
ASAR				PcP	PcP	19 08 11.7	+0.4
	comp=Z,1.9nm,0.7s,baz=299,slow=3.3,SNR=5.0						
ASAR				S	**S**	**19 13 38.1**	**+10**
	comp=Z,0.2nm,0.6s,baz=299,slow=13,SNR=4.7						
FORT	**Forrest**	**47.21**	**140**	*e*P	**P**	**19 06 41.4**	**+0.5**
	comp=Z,14nm,0.6s,mb5.1						
HIA	**Hailar**	**49.22**	**21**	*e*P	**P**	**19 06 55.7**	**-0.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**49.22**	**21**	*e*P	**P**	**19 06 55.6**	**-0.7**
	comp=Z,6.2nm,0.6s,mb4.8						
GUMO	**Guam**	**49.90**	**76**	LR	LR	19 26 33.6	
	comp=Z,57nm,18.9s,MS3.6,baz=147,slow=34						
MDJ	**Mudanjiang**	**50.06**	**32**	P	**P**	**19 07 02.6**	**-0.2**
	comp=Z,16nm,1.1s,mb5.0						
NVS	**Novosibirsk**	**51.03**	**351**	*e*P	**P**	**19 07 07.9**	**-2.2**
NVS				*e*S	**S**	**19 14 23.6**	**+0.3**
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
NVS				smax			
	comp=N,7.0nm,1.4s						
NVS				smax			
	comp=E,4.0nm,1.4s						
BVAR	**Borovoye Array**	**52.39**	**341**	P	**P**	**19 07 19.5**	**-0.7**
	comp=E,11nm,0.7s,mb4.9,baz=139,slow=9.6,SNR=48						
BVAR				pP	pP	19 07 34.0	-1.1
	comp=E,6.4nm,0.8s,baz=134,slow=8.5,SNR=8.1						
BRVK	**Borovoye**	**52.46**	**341**	*e*P	**P**	**19 07 19.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
BRVK	**Borovoye**	**52.46**	**341**	*e*P	**P**	**19 07 19.8**	**-0.9**
	comp=Z,12nm,0.7s,mb4.9						
OPO	**Ambohidratompo**	**52.48**	**243**	P	**P**	**19 07 22.5**	**+1.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=359,slow=22,SNR=3.4						
ZRNK	**Zerenda**	**52.78**	**340**	*e*P	**P**	**19 07 21.8**	**-1.3**
ZRNK				*e**PP	pP	19 07 37.3	-0.6
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**52.78**	**340**	*e*P	**P**	**19 07 21.8**	**-1.3**
	comp=Z,8.0nm,0.8s,mb4.7						
ZRNK				*e*pP	pP	19 07 37.3	-0.7
CHKZ	**Chkalovo**	**52.88**	**342**	*e*P	**P**	**19 07 23.4**	**-0.5**
CHKZ				*e**PP	pP	19 07 37.7	-0.9
CHKZ				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**52.88**	**342**	*e*P	**P**	**19 07 23.4**	**-0.4**
	comp=Z,24nm,0.6s,mb5.3						
CHKZ				*e*pP	pP	19 07 37.7	-0.9
KLR	**Kul'dur**	**54.28**	**29**	*e*P	**P**	**19 07 30.8**	**-3.3**
BOD	**Bodaibo**	**55.15**	**12**	*e*P	**P**	**19 07 38.0**	**-2.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
AKTK	**Aktyubinsk**	**55.28**	**332**	P	**P**	**19 07 40.7**	**-0.6**
AKTO	**Aktyubinsk**	**55.28**	**332**	P	**P**	**19 07 40.7**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.3,baz=113,slow=8.6,SNR=10						
CTA	**Charters Tower**	**55.92**	**118**	LR	LR	19 32 41.8	
	comp=Z,136nm,19.2s,MS4.0,baz=275,slow=37						
STKA	**Stephens Creek**	**57.18**	**133**	*e*P	**P**	**19 07 54.4**	**-0.5**
	comp=Z,3.8nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**57.18**	**133**	P	**P**	**19 07 54.7**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.3,baz=308,slow=3.3,SNR=5.8						
ZEI	**Tsey**	**59.08**	**318**	*e*P	**P**	**19 08 09.0**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ARU	**Arti**	**59.27**	**337**	⇓*i*P	**P**	**19 08 08.6**	**-0.9**
ARU				*e*		19 08 51.0	
ARU				*e*		19 10 18.7	
ARU				*e*S	**S**	**19 16 15.7**	**+2.2**
ARU				*e*SS	SS	19 20 04.9	-3.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
YAK	**Yakutsk**	**62.83**	**18**	*e*P	**P**	**19 08 30.9**	**-2.7**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
BRTR	**Keskin Array B**	**65.29**	**312**	P	**P**	**19 08 49.5**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=132,slow=7.2,SNR=7.7						
BRTR				pP	pP	19 09 04.5	-0.4
	comp=Z,2.5nm,0.7s,baz=121,slow=7.3,SNR=9.8						
OBN	**Obninsk**	**68.65**	**328**	*e*P	**P**	**19 09 11.1**	**0.0**
OBN				*e*	pP	19 09 29.2	+2.8
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AKASG	**Malin Array Be**	**71.31**	**322**	P	**P**	**19 09 25.9**	**-1.5**
	comp=Z,1.2nm,0.5s,mb4.1,baz=91,slow=5.2,SNR=7.8						
JOF	**Joensuu**	**74.21**	**335**	*e*p	**P**	**19 09 43.3**	**-1.3**
	comp=Z,5.4nm,0.7s,mb4.6						
BOSA	**Boshof**	**74.65**	**239**	P	**P**	**19 09 48.0**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.3,baz=82,slow=7.7,SNR=6.8						
KOLS	**Kolonicke sedl**	**75.29**	**319**	*e*P	**P**	**19 09 53.5**	**+2.7**
KOLS				*e*pP	pP	19 10 07.5	+1.2
MAW	**Mawson**	**75.52**	**192**	P	**P**	**19 09 52.0**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=319,slow=6.0,SNR=5.4						
STHS	**Stebnicka Huta**	**76.04**	**320**	*e*P	**P**	**19 09 59.0**	**+3.9**
STHS				*e*pP	pP	19 10 12.0	+1.4
FINES	**FINESS Array B**	**76.05**	**332**	P	**P**	**19 09 54.1**	**-1.0**
	comp=Z,1.5nm,0.4s,mb4.2,baz=104,slow=6.5,SNR=31						
FINES				pP	pP	19 10 09.8	-0.9
	comp=Z,2.5nm,0.6s,baz=93,slow=5.6,SNR=4.5						
FINES	**FINESS Array B**	**76.05**	**332**	P	**P**	**19 09 54.1**	**-1.0**
FINES				pP	pP	19 10 09.8	-0.9
KAF	**Kangasniemi**	**76.14**	**333**	*e*p	**P**	**19 09 54.3**	**-1.3**
	comp=Z,5.7nm,0.9s,mb4.5,baz=102,slow=5.2						
KAF	**Kangasniemi**	**76.14**	**333**	*e*P	**P**	**19 09 54.3**	**-1.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
NIE	**Niedzica**	**76.64**	**320**	*e*

*ISCJB **06** 19:27:04.8±0.6,3149S×004×17946W±008,h122km±6km, mb4.7/15,Error ellipse: s-maj=12.3km s-min=4.9km az=48.3*
*NEIC **06** 19:27:04.6±0.9,3137S×179.13W,h119km±8km,mb4.7/8, Error ellipse: s-maj=14.8km s-min=9.1km az=119.0*
*IDC **06** 19:27:09.9±1.2,3113S×17924W,h162km±10km,mb4.2/9, mb1 4.4/10,mb1mx4.3/14,mbtmp4.7/10,Error ellipse: s-maj=17.7km s-min=12.2km az=166.0*

ISC 06 19:27:05.9±0.6,3149S±004×17940W±008,h121km±6km, n128,σ1§55/78,mb4.7/15,3C-9D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.57**	**30**	P	**Pn**	**19 27 46.8**	**+0.1**
	138nm,0.3s,baz=112,slow=19,SNR=5.4						
RAO				S	**Sn**	**19 28 17.3**	**-0.7**
	659nm,0.3s,baz=73,slow=19,SNR=18						
RAO	**Raoul Island**	**2.57**	**30**	*e*P	**Pn**	**19 27 42.2**	**-4.4**
RAO				S	**Sn**	**19 28 17.3**	**-0.7**
MXZ	**Matakaoa Point**	**6.35**	**197**	*e*PN	**Pn**	**19 28 36.9**	**-0.1**
MXZ				*e*SN	**Sn**	**19 29 50.7**	**+2.5**
PUZ	**Puketiti**	**6.85**	**196**	*e*PN	**Pn**	**19 28 44.5**	**+0.7**
PUZ				*e*SN	**Sn**	**19 30 01.8**	**+1.5**
MWZ	**Matawai**	**7.28**	**199**	PN	**Pn**	**19 28 50.8**	**+1.1**
MWZ				*e*SN	**Sn**	**19 30 10.8**	**0.0**
URZ	**Urewera**	**7.34**	**202**	P	**Pn**	**19 28 52.5**	**+2.0**
	1.5nm,0.3s,baz=59,slow=14,SNR=16						
URZ				S	**Sn**	**19 30 17.6**	**+5.5**
	34nm,0.3s,baz=137,slow=22,SNR=18						
URZ	**Urewera**	**7.34**	**202**	*e*P	**Pn**	**19 28 52.2**	**+1.8**
URZ	**Urewera**	**7.34**	**202**	*e*PN	**Pn**	**19 28 51.2**	**+0.8**
URZ				*e*SN	**Sn**	**19 30 14.2**	**+2.1**
KNZ	**Kokohu**	**7.89**	**197**	*e*SN	**Sn**	**19 30 26.7**	**+1.3**
BKZ	**Black Stump Fm**	**8.36**	**203**	*e*P	**Pn**	**19 29 06.9**	**+2.6**
BKZ	**Black Stump Fm**	**8.36**	**203**	*e*PN	**Pn**	**19 29 05.1**	**+0.8**
BKZ				*e*SN	**Sn**	**19 30 40.4**	**+3.4**
WNVZ	**Wahianoa**	**8.82**	**206**	P	**Pn**	**19 29 14.0**	**+3.5**
PXZ	**Pawanui**	**9.05**	**199**	*e*PN	**Pn**	**19 29 12.0**	**-1.6**
PXZ				SN	**Sn**	**19 30 51.5**	**-2.1**
TSZ	**Takapari Road**	**9.35**	**202**	*e*PN	**Pn**	**19 29 19.0**	**+1.4**
BFZ	**Birch Farm**	**9.83**	**200**	*e*PN	**Pn**	**19 29 21.6**	**-2.4**
MRZ	**Mangatainoka R**	**10.01**	**203**	*e*P	**Pn**	**19 29 27.1**	**+0.6**
MRZ	**Mangatainoka R**	**10.01**	**203**	*e*PN	**Pn**	**19 29 24.7**	**-1.9**
MRZ				*e*SN	**Sn**	**19 31 12.0**	**-5.0**
KIW	**Kapiti Island**	**10.42**	**205**	P	**Pn**	**19 29 31.9**	**-0.1**
KIW	**Kapiti Island**	**10.42**	**205**	*e*PN	**Pn**	**19 29 30.8**	**-1.2**
KIW				*e*SN	**Sn**	**19 31 24.4**	**-2.4**
CAW	**Cannon Point**	**10.59**	**203**	*e*PN	**Pn**	**19 29 31.4**	**-2.8**
DUWZ	**D'Urville Isla**	**10.75**	**208**	*e*PN	**Pn**	**19 29 37.1**	**+0.7**
MSWZ	**Moikau Station**	**10.80**	**202**	P	**Pn**	**19 29 36.9**	**-0.2**
MSWZ	**Moikau Station**	**10.80**	**202**	*e*PN	**Pn**	**19 29 35.7**	**-1.3**
MRW	**Makara Radio**	**10.82**	**204**	P	**Pn**	**19 29 37.5**	**+0.2**
MRW	**Makara Radio**	**10.82**	**204**	*e*PN	**Pn**	**19 29 37.4**	**+0.1**
TCW	**Tory Channel**	**10.96**	**206**	P	**Pn**	**19 29 38.9**	**-0.3**
TCW	**Tory Channel**	**10.96**	**206**	*e*PN	**Pn**	**19 29 36.8**	**-2.4**
TCW				*e*SN	**Sn**	**19 31 35.9**	**-3.9**
NNZ	**Nelson**	**11.32**	**209**	*e*PN	**Pn**	**19 29 41.2**	**-2.7**
NNZ				*e*SN	**Sn**	**19 31 44.6**	**-3.9**
THZ	**Tophouse**	**11.97**	**209**	*e*PN	**Pn**	**19 29 49.5**	**-3.0**
THZ				*e*SN	**Sn**	**19 32 00.0**	**-4.3**
DSZ	**Denniston Nort**	**12.43**	**212**	*e*PN	**Pn**	**19 29 57.2**	**-1.4**
DSZ				*e*SN	**Sn**	**19 32 11.8**	**-3.7**
MQZ	**McQueen's Vall**	**13.72**	**205**	*e*SN	**Sn**	**19 32 36.3**	**-10**
ODZ	**Otahua Downs**	**15.61**	**207**	*e*PN	**Pn**	**19 30 37.8**	**-1.5**
CTA	**Charters Tower**	**32.82**	**282**	*e*P	**P**	**19 33 30.5**	**+2.8**
	15nm,0.6s,mb5.0						
CTA	**Charters Tower**	**32.82**	**282**	P	**P**	**19 33 30.2**	**+2.5**
	17nm,0.6s,mb5.1,baz=105,slow=9.0,SNR=15						
STKA	**Stephens Creek**	**33.08**	**259**	*e*P	**P**	**19 33 33.8**	**+3.8**
	6.5nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**33.08**	**259**	P	**P**	**19 33 33.5**	**+3.5**
	7.1nm,0.7s,mb4.6,baz=92,slow=10,SNR=12						
AS31	**Alice Springs**	**41.87**	**269**	||*e*P	**P**	**19 34 45.7**	**+1.7**
AS31				*e*S	**S**	**19 40 51.8**	**-1.1**
ASAR	**Alice Springs**	**41.87**	**269**	P	**P**	**19 34 45.8**	**+1.7**
	10nm,0.7s,mb4.7,baz=105,slow=7.2,SNR=178						
ASAR				ScP	ScP	19 40 09.6	-7.0
	1.2nm,1.0s,baz=108,slow=3.8,SNR=5.1						
ASAR				S	**S**	**19 40 51.4**	**-1.5**
	0.9nm,1.1s,baz=108,slow=16,SNR=4.1						
ASPA	**Alice Springs**	**41.87**	**269**	||*e*P	**P**	**19 34 45.7**	**+1.7**
ASPA				*e*S	**S**	**19 40 51.8**	**-1.1**
WB2	**Warramunga Arr**	**42.95**	**274**	*e*P	**P**	**19 34 54.1**	**+1.4**
WB2				*e*		19 34 57.7	
WB2				*e*S	**S**	**19 41 05.7**	**-3.0**
WRA	**Warramunga Arr**	**42.96**	**274**	P	**P**	**19 34 54.2**	**+1.4**
	36nm,0.6s,mb5.2,baz=113,slow=7.7,SNR=171						
WRA				PcP	PcP	19 36 40.4	-0.7
	4.5nm,0.8s,baz=124,slow=2.9,SNR=5.4						
WRA				ScP	ScP	19 40 15.0	-5.9
	1.0nm,0.7s,baz=115,slow=3.8,SNR=6.1						
WRA				S	**S**	**19 41 06.5**	**-2.3**
	3.0nm,1.0s,baz=113,slow=14,SNR=5.9						
KAKA	**Kakadu**	**47.96**	**282**	||*e*P	**P**	**19 35 33.0**	**+0.8**
	10nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.17**	**271**	*e*P	**P**	**19 35 58.1**	**+1.5**
	19nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.17**	**271**	P	**P**	**19 35 57.6**	**+1.1**
	10nm,0.7s,mb5.0,baz=140,slow=5.0,SNR=40						
QSPA	**South Pole Qui**	**58.62**	**180**	*e*P	**P**	**19 36 53.2**	**+3.0**
	16nm,0.8s,mb5.1						
MAW	**Mawson**	**70.87**	**201**	P	**P**	**19 38 09.0**	**-0.6**
	1.8nm,0.7s,mb4.0,baz=90,slow=9.1,SNR=6.7						
SNAA	**Sanae**	**77.10**	**179**	*e*	**P**	**19 38 47.0**	**+1.1**
SNAA				*e*		19 38 49.8	
SNAA				*e*		19 38 52.8	
SNAA				*e*		19 39 22.6	
SNAA	**Sanae**	**77.10**	**179**	*e*P	**P**	**19 38 46.1**	**+0.3**
	4.1nm,0.7s,mb4.3						
VNA3	**Neumayer Olymp**	**77.30**	**177**	*e*	**P**	**19 38 47.5**	**+0.5**
VNA3				*e*		19 38 49.8	
VNA3				*e*		19 38 53.9	
VNA3				*e*		19 39 25.4	
VNA1	**Neumayer--Stat**	**77.95**	**177**	*e*	**P**	**19 38 51.7**	**+1.1**
VNA1				*e*		19 38 53.9	
VNA1				*e*		19 38 57.3	
VNA1				*e*		19 39 28.6	
MJAR	**Matsushiro Arr**	**78.46**	**326**	P	**P**	**19 38 50.8**	**-2.7**
	3.7nm,0.8s,mb4.2,baz=159,slow=5.0,SNR=5.5						
PLCA	**Paso Flores**	**82.64**	**134**	P	**P**	**19 39 16.9**	**+1.3**
	3.7nm,0.9s,mb4.2,baz=175,slow=4.4,SNR=3.8						
ISA	**Isabella**	**87.91**	**45**	*e*P	**P**	**19 39 41.2**	**-0.7**
CMB	**Columbia Colle**	**88.37**	**43**	*e*P	**P**	**19 39 42.4**	**-1.6**
	2.4nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**89.85**	**43**	P	**P**	**19 39 50.5**	**-0.5**
	3.6nm,0.9s,mb4.5,baz=223,slow=8.6,SNR=19						
NVAR	**Mina Array Bea**	**89.85**	**43**	P	**P**	**19 39 50.5**	**-0.5**
CN2	**Changchun**	**90.29**	**324**	*e*P	**P**	**19 39 52.7**	**-0.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.5						
WVOR	**Wild Horse Val**	**92.32**	**40**	*e*P	**P**	**19 40 01.7**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**117.55**	**310**	PKP	PKPdf	19 45 34.6	-2.8
	comp=Z,0.4nm,0.4s,baz=37,slow=0.7,SNR=5.4						
CHKZ	**Chkalovo**	**126.26**	**316**	*e*PKPdf	PKPdf	19 45 51.6	-2.6
BVAR	**Borovoye Array**	**126.34**	**315**	PKP	PKPdf	19 45 52.2	-2.1
	comp=Z,1.5nm,0.5s,baz=149,slow=2.3,SNR=12						
ZRNK	**Zerenda**	**127.17**	**315**	*e*PKPdf	PKPdf	19 45 53.1	-2.7
AKTK	**Aktyubinsk**	**133.94**	**312**	PKP	PKPdf	19 46 00.6	-8.1
AKTK				PKP	PKPdf	19 46 08.0	-0.7
AKTO	**Aktyubinsk**	**133.94**	**312**	PKhKP		19 46 00.6	
	comp=Z,1.1nm,0.5s,baz=13,slow=0.7,SNR=3.8						
AKTO				PKP	PKPdf	19 46 08.0	-0.7
	comp=Z,1.3nm,0.5s,baz=102,slow=4.3,SNR=4.8						
ARCES	**ARCESS Array B**	**139.38**	**347**	PKhKP		19 46 09.2	
	comp=Z,3.7nm,0.7s,baz=20,slow=4.3,SNR=9.1						
ARCES				PKP	PKPdf	19 46 16.8	-2.0
	comp=Z,4.0nm,0.7s,baz=1.9,slow=0.8,SNR=8.8						
ARCES	**ARCESS Array B**	**139.38**	**347**	PKP	PKPdf	19 46 09.2	-10
ARCES				PKP	PKPdf	19 46 16.8	-2.0
JOF	**Joensuu**	**142.97**	**337**	*e*pkp	PKPdf	19 46 20.3	-4.9
KIV	**Kislovodsk**	**144.83**	**303**	*e*PKPdf	PKPdf	19 46 26.0	-2.4
KAF	**Kangasniemi**	**145.15**	**339**	*e*pkp	PKPdf	19 46 25.4	-3.6
	baz=41,slow=3.1						
OBN	**Obninsk**	**145.35**	**324**	*e*PKPdf	PKPdf	19 46 27.2	-2.2
FIA1	**FINESS Array S**	**145.73**	**338**	*e*PKPdf	PKPdf	19 46 27.6	-2.4
FINES	**FINESS Array B**	**145.73**	**338**	PKPbc	PKPbc	19 46 27.9	-2.8
	comp=Z,44nm,0.8s,baz=74,slow=3.7,SNR=113						
MALT	**Malatya**	**148.40**	**293**	*e*PKPbc	PKPbc	19 46 38.0	0.0
NB2	**NORSAR Subarra**	**149.63**	**350**	PKP	PKPdf	19 46 38.7	+2.3
	comp=Z,11nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.63**	**350**	PKPbc	PKPbc	19 46 38.8	-2.4
	comp=Z,9.2nm,0.6s,baz=14,slow=4.1,SNR=35						
EIL	**Elat**	**150.44**	**275**	*e*PKPdf	PKPdf	19 46 39.6	+1.9
EIL				*e*PKPbc	PKPbc	19 46 42.9	-0.2
AKASG	**Malin Array Be**	**151.41**	**320**	PKPbc	PKPbc	19 46 43.3	-2.1
	comp=Z,3.4nm,0.5s,baz=57,slow=2.5,SNR=15						
AKASG				PKPab	PKPab	19 46 52.0	-2.0
	comp=Z,5.8nm,0.6s,baz=50,slow=4.6,SNR=18						
AKASG	**Malin Array Be**	**151.41**	**320**	PKPbc	PKPbc	19 46 43.3	-2.1
AKASG				PKPab	PKPab	19 46 52.0	-2.0
AKBB	**Malin Array Si**	**151.41**	**320**	*e*PKPbc	PKPbc	19 46 43.5	-1.8
AKBB				*e*PKPab	PKPab	19 46 52.0	-2.0
BR131	**Keskin Array S**	**152.03**	**296**	*e*PKPbc	PKPbc	19 46 45.6	-1.2
BR131				*e*PKPab	PKPab	19 46 55.7	-0.9
BRTR	**Keskin Array B**	**152.03**	**296**	PKP	PKPdf	19 46 39.0	-1.1
	comp=Z,0.3nm,0.6s,baz=158,slow=4.7,SNR=3.6						
BRTR				PKPbc	PKPbc	19 46 45.6	-1.2
	comp=Z,1.9nm,0.4s,baz=142,slow=4.4,SNR=14						
BRTR				PKPab	PKPab	19 46 55.4	-1.2
	comp=Z,2.1nm,0.7s,baz=97,slow=3.0,SNR=9.0						
LIC	**Lamto**	**154.32**	**167**	*e*PKP2	PKPab	19 47 07.3	+1.0
	comp=Z,29nm,1.0s						
DBIC	**Dimbokro**	**154.79**	**167**	PKPbc	PKPbc	19 46 53.4	+0.6
	comp=Z,1.4nm,0.5s,baz=179,slow=4.8,SNR=5.7						
DBIC				PKPab	PKPab	19 47 08.5	+0.2
	comp=Z,6.0nm,1.0s,baz=132,slow=4.5,SNR=3.7						
VRI	**Vrincioaia**	**155.20**	**313**	||*e*P	PKPab	19 47 11.5	+1.4
VRI	**Vrincioaia**	**155.20**	**313**	||P	PKPab	19 47 11.5	+1.4
PLOR	**Plostina**	**155.26**	**313**	||*e*P	PKPab	19 47 10.7	+0.4
BURAR	**Bucovina Array**	**155.26**	**318**	||*e*P	PKPab	19 47 09.8	-0.5
BURAR	**Bucovina Array**	**155.26**	**318**	||P	PKPab	19 47 09.8	-0.5
KOLS	**Kolonicke sedl**	**156.11**	**323**	*e*PKP	PKPab	19 47 12.6	-1.4
STHS	**Stebnicka Huta**	**156.31**	**325**	*e*PKP	PKPab	19 47 14.9	+0.1
STHS				*e*		19 47 37.2	
CRVS	**Cervenica-Dubn**	**156.54**	**324**	*e*PKP	PKPab	19 47 14.6	-1.2
DRGR		**157.14**	**318**	||*e*P	PKPab	19 47 18.0	-0.4
KECS	**Kecovo**	**157.30**	**324**	*e*PKP	PKPab	19 47 18.2	-0.9
OKC	**Ostrava-Krasne**	**157.45**	**329**	*e*PKPab	PKPab	19 47 18.9	-0.8
MORC	**Moravsky Berou**	**157.75**	**330**	||*e*P	PKPab	19 47 20.1	-1.0
UPC	**Upice**	**157.81**	**333**	*e*PKPab	PKPab	19 47 20.1	-1.2
DPC	**Dobruska-Polom**	**157.81**	**333**	*e*PKPab	PKPab	19 47 20.2	-1.1
VYHS	**Vyhne**	**158.10**	**326**	*e*PKP	PKPab	19 47 21.8	-0.8
CLL	**Collm**	**158.18**	**339**	*e*PKPab	PKPab	19 47 21.0	-1.9
	comp=Z,7.0nm,0.6s						
BRG	**Berggiesshubel**	**158.25**	**337**	*e*P	PKPab	19 47 22.2	-1.0
	comp=Z,5.9nm,1.1s						
PVCC	**Panska Ves**	**158.32**	**335**	*e*PKPab	PKPab	19 47 22.5	-1.0
BZS	**Buzias**	**158.43**	**317**	||*e*P	PKPab	19 47 23.2	-0.8
PRU	**Pruhonice**	**158.78**	**335**	*e*PKPab	PKPab	19 47 24.7	-0.8
ZST	**Bratislava**	**159.12**	**328**	*e*PKP	PKPab	19 47 26.4	-0.6
NKC	**Novy Kostel**	**159.29**	**338**	*e*PKPab	PKPab	19 47 25.1	-2.6
PKSM	**Moragy**	**159.74**	**322**	||*e*P	PKPab	19 47 28.9	-0.8
KHC	**Kasperske Hory**	**159.84**	**335**	*e*PKPab	PKPab	19 47 26.8	-3.3
GERES	**GERESS Array B**	**160.03**	**334**	PKPab	PKPab	19 47 28.8	-2.1
	comp=Z,1.8nm,0.9s,baz=53,slow=5.2,SNR=9.6						
BAIF	**Baives**	**161.25**	**353**	*e*PKP2	PKPab	19 47 34.7	-1.6
	comp=Z,26nm,1.1s						
TORD	**Torodi Ar. Bea**	**161.72**	**183**	PKP	PKPdf	19 46 52.3	-0.2
	comp=Z,3.0nm,1.1s,baz=334,slow=1.5,SNR=10						
TORD				PKPab	PKPab	19 47 38.9	+0.6
	comp=Z,3.9nm,0.8s,baz=177,slow=3.6,SNR=15						
CDF	**Champ du Feu**	**162.35**	**345**	*e*PKP2	PKPab	19 47 39.6	-1.5
	comp=Z,10nm,0.9s						
MEZF	**Maizieres J'vi**	**162.68**	**350**	*e*PKP2	PKPab	19 47 41.2	-1.3
HAU	**Haudompre**	**162.93**	**347**	*e*PKP2	PKPab	19 47 42.0	-1.7
	comp=Z,6.9nm,0.6s						
HINF	**Hinteralfeld**	**163.01**	**345**	*e*PKP2	PKPab	19 47 42.2	-1.8
	comp=Z,6.6nm,0.7s						
LOR	**Lormes**	**164.04**	**352**	*e*PKP2	PKPab	19 47 45.9	-2.7
SSF	**Saint Saulge**	**164.29**	**353**	*e*PKP2	PKPab	19 47 48.1	-1.5
	comp=Z,17nm,0.7s						
CABF	**La Chapelle**	**164.32**	**346**	*e*PKP2	PKPab	19 47 48.5	-1.3
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**164.57**	**353**	*e*PKP2	PKPab	19 47 49.2	-1.7
	comp=Z,15nm,0.8s						
SMF	**Signal de Mont**	**164.66**	**352**	*e*PKP2	PKPab	19 47 49.8	-1.5
	comp=Z,31nm,0.8s						
TCF	**Toulx Ste Croi**	**165.17**	**356**	*e*PKP2	PKPab	19 47 51.8	-1.7
	comp=Z,13nm,1.0s						
LPL	**La Plagne**	**165.20**	**343**	*e*PKP2	PKPab	19 47 53.3	-0.4
	comp=Z,7.8nm,0.8s						
LPG	**La Plagne**	**165.22**	**343**	*e*PKP2	PKPab	19 47 53.4	-0.3
	comp=Z,29nm,1.2s						
MBDF	**Montbardon**	**165.93**	**342**	*e*PKP2	PKPab	19 47 56.0	-0.8
	comp=Z,7.7nm,0.9s						
ORIF	**Oris-en-Rattie**	**165.97**	**344**	*e*PKP2	PKPab	19 47 56.3	-0.7
	comp=Z,11nm,0.8s						
SMRF	**Simiane la Rot**	**166.93**	**344**	*e*PKP2	PKPab	19 48 00.7	-0.6
FRF	**La Foret Royal**	**167.04**	**340**	*e*PKP2	PKPab	19 47 59.6	-2.1
LMR	**La Mourre**	**167.28**	**340**	*e*PKP2	PKPab	19 48 01.7	-1.1
	comp=Z,47nm,1.4s						
ESDC	**Sonseca Array**	**171.03**	**23**	PKPab	PKPab	19 48 18.1	-1.3
	comp=Z,0.2nm,0.3s,baz=350,slow=3.3,SNR=4.0						

IDC 06 19:30:45.3±3.3,124N×9723E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.5/20,mbtmp3.6/4,Error ellipse: s-maj=132.3km s-min=27.5km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	19 38 38.8	+0.3
	0.5nm,0.8s,baz=304,slow=9.1,SNR=4.1						
SONM	**Songino Array**	**47.09**	**8**	P	P	19 39 19.2	+0.4
	1.0nm,0.8s,baz=194,slow=8.5,SNR=6.9						
MKAR	**Makanchi Array**	**47.21**	**346**	P	P	19 39 20.2	+0.4
	0.7nm,0.6s,baz=160,slow=7.8,SNR=7.1						
BVAR	**Borovoye Array**	**56.22**	**341**	P	P	19 40 26.5	-0.7
	0.6nm,0.8s,baz=148,slow=11,SNR=4.9						

*ISCJB **06** 19:50:24.0±0.7,1403N±008×1444E±02,h200km±7km, mb3.9/11,Error ellipse: s-maj=33.2km s-min=11.9km az=169.1*
*IDC **06** 19:50:24.7±0.5,1405N×14441E,h192km±4km,mb3.7/11, mb1 3.8/11,mb1mx3.7/22,mbtmp4.2/11,Error ellipse: s-maj=23.9km s-min=10.9km az=80.0*
*NEIC **06** 19:50:25.1±0.7,1406N×14443E,h199km±6km,mb4.2/1, Error ellipse: s-maj=17.7km s-min=8.0km az=84.0*

ISC 06 19:50:25.1±0.7,1406N±008×1444E±02,h195km±7km,n18, σ0§45/18,mb3.9/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.64**	**138**	P	**Pn**	**19 50 52.7**	**+0.4**
	60nm,0.3s,baz=204,slow=2.6,SNR=18						
GUMO				S	**Sn**	**19 51 12.9**	**-0.3**
	86nm,0.3s,baz=308,slow=22,SNR=35						
MJAR	**Matsushiro Arr**	**23.07**	**347**	P	**P**	**19 55 13.7**	**+0.3**
	7.1nm,0.8s,mb4.2,baz=169,slow=9.3,SNR=11						
MAT	**Matsushiro**	**23.07**	**347**	P	**P**	**19 55 13.6**	**+0.2**
PMG	**Port Moresby**	**23.47**	**173**	P	**P**	**19 55 16.6**	**-0.4**
	15nm,0.8s,mb4.6,baz=11,slow=10,SNR=4.0						
WB2	**Warramunga Arr**	**35.22**	**197**	*e*P	**P**	**19 57 00.5**	**-0.2**
WRA	**Warramunga Arr**	**35.22**	**197**	P	**P**	**19 57 00.5**	**-0.2**
	1.7nm,0.4s,mb3.9,baz=8.9,slow=8.4,SNR=55						
FITZ	**Fitzroy Crossi**	**36.94**	**211**	*e*P	**P**	**19 57 15.7**	**+0.4**
	5.5nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**36.94**	**211**	P	**P**	**19 57 15.8**	**+0.5**
	1.8nm,0.3s,mb4.0,baz=44,slow=11,SNR=21						
AS31	**Alice Springs**	**38.88**	**195**	*e*P	**P**	**19 57 32.1**	**+0.6**
ASAR	**Alice Springs**	**38.88**	**195**	P	**P**	**19 57 31.2**	**-0.3**
	1.0nm,0.5s,mb3.6,baz=16,slow=9.8,SNR=26						
ASPA	**Alice Springs**	**38.88**	**195**	*e*P	**P**	**19 57 32.1**	**+0.5**
DZM	**Mont Dzumac**	**41.90**	**149**	P	**P**	**19 57 56.9**	**+0.6**
	11nm,0.5s,mb4.5,baz=129,slow=19,SNR=19						
STKA	**Stephens Creek**	**45.76**	**183**	P	**P**	**19 58 26.2**	**-0.8**
	2.3nm,0.6s,mb3.7,baz=350,slow=8.2,SNR=8.2						
SONM	**Songino Array**	**46.10**	**325**	P	**P**	**19 58 28.8**	**-0.8**
	0.9nm,0.8s,mb3.1,baz=137,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**60.85**	**316**	P	**P**	**20 00 17.2**	**+0.3**
	0.3nm,0.3s,mb3.5,baz=90,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**69.29**	**322**	P	**P**	**20 01 10.9**	**-0.2**
	0.9nm,0.5s,mb3.6,baz=105,slow=9.1,SNR=5.3						
NVAR	**Mina Array Bea**	**86.96**	**51**	P	**P**	**20 02 47.8**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=260,slow=7.7,SNR=4.3						
LPAZ	**La Paz**	**148.52**	**98**	PKPbc	PKPbc	20 09 50.5	+1.9
	0.7nm,0.5s,baz=248,slow=2.2,SNR=4.0						

*ISCJB **06** 19:55:27.6±1.0,3945N×005×2070E±006,h10km,Error ellipse: s-maj=7.8km s-min=6.4km az=69.6*
*CSEM **06** 19:55:27.8±0.1,3948N×2070E,h10km,MD3.2,Error ellipse: s-maj=2.8km s-min=1.6km az=27.0*
*ATH **06** 19:55:27.9,3954N×2067E,h23km±3km,MD3.2/3*
*SKO **06** 19:55:28.6,3938N×2057E,h10km*

ISC 06 19:55:27.7±1.0,3941N±005×2069E±006,h10km,n9, σ0§86/15,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.27**	**28**	*e*PB	**Pg**	**19 55 32.7**	**-0.6**
JAN				*e*SB	**Sg**	**19 55 36.8**	**-0.2**
JAN	**Janina**	**0.27**	**28**	*e*Pb	**Pg**	**19 55 32.5**	**-0.8**
JAN				*e*Sb	**Sg**	**19 55 36.8**	**-0.2**
SRN	**Sarande**	**0.71**	**312**	*i* Pg	**Pg**	**19 55 40.5**	**-0.9**
SRN				*i* Sg	**Sg**	**19 55 51.5**	**+0.9**
LSK	**Leskovik**	**0.74**	**355**	*i* Pg	**Pg**	**19 55 40.8**	**-1.2**
LSK				*i* Sg	**Sg**	**19 55 51.6**	**0.0**
KEK	**Kerkira**	**0.75**	**294**	*e*PN	**Pg**	**19 55 41.6**	**-0.6**
EVR	**Evrytania**	**1.00**	**119**	*e*PN	**Pn**	**19 55 48.5**	**+0.7**
THL	**Klokotos Trika**	**1.04**	**81**	*e*PN	**Pn**	**19 55 48.0**	**-0.3**
OHR	**Ohrid**	**1.70**	**3**	*e*Pn	**Pn**	**19 55 59.5**	**+2.1**
OHR				*e*Sg	**Sg**	**19 56 22.9**	**+0.5**
OHR	**Ohrid**	**1.70**	**3**	*e*Pn	**Pn**	**19 55 59.4**	**+2.0**
OHR				*e*Sg	**Sg**	**19 56 22.8**	**+0.5**

*IDC **06** 19:56:34.9±1.7,658S×130.11E,h0km,mb3.9/2,mb1 4.1/5, mb1mx3.8/13,mbtmp3.9/5,ML4.0/3,Error ellipse: s-maj=74.4km s-min=25.3km az=72.0*
*ISCJB **06** 19:56:53.8±2.1,75S±0.1×1299E±02,h206km±22km, mb3.6/2,Error ellipse: s-maj=42.0km s-min=16.2km az=126.7*

ISC 06 19:56:51.6±4.2,73S±03×1298E±02,h155km±47km,n10, σ1§12/13,mb3.6/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.99**	**155**	*e*P	**Pn**	**19 58 19.0**	**+0.9**
	17nm,0.2s						
KAKA				*e*S	**Sn**	**19 59 25.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.51**	**200**	*e*P	**Pn**	**19 59 31.1**	**-0.1**
	1.6nm,0.2s						
FITZ				*e*S	Sx	20 01 30.1	
FITZ	**Fitzroy Crossi**	**11.51**	**200**	Pn	**Pn**	**19 59 31.1**	**-0.1**
	0.4nm,0.3s,baz=20,slow=13,SNR=35						
FITZ				Sn	Sx	20 01 30.2	
	1.8nm,0.3s,baz=305,slow=23,SNR=10						
WRA	**Warramunga Arr**	**13.33**	**161**	Pn	**Pn**	**19 59 54.3**	**-0.4**
	0.9nm,0.3s,baz=345,slow=13,SNR=30						
WRA				Sn	**Sn**	**20 02 16.2**	**-6.2**

Error ellipse: s-maj=19.8km s-min=7.1km az=36.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**0.71**	**117**	*i* PG	Pg	20 30 25.3	+0.6
KIV				*e*S	Sg	20 30 38.8	+4.7
KIV0	**Kislovodsk Arr**	**0.71**	**116**	*i* PG	Pg	20 30 25.1	+0.2
KIV0				*i* S	Sg	20 30 38.8	+4.6
BEYR	**Belyy Ugol+**	**0.77**	**110**	*i* PG	Pg	20 30 24.8	-1.2
BEYR				*e*S	Sg	20 30 38.1	+2.0
SHAR	**Shatzhatmas**	**0.82**	**130**	*i* PG	Pg	20 30 29.0	+2.2
PYA	**Pyatigorsk**	**0.93**	**105**	*e*PG	Pg	20 30 26.4	-2.6
PYA				*e*S	Sg	20 30 39.7	-1.4
GOF	**Gofitskoye**	**1.17**	**48**	*i* PG	Pg	20 30 36.3	+2.7
GOF				pmax	pmax		
	comp=Z,190nm,0.7s						
KUBR	**Kubataba**	**1.25**	**112**	*i* PG	Pg	20 30 32.1	-2.9
KUBR				*e*S	Sb	20 30 50.9	+0.5
PRTR	**Priterechnaya**	**1.86**	**105**	*e*PN	Pn	20 30 42.2	-0.3
PRTR				*i* S	Sn	20 31 08.4	+2.5
DIGR	**Digorskoe uzhe**	**1.88**	**136**	*e*PN	Pn	20 30 45.9	+3.0
DIGR				*i* S	Sn	20 31 15.0	+8.5
KMSR	**Komsomolskaya**	**2.01**	**116**	*e*PN	Pn	20 30 45.5	+0.9
KMSR				*e*S	Sn	20 31 14.3	+4.7
KORR	**Kora**	**2.02**	**125**	*e*PN	Pn	20 30 46.8	+2.0
KORR				*i* S	Sn	20 31 16.3	+6.4
ONI	**Oni**	**2.07**	**144**	P	Pn	20 30 48.9	+3.5
ONI				S	Sn	20 31 24.4	+13
ARNR	**Ardon**	**2.09**	**120**	*e*PN	Pn	20 30 47.2	+1.5
ARNR				*i* S	Sn	20 31 17.1	+5.5
ZEI	**Tsey**	**2.14**	**134**	*e*PN	Pn	20 30 50.0	+3.6
ZEI				*e*		20 31 21.9	
ZEI				pmax	pmax		
	comp=Z,19nm,0.2s						
ZEI				smax			
	comp=N,76nm,0.2s						
TRKR	**Terskaya**	**2.18**	**104**	*e*PN	Pn	20 30 46.2	-0.7
TRKR				*i* S	Sn	20 31 15.4	+1.6
LACR	**Lac**	**2.32**	**128**	*e*PN	Pn	20 30 51.0	+2.2
LACR				*i* S	Sn	20 31 23.7	+6.5
SNJR	**Sundja**	**2.49**	**118**	*i*PN	Pn	20 30 52.2	+1.0
SNJR				*i* S	Sn	20 31 25.7	+4.3
ANN	**Anapa**	**3.17**	**281**	*i*PN	Pn	20 31 02.2	+1.6
ANN				*e*S	Sn	20 31 44.8	+6.5
ANN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ANN				smax			
	comp=N,17nm,0.6s						
ANN				smax			
	comp=E,13nm,0.6s						

*ISCJB **06** 20:30:58.5±1.6, 163S±02×172.7W±03, h10km, mb4.2/4, MS3.4/3, Error ellipse: s-maj=51.7km s-min=8.8km az=70.4*

*IDC **06** 20:30:59.8±2.0, 16.10S×17282W, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.1/15, mbtmp4.2/4, MS3.5/3, Ms1 3.5/3, ms1mx3.0/36, Error ellipse: s-maj=91.4km s-min=19.8km az=136.0*

*NEIC **06** 20:31:01.5±1.6, 1594S×17293W, h10km, Error ellipse: s-maj=79.1km s-min=12.4km az=138.0*

ISC 06 20:31:00.6±1.6, 162S±02×172.7W±03, h10km, n14, σ0=71/9, mb4.2/4, MS3.4/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**21**	Pn	**Pn**	**20 31 38.8**	**-1.8**
	6.2nm,0.3s,baz=62,slow=15,SNR=4.4						
AFI				Sn	**Sn**	**20 32 11.4**	**+0.8**
	19nm,0.3s,baz=138,slow=17,SNR=5.9						
DZM	**Mont Dzumac**	**20.56**	**250**	LR	LR	20 41 55.7	
	comp=Z,90nm,18.1s,MS3.2,baz=163,slow=32						
HNR	**Honiara**	**27.51**	**281**	LR	LR	20 45 50.8	
	comp=Z,103nm,18.1s,MS3.5,baz=179,slow=33						
RPZ	**Rata Peaks**	**30.70**	**203**	LR	LR	20 46 53.2	
	comp=Z,103nm,21.4s,MS3.5,baz=19,slow=31						
STKA	**Stephens Creek**	**44.24**	**241**	P	**P**	**20 39 09.6**	**-0.5**
	2.3nm,0.9s,mb3.9,baz=100,slow=12,SNR=3.6						
WB2	**Warramunga Arr**	**50.33**	**257**	*e*P	**P**	**20 39 57.4**	**-0.1**
WRA	**Warramunga Arr**	**50.34**	**257**	P	**P**	**20 39 57.7**	**+0.1**
	1.3nm,0.5s,mb4.2,baz=96,slow=7.5,SNR=41						
AS31	**Alice Springs**	**50.53**	**253**	*e*P	**P**	**20 39 59.3**	**+0.3**
ASAR	**Alice Springs**	**50.53**	**253**	P	**P**	**20 39 59.2**	**+0.2**
	14nm,0.8s,mb5.0,baz=88,slow=8.5,SNR=206						
ASPA	**Alice Springs**	**50.53**	**253**	*e*P	**P**	**20 39 59.3**	**+0.3**
NVAR	**Mina Array Bea**	**74.47**	**41**	P	**P**	**20 42 39.8**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=236,slow=9.7,SNR=4.7						
CLL	**Collm**	**144.70**	**354**	*e*PKPdf	PKPdf	20 50 38.0	+0.4
GERES	**GERESS Array B**	**147.04**	**352**	PKPbc	PKPbc	20 50 45.3	+1.7
	1.2nm,1.1s,baz=354,slow=1.0,SNR=3.9						
BRTR	**Keskin Array B**	**147.23**	**321**	PKPbc	PKPbc	20 50 45.9	+1.7
	0.9nm,0.6s,baz=130,slow=3.1,SNR=6.7						

*IDC **06** 20:43:30.4±1.2, 1.12N×97.03E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/21, mbtmp4.0/8, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=39.7km s-min=17.6km az=56.0*

*BJI **06** 20:43:32.3, 0.89N×97.63E, h38km, mB4.9, mb4.5, Ms4.0, Msz3.7*

*ISCJB **06** 20:43:35.0±3.3, 1.2N±01×97.2E±02, h42km±26km, mb4.3/18, MS3.7/2, Error ellipse: s-maj=33.6km s-min=11.5km az=109.3*

*NEIC **06** 20:43:34.8±0.7, 1.21N×97.09E, h30km, mb4.4/3, Error ellipse: s-maj=17.3km s-min=10.9km az=64.0*

ISC 06 20:43:37.5±3.3, 13N±01×97.3E±02, h42km±26km, n22, σ0=85/22, mb4.3/18, MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.23**	**47**	Pn	**Pn**	**20 44 11.9**	**0.0**
	8.8nm,0.3s,baz=257,slow=6.8,SNR=36						
PSI				LR	LR	20 44 50.8	
	comp=Z,229nm,18.4s,baz=288,slow=33						
KULM	**Kulim**	**5.21**	**40**	*e*P	**Pn**	**20 44 52.6**	**-0.3**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**20 48 51.9**	**+1.0**
KMI				AP		20 49 01.2	
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,59nm,4.0s						
KMI				LR	LR		
	comp=N,247nm,16.1s,MS3.9						
KMI				LR	LR		
	comp=E,168nm,16.1s,MS3.9						
KMI				LR	LR		
	comp=Z,192nm,16.6s,MS3.7						
GYA	**Guiyang**	**26.61**	**19**	P	**P**	**20 49 11.8**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GUN	**Gumba**	**28.66**	**339**	*e*P	**P**	**20 49 30.7**	**+0.5**
	comp=Z,17nm,0.5s,mb5.2						
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**20 49 32.3**	**+1.9**
KKN	**Kakani**	**28.77**	**337**	*e*P	**P**	**20 49 31.8**	**+0.5**
	comp=Z,21nm,1.1s,mb4.8						
LSA	**Lhasa**	**28.87**	**349**	*e*P	**P**	**20 49 29.2**	**-2.9**
	comp=Z,3.6nm,0.7s,mb4.2						
GKN	**Gorkha**	**29.21**	**337**	*e*P	**P**	**20 49 35.2**	**0.0**
	comp=Z,13nm,0.8s,mb4.7						
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**20 49 37.7**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**20 50 15.4**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=339,slow=14,SNR=4.5						
XAN	**Xi'an**	**34.37**	**17**	P	**P**	**20 50 19.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**	**20 50 51.6**	**-0.1**
GTA				AP	pP	20 50 58.9	-4.3
GTA				XP	sP	20 51 01.9	-6.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**20 51 24.4**	**-0.1**
	comp=Z,1.4nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=26						
WB2	**Warramunga Arr**	**42.00**	**122**	*e*P	**P**	**20 51 24.8**	**+0.2**
BJT	**Baijiatuau**	**42.22**	**22**	*e*P	**P**	**20 51 26.9**	**+0.6**
	comp=Z,6.5nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**20 51 36.0**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=299,slow=7.9,SNR=12						
SONM	**Songino Array**	**47.05**	**8**	P	**P**	**20 52 05.0**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=187,slow=8.9,SNR=14						
SONM				PcP	PcP	20 53 36.6	+0.1
	comp=Z,0.5nm,0.4s,baz=190,slow=3.8,SNR=4.3						
SONM				LR	LR	21 14 38.0	
	comp=Z,65nm,20.8s,MS3.6,baz=194,slow=40						
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**20 52 05.9**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.4,baz=158,slow=7.7,SNR=30						
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**20 52 53.3**	**+0.9**
	comp=Z,1.7nm,0.7s,mb4.1,baz=304,slow=11,SNR=4.6						
CHKZ	**Chkalovo**	**56.69**	**341**	*e*P	**P**	**20 53 15.7**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**69.14**	**312**	P	**P**	**20 54 37.9**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=100,slow=5.0,SNR=3.7						

IDC 06 20:45:45.7±16.0, 598S×13315E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.4/10, mbtmp3.4/3, ML2.9/2, Error ellipse: s-maj=345.5km s-min=134.5km az=115.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.93**	**175**	Pn	Pn	20 49 04.3	0.0
	0.0nm,0.3s,baz=356,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**17.60**	**178**	P	Pn	20 49 52.5	+0.3
	0.1nm,0.3s,baz=353,slow=11,SNR=11						
STKA	**Stephens Creek**	**26.95**	**164**	P	P	20 51 29.0	+0.3
	1.7nm,0.8s,baz=9.6,slow=6.6,SNR=5.1						

IDC 06 20:57:18.9±8.6, 1648S×17231W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, ML1.2/1, Error ellipse: s-maj=238.6km s-min=25.0km az=119.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.60**	**12**	Pn	Pn	20 58 02.8	+0.7
	2.5nm,0.3s,baz=340,slow=22,SNR=3.1						
AFI				Sn	Sn	20 58 33.9	-0.7
	5.0nm,0.3s,baz=15,slow=21,SNR=4.3						
STKA	**Stephens Creek**	**44.42**	**241**	P	P	21 05 30.5	-0.9
	0.6nm,0.4s,baz=83,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**50.63**	**258**	P	P	21 06 20.2	+0.6
	0.3nm,0.5s,baz=96,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**50.78**	**253**	P	P	21 06 21.6	+0.9
	3.4nm,0.8s,baz=88,slow=8.7,SNR=40						

JMA 06 21:03:18.7±0.2, 4364N×14771E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.46**	**260**	P	Pn	21 03 46.3	0.0
NEM2				*e*S	Sg	21 04 06.1	+0.6
JRA	**Rausu**	**1.90**	**280**	P	Pn	21 03 52.7	+0.4
JRA				*e*S	Sn	21 04 17.9	+1.0
JNK	**Nakash**	**2.17**	**270**	P	Pn	21 03 56.7	+0.6
JNK				*e*S	Sn	21 04 24.6	+0.9
JAK	**Akkeshi**	**2.29**	**255**	P	Pn	21 03 58.6	+0.9
JTKR	**Abashiri--Toko**	**2.77**	**278**	P	Pn	21 04 05.5	+1.2
JAR	**Ashorobuto**	**2.89**	**265**	P	Pn	21 04 07.7	+1.7
JAR				*e*S	Sn	21 04 43.6	+2.2
JOB	**Onbets**	**2.92**	**257**	*e*S	Sn	21 04 42.9	+0.6
JMP	**Maruseppu**	**3.17**	**278**	P	Pn	21 04 11.4	+1.6
JCH	**Churui**	**3.34**	**254**	P	Pn	21 04 14.0	+1.8
JCH				*e*S	Sn	21 04 54.1	+1.5
JFR	**Furan**	**3.76**	**264**	P	Pn	21 04 20.8	+2.9
JNBK	**Urakawa-nobuka**	**3.88**	**251**	P	Pn	21 04 22.0	+2.4

*ISCJB **06** 21:04:43.3±3.5, 1793S±007×16769E±008, h4km±21km, mb4.5/20, MS4.2/10, Error ellipse: s-maj=12.8km s-min=12.0km az=56.8*

*IDC **06** 21:04:44.5±0.7, 1798S×16772E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.5/20, mbtmp4.4/17, ML4.2/2, MS4.1/12, Ms1 4.1/12, ms1mx3.8/30, Error ellipse: s-maj=18.8km s-min=16.2km az=157.0*

*LDG **06** 21:04:46.4±0.2, 1791S×16797E, h10km, Mb4.5/2, Error ellipse: s-maj=21.2km s-min=4.4km az=102.0*

*NEIC **06** 21:04:48.0±3.2, 1798S×16771E, h23km±22km, mb4.8/9, Error ellipse: s-maj=10.3km s-min=9.9km az=201.0*

*BJI **06** 21:04:47.9, 1800S×16770E, h23km, mB5.2, mb4.6*

*GCMT **06** 21:04:48.0±0.4, 1780S×16751E, h17km±1km, MW4.9/46, Moment Tensor Solution. s20,c22; s46,c60; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.34±.23; $M_{\theta\theta}$-0.08±.13; $M_{\phi\phi}$-2.25±.15; $M_{r\theta}$0.17±.44; $M_{\theta\phi}$0.53±.10; $M_{\phi r}$-2.15±.38; Best double couple: $M_0$3.19400×10^{16} NP1:ϕ_s341.00000°, δ24.00000°, λ80.00000°. NP2: ϕ_s173.00000°, δ66.00000°, λ95.00000°. Principal axes: T 3.1900, Plg68.0000°, Azm92.0000°; N 0.0130, Plg4.0000°, Azm351.0000°; P -3.1970, Plg21.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 21:04:47.8±3.1, 1802S±006×16770E±007, h20km±21km, h19km±5.2km: pP-P, n68, σ0=92/38, mb4.5/20, MS4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.20**	**196**	*e*P	**Pn**	**21 05 49.9**	**-0.7**
DZM				*e*S	**Sn**	**21 06 37.2**	**-1.9**
DZM	**Mont Dzumac**	**4.20**	**196**	Pn	**Pn**	**21 05 50.5**	**-0.2**
	4.5nm,0.3s,baz=63,slow=12,SNR=21						
DZM				Sn	**Sn**	**21 06 35.7**	**-3.4**
	33nm,0.3s,baz=125,slow=23,SNR=8.3						
DZM				LR	LR	21 06 50.1	
	comp=Z,341nm,21.4s,baz=89,slow=30						
HNR	**Honiara**	**11.38**	**318**	Pn	**Pn**	**21 07 28.7**	**-0.5**
	5.4nm,0.3s,baz=181,slow=1.2,SNR=3.5						
HNR				LR	LR	21 11 13.1	
	comp=Z,536nm,18.6s,baz=178,slow=34						
AFI	**Afiamalu**	**20.15**	**81**	P	**P**	**21 09 20.8**	**+0.2**
	19nm,0.9s,baz=272,slow=22,SNR=2.7						
AFI				LR	LR	21 15 05.3	
	comp=Z,475nm,20.7s,MS3.8,baz=254,slow=31						
CTA	**Charters Tower**	**20.38**	**261**	*e*P	**P**	**21 09 25.3**	**+2.2**
	21nm,0.9s						
CTA	**Charters Tower**	**20.38**	**261**	P	**P**	**21 09 24.8**	**+1.7**
	23nm,0.8s,baz=88,slow=12,SNR=9.5						
PMG	**Port Moresby**	**21.70**	**291**	P	**P**	**21 09 38.1**	**+0.7**
	15nm,0.9s,mb4.4,baz=118,slow=3.7,SNR=2.6						
PMG				LR	LR	21 17 01.8	
	comp=Z,617nm,18.6s,MS4.0,baz=109,slow=34						
URZ	**Urewera**	**21.78**	**160**	P	**P**	**21 09 39.6**	**+1.3**
	22nm,1.1s,mb4.5,baz=15,slow=6.8,SNR=5.4						
CNB	**Canberra Magne**	**23.71**	**220**	*e*P	**P**	**21 10 00.4**	**+2.0**
	26nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**27.31**	**235**	*e*P	**P**	**21 10 32.1**	**+1.1**
	6.4nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.31**	**235**	P	**P**	**21 10 32.1**	**+1.1**
	6.0nm,0.8s,mb4.2,baz=64,slow=6.3,SNR=12						
STKA				LR	LR	21 20 23.1	
	comp=Z,569nm,18.9s,MS4.2,baz=40,slow=34						
RAR	**Rarotonga**	**30.77**	**101**	LR	LR	21 20 57.7	
	comp=Z,168nm,20.0s,MS3.7,baz=217,slow=32						
WB2	**Warramunga Arr**	**31.57**	**261**	*e*P	**P**	**21 11 09.2**	**+0.4**
WRA	**Warramunga Arr**	**31.58**	**261**	P	**P**	**21 11 07.9**	**-1.0**
	2.3nm,0.7s,mb4.1,baz=93,slow=9.0,SNR=15						
WRA				LR	LR	21 23 04.2	
	comp=Z,404nm,20.1s,MS4.1,baz=45,slow=35						
AS31	**Alice Springs**	**32.03**	**254**	*e*P	**P**	**21 11 12.5**	**-0.4**
ASAR	**Alice Springs**	**32.03**	**254**	P	**P**	**21 11 12.3**	**-0.6**
	3.6nm,0.6s,mb4.4,baz=81,slow=8.6,SNR=34						
ASAR				LR	LR	21 23 49.4	
	comp=Z,628nm,19.9s,MS4.3,baz=94,slow=36						
ASPA	**Alice Springs**	**32.03**	**254**	*e*P	**P**	**21 11 12.5**	**-0.4**
FORT	**Forrest**	**38.08**	**243**	*e*P	**P**	**21 12 05.5**	**+0.5**
	37nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**39.92**	**263**	*e*P	**P**	**21 12 21.0**	**+0.5**
	18nm,0.9s,mb4.8						
FITZ				*e*		21 12 29.9	
FITZ	**Fitzroy Crossi**	**39.92**	**263**	P	**P**	**21 12 20.6**	**+0.2**
	12nm,0.9s,mb4.6,baz=99,slow=8.9,SNR=17						
PPT	**Papeete**	**40.62**	**96**	*e*S	**S**	**21 18 35.9**	**+1.1**
	195nm,24.5s						
PPT				*e*LR	LR	21 23 28.1	
MBWA	**Marble Bar**	**45.17**	**258**	*e*P	**P**	**21 13 01.9**	**-1.1**
KLBR	**Kellerberrin**	**46.94**	**243**	*e*P	**P**	**21 13 16.5**	**-0.5**
	18nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**47.49**	**242**	P	**P**	**21 13 21.4**	**0.0**
	13nm,0.7s,mb4.9,baz=69,slow=6.4,SNR=8.9						
VNDA	**Vanda**	**59.60**	**181**	P	**P**	**21 14 48.6**	**-1.5**
	0.7nm,1.0s,mb3.7,baz=357,slow=4.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**61.00**	**333**	P	**P**	**21 14 59.2**	**-0.6**
	7.0nm,1.1s,mb4.7,baz=167,slow=6.3,SNR=5.5						
PSI	**Prapat**	**70.78**	**280**	LR	LR	21 49 57.0	
	comp=Z,233nm,18.6s,MS4.5,baz=210,slow=38						
QSPA	**South Pole Qui**	**72.03**	**180**	*e*P	**P**	**21 16 10.6**	**+0.4**
	11nm,1.1s,mb4.7						
KMI	**Kunming**	**76.39**	**302**	P	**P**	**21 16 40.5**	**+4.8**
KMI				AP	pP	21 16 50.5	+8.2
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
MAW	**Mawson**	**79.01**	**202**	P	**P**	**21 16 50.6**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=356,slow=5.2,SNR=3.4						
KDAK	**Kodiak Island**	**82.39**	**20**	LR	LR	21 45 19.1	
	comp=Z,440nm,20.3s,MS4.8,baz=89,slow=30						
SONM	**Songino Array**	**85.38**	**324**	P	**P**	**21 17 24.0**	**+0.4**
	comp=Z,3.8nm,1.1s,mb4.4,baz=115,slow=2.4,SNR=12						
YBH	**Yreka Blue Hor**	**87.45**	**45**	P	**P**	**21 17 33.6**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.4,baz=245,slow=8.6,SNR=3.6						
YBH				LR	LR	21 51 11.4	
	comp=Z,122nm,18.6s,MS4.3,baz=64,slow=32						
PMSA	**Palmer Station**	**88.55**	**160**	LR	LR	21 54 44.6	
	comp=Z,188nm,18.3s,MS4.5,baz=285,slow=34						
NVAR	**Mina Array Bea**	**89.10**	**49**	P	**P**	**21 17 40.9**	**-0.7**
	comp=Z,2.0nm,0.9s,mb4.5,baz=231,slow=8.3,SNR=6.8						
SNAA	**Sanae**	**90.31**	**183**	*e*	**P**	**21 17 46.8**	**-0.4**
SNAA				*e*		21 17 48.4	
SNAA				*e*	pP	21 17 51.1	-2.9
SNAA				*e*		21 17 56.0	
SNAA				*e*		21 18 01.1	
SNAA				*e*		21 18 07.5	
SNAA				*e*		21 18 16.5	
SNAA	**Sanae**	**90.31**	**183**	*e*P	**P**	**21 17 46.7**	**-0.5**
	comp=Z,9.7nm,1.4s,mb4.9						
VNA3	**Neumayer Olymp**	**90.95**	**181**	*e*P	**P**	**21 17 49.9**	**-0.3**
VNA3				*e*		21 17 51.4	
VNA3				*e*	pP	21 17 54.7	-2.3
VNA3				*e*		21 18 00.0	
VNA3				*e*		21 18 01.7	
VNA3				*e*		21 18 07.0	
VNA3				*e*		21 18 16.5	
VNA1	**Neumayer--Stat**	**91.52**	**181**	*e*P	**P**	**21 17 54.3**	**+1.4**
VNA1				*e*		21 17 55.4	
VNA1				*e*		21 17 57.5	
VNA1				*e*		21 18 03.4	
VNA1				*e*		21 18 06.2	
TUC	**Tucson**	**92.56**	**57**	*e*P	**P**	**21 17 56.4**	**-1.3**
	comp=Z,6.1nm,1.3s,mb4.9						
BOSA	**Boshof**	**121.12**	**219**	PKP	PKPdf	21 23 39.1	+0.1
	comp=Z,2.8nm,0.9s,baz=121,slow=17,SNR=2.9						
ARCES	**ARCESS Array B**	**123.52**	**345**	PKP	PKPdf	21 23 44.7	+1.1
	comp=Z,4.2nm,1.1s,baz=64,slow=2.1,SNR=3.9						
GERES	**GERESS Array B**	**142.73**	**331**	PKP	PKPdf	21 24 21.6	+2.1
	comp=Z,0.3nm,0.5s,baz=35,slow=3.3,SNR=4.0						
BAIF	**Baives**	**145.40**	**341**	*e*PKP1	PKPbc	21 24 24.1	0.0
CDF	**Champ du Feu**	**145.75**	**337**	*e*PKP1	PKPbc	21 24 25.2	-0.1
	comp=Z,44nm,1.2s						
HINF	**Hinteralfeld**	**146.41**	**336**	*e*PKP1	PKPbc	21 24 27.4	+0.2
HAU	**Haudompre**	**146.44**	**337**	*e*PKP1	PKPbc	21 24 27.2	-0.1
MEZF	**Maizieres J'vi**	**146.48**	**339**	*e*PKP1	PKPbc	21 24 27.6	+0.2
CABF	**La Chapelle**	**147.70**	**336**	*e*PKP1	PKPbc	21 24 31.2	+0.3
	comp=Z,19nm,0.9s						
LOR	**Lormes**	**147.95**	**339**	*e*PKP1	PKPbc	21 24 31.3	-0.2
	comp=Z,39nm,1.2s						
SSF	**Saint Saulge**	**148.25**	**339**	*e*PKP1	PKPbc	21 24 32.2	-0.1
	comp=Z,21nm,0.9s						
LPL	**La Plagne**	**148.33**	**334**	*e*PKP1	PKPbc	21 24 33.0	+0.4
	comp=Z,6.4nm,0.8s						
LPG	**La Plagne**	**148.34**	**334**	*e*PKP1	PKPbc	21 24 33.1	+0.5
	comp=Z,11nm,0.8s						
BGF	**Bois d'Agland**	**148.91**	**340**	*e*PKP1	PKPbc	21 24 33.7	-0.3
MBDF	**Montbardon**	**148.95**	**333**	*e*PKP1	PKPbc	21 24 33.8	-0.3
	comp=Z,9.9nm,1.0s						
ORIF	**Oris-en-Rattie**	**149.17**	**334**	*e*PKP1	PKPbc	21 24 34.8	+0.1
	comp=Z,15nm,0.8s						
SBF	**Sospel**	**149.34**	**331**	*e*PKP1	PKPbc	21 24 34.8	-0.3
	comp=Z,23nm,0.8s						
PGF	**Pioggiola**	**149.57**	**328**	*e*PKP1	PKPbc	21 24 35.7	0.0
	comp=Z,43nm,1.1s						
VIVF	**Saint-Julien-l**	**149.71**	**336**	*e*PKP1	PKPbc	21 24 36.1	+0.1
MFF	**Saint Martin d**	**149.78**	**343**	*e*PKP1	PKPbc	21 24 35.8	-0.4
	comp=Z,55nm,1.2s						
FRF	**La Foret Royal**	**149.93**	**332**	*e*PKP1	PKPbc	21 24 36.3	-0.3
	comp=Z,22nm,1.2s						
SMRF	**Simiane la Rot**	**150.06**	**334**	*e*PKP1	PKPbc	21 24 37.2	+0.3
	comp=Z,122nm,1.8s						
LMR	**La Mourre**	**150.17**	**332**	*e*PKP1	PKPbc	21 24 36.9	-0.2
	comp=Z,42nm,1.3s						
CAF	**Calviac**	**150.60**	**339**	*e*PKP1	PKPbc	21 24 38.3	+0.1
MTLF	**Montolieu**	**151.93**	**337**	*e*PKP1	PKPbc	21 24 41.2	-0.1
	comp=Z,11nm,1.0s						
EPF	**Esparros**	**152.86**	**339**	*e*PKP1	PKPbc	21 24 43.5	+0.2
	comp=Z,20nm,1.2s						
SJPF	**Ste Jean**	**153.28**	**342**	*e*PKP1	PKPbc	21 24 44.4	+0.1
	comp=Z,18nm,1.0s						
TORD

2.8nm,0.3s,baz=251,slow=10,SNR=2.5
NNA LR LR 21 20 23.2
comp=Z,1µm,19.3s,MS4.5,baz=290,slow=32
HKT Hockley 27.71 6 eP P 21 12 24.5 +0.4
63nm,1.6s,mb5.0
JCT Junction City 28.09 358 eP P 21 12 27.2 -0.4
40nm,1.1s,mb5.0
SDV Santo Domingo 28.91 76 P P 21 12 36.9 +2.1
3.8nm,0.8s,mb4.2,baz=287,slow=4.4,SNR=5.8
SDV S S 21 17 30.6 +5.1
1.1nm,0.3s,baz=212,slow=23,SNR=3.0
SDV LR LR 21 22 25.0
comp=Z,2µm,21.6s,MS4.7,baz=265,slow=33
NATX Nacogdoches 29.63 7 eP P 21 12 41.9 +0.7
38nm,0.7s,mb5.2
MNTX Cornudas Mount 29.92 349 eP P 21 12 43.1 -0.8
13nm,1.1s,mb4.6
RPN Rapa Nui 30.88 198 LR LR 21 22 00.6
comp=Z,1µm,19.9s,MS4.6,baz=137,slow=30
TUC Tucson 31.92 341 eP P 21 13 00.8 -0.7
11nm,1.2s,mb4.6
116A Eloy 32.46 340 ⇑P P 21 13 06.0 -0.2
baz=33
MIAR Mount Ida 32.52 8 eP P 21 13 05.4 -1.3
3.6nm,0.9s,mb4.3
115A Sonoran Desert 32.77 339 ⇑P P 21 13 08.7 -0.2
baz=33
LAZ Ladron 32.90 347 eP P 21 13 11.1 +1.1
ANMO Albuquerque 33.29 349 eP P 21 13 13.6 +0.2
10.0nm,1.3s,mb4.6
Z14A Wintersburg 33.63 339 ⇓P P 21 13 16.4 0.0
baz=34
GLA Glamis 34.08 336 ⇑P P 21 13 20.1 -0.2
baz=34
Y14A Wickenburg 34.17 339 ⇑P P 21 13 20.9 -0.2
baz=34
Y13A Salome 34.36 338 ⇑P P 21 13 22.7 0.0
baz=34
SWSC Sam W. Stewart 34.40 334 ⇑P P 21 13 23.1 +0.1
baz=34
X15A Humboldt 34.40 340 ⇑P P 21 13 23.3 +0.3
baz=34
Y12C Blythe 34.57 337 ⇓P P 21 13 24.6 +0.1
baz=35
X14A Yava 34.60 339 ⇑P P 21 13 25.0 +0.2
baz=35
BC3 Big Chuckw Mtn 34.87 335 ⇑P P 21 13 27.2 +0.1
baz=35
PDMCI Parker Dam,Lak 34.91 338 ⇓P P 21 13 27.7 +0.2
baz=35
PCRV Puerto La Cruz 34.96 75 S S 21 18 58.4 -1.5
5.2nm,0.9s,baz=22,slow=22,SNR=1.5
W15A Williams 35.04 341 ⇓P P 21 13 29.1 +0.5
baz=35
X13A Yucca 35.05 338 ⇓P P 21 13 28.7 0.0
baz=35
WUAZ Wupatki 35.06 342 eP P 21 13 29.6 +0.8
22nm,1.0s,mb5.0
WUAZ Wupatki 35.06 342 ⇓P P 21 13 28.9 +0.1
baz=35
IRM Iron Mountain 35.18 336 ⇓P P 21 13 29.7 -0.1
baz=35,SNR=8.6
PFO Pinyon Flat Ob 35.25 334 eP P 21 13 30.9 +0.4
34nm,1.3s,mb5.1
PFO Pinyon Flat Ob 35.25 334 ⇓P P 21 13 30.5 +0.1
baz=35
W14A Seligman 35.34 340 ⇑P P 21 13 31.4 +0.1
baz=36
BELC Belle Mtn. 35.39 335 ⇑P P 21 13 31.6 -0.1
baz=36
W13A Hualapai Mount 35.53 339 ⇑P P 21 13 32.8 0.0
baz=36
LPAZ La Paz 35.56 122 P P 21 13 34.2 +1.1
8.8nm,1.1s,mb4.6,baz=302,slow=7.7,SNR=15
LPAZ S S 21 19 14.9 +5.7
9.4nm,0.5s,baz=197,slow=24,SNR=3.9
LPAZ LR LR 21 26 31.3
comp=Z,952nm,18.1s,MS4.6,baz=136,slow=34
LPAZ La Paz 35.56 122 eP P 21 13 34.3 +1.2
24nm,1.3s,mb5.0
SJG San Juan 35.80 62 P P 21 13 34.1 -1.0
9.7nm,0.5s,mb5.0,baz=252,slow=7.4,SNR=3.4
SDCO Great Sand Dun 35.84 351 eP P 21 13 36.8 +1.3
9.8nm,1.1s,mb4.7
MVCO Mesa Verde 35.90 347 eP P 21 13 36.1 +0.2
MVCO Mesa Verde 35.90 347 ⇓P P 21 13 35.5 -0.5
baz=36
W12A Cal Nev Ari 36.07 338 ⇓P P 21 13 37.6 +0.1
baz=36
TKL Tuckaleechee C 36.10 21 S S 21 19 18.5 +1.1
3.6nm,0.6s,baz=222,slow=13,SNR=2.2
HEC Hector,Ludlow 36.24 335 ⇓P P 21 13 39.2 +0.3
baz=36
BFSC Mount Baldy St 36.32 333 ⇑P P 21 13 39.5 -0.1
baz=36
SNCC San Nicolas Is 36.38 330 ⇓P P 21 13 40.0 -0.2
baz=36
SIUC Southern Illin 36.41 13 eP P 21 13 40.9 +0.5
RRX Edison Barstow 36.57 335 ⇑P P 21 13 41.6 -0.1
baz=37
TUQ Turquoise Mtn. 36.60 336 ⇑P P 21 13 42.2 +0.2
baz=37
DECC Green Verdugo 36.63 333 ⇓P P 21 13 42.6 +0.3
baz=37
KSU1 Kansas State U 36.74 3 eP P 21 13 43.0 -0.2
V11A Goodsprings 36.76 337 ⇓P P 21 13 43.2 -0.2
baz=37
PV01 Paradox Valley 36.80 347 eP P 21 13 42.9 -0.7
GSC Goldstone 36.85 335 eP P 21 13 43.8 -0.3
GSC Goldstone 36.85 335 ⇓P P 21 13 44.5 +0.5
baz=37
EDW2 Edwards Air Fo 37.00 334 ⇑P P 21 13 45.4 0.0
baz=37
BSC Santa Cruz Isl 37.04 331 ⇑P P 21 13 45.4 -0.3
baz=37
SAML Samuel 37.32 108 eP P 21 13 47.0 -1.2
25nm,1.3s,mb4.9
SMCO Snowmass 37.48 350 eP P 21 13 49.2 -0.3
38nm,1.4s,mb5.0
CCUT Cedar City 37.56 341 eP P 21 13 51.3 +1.1
ARVC Arvin 37.59 333 ⇓P P 21 13 50.4 +0.1
baz=38
MPMC Manual Prospec 37.78 335 ⇑P P 21 13 52.5 +0.5
baz=38,SNR=7.8
ARUT Antelope Range 37.80 341 eP P 21 13 53.3 +1.1
PKM Peak Mountain 37.86 331 ⇓P P 21 13 52.7 0.0
baz=38
ISA Isabella 37.87 334 eP P 21 13 53.4 +0.6
ISA Isabella 37.87 334 ⇓P P 21 13 53.1 +0.4
baz=38
ISCO Idaho Springs 37.87 352 eP P 21 13 53.7 +0.9
21nm,1.4s,mb4.7
FURC Furnace Creek, 37.88 336 ⇑P P 21 13 53.1 +0.3
baz=38
DAC Darwin (Calif) 38.01 335 eP P 21 13 54.8 +0.9
12nm,1.2s,mb4.5
MSU Marysvale 38.08 343 eP P 21 13 54.7 +0.2
SMMC Simmler 38.28 332 ⇓P P 21 13 56.4 +0.1
baz=38
VES Vestal, Richgr 38.29 333 ⇑P P 21 13 56.9 +0.5
baz=38
CWC Cottonwood Cre 38.35 335 ⇓P P 21 13 57.6 +0.7
baz=38
GRAC Grapevine Rang 38.54 336 ⇑P P 21 13 59.0 +0.6
baz=39
V05C Boulder Hill, 38.69 332 ⇓P P 21 14 00.4 +0.7
baz=39
TIN Tinemaha 38.94 335 ⇓P P 21 14 02.5 +0.7
baz=39
HELL Mitchell Peak, 38.97 334 ⇓P P 21 14 02.1 +0.1
baz=39,SNR=15
PKD Parkfield 39.05 332 ⇓P P 21 14 02.7 0.0
baz=39
S09A Goldfield 39.10 337 ⇓P P 21 14 03.5 +0.3
baz=39
R10A Warm Springs 39.24 338 ⇑P P 21 14 04.9 +0.5
baz=39
S08C White Mtn Res 39.29 336 ⇑P P 21 14 05.4 +0.6
baz=40
PHWY Pilot Hill 39.33 352 eP P 21 14 05.7 +0.7
MPU Maple Canyon 39.33 345 eP P 21 14 06.0 +0.9
33nm,1.3s,mb4.9
MTUM Tungsten Hills 39.33 335 eP P 21 14 06.6 +1.5
NLU North Lily Min 39.39 344 eP P 21 14 07.2 +1.7
Q12A Willow Creek R 39.39 340 ⇓P P 21 14 05.7 +0.2
baz=40
V03C Hunter Liggett 39.45 331 ⇓P P 21 14 06.5 +0.5
baz=40
R09A Tonopah 39.49 337 ⇓P P 21 14 06.9 +0.5
baz=40
Q11A Duckwater 39.50 339 ⇑P P 21 14 07.2 +0.7
baz=40,SNR=9.5
DAU Daniels Canyon 39.60 345 eP P 21 14 08.6 +1.3
KCC Kaiser Creek 39.63 334 ⇓P P 21 14 09.0 +1.5
baz=40
P12A McGill 39.81 341 ⇑P P 21 14 09.6 +0.5
baz=40
DUG Dugway 39.82 343 eP P 21 14 08.9 -0.2
DUG Dugway 39.82 343 ⇓P P 21 14 09.3 +0.2
baz=40
HAST UC Hastings Re 39.89 331 ⇑P P 21 14 09.8 +0.1
baz=40
CTU Camp Tracy 39.99 345 eP P 21 14 11.8 +1.2
11nm,0.6s,mb4.8
Q09A Carvers 40.05 338 ⇓P P 21 14 11.7 +0.6
baz=40
NVAR Mina Array Bea 40.14 336 P P 21 14 10.9 -0.9
3.1nm,0.8s,mb4.1,baz=176,slow=10,SNR=3.6
NVAR S S 21 20 21.0 +2.4
0.6nm,0.4s,baz=47,slow=25,SNR=2.2
R07C Lee Vining 40.16 335 ⇓P P 21 14 12.4 +0.5
baz=40
TCUT Toone Canyon 40.30 345 eP P 21 14 12.9 -0.3
O12A Currie 40.48 341 ⇑P P 21 14 14.8 +0.2
baz=41,SNR=9.4
P10A Eureka 40.48 339 ⇑P P 21 14 15.2 +0.6
baz=41
BGU Big Grassy Mou 40.56 344 eP P 21 14 16.2 +1.0
O11A Cowboy Ranch, 40.65 340 ⇑P P 21 14 16.3 +0.3
baz=41,SNR=7.5
P09A Austin 40.66 338 ⇑P P 21 14 16.5 +0.4
baz=41
S04C Ingram Canyon, 40.69 332 ⇓P P 21 14 16.4 +0.1
baz=41
CMB Columbia Colle 40.69 334 ⇑P P 21 14 16.7 +0.4
baz=41
R06C Coleville 40.70 335 ⇑P P 21 14 16.8 +0.5
baz=41,SNR=8.2
HWUT Hardware Ranch 40.80 345 eP P 21 14 16.7 -0.6
37nm,1.3s,mb4.9
N13A Wendover, West 40.84 342 ⇓P P 21 14 17.7 +0.1
baz=41
O10A Cortez Mining, 41.09 339 ⇑P P 21 14 20.0 +0.4
baz=41
N12A Clover Valley, 41.10 341 ⇑P P 21 14 20.3 +0.6
baz=41,SNR=9.2
R05C Kirkwood Meado 41.11 335 ⇓P P 21 14 20.2 +0.3
baz=41
R04C Big Horse Ranc 41.12 333 ⇓P P 21 14 20.5 +0.6
baz=41
P08A Dixie Valley 41.14 337 ⇓P P 21 14 20.1 0.0
baz=41
O09A Fish Creek Ran 41.23 339 ⇑P P 21 14 20.9 +0.2
baz=41,SNR=10
HVU Hansel Valley 41.28 344 eP P 21 14 21.9 +0.7
42nm,1.2s,mb5.0
N11A Elko Archery C 41.30 341 ⇓P P 21 14 21.7 +0.4
baz=41
ECSD EROS,Sioux Fal 41.36 3 eP P 21 14 19.6 -2.3
LAVA Lava Cap Winer 41.44 334 ⇓P P 21 14 22.6 +0.1
baz=42
PDAR Pinedale Array 41.45 348 P P 21 14 21.7 -0.9
8.9nm,0.8s,mb4.5,baz=151,slow=9.5,SNR=47
PDAR S S 21 20 38.3 +0.2
0.2nm,0.3s,baz=95,slow=36,SNR=2.7
PDAR LR LR 21 30 14.5
comp=Z,1µm,21.5s,MS4.7,baz=183,slow=34
N10A Dunphy 41.47 340 ⇓P P 21 14 22.9 +0.1
baz=42
WCN Washoe City 41.48 335 ⇑P P 21 14 23.2 +0.4
baz=42
SIV San Ignacio 41.57 117 P P 21 14 23.2 -0.4
1.6nm,0.8s,mb3.7,baz=297,slow=7.0,SNR=5.5
M12A Wells 41.57 342 ⇑P P 21 14 24.0 +0.4
baz=42
PAHR Pah Rah Range 41.67 336 eP P 21 14 25.9 +1.5
O07A Toulon 41.86 337 ⇑P P 21 14 26.0 0.0
baz=42
M11A Holland Ranch, 41.87 341 ⇑P P 21 14 26.3 +0.3
baz=42
N09A Rock Creek Ran 41.95 339 ⇓P P 21 14 26.7 +0.1
baz=42
N08A GE Springer Mi 42.11 338 ⇑P P 21 14 27.8 -0.2
baz=42,SNR=19
M10A I.L. Ranch, Tu 42.20 340 ⇓P P 21 14 29.0 +0.3
baz=42
O06A Flanigan 42.24 336 ⇑P P 21 14 29.1 0.0
baz=42
OHCM Honcut 42.25 334 eP P 21 14 29.5 +0.3
REDW Red Top Meadow 42.30 347 eP P 21 14 29.0 -0.5
27nm,1.1s,mb4.8
SUTB Sutter Butte 42.30 333 ⇑P P 21 14 29.3 -0.2
baz=42
SNOW Snow King Moun 42.37 347 eP P 21 14 27.1 -3.0
22nm,1.0s,mb4.7
RRI2 Red Ridge 42.39 347 eP P 21 14 35.2 +4.9
22nm,1.3s,mb4.6
M09A Marrel Ranch, 42.42 339 ⇓P P 21 14 30.1 -0.4
baz=43
ORV Oroville 42.44 334 ⇑P P 21 14 30.8 +0.1
baz=43,SNR=10.0
TPAW Teton Pass 42.44 347 eP P 21 14 31.1 +0.4
27nm,1.1s,mb4.8
LOHW Long Hollow 42.48 347 eP P 21 14 30.6 -0.4
18nm,0.9s,mb4.7
O05C Quincy 42.52 335 ⇑P P 21 14 32.0 +0.6
baz=43
TAOE Nuku Hiva Isla 42.54 254 eS S 21 20 57.3 +3.1
979nm,28.7s
TAOE eLR LR 21 26 14.8
15µm,25.9s,baz=78
MOOW Moose Ponds 42.64 347 eP P 21 14 32.1 -0.2
14nm,1.1s,mb4.6
HOPS Hopland 42.70 332 ⇓P P 21 14 33.1 +0.3
baz=43
N06A Buffalo Meadow 42.74 336 ⇑P P 21 14 33.3 +0.2
baz=43
M08A Happy Creek Ra 42.78 338 ⇑P P 21 14 33.5 0.0
baz=43
IMW Indian Meadow 42.83 347 eP P 21 14 33.4 -0.4
23nm,1.1s,mb4.8
O04C Chester 42.89 335 ⇓P P 21 14 34.6 +0.3
baz=43
FLWY Flagg Ranch 42.95 348 eP P 21 14 35.6 +0.8
37nm,1.3s,mb5.0
ELFS Eagle Lake Fie 42.99 336 ⇑P P 21 14 35.7 +0.6
baz=43
L09A Wilkinson Ranc 43.02 339 ⇓P P 21 14 35.4 0.0
baz=43
M07A Soldier Meadow 43.02 338 ⇑P P 21 14 35.5 +0.1
baz=43,SNR=13
GASB Alder Springs 43.06 333 ⇓P P 21 14 36.2 +0.5
baz=43
RKT Rikitea 43.23 232 eS S 21 21 03.1 -1.2
420nm,27.5s
RKT eLQ 21 24 50.9
858nm,27.2s
RKT eLR LR 21 26 36.3
3µm,28.8s,baz=53
YFT Old Faithful 43.33 348 eP P 21 14 34.9 -3.0
M06C Likely Place G 43.38 336 ⇑P P 21 14 38.8 +0.5
baz=44
HLID Hailey 43.39 344 eP P 21 14 38.7 +0.4
16nm,1.3s,mb4.6
HLID Hailey 43.39 344 ⇓P P 21 14 38.4 +0.1
baz=44,SNR=7.3
L08A Fields 43.41 339 ⇓P P 21 14 38.3 -0.3
baz=44,SNR=9.1
YMR Madison River 43.57 348 eP P 21 14 40.9 +1.1
65nm,1.2s,mb5.2
L07A Adell 43.63 338 ⇓P P 21 14 40.6 +0.2
baz=44,SNR=9.5
K09A Rome 43.65 340 ⇑P P 21 14 40.3 -0.2
baz=44,SNR=13
WVOR Wild Horse Val 43.73 339 eP P 21 14 41.6 +0.4
23nm,1.2s,mb4.8
WDC Whiskeytown Da 43.73 334 ⇑P P 21 14 40.3 -0.8
baz=44
M05C Lookout 43.78 336 ⇑P P 21 14 40.8 -0.7
baz=44
QLMT Earthquake Lak 43.82 347 eP P 21 14 42.4 +0.5
MOD Modoc 43.90 337 eP P 21 14 41.5 -1.0
24nm,1.3s,mb4.8
MOD Modoc 43.90 337 ⇓P P 21 14 41.8 -0.7
baz=44,SNR=12
K08A Mann Creek Ran 43.94 339 ⇑P P 21 14 42.3 -0.5
baz=44
MCMT McKenzie Canyo 44.15 346 eP P 21 14 43.8 -0.7
K07A Rock Creek Ran 44.18 338 ⇑P P 21 14 44.7 -0.1
baz=44,SNR=15
J09A Fry Pan Ranch, 44.23 340 ⇓P P 21 14 45.0 -0.1
baz=44,SNR=8.7
GCMT Greycliff 44.38 349 eP P 21 14 46.8 +0.5
M04C Macdoel 44.42 335 ⇑P P 21 14 46.5 -0.2
baz=45
J08A Circle Bar Ran 44.48 340 ⇑P P 21 14 46.5 -0.7
baz=45
CFAA Coronel Fontan 44.53 142 P P 21 14 46.5 -1.1
0.2nm,0.4s,baz=311,slow=9.0,SNR=5.6
CFAA S S 21 21 23.8 +0.5
0.1nm,0.3s,baz=275,slow=18,SNR=4.7
CFAA Coronel Fontan 44.53 142 P P 21 14 46.5 -1.1
CFAA S S 21 21 23.8 +0.5
M02C Callahan 44.53 334 ⇓P P 21 14 46.6 -1.0
baz=45
DLMT Dillon 44.59 346 eP P 21 14 48.8 +0.7
27nm,1.4s,mb4.9
K06A Valley Falls 44.65 338 ⇓P P 21 14 47.2 -1.2
baz=45,SNR=8.0
YBH Yreka Blue Hor 44.75 335 P P 21 14 48.4 -0.9
7.6nm,1.0s,mb4.5,baz=123,slow=6.1,SNR=8.9
YBH S S 21 21 26.2 -0.3
0.5nm,0.4s,baz=311,slow=8.3,SNR=1.8
YBH Yreka Blue Hor 44.75 335 eP P 21 14 48.5 -0.7
11nm,1.0s,mb4.6
YBH Yreka Blue Hor 44.75 335 ⇓P P 21 14 48.3 -1.0
baz=45
I09A Lost Marbles R 44.78 341 ⇑P P 21 14 48.4 -1.2
baz=45
K05A Summer Lake 44.83 337 ⇑P P 21 14 50.0 +0.1
baz=45,SNR=13
J06A Christmas Vall 45.00 338 ⇓P P 21 14 50.6 -0.6
baz=45,SNR=19
H09A Durkee 45.37 341 ⇑P P 21 14 53.0 -1.3
baz=46
J05A Fort Rock 45.44 337 ⇓P P 21 14 54.3 -0.5
baz=46,SNR=14
L02A Cave Junction 45.48 334 ⇓P P 21 14 54.2 -0.9
baz=46
I07A Izee 45.48 339 ⇑P P 21 14 55.0 -0.1
baz=46
H08A Prairie City 45.57 340 ⇓P P 21 14 55.2 -0.6
baz=46,SNR=10
I06A Prineville 45.62 338 ⇑P P 21 14 56.0 -0.2
baz=46
K02A Glendale 45.93 335 ⇑P P 21 14 58.0 -0.6
baz=46,SNR=10
H07A Lands Inn, Kim 45.95 339 ⇑P P 21 14 58.0 -0.7
baz=46
I05A Bend 46.20 338 ⇓P P 21 14 59.8 -0.9
baz=46
CHMT Chamberlain Mo 46.21 346 eP P 21 15 00.7 -0.1
MSO Missoula 46.29 346 eP P 21 15 01.1 -0.4
11nm,1.3s,mb4.6
H06A Lindquist Farm 46.34 339 ⇓P P 21 15 01.0 -0.9
baz=46
G08A Pilot Rock 46.35 340 ⇑P P 21 15 01.0 -1.0
baz=46,SNR=12
F09A S2 Ranch, Elgi 46.38 342 ⇓P P 21 15 00.7 -1.5
baz=46
K01A Sixes 46.38 334 ⇓P P 21 15 01.0 -1.2
baz=46
F10A Beach Ranch, E 46.41 342 ⇓P P 21 15 02.1 -0.3
baz=47
J02A Umpqua 46.45 335 ⇑P P 21 15 02.4 -0.4
baz=47
EGMT Eagleton 46.55 350 ⇓P P 21 15 02.7 -0.8
G07A Ruggs Ranch, H 46.57 340 ⇓P P 21 15 03.1 -0.6
baz=47,SNR=9.2
H05A Madras 46.59 338 ⇑P P 21 15 03.3 -0.6
baz=47
F08A Pendleton 46.74 341 ⇓P P 21 15 04.8 -0.2
baz=47
I03A Eugene 46.83 336 ⇑P P 21 15 05.4 -0.3
baz=47,SNR=7.8
G06A Carlson Farm, 46.88 339 ⇓P P 21 15 05.5 -0.7
baz=47
H04A Detroit Lake 46.99 337 ⇑P P 21 15 06.1 -0.9
baz=47
E09A Wood Farm, Sta 47.17 342 ⇑P P 21 15 08.1 -0.4
baz=47,SNR=12
F07A Phinny Hill Vi 47.21 340 ⇓P P 21 15 08.0 -0.7
baz=47
H03A Soap Creek Ran 47.42 336 ⇑P P 21 15 09.0 -1.3
baz=48
C12A Trout Creek 47.50 345 ⇑P P 21 15 10.7 -0.2
baz=48
HAWA Hanford 47.51 341 eP P 21 15 11.2 +0.1
20nm,1.2s,mb5.0
D09A Jones Farm, Ri 47.72 342 ⇑P P 21 15 12.5 -0.1
baz=48
F05A White Salmon 47.74 339 ⇑P P 21 15 12.1 -0.7
baz=48
E07A Sunnyside 47.76 341 ⇑P P 21 15 12.2 -0.8
baz=48
B13A Whitefish 47.86 346 ⇑P P 21 15 13.6 -0.2
baz=48,SNR=18
D08A Wollman Farm, 47.90 342 ⇑P P 21 15 13.4 -0.7
baz=48
ULM Lac du Bonnet 47.90 3 P P 21 15 13.0 -1.1
6.3nm,0.8s,mb4.7,baz=184,slow=8.2,SNR=6.3
ULM LR LR 21 35 13.5
comp=Z,693nm,20.0s,MS4.6,baz=184,slow=36
ULM Lac du Bonnet 47.90 3 P P 21 15 12.9 -1.2
36nm,1.3s,mb5.2
E06A Yakima 48.13 340 ⇓P P 21 15 15.3 -0.6
baz=48
B12A Libby 48.23 345 ⇑P P 21 15 15.9 -0.8
baz=48
WALA Waterton Lakes 48.38 347 eP P 21 15 18.0 +0.3
11nm,1.0s,mb4.8
E05A Randle 48.42 339 ⇓P P 21 15 16.9 -1.2
baz=49
NEW Newport 48.45 344 eP P 21 15 16.6 -1.8
13nm,1.1s,mb4.9
C08A Higginbotham F 48.59 342 ⇑P P 21 15 18.6 -0.7
baz=49
A12A Yaak River Ran 48.68 345 ⇑P P 21 15 19.3 -0.8
baz=49
C07A Waterville 48.82 341 ⇓P P 21 15 20.7 -0.5
baz=49
B09A Rice 48.89 343 ⇑P P 21 15 21.9 +0.3
baz=49
D05A Enumclaw 49.04 339 ⇓P P 21 15 23.5 +0.6
baz=49
CPUP Villa Florida 49.20 128 P P 21 15 22.6 -1.4
6.1nm,1.0s,mb4.6,baz=270,slow=6.7,SNR=6.9
CPUP LR LR 21 34 48.8
comp=Z,613nm,19.5s,MS4.6,baz=294,slow=34
CPUP Villa Florida 49.20 128 eP P 21 15 21.3 -2.7
66nm,1.4s,mb5.5
A10A Northport 49.23 344 ⇓P P 21 15 24.5 +0.2
baz=49
C05A Tolt Reservoir 49.37 340 ⇓P P 21 15 25.6 +0.2
baz=50
A09A Danville 49.51 343 ⇑P P 21 15 26.8 +0.3
baz=50
B07A Winthrop 49.52 342 ⇑P P 21 15 27.0 +0.5
baz=50
C04A Brinnon 49.84 339 ⇓P P 21 15 29.5 +0.5
baz=50
PLCA Paso Flores 50.00 152 P P 21 15 30.7 +0.6
11nm,1.1s,mb4.8,baz=322,slow=8.2,SNR=7.0
PLCA LR LR 21 31 47.4
comp=Z,2µm,19.9s,MS5.2,baz=336,slow=30
PLCA Paso Flores 50.00 152 eP P 21 15 30.3 +0.2
46nm,1.7s,mb5.2
B06A Marblemount 50.01 341 ⇑P P 21 15 30.9 +0.6
baz=50
A04A Legoe Bay, Lum 50.60 340 ⇓P P 21 15 35.2 +0.5
baz=51
A05A Maple Falls 50.63 340 ⇓P P 21 15 35.7 +0.8
baz=51
EDM Edmonton 52.19 349 eP P 21 15 46.2 -0.5
TRQA Tornquist 52.66 143 P P 21 15 50.2 +0.1
BDFB Brasilia 53.38 111 LR LR 21 38 25.4
comp=Z,2µm,20.0s,MS5.1,baz=80,slow=36
PPT Papeete 53.65 246 eS S 21 23 29.3 -2.1
997nm,29.0s
PPT eLR LR 21 31 30.9
4µm,25.0s,baz=63
PPT Papeete 53.65 246 LR LR 21 32 54.0
comp=Z,1µm,18.0s,MS5.0,baz=71,slow=30

SCHQ Schefferville 58.57 21 P **P** **21 16 31.4 -1.2**
8.1nm,1.1s,mb4.7,baz=192,slow=4.2,SNR=3.0
SCHQ LR LR 21 41 31.6
comp=Z,576nm,19.9s,MS4.7,baz=123,slow=36
YKA Yellowknife Ar 61.24 352 P **P** **21 16 48.1 -2.8**
2.4nm,0.8s,mb4.3,baz=156,slow=6.9,SNR=7.9
YKA S **S** **21 25 08.8 -2.5**
0.4nm,0.6s,baz=310,slow=46,SNR=2.4
YKA LR LR 21 43 12.9
comp=Z,2µm,18.5s,MS5.3,baz=170,slow=36
DAWY Dawson 68.33 342 *e*P **P** **21 17 36.1 -1.1**
INK Inuvik 70.00 347 P **P** **21 17 46.5 -1.1**
24nm,1.1s,mb5.0,baz=139,slow=5.7,SNR=6.7
INK LR LR 21 48 59.6
comp=Z,1µm,18.5s,MS5.1,baz=147,slow=36
INK Inuvik 70.00 347 P **P** **21 17 45.8 -1.8**
1µm,1.3s
MCK McKinley 71.30 339 P **P** **21 17 55.1 -0.3**
4.1nm,0.9s,mb4.4
PMSA Palmer Station 71.57 165 *e*P **P** **21 17 57.7 +0.6**
31nm,1.6s,mb5.0
AFI Afiamalu 73.93 255 LR LR 21 44 44.5
comp=Z,1µm,18.3s,MS5.2,baz=78,slow=31
URZ Urewera 86.63 232 LR LR 21 52 57.1
comp=Z,294nm,18.3s,MS4.7,baz=89,slow=32
RPZ Rata Peaks 91.55 226 LR LR 21 53 29.1
comp=Z,377nm,18.3s,MS4.9,baz=270,slow=31
VNA3 Neumayer Olymp 91.87 161 *e*P **P** **21 19 44.3 +0.1**
VNA3 *e* pP 21 19 45.9 -0.5
VNA3 *e* 21 19 50.9
QSPA South Pole Qui 92.26 180 *e*P **P** **21 19 47.8 +1.8**
34nm,1.1s,mb5.6
VNA1 Neumayer--Stat 92.32 161 *e*P **P** **21 19 47.3 +1.0**
VNA1 *e* pP 21 19 48.6 +0.1
VNA1 *e* 21 19 55.4
ESDC Sonseca Array 92.41 50 LR LR 21 56 27.2
comp=Z,195nm,19.0s,MS4.6,baz=35,slow=32
SBA Scott Base 93.09 192 *e*P **P** **21 19 51.4 +1.6**
22nm,1.6s,mb5.3
DBIC Dimbokro 93.78 83 LR LR 22 00 42.1
comp=Z,293nm,19.9s,MS4.7,baz=240,slow=35
SNAA Sanae 94.04 162 *e*P **P** **21 19 53.5 -0.7**
SNAA *e* pP 21 19 55.2 -1.2
SNAA *e* 21 20 01.5
SNAA Sanae 94.04 162 *e*P **P** **21 19 54.4 +0.2**
14nm,1.4s,mb5.2
VNDA Vanda 94.17 192 LR LR 21 52 11.9
comp=Z,550nm,21.8s,MS5.0,baz=94,slow=29
DZM Mont Dzumac 95.12 248 LR LR 21 57 15.1
comp=Z,305nm,18.1s,MS4.8,baz=70,slow=32
NOA NORSAR Array B 97.67 27 LR LR 22 07 49.0
comp=Z,87nm,19.1s,MS4.3,baz=270,slow=38
ARCES ARCESS Array B 99.34 17 LR LR 22 03 59.8
comp=Z,280nm,20.4s,MS4.8,baz=196,slow=35
MDJ Mudanjiang 116.45 323 PKP PKPdf 21 25 19.7 -0.1
MDJ PP PP 21 26 27.4 +1.1
MDJ SS SS 21 42 31.0 -0.3
MDJ LR LR
comp=N,303nm,43.9s,MS4.6
MDJ LR LR
comp=E,126nm,45.7s,MS4.6
MDJ LR LR
comp=Z,143nm,47.6s,MS4.2
CN2 Changchun 119.36 324 *e*PKP PKPdf 21 25 27.4 +2.0
ZRNK Zerenda 124.08 9 *e*PKPdf PKPdf 21 25 32.3 -2.2
ASAR Alice Springs 124.68 243 PKP PKPdf 21 25 33.2 -2.4
comp=Z,1.0nm,0.7s,baz=105,slow=1.9,SNR=13
WB2 Warramunga Arr 125.12 247 *e*P PKPdf 21 25 35.5 -1.0
WRA Warramunga Arr 125.13 247 PKP PKPdf 21 25 34.8 -1.7
comp=Z,2.5nm,0.7s,baz=96,slow=2.1,SNR=26
BJI Beijing 127.06 326 PKP PKPdf 21 25 42.0 +1.8
BJI SS SS 21 44 51.8 +5.1
BJI LR LR
comp=N,127nm,30.4s
BJI LR LR
comp=E,178nm,43.6s
BJI LR LR
comp=Z,266nm,24.4s
BJI Beijing 127.06 326 PKP PKPdf 21 25 42.8 +2.6
BJI SS SS 21 44 51.8 +5.1
HHC Hu-ho-hao-te 128.89 330 *e*PKP PKPdf 21 25 44.2 +0.5
HHC SS SS 21 45 09.7 +0.3
HHC LR LR
comp=N,268nm,12.0s
HHC LR LR
comp=E,270nm,6.5s
HHC LR LR
comp=Z,246nm,13.5s,MS5.1
SSE Sheshan 129.46 314 PKP PKPdf 21 25 45.0 +0.3
SSE SS SS 21 45 18.4 +1.9
SSE LR LR
comp=N,153nm,25.0s,MS4.6
SSE LR LR
comp=E,52nm,25.0s,MS4.6
SSE LR LR
comp=Z,144nm,25.0s,MS4.6
SSE Sheshan 129.46 314 PKP PKPdf 21 25 45.3 +0.6
SSE SS SS 21 45 18.4 +1.9
MKAR Makanchi Array 131.16 359 PKP PKPdf 21 25 47.4 -0.6
comp=Z,0.3nm,0.3s,baz=352,slow=2.5,SNR=5.2
WMQ Urumqi 133.76 353 *e*PKP PKPdf 21 25 49.0 -3.9
WMQ PP PP 21 28 22.0 +0.1
WMQ PKS 21 29 24.0
WMQ SS SS 21 46 10.0 +1.1
WMQ PP PP
comp=Z,261nm,6.4s
WMQ LR LR
comp=N,449nm,22.4s,MS5.2
WMQ LR LR
comp=E,273nm,22.5s,MS5.2
WMQ LR LR
comp=Z,514nm,24.2s,MS5.2
LZH Lanzhou 136.34 333 *e*PKP PKPdf 21 25 52.6 -5.1
LZH XPKP 21 25 57.5
LZH PP PP
comp=Z,160nm,6.1s
LZH LR LR
comp=E,402nm,18.2s
LZH LR LR
comp=Z,439nm,19.5s,MS5.2
CD2 Chengdu 140.58 329 *e*PKP PKPdf 21 26 03.8 -1.7
KMI Kunming 145.63 324 PKP PKPdf 21 26 13.0 -1.4
KMI Kunming 145.63 324 PKP PKPdf 21 26 13.4 -1.0
KMI pPKP pPKPdf 21 26 18.9 +2.3
KMI sPKP 21 26 21.5
KMI PP PP 21 29 35.3 +0.3
KMI PPP 21 32 49.8
KMI SS SS 21 48 31.2 +2.9
KMI SSS 21 54 00.7
LSA Lhasa 146.81 344 *e*PKPab PKPab 21 26 18.9 -0.5
GUN Gumba 149.66 352 *e*P PKPbc 21 26 27.5 +1.8
comp=Z,238nm,1.2s
GKN Gorkha 149.73 354 *e*P PKPdf 21 26 23.7 +2.5
comp=Z,64nm,1.3s
KKN Kakani 149.87 353 *e*P PKPbc 21 26 26.6 +0.4
comp=Z,103nm,1.5s
KOLN Koldanda 150.06 356 *e*P PKPdf 21 26 22.7 +1.0
comp=Z,89nm,1.5s
PKI Pulchoki 150.07 352 *e*P PKPbc 21 26 27.2 +0.5
DMN Daman 150.07 353 *e*P PKPbc 21 26 26.8 +0.1
comp=Z,49nm,1.1s
KSM Kuching 150.54 277 *e*PKPbc PKPbc 21 26 27.7 -0.1

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*ISCJB **06** 21:07:45.3±1.2, 1896N±006×1452E±01, h231km±12km, mb4.0/26, Error ellipse: s-maj=20.4km s-min=9.2km az=178.0*
*IDC **06** 21:07:46.7±1.9, 1892N×14535E, h229km±19km, mb3.8/18, mb1 3.9/20, mb1mx3.8/24, mbtmp4.3/20, Error ellipse: s-maj=18.7km s-min=10.5km az=93.0*
*NEIC **06** 21:07:46.7±1.3, 1900N×14526E, h232km±13km, mb4.4/8, Error ellipse: s-maj=16.4km s-min=8.2km az=90.0*
ISC 06 21:07:46.2±1.1, 1896N±006×1453E±01, h225km±11km, n41, σ1§16/41, mb4.0/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.36**	**184**	P		**Pn**	**21 09 05.9**	**+0.2**
	11nm,0.3s,baz=237,slow=23,SNR=2.2						
GUMO				S		**S**	**21 10 07.0**	**-1.8**
	14nm,0.3s,baz=185,slow=21,SNR=2.5						
JOW	**Kunigami**	**17.50**	**300**	P		**P**	**21 11 40.4**	**+5.6**
	31nm,0.3s,baz=136,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**18.58**	**342**	P		**P**	**21 11 47.4**	**+0.9**
	1.7nm,0.3s,baz=48,slow=24,SNR=11						
MAJO	**Matsushiro**	**18.58**	**342**	*e*P		**P**	**21 11 46.9**	**+0.3**
	17nm,0.8s						
MAT	**Matsushiro**	**18.58**	**342**	P		**P**	**21 11 48.1**	**+1.5**
ASAJ	**Asahikawa**	**25.18**	**355**	P		**P**	**21 12 53.5**	**+2.5**
	6.8nm,0.6s,mb4.5,baz=218,slow=12,SNR=8.3						
WB2	**Warramunga Arr**	**40.12**	**196**	*e*P		**P**	**21 15 00.9**	**+0.9**
WRA	**Warramunga Arr**	**40.12**	**196**	P		**P**	**21 15 01.0**	**+0.9**
	3.1nm,0.7s,mb3.9,baz=25,slow=8.6,SNR=28						
MA2	**Magadan**	**40.76**	**4**	*e*P		**P**	**21 15 02.2**	**-3.0**
	26nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**41.58**	**209**	P		**P**	**21 15 11.8**	**-0.1**
	1.1nm,0.4s,mb3.7,baz=14,slow=7.2,SNR=3.1						
SONM	**Songino Array**	**42.68**	**321**	P		**P**	**21 15 21.5**	**+0.7**
	1.2nm,0.3s,mb3.7,baz=133,slow=7.7,SNR=11						
SONM	**Songino Array**	**42.68**	**321**	P		**P**	**21 15 21.5**	**+0.7**
AS31	**Alice Springs**	**43.80**	**195**	*e*P		**P**	**21 15 30.5**	**+0.8**
ASAR	**Alice Springs**	**43.80**	**195**	P		**P**	**21 15 30.4**	**+0.7**
	0.7nm,0.4s,mb3.4,baz=13,slow=6.0,SNR=10						
ASPA	**Alice Springs**	**43.80**	**195**	*e*P		**P**	**21 15 30.5**	**+0.8**
YAK	**Yakutsk**	**44.39**	**350**	*e*P		**P**	**21 15 34.3**	**-0.1**
	32nm,0.6s,mb4.8						
LSA	**Lhasa**	**50.07**	**293**	*e*P		**P**	**21 16 22.9**	**+4.8**
	3.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**50.67**	**184**	P		**P**	**21 16 23.4**	**+0.7**
	0.4nm,0.4s,mb3.2,baz=50,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**57.99**	**314**	P		**P**	**21 17 16.8**	**+1.5**
	2.6nm,0.6s,mb4.1,baz=82,slow=9.3,SNR=28						
MKAR	**Makanchi Array**	**57.99**	**314**	P		**P**	**21 17 16.8**	**+1.5**
KDAK	**Kodiak Island**	**59.36**	**33**	P		**P**	**21 17 24.9**	**+0.2**
	5.5nm,0.7s,mb4.3,baz=170,slow=16,SNR=6.0						
CHKZ	**Chkalovo**	**65.88**	**321**	*e*P		**P**	**21 18 07.4**	**-0.3**
	2.7nm,0.7s,mb4.0						
BRVK	**Borovoye**	**66.08**	**320**	*e*P		**P**	**21 18 09.3**	**+0.4**
ZRNK	**Zerenda**	**66.85**	**320**	*e*P		**P**	**21 18 13.3**	**-0.6**
	3.6nm,0.8s,mb4.0						
INK	**Inuvik**	**69.29**	**23**	P		**P**	**21 18 28.9**	**-0.2**
	2.8nm,0.8s,mb4.0,baz=253,slow=4.5,SNR=11						
YKA	**Yellowknife Ar**	**77.95**	**28**	P		**P**	**21 19 19.2**	**-0.1**
	2.8nm,0.5s,mb4.1,baz=289,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**77.95**	**28**	P		**P**	**21 19 19.2**	**-0.1**
YBH	**Yreka Blue Hor**	**79.09**	**50**	P		**P**	**21 19 26.7**	**+1.2**
	1.5nm,0.7s,mb3.7,baz=296,slow=4.5,SNR=5.6						
KEV	**Kevo**	**81.56**	**342**	*e*p		**P**	**21 19 36.6**	**-2.1**
	13nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**82.12**	**342**	P		**P**	**21 19 40.5**	**-1.1**
	1.7nm,0.7s,mb3.8,baz=88,slow=8.6,SNR=7.2						
ARCES	**ARCESS Array B**	**82.12**	**342**	P		**P**	**21 19 40.5**	**-1.1**
NVAR	**Mina Array Bea**	**83.30**	**52**	P		**P**	**21 19 48.1**	**+0.5**
	4.9nm,0.7s,mb4.4,baz=264,slow=7.1,SNR=15						
JOF	**Joensuu**	**83.61**	**335**	*e*p		**P**	**21 19 46.7**	**-2.5**
	5.5nm,0.4s,mb4.6						
QLMT	**Earthquake Lak**	**85.87**	**44**	*e*P		**P**	**21 20 01.7**	**+1.2**
KAF	**Kangasniemi**	**86.01**	**336**	*e*p		**P**	**21 19 58.9**	**-2.3**
	1.9nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**86.48**	**335**	P		**P**	**21 20 01.7**	**-1.8**
	3.1nm,0.4s,mb4.4,baz=67,slow=4.8,SNR=64						
PDAR	**Pinedale Array**	**87.93**	**45**	P		**P**	**21 20 10.3**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=177,slow=1.9,SNR=4.2						
NOA	**NORSAR Array B**	**92.18**	**340**	P		**P**	**21 20 28.4**	**-1.8**
	0.3nm,0.5s,mb3.5,baz=41,slow=4,3,SNR=3.0						
ULM	**Lac du Bonnet**	**92.61**	**34**	P		**P**	**21 20 31.2**	**-1.0**
	1.7nm,0.8s,mb4.1,baz=138,slow=9.8,SNR=7.8						
BRTR	**Keskin Array B**	**93.64**	**314**	P		**P**	**21 20 37.0**	**+0.1**
	0.7nm,0.8s,mb3.8,baz=59,slow=2.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**131.97**	**309**	PKP	PKPdf		21 26 33.4	+0.7
	0.5nm,0.9s,baz=60,slow=1.4,SNR=6.5						

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*CSEM **06** 21:21:07.5, 3679N×426E, h0km, ML2.8, After ALG*
*CRAAG **06** 21:21:07.5, 3679N×426E, Ml2.8*
*MDD **06** 21:21:08.6±0.6, 3694N×424E, h0km, mb3.4/3, Error ellipse: s-maj=8.0km s-min=5.0km az=25.0, PRXIMO*
*ISCJB **06** 21:21:13.7±3.7, 3688N±009×422E±007, h15km±30km, Error ellipse: s-maj=15.1km s-min=9.1km az=30.1*
ISC 06 21:21:08.0±1.4, 3696N±009×421E±008, h11km±12km, n12, σ1§34/15, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKF	**Akfadou**	**0.43**	**139**	P		**Pg**	**21 21 15.4**	**-1.1**
ABMS	**Boumerdes**	**0.62**	**250**	P		**Pg**	**21 21 19.4**	**-0.7**
AKET	**Djebel Ketaf**	**0.95**	**196**	P		**Pg**	**21 21 25.4**	**-0.9**
ABA	**Alger-Bouzarea**	**0.96**	**261**	P		**Pg**	**21 21 28.1**	**+1.6**
ADJB	**Djebel Djouab**	**1.02**	**218**	P		**Pg**	**21 21 27.1**	**-0.5**
SET	**Setif**	**1.22**	**128**	P		**Pn**	**21 21 32.0**	**+1.0**
EMHD	**Djebel Mahouad**	**1.27**	**234**	P		**Pn**	**21 21 32.0**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.40**	**107**	P		**Pn**	**21 21 33.0**	**-0.5**
ETOS	**Mallorca**	**3.01**	**339**	Pn		**Pn**	**21 21 57.3**	**+1.7**
	0.6nm,0.1s,SNR=7.1						
ETOS				Sn		**Sn**	**21 22 30.6**	**-1.0**
	0.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.06**	**313**	Pn		**Pn**	**21 21 57.9**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EIBI				Sn		**Sn**	**21 22 31.7**	**-1.3**
	0.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.86**	**292**	Pn		**Pn**	**21 22 23.3**	**+2.2**
	0.5nm,0.1s,SNR=7.9						
ETOB				Sn		**Sn**	**21 23 13.2**	**-4.1**
	SNR=4.0						
EMOS	**Mosqueruela**	**5.00**	**314**	Sn		**Sn**	**21 23 17.9**	**-2.8**
	SNR=7.9						

IDC 06 21:28:17.7±2.2, 1617S×17282W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.0/4, ML1.3/1, Error ellipse: s-maj=92.6km s-min=20.4km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.46**	**24**	Pn		Pn	21 28 58.8	-0.3
	3.8nm,0.3s,baz=94,slow=23,SNR=10						
AFI				Sn		Sn	21 29 29.7	-0.1
	9.3nm,0.3s,baz=293,slow=22,SNR=6.3						
STKA	**Stephens Creek**	**44.15**	**241**	P		P	21 36 27.7	-0.3
	1.0nm,0.8s,baz=138,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**50.22**	**257**	P		P	21 37 15.5	+0.1
	0.9nm,0.7s,baz=97,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**50.41**	**252**	P		P	21 37 17.4	+0.6
	8.5nm,0.8s,baz=87,slow=8.6,SNR=87						
NVAR	**Mina Array Bea**	**74.52**	**42**	P		P	21 39 58.7	+0.5
	0.5nm,0.6s,baz=234,slow=8.5,SNR=2.9						
BRTR	**Keskin Array B**	**147.10**	**321**	PKPbc	PKPbc		21 48 03.5	+0.9
	0.5nm,0.7s,baz=90,slow=0.3,SNR=3.6						

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*SZGRF **06** 21:39:37.5, 2401S×17936W, h33km, South of Fiji Islands*
*ISCJB **06** 21:40:32.9±0.7, 2401S±005×17991E±005, h516km±8km, mb4.5/30, Error ellipse: s-maj=8.1km s-min=6.2km az=117.6*
*IDC **06** 21:40:33.5±0.6, 2393S×17996E, h513km±5km, mb4.0/19, mb1 4.1/20, mb1mx4.1/21, mbtmp4.9/20, Error ellipse: s-maj=10.6km s-min=8.6km az=4.0*
*MOS **06** 21:40:33.7±2.6, 2397S×17997E, h515km, mb4.6/7, Error ellipse: s-maj=13.3km s-min=11.5km az=156.7*
*NEIC **06** 21:40:34.9±0.6, 2397S×17995E, h530km±7km, mb4.6/19, Error ellipse: s-maj=7.4km s-min=5.2km az=162.0*
ISC 06 21:40:33.9±0.7, 2411S±005×17999E±005, h517km±8km, n203, σ0§83/109, mb4.5/30, 5C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.45**	**160**	P		**P**	**21 42 06.9**	**+1.1**
	375nm,0.3s,baz=4.8,slow=2.3,SNR=17						
RAO				S		**S**	**21 43 20.4**	**-0.6**
	83nm,0.3s,baz=53,slow=24,SNR=2.7						
RAO	**Raoul Island**	**5.45**	**160**	*e*P		**P**	**21 42 07.1**	**+1.3**
DZM	**Mont Dzumac**	**12.63**	**277**	P		**P**	**21 43 19.9**	**+0.9**
	1.1nm,0.3s,baz=92,slow=17,SNR=12						
DZM				ScP		ScP	21 50 58.0	+2.2
	0.6nm,0.3s,baz=122,slow=19,SNR=6.5						
AFI	**Afiamalu**	**12.78**	**39**	P		**P**	**21 43 13.2**	**-7.3**
	3.4nm,0.3s,baz=121,slow=20,SNR=3.5						
PUZ	**Puketiti**	**14.00**	**186**	*e*PN		**P**	**21 43 32.8**	**-0.5**
PUZ				*e*SN		**S**	**21 45 56.1**	**-5.1**
URZ	**Urewera**	**14.32**	**189**	P		**P**	**21 43 34.1**	**-2.6**
	12nm,0.3s,baz=324,slow=2.4,SNR=58						
URZ				S		**S**	**21 46 07.6**	**+0.2**
	5.9nm,0.3s,baz=77,slow=22,SNR=19						
URZ	**Urewera**	**14.32**	**189**	*e*PN		**P**	**21 43 33.6**	**-3.0**
URZ				*e*SN		**S**	**21 46 06.8**	**-0.5**
MWZ	**Matawai**	**14.34**	**188**	*e*SN		**S**	**21 46 06.4**	**-1.3**
BKZ	**Black Stump Fm**	**15.31**	**190**	*e*PN		**P**	**21 43 45.5**	**-1.4**
QRZ	**Quartz Range**	**17.81**	**199**	*e*PN		**P**	**21 44 12.0**	**+0.5**
NNZ	**Nelson**	**17.94**	**196**	*e*PN		**P**	**21 44 11.6**	**-1.1**
THZ	**Tophouse**	**18.57**	**197**	*e*PN		**P**	**21 44 18.0**	**-0.5**
DSZ	**Denniston Nort**	**18.87**	**199**	*e*PN		**P**	**21 44 21.5**	**+0.3**
KHZ	**Kahutara**	**19.03**	**195**	*e*PN		**P**	**21 44 22.3**	**-0.3**
RPZ	**Rata Peaks**	**20.89**	**198**	P		**P**	**21 44 40.6**	**+1.0**
	15nm,0.4s,baz=37,slow=2.9,SNR=11						
HNR	**Honiara**	**24.06**	**304**	P		**P**	**21 45 06.7**	**-1.3**
	114nm,0.6s,baz=254,slow=2.1,SNR=6.3						
ARMA	**Armidale**	**25.94**	**250**	*e*P		**P**	**21 45 27.2**	**+2.6**
PPT	**Papeete**	**29.14**	**83**	P		**P**	**21 45 52.1**	**-0.5**
	22nm,0.5s,mb5.1,baz=191,slow=7.4,SNR=3.4						
CTA	**Charters Tower**	**31.47**	**271**	‖*i*P		**P**	**21 46 13.8**	**+1.1**
	55nm,0.4s,mb5.4						
CTA	**Charters Tower**	**31.47**	**271**	P		**P**	**21 46 13.9**	**+1.1**
	72nm,0.5s,mb5.5,baz=96,slow=11,SNR=181						
CTA				ScP		ScP	21 51 46.6	+2.5
	3.8nm,0.7s,baz=130,slow=5.8,SNR=4.8						
CTA	**Charters Tower**	**31.47**	**271**	‖*i*P		**P**	**21 46 13.8**	**+1.1**
CTA				pmax	pmax		
	comp=Z,55nm,0.4s						
CTAO	**Charters Tower**	**31.47**	**271**	*e*P		**P**	**21 46 13.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,69nm,0.5s,mb5.4						
CTAO	**Charters Tower**	**31.47**	**271**	*e*P		**P**	**21 46 13.7**	**+0.9**
	comp=Z,69nm,0.5s,mb5.4						
PMG	**Port Moresby**	**34.56**	**289**	P		**P**	**21 46 38.9**	**+0.1**
	comp=Z,93nm,0.7s,mb5.4,baz=118,slow=4.0,SNR=25						
STKA	**Stephens Creek**	**34.64**	**248**	*e*P		**P**	**21 46 40.5**	**+0.9**
	comp=Z,6.0nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**34.64**	**248**	P		**P**	**21 46 40.5**	**+1.0**
	comp=Z,2.0nm,0.3s,mb4.1,baz=87,slow=9.4,SNR=15						
AS31	**Alice Springs**	**41.99**	**261**	‖*i*P		**P**	**21 47 39.9**	**+0.5**
AS31				*e*ScP		ScP	21 52 26.6	+3.1
AS31				*e*S		**S**	**21 53 19.9**	**-0.6**
ASAR	**Alice Springs**	**41.99**	**261**	P		**P**	**21 47 39.9**	**+0.5**
	comp=Z,16nm,0.8s,mb4.6,baz=98,slow=6.7,SNR=109						
ASAR				pP		pP	21 49 14.0	+1.1
	comp=Z,3.2nm,0.8s,baz=87,slow=6.7,SNR=2.6						
ASAR				ScP		ScP	21 52 25.3	+1.8
	comp=Z,12nm,0.8s,baz=107,slow=4.1,SNR=33						
ASAR				S		**S**	**21 53 19.8**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=95,slow=15,SNR=6.4						
ASAR	**Alice Springs**	**41.99**	**261**	P		**P**	**21 47 39.9**	**+0.5**
ASAR				*PP		pP	21 49 14.0	+1.1
ASAR				S		**S**	**21 53 19.8**	**-0.7**
ASAR	**Alice Springs**	**41.99**	**261**	P		**P**	**21 47 39.9**	**+0.5**
ASAR				pP		pP	21 49 14.0	+1.1
ASAR				ScP		ScP	21 52 25.3	+1.8
ASAR				S		**S**	**21 53 19.8**	**-0.7**
ASPA	**Alice Springs**	**42.00**	**261**	‖*i*P		**P**	**21 47 39.9**	**+0.5**
ASPA				*e*SCP		ScP	21 52 26.6	+3.1
ASPA				*e*S		**S**	**21 53 19.9**	**-0.6**
WB2	**Warramunga Arr**	**42.38**	**266**	‖*i*P		**P**	**21 47 42.2**	**-0.2**
WB2				*e*SCP		ScP	21 52 28.5	+3.5
WB2				*e*S		**S**	**21 53 23.1**	**-2.8**
WRAB	**Tennant Creek**	**42.38**	**266**	*e*P		**P**	**21 47 42.1**	**-0.3**
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**21 47 42.3**	**-0.1**
	comp=Z,43nm,0.6s,mb5.1,baz=103,slow=8.2,SNR=260						
WRA				ScP		ScP	21 52 28.0	+2.9
	comp=Z,12nm,0.9s,baz=96,slow=4.0,SNR=24						
WRA				S		**S**	**21 53 23.1**	**-3.0**
	comp=Z,4.1nm,0.8s,baz=98,slow=14,SNR=9.1						
WRA				PKiKP		PKiKP	21 56 25.8	-1.1
	comp=Z,0.3nm,0.4s,baz=88,slow=0.2,SNR=4.7						
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**21 47 42.3**	**-0.1**
WRA				ScP		ScP	21 52 28.0	+2.9
WRA				S		**S**	**21 53 23.1**	**-3.0**
FORT	**Forrest**	**46.23**	**250**	*e*P		**P**	**21 48 12.1**	**-0.1**
	comp=Z,24nm,0.5s,mb5.0						
KAKA	**Kakadu**	**46.32**	**275**	‖*i*P		**P**	**21 48 12.4**	**-0.4**
	comp=Z,20nm,0.3s,mb5.1						
KAKA				*e*S		**S**	**21 54 20.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.81**	**266**	‖*i*P		**P**	**21 48 46.7**	**+0.5**
	comp=Z,26nm,0.7s,mb4.7						
FITZ				*e*S		**S**	**21 55 24.5**	**+1.3**
SBA	**Scott Base**	**54.17**	**183**	*e*P		**P**	**21 49 13.0**	**+2.7**
SBA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
SBA	**Scott Base**	**54.17**	**183**	*e*P		**P**	**21 49 13.0**	**+2.6**
	comp=Z,12nm,0.9s,mb4.2						
VNDA	**Vanda**	**54.17**	**185**	P		**P**	**21 49 12.0**	**+1.7**
	comp=Z,1.8nm,0.7s,mb3.5,baz=360,slow=8.1,SNR=17						
VNDA				PcP		PcP	21 50 07.2	+0.4
	comp=Z,3.4nm,0.7s,baz=4.7,slow=5.6,SNR=14						
VNDA	**Vanda**	**54.17**	**185**	P		**P**	**21 49 12.0**	**+1.7**
VNDA				PcP		PcP	21 50 07.2	+0.4
KLBR	**Kellerberrin**	**54.90**	**247**	*e*P		**P**	**21 49 15.6**	**+0.1**
	comp=Z,45nm,1.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**55.15**	**246**	P		**P**	**21 49 17.4**	**+0.3**
	comp=Z,7.2nm,0.8s,mb3.9,baz=108,slow=9.6,SNR=3.8						
MBWA	**Marble Bar**	**55.33**	**260**	*e*P		**P**	**21 49 18.3**	**-0.1**
CASY	**Casey**	**59.92**	**206**	*e*P		**P**	**21 49 49.7**	**0.0**
QSPA	**South Pole Qui**	**65.98**	**180**	*e*P		**P**	**21 50 30.4**	**+1.7**
	comp=Z,23nm,0.6s,mb4.9						
MJAR	**Matsushiro Arr**	**72.06**	**326**	P		**P**	**21 51 04.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=158,slow=4.4,SNR=5.2						
MAW	**Mawson**	**77.56**	**200**	*e*P		**P**	**21 51 36.9**	**+0.7**
	comp=Z,7.6nm,0.6s,mb4.2						
MAW	**Mawson**	**77.56**	**200**	P		**P**	**21 51 37.1**	**+0.9**
	comp=Z,9.1nm,0.6s,mb4.3,baz=130,slow=6.5,SNR=62						
MAW	**Mawson**	**77.56**	**200**	*e*P		**P**	**21 51 36.9**	**+0.7**
MAW				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PMSA	**Palmer Station**	**78.72**	**157**	P		**P**	**21 51 43.1**	**+0.7**
	comp=Z,11nm,0.8s,mb4.2,baz=228,slow=3.7,SNR=12						
SYO	**Syowa Base**	**82.81**	**193**	‖*e*P		**P**	**21 52 02.8**	**-0.8**
CMB	**Columbia Colle**	**83.35**	**43**	*e*P		**P**	**21 52 06.1**	**-0.2**
CMB				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.6						
CMB	**Columbia Colle**	**83.35**	**43**	*e*P		**P**	**21 52 06.1**	**-0.2**
	comp=Z,22nm,1.1

RMW	Rattlesnake Mo	88.37	35	P		P	21 52 30.5 +0.1
EBG	Ellensburg	88.69	36	P		P	21 52 32.1 +0.2
MSU	Marysvale	88.93	47	eP		P	21 52 33.8 +0.8
RPW	Rockport	89.14	35	P		P	21 52 33.5 -0.5
WTV	Waterville	89.50	36	P		P	21 52 35.3 -0.4
TMUT	Trail Mountain	89.99	46	eP		P	21 52 38.5 +0.6
MNTX	Cornudas Mount	90.33	55	eP		P	21 52 39.4 -0.2
	comp=Z,4.8nm,0.8s,mb4.4						
MNTX				e			21 53 00.4
SRU	San Rafael	90.34	47	eP		P	21 52 39.0 -0.6
SRU				pmax		pmax	
	comp=Z,21nm,0.9s,mb5.0						
SRU	San Rafael	90.34	47	eP		P	21 52 39.0 -0.6
	comp=Z,21nm,0.9s,mb5.0						
LPM	Los Pinos Moun	90.66	52	eP		P	21 52 39.6 -1.4
ANMO	Albuquerque	91.09	52	P		P	21 52 43.1 +0.1
	comp=Z,3.5nm,0.8s,mb4.3,baz=218,slow=4.6,SNR=8.0						
MCMT	McKenzie Canyo	91.89	41	eP		P	21 52 46.6 -0.1
COLA	College	92.12	13	eP		P	21 52 41.6 -6.1
PDAR	Pinedale Array	92.84	44	P		P	21 52 50.6 -0.5
	comp=Z,2.9nm,0.8s,mb4.4,baz=232,slow=3.1,SNR=20						
DAWY	Dawson	93.42	17	eP		P	21 52 52.3 -1.5
CFAA	Coronel Fontan	94.44	127	P		P	21 52 58.6 +0.3
	comp=Z,0.1nm,0.3s,baz=266,slow=21,SNR=3.3						
MKAR	Makanchi Array	112.29	313	PKiKP		PKiKP	21 58 09.2 -1.4
	comp=Z,1.0nm,0.5s,baz=24,slow=1.2,SNR=13						
MKAR				SKP			22 00 56.6
	comp=Z,0.2nm,0.3s,baz=114,slow=1.5,SNR=5.0						
MKAR				PKKPbc		PKKPbc	22 09 02.6 +0.4
	comp=Z,0.5nm,0.6s,baz=279,slow=3.2,SNR=6.3						
MKAR				PKKPab		PKKPab	22 09 12.0 -0.7
	comp=Z,0.9nm,0.7s,baz=264,slow=4.2,SNR=6.5						
MKAR	Makanchi Array	112.29	313	PKiKP		PKiKP	21 58 09.2 -1.4
MKAR							22 00 56.7
MKAR							22 09 02.6
BDFB	Brasilia	118.70	125	PKP		PKPdf	21 58 23.0 +0.1
CHKZ	Chkalovo	120.45	319	ePKIKP		PKPdf	21 58 24.3 -2.0
BVAR	Borovoye Array	120.59	319	PKP		PKPdf	21 58 25.3 -1.3
	comp=Z,3.7nm,0.5s,baz=134,slow=1.1,SNR=32						
BRVK	Borovoye	120.65	319	ePKIKP		PKPdf	21 58 25.1 -1.6
ZRNK	Zerenda	121.43	319	ePKIKP		PKPdf	21 58 26.4 -1.8
BOSA	Boshof	122.22	206	PKP		PKPdf	21 58 30.0 +0.3
	comp=Z,2.9nm,0.7s,baz=138,slow=2.1,SNR=6.7						
BOSA	Boshof	122.22	206	PKP		PKPdf	21 58 30.0 +0.3
WSAR	Wadi Sarin	126.64	282	PKP		PKPdf	21 58 39.3 +1.1
	comp=Z,2.6nm,0.8s,baz=354,slow=9.6,SNR=2.6						
ARU	Arti	127.04	324	i PKIKP		PKPdf	21 58 37.9 -1.1
ARU				e			22 00 42.0
ARU	Arti	127.04	324	ePKPdf		PKPdf	21 58 37.7 -1.3
AKTK	Aktyubinsk	128.44	316	PKP		PKPdf	21 58 39.7 -1.9
AKTO	Aktyubinsk	128.44	316	PKP		PKPdf	21 58 39.7 -1.9
	comp=Z,3.5nm,0.7s,baz=94,slow=5.2,SNR=14						
ARCES	ARCESS Array B	132.09	348	PKP		PKPdf	21 58 46.7 -1.9
	comp=Z,3.9nm,0.6s,baz=18,slow=1.0,SNR=26						
ARCES				SKPbc		SKPbc	22 01 25.6 -0.8
	comp=Z,9.4nm,1.0s,baz=56,slow=4.5,SNR=8.2						
ARCES	ARCESS Array B	132.09	348	PKP		PKPdf	21 58 46.7 -1.9
ARCES				SKPbc		SKPbc	22 01 25.6 -0.8
FINES	FINESS Array B	138.64	341	PKhKP			21 58 49.4
	comp=Z,2.3nm,1.0s,baz=58,slow=4.4,SNR=7.6						
FINES				PKP		PKPdf	21 59 00.3 -0.4
	comp=Z,4.5nm,0.9s,baz=52,slow=2.9,SNR=10.0						
FINES				SKPbc		SKPbc	22 01 45.5 -1.0
	comp=Z,5.2nm,0.7s,baz=46,slow=5.5,SNR=16						
FINES	FINESS Array B	138.64	341	PKhKP			21 58 49.4
FINES							21 59 00.3
FINES	FINESS Array B	138.64	341	PKP			21 58 49.4
FINES				PKP		PKPdf	21 59 00.3 -0.4
FINES				SKPbc		SKPbc	22 01 45.5 -1.0
NB2	NORSAR Subarra	142.28	351	PKP			21 59 01.4
	comp=Z,0.8nm,0.6s,baz=10,slow=3.2						
NOA	NORSAR Array B	142.28	351	PKhKP			21 59 02.5
	comp=Z,3.2nm,0.8s,baz=16,slow=4.8,SNR=9.9						
NOA				PKP		PKPdf	21 59 07.3 0.0
	comp=Z,0.9nm,0.9s,baz=340,slow=2.6,SNR=3.4						
NOA				SKPbc		SKPbc	22 01 55.4 -0.6
	comp=Z,2.1nm,0.8s,baz=14,slow=4.2,SNR=5.1						
NOA	NORSAR Array B	142.28	351	PKP			21 59 02.5
NOA				PKP		PKPdf	21 59 07.3 +0.1
NOA				SKPbc		SKPbc	22 01 55.4 -0.6
ANN	Anapa	143.30	314	i PKHKP			21 59 05.7
ANN				pmax		pmax	
	comp=Z,29nm,1.4s						
KONO	Kongsberg	143.85	352	ePKIKP		PKPdf	21 59 07.2 -2.8
MALT	Malatya	144.47	303	∥PKIKP		PKPdf	21 59 11.6 +0.5
AKASG	Malin Array Be	145.14	327	PKP		PKPdf	21 59 11.4 -0.8
	comp=Z,6.5nm,0.6s,baz=36,slow=3.9,SNR=31						
AKASG				SKPbc		SKPbc	22 02 02.7 -0.1
	comp=Z,9.1nm,0.8s,baz=45,slow=3.1,SNR=18						
AKASG	Malin Array Be	145.14	327	PKP		PKPdf	21 59 11.4 -0.8
AKASG				SKPbc		SKPbc	22 02 02.7 -0.1
AKBB	Malin Array Si	145.14	327	ePKIKP		PKPdf	21 59 11.1 -1.1
SIM	Simferopol'	145.40	315	PKP2		PKPab	21 59 19.0 +4.0
SIM				pmax		pmax	
	comp=Z,13nm,1.0s						
SUW	Suwalki	145.45	336	ePKP		PKPdf	21 59 12.6 -0.1
KAC	Achnashellach	146.42	5	eP		PKPdf	21 59 15.3 +0.9
KPL	Plockton	146.55	6	eP		PKPdf	21 59 15.5 +0.9
KPL				AMb		AMB	21 59 16.7
	comp=Z,81nm,1.8s						
KSB	Sheil Bridge	146.70	5	eP		PKPdf	21 59 15.9 +1.0
BR131	Keskin Array S	147.70	307	ePKPbc		PKPbc	21 59 19.6 -0.5
BRTR	Keskin Array B	147.70	307	PKP		PKPdf	21 59 15.8 -0.7
	comp=Z,3.1nm,0.7s,baz=108,slow=4.0,SNR=8.4						
BRTR				PKPbc		PKPbc	21 59 19.4 -0.6
	comp=Z,3.0nm,0.7s,baz=139,slow=4.0,SNR=13						
BRTR				pPKPbc		pPKPbc	22 01 19.4 -1.2
	comp=Z,0.5nm,0.7s,baz=90,slow=2.6,SNR=3.1						
EAB	Aberfoyle	147.80	5	eP		PKPbc	21 59 18.9 -1.4
GKP	Gorka Klasztor	148.09	340	ePKP		PKPbc	21 59 20.4 -0.7
EDI	Edinburgh	148.13	3	eP		PKPbc	21 59 20.5 -0.7
EDI				AMb		AMB	21 59 21.9
	comp=Z,90nm,1.9s						
PGBU	Glenifferbraes	148.16	5	eP		PKPbc	21 59 19.4 -1.8
PGBU				AMb		AMB	21 59 21.0
	comp=Z,48nm,1.8s						
ESY	Stoneypath	148.17	3	eP		PKPbc	21 59 19.6 -1.7
EAU	Auchinoon	148.20	4	eP		PKPbc	21 59 20.2 -1.2
LVV	L'vov	148.21	330	ePKHKP		PKPbc	21 59 20.8 -0.6
ANTO	Ankara	148.26	308	∥PKHKP		PKPbc	21 59 21.5 0.0
EBL	Broad Law	148.29	3	eP		PKPbc	21 59 20.3 -1.3
ESK	Eskdalemuir	148.74	4	eP		PKPbc	21 59 21.0 -1.7
ESK				AMb		AMB	21 59 23.7
	comp=Z,73nm,2.3s						
KWP	Kalwaria	148.94	331	ePKP		PKPbc	21 59 22.8 -0.4
GAL1	Galloway	149.08	5	eP		PKPbc	21 59 22.0 -1.5
GAL1				AMb		AMB	21 59 23.9
	comp=Z,95nm,1.7s						
BURAR	Bucovina Array	149.14	326	∥PKP2		PKPbc	21 59 24.4 +0.7
CSS	Prodhromos	149.17	298	ePKPbc		PKPbc	21 59 23.6 -0.2
TIRR	Tirgusor	149.21	318	⇑PKHKP		PKPbc	21 59 24.0 +0.2
BSEG	Bad Segeberg	149.22	348	ePKPbc		PKPbc	21 59 23.0 -0.9
VRI	Vrincioaia	149.41	322	⇑PKHKP		PKPbc	21 59 23.8 -0.5
KOLS	Kolonicke sedl	149.65	330	ePKP		PKPbc	21 59 25.0 +0.1
OJC	Ojcow	149.72	334	ePKP		PKPbc	21 59 24.4 -0.7
STHS	Stebnicka Huta	149.74	332	i PKP		PKPbc	21 59 25.1 0.0
STHS				e			22 01 28.0
RUE	Ruedersdorf	149.78	343	ePKPbc		PKPbc	21 59 24.4 -0.8
UZH	Uzhgorod	149.86	330	i PKHKP		PKPbc	21 59 24.2 -1.2
UZH				e			21 59 32.6
UZH				pmax		pmax	
	comp=Z,34nm,1.0s						
CRVS	Cervenica-Dubn	150.03	331	ePKP		PKPbc	21 59 25.5 -0.3
MLR	Muntele Rosu	150.07	322	∥PKHKP		PKPbc	21 59 25.5 -0.4
NIE	Niedzica	150.14	333	ePKP		PKPbc	21 59 26.1 +0.1
KSP	Ksiaz	150.48	339	ePKP		PKPbc	21 59 26.6 -0.2
KSP	Ksiaz	150.48	339	ePKP		PKPbc	21 59 26.5 -0.3
LHO	Holmfirth	150.57	2	eP		PKPbc	21 59 25.6 -1.4
VOIR		150.61	323	∥PKIKP		PKPbc	21 59 26.8 -0.3
NRDL	Niedersach Rie	150.62	347	ePKPbc		PKPbc	21 59 26.4 -0.8
OKC	Ostrava-Krasne	150.66	336	ePKPbc		PKPbc	21 59 26.7 -0.6
KECS	Kecovo	150.78	332	ePKP		PKPbc	21 59 26.4 -1.1
KECS				e			22 01 38.2
UPC	Upice	150.86	339	ePKPbc		PKPbc	21 59 27.2 -0.5
KBI1	Birley Grange	150.87	2	eP		PKPbc	21 59 26.1 -1.6
DPC	Dobruska-Polom	150.89	338	ePKPbc		PKPbc	21 59 27.4 -0.4
MORC	Moravsky Berou	150.94	336	∥PKIKP		PKPbc	21 59 27.8 -0.1
DRGR		150.96	327	∥PKIKP		PKPbc	21 59 27.6 -0.3
CLL	Collm	151.05	343	ePKPbc		PKPbc	21 59 27.3 -0.9
CLL	Collm	151.05	343	⇑i PKPbc		PKPbc	21 59 27.4 -0.8
	comp=Z,36nm,0.8s						
CLL				ePKPab		PKPab	21 59 37.0 -1.1
CLL				i pPKPbc		pPKPbc	22 01 32.8 +3.4
KWE	Weaver Farm	151.10	2	eP		PKPbc	21 59 26.8 -1.5
BRG	Berggiesshubel	151.18	342	ePKPbc		PKPbc	21 59 27.8 -0.6
BRG	Berggiesshubel	151.18	342	⇑i PKP		PKPbc	21 59 28.0 -0.5
	comp=Z,14nm,0.6s						
BRG				e			22 01 33.3
	comp=Z,5.3nm,1.1s						
BRG				e			22 03 00.4
	comp=Z,5.1nm,1.4s						
BRG				e			22 16 04.9
	comp=Z,5.7nm,1.4s						
CLZ	Clausthal	151.19	347	ePKPbc		PKPbc	21 59 27.9 -0.6
PVCC	Panska Ves	151.30	340	ePKPbc		PKPbc	21 59 28.0 -0.7
FBE	Freiberg	151.30	342	ePKPbc		PKPbc	21 59 28.0 -0.7
PSZ	Piszkesteto	151.46	331	⇑PKIKP		PKPbc	21 59 28.4 -0.7
VYHS	Vyhne	151.47	333	ePKP		PKPbc	21 59 28.4 -0.7
VYHS				e			22 01 33.7
PRU	Pruhonice	151.78	340	ePKPbc		PKPbc	21 59 29.1 -0.7
PRU				ePKPab		PKPab	21 59 40.9 -0.3
TANN	Tannenbergstha	152.01	343	ePKPbc		PKPbc	21 59 29.6 -0.7
MOX	Moxa	152.01	344	ePKPbc		PKPbc	21 59 29.5 -0.8
MOX	Moxa	152.01	344	ePKP		PKPbc	21 59 29.4 -0.9
	comp=Z,15nm,1.4s						
WERD	Werda	152.02	343	ePKPbc		PKPbc	21 59 29.5 -0.8
TREC	Trest	152.07	338	ePKPbc		PKPbc	21 59 29.4 -1.0
GUNZ	Gunzen	152.09	343	ePKPbc		PKPbc	21 59 29.9 -0.6
WERN	Wernitzgruen	152.14	343	ePKPbc		PKPbc	21 59 30.5 -0.1
NKC	Novy Kostel	152.17	343	ePKPbc		PKPbc	21 59 29.8 -0.9
BZS	Buzias	152.32	326	∥PKIKP		PKPdf	21 59 22.8 -0.9
MANZ	Manzenberg	152.49	343	ePKPbc		PKPbc	21 59 30.8 -0.6
ROTZ	Rotzenmuhle	152.66	343	ePKPbc		PKPbc	21 59 30.9 -0.8
KHC	Kasperske Hory	152.83	340	ePKPbc		PKPbc	21 59 31.5 -0.6
KHC				ePKPab		PKPab	21 59 43.0 -2.7
KHC	Kasperske Hory	152.83	340	i PKIKP		PKPbc	21 59 29.7 -2.4
GRA1	Grafenberg Arr	152.99	344	ePKPbc		PKPbc	21 59 31.4 -1.0
GRF	Grafenberg Arr	152.99	344	ePKPbc		PKPbc	21 59 31.4 -1.0
GEC2	GERESS Array S	153.05	340	ePKPbc		PKPbc	21 59 31.7 -0.9
GERES	GERESS Array B	153.05	340	PKP		PKPdf	21 59 23.2 -1.5
	comp=Z,0.1nm,0.3s,baz=8.5,slow=2.0,SNR=4.5						
GERES				PKPbc		PKPbc	21 59 31.7 -0.8
	comp=Z,2.0nm,0.7s,baz=31,slow=3.1,SNR=13						
GERES				pPKPbc		pPKPbc	22 01 32.6 -1.5
	comp=Z,0.1nm,0.3s,baz=8.3,slow=7.4,SNR=1.5						
GERES	GERESS Array B	153.05	340	PKIKP		PKPdf	21 59 23.2 -1.5
GERES							21 59 31.7
TNS	Taunus Mts	153.11	348	ePKPbc		PKPbc	21 59 31.9 -0.8
PKSM	Moragy	153.32	330	∥PKIKP		PKPbc	21 59 32.5 -0.6
DBIC	Dimbokro	162.05	164	PKP		PKPdf	21 59 35.7 0.0
	comp=Z,6.6nm,1.0s,baz=150,slow=8.8,SNR=4.2						
DBIC	Dimbokro	162.05	164	PKP		PKPdf	21 59 35.7 0.0
ESDC	Sonseca Array	164.12	11	PKPab		PKPab	22 00 33.3 -1.5
	comp=Z,2.3nm,1.0s,baz=358,slow=5.0,SNR=6.2						
TORD	Torodi Ar. Bea	168.98	189	PKP		PKPdf	21 59 40.9 -0.4
	comp=Z,4.2nm,1.0s,baz=270,slow=0.7,SNR=15						
TORD				PKPab		PKPab	22 00 57.1 +0.8
	comp=Z,4.3nm,0.7s,baz=166,slow=3.6,SNR=18						
TORD				PP		PP	22 04 46.8 0.0
	comp=Z,1.3nm,0.9s,baz=163,slow=2.5,SNR=4.3						
TORD	Torodi Ar. Bea	168.98	189	PKP		PKPdf	21 59 40.9 -0.4
TORD				PKPab		PKPab	22 00 57.1 +0.8
TORD				PP		PP	22 04 46.8 0.0

NEIC 06 22:13:16.8±0.9, 3412N×9763W, h5km, MN3.5, Error ellipse: s-maj=13.5km s-min=10.2km az=28.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMOK	Wichita Mounta	1.14	303	eP	Pg	22 13 37.2	-1.3
WMOK				eS	Sg	22 13 53.9	+0.6
MIAR	Mount Ida	3.38	82	ePn	Pn	22 14 10.6	+0.4
MIAR				eSn	Sn	22 14 52.7	+2.1
NATX	Nacogdoches	3.43	133	ePn	Pn	22 14 10.0	-0.8
JCT	Junction City	4.07	208	ePn	Pn	22 14 20.5	+0.8
UALR	University of	4.41	80	ePn	Pn	22 14 25.5	+1.1
HKT	Hockley	4.43	159	ePn	Pn	22 14 38.3	+14
CBKS	Cedar Bluff	4.98	341	ePn	Pn	22 14 34.4	+2.2
KSU1	Kansas State U	5.04	9	ePn	Pn	22 14 32.1	-0.9
	36nm,0.7s						
KSU1				Sn	Sn	22 15 59.7	+28
CCM	Cathedral Cave	6.49	51	ePn	Pn	22 14 47.0	-5.9
	8.6nm,0.6s						
CCM				eSn	Sn	22 16 03.7	-3.5
OXF	Oxford	6.81	84	ePn	Pn	22 14 58.8	+1.5
MNTX	Cornudas Mount	6.96	252	ePn	Pn	22 14 59.7	+0.4
	10nm,0.5s						
GLAT	Glass	7.15	70	Pn	Pn	22 15 03.4	+1.3
ANMO	Albuquerque	7.34	279	ePn	Pn	22 15 03.1	-1.5
	6.4nm,0.6s						
SDCO	Great Sand Dun	7.34	302	ePn	Pn	22 15 08.5	+3.9
	8.3nm,0.7s						
LPM	Los Pinos Moun	7.46	274	ePn	Pn	22 14 52.6	-14
LAZ	Ladron	7.88	275	Pn	Pn	22 14 57.2	-15
PLAL	Pickwick Lake	7.93	81	ePn	Pn	22 15 11.0	-1.6
	7.5nm,0.8s						
WVT	Waverly	8.27	73	ePn	Pn	22 15 16.1	-1.2
	6.8nm,0.6s						
WVT				eSn	Sn	22 16 40.9	-10
ISCO	Idaho Springs	8.54	314	ePn	Pn	22 15 21.9	+0.8
	11nm,0.6s						
PHWY	Pilot Hill	9.48	321	ePn	Pn	22 15 36.4	+2.5
ECSD	EROS,Sioux Fal	9.63	4	ePn	Pn	22 15 35.5	-0.5
	7.9nm,0.8s						
WCI	Wyandotte Cave	10.03	63	ePn	Pn	22 15 40.4	-1.1
	13nm,0.8s						
CPCT	Cooper Cave	10.86	79	ePn	Pn	22 15 52.6	-0.2
CPCT				eSn	Sn	22 17 49.8	-4.9
RSSD	Black Hills	11.15	335	ePn	Pn	22 15 57.4	+0.6
	7.7nm,0.4s						
ACSO	Alum Creek Sta	13.17	58	ePn	Pn	22 16 23.1	-1.3
	7.5nm,0.4s						
ELN	Prospectdale	14.06	72	Pn	Pn	22 16 38.6	+2.0
FWV	Forest Hill	14.07	71	ePn	Pn	22 16 46.9	+10
RLMT	Red Lodge	14.17	324	Pn	Pn	22 16 32.3	-5.7
	6.4nm,0.6s						

*ISCJB **06** 22:17:29.9±0.7, 2434S×005×668W±0.1, h153km±19km, mb3.2/1, Error ellipse: s-maj=20.0km s-min=8.9km az=178.1*
*IDC **06** 22:17:31.0±1.3, 2434S×6700W, h159km±21km, mb3.2/1, mb1 3.6/5, mb1mx3.4/18, mbtmp4.0/5, Error ellipse: s-maj=28.9km s-min=14.6km az=85.0*
*NEIC **06** 22:17:31.2±0.7, 2428S×6674W, h156km±16km, mb3.9/3, Error ellipse: s-maj=17.0km s-min=9.3km az=85.0*

ISC 06 22:17:30.9±0.7, 2435S±005×668W±01, h143km±18km, n11, σ1§17/14, mb3.2/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.59	311	P	Pn	22 18 13.8	+1.1
	17nm,0.3s,baz=131,slow=6.5,SNR=220						
LVC				S	Sn	22 18 44.4	-0.6
	88nm,0.3s,baz=340,slow=20,SNR=77						
CFAA	Coronel Fontan	7.34	190	P	Pn	22 19 16.5	+1.1
	0.1nm,0.3s,baz=11,slow=12,SNR=15						
CFAA				S	Sn	22 20 36.0	-1.3
	0.1nm,0.3s,baz=278,slow=23,SNR=3.3						
LPAZ	La Paz	8.11	351	P	Pn	22 19 26.2	+0.4
	4.8nm,0.3s,baz=168,slow=9.8,SNR=107						
LPAZ				S	Sn	22 20 50.1	-5.8
	baz=185,slow=15,SNR=1.7						
LPAZ	La Paz	8.11	351	P	Pn	22 19 26.2	+0.4
LPAZ				S	Sn	22 20 50.1	-5.8
CPUP	Villa Florida	8.80	105	Pn	Pn	22 19 33.8	-1.2
	8.1nm,0.5s						
SIV	San Ignacio	9.90	34	P	Pn	22 19 50.0	+0.4
	0.9nm,0.3s,baz=245,slow=9.7,SNR=20						
TRQA	Tornquist	14.28	164	ePn	Pn	22 20 47.5	+1.1
	2.2nm,0.4s						
SAML	Samuel	15.70	13	eP	Pn	22 21 02.1	-2.0
	1.7nm,0.7s						
BDFB	Brasilia	19.65	67	P	P	22 21 50.3	+1.8
	1.0nm,0.3s,baz=240,slow=7.6,SNR=5.3						
TORD	Torodi Ar. Bea	76.53	69	P	P	22 29 04.3	-0.8
	0.3nm,0.5s,mb3.2,baz=258,slow=5.8,SNR=10						
MKAR	Makanchi Array	146.68	40	PKPbc	PKPbc	22 36 54.2	-1.5
	0.4nm,0.4s,baz=300,slow=3.6,SNR=3.6						

*ISCJB **06** 22:18:29.9±2.4, 3468N±02×2388E±03, h29km±30km, Error ellipse: s-maj=42.1km s-min=30.8km az=10.4*
*HLW **06** 22:18:30.9, 3478N×2390E, h33km, Mb3.0*
*CSEM **06** 22:18:30.0±0.5, 3457N×2388E, h20km, ML3.0, Error ellipse: s-maj=24.6km s-min=3.8km az=89.0*
*ATH **06** 22:18:35.1, 3488N×2411E, h10km, MD3.3/3*

ISC 06 22:18:31.3±2.4, 347N±01×239E±03, h24km±23km, n8, σ0§30/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.22	55	ePG	Pb	22 18 37.0	0.0
VAM	Vamos	0.74	21	ePB	Pb	22 18 45.5	0.0
NPS	Neapolis	1.53	69	ePB	Pb	22 18 59.0	+0.1
HMAT	Matruh	4.51	142	P	Pn	22 19 37.7	-0.4
SWA2		5.62	166	P	Pn	22 19 53.0	-0.2
SWA1		5.65	163	P	Pn	22 19 54.1	+0.3
AWBH		7.68	145	P	Pn	22 20 21.8	+0.1
HFRF	Wahat Farafira	8.45	152	P	Pn	22 20 32.3	+0.2

*IDC **06** 22:25:36.1±0.6, 4849N×15431E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/23, mbtmp4.0/17, ML3.8/1, MS3.6/4, Ms1 3.7/4, ms1mx3.3/27, Error ellipse: s-maj=19.7km s-min=15.4km az=149.0*
*ISCJB **06** 22:25:38.7±1.2, 4848N±007×15453E±009, h33km±11km, mb4.2/23, MS3.6/3, Error ellipse: s-maj=13.8km s-min=6.3km az=99.8*
*MOS **06** 22:25:40.3±1.7, 4848N×15467E, h49km, mb4.3/12, Error ellipse: s-maj=14.6km s-min=10.8km az=67.4*
*BJI **06** 22:25:45.2, 4807N×15444E, h97km, mB4.6, mb4.2*
*NEIC **06** 22:25:46.6±2.1, 4841N×15435E, h86km±20km, mb4.2/5, Error ellipse: s-maj=15.7km s-min=12.0km az=139.0*

ISC 06 22:25:42.3±1.3, 4844N±007×1545E±01, h43km±12km, n59, σ1§11/59, mb4.2/23, MS3.6/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.48	25	ePN	Pn	22 26 16.0	-4.2
SKR				eS	Sn	22 26 44.5	-4.7
SKR				pmax	pmax		
	comp=Z,140nm,0.6s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				smax			
	comp=E,3μm,4.0s						
SKR				smax			
	comp=N,830nm,0.6s						
SKR				smax			
	comp=E,460nm,0.5s						
SKR				MLR	MLR		
	comp=N,2μm,12.0s						
SKR				MLR	MLR		
	comp=E,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,2μm,12.0s						
PET	Petropavlovsk	5.29	28	ePN	Pn	22 27 05.5	+6.7
PET				eS	Sn	22 27 58.8	+0.3
PET				pmax	pmax		
	comp=Z,45nm,0.6s						
PET				smax			
	comp=N,128nm,0.8s						
PET				smax			
	comp=E,183nm,0.6s						
KUR	Kuril'sk	5.56	237	ePN	Pn	22 27 03.4	+0.9
KUR				pmax	pmax		
	comp=N,50nm,0.7s						
KUR				pmax	pmax		
	comp=Z,220nm,0.7s						
YSS	Yuzh-Sakhalins	8.06	264	∥ePN	Pn	22 27 41.7	+4.9
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	Yuzh-Sakhalins	8.06	264	ePn	Pn	22 27 42.0	+5.2
	comp=Z,81nm,1.2s						
ASAJ	Asahikawa	9.30	247	Pn	Pn	22 27 58.9	+5.1
	comp=Z,2.4nm,0.3s,baz=93,slow=15,SNR=19						
ASAJ				LR	LR	22 31 09.6	
	comp=Z,248nm,18.6s,baz=1.3,slow=36						
KLR	Kul'dur	14.99	282	eP	Pn	22 29 17.8	+6.6
MAJO	Matsushiro	16.86	231	eP	Pn	22 29 33.9	-1.2
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MAJO	Matsushiro	16.86	231	ePn	Pn	22 29 33.9	-1.2
	comp=Z,4.1nm,0.4s						
MJAR	Matsushiro Arr	16.86	231	Pn	Pn	22 29 33.5	-1.6
	comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=7.1						
MDJ	Mudanjiang	17.53	267	P	Pn	22 29 42.7	-0.7
MDJ				S	S	22 32 55.6	-8.4
MDJ				XS	sS	22 33 16.5	-3.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,143nm,6

APA pmax pmax
comp=Z,34nm,1.3s,mb5.2
KKN Kakani 56.27 275 *eP* **P 22 35 19.9 +1.6**
PKI Pulchoki 56.33 275 *eP* **P 22 35 20.3 +1.5**
DMN Daman 56.50 275 *eP* **P 22 35 21.4 +1.4**
comp=Z,17nm,0.8s,mb5.1
GKN Gorkha 56.55 276 *eP* **P 22 35 21.2 +0.8**
comp=Z,14nm,0.7s,mb5.1
NVAR Mina Array Bea 60.84 64 P **P 22 35 50.8 +0.7**
comp=Z,1.1nm,0.7s,mb4.1,baz=289,slow=7.7,SNR=5.3
FINES FINESS Array B 62.91 335 P **P 22 36 02.7 -1.4**
comp=Z,1.7nm,0.7s,mb4.3,baz=38,slow=7.0,SNR=4.2
FINES FINESS Array B 62.91 335 P **P 22 36 02.7 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
PDAR Pinedale Array 63.00 55 P **P 22 36 05.6 +0.9**
comp=Z,1.3nm,0.8s,mb4.1,baz=306,slow=3.3,SNR=9.6
ULM Lac du Bonnet 64.64 42 P **P 22 36 14.7 -0.7**
comp=Z,1.3nm,0.5s,mb4.2,baz=310,slow=20,SNR=2.8
NOA NORSAR Array B 66.93 342 P **P 22 36 29.6 -0.6**
comp=Z,1.9nm,1.0s,mb4.1,baz=27,slow=6.3,SNR=2.5
NOA LR LR 23 09 57.3
comp=Z,30nm,18.7s,MS3.5,baz=100,slow=40
NOA NORSAR Array B 66.93 342 P **P 22 36 29.6 -0.6**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA MLR MLR
comp=Z,30nm,18.7s
WB2 Warramunga Arr 70.42 200 *eP* **P 22 36 51.3 -0.6**
WRA Warramunga Arr 70.42 200 P **P 22 36 51.6 -0.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=18,slow=6.7,SNR=19
WRA Warramunga Arr 70.42 200 P **P 22 36 51.6 -0.3**
WRA pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 70.66 327 P **P 22 36 50.6 -2.8**
comp=Z,0.1nm,0.3s,mb3.2,baz=26,slow=6.1,SNR=2.9
ASAR Alice Springs 74.11 200 P **P 22 37 14.5 +0.5**
comp=Z,1.5nm,0.7s,mb4.0,baz=14,slow=5.5,SNR=17
ASAR Alice Springs 74.11 200 P **P 22 37 14.5 +0.5**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 77.34 335 P **P 22 37 31.9 -0.6**
comp=Z,0.3nm,0.4s,mb3.5,baz=27,slow=4.5,SNR=4.8
BRTR Keskin Array B 77.79 317 P **P 22 37 34.8 -0.2**
comp=Z,1.6nm,1.1s,mb3.9,baz=131,slow=3.8,SNR=4.5
BRTR Keskin Array B 77.79 317 P **P 22 37 34.8 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,1.1s
PLCA Paso Flores 147.40 93 PKPbc PKPbc 22 45 20.4 -0.9
comp=Z,1.9nm,0.8s,baz=209,slow=14,SNR=3.1
PLCA Paso Flores 147.40 93 PKP2 PKPbc 22 45 20.4 -0.9
PLCA pmax pmax
comp=Z,2.0nm,0.8s

JMA 06 22:35:21.6±0.3, 4390N×14777E, h0km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.57**	**251**	P	Pn	22 35 50.8	+0.1
NEM2				*e*S	Sn	22 36 11.9	+0.3
JRA	**Rausu**	**1.91**	**272**	P	Pn	22 35 55.9	+0.5
JRA				*e*S	Sn	22 36 21.2	+1.0
JNK	**Nakash**	**2.23**	**263**	P	Pn	22 36 00.4	+0.6
JNK				*e*S	Sn	22 36 28.8	+0.7
JAK	**Akkeshi**	**2.41**	**249**	P	Pn	22 36 02.9	+0.6
JAK				*e*S	Sn	22 36 33.3	+0.7
JAR	**Ashorobuto**	**2.97**	**260**	P	Pn	22 36 11.6	+1.7
JOB	**Onbets**	**3.04**	**252**	P	Pn	22 36 12.3	+1.4
JCH	**Churui**	**3.47**	**250**	P	Pn	22 36 18.6	+1.8
JNBK	**Urakawa-nobuka**	**4.02**	**248**	*e*S	Sn	22 37 15.0	+2.9

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*NEIC **06** 22:41:48.8, 38.17S×17654E, h167km, MG3.7(WEL), After WEL.*

WEL 06 22:41:48.2±0.3, 3794S×17658E, h149km±3km, ML3.6/16, 3C, Error ellipse: s-maj=3.6km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.53**	**128**	⇑PN	Pn	22 42 09.5	-0.1
URZ				SN	Sn	22 42 25.6	-0.3
MWZ	**Matawai**	**0.85**	**118**	*e*P	Pn	22 42 11.5	-0.1
MWZ	**Matawai**	**0.85**	**118**	PN	Pn	22 42 11.5	-0.1
MWZ				SN	Sn	22 42 30.2	+0.7
BKZ	**Black Stump Fm**	**1.23**	**183**	P	Pn	22 42 15.0	+0.1
BKZ				S	Sn	22 42 35.3	-0.1
BKZ	**Black Stump Fm**	**1.23**	**183**	⇑PN	Pn	22 42 15.0	0.0
BKZ				SN	Sn	22 42 35.3	-0.1
PUZ	**Puketiti**	**1.33**	**96**	*e*P	Pn	22 42 15.6	-0.3
PUZ				S	Sn	22 42 36.0	-1.2
PUZ	**Puketiti**	**1.33**	**96**	PN	Pn	22 42 15.5	-0.5
PUZ				SN	Sn	22 42 36.0	-1.1
KNZ	**Kokohu**	**1.38**	**142**	⇑PN	Pn	22 42 16.6	+0.2
MXZ	**Matakaoa Point**	**1.42**	**75**	PN	Pn	22 42 17.2	+0.4
NGZ	**Ngauruhoe**	**1.46**	**211**	P	Pn	22 42 17.9	+0.7
NGZ	**Ngauruhoe**	**1.46**	**211**	PN	Pn	22 42 17.9	+0.7
TUVZ	**Tukino**	**1.51**	**208**	PN	Pn	22 42 18.3	+0.5
WNVZ	**Wahianoa**	**1.59**	**209**	P	Pn	22 42 18.9	+0.3
WNVZ	**Wahianoa**	**1.59**	**209**	PN	Pn	22 42 18.9	+0.3
MOVZ	**Moawhango**	**1.60**	**204**	P	Pn	22 42 18.5	-0.3
MOVZ	**Moawhango**	**1.60**	**204**	PN	Pn	22 42 18.5	-0.3
PXZ	**Pawanui**	**2.10**	**174**	PN	Pn	22 42 23.9	-0.6
PXZ				SN	Sn	22 42 50.6	-1.7
TSZ	**Takapari Road**	**2.17**	**193**	P	Pn	22 42 24.6	-0.7
TSZ	**Takapari Road**	**2.17**	**193**	PN	Pn	22 42 24.6	-0.7
WAZ	**Wanganui**	**2.20**	**214**	P	Pn	22 42 25.4	-0.2
WAZ	**Wanganui**	**2.20**	**214**	PN	Pn	22 42 25.4	-0.2
BFZ	**Birch Farm**	**2.75**	**185**	P	Pn	22 42 30.9	-1.5
BFZ	**Birch Farm**	**2.75**	**185**	PN	Pn	22 42 30.9	-1.5
MRZ	**Mangatainoka R**	**2.83**	**196**	P	Pn	22 42 31.6	-1.7
MRZ	**Mangatainoka R**	**2.83**	**196**	PN	Pn	22 42 31.6	-1.8
MRZ				SN	Sn	22 43 05.8	-2.4
KIW	**Kapiti Island**	**3.19**	**203**	P	Pn	22 42 35.7	-2.3
KIW	**Kapiti Island**	**3.19**	**203**	PN	Pn	22 42 35.7	-2.3
MTW	**Mount Morrison**	**3.32**	**194**	P	Pn	22 42 36.9	-2.7
MTW	**Mount Morrison**	**3.32**	**194**	PN	Pn	22 42 36.9	-2.7
CAW	**Cannon Point**	**3.38**	**200**	P	Pn	22 42 37.8	-2.5
CAW	**Cannon Point**	**3.38**	**200**	PN	Pn	22 42 37.8	-2.5
MRW	**Makara Radio**	**3.59**	**203**	P	Pn	22 42 40.5	-2.6
MRW	**Makara Radio**	**3.59**	**203**	PN	Pn	22 42 40.5	-2.6
TCW	**Tory Channel**	**3.72**	**208**	P	Pn	22 42 41.9	-2.9
TCW	**Tory Channel**	**3.72**	**208**	PN	Pn	22 42 41.9	-2.9
TUWZ	**Tuamarina**	**4.04**	**209**	PN	Pn	22 42 45.7	-3.2
NNZ	**Nelson**	**4.10**	**216**	*e*P	Pn	22 42 46.9	-2.8
NNZ	**Nelson**	**4.10**	**216**	PN	Pn	22 42 46.9	-2.9

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*ISCJB **06** 22:55:46.7±5.2, 03N±02×1239E±04, h48km±52km, mb3.8/6, Error ellipse: s-maj=69.3km s-min=14.0km az=131.1*
*NEIC **06** 22:55:47.4±0.7, 027N×124.10E, h35km, mb3.8/1, Error ellipse: s-maj=30.6km s-min=9.5km az=61.0*
*IDC **06** 22:55:57.8±15.0, 021N×124.30E, h142km±161km, mb3.4/5, mb1 3.5/6, mb1mx3.4/16, mbtmp3.9/6, Error ellipse: s-maj=99.4km s-min=27.4km az=63.0*

ISC 06 22:55:48.6±3.6, 02N±02×1240E±03, h45km±38km, n9, σ0s72/9, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.69**	**307**	Pn	**Pn**	**22 58 05.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.30**	**175**	P	**Pn**	**22 59 59.8**	**+0.8**
MBWA	**Marble Bar**	**21.68**	**191**	*e*P	**P**	**23 00 35.4**	**0.0**
4.4nm,1.0s,mb3.8
WRA Warramunga Arr 22.47 154 P **P 23 00 43.2 -0.5**
1.4nm,0.4s,mb3.8,baz=335,slow=10.0,SNR=7.4
WB2 Warramunga Arr 22.47 154 *e*P **P 23 00 44.2 +0.4**
ASAR Alice Springs 25.63 159 P **P 23 01 14.3 +0.6**
0.4nm,0.4s,mb3.4,baz=343,slow=13,SNR=4.6
STKA Stephens Creek 36.02 154 P **P 23 02 43.9 -1.4**
0.7nm,0.4s,mb3.9,baz=319,slow=11,SNR=4.0
SONM Songino Array 49.81 345 P **P 23 04 37.9 +1.0**
0.2nm,0.2s,mb3.7,baz=160,slow=6.6,SNR=6.7
MKAR Makanchi Array 58.95 328 P **P 23 05 42.8 -0.4**
0.6nm,0.4s,mb4.0,baz=115,slow=8.3,SNR=9.3

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*CSEM **06** 23:20:28.7, 6784N×2019E, h1km, ML3.1, Mining explosion. After UPP*
*UPP **06** 23:20:28.7, 6784N×2019E, h1km, ML3.1, Mining explosion.*

HEL 06 23:20:29.1±0.1, 6784N×2020E, h0km, ML1.5, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i*P	Pg	23 20 31.3	-0.3
KUA				*i*S	Sg	23 20 33.1	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	23 20 36.9	-0.7
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	23 20 41.9	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	23 20 43.4	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	23 20 43.3	-1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 20 51.5	-0.5
KIF				*e*S	Sg	23 21 07.5	0.0
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	23 20 53.9	-1.9
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 20 59.4	-0.8
HARU	**Harads**	**1.71**	**169**	P	Pn	23 20 59.3	-0.8
KALU	**Kalix**	**2.34**	**146**	*e*P	Pn	23 21 09.2	+0.4
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	23 21 10.0	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 21 10.1	-0.2
SGF				*e*S	Sn	23 21 39.9	-1.1
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	23 21 19.3	-0.5
KEV				*e*S	Sn	23 21 57.8	-0.1
KEV				MSG		23 22 03.2	
comp=Z,1.0nm,0.2s
KU4 Liikasenvaara 3.95 108 *e*P Pn 23 21 30.5 -0.4
KU4 *e*S Sn 23 22 16.0 -2.0
KU4 MSG 23 22 36.0
comp=Z,0.5nm,0.2s
KU6 Riekki 4.22 111 *e*P Pn 23 21 34.4 -0.3
KU6 MSG 23 22 43.6
comp=Z,0.7nm,0.3s

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*NAO **06** 23:25:29.0±5.3, 6762N×2005E, ML2.0*
*ISCJB **06** 23:25:31.7±0.5, 6785N±003×203E±0.1, h0km, Error ellipse: s-maj=5.6km s-min=3.9km az=22.3*
*HEL **06** 23:25:32.5±0.1, 6785N×2021E, h0km, ML1.9, ML3.0(UPP), ML1.5(BER), Explosion*
*CSEM **06** 23:25:32.0, 6785N×2020E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **06** 23:25:32.0, 6785N×2020E, h0km, ML3.0, Mining explosion.*
*BER **06** 23:25:33.5±2.4, 6786N×1978E, h0km, MD1.9, ML1.5, ML2.0(NAO), Suspected explosion*

ISC 06 23:25:32.0±0.5, 6786N±003×2022E±010, h0km, n21, σ0s74/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**27**	*i*P	**Pg**	**23 25 34.5**	**+0.5**
KUA				*i*S	**Sg**	**23 25 36.2**	**+0.9**
NIKU	**Nikkaluokta**	**0.45**	**271**	*i*P	**Pg**	**23 25 40.4**	**-0.2**
LANU	**Lannavaara**	**0.69**	**74**	*i*P	**Pg**	**23 25 45.2**	**-0.1**
MASU	**Masugnsbyn**	**0.80**	**120**	*i*P	**Pg**	**23 25 46.8**	**-0.5**
SALU	**Saltoluokta**	**0.82**	**234**	*i*P	**Pg**	**23 25 47.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*P	**Pg**	**23 25 54.6**	**+0.2**
KIF				*e*S	**Sg**	**23 26 10.4**	**+0.9**
PAJU	**Pajala**	**1.40**	**126**	*e*P	**Pn**	**23 25 57.4**	**-1.4**
ERTU	**Ertsjaerv**	**1.52**	**149**	*e*P	**Pn**	**23 26 00.6**	**+0.1**
KTK1	**Kautokeino**	**1.60**	**43**	*e*P	**Pn**	**23 26 02.3**	**+0.7**
KTK1				*e*S	**Sn**	**23 26 23.5**	**+0.5**
HARU	**Harads**	**1.73**	**170**	*e*P	**Pn**	**23 26 03.1**	**-0.3**
TRO	**Tromso**	**1.84**	**346**	*e*P	**Pn**	**23 26 05.1**	**+0.3**
TRO				*e*Sg	**Sg**	**23 26 29.4**	**-1.7**
TRO				AML	AML	23 26 30.7	
comp=Z,7.6nm,0.3s
KALU Kalix 2.37 147 *e*P **Pn 23 26 12.7 +0.6**
SJUU Sjulsmark 2.43 166 *e*P **Pn 23 26 13.6 +0.6**
SGF Sodankyl 2.45 97 *e*P **Pn 23 26 13.6 +0.4**
SGF *e*S **Sn 23 26 43.4 -0.5**
SGF MSG 23 26 49.6
comp=Z,6.2nm,0.2s
ARA0 ARCESS Array S 2.56 47 Pn **Pn 23 26 15.3 +0.5**
baz=232,slow=14
ARA0 Sn **Sb 23 26 49.4 -1.4**
baz=228,slow=28
ARA0 ARCESS Array S 2.56 47 *e*P **Pn 23 26 15.3 +0.5**
ARA0 *e*SB **Sb 23 26 49.4 -1.4**
LILU Lilltraesk 2.59 183 *e*P **Pn 23 26 16.2 +0.9**
KEV Kevo 3.11 49 *e*P **Pn 23 26 22.9 +0.5**
KEV *e*S **Sn 23 26 59.1 -1.1**
KEV MSG 23 27 17.5
comp=Z,3.0nm,0.3s
KU4 Liikasenvaara 3.96 108 *e*P **Pn 23 26 33.9 0.0**
KU4 MSG 23 27 41.4
comp=Z,1.9nm,0.3s
MSF Maaselka 3.99 115 MSG 23 27 39.6
comp=Z,1.8nm,0.3s
KU6 Riekki 4.23 111 *e*P **Pn 23 26 37.8 +0.1**
KU6 MSG 23 27 47.1
comp=Z,1.7nm,0.3s

IGQ 06 23:42:08.6, 292S×7808W, h18km±2km, Mb4.9, Ms4.8, 13C-3D, Error ellipse: s-maj=10.2km s-min=2.2km az=155.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.45**	**346**	⇑P	Pn	23 42 35.8	+1.8
ARRY	**Arrayan**	**1.45**	**345**	⇑P	Pn	23 42 35.5	+1.5
ULBA	**Ulba**	**1.50**	**347**	⇑P	Pn	23 42 36.6	+2.0
RETU	**Refugio**	**1.50**	**346**	⇓P	Pn	23 42 37.0	+2.3
RETU				S	Sn	23 42 53.5	-0.4
IGUA	**Igualata**	**1.53**	**339**	⇑P	Pn	23 42 38.3	+3.3
IGUA				S	Sn	23 42 58.5	+4.2
BILB	**Tungurahua vol**	**1.53**	**344**	⇑P	Pn	23 42 37.2	+2.1
BILB				S	Sn	23 42 57.9	+3.4
RUN5	**Runtun**	**1.53**	**347**	⇑P	Pn	23 42 36.9	+1.8
JUIV	**Juive**	**1.54**	**345**	⇑P	Pn	23 42 37.1	+2.0
JUIV				S	Sn	23 42 57.9	+3.3
PISA	**Pisayambo**	**1.87**	**351**	⇑P	Pn	23 42 42.8	+3.0
TAMB	**Tambo**	**2.23**	**353**	⇑P	Pn	23 42 48.5	+3.9
CAMI	**Rancho Maria**	**2.27**	**349**	⇑P	Pn	23 42 49.8	+4.6
VC1	**Cotopaxi 1**	**2.29**	**352**	⇑P	Pn	23 42 49.7	+4.3
NAS1	**Nasa**	**2.31**	**350**	⇑P	Pn	23 42 50.4	+4.7
NAS1				S	Sn	23 43 22.6	+9.0
ANTI	**Antisana**	**2.46**	**358**	⇓P	Pn	23 42 50.5	+2.7
JUA2	**San Juan 2**	**2.74**	**349**	P	Pn	23 42 56.9	+5.3
JUA2				S	Sn	23 43 37.7	+13
GGP	**Refugio Guagua**	**2.77**	**349**	P	Pn	23 42 58.3	+6.1
TERV	**Terraza Guagua**	**2.78**	**349**	⇓P	Pn	23 42 58.1	+5.9
PINO	**Pino**	**2.79**	**349**	⇑P	Pn	23 42 58.7	+6.3
YANA	**Yana**	**2.83**	**350**	P	Pn	23 42 59.0	+6.1
YANA				S	Sn	23 43 38.7	+12
LAV3	**Lava3-Reventad**	**2.84**	**9**	P	Pn	23 42 54.7	+1.6
CONE	**Cono NE Rev Vo**	**2.87**	**9**	P	Pn	23 42 54.6	+1.2
CAYR	**Refugio Cayamb**	**2.92**	**1**	P	Pn	23 42 58.9	+4.8
CAYR				S	Sn	23 43 38.4	+10
ANGU	**Angureal**	**2.95**	**1**	P	Pn	23 43 01.4	+6.9
ANGU				S	Sn	23 43 40.6	+11
CAYA	**Cayambe**	**2.97**	**2**	P	Pn	23 42 59.1	+4.2
COTA	**Cotacachi**	**3.24**	**355**	P	Pn	23 43 06.7	+8.1
COTA				S	Sn	23 43 57.4	+21

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*ISCJB **07** 00:00:59.4±0.5, 007S±008×6739E±009, h10km, mb4.1/17, MS3.6/11, Error ellipse: s-maj=13.8km s-min=11.3km az=121.5*
*IDC **07** 00:00:59.9±0.8, 001N×6733E, h0km, mb4.0/12, mb1 4.2/12, mb1mx3.9/24, mbtmp4.0/12, MS3.6/11, Ms1 3.6/11, ms1mx3.4/28, Error ellipse: s-maj=23.2km s-min=20.7km az=55.0*
*NEIC **07** 00:01:01.4±0.4, 005S×6737E, h10km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=9.1km az=63.0*

ISC 07 00:01:01.8±0.5, 003S±008×6737E±009, h10km, n34, σ0s79/21, mb4.1/17, MS3.6/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**8.92**	**145**	*e*Pn	**Pn**	**00 03 09.5**	**-1.1**
84nm,1.0s
PALK Pallekele 15.15 61 *e*P **Pn 00 04 35.6 -0.1**
18nm,0.6s
WSAR Wadi Sarin 24.64 340 LR LR 00 13 43.3
comp=Z,88nm,21.2s,MS3.2,baz=82,slow=31
ATD Arta Tunnel 26.93 296 LR LR 00 15 37.4
comp=Z,63nm,18.8s,MS3.2,baz=74,slow=33
KMBO Kilima Mbogo 30.14 268 LR LR 00 17 55.4
comp=Z,58nm,20.1s,MS3.2,baz=92,slow=34
LSZ Lusaka 41.56 247 P **P 00 08 48.9 -0.6**
1.2nm,0.7s,mb3.6,baz=114,slow=9.9,SNR=3.6
LSZ Lusaka 41.56 247 P **P 00 08 48.9 -0.6**
AAK Ala-Archa 42.95 8 *e*P **P 00 09 01.5 +0.7**
9.3nm,1.5s,mb4.3
GNI Garni 44.99 335 *e*P **P 00 09 18.0 +0.8**
4.9nm,1.0s,mb4.3
MALT Malatya 46.52 328 *e*P **P 00 09 29.5 +0.2**
2.0nm,1.0s,mb4.0
MKAR Makanchi Array 48.43 14 P **P 00 09 44.0 -0.2**
0.8nm,0.9s,mb3.8,baz=209,slow=4.0,SNR=4.7
BOSA Boshof 49.27 231 P **P 00 09 52.8 +2.1**
5.5nm,1.0s,mb4.5,baz=115,slow=8.0,SNR=3.9
BOSA LR LR 00 27 16.1
comp=Z,94nm,19.2s,MS3.8,baz=184,slow=32
BRTR Keskin Array B 50.13 326 P **P 00 09 56.6 -0.6**
1.4nm,0.8s,mb4.0,baz=143,slow=10,SNR=7.6
AKTK Aktyubinsk 50.90 352 P **P 00 10 02.7 -0.3**
AKTO Aktyubinsk 50.90 352 P **P 00 10 02.7 -0.3**
2.3nm,0.8s,mb4.2,baz=168,slow=8.0,SNR=7.9
ZRNK Zerenda 52.81 1 PcP PcP 00 11 25.4 -1.1
8.6nm,1.1s
BVAR Borovoye Array 52.93 2 P **P 00 10 18.1 0.0**
0.8nm,0.8s,mb3.7,baz=165,slow=6.2,SNR=3.7
CHKZ Chkalovo 53.59 2 *e*P **P 00 10 22.9 0.0**
6.6nm,1.1s,mb4.5
MLR Muntele Rosu 58.19 327 LR LR 00 33 17.3
comp=Z,43nm,19.7s,MS3.6,baz=171,slow=33
SONM Songino Array 58.46 30 P **P 00 10 58.7 +0.9**
2.2nm,0.8s,mb4.2,baz=223,slow=7.4,SNR=11
TLY Talaya 59.90 25 *e*P **P 00 11 07.9 +0.1**
2.6nm,0.6s,mb4.4
VAE Valguarnera 61.38 314 LR LR 00 37 54.4
comp=Z,46nm,20.6s,MS3.6,baz=284,slow=36
TORD Torodi Ar. Bea 66.35 284 LR LR 00 41 10.8
comp=Z,54nm,18.4s,MS3.8,baz=125,slow=36
WRA Warramunga Arr 68.39 111 P **P 00 12 04.4 +0.8**
1.6nm,0.7s,mb4.2,baz=288,slow=5.8,SNR=7.6
WRA LR LR 00 35 46.1
comp=Z,113nm,21.4s,MS4.1,baz=200,slow=30
ASAR Alice Springs 68.57 115 P **P 00 12 04.9 +0.2**
1.0nm,0.8s,mb3.8,baz=288,slow=5.8,SNR=8.9
DBIC Dimbokro 72.35 277 LR LR 00 41 32.0
comp=Z,38nm,18.4s,MS3.7,baz=135,slow=34
HFS Hagfors 72.78 335 P **P 00 12 28.1 -2.2**
4.4nm,0.7s,mb4.5,baz=150,slow=12,SNR=7.6
HFS LR LR 00 44 27.8
comp=Z,38nm,19.2s,MS3.7,baz=7.5,slow=36
NOA NORSAR Array B 74.30 335 P **P 00 12 39.2 0.0**
0.7nm,0.8s,mb3.6,baz=4.5,slow=1.1,SNR=3.3
ESDC Sonseca Array 75.72 311 P **P 00 12 47.1 -0.3**
1.0nm,0.7s,mb3.9,baz=78,slow=6.2,SNR=4.6
STKA Stephens Creek 76.61 123 LR LR 00 44 14.3
comp=Z,145nm,19.0s,MS4.3,baz=205,slow=34
IMA2 Indian Mountai 107.94 16 *e*PKPdf PKiKP 00 19 29.8 +0.2
ANMO Albuquerque 144.78 351 *e*PKPdf PKPdf 00 20 38.0 -0.8
JCT Junction City 147.35 339 *e*PKPbc PKPbc 00 20 45.9 +0.2
MNTX Cornudas Mount 147.76 348 *e*PKPbc PKPbc 00 20 47.8 +1.0

IGQ 07 00:12:57.2, 078N×7952W, h16km±4km, Mb4.0, Ms3.8, 1C-3D, Error ellipse: s-maj=4.0km s-min=1.7km az=64.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	**Yana**	**1.30**	**133**	P	Pn	00 13 22.0	+1.3
YANA				S	Sb	00 13 45.4	+7.6
PINO	**Pino**	**1.30**	**136**	⇓P	Pn	00 13 22.1	+1.3
PINO				S	Sb	00 13 45.4	+7.5
TERV	**Terraza Guagua**	**1.32**	**136**	⇑P	Pn	00 13 22.4	+1.5
TERV				S	Sn	00 13 44.9	+6.7
GGP	**Refugio Guagua**	**1.32**	**136**	⇓P	Pn	00 13 22.3	+1.2
JUA2	**San Juan 2**	**1.35**	**137**	P	Pn	00 13 22.3	+1.0
JUA2				S	Sn	00 13 45.3	+6.4
CAYA	**Cayambe**	**1.68**	**115**	P	Pn	00 13 29.3	+3.3
CAYR	**Refugio Cayamb**	**1.69**	**117**	⇓P	Pn	00 13 29.3	+3.1
CAYR				S	Sn	00 13 59.2	+12
NAS1	**Nasa**	**1.75**	**143**	P	Pn	00 13 30.7	+3.8
CAMI	**Rancho Maria**	**1.77**	**145**	P	Pn	00 13 29.7	+2.6
VC1	**Cotopaxi 1**	**1.80**	**142**	P	Pn	00 13 30.4	+2.8
VC1				S	Sn	00 13 60.0	+10
ANTI	**Antisana**	**1.83**	**132**	P	Pn	00 13 31.4	+3.5
ANTI				S	Sn	00 14 03.0	+12
TAMB	**Tambo**	**1.86**	**142**	P	Pn	00 13 31.9	+3.4
TAMB				S	Sn	00 14 04.4	+13
CONE	**Cono NE Rev Vo**	**2.06**	**114**	P	Pn	00 13 37.7	+6.6
LAV3	**Lava3-Reventad**	**2.08**	**115**	P	Pn	00 13 36.4	+5.0
PISA	**Pisayambo**	**2.15**	**148**	P	Pn	00 13 36.3	+3.9
PISA				S	Sn	00 14 11.6	+13
RUN5	**Runtun**	**2.44**	**153**	P	Pn	00 13 42.4	+6.0
ULBA	**Ulba**	**2.48**	**153**	P	Pn	00 13 41.0	+4.1
ARRY	**Arrayan**	**2.51**	**155**	P	Pn	00 13 40.8	+3.5
ARRY				S	Sn	00 14 18.3	+11
PATA	**Patacocha**	**2.52**	**154**	P	Pn	00 13 42.4	+5.0

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*ISCJB **07** 00:28:26.2±2.7, 381N±02×749E±01, h33km, Error ellipse: s-maj=25.9km s-min=12.0km az=169.1*
*BJI **07** 00:28:32.2, 3833N×7644E, h15km, ML3.0*

ISC 07 00:28:27.6±2.7, 381N±02×750E±01, h35km, n11, σ0s97/13, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.61**	**28**	⇓*i*PG	**Pn**	**00 28 52.5**	**-0.9**
KSH				SG	**Sn**	**00 29 13.0**	**+0.1**
KSH				Smax			
comp=N,349nm,0.4s
KSH Smax
comp=E,285nm,0.5s
KZA Kyzart 3.98 3 P **Pn 00 29 25.6 -0.4**
SNR=6.8
UCH Uchtor 4.14 355 P **Pn 00 29 28.8 +0.5**
SNR=31
AML Almayashu 4.14 347 P **Pn 00 29 29.0 +0.7**
SNR=35
ULHL Ulahol 4.25 13 P **Pn 00 29 28.6 -1.2**
SNR=16
AAK Ala-Archa 4.54 355 P **Pn 00 29 34.7 +0.9**
SNR=5.5
KBK Karagaybulak 4.55 360 P **Pn 00 29 34.6 +0.7**
SNR=9.9
EKS2 Erkin-Say 4.65 349 P **Pn 00 29 36.6 +1.4**
SNR=9.9
TKM2 Tokmak 2 4.83 5 P **Pn 00 29 37.7 -0.1**
SNR=6.2
KK31 Karatay Array 6.05 327 P **Pn 00 29 55.3 +0.9**
comp=E,1.3nm,0.3s,baz=128,slow=13,SNR=23
KK31 ⇑S **Sn 00 31 01.6 -0.8**
comp=E,1.3nm,0.3s,baz=139,slow=21,SNR=7.0
AB31 Akbulak array 15.55 321 ⇓P **Pn 00 32 01.4 -2.7**
comp=E,0.8nm,0.6s

KRSC 07 00:37:50, 4991N×15729E, h114km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.64**	**16**	*e*P	Pn	00 38 36.0	+4.6
RUS				*i*S	Sn	00 39 08.4	+5.2
GRL	**Gorelyy**	**2.69**	**10**	*e*P	Pn	00 38 36.2	+4.2
GRL				*i*S	Sn	00 39 09.6	+5.2
PET	**Petropavlovsk**	**3.23**	**15**	*e*P	Pn	00 38 44.3	+5.1
PET				*i*S	Sn	00 39 22.8	+5.7
SPN	**Mys Shipunski**	**3.62**	**27**	*e*P	Pn	00 38 49.9	+5.6
SPN				*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.73**	**343**	*e*Pg	**Pg**	**00 50 24.5**	**-1.3**
ISFR	**Esferayen**	**1.32**	**86**	*e*Pg	**Pg**	**00 50 35.5**	**-1.7**
ISFR				*e*Sg	**Sg**	00 50 53.4	-0.9
IQHU	**Quchan**	**1.75**	**86**	*e*Pn	**Pn**	**00 50 42.9**	**+0.4**
IEMG	**Emamqoli**	**1.89**	**76**	*e*Pn	**Pn**	**00 50 45.5**	**+1.1**
IEMG				*e*Sn	**Sn**	00 51 08.2	-0.1
IAKL	**Akhlamad**	**1.94**	**101**	*e*Pn	**Pn**	**00 50 45.7**	**+0.7**
IAKL				*e*Sn	**Sn**	00 51 09.6	+0.1
IPAY	**Payeh**	**2.18**	**103**	*e*Pn	**Pn**	**00 50 49.0**	**+0.6**
IPAY				*e*Sn	**Sn**	00 51 16.1	+0.5
IKIA	**Kiasar**	**2.28**	**252**	*e*Pn	**Pn**	**00 50 51.2**	**+1.5**
IKIA				*e*Sn	**Sn**	00 51 16.6	-1.4
IANJ	**Anjiloo**	**2.47**	**234**	*e*Pn	**Pn**	**00 50 53.5**	**+1.1**
IANJ				*e*Sn	**Sn**	00 51 23.8	+1.0
IMOG	**Moghan**	**2.55**	**109**	*e*Pn	**Pn**	**00 50 54.2**	**+0.7**
IMOG				*e*Sn	**Sn**	00 51 24.0	-0.7
ISHM	**Shahmirzad**	**2.73**	**246**	*e*Pn	**Pn**	**00 50 56.7**	**+0.8**
ISHM				*e*Sn	**Sn**	00 51 29.9	+0.9
IMYA	**Miamay**	**3.08**	**100**	*e*Pn	**Pn**	**00 51 01.3**	**+0.6**
IMYA				*e*Sn	**Sn**	00 51 37.4	-0.3
ILAS	**Lasjerd**	**3.17**	**241**	*e*Pn	**Pn**	**00 51 02.7**	**+0.8**
ILAS				*e*Sn	**Sn**	00 51 40.8	+0.9
IFIR	**Firoozkooh**	**3.19**	**247**	*e*Pn	**Pn**	**00 51 03.1**	**+0.8**
IFIR				*e*Sn	**Sn**	00 51 40.7	+0.2
IAFJ	**Afjeh**	**3.90**	**255**	*e*Pn	**Pn**	**00 51 15.0**	**+2.9**
IAFJ				*e*Sn	**Sn**	00 51 57.1	-1.0
IVRN	**Varamin**	**4.23**	**244**	*e*Pn	**Pn**	**00 51 17.2**	**+0.6**
IVRN				*e*Sn	**Sn**	00 52 05.4	-0.8
ISFB	**Sefidab**	**4.24**	**233**	*e*Pn	**Pn**	**00 51 17.4**	**+0.6**
ISFB				*e*Sn	**Sn**	00 52 06.2	-0.3
ITEG		**4.51**	**153**	*e*Pn	**Pn**	**00 51 21.3**	**+0.9**
ITEG				*e*Sn	**Sn**	**00 52 11.8**	**-1.1**
THKV	**Tehran--Karaj**	**4.54**	**258**	*e*PN	**Pn**	**00 51 19.6**	**-1.2**
THKV				AML	AML	00 52 47.8	
	comp=N,47nm,0.4s						
IMON		**4.64**	**143**	*e*Pn	**Pn**	**00 51 23.0**	**+0.8**
IMON				*e*Sn	**Sn**	00 52 16.3	+0.1
IGZV	**Gazvin**	**4.97**	**265**	*e*Pn	**Pn**	**00 51 27.0**	**+0.3**
IGZV				*e*Sn	**Sn**	**00 52 21.7**	**-2.6**
ICHK	**Chekchek**	**4.97**	**199**	*e*Pn	**Pn**	**00 51 27.7**	**+0.9**
ICHK				*e*Sn	**Sn**	00 52 23.8	-0.6
IKOO		**5.02**	**153**	*e*Pn	**Pn**	**00 51 28.1**	**+0.6**
IKOO				*e*Sn	**Sn**	00 52 23.8	-1.9
NASN	**Na'in**	**5.07**	**216**	*e*PN	**Pn**	**00 51 27.4**	**-0.8**
IDAH		**5.11**	**145**	*e*Pn	**Pn**	**00 51 29.3**	**+0.7**
IDAH				*e*Sn	**Sn**	00 52 27.0	-0.7
IRAZ	**Razeghan**	**5.42**	**255**	*e*Pn	**Pn**	**00 51 33.0**	**0.0**
IRAZ				*e*Sn	**Sn**	00 52 31.6	-4.0
ISAD	**Sadrabad**	**5.50**	**204**	*e*Sn	**Sn**	00 52 36.5	-0.8
ASAO	**Ashtian**	**5.68**	**247**	*e*PN	**Pn**	00 51 35.4	-1.1
ASAO				AML	AML	00 53 27.0	
	comp=N,9.5nm,0.7s						
GRMI	**Germi**	**6.94**	**288**	*e*PN	**Pn**	**00 51 52.4**	**-1.4**
KRBR	**Kerman**	**6.97**	**177**	*e*Pn	**Pn**	00 51 54.0	-0.2
KK31	**Karatay Array**	**12.46**	**56**	⇓Pn	**Pn**	**00 53 14.3**	**+4.9**
	comp=N,0.3nm,0.3s,baz=173,slow=13,SNR=94						
KK31				⇓Pg	**Pn**	**00 53 18.6**	**+9.2**
	comp=N,1.8nm,0.2s,baz=164,slow=15						
KK31				⇑Lg		00 53 53.2	
	comp=N,14nm,0.3s,baz=170,slow=30,SNR=6.9						

*ISCJB **07** 00:51:44.9±0.8, 1692S×008×6951W±007, h190km±8km, mb3.6/1, Error ellipse: s-maj=13.5km s-min=11.1km az=122.3*
*NEIC **07** 00:51:46.4±0.9, 1681S×6946W, h177km±10km, mb3.7/1, Error ellipse: s-maj=19.6km s-min=15.3km az=148.0*
*IDC **07** 00:51:48.6±1.4, 17.11S×69.11W, h185km±7km, mb3.5/2, mb1 3.4/4, mb1mx3.2/19, mbtmp4.0/4, Error ellipse: s-maj=27.4km s-min=13.8km az=109.0*

ISC 07 00:51:46.2±0.8, 168S±01×6953W±007, h187km±8km, n9, σ0°94/13, mb3.6/1, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.44**	**69**	P	**Pn**	**00 52 19.3**	**+1.1**
	58nm,0.3s,baz=220,slow=7.6,SNR=1565						
LPAZ				S	**Sn**	**00 52 43.2**	**+0.3**
	2.3nm,0.3s,baz=352,slow=19,SNR=4.0						
LPAZ	**La Paz**	**1.44**	**69**	P	**Pn**	**00 52 19.3**	**+1.1**
LPAZ				S	**Sn**	**00 52 43.2**	**+0.3**
ARE	**Arequipa**	**1.92**	**280**	⇑*i*P	**Pn**	**00 52 22.6**	**-0.2**
ARE				*e*S	**Sn**	**00 52 51.0**	**-0.2**
LVC	**Limon Verde**	**5.80**	**174**	P	**Pn**	**00 53 10.9**	**+0.3**
	4.6nm,0.3s,baz=348,slow=8.6,SNR=7.2						
LVC				S	**Sn**	**00 54 11.8**	**-5.3**
	3.6nm,0.3s,baz=112,slow=22,SNR=8.8						
SIV	**San Ignacio**	**8.16**	**85**	P	**Pn**	**00 53 40.0**	**-1.5**
	1.4nm,0.3s,baz=271,slow=10,SNR=21						
SIV				S	**Sn**	**00 55 06.4**	**-6.6**
	0.2nm,0.3s,baz=36,slow=18,SNR=4.4						
SAML	**Samuel**	**9.97**	**39**	*e*Pn	**Pn**	**00 54 04.5**	**-0.6**
	1.5nm,0.6s						
BDFB	**Brasilia**	**20.69**	**90**	P	**P**	**00 56 11.3**	**-0.5**
	2.0nm,0.4s,baz=252,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**01 03 16.2**	**+1.4**
	0.9nm,0.5s,mb3.6,baz=256,slow=4.9,SNR=25						
SONM	**Songino Array**	**148.88**	**5**	PKPbc	PKPbc	01 11 14.6	+3.0
	0.8nm,0.4s,baz=324,slow=1.1,SNR=5.0						

*IDC **07** 01:19:39.6±3.3, 3581N×7120E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=68.0km s-min=30.7km az=129.0*
*NEIC **07** 01:19:46.0±0.9, 3596N×7107E, h35km, mb3.2/2, Error ellipse: s-maj=15.4km s-min=12.9km az=96.0*
*ISCJB **07** 01:19:48.4±2.1, 36.10N±009×712E±02, h73km±23km, mb3.4/4, Error ellipse: s-maj=26.9km s-min=5.7km az=115.7*
*NNC **07** 01:20:04.8±4.4, 3741N×72.15E, h254km±26km, mb2.5, mpv4.3, Error ellipse: s-maj=37.2km s-min=28.6km az=2.0*

ISC 07 01:19:51.0±1.7, 3614N±009×713E±02, h88km±19km, n32, σ0°78/37, mb3.4/4, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.23**	**134**	*ex*	**Pn**	**01 21 11.5**	**+4.8**
THN				*e*S	**Sn**	**01 22 11.8**	**+6.2**
DLH	**Dalhousie**	**5.30**	**131**	*e*S	**Sn**	**01 22 08.0**	**+0.6**
AML	**Almayashu**	**6.28**	**17**	P	**Pn**	**01 21 21.7**	**+0.6**
	SNR=69						
UCH	**Uchtor**	**6.59**	**22**	P	**Pn**	**01 21 25.8**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**6.80**	**16**	P	**Pn**	**01 21 28.9**	**+0.7**
	SNR=20						
AAK	**Ala-Archa**	**6.96**	**20**	P	**Pn**	**01 21 31.1**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**6.96**	**20**	*e*Pn	**Pn**	**01 21 29.7**	**-0.5**
	6.8nm,0.3s						
AAK				*e*Sn	**Sn**	**01 22 42.2**	**-5.6**
KK31	**Karatay Array**	**6.98**	**356**	⇓P	**Pn**	**01 21 30.2**	**-0.4**
	9.0nm,0.2s,baz=175,slow=13,SNR=371						
KK31				⇑S	**Sn**	**01 22 40.4**	**-8.0**
	6.6nm,0.4s,baz=167,slow=39,SNR=9.5						
KLP	**Kalpa**	**7.42**	**126**	*e*P		01 22 02.5	
KLP				*e*S	**Sn**	**01 22 57.5**	**-1.5**
KLP				AML	AML	01 23 01.3	
	comp=E,35nm,0.3s						
KLP				AML	AML	01 23 06.2	
	comp=N,61nm,0.1s						
USP	**Ospenovka**	**7.55**	**18**	P	**Pn**	**01 21 39.0**	**+0.7**
	SNR=9.3						
TKM2	**Tokmak 2**	**7.56**	**25**	P	**Pn**	**01 21 39.0**	**+0.6**
	SNR=7.6						
KOLN	**Koldanda**	**13.39**	**125**	*e*P	**Pn**	**01 22 57.7**	**+0.3**
	comp=N,6.4nm,0.3s						
MKAR	**Makanchi Array**	**13.47**	**34**	Pn	**Pn**	**01 22 57.5**	**-0.9**
	comp=N,0.0nm,0.3s,baz=215,slow=12,SNR=3.7						
GKN	**Gorkha**	**13.94**	**122**	*e*P	**Pn**	**01 23 04.5**	**-0.1**
	comp=N,18nm,0.4s						
DMN	**Daman**	**14.51**	**122**	*e*P	**Pn**	**01 23 11.9**	**-0.1**
	comp=N,8.9nm,0.4s						
KKN	**Kakani**	**14.52**	**121**	*e*P	**Pn**	**01 23 11.9**	**-0.1**
	comp=N,4.6nm,0.2s						
PKI	**Pulchoki**	**14.74**	**121**	*e*P	**Pn**	**01 23 15.7**	**+0.8**
GUN	**Gumba**	**14.86**	**119**	*e*P	**Pn**	**01 23 15.8**	**-0.7**
JIRN	**Jiri**	**15.23**	**119**	*e*P	**Pn**	**01 23 21.2**	**0.0**
	comp=N,5.6nm,0.2s						
AB31	**Akbulak array**	**15.50**	**331**	⇑P	**Pn**	**01 23 22.1**	**-2.4**
	comp=N,1.2nm,0.4s						
AB31				⇑S	**Sn**	**01 26 03.3**	**-12**
	comp=N,0.6nm,0.4s						
BVAR	**Borovoye Array**	**16.90**	**358**	P	**Pn**	**01 23 41.0**	**-0.9**
	comp=N,0.2nm,0.3s,baz=169,slow=10,SNR=6.2						
BRVK	**Borovoye**	**16.93**	**358**	*e*P	**Pn**	**01 23 41.5**	**-0.8**
	comp=N,2.5nm,0.8s						
AKTK	**Aktyubinsk**	**17.19**	**330**	P	**Pn**	**01 23 46.0**	**+0.4**
AKTO	**Aktyubinsk**	**17.19**	**330**	⇑P	**Pn**	**01 23 41.9**	**-3.7**
	comp=N,0.1nm,0.8s						
AKTO				⇑S	**Sn**	**01 26 40.7**	**-16**
	comp=N,0.1nm,1.1s						
AKTO	**Aktyubinsk**	**17.19**	**330**	P	**Pn**	**01 23 46.0**	**+0.4**
	comp=N,0.7nm,0.3s,baz=141,slow=9.3,SNR=13						
CHKZ	**Chkalovo**	**17.54**	**359**	*e*Pn	**Pn**	**01 23 49.1**	**-0.7**
	comp=N,1.0nm,0.5s						
FINES	**FINESS Array B**	**37.90**	**326**	P	**P**	**01 27 00.5**	**+1.0**
	comp=N,0.5nm,0.6s,mb3.5,baz=94,slow=9.8,SNR=4.7						
FINES	**FINESS Array B**	**37.90**	**326**	P	**P**	**01 27 00.5**	**+1.0**
KULM	**Kulim**	**40.88**	**132**	*e*P	**P**	**01 27 25.1**	**+0.7**
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**01 27 30.6**	**+0.7**
	comp=N,1.3nm,0.8s,mb3.7,baz=120,slow=8.9,SNR=8.8						
NOA	**NORSAR Array B**	**44.79**	**323**	P	**P**	**01 27 55.9**	**-0.1**
	comp=N,0.4nm,0.4s,mb3.5,baz=96,slow=7.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**01 30 27.6**	**+0.1**
	comp=N,0.1nm,0.4s,mb3.0,baz=54,slow=5.2,SNR=9.3						

MAN 07 01:40:32.4, 1406N×12119E, h21km, mb2.4, ML4.0, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.60**	**203**	*e*P	Pb	01 40 46.1	+1.9
PGP				*e*S	Sb	01 40 54.1	+1.8

*ISCJB **07** 02:15:00.7±0.3, 4542N±002×356E±003, h10km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=49.9*
*STR **07** 02:15:01.9±0.2, 4541N×357E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 02:15:02.4±0.0, 4542N×357E, h4km, Md2.1/2, Ml2.3/15, Error ellipse: s-maj=0.7km s-min=0.5km az=116.0*

ISC 07 02:15:01.5±0.3, 4542N±002×357E±003, h13km±3km, n31, σ0°60/52, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLF	**Collangettes**	**0.13**	**42**	Pg	**Pg**	**02 15 05.1**	**+0.1**
COLF				Sg	**Sg**	**02 15 06.9**	**-0.5**
LBL	**Lubilhac**	**0.29**	**231**	Pg	**Pg**	**02 15 08.0**	**+0.4**
LBL				Sg	**Sg**	**02 15 12.0**	**+0.3**
PYM	**Petit Puy Mans**	**0.51**	**310**	Pg	**Pg**	**02 15 12.2**	**+0.6**
PLDF	**La Plantade**	**0.55**	**4**	Pg	**Pg**	**02 15 13.0**	**+0.7**
PLDF				Sg	**Sg**	**02 15 20.2**	**+0.5**
AGO	**Saint Agoulin**	**0.70**	**334**	Pg	**Pg**	**02 15 15.8**	**+0.6**
AGO				Sg	**Sg**	**02 15 25.4**	**+0.9**
FRNF	**Fournols**	**0.71**	**268**	Pg	**Pg**	**02 15 15.7**	**+0.4**
FRNF				Sg	**Sg**	**02 15 24.6**	**0.0**
VIVF	**Saint-Julien-l**	**0.96**	**125**	*e*Pg	**Pg**	**02 15 20.8**	**+0.7**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**0.96**	**125**	*e*Pn	**Pn**	**02 15 21.2**	**+0.5**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**02 15 32.9**	**+0.2**
VIVF				*e*Sn	**Sn**	**02 15 34.3**	**+0.1**
	16nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.17**	**246**	*e*Pn	**Pn**	**02 15 23.9**	**+0.3**
	SNR=1.0						
CAF	**Calviac**	**1.17**	**246**	*e*Pg	**Pg**	**02 15 24.4**	**+0.3**
CAF				*e*Sg	**Sg**	**02 15 39.8**	**+0.4**
	14nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.24**	**9**	*e*Pn	**Pn**	**02 15 25.0**	**+0.5**
	SNR=1.0						
SMF	**Signal de Mont**	**1.24**	**9**	*e*Pg	**Pg**	**02 15 25.9**	**+0.5**
SMF				*e*Sn	**Sn**	**02 15 40.6**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**02 15 41.7**	**+0.1**
	11nm,0.3s						
BGF	**Bois d'Agland**	**1.25**	**336**	*e*Pn	**Pn**	**02 15 25.1**	**+0.5**
	SNR=1.0						
BGF	**Bois d'Agland**	**1.25**	**336**	*e*Pg	**Pg**	**02 15 26.3**	**+0.8**
BGF				*e*Sg	**Sg**	**02 15 41.7**	**0.0**
	9.7nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**1.29**	**313**	*e*Pn	**Pn**	**02 15 25.7**	**+0.6**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**1.29**	**313**	*e*Pg	**Pg**	**02 15 26.7**	**+0.4**
TCF				*e*Sn	**Sn**	**02 15 42.3**	**+0.1**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**02 15 43.2**	**+0.2**
	3.7nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.38**	**354**	*e*Pn	**Pn**	**02 15 26.7**	**+0.3**
	SNR=1.0						
AVF	**Avril sur Loir**	**1.38**	**354**	*e*Pg	**Pg**	**02 15 28.3**	**+0.2**
AVF				*e*Sn	**Sn**	**02 15 44.0**	**-0.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**02 15 46.0**	**0.0**
	9.2nm,0.3s						
RJF	**Les Rejaudoux**	**1.45**	**266**	*e*Pn	**Pn**	**02 15 27.9**	**+0.5**
	SNR=1.0						
RJF	**Les Rejaudoux**	**1.45**	**266**	*e*Pg	**Pg**	**02 15 29.8**	**+0.4**
RJF				*e*Sn	**Sn**	**02 15 45.6**	**-0.7**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**02 15 48.3**	**0.0**
	8.8nm,0.2s						
SSF	**Saint Saulge**	**1.64**	**359**	*e*Pg	**Pg**	**02 15 32.8**	**-0.3**
SSF				*e*Sg	**Sg**	**02 15 53.5**	**-0.9**
	4.5nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.71**	**106**	*e*Sg	**Sg**	**02 15 56.3**	**-0.3**
	1.6nm,0.3s						
LOR	**Lormes**	**1.86**	**6**	*e*Pg	**Pg**	**02 15 36.9**	**-0.3**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**02 16 00.5**	**-0.9**
	5.1nm,0.2s,SNR=1.0						
HYF	**Humbligny**	**1.96**	**341**	*e*Sg	**Sg**	**02 16 04.0**	**-0.5**
LFF	**La Frestale**	**2.06**	**258**	*e*Pg	**Pg**	**02 15 40.6**	**-0.4**
LFF				*e*Sg	**Sg**	**02 16 07.1**	**-0.5**
	2.7nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.12**	**55**	*e*Pg	**Pg**	**02 15 41.9**	**-0.3**
MTLF	**Montolieu**	**2.29**	**205**	*e*Pn	**Pn**	**02 15 39.1**	**+0.1**
	SNR=1.0						
MTLF	**Montolieu**	**2.29**	**205**	*e*Pg	**Pg**	**02 15 44.8**	**-0.7**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**02 16 14.6**	**-0.6**
	1.9nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**2.85**	**296**	*e*Sg	**Sg**	**02 16 31.6**	**-1.3**
	1.2nm,0.2s						
HAU	**Haudompre**	**3.22**	**35**	*e*Pg	**Pg**	**02 16 01.0**	**-2.2**
	SNR=1.0						
EPF	**Esparros**	**3.33**	**225**	*e*Sg	**Sg**	**02 16 47.0**	**-1.4**
	0.4nm,0.2s						

*NEIC **07** 02:21:39.1, 3583S×17804E, h263km, MG4.0(WEL), After WEL.*

WEL 07 02:21:40.0±0.4, 3562S×17784E, h224km±7km, ML3.9/6, Error ellipse: s-maj=8.3km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.97**	**169**	P	Pn	02 22 20.6	+0.5
MXZ	**Matakaoa Point**	**1.97**	**169**	PN	Pn	02 22 20.4	+0.3
MXZ				SN	S	02 22 50.6	-0.9
PUZ	**Puketiti**	**2.47**	**172**	P	Pn	02 22 25.1	0.0
PUZ				S	S	02 22 59.9	-0.6
PUZ	**Puketiti**	**2.47**	**172**	PN	Pn	02 22 25.1	0.0
PUZ				SN	S	02 22 59.9	-0.6
URZ	**Urewera**	**2.69**	**192**	P	Pn	02 22 27.9	+0.4
URZ	**Urewera**	**2.69**	**192**	PN	Pn	02 22 27.8	+0.3
URZ				SN	S	02 23 04.8	-0.1
MWZ	**Matawai**	**2.72**	**185**	P	Pn	02 22 28.3	+0.5
MWZ				S	S	02 23 05.9	+0.6
MWZ	**Matawai**	**2.72**	**185**	PN	Pn	02 22 28.1	+0.3
MWZ				SN	S	02 23 05.7	+0.4
KNZ	**Kokohu**	**3.39**	**182**	*e*P	Pn	02 22 32.8	-2.7
KNZ	**Kokohu**	**3.39**	**182**	PN	Pn	02 22 35.7	+0.2
KNZ				SN	S	02 23 17.6	-1.5
BKZ	**Black Stump Fm**	**3.70**	**196**	*e*P	Pn	02 22 38.4	-0.6
BKZ	**Black Stump Fm**	**3.70**	**196**	PN	Pn	02 22 38.3	-0.7
BKZ				SN	S	02 23 22.9	-2.7
MRZ	**Mangatainoka R**	**5.34**	**199**	PN	Pn	02 22 55.9	-3.3
MRZ				SN	S	02 23 56.4	-5.7

*MOS **07** 02:23:02.3±1.3, 623N×6067E, h10km, mb5.0/46, MS4.1/13, Error ellipse: s-maj=9.5km s-min=4.8km az=115.5*
*ISCJB **07** 02:23:02.0±0.3, 6.16N±004×6070E±003, h10km, mb4.8/95, MS4.3/33, Error ellipse: s-maj=6.3km s-min=4.1km az=167.0*
*IDC **07** 02:23:02.1±0.5, 6.19N×6085E, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.3/29, mbtmp4.2/25, ML3.8/2, MS4.3/12, Ms1 4.3/12, ms1mx4.2/15, Error ellipse: s-maj=14.0km s-min=12.2km az=100.0*
*BJI **07** 02:23:03.5, 582N×6086E, h26km, mB5.3, mb4.7, Ms4.9, Msz4.6*
*NEIC **07** 02:23:03.9±0.3, 6.18N×6075E, h10km, mb5.0/49, Error ellipse: s-maj=7.5km s-min=6.1km az=35.0*
*GCMT **07** 02:23:03.9±0.2, 602N×6078E, h12km, MW5.0/81, Moment Tensor Solution. s31,c45; s81,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.94±.10; $M_{\theta\theta}$2.91±.09; $M_{\phi\phi}$1.03±.10; $M_{r\theta}$0.34±.30; $M_{\phi\theta}$-1.81±.08; $M_{\phi r}$-1.17±.36; Best double couple: $M_0$4.15700×10^{16} NP1:ϕ_s110.00000°, δ40.00000°, λ-107.00000°. NP2: ϕ_s312.00000°, δ52.00000°, λ-76.00000°. Principal axes: T 4.1120, Plg6.0000°, Azm33.0000°; N 0.0910, Plg11.0000°, Azm124.0000°; P -4.2020, Plg77.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **07** 02:23:08.0, 667N×6087E, h33km, mb4.4, Carlsberg Ridge*

ISC 07 02:23:04.3±0.3, 616N±004×6072E±003, h10km, (h20km±1.7km: pP-P), n266, σ1°15/271, mb4.8/95, MS4.3/33, 15C-6D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGI	**Mangalore**	**15.45**	**63**	*e*P	**Pn**	**02 26 43.2**	**+1.0**
MNGI				*i x*	x	02 30 00.3	
GOA	**Goa**	**15.86**	**53**	*e*P	**Pn**	**02 26 47.0**	**-0.5**
GOA				AMb	AMB	02 26 51.5	
	comp=Z,30nm,0.2s						
TRD	**Trivandrum**	**16.28**	**81**	⇓*e*P	**Pn**	**02 26 51.1**	**-1.8**
WSAR	**Wadi Sarin**	**17.10**	**353**	P	**Pn**	**02 27 04.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=194,slow=9.5,SNR=4.4						
WSAR				LR	LR	02 32 25.7	
	comp=Z,838nm,18.6s,baz=196,slow=33						
KAD	**Karad**	**17.20**	**49**	*e*P	**Pn**	**02 27 03.3**	**-1.4**
KAD				AMb	AMB	02 27 09.3	
	comp=Z,25nm,0.9s						
POO	**Poona**	**17.75**	**45**	*e*P	**Pn**	**02 27 11.5**	**+0.1**
ATD	**Arta Tunnel**	**18.44**	**288**	P	**Pn**	**02 27 18.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=150,slow=20,SNR=1.8						
ATD				LR	LR	02 33 34.5	
	comp=Z,353nm,18.4s,baz=106,slow=34						
MDRS	**Chennai**	**20.43**	**69**	*ex*	x	02 27 45.2	
MDRS				*ex*	x	02 32 44.2	
HYB	**Hyderabad**	**20.71**	**56**	*i* P	**P**	**02 27 46.5**	**+1.8**
HYB	**Hyderabad**	**20.71**	**56**	*e*P	**P**	**02 27 50.0**	**+5.3**
AKL	**Akola**	**21.42**	**46**	*i* P	**P**	**02 27 54.1**	**+1.8**
AKL				*i x*	x	02 29 26.6	
BHPL	**Bhopal**	**23.39**	**42**	*e*P	**P**	**02 28 12.2**	**-1.1**
BHPL				AMb	AMB	02 28 25.8	
	comp=Z,46nm,1.4s,mb4.7						
AJM	**Ajmer**	**24.18**	**32**	*e*P	**P**	**02 28 21.3**	**+0.6**
AJM				AMb	AMB	02 28 38.4	
	comp=Z,40nm,1.5s,mb4.6						
KMBO	**Kilima Mbogo**	**24.52**	**254**	P	**P**	**02 28 25.0**	**+1.2**
	comp=Z,17nm,1.0s,mb4.5,baz=56,slow=11,SNR=21						
KMBO				LR	LR	02 38 19.6	
	comp=Z,936nm,19.4s,MS4.3,baz=95,slow=37						
VIS	**Vishakhapatnam**	**24.89**	**61**	*e*P	**P**	**02 28 24.7**	**-2.5**
KHET	**Khetri**	**26.07**	**32**	*e*P	**P**	**02 28 37.0**	**-0.9**
KHET				AMb	AMB	02 28 49.3	
	comp=Z,16nm,1.2s,mb4.4						
SONA	**Sohna**	**26.89**	**33**	*e*P	**P**	**02 28 44.8**	**-0.6**
SONA				AMb	AMB	02 28 59.2	
	comp=Z,8.4nm,0.8s,mb4.3						
AYAN	**Aya Nagar**	**27.10**	**33**	*e*P	**P**	**02 28 47.0**	**-0.2**
AYAN				AMb	AMB	02 29 01.4	
	comp=Z,5.1nm,0.3s,mb4.5						
OPO	**Ambohidratompo**	**27.96**	**208**	P	**P**	**02 28 57.2**	**+2.3**
	comp=Z,5.7nm,1.0s,mb4.2,baz=291,slow=14,SNR=2.6						
KLP	**Kalpa**	**30.11**	**31**	*e*P	**P**	**02 29 13.1**	**-0.9**
KLP				AMb	AMB	02 29 21.2	
	comp=Z,21nm,1.4s,mb4.7						
KOLN	**Koldanda**	**30.55**	**43**	*e*P	**P**	**02 29 19.4**	**+1.5**
	comp=Z,100nm,1.4s,mb5.5						
GKN	**Gorkha**	**31.41**	**43**	*e*P	**P**	**02 29 27.2**	**+1.8**
DMN	**Daman**	**31.49**	**45**	*e*P	**P**	**02 29 27.3**	**+1.2**
	comp=Z,209nm,1.8s,mb5.7						
PKI	**Pulchoki**	**31.68**	**45**	*e*P	**P**	**02 29 28.5**	**+0.7**
	comp=Z,149nm,1.8s,mb5.5						
KKN	**Kakani**	**31.72**	**44**	*e*P	**P**	**02 29 29.3**	**+1.1**
GUN

MATP LR LR 02 46 21.1
comp=Z,1µm,18.6s,MS4.8,baz=53,slow=34
BR131 Keskin Array S 41.35 328 *e*P **P 02 30 50.8 +0.5**
comp=Z,2.5nm,0.8s,mb3.9
BRTR Keskin Array B 41.35 328 P **P 02 30 51.1 +0.8**
comp=Z,3.0nm,0.9s,mb3.9,baz=145,slow=9.0,SNR=16
BRTR LR LR 02 48 29.4
comp=Z,304nm,20.5s,MS4.2,baz=119,slow=37
ANTO Ankara 41.91 327 *e*P **P 02 30 55.7 +0.9**
ANTO pmax pmax
comp=Z,32nm,1.4s,mb4.8
ANTO Ankara 41.91 327 *e*P **P 02 30 55.7 +0.9**
comp=Z,32nm,1.4s,mb4.8
ANN Anapa 43.52 336 *e*P **P 02 31 09.8 +1.9**
ANN *e*S **S 02 37 39.3 +2.5**
ANN pmax pmax
comp=Z,26nm,1.0s,mb4.9
SANT Santorini 44.09 318 *e*P **P 02 31 13.2 +0.7**
comp=Z,73nm,1.3s,mb5.2
AKTK Aktyubinsk 44.18 358 P **P 02 31 13.3 0.0**
AKTO Aktyubinsk 44.18 358 P **P 02 31 13.3 0.0**
comp=Z,3.6nm,0.9s,mb4.1,baz=171,slow=7.8,SNR=9.3
WMQ Urumqi 44.36 28 *e*P **P 02 31 15.0 +0.3**
WMQ AP pP 02 31 22.0 +4.2
WMQ PP PP 02 33 00.0 +1.9
WMQ PPP 02 33 38.0
WMQ PCS PcS 02 36 50.0 -1.9
WMQ S **S 02 37 50.0 +1.0**
WMQ XS sS 02 38 00.0 +5.9
WMQ SS SS 02 41 00.0 -7.6
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,212nm,4.4s
WMQ LR LR
comp=N,640nm,13.0s,MS4.9
WMQ LR LR
comp=E,722nm,14.2s,MS4.9
WMQ LR LR
comp=Z,814nm,23.2s
KMI Kunming 44.39 60 P **P 02 31 15.3 +0.4**
KMI AP pP 02 31 19.8 +1.7
KMI PP PP 02 33 01.8 +3.4
KMI S **S 02 37 49.8 +0.4**
KMI SS SS 02 40 58.9 -9.3
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,174nm,4.6s
KMI LR LR
comp=N,362nm,17.5s,MS4.5
KMI LR LR
comp=E,378nm,19.1s,MS4.5
KMI LR LR
comp=Z,420nm,26.6s
KMI Kunming 44.39 60 P **P 02 31 15.3 +0.4**
KMI *PP pP 02 31 19.8 +1.7
KMI *SP sP 02 31 21.0 +1.7
KMI 02 33 01.8
KMI PPP 02 33 39.3
KMI S **S 02 37 49.8 +0.4**
KMI *SS sS 02 37 54.2 -0.4
KMI SS SS 02 40 58.9 -9.3
KMI SSS 02 41 55.0
KMI pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,420nm,26.6s,MS4.2
KMI Kunming 44.39 60 P **P 02 31 15.3 +0.4**
comp=Z,9.0nm,1.1s,mb4.4
KMI pP pP 02 31 19.8 +1.7
KMI sP sP 02 31 21.0 +1.7
KMI PP PP 02 33 01.8 +3.4
KMI PPP 02 33 39.3
KMI S **S 02 37 49.8 +0.4**
KMI sS sS 02 37 54.2 -0.4
KMI SS SS 02 40 58.9 -9.3
KMI SSS 02 41 55.0
KMI LR LR
comp=Z,420nm,26.6s,MS4.2
MKAR Makanchi Array 44.54 21 P **P 02 31 15.4 -0.7**
comp=Z,3.3nm,0.9s,mb4.2,baz=204,slow=7.6,SNR=14
SIM Simferopol' 45.06 333 P **P 02 31 24.0 +3.8**
SIM S **S 02 38 10.6 +12**
SIM pmax pmax
comp=Z,28nm,9.8s
SIM MLR MLR
comp=Z,120nm,21.0s,MS3.8
LBTB Lobatse 46.13 226 P **P 02 31 30.0 +1.3**
comp=Z,4.6nm,0.7s,mb4.5,baz=68,slow=9.4,SNR=10
LBTB LR LR 02 47 38.6
comp=Z,883nm,21.8s,MS4.7,baz=106,slow=32
LBTB Lobatse 46.13 226 *e*P **P 02 31 29.8 +1.1**
LBTB pmax pmax
comp=Z,38nm,1.5s,mb5.1
LBTB Lobatse 46.13 226 *e*P **P 02 31 29.8 +1.1**
comp=Z,38nm,1.5s,mb5.1
ZRNK Zerenda 47.14 7 *e*P **P 02 31 36.9 +0.3**
ZRNK pmax pmax
comp=Z,26nm,1.5s,mb4.9
ZRNK Zerenda 47.14 7 *e*P **P 02 31 36.9 +0.2**
comp=Z,26nm,1.5s,mb4.9
VOSK Vostochnaya 47.18 8 *i*P **P 02 31 36.6 -0.3**
CD2 Chengdu 47.23 53 *e*P **P 02 31 37.7 +0.4**
CD2 AP pP 02 31 42.2 +1.7
CD2 XP sP 02 31 44.8 +3.1
CD2 PP PP 02 33 28.1 -0.2
CD2 S **S 02 38 29.2 -1.1**
CD2 SS SS 02 41 49.6 -7.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,280nm,16.8s
CD2 LR LR
comp=Z,100nm,10.8s
BVAR Borovoye Array 47.39 8 PcP PcP 02 33 08.4 -0.8
comp=Z,1.0nm,0.9s,baz=83,slow=4.9,SNR=2.9
BRVK Borovoye 47.40 8 *e*P **P 02 31 41.7 +3.0**
CHKZ Chkalovo 48.05 8 *e*P **P 02 31 43.4 -0.3**
CHKZ pmax pmax
comp=Z,42nm,1.5s,mb5.2
CHKZ Chkalovo 48.05 8 *e*P **P 02 31 43.4 -0.4**
comp=Z,42nm,1.5s,mb5.2
GYA Guiyang 48.16 60 P **P 02 31 43.3 -1.3**
GYA AP pP 02 31 47.8 0.0
GYA PCP PcP 02 33 11.6 -0.3
GYA PP PP 02 33 34.7 -2.2
GYA SCP ScP 02 37 04.2 -2.3
GYA S **S 02 38 39.8 -3.8**
GYA SS SS 02 42 03.3 -9.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,540nm,18.4s,MS4.7
GYA LR LR
comp=E,580nm,17.9s,MS4.7
GYA LR LR
comp=Z,610nm,18.0s,MS4.6
GTA Gaotai 48.30 41 *e*P **P 02 31 46.1 +0.4**
GTA AP pP 02 31 52.5 +3.7
GTA PP PP 02 33 38.6 +0.5
GTA S **S 02 38 47.0 +1.5**
GTA SS SS 02 42 12.3 -2.6
GTA AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
GTA AMB AMB
comp=Z,135nm,4.6s
GTA LR LR
comp=N,578nm,20.1s,MS4.7
GTA LR LR
comp=E,628nm,22.1s,MS4.7
GTA LR LR
comp=Z,663nm,23.6s,MS4.5
VRSR Storozhevoye 48.34 342 *e*P **P 02 31 45.5 -0.5**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOSA Boshof 48.60 223 P **P 02 31 49.1 +1.1**
comp=Z,10nm,1.1s,mb4.8,baz=51,slow=4.2,SNR=5.3
BOSA LR LR 02 51 07.4
comp=Z,614nm,19.1s,MS4.6,baz=39,slow=35
BOSA Boshof 48.60 223 *e*P **P 02 31 49.9 +1.8**
KIS Kishinev 49.04 331 *e*P **P 02 32 00.0 +8.7**
KIS LRM 02 53 50.0
comp=Z,300nm,16.0s
VTS Vitosha 49.13 324⇑*i*P **P 02 31 52.5 +0.5**
VTS Vitosha 49.13 324⇑P **P 02 31 52.5 +0.4**
VRI Vrincioaia 49.28 329⇑*i*P **P 02 31 54.8 +1.6**
VRI Vrincioaia 49.28 329⇑P **P 02 31 54.8 +1.6**
PLOR Plostina 49.31 329⇑*i*P **P 02 31 54.7 +1.3**
LZH Lanzhou 49.43 47 *e*P **P 02 31 54.3 -0.1**
LZH AP pP 02 31 59.1 +1.6
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,63nm,5.7s
LZH LR LR
comp=E,475nm,13.5s
LZH LR LR
comp=Z,833nm,14.7s,MS4.9
LZH Lanzhou 49.43 47 *e*P **P 02 31 54.3 -0.1**
comp=Z,10.0nm,1.0s,mb4.8
LZH pP pP 02 31 57.4 -0.1
LZH sP sP 02 31 59.1 +0.3
LZH LR LR
comp=Z,830nm,14.7s,MS4.9
MLR Muntele Rosu 49.43 328⇓*i*P **P 02 31 55.5 +1.1**
MLR Muntele Rosu 49.43 328⇓P **P 02 31 55.5 +1.1**
QIZ Qiongzhong 49.45 70 P **P 02 31 51.2 -3.3**
QIZ S **S 02 39 02.4 +0.7**
QIZ AMB AMB
comp=Z,9.0nm,1.5s,mb4.6
QIZ LR LR
comp=Z,322nm,36.6s,MS4.1
VOIR 49.87 328⇑*i*P **P 02 31 59.6 +1.9**
VOIR 49.87 328⇑P **P 02 31 59.6 +1.9**
ARU Arti 50.16 358 *e*P **P 02 31 59.3 -0.6**
ARU *e* 02 33 54.8
ARU *e*S **S 02 39 10.1 -1.5**
ARU *e*SS SS 02 42 42.8 -2.0
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.5
ARU MLR MLR
comp=N,300nm,18.0s,MS4.4
ARU MLR MLR
comp=E,200nm,20.0s,MS4.4
BURAR Bucovina Array 51.23 330⇑*i*P **P 02 32 08.9 +0.9**
BURAR Bucovina Array 51.23 330⇑P **P 02 32 08.9 +0.9**
AKASG Malin Array Be 51.58 335 P **P 02 32 09.8 -0.8**
comp=E,4.4nm,1.1s,mb4.3,baz=138,slow=6.1,SNR=11
AKBB Malin Array Si 51.58 335 *e*P **P 02 32 09.9 -0.7**
NVS Novosibirsk 51.81 16 *e*P **P 02 32 10.3 -2.0**
NVS pmax pmax
comp=N,24nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s,mb4.9
NVS pmax pmax
comp=E,5.0nm,1.3s
BZS Buzias 51.86 326⇓*i*P **P 02 32 12.7 0.0**
XAN Xi'an 52.43 51 P **P 02 32 15.7 -1.2**
XAN AP pP 02 32 22.1 +2.0
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
OBN Obninsk 52.52 343 *e*P **P 02 32 16.6 -0.9**
OBN *e*S **S 02 39 41.4 -2.7**
OBN *e*SS SS 02 43 21.4 -0.8
OBN pmax pmax
comp=Z,37nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.2
MOS Moscow 52.75 344 *e*P **P 02 32 16.8 -2.5**
MOS pmax pmax
comp=Z,96nm,1.6s,mb5.5
LVV L'vov 53.29 331 *e*P **P 02 32 30.6 +7.3**
UZH Uzhgorod 53.38 329 *e*P **P 02 32 23.8 -0.1**
UZH *i* 02 32 30.4
UZH pmax pmax
comp=Z,70nm,1.5s,mb5.4
KOLS Kolonicke sedl 53.58 329 *e*P **P 02 32 26.2 +0.8**
PKSM Moragy 53.90 325⇓*i*P **P 02 32 27.9 +0.2**
PKSM Moragy 53.90 325⇓P **P 02 32 27.9 +0.2**
CRVS Cervenica-Dubn 53.97 329 *e*P **P 02 32 31.2 +2.9**
CRVS *e* 02 32 44.0
CRVS Cervenica-Dubn 53.97 329 *e*P **P 02 32 31.2 +2.9**
CRVS *e* 02 32 44.0
PSZ Piszkesteto 54.19 327 *e*P **P 02 32 29.7 -0.2**
PSZ Piszkesteto 54.19 327 *e*P **P 02 32 29.9 +0.1**
KECS Kecovo 54.22 328 *e*P **P 02 32 32.0 +1.9**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 54.22 328 *e*P **P 02 32 32.0 +1.9**
comp=Z,1.9nm,1.0s,mb4.0
STHS Stebnicka Huta 54.41 329 *es*P sP 02 32 38.7 +2.8
BUD Budapest 54.41 326 *e*P **P 02 32 34.0 +2.5**
VYHS Vyhne 55.10 327 *e*P **P 02 32 35.9 -0.6**
VYHS pmax pmax
comp=Z,14nm,1.7s,mb4.7
VYHS Vyhne 55.10 327 *e*P **P 02 32 35.9 -0.6**
comp=Z,14nm,1.7s,mb4.7
KEST Kesra 55.46 309 P **P 02 32 40.8 +1.7**
comp=Z,0.7nm,0.9s,baz=131,slow=20,SNR=2.6
KEST LR LR 02 54 44.6
comp=Z,49nm,19.3s,MS3.6,baz=327,slow=34
BOJS Bojanci 55.51 323 *e*P **P 02 32 39.1 -0.4**
CRES Cresnjev 55.55 323 *e*P **P 02 32 39.7 0.0**
WHN Wuhan 55.77 57 *e*P **P 02 32 42.5 +1.2**
ZST Bratislava 55.88 326 *e*P **P 02 32 48.7 +6.6**
ZST pmax pmax
comp=Z,35nm,1.9s,mb5.1
ZST MLR MLR
comp=Z,100nm,15.6s,MS4.0
ZST Bratislava 55.88 326 *e*P **P 02 32 48.7 +6.6**
comp=Z,35nm,1.9s,mb5.1
ZST LR LR
comp=Z,100nm,15.6s,MS4.0
SOP Sopron 55.90 325 *e*P **P 02 32 42.0 -0.2**
VISS Visnje 55.91 323 *e*P **P 02 32 42.5 +0.2**
CEY Cerknica 56.13 322 *e*P **P 02 32 38.9 -5.0**
CEY *e* 02 34 23.8
LJU Ljubljana 56.22 323 *e*P **P 02 32 44.5 0.0**
OKC Ostrava-Krasne 56.26 328 *e*P **P 02 32 46.2 +1.4**
OKC *ep*P pP 02 32 51.6 +3.6
SONM Songino Array 56.85 35 P **P 02 32 49.0 0.0**
comp=Z,4.3nm,1.0s,mb4.5,baz=231,slow=6.8,SNR=19
HHC Hu-ho-hao-te 56.93 45 *e*P **P 02 32 51.7 +2.2**
HHC AP pP 02 32 56.7 +4.0
HHC XP sP 02 32 59.6 +5.6
HHC PP PP 02 34 59.0 +3.0
HHC S **S 02 40 43.2 -0.2**
HHC XS sS 02 40 52.6 +3.9
HHC SS SS 02 44 29.0 -2.7
HHC AMB AMB
comp=Z,23nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,228nm,7.2s
HHC LR LR
comp=N,314nm,9.8s
HHC LR LR
comp=E,328nm,11.0s
HHC LR LR
comp=Z,274nm,15.2s,MS4.5
MOA Molln 57.30 325⇑*i*P **P 02 32 52.1 -0.1**
comp=Z,19nm,1.3s,mb5.0
TREC Trest 57.38 327 *e*P **P 02 32 52.2 -0.6**
TREC *ep*P pP 02 32 59.1 +3.1
DPC Dobruska-Polom 57.52 328 *e*P **P 02 32 49.8 -3.9**
DPC *ep*P pP 02 32 59.8 +2.9
TLY Talaya 57.54 30 *e*P **P 02 32 56.0 +2.1**
TLY *e*S **S 02 40 57.3 +5.8**
TLY *e* 02 42 38.3
TLY pmax pmax
comp=Z,11nm,1.6s,mb4.6
TLY MLR MLR
comp=Z,254nm,19.0s,MS4.3
UPC Upice 57.77 328 *ep*P pP 02 33 02.1 +3.4
KSP Ksiaz 57.81 328 *e*P **P 02 32 57.1 +1.3**
GERES GERESS Array B 58.14 325 P **P 02 32 56.6 -1.5**
comp=Z,0.4nm,0.6s,baz=140,slow=7.7,SNR=3.4
PGF Pioggiola 58.19 317 *e*P **P 02 32 57.6 -0.9**
comp=Z,31nm,1.1s,mb5.0
PGF Pioggiola 58.19 317 *e*P **P 02 32 57.6 -0.9**
PGF pmax pmax
comp=Z,15nm,1.1s,mb4.9
PGF Pioggiola 58.19 317 *e*P **P 02 32 57.6 -0.9**
comp=Z,15nm,1.1s,mb5.0
PRU Pruhonice 58.27 327 *ep*P pP 02 33 04.5 +2.3
PRU *ex* x 02 33 11.7
KHC Kasperske Hory 58.35 326 *e*P **P 02 32 57.7 -1.9**
KHC *ep*P pP 02 33 04.3 +1.5
TOA0 Torodi Ar. Sit 58.49 282 *e*P **P 02 33 02.1 +1.6**
TORD Torodi Ar. Bea 58.49 282 P **P 02 33 01.8 +1.2**
comp=Z,2.5nm,1.0s,mb4.2,baz=86,slow=6.5,SNR=18
PVCC Panska Ves 58.55 327 *e*P **P 02 33 00.1 -0.9**
PVCC *ep*P pP 02 33 07.6 +3.4
SQTA Sankt Quirin 58.79 323⇑*i*P **P 02 33 02.0 -0.7**
comp=Z,23nm,1.8s,mb4.9
SQTA Sankt Quirin 58.79 323⇑*i*P **P 02 33 02.0 -0.7**
SQTA pmax pmax
comp=Z,23nm,1.8s,mb4.9
MOTA Moosalm 58.91 323⇑*i*P **P 02 33 02.4 -1.1**
comp=Z,6.9nm,1.1s,mb4.6
MOTA Moosalm 58.91 323⇑*i*P **P 02 33 02.4 -1.1**
MOTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
NKC Novy Kostel 59.55 326 *e*P **P 02 33 06.7 -1.2**
NKC *ep*P pP 02 33 14.4 +3.3
CLL Collm 59.80 328 *e*P **P 02 33 17.0 +7.4**
CLL *e*S **S 02 41 29.0 +8.0**
CLL pmax pmax
comp=Z,31nm,1.6s,mb5.1
CLL Collm 59.80 328 *e*P **P 02 33 17.0 +7.4**
comp=Z,31nm,1.6s,mb5.1
CLL *e*S **S 02 41 29.0 +8.0**
CLL Collm 59.80 328 *e*P **P 02 33 11.0 +1.4**
CLL *i* x x 02 33 16.6
comp=Z,31nm,1.6s
CLL *ex* x 02 33 41.0
NJ2 Nanjing 59.87 57 *e*P **P 02 33 11.4 +1.3**
NJ2 AP pP 02 33 22.0 +8.7
NJ2 XP sP 02 33 25.8 +11
NJ2 PP PP 02 35 24.8 +2.7
NJ2 S **S 02 41 18.0 -3.8**
NJ2 XS sS 02 41 35.0 +7.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,720nm,4.8s
NJ2 LR LR
comp=N,550nm,17.0s,MS4.9
NJ2 LR LR
comp=E,470nm,17.2s,MS4.9
NJ2 LR LR
comp=Z,1µm,15.5s,MS5.1
BJI Beijing 59.92 47 P **P 02 33 12.0 +1.5**
BJI S **S 02 41 27.9 +5.4**
BJI AMB AMB
comp=Z,7.0nm,0.5s,mb5.0
BJI LR LR
comp=N,240nm,19.1s,MS4.4
BJI LR LR
comp=E,206nm,24.1s,MS4.4
BJI LR LR
comp=Z,344nm,19.9s,MS4.5
BJI Beijing 59.92 47 P **P 02 33 12.0 +1.5**
comp=Z,7.0nm,0.5s,mb5.0
BJI S **S 02 41 27.9 +5.4**
BJI LR LR
comp=Z,340nm,19.9s,MS4.5
GRA1 Grafenberg Arr 59.97 325 *e*P **P 02 33 09.6 -1.2**
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 59.97 325 *e*P **P 02 33 09.6 -1.2**
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 59.97 325 *e*P **P 02 33 09.6 -1.2**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 59.97 325 *e*P **P 02 33 09.6 -1.2**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
FRF La Foret Royal 60.17 317 *e*P **P 02 33 11.4 -0.8**
comp=Z,46nm,1.4s,mb5.0
FRF La Foret Royal 60.17 317 *e*P **P 02 33 11.4 -0.8**
FRF pmax pmax
comp=Z,23nm,1.4s,mb5.0
FRF La Foret Royal 60.17 317 *e*P **P 02 33 11.4 -0.8**
comp=Z,23nm,1.4s,mb5.0
LMR La Mourre 60.18 317 *e*P **P 02 33 11.5 -0.7**
comp=Z,44nm,1.4s,mb5.0
LMR La Mourre 60.18 317 *e*P **P 02 33 11.5 -0.7**
LMR pmax pmax
comp=Z,22nm,1.4s,mb5.0
LMR La Mourre 60.18 317 *e*P **P 02 33 11.5 -0.7**
comp=Z,22nm,1.4s,mb5.0
MBDF Montbardon 60.53 319 *e*P **P 02 33 14.9 +0.3**
comp=Z,15nm,1.0s,mb4.8
MBDF Montbardon 60.53 319 *e*P **P 02 33 14.9 +0.3**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MBDF Montbardon 60.53 319 *e*P **P 02 33 14.9 +0.3**
comp=Z,7.6nm,1.0s,mb4.8
BNI Bardonecchia 60.72 319 *e*P **P 02 33 17.7 +1.8**
BNI pmax pmax
comp=Z,12nm,1.1s,mb4.9
BNI Bardonecchia 60.72 319 *e*P **P 02 33 17.7 +1.8**
comp=Z,12nm,1.1s,mb4.9
LPG La Plagne 60.84 319 *e*P **P 02 33 15.6 -1.1**
LPL La Plagne 60.86 319 *e*P **P 02 33 15.7 -1.2**
comp=Z,67nm,1.4s,mb5.3
LPL La Plagne 60.86 319 *e*P **P 02 33 15.7 -1.2**
LPL pmax pmax
comp=Z,33nm,1.4s,mb5.3
LPL La Plagne 60.86 319 *e*P **P 02 33 15.7 -1.2**
comp=Z,34nm,1.4s,mb5.3
FINES FINESS Array B 60.88 342 P **P 02 33 15.3 -1.7**
comp=Z,2.8nm,0.7s,mb4.5,baz=135,slow=7.7,SNR=13
FINES FINESS Array B 60.88 342 P **P 02 33 15.3 -1.7**
SMRF Simiane la Rot 61.05 317 *e*P **P 02 33 17.8 -0.3**
ORIF Oris-en-Rattie 61.19 318 *e*P **P 02 33 18.2 -0.9**
comp=Z,4.8nm,0.8s,mb4.4
ORIF *e*MLR MLR
comp=Z,80nm,19.8s
ORIF Oris-en-Rattie 61.19 318 *e*P **P 02 33 18.2 -0.9**
ORIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 61.19 318 *e*P **P 02 33 18.2 -0.9**
comp=Z,2.4nm,0.8s,mb4.4
KAF Kangasniemi 61.33 342 *ep* **P 02 33 18.1 -1.9**
comp=Z,7.0nm,0.8s,mb4.8,baz=138,slow=6.7
KAF Kangasniemi 61.33 342 *e*P **P 02 33 18.1 -1.9**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SSE Sheshan 61.63 58 P **P 02 33 21.5 -0.6**
SSE PP PP 02 35 35.9 -1.8
SSE S **S 02 41 40.9 -3.4**
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,267nm,6.3s
SSE LR LR
comp=N,46nm,25.0s,MS4.2
SSE LR LR
comp=E,184nm,25.0s,MS4.2
SSE LR LR
comp=Z,211nm,25.0s,MS4.2
SSE Sheshan 61.63 58 P **P 02 33 21.5 -0.6**
comp=Z,33nm,0.7s,mb5.6
SSE sP sP 02 33 26.1 -0.4
SSE PP PP 02 35 35.9 -1.8
SSE S **S 02 41 40.9 -3.4**
SSE sS sS 02 41 47.4 -2.2
SSE LR LR
comp=Z,210nm,25.0s,MS4.2
CDF Champ du Feu 61.70 323 *e*P **P 02 33 21.9 -0.6**
comp=Z,103nm,1.5s,mb5.4
CDF Champ du Feu 61.70 323 *e*P **P 02 33 21.9 -0.6**
CDF pmax pmax
comp=Z,52nm,1.5s,mb5.4
CDF Champ du Feu 61.70 323 *e*P **P 02 33 21.9 -0.6**
comp=Z,52nm,1.5s,mb5.4
CABF La Chapelle 61.70 320 *e*P **P 02 33 22.4 -0.2**
comp=Z,137nm,1.3s,mb5.6
CABF La Chapelle 61.70 320 *e*P **P 02 33 22.4 -0.2**
CABF pmax pmax
comp=Z,69nm,1.3s,mb5.6
CABF La Chapelle 61.70 320 *e*P **P 02 33 22.4 -0.2**
comp=Z,69nm,1.3s,mb5.6
HINF Hinteralfeld 61.71 322 *e*P **P 02 33 21.6 -1.0**
HAU Haudompre 62.09 322 *e*P **P 02 33 23.9 -1.3**
HAU *e*MLR MLR

comp=Z,92nm,19.0s
HAU Haudompre 62.09 322 *e*P **P 02 33 23.9 -1.3**
HAU LR LR
comp=Z,90nm,19.0s,MS4.0
MEZF Maizieres J'vi 63.09 322 *e*P **P 02 33 31.3 -0.5**
comp=Z,11nm,0.7s,mb4.8
MEZF Maizieres J'vi 63.09 322 *e*P **P 02 33 31.3 -0.5**
comp=Z,11nm,0.7s,mb5.1
SMF Signal de Mont 63.15 320 *e*P **P 02 33 30.9 -1.4**
comp=Z,38nm,1.3s,mb5.0
SMF Signal de Mont 63.15 320 *e*P **P 02 33 30.9 -1.4**
SMF pmax pmax
comp=Z,19nm,1.3s,mb5.1
SMF Signal de Mont 63.15 320 *e*P **P 02 33 30.9 -1.4**
comp=Z,19nm,1.3s,mb5.1
LOR Lormes 63.37 320 *e*P **P 02 33 32.7 -1.0**
comp=Z,11nm,0.8s,mb4.7
LOR *e*MLR MLR
comp=Z,97nm,19.5s
LOR Lormes 63.37 320 *e*P **P 02 33 32.7 -1.0**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,100nm,19.5s,MS4.0
LOR Lormes 63.37 320 *e*P **P 02 33 32.7 -1.0**
comp=Z,5.3nm,0.8s,mb4.7
LOR LR LR
comp=Z,100nm,19.5s,MS4.0
SSF Saint Saulge 63.52 320 *e*P **P 02 33 33.6 -1.1**
comp=Z,17nm,0.9s,mb4.8
SSF Saint Saulge 63.52 320 *e*P **P 02 33 33.6 -1.1**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SSF Saint Saulge 63.52 320 *e*P **P 02 33 33.6 -1.1**
comp=Z,8.6nm,0.9s,mb4.8
AVF Avril sur Loir 63.52 320 *e*P **P 02 33 33.4 -1.3**
comp=Z,14nm,1.1s,mb4.6
AVF Avril sur Loir 63.52 320 *e*P **P 02 33 33.4 -1.3**
AVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
AVF Avril sur Loir 63.52 320 *e*P **P 02 33 33.4 -1.3**
comp=Z,6.9nm,1.1s,mb4.6
BGF Bois d'Agland 63.76 319 *e*P **P 02 33 35.7 -0.6**
comp=Z,32nm,1.0s,mb5.0
BGF Bois d'Agland 63.76 319 *e*P **P 02 33 35.7 -0.6**
BGF pmax pmax
comp=Z,16nm,1.0s,mb5.0
BGF Bois d'Agland 63.76 319 *e*P **P 02 33 35.7 -0.6**
comp=Z,16nm,1.0s,mb5.0
GIVF Givet 63.86 324 *e*P **P 02 33 36.4 -0.5**
TCF Toulx Ste Croi 64.08 319 *e*P **P 02 33 37.7 -0.7**
comp=Z,16nm,1.2s,mb4.6
TCF Toulx Ste Croi 64.08 319 *e*P **P 02 33 37.7 -0.7**
TCF pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
TCF Toulx Ste Croi 64.08 319 *e*P **P 02 33 37.7 -0.7**
comp=Z,8.0nm,1.2s,mb4.6
BAIF Baives 64.20 323 *e*P **P 02 33 38.7 -0.5**
comp=Z,73nm,1.5s,mb5.2
BAIF Baives 64.20 323 *e*P **P 02 33 38.7 -0.5**
BAIF pmax pmax
comp=Z,37nm,1.5s,mb5.2
BAIF Baives 64.20 323 *e*P **P 02 33 38.7 -0.5**
comp=Z,36nm,1.5s,mb5.2
RJF Les Rejaudoux 64.22 318 *e*P **P 02 33 38.9 -0.4**
RJF *e*MLR MLR
comp=Z,89nm,20.8s
RJF Les Rejaudoux 64.22 318 *e*P **P 02 33 38.9 -0.4**
RJF LR LR
comp=Z,90nm,20.8s,MS3.9
EPF Esparros 64.35 315 *e*P **P 02 33 39.0 -1.2**
comp=Z,27nm,1.3s,mb4.8
EPF Esparros 64.35 315 *e*P **P 02 33 39.0 -1.2**
EPF pmax pmax
comp=Z,14nm,1.3s,mb4.8
EPF Esparros 64.35 315 *e*P **P 02 33 39.0 -1.2**
comp=Z,14nm,1.3s,mb4.8
LFF La Frestale 64.63 317 *e*P **P 02 33 41.7 -0.3**
LIC Lamto 65.32 274 *e*P **P 02 33 45.5 -1.0**
comp=Z,32nm,1.2s,mb4.9
LIC *e*MLR MLR
comp=Z,562nm,22.0s
LIC Lamto 65.32 274 *e*P **P 02 33 45.5 -1.0**
comp=Z,16nm,1.2s,mb4.9
LIC LR LR
comp=Z,280nm,22.0s,MS4.4
SNY Shenyang 65.81 47 ⇑P **P 02 33 55.1 +5.5**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb5.0
NB2 NORSAR Subarra 65.96 336 P **P 02 33 49.2 -1.4**
comp=Z,18nm,1.2s,mb5.0,baz=120,slow=6.9
NB2 NORSAR Subarra 65.96 336 P **P 02 33 49.2 -1.4**
NB2 pmax pmax
comp=Z,18nm,1.2s,mb5.0
NOA NORSAR Array B 65.96 336 P **P 02 33 49.5 -1.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=120,slow=6.9,SNR=5.8
NOA NORSAR Array B 65.96 336 P **P 02 33 49.5 -1.1**
LDF La Druitiere 66.33 321 *e*P **P 02 33 52.0 -1.0**
comp=Z,25nm,0.9s,mb4.9
LDF La Druitiere 66.33 321 *e*P **P 02 33 52.0 -1.0**
LDF pmax pmax
comp=Z,12nm,0.9s,mb4.9
LDF La Druitiere 66.33 321 *e*P **P 02 33 52.0 -1.0**
comp=Z,12nm,0.9s,mb4.9
ESDC Sonseca Array 66.67 311 P **P 02 33 55.0 -0.2**
comp=Z,2.8nm,0.7s,mb4.4,baz=87,slow=5.4,SNR=18
ESLA Sonseca Array 66.67 311 *e*P **P 02 33 55.5 +0.3**
ARCES ARCESS Array B 67.32 347 P **P 02 33 57.8 -1.6**
comp=Z,3.6nm,0.8s,mb4.5,baz=128,slow=3.7,SNR=6.6
CN2 Changchun 67.61 45 *e*P **P 02 34 02.6 +1.4**
QUIF Quistinic 68.08 319 *e*P **P 02 34 02.2 -1.9**
ROSF Rostrenen 68.26 320 *e*P **P 02 34 03.4 -1.8**
FITZ Fitzroy Crossi 68.42 112 *e*P **P 02 34 06.0 -0.2**
comp=Z,17nm,1.5s,mb4.8
MDJ Mudanjiang 70.70 45 P **P 02 34 20.5 +0.2**
MDJ PCP PcP 02 34 40.6 -0.6
MDJ PP PP 02 36 54.3 -2.5
MDJ S S 02 43 33.7 -0.9
MDJ SS SS 02 48 11.3 +4.9
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,173nm,3.9s
MDJ LR LR
comp=N,147nm,23.5s,MS4.4
MDJ LR LR
comp=E,173nm,23.5s,MS4.4
MDJ LR LR
comp=Z,301nm,26.1s,MS4.4
KLR Kul'dur 73.00 40 *e*P **P 02 34 28.3 -5.8**
MAW Mawson 73.61 179 P **P 02 34 37.9 +0.2**
comp=Z,1.7nm,1.0s,mb3.9,baz=336,slow=7.0,SNR=4.3
MAW LR LR 03 00 50.1
comp=Z,210nm,18.8s,MS4.5,baz=62,slow=31
WRA Warramunga Arr 76.84 112 P **P 02 34 55.5 -0.9**
comp=Z,3.3nm,0.9s,mb4.3,baz=289,slow=5.0,SNR=16
WRA LR LR 03 01 26.5
comp=Z,73nm,20.0s,MS4.0,baz=160,slow=30
WB2 Warramunga Arr 76.86 112 *e*P **P 02 34 55.7 -0.7**
ASAR Alice Springs 77.22 116 P **P 02 34 57.5 -1.0**
comp=Z,2.6nm,0.7s,mb4.3,baz=286,slow=5.4,SNR=30
AS31 Alice Springs 77.23 116 *e*P **P 02 34 57.4 -1.1**
PMG Port Moresby 87.50 100 LR LR 03 12 05.4
comp=Z,70nm,19.9s,MS4.1,baz=34,slow=34
SNAA Sanae 87.77 196 *e*P **P 02 35 53.3 -0.2**
SNAA *e* pP 02 35 57.1 +0.3
SNAA *e* 02 36 01.0
SNAA Sanae 87.77 196 *e*P **P 02 35 54.6 +1.1**
SNAA pmax pmax
comp=Z,22nm,1.7s
SNAA Sanae 87.77 196 *e*P **P 02 35 54.6 +1.1**
comp=Z,22nm,1.7s,mb5.1
VNA1 Neumayer--Stat 88.95 198 *e*P **P 02 35 59.8 +0.7**
VNA1 *e* pP 02 36 03.0 +0.6
VNA1 *e* 02 36 07.2
VNA1 *e* 02 36 13.8
VNA1 *e* 02 36 32.4
VNA3 Neumayer Olymp 89.59 198 *e*P **P 02 36 01.8 -0.3**
VNA3 *e* pP 02 36 05.1 -0.3
VNA3 *e* 02 36 09.7
VNA3 *e* 02 36 16.6
VNA3 *e* 02 36 34.1
RSSD Black Hills 128.09 346 *e*PKIKP PKPdf 02 42 11.5 +0.9
TPAW Teton Pass 130.01 352 *e*PKPdf PKPdf 02 42 16.2 +1.9
REDW Red Top Meadow 130.12 352 *e*PKPdf PKPdf 02 42 23.7 +9.2
RRI2 Red Ridge 130.20 352 *e*PKPdf PKPdf 02 42 23.8 +9.2
BW06 Boulder Array 130.51 351 *e*PKPdf PKPdf 02 42 15.4 +0.3
PDAR Pinedale Array 130.51 351 PKP PKPdf 02 42 14.9 -0.3
comp=Z,1.1nm,0.7s,baz=55,slow=2.9,SNR=10
WVOR Wild Horse Val 131.63 359 *e*PKIKP PKPdf 02 42 19.4 +2.1
HWUT Hardware Ranch 131.94 352 *e*PKPdf PKPdf 02 42 18.2 +0.3
SMCO Snowmass 133.47 347 *e*PKPdf PKPdf 02 42 22.6 +1.9
NVAR Mina Array Bea 135.63 359 PKP PKPdf 02 42 25.6 +0.8
comp=Z,1.5nm,1.0s,baz=267,slow=2.3,SNR=4.7
CMB Columbia Colle 136.02 1 *e*PKIKP PKPdf 02 42 26.3 +0.8
TUC Tucson 140.90 349 *e*PKIKP PKPdf 02 42 36.3 +1.8

BJI ***07*** *02:24:41.3, 522N×6127E, h23km, mB5.3, mb4.8*
ISCJB ***07*** *02:24:42.4±0.4, 624N±006×6074E±007, h10km, mb4.5/34, MS3.9/1, Error ellipse: s-maj=9.4km s-min=9.3km az=157.4*
IDC ***07*** *02:24:42.5±0.7, 623N×6083E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, MS3.9/1, Ms1 3.9/1, ms1mx3.3/16, Error ellipse: s-maj=19.5km s-min=18.9km az=166.0*
MOS ***07*** *02:24:42.1±1.2, 620N×6071E, h10km, mb4.8/13, Error ellipse: s-maj=13.5km s-min=8.9km az=97.1*
NEIC ***07*** *02:24:43.9±0.3, 612N×6075E, h10km, mb4.8/19, Error ellipse: s-maj=8.1km s-min=7.6km az=173.0*
ISC 07 02:24:44.4±0.4, 621N±006×6076E±007, h10km, n81, σ0°91/79, mb4.5/34, MS3.9/1, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**20.65**	**56**	*i* P		**P**	**02 29 30.0**	**+5.9**
HYB	**Hyderabad**	**20.65**	**56**	*e*P		**P**	**02 29 30.0**	**+5.9**
KMBO	**Kilima Mbogo**	**24.57**	**254**	P		**P**	**02 30 06.2**	**+1.9**
7.3nm,0.8s,mb4.3,baz=52,slow=13,SNR=5.7								
KMBO	**Kilima Mbogo**	**24.57**	**254**	*e*P		**P**	**02 30 05.8**	**+1.4**
KMBO				pmax		pmax		
comp=Z,25nm,1.0s								
KMBO	**Kilima Mbogo**	**24.57**	**254**	*e*P		**P**	**02 30 05.8**	**+1.4**
comp=Z,25nm,1.0s,mb4.7								
EIL	**Elat**	**33.70**	**317**	*e*P		**P**	**02 31 27.8**	**+2.1**
comp=Z,139nm,1.0s								
GNI	**Garni**	**36.73**	**339**	*e*P		**P**	**02 31 44.1**	**-7.6**
GNI				pmax		pmax		
comp=Z,16nm,1.9s								
GNI	**Garni**	**36.73**	**339**	*e*P		**P**	**02 31 44.0**	**-7.6**
comp=Z,158nm,1.9s,mb5.5								
LSA	**Lhasa**	**36.96**	**47**	*e*P		**P**	**02 31 55.7**	**+2.1**
LSA				pmax		pmax		
comp=Z,12nm,0.9s,mb4.7								
LSA	**Lhasa**	**36.96**	**47**	*e*P		**P**	**02 31 55.7**	**+2.1**
comp=Z,12nm,0.9s,mb4.7								
AAK	**Ala-Archa**	**38.26**	**16**	*e*P		**P**	**02 32 05.8**	**+1.1**
AAK				pmax		pmax		
comp=Z,78nm,2.0s,mb5.1								
AAK	**Ala-Archa**	**38.26**	**16**	*e*P		**P**	**02 32 05.8**	**+1.2**
comp=Z,78nm,2.0s,mb5.1								
LSZ	**Lusaka**	**38.69**	**236**	P		**P**	**02 32 09.7**	**+1.4**
comp=Z,1.7nm,0.6s,mb3.9,baz=53,slow=6.2,SNR=3.7								
LSZ	**Lusaka**	**38.69**	**236**	*e*P		**P**	**02 32 07.2**	**-1.1**
LSZ				pmax		pmax		
comp=Z,10.0nm,1.4s,mb4.3								
LSZ	**Lusaka**	**38.69**	**236**	*e*P		**P**	**02 32 07.2**	**-1.1**
comp=Z,9.8nm,1.4s,mb4.3								
CHTO	**Chiang Mai**	**39.23**	**68**	*e*P		**P**	**02 32 13.7**	**+0.9**
CHTO				pmax		pmax		
comp=Z,9.0nm,1.1s,mb4.4								
CHTO	**Chiang Mai**	**39.23**	**68**	*e*P		**P**	**02 32 13.7**	**+0.9**
comp=Z,9.4nm,1.1s,mb4.4								
KULM	**Kulim**	**39.70**	**89**	*e*P		**P**	**02 32 16.1**	**-0.6**
KIV	**Kislovodsk**	**40.80**	**340**	*e*P		**P**	**02 32 22.3**	**-3.6**
KIV				pmax		pmax		
comp=Z,14nm,1.2s,mb4.5								
KIV	**Kislovodsk**	**40.80**	**340**	*e*P		**P**	**02 32 22.3**	**-3.6**
comp=Z,14nm,1.2s,mb4.5								
BR131	**Keskin Array S**	**41.33**	**328**	*e*P		**P**	**02 32 30.9**	**+0.7**
comp=Z,5.1nm,1.0s,mb4.1								
BRTR	**Keskin Array B**	**41.33**	**328**	P		**P**	**02 32 31.3**	**+1.1**
comp=Z,3.6nm,0.9s,mb4.0,baz=155,slow=9.5,SNR=8.9								
ANTO	**Ankara**	**41.89**	**327**	*e*P		**P**	**02 32 35.0**	**+0.2**
ANTO				pmax		pmax		
comp=Z,4.0nm,0.7s,mb4.2								
ANTO	**Ankara**	**41.89**	**327**	*e*P		**P**	**02 32 35.0**	**+0.2**
comp=Z,4.3nm,0.7s,mb4.2								
SANT	**Santorini**	**44.08**	**318**	*e*P		**P**	**02 32 52.3**	**-0.3**
comp=Z,24nm,0.9s,mb4.9								
AKTK	**Aktyubinsk**	**44.14**	**357**	P		**P**	**02 32 53.5**	**+0.4**
AKTO	**Aktyubinsk**	**44.14**	**357**	P		**P**	**02 32 53.5**	**+0.4**
comp=Z,3.8nm,0.8s,mb4.2,baz=180,slow=6.4,SNR=5.9								
MKAR	**Makanchi Array**	**44.48**	**21**	P		**P**	**02 32 56.2**	**+0.4**
comp=Z,4.1nm,0.9s,mb4.2,baz=209,slow=7.0,SNR=8.7								
MKAR	**Makanchi Array**	**44.48**	**21**	P		**P**	**02 32 56.2**	**+0.4**
LBTB	**Lobatse**	**46.19**	**226**	P		**P**	**02 33 05.8**	**-3.5**
comp=Z,4.1nm,1.0s,mb4.3,baz=7.8,slow=8.9,SNR=4.0								
LBTB	**Lobatse**	**46.19**	**226**	*e*P		**P**	**02 33 08.3**	**-1.0**
LBTB				pmax		pmax		
comp=Z,10.0nm,1.0s,mb4.7								
LBTB	**Lobatse**	**46.19**	**226**	*e*P		**P**	**02 33 08.3**	**-1.0**
comp=Z,10nm,1.0s,mb4.7								
ZRNK	**Zerenda**	**47.09**	**7**	*e*P		**P**	**02 33 17.0**	**+0.7**
ZRNK				pmax		pmax		
comp=Z,18nm,1.4s,mb4.8								
ZRNK	**Zerenda**	**47.09**	**7**	*e*P		**P**	**02 33 17.0**	**+0.6**
comp=Z,18nm,1.4s,mb4.8								
BVAR	**Borovoye Array**	**47.34**	**8**	P		**P**	**02 33 15.8**	**-2.5**
comp=Z,0.7nm,0.4s,mb3.9,baz=180,slow=1.5,SNR=5.6								
BVAR				PcP		PcP	02 34 49.0	-0.1
comp=Z,1.5nm,0.9s,baz=170,slow=0.9,SNR=3.8								
BVAR	**Borovoye Array**	**47.34**	**8**	P		**P**	**02 33 15.8**	**-2.5**
BVAR				PcP		PcP	02 34 49.0	-0.1
CHKZ	**Chkalovo**	**48.00**	**8**	*e*P		**P**	**02 33 23.9**	**+0.4**
CHKZ				pmax		pmax		
comp=Z,28nm,1.4s,mb5.1								
CHKZ	**Chkalovo**	**48.00**	**8**	*e*P		**P**	**02 33 23.9**	**+0.5**
comp=Z,28nm,1.4s,mb5.1								
TSUM	**Tsumeb**	**49.45**	**238**	*e*P		**P**	**02 33 35.7**	**+1.1**
comp=Z,21nm,1.5s,mb4.9								
AKASG	**Malin Array Be**	**51.55**	**335**	P		**P**	**02 33 50.5**	**0.0**
comp=Z,0.2nm,0.2s,mb3.6,baz=141,slow=7.0,SNR=4.3								
AKASG				LR		LR	02 58 15.2	
comp=Z,111nm,19.5s,MS3.9,baz=135,slow=39								
AKASG	**Malin Array Be**	**51.55**	**335**	P		**P**	**02 33 50.5**	**0.0**
AKASG				LR		LR	02 58 15.2	
AKBB	**Malin Array Si**	**51.55**	**335**	*e*P		**P**	**02 33 49.8**	**-0.7**
XAN	**Xi'an**	**52.37**	**51**	P		**P**	**02 33 55.9**	**-0.7**
XAN				AP		pP	02 34 03.3	+3.5
XAN				AMB		AMB		
comp=Z,10.0nm,1.1s,mb4.7								
MOS	**Moscow**	**52.72**	**344**	*e*P		**P**	**02 33 58.5**	**-0.7**
KOLS	**Kolonicke sedl**	**53.56**	**329**	*e*P		**P**	**02 34 06.4**	**+1.0**
CRVS	**Cervenica-Dubn**	**53.95**	**329**	*e*P		**P**	**02 34 08.8**	**+0.6**
PSZ	**Piszkesteto**	**54.18**	**327**	*e*P		**P**	**02 34 08.6**	**-1.3**
PSZ				pmax		pmax		
comp=Z,2.0nm,0.7s,mb4.2								
PSZ	**Piszkesteto**	**54.18**	**327**	*e*P		**P**	**02 34 08.6**	**-1.2**
comp=Z,2.3nm,0.7s,mb4.2								
STHS	**Stebnicka Huta**	**54.39**	**329**	*e*P		**P**	**02 34 11.8**	**+0.4**
VYHS	**Vyhne**	**55.09**	**327**	*e*P		**P**	**02 34 16.6**	**+0.1**
MORC	**Moravsky Berou**	**56.53**	**328**	*e*P		**P**	**02 34 26.2**	**-0.6**
MORC				pmax		pmax		
comp=Z,32nm,1.8s,mb5.0								
MORC	**Moravsky Berou**	**56.53**	**328**	*e*P		**P**	**02 34 26.2**	**-0.6**
comp=Z,32nm,1.8s,mb5.0								
SONM	**Songino Array**	**56.79**	**35**	P		**P**	**02 34 29.8**	**+1.2**
comp=Z,7.2nm,1.1s,mb4.6,baz=238,slow=7.4,SNR=9.0								
TREC	**Trest**	**57.36**	**326**	*e*P		**P**	**02 34 31.8**	**-0.9**
DPC	**Dobruska-Polom**	**57.50**	**328**	*e*P		**P**	**02 34 33.2**	**-0.5**
UPC	**Upice**	**57.75**	**328**	*e*P		**P**	**02 34 35.1**	**-0.4**
GERES	**GERESS Array B**	**58.12**	**325**	P		**P**	**02 34 37.3**	**-0.7**
comp=Z,0.3nm,0.6s,mb3.5,baz=113,slow=10,SNR=3.8								
KHC	**Kasperske Hory**	**58.34**	**326**	*e*P		**P**	**02 34 38.4**	**-1.2**
TOA0	**Torodi Ar. Sit**	**58.52**	**282**	*e*P		**P**	**02 34 41.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**58.52**	**282**	P		**P**	**02 34 41.5**	**+0.7**
comp=Z,3.6nm,1.0s,mb4.3,baz=93,slow=7.2,SNR=6.2								
NKC	**Novy Kostel**	**59.53**	**326**	*e*P		**P**	**02 34 47.8**	**-0.1**
CLL	**Collm**	**59.79**	**327**	*i* P		**P**	**02 34 49.1**	**-0.5**
comp=Z,20nm,1.6s,mb4.9								
CLL				*ex*		x	02 35 23.0	
BNI	**Bardonecchia**	**60.71**	**319**	*e*P		**P**	**02 34 55.9**	**0.0**
BNI				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.4								
BNI	**Bardonecchia**	**60.71**	**319**	*e*P		**P**	**02 34 55.9**	**-0.1**
comp=Z,3.4nm,0.9s,mb4.5								
FINES	**FINESS Array B**	**60.85**	**342**	P		**P**	**02 34 56.1**	**-0.8**
comp=Z,1.4nm,0.7s,mb4.2,baz=132,slow=8.0,SNR=5.8								
NOA	**NORSAR Array B**	**65.93**	**336**	P		**P**	**02 35 29.9**	**-0.6**
comp=Z,4.2nm,1.0s,mb4.4,baz=121,slow=6.9,SNR=4.0								
NOA	**NORSAR Array B**	**65.93**	**336**	P		**P**	**02 35 29.9**	**-0.6**
ESDC	**Sonseca Array**	**66.67**	**311**	P		**P**	**02 35 35.6**	**+0.3**
comp=Z,2.9nm,0.8s,mb4.4,baz=92,slow=5.5,SNR=9.1								
ARCES	**ARCESS Array B**	**67.29**	**347**	P		**P**	**02 35 37.5**	**-1.7**
comp=Z,4.6nm,0.9s,mb4.5,baz=157,slow=6.5,SNR=5.5								
ARCES	**ARCESS Array B**	**67.29**	**347**	P		**P**	**02 35 37.5**	**-1.7**
WRA	**Warramunga Arr**	**76.83**	**112**	P		**P**	**02 36 36.2**	**-0.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=290,slow=5.0,SNR=7.4								
ASAR	**Alice Springs**	**77.21**	**116**	P		**P**	**02 36 38.2**	**-0.3**
comp=Z,3.2nm,0.9s,mb4.3,baz=285,slow=5.7,SNR=8.9								
AS31	**Alice Springs**	**77.21**	**116**	*e*P		**P**	**02 36 37.7**	**-0.8**
SUMG	**Summit**	**86.88**	**343**	*e*P		**P**	**02 37 30.0**	**+0.8**
comp=Z,8.4nm,1.0s,mb4.9								
SNAA	**Sanae**	**87.82**	**196**	*e*P		**P**	**02 37 33.8**	**0.0**
SNAA				*e*			02 37 42.0	
SNAA	**Sanae**	**87.82**	**196**	*e*P		**P**	**02 37 32.7**	**-1.1**
SNAA				pmax		pmax		
comp=Z,11nm,1.6s								
SNAA	**Sanae**	**87.82**	**196**	*e*P		**P**	**02 37 32.7**	**-1.1**
comp=Z,11nm,1.6s,mb4.8								
VNA1	**Neumayer--Stat**	**89.00**	**198**	*e*P		**P**	**02 37 39.9**	**+0.5**
VNA1				*e*			02 37 48.1	
VNA3	**Neumayer Olymp**	**89.65**	**198**	*e*P		**P**	**02 37 42.7**	**+0.2**
VNA3				*e*			02 37 51.0	
PDAR	**Pinedale Array**	**130.47**	**351**	PKP		PKPdf	02 43 55.4	+0.2
comp=Z,1.0nm,0.7s,baz=48,slow=2.5,SNR=8.0								
NVAR	**Mina Array Bea**	**135.58**	**359**	PKP		PKPdf	02 44 07.2	+2.3
comp=Z,1.7nm,0.9s,baz=298,slow=1.8,SNR=6.2								

CSEM ***07*** *02:27:51.5, 37.15N×425E, h0km, ML2.8, After ALG*
CRAAG ***07*** *02:27:51.5, 37.15N×425E, Ml2.8*
ISCJB ***07*** *02:27:57.3±1.6, 3701N±005×40E±02, h10km, Error ellipse: s-maj=19.1km s-min=6.9km az=173.5*
MDD ***07*** *02:27:58.9±1.5, 3694N×401E, h0km, mb3.3/3, Error ellipse: s-maj=15.5km s-min=8.3km az=80.0, PRXIMO*
ISC 07 02:27:57.5±3.0, 370N±02×41E±02, h4km±29km, n8, σ1°07/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.51**	**242**	P		**Pg**	**02 28 07.3**	**0.0**
ABA	**Alger-Bouzarea**	**0.83**	**257**	P		**Pg**	**02 28 13.8**	**+0.4**
AKET	**Djebel Ketaf**	**0.95**	**188**	P		**Pg**	**02 28 15.6**	**-0.1**
ADJB	**Djebel Djouab**	**0.96**	**211**	P		**Pg**	**02 28 15.6**	**-0.3**
EMHD	**Djebel Mahouad**	**1.18**	**228**	P		**Pg**	**02 28 19.0**	**-1.1**
ETOS	**Mallorca**	**2.94**	**341**	Pn		**Pn**	**02 28 45.3**	**+0.3**
0.6nm,0.1s,SNR=6.5								
ETOS				Sn		**Sn**	**02 29 18.3**	**-2.4**
0.2nm,0.1s,SNR=7.9								
EIBI	**Ibiza**	**2.95**	**314**	Pn		**Pn**	**02 28 47.3**	**+2.2**
0.2nm,0.1s,SNR=4.0								
EIBI				Sn		**Sn**	**02 29 20.5**	**-0.4**
0.5nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**4.73**	**292**	Pn		**Pn**	**02 29 10.6**	**+1.1**
0.3nm,0.1s,SNR=7.9								

ISCJB ***07*** *02:29:10.3±0.7, 65N±01×604E±01, h10km, mb3.9/14, Error ellipse: s-maj=19.8km s-min=13.0km az=84.1*
IDC ***07*** *02:29:10.4±0.8, 645N×6038E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, Error ellipse: s-maj=23.1km s-min=19.3km az=148.0*
MOS ***07*** *02:29:10.1±1.1, 644N×6039E, h10km, mb4.5/3, Error ellipse: s-maj=26.4km s-min=16.4km az=64.7*
NEIC ***07*** *02:29:11.9±0.6, 644N×6036E, h10km, mb4.3/3, Error ellipse: s-maj=16.8km s-min=11.4km az=131.0*
ISC 07 02:29:12.5±0.7, 65N±01×604E±01, h10km, n18, σ0°90/18, mb3.9/14, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.27**	**253**	P		**P**	**02 34 29.3**	**-0.4**
5.1nm,0.9s,mb4.0,baz=51,slow=14,SNR=7.2								
AAK	**Ala-Archa**	**38.11**	**17**	*e*P		**P**	**02 36 31.4**	**-0.1**
AAK				pmax		pmax		
comp=Z,1.0nm,0.5s,mb3.8								
AAK	**Ala-Archa**	**38.11**	**17**	*e*P		**P**	**02 36 31.4**	**-0.1**
comp=Z,1.1nm,0.5s,mb3.8								
LSZ	**Lusaka**	**38.52**	**236**	P		**P**	**02 36 34.1**	**-0.9**
comp=Z,2.2nm,0.8s,mb3.9,baz=137,slow=5.6,SNR=3.6								
LSZ	**Lusaka**	**38.52**	**236**	P		**P**	**02 36 34.1**	**-0.9**
BRTR	**Keskin Array B**	**40.89**	**328**	P		**P**	**02 36 56.8**	**+2.1**
comp=Z,0.6nm,1.0s,mb3.2,baz=148,slow=8.5,SNR=4.1								
MKAR	**Makanchi Array**	**44.37**	**22**	P		**P**	**02 37 21.4**	**-1.5**
comp=Z,0.6nm,0.7s,mb3.5,baz=201,slow=7.7,SNR=4.4								
LBTB	**Lobatse**	**46.09**	**226**	P		**P**	**02 37 36.5**	**-0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=43,slow=14,SNR=2.9								
ZRNK	**Zerenda**	**46.86**	**7**	*e*P		**P**	**02 37 43.3**	**+0.6**
ZRNK				pmax		pmax		
comp=Z,3.0nm,1.1s,mb4.1								
ZRNK	**Zerenda**	**46.86**	**7**	*e*P		**P**	**02 37 43.2**	**+0.6**
comp=Z,3.2nm,1.1s,mb4.2								
CHKZ	**Chkalovo**	**47.78**	**8**	*e*P		**P**	**02 37 49.9**	**0.0**
CHKZ				pmax		pmax		
comp=Z,10.0nm,1.4s,mb4.7								
CHKZ	**Chkalovo**	**47.78**	**8**	*e*P		**P**	**02 37 49.9**	**0.0**
comp=Z,9.6nm,1.4s,mb4.6								
SONM	**Songino Array**	**56.79**	**35**	P		**P**	**02 38 56.6**	**-0.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=205,slow=3.1,SNR=4.2								
TORD	**Torodi Ar. Bea**	**58.08**	**281**	P		**P**	**02 39 06.9**	**+1.0**
comp=Z,0.8nm,1.0s,mb3.7,baz=97,slow=5.4,SNR=6.2								
FINES	**FINESS Array B**	**60.47**	**342**	P		**P**	**02 39 20.8**	**-1.6**
comp=Z,3.6nm,1.0s,mb4.4,baz=218,slow=24,SNR=4.3								
ESDC	**Sonseca Array**	**66.19**	**311**	P		**P**	**02 40 00.4**	**+0.1**
comp=Z,0.3nm,0.6s,mb3.5,baz=94,slow=5.6,SNR=4.9								
WRA	**Warramunga Arr**	**77.29**	**112**	P		**P**	**02 41 07.5**	**+0.4**
comp=Z,1.2nm,0.9s,mb3.8,baz=292,slow=4.7,SNR=4.7								
ASAR	**Alice Springs

EAZ	**Earnscleugh**	**1.33**	**97**	P	Pn	02 50 15.6	0.0
EAZ	**Earnscleugh**	**1.33**	**97**	⇑PN	Pn	02 50 15.6	0.0
EAZ				SN	Sn	02 50 32.8	-1.8
JCZ	**Jackson Bay**	**1.39**	**43**	*eP*	Pn	02 50 16.0	-0.3
JCZ	**Jackson Bay**	**1.39**	**43**	PN	Pn	02 50 16.0	-0.3
JCZ				SN	Sn	02 50 34.5	-1.3
TUZ	**Tuapeka**	**1.77**	**120**	*eP*	Pn	02 50 20.7	-0.1
TUZ	**Tuapeka**	**1.77**	**120**	PN	Pn	02 50 20.7	-0.1
TUZ				SN	Sn	02 50 41.5	-2.3
APZ	**The Paps**	**1.78**	**168**	PN	Pn	02 50 20.6	-0.4
APZ				SN	Sn	02 50 43.0	-1.1
SYZ	**Scrubby Hill**	**1.87**	**141**	⇑PN	Pn	02 50 22.1	0.0
SYZ				SN	Sn	02 50 43.9	-2.2
LBZ	**Lake Benmore**	**2.08**	**71**	P	Pn	02 50 23.4	-1.4
LBZ				S	Sn	02 50 47.9	-3.0
LBZ	**Lake Benmore**	**2.08**	**71**	PN	Pn	02 50 23.4	-1.3
LBZ				SN	Sn	02 50 47.9	-3.0
FOZ	**Fox Glacier**	**2.23**	**47**	*eP*	Pn	02 50 26.0	-0.6
FOZ	**Fox Glacier**	**2.23**	**47**	PN	Pn	02 50 25.8	-0.7
ODZ	**Otahua Downs**	**2.27**	**90**	*eP*	Pn	02 50 26.1	-1.1
ODZ				S	Sn	02 50 52.1	-3.1
ODZ	**Otahua Downs**	**2.27**	**90**	⇑PN	Pn	02 50 26.1	-1.1
ODZ				SN	Sn	02 50 52.1	-3.2
HHSZ	**Highcliff Hill**	**2.36**	**111**	PN	Pn	02 50 27.9	-0.4

*NEIC **07** 03:11:58.7, 3054S×7208W, h22km, ML3.5(GUC), After GUC.*

GUC 07 03:11:58.7±0.9, 3054S×7208W, h22km±4km, MD3.7, ML3.5, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.76**	**95**	*eP*	Pb	03 12 12.2	-1.1
OVCH				*i* S	Sb	03 12 23.3	+0.1
OVCH				AML	AML	03 12 26.5	
	comp=E,2μm,0.6s						
OVCH	**Ovalle**	**0.76**	**95**	*eP*	Pb	03 12 12.2	-1.1
OVCH				*i* S	Sb	03 12 23.3	+0.1
LSCH	**La Serena**	**0.96**	**49**	*eP*	Pb	03 12 15.9	-0.7
LSCH				*i* S	Sb	03 12 29.2	+0.3
CMCH	**Combarbala**	**1.12**	**124**	⇑*iP*	Pn	03 12 18.7	-0.4
CMCH				*i* S	Sb	03 12 34.0	+0.4
CMCH				AML	AML	03 12 36.4	
	comp=N,5μm,0.5s						
CMCH	**Combarbala**	**1.12**	**124**	⇑*iP*	Pn	03 12 18.7	-0.4
CMCH				*i* S	Sb	03 12 34.0	+0.4
TLL	**Tololo Astrono**	**1.17**	**72**	*eP*	Pn	03 12 19.2	-0.4
TLL				*i* S	Sb	03 12 35.0	+0.1
TLL				AML	AML	03 12 39.4	
	comp=N,1μm,0.9s						
TLL	**Tololo Astrono**	**1.17**	**72**	*eP*	Pn	03 12 19.2	-0.4
TLL				*i* S	Sb	03 12 35.0	+0.1
CHNG	**Los Chungos**	**1.43**	**160**	*eP*	Pn	03 12 23.5	+0.3
CHNG				*i* S	Sn	03 12 41.5	+0.2
PTCH	**Petorca**	**1.98**	**150**	*eP*	Pn	03 12 32.0	+1.1
PTCH				*i* S	Sn	03 12 57.1	+2.2
PTCH				AML	AML	03 13 02.3	
	comp=E,509nm,0.3s						
PTCH	**Petorca**	**1.98**	**150**	*eP*	Pn	03 12 32.0	+1.1
PTCH				*i* S	Sn	03 12 57.1	+2.2
ZON	**Zonda**	**3.09**	**110**	*i* S	Sn	03 13 24.6	+2.3
CLCH	**Cerro Calan**	**3.13**	**156**	*eP*	Pn	03 12 48.2	+1.5
CLCH				*i* S	Sn	03 13 25.4	+2.0
CLCH				AML	AML	03 13 41.7	
	comp=E,208nm,0.7s						
FCH	**Farellones**	**3.17**	**152**	*eP*	Pn	03 12 49.0	+1.8
FCH				*i* S	Sn	03 13 27.6	+3.3

*BJI **07** 03:20:58.7, 535N×6027E, h10km, mB5.3, mb4.8, Ms4.9, Msz4.6*

*ISCJB **07** 03:21:05.6±0.2, 6.13N±004×6062E±003, h10km, mb4.9/116, MS4.3/44, Error ellipse: s-maj=5.4km s-min=4.2km az=174.2*

*IDC **07** 03:21:05.6±0.5, 6.17N×6078E, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.4/25, mbtmp4.3/24, ML3.8/2, MS4.3/19, Ms1 4.3/19, ms1mx4.2/26, Error ellipse: s-maj=14.4km s-min=13.3km az=12.0*

*MOS **07** 03:21:05.4±0.9, 6.17N×6059E, h10km, mb5.2/59, MS4.1/14, Error ellipse: s-maj=8.9km s-min=4.2km az=116.9*

*GCMT **07** 03:21:07.3±0.2, 6.00N×6076E, h12km, MW5.1/82, Moment Tensor Solution. s31,c41; s82,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.34±.10; $M_{\theta\theta}$2.86±.09; $M_{\phi\phi}$1.48±.10; $M_{r\theta}$1.11±.34; $M_{\theta\phi}$-1.86±.08; $M_{r\phi}$-1.93±.33; Best double couple: $M_0$4.78900×10^{16} NP1:ϕ_s115.00000°, δ33.00000°, λ-107.00000°. NP2: ϕ_s316.00000°, δ59.00000°, λ-79.00000°. Principal axes: T 4.6170, Plg13.0000°, Azm38.0000°; N 0.3430, Plg9.0000°, Azm130.0000°; P -4.9600, Plg74.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 03:21:07.3±0.2, 6.16N×6070E, h10km, mb5.1/72 Error ellipse: s-maj=6.6km s-min=5.3km az=51.0*

*SZGRF **07** 03:21:09.6, 5.93N×6032E, h33km, mb4.7, Carlsberg Ridge*

ISC 07 03:21:07.8±0.2, 612N±004×6062E±003, h10km, (h21km±1.5km:pP-P), n326, σ1§09/331, mb4.9/116, MS4.3/44, 32C-11D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGI	**Mangalore**	**15.55**	**63**	*i* P	**Pn**	**03 24 48.9**	**+1.8**
MNGI				*i* x	x	03 28 05.7	
WSAR	**Wadi Sarin**	**17.12**	**354**	P	**Pn**	**03 25 06.8**	**-0.4**
	0.2nm,0.3s,baz=200,slow=14,SNR=3.1						
WSAR				LR	LR	03 30 28.9	
	comp=Z,840nm,18.6s,baz=198,slow=33						
WSAR	**Wadi Sarin**	**17.12**	**354**	P	**Pn**	**03 25 06.8**	**-0.4**
WSAR				LR	LR	03 30 28.9	
KAD	**Karad**	**17.30**	**49**	*eP*	**Pn**	**03 25 10.8**	**+1.3**
KAD				AMb	AMB	03 25 13.6	
	comp=Z,42nm,1.4s						
KAD				*ex*	x	03 28 40.5	
BIDO	**Bidbid**	**17.46**	**352**	P	**Pn**	**03 25 12.5**	**+1.0**
	SNR=20						
ARQ	**Araqi**	**17.56**	**347**	P	**Pn**	**03 25 14.1**	**+1.4**
	SNR=36						
HOQ	**Hoqain**	**17.65**	**350**	P	**Pn**	**03 25 14.9**	**+1.1**
	SNR=16						
POO	**Poona**	**17.84**	**45**	⇓*iP*	**Pn**	**03 25 15.5**	**-0.7**
	comp=Z,80nm,1.0s						
POO				*ex*	x	03 25 49.4	
POO				AMb	AMB	03 25 58.7	
	comp=Z,57nm,1.6s						
ATD	**Arta Tunnel**	**18.36**	**288**	P	**Pn**	**03 25 23.7**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=255,slow=20,SNR=4.8						
ATD				LR	LR	03 31 35.8	
	comp=Z,559nm,18.4s,baz=98,slow=34						
ATD	**Arta Tunnel**	**18.36**	**288**	P	**Pn**	**03 25 23.7**	**+1.1**
ATD				LR	LR	03 31 35.8	
HATD	**Hatta, Dubai**	**19.09**	**347**	P	**Pn**	**03 25 31.8**	**+0.5**
	SNR=8.3						
PALK	**Pallekele**	**19.98**	**86**	*eP*	**Pn**	**03 25 43.6**	**+1.7**
MDRS	**Chennai**	**20.53**	**69**	*ex*	x	03 25 47.5	
MDRS				*ex*	x	03 29 35.5	
HYB	**Hyderabad**	**20.81**	**56**	*i* P	**P**	**03 25 51.0**	**+1.7**
HYB	**Hyderabad**	**20.81**	**56**	*eP*	**P**	**03 25 53.0**	**+3.7**
AKL	**Akola**	**21.51**	**46**	*i* P	**P**	**03 25 57.9**	**+1.0**
AKL				*i* x	x	03 32 00.9	
BHPL	**Bhopal**	**23.49**	**42**	*eP*	**P**	**03 26 20.3**	**+2.5**
BHPL				*ex*	x	03 30 28.7	
AJM	**Ajmer**	**24.26**	**32**	*eP*	**P**	**03 26 27.6**	**+2.6**
AJM				*ex*	x	03 30 57.2	
KMBO	**Kilima Mbogo**	**24.42**	**254**	P	**P**	**03 26 29.2**	**+2.8**
	comp=Z,16nm,0.8s,mb4.5,baz=54,slow=12,SNR=39						
KMBO				LR	LR	03 35 04.2	
	comp=Z,1μm,20.9s,MS4.4,baz=94,slow=34						
KMBO	**Kilima Mbogo**	**24.42**	**254**	P	**P**	**03 26 28.8**	**+2.4**
	SNR=26						
KMBO	**Kilima Mbogo**	**24.42**	**254**	*eP*	**P**	**03 26 28.2**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,93nm,1.4s						
KMBO	**Kilima Mbogo**	**24.42**	**254**	*eP*	**P**	**03 26 28.2**	**+1.8**
	comp=Z,94nm,1.4s,mb5.0						
KOLN	**Koldanda**	**30.65**	**43**	*eP*	**P**	**03 27 23.5**	**+1.2**
	comp=Z,105nm,1.3s,mb5.5						
GKN	**Gorkha**	**31.50**	**44**	*eP*	**P**	**03 27 30.9**	**+1.1**
DMN	**Daman**	**31.58**	**45**	*eP*	**P**	**03 27 31.8**	**+1.3**
	comp=Z,89nm,1.1s,mb5.5						
PKI	**Pulchoki**	**31.77**	**45**	*eP*	**P**	**03 27 33.0**	**+0.8**
	comp=Z,103nm,1.4s,mb5.5						
KKN	**Kakani**	**31.81**	**45**	*eP*	**P**	**03 27 33.6**	**+1.0**
	comp=Z,140nm,1.6s,mb5.5						
GUN	**Gumba**	**32.31**	**45**	*eP*	**P**	**03 27 38.2**	**+1.3**
	comp=Z,154nm,1.2s,mb5.7						
EIL	**Elat**	**33.68**	**317**	*eP*	**P**	**03 27 51.1**	**+2.2**
	comp=Z,279nm,1.3s,mb6.0						
GNI	**Garni**	**36.76**	**339**	⇑*eP*	**P**	**03 28 17.4**	**+2.0**
GNI				pmax	pmax		
	comp=Z,51nm,1.7s						
GNI				MLR	MLR		
	comp=Z,200nm,17.0s						
GNI	**Garni**	**36.76**	**339**	*eP*	**P**	**03 28 17.4**	**+2.0**
	comp=Z,71nm,1.5s,mb5.3						
LSA	**Lhasa**	**37.11**	**47**	*eP*	**P**	**03 28 19.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.1						
LSA	**Lhasa**	**37.11**	**47**	*eP*	**P**	**03 28 19.4**	**+1.0**
	comp=Z,33nm,1.1s,mb5.1						
MALT	**Malatya**	**37.84**	**331**	*eP*	**P**	**03 28 26.9**	**+2.3**
MALT				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
MALT	**Malatya**	**37.84**	**331**	*eP*	**P**	**03 28 26.9**	**+2.2**
	comp=Z,25nm,1.3s,mb4.8						
KK31	**Karatay Array**	**37.85**	**12**	*i* P	**P**	**03 28 25.7**	**+1.0**
KK31				pmax	pmax		
	comp=Z,30nm,1.8s,mb4.7						
UCH	**Uchtor**	**38.01**	**17**	P	**P**	**03 28 27.6**	**+1.6**
	SNR=7.1						
KZA	**Kyzart**	**38.09**	**18**	P	**P**	**03 28 28.7**	**+2.0**
	SNR=8.8						
EKS2	**Erkin-Say**	**38.21**	**16**	P	**P**	**03 28 29.5**	**+1.8**
	SNR=15						
PSI	**Prapat**	**38.32**	**93**	P	**P**	**03 28 29.1**	**+0.4**
	comp=Z,1.5nm,0.3s,mb4.1,baz=192,slow=6.3,SNR=5.0						
AAK	**Ala-Archa**	**38.38**	**17**	P	**P**	**03 28 29.3**	**+0.2**
	comp=Z,52nm,1.2s,mb5.1,SNR=6.5						
AAK	**Ala-Archa**	**38.38**	**17**	P	**P**	**03 28 31.0**	**+1.9**
	SNR=7.7						
AAK	**Ala-Archa**	**38.38**	**17**	⇑*eP*	**P**	**03 28 29.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,39nm,2.0s,mb4.8						
AAK				MLR	MLR		
	comp=Z,700nm,21.0s,MS4.5						
AAK	**Ala-Archa**	**38.38**	**17**	*eP*	**P**	**03 28 29.4**	**+0.2**
	comp=Z,55nm,1.6s,mb5.0						
MAK	**Makhachkala**	**38.48**	**344**	*eP*	**P**	**03 28 35.7**	**+5.7**
MAK				*e*		03 29 59.4	
MAK				*i*		03 30 43.5	
MAK				*e*SS	SS	03 37 04.1	-10
MAK				*e*		03 38 43.2	
MAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
MAK				MLR	MLR		
	comp=Z,514nm,30.0s,MS4.2						
KBK	**Karagaybulak**	**38.53**	**17**	P	**P**	**03 28 32.0**	**+1.6**
	SNR=6.5						
LSZ	**Lusaka**	**38.53**	**236**	P	**P**	**03 28 31.5**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.3,baz=48,slow=8.8,SNR=12						
LSZ	**Lusaka**	**38.53**	**236**	*eP*	**P**	**03 28 31.5**	**+1.1**
LSZ				pmax	pmax		
	comp=Z,39nm,1.7s,mb4.9						
LSZ	**Lusaka**	**38.53**	**236**	*eP*	**P**	**03 28 31.5**	**+1.1**
	comp=Z,39nm,1.7s,mb4.9						
FRU	**Bishkek**	**38.60**	**17**	*eP*	**P**	**03 28 31.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,170nm,2.5s,mb5.3						
FRU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.4						
TKM2	**Tokmak 2**	**38.97**	**18**	P	**P**	**03 28 37.6**	**+3.5**
	SNR=12						
USP	**Ospenovka**	**38.97**	**16**	P	**P**	**03 28 35.1**	**+1.1**
	SNR=6.2						
ZEI	**Tsey**	**39.38**	**340**	*eP*	**P**	**03 28 38.9**	**+1.4**
ZEI				*e*PP	pP	03 28 44.5	+3.8
ZEI				*e*		03 30 07.6	
ZEI				*e*		03 30 51.1	
CHTO	**Chiang Mai**	**39.38**	**68**	*eP*	**P**	**03 28 37.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,37nm,1.7s,mb4.8						
CHTO	**Chiang Mai**	**39.38**	**68**	*eP*	**P**	**03 28 37.6**	**0.0**
	comp=Z,37nm,1.7s,mb4.8						
KIV	**Kislovodsk**	**40.84**	**340**	P	**P**	**03 28 51.3**	**+1.7**
	SNR=9.4						
KIV	**Kislovodsk**	**40.84**	**340**	⇑*eP*	**P**	**03 28 50.3**	**+0.6**
KIV				*i*		03 28 57.2	
KIV				*e*		03 30 25.3	
KIV				*e*		03 30 50.6	
KIV				*e*S	**S**	**03 35 00.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,38nm,1.9s,mb4.7						
KIV				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
KIV	**Kislovodsk**	**40.84**	**340**	*eP*	**P**	**03 28 50.5**	**+0.8**
	comp=Z,24nm,1.0s,mb4.8						
MATP	**Matopo**	**41.14**	**229**	P	**P**	**03 28 53.5**	**+1.3**
	comp=Z,5.5nm,1.1s,mb4.1,baz=71,slow=13,SNR=4.6						
MATP	**Matopo**	**41.14**	**229**	P	**P**	**03 28 53.5**	**+1.3**
BR131	**Keskin Array S**	**41.34**	**328**	*eP*	**P**	**03 28 54.7**	**+0.9**
	comp=Z,5.6nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**41.34**	**328**	P	**P**	**03 28 54.2**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.0,baz=148,slow=9.6,SNR=24						
BRTR				LR	LR	03 46 32.1	
	comp=Z,331nm,20.1s,MS4.2,baz=115,slow=37						
BRTR	**Keskin Array B**	**41.34**	**328**	⇑*eP*	**P**	**03 28 54.7**	**+1.0**
ANTO	**Ankara**	**41.89**	**327**	P	**P**	**03 28 59.6**	**+1.4**
	SNR=8.9						
ANTO	**Ankara**	**41.89**	**327**	*eP*	**P**	**03 28 59.3**	**+1.0**
ANTO				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.0						
ANTO	**Ankara**	**41.89**	**327**	*eP*	**P**	**03 28 59.2**	**+1.0**
	comp=Z,50nm,1.4s,mb5.0						
ANN	**Anapa**	**43.52**	**336**	*eP*	**P**	**03 29 11.3**	**-0.2**
ANN				*e*S	**S**	**03 35 41.0**	**+0.7**
ANN				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.8						
ANN				MLR	MLR		
	comp=N,438nm,19.0s,MS4.4						
ANN				MLR	MLR		
	comp=E,157nm,19.0s,MS4.4						
ANN				MLR	MLR		
	comp=Z,294nm,19.0s,MS4.2						
SANT	**Santorini**	**44.06**	**318**	*eP*	**P**	**03 29 17.1**	**+1.3**
WMQ	**Urumqi**	**44.44**	**28**	⇓*iP*	**P**	**03 29 18.8**	**-0.1**
WMQ				AP	pP	03 29 23.0	+1.0
WMQ				PP	PP	03 31 03.0	+0.5
WMQ				PCS	PcS	03 34 54.0	-1.8
WMQ				S	**S**	**03 35 52.0**	**-1.7**
WMQ				SS	SS	03 39 13.0	+0.3
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,237nm,4.7s						
WMQ				LR	LR		
	comp=N,804nm,18.0s,MS4.9						
WMQ				LR	LR		
	comp=E,891nm,16.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,790nm,24.5s						
KMI	**Kunming**	**44.49**	**60**	P	**P**	**03 29 16.0**	**-3.3**
KMI				PP	PP	03 31 02.5	-0.6
KMI				S	**S**	**03 35 51.9**	**-2.6**
KMI				SSS		03 39 56.5	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,136nm,4.0s						
KMI				LR	LR		
	comp=N,419nm,14.1s,MS4.6						
KMI				LR	LR		
	comp=E,386nm,17.2s,MS4.6						
KMI				LR	LR		
	comp=Z,476nm,22.8s						
KMI	**Kunming**	**44.49**	**60**	P	**P**	**03 29 16.0**	**-3.3**
KMI				pP	pP	03 29 19.2	-3.2
KMI				sP	sP	03 29 21.4	-2.3
KMI				PP	PP	03 31 02.5	-0.6
KMI				PPP		03 31 39.5	
KMI				S	**S**	**03 35 51.9**	**-2.6**
KMI				sS	sS	03 35 59.7	+0.1
KMI				SS	SS	03 39 01.6	-12
KMI				SSS		03 39 56.5	
MKAR	**Makanchi Array**	**44.61**	**21**	P	**P**	**03 29 19.5**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.2,baz=204,slow=8.6,SNR=18						
MKAR				PcP	PcP	03 31 02.5	-0.6
	comp=Z,1.3nm,0.9s,baz=235,slow=5.1,SNR=3.4						
SIM	**Simferopol'**	**45.05**	**333**	P	**P**	**03 29 29.7**	**+5.9**
SIM				S	**S**	**03 36 16.4**	**+14**
SIM				pmax	pmax		
	comp=Z,27nm,8.8s						
SIM				MLR	MLR		
	comp=Z,210nm,24.0s,MS4.0						
LBTB	**Lobatse**	**46.03**	**226**	*eP*	**P**	**03 29 33.2**	**+1.7**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LBTB	**Lobatse**	**46.03**	**226**	*eP*	**P**	**03 29 33.2**	**+1.6**
	comp=Z,7.9nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**47.19**	**7**	*i* P	**P**	**03 29 40.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
ZRNK	**Zerenda**	**47.19**	**7**	*eP*	**P**	**03 29 40.5**	**-0.1**
	comp=Z,24nm,1.2s,mb5.0						
VOSK	**Vostochnaya**	**47.23**	**9**	*i* P	**P**	**03 29 40.1**	**-0.8**
CD2	**Chengdu**	**47.33**	**53**	*eP*	**P**	**03 29 40.7**	**-1.0**
CD2				AP	pP	03 29 48.0	+3.2
CD2				PP	PP	03 31 31.2	-1.6
CD2				S	**S**	**03 36 32.2**	**-3.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,260nm,19.2s						
CD2				LR	LR		
	comp=Z,230nm,20.4s,MS4.1						
BRVK	**Borovoye**	**47.46**	**8**	*eP*	**P**	**03 29 42.2**	**-0.5**
CHKZ	**Chkalovo**	**48.10**	**8**	*eP*	**P**	**03 29 47.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
CHKZ	**Chkalovo**	**48.10**	**8**	*eP*	**P**	**03 29 47.4**	**-0.3**
	comp=Z,30nm,1.3s,mb5.2						
GYA	**Guiyang**	**48.26**	**60**	⇑*iP*	**P**	**03 29 47.8**	**-1.1**
GYA				AP	pP	03 29 55.6	+3.5
GYA				PCP	PcP	03 31 12.8	-3.1
GYA				PP	PP	03 31 41.0	-0.3
GYA				SCP	ScP	03 35 05.9	-4.6
GYA				S	**S**	**03 36 51.4**	**+2.8**
GYA				SS	SS	03 40 15.2	-2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,650nm,15.2s,MS4.8						
GYA				LR	LR		
	comp=E,440nm,14.6s,MS4.8						
GYA				LR	LR		
	comp=Z,530nm,15.2s,MS4.6						
VRSR	**Storozhevoye**	**48.35**	**342**	*eP*	**P**	**03 29 49.3**	**-0.3**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
VRSR				pmax	pmax		
	comp=N,20nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
GTA	**Gaotai**	**48.39**	**41**	*eP*	**P**	**03 29 49.4**	**-0.5**
GTA				AP	pP	03 29 55.9	+2.8
GTA				PP	PP	03 31 41.0	-1.5
GTA				S	**S**	**03 36 49.8**	**-0.6**
GTA				SS	SS	03 40 15.1	-4.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,218nm,6.5s						
GTA				LR	LR		
	comp=N,574nm,20.5s,MS4.7						
GTA				LR	LR		
	comp=E,713nm,22.8s,MS4.7						
GTA				LR	LR		
	comp=Z,821nm,22.8s,MS4.7						
BOSA	**Boshof**	**48.51**	**223**	P	**P**	**03 29 52.2**	**+1.4**
	comp=Z,28nm,1.4s,mb5.1,baz=26,slow=4.2,SNR=5.1						
BOSA				LR	LR	03 48 42.3	
	comp=Z,699nm,18.3s,MS4.7,baz=31,slow=34						
BOSA	**Boshof**	**48.51**	**223**	*eP*	**P**	**03 29 52.2**	**+1.3**
BOSA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
BOSA	**Boshof**	**48.51**	**223**	*eP*	**P**	**03 29 52.2**	**+1.4**
	comp=Z,7.8nm,1.1s,mb4.7						
KIS	**Kishinev**	**49.03**	**331**	*eP*	**P**	**03 30 04.0**	**+9.2**
KIS				LRM		03 52 24.0	
	comp=Z,300nm,16.0s						
VTS	**Vitosha**	**49.10**	**324**	⇓*iP*	**P**	**03 29 55.9**	**+0.5**
VTS	**Vitosha**	**49.10**	**324**	⇓*iP*	**P**	**03 29 55.9**	**+0.5**
VRI	**Vrincioaia**	**49.27**	**329**	⇑*iP*	**P**	**03 29 58.5**	**+1.8**
VRI	**Vrincioaia**	**49.27**	**329**	⇑*iP*	**P**	**03 29 58.5**	**+1.9**
TSUM	**Tsumeb**	**49.29**	**238**	*eP*	**P**	**03 29 59.2**	**+2.3**
PLOR	**Plostina**	**49.30**	**329**	⇓*iP*	**P**	**03 29 58.7**	**+1.8**
MLR	**Muntele Rosu**	**49.42**	**328**	⇑*iP*	**P**	**03 29 59.8**	**+2.0**
MLR	**Muntele Rosu**	**49.42**	**328**	⇑*iP*	**P**	**03 29 59.9**	**+2.0**
LZH	**Lanzhou**	**49.53**	**47**	*eP*	**P**	**03 29 59.8**	**+1.1**
LZH				AP	pP	03 30 03.0	+1.2
LZH				PP	PP	03 31 54.4	+1.5
LZH				*e*S	**S**	**03 37 12.1**	**+5.7**
LZH				XS	sS	03 37 18.0	+6.4
LZH				*e*SS	SS	03 40 33.9	-4.4
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,80nm,4.5s						
LZH				LR	LR		
	comp=E,692nm,17.5s						
LZH				LR	LR		
	comp=Z,925nm,18.7s,MS4.8						
LZH	**Lanzhou**	**49.53**	**47**	*eP*	**P**	**03 29 59.8**	**+1.1**
LZH				pP	pP	03 30 03.0	+1.2
LZH				sP	sP	03 30 05.0	+2.0
LZH				PP	PP	03 31 54.4	+1.5
LZH				*e*S	**S**	**03 37 12.1**	**+5.7**
LZH				sS	sS	03 37 18.0	+6.4
LZH				*e*SS	SS	03 40 33.9	-4.4
QIZ	**Qiongzhong**	**49.55**	**70**	P	**P**	**03 29 55.7**	**-3.1**
QIZ				S	**S**	**03 37 10.1**	**+3.4**
QIZ				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.7						
QIZ				LR	LR		
	comp=Z,289nm,26.3s,MS4.2						
VOIR		**49.86**	**328**	⇑*iP*	**P**	**03 30 01.7**	**+0.5**
VOIR		**49.86**	**328**	⇑*iP*	**P**	**03 30 01.7**	**+0.5**
ARU	**Arti**	**50.20**	**359**	⇓*iP*	**P**	**03 30 02.2**	**-1.5**
ARU				*e*		03 31 20.3	
ARU				*e*		03 31 56.5	
ARU				*e*PPP		03 32 54.5	
ARU				*e*S	**S**	**03 37 12.8

OBN e 03 31 31.8
OBN eS **S** **03 37 49.6 +1.8**
OBN eSS SS 03 41 24.1 -1.8
OBN pmax pmax
comp=Z,56nm,2.1s,mb5.1
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.1
XAN Xi'an 52.53 51 P **P** **03 30 19.5 -1.7**
XAN AP pP 03 30 27.8 +3.4
XAN AMB AMB
comp=Z,13nm,1.7s,mb4.6
MOS Moscow 52.77 344 eP **P** **03 30 22.2 -0.8**
MOS pmax pmax
comp=Z,300nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,121nm,1.6s,mb5.6
LVV L'vov 53.28 331 eP **P** **03 30 26.2 -0.6**
UZH Uzhgorod 53.36 329 eP **P** **03 30 27.0 -0.4**
UZH i 03 30 32.4
UZH pmax pmax
comp=Z,70nm,1.5s,mb5.4
KOLS Kolonicke sedl 53.56 329 eP **P** **03 30 29.8 +0.9**
KWP Kalwaria 53.80 330 eP **P** **03 30 30.2 -0.4**
KWP pmax pmax
comp=Z,29nm,1.2s,mb5.1
KWP Kalwaria 53.80 330 eP **P** **03 30 30.2 -0.3**
comp=Z,29nm,1.2s,mb5.1
SUR Sutherland 53.85 222 eP **P** **03 30 33.1 +2.1**
comp=Z,12nm,1.2s,mb4.7
PKSM Moragy 53.88 325⇑ iP **P** **03 30 31.4 +0.3**
PKSM Moragy 53.88 325⇑ P **P** **03 30 31.4 +0.2**
CRVS Cervenica-Dubn 53.96 329 eP **P** **03 30 32.1 +0.4**
PSZ Piszkesteto 54.18 327⇑ eP **P** **03 30 33.2 -0.1**
PSZ Piszkesteto 54.18 327 eP **P** **03 30 33.2 -0.1**
KECS Kecovo 54.20 328 eP **P** **03 30 32.5 -1.0**
comp=Z,2.4nm,1.1s,mb4.0
STHS Stebnicka Huta 54.39 329 eP **P** **03 30 34.9 0.0**
STHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
STHS Stebnicka Huta 54.39 329 eP **P** **03 30 34.9 0.0**
comp=Z,7.0nm,1.3s,mb4.4
NIE Niedzica 54.87 329 eP **P** **03 30 38.8 +0.4**
VYHS Vyhne 55.09 327 eP **P** **03 30 39.4 -0.5**
VYHS Vyhne 55.09 327 eP **P** **03 30 39.5 -0.4**
VYHS pmax pmax
comp=Z,19nm,1.7s,mb4.8
VYHS Vyhne 55.09 327 eP **P** **03 30 39.5 -0.4**
comp=Z,19nm,1.7s,mb4.8
AQU L'Aquila 55.13 318 eP **P** **03 30 40.1 -0.1**
AQU pmax pmax
comp=Z,30nm,1.5s,mb5.1
AQU L'Aquila 55.13 318 eP **P** **03 30 40.1 -0.1**
comp=Z,30nm,1.5s,mb5.1
KEST Kesra 55.41 310 P **P** **03 30 44.3 +2.1**
comp=Z,1.5nm,0.9s,mb4.0,baz=201,slow=8.6,SNR=3.2
KEST LR LR 03 53 40.3
comp=Z,34nm,20.1s,MS3.4,baz=289,slow=35
BTO Baotou 55.85 44 eP **P** **03 30 42.5 -2.9**
ZST Bratislava 55.86 326 eP **P** **03 30 45.7 +0.2**
ZST pmax pmax
comp=Z,83nm,2.2s,mb5.4
ZST Bratislava 55.86 326 eP **P** **03 30 45.7 +0.2**
comp=Z,82nm,2.2s,mb5.4
WHN Wuhan 55.87 57 P **P** **03 30 44.5 -1.1**
SOP Sopron 55.88 325⇓ eP **P** **03 30 45.5 -0.2**
KRAR Krasnoyarsk 55.95 21 eP **P** **03 30 44.7 -1.4**
KRAR pmax pmax
comp=Z,13nm,1.3s,mb4.8
FSSB Fossombrone 56.15 320 P **P** **03 30 48.8 +1.2**
comp=Z,68nm,1.8s,mb5.4
LJU Ljubljana 56.20 323 eP **P** **03 30 48.0 +0.1**
ARSA Arzberg 56.24 325⇑ iP **P** **03 30 48.7 +0.5**
comp=Z,11nm,1.1s,mb4.8
OKC Ostrava-Krasne 56.25 328 eP **P** **03 30 48.1 -0.2**
OKC epP pP 03 30 53.4 +1.9
CONA Conrad Observa 56.41 325⇑ iP **P** **03 30 49.5 +0.1**
comp=Z,24nm,1.7s,mb5.0
OBKA Obir 56.42 323⇑ iP **P** **03 30 50.1 +0.6**
comp=Z,18nm,1.5s,mb4.9
RSM Repubblica di 56.47 320 P **P** **03 30 51.5 +1.6**
MORC Moravsky Berou 56.53 328⇑ iP **P** **03 30 50.0 -0.3**
MORC Moravsky Berou 56.53 328 eP **P** **03 30 49.9 -0.4**
comp=Z,29nm,1.4s,mb5.1
ZAK Zakamensk 56.66 31 eP **P** **03 30 50.3 -0.9**
VRAC Vranov 56.77 327⇑ iP **P** **03 30 51.6 -0.4**
SONM Songino Array 56.94 35 P **P** **03 30 52.8 -0.4**
comp=Z,4.6nm,1.0s,mb4.5,baz=234,slow=6.4,SNR=25
SONM LR LR 03 56 09.3
comp=Z,403nm,20.5s,MS4.5,baz=250,slow=37
HHC Hu-ho-hao-te 57.02 45 eP **P** **03 30 53.4 -0.4**
HHC AP pP 03 31 01.1 +4.1
HHC PP PP 03 33 00.0 -0.4
HHC S **S** **03 38 47.4 -0.9**
HHC AMB AMB
comp=Z,15nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,204nm,6.1s
HHC LR LR
comp=N,537nm,17.2s,MS4.8
HHC LR LR
comp=E,306nm,13.9s,MS4.8
HHC LR LR
comp=Z,385nm,19.2s
PTCC Patocco-Chiusa 57.09 323 P **P** **03 30 54.0 -0.2**
comp=Z,19nm,1.4s,mb4.9
MOA Molln 57.28 325⇑ iP **P** **03 30 55.7 +0.1**
comp=Z,27nm,1.4s,mb5.1
TREC Trest 57.36 327 eP **P** **03 30 55.9 -0.3**
TREC epP pP 03 31 01.8 +2.4
KBA Koelnbreinsper 57.42 323⇑ iP **P** **03 30 56.6 0.0**
comp=Z,10nm,1.4s,mb4.7
KBA Koelnbreinsper 57.42 323⇑ iP **P** **03 30 56.6 0.0**
KBA pmax pmax
comp=Z,11nm,1.4s,mb4.7
DPC Dobruska-Polom 57.50 328 eP **P** **03 30 56.4 -0.8**
DPC epP pP 03 31 02.5 +2.1
DPC AMS AMS 03 54 30.0
comp=Z,200nm,22.9s
DPC Dobruska-Polom 57.50 328 eP **P** **03 30 56.4 -0.8**
DPC e 03 31 02.5
DPC LR LR
comp=Z,200nm,22.9s,MS4.2
ZCCA Zocca 57.61 320 P **P** **03 30 59.7 +1.8**
comp=Z,220nm,2.1s,mb5.8
TLY Talaya 57.62 30 eP **P** **03 30 58.2 +0.2**
TLY eS **S** **03 38 58.4 +2.3**
TLY ePS 03 39 11.0
TLY pmax pmax
comp=Z,15nm,2.2s,mb4.6
TLY MLR MLR
comp=Z,28nm,19.0s,MS3.4
UPC Upice 57.75 328 eP **P** **03 30 58.7 -0.3**
KSP Ksiaz 57.80 328 eP **P** **03 30 59.0 -0.3**
GSCL Gusciola 57.86 320 P **P** **03 31 00.6 +0.9**
comp=Z,130nm,2.0s,mb5.6
ERBM Eremo 58.00 320 P **P** **03 31 01.1 +0.4**
comp=Z,102nm,1.6s,mb5.6
GERES GERESS Array B 58.12 325 P **P** **03 30 59.5 -2.0**
comp=Z,0.5nm,0.6s,baz=127,slow=8.5,SNR=6.3
GERES LR LR 03 54 41.5
comp=Z,92nm,19.9s,MS3.9,baz=314,slow=35
PGF Pioggiola 58.16 317 eP **P** **03 31 00.9 -0.9**
comp=Z,23nm,1.1s,mb4.8
PGF Pioggiola 58.16 317 eP **P** **03 31 00.9 -0.9**
PGF pmax pmax
comp=Z,12nm,1.0s,mb4.9
PGF Pioggiola 58.16 317 eP **P** **03 31 00.9 -0.9**
comp=Z,12nm,1.0s,mb4.9
PRU Pruhonice 58.26 327 eP **P** **03 31 01.7 -0.8**
PRU epP pP 03 31 07.3 +1.6
KHC Kasperske Hory 58.33 326 eP **P** **03 31 01.8 -1.2**
KHC Kasperske Hory 58.33 326⇑ eP **P** **03 31 02.0 -1.0**
TOA0 Torodi Ar. Sit 58.41 282 eP **P** **03 31 04.6 +1.1**
TORD Torodi Ar. Bea 58.41 282 P **P** **03 31 04.9 +1.4**
comp=Z,5.6nm,1.1s,mb4.5,baz=97,slow=6.0,SNR=23
TORD LR LR 03 57 25.4
comp=Z,380nm,18.9s,MS4.5,baz=110,slow=37
WTTA Wattenberg 58.53 323⇑ iP **P** **03 31 03.9 -0.5**
comp=Z,24nm,1.4s,mb5.0
WTTA Wattenberg 58.53 323⇑ iP **P** **03 31 03.9 -0.5**
WTTA pmax pmax
comp=Z,24nm,1.4s,mb5.0
PVCC Panska Ves 58.53 327 eP **P** **03 31 04.0 -0.4**
PVCC epP pP 03 31 09.2 +1.6
BRG Berggiesshubel 59.05 327 eP **P** **03 31 07.7 -0.4**
comp=Z,18nm,1.9s,mb4.8
BRG Berggiesshubel 59.05 327 eP **P** **03 31 07.7 -0.3**
BRG pmax pmax
comp=Z,18nm,1.9s,mb4.8
NKC Novy Kostel 59.53 326 eP **P** **03 31 09.6 -1.7**
NKC epP pP 03 31 16.6 +2.1
DAVA Damuels 59.60 322⇑ iP **P** **03 31 11.5 -0.3**
comp=Z,19nm,1.4s,mb4.9
SBF Sospel 59.73 318 eP **P** **03 31 11.9 -0.8**
comp=Z,22nm,1.0s,mb4.9
SBF Sospel 59.73 318 eP **P** **03 31 11.9 -0.8**
SBF pmax pmax
comp=Z,11nm,1.0s,mb4.8
SBF Sospel 59.73 318 eP **P** **03 31 11.9 -0.8**
comp=Z,11nm,1.0s,mb4.8
CLL Collm 59.79 328 eP **P** **03 31 13.0 -0.1**
CLL eS **S** **03 39 24.0 -0.3**
CLL pmax pmax
comp=Z,41nm,1.8s,mb5.2
CLL MLR MLR
comp=Z,400nm,22.5s,MS4.5
CLL Collm 59.79 328 eP **P** **03 31 13.0 -0.1**
comp=Z,41nm,1.8s,mb5.2
CLL eS **S** **03 39 24.0 -0.3**
CLL eSP 03 48 04.0
CLL LR LR
comp=Z,400nm,22.5s,MS4.5
GRA1 Grafenberg Arr 59.95 325 eP **P** **03 31 13.3 -0.9**
comp=Z,11nm,1.4s,mb4.7
GRF Grafenberg Arr 59.95 325 eP **P** **03 31 13.3 -0.9**
comp=Z,11nm,1.4s,mb4.7
GRF Grafenberg Arr 59.95 325 eP **P** **03 31 13.3 -0.9**
GRF pmax pmax
comp=Z,11nm,1.4s,mb4.7
GRF Grafenberg Arr 59.95 325 eP **P** **03 31 13.3 -0.9**
GRF pmax pmax
comp=Z,11nm,1.4s,mb4.7
NJ2 Nanjing 59.97 57 eP **P** **03 31 14.5 +0.2**
NJ2 PP PP 03 33 28.6 +2.0
NJ2 S **S** **03 39 22.0 -4.6**
NJ2 XS sS 03 39 39.0 +7.1
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,860nm,5.8s
NJ2 LR LR
comp=N,670nm,16.6s,MS5.0
NJ2 LR LR
comp=E,500nm,16.8s,MS5.0
BJI Beijing 60.02 47 P **P** **03 31 14.2 -0.5**
BJI AMB AMB
comp=Z,14nm,1.3s,mb4.8
BJI AMB AMB
comp=Z,325nm,5.3s
BJI LR LR
comp=N,260nm,21.9s,MS4.4
BJI LR LR
comp=E,233nm,23.8s,MS4.4
BJI LR LR
comp=Z,280nm,20.7s,MS4.4
FRF La Foret Royal 60.14 317 eP **P** **03 31 14.9 -0.6**
comp=Z,82nm,1.8s,mb5.2
FRF La Foret Royal 60.14 317 eP **P** **03 31 14.9 -0.6**
FRF pmax pmax
comp=Z,41nm,1.8s,mb5.2
FRF La Foret Royal 60.14 317 eP **P** **03 31 14.9 -0.6**
comp=Z,41nm,1.8s,mb5.2
LMR La Mourre 60.15 317 eP **P** **03 31 14.9 -0.7**
comp=Z,93nm,1.7s,mb5.2
LMR La Mourre 60.15 317 eP **P** **03 31 14.9 -0.7**
LMR pmax pmax
comp=Z,47nm,1.7s,mb5.2
LMR La Mourre 60.15 317 eP **P** **03 31 14.9 -0.7**
comp=Z,46nm,1.7s,mb5.2
MOX Moxa 60.20 326 eP **P** **03 31 10.0 -5.9**
MBDF Montbardon 60.50 319 eP **P** **03 31 16.7 -1.3**
LPG La Plagne 60.81 319 eP **P** **03 31 19.2 -0.9**
comp=Z,69nm,1.5s,mb5.3
LPG La Plagne 60.81 319 eP **P** **03 31 19.2 -0.9**
LPG pmax pmax
comp=Z,34nm,1.5s,mb5.3
LPG La Plagne 60.81 319 eP **P** **03 31 19.2 -0.9**
comp=Z,34nm,1.5s,mb5.3
LPL La Plagne 60.83 319 eP **P** **03 31 19.3 -0.9**
comp=Z,74nm,1.5s,mb5.3
LPL La Plagne 60.83 319 eP **P** **03 31 19.3 -0.9**
LPL pmax pmax
comp=Z,37nm,1.5s,mb5.3
LPL La Plagne 60.83 319 eP **P** **03 31 19.3 -0.9**
comp=Z,37nm,1.5s,mb5.3
FINES FINESS Array B 60.89 342 P **P** **03 31 18.7 -1.9**
comp=Z,2.9nm,0.8s,mb4.5,baz=126,slow=9.7,SNR=7.4
FINES LR LR 04 00 05.9
comp=Z,186nm,21.4s,MS4.2,baz=325,slow=38
FINES FINESS Array B 60.89 342 iP **P** **03 31 19.6 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.8s
SMRF Simiane la Rot 61.01 317 eP **P** **03 31 20.6 -0.9**
comp=Z,82nm,1.7s,mb5.3
SMRF Simiane la Rot 61.01 317 eP **P** **03 31 20.6 -0.9**
comp=Z,82nm,1.7s,mb5.6
ORIF Oris-en-Rattie 61.16 319 eP **P** **03 31 21.7 -0.8**
ORIF eMLR MLR
comp=Z,78nm,20.5s
KAF Kangasniemi 61.34 342 ep **P** **03 31 20.4 -3.3**
comp=Z,7.5nm,0.8s,mb4.9,baz=139,slow=6.7
KAF Kangasniemi 61.34 342 eP **P** **03 31 20.4 -3.3**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
CDF Champ du Feu 61.67 323 eP **P** **03 31 25.3 -0.6**
comp=Z,170nm,1.7s,mb5.6
CDF Champ du Feu 61.67 323 eP **P** **03 31 25.3 -0.6**
CDF pmax pmax
comp=Z,85nm,1.7s,mb5.6
CDF Champ du Feu 61.67 323 eP **P** **03 31 25.3 -0.6**
comp=Z,85nm,1.7s,mb5.6
CABF La Chapelle 61.67 320 eP **P** **03 31 25.8 -0.1**
comp=Z,252nm,1.4s,mb5.8
CABF La Chapelle 61.67 320 eP **P** **03 31 25.8 -0.1**
CABF pmax pmax
comp=Z,13nm,1.4s,mb4.9
CABF La Chapelle 61.67 320 eP **P** **03 31 25.8 -0.1**
comp=Z,126nm,1.4s,mb5.8
HINF Hinteralfeld 61.68 322 eP **P** **03 31 25.0 -1.0**
comp=Z,153nm,1.8s,mb5.5
HINF Hinteralfeld 61.68 322 eP **P** **03 31 25.0 -1.0**
HINF pmax pmax
comp=Z,76nm,1.8s,mb5.5
HINF Hinteralfeld 61.68 322 eP **P** **03 31 25.0 -1.0**
comp=Z,76nm,1.8s,mb5.5
SSE Sheshan 61.73 58 P **P** **03 31 24.9 -1.4**
SSE PCP PcP 03 32 06.7 -0.9
SSE S **S** **03 39 47.5 -1.6**
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,340nm,5.6s
SSE LR LR
comp=N,116nm,22.0s,MS4.2
SSE LR LR
comp=E,152nm,22.0s,MS4.2
SSE LR LR
comp=Z,212nm,25.0s,MS4.2
VIVF Saint-Julien-l 61.93 318 eP **P** **03 31 26.9 -0.8**
comp=Z,22nm,1.1s,mb4.9
VIVF Saint-Julien-l 61.93 318 eP **P** **03 31 26.9 -0.8**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
VIVF Saint-Julien-l 61.93 318 eP **P** **03 31 26.9 -0.8**
comp=Z,11nm,1.1s,mb4.9
HAU Haudompre 62.07 322 eP **P** **03 31 27.4 -1.2**
HAU eMLR MLR
comp=Z,57nm,20.8s
HAU Haudompre 62.07 322 eP **P** **03 31 27.4 -1.2**
HAU LR LR
comp=Z,60nm,20.8s,MS3.7
WLF Walferdange 62.87 324 eP **P** **03 31 33.9 -0.1**
WLF pmax pmax
comp=Z,21nm,1.1s,mb5.2
WLF Walferdange 62.87 324 eP **P** **03 31 33.9 0.0**
comp=Z,21nm,1.1s,mb5.2
MEZF Maizieres J'vi 63.06 322 eP **P** **03 31 34.6 -0.6**
MTLF Montolieu 63.09 316 eP **P** **03 31 34.7 -0.7**
comp=Z,56nm,1.8s,mb5.1
MTLF Montolieu 63.09 316 eP **P** **03 31 34.7 -0.7**
MTLF pmax pmax
comp=Z,28nm,1.8s,mb5.1
MTLF Montolieu 63.09 316 eP **P** **03 31 34.7 -0.7**
comp=Z,28nm,1.8s,mb5.1
SMF Signal de Mont 63.12 320 eP **P** **03 31 34.5 -1.1**
LOR Lormes 63.34 320 eP **P** **03 31 36.1 -1.0**
comp=Z,27nm,1.1s,mb5.0
LOR eMLR MLR
comp=Z,97nm,17.5s
LOR Lormes 63.34 320 eP **P** **03 31 36.1 -1.0**
LOR pmax pmax
comp=Z,14nm,1.1s,mb5.0
LOR MLR MLR
comp=Z,100nm,17.5s,MS4.0
LOR Lormes 63.34 320 eP **P** **03 31 36.1 -1.0**
comp=Z,14nm,1.1s,mb5.0
LOR LR LR
comp=Z,100nm,17.5s,MS4.0
SSF Saint Saulge 63.49 320 eP **P** **03 31 37.1 -0.9**
comp=Z,18nm,0.9s,mb4.9
SSF Saint Saulge 63.49 320 eP **P** **03 31 37.1 -0.9**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SSF Saint Saulge 63.49 320 eP **P** **03 31 37.1 -0.9**
comp=Z,9.1nm,0.9s,mb4.9
AVF Avril sur Loir 63.49 320 eP **P** **03 31 36.8 -1.3**
comp=Z,23nm,1.1s,mb4.9
AVF Avril sur Loir 63.49 320 eP **P** **03 31 36.8 -1.3**
AVF pmax pmax
comp=Z,12nm,1.1s,mb4.9
AVF Avril sur Loir 63.49 320 eP **P** **03 31 36.8 -1.3**
comp=Z,12nm,1.1s,mb4.9
CAF Calviac 63.70 317 eP **P** **03 31 38.7 -0.8**
comp=Z,25nm,1.2s,mb4.8
CAF Calviac 63.70 317 eP **P** **03 31 38.7 -0.8**
CAF pmax pmax
comp=Z,13nm,1.2s,mb4.8
CAF Calviac 63.70 317 eP **P** **03 31 38.7 -0.8**
comp=Z,12nm,1.2s,mb4.8
BGF Bois d'Agland 63.73 319 eP **P** **03 31 39.0 -0.7**
GIVF Givet 63.83 324 eP **P** **03 31 39.8 -0.5**
MBWA Marble Bar 63.99 117 eP **P** **03 31 41.0 -0.4**
comp=Z,26nm,1.5s,mb5.0
BAIF Baives 64.18 323 eP **P** **03 31 42.2 -0.4**
comp=Z,101nm,1.5s,mb5.3
BAIF Baives 64.18 323 eP **P** **03 31 42.2 -0.4**
BAIF pmax pmax
comp=Z,51nm,1.5s,mb5.3
BAIF Baives 64.18 323 eP **P** **03 31 42.2 -0.4**
comp=Z,51nm,1.5s,mb5.3
RJF Les Rejaudoux 64.19 318 eP **P** **03 31 42.3 -0.4**
comp=Z,37nm,1.2s,mb5.0
RJF eMLR MLR
comp=Z,95nm,17.8s
RJF Les Rejaudoux 64.19 318 eP **P** **03 31 42.3 -0.4**
RJF pmax pmax
comp=Z,19nm,1.2s,mb5.0
RJF MLR MLR
comp=Z,100nm,17.8s,MS4.0
RJF Les Rejaudoux 64.19 318 eP **P** **03 31 42.3 -0.4**
comp=Z,19nm,1.2s,mb5.0
RJF LR LR
comp=Z,100nm,17.8s,MS4.0
EPF Esparros 64.31 315 eP **P** **03 31 42.5 -1.0**
LFF La Frestale 64.60 317 eP **P** **03 31 45.1 -0.3**
comp=Z,29nm,1.0s,mb5.0
LFF La Frestale 64.60 317 eP **P** **03 31 45.1 -0.3**
LFF pmax pmax
comp=Z,14nm,1.0s,mb5.0
LFF La Frestale 64.60 317 eP **P** **03 31 45.1 -0.3**
comp=Z,14nm,1.0s,mb5.0
ETSF Etsaut 64.91 315 eP **P** **03 31 45.9 -1.5**
comp=Z,28nm,1.2s,mb4.9
ETSF Etsaut 64.91 315 eP **P** **03 31 45.9 -1.5**
ETSF pmax pmax
comp=Z,14nm,1.2s,mb4.9
ETSF Etsaut 64.91 315 eP **P** **03 31 45.9 -1.5**
comp=Z,14nm,1.2s,mb4.9
DBIC Dimbokro 65.03 274 P **P** **03 31 47.6 -0.6**
comp=Z,4.6nm,0.9s,mb4.5,baz=51,slow=9.5,SNR=4.1
DBIC LR LR 04 00 48.9
comp=Z,357nm,18.3s,MS4.6,baz=72,slow=37
LIC Lamto 65.23 274 eP **P** **03 31 48.1 -1.4**
comp=Z,41nm,1.2s,mb5.0
LIC eMLR MLR
comp=Z,748nm,21.5s
LIC Lamto 65.23 274 eP **P** **03 31 48.1 -1.4**
comp=Z,21nm,1.2s,mb5.0
LIC LR LR
comp=Z,370nm,21.5s,MS4.5
MFF Saint Martin d 65.70 319 eP **P** **03 31 50.6 -1.9**
comp=Z,63nm,1.4s,mb5.1
MFF Saint Martin d 65.70 319 eP **P** **03 31 50.6 -1.9**
MFF pmax pmax
comp=Z,31nm,1.4s,mb5.2
MFF Saint Martin d 65.70 319 eP **P** **03 31 50.6 -1.9**
comp=Z,32nm,1.4s,mb5.2
NB2 NORSAR Subarra 65.95 336 P **P** **03 31 53.0 -1.2**
comp=Z,50nm,2.0s,mb5.2,baz=118,slow=7.4
NB2 NORSAR Subarra 65.95 336 P **P** **03 31 53.0 -1.2**
NB2 pmax pmax
comp=Z,50nm,2.0s,mb5.2
NOA NORSAR Array B 65.95 336 P **P** **03 31 53.1 -1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=101,slow=9.7,SNR=4.1
LDF La Druitiere 66.31 321 eP **P** **03 31 55.4 -1.0**
comp=Z,124nm,1.4s,mb5.5
LDF La Druitiere 66.31 321 eP **P** **03 31 55.4 -1.0**
LDF pmax pmax
comp=Z,62nm,1.4s,mb5.5
LDF La Druitiere 66.31 321 eP **P** **03 31 55.4 -1.0**
comp=Z,62nm,1.4s,mb5.5
ESDC Sonseca Array 66.63 311 P **P** **03 31 58.3 -0.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=95,slow=5.7,SNR=16
ESLA Sonseca Array 66.63 311 eP **P** **03 31 59.0 +0.5**
GRR Gorron 66.71 320 eP **P** **03 31 57.7 -1.3**
comp=Z,317nm,1.9s,mb5.7
GRR Gorron 66.71 320 eP **P** **03 31 57.7 -1.3**
GRR pmax pmax
comp=Z,159nm,1.9s,mb5.7
GRR Gorron 66.71 320 eP **P** **03 31 57.7 -1.3**
comp=Z,159nm,1.9s,mb5.7
ARCES ARCESS Array B 67.34 347 P **P** **03 32 02.5 -0.5**
comp=Z,4.4nm,0.9s,mb4.5,baz=126,slow=6.2,SNR=7.2
ARCES LR LR 04 04 59.7
comp=Z,142nm,19.4s,MS4.2,baz=326,slow=39
CN2 Changchun 67.71 45 eP **P** **03 32 06.2 +0.9**
FITZ Fitzroy Crossi 68.49 112 eP **P** **03 32 10.0 -0.2**
comp=Z,20nm,1.1s,mb5.1
EVO Evora 69.52 309 eP **P** **03 32 16.0 -0.7**
EVO eMLR MLR
comp=Z,91nm,20.5s
MDJ Mudanjiang 70.79 45 P **P** **03 32 24.0 -0.4**
MDJ AP pP 03 32 29.2 +1.5
MDJ PCP PcP 03 32 45.5 +0.3
MDJ PP PP 03 34 58.3 -2.9
MDJ S S 03 41 39.2 -0.1
MDJ SS SS 03 46 14.2 +2.8
MDJ AMB AMB
comp=Z,18nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,147nm,4.8s
MDJ LR LR
comp=N,141nm,19.7s,MS4.4
MDJ LR LR
comp=E,205nm,23.3s,MS4.4
MDJ LR LR
comp=Z,289nm,24.9s,MS4.4
KLR Kul'dur 73.09 40 eP **P** **03 32 32.6 -5.6**
KLR pmax pmax
comp=Z,56nm,1.8s,mb5.2
MAW Mawson 73.57 179 P **P** **03 32 40.3 -0.8**
comp=Z,1.4nm,0.6s,mb4.0,baz=5.0,slow=9.3,SNR=4.7
MAW LR LR 03 58 15.7
comp=Z,211nm,19.4s,MS4.4,baz=166,slow=30
MAW Mawson 73.57 179 eP **P** **03 32 41.0 0.0**
MAW pmax pmax
comp=Z,21nm,1.8s
MAW Mawson 73.57 179 eP **P** **03 32 41.0 0.0**
comp=Z,21nm,1.8s,mb4.8
SYO Syowa Base 76.37 188⇑ eP **P** **03 32 57.0 -0.3**
MJAR Matsushiro Arr 76.41 54 P **P** **03 32 56.0 -1.5**
comp=Z,0.8nm,0.6s,baz=343,slow=20,SNR=4.0
MJAR LR LR 04 06 58.4
comp=Z,180nm,20.3s,MS4.4,baz=320,slow=36
WRA Warramunga Arr 76.92 112 P **P** **03 32 59.2 -1.1**
comp=Z,4.1nm,1.0s,mb4.3,baz=291,slow=4.8,SNR=18
WRA LR LR 03 58 53.2
comp=Z,117nm,21.9s,MS4.2,baz=180,slow=30

WB2	**Warramunga Arr**	**76.93 112**	*e*P	**P**	**03 32 59.8**	**-0.6**
ASAR	**Alice Springs**	**77.29 116**	P	**P**	**03 33 01.2**	**-1.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=286,slow=5.6,SNR=22					
ASAR			LR	LR	04 01 42.7	
	comp=Z,185nm,21.3s,MS4.4,baz=350,slow=32					
AS31	**Alice Springs**	**77.29 116**	*e*P	**P**	**03 33 00.9**	**-1.5**
DAG	**Danmarks Havn**	**81.62 347**⇑	*i*P	**P**	**03 33 24.4**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8					
DAG	**Danmarks Havn**	**81.62 347**⇑	*e*P	**P**	**03 33 24.4**	**-1.6**
DAG			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
DAG	**Danmarks Havn**	**81.62 347**⇑	*e*P	**P**	**03 33 24.4**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8					
MAIT	**Maitri**	**83.30 195**	*e*P	**P**	**03 33 34.8**	**0.0**
STKA	**Stephens Creek**	**85.58 123**	P	**P**	**03 33 45.9**	**-0.5**
	comp=Z,3.8nm,1.1s,mb4.5,baz=275,slow=9.9,SNR=3.6					
STKA			LR	LR	04 07 09.8	
	comp=Z,287nm,20.3s,MS4.7,baz=110,slow=32					
STKA	**Stephens Creek**	**85.58 123**	*e*P	**P**	**03 33 45.7**	**-0.6**
SUMG	**Summit**	**86.92 343**	*e*P	**P**	**03 33 53.0**	**+0.1**
	comp=Z,25nm,1.2s,mb5.3					
SNAA	**Sanae**	**87.70 196**	*e*P	**P**	**03 33 57.3**	**+0.6**
SNAA			*e*		03 34 04.3	
SNAA			*e*		03 34 24.4	
SNAA	**Sanae**	**87.70 196**	*e*P	**P**	**03 33 57.4**	**+0.7**
SNAA			pmax	pmax		
	comp=Z,26nm,1.8s					
SNAA	**Sanae**	**87.70 196**	*e*P	**P**	**03 33 57.4**	**+0.6**
	comp=Z,26nm,1.8s,mb5.2					
CTA	**Charters Tower**	**87.99 110**	LR	LR	04 08 25.0	
	comp=Z,137nm,20.6s,MS4.3,baz=230,slow=32					
VNA1	**Neumayer--Stat**	**88.88 198**	*e*P	**P**	**03 34 03.6**	**+1.3**
VNA1			*e*		03 34 10.2	
VNA3	**Neumayer Olymp**	**89.53 198**	*e*P	**P**	**03 34 05.9**	**+0.6**
VNA3			*e*		03 34 13.1	
VNA3			*e*		03 34 35.5	
VNDA	**Vanda**	**98.37 168**	LR	LR	04 13 48.2	
	comp=Z,217nm,21.5s,MS4.6,baz=256,slow=32					
RSSD	**Black Hills**	**128.11 346**	*e*PKIKP	PKPdf	03 40 13.6	-0.6
TPAW	**Teton Pass**	**130.03 352**	*e*PKPdf	PKPdf	03 40 18.6	+0.8
BW06	**Boulder Array**	**130.53 350**	*e*PKPdf	PKPdf	03 40 18.7	-0.1
PDAR	**Pinedale Array**	**130.53 350**	PKP	PKPdf	03 40 17.6	-1.2
	comp=Z,0.6nm,0.7s,baz=67,slow=1.7,SNR=5.8					
HWUT	**Hardware Ranch**	**131.97 352**	*e*PKPdf	PKPdf	03 40 21.6	+0.1
SMCO	**Snowmass**	**133.49 347**	*e*PKPdf	PKPdf	03 40 26.6	+2.2
DUG	**Dugway**	**133.52 353**	*e*PKIKP	PKPdf	03 40 25.7	+1.3
SDCO	**Great Sand Dun**	**134.48 345**	*e*PKPdf	PKPdf	03 40 27.8	+1.5
NVAR	**Mina Array Bea**	**135.67 359**	PKP	PKPdf	03 40 29.4	+1.0
	comp=Z,1.4nm,0.9s,baz=271,slow=2.2,SNR=6.5					
ANMO	**Albuquerque**	**137.37 344**	*e*PKIKP	PKPdf	03 40 33.0	+1.4
OTAV	**Otavalo**	**138.66 277**	*e*PKPdf	PKPdf	03 40 36.2	+2.2
MNTX	**Cornudas Mount**	**140.09 341**	*e*PKPdf	PKPdf	03 40 37.2	+0.6

IDC 07 04:23:27.4±7.7, 256S×15010E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/12, mbtmp3.5/2, Error ellipse: s-maj=373.0km s-min=45.7km az=111.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**221**	P	P	04 28 34.8	-0.4
	1.1nm,0.4s,baz=52,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**26.19**	**215**	P	P	04 29 04.5	+1.0
	0.5nm,0.5s,baz=55,slow=9.0,SNR=10						
TORD	**Torodi Ar. Bea**	**147.03**	**290**	PKPbc	PKPbc	04 43 12.4	+0.4
	0.2nm,0.3s,baz=72,slow=2.1,SNR=11						

IDC 07 04:31:17.0±1.2, 402N×12650E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=123.3km s-min=19.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.03**	**162**	P	P	04 36 42.0	-0.6
	2.9nm,0.8s,baz=343,slow=10,SNR=15						
WB2	**Warramunga Arr**	**25.03**	**162**	*e*P	P	04 36 42.9	+0.2
ASAR	**Alice Springs**	**28.45**	**166**	P	P	04 37 14.3	+0.8
	0.2nm,0.3s,baz=344,slow=9.6,SNR=4.6						
STKA	**Stephens Creek**	**38.48**	**159**	P	P	04 38 41.5	+0.9
	3.9nm,1.1s,baz=328,slow=8.2,SNR=3.7						
SONM	**Songino Array**	**46.95**	**342**	P	P	04 39 50.0	+0.5
	0.1nm,0.3s,baz=157,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	04 41 05.5	-0.2
	0.6nm,0.7s,baz=120,slow=8.2,SNR=7.1						

*ISCJB **07** 04:50:57.8±0.3, 4317N±002×034W±002, h8km±4km, Error ellipse: s-maj=3.2km s-min=2.4km az=170.4*
*MDD **07** 04:50:59.5±0.2, 4309N×036W, h7km±3km, mbLg1.8/23, Error ellipse: s-maj=2.7km s-min=1.4km az=9.0, PRXIMO*
*NEIC **07** 04:50:59.1, 4310N×034W, h5km, ML2.2(STR), ML2.5(LDG), MN1.9(MDD), After STR.*
*LDG **07** 04:50:59.2±0.1, 4306N×037W, h10km, Md2.6/3, Ml2.5/9, Error ellipse: s-maj=1.3km s-min=0.9km az=173.0*
*CSEM **07** 04:50:59.4±0.0, 4308N×036W, h8km, ML2.6/8, Error ellipse: s-maj=0.9km s-min=0.7km az=167.0*
*STR **07** 04:50:59.1±0.1, 4310N×034W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 04:50:58.5±0.3, 4312N±002×035W±002, h12km±3km, n73, σ0 95/120, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.06**	**212**	Pg	**Pg**	**04 51 00.8**	**-0.1**
REYF				Sg	**Sg**	**04 51 02.6**	**0.0**
REYF	**Montagne du Re**	**0.06**	**212**	P	**Pg**	**04 51 00.9**	**0.0**
REYF				S	**Sg**	**04 51 02.0**	**-0.7**
ETSF	**Etsaut**	**0.27**	**215**	*e*Pg	**Pg**	**04 51 04.0**	**-0.1**
ETSF				*e*Sg	**Sg**	**04 51 06.7**	**-1.1**
	58nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**0.27**	**215**	*e*Pg	**Pg**	**04 51 04.0**	**-0.1**
ETSF				*e*Sg	**Sg**	**04 51 06.7**	**-1.1**
	29nm,0.3s,SNR=1.0						
LABF	**Labassere**	**0.32**	**103**	Pg	**Pg**	**04 51 05.3**	**+0.3**
LABF				Sg	**Sg**	**04 51 10.2**	**+0.8**
LABF	**Labassere**	**0.32**	**103**	P	**Pg**	**04 51 05.3**	**+0.3**
LABF				S	**Sg**	**04 51 10.1**	**+0.8**
FDAF	**Les Forges d'A**	**0.34**	**208**	P	**Pg**	**04 51 05.3**	**0.0**
FDAF				S	**Sg**	**04 51 10.1**	**+0.1**
VIEF	**Viey**	**0.36**	**130**	Pg	**Pg**	**04 51 05.9**	**+0.1**
VIEF				Sg	**Sg**	**04 51 10.8**	**+0.1**
VIEF	**Viey**	**0.36**	**130**	P	**Pg**	**04 51 06.0**	**+0.2**
VIEF				S	**Sg**	**04 51 10.8**	**+0.1**
ORDF	**Ordiarp**	**0.44**	**283**	Pg	**Pg**	**04 51 07.8**	**+0.6**
ORDF				Sg	**Sg**	**04 51 14.6**	**+1.6**
ORDF	**Ordiarp**	**0.44**	**283**	P	**Pg**	**04 51 07.8**	**+0.6**
ORDF				S	**Sg**	**04 51 14.5**	**+1.5**
LARF	**Larrau**	**0.47**	**261**	Pg	**Pg**	**04 51 08.1**	**+0.3**
LARF				Sg	**Sg**	**04 51 14.6**	**+0.5**
LARF	**Larrau**	**0.47**	**261**	P	**Pg**	**04 51 08.2**	**+0.3**
LARF				S	**Sg**	**04 51 15.0**	**+0.9**
EPF	**Esparros**	**0.51**	**99**	*e*Pg	**Pg**	**04 51 09.1**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**04 51 16.1**	**+0.7**
	41nm,0.3s						
EPF	**Esparros**	**0.51**	**99**	*e*Pg	**Pg**	**04 51 09.1**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**04 51 16.1**	**+0.7**
	20nm,0.3s						
EBIE	**Bielsa**	**0.56**	**140**	⇑Pg	**Pg**	**04 51 09.6**	**0.0**
	1.8nm,0.1s,SNR=18						
EBIE				Lg		04 51 16.8	
	15nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.56**	**140**	Pg	**Pg**	**04 51 09.6**	**0.0**
	1.8nm,0.1s,SNR=18						
RESF	**Ens**	**0.59**	**121**	Pg	**Pg**	**04 51 10.2**	**+0.1**
RESF				Sg	**Sg**	**04 51 18.4**	**+0.4**
RESF	**Ens**	**0.59**	**121**	P	**Pg**	**04 51 10.3**	**+0.2**
RESF				S	**Sg**	**04 51 18.3**	**+0.4**
SJPF	**Ste Jean**	**0.64**	**270**	*e*Pn	**Pn**	**04 51 12.0**	**-1.4**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**04 51 19.6**	**+0.2**
	10nm,0.2s						
SJPF	**Ste Jean**	**0.64**	**270**	Pg	**Pg**	**04 51 10.0**	**-1.0**
SJPF				Lg		04 51 19.6	
	5.1nm,0.2s						
SJPF	**Ste Jean**	**0.64**	**270**	*e*Pg	**Pg**	**04 51 10.0**	**-1.0**
SJPF				*e*Pn	**Pn**	**04 51 12.0**	**-1.4**
SJPF				*e*Sg	**Sg**	**04 51 19.6**	**+0.2**
SJPF	**Ste Jean**	**0.64**	**270**	*e*Pn	**Pn**	**04 51 12.0**	**-1.4**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**04 51 19.6**	**+0.2**
	5.1nm,0.2s						
OSSF	**Osses**	**0.68**	**282**	P	**Pg**	**04 51 12.9**	**+1.1**
OSSF				S	**Sg**	**04 51 21.2**	**+0.6**
IPRE	**Itoiz**	**0.80**	**247**	Pg	**Pg**	**04 51 13.8**	**-0.3**
	0.3nm,0.1s,SNR=7.9						
IPRE				Lg		04 51 26.0	
	2.4nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.80**	**247**	Pg	**Pg**	**04 51 13.8**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.85**	**277**	Pg	**Pg**	**04 51 14.5**	**-0.5**
	0.1nm,0.0s,SNR=15						
EALK				Lg		04 51 26.9	
	5.5nm,0.1s,SNR=8.4						
MELF	**Melles**	**0.85**	**106**	Pg	**Pg**	**04 51 14.9**	**-0.1**
MELF				Sg	**Sg**	**04 51 26.8**	**+0.7**
MELF	**Melles**	**0.85**	**106**	P	**Pg**	**04 51 15.1**	**+0.1**
MELF				S	**Sg**	**04 51 26.2**	**+0.1**
ELIZ	**Elizondo**	**0.86**	**273**	Pg	**Pg**	**04 51 14.7**	**-0.5**
	1.1nm,0.1s,SNR=12						
ELIZ				Lg		04 51 27.7	
	3.7nm,0.1s,SNR=10.0						
IUSE	**Utxeti**	**0.89**	**259**	Pg	**Pg**	**04 51 16.4**	**+0.6**
	0.9nm,0.1s,SNR=7.9						
IUSE				Lg		04 51 28.5	
	3.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.89**	**259**	Pg	**Pg**	**04 51 16.4**	**+0.6**
	0.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.96**	**249**	Pg	**Pg**	**04 51 20.5**	**+3.4**
	0.5nm,0.1s,SNR=7.9						
EARA				Lg		04 51 33.3	
	1.1nm,0.1s,SNR=7.9						
EGRA	**Graus**	**1.04**	**152**	Pg	**Pg**	**04 51 18.1**	**-0.6**
	152nm,0.1s,SNR=7.9						
SALF	**Salau**	**1.19**	**107**	P	**Pn**	**04 51 22.1**	**+1.2**
SALF				S	**Sb**	**04 51 37.6**	**+1.3**
ESAC	**San Caprasio**	**1.40**	**184**	Pg	**Pg**	**04 51 25.7**	**+0.3**
	9.9nm,0.2s,SNR=11						
ESAC				Lg		04 51 43.7	
	22nm,0.3s,SNR=8.3						
ESAC	**San Caprasio**	**1.40**	**184**	Pg	**Pg**	**04 51 25.7**	**+0.3**
	9.9nm,0.2s,SNR=11						
PAND	**Andorre**	**1.52**	**112**	S	**Sn**	**04 51 48.3**	**+3.1**
EMIR	**Miracle**	**1.84**	**130**	Pg	**Pg**	**04 51 33.7**	**-0.1**
	1.2nm,0.1s,SNR=8.7						
EMIR				Lg		04 51 58.5	
	2.9nm,0.1s,SNR=9.2						
EMIR	**Miracle**	**1.84**	**130**	Pg	**Pg**	**04 51 33.7**	**-0.1**
	1.2nm,0.1s,SNR=8.7						
MTLF	**Montolieu**	**1.89**	**82**	*e*Pg	**Pg**	**04 51 34.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**04 51 59.7**	**+0.3**
	3.3nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.89**	**82**	Pn	**Pn**	**04 51 30.3**	**-0.3**
MTLF				Pg	**Pg**	**04 51 34.9**	**+0.1**
MTLF				Lg		04 51 59.7	
	1.6nm,0.2s						
MTLF	**Montolieu**	**1.89**	**82**	*e*Pn	**Pn**	**04 51 30.3**	**-0.3**
MTLF				*e*Pg	**Pg**	**04 51 34.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**04 51 59.7**	**+0.3**
MTLF	**Montolieu**	**1.89**	**82**	*e*Pg	**Pg**	**04 51 34.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**04 51 59.7**	**+0.3**
	1.6nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**23**	*e*Pg	**Pg**	**04 51 37.1**	**+0.5**
LFF				*e*Sg	**Sg**	**04 52 04.2**	**+1.9**
	7.3nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**23**	Pn	**Pn**	**04 51 32.3**	**+0.4**
LFF				Pg	**Pg**	**04 51 37.1**	**+0.5**
LFF				Lg		04 52 04.2	
	3.7nm,0.2s						
LFF	**La Frestale**	**1.98**	**23**	*e*Pn	**Pn**	**04 51 32.3**	**+0.4**
LFF				*e*Pg	**Pg**	**04 51 37.1**	**+0.5**
LFF				*e*Sg	**Sg**	**04 52 04.2**	**+1.9**
LFF	**La Frestale**	**1.98**	**23**	*e*Pg	**Pg**	**04 51 37.1**	**+0.5**
LFF				*e*Sg	**Sg**	**04 52 04.2**	**+1.9**
	3.7nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**2.06**	**148**	Pg	**Pg**	**04 51 36.6**	**-1.5**
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		04 52 03.6	
	2.7nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.06**	**148**	Pg	**Pg**	**04 51 36.6**	**-1.4**
	0.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.22**	**166**	Pg	**Pg**	**04 51 39.2**	**-1.9**
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		04 52 08.8	
	7.0nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.22**	**166**	Pg	**Pg**	**04 51 39.2**	**-1.9**
	0.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.26**	**274**	Pg	**Pg**	**04 51 39.0**	**-2.8**
	0.1nm,0.1s,SNR=7.9						
ELAN				Lg		04 52 10.3	
	0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.26**	**274**	Pg	**Pg**	**04 51 39.0**	**-2.8**
	0.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.48**	**105**	Pg	**Pg**	**04 51 43.6**	**-2.4**
	1.5nm,0.0s,SNR=7.9						
EJON				Lg		04 52 16.9	
	2.4nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.48**	**105**	Pg	**Pg**	**04 51 43.6**	**-2.4**
	1.5nm,0.0s,SNR=7.9						
CAF	**Calviac**	**2.51**	**43**	*e*Pg	**Pg**	**04 51 47.0**	**+0.3**
CAF				*e*Sn	**Sn**	**04 52 08.2**	**-1.5**
CAF				*e*Sg	**Sg**	**04 52 19.7**	**+0.5**
	7.0nm,0.4s						
CAF	**Calviac**	**2.51**	**43**	Pn	**Pn**	**04 51 38.8**	**-0.3**
CAF				Pg	**Pg**	**04 51 47.0**	**+0.3**
CAF				Sn	**Sn**	**04 52 08.2**	**-1.5**
CAF				Lg		04 52 19.7	
	3.5nm,0.4s						
CAF	**Calviac**	**2.51**	**43**	*e*Pn	**Pn**	**04 51 38.8**	**-0.3**
CAF				*e*Pg	**Pg**	**04 51 47.0**	**+0.3**
CAF				*e*Sn	**Sn**	**04 52 08.2**	**-1.5**
CAF				*e*Sg	**Sg**	**04 52 19.7**	**+0.5**
CAF	**Calviac**	**2.51**	**43**	*e*Pg	**Pg**	**04 51 47.0**	**+0.3**
CAF				*e*Sn	**Sn**	**04 52 08.2**	**-1.5**
CAF				*e*Sg	**Sg**	**04 52 19.7**	**+0.5**
	3.5nm,0.4s						
RJF	**Les Rejaudoux**	**2.57**	**31**	*e*Sg	**Sg**	**04 52 21.3**	**+0.3**
	2.7nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.57**	**31**	*e*Sg	**Sg**	**04 52 21.3**	**+0.3**
	1.4nm,0.2s,SNR=1.0						
ETOR	**Torete**	**2.62**	**210**	Pn	**Pn**	**04 51 42.9**	**+2.2**
	1.9nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**04 52 11.9**	**-0.6**
	3.7nm,0.1s,SNR=7.9						
ETOR				Lg		04 52 22.9	
	3.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.62**	**210**	Pn	**Pn**	**04 51 42.9**	**+2.2**
ETOR				Sn	**Sn**	**04 52 11.9**	**-0.6**
EMOS	**Mosqueruela**	**2.75**	**182**	Lg		04 52 23.8	
	0.5nm,0.2s,SNR=7.9						
MFF	**Saint Martin d**	**3.49**	**2**	*e*Sg	**Sg**	**04 52 49.9**	**-0.7**
	2.4nm,0.3s						
MFF	**Saint Martin d**	**3.49**	**2**	*e*Sg	**Sg**	**04 52 49.9**	**-0.7**
	1.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.66**	**29**	*e*Sg	**Sg**	**04 52 55.4**	**-0.6**
	3.4nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.66**	**29**	*e*Sg	**Sg**	**04 52 55.4**	**-0.6**
	10nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.66**	**29**	*e*Sg	**Sg**	**04 52 55.4**	**-0.6**
	1.7nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.02**	**63**	*e*Pg	**Pg**	**04 52 14.1**	**-1.5**
VIVF				*e*Sg	**Sg**	**04 53 06.5**	**-1.2**
	2.0nm,0.4s						
VIVF	**Saint-Julien-l**	**4.02**	**63**	*e*Pg	**Pg**	**04 52 14.1**	**-1.5**
VIVF				*e*Sg	**Sg**	**04 53 06.5**	**-1.2**
	1.0nm,0.4s						
BGF	**Bois d'Agland**	**4.12**	**32**	*e*Sg	**Sg**	**04 53 09.8**	**-1.2**
	10nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.12**	**32**	*e*Sg	**Sg**	**04 53 09.8**	**-1.2**
	5.2nm,0.4s,SNR=1.0						

*IDC **07** 05:17:05.9±1.7, 3976N×13940E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, ML4.2/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/23, Error ellipse: s-maj=106.6km s-min=17.6km az=108.0*
*JMA **07** 05:17:06.7±0.1, 3996N×13843E, h39km±4km, M4.0*
*ISCJB **07** 05:17:07.2±0.6, 3997N±003×13846E±006, h33km, mb3.8/3, Error ellipse: s-maj=7.2km s-min=3.8km az=54.6*

ISC 07 05:17:08.6±0.6, 3996N±003×13850E±006, h35km, n21, σ0 86/30, mb3.8/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOG2	**Oga 2**	**0.99**	**92**	P	**Pn**	**05 17 25.3**	**-0.7**
JOG2				eS	**Sn**	**05 17 39.0**	**+0.2**
JTB	**Tobi-shima**	**1.12**	**133**	P	**Pn**	**05 17 26.7**	**-1.0**
JIW	**Iwasaki**	**1.31**	**61**	P	**Pn**	**05 17 29.8**	**-0.5**
JYW	**Yuwa**	**1.38**	**107**	P	**Pn**	**05 17 30.8**	**-0.5**
JAW	**Awa shima**	**1.61**	**159**	P	**Pn**	**05 17 33.6**	**-0.9**
JYK	**Kaneyama**	**1.78**	**125**	P	**Pn**	**05 17 36.4**	**-0.4**
JYK				*e*S	**Sn**	**05 17 58.4**	**+0.3**
JSD	**Sado**	**1.93**	**186**	P	**Pn**	**05 17 38.4**	**-0.5**
JSD				*e*S	**Sn**	**05 18 01.6**	**-0.4**
JOM	**Ohasama**	**2.21**	**102**	P	**Pn**	**05 17 42.9**	**+0.2**
JOM				*e*S	**Sn**	**05 18 09.6**	**+0.9**
JNS	**Sasagawa**	**2.23**	**163**	P	**Pn**	**05 17 42.6**	**-0.5**
JNS				*e*S	**Sn**	**05 18 09.0**	**-0.4**
JOSM	**Okushiri--Mats**	**2.24**	**19**	P	**Pn**	**05 17 42.1**	**-1.0**
JOSM				*e*S	**Sn**	**05 18 07.9**	**-1.6**
JMK	**Ichinoseki**	**2.33**	**115**	P	**Pn**	**05 17 44.4**	**0.0**
JANG	**Nango**	**2.34**	**79**	P	**Pn**	**05 17 45.0**	**+0.4**
JOT	**Ohata**	**2.40**	**53**	P	**Pn**	**05 17 46.3**	**+1.0**
JOT				*e*S	**Sn**	**05 18 14.1**	**+0.7**
JHG	**Hegura jima**	**2.45**	**211**	*e*S	**Sn**	**05 18 15.1**	**+0.4**
MAT	**Matsushiro**	**3.42**	**184**	P	**Pn**	**05 18 00.2**	**+0.8**
MAT				S	**Sn**	**05 18 38.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.42**	**184**	Pn	**Pn**	**05 18 00.7**	**+1.3**
	2.8nm,0.3s,baz=15,slow=14,SNR=12						
MJAR				Pg	**Pn**	**05 18 06.1**	**+6.7**
	7.4nm,0.3s,baz=358,slow=14,SNR=24						
MJAR				Sn	**Sn**	**05 18 38.5**	**-0.2**
	3.5nm,0.3s,baz=54,slow=27,SNR=4.7						
MJAR				Lg		05 18 54.0	
	2.8nm,0.3s,baz=322,slow=9.6,SNR=3.7						
ASAJ	**Asahikawa**	**5.15**	**35**	LR	LR	05 20 48.9	
	comp=Z,83nm,21.2s,baz=274,slow=45						
JHJ	**Hachijo jima 2**	**6.91**	**171**	Pn	**Pn**	**05 18 44.0**	**-3.3**
	122nm,0.3s,baz=60,slow=20,SNR=6.2						
INK	**Inuvik**	**52.84**	**28**	P	**P**	**05 26 22.0**	**+1.4**
	1.8nm,0.9s,mb4.0,baz=314,slow=1.7,SNR=5.8						
WRA	**Warramunga Arr**	**59.72**	**185**	P	**P**	**05 27 11.0**	**+1.3**
	0.7nm,0.6s,mb3.9,baz=2.3,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**63.44**	**185**	P	**P**	**05 27 36.4**	**+1.6**
	0.4nm,0.9s,mb3.5,baz=10,slow=5.7,SNR=3.5						

IDC 07 05:19:50.4±2.2, 626N×12695E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=173.2km s-min=26.6km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.03**	**165**	P	P	05 25 36.0	+1.8
	0.4nm,0.5s,baz=345,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**30.51**	**167**	P	P	05 26 04.0	-1.2
	0.2nm,0.5s,baz=347,slow=6.8,SNR=4.8						
STKA	**Stephens Creek**	**40.42**	**161**	P	P	05 27 30.4	+0.1
	0.8nm,0.4s,baz=352,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**55.63**	**324**	P	P	05 29 28.1	+0.1
	0.5nm,0.7s,baz=124,slow=8.9,SNR=4.2						

IDC 07 05:30:18.2±3.7, 748S×15566E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, MS3.6/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=106.8km s-min=29.2km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.09**	**237**	*e*P	P	05 35 36.2	+0.9
WRA	**Warramunga Arr**	**24.10**	**237**	P	P	05 35 36.6	+1.2
	1.8nm,0.5s,baz=63,slow=9.6,SNR=28						
ASAR	**Alice Springs**	**26.36**	**230**	P	P	05 35 55.7	-0.2
	0.2nm,0.7s,baz=57,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**27.59**	**207**	LR	LR	05 47 39.6	
	comp=Z,118nm,19.8s,baz=24,slow=38						
SONM	**Songino Array**	**70.10**	**327**	P	P	05 41 32.1	-0.1
	0.8nm,0.8s,baz=125,slow=5.2,SNR=2.7						
MKAR	**Makanchi Array**	**84.20**	**319**	P	P	05 42 51.9	+0.5
	1.1nm,0.8s,baz=102,slow=6.1,SNR=8.4						

*IDC **07** 05:53:18.8±2.1, 649S×12959E, h0km, mb3.9/1, mb1 4.2/4, mb1mx3.8/13, mbtmp4.0/4, ML3.9/3, Error ellipse: s-maj=89.0km s-min=27.0km az=76.0*
*ISCJB **07** 05:53:33.7±1.3, 7.17S±010×1295E±01, h150km, mb3.7/1, Error ellipse: s-maj=21.7km s-min=11.1km az=125.8*

ISC 07 05:53:34.9±1.3, 715S±010×1294E±01, h150km, n8, σ1 9 25/14, mb3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.29

0.7nm,0.5s,baz=96,slow=6.9,SNR=29
ASAR Alice Springs 52.44 252 P P 06 57 14.6 +0.4
5.9nm,0.6s,baz=88,slow=8.4,SNR=100
ASPA Alice Springs 52.44 252 *e*P P 06 57 14.7 +0.5

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*CSEM **07** 07:27:30.4±0.5, 3862N×2858W, h20km±5km, ML1.3, Error ellipse: s-maj=2.4km s-min=2.1km az=50.0, After PDA*
*PDA **07** 07:27:30.4±0.5, 3862N×2858W, h20km±5km, MD2.6, ML1.3, Error ellipse: s-maj=2.4km s-min=2.1km az=50.0*
SVSA 07 07:27:30.4±0.5, 3862N×2858W, h20km±5km, MD2.6, ML1.3, Error ellipse: s-maj=2.4km s-min=2.1km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**276**	*e*P	Pg	07 27 33.7	-0.6
PCED				*e*S	Sg	07 27 36.0	-0.8
PCED	32nm,0.1s						
PCED	**Cedros**	**0.10**	**276**	*e*P	Pg	07 27 33.7	-0.6
PCED				*e*S	Sg	07 27 36.0	-0.8
CALA	**Caldeira**	**0.10**	**249**	*e*P	Pg	07 27 33.9	-0.4
CALA				*e*S	Sg	07 27 36.5	-0.4
PICO	**Pico**	**0.17**	**134**	*e*P	Pg	07 27 34.3	-0.8
PICO				*e*S	Sg	07 27 37.6	-0.6
PCND	**Candelaria**	**0.18**	**148**	*e*S	Sg	07 27 37.5	-0.9
PCND	11nm,0.1s						
ROSA	**Rosais**	**0.28**	**69**	*e*P	Pg	07 27 35.8	-1.0
ROSA				*e*S	Sg	07 27 39.7	-1.4

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*ISCJB **07** 07:48:47.4±0.2, 4609N±001×674E±002, h4km±3km, Error ellipse: s-maj=2.4km s-min=2.0km az=7.6*
*ZUR **07** 07:48:48.9, 4608N×684E, h7km±1km, ML2.1/10*
*LDG **07** 07:48:48.9±0.0, 4606N×686E, h2km, Md2.8/2, Ml2.5/18, Error ellipse: s-maj=1.1km s-min=0.6km az=91.0*
*CSEM **07** 07:48:48.8±0.0, 4606N×685E, h8km, ML2.5/17, Error ellipse: s-maj=0.9km s-min=0.6km az=94.0*
*NEIC **07** 07:48:48.8, 4607N×687E, h5km, ML2.0(ROM), ML2.4(STR), ML2.5(LDG), After STR.*
*STR **07** 07:48:48.8±0.2, 4607N×687E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **07** 07:48:49.3±0.2, 4603N×694E, h5km, Md1.9/4, Ml2.0/1, Error ellipse: s-maj=2.1km s-min=1.6km az=125.0*
ISC 07 07:48:48.4±0.2, 4607N±001×681E±002, h11km±2km, n77, σ0.962/158, 4C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.07**	**96**	⇓*i*Pg	**Pg**	**07 48 50.8**	**+0.2**
EMV				*i* Sg	**Sg**	**07 48 52.0**	**-0.3**
SALAN	**Lac Salanfe**	**0.14**	**58**	⇑*i*Pg	**Pg**	**07 48 51.7**	**+0.1**
SALAN	1μm,0.1s			*i* Sg	**Sg**	**07 48 53.6**	**-0.3**
OG01	**Vacheresse**	**0.27**	**342**	Pg	**Pg**	**07 48 54.7**	**+0.8**
OG01				Sg	**Sg**	**07 48 58.9**	**+1.2**
GRYON	**Gryon**	**0.28**	**50**	⇑*i*Pg	**Pg**	**07 48 54.2**	**+0.2**
GRYON	277nm,0.1s			*i* Sg	**Sg**	**07 48 57.7**	**-0.1**
AIGLE	**Aigle**	**0.29**	**21**	⇑*i*Pg	**Pg**	**07 48 54.4**	**+0.2**
AIGLE	196nm,0.2s						
MRGE	**Morge**	**0.35**	**149**	Pg	**Pg**	**07 48 55.7**	**+0.4**
MRGE				Sg	**Sg**	**07 49 00.6**	**+0.6**
RSL	**Roselend**	**0.40**	**198**	Pg	**Pg**	**07 48 56.6**	**+0.3**
RSL				Sg	**Sg**	**07 49 02.6**	**+0.9**
DIX	**Grande Dixence**	**0.42**	**88**	⇓*i*Pg	**Pg**	**07 48 56.9**	**+0.2**
DIX	567nm,0.3s			Sg	**Sg**	**07 49 02.1**	**-0.2**
SENIN	**Lac Senin/Sane**	**0.45**	**49**	⇑*i*Pg	**Pg**	**07 48 57.3**	**+0.1**
SENIN	549nm,0.3s			*i* Sg	**Sg**	**07 49 03.1**	**-0.1**
LPL	**La Plagne**	**0.56**	**185**	*e*Pg	**Pg**	**07 48 59.6**	**+0.4**
LPL	SNR=1.0			*e*Sg	**Sg**	**07 49 06.9**	**+0.4**
LPL	**La Plagne**	**0.56**	**185**	*e*Pg	**Pg**	**07 48 59.6**	**+0.4**
LPL	SNR=1.0			*e*Sg	**Sg**	**07 49 06.9**	**+0.4**
LPG	**La Plagne**	**0.57**	**184**	*e*Pg	**Pg**	**07 49 00.0**	**+0.5**
LPG	SNR=1.0			*e*Sg	**Sg**	**07 49 07.8**	**+0.7**
LPG	**La Plagne**	**0.57**	**184**	*e*Pg	**Pg**	**07 49 00.0**	**+0.5**
LPG	SNR=1.0			*e*Sg	**Sg**	**07 49 07.8**	**+0.7**
GIMEL	**St. Georges /**	**0.60**	**321**	*e*Pg	**Pg**	**07 49 00.8**	**+0.9**
LKBD	**Leukerbad**	**0.65**	**61**	⇓*i*Pg	**Pg**	**07 49 01.5**	**+0.5**
LKBD	**Leukerbad**	**0.65**	**61**	⇓*i*P	**Pg**	**07 49 01.1**	**+0.1**
LSD	**Ceresole Reale**	**0.66**	**158**	P	**Pg**	**07 49 01.5**	**+0.3**
TORNY	**Torny/Romont**	**0.71**	**9**	*e*Pg	**Pg**	**07 49 02.8**	**+0.7**
CABF	**La Chapelle**	**0.73**	**318**	*e*Pn	**Pn**	**07 49 05.2**	**+0.5**
CABF	SNR=1.0			*e*Sg	**Sg**	**07 49 13.6**	**+1.4**
CABF	SNR=1.0			*e*Sn	**Sg**	**07 49 16.7**	**+4.5**
CABF	**La Chapelle**	**0.73**	**318**	*e*Pg	**Pg**	**07 49 03.3**	**+0.7**
CABF				*e*Pn	**Pn**	**07 49 05.2**	**+0.5**
CABF				*e*Sg	**Sg**	**07 49 13.6**	**+1.4**
CABF				*e*Sn	**Sg**	**07 49 16.7**	**+4.5**
CABF	**La Chapelle**	**0.73**	**318**	*e*Pn	**Pn**	**07 49 05.2**	**+0.5**
CABF	SNR=1.0			*e*Sg	**Sg**	**07 49 13.6**	**+1.4**
CABF	SNR=1.0			*e*Sn	**Sg**	**07 49 16.7**	**+4.5**
MMK	**Mattmark**	**0.81**	**91**	*e*Pg	**Pg**	**07 49 05.6**	**+1.6**
MMK	**Mattmark**	**0.81**	**91**	*e*P	**Pg**	**07 49 03.3**	**-0.7**
MMK	**Mattmark**	**0.81**	**91**	*e*Pg	**Pg**	**07 49 05.6**	**+1.6**
ORX	**Oropa**	**0.93**	**118**	P	**Pg**	**07 49 05.3**	**-1.0**
OG05	**Jujurieux**	**0.94**	**269**	Pg	**Pg**	**07 49 07.4**	**+1.0**
RSP	**Reno Superiore**	**0.97**	**161**	Pg	**Pg**	**07 49 07.3**	**+0.2**
GRN	**Grenoble**	**1.11**	**222**	Pg	**Pg**	**07 49 11.1**	**+1.3**
RRL	**Cesana Torines**	**1.15**	**181**	P	**Pb**	**07 49 10.3**	**0.0**
LOMF	**Lomont**	**1.28**	**1**	Pg	**Pg**	**07 49 13.5**	**+0.5**
LOMF				Sg	**Sg**	**07 49 30.4**	**+0.8**
ORIF	**Oris-en-Rattie**	**1.32**	**210**	*e*Pn	**Pn**	**07 49 13.4**	**+0.6**
ORIF	SNR=1.0			*e*Sg	**Sg**	**07 49 31.0**	**0.0**
ORIF	**Oris-en-Rattie**	**1.32**	**210**	*e*Pn	**Pn**	**07 49 13.4**	**+0.6**
ORIF	SNR=1.0			*e*Sg	**Sg**	**07 49 31.0**	**0.0**
MBDF	**Montbardon**	**1.34**	**181**	*e*Pg	**Pg**	**07 49 13.9**	**-0.3**
MBDF	SNR=1.0			*e*Sg	**Sg**	**07 49 31.3**	**-0.3**
MBDF	**Montbardon**	**1.34**	**181**	*e*Pn	**Pn**	**07 49 13.1**	**0.0**
MBDF				*e*Pg	**Pg**	**07 49 13.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**07 49 31.3**	**-0.3**
MBDF	**Montbardon**	**1.34**	**181**	*e*Pg	**Pg**	**07 49 13.9**	**-0.3**
MBDF	SNR=1.0			*e*Sg	**Sg**	**07 49 31.3**	**-0.3**
BBS	**Basel-Blauen**	**1.48**	**19**	Pg	**Pg**	**07 49 16.7**	**0.0**
BBS				Sg	**Sg**	**07 49 36.3**	**+0.4**
PZZ	**Prazzo**	**1.58**	**172**	P	**Pn**	**07 49 16.7**	**+0.4**
HINF	**Hinteralfeld**	**1.75**	**1**	*e*Pg	**Pg**	**07 49 21.7**	**-0.2**
HINF	SNR=1.0			*e*Sn	**Sn**	**07 49 40.3**	**-0.6**
HINF	8.6nm,0.2s			*e*Sg	**Sg**	**07 49 43.9**	**-0.7**
HINF	**Hinteralfeld**	**1.75**	**1**	*e*Pn	**Pn**	**07 49 18.6**	**0.0**
HINF				*e*Pg	**Pg**	**07 49 21.7**	**-0.2**
HINF				*e*Sn	**Sn**	**07 49 40.3**	**-0.6**
HINF				*e*Sg	**Sg**	**07 49 43.9**	**-0.7**
HINF	**Hinteralfeld**	**1.75**	**1**	*e*Pg	**Pg**	**07 49 21.7**	**-0.2**
HINF	SNR=1.0			*e*Sn	**Sn**	**07 49 40.3**	**-0.6**
HINF	4.3nm,0.2s			*e*Sg	**Sg**	**07 49 43.9**	**-0.7**
MOF	**Molkenrain**	**1.80**	**7**	Pg	**Pg**	**07 49 22.5**	**-0.3**
VIVF	**Saint-Julien-l**	**1.93**	**232**	*e*Pg	**Pg**	**07 49 25.5**	**+0.1**
VIVF				*e*Sn	**Sn**	**07 49 45.6**	**+0.2**
VIVF	SNR=1.0			*e*Sg	**Sg**	**07 49 50.1**	**-0.3**
VIVF	**Saint-Julien-l**	**1.93**	**232**	*e*Pn	**Pn**	**07 49 21.9**	**+0.8**
VIVF				*e*Pg	**Pg**	**07 49 25.5**	**+0.1**
VIVF				*e*Sn	**Sn**	**07 49 45.6**	**+0.2**
VIVF				*e*Sg	**Sg**	**07 49 50.1**	**-0.3**
VIVF	**Saint-Julien-l**	**1.93**	**232**	*e*Pg	**Pg**	**07 49 25.5**	**+0.1**
VIVF	SNR=1.0			*e*Sn	**Sn**	**07 49 45.6**	**+0.2**
VIVF	9.9nm,0.2s			*e*Sg	**Sg**	**07 49 50.1**	**-0.3**
HAU	**Haudompre**	**1.96**	**351**	*e*Pg	**Pg**	**07 49 25.4**	**-0.6**
HAU	SNR=1.0			*e*Sg	**Sg**	**07 49 50.5**	**-0.9**
HAU	**Haudompre**	**1.96**	**351**	*e*Pn	**Pn**	**07 49 21.6**	**0.0**
HAU				*e*Pg	**Pg**	**07 49 25.4**	**-0.6**
HAU				*e*Sg	**Sg**	**07 49 50.5**	**-0.9**
HAU	**Haudompre**	**1.96**	**351**	*e*Pg	**Pg**	**07 49 25.4**	**-0.6**
HAU	SNR=1.0			*e*Sg	**Sg**	**07 49 50.5**	**-0.9**
SMF	**Signal de Mont**	**2.13**	**287**	*e*Pg	**Pg**	**07 49 29.0**	**-0.2**
SMF				*e*Sg	**Sg**	**07 49 56.7**	**-0.2**
SMF	**Signal de Mont**	**2.13**	**287**	*e*Pn	**Pn**	**07 49 24.3**	**+0.4**
SMF				*e*Pg	**Pg**	**07 49 29.0**	**-0.2**
SMF				*e*Sg	**Sg**	**07 49 56.7**	**-0.2**
SMF	**Signal de Mont**	**2.13**	**287**	*e*Pg	**Pg**	**07 49 29.0**	**-0.2**
SMF				*e*Sg	**Sg**	**07 49 56.7**	**-0.2**
SBF	**Sospel**	**2.25**	**168**	*e*Pg	**Pg**	**07 49 30.9**	**-0.6**
SBF	SNR=1.0			*e*Sg	**Sg**	**07 49 59.7**	**-1.0**
SBF	**Sospel**	**2.25**	**168**	*e*Pg	**Pg**	**07 49 30.9**	**-0.6**
SBF	SNR=1.0			*e*Sg	**Sg**	**07 49 59.7**	**-1.0**
SMRF	**Simiane la Rot**	**2.27**	**203**	*e*Pg	**Pg**	**07 49 31.1**	**-0.8**
SMRF				*e*Sg	**Sg**	**07 50 00.2**	**-1.1**
SMRF	**Simiane la Rot**	**2.27**	**203**	*e*Pn	**Pn**	**07 49 25.6**	**-0.2**
SMRF				*e*Pg	**Pg**	**07 49 31.1**	**-0.8**
SMRF				*e*Sg	**Sg**	**07 50 00.2**	**-1.1**
SMRF	**Simiane la Rot**	**2.27**	**203**	*e*Pg	**Pg**	**07 49 31.1**	**-0.8**
SMRF	0.6nm,0.3s			*e*Sg	**Sg**	**07 50 00.2**	**-1.1**
LOR	**Lormes**	**2.36**	**302**	*e*Pg	**Pg**	**07 49 33.0**	**-0.5**
LOR	5.0nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**07 50 03.6**	**-0.5**
LOR	**Lormes**	**2.36**	**302**	*e*Pn	**Pn**	**07 49 27.3**	**+0.3**
LOR				*e*Pg	**Pg**	**07 49 33.0**	**-0.5**
LOR				*e*Sg	**Sg**	**07 50 03.6**	**-0.5**
LOR	**Lormes**	**2.36**	**302**	*e*Pg	**Pg**	**07 49 33.0**	**-0.5**
LOR	2.5nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**07 50 03.6**	**-0.5**
CDF	**Champ du Feu**	**2.37**	**8**	*e*Pg	**Pg**	**07 49 32.8**	**-0.9**
CDF	4.4nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 50 03.6**	**-0.8**
CDF	**Champ du Feu**	**2.37**	**8**	*e*Pn	**Pn**	**07 49 26.7**	**-0.4**
CDF				*e*Pg	**Pg**	**07 49 32.8**	**-0.9**
CDF				*e*Sg	**Sg**	**07 50 03.6**	**-0.8**
CDF	**Champ du Feu**	**2.37**	**8**	*e*Pg	**Pg**	**07 49 32.8**	**-0.9**
CDF	2.2nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**07 50 03.6**	**-0.8**
SSF	**Saint Saulge**	**2.48**	**295**	*e*Pg	**Pg**	**07 49 35.5**	**-0.4**
SSF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.1**	**-1.0**
SSF	**Saint Saulge**	**2.48**	**295**	*e*Pn	**Pn**	**07 49 28.9**	**+0.2**
SSF				*e*Pg	**Pg**	**07 49 35.5**	**-0.4**
SSF				*e*Sg	**Sg**	**07 50 07.1**	**-1.0**
SSF	**Saint Saulge**	**2.48**	**295**	*e*Pg	**Pg**	**07 49 35.5**	**-0.4**
SSF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.1**	**-1.0**
AVF	**Avril sur Loir**	**2.49**	**288**	*e*Pg	**Pg**	**07 49 36.3**	**+0.1**
AVF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.6**	**-0.9**
AVF	**Avril sur Loir**	**2.49**	**288**	*e*Pn	**Pn**	**07 49 29.3**	**+0.4**
AVF				*e*Pg	**Pg**	**07 49 36.3**	**+0.1**
AVF				*e*Sg	**Sg**	**07 50 07.6**	**-0.9**
AVF	**Avril sur Loir**	**2.49**	**288**	*e*Pg	**Pg**	**07 49 36.3**	**+0.1**
AVF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.6**	**-0.9**
FRF	**La Foret Royal**	**2.51**	**183**	*e*Pg	**Pg**	**07 49 35.5**	**-1.0**
FRF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.9**	**-1.2**
FRF	**La Foret Royal**	**2.51**	**183**	*e*Pg	**Pg**	**07 49 35.5**	**-1.0**
FRF	SNR=1.0			*e*Sg	**Sg**	**07 50 07.9**	**-1.2**
MEZF	**Maizieres J'vi**	**2.71**	**335**	*e*Pg	**Pg**	**07 49 39.5**	**-0.8**
MEZF				*e*Sn	**Sn**	**07 50 04.1**	**-0.5**
MEZF	**Maizieres J'vi**	**2.71**	**335**	*e*Pg	**Pg**	**07 49 39.5**	**-0.8**
MEZF				*e*Sn	**Sn**	**07 50 04.1**	**-0.5**
LMR	**La Mourre**	**2.74**	**185**	*e*Pg	**Pg**	**07 49 39.6**	**-1.4**
BGF	**Bois d'Agland**	**2.79**	**282**	*e*Pg	**Pg**	**07 49 41.2**	**-0.6**
BGF	SNR=1.0			*e*Sg	**Sg**	**07 50 18.2**	**+0.3**
BGF	**Bois d'Agland**	**2.79**	**282**	*e*Pn	**Pn**	**07 49 33.5**	**+0.6**
BGF				*e*Pg	**Pg**	**07 49 41.2**	**-0.6**
BGF				*e*Sg	**Sg**	**07 50 18.2**	**+0.3**
BGF	**Bois d'Agland**	**2.79**	**282**	*e*Pg	**Pg**	**07 49 41.2**	**-0.6**
BGF	SNR=1.0			*e*Sg	**Sg**	**07 50 18.2**	**+0.3**
TCF	**Toulx Ste Croi**	**3.20**	**276**	*e*Pn	**Pn**	**07 49 39.1**	**+0.5**
TCF				*e*Sg	**Sg**	**07 50 30.7**	**-0.4**
TCF	**Toulx Ste Croi**	**3.20**	**276**	*e*Pn	**Pn**	**07 49 39.1**	**+0.5**
TCF				*e*Sg	**Sg**	**07 50 30.7**	**-0.4**

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*STR **07** 07:49:59.4±0.1, 4280N×201E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 07:49:59.4±0.1, 4280N×201E, h7km, Md2.1/1, Ml1.9/3, Error ellipse: s-maj=1.0km s-min=0.8km az=149.0*
MDD 07 07:49:59.9±0.2, 4280N×201E, h11km±1km, mbLg1.3/5, Error ellipse: s-maj=2.4km s-min=2.2km az=73.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARF	**Carcanieres**	**0.11**	**139**	P	Pg	07 50 02.7	0.0
CARF				S	Sg	07 50 04.9	+0.2
LPEF	**Le Peyrat**	**0.17**	**333**	P	Pg	07 50 03.6	0.0
LPEF				S	Sg	07 50 06.8	+0.6
CLLI	**Llivia**	**0.32**	**185**	P	Pg	07 50 05.9	-0.4
CLLI	2.2nm,0.1s			S	Sg	07 50 10.5	-0.1
GRBF	**Gourbit**	**0.35**	**277**	P	Pg	07 50 06.3	-0.6
GRBF				S	Sg	07 50 11.1	-0.5
VALF	**Valcebollere**	**0.40**	**179**	Pg	Pg	07 50 07.3	-0.4
VALF				Sg	Sg	07 50 12.6	-0.4
VALF	**Valcebollere**	**0.40**	**179**	P	Pg	07 50 07.5	-0.2
VALF				S	Sg	07 50 12.9	-0.1
LRDF	**Laroque-de-Fa**	**0.41**	**70**	Pg	Pg	07 50 07.6	-0.4
LRDF				Sg	Sg	07 50 13.1	-0.4
LRDF	**Laroque-de-Fa**	**0.41**	**70**	P	Pg	07 50 07.7	-0.3
LRDF				S	Sg	07 50 13.7	+0.1
FILF	**Fillols**	**0.47**	**120**	Pg	Pg	07 50 06.9	-2.2
FILF				Sg	Sg	07 50 12.4	-2.9
FILF	**Fillols**	**0.47**	**120**	P	Pg	07 50 06.9	-2.2
FILF				S	Sg	07 50 12.3	-3.1
MTLF	**Montolieu**	**0.56**	**15**	*e*Pg	Pg	07 50 10.3	-0.6
MTLF	**Montolieu**	**0.56**	**15**	*e*Pn	Pg	07 50 12.3	+1.4
MTLF				*e*Sg	Sg	07 50 17.6	-0.7
MTLF				*e*Sn	Sg	07 50 21.3	+3.0
MTLF	4.6nm,0.2s						
MTLF	**Montolieu**	**0.56**	**15**	Pg	Pg	07 50 10.3	-0.6
MTLF				Lg		07 50 17.6	
SALF	**Salau**	**0.61**	**267**	Pg	Pg	07 50 10.8	-0.9
SALF	**Salau**	**0.61**	**267**	P	Pg	07 50 10.9	-0.8
SALF				S	Sg	07 50 18.7	-1.0
EJON	**La Jonquera**	**0.73**	**118**	Pg	Pg	07 50 13.6	-0.6
EJON	SNR=4.0			Lg		07 50 26.1	
CORG	**Organya**	**0.76**	**222**	P	Pg	07 50 14.5	-0.2
CORG				S	Sg	07 50 24.7	0.0
CSOR	**Sort**	**0.77**	**237**	P	Pg	07 50 14.0	-0.8
CSOR				S	Sg	07 50 24.7	-0.2
EPF	**Esparros**	**1.25**	**281**	*e*Pg	Pg	07 50 23.1	-0.8
EPF				*e*Sg	Sg	07 50 38.7	-1.5
EPF	**Esparros**	**1.25**	**281**	Pg	Pg	07 50 23.1	-0.8
EPF				Lg		07 50 38.7	
EBIE	**Bielsa**	**1.38**	**266**	Pg	Pg	07 50 25.1	-1.3
EBIE	SNR=7.9			Lg		07 50 47.6	
EPOB	**Poblet**	**1.60**	**206**	Pg	Pg	07 50 29.2	-1.5
EPOB	SNR=7.9			Lg		07 50 49.6	
ETSF	**Etsaut**	**1.89**	**274**	*e*Pg	Pg	07 50 34.5	-1.7
ETSF				*e*Sg	Sg	07 50 58.9	-1.9
ETSF	**Etsaut**	**1.89**	**274**	Pg	Pg	07 50 34.5	-1.7
ETSF				Lg		07 50 58.9	
VIVF	**Saint-Julien-l**	**2.82**	**42**	*e*Sg	Sg	07 51 28.4	-2.1
VIVF	**Saint-Julien-l**	**2.82**	**42**	Lg		07 51 28.4	

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*SZGRF **07** 08:20:45.8, 2420S×6892W, h33km, Chile-Argentina border region*
*CRAAG **07** 08:20:47.1, 2404S×6902W, Mb5.8*
*MOS **07** 08:20:52.1±1.7, 2410S×6897W, h83km, mb5.7/57, Error ellipse: s-maj=23.4km s-min=13.0km az=99.3*
*GCMT **07** 08:20:54.7±0.1, 2413S×6927W, h121km, MW5.7/100, Moment Tensor Solution. s100,c186; s95,c207; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.64±.05; $M_{\theta\theta}$2.05±.06; $M_{\phi\phi}$2.58±.07; $M_{r\theta}$0.61±.05; $M_{\theta\phi}$-2.03±.05; $M_{\phi r}$-1.65±.06; Best double couple: M_o4.83000×10^{17} NP1:ϕ_s132.00000°, δ35.00000°, λ-101.00000°. NP2:ϕ_s326.00000°, δ55.00000°, λ-82.00000°. Principal axes: T 4.6560, Plg10.0000°, Azm50.0000°; N 0.3380, Plg6.0000°, Azm141.0000°; P -5.0030, Plg78.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*GUC **07** 08:20:54.7±0.3, 2416S×6911W, h104km, ML5.7, MW5.7(NEIC)*
*ISCJB **07** 08:20:55.6±0.1, 2405S±003×6907W±003, h104km, mb5.6/216, Error ellipse: s-maj=4.7km s-min=3.5km az=90.5*
*IDC **07** 08:20:56.7±0.3, 2404S×6896W, h104km±2km, mb5.3/25, mb1 5.3/29, mb1mx5.3/29, mbtmp5.5/29, MS4.7/17, Ms1 4.7/17, ms1mx4.6/22, Error ellipse: s-maj=10.1km s-min=6.0km az=86.0*
*BJI **07** 08:20:56.7, 2420S×6910W, h104km, mB5.5*
*NEIC **07** 08:20:56.8±0.1, 2409S×6898W, h104km, mb5.7/194, ME5.5, MW5.7, Error ellipse: s-maj=4.0km s-min=3.0km az=51.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.17; $M_{\theta\theta}$2.83; $M_{\phi\phi}$1.34; $M_{r\theta}$0.21; $M_{\theta\phi}$-2.57; $M_{\phi r}$-2.50; Best double couple: M_o5.10000×10^{17} NP1:ϕ_s328.00000°, δ59.00000°, λ-66.00000°. NP2: ϕ_s106.00000°, δ39.00000°, λ-125.00000°. Principal axes: T 5.0900, Plg11.0000°, Azm41.0000°; N 0.1200, Plg21.0000°, Azm135.0000°; P -5.2000, Plg66.0000°, Azm284.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s186.00000°, δ36.00000°, λ-59.00000°. NP2: ϕ_s330.00000°, δ60.00000°, λ-110.00000°. Principal axes: T Plg13.0000°, Azm74.0000°; N Plg0.0000°, Azm0.0000°; P Plg68.0000°, Azm199.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Antofagasta and [III] at Calama, Copiapo, Taltal and Tocopilla.
*LDG **07** 08:20:57.7±0.8, 2317S×6923W, h101km, Mb5.5/29, Ms4.6/8 Error ellipse: s-maj=51.1km s-min=30.7km az=25.0*
ISC 07 08:20:57.4±0.1, 2404S±003×6897W±003, h106km, h106km±.3km:pP-P, n703, σ0.993/505, mb5.6/216, 17C-29D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.37**	**285**	⇑*i*P	**Pn**	**08 21 18.8**	**-3.6**
ANCH				*i* S	**Sn**	**08 21 37.0**	**-4.3**
LVC	**Limon Verde**	**1.42**	**2**	P	**Pn**	**08 21 23.0**	**0.0**
LVC	13μm,0.3s,baz=182,slow=9.2			S	**Sn**	**08 21 42.2**	**-0.2**
LVC	**Limon Verde**	**1.42**	**2**	*e*P	**Pn**	**08 21 22.7**	**-0.3**
LVC				*i* S	**Sn**	**08 21 43.1**	**+0.7**
LVC	**Limon Verde**	**1.42**	**2**	*e*Pn	**Pn**	**08 21 22.7**	**-0.3**
LVC				*e*Sn	**Sn**	**08 21 43.1**	**+0.7**
CDCH	**Caldera**	**3.46**	**209**	⇑*i*P	**Pn**	**08 21 42.9**	**-6.5**
CDCH				*i* S	**Sn**	**08 22 20.9**	**-8.6**
CDCH	comp=E,13μm,0.6s			AML	AML	08 22 39.6	
CDCH	**Caldera**	**3.46**	**209**	⇑*i*P	**Pn**	**08 21 42.9**	**-6.5**
CDCH				*i* S	**Sn**	**08 22 20.9**	**-8.6**
CPCH	**Copiapo**	**3.53**	**200**	*i* P	**Pn**	**08 21 45.9**	**-4.4**
CPCH				*i* S	**Sn**	**08 22 25.3**	**-6.0**
CFAA	**Coronel Fontan**	**7.56**	**175**	P	**Pn**	**08 22 41.0**	**-3.9**
CFAA	comp=E,25nm,0.3s,baz=352,slow=13,SNR=2640			S	**Sn**	**08 24 00.4**	**-8.6**
LPAZ	**La Paz**	**7.75**	**6**	P	**Pn**	**08 22 47.5**	**0.0**
LPAZ	comp=E,7.6nm,0.3s,baz=203,slow=15,SNR=3.0 comp=E,48nm,0.3s,baz=180,slow=7.8,SNR=720			LR	LR	08 25 13.0	
LPAZ	**La Paz**	**7.75**	**6**	*e*Pn	**Pn**	**08 22 47.3**	**-0.2**
ARE	**Arequipa**	**7.90**	**342**	⇑*i*P	**Pn**	**08 22 44.8**	**-4.7**
ARE				*e*S	**Sn**	**08 24 12.0**	**-5.2**
CPUP	**Villa Florida**	**10.78**	**105**	P	**Pn**	**08 23 26.5**	**-2.1**
CPUP	comp=E,1.2nm,0.3s,baz=268,slow=12,SNR=26			LR	LR	08 28 13.7	
CPUP	**Villa Florida**	**10.78**	**105**	*e*Pn	**Pn**	**08 23 25.7**	**-2.9**
SIV	**San Ignacio**	**10.91**	**44**	P	**Pn**	**08 23 26.5**	**-3.9**
SIV	comp=E,6μm,20.2s,baz=273,slow=41 comp=E,218nm,0.3s,baz=248,slow=10,SNR=1231			pP		08 23 58.8	
NNA	**Nana**	**14.13**	**327**	Pn	**Pn**	**08 24 13.9**	**+1.2**
NNA	comp=E,4.9nm,0.3s,baz=239,slow=12,SNR=5.1 comp=E,9.2nm,0.3s,baz=320,slow=23,SNR=3.5			S	**Sn**	**08 25 21.6**	**-8.8**
NNA	**Nana**	**14.13**	**327**	P	**Pn**	**08 24 10.9**	**-1.8**
NNA	comp=E,2.0nm,0.3s,baz=188,slow=14,SNR=5.0 comp=E,3.9nm,0.3s,baz=183,slow=14,SNR=4.6			S	**Sn**	**08 26 41.1**	**-7.1**
NNA	**Nana**	**14.13**	**327**	*e*Pn	**Pn**	**08 24 12.2**	**-0.4**
NNA	comp=E,2μm,21.4s,baz=159,slow=33			*e*Sn	**Sn**	**08 26 42.9**	**-5.4**
TRQA	**Tornquist**	**15.19**	**159**	*e*Pn	**Pn**	**08 24 23.6**	**-2.6**
TRQA				*e*Sn	**Sn**	**08 27 15.0**	**+1.0**
TRQA				*e*PcP	PcP	08 29 17.1	-8.4
PLCA	**Paso Flores**	**16.70**	**184**	P	**Pn**	**08 24 41.2**	**-3.7**
PLCA	comp=E,0.9nm,0.3s,baz=1.2,slow=14,SNR=39			PcP	PcP	08 29 27.6	-0.2
PLCA	comp=E,0.5nm,0.3s,baz=1.6,slow=3.5,SNR=4.5			LR	LR	08 31 45.2	
PLCA	**Paso Flores**	**16.70**	**184**	*e*Pn	**Pn**	**08 24 41.

ATAH PcP PcP 08 29 33.5 +1.6
comp=E,0.4nm,0.3s,baz=55,slow=5.5,SNR=4.2
BDFB Brasilia 21.39 71 P P 08 25 34.5 -1.9
comp=E,1µm,0.9s,mb6.2,baz=253,slow=10.0,SNR=89
BDFB PcP PcP 08 29 34.7 -1.4
comp=E,64nm,1.0s,baz=264,slow=19,SNR=2.3
BDFB LR LR 08 35 11.4
comp=E,6µm,18.1s,baz=72,slow=40
BDFB Brasilia 21.39 71 *eP* **P 08 25 34.7 -1.7**
BDFB Brasilia 21.39 71 *eP* **P 08 25 34.5 -1.9**
comp=E,2µm,0.9s,mb6.3
CAM4 Nova Friburgo 24.32 91 ⇓*iP* **P 08 26 04.9 -0.1**
CAM4 *i* 08 26 08.1
CAM4 *i* 08 26 20.0
CAM4 *i* 08 26 29.1
CAM4 *i* 08 26 32.9
CAM4 *i* 08 26 45.6
CAM4 *i* 08 27 21.5
OTAV Otavalo 25.83 338 *eP* **P 08 26 20.1 +1.3**
comp=E,411nm,1.3s,mb5.7
OTAV *epP* pP 08 26 43.8 +1.8
OTAV *ePcP* PcP 08 29 47.4 +1.9
CAM3 Guarapari 26.49 88 ⇓*iP* **P 08 26 22.9 -1.8**
CAM3 *i* 08 26 25.8
CAM3 *i* pP 08 26 50.3 +2.4
CAM3 *i* 08 26 57.8
CAM3 *i* 08 27 02.4
CAM3 *i* 08 27 02.7
EFI East Falkland 28.84 166 P **P 08 26 43.2 -2.5**
comp=E,2µm,0.7s,SNR=39
EFI East Falkland 28.84 166 *eP* **P 08 26 43.8 -1.9**
EFI pmax pmax
comp=Z,220nm,0.9s,mb5.8
EFI East Falkland 28.84 166 *eP* **P 08 26 43.8 -1.9**
comp=Z,221nm,0.8s,mb5.8
ROSC El Rosal 29.19 349 P **P 08 26 49.5 +0.7**
comp=Z,9.1nm,0.6s,mb4.6,baz=182,slow=2.8,SNR=7.7
ROSC PcP PcP 08 29 54.6 +1.0
comp=Z,31nm,0.9s,baz=284,slow=8.3,SNR=3.7
ROSC LR LR 08 39 02.8
comp=Z,2µm,18.3s,baz=186,slow=37
ROSC El Rosal 29.19 349 *eP* **P 08 26 49.4 +0.5**
ROSC *ePcP* PcP 08 29 54.3 +0.7
USHA Ushuaia 30.76 179 P **P 08 27 00.4 -2.2**
comp=Z,46nm,1.2s,mb5.1,baz=344,slow=6.2,SNR=13
USHA pP pP 08 27 26.3 +0.1
comp=Z,49nm,0.9s,baz=289,slow=4.4,SNR=5.4
USHA LR LR 08 40 14.1
comp=Z,2µm,19.9s,baz=351,slow=38
PAYG Puerto Ayora 31.09 315 *eP* **P 08 27 05.7 +0.1**
comp=Z,151nm,1.1s,mb5.6
SDV Santo Domingo 32.76 357 P **P 08 27 19.5 -0.7**
comp=Z,14nm,0.8s,mb4.8,baz=227,slow=6.1,SNR=18
SDV Santo Domingo 32.76 357 *eP* **P 08 27 19.0 -1.3**
comp=Z,91nm,1.2s,mb5.5
PCRV Puerto La Cruz 34.27 8 P **P 08 27 33.8 +0.5**
comp=Z,23nm,1.0s,mb5.0,baz=70,slow=1.3,SNR=5.4
RPN Rapa Nui 36.43 256 P **P 08 27 51.7 -0.1**
comp=Z,127nm,0.8s,mb5.9,baz=79,slow=6.9,SNR=6.8
RPN pP pP 08 28 15.1 -0.6
comp=Z,100nm,0.8s,baz=76,slow=11,SNR=3.1
RCBR Riachuelo 36.57 66 *eP* **P 08 27 51.9 -1.1**
RCBR *epP* pP 08 28 18.1 +1.2
HOPE Hope Point 38.70 150 P **P 08 28 11.5 +0.5**
comp=Z,3µm,0.8s,SNR=10
HOPE Hope Point 38.70 150 P **P 08 28 11.3 +0.3**
FDF Fort de France 39.28 12 *eP* **P 08 28 21.6 +5.8**
PMSA Palmer Station 40.85 177 P **P 08 28 27.7 -1.0**
comp=Z,49nm,0.9s,mb5.3,baz=3.2,slow=7.0,SNR=48
PMSA pP pP 08 28 51.6 -1.5
comp=Z,51nm,1.0s,baz=14,slow=8.5,SNR=5.0
PMSA LR LR 08 46 15.0
comp=Z,924nm,19.6s,baz=349,slow=37
PMSA Palmer Station 40.85 177 *eP* **P 08 28 27.7 -1.1**
comp=Z,55nm,0.9s,mb5.4
PMSA *epP* pP 08 28 51.9 -1.1
PMSA *esP* sP 08 29 04.2 -0.8
PMSA *ePcP* PcP 08 30 27.1 -0.5
TGUH Tegucigalpa,Un 41.88 333 *eP* **P 08 28 37.3 +0.2**
comp=Z,264nm,1.0s,mb5.9
TGUH *epP* pP 08 29 02.5 +1.0
CPD Cerro la Pandu 41.93 4 *eP* **P 08 28 35.3 -2.2**
comp=Z,36nm,0.4s,mb5.5
SJG San Juan 41.98 4 P **P 08 28 36.1 -1.9**
comp=Z,88nm,0.9s,mb5.5,baz=213,slow=2.0,SNR=24
SJG San Juan 41.98 4 *eP* **P 08 28 36.0 -2.0**
comp=Z,224nm,1.0s,mb5.8
CPB Codrington 42.01 10 *eP* **P 08 28 42.3 +4.1**
MTP Monte Pirata 42.01 5 *eP* **P 08 28 35.4 -2.8**
MPR Mayaguez 42.03 3 *eP* **P 08 28 36.7 -1.7**
HUMP Col San Antoni 42.03 4 *eP* **P 08 28 37.5 -0.9**
CBYP Canovanas 42.16 4 *eP* **P 08 28 37.5 -2.0**
RCC Rio Carpintero 44.26 351 P pP 08 29 19.7 -1.2
LMGC Las Mercedes 44.53 349 P **P 08 28 58.9 +0.4**
HLGC Holguin 45.19 351 P **P 08 29 03.7 0.0**
CCIG Comitan 46.02 328 *iP* **P 08 29 10.3 +0.1**
CMIG Matias Romero 48.08 326 P **P 08 29 26.2 0.0**
comp=Z,52nm,1.0s,mb5.3,baz=129,slow=4.8,SNR=34
CMIG pP pP 08 29 51.0 -0.2
comp=Z,38nm,0.8s,baz=131,slow=7.5,SNR=6.7
CMIG Matias Romero 48.08 326 P **P 08 29 26.2 0.0**
CMIG pP pP 08 29 51.0 -0.2
SOR Soroa 48.51 343 P **P 08 29 28.9 -0.6**
VHO Vista Hermosa 49.03 324 *iP* **P 08 29 34.5 +1.0**
PNIG Pinotepa 49.25 322 *iP* **P 08 29 35.3 +0.1**
TRIS Tristan da Cun 49.83 119 *eP* **P 08 29 39.7 +0.2**
comp=Z,365nm,1.0s,mb6.3
CAIG El Cayaco 51.00 320 *iP* **P 08 29 48.5 +0.1**
PLIG Platanillo 51.63 322 *iP* **P 08 29 53.8 +0.7**
PPM Popocatepetl 51.69 323 *iP* **P 08 29 55.7 +2.2**
YAIG Yautepec 51.77 323 *iP* **P 08 29 55.2 +1.1**
UNM Universidad Na 52.20 323 *iP* **P 08 29 58.6 +1.3**
DWPF Disney 53.22 346 *eP* **P 08 30 04.5 -0.4**
comp=Z,137nm,1.0s,mb5.9
DWPF *epP* pP 08 30 29.1 -1.1
DWPF *esP* sP 08 30 41.9 0.0
MOIG Morelia 53.61 321 *iP* **P 08 30 08.8 +1.1**
CJM Chamela 55.76 318 ⇓*iP* **P 08 30 23.8 +0.6**
ZAIG Zacatecas 56.84 322 *iP* **P 08 30 32.1 +1.2**
VNA3 Neumayer Olymp 57.70 161 ⇓*iP* **P 08 30 36.0 -0.9**
VNA3 *e* 08 30 40.0
VNA3 *e* pP 08 31 03.0 +0.4
VNA3 *e* pP 08 31 06.4 +3.8
VNA3 *e* 08 31 13.2
VNA3 *e* 08 31 16.5
VNA3 *e* 08 31 28.0
VNA3 *e* 08 31 37.1
VNA3 *e* 08 32 45.6
VNA3 *e* 08 33 19.7
VNA1 Neumayer--Stat 57.92 160 ⇓*iP* **P 08 30 38.0 -0.5**
VNA1 *e* 08 30 42.2
VNA1 *e* pP 08 31 05.1 +0.9
VNA1 *e* 08 31 09.5
VNA1 *e* 08 31 15.9
VNA1 *e* 08 31 19.4
VNA1 *e* 08 31 29.4
VNA1 *e* 08 31 39.7
VNA1 *e* 08 33 24.2
KVTX Kingsville 58.39 330 *eP* **P 08 30 42.5 +0.8**
comp=Z,285nm,1.1s,mb6.2
KVTX *epP* pP 08 31 07.0 -0.5
MAIG Mazatlaan 59.39 319 *iP* **P 08 30 49.3 +0.7**
HKT Hockley 59.56 333 *eP* **P 08 30 49.4 -0.4**
HKT pmax pmax
comp=Z,65nm,1.1s,mb5.6
HKT Hockley 59.56 333 *eP* **P 08 30 49.4 -0.4**
comp=Z,65nm,1.1s,mb5.6
SNAA Sanae 59.91 160 P **P 08 30 51.1 -1.1**
comp=Z,106nm,1.0s,mb5.8,baz=289,slow=6.1,SNR=427
SNAA pP pP 08 31 17.8 -0.3
comp=Z,18nm,0.9s,baz=320,slow=13,SNR=2.6
SNAA Sanae 59.91 160 ⇓*iP* **P 08 30 50.9 -1.3**
SNAA *e* 08 30 55.8
SNAA *e* pP 08 31 17.9 -0.2
SNAA *e* pP 08 31 21.5 +3.4
SNAA *e* 08 31 28.1
SNAA *e* 08 31 31.8
SNAA *e* 08 31 36.8
SNAA *e* 08 31 44.1
SNAA *e* 08 33 02.0
SNAA Sanae 59.91 160 *eP* **P 08 30 51.0 -1.2**
comp=Z,281nm,1.0s,mb6.2
RKT Rikitea 59.97 256 *eS* **S 08 38 50.3 -6.4**
comp=Z,2µm,23.2s
RKT *eLQ* 08 45 52.8
comp=Z,1µm,31.0s
RKT *eLR* LR 08 48 24.6
comp=Z,4µm,33.8s,baz=109
RKT Rikitea 59.97 256 ⇓*iP* **P 08 30 52.8 +0.2**
RKT *eS* **S 08 38 50.3 -6.4**
RKT pmax pmax
comp=Z,108nm,1.1s,mb5.8
RKT Rikitea 59.97 256 ⇓*iP* **P 08 30 52.8 +0.2**
comp=Z,108nm,1.1s,mb5.8
RKT *eS* **S 08 38 50.3 -6.4**
RKT *eLQ* 08 45 52.8
NATX Nacogdoches 60.68 335 *eP* **P 08 30 57.5 0.0**
comp=Z,162nm,0.9s,mb6.1
NATX *epP* pP 08 31 22.9 -0.5
NATX *esP* sP 08 31 34.7 -0.3
CPCT Cooper Cave 60.97 346 *eP* **P 08 30 58.4 -1.0**
CPCT *epP* pP 08 31 23.9 -1.5
CPCT *esP* sP 08 31 35.3 -1.7
SWET Sewanee 61.09 344 *eP* **P 08 30 59.0 -1.1**
SWET *epP* pP 08 31 24.6 -1.5
SWET *esP* sP 08 31 36.8 -0.9
OXF Oxford 61.38 341 *eP* **P 08 31 00.1 -2.0**
comp=Z,293nm,1.1s,mb6.2
OXF *epP* pP 08 31 26.9 -1.3
OXF *esP* sP 08 31 38.8 -0.9
PLAL Pickwick Lake 61.43 342 *eP* **P 08 31 00.1 -2.4**
comp=Z,117nm,1.0s,mb5.9
PLAL *epP* pP 08 31 26.3 -2.2
PLAL *esP* sP 08 31 38.0 -2.1
JCT Junction City 61.75 330 *eP* **P 08 31 04.0 -0.6**
comp=Z,216nm,0.9s,mb6.2
JCT *epP* pP 08 31 30.3 -0.4
JCT *esP* sP 08 31 41.5 -0.8
TZTN Tazewell 61.81 347 *eP* **P 08 31 04.1 -1.0**
comp=Z,66nm,1.0s,mb5.6
TZTN *epP* pP 08 31 30.2 -0.9
TZTN *esP* sP 08 31 41.1 -1.6
BLA Blacksburg 61.87 350 *eP* **P 08 31 05.2 -0.3**
BLA *e*PP* pP 08 31 31.2 -0.3
BLA *e*SP* sP 08 31 42.4 -0.7
BLA pmax pmax
comp=Z,167nm,1.2s,mb5.9
BLA Blacksburg 61.87 350 *eP* **P 08 31 05.2 -0.3**
comp=Z,167nm,1.2s,mb5.9
BLA *epP* pP 08 31 31.2 -0.3
BLA *esP* sP 08 31 42.4 -0.7
ELN Prospectdale 61.94 349 *eP* **P 08 31 05.8 -0.1**
ELN *epP* pP 08 31 31.7 -0.3
ELN *esP* sP 08 31 43.3 -0.2
MET Memphis--Engin 62.10 341 *eP* **P 08 31 05.4 -1.6**
MET *epP* pP 08 31 31.4 -1.7
MET *esP* sP 08 31 43.1 -1.5
FWV Forest Hill 62.30 349 *eP* **P 08 31 07.3 -1.0**
FWV *epP* pP 08 31 33.5 -0.9
CBN Corbin 62.41 353 *eP* **P 08 31 09.2 +0.1**
CBN *epP* pP 08 31 35.4 +0.2
WVT Waverly 62.44 343 P **P 08 31 07.3 -2.0**
WVT pmax pmax
comp=Z,160nm,0.9s,mb6.0
WVT Waverly 62.44 343 *eP* **P 08 31 07.3 -2.0**
comp=Z,161nm,0.8s,mb6.1
WVT *epP* pP 08 31 33.4 -1.9
UALR University of 62.56 338 *eP* **P 08 31 08.9 -1.1**
comp=Z,127nm,1.1s,mb5.8
UALR *epP* pP 08 31 35.1 -1.0
UALR *esP* sP 08 31 46.9 -0.8
HALT Halls 62.66 341 *eP* **P 08 31 08.7 -2.0**
HALT *epP* pP 08 31 35.1 -1.7
HBAR Harrisburg 62.73 340 *eP* **P 08 31 09.7 -1.4**
UTMT University of 62.93 342 *eP* **P 08 31 11.1 -1.4**
comp=Z,223nm,0.9s,mb6.1
UTMT *epP* pP 08 31 37.4 -1.2
GLAT Glass 62.98 342 *eP* **P 08 31 11.7 -1.1**
GLAT *epP* pP 08 31 37.5 -1.5
PVMO Portageville 63.23 341 *eP* **P 08 31 13.6 -1.0**
comp=Z,714nm,1.0s,mb6.5
PVMO *epP* pP 08 31 40.1 -0.6
PARMO Parma 63.48 341 *eP* **P 08 31 15.1 -1.1**
PARMO *epP* pP 08 31 41.0 -1.3
WCI Wyandotte Cave 64.04 345 *eP* **P 08 31 17.9 -1.9**
WCI pmax pmax
comp=Z,120nm,0.9s,mb5.7
WCI Wyandotte Cave 64.04 345 *eP* **P 08 31 17.9 -2.0**
comp=Z,122nm,0.9s,mb5.7
WCI *epP* pP 08 31 43.8 -2.2
MVL Millersville 64.08 354 *eP* **P 08 31 19.8 -0.3**
comp=Z,109nm,1.1s,mb5.6
MVL *epP* pP 08 31 46.3 +0.1
USIN University of 64.13 344 *eP* **P 08 31 18.5 -1.9**
comp=Z,100nm,0.7s,mb5.8
USIN *epP* pP 08 31 44.3 -2.3
USIN *esP* sP 08 31 56.5 -1.6
MCWV Mont Chateau 64.17 351 *eP* **P 08 31 20.5 -0.2**
comp=Z,158nm,1.0s,mb5.8
MCWV *epP* pP 08 31 46.4 -0.4
MCWV *esP* sP 08 31 58.0 -0.4
SIUC Southern Illin 64.31 342 *eP* **P 08 31 20.2 -1.4**
comp=Z,162nm,0.9s,mb5.8
SIUC *epP* pP 08 31 46.7 -1.0
SIUC *esP* sP 08 31 57.9 -1.4
MAIT Maitri 64.46 159 *eP* **P 08 31 22.5 -0.1**
NVL N'lazarevskaya 64.49 159 *diP* **P 08 31 21.0 -1.8**
NVL *i *PP* pP 08 31 49.3 +0.3
NVL *e*SP* sP 08 32 00.5 0.0
NVL *e* 08 33 45.6
NVL *i* S **S 08 39 53.5 0.0**
NVL *i *SS* sS 08 40 37.4 -1.0
NVL *eSS* SS 08 44 13.6 +8.1
NVL *eSSS* 08 46 59.5
NVL pmax pmax
comp=E,172nm,1.1s
NVL pmax pmax
comp=Z,383nm,1.1s,mb6.1
NVL pmax pmax
comp=N,61nm,0.9s
BRNJ Basking Ridge 64.60 355 *eP* **P 08 31 23.8 +0.3**
comp=N,62nm,0.9s,mb5.4
BRNJ *epP* pP 08 31 48.2 -1.5
SSPA Standing Stone 64.88 353 *eP* **P 08 31 25.1 -0.2**
comp=N,48nm,1.0s,mb5.3
SSPA *epP* pP 08 31 51.0 -0.5
WMOK Wichita Mounta 64.94 333 *eP* **P 08 31 24.2 -1.5**
comp=N,33nm,1.0s,mb5.1
BLO Bloomington 64.99 345 *eP* **P 08 31 24.2 -1.8**
comp=N,78nm,0.8s,mb5.6
BLO *epP* pP 08 31 50.6 -1.6
CCM Cathedral Cave 65.21 341 *eP* **P 08 31 24.9 -2.6**
CCM pmax pmax
comp=Z,160nm,0.9s,mb5.8
CCM Cathedral Cave 65.21 341 *eP* **P 08 31 24.9 -2.6**
comp=Z,157nm,0.9s,mb5.8
CCM *epP* pP 08 31 51.2 -2.5
ACSO Alum Creek Sta 65.26 348 *eP* **P 08 31 26.4 -1.3**
comp=Z,201nm,1.0s,mb5.9
ACSO *epP* pP 08 31 52.4 -1.6
ACSO *esP* sP 08 32 04.6 -0.9
GDL2 Guadalupe Moun 65.35 327 *eP* **P 08 31 28.4 0.0**
SLM Saint Louis 65.46 342 *eP* **P 08 31 27.6 -1.4**
SLM *e*PP* pP 08 31 54.1 -1.2
SLM pmax pmax
comp=Z,98nm,1.0s,mb5.6
SLM Saint Louis 65.46 342 *eP* **P 08 31 27.6 -1.5**
comp=Z,97nm,0.9s,mb5.6
SLM *epP* pP 08 31 54.1 -1.2
MNTX Cornudas Mount 65.46 326 *eP* **P 08 31 28.0 -1.1**
comp=Z,114nm,1.1s,mb5.6
MNTX *epP* pP 08 31 54.5 -0.8
MNTX *esP* sP 08 32 05.7 -1.2
WES Weston 66.12 358 *eP* **P 08 31 33.8 +0.5**
WES *e*PP* pP 08 31 59.5 -0.1
WES pmax pmax
comp=Z,140nm,1.1s,mb5.7
WES Weston 66.12 358 *eP* **P 08 31 33.8 +0.4**
comp=Z,190nm,1.1s,mb5.8
WES *epP* pP 08 31 59.5 -0.1
QSPA South Pole Qui 66.16 180 ⇓*iP* **P 08 31 33.0 -0.6**
comp=Z,276nm,1.2s,mb6.0
ALLY Alegheny Colle 66.17 351 *eP* **P 08 31 33.0 -0.7**
comp=Z,141nm,0.9s,mb5.8
ALLY *epP* pP 08 31 59.0 -0.9
ALLY *esP* sP 08 32 10.7 -0.8
BINY Binghamton 66.22 354 *eP* **P 08 31 33.9 0.0**
comp=Z,169nm,1.1s,mb5.8
BINY *epP* pP 08 31 59.9 -0.3
HRV Harvard--Oak R 66.25 358 *eP* **P 08 31 33.1 -1.0**
HRV pmax pmax
comp=Z,190nm,1.1s,mb5.8
HRV Harvard--Oak R 66.25 358 *eP* **P 08 31 33.1 -1.0**
comp=Z,187nm,1.1s,mb5.8
HRV *epP* pP 08 31 58.9 -1.5
FFD Franklin Falls 67.22 358 *eP* **P 08 31 40.8 +0.5**
comp=Z,244nm,1.2s,mb5.9
FFD *e* pP 08 32 07.1 +0.5
ACCN Adirondack Com 67.23 356 *eP* **P 08 31 40.6 +0.2**
comp=Z,92nm,1.0s,mb5.6
ACCN *e* pP 08 32 06.8 +0.2
AAM Ann Arbor 67.39 348 *eP* **P 08 31 39.4 -1.9**
AAM *e*PP* pP 08 32 06.5 -1.2
AAM pmax pmax
comp=Z,38nm,0.3s,mb5.7
AAM Ann Arbor 67.39 348 *eP* **P 08 31 39.4 -1.9**
comp=Z,38nm,0.3s,mb5.7
AAM *epP* pP 08 32 06.5 -1.2
HNH Hanover 67.48 357 *eP* **P 08 31 41.8 -0.1**
HNH *e* pP 08 32 08.7 +0.4
NCB Newcomb 67.85 356 *eP* **P 08 31 44.2 0.0**
comp=Z,166nm,1.2s,mb5.7
NCB *e* pP 08 32 09.5 -1.1
KSU1 Kansas State U 67.93 337 *eP* **P 08 31 43.2 -1.5**
comp=Z,160nm,0.9s,mb5.8
KSU1 *e* pP 08 32 09.7 -1.4
LBNH Lisbon 68.00 358 *eP* **P 08 31 45.7 +0.5**
LBNH pmax pmax
comp=Z,210nm,1.1s,mb5.9
LBNH Lisbon 68.00 358 *eP* **P 08 31 45.7 +0.5**
comp=Z,209nm,1.2s,mb5.8
LBNH *e* pP 08 32 10.8 -0.8
LBNH *esP* sP 08 32 23.0 -0.1
LPM Los Pinos Moun 68.17 327 *eP* **P 08 31 46.9 +0.6**
LPM *e* pP 08 32 13.0 +0.3
LPM *esP* sP 08 32 24.8 +0.6
LENM Lemitar 68.23 327 *eP* **P 08 31 47.2 +0.6**
LENM *e* pP 08 32 12.7 -0.4
LENM *esP* sP 08 32 25.2 +0.6
WVL Waterville 68.27 359 *eP* **P 08 31 47.6 +0.8**
comp=Z,194nm,1.1s,mb5.8
EMMW East Machias 68.43 1 *eP* **P 08 31 48.2 +0.3**
EMMW *epP* pP 08 32 05.2 -9.1
LAZ Ladron 68.50 327 *eP* **P 08 31 49.3 +1.0**
LAZ *epP* pP 08 32 15.0 +0.2
LAZ *esP* sP 08 32 27.1 +0.9
LONY Lake Ozonia 68.52 356 *eP* **P 08 31 48.4 0.0**
comp=Z,142nm,1.0s,mb5.8
LONY *epP* pP 08 32 14.6 -0.3
LONY *esP* sP 08 32 26.1 -0.2
ANMO Albuquerque 68.60 328 *diP* **P 08 31 49.3 +0.4**
ANMO Albuquerque 68.60 328 *eP* **P 08 31 49.5 +0.6**
comp=Z,53nm,0.9s,mb5.4
ANMO *epP* pP 08 32 15.5 +0.1
ANMO *esP* sP 08 32 27.5 +0.6
FRNY Flat Rock 68.67 356 *eP* **P 08 31 49.2 -0.1**
comp=Z,231nm,1.0s,mb6.0
FRNY *epP* pP 08 32 15.6 -0.3
FRNY *esP* sP 08 32 27.1 -0.2
TUC Tucson 68.81 323 P **P 08 31 50.5 +0.3**
TUC pmax pmax
comp=Z,150nm,1.1s,mb5.7
TUC Tucson 68.81 323 *eP* **P 08 31 50.5 +0.3**
comp=Z,151nm,1.1s,mb5.7
TUC *epP* pP 08 32 17.0 +0.3
TUC *esP* sP 08 32 27.5 -0.7
CBKS Cedar Bluff 68.85 335 *eP* **P 08 31 50.2 -0.2**
comp=Z,361nm,1.0s,mb6.2
CBKS *epP* pP 08 32 16.3 -0.7
CBKS *esP* sP 08 32 28.1 -0.3
MSNY Massena 68.91 356 *eP* **P 08 31 50.8 0.0**
MSNY *epP* pP 08 32 17.0 -0.3
MSNY *esP* sP 08 32 28.6 -0.3
LIC Lamto 69.16 73 *eP* **P 08 31 52.3 -0.1**
comp=Z,128nm,0.8s,mb5.5
LIC *epP* pP 08 32 19.2 +0.3
LIC Lamto 69.16 73 *eP* **P 08 31 52.3 -0.1**
comp=Z,64nm,0.8s,mb5.5
LIC *epP* pP 08 32 19.2 +0.3
TAOE Nuku Hiva Isla 69.30 269 *eP* **P 08 31 54.0 +0.7**
comp=Z,968nm,1.2s,mb6.5
TAOE *esP* sP 08 32 31.5 +0.2
comp=Z,671nm,1.3s
SCIA State Center 69.35 341 *eP* **P 08 31 52.2 -1.3**
comp=Z,234nm,1.0s,mb6.0
SCIA *epP* pP 08 32 18.6 -1.5
JFWS Jewell Farm 69.45 343 *eP* **P 08 31 53.0 -1.2**
comp=Z,57nm,0.6s,mb5.6
JFWS *epP* pP 08 32 19.6 -1.1
DBIC Dimbokro 69.53 73 P **P 08 31 55.3 +0.6**
comp=Z,156nm,0.9s,mb5.9,baz=215,slow=6.1,SNR=104
DBIC pP pP 08 32 20.4 -0.7
comp=Z,111nm,0.9s,baz=210,slow=6.4,SNR=7.7
DBIC LR LR 09 01 19.9
comp=Z,1µm,19.8s,baz=230,slow=35
DBIC Dimbokro 69.53 73 *eP* **P 08 31 55.3 +0.7**
DBIC pmax pmax
comp=Z,180nm,0.9s
DBIC Dimbokro 69.53 73 *eP* **P 08 31 55.3 +0.6**
comp=Z,179nm,0.9s,mb5.9
DBIC *epP* pP 08 32 21.7 +0.6
DBIC *esP* sP 08 32 35.0 +2.4
GLMI Grayling 70.00 348 *eP* **P 08 31 56.5 -1.1**
comp=Z,265nm,1.0s,mb6.0
SDCO Great Sand Dun 70.40 330 *eP* **P 08 32 00.4 +0.4**
comp=Z,217nm,1.1s,mb5.9
SDCO *epP* pP 08 32 27.0 +0.4
SDCO *esP* sP 08 32 39.0 +1.0
MVCO Mesa Verde 71.39 328 *eP* **P 08 32 06.6 +0.6**
comp=Z,160nm,1.1s,mb5.8
MVCO *epP* pP 08 32 33.3 +0.7
MVCO *esP* sP 08 32 44.5 +0.5
WUAZ Wupatki 71.55 325 *eP* **P 08 32 08.1 +1.1**
comp=Z,146nm,1.0s,mb5.8
WUAZ *epP* pP 08 32 34.4 +0.8
WUAZ *esP* sP 08 32 46.3 +1.2
GLA Glamis 71.65 321 *eP* **P 08 32 07.9 +0.4**
comp=Z,70nm,1.0s,mb5.4
ECSD EROS,Sioux Fal 72.06 339 *eP* **P 08 32 08.8 -1.2**
comp=Z,113nm,1.0s,mb5.7
ECSD *epP* pP 08 32 35.8 -0.9
ECSD *esP* sP 08 32 46.9 -1.2
ISCO Idaho Springs 72.13 331 *eP* **P 08 32 10.9 +0.5**
comp=Z,72nm,1.0s,mb5.5
ISCO *epP* pP 08 32 37.4 +0.3
ISCO *esP* sP 08 32 48.9 +0.4
PV01 Paradox Valley 72.16 328 *eP* **P 08 32 11.4 +0.8**
SMCO Snowmass 72.24 330 *eP* **P 08 32 12.0 +1.0**
comp=Z,178nm,1.1s,mb5.8
SMCO *epP* pP 08 32 37.8 +0.1
SMCO *esP* sP 08 32 50.7 +1.5
BAR Barrett 72.47 319 *eP* **P 08 32 12.9 +0.5**
PV10 Paradox Valley 72.57 328 *eP* **P 08 32 13.1 +0.1**
TBI Tubuai 72.64 252 *esP* sP 08 32 51.8 +0.2
comp=Z,387nm,1.3s
TBI *eS* S 08 41 25.9 -4.0
comp=Z,2µm,28.5s
TBI *eLR* LR 08 54 10.2
comp=Z,1µm,32.2s,baz=109
TBI Tubuai 72.64 252 *eP* **P 08 32 14.2 +0.8**
comp=Z,315nm,1.3s,mb6.0
TBI *esP* sP 08 32 51.8 +0.2
TBI *eS* S 08 41 25.9 -4.0
PFO Pinyon Flat Ob 73.00 320 P **P 08 32 16.0 +0.5**
comp=Z,331nm,1.1s,mb6.1,SNR=13
PFO Pinyon Flat Ob 73.00 320 *eP* **P 08 32 16.4 +0.9**
comp=Z,64nm,1.0s,mb5.4
PFO *ePcP* PcP 08 32 32.9 +1.0
PHWY Pilot Hill 73.29 332 *eP* **P 08 32 17.2 -0.1**
PHWY *epP* pP 08 32 44.3 +0.2
PHWY *esP* sP 08 32 55.7 +0.2
SBA Scott Base 73.33 191 *eP* **P 08 32 17.4 -0.2**
comp=Z,78nm,1.0s,mb5.5
VAH Vaihoa 73.78 260 ⇓*iP* **P 08 32 21.1 +1.0**
comp=Z,253nm,1.1s,mb5.9
VAH *epP* pP 08 32 48.3 +1.4
comp=Z,77nm,1.0s
VAH *esP* sP 08 32 58.7 +0.4
comp=Z,190nm,1.1s
SRU San Rafael 73.87 328 *eP* **P 08 32 21.1 +0.4**
comp=Z,157nm,0.9s,mb5.7
SRU *epP* pP 08 32 47.5 0.0

SRU esP sP 08 32 58.6 -0.3
PMOR Pomariorio Ree 74.10 260 ⇓iP **P 08 32 23.1 +1.1**
comp=Z,168nm,1.0s,mb5.7
PMOR epP pP 08 32 50.3 +1.5
comp=Z,58nm,1.1s
PMOR esP sP 08 33 00.7 +0.5
comp=Z,144nm,1.2s
CCUT Cedar City 74.13 325 eP **P 08 32 23.8 +1.6**
CCUT epP pP 08 32 50.4 +1.4
CCUT esP sP 08 33 01.8 +1.4
SYO Syowa Base 74.16 159 ⇑iP **P 08 32 21.0 -1.3**
SYO Syowa Base 74.16 159 ⇓ipP pP 08 32 48.5 -0.6
SYO Syowa Base 74.16 159 eSH S 08 41 47.0 0.0
MSU Marysvale 74.24 326 eP **P 08 32 23.8 +1.0**
MSU ePcP PcP 08 32 38.2 +1.0
MSU epP pP 08 32 49.9 +0.3
SHPR Sheep Range 74.34 323 eP **P 08 32 24.2 +0.8**
TVO Taravao 74.34 257 ⇓iP **P 08 32 24.4 +1.0**
comp=Z,225nm,1.2s,mb5.8
TVO epP pP 08 32 52.0 +1.8
comp=Z,147nm,1.1s
TVO esP sP 08 33 02.2 +0.6
comp=Z,184nm,1.3s
ARUT Antelope Range 74.35 325 eP **P 08 32 24.7 +1.2**
ARUT epP pP 08 32 51.9 +1.6
ARUT esP sP 08 33 03.0 +1.3
VNDA Vanda 74.35 190 P **P 08 32 23.3 -0.2**
comp=Z,43nm,0.9s,mb5.2,baz=138,slow=4.8,SNR=145
VNDA PKPPKP 08 59 47.3
comp=Z,1.5nm,1.0s,baz=300,slow=12,SNR=3.1
VNDA LR LR 09 04 39.2
comp=Z,307nm,19.3s,baz=137,slow=35
VNDA Vanda 74.35 190 eP **P 08 32 23.2 -0.3**
TMUT Trail Mountain 74.35 327 eP **P 08 32 24.2 +0.7**
RWWY Rawlins 74.37 331 eP **P 08 32 24.1 +0.6**
comp=Z,205nm,1.0s,mb5.8
RWWY epP pP 08 32 51.1 +0.7
RWWY esP sP 08 33 01.9 +0.1
MWC Mount Wilson 74.38 319 eP **P 08 32 24.3 +0.7**
EYMN Ely 74.46 344 eP **P 08 32 22.6 -1.5**
comp=Z,73nm,0.9s,mb5.4
EYMN epP pP 08 32 49.2 -1.7
EYMN esP sP 08 33 01.2 -1.2
SNCC San Nicolas Is 74.59 318 eP **P 08 32 25.1 +0.3**
comp=Z,200nm,1.1s,mb5.8
PAE Paea 74.67 257 ⇓iP **P 08 32 26.2 +0.9**
comp=Z,196nm,1.0s,mb5.8
PAE esP sP 08 33 03.8 +0.2
comp=Z,152nm,1.1s
PPT Papeete 74.70 257 ⇓iP **P 08 32 26.4 +0.9**
comp=Z,109nm,1.2s,mb5.4
PPT epP pP 08 32 53.4 +1.1
comp=Z,53nm,1.3s
PPT esP sP 08 33 04.4 +0.7
comp=Z,73nm,1.3s
PPT Papeete 74.70 257 eS S 08 41 48.7 -4.4
comp=Z,5μm,24.8s
PPT eLR LR 08 55 13.6
comp=Z,6μm,32.5s,baz=113
PPT Papeete 74.70 257 P **P 08 32 26.0 +0.6**
comp=Z,79nm,1.1s,mb5.4,baz=98,slow=8.2,SNR=8.9
PPT LR LR 08 58 54.2
comp=Z,318nm,19.2s,baz=86,slow=30
RSSD Black Hills 75.05 335 eP **P 08 32 26.8 -0.7**
RSSD epP pP 08 32 54.7 +0.4
RSSD esP sP 08 33 05.9 +0.2
MPU Maple Canyon 75.11 327 eP **P 08 32 28.5 +0.7**
comp=Z,153nm,1.0s,mb5.7
MPU epP pP 08 32 54.8 +0.1
DAU Daniels Canyon 75.23 328 eP **P 08 32 29.4 +0.8**
DAU e*PP pP 08 32 55.9 +0.5
DAU e*SP sP 08 33 07.6 +0.8
NLU North Lily Min 75.29 327 eP **P 08 32 29.6 +0.7**
NLU epP pP 08 32 56.4 +0.7
NLU esP sP 08 33 07.8 +0.7
DAC Darwin (Calif) 75.54 321 eP **P 08 32 31.0 +0.7**
DAC pmax pmax
comp=Z,130nm,1.0s,mb5.6
DAC Darwin (Calif) 75.54 321 eP **P 08 32 31.0 +0.7**
comp=Z,134nm,1.0s,mb5.6
ISA Isabella 75.62 320 eP **P 08 32 31.4 +0.7**
comp=Z,124nm,1.1s,mb5.5
CTU Camp Tracy 75.69 328 eP **P 08 32 31.2 0.0**
comp=Z,36nm,0.8s,mb5.2
CTU epP pP 08 32 57.9 -0.2
CTU esP sP 08 33 09.5 +0.1
DUG Dugway 75.84 327 eP **P 08 32 32.6 +0.6**
DUG pmax pmax
comp=Z,170nm,1.0s,mb5.7
DUG Dugway 75.84 327 eP **P 08 32 32.6 +0.6**
comp=Z,167nm,1.1s,mb5.7
TCUT Toone Canyon 75.85 328 eP **P 08 32 32.8 +0.7**
TRCR Troy Canyon 75.91 324 eP **P 08 32 33.4 +1.0**
AGMN Agassiz Refuge 75.94 342 eP **P 08 32 31.3 -1.2**
comp=Z,122nm,0.9s,mb5.6
AGMN ePcP PcP 08 32 44.2 -0.3
AGMN epP pP 08 32 58.1 -1.4
AGMN esP sP 08 33 09.4 -1.4
BW06 Boulder Array 76.28 330 eP **P 08 32 34.2 -0.3**
comp=Z,45nm,1.0s,mb5.2
PDAR Pinedale Array 76.28 330 P **P 08 32 34.2 -0.3**
comp=Z,23nm,0.9s,mb4.9,baz=151,slow=6.8,SNR=113
PDAR pP pP 08 33 00.1 -1.3
comp=Z,9.1nm,0.9s,baz=138,slow=5.4,SNR=2.3
PDAR PKPPKP 08 59 51.8
comp=Z,1.7nm,1.1s,baz=349,slow=2.3,SNR=5.4
HWUT Hardware Ranch 76.31 329 eP **P 08 32 34.6 0.0**
comp=Z,243nm,1.3s,mb5.8
HWUT epP pP 08 33 01.9 +0.3
HWUT esP sP 08 33 12.3 -0.6
BGU Big Grassy Mou 76.50 327 eP **P 08 32 35.9 +0.2**
SPUT South Promonto 76.50 328 eP **P 08 32 35.0 -0.7**
SPUT epP pP 08 33 01.0 -1.7
SPUT esP sP 08 33 12.7 -1.4
TPH Tonopah 76.61 323 eP **P 08 32 37.2 +0.9**
TPH pmax pmax
comp=Z,150nm,1.1s,mb5.6
TPH Tonopah 76.61 323 eP **P 08 32 37.2 +0.9**
comp=Z,154nm,1.2s,mb5.6
TPH epP pP 08 33 04.3 +1.0
TPH esP sP 08 33 15.1 +0.4
PTRM Twissleman Ran 76.64 319 eP **P 08 32 36.5 0.0**
MTUM Tungsten Hills 76.85 321 eP **P 08 32 38.3 +0.6**
MTUM epP pP 08 33 04.7 0.0
AHID Auburn Hatcher 76.98 330 eP **P 08 32 38.6 +0.1**
comp=Z,237nm,1.0s,mb5.9
AHID epP pP 08 33 05.6 +0.2
AHID esP sP 08 33 17.4 +0.6
HVU Hansel Valley 77.02 328 eP **P 08 32 38.7 +0.1**
comp=Z,120nm,0.9s,mb5.6
HVU epP pP 08 33 05.4 -0.2
HVU esP sP 08 33 16.4 -0.6
REDW Red Top Meadow 77.33 330 eP **P 08 32 40.7 +0.3**
comp=Z,201nm,1.1s,mb5.8
SUR Sutherland 77.36 120 P **P 08 32 41.9 +1.4**
comp=Z,392nm,0.7s,mb6.2,SNR=12
SUR Sutherland 77.36 120 P **P 08 32 41.3 +0.8**
comp=Z,43nm,0.8s,mb5.2,baz=245,slow=4.2
SUR pP pP 08 33 08.8 +1.3
comp=Z,201nm,0.9s,baz=248,slow=3.8,SNR=7.0
SUR Sutherland 77.36 120 eP **P 08 32 41.6 +1.1**
comp=Z,40nm,0.7s,mb5.3
SUR epP pP 08 33 09.8 +2.2
SNOW Snow King Moun 77.37 330 eP **P 08 32 41.0 +0.5**
comp=Z,218nm,1.0s,mb5.8
LOHW Long Hollow 77.42 330 eP **P 08 32 41.1 +0.3**
comp=Z,159nm,1.0s,mb5.7
LOHW epP pP 08 33 08.4 +0.5
LOHW esP sP 08 33 19.3 +0.1
NVAR Mina Array Bea 77.46 322 P **P 08 32 41.7 +0.6**
comp=Z,25nm,0.9s,mb4.9,baz=169,slow=6.0,SNR=135
NVAR pP pP 08 33 07.0 -1.1
comp=Z,17nm,0.9s,baz=109,slow=3.2,SNR=7.2
NVAR PKPPKP 08 59 51.6
comp=Z,0.7nm,0.9s,baz=88,slow=1.8,SNR=4.3
NVAR Mina Array Bea 77.46 322 P **P 08 32 41.7 +0.6**
NVAR pP pP 08 33 07.0 -1.1
NVAR P'P' 08 59 51.6
TPAW Teton Pass 77.48 330 eP **P 08 32 41.5 +0.3**
comp=Z,224nm,1.0s,mb5.8
ELK Elko 77.48 326 eP **P 08 32 41.6 +0.4**
ELK e*PP pP 08 33 08.9 +0.7
ELK pmax pmax
comp=Z,123nm,1.0s
ELK Elko 77.48 326 eP **P 08 32 41.6 +0.4**
comp=Z,124nm,1.0s,mb5.6
ELK epP pP 08 33 08.9 +0.7
ELK esP sP 08 33 19.7 +0.1
RRI2 Red Ridge 77.53 330 eP **P 08 32 47.0 +5.5**
comp=Z,247nm,1.0s,mb5.9
MOOW Moose Ponds 77.58 330 eP **P 08 32 42.0 +0.1**
comp=Z,37nm,0.8s,mb5.2
LRV Little Rabbit 77.64 319 eP **P 08 32 42.4 +0.2**
DCID1 Drake Creek 77.67 330 eP **P 08 32 42.9 +0.6**
ULM Lac du Bonnet 77.71 343 P **P 08 32 41.2 -1.3**
comp=Z,54nm,0.7s,mb5.4,baz=152,slow=6.2,SNR=94
ULM pP pP 08 33 07.7 -1.9
comp=Z,46nm,0.5s,baz=150,slow=6.6,SNR=9.2
ULM Lac du Bonnet 77.71 343 eP **P 08 32 41.1 -1.4**
comp=Z,121nm,1.0s,mb5.6
ULM epP pP 08 33 07.9 -1.6
ULM esP sP 08 33 19.4 -1.5
IMW Indian Meadow 77.79 330 eP **P 08 32 43.5 +0.6**
comp=Z,211nm,1.1s,mb5.8
IMW epP pP 08 33 10.6 +0.6
IMW esP sP 08 33 21.7 +0.4
RLMT Red Lodge 78.02 332 eP **P 08 32 44.5 +0.3**
comp=Z,57nm,0.6s,mb5.5
RLMT epP pP 08 33 11.4 +0.1
RLMT esP sP 08 33 22.8 +0.2
LAO LASA Array 78.05 335 eP **P 08 32 44.1 -0.2**
comp=Z,230nm,1.0s,mb5.9
LAO epP pP 08 33 11.0 -0.4
LAO esP sP 08 33 22.3 -0.4
LKWY Lake 78.07 331 eP **P 08 32 46.0 +1.5**
LKWY pmax pmax
comp=Z,102nm,1.1s,mb5.5
LKWY Lake 78.07 331 eP **P 08 32 46.0 +1.5**
comp=Z,102nm,1.1s,mb5.5
SAO San Andreas Ge 78.13 319 eP **P 08 32 45.4 +0.6**
comp=Z,43nm,1.0s,mb5.1
WAKR Walker 78.14 322 eP **P 08 32 45.8 +0.9**
YFT Old Faithful 78.17 331 eP **P 08 32 47.0 +1.9**
TOA0 Torodi Ar. Sit 78.27 70 eP **P 08 32 46.1 +0.5**
TOA0 epP pP 08 33 13.0 +0.4
TORD Torodi Ar. Bea 78.27 70 P **P 08 32 46.0 +0.4**
comp=Z,214nm,0.8s,mb6.0,baz=259,slow=5.2,SNR=483
TORD pP pP 08 33 12.5 -0.1
comp=Z,187nm,0.7s,baz=252,slow=5.3,SNR=11
TORD S S 08 42 32.4 +0.4
comp=Z,14nm,1.1s,baz=247,slow=9.4,SNR=15
TORD PKKPbc PKKPbc 08 51 43.5 +0.8
comp=Z,1.0nm,0.6s,baz=62,slow=2.5,SNR=5.6
TORD PKP2ab 08 59 32.9
comp=Z,1.0nm,0.9s,baz=128,slow=2.4,SNR=4.0
TORD LR LR 09 07 31.2
comp=Z,903nm,18.1s,baz=230,slow=36
BMN Battle Mountai 78.29 324 eP **P 08 32 45.6 -0.1**
YNR Norris Junctio 78.31 331 eP **P 08 32 45.9 +0.1**
CMB Columbia Colle 78.36 321 eP **P 08 32 46.1 0.0**
CMB e*PP pP 08 33 15.4 +2.2
CMB pmax pmax
comp=Z,45nm,1.0s,mb5.2
CMB Columbia Colle 78.36 321 eP **P 08 32 46.1 -0.1**
comp=Z,44nm,1.0s,mb5.1
CMB epP pP 08 33 15.4 +2.2
YMR Madison River 78.40 331 eP **P 08 32 47.2 +0.9**
comp=Z,331nm,1.1s,mb6.0
SCHQ Schefferville 78.57 1 P **P 08 32 46.5 -0.7**
comp=Z,36nm,0.9s,mb5.2,baz=156,slow=6.2,SNR=16
SCHQ pP pP 08 33 12.1 -2.2
comp=Z,39nm,0.7s,baz=168,slow=4.3,SNR=8.5
SCHQ Schefferville 78.57 1 eP **P 08 32 45.9 -1.4**
comp=Z,134nm,1.1s,mb5.7
SCHQ epP pP 08 33 13.3 -1.0
GCMT Greycliff 78.72 332 eP **P 08 32 48.3 +0.2**
GCMT epP pP 08 33 14.8 -0.4
GCMT esP sP 08 33 26.4 -0.1
QLMT Earthquake Lak 78.74 331 eP **P 08 32 49.2 +1.1**
DGMT Dagmar 78.77 337 eP **P 08 32 48.6 +0.2**
comp=Z,468nm,1.0s,mb6.3
DGMT epP pP 08 33 15.3 -0.2
DGMT esP sP 08 33 27.3 +0.5
PAHR Pah Rah Range 78.95 323 eP **P 08 32 50.1 +0.8**
comp=Z,293nm,1.0s,mb6.1
PAHR epP pP 08 33 16.8 +0.4
PAHR esP sP 08 33 28.6 +0.8
HLID Hailey 79.16 328 eP **P 08 32 51.2 +0.8**
HLID epP pP 08 33 18.7 +1.2
HLID esP sP 08 33 29.6 +0.6
TSUM Tsumeb 79.37 106 eP **P 08 32 52.1 +0.5**
TSUM epP pP 08 33 19.9 +1.2
TSUM esP sP 08 33 31.6 +1.5
MCMT McKenzie Canyo 79.38 330 eP **P 08 32 52.5 +0.9**
MCMT epP pP 08 33 19.2 +0.4
MCMT esP sP 08 33 30.6 +0.5
DLMT Dillon 79.67 330 eP **P 08 32 53.6 +0.3**
comp=Z,213nm,1.1s,mb5.9
DLMT epP pP 08 33 20.4 0.0
OHCM Honcut 79.88 321 eP **P 08 32 54.3 0.0**
LRM Limekiln Ridge 79.96 331 eP **P 08 32 55.1 +0.3**
HRY Holter Researc 80.37 332 eP **P 08 32 49.5 -7.6**
WVOR Wild Horse Val 80.46 325 eP **P 08 32 57.0 -0.5**
WVOR pmax pmax
comp=Z,47nm,1.1s,mb5.2
WVOR Wild Horse Val 80.46 325 eP **P 08 32 57.0 -0.5**
comp=Z,47nm,1.1s,mb5.2
EGMT Eagleton 80.53 334 eP **P 08 32 57.3 -0.6**
comp=Z,162nm,1.0s,mb5.8
EGMT epP pP 08 33 24.1 -1.0
EGMT esP sP 08 33 35.6 -0.8
HOPS Hopland 80.57 320 eP **P 08 32 58.9 +0.8**
comp=Z,97nm,1.2s,mb5.5
MOD Modoc 80.97 324 eP **P 08 33 00.4 +0.2**
LTIM Timbered Crate 81.12 323 P **P 08 33 01.0 0.0**
CHMT Chamberlain Mo 81.15 331 eP **P 08 33 01.3 +0.1**
WDC Whiskeytown Da 81.31 322 eP **P 08 33 00.6 -1.4**
KIPM Iron Peak 81.34 321 eP **P 08 33 02.8 +0.7**
MSO Missoula 81.40 331 eP **P 08 33 02.8 +0.3**
comp=Z,41nm,1.0s,mb5.2
BMO Blue Mountains 81.51 328 eP **P 08 33 02.8 -0.3**
comp=Z,149nm,1.1s,mb5.7
BMO epP pP 08 33 29.7 -0.6
MAW Mawson 81.92 163 P **P 08 33 04.6 -0.7**
comp=Z,288nm,0.9s,mb6.1,baz=231,slow=6.6,SNR=364
MAW pP pP 08 33 30.8 -1.7
comp=Z,212nm,0.9s,baz=241,slow=9.9,SNR=9.0
MAW PKPPKP 08 59 39.4
comp=Z,2.0nm,0.9s,baz=12,slow=8.3,SNR=4.6
MAW LR LR 09 08 46.5
comp=Z,210nm,19.8s,baz=219,slow=35
MAW Mawson 81.92 163 eP **P 08 33 04.4 -0.8**
MAW e*PP pP 08 33 32.6 +0.1
MAW pmax pmax
comp=Z,323nm,0.9s
MAW Mawson 81.92 163 eP **P 08 33 04.4 -0.8**
comp=Z,323nm,0.9s,mb6.2
MAW epP pP 08 33 32.6 +0.1
YBH Yreka Blue Hor 82.18 322 eP **P 08 33 05.5 -1.1**
comp=Z,14nm,0.8s,mb4.8
BSMT Bassoo Peak 82.55 331 eP **P 08 33 08.6 +0.1**
KRMB Red Mountain 82.71 322 eP **P 08 33 09.4 0.0**
KRMB epP pP 08 33 37.0 +0.3
WALA Waterton Lakes 83.08 332 eP **P 08 33 10.8 -0.4**
comp=Z,163nm,0.9s,mb5.9
WALA epP pP 08 33 38.4 -0.1
WALA esP sP 08 33 49.8 0.0
KBO Bosley Butte 83.34 322 eP **P 08 33 13.5 +0.9**
HBO Huckleberry Mo 83.38 324 P **P 08 33 12.4 -0.4**
PTEO Sao Teotonio 83.40 44 eP **P 08 33 14.1 +1.2**
comp=Z,73nm,0.9s,mb5.5
PTEO epP pP 08 33 42.5 +2.3
HAWA Hanford 83.71 327 eP **P 08 33 14.2 -0.2**
comp=Z,101nm,1.1s,mb5.6
HAWA epP pP 08 33 41.0 -0.8
HAWA esP sP 08 33 53.2 +0.1
WRD Warden 83.81 328 P **P 08 33 15.6 +0.6**
KEBM Edson Butte 83.83 323 eP **P 08 33 15.3 +0.2**
NEW Newport 83.91 330 eP **P 08 33 14.2 -1.3**
NEW pmax pmax
comp=Z,53nm,1.2s
NEW Newport 83.91 330 eP **P 08 33 14.2 -1.3**
comp=Z,53nm,1.2s,mb5.2
PLOU Loures 83.94 43 epP pP 08 33 43.9 +0.9
LBTB Lobatse 84.01 115 pP pP 08 33 44.2 +0.9
baz=258,slow=6.1
LBTB Lobatse 84.01 115 eP **P 08 33 16.4 +0.4**
LBTB epP pP 08 33 44.1 +0.8
OD2 Odessa Site #2 84.02 329 P **P 08 33 15.8 -0.3**
HOOD Mount Hood Mea 84.03 326 eP **P 08 33 16.2 +0.1**
EGRO El Granado 84.19 45 P **P 08 33 18.7 +1.8**
comp=Z,56nm,0.8s,mb5.5
MOE Montemor 84.22 43 eP **P 08 33 19.3 +2.2**
PBEJ Beja 84.24 44 eP **P 08 33 18.4 +1.3**
comp=Z,105nm,1.0s,mb5.6
PBEJ epP pP 08 33 45.3 +0.8
COR Corvallis 84.40 324 eP **P 08 33 18.2 +0.2**
COR e pP 08 33 45.8 +0.4
COR Corvallis 84.40 324 eP **P 08 33 18.2 +0.2**
comp=Z,142nm,0.9s,mb5.8
COR epP pP 08 33 45.4 +0.1
COR esP sP 08 33 57.1 +0.4
EVO Evora 84.44 44 eP **P 08 33 18.1 -0.1**
comp=Z,174nm,1.0s,mb5.5
EVO epP pP 08 33 44.5 -1.1
EVO eMLR MLR
comp=Z,337nm,19.5s
EBG Ellensburg 84.58 327 P **P 08 33 19.0 +0.1**
WTV Waterville 84.83 328 P **P 08 33 19.7 -0.4**
PTOM Tomar 84.84 42 eP **P 08 33 21.4 +1.2**
comp=Z,275nm,0.9s,mb6.2
PTOM epP pP 08 33 48.3 +0.7
EMIN Mina Concepcio 84.85 45 P **P 08 33 21.4 +1.2**
comp=Z,91nm,0.9s,mb5.7
ESPR Espera 84.86 46 P **P 08 33 21.8 +1.5**
comp=Z,75nm,1.0s,mb5.6
EJIF Jimena Fronter 84.88 46 P **P 08 33 22.2 +1.8**
EJIF pmax pmax
comp=Z,21nm,0.7s,mb5.2
EJIF Jimena Fronter 84.88 46 P **P 08 33 22.2 +1.9**
comp=Z,21nm,0.7s,mb5.2
PESTR Estremoz 84.91 43 eP **P 08 33 21.5 +1.0**
comp=Z,134nm,1.1s,mb5.8
PESTR epP pP 08 33 48.2 +0.2
FCC Fort Churchill 85.08 347 eP **P 08 33 20.7 -0.7**
FCC e*PP pP 08 33 47.7 -1.1
FCC pmax pmax
comp=Z,150nm,1.1s,mb5.8
FCC Fort Churchill 85.08 347 epP pP 08 33 47.7 -1.2
LON Longmire 85.09 327 eP **P 08 33 20.4 -1.0**
FMW Mount Fremont 85.14 327 P **P 08 33 20.9 -0.8**
EBAD Badajoz 85.21 44 P **P 08 33 23.1 +1.1**
comp=Z,131nm,0.9s,mb5.9
EMIJ Mijas 85.40 47 P **P 08 33 23.4 +0.4**
comp=Z,47nm,0.9s,mb5.4
PCBR Castelo Branco 85.55 43 eP **P 08 33 23.9 +0.2**
comp=Z,79nm,0.8s,mb5.7
PCBR epP pP 08 33 51.4 +0.2
PTO Porto 85.64 41 eP **P 08 33 24.9 +0.7**
comp=Z,110nm,0.8s,mb5.8
PTO epP pP 08 33 52.5 +0.9
PVIS Viseu 85.82 42 eP **P 08 33 25.9 +0.9**
comp=Z,62nm,1.2s,mb5.4
PVIS epP pP 08 33 52.8 +0.3
MTE Manteigas 85.84 42 eP **P 08 33 25.4 +0.2**
comp=Z,134nm,1.0s,mb5.8
MTE epP pP 08 33 52.0 -0.6
MTE Manteigas 85.84 42 eP **P 08 33 24.2 -1.0**
comp=Z,90nm,0.9s,mb5.7
MTE epP pP 08 33 52.1 -0.5
MTE esP sP 08 34 04.6 +0.7
EDM Edmonton 86.03 335 eP **P 08 33 24.2 -1.9**
EDM epP pP 08 33 51.3 -2.2
EDM esP sP 08 34 02.9 -1.9
JCW Jim Creek 86.13 328 P **P 08 33 25.3 -1.3**
ELOJ Sierra Loja 86.14 46 P **P 08 33 27.9 +1.3**
ELOJ pmax pmax
comp=Z,14nm,0.7s,mb5.0
ELOJ Sierra Loja 86.14 46 P **P 08 33 27.9 +1.2**
comp=Z,14nm,0.7s,mb5.0
GNW Green Mountain 86.15 327 eP **P 08 33 25.5 -1.2**
PVRL Vila Real 86.26 41 eP **P 08 33 27.9 +0.7**
comp=Z,45nm,1.6s,mb5.2
PVRL epP pP 08 33 54.9 +0.2
ELUQ Luque 86.30 46 P **P 08 33 28.2 +0.8**
ELUQ pmax pmax
comp=Z,1μm,2.8s,mb6.3
ELUQ Luque 86.30 46 P **P 08 33 28.2 +0.8**
comp=Z,1μm,2.8s,mb6.3
ERON Agron 86.30 47 P **P 08 33 28.0 +0.6**
comp=Z,7.8nm,0.5s,mb4.9
PCAB Cabril 86.33 41 eP **P 08 33 27.7 +0.1**
comp=Z,73nm,1.1s,mb5.5
PCAB epP pP 08 33 55.0 -0.1
EADA Adamuz 86.43 45 P **P 08 33 28.5 +0.4**
comp=Z,68nm,0.9s,mb5.6
EMAZ Mazaricos 86.52 40 P **P 08 33 29.5 +1.0**
comp=Z,25nm,1.0s,mb5.1
ECOG Cogollos-Vega 86.60 47 P **P 08 33 28.7 -0.2**
ECOG pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ECOG Cogollos-Vega 86.60 47 P **P 08 33 28.7 -0.2**
comp=Z,10nm,0.6s,mb4.9
OSD Olympics--Snow 86.76 327 P **P 08 33 29.4 -0.2**
VDB Vedder Mountai 86.78 328 P **P 08 33 28.5 -1.2**
EBER Berja 86.84 47 P **P 08 33 30.7 +0.7**
comp=Z,46nm,1.0s,mb5.4
DRV Dumont d'Urvil 86.97 191 P **P 08 33 26.0 -4.7**
DRV Dumont d'Urvil 86.97 191 S SKSac 08 43 45.0 -3.1
PBRG Braganca 87.16 41 eP **P 08 33 32.3 +0.7**
comp=Z,36nm,1.2s,mb5.2
PBRG epP pP 08 33 59.4 +0.2
PGC Sidney 87.19 327 eP **P 08 33 31.3 -0.5**
comp=Z,286nm,0.9s,mb6.2
PGC epP pP 08 33 58.1 -1.2
PGC esP sP 08 34 09.7 -0.8
EQES Quesada 87.22 46 P **P 08 33 32.5 +0.6**
comp=Z,54nm,1.2s,mb5.4
ECAL Calabor 87.25 41 P **P 08 33 34.1 +2.1**
comp=Z,7.7nm,0.6s,mb4.8
ERUA La Rua 87.27 41 P **P 08 33 32.4 +0.3**
ERUA pmax pmax
comp=Z,23nm,0.8s,mb5.2
ERUA La Rua 87.27 41 P **P 08 33 32.4 +0.3**
comp=Z,23nm,0.8s,mb5.2
ENIJ Nijar 87.34 47 P **P 08 33 32.4 -0.1**
ENIJ pmax pmax
comp=Z,23nm,0.8s,mb5.2
ENIJ Nijar 87.34 47 P **P 08 33 32.4 -0.1**
comp=Z,23nm,0.8s,mb5.2
EHUE Huescar 87.54 47 P **P 08 33 33.4 0.0**
EHUE pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
EHUE Huescar 87.54 47 P **P 08 33 33.4 -0.1**
comp=Z,8.4nm,0.9s,mb4.8
ESDC Sonseca Array 87.67 44 P **P 08 33 35.0 +0.9**
comp=Z,12nm,0.7s,mb5.0,baz=254,slow=4.1,SNR=39
ESDC pP pP 08 34 01.6 0.0
comp=Z,26nm,1.0s,baz=234,slow=5.2,SNR=5.7
ESDC LR LR 09 10 17.6
comp=Z,477nm,21.3s,baz=200,slow=34
ESLA Sonseca Array 87.67 44 eP **P 08 33 34.4 +0.4**
comp=Z,27nm,1.2s,mb5.2
ESLA epP pP 08 34 01.6 0.0
EVIA Vianos 88.05 46 P **P 08 33 36.1 +0.3**
EVIA pmax pmax
comp=Z,22nm,0.8s,mb5.2
EVIA Vianos 88.05 46 P **P 08 33 36.1 +0.3**
comp=Z,22nm,0.8s,mb5.2
MIR Mirnyy 88.67 173 *d*iP **P 08 33 39.0 +0.3**
MIR pmax pmax
comp=Z,380nm,1.0s,mb6.4
ETOB Tobarra 88.68 46 P **P 08 33 38.8 0.0**
comp=Z,36nm,0.8s,mb5.5
ETRT Tiaret 88.93 50 P **P 08 33 41.5 +1.5**
EARI Arriondas 88.95 41 P **P 08 33 41.4 +1.3**
comp=Z,18nm,1.1s,mb5.0
EANR `Ain N'Sour 89.08 50 P **P 08 33 42.0 +1.3**
ECHA Ech Chlef 89.36 50 P **P 08 33 43.0 +1.0**
ETOR Torete 89.52 44 P **P 08 33 43.5 +0.7**
ETOR pmax pmax
comp=Z,60nm,0.9s,mb5.7
ETOR Torete 89.52 44 P **P 08 33 43.5 +0.7**
comp=Z,60nm,0.9s,mb5.7
EBNR Beni Rached 89.55 50 P **P 08 33 45.0 +2.1**
EBEN Beniarda 89.59 47 P **P 08 33 43.2 +0.1**
comp=Z,33nm,0.9s,mb5.5
CASY Casey 89.97 180 eP **P 08 33 44.4 -0.4**
comp=Z,307nm,0.9s,mb6.4
CASY epP pP 08 34 12.3 -0.2
CASY esP sP 08 34 23.2 -0.5
ELAN Lanestosa 89.98 42 P **P 08 33 45.3 +0.4**
comp=Z,23nm,0.9s,mb5.3
LSZ Lusaka 90.22 107 eP **P 08 33 48.5 +2.5**

LSZ e*PP pP 08 34 16.7 +3.0
LSZ pmax pmax
comp=Z,65nm,1.3s,mb5.6
LSZ Lusaka 90.22 107 eP **P 08 33 48.5 +2.5**
comp=Z,65nm,1.3s,mb5.6
LSZ epP pP 08 34 16.7 +3.0
EMOS Mosqueruela 90.30 45 P **P 08 33 47.4 +1.1**
comp=Z,17nm,0.9s,mb5.2
EMHD Djebel Mahouad 90.50 50 P **P 08 33 49.0 +1.7**
EIBI Ibiza 90.81 47 P **P 08 33 48.9 +0.1**
comp=Z,66nm,3.1s
ESAC San Caprasio 91.02 44 P **P 08 33 50.6 +0.9**
comp=Z,63nm,0.8s,mb5.8
ERTA Horta de San J 91.13 45 P **P 08 33 50.8 +0.5**
comp=Z,40nm,0.9s,mb5.5
SJPF Ste Jean 91.28 43 eP **P 08 33 50.4 -0.5**
comp=Z,36nm,1.0s,mb5.2
SJPF epP pP 08 34 18.1 -0.5
SJPF Ste Jean 91.28 43 eP **P 08 33 50.4 -0.5**
SJPF e*PP pP 08 34 18.1 -0.5
SJPF pmax pmax
comp=Z,18nm,1.0s,mb5.2
SJPF Ste Jean 91.28 43 eP **P 08 33 50.4 -0.5**
comp=Z,18nm,1.0s,mb5.2
SJPF epP pP 08 34 18.1 -0.5
ETSF Etsaut 91.58 43 eP **P 08 33 52.7 +0.4**
comp=Z,38nm,1.0s,mb5.3
ETSF Etsaut 91.58 43 eP **P 08 33 52.7 +0.4**
ETSF pmax pmax
comp=Z,19nm,1.0s,mb5.3
ETSF Etsaut 91.58 43 eP **P 08 33 52.7 +0.4**
comp=Z,19nm,1.0s,mb5.3
REYF Montagne du Re 91.77 43 eP **P 08 33 53.9 +0.7**
SFJD Kangerlussuaq 91.80 7 i P pP 08 34 18.5 -2.5
comp=Z,36nm,1.0s
SFJD i S SKSac 08 44 15.4 -1.0
SFJD i 08 44 44.1
SFJD
comp=Z,220nm,22.0s
EPOB Poblet 91.82 45 P **P 08 33 53.7 +0.2**
comp=Z,17nm,0.9s,mb5.3
EBIE Bielsa 91.91 44 P **P 08 33 54.9 +1.1**
comp=Z,18nm,0.9s,mb5.3
VIEF Viey 91.93 43 eP **P 08 33 54.7 +0.7**
EPF Esparros 92.21 43 eP **P 08 33 54.6 -0.6**
comp=Z,23nm,1.0s,mb5.1
EPF Esparros 92.21 43 eP **P 08 33 54.6 -0.6**
EPF pmax pmax
comp=Z,12nm,1.0s,mb5.1
EPF Esparros 92.21 43 eP **P 08 33 54.6 -0.6**
comp=Z,12nm,1.0s,mb5.1
EMIR Miracle 92.39 45 P **P 08 33 56.9 +0.8**
comp=Z,40nm,1.1s,mb5.6
URZ Urewera 92.41 226 P **P 08 33 56.7 +0.5**
comp=Z,46nm,1.0s,mb5.7,baz=62,slow=2.2,SNR=10
SALF Salau 92.61 44 eP **P 08 33 58.0 +0.9**
QUIF Quistinic 92.73 38 eP **P 08 33 56.7 -0.9**
comp=Z,164nm,1.5s,mb5.8
QUIF Quistinic 92.73 38 eP **P 08 33 56.7 -0.9**
QUIF pmax pmax
comp=Z,82nm,1.5s,mb5.8
QUIF Quistinic 92.73 38 eP **P 08 33 56.7 -0.9**
comp=Z,82nm,1.5s,mb5.8
ROSF Rostrenen 92.90 38 eP **P 08 33 57.7 -0.7**
RPZ Rata Peaks 93.00 219 P **P 08 33 58.2 -0.6**
comp=Z,29nm,0.9s,mb5.6,baz=95,slow=4.3,SNR=5.6
SGMF Saint Gilles 93.26 38 eP **P 08 33 58.8 -1.3**
FILF Fillols 93.38 45 eP **P 08 34 00.7 +0.1**
LFF La Frestale 93.44 42 eP **P 08 34 00.5 -0.4**
comp=Z,74nm,0.9s,mb5.7
LFF La Frestale 93.44 42 eP **P 08 34 00.5 -0.4**
LFF pmax pmax
comp=Z,37nm,0.9s,mb5.7
LFF La Frestale 93.44 42 eP **P 08 34 00.5 -0.4**
comp=Z,37nm,0.9s,mb5.7
EJON La Jonquera 93.54 45 P **P 08 34 01.9 +0.6**
comp=Z,14nm,0.9s,mb5.3
MTLF Montolieu 93.55 44 eP **P 08 34 01.0 -0.4**
comp=Z,43nm,1.0s,mb5.4
MTLF epP pP 08 34 27.9 -1.2
MTLF Montolieu 93.55 44 eP **P 08 34 01.0 -0.4**
MTLF e*PP pP 08 34 27.9 -1.2
MTLF pmax pmax
comp=Z,21nm,1.0s,mb5.4
MTLF Montolieu 93.55 44 eP **P 08 34 01.0 -0.4**
comp=Z,22nm,1.0s,mb5.4
MTLF epP pP 08 34 27.9 -1.2
YKA Yellowknife Ar 93.55 341 P **P 08 34 00.1 -1.3**
comp=Z,53nm,0.8s,mb5.9,baz=138,slow=4.7,SNR=95
YKA pP pP 08 34 27.4 -1.7
comp=Z,47nm,0.8s,baz=139,slow=4.2,SNR=9.7
YKA LR LR 09 21 19.9
comp=Z,196nm,19.7s,baz=150,slow=39
YKA Yellowknife Ar 93.55 341 P **P 08 34 00.1 -1.3**
YKA *PP pP 08 34 27.4 -1.7
YKA Yellowknife Ar 93.55 341 P **P 08 34 00.1 -1.3**
YKA pP pP 08 34 27.4 -1.7
YKA LR LR 09 21 19.9
MFF Saint Martin d 93.76 40 eP **P 08 34 01.8 -0.6**
comp=Z,59nm,1.0s,mb5.6
MFF epP pP 08 34 28.7 -1.4
MFF Saint Martin d 93.76 40 eP **P 08 34 01.8 -0.6**
MFF e*PP pP 08 34 28.7 -1.4
MFF pmax pmax
comp=Z,29nm,1.0s,mb5.6
MFF Saint Martin d 93.76 40 eP **P 08 34 01.8 -0.6**
comp=Z,29nm,1.0s,mb5.6
MFF epP pP 08 34 28.7 -1.4
RJF Les Rejaudoux 94.10 42 eP **P 08 34 03.5 -0.4**
comp=Z,54nm,1.1s,mb5.5
RJF Les Rejaudoux 94.10 42 eP **P 08 34 03.5 -0.4**
RJF pmax pmax
comp=Z,27nm,1.1s,mb5.5
RJF Les Rejaudoux 94.10 42 eP **P 08 34 03.5 -0.4**
comp=Z,27nm,1.1s,mb5.5
CAF Calviac 94.24 42 eP **P 08 34 03.5 -1.1**
comp=Z,22nm,1.0s,mb5.1
CAF Calviac 94.24 42 eP **P 08 34 03.5 -1.1**
CAF pmax pmax
comp=Z,11nm,1.0s,mb5.1
CAF Calviac 94.24 42 eP **P 08 34 03.5 -1.1**
comp=Z,11nm,1.0s,mb5.1
GRR Gorron 94.29 38 eP **P 08 34 03.8 -1.0**
LDF La Druitiere 94.81 38 eP **P 08 34 06.3 -0.9**
comp=Z,44nm,1.0s,mb5.5
LDF La Druitiere 94.81 38 eP **P 08 34 06.3 -0.9**
LDF pmax pmax
comp=Z,22nm,1.0s,mb5.5
LDF La Druitiere 94.81 38 eP **P 08 34 06.3 -0.9**
comp=Z,22nm,1.0s,mb5.5
KEST Kesra 94.87 53 P **P 08 34 08.0 +0.6**
comp=Z,6.5nm,0.9s,mb5.0,baz=253,slow=2.8,SNR=13
KEST pP pP 08 34 33.5 -1.6
comp=Z,6.2nm,1.1s,baz=270,slow=10,SNR=2.6
KEST PKKP PKKPbc 08 51 02.8 -0.1
comp=Z,1.7nm,0.8s,baz=17,slow=9.4,SNR=3.9
KEST LR LR 09 20 59.5
comp=Z,332nm,18.0s,baz=3.1,slow=38
TCF Toulx Ste Croi 95.01 41 eP **P 08 34 07.3 -0.8**
comp=Z,21nm,0.9s,mb5.2
TCF epP pP 08 34 34.2 -1.6
TCF Toulx Ste Croi 95.01 41 eP **P 08 34 07.3 -0.8**
TCF e*PP pP 08 34 34.2 -1.6
TCF pmax pmax
comp=Z,11nm,0.9s,mb5.3
TCF Toulx Ste Croi 95.01 41 eP **P 08 34 07.3 -0.8**
comp=Z,11nm,0.9s,mb5.3
TCF epP pP 08 34 34.2 -1.6
LBL Lubilhac 95.12 42 eP **P 08 34 09.0 +0.4**
AGO Saint Agoulin 95.45 42 eP **P 08 34 10.4 +0.3**
BGF Bois d'Agland 95.53 41 eP **P 08 34 09.9 -0.6**
comp=Z,62nm,1.0s,mb5.7
BGF epP pP 08 34 36.8 -1.4
BGF Bois d'Agland 95.53 41 eP **P 08 34 09.9 -0.6**
BGF e*PP pP 08 34 36.8 -1.4
BGF pmax pmax
comp=Z,31nm,1.0s,mb5.7
BGF Bois d'Agland 95.53 41 eP **P 08 34 09.9 -0.6**
comp=Z,31nm,1.0s,mb5.7
BGF epP pP 08 34 36.8 -1.4
PLDF La Plantade 95.71 42 eP **P 08 34 11.6 +0.3**
VIVF Saint-Julien-I 95.83 43 eP **P 08 34 11.9 +0.1**
comp=Z,26nm,1.0s,mb5.3
VIVF Saint-Julien-I 95.83 43 eP **P 08 34 11.9 +0.1**
VIVF pmax pmax
comp=Z,13nm,1.0s,mb5.3
VIVF Saint-Julien-I 95.83 43 eP **P 08 34 11.9 +0.1**
comp=Z,13nm,1.0s,mb5.3
AVF Avril sur Loir 95.94 41 eP **P 08 34 11.5 -0.8**
comp=Z,43nm,1.2s,mb5.5
AVF Avril sur Loir 95.94 41 eP **P 08 34 11.5 -0.8**
AVF pmax pmax
comp=Z,22nm,1.2s,mb5.5
AVF Avril sur Loir 95.94 41 eP **P 08 34 11.5 -0.8**
comp=Z,22nm,1.2s,mb5.5
SMRF Simiane la Rot 95.99 44 eP **P 08 34 13.0 +0.4**
comp=Z,44nm,1.1s,mb5.5
SMRF Simiane la Rot 95.99 44 eP **P 08 34 13.0 +0.4**
comp=Z,44nm,1.1s,mb5.8
SSF Saint Saulge 96.17 41 eP **P 08 34 12.3 -1.1**
comp=Z,30nm,1.1s,mb5.3
SSF Saint Saulge 96.17 41 eP **P 08 34 12.3 -1.1**
SSF pmax pmax
comp=Z,15nm,1.1s,mb5.3
SSF Saint Saulge 96.17 41 eP **P 08 34 12.3 -1.1**
comp=Z,15nm,1.1s,mb5.3
SMF Signal de Mont 96.17 41 eP **P 08 34 12.9 -0.5**
comp=Z,58nm,1.1s,mb5.6
SMF epP pP 08 34 39.7 -1.4
SMF Signal de Mont 96.17 41 eP **P 08 34 12.9 -0.5**
SMF e*PP pP 08 34 39.7 -1.4
SMF pmax pmax
comp=Z,29nm,1.1s,mb5.6
SMF Signal de Mont 96.17 41 eP **P 08 34 12.9 -0.5**
comp=Z,29nm,1.1s,mb5.6
SMF epP pP 08 34 39.7 -1.4
WRAK Wrangell Islan 96.27 330 eP **P 08 34 12.8 -1.0**
comp=Z,43nm,1.0s,mb5.8
WRAK epP pP 08 34 39.5 -2.1
WRAK eSP sP 08 34 51.4 -1.4
LMR La Mourre 96.30 45 eP **P 08 34 14.0 0.0**
comp=Z,73nm,1.1s,mb5.7
LMR La Mourre 96.30 45 eP **P 08 34 14.0 0.0**
LMR pmax pmax
comp=Z,37nm,1.1s,mb5.7
LMR La Mourre 96.30 45 eP **P 08 34 14.0 0.0**
comp=Z,37nm,1.1s,mb5.7
LOR Lormes 96.48 41 eP **P 08 34 13.7 -1.1**
comp=Z,32nm,1.1s,mb5.4
LOR epP pP 08 34 40.5 -2.0
LOR eMLR MLR
comp=Z,418nm,22.5s
LOR Lormes 96.48 41 eP **P 08 34 13.7 -1.1**
LOR e*PP pP 08 34 40.5 -2.0
LOR pmax pmax
comp=Z,16nm,1.1s,mb5.4
LOR MLR MLR
comp=Z,420nm,22.5s
LOR Lormes 96.48 41 eP **P 08 34 13.7 -1.1**
comp=Z,16nm,1.1s,mb5.4
LOR epP pP 08 34 40.5 -2.0
LOR LR LR
comp=Z,420nm,22.5s
FRF La Foret Royal 96.49 45 eP **P 08 34 14.0 -0.8**
comp=Z,50nm,1.2s,mb5.5
FRF La Foret Royal 96.49 45 eP **P 08 34 14.0 -0.8**
FRF pmax pmax
comp=Z,25nm,1.2s,mb5.5
FRF La Foret Royal 96.49 45 eP **P 08 34 14.0 -0.8**
comp=Z,25nm,1.2s,mb5.5
OG25 Le Caire 96.49 44 eP **P 08 34 15.8 +1.0**
ORIF Oris-en-Rattie 96.62 44 eP **P 08 34 15.9 +0.5**
comp=Z,44nm,0.9s,mb5.6
ORIF epP pP 08 34 42.8 -0.4
ORIF eMLR MLR
comp=Z,373nm,20.0s
ORIF Oris-en-Rattie 96.62 44 eP **P 08 34 15.9 +0.5**
ORIF e*PP pP 08 34 42.8 -0.4
ORIF pmax pmax
comp=Z,22nm,0.9s,mb5.6
ORIF Oris-en-Rattie 96.62 44 eP **P 08 34 15.9 +0.5**
comp=Z,22nm,0.9s,mb5.6
ORIF epP pP 08 34 42.8 -0.4
MVIF Mont Vial 96.97 45 eP **P 08 34 18.3 +1.3**
REVF Revere 97.04 45 eP **P 08 34 18.2 +0.9**
TOUF Mont Tournerai 97.08 45 eP **P 08 34 18.3 +0.8**
LUCF Luceram 97.09 45 eP **P 08 34 18.2 +0.6**
MBDF Montbardon 97.10 44 eP **P 08 34 18.0 +0.4**
comp=Z,44nm,1.1s,mb5.5
MBDF Montbardon 97.10 44 eP **P 08 34 18.0 +0.4**
MBDF pmax pmax
comp=Z,22nm,1.1s,mb5.5
MBDF Montbardon 97.10 44 eP **P 08 34 18.0 +0.4**
comp=Z,22nm,1.1s,mb5.5
SBF Sospel 97.14 45 eP **P 08 34 17.9 +0.1**
comp=Z,90nm,1.1s,mb5.8
SBF epP pP 08 34 44.8 -0.7
SBF Sospel 97.14 45 eP **P 08 34 17.9 +0.1**
SBF e*PP pP 08 34 44.8 -0.7
SBF pmax pmax
comp=Z,45nm,1.1s,mb5.8
SBF Sospel 97.14 45 eP **P 08 34 17.9 +0.1**
comp=Z,45nm,1.1s,mb5.8
SBF epP pP 08 34 44.8 -0.7
BNI Bardonecchia 97.19 44 eP **P 08 34 18.5 +0.5**
BNI pmax pmax
comp=Z,12nm,1.0s,mb5.3
BNI Bardonecchia 97.19 44 eP **P 08 34 18.4 +0.5**
comp=Z,12nm,1.0s,mb5.3
AUTN L'Aution 97.19 45 eP **P 08 34 18.8 +0.8**
SAOF Saorge 97.27 45 eP **P 08 34 19.1 +0.7**
LPG La Plagne 97.43 43 eP **P 08 34 19.9 +0.8**
comp=Z,57nm,0.9s,mb5.7
LPG La Plagne 97.43 43 eP **P 08 34 19.9 +0.8**
LPG pmax pmax
comp=Z,28nm,0.9s,mb5.7
LPG La Plagne 97.43 43 eP **P 08 34 19.9 +0.8**
comp=Z,28nm,0.9s,mb5.7
RSL Roselend 97.44 43 eP **P 08 34 20.0 +0.9**
CABF La Chapelle 97.52 42 eP **P 08 34 19.3 -0.2**
PGF Pioggiola 97.59 47 eP **P 08 34 19.8 0.0**
comp=Z,45nm,1.2s,mb5.6
PGF Pioggiola 97.59 47 eP **P 08 34 19.8 0.0**
PGF pmax pmax
comp=Z,22nm,1.2s,mb5.6
PGF Pioggiola 97.59 47 eP **P 08 34 19.8 0.0**
comp=Z,22nm,1.2s,mb5.6
MEZF Maizieres J'vi 97.76 40 eP **P 08 34 19.7 -0.9**
MEZF epP pP 08 34 46.6 -1.8
BAIF Baives 98.00 39 eP **P 08 34 20.5 -1.1**
comp=Z,29nm,1.2s,mb5.4
BAIF Baives 98.00 39 eP **P 08 34 20.5 -1.1**
BAIF pmax pmax
comp=Z,15nm,1.2s,mb5.4
BAIF Baives 98.00 39 eP **P 08 34 20.5 -1.1**
comp=Z,15nm,1.2s,mb5.4
DOU Dourbes 98.24 39 P **P 08 34 20.3 -2.4**
DOU AP pP 08 34 48.9 -1.6
SNF Seneffe 98.25 38 AP pP 08 34 51.0 +0.5
HAU Haudompre 98.31 41 eP **P 08 34 22.0 -1.0**
HAU eMLR MLR
comp=Z,376nm,18.0s
HAU Haudompre 98.31 41 eP **P 08 34 22.0 -1.0**
HAU LR LR
comp=Z,380nm,18.0s
GIVF Givet 98.37 39 eP **P 08 34 22.6 -0.7**
GIVF epP pP 08 34 49.4 -1.7
HINF Hinteralfeld 98.53 41 eP **P 08 34 22.0 -2.0**
SUMG Summit 98.57 9 eP **P 08 34 24.2 0.0**
comp=Z,5.1nm,0.6s,mb5.2
BCLA Clavier 98.79 39 P **P 08 34 24.8 -0.3**
WLF Walferdange 98.94 39 eSKSac SKSac 08 44 57.6 +3.4
WLF eSP SP 08 47 17.7 +4.3
WLF Walferdange 98.94 39 P **P 08 34 26.4 +0.5**
WLF AP pP 08 34 53.3 -0.3
CDF Champ du Feu 99.05 41 eP **P 08 34 25.6 -0.7**
CDF epP pP 08 34 52.5 -1.6
SKAG Skagway 99.27 332 eP **P 08 34 26.4 -0.9**
comp=Z,29nm,1.4s,mb5.6
BFO Black Forest 99.64 41 eSKSac SKSac 08 45 02.0 +4.3
BFO eSP SP 08 47 25.8 +4.8
RES Resolute Bay 99.90 353 eP Pdif 08 34 28.1 -2.0
DAVA Damuels 100.16 43⇑ i P Pdif 08 34 31.2 0.0
comp=Z,16nm,1.4s
STU Stuttgart 100.35 41 eSP SP 08 47 33.1 +4.5
BUG Bochum--Univer 100.36 38 eSKSac SKSac 08 45 06.0 +4.8
BUG eSP SP 08 47 34.0 +5.3
TNS Taunus Mts 100.52 40 eSKSac SKSac 08 45 09.2 +7.2
TNS eSP SP 08 47 36.0 +5.6
MOTA Moosalm 100.94 43⇑ i P Pdif 08 34 35.1 +0.4
comp=Z,12nm,1.0s
MOTA Moosalm 100.94 43⇑ i P Pdif 08 34 35.1 +0.4
MOTA pmax pmax
comp=Z,12nm,1.0s
SQTA Sankt Quirin 100.96 43⇑ i P Pdif 08 34 35.4 +0.6
comp=Z,19nm,0.9s
SQTA Sankt Quirin 100.96 43⇑ i P Pdif 08 34 35.4 +0.6
SQTA pmax pmax
comp=Z,19nm,0.9s
IBBN Ibbenburen 101.00 38 eSP SP 08 47 40.6 +5.0
WTTA Wattenberg 101.24 43⇑ i P Pdif 08 34 36.9 +0.9
comp=Z,31nm,1.0s
WTTA Wattenberg 101.24 43⇑ i P Pdif 08 34 36.9 +0.8
WTTA pmax pmax
comp=Z,31nm,1.0s
FUR Furstenfeldbru 101.37 42 eSP SP 08 47 43.5 +4.0
UBBA Unterbreizbach 101.67 39 eSKSac SKSac 08 45 13.7 +6.2
UBBA eSP SP 08 47 48.2 +5.6
HLG Helgoland 101.86 36 eSP SP 08 47 49.1 +4.4
GRFO Grafenberg 101.94 41 eSKSac SKSac 08 45 14.5 +5.7
GRFO eSP SP 08 47 51.1 +5.6
GRF Grafenberg Arr 101.94 41 eSP SP 08 47 51.0 +5.5
CLZ Clausthal 102.28 39 eSP SP 08 47 55.3 +6.1
GORS Gorjuse 102.38 45 ePdiff Pdif 08 34 45.8 +4.6
GORS e 08 35 08.6
NRDL Niedersach Rie 102.39 38 eSKSac SKSac 08 45 17.1 +6.1
NRDL eSP SP 08 47 55.2 +4.9
MOX Moxa 102.54 40 eSKSac SKSac 08 45 18.1 +6.4
MOX eSP SP 08 47 57.7 +5.8
ROTZ Rotzenmuhle 102.56 41 eSKSac SKSac 08 45 16.7 +4.9
ROTZ eSP SP 08 47 57.8 +5.7
MANZ Manzenberg 102.58 41 eSKSac SKSac 08 45 15.6 +3.7
MANZ eSP SP 08 47 58.2 +5.9
WET Wettzell 102.73 42 eSKSac SKSac 08 45 17.1 +4.5
WET eSP SP 08 47 58.7 +4.8
TANN Tannenbergstha 102.95 40 eSKSac SKSac 08 45 16.4 +2.8
TANN eSP SP 08 48 02.3 +6.1
BSEG Bad Segeberg 103.07 37 eSP SP 08 48 01.8 +4.3
MOA Molln 103.11 43⇑ i P Pdif 08 34 44.8 +0.4
comp=Z,7.1nm,0.9s
GEC2 GERESS Array S 103.12 42 eSKSac SKSac 08 45 17.3 +2.9
GEC2 eSP SP 08 48 01.8 +3.8
GERES GERESS Array B 103.12 42 Pdiff Pdif 08 34 43.3 -1.1
comp=Z,0.6nm,0.4s,baz=232,slow=4.4,SNR=7.7
GERES PKiKP PKiKP 08 39 03.7 +0.1
comp=Z,2.6nm,0.9s,baz=207,slow=5.5,SNR=5.7
GERES PKKPbc PKKPbc 08 50 40.1 +0.3
comp=Z,1.5nm,0.8s,baz=90,slow=2.7,SNR=7.0
GERES PKKP PKKPdf 08 51 00.7 +13
comp=Z,1.3nm,0.8s,baz=72,slow=4.3,SNR=5.8
CRES Cresnjev 103.15 46 ePdiff Pdif 08 34 45.4 +0.8
DAWY Dawson 103.25 335 ePdif Pdif 08 34 43.7 -1.3
INK Inuvik 103.30 340 eP Pdif 08 34 44.0 -1.2
INK pmax pmax
comp=Z,792nm,1.1s
INK Inuvik 103.30 340 ePdif Pdif 08 34 44.0 -1.2
comp=Z,792nm,1.1s
CLL Collm 103.60 40 eSKSac SKSac 08 45 22.5 +5.9
CLL eSP SP 08 48 09.0 +5.9
CLL Collm 103.60 40 epPdif 08 35 15.0
CLL e(PP) 08 39 06.0
CLL eSKSac SKSac 08 45 15.0 -1.6
CLL eSP SP 08 48 04.0 +0.9
CLL eSS SS 08 53 54.0 +13
BRG Berggiesshubel 104.00 40 eSKSac SKSac 08 45 23.8 +5.4
BRG eSP SP 08 48 13.1 +5.9
BRG Berggiesshubel 104.00 40 SG Sdif 08 46 27.1 -2.4
comp=Z,2.2nm,0.7s
RUE Ruedersdorf 104.47 39 eSP SP 08 48 17.3 +5.1
RGN Rugen 104.94 37 eSP SP 08 48 21.4 +4.4
NOA NORSAR Array B 106.14 30 PP PP 08 39 23.3 +0.6
comp=Z,1.7nm,0.9s,baz=279,slow=4.6,SNR=3.3
NOA PKKPab PKKPab 08 50 44.9 -2.5
comp=Z,3.1nm,1.0s,baz=69,slow=4.6,SNR=3.8
VYHS Vyhne 106.21 44 ePKP PKiKP 08 39 09.7 +0.4
VYHS e 08 39 38.2
SUW Suwalki 110.32 39 ePKP PKiKP 08 39 16.8 -0.2
FINES FINESS Array B 113.20 31 PKKPbc PKKPbc 08 50 06.2 -1.9
comp=Z,1.2nm,0.6s,baz=86,slow=5.3,SNR=11
AKASG Malin Array Be 113.30 43 PKiKP PKiKP 08 39 21.4 -1.2
comp=Z,9.1nm,0.8s,baz=268,slow=2.7,SNR=17
AKASG pPKiKP 08 39 49.8
comp=Z,5.9nm,0.8s,baz=263,slow=3.1,SNR=4.9
AKASG PKKPbc PKKPbc 08 50 07.0 -0.8
comp=Z,4.0nm,0.8s,baz=67,slow=3.6,SNR=10
AKASG PKKPab PKKPab 08 50 14.6 -1.0
comp=Z,3.0nm,0.7s,baz=63,slow=3.5,SNR=9.7
AKBB Malin Array Si 113.30 43 ePKIKP PKiKP 08 39 21.6 -1.0
ARCES ARCESS Array B 113.85 23 PKiKP PKiKP 08 39 22.7 -1.0
comp=Z,2.0nm,0.7s,baz=226,slow=3.2,SNR=5.1
ARCES PKKPbc PKKPbc 08 50 05.5 -0.4
comp=Z,2.3nm,0.6s,baz=92,slow=3.6,SNR=12
ARCES PKKPab PKKPab 08 50 10.7 -2.5
comp=Z,6.7nm,0.8s,baz=86,slow=6.2,SNR=8.8
BR131 Keskin Array S 114.31 56 ePKPdf PKiKP 08 39 24.5 0.0
BRTR Keskin Array B 114.31 56 PKiKP PKiKP 08 39 24.6 0.0
comp=Z,6.6nm,0.9s,baz=186,slow=3.5,SNR=26
BRTR pPKiKP 08 39 52.2
comp=Z,6.6nm,1.0s,baz=186,slow=3.7,SNR=8.0
BRTR PP PP 08 40 22.4 +0.7
comp=Z,7.0nm,1.1s,baz=222,slow=3.1,SNR=5.0
BRTR PKKPab PKKPab 08 50 10.5 -0.6
comp=Z,2.8nm,0.8s,baz=103,slow=3.9,SNR=9.3
BRTR Keskin Array B 114.31 56 PKIKP PKiKP 08 39 24.6 0.0
BRTR 08 40 22.4
ASF Jabal al Asfar 115.25 64 PKKPab PKKPab 08 50 07.5 +0.5
comp=Z,4.2nm,0.9s,baz=351,slow=4.6,SNR=5.4
SIM Simferopol' 115.61 50 i PKIKP PKPdf 08 39 32.8 +5.7
SIM PS PS 08 50 13.4 +1.0
SIM pmax pmax
comp=Z,16nm,6.9s
STKA Stephens Creek 117.19 209 ePKP PKPdf 08 39 29.6 -0.5
comp=Z,6.7nm,0.8s
STKA Stephens Creek 117.19 209 PKP PKPdf 08 39 29.4 -0.7
comp=Z,8.1nm,0.8s,baz=116,slow=2.8,SNR=10
STKA PKKPbc PKKPbc 08 49 53.0 -1.3
comp=Z,4.8nm,0.8s,baz=326,slow=7.3,SNR=6.9
STKA PKKP PKKPdf 08 50 22.4 +1.2
comp=Z,5.4nm,0.8s,baz=333,slow=6.7,SNR=6.0
MALT Malatya 117.72 58 ePKIKP PKPdf 08 39 31.4 +0.3
MALT e 08 40 00.0
ANN Anapa 117.92 51 i PKIKP PKPdf 08 39 29.9 -1.6
ANN e 08 39 58.2
ANN e 08 46 14.6
ANN pmax pmax
comp=Z,46nm,1.4s
OBN Obninsk 118.18 39⇑ i PKIKP PKPdf 08 39 30.8 -1.2
OBN i 08 39 59.4
OBN e 08 40 53.3
OBN pmax pmax
comp=Z,37nm,0.8s
OBN MLR MLR
comp=Z,600nm,21.0s
OBN Obninsk 118.18 39 i PKP PKPdf 08 39 30.8 -1.2
VRSR Storozhevoye 119.61 43 ePKIKP PKPdf 08 39 33.4 -1.4
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,30nm,1.0s
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRHR Novokhopersk 121.14 44 ePKIKP PKPdf 08 39 36.9 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.5s
KIV Kislovodsk 121.59 52 d i PKIKP PKPdf 08 39 38.3 -0.3
KIV e 08 41 10.5
KIV e 08 46 21.5
KIV pmax pmax
comp=Z,49nm,1.1s
KIV Kislovodsk 121.59 52 ePKPdf PKPdf 08 39 38.6 +0.1
KIV epPKPdf pPKPdf 08 40 07.3 -0.2
ZEI Tsey 122.39 53 ePKIKP PKPdf 08 39 40.3 +0.2
GNI Garni 122.82 57 d i PKIKP PKPdf 08 39 39.4 -1.5
GNI Garni 122.82 57 ePKPdf PKPdf 08 39 41.8 +0.9
GNI epPKPdf pPKPdf 08 40 09.7 -0.1
NWAO Narrogin (SRO) 123.04 186 PKP PKPdf 08 39 40.6 -0.8
comp=Z,22nm,0.9s,baz=178,slow=7.4
FORT Forrest 123.10 198 ePKP PKPdf 08 39 40.7 -0.8
comp=Z,34nm,0.8s
FORT epPKP pPKPdf 08 40 09.3 -1.0
KLBR Kellerberrin 124.31 187 ePKP PKPdf 08 39 43.0 -0.8

comp=Z,46nm,0.7s
KLBR *e*PKP PKPdf 08 40 11.9 -0.8
CTA Charters Tower 124.31 221 *e*PKP PKPdf 08 39 43.7 -0.1
comp=Z,21nm,0.9s
CTA *e*PKP PKPdf 08 40 12.8 +0.1
CTA Charters Tower 124.31 221 PKP PKPdf 08 39 43.7 -0.1
comp=Z,29nm,0.9s,baz=218,slow=1.2,SNR=9.1
CTA PKP PKPdf 08 40 11.8 -0.8
comp=Z,8.6nm,0.8s,baz=48,slow=9.1,SNR=3.1
BILL Bilibino 124.85 338 ⇓*i*PKIKP PKPdf 08 39 43.8 -1.0
BILL *i* 08 40 12.4
BILL pmax pmax
comp=Z,46nm,1.0s
BILL Bilibino 124.85 338 *e*PKPdf PKPdf 08 39 43.7 -1.1
AS31 Alice Springs 127.64 207 *e*PKP PKPdf 08 39 49.6 -0.6
AS31 *e*PKP PKPdf 08 40 18.2 -0.8
AS31 *e*PKS 08 43 08.2
ASAR Alice Springs 127.64 207 PKP PKPdf 08 39 49.2 -1.0
comp=Z,63nm,0.9s,baz=134,slow=1.4,SNR=93
ASAR pPKP pPKPdf 08 40 17.9 -1.2
comp=Z,16nm,0.8s,baz=134,slow=1.9,SNR=5.1
ASAR PP PP 08 41 51.4 -1.0
comp=Z,5.1nm,1.1s,baz=148,slow=5.4,SNR=4.2
ASPA Alice Springs 127.64 207 *e*PKP PKPdf 08 39 49.6 -0.6
ASPA *e*PKP PKPdf 08 40 18.2 -0.8
ASPA *e*PKS 08 43 08.2
ARU Arti 130.26 35 *i* PKIKP PKPdf 08 39 54.5 -0.6
ARU *e* 08 40 22.6
ARU *e* 08 42 07.8
ARU *e*SS SS 08 59 23.9 -3.8
ARU Arti 130.26 35 *e*PKPdf PKPdf 08 39 54.7 -0.4
ARU *e*pPKPdf pPKPdf 08 40 23.6 -0.4
WB2 Warramunga Arr 130.73 209 *e*PKP PKPdf 08 39 55.8 -0.2
WB2 *e*pPKP pPKPdf 08 40 24.8 -0.1
WB2 *e*PKS 08 43 19.0
WRA Warramunga Arr 130.74 209 PKIKP 08 39 38.5
comp=Z,2.0nm,0.8s,baz=148,slow=2.1,SNR=5.2
WRA PKP PKPdf 08 39 56.0 -0.1
comp=Z,58nm,0.9s,baz=158,slow=1.6,SNR=81
WRA pPKP pPKPdf 08 40 24.1 -0.8
comp=Z,26nm,1.1s,baz=160,slow=1.7,SNR=4.0
WRA SKPab 08 43 11.0
comp=Z,7.8nm,1.1s,baz=147,slow=4.0,SNR=5.3
WRA SKP 08 43 19.9
comp=Z,5.7nm,1.0s,baz=228,slow=7.8,SNR=6.4
WRA Warramunga Arr 130.74 209 PKIKP PKPdf 08 39 56.0 0.0
WRA 08 40 24.1
WRA Warramunga Arr 130.74 209 PKP PKPdf 08 39 56.0 -0.1
WRA pPKP pPKPdf 08 40 24.1 -0.8
WRA SKPab 08 43 11.0
WRA SKP 08 43 19.9
WRAB Tennant Creek 130.74 209 ⇓*i*PKIKP PKPdf 08 39 50.1 -6.0
TIXI Tiksi 131.29 353 *i* PKIKP PKPdf 08 39 55.2 -1.9
TIXI *e* 08 40 22.7
TIXI pmax pmax
comp=Z,57nm,1.0s
TIXI Tiksi 131.29 353 *i* PKP PKPdf 08 39 55.3 -1.8
PMG Port Moresby 131.52 231 PKP PKPdf 08 39 59.0 +1.4
comp=Z,51nm,1.0s,baz=58,slow=6.3,SNR=5.5
PMG Port Moresby 131.52 231 *e*PKPdf PKPdf 08 39 58.3 +0.7
AKTK Aktyubinsk 131.54 43 PKP PKPdf 08 39 57.5 0.0
AKTK pPKP pPKPdf 08 40 25.1 -1.3
AKTO Aktyubinsk 131.54 43 PKP PKPdf 08 39 57.5 0.0
comp=Z,18nm,1.0s,baz=292,slow=2.7,SNR=26
AKTO pPKP pPKPdf 08 40 25.1 -1.3
comp=Z,19nm,1.0s,baz=326,slow=1.4,SNR=6.4
AKTO Aktyubinsk 131.54 43 *i* PKIKP PKPdf 08 39 57.2 -0.4
AKTO pmax pmax
comp=Z,7.0nm,1.3s
WSAR Wadi Sarin 132.22 80 PKP PKPdf 08 39 58.8 -0.1
comp=Z,55nm,1.0s,baz=264,slow=7.6,SNR=6.2
WSAR pPKP pPKPdf 08 40 26.4 -1.3
comp=Z,63nm,1.0s,baz=257,slow=6.0,SNR=7.0
WSAR Wadi Sarin 132.22 80 PKP PKPdf 08 39 58.8 -0.1
WSAR pPKP pPKPdf 08 40 26.4 -1.3
SEY Seymchan 132.39 336 ⇑*i*PKIKP PKPdf 08 39 56.7 -2.5
AB31 Akbulak array 133.02 44 ⇑*e*PKIKP PKPdf 08 40 00.7 +0.3
MBWA Marble Bar 134.28 191 *e*PKPdf PKPdf 08 40 02.4 -0.3
FITZ Fitzroy Crossi 135.76 200 *e*PKP PKPdf 08 40 05.6 +0.1
comp=Z,56nm,0.8s
FITZ *e*pPKP pPKPdf 08 40 34.2 -0.2
FITZ *e*SKP 08 43 28.1
FITZ *e*PKS 08 43 36.1
FITZ Fitzroy Crossi 135.76 200 PKhKP 08 39 51.5
comp=Z,4.5nm,0.9s,baz=151,slow=6.2,SNR=5.6
FITZ PKP PKPdf 08 40 05.8 +0.3
comp=Z,35nm,0.8s,baz=204,slow=3.9,SNR=28
FITZ pPKP pPKPdf 08 40 34.2 -0.1
comp=Z,11nm,0.8s,baz=195,slow=9.5,SNR=2.7
FITZ SKPab 08 43 28.8
comp=Z,3.8nm,1.0s,baz=184,slow=6.0,SNR=3.7
ZRNK Zerenda 137.18 37 *e*PKIKP PKPdf 08 40 08.6 +0.5
ZRNK *e* 08 40 37.0
CHKZ Chkalovo 137.71 35 *e*PKIKP PKPdf 08 40 09.2 +0.1
CHKZ *e* 08 40 37.7
BRVK Borovoye 137.82 36 *e*PKPdf PKPdf 08 40 09.2 -0.1
BVAR Borovoye Array 137.89 36 PKhKP 08 40 04.1
comp=Z,2.1nm,0.7s,baz=238,slow=1.4,SNR=6.8
BVAR PKP PKPdf 08 40 10.1 +0.7
comp=Z,30nm,1.0s,baz=270,slow=1.5,SNR=45
BVAR pPKP pPKPdf 08 40 37.0 -1.3
comp=Z,29nm,1.0s,baz=270,slow=1.5,SNR=7.5
KAKA Kakadu 137.91 212 *e*PKP 08 39 59.1
comp=Z,50nm,1.4s
KAKA *e* 08 40 09.7
VOSK Vostochnaya 138.35 36 *i* PKIKP PKPdf 08 40 10.4 +0.1
YAK Yakutsk 139.97 346 *e*PKHKP 08 40 03.4
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK Yakutsk 139.97 346 *e*PKPdf PKPdf 08 40 12.4 -0.8
YAK *e*pPKPdf pPKPdf 08 40 41.5 -0.6
NVS Novosibirsk 142.97 27 *e*PKIKP PKPdf 08 40 14.4 -4.2
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,37nm,1.4s
NVS pmax pmax
comp=Z,117nm,1.4s
TRD Trivandrum 143.96 110 *e*P PKPdf 08 40 19.9 -0.5
MNGI Mangalore 144.03 101 *e*P PKPdf 08 40 19.9 -0.5
GOA Goa 144.06 97 *e*x x 08 39 47.4
EKS2 Erkin-Say 144.13 50 P PKPdf 08 40 20.1 -0.5
SNR=43
AML Almayashu 144.24 51 P PKPdf 08 40 20.4 -0.4
SNR=112
USP Ospenovka 144.42 48 P PKPdf 08 40 20.6 -0.6
SNR=39
AAK Ala-Archa 144.63 49 P PKPdf 08 40 22.0 +0.5
SNR=246
AAK Ala-Archa 144.63 49 *e*PKPdf PKPdf 08 40 20.9 -0.6
AAK *e*pPKPdf pPKPdf 08 40 49.0 -1.5
FRU Bishkek 144.65 49 ⇓*i*PKIKP PKPdf 08 40 22.0 +0.5
FRU *i* 08 40 50.0
FRU pmax pmax
comp=Z,520nm,1.2s
CHMS Chumysh 144.69 49 P PKPdf 08 40 21.7 +0.1
SNR=91
UCH Uchtor 144.78 50 P PKPdf 08 40 22.9 +1.1
SNR=514
KBK Karagaybulak 144.94 49 P PKPdf 08 40 23.0 +1.0
SNR=227
KAD Karad 144.95 94 *e*P PKPdf 08 40 21.8 -0.3
POO Poona 144.99 92 ⇓*i*P PKPdf 08 40 19.0 -3.1
comp=Z,450nm,1.0s
TKM2 Tokmak 2 145.29 48 P PKPdf 08 40 23.6 +0.9
SNR=234
KZA Kyzart 145.35 50 P PKPdf 08 40 24.6 +1.8
SNR=177
KRAR Krasnoyarsk 145.39 18 *d*i PKIKP PKPdf 08 40 22.2 -0.6
CLNS Chul'man 145.72 346 *e*PKP2 PKPab 08 40 22.9 -1.5
CLNS pmax pmax
comp=N,48nm,1.0s
CLNS pmax pmax
comp=Z,187nm,1.0s
CLNS pmax pmax
comp=E,54nm,0.8s
YSS Yuzh-Sakhalins 145.88 320 ⇓*i*PKP2 PKPab 08 40 23.0 -2.1
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 145.88 320 *e*PKPdf PKPdf 08 40 23.0 -0.7
YSS *e*PKPbc PKPbc 08 40 24.2 -0.2

ULHL Ulahol 145.98 49 P PKPdf 08 40 24.9 +1.0
SNR=252
BOD Bodaibo 146.18 357 *e*PKIKP PKPdf 08 40 22.3 -1.9
BOD pmax pmax
comp=Z,171nm,1.0s
GUMO Guam 146.41 258 PKPbc PKPbc 08 40 25.5 -0.6
comp=Z,677nm,1.0s,baz=171,slow=6.6,SNR=10
GUMO pPKPbc pPKPbc 08 40 53.4 -1.2
comp=Z,320nm,1.0s,baz=164,slow=15,SNR=2.8
GUMO Guam 146.41 258 *e*PKPbc PKPbc 08 40 25.2 -0.8
PALK Pallekele 146.49 115 *e*PKPbc PKPbc 08 40 27.4 +1.1
KSH Kashi 146.68 54 PKPR 08 40 27.2
KSH *e*APKP 08 40 54.0
KSH *e*XPKP 08 41 06.4
KSH LR LR
comp=N,506nm,6.8s
KSH LR LR
comp=E,473nm,6.0s
KSH LR LR
comp=Z,534nm,17.7s
AJM Ajmer 147.07 78 *e*P PKPdf 08 40 25.2 -0.5
AJM *e*P 08 40 26.0
LATR Latur 147.44 93 *e*P PKPdf 08 40 25.5 -0.7
MKAR Makanchi Array 147.68 38 PKPbc PKPbc 08 40 26.6 -3.0
comp=Z,197nm,0.9s,baz=327,slow=2.0,SNR=167
MKAR pPKP pPKPdf 08 40 52.0 -3.6
comp=Z,38nm,0.9s,baz=348,slow=3.5,SNR=2.7
MKAR pPKPbc pPKPbc 08 40 57.0 -1.2
comp=Z,95nm,0.8s,baz=321,slow=3.3,SNR=6.9
MKAR Makanchi Array 147.68 38 ⇑*i*PKIKP PKPdf 08 40 26.6 -0.1
THN Thein Dam 147.90 67 *e*P PKPdf 08 40 27.2 +0.2
ERM Erimo 147.90 312 *e*PKIKP PKPdf 08 40 26.7 -0.3
ERM *e* 08 40 30.4
DLH Dalhousie 148.09 67 *e*P PKPdf 08 40 27.0 -0.4
DLH *e*x x 08 40 56.0
AKL Akola 148.41 89 *i* P PKPdf 08 40 29.1 +1.2
AKL *i* x x 08 46 05.7
BHK Bhakra 148.59 69 *e*x x 08 40 32.0
MDRS Chennai 148.91 105 *e*P PKPdf 08 40 29.1 +0.4
MDRS *e*P 08 40 56.1
HYB Hyderabad 148.97 96 *i* PKP PKPdf 08 40 30.0 +1.2
comp=Z,220nm,1.0s
HYB Hyderabad 148.97 96 *e*PKP PKPdf 08 40 30.0 +1.2
HYB *e* 08 41 04.0
SDNR Sundarnagar 149.05 68 *e*P PKPdf 08 40 29.5 +0.6
BHPL Bhopal 149.24 85 *e*P PKPdf 08 40 29.1 -0.1
NDI New Delhi 149.41 74 *e*P PKPdf 08 40 30.6 +1.1
KLR Kul'dur 150.05 332 *e*PKIKP PKPdf 08 40 26.7 -3.8
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,170nm,1.2s
DDI Dehra Dun 150.07 71 *e*x x 08 40 37.0
IRK Irkutsk 151.37 9 *e*PKIKP PKPdf 08 40 32.3 -0.2
IRK *e* 08 41 00.4
IRK *e* 08 41 13.6
IRK *e* 09 04 35.8
IRK pmax pmax
comp=Z,103μm,1.2s
TLY Talaya 151.82 10 *i* PKIKP PKPdf 08 40 33.4 +0.2
TLY *e* 08 41 18.0
TLY *e*PPS 08 57 12.0
TLY *e*SS SS 09 03 36.1 -2.6
TLY pmax pmax
comp=Z,33nm,1.2s
TLY Talaya 151.82 10 *e*PKPdf PKPdf 08 40 32.2 -1.1
TLY *e*PKPbc PKPbc 08 40 40.0 +0.2
TLY *e*PKPab PKPab 08 40 50.2 +1.1
CIT Chita 152.00 357 *e*PKIKP PKPdf 08 40 40.3 +6.8
CIT *e* 08 40 45.9
CIT pmax pmax
comp=Z,357nm,1.1s
PTH Pithoragarh 152.00 72 *e*x x 08 40 42.9
LGTI Lohaghat 152.03 72 *e*x x 08 40 39.3
WMQ Urumqi 152.52 38 *e*PKP PKPdf 08 40 35.6 +1.3
WMQ PKP2 PKPab 08 40 55.0 +3.0
WMQ APKP 08 41 02.0
WMQ PKS 08 44 09.0
WMQ PP PP 08 44 28.0 +3.2
WMQ SKS SKSdf 08 47 31.0 -0.8
WMQ SKKS SKKSac 08 51 06.0 +0.7
WMQ PP PP
comp=Z,310nm,4.9s
WMQ LR LR
comp=N,457nm,28.0s
WMQ LR LR
comp=E,650nm,29.4s
WMQ LR LR
comp=Z,762nm,26.7s
ZAK Zakamensk 153.02 11 *e*PKIKP PKPdf 08 40 35.2 +0.2
ZAK *e* 08 41 04.1
VIS Vishakhapatnam 153.39 98 *e*P PKPdf 08 40 34.3 -1.2
MJAR Matsushiro Arr 153.53 304 PKP PKPdf 08 40 35.5 -0.2
comp=Z,18nm,1.1s,baz=11,slow=0.3,SNR=20
MAJO Matsushiro 153.53 304 *e*PKPdf PKPdf 08 40 35.8 +0.1
MAJO *e*PKPbc PKPbc 08 40 42.7 -0.8
MAJO *e*PKPab PKPab 08 40 56.6 +0.3
MAT Matsushiro 153.53 304 PKP PKPdf 08 40 34.6 -1.1
HIA Hailar 153.91 347 *de*PKIKP PKPdf 08 40 35.1 -1.2
VLA Vladivostok 154.35 323 *e*PKIKP PKPdf 08 40 36.0 -0.9
VLA *i* 08 40 58.3
VLA *e* 08 47 29.3
VLA pmax pmax
comp=Z,81nm,1.4s
MDJ Mudanjiang 154.50 328 PKP PKPdf 08 40 36.6 -0.5
MDJ APKP 08 41 04.5
MDJ PKS 08 44 10.9
MDJ PP PP 08 44 37.1 +1.1
MDJ SKS SKSdf 08 47 33.8 -0.3
MDJ PP PP
comp=Z,306nm,10.3s
MDJ LR LR
comp=Z,283nm,32.8s
KOLN Koldanda 155.07 76 *e*P PKPdf 08 40 37.9 0.0
comp=Z,46nm,1.0s
PSI Prapat 155.86 149 PKP PKPdf 08 40 38.5 -0.5
comp=Z,8.0nm,0.9s,baz=239,slow=3.0,SNR=5.4
PSI pPKP pPKPdf 08 41 05.7 -2.3
comp=Z,72nm,1.0s,baz=207,slow=11,SNR=14
SONM Songino Array 155.97 8 PKP PKPdf 08 40 39.4 +0.3
comp=Z,33nm,1.0s,baz=354,slow=0.5,SNR=112
SONM PKPab PKPab 08 41 06.9 +0.2
comp=Z,23nm,0.9s,baz=328,slow=5.2,SNR=10
GKN Gorkha 155.97 75 *e*P PKPdf 08 40 39.2 +0.1
comp=Z,72nm,1.1s
DMN Daman 156.41 76 *e*P PKPdf 08 40 39.9 +0.2
comp=Z,48nm,1.1s
KKN Kakani 156.55 75 *e*P PKPdf 08 40 39.9 0.0
comp=Z,58nm,1.1s
PKI Pulchoki 156.68 76 *e*P PKPdf 08 40 39.7 -0.3
comp=Z,50nm,1.1s
CN2 Changchun 157.01 333 *e*PKP PKPdf 08 40 39.3 -1.1
CN2 PP PP
comp=Z,200nm,6.0s
BOK Bokaro 157.02 85 *e*P PKPdf 08 40 41.0 +0.5
BOK AMb AMB 08 40 42.9
comp=Z,48nm,1.0s
GUN Gumba 157.07 75 *e*P PKPdf 08 40 40.8 +0.3
comp=Z,74nm,1.0s
KSM Kuching 157.56 178 *e*PKPdf PKPdf 08 40 41.9 +0.8
KSM *e*PKPab PKPab 08 41 14.0 +0.5
KULM Kulim 158.85 150 *e*PKPdf PKPdf 08 40 43.5 +0.8
SNY Shenyang 159.41 333 PKPR 08 40 40.3
SNY APKP 08 41 09.5
SNY PP PP
comp=Z,245nm,6.5s
SNG Songkhla 160.48 148 P PKPdf 08 40 45.0 +0.5
INCN Inchon 161.08 319 *e*PKPdf PKPdf 08 40 44.7 -0.5
LSA Lhasa 161.40 68 PKP PKPdf 08 40 45.6 +0.1
KKM Kota Kinabalu 161.43 196 *e*PKPdf PKPdf 08 40 46.5 +1.0
KKM *e*PKPab PKPab 08 41 30.1 -0.3
GTA Gaotai 161.97 29 PKP PKPdf 08 40 46.9 +0.8
GTA APKP 08 41 14.4
GTA PKP2 PKPab 08 41 33.8 +1.0
GTA PKS 08 44 19.3
GTA PP PP 08 45 19.0 +2.2
GTA SKS SKSdf 08 47 39.7 -1.6
GTA SKKS SKKSac 08 51 56.0 +0.8
GTA SS SS 09 05 25.8 -1.5
GTA PP PP
comp=Z,221nm,7.6s
GTA LR LR
comp=N,291nm,25.9s

GTA LR LR
comp=E,306nm,19.8s
GTA LR LR
comp=Z,475nm,27.4s
SHL Shillong 162.55 81 *ex* x 08 40 36.4
DL2 Dalian 162.66 331 PKP PKPdf 08 40 46.5 -0.3
HHC Hu-ho-hao-te 163.23 359 *e*PKP PKPdf 08 40 47.7 +0.3
HHC PKS 08 44 19.9
HHC PP PP 08 45 25.5 +2.0
HHC SKS SKSdf 08 47 35.0 -7.3
HHC SKKS SKKSac 08 51 59.8 -1.8
HHC PP PP
comp=Z,462nm,8.8s
HHC LR LR
comp=N,244nm,10.6s
HHC LR LR
comp=E,302nm,6.3s
HHC LR LR
comp=Z,409nm,27.5s
BJI Beijing 163.47 346 PKP PKPdf 08 40 46.9 -0.7
BJI SS SS 09 05 45.6 +2.8
BJI LR LR
comp=Z,370nm,45.5s
IMP Imphal 164.40 84 *e*P PKPdf 08 40 49.0 +0.6
LZH Lanzhou 166.48 26 *e*PKP PKPdf 08 40 51.6 +1.4
LZH APKP 08 41 19.8
LZH PP PP 08 45 44.0 +3.6
LZH PPP 08 49 42.0
LZH SKKS SKKSac 08 52 20.1 +2.1
LZH SS SS 09 06 15.0 +1.4
LZH PP PP
comp=Z,260nm,4.9s
LZH Lanzhou 166.48 26 *e*PKP PKPdf 08 40 51.6 +1.4
LZH pPKP pPKPdf 08 41 19.8 +0.6
LZH sPKP 08 41 30.1
TIA Tai'an 166.78 338 ⇓PKP PKPdf 08 40 50.7 +0.3
NST Nakhon Sawan 166.80 127 P PKPdf 08 40 51.0 +0.6
CHG Chiang Mai 167.60 112 ⇓P PKPdf 08 40 51.1 +0.1
comp=Z,26nm,0.9s
CHTO Chiang Mai 167.60 112 *e*PKPdf PKPdf 08 40 51.1 +0.1
CHTO *e*pPKPdf pPKPdf 08 41 19.9 -0.2
CHTO *e*PKPab PKPab 08 41 57.6 0.0
SSE Sheshan 168.58 310 PKP PKPdf 08 40 52.0 +0.3
SSE PP PP 08 45 53.9 +2.8
SSE PP PP
comp=Z,154nm,12.0s
SSE LR LR
comp=N,44nm,25.0s
SSE LR LR
comp=E,363nm,25.0s
SSE LR LR
comp=Z,393nm,25.0s
KKTK Khon Kaen 169.13 133 P PKPab 08 42 04.0 -0.4
NJ2 Nanjing 169.45 321 *e*PKP PKPdf 08 40 52.5 +0.3
NJ2 APKP 08 41 20.5
NJ2 PKP2 PKPab 08 42 04.8 -0.9
NJ2 PP PP 08 45 59.0 +3.5
NJ2 PP PP
comp=Z,1μm,9.8s
NJ2 LR LR
comp=N,670nm,16.6s
NJ2 LR LR
comp=E,500nm,16.8s
NJ2 LR LR
comp=Z,5μm,16.2s
XAN Xi'an 169.87 10 PKP PKPdf 08 40 52.6 +0.2
CD2 Chengdu 170.59 42 *e*PKP PKPdf 08 40 52.0 -0.9
CD2 APKP 08 41 19.0
CD2 PKP2 PKPab 08 42 11.3 +0.5
CD2 PP PP 08 46 02.1 +0.9
CD2 SKS SKSdf 08 47 44.1 -2.5
CD2 SKKS SKKSac 08 52 38.0 -0.2
CD2 SS SS 09 06 52.7 -1.9
CD2 PP PP
comp=Z,270nm,10.4s
CD2 LR LR
comp=N,140nm,20.4s
CD2 LR LR
comp=Z,160nm,24.0s
KMI Kunming 172.38 80 PKP PKPdf 08 40 54.0 +0.3
WHN Wuhan 172.88 336 PKP PKPdf 08 40 54.1 +0.2
WHN APKP 08 41 23.3
WHN PP PP 08 46 09.8 -2.7
WHN PP PP
comp=Z,1μm,6.8s
QZH Quanzhou 173.06 279 *i* PKP PKPdf 08 40 53.8 -0.2
QZH PKP2 PKPab 08 42 23.2 +1.5
QZH PP PP 08 46 12.5 -0.9
QIZ Qiongzhong 174.89 167 PKP PKPdf 08 40 55.7 +1.1
QIZ PKP2 PKPab 08 42 30.9 +1.0
QIZ PP PP 08 46 26.0 +3.7
QIZ PP PP
comp=Z,332nm,7.5s
GYA Guiyang 175.37 58 *i* PKP PKPdf 08 40 54.8 0.0
GYA APKP 08 41 21.8
GYA PP PP
comp=Z,270nm,9.2s
GYA LR LR
comp=N,1μm,23.9s
GYA LR LR
comp=E,2μm,25.1s
GYA LR LR
comp=Z,2μm,24.8s

CASC 07 08:22:13.5±2.4, 900N×8283W, h14km±9km, MD3.6, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.32**	**126**	⇑*e*P	Pg	08 22 21.4	+1.3
BRU				*e*S	Sg	08 22 26.4	+1.8
CNI	**Changuinola**	**0.52**	**36**	⇑*i*P	Pg	08 22 24.2	+0.5
CNI				⇓*i*P		08 22 24.8	
CNI				*e*S	Sg	08 22 29.3	-1.2
CNI				*e*S	Sg	08 22 31.2	+0.6
DVD	**David**	**0.67**	**146**	*e*P	Pg	08 22 25.6	-1.0
DVD				*e*S	Sg	08 22 35.8	+0.4
BUS	**Buena Vista**	**1.07**	**301**	*e*P	Pb	08 22 33.4	-0.5
BUS				*e*S	Sb	08 22 47.8	+0.1
LAJ	**Bijagual**	**1.54**	**304**	*e*P	Pn	08 22 45.9	+5.3
LAJ				*e*S	Sn	08 23 09.5	+9.2
PRS1	**Puriscal**	**1.76**	**304**	*e*P	Pn	08 22 44.3	+0.7
PRS1				*e*S	Sn	08 23 06.6	+0.9
CGA2	**Cerro Gallo 2**	**1.91**	**302**	*e*P	Pn	08 22 45.8	+0.3
CGA2				*e*S	Sn	08 23 11.1	+1.7

CASC 07 08:27:09.2±3.2, 921N×8307W, h0km±10km, MD4.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.58**	**69**	*e*P	Pg	08 27 12.7	-7.7
CNI				*e*S	Sg	08 27 19.0	-9.0
BUS	**Buena Vista**	**0.76**	**297**	*e*P	Pg	08 27 23.2	-0.6
BUS				*e*S	Sg	08 27 37.9	+4.2
DVD	**David**	**0.98**	**141**	*e*P	Pg	08 27 29.7	+1.6
OCM	**Ochomogo**	**1.11**	**308**	*e*P	Pg	08 27 29.5	-1.0
OCM				*e*S	Sg	08 27 48.2	+3.2
LAJ	**Bijagual**	**1.22**	**302**	*e*P	Pg	08 27 36.8	+4.1
LAJ				*e*S	Sg	08 28 00.4	+12
PRS1	**Puriscal**	**1.45**	**302**	*e*P	Pn	08 27 35.1	-1.5
PRS1				*e*S	Sg	08 27 56.8	+1.1
POA2	**Poas 2**	**1.51**	**310**	*e*P	Pn	08 27 40.0	+2.5
POA2				*e*S	Sg	08 27 59.0	+1.2
CGA2	**Cerro Gallo 2**	**1.59**	**300**	*e*P	Pn	08 27 37.7	-0.9
CGA2				*e*S	Sn	08 28 01.1	+1.2
EPA	**Esparza**	**1.69**	**297**	*e*P	Pn	08 27 41.2	+1.3
EPA				*e*S	Sn	08 28 04.9	+2.5

*CSEM **07** 08:45:32.5, 4273N×4553E, h10km, mb4.0, After OBN*
MOS 07 08:45:32.5±1.1, 4273N×4553E, h10km, mb4.0/1, Error ellipse: s-maj=13.5km s-min=6.9km az=22.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**97**	PG	Pg	08 45 43.0	+0.4
BTLR				*e*S	Sg	08 45 50.0	+0.6
SNJR	**Sundja**	**0.62**	**303**	*i* Pg	Pg	08 45 47.9	+3.3
SNJR				*i* Sg	Sg	08 46 00.0	+7.3

DLMR	**Dylym**	**0.88 67**	*e*PG	Pg	08 45 49.0	-0.4
DLMR			*e*S	Sg	08 46 01.5	+0.7
XNZR	**Khunzakh**	**0.89 102**	PG	Pg	08 45 50.0	+0.4
XNZR			*e*S	Sg	08 46 02.0	+0.8
XNZR			pmax	pmax		
	comp=Z,27nm,0.3s					
XNZR	**Khunzakh**	**0.89 102**	Pg	Pg	08 45 50.0	+0.4
	comp=Z,27nm,0.3s					
XNZR			*e*Sg	Sg	08 46 02.0	+0.8
LACR	**Lac**	**0.91 276**	*i* Pg	Pg	08 45 50.4	+0.4
LACR			*i* Sg	Sg	08 46 04.3	+2.4
UNCR	**Uncukul**	**0.93 91**	*e*PG	Pg	08 45 50.0	-0.5
UNCR			*e*S	Sg	08 46 03.0	+0.4
UNCR			pmax	pmax		
	comp=Z,50nm,0.2s					
UNCR	**Uncukul**	**0.93 91**	*e*Pg	Pg	08 45 50.0	-0.5
	comp=Z,50nm,0.2s					
UNCR			*e*Sg	Sg	08 46 03.0	+0.4
DBC	**Dubki**	**1.00 73**	*e*PG	Pg	08 45 52.0	+0.3
DBC			*i* S	Sg	08 46 06.0	+1.3
KRNR	**Karanay**	**1.02 84**	*e*PG	Pg	08 45 52.7	+0.6
KRNR			*e*S	Sg	08 46 08.7	+3.3
KRNR			pmax	pmax		
	comp=Z,50nm,0.2s					
KRNR	**Karanay**	**1.02 84**	*e*Pg	Pg	08 45 52.7	+0.6
	comp=Z,50nm,0.2s					
KRNR			*e*Sg	Sg	08 46 08.7	+3.3
ARNR	**Ardon**	**1.02 297**	*e*Pg	Pg	08 45 52.4	+0.2
ARNR			*i* Sg	Sg	08 46 07.9	+2.4
KMSR	**Komsomolskaya**	**1.11 306**	*e*Pg	Pg	08 45 53.7	-0.1
KMSR			*i* Sg	Sg	08 46 10.1	+1.9
KORR	**Kora**	**1.13 289**	*e*Pg	Pg	08 45 53.5	-0.7
KORR			*i* Sg	Sg	08 46 09.7	+0.8
TRKR	**Terskaya**	**1.15 330**	*i* Pg	Pg	08 45 54.8	+0.2
TRKR			*i* Sg	Sg	08 46 12.1	+2.6
BUJR	**Buynaksk**	**1.17 85**	PG	Pg	08 45 55.5	+0.6
BUJR			*e*S	Sb	08 46 13.5	+3.6
BUJR			pmax	pmax		
	comp=Z,39nm,0.2s					
BUJR	**Buynaksk**	**1.17 85**	Pg	Pg	08 45 55.5	+0.6
	comp=Z,39nm,0.2s					
BUJR			*e*Sg	Sg	08 46 13.5	+3.4
ZEI	**Tsey**	**1.20 272**	*e*PG	Pg	08 45 55.3	-0.3
ZEI			*e*		08 46 12.9	
ZEI			pmax	pmax		
	comp=Z,24nm,0.2s					
ZEI			smax			
	comp=N,57nm,0.2s					
ZEI	**Tsey**	**1.20 272**	*e*Pg	Pg	08 45 55.3	-0.3
	comp=N,24nm,0.2s					
ZEI			*e*Sg	Sg	08 46 12.9	+1.8
	comp=N,57nm,0.2s					
KMKR	**Kumukh**	**1.31 117**	*e*PG	Pg	08 45 57.0	-0.7
KMKR			*i* S	Sb	08 46 17.0	+3.0
KMKR			pmax	pmax		
	comp=Z,31nm,0.7s					
KMKR	**Kumukh**	**1.31 117**	*e*Pg	Pg	08 45 57.0	-0.7
	comp=Z,31nm,0.7s					
KMKR			*i* Sg	Sg	08 46 17.0	+2.3
PRTR	**Priterechnaya**	**1.36 319**	*e*Pg	Pg	08 45 57.4	-1.3
PRTR			*i* Sg	Sg	08 46 16.4	0.0
DIGR	**Digorskoe uzhe**	**1.44 277**	*e*Pg	Pg	08 45 57.2	-3.0
DIGR			*i* Sg	Sg	08 46 16.1	-2.8
GOF	**Gofitskoye**	**2.94 323**	*e*Pn	Pn	08 46 18.2	-1.1

IDC 07 08:57:35.2±8.7, 774S×12896E, h151km±94km, mb3.4/1, mb1 3.6/4, mb1mx3.3/13, mbtmp3.9/4, Error ellipse: s-maj=64.6km s-min=39.1km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.80**	**197**	P	Pn	09 00 05.6	0.0
	0.8nm,0.3s,baz=29,slow=12,SNR=31						
FITZ				S	Sn	09 02 02.5	-2.5
	0.9nm,0.3s,baz=290,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**13.21**	**157**	P	Pn	09 00 38.0	+1.1
	1.0nm,0.3s,baz=343,slow=12,SNR=60						
WRA				S	Sn	09 03 00.2	-2.7
	0.4nm,0.3s,baz=340,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**16.53**	**164**	P	Pn	09 01 20.2	+1.9
	0.4nm,0.3s,baz=337,slow=9.9,SNR=29						
ASAR				S	S	09 04 24.3	+2.2
	0.2nm,0.3s,baz=336,slow=18,SNR=4.1						
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	09 08 19.6	-0.1
	0.5nm,0.4s,baz=116,slow=7.6,SNR=5.8						

*ISCJB **07** 08:58:31.2±0.4, 3939N±002×2390E±003, h18km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=176.7*
*NEIC **07** 08:58:31.0, 3939N×2392E, h29km, ML3.1(ATH), After ATH.*
*ATH **07** 08:58:31.0, 3939N×2392E, h29km±1km, MD3.3/11, ML3.1*
*CSEM **07** 08:58:31.9±0.1, 3938N×2391E, h20km, ML2.7, Error ellipse: s-maj=2.8km s-min=2.5km az=99.0*
*THE **07** 08:58:31.8, 3936N×2391E, h20km, ML2.7*
ISC 07 08:58:31.0±0.4, 3942N±002×2390E±003, h15km±3km, n41, σ1$04/67, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.25**	**183**	*e*Pg	**Pg**	**08 58 35.8**	**-0.6**
AOS				*e*Sg	**Sg**	**08 58 38.9**	**-1.2**
NEO	**Neokhori**	**0.54**	**258**	*e*PN	**Pg**	**08 58 42.5**	**+1.0**
NEO				*e*SN	**Sg**	**08 58 50.5**	**+1.8**
XOR	**Xorichti**	**0.55**	**265**	*e*Pg	**Pg**	**08 58 43.2**	**+1.4**
XOR				*e*Sg	**Sg**	**08 58 51.3**	**+2.2**
OUR	**Ouranopolis**	**0.92**	**4**	*e*Pg	**Pg**	**08 58 49.8**	**+1.1**
OUR				*e*Sg	**Sg**	**08 59 03.5**	**+2.8**
PLG	**Polygyros**	**1.01**	**340**	*e*Pg	**Pg**	**08 58 51.2**	**+0.6**
PLG				*e*Sg	**Sg**	**08 59 04.8**	**+1.0**
PLG	**Polygyros**	**1.01**	**340**	*e*PN	**Pn**	**08 58 50.8**	**+0.1**
PLG				*e*SN	**Sn**	**08 59 05.1**	**+0.4**
PLG	**Polygyros**	**1.01**	**340**	*e*Pg	**Pg**	**08 58 51.2**	**+0.6**
PLG				*e*Sg	**Sg**	**08 59 04.8**	**+1.0**
PLG				*e*SN	**Sn**	**08 59 05.1**	**+0.4**
LKR	**Lokris**	**1.04**	**223**	*e*PN	**Pn**	**08 58 50.5**	**-0.5**
LKR				*e*SN	**Sn**	**08 59 05.2**	**-0.1**
LKR	**Lokris**	**1.04**	**223**	*e*Pn	**Pn**	**08 58 50.3**	**-0.7**
LKR				*e*Sn	**Sn**	**08 59 05.2**	**-0.1**
LOS	**Limnos**	**1.05**	**60**	*e*Pg	**Pg**	**08 58 51.5**	**+0.3**
LOS				*e*Sg	**Sg**	**08 59 04.8**	**-0.1**
LIA	**Limnos Island**	**1.10**	**64**	*e*PN	**Pn**	**08 58 51.9**	**0.0**
LIA				*e*SN	**Sn**	**08 59 06.9**	**+0.1**
LIT	**Litokhoron**	**1.28**	**303**	*e*Pg	**Pg**	**08 58 55.1**	**-0.5**
LIT				*e*Sg	**Sg**	**08 59 10.8**	**-1.5**
AGG	**Agios Georgios**	**1.28**	**252**	*e*Pg	**Pg**	**08 58 54.4**	**-1.3**
AGG				*e*Sg	**Sg**	**08 59 09.6**	**-2.7**
HORT	**Hortiatis**	**1.33**	**333**	*e*Pg	**Pg**	**08 58 56.1**	**-0.4**
HORT				*e*Sg	**Sg**	**08 59 13.4**	**-0.4**
PTL	**Penteli**	**1.37**	**181**	*e*PN	**Pn**	**08 58 55.5**	**-0.1**
PTL	**Penteli**	**1.37**	**181**	*e*Pn	**Pn**	**08 58 56.0**	**+0.4**
THE	**Thessaloniki**	**1.41**	**330**	*e*Pg	**Pn**	**08 58 55.8**	**-0.3**
THE				*e*Sg	**Sg**	**08 59 16.0**	**-0.3**
ATH	**Athens Observa**	**1.45**	**186**	*e*PN	**Pn**	**08 58 56.9**	**+0.2**
ATH				*e*SN	**Sn**	**08 59 15.3**	**-0.2**
ATH	**Athens Observa**	**1.45**	**186**	*e*Pn	**Pn**	**08 58 57.9**	**+1.2**
ATH				*e*Sn	**Sn**	**08 59 14.9**	**-0.6**
SOH	**Sokhos**	**1.46**	**344**	*e*Pg	**Pg**	**08 58 57.8**	**-1.2**
SOH				*e*Sg	**Sg**	**08 59 16.7**	**-1.3**
THL	**Klokotos Trika**	**1.46**	**276**	⇓*i*PN	**Pn**	**08 58 57.4**	**+0.5**
MGER	**Gerania Oros**	**1.52**	**199**	*e*PN	**Pn**	**08 58 58.1**	**+0.5**
MGER	**Gerania Oros**	**1.52**	**199**	*e*Pn	**Pn**	**08 58 58.2**	**+0.6**
KVR	**Kavouri**	**1.59**	**184**	*e*Pn	**Pb**	**08 59 00.5**	**+0.4**
NAIG	**Nisos Aigina**	**1.69**	**191**	*e*PB	**Pn**	**08 58 59.5**	**-0.5**
EVR	**Evrytania**	**1.70**	**253**	*e*PN	**Pn**	**08 59 01.2**	**+1.1**
EVR	**Evrytania**	**1.70**	**253**	*e*Pn	**Pn**	**08 59 01.4**	**+1.3**
SRS	**Serrai**	**1.71**	**352**	*e*Pb	**Pb**	**08 59 01.0**	**-1.1**
SRS				*e*Sb	**Sb**	**08 59 22.3**	**-1.2**
PRK	**Paraskevi**	**1.85**	**95**	*i* PN	**Pn**	**08 59 02.9**	**+0.7**
PRK	**Paraskevi**	**1.85**	**95**	*i* Pn	**Pn**	**08 59 03.0**	**+0.8**
KNT	**Kendrikon**	**1.90**	**337**	*e*Pb	**Pn**	**08 59 03.0**	**+0.1**
KNT				*e*Sb	**Sb**	**08 59 27.2**	**-1.7**
GRG	**Griva**	**1.92**	**324**	*e*Pb	**Pb**	**08 59 04.4**	**-1.2**
GRG				*e*Sb	**Sb**	**08 59 27.9**	**-1.4**
NVR	**Nevrokopi**	**1.93**	**359**	*e*PN	**Pn**	**08 59 04.2**	**+1.0**
CHOS	**Chios island**	**1.98**	**121**	*e*Pb	**Pn**	**08 59 04.2**	**+0.3**
CHOS				*e*Sb	**Sn**	**08 59 27.6**	**-0.8**
MEV	**Metsovon**	**2.09**	**281**	*e*Pn	**Pn**	**08 59 06.6**	**+1.1**
MMB	**Musomiste**	**2.17**	**357**	*e*Pn	**Pn**	**08 59 07.3**	**+0.7**
MMB				*e*Sn	**Sn**	**08 59 33.7**	**+0.5**
ALN	**Alexandroupoli**	**2.21**	**47**	*e*Pn	**Pn**	**08 59 07.4**	**+0.2**
ALN				*e*Sn	**Sn**	**08 59 35.4**	**+1.1**
FNA	**Florina**	**2.37**	**306**	*e*Pn	**Pn**	**08 59 08.6**	**-0.7**
LKD	**Levkas**	**2.63**	**255**	*e*Pn	**Pn**	**08 59 15.2**	**+2.4**
APE	**Apeiranthos**	**2.68**	**151**	*e*Pn	**Pn**	**08 59 12.8**	**-0.8**
APE				*e*Sn	**Sn**	**08 59 43.3**	**-2.4**
VLI	**Veliai**	**2.80**	**196**	*e*PN	**Pn**	**08 59 15.7**	**+0.4**

IDC 07 09:11:25.7±1.8, 188N×12606E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=172.9km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.15**	**160**	P	P	09 16 33.8	+0.2
	1.5nm,0.5s,baz=338,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.51**	**164**	P	P	09 17 05.5	+0.7
	0.3nm,0.7s,baz=348,slow=7.2,SNR=5.1						
ASAR				PcP	PcP	09 20 29.6	-0.1
	0.3nm,0.5s,baz=345,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**58.70**	**326**	P	P	09 21 25.2	+0.2
	0.3nm,0.3s,baz=122,slow=8.7,SNR=6.0						

IDC 07 09:12:54.9±1.0, 039S×12501E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=125.1km s-min=18.5km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**155**	P	P	09 17 44.5	-0.5
	1.5nm,0.9s,baz=337,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**24.70**	**160**	P	P	09 18 19.0	+1.4
	0.4nm,0.5s,baz=342,slow=8.8,SNR=4.5						
STKA	**Stephens Creek**	**35.03**	**155**	P	P	09 19 49.2	0.0
	1.5nm,0.8s,baz=330,slow=10,SNR=4.3						
SONM	**Songino Array**	**50.69**	**344**	P	P	09 21 57.9	+1.8
	1.5nm,0.8s,baz=151,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	**60.01**	**327**	P	P	09 23 03.0	-0.3
	0.4nm,0.3s,baz=118,slow=8.3,SNR=6.9						
AKTO	**Aktyubinsk**	**75.83**	**323**	P	P	09 24 41.9	-1.0
	1.9nm,0.7s,baz=98,slow=7.1,SNR=4.6						

CASC 07 09:42:54.9±1.5, 947N×8237W, h22km±4km, MD3.9, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.15**	**250**	⇓*i*P	Pb	09 42 59.5	-0.2
CNI				*e*S	Sb	09 43 03.5	+0.6
BRU	**Baru**	**0.69**	**196**	*e*P	Pb	09 43 07.9	-0.3
BRU				*e*S	Sb	09 43 19.5	+2.3
DVD	**David**	**1.03**	**184**	⇓*i*P	Pn	09 43 13.4	-0.6
DVD				*e*S	Sb	09 43 28.4	+1.3
BUS	**Buena Vista**	**1.37**	**274**	⇑*e*P	Pn	09 43 18.7	0.0
BUS				*e*S	Sn	09 43 37.6	+1.4
LAJ	**Bijagual**	**1.77**	**283**	*e*P	Pn	09 43 30.8	+6.7
PRS1	**Puriscal**	**1.98**	**285**	⇑*e*P	Pn	09 43 28.1	+1.1
CGA2	**Cerro Gallo 2**	**2.13**	**285**	*e*P	Pn	09 43 30.2	+1.0
CGA2				*e*S	Sn	09 43 57.0	+2.0
AZU	**Azuero**	**2.66**	**129**	*e*P	Pn	09 43 36.4	-0.1
AZU				*e*S	Sn	09 44 08.1	+0.2

JMA 07 09:43:02.3±0.1, 4035N×14207E, h49km±1km, M3.5, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.42**	**273**	⇓P	Pn	09 43 12.6	0.0
JANG				S	Sn	09 43 19.8	-0.1
JTH	**Tanohata**	**0.44**	**201**	⇑P	Pn	09 43 12.9	+0.1
JTH				S	Sn	09 43 20.2	-0.1
JKZ	**Kuzumaki**	**0.68**	**237**	⇓P	Pn	09 43 16.0	+0.3
JKZ				S	Sn	09 43 25.6	+0.3
JTM	**Tenmabayashi**	**0.88**	**300**	⇓P	Pn	09 43 18.0	-0.4
JTM				S	Sn	09 43 29.4	-0.7
JOM	**Ohasama**	**1.06**	**215**	⇓P	Pn	09 43 21.1	+0.3
JOM				S	Sn	09 43 34.6	+0.1
JAH	**Hinai**	**1.11**	**262**	⇓P	Pn	09 43 21.6	+0.2
JAH				S	Sn	09 43 35.9	+0.3
JOT	**Ohata**	**1.29**	**323**	P	Pn	09 43 23.6	-0.3

NEIC 07 09:46:51.1, 4446S×16825E, h4km, ML4.8(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.31**	**227**	*e*P	Pg	09 46 57.5	+0.3
MSZ				S	Sg	09 47 01.6	+0.3
JCZ	**Jackson Bay**	**0.53**	**44**	P	Pg	09 47 02.0	+0.7
JCZ				S	Sg	09 47 09.3	+1.1
WKZ	**Wanaka**	**0.66**	**124**	*e*P	Pg	09 47 04.4	+0.6
EAZ	**Earnscleugh**	**1.08**	**136**	P	Pg	09 47 11.7	-0.1
EAZ				S	Sg	09 47 25.4	-0.4

*GII **07** 10:05:28.8±1.4, 3383N×3580E, h0km, ML2.3/6*
*ISCJB **07** 10:05:29.5±0.8, 3385N±003×3586E±007, h10km, Error ellipse: s-maj=8.4km s-min=4.6km az=170.5*
*GRAL **07** 10:05:31.2±2.5, 3377N×3576E, h10km±25km, MD3.0*
ISC 07 10:05:29.4±1.0, 3385N±003×3590E±007, h2km±5km, n15, σ0$97/27, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.21**	**284**	*i* Pg	**Pg**	**10 05 33.3**	**-0.2**
BHL				*i* Sg	**Sg**	**10 05 36.7**	**+0.4**
RCY	**Rachaya**	**0.37**	**190**	*i* Pg	**Pg**	**10 05 35.8**	**-0.7**
RCY				*i* Sg	**Sg**	**10 05 41.1**	**-0.3**
HWQ	**Hawqa**	**0.43**	**5**	*i* Pg	**Pg**	**10 05 39.9**	**+2.3**
HWQ				*i* Sg	**Sg**	**10 05 49.7**	**+6.6**
HRI	**Mount Hermon**	**0.60**	**193**	Pg	**Pg**	**10 05 40.5**	**-0.4**
KSDI	**Kefar Szold**	**0.69**	**197**	Pg	**Pg**	**10 05 41.9**	**-0.7**
KSDI				Sg	**Sg**	**10 05 53.0**	**+1.4**
KSHT	**Keshet**	**0.87**	**185**	Pg	**Pg**	**10 05 46.1**	**0.0**
KSHT				Sg	**Sg**	**10 05 58.8**	**+1.4**
MMA1	**Mount Meron ar**	**0.93**	**206**	Pg	**Pg**	**10 05 46.0**	**-1.2**
MMA1				Sg	**Sg**	**10 06 00.3**	**+1.0**
MMB1	**Mount Meron ar**	**0.93**	**206**	Pg	**Pg**	**10 05 46.0**	**-1.2**
MMA4	**Mount Meron ar**	**0.93**	**207**	Pg	**Pg**	**10 05 46.2**	**-1.1**
MMA4				Sg	**Sg**	**10 06 01.0**	**+1.5**
HNTI	**Hanita**	**0.98**	**219**	Pg	**Pg**	**10 05 47.3**	**-0.9**
HNTI				Sg	**Sg**	**10 06 00.6**	**-0.2**
OFRI	**'Ofer**	**1.45**	**212**	Pn	**Pn**	**10 05 55.0**	**-1.6**
OFRI				Sn	**Sn**	**10 06 16.1**	**0.0**
MMLI	**Mount Malkishu**	**1.47**	**196**	Pn	**Pn**	**10 05 56.5**	**-0.3**
MMLI				Sn	**Sn**	**10 06 17.6**	**+1.0**
HMDT	**Nahal Hemdat**	**1.62**	**191**	Pn	**Pn**	**10 05 58.5**	**-0.5**
HMDT				Sn	**Sn**	**10 06 20.2**	**-0.3**
SLTI	**Sal'it**	**1.76**	**204**	Pn	**Pn**	**10 06 00.2**	**-0.7**
SLTI				Sn	**Sn**	**10 06 24.6**	**+0.8**
DRGI	**Dragot**	**2.29**	**191**	Pn	**Pn**	**10 06 09.2**	**+1.0**

CASC 07 10:09:38.5±1.8, 1030N×8628W, h0km±6km, MD3.7, ML2.8, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.66**	**105**	*e*P	Pg	10 09 52.9	+1.8
RIN3	**Volcan Rincon**	**1.01**	**61**	⇑*e*P	Pg	10 09 57.8	0.0
SSNN	**San Juan del S**	**1.06**	**23**	⇑*e*P	Pg	10 09 59.2	+0.3
LIM1	**Limonal**	**1.08**	**68**	⇑*i*P	Pg	10 09 59.0	-0.2
LIM1				*e*S	Sg	10 10 14.3	+1.1
JCR	**Jicaral**	**1.23**	**111**	*e*P	Pg	10 10 01.4	-0.7
CAO	**Cobano**	**1.30**	**117**	*e*P	Pg	10 10 02.8	-0.6
CONN	**Concepcion**	**1.41**	**27**	*e*P	Pn	10 10 04.4	-1.0
TICN	**Ticuantepe**	**1.72**	**1**	*e*P	Pn	10 10 10.0	+0.3
CGA2	**Cerro Gallo 2**	**1.80**	**99**	*e*P	Pn	10 10 10.4	-0.4
MGAN	**Managua**	**1.83**	**1**	*e*P	Pn	10 10 11.9	+0.6
MGAN				*e*S	Sn	10 10 37.3	+2.2
MGAN				*i*		10 10 39.9	
	comp=N,96nm,0.5s						
XAVN	**Gruta Xavier**	**1.84**	**358**	*e*P	Pn	10 10 11.6	+0.3
COPN	**Copaltepe**	**1.89**	**351**	*e*P	Pn	10 10 10.8	-1.3
PRS1	**Puriscal**	**1.96**	**99**	*e*P	Pn	10 10 12.0	-1.0
LAJ	**Bijagual**	**2.17**	**101**	*e*P	Pn	10 10 10.1	-5.7
LEON	**Leon**	**2.19**	**344**	*e*P	Pn	10 10 15.8	-0.3
OCM	**Ochomogo**	**2.31**	**100**	*e*P	Pn	10 10 20.5	+2.7
BUS	**Buena Vista**	**2.59**	**106**	*e*P	Pn	10 10 22.8	+1.2

*ISCJB **07** 10:17:28.4±2.4, 580S±009×15106E±006, h20km±17km, mb4.6/16, MS3.9/5, Error ellipse: s-maj=15.5km s-min=9.1km az=132.1*
*IDC **07** 10:17:33.6±1.6, 589S×15101E, h46km±13km, mb4.5/11, mb1 4.7/14, mb1mx4.6/17, mbtmp4.8/14, ML3.8/3, MS3.9/8, Ms1 3.9/8, ms1mx3.6/25, Error ellipse: s-maj=15.6km s-min=10.1km az=144.0*
*NEIC **07** 10:17:34.2±1.1, 587S×15104E, h55km±9km, mb4.7/7, Error ellipse: s-maj=10.2km s-min=6.8km az=177.0*
ISC 07 10:17:34.4±1.3, 588S±009×15103E±006, h53km±11km, n42, σ0$72/41, mb4.6/16, MS3.9/5, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**227**	P	**Pn**	**10 18 50.1**	**+0.6**
	17nm,0.3s,baz=45,slow=5.8,SNR=29						
PMG				S	**Sn**	**10 19 47.8**	**-0.3**
	23nm,0.3s,baz=102,slow=19,SNR=8.9						
PMG				LR	LR	10 20 45.8	
	comp=Z,902nm,21.9s,baz=51,slow=37						
HNR	**Honiara**	**9.51**	**112**	P	**Pn**	**10 19 48.4**	**-0.2**
	7.3nm,0.3s,baz=269,slow=6.1,SNR=12						
HNR				LR	LR	10 22 58.9	
	comp=Z,640nm,21.3s,baz=0.1,slow=34						
CTA	**Charters Tower**	**14.87**	**198**	*e*P	**Pn**	**10 21 06.9**	**+5.6**
	11nm,1.3s						
CTA	**Charters Tower**	**14.87**	**198**	P	**Pn**	**10 21 02.6**	**+1.3**
	0.1nm,0.3s,baz=12,slow=17,SNR=2.7						
CTA				LR	LR	10 26 03.5	
	comp=Z,303nm,21.9s,baz=34,slow=34						
CTA	**Charters Tower**	**14.87**	**198**	P	**Pn**	**10 21 02.6**	**+1.3**
CTA				*e*P		10 21 06.9	
CTA				LR	LR	10 26 03.5	
KAKA	**Kakadu**	**19.55**	**248**	*e*P	**Pn**	**10 21 57.6**	**-1.8**
	31nm,0.7s						
GUMO	**Guam**	**20.29**	**342**	LR	LR	10 28 06.8	
	comp=Z,317nm,19.1s,MS3.7,baz=19,slow=31						
WB2	**Warramunga Arr**	**21.41**	**228**	*e*P	**P**	**10 22 17.5**	**-0.2**
WB2				*e*S	**S**	**10 26 11.1**	**-1.1**
WRA	**Warramunga Arr**	**21.42**	**228**	P	**P**	**10 22 18.1**	**+0.3**
	21nm,0.6s,mb4.6,baz=53,slow=10,SNR=173						
WRA				S	**S**	**10 26 12.4**	**-0.1**
	15nm,1.1s,baz=54,slow=19,SNR=16						
WRA				PcP	PcP	10 26 20.5	+1.0
	5.9nm,0.8s,baz=45,slow=1.9,SNR=11						
WRA				ScP	ScP	10 29 54.4	+2.3
	3.4nm,1.0s,baz=49,slow=2.8,SNR=9.9						
WRA	**Warramunga Arr**	**21.42**	**228**	P	**P**	**10 22 18.1**	**+0.3**
WRA				S	**S**	**10 26 12.3**	**-0.1**
WRA				PcP	PcP	10 26 20.5	+1.0
WRA				ScP	ScP	10 29 54.4	+2.3
DZM	**Mont Dzumac**	**21.93**	**139**	P	**P**	**10 22 22.7**	**-0.6**
	9.5nm,0.6s,mb4.4,baz=296,slow=19,SNR=17						
DZM				LR	LR	10 29 43.0	
	comp=Z,615nm,20.4s,MS4.0,baz=31,slow=33						
AS31	**Alice Springs**	**24.17**	**221**	*e*P	**P**	**10 22 46.2**	**+0.6**
AS31				*e*S	**S**	**10 27 07.4**	**+7.3**
ASAR	**Alice Springs**	**24.18**	**221**	P	**P**	**10 22 46.1**	**+0.5**
	38nm,0.7s,mb4.9,baz=57,slow=9.2,SNR=255						
ASAR				S	**S**	**10 27 01.9**	**+1.7**
	0.5nm,0.7s,baz=35,slow=18,SNR=3.6						
ASAR				ScP	ScP	10 30 01.9	+2.6
	1.9nm,0.9s,baz=40,slow=2.7,SNR=9.2						
ASPA	**Alice Springs**	**24.18**	**221**	*e*P	**P**	**10 22 46.2**	**+0.5**
ASPA				*e*S	**S**	**10 27 07.4**	**+7.2**
ARMA	**Armidale**	**24.41**	**179**	*e*P	**P**	**10 22 48.0**	**+0.2**
STKA	**Stephens Creek**	**27.33**	**198**	*e*P	**P**	**10 23 13.5**	**-0.7**
	12nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**27.33**	**198**	P	**P**	**10 23 13.6**	**-0.6**
	14nm,0.8s,mb4.5,baz=5.0,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**27.60**	**242**	*e*P	**P**	**10 23 17.5**	**+0.9**
	15nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**27.60**	**242**	P	**P**	**10 23 17.5**	**+0.9**
	6.9nm,0.4s,mb4.6,baz=69,slow=7.7,SNR=39						
TOO	**Toolangi**	**31.95**	**188**	*e*P	**P**	**10 23 55.0**	**-0.1**
	9.3nm,0.8s,mb4.7						
RAO	**Raoul Island**	**37.41**	**132**	P	**P**	**10 24 42.7**	**+0.4**
	199nm,0.3s,baz=90,slow=20,SNR=3.3						
URZ	**Urewera**	**39.99**	**147**	P	**P**	**10 25 03.3**	**-0.5**
	5.8nm,0.4s,mb4.6,baz=279,slow=2.0,SNR=8.7						
KLBR	**Kellerberrin**	**40.29**	**226**	*e*P	**P**	**10 25 05.8**	**-0.5**
	13nm,0.7s,mb4.8						
RPZ	**Rata Peaks**	**41.60**	**158**	P	**P**	**10 25 17.3**	**+0.2**
	28nm,1.1s,mb4.8,baz=288,slow=9.0,SNR=5.8						
MUN	**Mundaring**	**41.61**	**227**	*e*P	**P**	**10 25 18.2**	**+1.0**
SONM	**Songino Array**	**66.31**	**329**	P	**P**

ASAR	**Alice Springs**	**17.87 168**	P	Pn	10 27 24.0	-1.6
	0.2nm,0.3s,baz=345,slow=10,SNR=6.9					
MKAR	**Makanchi Array**	**67.39 327**	P	P	10 34 13.0	+0.2
	0.3nm,0.3s,baz=142,slow=5.4,SNR=4.4					

ISCJB ***07*** *10:42:31.9±1.2,37.11N±007×717E±02,h160km±20km, Error ellipse: s-maj=23.4km s-min=5.9km az=124.9*
NNC ***07*** *10:42:38.8±2.2,3797N×7084E,h0km,mb3.6,mpv4.3, Error ellipse: s-maj=22.9km s-min=16.6km az=95.0*
ISC 07 10:42:33.2±1.2,3712N±007×718E±02,h151km±18km,n20, σ0§48/26,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.22**	**16**	P	**Pn**	**10 43 49.3**	**-0.1**
	SNR=59						
UCH	**Uchtor**	**5.52**	**21**	P	**Pn**	**10 43 53.5**	**+0.1**
	SNR=26						
KZA	**Kyzart**	**5.62**	**27**	P	**Pn**	**10 43 54.6**	**-0.2**
	SNR=5.9						
THN	**Thein Dam**	**5.67**	**144**	*e*P	**Pn**	**10 43 55.9**	**+0.4**
THN				*e*S	**Sn**	**10 45 00.0**	**+0.1**
EKS2	**Erkin-Say**	**5.74**	**15**	P	**Pn**	**10 43 56.6**	**+0.2**
	SNR=25						
AAK	**Ala-Archa**	**5.89**	**20**	P	**Pn**	**10 43 58.8**	**+0.5**
	SNR=47						
KK31	**Karatay Array**	**6.06**	**351**	Pn	**Pn**	**10 43 59.6**	**-1.0**
	13nm,0.3s,baz=175,slow=13,SNR=285						
KK31				⇓Sn	**Sn**	**10 45 03.5**	**-5.6**
	9.2nm,0.3s,baz=177,slow=23,SNR=11						
ULHL	**Ulahol**	**6.16**	**32**	P	**Pn**	**10 44 02.2**	**+0.2**
	SNR=14						
CHMS	**Chumysh**	**6.30**	**20**	P	**Pn**	**10 44 03.9**	**+0.1**
	SNR=18						
USP	**Ospenovka**	**6.48**	**18**	P	**Pn**	**10 44 06.0**	**-0.3**
	SNR=12						
TKM2	**Tokmak 2**	**6.49**	**25**	P	**Pn**	**10 44 06.7**	**+0.3**
	SNR=27						
KOLN	**Koldanda**	**13.63**	**130**	*e*P	**Pn**	**10 45 39.5**	**-0.8**
	5.2nm,0.3s						
KOLN				*e*S	**Sn**	**10 48 00.6**	**-11**
GKN	**Gorkha**	**14.12**	**126**	*e*P	**Pn**	**10 45 46.2**	**-0.3**
	10nm,0.4s						
GKN				*e*S	**Sn**	**10 48 11.4**	**-12**
KKN	**Kakani**	**14.68**	**125**	*e*P	**Pn**	**10 45 53.8**	**+0.3**
DMN	**Daman**	**14.69**	**126**	*e*P	**Pn**	**10 45 53.6**	**-0.1**
	7.6nm,0.4s						
AB31	**Akbulak array**	**14.88**	**328**	⇑Pn	**Pn**	**10 45 55.3**	**-0.7**
	0.2nm,0.2s,baz=141,slow=14,SNR=13						
AB31				⇓Sn	**Sn**	**10 48 26.6**	**-14**
	3.2nm,0.7s,baz=155,slow=26,SNR=8.1						
PKI	**Pulchoki**	**14.91**	**126**	*e*P	**Pn**	**10 45 56.7**	**+0.3**
GUN	**Gumba**	**15.00**	**124**	*e*P	**Pn**	**10 45 57.6**	**+0.2**
JIRN	**Jiri**	**15.37**	**124**	*e*P	**Pn**	**10 46 01.8**	**-0.2**
	7.5nm,0.2s						
AKTO	**Aktyubinsk**	**16.59**	**328**	⇑Pn	**Pn**	**10 46 18.2**	**+1.3**
	0.1nm,1.0s						
AKTO				⇓Sn	**Sn**	**10 49 11.9**	**-10**
	0.2nm,1.4s						

ISCJB ***07*** *10:43:16.6±0.6,35.10N±003×3488E±009,h10km, Error ellipse: s-maj=11.0km s-min=4.2km az=149.2*
GRAL ***07*** *10:43:20.5±0.8,3485N×3478E,h0km±5km,MD3.1*
GII ***07*** *10:43:21.4±0.5,3487N×3507E,h5km±30km,ML1.2/2*
ISC 07 10:43:16.9±0.6,3515N±003×3500E±008,h10km,n16, σ1§15/30,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**1.16**	**138**	*e*P	**Pb**	**10 43 40.0**	**+0.9**
HWQ				*e*S	**Sb**	**10 43 55.8**	**+1.5**
HWQ	**Hawqa**	**1.16**	**138**	*e*P	**Pb**	**10 43 40.0**	**+0.9**
HWQ				*e*S	**Sb**	**10 43 55.8**	**+1.5**
BHL	**Bhannes**	**1.35**	**156**	*e*P	**Pn**	**10 43 41.9**	**+0.1**
BHL				*e*S	**Sb**	**10 43 57.6**	**-2.1**
MEST	**Erdemli**	**1.60**	**334**	*i* P	**Pn**	**10 43 45.2**	**0.0**
MEST				*i* S	**Sn**	**10 44 04.2**	**-1.7**
COBT	**Iskenderun**	**1.71**	**36**	*i* P	**Pn**	**10 43 46.8**	**+0.1**
COBT				*i* S	**Sn**	**10 44 06.2**	**-2.3**
RCY	**Rachaya**	**1.79**	**158**	*e*P	**Pn**	**10 43 48.8**	**+0.9**
RCY				*e*S	**Sn**	**10 44 09.5**	**-1.1**
HRI	**Mount Hermon**	**1.97**	**162**	Pn	**Pn**	**10 43 51.5**	**+1.1**
HRI				Sn	**Sn**	**10 44 13.4**	**-1.7**
KSDI	**Kefar Szold**	**2.02**	**164**	Pn	**Pn**	**10 43 51.9**	**+0.8**
KSDI				Sn	**Sn**	**10 44 15.1**	**-1.3**
HNTI	**Hanita**	**2.06**	**176**	Pn	**Pn**	**10 43 51.8**	**+0.1**
HNTI				Sn	**Sn**	**10 44 16.3**	**-1.1**
MMC7	**Mount Meron ar**	**2.14**	**171**	Pn	**Pn**	**10 43 53.4**	**+0.7**
MMA0	**Mount Meron ar**	**2.15**	**171**	Pn	**Pn**	**10 43 53.5**	**+0.6**
MMA0				Sn	**Sn**	**10 44 18.1**	**-1.5**
KSHT	**Keshet**	**2.26**	**163**	Pn	**Pn**	**10 43 55.9**	**+1.6**
OFRI	**'Ofer**	**2.52**	**180**	Pn	**Pn**	**10 43 58.8**	**+0.9**
OFRI				Sn	**Sn**	**10 44 27.8**	**-0.9**
MMLI	**Mount Malkishu**	**2.72**	**173**	Pn	**Pn**	**10 44 02.0**	**+1.3**
MMLI				Sn	**Sn**	**10 44 32.9**	**-0.8**
SLTI	**Sal'it**	**2.90**	**179**	Pn	**Pn**	**10 44 04.8**	**+1.6**
SLTI				Sn	**Sn**	**10 44 37.7**	**-0.3**
HMDT	**Nahal Hemdat**	**2.92**	**171**	Pn	**Pn**	**10 44 04.7**	**+1.3**
HMDT				Sn	**Sn**	**10 44 38.5**	**0.0**

NIED ***07*** *11:18:00,3330N×14240E,h8km,Mw4.2 Best double couple: M0 2.56000×10^15 NP1:φs 166.00000°, δ74.00000°, λ-134.00000°. NP2:φs 60.00000°, δ47.00000°, λ-23.00000°.*
IDC ***07*** *11:18:17.0±0.6,3325N×14250E,h0km,mb4.2/14, mb1 4.4/18,mb1mx4.3/25,mbtmp4.3/18,ML4.5/4,MS3.4/5, Ms1 3.4/5,ms1mx3.0/34,Error ellipse: s-maj=19.8km s-min=14.4km az=80.0*
ISCJB ***07*** *11:18:19.3±1.5,3327N±004×14246E±005,h29km±10km, mb4.5/31,MS3.6/4,Error ellipse: s-maj=7.9km s-min=5.4km az=89.6*
JMA ***07*** *11:18:20.6±0.4,3330N×14243E,h70km,M4.1*
BJI ***07*** *11:18:21.1,3330N×14240E,h41km,mB5.0,mb4.6,Ms4.3, Msz3.7*
NEIC ***07*** *11:18:22.9±0.5,3326N×14243E,mb4.6/5,MW4.2(NIED), Error ellipse: s-maj=13.1km s-min=10.1km az=52.0*
MOS ***07*** *11:18:22.8±1.6,3348N×14253E,h59km,mb4.6/16,Error ellipse: s-maj=20.4km s-min=8.3km az=116.8*
ISC 07 11:18:19.7±1.6,3329N±004×14247E±005,h19km±10km, h32km±7.2km:pP-P,n86,σ0§99/98,mb4.5/31,MS3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.84**	**318**	P	**Pn**	**11 18 50.0**	**-0.3**
BSO1				*e*S	**Sn**	**11 19 13.1**	**0.0**
BSO3	**Boso 3**	**2.22**	**314**	P	**Pn**	**11 18 55.8**	**+0.3**
JHJ2	**Mitsune**	**2.23**	**266**	P	**Pn**	**11 18 55.3**	**-0.3**
JHJ2				*e*S	**Sn**	**11 19 22.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.26**	**267**	Pn	**Pn**	**11 18 55.0**	**-1.0**
	355nm,0.3s,baz=80,slow=21,SNR=18						
JHJ				Sn	**Sn**	**11 19 22.1**	**-1.2**
	299nm,0.3s,baz=223,slow=22,SNR=6.9						
BSO4	**Boso 4**	**2.45**	**315**	P	**Pn**	**11 18 59.7**	**+1.0**
BSO4				*e*S	**Sn**	**11 19 29.6**	**+1.5**
KTR	**Katsuura**	**2.58**	**317**	P	**Pn**	**11 19 01.2**	**+0.8**
KTR				S	**Sn**	**11 19 31.9**	**+0.7**
CHOJ	**Chosi**	**2.75**	**332**	P	**Pn**	**11 19 03.7**	**+0.8**
CHOJ				*e*S	**Sn**	**11 19 34.8**	**-0.8**
JIM2	**Oshima 3**	**2.90**	**300**	P	**Pn**	**11 19 04.0**	**-0.8**
JIM2				*e*S	**Sn**	**11 19 37.8**	**-1.4**
JIZS	**Izushimoda**	**3.31**	**297**	P	**Pn**	**11 19 10.3**	**-0.1**
JIZS				S	**Sn**	**11 19 47.5**	**-1.7**
JOD2	**Odawara 2**	**3.42**	**306**	P	**Pn**	**11 19 11.7**	**-0.4**
JOD2				S	**Sn**	**11 19 51.9**	**-0.2**
JYN	**Shimob**	**3.92**	**305**	P	**Pn**	**11 19 19.5**	**+0.6**
JYN				S	**Sn**	**11 20 06.3**	**+1.9**
JAG	**Ashikaga**	**3.99**	**323**	P	**Pn**	**11 19 20.0**	**+0.1**
JAG				*e*S	**Sn**	**11 20 05.3**	**-0.9**
JRY	**Ryogami san**	**4.01**	**314**	P	**Pn**	**11 19 20.6**	**+0.5**
JRY				S	**Sn**	**11 20 05.5**	**-1.0**
JMM	**Marumori**	**4.77**	**344**	P	**Pn**	**11 19 29.3**	**-1.3**
JMM				S	**Sn**	**11 20 20.4**	**-4.9**
MJAR	**Matsushiro Arr**	**4.77**	**314**	Pn	**Pn**	**11 19 31.6**	**+1.0**
	10nm,0.3s,baz=196,slow=9.6,SNR=149						
MJAR				Sn	**Sn**	**11 20 25.9**	**+0.5**
	6.3nm,0.3s,baz=108,slow=4.9,SNR=6.4						
MJAR	**Matsushiro Arr**	**4.77**	**314**	P	**Pn**	**11 19 31.6**	**+1.0**
MJAR						11 20 25.9	
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MJAR				smax			
	comp=N,6.0nm,0.3s						
MAJO	**Matsushiro**	**4.78**	**314**	*e*P	**Pn**	**11 19 32.0**	**+1.3**
MAT	**Matsushiro**	**4.78**	**314**	P	**Pn**	**11 19 31.8**	**+1.1**
MAT				S	**Sn**	**11 20 24.7**	**-0.8**
MAT	**Matsushiro**	**4.78**	**314**	P	**Pn**	**11 19 31.8**	**+1.1**
MAT				S	**Sn**	**11 20 25.4**	**-0.1**
CBIJ	**Chichi jima**	**6.17**	**182**	Pn	**Pn**	**11 19 47.6**	**-2.3**
	comp=N,27nm,0.3s,baz=342,slow=19,SNR=3.9						
CBIJ				Sn	**Sn**	**11 20 53.0**	**-7.0**
	comp=N,49nm,0.3s,baz=96,slow=23,SNR=5.8						
ASAJ	**Asahikawa**	**10.82**	**0**	Pn	**Pn**	**11 20 51.5**	**-2.0**
	comp=N,6.6nm,0.3s,baz=213,slow=11,SNR=37						
ASAJ	**Asahikawa**	**10.82**	**0**	P	**Pn**	**11 20 51.6**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	*e*P	**Pn**	**11 21 30.0**	**-2.3**
JOW	**Kunigami**	**13.87**	**246**	LR	LR	11 25 51.1	
	comp=Z,55nm,19.8s,baz=310,slow=33						
KLR	**Kul'dur**	**17.82**	**337**	*e*P	**Pn**	**11 22 20.8**	**-5.8**
WHN	**Wuhan**	**24.00**	**271**	P	**P**	**11 23 32.0**	**-1.1**
BTO	**Baotou**	**26.83**	**295**	*e*P	**P**	**11 23 59.4**	**+0.5**
XAN	**Xi'an**	**27.86**	**281**	P	**P**	**11 24 07.6**	**-0.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.2						
CIT	**Chita**	**28.05**	**321**	*e*P	**P**	**11 24 13.2**	**+3.4**
CIT				*e*		11 24 25.0	
CIT				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.7						
SONM	**Songino Array**	**30.71**	**309**	P	**P**	**11 24 35.5**	**+2.1**
	comp=Z,1.9nm,0.5s,mb4.2,baz=117,slow=8.7,SNR=12						
SONM				LR	LR	11 36 52.1	
	comp=Z,73nm,18.4s,MS3.4,baz=95,slow=36						
SONM	**Songino Array**	**30.71**	**309**	P	**P**	**11 24 35.5**	**+2.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,73nm,18.4s						
BOD	**Bodaibo**	**31.18**	**330**	*e*P	**P**	**11 24 35.6**	**-2.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.2						
LZH	**Lanzhou**	**31.74**	**286**	*e*P	**P**	**11 24 43.5**	**+1.0**
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
LZH	**Lanzhou**	**31.74**	**286**	*e*P	**P**	**11 24 43.5**	**+1.0**
LZH				pP	pP	11 24 47.6	-0.7
LZH				sP	sP	11 24 50.1	-0.5
ZAK	**Zakamensk**	**33.36**	**313**	*e*P	**P**	**11 24 56.1**	**-0.5**
GTA	**Gaotai**	**34.65**	**293**	*e*P	**P**	**11 25 08.7**	**+0.9**
GTA				AP	pP	11 25 16.4	+2.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
WMQ	**Urumqi**	**43.40**	**301**	*e*P	**P**	**11 26 22.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
HNR	**Honiara**	**45.62**	**156**	LR	LR	11 42 51.0	
	comp=Z,41nm,18.2s,MS3.4,baz=180,slow=32						
NVS	**Novosibirsk**	**46.10**	**316**	*e*P	**P**	**11 26 40.9**	**-1.7**
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**11 26 49.8**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=73,slow=9.7,SNR=17						
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**11 26 49.8**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JIRN	**Jiri**	**48.34**	**279**	*e*P	**P**	**11 27 01.5**	**+1.5**
	comp=Z,4.1nm,0.3s,mb4.9						
GUN	**Gumba**	**48.51**	**280**	*e*P	**P**	**11 27 02.1**	**+0.8**
	comp=Z,11nm,0.4s,mb5.2						
PKI	**Pulchoki**	**49.02**	**279**	*e*P	**P**	**11 27 05.4**	**+0.2**
	comp=Z,12nm,0.6s,mb5.1						
KKN	**Kakani**	**49.04**	**280**	*e*P	**P**	**11 27 05.8**	**+0.3**
DMN	**Daman**	**49.25**	**279**	*e*P	**P**	**11 27 07.3**	**+0.2**
	comp=Z,6.9nm,0.5s,mb4.9						
KDAK	**Kodiak Island**	**49.37**	**40**	P	**P**	**11 27 07.8**	**-0.1**
	comp=Z,10nm,1.0s,mb4.8,baz=156,slow=12,SNR=4.5						
KDAK	**Kodiak Island**	**49.37**	**40**	P	**P**	**11 27 07.8**	**-0.1**
GKN	**Gorkha**	**49.50**	**280**	*e*P	**P**	**11 27 09.5**	**+0.6**
	comp=Z,12nm,0.4s,mb5.3						
KOLN	**Koldanda**	**50.44**	**280**	*e*P	**P**	**11 27 16.8**	**+0.7**
	comp=Z,10.0nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**53.10**	**301**	*e*P	**P**	**11 27 35.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**53.10**	**301**	*e*P	**P**	**11 27 35.1**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**53.49**	**190**	P	**P**	**11 27 38.3**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=5.7,slow=7.6,SNR=71						
WRA				PcP	PcP	11 28 47.1	+1.5
	comp=Z,0.8nm,0.5s,baz=2.9,slow=4.2,SNR=7.8						
WRA	**Warramunga Arr**	**53.49**	**190**	P	**P**	**11 27 38.3**	**-0.5**
WRA						11 28 47.1	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**53.54**	**315**	*e*P	**P**	**11 27 38.9**	**-0.3**
CHKZ				*e*PP	pP	11 27 50.3	+5.1
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
CHKZ	**Chkalovo**	**53.54**	**315**	*e*P	**P**	**11 27 38.9**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.5						
CHKZ				*e*pP	pP	11 27 50.3	+5.2
BVAR	**Borovoye Array**	**53.77**	**315**	P	**P**	**11 27 40.5**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=66,slow=7.0,SNR=5.6						
BVAR				LR	LR	11 49 49.5	
	comp=Z,50nm,18.4s,MS3.6,baz=310,slow=35						
ZRNK	**Zerenda**	**54.61**	**315**	*e*P	**P**	**11 27 46.3**	**-0.7**
ZRNK				*e*PP	pP	11 27 58.7	+5.7
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**54.61**	**315**	*e*P	**P**	**11 27 46.3**	**-0.7**
	comp=Z,3.9nm,0.6s,mb4.6						
ZRNK				*e*pP	pP	11 27 58.7	+5.7
ASAR	**Alice Springs**	**57.22**	**189**	P	**P**	**11 28 05.7**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=8.7,slow=7.4,SNR=13						
ASAR				PcP	PcP	11 29 01.6	+1.7
	comp=Z,0.4nm,0.5s,baz=7.3,slow=4.4,SNR=4.4						
INK	**Inuvik**	**57.35**	**26**	P	**P**	**11 28 06.9**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=247,slow=23,SNR=15						
INK	**Inuvik**	**57.35**	**26**	P	**P**	**11 28 06.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HYB	**Hyderabad**	**59.06**	**271**	*i* P	**P**	**11 28 20.0**	**+1.5**
HYB	**Hyderabad**	**59.06**	**271**	*e*P	**P**	**11 28 20.0**	**+1.5**
ARCES	**ARCESS Array B**	**67.81**	**340**	P	**P**	**11 29 15.9**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.3,baz=80,slow=8.8,SNR=8.6						
ARCES	**ARCESS Array B**	**67.81**	**340**	P	**P**	**11 29 16.0**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JOF	**Joensuu**	**69.68**	**333**	*e*p	**P**	**11 29 27.5**	**-0.6**
	comp=Z,4.3nm,0.4s,mb4.7						
JOF	**Joensuu**	**69.68**	**333**	*e*P	**P**	**11 29 27.5**	**-0.6**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
KAF	**Kangasniemi**	**72.04**	**334**	*e*p	**P**	**11 29 41.1**	**-1.3**
	comp=Z,4.9nm,0.5s,mb4.7,baz=50,slow=5.7						
KAF	**Kangasniemi**	**72.04**	**334**	*e*P	**P**	**11 29 41.1**	**-1.3**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
FINES	**FINESS Array B**	**72.53**	**333**	P	**P**	**11 29 45.6**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.3,baz=55,slow=6.4,SNR=11						
FINES	**FINESS Array B**	**72.53**	**333**	P	**P**	**11 29 45.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**77.80**	**323**	P	**P**	**11 30 15.9**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=48,slow=5.8,SNR=8.9						
AKASG	**Malin Array Be**	**77.80**	**323**	P	**P**	**11 30 15.9**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**77.97**	**338**	P	**P**	**11 30 16.7**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.5,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.97**	**338**	P	**P**	**11 30 16.7**	**0.0**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**77.97**	**338**	P	**P**	**11 30 17.3**	**+0.6**
	comp=Z,3.1nm,0.6s,mb4.4,baz=39,slow=5.7,SNR=9.9						
NOA	**NORSAR Array B**	**77.97**	**338**	P	**P**	**11 30 17.3**	**+0.6**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NOA	**NORSAR Array B**	**77.97**	**338**	P	**P**	**11 30 17.3**	**+0.6**
PDAR	**Pinedale Array**	**79.68**	**45**	P	**P**	**11 30 27.2**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=260,slow=3.2,SNR=3.1						
BRTR	**Keskin Array B**	**82.00**	**313**	P	**P**	**11 30 39.7**	**+1.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=127,slow=3.5,SNR=6.2						
BRTR	**Keskin Array B**	**82.00**	**313**	P	**P**	**11 30 39.7**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PPT	**Papeete**	**82.18**	**117**	LR	LR	11 58 49.9	
	comp=Z,61nm,21.6s,MS3.9,baz=263,slow=30						
GERES	**GERESS Array B**	**86.36**	**329**	P	**P**	**11 31 00.7**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.9,baz=57,slow=5.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**120.57**	**314**	PKP	PKPdf	11 37 10.3	+0.1
	comp=Z,0.3nm,0.4s,baz=8.0,slow=1.8,SNR=5.0						
SIV	**San Ignacio**	**152.64**	**57**	PKPbc	PKPbc	11 38 15.8	+0.8
	comp=Z,0.7nm,0.7s,baz=259,slow=12,SNR=4.7						

ROM ***07*** *12:40:13.6±0.3,40.18N×1987E,h12km,Md3.2/4,Ml3.5/3, Error ellipse: s-maj=4.6km s-min=1.7km az=122.0*
ISCJB ***07*** *12:40:14.7±0.4,40.14N±002×1973E±002,h1km±3km, Error ellipse: s-maj=3.1km s-min=2.3km az=95.1*
TIR ***07*** *12:40:14.5,40.13N×1979E,h17km,Ml3.0*
ATH ***07*** *12:40:14.6,40.16N×1969E,h13km±1km,MD3.6/12*
PDG ***07*** *12:40:15.6±0.3,40.15N×1975E,h10km*
SKO ***07*** *12:40:15.8,40.13N×1978E,h0km*
CSEM ***07*** *12:40:15.8±0.1,40.11N×1970E,h2km,MD3.6,Error ellipse: s-maj=1.7km s-min=1.2km az=13.0*
NEIC ***07*** *12:40:16.0,3998N×1959E,h10km,MD3.2(PDG), MD3.6(ATH),ML3.5(ROM),ML3.7(THE),After ATH.*
HLW ***07*** *12:40:16.3,3996N×1985E,h33km,Mb3.6*
THE ***07*** *12:40:17.1,40.16N×1986E,h10km,ML3.3*
ISC 07 12:40:15.5±0.4,4013N±002×1973E±002,h0km±3km,n79, σ0§91/130,10C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.27**	**52**	*i* Pg	**Pg**	**12 40 20.2**	**-0.5**
TPE				*i* Sg	**Sg**	**12 40 23.9**	**-0.4**
SRN	**Sarande**	**0.32**	**140**	*i* Pg	**Pg**	**12 40 21.2**	**-0.5**
SRN				*i* Sg	**Sg**	**12 40 26.6**	**+0.8**
KEK	**Kerkira**	**0.42**	**173**	⇓*i* PB	**Pg**	**12 40 23.3**	**-0.1**
KEK				*e*SB	**Sg**	**12 40 30.4**	**+1.6**
KEK	**Kerkira**	**0.42**	**173**	Pg	**Pg**	**12 40 23.4**	**-0.1**
KEK				*e*Sb	**Sg**	**12 40 30.4**	**+1.6**
KEK				Sg	**Sg**	**12 40 31.6**	**+2.8**
LSK	**Leskovik**	**0.67**	**88**	*i* Pg	**Pg**	**12 40 27.3**	**-1.0**
LSK				*i* Sg	**Sg**	**12 40 37.1**	**+0.2**
IGT	**Igoumenitsa**	**0.75**	**142**	*e*Pg	**Pg**	**12 40 30.0**	**+0.1**
IGT				*e*Sg	**Sg**	**12 40 41.3**	**+1.6**
JAN	**Janina**	**0.98**	**118**	*e*PB	**Pb**	**12 40 34.1**	**-1.2**
JAN				*e*SB	**Sb**	**12 40 47.8**	**-1.0**
MEV	**Metsovon**	**1.20**	**106**	*e*Pg	**Pg**	**12 40 37.9**	**-0.7**
MEV				*e*Sg	**Sg**	**12 40 54.8**	**+0.7**
MEV	**Metsovon**	**1.20**	**106**	*e*Pg	**Pg**	**12 40 37.8**	**-0.7**
MEV				*e*Sg	**Sg**	**12 40 54.8**	**+0.7**
TIR	**Tirane**	**1.23**	**5**	*e*Pg	**Pg**	**12 40 39.6**	**+0.6**
TIR				*e*Sg	**Sg**	**12 40 57.4**	**+2.6**
LCI	**Lecce**	**1.26**	**280**	⇓*i* Pg	**Pg**	**12 40 39.6**	**0.0**
LCI				Sg	**Sg**	**12 41 00.2**	**+4.4**
OHR	**Ohrid**	**1.28**	**39**	*e*Pg	**Pg**	**12 40 38.8**	**-1.2**
OHR				*e*Sg	**Sg**	**12 40 57.2**	**+0.7**
OHR	**Ohrid**	**1.28**	**39**	*e*Pn	**Pn**	**12 40 39.2**	**-1.4**
OHR	**Ohrid**	**1.28**	**39**	*e*Pn	**Pn**	**12 40 39.1**	**-1.4**
OHR				*e*Sg	**Sg**	**12 40 57.2**	**+0.7**
FNA	**Florina**	**1.42**	**62**	*e*Pg	**Pg**	**12 40 41.6**	**-1.1**
FNA				*e*Sg	**Sg**	**12 41 01.3**	**+0.3**
BIA	**Bitola**	**1.51**	**53**	*e*Pg	**Pn**	**12 40 42.1**	**-1.6**
BIA				*e*Sg	**Sg**	**12 41 04.3**	**+0.4**
BIA	**Bitola**	**1.51**	**53**	*e*Pn	**Pn**	**12 40 42.2**	**-1.5**
KZN	**Kozani**	**1.57**	**83**	*e*PG	**Pn**	**12 40 44.3**	**-0.3**
KZN				*e*SB	**Sb**	**12 41 07.2**	**+1.3**
KZN	**Kozani**	**1.57**	**83**	*e*Pg	**Pn**	**12 40 44.3**	**-0.3**
KZN				*e*Sb	**Sb**	**12 41 07.4**	**+1.5**
THL	**Klokotos Trika**	**1.85**	**107**	⇑*i* PN	**Pn**	**12 40 48.6**	**+0.2**
THL				*e*SN	**Sn**	**12 41 13.2**	**+0.8**
THL	**Klokotos Trika**	**1.85**	**107**	⇑*i* Pn	**Pn**	**12 40 48.6**	**+0.2**
THL				*e*Sn	**Sn**	**12 41 12.6**	**+0.2**
ULC	**Ulcinj**	**1.87**	**349**	⇑*i* Pn	**Pn**	**12 40 47.6**	**-1.1**
ULC				*e*Sn	**Sn**	**12 41

VISS			*i* Sn	**Sn**	**12 43 07.9**	**-4.5**
VOY	**Vojsko**	**7.29 326**	*e*Pn	**Pn**	**12 42 01.5**	**-1.6**
VOY			*e*Sn	**Sn**	**12 43 21.7**	**-4.8**
HMAT	**Matruh**	**10.82 144**	P	**Pn**	**12 42 47.5**	**-4.1**
SWA2		**11.83 155**	P	**Pn**	**12 43 01.8**	**-3.6**
SWA1		**11.90 154**	P	**Pn**	**12 43 01.9**	**-4.4**

*NEIC **07** 13:06:20.5±1.1,502N×9433E,h30km, Error ellipse: s-maj=32.6km s-min=13.0km az=219.0*
*ISCJB **07** 13:06:24.6±3.1,51N±01×947E±02,h77km±28km,mb3.9/6, Error ellipse: s-maj=28.0km s-min=18.7km az=107.7*
*IDC **07** 13:06:24.1±5.6,513N×9459E,h56km±47km,mb3.7/6, mb1 3.9/7,mb1mx3.5/21,mbtmp3.9/7,ML3.8/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/29, Error ellipse: s-maj=68.7km s-min=19.2km az=57.0*

ISC 07 13:06:25.4±2.9,51N±01×947E±02,h68km±26km,n10, σ0§95/12,mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.84 118**		P	**Pn**	**13 07 36.2**	**+0.5**
	3.5nm,0.3s,baz=319,slow=16,SNR=16						
PSI				S	**Sn**	**13 08 28.9**	**-1.6**
	1.2nm,0.3s,baz=3.4,slow=19,SNR=2.0						
PSI				LR	LR	13 09 51.6	
	comp=Z,78nm,21.6s,baz=288,slow=42						
PSI	**Prapat**	**4.84 118**		P	**Pn**	**13 07 36.2**	**+0.5**
PSI				S	**Sn**	**13 08 28.9**	**-1.6**
PSI				LR	LR	13 09 51.6	
KULM	**Kulim**	**5.98 88**		*e*Pn	**Pn**	**13 07 51.8**	**+0.6**
KULM				*e*Sn	**Sn**	**13 08 58.5**	**+0.3**
MKAR	**Makanchi Array**	**42.88 348**		P	**P**	**13 14 16.9**	**-0.1**
	1.5nm,0.6s,mb3.9,baz=160,slow=7.8,SNR=21						
SONM	**Songino Array**	**43.74 11**		P	**P**	**13 14 23.7**	**-0.2**
	0.8nm,0.8s,mb3.5,baz=189,slow=7.9,SNR=9.4						
SONM				PcP	PcP	13 16 10.3	+0.6
	0.4nm,0.5s,baz=195,slow=4.1,SNR=5.9						
WRA	**Warramunga Arr**	**46.28 124**		P	**P**	**13 14 45.0**	**+0.8**
	3.0nm,0.5s,mb4.2,baz=300,slow=9.6,SNR=28						
ASAR	**Alice Springs**	**47.79 128**		P	**P**	**13 14 56.3**	**+0.4**
	0.6nm,0.5s,mb3.7,baz=298,slow=7.8,SNR=13						
KMBO	**Kilima Mbogo**	**57.67 265**		LR	LR	13 34 55.8	
	comp=Z,47nm,20.9s,baz=91,slow=30						
FINES	**FINESS Array B**	**75.38 332**		P	**P**	**13 17 59.4**	**-2.3**
	3.2nm,1.1s,mb4.0,baz=180,slow=3.4,SNR=3.5						
GERES	**GERESS Array B**	**80.21 319**		P	**P**	**13 18 29.4**	**+0.9**
	0.7nm,0.4s,mb3.8,baz=132,slow=6.0,SNR=5.3						

*MDD **07** 13:32:21.1±1.6,3857N×821W,h21km±7km,mbLg1.6/4, Error ellipse: s-maj=12.2km s-min=6.6km az=109.0, PRXIMO SIN SOLUCIN*

INMG 07 13:32:20.4±0.9,3859N×825W,h16km±4km,ML1.1,Error ellipse: s-maj=2.3km s-min=2.0km az=93.0,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESTR	**Estremoz**	**0.58**	**62**	*e*Pg	Pg	13 32 31.2	-0.7
PESTR				*e*Sg	Sg	13 32 39.2	-0.4
PESTR							
	4.4nm,0.1s						
PBEJ	**Beja**	**0.64**	**152**	*e*Pg	Pg	13 32 32.5	-0.4
PBEJ				*e*Sg	Sg	13 32 40.9	-0.5
PBEJ							
	3.5nm,0.1s						
PMAFR	**Mafra**	**0.89**	**294**	*e*P	Pb	13 32 36.1	-1.3
PMAFR				*e*S	Sb	13 32 48.5	-0.5
EBAD	**Badajoz**	**0.98**	**80**	Pg	Pg	13 32 38.3	-1.1
	0.6nm,0.1s,SNR=7.7						
EBAD				Lg		13 32 51.2	
	16nm,0.2s,SNR=36						
PTEO	**Sao Teotonio**	**1.11**	**200**	*e*S	Sb	13 32 54.6	-0.8
EGRO	**El Granado**	**1.22**	**150**	Pg	Pg	13 32 42.1	-1.7
	0.6nm,0.2s,SNR=7.9						
EGRO				Lg		13 32 58.2	
	2.2nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**1.38**	**25**	*e*S	Sn	13 33 01.5	-1.4
PCBR							
	1.2nm,0.1s						
PCBR	**Castelo Branco**	**1.38**	**25**	S	Sn	13 33 01.5	-1.4
	0.6nm,0.1s						
EMIN	**Mina Concepcio**	**1.49**	**123**	Pg	Pg	13 32 46.6	-2.5
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		13 33 06.8	
	1.0nm,0.1s,SNR=7.9						

*ISCJB **07** 13:51:05.2±1.1,2118S±009×179.18W±0.10,h576km±18km, mb4.3/17,Error ellipse: s-maj=16.1km s-min=11.9km az=90.4*
*IDC **07** 13:51:07.0±1.7,2110S×17902W,h599km±20km,mb3.5/8, mb1 3.7/10,mb1mx3.5/16,mbtmp4.5/10,Error ellipse: s-maj=17.6km s-min=14.7km az=109.0*
*NEIC **07** 13:51:06.9±1.1,2111S×17905W,h596km±15km,mb4.5/9, Error ellipse: s-maj=14.6km s-min=12.3km az=136.0*
*BJI **07** 13:51:06.8,2110S×17900W,h595km,mB4.6,mb4.6*

ISC 07 13:51:06.0±1.2,2118S±009×1791W±01,h573km±17km, n44,σ0§97/35,mb4.3/17,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.03**	**45**	P	**P**	**13 53 25.2**	**+0.8**
	2.7nm,0.3s,baz=180,slow=20,SNR=7.2						
AFI				S	**S**	**13 55 16.1**	**-2.1**
	1.7nm,0.3s,baz=17,slow=19,SNR=4.5						
AFI	**Afiamalu**	**10.03**	**45**	*e*P	**P**	**13 53 25.5**	**+1.0**
	59nm,1.0s						
AFI				*e*S	**S**	**13 55 13.0**	**-5.2**
URZ	**Urewera**	**17.34**	**190**	P	**P**	**13 54 35.3**	**-1.4**
	1.2nm,0.3s,baz=67,slow=3.9,SNR=8.0						
RPZ	**Rata Peaks**	**23.93**	**198**	P	**P**	**13 55 35.1**	**-0.9**
	18nm,1.0s,mb4.7,baz=0.0,slow=8.8,SNR=4.1						
CTA	**Charters Tower**	**32.43**	**266**	*i* P	**P**	**13 56 50.9**	**+1.1**
	8.0nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.53**	**285**	P	**P**	**13 57 08.3**	**+1.0**
	26nm,0.8s,mb4.9,baz=90,slow=5.1,SNR=5.0						
PMG	**Port Moresby**	**34.53**	**285**	*e*P	**P**	**13 57 08.3**	**+0.9**
	34nm,0.9s,mb5.0						
TAU	**Tasmania Unive**	**35.44**	**225**	P	**P**	**13 57 18.1**	**+3.1**
	65nm,1.2s,mb5.1						
STKA	**Stephens Creek**	**36.59**	**245**	P	**P**	**13 57 24.8**	**+0.4**
	1.8nm,0.4s,mb4.0,baz=106,slow=9.9,SNR=3.0						
STKA	**Stephens Creek**	**36.59**	**245**	*e*P	**P**	**13 57 25.5**	**+1.0**
AS31	**Alice Springs**	**43.39**	**258**	*e*P	**P**	**13 58 18.8**	**+0.1**
ASAR	**Alice Springs**	**43.39**	**258**	P	**P**	**13 58 19.1**	**+0.4**
	12nm,0.7s,mb4.5,baz=96,slow=7.6,SNR=135						
ASAR				PcP	PcP	13 59 53.1	-0.9
	1.3nm,0.7s,baz=96,slow=3.7,SNR=5.4						
ASAR				ScP	ScP	14 02 48.5	-2.7
	0.9nm,0.8s,baz=103,slow=4.2,SNR=6.0						
ASAR				S	**S**	**14 04 01.8**	**-3.9**
	2.7nm,0.8s,baz=95,slow=16,SNR=18						
ASPA	**Alice Springs**	**43.39**	**258**	*e*P	**P**	**13 58 19.0**	**+0.3**
WB2	**Warramunga Arr**	**43.51**	**263**	*i* P	**P**	**13 58 19.0**	**-0.5**
WB2	**Warramunga Arr**	**43.51**	**263**	*e*P	**P**	**13 58 19.1**	**-0.5**
WRA	**Warramunga Arr**	**43.52**	**263**	P	**P**	**13 58 19.4**	**-0.3**
	4.5nm,0.3s,mb4.5,baz=98,slow=7.9,SNR=298						
WRA				S	**S**	**14 04 02.3**	**-5.2**
	0.8nm,0.7s,baz=98,slow=13,SNR=5.9						
KAKA	**Kakadu**	**46.99**	**272**	*e*P	**P**	**13 58 45.8**	**-0.3**
	12nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.95**	**263**	*e*P	**P**	**13 59 21.7**	**-0.8**
	4.6nm,0.5s,mb4.1						
MBWA	**Marble Bar**	**56.73**	**258**	*e*P	**P**	**13 59 55.1**	**-0.9**
	8.1nm,0.4s,mb4.3						
SBA	**Scott Base**	**57.14**	**184**	*e*P	**P**	**13 59 59.8**	**+1.0**
VNDA	**Vanda**	**57.15**	**185**	P	**P**	**13 59 59.4**	**+0.6**
	1.2nm,0.7s,mb3.3,baz=353,slow=7.3,SNR=19						
VNDA	**Vanda**	**57.15**	**185**	*e*P	**P**	**13 59 58.8**	**-0.1**
	0.7nm,0.5s,mb3.1						
QSPA	**South Pole Qui**	**68.89**	**180**	*e*P	**P**	**14 01 13.8**	**-0.3**
	15nm,1.3s,mb4.3						
MJAR	**Matsushiro Arr**	**70.17**	**324**	P	**P**	**14 01 20.8**	**-0.9**
	4.1nm,0.8s,mb3.9,baz=158,slow=5.4,SNR=11						
KSM	**Kuching**	**72.52**	**279**	*e*P	**P**	**14 01 34.9**	**-0.5**
SNCC	**San Nicolas Is**	**78.44**	**48**	*e*P	**P**	**14 02 12.0**	**+3.8**
	0.1nm,0.8s						
NVAR	**Mina Array Bea**	**82.20**	**44**	P	**P**	**14 02 27.3**	**-0.4**
	0.5nm,0.7s,mb3.2,baz=220,slow=6.9,SNR=4.3						
KULM	**Kulim**	**82.87**	**278**	P	**P**	**14 02 31.2**	**+0.2**
KMI	**Kunming**	**88.77**	**297**	P	**P**	**14 02 58.2**	**-1.1**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
CD2	**Chengdu**	**90.31**	**303**	*e*P	**P**	**14 03 06.6**	**+0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
SDCO	**Great Sand Dun**	**90.55**	**49**	*e*P	**P**	**14 03 10.3**	**+2.7**
	comp=Z,4.7nm,1.1s,mb4.3						
ARCES	**ARCESS Array B**	**129.40**	**349**	PKP	PKPdf	14 09 06.9	-3.0
	comp=Z,2.9nm,0.9s,baz=17,slow=1.3,SNR=6.6						
FINES	**FINESS Array B**	**136.13**	**343**	PKP	PKPdf	14 09 18.0	-4.6
	comp=Z,3.4nm,1.0s,baz=7.6,slow=5.8,SNR=3.4						
FINES	**FINESS Array B**	**136.13**	**343**	PKP	PKPdf	14 09 18.0	-4.6
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPdf	14 09 30.5	-4.7
	comp=Z,4.9nm,0.5s,baz=42,slow=4.3,SNR=29						
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPdf	14 09 30.5	-4.7
AKBB	**Malin Array Si**	**143.10**	**330**	*e*PKPdf	PKPdf	14 09 30.4	-4.8
MALT	**Malatya**	**143.53**	**306**	*e*PKPdf	PKPdf	14 09 34.0	-2.0
BR131	**Keskin Array S**	**146.54**	**311**	*e*P	PKPdf	14 09 41.8	+0.8
BRTR	**Keskin Array B**	**146.54**	**311**	PKPbc	PKPbc	14 09 40.6	-3.1
	comp=Z,1.8nm,0.7s,baz=132,slow=4.3,SNR=8.9						
CLL	**Collm**	**148.48**	**345**	*i* PKPbc	PKPbc	14 09 46.9	-1.8
	comp=Z,10.0nm,1.0s						
BRG	**Berggiesshubel**	**148.65**	**344**	*e*P	PKPdf	14 09 47.8	+3.3
	comp=Z,11nm,1.7s						
VYHS	**Vyhne**	**149.19**	**336**	*e*PKP	PKPdf	14 09 48.5	+3.1
VYHS				*e*		14 09 55.6	
GERES	**GERESS Array B**	**150.56**	**343**	PKPbc	PKPbc	14 09 51.5	-2.1
	comp=Z,1.8nm,0.7s,baz=29,slow=3.0,SNR=12						

IDC 07 14:46:13.5±52.0,1710S×16899W,h0km,mb4.3/3, mb1 4.4/3,mb1mx4.0/14,mbtmp4.3/3,MS3.7/1,Ms1 3.7/1, ms1mx2.9/22,Error ellipse: s-maj=1032.0km s-min=189.9km az=82.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.93**	**242**	P	P	14 54 46.1	+0.3
	2.2nm,0.5s,baz=91,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**53.60**	**258**	P	P	14 55 36.5	+0.1
	0.5nm,0.3s,baz=97,slow=6.7,SNR=29						
ASAR	**Alice Springs**	**53.64**	**253**	P	P	14 55 37.5	+0.8
	5.7nm,0.6s,baz=91,slow=8.4,SNR=102						
ASAR				LR	LR	15 15 10.1	
	comp=Z,68nm,21.0s,baz=156,slow=32						

*IDC **07** 14:51:35.4±1.3,607N×6073E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/20,mbtmp3.7/5,MS3.6/4,Ms1 3.5/4, ms1mx3.1/26,Error ellipse: s-maj=35.9km s-min=29.7km az=161.0*
*ISCJB **07** 14:51:36.0±0.8,62N±01×607E±01,h10km,mb3.7/8, MS3.5/4,Error ellipse: s-maj=20.3km s-min=15.4km az=140.5*
*NEIC **07** 14:51:37.5±0.6,618N×6067E,h10km,mb4.3/4,Error ellipse: s-maj=16.7km s-min=12.2km az=69.0*

ISC 07 14:51:37.9±0.8,62N±01×607E±01,h10km,n12,σ0§49/10, mb3.7/8,MS3.5/4,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**17.91**	**139**	P	**Pn**	**14 55 47.5**	**+0.4**
	82nm,1.0s						
KMBO	**Kilima Mbogo**	**24.51**	**253**	P	**P**	**14 56 57.4**	**0.0**
	1.6nm,0.7s,mb3.7,baz=42,slow=11,SNR=5.2						
KMBO				LR	LR	15 06 24.3	
	comp=Z,85nm,18.6s,MS3.3,baz=86,slow=36						
AAK	**Ala-Archa**	**38.28**	**17**	P	**P**	**14 58 59.0**	**+0.5**
	1.7nm,0.8s,mb3.8						
LSZ	**Lusaka**	**38.64**	**236**	LR	LR	15 12 36.0	
	comp=Z,113nm,18.3s,MS3.7,baz=354,slow=33						
BRTR	**Keskin Array B**	**41.30**	**328**	P	**P**	**14 59 23.7**	**+0.2**
	0.4nm,0.6s,mb3.2,baz=156,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**44.51**	**21**	P	**P**	**14 59 49.4**	**-0.1**
	0.2nm,0.3s,mb3.4,baz=193,slow=9.9,SNR=4.5						
MKAR	**Makanchi Array**	**44.51**	**21**	P	**P**	**14 59 49.4**	**-0.1**
ZRNK	**Zerenda**	**47.10**	**7**	*e*P	**P**	**15 00 10.3**	**+0.3**
	1.5nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**48.01**	**8**	*e*P	**P**	**15 00 16.2**	**-0.9**
	5.3nm,1.3s,mb4.4						
BOSA	**Boshof**	**48.62**	**223**	LR	LR	15 20 16.9	
	comp=Z,54nm,18.4s,MS3.6,baz=187,slow=36						
SONM	**Songino Array**	**56.83**	**35**	P	**P**	**15 01 22.8**	**+0.3**
	1.1nm,1.0s,mb3.8,baz=231,slow=7.4,SNR=5.9						
SONM				LR	LR	15 26 48.5	
	comp=Z,37nm,19.1s,MS3.5,baz=308,slow=37						
ASAR	**Alice Springs**	**77.27**	**116**	P	**P**	**15 03 31.6**	**-0.8**
	0.6nm,0.8s,mb3.5,baz=287,slow=6.0,SNR=4.3						

*ISCJB **07** 14:59:10.4±1.8,170S±01×1745W±01,h144km±21km, mb4.2/12,Error ellipse: s-maj=23.4km s-min=18.8km az=80.9*
*IDC **07** 14:59:12.5±2.7,1699S×17447W,h145km±30km,mb3.9/7, mb1 4.1/8,mb1mx3.9/15,mbtmp4.4/8,Error ellipse: s-maj=28.9km s-min=22.8km az=147.0*
*NEIC **07** 14:59:12.2±1.2,1701S×17450W,h144km±14km,mb4.2/6, Error ellipse: s-maj=13.6km s-min=12.0km az=128.0*

ISC 07 14:59:11.9±1.8,170S±01×1744W±01,h142km±21km,n20, σ0§62/21,mb4.2/12,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.98**	**40**	P	**Pn**	**15 00 13.2**	**+1.6**
	52nm,0.3s,baz=172,slow=1.2,SNR=97						
AFI				S	**Sn**	**15 00 56.9**	**-1.2**
	95nm,0.3s,baz=53,slow=22,SNR=14						
URZ	**Urewera**	**22.45**	**198**	P	**P**	**15 03 58.1**	**-1.1**
	7.3nm,0.7s,mb4.2,baz=0.0,slow=5.1,SNR=11						
HNR	**Honiara**	**26.07**	**284**	P	**P**	**15 04 25.3**	**-6.7**
STKA	**Stephens Creek**	**42.42**	**241**	*e*P	**P**	**15 06 53.1**	**+0.8**
	3.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**42.42**	**241**	P	**P**	**15 06 53.1**	**+0.8**
	4.5nm,0.6s,mb4.3,baz=90,slow=9.3,SNR=19						
STKA	**Stephens Creek**	**42.42**	**241**	*e*P	**P**	**15 06 52.1**	**-0.2**
WB2	**Warramunga Arr**	**48.55**	**258**	*e*P	**P**	**15 07 40.1**	**-0.5**
WRA	**Warramunga Arr**	**48.56**	**258**	P	**P**	**15 07 40.5**	**-0.2**
	2.2nm,0.5s,mb4.0,baz=95,slow=7.0,SNR=59						
AS31	**Alice Springs**	**48.72**	**253**	*e*P	**P**	**15 07 41.8**	**-0.1**
ASAR	**Alice Springs**	**48.72**	**253**	P	**P**	**15 07 42.0**	**+0.1**
	21nm,0.5s,mb5.0,baz=87,slow=8.7,SNR=474						
ASPA	**Alice Springs**	**48.72**	**253**	*e*P	**P**	**15 07 41.9**	**0.0**
FITZ	**Fitzroy Crossi**	**56.96**	**259**	*e*P	**P**	**15 08 42.9**	**+0.6**
	6.9nm,1.7s,mb4.2						
SBA	**Scott Base**	**61.58**	**184**	*e*P	**P**	**15 09 14.2**	**+0.2**
	1.7nm,0.6s,mb4.0						
VNDA	**Vanda**	**61.69**	**186**	P	**P**	**15 09 15.4**	**+0.6**
	1.4nm,0.9s,mb3.8,baz=19,slow=6.7,SNR=10						
VNDA	**Vanda**	**61.69**	**186**	*e*P	**P**	**15 09 14.6**	**-0.2**
	1.3nm,0.8s,mb3.8						
MBWA	**Marble Bar**	**62.01**	**255**	*e*P	**P**	**15 09 16.6**	**-0.4**
	1.8nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**73.04**	**180**	*e*P	**P**	**15 10 26.5**	**+0.3**
	4.3nm,1.0s,mb4.1						
YSS	**Yuzh-Sakhalins**	**74.41**	**331**	P	**P**	**15 10 34.0**	**-0.2**
	40nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**84.09**	**42**	P	**P**	**15 11 27.1**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=245,slow=1.9,SNR=3.4						
MAW	**Mawson**	**85.97**	**199**	P	**P**	**15 11 35.8**	**-0.3**
	1.3nm,0.5s,mb3.9,baz=125,slow=6.6,SNR=11						

*CSEM **07** 15:35:44.8±1.2,3814N×2667W,h0km±4km,ML2.7,Error ellipse: s-maj=13.1km s-min=1.1km az=45.0,After PDA*
*PDA **07** 15:35:44.8±1.2,3814N×2667W,h0km±4km,MD2.6,ML2.7, Error ellipse: s-maj=13.1km s-min=1.1km az=45.0*

SVSA 07 15:35:44.8±1.2,3814N×2667W,h0km±4km,MD2.6,ML2.7, Error ellipse: s-maj=13.1km s-min=1.1km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.66**	**331**	*e*P	Pg	15 35 56.2	-1.2
PFAV				*i* S	Sg	15 36 05.2	-0.7
PFAV							
	102nm,0.3s						
PFAV	**Pico das Favas**	**0.66**	**331**	*e*P	Pg	15 35 56.2	-1.2
PFAV				*i* S	Sg	15 36 05.2	-0.7
RIB2	**Ribeirinha**	**0.66**	**324**	*e*P	Pg	15 35 56.8	-0.7
RIB2				*e*S	Sg	15 36 05.3	-0.8
RIB2							
	74nm,0.1s						
RIB2	**Ribeirinha**	**0.66**	**324**	*e*P	Pg	15 35 56.8	-0.7
RIB2				*e*S	Sg	15 36 05.3	-0.8
ADH	**Angra Heroismo**	**0.68**	**320**	*e*P	Pg	15 35 56.2	-1.6
ADH				*e*S	Sg	15 36 05.3	-1.4
PVNV	**Vila Nova**	**0.73**	**329**	*e*P	Pg	15 35 57.3	-1.5
PVNV				*e*S	Sg	15 36 07.0	-1.3
PVNV							
	100nm,0.3s						
PVNV	**Vila Nova**	**0.73**	**329**	*e*P	Pg	15 35 57.3	-1.5
PVNV				*e*S	Sg	15 36 07.0	-1.3
SET4	**Mosteiros**	**0.74**	**111**	*i* P	Pg	15 35 57.0	-1.9
SET4				*e*S	Sg	15 36 06.7	-1.8
SET4	**Mosteiros**	**0.74**	**111**	*e*S	Sg	15 36 06.7	-1.8
PPAD	**Pico dos Padre**	**0.74**	**319**	*e*P	Pg	15 35 57.7	-1.3
PPAD				*i* S	Sg	15 36 07.3	-1.3
PPAD							
	118nm,0.2s						
PPAD	**Pico dos Padre**	**0.74**	**319**	*e*P	Pg	15 35 57.7	-1.3
PPAD				*i* S	Sg	15 36 07.3	-1.3
SET2	**Ginetes**	**0.74**	**113**	*i* P	Pg	15 35 57.6	-1.5
SET2				*e*S	Sg	15 36 07.0	-1.7
PFET	**Feteiras**	**0.77**	**114**	*e*S	Sg	15 36 08.0	-1.5
PBIS	**Biscoitos**	**0.77**	**324**	*e*P	Pg	15 35 58.2	-1.4
PBIS				*e*S	Sg	15 36 07.9	-1.7
PBIS							
	70nm,0.3s						
PBIS	**Biscoitos**	**0.77**	**324**	*e*P	Pg	15 35 58.2	-1.4
PBIS				*e*S	Sg	15 36 07.9	-1.7
ASBA	**Santa Barbara**	**0.78**	**319**	*e*P	Pg	15 35 58.3	-1.4
ASBA				*e*S	Sg	15 36 08.2	-1.5
ASBA							
	133nm,0.3s						
ASBA	**Santa Barbara**	**0.78**	**319**	*e*P	Pg	15 35 58.3	-1.4
ASBA				*e*S	Sg	15 36 08.2	-1.5
PSAN	**Santo Antonio**	**0.80**	**111**	*e*S	Sg	15 36 09.1	-1.4
FAC	**Faja de Cima**	**0.89**	**114**	*e*P	Pg	15 36 00.1	-1.7
FAC				*e*S	Sg	15 36 11.1	-2.1
CML	**Cha da Macela**	**0.96**	**112**	*e*P	Pg	15 36 00.8	-2.4
CML				*e*S	Sg	15 36 12.6	-3.1
PVER	**Pico Vermelho**	**0.98**	**110**	*e*S	Sg	15 36 12.8	-3.4
PVER							
	148nm,0.3s						
PMAT	**Coroa da Mata**	**1.00**	**108**	*e*P	Pg	15 36 00.9	-3.1
PMAT				*e*S	Sg	15 36 13.3	-3.7
PMAT							
	99nm,0.2s						
PMAT	**Coroa da Mata**	**1.00**	**108**	*e*P	Pg	15 36 00.9	-3.1
PMAT				*e*S	Sg	15 36 13.3	-3.7
LFA	**Lagoa do Fogo**	**1.01**	**111**	*e*P	Pg	15 36 01.4	-2.7
LFA				*e*S	Sg	15 36 13.6	-3.6
PRCH	**Ribeira Ch**	**1.03**	**113**	*e*S	Sg	15 36 14.5	-3.3
PRCH							
	146nm,0.3s						
MESC	**Monte Escuro**	**1.03**	**109**	*e*P	Pg	15 36 01.3	-3.2
MESC				*e*S	Sg	15 36 13.8	-4.0
VIF	**Vila Franca**	**1.05**	**112**	*e*S	Sg	15 36 14.8	-3.7
VIF							
	50nm,0.3s						
PCNG	**Congro**	**1.07**	**110**	*e*S	Sg	15 36 15.7	-3.6
PCNG							
	24nm,0.1s						
PFAD	**Fenais da Ajud**	**1.11**	**105**	*e*P	Pg	15 36 02.3	-3.7
FRA1	**Furnas**	**1.11**	**110**	*e*P	Pg	15 36 03.1	-3.0
FRA1				*e*S	Sg	15 36 16.7	-3.8
MIRA	**Miradouro**	**1.16**	**107**	*e*P	Pg	15 36 03.0	-4.0
MIRA				*e*S	Sg	15 36 16.9	-5.0
PSMN	**Pico do Norte,**	**1.71**	**131**	*e*S	Sn	15 36 30.6	-7.7

*ISCJB **07** 15:41:26.0±0.5,5144N±003×16.10E±003,h0km,Error ellipse: s-maj=4.2km s-min=2.1km az=28.4*
*IPEC **07** 15:41:26.6±0.3,5154N×1620E,h0km,ML2.6/4,Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*NEIC **07** 15:41:27.4±0.8,5150N×1611E,h5km,ML3.0(SZGRF), Error ellipse: s-maj=9.2km s-min=5.0km az=7.0*
*BGR **07** 15:41:27.0±0.8,5154N×1614E,h1km,ML3.0/11,Error ellipse: s-maj=15.6km s-min=5.6km az=171.0*
*CSEM **07** 15:41:28.2±0.1,5147N×1614E,h0km,ML3.2/9,Error ellipse: s-maj=2.7km s-min=1.3km az=14.0*
*WAR **07** 15:41:28.2,5150N×1609E,ML2.6,Mining Induced*
*IDC **07** 15:41:29.2±1.1,5143N×1598E,h0km,mb1 3.2/4, mb1mx3.1/19,mbtmp3.1/4,ML2.7/4,Error ellipse: s-maj=15.8km s-min=9.6km az=130.0*
*VIE **07** 15:41:29.0±0.4,5134N×1614E,h0km,mb2.3/4,ML2.7/4, Error ellipse: s-maj=2.3km s-min=2.2km az=169.0 67 km WNW of Breslau Suspected Mining induced.*
*PRU **07** 15:41:29.0,5144N×1605E,h0km*

ISC 07 15:41:26.9±0.5,5150N±003×1610E±003,h0km,n50, σ0§87/88,3C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**170**	*i* Pg	**Pg**	**15 41 40.5**	**+0.8**
KSP				*e*		15 41 48.0	
KSP				*e*Sg	**Sg**	**15 41 49.6**	**+1.3**
KSP				*eL*		15 41 54.2	
KSP	**Ksiaz**	**0.67**	**170**	↓*i*Pg	**Pg**	**15 41 40.5**	**+0.8**
KSP				*e*		15 41 48.0	
KSP				*e*Sg	**Sg**	**15 41 49.6**	**+1.3**
KSP				*e*		15 41 54.2	
KSP	**Ksiaz**	**0.67**	**170**	*e*Pg	**Pg**	**15 41 40.4**	**+0.7**
KSP				*e*Sg	**Sg**	**15 41 48.4**	**+0.1**

GUNZ	**Gunzen**	**2.64 246**	*e*Pn	**Pn**	**15 42 10.8**	**0.0**
GUNZ	**Gunzen**	**2.64 246**	Pn	**Pn**	**15 42 10.8**	**0.0**
WERN	**Wernitzgruen**	**2.65 244**	*e*Pn	**Pn**	**15 42 11.7**	**+0.7**
OJC	**Ojcow**	**2.67 117**	*e*Pg	**Pg**	**15 42 17.8**	**-0.3**
OJC			*e*Sg	**Sg**	**15 42 52.1**	**-0.6**
JAVC	**Velka Javorina**	**2.83 159**	*e*Sg	**Sg**	**15 42 56.4**	**-1.4**
	comp=Z,25nm,0.9s					
KHC	**Kasperske Hory**	**2.87 215**	*e*PN	**Pn**	**15 42 14.0**	**+0.1**
KHC			*e*PG	**Pg**	**15 42 19.8**	**-2.1**
KHC			*e*SN	**Sn**	**15 42 48.9**	**-0.2**
KHC			*e*SG	**Sg**	**15 42 58.7**	**-0.4**
	comp=Z,12nm,0.5s					
MANZ	**Manzenberg**	**2.95 241**	*e*Pn	**Pn**	**15 42 15.8**	**+0.7**
MOX	**Moxa**	**2.96 255**	*e*PG	**Pg**	**15 42 23.4**	**-0.2**
MOX			*e*SG	**Sg**	**15 43 03.1**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.03 237**	*e*Pn	**Pn**	**15 42 16.5**	**+0.4**
GEC2	**GERESS Array S**	**3.07 211**	*e*Pn	**Pn**	**15 42 17.8**	**+1.1**
GEC2	**GERESS Array S**	**3.07 211**	*e*Pn	**Pn**	**15 42 17.8**	**+1.1**
GERES	**GERESS Array B**	**3.07 211**	Pn	**Pn**	**15 42 17.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=33,slow=12,SNR=35					
GERES			Pg	**Pg**	**15 42 23.7**	**-2.1**
	comp=Z,2.0nm,0.3s,baz=30,slow=16,SNR=27					
GERES			Lg		15 43 04.3	
	comp=Z,1.7nm,0.3s,baz=33,slow=27,SNR=8.4					
GERES	**GERESS Array B**	**3.07 211**	Pg	**Pg**	**15 42 23.7**	**-2.1**
WET	**Wettzell**	**3.13 223**	*e*Pn	**Pn**	**15 42 17.9**	**+0.3**
WET	**Wettzell**	**3.13 223**	*e*Pn	**Pn**	**15 42 17.9**	**+0.3**
NIE	**Niedzica**	**3.40 126**	*e*P	**Pg**	**15 42 31.8**	**-0.3**
NIE			*e*S	**Sg**	**15 43 17.6**	**+1.4**
VYHS	**Vyhne**	**3.48 149**	*e*SG	**Sg**	**15 43 22.9**	**+4.0**
CONA	**Conrad Observa**	**3.58 183**	⇑*i*Pn	**Pn**	**15 42 23.6**	**-0.1**
CONA			⇑*i*Sg	**Sg**	**15 43 22.4**	**+0.5**
	comp=Z,17nm,0.8s					
GRA1	**Grafenberg Arr**	**3.60 242**	Sg	**Sg**	**15 43 22.6**	**+0.1**
GRF	**Grafenberg Arr**	**3.60 242**	*e*Sg	**Sg**	**15 43 22.6**	**+0.1**
MOA	**Molln**	**3.84 199**	⇑*i*Pn	**Pn**	**15 42 28.0**	**+0.7**
MOA			⇓*i*Sg	**Sg**	**15 43 31.3**	**+0.9**
	comp=Z,8.0nm,0.6s					
STHS	**Stebnicka Huta**	**3.89 120**	*e*PG	**Pg**	**15 42 41.6**	**+0.1**
STHS			*e*SG	**Sg**	**15 43 34.5**	**+2.6**
KECS	**Kecovo**	**4.13 135**	*e*PG	**Pg**	**15 42 46.1**	**-0.1**
KECS			*e*SG	**Sg**	**15 43 42.6**	**+2.8**
AKASG	**Malin Array Be**	**8.30 90**	Pn	**Pn**	**15 43 29.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.6					
FINES	**FINES Array B**	**11.38 25**	Pn	**Pn**	**15 44 08.0**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=3.3					

CSEM ***07*** *15:41:59.9±0.1, 4066N×2791E, h5km, MD2.9, Error ellipse: s-maj=4.1km s-min=1.8km az=178.0*
ISCJB ***07*** *15:42:00.5±0.6, 4072N±003×2787E±003, h8km±5km, Error ellipse: s-maj=5.9km s-min=4.3km az=8.5*
ISK ***07*** *15:42:00.4, 4058N×2777E, h23km, MD2.9*
THE ***07*** *15:42:04.7, 4090N×2767E, h10km, ML2.8*
ISC 07 15:42:00.8±0.5, 4069N±003×2788E±003, h9km±5km, n20, σ0§86/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.24**	**248**	*i* PG	**Pg**	**15 42 05.5**	**0.0**
MRMT				*i* SG	**Sg**	**15 42 08.9**	**+0.1**
EDC	**Edincik**	**0.34**	**183**	*i* PG	**Pg**	**15 42 06.8**	**-0.7**
MFT	**Murefte**	**0.47**	**282**	PG	**Pg**	**15 42 09.9**	**0.0**
MFT				SG	**Sg**	**15 42 16.5**	**+0.5**
SART	**Tekirdag**	**0.54**	**270**	*i* P	**Pg**	**15 42 11.4**	**+0.2**
SART				*i* S	**Sg**	**15 42 19.0**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.54**	**270**	PG	**Pg**	**15 42 10.4**	**-0.8**
ELBA	**Catalca**	**0.62**	**42**	*i* P	**Pg**	**15 42 14.7**	**+2.0**
ELBA				*i* S	**Sg**	**15 42 25.6**	**+4.9**
BTOK	**Tokmak**	**0.94**	**173**	*i* P	**Pg**	**15 42 19.3**	**+0.5**
BTOK				*i* S	**Sg**	**15 42 30.0**	**-0.9**
ISK	**Istanbul-Kandi**	**0.97**	**67**	PN	**Pn**	**15 42 20.4**	**-0.1**
GEMT	**Gemlik**	**1.03**	**104**	PN	**Pn**	**15 42 21.0**	**-0.4**
GEMT				SN	**Sn**	**15 42 35.5**	**-0.4**
KLYT	**Kilyos**	**1.04**	**57**	PN	**Pn**	**15 42 21.8**	**+0.3**
ULDT	**Uludag**	**1.10**	**119**	*i* P	**Pg**	**15 42 22.2**	**+0.2**
ULDT				*i* S	**Sg**	**15 42 37.0**	**+0.7**
YLV	**Yalova**	**1.14**	**96**	PN	**Pn**	**15 42 22.3**	**-0.6**
IZI	**Iznik**	**1.26**	**106**	*e*PN	**Pn**	**15 42 23.8**	**-0.8**
HRT	**Hereke**	**1.36**	**84**	*e*PN	**Pn**	**15 42 26.3**	**+0.3**
ALN	**Alexandroupoli**	**1.41**	**279**	*e*Pg	**Pg**	**15 42 27.0**	**-0.8**
ALN				*e*Sg	**Sg**	**15 42 45.7**	**-0.5**
ADVT	**Abdulvahap**	**1.44**	**100**	*e*PN	**Pn**	**15 42 27.1**	**+0.1**
BOZC	**Bozcaada**	**1.64**	**239**	*i* P	**Pn**	**15 42 30.9**	**+1.1**
BOZC				*i* S	**Sn**	**15 42 51.8**	**+0.8**
JMB	**Yambol**	**2.02**	**332**	*e*Pb	**Pb**	**15 42 36.1**	**-1.6**
JMB				*e*Sb	**Sb**	**15 42 59.9**	**-3.1**
LOS	**Limnos**	**2.27**	**251**	*e*Pn	**Pn**	**15 42 39.9**	**+1.4**
LOS				*e*Sn	**Sn**	**15 43 10.6**	**+4.0**
CHOS	**Chios island**	**2.70**	**212**	*e*Pn	**Pb**	**15 42 49.7**	**+0.5**
CHOS				*e*Sn	**Sg**	**15 43 26.4**	**-1.1**

CSEM ***07*** *15:49:36.9, 4201N×4506E, h26km, mb3.6, Error ellipse: s-maj=39.4km s-min=14.6km az=217.0, After OBN*
MOS ***07*** *15:49:36.9±2.5, 4201N×4506E, h26km, mb3.6/1, Error ellipse: s-maj=39.4km s-min=14.6km az=111.7*
ISCJB ***07*** *15:49:41.9±1.1, 4224N±004×453E±0.1, h33km, Error ellipse: s-maj=12.3km s-min=5.1km az=151.1*
ISC 07 15:49:41.3±1.2, 4223N±004×454E±01, h35km, n10, σ1§21/18, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.68**	**223**	P	**Pn**	**15 49 53.4**	**-1.0**
TBLG				S	**Sn**	**15 50 03.9**	**+0.1**
TBLG	**Delisi**	**0.68**	**223**	*e*Pg	**Pn**	**15 49 53.4**	**-1.0**
MTA	**Mtatsminda**	**0.68**	**219**	S	**Sn**	**15 50 04.3**	**+0.5**
DGRG	**David-gareji**	**0.78**	**179**	P	**Pn**	**15 49 56.9**	**+1.1**
DGRG				S	**Sn**	**15 50 10.2**	**+4.0**
SNJR	**Sundja**	**0.94**	**334**	*i* Pg	**Pn**	**15 49 58.4**	**+0.5**
SNJR				*i* Sg	**Sn**	**15 50 14.2**	**+4.1**
LACR	**Lac**	**0.99**	**308**	*i* Pg	**Pn**	**15 49 57.0**	**-1.7**
LACR				*i* Sg	**Sn**	**15 50 11.6**	**+0.2**
ZEI	**Tsey**	**1.21**	**297**	*i* Pg	**Pn**	**15 49 59.8**	**-1.9**
ZEI				*i* Sg	**Sn**	**15 50 16.6**	**-0.3**
ARNR	**Ardon**	**1.25**	**321**	*i* Pg	**Pn**	**15 50 02.5**	**+0.2**
ARNR				*i* Sg	**Sn**	**15 50 21.2**	**+3.3**
KORR	**Kora**	**1.28**	**312**	*i* Pg	**Pn**	**15 50 02.3**	**-0.4**
KORR				*e*Sg	**Sn**	**15 50 20.9**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.48**	**298**	*i* Pg	**Pn**	**15 50 04.0**	**-1.4**
DIGR				*e*Sg	**Sn**	**15 50 23.9**	**+0.4**

ISCJB ***07*** *15:54:46.9±1.1, 4829N±007×1542E±0.1, h55km±10km, mb4.1/20, MS4.0/1, Error ellipse: s-maj=15.8km s-min=6.9km az=91.2*
MOS ***07*** *15:54:46.3±1.8, 4828N×15426E, h50km, mb4.3/13, Error ellipse: s-maj=15.1km s-min=8.7km az=76.5*
NEIC ***07*** *15:54:49.3±1.3, 4824N×15407E, h66km±11km, mb4.3/9, Error ellipse: s-maj=14.8km s-min=8.4km az=143.0*
BJI ***07*** *15:54:49.3, 4804N×15436E, h84km, mB5.0, mb4.1, Ms4.6, Msz4.4*
IDC ***07*** *15:54:50.9±6.4, 4824N×15407E, h75km±57km, mb3.6/12, mb1 3.9/13, mb1mx3.7/23, mbtmp3.9/13, ML3.3/1, Error ellipse: s-maj=20.8km s-min=16.7km az=132.0*
ISC 07 15:54:49.2±1.0, 4830N±007×1542E±01, h62km±9km, n49, σ1§23/51, mb4.1/20, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.70**	**27**	*e*PN	**Pn**	**15 55 24.5**	**-5.7**
SKR				*e*S	**Sn**	**15 55 55.3**	**-6.4**
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=N,100nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax			
	comp=N,460nm,0.3s						
SKR				smax			
	comp=E,420nm,0.5s						
SKR				smax			
	comp=Z,180nm,0.5s						
KUR	**Kuril'sk**	**5.31**	**237**	*e*PN	**Pn**	**15 56 05.0**	**-0.9**
KUR				*e*S	**Sn**	**15 57 08.0**	**+2.3**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,310nm,0.9s						
KUR				smax			
	comp=E,170nm,0.9s						
PET	**Petropavlovsk**	**5.52**	**29**	*e*PN	**Pn**	**15 56 08.2**	**-0.6**
PET				*e*S	**Sn**	**15 57 11.0**	**+0.1**
PET				pmax	pmax		
	comp=Z,51nm,0.6s						
PET				smax			
	comp=E,176nm,0.6s						
PET				smax			
	comp=N,254nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,21.0s						
PET	**Petropavlovsk**	**5.52**	**29**	*e*Pn	**Pn**	**15 56 08.5**	**-0.3**
	comp=Z,37nm,0.4s						
PET				*e*Sn	**Sn**	**15 57 07.0**	**-3.9**
YSS	**Yuzh-Sakhalins**	**7.83**	**264**	*e*PN	**Pn**	**15 56 44.0**	**+3.6**
MA2	**Magadan**	**11.47**	**351**	*e*PN	**Pn**	**15 57 32.1**	**+2.0**
MAJO	**Matsushiro**	**16.60**	**231**	P	**Pn**	**15 58 36.7**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,21nm,1.2s						
MAJO	**Matsushiro**	**16.60**	**231**	P	**Pn**	**15 58 36.7**	**-1.1**
	comp=Z,21nm,1.2s						
MJAR	**Matsushiro Arr**	**16.60**	**231**	P	**Pn**	**15 58 36.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=4.1						
YAK	**Yakutsk**	**19.44**	**324**	⇑*e*P	**Pn**	**15 59 14.5**	**+2.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK	**Yakutsk**	**19.44**	**324**	*e*P	**Pn**	**15 59 11.2**	**-1.2**
	comp=Z,14nm,0.7s						
YAK				*e*		15 59 23.7	
MCK	**McKinley**	**34.01**	**42**	P	**P**	**16 01 26.7**	**-0.4**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
MCK	**McKinley**	**34.01**	**42**	P	**P**	**16 01 26.7**	**-0.4**
	comp=Z,2.4nm,0.9s,mb4.1						
COLA	**College**	**34.48**	**40**	⇓*i*P	**P**	**16 01 31.7**	**+0.5**
COLA	**College**	**34.48**	**40**	*e*P	**P**	**16 01 31.2**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.7						
INK	**Inuvik**	**39.96**	**33**	P	**P**	**16 02 18.4**	**+0.9**
	comp=Z,1.9nm,0.5s,mb4.1,baz=290,slow=5.9,SNR=20						
INK	**Inuvik**	**39.96**	**33**	P	**P**	**16 02 18.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**39.96**	**33**	*e*P	**P**	**16 02 18.0**	**+0.4**
	comp=Z,72nm,0.5s						
WMQ	**Urumqi**	**45.05**	**290**	*e*P	**P**	**16 03 01.0**	**+2.2**
WMQ				AP	pP	16 03 20.0	+5.5
WMQ				XP	sP	16 03 30.0	+8.4
WMQ				*e*S	**S**	**16 09 34.0**	**+0.8**
WMQ				XS	sS	16 10 05.0	+5.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,107nm,5.6s						
WMQ				LR	LR		
	comp=N,142nm,18.6s						
WMQ				LR	LR		
	comp=E,153nm,17.9s						
WMQ				LR	LR		
	comp=Z,128nm,20.6s						
KMI	**Kunming**	**46.24**	**259**	P	**P**	**16 03 10.9**	**+2.7**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**16 03 13.4**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=60,slow=7.2,SNR=5.5						
MKAR	**Makanchi Array**	**46.88**	**297**	*i* P	**P**	**16 03 13.1**	**-0.1**
YKA	**Yellowknife Ar**	**49.26**	**38**	P	**P**	**16 03 32.1**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.4,baz=300,slow=7.2,SNR=4.2						
YKA	**Yellowknife Ar**	**49.26**	**38**	*i* P	**P**	**16 03 32.0**	**+0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**49.99**	**309**	*e*P	**P**	**16 03 34.8**	**-2.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**49.99**	**309**	*e*P	**P**	**16 03 34.8**	**-2.4**
	comp=Z,2.5nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**16 03 40.1**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.4,baz=59,slow=7.4,SNR=17						
BVAR				PcP	PcP	16 04 57.9	-0.2
	comp=Z,0.8nm,0.5s,baz=72,slow=1.6,SNR=4.4						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**16 03 40.1**	**-0.4**
BVAR						16 04 57.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**50.47**	**309**	P	**P**	**16 03 40.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**50.47**	**309**	P	**P**	**16 03 40.3**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**51.19**	**309**	P	**P**	**16 03 44.0**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.19**	**309**	P	**P**	**16 03 44.0**	**-2.2**
	comp=Z,1.3nm,0.4s,mb4.2						
ARU	**Arti**	**54.36**	**317**	P	**P**	**16 04 08.2**	**-1.4**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ARU	**Arti**	**54.36**	**317**	P	**P**	**16 04 08.2**	**-1.3**
	comp=Z,1.3nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**61.09**	**64**	P	**P**	**16 04 57.7**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=296,slow=7.2,SNR=6.7						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	**16 05 08.2**	**-1.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=42,slow=8.0,SNR=10.0						
FINES	**FINESS Array B**	**62.94**	**335**	*i* P	**P**	**16 05 08.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**63.26**	**55**	P	**P**	**16 05 12.2**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.9,baz=336,slow=3.3,SNR=5.5						
WRA	**Warramunga Arr**	**70.22**	**200**	P	**P**	**16 05 54.9**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=16,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**70.22**	**200**	P	**P**	**16 05 54.9**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**73.91**	**199**	P	**P**	**16 06 18.1**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=14,slow=5.7,SNR=5.3						
EKA	**Eskdalemuir Ar**	**75.00**	**347**	P	**P**	**16 06 23.9**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=18,slow=5.0,SNR=13						
EKA	**Eskdalemuir Ar**	**75.00**	**347**	P	**P**	**16 06 23.9**	**-0.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**77.37**	**334**	P	**P**	**16 06 37.3**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=46,slow=4.4,SNR=3.9						
BRTR	**Keskin Array B**	**77.74**	**317**	P	**P**	**16 06 40.6**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=74,slow=4.4,SNR=4.9						
BRTR	**Keskin Array B**	**77.74**	**317**	P	**P**	**16 06 40.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**114.11**	**330**	PKP	PKiKP	16 13 20.9	-0.5
	comp=Z,0.3nm,0.4s,baz=355,slow=1.8,SNR=4.4						
CPUP	**Villa Florida**	**147.07**	**60**	PKPbc	PKPbc	16 14 23.1	-2.0
	comp=Z,0.7nm,0.6s,baz=333,slow=4.5,SNR=3.4						
CPUP	**Villa Florida**	**147.07**	**60**	PKP2	PKPbc	16 14 23.1	-2.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 07 16:32:06.1±1.8, 179N×12741E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/15, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=105.6km s-min=23.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.85**	**185**	*e*P	Pn	16 36 40.8	+0.8
	7.9nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.85**	**185**	P	Pn	16 36 39.5	-0.5
	0.1nm,0.3s,baz=12,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**22.64**	**163**	P	P	16 37 09.3	+0.7
	2.2nm,0.5s,baz=340,slow=10,SNR=42						
WB2	**Warramunga Arr**	**22.65**	**163**	*e*P	P	16 37 09.3	+0.6
ASAR	**Alice Springs**	**26.08**	**166**	P	P	16 37 41.5	+0.2
	0.4nm,0.3s,baz=342,slow=11,SNR=17						
STKA	**Stephens Creek**	**36.09**	**159**	P	P	16 39 08.9	-0.6
	1.8nm,0.9s,baz=330,slow=14,SNR=5.4						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	16 42 11.5	+0.4
	0.5nm,0.4s,baz=118,slow=8.2,SNR=6.2						

IDC ***07*** *16:32:13.3±0.8, 4570S×7641W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.6/19, mbtmp4.5/15, ML4.4/2, MS4.3/15, Msz 4.3/15, ms1mx4.2/21, Error ellipse: s-maj=30.7km s-min=14.2km az=97.0*

ISCJB ***07*** *16:32:16.9±0.3, 4570S±005×7629W±009, h33km, mb4.8/32, MS4.4/14, Error ellipse: s-maj=9.3km s-min=6.5km az=5.5*
MOS ***07*** *16:32:17.4±1.1, 4564S×7635W, h33km, mb5.2/19, Error ellipse: s-maj=22.5km s-min=10.1km az=82.4*
NEIC ***07*** *16:32:19.0±1.1, 4570S×7629W, h40km±10km, mb5.0/29, Error ellipse: s-maj=11.6km s-min=5.9km az=90.0*
BJI ***07*** *16:32:19.9, 4570S×7630W, h40km, mB5.3, Ms5.4, Msz5.1*
GCMT ***07*** *16:32:19.0±0.2, 4579S×7703W, h14km, MWS.1/72, Moment Tensor Solution. s43,c66; s72,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.95±.22; Mθθ3.49±.16; Mφφ2.46±.15; Mrθ2.83±.36; Mrφ-1.84±.10; Mθφ-0.45±.32; Best double couple: M0 6.10000×10^16 NP1:φs135.00000°, δ33.00000°, λ-74.00000°. NP2: φs296.00000°, δ58.00000°, λ-100.00000°. Principal axes: T 5.4670, Plg13.0000°, Azm33.0000°; N 1.2670, Plg8.0000°, Azm301.0000°; P -6.7340, Plg74.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 16:32:18.5±0.3, 4569S±005×7637W±010, h35km, (h38km±1.1km:pP-P), n117, σ0§99/82, mb4.8/32, MS4.4/14, 5C-2D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.52**	**43**	Pn	**Pn**	**16 33 52.4**	**+0.4**
	3.4nm,0.3s,baz=217,slow=13,SNR=121						
PLCA				LR	LR	16 36 26.8	
	comp=Z,6μm,21.6s,baz=221,slow=39						
PLCA	**Paso Flores**	**6.52**	**43**	*e*P	**Pn**	**16 33 52.0**	**0.0**
PLCA				pmax	pmax		
	comp=Z,20nm,0.6s						
PLCA	**Paso Flores**	**6.52**	**43**	*e*Pn	**Pn**	**16 33 52.0**	**+0.1**
	comp=Z,20nm,0.6s						
USHA	**Ushuaia**	**10.46**	**154**	Pn	**Pn**	**16 34 44.9**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=246,slow=11,SNR=4.8						
USHA				LR	LR	16 39 01.2	
	comp=Z,2μm,18.1s,baz=304,slow=39						
TRQA	**Tornquist**	**13.14**	**60**	*e*Pn	**Pn**	**16 35 23.4**	**+0.7**
	comp=Z,168nm,1.2s						
FCH	**Farellones**	**13.20**	**23**	*e*P	**Pn**	**16 35 20.7**	**-2.7**
CFAA	**Coronel Fontan**	**15.41**	**27**	Pn	**Pn**	**16 35 48.1**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=202,slow=12,SNR=7.7						
CFAA				LR	LR	16 42 03.7	
	comp=Z,351nm,19.5s,baz=199,slow=38						
TLL	**Tololo Astrono**	**16.09**	**18**	*e*P	**Pn**	**16 36 01.8**	**-0.2**
PMSA	**Palmer Station**	**20.31**	**165**	P	**P**	**16 36 50.0**	**-1.4**
	comp=Z,13nm,1.0s,baz=340,slow=8.6,SNR=7.2						
PMSA				LR	LR	16 44 12.0	
	comp=Z,364nm,19.4s,MS3.7,baz=327,slow=35						
PMSA	**Palmer Station**	**20.31**	**165**	*e*Pn	**P**	**16 36 51.9**	**+0.5**
	comp=Z,106nm,1.4s						
LVC	**Limon Verde**	**23.81**	**17**	P	**P**	**16 37 28.9**	**+0.8**
	comp=Z,13nm,1.1s,mb4.3,baz=180,slow=9.9,SNR=11						
LVC				LR	LR	16 47 25.7	
	comp=Z,590nm,21.0s,MS4.0,baz=360,slow=38						
LVC	**Limon Verde**	**23.81**	**17**	⇑*e*P	**P**	**16 37 28.3**	**+0.2**
	comp=Z,181nm,1.6s,mb5.2						
CPUP	**Villa Florida**	**24.59**	**45**	P	**P**	**16 37 36.0**	**+0.8**
	comp=Z,50nm,0.8s,mb5.1,baz=204,slow=8.9,SNR=119						
CPUP				LR	LR	16 48 06.9	
	comp=Z,2μm,18.4s,MS4.7,baz=208,slow=39						
CPUP	**Villa Florida**	**24.59**	**45**	*e*P	**P**	**16 37 36.0**	**+0.7**
CPUP				pmax	pmax		
	comp=Z,31nm,0.9s						
CPUP	**Villa Florida**	**24.59**	**45**	*e*P	**P**	**16 37 36.0**	**+0.8**
	comp=Z,311nm,0.9s,mb5.8						
LPAZ	**La Paz**	**30.11**	**16**	P	**P**	**16 38 25.6**	**+0.9**
	comp=Z,2.1nm,0.8s,mb3.9,baz=183,slow=8.7,SNR=11						
LPAZ	**La Paz**	**30.11**	**16**	*e*P	**P**	**16 38 25.7**	**+0.9**
LPAZ				*e*		16 41 26.2	
LPAZ				pmax	pmax		
	comp=Z,30nm,1.5s						
LPAZ	**La Paz**	**30.11**	**16**	*e*P	**P**	**16 38 25.7**	**+1.0**
	comp=Z,30nm,1.5s,mb4.8						
LPAZ				*e*PcP	PcP	16 41 26.2	+0.5
RPN	**Rapa Nui**	**32.05**	**294**	LR	LR	16 48 44.2	
	comp=Z,151nm,18.4s,MS3.7,baz=148,slow=31						
BDFB	**Brasilia**	**38.24**	**48**	P	**P**	**16 39 35.3**	**+0.2**
	comp=Z,9.9nm,1.0s,mb4.5,baz=204,slow=4.0,SNR=8.2						
BDFB				LR	LR	16 56 50.1	
	comp=Z,2μm,19.1s,MS5.0,baz=209,slow=39						
BDFB	**Brasilia**	**38.24**	**48**	*e*P	**P**	**16 39 35.4**	**+0.3**
BDFB				pmax	pmax		
	comp=Z,175nm,1.7s						
BDFB	**Brasilia**	**38.24**	**48**	*e*P	**P**	**16 39 35.4**	**+0.3**
	comp=Z,175nm,1.7s,mb5.5						
SAML	**Samuel**	**38.32**	**21**	*e*P	**P**	**16 39 36.0**	**+0.2**
	comp=Z,39nm,1.4s,mb4.9						
VNA3	**Neumayer Olymp**	**40.14**	**153**	*e*P	**P**	**16 39 50.8**	**-0.2**
VNA3				*e*		16 39 55.0	
VNA3				*e*	pP	16 40 01.5	+0.3
VNA3				*e*		16 40 06.2	
VNA3				*e*		16 41 54.5	
VNA1	**Neumayer--Stat**

BOSA Boshof 77.55 118 P **P 16 44 09.5 -1.3**
comp=Z,10nm,1.0s,mb4.7,baz=233,slow=3.9,SNR=5.0
BOSA LR LR 17 14 35.6
comp=Z,159nm,19.1s,MS4.4,baz=184,slow=33
JCT Junction City 78.73 340 *e*P **P 16 44 16.8 -0.5**
JCT *e* 16 44 23.4
JCT pmax pmax
comp=Z,32nm,1.2s,mb5.1
JCT Junction City 78.73 340 *e*P **P 16 44 16.8 -0.5**
comp=Z,32nm,1.2s,mb5.1
JCT *e* 16 44 23.4
TSUM Tsumeb 79.19 106 P **P 16 44 22.5 +2.7**
comp=Z,2.5nm,0.8s,mb4.2
LBTB Lobatse 80.33 116 *e*P **P 16 44 26.0 0.0**
LBTB *e* pP 16 44 36.8 -0.2
LBTB pmax pmax
comp=Z,26nm,1.2s,mb5.0
LBTB Lobatse 80.33 116 *e*P **P 16 44 26.0 0.0**
comp=Z,26nm,1.2s,mb5.0
LBTB *e* pP 16 44 36.8 -0.2
SWET Sewanee 80.99 352 *e*P **P 16 44 28.8 -0.8**
MIAR Mount Ida 81.36 346 *e*P **P 16 44 31.1 -0.4**
MIAR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MIAR Mount Ida 81.36 346 *e*P **P 16 44 31.1 -0.4**
comp=Z,8.4nm,1.1s,mb4.6
DBIC Dimbokro 82.04 72 P **P 16 44 36.2 +1.2**
comp=Z,4.7nm,0.9s,mb4.4,baz=205,slow=6.2,SNR=3.0
DBIC LR LR 17 16 01.2
comp=Z,71nm,18.5s,MS4.1,baz=191,slow=32
DBIC Dimbokro 82.04 72 *e*P **P 16 44 37.6 +2.5**
DBIC pmax pmax
comp=Z,21nm,1.1s
DBIC Dimbokro 82.04 72 *e*P **P 16 44 37.6 +2.5**
comp=Z,21nm,1.1s,mb5.0
WVT Waverly 82.09 351 P **P 16 44 33.5 -1.9**
WVT pmax pmax
comp=Z,11nm,1.5s,mb4.6
WVT Waverly 82.09 351 P **P 16 44 33.5 -1.9**
comp=Z,11nm,1.5s,mb4.5
WMOK Wichita Mounta 82.58 342 *e*P **P 16 44 37.0 -0.9**
WMOK *e* 16 44 43.7
WMOK pmax pmax
comp=Z,27nm,1.3s,mb5.1
WMOK Wichita Mounta 82.58 342 *e*P **P 16 44 37.0 -0.9**
comp=Z,27nm,1.3s,mb5.1
WMOK *e* 16 44 43.7
CCM Cathedral Cave 84.43 348 *e*P **P 16 44 45.2 -2.2**
CCM *e* 16 44 52.1
CCM pmax pmax
comp=Z,22nm,1.0s,mb5.2
CCM Cathedral Cave 84.43 348 *e*P **P 16 44 45.2 -2.2**
comp=Z,22nm,1.0s,mb5.2
CCM *e* 16 44 52.1
LAZ Ladron 84.44 335 *e*P **P 16 44 47.9 +0.5**
ANMO Albuquerque 84.75 336 *e*P **P 16 44 49.4 +0.4**
ANMO *e* 16 44 56.0
ANMO pmax pmax
comp=Z,12nm,1.3s
ANMO Albuquerque 84.75 336 *e*P **P 16 44 49.4 +0.4**
comp=Z,12nm,1.3s,mb4.8
ANMO *e* 16 44 56.0
WUAZ Wupatki 86.79 332 *e*P **P 16 44 60.0 +0.8**
comp=Z,27nm,1.7s,mb5.2
SDCO Great Sand Dun 87.09 337 *e*P **P 16 45 00.7 +0.1**
comp=Z,8.4nm,1.4s,mb4.8
GSC Goldstone 88.50 328 *e*P **P 16 45 08.4 +1.1**
GSC *e* 16 45 14.5
ISCO Idaho Springs 89.05 338 *e*P **P 16 45 10.6 +0.7**
ISCO pmax pmax
comp=Z,65nm,2.4s,mb5.5
ISCO Idaho Springs 89.05 338 *e*P **P 16 45 10.6 +0.7**
comp=Z,64nm,2.4s,mb5.5
JFWS Jewell Farm 89.08 350 *e*P **P 16 45 09.0 -1.0**
JFWS *e* 16 45 15.4
JFWS pmax pmax
comp=Z,32nm,1.2s,mb5.5
JFWS Jewell Farm 89.08 350 *e*P **P 16 45 09.0 -1.0**
comp=Z,32nm,1.2s,mb5.5
JFWS *e* 16 45 15.4
MSU Marysvale 89.78 333 *e*P **P 16 45 14.0 +0.6**
SRU San Rafael 89.81 334 *e*P **P 16 45 13.7 +0.2**
SRU pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
SRU San Rafael 89.81 334 *e*P **P 16 45 13.7 +0.2**
comp=Z,3.1nm,1.2s,mb4.5
ECSD EROS,Sioux Fal 90.83 345 *e*P **P 16 45 16.1 -2.1**
ECSD *e* 16 45 23.6
TORD Torodi Ar. Bea 91.14 72 P **P 16 45 21.3 +1.6**
comp=Z,1.4nm,1.3s,mb4.1,baz=169,slow=4.0,SNR=3.9
TORD LR LR 17 19 23.5
comp=Z,132nm,20.1s,MS4.4,baz=185,slow=31
NVAR Mina Array Bea 91.82 328 P **P 16 45 23.9 +1.0**
comp=Z,1.3nm,1.1s,mb4.2,baz=175,slow=5.0,SNR=5.3
CMB Columbia Colle 92.26 327 *e*P **P 16 45 25.1 +0.2**
CMB pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
CMB Columbia Colle 92.26 327 *e*P **P 16 45 25.1 +0.2**
comp=Z,2.2nm,0.9s,mb4.5
HWUT Hardware Ranch 92.42 334 *e*P **P 16 45 25.2 -0.3**
comp=Z,5.3nm,1.3s,mb4.7
PDAR Pinedale Array 92.89 336 P **P 16 45 26.9 -0.8**
comp=Z,0.8nm,1.0s,mb4.1,baz=209,slow=2.7,SNR=5.5
PDAR LR LR 17 21 48.3
comp=Z,127nm,19.4s,MS4.4,baz=172,slow=32
ASAR Alice Springs 105.69 209 PKKP PKKPbc 17 02 07.0 +5.2
comp=Z,0.4nm,0.9s,baz=356,slow=2.9,SNR=4.6
GERES GERESS Array B 122.41 51 PKP PKPdf 16 51 09.5 -0.5
comp=Z,0.7nm,0.7s,baz=209,slow=2.4,SNR=4.7
BR131 Keskin Array S 129.71 70 *e*PKPdf PKPdf 16 51 21.3 -2.7
BRTR Keskin Array B 129.71 70 PKP PKPdf 16 51 21.9 -2.0
comp=Z,1.9nm,1.0s,baz=197,slow=3.9,SNR=9.3
BRTR Keskin Array B 129.71 70 ⇑*i*PKIKP PKPdf 16 51 24.0 +0.1
AKASG Malin Array Be 132.08 56 PKP PKPdf 16 51 26.9 -1.5
comp=Z,0.2nm,0.3s,baz=278,slow=3.5,SNR=4.0
KIV Kislovodsk 137.66 70 ⇓*i*PKIKP PKPdf 16 51 39.5 +0.7
KIV *e* 16 54 23.9
KIV pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 137.79 52 *i*PKIKP PKPdf 16 51 38.1 -1.0
OBN pmax pmax
comp=Z,5.0nm,1.3s
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.6
HYB Hyderabad 144.92 135 *i*PKP PKPdf 16 51 52.0 +0.1
HYB Hyderabad 144.92 135 *e*P PKPdf 16 51 52.0 +0.1
ORR Orenburg 147.67 61 *e*PKP2 PKPab 16 51 58.6 -3.0
ORR pmax pmax
comp=Z,70nm,2.5s
SEY Seymchan 147.74 320*c* *i*PKIKP PKPdf 16 51 56.4 -0.2
ARU Arti 150.23 52 *i*PKIKP PKPdf 16 51 59.0 -1.6
ARU MLR MLR
comp=N,20nm,18.0s,MS4.6
ARU MLR MLR
comp=Z,100nm,18.0s,MS4.7
ARU MLR MLR
comp=E,80nm,17.0s,MS4.6
ARU Arti 150.23 52 *e*PKPbc PKPbc 16 52 05.0 -0.8
TIXI Tiksi 151.32 344 ⇑*i*PKIKP PKPbc 16 52 11.6 +3.3
YSS Yuzh-Sakhalins 153.13 287 ⇓*i*PKIKP PKPbc 16 52 13.4 +1.0
ZRNK Zerenda 156.47 59 *e*PKIKP PKPdf 16 52 09.2 -0.4
CHKZ Chkalovo 157.36 57 *e*PKIKP PKPdf 16 52 08.3 -2.5
KMI Kunming 159.47 178 PKIKP PKPdf 16 52 13.7 +0.4
KMI 16 52 26.6
KMI Kunming 159.47 178 PKP PKPdf 16 52 13.7 +0.4
KMI pPKP pPKPdf 16 52 26.6 +1.8
KMI sPKP 16 52 30.2
MDJ Mudanjiang 161.68 276 PKP PKPdf 16 52 16.3 +0.6
MDJ APKP 16 52 26.3
MDJ XPKP 16 52 30.0
MDJ PKS 16 55 48.8
MDJ SKS SKSdf 16 59 19.1 +1.2
MDJ PP PP
comp=Z,299nm,4.7s
MDJ LR LR
comp=N,268nm,28.9s
MDJ LR LR
comp=E,297nm,30.3s
MDJ LR LR
comp=Z,180nm,20.2s
NJ2 Nanjing 161.99 226 *e*PKP PKPdf 16 52 14.3 -1.7
NVS Novosibirsk 164.11 47 *e*PKIKP PKPdf 16 52 15.3 -2.8
CN2 Changchun 164.39 271 *e*PKP PKPdf 16 52 24.2 +5.9
MKAR Makanchi Array 165.19 78 PKP PKPdf 16 52 18.2 -0.8
comp=Z,1.0nm,0.9s,baz=31,slow=0.7,SNR=6.2
MKAR PKPab PKPab 16 53 15.9 -0.4
comp=Z,0.6nm,0.8s,baz=253,slow=3.7,SNR=3.9
CD2 Chengdu 165.25 180 *e*PKP PKPdf 16 52 17.5 -1.6
CD2 APKP 16 52 28.3
CD2 XPKP 16 52 31.9
CD2 SKS SKSdf 16 59 16.4 -4.2
CD2 PP PP
comp=Z,100nm,9.4s
WMQ Urumqi 168.51 94 *e*PKP PKPdf 16 52 21.0 -0.5
WMQ APKP 16 52 32.0
WMQ XPKP 16 52 36.0
WMQ PKP2 PKPab 16 53 32.0 +1.0
WMQ PKS 16 55 52.0
WMQ PP PP 16 57 22.0 +1.9
WMQ SKS SKSdf 16 59 20.0 -2.5
WMQ SKKS SKKSac 17 04 04.0 -0.6
WMQ PP PP
comp=Z,128nm,4.2s
WMQ LR LR
comp=N,361nm,22.8s
WMQ LR LR
comp=E,256nm,20.4s
WMQ LR LR
comp=Z,432nm,26.6s
BJI Beijing 169.21 243 PKP PKPdf 16 52 27.2 +5.2
LZH Lanzhou 170.41 181 *e*PKP PKPdf 16 52 23.0 +0.3
LZH APKP 16 52 36.0
LZH XPKP 16 52 41.4
LZH PP PP
comp=Z,100nm,7.5s
LZH LR LR
comp=E,198nm,20.0s
LZH LR LR
comp=Z,231nm,21.0s
HHC Hu-ho-hao-te 172.46 233 *e*PKP PKPdf 16 52 23.2 -0.5
HHC APKP 16 52 34.0
HHC XPKP 16 52 37.5
HHC PKS 16 55 53.6
HHC PP PP 16 57 41.8 +2.0
HHC SKKS SKKSac 17 04 29.0 +5.2
HHC PP PP
comp=Z,246nm,5.5s
HHC LR LR
comp=N,294nm,15.5s
HHC LR LR
comp=E,176nm,11.3s
HHC LR LR
comp=Z,299nm,19.2s
GTA Gaotai 173.13 154 *e*PKP PKPdf 16 52 24.1 +0.2
GTA APKP 16 52 34.9
GTA XPKP 16 52 38.3
GTA PKP2 PKPab 16 53 49.2 -2.3
GTA SKS SKSdf 16 59 22.1 -2.3
GTA PP PP
comp=Z,207nm,5.3s
GTA LR LR
comp=N,244nm,18.6s
GTA LR LR
comp=E,236nm,20.9s
GTA LR LR
comp=Z,311nm,21.3s
SONM Songino Array 177.13 320 PKP PKPdf 16 52 23.3 -1.7
comp=Z,1.0nm,1.1s,baz=192,slow=2.7,SNR=4.9

BJI ***07*** *17:16:54.2, 18.18S×168.10E, h6km, mB5.4, mb4.9, Ms5.2, Msz4.9*
IDC ***07*** *17:16:56.5±0.6, 1783S×16769E, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.6/16, mbtmp4.6/14, ML4.3/2, MS4.7/20, Ms1 4.7/20, ms1mx4.5/26, Error ellipse: s-maj=18.9km s-min=16.9km az=94.0*
ISCJB ***07*** *17:16:56.5±0.2, 1800S±005×16779E±004, h13km, mb5.0/55, MS4.7/29, Error ellipse: s-maj=7.1km s-min=4.7km az=123.5*
GCMT ***07*** *17:16:57.5±0.2, 1788S×16760E, h19km, MW5.4/81, Moment Tensor Solution. s70,c107; s81,c143; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr0.93±.03; Mθθ0.06±.02; Mφφ-0.99±.02; Mrθ0.31±.04; Mθφ0.20±.01; Mφr-0.90±.05; Best double couple: M0 1.36800×1017 NP1:φs357.00000°, δ23.00000°, λ103.00000°. NP2:φs163.00000°, δ67.00000°, λ85.00000°. Principal axes: T 1.3250, Plg67.0000°, Azm63.0000°; N 0.0870, Plg5.0000°, Azm165.0000°; P -1.4110, Plg22.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *17:16:57.5±0.2, 1791S×16778E, h10km, mb5.1/29, MS4.8/3 Error ellipse: s-maj=7.2km s-min=5.8km az=148.0*
LDG ***07*** *17:17:02.1±0.5, 1800S×16727E, h34km±4km, Mb5.4/1, Ms4.7/9, Error ellipse: s-maj=16.9km s-min=10.0km az=84.0*
MOS ***07*** *17:17:03.7±1.6, 1686S×168.14E, h33km, mb5.3/9, Error ellipse: s-maj=22.7km s-min=12.8km az=122.0*

ISC 07 17:16:58.4±0.2, 1795S±005×16782E±004, h14km, h14km±1.1km:pP-P, n375, σ0975/263, mb5.0/54, MS4.7/29, 81C-75D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**197**	*e*P	**Pn**	**17 18 01.3**	**-2.1**
DZM	**Mont Dzumac**	**4.30**	**197**	Pn	**Pn**	**17 18 02.5**	**-0.9**
13nm,0.3s,baz=133,slow=14,SNR=81							
DZM				Sn	**Sn**	**17 18 50.0**	**-3.3**
45nm,0.3s,baz=319,slow=23,SNR=4.7							
DZM				LR	LR	17 19 36.9	
comp=Z,5μm,20.6s,baz=27,slow=37							
HNR	**Honiara**	**11.41**	**317**	Pn	**Pn**	**17 19 37.7**	**-3.2**
2.2nm,0.3s,baz=111,slow=2.8,SNR=3.1							
HNR				Sn	**Sn**	**17 21 43.6**	**-4.5**
2.2nm,0.3s,baz=274,slow=16,SNR=2.2							
HNR				LR	LR	17 23 17.8	
comp=Z,3μm,20.3s,baz=178,slow=34							
HNR	**Honiara**	**11.41**	**317**	P	**Pn**	**17 19 37.7**	**-3.2**
HNR				S	**Sn**	**17 21 43.6**	**-4.5**
RAO	**Raoul Island**	**17.23**	**133**	LR	LR	17 26 12.9	
comp=Z,1μm,20.8s,baz=284,slow=32							
ARMA	**Armidale**	**19.27**	**227**	*e*P	**Pn**	**17 21 30.0**	**+6.5**
AFI	**Afiamalu**	**20.02**	**81**	P	**P**	**17 21 32.4**	**+1.6**
44nm,1.1s,baz=12,slow=21,SNR=3.8							
AFI				LR	LR	17 27 36.1	
comp=Z,3μm,18.9s,MS4.6,baz=247,slow=32							
AFI	**Afiamalu**	**20.02**	**81**	*e*P	**P**	**17 21 31.4**	**+0.6**
241nm,1.2s							
AFI				*e*		17 21 41.9	
CTA	**Charters Tower**	**20.50**	**261**	*e*P	**P**	**17 21 37.1**	**+1.1**
12nm,0.8s							
CTA	**Charters Tower**	**20.50**	**261**	P	**P**	**17 21 36.1**	**+0.2**
9.9nm,0.7s,baz=84,slow=13,SNR=11							
CTA				LR	LR	17 28 22.6	
comp=Z,3μm,20.8s,MS4.7,baz=76,slow=34							
PMG	**Port Moresby**	**21.78**	**290**	LR	LR	17 29 07.3	
comp=Z,3μm,19.1s,MS4.7,baz=97,slow=34							
URZ	**Urewera**	**21.80**	**160**	P	**P**	**17 21 51.3**	**+1.2**
26nm,0.8s,mb4.7,baz=322,slow=3.1,SNR=10							
URZ				LR	LR	17 28 45.4	
comp=Z,2μm,19.3s,MS4.5,baz=13,slow=32							
CNB	**Canberra Magne**	**23.83**	**220**	*e*P	**P**	**17 22 13.8**	**+2.7**
55nm,0.8s,mb5.0							
SNZO	**South Karori**	**24.02**	**167**	*e*P	**P**	**17 22 15.5**	**+2.7**
RPZ	**Rata Peaks**	**25.83**	**175**	P	**P**	**17 22 36.6**	**+7.4**
14nm,1.0s,mb4.4,baz=322,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**27.44**	**235**	*e*P	**P**	**17 22 43.7**	**-0.1**
16nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**27.44**	**235**	P	**P**	**17 22 44.5**	**+0.7**
13nm,1.0s,mb4.4,baz=66,slow=7.5,SNR=8.6							
STKA				LR	LR	17 33 40.9	
comp=Z,2μm,18.2s,MS4.8,baz=59,slow=37							
RAR	**Rarotonga**	**30.67**	**101**	LR	LR	17 32 39.3	
comp=Z,884nm,21.3s,MS4.4,baz=254,slow=31							
WB2	**Warramunga Arr**	**31.69**	**261**	*e*P	**P**	**17 23 21.0**	**-0.5**
WRA	**Warramunga Arr**	**31.70**	**261**	P	**P**	**17 23 20.1**	**-1.5**
2.5nm,0.7s,mb4.2,baz=92,slow=8.5,SNR=15							
WRA				LR	LR	17 35 18.5	
comp=Z,2μm,19.6s,MS4.7,baz=90,slow=35							
AS31	**Alice Springs**	**32.16**	**254**	*e*P	**P**	**17 23 24.4**	**-1.2**
ASAR	**Alice Springs**	**32.16**	**254**	P	**P**	**17 23 24.2**	**-1.3**
6.1nm,0.7s,mb4.5,baz=82,slow=7.9,SNR=55							
ASAR				LR	LR	17 35 53.7	
comp=Z,3μm,20.5s,MS5.0,baz=92,slow=36							
ASPA	**Alice Springs**	**32.16**	**254**	*e*P	**P**	**17 23 24.4**	**-1.2**
FORT	**Forrest**	**38.21**	**243**	*e*P	**P**	**17 24 17.6**	**-0.1**
32nm,0.6s,mb5.2							
GUMO	**Guam**	**38.66**	**323**	LR	LR	17 39 51.8	
comp=Z,757nm,18.3s,MS4.5,baz=132,slow=36							
FITZ	**Fitzroy Crossi**	**40.05**	**263**	*e*P	**P**	**17 24 32.3**	**-0.8**
43nm,0.9s,mb5.2							
TBI	**Tubuai**	**40.23**	**105**	*e*S	**S**	**17 30 38.5**	**-2.7**
663nm,27.2s							
TBI				*e*LQ		17 34 06.0	
3μm,26.5s							
TBI				*e*LR	LR	17 35 58.8	
1μm,26.2s,baz=267							
PPT	**Papeete**	**40.51**	**96**	*e*S	**S**	**17 30 44.2**	**-1.2**
721nm,24.5s							
PPT				*e*LQ		17 34 14.4	
2μm,27.5s							
PPT				*e*LR	LR	17 36 07.5	
2μm,25.5s,baz=254							
PPT	**Papeete**	**40.51**	**96**	LR	LR	17 37 25.7	
comp=Z,715nm,20.6s,MS4.5,baz=261,slow=30							
PMOR	**Pomariorio Ree**	**42.49**	**93**	*e*P	**P**	**17 24 53.3**	**+0.1**
22nm,1.2s,mb4.7							
MBWA	**Marble Bar**	**45.30**	**258**	*e*P	**P**	**17 25 16.5**	**+0.8**
23nm,1.0s,mb5.0							
KLBR	**Kellerberrin**	**47.07**	**243**	*e*P	**P**	**17 25 28.4**	**-1.2**
93nm,1.8s,mb5.4							
TAOE	**Nuku Hiva Isla**	**51.27**	**87**	*e*S	**S**	**17 33 18.1**	**-2.1**
2μm,25.9s							
TAOE				*e*LR	LR	17 40 48.9	
7μm,25.5s,baz=253							
RKT	**Rikitea**	**53.54**	**106**	*e*S	**S**	**17 33 49.1**	**-2.1**
839nm,29.2s							
RKT				*e*SS	SS	17 37 31.7	+0.2
324nm,28.5s							
RKT				*e*LR	LR	17 41 48.6	
929nm,26.8s,baz=265							
VNDA	**Vanda**	**59.67**	**182**	P	**P**	**17 27 03.9**	**+1.6**
0.9nm,0.8s,mb3.9,baz=359,slow=8.6,SNR=4.0							
VNDA	**Vanda**	**59.67**	**182**	*e*P	**P**	**17 27 01.3**	**-1.0**
17nm,1.4s,mb4.9							
VNDA				*e*		17 27 11.6	
KSM	**Kuching**	**59.78**	**283**	*e*P	**P**	**17 27 02.0**	**-1.0**
SBA	**Scott Base**	**59.94**	**180**	*e*P	**P**	**17 27 04.3**	**+0.2**
37nm,1.2s,mb5.3							
SBA				*e*		17 27 13.5	
MJAR	**Matsushiro Arr**	**60.99**	**333**	P	**P**	**17 27 10.5**	**-0.8**
11nm,1.0s,mb5.0,baz=164,slow=6.7,SNR=13							
MJAR	**Matsushiro Arr**	**60.99**	**333**	P	**P**	**17 27 10.5**	**-0.8**
MAJO	**Matsushiro**	**60.99**	**333**	*e*P	**P**	**17 27 10.7**	**-0.6**
28nm,1.1s,mb5.3							
MAT	**Matsushiro**	**60.99**	**333**	P	**P**	**17 27 10.7**	**-0.6**
SSE	**Sheshan**	**66.22**	**317**	P	**P**	**17 27 46.7**	**+0.9**
SSE				S	S	17 36 37.2	+2.8
SSE				SS	SS	17 40 55.0	+4.7
SSE				AMB	AMB		
comp=Z,33nm,0.7s,mb5.5							
SSE				AMB	AMB		
comp=Z,328nm,6.7s							
SSE				LR	LR		
comp=N,122nm,19.9s,MS4.4							
SSE				LR	LR		
comp=E,203nm,19.9s,MS4.4							
SSE				LR	LR		
comp=Z,277nm,21.3s,MS4.4							
MIR	**Mirnyy**	**67.63**	**205**	*e*P	**P**	**17 27 57.0**	**+2.2**
MIR				*e*		17 28 36.0	
MIR				pmax	pmax		
comp=Z,20nm,2.0s,mb4.8							
QIZ	**Qiongzhong**	**67.78**	**300**	*e*P	**P**	**17 27 55.7**	**0.0**
QIZ				S	S	17 36 57.1	+3.9
QIZ				PS		17 37 24.2	
QIZ				AMB	AMB		
comp=Z,150nm,6.0s							
QIZ				LR	LR		
comp=E,242nm,18.1s							
QIZ				LR	LR		
comp=Z,342nm,28.1s							
NJ2	**Nanjing**	**68.35**	**316**	*e*P	**P**	**17 28 03.3**	**+4.0**
NJ2				PP	PP	17 30 37.4	+7.3
NJ2				S	S	17 37 03.0	+2.9
NJ2				AMB	AMB		
comp=Z,50nm,1.2s,mb5.4							
NJ2				AMB	AMB		
comp=Z,600nm,4.8s							
NJ2				LR	LR		
comp=N,760nm,11.4s							
NJ2				LR	LR		
comp=E,800nm,16.5s							
NJ2				LR	LR		
comp=Z,6μm,15.9s							
YSS	**Yuzh-Sakhalins**	**68.44**	**342**	P	**P**	**17 28 00.5**	**+0.6**
comp=Z,23nm,0.9s,mb5.2							
KULM	**Kulim**	**70.14**	**283**	*e*P	**P**	**17 28 09.9**	**-0.4**
WHN	**Wuhan**	**70.49**	**313**	P	**P**	**17 28 15.7**	**+3.2**
PET	**Petropavlovsk**	**71.12**	**354**	*e*P	**P**	**17 28 15.1**	**-1.3**
PET				pmax	pmax		
comp=Z,48nm,1.2s,mb5.3							
MDJ	**Mudanjiang**	**71.36**	**332**	P	**P**	**17 28 18.5**	**+0.7**
MDJ				AP	pP	17 28 21.7	-0.6
MDJ				PCP	PcP	17 28 38.0	+0.5
MDJ				PP	PP	17 30 56.1	0.0
MDJ				S	S	17 37 38.8	+3.4
MDJ				AMB	AMB		
comp=Z,16nm,1.2s,mb4.8							
MDJ				AMB	AMB		
comp=Z,187nm,4.3s							
MDJ				LR	LR		
comp=N,118nm,17.3s,MS4.3							
MDJ				LR	LR		
comp=E,101nm,16.2s,MS4.3							
MDJ				LR	LR		
comp=Z,204nm,17.8s,MS4.4							
QSPA	**South Pole Qui**	**72.10**	**180**	*e*P	**P**	**17 28 22.4**	**+0.1**
comp=Z,52nm,1.0s,mb5.4							
CN2	**Changchun**	**72.67**	**329**	*e*P	**P**	**17 28 26.7**	**+1.0**
CN2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.2							
KLR	**Kul'dur**	**74.15**	**336**	*e*P	**P**	**17 28 26.9**	**-7.5**
BJI	**Beijing**	**75.10**	**321**	P	**P**	**17 28 42.8**	**+2.9**
BJI				S	S	17 38 25.9	+8.1
BJI				AMB	AMB		
comp=Z,11nm,1.3s,mb4.6							
BJI				AMB	AMB		
comp=Z,280nm,8.2s							
BJI				LR	LR		
comp=N,396nm,32.6s,MS4.6							
BJI				LR	LR		
comp=E,392nm,34.8s,MS4.6							
BJI				LR	LR		
comp=Z,272nm,32.6s,MS4.3							
XAN	**Xi'an**	**76.25**	**313**	P	**P**	**17 28 50.7**	**+4.2**
KMI	**Kunming**	**76.45**	**302**	P	**P**	**17 28 49.4**	**+1.8**
KMI				AP	pP	17 28 52.9	+0.7
KMI				XP	sP	17 28 54.0	+0.2
KMI				PCP	PcP	17 29 02.1	+2.8
KMI				PP	PP	17 31 43.2	+3.8
KMI				PPP		17 33 30.7	
KMI				S	S	17 38 36.9	+4.1
KMI				SKS		17 38 56.6	
KMI				SS	SS	17 43 31.9	+4.6
KMI				SSS		17 46 45.5	
KMI				AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.6							
KMI				AMB	AMB		
comp=Z,94nm,3.1s							
KMI				LR	LR		
comp=N,264nm,16.6s,MS4.8							
KMI				LR	LR		
comp=E,247nm,17.3s,MS4.8							
KMI				LR	LR		
comp=Z,335nm,16.6s,MS4.7							
KMI	**Kunming**	**76.45**	**302**	P	**P**	**17 28 49.4**	**+1.8**
KMI				pP	pP	17 28 52.9	+0.7
KMI				sP	sP	17 28 54.0	+0.2
KMI				PcP	PcP	17 29 02.1	+2.8
KMI				PP	PP	17 31 43.2	+3.8
KMI				PPP		17 33 30.7	
KMI				S	S	17 38 36.9	+4.1
KMI				sS	sS	17 38 40.6	+0.4
KMI				SKS		17 38 56.6	
KMI				SS	SS	17 43 31.9	+4.6
KMI				SSS		17 46 45.5	
CHTO	**Chiang Mai**	**76.89**	**295**	*e*P	**P**	**17 28 51.2**	**+1.1**
comp=Z,18nm,1.3s,mb4.8							
HHC	**Hu-ho-hao-te**	**78.37**	**320**	*e*P	**P**	**17 28 59.2**	**+0.8**
HHC				AP	pP	17 29 04.1	+1.2

HHC XP sP 17 29 06.6 +2.0
HHC PP PP 17 31 57.5 +2.0
HHC S S 17 38 55.7 +2.1
HHC PS 17 39 39.0
HHC SS SS 17 44 01.2 +4.9
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,262nm,5.7s
HHC LR LR
comp=N,265nm,15.1s
HHC LR LR
comp=E,201nm,10.0s
HHC LR LR
comp=Z,270nm,8.6s
CD2 Chengdu 78.39 308 *e*P **P 17 28 58.9 +0.4**
CD2 AP pP 17 29 03.6 +0.6
CD2 XP sP 17 29 08.0 +3.4
CD2 PP PP 17 31 58.6 +3.0
CD2 S S 17 38 53.9 +0.1
CD2 XS sS 17 39 01.8 +0.6
CD2 SS SS 17 44 00.5 +4.0
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,290nm,19.2s
CD2 LR LR
comp=Z,240nm,21.6s,MS4.5
MA2 Magadan 78.49 351 *e*P **P 17 28 58.3 -0.7**
MA2 *e*S S 17 38 47.1 -7.8
MA2 *e* 17 39 13.0
MA2 *e*PS 17 39 38.8
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 Magadan 78.49 351⇑ *e*P **P 17 28 58.4 -0.6**
MAW Mawson 79.12 202 P **P 17 29 03.3 +0.8**
comp=Z,6.0nm,0.9s,mb4.5,baz=116,slow=11,SNR=5.5
MAW Mawson 79.12 202 *e*P **P 17 29 02.2 -0.3**
comp=Z,9.6nm,0.9s,mb4.7
LZH Lanzhou 80.87 313 *e*P **P 17 29 15.1 +3.1**
LZH AP pP 17 29 18.1 +1.6
LZH XP sP 17 29 19.6 +1.5
LZH PP PP 17 32 22.0 +5.7
LZH *e*S S 17 39 21.0 +1.0
LZH SS SS 17 44 41.0 +7.3
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,110nm,5.5s
LZH LR LR
comp=E,399nm,15.9s
LZH LR LR
comp=Z,586nm,16.1s,MS5.0
LZH Lanzhou 80.87 313 *e*P **P 17 29 15.1 +3.1**
LZH pP pP 17 29 18.1 +1.6
LZH sP sP 17 29 19.6 +1.5
LZH PP PP 17 32 22.0 +5.7
LZH *e*S S 17 39 21.0 +1.0
LZH sS sS 17 39 26.0 -1.5
LZH SS SS 17 44 41.0 +7.3
SEY Seymchan 81.52 353 *d i*P **P 17 29 15.2 -0.2**
SEY Seymchan 81.52 353 *i* P **P 17 29 15.3 -0.1**
CLNS Chul'man 82.69 338 *e*P **P 17 29 20.1 -1.5**
CLNS pmax pmax
comp=Z,19nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,11nm,0.9s
CIT Chita 84.11 330 *e*P **P 17 29 29.0 +0.2**
YAK Yakutsk 85.25 343 *c i*P **P 17 29 33.9 -0.7**
YAK pmax pmax
comp=Z,88nm,1.3s,mb5.7
YAK MLR MLR
comp=Z,400nm,19.0s,MS4.8
YAK Yakutsk 85.25 343 *e*P **P 17 29 33.8 -0.8**
comp=Z,68nm,1.0s,mb5.7
GTA Gaotai 85.27 314 *e*P **P 17 29 36.8 +2.1**
GTA AP pP 17 29 40.8 +1.5
GTA XP sP 17 29 43.6 +2.7
GTA PP PP 17 32 58.3 +5.9
GTA SKS 17 39 59.2
GTA S S 17 40 07.6 +2.9
GTA XS sS 17 40 16.0 +3.7
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,233nm,5.3s
GTA LR LR
comp=N,244nm,17.9s,MS4.8
GTA LR LR
comp=E,236nm,17.9s,MS4.8
GTA LR LR
comp=Z,311nm,17.5s,MS4.8
SONM Songino Array 85.39 324 P **P 17 29 36.4 +1.0**
comp=Z,8.3nm,1.2s,mb4.8,baz=138,slow=3.3,SNR=24
SONM LR LR 18 07 09.6
comp=Z,285nm,18.8s,MS4.7,baz=218,slow=35
BNLO Ben Lomond (Sa 85.64 49 ⇑P **P 17 29 39.8 +3.2**
baz=86
BILL Bilibino 85.75 359 *c i*P **P 17 29 35.4 -1.7**
BILL pmax pmax
comp=Z,66nm,1.2s,mb5.7
BILL Bilibino 85.75 359 *e*P **P 17 29 36.0 -1.1**
comp=Z,62nm,1.3s,mb5.7
SYO Syowa Base 85.79 196⇑ *e*P **P 17 29 36.8 -0.5**
SYO Syowa Base 85.79 196⇓ *e*pP pP 17 29 41.0 -0.9
HOPS Hopland 85.84 47 ⇑P **P 17 29 37.6 +0.1**
baz=86
O01C Eel River Cons 85.85 46 ⇑P **P 17 29 37.7 +0.1**
baz=86
MNRC McLaughlin Nat 86.22 47 ⇓P **P 17 29 39.0 -0.4**
baz=86
PACP Pacheco Peak 86.22 49 ⇑P **P 17 29 39.0 -0.5**
baz=86
PKD Parkfield 86.31 51 ⇑P **P 17 29 39.7 -0.2**
baz=86
GASB Alder Springs 86.38 46 ⇓P **P 17 29 39.4 -0.8**
baz=87
PKM Peak Mountain 86.41 52 ⇓P **P 17 29 40.3 -0.1**
baz=87
S04C Ingram Canyon, 86.41 49 ⇑P **P 17 29 40.3 -0.1**
baz=87
SMMC Simmler 86.44 51 ⇓P **P 17 29 40.5 0.0**
baz=87
O02C Red Bluff 86.57 46 ⇑P **P 17 29 40.8 -0.3**
baz=87,SNR=5.2
SUTB Sutter Butte 86.84 47 ⇑P **P 17 29 41.3 -1.1**
baz=87
WDC Whiskeytown Da 86.92 46 ⇑P **P 17 29 41.9 -0.9**
baz=87
Q04C Lincoln 86.95 48 ⇓P **P 17 29 43.8 +0.7**
baz=87
S05C Merced 87.06 49 ⇑P **P 17 29 43.0 -0.6**
baz=87
M02C Callahan 87.07 45 ⇑P **P 17 29 43.4 -0.2**
baz=87
ORV Oroville 87.18 47 ⇑P **P 17 29 43.3 -0.9**
baz=87,SNR=6.7
ARVC Arvin 87.24 52 ⇑P **P 17 29 43.8 -0.6**
baz=87
DECC Green Verdugo 87.26 53 ⇓P **P 17 29 44.1 -0.4**
baz=87
CMB Columbia Colle 87.31 49 *e*P **P 17 29 44.1 -0.7**
comp=Z,12nm,0.9s,mb5.1
CMB Columbia Colle 87.31 49 ⇑P **P 17 29 44.1 -0.7**
baz=88,SNR=14
YBH Yreka Blue Hor 87.32 45 LR LR 18 02 53.3
comp=Z,453nm,19.2s,MS4.9,baz=166,slow=32
YBH Yreka Blue Hor 87.32 45 ⇓P **P 17 29 44.5 -0.3**
baz=88
VES Vestal, Richgr 87.35 51 ⇓P **P 17 29 44.1 -0.8**
baz=88
LAVA Lava Cap Winer 87.37 48 ⇓P **P 17 29 44.8 -0.3**
baz=88
M03C McCloud 87.51 45 ⇓P **P 17 29 45.5 -0.2**
baz=88
BOD Bodaibo 87.59 334⇑ *i*P **P 17 29 45.3 -0.8**
BOD pmax pmax
comp=Z,13nm,1.3s,mb5.0
109C Camp Elliot, M 87.66 54 ⇑P **P 17 29 46.5 0.0**
baz=88
ISA Isabella 87.72 51 *e*P **P 17 29 46.5 -0.2**
ISA Isabella 87.72 51 ⇓P **P 17 29 46.6 -0.2**
baz=88,SNR=12
HELL Mitchell Peak, 87.73 50 P **P 17 29 46.5 -0.3**
baz=88,SNR=10
HATC Hat Creek Radi 87.76 46 ⇓P **P 17 29 46.6 -0.4**
baz=88
O05C Quincy 87.76 47 ⇓P **P 17 29 46.7 -0.2**
baz=88
BFSC Mount Baldy St 87.77 53 ⇓P **P 17 29 46.2 -0.8**
baz=88
EDW2 Edwards Air Fo 87.77 52 ⇑P **P 17 29 46.7 -0.3**
baz=88,SNR=8.6
KCC Kaiser Creek 87.78 50 ⇓P **P 17 29 46.6 -0.5**
baz=88,SNR=9.9
O04C Chester 87.80 46 ⇑P **P 17 29 46.9 -0.2**
baz=88
R05C Kirkwood Meado 87.81 48 ⇑P **P 17 29 47.2 0.0**
baz=88
MURC Murrieta 87.87 54 ⇓P **P 17 29 47.5 +0.1**
baz=88
I03A Eugene 87.97 42 ⇑P **P 17 29 47.4 -0.5**
baz=88
L04A Klamath Falls 88.06 44 ⇑P **P 17 29 47.8 -0.6**
baz=88
BEKR Beckwourth 88.11 47 ⇓P **P 17 29 48.4 -0.2**
baz=88,SNR=7.0
R06C Coleville 88.18 49 P **P 17 29 49.4 +0.5**
baz=88,SNR=8.5
MONP Monument Peak 88.19 55 P **P 17 29 49.5 +0.6**
baz=88,SNR=8.2
M05C Lookout 88.21 45 ⇓P **P 17 29 48.7 -0.3**
baz=88
LRMC Laurel Mountai 88.24 52 ⇓P **P 17 29 49.2 0.0**
baz=88
WCN Washoe City 88.29 48 ⇓P **P 17 29 49.6 +0.1**
baz=88
R07C Lee Vining 88.29 49 ⇑P **P 17 29 49.4 0.0**
baz=88
CWC Cottonwood Cre 88.33 51 ⇓P **P 17 29 49.8 +0.2**
baz=88
MTUM Tungsten Hills 88.34 50 *e*P **P 17 29 49.9 +0.2**
K04A Chilquin 88.36 44 ⇓P **P 17 29 49.6 -0.2**
baz=88
PFO Pinyon Flat Ob 88.44 54 *e*P **P 17 29 49.3 -0.9**
comp=Z,6.8nm,0.9s,mb4.9
PFO Pinyon Flat Ob 88.44 54 ⇓P **P 17 29 50.3 +0.1**
baz=89
ZAK Zakamensk 88.47 325 *e*P **P 17 29 49.9 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.5
M06C Likely Place G 88.60 46 ⇓P **P 17 29 50.8 -0.1**
baz=89
O06A Flanigan 88.60 47 ⇑P **P 17 29 50.6 -0.3**
baz=89,SNR=6.4
MPMC Manual Prospec 88.61 51 P **P 17 29 51.0 +0.1**
baz=89,SNR=5.8
S08C White Mtn Res 88.69 50 ⇑P **P 17 29 51.2 -0.1**
baz=89,SNR=15
SWSC Sam W. Stewart 88.70 55 ⇑P **P 17 29 51.5 +0.2**
baz=89
L05A Lakeview 88.72 45 ⇑P **P 17 29 51.8 +0.3**
baz=89
GSC Goldstone 88.83 52 ⇑P **P 17 29 51.9 -0.1**
baz=89
N06A Buffalo Meadow 88.84 46 ⇓P **P 17 29 51.5 -0.6**
baz=89,SNR=8.8
TLY Talaya 88.94 326 *e*P **P 17 29 54.5 +2.0**
TLY *e*S SKSac 17 40 22.2 +0.4
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BELC Belle Mtn. 88.94 54 P **P 17 29 53.0 +0.4**
baz=89,SNR=8.1
NVAR Mina Array Bea 88.97 49 P **P 17 29 52.7 +0.1**
comp=Z,4.8nm,0.8s,mb4.9,baz=230,slow=8.7,SNR=31
K05A Summer Lake 88.97 44 ⇓P **P 17 29 52.8 +0.2**
baz=89
E03A Lebam 88.97 40 ⇓P **P 17 29 52.4 -0.3**
baz=89
J05A Fort Rock 88.98 44 P **P 17 29 53.1 +0.4**
baz=89,SNR=8.2
H04A Detroit Lake 88.99 42 ⇑P **P 17 29 52.4 -0.3**
baz=89
HEC Hector,Ludlow 89.01 53 ⇓P **P 17 29 52.7 -0.2**
baz=89
MOD Modoc 89.01 45 *e*P **P 17 29 52.4 -0.5**
comp=Z,7.4nm,1.3s,mb4.9
MOD Modoc 89.01 45 ⇑P **P 17 29 52.7 -0.2**
baz=89
C03A Quillayute Air 89.03 38 ⇑P **P 17 29 54.2 +1.3**
baz=89
G04A Mulino 89.04 42 ⇑P **P 17 29 53.2 +0.3**
baz=89
D03A Wishkah Elem. 89.11 39 ⇑P **P 17 29 53.8 +0.4**
baz=89
COLA College 89.21 17⇓ *e*P **P 17 29 50.9 -2.9**
COLA College 89.21 17 *e*P **P 17 29 49.5 -4.2**
comp=Z,10nm,1.1s,mb5.1
BC3 Big Chuckw Mtn 89.23 54 ⇓P **P 17 29 54.3 +0.4**
baz=89
FURC Furnace Creek, 89.24 51 ⇓P **P 17 29 54.1 +0.1**
baz=89
O07A Toulon 89.26 47 P **P 17 29 54.1 +0.1**
baz=89,SNR=11
I05A Bend 89.35 43 ⇓P **P 17 29 54.7 +0.3**
baz=90
F04A Amboy 89.40 41 ⇓P **P 17 29 54.5 -0.1**
baz=90
Q08A Gabbs 89.41 49 P **P 17 29 54.8 +0.1**
baz=90,SNR=7.7
K06A Valley Falls 89.43 44 ⇓P **P 17 29 54.8 0.0**
baz=90
N07B Gerlach 89.45 47 ⇓P **P 17 29 55.0 +0.1**
baz=90
SHOC Shoshone 89.46 52 ⇓P **P 17 29 54.8 -0.1**
baz=90
S09A Goldfield 89.47 50 ⇑P **P 17 29 54.4 -0.6**
baz=90
GLA Glamis 89.50 55 *e*P **P 17 29 53.6 -1.5**
GLA Glamis 89.50 55 ⇑P **P 17 29 55.5 +0.4**
baz=90
TUQ Turquoise Mtn. 89.55 52 ⇓P **P 17 29 55.6 +0.2**
baz=90,SNR=8.5
M07A Soldier Meadow 89.57 46 ⇓P **P 17 29 55.6 +0.1**
baz=90,SNR=7.4
TPH Tonopah 89.61 50 *e*P **P 17 29 54.4 -1.2**
comp=Z,13nm,1.0s,mb5.2
IRM Iron Mountain 89.66 54 ⇑P **P 17 29 56.0 +0.1**
baz=90,SNR=7.0
B04A Port Angeles 89.71 39 ⇑P **P 17 29 56.8 +0.7**
baz=90
L07A Adel 89.71 45 ⇓P **P 17 29 56.3 +0.2**
baz=90,SNR=8.3
R09A Tonopah 89.78 50 ⇓P **P 17 29 56.4 0.0**
baz=90,SNR=9.8
G05A Wamic 89.79 42 ⇑P **P 17 29 56.8 +0.3**
baz=90
C04A Brinnon 89.87 39 ⇓P **P 17 29 57.1 +0.3**
baz=90
I06A Prineville 89.94 43 ⇑P **P 17 29 57.4 +0.2**
baz=90,SNR=9.1
NVL N'lazarevskaya 89.95 188 *e*P **P 17 30 05.8 +8.5**
NVL *e*S S 17 40 41.1 -8.5
NVL pmax pmax
comp=Z,40nm,1.6s,mb5.5
F05A White Salmon 89.98 41 ⇑P **P 17 29 57.2 -0.1**
baz=90
Y12C Blythe 89.99 54 ⇑P **P 17 29 57.8 +0.3**
baz=90
N08A GE Springer Mi 90.03 47 ⇓P **P 17 29 57.3 -0.3**
baz=90,SNR=13
K07A Rock Creek Ran 90.05 45 ⇑P **P 17 29 57.4 -0.3**
baz=90,SNR=12
V11A Goodsprings 90.07 52 ⇓P **P 17 29 58.1 +0.3**
baz=90,SNR=7.7
LPIG La Paz 90.08 65 LR LR 18 03 16.6
comp=Z,1μm,18.5s,MS5.3,baz=70,slow=31
E05A Randle 90.09 41 ⇑P **P 17 29 57.9 0.0**
baz=90
M08A Happy Creek Ra 90.13 46 ⇑P **P 17 29 58.2 +0.1**
baz=90,SNR=7.8
H06A Lindquist Farm 90.20 43 P **P 17 29 58.1 -0.3**
baz=90,SNR=12
G06A Carlson Farm, 90.22 42 ⇑P **P 17 29 58.1 -0.4**
baz=90
D05A Enumclaw 90.23 40 ⇑P **P 17 29 59.1 +0.6**
baz=90
P09A Austin 90.24 48 ⇑P **P 17 29 58.5 -0.1**
baz=90
J07A Hines 90.29 44 ⇑P **P 17 29 58.8 0.0**
baz=90
W12A Cal Nev Ari 90.30 53 ⇓P **P 17 29 59.0 +0.1**
baz=90
U11A Corn Creek 90.33 52 ⇑P **P 17 29 59.9 +0.9**
baz=90
F06A Goldendale 90.35 42 ⇑P **P 17 29 59.4 +0.3**
baz=90
R10A Warm Springs 90.36 50 ⇓P **P 17 29 59.4 +0.3**
baz=90,SNR=9.3
WVOR Wild Horse Val 90.36 45 *e*P **P 17 29 58.9 -0.2**
comp=Z,8.7nm,1.0s,mb5.0
SNAA Sanae 90.38 183 LR LR 18 10 12.3
comp=Z,120nm,18.3s,MS4.4,baz=204,slow=35
SNAA Sanae 90.38 183 *e*P **P 17 29 57.8 -1.5**
comp=Z,29nm,1.3s,mb5.5
O09A Fish Creek Ran 90.45 48 ⇑P **P 17 29 59.8 +0.2**
baz=91,SNR=6.5
L08A Fields 90.46 46 P **P 17 29 60.0 +0.3**
baz=91,SNR=17
I07A Izee 90.46 43 P **P 17 29 59.8 +0.2**
baz=91,SNR=13
A04A Legoe Bay, Lum 90.48 38 ⇓P **P 17 29 59.9 +0.1**
baz=91
N09A Rock Creek Ran 90.49 47 ⇓P **P 17 29 59.6 -0.1**
baz=91,SNR=5.1
PDMCI Parker Dam,Lak 90.49 54 P **P 17 30 00.1 +0.4**
baz=91,SNR=6.7
Y13A Salome 90.55 55 P **P 17 30 00.6 +0.6**
baz=91,SNR=12
E06A Yakima 90.57 41 ⇓P **P 17 30 00.1 -0.1**
baz=91
K08A Mann Creek Ran 90.58 45 P **P 17 30 00.4 +0.2**
baz=91,SNR=6.9
C05A Tolt Reservoir 90.63 40 ⇓P **P 17 30 00.4 -0.1**
baz=91
H07A Lands Inn, Kim 90.63 43 P **P 17 30 00.4 0.0**
baz=91,SNR=13
B05A Bryant 90.64 39 ⇑P **P 17 30 00.7 +0.2**
baz=91
P10A Eureka 90.75 48 ⇓P **P 17 30 01.2 +0.2**
baz=91
M09A Marrel Ranch, 90.76 47 ⇓P **P 17 30 01.3 +0.3**
baz=91,SNR=5.9
X13A Yucca 90.83 54 ⇓P **P 17 30 01.4 0.0**
baz=91,SNR=16
J08A Circle Bar Ran 90.84 44 P **P 17 30 01.9 +0.5**
baz=91,SNR=9.9
G07A Ruggs Ranch, H 90.85 42 ⇓P **P 17 30 01.0 -0.4**
baz=91,SNR=7.5
L09A Wilkinson Ranc 90.85 46 ⇑P **P 17 30 01.7 +0.2**
baz=91,SNR=7.7
D06A Cle Elum 90.93 40 ⇓P **P 17 30 01.8 0.0**
baz=91
F07A Phinny Hill Vi 90.95 42 ⇓P **P 17 30 02.0 +0.2**
baz=91
U12A Valley of Fire 90.96 52 ⇑P **P 17 30 02.3 +0.4**
baz=91
W13A Hualapai Mount 90.97 53 ⇓P **P 17 30 02.2 +0.2**
baz=91,SNR=12
O10A Cortez Mining, 90.98 48 ⇓P **P 17 30 02.1 +0.1**
baz=91
I08A Drewsey 91.00 44 ⇓P **P 17 30 02.2 0.0**
baz=91
VNA3 Neumayer Olymp 91.02 181 *e*P **P 17 30 01.3 -0.9**
VNA3 *e* pP 17 30 05.9 -0.9
VNA3 *e* 17 30 09.4
VNA3 *e* 17 30 16.9
Q11A Duckwater 91.04 49 ⇓P **P 17 30 02.1 -0.2**
baz=91,SNR=15
Z14A Wintersburg 91.08 55 ⇓P **P 17 30 02.9 +0.4**
baz=91
K09A Rome 91.08 45 P **P 17 30 02.4 -0.1**
baz=91,SNR=13
B06A Marblemount 91.12 39 ⇑P **P 17 30 03.3 +0.6**
baz=91
EGAK Eagle 91.16 19 *e*P **P 17 30 00.8 -2.1**
H08A Prairie City 91.19 43 ⇑P **P 17 30 03.0 0.0**
baz=91
P11A Circle Ranch, 91.23 49 ⇓P **P 17 30 03.8 +0.6**
baz=91
Y14A Wickenburg 91.24 55 ⇓P **P 17 30 03.5 +0.3**
baz=91
E07A Sunnyside 91.27 41 ⇓P **P 17 30 03.8 +0.3**
baz=92
G08A Pilot Rock 91.31 43 P **P 17 30 03.6 0.0**
baz=92,SNR=15
J09A Fry Pan Ranch, 91.32 45 P **P 17 30 04.2 +0.6**
baz=92,SNR=7.7
HAWA Hanford 91.41 41 *e*P **P 17 30 03.6 -0.4**
comp=Z,7.5nm,0.9s,mb5.0
115A Sonoran Desert 91.41 56 ⇑P **P 17 30 04.6 +0.6**
baz=92
M10A I.L. Ranch, Tu 91.43 47 ⇑P **P 17 30 04.3 +0.1**
baz=92,SNR=12
X14A Yava 91.51 54 P **P 17 30 05.1 +0.6**
baz=92,SNR=12
O11A Cowboy Ranch, 91.52 48 P **P 17 30 05.0 +0.5**
baz=92,SNR=11
I09A Lost Marbles R 91.58 44 ⇑P **P 17 30 04.5 -0.3**
baz=92
C07A Waterville 91.62 40 ⇓P **P 17 30 05.4 +0.3**
baz=92
W14A Seligman 91.63 54 P **P 17 30 05.8 +0.8**
baz=92,SNR=14
F08A Pendleton 91.64 42 ⇓P **P 17 30 05.1 0.0**
baz=92
116A Eloy 91.78 56 ⇑P **P 17 30 06.4 +0.7**
baz=92
P12A McGill 91.81 49 ⇓P **P 17 30 06.0 +0.1**
baz=92,SNR=6.8
H09A Durkee 91.90 43 ⇑P **P 17 30 05.8 -0.5**
baz=92
B07A Winthrop 91.91 39 P **P 17 30 06.0 -0.4**
baz=92,SNR=6.4
M11A Holland Ranch, 91.92 47 ⇑P **P 17 30 06.6 +0.2**
baz=92
X15A Humboldt 92.02 54 P **P 17 30 07.7 +0.8**
baz=92,SNR=16
D08A Wollman Farm, 92.06 41 ⇑P **P 17 30 06.9 -0.2**
baz=92
F09A S2 Ranch, Elgi 92.16 42 ⇓P **P 17 30 07.8 +0.3**
baz=92
O12A Currie 92.22 48 ⇓P **P 17 30 08.0 +0.2**
baz=92
N12A Clover Valley, 92.23 48 ⇓P **P 17 30 08.0 +0.2**
baz=92,SNR=5.2
W15A Williams 92.24 54 ⇑P **P 17 30 09.0 +1.1**
baz=92
E09A Wood Farm, Sta 92.33 42 ⇓P **P 17 30 08.3 0.0**
baz=92
TUC Tucson 92.42 57 *e*P **P 17 30 08.9 +0.2**
comp=Z,7.3nm,1.0s,mb5.0
D09A Jones Farm, Ri 92.45 41 ⇑P **P 17 30 08.7 -0.1**
baz=93
M12A Wells 92.52 47 ⇓P **P 17 30 09.1 0.0**
baz=93
F10A Beach Ranch, E 92.70 42 ⇓P **P 17 30 09.5 -0.5**
baz=93
WUAZ Wupatki 93.04 54 *e*P **P 17 30 11.8 +0.2**
comp=Z,4.9nm,0.8s,mb5.0
WUAZ Wupatki 93.04 54 ⇑P **P 17 30 12.1 +0.5**
baz=93
A09A Danville 93.05 39 ⇑P **P 17 30 11.4 -0.2**
baz=93
MSU Marysvale 93.46 51 *e*P **P 17 30 14.4 +0.9**
HLID Hailey 93.65 45 *e*P **P 17 30 14.0 -0.4**
comp=Z,1.9nm,0.8s,mb4.6
HLID Hailey 93.65 45 ⇑P **P 17 30 14.5 +0.1**
baz=94
WMQ Urumqi 95.35 314 *e*P **P 17 30 24.0 +1.8**
WMQ AP pP 17 30 29.0 +2.2
WMQ XP sP 17 30 31.0 +2.6
WMQ PP PP 17 34 16.0 +3.5
WMQ PPP 17 36 22.0
WMQ SKS 17 40 58.0
WMQ S S 17 41 36.4 -1.3
WMQ PS PS 17 43 00.0 +3.4
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,189nm,4.6s
WMQ LR LR
comp=N,661nm,21.6s,MS5.2
WMQ LR LR
comp=E,499nm,22.9s,MS5.2
WMQ LR LR
comp=Z,546nm,24.0s,MS4.9
INK Inuvik 95.75 19 LR LR 18 07 25.1

comp=Z,320nm,21.9s,MS4.8,baz=227,slow=32
ANMO Albuquerque 96.68 56 LR LR 18 10 02.8
comp=Z,252nm,18.2s,MS4.7,baz=186,slow=33
ANMO Albuquerque 96.68 56⇑ *eP* **P 17 30 26.2 -2.0**
ANMO Albuquerque 96.68 56 P **P 17 30 27.2 -1.1**
comp=Z,2.5nm,1.0s,mb4.6
PDAR Pinedale Array 96.73 47 LR LR 18 12 57.9
comp=Z,190nm,18.5s,MS4.6,baz=268,slow=35
MKAR Makanchi Array 99.88 316 P Pdif 17 30 42.1 -0.5
comp=Z,0.2nm,0.2s,baz=79,slow=2.2,SNR=3.7
MKAR Makanchi Array 99.88 316⇑ *eP* Pdif 17 30 48.2 +5.6
ARCES ARCESS Array B 123.48 345 PKP PKPdf 17 35 54.9 -0.4
comp=Z,1.9nm,0.6s,baz=80,slow=1.2,SNR=11
ZEI Tsey 126.76 310 *e*PKIKP PKPdf 17 36 02.9 +1.4
KIV Kislovodsk 127.41 312⇑ *i*PKIKP PKPdf 17 36 03.5 +0.7
KIV pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 127.69 327 *i* PKIKP PKPdf 17 36 03.0 -0.3
OBN pmax pmax
comp=Z,16nm,1.6s
OBN Obninsk 127.69 327⇓ *e*PKP PKPdf 17 36 03.0 -0.3
OBN LR LR
comp=Z,200nm,18.0s,MS4.8
KMBO Kilima Mbogo 127.81 254 PKP PKPdf 17 36 05.3 +1.8
comp=Z,0.6nm,0.3s,baz=40,slow=16,SNR=4.7
KMBO Kilima Mbogo 127.81 254⇑ *i*PKIKP PKPdf 17 36 07.5 +4.0
FINES FINESS Array B 128.89 338 PKP PKPdf 17 36 04.5 -1.1
comp=Z,4.0nm,1.0s,baz=114,slow=2.3,SNR=6.0
FINES FINESS Array B 128.89 338⇑ *i*PKIKP PKPdf 17 36 07.4 +1.8
AKASG Malin Array Be 133.67 324 PKP PKPdf 17 36 13.6 -1.0
comp=Z,0.3nm,0.4s,baz=62,slow=2.8,SNR=6.3
AKASG SKPbc SKPbc 17 39 44.2 +1.3
comp=Z,1.2nm,0.8s,baz=40,slow=3.3,SNR=4.6
AKASG Malin Array Be 133.67 324 *i* PKIKP PKPdf 17 36 15.3 +0.7
AKASG Malin Array Be 133.67 324 PKP PKPdf 17 36 13.6 -1.0
AKASG SKPbc SKPbc 17 39 44.2 +1.3
NOA NORSAR Array B 133.85 344 PKP PKPdf 17 36 13.3 -1.6
comp=Z,1.4nm,0.8s,baz=31,slow=20,SNR=3.2
NOA NORSAR Array B 133.85 344 PKP PKPdf 17 36 13.3 -1.6
BRTR Keskin Array B 134.96 309 PKP PKPdf 17 36 17.6 +0.5
comp=Z,2.3nm,1.1s,baz=153,slow=1.4,SNR=8.2
BRG Berggiesshubel 141.12 334 *e*(P) PKPdf 17 36 27.9 -0.5
comp=Z,2.1nm,0.9s
BRG Berggiesshubel 141.12 334 *e*PKIKP PKPdf 17 36 27.9 -0.5
BRG pmax pmax
comp=Z,2.0nm,0.9s
GEC2 GERESS Array S 142.73 332 *e*PKPbc PKPdf 17 36 30.2 -1.0
GERES GERESS Array B 142.73 332 PKhKP 17 36 28.2
comp=Z,1.2nm,0.9s,baz=250,slow=2.7,SNR=5.8
GRF Grafenberg Arr 143.16 335 *e*PKPbc PKPdf 17 36 31.2 -0.8
VOY Vojsko 144.63 328 *e*PKPbc PKPdf 17 36 32.7 -1.9
VOY *e* 17 36 40.2
PTCC Patocco-Chiusa 144.64 329 PKP PKPdf 17 36 33.1 -1.5
STU Stuttgart 144.70 335 *e*PKPbc PKPdf 17 36 33.3 -1.4
BCLA Clavier 144.71 341 PKP PKPdf 17 36 34.2 -0.5
FVI Forni Avoltri 144.78 330 PKP PKPdf 17 36 38.6 +3.8
GMNA Gemona 144.79 329 PKP PKPdf 17 36 34.2 -0.6
WATA Walderalm 144.80 332⇑ *i*P PKPdf 17 36 33.9 -1.0
comp=Z,8.0nm,1.1s
WTTA Wattenberg 144.83 331⇑ *i*P PKPdf 17 36 34.2 -0.7
comp=Z,14nm,1.3s
SNF Seneffe 144.95 342 PKP PKPdf 17 36 34.6 -0.5
SNF E 17 36 44.2
MOTA Moosalm 145.01 332⇑ *i*P PKPdf 17 36 34.5 -0.7
comp=Z,18nm,1.0s
SQTA Sankt Quirin 145.05 332⇑ *i*P PKPbc 17 36 34.9 +0.2
comp=Z,17nm,1.0s
LANF Langenberg 145.07 337 PKP PKPdf 17 36 34.8 -0.5
WLF Walferdange 145.09 339 *e*PKPbc PKPbc 17 36 35.4 +0.6
WLF Walferdange 145.09 339 PKP PKPdf 17 36 35.5 +0.1
WLF E 17 36 44.5
WLF Walferdange 145.09 339 *e*PKPdf PKPdf 17 36 35.2 -0.2
WLF *e* 17 36 44.3
GIVF Givet 145.14 341 *e*PKP1 PKPbc 17 36 34.4 -0.6
DOU Dourbes 145.22 341 PKP PKPdf 17 36 35.2 -0.4
DOU E 17 36 45.1
BAIF Baives 145.37 341 *e*PKP1 PKPbc 17 36 35.3 -0.4
comp=Z,93nm,1.3s
BFO Black Forest 145.40 336 *e*PKPbc PKPbc 17 36 35.1 -0.7
DAVA Damuels 145.59 333⇑ *i*P PKPdf 17 36 36.6 +0.4
comp=Z,34nm,1.1s
APPI Appiano 145.60 331 PKP PKPdf 17 36 35.9 -0.3
WLS Welschbruch 145.71 337 PKP PKPdf 17 36 36.9 +0.5
CTI Castel Tesino 145.72 330 PKP PKPdf 17 36 37.2 +0.8
CDF Champ du Feu 145.74 337 *e*PKP1 PKPbc 17 36 36.6 -0.3
comp=Z,77nm,1.2s
FELD Feldberg im Sc 145.90 336 PKP PKPdf 17 36 36.9 +0.2
BRMO Bormio 145.99 332 PKP PKPdf 17 36 38.2 +1.3
MOF Molkenrain 146.25 336 PKP PKPdf 17 36 38.0 +0.7
THEF They Montfort 146.36 338 PKP PKPdf 17 36 38.9 +1.4
HINF Hinteralfeld 146.39 337 *e*PKP1 PKPbc 17 36 38.5 -0.3
HAU Haudompre 146.42 337 *e*PKP1 PKPbc 17 36 38.5 -0.4
HAU *e*MLR MLR
comp=Z,133nm,20.0s
HAU Haudompre 146.42 337 *e*PKP PKPdf 17 36 38.5 +0.9
HAU LR LR
comp=Z,130nm,20.0s,MS4.7
BBS Basel-Blauen 146.42 336 PKP2 PKPab 17 36 38.9 -1.0
TUE Stuetta 146.45 333 PKP PKPdf 17 36 39.4 +1.7
MEZF Maizieres J'vi 146.46 339 *e*PKP1 PKPbc 17 36 39.0 0.0
comp=Z,79nm,1.1s
RGNG Rignano Grg 146.50 321 PKP PKPdf 17 36 39.4 +1.6
LOMF Lomont 146.78 336 PKP PKPdf 17 36 41.5 +3.3
CING Cingoli 146.80 325 PKP PKPdf 17 36 40.8 +2.5
FSSB Fossombrone 146.81 326 PKP PKPbc 17 36 41.2 +1.1
RSM Repubblica di 146.82 327 PKP PKPbc 17 36 41.3 +1.2
SNTG Esanatoglia 147.02 325 PKP PKPbc 17 36 41.7 +1.0
TIP Timpagrande 147.17 316 *e*PKPbc PKPbc 17 36 41.3 +0.2
TIP *e* 17 36 51.3
VMG Vicchio 147.27 327 PKP PKPbc 17 36 43.4 +2.0
INTR Introdacqua 147.29 323 PKP PKPdf 17 36 40.2 +1.1
ASS Assisi 147.31 325 PKP PKPdf 17 36 41.6 +2.5
AQU L'Aquila 147.36 324 *e*PKP2 PKPab 17 36 42.5 -1.0
FIAM Fiamignano 147.57 324 PKP PKPbc 17 36 43.0 +0.8
CABF La Chapelle 147.68 336 *e*PKP1 PKPbc 17 36 42.6 +0.1
comp=Z,43nm,1.0s
LDF La Druitiere 147.90 345 *e*PKP1 PKPbc 17 36 43.0 -0.1
comp=Z,70nm,1.3s
LOR Lormes 147.93 339 *e*PKP1 PKPbc 17 36 42.8 -0.4
comp=Z,64nm,1.2s
LOR *e*MLR MLR
comp=Z,202nm,19.8s
LOR Lormes 147.93 339 *e*PKP PKPdf 17 36 42.8 +2.7
LOR LR LR
comp=Z,200nm,19.8s,MS4.9
SSF Saint Saulge 148.22 339 *e*PKP1 PKPbc 17 36 43.8 -0.2
comp=Z,62nm,1.1s
GRR Gorron 148.27 346 *e*PKP1 PKPbc 17 36 43.7 -0.4
LPL La Plagne 148.32 334 *e*PKP1 PKPbc 17 36 44.5 +0.3
comp=Z,34nm,1.2s
LPG La Plagne 148.33 334 *e*PKP1 PKPbc 17 36 44.5 +0.3
comp=Z,58nm,1.4s
SMF Signal de Mont 148.47 339 *e*PKP1 PKPbc 17 36 44.1 -0.5
comp=Z,71nm,1.4s
AVF Avril sur Loir 148.51 339 *e*PKP1 PKPbc 17 36 44.3 -0.4
BNI Bardonecchia 148.72 334 *e*PKP2 PKPbc 17 36 45.6 +0.4
SGMF Saint Gilles 148.77 348 *e*PKP1 PKPbc 17 36 44.8 -0.6
comp=Z,43nm,1.0s
BGF Bois d'Agland 148.88 340 *e*PKP1 PKPbc 17 36 45.2 -0.5
PLDF La Plantade 149.13 338 PKP PKPbc 17 36 46.7 +0.4
ORIF Oris-en-Rattie 149.16 335 *e*PKP1 PKPbc 17 36 46.2 -0.1
comp=Z,36nm,1.2s
ORIF *e*MLR MLR
comp=Z,208nm,21.2s
AGO Saint Agoulin 149.23 339 PKP PKPbc 17 36 47.0 +0.5
SBF Sospel 149.33 332 *e*PKP1 PKPbc 17 36 46.2 -0.6
TCF Toulx Ste Croi 149.33 340 *e*PKP1 PKPbc 17 36 46.4 -0.4
comp=Z,72nm,1.2s
PYM Petit Puy Mans 149.54 339 PKP PKPbc 17 36 47.7 +0.4
PGF Pioggiola 149.58 328 *e*PKP1 PKPbc 17 36 47.1 -0.3
comp=Z,81nm,1.1s
VIVF Saint-Julien-l 149.69 336 *e*PKP1 PKPbc 17 36 47.4 -0.3
comp=Z,73nm,1.5s
MFF Saint Martin d 149.75 343 *e*PKP1 PKPbc 17 36 47.4 -0.4
comp=Z,56nm,1.1s
LBL Lubilhac 149.90 338 PKP PKPbc 17 36 49.1 +0.9
SMRF Simiane la Rot 150.05 334 *e*PKP1 PKPbc 17 36 48.4 -0.1
comp=Z,110nm,1.4s
LMR La Mourre 150.16 332 *e*PKP1 PKPbc 17 36 48.3 -0.5
comp=Z,70nm,1.1s
RJF Les Rejaudoux 150.43 340 *e*PKP1 PKPbc 17 36 49.2 -0.2
comp=Z,42nm,1.0s
RJF *e*MLR MLR
comp=Z,195nm,22.2s

CAF Calviac 150.58 339 *e*PKP1 PKPbc 17 36 49.6 -0.2
LFF La Frestale 151.00 341 *e*PKP1 PKPbc 17 36 50.7 -0.1
comp=Z,78nm,1.2s
MTLF Montolieu 151.91 337 *e*PKP1 PKPbc 17 36 52.6 -0.3
EPF Esparros 152.84 340 *e*PKP1 PKPbc 17 36 54.9 -0.1
comp=Z,21nm,1.2s
ETSF Etsaut 153.25 341 *e*PKP1 PKPbc 17 36 56.1 +0.2
comp=Z,32nm,1.1s
SJPF Ste Jean 153.25 342 *e*PKP1 PKPbc 17 36 56.4 +0.5
ESDC Sonseca Array 157.21 343 PKPab PKPab 17 37 24.4 -0.2
comp=Z,0.2nm,0.3s,baz=2.3,slow=3.3,SNR=5.7
TOA0 Torodi Ar. Sit 165.81 252 *eP* PKPdf 17 37 02.2 -0.5
TORD Torodi Ar. Bea 165.81 252 PKP PKPdf 17 37 03.1 +0.3
comp=Z,4.4nm,1.1s,baz=78,slow=0.4,SNR=11
TORD PKPab PKPab 17 38 04.4 +2.2
comp=Z,1.0nm,0.8s,baz=90,slow=1.4,SNR=2.6

ISCJB ***07*** *17:23:49.0±1.1,363N±02×1375E±03,h239km±7km, mb3.3/2, Error ellipse: s-maj=46.1km s-min=17.0km az=86.0*
IDC ***07*** *17:23:49.5±3.1,3622N×13704E,h218km±32km,mb3.0/2, mb1 3.3/2,mb1mx2.8/20,mbtmp3.6/2, Error ellipse: s-maj=98.1km s-min=83.7km az=180.0*
JMA ***07*** *17:23:49.4±0.2,3634N×13753E,h238km±2km, M2.3*
ISC 07 17:23:50.0±1.1,364N±02×1374E±03,h233km±6km,n9, σ0§26/12,mb3.3/2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.18**	**214**	P	**Pn**	**17 24 20.4**	**+0.1**
JGN				*e*S	**S**	**17 24 44.1**	**+0.2**
MAT	**Matsushiro**	**0.64**	**75**	P	**Pn**	**17 24 21.2**	**-0.3**
MJAR	**Matsushiro Arr**	**0.64**	**75**	P	**Pn**	**17 24 21.6**	**+0.1**
	1.5nm,0.3s,baz=253,slow=5.6,SNR=26						
MJAR				S	**S**	**17 24 46.3**	**+0.2**
	0.2nm,0.3s,baz=168,slow=16,SNR=4.5						
JGM	**Miyama**	**0.89**	**221**	P	**Pn**	**17 24 22.6**	**-0.1**
JGM				*e*S	**S**	**17 24 47.6**	**-0.6**
JSD	**Sado**	**1.78**	**21**	P	**Pn**	**17 24 29.0**	**-0.1**
JWT	**Wachi**	**1.98**	**237**	P	**Pn**	**17 24 31.3**	**+0.4**
JWZ	**Kozaga**	**3.17**	**207**	P	**Pn**	**17 24 43.7**	**+0.3**
WRA	**Warramunga Arr**	**56.09**	**184**	P	**P**	**17 33 04.8**	**-0.2**
	0.6nm,0.4s,mb3.5,baz=358,slow=7.2,SNR=23						
ASAR	**Alice Springs**	**59.81**	**184**	P	**P**	**17 33 30.8**	**0.0**
	0.2nm,0.4s,mb3.1,baz=358,slow=6.1,SNR=7.7						

CSEM ***07*** *17:30:32.7±0.1,4238N×200E,h5km,ML2.9/30,Error ellipse: s-maj=1.2km s-min=0.8km az=129.0*
LDG ***07*** *17:30:32.6±0.0,4238N×197E,h3km,Md3.0/1,Ml3.0/20, Error ellipse: s-maj=0.8km s-min=0.7km az=127.0*
NEIC ***07*** *17:30:33.1,4241N×200E,h5km,ML2.2(MRB), ML3.0(LDG),ML3.0(STR),MN2.5(MDD),After STR.*
STR ***07*** *17:30:33.1±0.3,4241N×200E,h5km±1km,Ml3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 07 17:30:32.8±0.2,4240N×199E,h3km±2km,mbLg2.4/31,2C, Error ellipse: s-maj=1.7km s-min=1.5km az=156.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.03**	**80**	Pg	Pg	17 30 33.5	0.0
VALF				Sg	Sg	17 30 36.0	+2.0
VALF	**Valcebollere**	**0.03**	**80**	P	Pg	17 30 33.6	0.0
VALF				S	Sg	17 30 34.4	+0.3
CLLI	**Llivia**	**0.08**	**355**	P	Pg	17 30 34.2	-0.3
CLLI				S	Sg	17 30 35.8	+0.2
	370nm,0.2s						
CLLI	**Llivia**	**0.08**	**355**	P	Pg	17 30 34.3	-0.2
CLLI				S	Sg	17 30 35.9	+0.3
CLLI	**Llivia**	**0.08**	**355**	P	Pg	17 30 34.3	-0.2
CLLI				S	Sg	17 30 35.9	+0.3
CBRU	**Bruguera**	**0.18**	**128**	P	Pg	17 30 36.1	-0.3
CBRU				S	Sg	17 30 38.8	0.0
	428nm,0.1s						
CBRU	**Bruguera**	**0.18**	**128**	P	Pg	17 30 36.1	-0.3
CBRU				S	Sg	17 30 38.9	+0.1
CARF	**Carcanieres**	**0.33**	**16**	P	Pg	17 30 39.0	-0.1
CARF				S	Sg	17 30 43.8	+0.3
PAND	**Andorre**	**0.35**	**291**	P	Pg	17 30 38.8	-0.7
PAND				S	Sg	17 30 43.6	-0.4
FILF	**Fillols**	**0.46**	**69**	Pg	Pg	17 30 39.5	-2.1
FILF				Sg	Sg	17 30 44.5	-3.0
FILF	**Fillols**	**0.46**	**69**	P	Pg	17 30 39.5	-2.1
FILF				S	Sg	17 30 44.5	-3.0
CORG	**Organya**	**0.52**	**252**	P	Pg	17 30 42.0	-0.8
CORG	**Organya**	**0.52**	**252**	P	Pg	17 30 42.1	-0.8
CORG	**Organya**	**0.52**	**252**	P	Pg	17 30 42.1	-0.7
GRBF	**Gourbit**	**0.55**	**323**	P	Pg	17 30 43.0	-0.5
GRBF				S	Sg	17 30 50.1	-0.5
LPEF	**Le Peyrat**	**0.55**	**354**	P	Pg	17 30 43.4	0.0
LPEF				S	Sg	17 30 51.5	+0.9
EMIR	**Miracle**	**0.59**	**215**	Pg	Pg	17 30 43.6	-0.6
	11nm,0.1s,SNR=11						
EMIR				Lg		17 30 51.9	
	93nm,0.1s,SNR=16						
CSOR	**Sort**	**0.63**	**268**	P	Pg	17 30 43.9	-1.0
CSOR				S	Sg	17 30 52.8	-0.3
	52nm,0.3s						
CSOR	**Sort**	**0.63**	**268**	P	Pg	17 30 44.0	-1.0
CSOR				S	Sg	17 30 52.8	-0.3
CSOR	**Sort**	**0.63**	**268**	P	Pg	17 30 44.0	-0.9
SJAF	**Saint Jean de**	**0.67**	**82**	P	Pg	17 30 44.9	-0.8
SJAF				S	Sg	17 30 54.9	+0.5
EJON	**La Jonquera**	**0.67**	**85**	⇑Pg	Pg	17 30 45.0	-0.7
	3.5nm,0.1s,SNR=18						
EJON				Lg		17 30 54.0	
	51nm,0.3s,SNR=17						
EJON	**La Jonquera**	**0.67**	**85**	Pg	Pg	17 30 45.0	-0.7
	3.5nm,0.1s,SNR=18						
LRDF	**Laroque-de-Fa**	**0.68**	**37**	Pg	Pg	17 30 45.5	-0.3
LRDF				Sg	Sg	17 30 55.4	+0.8
LRDF	**Laroque-de-Fa**	**0.68**	**37**	P	Pg	17 30 45.6	-0.2
LRDF				S	Sg	17 30 54.9	+0.3
SALF	**Salau**	**0.69**	**302**	Pg	Pg	17 30 45.6	-0.5
SALF	**Salau**	**0.69**	**302**	P	Pg	17 30 44.9	-1.1
SALF				S	Sg	17 30 54.0	-1.0
CFON	**Fontmartina**	**0.72**	**152**	P	Pg	17 30 46.0	-0.5
CFON	**Fontmartina**	**0.72**	**152**	P	Pg	17 30 46.0	-0.6
MTLF	**Montolieu**	**0.96**	**10**	*e*Pn	Pn	17 30 51.7	-1.5
MTLF				*e*Sg	Sg	17 31 03.8	+0.2
	19nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**0.96**	**10**	Pg	Pg	17 30 50.6	-0.6
MTLF				Pn	Pn	17 30 51.7	-1.5
MTLF				Lg		17 31 03.8	
	9.3nm,0.2s						
MTLF	**Montolieu**	**0.96**	**10**	*e*Pg	Pg	17 30 50.6	-0.6
MTLF				*e*Pn	Pn	17 30 51.7	-1.5
MTLF				*e*Sg	Sg	17 31 03.8	+0.2
MTLF	**Montolieu**	**0.96**	**10**	*e*Pn	Pn	17 30 51.7	-1.5
MTLF				*e*Sg	Sg	17 31 03.8	+0.2
	9.3nm,0.2s,SNR=1.0						
MELF	**Melles**	**1.02**	**298**	P	Pg	17 30 51.3	-1.1
MELF				S	Sg	17 31 04.5	-1.1
CAVN	**Les Avellanes**	**1.05**	**241**	P	Pg	17 30 52.0	-1.0
CAVN				S	Sg	17 31 06.1	-0.5
	70nm,0.3s						
CAVN	**Les Avellanes**	**1.05**	**241**	P	Pg	17 30 52.1	-0.9
CAVN				S	Sg	17 31 06.1	-0.5
CAVN	**Les Avellanes**	**1.05**	**241**	P	Pg	17 30 52.1	-0.9
EPOB	**Poblet**	**1.24**	**213**	⇑Pg	Pg	17 30 55.6	-1.1
	3.6nm,0.1s,SNR=18						
EPOB				Lg		17 31 11.8	
	36nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**1.24**	**213**	Pg	Pg	17 30 55.6	-1.1
	3.6nm,0.1s,SNR=18						
CGAR	**Garraf**	**1.27**	**210**	P	Pg	17 30 53.1	-4.1
CGAR				S	Sg	17 31 07.9	-5.8
	14nm,0.3s						
CGAR	**Garraf**	**1.27**	**210**	P	Pg	17 30 53.2	-4.1
CGAR				S	Sg	17 31 07.9	-5.8
CGAR	**Garraf**	**1.27**	**210**	P	Pg	17 30 53.2	-4.0
RESF	**Ens**	**1.28**	**289**	Pg	Pg	17 30 58.1	+0.7
RESF				Sg	Sg	17 31 16.1	+2.1
RESF	**Ens**	**1.28**	**289**	P	Pg	17 30 56.2	-1.2
RESF				S	Sg	17 31 16.2	+2.1
EPF	**Esparros**	**1.37**	**298**	*e*Pg	Pg	17 30 58.0	-1.0
	SNR=1.0						
EPF				*e*Sg	Sg	17 31 15.7	-1.1
	34nm,0.2s,SNR=1.0						
EPF	**Esparros**	**1.37**	**298**	Pn	Pn	17 30 56.7	-2.1
EPF				Pg	Pg	17 30 58.0	-1.0
EPF				Lg		17 31 15.7	
	17nm,0.2s						
EPF	**Esparros**	**1.37**	**298**	*e*Pn	Pn	17 30 56.7	-2.1
EPF				*e*Pg	Pg	17 30 58.0	-1.0
EPF				*e*Sg	Sg	17 31 15.7	-1.1
EPF	**Esparros**	**1.37**	**298**	*e*Pg	Pg	17 30 58.0	-1.0
	SNR=1.0						
EPF				*e*Sg	Sg	17 31 15.7	-1.1
	17nm,0.2s,SNR=1.0						
EBIE	**Bielsa**	**1.39**	**283**	Pg	Pg	17 30 58.3	-1.1
	1.3nm,0.2s,SNR=55						
EBIE				Lg		17 31 18.3	
	43nm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**1.39**	**283**	Pg	Pg	17 30 58.3	-1.2
	1.3nm,0.2s,SNR=55						
VIEF	**Viey**	**1.53**	**289**	Pg	Pg	17 31 01.8	-0.3
VIEF				Sg	Sg	17 31 23.6	+1.7
VIEF	**Viey**	**1.53**	**289**	P	Pn	17 31 01.8	+0.8
VIEF				S	Sn	17 31 22.4	+1.1
LABF	**Labassere**	**1.55**	**295**	Pg	Pg	17 31 01.7	-0.8
LABF				Sg	Sg	17 31 23.1	+0.5
LABF	**Labassere**	**1.55**	**295**	P	Pn	17 31 01.7	+0.4
LABF				S	Sn	17 31 22.5	+0.6
REYF	**Montagne du Re**	**1.88**	**292**	S	Sn	17 31 33.2	+3.3
ERTA	**Horta de San J**	**1.90**	**221**	Pn	Pn	17 31 05.5	-0.6
	0.6nm,0.1s,SNR=16						
ERTA				Pg	Pg	17 31 07.0	-2.2
	6.7nm,0.3s,SNR=7.9						
ERTA				Sn	Sn	17 31 29.3	-1.2
	5.0nm,0.2s,SNR=7.9						
ERTA				Lg		17 31 32.5	
	16nm,0.1s,SNR=9.6						
ERTA	**Horta de San J**	**1.90**	**221**	Pn	Pn	17 31 05.5	-0.6
	0.6nm,0.1s,SNR=16						
ERTA	**Horta de San J**	**1.90**	**221**	Pg	Pg	17 31 07.0	-2.2
	6.7nm,0.3s,SNR=7.9						
ERTA				Sn	Sn	17 31 29.3	-1.2
	5.0nm,0.2s,SNR=7.9						
FDAF	**Les Forges d'A**	**1.93**	**283**	S	Sn	17 31 35.5	+4.2
ETSF	**Etsaut**	**1.94**	**286**	*e*Pg	Pg	17 31 08.6	-1.4
	SNR=1.0						
ETSF				*e*Sn	Sn	17 31 28.1	-3.5
	SNR=1.0						
ETSF				*e*Sg	Sg	17 31 33.4	-1.8
	50nm,0.3s						
ETSF	**Etsaut**	**1.94**	**286**	Pn	Pn	17 31 04.6	-2.1
ETSF				Pg	Pg	17 31 08.6	-1.4
ETSF				Sn	Sn	17 31 28.1	-3.5
ETSF				Lg		17 31 33.4	
	25nm,0.3s						
ETSF	**Etsaut**	**1.94**	**286**	*e*Pn	Pn	17 31 04.6	-2.1
ETSF				*e*Pg	Pg	17 31 08.6	-1.4
ETSF				*e*Sn	Sn	17 31 28.1	-3.5
ETSF				*e*Sg	Sg	17 31 33.4	-1.8
ETSF	**Etsaut**	**1.94**	**286**	*e*Pg	Pg	17 31 08.6	-1.4
	SNR=1.0						
ETSF				*e*Sg	Sg	17 31 33.4	-1.8
	25nm,0.3s						
ESAC	**San Caprasio**	**1.95**	**251**	Pn	Pn	17 31 07.0	+0.2
	4.2nm,0.1s,SNR=7.3						
ESAC				Sn	Sn	17 31 32.1	+0.4
	17nm,0.1s,SNR=11						
ESAC	**San Caprasio**	**1.95**	**251**	Pn	Pn	17 31 07.0	+0.2
	4.2nm,0.1s,SNR=7.3						
ESAC				Sn	Sn	17 31 32.1	+0.4
	17nm,0.1s,SNR=11						
LARF	**Larrau**	**2.28**	**287**	S	Sn	17 31 45.3	+5.3
SJPF	**Ste Jean**	**2.47**	**288**	*e*Pg	Pg	17 31 18.3	-1.9
	SNR=1.0						
SJPF				*e*Sg	Sg	17 31 49.5	-2.7
	13nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**2.47**	**288**	Pn	Pn	17 31 11.5	-2.4
SJPF				Pg	Pg	17 31 18.3	-1.9
SJPF				Lg		17 31 49.5	
	6.7nm,0.3s						
SJPF	**Ste Jean**	**2.47**	**288**	*e*Pn	Pn	17 31 11.5	-2.4
SJPF				*e*Pg	Pg	17 31 18.3	-1.9
SJPF				*e*Sg	Sg	17 31 49.5	-2.7
SJPF	**Ste Jean**	**2.47**	**288**	*e*Pg	Pg	17 31 18.3	-1.9
	SNR=1.0						
SJPF				*e*Sg	Sg	17 31 49.5	-2.7
	6.7nm,0.3s,SNR=1.0						
IPRE	**Itoiz**	**2.50**	**281**	Pg	Pg	17 31 19.0	-1.8
	1.4nm,0.2s,SNR=7.9						
IPRE				Sn	Sn	17 31 46.0	+0.6
	1.8nm,0.2s,SNR=7.9						
IPRE				Lg		17 31 53.7	
	6.6nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**2.50**	**281**	Pg	Pg	17 31 19.0	-1.7
	1.4nm,0.2s,SNR=7.9						
IPRE				Sn	Sn	17 31 46.0	+0.6
	1.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.53**	**1**	*e*Pg	Pg	17 31 19.7	-1.6
	SNR=1.0						
CAF				*e*Sn	Sn	17 31 42.9	-3.1
	SNR=1.0						
CAF				*e*Sg	Sg	17 31 52.1	-1.9
	22nm,0.3s,SNR=1.0						
CAF	**Calviac**	**2.53**	**1**	Pn	Pn	17 31 13.1	-1.6
CAF				Pg	Pg	17 31 19.7	-1.6
CAF				Sn	Sn	17 31 42.9	-3.1
CAF				Lg		17 31 52.1	
	11nm,0.3s						
CAF	**Calviac**	**2.53**	**1**	*e*Pn	Pn	17 31 13.1	-1.6
CAF				*e*Pg	Pg	17 31 19.7	-1.6
CAF				*e*Sn	Sn	17 31 42.9	-3.1
CAF				*e*Sg	Sg	17 31 52.1	-1.9
CAF	**Calviac**	**2.53**	**1**	*e*Pg	Pg	17 31 19.7	-1.6
	SNR=1.0						
CAF				*e*Sn	Sn	17 31 42.9	-3.1
	SNR=1.0						
CAF				*e*Sg	Sg	17 31 52.1	-1.9
	11nm,0.3s,SNR=1.0						
EARA	**Aranguren**	**2.66**	**279**	Lg		17 32 00.1	
	6.2nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.66**	**283**	Pn	Pn	17 31 17.0	+0.4
	0.6nm,0.1s,SNR=7.9						
IUSE				Pg	Pg	17 31 22.8	-1.1
	1.2nm,0.2s,SNR=7.9						
IUSE				Sn	Sn	17 31 49.9	+0.5
	1.1nm,0.1s,SNR=7.9						
IUSE				Lg		17 31 59.0	
	2.8nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.66**	**283**	Pn	Pn	17 31 17.0	+0.4
	0.6nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**2.66**	**283**	Pg	Pg	17 31 22.8	-1.0
	1.2nm,0.2s,SNR=7.9						
IUSE				Sn	Sn	17 31 49.9	+0.5
	1.1nm,0.1s,SNR=7.9						
EALK	**Alkurru

LFF				*e*Sn	Sn	17 31 46.2	-4.0
LFF				*e*Sg	Sg	17 31 57.8	-1.7
LFF	**La Frestale**	**2.70**	**341**	*e*Pg	Pg	17 31 22.8	-1.7
	SNR=1.0						
LFF				*e*Sn	Sn	17 31 46.2	-4.0
LFF				*e*Sg	Sg	17 31 57.8	-1.7
	12nm,0.3s,SNR=1.0						
ETOS	**Mallorca**	**2.70**	**166**	Pn	Pn	17 31 13.8	-3.4
	2.5nm,0.5s,SNR=7.9						
ETOS				Sn	Sn	17 31 46.9	-3.4
	0.6nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.70**	**166**	Pn	Pn	17 31 13.8	-3.3
	2.5nm,0.5s,SNR=7.9						
ETOS				Sn	Sn	17 31 46.9	-3.4
	0.6nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**223**	Pn	Pn	17 31 18.2	+0.4
	0.9nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	17 31 23.4	-2.1
	2.0nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	17 31 50.5	-1.0
	1.8nm,0.2s,SNR=7.9						
EMOS				Lg		17 31 59.8	
	3.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**223**	Pn	Pn	17 31 18.2	+0.4
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.75**	**223**	Pg	Pg	17 31 23.4	-2.1
	2.0nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	17 31 50.5	-0.9
	1.8nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.93**	**354**	*e*Pg	Pg	17 31 26.7	-2.2
	SNR=1.0						
RJF				*e*Sn	Sn	17 31 51.7	-4.2
RJF				*e*Sg	Sg	17 32 05.1	-1.7
	9.1nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.93**	**354**	Pn	Pn	17 31 18.4	-1.8
RJF				Pg	Pg	17 31 26.7	-2.2
RJF				Sn	Sn	17 31 51.7	-4.2
RJF				Lg		17 32 05.1	
	4.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.93**	**354**	*e*Pn	Pn	17 31 18.4	-1.8
RJF				*e*Pg	Pg	17 31 26.7	-2.2
RJF				*e*Sn	Sn	17 31 51.7	-4.2
RJF				*e*Sg	Sg	17 32 05.1	-1.7
RJF	**Les Rejaudoux**	**2.93**	**354**	*e*Pg	Pg	17 31 26.7	-2.2
	SNR=1.0						
RJF				*e*Sn	Sn	17 31 51.7	-4.2
RJF				*e*Sg	Sg	17 32 05.1	-1.7
	4.6nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**2.98**	**17**	Pn	Pn	17 31 20.2	-0.7
VIVF	**Saint-Julien-l**	**3.14**	**38**	*e*Pg	Pg	17 31 31.5	-1.5
	SNR=1.0						
VIVF				*e*Sg	Sg	17 32 11.2	-2.4
	6.3nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.14**	**38**	Pn	Pn	17 31 21.4	-1.7
VIVF				Pg	Pg	17 31 31.5	-1.5
VIVF				Lg		17 32 11.2	
	3.2nm,0.2s						
VIVF	**Saint-Julien-l**	**3.14**	**38**	*e*Pn	Pn	17 31 21.4	-1.7
VIVF				*e*Pg	Pg	17 31 31.5	-1.5
VIVF				*e*Sg	Sg	17 32 11.2	-2.4
VIVF	**Saint-Julien-l**	**3.14**	**38**	*e*Pg	Pg	17 31 31.5	-1.5
	SNR=1.0						
VIVF				*e*Sg	Sg	17 32 11.2	-2.4
	3.2nm,0.2s,SNR=1.0						
ETOR	**Torete**	**3.42**	**244**	Pn	Pn	17 31 27.0	+0.1
	2.7nm,0.2s,SNR=7.2						
ETOR				Pg	Pg	17 31 35.4	-2.8
	9.0nm,0.2s,SNR=5.7						
ETOR				Sn	Sn	17 32 05.2	-2.7
	6.6nm,0.1s,SNR=7.9						
ETOR				Lg		17 32 20.9	
	9.6nm,0.3s,SNR=5.0						
ETOR	**Torete**	**3.42**	**244**	Pg	Pg	17 31 35.4	-2.9
	9.0nm,0.2s,SNR=5.7						
ETOR				Sn	Sn	17 32 05.2	-2.7
	6.6nm,0.1s,SNR=7.9						
PYM	**Petit Puy Mans**	**3.43**	**12**	Pn	Pn	17 31 26.3	-0.9
LMR	**La Mourre**	**3.46**	**73**	*e*Pn	Pn	17 31 26.1	-1.4
	SNR=1.0						
LMR				*e*Sn	Sn	17 32 04.5	-4.4
	12nm,0.8s,SNR=1.0						
LMR	**La Mourre**	**3.46**	**73**	*e*Pn	Pn	17 31 26.1	-1.4
	SNR=1.0						
LMR				*e*Sn	Sn	17 32 04.5	-4.4
	6.1nm,0.8s,SNR=1.0						
FRF	**La Foret Royal**	**3.61**	**70**	*e*Pn	Pn	17 31 28.9	-0.8
	SNR=1.0						
FRF				*e*Sn	Sn	17 32 09.0	-3.8
	13nm,0.9s,SNR=1.0						
FRF	**La Foret Royal**	**3.61**	**70**	*e*Pn	Pn	17 31 28.9	-0.8
	SNR=1.0						
FRF				*e*Sn	Sn	17 32 09.0	-3.8
	6.6nm,0.9s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.89**	**2**	*e*Pg	Pg	17 31 45.5	-1.9
	SNR=1.0						
TCF				*e*Sn	Sn	17 32 16.2	-3.5
	SNR=1.0						
TCF				*e*Sg	Sg	17 32 35.0	-2.9
	5.0nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.89**	**2**	Pn	Pn	17 31 31.6	-1.9
TCF				Pg	Pg	17 31 45.5	-1.9
TCF				Sn	Sn	17 32 16.2	-3.5
TCF				Lg		17 32 35.0	
	0.0nm,0.2s						
TCF	**Toulx Ste Croi**	**3.89**	**2**	*e*Pn	Pn	17 31 31.6	-1.9
TCF				*e*Pg	Pg	17 31 45.5	-1.9
TCF				*e*Sn	Sn	17 32 16.2	-3.5
TCF				*e*Sg	Sg	17 32 35.0	-2.9
TCF	**Toulx Ste Croi**	**3.89**	**2**	*e*Pg	Pg	17 31 45.5	-1.9
	SNR=1.0						
TCF				*e*Sn	Sn	17 32 16.2	-3.5
	SNR=1.0						
TCF				*e*Sg	Sg	17 32 35.0	-2.9
	2.5nm,0.2s,SNR=1.0						
ELAN	**Lanestosa**	**4.07**	**284**	Pn	Pn	17 31 34.7	-1.3
	0.5nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	17 32 23.2	-0.9
	3.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.07**	**284**	Pn	Pn	17 31 34.7	-1.3
	0.5nm,0.1s,SNR=7.9						
ELAN				Sn	Sn	17 32 23.2	-1.0
	3.2nm,0.2s,SNR=7.9						
BGF	**Bois d'Agland**	**4.21**	**8**	*e*Pg	Pg	17 31 50.6	-2.8
	SNR=1.0						
BGF				*e*Sg	Sg	17 32 45.8	-2.1
	16nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.21**	**8**	Pn	Pn	17 31 35.7	-2.1
BGF				Pg	Pg	17 31 50.6	-2.8
BGF				Lg		17 32 45.8	
	7.8nm,0.3s						
BGF	**Bois d'Agland**	**4.21**	**8**	*e*Pn	Pn	17 31 35.7	-2.1
BGF				*e*Pg	Pg	17 31 50.6	-2.8
BGF				*e*Sg	Sg	17 32 45.8	-2.1
BGF	**Bois d'Agland**	**4.21**	**8**	*e*Pg	Pg	17 31 50.6	-2.8
	SNR=1.0						
BGF				*e*Sg	Sg	17 32 45.8	-2.1
	7.8nm,0.3s,SNR=1.0						
SBF	**Sospel**	**4.25**	**68**	*e*Pn	Pn	17 31 36.5	-1.9
SMF	**Signal de Mont**	**4.45**	**17**	*e*Pg	Pg	17 31 55.4	-2.7
SMF				*e*Sg	Sg	17 32 52.9	-2.8
	3.2nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.45**	**17**	Pn	Pn	17 31 39.1	-2.1
SMF				Pg	Pg	17 31 55.4	-2.7
SMF				Lg		17 32 52.9	
	1.6nm,0.3s						
SMF	**Signal de Mont**	**4.45**	**17**	*e*Pn	Pn	17 31 39.1	-2.1
SMF				*e*Pg	Pg	17 31 55.4	-2.7
SMF				*e*Sg	Sg	17 32 52.9	-2.8
SMF	**Signal de Mont**	**4.45**	**17**	*e*Pg	Pg	17 31 55.4	-2.7
SMF				*e*Sg	Sg	17 32 52.9	-2.8
	1.6nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**4.47**	**341**	*e*Pg	Pg	17 31 55.6	-2.9
MFF				*e*Sn	Sn	17 32 28.9	-5.1
MFF				*e*Sg	Sg	17 32 52.8	-3.6
	3.6nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**4.47**	**341**	Pn	Pn	17 31 39.2	-2.3
MFF				Pg	Pg	17 31 55.6	-2.9
MFF				Sn	Sn	17 32 28.9	-5.1
MFF				Lg		17 32 52.8	
	1.8nm,0.3s						
MFF	**Saint Martin d**	**4.47**	**341**	*e*Pn	Pn	17 31 39.2	-2.3
MFF				*e*Pg	Pg	17 31 55.6	-2.9
MFF				*e*Sn	Sn	17 32 28.9	-5.1
MFF				*e*Sg	Sg	17 32 52.8	-3.6
MFF	**Saint Martin d**	**4.47**	**341**	*e*Pg	Pg	17 31 55.6	-2.9
MFF				*e*Sn	Sn	17 32 28.9	-5.1
MFF				*e*Sg	Sg	17 32 52.8	-3.6
	1.8nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**4.50**	**12**	*e*Pg	Pg	17 31 56.0	-3.0
AVF				*e*Sg	Sg	17 32 54.1	-3.3
	2.9nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**4.50**	**12**	Pn	Pn	17 31 39.7	-2.2
AVF				Pg	Pg	17 31 56.0	-3.0
AVF				Lg		17 32 54.1	
	1.4nm,0.3s						
AVF	**Avril sur Loir**	**4.50**	**12**	*e*Pn	Pn	17 31 39.7	-2.2
AVF				*e*Pg	Pg	17 31 56.0	-3.0
AVF				*e*Sg	Sg	17 32 54.1	-3.3
AVF	**Avril sur Loir**	**4.50**	**12**	*e*Pg	Pg	17 31 56.0	-3.0
AVF				*e*Sg	Sg	17 32 54.1	-3.3
	1.5nm,0.3s,SNR=1.0						
ETOB	**Tobarra**	**4.62**	**217**	Pn	Pn	17 31 42.1	-1.3
	0.6nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.62**	**217**	Pn	Pn	17 31 42.1	-1.3
	0.6nm,0.2s,SNR=4.0						
SSF	**Saint Saulge**	**4.79**	**13**	*e*Sg	Sg	17 33 03.2	-3.4
	2.0nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**4.79**	**13**	*e*Sg	Sg	17 33 03.2	-3.4
	1.0nm,0.3s,SNR=1.0						
LOR	**Lormes**	**5.05**	**15**	*e*Sg	Sg	17 33 11.1	-3.9
	4.4nm,0.4s						
LOR	**Lormes**	**5.05**	**15**	*e*Sg	Sg	17 33 11.1	-3.9
	2.2nm,0.4s						
CABF	**La Chapelle**	**5.13**	**33**	*e*Pg	Pg	17 32 07.8	-3.4
CABF				*e*Sg	Sg	17 33 14.2	-3.5
	3.1nm,0.4s						
CABF	**La Chapelle**	**5.13**	**33**	Pn	Pn	17 31 48.8	-1.8
CABF				Pg	Pg	17 32 07.8	-3.4
CABF				Lg		17 33 14.2	
	1.6nm,0.4s						
CABF	**La Chapelle**	**5.13**	**33**	*e*Pn	Pn	17 31 48.8	-1.8
CABF				*e*Pg	Pg	17 32 07.8	-3.4
CABF				*e*Sg	Sg	17 33 14.2	-3.5
CABF	**La Chapelle**	**5.13**	**33**	*e*Pg	Pg	17 32 07.8	-3.4
CABF				*e*Sg	Sg	17 33 14.2	-3.5
	1.5nm,0.4s						
PGF	**Pioggiola**	**5.19**	**86**	*e*Pn	Pn	17 31 48.5	-2.9
	SNR=1.0						
PGF				*e*Sn	Sn	17 32 45.0	-6.7
	16nm,0.9s,SNR=1.0						
PGF	**Pioggiola**	**5.19**	**86**	*e*Pn	Pn	17 31 48.5	-2.9
	SNR=1.0						
PGF				*e*Sn	Sn	17 32 45.0	-6.7
	8.1nm,0.9s,SNR=1.0						
ESDC	**Sonseca Array**	**5.26**	**241**	Pn	Pn	17 31 51.3	-1.0
	0.5nm,0.2s,baz=59,slow=14,SNR=7.9						
ESDC				Sn	Sn	17 32 49.2	-4.2
	1.3nm,0.2s,baz=57,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**5.26**	**241**	Pn	Pn	17 31 51.3	-1.0
	0.5nm,0.2s,SNR=7.9						
ESDC				Sn	Sn	17 32 49.2	-4.1
	1.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.37**	**282**	Pn	Pn	17 31 54.5	+0.7
	0.6nm,0.2s,SNR=7.9						
EARI				Sn	Sn	17 32 53.1	-3.0
	0.8nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.37**	**282**	Pn	Pn	17 31 54.5	+0.7
EARI				Sn	Sn	17 32 53.1	-2.9
LDF	**La Druitiere**	**6.37**	**347**	*e*Pn	Pn	17 32 05.1	-2.5
ECAL	**Calabor**	**6.50**	**269**	Pn	Pn	17 32 06.0	-3.3
ECAL				Sn	Sn	17 33 18.7	-5.2
ROSF	**Rostrenen**	**7.00**	**330**	*e*Pn	Pn	17 32 13.8	-2.4

IDC 07 17:31:13.6±3.5, 5618S×14734E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.7/10, mbtmp3.5/3, Error ellipse: s-maj=405.1km s-min=27.9km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.03**	**172**	P	P	17 36 09.2	-0.5
	0.9nm,1.0s,baz=335,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**33.95**	**338**	P	P	17 37 58.5	0.0
	0.7nm,0.8s,baz=165,slow=9.2,SNR=5.3						
WRA	**Warramunga Arr**	**37.47**	**340**	P	P	17 38 28.5	-0.2
	1.4nm,0.9s,baz=166,slow=7.7,SNR=6.9						

*ISCJB **07** 17:33:07.8±0.7, 5641S±009×1469E±07, h10km, mb4.3/10, MS4.1/5, Error ellipse: s-maj=57.5km s-min=9.2km az=161.5*

*IDC **07** 17:33:07.8±1.4, 5635S×14746E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/12, mbtmp4.3/6, MS4.1/5, Ms1 4.1/5, ms1mx3.7/17, Error ellipse: s-maj=98.9km s-min=18.4km az=84.0*

*NEIC **07** 17:33:09.5±0.6, 5642S×14689E, h10km, mb4.5/5, Error ellipse: s-maj=48.1km s-min=7.8km az=81.0*

ISC 07 17:33:09.2±0.7, 5642S±009×1470E±07, h10km, n32, σ0 54/18, mb4.3/10, MS4.1/5, 6C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**18.89**	**356**	*e*P	**Pn**	**17 37 31.0**	**+0.7**
	25nm,1.0s						
VNDA	**Vanda**	**21.82**	**171**	P	**P**	**17 38 01.0**	**-0.6**
	2.4nm,1.1s,mb3.5,baz=336,slow=10.0,SNR=9.0						
SBA	**Scott Base**	**22.58**	**169**	*e*P	**P**	**17 38 09.9**	**+0.2**
	12nm,1.2s,mb4.2						
STKA	**Stephens Creek**	**24.83**	**349**	*e*P	**P**	**17 38 32.5**	**+0.9**
	14nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**24.83**	**349**	P	**P**	**17 38 31.2**	**-0.4**
	19nm,1.0s,mb4.6,baz=168,slow=8.7,SNR=7.8						
STKA				LR	LR	17 46 26.7	
	comp=Z,440nm,18.4s,MS4.0,baz=358,slow=32						
STKA	**Stephens Creek**	**24.83**	**349**	*e*P	**P**	**17 38 32.1**	**+0.5**
URZ	**Urewera**	**26.98**	**60**	LR	LR	17 47 08.1	
	comp=Z,439nm,21.3s,MS4.0,baz=239,slow=31						
QSPA	**South Pole Qui**	**33.68**	**180**	*e*P	**P**	**17 39 50.1**	**-0.3**
	7.4nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**34.10**	**338**	P	**P**	**17 39 54.1**	**+0.2**
	3.9nm,0.9s,mb4.3,baz=168,slow=9.2,SNR=17						
ASAR				LR	LR	17 50 54.5	
	comp=Z,251nm,21.0s,MS3.9,baz=262,slow=31						
ASPA	**Alice Springs**	**34.10**	**338**	*e*P	**P**	**17 39 54.1**	**+0.1**
AS31	**Alice Springs**	**34.10**	**338**	*e*P	**P**	**17 39 53.3**	**-0.7**
CTA	**Charters Tower**	**36.28**	**359**	P	**P**	**17 40 12.8**	**+0.1**
	9.8nm,1.1s,mb4.7,baz=170,slow=15,SNR=3.4						
WB2	**Warramunga Arr**	**37.63**	**340**	*e*P	**P**	**17 40 23.7**	**-0.6**
WB2	**Warramunga Arr**	**37.63**	**340**	*e*P	**P**	**17 40 23.4**	**-0.9**
WRA	**Warramunga Arr**	**37.64**	**340**	P	**P**	**17 40 23.7**	**-0.6**
	7.8nm,0.9s,mb4.4,baz=166,slow=7.9,SNR=14						
MAW	**Mawson**	**37.84**	**218**	LR	LR	17 56 36.1	
	comp=Z,457nm,18.1s,MS4.3,baz=90,slow=37						
FITZ	**Fitzroy Crossi**	**41.50**	**328**	*e*P	**P**	**17 40 57.1**	**+0.6**
	11nm,1.1s,mb4.4						
KAKA	**Kakadu**	**45.05**	**340**	*e*P	**P**	**17 41 24.9**	**-0.2**
	13nm,1.2s,mb4.6						
SNAA	**Sanae**	**50.46**	**192**	P	**P**	**17 42 07.9**	**+0.8**
	2.2nm,1.2s,mb4.0,baz=160,slow=8.7,SNR=3.9						
SNAA	**Sanae**	**50.46**	**192**	*e*P	**P**	**17 42 08.2**	**+1.1**
GUMO	**Guam**	**69.77**	**358**	LR	LR	18 13 23.5	
	comp=Z,132nm,20.8s,MS4.2,baz=4.0,slow=35						
MALT	**Malatya**	**130.74**	**280** ⇑	*i*P	PKPdf	17 52 26.6	+6.0
MLR	**Muntele Rosu**	**142.43**	**279** ⇑	*i*P	PKPdf	17 52 44.7	+2.5
AKASG	**Malin Array Be**	**143.74**	**288**	PKP	PKPdf	17 52 41.4	-3.1
	0.7nm,0.5s,baz=96,slow=2.8,SNR=6.5						
BURAR	**Bucovina Array**	**144.12**	**281** ⇑	*i*P	PKPdf	17 52 50.0	+4.8
KEST	**Kesra**	**144.84**	**252**	PKPbc	PKPdf	17 52 46.0	-0.5
	2.6nm,1.1s,baz=183,slow=2.5,SNR=4.3						
BZS	**Buzias**	**144.90**	**276** ⇑	*i*P	PKPdf	17 52 50.2	+3.7
DRGR		**145.01**	**278** ⇑	*i*P	PKPbc	17 52 45.2	-0.8
PKSM	**Moragy**	**146.91**	**274** ⇑	*i*P	PKPdf	17 52 52.3	+2.3
FINES	**FINESS Array B**	**150.04**	**304**	PKPbc	PKPbc	17 52 59.4	-0.6
	2.1nm,0.9s,baz=68,slow=2.8,SNR=3.6						
GERES	**GERESS Array B**	**151.16**	**275**	PKPbc	PKPbc	17 53 02.0	-0.7
	2.1nm,0.8s,baz=129,slow=3.8,SNR=6.7						
ARCES	**ARCESS Array B**	**151.69**	**321**	PKPbc	PKPbc	17 53 02.1	-1.8
	3.9nm,0.9s,baz=94,slow=3.6,SNR=5.1						

*ISCJB **07** 18:03:56.2±1.0, 053N×006×12096E±007, h86km±9km, mb4.5/26, Error ellipse: s-maj=13.9km s-min=6.5km az=113.3*

*IDC **07** 18:04:01.7±2.4, 037N×12074E, h123km±21km, mb4.0/9, mb1 4.1/10, mb1mx3.9/18, mbtmp4.4/10, MS3.3/1, Ms1 3.3/1, ms1mx3.0/24, Error ellipse: s-maj=35.1km s-min=12.4km az=58.0*

*MOS **07** 18:04:01.6±0.8, 044N×12091E, h141km, mb4.5/10, Error ellipse: s-maj=26.0km s-min=10.9km az=119.9*

*NEIC **07** 18:04:03.0±2.7, 036N×12075E, h138km±26km, mb4.5/8, Error ellipse: s-maj=17.8km s-min=7.2km az=52.0*

*BJI **07** 18:04:03.0, 040N×12080E, h138km, mB5.2, mb4.7*

ISC 07 18:03:57.7±1.0, 050N±006×12096E±007, h81km±9km, n65, σ0 95/63, mb4.5/26, 2C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.79**	**219**	P	**Pn**	**18 04 26.2**	**-0.6**
	2μm,0.9s						
TARAI	**Tarakan**	**4.40**	**310**	P	**Pn**	**18 05 00.4**	**-1.5**
	2μm,0.7s						
TSM	**Tawau**	**4.87**	**321**	P	**Pn**	**18 05 07.7**	**-0.6**
KKM	**Kota Kinabalu**	**7.26**	**319**	P	**Pn**	**18 05 41.9**	**+0.9**
AAI	**Ambon**	**8.35**	**120**	P	**Pn**	**18 06 02.5**	**+6.7**
	150nm,0.8s						
BJII	**Banjamegara**	**13.65**	**235**	P	**Pn**	**18 07 09.2**	**+1.5**
	63nm,1.4s						
LEM	**Lembang**	**15.17**	**241**	P	**Pn**	**18 07 31.6**	**+4.3**
	135nm,1.1s						
CBJI	**Citeko**	**15.67**	**244**	P	**Pn**	**18 07 37.9**	**+4.3**
	214nm,1.0s						
KAKA	**Kakadu**	**17.38**	**139** ⇓	*i*P	**Pn**	**18 07 56.1**	**+1.3**
	41nm,0.5s						
KGM	**Kluang**	**17.70**	**275**	P	**Pn**	**18 07 58.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.05**	**166** ⇓	*i*P	**Pn**	**18 08 14.4**	**-0.5**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.05**	**166**	P	**Pn**	**18 08 14.8**	**-0.1**
	1.0nm,0.3s,baz=7.9,slow=7.6,SNR=36						
FITZ				LR	LR	18 17 07.8	
	comp=Z,76nm,18.2s,baz=156,slow=41						
IPM	**Ipoh**	**20.30**	**282**	P	**P**	**18 08 26.7**	**-0.2**
PPI	**Padang Panjang**	**20.58**	**267**	P	**P**	**18 08 29.7**	**-0.2**
	63nm,1.0s						
KULM	**Kulim**	**20.82**	**284**	*e*P	**P**	**18 08 31.5**	**-1.0**
PSI	**Prapat**	**22.14**	**276**	P	**P**	**18 08 45.1**	**-1.5**
	4.0nm,0.5s,mb4.0,baz=114,slow=19,SNR=5.0						
TSI	**Tuntungan**	**22.57**	**278**	P	**P**	**18 08 52.3**	**+1.2**
	38nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**24.18**	**148** ⇓	*i*P	**P**	**18 09 06.1**	**-0.3**
WRA	**Warramunga Arr**	**24.18**	**148**	P	**P**	**18 09 06.1**	**-0.3**
	26nm,0.8s,mb4.6,baz=330,slow=11,SNR=221						
WRA				ScP	ScP	18 16 11.4	-4.9
	1.1nm,0.9s,baz=338,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**24.19**	**148** ⇓	*i*P	**P**	**18 09 06.1**	**-0.3**
ASPA	**Alice Springs**	**27.12**	**153** ⇓	*i*P	**P**	**18 09 33.2**	**+0.3**
AS31	**Alice Springs**	**27.12**	**153** ⇓	*i*P	**P**	**18 09 33.2**	**+0.3**
ASAR	**Alice Springs**	**27.12**	**153**	P	**P**	**18 09 33.3**	**+0.4**
	5.8nm,0.6s,mb4.3,baz=344,slow=14,SNR=88						
ASAR				PcP	PcP	18 12 50.7	-1.0
	0.4nm,0.4s,baz=346,slow=2.1,SNR=4.6						
ASAR				ScP	ScP	18 16 20.5	-4.2
	1.0nm,0.8s,baz=347,slow=1.9,SNR=7.1						
ASAR	**Alice Springs**	**27.12**	**153**	P	**P**	**18 09 33.3**	**+0.4**
ASAR						18 12 50.7	
NJ2	**Nanjing**	**31.44**	**357**	*e*P	**P**	**18 10 10.5**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**37.67**	**151**	P	**P**	**18 11 05.5**	**+0.6**
	comp=Z,8.1nm,0.7s,mb4.7,baz=325,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**37.67**	**151**	P	**P**	**18 11 05.5**	**+0.6**
BJT	**Baijiatuau**	**39.57**	**354**	P	**P**	**18 11 22.3**	**+1.5**
LSA	**Lhasa**	**40.60**	**318**	*e*P	**P**	**18 11 31.5**	**+2.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**40.60**	**318**	*e*P	**P**	**18 11 31.5**	**+2.1**
	comp=Z,8.0nm,0.6s,mb4.7						
JIRN	**Jiri**	**42.89**	**312**	*e*P	**P**	**18 11 49.0**	**+1.0**
GUN	**Gumba**	**43.26**	**312**	*e*P	**P**	**18 11 51.5**	**+0.5**
PKI	**Pulchoki**	**43.43**	**311**	*e*P	**P**	**18 11 52.7**	**+0.4**
	comp=Z,15nm,0.6s,mb4.9						
KKN	**Kakani**	**43.64**	**312**	*e*P	**P**	**18 11 54.7**	**+0.7**
DMN	**Daman**	**43.67**	**311**	*e*P	**P**	**18 11 54.8**	**+0.5**
	comp=Z,15nm,0.6s,mb4.9						
GKN	**Gorkha**	**44.23**	**311**	*e*P	**P**	**18 11 59.0**	**+0.2**
	comp=Z,14nm,0.5s,mb4.9						
KOLN	**Koldanda**	**44.90**	**310**	*e*P	**P**	**18 12 03.6**	**-0.5**
	comp=Z,27nm,0.9s,mb5.0						
SONM	**Songino Array**	**48.81**	**347**	P	**P**	**18 12 35.0**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=167,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**57.13**	**329**	P	**P**	**18 13 36.2**	**+0.5**
	comp=Z,2.6nm,0.5s,mb4.5,baz=122,slow=7.7,SNR=53						
MKAR	**Makanchi Array**	**57.13**	**329**	*i* P	**P**	**18 13 36.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BOD	**Bodaibo**	**57.41**	**356**	*e*P	**P**	**18 13 37.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4		

ISC 07 18:10:17.1±1.8, 323N±01×1426E±02, h66km±20km, n12, σ0°62/16, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**3.24**	**325**	P	**Pn**	**18 11 06.0**	**+0.5**
JHU	**Hanno**	**4.45**	**323**	P	**Pn**	**18 11 21.2**	**-0.8**
JHU				eS	**Sn**	18 12 12.5	**0.0**
JHO	**Hitachi**	**4.57**	**339**	P	**Pn**	**18 11 23.2**	**-0.5**
JHO				eS	**Sn**	18 12 15.2	**-0.3**
JYN	**Shimob**	**4.61**	**314**	P	**Pn**	**18 11 24.6**	**+0.4**
JRY	**Ryogami san**	**4.77**	**321**	P	**Pn**	**18 11 26.9**	**+0.5**
JAG	**Ashikaga**	**4.83**	**328**	P	**Pn**	**18 11 26.9**	**-0.3**
MJAR	**Matsushiro Arr**	**5.54**	**320**	Pn	**Pn**	**18 11 37.1**	**+0.3**
	0.8nm,0.3s,baz=155,slow=12,SNR=13						
MJAR				Sn	**Sn**	**18 12 38.3**	**-0.8**
	baz=124,slow=26,SNR=4.0						
MAT	**Matsushiro**	**5.54**	**320**	P	**Pn**	**18 11 37.4**	**+0.5**
JMK	**Ichinoseki**	**6.69**	**351**	P	**Pn**	**18 11 53.4**	**+0.8**
JMK				eS	**Sn**	18 13 07.1	**-0.3**
MKAR	**Makanchi Array**	**47.55**	**306**	P	**P**	**18 18 47.2**	**+1.4**
	0.2nm,0.4s,mb3.3,baz=74,slow=9.6,SNR=6.0						
WRA	**Warramunga Arr**	**52.58**	**190**	P	**P**	**18 19 23.4**	**-0.6**
	0.3nm,0.5s,mb3.6,baz=6.5,slow=7.6,SNR=9.3						
ASAR	**Alice Springs**	**56.31**	**190**	P	**P**	**18 19 50.3**	**-0.7**
	0.3nm,1.0s,mb3.3,baz=12,slow=7.3,SNR=6.8						

*ISCJB **07** 18:15:31.6±1.1, 3364N±003×4888E±003, h9km±8km, Error ellipse: s-maj=5.6km s-min=3.7km az=45.2*
*THR **07** 18:15:31.2±0.7, 3377N×4889E, h14km±5km, ML3.4*
*CSEM **07** 18:15:32.1±0.1, 3362N×4883E, h20km, ML3.4, Error ellipse: s-maj=2.2km s-min=1.1km az=19.0*
*TEH **07** 18:15:33.1, 3362N×4882E, h10km, Mn3.5*

ISC 07 18:15:33.3±1.4, 3362N±003×4884E±003, h15km±10km, n32, σ0°96/50, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.23**	**297**	ePg	**Pn**	**18 15 52.3**	**-3.6**
IKOM				eSg	**Sb**	**18 16 10.9**	**-1.0**
ASAO	**Ashtian**	**1.35**	**47**	ePG	**Pn**	**18 15 53.8**	**-3.8**
ASAO				eSG	**Sn**	**18 16 10.7**	**-4.6**
ASAO				AML	AML	18 16 14.3	
	comp=E,1μm,0.6s						
ASAO				AML	AML	18 16 16.2	
	comp=N,784nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.51**	**181**	ePG	**Pn**	**18 16 01.5**	**+1.7**
SHGR				AML	AML	18 16 27.3	
	comp=E,850nm,0.4s						
SHGR				AML	AML	18 16 27.6	
	comp=N,352nm,0.3s						
IVIS	**Veys**	**1.88**	**299**	ePn	**Pn**	**18 16 05.0**	**+0.2**
IVIS				eSn	**Sn**	**18 16 28.9**	**+0.7**
SNGE	**Sanandaj**	**1.92**	**320**	ePg	**Pn**	**18 16 04.8**	**-0.6**
SNGE				AML	AML	18 16 36.7	
	comp=N,401nm,0.5s						
IPIR	**Pirpir**	**1.96**	**118**	ePn	**Pn**	**18 16 05.4**	**-0.6**
IPIR				eSn	**Sn**	**18 16 31.4**	**+1.1**
IRAZ	**Razeghan**	**1.99**	**27**	ePn	**Pn**	**18 16 07.3**	**+0.9**
IRAZ				eSn	**Sn**	**18 16 31.1**	**0.0**
IGHG	**Ghaleghazi**	**2.01**	**291**	ePn	**Pn**	**18 16 07.2**	**+0.5**
ILIN	**Laeen**	**2.02**	**310**	ePn	**Pn**	**18 16 07.4**	**+0.6**
IDHR	**Dehrash**	**2.30**	**299**	eSn	**Sn**	**18 16 38.7**	**+0.1**
IKLH	**Kalahroud**	**2.31**	**97**	ePn	**Pn**	**18 16 11.0**	**+0.2**
IKLH				eSn	**Sn**	**18 16 40.3**	**+1.4**
IMHD	**Mahdasht**	**2.55**	**36**	ePn	**Pn**	**18 16 14.3**	**+0.2**
IMHD				eSn	**Sn**	**18 16 45.4**	**+0.5**
IVRN	**Varamin**	**2.76**	**59**	ePn	**Pn**	**18 16 17.3**	**+0.4**
IVRN				eSn	**Sn**	**18 16 50.4**	**+0.5**
THKV	**Tehran--Karaj**	**2.84**	**36**	ePN	**Pn**	**18 16 16.5**	**-1.5**
THKV				eSG	**Sn**	**18 16 55.9**	**+4.0**
THKV				AML	AML	18 17 01.7	
	comp=E,155nm,0.6s						
THKV				AML	AML	18 17 07.1	
	comp=N,130nm,0.5s						
IGZV	**Gazvin**	**2.98**	**22**	ePn	**Pn**	**18 16 20.6**	**+0.6**
IGZV				eSn	**Sn**	**18 16 55.4**	**-0.1**
IZEF	**Zefreh**	**3.01**	**103**	ePn	**Pn**	**18 16 21.6**	**+1.1**
IZEF	**Zefreh**	**3.01**	**103**	ePg	**Pn**	**18 16 23.5**	**+3.0**
IZEF				eSn	**Sn**	**18 16 56.7**	**+0.4**
IGAR	**Garneh**	**3.14**	**115**	ePn	**Pn**	**18 16 20.6**	**-1.6**
IAFJ	**Afjeh**	**3.25**	**46**	ePn	**Pn**	**18 16 24.2**	**+0.5**
IAFJ				eSn	**Sn**	**18 17 02.7**	**+0.6**
DAMV	**Damavand**	**3.27**	**51**	ePN	**Pn**	**18 16 22.9**	**-1.0**
DAMV				AML	AML	18 17 16.6	
	comp=N,60nm,0.4s						
DAMV				AML	AML	18 17 20.6	
	comp=E,59nm,0.7s						
IDMV	**Damavand**	**3.28**	**53**	ePn	**Pn**	**18 16 24.5**	**+0.4**
IDMV				eSn	**Sn**	**18 17 02.7**	**-0.1**
NASN	**Na'in**	**3.43**	**103**	ePN	**Pn**	**18 16 26.4**	**+0.2**
IFIR	**Firoozkooh**	**3.81**	**57**	ePn	**Pn**	**18 16 31.9**	**+0.6**
IFIR				eSn	**Sn**	**18 17 15.2**	**-0.6**
ILAS	**Lasjerd**	**3.83**	**62**	ePn	**Pn**	**18 16 29.8**	**-1.9**
ILAS				eSn	**Sn**	**18 17 15.8**	**-0.6**
ISHM	**Shahmirzad**	**4.27**	**58**	ePn	**Pn**	**18 16 38.1**	**+0.4**
ISAD	**Sadrabad**	**4.42**	**111**	ePn	**Pn**	**18 16 39.6**	**-0.3**
ISAD				eSn	**Sn**	**18 17 30.6**	**-0.5**
IKIA	**Kiasar**	**4.74**	**56**	ePn	**Pn**	**18 16 44.8**	**+0.6**
ICHK	**Chekchek**	**4.88**	**105**	ePn	**Pn**	**18 16 46.9**	**+0.8**
ICHK				eSn	**Sn**	**18 17 40.4**	**-1.9**
IMEH	**Mehriz**	**5.36**	**113**	ePn	**Pn**	**18 16 52.4**	**-0.3**
ISRV	**Sarvestan**	**5.58**	**138**	ePn	**Pn**	**18 16 55.0**	**-0.8**
ISRV				eSn	**Sn**	**18 17 57.3**	**-2.4**
IMOK	**Mook**	**5.64**	**143**	ePn	**Pn**	**18 16 58.1**	**+1.6**
IMRD	**Marand**	**5.68**	**334**	ePn	**Pn**	**18 16 55.7**	**-1.4**

IDC 07 18:33:18.4±5.0, 2721S×17575W, h48km±44km, mb3.3/4, mb1 3.6/4, mb1mx3.5/11, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=43.4km s-min=35.3km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.79**	**223**	P	Pn	18 34 00.5	**0.0**
	52nm,0.3s,baz=287,slow=19,SNR=4.1						
RAO				S	Sn	18 34 33.6	+0.7
	441nm,0.3s,baz=38,slow=22,SNR=13						
ASAR	**Alice Springs**	**45.36**	**263**	P	P	18 41 32.4	+0.6
	0.4nm,0.7s,baz=99,slow=7.1,SNR=8.3						
WRA	**Warramunga Arr**	**46.07**	**268**	P	P	18 41 37.3	-0.1
	0.3nm,0.3s,baz=105,slow=8.1,SNR=9.9						
VNDA	**Vanda**	**51.46**	**186**	P	P	18 42 17.6	-1.1
	0.6nm,0.8s,baz=4.5,slow=6.4,SNR=3.6						
NVAR	**Mina Array Bea**	**84.56**	**42**	P	P	18 45 46.8	+0.4
	0.2nm,0.5s,baz=229,slow=8.2,SNR=3.8						
FINES	**FINESS Array B**	**142.76**	**343**	PKhKP		18 52 41.4	
	1.5nm,0.9s,baz=82,slow=5.2,SNR=3.4						
AKASG	**Malin Array Be**	**149.81**	**328**	PKPbc	PKPbc	18 53 02.6	-0.3
	0.3nm,0.4s,baz=34,slow=3.0,SNR=5.0						

*ISCJB **07** 18:41:02.5±0.9, 553S±0.1×167E±0.3, h10km, mb3.9/8, MS3.8/2, Error ellipse: s-maj=21.5km s-min=17.5km az=144.2*
*IDC **07** 18:41:02.8±1.0, 5520S×1691E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, MS3.8/2, Ms1 3.9/2, ms1mx2.8/21, Error ellipse: s-maj=33.9km s-min=24.0km az=55.0*
*NEIC **07** 18:41:03.9±0.7, 5532S×1696E, h10km, mb4.1/4, Error ellipse: s-maj=18.6km s-min=13.6km az=59.0*

ISC 07 18:41:04.1±0.9, 554S±01×169E±03, h10km, n14, σ0°84/12, mb3.9/8, MS3.8/2, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.42**	**200**	P	**Pn**	**18 45 19.2**	**-0.3**
	0.1nm,0.3s,baz=40,slow=8.5,SNR=27						
SNAA	**Sanae**	**18.42**	**200**	e	**Pn**	**18 45 20.0**	**+0.5**
SNAA				e		18 45 22.5	
SNAA				e		18 45 27.4	
VNA3	**Neumayer Olymp**	**19.61**	**206**	e	**Pn**	**18 45 33.1**	**-0.8**
VNA3				e		18 45 35.6	
VNA3				e		18 45 40.2	
MAW	**Mawson**	**24.46**	**138**	P	**P**	**18 46 23.0**	**-0.1**
	1.7nm,0.8s,mb3.5,baz=301,slow=11,SNR=4.4						
MAW	**Mawson**	**24.46**	**138**	eP	**P**	**18 46 22.2**	**-0.9**
	3.2nm,0.9s,mb3.8						
QSPA	**South Pole Qui**	**34.88**	**180**	eP	**P**	**18 47 55.2**	**-0.3**
	3.3nm,0.8s,mb4.3						
VNDA	**Vanda**	**45.62**	**170**	P	**P**	**18 49 26.8**	**+2.3**
	0.4nm,0.5s,mb3.6,baz=229,slow=8.7,SNR=6.5						
VNDA				LR	LR	19 07 49.9	
	comp=Z,152nm,18.1s,MS4.0,baz=77,slow=35						
SBA	**Scott Base**	**45.77**	**171**	eP	**P**	**18 49 24.9**	**-0.8**
	3.1nm,1.1s,mb4.2						
PLCA	**Paso Flores**	**56.43**	**246**	P	**P**	**18 50 46.0**	**+0.2**
	1.7nm,0.9s,mb4.1,baz=145,slow=6.0,SNR=2.8						
CPUP	**Villa Florida**	**59.89**	**267**	P	**P**	**18 51 10.6**	**+0.5**
	0.5nm,0.5s,mb3.8,baz=104,slow=8.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**69.42**	**344**	P	**P**	**18 52 11.6**	**-0.6**
	1.3nm,1.1s,mb3.8,baz=174,slow=4.0,SNR=7.6						
LPAZ	**La Paz**	**73.95**	**265**	LR	LR	19 23 17.7	
	comp=Z,34nm,18.4s,MS3.7,baz=298,slow=34						
ASAR	**Alice Springs**	**84.86**	**125**	P	**P**	**18 53 39.4**	**+0.4**
	0.4nm,0.6s,mb3.7,baz=204,slow=4.4,SNR=8.8						
NVAR	**Mina Array Bea**	**145.72**	**259**	PKPbc	PKPbc	19 00 42.6	-0.6
	3.2nm,0.7s,baz=112,slow=4.0,SNR=20						

*IDC **07** 18:57:57.5±4.2, 1690N×14574E, h293km±20km, mb3.2/6, mb1 3.3/7, mb1mx3.2/19, mbtmp3.9/7, Error ellipse: s-maj=111.6km s-min=17.0km az=81.0*
*ISCJB **07** 18:57:58.7±2.0, 168N±0.1×1452E±04, h307km±14km, mb3.4/6, Error ellipse: s-maj=67.1km s-min=23.0km az=167.6*
*NEIC **07** 18:57:58.7±1.8, 1683N×14520E, h292km±16km, Error ellipse: s-maj=56.1km s-min=19.0km az=83.0*

ISC 07 18:57:58.7±2.1, 169N±02×1454E±04, h298km±15km, n10, σ0°88/12, mb3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.31**	**189**	P	**Pn**	**18 58 56.3**	**-1.1**
	14nm,0.3s,baz=18,slow=20,SNR=5.6						
GUMO				S	**S**	**18 59 45.1**	**+0.8**
	15nm,0.3s,baz=197,slow=19,SNR=4.3						
GUMO	**Guam**	**3.31**	**189**	P	**Pn**	**18 58 56.3**	**-1.1**
GUMO				S	**S**	**18 59 45.1**	**+0.8**
WRA	**Warramunga Arr**	**38.16**	**197**	P	**P**	**19 04 50.7**	**+0.7**
	0.2nm,0.4s,mb2.9,baz=12,slow=8.5,SNR=9.3						
ASAR	**Alice Springs**	**41.83**	**196**	P	**P**	**19 05 19.7**	**-0.2**
	0.2nm,0.7s,mb2.4,baz=16,slow=6.6,SNR=3.3						
SONM	**Songino Array**	**44.38**	**323**	P	**P**	**19 05 40.5**	**+0.3**
	0.6nm,0.6s,mb3.0,baz=126,slow=6.2,SNR=4.8						
KULM	**Kulim**	**45.26**	**261**	P	**P**	**19 05 46.0**	**-1.1**
MKAR	**Makanchi Array**	**59.50**	**315**	P	**P**	**19 07 32.7**	**+1.7**
	1.3nm,0.4s,mb3.8,baz=88,slow=8.0,SNR=14						
BVAR	**Borovoye Array**	**67.67**	**321**	P	**P**	**19 08 23.9**	**-0.2**
	0.9nm,0.4s,mb3.9,baz=108,slow=9.5,SNR=4.4						
FINES	**FINESS Array B**	**88.40**	**335**	P	**P**	**19 10 16.5**	**-0.7**
	4.6nm,1.1s,mb4.2,baz=84,slow=5.9,SNR=4.7						
FINES	**FINESS Array B**	**88.40**	**335**	P	**P**	**19 10 16.5**	**-0.7**

MEX 07 19:30:10.0±0.4, 1682N×10019W, h4km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**341**	i P	Pg	19 30 14.3	-0.4
CAIG				i S	Sg	19 30 18.2	+0.4
ACX	**Acapulco**	**0.26**	**80**	i P	Pg	19 30 15.0	-0.1
ACX				i S	Sg	19 30 18.5	0.0
MEIG	**Mezcala**	**1.23**	**26**	i P	Pg	19 30 30.0	-3.5
MEIG				i S	Sg	19 30 45.8	-3.6
PLIG	**Platanillo**	**1.69**	**23**	i P	Pn	19 30 37.1	-3.3
PLIG				i S	Sn	19 30 58.4	-4.1
UTMO	**Huajuapan**	**2.49**	**66**	eP	Pn	19 30 48.0	-3.3
UTMO				eP		19 30 48.7	

*LDG **07** 20:02:59.3±0.0, 4393N×7.19E, h2km, Md2.3/1, Ml1.8/6, Error ellipse: s-maj=0.8km s-min=0.7km az=2.0*

STR 07 20:02:58.9±0.1, 4393N×718E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.04**	**211**	Pg	Pg	20 03 00.5	+0.5
MVIF				Sg	Sg	20 03 01.5	+0.6
TOUF	**Mont Tournerai**	**0.10**	**31**	Pg	Pg	20 03 01.4	+0.4
TOUF				Sg	Sg	20 03 03.3	+1.0
LUCF	**Luceram**	**0.13**	**107**	Pg	Pg	20 03 01.7	+0.2
LUCF				Sg	Sg	20 03 04.1	+0.9
AUTN	**L'Aution**	**0.19**	**70**	Pg	Pg	20 03 03.1	+0.5
AUTN				Sg	Sg	20 03 06.3	+1.1
SBF	**Sospel**	**0.20**	**110**	ePg	Pg	20 03 03.5	+0.7
SBF				eSg	Sg	20 03 06.1	+0.7
	143nm,0.3s						
SAOF	**Saorge**	**0.28**	**78**	Pg	Pg	20 03 05.2	+0.9
SAOF				Sg	Sg	20 03 08.3	+0.4
FRF	**La Foret Royal**	**0.53**	**226**	ePg	Pg	20 03 09.5	+0.3
FRF				eSg	Sg	20 03 16.6	+0.5
	5.8nm,0.2s						
LMR	**La Mourre**	**0.77**	**219**	ePg	Pg	20 03 13.9	+0.2
LMR				eSg	Sg	20 03 23.9	+0.2
	7.1nm,0.3s						
MBDF	**Montbardon**	**0.85**	**340**	eSg	Sg	20 03 26.6	+0.4
	2.8nm,0.2s						
SMRF	**Simiane la Rot**	**1.16**	**273**	eP	Pg	20 03 22.6	+1.5
SMRF				eSg	Sg	20 03 36.3	+0.1
	6.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.36**	**317**	ePg	Pg	20 03 24.9	0.0
ORIF				eSg	Sg	20 03 42.3	-0.2
	2.0nm,0.3s						
LPG	**La Plagne**	**1.60**	**349**	ePg	Pg	20 03 29.4	-0.1
LPG				eSg	Sg	20 03 50.0	-0.2
	0.3nm,0.2s						
LPL	**La Plagne**	**1.62**	**349**	ePg	Pg	20 03 29.7	-0.2
LPL				eSg	Sg	20 03 50.6	-0.3
	0.6nm,0.3s						
PGF	**Pioggiola**	**1.92**	**135**	ePn	Pn	20 03 30.2	-2.0
PGF				eSn	Sn	20 03 54.4	-2.3
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**2.02**	**298**	ePn	Pn	20 03 33.2	-0.4
VIVF	**Saint-Julien-l**	**2.02**	**298**	ePg	Pg	20 03 36.4	-1.3
VIVF				eSn	Sn	20 03 57.2	-2.1
	2.1nm,0.3s						

*IDC **07** 20:15:55.1±1.2, 1634S×17236W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.1/18, mbtmp4.2/7, ML1.8/1, Error ellipse: s-maj=45.1km s-min=18.1km az=126.0*
*ISCJB **07** 20:15:58.6±1.1, 163S±0.1×1725W±02, h33km, mb4.2/6, Error ellipse: s-maj=33.5km s-min=9.0km az=57.9*
*NEIC **07** 20:16:00.0±0.9, 1628S×17236W, h35km, Error ellipse: s-maj=29.3km s-min=11.3km az=124.0*

ISC 07 20:16:00.4±1.1, 163S±01×1723W±02, h35km, n14, σ0°81/14, mb4.2/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**12**	Pn	**Pn**	**20 16 37.5**	**-0.4**
	12nm,0.3s,baz=98,slow=20,SNR=14						
AFI				Sn	**Sn**	**20 17 08.2**	**+1.6**
	41nm,0.3s,baz=179,slow=21,SNR=14						
AFI	**Afiamalu**	**2.45**	**12**	ePn	**Pn**	**20 16 36.8**	**-1.1**
AFI				eSn	**Sn**	**20 17 03.7**	**-2.9**
URZ	**Urewera**	**23.75**	**201**	P	**P**	**20 21 09.1**	**-0.4**
	13nm,0.8s,mb4.4,baz=23,slow=6.5,SNR=8.9						
STKA	**Stephens Creek**	**44.50**	**241**	P	**P**	**20 24 07.5**	**-0.8**
	2.5nm,0.7s,mb4.1,baz=346,slow=5.4,SNR=4.3						
STKA	**Stephens Creek**	**44.50**	**241**	P	**P**	**20 24 07.5**	**-0.8**
WB2	**Warramunga Arr**	**50.65**	**257**	eP	**P**	**20 24 55.9**	**-0.1**
WRA	**Warramunga Arr**	**50.66**	**257**	P	**P**	**20 24 55.4**	**-0.7**
	1.8nm,0.6s,mb4.2,baz=95,slow=7.9,SNR=29						
AS31	**Alice Springs**	**50.83**	**253**	eP	**P**	**20 24 57.9**	**+0.5**
ASAR	**Alice Springs**	**50.83**	**253**	P	**P**	**20 24 57.5**	**+0.1**
	13nm,0.6s,mb5.0,baz=87,slow=8.6,SNR=154						
ASPA	**Alice Springs**	**50.83**	**253**	eP	**P**	**20 24 57.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**59.05**	**258**	P	**P**	**20 25 57.8**	**+1.0**
	0.9nm,0.6s,mb4.0,baz=32,slow=15,SNR=3.5						
NVAR	**Mina Array Bea**	**74.32**	**41**	P	**P**	**20 27 34.8**	**+0.7**
	1.2nm,0.9s,mb3.8,baz=232,slow=10,SNR=5.6						
GERES	**GERESS Array B**	**147.19**	**353**	PKPbc	PKPbc	20 35 39.3	-0.5
	0.3nm,0.6s,baz=243,slow=1.5,SNR=3.9						
BRTR	**Keskin Array B**	**147.53**	**321**	PKPbc	PKPbc	20 35 41.9	+1.2
	0.9nm,0.9s,baz=107,slow=1.7,SNR=5.0						

*NEIC **07** 20:26:03.8, 3672N×950W, h0km, MN2.7(MDD), After MDD.*

*INMG **07** 20:26:05.5±1.1, 3671N×955W, h12km±3km, ML2.2, Error ellipse: s-maj=4.7km s-min=2.5km az=66.0*
*CSEM **07** 20:26:05.1±0.7, 3665N×921W, h10km, ML3.5/4, Error ellipse: s-maj=14.5km s-min=7.5km az=39.0*
*IGIL **07** 20:26:06.1, 3670N×955W, h10km, ML2.2*

MDD 07 20:26:04.6±1.5, 3668N×959W, h17km±11km, mbLg2.6/8, 2C-2D, Error ellipse: s-maj=14.9km s-min=9.0km az=49.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.98**	**50**	eP	Pb	20 26 22.8	-0.4
MORF				eS	Sb	20 26 34.8	-1.0
MORF				eS	Sb	20 26 34.8	-1.0
MORF				AML	AML	20 26 36.4	
	comp=Z,53nm,0.1s						
MORF	**Marmelete**	**0.98**	**50**	P	Pb	20 26 22.8	-0.4
MORF				S	Sb	20 26 34.8	-1.0
PTEO	**Sao Teotonio**	**1.11**	**39**	eP	Pb	20 26 24.7	-0.6
PTEO				eS	Sb	20 26 38.8	-0.7
PTEO							
	comp=Z,20nm,0.1s						
EGRO	**El Granado**	**1.89**	**63**	⇑P	Pn	20 26 35.1	-1.0
	comp=Z,2.2nm,0.1s,SNR=18						
EGRO				S	Sn	20 26 57.5	-2.0
	comp=Z,6.2nm,0.1s						
EGRO	**El Granado**	**1.89**	**63**	⇑P	Pn	20 26 35.1	-1.0
EGRO				S	Sn	20 26 57.5	-2.0
EGRO	**El Granado**	**1.89**	**63**	P	Pn	20 26 35.1	-1.0
	comp=Z,2.2nm,0.1s,SNR=18						
EGRO				S	Sn	20 26 57.5	-2.0
	comp=Z,6.2nm,0.1s						
PBEJ	**Beja**	**1.92**	**45**	ePn	Pn	20 26 35.6	-1.0
PBEJ				eSn	Sn	20 26 58.5	-1.8
PBEJ							
	comp=Z,5.1nm,0.1s						
PBEJ	**Beja**	**1.92**	**45**	ePn	Pn	20 26 35.6	-1.0
PBEJ				eSn	Sn	20 26 58.5	-1.8
	comp=Z,5.1nm,0.1s						
MOE	**Montemor**	**2.09**	**28**	ePn	Pn	20 26 38.5	-0.3
MOE				eSn	Sn	20 27 02.4	-2.0
PLOU	**Loures**	**2.23**	**9**	ePn	Pn	20 26 39.6	-1.1
PLOU				eSn	Sn	20 27 06.1	-1.8
PLOU							
	comp=Z,16nm,0.1s						
PLOU	**Loures**	**2.23**	**9**	ePn	Pn	20 26 39.6	-1.1
PLOU				eSn	Sn	20 27 06.1	-1.8
	comp=Z,16nm,0.1s						
PMAFR	**Mafra**	**2.29**	**6**	ePn	Pn	20 26 40.4	-1.1
PMAFR				eSn	Sn	20 27 07.4	-1.8
PMAFR							
	comp=Z,37nm,0.2s						
PMAFR	**Mafra**	**2.29**	**6**	ePn	Pn	20 26 40.4	-1.1
PMAFR				eSn	Sn	20 27 07.4	-1.8
	comp=Z,37nm,0.2s						
EMIN	**Mina Concepcio**	**2.57**	**64**	P	Pn	20 26 44.1	-1.4
	comp=Z,1.3nm,0.2s,SNR=12						
EMIN				S	Sn	20 27 14.3	-2.0
	comp=Z,1.1nm,0.1s,SNR=8.0						
EMIN	**Mina Concepcio**	**2.57**	**64**	P	Pn	20 26 44.1	-1.3
EMIN				S	Sn	20 27 14.3	-2.0
EMIN	**Mina Concepcio**	**2.57**	**64**	P	Pn	20 26 44.1	-1.4
	comp=Z,1.3nm,0.2s,SNR=12						
EMIN				S	Sn	20 27 14.3	-2.0
	comp=Z,1.1nm,0.1s,SNR=8.0						
PESTR	**Estremoz**	**2.70**	**35**	ePn	Pn	20 26 45.8	-1.4
PESTR				eSn	Sn	20 27 16.7	-2.8
PESTR							
	comp=Z,2.9nm,0.1s						
PESTR	**Estremoz**	**2.70**	**35**	ePn	Pn	20 26 45.8	-1.4
PESTR				eSn	Sn	20 27 16.7	-2.8
	comp=Z,2.9nm,0.1s						
EBAD	**Badajoz**	**2.91**	**44**	P	Pn	20 26 48.7	-1.4
	comp=Z,0.6nm,0.0s,SNR=10.0						
EBAD				S	Sn	20 27 22.0	-2.7
	comp=Z,5.9nm,0.1s,SNR=7.0						
EBAD	**Badajoz**	**2.91**	**44**	P	Pn	20 26 48.8	-1.4
EBAD				S	Sn	20 27 22.0	-2.7
EBAD	**Badajoz**	**2.91**	**44**	P	Pn	20 26 48.7	-1.4
	comp=Z,0.6nm,0.0s,SNR=10.0						
EBAD				S	Sn	20 27 22.0	-2.7
	comp=Z,5.9nm,0.1s,SNR=7.0						
ESPR	**Espera**	**3.01**	**85**	⇓P	Pn	20 26 50.3	-1.1
	comp=Z,3.6nm,0.1s,SNR=18						
ESPR				S	Sn	20 27 24.0	-3.1
	comp=Z,23nm,0.2s						
ESPR	**Espera**	**3.01**	**85**	⇓P	Pn	20 26 50.3	-1.1
ESPR				S	Sn	20 27 24.0	-3.1
ESPR	**Espera**	**3.01**	**85**	P	Pn	20 26 50.3	-1.1
	comp=Z,3.6nm,0.1s,SNR=18						
ESPR				S	Sn	20 27 24.0	-3.1
	comp=Z,23nm,0.2s						
PTOM	**Tomar**	**3.08**	**17**	ePn	Pn	20 26 51.5	-0.9
PTOM				eSn	Sn	20 27 25.7	-3.1
PTOM							
	comp=Z,6.4nm,0.1s						
PTOM	**Tomar**	**3.08**	**17**	ePn	Pn	20 26 51.5	-0.9
PTOM				eSn	Sn	20 27 25.7	-3.1
	comp=Z,6.4nm,0.1s						
PCBR	**Castelo Branco**	**3.57**	**27**	ePn	Pn	20 26 58.4	-0.8
PCBR				eSn	Sn	20 27 37.8	-3.1
PCBR							
	comp=Z,2.8nm,0.2s						
EMIJ	**Mijas**	**3.88**	**90**	P	Pn	20 27 02.6	-0.8
	comp=Z,0.4nm,0.2s,SNR=7.9						
EMIJ				S	Sn	20 27 46.4	-2.2
	comp=Z,0.7nm,0.2

comp=Z,0.3nm,0.2s,SNR=7.9
ETOR S Sn 20 29 05.4 -4.9
comp=Z,2.7nm,0.3s

ISCJB ***07*** *21:12:23.9±1.1, 1176N±003×100.13E±004, h2km±7km, mb4.8/78, MS4.3/37, Error ellipse: s-maj=6.2km s-min=4.9km az=157.9*
IDC ***07*** *21:12:24.8±0.5, 1176N×100.06E, h0km, mb4.4/22, mb1 4.5/23, mb1mx4.5/25, mbtmp4.4/23, ML4.4/1, MS4.1/22, Ms1 4.1/22, ms1mx4.0/29, Error ellipse: s-maj=24.6km s-min=12.1km az=61.0*
BJI ***07*** *21:12:25.4, 1147N×100.07E, h26km, mB5.1, mb4.7, Ms5.0, Msz4.6*
NEIC ***07*** *21:12:26.4±0.2, 1174N×100.18E, h10km, mb4.9/32, MS4.3/2, Error ellipse: s-maj=8.0km s-min=4.8km az=60.0*
GCMT ***07*** *21:12:26.4±0.2, 1178N×100.15E, h12km, MW5.0/69, Moment Tensor Solution. s32,c38; s69,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.57±.07; $M_{\theta\theta}$0.49±.06; $M_{\phi\phi}$3.08±.08; $M_{r\theta}$0.47±.25; $M_{\theta\phi}$=-0.59±.06; $M_{\phi r}$=-0.90±.22; Best double couple: $M_0$3.53600×10^{16} NP1:ϕ_s171.00000°, δ37.00000°, λ-84.00000°. NP2: ϕ_s344.00000°, δ53.00000°, λ-94.00000°. Principal axes: T 3.3480, Plg8.0000°, Azm77.0000°; N 0.3730, Plg4.0000°, Azm346.0000°; P -3.7250, Plg81.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***07*** *21:12:28.4±1.1, 1169N×100.10E, h33km, mb5.1/34, MS4.1/5 Error ellipse: s-maj=11.8km s-min=5.5km az=117.5*

ISC 07 21:12:25.7±1.0, 1178N±003×10012E±004, h1km±6km, n219, σ1§00/219, mb4.8/78, MS4.3/37, 22C-5D, Gulf of Thailand

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NNT	**Nongplab**	**0.89**	**335**	P	**Pg**	**21 12 41.9**	**-0.8**
SNG	**Songkhla**	**4.60**	**174**	P	**Pn**	**21 13 35.0**	**-1.3**
	672nm,1.0s						
KKTK	**Khon Kaen**	**5.23**	**30**	P	**Pn**	**21 13 43.0**	**-2.0**
KULM	**Kulim**	**6.47**	**175**	*e*Pn	**Pn**	**21 14 01.2**	**-0.9**
CM31	**Chiang Mai Arr**	**6.74**	**350**	*e*Pn	**Pn**	**21 14 05.2**	**-0.5**
	1.4nm,0.8s						
CM31				*e*		21 15 53.4	
CHTO	**Chiang Mai**	**7.08**	**351**	*e*P	**Pn**	**21 14 10.4**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,51nm,0.8s						
CHTO	**Chiang Mai**	**7.08**	**351**	*e*Pn	**Pn**	**21 14 10.4**	**-0.1**
	comp=Z,51nm,0.8s						
CHTO				*e*Sn	**Sg**	**21 16 11.1**	**-2.1**
PBA	**Port Blair**	**7.23**	**270**	*ex*	x	21 14 00.8	
PBA				*ex*	x	21 14 16.1	
PSI	**Prapat**	**9.00**	**188**	Pn	**Pn**	**21 14 37.5**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=4.1,slow=11,SNR=17						
PSI				LR	LR	21 17 16.3	
	comp=Z,272nm,21.4s,baz=347,slow=32						
PSI	**Prapat**	**9.00**	**188**	Pn	**Pn**	**21 14 37.5**	**+0.7**
PSI				LR	LR	21 17 16.3	
QIZ	**Qiongzhong**	**11.82**	**51**	P	**Pn**	**21 15 14.8**	**-0.5**
QIZ				LR	LR		
	comp=N,6μm,13.4s						
QIZ				LR	LR		
	comp=Z,2μm,18.0s						
QIZ	**Qiongzhong**	**11.82**	**51**	*e*Pn	**Pn**	**21 15 14.8**	**-0.6**
KMI	**Kunming**	**13.50**	**10**	P	**Pn**	**21 15 43.5**	**+5.2**
KMI				AP		21 15 50.8	
KMI				PP		21 15 53.5	
KMI				XP		21 15 56.2	
KMI				PPP		21 16 01.3	
KMI				S	**Sn**	**21 18 14.2**	**+5.2**
KMI				XS		21 18 25.8	
KMI				SS		21 18 29.6	
KMI				AMB	AMB		
	comp=Z,16nm,1.3s						
KMI				AMB	AMB		
	comp=Z,138nm,3.1s						
KMI				LR	LR		
	comp=N,3μm,7.3s						
KMI				LR	LR		
	comp=E,6μm,11.1s						
KMI				LR	LR		
	comp=Z,2μm,8.5s						
KMI	**Kunming**	**13.50**	**10**	P	**Pn**	**21 15 43.5**	**+5.2**
KMI				pP		21 15 50.8	
KMI				PP		21 15 53.5	
KMI				sP		21 15 56.2	
KMI				PPP		21 16 01.3	
KMI				S	**Sn**	**21 18 14.2**	**+5.2**
KMI				sS		21 18 25.8	
KMI				SS		21 18 29.6	
KMI				SSS		21 18 41.3	
KSM	**Kuching**	**14.39**	**135**	*e*Pn	**Pn**	**21 15 49.5**	**-0.9**
SHL	**Shillong**	**15.77**	**332**	*e*P	**Pn**	**21 16 07.0**	**-1.9**
SHL				*ex*	x	21 22 08.0	
GYA	**Guiyang**	**15.85**	**22⇓**	*i*P	**Pn**	**21 16 12.4**	**+2.5**
GYA				AP	pP	21 16 19.8	+5.6
GYA				XP	sP	21 16 24.7	+10
GYA				S	**Sn**	**21 19 06.2**	**0.0**
GYA				AMB	AMB		
	comp=Z,20nm,1.6s						
GYA				AMB	AMB		
	comp=Z,230nm,6.3s						
GYA				LR	LR		
	comp=N,2μm,10.2s						
GYA				LR	LR		
	comp=E,2μm,8.7s						
GYA				LR	LR		
	comp=Z,4μm,9.9s						
KKM	**Kota Kinabalu**	**16.88**	**108**	*e*Pn	**Pn**	**21 16 24.0**	**+0.8**
VIS	**Vishakhapatnam**	**17.28**	**292**	*e*P	**Pn**	**21 16 30.0**	**+1.9**
VIS				AMb	AMB	21 16 36.5	
	comp=Z,68nm,1.7s						
BOK	**Bokaro**	**18.05**	**313**	*e*P	**Pn**	**21 16 38.6**	**+0.8**
CD2	**Chengdu**	**19.33**	**9⇑**	*i*P	**Pn**	**21 16 53.4**	**+0.1**
CD2				AP	pP	21 17 01.6	+9.0
CD2				XP	sP	21 17 06.1	+13
CD2				PP		21 17 11.2	
CD2				S	**Sn**	**21 20 24.9**	**-5.7**
CD2				XS	sS	21 20 37.5	+5.3
CD2				SS		21 20 51.6	
CD2				AMB	AMB		
	comp=Z,50nm,1.0s						
CD2				AMB	AMB		
	comp=Z,210nm,5.1s						
CD2				LR	LR		
	comp=N,990nm,13.2s						
CD2				LR	LR		
	comp=E,4μm,12.0s						
CD2				LR	LR		
	comp=Z,670nm,14.3s						
MDRS	**Chennai**	**19.45**	**276**	*e*P	**Pn**	**21 16 55.0**	**+0.3**
MDRS				⇑*e*P		21 16 55.5	
MDRS				*ex*	x	21 18 07.5	
PALK	**Pallekele**	**19.67**	**259**	*e*P	**Pn**	**21 16 57.5**	**+0.2**
	comp=Z,37nm,1.3s						
LSA	**Lhasa**	**19.69**	**336**	P	**Pn**	**21 16 58.0**	**+0.4**
LSA	**Lhasa**	**19.69**	**336**	*e*Pn	**Pn**	**21 16 57.8**	**+0.3**
GUN	**Gumba**	**20.87**	**322**	*e*P	**P**	**21 17 09.9**	**+0.8**
	comp=Z,128nm,1.2s						
PKI	**Pulchoki**	**20.91**	**321**	*e*P	**P**	**21 17 10.2**	**+0.7**
	comp=Z,29nm,0.9s						
DMN	**Daman**	**21.12**	**320**	*e*P	**P**	**21 17 12.3**	**+0.5**
	comp=Z,40nm,1.0s,mb4.7						
KKN	**Kakani**	**21.15**	**321**	*e*P	**P**	**21 17 12.0**	**-0.1**
	comp=Z,39nm,0.8s,mb4.8						
HYB	**Hyderabad**	**21.60**	**288**	*i* P	**P**	**21 17 17.0**	**0.0**
HYB	**Hyderabad**	**21.60**	**288**	*e*P	**P**	**21 17 20.0**	**+3.0**
GKN	**Gorkha**	**21.70**	**320**	*e*P	**P**	**21 17 18.2**	**+0.2**
	comp=Z,122nm,1.3s,mb5.2						
QZH	**Quanzhou**	**21.84**	**51**	P	**P**	**21 17 24.0**	**+4.5**
QZH				S	**S**	**21 21 24.0**	**+2.4**
QZH				LR	LR		
	comp=N,4μm,12.5s						
QZH				LR	LR		
	comp=E,2μm,7.6s						
QZH				LR	LR		
	comp=Z,3μm,19.4s						
KOLN	**Koldanda**	**22.20**	**318**	*e*P	**P**	**21 17 23.1**	**-0.3**
	comp=Z,157nm,1.5s,mb5.2						
WHN	**Wuhan**	**22.86**	**33**	P	**P**	**21 17 34.5**	**+4.1**
WHN				S	**S**	**21 21 46.0**	**+5.0**
WHN				LR	LR		
	comp=Z,6μm,9.4s						
XAN	**Xi'an**	**23.57**	**19**	P	**P**	**21 17 37.5**	**-0.3**
XAN				AP		21 17 47.7	
XAN				S	**S**	**21 21 49.8**	**-2.7**
XAN				SS		21 22 43.3	
XAN				AMB	AMB		
	comp=Z,20nm,2.1s,mb4.3						
XAN				AMB	AMB		
	comp=Z,169nm,5.5s						
XAN				LR	LR		
	comp=N,736nm,15.0s,MS4.8						
XAN				LR	LR		
	comp=E,2μm,15.8s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,14.5s,MS4.5						
BHPL	**Bhopal**	**24.42**	**301**	*e*P	**P**	**21 17 45.7**	**0.0**
BHPL				AMb	AMB	21 17 52.3	
	comp=Z,53nm,1.9s,mb4.7						
LZH	**Lanzhou**	**24.43**	**7**	*e*P	**P**	**21 17 47.4**	**+1.6**
LZH				AP		21 17 58.0	
LZH				XP	sP	21 18 02.8	+17
LZH				PP		21 18 23.5	
LZH				*e*S	**S**	**21 22 07.0**	**+0.5**
LZH				XS	sS	21 22 20.0	+13
LZH				SS		21 22 58.0	
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,310nm,4.5s						
LZH				LR	LR		
	comp=E,4μm,10.3s						
LZH				LR	LR		
	comp=Z,4μm,12.0s,MS5.2						
LZH	**Lanzhou**	**24.43**	**7**	*e*P	**P**	**21 17 47.4**	**+1.6**
LZH				pP		21 17 58.0	
LZH				sP	sP	21 18 02.8	+17
LZH				PP		21 18 23.5	
LZH				*e*S	**S**	**21 22 07.0**	**+0.5**
LZH				sS	sS	21 22 20.0	+13
LZH				SS		21 22 58.0	
KAD	**Karad**	**25.69**	**285**	*e*P	**P**	**21 17 57.7**	**+0.5**
KAD				AMb	AMB	21 18 17.1	
	comp=Z,25nm,1.5s,mb4.6						
NJ2	**Nanjing**	**26.54**	**38**	*e*P	**P**	**21 18 04.6**	**-0.3**
NJ2				AP		21 18 14.6	
NJ2				XP	sP	21 18 17.5	+12
NJ2				PP		21 18 48.4	
NJ2				S	**S**	**21 22 34.0**	**-6.1**
NJ2				XS	sS	21 22 50.0	+9.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,900nm,5.5s						
NJ2				LR	LR		
	comp=N,5μm,18.7s,MS5.2						
NJ2				LR	LR		
	comp=E,5μm,17.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,7μm,18.7s,MS5.2						
SSE	**Sheshan**	**27.36**	**42**	P	**P**	**21 18 10.3**	**-2.0**
SSE				AP		21 18 18.9	
SSE				XP	sP	21 18 22.9	+10
SSE				S	**S**	**21 22 47.5**	**-5.5**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,141nm,5.2s						
SSE				LR	LR		
	comp=N,610nm,19.9s,MS4.3						
SSE				LR	LR		
	comp=E,545nm,19.9s,MS4.3						
SSE				LR	LR		
	comp=Z,392nm,21.0s,MS4.0						
GTA	**Gaotai**	**27.52**	**359**	*e*P	**P**	**21 18 14.6**	**+0.9**
GTA				AP		21 18 24.0	
GTA				XP	sP	21 18 28.2	+14
GTA				PP		21 19 04.5	
GTA				S	**S**	**21 22 53.8**	**-1.7**
GTA				XS	sS	21 23 09.3	+13
GTA				SS		21 24 14.7	
GTA				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,193nm,6.9s						
GTA				LR	LR		
	comp=N,446nm,12.2s,MS4.6						
GTA				LR	LR		
	comp=E,901nm,12.2s,MS4.6						
GTA				LR	LR		
	comp=Z,485nm,11.0s,MS4.3						
AJM	**Ajmer**	**28.09**	**305**	*ex*	x	21 18 04.2	
AJM				AMb	AMB	21 18 08.2	
	comp=Z,6.3nm,0.6s,mb4.6						
BTO	**Baotou**	**30.01**	**15**	*e*P	**P**	**21 18 36.0**	**+0.1**
JOW	**Kunigami**	**30.40**	**56**	LR	LR	21 32 58.7	
	comp=Z,512nm,19.2s,MS4.2,baz=295,slow=40						
HHC	**Hu-ho-hao-te**	**30.66**	**17**	*e*P	**P**	**21 18 43.8**	**+2.2**
HHC				AP		21 18 53.7	
HHC				XP	sP	21 18 57.0	+15
HHC				S	**S**	**21 23 42.7**	**-2.1**
HHC				XS	sS	21 23 58.8	+13
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,172nm,4.5s						
HHC				LR	LR		
	comp=N,699nm,11.8s,MS5.2						
HHC				LR	LR		
	comp=E,3μm,15.3s,MS5.2						
HHC				LR	LR		
	comp=Z,958nm,9.2s						
BJI	**Beijing**	**31.52**	**24**	P	**P**	**21 18 51.1**	**+1.9**
BJI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
BJI				AMB	AMB		
	comp=Z,501nm,6.1s						
BJI				LR	LR		
	comp=N,1μm,13.1s						
BJI				LR	LR		
	comp=E,1μm,18.8s						
BJI				LR	LR		
	comp=Z,457nm,31.8s						
WMQ	**Urumqi**	**33.68**	**344⇑**	*i*P	**P**	**21 19 10.6**	**+2.5**
WMQ				AP		21 19 20.0	
WMQ				XP	sP	21 19 24.0	+15
WMQ				PP	PP	21 20 23.0	-1.2
WMQ				PCP	PcP	21 21 50.0	+2.0
WMQ				S	**S**	**21 24 30.0**	**-2.0**
WMQ				XS	sS	21 24 46.0	+13
WMQ				SS	SS	21 26 35.0	-22
WMQ				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,154nm,4.0s						
WMQ				LR	LR		
	comp=N,650nm,9.0s						
WMQ				LR	LR		
	comp=E,469nm,9.7s						
WMQ				LR	LR		
	comp=Z,626nm,16.8s,MS4.4						
KSH	**Kashi**	**34.94**	**326**	*e*P	**P**	**21 19 21.3**	**+2.2**
KSH				*e*AP		21 19 31.0	
KSH				*e*XP	sP	21 19 35.6	+16
KSH				*e*PP	PP	21 20 39.7	+1.5
KSH				*e*PPP		21 20 57.6	
KSH				*e*PCP	PcP	21 21 51.2	-0.5
KSH				*e*S	**S**	**21 24 48.9**	**-2.6**
KSH				*e*PS		21 24 57.7	
KSH				*e*XS	sS	21 25 05.8	+14
KSH				*e*SCP	ScP	21 25 31.9	-6.3
KSH				*e*PCS	PcS	21 25 41.2	+2.8
KSH				*e*SS	SS	21 27 05.9	-17
KSH				*e*SCS	ScS	21 29 36.8	-5.0
KSH				LR	LR		
	comp=N,379nm,11.0s						
KSH				LR	LR		
	comp=E,663nm,5.6s						
KSH				LR	LR		
	comp=Z,654nm,13.5s,MS4.5						
SONM	**Songino Array**	**36.32**	**7**	P	**P**	**21 19 31.4**	**+0.5**
	comp=Z,10nm,0.8s,mb4.7,baz=189,slow=7.8,SNR=52						
SONM				LR	LR	21 36 02.6	
	comp=Z,528nm,19.7s,MS4.3,baz=180,slow=39						
AAK	**Ala-Archa**	**37.96**	**329**	*c i*P	**P**	**21 19 44.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,22nm,2.5s,mb4.4						
AAK	**Ala-Archa**	**37.96**	**329**	*e*P	**P**	**21 19 45.1**	**+0.3**
	comp=Z,15nm,1.2s,mb4.6						
MBWA	**Marble Bar**	**37.98**	**149**	*e*P	**P**	**21 19 41.3**	**-3.7**
	comp=Z,14nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**38.01**	**340**	P	**P**	**21 19 44.8**	**-0.5**
	comp=Z,3.5nm,0.9s,mb4.1,baz=140,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**38.01**	**340⇑**	*e*P	**P**	**21 19 45.7**	**+0.4**
FRU	**Bishkek**	**38.05**	**329**	*e*P	**P**	**21 19 47.0**	**+1.4**
ZAK	**Zakamensk**	**38.58**	**3**	*e*P	**P**	**21 19 51.7**	**+1.7**
CN2	**Changchun**	**38.67**	**30**	*e*P	**P**	**21 19 52.8**	**+2.0**
CN2				LR	LR		
	comp=N,600nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,600nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,800nm,16.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**38.94**	**139**	P	**P**	**21 19 51.7**	**-1.4**
	comp=Z,4.7nm,1.1s,mb4.0,baz=43,slow=4.7,SNR=3.8						
FITZ				LR	LR	21 37 12.9	
	comp=Z,230nm,18.6s,MS4.0,baz=53,slow=38						
WSAR	**Wadi Sarin**	**41.04**	**292**	LR	LR	21 36 25.0	
	comp=Z,318nm,21.8s,MS4.1,baz=107,slow=35						
MDJ	**Mudanjiang**	**41.34**	**32**	P	**P**	**21 20 13.6**	**+0.6**
MDJ				AP		21 20 22.5	
MDJ				XP	sP	21 20 27.1	+14
MDJ				PCP	PcP	21 22 12.0	+0.6
MDJ				SCP	ScP	21 25 59.0	-3.5
MDJ				PCS	PcS	21 26 01.9	-0.7
MDJ				S	**S**	**21 26 29.1**	**+0.9**
MDJ				SCS	ScS	21 30 16.6	-1.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,171nm,5.2s						
MDJ				LR	LR		
	comp=N,255nm,23.2s,MS4.2						
MDJ				LR	LR		
	comp=E,324nm,22.7s,MS4.2						
MDJ				LR	LR		
	comp=Z,316nm,23.7s,MS4.1						
MJAR	**Matsushiro Arr**	**42.19**	**48**	LR	LR	21 37 49.3	
	comp=Z,384nm,21.5s,MS4.2,baz=240,slow=36						
CBIJ	**Chichi jima**	**42.27**	**63**	LR	LR	21 36 38.2	
	comp=Z,271nm,19.5s,MS4.1,baz=217,slow=34						
NVS	**Novosibirsk**	**44.97**	**346**	*e*P	**P**	**21 20 41.2**	**-1.2**
NVS				pmax	pmax		
	comp=Z,57nm,2.7s,mb5.0						
NVS				pmax	pmax		
	comp=N,24nm,1.9s						
WRA	**Warramunga Arr**	**46.13**	**133**	P	**P**	**21 20 50.7**	**-0.9**
	comp=N,5.8nm,1.0s,mb4.6,baz=312,slow=8.7,SNR=25						
WRA				PcP	PcP	21 22 28.9	+1.2
	comp=N,1.0nm,0.8s,baz=331,slow=3.3,SNR=6.7						
WRA				LR	LR	21 41 17.0	
	comp=N,181nm,19.7s,MS4.0,baz=155,slow=38						
WRA	**Warramunga Arr**	**46.13**	**133**	P	**P**	**21 20 50.7**	**-0.9**
WRA						21 22 28.9	
WRAB	**Tennant Creek**	**46.13**	**133⇑**	*i*P	**P**	**21 20 52.1**	**+0.5**
WB2	**Warramunga Arr**	**46.14**	**133**	*e*P	**P**	**21 20 51.3**	**-0.3**
WB2	**Warramunga Arr**	**46.14**	**133**	*e*P	**P**	**21 20 51.2**	**-0.5**
BOD	**Bodaibo**	**47.15**	**10**	*e*P	**P**	**21 20 59.8**	**+0.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.6						
BVAR	**Borovoye Array**	**47.52**	**336**	P	**P**	**21 21 01.4**	**-1.1**
	comp=Z,4.3nm,0.7s,mb4.7,baz=136,slow=8.8,SNR=32						
BRVK	**Borovoye**	**47.59**	**336**	*e*P	**P**	**21 21 03.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
BRVK	**Borovoye**	**47.59**	**336**	*e*P	**P**	**21 21 03.4**	**+0.4**
	comp=Z,7.5nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**47.93**	**337**	*e*P	**P**	**21 21 04.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**47.93**	**337**	*e*P	**P**	**21 21 04.9**	**-0.7**
	comp=Z,13nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**48.03**	**335**	*e*P	**P**	**21 21 05.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**48.03**	**335**	*e*P	**P**	**21 21 05.5**	**-0.9**
	comp=Z,8.5nm,0.7s,mb5.0						
ASPA	**Alice Springs**	**48.30**	**137**	*e*P	**P**	**21 21 10.3**	**+1.9**
AS31	**Alice Springs**	**48.30**	**137**	*e*P	**P**	**21 21 08.4**	**0.0**
ASAR	**Alice Springs**	**48.30**	**137**	P	**P**	**21 21 08.4**	**0.0**
	comp=Z,9.5nm,0.9s,mb4.9,baz=314,slow=7.1,SNR=45						
ASAR				LR	LR	21 43 01.7	
	comp=Z,161nm,20.0s,MS4.0,baz=319,slow=38						
YSS	**Yuzh-Sakhalins**	**50.11**	**37⇑**	*i*P	**P**	**21 21 22.1**	**-0.2**
YSS				pmax	pmax		
	comp=Z,88nm,1.7s,mb5.4						
AKTK	**Aktyubinsk**	**51.65**	**327**	P	**P**	**21 21 32.7**	**-1.2**
AKTO	**Aktyubinsk**	**51.65**	**327**	P	**P**	**21 21 32.7**	**-1.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=123,slow=5.0,SNR=16						
RDF	**Al-Radifah**	**51.73**	**298**	*e*P	**P**	**21 21 34.1**	**-0.5**
RDF				AMb	AMB	21 21 35.8	
	comp=Z,34nm,0.9s,mb5.3						
MIB	**Mutribah**	**52.04**	**299**	*e*P	**P**	**21 21 36.6**	**-0.3**
MIB				AMb	AMB	21 21 37.9	
	comp=Z,36nm,0.7s,mb5.4						
NAY	**Al-Naaiem**	**52.05**	**298**	*e*P	**P**	**21 21 36.4**	**-0.5**
NAY				AMb	AMB	21 21 37.9	
	comp=Z,20nm,0.7s,mb5.2						
RST	**Umm Al-Ruwaisa**	**52.29**	**298**	*e*P	**P**	**21 21 38.0**	**-0.8**
RST				AMb	AMB	21 21 39.5	
	comp=Z,20nm,0.9s,mb5.1						
ORR	**Orenburg**	**54.02**	**327**	*e*P	**P**	**21 21 50.9**	**-0.6**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
YAK	**Yakutsk**	**54.52**	**17**	*d i*P	**P**	**21 21 56.8**	**+1.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
ARU	**Arti**	**54.85**	**333⇑**	*i*P	**P**	**21 21 56.8**	**-0.7**
ARU				*e*		21 23 59.3	
ARU				*e*PPP		21 25 09.4	
ARU				*e*S	**S**	**21 29 36.2**	**-3.3**
ARU				*e*SS	SS	21 33 20.5	-2.2
ARU				*e*SSS		21 35 24.1	
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
ARU				MLR	MLR		
	comp=E,200nm,20.0s,MS4.3						
ARU				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
ARU				MLR	MLR		
	comp=N,100nm,18.0s,MS4.3						
ARU	**Arti**	**54.85**	**333**	*e*P	**P**	**21 21 56.3**	**-1.2**
	comp=N,9.1nm,0.8s,mb4.9						
CTA	**Charters Tower**	**55.35**	**125**	LR	LR	21 48 20.4	
	comp=N,100nm,18.1s,MS3.9,baz=125,slow=39						
GNI	**Garni**	**56.17**	**311**	*c i*P	**P**	**21 22 09.0**	**+2.0**
GNI				pmax	pmax		
	comp=Z,68nm,2.5s						
GNI	**Garni**	**56.17**	**311**	*e*P	**P**	**21 22 08.5**	**+1.5**
	comp=Z,59nm,1.5s,mb5.4						
ZEI	**Tsey**	**57.45**	**313**	*e*P	**P**	**21 22 16.7**	**+0.6**
ZEI				*e*		21 24 24.7	
ZEI				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
KIV	**Kislovodsk**	**58.60**	**315**	P	**P**	**21 22 24.9**	**+0.7**
	comp=Z,120nm,0.9s,SNR=5.5						
KIV	**Kislovodsk**	**58.60**	**315**	*d i*P	**P**	**21 22 24.0**	**-0.2**
KIV				*e*		21 23 13.3	
KIV				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**58.60**	**315**	*e*P	**P**	**21 22 24.5**	**+0.3**
	comp=Z,44nm,1.4s,mb5.3						
STKA	**Stephens Creek**	**58.83**	**139**	P	**P**	**21 22 26.0**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.5,baz=316,slow=7.1,SNR=3.2						
STKA				LR	LR	21 50 08.3	
	comp=Z,187nm,19.4s,MS4.2,baz=205,slow=38						
MALT	**Malatya**	**60.63**	**307**	*e*P	**P**	**21 22 39.3**	**+1.2**
MALT				pmax	pmax		
	comp=Z,19nm,1.6s,mb5.0						
MALT	**Malatya**	**60.63**	**307**	*e*P	**P**	**21 22 39.3**	**+1.1**
	comp=Z,19nm,1.6s,mb5.0						
VRHR	**Novokhopersk**	**61.31**	**322**	*e*P	**P**	**21 22 42.9**	**+0.1**
VRHR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.8s						
VRSR	**Storozhevoye**	**62.81**	**322**	*e*P	**P**	**21 22 52.0**	**-0.9**
VRSR				pmax

VRSR pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
VRSR pmax pmax
comp=E,5.0nm,0.9s
KMBO Kilima Mbogo 63.74 263 P **P** **21 23 00.7 +1.6**
comp=E,4.3nm,0.9s,mb4.7,baz=46,slow=8.8,SNR=12
KMBO LR LR 21 47 09.2
comp=E,260nm,20.9s,MS4.4,baz=90,slow=33
KMBO Kilima Mbogo 63.74 263 *eP* **P** **21 23 00.5 +1.5**
KMBO pmax pmax
comp=Z,26nm,1.6s
KMBO Kilima Mbogo 63.74 263 *eP* **P** **21 23 00.5 +1.5**
comp=Z,26nm,1.6s,mb5.2
KMBO LR LR 21 47 09.2
BR131 Keskin Array S 64.50 308 *eP* **P** **21 23 03.1 -0.9**
BR131 *eP*P 21 23 10.7
BRTR Keskin Array B 64.50 308 P **P** **21 23 02.2 -1.8**
comp=Z,4.3nm,0.8s,mb4.7,baz=122,slow=6.4,SNR=26
BRTR LR LR 21 54 46.6
comp=Z,86nm,20.1s,MS3.9,baz=16,slow=39
OBN Obninsk 65.38 326 *eP* **P** **21 23 10.1 +0.3**
OBN *i* 21 23 39.5
OBN pmax pmax
comp=Z,48nm,1.9s,mb5.4
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
AKASG Malin Array Be 68.88 320 P **P** **21 23 29.1 -2.9**
comp=Z,1.5nm,0.6s,mb4.4,baz=85,slow=5.6,SNR=12
AKASG LR LR 21 59 15.7
comp=Z,66nm,19.2s,MS3.9,baz=100,slow=41
AKASG Malin Array Be 68.88 320 *i* P **P** **21 23 30.8 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
VRI Vrincioaia 70.08 315 ⇑*i*P **P** **21 23 39.1 -0.3**
PLOR Plostina 70.14 315 ⇑*i*P **P** **21 23 39.3 -0.5**
MLR Muntele Rosu 70.61 314 ⇑*i*P **P** **21 23 38.5 -4.1**
MLR Muntele Rosu 70.61 314 ⇑P **P** **21 23 38.5 -4.2**
BURAR Bucovina Array 71.22 316 ⇑*i*P **P** **21 23 46.8 +0.4**
BURAR Bucovina Array 71.22 316 ⇑P **P** **21 23 46.8 +0.5**
FINES FINESS Array B 72.11 331 P **P** **21 23 50.7 -1.0**
comp=Z,5.3nm,0.9s,mb4.7,baz=118,slow=7.1,SNR=8.2
FINES LR LR 22 01 54.2
comp=Z,93nm,21.6s,MS4.0,baz=160,slow=41
FINES FINESS Array B 72.11 331 P **P** **21 23 50.7 -1.0**
FINES LR LR 22 01 54.2
SUW Suwalki 72.88 323 *eP* **P** **21 23 56.8 +0.5**
DRGR 72.90 315 ⇑*i*P **P** **21 23 57.1 +0.7**
DRGR 72.90 315 ⇑P **P** **21 23 57.1 +0.6**
ARCES ARCESS Array B 73.67 339 P **P** **21 24 00.7 -0.3**
comp=Z,3.3nm,0.8s,mb4.4,baz=98,slow=3.7,SNR=4.4
ARCES LR LR 22 00 39.4
comp=Z,158nm,18.7s,MS4.3,baz=256,slow=39
NIE Niedzica 74.53 318 *eP* **P** **21 24 05.5 -0.5**
OJC Ojcow 74.86 319 *eP* **P** **21 24 06.9 -1.0**
PKSM Moragy 75.72 315 ⇓*i*P **P** **21 24 10.6 -2.2**
PKSM Moragy 75.72 315 ⇓P **P** **21 24 10.6 -2.2**
LSZ Lusaka 76.12 251 *eP* **P** **21 24 16.3 +1.2**
LSZ pmax pmax
comp=Z,34nm,1.8s,mb5.2
LSZ Lusaka 76.12 251 *eP* **P** **21 24 16.3 +1.2**
comp=Z,34nm,1.8s,mb5.2
MORC Moravsky Berou 76.32 319 ⇑*i*P **P** **21 24 16.4 +0.1**
MORC Moravsky Berou 76.32 319 ⇑P **P** **21 24 16.4 +0.1**
HFS Hagfors 78.10 329 P **P** **21 24 25.1 -1.2**
comp=Z,4.2nm,0.8s,mb4.6,baz=45,slow=18,SNR=3.3
BRG Berggiesshubel 78.56 320 *eP* **P** **21 24 29.4 +0.5**
comp=Z,5.6nm,1.4s,mb4.4
BRG Berggiesshubel 78.56 320 *eP* **P** **21 24 29.4 +0.6**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
GERES GERESS Array B 78.89 318 P **P** **21 24 30.6 -0.1**
comp=Z,1.8nm,0.8s,mb4.1,baz=92,slow=4.0,SNR=15
GERES LR LR 22 07 35.0
comp=Z,80nm,18.1s,MS4.1,baz=300,slow=42
NB2 NORSAR Subarra 79.26 330 P **P** **21 24 31.8 -0.9**
comp=Z,11nm,1.1s,mb4.8,baz=89,slow=5.1
NB2 NORSAR Subarra 79.26 330 P **P** **21 24 31.8 -0.9**
NB2 pmax pmax
comp=Z,11nm,1.1s,mb4.8
NOA NORSAR Array B 79.26 330 P **P** **21 24 31.9 -0.8**
comp=Z,4.1nm,0.8s,mb4.5,baz=87,slow=5.1,SNR=7.5
NOA LR LR 22 03 18.3
comp=Z,98nm,18.8s,MS4.2,baz=275,slow=38
LBTB Lobatse 81.27 242 *eP* **P** **21 24 43.3 -0.2**
LBTB pmax pmax
comp=Z,13nm,1.0s,mb4.9
LBTB Lobatse 81.27 242 *eP* **P** **21 24 43.3 -0.2**
comp=Z,13nm,1.0s,mb4.9
DAVOX Davos/Dischmat 81.69 316 P **P** **21 24 44.9 -0.8**
comp=Z,3.9nm,0.9s,mb4.5,baz=165,slow=17,SNR=3.9
BOSA Boshof 82.64 239 P **P** **21 24 50.1 -0.6**
comp=Z,12nm,1.1s,mb5.0,baz=88,slow=6.3,SNR=7.7
BOSA LR LR 21 55 21.0
comp=Z,165nm,21.5s,MS4.4,baz=266,slow=31
PGF Pioggiola 82.97 312 *eP* **P** **21 24 52.7 +0.3**
comp=Z,32nm,1.0s,mb5.2
PGF Pioggiola 82.97 312 *eP* **P** **21 24 52.7 +0.3**
PGF pmax pmax
comp=Z,16nm,1.0s,mb5.2
PGF Pioggiola 82.97 312 *eP* **P** **21 24 52.7 +0.3**
comp=Z,16nm,1.0s,mb5.2
CDF Champ du Feu 83.17 318 *eP* **P** **21 24 53.4 -0.1**
HINF Hinteralfeld 83.56 317 *eP* **P** **21 24 55.2 -0.2**
MAW Mawson 83.61 193 P **P** **21 24 54.6 -1.1**
comp=Z,3.3nm,1.0s,mb4.5,baz=40,slow=8.2,SNR=4.4
MAW LR LR 21 55 20.8
comp=Z,108nm,19.5s,MS4.2,baz=99,slow=31
MAW Mawson 83.61 193 *eP* **P** **21 24 52.4 -3.3**
MAW pmax pmax
comp=Z,14nm,1.4s
MAW Mawson 83.61 193 *eP* **P** **21 24 52.4 -3.4**
comp=Z,14nm,1.4s,mb5.0
KEST Kesra 83.85 305 LR LR 22 04 55.3
comp=Z,28nm,19.0s,MS3.6,baz=342,slow=38
HAU Haudompre 83.86 318 *eP* **P** **21 24 57.0 0.0**
HAU *e*MLR MLR
comp=Z,86nm,18.5s
HAU Haudompre 83.86 318 *eP* **P** **21 24 57.0 0.0**
HAU LR LR
comp=Z,90nm,18.5s,MS4.2
LPG La Plagne 84.05 315 *eP* **P** **21 24 58.4 +0.4**
comp=Z,5.9nm,0.7s,mb4.6
LPG La Plagne 84.05 315 *eP* **P** **21 24 58.4 +0.4**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
LPG La Plagne 84.05 315 *eP* **P** **21 24 58.4 +0.4**
comp=Z,3.0nm,0.7s,mb4.6
LPL La Plagne 84.06 315 *eP* **P** **21 24 58.3 +0.3**
comp=Z,7.5nm,0.8s,mb4.7
LPL La Plagne 84.06 315 *eP* **P** **21 24 58.3 +0.3**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
LPL La Plagne 84.06 315 *eP* **P** **21 24 58.3 +0.3**
comp=Z,3.8nm,0.8s,mb4.7
CABF La Chapelle 84.29 316 *eP* **P** **21 24 59.4 +0.2**
FRF La Foret Royal 84.48 313 *eP* **P** **21 24 59.5 -0.7**
LMR La Mourre 84.62 313 *eP* **P** **21 25 00.6 -0.3**
BAIF Baives 84.83 320 *eP* **P** **21 25 01.6 -0.3**
comp=Z,15nm,0.9s,mb5.0
BAIF Baives 84.83 320 *eP* **P** **21 25 01.6 -0.3**
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BAIF Baives 84.83 320 *eP* **P** **21 25 01.6 -0.3**
comp=Z,7.6nm,0.9s,mb4.9
VIVF Saint-Julien-I 85.62 315 *eP* **P** **21 25 05.9 0.0**
comp=Z,29nm,1.3s,mb4.9
VIVF Saint-Julien-I 85.62 315 *eP* **P** **21 25 05.9 0.0**
VIVF pmax pmax
comp=Z,14nm,1.3s,mb4.9
VIVF Saint-Julien-I 85.62 315 *eP* **P** **21 25 05.9 0.0**
comp=Z,14nm,1.3s,mb4.9
LOR Lormes 85.65 317 *eP* **P** **21 25 05.4 -0.6**
comp=Z,40nm,1.4s,mb5.0
LOR *e*MLR MLR
comp=Z,87nm,22.4s
LOR Lormes 85.65 317 *eP* **P** **21 25 05.4 -0.6**
LOR pmax pmax
comp=Z,20nm,1.4s,mb5.0
LOR MLR MLR
comp=Z,90nm,22.4s,MS4.1
LOR Lormes 85.65 317 *eP* **P** **21 25 05.4 -0.6**
comp=Z,20nm,1.4s,mb5.0
LOR LR LR
comp=Z,90nm,22.4s,MS4.1
IMA2 Indian Mountai 85.77 23 *eP* **P** **21 25 07.0 +0.5**

SMF Signal de Mont 85.80 317 *eP* **P** **21 25 06.8 0.0**
comp=Z,19nm,1.0s,mb4.9
SMF Signal de Mont 85.80 317 *eP* **P** **21 25 06.8 0.0**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SMF Signal de Mont 85.80 317 *eP* **P** **21 25 06.8 0.0**
comp=Z,9.6nm,1.0s,mb4.9
SSF Saint Saulge 85.93 317 *eP* **P** **21 25 07.6 +0.2**
comp=Z,6.5nm,0.8s,mb4.5
SSF Saint Saulge 85.93 317 *eP* **P** **21 25 07.6 +0.2**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SSF Saint Saulge 85.93 317 *eP* **P** **21 25 07.6 +0.2**
comp=Z,3.3nm,0.8s,mb4.5
AVF Avril sur Loir 86.10 317 *eP* **P** **21 25 08.2 0.0**
comp=Z,21nm,1.1s,mb4.9
AVF Avril sur Loir 86.10 317 *eP* **P** **21 25 08.2 0.0**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
AVF Avril sur Loir 86.10 317 *eP* **P** **21 25 08.2 0.0**
comp=Z,11nm,1.1s,mb4.9
BGF Bois d'Agland 86.49 317 *eP* **P** **21 25 10.5 +0.3**
TCF Toulx Ste Croi 86.98 317 *eP* **P** **21 25 13.2 +0.6**
comp=Z,17nm,1.0s,mb4.9
TCF Toulx Ste Croi 86.98 317 *eP* **P** **21 25 13.2 +0.6**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 86.98 317 *eP* **P** **21 25 13.2 +0.6**
comp=Z,8.6nm,1.0s,mb4.9
CAF Calvisc 87.41 315 *eP* **P** **21 25 15.3 +0.7**
RJF Les Rejaudoux 87.69 316 *eP* **P** **21 25 16.8 +0.8**
comp=Z,8.6nm,0.9s,mb4.8
RJF *e*MLR MLR
comp=Z,128nm,18.8s
RJF Les Rejaudoux 87.69 316 *eP* **P** **21 25 16.8 +0.8**
RJF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,130nm,18.8s,MS4.4
RJF Les Rejaudoux 87.69 316 *eP* **P** **21 25 16.8 +0.8**
comp=Z,4.3nm,0.9s,mb4.8
RJF LR LR
comp=Z,130nm,18.8s,MS4.4
EKA Eskdalemuir Ar 87.83 326 P **P** **21 25 17.2 +0.5**
comp=Z,4.9nm,0.9s,mb4.8,baz=96,slow=5.1,SNR=5.4
LDF La Druitiere 87.93 319 *eP* **P** **21 25 17.5 +0.3**
FLN La Foliniere 88.12 319 *eP* **P** **21 25 18.5 +0.5**
comp=Z,25nm,0.9s,mb5.2
FLN La Foliniere 88.12 319 *eP* **P** **21 25 18.5 +0.5**
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.3
FLN La Foliniere 88.12 319 *eP* **P** **21 25 18.5 +0.5**
comp=Z,13nm,0.9s,mb5.2
MFF Saint Martin d 88.48 317 *eP* **P** **21 25 19.4 -0.3**
comp=Z,80nm,1.6s,mb5.5
MFF Saint Martin d 88.48 317 *eP* **P** **21 25 19.4 -0.3**
MFF pmax pmax
comp=Z,40nm,1.6s,mb5.5
MFF Saint Martin d 88.48 317 *eP* **P** **21 25 19.4 -0.3**
comp=Z,40nm,1.6s,mb5.5
SJPF Ste Jean 90.17 314 *eP* **P** **21 25 29.0 +1.3**
comp=Z,17nm,1.0s,mb4.9
SJPF Ste Jean 90.17 314 *eP* **P** **21 25 29.0 +1.3**
SJPF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
SJPF Ste Jean 90.17 314 *eP* **P** **21 25 29.0 +1.3**
comp=Z,8.7nm,1.0s,mb4.9
SYO Syowa Base 90.90 198 ⇑*e*P **P** **21 25 30.2 -0.9**
SYO Syowa Base 90.90 198 ⇑*e*PcP PcP 21 25 35.0 +2.9
SUMG Summit 91.59 348 *eP* **P** **21 25 35.3 +1.0**
comp=Z,17nm,1.1s,mb5.3
DAWY Dawson 92.08 22 *eP* **P** **21 25 36.3 -0.2**
ESDC Sonseca Array 93.15 311 P **P** **21 25 41.0 -0.5**
comp=Z,0.1nm,0.4s,baz=53,slow=4.8,SNR=4.1
TORD Torodi Ar. Bea 95.39 285 P **P** **21 25 52.0 +0.2**
comp=Z,1.4nm,1.0s,mb4.3,baz=76,slow=4.9,SNR=5.2
TORD PP PP 21 29 42.1 0.0
comp=Z,2.9nm,1.2s,baz=78,slow=4.1,SNR=6.1
VNDA Vanda 95.57 169 P **P** **21 25 51.3 -1.3**
comp=Z,0.2nm,0.5s,mb3.9,baz=307,slow=3.6,SNR=3.8
VNDA LR LR 22 07 23.1
comp=Z,78nm,18.2s,MS4.2,baz=337,slow=34
LIC Lamto 103.45 279 *eP* Pdif 21 26 26.9 -1.0
LIC *e*MLR MLR
comp=Z,180nm,22.8s
LIC Lamto 103.45 279 *eP* Pdif 21 26 26.9 -1.0
LIC LR LR
comp=Z,90nm,22.8s,MS4.2
PPT Papeete 112.64 104 *e*LR LR 22 04 39.9
comp=Z,69nm,22.0s
TBI Tubuai 113.20 110 *e*LR LR 22 04 55.3
comp=Z,197nm,31.0s
NVAR Mina Array Bea 118.48 34 PKP PKPdf 21 31 15.8 +0.7
comp=Z,0.2nm,0.6s,baz=263,slow=3.3,SNR=5.2
TAOE Nuku Hiva Isla 120.72 93 *e*LR LR 22 08 25.0
comp=Z,393nm,26.1s
RKT Rikitea 126.52 110 *e*LR LR 22 11 05.8
comp=Z,84nm,25.5s
ANMO Albuquerque 127.13 27 ⇑*i*PKIKP PKPdf 21 31 34.4 +2.7
BDFB Brasilia 148.83 259 PKPbc PKPbc 21 32 12.6 -2.3
comp=Z,6.7nm,0.8s,baz=108,slow=2.2,SNR=9.0

IDC ***07*** *21:19:12.0±1.2, 138N×127.10E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/16, mbtmp4.1/8, ML4.3/1, Error ellipse: s-maj=73.7km s-min=17.1km az=73.0*
ISCJB ***07*** *21:19:22.8±4.5, 12N±01×1269E±02, h104km±43km, mb4.3/12, Error ellipse: s-maj=34.3km s-min=15.6km az=136.3*
NEIC ***07*** *21:19:24.3±3.4, 122N×12686E, h103km±34km, mb4.1/6, Error ellipse: s-maj=24.0km s-min=11.6km az=70.0*
ISC 07 21:19:24.9±4.1, 12N±01×1269E±02, h106km±41km, n19, σ0§85/19, mb4.3/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.89**	**159**	*e*P	**Pn**	**21 22 49.3**	**-0.6**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.25**	**184**	*e*P	**P**	**21 23 41.6**	**+0.8**
	2.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.25**	**184**	P	**P**	**21 23 41.8**	**+1.0**
	0.6nm,0.3s,baz=27,slow=9.0,SNR=9.5						
WRA	**Warramunga Arr**	**22.26**	**161**	P	**P**	**21 24 12.7**	**-0.4**
	3.2nm,0.3s,mb4.2,baz=340,slow=11,SNR=62						
WB2	**Warramunga Arr**	**22.27**	**161**	*e*P	**P**	**21 24 12.7**	**-0.4**
MBWA	**Marble Bar**	**23.33**	**197**	*e*P	**P**	**21 24 23.7**	**+0.2**
	3.4nm,0.6s,mb3.9						
AS31	**Alice Springs**	**25.66**	**165**	*e*P	**P**	**21 24 45.1**	**+0.5**
ASAR	**Alice Springs**	**25.66**	**165**	P	**P**	**21 24 44.6**	**0.0**
	1.5nm,0.3s,mb3.9,baz=342,slow=9.6,SNR=30						
ASPA	**Alice Springs**	**25.66**	**165**	*e*P	**P**	**21 24 45.1**	**+0.5**
COCO	**West Island**	**32.71**	**245**	*e*P	**P**	**21 25 44.9**	**-2.2**
	67nm,0.5s,mb5.7						
KLBR	**Kellerberrin**	**33.78**	**194**	*e*P	**P**	**21 25 56.8**	**+0.4**
	38nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**35.18**	**194**	P	**P**	**21 26 09.2**	**+0.7**
	2.1nm,0.5s,mb4.2,baz=42,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**35.74**	**158**	P	**P**	**21 26 13.3**	**0.0**
	2.6nm,0.8s,mb4.2,baz=331,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**35.74**	**158**	P	**P**	**21 26 13.3**	**0.0**
LSA	**Lhasa**	**44.25**	**313**	*e*P	**P**	**21 27 25.6**	**+2.0**
	2.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**49.72**	**342**	P	**P**	**21 28 06.2**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=155,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**59.71**	**326**	P	**P**	**21 29 18.2**	**0.0**
	1.4nm,0.3s,mb4.4,baz=112,slow=7.5,SNR=43						
ZRNK	**Zerenda**	**70.23**	**327**	*e*P	**P**	**21 30 24.9**	**-1.3**
	2.3nm,1.0s,mb4.1						
VNDA	**Vanda**	**80.94**	**173**	P	**P**	**21 31 26.8**	**-0.6**
	0.7nm,0.7s,mb3.6,baz=310,slow=7.7,SNR=4.7						

ISCJB ***07*** *21:20:49.4±3.6, 201S±09×173.1W±07, h33km, mb4.2/5, Error ellipse: s-maj=155.7km s-min=28.6km az=105.2*
NEIC ***07*** *21:20:50.1±2.6, 203S×17286W, h35km, mb4.6/1, Error ellipse: s-maj=109.0km s-min=24.5km az=143.0*
IDC ***07*** *21:21:01.5±18.0, 2005S×17527W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.1/5, Error ellipse: s-maj=334.2km s-min=149.5km az=81.0*
ISC 07 21:20:50.5±3.6, 202S±09×1729W±07, h35km, n10, σ0§65/10, mb4.2/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.27**	**263**	P	**P**	**21 28 06.7**	**-0.6**
	2.7nm,0.4s,mb4.3,baz=80,slow=14,SNR=5.9						
CTA	**Charters Tower**	**38.27**	**263**	P	**P**	**21 28 06.7**	**-0.6**
STKA	**Stephens Creek**	**42.23**	**245**	P	**P**	**21 28 39.8**	**-0.3**
	1.7nm,0.6s,mb3.9,baz=84,slow=9.2,SNR=3.7						
AS31	**Alice Springs**	**49.23**	**256**	*e*P	**P**	**21 29 35.5**	**+0.1**
ASAR	**Alice Springs**	**49.23**	**256**	P	**P**	**21 29 35.1**	**-0.3**
	2.0nm,0.7s,mb4.3,baz=92,slow=8.6,SNR=18						
ASPA	**Alice Springs**	**49.23**	**256**	*e*P	**P**	**21 29 35.5**	**+0.1**
WRA	**Warramunga Arr**	**49.37**	**261**	P	**P**	**21 29 36.1**	**-0.4**
	0.9nm,0.3s,mb4.3,baz=96,slow=7.8,SNR=38						
FITZ	**Fitzroy Crossi**	**57.80**	**261**	P	**P**	**21 30 39.9**	**+1.7**
	1.0nm,0.6s,mb4.0,baz=69,slow=8.6,SNR=4.4						
DAWY	**Dawson**	**87.92**	**14**	*e*P	**P**	**21 33 36.4**	**-0.2**
KULM	**Kulim**	**88.47**	**276**	*e*P	**P**	**21 33 45.0**	**+5.8**

IDC ***07*** *21:22:31.5±2.3, 108N×97.11E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=54.2km s-min=29.8km az=58.0*
ISCJB ***07*** *21:22:34.8±1.8, 1.1N±02×973E±02, h33km, mb3.7/3, Error ellipse: s-maj=27.7km s-min=23.8km az=138.2*
NEIC ***07*** *21:22:36.1±1.5, 1.10N×9725E, h30km, Error ellipse: s-maj=23.7km s-min=20.3km az=62.0*
ISC 07 21:22:37.5±1.8, 12N±02×974E±02, h35km, n6, σ1§20/6, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.26**	**44**	Pn	**Pn**	**21 23 13.0**	**+0.6**
	7.0nm,0.3s,baz=281,slow=8.6,SNR=67						
KULM	**Kulim**	**5.26**	**39**	*e*Pn	**Pn**	**21 23 54.2**	**+0.6**
KKM	**Kota Kinabalu**	**19.43**	**75**	P	**Pn**	**21 27 00.5**	**-1.7**
WRA	**Warramunga Arr**	**41.88**	**122**	P	**P**	**21 30 25.2**	**+0.9**
	0.5nm,0.5s,mb3.4,baz=302,slow=9.1,SNR=6.5						
SONM	**Songino Array**	**47.15**	**8**	P	**P**	**21 31 06.3**	**0.0**
	1.2nm,0.8s,mb3.9,baz=187,slow=8.5,SNR=8.9						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**21 31 07.2**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=164,slow=8.9,SNR=8.2						

ISCJB ***07*** *22:11:22.7±0.2, 43.19N±002×033W±002, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=114.1*
STR ***07*** *22:11:23.9±0.2, 43.11N×034W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***07*** *22:11:24.5±0.1, 4309N×035W, h2km, ML2.6/10, Error ellipse: s-maj=1.1km s-min=0.9km az=154.0*
NEIC ***07*** *22:11:24.3, 4308N×036W, h7km, MD2.5(LDG), ML2.4(STR), After LDG.*
MDD ***07*** *22:11:24.7±0.2, 4309N×035W, h7km±3km, mbLg1.7/21, Error ellipse: s-maj=2.5km s-min=1.4km az=12.0, PRXIMO*
LDG ***07*** *22:11:24.3±0.1, 4308N×036W, h7km, Md2.5/3, Ml2.4/9, Error ellipse: s-maj=1.0km s-min=0.8km az=149.0*
ISC 07 22:11:23.7±0.2, 4314N±002×034W±002, h11km±2km, n76, σ0§85/150, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.08**	**208**	Pg	**Pg**	**22 11 26.0**	**-0.2**
REYF				Sg	**Sg**	**22 11 26.8**	**-1.2**
REYF	**Montagne du Re**	**0.08**	**208**	P	**Pg**	**22 11 26.0**	**-0.2**
REYF				S	**Sg**	**22 11 27.1**	**-0.9**
ETSF	**Etsaut**	**0.29**	**214**	*e*Pg	**Pg**	**22 11 29.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**22 11 32.5**	**-1.0**
	26nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.29**	**214**	*e*Pg	**Pg**	**22 11 29.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**22 11 32.5**	**-1.0**
	13nm,0.2s,SNR=1.0						
LABF	**Labassere**	**0.32**	**107**	Pg	**Pg**	**22 11 30.3**	**+0.2**
LABF				Sg	**Sg**	**22 11 34.6**	**+0.1**
LABF	**Labassere**	**0.32**	**107**	P	**Pg**	**22 11 30.4**	**+0.3**
LABF				S	**Sg**	**22 11 35.4**	**+1.0**
FDAF	**Les Forges d'A**	**0.36**	**207**	P	**Pg**	**22 11 30.5**	**-0.4**
FDAF				S	**Sg**	**22 11 35.0**	**-0.7**
VIEF	**Viey**	**0.37**	**133**	Pg	**Pg**	**22 11 31.0**	**-0.1**
VIEF				Sg	**Sg**	**22 11 35.8**	**-0.3**
VIEF	**Viey**	**0.37**	**133**	P	**Pg**	**22 11 31.1**	**0.0**
VIEF				S	**Sg**	**22 11 35.9**	**-0.2**
ORDF	**Ordiarp**	**0.44**	**280**	P	**Pg**	**22 11 32.9**	**+0.5**
ORDF				S	**Sg**	**22 11 39.6**	**+1.4**
LARF	**Larrau**	**0.48**	**258**	Pg	**Pg**	**22 11 33.4**	**+0.2**
LARF				Sg	**Sg**	**22 11 40.3**	**+0.7**
LARF	**Larrau**	**0.48**	**258**	P	**Pg**	**22 11 33.4**	**+0.2**
LARF				S	**Sg**	**22 11 40.3**	**+0.7**
EPF	**Esparros**	**0.51**	**102**	*e*Pg	**Pg**	**22 11 34.3**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**22 11 42.0**	**+1.5**
	23nm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.51**	**102**	*e*Pg	**Pg**	**22 11 34.3**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**22 11 42.0**	**+1.5**
	11nm,0.2s,SNR=1.0						
EBIE	**Bielsa**	**0.58**	**142**	⇓Pg	**Pg**	**22 11 34.7**	**-0.3**
	1.7nm,0.1s,SNR=18						
EBIE				Lg		22 11 41.9	
	32nm,0.2s,SNR=41						
EBIE	**Bielsa**	**0.58**	**142**	Pg	**Pg**	**22 11 34.7**	**-0.3**
	1.7nm,0.1s,SNR=18						
RESF	**Ens**	**0.60**	**123**	Pg	**Pg**	**22 11 35.4**	**0.0**
RESF				Sg	**Sg**	**22 11 43.3**	**0.0**
RESF	**Ens**	**0.60**	**123**	P	**Pg**	**22 11 35.4**	**0.0**
RESF				S	**Sg**	**22 11 43.3**	**0.0**
SJPF	**Ste Jean**	**0.65**	**268**	*e*Pg	**Pg**	**22 11 36.3**	**0.0**
SJPF				*e*Sg	**Sg**	**22 11 44.7**	**-0.1**
	10nm,0.2s						
SJPF	**Ste Jean**	**0.65**	**268**	*e*Pg	**Pg**	**22 11 36.3**	**0.0**
SJPF				*e*Sg	**Sg**	**22 11 44.7**	**-0.1**
	5.2nm,0.2s						
OSSF	**Osses**	**0.68**	**280**	Pg	**Pg**	**22 11 36.3**	**-0.7**
OSSF	**Osses**	**0.68**	**280**	P	**Pg**	**22 11 37.4**	**+0.4**
OSSF				S	**Sg**	**22 11 47.3**	**+1.4**
IPRE	**Itoiz**	**0.81**	**246**	Pg	**Pg**	**22 11 40.0**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
IPRE				Lg		22 11 50.8	
	3.1nm,0.2s,SNR=7.0						
IPRE	**Itoiz**	**0.81**	**246**	Pg	**Pg**	**22 11 40.0**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.85**	**108**	P	**Pg**	**22 11 40.5**	**+0.4**
MELF				S	**Sg**	**22 11 52.1**	**+0.8**
EALK	**Alkurruntz**	**0.86**	**276**	Pg	**Pg**	**22 11 40.6**	**+0.3**
	0.6nm,0.1s,SNR=8.5						
EALK				Lg		22 11 52.3	
	3.4nm,0.1s,SNR=5.0						
ELIZ	**Elizondo**	**0.87**	**272**	Pg	**Pg**	**22 11 40.2**	**-0.3**
	1.3nm,0.1s,SNR=7.8						
ELIZ				Lg		22 11 52.7	
	4.6nm,0.2s,SNR=7.4						
IUSE	**Utxeti**	**0.90**	**258**	Pg	**Pg**	**22 11 41.4**	**+0.3**
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		22 11 53.4	
	2.5nm,0.1s,SNR=4.6						
IUSE	**Utxeti**	**0.90**	**258**	Pg	**Pg**	**22 11 41.4**	**+0.2**
	1.0nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.98**	**248**	Pg	**Pg**	**22 11 42.6**	**0.0**
	0.4nm,0.1s,SNR=7.9						
EARA				Lg		22 11 59.1	
	6.2nm,0.1s,SNR=5.1						
SALF	**Salau**	**1.19**	**108**	Pg	**Pg**	**22 11 47.6**	**+1.0**
SALF	**Salau**	**1.19**	**108**	P	**Pn**	**22 11 47.8**	**+1.5**
SALF				S	**Sb**	**22 12 02.5**	**+0.9**
ESAC	**San Caprasio**	**1.42**	**184**	Pg	**Pg**	**22 11 50.8**	**-0.2**
	9.1nm,0.1s,SNR=12						
ESAC				Lg		22 12 10.1	
	21nm,0.2s,SNR=11						
ESAC	**San Caprasio**	**1.42**	**184**	Pg	**Pg**	**22 11 50.8**	**-0.2**
	9.1nm,0.1s,SNR=12						
EMIR	**Miracle**	**1.84**	**131**	Pg	**Pg**	**22 11 59.0**	**-0.1**
	1.0nm,0.1s,SNR=7.9						
EMIR				Lg		22 12 23.4	
	2.3nm,0.1s,SNR=6.4						
EMIR	**Miracle**	**1.84**	**131**	Pg	**Pg**	**22 11 59.0**	**-0.1**
	1.0nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.88**	**83**	*e*Pg	**

	SNR=1.0										
MTLF					*e*Sg		**Sg**		**22 12 24.5**	**+0.3**
	2.0nm,0.2s,SNR=1.0										
LFF	**La Frestale**	**1.96**	**23**		*e*Pg		**Pg**		**22 12 02.0**	**+0.6**
	SNR=1.0										
LFF					*e*Sn		**Sn**		**22 12 21.5**	**0.0**
	SNR=1.0										
LFF					*e*Sg		**Sg**		**22 12 28.2**	**+1.4**
	7.5nm,0.2s,SNR=1.0										
LFF	**La Frestale**	**1.96**	**23**		Pn		**Pn**		**22 11 57.3**	**+0.4**
LFF					Pg		**Pg**		**22 12 02.0**	**+0.6**
LFF					Sn		**Sn**		**22 12 21.5**	**0.0**
LFF					Lg				22 12 28.2	
	3.8nm,0.2s										
LFF	**La Frestale**	**1.96**	**23**		*e*Pn		**Pn**		**22 11 57.3**	**+0.4**
LFF					*e*Pg		**Pg**		**22 12 02.0**	**+0.6**
LFF					*e*Sn		**Sn**		**22 12 21.5**	**0.0**
LFF					*e*Sg		**Sg**		**22 12 28.2**	**+1.4**
LFF	**La Frestale**	**1.96**	**23**		*e*Pg		**Pg**		**22 12 02.0**	**+0.6**
	SNR=1.0										
LFF					*e*Sn		**Sn**		**22 12 21.5**	**0.0**
	SNR=1.0										
LFF					*e*Sg		**Sg**		**22 12 28.2**	**+1.4**
	3.8nm,0.2s,SNR=1.0										
EPOB	**Poblet**	**2.07**	**149**		Pg		**Pg**		**22 12 02.3**	**-1.2**
	0.7nm,0.1s,SNR=6.8										
EPOB					Lg				22 12 28.9	
	1.3nm,0.1s,SNR=6.0										
EPOB	**Poblet**	**2.07**	**149**		Pg		**Pg**		**22 12 02.3**	**-1.2**
	0.7nm,0.1s,SNR=6.8										
ERTA	**Horta de San J**	**2.24**	**167**		Pg		**Pg**		**22 12 04.8**	**-1.8**
	1.1nm,0.1s,SNR=6.8										
ERTA					Lg				22 12 33.9	
	2.4nm,0.2s,SNR=5.0										
ERTA	**Horta de San J**	**2.24**	**167**		Pg		**Pg**		**22 12 04.8**	**-1.9**
	1.1nm,0.1s,SNR=6.8										
ELAN	**Lanestosa**	**2.26**	**273**		Pg		**Pg**		**22 12 04.9**	**-2.2**
	SNR=4.0										
ELAN					Lg				22 12 33.5	
	SNR=4.0										
ELAN	**Lanestosa**	**2.26**	**273**		Pg		**Pg**		**22 12 04.9**	**-2.2**
	SNR=4.0										
EJON	**La Jonquera**	**2.48**	**105**		Pg		**Pg**		**22 12 10.9**	**-0.3**
	SNR=4.0										
EJON					Lg				22 12 43.7	
	0.8nm,0.1s,SNR=7.9										
EJON	**La Jonquera**	**2.48**	**105**		Pg		**Pg**		**22 12 10.9**	**-0.3**
	SNR=4.0										
CAF	**Calviac**	**2.49**	**43**		*e*Pg		**Pg**		**22 12 11.4**	**-0.1**
CAF					*e*Sn		**Sn**		**22 12 33.7**	**-0.8**
	SNR=1.0										
CAF					*e*Sg		**Sg**		**22 12 44.1**	**+0.3**
	3.5nm,0.3s,SNR=1.0										
CAF	**Calviac**	**2.49**	**43**		Pn		**Pn**		**22 12 04.5**	**+0.3**
CAF					Pg		**Pg**		**22 12 11.4**	**-0.1**
CAF					Sn		**Sn**		**22 12 33.7**	**-0.8**
CAF					Lg				22 12 44.1	
	1.8nm,0.3s										
CAF	**Calviac**	**2.49**	**43**		*e*Pn		**Pn**		**22 12 04.5**	**+0.3**
CAF					*e*Pg		**Pg**		**22 12 11.4**	**-0.1**
CAF					*e*Sn		**Sn**		**22 12 33.7**	**-0.8**
CAF					*e*Sg		**Sg**		**22 12 44.1**	**+0.3**
CAF	**Calviac**	**2.49**	**43**		*e*Pg		**Pg**		**22 12 11.4**	**-0.1**
CAF					*e*Sn		**Sn**		**22 12 33.7**	**-0.8**
	SNR=1.0										
CAF					*e*Sg		**Sg**		**22 12 44.1**	**+0.3**
	1.8nm,0.3s,SNR=1.0										
RJF	**Les Rejaudoux**	**2.54**	**31**		*e*Pg		**Pg**		**22 12 12.4**	**-0.1**
	SNR=1.0										
RJF					*e*Sn		**Sn**		**22 12 35.5**	**-0.3**
	2.4nm,0.2s,SNR=1.0										
RJF					*e*Sg		**Sg**		**22 12 46.5**	**+1.0**
	2.7nm,0.2s										
RJF	**Les Rejaudoux**	**2.54**	**31**		Pn		**Pn**		**22 12 05.0**	**+0.1**
RJF					Pg		**Pg**		**22 12 12.4**	**-0.1**
RJF					Sn		**Sn**		**22 12 35.5**	**-0.3**
	1.2nm,0.2s										
RJF					Lg				22 12 46.5	
	1.4nm,0.2s										
RJF	**Les Rejaudoux**	**2.54**	**31**		*e*Pn		**Pn**		**22 12 05.0**	**+0.1**
RJF					*e*Pg		**Pg**		**22 12 12.4**	**-0.1**
RJF					*e*Sn		**Sn**		**22 12 35.5**	**-0.3**
RJF					*e*Sg		**Sg**		**22 12 46.5**	**+1.0**
RJF	**Les Rejaudoux**	**2.54**	**31**		*e*Pg		**Pg**		**22 12 12.4**	**-0.1**
	SNR=1.0										
RJF					*e*Sn		**Sn**		**22 12 35.5**	**-0.3**
	1.2nm,0.2s,SNR=1.0										
RJF					*e*Sg		**Sg**		**22 12 46.5**	**+1.0**
	1.4nm,0.2s										
ETOR	**Torete**	**2.65**	**209**		Pn		**Pn**		**22 12 08.0**	**+1.7**
	1.1nm,0.1s,SNR=7.9										
ETOR					Sn		**Sn**		**22 12 38.3**	**-0.1**
	1.5nm,0.1s,SNR=5.8										
ETOR					Lg				22 12 45.6	
	4.2nm,0.2s,SNR=4.0										
ETOR	**Torete**	**2.65**	**209**		Pn		**Pn**		**22 12 08.0**	**+1.7**
	1.1nm,0.1s,SNR=7.9										
ETOR	**Torete**	**2.65**	**209**		Pn		**Pn**		**22 12 08.1**	**+1.8**
ETOR					Sn		**Sn**		**22 12 38.3**	**-0.1**
	1.5nm,0.1s,SNR=5.8										
EMOS	**Mosqueruela**	**2.77**	**182**		Pn		**Pn**		**22 12 10.4**	**+2.4**
	0.1nm,0.1s,SNR=4.0										
EMOS					Pg		**Pg**		**22 12 15.5**	**-1.5**
	SNR=7.9										
EMOS					Sn		**Sn**		**22 12 42.4**	**+0.9**
	0.2nm,0.1s,SNR=7.9										
EMOS					Lg				22 12 49.9	
	0.4nm,0.1s,SNR=7.9										
EMOS	**Mosqueruela**	**2.77**	**182**		Pn		**Pn**		**22 12 10.4**	**+2.3**
EMOS	**Mosqueruela**	**2.77**	**182**		Pg		**Pg**		**22 12 15.5**	**-1.4**
MFF	**Saint Martin d**	**3.47**	**2**		*e*Pg		**Pg**		**22 12 29.5**	**-0.6**
MFF					*e*Sg		**Sg**		**22 13 14.9**	**-0.1**
	1.5nm,0.3s										
MFF	**Saint Martin d**	**3.47**	**2**		*e*Pg		**Pg**		**22 12 29.5**	**-0.6**
MFF					*e*Sg		**Sg**		**22 13 14.9**	**-0.1**
	0.8nm,0.3s										
TCF	**Toulx Ste Croi**	**3.64**	**29**		*e*Pg		**Pg**		**22 12 32.9**	**-0.5**
TCF					*e*Sn		**Sn**		**22 13 01.0**	**-1.8**
TCF					*e*Sg		**Sg**		**22 13 20.3**	**-0.2**
	3.6nm,0.4s,SNR=1.0										
TCF	**Toulx Ste Croi**	**3.64**	**29**		Pn		**Pn**		**22 12 19.8**	**-0.1**
TCF					Pg		**Pg**		**22 12 32.9**	**-0.5**
TCF					Sn		**Sn**		**22 13 01.0**	**-1.8**
TCF					Lg				22 13 20.3	
	1.8nm,0.4s										
TCF	**Toulx Ste Croi**	**3.64**	**29**		*e*Pn		**Pn**		**22 12 19.8**	**-0.1**
TCF					*e*Pg		**Pg**		**22 12 32.9**	**-0.5**
TCF					*e*Sn		**Sn**		**22 13 01.0**	**-1.8**
TCF					*e*Sg		**Sg**		**22 13 20.3**	**-0.2**
TCF	**Toulx Ste Croi**	**3.64**	**29**		*e*Pg		**Pg**		**22 12 32.9**	**-0.5**
TCF					*e*Sn		**Sn**		**22 13 01.0**	**-1.8**
TCF					*e*Sg		**Sg**		**22 13 20.3**	**-0.2**
	1.8nm,0.4s,SNR=1.0										
VIVF	**Saint-Julien-l**	**4.00**	**63**		*e*Pn		**Pn**		**22 12 24.4**	**-0.6**
VIVF					*e*Sg		**Sg**		**22 13 31.2**	**-1.1**
	0.8nm,0.2s										
VIVF	**Saint-Julien-l**	**4.00**	**63**		*e*Pn		**Pn**		**22 12 24.4**	**-0.6**
VIVF					*e*Sg		**Sg**		**22 13 31.2**	**-1.1**
	0.4nm,0.2s										
BGF	**Bois d'Agland**	**4.10**	**32**		*e*Pn		**Pn**		**22 12 25.8**	**-0.5**
	SNR=1.0										
BGF					*e*Sn		**Sn**		**22 13 11.6**	**-2.7**
	SNR=1.0										
BGF					*e*Sg		**Sg**		**22 13 35.2**	**-0.3**
	5.8nm,0.3s,SNR=1.0										
BGF	**Bois d'Agland**	**4.10**	**32**		*e*Pn		**Pn**		**22 12 25.8**	**-0.5**
	SNR=1.0										
BGF					*e*Sn		**Sn**		**22 13 11.6**	**-2.7**
	SNR=1.0										
BGF					*e*Sg		**Sg**		**22 13 35.2**	**-0.3**
	2.9nm,0.3s,SNR=1.0										

CSEM ***07*** *22:15:31.6±0.8, 3864N×2868W, h18km±8km, ML1.4, Error ellipse: s-maj=6.8km s-min=4.4km az=75.0, After PDA*
PDA ***07*** *22:15:31.6±0.8, 3864N×2868W, h18km±8km, MD2.8, ML1.4, Error ellipse: s-maj=6.8km s-min=4.4km az=75.0*

SVSA 07 22:15:31.6±0.8, 3864N×2868W, h18km±8km, MD2.8, ML1.4, Error ellipse: s-maj=6.8km s-min=4.4km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.02**	**252**	*i* P	Pg	22 15 34.2	-0.5
PCED				*i* S	Sg	22 15 36.3	-0.6
PCED							
	18nm,0.1s						
PCED	**Cedros**	**0.02**	**252**	*i* P	Pg	22 15 34.2	-0.5
PCED				*i* S	Sg	22 15 36.3	-0.6
PCED							
	18nm,0.1s						
PCED	**Cedros**	**0.02**	**252**	*i* S	Sg	22 15 36.3	-0.6
CALA	**Caldeira**	**0.06**	**202**	*e*S	Sg	22 15 36.9	-0.2
PCND	**Candelaria**	**0.23**	**135**	*e*S	Sg	22 15 40.1	-0.7
PCND							
	21nm,0.2s						
PCND	**Candelaria**	**0.23**	**135**	*e*S	Sg	22 15 40.1	-0.7
PCND							
	21nm,0.2s						
PICO	**Pico**	**0.24**	**124**	*e*P	Pg	22 15 36.3	-0.8
PICO				*e*S	Sg	22 15 39.6	-1.2
PICO	**Pico**	**0.24**	**124**	*e*P	Pg	22 15 36.3	-0.8
PICO				*e*S	Sg	22 15 39.5	-1.3
ROSA	**Rosais**	**0.35**	**76**	*e*P	Pg	22 15 37.9	-1.1
ROSA				*e*S	Sg	22 15 42.5	-1.5
PMAN	**Manadas**	**0.46**	**90**	*e*S	Sg	22 15 44.8	-2.4
PMAN							
	11nm,0.1s						
PMAN	**Manadas**	**0.46**	**90**	*e*S	Sg	22 15 44.8	-2.4
PMAN							
	11nm,0.1s						

SKO ***07*** *22:15:40.9, 3935N×2066E, h1km*
ISCJB ***07*** *22:15:41.6±0.4, 3947N±002×2061E±002, h6km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=149.2*
NEIC ***07*** *22:15:41.7, 3950N×2068E, h10km, ML3.8(ATH), After ATH.*
ATH ***07*** *22:15:41.1, 3951N×2064E, h6km±1km, MD3.6/14, ML3.9*
CSEM ***07*** *22:15:42.2±0.1, 3958N×2065E, h2km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.8km az=40.0*
THE ***07*** *22:15:42.9, 3950N×2065E, h4km, ML3.1*
ROM ***07*** *22:15:49.4±0.4, 3988N×1992E, h12km, Md3.1/7, Ml2.7/4, Error ellipse: s-maj=8.8km s-min=2.8km az=79.0*

ISC 07 22:15:42.0±0.4, 3949N±002×2063E±002, h1km±3km, n67, σ1♀01/106, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**282**	*e*Pg	**Pg**	**22 15 46.5**	**0.0**
IGT				*e*Sg	**Sg**	**22 15 51.0**	**+1.5**
JAN	**Janina**	**0.24**	**45⇓**	*i*PG	**Pg**	**22 15 45.4**	**-1.3**
JAN				*e*SG	**Sg**	**22 15 48.8**	**-1.0**
JAN	**Janina**	**0.24**	**45⇓**	*i*Pg	**Pg**	**22 15 45.8**	**-0.9**
JAN				*e*Sg	**Sg**	**22 15 49.6**	**-0.2**
SRN	**Sarande**	**0.62**	**309**	*i*Pg	**Pg**	**22 15 53.4**	**-0.6**
SRN				*i*Sg	**Sg**	**22 16 04.0**	**+1.9**
LSK	**Leskovik**	**0.67**	**358**	*i*Pg	**Pg**	**22 15 53.4**	**-1.3**
LSK				*i*Sg	**Sg**	**22 16 04.7**	**+1.3**
KEK	**Kerkira**	**0.68**	**290**	*e*Pb	**Pg**	**22 15 54.1**	**-0.9**
KEK				*e*Sb	**Sg**	**22 16 06.1**	**+2.3**
KEK	**Kerkira**	**0.68**	**290**	Pg	**Pg**	**22 15 54.2**	**-0.8**
	339nm,0.5s						
KEK				*e*Sb	**Sg**	**22 16 06.1**	**+2.3**
LKD	**Levkas**	**0.78**	**179**	*e*Pg	**Pg**	**22 15 56.5**	**-0.4**
LKD				*e*Sg	**Sg**	**22 16 10.8**	**+3.8**
TPE	**Tepelena**	**0.94**	**330**	*i*Pg	**Pg**	**22 15 58.8**	**-1.2**
TPE				*i*Sg	**Sg**	**22 16 15.0**	**+2.9**
THL	**Klokotos Trika**	**1.08**	**85**	*e*PG	**Pg**	**22 16 00.8**	**-1.8**
EVR	**Evrytania**	**1.08**	**121**	*e*Pg	**Pg**	**22 16 01.3**	**-1.4**
EVR				*e*Sb	**Sg**	**22 16 17.3**	**+0.6**
KZN	**Kozani**	**1.20**	**47**	*e*PB	**Pg**	**22 16 03.4**	**-1.7**
VLS	**Valsamata**	**1.31**	**181**	*e*PG	**Pg**	**22 16 05.8**	**-1.2**
VLS				*e*SB	**Sg**	**22 16 25.2**	**+1.2**
VLS	**Valsamata**	**1.31**	**181**	*e*Pn	**Pg**	**22 16 05.8**	**-1.2**
VLS				*e*Sb	**Sg**	**22 16 25.8**	**+1.8**
AGG	**Agios Georgios**	**1.40**	**109**	*e*Pg	**Pn**	**22 16 07.2**	**-1.4**
AGG				*e*Sg	**Sg**	**22 16 28.1**	**+1.1**
FNA	**Florina**	**1.42**	**24**	*e*Pg	**Pn**	**22 16 07.3**	**-1.6**
FNA				*e*Sg	**Sg**	**22 16 29.2**	**+1.6**
FNA	**Florina**	**1.42**	**24**	*e*Pg	**Pn**	**22 16 07.3**	**-1.6**
FNA				*e*Sg	**Sg**	**22 16 29.2**	**+1.6**
LIT	**Litokhoron**	**1.56**	**66**	*e*Pg	**Pn**	**22 16 10.0**	**-0.9**
LIT				*e*Sg	**Sn**	**22 16 32.9**	**+1.1**
LIT	**Litokhoron**	**1.56**	**66**	*e*Pg	**Pn**	**22 16 10.0**	**-0.9**
LIT				*e*Sg	**Sn**	**22 16 32.8**	**+1.1**
RLS	**Riolos of Patr**	**1.57**	**155**	*e*PB	**Pn**	**22 16 11.2**	**+0.2**
RLS				*e*SB	**Sn**	**22 16 32.7**	**+0.8**
BIA	**Bitola**	**1.62**	**19**	*e*Pg	**Pn**	**22 16 10.9**	**-0.8**
BIA				*e*Sg	**Sn**	**22 16 33.8**	**+0.5**
BIA	**Bitola**	**1.62**	**19**	*e*Pn	**Pn**	**22 16 11.2**	**-0.5**
BIA	**Bitola**	**1.62**	**19**	*e*Pn	**Pn**	**22 16 11.2**	**-0.5**
BIA				*e*Sg	**Sn**	**22 16 33.8**	**+0.5**
OHR	**Ohrid**	**1.63**	**5**	*e*Pg	**Pn**	**22 16 10.9**	**-0.9**
OHR				*e*Sg	**Sn**	**22 16 33.8**	**+0.4**
OHR	**Ohrid**	**1.63**	**5**	*e*Pn	**Pn**	**22 16 12.6**	**+0.8**
OHR				*e*Sg	**Sn**	**22 16 33.8**	**+0.4**
TIR	**Tirane**	**1.95**	**343**	Pg	**Pn**	**22 16 17.6**	**+1.4**
	173nm,0.7s						
TIR	**Tirane**	**1.95**	**343**	*e*Pb	**Pn**	**22 16 16.9**	**+0.7**
TIR				*e*Sb	**Sn**	**22 16 42.1**	**+0.8**
XOR	**Xorichti**	**1.99**	**93**	*e*Pb	**Pn**	**22 16 18.2**	**+1.5**
XOR	**Xorichti**	**1.99**	**93**	*e*Pb	**Pn**	**22 16 18.2**	**+1.4**
GRG	**Griva**	**2.00**	**42**	*e*Pn	**Pn**	**22 16 16.3**	**-0.6**
GRG				*e*Sn	**Sn**	**22 16 43.7**	**+1.1**
NEO	**Neokhori**	**2.02**	**94**	*e*PG	**Pn**	**22 16 18.4**	**+1.2**
LKR	**Lokris**	**2.03**	**114**	*e*PN	**Pn**	**22 16 17.7**	**+0.4**
LCI	**Lecce**	**2.11**	**294**	Pg	**Pn**	**22 16 17.0**	**-1.5**
	22nm,0.2s						
THE	**Thessaloniki**	**2.13**	**57**	*e*Pn	**Pn**	**22 16 19.3**	**+0.6**
THE				*e*Sn	**Sn**	**22 16 45.8**	**+0.1**
HORT	**Hortiatis**	**2.20**	**59**	*e*Pn	**Pn**	**22 16 19.4**	**-0.3**
HORT				*e*Sn	**Sn**	**22 16 48.0**	**+0.5**
PLG	**Polygyros**	**2.34**	**67**	*e*Pn	**Pn**	**22 16 21.8**	**+0.2**
PLG				*e*Sn	**Sn**	**22 16 49.5**	**-1.5**
PLG	**Polygyros**	**2.34**	**67**	*e*Pn	**Pn**	**22 16 21.6**	**0.0**
PLG				*e*Sn	**Sn**	**22 16 49.5**	**-1.5**
VAY	**Valandovo**	**2.36**	**38**	*e*Pn	**Pn**	**22 16 21.8**	**0.0**
VAY	**Valandovo**	**2.36**	**38**	*e*Pn	**Pn**	**22 16 22.0**	**+0.1**
VAY	**Valandovo**	**2.36**	**38**	*e*Pn	**Pn**	**22 16 21.9**	**+0.1**
KNT	**Kendrikon**	**2.41**	**45**	*e*Pn	**Pn**	**22 16 22.6**	**0.0**
KNT				*e*Sn	**Sn**	**22 16 53.8**	**+1.0**
SOH	**Sokhos**	**2.48**	**57**	*e*Pn	**Pn**	**22 16 24.2**	**+0.7**
SOH				*e*Sn	**Sn**	**22 16 53.9**	**-0.6**
SOH	**Sokhos**	**2.48**	**57**	*e*Pn	**Pn**	**22 16 24.2**	**+0.7**
SOH				*e*Sn	**Sn**	**22 16 53.8**	**-0.6**
ITM	**Ithomi**	**2.52**	**156**	*e*PN	**Pn**	**22 16 25.4**	**+1.4**
AOS	**Alonnisos**	**2.54**	**96**	*e*Pn	**Pn**	**22 16 24.6**	**+0.2**
OUR	**Ouranopolis**	**2.72**	**71**	*e*Pn	**Pn**	**22 16 25.9**	**-0.8**
SRS	**Serrai**	**2.79**	**53**	*e*Pn	**Pn**	**22 16 27.7**	**-0.1**
SRS				*e*Sn	**Sn**	**22 17 01.4**	**-0.8**
ATH	**Athens Observa**	**2.85**	**121**	*e*PB	**Pn**	**22 16 29.0**	**+0.4**
PTL	**Penteli**	**2.91**	**119**	*e*PN	**Pn**	**22 16 30.0**	**+0.6**
TIP	**Timpagrande**	**3.02**	**265**	*e*Pn	**Pn**	**22 16 29.5**	**-1.4**
TIP				*e*Sn	**Sn**	**22 17 05.9**	**-1.8**
NVR	**Nevrokopi**	**3.09**	**52**	*e*PB	**Pn**	**22 16 32.8**	**+0.9**
MMB	**Musomiste**	**3.16**	**47**	*e*Pn	**Pn**	**22 16 33.2**	**+0.3**
MMB				*e*Sn	**Sn**	**22 17 10.7**	**-0.5**
VLI	**Veliai**	**3.31**	**146**	*e*Pn	**Pn**	**22 16 36.3**	**+1.4**
VTS	**Vitosha**	**3.67**	**31**	*e*Pn	**Pn**	**22 16 39.9**	**+0.1**
VTS				*e*Sn	**Sn**	**22 17 24.1**	**+0.4**
SLCN	**Sala Consilina**	**3.94**	**285**	Pg	**Pn**	**22 16 43.4**	**-0.2**
	26nm,0.4s						
CHOS	**Chios island**	**4.37**	**103**	*e*Pn	**Pn**	**22 16 50.3**	**+0.8**
CHOS				*e*Sn	**Sn**	**22 17 40.2**	**-0.9**
MCRV	**Calabrutti - M**	**4.38**	**289**	Pg	**Pn**	**22 16 48.8**	**-0.8**
	13nm,0.4s						
ALN	**Alexandroupoli**	**4.38**	**69**	*e*Pn	**Pn**	**22 16 50.1**	**+0.4**
RGNG	**Rignano Grg**	**4.42**	**301**	Pg	**Pn**	**22 16 48.9**	**-1.3**
FG5	**Orsara di Pugl**	**4.47**	**295**	Pg	**Pn**	**22 16 51.3**	**+0.4**
	26nm,0.6s						
APE	**Apeiranthos**	**4.55**	**120**	*e*Pn	**Pn**	**22 16 51.7**	**-0.3**
DIVS	**Divcibare**	**4.63**	**354**	*e*Pn	**Pn**	**22 16 52.5**	**-0.6**
KARN	**Karanos**	**4.84**	**146**	*e*Pn	**Pn**	**22 16 56.1**	**+0.1**
KARN				*e*Sn	**Sn**	**22 17 53.5**	**+0.8**
VAM	**Vamos**	**4.96**	**144**	*e*Pn	**Pn**	**22 16 58.4**	**+0.7**
GVD	**Gavdhos**	**5.40**	**148**	*e*Pn	**Pn**	**22 17 02.5**	**-1.1**
GVD				*e*Sn	**Sn**	**22 18 06.5**	**+0.2**
LAST	**Lasithi**	**5.79**	**137**	*e*Pn	**Pn**	**22 17 08.0**	**-1.0**
NVLJ	**Novalja**	**6.64**	**322**	*i* (Pn)	**Pn**	**22 17 19.4**	**-1.3**
NVLJ				*i* Sn	**Sn**	**22 18 31.1**	**-5.9**

ISC 07 22:26:18.2±1.2, 928N±005×12266E±004, h27km±9km, n17, σ0♀63/25, mb4.7/4, 6C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**83⇑**	*i*P	**Pb**	**22 26 29.0**	**-0.6**
SNPH				*i* S	**Sb**	**22 26 38.0**	**+0.6**
DCPH	**Dipolog City**	**0.97**	**135⇑**	*i*P	**Pn**	**22 26 35.1**	**-0.9**
DCPH				*i* S	**Sb**	**22 26 49.2**	**+0.5**
TBP	**Tagbilaran**	**1.25**	**71**	*e*P	**Pn**	**22 26 40.1**	**+0.2**
TBP				*e*S	**Sn**	**22 26 55.7**	**-0.3**
LLP	**Lapu-Lapu**	**1.65**	**51⇓**	*e*P	**Pn**	**22 26 45.0**	**-0.4**
LLP				*e*S	**Sn**	**22 27 06.3**	**+0.6**
CGP	**Cagayan de Oro**	**2.17**	**112⇑**	*i*P	**Pn**	**22 26 53.6**	**+1.1**
CGP				*i* S	**Sn**	**22 27 25.1**	**+6.6**
RCP	**Roxas**	**2.27**	**2⇑**	*e*P	**Pn**	**22 26 53.5**	**-0.3**
RCP				*e*S	**Sn**	**22 27 24.6**	**+3.6**
KALP	**Kalibo**	**2.41**	**352⇑**	*i*P	**Pn**	**22 27 02.7**	**+6.9**
PLP	**Palo**	**2.96**	**50**	*e*P	**Pn**	**22 27 02.6**	**-0.7**
PLP				*e*S	**Sn**	**22 27 37.2**	**-0.7**
PPR	**Puerto Princes**	**3.91**	**278⇑**	*i*P	**Pn**	**22 27 15.6**	**-0.8**
PPR				*i* S	**Sn**	**22 27 54.8**	**-6.6**
WB2	**Warramunga Arr**	**31.23**	**158**	*e*P	**P**	**22 32 34.7**	**-0.7**
ASPA	**Alice Springs**	**34.54**	**162**	*e*P	**P**	**22 33 04.4**	**+0.2**
GUN	**Gumba**	**39.26**	**303**	*e*P	**P**	**22 33 44.8**	**+0.4**
	23nm,0.8s,mb5.0						
PKI	**Pulchoki**	**39.54**	**302**	*e*P	**P**	**22 33 47.1**	**+0.4**
KKN	**Kakani**	**39.72**	**303**	*e*P	**P**	**22 33 48.7**	**+0.5**
	12nm,0.8s,mb4.7						
DMN	**Daman**	**39.80**	**302**	*e*P	**P**	**22 33 48.7**	**-0.2**
GKN	**Gorkha**	**40.33**	**303**	*e*P	**P**	**22 33 53.5**	**+0.2**
	12nm,0.9s,mb4.7						
KOLN	**Koldanda**	**41.11**	**302**	*e*P	**P**	**22 34 00.4**	**+0.6**
	9.6nm,0.8s,mb4.5						

CSEM ***07*** *22:33:57.3±1.1, 3846N×2842W, h6km±8km, ML1.5, Error ellipse: s-maj=5.4km s-min=4.5km az=45.0, After PDA*
PDA ***07*** *22:33:57.3±1.1, 3846N×2842W, h6km±8km, MD2.8, ML1.5, Error ellipse: s-maj=5.4km s-min=4.5km az=45.0*

SVSA 07 22:33:57.3±1.1, 3846N×2842W, h6km±8km, MD2.8, ML1.5, Error ellipse: s-maj=5.4km s-min=4.5km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	**Candelaria**	**0.04**	**283**	*i* P	Pg	22 33 58.8	+0.2
PCND				*e*S	Sg	22 33 59.8	+0.3
PCND							
	89nm,0.1s						
PICO	**Pico**	**0.04**	**353**	*e*P	Pg	22 33 58.2	-0.4
PICO				*i* S	Sg	22 33 59.5	-0.1
PBOI	**Pico dos Bois**	**0.04**	**126**	*e*P	Pg	22 33 58.6	0.0
PBOI				*i* S	Sg	22 33 59.5	-0.1
PBOI							
	101nm,0.1s						
PTEI	**Pico do Teixo**	**0.06**	**55**	*i* P	Pg	22 33 59.1	+0.2
PTEI				*i* S	Sg	22 34 00.4	+0.4
PTEI							
	122nm,0.2s						

ISCJB ***07*** *22:51:28.3±0.5, 3200N±005×13879E±008, h304km±4km, mb3.8/18, Error ellipse: s-maj=11.6km s-min=8.1km az=153.6*
MOS ***07*** *22:51:28.4±0.6, 3202N×13867E, h304km, mb4.0/16, Error ellipse: s-maj=30.8km s-min=10.6km az=115.1*
IDC ***07*** *22:51:30.0±1.1, 3206N×13870E, h301km±13km, mb3.5/12, mb1 3.5/13, mb1mx3.5/21, mbtmp4.1/13, Error ellipse: s-maj=39.2km s-min=11.2km az=74.0*
NEIC ***07*** *22:51:29.2, 3227N×13880E, h325km, mb3.7/5, After JMA.*
JMA ***07*** *22:51:29.2±0.4, 3227N×13880E, h325km, M3.7*

ISC 07 22:51:30.1±0.6, 3212N±006×13874E±009, h303km±4km, n58, σ0♀74/62, mb3.8/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1

comp=Z,4.1nm,0.7s,mb4.1,baz=73,slow=13,SNR=15
AKTO Aktyubinsk 60.38 313 P **P** **23 01 08.2 +0.4**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
ARCES ARCESS Array B 67.82 340 P **P** **23 01 56.0 +0.2**
comp=Z,5.5nm,1.0s,mb4.2,baz=73,slow=7.8,SNR=9.0
ARCES ARCESS Array B 67.82 340 P **P** **23 01 56.0 +0.2**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
JOF Joensuu 69.26 332 *e*p **P** **23 02 04.2 -0.5**
comp=Z,1.3nm,0.4s,mb4.0
JOF Joensuu 69.26 332 *e*P **P** **23 02 04.2 -0.5**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
FINES FINESS Array B 72.13 332 P **P** **23 02 21.7 -0.2**
comp=Z,0.9nm,0.4s,mb3.7,baz=70,slow=5.9,SNR=18
FINES FINESS Array B 72.13 332 P **P** **23 02 21.7 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 72.46 311 *e*P **P** **23 02 26.2 +2.4**
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
AKASG Malin Array Be 76.81 322 P **P** **23 02 48.4 -0.3**
comp=Z,1.3nm,0.5s,mb4.0,baz=48,slow=5.6,SNR=10
AKASG Malin Array Be 76.81 322 P **P** **23 02 48.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 77.84 337 P **P** **23 02 54.6 +0.3**
comp=Z,2.0nm,0.8s,mb3.9,baz=44,slow=5.5,SNR=3.6
NOA NORSAR Array B 77.84 337 P **P** **23 02 54.6 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 80.42 311 *e*P **P** **23 03 08.9 +0.7**
comp=Z,2.4nm,0.9s,mb3.9
BRTR Keskin Array B 80.43 311 P **P** **23 03 08.9 +0.7**
comp=Z,2.8nm,0.8s,mb4.0,baz=108,slow=4.8,SNR=16
BRTR Keskin Array B 80.43 311 P **P** **23 03 09.0 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 85.68 327 P **P** **23 03 35.4 +0.4**
comp=Z,0.2nm,0.6s,mb3.1,baz=37,slow=5.2,SNR=3.8
TORD Torodi Ar. Bea 119.04 311 PKP PKPdf 23 09 43.0 +0.2
comp=Z,0.1nm,0.5s,baz=82,slow=1.1,SNR=7.8

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*ISCJB **07** 23:39:44.0±0.4, 3936N±002×2360E±003, h10km±3km, Error ellipse: s-maj=3.8km s-min=3.2km az=172.7*
*NEIC **07** 23:39:45.5, 3933N×2353E, h19km, MD2.9(ATH), After ATH.*
*ATH **07** 23:39:45.5, 3934N×2353E, h19km±2km, MD2.9/6, ML3.0*
*CSEM **07** 23:39:45.0±0.1, 3932N×2363E, h5km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=80.0*
*THE **07** 23:39:45.1, 3934N×2356E, h10km, ML2.4*
ISC 07 23:39:44.9±0.4, 3936N±002×2359E±003, h15km±3km, n26, σ0§86/44, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.29**	**259**	↓*i*PB	**Pg**	**23 39 51.1**	**+0.1**
NEO				*e*SB	**Sg**	23 39 55.5	+0.3
NEO	**Neokhori**	**0.29**	**259**	↓*i*Pb	**Pg**	**23 39 51.1**	**+0.1**
NEO				*e*Sb	**Sg**	23 39 55.6	+0.4
AOS	**Alonnisos**	**0.30**	**131**	*e*Pg	**Pg**	**23 39 50.0**	**-1.1**
XOR	**Xorichti**	**0.31**	**270**	*e*Pg	**Pg**	**23 39 51.6**	**+0.3**
XOR				*e*Sg	**Sg**	23 39 56.6	+0.9
LKR	**Lokris**	**0.85**	**213**	*e*PN	**Pg**	**23 40 00.1**	**-1.3**
LKR				*e*SN	**Sg**	23 40 11.9	-0.6
LKR	**Lokris**	**0.85**	**213**	*e*Pn	**Pg**	**23 40 00.1**	**-1.3**
LKR				*e*Sn	**Sg**	23 40 11.8	-0.7
OUR	**Ouranopolis**	**1.01**	**17**	*e*Pg	**Pg**	**23 40 04.9**	**+0.4**
OUR				*e*Sg	**Sg**	23 40 20.3	+2.5
PLG	**Polygyros**	**1.01**	**354**	*e*Pg	**Pg**	**23 40 04.9**	**+0.4**
PLG				*e*Sg	**Sg**	23 40 19.4	+1.6
PLG	**Polygyros**	**1.01**	**354**	↑*i*PN	**Pn**	**23 40 04.8**	**+0.2**
AGG	**Agios Georgios**	**1.04**	**251**	*e*Pg	**Pg**	**23 40 04.3**	**-0.6**
AGG				*e*Sg	**Sg**	23 40 19.1	+0.6
LIT	**Litokhoron**	**1.12**	**311**	*e*Pg	**Pg**	**23 40 06.3**	**-0.3**
LIT				*e*Sg	**Sg**	23 40 22.5	+1.3
THL	**Klokotos Trika**	**1.24**	**280**	*e*PN	**Pn**	**23 40 08.3**	**+0.7**
LOS	**Limnos**	**1.28**	**63**	*e*Pg	**Pg**	**23 40 09.6**	**0.0**
LOS				*e*Sg	**Sg**	23 40 26.9	+0.5
PTL	**Penteli**	**1.33**	**171**	*e*PN	**Pn**	**23 40 10.0**	**+1.1**
THE	**Thessaloniki**	**1.35**	**339**	*e*Pg	**Pg**	**23 40 10.6**	**-0.3**
THE				*e*Sg	**Sg**	23 40 27.7	-0.9
ATH	**Athens Observa**	**1.39**	**176**	*e*PN	**Pn**	**23 40 10.9**	**+1.1**
ATH	**Athens Observa**	**1.39**	**176**	*e*Pn	**Pn**	**23 40 10.6**	**+0.8**
SOH	**Sokhos**	**1.47**	**353**	*e*Pg	**Pg**	**23 40 11.9**	**-1.2**
SOH				*e*Sg	**Sg**	23 40 31.3	-0.9
KVR	**Kavouri**	**1.54**	**175**	*e*PN	**Pg**	**23 40 14.0**	**-0.5**
SRS	**Serrai**	**1.75**	**0**	*e*Pb	**Pb**	**23 40 15.6**	**-1.1**
SRS				*e*Sb	**Sb**	23 40 37.2	-1.3
GRG	**Griva**	**1.83**	**331**	*e*Pb	**Pb**	**23 40 17.0**	**-1.1**
GRG				*e*Sb	**Sb**	23 40 40.6	-0.2
KNT	**Kendrikon**	**1.87**	**344**	*e*Pb	**Pb**	**23 40 17.9**	**-0.9**
KNT				*e*Sb	**Sb**	23 40 41.5	-0.5
CHOS	**Chios island**	**2.16**	**116**	*e*Pn	**Pn**	**23 40 20.2**	**-0.1**
CHOS				*e*Sn	**Sn**	23 40 48.2	+1.5
FNA	**Florina**	**2.21**	**311**	*e*Pn	**Pn**	**23 40 20.9**	**-0.2**
FNA				*e*Sn	**Sn**	23 40 49.2	+1.0
ALN	**Alexandroupoli**	**2.43**	**50**	*e*Pn	**Pn**	**23 40 24.2**	**+0.2**
APE	**Apeiranthos**	**2.75**	**146**	*e*Pn	**Pn**	**23 40 28.2**	**-0.3**
APE				*e*Sn	**Sn**	23 41 01.1	-0.4

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*KNET **08** 00:22:41.4±0.6, 42.16N×75.95E, h15km±3km, ml1.7, Error ellipse: s-maj=3.9km s-min=3.0km az=134.0*
*ISCJB **08** 00:22:42.1±0.9, 4213N±006×7600E±005, h10km, Error ellipse: s-maj=8.4km s-min=4.6km az=148.6*
ISC 08 00:22:42.4±0.9, 4214N±005×7598E±004, h10km, n12, σ0§99/22, 14C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.22**	**61**	↑P	**Pg**	**00 22 46.5**	**-0.4**
	22nm,0.1s,SNR=312						
ULHL				↑S	**Sg**	**00 22 49.9**	**0.0**
	77nm,0.1s						
KZA	**Kyzart**	**0.55**	**264**	↓P	**Pg**	**00 22 52.5**	**-0.6**
	14nm,0.1s,SNR=6.6						
KZA				↑S	**Sg**	**00 22 60.0**	**-0.3**
	26nm,0.1s						
TKM2	**Tokmak 2**	**0.83**	**340**	↓P	**Pg**	**00 22 57.9**	**-0.5**
	5.4nm,0.1s,SNR=7.6						
TKM2				↑S	**Sg**	**00 23 09.5**	**+0.3**
	38nm,0.1s						
TKM2	**Tokmak 2**	**0.83**	**340**	↓P	**Pg**	**00 22 57.9**	**-0.5**
	0.1nm,0.2s						
TKM2				↑S	**Sg**	**00 23 09.2**	**0.0**
	1.2nm,0.4s						
KBK	**Karagaybulak**	**0.92**	**304**	↓P	**Pg**	**00 22 59.6**	**-0.6**
	11nm,0.1s,SNR=45						
KBK				↓S	**Sg**	**00 23 12.6**	**+0.4**
	20nm,0.2s						
UCH	**Uchtor**	**1.10**	**275**	↑P	**Pb**	**00 23 02.1**	**-1.3**
	1.8nm,0.2s,SNR=11						
UCH				↑S	**Sg**	**00 23 16.7**	**-1.0**
	6.0nm,0.1s						
AAK	**Ala-Archa**	**1.21**	**295**	↓P	**Pn**	**00 23 04.3**	**-1.1**
	7.6nm,0.1s,SNR=9.7						
AAK				↑S	**Sb**	**00 23 20.2**	**-0.8**
	16nm,0.2s						
CHMS	**Chumysh**	**1.25**	**314**	↑P	**Pn**	**00 23 05.2**	**-0.7**
	3.4nm,0.1s,SNR=7.0						
CHMS				↓S	**Sb**	**00 23 21.6**	**-0.6**
	7.9nm,0.1s						
USP	**Ospenovka**	**1.57**	**316**	↑P	**Pn**	**00 23 11.1**	**+0.8**
	6.7nm,0.2s,SNR=28						
USP				↑S	**Sn**	**00 23 32.5**	**+1.8**
	8.3nm,0.2s						
AML	**Almayashu**	**1.70**	**270**	↓P	**Pn**	**00 23 13.3**	**+1.2**
	1.5nm,0.1s,SNR=5.3						
AML				↑S	**Sn**	**00 23 36.1**	**+2.2**
	11nm,0.2s						
EKS2	**Erkin-Say**	**1.71**	**288**	↓P	**Pn**	**00 23 14.2**	**+1.9**
	1.1nm,0.1s,SNR=5.8						
KK31	**Karatay Array**	**4.15**	**285**	↑Pg	**Pb**	**00 23 56.1**	**+0.5**
	0.1nm,0.3s,baz=109,slow=13,SNR=5.5						
KK31				↑Lg		00 24 50.0	
	0.9nm,0.5s,baz=107,slow=26						

CASC 08 00:28:48.0±2.4, 1021N×8637W, h3km±14km, MD3.8, ML3.0, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.73**	**97**	↑*e*P	Pg	00 29 03.6	+1.6
VCR				*e*S	Sg	00 29 15.2	+3.6
SSNN	**San Juan del S**	**1.19**	**26**	↑*e*P	Pg	00 29 09.6	-1.1
LIM1	**Limonal**	**1.20**	**66**	↑*i*P	Pg	00 29 10.1	-1.0
JCR	**Jicaral**	**1.29**	**106**	*e*P	Pg	00 29 12.0	-0.8
JCR				*e*S	Sg	00 29 27.9	-1.7
MADN	**Villa Maderas**	**1.45**	**35**	↑*e*P	Pn	00 29 13.8	-1.2
MADN				*i*		00 29 21.9	
	comp=Z,295nm,0.5s						
CONN	**Concepcion**	**1.53**	**29**	↑*e*P	Pn	00 29 14.9	-1.4
CGA2	**Cerro Gallo 2**	**1.89**	**96**	*e*P	Pn	00 29 22.1	+0.9
XAVN	**Gruta Xavier**	**1.92**	**1**	*e*P	Pn	00 29 23.5	+1.8
COPN	**Copaltepe**	**1.97**	**354**	*e*P	Pn	00 29 21.4	-0.9
PRS1	**Puriscal**	**2.04**	**96**	*e*P	Pn	00 29 23.1	-0.2
BUS	**Buena Vista**	**2.66**	**104**	*e*P	Pn	00 29 32.6	+0.9

CASC 08 00:36:57.4±10.0, 1457N×9083W, h220km±84km, MD4.3, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**0.28**	**319**	↓↓*e*P	Pn	00 37 25.7	-0.5
RBDL	**Robledal**	**1.20**	**112**	↓*e*P	x	00 37 40.8	+10
RBDL				*e*S	x	00 38 08.9	+13
RTR	**El Retiro**	**1.33**	**120**	↑*e*P	x	00 37 41.4	+10
RTR				*e*S	x	00 38 09.2	+11
SNJE	**San Jose**	**1.38**	**120**	*e*P	x	00 37 41.2	+9.4
SBLS	**San Blas**	**1.38**	**122**	*e*P	x	00 37 41.0	+9.1
SBLS				*e*S	x	00 38 09.3	+10
SNET	**Serv Nac Est T**	**1.78**	**119**	↑*e*P	x	00 37 39.4	+4.1
SNET				*e*S	x	00 37 59.8	-5.3
LFRS	**El Faro**	**1.96**	**119**	*e*P	x	00 37 48.9	+12
LFRS				*e*S	x	00 38 25.3	+17
LCBS	**La Ceiba**	**2.01**	**117**	*e*P	x	00 37 50.4	+13
LCBS				*e*S	x	00 38 23.4	+14

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*MOS **08** 00:59:47.4±1.9, 5624N×11347E, h11km, mb4.2/1, Error ellipse: s-maj=23.7km s-min=13.4km az=78.5*
BYKL 08 00:59:47.4±0.3, 5632N×11356E, h12km±4km, 3C-3D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.20**	**180**	↑*i*Pg	Pg	00 59 50.4	-1.4
SVKR				*i* Sg	Sg	00 59 53.0	-1.8
SVKR				Pmax			
	1μm,0.1s						
SVKR				Smax			
	13μm,0.3s						
SVKR	**Severomuysk**	**0.20**	**180**	*e*PG	Pg	00 59 50.3	-1.5
SVKR				*e*		00 59 52.6	
SVKR				pmax	pmax		
	comp=Z,1μm,0.2s						
SVKR				smax			
	comp=N,14μm,0.5s						
UKT	**Uakit**	**0.83**	**177**	*e*Pg	Pg	01 00 02.5	-1.0
UKT				*e*		01 00 03.1	
UKT				*e*Sg	Sg	01 00 13.2	-1.2
UKT				*e*		01 00 15.1	
UKT				max			
	comp=N,26nm,0.2s						
UKT				max			
	comp=N,374nm,0.3s						
UKT	**Uakit**	**0.83**	**177**	*e*PG	Pg	01 00 02.4	-1.1
UKT				*e*		01 00 13.6	
UKT				pmax	pmax		
	comp=Z,21nm,0.1s						
UKT				smax			
	comp=E,317nm,0.1s						
YOA	**Uoyan**	**1.04**	**260**	*e*Pg	Pg	01 00 06.2	-1.3
YOA				*e*Sg	Sg	01 00 20.7	-0.4
YOA				Pmax			
	comp=E,309nm,0.3s						
YOA				Smax			
	comp=E,1μm,0.7s						
YOA	**Uoyan**	**1.04**	**260**	↑*i*PG	Pg	01 00 06.2	-1.3
YOA				*i*		01 00 21.0	
YOA				pmax	pmax		
	comp=Z,295nm,0.3s						
YOA				smax			
	comp=E,965nm,0.4s						
KMO	**Kumora**	**1.39**	**253**	↓*i*Pg	Pg	01 00 11.9	-2.2
KMO				*e*Sg	Sg	01 00 30.8	-1.4
KMO				Pmax			
	comp=E,120nm,0.3s						
KMO				Smax			
	comp=E,324nm,0.6s						
KMO	**Kumora**	**1.39**	**253**	*e*PG	Pg	01 00 12.0	-2.1
KMO				*e*		01 00 31.1	
KMO				pmax	pmax		
	comp=Z,81nm,0.2s						
KMO				smax			
	comp=E,312nm,0.5s						
BOD	**Bodaibo**	**1.52**	**9**	↓*i*Pg	Pg	01 00 14.2	-2.4
BOD				*e*Sg	Sg	01 00 33.8	-2.6
BOD				Pmax			
	comp=E,75nm,0.1s						
BOD				Smax			
	comp=E,489nm,0.2s						
BOD	**Bodaibo**	**1.52**	**9**	↑*i*PN	Pn	01 00 13.9	-0.5
BOD				*e*		01 00 33.5	
BOD				pmax	pmax		
	comp=Z,75nm,0.1s						
BOD				smax			
	comp=E,502nm,0.1s						
YLYR	**Ulyunkhan**	**1.99**	**224**	*e*Pn	Pn	01 00 21.5	+0.7
YLYR				↓*i*Pg	Pg	01 00 22.3	-3.2
YLYR				*e*Sg	Sg	01 00 48.8	-2.5
YLYR				*e*		01 00 49.8	
YLYR				Pmax			
	comp=E,89nm,0.2s						
YLYR				max			
	comp=E,216nm,0.2s						
YLYR	**Ulyunkhan**	**1.99**	**224**	*e*PN	Pn	01 00 21.6	+0.8
YLYR				*e*		01 00 22.3	
YLYR				*e*		01 00 49.3	
YLYR				pmax	pmax		
	comp=Z,78nm,0.1s						
YLYR				smax			
	comp=E,219nm,0.1s						
NIZ	**Nizh Angarsk**	**2.32**	**258**	*e*Pn	Pn	01 00 26.1	+0.7
NIZ				*e*Pg	Pg	01 00 28.3	-3.6
NIZ				*e*Sn	Sn	01 00 56.1	+2.3
NIZ				*e*Sg	Sg	01 00 59.3	-2.7
NIZ				Pmax			
	comp=E,18nm,0.6s						
NIZ				Smax			
	comp=E,179nm,0.4s						
NIZ	**Nizh Angarsk**	**2.32**	**258**	*e*PN	Pn	01 00 26.5	+1.1
NIZ				*e*		01 00 28.3	
NIZ				*e*S	Sn	01 00 56.4	+2.6
NIZ				*e*		01 00 59.5	
NIZ				pmax	pmax		
	comp=Z,18nm,0.4s						
NIZ				smax			
	comp=N,180nm,0.5s						
CRS	**Chara**	**2.67**	**75**	*e*Pn	Pn	01 00 31.5	+1.3
CRS				*i* Pg	Pg	01 00 35.6	-2.9
CRS				*e*Sg	Sg	01 01 10.1	-3.0
CRS				Pmax			
	comp=N,41nm,1.0s						
CRS				Smax			
	comp=N,202nm,0.7s						
CRS	**Chara**	**2.67**	**75**	*e*PN	Pn	01 00 35.5	+5.3
CRS				*e*		01 01 10.2	
CRS				pmax	pmax		
	comp=Z,45nm,0.5s						
CRS				smax			
	comp=E,177nm,0.5s						
SYVR	**Suvo**	**3.37**	**219**	*e*Pn	Pn	01 00 39.7	-0.1
SYVR				*e*Pg	Pg	01 00 47.3	-4.6
SYVR				*e*Sn	Sn	01 01 19.0	-0.6
SYVR				*e*Sg	Sg	01 01 30.0	-5.5
SYVR				Pmax			
	comp=E,18nm,0.7s						
SYVR				Smax			
	comp=E,61nm,0.7s						
TUP	**Tupik**	**4.11**	**115**	*e*Pn	Pn	01 00 49.8	-0.2
TUP				*e*Pg	Pg	01 01 01.4	-4.8
TUP				*e*		01 01 36.5	
TUP				*e*Sg	Sg	01 01 54.4	-5.1
TUP				Pmax			
	comp=E,10.0nm,0.5s						
TUP				Smax			
	comp=E,65nm,0.5s						
CIT	**Chita**	**4.31**	**180**	*e*	Pn	01 01 12.1	+19
CIT				*e*Sg	Sg	01 02 00.2	-5.5
CIT				Smax			
	comp=E,106nm,0.5s						
OGRR	**Ongureny**	**4.36**	**235**	*e*Pg	Pg	01 01 05.6	-5.3
OGRR				*e*Sg	Sg	01 02 02.9	-4.5
OGRR				Pmax			
	comp=E,5.0nm,0.7s						
OGRR				Smax			
	comp=E,17nm,0.5s						
TRG	**Tyrgan**	**5.51**	**233**	*e*	Pn	01 01 49.9	+41
TRG				*e*Sg	Sg	01 02 36.2	-8.0
TRG				Smax			
	comp=E,9.0nm,0.5s						
FFNB	**Fofonovo**	**5.85**	**226**	*e*	Pn	01 02 02.3	+48
FFNB				*e*Sg	Sg	01 02 49.8	-5.4
FFNB				Smax			
	comp=E,35nm,0.5s						
HRMR	**Khuramsha**	**6.10**	**222**	*e*	Pn	01 01 58.7	+41
HRMR				*e*Sg	Sg	01 02 56.6	-6.7
HRMR				Smax			
	comp=E,51nm,1.0s						
KPC	**Khapcheranga**	**6.67**	**187**	*e*Pg	Pg	01 01 47.7	-7.3
KPC				*e*		01 02 55.9	
KPC				*e*Sg	Sg	01 03 14.3	-7.0
KPC				Pmax			
	comp=E,1.0nm,0.9s						
KPC				Smax			
	comp=E,26nm,0.8s						

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*IDC **08** 01:10:48.5±4.0, 3472N×7308E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=85.6km s-min=32.9km az=122.0*
*ISCJB **08** 01:10:53.5±0.6, 3485N±004×7329E±006, h62km±10km, mb3.8/4, Error ellipse: s-maj=8.5km s-min=5.2km az=118.8*
*NEIC **08** 01:10:53.1±2.6, 3472N×7312E, h35km, mb3.2/1, Error ellipse: s-maj=49.8km s-min=19.4km az=130.0*
*NNC **08** 01:10:56.6±28.0, 3509N×7387E, h80km±229km, mb2.9, mpv3.7, Error ellipse: s-maj=406.6km s-min=211.2km az=77.0*
ISC 08 01:10:55.1±0.5, 3483N±003×7322E±005, h59km±10km, n33, σ1§28/41, mb3.8/4, 2C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.17**	**178**	P	**Pn**	**01 11 14.3**	**-1.1**
CEP	**Cherat**	**1.48**	**228**	P	**Pn**	**01 11 17.3**	**-2.2**
CEP				S	**Sn**	01 11 39.0	+1.1
THW	**Thamme Wali**	**2.38**	**212**	P	**Pn**	**01 11 32.3**	**+0.6**
THN	**Thein Dam**	**3.17**	**138**	*e*P	**Pn**	**01 11 45.6**	**+3.1**
THN				*e*x	x	01 12 30.2	
SBDP	**Sheikh Budin**	**3.23**	**219**	P	**Pn**	**01 11 43.2**	**-0.2**
DLH	**Dalhousie**	**3.23**	**134**	*e*P	**Pn**	**01 11 45.0**	**+1.6**
DLH				*e*S	**Sn**	01 12 25.0	+4.3
SDNR	**Sundarnagar**	**4.57**	**136**	*e*x	x	01 12 13.6	
SDNR				*e*S	**Sn**	**01 12 58.4**	**+4.8**
KLP	**Kalpa**	**5.35**	**127**	*e*P	**Pn**	**01 12 14.6**	**+2.3**
KLP				*e*S	**Sn**	**01 13 17.4**	**+4.8**
KLP				AML	AML	01 13 51.4	
	comp=E,204nm,0.4s						
KLP				AML	AML	01 13 55.4	
	comp=N,99nm,0.6s						
KHET	**Khetri**	**7.09**	**161**	*e*P	**Pn**	**01 12 36.6**	**+0.4**
KHET				*e*S	**Sn**	**01 13 52.9**	**-2.4**
KHET				AML	AML	01 14 44.7	
	comp=E,10nm,0.6s						
KHET				AML	AML	01 14 45.8	
	comp=N,8.8nm,0.3s						
AYAN	**Aya Nagar**	**7.15**	**151**	*e*P	**Pn**	**01 12 39.6**	**+2.6**
AYAN				*e*S	**Sn**	**01 13 55.9**	**-0.9**
SONA	**Sohna**	**7.34**	**152**	*e*P	**Pn**	**01 12 41.9**	**+2.3**
SONA				*e*S	**Sn**	**01 14 01.7**	**+0.1**
SONA				AML	AML	01 14 28.8	
	comp=E,19nm,0.4s						
SONA				AML	AML	01 14 29.2	
	comp=N,11nm,0.3s						
AAK	**Ala-Archa**	**7.85**	**7**	Pn	**Pn**	**01 12 47.7**	**+1.0**
	comp=N,1.2nm,0.6s						
AAK				*e*Sn	**Sn**	**01 14 15.6**	**+1.5**
KK31	**Karatay Array**	**8.53**	**346**	↓P	**Pn**	**01 12 56.0**	**+0.1**
	comp=N,1.4nm,0.3s,baz=153,slow=11,SNR=6.1						
KK31				↑S	**Sn**	**01 14 29.6**	**-0.9**
	comp=N,1.7nm,0.4s						
KOLN	**Koldanda**	**11.32**	**126**	*e*P	**Pn**	**01 13 33.8**	**-0.3**
GKN	**Gorkha**	**11.88**	**122**	*e*P	**Pn**	**01 13 40.5**	**-1.3**
	comp=N,14nm,0.4s						
DMN	**Daman**	**12.45**	**122**	*e*P	**Pn**	**01 13 48.4**	**-1.1**
KKN	**Kakani**	**12.47**	**121**	*e*P	**Pn**	**01 13 48.7**	**-1.0**
PKI	**Pulchoki**	**12.69**	**121**	*e*P	**Pn**	**01 13 52.7**	**0.0**
GUN	**Gumba**	**12.82**	**119**	*e*P	**Pn**	**01 13 53.5**	**-1.0**
JIRN	**Jiri**	**13.19**	**119**	*e*P	**Pn**	**01 13 58.8**	**-0.8**
AB31	**Akbulak array**	**17.42**	**330**	↑↑P	**Pn**	**01 14 53.7**	**-0.4**
	comp=N,0.8nm,0.7s,baz=152,slow=11,SNR=6.6						
BVAR	**Borovoye Array**	**18.30**	**355**	P	**Pn**	**01 15 04.3**	**-0.5**
	comp=N,0.3nm,0.3s,baz=158,slow=9.2,SNR=5.0						
ZRNK	**Zerenda**	**18.36**	**352**	↓↓P	**Pn**	**01 15 03.1**	**-2.4**
	comp=N,1.4nm,0.7s						
CHKZ	**Chkalovo**	**18.93**	**355**	P	**Pn**	**01 15 11.2**	**-1.1**
	comp=N,0.9nm,0.6s						
AKTK	**Aktyubinsk**	**19.13**	**329**	P	**Pn**	**01 15 14.1**	**-0.6**
AKTO	**Aktyubinsk**	**19.13**	**329**	↓↓P	**Pn**	**01 15 14.0**	**-0.7**
	comp=N,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**19.13**	**329**	P	**Pn**	**01 15 14.1**	**-0.6**
	comp=N,0.5nm,0.3s,baz=218,slow=19,SNR=3.8						
ZAL	**Zalesovo**	**20.77**	**20**	P	**P**	**01 15 32.1**	**+1.0**
	comp=N,1.4nm,0.5s,baz=254,slow=8.5,SNR=4.1						
FINES	**FINESS Array B**	**39.87**	**327**	P	**P**	**01 18 24.1**	**+1.1**
	comp=N,1.2nm,0.8s,mb3.7,baz=113,slow=13,SNR=4.5						
ARCES	**ARCESS Array B**	**43.37**	**338**	P	**P**	**01 18 53.3**	**+1.7**
	comp=N,1.4nm,0.5s,mb3.9,baz=114,slow=7.9,SNR=11						
NOA	**NORSAR Array B**	**46.80**	**324**	P	**P**	**01 19 17.7**	**-1.1**
	comp=N,1.6nm,0.8s,mb4.0,baz=109,slow=8.3,SNR=3.4						
NOA	**NORSAR Array B**	**46.80**	**324**	P	**P**	**01 19 17.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**67.52**	**271**	P	**P**	**01 21 46.2**	**+1.2**
	comp=N,0.3nm,0.4s,mb3.7,baz=47,slow=5.7,SNR=12						

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*ISCJB **08** 01:22:31.9±0.8, 612S±01×363W±04, h10km, mb4.2/8, MS3.5/7, Error ellipse: s-maj=28.2km s-min=14.3km az=123.2*
*IDC **08** 01:22:32.5±1.0, 6114S×3626W, h0km, mb4.2/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.2/5, MS3.5/8, Ms1 3.5/8, ms1mx3.4/26, Error ellipse: s-maj=40.1km s-min=26.1km az=71.0*
*NEIC **08** 01:22:33.5±0.6, 6117S×3625W, h10km, mb4.4/6, Error ellipse: s-maj=25.4km s-min=12.8km az=60.0*
ISC 08 01:22:33.4±0.8, 612S±01×363W±04, h10km, n19, σ0§71/11, mb4.2/8, MS3.5/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.70**	**143**	LR	LR	01 31 22.3	
	comp=Z,92nm,20.6s,baz=208,slow=32						
SNAA	**Sanae**	**16.70**	**143**	*e*Pn	**Pn**	**01 26 26.5**	**-1.0**
	34nm,1.6s						
QSPA	**South Pole Qui**	**29.03**	**180**	*e*P	**P**	**01 28 38.6**	**+5.1**
	3.7nm,0.9s,mb4.1						
PLCA	**Paso Flores**	**29

LPAZ	La Paz	50.28	319	LR	LR	01 53 10.4	
	comp=Z,34nm,18.2s,MS3.4,baz=178,slow=37						
BOSA	Boshof	51.72	80	LR	LR	01 50 57.0	
	comp=Z,31nm,19.3s,MS3.4,baz=186,slow=33						
SAML	Samuel	55.81	327	eP	P	01 32 09.8	-0.9
	5.5nm,1.1s,mb4.5						
LSZ	Lusaka	64.52	75	P	P	01 33 10.4	0.0
	7.5nm,1.2s,mb4.6						
DBIC	Dimbokro	71.98	33	P	P	01 33 57.6	+0.4
	4.1nm,0.9s,mb4.3,baz=175,slow=12,SNR=2.9						
TORD	Torodi Ar. Bea	79.99	38	P	P	01 34 43.5	+0.7
	5.8nm,0.9s,mb4.5,baz=196,slow=6.2,SNR=20						
TORD				LR	LR	02 02 10.6	
	comp=Z,22nm,18.2s,MS3.5,baz=250,slow=30						
ZAL	Zalesovo	148.60	76	PKPbc	PKPbc	01 42 17.9	-2.6
	1.3nm,0.4s,baz=267,slow=4.2,SNR=6.9						
SONM	Songino Array	154.97	105	PKPab	PKPab	01 42 50.3	-0.3
	0.7nm,0.9s,baz=196,slow=2.5,SNR=4.0						

ISCJB ***08*** *01:30:53.5±2.2, 3284S±008×1775W±03, h33km, mb4.5/4, MS3.5/3, Error ellipse: s-maj=39.9km s-min=6.6km az=28.9*
IDC ***08*** *01:30:55.2±1.4, 3266S×178.17W, h0km, mb4.5/3, mb1 4.7/5, mb1mx4.3/14, mbtmp4.5/5, ML4.2/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=36.7km s-min=25.7km az=120.0*
NEIC ***08*** *01:30:58.8±1.0, 3276S×17794W, h35km, mb4.5/2, Error ellipse: s-maj=24.4km s-min=15.0km az=114.0*
ISC 08 01:30:55.9±2.1, 3279S±008×1775W±03, h35km, n24, σ0°77/16, mb4.5/4, MS3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.54	354	Pn	Pn	01 31 49.3	+1.0
	63nm,0.3s,baz=2.5,slow=21,SNR=5.1						
RAO				Sn	Sn	01 32 27.5	-1.5
	118nm,0.3s,baz=219,slow=24,SNR=4.4						
RAO				LR	LR	01 32 58.8	
	comp=Z,260nm,20.7s,baz=212,slow=36						
PUZ	Puketiti	6.30	212	ePN	Pn	01 32 27.3	+1.1
PUZ				eSN	Sn	01 33 36.3	-0.8
URZ	Urewera	7.00	217	Pn	Pn	01 32 35.5	-0.3
	1.9nm,0.3s,baz=199,slow=3.9,SNR=12						
URZ				Sn	Sn	01 33 53.8	-0.4
	3.0nm,0.3s,baz=146,slow=11,SNR=8.4						
DZM	Mont Dzumac	17.77	303	P	Pn	01 35 01.7	+1.3
	0.2nm,0.3s,baz=103,slow=18,SNR=4.7						
DZM				LR	LR	01 40 21.2	
	comp=Z,303nm,18.8s,baz=131,slow=33						
PPT	Papeete	29.36	66	eLR	LR	01 44 37.4	
	60nm,23.2s						
STKA	Stephens Creek	34.41	260	LR	LR	01 50 26.5	
	comp=Z,166nm,18.4s,MS3.8,baz=25,slow=35						
CTA	Charters Tower	34.65	282	eP	P	01 37 42.8	+1.0
	3.6nm,0.6s,mb4.5						
CTA	Charters Tower	34.65	282	P	P	01 37 42.8	+1.0
	5.3nm,0.8s,mb4.5,baz=127,slow=11,SNR=8.0						
CTA				LR	LR	01 48 02.9	
	comp=Z,76nm,19.9s,MS3.4,baz=49,slow=30						
RKT	Rikitea	38.58	87	eLR	LR	01 48 58.5	
	76nm,26.8s						
AS31	Alice Springs	43.44	269	eP	P	01 38 55.2	-0.1
ASAR	Alice Springs	43.44	269	P	P	01 38 55.4	+0.1
	4.9nm,0.8s,mb4.3,baz=107,slow=7.5,SNR=40						
ASPA	Alice Springs	43.44	269	eP	P	01 38 55.5	+0.1
WB2	Warramunga Arr	44.63	274	eP	P	01 39 04.5	-0.4
WRA	Warramunga Arr	44.64	274	P	P	01 39 04.8	-0.2
	7.6nm,0.6s,mb4.7,baz=114,slow=7.6,SNR=28						
FITZ	Fitzroy Crossi	52.80	271	eP	P	01 40 07.8	+0.2
	6.5nm,0.9s,mb4.6						
GUMO	Guam	58.47	316	LR	LR	02 01 56.8	
	comp=Z,25nm,20.5s,MS3.3,baz=188,slow=32						
GUMO	Guam	58.47	316	P	P	01 40 47.3	-1.0
	132nm,0.6s						
JOF	Joensuu	144.78	338	epkp	PKPdf	01 50 29.5	+0.5
KAF	Kangasniemi	146.93	340	epkp	PKPdf	01 50 35.8	+3.2
	baz=42,slow=2.8						
FINES	FINESS Array B	147.52	339	PKPbc	PKPbc	01 50 39.0	+2.7
	5.4nm,0.7s,baz=56,slow=4.2,SNR=31						
FINES	FINESS Array B	147.52	339	PKPbc	PKPbc	01 50 39.0	+2.7
AKASG	Malin Array Be	153.42	320	PKPbc	PKPbc	01 50 53.4	+3.0
	0.7nm,0.5s,baz=49,slow=2.4,SNR=8.8						
BRTR	Keskin Array B	154.03	294	PKPbc	PKPbc	01 50 55.2	+3.5
	1.2nm,0.6s,baz=133,slow=3.4,SNR=10						
TORD	Torodi Ar. Bea	160.44	178	PKPab	PKPab	01 51 39.5	+6.6
	0.5nm,0.7s,baz=165,slow=2.8,SNR=5.0						

ISCJB ***08*** *01:37:01.0±3.4, 326S±02×1779W±06, h33km, mb3.9/2, Error ellipse: s-maj=71.8km s-min=7.6km az=34.5*
IDC ***08*** *01:37:01.2±2.3, 3241S×17826W, h0km, mb4.0/2, mb1 4.2/4, mb1mx4.0/14, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=60.8km s-min=25.5km az=117.0*
NEIC ***08*** *01:37:05.5±1.5, 3249S×17821W, h35km, Error ellipse: s-maj=41.4km s-min=14.0km az=113.0*
ISC 08 01:37:03.1±3.4, 326S±02×1778W±06, h35km, n7, σ0°50/7, mb3.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.39	357	Pn	Pn	01 37 52.7	0.0
	46nm,0.3s,baz=136,slow=21,SNR=2.8						
RAO				Sn	Sn	01 38 31.6	-0.1
	34nm,0.3s,baz=49,slow=23,SNR=2.5						
URZ	Urewera	7.02	216	Pn	Pn	01 38 43.2	+0.6
	1.4nm,0.3s,baz=189,slow=19,SNR=6.6						
URZ				Sn	Sn	01 40 00.5	-0.6
	2.0nm,0.3s,baz=127,slow=22,SNR=9.2						
AS31	Alice Springs	43.28	269	P	P	01 44 59.8	-0.5
ASAR	Alice Springs	43.28	269	P	P	01 45 01.2	+0.9
	1.4nm,0.8s,mb3.7,baz=111,slow=7.5,SNR=8.5						
WRA	Warramunga Arr	44.47	274	P	P	01 45 10.5	+0.7
	1.6nm,0.4s,mb4.1,baz=113,slow=8.0,SNR=12						
FINES	FINESS Array B	147.33	339	PKPbc	PKPbc	01 56 44.4	+2.5
	2.0nm,0.8s,baz=60,slow=3.7,SNR=6.7						
BRTR	Keskin Array B	153.82	295	PKPbc	PKPbc	01 57 01.1	+3.6
	0.3nm,0.4s,baz=64,slow=3.4,SNR=4.2						

IDC ***08*** *01:42:38.4±4.1, 2489S×17993W, h473km±32km, mb3.2/3, mb1 3.3/5, mb1mx3.2/13, mbtmp4.2/5, Error ellipse: s-maj=47.0km s-min=37.0km az=67.0*
ISCJB ***08*** *01:42:40.5±1.6, 249S±01×1799W±02, h532km±16km, mb3.9/7, Error ellipse: s-maj=34.8km s-min=14.8km az=117.5*
NEIC ***08*** *01:42:42.9±1.4, 2517S×17985E, h524km±11km, mb4.2/5, Error ellipse: s-maj=31.0km s-min=12.8km az=221.0*
ISC 08 01:42:42.7±1.6, 252S±01×1799E±02, h526km±14km, n14, σ0°82/14, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.50	155	P	P	01 44 07.6	+0.7
	83nm,0.3s,baz=243,slow=22,SNR=4.0						
DZM	Mont Dzumac	12.75	281	P	P	01 45 27.9	-1.1
	0.2nm,0.3s,baz=102,slow=20,SNR=3.6						
URZ	Urewera	13.28	190	P	P	01 45 33.6	-1.0
	2.1nm,0.3s,baz=330,slow=3.4,SNR=13						
URZ				S	S	01 47 56.5	+0.3
	1.4nm,0.3s,baz=79,slow=21,SNR=13						
CTA	Charters Tower	31.45	272	eP	P	01 48 21.7	+0.8
	3.5nm,0.3s,mb4.4						
STKA	Stephens Creek	34.22	250	P	P	01 48 45.8	+1.5
	1.1nm,0.6s,mb3.6,baz=78,slow=9.3,SNR=2.2						
STKA	Stephens Creek	34.22	250	P	P	01 48 45.0	+0.7
ASAR	Alice Springs	41.79	262	P	P	01 49 46.5	+0.5
	0.7nm,0.3s,mb3.6,baz=90,slow=7.9,SNR=16						
WB2	Warramunga Arr	42.27	268	eP	P	01 49 49.7	-0.1
WRA	Warramunga Arr	42.28	268	P	P	01 49 49.9	0.0
	2.0nm,0.3s,mb4.1,baz=100,slow=6.7,SNR=32						
WRA				ScP	ScP	01 54 38.5	+6.6
	0.3nm,0.7s,baz=102,slow=3.7,SNR=4.6						
KAKA	Kakadu	46.38	276	eP	P	01 50 21.2	-0.3
	5.0nm,0.6s,mb4.2						
VNDA	Vanda	53.13	185	eP	P	01 51 09.8	-1.3
	1.2nm,0.6s,mb3.4						
VNDA				e		01 51 27.8	
QSPA	South Pole Qui	64.93	180	eP	P	01 52 31.4	+1.1
	9.6nm,0.1s						
MAW	Mawson	76.56	201	eP	P	01 53 38.1	-0.7
	6.5nm,1.3s,mb3.9						
AKASG	Malin Array Be	145.99	326	PKPbc	PKPbc	02 01 23.2	-0.3
	0.4nm,0.4s,baz=44,slow=2.9,SNR=4.6						

IDC 08 01:50:00.7±3.1, 3257S×17829W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/13, mbtmp3.6/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=71.6km s-min=36.4km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.32	6	LR	LR	01 51 32.5	
	comp=Z,510nm,18.2s,baz=249,slow=28						
URZ	Urewera	6.81	212	Pn	Pn	01 51 41.6	-0.2
	1.0nm,0.3s,baz=324,slow=16,SNR=8.5						
URZ				Sn	Sn	01 52 58.6	-1.5
	1.1nm,0.3s,baz=264,slow=21,SNR=9.8						
ASAR	Alice Springs	42.79	269	P	P	01 58 00.6	+0.5
	0.3nm,0.4s,baz=108,slow=7.9,SNR=8.5						
WRA	Warramunga Arr	43.98	275	P	P	01 58 09.8	+0.2
	0.5nm,0.4s,baz=113,slow=8.0,SNR=8.7						
FINES	FINESS Array B	147.08	339	PKPbc	PKPbc	02 09 43.8	-1.7
	1.4nm,0.7s,baz=41,slow=4.6,SNR=5.7						

PRU ***08*** *02:16:22.1, 4285N×1755E, h0km*
CSEM ***08*** *02:16:22.9±0.1, 4306N×1765E, h2km, ML3.5, Error ellipse: s-maj=1.4km s-min=1.0km az=40.0*
ISCJB ***08*** *02:16:23.8±0.2, 4301N±002×1764E±002, h10km, Error ellipse: s-maj=2.6km s-min=1.7km az=77.5*
NEIC ***08*** *02:16:23.7, 4302N×1767E, h8km, ML2.9(BUC), ML3.2(ROM), ML3.5(PDG), After PDG.*
PDG ***08*** *02:16:23.7±0.2, 4302N×1767E, h8km*
THE ***08*** *02:16:25.5, 4291N×1749E, h10km*
ROM ***08*** *02:16:26.1±0.5, 4293N×1731E, h12km, Md3.1/5, Ml3.2/10, Error ellipse: s-maj=9.2km s-min=6.6km az=122.0*
ISC 08 02:16:25.1±0.2, 4297N±002×1762E±002, h10km, n88, σ1°12/137, 17C-22D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.12	149	i Pg	Pg	02 16 26.6	-1.3
STON				i Sg	Sg	02 16 29.2	-0.8
STON	Ston	0.12	149	i Pg	Pg	02 16 26.6	-1.3
STON				i Sg	Sg	02 16 29.1	-0.8
BRY	Bratogost	0.69	96	↓iPg	Pg	02 16 35.9	-2.4
BRY				eSg	Sg	02 16 46.0	-1.2
BRY	Bratogost	0.69	96	↓iPg	Pg	02 16 35.9	-2.4
BRY				eSg	Sg	02 16 46.0	-1.3
HCY	Herceg Novi	0.84	129	↓iPg	Pg	02 16 39.2	-2.0
HCY				eSg	Sg	02 16 52.5	+0.4
HCY	Herceg Novi	0.84	129	↓iPg	Pg	02 16 39.2	-2.0
HCY				eSg	Sg	02 16 52.5	+0.4
UPM	Unac-Piva	0.97	76	↓iPg	Pg	02 16 40.4	-3.5
UPM				eSg	Sg	02 16 55.9	-0.7
UPM	Unac-Piva	0.97	76	↓iPg	Pg	02 16 40.3	-3.5
UPM				eSg	Sg	02 16 55.9	-0.6
NKY	Niksic	1.03	98	↓iPg	Pg	02 16 41.9	-3.0
NKY				eSg	Sg	02 16 58.0	-0.2
BUM	Brajici-Budva	1.16	125	↑iPg	Pg	02 16 45.7	-1.7
BUM				eSg	Sg	02 17 03.7	+1.2
TTG	Podgorica	1.33	114	↓iPg	Pg	02 16 47.7	-2.9
TTG				eSg	Sg	02 17 08.8	+1.0
PLE	Pljevlja	1.35	74	↑iPg	Pg	02 16 48.2	-2.7
PLE				eSg	Sg	02 17 07.9	-0.6
PLE	Pljevlja	1.35	74	↑iPg	Pg	02 16 48.2	-2.8
PLE				eSg	Sg	02 17 07.9	-0.6
ULC	Ulcinj	1.57	129	↑iPn	Pn	02 16 52.8	-0.2
ULC				eSn	Sg	02 17 15.9	+0.2
IVA	Berane	1.68	93	↑iPn	Pn	02 16 54.1	-0.4
IVA				eSn	Sn	02 17 17.8	+1.8
FGMS	Monte Sant'Ang	1.77	225	Pn	Pn	02 16 55.8	+0.1
	219nm,0.6s						
PVY	Plav	1.78	101	↓iPn	Pn	02 16 55.4	-0.5
PVY				eSn	Sn	02 17 20.2	+1.8
MSAG	Monte S. Angel	1.79	226	Pn	Pn	02 16 56.6	+0.7
	390nm,0.8s						
SGRT	San Giovanni R	1.85	229	Pn	Pn	02 16 58.1	+1.3
	415nm,1.1s						
RGNG	Rignano Grg	1.99	230	Pn	Pn	02 16 58.5	-0.2
DIVS	Divcibare	2.06	56	i Pn	Pn	02 16 59.5	-0.2
DIVS				Sn	Sn	02 17 25.6	+0.1
DIVS	Divcibare	2.06	56	ePn	Pn	02 16 59.5	-0.3
DIVS				eSn	Sb	02 17 28.6	+0.4
DIVS	Divcibare	2.06	56	ePn	Pn	02 16 59.5	-0.2
DIVS				Sn	Sn	02 17 25.6	+0.1
CDT	Castel del Mon	2.14	208	ePn	Pn	02 17 03.3	+2.5
FG2	Serracapriola	2.16	238	Pn	Pn	02 16 59.8	-1.3
	635nm,1.1s						
NOCI	Noci	2.22	191	Pn	Pb	02 17 04.9	-0.4
	292nm,0.7s						
TIR	Tirane	2.33	133	Pn	Pb	02 17 06.7	-0.5
	217nm,0.8s						
TIR	Tirane	2.33	133	ePn	Pn	02 17 03.3	-0.1
TIR				eSn	Sn	02 17 32.5	+0.4
FG5	Orsara di Pugl	2.43	227	Pn	Pn	02 17 04.6	-0.2
	61nm,0.5s						
GRUS	Gruza	2.44	67	i pn	Pn	02 17 05.8	+0.9
GRUS				Sn	Sn	02 17 35.7	+1.0
SGTA	Sant Agata di	2.49	223	Pn	Pn	02 17 05.5	-0.1
NVLJ	Novalja	2.55	310	i Pn	Pn	02 17 06.3	-0.1
NVLJ				i Sn	Sn	02 17 37.7	+0.2
NVLJ	Novalja	2.55	310	i Pn	Pn	02 17 06.3	-0.1
NVLJ				i Sn	Sn	02 17 37.6	+0.2
LCI	Lecce	2.66	172	Pn	Pn	02 17 11.6	+3.6
	49nm,0.4s						
MCRV	Calabrutti - M	2.85	221	Pn	Pn	02 17 09.5	-1.1
	78nm,0.6s						
SGG	Gregorio Mates	2.88	238	Pn	Pn	02 17 10.9	-0.1
	82nm,0.9s						
RHK3	Tenkes	2.95	9	↓iP	Pn	02 17 11.1	-0.9
VAGA	Valle Agricola	2.96	239	Pn	Pn	02 17 12.9	+0.9
	124nm,1.0s						
OHR	Ohrid	3.01	127	ePn	Pn	02 17 13.3	+0.5
OHR				eSn	Sn	02 17 49.0	+0.1
OHR	Ohrid	3.01	127	ePn	Pn	02 17 16.1	+3.3
OHR				eSg	Sg	02 18 03.4	+1.6
OHR	Ohrid	3.01	127	ePn	Pn	02 17 13.3	+0.5
OHR				eSn	Sn	02 17 49.0	0.0
OHR				eSg	Sg	02 18 03.4	+1.5
BOJS	Bojanci	3.05	327	i Pn	Pn	02 17 13.4	+0.1
BOJS				i Sn	Sn	02 17 52.6	+2.8
FAGN	Fagnano	3.06	258	Pn	Pn	02 17 14.1	+0.6
	82nm,0.5s						
VVLD	Villa Vallelon	3.15	251	Pn	Pn	02 17 13.2	-1.6
	108nm,0.8s						
PKSM	Moragy	3.32	12	↑iP	Pn	02 17 15.9	-1.2
PKSM	Moragy	3.32	12	↑iP	Pn	02 17 15.8	-1.2
PKSM	Moragy	3.32	12	eP	Pn	02 17 15.8	-1.3
BIA	Bitola	3.38	124	ePn	Pn	02 17 19.2	+1.3
BIA				eSn	Sn	02 17 57.9	-0.2
BIA	Bitola	3.38	124	ePn	Pn	02 17 20.6	+2.7
LNSS	Leonessa	3.39	265	Pn	Pn	02 17 17.6	-0.4
	126nm,1.0s						
DOBS	Dobrina	3.53	335	i Pn	Pn	02 17 19.8	-0.1
DOBS				eSn	Sn	02 18 02.6	+1.0
FNA	Florina	3.56	127	ePn	Pn	02 17 20.9	+0.6
FNA				eSn	Sn	02 18 03.1	+0.6
FSSB	Fossombrone	3.60	283	Pn	Pn	02 17 20.0	-0.9
	14nm,0.4s						
TIP	Timpagrande	3.85	190	ePn	Pn	02 17 23.6	-0.7
TIP				ePg	Pg	02 17 36.6	-2.1
BZS	Buzias	3.90	46	↓iP	Pn	02 17 24.2	-0.9
BZS	Buzias	3.90	46	↓iP	Pn	02 17 24.2	-0.9
VAY	Valandovo	4.04	112	ePn	Pn	02 17 27.9	+1.0
VAY				eSn	Sn	02 18 15.0	+0.8
VAY	Valandovo	4.04	112	ePn	Pn	02 17 28.6	+1.7
VOY	Vojsko	4.05	320	ePn	Pn	02 17 28.2	+1.0
VOY				e		02 17 30.8	
VOY				eSn	Sn	02 18 15.8	+1.1
PERS	Pernice	4.07	335	i Pn	Pn	02 17 26.9	-0.5
PERS				i Sn	Sn	02 18 14.8	-0.3
VTS	Vitosha	4.13	93	ePn	Pn	02 17 29.6	+1.4
VTS				eSn	Sn	02 18 17.2	+0.6
VTS	Vitosha	4.13	93	↓iP	Pb	02 17 40.2	+2.3
VTS	Vitosha	4.13	93	↓iP	Pb	02 17 40.2	+2.3
OBKA	Obir	4.16	329	↑iPn	Pn	02 17 28.1	-0.4
OBKA				i Sn	Sn	02 18 19.8	+2.6
OBKA	Obir	4.16	329	Pn	Pn	02 17 28.1	-0.4
OBKA				Sn	Sn	02 18 19.8	+2.6
ROBS	Robic	4.39	320	i Pn	Pn	02 17 30.5	-1.3
ROBS				i Sn	Sn	02 18 24.0	+1.0
PKSG		4.45	7	↓iP	Pn	02 17 32.0	-0.6
ARSA	Arzberg	4.53	342	↓iSn	Sn	02 18 28.7	+2.4
ARSA	Arzberg	4.53	342	↑iPn	Pn	02 17 33.3	-0.3
ARSA				↑iSn	Sn	02 18 25.9	-0.4
ARSA	Arzberg	4.53	342	↑iPn	Pn	02 17 33.3	-0.3
ARSA				i Sn	Sn	02 18 28.7	+2.4
ARSA	Arzberg	4.53	342	Pn	Pn	02 17 33.3	-0.3
ARSA				Sn	Sn	02 18 28.7	+2.4
PTCC	Patocco-Chiusa	4.58	320	Pn	Pn	02 17 35.8	+1.4
	26nm,1.0s						
BUD	Budapest	4.62	12	↑ePn	Pn	02 17 32.1	-2.8
MMB	Musomiste	4.74	105	ePn	Pn	02 17 38.3	+1.7
MMB				eSn	Sn	02 18 31.6	0.0
FVI	Forni Avoltri	5.00	318	Pn	Pn	02 17 41.6	+1.5
	3.0nm,0.4s						
CONA	Conrad Observa	5.11	347	↑iPn	Pn	02 17 41.3	-0.3
CONA				↑iSn	Sn	02 18 40.8	+0.2
PSZ	Piszkesteto	5.20	17	↓ePn	Pn	02 17 41.9	-1.0
PSZ	Piszkesteto	5.20	17	↓iP	Pn	02 17 41.9	-1.0
PSZ	Piszkesteto	5.20	17	↓iP	Pn	02 17 41.9	-1.0
DRGR		5.26	42	↓iP	Pn	02 17 42.6	-1.1
DRGR		5.26	42	↓iP	Pn	02 17 42.6	-1.1
MOA	MoIn	5.42	335	↑iPn	Pn	02 17 46.2	+0.4
MOA				↑iSn	Sn	02 18 48.4	+0.1
MOA	MoIn	5.42	335	Pn	Pn	02 17 46.2	+0.3
VYHS	Vyhne	5.59	8	ePN	Pn	02 17 47.7	-0.5
VYHS				eSN	Sn	02 18 52.9	+0.4
KECS	Kecovo	5.87	19	ePN	Pn	02 17 51.7	-0.3
KECS				eSN	Sn	02 18 58.6	-0.7
WTTA	Wattenberg	6.03	317	↓iPn	Pn	02 17 53.7	-0.5
GEC2	GERESS Array S	6.48	336	ePn	Pn	02 18 01.5	+1.1
GEC2				eSn	Sn	02 19 14.0	-0.4
KHC	Kasperske Hory	6.77	337	ePN	Pn	02 18 04.1	-0.3
KHC				eSN	Sn	02 19 19.2	-2.4

NEIC ***08*** *02:31:40.6, 1961N×6349W, h13km, MD3.7(RSPR), After RSPR.*
RSPR ***08*** *02:31:40.6, 1961N×6349W, h13km±22km, MD3.7/3, MD3.7/3*
TRN 08 02:31:37.1, 1943N×6356W, h10km, 8C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	2.31	235	↑eP	Pn	02 32 17.6	+2.4
MTP				eS	Sn	02 32 47.1	+3.5
CBYP	Canovanas	2.46	242	↓eP	Pn	02 32 19.2	+1.9
CBYP				eS	Sn	02 32 50.2	+2.8
HUMP	Col San Antoni	2.52	240	↑eP	Pn	02 32 20.3	+2.2
HUMP				eS	Sn	02 32 51.7	+2.8
CELP	Cerrillos	3.17	245	↑eP	Pn	02 32 29.1	+2.2
LSP	Las Mesas	3.57	250	↑eP	Pn	02 32 34.9	+2.4
LSP				eS	Sn	02 33 17.3	+2.6
LSP	Las Mesas	3.57	250	↑eP	Pn	02 32 35.9	+3.4
LSP	Las Mesas	3.57	250	↑eP	Pn	02 32 34.9	+2.4
LSP				eS	Sn	02 33 17.3	+2.6
LSP	Las Mesas	3.57	250	↑eP	Pn	02 32 34.9	+2.4
LSP				eS	Sn	02 33 17.3	+2.6
CRPR	Cabo Rojo, PR	3.65	248	↑eP	Pn	02 32 36.3	+2.7
CRPR				eS	Sn	02 33 19.5	+2.7

ISCJB ***08*** *02:48:25.8±0.4, 4690N±001×12155W±002, h10km±2km, mb4.6/72, MS3.8/8, Error ellipse: s-maj=2.0km s-min=1.9km az=76.0*
BJI ***08*** *02:48:25.0, 4693N×12247W, h3km, mB5.3, mb5.0, Ms4.9, Msz4.6*
NEIC ***08*** *02:48:26.6, 4685N×12160W, h4km, mb4.7/61, MD4.5(SEA), MW4.3(SLM), After SEA.*
NEIC Felt [IV] at Enumclaw, Naches and Packwood; [III] at Ashford, Auburn, Black Diamond, Buckley, Carnation, Cle Elum, Ellensburg, Fall City, Issaquah, Kingston, North Bend, Puyallup, Randle, Selah, Skykomish, Snoqualmie, Sultan and Wenatchee; [II] at Chelan, Eatonville, Everett, Kent, Maple Valley, Monroe, Olympia, Redmond, Renton and Stanwood. Felt as far north as Seattle, as far east as Kennewick and as far south as Longview.
MOS ***08*** *02:48:26.1±0.8, 4698N×12145W, h10km, mb5.0/43, Error ellipse: s-maj=8.9km s-min=5.1km az=85.8*
PNSN ***08*** *02:48:26.6, 4685N×12160W, h4km, MD4.5, Fault plane solution: NP1:ϕs120.00000°, δ65.00000°, NP2: ϕs277.00000°, δ27.00000°, Principal axes: T Plg68.0000°, Azm50.0000°; P Plg19.0000°, Azm203.0000°;*
IDC ***08*** *02:48:27.7±2.2, 4693N×12147W, h11km±14km, mb4.3/19, mb1 4.5/24, mb1mx4.4/32, mbtmp4.4/24, ML4.0/6, MS3.6/12, Ms1 3.6/12, ms1mx3.3/33 Error ellipse: s-maj=9.6km s-min=8.1km az=110.0*
SZGRF ***08*** *02:48:36.3, 4747N×12104W, h33km, mb4.7, Washington, United States*
ISC 08 02:48:26.2±0.3, 4690N±001×12158W±002, h5km±2km, n360, σ0°93/410, mb4.6/73, MS3.8/8, 66C-34D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E05A	Randle	0.36	200	P	Pg	02 48 32.1	-1.1
	baz=0.3,SNR=1000						
E05A				↑S	Sg	02 48 36.9	-1.0
	baz=0.3						
D05A	Enumclaw	0.40	316	↓P	Pg	02 48 34.4	+0.5
	baz=0.4,SNR=1000						
D05A				↑S	Sg	02 48 40.8	+1.7
	baz=0.4						
E06A	Yakima	0.55	131	↓P	Pg	02 48 36.3	-0.5
	baz=0.5,SNR=1000						
E06A				↑S	Sg	02 48 43.8	-0.1
	baz=0.5						
D06A	Cle Elum	0.58	60	P	Pg	02 48 38.1	+0.7
	baz=0.6,SNR=1000						
D06A				↑S	Sg	02 48 46.8	+1.8
	baz=0.6						
C05A	Tolt Reservoir	0.80	355	P	Pg	02 48 41.4	-0.1
	baz=0.8,SNR=

baz=1.5
HOOD **Mount Hood Mea** 1.58 182 *e*Pn Pn 02 48 53.6 -1.3
B06A **Marblemount** 1.62 2 P Pn 02 48 55.5 0.0
baz=1.7,SNR=315
B06A ⇓S Sn 02 49 17.3 +0.6
baz=1.7
G05A **Wamic** 1.67 174 ⇑P Pn 02 48 55.4 -0.8
baz=1.6,SNR=1000
F03A **Seaside** 1.68 235 P Pn 02 48 55.1 -1.2
baz=1.6,SNR=683
F03A ⇑S Sn 02 49 17.3 -0.9
baz=1.6
B04A **Port Angeles** 1.74 312 P Pn 02 48 57.0 -0.1
baz=1.8,SNR=229
B04A ⇑S Sn 02 49 20.2 +0.4
baz=1.8
G06A **Carlson Farm,** 1.79 158 ⇑P Pn 02 48 57.2 -0.7
baz=1.7,SNR=876
G06A ⇓S Sn 02 49 21.0 0.0
baz=1.7
G04A **Mulino** 1.81 201 ⇓P Pn 02 48 56.9 -1.1
baz=1.8,SNR=44
G04A ⇑S Sn 02 49 21.4 +0.1
baz=1.8
D08A **Wollman Farm,** 1.83 84 ⇑P Pn 02 48 57.8 -0.5
baz=1.8,SNR=218
D08A ⇑S Sn 02 49 21.6 -0.3
baz=1.8
B07A **Winthrop** 1.85 32 ⇑P Pn 02 48 59.2 +0.6
baz=1.9,SNR=978
C08A **Higginbotham F** 1.94 62 ⇑P Pn 02 48 59.6 -0.2
baz=2.0,SNR=708
C08A ⇑S Sn 02 49 25.0 +0.3
baz=2.0
A04A **Legoe Bay, Lum** 1.97 338 ⇑P Pn 02 49 00.9 +0.6
baz=2.0,SNR=179
A04A ⇓S Sn 02 49 26.9 +1.5
baz=2.0
G03A **Yamhill** 1.98 217 ⇑P Pn 02 48 59.8 -0.6
baz=1.9,SNR=702
G03A ⇓S Sn 02 49 25.5 -0.1
baz=1.9
G03A ⇓S Sn 02 49 25.6 0.0
baz=1.9
G07A **Ruggs Ranch, H** 2.11 140 P Pn 02 49 01.3 -0.9
baz=2.1,SNR=796
G07A ⇓S Sn 02 49 28.8 0.0
baz=2.1
A05A **Maple Falls** 2.13 351 ⇑P Pn 02 49 03.8 +1.4
baz=2.2,SNR=147
A05A ⇓S Sn 02 49 31.3 +2.1
baz=2.2
PGC **Sidney** 2.16 325 *e*Pn Pn 02 49 03.1 +0.2
PGC *e*Sg Sg 02 49 29.4 -6.0
F08A **Pendleton** 2.24 119 ⇑P Pn 02 49 03.9 0.0
baz=2.2,SNR=425
D09A **Jones Farm, Ri** 2.25 85 P Pn 02 49 03.6 -0.5
baz=2.3,SNR=56
D09A ⇑S Sn 02 49 32.0 -0.2
baz=2.3
H04A **Detroit Lake** 2.26 191 ⇑P Pn 02 49 04.2 -0.1
baz=2.2,SNR=1000
H05A **Madras** 2.27 174 ⇓P Pn 02 49 04.1 -0.2
baz=2.2,SNR=132
C03A **Quillayute Air** 2.28 298 ⇑P Pn 02 49 05.0 +0.4
baz=2.3,SNR=12
H06A **Lindquist Farm** 2.34 158 ⇑P Pn 02 49 04.7 -0.6
baz=2.3,SNR=589
E09A **Wood Farm, Sta** 2.40 98 ⇓P Pn 02 49 05.7 -0.4
baz=2.4,SNR=149
E09A ⇓S Sn 02 49 36.0 +0.1
baz=2.4
C09A **Chrisman Ranch** 2.42 67 ⇓P Pn 02 49 06.3 -0.2
baz=2.4
C09A ⇓S Sn 02 49 36.7 +0.2
baz=2.4
G08A **Pilot Rock** 2.44 130 ⇑P Pn 02 49 05.6 -1.1
baz=2.4,SNR=478
H03A **Soap Creek Ran** 2.53 209 ⇓P Pn 02 49 08.0 +0.1
baz=2.5,SNR=664
COR **Corvallis** 2.61 208 *e*Pn Pn 02 49 09.3 +0.3
COR *e*Sn Sn 02 49 45.8 +4.6
H07A **Lands Inn, Kim** 2.71 148 P Pn 02 49 10.1 -0.3
baz=2.7,SNR=178
I05A **Bend** 2.75 175 ⇑P Pn 02 49 11.0 0.0
baz=2.7,SNR=12
B09A **Rice** 2.78 55 P Pn 02 49 11.3 -0.1
baz=2.8,SNR=686
B09A ⇓S Sn 02 49 44.5 -0.8
baz=2.8
H02A **Toledo** 2.79 218 ⇑P Pn 02 49 12.2 +0.6
baz=2.7,SNR=46
F09A **S2 Ranch, Elgi** 2.81 114 ⇑P Pn 02 49 11.5 -0.3
baz=2.8,SNR=142
A09A **Danville** 2.89 43 ⇓P Pn 02 49 13.2 +0.2
baz=2.9,SNR=164
C10A **Spilker Farm,** 3.05 71 ⇑P Pn 02 49 14.6 -0.5
baz=3.1,SNR=62
C10A ⇑S Sn 02 49 52.0 0.0
baz=3.1
I06A **Prineville** 3.11 161 ⇑P Pn 02 49 15.5 -0.5
baz=3.1,SNR=32
H08A **Prairie City** 3.14 138 ⇑P Pn 02 49 15.9 -0.5
baz=3.1,SNR=398
F10A **Beach Ranch, E** 3.15 106 P Pn 02 49 16.9 +0.4
baz=3.1,SNR=253
I03A **Eugene** 3.16 203 ⇑P Pn 02 49 17.7 +1.0
baz=3.1,SNR=79
I07A **Izee** 3.18 152 ⇑P Pn 02 49 16.8 0.0
baz=3.1,SNR=151
B10A **Chitwood Farm,** 3.26 63 ⇑P Pn 02 49 17.7 -0.4
baz=3.3,SNR=33
B10A ⇓S Sn 02 49 57.7 +0.4
baz=3.3
I02A **Mapleton** 3.30 209 ⇑P Pn 02 49 19.5 +0.9
baz=3.2,SNR=147
NEW **Newport** 3.31 64 Pn Pn 02 49 18.2 -0.5
29nm,0.3s,baz=228,slow=12,SNR=255
NEW Sn Sn 02 49 56.6 -1.9
109nm,0.3s,baz=60,slow=19,SNR=9.7
NEW Lg 02 50 09.1
399nm,0.3s,baz=136,slow=17,SNR=11
NEW **Newport** 3.31 64 *e*Pn Pn 02 49 17.9 -0.8
NEW *e*Pg Pg 02 49 28.6 -1.1
NEW *e*Sg Sg 02 50 08.1 -4.6
A10A **Northport** 3.41 51 ⇑P Pn 02 49 20.0 -0.1
baz=3.4,SNR=31
A10A ⇓S Sn 02 50 01.2 +0.2
baz=3.4
H09A **Durkee** 3.54 128 ⇑P Pn 02 49 21.8 -0.1
baz=3.5,SNR=125
BMO **Blue Mountains** 3.62 123 *e*Pn Pn 02 49 22.6 -0.4
BMO *e*Sg Sg 02 50 21.5 -1.1
J05A **Fort Rock** 3.62 176 ⇑P Pn 02 49 23.7 +0.7
baz=3.6,SNR=14
I08A **Drewsey** 3.67 144 ⇑P Pn 02 49 23.8 +0.2
baz=3.6,SNR=64
J06A **Christmas Vall** 3.79 164 ⇑P Pn 02 49 24.9 -0.4
baz=3.7,SNR=19
J02A **Umpqua** 3.81 202 ⇑P Pn 02 49 26.2 +0.7
baz=3.8,SNR=29
J07A **Hines** 3.88 155 ⇑P Pn 02 49 26.7 +0.2
baz=3.8
I09A **Lost Marbles R** 3.99 136 ⇓P Pn 02 49 27.5 -0.5
baz=4.0,SNR=41
J08A **Circle Bar Ran** 4.17 147 ⇓P Pn 02 49 30.3 -0.3
baz=4.1,SNR=21
K05A **Summer Lake** 4.20 173 ⇑P Pn 02 49 31.5 +0.5
baz=4.2
K06A **Valley Falls** 4.21 167 ⇑P Pn 02 49 31.6 +0.6
baz=4.2
C12A **Trout Creek** 4.23 77 ⇑P Pn 02 49 30.6 -0.8
baz=4.2
B12A **Libby** 4.34 67 ⇑P Pn 02 49 32.6 -0.3
baz=4.4
K02A **Glendale** 4.35 199 ⇑P Pn 02 49 33.4 +0.4
baz=4.3
J09A **Fry Pan Ranch,** 4.47 141 ⇓P Pn 02 49 34.3 -0.3
baz=4.4
A12A **Yaak River Ran** 4.48 61 ⇓P Pn 02 49 34.9 +0.1
baz=4.5
KEBM **Edson Butte** 4.48 207 *e*Pn Pn 02 49 34.4 -0.4
KEBM *e*Sg Sg 02 50 56.4 +6.3
K07A **Rock Creek Ran** 4.53 158 ⇑P Pn 02 49 35.6 +0.2
baz=4.5
BSMT **Bassoo Peak** 4.71 76 *e*Pn Pn 02 49 37.5 -0.5
K08A **Mann Creek Ran** 4.72 151 ⇓P Pn 02 49 38.2 +0.2
baz=4.7

C13A **Hot Springs** 4.83 78 ⇑P Pn 02 49 39.0 -0.6
baz=4.8
L05A **Lakeview** 4.88 173 ⇓P Pn 02 49 40.7 +0.4
baz=4.8
WVOR **Wild Horse Val** 4.94 154 *e*Pn Pn 02 49 41.7 +0.6
WVOR *e*Sg Sg 02 51 10.2 +5.5
L02A **Cave Junction** 4.96 198 ⇑P Pn 02 49 41.7 +0.4
baz=4.9
K09A **Rome** 5.02 145 ⇑P Pn 02 49 42.3 +0.1
baz=5.0
B13A **Whitefish** 5.03 70 ⇑P Pn 02 49 41.7 -0.6
baz=5.0
KBO **Bosley Butte** 5.05 203 *e*Pb Pb 02 49 55.4 +0.3
MOD **Modoc** 5.08 169 *e*Pn Pn 02 49 46.1 +3.0
YBH **Yreka Blue Hor** 5.23 189 Pn Pn 02 49 47.3 +2.2
4.4nm,0.3s,baz=15,slow=11,SNR=56
YBH Lg 02 51 06.8
1.0nm,0.3s,baz=126,slow=17,SNR=3.6
YBH LR LR 02 52 19.8
comp=Z,146nm,20.0s,baz=9.4,slow=44
MSO **Missoula** 5.24 88 *e*Pn Pn 02 49 44.5 -0.8
WALA **Waterton Lakes** 5.58 64 *e*Pn Pn 02 49 50.0 0.0
KRMB **Red Mountain** 5.63 198 *e*Pn Pn 02 49 51.7 +1.1
CHMT **Chamberlain Mo** 5.71 87 *e*Pn Pn 02 49 50.9 -0.8
HLID **Hailey** 6.06 121 *e*Pn Pn 02 49 56.5 0.0
HLID **Hailey** 6.06 121 ⇓P Pn 02 49 56.9 +0.4
baz=6.0
KHMM **Horse Mountain** 6.22 195 *e*Pn Pn 02 50 01.1 +2.4
KHMM *e*Pb Pb 02 50 21.3 +6.3
WDC **Whiskeytown Da** 6.36 187 *e*P Pn 02 50 03.9 +3.3
LRM **Limekiln Ridge** 6.41 96 *e*Pn Pn 02 50 01.2 -0.1
DLMT **Dillon** 6.43 101 *e*Pn Pn 02 50 02.0 +0.4
MCMT **McKenzie Canyo** 6.44 106 *e*Pn Pn 02 50 02.4 +0.7
BBB **Bella Bella** 6.78 324 Pn Pn 02 50 08.5 +2.1
0.9nm,0.3s,baz=131,slow=15,SNR=22
BBB Lg 02 51 50.1
1.2nm,0.3s,baz=213,slow=24,SNR=3.4
BBB LR LR 02 53 08.5
comp=Z,118nm,20.8s,baz=112,slow=41
O01C **Eel River Cons** 6.95 194 ⇓P Pn 02 50 09.7 +0.9
baz=6.9
PAHR **Pah Rah Range** 7.37 167 *e*Pn Pn 02 50 15.2 +0.7
QLMT **Earthquake Lak** 7.38 103 *e*Pn Pn 02 50 15.4 +0.7
QLMT *e*Sg Sg 02 52 19.5 -3.8
OHCM **Honcut** 7.56 179 *e*Pn Pn 02 50 21.8 +4.6
YMR **Madison River** 7.75 103 *e*Pn Pn 02 50 20.8 +1.1
87nm,0.8s
YMR *e*Sg Sg 02 52 26.0 -9.1
YFT **Old Faithful** 7.92 104 *e*Pn Pn 02 50 23.0 +1.0
YNR **Norris Junctio** 7.93 102 *e*Pn Pn 02 50 23.0 +0.8
YNR *e*Sg Sg 02 52 38.5 -2.2
DCID1 **Drake Creek** 8.05 110 *e*Pn Pn 02 50 25.4 +1.6
DCID1 *e*Sg Sg 02 52 40.8 -3.7
IMW **Indian Meadow** 8.07 108 *e*Pn Pn 02 50 26.1 +2.0
RRI2 **Red Ridge** 8.08 112 *e*Pn Pn 02 50 30.9 +6.7
EGMT **Eagleton** 8.10 78 *e*Pn Pn 02 50 24.7 +0.3
EGMT *e*Sg Sg 02 52 41.0 -5.1
EGMT **Eagleton** 8.10 78 ⇑P Pn 02 50 24.2 -0.3
baz=8.1
HVU **Hansel Valley** 8.13 126 *e*P Pn 02 50 27.4 +2.5
FLWY **Flagg Ranch** 8.15 106 *e*Pn Pn 02 50 27.4 +2.2
FLWY *e*Sg Sg 02 52 47.6 -0.2
LKWY **Lake** 8.17 103 *e*P Pn 02 50 27.3 +1.9
LKWY pmax pmax
comp=Z,23nm,0.8s
LKWY **Lake** 8.17 103 *e*Pn Pn 02 50 27.3 +1.9
comp=Z,23nm,0.8s
LKWY *e*Sg Sg 02 52 49.9 +1.6
TPAW **Teton Pass** 8.25 111 *e*Pn Pn 02 50 28.0 +1.4
comp=Z,46nm,0.8s
TPAW *e*Sg Sg 02 52 44.8 -6.2
EDM **Edmonton** 8.25 37 *e*P Pn 02 50 25.8 -0.7
MOOW **Moose Ponds** 8.26 108 *e*Pn Pn 02 50 28.0 +1.3
MOOW *e*Sg Sg 02 52 50.5 -0.9
GCMT **Greycliff** 8.32 93 *e*Pn Pn 02 50 28.3 +0.8
GCMT *e*Sn Sn 02 52 00.8 -1.1
GCMT *e*Sg Sg 02 52 47.7 -5.6
REDW **Red Top Meadow** 8.37 111 *e*Pn Pn 02 50 30.0 +1.7
REDW *e*Sg Sg 02 52 51.0 -3.9
SNOW **Snow King Moun** 8.38 110 *e*Pn Pn 02 50 30.2 +1.8
LOHW **Long Hollow** 8.41 109 *e*Pn Pn 02 50 31.1 +2.3
AHID **Auburn Hatcher** 8.52 115 *e*Pn Pn 02 50 31.7 +1.5
WAKR **Walker** 8.54 169 *e*Pn Pn 02 50 35.7 +5.2
BGU **Big Grassy Mou** 8.59 131 *e*Pn Pn 02 50 33.8 +2.6
RLMT **Red Lodge** 8.76 97 *e*Pn Pn 02 50 35.1 +1.6
comp=Z,26nm,0.8s
RLMT *e*Sn Sn 02 52 11.7 -1.0
NVAR **Mina Array Bea** 8.80 163 Pn Pn 02 50 39.1 +5.0
comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=29
HWUT **Hardware Ranch** 8.92 123 *e*Pn Pn 02 50 37.2 +1.4
comp=Z,30nm,1.1s
DUG **Dugway** 9.24 133 *e*P Pn 02 50 42.6 +2.4
TCUT **Toone Canyon** 9.33 125 *e*Pn Pn 02 50 42.2 +0.8
CTU **Camp Tracy** 9.43 128 *e*Pn Pn 02 50 47.9 +5.1
comp=Z,14nm,0.9s
BW06 **Boulder Array** 9.49 111 *e*Pn Pn 02 50 48.0 +4.4
comp=Z,30nm,0.8s
PDAR **Pinedale Array** 9.49 111 Pn Pn 02 50 48.2 +4.6
comp=Z,1.3nm,0.3s,baz=302,slow=12,SNR=221
TRCR **Troy Canyon** 9.62 151 *e*Pn Pn 02 50 49.4 +4.1
NLU **North Lily Min** 9.79 132 *e*Pn Pn 02 50 52.9 +5.2
DAU **Daniels Canyon** 9.90 127 *e*P Pn 02 50 54.8 +5.6
MPU **Maple Canyon** 9.98 130 *e*Pn Pn 02 50 58.6 +8.4
LAO **LASA Array** 10.54 86 *e*Pn Pn 02 50 59.1 +1.1
TMUT **Trail Mountain** 10.73 131 *e*Pn Pn 02 51 07.4 +6.9
MSU **Marysvale** 10.86 137 *e*P Pn 02 51 08.9 +6.5
ARUT **Antelope Range** 10.91 144 *e*P Pn 02 51 09.2 +6.1
SRU **San Rafael** 11.22 130 *e*P Pn 02 51 13.7 +6.4
SHPR **Sheep Range** 11.44 153 *e*Pn Pn 02 51 17.1 +6.9
RWWY **Rawlins** 11.54 112 *e*Pn Pn 02 51 17.1 +5.4
WRAK **Wrangell Islan** 11.62 329 *e*Pn Pn 02 51 17.2 +4.4
comp=Z,24nm,1.3s
DGMT **Dagmar** 11.83 76 *e*Pn Pn 02 51 14.4 -1.2
comp=Z,16nm,0.8s
PV10 **Paradox Valley** 12.55 128 *e*Pn Pn 02 51 29.2 +3.7
RSSD **Black Hills** 12.62 96 *e*P Pn 02 51 26.4 0.0
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD **Black Hills** 12.62 96 *e*Pn Pn 02 51 26.4 -0.1
comp=Z,5.2nm,0.6s
PHWY **Pilot Hill** 12.86 110 *e*Pn Pn 02 51 29.9 +0.2
PV01 **Paradox Valley** 12.98 128 *e*Pn Pn 02 51 33.8 +2.5
SMCO **Snowmass** 13.17 121 *e*Pn Pn 02 51 35.3 +1.4
comp=Z,10nm,1.0s
ISCO **Idaho Springs** 13.60 116 *e*P Pn 02 51 40.3 +0.5
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO **Idaho Springs** 13.60 116 *e*Pn Pn 02 51 40.3 +0.5
comp=Z,6.5nm,0.9s
MVCO **Mesa Verde** 13.70 130 *e*Pn Pn 02 51 43.6 +2.4
comp=Z,4.0nm,0.8s
SDCO **Great Sand Dun** 14.98 122 *e*Pn Pn 02 52 02.4 +3.7
comp=Z,11nm,0.9s
SKAG **Skagway** 14.99 332 *e*Pn Pn 02 51 59.5 +0.7
comp=Z,15nm,1.2s
SKAG *e*P 02 52 05.1
YKA **Yellowknife Ar** 16.12 12 Pn Pn 02 52 12.0 -1.5
comp=Z,0.3nm,0.3s,baz=199,slow=11,SNR=11
YKA LR LR 02 58 51.9
comp=Z,249nm,19.0s,baz=180,slow=39
ANMO **Albuquerque** 16.49 131 Pn Pn 02 52 23.1 +4.8
comp=Z,0.1nm,0.3s,baz=320,slow=11,SNR=29
ANMO **Albuquerque** 16.49 131 *d*/*P* Pn 02 52 21.1 +2.8
ANMO **Albuquerque** 16.49 131 *e*Pn Pn 02 52 23.0 +4.7
comp=Z,13nm,0.9s
TUC **Tucson** 16.75 147 *e*P Pn 02 52 22.0 +0.3
TUC pmax pmax
comp=Z,7.0nm,1.4s
TUC **Tucson** 16.75 147 *e*Pn Pn 02 52 22.0 +0.3
comp=Z,7.5nm,1.4s
LENM **Lemitar** 16.85 134 *e*Pn Pn 02 52 23.6 +0.7
ULM **Lac du Bonnet** 17.31 69 P Pn 02 52 28.0 -0.6
comp=Z,0.6nm,0.3s,baz=281,slow=11,SNR=16
ULM LR LR 03 00 11.7
comp=Z,60nm,19.6s,baz=324,slow=41
ULM **Lac du Bonnet** 17.31 69 *e*P Pn 02 52 29.1 +0.5
comp=Z,34nm,1.1s
AGMN **Agassiz Refuge** 17.38 76 *e*Pn Pn 02 52 28.9 -0.6
comp=Z,64nm,1.2s
AGMN *e*P 02 52 30.9
ECSD **EROS,Sioux Fal** 17.82 91 *e*P Pn 02 52 34.5 -0.5
comp=Z,58nm,1.4s
MNTX **Cornudas Mount** 19.63 135 *e*P Pn 02 52 59.8 +2.9
comp=Z,18nm,1.1s

KSU1 **Kansas State U** 19.80 104 *e*P Pn 02 52 58.4 -0.6
comp=Z,48nm,1.0s
DAWY **Dawson** 19.81 337 *e*P Pn 02 53 01.8 +2.7
FCC **Fort Churchill** 20.25 44 *e*P P 02 53 01.5 -0.9
FCC pmax pmax
comp=Z,18nm,0.8s
FCC **Fort Churchill** 20.25 44 *e*P P 02 53 01.5 -0.9
comp=Z,18nm,0.8s
MENT **Mentasta** 20.32 330 *e*P P 02 53 05.7 +2.6
EYMN **Ely** 20.33 76 *e*P P 02 53 03.1 -0.1
comp=Z,62nm,1.0s
SCIA **State Center** 20.81 94 *e*P P 02 53 10.0 +1.5
comp=Z,84nm,1.1s
EGAK **Eagle** 20.85 336 *e*P P 02 53 10.4 +1.5
comp=Z,30nm,1.4s
WMOK **Wichita Mounta** 21.02 117 *e*P P 02 53 11.2 +0.5
WMOK pmax pmax
comp=Z,37nm,1.1s,mb4.6
WMOK **Wichita Mounta** 21.02 117 *e*P P 02 53 11.2 +0.4
comp=Z,37nm,1.1s,mb4.6
INK **Inuvik** 22.31 348 P P 02 53 25.1 +0.5
comp=Z,20nm,1.1s,mb4.5,baz=159,slow=11,SNR=13
INK LR LR 03 02 54.8
comp=Z,119nm,21.4s,MS3.3,baz=137,slow=39
INK **Inuvik** 22.31 348 *e*P P 02 53 25.0 +0.4
comp=Z,1μm,1.2s,mb6.2
JFWS **Jewell Farm** 22.47 89 *e*P P 02 53 26.4 +0.2
JFWS pmax pmax
comp=Z,69nm,0.8s,mb5.1
JFWS **Jewell Farm** 22.47 89 *e*P P 02 53 26.4 +0.2
comp=Z,69nm,0.8s,mb5.1
COLA **College** 22.97 331 *e*P P 02 53 33.1 +1.6
COLA pmax pmax
comp=Z,20nm,1.0s,mb4.5
COLA **College** 22.97 331 *e*P P 02 53 33.1 +1.5
comp=Z,20nm,1.0s,mb4.5
JCT **Junction City** 23.50 127 *e*P P 02 53 37.4 +0.2
JCT pmax pmax
comp=Z,13nm,0.8s,mb4.4
JCT **Junction City** 23.50 127 *e*P P 02 53 37.4 +0.3
comp=Z,13nm,0.8s,mb4.4
SVW2 **Sparrevohn** 24.16 318 *e*P P 02 53 43.0 -0.3
LPIG **La Paz** 24.48 154 LR LR 03 04 20.2
comp=Z,88nm,18.5s,MS3.3,baz=336,slow=39
SIUC **Southern Illin** 25.48 99 *e*P P 02 53 55.5 +0.2
comp=Z,12nm,0.6s,mb4.6
NATX **Nacogdoches** 25.57 117 *e*P P 02 53 55.4 -0.7
comp=Z,19nm,1.0s,mb4.6
IMA2 **Indian Mountai** 25.64 330 *e*P P 02 53 57.6 +0.8
HKT **Hockley** 26.16 121 *e*P P 02 54 01.8 +0.4
HKT pmax pmax
comp=Z,22nm,1.5s,mb4.5
HKT **Hockley** 26.16 121 *e*P P 02 54 01.8 +0.3
comp=Z,22nm,1.5s,mb4.5
OXF **Oxford** 27.15 106 *e*P P 02 54 11.1 +0.7
OXF pmax pmax
comp=Z,37nm,1.1s,mb4.8
OXF **Oxford** 27.15 106 *e*P P 02 54 11.1 +0.7
comp=Z,36nm,1.1s,mb4.8
WCI **Wyandotte Cave** 27.21 96 *e*P P 02 54 10.6 -0.3
WCI pmax pmax
comp=Z,19nm,1.0s,mb4.6
WCI **Wyandotte Cave** 27.21 96 *e*P P 02 54 10.6 -0.4
comp=Z,19nm,1.0s,mb4.6
WVT **Waverly** 27.27 101 *e*P P 02 54 11.8 +0.3
WVT pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
WVT **Waverly** 27.27 101 *e*P P 02 54 11.8 +0.3
comp=Z,7.0nm,1.0s,mb4.2
PLAL **Pickwick Lake** 27.76 103 *e*P P 02 54 15.7 -0.2
comp=Z,9.9nm,0.8s,mb4.5
ACSO **Alum Creek Sta** 28.53 89 *e*P P 02 54 22.6 -0.1
comp=Z,61nm,1.4s,mb5.1
ALLY **Alegheny Colle** 29.87 85 *e*P P 02 54 34.8 +0.2
FWV **Forest Hill** 31.28 92 *e*P P 02 54 47.0 -0.1
ELN **Prospectdale** 31.50 93 *e*P P 02 54 49.2 +0.2
BLA **Blacksburg** 31.74 93 *e*P P 02 54 51.5 +0.4
comp=Z,120nm,1.6s,mb5.5
MSNY **Massena** 32.17 76 *e*P P 02 54 54.6 -0.3
LONY **Lake Ozonia** 32.49 76 *e*P P 02 54 56.9 -0.9
comp=Z,22nm,1.1s,mb4.9
NCB **Newcomb** 32.97 77 *e*P P 02 55 01.4 -0.5
comp=Z,17nm,1.1s,mb4.9
FRNY **Flat Rock** 33.08 76 *e*P P 02 55 01.7 -1.1
MVL **Millersville** 33.18 85 *e*P P 02 55 03.3 -0.4
SCHQ **Schefferville** 34.65 56 P P 02 55 15.3 -1.2
comp=Z,7.0nm,0.9s,mb4.6,baz=212,slow=6.6,SNR=5.3
BILL **Bilibino** 41.11 327 *e*P P 02 56 09.0 -2.1
BILL *e* 02 57 43.7
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
JMIC **Jan Mayen** 53.16 22 LR LR 03 19 40.8
comp=Z,116nm,18.9s,MS4.0,baz=88,slow=35
SDV **Santo Domingo** 57.41 114 *e*P P 02 58 17.1 +1.3
comp=Z,4.0nm,0.8s,mb4.5
OTAV **Otavalo** 59.77 128 *e*P P 02 58 33.9 +1.6
comp=Z,6.8nm,1.2s,mb4.5
ARCES **ARCESS Array B** 61.39 13 P P 02 58 43.1 -0.1
comp=Z,5.2nm,0.7s,mb4.8,baz=356,slow=5.5,SNR=12
ARCES LR LR 03 26 15.7
comp=Z,70nm,18.2s,MS3.9,baz=101,slow=37
EKA **Eskdalemuir Ar** 65.74 33 P P 02 59 09.9 -2.1
comp=Z,4.2nm,1.0s,mb4.4,baz=314,slow=4.5,SNR=6.0
NB2 **NORSAR Subarra** 65.85 23 P P 02 59 12.1 -0.7
comp=Z,11nm,0.9s,mb4.9,baz=323,slow=6.5
NB2 **NORSAR Subarra** 65.85 23 P P 02 59 12.1 -0.7
NB2 pmax pmax
comp=Z,11nm,0.9s,mb4.9
NOA **NORSAR Array B** 65.85 23 P P 02 59 12.6 -0.2
comp=Z,6.0nm,0.8s,mb4.7,baz=324,slow=6.8,SNR=10
NOA LR LR 03 27 50.8
comp=Z,52nm,19.3s,MS3.8,baz=275,slow=36
NOA **NORSAR Array B** 65.85 23 P P 02 59 12.6 -0.2
NOA LR LR 03 27 50.8
HFS **Hagfors** 67.28 22 P P 02 59 21.3 -0.5
comp=Z,15nm,0.9s,mb5.0,baz=322,slow=4.3,SNR=8.7
KAF **Kangasniemi** 68.33 16 *e*p P 02 59 27.4 -1.1
JOF **Joensuu** 68.42 13 *e*p P 02 59 28.8 -0.3
FINES **FINESS Array B** 68.90 16 P P 02 59 31.4 -0.6
comp=Z,5.0nm,0.6s,mb4.6,baz=350,slow=4.0,SNR=34
FINES LR LR 03 32 54.9
comp=Z,65nm,18.5s,MS3.9,baz=359,slow=39
MDJ **Mudanjiang** 69.42 314 P P 02 59 35.3 0.0
MDJ AMB AMB
comp=Z,6.0nm,0.6s,mb4.7
MDJ AMB AMB
comp=Z,336nm,5.5s
ROSF **Rostrenen** 71.03 38 *e*P P 02 59 44.8 -0.3
GRR **Gorron** 72.00 37 *e*P P 02 59 50.6 -0.4
comp=Z,26nm,0.8s,mb4.9
GRR **Gorron** 72.00 37 *e*P P 02 59 50.6 -0.4
GRR pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRR **Gorron** 72.00 37 *e*P P 02 59 50.6 -0.4
comp=Z,13nm,0.8s,mb4.9
CN2 **Changchun** 72.04 316 *e*P P 02 59 50.9 -0.4
BAIF **Baives** 72.66 33 *e*P P 02 59 54.6 -0.4
MFF **Saint Martin d** 73.70 38 *e*P P 03 00 00.6 -0.5
MEZF **Maizieres J'vi** 74.25 34 *e*P P 03 00 04.0 -0.3
HYF **Humbligny** 74.31 36 *e*P P 03 00 04.4 -0.3
CLL **Collm** 74.67 28 *e*P P 03 00 06.0 -0.7
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL **Collm** 74.67 28 *e*P P 03 00 06.0 -0.7
comp=Z,7.0nm,0.9s,mb4.6
MOX **Moxa** 74.79 29 *e*P P 03 00 08.0 +0.6
LOR **Lormes** 74.80 35 *e*P P 03 00 07.4 -0.1
comp=Z,33nm,1.0s,mb4.9
LOR **Lormes** 74.80 35 *e*P P 03 00 07.4 -0.1
LOR pmax pmax
comp=Z,17nm,1.0s,mb4.9
LOR **Lormes** 74.80 35 *e*P P 03 00 07.4 -0.1
comp=Z,16nm,1.0s,mb4.9
SSF **Saint Saulge** 74.83 35 *e*P P 03 00 07.4 -0.3
comp=Z,11nm,1.0s,mb4.5
SSF **Saint Saulge** 74.83 35 *e*P P 03 00 07.4 -0.3
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF **Saint Saulge** 74.83 35 *e*P P 03 00 07.4 -0.3
comp=Z,5.6nm,1.0s,mb4.5
TCF **Toulx Ste Croi** 74.93 37 *e*P P 03 00 07.9 -0.4
BGF **Bois d'Agland** 74.97 36 *e*P P 03 00 07.4 -1.1
comp=Z,19nm,0.8s,mb4.8
BGF **Bois d'Agland** 74.97 36 *e*P P 03 00 07.4 -1.1
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8

BGF	**Bois d'Agland**	74.97	36	*e*P		P	03 00 07.4 -1.1
	comp=Z,9.4nm,0.8s,mb4.8						
AVF	**Avril sur Loir**	74.99	36	*e*P		P	03 00 08.0 -0.6
	comp=Z,19nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	74.99	36	*e*P		P	03 00 08.0 -0.6
AVF					pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	74.99	36	*e*P		P	03 00 08.0 -0.6
	comp=Z,9.5nm,0.9s,mb4.7						
HAU	**Haudompre**	75.15	33	*e*P		P	03 00 09.2 -0.4
	comp=Z,5.4nm,0.7s,mb4.3						
HAU	**Haudompre**	75.15	33	*e*P		P	03 00 09.2 -0.4
HAU					pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.3						
HAU	**Haudompre**	75.15	33	*e*P		P	03 00 09.2 -0.4
	comp=Z,2.7nm,0.7s,mb4.3						
CDF	**Champ du Feu**	75.16	32	*e*P		P	03 00 09.4 -0.2
	comp=Z,7.9nm,0.8s,mb4.4						
CDF	**Champ du Feu**	75.16	32	*e*P		P	03 00 09.4 -0.2
CDF					pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.4						
CDF	**Champ du Feu**	75.16	32	*e*P		P	03 00 09.4 -0.2
	comp=Z,4.0nm,0.8s,mb4.4						
SMF	**Signal de Mont**	75.30	35	*e*P		P	03 00 09.8 -0.6
	comp=Z,22nm,1.1s,mb4.7						
SMF	**Signal de Mont**	75.30	35	*e*P		P	03 00 09.8 -0.6
SMF					pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7						
SMF	**Signal de Mont**	75.30	35	*e*P		P	03 00 09.8 -0.6
	comp=Z,11nm,1.1s,mb4.7						
BRG	**Berggiesshubel**	75.34	27	*e*P		P	03 00 10.7 0.0
	comp=Z,4.8nm,0.8s,mb4.5						
BRG	**Berggiesshubel**	75.34	27	*e*P		P	03 00 10.7 +0.1
BRG					pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.5						
LFF	**La Frestale**	75.41	38	*e*P		P	03 00 10.8 -0.2
	comp=Z,52nm,1.3s,mb5.0						
LFF	**La Frestale**	75.41	38	*e*P		P	03 00 10.8 -0.2
LFF					pmax	pmax	
	comp=Z,26nm,1.3s,mb5.0						
LFF	**La Frestale**	75.41	38	*e*P		P	03 00 10.8 -0.2
	comp=Z,26nm,1.3s,mb5.0						
NKC	**Novy Kostel**	75.41	28	*e*P		P	03 00 10.7 -0.4
RJF	**Les Rejaudoux**	75.44	38	*e*P		P	03 00 10.5 -0.7
	comp=Z,31nm,1.2s,mb4.8						
RJF	**Les Rejaudoux**	75.44	38	*e*P		P	03 00 10.5 -0.7
RJF					pmax	pmax	
	comp=Z,15nm,1.2s,mb4.8						
RJF	**Les Rejaudoux**	75.44	38	*e*P		P	03 00 10.5 -0.7
	comp=Z,15nm,1.2s,mb4.8						
GRA1	**Grafenberg Arr**	75.47	29	*e*P		P	03 00 11.8 +0.4
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	75.47	29	*e*P		P	03 00 11.8 +0.4
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	75.47	29	*e*P		P	03 00 11.8 +0.4
GRF					pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	75.47	29	*e*P		P	03 00 11.8 +0.4
GRF					pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.5						
HINF	**Hinteralfeld**	75.50	33	*e*P		P	03 00 11.2 -0.3
	comp=Z,4.1nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	75.50	33	*e*P		P	03 00 11.2 -0.3
HINF					pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	75.50	33	*e*P		P	03 00 11.2 -0.3
	comp=Z,2.0nm,0.6s,mb4.2						
PVCC	**Panska Ves**	75.84	27	*e*P		P	03 00 13.6 +0.1
CAF	**Calviac**	75.97	38	*e*P		P	03 00 13.7 -0.6
	comp=Z,14nm,1.1s,mb4.5						
CAF	**Calviac**	75.97	38	*e*P		P	03 00 13.7 -0.6
CAF					pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.5						
CAF	**Calviac**	75.97	38	*e*P		P	03 00 13.7 -0.6
	comp=Z,6.9nm,1.1s,mb4.5						
CABF	**La Chapelle**	76.21	34	*e*P		P	03 00 15.8 +0.2
	comp=Z,25nm,1.1s,mb4.8						
CABF	**La Chapelle**	76.21	34	*e*P		P	03 00 15.8 +0.2
CABF					pmax	pmax	
	comp=Z,13nm,1.1s,mb4.8						
CABF	**La Chapelle**	76.21	34	*e*P		P	03 00 15.8 +0.2
	comp=Z,13nm,1.1s,mb4.8						
PRU	**Pruhonice**	76.30	27	*e*P		P	03 00 15.8 -0.3
EVO	**Evora**	76.32	48	*e*P		P	03 00 15.4 -0.8
ETSF	**Etsaut**	76.47	40	*e*P		P	03 00 16.7 -0.4
	comp=Z,5.8nm,0.7s,mb4.3						
ETSF	**Etsaut**	76.47	40	*e*P		P	03 00 16.7 -0.4
ETSF					pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.3						
ETSF	**Etsaut**	76.47	40	*e*P		P	03 00 16.7 -0.4
	comp=Z,2.9nm,0.7s,mb4.3						
DPC	**Dobruska-Polom**	76.53	26	*e*P		P	03 00 17.6 +0.2
OBN	**Obninsk**	76.70	13	*e*P		P	03 00 18.0 -0.4
OBN					pmax	pmax	
	comp=Z,23nm,1.6s,mb4.9						
KHC	**Kasperske Hory**	76.74	28	*e*P		P	03 00 18.6 0.0
EPF	**Esparros**	76.76	40	*e*P		P	03 00 18.7 0.0
SONM	**Songino Array**	76.79	329	P		P	03 00 20.2 +1.3
	comp=Z,0.5nm,0.6s,mb3.6,baz=34,slow=6.1,SNR=5.9						
GERES	**GERESS Array B**	77.03	28	P		P	03 00 20.3 +0.1
	comp=Z,1.9nm,0.7s,mb4.2,baz=329,slow=4.8,SNR=20						
GERES				LR		LR	03 36 50.5
	comp=Z,126nm,18.1s,MS4.3,baz=301,slow=38						
ARU	**Arti**	77.04	360⇑	*i*P		P	03 00 18.8 -1.5
ARU				*e*			03 00 28.2
ARU				*e*			03 03 12.6
ARU				*e*S		S	03 10 09.4 -0.1
ARU				*e*SS		SS	03 15 09.1 +2.7
ARU					pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.3						
ZAL	**Zalesovo**	77.07	344	P		P	03 00 20.9 +0.4
	comp=Z,1.3nm,0.5s,mb4.1,baz=127,slow=4.5,SNR=6.2						
MTLF	**Montolieu**	77.32	38	*e*P		P	03 00 21.5 -0.4
LPL	**La Plagne**	77.37	34	*e*P		P	03 00 22.0 -0.2
	comp=Z,20nm,1.4s,mb4.6						
LPL	**La Plagne**	77.37	34	*e*P		P	03 00 22.0 -0.2
LPL					pmax	pmax	
	comp=Z,10.0nm,1.4s,mb4.5						
LPL	**La Plagne**	77.37	34	*e*P		P	03 00 22.0 -0.2
	comp=Z,9.9nm,1.4s,mb4.5						
LPG	**La Plagne**	77.39	34	*e*P		P	03 00 22.3 0.0
	comp=Z,17nm,1.1s,mb4.6						
LPG	**La Plagne**	77.39	34	*e*P		P	03 00 22.3 0.0
LPG					pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.6						
LPG	**La Plagne**	77.39	34	*e*P		P	03 00 22.3 0.0
	comp=Z,8.5nm,1.1s,mb4.6						
MORC	**Moravsky Berou**	77.41	26	*e*P		P	03 00 21.9 -0.5
MORC					pmax	pmax	
	comp=Z,4.0nm,1.1s,mb4.3						
MORC	**Moravsky Berou**	77.41	26	*e*P		P	03 00 21.9 -0.5
	comp=Z,4.4nm,1.1s,mb4.3						
ESDC	**Sonseca Array**	77.44	44	P		P	03 00 22.5 0.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=312,slow=5.6,SNR=15						
ESDC				LR		LR	03 30 05.5
	comp=Z,45nm,19.1s,MS3.8,baz=30,slow=32						
DAVOX	**Davos/Dischmat**	77.48	32	P		P	03 00 24.0 +1.2
	comp=Z,3.2nm,1.0s,mb4.2,baz=321,slow=12,SNR=4.9						
ORIF	**Oris-en-Rattie**	77.53	35	*e*P		P	03 00 23.0 -0.1
	comp=Z,20nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	77.53	35	*e*P		P	03 00 23.0 -0.1
ORIF					pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	77.53	35	*e*P		P	03 00 23.0 -0.1
	comp=Z,9.8nm,1.1s,mb4.7						
VRAC	**Vranov**	77.53	27	P		P	03 00 23.6 +0.5
	comp=Z,7.1nm,1.0s,mb4.5,baz=350,slow=6.4,SNR=9.7						
MBDF	**Montbardon**	78.04	35	*e*P		P	03 00 26.2 +0.3
	comp=Z,20nm,1.1s,mb4.7						
MBDF	**Montbardon**	78.04	35	*e*P		P	03 00 26.2 +0.3
MBDF					pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.7						
MBDF	**Montbardon**	78.04	35	*e*P		P	03 00 26.2 +0.3
	comp=Z,9.9nm,1.1s,mb4.7						
SMRF	**Simiane la Rot**	78.19	36	*e*P		P	03 00 26.3 -0.5
STHS	**Stebnicka Huta**	78.79	24	*e*P		P	03 00 30.0 -0.1
STHS					pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.2						
STHS	**Stebnicka Huta**	78.79	24	*e*P		P	03 00 30.0 -0.1
	comp=Z,3.4nm,1.0s,mb4.2						
FRF	**La Foret Royal**	78.97	36	*e*P		P	03 00 30.6 -0.4
	comp=Z,63nm,1.4s,mb5.1						
FRF	**La Foret Royal**	78.97	36	*e*P		P	03 00 30.6 -0.4
FRF					pmax	pmax	
	comp=Z,32nm,1.4s,mb5.1						
FRF	**La Foret Royal**	78.97	36	*e*P		P	03 00 30.6 -0.4
	comp=Z,32nm,1.4s,mb5.0						
SBF	**Sospel**	79.03	35	*e*P		P	03 00 30.5 -0.9
LPAZ	**La Paz**	79.09	128	P		P	03 00 32.0 +0.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=356,slow=6.8,SNR=9.9						
LPAZ	**La Paz**	79.09	128	*e*P		P	03 00 31.8 +0.1
LPAZ					pmax	pmax	
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	79.09	128	*e*P		P	03 00 31.8 +0.1
	comp=Z,1.4nm,0.6s,mb4.1						
LMR	**La Mourre**	79.10	36	*e*P		P	03 00 31.0 -0.8
CHKZ	**Chkalovo**	79.26	353	*e*P		P	03 00 31.6 -1.0
CHKZ					pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	79.26	353	*e*P		P	03 00 31.6 -1.1
	comp=Z,4.7nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	79.57	18	P		P	03 00 33.2 -1.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=334,slow=5.0,SNR=9.7						
AKASG	**Malin Array Be**	79.57	18	*i* P		P	03 00 36.2 +1.9
AKASG					pmax	pmax	
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	79.57	18	P		P	03 00 33.2 -1.1
BRVK	**Borovoye**	79.91	353	*e*P		P	03 00 36.1 0.0
BRVK					pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	79.91	353	*e*P		P	03 00 36.1 0.0
	comp=Z,6.3nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	79.93	353	P		P	03 00 36.2 0.0
	comp=Z,3.5nm,0.8s,mb4.4,baz=22,slow=4.7,SNR=20						
ZRNK	**Zerenda**	80.12	354	*e*P		P	03 00 36.8 -0.5
ZRNK					pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	80.12	354	*e*P		P	03 00 36.8 -0.5
	comp=Z,6.0nm,0.8s,mb4.6						
CART	**Cartagena**	80.51	44	*e*P		P	03 00 38.6 -0.7
	comp=Z,13nm,1.1s,mb4.8						
PGF	**Pioggiola**	80.75	35	*e*P		P	03 00 39.8 -0.9
MDT	**Midelt**	82.49	49	P		P	03 00 50.3 +0.4
	comp=Z,3.1nm,0.9s,mb4.2,baz=343,slow=8.6,SNR=9.3						
AKTK	**Aktyubinsk**	83.05	0	P		P	03 00 51.9 -0.9
AKTO	**Aktyubinsk**	83.05	0	P		P	03 00 51.9 -0.9
	comp=Z,0.8nm,0.6s,mb3.9,baz=352,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	84.37	344	P		P	03 00 59.3 -0.3
	comp=Z,3.7nm,0.8s,mb4.5,baz=4.6,slow=6.1,SNR=15						
NJ2	**Nanjing**	84.43	312	*e*P		P	03 00 57.5 -2.3
NJ2				AMB		AMB	
	comp=Z,20nm,0.5s,mb5.5						
WMQ	**Urumqi**	86.03	339	*e*P		P	03 01 08.0 +0.1
LZH	**Lanzhou**	87.88	325	*e*P		P	03 01 14.0 -2.9
LZH				AP		pP	03 01 17.1 -1.3
LZH				XP		sP	03 01 18.9 0.0
LZH				AMB		AMB	
	comp=Z,13nm,1.0s,mb5.1						
LZH				AMB		AMB	
	comp=Z,70nm,4.9s						
LZH	**Lanzhou**	87.88	325	*e*P		P	03 01 14.0 -2.9
LZH				*PP		pP	03 01 17.1 -1.3
LZH				*SP		sP	03 01 18.9 0.0
LZH				pmax		pmax	
	comp=Z,13nm,1.0s,mb5.1						
LZH	**Lanzhou**	87.88	325	*e*P		P	03 01 14.0 -2.9
	comp=Z,13nm,1.0s,mb5.1						
LZH				pP		pP	03 01 17.1 -1.3
LZH				sP		sP	03 01 18.9 0.0
AAK	**Ala-Archa**	89.72	348⇑	*e*P		P	03 01 23.8 -1.7
AAK					pmax	pmax	
	comp=Z,3.0nm,1.7s,mb4.3						
CD2	**Chengdu**	92.42	322	*e*P		P	03 01 37.3 -0.8
CD2				AMB		AMB	
	comp=Z,10.0nm,0.8s,mb5.2						
CD2				AMB		AMB	
	comp=Z,30nm,9.2s						
KMI	**Kunming**	97.90	320	P		P	03 02 02.4 -0.7
KMI				AMB		AMB	
	comp=Z,6.0nm,0.8s,mb5.2						
KMI	**Kunming**	97.90	320	P		P	03 02 02.4 -0.7
	comp=Z,6.0nm,0.8s,mb5.2						
ASAR	**Alice Springs**	116.62	263	PKP		PKPdf	03 07 11.3 -0.1
	comp=Z,0.7nm,0.7s,baz=81,slow=2.5,SNR=5.7						
VNDA	**Vanda**	132.51	197	PKP		PKPdf	03 07 41.5 -0.4
	comp=Z,0.4nm,0.8s,baz=3.2,slow=6.0,SNR=3.2						
LBTB	**Lobatse**	145.99	62	*e*PKP2		PKPab	03 08 07.4 -0.2
BOSA	**Boshof**	148.37	67	PKPbc		PKPbc	03 08 13.3 -0.5
	comp=Z,12nm,1.1s,baz=322,slow=1.9,SNR=5.7						
BOSA	**Boshof**	148.37	67	PKPbc		PKPbc	03 08 13.3 -0.5

ISCJB ***08*** *02:52:38.6±0.5, 5148N±003×16.13E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.3km az=34.9*
IPEC ***08*** *02:52:38.7±0.3, 5161N×1623E, h0km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
NEIC ***08*** *02:52:40.0±0.6, 5153N×1615E, h5km, ML2.5(CLL), ML2.7(BRA), ML2.9(SZGRF), Error ellipse: s-maj=7.0km s-min=4.3km az=18.0*
CSEM ***08*** *02:52:40.3±0.1, 5153N×1613E, h0km, ML3.4/7, Error ellipse: s-maj=2.6km s-min=1.3km az=16.0*
WAR ***08*** *02:52:41.1, 5152N×1611E, ML2.7, Mining Induced*
PRU ***08*** *02:52:41.4, 5147N×1609E, h0km*
VIE ***08*** *02:52:42.1±0.5, 5133N×1611E, h0km, mb2.0/3, ML2.9/4, Error ellipse: s-maj=3.0km s-min=2.8km az=170.0 68 km WNW of Breslau Suspected Mining induced.*

ISC 08 02:52:39.4±0.5, 5154N±002×1612E±003, h0km, n34, σ0°81/69, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.71	171	*e*Pg	Pg	02 52 53.6	+0.6
KSP				*e*Sg	Sg	02 53 02.8	+0.6
KSP				e		02 53 06.4	
KSP	**Ksiaz**	0.71	171	*e*Pg	Pg	02 52 53.6	+0.6
KSP				*e*Sg	Sg	02 53 02.8	+0.6
KSP				*e*		02 53 06.4	
KSP	**Ksiaz**	0.71	171	*e*Pg	Pg	02 52 53.4	+0.4
KSP				*e*Sg	Sg	02 53 02.8	+0.6
UPC	**Upice**	1.04	184	*e*PG	Pg	02 52 59.7	+0.3
DPC	**Dobruska-Polom**	1.20	174	*e*PG	Pg	02 53 02.5	0.0
DPC				*e*SG	Sg	02 53 17.6	-0.4
	39nm,0.3s						
DPC	**Dobruska-Polom**	1.20	174	*e*Pg	Pg	02 53 02.5	0.0
DPC				*e*Sg	Sg	02 53 18.1	+0.1
PVCC	**Panska Ves**	1.41	225	*e*PG	Pg	02 53 06.3	-0.2
PVCC				*e*SG	Sg	02 53 25.4	+0.6
	177nm,0.2s						
BRG	**Berggiesshubel**	1.53	245	PN	Pn	02 53 08.0	0.0
BRG				PG	Pg	02 53 08.9	+0.2
BRG				SG	Sg	02 53 29.3	+0.8
	46nm,0.3s						
PRU	**Pruhonice**	1.85	213	*e*PN	Pn	02 53 12.5	+0.1
PRU				*e*PG	Pg	02 53 14.3	-0.6
PRU				*e*SG	Sg	02 53 38.1	-0.9
	52nm,0.4s						
RAC	**Raciborz**	1.97	137	*e*Pg	Pg	02 53 16.9	-0.2
RAC				*e*Sg	Sg	02 53 42.9	+0.3
CLL	**Collm**	1.97	264	*e*Pn	Pn	02 53 14.0	0.0
CLL				*e*Pg	Pg	02 53 17.0	-0.1
CLL				*e*Sg	Sg	02 53 44.0	+1.4
CLL	**Collm**	1.97	264	*e*Pn	Pn	02 53 14.0	0.0
CLL				*e*Pg	Pg	02 53 17.0	-0.1
CLL				*i* x	x	02 53 19.7	
CLL				*e*Sg	Sg	02 53 44.0	+1.4
	comp=Z,25nm,0.6s						
MORC	**Moravsky Berou**	1.99	152	*e*Pn	Pn	02 53 13.6	-0.6
MORC				*e*Sg	Sg	02 53 42.3	-1.0
MORC	**Moravsky Berou**	1.99	152	*e*Pn	Pn	02 53 14.1	-0.2
MORC				*e*Sg	Sg	02 53 42.3	-1.0
OKC	**Ostrava-Krasne**	2.14	142	*e*PG	Pg	02 53 20.0	-0.4
OKC				*e*SG	Sg	02 53 46.4	-1.8
	comp=Z,26nm,0.6s						
VRAC	**Vranov**	2.26	172	*e*Pn	Pn	02 53 18.1	+0.1
VRAC				*e*Sg	Sg	02 53 51.4	-0.6
	comp=Z,17nm,0.2s						
TREC	**Trest**	2.29	190	*e*PN	Pn	02 53 18.1	-0.3
TREC				*e*PG	Pg	02 53 21.9	-1.4
KRUC	**Moravsky**	2.49	176	*e*Pn	Pn	02 53 21.6	+0.4
KRUC				*e*Sg	Sg	02 53 58.9	-0.6
	comp=Z,12nm,0.2s						
NKC	**Novy Kostel**	2.67	242	*e*PN	Pn	02 53 23.9	+0.2
NKC				*e*PG	Pg	02 53 30.1	-0.5
NKC				*e*SG	Sg	02 54 06.3	+1.0
	comp=Z,35nm,0.3s						
OJC	**Ojcow**	2.68	118	*e*Pg	Pg	02 53 30.4	-0.4
OJC				*e*Sg	Sg	02 54 05.9	+0.4
JAVC	**Velka Javorina**	2.87	159	*e*Sg	Sg	02 54 10.7	-0.8
	comp=Z,20nm,0.7s						
KHC	**Kasperske Hory**	2.91	215	*e*PG	Pg	02 53 33.1	-2.2
KHC				*e*SG	Sg	02 54 11.4	-1.7
	comp=Z,11nm,0.4s						
MOX	**Moxa**	2.98	254	*e*PN	Pn	02 53 28.5	+0.6
MOX				*e*PG	Pg	02 53 36.5	-0.1
MOX				*e*SG	Sg	02 54 16.1	+0.9
GEC2	**GERESS Array S**	3.12	211	*e*Pn	Pn	02 53 30.8	+1.0
SMOL	**Smolenice**	3.15	164	*e*SG	Sg	02 54 21.6	+1.0
WET	**Wettzell**	3.18	222	*e*Pn	Pn	02 53 30.8	+0.2
NIE	**Niedzica**	3.42	127	*e*P	Pg	02 53 45.3	+0.3
NIE				*e*S	Sg	02 54 30.8	+1.5
VYHS	**Vyhne**	3.52	149	*e*PN	Pn	02 53 34.9	-0.4
VYHS				*e*SG	Sg	02 54 33.5	+1.0
CONA	**Conrad Observa**	3.62	183⇑	*i*Pn	Pn	02 53 36.5	-0.3
CONA				⇓*i*Sg	Sg	02 54 35.5	-0.3
	comp=Z,17nm,0.7s						
GRA1	**Grafenberg Arr**	3.63	241	*e*Pn	Pn	02 53 37.4	+0.5
GRA1				*e*Sg	Sg	02 54 36.1	0.0
GRF	**Grafenberg Arr**	3.63	241	*e*Pn	Pn	02 53 37.5	+0.6
GRF				*e*Sg	Sg	02 54 36.1	0.0
BSD	**Bornholm Skovb**	3.65	349	*i* P	Pn	02 53 36.5	-0.6
BSD				*i* S	Sn	02 54 18.7	-2.2
MOA	**Molln**	3.89	199⇓	*i*Pn	Pn	02 53 41.0	+0.6
MOA				⇑*i*Sg	Sg	02 54 44.4	0.0
	comp=Z,13nm,0.6s						
STHS	**Stebnicka Huta**	3.90	121	*e*PG	Pg	02 53 55.2	+1.0
STHS				*e*SG	Sg	02 54 46.5	+1.7

IDC 08 02:59:21.5±3.1, 895S×10801E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=132.7km s-min=27.8km az=46.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	27.70	116	P	P	03 05 11.6	+0.3
	0.9nm,0.9s,baz=288,slow=11,SNR=3.8						
SONM	**Songino Array**	56.55	359	P	P	03 09 06.3	+0.6
	1.0nm,0.6s,baz=172,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	60.05	340	P	P	03 09 29.8	-0.3
	1.6nm,0.6s,baz=140,slow=7.2,SNR=14						
BVAR	**Borovoye Array**	69.54	337	P	P	03 10 32.1	0.0
	1.1nm,0.7s,baz=144,slow=8.2,SNR=8.8						

IDC 08 03:21:46.8±2.0, 609S×13021E, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=72.2km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	12.74	200	Pn	Pn	03 24 49.4	+0.2
	0.2nm,0.3s,baz=54,slow=17,SNR=14						
FITZ				Sn	Sn	03 26 57.2	-15
	0.2nm,0.3s,baz=75,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	14.34	164	Pn	Pn	03 25 10.8	-0.2
	0.2nm,0.3s,baz=344,slow=11,SNR=2.9						
WRA				Sn	Sn	03 27 39.4	-11
	0.4nm,0.3s,baz=334,slow=15,SNR=5.0						
ASAR	**Alice Springs**	17.83	169	P	Pn	03 25 56.9	+0.6
	0.2nm,0.3s,baz=345,slow=9.3,SNR=18						
MKAR	**Makanchi Array**	67.58	327	P	P	03 32 45.4	+0.2
	0.6nm,0.5s,baz=125,slow=7.6,SNR=7.3						

ISCJB ***08*** *04:00:30.8±0.5, 670N±004×7294W±004, h175km±5km, mb4.0/31, Error ellipse: s-maj=7.8km s-min=5.7km az=63.4*
IDC ***08*** *04:00:31.4±0.7, 673N×7294W, h164km±6km, mb3.8/14, mb1 4.0/19, mb1mx3.8/27, mbtmp4.3/19, Error ellipse: s-maj=10.8km s-min=7.3km az=117.0*
NEIC ***08*** *04:00:31.8±0.5, 671N×7296W, h168km±5km, mb4.1/24, Error ellipse: s-maj=6.3km s-min=4.5km az=79.0*

ISC 08 04:00:32.1±0.5, 672N±004×7292W±005, h167km±5km, n58, σ0°83/60, mb4.0/31, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	2.33	217	P	Pn	04 01 12.7	+0.7
	285nm,0.3s,baz=306,slow=2.3,SNR=812						
ROSC				S	Sn	04 01 42.6	-0.2
	571nm,0.3s,baz=109,slow=21,SNR=6.1						
ROSC	**El Rosal**	2.33	217	*e*Pn	Pn	04 01 12.4	+0.4
ROSC				*e*Sn	Sn	04 01 43.6	+0.8
SDV	**Santo Domingo**	3.12	46	P	Pn	04 01 22.4	+0.7
	81nm,0.3s,baz=240,slow=5.2,SNR=350						
SDV				S	Sn	04 01 59.2	-0.9
	56nm,0.3s,baz=259,slow=12,SNR=3.9						
SDV	**Santo Domingo**	3.12	46	*e*Pn	Pn	04 01 22.0	+0.4
SDV				*e*Sn	Sn	04 01 59.5	-0.7
OTAV	**Otavalo**	8.48	221	*e*Pn	Pn	04 02 30.1	-1.6
	7.7nm,0.6s						
OTAV				*e*Sn	Sn	04 04 02.5	-3.8
PCRV	**Puerto La Cruz**	8.88	67	P	Pn	04 02 38.9	+1.9
	1.0nm,0.3s,baz=11,slow=9.4,SNR=7.2						
PCRV				S	Sn	04

2.3nm,0.8s,mb3.9
MOOW Moose Ponds 49.56 324 *e*P **P 04 09 05.4 -0.5**
2.7nm,0.9s,mb3.9
RLMT Red Lodge 49.57 327 *e*P **P 04 09 06.2 +0.2**
MCMT McKenzie Canyo 51.41 324 *e*P **P 04 09 20.7 +0.9**
HLID Hailey 51.64 322 *e*P **P 04 09 21.4 -0.1**
1.8nm,0.7s,mb3.8
NVAR Mina Array Bea 51.69 315 P **P 04 09 21.9 0.0**
0.5nm,0.6s,mb3.4,baz=143,slow=5.4,SNR=5.9
WVOR Wild Horse Val 53.73 319 *e*P **P 04 09 36.4 -0.5**
3.5nm,0.9s,mb4.1
WVOR *e*pP pP 04 10 13.7 -1.3
YKA Yellowknife Ar 63.42 340 P **P 04 10 43.1 -0.7**
4.4nm,0.6s,mb4.5,baz=134,slow=6.5,SNR=21
DBIC Dimbokro 67.54 86 P **P 04 11 10.4 +0.2**
2.8nm,0.9s,mb4.0,baz=202,slow=11,SNR=23
TORD Torodi Ar. Bea 73.56 78 P **P 04 11 46.8 +0.1**
baz=286,slow=6.5,SNR=15
ARCES ARCESS Array B 86.69 20 P **P 04 12 56.5 -0.4**
3.1nm,0.9s,mb4.1,baz=308,slow=6.0,SNR=4.6
SNAA Sanae 90.19 163 *e*P **P 04 13 12.5 -0.8**
1.1nm,0.7s,mb3.9
AS31 Alice Springs 149.22 234 *e*PKPbc PKPbc 04 20 00.6 -0.1
ASAR Alice Springs 149.22 234 PKPbc PKPbc 04 20 01.2 +0.5
1.2nm,0.5s,baz=113,slow=3.7,SNR=23
WB2 Warramunga Arr 150.46 241 *e*P PKPbc 04 20 04.5 +0.8
WRA Warramunga Arr 150.47 241 PKPbc PKPbc 04 20 04.4 +0.7
1.3nm,0.3s,baz=108,slow=2.6,SNR=28

IDC 08 04:11:24.2±8.6, 1682S×17651W, h0^{km}, mb3.4/2, mb1 3.7/2, mb1mx3.5/13, mbtmp3.4/2, Error ellipse: s-maj=424.3km s-min=45.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.62**	**258**	P	P	04 19 54.6	+0.5
0.2nm,0.5s,baz=94,slow=7.5,SNR=3.8							
ASAR	**Alice Springs**	**46.84**	**253**	P	P	04 19 56.3	+0.5
0.3nm,0.5s,baz=90,slow=8.8,SNR=6.9							
BRTR	**Keskin Array B**	**145.26**	**317**	PKPbc	PKPbc	04 31 01.4	-2.1
0.9nm,0.8s,baz=42,slow=2.0,SNR=4.3							
GERES	**GERESS Array B**	**146.99**	**348**	PKPbc	PKPbc	04 31 09.4	+0.7
0.7nm,0.6s,baz=11,slow=2.7,SNR=7.3							

CASC 08 04:22:08.4±1.5, 930N×8272W, h7^{km}±6^{km}, MD3.9, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.23**	**59**	⇑*i*P	Pg	04 22 13.4	+0.4
DVD	**David**	**0.90**	**163**	*e*P	Pg	04 22 25.1	-0.4
BUS	**Buena Vista**	**1.06**	**284**	⇓*e*P	Pg	04 22 28.3	-0.5
BUS				*e*S	Sg	04 22 43.3	+0.8
LCR2	**La Lucha 2**	**1.34**	**289**	⇓*e*P	Pn	04 22 32.9	-0.7
LCR2				*e*S	Sb	04 22 51.2	-0.1
LAJ	**Bijagual**	**1.50**	**292**	*e*P	Pn	04 22 41.6	+6.0
PRS1	**Puriscal**	**1.71**	**294**	*e*P	Pn	04 22 38.8	+0.1
PRS1				*e*S	Sn	04 23 02.2	+1.4
CGA2	**Cerro Gallo 2**	**1.87**	**293**	⇓*e*P	Pn	04 22 41.2	+0.4
CGA2				*e*S	Sn	04 23 06.5	+1.9
ACH	**Altos**	**2.82**	**103**	*e*P	Pn	04 22 58.9	+4.9
ACH				*e*S	Sn	04 23 30.1	+1.9
AZU	**Azuero**	**2.84**	**122**	*e*P	Pn	04 22 53.2	-1.0
AZU				*e*S	Sn	04 23 28.4	-0.3
PTP	**Ponta Puerca**	**18.82**	**60**	⇑*i*P		04 22 28.9	

*ISCJB **08** 04:22:24.5±0.8, 4304N±004×1761E±005, h7^{km}±8^{km}, Error ellipse: s-maj=6.6km s-min=5.7km az=27.6*
*CSEM **08** 04:22:24.6±0.1, 4304N×1763E, h2^{km}, MD2.6, Error ellipse: s-maj=3.0km s-min=1.2km az=54.0*
*PDG **08** 04:22:26.8±0.5, 4296N×1774E, h5^{km}±1^{km}*
*PRU **08** 04:22:26.8, 4305N×1765E, h0^{km}*
*NEIC **08** 04:22:26.8, 4296N×1774E, h5^{km}, MD2.6(PDG), After PDG.*

ISC 08 04:22:25.8±0.9, 4301N±004×1762E±005, h5^{km}±8^{km}, n39, σ1°15/68, 12C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.15**	**157**	*i* Pg	**Pg**	**04 22 27.9**	**-0.9**
STON				*i* Sg	**Sg**	**04 22 30.7**	**-0.3**
STON	**Ston**	**0.15**	**157**	*i* Pg	**Pg**	**04 22 27.9**	**-1.0**
STON				*i* Sg	**Sg**	**04 22 30.6**	**-0.3**
BRY	**Bratogost**	**0.69**	**99**	⇑*i*Pg	**Pg**	**04 22 37.5**	**-1.6**
BRY				*e*Sg	**Sg**	**04 22 48.2**	**+0.2**
HCY	**Herceg Novi**	**0.86**	**131**	⇓*i*Pg	**Pg**	**04 22 40.7**	**-1.6**
HCY				*e*Sg	**Sg**	**04 22 53.2**	**-0.2**
HCY	**Herceg Novi**	**0.86**	**131**	⇓*i*Pg	**Pg**	**04 22 40.7**	**-1.6**
HCY				*e*Sg	**Sg**	**04 22 53.2**	**-0.3**
UPM	**Unac-Piva**	**0.97**	**78**	⇓*i*Pg	**Pg**	**04 22 42.9**	**-1.5**
UPM				*e*Sg	**Sg**	**04 22 58.2**	**+1.4**
UPM	**Unac-Piva**	**0.97**	**78**	⇓*i*Pg	**Pg**	**04 22 42.9**	**-1.4**
UPM				*e*Sg	**Sg**	**04 22 58.2**	**+1.3**
NKY	**Niksic**	**1.03**	**101**	⇓*i*Pg	**Pg**	**04 22 43.6**	**-2.0**
NKY				*e*Sg	**Sg**	**04 22 59.4**	**+0.3**
NKY	**Niksic**	**1.03**	**101**	⇓*i*Pg	**Pg**	**04 22 43.7**	**-1.9**
NKY				*e*Sg	**Sg**	**04 22 59.3**	**+0.2**
BUM	**Brajici-Budva**	**1.18**	**127**	⇓*i*Pg	**Pg**	**04 22 47.0**	**-1.4**
BUM				*e*Sg	**Sg**	**04 23 04.6**	**+0.7**
PLE	**Pljevlja**	**1.34**	**76**	⇑*i*Pg	**Pg**	**04 22 50.3**	**-1.2**
PLE				*e*Sg	**Sg**	**04 23 10.6**	**+1.8**
TTG	**Podgorica**	**1.34**	**115**	⇓*i*Pg	**Pn**	**04 22 49.2**	**-2.0**
TTG				*e*Sg	**Sg**	**04 23 09.9**	**+0.9**
ULC	**Ulcinj**	**1.60**	**130**	⇓*i*Pg	**Pn**	**04 22 54.6**	**-0.2**
ULC				*e*Sg	**Sg**	**04 23 18.1**	**+0.9**
IVA	**Berane**	**1.68**	**94**	⇓*i*Pn	**Pn**	**04 22 56.4**	**+0.6**
IVA				*e*Sn	**Sg**	**04 23 21.1**	**+1.3**
PVY	**Plav**	**1.78**	**103**	⇑*i*Pn	**Pn**	**04 22 58.1**	**+0.8**
PVY				*e*Sn	**Sg**	**04 23 23.8**	**+0.7**
NVLJ	**Novalja**	**2.52**	**309**	*i* Pn	**Pn**	**04 23 10.1**	**+2.7**
NVLJ				*i* Sn	**Sn**	**04 23 41.9**	**+3.4**
RHK3	**Tenkes**	**2.91**	**9**	⇓*i*P	**Pn**	**04 23 12.7**	**-0.1**
PKSM	**Moragy**	**3.28**	**13**	⇑*i*P	**Pn**	**04 23 17.4**	**-0.5**
BZS	**Buzias**	**3.88**	**46**	⇓*i*P	**Pn**	**04 23 25.0**	**-1.0**
VOY	**Vojsko**	**4.03**	**320**	*e*Pn	**Pn**	**04 23 29.0**	**+0.9**
VOY				*e*		04 23 33.5	
VOY				*e*Sn	**Sn**	**04 24 16.0**	**+0.4**
OBKA	**Obir**	**4.12**	**329**	⇓*i*Sn	**Sn**	**04 24 18.1**	**+0.1**
OBKA	**Obir**	**4.12**	**329**	⇑*i*Pn	**Pn**	**04 23 30.4**	**+0.9**
OBKA				⇑*i*Sn	**Sn**	**04 24 23.1**	**+5.1**
OBKA	**Obir**	**4.12**	**329**	⇑*i*Pn	**Pn**	**04 23 30.4**	**+0.9**
OBKA				*i* Sn	**Sn**	**04 24 18.1**	**+0.1**
PKSG		**4.41**	**7**	⇓*i*P	**Pn**	**04 23 33.7**	**+0.3**
ARSA	**Arzberg**	**4.49**	**341**	⇑*i*Sn	**Sn**	**04 24 26.0**	**-1.0**
ARSA	**Arzberg**	**4.49**	**341**	⇓*i*Pn	**Pn**	**04 23 35.1**	**+0.7**
ARSA				⇑*i*Sn	**Sn**	**04 24 27.2**	**+0.1**
ARSA	**Arzberg**	**4.49**	**341**	⇓*i*Pn	**Pn**	**04 23 35.1**	**+0.7**
ARSA				*i* Sn	**Sn**	**04 24 26.0**	**-1.0**
ARSA	**Arzberg**	**4.49**	**341**	Pn	**Pn**	**04 23 35.1**	**+0.6**
ARSA				Sn	**Sn**	**04 24 26.0**	**-1.1**
CONA	**Conrad Observa**	**5.07**	**347**	⇑*i*Pn	**Pn**	**04 23 42.8**	**+0.3**
CONA				⇑*i*Sn	**Sn**	**04 24 41.2**	**-0.2**
PSZ	**Piszkesteto**	**5.16**	**17**	⇓*e*Pn	**Pn**	**04 23 43.6**	**-0.1**
PSZ	**Piszkesteto**	**5.16**	**17**	⇑*i*P	**Pn**	**04 23 43.7**	**0.0**
ZST	**Bratislava**	**5.20**	**356**	*e*SN	**Sn**	**04 24 42.4**	**-2.1**
MOA	**Molln**	**5.38**	**335**	⇓*i*Sn	**Sn**	**04 24 47.5**	**-1.5**
MOA	**Molln**	**5.38**	**335**	⇓*i*Pn	**Pn**	**04 23 48.4**	**+1.6**
MOA				⇓*i*Sn	**Sn**	**04 24 50.5**	**+1.4**
MOA	**Molln**	**5.38**	**335**	⇓*i*Pn	**Pn**	**04 23 48.4**	**+1.6**
MOA				*i* Sn	**Sn**	**04 24 47.5**	**-1.5**
MOA	**Molln**	**5.38**	**335**	Pn	**Pn**	**04 23 48.4**	**+1.7**
MOA				Sn	**Sn**	**04 24 47.5**	**-1.5**
VYHS	**Vyhne**	**5.55**	**8**	*i* PN	**Pn**	**04 23 49.5**	**+0.5**
VYHS				*e*SN	**Sn**	**04 24 51.5**	**-1.7**
GEC2	**GERESS Array S**	**6.44**	**336**	*e*PN	**Pn**	**04 24 03.1**	**+1.8**
GEC2				*e*Sn	**Sn**	**04 25 15.2**	**+0.1**
KHC	**Kasperske Hory**	**6.73**	**337**	*e*PN	**Pn**	**04 24 06.4**	**+1.1**
KHC				*e*SN	**Sn**	**04 25 20.6**	**-1.7**

*IDC **08** 05:04:37.9±1.1, 1572S×7073W, h174^{km}±10^{km}, mb3.5/4, mb1 3.6/8, mb1mx3.3/22, mbtmp4.0/8, MS2.6/1, Ms1 2.6/1, ms1mx2.1/21, Error ellipse: s-maj=21.7km s-min=11.8km az=22.0*
*ISCJB **08** 05:04:38.7±0.8, 1576S±008×7053W±007, h191^{km}±9^{km}, mb3.8/6, Error ellipse: s-maj=13.3km s-min=11.0km az=0.4*
*NEIC **08** 05:04:39.1±0.8, 1567S×7046W, h173^{km}±10^{km}, mb3.7/4, Error ellipse: s-maj=17.4km s-min=13.7km az=171.0*

ISC 08 05:04:39.7±0.8, 1576S±009×7046W±007, h178^{km}±10^{km}, n18, σ1°26/25, mb3.8/6, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.22**	**235**	⇑*i*P	**Pn**	**05 05 07.9**	**-1.0**
ARE				*e*S	**Sn**	**05 05 40.0**	**+8.5**
LPAZ	**La Paz**	**2.30**	**104**	P	**Pn**	**05 05 23.4**	**+3.5**
12nm,0.3s,baz=293,slow=10,SNR=840							
LPAZ				S	**Sn**	**05 05 56.7**	**+5.6**
baz=182,slow=23,SNR=4.0							
LPAZ	**La Paz**	**2.30**	**104**	P	**Pn**	**05 05 23.4**	**+3.5**
LPAZ				S	**Sn**	**05 05 56.7**	**+5.5**
LVC	**Limon Verde**	**6.97**	**168**	P	**Pn**	**05 06 21.1**	**+1.7**
3.7nm,0.3s,baz=360,slow=10,SNR=84							
LVC				S	**Sn**	**05 07 36.2**	**-1.9**
2.3nm,0.3s,baz=360,slow=13,SNR=3.9							
LVC				LR	LR	05 09 17.0	
comp=Z,50nm,19.1s,baz=360,slow=40							
LVC	**Limon Verde**	**6.97**	**168**	*e*Pn	**Pn**	**05 06 20.7**	**+1.3**
LVC				*e*Sn	**Sn**	**05 07 37.3**	**-0.8**
NNA	**Nana**	**7.25**	**300**	P	**Pn**	**05 06 17.9**	**-5.0**
2.1nm,0.3s,baz=126,slow=11,SNR=6.3							
NNA				S	**Sn**	**05 07 32.2**	**-12**
3.1nm,0.3s,baz=239,slow=17,SNR=5.3							
NNA	**Nana**	**7.25**	**300**	*e*Pn	**Pn**	**05 06 18.2**	**-4.8**
NNA				*e*Sn	**Sn**	**05 07 35.7**	**-8.9**
SIV	**San Ignacio**	**9.03**	**93**	P	**Pn**	**05 06 47.5**	**+1.0**
0.6nm,0.3s,baz=280,slow=12,SNR=13							
SIV				S	**Sn**	**05 08 27.2**	**0.0**
0.2nm,0.3s,baz=27,slow=21,SNR=4.3							
SAML	**Samuel**	**9.81**	**47**	*e*Pn	**Pn**	**05 06 55.2**	**-1.5**
1.4nm,0.7s							
OTAV	**Otavalo**	**17.75**	**333**	*e*P	**Pn**	**05 08 38.0**	**+2.2**
1.9nm,0.7s							
SDCO	**Great Sand Dun**	**62.59**	**329**	*e*P	**P**	**05 14 45.2**	**+0.5**
1.5nm,0.6s,mb4.0							
SMCO	**Snowmass**	**64.42**	**329**	*e*P	**P**	**05 14 58.2**	**+1.4**
0.7nm,0.5s,mb3.8							
PDAR	**Pinedale Array**	**68.43**	**330**	P	**P**	**05 15 21.9**	**-0.3**
0.3nm,0.4s,mb3.4,baz=118,slow=9.5,SNR=4.8							
DBIC	**Dimbokro**	**68.66**	**76**	P	**P**	**05 15 23.0**	**-0.6**
2.7nm,0.8s,mb4.0,baz=25,slow=19,SNR=4.5							
DBIC	**Dimbokro**	**68.66**	**76**	P	**P**	**05 15 23.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.91**	**72**	P	**P**	**05 16 11.5**	**-0.7**
1.8nm,0.7s,mb3.8,baz=262,slow=4.9,SNR=14							
YKA	**Yellowknife Ar**	**85.31**	**341**	P	**P**	**05 16 55.3**	**-1.1**
1.6nm,0.9s,mb3.7,baz=130,slow=4.7,SNR=4.5							
SONM	**Songino Array**	**147.91**	**4**	PKPbc	PKPbc	05 24 04.1	+0.4
1.2nm,0.7s,baz=274,slow=0.8,SNR=5.3							

MEX 08 05:06:03.2±0.7, 1765N×9464W, h139^{km}±12^{km}, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.60**	**203**	*i* P	Pn	05 06 22.6	-1.2
CMIG				*i* S	Sn	05 06 37.4	-2.1
OXX	**Oaxaca**	**2.06**	**255**	*i* P	Pn	05 06 37.5	-0.9
OXX				*i* S	Sn	05 07 05.0	-0.4
VHO	**Vista Hermosa**	**2.08**	**254**	*i* P	Pn	05 06 36.8	-1.7
VHO				*i* S	Sn	05 07 04.1	-1.5
TPIG	**Tehuac#an**	**2.70**	**287**	*i* P	Pn	05 06 45.8	-0.5
TPIG				*i* S	Sn	05 07 17.5	-2.0
UTMO	**Huajuapan**	**3.02**	**274**	*i* P	Pn	05 06 48.9	-1.4
UTMO				*i* S	Sn	05 07 24.1	-2.6

*ISCJB **08** 05:07:25.1±1.1, 3659N±006×276E±0.1, h91^{km}±9^{km}, Error ellipse: s-maj=15.3km s-min=9.6km az=171.0*
*CSEM **08** 05:07:25.0±0.2, 3666N×2769E, h80^{km}, MD2.6, Error ellipse: s-maj=5.3km s-min=4.8km az=25.0*
*ATH **08** 05:07:27.4, 3659N×2735E, h10^{km}, MD3.4/3*
*HLW **08** 05:07:30.2, 3214N×3305E, h33^{km}, Mb3.3*
*ISK **08** 05:07:31.1, 3694N×2791E, h30^{km}, MD2.6*

ISC 08 05:07:26.0±1.1, 3660N±006×276E±01, h86^{km}±9^{km}, n11, σ0°88/15, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.13**	**352**	*i* PG	**Pn**	**05 07 38.9**	**+0.6**
DAT				*i* SG	**Sn**	**05 07 46.6**	**-0.7**
BODT	**Bodrum**	**0.52**	**333**	PG	**Pn**	**05 07 41.2**	**+0.8**
BODT				SG	**Sn**	**05 07 50.3**	**-0.9**
ARG	**Arkhangelos**	**0.57**	**132**	*e*P	**Pn**	**05 07 41.5**	**+0.6**
ARG				*e*S	**Sn**	**05 07 52.4**	**+0.4**
MLSB	**Milas**	**0.71**	**11**	PG	**Pn**	**05 07 40.8**	**-1.4**
DALT	**Dalyan (Mudla)**	**0.85**	**78**	PG	**Pn**	**05 07 43.9**	**+0.2**
KARP	**Karpathos**	**1.11**	**199**	*e*P	**Pn**	**05 07 47.3**	**+0.6**
KARP				*e*S	**Sn**	**05 08 02.4**	**+0.2**
SMG	**Samos**	**1.26**	**331**	*e*PB	**Pn**	**05 07 49.8**	**+1.2**
NPS	**Neapolis**	**2.10**	**231**	*e*P	**Pn**	**05 08 00.1**	**+0.8**
HMAT	**Matruh**	**5.51**	**185**	P	**Pn**	**05 08 45.7**	**+0.2**
SWA1		**7.49**	**193**	P	**Pn**	**05 09 10.4**	**-2.1**
SWA2		**7.56**	**194**	P	**Pn**	**05 09 12.5**	**-0.8**

*NEIC **08** 05:24:17.9, 1683N×100.18W, h5^{km}, MD4.4(MEX), After MEX.*

MEX 08 05:24:18.0±0.9, 1683N×10018W, h7^{km}±4^{km}, MD4.5, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**339**	⇓*i*P	Pg	05 24 22.0	-0.6
CAIG				*e*S	Sg	05 24 26.0	+0.3
ACX	**Acapulco**	**0.26**	**82**	*i* P	Pg	05 24 22.5	-0.6
ACX				*i* S	Sg	05 24 27.0	+0.5
MEIG	**Mezcala**	**1.21**	**26**	*i* P	Pb	05 24 37.5	-3.8
MEIG				*e*S	Sg	05 24 53.7	-3.3
ZIIG	**Zihuatanejo**	**1.45**	**302**	*i* P	Pn	05 24 42.4	-2.2
ZIIG				*i* S	Sn	05 24 57.4	-6.4
PLIG	**Platanillo**	**1.68**	**23**	*i* P	Pn	05 24 44.7	-3.0
PLIG				*e*S	Sn	05 25 04.2	-5.3
PLIG	**Platanillo**	**1.68**	**23**	*i* P	Pn	05 24 44.7	-3.0
PLIG				*e*S	Sn	05 25 06.3	-3.2
PNIG	**Pinotepa**	**2.02**	**102**	*e*P	Pn	05 24 49.4	-3.0
PNIG				*i* S	Sn	05 25 13.1	-4.8
PNIG	**Pinotepa**	**2.02**	**102**	*e*P	Pn	05 24 49.4	-3.0
PNIG				*i* S	Sn	05 25 14.6	-3.2
YAIG	**Yautepec**	**2.28**	**28**	*e*P	Pn	05 24 52.0	-4.0
YAIG				*e*S	Sn	05 25 20.3	-4.0
YAIG	**Yautepec**	**2.28**	**28**	*e*P	Pn	05 24 52.0	-4.0
YAIG				*e*S	Sn	05 25 21.8	-2.5
UTMO	**Huajuapan**	**2.48**	**66**	*i* P	Pn	05 24 55.4	-3.4
UTMO				*i* S	Sn	05 25 25.3	-3.9
SZVM	**Salazar**	**2.59**	**17**	*e*P	Pn	05 24 57.5	-2.8
SZVM				*i* S	Sn	05 25 31.7	-0.2
PPM	**Popocatepetl**	**2.67**	**33**	*e*P	Pn	05 24 58.5	-2.8
PPM				*e*S	Sn	05 25 31.6	-2.3
MOIG	**Morelia**	**2.99**	**341**	*e*P	Pn	05 25 02.7	-3.0
MOIG				*i* S	Sn	05 25 38.0	-3.7
MOIG	**Morelia**	**2.99**	**341**	*e*P	Pn	05 25 06.2	+0.5
MOIG				*i* S	Sn	05 25 36.5	-5.2
IIO	**Organos**	**3.07**	**27**	*i* P	Pn	05 25 06.2	-0.7
IIO				*i* S	Sn	05 25 45.6	+1.7
VHO	**Vista Hermosa**	**3.31**	**85**	*i* P	Pn	05 25 07.1	-3.1
VHO				*e*S	Sn	05 25 47.2	-2.5
VHO	**Vista Hermosa**	**3.31**	**85**	*i* P	Pn	05 25 07.1	-3.1
VHO				*e*S	Sn	05 25 41.8	-7.9
OXX	**Oaxaca**	**3.32**	**85**	*e*P	Pn	05 25 07.5	-2.8
MMIG	**Aquila**	**3.35**	**296**	*e*P	Pn	05 25 08.6	-2.1
MMIG				*i* S	Sn	05 25 47.0	-3.6
COLM	**Colima**	**4.07**	**305**	*e*P	Pn	05 25 18.9	-1.8
COLM				*i* S	Sn	05 26 06.1	-2.5
COLM	**Colima**	**4.07**	**305**	*i* S	Sn	05 26 00.4	-8.1
SFJM	**Santa Fe**	**4.53**	**324**	*e*P	Pn	05 25 32.0	+5.0
ANIG	**Ahuacatlan**	**5.87**	**316**	*e*P	Pn	05 25 38.8	-6.6
ANIG				*i* S	Sn	05 26 48.6	-4.3
ZAIG	**Zacatecas**	**6.32**	**340**	*e*P	Pn	05 25 51.0	-0.5
ZAIG				*i* S	Sn	05 27 02.0	-1.9
LNIG	**Linares**	**8.05**	**5**	*e*P	Pn	05 26 11.8	-3.5
LNIG				*i* S	Sn	05 27 43.5	-3.1

IDC 08 05:27:31.0±5.8, 4806N×15243E, h0^{km}, mb3.9/3, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=132.0km s-min=48.0km az=124.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.89**	**244**	Pn	Pn	05 29 21.6	-5.4
0.9nm,0.3s,baz=90,slow=14,SNR=3.1							
MJAR	**Matsushiro Arr**	**15.56**	**228**	Pn	Pn	05 31 12.0	+0.3
1.1nm,0.3s,baz=37,slow=9.8,SNR=12							
MKAR	**Makanchi Array**	**45.94**	**296**	P	P	05 35 53.8	-1.7
0.8nm,0.8s,baz=66,slow=7.1,SNR=4.1							
BVAR	**Borovoye Array**	**49.68**	**308**	P	P	05 36 26.1	+1.6
0.2nm,0.4s,baz=56,slow=5.7,SNR=2.4							
FINES	**FINESS Array B**	**62.66**	**334**	P	P	05 37 56.3	-1.0
3.1nm,0.9s,baz=38,slow=9.6,SNR=9.6							
NB2	**NORSAR Subarra**	**66.84**	**341**	P	P	05 38 24.7	+0.1
comp=Z,3.5nm,1.0s,baz=27,slow=6.9							
NOA	**NORSAR Array B**	**66.84**	**341**	P	P	05 38 24.5	-0.1
comp=Z,1.1nm,0.8s,baz=25,slow=6.3,SNR=2.7							

MEX 08 05:29:17.1±0.3, 1680N×10020W, h10^{km}±1^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**346**	*i* P	Pg	05 29 21.9	-0.4
CAIG				*i* S	Sg	05 29 25.8	0.0
ACX	**Acapulco**	**0.28**	**76**	*i* P	Pg	05 29 22.5	-0.3
ACX				*i* S	Sg	05 29 26.5	-0.1
MEIG	**Mezcala**	**1.25**	**26**	*i* P	Pn	05 29 37.0	-3.6
MEIG				*i* S	Sb	05 29 52.5	-4.5
UTMO	**Huajuapan**	**2.51**	**66**	*e*P	Pn	05 29 55.2	-2.7
UTMO				*i* S	Sn	05 30 25.0	-3.6

*ISCJB **08** 05:38:06.5±1.4, 1913S±0.1×1784W±0.1, h447^{km}±20^{km}, mb3.7/6, Error ellipse: s-maj=20.5km s-min=13.8km az=94.6*
*NEIC **08** 05:38:07.0±1.2, 1925S×17821W, h451^{km}±16^{km}, mb3.9/1, Error ellipse: s-maj=29.4km s-min=11.8km az=149.0*
*IDC **08** 05:38:07.2±1.8, 1929S×17820W, h451^{km}±23^{km}, mb3.3/5, mb1 3.5/8, mb1mx3.4/16, mbtmp4.2/8, Error ellipse: s-maj=20.6km s-min=13.1km az=129.0*

ISC 08 05:38:07.5±1.2, 1933S±01×1782W±01, h448^{km}±18^{km}, n14, σ0°79/14, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.19**	**50**	P	**P**	**05 40 03.5**	**-1.5**
1.0nm,0.3s,baz=67,slow=22,SNR=6.6							
AFI				S	**S**	**05 41 42.3**	**+1.0**
7.0nm,0.3s,baz=1.9,slow=22,SNR=6.6							
DZM	**Mont Dzumac**	**14.60**	**256**	P	**P**	**05 41 15.1**	**+0.8**
0.1nm,0.3s,baz=90,slow=20,SNR=1.9							
URZ	**Urewera**	**19.32**	**191**	P	**P**	**05 42 02.7**	**0.0**
2.5nm,0.3s,baz=263,slow=3.4,SNR=11							
URZ				S	**S**	**05 45 15.1**	**+0.4**
0.8nm,0.3s,baz=241,slow=20,SNR=9.1							
STKA	**Stephens Creek**	**38.12**	**243**	P	**P**	**05 44 45.0**	**-1.5**
2.0nm,0.4s,mb3.9,baz=104,slow=6.6,SNR=5.0							
WB2	**Warramunga Arr**	**44.54**	**261**	*e*P	**P**	**05 45 38.4**	**+0.5**
WRA	**Warramunga Arr**	**44.55**	**261**	P	**P**	**05 45 38.5**	**+0.5**
1.8nm,0.4s,mb3.9,baz=97,slow=7.4,SNR=62							
AS31	**Alice Springs**	**44.58**	**256**	*e*P	**P**	**05 45 38.3**	**+0.1**
ASAR	**Alice Springs**	**44.58**	**256**	P	**P**	**05 45 38.5**	**+0.3**
7.6nm,0.8s,mb4.2,baz=97,slow=7.6,SNR=78							
ASPA	**Alice Springs**	**44.59**	**256**	*e*P	**P**	**05 45 38.5**	**+0.3**
MBWA	**Marble Bar**	**57.90**	**257**	*e*P	**P**	**05 47 14.0**	**-1.4**
2.2nm,0.5s,mb3.7							
NVAR	**Mina Array Bea**	**80.31**	**44**	P	**P**	**05 49 30.9**	**+0.1**
0.9nm,0.9s,mb3.3,baz=222,slow=9.8,SNR=4.3							
PDAR	**Pinedale Array**	**88.25**	**43**	P	**P**	**05 50 10.1**	**+0.1**
0.2nm,0.3s,mb3.3,baz=271,slow=5.0,SNR=3.8							
AKASG	**Malin Array Be**	**141.86**	**332**	PKhKP		05 56 41.7	
1.0nm,0.4s,baz=39,slow=3.9,SNR=7.9							
GERES	**GERESS Array B**	**148.99**	**345**	PKPbc	PKPbc	05 57 02.0	-2.0
0.2nm,0.4s,baz=39,slow=8.6,SNR=4.0							

IGQ 08 06:17:11.5, 285N×8004W, h12^{km}±6^{km}, Mb4.3, Ms4.1, 3C-2D, Error ellipse: s-maj=21.9km s-min=6.5km az=156.8, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**

3.4nm,0.4s,SNR=1.0
LPL La Plagne 1.64 342 *e*Pg **Pg 06 20 19.5 -0.9**
SNR=1.0
LPL *e*Sg **Sg 06 20 41.6 0.0**
4.0nm,0.4s
PGF Pioggiola 1.81 141 *e*Pn **Pn 06 20 19.1 -0.3**
SNR=1.0
PGF *e*Sn **Sn 06 20 40.7 -1.4**
2.8nm,0.3s
VIVF Saint-Julien-I 2.19 295 *e*Pn **Pn 06 20 26.4 +1.8**
VIVF *e*Sn **Sn 06 20 51.5 +0.1**
VIVF *e*Sg **Sg 06 20 58.4 -0.9**
1.9nm,0.3s

IDC 08 06:33:09.2±2.1,3458N×8128E,h0km,mb3.4/4,mb1 3.7/5, mb1mx3.4/22,mbtmp3.5/5,ML2.8/1,MS3.7/1,Ms1 3.7/1, ms1mx2.7/25,Error ellipse: s-maj=65.1km s-min=27.1km az=74.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.22**	**3**	Pn	Pn	06 36 01.8	-2.8
0.2nm,0.3s,baz=181,slow=11,SNR=11							
ZAL	**Zalesovo**	**19.51**	**6**	P	Pn	06 37 37.6	-1.5
0.1nm,0.3s,baz=271,slow=11,SNR=3.1							
BVAR	**Borovoye Array**	**20.00**	**341**	P	P	06 37 43.3	0.0
1.1nm,0.7s,baz=147,slow=12,SNR=6.2							
SONM	**Songino Array**	**22.95**	**47**	P	P	06 38 15.3	+0.2
0.2nm,0.3s,baz=238,slow=8.5,SNR=3.7							
ARCES	**ARCESS Array B**	**46.20**	**336**	LR	LR	07 01 39.4	
comp=Z,76nm,18.0s,baz=111,slow=37							
WRA	**Warramunga Arr**	**74.04**	**129**	P	P	06 44 47.1	+0.2
1.0nm,1.0s,baz=321,slow=5.9,SNR=5.3							
ASAR	**Alice Springs**	**76.48**	**131**	P	P	06 45 01.3	+0.4
0.2nm,0.7s,baz=316,slow=6.4,SNR=5.2							

*ISCJB **08** 06:57:45.3±0.5,3842N±002×2399E±002,h6km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=121.0*
*ATH **08** 06:57:45.5,3839N×2397E,h22km,MD3.6/18,ML3.4*
*NEIC **08** 06:57:45.7,3838N×2397E,h22km,ML3.4(ATH), ML3.6(THE),After ATH.*
*CSEM **08** 06:57:46.0±0.1,3841N×2402E,h5km,ML3.3,Error ellipse: s-maj=2.0km s-min=1.6km az=70.0*
*THE **08** 06:57:47.6,3848N×2401E,h10km,ML3.3*

ISC 08 06:57:46.2±0.4,3843N±002×2399E±002,h5km±3km,n89, σ1§12/123,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.40**	**195**	*e*PB	**Pg**	**06 57 52.8**	**-1.0**
PTL	**Penteli**	**0.40**	**195**	*e*Pb	**Pg**	**06 57 53.7**	**-0.1**
PTL				*e*Sb	**Sg**	**06 58 01.2**	**+2.2**
ATH	**Athens Observa**	**0.51**	**206**	*e*PB	**Pg**	**06 57 55.1**	**-0.9**
ATH				*e*SB	**Sg**	**06 58 01.5**	**-1.1**
ATH	**Athens Observa**	**0.51**	**206**	*e*Pb	**Pg**	**06 57 55.2**	**-0.8**
ATH				*e*Sb	**Sg**	**06 58 01.2**	**-1.4**
KVR	**Kavouri**	**0.63**	**196**	*e*PN	**Pg**	**06 57 57.0**	**-1.3**
AOS	**Alonnisos**	**0.74**	**353**	*e*Pg	**Pg**	**06 58 01.9**	**+1.4**
AOS				*e*Sg	**Sg**	**06 58 12.8**	**+2.7**
AOS	**Alonnisos**	**0.74**	**353**	P	**Pg**	**06 58 01.8**	**+1.4**
AOS				S	**Sg**	**06 58 11.8**	**+1.7**
NAIG	**Nisos Aigina**	**0.78**	**211**	*e*PN	**Pg**	**06 58 00.0**	**-1.2**
LKR	**Lokris**	**0.81**	**286**	*e*PN	**Pg**	**06 58 00.9**	**-0.8**
LKR				*e*SN	**Sg**	**06 58 12.9**	**+0.7**
NEO	**Neokhori**	**1.06**	**326**	*e*PN	**Pn**	**06 58 06.5**	**-1.2**
NEO				*e*SN	**Sn**	**06 58 21.2**	**-1.6**
NEO	**Neokhori**	**1.06**	**326**	*e*Pn	**Pn**	**06 58 07.2**	**-0.5**
NEO				*e*Sn	**Sn**	**06 58 21.2**	**-1.6**
XOR	**Xorichti**	**1.12**	**326**	*e*Pg	**Pg**	**06 58 08.1**	**+0.4**
XOR				*e*Sg	**Sg**	**06 58 23.2**	**+0.9**
XOR	**Xorichti**	**1.12**	**326**	P	**Pg**	**06 58 08.1**	**+0.4**
XOR				S	**Sg**	**06 58 22.8**	**+0.5**
AGG	**Agios Georgios**	**1.43**	**295**	*e*Pg	**Pg**	**06 58 12.8**	**-0.8**
AGG				*e*Sg	**Sg**	**06 58 32.6**	**+0.5**
AGG	**Agios Georgios**	**1.43**	**295**	P	**Pn**	**06 58 12.5**	**-0.3**
AGG				S	**Sb**	**06 58 32.6**	**+0.9**
CHOS	**Chios island**	**1.62**	**91**	*e*Pg	**Pg**	**06 58 15.4**	**-1.8**
CHOS				*e*Sg	**Sg**	**06 58 37.9**	**-0.4**
LOS	**Limnos**	**1.72**	**29**	P	**Pn**	**06 58 17.2**	**+0.5**
LOS	**Limnos**	**1.72**	**29**	P	**Pn**	**06 58 17.2**	**+0.4**
EVR	**Evrytania**	**1.78**	**286**	*e*PN	**Pn**	**06 58 17.2**	**-0.4**
EVR	**Evrytania**	**1.78**	**286**	*e*Pn	**Pn**	**06 58 18.1**	**+0.5**
APE	**Apeiranthos**	**1.83**	**138**	*e*Pb	**Pn**	**06 58 17.1**	**-1.1**
APE				*e*Sb	**Sb**	**06 58 43.2**	**0.0**
APE	**Apeiranthos**	**1.83**	**138**	*e*PN	**Pn**	**06 58 17.5**	**-0.7**
OUR	**Ouranopolis**	**1.90**	**360**	*e*Pb	**Pn**	**06 58 19.1**	**-0.1**
OUR	**Ouranopolis**	**1.90**	**360**	P	**Pn**	**06 58 19.2**	**0.0**
VLI	**Veliai**	**1.91**	**206**	*e*PB	**Pn**	**06 58 17.5**	**-1.8**
THL	**Klokotos Trika**	**1.91**	**307**	*e*PN	**Pn**	**06 58 19.0**	**-0.4**
PRK	**Paraskevi**	**1.96**	**65**	*e*PN	**Pn**	**06 58 20.2**	**+0.2**
PRK	**Paraskevi**	**1.96**	**65**	*e*Pn	**Pn**	**06 58 22.0**	**+2.0**
PLG	**Polygyros**	**1.98**	**348**	*e*Pb	**Pb**	**06 58 20.1**	**-2.7**
PLG	**Polygyros**	**1.98**	**348**	*e*Pn	**Pn**	**06 58 20.0**	**-0.4**
RLS	**Riolos of Patr**	**2.02**	**260**	*e*PN	**Pn**	**06 58 20.5**	**-0.5**
RLS	**Riolos of Patr**	**2.02**	**260**	*e*Pn	**Pn**	**06 58 22.1**	**+1.1**
LIT	**Litokhoron**	**2.04**	**325**	*e*Pn	**Pn**	**06 58 20.4**	**-0.7**
LIT				*e*Sn	**Sn**	**06 58 44.3**	**-2.6**
LIT	**Litokhoron**	**2.04**	**325**	P	**Pn**	**06 58 20.7**	**-0.4**
LIT				S	**Sn**	**06 58 46.8**	**-0.1**
URLA	**Izmir**	**2.04**	**91**	*i* P	**Pn**	**06 58 21.2**	**-0.1**
URLA				*i* S	**Sg**	**06 58 55.6**	**+3.7**
ITM	**Ithomi**	**2.06**	**233**	*e*PN	**Pn**	**06 58 20.7**	**-0.7**
ITM	**Ithomi**	**2.06**	**233**	*e*Pn	**Pn**	**06 58 21.7**	**+0.3**
BOZC	**Bozcaada**	**2.13**	**48**	*i* P	**Pn**	**06 58 23.0**	**+0.6**
BOZC				*i* S	**Sn**	**06 58 47.3**	**-1.9**
HORT	**Hortiatis**	**2.27**	**343**	P	**Pn**	**06 58 24.6**	**+0.2**
HORT				S	**Sn**	**06 58 52.0**	**-0.7**
HORT	**Hortiatis**	**2.27**	**343**	P	**Pn**	**06 58 24.5**	**+0.2**
HORT				*e*Sn	**Sn**	**06 58 51.7**	**-1.0**
AYVA	**Ayvalik**	**2.28**	**67**	*i* P	**Pn**	**06 58 22.3**	**-2.2**
KYTH	**Kithira**	**2.28**	**200**	*e*PN	**Pn**	**06 58 23.1**	**-1.4**
KYTH	**Kithira**	**2.28**	**200**	*e*Pn	**Pn**	**06 58 23.0**	**-1.5**
THE	**Thessaloniki**	**2.34**	**340**	P	**Pn**	**06 58 25.1**	**-0.1**
THE	**Thessaloniki**	**2.34**	**340**	P	**Pn**	**06 58 25.1**	**-0.1**
SMG	**Samos**	**2.36**	**107**	P	**Pn**	**06 58 25.7**	**+0.2**
SANT	**Santorini**	**2.37**	**150**	*e*PN	**Pn**	**06 58 24.6**	**-1.1**
SANT	**Santorini**	**2.37**	**150**	*e*Pn	**Pn**	**06 58 24.4**	**-1.3**
SANT	**Santorini**	**2.37**	**150**	*e*Pn	**Pn**	**06 58 24.4**	**-1.2**
SOH	**Sokhos**	**2.44**	**348**	P	**Pn**	**06 58 27.0**	**+0.4**
SOH	**Sokhos**	**2.44**	**348**	P	**Pn**	**06 58 27.0**	**+0.4**
KDAG	**Bornova**	**2.57**	**90**	*i* P	**Pn**	**06 58 27.8**	**-0.7**
LKD	**Levkas**	**2.63**	**277**	*e*Pn	**Pn**	**06 58 31.6**	**+2.3**
LKD				*e*Sn	**Sn**	**06 59 01.5**	**-0.2**
LKD	**Levkas**	**2.63**	**277**	*e*Pn	**Pn**	**06 58 31.6**	**+2.2**
LKD				*e*Sn	**Sn**	**06 59 01.5**	**-0.2**
VLS	**Valsamata**	**2.69**	**266**	*e*Pb	**Pb**	**06 58 32.0**	**-2.8**
SRS	**Serrai**	**2.70**	**354**	*e*Pn	**Pn**	**06 58 30.4**	**+0.1**
SRS	**Serrai**	**2.70**	**354**	P	**Pn**	**06 58 30.1**	**-0.1**
GRG	**Griva**	**2.81**	**335**	P	**Pn**	**06 58 31.9**	**+0.3**
GRG	**Griva**	**2.81**	**335**	P	**Pn**	**06 58 32.4**	**+0.3**
KNT	**Kendrikon**	**2.85**	**343**	*e*Pn	**Pn**	**06 58 32.2**	**-0.1**
KNT	**Kendrikon**	**2.85**	**343**	P	**Pn**	**06 58 32.4**	**0.0**
NVR	**Nevrokopi**	**2.92**	**358**	*e*PN	**Pn**	**06 58 33.4**	**+0.2**
ALN	**Alexandroupoli**	**2.93**	**32**	*e*Pn	**Pn**	**06 58 33.2**	**-0.2**
ALN	**Alexandroupoli**	**2.93**	**32**	P	**Pn**	**06 58 33.2**	**-0.1**
ALN				S	**Sn**	**06 59 12.2**	**+3.3**
RDO	**Rodhopi**	**2.96**	**23**	*e*PN	**Pn**	**06 58 34.0**	**+0.2**
RDO	**Rodhopi**	**2.96**	**23**	*e*Pn	**Pn**	**06 58 33.5**	**-0.3**
KARN	**Karanos**	**3.02**	**181**	*e*Pn	**Pn**	**06 58 36.6**	**+1.9**
KARN				*e*Sn	**Sn**	**06 59 13.2**	**+1.9**
KARN	**Karanos**	**3.02**	**181**	*e*Pn	**Pn**	**06 58 36.7**	**+2.0**
KARN				*e*Sn	**Sn**	**06 59 13.2**	**+1.9**
BDRM	**Kayabasi**	**3.06**	**115**	*i* P	**Pn**	**06 58 35.2**	**+0.1**
BDRM				*i* S	**Sg**	**06 59 25.7**	**+1.3**
BDRM	**Kayabasi**	**3.06**	**115**	*i* P	**Pn**	**06 58 35.2**	**+0.1**
IGT	**Igoumenitsa**	**3.06**	**292**	*e*Pn	**Pn**	**06 58 36.7**	**+1.5**
IGT	**Igoumenitsa**	**3.06**	**292**	P	**Pn**	**06 58 37.2**	**+2.0**
VAY	**Valandovo**	**3.09**	**340**	P	**Pn**	**06 58 36.0**	**+0.5**
VAY	**Valandovo**	**3.09**	**340**	P	**Pn**	**06 58 36.0**	**+0.5**
MMB	**Musomiste**	**3.16**	**356**	*e*Pn	**Pn**	**06 58 36.2**	**-0.3**
MMB				*e*Sn	**Sn**	**06 59 13.7**	**-0.9**
MMB	**Musomiste**	**3.16**	**356**	P	**Pn**	**06 58 36.4**	**-0.2**
NPS	**Neapolis**	**3.42**	**157**	P	**Pn**	**06 58 39.8**	**-0.3**
SIVA	**Sivas**	**3.47**	**169**	*e*Pn	**Pn**	**06 58 43.2**	**+2.4**
SIVA				*e*Sn	**Sn**	**06 59 21.7**	**-0.6**
LAST	**Lasithi**	**3.48**	**160**	*e*Pn	**Pn**	**06 58 40.8**	**-0.1**
LAST				*e*Sn	**Sn**	**06 59 24.0**	**+1.6**
LAST	**Lasithi**	**3.48**	**160**	P	**Pn**	**06 58 40.9**	**0.0**
LAST				S	**Sn**	**06 59 23.5**	**+1.1**
GVD	**Gavdhos**	**3.59**	**179**	*e*Pn	**Pn**	**06 58 43.4**	**+1.0**
GVD				*e*Sn	**Sn**	**06 59 24.9**	**-0.3**
GVD	**Gavdhos**	**3.59**	**179**	P	**Pn**	**06 58 43.0**	**+0.6**
ZKR	**Zakros**	**3.76**	**151**	*e*Pn	**Pn**	**06 58 44.7**	**-0.1**
ZKR				*e*Sn	**Sn**	**06 59 30.6**	**+1.1**
ZKR	**Zakros**	**3.76**	**151**	P	**Pn**	**06 58 44.6**	**-0.3**
ZKR				S	**Sn**	**06 59 30.7**	**+1.2**
KARP	**Karpathos**	**3.84**	**138**	*e*PN	**Pn**	**06 58 45.7**	**-0.2**
VTS	**Vitosha**	**4.20**	**352**	*e*Pn	**Pn**	**06 58 51.4**	**+0.5**
VTS	**Vitosha**	**4.20**	**352**	P	**Pn**	**06 58 51.9**	**+1.1**
VTS				S	**Sn**	**06 59 40.2**	**-0.1**
TIP	**Timpagrande**	**5.70**	**280**	P	**Pn**	**06 59 13.9**	**+2.4**
MLR	**Muntele Rosu**	**7.20**	**11**	⇓*i* P	**Pn**	**06 59 33.7**	**+1.6**

*SKO **08** 06:59:04.2,4031N×1902E,h7km*
*THE **08** 06:59:07.6,4229N×1956E,h10km,ML3.3*
*ISCJB **08** 06:59:08.0±0.2,4234N±001×1986E±002,h4km,Error ellipse: s-maj=2.6km s-min=1.6km az=101.1*
*PDG **08** 06:59:08.6±0.2,4235N×1984E,h4km±1km*
*NEIC **08** 06:59:08.6,4235N×1984E,h4km,ML3.2(PDG), ML3.7(THE),After PDG.*
*CSEM **08** 06:59:08.0±0.1,4235N×1993E,h2km,ML3.3,Error ellipse: s-maj=2.2km s-min=1.6km az=54.0*

ISC 08 06:59:09.0±0.2,4235N±001×1987E±002,h4km,n74, σ1§28/118,12C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.26**	**17**	⇑*i*Pg	**Pg**	**06 59 13.1**	**-0.9**
PVY				*e*Sg	**Sg**	**06 59 17.6**	**+0.3**
PVY	**Plav**	**0.26**	**17**	⇑*i*Pg	**Pg**	**06 59 13.1**	**-0.9**
PVY				*e*Sg	**Sg**	**06 59 17.6**	**+0.3**
TTG	**Podgorica**	**0.46**	**280**	⇑*i*Pg	**Pg**	**06 59 15.8**	**-2.1**
TTG				*e*Sg	**Sg**	**06 59 23.3**	**-0.6**
IVA	**Berane**	**0.52**	**2**	⇑*i*Pg	**Pg**	**06 59 18.2**	**-0.8**
IVA				*e*Sg	**Sg**	**06 59 26.3**	**+0.5**
IVA	**Berane**	**0.52**	**2**	⇑*i*Pg	**Pg**	**06 59 18.2**	**-0.9**
IVA				*e*Sg	**Sg**	**06 59 26.3**	**+0.5**
ULC	**Ulcinj**	**0.60**	**230**	⇑*i*Pg	**Pg**	**06 59 19.5**	**-1.1**
ULC				*e*Sg	**Sg**	**06 59 28.7**	**+0.3**
BUM	**Brajici-Budva**	**0.72**	**266**	⇓*i*Pg	**Pg**	**06 59 21.5**	**-1.4**
BUM				*e*Sg	**Sg**	**06 59 33.0**	**+0.6**
NKY	**Niksic**	**0.80**	**306**	⇓*i*Pg	**Pg**	**06 59 22.2**	**-2.1**
NKY				*e*Sg	**Sg**	**06 59 35.0**	**+0.4**
SJES	**Sjenica**	**0.92**	**3**	Pn	**Pg**	**06 59 25.5**	**-1.2**
TIR	**Tirane**	**1.00**	**180**	*e*Pg	**Pg**	**06 59 26.3**	**-2.0**
TIR				*e*Sg	**Sg**	**06 59 40.8**	**-0.4**
TIR	**Tirane**	**1.00**	**180**	P	**Pg**	**06 59 26.7**	**-1.6**
TIR				S	**Sg**	**06 59 41.9**	**+0.7**
TIR	**Tirane**	**1.00**	**180**	*e*Sg	**Sg**	**06 59 40.8**	**-0.4**
TIR	**Tirane**	**1.00**	**180**	P	**Pg**	**06 59 26.7**	**-1.5**
HCY	**Herceg Novi**	**1.02**	**276**	⇓*i*Pg	**Pg**	**06 59 26.8**	**-1.9**
HCY				*e*Sg	**Sg**	**06 59 42.4**	**+0.5**
PLE	**Pljevlja**	**1.04**	**340**	⇓*i*Pg	**Pg**	**06 59 27.7**	**-1.3**
PLE				*e*Sg	**Sg**	**06 59 43.4**	**+0.9**
UPM	**Unac-Piva**	**1.11**	**321**	⇑*i*Pg	**Pg**	**06 59 29.0**	**-1.3**
UPM				*e*Sg	**Sg**	**06 59 45.9**	**+1.2**
BRY	**Bratogost**	**1.13**	**300**	⇑*i*Pg	**Pg**	**06 59 28.2**	**-2.4**
BRY				*e*Sg	**Sg**	**06 59 46.5**	**+1.3**
TREB	**Trebinje**	**1.19**	**289**	P	**Pg**	**06 59 29.4**	**-2.4**
OHR	**Ohrid**	**1.42**	**150**	*e*Pg	**Pg**	**06 59 32.1**	**-4.1**
OHR				*e*Sg	**Sg**	**06 59 55.1**	**+0.5**
OHR	**Ohrid**	**1.42**	**150**	P	**Pn**	**06 59 34.3**	**-1.3**
OHR				S	**Sb**	**06 59 55.1**	**+0.6**
OHR	**Ohrid**	**1.42**	**150**	*e*Pg	**Pg**	**06 59 33.7**	**-2.5**
OHR	**Ohrid**	**1.42**	**150**	P	**Pn**	**06 59 34.3**	**-1.3**
OHR				*e*Sg	**Sg**	**06 59 55.0**	**+0.4**
BARS	**Barje**	**1.52**	**71**	*i* Pn	**Pn**	**06 59 35.7**	**-1.3**
BBLS	**Bajina Basta -**	**1.56**	**348**	*i* Pn	**Pn**	**06 59 37.8**	**+0.4**
GRUS	**Gruza**	**1.66**	**22**	*i* Pn	**Pn**	**06 59 39.6**	**+0.7**
STON	**Ston**	**1.69**	**289**	*i* Pn	**Pn**	**06 59 38.2**	**-1.1**
STON				*i* Sn	**Sn**	**07 00 04.0**	**+2.7**
STON	**Ston**	**1.69**	**289**	*i* Pn	**Pn**	**06 59 38.1**	**-1.2**
STON				*i* Sn	**Sn**	**07 00 04.0**	**+2.7**
BIA	**Bitola**	**1.72**	**140**	*e*Pn	**Pb**	**06 59 38.2**	**-2.9**
BIA				*e*Sb	**Sb**	**07 00 02.0**	**-1.0**
BIA	**Bitola**	**1.72**	**140**	*e*Pn	**Pn**	**06 59 37.6**	**-2.0**
BIA				*e*Sg	**Sg**	**07 00 03.5**	**-0.6**
BIA	**Bitola**	**1.72**	**140**	P	**Pn**	**06 59 39.4**	**-0.3**
BIA				S	**Sn**	**07 00 03.0**	**+1.0**
BIA	**Bitola**	**1.72**	**140**	P	**Pn**	**06 59 39.4**	**-0.3**
BIA				*e*Sg	**Sg**	**07 00 03.5**	**-0.7**
DIVS	**Divcibare**	**1.75**	**3**	*i* Pn	**Pn**	**06 59 39.4**	**-0.7**
DIVS	**Divcibare**	**1.75**	**3**	*e*Pb	**Pn**	**06 59 38.4**	**-1.8**
DIVS				*e*Sb	**Sb**	**07 00 02.3**	**-1.7**
FNA	**Florina**	**1.93**	**144**	*e*Pn	**Pn**	**06 59 42.1**	**-0.5**
FNA				*e*Sn	**Sn**	**07 00 07.4**	**+0.2**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn	**Pn**	**06 59 49.7**	**+2.5**
GRG	**Griva**	**2.35**	**125**	*e*Pn	**Pn**	**06 59 49.0**	**+0.6**
GRG	**Griva**	**2.35**	**125**	*e*Pn	**Pn**	**06 59 48.2**	**-0.2**
GRG				*e*Sn	**Sn**	**07 00 18.5**	**+0.8**
GRG	**Griva**	**2.35**	**125**	P	**Pn**	**06 59 49.0**	**+0.6**
GRG	**Griva**	**2.35**	**125**	*e*Pn	**Pn**	**06 59 48.2**	**-0.2**
VTS	**Vitosha**	**2.48**	**83**	⇑*i*P	**Pg**	**06 59 57.8**	**+1.3**
VTS	**Vitosha**	**2.48**	**83**	P	**Pn**	**06 59 51.4**	**+1.2**
VTS				S	**Sn**	**07 00 22.4**	**+1.5**
VTS	**Vitosha**	**2.48**	**83**	P	**Pn**	**06 59 51.3**	**+1.1**
IGT	**Igoumenitsa**	**2.84**	**173**	*e*Pn	**Pn**	**06 59 53.9**	**-1.1**
IGT				*e*Sn	**Sn**	**07 00 26.1**	**-3.6**
IGT	**Igoumenitsa**	**2.84**	**173**	P	**Pn**	**06 59 55.4**	**+0.3**
IGT				S	**Sn**	**07 00 28.6**	**-1.1**
IGT	**Igoumenitsa**	**2.84**	**173**	P	**Pn**	**06 59 55.4**	**+0.3**
IGT				*e*Sn	**Sn**	**07 00 26.1**	**-3.6**
LIT	**Litokhoron**	**2.99**	**138**	P	**Pn**	**06 59 57.5**	**+0.3**
LIT				S	**Sn**	**07 00 33.5**	**0.0**
LIT	**Litokhoron**	**2.99**	**138**	P	**Pn**	**06 59 57.5**	**+0.3**
SRS	**Serrai**	**3.04**	**113**	P	**Pn**	**06 59 57.3**	**-0.7**
SRS				S	**Sn**	**07 00 34.9**	**+0.1**
SRS	**Serrai**	**3.04**	**113**	P	**Pn**	**06 59 57.3**	**-0.6**
RGNG	**Rignano Grg**	**3.27**	**260**	Pn	**Pn**	**07 00 01.0**	**0.0**
PLG	**Polygyros**	**3.33**	**125**	P	**Pn**	**07 00 02.6**	**+0.7**
PLG				S	**Sn**	**07 00 42.9**	**+0.9**
PLG	**Polygyros**	**3.33**	**125**	P	**Pn**	**07 00 02.7**	**+0.8**
BZS	**Buzias**	**3.50**	**20**	⇓*i*P	**Pn**	**07 00 03.0**	**-1.2**
LKD	**Levkas**	**3.69**	**171**	P	**Pn**	**07 00 06.0**	**-0.8**
LKD				S	**Sn**	**07 00 50.2**	**-0.5**
LKD	**Levkas**	**3.69**	**171**	P	**Pn**	**07 00 06.0**	**-0.8**
OUR	**Ouranopolis**	**3.69**	**122**	P	**Pn**	**07 00 07.1**	**+0.3**
OUR	**Ouranopolis**	**3.69**	**122**	P	**Pn**	**07 00 07.1**	**+0.3**
SLCN	**Sala Consilina**	**3.74**	**240**	Pn	**Pn**	**07 00 07.4**	**-0.2**
AGG	**Agios Georgios**	**3.81**	**150**	P	**Pn**	**07 00 09.7**	**+1.2**
AGG				S	**Sn**	**07 00 55.6**	**+1.8**
AGG	**Agios Georgios**	**3.81**	**150**	P	**Pn**	**07 00 09.7**	**+1.2**
PKSM	**Moragy**	**3.96**	**348**	⇑*i*P	**Pn**	**07 00 09.7**	**-0.8**
SGG	**Gregorio Mates**	**4.21**	**259**	Pn	**Pn**	**07 00 15.6**	**+1.6**
NVLJ	**Novalja**	**4.26**	**303**	*i* Pn	**Pn**	**07 00 15.2**	**+0.5**
NVLJ				*i* Sn	**Sn**	**07 01 07.0**	**+2.1**
NVLJ	**Novalja**	**4.26**	**303**	*i* Pn	**Pn**	**07 00 15.1**	**+0.4**
NVLJ				*i* Sn	**Sn**	**07 01 06.9**	**+2.1**
RFI	**Roccamonfina**	**4.52**	**259**	Pn	**Pn**	**07 00 19.7**	**+1.4**
BOJS	**Bojanci**	**4.59**	**315**	*i* Pn	**Pn**	**07 00 21.3**	**+2.1**
BOJS				*i* Sn	**Sn**	**07 01 15.4**	**+2.4**
PERS	**Pernice**	**5.47**	**323**	*i* Pn	**Pn**	**07 00 31.9**	**+0.6**
PERS				*i* Sn	**Sn**	**07 01 32.5**	**-2.2**
OBKA	**Obir**	**5.64**	**319**	⇑*i*Pn	**Pn**	**07 00 35.4**	**+1.7**
OBKA				⇓*i*Sn	**Sn**	**07 01 42.1**	**+3.2**
VOY	**Vojsko**	**5.66**	**313**	*e*Pn	**Pn**	**07 00 35.3**	**+1.4**
VOY				*e*Sn	**Sn**	**07 01 41.0**	**+1.7**
ARSA	**Arzberg**	**5.79**	**329**	⇑*i*Pn	**Pn**	**07 00 35.9**	**+0.2**
ARSA				⇓*i*Sn	**Sn**	**07 01 41.2**	**-1.4**
ROBS	**Robic**	**6.00**	**313**	*e*Pn	**Pn**	**07 00 39.4**	**+0.9**
ROBS				*i* Sn	**Sn**	**07 01 50.0**	**+2.3**
KECS	**Kecovo**	**6.15**	**4**	*e*SN	**Sn**	**07 01 50.1**	**-1.3**
KECS	**Kecovo**	**6.15**	**4**	*e*Sn	**Sn**	**07 01 50.2**	**-1.2**
VYHS	**Vyhne**	**6.19**	**354**	*e*PN	**Pn**	**07 00 42.8**	**+1.7**
VYHS				*e*SN	**Sn**	**07 01 50.7**	**-1.6**

IDC 08 07:29:11.6±2.8,4937S×12676E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.8/11,mbtmp3.7/4,MS3.5/1,Ms1 3.5/1, ms1mx2.7/15,Error ellipse: s-maj=128.6km s-min=24.8km az=94.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.72**	**38**	P	P	07 33 53.4	-0.1
4.5nm,1.0s,baz=177,slow=14,SNR=3.4							
ASAR	**Alice Springs**	**26.26**	**15**	P	P	07 34 48.5	+0.1
2.8nm,0.8s,baz=191,slow=9.8,SNR=23							
WRA	**Warramunga Arr**	**29.98**	**14**	P	P	07 35 21.7	0.0
0.6nm,0.8s,baz=191,slow=11,SNR=3.7							
FITZ	**Fitzroy Crossi**	**31.20**	**358**	LR	LR	07 47 40.6	
comp=Z,82nm,19.8s,baz=13,slow=36							
VNDA	**Vanda**	**31.24**	**166**	P	P	07 35 32.3	-0.5
0.2nm,0.5s,baz=333,slow=5.6,SNR=2.9							

*IDC **08** 07:41:07.6±0.6,696S×106.10E,h0km,mb4.1/13, mb1 4.1/13,mb1mx4.0/21,mbtmp4.1/13,MS3.5/2, Ms1 3.5/2,ms1mx2.9/21,Error ellipse: s-maj=27.4km s-min=14.8km az=52.0*
*NEIC **08** 07:41:09.2±0.3,695S×106.10E,h10km,mb4.6/4,Error ellipse: s-maj=15.2km s-min=6.3km az=50.0*
*ISCJB **08** 07:41:10.8±0.5,69S±0.1×1062E±01,h33km,mb4.1/16, MS3.8/1,Error ellipse: s-maj=25.1km s-min=9.4km az=99.5*

ISC 08 07:41:13.1±0.5,70S±01×1061E±01,h35km,n27,σ0§56/23, mb4.1/16,MS3.8/1,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**12.07**	**323**	LR	LR	07 48 51.5	
comp=Z,113nm,18.9s,baz=219,slow=39							
MBWA	**Marble Bar**	**19.29**	**138**	*e*P	**Pn**	**07 45 35.1**	**-0.9**
7.8nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.00**	**122**	P	**P**	**07 46 05.3**	**+1.2**
1.7nm,0.8s,mb3.5,baz=267,slow=13,SNR=3.4							
WRA	**Warramunga Arr**	**30.25**	**118**	P	**P**	**07 47 20.4**	**-0.1**
1.2nm,0.5s,mb3.9,baz=302,slow=9.6,SNR=19							
WRA				PcP	PcP	07 50 20.5	-0.1
0.3nm,0.5s,baz=306,slow=2.1,SNR=6.0							
WB2	**Warramunga Arr**	**30.26**	**118**	*e*P	**P**	**07 47 20.3**	**-0.3**
ASAR	**Alice Springs**	**31.41**	**125**	P	**P**	**07 47 31.0**	**+0.3**
0.6nm,0.6s,mb3.6,baz=299,slow=7.6,SNR=8.7							
ASAR				PcP	PcP	07 50 23.7	0.0
0.2nm,0.4s,baz=310,slow=1.8,SNR=4.2							
STKA	**Stephens Creek**	**41.31**	**132**	P	**P**	**07 48 55.2**	**+0.1**
1.1nm,0.4s,mb3.9,baz=319,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**41.31**	**132**	P	**P**	**07 48 55.1**	**-0.1**
SONM	**Songino Array**	**54.55**	**0**	P	**P**	**07 50 37.7**	**0.0**
0.7nm,0.5s,mb3.9,baz=176,slow=8.8,SNR=5.4							
SONM				PcP	PcP	07 51 40.7	+0.1
2.3nm,0.5s,baz=177,slow=3.5,SNR=16							
SONM				LR	LR	08 14 54.7	
comp=Z,70nm,18.6s,MS3.8,baz=119,slow=37							
**SON

BOZC				*i* S	**Sn**	**08 27 36.1**	**+0.2**
DAT	**Datca**	**1.78**	**152**	*e*PN	**Pn**	**08 27 19.0**	**+0.9**
BTOK	**Tokmak**	**1.86**	**38**	*i* P	**Pn**	**08 27 21.4**	**+2.2**
BTOK				*i* S	**Sn**	**08 27 44.6**	**+1.8**
DALT	**Dalyan (Mudla)**	**2.26**	**132**	*e*PN	**Pn**	**08 27 26.2**	**+1.4**
TKTP	**Tekketepe**	**2.99**	**94**	*i* P	**Pg**	**08 27 43.4**	**-1.0**
TKTP				*i* S	**Sg**	**08 28 29.3**	**+6.2**

*NEIC **08** 08:30:33.0, 3859S×17598E, h173km, MG4.3(WEL), After WEL.*

WEL 08 08:30:32.9±0.2, 3827S×17619E, h142km±2km, ML3.7/9, Error ellipse: s-maj=1.5km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.72**	**89**	PN	Pn	08 30 54.6	-0.1
URZ				SN	Sn	08 31 11.6	+0.3
BKZ	**Black Stump Fm**	**0.92**	**165**	PN	Pn	08 30 56.5	+0.3
BKZ				SN	Sn	08 31 14.2	+0.2
WTVZ	**West Tongariro**	**0.96**	**209**	PN	Pn	08 30 56.8	+0.2
WTVZ				SN	Sn	08 31 14.3	-0.4
TWVZ	**Taurewa**	**0.99**	**216**	PN	Pn	08 30 57.0	+0.2
TWVZ				SN	Sn	08 31 14.5	-0.5
NGZ	**Ngauruhoe**	**1.01**	**207**	PN	Pn	08 30 57.5	+0.5
MWZ	**Matawai**	**1.05**	**94**	PN	Pn	08 30 57.6	+0.2
MWZ				SN	Sn	08 31 16.2	+0.2
WPVZ	**Whakapapa**	**1.06**	**208**	PN	Pn	08 30 57.6	+0.2
HIZ	**Hauiti**	**1.08**	**257**	PN	Pn	08 30 57.8	+0.2
TUVZ	**Tukino**	**1.08**	**203**	PN	Pn	08 30 57.9	+0.3
FWVZ	**Far West T-bar**	**1.10**	**207**	PN	Pn	08 30 57.9	+0.1
TRVZ	**Turoa**	**1.14**	**206**	PN	Pn	08 30 58.6	+0.4
WNVZ	**Wahianoa**	**1.15**	**204**	PN	Pn	08 30 58.4	+0.2
MOVZ	**Moawhango**	**1.18**	**197**	PN	Pn	08 30 58.3	-0.3
PKVZ	**Pokaka**	**1.21**	**213**	PN	Pn	08 30 58.9	0.0
MTVZ	**Mangateitei**	**1.25**	**207**	PN	Pn	08 30 59.3	+0.1
KNZ	**Kokohu**	**1.38**	**123**	PN	Pn	08 31 00.7	+0.1
VRZ	**Vera Road**	**1.41**	**232**	PN	Pn	08 31 00.9	+0.1
KUZ	**Kuaotunu**	**1.57**	**346**	PN	Pn	08 31 02.0	-0.6
PUZ	**Puketiti**	**1.64**	**84**	PN	Pn	08 31 02.9	-0.4
RAEZ	**Rainy Point**	**1.73**	**234**	PN	Pn	08 31 04.9	+0.5
WAZ	**Wanganui**	**1.75**	**212**	PN	Pn	08 31 04.1	-0.5
TSZ	**Takapari Road**	**1.79**	**186**	PN	Pn	08 31 04.2	-0.9
PXZ	**Pawanui**	**1.83**	**164**	PN	Pn	08 31 05.2	-0.4
NEZ	**North Egmont**	**1.92**	**238**	PN	Pn	08 31 06.8	+0.3
PKE	**Pukeiti**	**1.96**	**241**	PN	Pn	08 31 06.8	-0.1
NRZ	**Ngariki Road**	**2.06**	**238**	PN	Pn	08 31 07.8	-0.4
BFZ	**Birch Farm**	**2.41**	**179**	P	Pn	08 31 10.9	-1.5
MRZ	**Mangatainoka R**	**2.43**	**191**	PN	Pn	08 31 10.9	-1.9
KIW	**Kapiti Island**	**2.77**	**201**	PN	Pn	08 31 14.3	-2.7
MTW	**Mount Morrison**	**2.93**	**190**	P	Pn	08 31 16.2	-2.8
MTW	**Mount Morrison**	**2.93**	**190**	PN	Pn	08 31 16.2	-2.8
CAW	**Cannon Point**	**2.96**	**197**	PN	Pn	08 31 16.7	-2.7
PAWZ	**Paruwai Farm**	**3.16**	**191**	P	Pn	08 31 19.0	-3.0
MRW	**Makara Radio**	**3.17**	**201**	PN	Pn	08 31 18.9	-3.2
WEL	**Wellington**	**3.20**	**200**	P	Pn	08 31 19.4	-3.1
MSWZ	**Moikau Station**	**3.22**	**193**	P	Pn	08 31 19.5	-3.2
SNZO	**South Karori**	**3.24**	**200**	*e*Pn	Pn	08 31 19.8	-3.2
SNZO				*e*Sn	Sn	08 31 58.7	-3.1
TCW	**Tory Channel**	**3.29**	**206**	PN	Pn	08 31 20.2	-3.4
BHW	**Baring Head**	**3.29**	**198**	P	Pn	08 31 20.3	-3.4
NNZ	**Nelson**	**3.65**	**216**	*e*P	Pn	08 31 25.1	-3.3
QRZ	**Quartz Range**	**3.81**	**227**	*e*P	Pn	08 31 26.5	-3.9
BSWZ	**Blackbirch Sta**	**3.87**	**207**	P	Pn	08 31 27.6	-3.6
THZ	**Tophouse**	**4.30**	**215**	*e*P	Pn	08 31 33.3	-3.6
THZ	**Tophouse**	**4.30**	**215**	PN	Pn	08 31 33.3	-3.6
KHZ	**Kahutara**	**4.61**	**205**	P	Pn	08 31 36.8	-4.1
KHZ	**Kahutara**	**4.61**	**205**	PN	Pn	08 31 36.7	-4.3

*MOS **08** 08:52:31.1±1.0, 4900N×15671E, h10km, mb4.3/1, Error ellipse: s-maj=96.1km s-min=17.3km az=79.9*

KRSC 08 08:52:31, 4900N×15671E, h10km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.73**	**347**	*e*PN	Pn	08 52 52.5	-8.6
SKR				pmax	pmax		
	comp=Z,110nm,0.3s						
RUS	**Russkaya**	**3.62**	**18**	*e*P	Pn	08 53 27.7	+0.6
RUS				*e*S	Sn	08 54 09.7	-0.3
GRL	**Gorelyy**	**3.66**	**13**	P	Pn	08 53 29.4	+1.7
GRL				*e*S	Sn	08 54 12.1	+1.2
PET	**Petropavlovsk**	**4.21**	**16**	*e*PN	Pn	08 53 36.4	+1.2
PET	**Petropavlovsk**	**4.21**	**16**	P	Pn	08 53 36.8	+1.6
PET				*e*S	Sn	08 54 23.8	-0.7
SDLR	**Sedlovina**	**4.50**	**17**	*e*P	Pn	08 53 40.5	+1.3
SPN	**Mys Shipunski**	**4.61**	**26**	*e*P	Pn	08 53 42.5	+1.9
SPN				*e*S	Sn	08 54 33.5	-0.7
GNL	**Ganaly**	**4.76**	**9**	P	Pn	08 53 44.1	+1.3
GNL				S	Sn	08 54 37.8	-0.3

*ISCJB **08** 09:00:23.5±0.7, 4304N±004×1765E±004, h7km±7km, Error ellipse: s-maj=7.0km s-min=4.6km az=15.9*
*CSEM **08** 09:00:23.0±0.2, 4302N×1756E, h0km±1km, MD2.5, Error ellipse: s-maj=6.5km s-min=2.1km az=49.0*
*PRU **08** 09:00:24.9, 4303N×1763E, h0km*
*PDG **08** 09:00:25.1±0.2, 4294N×1768E, h7km*
*NEIC **08** 09:00:25.1, 4294N×1768E, h7km, MD2.5(PDG), After PDG.*

ISC 08 09:00:24.3±0.8, 4303N±004×1763E±004, h0km±7km, n42, σ1§15/68, 17C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.17**	**162**	*i* Pg	**Pg**	**09 00 26.8**	**-0.8**
STON				*i* Sg	**Sg**	**09 00 29.3**	**-0.5**
BRY	**Bratogost**	**0.69**	**101**	⇑*i*Pg	**Pg**	**09 00 36.0**	**-1.4**
BRY				*e*Sg	**Sg**	**09 00 46.6**	**+0.2**
HCY	**Herceg Novi**	**0.87**	**132**	⇑*i*Pg	**Pg**	**09 00 39.5**	**-1.5**
HCY				*e*Sg	**Sg**	**09 00 51.8**	**-0.4**
UPM	**Unac-Piva**	**0.95**	**79**	⇑*i*Pg	**Pg**	**09 00 42.1**	**-0.5**
UPM				*e*Sg	**Sg**	**09 00 57.4**	**+2.4**
NKY	**Niksic**	**1.03**	**102**	⇓*i*Pg	**Pg**	**09 00 43.4**	**-0.7**
NKY				*e*Sg	**Sg**	**09 00 58.6**	**+1.2**
BUM	**Brajici-Budva**	**1.19**	**128**	⇓*i*Pg	**Pg**	**09 00 45.6**	**-1.5**
BUM				*e*Sg	**Sg**	**09 01 02.6**	**+0.1**
PLE	**Pljevlja**	**1.33**	**77**	⇑*i*Pg	**Pg**	**09 00 49.3**	**-0.4**
PLE				*e*Sg	**Sg**	**09 01 10.3**	**+3.4**
TTG	**Podgorica**	**1.35**	**116**	⇑*i*Pg	**Pg**	**09 00 48.6**	**-1.5**
TTG				*e*Sg	**Sg**	**09 01 08.6**	**+1.0**
ULC	**Ulcinj**	**1.61**	**131**	⇓*i*Pg	**Pn**	**09 00 52.9**	**-1.1**
ULC				*e*Sg	**Sg**	**09 01 16.1**	**+0.1**
ULC	**Ulcinj**	**1.61**	**131**	⇓*i*Pg	**Pn**	**09 00 52.8**	**-1.1**
ULC				*e*Sg	**Sg**	**09 01 16.1**	**+0.1**
IVA	**Berane**	**1.68**	**95**	⇑*i*Pn	**Pn**	**09 00 55.2**	**+0.4**
IVA				*e*Sn	**Sg**	**09 01 19.5**	**+1.4**
PVY	**Plav**	**1.78**	**103**	⇓*i*Pn	**Pn**	**09 00 56.6**	**+0.3**
PVY				*e*Sn	**Sn**	**09 01 21.7**	**+2.0**
NVLJ	**Novalja**	**2.51**	**308**	*i* Pn	**Pn**	**09 01 08.8**	**+2.5**
NVLJ				*i* Sn	**Sn**	**09 01 38.1**	**+0.4**
NVLJ	**Novalja**	**2.51**	**308**	*i* Pn	**Pn**	**09 01 08.8**	**+2.4**
NVLJ				*i* Sn	**Sn**	**09 01 38.0**	**+0.3**
SISC	**Sisak**	**2.60**	**340**	*i* Sn	**Sn**	**09 01 37.6**	**-2.2**
SISC	**Sisak**	**2.60**	**340**	*i* Sn	**Sn**	**09 01 37.5**	**-2.3**
PKSM	**Moragy**	**3.26**	**13**	⇓*i*P	**Pn**	**09 01 16.3**	**-0.3**
PKSM	**Moragy**	**3.26**	**13**	⇑*e*P	**Pn**	**09 01 16.2**	**-0.4**
VISS	**Visnje**	**3.41**	**325**	*i* Pn	**Pn**	**09 01 21.2**	**+2.4**
CEY	**Cerknica**	**3.54**	**321**	*i* Pn	**Pn**	**09 01 21.6**	**+1.1**
JAVS	**Javornik**	**3.83**	**319**	*i* Pn	**Pn**	**09 01 24.5**	**0.0**
BZS	**Buzias**	**3.85**	**47**	⇓*i*P	**Pn**	**09 01 24.3**	**-0.5**
BZS	**Buzias**	**3.85**	**47**	S	**Sn**	**09 02 10.4**	**-0.4**
VOY	**Vojsko**	**4.01**	**320**	*e*Pn	**Pn**	**09 01 27.3**	**+0.3**
VOY				*e*Sn	**Sn**	**09 02 15.7**	**+1.0**
OBKA	**Obir**	**4.11**	**329**	⇑*i*Sn	**Sn**	**09 02 16.9**	**-0.2**
OBKA	**Obir**	**4.11**	**329**	⇑*i*Pn	**Pn**	**09 01 29.6**	**+1.3**
OBKA				⇑*i*Sn	**Sn**	**09 02 21.6**	**+4.6**
OBKA	**Obir**	**4.11**	**329**	⇑*i*Pn	**Pn**	**09 01 29.6**	**+1.3**
OBKA				*i* Sn	**Sn**	**09 02 16.9**	**-0.2**
ARSA	**Arzberg**	**4.47**	**341**	⇓*i*Pn	**Pn**	**09 01 33.5**	**+0.2**
ARSA				⇓*i*Sn	**Sn**	**09 02 24.9**	**-1.0**
ARSA	**Arzberg**	**4.47**	**341**	Pn	**Pn**	**09 01 33.5**	**+0.2**
ARSA				Sn	**Sn**	**09 02 24.9**	**-1.1**
CONA	**Conrad Observa**	**5.05**	**346**	⇓*i*Pn	**Pn**	**09 01 41.8**	**+0.6**
CONA				⇑*i*Sn	**Sn**	**09 02 39.9**	**-0.3**
PSZ	**Piszkesteto**	**5.14**	**17**	⇓*e*Pg	**Pn**	**09 01 42.2**	**-0.3**
PSZ	**Piszkesteto**	**5.14**	**17**	⇓*i*P	**Pn**	**09 01 39.7**	**-2.8**
ZST	**Bratislava**	**5.17**	**356**	*e*SN	**Sn**	**09 02 41.0**	**-2.4**
DRGR		**5.21**	**42**	⇑*i*P	**Pn**	**09 01 42.6**	**-0.8**
DRGR		**5.21**	**42**	S	**Sn**	**09 02 43.9**	**-0.3**
MOA	**Molln**	**5.36**	**335**	⇑*i*Sn	**Sn**	**09 02 47.9**	**-0.1**
MOA	**Molln**	**5.36**	**335**	⇑*i*Pn	**Pn**	**09 01 46.9**	**+1.4**
MOA				⇑*i*Sn	**Sn**	**09 02 48.9**	**+0.9**
MOA	**Molln**	**5.36**	**335**	⇑*i*Pn	**Pn**	**09 01 46.9**	**+1.4**
MOA				*i* Sn	**Sn**	**09 02 47.9**	**-0.1**
MOA	**Molln**	**5.36**	**335**	Pn	**Pn**	**09 01 46.9**	**+1.3**
MOA				Sn	**Sn**	**09 02 47.9**	**-0.1**
VYHS	**Vyhne**	**5.53**	**8**	*e*PN	**Pn**	**09 01 47.8**	**0.0**
VYHS				*e*SN	**Sn**	**09 02 50.7**	**-1.3**
GEC2	**GERESS Array S**	**6.42**	**336**	*e*Pn	**Pn**	**09 02 01.7**	**+1.6**
GEC2				*e*Sn	**Sn**	**09 03 14.8**	**+0.7**
KHC	**Kasperske Hory**	**6.71**	**337**	*e*PN	**Pn**	**09 02 04.7**	**+0.6**
KHC				*e*SN	**Sn**	**09 03 19.0**	**-2.3**

*ISCJB **08** 09:01:38.0±1.6, 41.16N±009×7358E±009, h10km, Error ellipse: s-maj=12.7km s-min=9.4km az=166.3*
*KNET **08** 09:01:40.6±0.7, 4130N×7397E, h9km±3km, ml1.7, Error ellipse: s-maj=4.3km s-min=2.7km az=34.0*

ISC 08 09:01:39.6±1.5, 4121N±008×7361E±008, h10km, n9, σ1§29/17, 12C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.92**	**4**	⇓P	**Pg**	**09 01 56.6**	**-0.7**
	7.8nm,0.1s,SNR=25						
AML				⇓S	**Sg**	**09 02 09.8**	**+0.6**
	18nm,0.3s						
UCH	**Uchtor**	**1.22**	**33**	⇓P	**Pn**	**09 01 60.0**	**-2.7**
	3.4nm,0.2s,SNR=20						
UCH				⇑S	**Sb**	**09 02 16.4**	**-2.1**
	9.5nm,0.2s						
AAK	**Ala-Archa**	**1.56**	**25**	⇑P	**Pn**	**09 02 07.0**	**-0.4**
	1.7nm,0.1s						
AAK				⇑S	**Sn**	**09 02 27.2**	**-0.5**
	7.3nm,0.2s						
KBK	**Karagaybulak**	**1.75**	**34**	⇑P	**Pn**	**09 02 09.9**	**-0.1**
	4.8nm,0.2s,SNR=8.5						
KBK				⇓S	**Sn**	**09 02 32.4**	**+0.1**
	11nm,0.2s						
USP	**Ospenovka**	**2.15**	**18**	⇑P	**Pn**	**09 02 18.3**	**+2.7**
	2.3nm,0.2s,SNR=8.2						
USP				⇑S	**Sn**	**09 02 46.0**	**+3.7**
	8.1nm,0.3s						
ULHL	**Ulahol**	**2.22**	**61**	⇓P	**Pn**	**09 02 15.7**	**-0.8**
	1.3nm,0.1s,SNR=5.8						
ULHL				⇓S	**Sn**	**09 02 44.1**	**+0.1**
	3.4nm,0.1s						
TKM2	**Tokmak 2**	**2.26**	**40**	⇑P	**Pn**	**09 02 18.9**	**+2.0**
	6.0nm,0.2s,SNR=11						
TKM2				⇑S	**Sn**	**09 02 46.3**	**+1.5**
	3.6nm,0.1s						
TKM2	**Tokmak 2**	**2.26**	**40**	⇑Pn	**Pn**	**09 02 19.3**	**+2.4**
	0.2nm,0.3s						
TKM2				⇑Sn	**Sn**	**09 02 46.0**	**+1.2**
	0.2nm,0.4s						
KK31	**Karatay Array**	**2.98**	**310**	⇑Pg	**Pg**	**09 02 36.4**	**-0.3**
	0.3nm,0.3s,baz=129,slow=17,SNR=7.6						
KK31				⇑Lg		09 03 17.9	
	1.2nm,0.3s,baz=122,slow=27						

IDC 08 09:13:52.5±3.2, 3045S×17761W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/26, Error ellipse: s-maj=67.9km s-min=27.9km az=117.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**347**	Pn	Pn	09 14 16.8	-0.1
	158nm,0.3s,baz=78,slow=15,SNR=26						
RAO				Sn	Sn	09 14 30.3	-3.9
	318nm,0.3s,baz=75,slow=23,SNR=11						
DZM	**Mont Dzumac**	**16.55**	**297**	LR	LR	09 22 48.3	
	comp=Z,92nm,18.9s,baz=216,slow=32						
CTA	**Charters Tower**	**34.14**	**279**	P	P	09 20 40.4	+1.3
	3.0nm,0.9s,baz=99,slow=9.3,SNR=5.6						
STKA	**Stephens Creek**	**34.79**	**257**	P	P	09 20 45.1	+0.4
	2.7nm,0.7s,baz=180,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**43.44**	**267**	P	P	09 21 56.8	-0.3
	0.5nm,0.4s,baz=105,slow=7.3,SNR=16						
WB2	**Warramunga Arr**	**44.42**	**272**	*e*P	P	09 22 04.9	-0.1
WRA	**Warramunga Arr**	**44.44**	**272**	P	P	09 22 04.9	-0.2
	1.2nm,0.4s,baz=111,slow=8.0,SNR=38						
JOW	**Kunigami**	**76.95**	**312**	LR	LR	09 52 32.6	
	comp=Z,52nm,19.7s,baz=122,slow=30						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	PKPbc	09 33 30.6	-1.4
	1.2nm,0.4s,baz=44,slow=2.4,SNR=12						

MEX 08 09:32:49.3±0.3, 1701N×10040W, h36km±3km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**73**	*i* P	Pn	09 32 54.1	-1.4
CAIG				*i* S	Sn	09 32 58.1	-1.7
ACX	**Acapulco**	**0.48**	**107**	*i* P	Pn	09 32 58.0	-1.7
MEIG	**Mezcala**	**1.18**	**39**	*i* P	Pn	09 33 07.7	-1.5
MEIG				*i* S	Sn	09 33 21.7	-2.3
UTMO	**Huajuapan**	**2.61**	**71**	*e*P	Pn	09 33 28.1	-0.8
UTMO				*i* S	Sn	09 33 57.6	-1.8

CASC 08 09:35:28.7±1.3, 899N×8288W, h14km±9km, MD3.6, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.56**	**41**	⇓*i*P	Pg	09 35 39.8	+0.1
DVD	**David**	**0.70**	**142**	⇑*i*P	Pg	09 35 40.6	-1.7
BUS	**Buena Vista**	**1.03**	**303**	⇓*e*P	Pb	09 35 47.6	-0.6
BUS				*e*S	Sb	09 36 02.1	+0.5
LCR2	**La Lucha 2**	**1.33**	**304**	*e*P	Pn	09 35 52.6	-0.2
LCR2				*e*S	Sn	09 36 10.7	+0.3
PRS1	**Puriscal**	**1.72**	**305**	⇓*e*P	Pn	09 35 58.2	0.0
PRS1				*e*S	Sn	09 36 20.5	+0.6
PTP	**Ponta Puerca**	**19.12**	**59**	*e*S		09 35 54.5	

*ISCJB **08** 09:49:09.6±1.3, 4482N±005×834E±0.10, h26km±6km, Error ellipse: s-maj=12.3km s-min=6.9km az=139.8*
*ROM **08** 09:49:09.6±0.2, 4473N×828E, h10km, Md2.1/3, Ml1.6/2, Error ellipse: s-maj=3.1km s-min=1.7km az=110.0*
*LDG **08** 09:49:09.8±0.2, 4491N×829E, h10km, Ml2.2/6, Error ellipse: s-maj=4.3km s-min=2.2km az=62.0*

ISC 08 09:49:09.1±1.3, 4484N±004×831E±009, h18km±4km, n13, σ0§72/22, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONC	**Moncucco Torin**	**0.36**	**312**	Pg	**Pg**	**09 49 18.5**	**+1.9**
	23nm,0.4s						
FIN	**Finale Ligure**	**0.63**	**186**	Pg	**Pg**	**09 49 20.5**	**-1.1**
FIN				Sg	**Sg**	**09 49 29.0**	**-1.0**
	35nm,0.3s						
DOI	**San Damiano**	**0.82**	**247**	Pg	**Pg**	**09 49 25.3**	**+0.1**
DOI				Sg	**Sg**	**09 49 36.7**	**+0.6**
	33nm,0.2s						
MBDF	**Montbardon**	**1.10**	**265**	*e*Pn	**Pn**	**09 49 29.8**	**+0.2**
MBDF	**Montbardon**	**1.10**	**265**	*e*Pg	**Pg**	**09 49 30.5**	**+0.1**
MBDF				*e*Sn	**Sn**	**09 49 44.3**	**-0.1**
MBDF				*e*Sg	**Sg**	**09 49 45.1**	**+0.3**
	6.7nm,0.4s						
SBF	**Sospel**	**1.16**	**213**	*e*Pn	**Pn**	**09 49 31.2**	**+0.8**
SBF				*e*Sn	**Sn**	**09 49 46.6**	**+0.8**
	17nm,0.2s						
LPG	**La Plagne**	**1.28**	**302**	*e*Pg	**Pg**	**09 49 33.3**	**-0.6**
LPG				*e*Sn	**Sn**	**09 49 47.6**	**-1.4**
	1.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.73**	**274**	*e*Pg	**Pg**	**09 49 41.8**	**-0.5**
ORIF				*e*Sn	**Sn**	**09 49 59.3**	**-0.6**
	1.3nm,0.4s						
FRF	**La Foret Royal**	**1.75**	**224**	*e*Pn	**Pn**	**09 49 39.1**	**+0.5**
FRF	**La Foret Royal**	**1.75**	**224**	*e*P	**Pb**	**09 49 41.0**	**+0.3**
FRF				*e*Sn	**Sn**	**09 50 00.6**	**+0.2**
	4.3nm,0.3s						
LMR	**La Mourre**	**1.98**	**221**	*e*Pn	**Pn**	**09 49 42.7**	**+0.9**
LMR				*e*Sn	**Sn**	**09 50 05.8**	**-0.4**
	3.3nm,0.2s						
SMRF	**Simiane la Rot**	**2.14**	**247**	*e*Pg	**Pg**	**09 49 49.5**	**-0.7**
VIVF	**Saint-Julien-l**	**2.58**	**272**	*e*Pn	**Pn**	**09 49 49.9**	**-0.2**

*IDC **08** 09:57:38.1±1.3, 1261N×11927E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML5.1/1, Error ellipse: s-maj=41.5km s-min=22.8km az=78.0*
*ISCJB **08** 09:57:52.1±0.5, 1351N±006×12076E±008, h157km±5km, mb3.5/4, Error ellipse: s-maj=12.6km s-min=9.5km az=179.6*
*MAN **08** 09:57:54.6, 1360N×12069E, h118km, mb2.3, ML3.9, MS2.2*

ISC 08 09:57:53.2±0.5, 1353N±006×12072E±007, h148km±5km, n18, σ1§10/21, mb3.5/4, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.23**	**97**	⇑*e*P	**Pn**	**09 58 13.0**	**-0.2**
LUBP	**Lubang**	**0.51**	**294**	*e*P	**Pn**	**09 58 13.5**	**-0.8**
LUBP				*e*S	**Sn**	**09 58 27.7**	**-2.6**
TGY	**Tagaytay City**	**0.61**	**20**	⇑*i*P	**Pn**	**09 58 15.6**	**+0.8**
TGY	**Tagaytay City**	**0.61**	**20**	Pn	**Pn**	**09 58 15.6**	**+0.8**
	568nm,0.3s,baz=199,slow=1.6,SNR=46						
BOAC	**Boac**	**1.09**	**93**	*e*P	**Pn**	**09 58 18.2**	**-0.3**
BOAC				*e*S	**Sn**	**09 58 36.8**	**-1.1**
BUSP	**Coron**	**1.60**	**199**	*e*P	**Pn**	**09 58 25.0**	**+1.4**
BUSP				*e*S	**Sn**	**09 58 47.0**	**+0.1**
OTRP	**Odiongan**	**1.72**	**132**	*e*P	**Pn**	**09 58 25.8**	**+0.9**
BALP	**Baler**	**2.35**	**20**	*e*P	**Pn**	**09 58 33.0**	**+0.7**
SCZP	**Santa Cruz**	**2.37**	**341**	*e*P	**Pn**	**09 58 32.1**	**-0.4**
ENPP	**El Nido**	**2.63**	**209**	*e*P	**Pn**	**09 58 38.1**	**+2.3**
BOLP	**Bolinao**	**2.94**	**345**	*e*P	**Pn**	**09 58 40.0**	**+0.3**
PVCP	**Virac**	**3.34**	**88**	⇓*i*P	**Pn**	**09 58 46.5**	**+1.8**
PVCP	**Virac**	**3.34**	**88**	*e*P	**Pn**	**09 58 46.5**	**+1.8**
WRA	**Warramunga Arr**	**35.86**	**158**	P	**P**	**10 04 37.4**	**-1.3**
	0.7nm,0.6s,mb3.5,baz=331,slow=10,SNR=13						
WB2	**Warramunga Arr**	**35.86**	**158**	*e*P	**P**	**10 04 37.9**	**-0.8**
ASAR	**Alice Springs**	**39.15**	**161**	P	**P**	**10 05 05.3**	**-1.1**
	0.4nm,0.4s,mb3.5,baz=336,slow=7.6,SNR=17						
MKAR	**Makanchi Array**	**46.18**	**324**	P	**P**	**10 06 04.0**	**+1.0**
	0.2nm,0.4s,mb3.1,baz=126,slow=7.8,SNR=5.7						
STKA	**Stephens Creek**	**49.38**	**156**	P	**P**	**10 06 26.9**	**-0.8**
	1.9nm,0.8s,mb3.8,baz=330,slow=16,SNR=2.5						

*SZGRF **08** 10:06:33.1, 1317N×5972W, h33km, mb5.1, Windward Islands*
*LDG **08** 10:06:36.8±0.1, 1473N×5928W, h10km, Mb4.9/31, Ms3.8/5, Error ellipse: s-maj=3.7km s-min=2.0km az=155.0*
*IDC **08** 10:06:37.6±0.4, 1477N×5923W, h0km, mb4.5/24, mb1 4.6/28, mb1mx4.6/31, mbtmp4.5/28, ML4.6/4, MS3.9/16, Ms1 3.9/16, ms1mx3.7/36, Error ellipse: s-maj=11.6km s-min=9.7km az=133.0*
*TRN **08** 10:06:39.9, 1484N×5922W, h35km, MD4.5, M4.5(FDF)*
*ISCJB **08** 10:06:39.1±0.9, 1479N±002×5923W±002, h19km±6km, mb4.8/132, MS4.0/16, Error ellipse: s-maj=3.5km s-min=3.1km az=14.9*
*NEIC **08** 10:06:39.5±1.3, 1478N×5922W, h9km±8km, mb4.9/94, MD4.6(TRN), Error ellipse: s-maj=2.9km s-min=2.4km az=224.0*
*GCMT **08** 10:06:39.5±0.6, 1476N×5931W, h21km±1km, MW4.8/35, Moment Tensor Solution. s10,c11; s35,c45; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79±.21; $M_{\theta\theta}$0.01±.12; $M_{\phi\phi}$1.77±.14; $M_{r\theta}$-0.38±.23; $M_{r\phi}$0.13±.09; $M_{\theta\phi}$0.98±.20; Best double couple: $M_0$2.06800×10^{16} NP1:ϕ_S15.00000°, δ32.00000°, λ-70.00000°. NP2: ϕ_S172.00000°, δ60.00000°, λ-102.00000°. Principal axes: T 2.0210, Plg14.0000°, Azm271.0000°; N 0.0860, Plg10.0000°, Azm178.0000°; P -2.1150, Plg72.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 10:06:39.5, 1480N×5920W, h9km, mB5.4, Ms4.9, Msz4.7*
*MOS **08** 10:06:41.1±0.7, 1477N×5923W, h33km, mb5.1/61, Error ellipse: s-maj=6.3km s-min=4.5km az=52.7*

ISC 08 10:06:39.7±1.1, 1477N±002×5924W±002, h8km±7km, n514, σ0§67/521, mb4.8/132, MS4.0/16, 77C-95D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**1.62**	**263**	⇑*e*P	**Pn**	**10 07 07.0**	**-1.4**
BBGH	**Gun Hill**	**1.64**	**191**	*e*Pn	**Pn**	**10 07 09.1**	**+0.3**
BBGH				*e*Sn	**Sn**	**10 07 23.0**	**-7.1**
BIM	**Big

ROSC **El Rosal** 17.82 238 *e*Pn Pn 10 10 49.0 +1.0
CCCC **Cccc** 18.74 293 *e*P Pn 10 10 54.5 -4.7
OTAV **Otavalo** 23.86 234 *e*P P 10 11 53.4 -0.1
6.5nm,0.5s,mb4.3
OTAV *e*S S 10 16 07.6 -1.9
SAML **Samuel** 23.89 190 *e*P P 10 11 54.9 +1.2
12nm,1.0s,mb4.3
TGUH **Tegucigalpa,Un** 27.16 272 *e*P P 10 12 23.9 +0.5
26nm,1.0s,mb4.7
ATAH **Atahualpa** 28.79 223 P P 10 12 38.2 +0.3
15nm,0.8s,mb4.8,baz=2.8,slow=3.7,SNR=11
TKL **Tuckaleechee C** 30.27 318 P P 10 12 52.0 +1.0
3.5nm,0.7s,mb4.2,baz=119,slow=12,SNR=8.0
SIV **San Ignacio** 30.61 183 P P 10 12 53.7 -0.4
0.7nm,0.6s,mb3.7,baz=358,slow=10,SNR=5.2
SWET **Sewanee** 31.45 315 *e*P P 10 13 01.5 0.0
NNA **Nana** 31.79 214 *e*P P 10 13 02.6 -1.9
22nm,0.6s,mb5.2
LPAZ **La Paz** 32.08 196 P P 10 13 07.0 -0.1
2.2nm,0.7s,mb4.1,baz=6.8,slow=7.3,SNR=4.8
LPAZ **La Paz** 32.08 196 *e*P P 10 13 08.6 +1.6
LPAZ *e* 10 15 56.7
LPAZ pmax pmax
comp=Z,20nm,0.7s
LPAZ **La Paz** 32.08 196 *e*P P 10 13 08.6 +1.6
comp=Z,2.4nm,0.7s,mb4.1
LPAZ *e*PcP PcP 10 15 56.7 +0.3
BDFB **Brasilia** 32.18 159 P P 10 13 08.0 +0.1
comp=Z,1.0nm,0.4s,mb4.0,baz=343,slow=4.4,SNR=4.0
PLAL **Pickwick Lake** 32.82 313 *e*P P 10 13 13.8 +0.4
comp=Z,12nm,0.8s,mb4.9
WVT **Waverly** 33.24 315 *e*P P 10 13 16.5 -0.7
WVT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
WVT **Waverly** 33.24 315 *e*P P 10 13 16.5 -0.7
comp=Z,6.4nm,0.7s,mb4.7
WCI **Wyandotte Cave** 33.43 319 *e*P P 10 13 19.9 +1.1
WCI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
WCI **Wyandotte Cave** 33.43 319 *e*P P 10 13 19.9 +1.1
comp=Z,6.2nm,0.6s,mb4.7
OXF **Oxford** 33.54 311 *e*P P 10 13 19.9 +0.1
OXF pmax pmax
comp=Z,29nm,0.4s,mb5.6
OXF **Oxford** 33.54 311 *e*P P 10 13 19.9 +0.1
comp=Z,29nm,0.4s,mb5.6
UTMT **University of** 34.07 315 *e*P P 10 13 24.6 +0.2
comp=Z,23nm,0.5s,mb5.4
CMIG **Matias Romero** 34.33 279 P P 10 13 25.7 -0.9
comp=Z,1.6nm,0.5s,mb4.2,baz=46,slow=6.3,SNR=4.6
SIUC **Southern Illin** 35.03 316 *e*P P 10 13 32.9 +0.2
comp=Z,11nm,0.6s,mb5.0
NATX **Nacogdoches** 36.47 304 *e*P P 10 13 46.0 +1.0
comp=Z,11nm,0.6s,mb5.0
MIAR **Mount Ida** 36.65 309 *e*P P 10 13 48.0 +1.4
MIAR pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
MIAR **Mount Ida** 36.65 309 *e*P P 10 13 48.0 +1.5
comp=Z,7.6nm,1.1s,mb4.4
HKT **Hockley** 36.88 300 *e*P P 10 13 49.1 +0.5
HKT pmax pmax
comp=Z,27nm,1.4s,mb4.9
HKT **Hockley** 36.88 300 *e*P P 10 13 49.1 +0.5
comp=Z,27nm,1.4s,mb4.9
LVC **Limon Verde** 38.34 194 P P 10 14 01.2 +0.3
comp=Z,2.2nm,0.6s,mb4.1,baz=0.4,slow=6.9,SNR=3.3
SCHQ **Schefferville** 40.41 353 P P 10 14 18.4 +0.2
comp=Z,18nm,0.8s,mb4.8,baz=175,slow=7.1,SNR=15
SCHQ **Schefferville** 40.41 353 *e*P P 10 14 18.1 -0.1
comp=Z,22nm,0.8s,mb4.9
SCHQ *e*PcP PcP 10 16 18.0 -3.2
WMOK **Wichita Mounta** 40.71 306 *e*P P 10 14 19.5 -1.2
WMOK *e* 10 15 53.4
WMOK *e* 10 16 22.1
WMOK pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
WMOK **Wichita Mounta** 40.71 306 *e*P P 10 14 19.5 -1.1
comp=Z,8.8nm,0.6s,mb4.6
WMOK *e*PP PP 10 15 53.4 -1.0
WMOK *e*PcP PcP 10 16 22.1 0.0
CPUP **Villa Florida** 40.89 177 P P 10 14 20.6 -1.5
comp=Z,0.6nm,0.5s,baz=342,slow=5.9,SNR=6.7
GDL2 **Guadalupe Moun** 44.52 301 *e*P P 10 14 52.7 +1.0
MNTX **Cornudas Mount** 45.27 300 *e*P P 10 14 57.3 -0.4
comp=Z,22nm,0.9s,mb5.0
ULM **Lac du Bonnet** 46.17 328 P P 10 15 04.1 -0.6
comp=Z,3.0nm,0.6s,mb4.4,baz=118,slow=8.9,SNR=4.1
ULM LR LR 10 33 18.3
comp=Z,110nm,20.0s,MS3.8,baz=355,slow=35
ULM **Lac du Bonnet** 46.17 328 P P 10 15 04.1 -0.6
SDCO **Great Sand Dun** 46.80 308 *e*P P 10 15 09.6 -0.1
comp=Z,5.2nm,0.8s,mb4.5
SDCO *e*PcP PcP 10 16 43.3 +0.5
LPM **Los Pinos Moun** 46.83 303 *e*P P 10 15 10.2 +0.2
ANMO **Albuquerque** 46.83 304 *e*P P 10 15 10.1 +0.2
ANMO *e* 10 16 42.7
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO **Albuquerque** 46.83 304 *e*P P 10 15 10.1 +0.1
comp=Z,2.3nm,0.8s,mb4.2
ANMO *e*PcP PcP 10 16 42.7 -0.2
CFAA **Coronel Fontan** 46.91 191 P P 10 15 09.4 -1.1
comp=Z,0.5nm,0.9s,baz=1.4,slow=6.3,SNR=6.6
LAZ **Ladron** 47.26 303 *e*P P 10 15 14.7 +1.4
ISCO **Idaho Springs** 47.49 311 *e*P P 10 15 15.7 +0.6
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ISCO **Idaho Springs** 47.49 311 *e*P P 10 15 15.7 +0.6
comp=Z,2.2nm,0.8s,mb4.1
PHWY **Pilot Hill** 47.87 313 *e*P P 10 15 18.6 +0.5
PHWY *e*PP PP 10 17 13.0 +3.2
RSSD **Black Hills** 47.93 317 *e*P P 10 15 18.7 +0.3
RSSD pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
RSSD **Black Hills** 47.93 317 *e*P P 10 15 18.7 +0.3
comp=Z,1.5nm,0.5s,mb4.3
SMCO **Snowmass** 48.31 310 *e*P P 10 15 21.8 +0.4
comp=Z,3.1nm,0.6s,mb4.5
SMCO *e*PcP PcP 10 16 49.2 +1.0
SMCO *e*PP PP 10 17 16.1 +2.2
PV01 **Paradox Valley** 49.24 308 *e*P P 10 15 29.0 +0.4
PV01 *e*PcP PcP 10 16 52.4 +0.9
PV10 **Paradox Valley** 49.66 308 *e*P P 10 15 32.1 +0.3
PV10 *e*PcP PcP 10 16 54.0 +0.9
TUC **Tucson** 49.90 300 *e*P P 10 15 33.8 +0.2
TUC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TUC **Tucson** 49.90 300 *e*P P 10 15 33.8 +0.2
comp=Z,5.9nm,0.8s,mb4.7
PTEO **Sao Teotonio** 50.01 53 *e*P P 10 15 33.8 -0.6
comp=Z,12nm,0.8s,mb5.0
116A **Eloy** 50.70 300 ⇑P P 10 15 39.7 0.0
baz=51
PBEJ **Beja** 50.78 53 *e*P P 10 15 40.2 0.0
comp=Z,6.0nm,0.9s,mb4.5
EVO **Evora** 50.78 52 *e*P P 10 15 38.3 -1.9
comp=Z,7.9nm,0.9s,mb4.3
EVO *e*MLR MLR
comp=Z,129nm,22.8s
WUAZ **Wupatki** 50.89 304 *e*P P 10 15 42.0 +0.9
comp=Z,16nm,1.0s,mb4.9
WUAZ **Wupatki** 50.89 304 ⇓P P 10 15 41.5 +0.5
baz=51,SNR=12
SRU **San Rafael** 50.96 309 *e*P P 10 15 42.0 +0.4
SRU *e* 10 16 57.7
SRU pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SRU **San Rafael** 50.96 309 *e*P P 10 15 42.0 +0.4
comp=Z,4.4nm,0.5s,mb4.6
SRU *e*PcP PcP 10 16 57.7 -0.1
115A **Sonoran Desert** 51.16 300 ⇓P P 10 15 43.3 +0.2
baz=51
BW06 **Boulder Array** 51.23 313 *e*P P 10 15 43.7 +0.1
comp=Z,9.1nm,0.9s,mb4.7
PDAR **Pinedale Array** 51.23 313 P P 10 15 43.7 +0.1
comp=Z,6.6nm,0.8s,mb4.6,baz=113,slow=8.6,SNR=56
PDAR LR LR 10 38 04.8
comp=Z,167nm,19.8s,MS4.1,baz=111,slow=37
X15A **Humboldt** 51.42 302 ⇑P P 10 15 45.7 +0.7
baz=51,SNR=7.5
PCBR **Castelo Branco** 51.49 51 *e*P P 10 15 44.9 -0.7
comp=Z,10nm,1.1s,mb4.7
TMUT **Trail Mountain** 51.52 309 *e*P P 10 15 46.5 +0.7
W15A **Williams** 51.55 303 ⇓P P 10 15 47.1 +1.0
baz=52
MTE **Manteigas** 51.58 50 *e*P P 10 15 45.7 -0.5
comp=Z,21nm,1.4s,mb4.9
RLMT **Red Lodge** 51.77 316 *e*P P 10 15 48.4 +0.8
comp=Z,17nm,1.2s,mb4.8
DAU **Daniels Canyon** 51.82 310 *e*P P 10 15 49.0 +0.9
Z14A **Wintersburg** 51.84 301 ⇑P P 10 15 48.7 +0.5
baz=52
X14A **Yava** 51.95 302 P P 10 15 49.9 +0.9
baz=52,SNR=6.3
Y14A **Wickenburg** 51.97 302 P P 10 15 49.8 +0.6
baz=52,SNR=9.4
MSU **Marysvale** 52.09 307 *e*P P 10 15 50.8 +0.7
TCUT **Toone Canyon** 52.11 311 *e*P P 10 15 50.6 +0.5
LOHW **Long Hollow** 52.21 314 *e*P P 10 15 51.1 +0.2
comp=Z,3.2nm,0.8s,mb4.3
LOHW *e*PcP PcP 10 17 02.7 +0.2
W14A **Seligman** 52.22 303 ⇑P P 10 15 51.6 +0.6
baz=52
CTU **Camp Tracy** 52.26 310 *e*P P 10 15 51.8 +0.5
comp=Z,5.7nm,0.5s,mb4.8
GCMT **Greycliff** 52.26 317 *e*P P 10 15 51.5 +0.2
SNOW **Snow King Moun** 52.27 314 *e*P P 10 15 52.1 +0.7
comp=Z,2.5nm,0.5s,mb4.4
SNOW *e*PcP PcP 10 17 01.8 -0.9
REDW **Red Top Meadow** 52.31 314 *e*P P 10 15 52.3 +0.6
comp=Z,14nm,1.2s,mb4.8
HWUT **Hardware Ranch** 52.34 311 *e*P P 10 15 51.3 -0.6
comp=Z,4.7nm,0.6s,mb4.6
MOOW **Moose Ponds** 52.35 314 *e*P P 10 15 52.6 +0.6
comp=Z,1.8nm,0.6s,mb4.2
TPAW **Teton Pass** 52.42 314 *e*P P 10 15 53.1 +0.6
comp=Z,8.6nm,1.0s,mb4.6
IMW **Indian Meadow** 52.52 314 *e*P P 10 15 53.6 +0.3
MDT **Midelt** 52.54 60 LR LR 10 35 23.0
comp=Z,124nm,18.7s,MS4.0,baz=163,slow=33
DCID1 **Drake Creek** 52.61 314 *e*P P 10 15 54.7 +0.8
Y13A **Salome** 52.63 301 ⇑P P 10 15 54.5 +0.4
baz=53,SNR=8.7
RRI2 **Red Ridge** 52.63 314 *e*P P 10 15 59.7 +5.6
comp=Z,8.9nm,0.9s,mb4.7
X13A **Yucca** 52.73 302 ⇓P P 10 15 55.4 +0.6
baz=53
CCUT **Cedar City** 52.82 306 *e*P P 10 15 56.1 +0.6
W13A **Hualapai Mount** 52.85 303 ⇓P P 10 15 56.4 +0.7
baz=53,SNR=8.2
SPUT **South Promonto** 52.92 311 *e*P P 10 15 55.1 -1.1
ARUT **Antelope Range** 52.93 306 *e*P P 10 15 57.0 +0.7
DUG **Dugway** 52.93 309 *e*P P 10 15 56.8 +0.5
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DUG **Dugway** 52.93 309 *e*P P 10 15 56.8 +0.5
comp=Z,7.3nm,0.9s,mb4.6
DUG **Dugway** 52.93 309 ⇓P P 10 15 56.9 +0.6
baz=53,SNR=11
PDMCI **Parker Dam,Lak** 52.95 302 ⇑P P 10 15 56.6 +0.2
baz=53
QLMT **Earthquake Lak** 53.14 315 *e*P P 10 15 59.2 +1.4
Y12C **Blythe** 53.20 301 ⇓P P 10 15 58.4 +0.2
baz=53
BGU **Big Grassy Mou** 53.25 310 *e*P P 10 15 59.1 +0.4
HVU **Hansel Valley** 53.27 311 *e*P P 10 15 58.8 0.0
HVU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HVU **Hansel Valley** 53.27 311 *e*P P 10 15 58.8 0.0
comp=Z,7.1nm,0.8s,mb4.7
GLA **Glamis** 53.37 300 *e*P P 10 16 00.1 +0.5
GLA **Glamis** 53.37 300 ⇑P P 10 16 00.0 +0.4
baz=53
U12A **Valley of Fire** 53.57 305 ⇓P P 10 16 01.6 +0.6
baz=54
W12A **Cal Nev Ari** 53.67 303 ⇑P P 10 16 02.5 +0.7
baz=54
IRM **Iron Mountain** 53.76 302 ⇓P P 10 16 02.9 +0.5
baz=54,SNR=12
DBIC **Dimbokro** 53.92 92 P P 10 16 03.7 +0.1
comp=Z,24nm,0.8s,mb5.2,baz=267,slow=7.6,SNR=34
DBIC LR LR 10 34 29.0
comp=Z,171nm,21.5s,MS4.1,baz=254,slow=31
DBIC **Dimbokro** 53.92 92 *e*P P 10 16 04.0 +0.4
DBIC *e* 10 17 06.9
DBIC pmax pmax
comp=Z,17nm,0.7s
DBIC **Dimbokro** 53.92 92 *e*P P 10 16 04.0 +0.4
comp=Z,17nm,0.7s,mb5.1
DBIC *e*PcP PcP 10 17 06.9 -2.1
BC3 **Big Chuckw Mtn** 53.96 301 ⇑P P 10 16 04.2 +0.3
baz=54,SNR=7.4
DLMT **Dillon** 54.08 316 *e*P P 10 16 05.2 +0.4
comp=Z,10nm,0.9s,mb4.8
ESDC **Sonseca Array** 54.10 52 P P 10 16 05.2 +0.3
comp=Z,2.2nm,0.7s,mb4.2,baz=262,slow=7.5,SNR=19
ESLA **Sonseca Array** 54.10 52 *e*P P 10 16 05.0 +0.1
comp=Z,0.9nm,0.9s,mb3.7
MCMT **McKenzie Canyo** 54.10 315 *e*P P 10 16 06.2 +1.3
N13A **Wendover, West** 54.11 310 ⇓P P 10 16 05.2 +0.2
baz=54
V11A **Goodsprings** 54.20 304 ⇓P P 10 16 06.1 +0.4
baz=54
P12A **McGill** 54.36 308 ⇓P P 10 16 07.3 +0.5
baz=54
O12A **Currie** 54.39 309 ⇓P P 10 16 07.6 +0.6
baz=54,SNR=5.6
BELC **Belle Mtn.** 54.45 301 ⇓P P 10 16 07.8 +0.4
baz=54
TUQ **Turquoise Mtn.** 54.55 303 ⇑P P 10 16 08.7 +0.6
baz=54
MONP **Monument Peak** 54.69 300 ⇓P P 10 16 09.9 +0.7
baz=55,SNR=6.1
N12A **Clover Valley,** 54.73 310 ⇑P P 10 16 09.7 +0.3
baz=55
M12A **Wells** 54.75 310 ⇑P P 10 16 09.8 +0.2
baz=55
HEC **Hector,Ludlow** 54.81 302 ⇑P P 10 16 10.7 +0.7
baz=55
Q11A **Duckwater** 54.83 307 P P 10 16 10.7 +0.5
baz=55,SNR=5.1
SHOC **Shoshone** 54.89 304 ⇑P P 10 16 10.9 +0.3
baz=55
O11A **Cowboy Ranch,** 55.05 309 ⇓P P 10 16 12.5 +0.7
baz=55,SNR=11
N11A **Elko Archery C** 55.24 310 ⇑P P 10 16 13.3 +0.2
baz=55
R10A **Warm Springs** 55.24 306 ⇓P P 10 16 13.8 +0.7
baz=55
GSC **Goldstone** 55.25 303 *e*P P 10 16 14.2 +1.0
GSC **Goldstone** 55.25 303 ⇓P P 10 16 14.0 +0.8
baz=55
109C **Camp Elliot, M** 55.27 300 ⇓P P 10 16 13.5 +0.2
baz=55
M11A **Holland Ranch,** 55.40 310 ⇓P P 10 16 14.6 +0.3
baz=55,SNR=7.2
MURC **Murrieta** 55.40 301 ⇑P P 10 16 14.7 +0.4
baz=55
FURC **Furnace Creek,** 55.43 304 ⇓P P 10 16 15.2 +0.7
baz=55
P10A **Eureka** 55.58 308 ⇓P P 10 16 16.1 +0.5
baz=56
O10A **Cortez Mining,** 55.72 309 ⇓P P 10 16 16.5 0.0
baz=56
R09A **Tonopah** 55.83 306 ⇓P P 10 16 17.9 +0.5
baz=56
BFSC **Mount Baldy St** 55.84 301 ⇓P P 10 16 17.6 +0.2
baz=56
S09A **Goldfield** 55.88 306 ⇑P P 10 16 18.0 +0.3
baz=56,SNR=8.2
MPMC **Manual Prospec** 55.88 304 ⇓P P 10 16 18.0 +0.2
baz=56
GRAC **Grapevine Rang** 55.90 305 ⇓P P 10 16 18.5 +0.6
baz=56,SNR=8.9
M10A **I.L. Ranch, Tu** 55.97 310 ⇓P P 10 16 18.7 +0.3
baz=56
LRMC **Laurel Mountai** 55.98 303 ⇑P P 10 16 18.8 +0.3
baz=56
C13A **Hot Springs** 56.05 318 ⇑P P 10 16 18.6 -0.4
baz=56
EDW2 **Edwards Air Fo** 56.17 302 ⇓P P 10 16 20.1 +0.3
baz=56
B13A **Whitefish** 56.18 319 ⇑P P 10 16 20.3 +0.4
baz=56
PLCA **Paso Flores** 56.20 190 P P 10 16 21.1 +1.0
comp=Z,4.2nm,1.0s,mb4.4,baz=339,slow=4.5,SNR=4.0
BORG **Borgarnes** 56.21 18 LR LR 10 34 23.5
comp=Z,11nm,21.6s,MS2.9,baz=23,slow=30
O09A **Fish Creek Ran** 56.22 309 ⇓P P 10 16 20.6 +0.4
baz=56,SNR=9.9
DECC **Green Verdugo** 56.39 301 ⇑P P 10 16 21.9 +0.4
baz=56
CWC **Cottonwood Cre** 56.40 304 ⇓P P 10 16 21.8 +0.3
baz=56
N09A **Rock Creek Ran** 56.58 309 ⇑P P 10 16 22.8 +0.1
baz=57
Q08A **Gabbs** 56.59 307 ⇓P P 10 16 23.2 +0.4
baz=57
QUIF **Quistinic** 56.59 42 *e*P P 10 16 22.6 -0.2
S08C **White Mtn Res** 56.60 305 ⇓P P 10 16 23.8 +0.9
baz=57,SNR=7.8
M09A **Marrel Ranch,** 56.62 310 ⇓P P 10 16 23.2 +0.2
baz=57
ROSF **Rostrenen** 56.63 41 *e*P P 10 16 23.0 -0.1
ISA **Isabella** 56.64 303 ⇑P P 10 16 23.3 +0.2
baz=57
C12A **Trout Creek** 56.64 318 ⇑P P 10 16 23.4 +0.2
baz=57
R08A **Mina** 56.65 306 ⇓P P 10 16 23.6 +0.3
baz=57,SNR=7.0
SJPF **Ste Jean** 56.78 48 *e*P P 10 16 24.6 +0.4
comp=Z,34nm,0.8s,mb5.1
SJPF **Ste Jean** 56.78 48 *e*P P 10 16 24.6 +0.4
SJPF pmax pmax
comp=Z,17nm,0.8s,mb5.1
SJPF **Ste Jean** 56.78 48 *e*P P 10 16 24.6 +0.4
comp=Z,17nm,0.8s,mb5.1
NVAR **Mina Array Bea** 56.82 306 P P 10 16 24.4 0.0
comp=Z,3.5nm,0.7s,mb4.5,baz=122,slow=4.5,SNR=23
NVAR **Mina Array Bea** 56.82 306 P P 10 16 24.4 0.0
ARVC **Arvin** 56.88 302 ⇑P P 10 16 25.4 +0.5
baz=57
L09A **Wilkinson Ranc** 56.89 311 ⇓P P 10 16 25.5 +0.5
baz=57
B12A **Libby** 56.92 319 ⇑P P 10 16 25.5 +0.3
baz=57
N08A **GE Springer Mi** 57.02 309 P P 10 16 26.3 +0.4
baz=57,SNR=7.0
K09A **Rome** 57.05 312 ⇑P P 10 16 26.3 +0.2
baz=57
SGMF **Saint Gilles** 57.07 42 *e*P P 10 16 26.2 -0.1
comp=Z,59nm,1.2s,mb5.2
SGMF **Saint Gilles** 57.07 42 *e*P P 10 16 26.2 -0.1
SGMF pmax pmax
comp=Z,29nm,1.2s,mb5.2
SGMF **Saint Gilles** 57.07 42 *e*P P 10 16 26.2 -0.1
comp=Z,30nm,1.2s,mb5.2
EDM **Edmonton** 57.09 325 *e*P P 10 16 25.6 -0.8
A12A **Yaak River Ran** 57.09 319 ⇓P P 10 16 26.5 +0.1
baz=57
MLAC **Mammoth Lakes** 57.14 305 ⇑P P 10 16 27.1 +0.4
baz=57
VES **Vestal, Richgr** 57.15 303 ⇑P P 10 16 27.4 +0.7
baz=57
HELL **Mitchell Peak,** 57.18 304 ⇓P P 10 16 27.4 +0.4
baz=57,SNR=9.0
BMO **Blue Mountains** 57.18 314 *e*P P 10 16 26.3 -0.7
BMO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BMO **Blue Mountains** 57.18 314 *e*P P 10 16 26.2 -0.8
comp=Z,1.1nm,0.6s,mb4.1
ETSF **Etsaut** 57.22 48 *e*P P 10 16 27.3 0.0
comp=Z,8.2nm,0.8s,mb4.5
ETSF **Etsaut** 57.22 48 *e*P P 10 16 27.3 0.0
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ETSF **Etsaut** 57.22 48 *e*P P 10 16 27.3 0.0
comp=Z,4.1nm,0.8s,mb4.5
M08A **Happy Creek Ra** 57.31 310 ⇓P P 10 16 28.2 +0.2
baz=57
RCTC **Rector, Farmer** 57.32 304 ⇓P P 10 16 28.4 +0.4
baz=57
R07C **Lee Vining** 57.35 306 ⇑P P 10 16 28.4 +0.2
baz=57
F10A **Beach Ranch, E** 57.38 315 ⇓P P 10 16 28.5 +0.1
baz=57
H09A **Durkee** 57.39 314 ⇓P P 10 16 28.4 -0.2
baz=57
L08A **Fields** 57.41 311 ⇓P P 10 16 28.7 +0.1
baz=57
KCC **Kaiser Creek** 57.48 305 ⇓P P 10 16 29.4 +0.3
baz=58
O07A **Toulon** 57.49 308 ⇑P P 10 16 28.8 -0.4
baz=58
N07B **Gerlach** 57.65 309 ⇓P P 10 16 30.4 +0.1
baz=58,SNR=6.0
WAKR **Walker** 57.71 306 *e*P P 10 16 31.4 +0.7
J08A **Circle Bar Ran** 57.71 312 ⇑P P 10 16 30.6 -0.2
baz=58
R06C **Coleville** 57.72 306 ⇓P P 10 16 31.2 +0.4
baz=58
NEW **Newport** 57.85 318 *e*P P 10 16 31.2 -0.6
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW **Newport** 57.85 318 *e*P P 10 16 31.2 -0.6
comp=Z,7.1nm,0.8s,mb4.8
C10A **Spilker Farm,** 57.87 318 ⇑P P 10 16 31.7 -0.1
baz=58
I08A **Drewsey** 57.88 313 ⇓P P 10 16 32.2 +0.2
baz=58
M07A **Soldier Meadow** 57.89 310 ⇓P P 10 16 32.1 +0.1
baz=58
EPF **Esparros** 57.90 48 *e*P P 10 16 32.8 +0.7
comp=Z,32nm,1.0s,mb5.0
EPF **Esparros** 57.90 48 *e*P P 10 16 32.8 +0.7
EPF pmax pmax
comp=Z,16nm,1.0s,mb5.0
EPF **Esparros** 57.90 48 *e*P P 10 16 32.8 +0.7
comp=Z,16nm,1.0s,mb5.0
WCN **Washoe City** 58.05 307 ⇓P P 10 16 33.1 -0.1
baz=58
H08A **Prairie City** 58.07 313 ⇓P P 10 16 33.1 -0.2
baz=58,SNR=14
L07A **Adell** 58.12 310 ⇑P P 10 16 33.4 -0.2
baz=58
GRR **Gorron** 58.20 42 *e*P P 10 16 33.9 -0.3
comp=Z,28nm,0.8s,mb5.0
GRR **Gorron** 58.20 42 *e*P P 10 16 33.9 -0.3
GRR pmax pmax
comp=Z,14nm,0.8s,mb5.0
GRR **Gorron** 58.20 42 *e*P P 10 16 33.9 -0.3
comp=Z,14nm,0.8s,mb5.0
O06A **Flanigan** 58.22 308 ⇓P P 10 16 33.9 -0.4
baz=58
R05C **Kirkwood Meado** 58.23 307 ⇓P P 10 16 34.8 +0.4
baz=58,SNR=9.7
MFF **Saint Martin d** 58.26 44 *e*P P 10 16 34.5 -0.1
comp=Z,22nm,0.9s,mb4.8
MFF **Saint Martin d** 58.26 44 *e*P P 10 16 34.5 -0.1
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.9
MFF **Saint Martin d** 58.26 44 *e*P P 10 16 34.5 -0.1
comp=Z,11nm,0.9s,mb4.9
S05C **Merced** 58.29 305 ⇓P P 10 16 34.6 -0.2
baz=58
N06A **Buffalo Meadow** 58.30 309 ⇓P P 10 16 34.8 -0.1
baz=58
A10A **Northport** 58.32 319 ⇑P P 10 16 35.4 +0.4
baz=58
D09A **Jones Farm, Ri** 58.35 316 ⇓P P 10 16 34.8 -0.4
baz=58
F08A **Pendleton** 58.40 315 ⇑P P 10 16 35.4 -0.2
baz=58
CMB **Columbia Colle** 58.40 306 ⇑P P 10 16 35.5 -0.1
baz=58
G08A **Pilot Rock** 58.42 314 ⇓P P 10 16 35.2 -0.5
baz=58
C09A **Chrisman Ranch** 58.49 317 ⇓P P 10 16 36.0 -0.3
baz=58
LFF **La Frestale** 58.53 46 *e*P P 10 16 36.2 -0.3
comp=Z,36nm,1.1s,mb5.0
LFF **La Frestale** 58.53 46 *e*P P 10 16 36.2 -0.3
LFF pmax pmax
comp=Z,18nm,1.1s,mb5.0
LFF **La Frestale** 58.53 46 *e*P P 10 16 36.2 -0.3
comp=Z,18nm,1.1s,mb5.0
B09A **Rice** 58.56 318 ⇑P P 10 16 36.9 +0.2
baz=58
I07A **Izee** 58.58 313 ⇓P P 10 16 36.7 -0.2
baz=59
BEKR **Beckwourth** 58.58 308 ⇑P P 10 16 37.0 +0.2
baz=59
H07A **Lands Inn, Kim** 58.71 313 ⇑P P 10 16 37.2 -0.5
baz=59
LDF **La Druitiere** 58.73 42 *e*P P 10 16 37.6 -0.3
LAVA **Lava Cap Winer** 58.75 307 ⇑P P 10 16 38.5 +0.5
baz=59
D08A **Wollman Farm,** 58.76 316 ⇓P P 10 16 37.6 -0.5
baz=59
J06A **Christmas Vall** 58.90 312 ⇓P P 10 16 38.6 -0.5
baz=59

K06A Valley Falls 58.90 311 ⇑P P 10 16 39.3 +0.2
baz=59
G07A Ruggs Ranch, H 58.91 314 ⇑P P 10 16 38.6 -0.5
baz=59
A09A Danville 58.97 319 ⇓P P 10 16 39.5 0.0
baz=59
TOA0 Torodi Ar. Sit 58.99 83 eP P 10 16 39.2 -0.6
TORD Torodi Ar. Bea 58.99 83 P P 10 16 39.0 -0.7
comp=Z,9.9nm,0.8s,mb4.9,baz=287,slow=6.1,SNR=53
TORD LR LR 10 41 57.0
comp=Z,172nm,18.0s,MS4.2,baz=280,slow=36
C08A Higginbotham F 59.00 317 ⇓P P 10 16 39.6 -0.2
baz=59
I06A Prineville 59.06 313 ⇑P P 10 16 40.9 +0.8
baz=59
SUMG Summit 59.07 7 eP P 10 16 40.1 -0.2
comp=Z,30nm,1.0s,mb5.3
RJF Les Rejaudoux 59.13 46 eP P 10 16 40.6 -0.1
comp=Z,58nm,1.2s,mb5.2
RJF Les Rejaudoux 59.13 46 eP P 10 16 40.6 -0.1
RJF pmax pmax
comp=Z,29nm,1.2s,mb5.2
RJF Les Rejaudoux 59.13 46 eP P 10 16 40.6 -0.1
comp=Z,29nm,1.2s,mb5.2
HAST UC Hastings Re 59.19 304 ⇑P P 10 16 41.6 +0.5
baz=59
MTLF Montolieu 59.30 48 eP P 10 16 41.4 -0.5
comp=Z,34nm,1.1s,mb5.0
MTLF Montolieu 59.30 48 eP P 10 16 41.4 -0.5
MTLF pmax pmax
comp=Z,17nm,1.0s,mb5.0
MTLF Montolieu 59.30 48 eP P 10 16 41.4 -0.5
comp=Z,17nm,1.0s,mb5.0
K05A Summer Lake 59.36 311 ⇑P P 10 16 43.0 +0.8
baz=59
OHCM Honcut 59.39 307 eP P 10 16 42.2 -0.3
OHCM ePcP PcP 10 17 28.8 -1.5
ORV Oroville 59.42 307 ⇓P P 10 16 43.3 +0.6
baz=59
CAF Calviac 59.45 46 eP P 10 16 42.8 -0.1
comp=Z,34nm,0.9s,mb5.1
CAF Calviac 59.45 46 eP P 10 16 42.8 -0.1
CAF pmax pmax
comp=Z,17nm,0.9s,mb5.1
CAF Calviac 59.45 46 eP P 10 16 42.8 -0.1
comp=Z,17nm,0.9s,mb5.1
G06A Carlson Farm, 59.57 314 ⇓P P 10 16 44.6 +0.9
baz=60
SUTB Sutter Butte 59.61 307 ⇑P P 10 16 44.1 +0.1
baz=60
C07A Waterville 59.65 317 ⇑P P 10 16 44.4 +0.1
baz=60
J05A Fort Rock 59.69 312 ⇑P P 10 16 45.5 +1.0
baz=60
F06A Goldendale 59.77 315 ⇓P P 10 16 45.5 +0.5
baz=60
TCF Toulx Ste Croi 59.79 45 eP P 10 16 45.1 -0.1
comp=Z,24nm,1.0s,mb4.9
TCF Toulx Ste Croi 59.79 45 eP P 10 16 45.1 -0.1
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.9
TCF Toulx Ste Croi 59.79 45 eP P 10 16 45.1 -0.1
comp=Z,12nm,1.0s,mb4.9
B07A Winthrop 59.84 318 P P 10 16 45.5 -0.1
baz=60,SNR=6.9
H05A Madras 59.89 313 ⇑P P 10 16 46.6 +0.7
baz=60
M04C Macdoel 59.93 310 ⇓P P 10 16 46.3 +0.1
baz=60
K04A Chilquin 59.96 311 ⇑P P 10 16 46.7 +0.3
baz=60
E06A Yakima 60.04 315 ⇓P P 10 16 47.3 +0.3
baz=60
D06A Cle Elum 60.07 316 ⇑P P 10 16 47.3 +0.1
baz=60
M03C McCloud 60.08 309 ⇓P P 10 16 47.5 +0.3
baz=60
F05A White Salmon 60.25 315 ⇓P P 10 16 49.2 +0.8
baz=60
HYF Humbligny 60.26 44 eP P 10 16 48.5 0.0
BGF Bois d'Agland 60.27 45 eP P 10 16 48.2 -0.3
comp=Z,9.1nm,0.6s,mb4.7
BGF Bois d'Agland 60.27 45 eP P 10 16 48.2 -0.3
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BGF Bois d'Agland 60.27 45 eP P 10 16 48.2 -0.3
comp=Z,4.6nm,0.6s,mb4.7
HOOD Mount Hood Mea 60.30 314 eP P 10 16 48.7 0.0
WDC Whiskeytown Da 60.32 308 ⇓P P 10 16 50.1 +1.2
baz=60
H04A Detroit Lake 60.57 313 ⇓P P 10 16 50.9 +0.3
baz=60
YBH Yreka Blue Hor 60.57 310 LR LR 10 45 05.5
comp=Z,117nm,20.2s,MS4.0,baz=104,slow=38
YBH Yreka Blue Hor 60.57 310 ⇑P P 10 16 50.3 -0.2
baz=60
E05A Randle 60.57 315 ⇓P P 10 16 51.6 +1.0
baz=61
AVF Avril sur Loir 60.66 44 eP P 10 16 50.7 -0.5
comp=Z,36nm,1.1s,mb5.1
AVF Avril sur Loir 60.66 44 eP P 10 16 50.7 -0.5
AVF pmax pmax
comp=Z,18nm,1.1s,mb5.1
AVF Avril sur Loir 60.66 44 eP P 10 16 50.7 -0.5
comp=Z,18nm,1.1s,mb5.1
SSF Saint Saulge 60.81 44 eP P 10 16 51.7 -0.5
comp=Z,20nm,0.7s,mb5.0
SSF Saint Saulge 60.81 44 eP P 10 16 51.7 -0.5
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SSF Saint Saulge 60.81 44 eP P 10 16 51.7 -0.5
comp=Z,10nm,0.7s,mb5.1
SMF Signal de Mont 60.96 45 eP P 10 16 52.9 -0.3
comp=Z,19nm,0.8s,mb5.0
SMF Signal de Mont 60.96 45 eP P 10 16 52.9 -0.3
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SMF Signal de Mont 60.96 45 eP P 10 16 52.9 -0.3
comp=Z,9.6nm,0.8s,mb5.0
LOR Lormes 61.08 44 eP P 10 16 53.4 -0.6
comp=Z,44nm,1.1s,mb5.2
LOR eMLR MLR
comp=Z,158nm,18.0s
LOR Lormes 61.08 44 eP P 10 16 53.4 -0.6
LOR pmax pmax
comp=Z,22nm,1.1s,mb5.2
LOR Lormes 61.08 44 eP P 10 16 53.4 -0.6
comp=Z,22nm,1.1s,mb5.2
B05A Bryant 61.10 317 ⇓P P 10 16 54.5 +0.3
baz=61
I03A Eugene 61.25 312 ⇑P P 10 16 54.6 -0.6
baz=61
VIVF Saint-Julien-l 61.27 47 eP P 10 16 55.6 +0.3
comp=Z,28nm,0.9s,mb5.1
VIVF Saint-Julien-l 61.27 47 eP P 10 16 55.6 +0.3
VIVF pmax pmax
comp=Z,14nm,0.9s,mb5.1
VIVF Saint-Julien-l 61.27 47 eP P 10 16 55.6 +0.3
comp=Z,14nm,0.9s,mb5.1
YKA Yellowknife Ar 61.34 334 P P 10 16 54.0 -1.8
comp=Z,4.6nm,0.7s,mb4.7,baz=106,slow=7.4,SNR=14
YKA LR LR 10 41 13.7
comp=Z,86nm,20.8s,MS3.9,baz=135,slow=34
YKA Yellowknife Ar 61.34 334 P P 10 16 54.0 -1.8
C04A Brinnon 61.58 316 ⇑P P 10 16 57.2 -0.2
baz=62
SMRF Simiane la Rot 61.80 48 eP P 10 16 58.6 -0.3
BAIF Baives 61.81 41 eP P 10 16 58.4 -0.6
MEZF Maizieres J'vi 62.08 43 eP P 10 17 00.3 -0.5
comp=Z,33nm,0.8s,mb5.2
MEZF Maizieres J'vi 62.08 43 eP P 10 17 00.3 -0.5
comp=Z,33nm,0.8s,mb5.5
ORIF Oris-en-Rattie 62.13 47 eP P 10 17 00.9 -0.2
comp=Z,24nm,1.2s,mb4.9
ORIF eMLR MLR
comp=Z,128nm,18.0s
ORIF Oris-en-Rattie 62.13 47 eP P 10 17 00.9 -0.2
ORIF pmax pmax
comp=Z,12nm,1.2s,mb4.9
ORIF Oris-en-Rattie 62.13 47 eP P 10 17 00.9 -0.2
comp=Z,12nm,1.2s,mb4.9
GIVF Givet 62.21 41 eP P 10 17 01.2 -0.4
LMR La Mourre 62.41 49 eP P 10 17 02.8 -0.2
comp=Z,9.2nm,0.7s,mb4.7
LMR La Mourre 62.41 49 eP P 10 17 02.8 -0.2
LMR pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LMR La Mourre 62.41 49 eP P 10 17 02.8 -0.2
comp=Z,4.6nm,0.7s,mb4.7
CABF La Chapelle 62.49 45 eP P 10 17 03.3 -0.2
comp=Z,29nm,1.1s,mb5.0
CABF La Chapelle 62.49 45 eP P 10 17 03.3 -0.2
CABF pmax pmax
comp=Z,14nm,1.1s,mb5.0
CABF La Chapelle 62.49 45 eP P 10 17 03.3 -0.2
comp=Z,14nm,1.1s,mb5.0
FRF La Foret Royal 62.53 48 eP P 10 17 03.7 -0.1
comp=Z,15nm,0.8s,mb4.9
FRF La Foret Royal 62.53 48 eP P 10 17 03.7 -0.1
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
FRF La Foret Royal 62.53 48 eP P 10 17 03.7 -0.1
comp=Z,7.7nm,0.8s,mb4.9
MBDF Montbardon 62.74 47 eP P 10 17 05.6 +0.4
comp=Z,15nm,0.8s,mb4.9
MBDF Montbardon 62.74 47 eP P 10 17 05.6 +0.4
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MBDF Montbardon 62.74 47 eP P 10 17 05.6 +0.4
comp=Z,7.4nm,0.8s,mb4.9
LPL La Plagne 62.80 46 eP P 10 17 05.5 -0.1
comp=Z,14nm,0.8s,mb4.8
LPL La Plagne 62.80 46 eP P 10 17 05.5 -0.1
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LPL La Plagne 62.80 46 eP P 10 17 05.5 -0.1
comp=Z,6.8nm,0.8s,mb4.8
LPG La Plagne 62.81 46 eP P 10 17 05.6 -0.1
comp=Z,54nm,1.4s,mb5.2
LPG La Plagne 62.81 46 eP P 10 17 05.6 -0.1
LPG pmax pmax
comp=Z,27nm,1.4s,mb5.2
LPG La Plagne 62.81 46 eP P 10 17 05.6 -0.1
comp=Z,27nm,1.4s,mb5.2
HAU Haudompre 62.86 43 eP P 10 17 05.4 -0.6
HAU eMLR MLR
comp=Z,166nm,17.5s
SBF Sospel 63.13 48 eP P 10 17 07.4 -0.4
HINF Hinteralfeld 63.17 44 eP P 10 17 07.0 -1.0
CDF Champ du Feu 63.53 43 eP P 10 17 09.9 -0.5
comp=Z,28nm,1.1s,mb4.9
CDF Champ du Feu 63.53 43 eP P 10 17 09.9 -0.5
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.9
CDF Champ du Feu 63.53 43 eP P 10 17 09.9 -0.5
comp=Z,14nm,1.1s,mb4.9
RPN Rapa Nui 64.01 230 LR LR 10 40 24.2
comp=Z,12nm,19.4s,MS3.1,baz=274,slow=32
KEST Kesra 64.23 57 P P 10 17 16.0 +0.9
comp=Z,5.8nm,0.8s,mb4.7,baz=284,slow=3.2,SNR=15
TNS Taunus Mts 64.53 41 eP P 10 17 17.3 +0.3
comp=Z,16nm,1.0s,mb5.0
TNS Taunus Mts 64.53 41 eP P 10 17 17.3 +0.3
TNS pmax pmax
comp=Z,16nm,1.0s,mb5.0
STU Stuttgart 64.83 43 eP P 10 17 18.3 -0.7
comp=Z,18nm,1.0s,mb5.1
DAVA Damuels 65.15 45⇑iP P 10 17 21.7 +0.7
comp=Z,17nm,0.8s,mb5.1
NRDL Niedersach Rie 65.85 39 eP P 10 17 25.6 0.0
comp=Z,10.0nm,0.9s,mb4.8
CLZ Clausthal 65.94 40 eP P 10 17 25.9 -0.2
comp=Z,12nm,1.2s,mb4.8
CLZ Clausthal 65.94 40 eP P 10 17 25.9 -0.2
CLZ pmax pmax
comp=Z,12nm,1.2s,mb4.8
MOTA Moosalm 65.98 45⇓iP P 10 17 26.4 0.0
comp=Z,10.0nm,0.9s,mb4.8
MOTA Moosalm 65.98 45⇓iP P 10 17 26.4 0.0
MOTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SQTA Sankt Quirin 66.04 45⇓iP P 10 17 27.0 +0.1
comp=Z,12nm,0.8s,mb5.0
SQTA Sankt Quirin 66.04 45⇓iP P 10 17 27.0 +0.2
SQTA pmax pmax
comp=Z,13nm,0.8s,mb5.0
BSEG Bad Segeberg 66.17 37 eP P 10 17 27.5 -0.1
comp=Z,16nm,1.0s,mb5.0
GRA1 Grafenberg Arr 66.25 42 eP P 10 17 28.0 -0.2
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.25 42 eP P 10 17 28.0 -0.2
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.25 42 eP P 10 17 28.0 -0.2
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
GRF Grafenberg Arr 66.25 42 eP P 10 17 28.0 -0.2
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
WTTA Wattenberg 66.34 45⇑iP P 10 17 29.0 +0.2
comp=Z,11nm,0.7s,mb5.0
WTTA Wattenberg 66.34 45⇑iP P 10 17 29.0 +0.3
WTTA pmax pmax
comp=Z,11nm,0.7s,mb5.0
MOX Moxa 66.59 41 eP P 10 17 29.6 -0.7
comp=Z,10.0nm,1.1s,mb4.8
MANZ Manzenberg 66.85 42 eP P 10 17 32.1 +0.1
comp=Z,17nm,1.1s,mb5.0
ROTZ Rotzenmuhle 66.89 42 eP P 10 17 31.8 -0.5
comp=Z,6.0nm,1.1s,mb4.5
WERD Werda 67.01 41 eP P 10 17 32.5 -0.5
comp=Z,4.0nm,0.8s,mb4.5
WERN Wernitzgruen 67.04 41 eP P 10 17 33.2 0.0
comp=Z,15nm,1.3s,mb4.9
NKC Novy Kostel 67.08 41 eP P 10 17 33.3 -0.2
WET Wettzell 67.29 43 eP P 10 17 34.1 -0.7
comp=Z,14nm,1.1s,mb4.9
WET Wettzell 67.29 43 eP P 10 17 34.1 -0.7
WET pmax pmax
comp=Z,14nm,1.1s,mb4.9
KBA Koelnbreinsper 67.49 45⇑iP P 10 17 36.0 -0.1
comp=Z,17nm,1.0s,mb5.0
KBA Koelnbreinsper 67.49 45⇑iP P 10 17 36.0 -0.1
KBA pmax pmax
comp=Z,17nm,1.0s,mb5.0
CLL Collm 67.52 40 eP P 10 17 35.8 -0.4
comp=Z,17nm,1.0s,mb5.0
CLL Collm 67.52 40⇓iP P 10 17 35.9 -0.3
CLL e 10 17 50.0
CLL pmax pmax
comp=Z,17nm,1.0s,mb5.0
CLL Collm 67.52 40⇓iP P 10 17 35.9 -0.3
comp=Z,17nm,1.0s,mb5.0
CLL esP sP 10 17 39.0 -0.9
CLL ex x 10 17 50.0
ROBS Robic 67.57 46 iP P 10 17 37.0 +0.4
FBE Freiberg 67.71 41 eP P 10 17 37.1 -0.4
comp=Z,13nm,1.2s,mb4.8
NB2 NORSAR Subarra 67.74 30 P P 10 17 37.6 0.0
comp=Z,5.8nm,0.9s,mb4.6,baz=265,slow=5.9
NB2 NORSAR Subarra 67.74 30 P P 10 17 37.6 0.0
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
NOA NORSAR Array B 67.74 30 P P 10 17 36.3 -1.3
comp=Z,4.2nm,0.8s,mb4.5,baz=262,slow=6.2,SNR=9.3
NOA LR LR 10 44 10.6
comp=Z,94nm,18.6s,MS4.0,baz=270,slow=33
KHC Kasperske Hory 67.74 43 eP P 10 17 37.2 -0.5
GEC2 GERESS Array S 67.81 43 eP P 10 17 37.5 -0.6
comp=Z,14nm,0.9s,mb5.0
GEC2 GERESS Array S 67.81 43 eP P 10 17 37.5 -0.6
GEC2 pmax pmax
comp=Z,14nm,0.9s,mb5.0
GERES GERESS Array B 67.81 43 P P 10 17 37.2 -0.9
comp=Z,8.7nm,0.8s,mb4.8,baz=260,slow=5.3,SNR=53
GERES LR LR 10 41 48.5
comp=Z,87nm,20.6s,MS4.0,baz=293,slow=31
BRG Berggiesshubel 68.08 41 eP P 10 17 39.4 -0.4
comp=Z,123nm,2.7s,mb5.5
BRG Berggiesshubel 68.08 41 eP P 10 17 39.7 -0.1
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRG Berggiesshubel 68.08 41 eP P 10 17 39.7 -0.1
comp=Z,7.5nm,0.9s,mb4.7
MOA Molln 68.14 44⇑iP P 10 17 39.9 -0.3
comp=Z,8.9nm,1.1s,mb4.7
LJU Ljubljana 68.28 46 iP P 10 17 40.9 -0.1
PRU Pruhonice 68.41 42 eP P 10 17 41.7 -0.2
PVCC Panska Ves 68.46 41 eP P 10 17 41.9 -0.2
PVCC Panska Ves 68.46 41 eP P 10 17 41.9 -0.2
PERS Pernice 68.69 45 iP P 10 17 43.4 -0.2
BOJS Bojanci 68.78 47 iP P 10 17 41.8 -2.3
HFS Hagfors 68.81 31 LR LR 10 43 02.6
comp=Z,143nm,19.1s,MS4.2,baz=275,slow=32
ARSA Arzberg 68.98 45⇑iP P 10 17 45.1 -0.3
comp=Z,16nm,0.7s,mb5.0
TREC Trest 69.00 43 eP P 10 17 45.2 -0.3
UPC Upice 69.38 41 eP P 10 17 47.5 -0.4
DPC Dobruska-Polom 69.57 41 eP P 10 17 48.9 -0.2
DPC ex x 10 18 03.1
DPC Dobruska-Polom 69.57 41 eP P 10 17 48.9 -0.2
DPC e 10 18 03.1
VRAC Vranov 69.73 43⇓iP P 10 17 49.7 -0.3
VRAC Vranov 69.73 43⇓iP P 10 17 49.7 -0.3
SMOL Smolenice 70.27 43 eP P 10 17 53.4 0.0
MORC Moravsky Berou 70.35 42⇓iP P 10 17 53.6 -0.3
MORC Moravsky Berou 70.35 42 eP P 10 17 53.7 -0.2
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MORC Moravsky Berou 70.35 42 eP P 10 17 53.6 -0.2
comp=Z,9.6nm,0.9s,mb4.7
INK Inuvik 70.58 338 eP P 10 17 53.8 -1.4
comp=Z,244nm,0.9s
PKSM Moragy 71.14 46⇓iP P 10 17 58.5 -0.1
PKSM Moragy 71.14 46⇓iP P 10 17 58.5 -0.1
VYHS Vyhne 71.21 43 eP P 10 17 58.8 -0.3
VYHS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VYHS Vyhne 71.21 43 eP P 10 17 58.8 -0.3
comp=Z,9.7nm,1.2s,mb4.6
BBLS Bajina Basta - 71.78 48 iP P 10 18 02.5 0.0
DIVS Divcibare 72.19 48 iP P 10 18 05.0 0.0
KECS Kecovo 72.31 43 eP P 10 18 05.9 +0.2
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 72.31 43 eP P 10 18 05.9 +0.2
comp=Z,3.1nm,1.0s,mb4.2
DAWY Dawson 72.53 333 eP P 10 18 06.8 -0.3
STHS Stebnicka Huta 72.76 42 eP P 10 18 09.5 +1.1
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 72.76 42 eP P 10 18 09.5 +1.1
comp=Z,4.4nm,0.9s,mb4.4
CRVS Cervenica-Dubn 72.93 43 eP P 10 18 10.3 +0.9
BZS Buzias 73.24 46⇓iP P 10 18 11.5 +0.3
BZS Buzias 73.24 46 ⇓P P 10 18 11.5 +0.3
UZH Uzhgorod 73.50 43⇓iP P 10 18 12.5 -0.3
UZH pmax pmax
comp=Z,27nm,1.2s,mb5.0
DRGR 73.91 45⇑iP P 10 18 14.6 -0.6
DRGR 73.91 45 ⇑P P 10 18 14.6 -0.6
ARCES ARCESS Array B 74.44 21 P P 10 18 16.7 -1.6
comp=Z,6.6nm,0.8s,mb4.6,baz=263,slow=7.1,SNR=8.7
FINES FINESS Array B 74.92 30 P P 10 18 20.4 -0.6
comp=Z,5.2nm,0.5s,mb4.7,baz=267,slow=3.6,SNR=43
FINES LR LR 10 47 55.5
comp=Z,94nm,19.1s,MS4.1,baz=339,slow=33
FINES FINESS Array B 74.92 30 P P 10 18 20.4 -0.7
KAF Kangasniemi 75.00 29 ep P 10 18 19.9 -1.6
comp=Z,4.1nm,0.5s,mb4.6,baz=273,slow=5.6
KAF Kangasniemi 75.00 29 eP P 10 18 19.9 -1.6
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BURAR Bucovina Array 75.53 44⇓iP P 10 18 25.4 +0.8
BURAR Bucovina Array 75.53 44 ⇓P P 10 18 25.4 +0.8
VOIR 75.66 46⇑iP P 10 18 25.2 -0.1
VOIR 75.66 46 ⇑P P 10 18 25.2 -0.1
COLA College 76.17 334 eP P 10 18 26.6 -1.6
COLA e 10 18 40.3
COLA pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
COLA College 76.17 334 eP P 10 18 26.6 -1.6
comp=Z,4.4nm,1.1s,mb4.3
COLA ePcP PcP 10 18 40.2 -0.1
MLR Muntele Rosu 76.28 46⇓iP P 10 18 29.2 +0.4
MLR Muntele Rosu 76.28 46 ⇓P P 10 18 29.2 +0.4
GVD Gavdhos 76.32 57 eP P 10 18 29.7 +0.6
comp=Z,21nm,0.7s,mb5.2
VRI Vrincioaia 76.78 46⇓iP P 10 18 32.8 +1.2
VRI Vrincioaia 76.78 46 ⇓P P 10 18 32.8 +1.1
JOF Joensuu 77.23 28 ep P 10 18 33.3 -0.9
AKASG Malin Array Be 77.76 41 P P 10 18 35.9 -1.3
comp=Z,4.2nm,0.8s,mb4.4,baz=270,slow=4.7,SNR=12
KIS Kishinev 78.05 44 eP P 10 18 38.0 -0.8
IMA2 Indian Mountai 78.43 335 eP P 10 18 40.4 -0.4
OBN Obninsk 81.31 35⇑iP P 10 18 56.0 -0.5
OBN e 10 19 08.7
OBN pmax pmax
comp=Z,64nm,1.1s,mb5.5
OBN Obninsk 81.31 35 eP P 10 18 56.7 +0.2
TSUM Tsumeb 82.78 112 eP P 10 19 04.8 +0.6
comp=Z,5.8nm,0.7s,mb4.7
BRTR Keskin Array B 82.89 51 P P 10 19 03.8 -1.0
comp=Z,2.1nm,0.6s,mb4.3,baz=286,slow=4.6,SNR=12
VRSR Storozhevoye 83.81 39 eP P 10 19 08.9 -0.7
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,0.8s
ANN Anapa 84.38 45 eP P 10 19 11.2 -1.2
ANN pmax pmax
comp=Z,19nm,0.7s,mb5.3
EIL Elat 86.37 60 eP P 10 19 23.9 +1.5
MALT Malatya 86.85 51⇓iP P 10 19 25.4 +0.7
MALT Malatya 86.85 51 eP P 10 19 25.5 +0.8
MALT pmax pmax
comp=Z,5.0nm,0.5s,mb5.0
MALT Malatya 86.85 51 eP P 10 19 25.5 +0.8
comp=Z,5.1nm,0.5s,mb5.0
KIV Kislovodsk 88.23 45 eP P 10 19 31.5 +0.1
KIV pmax pmax
comp=Z,13nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,59nm,18.0s,MS4.0
LSZ Lusaka 91.39 105 eP P 10 19 45.8 -0.4
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
LSZ Lusaka 91.39 105 eP P 10 19 45.8 -0.3
comp=Z,2.3nm,0.6s,mb4.7
BOSA Boshof 92.24 119 LR LR 10 54 16.0
comp=Z,155nm,18.2s,MS4.5,baz=105,slow=31
ARU Arti 92.29 29⇓iP P 10 19 49.6 -0.7
ARU e 10 23 31.6
ARU eS SKSac 10 30 20.3 -3.6
ARU eSS SS 10 37 05.8 +2.0
ARU pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
WMQ Urumqi 114.33 26 ePKP PKiKP 10 25 20.0 +0.1
CN2 Changchun 121.56 356 ePKP PKPdf 10 25 34.0 +0.2
HHC Hu-ho-hao-te 124.01 8 ePKP PKPdf 10 25 37.1 -1.4
LZH Lanzhou 126.95 17 ePKP PKPdf 10 25 39.6 -4.5
LZH XPKP 10 25 46.0
LZH LR LR
comp=N,136nm,19.6s
LZH LR LR
comp=Z,245nm,20.4s,MS4.9
GTK Gangtok 127.80 37 eP PKPdf 10 25 45.0 -0.7
CD2 Chengdu 131.73 20 ePKP PKPdf 10 25 49.9 -3.3
NJ2 Nanjing 133.41 2 ePKP PKPdf 10 25 52.8 -3.6
KMI Kunming 136.63 24 PKP PKPdf 10 26 04.8 +2.4
STKA Stephens Creek 154.47 225 PKP PKPdf 10 26 31.2 -1.1
comp=Z,1.3nm,0.6s,baz=23,slow=13,SNR=3.1
ASAR Alice Springs 164.77 232 PKP PKPdf 10 26 43.2 -0.9
comp=Z,2.0nm,0.8s,baz=95,slow=0.7,SNR=16
ASAR PKPab PKPab 10 27 40.9 +1.0
comp=Z,0.4nm,0.8s,baz=100,slow=3.9,SNR=3.1
WRA Warramunga Arr 166.06 246 PKP PKPdf 10 26 44.5 -0.7
comp=Z,2.5nm,0.9s,baz=73,slow=0.4,SNR=17
WRA PKPab PKPab 10 27 45.1 -0.4
comp=Z,0.9nm,0.8s,baz=107,slow=4.2,SNR=5.3

ISCJB ***08*** *10:09:50.8±0.5,3897N±002×2654E±005,h9km±5km,*
Error ellipse: s-maj=7.0km s-min=3.7km az=150.7
ATH ***08*** *10:09:50.4,3884N×2614E,h4km,MD3.4/3*
CSEM ***08*** *10:09:50.1±0.1,3893N×2648E,h15km,MD3.2,Error ellipse: s-maj=3.7km s-min=2.1km az=88.0*
ISK ***08*** *10:09:50.8,3891N×2638E,h32km,MD3.2*
ISC 08 10:09:51.4±0.5,3896N±002×2652E±006,h15km±4km,n21,
σ1º08/30,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.34**	**326**	*e*PG	**Pg**	**10 09 58.8**	**+0.5**
PRK				*e*SG	**Sg**	**10 10 04.3**	**+1.3**
AYVA	**Ayvalik**	**0.37**	**21**	*i* P	**Pg**	**10 09 57.4**	**-1.5**

AYVA				*i* S		**Sg**	**10 10 02.5**	**-1.4**
AYVA	**Ayvalik**	**0.37**	**21**	*i* P		**Pg**	**10 09 57.3**	**-1.6**
URLA	**Izmir**	**0.61**	**174**	*i* P		**Pg**	**10 10 03.0**	**-0.2**
URLA				*i* S		**Sg**	**10 10 13.9**	**+2.6**
KDAG	**Bornova**	**0.81**	**133**	*i* P		**Pg**	**10 10 06.2**	**-0.9**
KDAG				*i* S		**Sg**	**10 10 18.8**	**+1.0**
IZM	**Izmir**	**0.81**	**134**	PG		**Pg**	**10 10 06.4**	**-0.7**
IZM				SG		**Sg**	**10 10 18.3**	**+0.5**
EZN	**Ezine**	**0.87**	**350**	PG		**Pg**	**10 10 07.7**	**-0.6**
EZN				SG		**Sg**	**10 10 19.6**	**-0.1**
BOZC	**Bozcaada**	**0.95**	**338**	*i* P		**Pb**	**10 10 08.7**	**-0.8**
BOZC				*i* S		**Sg**	**10 10 23.4**	**+1.3**
SMG	**Samos**	**1.28**	**169**	*e*PB		**Pb**	**10 10 14.1**	**-1.0**
BTOK	**Tokmak**	**1.42**	**55**	*i* P		**Pn**	**10 10 16.2**	**-0.4**
BTOK				*i* S		**Sn**	**10 10 33.2**	**-1.9**
EDC	**Edincik**	**1.73**	**37**	PN		**Pn**	**10 10 21.5**	**+0.6**
KCT	**Karacabey**	**1.93**	**47**	*e*PN		**Pn**	**10 10 23.8**	**+0.2**
BODT	**Bodrum**	**2.00**	**161**	*e*PN		**Pn**	**10 10 23.8**	**-0.8**
APE	**Apeiranthos**	**2.05**	**203**	*e*PB		**Pn**	**10 10 24.8**	**-0.5**
ULDT	**Uludag**	**2.34**	**59**	*i* P		**Pn**	**10 10 30.6**	**+1.2**
ULDT				*i* S		**Sn**	**10 11 00.9**	**+3.1**
ULDT	**Uludag**	**2.34**	**59**	*i* P		**Pn**	**10 10 30.5**	**+1.2**
DAT	**Datca**	**2.38**	**159**	*e*PN		**Pn**	**10 10 29.4**	**-0.5**
IZI	**Iznik**	**2.66**	**58**	*e*PN		**Pn**	**10 10 34.6**	**+0.9**
YLV	**Yalova**	**2.72**	**53**	*e*PN		**Pn**	**10 10 35.5**	**+0.9**
ISK	**Istanbul-Kandi**	**2.87**	**42**	*e*PN		**Pn**	**10 10 37.6**	**+1.0**
EDRB	**Edirne**	**2.88**	**3**	*e*PN		**Pn**	**10 10 35.7**	**-1.1**

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*ISCJB **08** 11:23:11.8±8.6, 605N±02×1654E±02, h11km±54km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=41.3km s-min=13.3km az=143.8*
*MOS **08** 11:23:11.2±1.2, 6045N×16548E, h9km, mb4.1/5, Error ellipse: s-maj=26.3km s-min=19.0km az=99.7*
*IDC **08** 11:23:12.9±2.6, 6074N×16547E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=90.3km s-min=21.8km az=173.0*
ISC 08 11:23:17.1±2.6, 605N±02×**1654E**±02, **h38**km±22km, **n15,** σ0**93**/15, **mb3.9**/6, **MS3.4**/1, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**6.65**	**297**	*e*PN	**Pn**	**11 24 51.3**	**-0.9**
MA2	**Magadan**	**7.39**	**269**	*e*PN	**Pn**	**11 25 02.2**	**-0.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.7s						
MA2				pmax	pmax		
	comp=E,20nm,0.6s						
BILL	**Bilibino**	**7.58**	**2**	*e*PN	**Pn**	**11 25 05.8**	**+0.8**
BILL				pmax	pmax		
	comp=Z,22nm,1.8s						
YAK	**Yakutsk**	**17.11**	**291**	*e*P	**Pn**	**11 27 13.7**	**+0.5**
COLA	**College**	**21.48**	**58**	*i* P	**P**	**11 28 02.6**	**+0.3**
BOD	**Bodaibo**	**25.94**	**287**	*e*P	**P**	**11 28 45.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb3.8						
INK	**Inuvik**	**26.41**	**47**	P	**P**	**11 28 50.2**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.0,baz=271,slow=9.7,SNR=8.6						
INK	**Inuvik**	**26.41**	**47**	P	**P**	**11 28 50.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**35.53**	**276**	P	**P**	**11 30 11.9**	**+1.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=65,slow=7.5,SNR=5.5						
SONM				LR	LR	11 45 29.0	
	comp=Z,66nm,20.7s,MS3.4,baz=249,slow=38						
SONM	**Songino Array**	**35.53**	**276**	P	**P**	**11 30 11.9**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,66nm,20.7s						
YKA	**Yellowknife Ar**	**35.95**	**51**	P	**P**	**11 30 11.6**	**-2.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=306,slow=8.3,SNR=6.1						
YKA	**Yellowknife Ar**	**35.95**	**51**	P	**P**	**11 30 11.6**	**-2.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**48.22**	**306**	P	**P**	**11 31 53.2**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=51,slow=7.6,SNR=14						
BVAR	**Borovoye Array**	**48.22**	**306**	P	**P**	**11 31 53.2**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**51.73**	**69**	P	**P**	**11 32 21.1**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=328,slow=3.0,SNR=9.8						

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*NIED **08** 11:42:00, 2390N×12150E, h35km, Mw3.9 Best double couple: M0=7.23000×10^14 NP1:φs320.00000°, δ84.00000°, λ-56.00000°. NP2:φs60.00000°, δ34.00000°, λ-169.00000°.*
*BJI **08** 11:42:35.3, 2341N×12172E, h15km, mb4.4, ML3.9*
*IDC **08** 11:42:39.1±1.4, 2348N×12094E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/26, Error ellipse: s-maj=134.0km s-min=18.7km az=64.0*
*NEIC **08** 11:42:39.7±3.3, 2365N×12130E, h8km±22km, ML4.5(TAP), Error ellipse: s-maj=41.1km s-min=12.3km az=69.0*
NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in Nan-t'ou; [1 TAP] in I-lan and T'ai-chung Counties.
*ISCJB **08** 11:42:42.1±0.9, 2371N±007×12140E±003, h41km±12km, mb3.9/5, MS3.1/1, Error ellipse: s-maj=12.4km s-min=4.9km az=19.3*
*JMA **08** 11:42:43.9±0.5, 2388N×12148E, h82km, M3.5*
ISC 08 11:42:42.4±1.4, 2373N±005×**12140E**±003, **h26**km±11km, **n23,** σ0**88**/31, **mb3.9**/5, **MS3.1**/1, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.48**	**21**	*e*Pg	**Pb**	**11 42 51.3**	**-1.0**
YHNB	**Yeheng**	**0.94**	**358**	*e*Pg	**Pn**	**11 42 59.2**	**-0.6**
TATO	**Taipei**	**1.25**	**3**	*e*Pn	**Pn**	**11 43 04.0**	**-0.1**
TATO				*e*Sn	**Sn**	**11 43 20.3**	**+0.2**
YOJ	**Yonaguni jima**	**1.64**	**63**	P	**Pn**	**11 43 09.8**	**+0.3**
YOJ				S	**Sn**	**11 43 29.3**	**-0.5**
IRIF	**Iriomote-Funau**	**2.21**	**74**	P	**Pn**	**11 43 18.0**	**+0.6**
IRIF				S	**Sn**	**11 43 44.3**	**+0.5**
HATJ	**Hateruma jima**	**2.22**	**81**	P	**Pn**	**11 43 17.8**	**+0.3**
HATJ				S	**Sn**	**11 43 43.8**	**-0.3**
JKRS	**Kuro-shima**	**2.44**	**77**	P	**Pn**	**11 43 21.9**	**+1.4**
JKRS				S	**Sn**	**11 43 49.4**	**0.0**
JIJ	**Ishigaki jima**	**2.58**	**75**	P	**Pn**	**11 43 22.9**	**+0.4**
JIJ				S	**Sn**	**11 43 51.3**	**-1.7**
QZH	**Quanzhou**	**2.84**	**296**	P	**Pn**	**11 43 26.6**	**+0.6**
QZH				S	**Sn**	**11 43 58.2**	**-1.1**
QZH				Smax			
	comp=N,650nm,0.4s						
QZH				Smax			
	comp=E,400nm,0.8s						
JTJ	**Tarama**	**3.15**	**72**	P	**Pn**	**11 43 30.9**	**+0.7**
JTJ				S	**Sn**	**11 44 06.2**	**-0.7**
JMJ	**Miyako jima 2**	**3.71**	**72**	S	**Sn**	**11 44 20.4**	**-0.4**
JOGS	**Gusukube**	**3.79**	**73**	S	**Sn**	**11 44 23.1**	**+0.2**
GZH	**Guangzhou**	**7.43**	**267**	P	**Pn**	**11 44 26.5**	**-2.6**
GZH				Smax			
	comp=N,35nm,1.2s						
GZH				Smax			
	comp=E,44nm,1.2s						
NJ2	**Nanjing**	**8.60**	**345**	*e*P	**Pn**	**11 44 46.6**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
GYA	**Guiyang**	**13.63**	**285**	P	**Pn**	**11 45 54.5**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
SONM	**Songino Array**	**26.87**	**337**	P	**P**	**11 48 22.0**	**+1.1**
	comp=Z,1.1nm,0.6s,mb3.6,baz=155,slow=9.8,SNR=10						
SONM				LR	LR	11 59 07.0	
	comp=Z,56nm,18.8s,MS3.1,baz=337,slow=37						
MKAR	**Makanchi Array**	**38.81**	**316**	P	**P**	**11 50 04.7**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=115,slow=11,SNR=12						
WRA	**Warramunga Arr**	**45.20**	**163**	P	**P**	**11 50 55.9**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=344,slow=8.8,SNR=10						
WB2	**Warramunga Arr**	**45.20**	**163**	*e*P	**P**	**11 50 56.4**	**-0.7**
AS31	**Alice Springs**	**48.65**	**165**	*e*P	**P**	**11 51 24.3**	**+0.3**
ASPA	**Alice Springs**	**48.65**	**165**	*e*P	**P**	**11 51 24.3**	**+0.3**
ASAR	**Alice Springs**	**48.65**	**165**	P	**P**	**11 51 23.5**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=339,slow=6.8,SNR=29						
STKA	**Stephens Creek**	**58.56**	**160**	P	**P**	**11 52 38.6**	**+1.9**
	comp=Z,2.4nm,0.8s,mb4.3,baz=308,slow=3.9,SNR=3.1						

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*ISCJB **08** 11:56:52.1±0.4, 902S±008×6753E±006, h10km, mb4.4/27, MS4.3/20, Error ellipse: s-maj=11.3km s-min=8.8km az=178.0*
*IDC **08** 11:56:52.8±0.6, 9.155S×6755E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/22, mbtmp4.1/13, MS4.2/18, Ms1 4.2/18, ms1mx4.2/25, Error ellipse: s-maj=21.6km s-min=15.9km az=11.0*
*NEIC **08** 11:56:54.1±0.5, 897S×6756E, h10km, mb4.7/7, Error ellipse: s-maj=15.9km s-min=10.2km az=187.0*
*GCMT **08** 11:56:54.2±0.2, 899S×6738E, h21km±1km, MW5.3/89, Moment Tensor Solution. s55,c76; s89,c153; Duration: 1±1 Moment tensor: Scale 10^17Nm; Mrr-0.03±.03; Mθθ-1.27±.03; Mφφ 1.30±.03; Mrθ-0.10±.04; Mrφ 0.14±.02; Mθφ 0.16±.04; Best double couple: M0 1.30500×10^17 NP1:φs48.00000°, δ82.00000°, λ1.00000°. NP2: φs318.00000°, δ89.00000°, λ172.00000°. Principal axes: T 1.3250, Plg6.0000°, Azm273.0000°; N -0.0370, Plg82.0000°, Azm130.0000°; P -1.2860, Plg5.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 11:56:54.1, 900S×6760E, h10km, mB5.1, mb4.7, Ms4.8, Msz4.4*
ISC 08 11:56:54.6±0.4, 899S±008×**6750E**±006, **h10**km, **n51,** σ1**96**/40, **mb4.4**/27, **MS4.3**/20, **1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.14**	**73**	*e*Pn	**Pn**	**11 58 07.9**	**-3.7**
	882nm,0.7s						
DGAR				*e*Sn	**Sn**	**11 59 04.3**	**-6.7**
MSEY	**Mahe Island**	**12.68**	**289**	*e*Pn	**Pn**	**11 59 54.3**	**-0.7**
	194nm,0.6s						
MSEY				*e*Sn	**Sn**	**12 02 02.8**	**-13**
KMBO	**Kilima Mbogo**	**31.10**	**283**	P	**P**	**12 03 14.0**	**+0.9**
	1.0nm,0.7s,mb3.8,baz=111,slow=18,SNR=4.6						
KMBO				LR	LR	12 13 25.5	
	comp=Z,249nm,18.8s,MS3.9,baz=274,slow=32						
WSAR	**Wadi Sarin**	**33.18**	**345**	LR	LR	12 13 08.0	
	comp=Z,622nm,20.7s,MS4.3,baz=167,slow=29						
PSI	**Prapat**	**33.44**	**71**	P	**P**	**12 03 33.7**	**+0.2**
	3.3nm,0.4s,mb4.6,baz=266,slow=5.5,SNR=4.0						
PSI	**Prapat**	**33.44**	**71**	P	**P**	**12 03 33.7**	**+0.2**
JBP	**Jabalpur**	**34.21**	**21**	⇑*i*P	**P**	**12 03 46.9**	**+6.7**
JBP				*ex*	x	12 03 49.7	
	comp=Z,22nm,2.0s						
LSZ	**Lusaka**	**38.90**	**257**	P	**P**	**12 04 20.4**	**+0.1**
	comp=Z,11nm,0.9s,mb4.6,baz=95,slow=5.7,SNR=6.5						
DMN	**Daman**	**40.17**	**25**	*e*P	**P**	**12 04 31.4**	**+0.5**
	comp=Z,37nm,0.9s,mb5.1						
PKI	**Pulchoki**	**40.27**	**25**	*e*P	**P**	**12 04 31.8**	**+0.1**
GKN	**Gorkha**	**40.33**	**24**	*e*P	**P**	**12 04 32.5**	**+0.3**
	comp=Z,35nm,1.0s,mb5.1						
KKN	**Kakani**	**40.41**	**25**	*e*P	**P**	**12 04 33.5**	**+0.7**
	comp=Z,23nm,0.9s,mb4.9						
GUN	**Gumba**	**40.76**	**25**	*e*P	**P**	**12 04 36.8**	**+1.0**
	comp=Z,31nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**41.53**	**48**	*e*P	**P**	**12 04 42.7**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.2						
LBTB	**Lobatse**	**42.92**	**243**	P	**P**	**12 04 52.3**	**-1.1**
	comp=Z,2.6nm,0.9s,mb4.0,baz=130,slow=16,SNR=2.5						
BOSA	**Boshof**	**44.20**	**238**	LR	LR	12 22 43.9	
	comp=Z,363nm,18.7s,MS4.3,baz=68,slow=35						
AAK	**Ala-Archa**	**51.76**	**7**	*e*P	**P**	**12 06 00.9**	**-1.4**
	comp=Z,3.9nm,0.9s,mb4.3						
GYA	**Guiyang**	**51.84**	**46**	P	**P**	**12 06 02.9**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**56.72**	**30**	*e*P	**P**	**12 06 38.5**	**+0.1**
GTA				AP	pP	12 06 43.1	+1.5
GTA				XP	sP	12 06 46.1	+3.3
GTA				PP	PP	12 08 45.0	+0.5
GTA				S	**S**	**12 14 27.5**	**-3.6**
GTA				XS	sS	12 14 37.0	+0.7
GTA				PS		12 14 42.8	
GTA				SS	SS	12 18 14.9	-3.9
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,101nm,5.3s						
GTA				LR	LR		
	comp=N,278nm,20.1s,MS4.6						
GTA				LR	LR		
	comp=E,345nm,18.6s,MS4.6						
GTA				LR	LR		
	comp=Z,298nm,19.4s,MS4.4						
FITZ	**Fitzroy Crossi**	**57.05**	**106**	*e*P	**P**	**12 06 41.4**	**+0.7**
	comp=Z,8.1nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**57.08**	**12**	P	**P**	**12 06 38.7**	**-2.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=201,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**57.08**	**12**	P	**P**	**12 06 38.7**	**-2.2**
BRTR	**Keskin Array B**	**57.73**	**329**	P	**P**	**12 06 45.0**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=143,slow=12,SNR=7.1						
MAW	**Mawson**	**58.62**	**182**	P	**P**	**12 06 49.5**	**-2.3**
	comp=Z,3.5nm,1.0s,mb4.3,baz=18,slow=10.0,SNR=6.2						
MAW				LR	LR	12 25 35.1	
	comp=Z,190nm,20.0s,MS4.2,baz=14,slow=30						
ZRNK	**Zerenda**	**61.70**	**1**	*e*P	**P**	**12 07 11.2**	**-1.8**
	comp=Z,5.1nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**62.47**	**2**	*e*P	**P**	**12 07 16.4**	**-1.7**
	comp=Z,3.7nm,0.6s,mb4.7						
KAKA	**Kakadu**	**63.75**	**100**	*e*P	**P**	**12 07 26.8**	**+0.3**
	comp=Z,60nm,1.7s,mb5.3						
ZAL	**Zalesovo**	**64.37**	**11**	LR	LR	12 32 09.7	
	comp=Z,206nm,20.8s,MS4.3,baz=272,slow=33						
ASPA	**Alice Springs**	**64.88**	**112**	*e*P	**P**	**12 07 34.2**	**+0.3**
ASAR	**Alice Springs**	**64.88**	**112**	P	**P**	**12 07 33.6**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.4,baz=278,slow=6.2,SNR=59						
ASAR				LR	LR	12 31 17.3	
	comp=Z,294nm,19.6s,MS4.5,baz=278,slow=32						
AS31	**Alice Springs**	**64.88**	**112**	*e*P	**P**	**12 07 34.3**	**+0.3**
WRA	**Warramunga Arr**	**65.28**	**108**	P	**P**	**12 07 36.7**	**+0.2**
	comp=Z,3.5nm,1.0s,mb4.3,baz=279,slow=5.6,SNR=18						
WRA				LR	LR	12 32 14.6	
	comp=Z,383nm,21.5s,MS4.6,baz=285,slow=32						
WB2	**Warramunga Arr**	**65.29**	**108**	*e*P	**P**	**12 07 36.9**	**+0.3**
SONM	**Songino Array**	**66.21**	**28**	P	**P**	**12 07 41.6**	**-0.9**
	comp=Z,2.2nm,0.8s,mb4.2,baz=221,slow=6.8,SNR=16						
SONM				LR	LR	12 35 45.0	
	comp=Z,336nm,22.0s,MS4.5,baz=220,slow=35						
BJI	**Beijing**	**66.33**	**39**	*e*P	**P**	**12 07 48.6**	**+5.3**
BJI				S	S	12 16 42.3	+9.3
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
BJI				LR	LR		
	comp=Z,158nm,20.7s,MS4.2						
BJI	**Beijing**	**66.33**	**39**	*e*P	**P**	**12 07 48.6**	**+5.3**
	comp=Z,9.0nm,0.7s,mb4.9						
BJI				S	S	12 16 42.3	+9.3
BJI				SS	SS	12 20 58.6	+9.3
BJI				LR	LR		
	comp=Z,160nm,20.7s,MS4.2						
AKASG	**Malin Array Be**	**68.08**	**335**	P	**P**	**12 07 55.1**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.1,baz=137,slow=5.5,SNR=5.1						
AKASG				LR	LR	12 35 16.2	
	comp=Z,117nm,20.4s,MS4.1,baz=180,slow=34						
TORD	**Torodi Ar. Bea**	**68.94**	**288**	P	**P**	**12 08 01.8**	**+2.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=90,slow=4.8,SNR=3.7						
TORD				LR	LR	12 35 57.6	
	comp=Z,237nm,19.1s,MS4.5,baz=115,slow=34						
KEST	**Kesra**	**70.50**	**313**	LR	LR	12 37 44.5	
	comp=Z,103nm,18.8s,MS4.1,baz=8.3,slow=35						
STKA	**Stephens Creek**	**71.83**	**121**	LR	LR	12 34 36.1	
	comp=Z,279nm,19.5s,MS4.5,baz=72,slow=32						
DBIC	**Dimbokro**	**73.77**	**280**	LR	LR	12 39 14.1	
	comp=Z,192nm,20.3s,MS4.4,baz=87,slow=34						
GERES	**GERESS Array B**	**74.40**	**326**	P	**P**	**12 08 34.6**	**+1.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=147,slow=7.5,SNR=4.0						
GERES				LR	LR	12 38 58.3	
	comp=Z,126nm,18.4s,MS4.2,baz=296,slow=34						
FINES	**FINESS Array B**	**77.30**	**341**	LR	LR	12 43 38.5	
	comp=Z,91nm,19.9s,MS4.1,baz=321,slow=36						
ESDC	**Sonseca Array**	**81.74**	**312**	P	**P**	**12 09 14.8**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=82,slow=4.2,SNR=3.9						
ESDC				LR	LR	12 46 14.3	
	comp=Z,94nm,20.5s,MS4.1,baz=50,slow=36						
VNDA	**Vanda**	**82.23**	**167**	LR	LR	12 40 39.9	
	comp=Z,86nm,19.7s,MS4.1,baz=268,slow=32						
NOA	**NORSAR Array B**	**82.45**	**336**	LR	LR	12 44 24.9	
	comp=Z,108nm,18.5s,MS4.2,baz=90,slow=34						
TBI	**Tubuai**	**131.63**	**132**	*e*LR	LR	12 57 51.8	
PPT	**Papeete**	**134.85**	**126**	*e*LR	LR	12 59 21.5	
	comp=Z,91nm,25.5s						
RKT	**Rikitea**	**141.24**	**146**	*e*LR	LR	13 02 19.0	
	comp=Z,98nm,28.2s						
PDAR	**Pinedale Array**	**146.25**	**356**	PKPbc	PKPbc	12 16 37.6	+2.4
	comp=Z,1.0nm,0.9s,baz=61,slow=2.0,SNR=8.6						
NVAR	**Mina Array Bea**	**150.22**	**9**	PKPbc	PKPbc	12 16 48.5	+2.6
	comp=Z,2.3nm,0.8s,baz=282,slow=2.5,SNR=9.8						

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*ISCJB **08** 12:14:42.0±0.6, 4453N±002×733E±006, h18km±8km, Error ellipse: s-maj=7.8km s-min=3.2km az=139.1*
*STR **08** 12:14:42.2±0.3, 4452N×727E, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 12:14:42.2±0.1, 4452N×728E, h2km, Md2.0/1, Ml2.0/8, Error ellipse: s-maj=1.4km s-min=0.6km az=68.0*
ISC 08 12:14:41.9±0.5, 4452N±002×**726E**±005, **h16**km±5km, **n15,** σ0**32**/31, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.38**	**324**	Pg	**Pg**	**12 14 49.9**	**+0.3**
OG22				Sg	**Sg**	**12 14 54.9**	**+0.1**
MBDF	**Montbardon**	**0.41**	**301**	*e*Pg	**Pg**	**12 14 50.5**	**+0.4**
MBDF				*e*Sg	**Sg**	**12 14 55.9**	**+0.3**
	18nm,0.2s						
TOUF	**Mont Tournerai**	**0.51**	**181**	Pg	**Pg**	**12 14 52.4**	**+0.5**
TOUF				Sg	**Sg**	**12 14 58.4**	**-0.3**
AUTN	**L'Aution**	**0.54**	**167**	Pg	**Pg**	**12 14 52.4**	**-0.1**
AUTN				Sg	**Sg**	**12 14 59.5**	**-0.2**
MVIF	**Mont Vial**	**0.63**	**187**	Pg	**Pg**	**12 14 54.3**	**+0.1**
MVIF				Sg	**Sg**	**12 15 03.3**	**+0.8**
LUCF	**Luceram**	**0.63**	**174**	Pg	**Pg**	**12 14 54.1**	**-0.1**
LUCF				Sg	**Sg**	**12 15 03.0**	**+0.4**
SBF	**Sospel**	**0.67**	**169**	*e*Pg	**Pg**	**12 14 55.0**	**+0.1**
SBF				*e*Sg	**Sg**	**12 15 03.5**	**-0.3**
	10nm,0.2s						
LPG	**La Plagne**	**1.04**	**340**	*e*Pg	**Pg**	**12 15 02.1**	**+0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**12 15 15.6**	**-0.1**
	1.8nm,0.2s						
FRF	**La Foret Royal**	**1.05**	**205**	*e*Pg	**Pg**	**12 15 02.0**	**-0.3**
FRF				*e*Sg	**Sg**	**12 15 16.1**	**0.0**
	4.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.06**	**293**	*e*Pg	**Pg**	**12 15 02.3**	**-0.1**
ORIF				*e*Sg	**Sg**	**12 15 15.7**	**-0.6**
	2.2nm,0.2s						
LPL	**La Plagne**	**1.06**	**340**	*e*Pg	**Pg**	**12 15 02.4**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**12 15 16.1**	**-0.3**
	2.3nm,0.3s						
LMR	**La Mourre**	**1.30**	**205**	*e*Pg	**Pg**	**12 15 06.5**	**-0.5**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**12 15 23.7**	**-0.2**
	8.4nm,0.2s						
SMRF	**Simiane la Rot**	**1.33**	**246**	*e*Pg	**Pg**	**12 15 07.4**	**0.0**
SMRF				*e*Sg	**Sg**	**12 15 24.8**	**+0.1**
	14nm,0.4s						
VIVF	**Saint-Julien-l**	**1.88**	**281**	*e*Pn	**Pn**	**12 15 13.8**	**+0.5**
VIVF				*e*Sn	**Sn**	**12 15 36.9**	**+0.3**
VIVF				*e*Sg	**Sg**	**12 15 41.8**	**-0.4**
	1.0nm,0.3s						
PGF	**Pioggiola**	**2.34**	**147**	*e*Pn	**Pn**	**12 15 19.9**	**+0.2**
PGF				*e*Sn	**Sn**	**12 15 47.6**	**-0.5**
	0.3nm,0.2s						

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*CSEM **08** 12:33:31.7±0.1, 3821N×2258E, h5km, ML3.2, Error ellipse: s-maj=2.8km s-min=1.7km az=49.0*
*NEIC **08** 12:33:31.6, 38.18N×2254E, h23km, ML3.2(ATH), After ATH.*
*ATH **08** 12:33:31.5, 38.18N×2253E, h24km±1km, MD3.4/11, ML3.2*
*ISCJB **08** 12:33:31.7±0.6, 3822N±002×2266E±003, h9km±4km, Error ellipse: s-maj=5.1km s-min=3.2km az=98.6*
*THE **08** 12:33:33.8, 3826N×2272E, h10km, ML3.4*
*SKO **08** 12:33:35.0, 3843N×2277E, h0km*
ISC 08 12:33:32.3±0.6, 3820N±003×**2262E**±003, **h8**km±4km, **n37,** σ0**99**/52, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.54**	**33**	*e*PN	**Pg**	**12 33 43.2**	**+0.3**
LKR	**Lokris**	**0.54**	**33**	*e*Pn	**Pg**	**12 33 42.7**	**-0.2**
LKR				*e*Sn	**Sg**	**12 33 51.7**	**+1.7**
NAIG	**Nisos Aigina**	**0.81**	**122**	*e*PN	**Pg**	**12 33 48.6**	**+0.6**
NAIG	**Nisos Aigina**	**0.81**	**122**	*e*Pn	**Pg**	**12 33 49.0**	**+1.0**
AGG	**Agios Georgios**	**0.85**	**345**	*e*Pg	**Pg**	**12 33 47.7**	**-1.1**
AGG				*e*Sg	**Sg**	**12 33 59.4**	**-0.5**
ATH	**Athens Observa**	**0.90**	**104**	*e*PN	**Pg**	**12 33 49.8**	**+0.2**
ATH				*e*SN	**Sg**	**12 34 03.5**	**+2.3**
RLS	**Riolos of Patr**	**0.92**	**262**	*e*PN	**Pg**	**12 33 48.2**	**-1.8**
EVR	**Evrytania**	**0.96**	**319**	*e*Pn	**Pg**	**12 33 49.5**	**-1.3**
EVR				*e*Sn	**Sg**	**12 34 03.2**	**0.0**
KVR	**Kavouri**	**0.98**	**112**	*e*PN	**Pn**	**12 33 51.7**	**-0.7**
KVR	**Kavouri**	**0.98**	**112**	*e*Pn	**Pn**	**12 33 52.0**	**-0.4**
PTL	**Penteli**	**0.99**	**98**	*e*Pn	**Pn**

0.3nm,0.3s,baz=250,slow=15,SNR=2.7
NNA Nana 8.54 301 P **Pn 12 36 31.4 -2.2**
4.6nm,0.3s,baz=125,slow=10,SNR=9.0
NNA Nana 8.54 301 *e*P **Pn 12 36 31.4 -2.1**
SAML Samuel 9.70 39 P **Pn 12 36 48.3 -0.3**
CPUP Villa Florida 14.84 133 P **Pn 12 37 51.5 -1.7**
0.4nm,0.3s,baz=290,slow=8.3,SNR=3.0
CPUP Villa Florida 14.84 133 *e*P **Pn 12 37 54.4 +1.1**
BDFB Brasilia 20.56 90 P **P 12 38 55.7 -0.5**
2.2nm,0.5s,baz=260,slow=15,SNR=4.2
PLCA Paso Flores 24.10 182 P **P 12 39 33.3 +3.2**
2.9nm,0.9s,mb3.9,baz=339,slow=8.6,SNR=3.8
PLCA Paso Flores 24.10 182 *e*P **P 12 39 33.4 +3.4**
2.6nm,0.8s,mb3.9
DBIC Dimbokro 67.86 76 P **P 12 45 10.5 +1.1**
1.9nm,0.5s,mb4.0,baz=242,slow=4.4,SNR=4.8
DBIC Dimbokro 67.86 76 *e*P **P 12 45 10.1 +0.8**
TORD Torodi Ar. Bea 76.19 72 P **P 12 45 59.4 +0.6**
1.4nm,0.5s,mb3.9,baz=274,slow=5.5,SNR=14
WRA Warramunga Arr 136.87 214 PKP PKPdf 12 53 33.8 +2.5
0.1nm,0.4s,baz=135,slow=1.9,SNR=5.4
SONM Songino Array 148.63 5 PKPbc PKPbc 12 53 58.3 +2.4
0.4nm,0.5s,baz=338,slow=2.4,SNR=5.3

IDC 08 12:35:06.4±1.7,038S×12533E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.6/15,mbtmp3.6/4, Error ellipse: s-maj=177.7km s-min=24.4km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.35**	**156**	P	P	12 39 56.3	+1.2
1.2nm,0.7s,baz=334,slow=10,SNR=8.8							
ASAR	**Alice Springs**	**24.60**	**161**	P	P	12 40 28.8	+0.6
0.7nm,1.0s,baz=341,slow=9.0,SNR=8.0							
STKA	**Stephens Creek**	**34.90**	**155**	P	P	12 41 58.9	-0.7
1.3nm,0.6s,baz=337,slow=7.7,SNR=2.7							
MKAR	**Makanchi Array**	**60.17**	**327**	P	P	12 45 16.1	+0.2
0.4nm,0.5s,baz=132,slow=8.7,SNR=5.8							

*NEIC **08** 12:44:30.2, 3739S×7183W, h47km, MD3.1(GUC), After GUC.*

GUC 08 12:44:30.2±0.5,3739S×7183W,h47km±5km,MD3.1, ML3.6,4C,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.47**	**328**	*e*P	Pn	12 44 54.5	+0.3
COCH				*i* S	Sn	12 45 13.4	+1.1
TMU	**Temuco**	**1.48**	**204**	⇑*i*P	Pn	12 44 54.7	+0.4
TMU				*i* S	Sn	12 45 13.6	+1.1
CNCO	**Chanco**	**1.74**	**341**	*e*P	Pn	12 44 58.6	+0.7
CNCO				*i* S	Sn	12 45 19.9	+0.9
CNCO				AML	AML	12 45 23.9	
comp=E,683nm,0.4s							
CNCO	**Chanco**	**1.74**	**341**	*e*P	Pn	12 44 58.6	+0.7
CNCO				*i* S	Sn	12 45 19.9	+0.9
TALC	**Talca**	**1.99**	**5**	⇑*i*P	Pn	12 44 58.5	-2.8
TALC				*i* S	Sn	12 45 22.6	-2.4
TALC				AML	AML	12 45 24.2	
comp=N,1μm,0.1s							
TALC	**Talca**	**1.99**	**5**	⇑*i*P	Pn	12 44 58.5	-2.8
TALC				*i* S	Sn	12 45 22.6	-2.4
SFDO	**San Fernando**	**2.84**	**14**	⇑*i*P	Pn	12 45 14.0	+0.9
SFDO				*i* S	Sn	12 45 46.7	+0.6
PLCA	**Paso Flores**	**3.49**	**164**	*e*P	Pn	12 45 22.7	+0.8

*ISCJB **08** 13:00:20.6±0.9, 3674N±004×2655E±004, h7km±8km, Error ellipse: s-maj=6.6km s-min=5.7km az=124.7*
*ISK **08** 13:00:21.6, 3698N×2656E, h42km, MD3.1*
*ATH **08** 13:00:21.0, 3674N×2655E, h23km±1km, MD3.3/4*
*CSEM **08** 13:00:21.2±0.1, 3686N×2660E, h30km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.4km az=177.0*
*NEIC **08** 13:00:21.1, 3674N×2654E, h18km, MD3.3(ATH), After ATH.*

ISC 08 13:00:21.6±0.9,3672N±004×2658E±004,h16km±7km,n18, σ1§22/25,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.46**	**104**	*e*PB	Pb	13 00 31.0	-0.2
BODT	**Bodrum**	**0.68**	**60**	PG	Pg	13 00 34.5	-0.4
BODT				SG	Sg	13 00 43.6	-0.3
BDRM	**Kayabasi**	**0.78**	**64**	*i* P	Pb	13 00 35.4	-1.3
BDRM				*i* S	Sb	13 00 46.1	-0.8
DAT	**Datca**	**0.81**	**89**	PG	Pg	13 00 37.6	+0.3
DAT				SG	Sg	13 00 49.7	+1.8
APE	**Apeiranthos**	**0.91**	**293**	*e*PN	Pn	13 00 38.0	-1.6
SANT	**Santorini**	**0.96**	**249**	*e*Pn	Pn	13 00 39.0	-1.5
SANT				*e*S	Sb	13 00 53.8	+1.4
SANT	**Santorini**	**0.96**	**249**	*e*Pn	Pn	13 00 39.0	-1.4
SMG	**Samos**	**1.01**	**12**	*e*PN	Pn	13 00 40.0	-1.0
MLSB	**Milas**	**1.12**	**59**	*e*PG	Pg	13 00 40.5	-2.7
KARP	**Karpathos**	**1.27**	**158**	*e*PN	Pn	13 00 45.3	+0.8
KARP	**Karpathos**	**1.27**	**158**	*e*Pn	Pn	13 00 45.0	+0.5
AYDN	**Tasoluk**	**1.40**	**48**	*i* P	Pn	13 00 46.4	0.0
AYDN				*i* S	Sn	13 01 06.6	+2.1
URLA	**Izmir**	**1.64**	**1**	*i* P	Pn	13 00 50.3	+0.7
URLA				*i* S	Sg	13 01 14.2	-0.1
NPS	**Neapolis**	**1.65**	**208**	*e*PN	Pn	13 00 50.5	+0.6
NPS	**Neapolis**	**1.65**	**208**	*e*Pn	Pn	13 00 51.0	+1.1
DALT	**Dalyan (Mudla)**	**1.66**	**88**	*e*PN	Pn	13 00 48.6	-1.3
IZM	**Izmir**	**1.76**	**18**	*e*PN	Pn	13 00 47.2	-4.1
KDAG	**Bornova**	**1.77**	**18**	*i* P	Pn	13 00 53.4	+1.9
KDAG				*i* S	Sg	13 01 19.8	+1.3

IDC 08 13:06:44.7±5.1,2478N×14175E,h133km±96km,mb3.1/4, mb1 3.3/5,mb1mx3.1/19,mbtmp3.5/5,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/16, Error ellipse: s-maj=203.0km s-min=19.7km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.33**	**10**	P	Pn	13 07 22.2	-0.7
10nm,0.3s,baz=296,slow=22,SNR=3.2							
CBIJ				S	Sn	13 07 53.1	+0.9
47nm,0.3s,baz=278,slow=24,SNR=6.4							
GUMO	**Guam**	**11.52**	**165**	LR	LR	13 12 31.6	
comp=Z,114nm,19.0s,baz=153,slow=30							
WRA	**Warramunga Arr**	**45.04**	**190**	P	P	13 14 47.0	0.0
1.1nm,0.4s,baz=7.4,slow=8.6,SNR=29							
ASAR	**Alice Springs**	**48.76**	**190**	P	P	13 15 16.5	+0.5
0.3nm,0.9s,baz=8.1,slow=4.9,SNR=5.0							
MKAR	**Makanchi Array**	**51.67**	**311**	P	P	13 15 38.3	+0.4
0.1nm,0.4s,baz=77,slow=7.6,SNR=3.2							
BVAR	**Borovoye Array**	**59.49**	**318**	P	P	13 16 33.0	-0.7
0.5nm,0.4s,baz=81,slow=6.4,SNR=4.7							

*ISCJB **08** 13:08:32.7±0.9, 3441N±003×3676E±006, h6km±8km, Error ellipse: s-maj=8.4km s-min=4.9km az=2.9*
*NSSC **08** 13:08:32, 3441N×3666E, h3km±3km*
*GRAL **08** 13:08:32.1±1.3, 3451N×3686E, h0km±676km, MD3.3*

ISC 08 13:08:33.0±0.8,3442N±003×3678E±006,h6km±10km,n11, σ0§77/21,5D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.46**	**212**	⇓P	Pg	13 08 41.0	-1.0
MARH				⇓S	Sg	13 08 47.0	-1.1
ROOS	**tl_alroos**	**0.49**	**121**	⇓P	Pg	13 08 44.0	+1.4
BIDA	**Aibida**	**0.70**	**328**	⇑P	Pg	13 08 46.0	-0.5
BIDA				⇑S	Sg	13 08 56.0	+0.4
HWQ	**Hawqa**	**0.70**	**258**	*e*Pg	Pg	13 08 46.9	+0.3
HWQ				*e*Sg	Sg	13 08 56.5	+0.8
HWQ	**Hawqa**	**0.70**	**258**	*e*Pg	Pg	13 08 46.8	+0.3
HWQ				*e*Sg	Sg	13 08 56.5	+0.8
BHL	**Bhannes**	**1.06**	**241**	*e*Pg	Pg	13 08 52.9	-0.6
BHL				*e*Sg	Sg	13 09 08.3	+1.0
BHL	**Bhannes**	**1.06**	**241**	*e*Pg	Pg	13 08 52.8	-0.7
BHL				*e*Sg	Sg	13 09 08.3	+1.0
WRDH	**Warideh**	**1.12**	**345**	⇑P	Pg	13 08 54.0	-0.6
WRDH				⇑S	Sg	13 09 09.0	-0.2
RCY	**Rachaya**	**1.23**	**221**	*e*Pg	Pg	13 08 55.9	-0.8
RCY				*e*Sg	Sg	13 09 13.2	+0.7
RCY	**Rachaya**	**1.23**	**221**	*e*Pg	Pg	13 08 55.8	-0.8
RCY				*e*Sg	Sg	13 09 13.2	+0.7
SALA	**Sala**	**1.71**	**181**	⇓P	Pn	13 09 04.0	+0.7
SALA				⇓S	Sn	13 09 25.0	-0.5

*NEIC **08** 13:17:52.3, 1809N×6833W, h114km, MD3.9(RSPR), After RSPR.*

RSPR 08 13:17:52.3,1809N×6833W,h113km±2km,MD3.9/12, MD3.9/12,10C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.16**	**94**	⇑*e*P	Pn	13 18 14.9	-0.6
CRPR				*e*S	Sn	13 18 32.7	-0.3
LSP	**Las Mesas**	**1.19**	**86**	⇓*e*P	Pn	13 18 15.2	-0.6
LSP				*e*S	Sn	13 18 33.7	+0.2
GBPR	**Guanica, Bosqu**	**1.39**	**95**	*e*S	Sn	13 18 37.0	-0.4
LRS	**Lares**	**1.43**	**82**	⇑*e*P	Pn	13 18 18.6	+0.1
LRS				*e*S	Sn	13 18 39.9	+1.6
AOPR	**Arecibo Observ**	**1.52**	**80**	⇑*e*P	Pn	13 18 19.3	-0.2
AOPR				*e*S	Sn	13 18 39.9	-0.4
OBIP	**Obispado Ponce**	**1.64**	**91**	⇑*e*P	Pn	13 18 20.8	-0.2
OBIP				*e*S	Sn	13 18 43.5	+0.7
CELP	**Cerrillos**	**1.67**	**90**	⇓*e*P	Pn	13 18 21.0	-0.3
CELP				*e*S	Sn	13 18 43.8	+0.4
ICM	**Isla Caja Muer**	**1.73**	**96**	⇑*e*P	Pn	13 18 21.6	-0.5
ICM				*e*S	Sn	13 18 45.0	+0.1
SJG	**San Juan**	**2.07**	**89**	⇑*e*P	Pn	13 18 26.6	+0.3
SJG				*e*S	Sn	13 18 52.9	+0.5
CPD	**Cerro la Pandu**	**2.30**	**91**	⇑*e*P	Pn	13 18 29.4	+0.2
CPD				*e*S	Sn	13 18 57.1	-0.4
CBYP	**Canovanas**	**2.36**	**85**	⇑*e*P	Pn	13 18 29.5	-0.5
CBYP				*e*S	Sn	13 18 58.9	0.0
HUMP	**Col San Antoni**	**2.36**	**88**	⇑*e*P	Pn	13 18 29.8	-0.2
HUMP				*e*S	Sn	13 18 59.0	0.0
MTP	**Monte Pirata**	**2.64**	**89**	⇑*e*P	Pn	13 18 33.5	-0.2
MTP				*e*S	Sn	13 19 06.1	+0.6

*ATH **08** 13:39:49.6, 3995N×2090E, h39km, MD3.3/3*
*ISCJB **08** 13:39:53.7±0.5, 3951N±003×2072E±004, h6km, Error ellipse: s-maj=4.2km s-min=3.8km az=19.8*
*SKO **08** 13:39:53.5, 3942N×2068E, h3km*
*CSEM **08** 13:39:53.9±0.1, 3953N×2066E, h8km, ML3.0, Error ellipse: s-maj=1.8km s-min=1.6km az=164.0*
*THE **08** 13:39:54.5, 3951N×2066E, h6km, ML3.0*

ISC 08 13:39:54.4±0.5,3951N±003×2069E±004,h2km±8km,n13, σ0§94/21,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.19**	**40**	*e*Pb	Pg	13 39 57.8	-0.3
JAN				*e*Sb	Sg	13 40 01.6	+1.0
IGT	**Igoumenitsa**	**0.28**	**275**	*e*Pg	Pg	13 39 58.8	-1.0
IGT				*e*Sg	Sg	13 40 03.2	-0.2
LSK	**Leskovik**	**0.64**	**354**	*i* Pg	Pg	13 40 06.0	-0.7
LSK				*i* Sg	Sg	13 40 16.2	+1.1
KEK	**Kerkira**	**0.72**	**287**	*e*PN	Pg	13 40 06.7	-1.5
KEK				*e*SN	Sg	13 40 19.2	+1.7
LKD	**Levkas**	**0.80**	**182**	*e*Pg	Pg	13 40 09.5	-0.3
LKD				*e*Sg	Sg	13 40 21.9	+1.7
VLS	**Valsamata**	**1.33**	**183**	*e*PN	Pn	13 40 20.0	0.0
AGG	**Agios Georgios**	**1.36**	**110**	*e*Pg	Pg	13 40 19.5	-1.0
AGG				*e*Sg	Sg	13 40 38.0	-0.2
FNA	**Florina**	**1.38**	**22**	*e*Pg	Pg	13 40 19.4	-1.4
FNA				*e*Sg	Sg	13 40 39.5	+0.8
BIA	**Bitola**	**1.58**	**18**	*e*Pn	Pn	13 40 23.7	+0.3
OHR	**Ohrid**	**1.60**	**3**	*e*Pb	Pn	13 40 22.7	-0.9
OHR				*e*Sb	Sb	13 40 44.6	-0.8
OHR	**Ohrid**	**1.60**	**3**	*e*Pn	Pn	13 40 24.0	+0.3
OHR	**Ohrid**	**1.60**	**3**	*e*Pn	Pn	13 40 23.9	+0.2
VAY	**Valandovo**	**2.31**	**38**	*e*Pn	Pn	13 40 34.2	+0.8

IDC 08 13:43:56.3±5.1,2965S×17891W,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.5/11,mbtmp3.3/2,Error ellipse: s-maj=251.0km s-min=79.0km az=165.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.37**	**267**	P	P	13 51 52.0	-0.1
0.1nm,0.4s,baz=105,slow=7.4,SNR=7.6							
WRA	**Warramunga Arr**	**43.28**	**272**	P	P	13 52 00.2	+0.6
0.4nm,0.5s,baz=112,slow=8.0,SNR=8.2							
FINES	**FINESS Array B**	**144.17**	**340**	PKP	PKPdf	14 03 32.5	-1.5
6.4nm,1.1s,baz=60,slow=4.6,SNR=9.7							

*SZGRF **08** 13:50:21.3, 2352S×17435W, h22km, mb5.9, Tonga Islands region*
*ISCJB **08** 13:50:23.1±0.1, 2368S±004×17533W±003, h13km, mb5.5/108, MS5.6/173, Error ellipse: s-maj=6.1km s-min=3.5km az=115.9*
*BJI **08** 13:50:23.5, 2318S×17495W, h11km, mB6.1, mb5.6, Ms5.6, Msz5.5*
*NEIC **08** 13:50:24.1±0.2, 2355S×17527W, h10km, mb5.6/77, MS5.6/128, MW5.8, Error ellipse: s-maj=9.8km s-min=5.7km az=153.0, Moment Tensor Solution. s50 Moment tensor: Scale 1017Nm; M_{rr}=5.44; $M_{\theta\theta}$2.36; $M_{\phi\phi}$3.08; $M_{r\theta}$2.44; $M_{\theta\phi}$2.36; $M_{\phi r}$2.31; Best double couple: $M_0$6.20000×1017 NP1:ϕ_s224.00000°, δ61.00000°, λ-87.00000°. NP2:ϕ_s38.00000°, δ29.00000°, λ-95.00000°. Principal axes: T 6.0700, Plg16.0000°, Azm312.0000°; N 0.3500, Plg2.0000°, Azm42.0000°; P -6.4300, Plg74.0000°, Azm141.0000°;*
*GCMT **08** 13:50:24.1±0.1, 2369S×17492W, h12km, MW5.8/109, Moment Tensor Solution. s97,c203; s109,c317; Duration: 1§8 Moment tensor: Scale 1017Nm; M_{rr}-5.20±.05; $M_{\theta\theta}$1.89±.04; $M_{\phi\phi}$3.31±.04; $M_{r\theta}$1.04±.11; $M_{\theta\phi}$1.98±.03; $M_{\phi r}$1.65±.12; Best double couple: $M_0$5.32200×1017 NP1:ϕ_s36.00000°, δ34.00000°, λ-88.00000°. NP2:ϕ_s214.00000°, δ56.00000°, λ-91.00000°. Principal axes: T 5.0730, Plg11.0000°, Azm305.0000°; N 0.4980, Plg1.0000°, Azm215.0000°; P -5.5710, Plg79.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **08** 13:50:28.3±1.9, 2350S×17566W, h30km±13km, mb5.0/18, mb1 5.0/18, mb1mx5.0/19, mbtmp5.2/18, ML5.9/1, MS5.5/24, Ms1 5.5/24, ms1mx5.3/32 Error ellipse: s-maj=13.4km s-min=11.3km az=168.0*
*MOS **08** 13:50:29.1±1.1, 2286S×17488W, h33km, mb5.7/45, MS5.6/43, Error ellipse: s-maj=11.2km s-min=8.7km az=68.4*

ISC 08 13:50:24.9±0.1,2366S±004×17531W±003,h14km, h14km±2.3km:pP-P,n925,σ0§98/491,mb5.6/107,MS5.6/173, 227C-242D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.04**	**202**	Pn	Pn	13 51 54.6	+0.8
301nm,0.3s,baz=309,slow=2.7,SNR=37							
RAO				Sn	Sn	13 53 04.1	+1.5
429nm,0.3s,baz=84,slow=23,SNR=13							
RAO	**Raoul Island**	**6.04**	**202**	*e*Pn	Pn	13 51 53.6	-0.1
1μm,0.5s							
RAO				*e*Sn	Sn	13 53 04.0	+1.4
AFI	**Afiamalu**	**10.26**	**20**	Pn	Pn	13 52 42.8	-8.9
49nm,0.3s,baz=334,slow=4.3,SNR=10.0							
AFI				Sn	Sn	13 54 30.6	-16
34nm,0.3s,baz=25,slow=18,SNR=4.4							
AFI	**Afiamalu**	**10.26**	**20**	P	Pn	13 52 42.8	-8.9
AFI						13 54 30.6	
AFI				pmax	pmax		
comp=Z,49nm,0.3s							
AFI				smax			
comp=N,34nm,0.3s							
AFI	**Afiamalu**	**10.26**	**20**	*e*Pn	Pn	13 52 42.1	-10
comp=N,384nm,0.8s							
AFI				*e*Sn	Sn	13 54 28.0	-19
RAR	**Rarotonga**	**14.57**	**83**	Pn	Pn	13 53 42.0	-8.5
comp=N,18nm,0.3s,baz=238,slow=7.6,SNR=31							
RAR				Sn	Sn	13 56 24.3	-7.5
comp=N,17nm,0.3s,baz=264,slow=8.8,SNR=3.8							
RAR				LR	LR	13 57 56.4	
comp=N,17μm,20.9s,baz=283,slow=30							
RAR	**Rarotonga**	**14.57**	**83**	P	Pn	13 53 42.0	-8.5
RAR						13 56 24.3	
RAR				pmax	pmax		
comp=Z,18nm,0.3s							
RAR				smax			
comp=N,17nm,0.3s							
RAR				MLR	MLR		
comp=Z,17μm,20.9s							
WCZ	**Waipu Caves**	**15.16**	**214**	*e*PN	Pn	13 54 03.6	+5.0
PUZ	**Puketiti**	**15.38**	**199**	*e*PN	Pn	13 53 52.6	-8.9
PUZ				SN	Sn	13 56 40.0	-12
OTAZ	**Otara**	**15.69**	**210**	PN	Pn	13 54 09.9	+4.5
MWZ	**Matawai**	**15.85**	**201**	SN	Sn	13 56 53.9	-9.2
URZ	**Urewera**	**15.93**	**202**	Pn	Pn	13 54 05.5	-3.0
comp=Z,2.3nm,0.3s,baz=308,slow=8.3,SNR=11							
URZ				Sn	Sn	13 56 56.7	-8.2
comp=Z,10nm,0.3s,baz=131,slow=22,SNR=7.1							
URZ	**Urewera**	**15.93**	**202**	*e*PN	Pn	13 54 00.8	-7.7
DZM	**Mont Dzumac**	**16.90**	**272**	*e*P	Pn	13 54 23.2	+2.3
DZM				*e*S	Sn	13 57 39.8	+11
DZM	**Mont Dzumac**	**16.90**	**272**	Pn	Pn	13 54 23.3	+2.4
comp=Z,6.6nm,0.3s,baz=92,slow=20,SNR=50							
DZM				Sn	Sn	13 57 24.0	-4.4
comp=Z,0.2nm,0.3s,baz=88,slow=22,SNR=1.4							
NNZ	**Nelson**	**19.91**	**206**	P*	Pn	13 54 51.8	-5.9
NNZ				*e*SN	Sn	13 58 20.7	-21
THZ	**Tophouse**	**20.56**	**206**	P*	P	13 54 59.5	-3.6
THZ				*e*SN	S	13 58 36.3	-16
LTZ	**Lake Taylor**	**21.67**	**205**	*e*P*	P	13 55 14.6	-0.5
RPZ	**Rata Peaks**	**22.94**	**206**	P	P	13 55 28.6	0.0
comp=Z,30nm,0.6s,mb4.9,baz=295,slow=3.3,SNR=8.7							
RPZ				S	S	13 59 29.8	-8.5
comp=Z,43nm,0.7s,baz=244,slow=17,SNR=7.2							
RPZ				LR	LR	14 04 13.0	
comp=Z,11μm,19.0s,MS5.3,baz=25,slow=36							
RPZ	**Rata Peaks**	**22.94**	**206**	*e*P*	P	13 55 25.3	-3.2
TBI	**Tubuai**	**23.70**	**94**	*e*LQ		13 59 54.3	
comp=Z,24μm,27.5s							
TBI				*e*LR	LR	14 01 08.2	
comp=Z,27μm,26.5s,baz=266							
PAE	**Paea**	**24.78**	**81**	*e*P	P	13 55 45.9	-0.3
comp=Z,193nm,1.3s,mb5.5							
PAE	**Paea**	**24.78**	**81**	*e*P	P	13 55 45.9	-0.3
PAE				pmax	pmax		
comp=Z,193nm,1.3s,mb5.5							
PPT	**Papeete**	**24.81**	**81**	*e*P	P	13 55 46.5	0.0
comp=Z,124nm,1.3s,mb5.3							
PPT	**Papeete**	**24.81**	**81**	*e*LQ		14 00 31.8	
comp=Z,23μm,25.5s							
PPT				*e*LR	LR	14 01 34.4	
comp=Z,26μm,25.5s,baz=254							
PPT	**Papeete**	**24.81**	**81**	P	P	13 55 42.7	-3.8
comp=Z,125nm,1.2s,mb5.3,baz=189,slow=5.9,SNR=11							
PPT				S	S	14 00 13.5	+4.8
comp=Z,4.8nm,0.5s,baz=19,slow=16,SNR=3.4							
PPT				LR	LR	14 04 26.2	
comp=Z,10μm,18.5s,MS5.4,baz=263,slow=33							
PPT	**Papeete**	**24.81**	**81**	P	P	13 55 42.7	-3.8
PPT				*e*P		13 55 46.5	
PPT				S	S	14 00 13.5	+4.8
PPT				*e*LQ		14 00 31.8	
PPT				LR	LR	14 04 26.2	
TVO	**Taravao**	**25.04**	**81**	*e*P	P	13 55 48.4	-0.2
comp=Z,470nm,1.4s,mb5.8							
TVO	**Taravao**	**25.04**	**81**	*e*P	P	13 55 48.4	-0.2
TVO				pmax	pmax		
comp=Z,470nm,1.4s,mb5.8							
PMOR	**Pomariorio Ree**	**27.22**	**77**	*e*P	P	13 56 08.6	+0.3
VAH	**Vaihoa**	**27.37**	**77**	*e*P	P	13 56 10.0	+0.3
comp=Z,87nm,1.3s,mb5.1							
HNR	**Honiara**	**27.55**	**297**	P	P	13 56 10.9	-0.4
comp=Z,24nm,0.4s,mb5.2,baz=99,slow=5.5,SNR=7.7							
HNR				S	S	14 00 53.6	+1.5
comp=Z,15nm,0.3s,baz=264,slow=7.4,SNR=6.7							
HNR				LR	LR	14 04 02.3	
comp=Z,3μm,21.5s,MS4.8,baz=180,slow=30							
HNR	**Honiara**	**27.55**	**297**	*e*P	P	13 56 10.4	-0.9
comp=Z,366nm,1.3s,mb5.8							
HNR				LR	LR		
comp=Z,7μm,21.0s,MS5.2							
ARMA	**Armidale**	**30.14**	**250**	*e*P	P	13 56 35.5	+1.3
CTA	**Charters Tower**	**35.78**	**268**	*e*P	P	13 57 21.4	-2.1
comp=Z,31nm,0.4s,mb5.6							
CTA				*e*		13 58 26.2	
CTA				*e*S	S	14 02 55.0	-5.3
CTA	**Charters Tower**	**35.78**	**268**	P	P	13 57 22.4	-1.1
comp=Z,32nm,0.4s,mb5.6,baz=94,slow=11,SNR=108							
CTA				S	S	14 02 57.7	-2.6
comp=Z,17nm,1.2s,baz=274,slow=16,SNR=6.2							
CTA				LR	LR	14 09 59.9	
comp=Z,4μm,19.4s,MS5.2,baz=102,slow=33							
TOO	**Toolangi**	**36.21**	**238**	*e*P	P	13 57 29.5	+2.3
comp=Z,13nm,0.7s,mb5.0							
TOO	**Toolangi**	**36.21**	**238**	*e*P	P	13 57 29.5	+2.3
TOO				pmax	pmax		
comp=Z,13nm,0.7s,mb5.0							
TAU	**Tasmania Unive**	**36.28**	**229**	PFAKE		13 57 40.0	+12
TAU				LR	LR		
comp=Z,2μm,19.0s,MS5.0							
TAOE	**Nuku Hiva Isla**	**36.69**	**72**	*e*S	S	14 03 13.3	-1.0
comp=Z,3μm,24.8s							
TAOE				*e*LR	LR	14 07 01.2	
comp=Z,20μm,25.3s,baz=243							
RKT	**Rikitea**	**36.94**	**97**	*e*S	S	14 03 18.7	+0.7
comp=Z,2μm,28.0s							
RKT				*e*LQ		14 05 55.6	
comp=Z,4μm,27.2s							
RKT				*e*LR	LR	14 07 14.9	
comp=Z,15μm,26.8s,baz=262							
RKT	**Rikitea**	**36.94**	**97**	*e*P	P	13 57 34.3	+0.9
RKT				*e*S	S	14 03 18.7	+0.7
RKT				pmax	pmax		
comp=Z,84nm,1.1s,mb5.5							
RKT	**Rikitea**	**36.94**	**97**	*e*P	P	13 57 34.3	+0.9
comp=Z,84nm,1.1s,mb5.5							
RKT				*e*S	S	14 03 18.7	+0.7
RKT				*e*LQ		14 05 55.6	
PMG	**Port Moresby**	**38.53**	**285**	P	P	13 57 45.0	-1.8
comp=Z,87nm,0.8s,mb5.5,baz=122,slow=3.1,SNR=15							
PMG				LR	LR	14 09 43.7	
comp=Z,4μm,19.1s,MS5.3,baz=98,slow=30							
PMG	**Port Moresby**	**38.53**	**285**	*e*P	P	13 57 45.7	-1.2
PMG				*e*		13 57 59.6	
PMG				pmax	pmax		
comp=Z,110nm,0.8s							
PMG	**Port Moresby**	**38.53**	**285**	*e*P	P	13 57 45.6	-1.2
comp=Z,108nm,0.8s,mb5.6							
PMG				LR	LR		
com

WRA 14 00 28.8
WRA pmax pmax
comp=Z,19nm,0.4s
WRA MLR MLR
comp=Z,8μm,18.1s
POHA Pohakuloa 47.27 26 PFAKE 13 59 10.0 +12
POHA LR LR
comp=Z,4μm,20.0s,MS5.3
KIP Kipapa 47.87 22 *e*P **P 13 59 00.8 -1.6**
KIP pmax pmax
comp=Z,300nm,1.1s,mb6.2
KIP Kipapa 47.87 22 *e*P **P 13 59 00.8 -1.5**
comp=Z,300nm,1.1s,mb6.2
FORT Forrest 50.41 249 *e*P **P 13 59 20.8 -1.0**
comp=Z,65nm,0.7s,mb5.8
KAKA Kakadu 50.58 273 *e*P **P 13 59 20.4 -2.7**
comp=Z,37nm,0.3s,mb5.8
DRV Dumont d'Urvil 51.26 201 P **P 13 59 27.0 -1.2**
DRV S **S 14 06 55.0 +8.5**
DRV R 14 15 00.0
MIDW Midway 51.62 358 PFAKE 13 59 40.0 +9.2
MIDW LR LR
comp=Z,5μm,20.0s,MS5.6
GUMO Guam 53.73 309 PFAKE 14 00 00.0 +13
GUMO LR LR
comp=Z,3μm,20.0s,MS5.4
SBA Scott Base 54.91 185 *e*P **P 13 59 57.1 +2.0**
SBA pmax pmax
comp=Z,976nm,2.3s,mb6.4
SBA MLR MLR
comp=Z,4μm,20.0s,MS5.4
SBA Scott Base 54.91 185 *e*P **P 13 59 57.0 +1.9**
comp=Z,976nm,2.3s,mb6.4
SBA LR LR
comp=Z,4μm,20.0s,MS5.4
VNDA Vanda 55.02 186 P **P 13 59 57.2 +1.4**
comp=Z,11nm,0.9s,mb4.9,baz=360,slow=7.6,SNR=40
VNDA Vanda 55.02 186 *e*P **P 13 59 56.9 +1.0**
VNDA pmax pmax
comp=Z,135nm,1.8s
VNDA MLR MLR
comp=Z,4μm,19.0s
VNDA Vanda 55.02 186 *e*P **P 13 59 56.9 +1.0**
comp=Z,135nm,1.8s,mb5.7
VNDA LR LR
comp=Z,4μm,19.0s,MS5.5
FITZ Fitzroy Crossi 55.13 264 *e*P **P 13 59 55.2 -1.5**
comp=Z,53nm,0.9s,mb5.6
FITZ *e*PCP PcP 14 00 45.0 -13
FITZ *e*S **S 14 07 34.5 -4.7**
FITZ Fitzroy Crossi 55.13 264 P **P 13 59 56.0 -0.7**
comp=Z,13nm,0.4s,mb5.3,baz=109,slow=9.4,SNR=66
FITZ S **S 14 07 33.8 -5.4**
comp=Z,10nm,1.3s,baz=285,slow=17,SNR=5.6
FITZ LR LR 14 23 03.4
comp=Z,6μm,18.7s,MS5.7,baz=116,slow=36
KLBR Kellerberrin 59.03 246 *e*P **P 14 00 23.8 -0.5**
comp=Z,56nm,0.9s,mb5.6
RPN Rapa Nui 59.09 108 LR LR 14 21 03.1
comp=Z,3μm,18.1s,MS5.5,baz=251,slow=31
RPN Rapa Nui 59.09 108 PFAKE 14 00 40.0 +15
RPN LR LR
comp=Z,1μm,19.0s,MS5.0
NWAO Narrogin (SRO) 59.24 245 LR LR 14 25 18.9
comp=Z,7μm,18.4s,MS5.8,baz=253,slow=35
MBWA Marble Bar 59.64 259 *e*P **P 14 00 26.9 -1.6**
comp=Z,59nm,1.0s,mb5.6
MBWA LR LR
comp=Z,4μm,20.0s,MS5.5
MUN Mundaring 60.26 246 *e*P **P 14 00 38.3 +5.6**
MUN *e*S **S 14 08 32.1 -14**
CBIJ Chichi jima 65.05 318 LR LR 14 24 23.5
comp=Z,4μm,20.4s,MS5.6,baz=151,slow=31
DAV Davao City (W) 65.27 290 PFAKE 14 01 20.0 +14
DAV LR LR
comp=Z,2μm,19.0s,MS5.2
BUKP Musuan 66.12 291 *e*P **P 14 01 11.3 -0.3**
QSPA South Pole Qui 66.42 180 *e*P **P 14 01 15.4 +1.8**
comp=Z,107nm,1.2s,mb5.8
QSPA LR LR
comp=Z,7μm,19.0s,MS5.9
MSLP Maasin 67.42 293 *e*P **P 14 01 19.5 -0.5**
MIR Mirnyy 69.21 205*c i*P **P 14 01 35.5 +4.4**
MIR *e*PS 14 10 42.0
MIR *e* 14 11 40.0
MIR pmax pmax
comp=Z,850nm,2.0s,mb6.3
MIR pmax pmax
comp=Z,2μm,6.0s
MIR MLR MLR
comp=N,2μm,18.0s,MS5.5
MIR MLR MLR
comp=E,2μm,18.0s,MS5.5
MIR MLR MLR
comp=Z,3μm,18.0s,MS5.6
PVCP Virac 69.80 296 *e*P **P 14 01 34.2 -0.6**
TSM Tawau 70.72 284 P **P 14 01 41.6 +1.2**
JHJ Hachijo jima 2 70.86 321 LR LR 14 32 29.5
comp=Z,1μm,18.2s,MS5.2,baz=152,slow=36
KKM Kota Kinabalu 72.98 285 P **P 14 01 55.3 +1.3**
JOW Kunigami 74.10 309 LR LR 14 32 40.7
comp=Z,2μm,19.4s,MS5.5,baz=295,slow=34
MJAR Matsushiro Arr 74.22 323 P **P 14 02 01.1 -0.2**
comp=Z,7.0nm,0.6s,mb4.8,baz=108,slow=0.7,SNR=29
MJAR LR LR 14 29 25.2
comp=Z,2μm,21.9s,MS5.4,baz=130,slow=32
MAJO Matsushiro 74.23 323 PFAKE 14 02 10.0 +8.7
MAJO LR LR
comp=Z,3μm,21.0s,MS5.5
MAT Matsushiro 74.23 323 P **P 14 02 01.0 -0.3**
MAT S S 14 11 34.6 +0.1
ERM Erimo 75.80 329 PFAKE 14 02 20.0 +10
ERM LR LR
comp=Z,725nm,21.0s,MS5.0
KSM Kuching 76.32 278 *e*P **P 14 02 10.2 -3.2**
SMY Shemya 76.62 353 PFAKE 14 02 30.0 +15
SMY LR LR
comp=Z,5μm,19.0s,MS5.8
PMSA Palmer Station 77.40 156 PFAKE 14 02 30.0 +11
PMSA LR LR
comp=Z,2μm,19.0s,MS5.5
SNCC San Nicolas Is 77.62 45 PFAKE 14 02 30.0 +9.3
SNCC LR LR
comp=Z,3μm,20.0s,MS5.6
SNCC San Nicolas Is 77.62 45 ⇓P **P 14 02 19.0 -1.7**
baz=78
SNCC ⇑S S 14 12 19.8 +7.8
baz=78
ASAJ Asahikawa 77.69 330 P **P 14 02 21.7 +0.6**
comp=Z,104nm,1.0s,mb5.7,baz=237,slow=20,SNR=10
ASAJ LR LR 14 29 54.7
comp=Z,2μm,21.5s,MS5.5,baz=295,slow=31
YHNB Yeheng 77.94 304 *e*P **P 14 02 23.3 +0.8**
BSC Santa Cruz Isl 78.03 45 ⇑P **P 14 02 22.8 -0.2**
baz=78
SCI San Clemente I 78.10 46 ⇑P **P 14 02 22.1 -1.2**
baz=78
SBC Santa Barbara 78.25 44 ⇓P **P 14 02 24.1 -0.1**
baz=78
V04C Ramage Ranch, 78.29 43 ⇓P **P 14 02 23.8 -0.6**
baz=78
V04C ⇓S S 14 12 25.0 +5.8
baz=78
V03C Hunter Liggett 78.32 42 ⇑P **P 14 02 25.5 +0.9**
baz=79
V03C ⇓S S 14 12 27.3 +7.8
baz=79
FARB Farallon Islan 78.36 40 ⇑P **P 14 02 24.7 -0.1**
baz=79
FARB ⇑S S 14 12 25.8 +5.8
baz=79
HAST UC Hastings Re 78.36 42 ⇓P **P 14 02 24.5 -0.3**
baz=79
HAST ⇓S S 14 12 26.1 +6.2
baz=79
CIS Catalina Islan 78.46 46 ⇓P **P 14 02 25.3 -0.1**
baz=79
CIS ⇓S S 14 12 26.9 +5.9
baz=79
BNLO Ben Lomond (Sa 78.48 41 ⇓P **P 14 02 26.2 +0.8**
baz=79
BNLO ⇑S S 14 12 26.7 +5.6
baz=79
PKM Peak Mountain 78.48 44 ⇑P **P 14 02 26.7 +1.2**
baz=79
PKM ⇑S S 14 12 27.1 +5.9
baz=79
JRSC Jasper Ridge 78.62 40 ⇓P **P 14 02 27.3 +1.1**
baz=79
JRSC ⇑S S 14 12 29.7 +7.0
baz=79
SMMC Simmler 78.63 43 ⇓P **P 14 02 27.0 +0.8**
baz=79
SMMC ⇓S S 14 12 28.6 +5.9
baz=79
PKD Parkfield 78.69 43 ⇓P **P 14 02 26.9 +0.2**
baz=79
PKD ⇑S S 14 12 29.0 +5.5
baz=79
PTRM Twissleman Ran 78.71 43 *e*P **P 14 02 29.3 +2.6**
FMP Fort Macarthur 78.72 45 ⇓P **P 14 02 27.3 +0.5**
baz=79
FMP ⇓S S 14 12 30.5 +6.8
baz=79
MCCM Marconi Confer 78.73 40 ⇑P **P 14 02 27.4 +0.6**
baz=79
MCCM ⇑S S 14 12 30.7 +6.8
baz=79
LPIG La Paz 78.93 58 P **P 14 02 30.0 +2.0**
comp=Z,14nm,0.3s,mb5.3,baz=45,slow=5.3,SNR=4.4
PACP Pacheco Peak 78.93 41 ⇓P **P 14 02 28.7 +0.7**
baz=79,SNR=9.6
PACP ⇑S S 14 12 32.8 +6.8
baz=79
109C Camp Elliot, M 79.00 47 ⇑P **P 14 02 28.8 +0.5**
baz=79
109C ⇑S S 14 12 31.3 +4.6
baz=79
OSI Osito Adit 79.00 45 ⇑P **P 14 02 28.7 +0.4**
baz=79
OSI ⇑S S 14 12 33.2 +6.4
baz=79
DECC Green Verdugo 79.03 45 ⇓P **P 14 02 28.6 +0.2**
baz=79
DECC ⇓S S 14 12 32.9 +5.9
baz=79
V05C Boulder Hill, 79.04 43 ⇑P **P 14 02 29.4 +0.9**
baz=79
WENL Wente Brothers 79.05 41 ⇑P **P 14 02 28.6 +0.1**
baz=79
WENL ⇓S S 14 12 35.3 +8.0
baz=79
CVS Carmenet Viney 79.11 40 ⇑P **P 14 02 28.5 -0.5**
baz=79
CVS ⇑S S 14 12 35.6 +7.7
baz=79
HOPS Hopland 79.19 39 ⇓P **P 14 02 28.9 -0.4**
baz=79
BDM Black Diamond 79.20 40 ⇓P **P 14 02 29.5 +0.1**
baz=79
BDM ⇓S S 14 12 36.5 +7.6
baz=79
T05C Eagle Field, D 79.23 42 ⇑P **P 14 02 30.5 +0.9**
baz=80
S04C Ingram Canyon, 79.23 41 ⇑P **P 14 02 30.5 +0.9**
baz=80,SNR=9.4
S04C ⇓S S 14 12 34.1 +4.9
baz=80
ARVC Arvin 79.25 44 ⇓P **P 14 02 30.0 +0.3**
baz=80
ARVC ⇑S S 14 12 36.3 +6.9
baz=80
P01C Double 8 Ranch 79.36 38 ⇑P **P 14 02 29.7 -0.6**
baz=80
P01C ⇑S S 14 12 37.7 +7.1
baz=80
MURC Murrieta 79.37 46 ⇓P **P 14 02 30.1 -0.2**
baz=80
MURC ⇓S S 14 12 34.8 +4.1
baz=80
MAW Mawson 79.44 199 *e*S S 14 12 34.8 +3.4
MAW Mawson 79.44 199 P **P 14 02 32.2 +1.5**
comp=Z,58nm,1.1s,mb5.4,baz=125,slow=7.1,SNR=50
MAW S S 14 12 34.1 +2.7
comp=Z,1.3nm,1.0s,baz=311,slow=13,SNR=2.4
MAW LR LR 14 36 50.8
comp=Z,6μm,18.8s,MS6.0,baz=115,slow=35
MAW Mawson 79.44 199 *e*P **P 14 02 30.2 -0.5**
MAW *e*S S 14 12 34.8 +3.4
MAW pmax pmax
comp=Z,38nm,1.1s
MAW Mawson 79.44 199 *e*P **P 14 02 30.2 -0.5**
comp=Z,38nm,1.1s,mb5.2
MAW *e*S S 14 12 34.8 +3.4
BFSC Mount Baldy St 79.46 45 ⇓P **P 14 02 31.0 +0.2**
baz=80
BFSC ⇑S S 14 12 38.2 +6.5
baz=80
MONP Monument Peak 79.46 47 ⇓P **P 14 02 31.5 +0.7**
baz=80
MONP ⇑S S 14 12 36.3 +4.7
baz=80
MNRC McLaughlin Nat 79.48 39 ⇓P **P 14 02 31.5 +0.6**
baz=80
MNRC ⇑S S 14 12 38.4 +6.5
baz=80
DVTC Desert V Tower 79.53 47 ⇓P **P 14 02 31.4 +0.1**
baz=80
VES Vestal, Richgr 79.54 43 ⇑P **P 14 02 30.8 -0.5**
baz=80
O01C Eel River Cons 79.55 38 ⇑P **P 14 02 32.1 +0.8**
baz=80
Q03C Winters 79.56 40 ⇓P **P 14 02 30.6 -0.8**
baz=80
EDW2 Edwards Air Fo 79.64 45 ⇑P **P 14 02 31.8 0.0**
baz=80,SNR=11
EDW2 ⇓S S 14 12 38.1 +4.5
baz=80
PET Petropavlovsk 79.65 344 *e*P **P 14 02 31.1 -0.8**
PET *e*PPP 14 07 16.7
PET *i*S S 14 12 31.0 -2.7
PET *e*PS 14 13 14.1
PET pmax pmax
comp=Z,18nm,0.6s,mb5.2
PET pmax pmax
comp=Z,1μm,12.8s
PET pmax pmax
comp=Z,700nm,11.9s
PET Petropavlovsk 79.65 344 PFAKE 14 02 40.0 +8.1
PET LR LR
comp=Z,2μm,20.0s,MS5.4
S05C Merced 79.73 42 ⇑P **P 14 02 32.3 0.0**
baz=80
S05C ⇓S S 14 12 39.3 +4.8
baz=80
RCTC Rector, Farmer 79.74 43 ⇑P **P 14 02 32.0 -0.4**
baz=80
RCTC ⇑S S 14 12 39.3 +4.7
baz=80
ISA Isabella 79.81 44 P **P 14 02 32.0 -0.7**
comp=Z,0.1nm,1.4s
ISA LR LR
comp=Z,502nm,19.0s,MS4.9
ISA Isabella 79.81 44 ⇓P **P 14 02 32.9 +0.2**
baz=80,SNR=13
ISA ⇓S S 14 12 40.1 +4.7
baz=80
YSS Yuzh-Sakhalins 79.83 332 *e*P **P 14 02 34.0 +1.1**
YSS *e* 14 02 43.0
YSS *e*S S 14 12 35.0 -0.6
YSS pmax pmax
comp=Z,160nm,1.0s,mb5.9
YSS pmax pmax
comp=Z,2μm,6.0s
YSS MLR MLR
comp=N,2μm,19.0s,MS5.8
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.6
YSS MLR MLR
comp=E,3μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 79.83 332 *e*P **P 14 02 34.3 +1.5**
comp=E,231nm,1.3s,mb6.0
GASB Alder Springs 79.84 39 ⇑P **P 14 02 34.2 +1.3**
baz=80,SNR=6.6
GASB ⇑S S 14 12 42.1 +6.5
baz=80
PFO Pinyon Flat Ob 79.87 47 *e*P **P 14 02 33.9 +0.8**
comp=E,25nm,1.4s,mb5.0
PFO LR LR
comp=Z,1μm,19.0s,MS5.2
PFO Pinyon Flat Ob 79.87 47 ⇑P **P 14 02 32.8 -0.2**
baz=80,SNR=5.8
PFO ⇓S S 14 12 41.8 +5.8
baz=80
JCC Jacoby Creek 79.89 37 ⇑P **P 14 02 33.4 +0.2**
baz=80
JCC ⇓S S 14 12 43.5 +7.3
baz=80
SWSC Sam W. Stewart 79.91 47 ⇓P **P 14 02 33.0 -0.2**
baz=80
BBRC Big Bear Sol-O 79.95 46 ⇑P **P 14 02 33.3 -0.2**
baz=80
BBRC ⇑S S 14 12 41.2 +4.3
baz=80
R04C Big Horse Ranc 79.95 41 ⇓P **P 14 02 33.5 0.0**
baz=80
R04C ⇑S S 14 12 40.9 +4.0
baz=80
Q04C Lincoln 80.08 40 ⇑P **P 14 02 34.2 0.0**
baz=80
Q04C ⇓S S 14 12 41.9 +3.8
baz=80
SUTB Sutter Butte 80.09 39 ⇓P **P 14 02 34.0 -0.3**
baz=80
SUTB ⇑S S 14 12 41.7 +3.3
baz=80
HELL Mitchell Peak, 80.11 43 P **P 14 02 33.9 -0.4**
baz=80,SNR=11
HELL ⇓S S 14 12 41.7 +3.2
baz=80
CMB Columbia Colle 80.14 41 P **P 14 02 34.0 -0.5**
baz=80,SNR=24
CMB ⇑S S 14 12 41.9 +3.1
baz=80
O02C Red Bluff 80.15 38 ⇓P **P 14 02 35.2 +0.6**
baz=80,SNR=7.0
O02C ⇓S S 14 12 42.7 +3.8
baz=80
LRMC Laurel Mountai 80.20 44 ⇓P **P 14 02 35.2 +0.4**
baz=80
LRMC ⇑S S 14 12 45.1 +5.6
baz=80
QZH Quanzhou 80.22 303 P **P 14 02 32.6 -2.4**
QZH S S 14 12 37.6 -2.1
QZH AMB AMB
comp=Z,2μm,8.1s
QZH LR LR
comp=N,2μm,17.1s,MS5.9
QZH LR LR
comp=E,4μm,19.8s,MS5.9
QZH LR LR
comp=Z,4μm,18.9s,MS5.8
RRX Edison Barstow 80.28 45 ⇑P **P 14 02 34.7 -0.6**
baz=80
RRX ⇓S S 14 12 44.4 +4.1
baz=80
KCC Kaiser Creek 80.33 42 ⇑P **P 14 02 35.7 +0.2**
baz=81,SNR=9.3
KCC ⇑S S 14 12 45.4 +4.6
baz=81
OHCM Honcut 80.34 39 *e*P **P 14 02 35.6 +0.1**
LAVA Lava Cap Winer 80.40 40 ⇓P **P 14 02 36.1 +0.2**
baz=81,SNR=7.9
LAVA ⇑S S 14 12 46.5 +5.0
baz=81
BELC Belle Mtn. 80.41 46 ⇓P **P 14 02 36.1 +0.1**
baz=81
BELC ⇑S S 14 12 46.9 +5.2
baz=81
O03C Acorn Hollow, 80.46 39 ⇑P **P 14 02 35.9 -0.3**
baz=81
O03C ⇓S S 14 12 46.2 +4.0
baz=81
ORV Oroville 80.47 39 P **P 14 02 35.7 -0.6**
baz=81,SNR=10.0
ORV ⇑S S 14 12 46.2 +3.9
baz=81
CWC Cottonwood Cre 80.55 43 ⇓P **P 14 02 37.0 +0.3**
baz=81
WDC Whiskeytown Da 80.56 38 ⇑P **P 14 02 37.5 +0.7**
baz=81
WDC ⇑S S 14 12 46.7 +3.5
baz=81
BC3 Big Chuckw Mtn 80.56 47 ⇓P **P 14 02 37.2 +0.5**
baz=81,SNR=7.3
BC3 ⇓S S 14 12 47.0 +3.7
baz=81
GLA Glamis 80.63 48 *e*P **P 14 02 36.5 -0.7**
GLA Glamis 80.63 48 ⇓P **P 14 02 37.8 +0.6**
baz=81
GLA ⇓S S 14 12 49.1 +5.1
baz=81
GSC Goldstone 80.66 45 P **P 14 02 35.4 -1.9**
GSC Goldstone 80.66 45 ⇑P **P 14 02 38.1 +0.8**
baz=81,SNR=7.1
GSC ⇑S S 14 12 49.0 +4.7
baz=81
HEC Hector,Ludlow 80.69 46 ⇑P **P 14 02 37.6 +0.1**
baz=81
HEC ⇓S S 14 12 48.7 +4.2
baz=81
MPMC Manual Prospec 80.69 44 ⇓P **P 14 02 37.9 +0.5**
baz=81,SNR=18
MPMC ⇓S S 14 12 49.1 +4.5
baz=81
DAC Darwin (Calif) 80.75 44 PFAKE 14 02 50.0 +12
DAC LR LR
comp=Z,3μm,20.0s,MS5.6
R05C Kirkwood Meado 80.76 41 ⇑P **P 14 02 38.2 +0.4**
baz=81,SNR=11
R05C ⇓S S 14 12 50.6 +5.3
baz=81
MTUM Tungsten Hills 80.82 42 *e*P **P 14 02 36.5 -1.6**
MLAC Mammoth Lakes 80.82 42 ⇓P **P 14 02 38.2 0.0**
baz=81
MLAC ⇓S S 14 12 50.9 +5.0
baz=81
TIN Tinemaha 80.84 43 ⇓P **P 14 02 38.8 +0.5**
baz=81
TIN ⇓S S 14 12 51.0 +4.9
baz=81
M02C Callahan 80.94 37 ⇓P **P 14 02 39.0 +0.2**
baz=81,SNR=6.0
M02C ⇑S S 14 12 52.3 +5.2
baz=81
R07C Lee Vining 80.98 42 ⇑P **P 14 02 39.4 +0.3**
baz=81,SNR=7.2
R07C ⇑S S 14 12 51.8 +4.1
baz=81
R06C Coleville 81.02 41 ⇑P **P 14 02 39.4 +0.2**
baz=81,SNR=8.1
R06C ⇑S S 14 12 53.4 +5.4
baz=81
L02A Cave Junction 81.05 36 ⇑P **P 14 02 39.9 +0.6**
baz=81
IRM Iron Mountain 81.06 47 ⇓P **P 14 02 40.5 +1.0**
baz=81,SNR=17
IRM ⇑S S 14 12 52.2 +3.7
baz=81
O05C Quincy 81.08 39 ⇑P **P 14 02 38.7 -0.9**
baz=81,SNR=9.0
O05C ⇓S S 14 12 52.3 +3.7
baz=81
S08C White Mtn Res 81.15 43 ⇑P **P 14 02 40.8 +0.8**
baz=81,SNR=32
S08C ⇑S S 14 12 54.5 +5.1
baz=81
O04C Chester 81.22 39 ⇑P **P 14 02 41.2 +0.9**
baz=82,SNR=6.6
O04C ⇑S S 14 12 53.8 +3.7
baz=82
Y12C Blythe 81.24 47 ⇑P **P 14 02 41.0 +0.6**
baz=82
Y12C ⇑S S 14 12 54.6 +4.2
baz=82
YBH Yreka Blue Hor 81.24 37 P **P 14 02 40.8 +0.4**
comp=Z,12nm,0.7s,mb4.9,baz=31,slow=2.7,SNR=28
YBH Yreka Blue Hor 81.24 37 ⇓P **P 14 02 40.5 0.0**
baz=82,SNR=9.5
YBH ⇑S S 14 12 54.3 +3.9
baz=82
M03C McCloud 81.26 38 ⇑P **P 14 02 39.9 -0.7**
baz=82,SNR=5.3
M03C ⇑S S 14 12 54.4 +3.8
baz=82
TUQ Turquoise Mtn. 81.31 45 ⇓P **P 14 02 40.9 +0.1**
baz=82
TUQ ⇓S S 14 12 55.7 +4.6
baz=82
HATC Hat Creek Radi 81.33 38 ⇓P **P 14 02 40.7 -0.2**
baz=82
WCN Washoe City 81.33 40 ⇑P **P 14 02 41.2 +0.3**
baz=82,SNR=9.3

WCN ⇑S S 14 12 57.6 +6.3
baz=82
FURC Furnace Creek, 81.34 44 ⇓P **P 14 02 41.4 +0.5**
baz=82
FURC ⇑S S 14 12 54.4 +3.0
baz=82
GRAC Grapevine Rang 81.34 43 ⇓P **P 14 02 41.3 +0.3**
baz=82,SNR=6.7
GRAC ⇓S S 14 12 55.1 +3.7
baz=82
BEKR Beckwourth 81.34 40 ⇓P **P 14 02 41.3 +0.3**
baz=82,SNR=6.0
BEKR ⇑S S 14 12 55.2 +3.8
baz=82
SHOC Shoshone 81.36 45 ⇑P **P 14 02 41.0 0.0**
baz=82,SNR=5.5
SHOC ⇑S S 14 12 56.3 +4.7
baz=82
P06A Stead Airport, 81.49 40 ⇓P **P 14 02 41.4 -0.4**
baz=82
P06A ⇓S S 14 12 57.4 +4.4
baz=82
K02A Glendale 81.52 36 ⇑P **P 14 02 43.0 +1.1**
baz=82
K02A ⇑S S 14 12 58.3 +5.0
baz=82
SSE Sheshan 81.62 309 *e*P **P 14 02 42.5 +0.1**
SSE AP pP 14 02 50.8 +3.8
SSE XP sP 14 02 55.2 +6.5
SSE PP PP 14 05 49.3 +0.3
SSE S S 14 12 52.1 -2.1
SSE XS sS 14 13 06.8 +4.9
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,198nm,4.2s
SSE LR LR
comp=N,474nm,22.8s,MS5.1
SSE LR LR
comp=E,762nm,22.8s,MS5.1
SSE LR LR
comp=Z,1μm,20.3s,MS5.2
SSE Sheshan 81.62 309 *e*P **P 14 02 42.5 +0.1**
comp=Z,34nm,0.7s,mb5.4
SSE PcP PcP 14 02 47.5 -0.8
SSE pP pP 14 02 50.8 +3.8
SSE sP sP 14 02 55.2 +6.5
SSE PP PP 14 05 49.3 +0.3
SSE S S 14 12 52.1 -2.1
SSE sS sS 14 13 06.8 +4.9
SSE LR LR
comp=Z,1μm,20.3s,MS5.2
ELFS Eagle Lake Fie 81.62 39 ⇑P **P 14 02 43.1 +0.7**
baz=82,SNR=5.4
ELFS ⇑S S 14 12 58.8 +4.5
baz=82
NVAR Mina Array Bea 81.65 42 P **P 14 02 41.3 -1.3**
comp=Z,9.4nm,0.7s,mb4.8,baz=227,slow=9.5,SNR=27
Q07A Schurz 81.67 41 ⇓P **P 14 02 43.3 +0.7**
baz=82
Q07A ⇑S S 14 12 59.4 +4.6
baz=82
INCN Inchon 81.72 317 *e*P **P 14 02 43.6 +0.6**
comp=Z,53nm,1.0s,mb5.4
INCN LR LR
comp=Z,3μm,22.0s,MS5.6
R08A Mina 81.72 42 P **P 14 02 42.8 -0.2**
baz=82,SNR=8.8
R08A ⇓S S 14 12 59.3 +4.0
baz=82
Y13A Salome 81.75 48 ⇓P **P 14 02 44.1 +0.9**
baz=82
Y13A ⇓S S 14 13 00.5 +4.8
baz=82
M04C Macdoel 81.76 37 ⇓P **P 14 02 43.5 +0.4**
baz=82
M04C ⇑S S 14 13 00.3 +4.5
baz=82
PAHR Pah Rah Range 81.81 40 *e*P **P 14 02 44.4 +0.9**
comp=Z,262nm,2.2s,mb5.8
PDMCI Parker Dam,Lak 81.82 47 ⇓P **P 14 02 44.1 +0.6**
baz=82
PDMCI ⇓S S 14 13 00.1 +3.8
baz=82
O06A Flanigan 81.85 40 ⇓P **P 14 02 44.0 +0.3**
baz=82,SNR=8.8
O06A ⇓S S 14 12 59.6 +3.0
baz=82
V11A Goodsprings 81.88 45 ⇓P **P 14 02 44.2 +0.4**
baz=82,SNR=7.0
V11A ⇓S S 14 13 01.2 +4.2
baz=82
S09A Goldfield 81.88 43 ⇑P **P 14 02 44.1 +0.3**
baz=82,SNR=6.5
S09A ⇓S S 14 13 00.8 +3.9
baz=82
J02A Umpqua 81.89 35 ⇑P **P 14 02 43.9 0.0**
baz=82
J02A ⇑S S 14 13 02.4 +5.3
baz=82
W12A Cal Nev Ari 81.93 46 ⇓P **P 14 02 43.8 -0.3**
baz=82
W12A ⇑S S 14 13 03.6 +6.1
baz=82
L04A Klamath Falls 81.99 37 ⇑P **P 14 02 45.3 +0.9**
baz=82
L04A ⇓S S 14 13 04.4 +6.2
baz=82
P07A Fallon 82.00 41 ⇓P **P 14 02 44.8 +0.3**
baz=82
P07A ⇓S S 14 13 03.3 +5.1
baz=82
Z14A Wintersburg 82.09 48 ⇓P **P 14 02 45.5 +0.6**
baz=82
Z14A ⇑S S 14 13 03.7 +4.5
baz=82
TPH Tonopah 82.10 43 PFAKE 14 03 00.0 +15
TPH LR LR
comp=Z,2μm,20.0s,MS5.5
Q08A Gabbs 82.15 42 ⇓P **P 14 02 45.7 +0.5**
baz=82,SNR=7.7
Q08A ⇓S S 14 13 03.3 +3.6
baz=82
I02A Mapleton 82.19 35 ⇓P **P 14 02 45.3 -0.2**
baz=82
I02A ⇑S S 14 13 06.2 +6.0
baz=82
X13A Yucca 82.20 47 ⇑P **P 14 02 46.2 +0.8**
baz=82,SNR=8.9
X13A ⇓S S 14 13 04.6 +4.4
baz=82
115A Sonoran Desert 82.22 49 ⇑P **P 14 02 46.3 +0.7**
baz=82
115A ⇓S S 14 13 06.1 +5.7
baz=82
N06A Buffalo Meadow 82.22 39 ⇑P **P 14 02 46.1 +0.5**
baz=82,SNR=13
N06A ⇑S S 14 13 04.1 +3.6
baz=82
U11A Corn Creek 82.26 45 ⇑P **P 14 02 46.0 +0.3**
baz=82
U11A ⇓S S 14 13 05.3 +4.5
baz=82
R09A Tonopah 82.29 43 ⇓P **P 14 02 46.4 +0.5**
baz=82,SNR=11
R09A ⇓S S 14 13 05.2 +4.0
baz=82
VLA Vladivostok 82.29 324 *e*P **P 14 02 47.2 +1.2**
VLA pmax pmax
comp=Z,88nm,1.4s,mb5.5
VLA MLR MLR
comp=Z,1μm,17.0s,MS5.4
VLA Vladivostok 82.29 324 ⇓*e*P **P 14 02 47.3 +1.3**
K04A Chilquin 82.38 37 ⇑P **P 14 02 46.0 -0.3**
baz=83
K04A ⇓S S 14 13 07.4 +5.4
baz=83
HKC Hong Kong 82.38 298 ⇓*e*P **P 14 02 50.0 +3.6**
Y14A Wickenburg 82.38 48 ⇑P **P 14 02 47.0 +0.6**
baz=83,SNR=7.7
Y14A ⇓S S 14 13 06.3 +4.2
baz=83
O07A Toulon 82.40 40 P **P 14 02 46.1 -0.4**
baz=83,SNR=14
O07A ⇑S S 14 13 06.8 +4.5
baz=83
W13A Hualapai Mount 82.46 47 ⇓P **P 14 02 47.4 +0.6**
baz=83,SNR=6.8
W13A ⇓S S 14 13 08.5 +5.6
baz=83
I03A Eugene 82.46 35 ⇑P **P 14 02 47.5 +0.7**
baz=83
I03A ⇓S S 14 13 08.3 +5.3
baz=83
L05A Lakeview 82.50 38 ⇓P **P 14 02 47.9 +0.8**
baz=83,SNR=15
L05A ⇑S S 14 13 08.4 +5.1
baz=83
116A Eloy 82.50 50 ⇓P **P 14 02 48.1 +1.1**
baz=83
116A ⇓S S 14 13 09.0 +5.7
baz=83
P08A Dixie Valley 82.58 41 ⇓P **P 14 02 47.9 +0.5**
baz=83
P08A ⇑S S 14 13 10.3 +6.1
baz=83
Q09A Carvers 82.59 42 ⇓P **P 14 02 47.6 +0.1**
baz=83
MOD Modoc 82.70 38 ⇓P **P 14 02 48.2 +0.1**
baz=83,SNR=7.2
MOD ⇑S S 14 13 08.4 +3.0
baz=83
N07B Gerlach 82.74 40 ⇑P **P 14 02 48.1 -0.2**
baz=83,SNR=6.5
N07B ⇑S S 14 13 09.7 +3.9
baz=83
X14A Yava 82.76 48 ⇑P **P 14 02 49.3 +0.9**
baz=83,SNR=11
X14A ⇓S S 14 13 10.8 +4.8
baz=83
R10A Warm Springs 82.80 43 ⇑P **P 14 02 49.1 +0.4**
baz=83,SNR=35
R10A ⇓S S 14 13 10.3 +3.9
baz=83
U12A Valley of Fire 82.81 45 ⇓P **P 14 02 49.4 +0.8**
baz=83,SNR=11
U12A ⇑S S 14 13 10.7 +4.2
baz=83
COR Corvallis 82.87 35 PFAKE 14 03 00.0 +11
COR LR LR
comp=Z,4μm,20.0s,MS5.7
KGM Kluang 82.91 275 P **P 14 02 51.5 +2.3**
K05A Summer Lake 82.91 37 ⇓P **P 14 02 49.7 +0.5**
baz=83,SNR=11
K05A ⇓S S 14 13 11.3 +3.8
baz=83
O08A Rochester Mine 82.91 40 ⇓P **P 14 02 49.7 +0.5**
baz=83
H03A Soap Creek Ran 82.94 35 ⇓P **P 14 02 49.1 -0.2**
baz=83
H03A ⇓S S 14 13 11.8 +4.0
baz=83
TUC Tucson 83.01 50 P **P 14 02 48.0 -1.7**
TUC pmax pmax
comp=Z,45nm,1.6s,mb5.2
TUC Tucson 83.01 50 *e*P **P 14 02 48.0 -1.6**
comp=Z,44nm,1.6s,mb5.2
M07A Soldier Meadow 83.02 39 ⇑P **P 14 02 49.9 +0.1**
baz=83,SNR=8.5
M07A ⇓S S 14 13 12.5 +4.0
baz=83
P09A Austin 83.06 41 ⇓P **P 14 02 49.7 -0.2**
baz=83
P09A ⇑S S 14 13 12.7 +3.7
baz=83
W14A Seligman 83.06 47 ⇓P **P 14 02 50.5 +0.6**
baz=83,SNR=18
W14A ⇓S S 14 13 13.4 +4.4
baz=83
J05A Fort Rock 83.09 37 ⇓P **P 14 02 50.6 +0.5**
baz=83,SNR=20
J05A ⇑S S 14 13 12.9 +3.6
baz=83
X15A Humboldt 83.22 48 ⇓P **P 14 02 51.1 +0.4**
baz=83,SNR=14
X15A ⇑S S 14 13 16.4 +5.7
baz=83
N08A GE Springer Mi 83.23 40 ⇑P **P 14 02 50.6 -0.2**
baz=84,SNR=8.1
N08A ⇓S S 14 13 13.6 +2.8
baz=84
COCO West Island 83.27 260 PFAKE 14 03 00.0 +9.0
COCO LR LR
comp=Z,881nm,20.0s,MS5.1
TRCR Troy Canyon 83.29 43 P **P 14 02 48.4 -2.7**
K06A Valley Falls 83.32 37 ⇓P **P 14 02 51.2 0.0**
baz=84,SNR=13
K06A ⇓S S 14 13 14.8 +3.2
baz=84
L07A Adell 83.32 38 ⇓P **P 14 02 51.4 +0.1**
baz=84,SNR=28
L07A ⇓S S 14 13 15.9 +4.2
baz=84
KDAK Kodiak Island 83.33 12 PFAKE 14 03 00.0 +8.6
KDAK LR LR
comp=Z,996nm,20.0s,MS5.2
G03A Yamhill 83.38 34 ⇑P **P 14 02 51.4 -0.2**
baz=84
G03A ⇓S S 14 13 18.0 +5.8
baz=84
O09A Fish Creek Ran 83.41 41 ⇑P **P 14 02 51.7 -0.1**
baz=84,SNR=12
O09A ⇓S S 14 13 16.0 +3.4
baz=84
GZH Guangzhou 83.43 299 P **P 14 02 54.2 +2.3**
GZH S S 14 13 16.3 +3.5
GZH LR LR
comp=N,652nm,16.8s
GZH LR LR
comp=E,1μm,23.6s
GZH LR LR
comp=Z,2μm,27.7s
M08A Happy Creek Ra 83.51 39 ⇓P **P 14 02 52.4 +0.1**
baz=84,SNR=7.3
M08A ⇑S S 14 13 17.2 +3.6
baz=84
P10A Eureka 83.52 42 ⇑P **P 14 02 52.2 -0.1**
baz=84,SNR=6.3
P10A ⇑S S 14 13 16.9 +3.2
baz=84
H04A Detroit Lake 83.52 35 ⇑P **P 14 02 52.3 0.0**
baz=84,SNR=6.7
H04A ⇓S S 14 13 16.9 +3.3
baz=84
Q11A Duckwater 83.54 43 ⇓P **P 14 02 52.2 -0.3**
baz=84,SNR=11
Q11A ⇑S S 14 13 17.4 +3.4
baz=84
BMN Battle Mountai 83.56 41 PFAKE 14 03 00.0 +7.5
BMN LR LR
comp=Z,3μm,20.0s,MS5.6
W15A Williams 83.59 47 ⇓P **P 14 02 53.9 +1.2**
baz=84,SNR=6.7
W15A ⇓S S 14 13 18.6 +4.2
baz=84
N09A Rock Creek Ran 83.64 40 P **P 14 02 52.8 -0.1**
baz=84,SNR=5.7
N09A ⇑S S 14 13 19.7 +4.8
baz=84
I05A Bend 83.66 36 ⇑P **P 14 02 52.8 -0.2**
baz=84,SNR=6.3
I05A ⇑S S 14 13 18.0 +2.9
baz=84
F03A Seaside 83.66 33 ⇑P **P 14 02 52.9 -0.2**
baz=84
J06A Christmas Vall 83.67 37 ⇓P **P 14 02 53.2 +0.1**
baz=84,SNR=11
J06A ⇑S S 14 13 19.5 +4.3
baz=84
G04A Mulino 83.72 35 ⇓P **P 14 02 52.8 -0.6**
baz=84
G04A ⇓S S 14 13 19.1 +3.3
baz=84
NJ2 Nanjing 83.81 309 *e*P **P 14 02 55.1 +1.3**
NJ2 AP pP 14 03 05.3 +6.9
NJ2 XP sP 14 03 08.9 +8.8
NJ2 PP PP 14 06 10.1 +3.2
NJ2 SKS 14 13 11.0
NJ2 S S 14 13 14.0 -2.6
NJ2 AMB AMB
comp=Z,170nm,1.3s,mb6.0
NJ2 AMB AMB
comp=Z,2μm,8.9s
NJ2 LR LR
comp=N,3μm,23.4s,MS5.9
NJ2 LR LR
comp=E,5μm,24.5s,MS5.9
NJ2 LR LR
comp=Z,11μm,25.0s,MS6.1
K07A Rock Creek Ran 83.81 38 ⇓P **P 14 02 53.9 +0.1**
baz=84,SNR=30
K07A ⇓S S 14 13 20.2 +3.6
baz=84
O10A Cortez Mining, 83.91 41 ⇓P **P 14 02 54.9 +0.6**
baz=84
O10A ⇓S S 14 13 21.0 +3.5
baz=84
P11A Circle Ranch, 83.91 42 ⇓P **P 14 02 54.9 +0.6**
baz=84
WVOR Wild Horse Val 83.99 38 *e*P **P 14 02 51.4 -3.3**
WVOR pmax pmax
comp=Z,58nm,1.3s,mb5.5
WVOR Wild Horse Val 83.99 38 *e*P **P 14 02 51.4 -3.3**
comp=Z,58nm,1.3s,mb5.5
H05A Madras 84.00 36 ⇓P **P 14 02 55.1 +0.3**
baz=84,SNR=5.9
H05A ⇑S S 14 13 21.2 +2.6
baz=84
L08A Fields 84.00 39 ⇓P **P 14 02 54.5 -0.3**
baz=84,SNR=40
L08A ⇓S S 14 13 22.3 +3.7
baz=84
M09A Marrel Ranch, 84.04 40 ⇓P **P 14 02 55.1 +0.1**
baz=84,SNR=7.9
M09A ⇓S S 14 13 23.2 +4.2
baz=84
E03A Lebam 84.08 33 ⇑P **P 14 02 56.0 +0.8**
baz=84
E03A ⇑S S 14 13 21.6 +2.3
baz=84
I06A Prineville 84.09 37 ⇑P **P 14 02 55.7 +0.5**
baz=84,SNR=29
I06A ⇑S S 14 13 22.0 +2.6
baz=84
N10A Dunphy 84.16 41 ⇑P **P 14 02 55.7 +0.1**
baz=84
N10A ⇑S S 14 13 23.0 +2.9
baz=84
SYO Syowa Base 84.19 192 ⇑*e*P **P 14 02 52.6 -3.1**
SYO Syowa Base 84.19 192 ⇑*p*P pP 14 02 58.1 -2.3
J07A Hines 84.21 37 ⇑P **P 14 02 55.8 -0.1**
baz=84,SNR=6.0
J07A ⇓S S 14 13 23.7 +3.0
baz=84
CCUT Cedar City 84.23 45 *e*P **P 14 02 54.8 -1.1**
F04A Amboy 84.24 34 ⇑P **P 14 02 55.8 -0.2**
baz=84,SNR=7.6
F04A ⇓S S 14 13 23.1 +2.2
baz=84
K08A Mann Creek Ran 84.27 38 ⇓P **P 14 02 55.7 -0.4**
baz=84,SNR=17
K08A ⇑S S 14 13 25.0 +3.8
baz=84
L09A Wilkinson Ranc 84.29 39 ⇓P **P 14 02 55.5 -0.8**
baz=84
ARUT Antelope Range 84.32 45 *e*P **P 14 02 55.2 -1.2**
O11A Cowboy Ranch, 84.32 42 ⇑P **P 14 02 56.8 +0.4**
baz=85,SNR=35
O11A ⇑S S 14 13 24.2 +2.5
baz=85
G05A Wamic 84.35 35 ⇑P **P 14 02 56.7 +0.1**
baz=85,SNR=6.0
D03A Wishkah Elem. 84.37 33 ⇓P **P 14 02 57.7 +1.0**
baz=85
WUAZ Wupatki 84.38 47 *e*P **P 14 02 55.3 -1.5**
comp=Z,91nm,1.5s,mb5.7
WUAZ Wupatki 84.38 47 ⇑P **P 14 02 57.4 +0.7**
baz=85,SNR=9.8
WUAZ ⇓S S 14 13 28.0 +5.7
baz=85
P12A McGill 84.38 43 ⇓P **P 14 02 57.3 +0.6**
baz=85,SNR=9.6
P12A ⇑S S 14 13 25.9 +3.6
baz=85
QIZ Qiongzhong 84.41 293 ⇑P **P 14 02 57.2 +0.3**
QIZ PP PP 14 06 14.5 +2.6
QIZ SKS 14 13 16.5
QIZ S S 14 13 21.8 -0.9
QIZ PS 14 14 19.7
QIZ AMB AMB
comp=Z,23nm,1.6s,mb5.1
QIZ AMB AMB
comp=Z,937nm,9.4s
QIZ LR LR
comp=E,931nm,19.6s
QIZ LR LR
comp=Z,2μm,28.6s
QIZ Qiongzhong 84.41 293 PFAKE 14 03 10.0 +13
QIZ LR LR
comp=Z,1μm,19.0s,MS5.3
MDJ Mudanjiang 84.53 324 P **P 14 02 58.2 +0.7**
MDJ AP pP 14 03 01.5 -0.6
MDJ XP sP 14 03 02.8 -1.0
MDJ PP PP 14 06 14.0 +1.2
MDJ S S 14 13 26.4 +2.6
MDJ XS sS 14 13 32.0 +0.5
MDJ SS SS 14 18 58.6 +4.1
MDJ AMB AMB
comp=Z,83nm,1.1s,mb5.8
MDJ AMB AMB
comp=Z,1μm,8.8s
MDJ LR LR
comp=N,940nm,21.8s,MS5.4
MDJ LR LR
comp=E,1μm,20.0s,MS5.4
MDJ LR LR
comp=Z,1μm,20.9s,MS5.3
MDJ Mudanjiang 84.53 324 *e*P **P 14 02 58.0 +0.6**
comp=Z,107nm,1.1s,mb5.9
MDJ LR LR
comp=Z,1μm,20.0s,MS5.3
H06A Lindquist Farm 84.54 36 ⇑P **P 14 02 56.9 -0.6**
baz=85,SNR=34
H06A ⇑S S 14 13 28.2 +4.3
baz=85
E04A Onalaska 84.54 33 ⇑P **P 14 02 57.8 +0.3**
baz=85
E04A ⇑S S 14 13 26.4 +2.5
baz=85
I07A Izee 84.56 37 ⇓P **P 14 02 57.7 +0.1**
baz=85,SNR=18
I07A ⇓S S 14 13 27.6 +3.5
baz=85
M10A I.L. Ranch, Tu 84.64 40 ⇑P **P 14 02 57.4 -0.6**
baz=85,SNR=25
M10A ⇓S S 14 13 28.3 +3.4
baz=85
J08A Circle Bar Ran 84.67 38 ⇓P **P 14 02 57.7 -0.4**
baz=85,SNR=12
J08A ⇓S S 14 13 31.4 +6.2
baz=85
K09A Rome 84.68 39 ⇓P **P 14 02 57.4 -0.8**
baz=85,SNR=52
K09A ⇑S S 14 13 31.4 +6.1
baz=85
N11A Elko Archery C 84.69 41 ⇓P **P 14 02 58.5 +0.2**
baz=85
N11A ⇓S S 14 13 30.7 +5.3
baz=85
F05A White Salmon 84.71 35 ⇓P **P 14 02 58.5 +0.1**
baz=85
F05A ⇑S S 14 13 32.7 +7.1
baz=85
G06A Carlson Farm, 84.71 35 ⇓P **P 14 02 57.6 -0.8**
baz=85,SNR=9.5
G06A ⇑S S 14 13 28.7 +3.1
baz=85
SNAA Sanae 84.78 178 ⇓*i*P **P 14 02 59.2 +0.5**
SNAA *e* 14 03 00.9
SNAA *e* pP 14 03 02.8 -0.6
SNAA *e* pP 14 03 05.1 +1.7
SNAA *e* 14 03 14.2
SNAA *e* 14 03 16.8
SNAA *e* 14 03 27.0
SNAA Sanae 84.78 178 *e*P **P 14 02 57.3 -1.4**
SNAA pmax pmax
comp=Z,105nm,1.3s
SNAA Sanae 84.78 178 *e*P **P 14 02 57.3 -1.5**
comp=Z,105nm,1.3s,mb5.8
VNA3 Neumayer Olymp 84.82 175 ⇓*i*P **P 14 02 58.2 -0.7**
VNA3 *e* pP 14 03 00.9 -2.7
VNA3 *e* pP 14 03 02.7 -0.9
VNA3 *e* 14 03 04.9

VNA3 *e* 14 03 13.3
VNA3 *e* 14 03 16.1
VNA3 *e* 14 03 29.3
D04A Dobbs Creek Ra 84.85 33 ⇓P **P 14 02 59.7 +0.6**
baz=85
H07A Lands Inn, Kim 84.86 36 ⇑P **P 14 02 58.7 -0.4**
baz=85,SNR=31
H07A ⇓S S 14 13 32.0 +4.9
baz=85
ELK Elko 84.94 41 *e*P **P 14 02 59.8 +0.2**
comp=Z,19nm,1.1s,mb5.1
ELK LR LR
comp=Z,3μm,19.0s,MS5.7
O12A Currie 84.96 42 ⇑P **P 14 03 00.0 +0.4**
baz=85,SNR=13
O12A ⇓S S 14 13 32.4 +4.3
baz=85
I08A Drewsey 84.97 37 ⇓P **P 14 02 59.4 -0.3**
baz=85,SNR=6.6
I08A ⇓S S 14 13 34.0 +5.8
baz=85
E05A Randle 85.00 34 ⇓P **P 14 02 58.9 -0.9**
baz=85,SNR=7.4
E05A ⇓S S 14 13 32.4 +3.8
baz=85
M11A Holland Ranch, 85.03 41 ⇑P **P 14 03 00.2 +0.2**
baz=85,SNR=10
M11A ⇓S S 14 13 33.9 +5.1
baz=85
J09A Fry Pan Ranch, 85.07 38 ⇑P **P 14 02 59.7 -0.5**
baz=85,SNR=31
J09A ⇑S S 14 13 34.5 +5.3
baz=85
N12A Clover Valley, 85.13 41 ⇓P **P 14 03 00.2 -0.3**
baz=85,SNR=9.7
N12A ⇑S S 14 13 35.1 +5.3
baz=85
B04A Port Angeles 85.16 32 ⇑P **P 14 03 01.2 +0.6**
baz=85
B04A ⇓S S 14 13 35.3 +5.2
baz=85
PAYG Puerto Ayora 85.17 89 PFAKE 14 03 10.0 +9.3
PAYG LR LR
comp=Z,3μm,20.0s,MS5.7
C04A Brinnon 85.18 32 ⇑P **P 14 03 00.9 +0.1**
baz=85
C04A ⇑S S 14 13 35.1 +4.8
baz=85
G07A Ruggs Ranch, H 85.24 36 ⇑P **P 14 03 00.8 -0.3**
baz=86,SNR=8.6
G07A ⇓S S 14 13 34.6 +3.7
baz=86
PLCA Paso Flores 85.30 132 P **P 14 03 02.9 +1.5**
comp=Z,12nm,0.9s,mb5.0,baz=262,slow=4.5,SNR=10
PLCA LR LR 14 33 46.8
comp=Z,2μm,19.0s,MS5.6,baz=235,slow=30
H08A Prairie City 85.30 37 ⇑P **P 14 03 01.3 -0.1**
baz=86,SNR=8.3
H08A ⇓S S 14 13 34.9 +3.4
baz=86
D05A Enumclaw 85.31 33 ⇓P **P 14 03 01.7 +0.3**
baz=86,SNR=7.9
D05A ⇑S S 14 13 36.4 +4.8
baz=86
E06A Yakima 85.39 34 ⇑P **P 14 03 01.9 +0.1**
baz=86,SNR=6.8
E06A ⇓S S 14 13 37.2 +4.8
baz=86
VNA1 Neumayer--Stat 85.50 176 ⇓*i*P **P 14 03 02.2 -0.2**
VNA1 *e* pP 14 03 04.8 -2.2
VNA1 *e* pP 14 03 06.8 -0.2
VNA1 *e* 14 03 09.3
VNA1 *e* 14 03 17.3
VNA1 *e* 14 03 20.0
F07A Phinny Hill Vi 85.52 35 ⇑P **P 14 03 01.6 -0.8**
baz=86
F07A ⇓S S 14 13 38.9 +5.3
baz=86
MVU Marysvale 85.52 45 PFAKE 14 03 10.0 +7.6
MVU LR LR
comp=Z,2μm,19.0s,MS5.4
M12A Wells 85.54 41 ⇓P **P 14 03 02.4 -0.2**
baz=86,SNR=9.6
M12A ⇓S S 14 13 39.7 +5.8
baz=86
MSU Marysvale 85.55 45 *e*P **P 14 03 01.2 -1.4**
PGC Sidney 85.59 32 *e*P **P 14 03 03.3 +0.5**
comp=Z,42nm,1.1s,mb5.6
N13A Wendover, West 85.64 42 ⇓P **P 14 03 03.4 +0.4**
baz=86,SNR=7.3
N13A ⇑S S 14 13 40.1 +5.3
baz=86
G08A Pilot Rock 85.64 36 ⇓P **P 14 03 02.8 -0.3**
baz=86,SNR=36
G08A ⇓S S 14 13 39.1 +4.3
baz=86
MAIT Maitri 85.69 182 *e*P **P 14 03 04.8 +1.5**
NVL N'lazarevskaya 85.70 182 *d*/*i*P **P 14 03 03.2 -0.1**
NVL *i* S S 14 13 35.4 0.0
NVL *i* 14 14 46.1
NVL pmax pmax
comp=Z,59nm,1.6s,mb5.6
NVL MLR MLR
comp=Z,3μm,15.5s,MS5.8
DL2 Dalian 85.73 316 P **P 14 03 06.1 +2.6**
DL2 SKS 14 13 25.2
DL2 S S 14 13 43.2 +7.5
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,430nm,7.7s
DL2 LR LR
comp=N,750nm,16.9s,MS5.2
DL2 LR LR
comp=E,460nm,16.2s,MS5.2
DL2 LR LR
comp=Z,730nm,19.8s,MS5.1
C05A Tolt Reservoir 85.80 33 ⇓P **P 14 03 02.5 -1.3**
baz=86,SNR=5.4
C05A ⇑S S 14 13 41.0 +4.6
baz=86
D06A Cle Elum 85.89 34 ⇑P **P 14 03 04.4 +0.1**
baz=86
D06A ⇑S S 14 13 40.7 +3.4
baz=86
H09A Durkee 85.95 37 ⇑P **P 14 03 04.6 0.0**
baz=86,SNR=6.4
H09A ⇓S S 14 13 41.4 +3.5
baz=86
B05A Bryant 85.99 32 ⇓P **P 14 03 04.8 +0.1**
baz=86
B05A ⇓S S 14 13 43.0 +4.8
baz=86
E07A Sunnyside 85.99 35 ⇓P **P 14 03 04.8 +0.1**
baz=86,SNR=6.0
E07A ⇑S S 14 13 43.0 +4.8
baz=86
IPM Ipoh 85.99 277 P **P 14 03 07.1 +2.3**
A04A Legoe Bay, Lum 86.00 32 ⇓P **P 14 03 04.7 -0.1**
baz=86
A04A ⇓S S 14 13 42.3 +4.0
baz=86
HAWA Hanford 86.05 35 *e*P **P 14 03 05.0 -0.1**
comp=Z,97nm,1.7s,mb5.8
HAWA *e* 14 03 22.6
HAWA LR LR
comp=Z,4μm,19.0s,MS5.8
F08A Pendleton 86.06 36 ⇓P **P 14 03 04.7 -0.5**
baz=86
F08A ⇓S S 14 13 42.6 +3.6
baz=86
DUG Dugway 86.11 43 *e*P **P 14 03 02.6 -2.8**
DUG pmax pmax
comp=Z,54nm,1.9s,mb5.5
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.5
DUG Dugway 86.11 43 *e*P **P 14 03 02.6 -2.8**
comp=Z,54nm,1.9s,mb5.5
DUG LR LR
comp=Z,2μm,19.0s,MS5.5
DUG Dugway 86.11 43 ⇑P **P 14 03 05.4 0.0**
baz=86
DUG ⇓S S 14 13 45.0 +5.5
baz=86
SNY Shenyang 86.22 319 ⇓P **P 14 03 08.1 +2.2**
SNY SKS 14 13 28.2
SNY S S 14 13 30.0 -11
SNY XS sS 14 13 51.8 +3.6
SNY AMB AMB
comp=Z,45nm,1.3s,mb5.5
SNY AMB AMB
comp=Z,1μm,7.5s
SNY LR LR
comp=E,1μm,20.4s
SNY LR LR
comp=Z,1μm,24.3s,MS5.3
BMO Blue Mountains 86.27 37 PFAKE 14 03 20.0 +14
BMO LR LR
comp=Z,2μm,19.0s,MS5.6
WHN Wuhan 86.31 305 P **P 14 03 08.7 +2.3**
WHN S S 14 13 35.0 -6.4
WHN LR LR
comp=Z,3μm,18.0s,MS5.8
CN2 Changchun 86.32 321 *e*P **P 14 03 05.8 -0.6**
CN2 *e*XP sP 14 03 13.3 +0.6
CN2 SKS 14 13 27.5
CN2 *e*S S 14 13 40.3 -1.2
CN2 AMB AMB
comp=Z,40nm,1.3s,mb5.5
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,20.0s,MS5.7
CN2 LR LR
comp=E,1μm,20.0s,MS5.7
CN2 LR LR
comp=Z,2μm,21.0s,MS5.4
SLKM Skilak Lake 86.32 12 *e*P **P 14 03 06.4 0.0**
BGU Big Grassy Mou 86.40 42 *e*P **P 14 03 06.5 -0.3**
NLU North Lily Min 86.44 43 *e*P **P 14 03 07.9 +0.9**
B06A Marblemount 86.46 33 ⇓P **P 14 03 06.8 -0.3**
baz=87
B06A ⇑S S 14 13 45.3 +2.5
baz=87
F09A S2 Ranch, Elgi 86.48 36 ⇓P **P 14 03 06.2 -1.0**
baz=87
F09A ⇓S S 14 13 47.9 +4.9
baz=87
A05A Maple Falls 86.49 32 ⇓P **P 14 03 07.1 -0.1**
baz=87
A05A ⇓S S 14 13 46.5 +3.4
baz=87
KLR Kul'dur 86.51 328 *e*P **P 14 03 05.0 -2.4**
KLR *e*S S 14 13 30.0 -13
KLR pmax pmax
comp=E,150nm,2.6s
KLR pmax pmax
comp=Z,280nm,2.6s,mb6.0
KLR pmax pmax
comp=Z,3μm,12.0s
KLR MLR MLR
comp=N,1μm,17.0s,MS5.6
KLR MLR MLR
comp=E,2μm,17.0s,MS5.6
KLR MLR MLR
comp=Z,2μm,17.0s,MS5.6
MNTX Cornudas Mount 86.58 53 *e*P **P 14 03 05.9 -1.8**
comp=Z,75nm,1.4s,mb5.7
MNTX LR LR
comp=Z,2μm,19.0s,MS5.5
TMUT Trail Mountain 86.61 44 *e*P **P 14 03 06.4 -1.5**
C07A Waterville 86.62 34 P **P 14 03 08.3 +0.4**
baz=87,SNR=7.5
C07A ⇑S S 14 13 48.3 +3.8
baz=87
CRAG Craig 86.63 23 *e*P **P 14 03 07.7 -0.2**
comp=Z,336nm,2.4s,mb6.2
CRAG LR LR
comp=Z,1μm,18.0s,MS5.4
KULM Kulim 86.66 277 *e*P **P 14 03 09.7 +1.6**
Y22C IRIS PASSCAL I 86.69 51 ⇓P **P 14 03 07.9 -0.3**
baz=87
Y22C ⇓S S 14 13 51.7 +6.6
baz=87
LENM Lemitar 86.70 51 *e*P **P 14 03 06.5 -1.7**
LAZ Ladron 86.70 50 *e*P **P 14 03 07.2 -1.1**
MPU Maple Canyon 86.75 44 P **P 14 03 08.9 +0.4**
comp=Z,74nm,1.9s,mb5.6
MPU LR LR
comp=Z,5μm,21.0s,MS5.9
D08A Wollman Farm, 86.80 35 ⇓P **P 14 03 09.0 +0.2**
baz=87,SNR=7.4
D08A ⇑S S 14 13 50.2 +4.1
baz=87
E09A Wood Farm, Sta 86.86 36 ⇑P **P 14 03 08.0 -1.0**
baz=87,SNR=8.9
E09A ⇓S S 14 13 50.5 +3.8
baz=87
SRU San Rafael 86.95 45 *e*P **P 14 03 07.5 -2.0**
SRU pmax pmax
comp=Z,29nm,1.0s,mb5.5
SRU San Rafael 86.95 45 *e*P **P 14 03 07.5 -2.0**
comp=Z,28nm,1.0s,mb5.5
LPM Los Pinos Moun 87.01 51 *e*P **P 14 03 08.4 -1.4**
HVU Hansel Valley 87.05 42 *e*P **P 14 03 11.8 +1.8**
HVU pmax pmax
comp=Z,14nm,1.2s,mb5.1
HVU Hansel Valley 87.05 42 *e*P **P 14 03 11.8 +1.8**
comp=Z,14nm,1.2s,mb5.1
CTU Camp Tracy 87.06 43 P **P 14 03 09.7 -0.3**
comp=Z,17nm,1.2s,mb5.1
B07A Winthrop 87.10 33 ⇓P **P 14 03 09.7 -0.5**
baz=87,SNR=7.5
B07A ⇑S S 14 13 52.7 +3.7
baz=87
D09A Jones Farm, Ri 87.12 35 ⇑P **P 14 03 10.0 -0.3**
baz=87
D09A ⇑S S 14 13 52.8 +3.6
baz=87
HLID Hailey 87.12 39 *e*P **P 14 03 08.9 -1.4**
comp=Z,24nm,1.4s,mb5.2
HLID LR LR
comp=Z,2μm,20.0s,MS5.4
SIT Sitka 87.15 21 PFAKE 14 03 20.0 +10
SIT LR LR
comp=Z,3μm,20.0s,MS5.6
C08A Higginbotham F 87.20 34 ⇓P **P 14 03 10.2 -0.5**
baz=87
C08A ⇑S S 14 13 53.9 +3.9
baz=87
DAU Daniels Canyon 87.21 43 *e*P **P 14 03 09.7 -1.1**
TIA Tai'an 87.24 312 *e*P **P 14 03 10.4 -0.5**
TIA AMB AMB
comp=Z,158nm,1.4s,mb6.0
MVCO Mesa Verde 87.25 47 P **P 14 03 11.6 +0.6**
comp=Z,6.4nm,0.8s,mb4.9
SNG Songkhla 87.46 279 P **P 14 03 15.0 +3.0**
comp=Z,64nm,0.7s,mb6.0
ANMO Albuquerque 87.47 50 *e*P **P 14 03 10.1 -1.9**
ANMO pmax pmax
comp=Z,125nm,1.6s
ANMO MLR MLR
comp=Z,5μm,19.0s
ANMO Albuquerque 87.47 50 *e*P **P 14 03 10.1 -1.9**
comp=Z,125nm,1.6s,mb5.9
ANMO LR LR
comp=Z,5μm,19.0s,MS5.9
MA2 Magadan 87.50 343 *e*P **P 14 03 12.2 +0.1**
MA2 *e* 14 13 37.4
MA2 *e*S S 14 13 49.4 -3.5
MA2 *e*PS 14 14 57.8
MA2 pmax pmax
comp=Z,50nm,1.1s,mb5.7
MA2 MLR MLR
comp=Z,700nm,18.7s,MS5.1
MA2 Magadan 87.50 343 *e*P **P 14 03 11.0 -1.2**
comp=Z,43nm,1.2s,mb5.6
MA2 LR LR
comp=Z,2μm,20.0s,MS5.5
TCUT Toone Canyon 87.52 43 *e*P **P 14 03 11.1 -1.1**
PV10 Paradox Valley 87.52 46 *e*P **P 14 03 11.1 -1.2**
PMR Palmer 87.53 12 *e*P **P 14 03 10.6 -1.7**
PMR pmax pmax
comp=Z,99nm,1.7s,mb5.8
PMR MLR MLR
comp=Z,2μm,17.0s,MS5.6
PMR Palmer 87.53 12 *e*P **P 14 03 10.6 -1.7**
comp=Z,99nm,1.7s,mb5.8
PMR LR LR
comp=Z,2μm,17.0s,MS5.6
C09A Chrisman Ranch 87.61 34 ⇓P **P 14 03 12.2 -0.5**
baz=88
C09A ⇓S S 14 13 57.7 +3.7
baz=88
HWUT Hardware Ranch 87.69 42 *e*P **P 14 03 10.4 -2.7**
comp=Z,42nm,1.6s,mb5.4
HWUT LR LR
comp=Z,2μm,19.0s,MS5.6
PV01 Paradox Valley 87.70 46 *e*P **P 14 03 12.3 -0.8**
DIV Divide 87.81 14 PFAKE 14 03 20.0 +6.4
DIV LR LR
comp=Z,8μm,20.0s,MS6.1
B09A Rice 88.08 34 ⇓P **P 14 03 14.3 -0.6**
baz=88,SNR=5.9
B09A ⇑S S 14 14 01.7 +3.3
baz=88
C10A Spilker Farm, 88.13 35 ⇑P **P 14 03 14.1 -1.1**
baz=88
C10A ⇑S S 14 14 02.6 +3.7
baz=88
A09A Danville 88.21 33 ⇓P **P 14 03 15.1 -0.4**
baz=88,SNR=10
A09A ⇑S S 14 14 04.1 +4.5
baz=88
B10A Chitwood Farm, 88.47 35 ⇑P **P 14 03 16.0 -0.8**
baz=89
B10A ⇓S S 14 14 07.5 +5.3
baz=89
NEW Newport 88.50 35 PFAKE 14 03 30.0 +13
NEW LR LR
comp=Z,3μm,19.0s,MS5.8
AHID Auburn Hatcher 88.64 42 PFAKE 14 03 30.0 +12
AHID LR LR
comp=Z,2μm,19.0s,MS5.5
A10A Northport 88.73 34 ⇑P **P 14 03 17.2 -0.8**
baz=89,SNR=6.2
A10A ⇓S S 14 14 09.1 +4.5
baz=89
MCMT McKenzie Canyo 88.78 39 *e*P **P 14 03 18.9 +0.7**
C12A Trout Creek 89.03 36 ⇑P **P 14 03 18.4 -0.9**
baz=89,SNR=9.7
C12A ⇑S S 14 14 11.9 +4.5
baz=89
SKAG Skagway 89.10 19 *e*P **P 14 03 19.5 -0.2**
comp=Z,2.8nm,1.7s
SKAG LR LR
comp=Z,2μm,18.0s
REDW Red Top Meadow 89.12 41 *e*P **P 14 03 19.6 -0.2**
comp=Z,195nm,2.1s,mb6.1
TPAW Teton Pass 89.13 41 *e*P **P 14 03 20.4 +0.5**
comp=Z,129nm,2.0s,mb5.9
DLMT Dillon 89.23 39 *e*P **P 14 03 17.4 -3.0**
comp=Z,89nm,1.9s,mb5.8
KKTK Khon Kaen 89.26 288 ⇓P **P 14 03 22.9 +2.4**
comp=Z,741nm,0.9s
SMCO Snowmass 89.31 46 P **P 14 03 19.9 -0.9**
comp=Z,20nm,1.1s,mb5.4
MSO Missoula 89.34 37 PFAKE 14 03 30.0 +9.1
MSO LR LR
comp=Z,2μm,19.0s,MS5.6
IMW Indian Meadow 89.37 41 *e*P **P 14 03 20.4 -0.6**
comp=Z,90nm,1.9s,mb5.8
MOOW Moose Ponds 89.40 41 *e*P **P 14 03 21.7 +0.5**
comp=Z,92nm,2.0s,mb5.8
LOHW Long Hollow 89.41 41 *e*P **P 14 03 21.8 +0.6**
comp=Z,106nm,1.9s,mb5.8
B12A Libby 89.44 35 ⇑P **P 14 03 20.5 -0.8**
baz=90
B12A ⇓S S 14 14 14.5 +3.3
baz=90
C13A Hot Springs 89.50 36 ⇑P **P 14 03 21.0 -0.6**
baz=90
C13A ⇑S S 14 14 14.5 +2.6
baz=90
MCK McKinley 89.53 11 *e*P **P 14 03 18.2 -3.6**
MCK pmax pmax
comp=Z,101nm,1.9s,mb5.8
MCK MLR MLR
comp=Z,2μm,20.0s,MS5.6
MCK McKinley 89.53 11 *e*P **P 14 03 18.2 -3.6**
comp=Z,101nm,1.9s,mb5.8
MCK LR LR
comp=Z,2μm,20.0s,MS5.6
SDCO Great Sand Dun 89.56 48 *e*P **P 14 03 20.0 -1.9**
comp=Z,31nm,1.4s,mb5.5
SDCO LR LR
comp=Z,4μm,19.0s,MS5.9
BW06 Boulder Array 89.58 42 PFAKE 14 03 30.0 +8.0
BW06 LR LR
comp=Z,2μm,20.0s,MS5.4
PDAR Pinedale Array 89.58 42 P **P 14 03 22.1 +0.1**
comp=Z,2.7nm,0.7s,mb4.7,baz=225,slow=1.9,SNR=18
PDAR PP PP 14 06 53.1 -0.4
comp=Z,2.2nm,1.2s,baz=197,slow=4.6,SNR=4.3
PDAR LR LR 14 41 59.8
comp=Z,2μm,18.2s,MS5.6,baz=254,slow=34
QLMT Earthquake Lak 89.61 40 P **P 14 03 21.7 -0.4**
FLWY Flagg Ranch 89.62 41 *e*P **P 14 03 24.6 +2.4**
comp=Z,38nm,1.0s,mb5.7
A12A Yaak River Ran 89.69 35 ⇑P **P 14 03 22.4 -0.1**
baz=90
A12A ⇑S S 14 14 18.6 +5.0
baz=90
YFT Old Faithful 89.74 40 *e*P **P 14 03 24.9 +2.2**
CHMT Chamberlain Mo 89.77 37 *e*P **P 14 03 22.7 -0.1**
CHMT *e*PP PP 14 06 53.7 -1.4
YMR Madison River 89.79 40 *e*P **P 14 03 24.7 +1.7**
comp=Z,128nm,1.9s,mb5.9
YMR LR LR
comp=Z,3μm,20.0s,MS5.7
MENT Mentasta 89.86 14 *e*P **P 14 03 23.4 +0.1**
BJT Baijiatuau 89.88 314 P **P 14 03 22.8 -0.6**
BJT pmax pmax
comp=Z,507nm,2.2s
BJT MLR MLR
comp=Z,1μm,22.0s
BJT Baijiatuau 89.88 314 P **P 14 03 22.8 -0.6**
comp=Z,507nm,2.2s,mb6.5
BJT LR LR
comp=Z,1μm,22.0s,MS5.3
BJI Beijing 89.88 314 P **P 14 03 24.1 +0.7**
BJI SKS 14 13 53.1
BJI S S 14 14 18.6 +3.2
BJI SS SS 14 20 10.6 -2.2
BJI AMB AMB
comp=Z,49nm,1.9s,mb5.5
BJI AMB AMB
comp=Z,1μm,5.7s
BJI LR LR
comp=N,1μm,20.0s,MS5.4
BJI LR LR
comp=E,791nm,20.0s,MS5.4
BJI LR LR
comp=Z,2μm,23.0s,MS5.6
BJI Beijing 89.88 314 P **P 14 03 24.1 +0.7**
comp=Z,49nm,1.9s,mb5.5
BJI SKS 14 13 53.1
BJI S S 14 14 18.6 +3.2
BJI SS SS 14 20 10.6 -2.2
BJI LR LR
comp=Z,2μm,23.0s,MS5.6
B13A Whitefish 89.97 36 ⇑S S 14 14 18.8 +2.6
baz=90
YNR Norris Junctio 89.98 40 P **P 14 03 25.9 +2.1**
SEY Seymchan 90.02 346 ⇑*e*P **P 14 03 23.3 -0.8**
LKWY Lake 90.06 40 PFAKE 14 03 40.0 +16
LKWY LR LR
comp=Z,3μm,19.0s,MS5.7
JCT Junction City 90.19 57 *e*P **P 14 03 22.1 -2.7**
JCT pmax pmax
comp=Z,165nm,1.8s,mb6.1
JCT MLR MLR
comp=Z,4μm,19.0s,MS5.9
JCT Junction City 90.19 57 *e*P **P 14 03 22.1 -2.7**
comp=Z,165nm,1.8s,mb6.1
JCT LR LR
comp=Z,4μm,19.0s,MS5.9
GYA Guiyang 90.36 299 ⇓*i*P **P 14 03 26.4 +0.7**
GYA AP pP 14 03 30.8 +0.5
GYA XP sP 14 03 33.8 +1.8
GYA SKS 14 13 53.1
GYA S S 14 14 11.2 -8.6
GYA AMB AMB
comp=Z,70nm,1.5s,mb5.8
GYA AMB AMB
comp=Z,770nm,8.4s
GYA LR LR
comp=N,1μm,23.3s,MS5.6
GYA LR LR
comp=E,2μm,23.3s,MS5.6
GYA LR LR

comp=Z,2μm,23.9s,MS5.4
NNT Nongplab 90.45 283 P P 14 03 29.5 +3.5
RWWY Rawlins 90.47 44 *eP* **P 14 03 26.4 +0.3**
comp=Z,12nm,1.0s,mb5.2
ISCO Idaho Springs 90.53 46 *eP* **P 14 03 26.4 0.0**
ISCO pmax pmax
comp=Z,31nm,1.7s,mb5.4
ISCO MLR MLR
comp=Z,2μm,19.0s,MS5.7
ISCO Idaho Springs 90.53 46 *eP* **P 14 03 26.4 -0.1**
comp=Z,31nm,1.7s,mb5.4
ISCO LR LR
comp=Z,2μm,19.0s,MS5.7
WALA Waterton Lakes 90.68 35 *eP* **P 14 03 24.4 -2.7**
comp=Z,36nm,1.4s,mb5.5
COLA College 90.77 11 *eP* **P 14 03 23.6 -4.0**
COLA *e* 14 03 42.6
COLA pmax pmax
comp=Z,30nm,1.2s,mb5.5
COLA MLR MLR
comp=Z,4μm,20.0s,MS5.8
COLA College 90.77 11 *eP* **P 14 03 23.6 -4.0**
comp=Z,30nm,1.2s,mb5.5
COLA *e* 14 03 42.6
COLA LR LR
comp=Z,4μm,20.0s,MS5.8
IMA2 Indian Mountai 90.95 9 *eP* **P 14 03 27.8 -0.6**
RLMT Red Lodge 91.04 40 *eP* **P 14 03 23.8 -5.0**
comp=Z,51nm,1.6s,mb5.6
GCMT Greycliff 91.17 40 P **P 14 03 29.9 +0.5**
NST Nakhon Sawan 91.34 286 P **P 14 03 33.0 +2.8**
PHWY Pilot Hill 91.40 45 *eP* **P 14 03 30.4 -0.1**
DAWY Dawson 91.83 15 *eP* **P 14 03 29.4 -3.1**
XAN Xi'an 92.02 306 P **P 14 03 34.5 +1.2**
XAN S S 14 14 40.3 +5.4
XAN AMB AMB
comp=Z,79nm,1.4s,mb5.8
XAN AMB AMB
comp=Z,634nm,12.8s
XAN LR LR
comp=N,267nm,16.0s
XAN LR LR
comp=E,719nm,29.0s
XAN LR LR
comp=Z,1μm,38.8s
EGAK Eagle 92.03 14 P **P 14 03 30.1 -3.3**
comp=Z,41nm,1.4s,mb5.6
EGMT Eagleton 92.35 38 PFAKE 14 03 50.0 +15
EGMT LR LR
comp=Z,3μm,19.0s,MS5.8
BILL Bilibino 92.44 353 *eP* **P 14 03 34.9 -0.4**
BILL *i* 14 07 16.0
BILL *i* S S 14 14 09.1 -30
BILL *i* PS PS 14 15 50.5 -0.5
BILL *e*SS SS 14 20 53.9 +4.2
BILL pmax pmax
comp=Z,36nm,1.6s,mb5.5
BILL MLR MLR
comp=Z,3μm,18.0s,MS5.8
BILL Bilibino 92.44 353⇑ *eP* **P 14 03 34.0 -1.3**
BILL LR LR
comp=Z,3μm,20.0s,MS5.8
HIA Hailar 92.71 324 *eP* **P 14 03 36.9 +0.4**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA Hailar 92.71 324 *eP* **P 14 03 36.9 +0.3**
comp=Z,14nm,0.8s,mb5.4
HIA LR LR
comp=Z,1μm,19.0s,MS5.4
NNA Nana 92.85 104 PFAKE 14 03 50.0 +13
NNA LR LR
comp=Z,2μm,20.0s,MS5.5
WMOK Wichita Mounta 92.89 53 *eP* **P 14 03 35.6 -1.8**
WMOK pmax pmax
comp=Z,50nm,1.7s,mb5.7
WMOK Wichita Mounta 92.89 53 *eP* **P 14 03 35.6 -1.8**
comp=Z,50nm,1.7s,mb5.7
KMI Kunming 92.99 296 P **P 14 03 40.4 +2.6**
KMI AP pP 14 03 43.2 +0.7
KMI XP sP 14 03 44.5 +0.4
KMI PP PP 14 07 22.1 +1.6
KMI PPP 14 09 24.9
KMI SKS 14 14 12.5
KMI S S 14 14 43.2 -0.4
KMI AMB AMB
comp=Z,72nm,1.2s,mb6.0
KMI AMB AMB
comp=Z,710nm,5.9s
KMI LR LR
comp=N,641nm,23.9s
KMI LR LR
comp=E,895nm,18.6s
KMI LR LR
comp=Z,2μm,31.7s
KMI Kunming 92.99 296 P **P 14 03 40.4 +2.6**
comp=Z,72nm,1.2s,mb6.0
KMI pP pP 14 03 43.2 +0.7
KMI sP sP 14 03 44.5 +0.4
KMI PP PP 14 07 22.1 +1.6
KMI PPP 14 09 24.9
KMI SKS 14 14 12.5
KMI S S 14 14 43.2 -0.4
KMI sS sS 14 14 48.6 -2.7
KMI PS PS 14 15 59.9 +2.8
KMI SS SS 14 21 02.0 +4.4
KMI SSS 14 24 40.5
KMI LR LR
comp=Z,2μm,31.7s,MS5.3
HKT Hockley 93.03 59 *eP* **P 14 03 38.8 +0.8**
comp=Z,65nm,1.7s,mb5.8
HKT *e* 14 03 53.0
HKT LR LR
comp=Z,3μm,19.0s,MS5.7
HHC Hu-ho-hao-te 93.33 313 *eP* **P 14 03 40.8 +1.4**
HHC AP pP 14 03 45.4 +1.3
HHC XP sP 14 03 47.9 +2.2
HHC PP PP 14 07 27.3 +4.1
HHC SKS 14 14 13.2
HHC S S 14 14 44.1 -2.5
HHC XS sS 14 14 52.8 -1.6
HHC PS PS 14 16 06.8 +5.9
HHC SS SS 14 21 05.1 +2.6
HHC AMB AMB
comp=Z,42nm,1.3s,mb5.7
HHC AMB AMB
comp=Z,680nm,8.6s
HHC LR LR
comp=N,794nm,21.1s
HHC LR LR
comp=E,1μm,27.1s
HHC LR LR
comp=Z,2μm,22.7s,MS5.5
CM31 Chiang Mai Arr 93.50 288 PFAKE 14 03 50.0 +10
CM31 LR LR
comp=Z,857nm,20.0s,MS5.2
CHG Chiang Mai 93.64 289 ⇓P **P 14 03 43.2 +2.4**
comp=Z,90nm,0.9s,mb6.2
CHTO Chiang Mai 93.64 289 P **P 14 03 40.7 -0.1**
CHTO pmax pmax
comp=Z,100nm,1.1s,mb6.2
CHTO Chiang Mai 93.64 289 *eP* **P 14 03 40.6 -0.3**
comp=Z,103nm,1.1s,mb6.2
CHTO LR LR
comp=Z,1μm,22.0s,MS5.3
LAO LASA Array 93.68 40 *eP* **P 14 03 37.6 -3.3**
comp=Z,80nm,1.4s,mb6.0
LAO LR LR
comp=Z,2μm,19.0s,MS5.5
RSSD Black Hills 93.72 43 *eP* **P 14 03 39.4 -1.8**
RSSD pmax pmax
comp=Z,44nm,1.4s,mb5.7
RSSD MLR MLR
comp=Z,3μm,19.0s,MS5.7
RSSD Black Hills 93.72 43 *eP* **P 14 03 39.4 -1.8**
comp=Z,44nm,1.4s,mb5.7
RSSD LR LR
comp=Z,3μm,19.0s,MS5.7
CBKS Cedar Bluff 94.05 49 PFAKE 14 03 50.0 +7.3
CBKS LR LR
comp=Z,5μm,19.0s,MS6.0
BTO Baotou 94.26 313 *eP* **P 14 03 44.5 +0.9**
BTO AMB AMB
comp=Z,11nm,1.6s,mb5.0
BTO LR LR
comp=N,453nm,11.4s,MS5.3
BTO LR LR
comp=E,361nm,10.7s,MS5.3
CD2 Chengdu 94.58 302 *eP* **P 14 03 45.3 +0.2**
CD2 AP pP 14 03 50.1 +0.3
CD2 XP sP 14 03 52.5 +1.0
CD2 PP PP 14 07 35.8 +2.8
CD2 SKS 14 14 18.4
CD2 S S 14 14 54.6 -2.9
CD2 SS SS 14 21 21.6 +1.3
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,400nm,7.4s
CD2 LR LR
comp=N,520nm,21.6s,MS5.2
CD2 LR LR
comp=E,750nm,26.4s,MS5.2
CD2 LR LR
comp=Z,800nm,24.0s,MS5.1
NATX Nacogdoches 94.71 57 PFAKE 14 04 00.0 +14
NATX LR LR
comp=Z,4μm,19.0s,MS5.9
LVC Limon Verde 94.97 117 PFAKE 14 04 00.0 +13
LVC LR LR
comp=Z,3μm,22.0s,MS5.7
DGMT Dagmar 95.76 39 *eP* **P 14 03 52.0 +1.5**
comp=Z,55nm,1.3s,mb5.8
DGMT LR LR
comp=Z,2μm,20.0s,MS5.7
YAK Yakutsk 95.97 337 P **P 14 03 51.1 -0.4**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.4
YAK Yakutsk 95.97 337 P **P 14 03 51.1 -0.4**
comp=Z,12nm,0.8s,mb5.4
OTAV Otavalo 96.38 93 PFAKE 14 04 10.0 +17
OTAV LR LR
comp=Z,3μm,20.0s,MS5.7
LZH Lanzhou 96.66 306 *eP* **P 14 03 57.5 +2.9**
LZH AP pP 14 04 00.5 +1.2
LZH XP sP 14 04 02.5 +1.6
LZH PP PP 14 07 54.3 +5.2
LZH SKS 14 14 32.0
LZH S S 14 15 14.0 -1.5
LZH XS sS 14 15 22.0 -1.3
LZH PS PS 14 16 43.5 +6.1
LZH SS SS 14 21 53.0 +3.2
LZH AMB AMB
comp=Z,93nm,1.7s,mb5.9
LZH AMB AMB
comp=Z,233nm,4.3s
LZH LR LR
comp=E,2μm,18.2s
LZH LR LR
comp=Z,2μm,20.0s,MS5.6
LZH Lanzhou 96.66 306 *eP* **P 14 03 57.5 +2.9**
LZH 14 07 54.3
LZH 14 14 32.0
LZH S S 14 15 14.0 -1.5
LZH PS PS 14 16 43.5 +6.1
LZH SS SS 14 21 53.0 +3.2
LZH pmax pmax
comp=Z,93nm,1.7s,mb5.9
LZH MLR MLR
comp=Z,2μm,20.0s,MS5.6
LZH Lanzhou 96.66 306 *eP* **P 14 03 57.5 +2.9**
comp=Z,93nm,1.7s,mb5.9
LZH pP pP 14 04 00.5 +1.2
LZH sP sP 14 04 02.5 +1.6
LZH PP PP 14 07 54.3 +5.2
LZH SKS 14 14 32.0
LZH S S 14 15 14.0 -1.5
LZH sS sS 14 15 22.0 -1.3
LZH PS PS 14 16 43.5 +6.1
LZH SS SS 14 21 53.0 +3.2
LZH LR LR
comp=Z,2μm,20.0s,MS5.6
INK Inuvik 96.68 14 LR LR 14 42 35.9
comp=Z,2μm,19.7s,MS5.6,baz=223,slow=32
MIAR Mount Ida 96.69 55 PFAKE 14 04 10.0 +15
MIAR LR LR
comp=Z,3μm,19.0s,MS5.7
CIT Chita 97.51 324 *eP* **P 14 03 59.2 +0.8**
ECSD EROS,Sioux Fal 98.31 46 *eP* **P 14 04 01.5 -0.6**
comp=Z,48nm,1.6s,mb5.8
YKA Yellowknife Ar 98.34 24 LR LR 14 46 31.4
comp=Z,2μm,18.9s,MS5.6,baz=210,slow=34
LPAZ La Paz 98.56 112 P **P 14 04 05.7 +2.5**
comp=Z,1.6nm,0.9s,mb4.5,baz=207,slow=6.3,SNR=6.1
LPAZ PP PP 14 08 10.3 +6.7
comp=Z,1.2nm,1.0s,baz=225,slow=6.0,SNR=5.7
LPAZ LR LR 14 40 38.3
comp=Z,2μm,19.1s,MS5.7,baz=166,slow=30
LPAZ La Paz 98.56 112 *eP* **P 14 04 04.4 +1.2**
LPAZ pmax pmax
comp=Z,9.0nm,1.4s
LPAZ MLR MLR
comp=Z,2μm,20.0s
LPAZ La Paz 98.56 112 *eP* **P 14 04 04.4 +1.2**
comp=Z,9.2nm,1.4s,mb5.1
LPAZ LR LR
comp=Z,2μm,20.0s,MS5.7
SONM Songino Array 99.77 318 P Pdif 14 04 08.1 -0.5
comp=Z,1.2nm,0.5s,baz=119,slow=3.5,SNR=17
SONM PP PP 14 08 12.6 -0.3
comp=Z,2.2nm,1.1s,baz=141,slow=5.0,SNR=4.2
SONM LR LR 14 51 21.1
comp=Z,1μm,18.1s,MS5.4,baz=101,slow=37
SONM Songino Array 99.77 318 P Pdif 14 04 08.1 -0.4
SONM 14 08 12.6
SONM pmax pmax
comp=Z,10.0nm,0.5s
SONM MLR MLR
comp=Z,1μm,18.1s
CCM Cathedral Cave 99.79 53 PFAKE 14 04 20.0 +11
CCM LR LR
comp=Z,4μm,19.0s,MS5.9
OXF Oxford 99.84 57 PFAKE 14 04 20.0 +11
OXF LR LR
comp=Z,5μm,19.0s,MS6.0
GTA Gaotai 100.89 308 *eP* Pdif 14 04 14.4 +0.8
GTA AP 14 04 18.9
GTA XP 14 04 21.5
GTA PP PP 14 08 21.5 +0.1
GTA SKS 14 14 51.2
GTA S Sdif 14 15 45.2 -6.1
GTA AMB AMB
comp=Z,3.0nm,1.1s
GTA AMB AMB
comp=Z,206nm,6.5s
GTA LR LR
comp=N,760nm,19.0s
GTA LR LR
comp=E,807nm,24.3s
GTA LR LR
comp=Z,1μm,22.8s,MS5.3
PLAL Pickwick Lake 101.03 57 PFAKE 14 04 30.0 +16
PLAL LR LR
comp=Z,4μm,19.0s,MS6.0
CPUP Villa Florida 102.12 126 PFAKE 14 04 30.0 +11
CPUP LR LR
comp=Z,566nm,19.0s,MS5.1
JFWS Jewell Farm 102.28 49 PFAKE 14 04 30.0 +10
JFWS LR LR
comp=Z,3μm,19.0s,MS5.8
ZAK Zakamensk 102.65 320 *eP* Pdif 14 04 18.0 -3.4
ZAK pmax pmax
comp=Z,3.0nm,1.8s
TLY Talaya 102.91 321 *eP* Pdif 14 04 13.8 -8.7
TLY *e* 14 14 55.4
TLY *e* 14 17 36.0
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.4
TLY Talaya 102.91 321 PFAKE 14 04 30.0 +7.5
TLY LR LR
comp=Z,314nm,19.0s,MS4.9
EYMN Ely 103.24 43 PFAKE 14 04 30.0 +6.0
EYMN LR LR
comp=Z,1μm,20.0s,MS5.5
DWPF Disney 103.99 65 PFAKE 14 04 40.0 +13
DWPF LR LR
comp=Z,764nm,20.0s,MS5.2
LSA Lhasa 104.24 296 PFAKE 14 04 40.0 +12
LSA LR LR
comp=Z,1μm,20.0s,MS5.4
CAL Calcutta 104.24 289 *ex* x 14 04 38.9
CAL *ex* x 14 09 41.7
PALK Pallekele 105.67 271 PFAKE 14 09 00.0 +12
PALK LR LR
comp=Z,598nm,19.0s,MS5.2
SAML Samuel 106.23 108 PFAKE 14 09 00.0 +11
SAML LR LR
comp=Z,3μm,19.0s,MS5.8
AAM Ann Arbor 106.69 51 PFAKE 14 09 00.0 +10
AAM LR LR
comp=Z,3μm,19.0s,MS5.9
DGAR Diego Garcia 107.04 254 PFAKE 14 09 00.0 +10
DGAR LR LR
comp=Z,986nm,19.0s,MS5.4
BLA Blacksburg 107.62 57 PFAKE 14 09 00.0 +8.6
BLA LR LR
comp=Z,2μm,19.0s,MS5.8
GUN Gumba 108.07 293 *eP* Pdif 14 04 53.5 +8.0
MDRS Chennai 108.22 277 *ex* x 14 04 41.4
MDRS *ex* x 14 08 57.9
PKI Pulchoki 108.36 293 *eP* Pdif 14 04 52.2 +5.4
KKN Kakani 108.54 293 *eP* Pdif 14 04 54.3 +6.7
comp=Z,15nm,0.9s
DMN Daman 108.63 293 *eP* Pdif 14 04 53.9 +5.9
MCWV Mont Chateau 108.73 54 PFAKE 14 09 10.0 +17
MCWV LR LR
comp=Z,4μm,19.0s,MS6.0
GKN Gorkha 109.15 293 *eP* Pdif 14 04 53.3 +3.1
comp=Z,4.6nm,0.5s
CBN Corbin 110.21 56 PFAKE 14 09 10.0 +14
CBN LR LR
comp=Z,1μm,19.0s,MS5.6
WMQ Urumqi 110.87 310 *eP*KP PKiKP 14 08 56.0 -1.5
WMQ PP PP 14 09 38.0 +2.9
WMQ PPP 14 12 00.0
WMQ PKS 14 12 31.0
WMQ SKS SKSdf 14 16 05.0 -4.2
WMQ SKKS SKKSac 14 16 30.0 -7.7
WMQ PP PP
comp=Z,291nm,7.6s
WMQ LR LR
comp=N,3μm,22.0s,MS5.9
WMQ LR LR
comp=E,1μm,20.3s,MS5.9
WMQ LR LR
comp=Z,3μm,24.0s,MS5.8
BINY Binghamton 112.17 52 PFAKE 14 09 10.0 +10
BINY LR LR
comp=Z,4μm,19.0s,MS6.1
NCB Newcomb 113.79 51 PFAKE 14 09 10.0 +6.9
NCB LR LR
comp=Z,4μm,19.0s,MS6.0
ZAL Zalesovo 114.52 320 PKiKP PKiKP 14 09 03.0 -1.4
comp=Z,2.1nm,0.6s,baz=297,slow=1.5,SNR=9.1
ZAL Zalesovo 114.52 320 *i* PKIKP PKiKP 14 09 03.1 -1.4
ZAL pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 115.17 312 PKP PKiKP 14 09 04.3 -1.4
comp=Z,2.5nm,0.6s,baz=60,slow=1.0,SNR=17
MKAR PKKPbc PKKPbc 14 19 42.4 +1.7
comp=Z,0.7nm,0.8s,baz=272,slow=4.9,SNR=5.1
MKAR Makanchi Array 115.17 312 PKIKP PKiKP 14 09 04.3 -1.4
MKAR 14 19 42.4
MKAR pmax pmax
comp=Z,3.0nm,0.6s
BDFB Brasilia 115.36 122 PFAKE 14 09 20.0 +14
BDFB LR LR
comp=Z,6μm,19.0s,MS6.2
HRV Harvard--Oak R 115.45 53 PFAKE 14 09 20.0 +14
HRV LR LR
comp=Z,4μm,19.0s,MS6.1
LBNH Lisbon 115.47 51 PFAKE 14 09 20.0 +14
LBNH LR LR
comp=Z,4μm,19.0s,MS6.1
NVS Novosibirsk 115.53 321 *i* PKIKP PKPdf 14 09 05.5 -0.9
NVS *i* 14 10 12.3
NVS *i* 14 15 55.9
NVS *e*PS PS 14 19 42.3 -6.2
NVS pmax pmax
comp=Z,18nm,1.6s
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,12nm,1.8s
NVS pmax pmax
comp=N,8.0nm,2.0s
NVS pmax pmax
comp=Z,19nm,2.0s
NVS pmax pmax
comp=E,17nm,1.8s
WES Weston 115.61 53 PFAKE 14 09 20.0 +13
WES LR LR
comp=Z,4μm,19.0s,MS6.0
KSH Kashi 118.72 303 *e*PKP PKPdf 14 09 14.6 +2.0
KSH *e*PP PP 14 10 39.3 +8.8
KSH *e*PKS 14 12 48.7
KSH *e*PPP 14 13 09.1
KSH *e*SKS SKSdf 14 16 21.9 -2.3
KSH *e*SKKS SKKSac 14 17 27.3 -3.3
KSH *e*SS SS 14 26 50.9 +2.4
KSH PP PP
comp=Z,499nm,4.5s
KSH LR LR
comp=N,729nm,9.0s
KSH LR LR
comp=E,694nm,6.5s
KSH LR LR
comp=Z,868nm,11.4s,MS5.6
ULHL Ulahol 118.87 306 P PKPdf 14 09 14.6 +1.8
SNR=9.4
BBSR BB Station 119.06 65 PFAKE 14 09 20.0 +6.8
BBSR LR LR
comp=Z,1μm,20.0s,MS5.5
TKM2 Tokmak 2 119.42 307 P PKPdf 14 09 16.8 +2.9
SNR=8.6
SCHQ Schefferville 119.58 39 PFAKE 14 09 30.0 +16
SCHQ LR LR
comp=Z,4μm,19.0s,MS6.0
KZA Kyzart 119.58 306 P PKPdf 14 09 15.5 +1.3
SNR=10
FRU Bishkek 120.12 307 *e*PKIKP PKPdf 14 09 15.0 -0.3
FRU pmax pmax
comp=Z,60nm,1.8s
UCH Uchtor 120.14 306 P PKPdf 14 09 16.7 +1.4
SNR=20
AAK Ala-Archa 120.20 307⇑ *i*PKIKP PKPdf 14 09 14.4 -1.0
AAK Ala-Archa 120.20 307 *eP* PKPdf 14 09 14.6 -0.9
AAK LR LR
comp=Z,293nm,21.0s,MS4.9
USP Ospenovka 120.25 307 P PKPdf 14 09 18.4 +2.8
SNR=5.1
AML Almayashu 120.74 306 P PKPdf 14 09 17.7 +1.3
SNR=12
SUR Sutherland 122.18 196 PFAKE 14 09 30.0 +11
SUR LR LR
comp=Z,716nm,20.0s,MS5.3
CHKZ Chkalovo 122.91 320 *e*PKIKP PKPdf 14 09 18.5 -2.1
MSEY Mahe Island 123.06 247 PFAKE 14 09 30.0 +9.1
MSEY LR LR
comp=Z,571nm,19.0s,MS5.2
BRVK Borovoye 123.16 319 *e*PKPdf PKPdf 14 09 18.6 -2.4
BRVK LR LR
comp=Z,286nm,19.0s,MS5.0
ZRNK Zerenda 123.94 319 *e*PKIKP PKPdf 14 09 19.4 -3.2
BOSA Boshof 124.38 202 PKP PKPdf 14 09 25.7 +2.3
comp=Z,19nm,1.0s,baz=239,slow=2.0,SNR=8.2
BOSA Boshof 124.38 202 PKP PKPdf 14 09 25.7 +2.3
BOSA LR LR
comp=Z,3μm,20.0s,MS5.9
KBS Kingsbay 124.57 358 PFAKE 14 09 30.0 +6.2
KBS LR LR
comp=Z,1μm,19.0s,MS5.6
SUMG Summit 125.60 15 *e*PKPdf PKPdf 14 09 25.7 0.0
DAG Danmarks Havn 125.61 6 *i* P PKPdf 14 09 20.0 -5.8
comp=Z,3.4nm,0.9s
DAG Danmarks Havn 125.61 6 *e*PKIKP PKPdf 14 09 20.0 -5.8
DAG pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 129.21 325 *i* PKIKP PKPdf 14 09 32.7 0.0
ARU *e* 14 11 41.0
ARU *e* 14 16 37.1
ARU *e*SP SP 14 21 42.2 -6.2
ARU *e*SS SS 14 28 59.5 -1.6
ARU MLR MLR

comp=Z,2µm,22.0s,MS5.7
ARU MLR MLR
comp=N,500nm,24.0s,MS5.6
ARU MLR MLR
comp=E,1µm,21.0s,MS5.6
ARU Arti 129.21 325 *e*PKPdf PKPdf 14 09 32.8 +0.1
ARU LR LR
comp=Z,420nm,21.0s,MS5.1
RCBR Riachuelo 130.72 121 PFAKE 14 09 50.0 +14
RCBR LR LR
comp=Z,5µm,19.0s,MS6.2
KEV Kevo 132.02 350 PFAKE 14 09 50.0 +12
KEV LR LR
comp=Z,2µm,20.0s,MS5.7
ARCES ARCESS Array B 132.46 350 PKP PKPdf 14 09 39.0 +0.2
comp=Z,9.0nm,0.8s,baz=21,slow=1.6,SNR=20
ARCES ARCESS Array B 132.46 350 PKIKP PKPdf 14 09 39.0 +0.2
ARCES pmax pmax
comp=Z,9.0nm,0.8s
APA Apatity 132.62 345⇑ *i*PKHKP 14 09 30.0
LSZ Lusaka 135.00 213 PFAKE 14 10 00.0 +16
LSZ LR LR
comp=Z,3µm,19.0s,MS6.0
TSUM Tsumeb 135.58 198 PFAKE 14 10 00.0 +15
TSUM LR LR
comp=Z,4µm,22.0s,MS6.1
JOF Joensuu 136.89 343 *e*pkp PKPdf 14 09 47.0 -0.1
KAF Kangasniemi 138.85 345 *e*pkp PKPdf 14 09 50.1 -0.6
baz=290,slow=0.9
FINES FINESS Array B 139.49 344 PKhKP 14 09 42.9
comp=Z,1.7nm,0.6s,baz=93,slow=3.8,SNR=13
FINES PKP PKPdf 14 09 50.9 -1.0
comp=Z,6.0nm,0.7s,baz=63,slow=2.6,SNR=10
MOS Moscow 139.85 332 *e*PKIKP PKPdf 14 09 50.5 -2.0
MOS *e* 14 10 06.8
MOS *e* 14 12 45.0
KMBO Kilima Mbogo 139.90 237 PKhKP 14 09 47.5
comp=Z,2.8nm,0.8s,baz=281,slow=1.7,SNR=8.2
KMBO Kilima Mbogo 139.90 237 PKHKP 14 09 47.5
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 139.90 237 *e*PKPpre 14 09 47.2
KMBO LR LR
comp=Z,2µm,20.0s,MS5.8
OBN Obninsk 140.72 331 *i* PKIKP PKPdf 14 09 54.7 +0.6
OBN pmax pmax
comp=Z,34nm,1.3s
OBN Obninsk 140.72 331 *i* PKP PKPdf 14 09 54.8 +0.7
OBN LR LR
comp=Z,480nm,20.0s,MS5.2
DGRG David-gareji 141.81 308 P PKPdf 14 09 58.2 +2.2
MTA Mtatsminda 142.16 308 P PKPdf 14 09 57.9 +1.2
NB2 NORSAR Subarra 142.37 355 PKP PKPdf 14 09 51.6 -5.5
comp=Z,0.5nm,0.6s,baz=33,slow=3.5
NB2 NORSAR Subarra 142.37 355 PKPab PKPdf 14 09 51.6 -5.5
NOA NORSAR Array B 142.37 355 PKhKP 14 09 49.7
comp=Z,6.7nm,0.9s,baz=16,slow=4.6,SNR=7.9
NOA NORSAR Array B 142.37 355 PKHKP 14 09 49.7
NOA pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 142.49 310 *e*PKIKP PKPdf 14 10 01.7 +4.4
GNI Garni 142.59 306⇑ *e*PKIKP PKPdf 14 09 59.3 +1.8
GNI MLR MLR
comp=Z,1µm,19.0s
ONI Oni 142.86 310 P PKPdf 14 09 55.3 -2.7
KIV Kislovodsk 142.93 312 *i* PKIKP PKPdf 14 09 59.4 +1.3
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,1µm,22.0s,MS5.6
KIV Kislovodsk 142.93 312⇑ *e*PKP PKPdf 14 09 59.4 +1.3
KIV LR LR
comp=Z,369nm,22.0s,MS5.1
SEMD Semdilli 143.35 301 *e*P PKPdf 14 09 56.9 -1.9
CLDR Caldiran 143.44 304 *e*P PKPdf 14 09 57.8 -1.2
KONO Kongsberg 143.88 356 PFAKE 14 10 10.0 +10
KONO LR LR
comp=Z,982nm,19.0s,MS5.6
VANB Van 143.97 304 *e*P PKPdf 14 09 58.3 -1.6
BHD Baghdad 144.00 294 *e*x x 14 09 50.0
BHD *e*x x 14 13 38.0
CUKT Cukurca 144.08 301 *e*P PKPdf 14 09 58.1 -1.9
DESE Dese 144.50 255 *e*P PKPdf 14 10 03.6 +2.8
BCA Borcka 144.51 309 *e*P PKPdf 14 09 58.0 -2.8
MSL Mosul 144.66 300 *e*x x 14 10 00.5
MSL *e*x x 14 10 32.5
MNK Minsk 144.68 337 *e*PKHKP 14 09 55.0
SIRT Sirnak 144.94 302 *e*P PKPdf 14 09 58.9 -2.7
ERZM Erzurum 145.16 306 *i* P PKPbc 14 10 01.9 +0.4
EZM Erzurum 145.16 306 *e*P PKPbc 14 10 02.7 +1.2
MVH1 Achvaich 145.18 8 *e*P PKPbc 14 10 01.6 0.0
BTMT Batman 145.52 304 *e*P PKPdf 14 10 03.3 +0.8
KPL Plockton 145.53 10 *e*P PKPdf 14 10 02.2 -0.4
KPL AMb AMB 14 10 06.5
comp=Z,284nm,2.0s
BNGL BINGOL 145.58 305 *i* P PKPdf 14 10 04.4 +1.8
MCD Coleburn Disti 145.63 8 *e*P PKPdf 14 10 03.3 +0.6
BEST Besiri 145.76 303 *i* P PKPdf 14 10 03.6 +0.6
MME1 Meikle Cairn 145.93 7 *e*P PKPdf 14 10 05.0 +1.7
KTUT Trabzon 145.98 309 *e*P PKPbc 14 10 05.4 +1.3
ANN Anapa 146.03 316 *d* PKIKP PKPdf 14 10 04.5 +1.1
ANN pmax pmax
comp=Z,292nm,1.8s
BINT Bingol 146.10 305 *e*P PKPbc 14 10 07.1 +2.7
MARD Mardin 146.27 302 *i* P PKPdf 14 10 04.6 +0.7
EZC Erzincan 146.34 307 *e*P PKPbc 14 10 07.3 +2.1
KBSD Kabsdagh 146.53 302⇑ P PKPdf 14 10 06.7 +2.4
DIY Diyarbakir 146.56 303 *e*P PKPbc 14 10 07.7 +1.9
KELT Kelkit 146.63 308 *i* P 14 09 51.4
SUW Suwalki 146.66 340 *e*PKP PKPdf 14 10 06.1 +1.6
MZRK Al-Mazaregh 146.69 300⇑ P PKPdf 14 10 04.7 +0.1
PTK Pertek 146.91 306 *e*P PKPbc 14 10 07.7 +0.9
AKASG Malin Array Be 146.98 331 PKPbc PKPbc 14 10 05.4 -1.6
comp=Z,27nm,0.6s,baz=36,slow=3.3,SNR=60
AKASG Malin Array Be 146.98 331 PKIKP PKPdf 14 10 05.4 +0.4
AKASG pmax pmax
comp=Z,27nm,0.6s
AKBB Malin Array Si 146.98 331 *e*PKIKP PKPdf 14 10 04.4 -0.6
AKBB *e* 14 10 06.5
MUD Monsted U'grnd 147.08 355 *i* P PKPbc 14 10 08.1 +0.8
comp=Z,218nm,1.3s
MUD Monsted U'grnd 147.08 355 *i* PKP2 PKPab 14 10 08.1 -0.8
MUD pmax pmax
comp=Z,220nm,1.3s
MUD MLR MLR
comp=Z,1µm,18.0s,MS5.7
MUD Monsted U'grnd 147.08 355 *i* P PKPbc 14 10 08.1 +0.8
MUD *e*S 14 20 34.0
MUD *i* 14 23 56.4
DRBT Darb Altahta 147.13 302⇑ P PKPab 14 10 12.3 +3.2
PGBU Glenifferbraes 147.18 10 *e*P PKPdf 14 10 06.8 +1.5
PGBU AMb AMB 14 10 12.9
comp=Z,51nm,1.4s
EDI Edinburgh 147.26 8 *e*P PKPab 14 10 09.9 +0.3
EDI AMb AMB 14 10 11.9
comp=Z,122nm,1.5s
ELZG Elazig 147.33 305 *i* P PKPdf 14 10 07.0 +1.3
COP Copenhagen 147.51 352 *i* P PKPdf 14 10 07.7 +1.8
comp=Z,48nm,1.0s
COP Copenhagen 147.51 352 *i* PKP2 PKPab 14 10 07.7 -2.9
COP pmax pmax
comp=Z,48nm,1.0s
BSD Bornholm Skovb 147.68 349 *i* P PKPab 14 10 10.2 -1.1
comp=Z,73nm,0.9s
BSD *i* 14 13 40.7
BSD *e*S 14 20 36.2
BSD Bornholm Skovb 147.68 349 *e*PKP2 PKPab 14 10 10.2 -1.1
BSD *i* 14 13 40.7
BSD pmax pmax
comp=Z,73nm,0.9s
BSD Bornholm Skovb 147.68 349 *e*P PKPab 14 10 10.2 -1.1
BSD *i* 14 13 40.7
BSD *e*S 14 20 36.2
URFA Urfa 147.75 303 *e*P PKPbc 14 10 09.0 -0.2
MYA Malataya 147.80 305 *e*P PKPbc 14 10 10.1 +0.8
MALT Malatya 147.81 305 ⇓ *i*P PKPbc 14 10 10.0 +0.7
MALT Malatya 147.81 305 *e*PKPdf PKPdf 14 10 07.5 +1.1
MALT P 14 10 11.4
ESK Eskdalemuir 147.85 8 *e*P PKPdf 14 10 08.8 +2.3
ESK AMb AMB 14 10 12.4
comp=Z,110nm,1.6s
ESK Eskdalemuir 147.85 8 PFAKE 14 10 20.0 +14
ESK LR LR
comp=Z,503nm,20.0s,MS5.3

BWH Wardlaw 147.92 9 *e*P PKPbc 14 10 09.1 -0.5
SIM Simferopol' 148.01 319 *d* *i*PKP2 PKPab 14 10 16.0 +3.4
SIM *e*SS SS 14 32 38.0 -4.9
SIM pmax pmax
comp=Z,72nm,0.8s
SIM MLR MLR
comp=Z,1µm,22.4s,MS5.7
HOR Horta 148.05 55 *e*PKP PKPbc 14 10 11.8 +1.8
GAL1 Galloway 148.06 10 *e*P PKPbc 14 10 09.9 0.0
GAL1 AMb AMB 14 10 13.2
comp=Z,232nm,1.4s
ATAB Bozova 148.15 303 *i* P PKPbc 14 10 11.8 +1.6
PICO Pico 148.21 54 *e*PKP PKPbc 14 10 11.0 +0.6
ROSA Rosais 148.28 54 *e*PKP PKPbc 14 10 11.8 +1.2
SVSK Karacayir 148.33 308 *e*P PKPdf 14 10 09.4 +2.1
PGRA Graciosa 148.37 53 *e*PKP PKPbc 14 10 11.8 +1.0
PMAN Manadas 148.42 54 *e*PKP PKPbc 14 10 11.2 +0.3
PID Ribeirinha 148.46 54 *e*PKP PKPbc 14 10 12.6 +1.6
JHLN Al Jahlan 148.48 300⇑⇑ P PKPbc 14 10 13.0 +1.9
TOKT Tokat 148.51 309 *e*P PKPab 14 10 16.9 +2.4
KVT Kavak 148.56 311 *e*P PKPbc 14 10 12.8 +1.5
CKE Keswick 148.57 9 *e*P PKPbc 14 10 10.2 -1.1
XDE Dent Fell 148.59 9 *e*P PKPbc 14 10 10.4 -1.0
GIM North Isle of 148.65 10 *e*P PKPbc 14 10 11.5 0.0
SLMH Al Salmeh 148.76 301⇑⇑ P PKPbc 14 10 13.5 +1.7
WAR Warsaw 148.85 340 *e*PKP PKPbc 14 10 13.7 +1.7
DIKM Dikmen 148.86 313 *e*P PKPbc 14 10 11.8 -0.3
GKP Gorka Klasztor 148.94 345 *e*PKP PKPbc 14 10 11.0 -1.3
DCN Croghan 149.01 14 *e*P PKPbc 14 10 10.6 -1.8
GAZ Gaziantep 149.06 303 *e*P PKPbc 14 10 13.9 +1.4
KMRS Kahramanmaras 149.20 304 *e*P PKPdf 14 10 08.8 +0.1
BOYT Boyabat 149.20 312 *i* P PKPbc 14 10 11.8 -1.2
DLF Lyons Farm 149.21 13 *e*P PKPdf 14 10 10.9 +2.2
BYBT Boyabat 149.27 313 *e*P PKPbc 14 10 13.6 +0.5
BSEG Bad Segeberg 149.47 353 *e*PKPbc PKPdf 14 10 07.7 -1.4
BSEG *e*pPKPbc PKPbc 14 10 14.1 +0.5
BNN Bunyan 149.55 307 *e*P PKPbc 14 10 12.7 -1.1
BZK Bozkurt 149.56 314 *e*P PKPbc 14 10 13.3 -0.5
CTKT Corum 149.62 311 *i* P PKPdf 14 10 11.3 +2.0
WLF1 Llynfaes 149.62 11 *e*P PKPdf 14 10 12.0 +2.7
YOZ Yozgat 149.64 309 *e*P PKPbc 14 10 14.0 0.0
ROOS tl_alroos 149.72 298⇑⇑ P PKPbc 14 10 16.0 +1.7
KIS Kishinev 149.74 326 *d* *i*PKHKP 14 10 12.0
KIS *i* 14 10 20.0
KIS *i* 14 13 48.0
KIS pmax pmax
comp=Z,500nm,1.0s
KIS Kishinev 149.74 326⇓ *i*PKP PKPdf 14 10 12.0 +2.4
KIS M 14 10 12.5
comp=Z,500nm,1.0s
KIS *i* SKP 14 13 48.0
LHO Holmfirth 149.75 8 *e*P PKPdf 14 10 12.2 +2.7
LVV L'vov 149.82 335 *e*PKHKP 14 10 12.1
LVV *e* 14 13 49.5
LVV *e* 14 17 10.5
LVV MLR MLR
comp=N,500nm,21.0s,MS5.5
LVV MLR MLR
comp=E,700nm,21.0s,MS5.5
LVV MLR MLR
comp=Z,1µm,21.0s,MS5.6
CORM Corum 149.91 310 *e*P PKPbc 14 10 14.7 +0.1
TOS Tosya 149.97 312 *e*P PKPbc 14 10 16.1 +1.3
COBT Iskenderun 149.98 303 *i* P PKPdf 14 10 11.0 +1.1
KOZT Kozan 150.02 305 *e*P PKPbc 14 10 14.1 -0.8
KBI1 Birley Grange 150.08 8 *e*P PKPdf 14 10 11.8 +1.8
WRDH Warideh 150.13 301⇑⇑ P PKPbc 14 10 16.6 +1.4
HTY Hatay 150.18 302 *e*P PKPbc 14 10 16.8 +1.5
SBD1 Bryn Du 150.18 10 *e*P PKPdf 14 10 11.2 +1.0
CEYT Ceyhan 150.22 304 *e*P PKPbc 14 10 16.1 +0.6
KWE Weaver Farm 150.27 8 *e*P PKPdf 14 10 10.0 -0.4
CDAG Cicekdag 150.32 309 *i* P PKPdf 14 10 09.5 -0.9
BIDA Albida 150.32 300⇑⇑ P PKPbc 14 10 17.2 +1.6
RUE Ruedersdorf 150.40 349 *e*PKPbc PKPdf 14 10 09.9 -0.7
RUE *e*pPKPbc PKPbc 14 10 16.6 +0.7
RUE Ruedersdorf 150.40 349 *e*PKPbc PKPbc 14 10 16.4 +0.5
MARH Ras Al Marh 150.41 298⇑⇑ P PKPbc 14 10 17.9 +2.0
CANT Cankiri 150.43 312 *e*P PKPbc 14 10 16.5 +0.6
SALA Sala 150.45 295⇑⇑ P PKPbc 14 10 17.8 +1.8
KWP Kalwaria 150.48 336 *e*PKP PKPbc 14 10 17.1 +1.0
KWP Kalwaria 150.48 336 *e*PKPdf PKPdf 14 10 12.0 +1.2
KWP *e*PKPbc PKPbc 14 10 16.8 +0.8
KWP *e*PKP PKPdf 14 10 17.1 +6.4
TOTH TOTAH 150.59 296⇑⇑ P PKPbc 14 10 18.4 +2.1
ELDT Eldivan 150.61 312 *i* P PKPbc 14 10 15.6 -0.8
HLM1 Long Mynd 150.61 9 *e*P PKPdf 14 10 11.5 +0.5
KRTS Karatas 150.64 303 *e*P PKPdf 14 10 13.2 +2.2
KARA Karaisali 150.67 305 *e*P PKPbc 14 10 16.5 0.0
SAFT Safranbolu 150.77 314 *e*P PKPbc 14 10 17.7 +1.0
BR131 Keskin Array S 150.79 310 *e*PKPbc PKPbc 14 10 17.2 +0.4
BR131 LR LR
comp=Z,2µm,20.0s,MS5.9
WIT Witteveen 150.85 358 *e*PKP PKPbc 14 10 18.1 +1.1
comp=Z,887nm,2.4s
KAMT Kaman 150.89 309 *e*P PKPbc 14 10 16.8 -0.2
NRDL Niedersach Rie 150.92 353 *e*PKPbc PKPdf 14 10 11.1 -0.3
NRDL *e*pPKPbc PKPbc 14 10 17.6 +0.5
OJC Ojcow 150.99 340 *e*PKPdf PKPdf 14 10 11.1 -0.4
OJC *e*PKPbc PKPbc 14 10 16.4 -0.9
BURAR Bucovina Array 151.03 331⇓ *i*P PKPbc 14 10 18.0 +0.7
BURAR Bucovina Array 151.03 331 P PKPdf 14 10 13.9 +2.3
MCH1 Michaelchurch 151.10 10 *e*P PKPdf 14 10 13.2 +1.5
MCH1 AMb AMB 14 10 20.5
comp=Z,92nm,1.5s
BHL Bhannes 151.11 298 *e*P PKPdf 14 10 12.1 +0.4
STHS Stebnicka Huta 151.19 337 *e*PKP PKPbc 14 10 19.0 +1.3
MERS Mersin 151.20 304 *e*P PKPdf 14 10 15.7 +3.8
KOLS Kolonicke sedl 151.22 336 *e*PKP PKPdf 14 10 11.8 -0.1
KOLS *e* 14 10 18.9
SSW Stow on the Wo 151.30 8 *e*P PKPbc 14 10 17.2 -0.8
IBBN Ibbenburen 151.31 356 *e*PKPbc PKPdf 14 10 12.1 +0.1
IBBN *e*pPKPbc PKPbc 14 10 18.5 +0.5
ANTO Ankara 151.32 311⇓ *i*P PKPdf 14 10 12.8 +0.8
ANTO Ankara 151.32 311 *e*PKPbc PKPbc 14 10 18.8 +0.8
ANTO LR LR
comp=Z,1µm,19.0s,MS5.7
KSP Ksiaz 151.41 345 *e*PKP PKPdf 14 10 13.0 +0.8
KSP Ksiaz 151.41 345 *e*PKP PKPdf 14 10 13.4 +1.2
KSP *e*PKPdf PKPbc 14 10 19.0 +0.8
KSP *e* 14 10 32.7
KSP *e*PP PP 14 13 55.0 -2.1
KSP *e*SS SS 14 33 20.0 -0.9
KSP LR LR
comp=Z,2µm,22.7s,MS6.0
UZH Uzhgorod 151.46 335 *e*PKIKP PKPdf 14 10 12.6 +0.4
UZH *i* 14 10 15.8
UZH pmax pmax
comp=Z,270nm,1.2s
HGH Gray Hill 151.48 10 *e*P PKPdf 14 10 14.7 +2.5
SGKT Sivrigoynuk 151.51 313 *i* P PKPbc 14 10 18.4 -0.1
NIE Niedzica 151.51 338 *e*PKP PKPbc 14 10 19.9 +1.4
CLZ Clausthal 151.53 353 *e*PKPbc PKPdf 14 10 12.8 +0.5
CLZ *e*pPKPbc PKPbc 14 10 19.1 +0.6
CRVS Cervenica-Dubn 151.54 336 *e*PKP PKPdf 14 10 12.8 +0.4
CRVS *e* 14 10 19.4
VRI Vrincioaia 151.57 327⇓ *i*P PKPbc 14 10 17.9 -0.7
VRI Vrincioaia 151.57 327 P PKPbc 14 10 19.0 +0.4
MEST Erdemli 151.58 304 *i* P PKPdf 14 10 11.9 -0.5
CLL Collm 151.66 349 *e*PKPdf PKPdf 14 10 13.1 +0.6
comp=Z,118nm,2.3s
CLL *e*PKPbc PKPbc 14 10 19.6 +0.8
comp=Z,156nm,1.1s
CLL *e*pPKPbc pPKPbc 14 10 33.5 +10
CLL *e*PP PP 14 13 54.2 -4.4
CLL *e*(SKSP) 14 24 15.3
CLL *e*SS SS 14 33 18.1 -5.6
CLL *e*SS SS 14 33 23.5 -0.2
CLL *e*SSS 14 39 22.1
CLL *e*LR LR 15 02 03.6
CLL *e*L 15 23 19.3
comp=Z,2µm,20.0s
CLL Collm 151.66 349⇑ *i*PKIKP PKPdf 14 10 13.1 +0.6
CLL *i* 14 10 19.2
CLL pmax pmax
comp=Z,154nm,1.1s
CLL MLR MLR
comp=Z,2µm,16.8s,MS5.9
CLL Collm 151.66 349⇑ *i*PKP PKPdf 14 10 13.1 +0.6
CLL ⇓ *i*PKP PKPbc 14 10 19.2 +0.4
CLL *i* 14 10 33.6
CLL LR LR

comp=Z,2µm,16.8s,MS5.9
CLL Collm 151.66 349⇑ *i*PKPdf PKPdf 14 10 13.1 +0.6
comp=Z,113nm,2.3s
CLL ⇓ *i*PKPbc PKPbc 14 10 19.2 +0.4
comp=Z,154nm,1.1s
CLL *i* sPKPab 14 10 33.6
comp=Z,452nm,2.0s
CLL *e*PP PP 14 13 59.0 +0.4
CLL *e*SKSP 14 24 06.0
CLL *e*SS SS 14 33 24.0 +0.3
CLL *e*SSS 14 39 06.0
CLL Lm 15 27 00.0
comp=N,700nm,18.5s
CLL Lm 15 27 00.0
comp=E,1µm,18.8s
WTSB Winterswijk 151.70 357 *e*PKP PKPbc 14 10 19.4 +0.5
comp=E,149nm,1.9s
UPC Upice 151.79 345 *e*PKPDF PKPdf 14 10 14.0 +1.3
UPC ⇑ *e*PKP PKPbc 14 10 19.9 +0.8
UPC *e*PKPAB PKPab 14 10 30.8 +2.7
OKC Ostrava-Krasne 151.83 341 *e*PKPDF PKPdf 14 10 12.3 -0.5
OKC ⇑ *e*PKP PKPbc 14 10 20.0 +0.8
OKC *e*pPKP pPKPdf 14 10 33.3 +16
OKC AMS AMS 15 30 00.0
comp=E,1µm,18.4s
OKC Ostrava-Krasne 151.83 341 *e*PKIKP PKPdf 14 10 12.3 -0.5
OKC *e* 14 10 20.0
OKC MLR MLR
comp=Z,1µm,18.4s,MS5.7
OKC Ostrava-Krasne 151.83 341 *e*PKP PKPdf 14 10 12.3 -0.5
OKC *e* 14 10 20.0
OKC *e* 14 10 33.3
DPC Dobruska-Polom 151.86 344 *e*PKPDF PKPdf 14 10 12.7 -0.1
DPC ⇑ *e*PKP PKPbc 14 10 20.2 +0.9
DPC *e*pPKP pPKPdf 14 10 34.5 +17
DPC Dobruska-Polom 151.86 344 *e*PKIKP PKPdf 14 10 12.7 -0.1
DPC *e* 14 10 20.2
BRG Berggiesshubel 151.90 348 *e*PKPbc PKPdf 14 10 13.4 +0.5
BRG *e*pPKPbc PKPbc 14 10 19.9 +0.5
BRG Berggiesshubel 151.90 348 *e*PKP PKPdf 14 10 13.6 +0.7
comp=Z,13nm,1.5s
BRG Berggiesshubel 151.90 348 *i* PKP PKPbc 14 10 20.3 +1.0
comp=Z,94nm,1.4s
BRG Berggiesshubel 151.90 348 *i* PKP PKPab 14 10 34.1 +5.6
comp=Z,39nm,0.9s
BRG *e* 14 13 50.1
comp=Z,15nm,1.7s
BRG Berggiesshubel 151.90 348 *e*PKIKP PKPdf 14 10 13.6 +0.7
BRG *i* 14 10 20.3
BRG pmax pmax
comp=Z,94nm,1.4s
BRG Berggiesshubel 151.90 348 *e*PKP PKPdf 14 10 13.6 +0.7
BRG *i* PKP PKPbc 14 10 20.3 +1.0
BRG *i* PKP PKPab 14 10 34.1 +5.6
BRG *e* 14 13 50.1
FBE Freiberg 151.97 348 *e*PKPbc PKPdf 14 10 13.8 +0.8
FBE *e*pPKPbc PKPbc 14 10 20.3 +0.8
IKL Isikli 152.04 303 *e*P PKPdf 14 10 15.6 +2.5
MORC Moravsky Berou 152.06 342⇓ *i*P PKPbc 14 10 20.3 +0.6
MORC Moravsky Berou 152.06 342 *e*PKPdf PKPdf 14 10 14.0 +0.9
MORC P 14 10 20.6
MORC *e*PKPbc PKPbc 14 10 20.7 +1.0
PVCC Panska Ves 152.10 346 *e*PKPDF PKPdf 14 10 14.5 +1.3
PVCC ⇑ *e*PKP PKPbc 14 10 20.7 +0.9
PVCC *e*PKPAB PKPab 14 10 32.3 +2.9
PVCC AMS AMS 15 28 40.0
comp=Z,2µm,18.3s
PVCC Panska Ves 152.10 346 *e*PKIKP PKPdf 14 10 14.5 +1.3
PVCC *e* 14 10 20.7
PVCC MLR MLR
comp=Z,2µm,18.3s,MS5.9
HENT Hendek 152.16 314 *i* P PKPbc 14 10 18.7 -1.2
BUG Bochum--Univer 152.20 357 *e*PKPbc PKPdf 14 10 13.8 +0.5
BUG *e*pPKPbc PKPbc 14 10 20.0 0.0
MLR Muntele Rosu 152.22 327⇑⇑ *i*P PKPdf 14 10 15.9 +2.5
MLR Muntele Rosu 152.22 327 P PKPbc 14 10 20.8 +0.7
LIKS Likavka 152.23 339 *e*PKP PKPbc 14 10 22.6 +2.5
KECS Kecovo 152.25 337 *e*PKP PKPbc 14 10 21.3 +1.2
EIL Elat 152.35 289 *e*PKPdf PKPdf 14 10 13.0 -0.6
EIL *e*PKPbc PKPbc 14 10 21.5 +1.1
KDHN Kadinhani 152.37 309 *i* P PKPdf 14 10 12.2 -1.3
KONT Konya--Tatoy 152.43 308 *e*P PKPdf 14 10 18.6 +4.9
ERMK Ermenek 152.50 305 *i* P PKPdf 14 10 12.2 -1.6
MOX Moxa 152.53 350 *e*PKPbc PKPdf 14 10 14.8 +1.0
MOX *e*pPKPbc PKPbc 14 10 20.7 -0.1
MOX Moxa 152.53 350 *e*PKP PKPdf 14 10 14.7 +0.9
MOX *e* 14 10 21.2
comp=Z,125nm,1.8s
MOX *e* 14 10 35.5
MOX
comp=Z,1µm,21.0s
MOX Moxa 152.53 350 *e*PKIKP PKPdf 14 10 14.7 +0.9
MOX *e* 14 10 21.2
MOX Moxa 152.53 350 *e*PKP PKPdf 14 10 14.7 +0.9
MOX *e*pPKP pPKPdf 14 10 21.2 +2.6
MOX *e*PKPab PKPab 14 10 35.5 +4.3
PRA Prague 152.56 346 PKPDF PKPdf 14 10 14.0 +0.1
UBBA Unterbreizbach 152.58 353 *e*PKPbc PKPdf 14 10 14.6 +0.7
UBBA *e*pPKPbc PKPbc 14 10 20.7 -0.2
WERD Werda 152.61 349 *e*PKPbc PKPdf 14 10 15.1 +1.1
WERD *e*pPKPbc PKPbc 14 10 21.2 +0.2
PRU Pruhonice 152.62 346 *e*PKPDF PKPdf 14 10 14.1 +0.1
PRU ⇑ *e*PKP PKPbc 14 10 21.5 +0.5
PRU *e*pPKP pPKPdf 14 10 35.6 +17
PRU AMS AMS 15 23 50.0
comp=Z,2µm,18.1s
PRU Pruhonice 152.62 346 *e*PKIKP PKPdf 14 10 14.1 +0.1
PRU *e* 14 10 21.5
PRU MLR MLR
comp=Z,2µm,18.1s,MS5.9
TANN Tannenbergstha 152.62 349 *e*PKPbc PKPdf 14 10 15.2 +1.2
TANN *e*pPKPbc PKPbc 14 10 21.3 +0.3
GUNZ Gunzen 152.69 349 *e*PKPbc PKPdf 14 10 15.5 +1.4
GUNZ *e*pPKPbc PKPbc 14 10 21.8 +0.7
CSS Prodhromos 152.70 301 *e*PKPbc PKPbc 14 10 21.5 +0.4
HDMB Hadim 152.70 305 *e*P PKPdf 14 10 14.4 +0.3
VOIR 152.71 328⇑ *i*P PKPbc 14 10 22.5 +1.3
VRAC Vranov 152.74 343⇓ *i*P PKPbc 14 10 21.8 +0.6
VRAC Vranov 152.74 343 P PKPbc 14 10 22.7 +1.4
WERN Wernitzgruen 152.76 349 *e*PKPbc PKPdf 14 10 15.3 +1.1
WERN *e*pPKPbc PKPbc 14 10 21.7 +0.4
DRGR 152.76 332⇑⇑ *i*P PKPdf 14 10 15.2 +1.0
DRGR 152.76 332 P PKPdf 14 10 16.5 +2.3
NKC Novy Kostel 152.80 349 *e*PKPDF PKPdf 14 10 14.8 +0.6
NKC ⇑ *e*PKP PKPbc 14 10 22.0 +0.6
NKC *e*pPKP pPKPab 14 10 37.4 +0.4
NKC AMS AMS 15 30 30.0
comp=Z,2µm,17.8s
NKC Novy Kostel 152.80 349 *e*PKIKP PKPdf 14 10 14.8 +0.6
NKC *e* 14 10 22.0
NKC MLR MLR
comp=Z,2µm,17.8s,MS5.9
NKC Novy Kostel 152.80 349 *e*PKP PKPdf 14 10 14.8 +0.6
NKC *e* 14 10 22.0
NKC *e* 14 10 37.4
VYHS Vyhne 152.80 339 *e*PKP PKPdf 14 10 14.8 +0.6
VYHS *e* 14 10 22.3
ESKT Eskisehir 152.82 312 *e*P PKPbc 14 10 20.3 -1.1
ESKT Eskisehir 152.82 312 *i* P PKPbc 14 10 20.6 -0.8
UCC Uccle 152.91 0 PKP PKPdf 14 10 14.6 +0.2
UCC PKPbc PKPbc 14 10 22.2 +0.6
UCC PKPab PKPab 14 10 36.0 +3.3
HGN Heimansgroeve 152.93 358 *e*PKP PKPbc 14 10 22.2 +0.6
comp=Z,56nm,1.2s
PSZ Piszkesteto 152.94 337⇑⇑ *e*PKP PKPdf 14 10 15.1 +0.7
PSZ Piszkesteto 152.94 337⇑ *i*P PKPbc 14 10 21.0 -0.7
PSZ Piszkesteto 152.94 337 *e*PKPdf PKPdf 14 10 14.2 -0.2
PSZ *e*PKPbc PKPbc 14 10 21.9 +0.2
HRT Hereke 152.96 315 *e*P PKPdf 14 10 18.2 +3.7
TREC Trest 153.04 344 *e*PKPDF PKPdf 14 10 13.7 -0.9
TREC ⇑ *e*PKP PKPbc 14 10 22.7 +0.8
TREC *e*PKPAB PKPab 14 10 35.2 +1.9
TREC AMS AMS 15 29 00.0
comp=Z,2µm,17.6s
TREC Trest 153.04 344 *e*PKIKP PKPdf 14 10 13.7 -0.9
TREC *e* 14 10 22.7
TREC MLR MLR
comp=Z,2µm,17.6s,MS6.1
MEM Membach 153.08 358 PKPbc PKPbc 14 10 22.5 +0.5
MEM PKPab PKPab 14 10 34.0 +0.6
MANZ Manzenberg 153.09 349 *e*PKPbc PKPdf 14 10 15.6 +0.9
MANZ *e*pPKPbc PKPbc 14 10 22.7 +0.7

SMOL	Smolenice	153.22	341	ePKP	PKPbc	14 10 24.3	+2.0
BCLA	Clavier	153.29	359	APKPbc		14 10 28.2	
BCLA				APKPab		14 10 35.4	
ROTZ	Rotzenmuhle	153.29	349	ePKPbc	PKPdf	14 10 16.7	+1.8
ROTZ				epPKPbc	PKPbc	14 10 22.9	+0.5
TNS	Taunus Mts	153.33	355	ePKPbc	PKPdf	14 10 16.5	+1.5
TNS				epPKPbc	PKPbc	14 10 23.2	+0.7
GRA1	Grafenberg Arr	153.52	350	ePKPbc	PKPdf	14 10 16.6	+1.3
GRA1				epPKPbc	PKPbc	14 10 23.4	+0.4
GRA1				e		14 10 37.3	
GRA1				eSS	SS	14 33 42.0	-2.1
GRA1				LR	LR		
	comp=Z,2μm,18.1s,MS6.0						
GRF	Grafenberg Arr	153.52	350	ePKPbc	PKPdf	14 10 16.6	+1.3
GRF				epPKPbc	PKPbc	14 10 23.4	+0.4
GRF				e		14 10 37.3	
GRF				eSS	SS	14 33 42.0	-2.1
GRF				eL		15 29 27.7	
	comp=Z,2μm,18.1s						
GRF	Grafenberg Arr	153.52	350	ePKIKP	PKPdf	14 10 16.6	+1.3
GRF				e		14 10 23.4	
GRF				eSS	SS	14 33 42.0	-2.1
GRF	Grafenberg Arr	153.52	350	ePKIKP	PKPdf	14 10 16.6	+1.3
GRF						14 10 23.4	
GRF				eSS	SS	14 33 42.0	-2.1
GRF				MLR	MLR		
	comp=Z,2μm,18.1s,MS6.0						
ZST	Bratislava	153.61	341	ePKP	PKPdf	14 10 13.0	-2.4
ZST				e		14 10 38.5	
ZST	Bratislava	153.61	341	ePKP	PKPdf	14 10 13.0	-2.4
ZST				e		14 10 38.5	
ZST				LR	LR		
	comp=Z,900nm,19.5s,MS5.6						
GIVF	Givet	153.61	360	ePKIKP	PKPdf	14 10 15.4	0.0
BUD	Budapest	153.61	338⇑	esPKP/F	PKPbc	14 10 24.1	+0.9
DOU	Dourbes	153.62	0	PKPbc	PKPbc	14 10 24.6	+1.5
DOU				PKPab	PKPab	14 10 35.9	+0.2
KHC	Kasperske Hory	153.63	347	ePKPDF	PKPdf	14 10 16.0	+0.6
KHC			⇑	ePKP	PKPbc	14 10 23.5	+0.3
KHC				ePKPAB	PKPab	14 10 36.0	+0.2
KHC				AMS	AMS	15 22 00.0	
	comp=Z,1μm,18.0s						
KHC	Kasperske Hory	153.63	347	ePKIKP	PKPdf	14 10 16.0	+0.6
KHC				e		14 10 23.5	
KHC				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.8						
BAIF	Baives	153.65	1	ePKIKP	PKPdf	14 10 15.3	-0.2
ULDT	Uludag	153.66	314	i P	PKPbc	14 10 24.0	+0.7
WET	Wettzell	153.76	348	ePKPbc	PKPdf	14 10 16.0	+0.4
WET				epPKPbc	PKPbc	14 10 24.1	+0.6
ISP	Isparta	153.80	309 ⇓	i P	PKPbc	14 10 23.6	0.0
ISP	Isparta	153.80	309	P	PKPbc	14 10 23.6	0.0
TKTP	Tekketepe	153.85	309	i P	PKPbc	14 10 23.4	-0.3
GEC2	GERESS Array S	153.88	346	ePKPbc	PKPdf	14 10 17.7	+1.9
GEC2				epPKPbc	PKPbc	14 10 24.2	+0.5
GEC2	GERESS Array S	153.88	346	ePKIKP	PKPdf	14 10 15.8	0.0
GEC2				e		14 10 24.3	
GERES	GERESS Array B	153.88	346	PKP	PKPdf	14 10 16.2	+0.4
	comp=Z,3.5nm,1.0s,baz=153,slow=1.5,SNR=16						
GERES				PKPbc	PKPbc	14 10 24.1	+0.4
	comp=Z,10.0nm,0.9s,baz=29,slow=2.0,SNR=19						
GERES				PKPab	PKPab	14 10 35.0	-1.9
	comp=Z,7.8nm,0.9s,baz=64,slow=3.1,SNR=7.0						
GERES	GERESS Array B	153.88	346	PKIKP	PKPdf	14 10 16.2	+0.4
GERES						14 10 24.1	
GERES						14 10 35.0	
GERES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GDZ	Gediz	153.96	312	i P	PKPdf	14 10 12.8	-3.1
WLF	Walferdange	154.02	358	ePKPbc	PKPdf	14 10 17.2	+1.2
WLF				epPKPbc	PKPbc	14 10 25.0	+1.0
WLF	Walferdange	154.02	358	PKPbc	PKPbc	14 10 26.7	+2.7
WLF				PKPab	PKPab	14 10 39.1	+1.7
WLF	Walferdange	154.02	358	ePKPbc	PKPbc	14 10 25.0	+0.9
BZS	Buzias	154.15	332 ⇓	i P	PKPdf	14 10 16.1	-0.1
BZS	Buzias	154.15	332	P	PKPdf	14 10 17.0	+0.8
SOP	Sopron	154.23	341⇑	ePKP	PKPdf	14 10 16.6	+0.3
ROSF	Rostrenen	154.58	12	ePKIKP	PKPdf	14 10 15.2	-1.6
	comp=Z,323nm,1.8s						
STU	Stuttgart	154.69	353	ePKPbc	PKPdf	14 10 17.5	+0.6
STU				epPKPbc	PKPbc	14 10 25.9	+0.4
GOLH	Golhisar	154.74	308	i P	PKPdf	14 10 22.3	+5.3
SGMF	Saint Gilles	154.79	11	ePKIKP	PKPdf	14 10 15.6	-1.5
	comp=Z,160nm,1.5s						
LDF	La Druitiere	154.83	8	ePKIKP	PKPdf	14 10 16.8	-0.3
PKSM	Moragy	154.84	337⇑	i P	PKPdf	14 10 17.6	+0.5
PKSM	Moragy	154.84	337	P	PKPdf	14 10 17.7	+0.6
FUR	Furstenfeldbru	154.99	350	ePKPbc	PKPdf	14 10 17.5	+0.2
AKAS	Kas	155.12	306	i P	PKPdf	14 10 17.2	-0.3
MEZF	Maizieres J'vi	155.21	359	ePKIKP	PKPdf	14 10 17.7	+0.1
	comp=Z,31nm,1.0s						
BFO	Black Forest	155.21	354	ePKPbc	PKPdf	14 10 17.2	-0.4
CDF	Champ du Feu	155.22	356	ePKIKP	PKPdf	14 10 17.7	+0.1
VTS	Vitosha	155.67	325	⇑PKIKP	PKPdf	14 10 17.7	-0.5
HAU	Haudompre	155.67	357	ePKIKP	PKPdf	14 10 18.2	-0.1
HAU				eMLR	MLR		
	comp=Z,1μm,18.8s						
HAU	Haudompre	155.67	357	ePKPdf	PKPdf	14 10 18.2	-0.1
HAU				LR	LR		
	comp=Z,2μm,18.8s,MS5.8						
KDAG	Bornova	155.80	313	i P	PKPab	14 10 45.6	+0.6
WTTA	Wattenberg	155.80	348 ⇓	i P	PKPdf	14 10 19.0	+0.6
	comp=Z,46nm,1.8s						
IZM	Izmir	155.80	313	eP	PKPab	14 10 45.8	+0.7
HINF	Hinteralfeld	155.84	356	ePKIKP	PKPdf	14 10 18.4	-0.1
DIVS	Divcibare	156.06	332	i P	PKPdf	14 10 16.6	-2.2
DAVA	Damuels	156.06	351 ⇓	i P	PKPdf	14 10 20.4	+1.7
	comp=Z,25nm,1.4s						
LJU	Ljubljana	156.30	343	ePKPdf	PKPdf	14 10 22.4	+3.3
ROBS	Robic	156.37	345	i PKPdf	PKPdf	14 10 21.2	+2.1
ROBS				i		14 11 11.0	
DAT	Datca	156.39	309	eP	PKPdf	14 10 29.1	+10
LOR	Lormes	156.44	1	ePKIKP	PKPdf	14 10 19.2	-0.1
	comp=Z,112nm,1.6s						
LOR				eMLR	MLR		
	comp=Z,2μm,20.5s						
LOR	Lormes	156.44	1	ePKPdf	PKPdf	14 10 19.2	-0.1
LOR				LR	LR		
	comp=Z,2μm,20.5s,MS6.0						
BOJS	Bojanci	156.58	341	i PKPdf	PKPdf	14 10 22.2	+2.8
BOJS				i PKPbc	PKPdf	14 10 31.6	+12
BOJS				i		14 10 46.0	
BOJS				i		14 10 57.3	
SSF	Saint Saulge	156.63	2	ePKIKP	PKPdf	14 10 19.5	0.0
	comp=Z,35nm,1.2s						
AVF	Avril sur Loir	156.90	2	ePKIKP	PKPdf	14 10 19.5	-0.4
VAY	Valandovo	156.90	324	ePKP	PKPdf	14 10 16.0	-3.9
CABF	La Chapelle	157.08	358	ePKIKP	PKPdf	14 10 20.6	+0.5
	comp=Z,36nm,1.1s						
TCF	Toulx Ste Croi	157.34	4	ePKIKP	PKPdf	14 10 20.4	0.0
	comp=Z,82nm,1.6s						
APE	Apeiranthos	157.66	312	⇑PKIKP	PKPdf	14 10 21.7	+0.9
OHR	Ohrid	157.98	326	ePKP	PKPdf	14 10 18.5	-2.7
LPL	La Plagne	158.13	356	ePKIKP	PKPdf	14 10 21.9	+0.5
LPG	La Plagne	158.15	356	ePKIKP	PKPdf	14 10 21.8	+0.4
RJF	Les Rejaudoux	158.26	6	ePKIKP	PKPdf	14 10 21.7	+0.1
	comp=Z,27nm,1.1s						
RJF				eMLR	MLR		
	comp=Z,2μm,21.5s						
RJF	Les Rejaudoux	158.26	6	ePKPdf	PKPdf	14 10 21.7	+0.1
RJF				LR	LR		
	comp=Z,2μm,21.5s,MS5.8						
LFF	La Frestale	158.53	8	ePKIKP	PKPdf	14 10 21.7	-0.2
BNI	Bardonecchia	158.60	356	ePKIKP	PKPdf	14 10 22.1	+0.1
CAF	Calviac	158.68	5	ePKIKP	PKPdf	14 10 22.3	+0.2
ORIF	Oris-en-Rattie	158.77	358	ePKIKP	PKPdf	14 10 22.3	+0.1
ORIF				eMLR	MLR		
	comp=Z,2μm,22.8s						
VIVF	Saint-Julien-l	158.86	0	ePKIKP	PKPdf	14 10 22.9	+0.6
	comp=Z,89nm,1.6s						
MBDF	Montbardon	158.92	356	ePKIKP	PKPdf	14 10 22.6	+0.3
	comp=Z,125nm,1.8s						
SBF	Sospel	159.72	354	ePKIKP	PKPdf	14 10 23.2	-0.1
	comp=Z,174nm,1.6s						
SMRF	Simiane la Rot	159.72	358	ePKIKP	PKPdf	14 10 23.3	0.0
	comp=Z,141nm,1.6s						
PVIS	Viseu	159.97	29	ePKPdf	PKPdf	14 10 23.6	0.0
PVIS	Viseu	159.97	29	ePKPab	PKPab	14 11 00.0	-3.1
SJPF	Ste Jean	159.99	13	ePKIKP	PKPdf	14 10 22.6	-1.0
	comp=Z,134nm,1.8s						
MTLF	Montolieu	160.27	5	ePKIKP	PKPdf	14 10 23.4	-0.5
	comp=Z,30nm,1.3s						
LMR	La Mourre	160.32	356	ePKIKP	PKPdf	14 10 23.9	-0.1
ETSF	Etsaut	160.33	12	ePKIKP	PKPdf	14 10 23.3	-0.7
	comp=Z,19nm,1.0s						
EPF	Esparros	160.35	10	ePKIKP	PKPdf	14 10 23.7	-0.3
	comp=Z,32nm,1.1s						
MTE	Manteigas	160.38	29	ePKPdf	PKPdf	14 10 23.0	-1.0
MTE	Manteigas	160.38	29	ePKPab	PKPab	14 11 05.4	+0.5
MTE	Manteigas	160.38	29	i P	SS	14 35 03.3	+5.6
MTE	Manteigas	160.38	29	eLR	LR	15 12 53.9	
	comp=Z,2μm,17.8s						
MTE	Manteigas	160.38	29	ePKPdf	PKPdf	14 10 23.9	-0.1
PTOM	Tomar	160.61	32	ePKPdf	PKPdf	14 10 26.3	+2.0
PTOM	Tomar	160.61	32	ePKPab	PKPab	14 11 04.7	-1.1
PMAFR	Mafra	160.67	35	ePKPdf	PKPdf	14 10 24.9	+0.6
PMAFR	Mafra	160.67	35	ePKPab	PKPab	14 11 02.9	-3.2
DBIC	Dimbokro	160.77	150	PKP	PKPdf	14 10 25.6	+1.2
	comp=Z,7.7nm,1.0s,baz=90,slow=4.2,SNR=5.0						
DBIC				PKPab	PKPab	14 11 08.9	+2.3
	comp=Z,14nm,1.1s,baz=191,slow=7.0,SNR=3.1						
DBIC	Dimbokro	160.77	150	PKP	PKPdf	14 10 25.6	+1.2
DBIC				PKPab	PKPab	14 11 08.9	+2.3
DBIC				LR	LR		
	comp=Z,2μm,20.0s						
PGF	Pioggiola	160.83	350	ePKIKP	PKPdf	14 10 24.5	0.0
	comp=Z,88nm,1.3s						
PCBR	Castelo Branco	160.87	30	ePKPdf	PKPdf	14 10 24.6	+0.1
PCBR	Castelo Branco	160.87	30	ePKPab	PKPab	14 11 06.0	-1.0
PESTR	Estremoz	161.59	32	ePKPdf	PKPdf	14 10 24.8	-0.5
PESTR	Estremoz	161.59	32	ePKPab	PKPab	14 11 10.0	-0.1
PESTR	Estremoz	161.59	32	i P	SS	14 35 20.6	+10
EVO	Evora	161.64	33	ePKIKP	PKPdf	14 10 25.1	-0.3
	comp=Z,80nm,1.3s						
EVO				eMLR	MLR		
	comp=Z,3μm,19.0s						
PBEJ	Beja	162.10	34	ePKPdf	PKPdf	14 10 26.7	+0.9
PBEJ	Beja	162.10	34	ePKPab	PKPab	14 11 11.8	-0.6
ESDC	Sonseca Array	162.44	23	PKP	PKPdf	14 10 27.9	+1.8
	comp=Z,6.6nm,1.0s,baz=350,slow=2.3,SNR=20						
ESDC				PP	PP	14 15 14.1	+16
	comp=Z,0.1nm,0.4s,baz=325,slow=5.8,SNR=4.1						
ESLA	Sonseca Array	162.44	23	ePKPdf	PKPdf	14 10 26.9	+0.8
ESLA				LR	LR		
	comp=Z,13μm,19.0s						
KEST	Kesra	167.31	343	PKP	PKPdf	14 10 31.4	+1.0
	comp=Z,1.6nm,0.9s,baz=289,slow=4.1,SNR=3.6						
KEST				PKPab	PKPab	14 11 37.3	+1.9
	comp=Z,4.1nm,1.0s,baz=88,slow=2.2,SNR=5.5						
TOA0	Torodi Ar. Sit	169.16	164	ePKPdf	PKPdf	14 10 32.6	+1.0
TORD	Torodi Ar. Bea	169.16	164	PKP	PKPdf	14 10 32.5	+0.9
	comp=Z,7.0nm,1.0s,baz=342,slow=0.8,SNR=18						
TORD				PKPab	PKPab	14 11 46.4	+2.9
	comp=Z,7.3nm,0.8s,baz=182,slow=3.6,SNR=15						
TORD				PP	PP	14 15 36.1	+3.2

NEIC ***08*** *13:59:47.6±1.2, 1803S×17836W, mb4.2/3, Error ellipse: s-maj=66.9km s-min=16.6km az=154.0*
ISCJB ***08*** *13:59:50.8±1.3, 181S±04×1785W±02, h600km, mb4.2/8, Error ellipse: s-maj=63.6km s-min=16.4km az=129.2*
IDC ***08*** *13:59:57.3±6.8, 1797S×17870W, h668km±87km, mb3.3/8, mb1 3.5/8, mb1mx3.3/16, mbtmp4.4/8, Error ellipse: s-maj=68.1km s-min=34.3km az=147.0*

ISC 08 13:59:52.2±1.3, 181S±04×1785W±02, h600km, n17, σ0°54/16, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.35	261	eP	P	P	14 05 41.9	-0.3
	2.4nm,0.4s,mb4.2							
CTA	Charters Tower	33.35	261	P	P	P	14 05 42.1	0.0
	2.8nm,0.4s,mb4.3,baz=92,slow=13,SNR=12							
PMG	Port Moresby	34.43	280	P	P	P	14 05 52.2	+1.0
	17nm,0.8s,mb4.8,baz=336,slow=0.5,SNR=3.6							
STKA	Stephens Creek	38.47	241	eP	P	P	14 06 24.9	+0.6
	2.8nm,0.6s,mb4.0							
STKA	Stephens Creek	38.47	241	P	P	P	14 06 25.5	+1.2
	3.5nm,0.6s,mb4.1,baz=89,slow=6.7,SNR=6.7							
WB2	Warramunga Arr	44.52	260	eP	P	P	14 07 11.0	-0.8
WB2	Warramunga Arr	44.52	260	eP	P	P	14 07 11.0	-0.8
WRA	Warramunga Arr	44.53	260	P	P	P	14 07 11.2	-0.7
	3.5nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=58							
WRA				pP	pP	pP	14 08 51.5	-5.9
	7.9nm,1.3s,baz=99,slow=8.2,SNR=4.9							
AS31	Alice Springs	44.67	254	eP	P	P	14 07 12.9	0.0
ASAR	Alice Springs	44.67	254	P	P	P	14 07 13.0	+0.1
	16nm,0.5s,mb4.8,baz=87,slow=9.0,SNR=140							
ASAR				pP	pP	pP	14 08 54.2	-4.3
	4.1nm,1.1s,baz=93,slow=6.9,SNR=4.9							
ASPA	Alice Springs	44.67	254	eP	P	P	14 07 12.9	-0.1
KAKA	Kakadu	47.51	269	eP	P	P	14 07 33.9	-0.5
	7.6nm,0.6s,mb4.4							
FITZ	Fitzroy Crossi	52.93	261	P	P	P	14 08 13.9	+0.2
	4.4nm,1.0s,mb3.8,baz=83,slow=8.1,SNR=6.7							
NVAR	Mina Array Bea	79.62	44	P	P	P	14 10 58.7	+0.4
	0.1nm,0.3s,baz=225,slow=9.6,SNR=4.3							
NVAR	Mina Array Bea	79.62	44	P	P	P	14 10 58.7	+0.4
PDAR	Pinedale Array	87.55	43	P	P	P	14 11 37.0	-0.4
	0.6nm,0.6s,mb3.5,baz=230,slow=2.6,SNR=3.9							
GERES	GERESS Array B	147.79	345	PKPbc	PKPbc	PKPbc	14 18 28.4	-2.1
	1.0nm,1.1s,baz=290,slow=4.0,SNR=3.6							

CASC 08 14:00:39.0±1.8, 932N×8275W, h0km±7km, MD3.8, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CNI	Changuinola	0.25	68 ⇑	i P	Pg	Pg	14 00 44.7	+1.0
DVD	David	0.93	162	eP	Pg	Pg	14 00 55.9	-0.9
BUS	Buena Vista	1.02	283	eP	Pg	Pg	14 00 59.6	+1.0
BUS				eS	Sg	Sg	14 01 15.0	+3.1
PRS1	Puriscal	1.68	293 ⇑	eP	Pn	Pn	14 01 10.4	+0.9
PRS1				eS	Sn	Sn	14 01 33.7	+2.0
CGA2	Cerro Gallo 2	1.83	292	eP	Pn	Pn	14 01 12.6	+0.9
CGA2				eS	Sn	Sn	14 01 37.9	+2.4

SZGRF ***08*** *14:10:11.9, 2321S×174.15W, h19km, Tonga Islands region*
BJI ***08*** *14:10:14.9, 23.16S×175.12W, h5km, mB5.8, mb5.4, Ms5.5, Msz5.3*
IDC ***08*** *14:10:14.9±0.4, 2334S×17577W, h0km, mb5.0/17, mb1 5.1/17, mb1mx5.1/18, mbtmp5.0/17, ML5.9/1, MS5.1/11, Ms1 5.1/11, ms1mx4.8/24, Error ellipse: s-maj=16.2km s-min=12.1km az=161.0*
ISCJB ***08*** *14:10:15.1±0.1, 2353S±004×17547W±004, h10km, mb5.3/82, MS5.2/25, Error ellipse: s-maj=7.4km s-min=4.0km az=105.2*
NEIC ***08*** *14:10:16.4±0.1, 2347S×17539W, h10km, mb5.4/60, MS5.3/4, Error ellipse: s-maj=7.7km s-min=4.4km az=150.0*
GCMT ***08*** *14:10:16.4±0.2, 2365S×17491W, h18km, MW5.3/88, Moment Tensor Solution. s45,c61; s88,c144; Duration: 1±1 Moment tensor: Scale 10^17Nm; Mrr-1.28±.05; Mθθ0.73±.03; Mφφ0.54±.03; Mrθ0.15±.07; Mφθ0.23±.02; Mφr0.37±.07; Best double couple: M0 1.15100×10^17 NP1:φs60.00000°, δ37.00000°, λ-79.00000°. NP2: φs226.00000°, δ54.00000°, λ-98.00000°. Principal axes: T 0.9430, Plg9.0000°, Azm322.0000°; N 0.4170, Plg7.0000°, Azm231.0000°; P -1.3580, Plg79.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***08*** *14:10:20.1±1.1, 2349S×17585W, h33km, mb5.4/26 Error ellipse: s-maj=14.7km s-min=11.4km az=103.6*

ISC 08 14:10:16.6±0.1, 2356S±004×17542W±004, h11km, h11km±1.3km: pP-P, n654, σ0°72/393, mb5.3/81, MS5.2/25, 116C-103D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	Raoul Island	6.09	201	Pn	Pn	Pn	14 11 48.3	+1.7
	254nm,0.3s,baz=119,slow=19,SNR=28							
RAO				Sn		Sn	14 12 55.1	-1.2
	466nm,0.3s,baz=95,slow=23,SNR=13							
RAO	Raoul Island	6.09	201	P		Pn	14 11 48.3	+1.7
RAO							14 12 55.1	
				pmax	pmax			
	comp=Z,254nm,0.3s							
RAO				smax				
	comp=N,466nm,0.3s							
RAO	Raoul Island	6.09	201	ePn		Pn	14 11 47.9	+1.3
	comp=N,739nm,0.4s							
RAO				eSn		Sn	14 12 55.7	-0.6
AFI	Afiamalu	10.20	20	Pn		Pn	14 12 35.4	-7.5
	comp=N,136nm,0.3s,baz=166,slow=1.5,SNR=49							
AFI				Sn		Sn	14 14 18.7	-19
	comp=N,28nm,0.3s,baz=210,slow=23,SNR=3.5							
AFI	Afiamalu	10.20	20	ePn		Pn	14 12 35.8	-7.2
	comp=N,384nm,0.5s							
AFI				eSn		Sn	14 14 16.6	-21
RAR	Rarotonga	14.66	84	Pn		Pn	14 13 36.3	-7.6
	comp=N,19nm,0.3s,baz=238,slow=5.7,SNR=21							
RAR				Sn		Sn	14 16 02.6	-24
	comp=N,12nm,0.3s,baz=77,slow=17,SNR=6.8							
PUZ	Puketiti	15.44	199	ePN		Pn	14 13 45.2	-9.2
PUZ				eSN		Sn	14 16 27.0	-18
URZ	Urewera	15.98	202	Pn		Pn	14 13 58.1	-3.3
	comp=N,1.8nm,0.3s,baz=24,slow=20,SNR=3.0							
URZ				Sn		Sn	14 16 44.8	-14
	comp=N,9.6nm,0.3s,baz=297,slow=23,SNR=8.1							
DZM	Mont Dzumac	16.79	272	eP		Pn	14 14 15.7	+4.0
DZM	Mont Dzumac	16.79	272	Pn		Pn	14 14 15.8	+4.1
	comp=N,2.0nm,0.3s,baz=96,slow=17,SNR=38							
TCW	Tory Channel	19.61	204	eSN		Sx	14 18 04.6	
NNZ	Nelson	19.95	205	eSN		Sx	14 18 12.5	
QRZ	Quartz Range	19.97	208	eSN		Sn	14 18 18.5	-17
THZ	Tophouse	20.61	205	eP*		P	14 14 53.5	-2.3
THZ				eSN		S	14 18 28.7	-17
LTZ	Lake Taylor	21.72	205	eS*		S	14 18 51.2	-17
MQZ	McQueen's Vall	22.37	203	eS*		S	14 19 04.3	-16
RPZ	Rata Peaks	22.98	206	P		P	14 15 22.4	+1.2
	comp=N,19nm,0.8s,mb4.6,baz=350,slow=17,SNR=11							
RPZ				S		S	14 19 15.4	-16
	comp=N,4.8nm,0.5s,baz=31,slow=22,SNR=2.6							
TBI	Tubuai	23.81	95	eLQ			14 19 44.5	
	comp=N,3μm,28.5s							
TBI				eLR		LR	14 20 57.7	
	comp=N,4μm,26.2s,baz=265							
PAE	Paea	24.87	81	eP		P	14 15 36.7	-2.5
	comp=N,87nm,1.1s,mb5.2							
PPT	Papeete	24.90	81	eP		P	14 15 37.2	-2.3
	comp=N,82nm,1.3s,mb5.1							
PPT	Papeete	24.90	81	eLQ			14 20 22.0	
	comp=N,2μm,26.5s							
PPT				eLR		LR	14 21 24.1	
	comp=N,4μm,24.8s,baz=257							
PPT	Papeete	24.90	81	P		P	14 15 35.5	-4.0
	comp=N,70nm,1.1s,mb5.1,baz=236,slow=3.4,SNR=9.8							
PPT				LR		LR	14 22 27.0	
	comp=N,3μm,20.0s,MS4.7,baz=272,slow=29							
TVO	Taravao	25.13	82	eP		P	14 15 39.2	-2.4
	comp=N,291nm,1.4s,mb5.6							
PMOR	Pomariorio Ree	27.30	77	eP		P	14 15 59.0	-2.2
	comp=N,44nm,1.3s,mb4.8							
HNR	Honiara	27.42	297	P		P	14 16 02.4	+0.1
	comp=N,15nm,0.4s,mb4.8,baz=267,slow=6.5,SNR=2.5							
HNR				LR		LR	14 25 25.7	
	comp=N,3μm,18.6s,MS4.8,baz=181,slow=34							
HNR	Honiara	27.42	297	P		P	14 16 02.4	+0.1
HNR				pmax		pmax		
	comp=Z,15nm,0.4s,mb4.9							
HNR				MLR		MLR		
	comp=Z,3μm,18.6s,MS4.8							
HNR	Honiara	27.42	297	eP		P	14 16 03.6	+1.4
	comp=Z,292nm,1.4s,mb5.6							
VAH	Vaihoa	27.45	78	eP		P	14 16 00.4	-2.2
	comp=Z,64nm,1.2s,mb5.0							
ARMA	Armidale	30.07	250	eP		P	14 16 26.7	+0.8
CNB	Canberra Magne	32.67	241	eP		P	14 16 51.9	+3.2
	comp=Z,14nm,0.9s,mb4.9							
CTA	Charters Tower	35.68	268	eP		P	14 17 14.8	-0.1
	comp=Z,22nm,0.3s,mb5.6							
CTA				eS		S	14 22 46.6	-4.7
CTA	Charters Tower	35.68	268	P		P	14 17 14.0	-0.9
	comp=Z,34nm,0.4s,mb5.6,baz=96,slow=10,SNR=117							
CTA	Charters Tower	35.68	268	P		P	14 17 14.0	-0.9
CTA				pmax		pmax		
	comp=Z,34nm,0.4s							
TOO	Toolangi	36.17	238	eP		P	14 17 21.6	+2.5
	comp=Z,11nm,0.7s,mb4.9							
TAOE	Nuku Hiva Isla	36.76	72	eLR		LR	14 26 51.6	
	comp=Z,4μm,22.3s,baz=245							
RKT	Rikitea	37.05	98	eS		S	14 23 08.8	-3.5
	comp=Z,435nm,28.8s							
RKT				eLQ			14 25 36.6	
	comp=Z,416nm,26.5s							
RKT				eLR		LR	14 27 03.1	
	comp=Z,2μm,27.2s,baz=263							
RKT	Rikitea	37.05	98	eP		P	14 17 25.2	-1.4
	comp=Z,49nm,0.9s,mb5.3							
RKT				eS		S	14 23 08.8	-3.5
RKT				eLQ			14 25 36.6	
PMG	Port Moresby	38.41	285	P		P	14 17 36.6	-1.5
	comp=Z,25nm,0.8s,mb5.0,baz=71,slow=5.9,SNR=9.1							
PMG	Port Moresby	38.41	285	P		P	14 17 36.6	-1.5

VNDA Vanda 55.10 186 P **P** **14 19 51.2 +2.5**
VNDA 14 20 50.7
VNDA pmax pmax
comp=Z,19nm,1.0s
VNDA pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 55.10 186 *e*P **P** **14 19 51.0 +2.2**
comp=Z,43nm,1.3s,mb5.3
VNDA *e*PcP PcP 14 20 51.3 +1.3
KLBR Kellerberrin 58.98 246 *e*P **P** **14 20 15.7 -0.5**
comp=Z,39nm,0.9s,mb5.4
NWAO Narrogin (SRO) 59.19 245 P **P** **14 20 17.4 -0.3**
comp=Z,11nm,0.8s,mb5.0,baz=64,slow=8.7,SNR=11
NWAO LR LR 14 43 15.9
comp=Z,2µm,19.5s,MS5.3,baz=73,slow=34
MUN Mundaring 60.20 246 *e*P **P** **14 20 30.6 +6.0**
CBIJ Chichi jima 64.91 318 LR LR 14 43 52.3
comp=Z,2µm,19.1s,MS5.2,baz=302,slow=31
QSPA South Pole Qui 66.52 180⇓ *i*P **P** **14 21 07.9 +1.4**
comp=Z,136nm,1.1s,mb5.9
MIR Mirnyy 69.25 205 *c i*P **P** **14 21 27.0 +3.3**
MIR pmax pmax
comp=Z,45nm,1.5s,mb5.2
MJAR Matsushiro Arr 74.08 323 P **P** **14 21 52.0 -0.8**
comp=Z,3.2nm,0.5s,mb4.5,baz=156,slow=5.7,SNR=19
MJAR LR LR 14 49 06.3
comp=Z,935nm,18.4s,MS5.1,baz=215,slow=32
MJAR Matsushiro Arr 74.08 323 P **P** **14 21 52.0 -0.8**
MJAR LR LR 14 49 06.3
ASAJ Asahikawa 77.55 330 P **P** **14 22 12.1 -0.5**
comp=Z,35nm,1.0s,mb5.3,baz=158,slow=32,SNR=5.9
ASAJ Asahikawa 77.55 330 P **P** **14 22 12.1 -0.5**
ASAJ pmax pmax
comp=Z,35nm,1.0s
V04C Ramage Ranch, 78.29 43 ⇓P **P** **14 22 17.1 +0.4**
baz=78
V03C Hunter Liggett 78.31 42 ⇓P **P** **14 22 17.5 +0.7**
baz=78
HAST UC Hastings Re 78.36 42 ⇓P **P** **14 22 17.5 +0.5**
baz=78
BNLO Ben Lomond (Sa 78.47 41 ⇓P **P** **14 22 17.8 +0.2**
baz=79
PKM Peak Mountain 78.47 44 ⇓P **P** **14 22 18.2 +0.5**
baz=79
JRSC Jasper Ridge 78.61 41 ⇑P **P** **14 22 18.2 -0.2**
baz=79
PKD Parkfield 78.69 43 ⇑P **P** **14 22 18.9 0.0**
baz=79
PTRM Twissleman Ran 78.71 43 *e*P **P** **14 22 19.2 +0.2**
PACP Pacheco Peak 78.92 41 ⇑P **P** **14 22 20.4 +0.3**
baz=79,SNR=14
109C Camp Elliot, M 79.00 47 ⇑P **P** **14 22 20.2 -0.4**
baz=79
DECC Green Verdugo 79.03 45 ⇓P **P** **14 22 20.4 -0.3**
baz=79
V05C Boulder Hill, 79.04 43 ⇓P **P** **14 22 21.5 +0.7**
baz=79
WENL Wente Brothers 79.04 41 ⇓P **P** **14 22 21.3 +0.5**
baz=79
CVS Carmenet Viney 79.10 40 ⇑P **P** **14 22 21.0 -0.2**
baz=79
HOPS Hopland 79.18 39 ⇑P **P** **14 22 21.9 +0.4**
baz=79
BDM Black Diamond 79.19 40 ⇓P **P** **14 22 21.9 +0.3**
baz=79
S04C Ingram Canyon, 79.22 41 P **P** **14 22 22.3 +0.5**
baz=79,SNR=8.4
T05C Eagle Field, D 79.22 42 ⇓P **P** **14 22 22.6 +0.8**
baz=79
ARVC Arvin 79.25 44 ⇑P **P** **14 22 21.9 -0.1**
baz=79
MURC Murrieta 79.37 46 ⇑P **P** **14 22 22.6 0.0**
baz=80
BFSC Mount Baldy St 79.46 45 ⇓P **P** **14 22 23.0 -0.1**
baz=80
MONP Monument Peak 79.47 47 ⇑P **P** **14 22 23.5 +0.4**
baz=80,SNR=5.2
MNRC McLaughlin Nat 79.47 39 ⇑P **P** **14 22 23.8 +0.6**
baz=80,SNR=5.5
MAW Mawson 79.50 199⇓ *i*P **P** **14 22 24.4 +1.1**
comp=Z,38nm,1.1s,mb5.2
MAW Mawson 79.50 199 P **P** **14 22 24.7 +1.4**
comp=Z,47nm,1.1s,mb5.3,baz=124,slow=6.2,SNR=79
MAW Mawson 79.50 199 P **P** **14 22 24.7 +1.4**
MAW pmax pmax
comp=Z,47nm,1.1s
PET Petropavlovsk 79.53 344 *e*P **P** **14 22 23.2 -0.3**
PET pmax pmax
comp=Z,20nm,0.7s,mb5.2
O01C Eel River Cons 79.53 38 ⇑P **P** **14 22 23.9 +0.5**
baz=80
VES Vestal, Richgr 79.54 43 P **P** **14 22 23.7 +0.2**
baz=80,SNR=12
DVTC Desert V Tower 79.54 48 ⇑P **P** **14 22 23.9 +0.4**
baz=80
Q03C Winters 79.55 40 ⇓P **P** **14 22 23.8 +0.2**
baz=80
EDW2 Edwards Air Fo 79.64 45 P **P** **14 22 24.1 0.0**
baz=80,SNR=14
YSS Yuzh-Sakhalins 79.70 332 P **P** **14 22 25.3 +0.9**
YSS Yuzh-Sakhalins 79.70 332 *i* P **P** **14 22 25.8 +1.4**
S05C Merced 79.72 42 ⇑P **P** **14 22 24.7 +0.2**
baz=80
RCTC Rector, Farmer 79.73 43 ⇑P **P** **14 22 24.7 +0.1**
baz=80
ISA Isabella 79.81 44 *e*P **P** **14 22 25.3 +0.3**
comp=Z,0.1nm,1.3s
ISA Isabella 79.81 44 P **P** **14 22 25.4 +0.4**
baz=80,SNR=16
GASB Alder Springs 79.82 39 ⇑P **P** **14 22 26.1 +1.1**
baz=80
PFO Pinyon Flat Ob 79.87 47 *e*P **P** **14 22 24.9 -0.4**
comp=Z,16nm,1.3s,mb4.8
PFO Pinyon Flat Ob 79.87 47 ⇓P **P** **14 22 25.4 0.0**
baz=80,SNR=5.7
SWSC Sam W. Stewart 79.92 47 ⇑P **P** **14 22 25.6 0.0**
baz=80
R04C Big Horse Ranc 79.94 41 ⇑P **P** **14 22 25.4 -0.3**
baz=80
Q04C Lincoln 80.06 40 ⇓P **P** **14 22 26.0 -0.3**
baz=80
SUTB Sutter Butte 80.08 39 ⇑P **P** **14 22 26.2 -0.2**
baz=80
HELL Mitchell Peak, 80.10 43 P **P** **14 22 26.3 -0.2**
baz=80,SNR=8.9
CMB Columbia Colle 80.13 41 P **P** **14 22 26.7 0.0**
baz=80,SNR=17
O02C Red Bluff 80.14 38 ⇑P **P** **14 22 27.0 +0.2**
baz=80,SNR=7.5
LRMC Laurel Mountai 80.20 44 ⇑P **P** **14 22 27.4 +0.3**
baz=80
KCC Kaiser Creek 80.33 42 ⇓P **P** **14 22 27.8 +0.1**
baz=80,SNR=9.3
OHCM Honcut 80.33 39 *e*P **P** **14 22 27.5 -0.3**
LAVA Lava Cap Winer 80.39 40 ⇓P **P** **14 22 27.9 -0.2**
baz=80,SNR=5.7
BELC Belle Mtn. 80.41 46 ⇑P **P** **14 22 28.4 +0.2**
baz=80,SNR=8.2
ORV Oroville 80.46 39 P **P** **14 22 28.6 +0.1**
baz=81,SNR=6.3
CWC Cottonwood Cre 80.55 43 ⇓P **P** **14 22 29.3 +0.3**
baz=81
WDC Whiskeytown Da 80.55 38 ⇑P **P** **14 22 29.0 +0.1**
baz=81,SNR=7.7
BC3 Big Chuckw Mtn 80.57 47 ⇑P **P** **14 22 29.6 +0.5**
baz=81,SNR=6.7
GLA Glamis 80.64 48 *e*P **P** **14 22 29.7 +0.2**
GLA Glamis 80.64 48 ⇑P **P** **14 22 29.8 +0.4**
baz=81,SNR=6.6
GSC Goldstone 80.66 45 *e*P **P** **14 22 29.2 -0.4**
GSC Goldstone 80.66 45 ⇓P **P** **14 22 29.6 0.0**
baz=81,SNR=9.4
MPMC Manual Prospec 80.69 44 P **P** **14 22 30.0 +0.3**
baz=81,SNR=14
HEC Hector,Ludlow 80.69 46 ⇓P **P** **14 22 29.6 -0.1**
baz=81
R05C Kirkwood Meado 80.75 41 P **P** **14 22 30.2 +0.2**
baz=81,SNR=10
MTUM Tungsten Hills 80.81 43 *e*P **P** **14 22 30.8 +0.4**
MLAC Mammoth Lakes 80.82 42 ⇓P **P** **14 22 31.1 +0.6**
baz=81
TIN Tinemaha 80.83 43 ⇑P **P** **14 22 30.5 0.0**
baz=81
M02C Callahan 80.92 37 ⇓P **P** **14 22 31.5 +0.6**
baz=81,SNR=8.8
R07C Lee Vining 80.98 42 ⇓P **P** **14 22 31.5 +0.3**
baz=81,SNR=5.8

K01A Sixes 81.01 35 ⇓P **P** **14 22 32.0 +0.5**
baz=81
R06C Coleville 81.01 41 P **P** **14 22 32.1 +0.7**
baz=81,SNR=17
L02A Cave Junction 81.02 36 ⇑P **P** **14 22 31.8 +0.3**
baz=81
O05C Quincy 81.07 39 ⇓P **P** **14 22 32.0 +0.3**
baz=81
IRM Iron Mountain 81.07 47 P **P** **14 22 32.1 +0.3**
baz=81,SNR=11
S08C White Mtn Res 81.15 43 P **P** **14 22 32.8 +0.6**
baz=81,SNR=28
O04C Chester 81.20 39 ⇓P **P** **14 22 32.7 +0.2**
baz=81
YBH Yreka Blue Hor 81.22 37 P **P** **14 22 33.1 +0.5**
baz=81,SNR=9.1
M03C McCloud 81.25 38 ⇓P **P** **14 22 32.7 0.0**
baz=81,SNR=5.7
Y12C Blythe 81.25 47 ⇑P **P** **14 22 33.2 +0.5**
baz=81
HATC Hat Creek Radi 81.32 38 ⇑P **P** **14 22 33.4 +0.3**
baz=81
TUQ Turquoise Mtn. 81.32 45 ⇓P **P** **14 22 33.1 0.0**
baz=81
WCN Washoe City 81.32 40 P **P** **14 22 33.6 +0.5**
baz=81,SNR=10
BEKR Beckwourth 81.33 40 ⇑P **P** **14 22 33.1 0.0**
baz=82,SNR=11
FURC Furnace Creek, 81.34 44 ⇑P **P** **14 22 33.0 -0.2**
baz=82
GRAC Grapevine Rang 81.34 43 ⇓P **P** **14 22 33.5 +0.3**
baz=82
SHOC Shoshone 81.36 45 ⇑P **P** **14 22 33.2 -0.2**
baz=82,SNR=6.0
P06A Stead Airport, 81.48 40 ⇓P **P** **14 22 34.4 +0.5**
baz=82
K02A Glendale 81.50 36 ⇑P **P** **14 22 34.1 0.0**
baz=82
ELFS Eagle Lake Fie 81.61 39 ⇓P **P** **14 22 34.7 +0.1**
baz=82
NVAR Mina Array Bea 81.65 42 P **P** **14 22 34.6 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=225,slow=9.7,SNR=63
R08A Mina 81.72 42 ⇓P **P** **14 22 35.2 0.0**
baz=82
M04C Macdoel 81.74 37 P **P** **14 22 35.8 +0.4**
baz=82,SNR=6.4
Y13A Salome 81.76 48 P **P** **14 22 36.0 +0.5**
baz=82,SNR=7.6
PAHR Pah Rah Range 81.80 40 *e*P **P** **14 22 35.6 0.0**
comp=Z,38nm,1.5s,mb5.1
PDMCI Parker Dam,Lak 81.83 47 ⇓P **P** **14 22 36.0 +0.2**
baz=82
O06A Flanigan 81.83 40 ⇓P **P** **14 22 35.8 0.0**
baz=82,SNR=8.1
M05C Lookout 81.85 38 ⇓P **P** **14 22 35.8 -0.1**
baz=82
J02A Umpqua 81.87 35 ⇑P **P** **14 22 36.2 +0.3**
baz=82
S09A Goldfield 81.88 43 ⇓P **P** **14 22 35.7 -0.3**
baz=82,SNR=10
V11A Goodsprings 81.88 45 ⇓P **P** **14 22 36.3 +0.2**
baz=82,SNR=6.2
W12A Cal Nev Ari 81.93 46 ⇑P **P** **14 22 36.7 +0.4**
baz=82
L04A Klamath Falls 81.98 37 ⇓P **P** **14 22 36.8 +0.3**
baz=82
P07A Fallon 81.99 41 ⇓P **P** **14 22 37.0 +0.3**
baz=82
Z14A Wintersburg 82.10 49 ⇑P **P** **14 22 37.6 +0.4**
baz=82,SNR=6.0
M06C Likely Place G 82.13 39 ⇑P **P** **14 22 37.4 0.0**
baz=82
Q08A Gabbs 82.14 42 ⇓P **P** **14 22 37.5 +0.1**
baz=82,SNR=9.3
VLA Vladivostok 82.15 324 *e*P **P** **14 22 38.0 +0.5**
VLA pmax pmax
comp=Z,47nm,1.5s,mb5.2
N06A Buffalo Meadow 82.21 39 P **P** **14 22 38.0 +0.2**
baz=82,SNR=10
X13A Yucca 82.21 47 P **P** **14 22 38.1 +0.3**
baz=82,SNR=12
115A Sonoran Desert 82.23 49 ⇓P **P** **14 22 37.8 -0.1**
baz=82
U11A Corn Creek 82.26 45 ⇑P **P** **14 22 38.0 0.0**
baz=82
R09A Tonopah 82.29 43 ⇓P **P** **14 22 38.3 +0.2**
baz=82,SNR=16
K04A Chilquin 82.36 37 ⇑P **P** **14 22 38.4 -0.2**
baz=82
Y14A Wickenburg 82.39 48 ⇑P **P** **14 22 38.9 +0.1**
baz=82,SNR=9.5
O07A Toulon 82.39 40 P **P** **14 22 38.9 +0.2**
baz=82,SNR=17
I03A Eugene 82.44 35 ⇑P **P** **14 22 39.1 +0.1**
baz=83
W13A Hualapai Mount 82.47 47 ⇑P **P** **14 22 39.7 +0.6**
baz=83,SNR=9.6
L05A Lakeview 82.48 38 ⇓P **P** **14 22 39.7 +0.4**
baz=83,SNR=9.5
116A Eloy 82.52 50 ⇓P **P** **14 22 39.8 +0.4**
baz=83
P08A Dixie Valley 82.57 41 ⇓P **P** **14 22 40.2 +0.5**
baz=83
Q09A Carvers 82.59 42 ⇓P **P** **14 22 39.7 -0.1**
baz=83
MOD Modoc 82.69 38 ⇑P **P** **14 22 40.2 -0.1**
baz=83,SNR=8.7
N07B Gerlach 82.73 40 ⇑P **P** **14 22 40.3 -0.2**
baz=83
X14A Yava 82.77 48 P **P** **14 22 41.4 +0.7**
baz=83,SNR=11
R10A Warm Springs 82.80 43 ⇓P **P** **14 22 41.3 +0.5**
baz=83,SNR=34
U12A Valley of Fire 82.81 45 ⇑P **P** **14 22 41.4 +0.5**
baz=83,SNR=9.1
K05A Summer Lake 82.89 37 ⇓P **P** **14 22 41.8 +0.4**
baz=83,SNR=22
H03A Soap Creek Ran 82.91 35 ⇓P **P** **14 22 41.8 +0.4**
baz=83
M07A Soldier Meadow 83.00 39 ⇑P **P** **14 22 42.1 +0.2**
baz=83,SNR=7.4
TUC Tucson 83.02 50 *e*P **P** **14 22 41.9 -0.2**
comp=Z,27nm,1.5s,mb5.1
P09A Austin 83.05 41 ⇓P **P** **14 22 42.3 +0.1**
baz=83
W14A Seligman 83.07 47 P **P** **14 22 43.2 +0.9**
baz=83,SNR=19
J05A Fort Rock 83.07 37 ⇓P **P** **14 22 42.6 +0.3**
baz=83,SNR=16
N08A GE Springer Mi 83.22 40 P **P** **14 22 43.2 +0.2**
baz=83,SNR=17
X15A Humboldt 83.23 48 ⇓P **P** **14 22 43.7 +0.7**
baz=83,SNR=13
K06A Valley Falls 83.30 37 ⇓P **P** **14 22 43.5 0.0**
baz=83,SNR=14
L07A Adell 83.31 39 P **P** **14 22 43.9 +0.4**
baz=83,SNR=22
G03A Yamhill 83.35 34 ⇓P **P** **14 22 44.1 +0.4**
baz=84
O09A Fish Creek Ran 83.41 41 P **P** **14 22 44.1 +0.1**
baz=84,SNR=10
H04A Detroit Lake 83.50 35 P **P** **14 22 44.2 -0.2**
baz=84,SNR=12
M08A Happy Creek Ra 83.50 39 P **P** **14 22 45.0 +0.6**
baz=84,SNR=9.9
P10A Eureka 83.51 42 ⇓P **P** **14 22 44.6 +0.1**
baz=84,SNR=7.2
Q11A Duckwater 83.54 43 P **P** **14 22 44.9 +0.2**
baz=84,SNR=15
W15A Williams 83.60 47 ⇓P **P** **14 22 45.9 +0.9**
baz=84
N09A Rock Creek Ran 83.63 40 ⇑P **P** **14 22 45.3 +0.2**
baz=84,SNR=6.3
F03A Seaside 83.63 34 ⇓P **P** **14 22 45.5 +0.3**
baz=84
I05A Bend 83.64 36 ⇑P **P** **14 22 45.3 +0.1**
baz=84,SNR=6.3
J06A Christmas Vall 83.65 37 ⇓P **P** **14 22 44.8 -0.4**
baz=84,SNR=21
NJ2 Nanjing 83.66 309 *e*P **P** **14 22 45.1 -0.2**
NJ2 AP pP 14 22 55.5 +6.6
NJ2 XP sP 14 22 59.9 +10
NJ2 PP PP 14 26 00.3 +2.3
NJ2 SKS 14 33 02.0
NJ2 S S 14 33 03.0 -4.7
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.7
NJ2 AMB AMB
comp=Z,860nm,10.6s
NJ2 LR LR
comp=N,590nm,22.2s,MS5.2
NJ2 LR LR
comp=E,890nm,24.1s,MS5.2
NJ2 LR LR
comp=Z,960nm,20.6s,MS5.2
G04A Mulino 83.69 35 ⇓P **P** **14 22 45.4 -0.1**
baz=84
K07A Rock Creek Ran 83.79 38 P **P** **14 22 46.2 +0.2**
baz=84,SNR=28
O10A Cortez Mining, 83.90 41 ⇑P **P** **14 22 46.5 0.0**
baz=84,SNR=6.6
P11A Circle Ranch, 83.90 42 ⇓P **P** **14 22 46.5 -0.1**
baz=84
WVOR Wild Horse Val 83.98 39 *e*P **P** **14 22 46.8 -0.1**
comp=Z,32nm,1.1s,mb5.4
H05A Madras 83.98 36 ⇑P **P** **14 22 47.0 +0.1**
baz=84,SNR=6.6
L08A Fields 83.99 39 P **P** **14 22 47.1 +0.2**
baz=84,SNR=18
M09A Marrel Ranch, 84.03 40 ⇓P **P** **14 22 47.4 +0.2**
baz=84
E03A Lebam 84.06 33 ⇑P **P** **14 22 47.6 +0.3**
baz=84
I06A Prineville 84.07 37 P **P** **14 22 47.9 +0.5**
baz=84,SNR=22
N10A Dunphy 84.15 41 ⇑P **P** **14 22 47.9 +0.1**
baz=84
J07A Hines 84.20 37 ⇓P **P** **14 22 48.0 -0.1**
baz=84,SNR=8.7
F04A Amboy 84.22 34 P **P** **14 22 48.1 -0.1**
baz=84,SNR=9.2
CCUT Cedar City 84.23 45 *e*P **P** **14 22 49.0 +0.8**
K08A Mann Creek Ran 84.25 38 P **P** **14 22 48.6 +0.3**
baz=84,SNR=9.9
SYO Syowa Base 84.26 192⇑ *i*P **P** **14 22 48.0 -0.4**
SYO Syowa Base 84.26 192⇑ *i*pP pP 14 22 52.5 +0.5
QIZ Qiongzhong 84.28 293 P **P** **14 22 49.1 +0.6**
QIZ S S 14 33 16.0 +2.1
QIZ AMB AMB
comp=Z,557nm,10.1s
QIZ LR LR
comp=E,780nm,16.3s
QIZ LR LR
comp=Z,1µm,16.3s,MS5.3
O11A Cowboy Ranch, 84.31 42 P **P** **14 22 49.1 +0.4**
baz=84,SNR=23
ARUT Antelope Range 84.32 45 *e*P **P** **14 22 49.1 +0.5**
G05A Wamic 84.33 35 ⇑P **P** **14 22 48.6 -0.1**
baz=84
P12A McGill 84.38 43 ⇑P **P** **14 22 49.3 +0.3**
baz=84,SNR=9.4
MDJ Mudanjiang 84.39 324 P **P** **14 22 49.8 +0.8**
MDJ AP pP 14 22 53.1 +0.5
MDJ XP sP 14 22 54.4 +0.5
MDJ PP PP 14 26 03.6 -0.3
MDJ S S 14 33 16.6 +1.6
MDJ XS sS 14 33 22.4 +1.4
MDJ SS SS 14 38 45.9 +0.9
MDJ AMB AMB
comp=Z,28nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,432nm,7.2s
MDJ LR LR
comp=N,699nm,15.4s,MS5.3
MDJ LR LR
comp=E,924nm,18.9s,MS5.3
MDJ LR LR
comp=Z,1µm,16.4s,MS5.4
MDJ Mudanjiang 84.39 324 *e*P **P** **14 22 50.3 +1.3**
comp=Z,42nm,1.1s,mb5.5
WUAZ Wupatki 84.39 47 *e*P **P** **14 22 49.6 +0.6**
comp=Z,54nm,1.6s,mb5.4
WUAZ Wupatki 84.39 47 P **P** **14 22 49.7 +0.7**
baz=84,SNR=12
E04A Onalaska 84.51 33 ⇑P **P** **14 22 50.4 +0.7**
baz=85
H06A Lindquist Farm 84.52 36 P **P** **14 22 49.5 -0.1**
baz=85,SNR=20
I07A Izee 84.55 37 P **P** **14 22 50.0 +0.2**
baz=85,SNR=17
M10A I.L. Ranch, Tu 84.63 40 P **P** **14 22 50.7 +0.5**
baz=85,SNR=18
J08A Circle Bar Ran 84.66 38 P **P** **14 22 50.5 +0.1**
baz=85,SNR=17
K09A Rome 84.67 39 P **P** **14 22 50.5 +0.1**
baz=85,SNR=33
N11A Elko Archery C 84.68 41 ⇓P **P** **14 22 50.6 +0.2**
baz=85,SNR=5.9
F05A White Salmon 84.68 35 ⇑P **P** **14 22 50.3 -0.2**
baz=85
G06A Carlson Farm, 84.69 35 P **P** **14 22 50.3 -0.2**
baz=85,SNR=12
H07A Lands Inn, Kim 84.84 36 ⇑P **P** **14 22 51.1 -0.2**
baz=85,SNR=21
SNAA Sanae 84.89 178⇓ *i*P **P** **14 22 51.5 0.0**
SNAA *e* pP 14 22 54.3 -0.9
SNAA *e* 14 23 07.0
SNAA Sanae 84.89 178 *e*P **P** **14 22 51.3 -0.2**
comp=Z,71nm,1.0s,mb5.8
VNA3 Neumayer Olymp 84.93 175⇓ *i*P **P** **14 22 51.7 -0.1**
VNA3 *e* pP 14 22 54.9 -0.5
VNA3 *e* 14 22 57.5
VNA3 *e* 14 23 07.8
O12A Currie 84.95 42 ⇓P **P** **14 22 51.9 +0.1**
baz=85,SNR=11
I08A Drewsey 84.95 37 ⇓P **P** **14 22 51.7 -0.2**
baz=85,SNR=6.2
E05A Randle 84.98 34 ⇓P **P** **14 22 51.7 -0.3**
baz=85,SNR=6.6
M11A Holland Ranch, 85.02 41 ⇑P **P** **14 22 52.6 +0.4**
baz=85,SNR=12
J09A Fry Pan Ranch, 85.06 38 ⇑P **P** **14 22 52.3 0.0**
baz=85,SNR=26
N12A Clover Valley, 85.12 41 ⇓P **P** **14 22 52.7 -0.1**
baz=85,SNR=5.5
B04A Port Angeles 85.12 32 ⇑P **P** **14 22 53.0 +0.2**
baz=85
C04A Brinnon 85.15 32 ⇓P **P** **14 22 53.0 +0.2**
baz=85
G07A Ruggs Ranch, H 85.22 36 ⇑P **P** **14 22 53.0 -0.2**
baz=85,SNR=11
D05A Enumclaw 85.28 33 ⇑P **P** **14 22 53.6 +0.1**
baz=85,SNR=10
H08A Prairie City 85.28 37 ⇑P **P** **14 22 53.1 -0.5**
baz=85,SNR=9.2
E06A Yakima 85.37 34 ⇑P **P** **14 22 53.8 -0.1**
baz=86,SNR=6.2
PLCA Paso Flores 85.44 133 P **P** **14 22 55.2 +0.9**
comp=Z,19nm,1.1s,mb5.1,baz=230,slow=6.7,SNR=9.3
PLCA LR LR 14 54 57.5
comp=Z,1µm,18.1s,MS5.3,baz=69,slow=31
F07A Phinny Hill Vi 85.49 35 ⇓P **P** **14 22 54.1 -0.5**
baz=86
M12A Wells 85.53 41 ⇑P **P** **14 22 54.8 0.0**
baz=86,SNR=5.0
MSU Marysvale 85.55 45 *e*P **P** **14 22 55.8 +0.9**
VNA1 Neumayer--Stat 85.61 176⇓ *i*P **P** **14 22 55.8 +0.6**
VNA1 *e* pP 14 22 58.4 -0.4
VNA1 *e* 14 23 02.3
VNA1 *e* 14 23 12.4
G08A Pilot Rock 85.62 36 P **P** **14 22 55.2 0.0**
baz=86,SNR=32
N13A Wendover, West 85.63 42 ⇓P **P** **14 22 55.5 +0.2**
baz=86
C05A Tolt Reservoir 85.78 33 ⇑P **P** **14 22 55.6 -0.4**
baz=86,SNR=5.4
MAIT Maitri 85.79 182 *e*P **P** **14 22 56.3 +0.3**
NVL N'lazarevskaya 85.79 182 *d i*P **P** **14 22 55.8 -0.3**
NVL pmax pmax
comp=Z,54nm,1.7s,mb5.5
D06A Cle Elum 85.87 34 ⇓P **P** **14 22 56.2 -0.2**
baz=86
H09A Durkee 85.93 37 ⇓P **P** **14 22 56.5 -0.3**
baz=86,SNR=8.7
B05A Bryant 85.96 32 ⇓P **P** **14 22 56.5 -0.3**
baz=86,SNR=5.1
E07A Sunnyside 85.96 35 ⇓P **P** **14 22 56.8 -0.1**
baz=86,SNR=5.4
A04A Legoe Bay, Lum 85.97 32 ⇓P **P** **14 22 56.8 -0.1**
baz=86,SNR=5.2
F08A Pendleton 86.04 36 ⇑P **P** **14 22 57.0 -0.3**
baz=86,SNR=7.3
DUG Dugway 86.11 43 ⇓P **P** **14 22 57.4 -0.2**
baz=86
WHN Wuhan 86.17 306 P **P** **14 22 59.8 +1.9**

CN2	Changchun	86.17	321	eP	P	14 22 58.9	+1.0
CN2				eS	S	14 33 32.6	-0.1
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,700nm,20.0s,MS5.3						
CN2				LR	LR		
	comp=E,1µm,20.0s,MS5.3						
CN2				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
BMO	Blue Mountains	86.25	37	eP	P	14 22 57.5	-0.8
	comp=Z,4.3nm,0.7s,mb4.8						
KLR	Kul'dur	86.37	328	eP	P	14 22 57.8	-1.1
B06A	Marblemount	86.43	33	⇓P	P	14 22 58.6	-0.6
	baz=87						
F09A	S2 Ranch, Elgi	86.46	36	⇑P	P	14 22 58.9	-0.4
	baz=87						
A05A	Maple Falls	86.46	32	⇓P	P	14 22 59.1	-0.3
	baz=87						
KULM	Kulim	86.55	277	eP	P	14 23 01.5	+1.7
C07A	Waterville	86.60	34	⇑P	P	14 22 59.4	-0.6
	baz=87,SNR=6.8						
MNTX	Cornudas Mount	86.61	53	eP	P	14 23 00.0	0.0
	comp=Z,43nm,1.3s,mb5.5						
TMUT	Trail Mountain	86.61	44	eP	P	14 23 00.9	+0.8
Y22C	IRIS PASSCAL I	86.70	51	⇑P	P	14 23 01.8	+1.2
	baz=87						
LENM	Lemitar	86.71	51	eP	P	14 23 01.1	+0.5
LAZ	Ladron	86.72	50	eP	P	14 23 01.5	+0.9
D08A	Wollman Farm,	86.78	35	⇑P	P	14 23 00.7	-0.2
	baz=87,SNR=7.1						
E09A	Wood Farm, Sta	86.84	36	⇑P	P	14 23 00.5	-0.7
	baz=87,SNR=7.3						
SRU	San Rafael	86.95	45	eP	P	14 23 02.0	+0.2
	comp=Z,34nm,1.4s,mb5.4						
F10A	Beach Ranch, E	86.99	36	P	P	14 23 01.1	-0.8
	baz=87,SNR=6.3						
LPM	Los Pinos Moun	87.03	51	eP	P	14 23 02.3	+0.1
B07A	Winthrop	87.07	33	⇓P	P	14 23 02.0	-0.4
	baz=87,SNR=7.3						
TIA	Tai'an	87.09	312	eP	P	14 23 02.8	+0.4
D09A	Jones Farm, Ri	87.10	35	⇓P	P	14 23 02.0	-0.4
	baz=87,SNR=5.6						
HLID	Hailey	87.11	40	eP	P	14 23 02.5	0.0
	comp=Z,13nm,1.4s,mb5.0						
HLID	Hailey	87.11	40	⇓P	P	14 23 02.3	-0.2
	baz=87						
C08A	Higginbotham F	87.18	34	⇑P	P	14 23 02.5	-0.4
	baz=87						
DAU	Daniels Canyon	87.21	43	eP	P	14 23 02.9	-0.1
MVCO	Mesa Verde	87.26	47	eP	P	14 23 02.9	-0.4
	comp=Z,18nm,1.4s,mb5.1						
MVCO	Mesa Verde	87.26	47	⇑P	P	14 23 03.3	+0.1
	baz=87						
MA2	Magadan	87.37	344	eP	P	14 23 02.7	-1.1
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.3						
MA2	Magadan	87.37	344	eP	P	14 23 02.9	-0.9
	comp=Z,22nm,1.3s,mb5.2						
ANMO	Albuquerque	87.48	50	⇑eP	P	14 23 03.5	-0.8
ANMO	Albuquerque	87.48	50	eP	P	14 23 04.5	+0.1
	comp=Z,103nm,1.8s,mb5.8						
TCUT	Toone Canyon	87.51	43	eP	P	14 23 05.0	+0.5
PV10	Paradox Valley	87.52	46	eP	P	14 23 04.1	-0.4
C09A	Chrisman Ranch	87.59	35	⇓P	P	14 23 04.2	-0.6
	baz=88						
HWUT	Hardware Ranch	87.69	42	eP	P	14 23 04.8	-0.6
	comp=Z,14nm,1.6s,mb5.0						
PV01	Paradox Valley	87.70	47	eP	P	14 23 05.1	-0.3
B09A	Rice	88.05	34	⇑P	P	14 23 06.4	-0.6
	baz=88,SNR=7.3						
C10A	Spilker Farm,	88.11	35	⇑P	P	14 23 06.4	-0.9
	baz=88						
A09A	Danville	88.18	33	⇑P	P	14 23 07.1	-0.6
	baz=88,SNR=9.9						
B10A	Chitwood Farm,	88.45	35	⇓P	P	14 23 08.5	-0.5
	baz=89						
A10A	Northport	88.70	34	⇓P	P	14 23 09.5	-0.6
	baz=89						
MCMT	McKenzie Canyo	88.77	39	eP	P	14 23 10.5	+0.1
C12A	Trout Creek	89.00	36	P	P	14 23 10.9	-0.7
	baz=89,SNR=14						
SKAG	Skagway	89.04	19	eP	P	14 23 11.3	-0.4
	comp=Z,95nm,1.9s,mb5.8						
SKAG				LR	LR		
	comp=Z,1µm,17.0s,MS5.3						
REDW	Red Top Meadow	89.11	41	eP	P	14 23 11.8	-0.3
	comp=Z,134nm,2.1s,mb5.9						
TPAW	Teton Pass	89.12	41	eP	P	14 23 12.0	-0.1
	comp=Z,11nm,1.2s,mb5.1						
KKTK	Khon Kaen	89.13	288	⇑P	P	14 23 15.0	+2.9
	comp=Z,370nm,0.9s						
DLMT	Dillon	89.22	39	eP	P	14 23 12.1	-0.4
	comp=Z,88nm,2.1s,mb5.7						
SMCO	Snowmass	89.31	46	eP	P	14 23 13.1	+0.1
	comp=Z,16nm,1.0s,mb5.3						
MSO	Missoula	89.32	37	eP	P	14 23 11.6	-1.4
	comp=Z,3.4nm,1.0s,mb4.6						
IMW	Indian Meadow	89.36	41	eP	P	14 23 13.4	+0.1
	comp=Z,13nm,1.2s,mb5.1						
LOHW	Long Hollow	89.40	41	eP	P	14 23 13.2	-0.2
	comp=Z,72nm,2.1s,mb5.6						
B12A	Libby	89.41	35	⇓P	P	14 23 13.1	-0.4
	baz=90						
MCK	McKinley	89.45	11	eP	P	14 23 12.3	-1.4
	comp=Z,9.9nm,1.0s,mb5.1						
C13A	Hot Springs	89.48	36	⇓P	P	14 23 13.4	-0.4
	baz=90						
SDCO	Great Sand Dun	89.57	48	eP	P	14 23 14.2	0.0
	comp=Z,17nm,1.3s,mb5.2						
PDAR	Pinedale Array	89.57	42	P	P	14 23 13.3	-0.9
	comp=Z,3.9nm,0.9s,mb4.8,baz=217,slow=3.5,SNR=25						
QLMT	Earthquake Lak	89.59	40	eP	P	14 23 14.8	+0.5
FLWY	Flagg Ranch	89.61	41	eP	P	14 23 13.4	-0.9
	comp=Z,27nm,1.3s,mb5.4						
A12A	Yaak River Ran	89.66	35	⇓P	P	14 23 14.3	-0.3
	baz=90						
BJT	Baijiatuan	89.73	314	eP	P	14 23 14.7	-0.3
	comp=Z,126nm,1.8s,mb5.9						
BJI	Beijing	89.74	314	P	P	14 23 15.4	+0.4
BJI				S	S	14 33 58.4	-8.2
BJI				AMB	AMB		
	comp=Z,23nm,2.0s,mb5.2						
BJI				LR	LR		
	comp=N,551nm,17.9s,MS5.3						
BJI				LR	LR		
	comp=E,972nm,16.8s,MS5.3						
BJI				LR	LR		
	comp=Z,753nm,17.9s,MS5.2						
BJI	Beijing	89.74	314	P	P	14 23 15.4	+0.4
	comp=Z,23nm,2.0s,mb5.2						
BJI				S	S	14 33 58.4	-8.2
BJI				LR	LR		
	comp=Z,750nm,17.9s,MS5.2						
CHMT	Chamberlain Mo	89.75	37	eP	P	14 23 14.2	-0.8
CHMT				e		14 23 30.9	
MENT	Mentasta	89.79	14	eP	P	14 23 14.3	-0.9
SEY	Seymchan	89.90	346	i P	P	14 23 14.6	-1.1
SEY	Seymchan	89.90	346	⇑eP	P	14 23 14.6	-1.1
B13A	Whitefish	89.95	36	⇑P	P	14 23 15.0	-1.0
	baz=90						
JCT	Junction City	90.22	57	eP	P	14 23 16.4	-0.8
	comp=Z,13nm,1.0s,mb5.2						
GYA	Guiyang	90.23	299	⇑iP	P	14 23 19.2	+1.9
GYA				AP	pP	14 23 23.9	+3.0
GYA				XP	sP	14 23 26.7	+4.5
GYA				PP	PP	14 26 56.6	+5.7
GYA				SKS		14 33 48.8	
GYA				S	S	14 34 11.1	-0.1
GYA				PS	PS	14 35 23.0	+4.4
GYA				SS	SS	14 40 15.2	+4.9
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
GYA				AMB	AMB		
	comp=Z,120nm,6.8s						
GYA				LR	LR		
	comp=N,870nm,20.4s,MS5.3						
GYA				LR	LR		
	comp=E,740nm,21.6s,MS5.3						
GYA				LR	LR		
	comp=Z,730nm,22.8s,MS5.0						
COLA	College	90.69	11	⇑iP	P	14 23 17.9	-1.5
COLA	College	90.69	11	eP	P	14 23 17.9	-1.6
	comp=Z,19nm,1.0s,mb5.4						
COLA				e		14 23 32.3	
IMA2	Indian Mountai	90.87	9	eP	P	14 23 19.3	-0.9
RLMT	Red Lodge	91.03	40	eP	P	14 23 19.8	-1.2
	comp=Z,11nm,1.2s,mb5.0						
GCMT	Greycliff	91.16	40	eP	P	14 23 20.5	-1.1
NST	Nakhon Sawan	91.21	286	P	P	14 23 22.0	+0.1
DAWY	Dawson	91.76	15	eP	P	14 23 23.9	-0.5
EGAK	Eagle	91.96	14	eP	P	14 23 24.5	-0.8
	comp=Z,16nm,1.0s,mb5.3						
EGMT	Eagleton	92.33	38	⇑P	P	14 23 27.0	0.0
	baz=92						
KMI	Kunming	92.85	296	P	P	14 23 32.4	+3.0
KMI				AP	pP	14 23 34.4	+1.3
KMI				XP	sP	14 23 35.6	+1.2
KMI				PP	PP	14 27 15.8	+4.1
KMI				PPP		14 29 18.1	
KMI				SKS		14 34 03.5	
KMI				S	S	14 34 33.9	-1.0
KMI				XS	sS	14 34 40.0	-1.0
KMI				PS	PS	14 35 51.0	+3.3
KMI				SS	SS	14 40 46.8	-1.3
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.6						
KMI				AMB	AMB		
	comp=Z,550nm,10.3s						
KMI				LR	LR		
	comp=N,673nm,23.0s,MS5.3						
KMI				LR	LR		
	comp=E,805nm,18.7s,MS5.3						
KMI				LR	LR		
	comp=Z,934nm,19.9s,MS5.2						
KMI	Kunming	92.85	296	P	P	14 23 32.4	+3.0
	comp=Z,26nm,1.1s,mb5.6						
KMI				pP	pP	14 23 34.4	+1.3
KMI				sP	sP	14 23 35.6	+1.2
KMI				PP	PP	14 27 15.8	+4.1
KMI				PPP		14 29 18.1	
KMI				SKS		14 34 03.5	
KMI				S	S	14 34 33.9	-1.0
KMI				sS	sS	14 34 40.0	-1.0
KMI				PS	PS	14 35 51.0	+3.3
KMI				SS	SS	14 40 46.8	-1.3
KMI				LR	LR		
	comp=Z,930nm,19.9s,MS5.2						
WMOK	Wichita Mounta	92.91	53	eP	P	14 23 28.6	-1.1
	comp=Z,8.9nm,1.1s,mb5.1						
HKT	Hockley	93.06	59	P	P	14 23 30.4	-0.1
	comp=Z,21nm,1.5s,mb5.3						
HHC	Hu-ho-hao-te	93.19	313	eP	P	14 23 31.7	+0.7
HHC				AP	pP	14 23 36.2	+1.6
HHC				XP	sP	14 23 38.8	+2.9
HHC				PP	PP	14 27 18.5	+4.2
HHC				S	S	14 34 36.7	-1.2
HHC				XS	sS	14 34 46.9	+2.9
HHC				AMB	AMB		
	comp=Z,26nm,0.6s,mb5.8						
HHC				AMB	AMB		
	comp=Z,390nm,8.6s						
HHC				LR	LR		
	comp=N,594nm,15.4s,MS5.4						
HHC				LR	LR		
	comp=E,845nm,16.3s,MS5.4						
HHC				LR	LR		
	comp=Z,1µm,19.4s,MS5.3						
EDM	Edmonton	93.39	32	eP	P	14 23 30.7	-1.2
CHG	Chiang Mai	93.51	289	⇑P	P	14 23 35.3	+2.8
	comp=Z,34nm,0.7s,mb5.9						
CHTO	Chiang Mai	93.51	289	eP	P	14 23 33.5	+1.0
	comp=Z,27nm,0.8s,mb5.7						
LAO	LASA Array	93.67	40	eP	P	14 23 33.8	+0.6
	comp=Z,33nm,1.2s,mb5.6						
RSSD	Black Hills	93.71	43	eP	P	14 23 32.6	-0.8
	comp=Z,20nm,1.1s,mb5.5						
CD2	Chengdu	94.44	302	eP	P	14 23 36.3	-0.4
CD2				XP	sP	14 23 43.8	+2.1
CD2				PP	PP	14 27 26.3	+2.2
CD2				SKS		14 34 09.4	
CD2				S	S	14 34 44.8	-4.1
CD2				SS	SS	14 41 10.7	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				LR	LR		
	comp=N,470nm,16.8s						
CD2				LR	LR		
	comp=Z,400nm,18.0s,MS4.9						
DGMT	Dagmar	95.75	39	eP	P	14 23 41.9	-0.8
	comp=Z,35nm,1.1s,mb5.7						
YAK	Yakutsk	95.84	337	⇑eP	P	14 23 41.6	-1.6
LZH	Lanzhou	96.51	306	eP	P	14 23 48.0	+1.8
LZH				AP	pP	14 23 51.2	+1.3
LZH				XP	sP	14 23 52.5	+1.3
LZH				PP	PP	14 27 45.1	+4.9
LZH				eSKS		14 34 23.1	
LZH				eS	S	14 35 05.6	-1.3
LZH				SS	SS	14 41 42.0	+1.7
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,60nm,4.2s						
LZH				LR	LR		
	comp=E,640nm,16.3s						
LZH				LR	LR		
	comp=Z,892nm,18.9s,MS5.3						
LZH	Lanzhou	96.51	306	eP	P	14 23 48.0	+1.8
	comp=Z,13nm,1.0s,mb5.3						
LZH				pP	pP	14 23 51.2	+1.3
LZH				sP	sP	14 23 52.5	+1.3
LZH				PP	PP	14 27 45.1	+4.9
LZH				eSKS		14 34 23.1	
LZH				eS	S	14 35 05.6	-1.3
LZH				SS	SS	14 41 42.0	+1.7
LZH				LR	LR		
	comp=Z,890nm,18.9s,MS5.3						
LPAZ	La Paz	98.69	112	P	P	14 23 58.3	+2.3
	comp=Z,2.5nm,0.8s,mb4.8,baz=257,slow=5.4,SNR=9.9						
LPAZ				LR	LR	15 00 30.2	
	comp=Z,478nm,18.8s,MS5.0,baz=36,slow=30						
SONM	Songino Array	99.62	318	P	Pdif	14 23 59.4	-0.8
	comp=Z,0.5nm,0.5s,baz=119,slow=3.4,SNR=4.5						
SONM				PKKPbc	PKKPbc	14 40 22.8	+1.2
	comp=Z,1.1nm,1.0s,baz=234,slow=1.3,SNR=5.8						
WMQ	Urumqi	110.72	310	ePKP	PKiKP	14 28 48.0	-1.5
WMQ				PP	PP	14 29 30.0	+3.7
WMQ				PPP		14 31 50.0	
WMQ				PKS		14 32 23.0	
WMQ				SKS	SKSdf	14 35 55.0	-6.6
WMQ				SKKS	SKKSac	14 36 21.0	-8.3
WMQ				PP	PP		
	comp=Z,218nm,6.6s						
WMQ				LR	LR		
	comp=N,818nm,21.4s,MS5.6						
WMQ				LR	LR		
	comp=E,1µm,21.6s,MS5.6						
WMQ				LR	LR		
	comp=Z,1µm,19.5s,MS5.5						
ZAL	Zalesovo	114.38	320	PKP	PKiKP	14 28 55.0	-1.5
	comp=Z,1.9nm,0.9s,baz=359,slow=2.7,SNR=10.0						
ZAL	Zalesovo	114.38	320	PKIKP	PKiKP	14 28 55.0	-1.5
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	115.02	312	PKP	PKiKP	14 28 56.7	-1.1
	comp=Z,3.6nm,0.8s,baz=86,slow=0.9,SNR=22						
MKAR				PKKPbc	PKKPbc	14 39 33.4	0.0
	comp=Z,0.3nm,0.3s,baz=283,slow=2.8,SNR=6.0						
MKAR	Makanchi Array	115.02	312	PKIKP	PKiKP	14 28 56.7	-1.0
MKAR						14 39 33.4	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	115.02	312	PKP	PKiKP	14 28 56.7	-1.1
MKAR				PKKPbc	PKKPbc	14 39 33.4	0.0
ULHL	Ulahol	118.73	307	P	PKPdf	14 29 05.2	+0.3
	SNR=7.8						
TKM2	Tokmak 2	119.27	307	P	PKPdf	14 29 05.3	-0.6
	SNR=7.8						
KZA	Kyzart	119.44	306	P	PKPdf	14 29 06.9	+0.7
	SNR=9.9						
KBK	Karagaybulak	119.72	307	P	PKPdf	14 29 07.0	+0.3
	SNR=5.0						
UCH	Uchtor	120.00	306	P	PKPdf	14 29 08.4	+1.1
	SNR=13						
AAK	Ala-Archa	120.05	307	⇑iPKIKP	PKPdf	14 29 05.9	-1.5
AAK	Ala-Archa	120.05	307	ePKPdf	PKPdf	14 29 05.6	-1.8
EKS2	Erkin-Say	120.58	307	P	PKPdf	14 29 08.8	+0.4
	SNR=7.2						
AML	Almayashu	120.60	306	P	PKPdf	14 29 09.2	+0.8
	SNR=11						
OPO	Ambohidratompo	120.99	229	PKP	PKPdf	14 29 09.6	+0.4
	comp=Z,5.7nm,0.9s,baz=355,slow=2.5,SNR=3.8						
CHKZ	Chkalovo	122.77	320	ePKPdf	PKPdf	14 29 11.2	-1.4
BVAR	Borovoye Array	122.95	319	PKP	PKPdf	14 29 11.5	-1.5
	comp=Z,11nm,0.8s,baz=90,slow=2.2,SNR=41						
BVAR	Borovoye Array	122.95	319	PKIKP	PKPdf	14 29 11.5	-1.5
BVAR				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	Borovoye	123.01	319	ePKPdf	PKPdf	14 29 12.3	-0.8
ZRNK	Zerenda	123.79	319	ePKPdf	PKPdf	14 29 13.4	-1.2
BOSA	Boshof	124.44	202	PKP	PKPdf	14 29 16.7	+0.9
	comp=Z,19nm,1.0s,baz=161,slow=2.9,SNR=11						
BOSA	Boshof	124.44	202	PKIKP	PKPdf	14 29 16.7	+0.9
BOSA				pmax	pmax		
	comp=Z,19nm,1.0s						
BOSA	Boshof	124.44	202	ePKPdf	PKPdf	14 29 17.0	+1.2
SUMG	Summit	125.53	15	ePKPdf	PKPdf	14 29 17.2	-0.7
ARU	Arti	129.07	325	i PKIKP	PKPdf	14 29 23.0	-1.7
ARU				e		14 31 29.2	
ARU				e		14 36 27.1	
ARU				ePS	PS	14 41 38.9	-2.2
ARU				eSS	SS	14 48 49.1	-2.8
ARU	Arti	129.07	325	ePKPdf	PKPdf	14 29 24.7	0.0
MATP	Matopo	130.45	210	PKP	PKPdf	14 29 28.3	+1.0
	comp=Z,6.2nm,0.7s,baz=167,slow=1.9,SNR=12						
MATP	Matopo	130.45	210	PKP	PKPdf	14 29 28.3	+1.0
AKTK	Aktyubinsk	130.93	317	PKP	PKPdf	14 29 27.9	-0.3
AKTO	Aktyubinsk	130.93	317	PKP	PKPdf	14 29 27.9	-0.3
	comp=Z,5.9nm,0.8s,baz=39,slow=2.8,SNR=18						
AKTO	Aktyubinsk	130.93	317	PKIKP	PKPdf	14 29 28.0	-0.2
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES	ARCESS Array B	132.34	350	PKP	PKPdf	14 29 27.8	-3.0
	comp=Z,4.1nm,0.7s,baz=42,slow=2.0,SNR=8.3						
ARCES	ARCESS Array B	132.34	350	PKIKP	PKPdf	14 29 27.8	-3.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSZ	Lusaka	135.03	213	PKP	PKPdf	14 29 36.3	+0.4
	comp=Z,11nm,1.0s,baz=168,slow=5.2,SNR=11						
LSZ	Lusaka	135.03	213	PKIKP	PKPdf	14 29 36.3	+0.4
LSZ				pmax	pmax		
	comp=Z,11nm,1.0s						
TSUM	Tsumeb	135.64	198	ePKPdf	PKPdf	14 29 38.0	+1.0
JOF	Joensuu	136.76	343	epkp	PKPdf	14 29 39.3	+0.2
KAF	Kangasniemi	138.73	345	epkp	PKPdf	14 29 42.0	-0.8
	baz=307,slow=2.4						
FINES	FINESS Array B	139.36	344	PKhKP		14 29 33.1	
	comp=Z,1.4nm,0.7s,baz=70,slow=6.3,SNR=7.1						
FINES				PKP	PKPdf	14 29 41.9	-2.1
	comp=Z,6.2nm,0.9s,baz=50,slow=2.9,SNR=8.1						
FINES	FINESS Array B	139.36	344	PKHKP		14 29 33.1	
FINES						14 29 41.9	
FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMBO	Kilima Mbogo	139.86	237	PKhKP		14 29 37.9	
	comp=Z,3.9nm,0.9s,baz=96,slow=3.8,SNR=11						
KMBO	Kilima Mbogo	139.86	237	PKHKP		14 29 37.9	
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	Kilima Mbogo	139.86	237	ePKPpre		14 29 38.6	
OBN	Obninsk	140.58	331	i PKIKP	PKPdf	14 29 45.3	-0.8
OBN				pmax	pmax		
	comp=Z,44nm,1.8s						
OBN	Obninsk	140.58	331	⇑iPKP	PKPdf	14 29 45.8	-0.3
VRSR	Storozhevoye	141.63	325	ePKIKP	PKPdf	14 29 47.7	-0.3
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
NB2	NORSAR Subarra	142.26	355	PKP		14 29 44.1	
	comp=Z,1.8nm,0.8s,baz=15,slow=3.0						
NOA	NORSAR Array B	142.26	355	PKhKP		14 29 44.1	
	comp=Z,3.5nm,0.8s,baz=16,slow=4.6,SNR=5.8						
NOA	NORSAR Array B	142.26	355	PKHKP		14 29 44.1	
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZEI	Tsey	142.34	310	ePKIKP	PKPdf	14 29 50.0	+0.7
GNI	Garni	142.45	306	⇑ePKP	PKPdf	14 29 50.7	+1.2
KIV	Kislovodsk	142.79	313	ePKIKP	PKPdf	14 29 49.3	-0.8
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	Kislovodsk	142.79	313	⇑ePKP	PKPdf	14 29 49.4	-0.7
HFS	Hagfors	142.90	352	PKhKP		14 29 45.1	
	comp=Z,6.7nm,0.8s,baz=83,slow=4.6,SNR=10						
HFS	Hagfors	142.90	352	PKHKP		14 29 45.1	
HFS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VANB	Van	143.83	304	eP	PKPdf	14 29 50.5	-1.4
BHD	Baghdad	143.87	295	ex	x	14 29 45.0	
CUKT	Cukurca	143.94	301	eP	PKPdf	14 29 45.6	-6.5
BCA	Borcka	144.36	309	eP	PKPdf	14 29 49.7	-3.2
SIRT	Sirnak	144.80	302	eP	PKPdf	14 29 53.4	-0.2
EZM	Erzurum	145.02	307	eP	PKPbc	14 29 54.8	+1.5
KTUT	Trabzon	145.84	309	eP	PKPdf	14 29 56.0	+0.7
ANN	Anapa	145.89	316	i PKP2	PKPab	14 29 55.7	-0.8
ANN				pmax	pmax		
	comp=Z,201nm,1.6s						
EZC	Erzincan	146.20	307	eP	PKPbc	14 29 59.7	+2.7
SUW	Suwalki	146.53	340	ePKP	PKPdf	14 29 58.0	+1.4
SUW	Suwalki	146.53	340	PKPdf	PKPdf	14 29 54.6	-1.9
SUW				ePKPbc	PKPbc	14 29 57.7	-0.3
SUW				ePKP	PKPdf	14 29 58.0	+1.4
PTK	Pertek	146.77	306	eP	PKPdf	14 29 59.5	+2.5
AKASG	Malin Array Be	146.84	331	PKPbc	PKPdf	14 29 55.0	-2.0
	comp=Z,33nm,1.0s,baz=38,slow=3.5,SNR=68						
AKASG	Malin Array Be	146.84	331	PKIKP	PKPdf	14 29 55.1	-2.0
AKASG				pmax	pmax		
	comp=Z,33nm,1.0s						
AKBB	Malin Array Si	146.84	331	ePKPdf	PKPdf	14 29 56.0	-1.1
AKBB				ePKPbc	PKPbc	14 29 58.1	-0.8
MUD	Monsted U'grnd	146.97	355	i P	PKPdf	14 29 58.8	+1.5
	comp=Z,91nm,1.1s						
MUD	Monsted U'grnd	146.97	355	i PKP2	PKPdf	14 29 58.8	+1.5
MUD				pmax	pmax		
	comp=Z,91nm,1.1s						
COP	Copenhagen	147.39	352	i P	PKPdf	14 29 59.9	+1.9
	comp=Z,104nm,1.5s						
COP							
	comp=Z,470nm,20.0s						
COP	Copenhagen	147.39	352	ePKP2	PKPdf	14 29 59.9	+1.9
COP				pmax	pmax		
	comp=Z,100nm,1.5s						
COP				MLR	MLR		
	comp=Z,470nm,20.0s,MS5.3						
BSD	Bornholm Skovb	147.56	349	i P	PKPdf	14 29 57.7	-0.6
BSD				e		14 52 10.1	
BSD	Bornholm Skovb	147.56	349	eP	PKPdf	14 29 57.7	-0.6
BSD				e		14 52

BALT	Daday	150.02 314	*i* P	PKPbc	14 30 04.8	-2.4
HTY	Hatay	150.04 302	*e*P	PKPbc	14 30 06.5	-0.8
CEYT	Ceyhan	150.08 304	*e*P	PKPbc	14 30 07.9	+0.5
CDAG	Cicekdag	150.17 310	*i* P	PKPdf	14 30 02.9	+0.4
RUE	Ruedersdorf	150.28 349	*e*PKPbc	PKPdf	14 30 01.4	-1.3
RUE			*ep*PKPbc	PKPbc	14 30 07.1	-0.8
RUE	Ruedersdorf	150.28 349	PKPdf	PKPdf	14 30 02.7	0.0
RUE			*e*PKPbc	PKPbc	14 30 08.0	+0.2
KWP	Kalwaria	150.35 336	*e*PKP	PKPbc	14 30 08.8	+0.8
ELDT	Eldivan	150.47 312	*i* P	PKPbc	14 30 08.7	+0.4
KARA	Karaisali	150.53 305	*e*P	PKPbc	14 30 07.7	-0.7
SAFT	Safranbolu	150.63 314	*e*P	PKPbc	14 30 08.9	+0.2
BR131	Keskin Array S	150.65 310	*e*PKPbc	PKPbc	14 30 08.8	+0.1
KAMT	Kaman	150.74 309	*e*P	PKPbc	14 30 08.8	-0.1
WIT	Witteveen	150.75 357	*e*PKP	PKPbc	14 30 09.8	+0.8
	comp=Z,461nm,1.1s					
NRDL	Niedersach Rie	150.81 353	*e*PKPbc	PKPdf	14 30 02.6	-0.9
NRDL			*ep*PKPbc	PKPbc	14 30 08.2	-0.9
OJC	Ojcow	150.86 340	*e*PKP	PKPbc	14 30 08.8	-0.4
BURAR	Bucovina Array	150.89 331	⇓*i*P	PKPbc	14 30 09.9	+0.6
BURAR	Bucovina Array	150.89 331	⇓P	PKPbc	14 30 09.9	+0.6
BHL	Bhannes	150.97 298	*e*P	PKPbc	14 30 10.3	+0.8
STHS	Stebnicka Huta	151.06 337	*i* PKP	PKPbc	14 30 10.4	+0.7
MERS	Mersin	151.06 304	*e*P	PKPbc	14 30 08.9	-0.7
KOLS	Kolonicke sedl	151.08 336	*e*PKP	PKPdf	14 30 04.1	+0.2
KOLS			*e*		14 30 10.6	
KOLS	Kolonicke sedl	151.08 336	*e*PKP	PKPdf	14 30 04.1	+0.2
KOLS			*e*		14 30 10.6	
CFR	Carcaliu	151.16 324	PKIKP	PKPdf	14 30 06.7	+2.7
ANTO	Ankara	151.18 311	⇑*i*P	PKPdf	14 30 04.9	+0.8
ANTO	Ankara	151.18 311	*e*PKPbc	PKPbc	14 30 10.3	+0.5
IBBN	Ibbenburen	151.20 356	*e*PKPbc	PKPdf	14 30 03.6	-0.5
IBBN			*ep*PKPbc	PKPbc	14 30 09.3	-0.7
KSP	Ksiaz	151.29 344	*e*PKP	PKPbc	14 30 11.1	+0.9
KSP	Ksiaz	151.29 344	*e*PKPdf	PKPdf	14 30 04.8	+0.6
KSP			*e*PKPdf	PKPbc	14 30 10.4	+0.2
KSP			*e*PKPab	PKPab	14 30 17.1	-1.1
SGKT	Sivrigoynuk	151.36 313	*i* P	PKPdf	14 30 06.7	+2.4
NIE	Niedzica	151.38 338	*e*PKP	PKPbc	14 30 11.4	+1.0
NIE	Niedzica	151.38 338	*e*PKP	PKPbc	14 30 11.5	+1.1
CRVS	Cervenica-Dubn	151.41 336	*e*PKP	PKPdf	14 30 04.5	+0.1
CRVS			*e*		14 30 10.7	
CLZ	Clausthal	151.42 352	*e*PKPbc	PKPdf	14 30 04.3	-0.1
CLZ			*ep*PKPbc	PKPbc	14 30 10.0	-0.5
VRI	Vrincioaia	151.43 327	⇓*i*P	PKPbc	14 30 10.9	+0.4
VRI	Vrincioaia	151.43 327	P	PKPbc	14 30 10.7	+0.1
MEST	Erdemli	151.44 304	*i* P	PKPbc	14 30 11.5	+0.9
CLL	Collm	151.54 349	*e*PKPbc	PKPdf	14 30 04.3	-0.3
CLL			*ep*PKPbc	PKPbc	14 30 09.9	-0.9
CLL	Collm	151.54 349	⇑*i*PKIKP	PKPdf	14 30 04.5	-0.1
CLL			*i*		14 30 10.6	
CLL			*i*		14 30 18.5	
CLL			pmax	pmax		
	comp=Z,29nm,1.4s					
CLL	Collm	151.54 349	⇑*i*PKP	PKPdf	14 30 04.5	-0.1
CLL			⇓*i*PKP	PKPbc	14 30 10.6	-0.2
CLL			*i* PKP	PKPab	14 30 18.5	-0.8
CLL	Collm	151.54 349	⇑*i*PKPdf	PKPdf	14 30 04.5	-0.1
	comp=Z,29nm,1.4s					
CLL			⇓*i*PKPbc	PKPbc	14 30 10.6	-0.2
	comp=Z,127nm,1.1s					
CLL			*i* PKPab	PKPab	14 30 18.5	-0.8
	comp=Z,20nm,0.8s					
CLL			*i* sPKPab		14 30 25.1	
WTSB	Winterswijk	151.59 357	*e*PKP	PKPbc	14 30 10.4	-0.5
	comp=Z,94nm,1.3s					
UPC	Upice	151.67 345	*e*PKPDF	PKPdf	14 30 04.8	0.0
UPC			⇑*e*PKP	PKPbc	14 30 11.7	+0.6
OKC	Ostrava-Krasne	151.70 341	*e*PKPDF	PKPdf	14 30 05.0	+0.1
OKC			⇑*e*PKP	PKPbc	14 30 11.6	+0.4
DPC	Dobruska-Polom	151.73 344	*e*PKPDF	PKPdf	14 30 05.0	+0.1
DPC			⇑*e*PKP	PKPbc	14 30 11.6	+0.3
DPC			*e*PKPAB	PKPab	14 30 20.5	+0.4
BRG	Berggiesshubel	151.78 347	*e*PKPbc	PKPdf	14 30 05.0	0.0
BRG			*ep*PKPbc	PKPbc	14 30 10.7	-0.7
BRG	Berggiesshubel	151.78 347	*e*PKP	PKPdf	14 30 05.1	+0.1
	comp=Z,18nm,1.5s					
BRG	Berggiesshubel	151.78 347	*i* PKP	PKPbc	14 30 11.4	+0.1
	comp=Z,56nm,1.1s					
BRG	Berggiesshubel	151.78 347	*i* PKP	PKPab	14 30 18.9	-1.4
	comp=Z,12nm,0.8s					
BRG	Berggiesshubel	151.78 347	*e*PKIKP	PKPdf	14 30 05.1	+0.1
BRG			*i*		14 30 11.4	
BRG			*i*		14 30 18.9	
BRG	Berggiesshubel	151.78 347	*e*PKP	PKPdf	14 30 05.1	+0.1
BRG			*i* PKP	PKPbc	14 30 11.4	+0.1
BRG			*i* PKP	PKPab	14 30 18.9	-1.4
FBE	Freiberg	151.85 348	*e*PKPbc	PKPdf	14 30 05.3	+0.2
FBE			*ep*PKPbc	PKPbc	14 30 11.1	-0.4
IKL	Isikli	151.90 303	*e*P	PKPbc	14 30 10.8	-0.8
MORC	Moravsky Berou	151.93 342	⇓*i*P	PKPbc	14 30 11.9	+0.2
MORC	Moravsky Berou	151.93 342	*e*PKPdf	PKPdf	14 30 05.0	-0.2
MORC			*e*PKPbc	PKPbc	14 30 11.8	+0.2
PVCC	Panska Ves	151.98 346	*e*PKPDF	PKPdf	14 30 05.4	+0.1
PVCC			⇑*e*PKP	PKPbc	14 30 12.2	+0.4
HENT	Hendek	152.01 314	*i* P	PKPdf	14 30 01.0	-4.4
MLR	Muntele Rosu	152.08 327	⇑*i*P	PKPbc	14 30 12.4	+0.4
MLR	Muntele Rosu	152.08 327	P	PKPbc	14 30 12.3	+0.3
BUG	Bochum--Univer	152.09 356	*e*PKPbc	PKPdf	14 30 05.4	-0.1
BUG			*ep*PKPbc	PKPbc	14 30 11.0	-1.1
KECS	Kecovo	152.12 337	*e*PKP	PKPbc	14 30 12.1	0.0
EIL	Elat	152.22 289	*e*PKPdf	PKPdf	14 30 06.0	+0.3
EIL			*e*PKPbc	PKPbc	14 30 13.7	+1.3
KDHN	Kadinhani	152.22 309	*i* P	PKPbc	14 30 10.5	-1.8
ERMK	Ermenek	152.35 305	*i* P	PKPbc	14 30 11.5	-3.9
MOX	Moxa	152.42 350	*e*PKPbc	PKPdf	14 30 06.3	+0.4
MOX			*ep*PKPbc	PKPbc	14 30 12.0	-0.8
MOX	Moxa	152.42 350	*e*PKP	PKPdf	14 30 05.1	-0.8
MOX			*e*		14 30 12.6	
	comp=Z,54nm,1.4s					
UBBA	Unterbreizbach	152.47 353	*e*PKPbc	PKPdf	14 30 06.1	+0.1
UBBA			*ep*PKPbc	PKPbc	14 30 11.8	-1.1
PRU	Pruhonice	152.49 346	*e*PKPDF	PKPdf	14 30 05.3	-0.8
PRU			⇑*e*PKP	PKPbc	14 30 12.8	-0.2
PRU			*e*PKPAB	PKPab	14 30 23.4	+0.1
WERD	Werda	152.49 349	*e*PKPbc	PKPdf	14 30 06.6	+0.5
WERD			*ep*PKPbc	PKPbc	14 30 12.3	-0.7
TANN	Tannenbergstha	152.50 349	*e*PKPbc	PKPdf	14 30 06.7	+0.6
TANN			*ep*PKPbc	PKPbc	14 30 12.4	-0.6
HDMB	Hadim	152.56 306	*e*P	PKPbc	14 30 12.9	-1.1
CSS	Prodhromos	152.56 301	*e*PKPbc	PKPbc	14 30 13.5	+0.4
VOIR		152.57 328	⇑*i*P	PKPbc	14 30 14.5	+1.4
VOIR		152.57 328	⇑P	PKPbc	14 30 14.5	+1.4
GUNZ	Gunzen	152.57 349	*e*PKPbc	PKPdf	14 30 07.0	+0.8
GUNZ			*ep*PKPbc	PKPbc	14 30 12.7	-0.4
VRAC	Vranov	152.62 343	⇓*i*P	PKPbc	14 30 13.6	+0.4
VRAC	Vranov	152.62 343	⇑P	PKPbc	14 30 13.4	+0.2
DRGR		152.62 332	⇑*i*P	PKPbc	14 30 13.5	+0.2
DRGR		152.62 332	P	PKPbc	14 30 13.5	+0.2
WERN	Wernitzgruen	152.64 349	*e*PKPbc	PKPdf	14 30 07.2	+0.9
WERN			*ep*PKPbc	PKPbc	14 30 12.9	-0.4
VYHS	Vyhne	152.67 339	*e*PKP	PKPdf	14 30 06.2	-0.1
VYHS			*e*		14 30 13.4	
VYHS			*e*		14 30 24.4	
ESKT	Eskisehir	152.67 312	*i* P	PKPbc	14 30 10.5	-2.8
ESKT	Eskisehir	152.67 312	*i* P	PKPbc	14 30 10.5	-2.8
NKC	Novy Kostel	152.68 349	*e*PKPDF	PKPdf	14 30 06.3	0.0
NKC			⇑*e*PKP	PKPbc	14 30 13.4	0.0
NKC			*e*PKPAB	PKPab	14 30 23.7	-0.3
PSZ	Piszkesteto	152.80 337	⇑*e*PKP	PKPbc	14 30 14.0	+0.3
PSZ	Piszkesteto	152.80 337	⇑*i*P	PKPdf	14 30 06.9	+0.4
PSZ	Piszkesteto	152.80 337	*e*PKPdf	PKPdf	14 30 06.4	-0.1
PSZ			*e*PKPbc	PKPbc	14 30 13.7	0.0
UCC	Uccle	152.81 0	PKPbc	PKPbc	14 30 13.2	-0.5
HGN	Heimansgroeve	152.82 358	*e*PKP	PKPbc	14 30 15.0	+1.3
	comp=Z,26nm,1.4s					
TREC	Trest	152.92 344	*e*PKPDF	PKPdf	14 30 06.1	-0.6
TREC			⇑*e*PKP	PKPbc	14 30 13.4	-0.5
MANZ	Manzenberg	152.97 349	*e*PKPbc	PKPdf	14 30 07.9	+1.1
MANZ			*ep*PKPbc	PKPbc	14 30 13.6	-0.4
MEM	Membach	152.98 358	PKPbc	PKPbc	14 30 13.9	-0.1
MEM			PKPab	PKPab	14 30 24.4	-0.9
MEM			APKPab		14 30 28.9	
SMOL	Smolenice	153.09 341	*e*PKP	PKPbc	14 30 14.3	0.0
SMOL			*e*		14 30 26.5	
SNF	Seneffe	153.10 0	PKPbc	PKPbc	14 30 14.5	+0.2
ROTZ	Rotzenmuhle	153.17 349	*e*PKPbc	PKPdf	14 30 08.2	+1.2
ROTZ			*ep*PKPbc	PKPbc	14 30 13.9	-0.6
BCLA	Clavier	153.18 359	PKPbc	PKPbc	14 30 14.3	-0.2
BCLA			PKPab	PKPab	14 30 25.0	-1.1
TNS	Taunus Mts	153.22 354	*e*PKPbc	PKPdf	14 30 08.0	+0.9
TNS			*ep*PKPbc	PKPbc	14 30 13.7	-0.9
GRA1	Grafenberg Arr	153.40 350	*e*PKPbc	PKPdf	14 30 08.1	+0.7
GRA1			*ep*PKPbc	PKPbc	14 30 14.4	-0.6
GRF	Grafenberg Arr	153.40 350	*e*PKPbc	PKPdf	14 30 08.1	+0.7
GRF			*ep*PKPbc	PKPbc	14 30 14.4	-0.6
ZST	Bratislava	153.48 341	*e*PKP	PKPdf	14 30 08.0	+0.5
ZST			*e*		14 30 28.4	
ZST	Bratislava	153.48 341	*e*PKP	PKPdf	14 30 08.1	+0.6
ZST			*e*		14 30 28.5	
ZST			LR	LR		
	comp=Z,900nm,18.4s,MS5.6					
BUD	Budapest	153.48 338	⇑*e*PKP	PKPdf	14 30 08.1	+0.6
KHC	Kasperske Hory	153.51 347	*e*PKPDF	PKPdf	14 30 07.4	-0.1
KHC			⇑*e*PKP	PKPbc	14 30 15.2	0.0
KHC			*e*PKPAB	PKPab	14 30 24.2	-3.4
DOU	Dourbes	153.51 360	PKPbc	PKPbc	14 30 15.4	+0.1
DOU			PKPab	PKPab	14 30 26.9	-0.6
WET	Wettzell	153.64 348	*e*PKPbc	PKPdf	14 30 08.4	+0.7
WET			*ep*PKPbc	PKPbc	14 30 14.9	-0.6
GEC2	GERESS Array S	153.75 346	*e*PKPbc	PKPdf	14 30 09.3	+1.4
GEC2			*ep*PKPbc	PKPbc	14 30 14.9	-0.8
GEC2	GERESS Array S	153.75 346	*e*PKPdf	PKPdf	14 30 07.3	-0.6
GEC2			*e*PKPbc	PKPbc	14 30 09.3	-6.4
GEC2			*ep*PKPbc	pPKPbc	14 30 14.9	-4.6
GEC2			*e*PKPbc	PKPbc	14 30 15.4	-0.3
GERES	GERESS Array B	153.75 346	PKP	PKPdf	14 30 07.7	-0.2
	comp=Z,4.1nm,1.1s,baz=107,slow=1.4,SNR=19					
GERES			PKPbc	PKPbc	14 30 15.1	-0.6
	comp=Z,8.9nm,1.0s,baz=48,slow=2.0,SNR=29					
GERES	GERESS Array B	153.75 346	PKIKP	PKPdf	14 30 07.7	-0.2
GERES					14 30 15.1	
GERES			pmax	pmax		
	comp=Z,4.0nm,1.1s					
WLF	Walferdange	153.92 358	*e*PKPbc	PKPbc	14 30 15.7	-0.4
WLF	Walferdange	153.92 358	PKP	PKPdf	14 30 08.7	+0.6
WLF			PKPbc	PKPbc	14 30 16.1	0.0
WLF			PKPab	PKPab	14 30 28.9	-0.4
WLF	Walferdange	153.92 358	*e*PKPbc	PKPbc	14 30 16.4	+0.3
BZS	Buzias	154.01 332	⇓*i*P	PKPbc	14 30 16.0	-0.3
SOP	Sopron	154.10 341	⇑*e*PKP	PKPdf	14 30 08.3	-0.1
MOA	Molln	154.56 345	⇑*i*P	PKPdf	14 30 08.5	-0.6
	comp=Z,16nm,1.4s					
STU	Stuttgart	154.58 353	*e*PKPbc	PKPbc	14 30 16.7	-0.8
PKSM	Moragy	154.71 337	⇓*i*P	PKPdf	14 30 08.5	-0.7
PKSM	Moragy	154.71 337	P	PKPdf	14 30 09.3	+0.1
QUIF	Quistinic	154.92 12	*e*PKIKP	PKPdf	14 30 10.0	+0.5
	comp=Z,126nm,1.6s					
BFO	Black Forest	155.10 354	*ep*PKPbc	PKPdf	14 30 17.7	+7.9
BFO	Black Forest	155.10 354	*ep*PKPbc	PKPdf	14 30 17.7	+7.9
MEZF	Maizieres J'vi	155.11 359	*e*PKIKP	PKPdf	14 30 09.7	-0.1
	comp=Z,32nm,1.1s					
HAU	Haudompre	155.57 357	*e*PKIKP	PKPdf	14 30 11.7	+1.3
WTTA	Wattenberg	155.68 348	⇑*i*P	PKPdf	14 30 10.4	-0.2
	comp=Z,31nm,1.6s					
HINF	Hinteralfeld	155.73 356	*e*PKIKP	PKPdf	14 30 11.5	+0.9
LJU	Ljubljana	156.17 343	*e*PKPdf	PKPdf	14 30 11.7	+0.5
LJU			*e*PKPbc	PKPdf	14 30 20.7	+10
LOR	Lormes	156.34 1	*e*PKIKP	PKPdf	14 30 11.2	-0.2
	comp=Z,60nm,1.4s					
BOJS	Bojanci	156.45 341	*e*PKPdf	PKPdf	14 30 12.2	+0.7
BOJS			*e*PKPbc	PKPdf	14 30 21.6	+10
BOJS			*i* PKPab	PKPab	14 30 26.2	-14
SSF	Saint Saulge	156.53 2	*e*PKIKP	PKPdf	14 30 11.5	-0.2
	comp=Z,29nm,1.2s					
AVF	Avril sur Loir	156.80 2	*e*PKIKP	PKPdf	14 30 11.4	-0.6
SMF	Signal de Mont	156.96 1	*e*PKIKP	PKPdf	14 30 11.8	-0.4
	comp=Z,72nm,1.7s					
CABF	La Chapelle	156.97 357	*e*PKIKP	PKPdf	14 30 12.5	+0.3
	comp=Z,121nm,1.5s					
TCF	Toulx Ste Croi	157.24 4	*e*PKIKP	PKPdf	14 30 12.3	-0.3
LPL	La Plagne	158.03 356	*e*PKIKP	PKPdf	14 30 14.1	+0.5
LPG	La Plagne	158.04 356	*e*PKIKP	PKPdf	14 30 14.2	+0.6
RJF	Les Rejaudoux	158.17 6	*e*PKIKP	PKPdf	14 30 13.9	+0.2
BNI	Bardonecchia	158.49 356	PKPdf	PKPdf	14 30 14.5	+0.4
CAF	Calviac	158.59 5	*e*PKIKP	PKPdf	14 30 14.4	+0.2
	comp=Z,15nm,1.0s					
ORIF	Oris-en-Rattie	158.67 357	*e*PKIKP	PKPdf	14 30 14.5	+0.2
VIVF	Saint-Julien-l	158.76 360	*e*PKIKP	PKPdf	14 30 14.3	-0.1
	comp=Z,36nm,1.2s					
MBDF	Montbardon	158.81 356	*e*PKIKP	PKPdf	14 30 14.2	-0.3
	comp=Z,70nm,1.5s					
PMPS	Porto Santo	159.33 58	*e*PKPdf	PKPdf	14 30 15.5	+0.4
PBRG	Braganca	159.50 25	*e*PKPdf	PKPdf	14 30 15.7	+0.4
SBF	Sospel	159.61 354	*e*PKIKP	PKPdf	14 30 16.0	+0.6
SMRF	Simiane la Rot	159.62 358	*e*PKIKP	PKPdf	14 30 16.1	+0.7
	comp=Z,222nm,1.8s					
SJPF	Ste Jean	159.92 12	*e*PKIKP	PKPdf	14 30 16.4	+0.6
	comp=Z,38nm,1.3s					
FRF	La Foret Royal	159.98 356	*e*PKIKP	PKPdf	14 30 15.9	+0.1
MTLF	Montolieu	160.18 5	*e*PKIKP	PKPdf	14 30 16.1	0.0
	comp=Z,12nm,1.0s					
LMR	La Mourre	160.22 356	*e*PKIKP	PKPdf	14 30 16.5	+0.4
ETSF	Etsaut	160.25 11	*e*PKIKP	PKPdf	14 30 16.4	+0.3
	comp=Z,21nm,1.0s					
EPF	Esparros	160.27 9	*e*PKIKP	PKPdf	14 30 16.0	-0.2
	comp=Z,48nm,1.3s					
MTE	Manteigas	160.35 28	*e*PKPdf	PKPdf	14 30 17.2	+0.9
MTE	Manteigas	160.35 28	*e*LR	LR	15 16 36.0	
	comp=Z,2μm,14.9s					
PTOM	Tomar	160.57 31	*e*PKPdf	PKPdf	14 30 17.3	+0.8
PMAFR	Mafra	160.65 34	*i* LR	LR	15 17 43.2	
PGF	Pioggiola	160.71 350	*e*PKIKP	PKPdf	14 30 16.5	-0.2
	comp=Z,73nm,1.4s					
PCBR	Castelo Branco	160.83 29	*e*PKPdf	PKPdf	14 30 17.5	+0.7
DBIC	Dimbokro	160.91 150	PKP	PKPdf	14 30 17.2	+0.4
	comp=Z,12nm,1.0s,baz=236,slow=1.0,SNR=6.9					
DBIC	Dimbokro	160.91 150	PKIKP	PKPdf	14 30 17.2	+0.3
DBIC			pmax	pmax		
	comp=Z,12nm,1.0s					
PESTR	Estremoz	161.56 31	*e*PKPdf	PKPdf	14 30 18.1	+0.5
PESTR	Estremoz	161.56 31	*i* LR	LR	15 14 46.6	
	comp=Z,2μm,12.3s					
EVO	Evora	161.61 33	*e*PKIKP	PKPdf	14 30 17.7	+0.1
	comp=Z,79nm,1.4s					
PTEO	Sao Teotonio	161.99 36	*e*PKPdf	PKPdf	14 30 18.2	+0.2
PBEJ	Beja	162.08 34	*e*PKPdf	PKPdf	14 30 19.3	+1.2
ESDC	Sonseca Array	162.38 22	PKP	PKPdf	14 30 18.6	+0.2
	comp=Z,6.2nm,1.0s,baz=350,slow=3.2,SNR=27					
ESLA	Sonseca Array	162.38 22	*e*PKPdf	PKPdf	14 30 19.2	+0.8
KEST	Kesra	167.19 342	PKPab	PKPab	14 31 26.0	-1.0
	comp=Z,3.8nm,1.0s,baz=9.4,slow=3.9,SNR=4.7					
TOA0	Torodi Ar. Sit	169.29 165	*e*PKPdf	PKPdf	14 30 24.1	+0.1
TORD	Torodi Ar. Bea	169.29 165	PKP	PKPdf	14 30 23.6	-0.4
	comp=Z,13nm,1.0s,baz=306,slow=0.7,SNR=38					
TORD			PKPab	PKPab	14 31 36.5	+0.2
	comp=Z,14nm,1.1s,baz=187,slow=3.5,SNR=12					

MAN 08 14:29:21.0, 898N×12267E, h33km, mb1.8, ML3.6, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.66	57	⇑*i*P		Pn	14 29 34.5	+0.5
SNPH				*i* S		Sb	14 29 44.4	+1.3
IPIL	Ipil	1.19	185	*e*P		Pn	14 29 41.5	+0.2
IPIL				*e*S		Sn	14 29 53.6	-2.8
GUIM	Jordan	1.63	357	*e*P		Pn	14 29 48.2	+0.8
CUYO	Cuyo Island	2.47	319	*e*P		Pn	14 29 59.4	+0.4
OTRP	Odiongan	3.42	349	*e*P		Pn	14 30 28.7	+17

*IDC **08** 14:41:48.3±0.6, 2331S×17548W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/18, mbtmp4.3/14, ML5.1/1, Error ellipse: s-maj=21.2km s-min=16.5km az=141.0*

*NEIC **08** 14:41:49.9±0.5, 2333S×17547W, h10km, mb4.8/9, Error ellipse: s-maj=13.8km s-min=11.9km az=116.0*

*BJI **08** 14:41:49.9, 2330S×17550W, h10km, mB5.4, mb4.9*

*MOS **08** 14:41:51.8±2.8, 2327S×17542W, h33km, mb4.8/4, Error ellipse: s-maj=20.9km s-min=13.8km az=69.3*

*ISCJB **08** 14:41:52.2±0.5, 2342S±009×17557W±0.10, h33km, mb4.5/20, Error ellipse: s-maj=12.9km s-min=12.3km az=144.8*

ISC 08 14:41:53.3±6.1, 2350S±008×1755W±01, h29km±41km, n61, σ1$07/45, mb4.5/20, 1C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.13	200	Pn		Pn	14 43 21.5	-0.4
	39nm,0.3s,baz=72,slow=23,SNR=7.7							
RAO				Sn		Sn	14 44 29.0	-2.0
	38nm,0.3s,baz=96,slow=22,SNR=4.5							
RAO	Raoul Island	6.13	200	Pn		Pn	14 43 21.5	-0.4
RAO				Sn		Sn	14 44 29.0	-2.0
AFI	Afiamalu	10.16	21	Pn		Pn	14 44 08.5	-8.6
	14nm,0.3s,baz=294,slow=14,SNR=7.6							
AFI				Sn		Sx	14 45 49.1	
	6.4nm,0.3s,baz=277,slow=22,SNR=2.2							
AFI	Afiamalu	10.16	21	*e*P		Pn	14 44 09.5	-7.7
AFI				*e*Sn		Sx	14 45 43.7	
RAR	Rarotonga	14.71	84	Pn		Pn	14 45 08.9	-10
	8.2nm,0.3s,baz=217,slow=6.4,SNR=16							
RAR				Sn		Sx	14 47 35.4	
	8.3nm,0.3s,baz=80,slow=17,SNR=6.9							
URZ	Urewera	16.02	202	Sn		Sn	14 48 21.9	-11
	0.7nm,0.3s,baz=146,slow=12,SNR=4.9							
DZM	Mont Dzumac	16.73	271	Pn		Pn	14 45 50.0	+4.5
	0.6nm,0.3s,baz=97,slow=17,SNR=11							
RPZ	Rata Peaks	23.02	206	P		P	14 46 57.4	+1.5
	16nm,1.0s,mb4.4,baz=140,slow=23,SNR=3.0							
CTA	Charters Tower	35.63	268	*e*P		P	14 48 49.1	+0.6
	4.2nm,0.6s,mb4.5							
CTA	Charters Tower	35.63	268	P		P	14 48 48.0	-0.5
	4.0nm,0.5s,mb4.6,baz=96,slow=10,SNR=8.4							
CTA	Charters Tower	35.63	268	*e*P		P	14 48 49.1	+0.6
CTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
PMG	Port Moresby	38.34	285	P		P	14 49 11.7	+0.2
	comp=Z,22nm,0.8s,mb4.9,baz=127,slow=6.6,SNR=4.2							
STKA	Stephens Creek	38.72	248	⇑*i*P		P	14 49 15.2	+0.5
	comp=Z,4.5nm,1.9s,mb3.9							
STKA	Stephens Creek	38.72	248	P		P	14 49 15.0	+0.3
	comp=Z,2.2nm,0.6s,mb4.1,baz=73,slow=15,SNR=6.0							
AS31	Alice Springs	46.18	259	*e*P		P	14 50 15.2	-0.2
ASAR	Alice Springs	46.19	259	P		P	14 50 14.9	-0.4
	comp=Z,2.8nm,0.7s,mb4.3,baz=100,slow=7.3,SNR=38							
ASPA	Alice Springs	46.19	259	*e*P		P	14 50 15.3	-0.1
WB2	Warramunga Arr	46.56	264	*e*P		P	14 50 17.1	-1.2
WRA	Warramunga Arr	46.57	264	P		P	14 50 16.6	-1.8
	comp=Z,3.6nm,0.6s,mb4.5,baz=94,slow=8.4,SNR=87							
KAKA	Kakadu	50.42	273	*e*P		P	14 50 47.9	-0.1
	comp=Z,4.7nm,0.3s,mb5.0							
FITZ	Fitzroy Crossi	54.99	264	*e*P		P	14 51 22.4	+0.5
	comp=Z,8.6nm,0.9s,mb4.8							
FITZ	Fitzroy Crossi	54.99	264	P		P	14 51 21.9	0.0
	comp=Z,4.0nm,0.8s,mb4.5,baz=174,slow=4.7,SNR=8.1							
SBA	Scott Base	55.06	185	*e*P		P	14 51 24.9	+2.5
SBA				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
SBA	Scott Base	55.06	185	*e*P		P	14 51 24.9	+2.5
	comp=Z,5.2nm,0.9s,mb4.6							
VNDA	Vanda	55.16	186	P		P	14 51 23.8	+0.7
	comp=Z,1.4nm,0.8s,mb4.0,baz=355,slow=7.3,SNR=6.7							
VNDA	Vanda	55.16	186	*e*P		P	14 51 24.1	+1.1
QSPA	South Pole Qui	66.59	180	*e*P		P	14 52 41.6	+0.9
	comp=Z,14nm,0.8s,mb5.1							
MJAR	Matsushiro Arr	74.00	323	P		P	14 53 26.2	+0.1
	comp=Z,1.0nm,0.6s,mb4.0,baz=160,slow=4.0,SNR=4.7							
MAW	Mawson	79.54

h17km↓2.7km**:pP-P,n463,**σ0971/314**,mb5.0**/47**,MS4.9**/18,
114C-77D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.09**	**201**	Pn	**Pn**	**14 48 26.1**	**+0.7**
	58nm,0.3s,baz=79,slow=22,SNR=7.8						
RAO				Sn	**Sn**	**14 49 32.5**	**-2.1**
	159nm,0.3s,baz=88,slow=23,SNR=11						
RAO	**Raoul Island**	**6.09**	**201**	P	**Pn**	**14 48 20.2**	**-5.2**
RAO						14 49 32.5	
RAO				pmax	pmax		
	comp=Z,1μm,0.6s						
RAO	**Raoul Island**	**6.09**	**201**	Pn	**Pn**	**14 48 20.2**	**-5.2**
	comp=Z,1μm,0.6s						
RAO				Pn	**Pn**	**14 48 26.1**	**+0.7**
RAO				*e*Sn	**Sn**	**14 49 32.2**	**-2.3**
RAO				Sn	**Sn**	**14 49 32.5**	**-2.1**
AFI	**Afiamalu**	**10.20**	**20**	Pn	**Pn**	**14 49 15.1**	**-6.7**
	comp=Z,31nm,0.3s,baz=60,slow=1.1,SNR=14						
AFI				Sn	**Sn**	**14 51 00.9**	**-15**
	comp=Z,18nm,0.3s,baz=106,slow=22,SNR=4.7						
AFI	**Afiamalu**	**10.20**	**20**	*e*P	**Pn**	**14 49 15.3**	**-6.5**
AFI				pmax	pmax		
	comp=Z,516nm,1.3s						
AFI	**Afiamalu**	**10.20**	**20**	*e*Pn	**Pn**	**14 49 15.3**	**-6.5**
	comp=Z,516nm,1.3s						
AFI				*e*Sn	**Sn**	**14 50 59.8**	**-16**
RAR	**Rarotonga**	**14.66**	**84**	Pn	**Pn**	**14 50 14.2**	**-8.5**
	comp=Z,8.8nm,0.3s,baz=246,slow=8.9,SNR=15						
RAR				Sn	Sn	14 52 38.8	-26
	comp=Z,3.9nm,0.3s,baz=261,slow=8.3,SNR=4.7						
URZ	**Urewera**	**15.98**	**202**	Pn	**Pn**	**14 50 42.2**	**+2.0**
	comp=Z,2.4nm,0.3s,baz=317,slow=1.8,SNR=8.0						
URZ				Sn	**Sn**	**14 53 19.1**	**-18**
	comp=Z,1.3nm,0.3s,baz=346,slow=5.7,SNR=3.2						
DZM	**Mont Dzumac**	**16.79**	**272**	*e*P	**Pn**	**14 50 53.2**	**+2.7**
DZM	**Mont Dzumac**	**16.79**	**272**	Pn	**Pn**	**14 50 55.4**	**+4.9**
	comp=Z,0.9nm,0.3s,baz=90,slow=16,SNR=12						
DZM				Sn	**Sn**	**14 54 15.2**	**+19**
	comp=Z,0.9nm,0.3s,baz=74,slow=21,SNR=8.5						
RPZ	**Rata Peaks**	**22.98**	**206**	P	**P**	**14 52 01.5**	**+1.7**
	comp=Z,14nm,0.9s,mb4.4,baz=326,slow=11,SNR=2.2						
RPZ				S	**S**	**14 55 55.8**	**-13**
	comp=Z,15nm,0.8s,baz=13,slow=18,SNR=3.4						
TBI	**Tubuai**	**23.80**	**95**	*e*LQ		14 56 36.6	
	comp=Z,622nm,25.0s						
TBI				*e*LR	LR	14 57 40.6	
	comp=Z,3μm,26.0s,baz=266						
PAE	**Paea**	**24.86**	**81**	*e*P	**P**	**14 52 15.0**	**-2.7**
	comp=Z,64nm,1.1s,mb5.1						
PAE	**Paea**	**24.86**	**81**	*e*P	**P**	**14 52 15.0**	**-2.7**
PAE				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.1						
PPT	**Papeete**	**24.90**	**81**	*e*LQ		14 57 13.4	
	comp=Z,1μm,24.0s						
PPT				*e*LR	LR	14 58 03.5	
	comp=Z,3μm,26.0s,baz=250						
PPT	**Papeete**	**24.90**	**81**	LR	LR	14 59 17.8	
	comp=Z,2μm,19.6s,MS4.5,baz=273,slow=30						
PPT	**Papeete**	**24.90**	**81**	*e*P	**P**	**14 52 15.0**	**-3.0**
PPT				pmax	pmax		
	comp=Z,38nm,1.2s						
PPT	**Papeete**	**24.90**	**81**	*e*P	**P**	**14 52 15.0**	**-3.0**
	comp=Z,38nm,1.2s,mb4.8						
PPT				*e*LQ		14 57 13.4	
TVO	**Taravao**	**25.12**	**82**	*e*P	**P**	**14 52 17.3**	**-2.8**
	comp=Z,114nm,1.3s,mb5.3						
TVO	**Taravao**	**25.12**	**82**	*e*P	**P**	**14 52 17.3**	**-2.8**
TVO				pmax	pmax		
	comp=Z,114nm,1.3s,mb5.2						
PMOR	**Pomariorio Ree**	**27.30**	**77**	*e*P	**P**	**14 52 37.4**	**-2.4**
	comp=Z,25nm,1.3s,mb4.6						
VAH	**Vaihoa**	**27.45**	**77**	*e*P	**P**	**14 52 38.6**	**-2.5**
	comp=Z,32nm,1.3s,mb4.7						
CTA	**Charters Tower**	**35.68**	**268**	*e*P	**P**	**14 53 53.3**	**-0.1**
	comp=Z,7.1nm,0.5s,mb4.8						
CTA	**Charters Tower**	**35.68**	**268**	P	**P**	**14 53 52.7**	**-0.7**
	comp=Z,7.4nm,0.5s,mb4.9,baz=98,slow=12,SNR=20						
CTA	**Charters Tower**	**35.68**	**268**	*e*P	**P**	**14 53 53.3**	**-0.1**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TAOE	**Nuku Hiva Isla**	**36.76**	**72**	*e*P	**P**	**14 54 00.0**	**-2.6**
	comp=Z,851nm,1.3s						
TAOE				*e*LR	LR	15 03 32.6	
	comp=Z,2μm,25.3s,baz=247						
RKT	**Rikitea**	**37.05**	**98**	*e*LQ		15 02 44.5	
	comp=Z,618nm,35.5s						
RKT				*e*LR	LR	15 03 29.9	
	comp=Z,1μm,30.2s,baz=264						
PMG	**Port Moresby**	**38.41**	**285**	P	**P**	**14 54 16.5**	**-0.2**
	comp=Z,18nm,0.8s,mb4.8,baz=97,slow=4.1,SNR=4.4						
PMG	**Port Moresby**	**38.41**	**285**	*e*P	**P**	**14 54 16.4**	**-0.2**
PMG				pmax	pmax		
	comp=Z,92nm,1.0s						
PMG	**Port Moresby**	**38.41**	**285**	*e*P	**P**	**14 54 16.4**	**-0.2**
	comp=Z,92nm,1.0s,mb5.5						
STKA	**Stephens Creek**	**38.74**	**248**	*e*P	**P**	**14 54 18.8**	**-0.6**
	comp=Z,7.3nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**38.74**	**248**	P	**P**	**14 54 18.7**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.1,baz=65,slow=8.2,SNR=6.0						
STKA				LR	LR	15 09 22.7	
	comp=Z,1μm,18.2s,MS4.7,baz=53,slow=35						
ASAR	**Alice Springs**	**46.23**	**259**	P	**P**	**14 55 19.7**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.4,baz=96,slow=6.8,SNR=26						
ASAR				S	**S**	**15 01 60.0**	**-5.9**
	comp=Z,1.2nm,1.0s,baz=94,slow=14,SNR=3.3						
ASAR				LR	LR	15 14 22.6	
	comp=Z,1μm,18.2s,MS4.9,baz=98,slow=36						
ASAR	**Alice Springs**	**46.23**	**259**	P	**P**	**14 55 19.7**	**-0.6**
ASAR				S	**S**	**15 02 00.0**	**-5.9**
ASPA	**Alice Springs**	**46.23**	**259**	*e*P	**P**	**14 55 20.3**	**0.0**
WB2	**Warramunga Arr**	**46.61**	**264**	*e*P	**P**	**14 55 22.1**	**-1.2**
WRAB	**Tennant Creek**	**46.61**	**264**	P	**P**	**14 55 22.0**	**-1.3**
	comp=Z,59nm,1.1s,mb5.4,SNR=7.8						
WRAB	**Tennant Creek**	**46.61**	**264**	P	**P**	**14 55 22.4**	**-0.9**
WRA	**Warramunga Arr**	**46.62**	**264**	P	**P**	**14 55 22.4**	**-1.0**
	comp=Z,8.9nm,1.1s,mb4.6,baz=94,slow=8.4,SNR=78						
WRA				PP	PP	14 57 10.7	-2.2
	comp=Z,7.7nm,1.1s,baz=96,slow=4.6,SNR=5.3						
WRA				S	**S**	**15 02 06.1**	**-5.3**
	comp=Z,1.2nm,0.9s,baz=104,slow=16,SNR=4.0						
WRA				LR	LR	15 14 19.3	
	comp=Z,705nm,18.7s,MS4.7,baz=105,slow=36						
WRA	**Warramunga Arr**	**46.62**	**264**	P	**P**	**14 55 22.4**	**-1.0**
WRA						14 57 10.7	
WRA				S	**S**	**15 02 06.1**	**-5.4**
FORT	**Forrest**	**50.36**	**249**	*e*P	**P**	**14 55 49.7**	**-2.4**
	comp=Z,19nm,0.7s,mb5.2						
KAKA	**Kakadu**	**50.48**	**273**	*e*P	**P**	**14 55 51.7**	**-1.3**
	comp=Z,16nm,0.6s,mb5.2						
SBA	**Scott Base**	**55.00**	**185**	*e*P	**P**	**14 56 28.9**	**+2.4**
SBA				pmax	pmax		
	comp=Z,94nm,1.7s,mb5.5						
SBA	**Scott Base**	**55.00**	**185**	*e*P	**P**	**14 56 28.9**	**+2.4**
	comp=Z,94nm,1.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**55.04**	**264**	*e*P	**P**	**14 56 26.8**	**0.0**
	comp=Z,12nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.04**	**264**	P	**P**	**14 56 26.3**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.6,baz=105,slow=6.2,SNR=16						
VNDA	**Vanda**	**55.10**	**186**	P	**P**	**14 56 28.5**	**+1.3**
	comp=Z,5.7nm,0.9s,mb4.6,baz=12,slow=7.3,SNR=24						
VNDA	**Vanda**	**55.10**	**186**	*e*P	**P**	**14 56 28.6**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**55.10**	**186**	*e*P	**P**	**14 56 28.6**	**+1.4**
	comp=Z,14nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**58.98**	**246**	*e*P	**P**	**14 56 53.5**	**-1.2**
	comp=Z,16nm,0.9s,mb5.1						
QSPA	**South Pole Qui**	**66.52**	**180**	*e*P	**P**	**14 57 45.6**	**+0.7**
	comp=Z,44nm,1.1s,mb5.4						
MIR	**Mirnyy**	**69.25**	**205**	*c iP*	**P**	**14 58 04.0**	**+1.9**
MIR				*i*		14 58 19.0	
MIR				*i*		14 58 24.0	
MIR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
MJAR	**Matsushiro Arr**	**74.09**	**323**	P	**P**	**14 58 30.7**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=158,slow=5.9,SNR=7.1						
MJAR				LR	LR	15 26 08.1	
	comp=Z,245nm,19.8s,MS4.5,baz=35,slow=32						
KSM	**Kuching**	**76.21**	**278**	*e*P	**P**	**14 58 43.0**	**-0.5**
BSC	**Santa Cruz Isl**	**78.03**	**45**	⇑P	**P**	**14 58 53.7**	**0.0**
	baz=78						
FARB	**Farallon Islan**	**78.35**	**40**	⇓P	**P**	**14 58 55.3**	**-0.2**
	baz=78						
HAST	**UC Hastings Re**	**78.36**	**42**	⇑P	**P**	**14 58 56.0**	**+0.5**
	baz=78						
PKD	**Parkfield**	**78.69**	**43**	⇑P	**P**	**14 58 57.4**	**+0.1**
	baz=79						
PACP	**Pacheco Peak**	**78.92**	**41**	⇑P	**P**	**14 58 59.2**	**+0.6**
	baz=79,SNR=7.0						
CVS	**Carmenet Viney**	**79.10**	**40**	⇓P	**P**	**14 58 59.2**	**-0.4**
	baz=79						
BDM	**Black Diamond**	**79.19**	**40**	⇑P	**P**	**14 59 00.2**	**+0.1**
	baz=79						
S04C	**Ingram Canyon,**	**79.22**	**41**	P	**P**	**14 59 00.7**	**+0.4**
	baz=79,SNR=6.9						
MURC	**Murrieta**	**79.37**	**46**	⇑P	**P**	**14 59 01.8**	**+0.8**
	baz=80						
BFSC	**Mount Baldy St**	**79.46**	**45**	⇑P	**P**	**14 59 01.7**	**+0.2**
	baz=80						
MONP	**Monument Peak**	**79.46**	**47**	⇑P	**P**	**14 59 01.8**	**+0.3**
	baz=80						
MNRC	**McLaughlin Nat**	**79.47**	**39**	⇓P	**P**	**14 59 02.1**	**+0.5**
	baz=80						
MAW	**Mawson**	**79.50**	**199**	*e*P	**P**	**14 59 02.5**	**+0.8**
	comp=Z,12nm,1.1s,mb4.8						
MAW	**Mawson**	**79.50**	**199**	P	**P**	**14 59 02.5**	**+0.8**
	comp=Z,14nm,0.9s,mb4.9,baz=125,slow=6.7,SNR=31						
MAW				LR	LR	15 35 08.5	
	comp=Z,370nm,18.4s,MS4.8,baz=75,slow=36						
MAW	**Mawson**	**79.50**	**199**	*e*P	**P**	**14 59 02.5**	**+0.8**
MAW				pmax	pmax		
	comp=Z,12nm,1.1s						
O01C	**Eel River Cons**	**79.53**	**38**	⇑P	**P**	**14 59 02.0**	**0.0**
	baz=80						
VES	**Vestal, Richgr**	**79.54**	**43**	P	**P**	**14 59 02.2**	**+0.2**
	baz=80,SNR=7.8						
EDW2	**Edwards Air Fo**	**79.64**	**45**	P	**P**	**14 59 02.6**	**+0.1**
	baz=80,SNR=8.7						
YSS	**Yuzh-Sakhalins**	**79.70**	**332**	⇑*e*P	**P**	**14 59 03.2**	**+0.3**
S05C	**Merced**	**79.72**	**42**	⇓P	**P**	**14 59 03.0**	**+0.1**
	baz=80						
ISA	**Isabella**	**79.81**	**44**	P	**P**	**14 59 03.7**	**+0.3**
	baz=80,SNR=12						
GASB	**Alder Springs**	**79.82**	**39**	⇑P	**P**	**14 59 04.3**	**+0.8**
	baz=80						
PFO	**Pinyon Flat Ob**	**79.87**	**47**	⇑P	**P**	**14 59 03.8**	**0.0**
	baz=80						
HELL	**Mitchell Peak,**	**80.10**	**43**	⇓P	**P**	**14 59 04.7**	**-0.3**
	baz=80,SNR=7.2						
CMB	**Columbia Colle**	**80.13**	**41**	⇓P	**P**	**14 59 05.2**	**+0.1**
	baz=80,SNR=13						
O02C	**Red Bluff**	**80.14**	**38**	⇑P	**P**	**14 59 05.8**	**+0.6**
	baz=80,SNR=7.1						
LRMC	**Laurel Mountai**	**80.20**	**44**	⇓P	**P**	**14 59 05.6**	**+0.1**
	baz=80						
KCC	**Kaiser Creek**	**80.33**	**42**	⇑P	**P**	**14 59 06.5**	**+0.2**
	baz=80,SNR=7.7						
LAVA	**Lava Cap Winer**	**80.39**	**40**	⇑P	**P**	**14 59 06.4**	**-0.2**
	baz=80						
BELC	**Belle Mtn.**	**80.41**	**46**	P	**P**	**14 59 07.0**	**+0.3**
	baz=81,SNR=6.0						
ORV	**Oroville**	**80.46**	**39**	⇓P	**P**	**14 59 06.7**	**-0.3**
	baz=81,SNR=6.6						
CWC	**Cottonwood Cre**	**80.55**	**43**	⇓P	**P**	**14 59 07.8**	**+0.4**
	baz=81						
WDC	**Whiskeytown Da**	**80.55**	**38**	⇑P	**P**	**14 59 07.3**	**-0.1**
	baz=81,SNR=6.3						
BC3	**Big Chuckw Mtn**	**80.57**	**47**	⇓P	**P**	**14 59 07.7**	**+0.2**
	baz=81						
GLA	**Glamis**	**80.64**	**48**	*e*P	**P**	**14 59 08.3**	**+0.4**
GLA	**Glamis**	**80.64**	**48**	⇑P	**P**	**14 59 08.1**	**+0.2**
	baz=81						
GSC	**Goldstone**	**80.66**	**45**	⇓P	**P**	**14 59 07.8**	**-0.2**
	baz=81,SNR=6.7						
MPMC	**Manual Prospec**	**80.69**	**44**	⇑P	**P**	**14 59 08.1**	**0.0**
	baz=81,SNR=11						
HEC	**Hector,Ludlow**	**80.69**	**46**	⇑P	**P**	**14 59 08.0**	**-0.2**
	baz=81,SNR=6.6						
R05C	**Kirkwood Meado**	**80.75**	**41**	⇓P	**P**	**14 59 08.5**	**0.0**
	baz=81,SNR=5.8						
MTUM	**Tungsten Hills**	**80.81**	**43**	*e*P	**P**	**14 59 09.2**	**+0.4**
MLAC	**Mammoth Lakes**	**80.82**	**42**	⇓P	**P**	**14 59 09.4**	**+0.6**
	baz=81						
TIN	**Tinemaha**	**80.83**	**43**	⇓P	**P**	**14 59 09.3**	**+0.4**
	baz=81						
M02C	**Callahan**	**80.92**	**37**	⇑P	**P**	**14 59 09.8**	**+0.4**
	baz=81,SNR=5.9						
R07C	**Lee Vining**	**80.98**	**42**	⇑P	**P**	**14 59 09.6**	**-0.1**
	baz=81						
R06C	**Coleville**	**81.01**	**41**	⇑P	**P**	**14 59 10.4**	**+0.5**
	baz=81,SNR=15						
O05C	**Quincy**	**81.07**	**39**	⇓P	**P**	**14 59 10.2**	**0.0**
	baz=81						
IRM	**Iron Mountain**	**81.07**	**47**	⇓P	**P**	**14 59 10.4**	**+0.2**
	baz=81,SNR=8.7						
S08C	**White Mtn Res**	**81.15**	**43**	⇑P	**P**	**14 59 11.3**	**+0.7**
	baz=81,SNR=20						
O04C	**Chester**	**81.20**	**39**	⇓P	**P**	**14 59 11.2**	**+0.3**
	baz=81						
YBH	**Yreka Blue Hor**	**81.23**	**37**	P	**P**	**14 59 11.6**	**+0.6**
	comp=Z,9.2nm,0.8s,mb4.7,baz=258,slow=1.1,SNR=14						
YBH	**Yreka Blue Hor**	**81.23**	**37**	⇓P	**P**	**14 59 11.3**	**+0.2**
	baz=81,SNR=7.0						
M03C	**McCloud**	**81.25**	**38**	⇑P	**P**	**14 59 11.1**	**0.0**
	baz=81,SNR=5.3						
Y12C	**Blythe**	**81.25**	**47**	⇑P	**P**	**14 59 11.5**	**+0.3**
	baz=81						
HATC	**Hat Creek Radi**	**81.32**	**38**	⇑P	**P**	**14 59 11.9**	**+0.4**
	baz=82						
TUQ	**Turquoise Mtn.**	**81.32**	**45**	⇓P	**P**	**14 59 11.9**	**+0.3**
	baz=82						
WCN	**Washoe City**	**81.32**	**40**	⇑P	**P**	**14 59 11.8**	**+0.2**
	baz=82,SNR=8.5						
BEKR	**Beckwourth**	**81.33**	**40**	P	**P**	**14 59 11.7**	**+0.1**
	baz=82,SNR=7.6						
FURC	**Furnace Creek,**	**81.34**	**44**	⇓P	**P**	**14 59 12.0**	**+0.3**
	baz=82						
GRAC	**Grapevine Rang**	**81.34**	**43**	P	**P**	**14 59 12.2**	**+0.6**
	baz=82,SNR=12						
SHOC	**Shoshone**	**81.36**	**45**	⇑P	**P**	**14 59 11.6**	**-0.2**
	baz=82						
P06A	**Stead Airport,**	**81.48**	**40**	⇓P	**P**	**14 59 12.8**	**+0.4**
	baz=82						
K02A	**Glendale**	**81.50**	**36**	⇑P	**P**	**14 59 12.7**	**+0.2**
	baz=82						
ELFS	**Eagle Lake Fie**	**81.61**	**39**	⇑P	**P**	**14 59 13.2**	**+0.1**
	baz=82						
NVAR	**Mina Array Bea**	**81.65**	**42**	P	**P**	**14 59 13.4**	**+0.2**
	comp=Z,9.2nm,0.9s,mb4.7,baz=225,slow=9.8,SNR=50						
R08A	**Mina**	**81.72**	**42**	⇓P	**P**	**14 59 13.7**	**0.0**
	baz=82,SNR=5.3						
M04C	**Macdoel**	**81.74**	**37**	⇑P	**P**	**14 59 14.1**	**+0.3**
	baz=82						
Y13A	**Salome**	**81.76**	**48**	⇑P	**P**	**14 59 14.1**	**+0.2**
	baz=82						
PDMCI	**Parker Dam,Lak**	**81.83**	**47**	⇑P	**P**	**14 59 14.6**	**+0.3**
	baz=82						
O06A	**Flanigan**	**81.84**	**40**	⇑P	**P**	**14 59 14.6**	**+0.4**
	baz=82						
M05C	**Lookout**	**81.85**	**38**	⇑P	**P**	**14 59 14.3**	**-0.1**
	baz=82						
J02A	**Umpqua**	**81.87**	**35**	⇓P	**P**	**14 59 15.0**	**+0.6**
	baz=82						
S09A	**Goldfield**	**81.88**	**43**	⇓P	**P**	**14 59 14.7**	**+0.2**
	baz=82						
V11A	**Goodsprings**	**81.88**	**45**	⇑P	**P**	**14 59 14.8**	**+0.3**
	baz=82						
W12A	**Cal Nev Ari**	**81.93**	**46**	⇑P	**P**	**14 59 15.3**	**+0.5**
	baz=82						
L04A	**Klamath Falls**	**81.98**	**37**	⇓P	**P**	**14 59 15.1**	**+0.1**
	baz=82						
P07A	**Fallon**	**81.99**	**41**	⇑P	**P**	**14 59 15.3**	**+0.2**
	baz=82						
Z14A	**Wintersburg**	**82.10**	**49**	⇑P	**P**	**14 59 15.8**	**+0.1**
	baz=82						
M06C	**Likely Place G**	**82.13**	**39**	⇓P	**P**	**14 59 15.9**	**0.0**
	baz=82						
Q08A	**Gabbs**	**82.14**	**42**	⇑P	**P**	**14 59 15.9**	**0.0**
	baz=82,SNR=6.6						
I02A	**Mapleton**	**82.17**	**35**	⇑P	**P**	**14 59 16.4**	**+0.4**
	baz=82						
N06A	**Buffalo Meadow**	**82.21**	**39**	P	**P**	**14 59 16.2**	**0.0**
	baz=82,SNR=7.5						
X13A	**Yucca**	**82.21**	**47**	⇑P	**P**	**14 59 16.6**	**+0.4**
	baz=82,SNR=7.4						
115A	**Sonoran Desert**	**82.23**	**49**	⇑P	**P**	**14 59 16.4**	**+0.1**
	baz=82						
U11A	**Corn Creek**	**82.26**	**45**	⇑P	**P**	**14 59 17.0**	**+0.5**
	baz=82						
R09A	**Tonopah**	**82.29**	**43**	⇑P	**P**	**14 59 16.7**	**+0.1**
	baz=82,SNR=13						
K04A	**Chilquin**	**82.36**	**37**	⇑P	**P**	**14 59 17.0**	**0.0**
	baz=82						
Y14A	**Wickenburg**	**82.39**	**48**	⇑P	**P**	**14 59 17.4**	**+0.2**
	baz=82,SNR=6.0						
O07A	**Toulon**	**82.39**	**40**	P	**P**	**14 59 17.4**	**+0.2**
	baz=82,SNR=10						
I03A	**Eugene**	**82.44**	**35**	⇓P	**P**	**14 59 17.6**	**+0.1**
	baz=83						
W13A	**Hualapai Mount**	**82.47**	**47**	⇑P	**P**	**14 59 18.2**	**+0.7**
	baz=83						
L05A	**Lakeview**	**82.48**	**38**	⇑P	**P**	**14 59 18.0**	**+0.4**
	baz=83,SNR=8.1						
116A	**Eloy**	**82.52**	**50**	⇓P	**P**	**14 59 17.9**	**+0.1**
	baz=83						
P08A	**Dixie Valley**	**82.57**	**41**	⇓P	**P**	**14 59 18.7**	**+0.5**
	baz=83						
Q09A	**Carvers**	**82.58**	**42**	⇓P	**P**	**14 59 18.7**	**+0.5**
	baz=83						
MOD	**Modoc**	**82.69**	**38**	⇓P	**P**	**14 59 19.5**	**+0.7**
	baz=83,SNR=7.5						
X14A	**Yava**	**82.77**	**48**	⇑P	**P**	**14 59 19.7**	**+0.5**
	baz=83,SNR=8.0						
R10A	**Warm Springs**	**82.80**	**43**	⇓P	**P**	**14 59 19.8**	**+0.5**
	baz=83,SNR=20						
U12A	**Valley of Fire**	**82.81**	**45**	⇑P	**P**	**14 59 19.8**	**+0.5**
	baz=83,SNR=6.8						
K05A	**Summer Lake**	**82.89**	**37**	⇑P	**P**	**14 59 20.2**	**+0.4**
	baz=83,SNR=13						
H03A	**Soap Creek Ran**	**82.91**	**35**	⇓P	**P**	**14 59 20.3**	**+0.4**
	baz=83						
M07A	**Soldier Meadow**	**83.00**	**39**	⇓P	**P**	**14 59 20.5**	**+0.2**
	baz=83						
P09A	**Austin**	**83.05**	**41**	⇓P	**P**	**14 59 20.6**	**-0.1**
	baz=83						
W14A	**Seligman**	**83.07**	**47**	P	**P**	**14 59 21.6**	**+0.9**
	baz=83,SNR=11						
J05A	**Fort Rock**	**83.07**	**37**	P	**P**	**14 59 20.9**	**+0.2**
	baz=83,SNR=17						
N08A	**GE Springer Mi**	**83.22**	**40**	P	**P**	**14 59 21.6**	**+0.1**
	baz=83,SNR=7.9						
X15A	**Humboldt**	**83.23**	**48**	⇓P	**P**	**14 59 22.0**	**+0.5**
	baz=83,SNR=9.0						
K06A	**Valley Falls**	**83.30**	**37**	⇓P	**P**	**14 59 21.9**	**0.0**
	baz=84,SNR=11						
L07A	**Adell**	**83.31**	**39**	P	**P**	**14 59 22.2**	**+0.3**
	baz=84,SNR=17						
O09A	**Fish Creek Ran**	**83.41**	**41**	⇑P	**P**	**14 59 22.2**	**-0.2**
	baz=84,SNR=6.0						
H04A	**Detroit Lake**	**83.50**	**35**	⇓P	**P**	**14 59 22.5**	**-0.4**
	baz=84,SNR=7.7						
M08A	**Happy Creek Ra**	**83.50**	**39**	⇓P	**P**	**14 59 23.2**	**+0.3**
	baz=84						
P10A	**Eureka**	**83.51**	**42**	⇓P	**P**	**14 59 23.0**	**+0.1**
	baz=84						
Q11A	**Duckwater**	**83.54**	**43**	⇑P	**P**	**14 59 23.1**	**0.0**
	baz=84,SNR=9.7						
W15A	**Williams**	**83.60**	**47**	⇑P	**P**	**14 59 24.2**	**+0.8**
	baz=84						
N09A	**Rock Creek Ran**	**83.63**	**40**	⇓P	**P**	**14 59 23.6**	**0.0**
	baz=84						
I05A	**Bend**	**83.64**	**36**	P	**P**	**14 59 24.0**	**+0.3**
	baz=84,SNR=6.2						
J06A	**Christmas Vall**	**83.65**	**37**	P	**P**	**14 59 23.3**	**-0.4**
	baz=84,SNR=14						
NJ2	**Nanjing**	**83.67**	**309**	*e*P	**P**	**14 59 22.2**	**-1.6**
NJ2				AP	pP	14 59 32.3	+2.2
NJ2				XP	sP	14 59 36.9	+4.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,6.8s						
NJ2				LR	LR		
	comp=N,2μm,22.2s,MS5.4						
NJ2				LR	LR		
	comp=E,1μm,24.1s,MS5.4						
NJ2				LR	LR		
	comp=Z,1μm,23.6s,MS5.2						
G04A	**Mulino**	**83.69**	**35**	⇓P	**P**	**14 59 23.9**	**0.0**
	baz=84						
K07A	**Rock Creek Ran**	**83.79**	**38**	P	**P**	**14 59 24.6**	**+0.2**
	baz=84,SNR=15						
O10A	**Cortez Mining,**	**83.90**	**41**	⇑P	**P**	**14 59 25.1**	**+0.1**
	baz=84						
WVOR	**Wild Horse Val**	**83.98**	**39**	*e*P	**P**	**14 59 25.1**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
WVOR	**Wild Horse Val**	**83.98**	**39**	*e*P	**P**	**14 59 25.1**	**-0.3**
	comp=Z,23nm,1.1s,mb5.2						
H05A	**Madras**	**83.98**	**36**	⇓P	**P**	**14 59 25.5**	**+0.2**
	baz=84						
L08A	**Fields**	**83.99**	**39**	⇑P	**P**	**14 59 25.1**	**-0.3**
	baz=84,SNR=22						
M09A	**Marrel Ranch,**	**84.03**	**40**	⇑P	**P**	**14 59 25.9**	**+0.2**
	baz=84,SNR=6.3

SNAA	Sanae	84.88	178	eP		P	14 59 29.5	-0.4
	comp=Z,28nm,1.0s,mb5.3							
VNA3	Neumayer Olymp	84.93	175	⇊iP		P	14 59 29.7	-0.5
VNA3				e			14 59 31.1	
VNA3				e			14 59 32.6	
VNA3				e		pP	14 59 36.6	+0.1
VNA3				e			14 59 44.1	
VNA3				e			14 59 53.5	
ELK	Elko	84.94	41	eP		P	14 59 30.3	+0.1
ELK					pmax	pmax		
	comp=Z,11nm,0.9s							
ELK	Elko	84.94	41	eP		P	14 59 30.3	+0.1
	comp=Z,11nm,0.9s,mb5.0							
O12A	Currie	84.95	42	P		P	14 59 30.6	+0.3
	baz=85,SNR=9.4							
I08A	Drewsey	84.95	37	⇑P		P	14 59 30.0	-0.3
	baz=85,SNR=7.1							
E05A	Randle	84.98	34	⇊P		P	14 59 30.1	-0.3
	baz=85,SNR=6.1							
M11A	Holland Ranch,	85.02	41	⇊P		P	14 59 30.9	+0.3
	baz=85							
J09A	Fry Pan Ranch,	85.06	38	P		P	14 59 30.8	0.0
	baz=85,SNR=19							
N12A	Clover Valley,	85.12	41	P		P	14 59 31.3	+0.1
	baz=85,SNR=10							
C04A	Brinnon	85.15	32	⇑P		P	14 59 31.3	-0.1
	baz=85							
G07A	Ruggs Ranch, H	85.22	36	⇑P		P	14 59 31.5	-0.2
	baz=85,SNR=7.7							
D05A	Enumclaw	85.28	33	⇑P		P	14 59 32.3	+0.3
	baz=85,SNR=5.5							
H08A	Prairie City	85.28	37	⇑P		P	14 59 31.7	-0.3
	baz=85,SNR=6.1							
E06A	Yakima	85.37	34	⇑P		P	14 59 32.2	-0.2
	baz=86							
PLCA	Paso Flores	85.44	133	P		P	14 59 33.0	+0.3
	comp=Z,12nm,1.2s,mb4.9,baz=225,slow=6.6,SNR=6.0							
PLCA					LR	LR	15 30 35.3	
	comp=Z,424nm,20.3s,MS4.8,baz=80,slow=31							
F07A	Phinny Hill Vi	85.49	35	⇊P		P	14 59 32.8	-0.2
	baz=86							
M12A	Wells	85.53	41	P		P	14 59 33.2	0.0
	baz=86,SNR=5.3							
MSU	Marysvale	85.55	45	eP		P	14 59 34.1	+0.8
VNA1	Neumayer--Stat	85.61	176	⇊iP		P	14 59 33.7	+0.1
VNA1				e			14 59 35.0	
VNA1				e			14 59 36.2	
VNA1				e		pP	14 59 41.3	+1.4
VNA1				e			14 59 48.9	
VNA1				e			14 59 58.5	
G08A	Pilot Rock	85.62	36	P		P	14 59 33.3	-0.4
	baz=86,SNR=23							
N13A	Wendover, West	85.63	42	⇊P		P	14 59 34.0	+0.3
	baz=86							
C05A	Tolt Reservoir	85.78	33	⇊P		P	14 59 34.0	-0.4
	baz=86							
MAIT	Maitri	85.78	182	eP		P	14 59 34.5	0.0
D06A	Cle Elum	85.87	34	⇊P		P	14 59 34.4	-0.4
	baz=86							
H09A	Durkee	85.93	37	⇑P		P	14 59 34.9	-0.3
	baz=86							
B05A	Bryant	85.96	32	⇊P		P	14 59 35.2	-0.1
	baz=86							
E07A	Sunnyside	85.96	35	⇊P		P	14 59 35.1	-0.3
	baz=86							
A04A	Legoe Bay, Lum	85.97	32	⇊P		P	14 59 35.3	-0.1
	baz=86							
F08A	Pendleton	86.04	36	⇑P		P	14 59 35.4	-0.4
	baz=86,SNR=5.7							
DUG	Dugway	86.11	43	⇑P		P	14 59 35.6	-0.5
	baz=86							
WHN	Wuhan	86.18	306	eP		P	14 59 37.5	+1.1
CN2	Changchun	86.18	321	eP		P	14 59 36.2	-0.2
CN2					AMB	AMB		
	comp=Z,30nm,1.3s,mb5.4							
KLR	Kul'dur	86.38	328	eP		P	14 59 34.7	-2.7
B06A	Marblemount	86.43	33	⇑P		P	14 59 37.2	-0.4
	baz=87							
F09A	S2 Ranch, Elgi	86.46	36	⇊P		P	14 59 37.4	-0.4
	baz=87							
C07A	Waterville	86.60	34	P		P	14 59 38.2	-0.2
	baz=87,SNR=6.2							
MNTX	Cornudas Mount	86.60	53	eP		P	14 59 38.5	0.0
	comp=Z,24nm,1.2s,mb5.3							
TMUT	Trail Mountain	86.61	44	eP		P	14 59 39.2	+0.7
Y22C	IRIS PASSCAL I	86.70	51	⇑P		P	14 59 39.3	+0.4
	baz=87							
D08A	Wollman Farm,	86.78	35	⇑P		P	14 59 38.9	-0.4
	baz=87							
E09A	Wood Farm, Sta	86.84	36	⇑P		P	14 59 39.2	-0.5
	baz=87							
SRU	San Rafael	86.95	45	eP		P	14 59 39.6	-0.6
SRU					pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2							
SRU	San Rafael	86.95	45	eP		P	14 59 39.6	-0.6
	comp=Z,16nm,1.0s,mb5.2							
F10A	Beach Ranch, E	86.99	36	⇑P		P	14 59 39.6	-0.8
	baz=87							
LPM	Los Pinos Moun	87.03	51	eP		P	14 59 41.4	+0.9
B07A	Winthrop	87.07	33	⇊P		P	14 59 40.5	-0.3
	baz=87							
TIA	Tai'an	87.10	312	eP		P	14 59 41.4	+0.5
D09A	Jones Farm, Ri	87.10	35	⇊P		P	14 59 40.1	-0.8
	baz=87,SNR=6.0							
HLID	Hailey	87.11	40	⇊P		P	14 59 41.0	0.0
	baz=87							
PSI	Prapat	87.13	274	P		P	14 59 41.2	+0.1
	comp=Z,8.8nm,0.9s,mb5.0,baz=168,slow=9.2,SNR=9.9							
PSI	Prapat	87.13	274	P		P	14 59 41.2	+0.1
C08A	Higginbotham F	87.18	34	⇊P		P	14 59 40.5	-0.8
	baz=87							
DAU	Daniels Canyon	87.21	43	eP		P	14 59 41.8	+0.3
MVCO	Mesa Verde	87.26	47	⇑P		P	14 59 41.7	0.0
	baz=87							
MA2	Magadan	87.37	344	⇑eP		P	14 59 40.6	-1.7
ANMO	Albuquerque	87.48	50	⇑eP		P	14 59 41.9	-0.9
PV10	Paradox Valley	87.52	46	eP		P	14 59 42.7	-0.3
C09A	Chrisman Ranch	87.59	35	⇊P		P	14 59 43.1	-0.2
	baz=88							
B09A	Rice	88.05	34	P		P	14 59 44.7	-0.8
	baz=88,SNR=7.3							
A09A	Danville	88.18	33	⇊P		P	14 59 45.6	-0.5
	baz=88,SNR=6.3							
A10A	Northport	88.71	34	⇑P		P	14 59 48.0	-0.6
	baz=89							
MCMT	McKenzie Canyo	88.77	39	eP		P	14 59 49.2	+0.3
C12A	Trout Creek	89.00	36	P		P	14 59 49.8	-0.2
	baz=89,SNR=7.4							
SKAG	Skagway	89.04	19	eP		P	14 59 50.5	+0.4
	comp=Z,45nm,1.6s,mb5.5							
B12A	Libby	89.41	35	⇑P		P	14 59 51.3	-0.6
	baz=90							
C13A	Hot Springs	89.48	36	⇑P		P	14 59 51.1	-1.1
	baz=90							
BW06	Boulder Array	89.57	42	eP		P	14 59 51.7	-1.0
	comp=Z,5.1nm,1.0s,mb4.8							
PDAR	Pinedale Array	89.57	42	P		P	14 59 51.6	-1.1
	comp=Z,3.4nm,0.9s,mb4.7,baz=206,slow=3.8,SNR=24							
QLMT	Earthquake Lak	89.59	40	eP		P	14 59 53.3	+0.6
A12A	Yaak River Ran	89.66	35	⇑P		P	14 59 52.3	-0.7
	baz=90							
BJI	Beijing	89.74	314	P		P	14 59 54.2	+0.8
BJI					AMB	AMB		
	comp=Z,14nm,2.0s,mb5.0							
BJI					LR	LR		
	comp=N,202nm,15.8s,MS5.1							
BJI					LR	LR		
	comp=E,486nm,15.8s,MS5.1							
BJI					LR	LR		
	comp=Z,339nm,18.8s,MS4.8							
BJI	Beijing	89.74	314	P		P	14 59 54.2	+0.8
	comp=Z,14nm,2.0s,mb5.0							
BJI					LR	LR		
	comp=Z,340nm,18.8s,MS4.8							
CHMT	Chamberlain Mo	89.75	37	eP		P	14 59 52.7	-0.8
SEY	Seymchan	89.90	346	⇑eP		P	14 59 52.8	-1.4
GYA	Guiyang	90.23	299	⇑iP		P	14 59 57.4	+1.7
GYA					AP	pP	15 00 01.8	-0.3
GYA					XP	sP	15 00 04.9	+0.6
GYA					PP	PP	15 03 34.8	+5.3
GYA					SKS		15 10 26.5	
GYA					S	S	15 10 50.2	+1.4
GYA					PS	PS	15 11 59.8	+2.5
GYA					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4							
GYA					AMB	AMB		
	comp=Z,120nm,6.7s							
GYA					LR	LR		
	comp=N,860nm,20.8s,MS5.3							
GYA					LR	LR		
	comp=E,730nm,21.4s,MS5.3							
GYA					LR	LR		
	comp=Z,760nm,22.4s,MS5.1							
COLA	College	90.70	11	iP		P	14 59 55.1	-2.8
GCMT	Greycliff	91.16	40	eP		P	15 00 00.2	+0.2
DAWY	Dawson	91.76	15	eP		P	15 00 02.6	-0.2
DAWY				e			15 00 17.2	
XAN	Xi'an	91.88	306	P		P	15 00 04.0	+0.6
XAN					AMB	AMB		
	comp=Z,18nm,1.3s,mb5.2							
XAN					LR	LR		
	comp=N,650nm,19.3s,MS5.3							
XAN					LR	LR		
	comp=E,851nm,20.5s,MS5.3							
XAN					LR	LR		
	comp=Z,2μm,21.3s,MS5.5							
BILL	Bilibino	92.33	353	iP		P	15 00 04.2	-1.3
KMI	Kunming	92.86	296	P		P	15 00 10.3	+2.4
KMI					AP	pP	15 00 13.5	-0.8
KMI					XP	sP	15 00 14.6	-1.9
KMI					PP	PP	15 03 57.0	+6.8
KMI					SKS		15 10 41.5	
KMI					S	S	15 11 09.3	-3.2
KMI					AMB	AMB		
	comp=Z,14nm,1.4s,mb5.2							
KMI					AMB	AMB		
	comp=Z,199nm,4.3s							
KMI					LR	LR		
	comp=N,323nm,14.5s,MS5.0							
KMI					LR	LR		
	comp=E,320nm,17.1s,MS5.0							
KMI					LR	LR		
	comp=Z,370nm,16.2s,MS4.9							
KMI	Kunming	92.86	296	P		P	15 00 10.3	+2.4
KMI							15 03 57.0	
KMI							15 10 41.5	
KMI					S	S	15 11 09.3	-3.2
KMI					SS	SS	15 17 29.0	+3.1
KMI					pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2							
KMI					MLR	MLR		
	comp=Z,370nm,16.2s,MS4.9							
KMI	Kunming	92.86	296	P		P	15 00 10.3	+2.4
	comp=Z,14nm,1.4s,mb5.2							
KMI					pP	pP	15 00 13.5	-0.8
KMI					sP	sP	15 00 14.6	-1.9
KMI					PP	PP	15 03 57.0	+6.8
KMI					SKS		15 10 41.5	
KMI					S	S	15 11 09.3	-3.2
KMI					sS	sS	15 11 17.1	-6.0
KMI					SS	SS	15 17 29.0	+3.1
KMI					LR	LR		
	comp=Z,370nm,16.2s,MS4.9							
WMOK	Wichita Mounta	92.91	53	eP		P	15 00 06.9	-1.2
WMOK					pmax	pmax		
	comp=Z,12nm,1.5s,mb5.1							
WMOK	Wichita Mounta	92.91	53	eP		P	15 00 06.9	-1.2
	comp=Z,12nm,1.5s,mb5.1							
HHC	Hu-ho-hao-te	93.19	313	eP		P	15 00 10.3	+0.8
HHC					AP	pP	15 00 14.4	-1.4
HHC					XP	sP	15 00 17.5	-0.6
HHC					AMB	AMB		
	comp=Z,21nm,0.7s,mb5.7							
CHTO	Chiang Mai	93.52	289	eP		P	15 00 13.0	+2.1
CHTO				e			15 00 26.1	
CHTO					pmax	pmax		
	comp=Z,37nm,1.2s,mb5.7							
CHTO	Chiang Mai	93.52	289	eP		P	15 00 12.9	+2.0
	comp=Z,37nm,1.2s,mb5.7							
CHTO				e			15 00 26.1	
RSSD	Black Hills	93.71	43	eP		P	15 00 11.3	-0.5
RSSD					pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3							
RSSD	Black Hills	93.71	43	eP		P	15 00 11.3	-0.6
	comp=Z,13nm,1.0s,mb5.3							
BTO	Baotou	94.12	313	eP		P	15 00 14.4	+0.7
CD2	Chengdu	94.44	302	eP		P	15 00 15.3	+0.1
CD2					XP	sP	15 00 22.5	-1.3
CD2					PP	PP	15 04 05.3	+2.6
CD2					SKS		15 10 48.4	
CD2					S	S	15 11 23.8	-2.7
CD2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2					LR	LR		
	comp=E,120nm,14.4s							
CD2					LR	LR		
	comp=Z,160nm,14.5s,MS4.6							
YAK	Yakutsk	95.84	337	iP		P	15 00 17.9	-3.7
LZH	Lanzhou	96.52	306	eP		P	15 00 26.2	+1.5
LZH					AP	pP	15 00 29.5	-1.5
LZH					XP	sP	15 00 31.6	-1.7
LZH					PP	PP	15 04 23.5	+4.7
LZH					eSKS		15 11 01.5	
LZH					eS	S	15 11 43.0	-1.5
LZH					SS	SS	15 18 24.0	+6.0
LZH					AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3							
LZH					AMB	AMB		
	comp=Z,60nm,4.2s							
LZH					LR	LR		
	comp=N,542nm,17.3s							
LZH					LR	LR		
	comp=Z,718nm,18.4s,MS5.2							
LZH	Lanzhou	96.52	306	eP		P	15 00 26.2	+1.5
LZH							15 04 23.5	
LZH				e			15 11 01.5	
LZH				eS		S	15 11 43.0	-1.5
LZH					SS	SS	15 18 24.0	+6.0
LZH					pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3							
LZH					MLR	MLR		
	comp=Z,720nm,18.4s,MS5.2							
LZH	Lanzhou	96.52	306	eP		P	15 00 26.2	+1.5
	comp=Z,13nm,1.0s,mb5.3							
LZH					pP	pP	15 00 29.5	-1.5
LZH					sP	sP	15 00 31.6	-1.7
LZH					PP	PP	15 04 23.5	+4.7
LZH					eSKS		15 11 01.5	
LZH					eS	S	15 11 43.0	-1.5
LZH					sS	sS	15 11 50.0	-5.0
LZH					SS	SS	15 18 24.0	+6.0
LZH					LR	LR		
	comp=Z,720nm,18.4s,MS5.2							
SONM	Songino Array	99.63	318	P		Pdif	15 00 35.7	-2.9
	comp=Z,0.1nm,0.5s,baz=98,slow=11,SNR=3.0							
GTA	Gaotai	100.75	308	eP		Pdif	15 00 45.4	+1.8
GTA					AP		15 00 49.1	
GTA					XP		15 00 52.1	
GTA					PP	PP	15 04 52.8	+1.7
GTA					SKS		15 11 22.1	
GTA					S	Sdif	15 12 15.7	-4.6
GTA					AMB	AMB		
	comp=Z,3.0nm,1.1s							
GTA					LR	LR		
	comp=N,177nm,17.1s,MS4.9							
GTA					LR	LR		
	comp=E,247nm,17.1s,MS4.9							
GTA					LR	LR		
	comp=Z,359nm,17.1s,MS5.0							
WMQ	Urumqi	110.73	310	ePKP		PKiKP	15 05 28.0	+0.1
WMQ					PP	PP	15 06 10.0	+5.2
WMQ					PPP		15 08 30.0	
WMQ					PKS		15 09 03.0	
WMQ					SKS	SKSdf	15 12 35.0	-4.0
WMQ					SKKS	SKKSac	15 13 00.0	-6.9
WMQ					PP	PP		
	comp=Z,189nm,5.6s							
WMQ					LR	LR		
	comp=N,546nm,24.0s,MS5.2							
WMQ					LR	LR		
	comp=E,630nm,22.9s,MS5.2							
WMQ					LR	LR		
	comp=Z,696nm,20.2s,MS5.2							
MKAR	Makanchi Array	115.03	312	PKP		PKiKP	15 05 34.3	-1.9
	comp=Z,0.6nm,0.6s,baz=64,slow=2.8,SNR=8.2							
NVS	Novosibirsk	115.39	321	ePKIKP		PKPdf	15 05 30.8	-6.0
KSH	Kashi	118.59	303	ePKP		PKPdf	15 05 34.1	-8.9
KSH				eXPKP			15 05 48.1	
KSH				ePKS			15 09 09.2	
KSH					PP	PP		
	comp=Z,373nm,10.2s							
KSH					LR	LR		
	comp=N,640nm,5.7s							
KSH					LR	LR		
	comp=E,662nm,6.2s							
KSH					LR	LR		
	comp=Z,652nm,5.5s							
AAK	Ala-Archa	120.06	307	⇑ePKIKP		PKPdf	15 05 44.4	-1.4
CHKZ	Chkalovo	122.77	320	ePKIKP		PKPdf	15 05 49.4	-1.6
BVAR	Borovoye Array	122.95	319	PKP		PKPdf	15 05 49.9	-1.5
	comp=Z,5.5nm,0.9s,baz=98,slow=3.0,SNR=19							
BRVK	Borovoye	123.02	319	ePKIKP		PKPdf	15 05 50.0	-1.5
ZRNK	Zerenda	123.80	319	ePKIKP		PKPdf	15 05 51.8	-1.2
ARU	Arti	129.07	325	i PKIKP		PKPdf	15 06 02.0	-1.1
ARU				e			15 08 10.9	
ARU				e			15 13 06.6	
ARU				eSS		SS	15 25 28.2	-1.4
ARU	Arti	129.07	325	⇑ePKP		PKPdf	15 06 01.7	-1.4
AKTK	Aktyubinsk	130.94	317	PKP		PKPdf	15 06 05.7	-0.9
AKTO	Aktyubinsk	130.94	317	PKP		PKPdf	15 06 05.7	-0.9
	comp=Z,2.0nm,0.7s,baz=32,slow=2.3,SNR=6.6							
ARCES	ARCESS Array B	132.34	350	PKP		PKPdf	15 06 07.8	-1.4
	comp=Z,5.7nm,0.8s,baz=43,slow=2.3,SNR=5.4							
ARCES	ARCESS Array B	132.34	350	PKP		PKPdf	15 06 07.8	-1.5
OBN	Obninsk	140.58	331	i PKIKP		PKPdf	15 06 22.2	-2.3
OBN					pmax	pmax		
	comp=Z,16nm,1.4s							
NB2	NORSAR Subarra	142.27	355	PKP			15 06 22.0	
	comp=Z,6.2nm,1.0s,baz=14,slow=4.6							
NOA	NORSAR Array B	142.27	355	PKhKP			15 06 22.0	
	comp=Z,3.0nm,0.9s,baz=16,slow=4.5,SNR=4.3							
ZEI	Tsey	142.35	310	ePKIKP		PKPdf	15 06 27.5	-0.2
ZEI				e			15 09 38.2	
BHD	Baghdad	143.87	295	ex		x	15 06 24.0	
ERZM	Erzurum	145.02	307	i P		PKPbc	15 06 32.5	+0.8
BNGL	BINGOL	145.44	305	i P		PKPdf	15 06 33.0	-0.1
ANN	Anapa	145.89	316	i PKP2		PKPdf	15 06 34.0	+0.1
ANN					pmax	pmax		
	comp=Z,93nm,1.5s							
SUW	Suwalki	146.53	340	ePKP		PKPdf	15 06 35.9	+0.9
AKASG	Malin Array Be	146.84	331	PKPbc		PKPdf	15 06 34.5	-1.0
	comp=Z,20nm,1.0s,baz=37,slow=3.4,SNR=49							
AKBB	Malin Array Si	146.84	331	ePKIKP		PKPdf	15 06 35.2	-0.3
ELZG	Elazig	147.20	305	i P		PKPbc	15 06 39.4	+1.1
MALT	Malatya	147.67	305	⇑iP		PKPbc	15 06 40.5	+0.9
MALT	Malatya	147.67	305	PKP2		PKPab	15 06 41.5	-0.4
MALT	Malatya	147.67	305	⇑P		PKPbc	15 06 40.5	+0.9
EKA	Eskdalemuir Ar	147.75	8	PKPbc		PKPbc	15 06 38.3	-1.6
	comp=Z,10nm,0.9s,baz=332,slow=2.8,SNR=10							
SIM	Simferopol'	147.87	319	ePKP2		PKPab	15 06 46.0	+3.3
SIM					pmax	pmax		
	comp=Z,24nm,1.0s							
GZT	Gaziantep	148.60	304	i P		PKPbc	15 06 41.3	-0.8
GKP	Gorka Klasztor	148.82	345	ePKP		PKPbc	15 06 42.6	-0.1
BOYT	Boyabat	149.06	312	i P		PKPbc	15 06 42.9	-0.4
BSEG	Bad Segeberg	149.37	353	ePKPbc		PKPbc	15 06 43.1	-0.9
CTKT	Corum	149.48	311	i P		PKPbc	15 06 44.7	+0.4
LVV	L'vov	149.69	335	ePKHKP			15 06 42.5	
LVV				e			15 06 46.9	
LVV					MLR	MLR		
	comp=Z,300nm,22.0s,MS5.0							
COBT	Iskenderun	149.84	303	i P		PKPbc	15 06 44.5	-0.7
CDAG	Cicekdag	150.18	310	i P		PKPbc	15 06 44.2	-1.8
ASF	Jabal al Asfar	150.26	294	PKPbc		PKPbc	15 06 46.8	+0.5
	comp=Z,6.9nm,0.9s,baz=240,slow=1.9,SNR=14							
RUE	Ruedersdorf	150.29	349	ePKPbc		PKPbc	15 06 45.9	-0.4
RUE	Ruedersdorf	150.29	349	ePKPbc		PKPbc	15 06 45.8	-0.4
KWP	Kalwaria	150.35	336	ePKP		PKPbc	15 06 46.5	+0.1
ELDT	Eldivan	150.47	312	i P		PKPbc	15 06 47.0	+0.3
WIT	Witteveen	150.75	357	ePKP		PKPbc	15 06 48.3	+0.9
	comp=Z,386nm,1.5s							
NRDL	Niedersach Rie	150.81	353	ePKPbc		PKPbc	15 06 47.2	-0.3
OJC	Ojcow	150.86	340	ePKP		PKPbc	15 06 47.4	-0.2
BURAR	Bucovina Array	150.90	331	⇊iP		PKPbc	15 06 48.7	+1.0
BURAR	Bucovina Array	150.90	331	⇊P		PKPbc	15 06 48.7	+1.0
STHS	Stebnicka Huta	151.06	337	ePKP		PKPbc	15 06 48.2	+0.1
STHS				e			15 10 06.2	
KOLS	Kolonicke sedl	151.09	336	ePKP		PKPbc	15 06 48.5	+0.3
ANTO	Ankara	151.18	311	⇑iP		PKPbc	15 06 48.6	+0.2
ANTO	Ankara	151.18	311	ePKPbc		PKPbc	15 06 48.5	+0.1
IBBN	Ibbenburen	151.20	356	ePKPbc		PKPbc	15 06 47.9	-0.5
KSP	Ksiaz	151.29	344	ePKP		PKPbc	15 06 48.9	+0.3
KSP	Ksiaz	151.29	344	ePKPdf		PKPbc	15 06 48.8	+0.2
UZH	Uzhgorod	151.32	335	⇑iPKIKP		PKPbc	15 06 48.0	-0.7
UZH				e			15 07 03.2	
UZH					pmax	pmax		
	comp=Z,97nm,1.1s							
NIE	Niedzica	151.38	338	ePKP		PKPbc	15 06 49.6	+0.7
CRVS	Cervenica-Dubn	151.41	336	ePKP		PKPbc	15 06 49.1	+0.2
CLZ	Clausthal	151.42	352	ePKPbc		PKPbc	15 06 48.3	-0.6
VRI	Vrincioaia	151.43	327	⇊iP		PKPbc	15 06 48.9	-0.1
VRI	Vrincioaia	151.43	327	⇊P		PKPbc	15 06 48.9	-0.1
MEST	Erdemli	151.44	304	i P		PKPbc	15 06 48.6	-0.4
CLL	Collm	151.55	349	ePKPbc		PKPbc	15 06 48.9	-0.3
CLL	Collm	151.55	349	⇊iPKP		PKPbc	15 06 48.9	-0.3
CLL				i PKP		PKPab	15 06 56.9	-0.8
CLL	Collm	151.55	349	⇊iPKPbc		PKPbc	15 06 48.9	-0.3
	comp=Z,57nm,1.0s							
CLL				i PKPab		PKPab	15 06 56.9	-0.8
	comp=Z,22nm,1.1s							
CLL				i sPKPab			15 07 03.4	
WTSB	Winterswijk	151.59	357	ePKP		PKPbc	15 06 49.2	-0.1
	comp=Z,60nm,1.8s							
UPC	Upice	151.67	345	ePKPDF		PKPdf	15 06 43.7	+0.5
UPC				⇑ePKP		PKPbc	15 06 49.6	+0.1
OKC	Ostrava-Krasne	151.70	341	⇑ePKP		PKPbc	15 06 49.7	+0.1
OKC				ePKPAB		PKPab	15 07 04.5	+6.1
DPC	Dobruska-Polom	151.74	344	ePKPDF		PKPdf	15 06 43.1	-0.2
DPC				⇑ePKP		PKPbc	15 06 49.9	+0.2
DPC				epPKP		PKPab	15 07 04.0	+5.5
DPC	Dobruska-Polom	151.74	344	ePKIKP		PKPdf	15 06 43.1	-0.2
DPC				e			15 06 49.9	
BRG	Berggiesshubel	151.79	347	ePKPbc		PKPbc	15 06 49.4	-0.4
BRG	Berggiesshubel	151.79	347	ePKP		PKPdf	15 06 43.4	0.0
	comp=Z,18nm,1.7s							
BRG	Berggiesshubel	151.79	347	i PKP		PKPbc	15 06 49.8	+0.1
	comp=Z,24nm,0.9s							
BRG				i			15 07 04.8	
	comp=Z,7.3nm,0.9s							
BRG	Berggiesshubel	151.79	347	ePKIKP		PKPdf	15 06 43.4	0.0
BRG				i			15 06

HGN	Heimansgroeve	152.83	358	ePKP	PKPbc	15 06 52.2	0.0
	comp=Z,43nm,2.3s						
TREC	Trest	152.92	344	ePKPDF	PKPdf	15 06 44.1	-1.0
TREC			⇑	ePKP	PKPbc	15 06 52.0	-0.3
TREC				ePKPAB	PKPab	15 07 02.9	-0.6
MANZ	Manzenberg	152.98	349	ePKPbc	PKPbc	15 06 52.0	-0.4
MEM	Membach	152.98	358	PKPbc	PKPbc	15 06 52.2	-0.2
MEM				PKPab	PKPab	15 07 03.0	-0.7
MEM				APKPab		15 07 07.1	
SMOL	Smolenice	153.10	341	ePKP	PKPbc	15 06 52.6	-0.1
BCLA	Clavier	153.19	359	PKPbc	PKPbc	15 06 55.6	+2.7
BCLA				PKPab	PKPab	15 07 03.8	-0.8
TNS	Taunus Mts	153.22	354	ePKPbc	PKPbc	15 06 52.7	-0.3
GRA1	Grafenberg Arr	153.41	350	ePKPbc	PKPbc	15 06 53.5	+0.1
GRF	Grafenberg Arr	153.41	350	ePKPbc	PKPbc	15 06 53.5	+0.1
ZST	Bratislava	153.48	341	ePKP	pPKPbc	15 07 01.8	+1.8
ZST				eSS	SS	15 30 06.4	-7.4
KHC	Kasperske Hory	153.52	347	ePKPDF	PKPdf	15 06 45.3	-0.6
KHC			⇑	ePKP	PKPbc	15 06 53.5	-0.1
KHC				ePKPAB	PKPab	15 07 04.9	-1.1
DOU	Dourbes	153.52	360	PKPbc	PKPbc	15 06 53.6	-0.1
DOU				APKPbc		15 06 58.2	
DOU				APKPab		15 07 08.4	
ULDT	Uludag	153.52	314	*i* P	PKPbc	15 06 52.8	-0.8
BAIF	Baives	153.55	1	ePKIKP	PKPdf	15 06 44.9	-1.1
WET	Wettzell	153.65	348	ePKPbc	PKPbc	15 06 54.4	+0.5
GEC2	GERESS Array S	153.76	346	ePKPbc	PKPbc	15 06 54.3	+0.1
GERES	GERESS Array B	153.76	346	PKP	PKPdf	15 06 45.9	-0.3
	comp=Z,1.1nm,0.9s,baz=168,slow=1.2,SNR=8.8						
WLF	Walferdange	153.92	358	ePKPbc	PKPbc	15 06 53.8	-0.7
WLF	Walferdange	153.92	358	PKPbc	PKPbc	15 06 55.6	+1.1
WLF				APKPbc		15 07 00.1	
WLF				PKPab	PKPab	15 07 07.7	0.0
BZS	Buzias	154.02	332	⇓ *i* P	PKPbc	15 06 54.6	-0.1
BZS	Buzias	154.02	332	P	PKPbc	15 06 54.0	-0.7
PKSM	Moragy	154.71	337	⇑ *i* P	PKPdf	15 06 47.0	-0.6
PKSM	Moragy	154.71	337	⇑ P	PKPdf	15 06 47.0	-0.6
MEZF	Maizieres J'vi	155.11	359	ePKIKP	PKPdf	15 06 47.2	-1.0
	comp=Z,39nm,1.2s						
HINF	Hinteralfeld	155.73	356	ePKIKP	PKPdf	15 06 47.7	-1.3
LOR	Lormes	156.34	1	ePKIKP	PKPdf	15 06 48.9	-0.9
	comp=Z,48nm,1.6s						
SSF	Saint Saulge	156.54	2	ePKIKP	PKPdf	15 06 49.0	-1.1
	comp=Z,98nm,1.8s						
CABF	La Chapelle	156.97	357	ePKIKP	PKPdf	15 06 50.2	-0.4
	comp=Z,74nm,1.6s						
TCF	Toulx Ste Croi	157.25	4	ePKIKP	PKPdf	15 06 49.8	-1.2
	comp=Z,23nm,1.2s						
LPL	La Plagne	158.03	356	ePKIKP	PKPdf	15 06 51.7	-0.3
LPG	La Plagne	158.05	356	ePKIKP	PKPdf	15 06 51.5	-0.5
	comp=Z,20nm,1.4s						
RJF	Les Rejaudoux	158.17	6	ePKIKP	PKPdf	15 06 50.9	-1.2
	comp=Z,82nm,1.7s						
CAF	Calviac	158.59	5	ePKIKP	PKPdf	15 06 51.8	-0.8
	comp=Z,11nm,1.1s						
ORIF	Oris-en-Rattie	158.67	357	ePKIKP	PKPdf	15 06 52.0	-0.7
	comp=Z,36nm,1.5s						
MBDF	Montbardon	158.81	356	ePKIKP	PKPdf	15 06 52.1	-0.8
	comp=Z,32nm,1.6s						
SMRF	Simiane la Rot	159.62	358	ePKIKP	PKPdf	15 06 52.4	-1.4
	comp=Z,59nm,1.5s						
FRF	La Foret Royal	159.98	356	ePKIKP	PKPdf	15 06 52.8	-1.4
	comp=Z,19nm,1.2s						
MTLF	Montolieu	160.18	5	ePKIKP	PKPdf	15 06 53.0	-1.5
LMR	La Mourre	160.22	356	ePKIKP	PKPdf	15 06 53.2	-1.3
	comp=Z,75nm,1.4s						
ETSF	Etsaut	160.25	11	ePKIKP	PKPdf	15 06 53.3	-1.2
	comp=Z,54nm,1.7s						
EPF	Esparros	160.27	9	ePKIKP	PKPdf	15 06 53.9	-0.7
PCBR	Castelo Branco	160.83	29	ePKPdf	PKPdf	15 06 55.8	+0.6
PESTR	Estremoz	161.56	31	ePKPdf	PKPdf	15 06 56.6	+0.6
EVO	Evora	161.62	33	ePKIKP	PKPdf	15 06 55.3	-0.7
	comp=Z,47nm,1.5s						
PBEJ	Beja	162.08	34	ePKPdf	PKPdf	15 06 57.5	+1.0
ESDC	Sonseca Array	162.38	22	PKP	PKPdf	15 06 57.3	+0.5
	comp=Z,2.6nm,0.9s,baz=356,slow=2.8,SNR=12						
MDT	Midelt	167.73	39	PKP	PKPdf	15 07 01.3	-0.1
	comp=Z,4.2nm,1.0s,baz=337,slow=2.1,SNR=11						
TORD	Torodi Ar. Bea	169.28	165	PKP	PKPdf	15 07 02.1	-0.3
	comp=Z,4.7nm,1.1s,baz=134,slow=0.3,SNR=14						
TORD				PKPab	PKPab	15 08 15.2	+0.5
	comp=Z,3.2nm,0.9s,baz=174,slow=2.5,SNR=11						

*IDC **08** 14:50:11.0±0.9, 2340S×17552W, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.4/17, mbtmp4.4/10, ML4.9/1, Error ellipse: s-maj=40.2km s-min=19.4km az=147.0*
*NEIC **08** 14:50:12.5±0.4, 2330S×17551W, h10km, mb4.7/8, Error ellipse: s-maj=13.9km s-min=8.8km az=128.0*
*BJI **08** 14:50:12.4, 2330S×17550W, h10km, mb5.0*
*ISCJB **08** 14:50:14.9±0.5, 2353S±008×1756W±01, h33km, mb4.5/16, Error ellipse: s-maj=14.3km s-min=10.1km az=62.0*
*MOS **08** 14:50:17.8±3.5, 2374S×17581W, h33km, mb4.8/3, Error ellipse: s-maj=25.1km s-min=15.9km az=63.6*
*SZGRF **08** 14:50:18.0, 2273S×17508W, h33km, Tonga Islands region*

ISC 08 14:50:16.7±0.5, 2354S±007×1755W±01, h35km, n45, σ0§85/33, mb4.5/16, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.08	200	Pn	Pn	14 51 42.9	-1.2
	27nm,0.3s,baz=60,slow=20,SNR=2.5						
RAO				Sn	Sn	14 52 50.3	-2.2
	41nm,0.3s,baz=272,slow=23,SNR=3.9						
RAO	Raoul Island	6.08	200	Pn	Pn	14 51 43.6	-0.5
RAO				eSn	Sn	14 52 52.4	-0.1
AFI	Afiamalu	10.21	21	Pn	Pn	14 52 32.2	-8.5
	3.6nm,0.3s,baz=225,slow=7.4,SNR=1.8						
AFI	Afiamalu	10.21	21	P	Pn	14 52 33.9	-6.8
CTA	Charters Tower	35.61	268	eP	P	14 57 11.6	+0.6
	3.2nm,0.5s,mb4.5						
CTA	Charters Tower	35.61	268	P	P	14 57 10.9	0.0
	3.7nm,0.5s,mb4.6,baz=90,slow=8.6,SNR=10						
CTA	Charters Tower	35.61	268	eP	P	14 57 11.6	+0.6
CTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
STKA	Stephens Creek	38.69	248	eP	P	14 57 37.2	+0.1
	comp=Z,2.4nm,0.8s,mb4.0						
STKA	Stephens Creek	38.69	248	P	P	14 57 36.6	-0.4
	comp=Z,1.6nm,0.5s,mb4.0,baz=96,slow=11,SNR=4.3						
AS31	Alice Springs	46.16	259	eP	P	14 58 38.2	+0.3
ASAR	Alice Springs	46.16	259	P	P	14 58 37.8	-0.1
	comp=Z,1.7nm,0.8s,mb4.0,baz=100,slow=7.3,SNR=4.7						
ASPA	Alice Springs	46.16	259	eP	P	14 58 38.2	+0.3
WB2	Warramunga Arr	46.54	264	eP	P	14 58 40.3	-0.5
WRA	Warramunga Arr	46.55	264	P	P	14 58 39.9	-1.1
	comp=Z,1.5nm,0.4s,mb4.2,baz=95,slow=8.5,SNR=12						
KAKA	Kakadu	50.41	273	eP	P	14 59 09.7	-0.9
	comp=Z,6.2nm,0.4s,mb5.0						
FITZ	Fitzroy Crossi	54.97	264	eP	P	14 59 45.4	+1.0
	comp=Z,6.7nm,0.4s,mb5.0						
SBA	Scott Base	55.02	185	eP	P	14 59 47.1	+2.4
VNDA	Vanda	55.12	186	eP	P	14 59 46.6	+1.2
VNDA				pmax	pmax		
	comp=Z,11nm,1.6s						
VNDA	Vanda	55.12	186	eP	P	14 59 46.6	+1.2
	comp=Z,11nm,1.6s,mb4.6						
QSPA	South Pole Qui	66.54	180	eP	P	15 01 03.6	+0.6
	comp=Z,13nm,1.0s,mb4.9						
MAW	Mawson	79.49	199	P	P	15 02 20.5	+0.8
	comp=Z,8.2nm,1.1s,mb4.5,baz=124,slow=7.4,SNR=5.0						
YBH	Yreka Blue Hor	81.25	37	P	P	15 02 29.0	-0.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=191,slow=3.6,SNR=3.9						
NVAR	Mina Array Bea	81.68	42	P	P	15 02 31.0	-0.4
	comp=Z,2.5nm,0.9s,mb4.1,baz=225,slow=9.8,SNR=11						
SNAA	Sanae	84.91	178	eP	P	15 02 47.3	-0.7
CN2	Changchun	86.12	322	eP	P	15 02 54.9	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.9						
MNTX	Cornudas Mount	86.65	53	eP	P	15 02 56.2	-0.5
	comp=Z,6.1nm,1.1s,mb4.7						
SRU	San Rafael	86.99	45	eP	P	15 02 57.9	-0.4
SRU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
SRU	San Rafael	86.99	45	eP	P	15 02 57.9	-0.4
	comp=Z,2.7nm,0.9s,mb4.5						
PSI	Prapat	87.06	274	P	P	15 02 59.0	+0.3
	comp=Z,4.9nm,0.7s,mb4.9,baz=123,slow=3.0,SNR=5.9						
PSI	Prapat	87.06	274	P	P	15 02 59.0	+0.3
PDAR	Pinedale Array	89.61	42	P	P	15 03 09.8	-1.0
	comp=Z,0.7nm,0.8s,mb4.0,baz=232,slow=1.7,SNR=4.5						
CHKZ	Chkalovo	122.71	320	ePKIKP	PKPdf	15 09 07.7	-1.1
BVAR	Borovoye Array	122.89	319	PKP	PKPdf	15 09 08.1	-1.0
	comp=Z,1.3nm,0.9s,baz=108,slow=4.8,SNR=3.5						
AKASG	Malin Array Be	146.79	331	PKPbc	PKPbc	15 09 53.7	-1.3
	comp=Z,5.3nm,0.9s,baz=39,slow=3.6,SNR=9.4						
AKASG	Malin Array Be	146.79	331	PKPbc	PKPbc	15 09 53.7	-1.3
RUE	Ruedersdorf	150.25	349	ePKPbc	PKPbc	15 10 04.4	+0.4
NRDL	Niedersach Rie	150.78	353	ePKPbc	PKPbc	15 10 05.3	0.0
KSP	Ksiaz	151.25	344	ePKIKP	PKPbc	15 10 07.3	+0.9
UZH	Uzhgorod	151.28	335	ePKIKP	PKPbc	15 10 07.2	+0.7
UZH				*i*		15 10 15.5	
UZH				pmax	pmax		
	comp=Z,54nm,1.2s						
CLZ	Clausthal	151.39	352	ePKPbc	PKPbc	15 10 07.1	+0.4
CLL	Collm	151.51	349	ePKPbc	PKPbc	15 10 07.2	+0.2
CLL	Collm	151.51	349	*i* PKPbc	PKPbc	15 10 07.6	+0.6
	comp=Z,31nm,1.4s						
CLL				*i* sPKPab		15 10 21.3	
BRG	Berggiesshubel	151.75	347	ePKPbc	PKPbc	15 10 07.7	+0.1
BRG	Berggiesshubel	151.75	347	*i* PKP	PKPbc	15 10 08.1	+0.6
	comp=Z,9.1nm,1.0s						
FBE	Freiberg	151.82	348	ePKPbc	PKPbc	15 10 08.2	+0.5

*IPEC **08** 14:51:16.9±0.3, 5149N×1633E, h0km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
*ISCJB **08** 14:51:17.2±0.3, 5134N±002×1613E±002, h0km, Error ellipse: s-maj=2.7km s-min=1.8km az=37.2*
*NEIC **08** 14:51:17.5±0.5, 5150N×1616E, h5km, ML3.5(SZGRF), Error ellipse: s-maj=6.3km s-min=3.9km az=23.0*
*BGR **08** 14:51:17.2±0.5, 5142N×1624E, h1km, ML3.5/15, Error ellipse: s-maj=6.7km s-min=5.6km az=171.0*
*WAR **08** 14:51:18.7, 5145N×1618E, ML3.0, Mining Induced*
*IDC **08** 14:51:18.1±0.7, 5146N×1615E, h0km, mb1 3.6/8, mb1mx3.4/23, mbtmp3.5/8, ML3.3/8, Error ellipse: s-maj=12.1km s-min=6.4km az=107.0*
*PRU **08** 14:51:19.6, 5137N×1609E, h0km*
*LDG **08** 14:51:19.0±0.5, 5134N×1602E, h1km, Ml3.7/3, Error ellipse: s-maj=12.2km s-min=4.0km az=15.0, Suspected Mining induced.*
*CSEM **08** 14:51:20.8±0.1, 5134N×1602E, h1km, ML3.7/12, Error ellipse: s-maj=1.7km s-min=1.7km az=61.0*
*VIE **08** 14:51:20.4±0.5, 5124N×1611E, h0km, mb2.7/6, ML3.2/6, Error ellipse: s-maj=3.1km s-min=2.3km az=17.0 64 km WNW of Breslau Suspected Mining induced.*

ISC 08 14:51:17.4±0.3, 5145N±002×1615E±002, h0km, n78, σ1§10/142, 5C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	172	*i* Pg	Pg	14 51 29.9	+0.7
KSP				*e*		14 51 36.8	
KSP				*e*Sg	Sg	14 51 37.8	+0.5
KSP				eL		14 51 41.4	
KSP	Ksiaz	0.62	172	⇑ *i* Pg	Pg	14 51 29.9	+0.7
KSP				*e*		14 51 36.8	
KSP				*e*Sg	Sg	14 51 37.8	+0.5
KSP				*e*		14 51 41.4	
KSP	Ksiaz	0.62	172	⇑ *i* Pg	Pg	14 51 29.9	+0.7
KSP				*e*Sg	Sg	14 51 37.3	0.0
UPC	Upice	0.95	185	ePG	Pg	14 51 36.1	+0.5
DPC	Dobruska-Polom	1.11	174	ePG	Pg	14 51 38.7	0.0
DPC				eSG	Sg	14 51 53.2	+0.1
	211nm,0.3s						
DPC	Dobruska-Polom	1.11	174	ePg	Pg	14 51 38.7	0.0
DPC				eSg	Sg	14 51 53.1	0.0
PVCC	Panska Ves	1.36	228	ePG	Pg	14 51 43.8	+0.3
PVCC				eSG	Sg	14 52 02.1	+0.9
	473nm,0.3s						
BRG	Berggiesshubel	1.51	248	ePn	Pn	14 51 44.9	-0.7
BRG				eSg	Sg	14 52 07.0	+1.2
BRG	Berggiesshubel	1.51	248	PN	Pn	14 51 45.0	-0.6
BRG				PG	Pg	14 51 46.8	+0.6
BRG				SG	Sg	14 52 07.2	+1.4
BRG	Berggiesshubel	1.51	248	Pg	Pg	14 51 46.8	+0.6
BRG				Sg	Sg	14 52 07.0	+1.2
PRA	Prague	1.76	219	PG	Pg	14 51 49.0	-2.2
PRA				SG	Sg	14 52 14.0	0.0
PRU	Pruhonice	1.79	215	ePN	Pn	14 51 49.3	-0.2
PRU				ePG	Pg	14 51 51.1	-0.6
PRU				eSG	Sg	14 52 14.6	-0.2
	218nm,0.6s						
RUE	Ruedersdorf	1.79	306	ePn	Pn	14 51 48.8	-0.7
RUE				eSg	Sg	14 52 17.0	+2.1
RUE	Ruedersdorf	1.79	306	ePn	Pn	14 51 48.8	-0.7
RUE				eSg	Sg	14 52 17.0	+2.1
FBE	Freiberg	1.84	254	ePn	Pn	14 51 49.7	-0.5
FBE				eSg	Sg	14 52 16.9	+0.5
RAC	Raciborz	1.89	136	ePg	Pg	14 51 53.5	-0.1
RAC				eSg	Sg	14 52 18.1	0.0
MORC	Moravsky Berou	1.90	152	ePn	Pn	14 51 50.2	-0.8
MORC				eSg	Sg	14 52 15.9	-2.5
	48nm,0.3s						
GKP	Gorka Klasztor	1.94	20	ePn	Pn	14 51 56.3	+4.8
GKP				ePg	Pg	14 52 00.0	+5.5
GKP				eSg	Sg	14 52 26.0	+6.4
CLL	Collm	1.98	267	ePn	Pn	14 51 51.5	-0.6
CLL				eSg	Sg	14 52 22.3	+1.4
CLL	Collm	1.98	267	ePn	Pn	14 51 51.0	-1.1
CLL				*i* Pg	Pg	14 51 54.3	-1.0
CLL				*i* Sg	Sg	14 52 22.3	+1.4
CLL	Collm	1.98	267	ePn	Pn	14 51 51.0	-1.1
CLL				*i* Pg	Pg	14 51 54.3	-1.0
CLL				ex	x	14 51 59.0	
CLL				*i* Sg	Sg	14 52 22.3	+1.4
	comp=Z,71nm,0.5s						
OKC	Ostrava-Krasne	2.06	141	ePG	Pg	14 51 57.5	+0.7
OKC				eSG	Sg	14 52 21.3	-2.2
	comp=Z,106nm,0.7s						
VRAC	Vranov	2.17	172	Pn	Pn	14 51 55.7	+1.0
	comp=Z,6.5nm,0.3s,baz=337,slow=14,SNR=30						
VRAC				Lg		14 52 25.0	
	comp=Z,16nm,0.3s,baz=84,slow=23,SNR=18						
VRAC	Vranov	2.17	172	ePn	Pn	14 51 54.7	0.0
VRAC				eSg	Sg	14 52 25.6	-1.4
	comp=Z,58nm,0.3s						
TREC	Trest	2.20	191	ePN	Pn	14 51 55.5	+0.3
TREC				ePG	Pg	14 51 58.7	-0.9
KRUC	Moravsky	2.40	176	ePn	Pn	14 51 58.1	+0.2
KRUC				eSg	Sg	14 52 33.0	-1.5
	comp=Z,42nm,0.4s						
TANN	Tannenbergstha	2.56	247	ePn	Pn	14 52 00.1	+0.1
OJC	Ojcow	2.62	117	ePg	Pg	14 52 07.0	-0.6
OJC				eSg	Sg	14 52 41.0	-0.7
WERD	Werda	2.63	249	ePn	Pn	14 52 01.1	0.0
WERD				eSg	Sg	14 52 41.5	-0.4
NKC	Novy Kostel	2.65	244	ePN	Pn	14 52 01.6	+0.3
NKC				eSG	Sg	14 52 41.8	-0.6
	comp=Z,94nm,0.3s						
GUNZ	Gunzen	2.65	247	ePn	Pn	14 52 02.2	+0.8
WERN	Wernitzgruen	2.66	245	ePn	Pn	14 52 01.9	+0.4
NEUB	Neuenburg	2.75	267	ePn	Pn	14 52 04.0	+1.2
JAVC	Velka Javorina	2.78	159	ePn	Pn	14 52 03.5	+0.4
JAVC				eSg	Sg	14 52 47.6	+1.0
	comp=Z,53nm,0.7s						
KHC	Kasperske Hory	2.85	216	ePN	Pn	14 52 04.3	+0.2
KHC				ePG	Pg	14 52 10.4	-1.6
KHC				eSG	Sg	14 52 46.6	-2.4
	comp=Z,40nm,0.4s						
MANZ	Manzenberg	2.96	242	ePn	Pn	14 52 06.1	+0.5
MOX	Moxa	2.97	256	ePn	Pn	14 52 05.7	-0.1
MOX				eSg	Sg	14 52 52.6	-0.4
MOX	Moxa	2.97	256	ePN	Pn	14 52 05.8	0.0
MOX				ePG	Pg	14 52 14.0	-0.4
MOX				eSG	Sg	14 52 53.4	+0.5
MOX	Moxa	2.97	256	ePg	Pg	14 52 14.0	-0.4
MOX				Sg	Sg	14 52 52.6	-0.3
ROTZ	Rotzenmuhle	3.03	238	ePn	Pn	14 52 07.2	+0.7
GEC2	GERESS Array S	3.05	212	ePn	Pn	14 52 07.9	+1.0
GEC2	GERESS Array S	3.05	212	ePn	Pn	14 52 07.9	+1.1
GERES	GERESS Array B	3.05	212	Pn	Pn	14 52 07.8	+1.0
	comp=Z,1.7nm,0.3s,baz=27,slow=13,SNR=62						
GERES				Pg	Pg	14 52 13.8	-2.0
	comp=Z,8.1nm,0.3s,baz=30,slow=16,SNR=57						
GERES				Sn	Sn	14 52 45.0	+1.0
	comp=Z,4.4nm,0.3s,baz=26,slow=28,SNR=6.5						
GERES				Lg		14 52 52.9	
	comp=Z,17nm,0.3s,baz=32,slow=28,SNR=14						
GERES	GERESS Array B	3.05	212	Pg	Pg	14 52 13.8	-2.0
SMOL	Smolenice	3.06	164	ePG	Pg	14 52 16.8	+0.8
SMOL				eSG	Sg	14 52 55.0	-0.6
WET	Wettzell	3.12	223	ePn	Pn	14 52 07.9	+0.1
WET	Wettzell	3.12	223	ePn	Pn	14 52 07.9	+0.1
ZST	Bratislava	3.32	169	eSG	Sg	14 53 03.2	-0.8
ZST	Bratislava	3.32	169	eSg	Sg	14 53 03.3	-0.7
NIE	Niedzica	3.35	126	eP	Pg	14 52 22.5	+0.9
NIE				eS	Sg	14 53 05.6	+0.5
VYHS	Vyhne	3.43	149	ePN	Pn	14 52 11.6	-0.5
VYHS				ePG	Pg	14 52 24.9	+1.7
VYHS				eSG	Sg	14 53 07.7	0.0
CONA	Conrad Observa	3.54	183	⇑ *i* Pn	Pn	14 52 13.8	+0.3
CONA				⇓ *i* Sg	Sg	14 53 09.2	-1.8
	comp=Z,40nm,0.3s						
GRA1	Grafenberg Arr	3.60	243	Sg	Sg	14 53 12.8	-0.3
GRF	Grafenberg Arr	3.60	243	eSg	Sg	14 53 12.8	-0.3
BSD	Bornholm Skovb	3.74	349	*i* P	Pn	14 52 14.9	-1.4
BSD				*i*		14 52 21.3	
BSD				*i* S	Sn	14 52 56.3	-4.8
BSD				*i*		14 52 58.7	
BSD							
	comp=Z,820nm,20.0s						
BSD	Bornholm Skovb	3.74	349	*i* P	Pn	14 52 14.9	-1.4
BSD				*i*		14 52 21.3	
BSD				*i* S	Sn	14 52 56.3	-4.8
BSD				*i*		14 52 58.7	
MOA	Molln	3.81	199	⇓ *i* Pn	Pn	14 52 17.9	+0.6
	SNR=13						
MOA				⇓ *i* Sg	Sg	14 53 19.3	-0.5
	comp=Z,36nm,0.5s						
MOA	Molln	3.81	199	⇓ *i* Pn	Pn	14 52 17.9	+0.6
MOA				*i* Sg	Sg	14 53 19.3	-0.5
STHS	Stebnicka Huta	3.84	120	ePN	Pn	14 52 19.4	+1.7
STHS				ePG	Pg	14 52 32.0	+1.0
STHS				eSG	Sg	14 53 26.4	+5.6
KECS	Kecovo	4.08	135	ePN	Pn	14 52 20.6	-0.4
KECS				ePG	Pg	14 52 37.0	+1.4
ARSA	Arzberg	4.23	186	⇓ *i* Pn	Pn	14 52 23.7	+0.6
ARSA				⇓ *i* Sg	Sg	14 53 33.1	-0.1
	comp=Z,61nm,0.8s						
CRVS	Cervenica-Dubn	4.26	125	ePG	Pg	14 52 40.6	+1.5
CRVS				eSG	Sg	14 53 36.5	+2.1
KOLS	Kolonicke sedl	4.67	120	ePN	Pn	14 52 29.2	+0.1
KOLS				ePB	Pg	14 52 49.9	+3.0
KBA	Koelnbreinsper	4.75	204	⇑ *i* Pn	Pn	14 52 31.4	+1.2
	SNR=6.8						
KBA			⇑	*i* Sg	Sg	14 53 51.2	+1.3
	comp=Z,21nm,0.4s						
KBA	Koelnbreinsper	4.75	204	Pn	Pn	14 52 31.4	+1.2
	comp=Z,6.0nm,8.0s						
KBA				Sg	Sg	14 53 51.2	+1.3
	comp=Z,21nm,0.4s						
DAVOX	Davos/Dischmat	6.23	224	Pn	Pn	14 52 52.7	+2.1
	baz=52,slow=18,SNR=4.8						
DAVOX				Sn	Sn	14 54 04.2	+1.8
	baz=196,slow=22,SNR=2.7						
DAVOX				Lg		14 54 35.8	
	baz=16,slow=22,SNR=4.5						
DAVOX	Davos/Dischmat	6.23	224	Pn	Pn	14 52 52.7	+2.1
DAVOX				Sn	Sn	14 54 04.2	+1.8
DAVOX				Lg		14 54 35.8	
CDF	Champ du Feu	6.49	245	ePn	Pn	14 52 52.6	-1.5
CDF				eSg	Sg	14 54 39.4	-6.3
	comp=Z,29nm,0.8s						
CDF	Champ du Feu	6.49	245	ePn	Pn	14 52 52.6	-1.5
CDF				eSg	Sg	14 54 39.4	-6.3
	comp=Z,15nm,0.8s						
HINF	Hinteralfeld	7.05	243	eSg	Sg	14 54 55.6	-8.2
	comp=Z,11nm,0.6s						
HINF	Hinteralfeld	7.05	243	eSg	Sg	14 54 55.6	-8.2
	comp=Z,5.6nm,0.6s						
AKASG	Malin Array Be	8.27	90	Pn	Pn	14 53 14.2	-4.3
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=4.6						
AKASG				Sn	Sn	14 54 49.8	-2.9
	comp=Z,1.1nm,0.3s,baz=279,slow=24,SNR=4.2						
AKASG				Lg		14 55 41.2	
	baz=273,slow=26,SNR=2.9						
LPG	La Plagne	8.63	230	ePn	Pn	14 53 22.8	-0.6
HFS	Hagfors	8.81	352	Pn	Pn	14 53 23.8	-2.1
	comp=Z,0.4nm,0.3s,baz=161,slow=14,SNR=12						
NOA	NORSAR Array B	9.99	346	Pn	Pn	14 53 40.4	-1.8
	comp=Z,0.3nm,0.3s,baz=159,slow=12,SNR=3.3						
FINES	FINESS Array B	11.40	25	Pn	Pn	14 53 58.0	-3.5
	comp=Z,0.3nm,0.3s,baz=203,slow=11,SNR=13						
FINES				Sn	Sn	14 55 59.6	-10
	comp=Z,0.2nm,0.3s,baz=186,slow=24,SNR=3.9						
EKA	Eskdalemuir Ar	12.15	296	Pn	Pn	14 54 08.4	-3.3
	comp=Z,0.3nm,0.3s,baz=100,slow=13,SNR=4.6						
ARCES	ARCESS Array B	18.67	10	Pn	Pn	14 55 32

comp=N,803nm,0.8s
SYVR Suvo 1.68 216 *e*Pg Pg 15 11 46.8 -1.8
SYVR *e*Sg Sg 15 12 09.2 -1.1
SYVR Pmax
comp=N,65nm,0.5s
SYVR Smax
comp=N,186nm,1.2s
MXMB Maximikha 2.46 225 *e* Pn 15 11 59.7 +3.2
MXMB *e*Sg Sg 15 12 33.9 -1.5
MXMB max
comp=N,10.0nm,0.6s
MXMB Smax
comp=N,284nm,0.5s
NLYR Nelyaty 2.72 56 *e*Pn Pn 15 12 00.6 +0.5
NLYR *e*Pg Pg 15 12 04.9 -3.6
NLYR *e*Sg Sg 15 12 40.3 -3.5
OGRR Ongureny 2.75 242 *e*Pn Pn 15 12 01.6 +1.0
OGRR *e*Pg Pg 15 12 05.2 -3.9
OGRR *e*Sn Sn 15 12 34.6 +0.8
OGRR *e*Sg Sg 15 12 41.3 -3.5
OGRR Pmax
comp=N,15nm,0.4s
OGRR Smax
comp=N,64nm,0.5s
BOD Bodaibo 3.09 24 *e*Pn Pn 15 12 05.8 +0.5
BOD *e*Pg Pg 15 12 11.0 -4.7
BOD *e* 15 12 44.0
BOD *e*Sg Sg 15 12 50.4 -5.4
BOD Pmax
comp=N,7.0nm,0.3s
BOD Smax
comp=N,61nm,0.5s
KELR Kotokel 3.10 225 *e*Sg Sg 15 12 53.6 -2.4
KELR Smax
comp=N,163nm,0.2s
CIT Chita 3.21 159 *e*Pn Pn 15 12 06.9 0.0
CIT *e*Pg Pg 15 12 13.9 -4.0
CIT *e*Sg Sg 15 12 55.4 -4.1
CIT Pmax
comp=N,5.0nm,0.5s
CIT Smax
comp=N,53nm,0.8s
TRG Tyrgan 3.87 236 *e*Pg Pg 15 12 25.5 -5.1
TRG *e*Sg Sg 15 13 15.1 -5.7
TRG Pmax
comp=N,4.0nm,0.1s
TRG Smax
comp=N,42nm,0.4s
CRS Chara 4.17 60 *e* Pn 15 12 32.8 +13
CRS *e*Sg Sg 15 13 25.4 -4.7
CRS max
comp=N,2.0nm,0.2s
CRS Smax
comp=N,136nm,1.4s
CRS Chara 4.17 60 *e*PN Pn 15 12 20.5 +0.5
CRS *e* 15 12 31.7
CRS *e* 15 13 25.0
CRS pmax pmax
comp=Z,110nm,0.6s
CRS smax
comp=E,136nm,1.4s
HRMR Khuramsha 4.42 222 *e*Pg Pg 15 12 35.8 -5.2
HRMR *e*Sg Sg 15 13 33.7 -4.5
HRMR Pmax
comp=E,11nm,0.4s
HRMR Smax
comp=E,158nm,0.6s
TUP Tupik 4.84 94⇓ *i*Pn Pn 15 12 29.6 +0.3
TUP *e*Pg Pg 15 12 43.4 -5.8
TUP *e*Sg Sg 15 13 45.9 -6.1
TUP Pmax
comp=E,4.0nm,0.5s
TUP Smax
comp=E,63nm,0.5s
IRK Irkutsk 5.20 241 *e*PN Pn 15 12 52.5 +18
IRK *e* 15 13 56.7
IRK pmax pmax
comp=Z,88nm,0.1s
IRK smax
comp=N,130nm,0.4s
KPC Khapcheranga 5.34 175 *e*Pn Pn 15 12 38.7 +2.5
KPC *e*Pg Pg 15 12 52.8 -5.9
KPC *e*Sg Sg 15 14 01.8 -6.1
KPC Pmax
comp=N,1.0nm,0.4s
KPC Smax
comp=N,17nm,0.8s
ARS Arshan 6.33 244 *e* Pn 15 12 51.9 +2.2
ARS *e* 15 13 10.4
ARS *e*Sg Sg 15 14 30.1 -9.4
ARS max
comp=N,7.0nm,0.4s
ARS Smax
comp=N,52nm,0.7s
ORL Orlik 7.45 255 *e*Pn Pn 15 13 05.8 +0.7
ORL *e*Sn Sn 15 14 27.7 -1.9
ORL *e*Sg Sg 15 15 04.9 -11
ORL Smax
comp=N,37nm,2.5s

*CSEM **08** 15:20:43.2, 67.19N×2069E, h0km, ML3.3, Suspected Mining explosion. After UPP*
*UPP **08** 15:20:43.2, 67.19N×2069E, h0km, ML3.3, Suspected Mining explosion.*
HEL 08 15:20:43.8±0.0, 6719N×2067E, h0km, ML1.8, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**211**	*i* P	Pg	15 20 45.1	-0.2
DUNU	**Dundret**	**0.08**	**211**	P	Pg	15 20 45.1	-0.2
	baz=110						
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	15 20 54.2	-0.7
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	15 20 57.8	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	15 20 59.7	-0.7
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	15 21 00.5	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	15 21 01.1	-1.3
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	15 21 01.7	-1.3
HARU	**Harads**	**1.04**	**173**	*e*P	Pg	15 21 02.3	-1.4
KALU	**Kalix**	**1.71**	**140**	*e*P	Pn	15 21 14.3	-0.6
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	15 21 14.4	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	15 21 16.6	+0.2
KIF				*e*S	Sn	15 21 42.1	+1.8
KIF				MSG		15 21 44.6	
	comp=Z,9.0nm,0.2s						
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	15 21 17.9	-0.1
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	15 21 23.3	-2.5
SGF				*e*SG	Sg	15 21 54.0	-3.2
OUL	**Oulu**	**3.00**	**132**	*e*S	Sn	15 22 09.1	0.0
OUL				MSG		15 22 19.7	
	comp=Z,2.8nm,0.3s						
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	15 22 19.7	-1.3
KEV				MSG		15 22 33.4	
	comp=Z,1.5nm,0.3s						

IDC 08 15:38:58.4±9.5, 2096S×17758W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=219.7km s-min=40.5km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**35.83**	**283**	LR	LR	15 56 53.9	
	comp=Z,377nm,19.5s,baz=210,slow=30						
STKA	**Stephens Creek**	**37.95**	**245**	*e*P	P	15 46 16.6	-1.0
	4.9nm,1.2s						
STKA	**Stephens Creek**	**37.95**	**245**	P	P	15 46 16.4	-1.2
	1.9nm,0.8s,baz=80,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**44.80**	**257**	P	P	15 47 14.3	+0.4
	2.3nm,0.6s,baz=93,slow=7.5,SNR=60						
ASPA	**Alice Springs**	**44.80**	**257**	*e*P	P	15 47 14.4	+0.5
WB2	**Warramunga Arr**	**44.92**	**262**	*e*P	P	15 47 16.2	+1.3
WRA	**Warramunga Arr**	**44.93**	**262**	P	P	15 47 16.3	+1.3
	2.0nm,0.3s,baz=93,slow=8.5,SNR=122						
KAKA	**Kakadu**	**48.38**	**271**	*e*P	P	15 47 45.7	+3.7
	4.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.36**	**263**	*e*P	P	15 48 21.0	+1.5
	2.5nm,0.4s						
VNDA	**Vanda**	**57.49**	**185**	P	P	15 48 48.8	-0.5
	0.7nm,0.5s,baz=0.1,slow=7.1,SNR=9.3						
TGY	**Tagaytay City**	**69.71**	**295**	LR	LR	16 15 49.9	
	comp=Z,2.0nm,18.2s,baz=59,slow=32						

*ISCJB **08** 15:57:36.6±1.5, 1890N×005×1459E±0.2, h139km±13km, mb3.9/13, Error ellipse: s-maj=30.8km s-min=9.1km az=179.0*
*IDC **08** 15:57:37.7±2.2, 1887N×14593E, h135km±20km, mb3.7/10, mb1 3.9/13, mb1mx3.9/18, mbtmp4.2/13, Error ellipse: s-maj=27.7km s-min=11.5km az=88.0*
*NEIC **08** 15:57:38.0±1.6, 1889N×14594E, h139km±14km, mb4.0/4, Error ellipse: s-maj=19.8km s-min=8.6km az=91.0*
ISC 08 15:57:37.5±1.4, 1892N±006×1460E±02, h134km±12km, n25, σ0°74/27, mb3.9/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.41**	**192**	P	**Pn**	**15 58 56.1**	**0.0**
GUMO				S	**Sn**	**15 59 57.2**	**-0.2**
GUMO	**Guam**	**5.41**	**192**	P	**Pn**	**15 58 56.1**	**0.0**
GUMO				S	**Sn**	**15 59 57.2**	**-0.2**
CBIJ	**Chichi jima**	**8.86**	**337**	P	**Pn**	**15 59 42.2**	**-0.2**
	baz=0.0,slow=0.0						
CBIJ				S	**Sn**	**16 01 15.3**	**-5.1**
	9.5nm,0.3s,baz=129,slow=23,SNR=3.6						
MJAR	**Matsushiro Arr**	**18.84**	**340**	P	**P**	**16 01 47.7**	**+0.7**
	0.4nm,0.3s,baz=354,slow=11,SNR=5.8						
MJAR	**Matsushiro Arr**	**18.84**	**340**	P	**P**	**16 01 47.7**	**+0.7**
WB2	**Warramunga Arr**	**40.27**	**197**	*e*P	**P**	**16 05 01.5**	**+0.1**
WB2	**Warramunga Arr**	**40.27**	**197**	*e*P	**P**	**16 05 00.5**	**-0.9**
WRA	**Warramunga Arr**	**40.28**	**197**	P	**P**	**16 05 00.6**	**-0.8**
	1.6nm,0.3s,mb4.1,baz=13,slow=8.2,SNR=31						
FITZ	**Fitzroy Crossi**	**41.87**	**210**	*e*P	**P**	**16 05 14.9**	**+0.5**
	6.5nm,0.7s,mb4.4						
SONM	**Songino Array**	**43.14**	**321**	P	**P**	**16 05 25.3**	**+0.6**
	0.6nm,0.6s,mb3.4,baz=140,slow=10,SNR=5.0						
AS31	**Alice Springs**	**43.94**	**196**	*e*P	**P**	**16 05 31.3**	**+0.2**
ASAR	**Alice Springs**	**43.94**	**196**	P	**P**	**16 05 30.7**	**-0.4**
	0.7nm,0.5s,mb3.5,baz=16,slow=6.4,SNR=30						
ASAR				PcP	PcP	16 07 14.3	-0.3
	0.4nm,0.7s,baz=23,slow=5.4,SNR=4.1						
ASPA	**Alice Springs**	**43.94**	**196**	*e*P	**P**	**16 05 32.7**	**+1.6**
MBWA	**Marble Bar**	**47.41**	**214**	*e*P	**P**	**16 05 58.9**	**+0.6**
	1.0nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**50.68**	**185**	*e*P	**P**	**16 06 22.9**	**-0.4**
	2.8nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**50.68**	**185**	P	**P**	**16 06 22.8**	**-0.4**
	3.3nm,1.0s,mb3.9,baz=142,slow=6.2,SNR=6.8						
MKAR	**Makanchi Array**	**58.50**	**314**	P	**P**	**16 07 20.1**	**+0.5**
	0.3nm,0.2s,mb3.7,baz=92,slow=8.9,SNR=6.7						
YKA	**Yellowknife Ar**	**77.67**	**28**	P	**P**	**16 09 19.0**	**-0.2**
	2.2nm,0.7s,mb3.9,baz=286,slow=5.4,SNR=6.7						
ARCES	**ARCESS Array B**	**82.36**	**342**	P	**P**	**16 09 45.0**	**+0.6**
	1.8nm,0.5s,mb3.9,baz=70,slow=7.9,SNR=7.4						
NVAR	**Mina Array Bea**	**82.79**	**52**	P	**P**	**16 09 47.5**	**+0.9**
	2.0nm,0.7s,mb4.0,baz=272,slow=7.3,SNR=12						
JOF	**Joensuu**	**83.93**	**335**	*e*p	**P**	**16 09 51.6**	**-0.9**
KAF	**Kangasniemi**	**86.33**	**336**	*e*p	**P**	**16 10 02.8**	**-1.6**
	0.6nm,0.4s,mb3.7,baz=54,slow=4.6						
FINES	**FINESS Array B**	**86.80**	**335**	P	**P**	**16 10 05.5**	**-1.2**
	2.2nm,0.5s,mb4.3,baz=70,slow=5.4,SNR=34						
PDAR	**Pinedale Array**	**87.48**	**46**	P	**P**	**16 10 10.2**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=270,slow=2.8,SNR=4.3						
LPAZ	**La Paz**	**147.41**	**91**	PKPbc	PKPbc	16 17 09.0	+3.4
	0.5nm,0.5s,baz=239,slow=3.6,SNR=5.5						

*NEIC **08** 16:09:30.8, 3063S×7206W, h20km, ML3.7(GUC), After GUC.*
GUC 08 16:09:30.8±0.5, 3063S×7206W, h20km±2km, MD3.9, ML3.7, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.74**	**89**⇑	*i*P	Pb	16 09 44.3	-0.7
OVCH				*i* S	Sb	16 09 54.3	-0.4
OVCH				AML	AML	16 09 57.7	
	comp=N,4μm,0.5s						
OVCH	**Ovalle**	**0.74**	**89**⇑	*i*P	Pb	16 09 44.3	-0.7
OVCH				*i* S	Sb	16 09 54.3	-0.4
LSCH	**La Serena**	**1.00**	**45**	*e*P	Pb	16 09 48.5	-1.0
LSCH				*i* S	Sb	16 10 02.0	-0.3
CMCH	**Combarbala**	**1.06**	**121**⇑	*e*P	Pb	16 09 49.5	-0.9
CMCH				*i* S	Sb	16 10 03.8	-0.1
CMCH				AML	AML	16 10 10.7	
	comp=E,3μm,0.8s						
CMCH	**Combarbala**	**1.06**	**121**⇑	*e*P	Pb	16 09 49.5	-0.9
CMCH				*i* S	Sb	16 10 03.8	-0.1
TLL	**Tololo Astrono**	**1.17**	**67**⇓	*i*P	Pn	16 09 51.7	-0.4
TLL				*i* S	Sb	16 10 07.9	+0.7
TLL				AML	AML	16 10 12.1	
	comp=E,3μm,0.5s						
TLL	**Tololo Astrono**	**1.17**	**67**⇓	*i*P	Pn	16 09 51.7	-0.4
TLL				*i* S	Sb	16 10 07.9	+0.7
CHNG	**Los Chungos**	**1.34**	**159**⇓	*i*P	Pn	16 09 54.0	-0.4
CHNG				*i* S	Sn	16 10 11.0	-0.6
PTCH	**Petorca**	**1.89**	**150**	*i* P	Pn	16 10 02.6	+0.5
PTCH				*i* S	Sn	16 10 26.9	+1.6
PTCH				AML	AML	16 10 33.3	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**1.89**	**150**	*i* P	Pn	16 10 02.6	+0.5
PTCH				*i* S	Sn	16 10 26.9	+1.6
PEL	**Peldehue**	**2.77**	**155**	*e*P	Pn	16 10 15.2	+1.2
PEL				*i* S	Sn	16 10 49.2	+2.3
PEL				AML	AML	16 11 04.9	
	comp=N,400nm,0.6s						
PEL	**Peldehue**	**2.77**	**155**	*e*P	Pn	16 10 15.2	+1.2
PEL				*i* S	Sn	16 10 49.2	+2.3
CLCH	**Cerro Calan**	**3.05**	**155**	*e*P	Pn	16 10 19.2	+1.4
CLCH				*i* S	Sn	16 10 55.9	+2.1
CLCH				AML	AML	16 11 09.9	
	comp=E,352nm,0.6s						
FCH	**Farellones**	**3.08**	**151**	*e*P	Pn	16 10 20.0	+1.6
FCH				*e*S	Sn	16 10 57.9	+3.3
FCH				AML	AML	16 11 12.7	
	comp=E,104nm,0.6s						
LMEL	**Las Melosas**	**3.57**	**154**	*e*P	Pn	16 10 26.4	+1.3
LMEL				*i* S	Sn	16 11 09.2	+2.4
LMEL				AML	AML	16 11 27.4	
	comp=N,75nm,0.3s						
LMEL	**Las Melosas**	**3.57**	**154**	*e*P	Pn	16 10 26.4	+1.3
LMEL				*i* S	Sn	16 11 09.2	+2.4

*ISCJB **08** 16:13:15.4±3.2, 226N±02×1463E±09, h10km, mb3.9/7, Error ellipse: s-maj=125.0km s-min=14.0km az=156.0*
*IDC **08** 16:13:21.2±5.5, 2215N×14469E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/17, mbtmp3.7/5, Error ellipse: s-maj=217.5km s-min=22.8km az=74.0*
*NEIC **08** 16:13:21.8±2.4, 2252N×14607E, h35km, mb4.3/2, Error ellipse: s-maj=95.2km s-min=11.2km az=78.0*
ISC 08 16:13:17.9±3.2, 226N±02×1462E±09, h10km, n11, σ0°71/11, mb3.9/7, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.48**	**318**	P	**P**	**16 20 57.1**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=127,slow=7.9,SNR=4.3						
WB2	**Warramunga Arr**	**43.81**	**196**	*e*P	**P**	**16 21 23.6**	**-0.3**
WRA	**Warramunga Arr**	**43.81**	**196**	P	**P**	**16 21 23.6**	**-0.4**
	1.0nm,0.3s,mb4.0,baz=12,slow=8.8,SNR=50						
FITZ	**Fitzroy Crossi**	**45.14**	**208**	*e*P	**P**	**16 21 34.1**	**-0.5**
	5.7nm,1.0s,mb4.4						
AS31	**Alice Springs**	**47.48**	**195**	*e*P	**P**	**16 21 54.4**	**+1.4**
ASAR	**Alice Springs**	**47.49**	**195**	P	**P**	**16 21 52.5**	**-0.5**
	0.3nm,0.3s,mb3.6,baz=12,slow=6.6,SNR=11						
ASPA	**Alice Springs**	**47.49**	**195**	*e*P	**P**	**16 21 54.4**	**+1.3**
STKA	**Stephens Creek**	**54.32**	**185**	P	**P**	**16 22 43.6**	**-0.8**
	1.3nm,0.7s,mb3.9,baz=346,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**56.17**	**312**	P	**P**	**16 22 57.3**	**-0.5**
	0.3nm,0.3s,mb3.8,baz=92,slow=8.5,SNR=7.1						
CHKZ	**Chkalovo**	**63.65**	**320**	*e*P	**P**	**16 23 49.6**	**+0.4**
BRVK	**Borovoye**	**63.88**	**319**	*e*P	**P**	**16 23 50.6**	**-0.1**
	3.7nm,0.9s,mb4.4						

*NEIC **08** 16:42:36.9, 1695N×9969W, h36km, MD4.0(MEX), After MEX.*
MEX 08 16:42:37.1±0.5, 1698N×9968W, h31km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.26**	**243**	*i* P	Pb	16 42 42.5	-1.6
ACX				*i* S	Sb	16 42 47.5	-1.3
CAIG	**El Cayaco**	**0.57**	**277**	*i* P	Pb	16 42 47.0	-1.7
CAIG				*i* S	Sb	16 42 54.3	-2.2
MEIG	**Mezcala**	**0.94**	**3**	*i* P	Pn	16 42 51.9	-2.2
MEIG				*i* S	Sn	16 43 03.1	-3.5
PLIG	**Platanillo**	**1.41**	**7**	*i* P	Pn	16 42 59.2	-1.4
PLIG				*i* S	Sn	16 43 16.0	-2.2
PLIG	**Platanillo**	**1.41**	**7**	*i* P	Pn	16 42 59.2	-1.4
PLIG				*i* S	Sn	16 43 17.0	-1.2
PNIG	**Pinotepa**	**1.60**	**111**	*i* P	Pn	16 43 01.2	-2.0
PNIG				*i* S	Sn	16 43 19.6	-3.2
PNIG	**Pinotepa**	**1.60**	**111**	*i* P	Pn	16 43 00.9	-2.3
PNIG				*i* S	Sn	16 43 19.6	-3.2
YAIG	**Yautepec**	**1.96**	**17**	*i* P	Pn	16 43 06.3	-1.8
YAIG				*i* S	Sn	16 43 28.4	-3.2
YAIG	**Yautepec**	**1.96**	**17**	*i* P	Pn	16 43 06.1	-2.0
YAIG				*i* S	Sn	16 43 26.4	-5.2
UTMO	**Huajuapan**	**1.98**	**64**	*i* P	Pn	16 43 07.0	-1.4
UTMO				*i* S	Sn	16 43 30.6	-1.5
PPM	**Popocatepetl**	**2.30**	**26**	*i* P	Pn	16 43 11.3	-1.5
PPM				*i* S	Sn	16 43 39.9	-0.3
PPM	**Popocatepetl**	**2.30**	**26**	*i* P	Pn	16 43 11.3	-1.5
PPM				*i* S	Sn	16 43 40.9	+0.7
TPIG	**Tehuac#an**	**2.63**	**57**	*i* S	Sn	16 43 46.4	-1.8
IIO	**Organos**	**2.75**	**19**	*i* P	Pn	16 43 20.1	+1.0
IIO				*i* S	Sn	16 43 48.8	-2.3
IIO				*i* S	Sn	16 43 54.0	+2.8
MOIG	**Morelia**	**3.04**	**332**	*i* S	Sn	16 43 56.0	-2.4

CASC 08 17:18:20.0±1.3, 930N×8273W, h6km±10km, MD3.9, 3C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.24**	**61**⇑	*i*P	Pg	17 18 24.5	-0.1
DVD	**David**	**0.90**	**162**⇑	*i*P	Pg	17 18 36.3	-1.0
BUS	**Buena Vista**	**1.05**	**284**	*e*P	Pg	17 18 39.7	-0.5
BUS				*e*S	Sg	17 18 54.2	+0.5
LCR2	**La Lucha 2**	**1.33**	**289**⇓	*e*P	Pn	17 18 44.3	-0.8
LCR2				*e*S	Sb	17 19 02.5	-0.2
PRS1	**Puriscal**	**1.70**	**294**	*e*P	Pn	17 18 50.5	+0.3
PRS1				*e*S	Sn	17 19 13.6	+1.2
CGA2	**Cerro Gallo 2**	**1.85**	**293**	*e*P	Pn	17 18 52.5	+0.2
PTP	**Ponta Puerca**	**18.83**	**60**⇑	*i*P		17 18 40.1	

IDC 08 17:26:42.3±11.0, 088N×9767E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=576.8km s-min=27.0km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.47**	**122**	P	P	17 34 31.2	+0.3
	0.7nm,1.1s,baz=302,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**42.83**	**127**	P	P	17 34 42.4	+0.4
	0.5nm,1.0s,baz=297,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**47.66**	**346**	P	P	17 35 20.4	0.0
	0.8nm,0.5s,baz=158,slow=8.8,SNR=10						

MEX 08 17:44:02.4±1.2, 1673N×9969W, h9km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.26**	**302**	*i* P	Pg	17 44 07.5	-0.1
ACX				*i* S	Sg	17 44 11.0	-0.1
CAIG	**El Cayaco**	**0.64**	**300**	*i* P	Pg	17 44 13.8	-1.0
CAIG				*i* S	Sg	17 44 22.1	-1.0
MEIG	**Mezcala**	**1.19**	**3**	*i* P	Pb	17 44 21.9	-3.2
MEIG				*i* S	Sb	17 44 37.0	-3.7
PLIG	**Platanillo**	**1.67**	**6**	*i* P	Pn	17 44 26.1	-5.7
PLIG				*i* S	Sn	17 44 50.1	-3.0
UTMO	**Huajuapan**	**2.11**	**58**	*i* P	Pn	17 44 35.4	-2.5
UTMO				*i* S	Sn	17 45 01.2	-2.9

*CSEM **08** 18:08:40.2±0.4, 37.14N×2441W, h5km, ML1.9, Error ellipse: s-maj=4.1km s-min=1.8km az=94.0, After PDA*
*PDA **08** 18:08:40.2±0.4, 37.14N×2441W, h5km, MD2.7, ML1.9, Error ellipse: s-maj=4.1km s-min=1.8km az=94.0*
SVSA 08 18:08:40.2±0.4, 3714N×2441W, h5km, MD2.7, ML1.9, Error ellipse: s-maj=4.1km s-min=1.8km az=94.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.55**	**256**	*e*P	Pg	18 08 49.6	-1.1
PSMN				*e*S	Sg	18 08 56.5	-1.3
MIRA	**Miradouro**	**0.95**	**313**	*e*P	Pg	18 08 55.3	-3.1
MIRA				*e*S	Sg	18 09 06.6	-4.1
FRA1	**Furnas**	**0.97**	**309**	*e*S	Sg	18 09 06.8	-4.5
PCNG	**Congro**	**1.01**	**309**	*e*S	Sg	18 09 08.0	-4.6
PCNG							
	16nm,0.2s						
PFAD	**Fenais da Ajud**	**1.01**	**314**	*e*S	Sg	18 09 08.2	-4.5
VIF	**Vila Franca**	**1.02**	**307**	*e*S	Sg	18 09 08.5	-4.5
VIF							
	19nm,0.2s						
PRCH	**Ribeira Ch**	**1.04**	**305**	*e*S	Sg	18 09 08.7	-4.8
PRCH							
	45nm,0.3s						
MESC	**Monte Escuro**	**1.05**	**309**	*e*S	Sg	18 09 09.4	-4.7
LFA	**Lagoa do Fogo**	**1.06**	**307**	*e*P	Pg	18 08 56.9	-3.7
CML	**Cha da Macela**	**1.10**	**305**	*e*P	Pg	18 09 10.1	+8.7

*ISCJB **08** 18:15:48.2±0.8, 11.12S×0.10×174E±0.1, h10km, mb3.6/3, Error ellipse: s-maj=22.0km s-min=11.1km az=127.0*
*IDC **08** 18:15:48.1±1.4, 11.16S×17.15E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/25, mbtmp3.9/6, ML2.9/3, Error ellipse: s-maj=42.2km s-min=20.7km az=73.0*
*NEIC **08** 18:15:50.1±0.9, 11.10S×1732E, h10km, mb3.9/1, Error ellipse: s-maj=25.6km s-min=12.4km az=62.0*
ISC 08 18:15:51.1±0.8, 1099S±007×175E±01, h10km, n12, σ1°43/15, mb3.6/3, Angola

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**8.16**	**179**	Pn	**Pn**	**18 17 48.0**	**-1.6**
	2.1nm,0.3s,baz=349,slow=13,SNR=25						
TSUM				Sn	**Sn**	**18 19 23.5**	**+1.6**
	3.5nm,0.3s,baz=219,slow=15,SNR=3.6						
TSUM				Lg		18 20 01.2	
	14nm,0.3s,baz=79,slow=19,SNR=6.5						
TSUM	**Tsumeb**	**8.16**	**179**	*e*Pn	**Pn**	**18 17 47.2**	**-2.4**
TSUM				Sg	Sn	18 19 57.4	+35
TSUM				Lg		18 20 01.2	
LSZ	**Lusaka**	**11.28**	**113**	Pn	**Pn**	**18 18 32.8**	**+0.5**
	0.4nm,0.3s,baz=293,slow=18,SNR=8.3						
LSZ				Sn	**Sn**	**18 20 31.0**	**-7.5**
	0.6nm,0.3s,baz=320,slow=17,SNR=2.7						
LSZ				Lg		18 21 50.6	
	0.3nm,0.3s,baz=43,slow=15,SNR=6.0						
LSZ	**Lusaka**	**11.28**	**113**	*e*Pn	**Pn**	**18 18 32.8**	**+0.5**
LSZ				*e*Sn	**Sn**	**18 20 33.2**	**-5.2**
LSZ				Lg		18 21 50.6	
MATP	**Matopo**	**14.17**	**133**	Pn	**Pn**	**18 19 09.8**	**-2.0**
	0.2nm,0.3s,baz=281,slow=23,SNR=6.4						
MATP				Lg		18 23 17.7	
	0.4nm,0.3s,baz=14,slow=12,SNR=2.5						
MATP	**Matopo**	**14.17**	**133**	Pn	**Pn**	**18 19 09.8**	**-2.0**
MATP				Lg		18 23 17.7	
BOSA	**Boshof**	**18.99**	**159**	P	**Pn**	**18 20 14.7**	**+1.2**
	0.1nm,0.3s,baz=334,slow=16,SNR=3.2						
BOSA	**Boshof**	**18.99**	**159**	P	**Pn**	**18 20 13.2**	**-0.2**
	7.0nm,0.9s						
TOA0	**Torodi Ar. Sit**	**28.64**	**326**	*e*P	**P**	**18 21 48.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**28.64**	**326**	P	**P**	**18 21 45.5**	**-2.3**
	1.2nm,0.9s,mb3.6,baz=148,slow=8.4,SNR=5.1						
BRTR	**Keskin Array B**	**52.65**	**16**	P	**P**	**18 25 06.4**	**+1.0**
	0.8nm,0.8s,mb3.7,baz=182,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**81.41**	**39**	P	**P**	**18 28 09.3**	**+1.2**
	0.2nm,0.5s,mb3.4,ba

ellipse: s-maj=28.9km s-min=17.5km az=61.0

ISC 08 18:22:24.5±1.9,201S±02×1777W±03,h500km,n11, σ0°20/11,mb3.5/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.68**	**193**	P	**P**	**18 26 10.8**	**-0.1**
	1.8nm,0.3s,baz=261,slow=2.5,SNR=8.0						
STKA	**Stephens Creek**	**38.27**	**244**	P	**P**	**18 29 01.3**	**+0.1**
	1.4nm,0.5s,mb3.7,baz=94,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**38.27**	**244**	*e*P	**P**	**18 29 01.6**	**+0.3**
AS31	**Alice Springs**	**44.94**	**256**	*e*P	**P**	**18 29 54.1**	**0.0**
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**18 29 54.1**	**0.0**
	1.4nm,0.6s,mb3.6,baz=90,slow=7.5,SNR=36						
ASPA	**Alice Springs**	**44.94**	**256**	*e*P	**P**	**18 29 54.4**	**+0.3**
WB2	**Warramunga Arr**	**44.98**	**262**	*e*P	**P**	**18 29 54.1**	**-0.3**
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**18 29 54.2**	**-0.3**
	0.9nm,0.4s,mb3.5,baz=97,slow=7.5,SNR=14						
FITZ	**Fitzroy Crossi**	**53.41**	**262**	*e*P	**P**	**18 30 57.1**	**+0.2**
QSPA	**South Pole Qui**	**69.98**	**180**	*e*P	**P**	**18 32 45.3**	**+0.1**
	1.3nm,0.8s,mb3.5						
MJAR	**Matsushiro Arr**	**70.07**	**323**	P	**P**	**18 32 45.7**	**0.0**
	0.7nm,0.5s,mb3.5,baz=136,slow=1.9,SNR=4.7						

*ISCJB **08** 18:43:17.4±0.5,3645S±004×7225W±009,h65km±6km, mb3.9/7, Error ellipse: s-maj=11.9km s-min=5.7km az=32.4*

*NEIC **08** 18:43:17.7,3647S×72.18W,h42km,mb4.1/3, MD4.0(GUC),After GUC.*

NEIC Felt [III] at Cauquenes, Constitucion and Talca.

*GUC **08** 18:43:17.7±1.0,3647S×72.18W,h42km±11km,MD4.0, ML4.6*

*IDC **08** 18:43:19.9±3.1,3645S×7205W,h72km±24km,mb3.8/6, mb1 4.0/7,mb1mx3.8/15,mbtmp4.2/7, Error ellipse: s-maj=43.9km s-min=17.3km az=102.0*

ISC 08 18:43:18.4±0.5,3644S±004×7232W±008,h63km±6km,n25, σ0°65/35,mb4.1/7,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.49**	**309**	⇓*i*P	**Pn**	**18 43 29.6**	**-0.8**
COCH				*i* S	**Sn**	**18 43 38.6**	**-0.6**
CNCO	**Chanco**	**0.72**	**346**	⇑*i*P	**Pn**	**18 43 32.9**	**-0.2**
CNCO				*i* S	**Sn**	**18 43 44.2**	**+0.3**
CNCO				AML	AML	18 43 44.9	
	comp=E,29μm,0.3s						
CTCH	**Constitucion**	**1.11**	**356**	⇑*i*P	**Pn**	**18 43 38.4**	**+0.5**
CTCH				*i* S	**Sn**	**18 43 53.9**	**+1.4**
CTCH				AML	AML	18 43 58.4	
	comp=E,40μm,0.6s						
CTCH	**Constitucion**	**1.11**	**356**	⇑*i*P	**Pn**	**18 43 38.4**	**+0.5**
CTCH				*i* S	**Sn**	**18 43 53.9**	**+1.4**
TALC	**Talca**	**1.18**	**28**	⇓*i*P	**Pn**	**18 43 34.2**	**-4.6**
TALC				*i* S	**Sn**	**18 43 49.2**	**-4.9**
NICH	**Los Niches**	**1.69**	**32**	⇓*i*P	**Pn**	**18 43 45.0**	**-0.6**
NICH				*i* S	**Sn**	**18 44 06.0**	**-0.2**
SFDO	**San Fernando**	**2.11**	**31**	⇓*i*P	**Pn**	**18 43 51.1**	**-0.2**
SFDO				*i* S	**Sn**	**18 44 16.1**	**-0.3**
TMU	**Temuco**	**2.30**	**186**	*i* P	**Pn**	**18 43 53.4**	**-0.5**
TMU				*i* S	**Sn**	**18 44 21.5**	**+0.3**
PLCA	**Paso Flores**	**4.50**	**163**	P	**Pn**	**18 44 24.9**	**+0.8**
	comp=E,7.0nm,0.3s,baz=324,slow=12,SNR=83						
PLCA				S	**Sn**	**18 45 30.2**	**+15**
	comp=E,5.9nm,0.3s,baz=274,slow=18,SNR=6.4						
PLCA	**Paso Flores**	**4.50**	**163**	*e*P	**Pn**	**18 44 25.1**	**+1.0**
PLCA				S	**Sn**	**18 45 30.2**	**+15**
CFAA	**Coronel Fontan**	**5.89**	**36**	P	**Pn**	**18 44 42.9**	**-0.2**
	comp=E,0.2nm,0.3s,baz=216,slow=7.3,SNR=13						
CFAA				S	**Sn**	**18 45 49.2**	**0.0**
	comp=E,0.4nm,0.3s,baz=281,slow=16,SNR=2.4						
CFAA	**Coronel Fontan**	**5.89**	**36**	P	**Pn**	**18 44 42.9**	**-0.1**
CFAA				S	**Sn**	**18 45 49.2**	**0.0**
TRQA	**Tornquist**	**8.40**	**104**	*e*P	**Pn**	**18 45 18.2**	**+0.8**
	comp=E,12nm,0.9s						
LPAZ	**La Paz**	**20.41**	**12**	P	**P**	**18 47 55.8**	**+5.5**
	comp=E,1.2nm,0.8s,baz=178,slow=9.9,SNR=7.8						
LPAZ	**La Paz**	**20.41**	**12**	*e*P	**P**	**18 47 55.4**	**+5.2**
	comp=E,2.8nm,0.8s						
SIV	**San Ignacio**	**22.69**	**29**	P	**P**	**18 48 13.7**	**-0.8**
	comp=E,5.0nm,0.8s,mb4.0,baz=216,slow=11,SNR=22						
SNAA	**Sanae**	**49.43**	**157**	*e*P	**P**	**18 52 01.5**	**-0.4**
	comp=E,2.0nm,0.8s,mb4.2						
MAW	**Mawson**	**70.91**	**163**	P	**P**	**18 54 28.6**	**-0.2**
	comp=E,1.8nm,0.9s,mb4.0,baz=166,slow=8.3,SNR=3.9						
DBIC	**Dimbokro**	**76.18**	**71**	P	**P**	**18 55 00.1**	**+0.3**
	comp=E,1.6nm,0.7s,mb4.1,baz=208,slow=8.0,SNR=6.2						
DBIC	**Dimbokro**	**76.18**	**71**	*e*P	**P**	**18 54 59.7**	**-0.1**
	comp=E,3.6nm,0.7s,mb4.4						
BOSA	**Boshof**	**79.15**	**117**	P	**P**	**18 55 15.5**	**-0.8**
	comp=E,5.2nm,1.1s,mb4.4,baz=225,slow=2.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**85.26**	**70**	P	**P**	**18 55 48.3**	**+0.1**
	comp=E,0.6nm,0.9s,mb3.7,baz=242,slow=4.6,SNR=5.4						
NVAR	**Mina Array Bea**	**85.75**	**326**	P	**P**	**18 55 52.0**	**+1.4**
	comp=E,0.5nm,0.6s,mb3.9,baz=127,slow=6.1,SNR=3.6						
KAKA	**Kakadu**	**125.82**	**210**	*e*P	Pdif	18 58 56.2	+4.8
	comp=E,4.6nm,0.8s						
ZRNK	**Zerenda**	**148.40**	**46**	*e*PKPbc	PKPbc	19 02 57.0	-0.7

CASC 08 18:43:23.5±0.6,929N×8281W,h3km±68km,MD3.5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.98**	**286**	*e*P	Pg	18 43 42.5	+0.2
BUS				*e*S	Sg	18 43 57.6	+2.7
LCR2	**La Lucha 2**	**1.27**	**291**	*e*P	Pg	18 43 47.2	-0.5
LCR2				*e*S	Sg	18 44 05.5	+1.3
PRS1	**Puriscal**	**1.64**	**295**	*e*P	Pn	18 43 53.5	+0.3
PRS1				*e*S	Sn	18 44 16.4	+1.6

*BJI **08** 18:54:51.5,2378S×17448W,h10km,mB5.8,mb5.4,Ms5.3, Msz5.1*

*IDC **08** 18:54:54.7±0.4,2343S×17552W,h0km,mb5.0/17, mb1 5.1/17,mb1mx5.1/18,mbtmp5.0/17,ML5.8/1,MS4.7/23, Ms1 4.7/23,ms1mx4.5/28,Error ellipse: s-maj=16.7km s-min=14.7km az=163.0*

*ISCJB **08** 18:54:54.8±0.1,2363S±004×17544W±004,h11km, mb5.2/84,MS4.8/42,Error ellipse: s-maj=7.1km s-min=4.1km az=105.0*

*GCMT **08** 18:54:55.9±0.2,2365S×17481W,h14km,MW5.3/91, Moment Tensor Solution. s63,c100; s91,c175; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.90±.02; $M_{\theta\theta}$0.73±.02; $M_{\phi\phi}$0.16±.01; $M_{r\theta}$0.45±.03; $M_{\theta\phi}$0.05±.01; $M_{r\phi}$0.07±.04; Best double couple: $M_0$0.93900×10^{17} NP1:ϕ_s86.00000°,δ30.00000°, λ-88.00000°. NP2:ϕ_s263.00000°,δ60.00000°, λ-91.00000°. Principal axes: T 0.8590, Plg15.0000°, Azm354.0000°; N 0.1590, Plg1.0000°, Azm264.0000°; P -1.0180, Plg75.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 18:54:55.9±0.2,2357S×17536W,h10km,mb5.3/58, MS5.2/4 Error ellipse: s-maj=8.6km s-min=5.0km az=160.0*

*SZGRF **08** 18:54:59.0,2320S×17530W,h33km,mb5.0,Tonga Islands region*

*MOS **08** 18:55:03.3±3.2,2366S×17650W,h33km,mb5.2/18, MS4.9/15,Error ellipse: s-maj=17.3km s-min=12.4km az=97.1*

ISC 08 18:54:56.5±0.1,2363S±004×17538W±004,h12km, h12km±1.9km:pP-P,n583,σ0°91/351,mb5.3/83,MS4.8/42, 101C-89D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.04**	**202**	Pn	**Pn**	**18 56 26.5**	**+0.8**
	239nm,0.3s,baz=14,slow=4.6,SNR=24						
RAO				Sn	**Sn**	**18 57 33.4**	**-1.4**
	746nm,0.3s,baz=94,slow=23,SNR=12						
RAO	**Raoul Island**	**6.04**	**202**	P	**Pn**	**18 56 26.5**	**+0.8**
RAO						18 57 33.4	
RAO				pmax	pmax		
	comp=Z,239nm,0.3s						
RAO				smax			
	comp=N,746nm,0.3s						
RAO	**Raoul Island**	**6.04**	**202**	*e*Pn	**Pn**	**18 56 26.8**	**+1.1**
	comp=N,841nm,0.5s						
RAO				*e*Sn	**Sn**	**18 57 34.0**	**-0.7**
AFI	**Afiamalu**	**10.26**	**20**	Pn	**Pn**	**18 57 15.7**	**-7.8**
	comp=N,98nm,0.3s,baz=173,slow=1.6,SNR=88						
AFI				Sn	**Sn**	**18 59 00.7**	**-18**
	comp=N,26nm,0.3s,baz=121,slow=18,SNR=2.6						
AFI	**Afiamalu**	**10.26**	**20**	*e*Pn	**Pn**	**18 57 16.3**	**-7.2**
	comp=N,2μm,1.3s						
RAR	**Rarotonga**	**14.63**	**84**	Pn	**Pn**	**18 58 15.9**	**-7.4**
	comp=N,30nm,0.3s,baz=247,slow=7.5,SNR=74						
RAR				Sn	Sn	19 00 40.6	-25
	comp=N,46nm,0.3s,baz=78,slow=16,SNR=7.9						
RAR				LR	LR	19 03 07.0	
	comp=N,3μm,19.1s,baz=330,slow=33						
RAR	**Rarotonga**	**14.63**	**84**	Pn	**Pn**	**18 58 15.9**	**-7.4**
RAR				Sn	Sn	19 00 40.6	-25
RAR				LR	LR	19 03 07.0	
PUZ	**Puketiti**	**15.39**	**199**	PN	**Pn**	**18 58 26.3**	**-7.2**
PUZ				*e*SN	**Sn**	**19 01 04.9**	**-19**
URZ	**Urewera**	**15.93**	**202**	Pn	**Pn**	**18 58 32.2**	**-8.3**
	comp=N,0.4nm,0.3s,baz=104,slow=4.2,SNR=4.9						
URZ				Sn	**Sn**	**19 01 20.4**	**-17**
	comp=N,15nm,0.3s,baz=125,slow=22,SNR=13						
DZM	**Mont Dzumac**	**16.83**	**272**	*e*P	**Pn**	**18 58 54.1**	**+2.1**
DZM	**Mont Dzumac**	**16.83**	**272**	Pn	**Pn**	**18 58 54.3**	**+2.3**
	comp=N,2.4nm,0.3s,baz=84,slow=18,SNR=25						
PXZ	**Pawanui**	**17.61**	**200**	SN	**Sn**	**19 02 00.5**	**-17**
MRZ	**Mangatainoka R**	**18.61**	**202**	*e*SN	Sx	19 02 18.7	
THZ	**Tophouse**	**20.56**	**206**	*e*P*	**P**	**18 59 31.4**	**-3.6**
THZ				*e*SN	**S**	**19 03 05.5**	**-19**
KHZ	**Kahutara**	**20.88**	**204**	*e*SN	**S**	**19 03 11.1**	**-20**
LTZ	**Lake Taylor**	**21.67**	**205**	*e*S*	**S**	**19 03 29.1**	**-18**
MQZ	**McQueen's Vall**	**22.32**	**203**	*e*S*	**S**	**19 03 43.0**	**-16**
RPZ	**Rata Peaks**	**22.93**	**206**	S	**S**	**19 04 00.2**	**-10**
	comp=N,29nm,0.6s,baz=357,slow=13,SNR=8.9						
TBI	**Tubuai**	**23.76**	**95**	*e*LR	LR	19 05 51.8	
	comp=N,3μm,23.8s,baz=265						
PAE	**Paea**	**24.84**	**81**	*e*P	**P**	**19 00 15.8**	**-2.9**
	comp=N,105nm,1.1s,mb5.3						
PPT	**Papeete**	**24.87**	**81**	*e*P	**P**	**19 00 16.4**	**-2.6**
	comp=N,62nm,1.1s,mb5.0						
PPT	**Papeete**	**24.87**	**81**	*e*LQ		19 05 13.8	
	comp=N,1μm,22.0s						
PPT				*e*LR	LR	19 06 04.4	
	comp=N,3μm,21.8s,baz=253						
PPT	**Papeete**	**24.87**	**81**	P	**P**	**19 00 17.1**	**-1.9**
	comp=N,55nm,0.9s,mb5.1,baz=163,slow=5.2,SNR=9.9						
PPT				LR	LR	19 07 17.2	
	comp=N,2μm,19.4s,MS4.6,baz=245,slow=30						
TVO	**Taravao**	**25.10**	**82**	*e*P	**P**	**19 00 18.2**	**-2.9**
	comp=N,282nm,1.4s,mb5.6						
PMOR	**Pomariorio Ree**	**27.28**	**77**	*e*P	**P**	**19 00 37.9**	**-2.9**
	comp=N,27nm,1.4s,mb4.6						
VAH	**Vaihoa**	**27.43**	**77**	*e*P	**P**	**19 00 39.3**	**-2.8**
	comp=N,57nm,1.4s,mb4.9						
HNR	**Honiara**	**27.48**	**297**	LR	LR	19 10 14.3	
	comp=N,1μm,19.4s,MS4.5,baz=179,slow=34						
CTA	**Charters Tower**	**35.72**	**268**	*e*P	**P**	**19 01 54.4**	**-0.5**
	comp=N,13nm,0.4s,mb5.2						
CTA	**Charters Tower**	**35.72**	**268**	P	**P**	**19 01 54.8**	**-0.2**
	comp=N,16nm,0.5s,mb5.2,baz=99,slow=10,SNR=25						
CTA				LR	LR	19 14 41.9	
	comp=N,897nm,19.5s,MS4.5,baz=106,slow=33						
CTA	**Charters Tower**	**35.72**	**268**	P	**P**	**19 01 54.8**	**-0.1**
CTA				pmax	pmax		
	comp=Z,16nm,0.5s						
CTA				MLR	MLR		
	comp=Z,897nm,19.5s						
TAOE	**Nuku Hiva Isla**	**36.74**	**72**	*e*P	**P**	**19 02 00.7**	**-3.0**
	comp=Z,554nm,1.1s,mb6.3						
TAOE				*e*S	**S**	**19 07 40.2**	**-7.1**
	comp=Z,639nm,25.6s						
TAOE				*e*LR	LR	19 11 29.7	
	comp=Z,3μm,21.0s						
TAOE	**Nuku Hiva Isla**	**36.74**	**72**	*e*P	**P**	**19 02 00.7**	**-3.0**
	comp=Z,554nm,1.1s,mb6.3						
TAOE				*e*S	**S**	**19 07 40.2**	**-7.1**
RKT	**Rikitea**	**37.00**	**98**	*e*P	**P**	**19 02 06.1**	**+0.2**
	comp=Z,261nm,1.6s,mb5.8						
RKT	**Rikitea**	**37.00**	**98**	*e*LR	LR	19 11 42.5	
	comp=Z,2μm,26.8s						
PMG	**Port Moresby**	**38.46**	**285**	P	**P**	**19 02 18.1**	**-0.2**
	comp=Z,26nm,0.8s,mb5.0,baz=115,slow=8.7,SNR=6.5						
PMG				LR	LR	19 15 41.7	
	comp=Z,1μm,18.1s,MS4.7,baz=115,slow=33						
PMG	**Port Moresby**	**38.46**	**285**	P	**P**	**19 02 18.1**	**-0.2**
PMG				pmax	pmax		
	comp=Z,26nm,0.8s						
PMG				MLR	MLR		
	comp=Z,1μm,18.1s						
PMG	**Port Moresby**	**38.46**	**285**	*e*P	**P**	**19 02 17.7**	**-0.6**
	comp=Z,594nm,2.1s,mb6.0						
STKA	**Stephens Creek**	**38.75**	**248**	*e*P	**P**	**19 02 20.1**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**38.75**	**248**	P	**P**	**19 02 20.2**	**-0.5**
	comp=Z,8.1nm,0.5s,mb4.7,baz=91,slow=10,SNR=14						
STKA				LR	LR	19 17 13.5	
	comp=Z,3μm,18.8s,MS5.1,baz=81,slow=35						
AS31	**Alice Springs**	**46.25**	**259**	*e*P	**P**	**19 03 21.3**	**-0.4**
AS31				*e*S	**S**	**19 10 02.4**	**-5.7**
AS31				*e*ScS	ScS	19 13 21.5	+4.5
ASAR	**Alice Springs**	**46.25**	**259**	P	**P**	**19 03 20.4**	**-1.3**
	comp=Z,10nm,0.7s,mb4.8,baz=102,slow=7.5,SNR=68						
ASAR				S	**S**	**19 10 03.5**	**-4.7**
	comp=Z,2.4nm,0.9s,baz=100,slow=15,SNR=9.0						
ASAR				LR	LR	19 22 15.1	
	comp=Z,2μm,19.0s,MS5.1,baz=107,slow=36						
ASAR	**Alice Springs**	**46.25**	**259**	P	**P**	**19 03 20.4**	**-1.3**
ASAR				S	**S**	**19 10 03.5**	**-4.7**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,2μm,19.0s						
ASPA	**Alice Springs**	**46.25**	**259**	*e*P	**P**	**19 03 21.3**	**-0.4**
ASPA				*e*S	**S**	**19 10 02.4**	**-5.8**
ASPA				*e*SCS	ScS	19 13 21.5	+4.4
WB2	**Warramunga Arr**	**46.64**	**264**	*e*P	**P**	**19 03 23.1**	**-1.6**
WB2				*e*S	**S**	**19 10 06.2**	**-7.5**
WB2				*e*SCS	ScS	19 13 25.3	+5.7
WRAB	**Tennant Creek**	**46.64**	**264**	P	**P**	**19 03 23.0**	**-1.8**
	comp=Z,188nm,0.8s,mb6.1,SNR=16						
WRAB	**Tennant Creek**	**46.64**	**264**	P	**P**	**19 03 23.1**	**-1.7**
WRA	**Warramunga Arr**	**46.65**	**264**	P	**P**	**19 03 23.0**	**-1.8**
	comp=Z,17nm,0.7s,mb5.1,baz=96,slow=8.4,SNR=130						
WRA				PcP	PcP	19 04 59.2	+0.6
	comp=Z,9.9nm,0.9s,baz=101,slow=4.6,SNR=4.7						
WRA				S	**S**	**19 10 05.0**	**-8.9**
	comp=Z,2.0nm,1.0s,baz=99,slow=14,SNR=4.7						
WRA				LR	LR	19 22 41.1	
	comp=Z,994nm,18.9s,MS4.8,baz=120,slow=36						
WRA	**Warramunga Arr**	**46.65**	**264**	P	**P**	**19 03 23.0**	**-1.8**
WRA						19 04 59.2	
WRA				S	**S**	**19 10 05.0**	**-8.9**
WRA				pmax	pmax		
	comp=Z,17nm,0.7s						
WRA				smax			
	comp=N,2.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,994nm,18.9s						
FORT	**Forrest**	**50.37**	**249**	*e*P	**P**	**19 03 52.0**	**-1.4**
	comp=Z,51nm,0.7s,mb5.7						
KAKA	**Kakadu**	**50.52**	**273**	*e*P	**P**	**19 03 52.8**	**-1.8**
	comp=Z,26nm,0.5s,mb5.4						
DRV	**Dumont d'Urvil**	**51.27**	**201**	P	**P**	**19 03 59.0**	**-1.2**
DRV				S	**S**	**19 11 19.0**	**+0.2**
GUMO	**Guam**	**53.66**	**309**	LR	LR	19 24 25.2	
	comp=Z,484nm,20.8s,MS4.5,baz=138,slow=33						
SBA	**Scott Base**	**54.94**	**185**	*e*P	**P**	**19 04 29.8**	**+2.6**
	comp=Z,232nm,1.6s,mb6.0						
VNDA	**Vanda**	**55.04**	**186**	P	**P**	**19 04 30.2**	**+2.2**
	comp=Z,18nm,0.9s,mb5.1,baz=7.8,slow=7.2,SNR=83						
VNDA				PcP	PcP	19 05 30.9	+1.4
	comp=Z,13nm,0.9s,baz=338,slow=2.3,SNR=6.8						
VNDA				LR	LR	19 23 49.1	
	comp=Z,331nm,20.0s,MS4.4,baz=297,slow=31						
VNDA	**Vanda**	**55.04**	**186**	P	**P**	**19 04 30.2**	**+2.2**
VNDA						19 05 30.9	
VNDA				pmax	pmax		
	comp=Z,18nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,331nm,20.0s						
VNDA	**Vanda**	**55.04**	**186**	*e*P	**P**	**19 04 29.9**	**+1.9**
	comp=Z,37nm,1.1s,mb5.3						
FITZ	**Fitzroy Crossi**	**55.07**	**264**	*e*P	**P**	**19 04 27.3**	**-0.9**
	comp=Z,20nm,0.6s,mb5.3						
FITZ				*e*S	**S**	**19 12 06.1**	**-4.5**
FITZ	**Fitzroy Crossi**	**55.07**	**264**	LR	LR	19 27 26.2	
	comp=Z,799nm,19.4s,MS4.8,baz=112,slow=36						
KLBR	**Kellerberrin**	**58.99**	**246**	*e*P	**P**	**19 04 55.3**	**-0.7**
	comp=Z,36nm,1.0s,mb5.4						
RPN	**Rapa Nui**	**59.16**	**108**	LR	LR	19 25 14.4	
	comp=Z,410nm,20.7s,MS4.5,baz=289,slow=31						
NWAO	**Narrogin (SRO)**	**59.19**	**245**	LR	LR	19 29 49.6	
	comp=Z,768nm,18.5s,MS4.9,baz=349,slow=35						
MBWA	**Marble Bar**	**59.58**	**259**	*e*P	**P**	**19 04 59.1**	**-1.0**
	comp=Z,31nm,1.0s,mb5.3						
MUN	**Mundaring**	**60.21**	**246**	*e*P	**P**	**19 05 09.8**	**+5.4**
BUKP	**Musuan**	**66.05**	**291**	*e*P	**P**	**19 05 45.2**	**+2.0**
QSPA	**South Pole Qui**	**66.45**	**180**	*e*P	**P**	**19 05 47.2**	**+1.4**
	comp=Z,120nm,1.1s,mb5.8						
MIR	**Mirnyy**	**69.20**	**205**	*d i*P	**P**	**19 06 05.5**	**+2.4**
MIR				*i*		19 06 18.0	
MIR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
JHJ	**Hachijo jima 2**	**70.79**	**321**	LR	LR	19 31 58.6	
	comp=Z,300nm,19.0s,MS4.6,baz=20,slow=32						
JOW	**Kunigami**	**74.03**	**309**	LR	LR	19 37 01.4	
	comp=Z,376nm,19.6s,MS4.7,baz=154,slow=34						
MJAR	**Matsushiro Arr**	**74.16**	**323**	P	**P**	**19 06 32.1**	**-0.9**
	comp=Z,4.6nm,0.7s,mb4.5,baz=161,slow=6.0,SNR=14						
MJAR				LR	LR	19 33 00.2	
	comp=Z,392nm,20.9s,MS4.7,baz=120,slow=31						
MJAR	**Matsushiro Arr**	**74.16**	**323**	P	**P**	**19 06 32.1**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,392nm,21.0s						
MAT	**Matsushiro**	**74.17**	**323**	P	**P**	**19 06 28.4**	**-4.6**
KSM	**Kuching**	**76.25**	**278**	*e*P	**P**	**19 06 45.0**	**+0.1**
ASAJ	**Asahikawa**	**77.63**	**330**	LR	LR	19 35 42.8	
	comp=Z,576nm,19.4s,MS4.9,baz=162,slow=32						
HAST	**UC Hastings Re**	**78.38**	**42**	⇓P	**P**	**19 06 57.8**	**+0.9**
	baz=79						
PKM	**Peak Mountain**	**78.50**	**44**	⇑P	**P**	**19 06 59.3**	**+1.7**
	baz=79						
SMMC	**Simmler**	**78.65**	**43**	⇓P	**P**	**19 06 59.4**	**+1.0**
	baz=79						
PKD	**Parkfield**	**78.72**	**43**	⇑P	**P**	**19 07 00.3**	**+1.5**
	baz=79						
PACP	**Pacheco Peak**	**78.95**	**41**	⇑P	**P**	**19 07 01.2**	**+1.2**
	baz=79						
S04C	**Ingram Canyon,**	**79.25**	**41**	⇑P	**P**	**19 07 02.2**	**+0.5**
	baz=79						
ARVC	**Arvin**	**79.28**	**44**	⇑P	**P**	**19 07 03.0**	**+1.2**
	baz=79						
MURC	**Murrieta**	**79.39**	**46**	⇓P	**P**	**19 07 02.2**	**-0.2**
	baz=80						
MAW	**Mawson**	**79.44**	**199**	*e*P	**P**	**19 07 04.2**	**+1.5**
	comp=Z,34nm,1.1s,mb5.2						
MAW	**Mawson**	**79.44**	**199**	P	**P**	**19 07 04.2**	**+1.5**
	comp=Z,39nm,1.0s,mb5.3,baz=143,slow=10,SNR=69						
MAW				LR	LR	19 41 03.7	
	comp=Z,914nm,18.7s,MS5.1,baz=96,slow=35						
MAW	**Mawson**	**79.44**	**199**	P	**P**	**19 07 04.2**	**+1.5**
MAW				pmax	pmax		
	comp=Z,39nm,1.0s						
MAW				MLR	MLR		
	comp=Z,914nm,18.7s						
BFSC	**Mount Baldy St**	**79.48**	**45**	⇑P	**P**	**19 07 02.2**	**-0.8**
	baz=80						
MONP	**Monument Peak**	**79.48**	**47**	⇑P	**P**	**19 07 02.0**	**-1.0**
	baz=80						
MNRC	**McLaughlin Nat**	**79.50**	**39**	⇑P	**P**	**19 07 03.5**	**+0.5**
	baz=80						
O01C	**Eel River Cons**	**79.56**	**38**	⇓P	**P**	**19 07 04.8**	**+1.4**
	baz=80						
VES	**Vestal, Richgr**	**79.56**	**43**	⇓P	**P**	**19 07 04.0**	**+0.6**
	baz=80						
EDW2	**Edwards Air Fo**	**79.66**	**45**	⇓P	**P**	**19 07 04.0**	**+0.1**
	baz=80						
S05C	**Merced**	**79.75**	**42**	⇓P	**P**	**19 07 05.1**	**+0.6**
	baz=80						
YSS	**Yuzh-Sakhalins**	**79.78**	**332**	*e*P	**P**	**19 07 05.2**	**+0.6**
	comp=Z,95nm,1.0s,mb5.7						
ISA	**Isabella**	**79.84**	**44**	*e*P	**P**	**19 07 04.8**	**0.0**
	comp=Z,0.1nm,1.5s						
ISA				*e*		19 07 19.8	
ISA	**Isabella**	**79.84**	**44**	⇑P	**P**	**19 07 05.7**	**+0.8**
	baz=80						
GASB	**Alder Springs**	**79.85**	**39**	⇑P	**P**	**19 07 06.4**	**+1.4**
	baz=80						
PFO	**Pinyon Flat Ob**	**79.89**	**47**	⇑P	**P**	**19 07 06.5**	**+1.3**
	baz=80						
QZH	**Quanzhou**	**80.15**	**303**	P	**P**	**19 07 06.4**	**-0.2**
QZH				S	S	19 17 10.5	-0.7
QZH				LR	LR		
	comp=Z,900nm,20.8s,MS5.1						
CMB	**Columbia Colle**	**80.16**	**41**	P	**P**	**19 07 06.6**	**0.0**
	baz=80,SNR=8.2						
O02C	**Red Bluff**	**80.17**	**38**	⇓P	**P**	**19 07 07.7**	**+1.0**
	baz=80						
USHA	**Ushuaia**	**80.18**	**146**	P	**P**	**19 07 07.4**	**+0.6**
	comp=Z,25nm,1.0s,mb5.1,baz=259,slow=6.2,SNR=4.6						
LRMC	**Laurel Mountai**	**80.22**	**44**	⇑P	**P**	**19 07

baz=82
SHOC Shoshone 81.39 45 ⇓P P 19 07 12.0 -1.2
baz=82
K02A Glendale 81.54 36 ⇓P P 19 07 12.3 -1.7
baz=82
SSE Sheshan 81.55 309 eP P 19 07 12.6 -1.5
SSE AP pP 19 07 22.2 +4.2
SSE XP sP 19 07 25.0 +5.6
SSE S S 19 17 23.5 -2.3
SSE XS sS 19 17 38.1 +5.9
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,173nm,5.4s
SSE LR LR
comp=N,86nm,37.9s,MS4.2
SSE LR LR
comp=E,162nm,37.9s,MS4.2
SSE LR LR
comp=Z,239nm,36.7s,MS4.3
SSE Sheshan 81.55 309 eP P 19 07 12.6 -1.5
comp=Z,28nm,0.7s,mb5.3
SSE PcP PcP 19 07 18.0 -2.0
SSE pP pP 19 07 22.2 +4.2
SSE sP sP 19 07 25.0 +5.6
SSE S S 19 17 23.5 -2.3
SSE sS sS 19 17 38.1 +5.9
SSE LR LR
comp=Z,240nm,36.7s,MS4.3
ELFS Eagle Lake Fie 81.64 39 ⇑P P 19 07 13.4 -1.2
baz=82
INCN Inchon 81.65 317 eP P 19 07 15.2 +0.6
comp=Z,64nm,1.4s,mb5.4
NVAR Mina Array Bea 81.67 42 P P 19 07 14.9 +0.2
comp=Z,5.1nm,0.8s,mb4.5,baz=228,slow=9.2,SNR=27
Q07A Schurz 81.69 41 ⇑P P 19 07 15.2 +0.4
baz=82
R08A Mina 81.75 42 ⇓P P 19 07 15.7 +0.6
baz=82
M04C Macdoel 81.78 37 ⇑P P 19 07 15.7 +0.4
baz=82
Y13A Salome 81.78 48 ⇑P P 19 07 15.8 +0.6
baz=82
PAHR Pah Rah Range 81.83 40 eP P 19 07 14.8 -0.8
comp=Z,23nm,1.4s,mb4.9
O06A Flanigan 81.87 40 ⇓P P 19 07 15.4 -0.3
baz=82
M05C Lookout 81.89 38 ⇓P P 19 07 15.4 -0.5
baz=82
J02A Umpqua 81.90 35 ⇑P P 19 07 15.4 -0.5
baz=82
S09A Goldfield 81.90 43 ⇓P P 19 07 15.8 -0.1
baz=82
V11A Goodsprings 81.90 45 ⇓P P 19 07 15.6 -0.3
baz=82
L04A Klamath Falls 82.01 37 ⇓P P 19 07 16.9 +0.4
baz=82
M06C Likely Place G 82.17 39 ⇑P P 19 07 17.2 -0.1
baz=82
Q08A Gabbs 82.17 42 ⇑P P 19 07 17.0 -0.3
baz=82
X13A Yucca 82.23 47 ⇓P P 19 07 17.8 +0.2
baz=82
N06A Buffalo Meadow 82.24 39 ⇓P P 19 07 17.7 0.0
baz=82
R09A Tonopah 82.31 43 ⇓P P 19 07 18.5 +0.4
baz=82,SNR=7.0
Y14A Wickenburg 82.41 48 ⇓P P 19 07 19.1 +0.5
baz=83
O07A Toulon 82.42 40 P P 19 07 19.1 +0.4
baz=83,SNR=8.4
W13A Hualapai Mount 82.49 47 ⇓P P 19 07 19.2 +0.2
baz=83
L05A Lakeview 82.52 38 ⇓P P 19 07 19.9 +0.7
baz=83
116A Eloy 82.53 50 ⇓P P 19 07 19.9 +0.7
baz=83
Q09A Carvers 82.61 42 ⇓P P 19 07 20.4 +0.7
baz=83
MOD Modoc 82.72 38 ⇑P P 19 07 20.2 0.0
baz=83
X14A Yava 82.79 48 ⇑P P 19 07 21.4 +0.9
baz=83
R10A Warm Springs 82.82 43 P P 19 07 21.4 +0.6
baz=83,SNR=13
U12A Valley of Fire 82.84 45 ⇑P P 19 07 21.3 +0.5
baz=83
K05A Summer Lake 82.93 37 ⇓P P 19 07 21.8 +0.5
baz=83
H03A Soap Creek Ran 82.95 35 ⇑P P 19 07 22.1 +0.7
baz=83
M07A Soldier Meadow 83.03 39 ⇓P P 19 07 21.7 -0.2
baz=83
TUC Tucson 83.04 50 eP P 19 07 21.5 -0.4
comp=Z,13nm,1.2s,mb4.8
P09A Austin 83.08 41 ⇓P P 19 07 21.7 -0.3
baz=83
W14A Seligman 83.09 47 ⇑P P 19 07 22.8 +0.7
baz=83
J05A Fort Rock 83.11 37 ⇓P P 19 07 22.2 0.0
baz=83
X15A Humboldt 83.25 48 ⇓P P 19 07 23.4 +0.5
baz=83
N08A GE Springer Mi 83.25 40 P P 19 07 23.1 +0.1
baz=83,SNR=9.8
K06A Valley Falls 83.33 37 P P 19 07 23.5 +0.1
baz=84,SNR=9.3
L07A Adell 83.34 38 P P 19 07 23.8 +0.3
baz=84,SNR=9.2
GZH Guangzhou 83.36 299 P P 19 07 23.6 +0.1
GZH S S 19 17 44.4 +0.1
GZH LR LR
comp=N,267nm,13.7s
GZH LR LR
comp=E,352nm,24.6s
GZH LR LR
comp=Z,438nm,21.1s
G03A Yamhill 83.39 34 ⇓P P 19 07 23.7 0.0
baz=84
O09A Fish Creek Ran 83.44 41 ⇑P P 19 07 23.7 -0.2
baz=84
M08A Happy Creek Ra 83.53 39 ⇓P P 19 07 24.0 -0.4
baz=84
H04A Detroit Lake 83.53 35 ⇓P P 19 07 23.9 -0.5
baz=84
P10A Eureka 83.54 42 ⇑P P 19 07 24.9 +0.5
baz=84
Q11A Duckwater 83.56 43 ⇓P P 19 07 24.7 +0.2
baz=84
W15A Williams 83.62 47 ⇑P P 19 07 25.9 +1.0
baz=84
N09A Rock Creek Ran 83.66 40 ⇑P P 19 07 25.4 +0.3
baz=84
J06A Christmas Vall 83.68 37 ⇓P P 19 07 25.0 -0.2
baz=84
G04A Mulino 83.73 35 ⇑P P 19 07 26.3 +0.9
baz=84
NJ2 Nanjing 83.74 309 eP P 19 07 24.3 -1.1
NJ2 AP pP 19 07 34.3 +4.9
NJ2 XP sP 19 07 38.4 +7.6
NJ2 PP PP 19 10 37.9 -0.5
NJ2 SKS 19 17 41.0
NJ2 S S 19 17 43.0 -5.1
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,250nm,11.0s
NJ2 LR LR
comp=N,240nm,16.7s,MS4.8
NJ2 LR LR
comp=E,250nm,19.3s,MS4.8
NJ2 LR LR
comp=Z,5μm,15.9s
K07A Rock Creek Ran 83.83 38 P P 19 07 26.1 +0.1
baz=84,SNR=10
O10A Cortez Mining, 83.92 41 ⇑P P 19 07 26.7 +0.3
baz=84
P11A Circle Ranch, 83.93 42 ⇑P P 19 07 26.4 0.0
baz=84
WVOR Wild Horse Val 84.01 38 eP P 19 07 26.5 -0.4
comp=Z,25nm,1.2s,mb5.2
H05A Madras 84.02 36 ⇑P P 19 07 26.9 0.0
baz=84
L08A Fields 84.02 39 P P 19 07 27.0 +0.1
baz=84,SNR=13
M09A Marrel Ranch, 84.06 40 ⇑P P 19 07 26.9 -0.2
baz=84,SNR=5.8

E03A Lebam 84.09 33 ⇑P P 19 07 27.1 -0.2
baz=84
I06A Prineville 84.10 37 P P 19 07 27.6 +0.3
baz=84,SNR=10.0
N10A Dunphy 84.18 41 ⇑P P 19 07 28.2 +0.5
baz=84
SYO Syowa Base 84.20 192⇑eP P 19 07 25.0 -2.8
SYO Syowa Base 84.20 192⇓pP pP 19 07 29.5 -2.2
J07A Hines 84.23 37 ⇑P P 19 07 27.8 -0.2
baz=84
CCUT Cedar City 84.25 45 eP P 19 07 27.3 -0.8
CCUT e 19 07 43.9
F04A Amboy 84.25 34 ⇑P P 19 07 27.7 -0.4
baz=84
K08A Mann Creek Ran 84.28 38 P P 19 07 28.3 +0.1
baz=84,SNR=14
O11A Cowboy Ranch, 84.34 42 ⇓P P 19 07 28.1 -0.4
baz=84,SNR=14
ARUT Antelope Range 84.34 45 eP P 19 07 28.9 +0.3
ARUT e 19 07 43.8
QIZ Qiongzhong 84.34 293 P P 19 07 28.8 +0.3
QIZ AP pP 19 07 34.1 +1.7
QIZ XP sP 19 07 35.9 +2.1
QIZ PP PP 19 10 48.8 +5.5
QIZ S S 19 17 53.6 -0.6
QIZ AMB AMB
comp=Z,12nm,1.9s,mb4.7
QIZ LR LR
comp=E,202nm,18.9s
QIZ LR LR
comp=Z,218nm,19.6s,MS4.5
G05A Wamic 84.36 35 ⇑P P 19 07 29.0 +0.3
baz=84
P12A McGill 84.41 43 ⇑P P 19 07 29.2 +0.3
baz=85
WUAZ Wupatki 84.41 47 eP P 19 07 30.3 +1.4
comp=Z,38nm,1.4s,mb5.3
WUAZ e 19 07 44.3
WUAZ Wupatki 84.41 47 ⇓P P 19 07 29.5 +0.6
baz=85
MDJ Mudanjiang 84.47 324 P P 19 07 30.4 +1.2
MDJ AP pP 19 07 31.1 -2.0
MDJ PP PP 19 10 44.5 +0.2
MDJ S S 19 17 57.9 +2.4
MDJ SS SS 19 23 28.8 +3.0
MDJ AMB AMB
comp=Z,39nm,1.2s,mb5.4
MDJ AMB AMB
comp=Z,252nm,5.5s
MDJ LR LR
comp=N,101nm,21.6s,MS4.5
MDJ LR LR
comp=E,178nm,21.1s,MS4.5
MDJ LR LR
comp=Z,151nm,21.6s,MS4.3
MDJ Mudanjiang 84.47 324 eP P 19 07 30.2 +1.0
comp=Z,55nm,1.0s,mb5.6
H06A Lindquist Farm 84.55 36 ⇑P P 19 07 28.7 -0.9
baz=85,SNR=11
I07A Izee 84.58 37 P P 19 07 29.9 +0.1
baz=85,SNR=9.8
M10A I.L. Ranch, Tu 84.66 40 ⇑P P 19 07 30.3 +0.1
baz=85,SNR=11
J08A Circle Bar Ran 84.69 38 ⇓P P 19 07 30.1 -0.2
baz=85,SNR=7.1
K09A Rome 84.70 39 P P 19 07 30.3 0.0
baz=85,SNR=15
N11A Elko Archery C 84.71 41 ⇓P P 19 07 30.7 +0.3
baz=85
G06A Carlson Farm, 84.72 35 ⇓P P 19 07 30.4 -0.1
baz=85
SNAA Sanae 84.81 178 eP P 19 07 31.0 +0.1
SNAA e pP 19 07 32.8 -2.0
SNAA e pP 19 07 34.9 +0.1
SNAA e 19 07 44.5
SNAA Sanae 84.81 178 eP P 19 07 30.3 -0.6
comp=Z,68nm,1.0s,mb5.7
SNAA e 19 07 46.4
VNA3 Neumayer Olymp 84.85 175 eP P 19 07 31.1 0.0
VNA3 e pP 19 07 35.4 +0.4
VNA3 e 19 07 46.1
H07A Lands Inn, Kim 84.88 36 P P 19 07 31.0 -0.2
baz=85,SNR=15
ELK Elko 84.96 41 P P 19 07 30.8 -0.9
comp=Z,12nm,0.9s,mb5.0
O12A Currie 84.98 42 ⇑P P 19 07 31.5 -0.2
baz=85
I08A Drewsey 84.99 37 ⇑P P 19 07 31.4 -0.4
baz=85
F06A Goldendale 85.00 35 P P 19 07 31.8 -0.1
baz=85
E05A Randle 85.02 34 ⇓P P 19 07 31.5 -0.4
baz=85
M11A Holland Ranch, 85.05 41 ⇓P P 19 07 32.0 -0.1
baz=85
J09A Fry Pan Ranch, 85.09 38 ⇓P P 19 07 31.5 -0.8
baz=85,SNR=9.2
N12A Clover Valley, 85.15 41 ⇑P P 19 07 32.4 -0.2
baz=85,SNR=8.0
G07A Ruggs Ranch, H 85.26 36 ⇑P P 19 07 32.2 -1.0
baz=85,SNR=8.4
H08A Prairie City 85.32 37 ⇓P P 19 07 32.5 -1.0
baz=86
D05A Enmclaw 85.32 33 ⇑P P 19 07 33.7 +0.3
baz=86
PLCA Paso Flores 85.37 133 P P 19 07 34.8 +1.1
comp=Z,26nm,1.1s,mb5.3,baz=228,slow=6.5,SNR=13
PLCA LR LR 19 36 59.3
comp=Z,550nm,20.2s,MS4.9,baz=198,slow=30
PLCA Paso Flores 85.37 133 P P 19 07 34.8 +1.1
PLCA pmax pmax
comp=Z,27nm,1.1s
PLCA MLR MLR
comp=Z,551nm,20.2s
F07A Phinny Hill Vi 85.53 35 ⇑P P 19 07 34.6 +0.1
baz=86
VNA1 Neumayer--Stat 85.54 176 eP P 19 07 35.4 +0.9
VNA1 e 19 07 36.8
VNA1 e pP 19 07 38.4 0.0
VNA1 e pP 19 07 40.0 +1.6
VNA1 e 19 07 50.1
M12A Wells 85.56 41 ⇑P P 19 07 34.6 -0.1
baz=86
MSU Marysvale 85.57 45 eP P 19 07 35.2 +0.5
MSU e 19 07 50.7
G08A Pilot Rock 85.66 36 P P 19 07 34.9 -0.2
baz=86,SNR=11
N13A Wendover, West 85.66 42 ⇑P P 19 07 35.2 +0.1
baz=86
DL2 Dalian 85.67 316 P P 19 07 40.6 +5.4
DL2 AMB AMB
comp=Z,20nm,1.2s,mb5.2
MAIT Maitri 85.72 182 eP P 19 07 35.8 +0.4
NVL N'lazarevskaya 85.72 182 d iP P 19 07 35.6 +0.1
NVL eS S 19 18 09.1 +1.2
NVL pmax pmax
comp=Z,34nm,1.4s,mb5.4
NVL MLR MLR
comp=Z,473nm,15.8s,MS5.0
C05A Tolt Reservoir 85.81 33 ⇑P P 19 07 35.5 -0.5
baz=86
D06A Cle Elum 85.91 34 ⇓P P 19 07 36.1 -0.3
baz=86
H09A Durkee 85.97 37 ⇓P P 19 07 36.4 -0.3
baz=86
E07A Sunnyside 86.00 35 ⇑P P 19 07 36.6 -0.3
baz=86
A04A Legoe Bay, Lum 86.01 32 ⇑P P 19 07 36.2 -0.6
baz=86
HAWA Hanford 86.06 35 eP P 19 07 36.5 -0.6
comp=Z,22nm,1.4s,mb5.2
F08A Pendleton 86.08 36 ⇑P P 19 07 36.6 -0.6
baz=86
DUG Dugway 86.13 43 ⇑P P 19 07 37.2 -0.3
baz=86
SNY Shenyang 86.16 319 ⇑P P 19 07 38.1 +0.5
SNY AMB AMB
comp=Z,14nm,0.8s,mb5.2
WHN Wuhan 86.25 306 eP P 19 07 40.0 +2.0
CN2 Changchun 86.25 321 eP P 19 07 38.8 +0.7
CN2 eXP sP 19 07 46.0 +2.6
CN2 eS S 19 18 12.4 -0.7
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.5
CN2 AMB AMB
comp=Z,200nm,6.0s

CN2 LR LR
comp=N,500nm,18.0s,MS5.1
CN2 LR LR
comp=E,500nm,18.0s,MS5.1
CN2 LR LR
comp=Z,800nm,21.0s,MS5.1
BMO Blue Mountains 86.28 37 eP P 19 07 36.8 -1.5
comp=Z,16nm,1.7s,mb5.0
BGU Big Grassy Mou 86.42 42 eP P 19 07 38.9 0.0
KLR Kul'dur 86.45 328 eP P 19 07 36.0 -3.1
B06A Marblemount 86.47 33 ⇓P P 19 07 39.0 -0.1
baz=87
KULM Kulim 86.60 277 eP P 19 07 40.6 +0.9
MNTX Cornudas Mount 86.62 53 eP P 19 07 39.8 -0.1
comp=Z,39nm,1.4s,mb5.4
C07A Waterville 86.63 34 ⇓P P 19 07 39.5 -0.5
baz=87
TMUT Trail Mountain 86.64 44 eP P 19 07 41.0 +1.0
LENM Lemitar 86.73 51 eP P 19 07 41.5 +1.1
LAZ Ladron 86.73 50 eP P 19 07 40.3 -0.1
D08A Wollman Farm, 86.81 35 ⇑P P 19 07 40.7 -0.1
baz=87
E09A Wood Farm, Sta 86.88 36 ⇓P P 19 07 40.6 -0.5
baz=87
SRU San Rafael 86.97 45 eP P 19 07 40.9 -0.8
comp=Z,20nm,1.0s,mb5.3
F10A Beach Ranch, E 87.03 36 ⇓P P 19 07 41.4 -0.5
baz=87
LPM Los Pinos Moun 87.05 51 eP P 19 07 43.2 +1.2
B07A Winthrop 87.11 33 ⇓P P 19 07 41.8 -0.5
baz=87
D09A Jones Farm, Ri 87.14 35 ⇓P P 19 07 41.0 -1.4
baz=87
HLID Hailey 87.14 40 eP P 19 07 41.5 -0.9
comp=Z,6.4nm,1.1s,mb4.8
HLID e 19 07 56.5
HLID Hailey 87.14 40 ⇑P P 19 07 42.3 -0.1
baz=87
TIA Tai'an 87.17 312 eP P 19 07 42.6 0.0
TIA AMB AMB
comp=Z,68nm,1.2s,mb5.8
C08A Higginbotham F 87.22 34 ⇓P P 19 07 42.8 0.0
baz=87
DAU Daniels Canyon 87.23 43 eP P 19 07 42.8 -0.1
MA2 Magadan 87.45 344 eP P 19 07 42.8 -1.1
MA2 19 18 15.2
MA2 eS S 19 18 19.5 -5.2
MA2 eSSS 19 27 36.9
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.5
MA2 MLR MLR
comp=Z,300nm,19.3s,MS4.7
MA2 Magadan 87.45 344 eP P 19 07 43.3 -0.6
comp=Z,18nm,0.9s,mb5.3
ANMO Albuquerque 87.50 50⇑eP P 19 07 44.2 0.0
ANMO Albuquerque 87.50 50 eP P 19 07 44.4 +0.2
comp=Z,18nm,1.2s,mb5.2
TCUT Toone Canyon 87.54 43 eP P 19 07 43.1 -1.3
PV10 Paradox Valley 87.54 46 eP P 19 07 45.7 +1.3
C09A Chrisman Ranch 87.63 35 ⇑P P 19 07 43.9 -0.9
baz=88
HWUT Hardware Ranch 87.72 42 eP P 19 07 44.0 -1.2
comp=Z,3.8nm,0.8s,mb4.7
PV01 Paradox Valley 87.72 47 eP P 19 07 45.3 0.0
B09A Rice 88.09 34 ⇑P P 19 07 46.6 -0.4
baz=88
A09A Danville 88.22 33 ⇑P P 19 07 47.6 0.0
baz=88
CMIG Matias Romero 88.37 71 P P 19 07 48.7 +0.4
comp=Z,8.1nm,0.8s,mb5.0,baz=266,slow=3.6,SNR=9.3
CMIG Matias Romero 88.37 71 P P 19 07 48.7 +0.4
A10A Northport 88.74 34 ⇑P P 19 07 49.8 -0.2
baz=89
C12A Trout Creek 89.04 36 ⇑P P 19 07 50.9 -0.6
baz=89
REDW Red Top Meadow 89.14 41 eP P 19 07 52.2 +0.3
comp=Z,12nm,1.3s,mb5.1
TPAW Teton Pass 89.15 41 eP P 19 07 52.4 +0.4
comp=Z,8.7nm,1.1s,mb5.0
KKTK Khon Kaen 89.19 288 ⇑P P 19 07 55.0 +2.8
comp=Z,370nm,0.8s
SNOW Snow King Moun 89.26 41 eP P 19 07 52.9 +0.4
comp=Z,15nm,1.1s,mb5.2
SMCO Snowmass 89.34 46 eP P 19 07 52.3 -0.6
comp=Z,8.2nm,1.0s,mb5.0
IMW Indian Meadow 89.39 41 eP P 19 07 54.4 +1.3
comp=Z,12nm,1.3s,mb5.0
LOHW Long Hollow 89.43 41 eP P 19 07 54.6 +1.3
comp=Z,5.2nm,0.9s,mb4.9
B12A Libby 89.45 35 ⇑P P 19 07 53.0 -0.4
baz=90
C13A Hot Springs 89.51 36 ⇓P P 19 07 53.6 -0.1
baz=90
MCK McKinley 89.52 11 eP P 19 07 53.1 -0.6
comp=Z,9.1nm,1.2s,mb5.0
SDCO Great Sand Dun 89.59 48 eP P 19 07 53.6 -0.5
comp=Z,14nm,1.3s,mb5.1
PDAR Pinedale Array 89.60 42 P P 19 07 53.6 -0.5
comp=Z,4.5nm,0.9s,mb4.8,baz=230,slow=2.8,SNR=28
PDAR LR LR 19 43 28.1
comp=Z,163nm,18.1s,MS4.5,baz=255,slow=32
QLMT Earthquake Lak 89.62 40 eP P 19 07 55.2 +1.0
FLWY Flagg Ranch 89.64 41 eP P 19 07 55.6 +1.3
comp=Z,15nm,1.3s,mb5.2
A12A Yaak River Ran 89.70 35 ⇓P P 19 07 54.3 -0.3
baz=90
CHMT Chamberlain Mo 89.78 37 eP P 19 07 53.9 -1.0
BJT Baijiatuau 89.81 314 eP P 19 07 55.1 0.0
comp=Z,64nm,1.5s,mb5.7
BJI Beijing 89.82 314 P P 19 07 56.1 +1.0
BJI AMB AMB
comp=Z,27nm,1.4s,mb5.4
BJI LR LR
comp=Z,339nm,25.0s,MS4.7
BJI Beijing 89.82 314 P P 19 07 56.1 +1.0
comp=Z,27nm,1.4s,mb5.4
BJI S SKSac 19 18 21.9 -3.7
BJI SS SS 19 24 40.3 -3.7
BJI LR LR
comp=Z,340nm,25.0s,MS4.7
SEY Seymchan 89.98 346 eP P 19 07 54.6 -1.3
SEY Seymchan 89.98 346 ⇓iP P 19 07 54.6 -1.3
B13A Whitefish 89.99 36 ⇑P P 19 07 55.3 -0.6
baz=90
JCT Junction City 90.23 57 eP P 19 07 56.7 -0.3
comp=Z,21nm,1.2s,mb5.3
GYA Guiyang 90.30 299⇑iP P 19 07 59.3 +2.0
GYA AP pP 19 08 01.7 +0.4
GYA XP sP 19 08 06.6 +3.9
GYA PP PP 19 11 36.7 +5.5
GYA SKS 19 18 28.4
GYA S S 19 18 52.1 +0.6
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,430nm,20.6s,MS5.0
GYA LR LR
comp=E,460nm,21.4s,MS5.0
GYA LR LR
comp=Z,440nm,21.8s,MS4.8
COLA College 90.76 11 eP P 19 07 58.0 -1.5
COLA College 90.76 11 eP P 19 07 57.1 -2.4
comp=Z,88nm,1.9s,mb5.8
GCMT Greycliff 91.19 40 eP P 19 08 01.5 0.0
NST Nakhon Sawan 91.27 286 P P 19 08 05.0 +3.1
DAWY Dawson 91.82 15 eP P 19 08 05.5 +1.1
XAN Xi'an 91.95 306 P P 19 08 05.9 +0.9
XAN AMB AMB
comp=Z,24nm,1.1s,mb5.4
EGAK Eagle 92.02 14 eP P 19 08 05.7 +0.3
comp=Z,14nm,1.1s,mb5.2
BILL Bilibino 92.40 353 eP P 19 08 05.3 -1.8
BILL eS SKSac 19 18 42.7 +2.3
BILL pmax pmax
comp=Z,33nm,1.4s,mb5.5
BILL MLR MLR
comp=Z,900nm,20.0s,MS5.2
BILL Bilibino 92.40 353 i P P 19 08 05.4 -1.7
HIA Hailar 92.65 324 eP P 19 08 08.8 +0.6
comp=Z,15nm,1.0s,mb5.4
KMI Kunming 92.92 296 P P 19 08 11.9 +2.4
KMI AP pP 19 08 14.7 +1.3
KMI XP sP 19 08 16.0 +1.2
KMI PP PP 19 11 55.9 +3.9

KMI SKS 19 18 44.0
KMI S S 19 19 14.8 -0.4
KMI AMB AMB
comp=Z,19nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,83nm,3.1s
KMI LR LR
comp=N,162nm,11.9s,MS4.8
KMI LR LR
comp=E,193nm,15.4s,MS4.8
KMI LR LR
comp=Z,342nm,14.7s,MS4.9
KMI Kunming 92.92 296 P **P 19 08 11.9 +2.4**
comp=Z,19nm,0.9s,mb5.5
KMI pP pP 19 08 14.7 +1.3
KMI sP sP 19 08 16.0 +1.2
KMI PP PP 19 11 55.9 +3.9
KMI SKS 19 18 44.0
KMI S S 19 19 14.8 -0.4
KMI sS sS 19 19 19.2 -2.5
KMI PS PS 19 20 30.6 +2.4
KMI SS SS 19 25 31.0 +2.2
KMI SSS 19 29 09.0
KMI LR LR
comp=Z,340nm,14.7s,MS4.9
WMOK Wichita Mounta 92.92 53 *e*P **P 19 08 09.3 -0.2**
comp=Z,6.0nm,1.1s,mb4.9
WMOK *e* 19 08 24.1
HHC Hu-ho-hao-te 93.27 313 *e*P **P 19 08 11.9 +0.8**
HHC AP pP 19 08 16.4 +1.4
HHC XP sP 19 08 19.7 +3.3
HHC PP PP 19 11 58.2 +3.5
HHC SKS 19 18 44.3
HHC S S 19 19 15.2 -3.1
HHC SS SS 19 25 37.6 +3.8
HHC AMB AMB
comp=Z,16nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,245nm,5.7s
HHC LR LR
comp=N,234nm,9.4s
HHC LR LR
comp=E,377nm,16.3s
HHC LR LR
comp=Z,444nm,22.8s
CHG Chiang Mai 93.57 289 ⇑P **P 19 08 15.0 +2.5**
comp=Z,34nm,0.9s,mb5.8
CHTO Chiang Mai 93.57 289 *e*P **P 19 08 13.7 +1.1**
comp=Z,22nm,0.8s,mb5.6
ATAH Atahualpa 93.58 99 P **P 19 08 15.7 +3.1**
comp=Z,9.6nm,1.1s,mb5.1,baz=260,slow=6.4,SNR=8.2
LAO LASA Array 93.70 40 *e*P **P 19 08 13.0 -0.1**
comp=Z,19nm,1.0s,mb5.5
LAO *e* 19 08 28.2
RSSD Black Hills 93.74 43 *e*P **P 19 08 11.8 -1.5**
comp=Z,14nm,1.0s,mb5.4
CD2 Chengdu 94.51 302 *e*P **P 19 08 16.6 -0.2**
CD2 AP pP 19 08 21.1 +0.4
CD2 XP sP 19 08 24.0 +1.9
CD2 PP PP 19 12 06.6 +2.2
CD2 SKS 19 18 49.7
CD2 S S 19 19 25.9 -3.2
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,40nm,6.8s
CD2 LR LR
comp=N,170nm,21.6s,MS4.7
CD2 LR LR
comp=E,230nm,19.2s,MS4.7
CD2 LR LR
comp=Z,180nm,21.6s,MS4.5
LVC Limon Verde 95.04 117 P **P 19 08 21.1 +1.9**
comp=Z,6.8nm,0.8s,mb5.1,baz=180,slow=2.0,SNR=6.4
LVC Limon Verde 95.04 117 *e*P **P 19 08 20.7 +1.5**
comp=Z,39nm,1.6s,mb5.6
YAK Yakutsk 95.92 337⇓*e*P **P 19 08 21.1 -2.2**
LZH Lanzhou 96.59 306 *e*P **P 19 08 27.7 +1.4**
LZH AP pP 19 08 30.8 +0.6
LZH XP sP 19 08 32.5 +0.9
LZH PP PP 19 12 24.8 +4.3
LZH *e*SKS 19 19 03.5
LZH *e*S S 19 19 44.0 -3.2
LZH SS SS 19 26 23.2 +2.2
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,106nm,4.3s
LZH LR LR
comp=N,742nm,17.3s
LZH LR LR
comp=Z,890nm,18.4s,MS5.3
LZH Lanzhou 96.59 306 *e*P **P 19 08 27.7 +1.4**
comp=Z,23nm,1.0s,mb5.6
LZH pP pP 19 08 30.8 +0.6
LZH sP sP 19 08 32.5 +0.9
LZH PP PP 19 12 24.8 +4.3
LZH *e*SKS 19 19 03.5
LZH *e*S S 19 19 44.0 -3.2
LZH sS sS 19 19 51.1 -2.6
LZH SS SS 19 26 23.2 +2.2
LZH LR LR
comp=Z,890nm,18.4s,MS5.3
YKA Yellowknife Ar 98.34 24 PKKPbc PKKPbc 19 25 05.0 +0.1
comp=Z,0.7nm,0.9s,baz=14,slow=3.4,SNR=3.8
YKA LR LR 19 51 11.9
comp=Z,312nm,18.2s,MS4.8,baz=240,slow=34
LPAZ La Paz 98.63 112 LR LR 19 46 53.5
comp=Z,231nm,18.6s,MS4.7,baz=198,slow=32
SONM Songino Array 99.70 318 P Pdif 19 08 40.3 0.0
comp=Z,1.2nm,1.0s,baz=89,slow=2.8,SNR=4.3
SONM PP PP 19 12 41.1 -3.3
comp=Z,1.4nm,1.2s,baz=110,slow=12,SNR=3.2
SONM PKKPbc PKKPbc 19 25 00.3 -0.8
comp=Z,0.8nm,1.0s,baz=204,slow=3.3,SNR=3.6
SONM LR LR 19 55 32.6
comp=Z,230nm,18.4s,MS4.7,baz=94,slow=37
GTA Gaotai 100.82 308 *e*P Pdif 19 08 48.6 +3.3
GTA AP 19 08 52.3
GTA XP 19 08 55.6
GTA PP PP 19 12 54.9 +2.0
GTA SKS 19 19 25.8
GTA S Sdif 19 20 18.2 -4.8
GTA AMB AMB
comp=Z,4.0nm,0.9s
GTA AMB AMB
comp=Z,95nm,5.3s
GTA LR LR
comp=N,197nm,20.9s,MS4.8
GTA LR LR
comp=E,209nm,18.3s,MS4.8
GTA LR LR
comp=Z,304nm,20.5s,MS4.8
ZAK Zakamensk 102.58 320 *e*P Pdif 19 08 51.9 -1.2
ZAK pmax pmax
comp=Z,1.0nm,1.5s
WMQ Urumqi 110.80 310 *e*PKP PKiKP 19 13 29.0 -0.4
WMQ PP PP 19 14 10.0 +3.4
WMQ PPP 19 16 30.0
WMQ PKS 19 17 05.0
WMQ SKS SKSdf 19 20 35.0 -6.3
WMQ SKKS SKKSac 19 21 00.0 -10
WMQ PP PP
comp=Z,215nm,6.6s
WMQ LR LR
comp=N,500nm,13.0s,MS5.4
WMQ LR LR
comp=E,520nm,14.6s,MS5.4
WMQ LR LR
comp=Z,744nm,23.2s
ZAL Zalesovo 114.46 320 PKP PKiKP 19 13 35.1 -1.3
comp=Z,1.0nm,0.7s,baz=248,slow=4.5,SNR=5.8
ZAL Zalesovo 114.46 320 PKIKP PKiKP 19 13 35.1 -1.3
ZAL pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 115.10 312 PKP PKiKP 19 13 36.6 -1.0
comp=Z,2.4nm,0.9s,baz=58,slow=2.0,SNR=13
MKAR PKKPbc PKKPbc 19 24 13.6 +0.7
comp=Z,1.2nm,0.8s,baz=262,slow=3.7,SNR=4.5
MKAR Makanchi Array 115.10 312 PKIKP PKiKP 19 13 36.7 -0.9
MKAR 19 24 13.6
MKAR pmax pmax
comp=Z,2.0nm,0.9s
KSH Kashi 118.65 303 *e*PKP PKPdf 19 13 36.2 -8.3
KSH PP PP
comp=Z,444nm,4.9s
KSH LR LR
comp=N,640nm,5.0s
KSH LR LR
comp=E,515nm,5.1s
KSH LR LR
comp=Z,652nm,5.5s
AAK Ala-Archa 120.13 307⇑*i*PKIKP PKPdf 19 13 45.8 -1.5
AAK Ala-Archa 120.13 307 *e*PKPdf PKPdf 19 13 46.1 -1.2
CHKZ Chkalovo 122.85 320 *e*PKPdf PKPdf 19 13 50.4 -2.2
BVAR Borovoye Array 123.03 319 PKP PKPdf 19 13 51.5 -1.4
comp=Z,7.8nm,0.9s,baz=90,slow=1.9,SNR=5.7
BVAR Borovoye Array 123.03 319 PKIKP PKPdf 19 13 51.5 -1.4
BVAR pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 123.09 319 *e*PKPdf PKPdf 19 13 51.9 -1.1
ZRNK Zerenda 123.87 319 *e*PKPdf PKPdf 19 13 52.9 -1.6
BOSA Boshof 124.38 202 PKP PKPdf 19 13 55.5 0.0
comp=Z,15nm,1.0s,baz=156,slow=3.4,SNR=8.0
BOSA Boshof 124.38 202 PKIKP PKPdf 19 13 55.5 0.0
BOSA pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof 124.38 202 *e*PKPdf PKPdf 19 13 57.0 +1.5
ARU Arti 129.15 325 *i*PKIKP PKPdf 19 14 03.8 -0.8
ARU *e* 19 16 11.4
ARU *e* 19 21 08.1
ARU *e*SS SS 19 33 28.6 -3.9
ARU Arti 129.15 325 *e*PKPdf PKPdf 19 14 03.5 -1.1
AKTK Aktyubinsk 131.01 317 PKP PKPdf 19 14 07.6 -0.5
AKTO Aktyubinsk 131.01 317 PKP PKPdf 19 14 07.6 -0.5
comp=Z,3.1nm,0.8s,baz=4.3,slow=2.2,SNR=4.0
AKTO Aktyubinsk 131.01 317 PKIKP PKPdf 19 14 07.6 -0.5
AKTO pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 132.42 350 PKP PKPdf 19 14 09.5 -1.3
comp=Z,2.3nm,0.5s,baz=16,slow=0.7,SNR=14
ARCES ARCESS Array B 132.42 350 PKIKP PKPdf 19 14 09.5 -1.3
ARCES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 139.44 344 PKhKP 19 14 15.3
comp=Z,4.1nm,1.1s,baz=56,slow=4.8,SNR=5.6
FINES FINESS Array B 139.44 344 PKHKP 19 14 15.4
FINES pmax pmax
comp=Z,4.0nm,1.1s
OBN Obninsk 140.66 331 *i*PKIKP PKPdf 19 14 25.8 -0.2
OBN pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 140.66 331⇓*e*PKP PKPdf 19 14 25.9 -0.1
NB2 NORSAR Subarra 142.34 355 PKP 19 14 23.8
comp=Z,1.4nm,0.7s,baz=21,slow=2.9
NOA NORSAR Array B 142.34 355 PKhKP 19 14 24.1
comp=Z,2.6nm,0.8s,baz=16,slow=4.4,SNR=5.7
NOA NORSAR Array B 142.34 355 PKHKP 19 14 24.1
NOA pmax pmax
comp=Z,3.0nm,0.8s
ZEI Tsey 142.42 310 *e*PKHKP 19 14 26.7
GNI Garni 142.52 306⇑*e*PKP PKPdf 19 14 30.4 +1.0
HFS Hagfors 142.98 352 PKhKP 19 14 24.8
comp=Z,3.4nm,0.7s,baz=57,slow=5.5,SNR=9.3
HFS Hagfors 142.98 352 PKHKP 19 14 24.8
HFS pmax pmax
comp=Z,3.0nm,0.7s
SEMD Semdilli 143.28 301 *e*P 19 14 25.0
BHD Baghdad 143.93 294 *e*x x 19 14 25.0
CUKT Cukurca 144.01 301 *e*P PKPdf 19 14 28.5 -3.5
BCA Borcka 144.44 309 *i*P PKPdf 19 14 30.7 -2.0
SIRT Sirnak 144.87 302 *e*P PKPdf 19 14 29.8 -3.7
ERZM Erzurum 145.09 306 *i*P PKPbc 19 14 34.1 +0.8
EZM Erzurum 145.09 306 *e*P PKPbc 19 14 34.2 +0.9
BTMT Batman 145.45 304 *e*P PKPdf 19 14 35.3 +0.8
BNGL BINGOL 145.51 305 *i*P PKPdf 19 14 35.5 +0.9
BEST Besiri 145.69 303 *i*P PKPdf 19 14 35.7 +0.8
ANN Anapa 145.97 316 *i*PKP2 PKPab 19 14 36.3 -0.3
ANN pmax pmax
comp=Z,53nm,1.0s
MARD Mardin 146.20 302 *i*P PKPdf 19 14 31.2 -4.5
EZC Erzincan 146.28 307 *e*P PKPdf 19 14 38.8 +2.9
KELT Kelkit 146.56 308 *i*P PKPdf 19 14 30.3 -6.1
SUW Suwalki 146.61 340 *e*PKP PKPdf 19 14 37.9 +1.5
PTK Pertek 146.84 306 *e*P PKPdf 19 14 38.1 +1.2
AKASG Malin Array Be 146.92 331 PKPbc PKPbc 19 14 37.5 -1.4
comp=Z,66nm,1.2s,baz=40,slow=4.0,SNR=45
AKASG Malin Array Be 146.92 331 PKHKP PKPbc 19 14 37.5 -1.4
AKASG pmax pmax
comp=Z,67nm,1.2s
AKASG Malin Array Be 146.92 331 PKPbc PKPbc 19 14 37.5 -1.4
AKBB Malin Array Si 146.92 331 *e*PKPdf PKPdf 19 14 36.5 -0.5
GRSN GIRESUNGRSN 147.00 310 *i*P PKPdf 19 14 38.0 +1.0
MUD Monsted U'grnd 147.05 355 *i*P PKPdf 19 14 38.8 +1.6
comp=Z,33nm,0.8s
MUD Monsted U'grnd 147.05 355 *i*PKHKP PKPdf 19 14 38.8 +1.6
MUD pmax pmax
comp=Z,33nm,0.8s
ELZG Elazig 147.26 305 *i*P PKPbc 19 14 41.1 +1.2
BSD Bornholm Skovb 147.64 349 *i*P PKPdf 19 14 39.8 +1.6
comp=Z,39nm,0.9s
BSD Bornholm Skovb 147.64 349 *e*PKHKP PKPdf 19 14 39.8 +1.6
BSD pmax pmax
comp=Z,39nm,0.9s
URFA Urfa 147.68 303 *e*P PKPbc 19 14 41.1 +0.1
MALT Malatya 147.74 305⇓*i*P PKPbc 19 14 42.3 +1.1
MALT Malatya 147.74 305⇓PKP2 PKPbc 19 14 42.4 +1.2
MALT Malatya 147.74 305 *e*PKPdf PKPdf 19 14 38.8 +0.5
MALT *e*PKPbc PKPbc 19 14 42.4 +1.3
EKA Eskdalemuir Ar 147.82 8 PKPbc PKPdf 19 14 39.0 +0.5
comp=Z,11nm,0.9s,baz=321,slow=2.2,SNR=13
EKA Eskdalemuir Ar 147.82 8 PKHKP PKPdf 19 14 39.0 +0.5
EKA pmax pmax
comp=Z,11nm,0.9s
SIM Simferopol' 147.94 319*c* *i*PKP2 PKPab 19 14 48.0 +3.7
SIM pmax pmax
comp=Z,33nm,0.9s
ATAB Bozova 148.08 303 *i*P PKPbc 19 14 43.4 +1.3
SVSK Karacayir 148.26 308 *e*P PKPdf 19 14 40.1 +0.9
KVT Kavak 148.49 311 *e*P PKPbc 19 14 44.2 +1.0
GZT Gaziantep 148.67 304 *i*P PKPdf 19 14 40.6 +0.7
DIKM Dikmen 148.79 313 *e*P PKPdf 19 14 41.7 +1.6
GKP Gorka Klasztor 148.90 345 *e*PKP PKPbc 19 14 44.7 +0.5
GAZ Gaziantep 148.99 303 *e*P PKPbc 19 14 45.0 +0.6
KMRS Kahramanmaras 149.13 304 *e*P PKPbc 19 14 45.9 +1.1
BOYT Boyabat 149.13 312 *i*P PKPbc 19 14 44.9 +0.1
BSEG Bad Segeberg 149.44 353 *e*PKPbc PKPbc 19 14 45.0 -0.5
BNN Bunyan 149.48 307 *e*P PKPbc 19 14 45.4 -0.2
CTKT Corum 149.55 311 *i*P PKPbc 19 14 46.6 +0.8
KIS Kishinev 149.68 326 *e*PKP 19 14 57.0
LVV L'vov 149.77 335 *e*PKHKP PKPbc 19 14 46.1 -0.3
COBT Iskenderun 149.91 303 *i*P PKPbc 19 14 47.1 +0.4
KOZT Kozan 149.95 305 P PKPdf 19 14 41.6 -0.3
BALT Daday 150.10 314 *i*P PKPbc 19 14 46.9 -0.3
HTY Hatay 150.11 302 *e*P PKPbc 19 14 47.6 +0.4
CEYT Ceyhan 150.16 304 *e*P PKPbc 19 14 46.6 -0.7
RUE Ruedersdorf 150.36 349 *e*PKPbc PKPbc 19 14 47.2 -0.6
RUE Ruedersdorf 150.36 349 *e*PKPbc PKPbc 19 14 47.8 0.0
KWP Kalwaria 150.43 336 *e*PKP PKPbc 19 14 47.7 -0.2
ELDT Eldivan 150.55 312 *i*P PKPbc 19 14 49.0 +0.8
KARA Karaisali 150.60 305 *e*P PKPbc 19 14 46.5 -1.8
BR131 Keskin Array S 150.72 310 *e*PKPbc PKPbc 19 14 47.9 -0.8
BRTR Keskin Array B 150.72 310 PKPbc PKPbc 19 14 48.4 -0.3
comp=Z,11nm,0.9s,baz=134,slow=2.5,SNR=25
BRTR Keskin Array B 150.72 310 PKHKP PKPbc 19 14 48.4 -0.3
BRTR pmax pmax
comp=Z,11nm,0.9s
WIT Witteveen 150.82 357 *e*PKP PKPbc 19 14 49.8 +0.9
comp=Z,310nm,1.1s
NRDL Niedersach Rie 150.88 353 *e*PKPbc PKPbc 19 14 48.2 -0.8
OJC Ojcow 150.94 340 *e*PKP PKPbc 19 14 48.9 -0.3
BURAR Bucovina Array 150.97 331⇓*i*P PKPbc 19 14 50.3 +1.1
BURAR Bucovina Array 150.97 331⇓P PKPbc 19 14 50.3 +1.1
BHL Bhannes 151.04 298 *e*P PKPbc 19 14 49.8 +0.4
STHS Stebnicka Huta 151.14 337 *e*PKP PKPbc 19 14 49.5 -0.1
KOLS Kolonicke sedl 151.16 336 *e*PKP PKPbc 19 14 49.5 -0.2
CFR Carcaliu 151.24 324 PKIKP PKPdf 19 14 45.2 +1.3
ANTO Ankara 151.25 311⇓*i*P PKPdf 19 14 47.6 +3.7
ANTO Ankara 151.25 311 *e*PKPbc PKPbc 19 14 49.8 -0.1
IBBN Ibbenburen 151.27 356 *e*PKPbc PKPbc 19 14 49.5 -0.4
KSP Ksiaz 151.37 344 *e*PKP PKPbc 19 14 50.7 +0.5
KSP Ksiaz 151.37 344 *e*PKP PKPbc 19 14 49.5 -0.7
KSP *e* 19 15 04.8
UZH Uzhgorod 151.40 335⇓*i*PKIKP PKPbc 19 14 50.2 0.0
UZH *i* 19 15 05.0
UZH pmax pmax
comp=Z,85nm,1.0s
SGKT Sivrigoynuk 151.44 313 *i*P PKPbc 19 14 49.3 -1.1
NIE Niedzica 151.46 338 *e*PKP PKPbc 19 14 50.7 +0.3
CRVS Cervenica-Dubn 151.49 336 *e*PKP PKPbc 19 14 50.4 0.0
CLZ Clausthal 151.49 353 *e*PKPbc PKPbc 19 14 50.1 -0.3
MEST Erdemli 151.51 304 *i*P PKPbc 19 14 50.0 -0.4
VRI Vrincioaia 151.51 327⇑*i*P PKPbc 19 14 50.6 +0.1
VRI Vrincioaia 151.51 327⇑P PKPbc 19 14 50.6 +0.1
CLL Collm 151.62 349 *e*PKPbc PKPbc 19 14 50.1 -0.6
CLL Collm 151.62 349 *e*PKIKP PKPdf 19 14 44.0 -0.5
CLL *i* 19 14 50.2
CLL pmax pmax
comp=Z,26nm,1.6s
CLL pmax pmax
comp=Z,54nm,1.0s
CLL Collm 151.62 349 *e*PKP PKPdf 19 14 44.0 -0.5
CLL *i*PKP PKPbc 19 14 50.2 -0.5
CLL Collm 151.62 349 *e*PKPdf PKPdf 19 14 44.0 -0.5
comp=Z,26nm,1.6s
CLL *i*PKPbc PKPbc 19 14 50.2 -0.5
comp=Z,54nm,1.0s
CLL *i*sPKPab 19 15 03.0
CLL *e*x x 19 15 15.0
HARR Harsova 151.66 324 PKIKP PKPdf 19 14 45.2 +0.6
WTSB Winterswijk 151.66 357 *e*PKP PKPbc 19 14 50.2 -0.6
comp=Z,38nm,0.9s
UPC Upice 151.75 345 *e*PKPDF PKPdf 19 14 45.1 +0.4
UPC ⇑*e*PKP PKPbc 19 14 50.6 -0.4
OKC Ostrava-Krasne 151.78 341⇑*e*PKP PKPbc 19 14 50.9 -0.2
OKC *e*PKPAB PKPab 19 15 01.2 +1.2
DPC Dobruska-Polom 151.81 344 *e*PKPDF PKPdf 19 14 45.0 +0.2
DPC ⇑*e*PKP PKPbc 19 14 51.2 0.0
DPC *e*PKPAB PKPab 19 15 03.3 +3.1
BRG Berggiesshubel 151.86 347 *e*PKPbc PKPbc 19 14 50.8 -0.5
BRG Berggiesshubel 151.86 347 *e*PKP PKPdf 19 14 45.1 +0.2
comp=Z,12nm,1.4s
BRG Berggiesshubel 151.86 347 *i*PKP PKPbc 19 14 51.1 -0.2
comp=Z,23nm,0.9s
BRG *e* 19 18 24.6
comp=Z,5.8nm,1.4s
BRG Berggiesshubel 151.86 347 *e*PKIKP PKPdf 19 14 45.1 +0.2
BRG *i* 19 14 51.1
BRG pmax pmax
comp=Z,12nm,1.4s
BRG Berggiesshubel 151.86 347 *e*PKP PKPdf 19 14 45.1 +0.2
BRG *i*PKP PKPbc 19 14 51.1 -0.2
BRG *e* 19 18 24.6
FBE Freiberg 151.93 348 *e*PKPbc PKPbc 19 14 51.2 -0.2
MORC Moravsky Berou 152.01 342⇑*i*P PKPbc 19 14 51.9 +0.3
MORC Moravsky Berou 152.01 342 PKIKP PKPbc 19 14 51.6 0.0
MORC Moravsky Berou 152.01 342 *e*PKPbc PKPbc 19 14 51.2 -0.4
PVCC Panska Ves 152.06 346⇑*e*PKP PKPbc 19 14 51.2 -0.5
PVCC *e*PKPAB PKPab 19 15 03.2 +2.0
BUG Bochum--Univer 152.17 356 *e*PKPbc PKPbc 19 14 51.2 -0.8
MLR Muntele Rosu 152.17 327 PKPbc PKPbc 19 14 51.3 -0.7
comp=Z,16nm,1.0s,baz=51,slow=1.2,SNR=15
MLR Muntele Rosu 152.17 327⇓*i*P PKPbc 19 14 52.7 +0.7
MLR Muntele Rosu 152.17 327 PKIKP PKPbc 19 14 51.3 -0.7
MLR pmax pmax
comp=Z,16nm,1.0s
MLR Muntele Rosu 152.17 327 P PKPbc 19 14 52.7 +0.7
KECS Kecovo 152.20 337 *e*PKP PKPbc 19 14 52.9 +0.9
EIL Elat 152.28 289 *e*PKPbc PKPbc 19 14 53.0 +0.7
ERMK Ermenek 152.43 305 *i*P PKPdf 19 14 41.8 -3.9
MOX Moxa 152.49 350 *e*PKPbc PKPbc 19 14 52.1 -0.6
MOX Moxa 152.49 350 *e*PKP PKPbc 19 14 52.2 -0.5
comp=Z,25nm,1.5s
MOX Moxa 152.49 350 *e*PKIKP PKPbc 19 14 52.2 -0.5
MOX pmax pmax
comp=Z,46nm,1.5s
PRU Pruhonice 152.57 346 *e*PKPDF PKPdf 19 14 45.5 -0.4
PRU ⇑*e*PKP PKPbc 19 14 52.3 -0.6
PRU *e*PKPAB PKPab 19 15 06.6 +3.3
PRU AMS AMS 20 23 20.0
comp=Z,500nm,15.8s
WERD Werda 152.57 349 *e*PKPbc PKPbc 19 14 52.4 -0.5
TANN Tannenbergstha 152.58 349 *e*PKPbc PKPbc 19 14 52.5 -0.4
CSS Prodhromos 152.63 301 *e*PKPbc PKPbc 19 14 52.6 -0.4
VOIR 152.65 328⇑*i*P PKPbc 19 14 53.0 -0.1
VOIR 152.65 328⇑P PKPbc 19 14 53.0 0.0
GUNZ Gunzen 152.65 349 *e*PKPbc PKPbc 19 14 52.8 -0.3
VRAC Vranov 152.70 343 PKPbc PKPbc 19 14 53.3 +0.1
comp=Z,8.0nm,1.0s,baz=4.5,slow=2.0,SNR=7.4
VRAC Vranov 152.70 343⇓*i*P PKPbc 19 14 53.2 0.0
VRAC Vranov 152.70 343⇓P PKPbc 19 14 53.2 0.0
DRGR 152.70 332⇓*i*P PKPbc 19 14 52.5 -0.7
DRGR 152.70 332 P PKPbc 19 14 52.2 -1.0
WERN Wernitzgruen 152.72 349 *e*PKPbc PKPbc 19 14 53.0 -0.2
VYHS Vyhne 152.75 339 *e*PKP PKPbc 19 14 53.1 -0.2
VYHS *e*PP PP 19 18 34.4 -2.4
NKC Novy Kostel 152.75 349⇑*e*PKP PKPbc 19 14 53.0 -0.3
NKC *e*PKPAB PKPab 19 15 06.7 +2.6
UCC Uccle 152.88 0 APKPab 19 15 08.1
PSZ Piszkesteto 152.89 337⇓*e*PKP pPKPdf 19 14 53.7 +3.3
PSZ Piszkesteto 152.89 337 *e*PKPdf PKPdf 19 14 47.5 +1.1
PSZ *e*PKPbc PKPbc 19 14 53.2 -0.4
HGN Heimansgroeve 152.90 358 *e*PKP PKPbc 19 14 53.8 +0.2
comp=Z,13nm,1.2s
TREC Trest 153.00 344⇑*e*PKP PKPbc 19 14 53.3 -0.5
TREC *e*PKPAB PKPab 19 15 05.5 +0.4
MANZ Manzenberg 153.05 349 *e*PKPbc PKPbc 19 14 53.7 -0.2
MEM Membach 153.05 358 PKPbc PKPbc 19 14 54.0 0.0
MEM APKPab 19 15 08.3
ROTZ Rotzenmuhle 153.25 349 *e*PKPbc PKPbc 19 14 54.1 -0.3
BCLA Clavier 153.26 359 PKPbc PKPbc 19 14 54.1 -0.3
BCLA APKPbc 19 15 01.9
BCLA APKPab 19 15 10.2
GRA1 Grafenberg Arr 153.48 350 *e*PKPbc PKPbc 19 14 53.3 -1.6
GRA1 LR LR
comp=Z,300nm,21.7s,MS5.1
GRF Grafenberg Arr 153.48 350 *e*PKPbc PKPbc 19 14 53.3 -1.6
GRF *e*L 20 20 45.6
comp=Z,272nm,21.7s
GRFO Grafenberg 153.48 350 *e*PKPbc PKPbc 19 14 53.3 -1.6
GIVF Givet 153.58 360 *e*PKIKP PKPdf 19 14 46.7 -0.7
DOU Dourbes 153.59 0 PKPbc PKPbc 19 14 55.3 +0.2
DOU APKPbc 19 14 59.9
KHC Kasperske Hory 153.59 347 *e*PKPDF PKPdf 19 14 46.6 -0.8
KHC ⇑*e*PKP PKPbc 19 14 54.7 -0.4
KHC *e*PKPAB PKPab 19 15 09.0 +1.4
KHC AMS AMS 20 26 20.0
comp=Z,500nm,16.9s
BAIF Baives 153.62 1 *e*PKIKP PKPdf 19 14 46.7 -0.7
GEC2 GERESS Array S 153.84 346 *e*PKPbc PKPbc 19 14 55.1 -0.6
GEC2 GERESS Array S 153.84 346 PKPdf PKPdf 19 14 47.3 -0.5
GEC2 *e*PKPbc PKPbc 19 14 55.1 -0.6
GEC2 *e*PKPbc PKPbc 19 14 55.4 -0.3
GERES GERESS Array B 153.84 346 PKP PKPdf 19 14 47.5 -0.2
comp=Z,1.7nm,1.0s,baz=304,slow=0.5,SNR=8.9
GERES PKPbc PKPbc 19 14 55.2 -0.5
comp=Z,6.7nm,1.0s,baz=42,slow=2.2,SNR=20
GERES GERESS Array B 153.84 346 PKIKP PKPdf 19 14 47.5 -0.2
GERES 19 14 55.2
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES pmax pmax
comp=Z,7.0nm,1.0s
WLF Walferdange 153.99 358 *e*PKPbc PKPbc 19 14 56.6 +0.6
WLF Walferdange 153.99 358 PKPbc PKPbc 19 14 56.7 +0.7
BZS Buzias 154.10 332⇑*i*P PKPdf 19 14 47.8 -0.3
BZS Buzias 154.10 332⇑P PKPdf 19 14 47.8 -0.3
SOP Sopron 154.18 341⇓*e*sPKP/p PKPbc 19 14 56.3 -0.1
PKSM Moragy 154.79 337⇑*i*P PKPdf 19 14 48.9 -0.2
PKSM Moragy 154.79 337⇑P PKPdf 19 14 48.9 -0.2
ARSA Arzberg 154.87 342⇓*i*P PKPdf 19 14 49.0 -0.2
comp=Z,8.0nm,1.3s
MEZF Maizieres J'vi 155.18 359 *e*PKIKP PKPdf 19 14 49.2 -0.4
HAU Haudompre 155.64 357 *e*PKIKP PKPdf 19 14 49.5 -0.7
HAU *e*MLR MLR
comp=Z,331nm,23.0s
HAU Haudompre 155.64 357 *e*PKPdf PKPdf 19 14 49.5 -0.7
HAU LR LR
comp=Z,330nm,23.0s,MS5.1
HINF Hinteralfeld 155.80 356 *e*PKIKP PKPdf 19 14 49.5 -1.0
LOR Lormes 156.41 1 *e*PKIKP PKPdf 19 14 50.6 -0.7
comp=Z,30nm,1.4s
LOR *e*MLR MLR
comp=Z,404nm,18.0s
LOR Lormes 156.41 1 *e*PKPdf PKPdf 19 14 50.6 -0.7
LOR LR LR
comp=Z,400nm,18.0s,MS5.3
DAVOX Davos/Dischmat 156.52 351 PKP PKPdf 19 14 52.1 +0.7
comp=Z,4.6nm,0.9s,baz=29,slow=10
SSF Saint Saulge 156.61 2 *e*PKIKP PKPdf 19 14 50.9 -0.6

SMF	**Signal de Mont**	157.03	1	*e*PKIKP	PKPdf	19 14 51.3	-0.8
	comp=Z,25nm,1.3s						
CABF	**La Chapelle**	157.04	357	*e*PKIKP	PKPdf	19 14 52.0	-0.1
	comp=Z,39nm,1.3s						
SANT	**Santorini**	158.00	310	*e*PKPab	PKPab	19 15 26.1	-0.4
LPG	**La Plagne**	158.12	356	*e*PKIKP	PKPdf	19 14 53.4	0.0
RJF	**Les Rejaudoux**	158.23	6	*e*PKIKP	PKPdf	19 14 52.9	-0.6
RJF				*e*MLR	MLR		
	comp=Z,357nm,22.5s						
RJF	**Les Rejaudoux**	158.23	6	*e*PKPdf	PKPdf	19 14 52.9	-0.6
RJF				LR	LR		
	comp=Z,360nm,22.5s,MS5.2						
LFF	**La Frestale**	158.51	8	*e*PKIKP	PKPdf	19 14 53.0	-0.9
CAF	**Calviac**	158.66	5	*e*PKIKP	PKPdf	19 14 53.7	-0.4
	comp=Z,23nm,1.2s						
ORIF	**Oris-en-Rattie**	158.74	358	*e*PKIKP	PKPdf	19 14 53.7	-0.5
ORIF				*e*MLR	MLR		
	comp=Z,377nm,22.5s						
MBDF	**Montbardon**	158.89	356	*e*PKIKP	PKPdf	19 14 53.8	-0.5
PCAB	**Cabril**	159.11	27	*e*PKPdf	PKPdf	19 14 55.6	+1.0
PVRL	**Vila Real**	159.60	28	*e*PKPdf	PKPdf	19 14 55.9	+0.7
SMRF	**Simiane la Rot**	159.69	358	*e*PKIKP	PKPdf	19 14 54.9	-0.4
PVIS	**Viseu**	159.98	29	*e*PKPdf	PKPdf	19 14 56.0	+0.4
FRF	**La Foret Royal**	160.06	356	*e*PKIKP	PKPdf	19 14 54.9	-0.8
MTLF	**Montolieu**	160.24	5	*e*PKIKP	PKPdf	19 14 55.4	-0.5
	comp=Z,15nm,1.2s						
LMR	**La Mourre**	160.29	356	*e*PKIKP	PKPdf	19 14 55.2	-0.7
ETSF	**Etsaut**	160.31	11	*e*PKIKP	PKPdf	19 14 56.3	+0.3
	comp=Z,13nm,1.0s						
MTE	**Manteigas**	160.39	29	*e*PKPdf	PKPdf	19 14 56.8	+0.8
MTE	**Manteigas**	160.39	29	*e*LR	LR	20 18 42.8	
	comp=Z,324nm,23.1s						
PTOM	**Tomar**	160.62	32	*e*PKPdf	PKPdf	19 14 57.0	+0.7
DBIC	**Dimbokro**	160.83	150	PKP	PKPdf	19 14 57.0	+0.5
	comp=Z,5.5nm,0.9s,baz=241,slow=1.8,SNR=4.3						
DBIC				PKPab	PKPab	19 15 38.8	0.0
	comp=Z,8.6nm,0.9s,baz=184,slow=3.5,SNR=4.5						
PCBR	**Castelo Branco**	160.88	30	*e*PKPdf	PKPdf	19 14 57.6	+1.0
PESTR	**Estremoz**	161.60	32	*e*PKPdf	PKPdf	19 14 58.5	+1.2
PESTR	**Estremoz**	161.60	32	*e*LR	LR	20 19 13.6	
EVO	**Evora**	161.65	33	*e*PKIKP	PKPdf	19 14 56.4	-1.0
	comp=Z,31nm,1.1s						
EVO				*e*MLR	MLR		
	comp=Z,446nm,20.2s						
PTEO	**Sao Teotonio**	162.02	36	*e*PKPdf	PKPdf	19 14 58.7	+0.9
PBEJ	**Beja**	162.12	34	*e*PKPdf	PKPdf	19 14 58.8	+0.9
PBEJ				*i* P		19 15 13.8	
ESDC	**Sonseca Array**	162.43	22	PKP	PKPdf	19 14 58.6	+0.4
	comp=Z,2.8nm,0.9s,baz=357,slow=2.9,SNR=16						
KEST	**Kesra**	167.27	342	PKPab	PKPab	19 16 05.3	-1.8
	comp=Z,2.3nm,1.0s,baz=288,slow=3.2,SNR=2.3						
MDT	**Midelt**	167.76	40	PKP	PKPdf	19 15 04.3	+1.5
	comp=Z,6.5nm,0.9s,baz=38,slow=1.1,SNR=20						
TOA0	**Torodi Ar. Sit**	169.21	165	*e*PKPdf	PKPdf	19 15 03.8	+0.1
TOA0				*e*		19 15 18.0	
TORD	**Torodi Ar. Bea**	169.21	165	PKP	PKPdf	19 15 04.2	+0.6
	comp=Z,5.9nm,1.0s,baz=334,slow=0.9,SNR=22						
TORD				PKPab	PKPab	19 16 16.8	+1.1
	comp=Z,13nm,1.1s,baz=179,slow=3.3,SNR=20						
TORD				PP	PP	19 20 02.8	-2.3
	comp=Z,2.1nm,1.0s,baz=223,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	169.21	165	PKP	PKPdf	19 15 04.2	+0.5
TORD				PKPab	PKPab	19 16 16.8	+1.1
TORD				PP	PP	19 20 02.8	-2.3

NEIC ***08*** *19:07:42.1±0.8, 1559S×7103W, h10km, mb4.4/1, Error ellipse: s-maj=14.3km s-min=11.7km az=115.0*
ISCJB ***08*** *19:07:45.9±1.3, 1564S±009×7072W±008, h48km±18km, mb4.1/3, MS3.6/5, Error ellipse: s-maj=15.3km s-min=12.2km az=35.1*
IDC ***08*** *19:07:49.5±2.2, 1571S×7071W, h68km±22km, mb3.8/2, mb1 4.0/6, mb1mx3.6/22, mbtmp4.1/6, MS3.5/7, Ms1 3.5/7, ms1mx3.3/27, Error ellipse: s-maj=35.5km s-min=22.6km az=22.0*

ISC 08 19:07:47.0±1.3, 156S±01×7084W±009, h45km±17km, n20, σ1§16/14, mb4.1/3, MS3.6/5, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	1.07	216	⇑*i*P	**Pn**	**19 07 59.1**	**-6.5**
ARE				*e*S	**Sn**	**19 08 19.0**	**-0.3**
LPAZ	**La Paz**	2.70	105	P	**Pn**	**19 08 30.6**	**+2.7**
	14nm,0.3s,baz=290,slow=15,SNR=300						
LPAZ				LR	LR	19 09 50.0	
	comp=Z,446nm,21.1s,baz=86,slow=47						
LPAZ	**La Paz**	2.70	105	*e*P	**Pn**	**19 08 30.7**	**+2.8**
LPAZ				LR	LR	19 09 50.0	
NNA	**Nana**	6.84	301	P	**Pn**	**19 09 29.4**	**+4.7**
	0.3nm,0.3s,baz=161,slow=11,SNR=5.2						
LVC	**Limon Verde**	7.22	166	P	**Pn**	**19 09 30.0**	**0.0**
	0.9nm,0.3s,baz=360,slow=8.7,SNR=8.0						
LVC	**Limon Verde**	7.22	166	*e*Pn	**Pn**	**19 09 29.7**	**-0.3**
SIV	**San Ignacio**	9.41	94	P	**Pn**	**19 10 00.3**	**+0.3**
	1.5nm,0.3s,baz=275,slow=14,SNR=54						
SAML	**Samuel**	9.98	49	*e*P	**Pn**	**19 10 06.0**	**-1.7**
	11nm,0.8s						
CFAA	**Coronel Fontan**	16.12	172	P	**Pn**	**19 11 29.8**	**-0.7**
	0.0nm,0.3s,baz=343,slow=14,SNR=2.6						
CFAA				LR	LR	19 18 04.5	
	comp=Z,24nm,21.8s,baz=341,slow=38						
CPUP	**Villa Florida**	16.52	132	*e*P	**Pn**	**19 11 36.1**	**+0.5**
ROSC	**El Rosal**	20.60	350	LR	LR	19 20 56.4	
	comp=Z,122nm,20.4s,MS3.3,baz=19,slow=38						
BDFB	**Brasilia**	21.99	93	P	**P**	**19 12 36.0**	**-1.2**
	3.0nm,0.9s,mb3.7,baz=274,slow=13,SNR=2.6						
BDFB				LR	LR	19 21 44.2	
	comp=Z,148nm,19.7s,MS3.4,baz=158,slow=38						
SDV	**Santo Domingo**	24.32	1	LR	LR	19 23 28.9	
	comp=Z,208nm,18.8s,MS3.6,baz=220,slow=38						
PCRV	**Puerto La Cruz**	26.32	14	LR	LR	19 25 30.6	
	comp=Z,85nm,21.2s,MS3.3,baz=357,slow=40						
SDCO	**Great Sand Dun**	62.25	329	*e*P	**P**	**19 18 05.7**	**+1.5**
	2.4nm,0.9s,mb4.3						
ULM	**Lac du Bonnet**	69.16	343	LR	LR	19 51 48.3	
	comp=Z,318nm,18.3s,MS4.6,baz=251,slow=38						
YKA	**Yellowknife Ar**	85.03	341	P	**P**	**19 20 17.4**	**-0.4**
	2.1nm,0.9s,mb4.3,baz=132,slow=5.2,SNR=9.1						
ZAL	**Zalesovo**	137.26	21	PKP	PKPdf	19 27 06.2	+0.8
	1.5nm,0.8s,baz=207,slow=3.9,SNR=6.5						
MJAR	**Matsushiro Arr**	146.80	314	PKPbc	PKPbc	19 27 25.4	+1.3
	1.6nm,0.9s,baz=98,slow=2.5,SNR=4.4						
SONM	**Songino Array**	147.76	3	PKPbc	PKPbc	19 27 26.3	-0.5
	1.8nm,0.9s,baz=330,slow=2.3,SNR=12						

ISCJB ***08*** *19:12:11.9±1.1, 249S±0.1×17935E±0.10, h525km±13km, mb3.8/12, Error ellipse: s-maj=19.8km s-min=13.4km az=31.5*
IDC ***08*** *19:12:12.9±1.4, 2482S×17937E, h524km±16km, mb3.4/11, mb1 3.5/12, mb1mx3.4/16, mbtmp4.3/12, Error ellipse: s-maj=17.5km s-min=13.4km az=16.0*
NEIC ***08*** *19:12:12.5±0.8, 2484S×17942E, h524km±9km, mb4.2/5, Error ellipse: s-maj=14.5km s-min=9.9km az=203.0*

ISC 08 19:12:12.8±1.0, 249S±01×17941E±010, h523km±12km, n33, σ0§76/31, mb3.8/12, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	4.94	152	P	**P**	**19 13 39.7**	**-0.8**
	76nm,0.3s,baz=39,slow=16,SNR=9.1						
RAO	**Raoul Island**	4.94	152	*e*P	**P**	**19 13 40.0**	**-0.5**
DZM	**Mont Dzumac**	12.23	281	P	**P**	**19 14 54.9**	**+1.3**
	0.4nm,0.3s,baz=87,slow=17,SNR=4.0						
HNR	**Honiara**	24.08	306	P	**P**	**19 16 44.9**	**-1.8**
	24nm,0.4s,baz=71,slow=0.7,SNR=4.3						
CTA	**Charters Tower**	30.96	272	*e*P	**P**	**19 17 47.7**	**+0.8**
	8.8nm,0.5s,mb4.5						
CTA	**Charters Tower**	30.96	272	P	**P**	**19 17 48.1**	**+1.2**
	8.7nm,0.5s,mb4.6,baz=96,slow=11,SNR=34						
STKA	**Stephens Creek**	33.86	249	P	**P**	**19 18 11.9**	**+0.4**
	2.3nm,0.8s,mb3.8,baz=358,slow=15,SNR=5.5						
STKA	**Stephens Creek**	33.86	249	*e*P	**P**	**19 18 11.8**	**+0.3**
PMG	**Port Moresby**	34.33	291	P	**P**	**19 18 14.8**	**-0.7**
	6.9nm,0.8s,mb4.2,baz=124,slow=9.4,SNR=5.3						
PMG	**Port Moresby**	34.33	291	*e*P	**P**	**19 18 15.7**	**+0.2**
	9.6nm,0.7s,mb4.4						
AS31	**Alice Springs**	41.35	262	*e*P	**P**	**19 19 13.3**	**+0.5**
ASAR	**Alice Springs**	41.35	262	P	**P**	**19 19 12.9**	**+0.1**
	1.6nm,0.8s,mb3.6,baz=89,slow=7.0,SNR=37						
ASAR				S	**S**	**19 24 49.1**	**-0.3**
	0.4nm,0.7s,baz=97,slow=16,SNR=4.6						
ASPA	**Alice Springs**	41.35	262	*e*P	**P**	**19 19 13.0**	**+0.2**
WB2	**Warramunga Arr**	41.80	267	*e*P	**P**	**19 19 16.0**	**-0.4**
WB2				*e*S	**S**	**19 24 55.9**	**0.0**
WB2	**Warramunga Arr**	41.80	267	*e*P	**P**	**19 19 16.0**	**-0.4**
WB2				*e*S	**S**	**19 24 55.9**	**0.0**
WRA	**Warramunga Arr**	41.81	267	P	**P**	**19 19 16.1**	**-0.3**
	1.2nm,0.3s,mb3.9,baz=99,slow=6.7,SNR=86						
WRA				S	**S**	**19 24 55.4**	**-0.6**
	0.5nm,0.8s,baz=106,slow=15,SNR=4.5						
KAKA	**Kakadu**	45.88	276	*e*P	**P**	**19 19 47.4**	**-0.6**
	4.4nm,0.6s,mb4.2						
DRV	**Dumont d'Urvil**	48.42	200	R		19 20 00.0	
FITZ	**Fitzroy Crossi**	50.23	267	*e*P	**P**	**19 20 20.7**	**+0.3**
	3.1nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	50.23	267	P	**P**	**19 20 20.7**	**+0.3**
	0.8nm,0.7s,mb3.2,baz=137,slow=13,SNR=7.3						
VNDA	**Vanda**	53.34	185	P	**P**	**19 20 42.9**	**0.0**
	0.6nm,1.0s,mb2.9,baz=338,slow=3.3,SNR=6.5						
QSPA	**South Pole Qui**	65.19	180	*e*P	**P**	**19 22 01.8**	**-0.4**
	2.6nm,0.5s,mb3.9						
MJAR	**Matsushiro Arr**	72.42	326	P	**P**	**19 22 45.5**	**-0.3**
	1.4nm,0.6s,mb3.5,baz=142,slow=0.6,SNR=7.2						
MAW	**Mawson**	76.63	201	P	**P**	**19 23 09.3**	**-0.2**
	2.0nm,0.5s,mb3.8,baz=134,slow=8.4,SNR=7.4						
SYO	**Syowa Base**	81.92	194	⇓*e*P	**P**	**19 23 34.2**	**-3.3**
SYO	**Syowa Base**	81.92	194	⇓*e*P	**P**	**19 23 39.5**	**+2.0**
NVAR	**Mina Array Bea**	85.84	44	P	**P**	**19 23 57.0**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=237,slow=7.6,SNR=4.6						
TMUT	**Trail Mountain**	90.91	47	*e*P	**P**	**19 24 21.6**	**+1.0**
BVAR	**Borovoye Array**	120.83	318	PKP	PKPdf	19 30 03.4	-2.0
	0.6nm,0.6s,baz=127,slow=2.5,SNR=4.8						
FINES	**FINESS Array B**	139.22	341	PKP	PKPdf	19 30 39.2	-0.8
	4.2nm,1.0s,baz=100,slow=2.3,SNR=4.0						
AKASG	**Malin Array Be**	145.51	326	PKPbc	PKPbc	19 30 51.4	-1.1
	0.5nm,0.4s,baz=44,slow=3.8,SNR=4.7						
BRTR	**Keskin Array B**	147.74	306	PKPbc	PKPbc	19 30 58.8	+0.2
	0.7nm,0.6s,baz=93,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	168.11	191	PKPab	PKPab	19 32 31.5	+0.6
	0.6nm,0.6s,baz=172,slow=3.5,SNR=8.9						

IDC ***08*** *19:15:40.5±0.8, 3667N×7130E, h0km, mb4.0/12, mb1 4.3/15, mb1mx4.1/24, mbtmp4.1/15, ML4.7/4, MS3.9/2, Ms1 3.9/2, ms1mx3.1/32, Error ellipse: s-maj=20.6km s-min=16.4km az=32.0*
ISCJB ***08*** *19:15:50.3±0.6, 3698N±003×7143E±006, h88km±7km, mb4.0/19, Error ellipse: s-maj=8.5km s-min=3.7km az=143.6*
MOS ***08*** *19:15:52.7±1.3, 3728N×7135E, h92km, mb4.1/15, Error ellipse: s-maj=12.9km s-min=6.8km az=99.4*
BJI ***08*** *19:15:52.7, 3696N×7160E, h69km, mB4.5, mb4.5, ML4.1, Ms3.9, Msz3.5*
NEIC ***08*** *19:15:53.2±2.3, 3721N×7141E, h89km±21km, mb4.2/8, Error ellipse: s-maj=18.3km s-min=10.9km az=210.0*
NNC ***08*** *19:15:56.6±4.8, 3746N×7098E, h133km±49km, mb3.6, mpv4.2, Error ellipse: s-maj=47.2km s-min=23.6km az=31.0*

ISC 08 19:15:52.1±0.5, 3700N±003×7141E±006, h92km±6km, n111, σ1§47/125, mb4.0/19, 4C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	3.19	172	⇑P	**Pn**	**19 16 43.4**	**+3.1**
CEP				S	**Sn**	**19 17 14.0**	**-3.4**
CHCP	**Chirah Chowk**	3.66	155	P	**Pn**	**19 16 50.5**	**+3.9**
THW	**Thamme Wali**	4.20	176	P	**Pn**	**19 16 55.5**	**+1.6**
KSH	**Kashi**	4.39	54	P	**Pn**	**19 17 00.8**	**+4.4**
KSH				S	**Sn**	**19 17 50.4**	**+4.1**
KSH				Smax			
	comp=N,336nm,0.6s						
KSH				Smax			
	comp=E,327nm,0.5s						
SBDP	**Sheikh Budin**	4.71	186	⇓P	**Pn**	**19 17 02.7**	**+1.9**
JMU	**Jammu**	5.15	145	*ex*	x	19 18 01.5	
AML	**Almayashu**	5.42	18	P	**Pn**	**19 17 11.1**	**+0.7**
	SNR=232						
UCH	**Uchtor**	5.75	24	P	**Pn**	**19 17 15.5**	**+0.6**
	SNR=39						
THN	**Thein Dam**	5.77	141	*e*P	**Pn**	**19 17 17.6**	**+2.4**
THN				*e*S	**Sn**	**19 18 22.4**	**+2.3**
DLH	**Dalhousie**	5.82	138	*e*P	**Pn**	**19 17 15.0**	**-0.8**
DLH				*e*S	**Sn**	**19 18 20.0**	**-1.1**
KZA	**Kyzart**	5.88	29	P	**Pn**	**19 17 17.9**	**+1.2**
	SNR=20						
EKS2	**Erkin-Say**	5.94	17	P	**Pn**	**19 17 18.1**	**+0.5**
	SNR=46						
AAK	**Ala-Archa**	6.11	22	P	**Pn**	**19 17 20.7**	**+0.8**
	SNR=75						
AAK	**Ala-Archa**	6.11	22	⇓*i*PN	**Pn**	**19 17 19.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,15nm,0.4s						
AAK	**Ala-Archa**	6.11	22	*e*P	**Pn**	**19 17 19.5**	**-0.3**
	comp=Z,34nm,0.3s						
KK31	**Karatay Array**	6.14	354	⇓P	**Pn**	**19 17 19.1**	**-1.1**
	comp=Z,38nm,0.3s,baz=180,slow=13,SNR=1156						
KK31				⇓S	**Sn**	**19 18 22.9**	**-6.0**
	comp=Z,20nm,0.3s,baz=187,slow=27						
KBK	**Karagaybulak**	6.28	25	P	**Pn**	**19 17 23.5**	**+1.4**
	SNR=29						
ULHL	**Ulahol**	6.43	34	P	**Pn**	**19 17 25.6**	**+1.4**
	SNR=27						
CHMS	**Chumysh**	6.52	22	P	**Pn**	**19 17 25.8**	**+0.4**
	SNR=64						
USP	**Ospenovka**	6.70	20	P	**Pn**	**19 17 27.8**	**0.0**
	SNR=47						
TKM2	**Tokmak 2**	6.74	27	P	**Pn**	**19 17 29.2**	**+0.9**
	SNR=52						
TKM2	**Tokmak 2**	6.74	27	⇓P	**Pn**	**19 17 29.2**	**+0.8**
	comp=Z,4.2nm,0.8s						
BHK	**Bhakra**	6.94	142	*e*P	**Pn**	**19 17 37.2**	**+6.0**
BHK				*e*S	**Sn**	**19 18 53.4**	**+4.8**
SDNR	**Sundarnagar**	7.16	138	*e*P	**Pn**	**19 17 36.0**	**+1.9**
SDNR				*e*S	**Sn**	**19 18 52.6**	**-1.3**
KLP	**Kalpa**	7.86	132	*e*P	**Pn**	**19 17 44.9**	**+1.3**
KLP				*e*S	**Sn**	**19 19 09.6**	**-1.4**
KLP				AML	AML	19 19 13.4	
	comp=N,442nm,0.3s						
KLP				AML	AML	19 19 13.4	
	comp=E,519nm,1.0s						
DDI	**Dehra Dun**	8.66	138	*ex*	x	19 19 24.0	
DDI				*ex*	x	19 19 37.0	
NDI	**New Delhi**	9.62	148	*e*P	**Pn**	**19 18 07.0**	**-0.6**
NDI				*e*P		19 18 08.5	
NDI				*e*S	**Sn**	**19 19 48.0**	**-5.9**
NDI				*e*S	**Sn**	**19 19 48.8**	**-5.1**
NDI				AML	AML	19 19 55.6	
	comp=E,54nm,0.5s						
NDI				AML	AML	19 19 58.4	
	comp=N,66nm,0.3s						
KHET	**Khetri**	9.64	156	*e*P	**Pn**	**19 18 06.1**	**-1.8**
KHET				*e*S	**Sn**	**19 19 46.5**	**-7.9**
KHET				AML	AML	19 19 51.7	
	comp=N,42nm,0.2s						
KHET				AML	AML	19 19 51.8	
	comp=E,48nm,0.4s						
AYAN	**Aya Nagar**	9.76	149	*e*P	**Pn**	**19 18 10.2**	**+0.7**
AYAN				*e*S	**Sn**	**19 19 54.0**	**-3.3**
SONA	**Sohna**	9.95	150	*e*P	**Pn**	**19 18 12.6**	**+0.6**
SONA				*e*S	**Sn**	**19 19 57.5**	**-4.4**
SONA				AML	AML	19 20 02.6	
	comp=E,77nm,0.3s						
LGTI	**Lohaghat**	10.55	133	*e*P	**Pn**	**19 18 21.5**	**+1.2**
LGTI				*ex*	x	19 20 14.0	
AJM	**Ajmer**	10.84	164	*e*P	**Pn**	**19 18 23.9**	**-0.3**
AJM				*e*P		19 18 24.0	
AJM				*e*S	**Sn**	**19 20 17.8**	**-5.8**
AJM				*e*S	**Sn**	**19 20 19.4**	**-4.2**
AJM				AML	AML	19 20 22.8	
	comp=E,27nm,0.5s						
AJM				AML	AML	19 20 23.0	
	comp=N,26nm,0.6s						
MK31	**Makanchi Array**	12.70	36	⇓P	**Pn**	**19 18 49.0**	**-0.3**
	comp=N,1.2nm,0.5s						
MKAR	**Makanchi Array**	12.70	36	Pn	**Pn**	**19 18 48.4**	**-0.9**
	comp=N,1.0nm,0.3s,baz=226,slow=16,SNR=24						
MKAR	**Makanchi Array**	12.70	36	P	**Pn**	**19 18 48.4**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GKN	**Gorkha**	14.31	125	*e*P	**Pn**	**19 19 07.8**	**-2.5**
	comp=Z,76nm,0.5s						
BHPL	**Bhopal**	14.66	158	*e*P	**Pn**	**19 19 18.7**	**+3.9**
BHPL				*ex*	x	19 21 49.7	
AB31	**Akbulak array**	14.81	329	⇓P	**Pn**	**19 19 12.0**	**-4.8**
	comp=Z,5.9nm,0.3s						
AB31				⇓S	**Sn**	**19 21 47.3**	**-13**
	comp=Z,2.4nm,0.2s						
KKN	**Kakani**	14.87	124	*e*P	**Pn**	**19 19 14.5**	**-3.0**
	comp=Z,40nm,0.5s						
DMN	**Daman**	14.88	125	*e*P	**Pn**	**19 19 15.1**	**-2.5**
	comp=Z,34nm,0.4s						
PKI	**Pulchoki**	15.11	124	*e*P	**Pn**	**19 19 18.6**	**-1.9**
	comp=Z,36nm,0.5s						
GUN	**Gumba**	15.20	122	*e*P	**Pn**	**19 19 18.8**	**-2.8**
	comp=Z,79nm,0.7s						
JIRN	**Jiri**	15.57	122	*e*P	**Pn**	**19 19 24.1**	**-2.2**
	comp=Z,29nm,0.2s						
JBP	**Jabalpur**	15.64	149	⇓*i*P	**Pn**	**19 19 32.5**	**+5.2**
JBP				*i* x	x	19 22 10.0	
VOSK	**Vostochnaya**	15.73	359	⇑P	**Pn**	**19 19 24.9**	**-3.4**
	comp=Z,15nm,0.9s						
VOSK	**Vostochnaya**	15.73	359	*i* P	**Pn**	**19 19 24.5**	**-3.8**
ZRNK	**Zerenda**	16.04	355	⇓P	**Pn**	**19 19 29.0**	**-3.2**
	comp=Z,14nm,0.7s						
ZRNK	**Zerenda**	16.04	355	*e*P	**Pn**	**19 19 28.3**	**-3.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	16.04	355	*e*P	**Pn**	**19 19 28.3**	**-3.9**
	comp=Z,3.4nm,0.5s						
BVA0	**Borovoye Array**	16.04	358	⇑P	**Pn**	**19 19 29.7**	**-2.5**
	comp=Z,1.0nm,0.5s,baz=160,slow=12,SNR=56						
BVAR	**Borovoye Array**	16.04	358	Pn	**Pn**	**19 19 29.1**	**-3.2**
	comp=Z,2.5nm,0.3s,baz=157,slow=9.5,SNR=37						
BVAR				LR	LR	19 26 24.9	
	comp=Z,64nm,21.2s,baz=307,slow=39						
BRVK	**Borovoye**	16.08	358	*e*P	**Pn**	**19 19 29.8**	**-2.9**
BRVK				pmax	pmax		
	comp=Z,19nm,0.7s						
BRVK	**Borovoye**	16.08	358	*e*Pn	**Pn**	**19 19 29.8**	**-2.9**
	comp=Z,19nm,0.7s						
AKTK	**Aktyubinsk**	16.52	329	Pn	**Pn**	**19 19 35.3**	**-2.8**
AKTO	**Aktyubinsk**	16.52	329	⇓P	**Pn**	**19 19 35.0**	**-3.1**
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	16.52	329	Pn	**Pn**	**19 19 35.3**	**-2.8**
	comp=Z,11nm,0.3s,baz=135,slow=11,SNR=52						
AKTO	**Aktyubinsk**	16.52	329	P	**Pn**	**19 19 35.3**	**-2.9**
AKTO				pmax	pmax		
	comp=Z,11nm,0.3s						
CHKZ	**Chkalovo**	16.69	358	*e*P	**Pn**	**19 19 37.6**	**-2.7**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHKZ	**Chkalovo**	16.69	358	*e*P	**Pn**	**19 19 37.6**	**-2.7**
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	18.01	108	P	**Pn**	**19 19 56.6**	**+0.2**
LSA	**Lhasa**	18.01	108	*e*P	**Pn**	**19 20 00.7**	**+4.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	18.01	108	*e*P	**Pn**	**19 20 00.7**	**+4.3**
	comp=Z,7.8nm,0.6s						
ZAL	**Zalesovo**	19.31	24	P	**Pn**	**19 20 09.9**	**-1.9**
	comp=Z,4.6nm,0.3s,baz=258,slow=5.8,SNR=34						
ZAL	**Zalesovo**	19.31	24	P	**Pn**	**19 20 10.0**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GNI	**Garni**	21.06	287	*e*P	**P**	**19 20 31.2**	**+2.5**
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
GNI	**Garni**	21.06	287	*e*P	**P**	**19 20 31.2**	**+2.5**
	comp=Z,11nm,1.0s,mb4.2						
ARU	**Arti**	21.27	340	⇑*i*P	**P**	**19 20 30.4**	**-0.6**
ARU				*e*S	**S**	**19 24 17.2**	**-4.9**
ARU				*e*SS		19 24 48.5	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
ARU	**Arti**	21.27	340	*e*P	**P**	**19 20 30.5**	**-0.5**
	comp=Z,7.2nm,0.6s,mb4.2						
ZEI	**Tsey**	21.83	294	*e*P	**P**	**19 20 38.1**	**+1.2**
ZEI				*e*PP		19 20 59.1	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
GTA	**Gaotai**	22.42	75	*e*P	**P**	**19 20 46.7**	**+3.5**
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.4						
KIV	**Kislovodsk**	22.85	297	*e*P	**P**	**19 20 47.4**	**-0.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	26.42	49	*e*P	**P**	**19 21 22.8**	**+2.7**
SONM	**Songino Array**	27.79	56	P	**P**	**19 21 34.6**	**+2.2**
	comp=Z,1.7nm,0.8s,mb3.6,baz

*IDC **08** 19:28:58.8±0.9, 50.10N×142.62E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=30.1km s-min=23.3km az=179.0*
*MOS **08** 19:28:59.6±2.1, 50.30N×142.40E, h10km, mb3.7/3, Error ellipse: s-maj=50.4km s-min=27.3km az=105.1*
*NEIC **08** 19:29:04.3±2.6, 50.09N×142.59E, h37km±25km, mb3.7/1, Error ellipse: s-maj=22.6km s-min=16.1km az=212.0*

ISC 08 19:28:58.3±0.5, 5044N±002×14201E±005, h10km, n24, σ1§13/32, mb3.5/8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.59**	**44**	*e*Pg	**Pg**	**19 29 09.7**	**0.0**
TYV				*e*Sg	**Sg**	**19 29 18.3**	**+0.9**
TYV				A		19 29 50.0	
	2μm,3.0s						
TYV				A		19 29 50.0	
	1μm,3.0s						
UGL	**Uglegorsk**	**1.37**	**179**	*e*P	**Pn**	**19 29 22.7**	**-0.7**
UGL				*e*Pg	**Pg**	**19 29 23.0**	**-1.5**
UGL				AMB	AMB	19 29 24.0	
	110nm,0.4s						
UGL				*e*Sg	**Sg**	**19 29 41.5**	**-0.7**
UGL				A		19 29 43.0	
	530nm,0.4s						
UGL				A		19 29 43.0	
	590nm,0.4s						
NKL	**Nikolayevsk**	**2.84**	**344**	*e*P	**Pn**	**19 29 42.2**	**-1.4**
NKL				AMB	AMB	19 29 43.8	
	86nm,0.5s						
NKL				*e*Pg	**Pg**	**19 29 52.0**	**-0.6**
NKL				*e*S	**Sn**	**19 30 16.0**	**-1.8**
NKL				*e*Sg	**Sg**	**19 30 29.0**	**-0.4**
NKL				A		19 30 41.0	
	370nm,0.5s						
OKH	**Okha**	**3.17**	**10**	*e*Sb	**Sb**	**19 30 33.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**3.52**	**172**	*e*P	**Pn**	**19 29 55.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**3.52**	**172**	PN	**Pn**	**19 29 55.3**	**+2.2**
YSS				*e*		19 30 43.4	
YSS	**Yuzh-Sakhalins**	**3.52**	**172**	*e*Pn	**Pn**	**19 29 51.3**	**-1.8**
GRNR	**Gornyy**	**3.58**	**277**	*e*P	**Pn**	**19 29 53.5**	**-0.3**
GRNR				AMB	AMB	19 29 54.0	
	6.0nm,0.4s						
GRNR				*e*S	**Sn**	**19 30 36.0**	**-0.1**
GRNR				*e*Sg	**Sg**	**19 30 52.8**	**-0.3**
GRNR				A		19 30 53.2	
	250nm,1.0s						
EKMR	**Ekimchan**	**6.21**	**299**	*e*P	**Pn**	**19 30 29.5**	**-0.5**
EKMR				*e*Pg	**Pg**	**19 30 55.8**	**-1.4**
EKMR				AMB	AMB	19 30 56.0	
	3.0nm,0.5s						
EKMR				AMB	AMB	19 30 56.0	
	4.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**19 32 19.5**	**+1.8**
EKMR				A		19 32 26.5	
	72nm,0.7s						
EKMR				A		19 32 26.5	
	19nm,0.7s						
EKMR				A		19 32 26.5	
	8.0nm,0.7s						
TEY	**Ternei**	**6.52**	**216**	*e*S	**Sn**	**19 31 50.0**	**+1.3**
BMKR	**Bomnak**	**9.09**	**303**	*e*S	**Sn**	**19 32 54.0**	**+2.3**
BMKR				*e*Sg	Sn	19 33 57.5	+66
BMKR				A		19 33 58.5	
	12nm,0.7s						
YASR	**Yasnyy**	**9.14**	**294**	*e*rx	rx	19 31 16.1	
YASR				*e*Sg	Sx	19 33 49.8	
YASR				A		19 34 08.9	
	7.0nm,0.8s						
YASR				A		19 34 08.9	
	15nm,0.8s						
YASR				A		19 34 08.9	
	9.0nm,0.8s						
KROS	**Kirovskiy**	**10.01**	**299**	*e*rx	rx	19 31 29.0	
KROS				*e*Sg	Sx	19 34 24.0	
KROS				A		19 34 26.5	
	5.0nm,0.6s						
SONM	**Songino Array**	**23.31**	**277**	P	**P**	**19 34 12.5**	**+6.1**
	0.6nm,1.0s,mb3.0,baz=61,slow=12,SNR=3.1						
SONM	**Songino Array**	**23.31**	**277**	P	**P**	**19 34 12.5**	**+6.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**38.73**	**288**	P	**P**	**19 36 27.1**	**+4.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=67,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**38.73**	**288**	P	**P**	**19 36 27.1**	**+4.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**42.33**	**303**	*e*P	**P**	**19 36 58.7**	**+6.5**
	comp=Z,0.9nm,0.5s,mb3.7						
BVAR	**Borovoye Array**	**42.73**	**302**	P	**P**	**19 37 03.1**	**+7.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=74,slow=7.8,SNR=3.3						
NVAR	**Mina Array Bea**	**66.96**	**57**	P	**P**	**19 39 52.6**	**+1.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=306,slow=6.6,SNR=5.0						
PDAR	**Pinedale Array**	**68.20**	**49**	P	**P**	**19 40 00.2**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=340,slow=3.2,SNR=5.1						
WRA	**Warramunga Arr**	**70.40**	**188**	P	**P**	**19 40 12.3**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=2.2,slow=6.7,SNR=3.1						
WRA	**Warramunga Arr**	**70.40**	**188**	P	**P**	**19 40 12.3**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**74.13**	**188**	P	**P**	**19 40 35.5**	**+0.7**
	comp=Z,0.2nm,0.7s,mb3.2,baz=3.0,slow=5.8,SNR=6.1						

*IDC **08** 19:35:33.2±8.6, 35.93N×71.55E, h51km±81km, mb3.6/5, mb1 3.8/8, mb1mx3.5/24, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=57.6km s-min=49.8km az=142.0*
*NEIC **08** 19:35:36.3±1.3, 36.35N×71.41E, h35km, mb3.7/1, Error ellipse: s-maj=20.9km s-min=15.0km az=193.0*
*BJI **08** 19:35:36.6, 36.04N×71.46E, h51km, mb4.0, ML4.0, Ms3.9*
*ISCJB **08** 19:35:39.5±0.9, 36.31N±004×71.58E±008, h115km±13km, mb4.1/10, Error ellipse: s-maj=11.2km s-min=4.4km az=136.8*
*NNC **08** 19:35:46.9±2.3, 36.82N×70.82E, h105km±28km, mb3.5, mpv4.2, Error ellipse: s-maj=23.6km s-min=11.8km az=47.0*

ISC 08 19:35:41.1±0.6, 3632N±003×7160E±007, h120km±10km, n52, σ1§23/62, mb4.1/10, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.71**	**46**	P	**Pn**	**19 36 53.0**	**+2.9**
KSH				S	**Sn**	**19 37 41.7**	**-2.0**
KSH				Smax			
	comp=N,162nm,0.4s						
KSH				Smax			
	comp=E,190nm,0.5s						
THN	**Thein Dam**	**5.16**	**138**	*e*P	**Pn**	**19 36 58.8**	**+2.6**
THN				*e*S	**Sn**	**19 37 57.6**	**+3.0**
DLH	**Dalhousie**	**5.22**	**135**	*e*P	**Pn**	**19 36 56.0**	**-0.9**
DLH				*e*S	**Sn**	**19 37 55.0**	**-1.0**
AML	**Almayashu**	**6.03**	**15**	P	**Pn**	**19 37 08.4**	**+0.5**
	SNR=122						
UCH	**Uchtor**	**6.32**	**20**	P	**Pn**	**19 37 12.5**	**+0.7**
	SNR=39						
BHK	**Bhakra**	**6.32**	**139**	*e*P	**Pn**	**19 37 17.0**	**+5.2**
KZA	**Kyzart**	**6.41**	**25**	P	**Pn**	**19 37 13.8**	**+0.8**
	SNR=23						
EKS2	**Erkin-Say**	**6.55**	**14**	P	**Pn**	**19 37 15.3**	**+0.3**
	SNR=47						
SDNR	**Sundarnagar**	**6.56**	**136**	*e*P	**Pn**	**19 37 16.6**	**+1.5**
SDNR				*e*S	**Sn**	**19 38 26.0**	**-2.4**
AAK	**Ala-Archa**	**6.69**	**19**	P	**Pn**	**19 37 17.5**	**+0.7**
	SNR=50						
AAK	**Ala-Archa**	**6.69**	**19**	*e*Pn	**Pn**	**19 37 16.2**	**-0.6**
	comp=E,29nm,0.6s						
KK31	**Karatay Array**	**6.83**	**353**	⇑P	**Pn**	**19 37 17.4**	**-1.3**
	comp=E,30nm,0.3s,baz=168,slow=12,SNR=6.8						
KK31				⇑S	**Sn**	**19 38 28.2**	**-6.7**
	comp=E,15nm,0.2s						
KBK	**Karagaybulak**	**6.84**	**21**	P	**Pn**	**19 37 19.8**	**+0.9**
	SNR=13						
CHMS	**Chumysh**	**7.10**	**19**	P	**Pn**	**19 37 22.6**	**+0.3**
	SNR=26						
TKM2	**Tokmak 2**	**7.28**	**24**	P	**Pn**	**19 37 26.2**	**+1.4**
	SNR=38						
TKM2	**Tokmak 2**	**7.28**	**24**	⇓P	**Pn**	**19 37 27.9**	**+3.1**
	comp=E,2.0nm,0.6s						
USP	**Ospenovka**	**7.29**	**17**	P	**Pn**	**19 37 24.3**	**-0.7**
	SNR=25						
KLP	**Kalpa**	**7.30**	**129**	*e*P	**Pn**	**19 37 25.9**	**+0.8**
KLP				*e*S	**Sn**	**19 38 45.9**	**-0.5**
KLP				AML	AML	19 38 52.1	
	comp=N,238nm,0.6s						
KLP				AML	AML	19 38 53.1	
	comp=E,193nm,0.6s						
KHET	**Khetri**	**8.96**	**155**	*e*P	**Pn**	**19 37 44.9**	**-2.7**
KHET				*e*S	**Sn**	**19 39 18.3**	**-8.3**
KHET				AML	AML	19 39 21.7	
	comp=E,26nm,0.4s						
KHET				AML	AML	19 39 23.4	
	comp=N,21nm,0.7s						
SONA	**Sohna**	**9.29**	**148**	*e*P	**Pn**	**19 37 52.2**	**+0.2**
SONA				*e*S	**Sn**	**19 39 29.3**	**-5.2**
SONA				AML	AML	19 39 34.7	
	comp=E,27nm,0.2s						
SONA				AML	AML	19 39 35.9	
	comp=N,18nm,0.3s						
MKAR	**Makanchi Array**	**13.16**	**34**	P	**Pn**	**19 38 43.7**	**+0.3**
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=13						
MKAR	**Makanchi Array**	**13.16**	**34**	P	**Pn**	**19 38 43.7**	**+0.3**
GKN	**Gorkha**	**13.80**	**123**	*e*P	**Pn**	**19 38 50.6**	**-1.0**
	comp=N,68nm,0.5s						
DMN	**Daman**	**14.37**	**123**	*e*P	**Pn**	**19 38 58.1**	**-0.8**
	comp=N,37nm,0.5s						
KKN	**Kakani**	**14.37**	**122**	*e*P	**Pn**	**19 38 57.9**	**-1.0**
	comp=N,34nm,0.6s						
PKI	**Pulchoki**	**14.60**	**123**	*e*P	**Pn**	**19 39 01.4**	**-0.4**
	comp=N,37nm,0.6s						
GUN	**Gumba**	**14.71**	**121**	*e*P	**Pn**	**19 39 02.6**	**-0.6**
	comp=N,62nm,0.8s						
JIRN	**Jiri**	**15.08**	**121**	*e*P	**Pn**	**19 39 08.1**	**+0.3**
	comp=N,24nm,0.2s						
AB31	**Akbulak array**	**15.48**	**330**	P	**Pn**	**19 39 09.6**	**-3.2**
	comp=N,3.9nm,0.4s,baz=128,slow=14,SNR=120						
AB31				⇑S	**S**	**19 41 51.5**	**-20**
	comp=N,3.8nm,0.5s						
VOSK	**Vostochnaya**	**16.41**	**359**	⇓P	**Pn**	**19 39 24.2**	**-0.1**
	comp=N,9.6nm,2.2s						
BVA0	**Borovoye Array**	**16.73**	**357**	P	**Pn**	**19 39 28.1**	**-0.1**
	baz=183,slow=5.3,SNR=16						
BVAR	**Borovoye Array**	**16.73**	**357**	P	**Pn**	**19 39 27.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=171,slow=11,SNR=15						
ZRNK	**Zerenda**	**16.73**	**355**	⇑P	**Pn**	**19 39 28.6**	**+0.4**
	comp=N,7.8nm,1.9s						
BRVK	**Borovoye**	**16.76**	**357**	*e*Pn	**Pn**	**19 39 26.8**	**-1.9**
	comp=N,2.6nm,0.8s						
AKTK	**Aktyubinsk**	**17.18**	**329**	P	**Pn**	**19 39 32.4**	**-1.3**
AKTO	**Aktyubinsk**	**17.18**	**329**	⇓P	**Pn**	**19 39 32.1**	**-1.6**
	comp=N,0.2nm,0.8s						
AKTO				⇓S	**S**	**19 42 33.1**	**-12**
	comp=N,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**17.18**	**329**	P	**Pn**	**19 39 32.4**	**-1.3**
	comp=N,0.8nm,0.3s,baz=138,slow=14,SNR=16						
CHKZ	**Chkalovo**	**17.37**	**358**	*e*P	**Pn**	**19 39 35.5**	**-0.5**
	comp=N,1.2nm,0.7s						
LSA	**Lhasa**	**17.66**	**106**	P	**Pn**	**19 39 41.6**	**+2.1**
LSA	**Lhasa**	**17.66**	**106**	*e*P	**Pn**	**19 39 41.7**	**+2.2**
	comp=N,5.2nm,0.8s						
ZAL	**Zalesovo**	**19.87**	**23**	P	**P**	**19 40 03.5**	**+0.8**
	comp=N,2.9nm,0.4s,baz=266,slow=5.3,SNR=10						
MIB	**Mutribah**	**21.32**	**259**	*e*P	**P**	**19 40 18.7**	**+0.4**
MIB				AMb	AMB	19 40 20.3	
	comp=Z,22nm,0.8s,mb4.5						
GNI	**Garni**	**21.41**	**288**	P	**P**	**19 40 22.0**	**+2.7**
	comp=Z,1.5nm,0.3s,mb3.7,baz=76,slow=4.2,SNR=3.8						
RDF	**Al-Radifah**	**21.52**	**257**	*e*P	**P**	**19 40 21.0**	**+0.6**
RDF				AMb	AMB	19 40 22.3	
	comp=Z,23nm,0.9s,mb4.5						
NAY	**Al-Naaiem**	**21.62**	**258**	*e*P	**P**	**19 40 21.5**	**0.0**
NAY				AMb	AMB	19 40 22.6	
	comp=Z,12nm,0.8s,mb4.2						
RST	**Umm Al-Ruwaisa**	**21.71**	**259**	*e*P	**P**	**19 40 21.3**	**-1.2**
RST				AMb	AMB	19 40 23.9	
	comp=Z,31nm,0.8s,mb4.7						
GTA	**Gaotai**	**22.45**	**74**	*e*P	**P**	**19 40 35.7**	**+5.4**
GTA				AP		19 40 42.5	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb3.9						
AKASG	**Malin Array Be**	**33.43**	**309**	P	**P**	**19 42 09.7**	**+1.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=82,slow=7.0,SNR=5.3						
FINES	**FINESS Array B**	**37.90**	**326**	P	**P**	**19 42 47.8**	**+1.2**
	comp=Z,2.8nm,1.0s,mb4.0,baz=120,slow=9.1,SNR=8.5						
NB2	**NORSAR Subarra**	**44.81**	**323**	P	**P**	**19 43 43.8**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.7,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.81**	**323**	P	**P**	**19 43 44.1**	**+1.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=96,slow=7.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**66.20**	**269**	P	**P**	**19 46 15.4**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.6,baz=47,slow=5.9,SNR=16						

MEX 08 19:45:42.3±0.8, 1677N×9897W, h14km±15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.91**	**276**	*i* P	Pb	19 45 56.0	-3.8
ACX				*i* S	Sb	19 46 08.0	-3.8
CAIG	**El Cayaco**	**1.27**	**283**	*i* P	Pn	19 46 02.2	-3.3
CAIG				*i* S	Sb	19 46 18.0	-4.2
MEIG	**Mezcala**	**1.31**	**332**	*i* P	Pn	19 46 03.1	-2.9
MEIG				*i* S	Sb	19 46 17.4	-5.8
UTMO	**Huajuapan**	**1.54**	**46**	*i* P	Pn	19 46 05.9	-3.3
UTMO				*i* S	Sn	19 46 24.7	-4.3
VHO	**Vista Hermosa**	**2.16**	**82**	*e*P	Pn	19 46 14.4	-3.5
VHO				*i* S	Sn	19 46 40.5	-3.9

*ISCJB **08** 20:11:50.5±1.5, 2076S±008×169.38E±007, h53km±13km, mb4.3/14, MS3.5/7, Error ellipse: s-maj=14.0km s-min=10.4km az=1.0*
*IDC **08** 20:11:51.7±2.8, 2074S×169.37E, h46km±25km, mb4.1/9, mb1 4.4/11, mb1mx4.2/15, mbtmp4.4/11, ML3.5/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/24, Error ellipse: s-maj=32.0km s-min=18.6km az=154.0*
*NEIC **08** 20:11:52.5±1.1, 2071S×169.43E, h59km±10km, mb4.3/9, Error ellipse: s-maj=10.0km s-min=7.5km az=193.0*
*LDG **08** 20:11:55.8±0.5, 1932S×167.01E, h10km, Mb4.3/2, Error ellipse: s-maj=64.2km s-min=5.2km az=92.0*

ISC 08 20:11:51.8±1.3, 2076S±008×169.41E±006, h49km±12km, n56, σ0§67/30, mb4.3/14, MS3.5/7, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.05**	**244**	*e*P	**Pn**	**20 12 38.7**	**+1.1**
DZM				*e*S	**Sn**	**20 13 11.7**	**-1.2**
DZM	**Mont Dzumac**	**3.05**	**244**	P	**Pn**	**20 12 38.6**	**+1.0**
	31nm,0.3s,baz=65,slow=17,SNR=601						
DZM				S	**Sn**	**20 13 11.9**	**-1.0**
	68nm,0.3s,baz=322,slow=23,SNR=9.1						
RAO	**Raoul Island**	**14.25**	**129**	Pn	**Pn**	**20 15 11.2**	**+0.3**
HNR	**Honiara**	**14.49**	**320**	Pn	**Pn**	**20 15 13.5**	**-0.5**
AFI	**Afiamalu**	**19.20**	**72**	P	**Pn**	**20 16 12.4**	**-0.4**
	1.6nm,0.3s,baz=204,slow=20,SNR=2.4						
AFI				LR	LR	20 20 51.8	
	comp=Z,73nm,19.9s,baz=256,slow=28						
AFI	**Afiamalu**	**19.20**	**72**	*e*P	**Pn**	**20 16 12.1**	**-0.7**
	6.5nm,0.4s						
CTA	**Charters Tower**	**21.71**	**268**	P	**P**	**20 16 40.4**	**+1.7**
	9.6nm,0.6s,mb4.4,baz=96,slow=11,SNR=19						
CTA				LR	LR	20 22 52.6	
	comp=Z,77nm,21.2s,MS3.1,baz=277,slow=30						
CTA	**Charters Tower**	**21.71**	**268**	P	**P**	**20 16 40.4**	**+1.7**
CTA				LR	LR	20 22 52.6	
CTAO	**Charters Tower**	**21.71**	**268**	*e*P	**P**	**20 16 40.6**	**+1.9**
	11nm,0.7s,mb4.4						
RPZ	**Rata Peaks**	**22.93**	**177**	LR	LR	20 23 42.3	
	comp=Z,156nm,19.1s,MS3.5,baz=172,slow=31						
PMG	**Port Moresby**	**24.23**	**294**	P	**P**	**20 17 04.3**	**+0.3**
STKA	**Stephens Creek**	**27.20**	**240**	P	**P**	**20 17 32.1**	**+1.2**
	6.2nm,0.6s,mb4.3,baz=85,slow=10,SNR=21						
STKA				LR	LR	20 27 17.4	
	comp=Z,140nm,18.7s,MS3.6,baz=23,slow=34						
RAR	**Rarotonga**	**28.76**	**96**	LR	LR	20 25 38.9	
	comp=Z,72nm,20.2s,MS3.3,baz=359,slow=29						
WB2	**Warramunga Arr**	**32.84**	**265**	*e*P	**P**	**20 18 19.9**	**-0.9**
WRA	**Warramunga Arr**	**32.85**	**265**	P	**P**	**20 18 20.0**	**-0.9**
	3.6nm,0.8s,mb4.3,baz=102,slow=8.2,SNR=28						
AS31	**Alice Springs**	**32.95**	**258**	*e*P	**P**	**20 18 21.6**	**0.0**
ASAR	**Alice Springs**	**32.95**	**258**	P	**P**	**20 18 21.6**	**-0.1**
	13nm,0.8s,mb5.0,baz=86,slow=9.5,SNR=138						
ASAR				LR	LR	20 32 13.5	
	comp=Z,100nm,18.2s,MS3.6,baz=180,slow=37						
ASPA	**Alice Springs**	**32.95**	**258**	*e*P	**P**	**20 18 21.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.27**	**266**	*e*P	**P**	**20 19 32.6**	**+0.4**
	16nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**41.27**	**266**	P	**P**	**20 19 32.7**	**+0.4**
	9.4nm,0.8s,mb4.5,baz=136,slow=7.3,SNR=22						
FITZ				LR	LR	20 34 33.3	
	comp=Z,86nm,19.7s,MS3.6,baz=117,slow=33						
KLBR	**Kellerberrin**	**47.22**	**246**	*e*P	**P**	**20 20 19.5**	**-0.3**
	19nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**47.68**	**244**	LR	LR	20 39 08.6	
	comp=Z,86nm,21.2s,MS3.7,baz=252,slow=34						
VNDA	**Vanda**	**56.92**	**182**	P	**P**	**20 21 31.3**	**-0.6**
	0.5nm,0.6s,mb3.7						
SBA	**Scott Base**	**57.15**	**181**	*e*P	**P**	**20 21 33.5**	**0.0**
	3.9nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**64.17**	**332**	P	**P**	**20 22 21.4**	**+0.1**
	3.4nm,0.8s,mb4.4,baz=162,slow=7.5,SNR=7.7						
QSPA	**South Pole Qui**	**69.30**	**180**	*e*P	**P**	**20 22 54.1**	**+0.1**
	7.3nm,1.0s,mb4.6						
MAW	**Mawson**	**77.09**	**202**	P	**P**	**20 23 40.0**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=133,slow=10,SNR=7.2						
MAW	**Mawson**	**77.09**	**202**	*e*P	**P**	**20 23 40.2**	**+0.3**
	1.0nm,0.6s,mb3.9						
SNAA	**Sanae**	**87.66**	**182**	*e*P	**P**	**20 24 34.3**	**-0.7**
	0.5nm,0.5s,mb4.0						
SONM	**Songino Array**	**88.53**	**323**	P	**P**	**20 24 39.2**	**+0.1**
	0.6nm,0.9s,mb3.9,baz=123,slow=2.3,SNR=5.7						
NVAR	**Mina Array Bea**	**89.69**	**48**	P	**P**	**20 24 44.9**	**+0.3**
	0.7nm,0.7s,mb4.1,baz=231,slow=9.2,SNR=5.0						
ARCES	**ARCESS Array B**	**126.57**	**345**	PKP	PKPdf	20 30 46.9	-2.6
	2.8nm,0.8s,baz=39,slow=7.9,SNR=3.5						
FINES	**FINESS Array B**	**132.05**	**337**	PKP	PKPdf	20 30 58.9	-1.1
	3.4nm,1.0s,baz=252,slow=11,SNR=4.1						
BRG	**Berggiesshubel**	**144.30**	**333**	*i* P	PKPdf	20 31 20.4	-1.9
	4.3nm,0.8s						
CLL	**Collm**	**144.36**	**334**	⇓*i*P	PKPdf	20 31 20.3	-2.2
CLL	**Collm**	**144.36**	**334**	⇓*i*PKPdf	PKPdf	20 31 20.3	-2.2
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	**145.90**	**331**	PKPbc	PKPbc	20 31 25.6	-0.3
	comp=Z,1.8nm,0.7s,baz=33,slow=4.2,SNR=19						
CDF	**Champ du Feu**	**148.90**	**337**	*e*PKP2	PKPab	20 31 38.1	-0.1
	comp=Z,8.4nm,0.7s						
HINF	**Hinteralfeld**	**149.55**	**337**	*e*PKP2	PKPab	20 31 40.4	-0.4
	comp=Z,7.4nm,0.8s						
HAU	**Haudompre**	**149.58**	**337**	*e*PKP2	PKPab	20 31 40.7	-0.2
	comp=Z,9.8nm,0.8s						
MEZF	**Maizieres J'vi**	**149.60**	**339**	*e*PKP2	PKPab	20 31 40.9	-0.1
CABF	**La Chapelle**	**150.84**	**336**	*e*PKP2	PKPab	20 31 46.2	0.0
LOR	**Lormes**	**151.07**	**339**	*e*PKP2	PKPab	20 31 47.9	+0.8
SSF	**Saint Saulge**	**151.37**	**340**	*e*PKP2	PKPab	20 31 49.4	+1.1
LPL	**La Plagne**	**151.49**	**334**	*e*PKP2	PKPab	20 31 49.4	+0.6
	comp=Z,6.5nm,0.9s						
LPG	**La Plagne**	**151.50**	**334**	*e*PKP2	PKPab	20 31 49.4	+0.5
	comp=Z,18nm,1.1s						
SMF	**Signal de Mont**	**151.62**	**339**	*e*PKP2	PKPab	20 31 49.1	-0.3
	comp=Z,9.3nm,0.8s						
AVF	**Avril sur Loir**	**151.66**	**340**	*e*PKP2	PKPab	20 31 49.3	-0.2
	comp=Z,13nm,0.9s						
BGF	**Bois d'Agland**	**152.03**	**340**	*e*PKP2	PKPab	20 31 52.2	+1.1
	comp=Z,8.2nm,0.7s						
SBF	**Sospel**	**152.50**	**331**	*e*PKP2	PKPab	20 31 54.4	+1.3
	comp=Z,23nm,1.1s						
PGF	**Pioggiola**	**152.74**	**327**	*e*PKP2	PKPab	20 31 54.2	+0.1
	comp=Z,16nm,0.9s						
VIVF	**Saint-Julien-l**	**152.86**	**336**	*e*PKP2	PKPab	20 31 54.8	+0.2
RJF	**Les Rejaudoux**	**153.57**	**341**	*e*PKP2	PKPab	20 31 57.4	-0.2
	comp=Z,14nm,1.0s						
MTLF	**Montolieu**	**155.07**	**337**	*e*PKP2	PKPab	20 32 04.0	0.0
	comp=Z,14nm,1.0s						
ETSF	**Etsaut**	**156.38**	**341**	*e*PKP2	PKPab	20 32 09.8	+0.2
ESDC	**Sonseca Array**	**160.31**	**345**	PKPab	PKPab	20 32 25.8	-0.8
	comp=Z,0.5nm,0.6s,baz=13,slow=4.4,SNR=5.3						

*IGIL **08** 20:48:16.5, 39.28N×9.16W, h2km, ML1.4*
*MDD **08** 20:48:17.0±1.2, 39.28N×9.12W, h4km±7km, mbLg1.4/5, Error ellipse: s-maj=10.0km s-min=3.5km az=118.0, PRXIMO*

INMG 08 20:48:16.7±1.1, 3928N×914W, h5km±3km, ML1.1, Error ellipse: s-maj=4.9km s-min=1.8km az=112.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.34**	**199**	*e*Pg	Pg	20 48 22.7	-0.6
PMAFR				*e*Sg	Sg	20 48 27.8	0.0
PMAFR							
	22nm,0.2s						
PLOU	**Loures**	**0.40**	**181**	*e*Sg	Sg	20 48 29.6	+0.1
PLOU							
	21nm,0.2s						
PLOU	**Loures**	**0.40**	**181**	Lg		20 48 29.6	
	11nm,0.2s						
ALMR	**Almeirim**	**0.46**	**106**	*e*P	Pg	20 48 24.8	-0.7
ALMR				*e*S	Sg	20 48 31.2	-0.3
ALMR				*e*S	Sg	20 48 31.3	-0.2
ALMR				AML	AML	20 48 37.7	
	comp=E,22nm,0.7s						
ALMR	**Almeirim**	**0.46**	**106**	*e*P	Pg	20 48 24.8	-0.7
ALMR				*e*S	Sg	20 48 31.2	-0.3
ALMR	**Almeirim**	**0.46**	**106**	P	Pg	20 48 24.8	-0.7
ALMR				S	Sg	20 48 31.2	-0.3
PTOM

KLP	**Kalpa**	**5.38**	**125**	*e*P	**Pn**	**21 10 57.0 -0.4**
KLP				*e*S	**Sn**	**21 12 00.2 +0.9**
KLP				AML	AML	21 12 29.9
	comp=N,52nm,0.4s					
KLP				AML	AML	21 12 33.4
	comp=E,85nm,0.6s					
KHET	**Khetri**	**7.06**	**160**	*e*S	**Sn**	**21 12 33.9 -6.8**
KHET				AML	AML	21 12 36.6
	comp=N,8.9nm,0.5s					
KHET				AML	AML	21 12 38.3
	comp=E,11nm,0.1s					
KK31	**Karatay Array**	**8.57**	**347**	⇓P	**Pn**	**21 11 42.9 +1.7**
	comp=E,0.9nm,0.3s,baz=143,slow=12,SNR=26					
KK31				⇓S	**Sn**	**21 13 16.6 -1.2**
	comp=E,2.5nm,0.5s,baz=137,slow=27					
GKN	**Gorkha**	**11.93**	**121**	*e*P	**Pn**	**21 12 25.5 -1.7**
GKN				*e*S	**Sn**	**21 14 30.4 -10**
DMN	**Daman**	**12.50**	**122**	*e*P	**Pn**	**21 12 32.6 -2.3**
PKI	**Pulchoki**	**12.73**	**121**	*e*P	**Pn**	**21 12 36.9 -1.3**
JIRN	**Jiri**	**13.24**	**119**	*e*P	**Pn**	**21 12 43.8 -1.3**
AB31	**Akbulak array**	**17.43**	**330**	⇑P	**Pn**	**21 13 42.5 +2.1**
	comp=E,0.2nm,0.3s,baz=141,slow=12,SNR=4.5					
AKTO	**Aktyubinsk**	**19.14**	**329**	⇑P	**Pn**	**21 14 00.5 -0.7**
	comp=E,1.6nm,2.7s					

*IDC **08** 21:13:52.5±2.0, 103N×9708E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=52.7km s-min=26.3km az=56.0*

NEIC 08 21:13:57.1±0.8, 107N×9715E, h30km, mb4.0/1, Error ellipse: s-maj=15.0km s-min=11.3km az=222.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.47**	**46**	Pn	Pn	21 14 34.8	-0.5
	3.0nm,0.3s,baz=246,slow=8.1,SNR=16						
PSI				LR	LR	21 15 22.6	
	comp=Z,231nm,20.0s,baz=308,slow=36						
KULM	**Kulim**	**5.46**	**40**	*e*Pn	Pn	21 15 15.7	-0.6
KKM	**Kota Kinabalu**	**19.65**	**75**	P	Pn	21 18 24.4	-0.5
WRA	**Warramunga Arr**	**42.01**	**122**	P	P	21 21 46.0	+0.4
	1.0nm,0.7s,baz=301,slow=9.1,SNR=14						
WB2	**Warramunga Arr**	**42.02**	**122**	*e*P	P	21 21 45.9	+0.2
SONM	**Songino Array**	**47.27**	**8**	P	P	21 22 27.5	0.0
	0.6nm,0.5s,baz=192,slow=8.6,SNR=6.2						
MKAR	**Makanchi Array**	**47.35**	**346**	P	P	21 22 28.6	+0.4
	0.5nm,0.4s,baz=156,slow=8.2,SNR=9.5						
ZAL	**Zalesovo**	**53.67**	**351**	P	P	21 23 15.9	+0.1
	1.0nm,0.5s,baz=287,slow=8.2,SNR=5.3						
BRVK	**Borovoye**	**56.42**	**341**	P	P	21 23 36.1	+0.3
CHKZ	**Chkalovo**	**56.83**	**341**	*e*P	P	21 23 38.3	-0.4
	0.9nm,0.6s						

*ISCJB **08** 21:28:40.9±0.7, 2129S±006×17935W±007, h613km±10km, mb4.1/15, Error ellipse: s-maj=10.6km s-min=9.2km az=14.4*

*NEIC **08** 21:28:41.1±0.8, 2126S×17924W, h602km±10km, mb4.2/11, Error ellipse: s-maj=12.4km s-min=10.2km az=213.0*

*IDC **08** 21:28:47.4±2.3, 2131S×17956W, h674km±28km, mb3.5/11, mb1 3.6/11, mb1mx3.5/16, mbtmp4.5/11, Error ellipse: s-maj=17.6km s-min=12.5km az=27.0*

ISC 08 21:28:41.0±0.6, 2132S±006×17922W±008, h601km±9km, n39, σ0°96/42, mb4.1/15, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.99**	**172**	P	**P**	**21 30 39.9**	**-0.2**
	219nm,0.3s,baz=261,slow=23,SNR=14						
RAO				S	**S**	**21 32 17.2**	**-0.6**
	26nm,0.3s,baz=267,slow=23,SNR=5.5						
AFI	**Afiamalu**	**10.22**	**45**	P	**P**	**21 31 02.3**	**+0.5**
	1.7nm,0.3s,baz=69,slow=14,SNR=3.0						
AFI				S	**S**	**21 32 56.3**	**-1.3**
	4.3nm,0.3s,baz=66,slow=22,SNR=6.0						
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**21 31 33.1**	**-0.1**
	0.4nm,0.3s,baz=81,slow=19,SNR=4.2						
URZ	**Urewera**	**17.18**	**190**	P	**P**	**21 32 08.4**	**-0.6**
	3.6nm,0.3s,baz=241,slow=2.8,SNR=17						
URZ				S	**S**	**21 34 58.4**	**+0.2**
	1.8nm,0.3s,baz=227,slow=22,SNR=9.6						
HNR	**Honiara**	**23.27**	**297**	P	**P**	**21 33 05.4**	**+1.7**
CTA	**Charters Tower**	**32.28**	**266**	*e*P	**P**	**21 34 22.7**	**+0.7**
	7.8nm,0.4s,mb4.7						
CTA	**Charters Tower**	**32.28**	**266**	P	**P**	**21 34 21.9**	**0.0**
	9.6nm,0.4s,mb4.8,baz=92,slow=11,SNR=20						
CTAO	**Charters Tower**	**32.28**	**266**	*e*P	**P**	**21 34 22.8**	**+0.8**
	8.8nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.43**	**285**	P	**P**	**21 34 40.5**	**+0.6**
	10nm,0.6s,mb4.6,baz=69,slow=10.0,SNR=4.7						
PMG	**Port Moresby**	**34.43**	**285**	*e*P	**P**	**21 34 40.8**	**+0.9**
	14nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**36.41**	**245**	P	**P**	**21 34 57.1**	**+0.9**
AS31	**Alice Springs**	**43.23**	**258**	*e*P	**P**	**21 35 50.9**	**+0.4**
AS31				*e*S	**S**	**21 41 32.1**	**-3.0**
ASAR	**Alice Springs**	**43.23**	**258**	P	**P**	**21 35 50.8**	**+0.2**
	6.1nm,0.6s,mb4.3,baz=96,slow=7.8,SNR=71						
ASAR				S	**S**	**21 41 32.1**	**-2.9**
	1.6nm,0.8s,baz=93,slow=16,SNR=11						
ASPA	**Alice Springs**	**43.23**	**258**	*e*P	**P**	**21 35 50.9**	**+0.3**
ASPA				*e*S	**S**	**21 41 32.1**	**-3.0**
WB2	**Warramunga Arr**	**43.35**	**263**	*e*P	**P**	**21 35 51.2**	**-0.3**
WB2				*e*S	**S**	**21 41 33.4**	**-3.5**
WRA	**Warramunga Arr**	**43.36**	**263**	P	**P**	**21 35 51.3**	**-0.3**
	3.3nm,0.3s,mb4.3,baz=96,slow=7.4,SNR=194						
WRA				S	**S**	**21 41 30.7**	**-6.3**
	0.5nm,0.8s,baz=96,slow=14,SNR=3.9						
KAKA	**Kakadu**	**46.86**	**272**	*e*P	**P**	**21 36 18.1**	**-0.1**
	6.8nm,0.4s,mb4.5						
MBWA	**Marble Bar**	**56.57**	**258**	*e*P	**P**	**21 37 27.2**	**-0.6**
	3.7nm,0.4s,mb4.0						
SBA	**Scott Base**	**56.99**	**184**	*e*P	**P**	**21 37 32.4**	**+1.8**
	5.7nm,0.9s,mb3.8						
VNDA	**Vanda**	**57.00**	**185**	P	**P**	**21 37 32.0**	**+1.3**
	1.7nm,0.5s,mb3.5,baz=360,slow=7.1,SNR=32						
VNDA	**Vanda**	**57.00**	**185**	*e*P	**P**	**21 37 31.8**	**+1.0**
	1.8nm,0.7s,mb3.4						
QSPA	**South Pole Qui**	**68.76**	**180**	*e*P	**P**	**21 38 46.5**	**+0.5**
	7.9nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**70.20**	**325**	P	**P**	**21 38 54.5**	**0.0**
	3.5nm,0.5s,mb4.0,baz=153,slow=5.5,SNR=19						
MAW	**Mawson**	**80.41**	**200**	P	**P**	**21 39 51.1**	**0.0**
	1.2nm,0.5s,mb3.5,baz=135,slow=8.0,SNR=13						
MAW	**Mawson**	**80.41**	**200**	*e*P	**P**	**21 39 51.4**	**+0.3**
	1.2nm,0.4s,mb3.6						
PMSA	**Palmer Station**	**80.99**	**157**	P	**P**	**21 39 54.6**	**+0.5**
	8.6nm,0.8s,mb4.2,baz=190,slow=1.9,SNR=6.4						
PMSA	**Palmer Station**	**80.99**	**157**	*e*P	**P**	**21 39 54.5**	**+0.4**
	7.0nm,0.6s,mb4.3						
SYO	**Syowa Base**	**85.68**	**193**	⇑*e*P	**P**	**21 40 15.7**	**-1.6**
SNAA	**Sanae**	**87.23**	**179**	P	**P**	**21 40 23.4**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=197,slow=13,SNR=12						
SNAA	**Sanae**	**87.23**	**179**	*e*	**P**	**21 40 23.0**	**-1.6**
SNAA				*e*		21 40 24.4	
SNAA	**Sanae**	**87.23**	**179**	*e*P	**P**	**21 40 23.5**	**-1.1**
	0.9nm,0.5s,mb3.8						
VNA3	**Neumayer Olymp**	**87.40**	**177**	*e*	**P**	**21 40 24.3**	**-1.1**
VNA3				*e*		21 40 25.7	
PLCA	**Paso Flores**	**89.54**	**134**	P	**P**	**21 40 36.8**	**+1.4**
	5.9nm,1.1s,mb4.3,baz=185,slow=2.3,SNR=3.4						
SONM	**Songino Array**	**95.62**	**319**	P	**P**	**21 41 03.0**	**-0.1**
	0.3nm,0.4s,mb3.9,baz=85,slow=21,SNR=4.0						
FINES	**FINESS Array B**	**136.22**	**343**	PKP	PKPdf	21 46 54.4	-0.6
	2.9nm,1.0s,baz=75,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**143.16**	**330**	PKP	PKPdf	21 47 04.8	-2.7
	5.5nm,0.5s,baz=43,slow=4.2,SNR=45						
GERES	**GERESS Array B**	**150.65**	**342**	PKPbc	PKPbc	21 47 25.3	-0.8
	0.4nm,0.6s,baz=28,slow=3.2,SNR=4.7						
DBIC	**Dimbokro**	**164.45**	**159**	PKPab	PKPab	21 48 36.2	+0.5
	2.5nm,0.7s,baz=200,slow=14,SNR=4.2						
TORD	**Torodi Ar. Bea**	**171.83**	**186**	PKPab	PKPab	21 49 08.1	-0.3
	1.2nm,1.1s,baz=172,slow=2.5,SNR=7.1						

*IDC **08** 21:30:26.5±0.7, 3174S×6773W, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.7/20, mbtmp3.7/10, ML3.7/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/28, Error ellipse: s-maj=16.7km s-min=7.5km az=19.0*

*ISCJB **08** 21:30:28.1±1.6, 3158S±005×6757W±004, h13km±11km, mb3.9/6, MS3.7/1, Error ellipse: s-maj=8.0km s-min=6.0km az=136.8*

*NEIC **08** 21:30:29.9, 3166S×6757W, h25km, mb4.1/2, ML4.3(GUC), After GUC.*

*GUC **08** 21:30:29.9±0.7, 3166S×6757W, h25km, MD4.1, ML4.3*

ISC 08 21:30:33.1±0.7, 3158S±005×6766W±005, h42km±10km, n33, σ1°08/31, mb3.9/6, MS3.7/1, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.50**	**266**	Pg	**Pn**	**21 30 36.0**	**-7.9**
	27nm,0.3s,baz=93,slow=11,SNR=5603						
CFAA				Lg		21 30 41.2	
JACH	**Jahuel**	**2.73**	**245**	⇓*i*P	**Pn**	**21 31 13.9**	**-0.4**
JACH				*i* S	**Sn**	**21 31 47.7**	**+1.6**
FCH	**Farellones**	**2.83**	**231**	*e*P	**Pn**	**21 31 15.6**	**-0.2**
FCH				*i* S	**Sn**	**21 31 50.8**	**+2.1**
FCH				AML	AML	21 31 52.9	
	comp=N,352nm,0.4s						
PTCH	**Petorca**	**2.87**	**255**	AML	AML	21 31 54.7	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**2.89**	**277**	*e*P	**Pn**	**21 31 15.2**	**-1.4**
CMCH				*i* S	**Sn**	**21 31 50.6**	**+0.5**
PEL	**Peldehue**	**3.00**	**238**	*e*P	**Pn**	**21 31 17.1**	**-1.0**
PEL				AML	AML	21 32 00.3	
	comp=N,672nm,0.4s						
CLCH	**Cerro Calan**	**3.04**	**233**	*i* P	**Pn**	**21 31 18.0**	**-0.6**
CLCH				*i* S	**Sn**	**21 31 54.4**	**+0.6**
CLCH				AML	AML	21 32 03.0	
	comp=N,687nm,0.5s						
TLL	**Tololo Astrono**	**3.05**	**297**	*e*P	**Pn**	**21 31 20.0**	**+1.2**
TLL				AML	AML	21 32 10.1	
	comp=N,1μm,0.6s						
PCH	**Pirque**	**3.16**	**229**	*e*P	**Pn**	**21 31 19.5**	**-0.8**
OVCH	**Ovalle**	**3.19**	**287**	AML	AML	21 32 04.0	
	comp=N,1μm,0.7s						
RCDM	**Rinconada Maip**	**3.27**	**234**	*i* P	**Pn**	**21 31 21.6**	**-0.3**
RCDM				AML	AML	21 32 06.8	
	comp=N,298nm,0.4s						
CHNG	**Los Chungos**	**3.29**	**264**	*e*P	**Pn**	**21 31 21.6**	**-0.5**
SFDO	**San Fernando**	**4.14**	**222**	*i* P	**Pn**	**21 31 32.6**	**-1.1**
TRQA	**Tornquist**	**7.97**	**146**	*e*Pn	**Pn**	**21 32 27.6**	**+1.3**
TRQA				*e*Sn	**Sn**	**21 33 55.9**	**+0.7**
LVC	**Limon Verde**	**9.00**	**353**	Pn	**Pn**	**21 32 39.4**	**-1.0**
	comp=N,0.3nm,0.3s,baz=180,slow=13,SNR=3.7						
LVC				LR	LR	21 36 28.6	
	comp=N,66nm,18.7s,baz=180,slow=40						
PLCA	**Paso Flores**	**9.43**	**194**	Pn	**Pn**	**21 32 42.5**	**-3.9**
	comp=N,0.0nm,0.3s,baz=82,slow=15,SNR=2.0						
PLCA				Lg		21 35 20.2	
	comp=N,0.1nm,0.3s,baz=29,slow=12,SNR=3.3						
PLCA	**Paso Flores**	**9.43**	**194**	Pn	**Pn**	**21 32 42.5**	**-3.9**
PLCA				Lg		21 35 20.2	
CPUP	**Villa Florida**	**10.44**	**63**	Pn	**Pn**	**21 33 00.2**	**0.0**
	comp=N,0.3nm,0.3s,baz=244,slow=9.6,SNR=2.9						
CPUP				Lg		21 35 56.3	
	comp=N,0.7nm,0.3s,baz=123,slow=15,SNR=4.1						
LPAZ	**La Paz**	**15.22**	**358**	Pn	**Pn**	**21 34 05.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=0.2,slow=5.9,SNR=3.4						
SAML	**Samuel**	**22.89**	**11**	P	**P**	**21 35 33.4**	**+0.4**
USHA	**Ushuaia**	**23.25**	**181**	LR	LR	21 44 34.6	
	comp=N,306nm,21.5s,MS3.7,baz=72,slow=37						
PMSA	**Palmer Station**	**33.30**	**177**	P	**P**	**21 37 04.9**	**-1.7**
	comp=N,2.8nm,0.8s,mb4.3,baz=193,slow=14,SNR=2.7						
SNAA	**Sanae**	**52.47**	**159**	P	**P**	**21 39 40.3**	**-1.3**
	comp=N,0.4nm,0.5s,mb3.6,baz=304,slow=4.8,SNR=24						
VNDA	**Vanda**	**67.17**	**190**	P	**P**	**21 41 19.0**	**-3.6**
	comp=N,0.5nm,0.8s,mb3.6,baz=322,slow=3.7,SNR=3.6						
VNDA	**Vanda**	**67.17**	**190**	*e*P	**P**	**21 41 19.0**	**-3.6**
	comp=N,0.4nm,0.6s,mb3.6						
DBIC	**Dimbokro**	**70.89**	**69**	P	**P**	**21 41 46.5**	**+0.9**
	comp=N,2.4nm,0.8s,mb4.2,baz=243,slow=2.3,SNR=3.5						
DBIC	**Dimbokro**	**70.89**	**69**	*e*P	**P**	**21 41 47.4**	**+1.7**
	comp=N,5.7nm,1.1s,mb4.4						
TORD	**Torodi Ar. Bea**	**79.89**	**68**	P	**P**	**21 42 38.9**	**+1.5**
	comp=N,0.8nm,0.5s,mb3.9,baz=290,slow=7.2,SNR=24						
PDAR	**Pinedale Array**	**83.38**	**330**	P	**P**	**21 42 55.6**	**-0.1**
	comp=N,0.4nm,0.9s,mb3.4,baz=182,slow=4.1,SNR=2.6						
WRA	**Warramunga Arr**	**124.60**	**205**	PKP	PKPdf	21 49 26.5	-1.3
	comp=N,0.3nm,0.4s,baz=158,slow=1.8,SNR=15						
ZAL	**Zalesovo**	**150.19**	**33**	PKPbc	PKPbc	21 50 18.9	-0.4
	comp=N,1.1nm,0.2s,baz=11,slow=21,SNR=3.7						
MKAR	**Makanchi Array**	**152.40**	**48**	PKPbc	PKPbc	21 50 24.5	+0.1
	comp=N,0.4nm,0.3s,baz=290,slow=2.6,SNR=6.9						
MKAR	**Makanchi Array**	**152.40**	**48**	PKPbc	PKPbc	21 50 24.5	+0.1

*ISCJB **08** 22:03:57.0±0.8, 3017S±009×1793W±02, h193km±10km, mb3.5/6, Error ellipse: s-maj=26.3km s-min=12.7km az=34.7*

*NEIC **08** 22:03:57.7±1.0, 3022S×17942W, h178km±14km, mb3.9/4, Error ellipse: s-maj=24.5km s-min=18.2km az=78.0*

*IDC **08** 22:03:58.5±0.6, 2967S×17874W, h235km±12km, mb3.2/4, mb1 3.4/4, mb1mx3.3/11, mbtmp3.8/4, Error ellipse: s-maj=44.0km s-min=23.4km az=41.0*

ISC 08 22:03:58.1±0.7, 3022S±009×1793W±02, h187km±10km, n14, σ0°79/13, mb3.7/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.55**	**52**	P	**Pn**	**22 04 30.8**	**-0.4**
	336nm,0.3s,baz=121,slow=5.6,SNR=21						
RAO				S	**Sn**	**22 04 57.0**	**+0.3**
	140nm,0.3s,baz=45,slow=20,SNR=3.1						
URZ	**Urewera**	**8.55**	**199**	P	**Pn**	**22 05 57.6**	**-0.9**
	0.2nm,0.3s,baz=18,slow=19,SNR=4.0						
URZ				S	**Sn**	**22 07 34.7**	**+0.4**
	4.0nm,0.3s,baz=360,slow=20,SNR=12						
ASAR	**Alice Springs**	**41.98**	**267**	P	**P**	**22 11 30.8**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=104,slow=6.8,SNR=6.8						
ASAR				PcP	PcP	22 13 19.9	-2.5
	0.4nm,0.5s,baz=125,slow=4.0,SNR=4.7						
WB2	**Warramunga Arr**	**42.94**	**273**	*e*P	**P**	**22 11 38.8**	**+0.3**
WRA	**Warramunga Arr**	**42.95**	**273**	P	**P**	**22 11 38.7**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=110,slow=8.1,SNR=10						
SBA	**Scott Base**	**48.14**	**184**	*e*P	**P**	**22 12 20.8**	**+1.6**
	3.5nm,0.7s,mb4.1						
VNDA	**Vanda**	**48.16**	**185**	P	**P**	**22 12 19.9**	**+0.5**
	0.4nm,0.6s,mb3.2,baz=8.6,slow=6.3,SNR=8.6						
VNDA	**Vanda**	**48.16**	**185**	*e*P	**P**	**22 12 19.9**	**+0.4**
	0.4nm,0.4s,mb3.4						
QSPA	**South Pole Qui**	**59.89**	**180**	*e*P	**P**	**22 13 43.8**	**-0.4**
	1.0nm,0.2s,mb4.3						
MAW	**Mawson**	**72.08**	**201**	P	**P**	**22 15 00.2**	**-1.6**
	0.7nm,0.5s,mb3.6,baz=148,slow=8.8,SNR=6.2						
MAW	**Mawson**	**72.08**	**201**	*e*P	**P**	**22 15 00.1**	**-1.8**
	1.7nm,0.9s,mb3.8						
FINES	**FINESS Array B**	**144.58**	**339**	PKP	PKPdf	22 23 05.2	-7.0
	1.3nm,0.5s,baz=65,slow=3.5,SNR=12						
FINES	**FINESS Array B**	**144.58**	**339**	PKP	PKPdf	22 23 05.2	-7.0
TORD	**Torodi Ar. Bea**	**162.99**	**183**	PKPab	PKPab	22 24 25.5	-3.0
	0.9nm,0.9s,baz=164,slow=3.9,SNR=9.7						

CASC 08 22:20:09.4±1.6, 815N×8299W, h16km±8km, MD3.9, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.60**	**62**	*e*P	Pg	22 20 21.0	-0.3
DVD				*e*S	Sg	22 20 29.6	+0.3
CNI	**Changuinola**	**1.34**	**20**	⇑*i*P	Pn	22 20 33.5	0.0
CNI				*e*S	Sn	22 20 51.2	+0.2
BUS	**Buena Vista**	**1.59**	**332**	*e*P	Pn	22 20 36.4	-0.6
BUS				*e*S	Sn	22 20 59.0	+1.9
LCR2	**La Lucha 2**	**1.87**	**328**	*e*P	Pn	22 20 40.6	-0.1
LCR2				*e*S	Sn	22 21 04.9	+0.8
PRS1	**Puriscal**	**2.24**	**324**	*e*P	Pn	22 20 46.0	+0.2
CGA2	**Cerro Gallo 2**	**2.36**	**322**	*e*P	Pn	22 20 48.7	+1.2
CGA2				*e*S	Sn	22 21 16.9	+0.9
PTP	**Ponta Puerca**	**19.64**	**58**	⇓*i*P		22 20 13.1	
PTP				*e*S		22 20 15.3	

*FUNV **08** 22:26:03.6, 1087N×6140W, h22km, MW3.0*

*ISCJB **08** 22:26:05.1±1.1, 1080N±006×6147W±005, h43km±24km, Error ellipse: s-maj=11.9km s-min=6.0km az=113.3*

*NEIC **08** 22:26:05.2, 1078N×6144W, h41km, MD2.9(TRN), After TRN.*

*TRN **08** 22:26:05.2, 1078N×6144W, h42km, MD2.9*

ISC 08 22:26:05.5±0.9, 1079N±006×6145W±005, h39km±23km, n9, σ0°53/16, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.15**	**161**	⇑*i*P	**Pn**	**22 26 12.3**	**0.0**
TPP	**Pointe-a-Pierr**	**0.47**	**180**	*e*P	**Pn**	**22 26 16.4**	**+0.6**
TPP				*e*S	**Sn**	**22 26 22.6**	**-0.4**
GUIV	**Guiria**	**0.77**	**259**	*e*P	**Pn**	**22 26 19.5**	**-0.3**
GUIV				*e*S	**Sn**	**22 26 30.2**	**0.0**
TPR	**Prospect**	**0.77**	**59**	⇓*e*P	**Pn**	**22 26 19.9**	**0.0**
TPR				*e*S	**Sn**	**22 26 30.5**	**+0.3**
BOT	**Bacolet**	**0.81**	**63**	*e*P	**Pn**	**22 26 20.3**	**-0.1**
GRW	**Mount Saint Ca**	**1.38**	**351**	*e*P	**Pn**	**22 26 27.8**	**-0.4**
GRW				*e*S	**Sn**	**22 26 45.8**	**+0.7**
GUNV	**Guanoco**	**1.59**	**247**	*e*P	**Pn**	**22 26 31.1**	**0.0**
GUNV				*e*S	**Sn**	**22 26 51.9**	**+1.4**
ITEV	**Isla Los Testi**	**1.74**	**289**	*e*P	**Pn**	**22 26 32.1**	**-1.0**
ITEV				*e*S	**Sn**	**22 26 54.1**	**-0.1**
CRUV	**Carupano**	**1.76**	**266**	*e*P	**Pn**	**22 26 32.9**	**-0.5**
CRUV				*e*S	**Sn**	**22 26 54.4**	**-0.1**

*IDC **08** 22:32:16.8±1.6, 3555N×7575E, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.5/4, Error ellipse: s-maj=35.8km s-min=24.2km az=151.0*

*ISCJB **08** 22:32:17.1±0.3, 3582N±003×7622E±006, h10km, mb3.7/5, Error ellipse: s-maj=6.7km s-min=3.5km az=146.3*

*MOS **08** 22:32:20.8±1.1, 3571N×7568E, h33km, mb4.2/1, Error ellipse: s-maj=25.2km s-min=10.3km az=96.8*

*NNC **08** 22:32:21.6±6.6, 3545N×7554E, h44km±49km, mb3.2, mpv3.5, Error ellipse: s-maj=56.1km s-min=45.2km az=169.0*

*NEIC **08** 22:32:22.6±1.3, 3567N×7572E, h35km, mb3.3/2, Error ellipse: s-maj=22.6km s-min=13.0km az=141.0*

*BJI **08** 22:32:28.4, 3604N×7623E, h30km, ML3.3*

ISC 08 22:32:19.2±0.3, 3576N±003×7607E±006, h10km, n43, σ1°35/51, mb3.7/5, 4C-1D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.12**	**228**	P	**Pn**	**22 33 09.1**	**+0.6**
DLH	**Dalhousie**	**3.22**	**181**	*e*P	**Pn**	**22 33 12.0**	**+2.2**
DLH				*e*SB	**Sb**	**22 33 56.0**	**+0.4**
THN	**Thein Dam**	**3.33**	**185**	*e*P	**Pn**	**22 33 12.4**	**+1.0**
KSH	**Kashi**	**3.75**	**359**	*e*PG	**Pg**	**22 33 31.6**	**+0.6**
KSH				SG	**Sg**	**22 34 12.0**	**-7.6**
KSH				Smax			
	comp=N,91nm,0.6s						
KSH				Smax			
	comp=E,134nm,0.9s						
CEP	**Cherat**	**3.93**	**242**	P	**Pn**	**22 33 18.9**	**-0.7**
CEP				S	**Sn**	**22 34 11.0**	**+5.3**
SDNR	**Sundarnagar**	**4.32**	**170**	*e*P	**Pn**	**22 33 26.5**	**+1.5**
SDNR				*e*SB	**Sb**	**22 34 31.0**	**+3.6**
KLP	**Kalpa**	**4.60**	**156**	*e*P	**Pn**	**22 33 31.4**	**+2.6**
KLP				*e*S	**Sn**	**22 34 23.0**	**+0.8**
KLP				AML	AML	22 34 50.0	
	comp=N,79nm,0.7s						
KLP				AML	AML	22 34 50.5	
	comp=E,96nm,0.6s						
THW	**Thamme Wali**	**4.64**	**232**	P	**Pn**	**22 33 29.1**	**-0.3**
AAK	**Ala-Archa**	**6.97**	**350**	*e*P	**Pn**	**22 34 02.0**	**+0.7**
AAK				*e*		22 35 20.1	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**6.97**	**350**	*e*Pn	**Pn**	**22 34 02.0**	**+0.7**
	comp=Z,1.5nm,0.6s						
AAK				*e*Sn	**Sn**	**22 35 20.1**	**-0.5**
KK31	**Karatay Array**	**8.49**	**331**	P	**Pn**	**22 34 23.6**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=127,slow=12,SNR=18						
KK31				⇑S	**Sn**	**22 35 59.2**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=152,slow=23						
GKN	**Gorkha**	**10.62**	**134**	*e*P	**Pn**	**22 34 51.5**	**0.0**
	comp=Z,11nm,0.4s						
GKN				*e*S	**Sn**	**22 36 48.7**	**-1.8**
KKN	**Kakani**	**11.16**	**133**	*e*P	**Pn**	**22 34 57.5**	**-1.3**
DMN	**Daman**	**11.19**	**134**	*e*P	**Pn**	**22 34 58.3**	**-0.9**
PKI	**Pulchoki**	**11.40**	**133**	*e*P	**Pn**	**22 35 01.1**	**-1.0**
GUN	**Gumba**	**11.44**	**130**	*e*P	**Pn**	**22 35 01.8**	**-0.8**
	comp=Z,19nm,0.8s						
JIRN	**Jiri**	**11.81**	**130**	*e*P	**Pn**	**22 35 07.1**	**-0.6**
	comp=Z,3.3nm,0.2s						
MKAR	**Makanchi Array**	**11.97**	**21**	Pn	**Pn**	**22 35 12.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=205,slow=13,SNR=9.3						
BVA0	**Borovoye Array**	**17.72**	**349**	⇑P	**Pn**	**22 36 27.9**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=239,slow=41,SNR=5.9						
BVAR	**Borovoye Array**	**17.72**	**349**	P	**Pn**	**22 36 27.0**	**+1.0**
	comp=Z,0.3nm

ASAR S **S** **22 41 19.8 +1.8**
0.6nm,0.6s,baz=32,slow=15,SNR=3.5
ASPA Alice Springs 22.92 218 *e*P **P** **22 37 16.6 +0.6**
FITZ Fitzroy Crossi 25.85 240 *e*P **P** **22 37 42.7 0.0**
19nm,0.7s,mb4.6
FITZ Fitzroy Crossi 25.85 240 P **P** **22 37 42.9 +0.1**
9.7nm,0.6s,mb4.4,baz=58,slow=8.4,SNR=52
STKA Stephens Creek 26.81 194 P **P** **22 37 50.8 -0.6**
1.6nm,0.5s,mb3.8,baz=7.6,slow=15,SNR=3.4
MBWA Marble Bar 32.18 239 *e*P **P** **22 38 38.7 -0.2**
3.5nm,0.8s,mb4.1
VNDA Vanda 71.96 177 P **P** **22 43 32.1 -1.1**
1.0nm,0.9s,mb3.6,baz=317,slow=6.6,SNR=6.1
VNDA Vanda 71.96 177 *e*P **P** **22 43 32.9 -0.3**
1.1nm,0.9s,mb3.7
MAW Mawson 83.16 203 *e*P **P** **22 44 34.7 -0.7**
0.8nm,0.7s,mb3.7
QSPA South Pole Qui 84.12 180 *e*P **P** **22 44 39.9 -0.4**
2.4nm,0.7s,mb4.1
TORD Torodi Ar. Bea 146.98 285 PKPbc PKPbc 22 51 51.9 +0.4
0.3nm,0.3s,baz=82,slow=2.8,SNR=25

ISCJB ***08*** *22:36:21.5±1.3, 163S±02×1767W±02, h33km, mb4.3/8, Error ellipse: s-maj=34.8km s-min=27.1km az=155.0*
IDC ***08*** *22:36:23.5±3.5, 161.5S×1774.8W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/14, mbtmp4.4/4, Error ellipse: s-maj=153.0km s-min=41.1km az=141.0*
NEIC ***08*** *22:36:23.8±1.0, 1641S×17671W, h35km, mb4.1/4, Error ellipse: s-maj=30.8km s-min=22.6km az=159.0*
ISC 08 22:36:22.5±1.3, 163S±02×1765W±02, h35km, n14, σ0§61/12, mb4.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.53 258**		*e*P	**P**	**22 43 16.1**	**+0.1**
	1.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**40.99 240**		P	**P**	**22 44 02.5**	**+0.5**
	2.7nm,0.5s,mb4.2,baz=92,slow=7.1,SNR=9.8						
WB2	**Warramunga Arr**	**46.72 258**		*e*P	**P**	**22 44 47.5**	**-0.5**
WRA	**Warramunga Arr**	**46.73 258**		P	**P**	**22 44 48.0**	**-0.1**
	1.2nm,0.3s,mb4.3,baz=92,slow=6.9,SNR=11						
AS31	**Alice Springs**	**46.98 253**		*e*P	**P**	**22 44 49.8**	**-0.3**
ASAR	**Alice Springs**	**46.98 253**		P	**P**	**22 44 49.9**	**-0.2**
	16nm,0.5s,mb5.2,baz=88,slow=8.1,SNR=198						
ASPA	**Alice Springs**	**46.99 253**		*e*P	**P**	**22 44 49.8**	**-0.3**
KAKA	**Kakadu**	**49.45 267**		*e*P	**P**	**22 45 10.5**	**+1.3**
	3.8nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**55.10 259**		P	**P**	**22 45 50.8**	**-0.2**
	0.7nm,0.3s,mb4.1,baz=80,slow=6.6,SNR=8.9						
BILL	**Bilibino**	**85.05 354**		*e*P	**P**	**22 48 54.4**	**-0.2**
	27nm,0.5s						
MAW	**Mawson**	**85.96 199**		*e*P	**P**	**22 48 58.0**	**-1.0**
	0.4nm,0.5s,mb3.9						
SNAA	**Sanae**	**92.12 178**		*e*P	**P**	**22 49 29.2**	**+0.9**
	0.2nm,0.4s,mb3.8						
BRTR	**Keskin Array B**	**144.90 318**		PKP	PKPdf	22 55 59.6	+3.8
	0.7nm,0.7s,baz=29,slow=2.8,SNR=4.9						
GERES	**GERESS Array B**	**146.50 348**		PKPbc	PKPbc	22 56 05.5	+5.5
	0.6nm,0.6s,baz=29,slow=2.2,SNR=7.6						

NEIC ***08*** *23:06:49.9, 3729S×17780E, h50km, ML3.8(WEL), After WEL.*
WEL 08 23:06:49.8±0.4, 3728S×17780E, h50km±5km, ML3.8/4, 1C, Error ellipse: s-maj=2.9km s-min=2.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.49 125**		P	Pn	23 07 00.4	-0.6
MXZ				S	Sn	23 07 08.8	-0.2
MXZ	**Matakaoa Point**	**0.49 125**		⇑P*	Pn	23 07 00.4	-0.6
MXZ				S*	Sn	23 07 08.8	-0.1
WIZ	**White Island**	**0.54 243**		P	Pn	23 07 01.7	+0.1
WIZ				S	Sn	23 07 10.5	+0.4
WIZ	**White Island**	**0.54 243**		P*	Pn	23 07 01.7	+0.1
WIZ				S*	Sn	23 07 10.5	+0.5
PUZ	**Puketiti**	**0.87 155**		PN	Pn	23 07 06.2	+0.5
PUZ				SN	Sn	23 07 17.9	+0.5
MWZ	**Matawai**	**1.07 192**		P	Pn	23 07 08.0	-0.5
MWZ				S	Sn	23 07 21.6	-0.7
MWZ	**Matawai**	**1.07 192**		P*	Pn	23 07 08.0	-0.4
MWZ				S*	Sn	23 07 21.6	-0.6
URZ	**Urewera**	**1.12 209**		P	Pn	23 07 08.7	-0.4
URZ	**Urewera**	**1.12 209**		P*	Pn	23 07 08.7	-0.4
URZ				S*	Sn	23 07 22.8	-0.6
KNZ	**Kokohu**	**1.74 183**		PN	Pn	23 07 17.1	-0.5
KUZ	**Kuaotunu**	**1.75 287**		P	Pn	23 07 17.3	-0.4
KUZ				S	Sn	23 07 38.1	-0.7
KUZ	**Kuaotunu**	**1.75 287**		PN	Pn	23 07 17.3	-0.4
KUZ				SN	Sn	23 07 38.1	-0.7

IDC ***08*** *23:16:00.8±7.9, 1701S×17643W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, Error ellipse: s-maj=185.7km s-min=41.8km az=36.0*
ISCJB ***08*** *23:16:02.3±5.8, 169S±09×1763W±06, h33km, mb4.2/6, Error ellipse: s-maj=144.2km s-min=27.7km az=60.9*
NEIC ***08*** *23:16:05.2±4.2, 1699S×17632W, h35km, mb4.1/3, Error ellipse: s-maj=106.0km s-min=20.5km az=212.0*
ISC 08 23:16:05.2±5.9, 170S±09×1763W±06, h35km, n12, σ0§20/12, mb4.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.87 241**		*e*P	**P**	**23 23 43.6**	**-0.1**
	2.6nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**40.87 241**		P	**P**	**23 23 43.6**	**-0.1**
	2.9nm,0.5s,mb4.2,baz=80,slow=9.7,SNR=10						
WB2	**Warramunga Arr**	**46.81 258**		*e*P	**P**	**23 24 31.5**	**+0.1**
WRA	**Warramunga Arr**	**46.83 258**		P	**P**	**23 24 31.7**	**+0.2**
	1.4nm,0.5s,mb4.2,baz=97,slow=8.0,SNR=8.0						
AS31	**Alice Springs**	**47.02 253**		*e*P	**P**	**23 24 32.9**	**-0.1**
ASAR	**Alice Springs**	**47.02 253**		P	**P**	**23 24 33.1**	**+0.1**
	4.9nm,0.6s,mb4.6,baz=89,slow=8.6,SNR=62						
ASPA	**Alice Springs**	**47.02 253**		*e*P	**P**	**23 24 32.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.21 260**		*e*P	**P**	**23 25 34.9**	**+0.4**
	6.0nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**55.21 260**		P	**P**	**23 25 34.1**	**-0.4**
	0.6nm,0.4s,mb4.0,baz=107,slow=7.7,SNR=6.5						
VNDA	**Vanda**	**61.53 185**		P	**P**	**23 26 19.0**	**+0.4**
	0.6nm,0.9s,mb3.7,baz=356,slow=5.0,SNR=4.8						
VNDA	**Vanda**	**61.53 185**		*e*P	**P**	**23 26 18.6**	**0.0**
	0.4nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**73.05 180**		*e*P	**P**	**23 27 31.4**	**-0.2**
	1.6nm,0.6s,mb4.1						

CSEM ***08*** *23:19:33.2, 6783N×2019E, h6km, ML3.3, Mining explosion. After UPP*
UPP ***08*** *23:19:33.2, 6783N×2019E, h6km, ML3.3, Mining explosion.*
HEL 08 23:19:33.6±0.0, 6784N×2018E, h0km, ML3.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	23 19 35.9	-0.3
KUA				*i* S	Sg	23 19 37.9	0.0
NIKU	**Nikkaluokta**	**0.44 275**		*i* P	Pg	23 19 41.4	-0.5
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	23 19 46.4	-0.9
SALU	**Saltoluokta**	**0.79 235**		*i* P	Pg	23 19 47.8	-0.9
MASU	**Masugnsbyn**	**0.79 118**		*i* P	Pg	23 19 47.9	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 19 55.9	-0.7
KIF				*e*S	Sg	23 20 12.0	-0.1
PAJU	**Pajala**	**1.39 124**		*e*P	Pn	23 19 58.3	-2.0
ERTU	**Ertsjaerv**	**1.51 148**		*e*P	Pn	23 20 01.2	-0.6
HARU	**Harads**	**1.71 169**		*e*P	Pn	23 20 03.9	-0.7
HARU	**Harads**	**1.71 169**		P	Pn	23 20 03.9	-0.7
	baz=327						

IDC ***09*** *00:09:57.1±0.7, 2339S×17559W, h0km, mb4.2/9, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, ML5.0/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/21, Error ellipse: s-maj=25.9km s-min=20.1km az=143.0*
ISCJB ***09*** *00:09:58.6±0.4, 2352S±007×17561W±009, h15km, mb4.6/21, MS4.1/9, Error ellipse: s-maj=12.2km s-min=10.5km az=41.6*
BJI ***09*** *00:09:58.4, 2316S×17542W, h3km, mB5.5, mb4.8, Ms5.0, Msz4.7*
NEIC ***09*** *00:09:59.2±0.3, 2339S×17555W, h10km, mb4.7/9, Error ellipse: s-maj=13.6km s-min=10.4km az=124.0*
MOS ***09*** *00:10:06.2±3.0, 2398S×17631W, h33km, mb5.0/5, Error ellipse: s-maj=18.0km s-min=14.6km az=85.4*
ISC 09 00:10:00.3±0.4, 2358S±006×17552W±009, h15km, h15km±1.8km: pP-P, n97, σ0§96/52, mb4.6/21, MS4.1/9, 6C-9D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.04 200**		Pn	**Pn**	**00 11 29.1**	**0.0**
	39nm,0.3s,baz=116,slow=22,SNR=5.6						
RAO				Sn	**Sn**	**00 12 36.2**	**-1.7**
	70nm,0.3s,baz=90,slow=20,SNR=4.9						
RAO	**Raoul Island**	**6.04 200**		*e*Pn	**Pn**	**00 11 29.8**	**+0.7**
RAO				*e*Sn	**Sn**	**00 12 36.5**	**-1.4**
AFI	**Afiamalu**	**10.25**	**21**	Pn	**Pn**	**00 12 17.9**	**-8.8**
	7.7nm,0.3s,baz=300,slow=3.3,SNR=10						
AFI				Sn	**Sn**	**00 14 03.4**	**-18**
	5.3nm,0.3s,baz=112,slow=21,SNR=3.6						
AFI	**Afiamalu**	**10.25**	**21**	*e*Pn	**Pn**	**00 12 19.6**	**-7.1**
	70nm,0.9s						
AFI				*e*Sn	**Sn**	**00 14 00.8**	**-21**
RAR	**Rarotonga**	**14.76**	**84**	Pn	**Pn**	**00 13 17.9**	**-10**
	3.5nm,0.3s,baz=239,slow=10,SNR=26						
RAR				Sn	Sn	00 15 43.6	-28
	4.4nm,0.3s,baz=56,slow=15,SNR=5.4						
RAR				LR	LR	00 17 30.3	
	comp=Z,312nm,21.1s,baz=343,slow=31						
DZM	**Mont Dzumac**	**16.70 272**		Pn	**Pn**	**00 14 00.7**	**+7.2**
	0.4nm,0.3s,baz=94,slow=16,SNR=6.8						
SNZO	**South Karori**	**19.49 203**		P	**Pn**	**00 14 29.1**	**+1.3**
TBI	**Tubuai**	**23.90**	**95**	*e*LQ		00 19 30.5	
	259nm,26.8s						
TBI				*e*LR	LR	00 20 41.9	
	384nm,26.5s,baz=266						
PPT	**Papeete**	**25.00**	**81**	*e*LQ		00 20 04.6	
	314nm,25.5s						
PPT				*e*LR	LR	00 21 08.5	
	413nm,25.2s,baz=257						
PPT	**Papeete**	**25.00**	**81**	LR	LR	00 23 03.8	
	comp=Z,194nm,18.8s,MS3.6,baz=278,slow=31						
CTAO	**Charters Tower**	**35.58 268**		*e*P	**P**	**00 16 57.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**35.58 268**		*e*P	**P**	**00 16 57.2**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.6						
TAOE	**Nuku Hiva Isla**	**36.85**	**73**	*e*LR	LR	00 26 33.3	
	comp=Z,391nm,27.5s						
RKT	**Rikitea**	**37.14**	**98**	*e*LR	LR	00 26 48.7	
	comp=Z,227nm,27.0s						
PMG	**Port Moresby**	**38.32 285**		*e*P	**P**	**00 17 20.3**	**0.0**
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
PMG	**Port Moresby**	**38.32 285**		*e*P	**P**	**00 17 20.3**	**0.0**
	comp=Z,18nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**38.65 248**		P	**P**	**00 17 22.5**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.0,baz=29,slow=15,SNR=5.0						
STKA				LR	LR	00 31 24.9	
	comp=Z,197nm,19.6s,MS3.9,baz=25,slow=33						
STKA	**Stephens Creek**	**38.65 248**		*e*P	**P**	**00 17 24.9**	**+1.9**
ASAR	**Alice Springs**	**46.13 259**		P	**P**	**00 18 23.5**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=96,slow=6.9,SNR=21						
ASAR				LR	LR	00 37 05.8	
	comp=Z,144nm,19.5s,MS3.9,baz=165,slow=35						
WB2	**Warramunga Arr**	**46.51 264**		*e*P	**P**	**00 18 26.2**	**-0.7**
WRA	**Warramunga Arr**	**46.52 264**		P	**P**	**00 18 25.6**	**-1.4**
	comp=Z,2.4nm,0.4s,mb4.5,baz=104,slow=8.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**54.95 264**		P	**P**	**00 19 29.8**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.3,baz=134,slow=8.1,SNR=11						
SBA	**Scott Base**	**54.98 185**		*e*P	**P**	**00 19 33.4**	**+2.6**
SBA				*e*		00 19 47.9	
SBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**54.98 185**		*e*P	**P**	**00 19 33.4**	**+2.6**
	comp=Z,9.4nm,0.9s,mb4.8						
SBA				*e*		00 19 47.9	
VNDA	**Vanda**	**55.08 186**		P	**P**	**00 19 32.4**	**+0.9**
	comp=Z,2.2nm,0.9s,mb4.2,baz=8.0,slow=7.7,SNR=10						
MBWA	**Marble Bar**	**59.47 259**		*e*P	**P**	**00 20 02.0**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**66.51 180**		*e*P	**P**	**00 20 49.9**	**+0.6**
QSPA				*e*		00 21 03.9	
MAW	**Mawson**	**79.45 199**		P	**P**	**00 22 06.7**	**+0.8**
	comp=Z,3.1nm,0.7s,mb4.4,baz=128,slow=7.6,SNR=10						
MAW				LR	LR	00 57 32.5	
	comp=Z,87nm,18.5s,MS4.1,baz=248,slow=36						
MAW	**Mawson**	**79.45 199**		*e*P	**P**	**00 22 06.7**	**+0.8**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAW	**Mawson**	**79.45 199**		*e*P	**P**	**00 22 06.7**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**81.72**	**42**	P	**P**	**00 22 17.8**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=226,slow=8.9,SNR=6.5						
NVAR	**Mina Array Bea**	**81.72**	**42**	P	**P**	**00 22 17.8**	**-0.3**
NJ2	**Nanjing**	**83.60 309**		*e*P	**P**	**00 22 28.4**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
SYO	**Syowa Base**	**84.23 192**		⇑*e*P	**P**	**00 22 30.0**	**-1.1**
SYO	**Syowa Base**	**84.23 192**		⇑*e*sP	sP	00 22 36.4	-1.6
MDJ	**Mudanjiang**	**84.35 324**		P	**P**	**00 22 32.7**	**+1.0**
MDJ				AP	pP	00 22 36.0	-0.8
MDJ				XP	sP	00 22 37.3	-1.3
MDJ				S	S	00 32 58.3	+1.3
MDJ				XS	sS	00 33 05.3	-0.1
MDJ				AMB	AMB		
	comp=Z,11nm,2.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,178nm,3.9s						
MDJ				LR	LR		
	comp=N,49nm,19.2s						
MDJ				LR	LR		
	comp=E,44nm,28.8s						
MDJ				LR	LR		
	comp=Z,33nm,16.0s,MS3.8						
SNAA	**Sanae**	**84.87 178**		LR	LR	00 56 29.4	
	comp=Z,36nm,18.1s,MS3.8,baz=24,slow=33						
SNAA	**Sanae**	**84.87 178**		⇓*i*	**P**	**00 22 33.5**	**-0.8**
SNAA				*e*		00 22 35.5	
SNAA				*e*	pP	00 22 39.1	-0.4
SNAA				*e*		00 22 48.1	
SNAA	**Sanae**	**84.87 178**		*e*P	**P**	**00 22 33.7**	**-0.6**
SNAA				*e*		00 22 47.1	
SNAA				pmax	pmax		
	comp=Z,13nm,1.3s						
SNAA	**Sanae**	**84.87 178**		*e*P	**P**	**00 22 33.7**	**-0.6**
	comp=Z,13nm,1.3s,mb4.9						
SNAA				*e*		00 22 47.1	
VNA3	**Neumayer Olymp**	**84.92 175**		⇓*i*	**P**	**00 22 33.7**	**-0.9**
VNA3				*e*		00 22 35.8	
VNA3				*e*		00 22 48.4	
PLCA	**Paso Flores**	**85.50 133**		P	**P**	**00 22 37.3**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.5,baz=206,slow=5.3,SNR=3.5						
PLCA	**Paso Flores**	**85.50 133**		P	**P**	**00 22 38.2**	**+0.7**
VNA1	**Neumayer--Stat**	**85.60 176**		⇓*i*	**P**	**00 22 37.8**	**-0.2**
VNA1				*e*		00 22 40.1	
VNA1				*e*		00 22 49.3	
CN2	**Changchun**	**86.13 322**		*e*P	**P**	**00 22 43.9**	**+3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.0						
MNTX	**Cornudas Mount**	**86.69**	**53**	*e*P	**P**	**00 22 42.6**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.7						
LAZ	**Ladron**	**86.80**	**50**	P	**P**	**00 22 44.1**	**+0.2**
PV10	**Paradox Valley**	**87.60**	**46**	*e*P	**P**	**00 22 47.0**	**-0.8**
PDAR	**Pinedale Array**	**89.65**	**42**	P	**P**	**00 22 56.3**	**-1.1**
	comp=Z,1.0nm,0.9s,mb4.1,baz=158,slow=4.3,SNR=4.1						
XAN	**Xi'an**	**91.81 306**		P	**P**	**00 23 07.3**	**-0.2**
XAN				AP	pP	00 23 10.9	-1.7
XAN				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.8						
KMI	**Kunming**	**92.78 296**		P	**P**	**00 23 12.1**	**+0.1**
KMI				AP	pP	00 23 18.0	+0.9
KMI				XP	sP	00 23 20.6	+1.7
KMI				PP	PP	00 26 59.7	+5.7
KMI				PPP		00 28 58.2	
KMI				S	S	00 34 17.3	+0.7
KMI				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,49nm,3.3s						
KMI				LR	LR		
	comp=N,77nm,14.6s,MS4.7						
KMI				LR	LR		
	comp=E,159nm,10.9s,MS4.7						
KMI				LR	LR		
	comp=Z,177nm,12.8s,MS4.7						
KMI	**Kunming**	**92.78 296**		P	**P**	**00 23 12.1**	**+0.1**
KMI				*SP	sP	00 23 20.6	+1.7
KMI						00 26 59.7	
KMI				PPP		00 28 58.2	
KMI				S	S	00 34 17.3	+0.7
KMI				SS	SS	00 40 37.7	+8.2
KMI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.8						
KMI				MLR	MLR		
	comp=Z,180nm,12.8s,MS4.7						
KMI	**Kunming**	**92.78 296**		P	**P**	**00 23 12.1**	**+0.1**
	comp=Z,5.0nm,1.4s,mb4.8						
KMI				pP	pP	00 23 18.0	+0.9
KMI				sP	sP	00 23 20.6	+1.7
KMI				PP	PP	00 26 59.7	+5.7
KMI				PPP		00 28 58.2	
KMI				S	S	00 34 17.3	+0.7
KMI				SS	SS	00 40 37.7	+8.2
KMI				LR	LR		
	comp=Z,180nm,12.8s,MS4.7						
LZH	**Lanzhou**	**96.45 306**		*e*P	**P**	**00 23 30.2**	**+1.4**
LZH				AP	pP	00 23 35.1	+1.2
LZH				XP	sP	00 23 37.2	+1.4
LZH				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.4						
LZH	**Lanzhou**	**96.45 306**		*e*P	**P**	**00 23 30.2**	**+1.4**
	comp=Z,18nm,1.1s,mb5.4						
LZH				pP	pP	00 23 35.1	+1.2
LZH				sP	sP	00 23 37.2	+1.4
LPAZ	**La Paz**	**98.77 112**		LR	LR	01 01 37.7	
	comp=Z,48nm,19.7s,MS4.0,baz=210,slow=31						
WMQ	**Urumqi**	**110.66 310**		*e*PKP	PKiKP	00 28 32.0	-0.3
WMQ				PP	PP	00 29 14.0	+5.2
WMQ				PKS		00 32 07.0	
WMQ				LR	LR		
	comp=N,153nm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=E,118nm,19.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,136nm,22.3s,MS4.5						
MKAR	**Makanchi Array**	**114.97 312**		PKP	PKiKP	00 28 39.0	-1.5
	comp=Z,0.2nm,0.3s,baz=79,slow=3.1,SNR=3.5						
CHKZ	**Chkalovo**	**122.72 320**		PKIKP	PKPdf	00 28 56.6	+1.2
ZRNK	**Zerenda**	**123.74 319**		*e*PKIKP	PKPdf	00 28 56.3	-1.0
ARCES	**ARCESS Array B**	**132.34 350**		PKP	PKPdf	00 29 12.3	-1.4
	comp=Z,3.1nm,0.8s,baz=0.0,slow=1.2,SNR=7.3						
ARCES	**ARCESS Array B**	**132.34 350**		PKP	PKPdf	00 29 12.3	-1.4
FINES	**FINESS Array B**	**139.35 344**		PKP	PKPdf	00 29 26.9	+0.1
	comp=Z,1.8nm,0.8s,baz=351,slow=4.8,SNR=6.5						
AKASG	**Malin Array Be**	**146.81 331**		PKPbc	PKPbc	00 29 40.1	-1.6
	comp=Z,3.3nm,0.7s,baz=38,slow=3.3,SNR=12						
AKBB	**Malin Array Si**	**146.81 331**		*e*PKHKP	PKPbc	00 29 40.6	-1.1
MALT	**Malatya**	**147.60 305**		⇑*i*P	PKPbc	00 29 45.2	+1.3
MALT	**Malatya**	**147.60 305**		*e*PKPdf	PKPdf	00 29 42.6	+1.4
BURAR	**Bucovina Array**	**150.86 331**		⇓*i*P	PKPbc	00 29 53.3	+1.2
STHS	**Stebnicka Huta**	**151.04 337**		*e*PKP	PKPbc	00 29 52.8	+0.3
KOLS	**Kolonicke sedl**	**151.06 335**		*e*PKP	PKPbc	00 29 52.9	+0.4
ANTO	**Ankara**	**151.12 311**		⇑*i*P	PKPbc	00 29 53.3	+0.6
KSP	**Ksiaz**	**151.28 344**		*e*PKIKP	PKPbc	00 29 53.0	-0.1
UZH	**Uzhgorod**	**151.29 335**		⇑*i*PKIKP	PKPbc	00 29 52.0	-1.1
UZH				*e*		00 30 04.6	
UZH				pmax	pmax		
	comp=Z,31nm,1.0s						
NIE	**Niedzica**	**151.36 338**		*e*P	PKPbc	00 29 53.5	+0.3
CRVS	**Cervenica-Dubn**	**151.39 336**		*e*PKP	PKPbc	00 29 53.2	-0.1
CLZ	**Clausthal**	**151.42 352**		*e*PKIKP	PKPbc	00 29 53.2	-0.2
CLL	**Collm**	**151.54 349**		⇓*i*PKIKP	PKPbc	00 29 53.2	-0.5
CLL				*i*		00 30 07.4	
CLL	**Collm**	**151.54 349**		⇓*i*P	PKPbc	00 29 53.2	-0.5
CLL				*i*		00 30 07.4	
CLL				*i*		00 30 14.4	
CLL	**Collm**	**151.54 349**		⇓*i*PKP	PKPbc	00 29 53.2	-0.5
	comp=Z,22nm,1.1s						
CLL				*i* sPKPab		00 30 07.4	
CLL				*i* x	x	00 30 14.4	
UPC	**Upice**	**151.66 344**		*e*PKPbc	PKPbc	00 29 53.5	-0.4
OKC	**Ostrava-Krasne**	**151.69 341**		*e*PKPbc	PKPbc	00 29 53.8	-0.2
DPC	**Dobruska-Polom**	**151.72 344**		*e*PKPbc	PKPbc	00 29 54.0	-0.1
BRG	**Berggiesshubel**	**151.78 347**		*i* P	PKPbc	00 29 54.0	-0.2
	comp=Z,7.3nm,0.6s						
BRG				*e*		00 30 08.4	
	comp=Z,3.8nm,0.8s						
MORC	**Moravsky Berou**	**151.92 342**		⇓*i*P	PKPbc	00 29 54.3	-0.2
PVCC	**Panska Ves**	**151.97 346**		*e*PKPbc	PKPbc	00 29 54.2	-0.4
EIL	**Elat**	**152.14 289**		*e*PKP	PKPbc	00 29 55.0	-0.1
PRU	**Pruhonice**	**152.49 346**		*e*PKPbc	PKPbc	00 29 55.3	-0.5
DRGR		**152.59 332**		⇑*i*P	PKPbc	00 29 56.0	0.0
VYHS	**Vyhne**	**152.65 339**		*e*PKP	PKPbc	00 29 56.1	-0.1
TNS	**Taunus Mts**	**153.22 354**		*e*PKIKP	PKPdf	00 29 51.7	+1.7
KHC	**Kasperske Hory**	**153.51 347**		*e*PKPbc	PKPbc	00 29 57.7	-0.3
KHC				*e*PKPab	PKPab	00 30 10.5	+0.1
WET	**Wettzell**	**153.64 348**		*e*PKIKP	PKPdf	00 29 48.7	-1.9
GERES	**GERESS Array B**	**153.75 346**		PKP	PKPdf	00 29 49.5	-1.2
	comp=Z,0.1nm,0.3s,baz=14,slow=0.4,SNR=3.8						
GERES				PKPbc	PKPbc	00 29 57.4	-1.2
	comp=Z,1.1nm,0.8s,baz=350,slow=1.6,SNR=9.2						
BZS	**Buzias**	**153.99 332**		⇓*i*P	PKPbc	00 29 59.0	-0.1
ESDC	**Sonseca Array**	**162.43 22**		PKP	PKPdf	00 30 00.5	-0.8
	comp=Z,0.0nm,0.2s

ULDT *i* S **Sn** **00 21 50.8 +1.0**
BDRM Kayabasi 1.72 192 *i* P **Pn** **00 21 29.4 +0.8**
BDRM *i* S **Sn** **00 21 48.1 -2.5**
BODT Bodrum 1.75 195 PN **Pn** **00 21 29.8 +0.9**
BODT SN **Sn** **00 21 52.2 +1.0**
ALT Altintas 1.76 79 PN **Pn** **00 21 30.2 +1.1**
GEMT Gemlik 1.96 31 PN **Pn** **00 21 32.3 +0.6**
IZI Iznik 2.00 37 PN **Pn** **00 21 33.8 +1.5**
DAT Datca 2.04 187 *e*PN **Pn** **00 21 33.2 +0.4**
TKTP Tekketepe 2.04 110 *i* P **Pn** **00 21 35.9 +3.0**
TKTP *i* S **Sg** **00 22 09.1 +5.0**
YLV Yalova 2.14 32 *e*PN **Pn** **00 21 35.1 +0.8**
ESKT Eskisehir 2.43 71 *i* P **Pb** **00 21 41.6 -0.6**
ESKT *i* S **Sg** **00 22 15.0 -1.5**
ESKT Eskisehir 2.43 71 *e*Pn **Pn** **00 21 39.5 +1.3**
SEYT Eskypehyr 2.43 71 *i* P **Pb** **00 21 41.6 -0.7**
HRT Hereke 2.48 33 *e*PN **Pn** **00 21 40.4 +1.5**
ARG Arkhangelos 2.54 176 *e*PN **Pn** **00 21 36.7 -3.1**

*IDC **09** 00:44:21.7±4.8, 2373N×121.13E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/38, Error ellipse: s-maj=346.2km s-min=28.6km az=59.0*
*ISCJB **09** 00:44:23.8±1.1, 2396N±008×12163E±005, h29km±7km, mb3.8/3, MS3.1/1, Error ellipse: s-maj=13.8km s-min=8.1km az=3.7*
*NEIC **09** 00:44:25.3, 2403N×12163E, h26km, ML4.5(TAP), After TAP.*
NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in Nan-t'ou and [1 TAP] in I-lan Counties.
*JMA **09** 00:44:26.7±0.2, 2407N×12174E, h66km, M3.2*
ISC 09 00:44:25.0±1.0, 2400N±008×12165E±005, h25km±7km, n15, σ0§58/22, mb3.8/3, MS3.1/1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.18**	**343**	*e*P	**Pb**	**00 44 29.7**	**-0.6**
NACB				*e*S	**Sb**	**00 44 33.8**	**-0.1**
YHNB	**Yeheng**	**0.71**	**339**	*e*P	**Pb**	**00 44 38.8**	**+0.1**
YHNB				*e*S	**Sb**	**00 44 47.9**	**-0.1**
TATO	**Taipei**	**0.98**	**351**	*e*Pn	**Pn**	**00 44 43.7**	**+0.6**
TATO				*e*S	**Sb**	**00 45 01.7**	**+6.0**
YOJ	**Yonaguni jima**	**1.32**	**70**	P	**Pn**	**00 44 48.2**	**+0.3**
YOJ				*e*S	**Sn**	**00 45 04.0**	**-0.7**
IRIF	**Iriomote-Funau**	**1.93**	**80**	P	**Pn**	**00 44 56.7**	**+0.5**
HATJ	**Hateruma jima**	**1.97**	**88**	P	**Pn**	**00 44 57.3**	**+0.5**
HATJ				*e*S	**Sn**	**00 45 20.0**	**-0.7**
JKRS	**Kuro-shima**	**2.17**	**83**	P	**Pn**	**00 45 00.4**	**+0.9**
JKRS				*e*S	**Sn**	**00 45 25.7**	**+0.2**
JIJ	**Ishigaki jima**	**2.31**	**81**	P	**Pn**	**00 45 01.7**	**+0.3**
JIJ				*e*S	**Sn**	**00 45 27.8**	**-1.1**
JTJ	**Tarama**	**2.86**	**77**	P	**Pn**	**00 45 09.8**	**+0.9**
JTJ				*e*S	**Sn**	**00 45 42.6**	**+0.1**
JKE	**Kume jima 2**	**5.20**	**63**	P	**Pn**	**00 45 41.8**	**+0.7**
JOW	**Kunigami**	**6.62**	**63**	P	**Pn**	**00 46 00.1**	**-0.5**
SONM	**Songino Array**	**26.70**	**337**	LR	LR	01 01 03.4	
	comp=Z,55nm,18.0s,MS3.1,baz=56,slow=37						
MKAR	**Makanchi Array**	**38.76**	**316**	P	**P**	**00 51 46.6**	**-0.7**
	0.3nm,0.2s,mb3.6,baz=113,slow=9.4,SNR=4.2						
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**00 52 40.7**	**-0.7**
	0.9nm,0.5s,mb3.9,baz=344,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**48.85**	**165**	P	**P**	**00 53 08.4**	**0.0**
	0.4nm,0.3s,mb3.9,baz=339,slow=7.0,SNR=7.4						

*CSEM **09** 00:54:36.3, 6786N×2016E, h0km, ML3.4, Mining explosion. After UPP*
*UPP **09** 00:54:36.3, 6786N×2016E, h0km, ML3.4, Mining explosion.*
HEL 09 00:54:36.8±0.2, 6784N×2020E, h0km, ML3.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	00 54 38.8	-0.4
KUA				*i* S	Sg	00 54 40.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 54 44.4	-0.9
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 54 51.5	-0.6
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	00 54 59.2	-0.4
KIF				*e*S	Sg	00 55 15.1	0.0
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 55 01.6	-1.8

*IDC **09** 01:12:20.6±1.9, 467N×12686E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=161.3km s-min=23.7km az=65.0*
*ISCJB **09** 01:12:23.6±1.1, 47N±01×1268E±02, h33km, mb3.9/6, Error ellipse: s-maj=29.2km s-min=12.5km az=101.6*
*NEIC **09** 01:12:25.9±0.8, 465N×12679E, h35km, mb4.1/3, Error ellipse: s-maj=21.2km s-min=9.1km az=51.0*
ISC 09 01:12:26.1±1.1, 47N±01×1268E±02, h35km, n11, σ0§45/11, mb3.9/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.63**	**278**	Pn	**Pn**	**01 14 55.5**	**-0.3**
WRA	**Warramunga Arr**	**25.55**	**163**	P	**P**	**01 17 51.2**	**-0.3**
	4.5nm,0.7s,mb4.1,baz=343,slow=10,SNR=13						
WB2	**Warramunga Arr**	**25.56**	**163**	*e*P	**P**	**01 17 52.2**	**+0.6**
KULM	**Kulim**	**26.06**	**272**	*e*P	**P**	**01 17 56.3**	**+0.2**
MBWA	**Marble Bar**	**26.58**	**195**	*e*P	**P**	**01 18 01.4**	**+0.6**
	4.3nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**29.00**	**166**	P	**P**	**01 18 22.8**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=355,slow=8.4,SNR=6.4						
NWAO	**Narrogin (SRO)**	**38.47**	**193**	P	**P**	**01 19 44.0**	**-0.6**
STKA	**Stephens Creek**	**38.98**	**160**	*e*P	**P**	**01 19 48.1**	**-0.7**
	3.3nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.98**	**160**	P	**P**	**01 19 48.1**	**-0.7**
	1.9nm,0.6s,mb4.0,baz=345,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**56.83**	**325**	P	**P**	**01 22 07.2**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=126,slow=7.1,SNR=8.4						
BRVK	**Borovoye**	**66.65**	**327**	*e*P	**P**	**01 23 13.0**	**-0.1**
	0.8nm,0.7s,mb3.9						

*ISCJB **09** 01:35:25.7±0.2, 4124N±003×12909E±005, h0km, mb4.3/30, Error ellipse: s-maj=5.4km s-min=4.4km az=174.0*
*IASPEI **09** 01:35:27.6±0.5, 4129N×12909E, h1km, mb4.1, ms2.9, Error ellipse: s-maj=20.6km s-min=13.6km az=67.2, North Korea GT1 underground nuclear explosion Bennett, J., B. North, B. Kohl, J. Murphy, J. Stevens, I. Bondar, M. Fisk, M. Bahavar, B. Barker, H. Israelsson, and V. Oancea, Analysis of IMS Data from the North Korean (DPRK) Nuclear Test of October 9, 2006, Science Applications International Corp., SAIC-06/2203, 2006. Bahavar, M., B. Barker, T. Bennett, H. Israelsson, B. Kohl, Y. Kung, J. Murphy, and V. Oancea, Nuclear Explosion and Infrasound Event Resources of the SMDC Monitoring Research Program, Proc. 30th Monitoring Research Review: Ground-Based Nuclear Explosion Monitoring Technologies, Portsmouth, Virginia, September 23-25, 2008. SMDC Monitoring Research Program Nuclear Explosion Database*
*IDC **09** 01:35:27.6±0.5, 4131N×12902E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.1/28, mbtmp4.1/20, ML3.9/4, Error ellipse: s-maj=20.6km s-min=13.6km az=67.0*
*NEIC **09** 01:35:28.0±0.3, 4129N×12909E, h0km, mb4.3/11, Error ellipse: s-maj=8.1km s-min=5.3km az=68.0*
NEIC Underground nuclear explosion. Felt at Kimchaek.
ISC 09 01:35:27.6±0.2, 4131N±003×12906E±005, h0km, n68, σ0§83/70, mb4.3/30, 7C, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**3.33**	**7**	*e*Pn	**Pn**	**01 36 21.6**	**+0.7**
MDJ				*e*Pg	**Pg**	**01 36 29.1**	**-2.3**
MDJ				*e*S	**Sg**	**01 37 12.7**	**-1.9**
KS15	**Wonju Array Si**	**3.97**	**194**	Pn	**Pn**	**01 36 30.2**	**+0.5**
INCN	**Inchon**	**4.26**	**207**	*e*Pn	**Pn**	**01 36 33.9**	**+0.1**
INCN				*e*Pg	**Pg**	**01 36 47.4**	**-1.9**
INCN				*e*Sn	**Sn**	**01 37 24.3**	**+0.2**
INCN				*e*Sg	**Sg**	**01 37 43.6**	**-0.9**
JNU	**Nakatsue**	**8.30**	**169**	Pn	**Pn**	**01 37 30.1**	**+0.8**
	1.4nm,0.3s,baz=241,slow=12,SNR=14						
MAJO	**Matsushiro**	**8.57**	**121**	P	**Pn**	**01 37 32.3**	**-0.7**
MAT	**Matsushiro**	**8.57**	**121**	P	**Pn**	**01 37 32.9**	**-0.1**
MAT				*e*S	**Sn**	**01 39 10.5**	**+0.1**
MJAR	**Matsushiro Arr**	**8.57**	**121**	Pn	**Pn**	**01 37 33.4**	**+0.4**
	2.7nm,0.3s,baz=300,slow=15,SNR=18						
MJAR	**Matsushiro Arr**	**8.57**	**121**	Pn	**Pn**	**01 37 33.4**	**+0.4**
HIA	**Hailar**	**10.30**	**324**	P	**Pn**	**01 37 57.6**	**+0.9**
ASAJ	**Asahikawa**	**10.35**	**70**	Pn	**Pn**	**01 37 58.0**	**+0.6**
	1.1nm,0.3s,baz=262,slow=19,SNR=3.0						
SONM	**Songino Array**	**17.38**	**300**	Pn	**Pn**	**01 39 32.8**	**+1.3**
	0.2nm,0.3s,baz=110,slow=13,SNR=3.2						
SONM				Lg		01 44 45.9	
	0.1nm,0.3s,baz=105,slow=32,SNR=3.4						
YAK	**Yakutsk**	**20.75**	**1**	P	**P**	**01 40 12.1**	**+2.1**
	23nm,0.6s						
KMI	**Kunming**	**27.15**	**242**	P	**P**	**01 41 17.4**	**+4.9**
	8.0nm,1.1s,mb4.4						
KMI				pP		01 41 28.1	
KMI				sP		01 41 33.5	
BILL	**Bilibino**	**33.38**	**24**	P	**P**	**01 42 05.1**	**-2.6**
	4.2nm,0.3s,mb4.8						
MKAR	**Makanchi Array**	**33.66**	**295**	P	**P**	**01 42 10.3**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=91,slow=11,SNR=4.4						
CHTO	**Chiang Mai**	**34.10**	**238**	P	**P**	**01 42 05.6**	**-8.3**
	1.3nm,0.4s,mb4.2						
BOK	**Bokaro**	**39.90**	**258**	*e*P	**P**	**01 43 03.3**	**0.0**
BOK				AMb	AMB	01 43 17.2	
	comp=Z,8.4nm,2.2s,mb4.0						
AAK	**Ala-Archa**	**39.99**	**291**	*e*P	**P**	**01 43 04.3**	**+0.3**
	comp=Z,1.0nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**40.26**	**308**	*e*P	**P**	**01 43 06.5**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**41.31**	**307**	*e*P	**P**	**01 43 15.9**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.0						
VIS	**Vishakhapatnam**	**45.56**	**253**	*e*P	**P**	**01 43 48.9**	**-0.2**
VIS				AMb	AMB	01 43 57.5	
	comp=Z,12nm,1.3s,mb4.8						
BHPL	**Bhopal**	**46.52**	**264**	*e*P	**P**	**01 43 56.6**	**-0.2**
BHPL				AMb	AMB	01 44 24.2	
	comp=Z,9.8nm,1.6s,mb4.7						
AJM	**Ajmer**	**46.80**	**269**	*e*P	**P**	**01 43 58.9**	**0.0**
AJM				AMb	AMB	01 44 04.1	
	comp=Z,4.5nm,0.5s,mb4.9						
COLA	**College**	**50.70**	**33**	*e*P	**P**	**01 44 29.6**	**+0.6**
	comp=Z,3.6nm,0.6s,mb4.5						
MDRS	**Chennai**	**50.86**	**251**	*e*P	**P**	**01 44 30.1**	**-0.1**
POO	**Poona**	**52.01**	**261**	*e*P	**P**	**01 44 38.6**	**-0.2**
KAD	**Karad**	**52.52**	**260**	*e*P	**P**	**01 44 42.5**	**-0.1**
KAD				AMb	AMB	01 45 14.2	
	comp=Z,20nm,0.0s						
INK	**Inuvik**	**54.95**	**27**	P	**P**	**01 45 00.0**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=309,slow=8.7,SNR=3.5						
TRD	**Trondrum**	**56.33**	**250**	*e*P	**P**	**01 45 10.1**	**-0.2**
JOF	**Joensuu**	**57.44**	**327**	*e*p	**P**	**01 45 16.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**59.19**	**184**	P	**P**	**01 45 30.0**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=27,slow=2.3,SNR=3.9						
KAF	**Kangasniemi**	**59.85**	**328**	*e*p	**P**	**01 45 34.5**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.2,baz=51,slow=6.8						
FIA1	**FINESS Array S**	**60.30**	**327**	⇑*i*P	**P**	**01 45 37.8**	**-0.2**
FINES	**FINESS Array B**	**60.30**	**327**	P	**P**	**01 45 37.5**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=76,slow=6.1,SNR=25						
WRAB	**Tennant Creek**	**61.13**	**174**	⇑*i*P	**P**	**01 45 42.8**	**-0.8**
WRA	**Warramunga Arr**	**61.13**	**174**	P	**P**	**01 45 43.0**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.6,baz=354,slow=7.5,SNR=11						
WB2	**Warramunga Arr**	**61.14**	**174**	*e*P	**P**	**01 45 43.1**	**-0.6**
WB2	**Warramunga Arr**	**61.14**	**174**	*e*P	**P**	**01 45 43.1**	**-0.6**
YKA	**Yellowknife Ar**	**64.71**	**27**	P	**P**	**01 46 07.2**	**-0.3**
	comp=Z,0.5nm,0.5s,mb4.0,baz=315,slow=6.2,SNR=4.8						
AS31	**Alice Springs**	**64.80**	**175**	⇑*i*P	**P**	**01 46 08.6**	**+0.5**
ASAR	**Alice Springs**	**64.80**	**175**	P	**P**	**01 46 07.7**	**-0.4**
	comp=Z,0.6nm,0.6s,mb4.0,baz=7.0,slow=8.4,SNR=9.8						
AKASG	**Malin Array Be**	**64.80**	**316**	P	**P**	**01 46 07.6**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.6,baz=52,slow=6.8,SNR=9.5						
AKASG	**Malin Array Be**	**64.80**	**316**	⇑*i*P	**P**	**01 46 07.1**	**-1.1**
HFS	**Hagfors**	**65.93**	**330**	P	**P**	**01 46 14.4**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.4,baz=76,slow=7.8,SNR=10						
NB2	**NORSAR Subarra**	**66.22**	**332**	P	**P**	**01 46 16.4**	**-0.9**
	comp=Z,2.3nm,0.8s,mb4.5,baz=47,slow=6.5						
NOA	**NORSAR Array B**	**66.22**	**332**	P	**P**	**01 46 16.3**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.3,baz=45,slow=6.2,SNR=4.6						
BURAR	**Bucovina Array**	**68.76**	**315**	⇑*i*P	**P**	**01 46 33.7**	**+0.4**
KOLS	**Kolonicke sedl**	**69.46**	**318**	*e*P	**P**	**01 46 38.3**	**+0.6**
STHS	**Stebnicka Huta**	**69.66**	**318**	*e*P	**P**	**01 46 39.3**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.4						
OJC	**Ojcow**	**69.86**	**320**	*e*P	**P**	**01 46 40.5**	**+0.3**
NIE	**Niedzica**	**70.13**	**319**	*e*P	**P**	**01 46 42.9**	**+1.1**
MORC	**Moravsky Berou**	**71.24**	**320**	⇑*i*P	**P**	**01 46 49.1**	**+0.5**
DPC	**Dobruska-Polom**	**71.43**	**321**	*e*P	**P**	**01 46 51.0**	**+1.2**
VYHS	**Vyhne**	**71.47**	**319**	*e*PCP	PcP	01 47 03.5	-6.0
VRAC	**Vranov**	**72.01**	**321**	P	**P**	**01 46 52.1**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.3,baz=0.0,slow=8.1,SNR=3.8						
CLL	**Collm**	**72.29**	**324**	*i* P	**P**	**01 46 54.6**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.6						
PRU	**Pruhonice**	**72.51**	**322**	*e*P	**P**	**01 46 56.6**	**+0.4**
KHC	**Kasperske Hory**	**73.56**	**322**	*e*P	**P**	**01 47 03.2**	**+0.7**
GERES	**GERESS Array B**	**73.70**	**322**	P	**P**	**01 47 03.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=38,slow=6.8,SNR=7.5						
STKA	**Stephens Creek**	**73.74**	**169**	P	**P**	**01 47 04.8**	**+1.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=352,slow=8.0,SNR=4.6						
DAVOX	**Davos/Dischmat**	**76.98**	**322**	P	**P**	**01 47 22.7**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.3,baz=357,slow=10,SNR=5.5						
NVAR	**Mina Array Bea**	**79.67**	**47**	P	**P**	**01 47 37.9**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.2,baz=298,slow=6.0,SNR=14						
MNV	**Mina**	**79.75**	**47**	⇑*i*P	**P**	**01 47 38.5**	**+1.0**
BW06	**Boulder Array**	**81.03**	**40**	P	**P**	**01 47 44.5**	**+0.2**
PDAR	**Pinedale Array**	**81.03**	**40**	P	**P**	**01 47 44.5**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=31,slow=2.1,SNR=8.0						
LPAZ	**La Paz**	**150.98**	**36**	PKPbc	PKPbc	01 55 22.9	+0.6
	comp=Z,0.5nm,0.6s,baz=35,slow=3.6,SNR=5.0						
LPAZ	**La Paz**	**150.98**	**36**	*e*PKPbc	PKPbc	01 55 24.3	+1.9
SIV	**San Ignacio**	**153.29**	**22**	PKPab	PKPab	01 55 38.9	-0.6
	comp=Z,0.8nm,0.6s,baz=289,slow=4.2,SNR=5.8						

*MDD **09** 01:55:40.8±1.8, 3649N×1201W, h0km, mb4.1/11, Error ellipse: s-maj=15.4km s-min=12.3km az=75.0, PRXIMO*
*NEIC **09** 01:55:40.2, 3646N×1204W, h0km, MN2.8(MDD), After MDD.*
*IGIL **09** 01:55:40.5, 3642N×1219W, h10km, ML2.9*
*CSEM **09** 01:55:42.1±0.4, 3645N×1183W, h30km, ML2.6, Error ellipse: s-maj=9.6km s-min=6.4km az=117.0*
INMG 09 01:55:42.9±1.0, 3640N×1220W, h31km, ML2.6, Error ellipse: s-maj=5.5km s-min=3.5km az=80.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.99**	**71**	*e*P	Pn	01 56 25.7	-2.4
MORF				*e*S	Sn	01 56 58.9	-4.0
MORF				*e*S	Sn	01 56 58.9	-4.0
MORF				AML	AML	01 57 01.1	
	comp=N,13nm,0.2s						
MORF	**Marmelete**	**2.99**	**71**	P	Pn	01 56 25.7	-2.4
MORF				S	Sn	01 56 58.9	-4.0
MORF	**Marmelete**	**2.99**	**71**	*e*P	Pn	01 56 25.7	-2.4
MORF				*e*S	Sn	01 56 58.9	-4.0
PTEO	**Sao Teotonio**	**3.01**	**67**	*e*Pn	Pn	01 56 26.3	-2.1
PTEO				*e*Sn	Sn	01 56 59.8	-3.6
PTEO							
	comp=N,11nm,0.4s						
PTEO	**Sao Teotonio**	**3.01**	**67**	*e*Pn	Pn	01 56 26.3	-2.1
PTEO				*e*Sn	Sn	01 56 59.8	-3.6
	comp=N,11nm,0.4s						
LIS	**Lisbon**	**3.35**	**46**	*e*S	Sn	01 57 07.6	-4.2
LIS				*e*S	Sn	01 57 07.6	-4.2
LIS				AML	AML	01 57 10.6	
	comp=N,75nm,0.4s						
PMAFR	**Mafra**	**3.44**	**41**	*e*Pn	Pn	01 56 35.4	+1.0
PMAFR				*e*Sn	Sn	01 57 09.7	-4.4
PMAFR							
	comp=N,79nm,0.2s						
PMAFR	**Mafra**	**3.44**	**41**	*e*Pn	Pn	01 56 35.4	+1.0
PMAFR				*e*Sn	Sn	01 57 09.7	-4.4
PLOU	**Loures**	**3.46**	**43**	*e*Sn	Sn	01 57 10.6	-4.0
PLOU							
	comp=N,20nm,0.2s						
PLOU	**Loures**	**3.46**	**43**	*e*Sn	Sn	01 57 10.6	-4.0
	comp=N,20nm,0.2s						
MOE	**Montemor**	**3.72**	**54**	*e*Pn	Pn	01 56 37.0	-1.2
MOE				*e*Sn	Sn	01 57 16.6	-4.4
PBEJ	**Beja**	**3.82**	**64**	*e*Pn	Pn	01 56 37.5	-2.1
PBEJ				*e*Sn	Sn	01 57 18.7	-4.8
PBEJ							
	comp=N,4.2nm,0.2s						
PBEJ	**Beja**	**3.82**	**64**	*e*Pn	Pn	01 56 37.5	-2.1
PBEJ				*e*Sn	Sn	01 57 18.7	-4.8
	comp=N,4.2nm,0.2s						
EGRO	**El Granado**	**3.94**	**72**	P	Pn	01 56 39.0	-2.3
	comp=N,1.5nm,0.1s,SNR=26						
EGRO				S	Sn	01 57 22.1	-4.4
	comp=N,3.2nm,0.1s,SNR=5.2						
EGRO	**El Granado**	**3.94**	**72**	P	Pn	01 56 39.0	-2.3
	comp=N,1.5nm,0.1s,SNR=26						
EGRO				S	Sn	01 57 22.1	-4.4
	comp=N,3.2nm,0.1s,SNR=5.2						
ALMR	**Almeirim**	**3.98**	**45**	*e*P	Pn	01 56 39.8	-1.9
ALMR				*e*S	Sn	01 57 23.1	-4.1
ALMR				*e*S	Sn	01 57 23.1	-4.1
ALMR				AML	AML	01 57 25.1	
	comp=E,39nm,0.2s						
ALMR	**Almeirim**	**3.98**	**45**	*e*P	Pn	01 56 39.8	-1.9
ALMR				*e*S	Sn	01 57 23.1	-4.1
PTOM	**Tomar**	**4.39**	**42**	*e*Sn	Sn	01 57 32.7	-4.7
PESTR	**Estremoz**	**4.41**	**55**	*e*Pn	Pn	01 56 46.0	-1.7
PESTR				*e*Sn	Sn	01 57 32.3	-5.7
PESTR							
	comp=E,3.0nm,0.3s						
PESTR	**Estremoz**	**4.41**	**55**	*e*Pn	Pn	01 56 46.0	-1.7
PESTR				*e*Sn	Sn	01 57 32.3	-5.7
	comp=E,3.0nm,0.3s						
EMIN	**Mina Concepcio**	**4.63**	**71**	P	Pn	01 56 47.8	-2.8
	comp=E,1.9nm,0.1s,SNR=34						
EMIN				S	Sn	01 57 38.3	-5.0
	comp=E,2.4nm,0.2s,SNR=6.7						
EMIN	**Mina Concepcio**	**4.63**	**71**	P	Pn	01 56 47.8	-2.9
	comp=E,1.9nm,0.1s,SNR=34						
EMIN				S	Sn	01 57 38.3	-5.0
	comp=E,2.4nm,0.2s,SNR=6.7						
EBAD	**Badajoz**	**4.74**	**59**	P	Pn	01 56 50.5	-1.7
	comp=E,0.9nm,0.1s,SNR=9.0						
EBAD				S	Sn	01 57 40.9	-5.3
	comp=E,8.3nm,0.2s,SNR=5.8						
EBAD	**Badajoz**	**4.74**	**59**	P	Pn	01 56 50.5	-1.8
	comp=E,0.9nm,0.1s,SNR=9.0						
EBAD				S	Sn	01 57 40.9	-5.3
	comp=E,8.3nm,0.2s,SNR=5.8						
PMPS	**Porto Santo**	**4.76**	**227**	*e*Sn	Sn	01 57 28.9	-18
PMPS							
	comp=E,8.5nm,0.3s						
PMPS	**Porto Santo**	**4.76**	**227**	*e*Sn	Sn	01 57 28.9	-18
	comp=E,8.5nm,0.3s						
PCBR	**Castelo Branco**	**5.07**	**46**	*e*Pn	Pn	01 56 54.8	-1.9
PCBR				*e*Sn	Sn	01 57 48.0	-6.1
PCBR							
	comp=E,3.7nm,0.3s						
PCBR	**Castelo Branco**	**5.07**	**46**	*e*Pn	Pn	01 56 54.8	-1.9
PCBR				*e*Sn	Sn	01 57 48.0	-6.1
	comp=E,3.7nm,0.3s						
ESPR	**Espera**	**5.13**	**83**	P	Pn	01 56 54.8	-2.7
	comp=E,3.5nm,0.2s,SNR=16						
ESPR				S	Sn	01 57 49.6	-6.0
	comp=E,13nm,0.3s						
ESPR	**Espera**	**5.13**	**83**	P	Pn	01 56 54.8	-2.7
	comp=E,3.5nm,0.2s,SNR=16						
ESPR				S	Sn	01 57 49.6	-6.0
	comp=E,13nm,0.3s						
PMAR	**Madeira**	**5.34**	**228**	*e*Sn	Sn	01 57 46.2	-15
PMAR							
	comp=E,12nm,0.2s						
PMAR	**Madeira**	**5.34**	**228**	*e*Sn	Sn	01 57 46.2	-15
	comp=E,12nm,0.2s						
MTE	**Manteigas**	**5.41**	**41**	*e*Sn	Sn	01 57 57.3	-5.4
MTE							
	comp=E,6.6nm,0.7s						
MTE	**Manteigas**	**5.41**	**41**	Sn	Sn	01 57 57.3	-5.4
	comp=E,3.3nm,0.7s						
EJIF	**Jimena Fronter**	**5.43**	**88**	P	Pn	01 56 59.2	-2.5
	comp=E,0.1nm,0.2s,SNR=7.9						
EJIF				S	Sn	01 57 56.9	-6.2
	comp=E,1.6nm,0.5s,SNR=7.9						
PVIS	**Viseu**	**5.47**	**37**	*e*Pn	Pn	01 57 00.5	-1.7
PVIS				*e*Sn	Sn	01 57 58.1	-6.0
PVIS							
	comp=E,12nm,0.1s						
PTO	**Porto**	**5.50**	**30**	*e*Sn	Sn	01 57 58.7	-6.1
EMIJ	**Mijas**	**5.99**	**86**	P	Pn	01 57 08.0	-1.4
	comp=E,1.0nm,0.4s,SNR=7.9						
EMIJ				S	Sn	01 58 10.2	-6.7
	comp=E,1.0nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**5.99**	**34**	*e*Sn	Sn	01 58 10.0	-7.0
PVRL							
	comp=E,5.3nm,0.4s						
PVRL	**Vila Real**	**5.99**	**34**	Sn	Sn	01 58 10.0	-7.0
	comp=E,2.7nm,0.4s						
PCAB	**Cabril**	**6.21**	**30**	*e*Pn	Pn	01 57 10.1	-2.4
PCAB				*e*Sn	Sn	01 58 15.3	-7.1
PCAB							
	comp=E,3.7nm,0.1s						
EADA	**Adamuz**	**6.33**	**72**	P	Pn	01 57 11.7	-2.4
	comp=E,2.9nm,0.2s,SNR

comp=E,2.6nm,0.2s,SNR=12
ETOR S Sn 01 59 23.9 -9.1
comp=E,2.5nm,0.2s,SNR=7.9
EMOS Mosqueruela 10.02 63 P Pn 01 58 02.7 -2.0
EMOS S Sn 01 59 46.0 -10
EMOS Mosqueruela 10.02 63 P Pn 01 58 02.7 -2.0
EMOS S Sn 01 59 46.0 -10

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*SSNC **09** 02:00:33.2, 1881N×7726W, h0km, MD3.3, ML2.5*
JSN 09 02:00:05.3±2.9, 1911N×7949W, h2km±320km, MD4.3, 2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJ	**Bamboo Saint A**	**2.22**	**109**	⇓*i*P	Pn	02 00 41.4	-1.6
LMGC	**Las Mercedes**	**2.52**	**67**	*e*PG	Pg	02 00 55.0	+1.3
LMGC	comp=N,53nm,0.1s			*e*SG	Sg	02 01 27.8	+1.4
LMGC	comp=E,76nm,0.1s			*e*			
PCJ	**Portland Cotta**	**2.59**	**121**	⇓*e*P	Pn	02 00 46.7	-1.5
PCJ				*e*S	Sn	02 01 18.4	-1.9
STH	**Stony Hill**	**2.74**	**112**	*e*P	Pn	02 00 47.4	-2.8
YHJ	**Yallahs**	**3.09**	**113**	*e*P	Pn	02 00 56.5	+1.5
HLGC	**Holguin**	**3.68**	**61**	*e*P	Pb	02 01 11.6	+0.6
RCC	**Rio Carpintero**	**3.68**	**76**	*e*PG	Pn	02 01 07.0	+3.9
RCC	comp=N,12nm,0.4s			*e*SG	Sn	02 01 50.6	+3.5
RCC	comp=E,19nm,0.5s			*e*			
MASC	**Masc**	**5.06**	**77**	*e*PG	Pg	02 01 57.9	+16
MASC	comp=N,251nm,0.1s			*e*SG	Sb	02 02 32.4	-3.5
MASC	comp=E,283nm,0.1s			*e*			

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*NEIC **09** 02:26:18.2, 3645S×17784E, h244km, MG3.9(WEL), After WEL.*
WEL 09 02:26:19.7±0.4, 3644S×17787E, h227km±4km, ML4.0/6, Error ellipse: s-maj=10.2km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.18**	**163**	P	Pn	02 26 53.6	+0.2
MXZ				S	S	02 27 19.7	0.0
MXZ	**Matakaoa Point**	**1.18**	**163**	PN	Pn	02 26 53.6	+0.2
MXZ				SN	S	02 27 18.8	-0.9
MXZ				SN	S	02 27 19.7	0.0
MWZ	**Matawai**	**1.91**	**188**	P	Pn	02 26 59.8	+0.4
MWZ				S	S	02 27 32.5	+1.9
MWZ	**Matawai**	**1.91**	**188**	PN	Pn	02 26 59.8	+0.4
MWZ				SN	S	02 27 31.3	+0.7
URZ	**Urewera**	**1.92**	**198**	P	Pn	02 26 59.6	+0.2
URZ	**Urewera**	**1.92**	**198**	PN	Pn	02 26 59.6	+0.2
URZ				SN	S	02 27 30.3	-0.3
KNZ	**Kokohu**	**2.58**	**183**	PN	Pn	02 27 06.1	0.0
BKZ	**Black Stump Fm**	**2.94**	**201**	PN	Pn	02 27 09.6	-0.4
MOVZ	**Moawhango**	**3.40**	**209**	P	Pn	02 27 14.5	-0.9
MOVZ	**Moawhango**	**3.40**	**209**	PN	Pn	02 27 14.5	-0.9
TSZ	**Takapari Road**	**3.92**	**202**	PN	Pn	02 27 20.2	-1.2
BFZ	**Birch Farm**	**4.42**	**196**	*e*P	Pn	02 27 26.4	-1.2
BFZ	**Birch Farm**	**4.42**	**196**	*e*PN	Pn	02 27 26.4	-1.3
MRZ	**Mangatainoka R**	**4.58**	**202**	PN	Pn	02 27 27.7	-1.9
KIW	**Kapiti Island**	**4.99**	**207**	PN	Pn	02 27 32.1	-2.5
MTW	**Mount Morrison**	**5.06**	**201**	PN	Pn	02 27 33.0	-2.5
CAW	**Cannon Point**	**5.15**	**204**	PN	Pn	02 27 34.0	-2.7

WEL 09 03:04:23.4±0.2, 3775S×17968E, h12km, ML3.6/3, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.11**	**279**	P*	Pb	03 04 43.4	-1.1
MXZ				S*	Sb	03 04 58.1	-0.8
MXZ				S*	Sb	03 04 58.6	-0.3
PUZ	**Puketiti**	**1.17**	**254**	P*	Pb	03 04 44.7	-0.9
PUZ				S*	Sb	03 05 00.1	-0.6
PUZ				S*	Sb	03 05 00.2	-0.5
KNZ	**Kokohu**	**2.02**	**231**	PN	Pn	03 04 56.6	-0.7

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*ISCJB **09** 03:11:20.8±0.5, 3653N±003×297W±003, h14km±3km, Error ellipse: s-maj=5.8km s-min=4.3km az=131.2*
*MDD **09** 03:11:22.7±0.3, 3655N×294W, h1km±4km, mbLg2.5/18, Error ellipse: s-maj=2.7km s-min=2.2km az=99.0, PRXIMO*
*NEIC **09** 03:11:22.7, 3655N×293W, h0km, MN2.5(MDD), After MDD.*
*CSEM **09** 03:11:22.7±0.1, 3655N×288W, h2km, ML2.8/8, Error ellipse: s-maj=1.8km s-min=1.4km az=157.0*
*INMG **09** 03:11:23.0±1.5, 3654N×298W, h5km±3km, ML2.3, Error ellipse: s-maj=3.3km s-min=2.3km az=86.0*
ISC 09 03:11:21.7±0.5, 3655N±003×295W±003, h8km±3km, n61, σ1§14/92, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.35**	**8**	⇓Pg	**Pg**	**03 11 29.3**	**+0.7**
EBER	29nm,0.1s,SNR=18			Lg		03 11 34.3	
EBER	**Berja**	**0.35**	**8**	Pg	**Pg**	**03 11 29.3**	**+0.7**
EGUA	**Guajares**	**0.57**	**300**	Pg	**Pg**	**03 11 33.1**	**+0.3**
EGUA	2.2nm,0.1s,SNR=7.9			Lg		03 11 40.2	
EALB	**Alboran**	**0.61**	**186**	⇓Pg	**Pg**	**03 11 34.0**	**+0.4**
EALB	99nm,0.2s,SNR=18			Lg		03 11 42.4	
EALB	**Alboran**	**0.61**	**186**	Pg	**Pg**	**03 11 34.0**	**+0.4**
ENIJ	**Nijar**	**0.73**	**55**	Pg	**Pg**	**03 11 35.1**	**-0.7**
ENIJ	51nm,0.2s,SNR=72			Lg		03 11 45.6	
ENIJ	**Nijar**	**0.73**	**55**	Pg	**Pg**	**03 11 35.1**	**-0.7**
ENIJ	170nm,0.2s,SNR=33			Lg		03 11 45.1	
ENIJ	**Nijar**	**0.73**	**55**	Pg	**Pg**	**03 11 35.1**	**-0.7**
ENIJ	51nm,0.2s,SNR=72			Lg		03 11 45.1	
EQUE	**Quentar**	**0.76**	**329**	Pg	**Pg**	**03 11 37.1**	**+0.7**
EQUE	18nm,0.2s,SNR=159			Lg		03 11 47.1	
EQUE	**Quentar**	**0.76**	**329**	Pg	**Pg**	**03 11 37.1**	**+0.7**
ERON	**Agron**	**0.83**	**304**	Pg	**Pg**	**03 11 38.7**	**+0.9**
ERON	8.4nm,0.2s,SNR=9.0			Lg		03 11 49.1	
ECOG	**Cogollos-Vega**	**0.88**	**326**	Pg	**Pg**	**03 11 39.3**	**+0.6**
ECOG	14nm,0.2s,SNR=29			Lg		03 11 50.9	
EMEL	**Melilla**	**1.25**	**180**	Pg	**Pg**	**03 11 44.4**	**-1.2**
EMEL	17nm,0.1s,SNR=4.0			Lg		03 12 01.5	
EMLI	**Melilla**	**1.25**	**180**	Pg	**Pg**	**03 11 44.4**	**-1.3**
EQES	**Quesada**	**1.25**	**356**	Pg	**Pg**	**03 11 46.7**	**+0.9**
EQES	13nm,0.2s,SNR=105			Lg		03 12 03.8	
EQES	**Quesada**	**1.25**	**356**	Pg	**Pg**	**03 11 46.7**	**+0.9**
EQES	18nm,0.2s,SNR=4.9			Lg		03 12 04.2	
EHUE	**Huescar**	**1.29**	**13**	Pg	**Pg**	**03 11 46.0**	**-0.5**
EHUE	13nm,0.2s,SNR=105			Lg		03 12 04.8	
ELUQ	**Luque**	**1.46**	**314**	Pg	**Pg**	**03 11 50.6**	**+0.9**
ELUQ	4.2nm,0.2s,SNR=7.9			Lg		03 12 10.1	
EMIJ	**Mijas**	**1.47**	**271**	Pg	**Pg**	**03 11 45.4**	**-4.5**
EMIJ	2.9nm,0.1s,SNR=28			Lg		03 12 01.8	
EBAN	**Banos Encina**	**1.74**	**338**	Pg	**Pg**	**03 11 55.1**	**0.0**
EBAN	21nm,0.3s,SNR=7.9			Lg		03 12 19.0	
EMUR	**La Murta**	**1.88**	**46**	Pn	**Pn**	**03 11 54.1**	**0.0**
EMUR	13nm,0.2s,SNR=9.0			Sn	**Sn**	**03 12 15.6**	**-2.3**
EMUR	**La Murta**	**1.88**	**46**	Pn	**Pn**	**03 11 54.1**	**0.0**
EJIF	**Jimena Fronter**	**2.03**	**268**	Pn	**Pn**	**03 11 58.1**	**+1.9**
EJIF	1.6nm,0.3s,SNR=9.4			Sn	**Sn**	**03 12 17.9**	**-3.9**
EADA	**Adamuz**	**2.07**	**322**	Pn	**Pn**	**03 11 57.0**	**+0.3**
EADA	1.6nm,0.4s,SNR=7.9			Pg	**Pg**	**03 12 00.1**	**-1.3**
EADA	1.2nm,0.1s,SNR=7.9			Sn	**Sn**	**03 12 23.4**	**+0.7**
EADA	3.3nm,0.2s,SNR=7.9			Lg		03 12 28.2	
EADA	**Adamuz**	**2.07**	**322**	Pn	**Pn**	**03 11 57.0**	**+0.3**
EADA	9.3nm,0.1s,SNR=7.9			Pg	**Pg**	**03 12 00.1**	**-1.3**
EADA	**Adamuz**	**2.07**	**322**	Pn	**Pn**	**03 11 57.0**	**+0.3**
EADA	1.2nm,0.1s,SNR=7.9			Pg	**Pg**	**03 12 00.1**	**-1.3**
EADA	1.2nm,0.1s,SNR=18			Sn	**Sn**	**03 12 23.4**	**+0.7**
EVIA	**Vianos**	**2.12**	**10**	Pn	**Pn**	**03 11 58.5**	**+1.2**
EVIA	0.7nm,0.1s,SNR=7.9			Pg	**Pg**	**03 12 01.5**	**-0.8**
EVIA	6.7nm,0.2s,SNR=7.9			Sn	**Sn**	**03 12 25.8**	**+2.1**
ESPR	**Espera**	**2.36**	**279**	Pn	**Pn**	**03 12 01.7**	**+1.1**
ESPR	2.5nm,0.1s,SNR=7.9			Sn	**Sn**	**03 12 31.2**	**+1.5**
ESPR	**Espera**	**2.36**	**279**	Pn	**Pn**	**03 12 01.7**	**+1.0**
ESPR	0.3nm,0.1s,SNR=7.9			Sn	**Sn**	**03 12 31.2**	**+1.5**
ETOB	**Tobarra**	**2.37**	**28**	Pn	**Pn**	**03 12 02.3**	**+1.5**
ETOB	3.4nm,0.2s,SNR=52			Sn	**Sn**	**03 12 30.2**	**+0.1**
ETOB	**Tobarra**	**2.37**	**28**	Pn	**Pn**	**03 12 02.3**	**+1.5**
ETOB	6.6nm,0.2s,SNR=5.0			Sn	**Sn**	**03 12 30.2**	**+0.2**
EBEN	**Beniarda**	**3.05**	**44**	Pn	**Pn**	**03 12 09.2**	**-0.9**
EBEN	4.2nm,0.2s,SNR=52			Sn	**Sn**	**03 12 43.3**	**-3.5**
EBEN	**Beniarda**	**3.05**	**44**	Pn	**Pn**	**03 12 09.2**	**-1.0**
EBEN	6.6nm,0.2s,SNR=5.0			Sn	**Sn**	**03 12 43.3**	**-3.5**
EBEN	**Beniarda**	**3.05**	**44**	Pn	**Pn**	**03 12 09.2**	**-1.0**
EMIN	**Mina Concepcio**	**3.21**	**293**	Pn	**Pn**	**03 12 12.2**	**-0.3**
EMIN	0.6nm,0.2s,SNR=7.9			Sn	**Sn**	**03 12 49.5**	**-1.3**
EMIN	**Mina Concepcio**	**3.21**	**293**	Pn	**Pn**	**03 12 12.2**	**-0.3**
EMIN	0.3nm,0.1s,SNR=9.5			Sn	**Sn**	**03 12 49.5**	**-1.3**
EMIN	**Mina Concepcio**	**3.21**	**293**	Pn	**Pn**	**03 12 12.2**	**-0.2**
EMIN	0.3nm,0.1s,SNR=9.5			Sn	**Sn**	**03 12 49.5**	**-1.3**
ESDC	**Sonseca Array**	**3.22**	**346**	Pn	**Pn**	**03 12 14.0**	**+1.4**
ESDC	1.0nm,0.1s,SNR=5.0			Pg	**Pg**	**03 12 22.2**	**-1.2**
ESDC	**Sonseca Array**	**3.22**	**346**	Pn	**Pn**	**03 12 14.0**	**+1.4**
ESDC	0.5nm,0.2s,baz=168,slow=12,SNR=3.8			Pg	**Pg**	**03 12 22.2**	**-1.2**
ESDC	**Sonseca Array**	**3.22**	**346**	Pn	**Pn**	**03 12 14.0**	**+1.5**
ESDC	0.5nm,0.2s,SNR=3.8			Pg	**Pg**	**03 12 22.2**	**-1.2**
ESDC	**Sonseca Array**	**3.22**	**346**	Pg	**Pg**	**03 12 22.2**	**-1.2**
ESDC	2.8nm,0.3s,SNR=7.9			Lg		03 13 06.2	
EGRO	**El Granado**	**3.76**	**287**	Pn	**Pn**	**03 12 20.3**	**+0.3**
EGRO	0.4nm,0.1s,SNR=6.8			Sn	**Sn**	**03 13 02.0**	**-2.3**
EGRO	**El Granado**	**3.76**	**287**	Pn	**Pn**	**03 12 20.3**	**+0.4**
EGRO	**El Granado**	**3.76**	**287**	Pn	**Pn**	**03 12 20.3**	**+0.4**
EBAD	**Badajoz**	**3.91**	**306**	Pn	**Pn**	**03 12 21.4**	**-0.5**
EBAD	0.8nm,0.1s,SNR=7.5			Sn	**Sn**	**03 13 04.6**	**-3.4**
EBAD	**Badajoz**	**3.91**	**306**	Pn	**Pn**	**03 12 21.4**	**-0.5**
EBAD	4.7nm,0.2s,SNR=5.0			Lg		03 13 27.3	
EBAD	**Badajoz**	**3.91**	**306**	Pn	**Pn**	**03 12 21.4**	**-0.5**
EBAD	5.2nm,0.3s,SNR=7.9			Sn	**Sn**	**03 13 04.6**	**-3.4**
EBAD	**Badajoz**	**3.91**	**306**	Pn	**Pn**	**03 12 21.4**	**-0.5**
EBAD	0.8nm,0.1s,SNR=7.5			Sn	**Sn**	**03 13 04.6**	**-3.4**
EIBI	**Ibiza**	**4.20**	**53**	Pn	**Pn**	**03 12 26.0**	**-0.1**
EIBI	0.8nm,0.2s,SNR=7.9			Sn	**Sn**	**03 13 10.8**	**-4.5**
EIBI	**Ibiza**	**4.20**	**53**	Pn	**Pn**	**03 12 26.0**	**0.0**
EIBI	1.3nm,0.2s,SNR=7.9			Sn	**Sn**	**03 13 10.8**	**-4.5**
EIBI	**Ibiza**	**4.20**	**53**	Pn	**Pn**	**03 12 26.0**	**0.0**
ETOR	**Torete**	**4.32**	**9**	Pn	**Pn**	**03 12 28.7**	**+1.1**
ETOR	3.2nm,0.2s,SNR=5.9			Pg	**Pg**	**03 12 43.0**	**-1.5**
ETOR	**Torete**	**4.32**	**9**	Pn	**Pn**	**03 12 28.7**	**+1.1**
ETOR	2.8nm,0.2s,SNR=8.5			Pg	**Pg**	**03 12 43.0**	**-1.5**
ETOR	**Torete**	**4.32**	**9**	Pn	**Pn**	**03 12 28.7**	**+1.1**
ETOR	4.1nm,0.4s,SNR=4.7			Pg	**Pg**	**03 12 43.0**	**-1.5**
ETOR	**Torete**	**4.32**	**9**	Pn	**Pn**	**03 12 28.7**	**+1.1**
ETOR				Sn	**Sn**	**03 13 16.2**	**-1.9**
ETOR				Lg		03 13 39.5	
PESTR	**Estremoz**	**4.35**	**304**	*e*Pn	**Pn**	**03 12 28.1**	**+0.1**
PESTR				*e*Sn	**Sn**	**03 13 17.0**	**-1.8**
PESTR	4.4nm,0.7s						
PESTR	**Estremoz**	**4.35**	**304**	*e*Pn	**Pn**	**03 12 28.1**	**+0.1**
PESTR				*e*Sn	**Sn**	**03 13 17.0**	**-1.8**
PESTR	4.4nm,0.7s						
PTEO	**Sao Teotonio**	**4.72**	**284**	*e*Pn	**Pn**	**03 12 33.5**	**+0.3**
PTEO				*e*Sn	**Sn**	**03 13 26.1**	**-2.1**
PCBR	**Castelo Branco**	**4.85**	**314**	*e*Pn	**Pn**	**03 12 35.5**	**+0.6**
PCBR				*e*Sg	**Sg**	**03 13 56.5**	**-0.9**
PCBR	3.1nm,0.5s						
PCBR	**Castelo Branco**	**4.85**	**314**	*e*Pn	**Pn**	**03 12 35.5**	**+0.6**
PCBR				*e*Sg	**Sg**	**03 13 56.5**	**-0.9**
PCBR	3.1nm,0.5s						
ERTA	**Horta de San J**	**5.09**	**29**	Pn	**Pn**	**03 12 39.0**	**+0.8**
ERTA	**Horta de San J**	**5.09**	**29**	Pn	**Pn**	**03 12 39.0**	**+0.7**
MTE	**Manteigas**	**5.27**	**318**	*e*Pn	**Pn**	**03 12 41.2**	**+0.5**
MTE				*e*Sg	**Sg**	**03 14 10.1**	**-0.8**
MTE	4.1nm,0.7s						
MTE	**Manteigas**	**5.27**	**318**	*e*Pn	**Pn**	**03 12 41.2**	**+0.5**
MTE				*e*Sg	**Sg**	**03 14 10.1**	**-0.8**
MTE	4.1nm,0.7s						
PTOM	**Tomar**	**5.29**	**307**	*e*Pn	**Pn**	**03 12 41.5**	**+0.6**
PVIS	**Viseu**	**5.68**	**319**	*e*Pn	**Pn**	**03 12 47.1**	**+0.7**
PBRG	**Braganca**	**6.02**	**332**	*e*Pn	**Pn**	**03 12 52.3**	**+1.3**
PCAB	**Cabril**	**6.49**	**324**	*e*Pn	**Pn**	**03 12 58.4**	**+0.9**

KRSC 09 03:16:40, 5291N×15911E, h100km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.30**	**28**	*e*P	Pn	03 16 55.8	+1.3
NLC				*i* S	Sn	03 17 07.1	+1.7
PET	**Petropavlovsk**	**0.30**	**293**	*i* P	Pn	03 16 55.4	+0.8
PET				*i* S	Sn	03 17 05.9	+0.5
AVH	**Avacha**	**0.42**	**328**	*e*P	Pn	03 16 56.7	+1.5
AVH				*i* S	Sn	03 17 07.9	+1.3
SPN	**Mys Shipunski**	**0.58**	**71**	*i* P	Pn	03 16 57.7	+1.3
SPN				*i* S	Sn	03 17 09.9	+1.2
RUS	**Russkaya**	**0.60**	**218**	*i* P	Pn	03 16 57.2	+0.7
RUS				*i* S	Sn	03 17 09.2	+0.3
GRL	**Gorelyy**	**0.72**	**241**	*e*P	Pn	03 16 59.2	+1.6
GRL				*i* S	Sn	03 17 12.8	+2.0
GNL	**Ganaly**	**1.05**	**319**	*e*P	Pn	03 17 01.9	+0.9
GNL				*i* S	Sn	03 17 17.2	+0.4
MKZ	**Mys Kozlova**	**2.27**	**42**	*e*P	Pn	03 17 17.1	+1.1
MKZ				*i* S	Sn	03 17 43.9	+0.3
TUMR	**Tumrok**	**2.46**	**14**	P	Pn	03 17 21.1	+2.6
KMNR	**Kamenistaya**	**2.93**	**13**	*e*P	Pn	03 17 27.7	+3.0
ZLN	**Zelenaya**	**3.27**	**17**	P	Pn	03 17 31.6	+2.3
KBTR	**Krutoberegovo**	**3.95**	**32**	*e*P	Pn	03 17 40.1	+1.7

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*IDC **09** 03:38:28.4±10.0, 710S×12951E, h121km±93km, mb3.7/1, mb1 4.0/4, mb1mx3.5/12, mbtmp4.3/4, ML4.2/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/19, Error ellipse: s-maj=94.2km s-min=63.4km az=47.0*
NEIC 09 03:38:08.2±0.6, 571S×12966E, h30km, mb4.5/2, Error ellipse: s-maj=18.2km s-min=7.9km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.93**	**197**	P	Pn	03 41 09.9	+0.1
FITZ	1.0nm,0.3s,baz=32,slow=11,SNR=47			S	Sn	03 43 12.3	-20
WRA	**Warramunga Arr**	**14.86**	**163**	P	Pn	03 41 35.6	-0.6
WRA	0.9nm,0.3s,baz=341,slow=13,SNR=16			S	Sn	03 44 03.6	-16
WB2	**Warramunga Arr**	**14.87**	**163**	*e*Pn	Pn	03 41 36.0	-0.3
WB2	1.2nm,0.3s,baz=332,slow=22,SNR=6.4			*e*Sn	Sn	03 44 03.2	-17
KKM	**Kota Kinabalu**	**17.79**	**311**	*e*Pn	Pn	03 42 13.5	0.0
MBWA	**Marble Bar**	**18.12**	**211**	Pn	Pn	03 42 18.1	+0.5
AS31	**Alice Springs**	**18.31**	**168**	*e*Pn	Pn	03 42 21.0	+1.0
AS31	26nm,1.3s			*e*Sn	Sn	03 45 32.5	-11
ASAR	**Alice Springs**	**18.32**	**168**	P	Pn	03 42 20.6	+0.7
ASAR	1.4nm,0.3s,baz=349,slow=10,SNR=75			S	Sn	03 45 28.8	-15
STKA	**Stephens Creek**	**28.33**	**158**	P	P	03 43 59.7	+0.4
STKA	**Stephens Creek**	**28.33**	**158**	*e*P	P	03 43 59.5	+0.1
JHJ	**Hachijo jima 2**	**39.79**	**13**	LR	LR	04 01 40.9	
BJT	**Baijiatuau**	**47.17**	**346**	*e*P	P	03 46 38.2	+0.3
FFD	**Franklin Falls**	**137.96**	**23**	*e*PKPdf	PKPdf	03 57 30.6	+0.7

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*MOS **09** 03:59:21.2±0.8, 4432N×1494E, h33km, mb4.4/8, Error ellipse: s-maj=75.6km s-min=24.4km az=116.3*
*NEIC **09** 03:59:32.4±1.7, 4552N×1486E, h35km, mb4.3/1, Error ellipse: s-maj=43.8km s-min=9.8km az=115.0*
*IDC **09** 03:59:39.8±5.8, 4492N×1487E, h134km±48km, mb3.7/7, mb1 3.7/9, mb1mx3.5/21, mbtmp4.0/9, Error ellipse: s-maj=72.7km s-min=50.1km az=136.0*
*ISCJB **09** 03:59:42.6±1.4, 445N±0.1×1483E±02, h185km±9km, mb3.9/8, Error ellipse: s-maj=29.1km s-min=12.7km az=80.2*
*JMA **09** 03:59:44.5±0.6, 4455N×1483E, h125km, M4.4*
ISC 09 03:59:43.4±1.4, 445N±01×1483E±02, h180km±9km, n39, σ1§14/45, mb3.9/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.79**	**257**	⇓*i*PN	**Pn**	**04 00 13.4**	**-4.8**
YUK				*e*S	**Sn**	**04 00 39.3**	**-5.9**
YUK	comp=Z,5μm,0.4s			pmax	pmax		
YUK	comp=Z,810nm,0.4s			pmax	pmax		
YUK	comp=N,510nm,0.3s			smax			
YUK	comp=E,560nm,0.4s			smax			
NEM2	**Nemuro 2**	**2.15**	**240**	P	**Pn**	**04 00 21.3**	**-0.7**
NEM2				S	**Sn**	**04 00 50.1**	**-1.8**
JRA	**Rausu**	**2.34**	**258**	P	**Pn**	**04 00 23.7**	**-0.4**
JNK	**Nakash**	**2.72**	**252**	P	**Pn**	**04 00 28.9**	**+0.3**
JAK	**Akkeshi**	**2.99**	**242**	P	**Pn**	**04 00 32.0**	**+0.1**
JAK				*e*S	**Sn**	**04 01 09.1**	**-0.5**
JTKR	**Abashiri--Toko**	**3.19**	**262**	P	**Pn**	**04 00 34.0**	**-0.2**
JAR	**Ashorobuto**	**3.47**	**252**	P	**Pn**	**04 00 39.1**	**+1.4**
JKK2	**Kamakawa 2**	**4.03**	**263**	P	**Pn**	**04 00 45.3**	**+0.5**
JCH	**Churui**	**4.03**	**244**	*e*S	**Sn**	**04 01 32.8**	**-0.1**
ASAJ	**Asahikawa**	**4.10**	**267**	P	**Pn**	**04 00 46.0**	**+0.3**
ASAJ	comp=E,4.9nm,0.3s,baz=83,slow=17,SNR=15 **Asahikawa**	**4.10**	**267**	PN	**Pn**	**04 00 46.0**	**+0.3**
ASAJ	comp=Z,5.0nm,0.3s			pmax	pmax		
JFR	**Furan**	**4.32**	**254**	P	**Pn**	**04 00 50.3**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.59**	**243**	P	**Pn**	**04 00 52.2**	**+0.2**
JEW	**Eniwo**	**5.22**	**254**	P	**Pn**	**04 01 02.3**	**+2.2**
JKB	**Kayabe**	**5.90**	**246**	P	**Pn**	**04 01 09.7**	**+0.7**
JKB				*e*S	**Sn**	**04 02 15.1**	**-1.3**
JOT	**Ohata**	**6.14**	**242**	P	**Pn**	**04 01 12.5**	**+0.3**
JOT				*e*S	**Sn**	**04 02 20.7**	**-1.5**
JOSM	**Okushiri--Mats**	**6.86**	**253**	P	**Pn**	**04 01 22.3**	**+0.7**
JMK	**Ichinoseki**	**7.64**	**226**	P	**Pn**	**04 01 31.4**	**-0.4**
JMK				*e*S	**Sn**	**04 02 57.7**	**0.0**
MAJO	**Matsushiro**	**11.02**	**227**	*e*PN	**Pn**	**04 02 20.3**	**+4.2**
MAJO	comp=Z,2.0nm,0.4s			pmax	pmax		
MAJO	**Matsushiro**	**11.02**	**227**	*e*Pn	**Pn**	**04 02 20.3**	**+4.2**
MJAR	**Matsushiro Arr**	**11.02**	**227**	P	**Pn**	**04 02 19.8**	**+3.7**
SONM	**Songino Array**	**28.95**	**292**	P	**P**	**04 05 27.8**	**+2.0**
SONM	**Songino Array**	**28.95**	**292**	P	**P**	**04 05 27.8**	**+2.0**
MKAR	**Makanchi Array**	**44.97**	**297**	P	**P**	**04 07 41.6**	**+1.0**
MKAR	**Makanchi Array**	**44.97**	**297**	P	**P**	**04 07 41.6**	**+1.1**
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax		
ARCES	**ARCESS Array B**	**58.85**	**340**	P	**P**	**04 09 21.7**	**-1.3**
ARCES	**ARCESS Array B**	**58.85**	**340**	P	**P**	**04 09 21.7**	**-1.3**
ARCES	comp=Z,5.0nm,1.0s			pmax	pmax		
JOF	**Joensuu**	**61.82**	**332**	*e*p	**P**	**04 09 41.3**	**-1.9**
JOF	**Joensuu**	**61.82**	**332**	*e*P	**P**	**04 09 41.3**	**-1.9**
JOF	comp=Z,2.0nm,0.4s,mb4.3			pmax	pmax		
FINES	**FINESS Array B**	**64.60**	**333**	P	**P**	**04 10 00.1**	**-1.3**
FINES	**FINESS Array B**	**64.60**	**333**	P	**P**	**04 10 00.2**	**-1.2**
FINES	comp=Z,2.0nm,0.5s			pmax	pmax		
NB2	**NORSAR Subarra**	**69.22**	**339**	P	**P**	**04 10 29.1**	**-1.5**
NB2	**NORSAR Subarra**	**69.22**	**339**	P	**P**	**04 10 29.1**	**-1.5**
NB2	comp=Z,2.0nm,0.6s,mb4.0			pmax	pmax		
NOA	**NORSAR Array B**	**69.22**	**339**	P	**P**	**04 10 29.7**	**-0.8**
NOA	**NORSAR Array B**	**69.22**	**339**	P	**P**	**04 10 29.7**	**-0.9**
NOA	comp=Z,1.0nm,0.5s			pmax	pmax		
HFS	**Hagfors**	**69.33**	**338**	P	**P**	**04 10 30.1**	**-1.1**
HFS	**Hagfors**	**69.33**	**338**	P	**P**	**04 10 30.1**	**-1.2**
HFS	comp=Z,1.0nm,0.3s			pmax	pmax		
GERES	**GERESS Array B**	**78.92**	**331**	P	**P**	**04 11 28.3**	**+1.5**
GERES	**GERESS Array B**	**78.92**	**331**	P	**P**	**04 11 28.3**	**+1.5**
GERES	comp=Z,1.0nm,0.6s			pmax	pmax		

IDC 09 04:02:56.5±1.1, 7623N×5959W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, MS3.2/6, Ms1 3.2/6, ms1mx3.0/28, Error ellipse: s-maj=34.0km s-min=23.6km az=136.0, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**9.44**	**67**	*i* P	Pn	04 05 10.0	-3.7
JMIC	**Jan Mayen**	**14.85**	**84**	LR	LR	04 12 29.7	
SCHQ	comp=Z,101nm,19.3s,baz=81,slow=39 **Schefferville**	**21.66**	**191**	P	P	04 07 46.3	-2.4
YKA	2.3nm,0.6s,baz=353,slow=16,SNR=5.3 **Yellowknife Ar**	**22.53**	**263**	LR	LR	04 16 53.0	
GERES	comp=Z,54nm,19.7s,baz=140,slow=37 **GERESS Array B**	**39.25**	**90**	P	P	04 10 28.

ESDC Sonseca Array 43.80 113 P P 04 11 04.5 +0.4
0.7nm,0.6s,baz=345,slow=8.3,SNR=6.3
ESDC LR LR 04 29 34.6
comp=Z,37nm,21.3s,baz=10.0,slow=36
NVAR Mina Array Bea 45.68 250 P P 04 11 18.0 -1.0
0.5nm,0.7s,baz=29,slow=6.8,SNR=4.4
KEST Kesra 50.62 101 LR LR 04 31 12.8
comp=Z,17nm,18.6s,baz=332,slow=34
MKAR Makanchi Array 54.83 31 P P 04 12 26.6 -1.8
0.5nm,0.7s,baz=0.3,slow=6.5,SNR=2.9
SONM Songino Array 55.88 11 P P 04 12 35.6 -0.3
0.4nm,0.6s,baz=341,slow=7.8,SNR=3.0

*MOS **09** 04:38:52.5±0.9,5629N×16444E,h14km,mb4.3/7,Error ellipse: s-maj=18.1km s-min=10.3km az=56.6*
*ISCJB **09** 04:38:53.5±0.5,5618N±004×16431E±006,h10km, mb4.0/13,Error ellipse: s-maj=6.1km s-min=4.7km az=169.3*
*IDC **09** 04:38:53.9±0.9,5629N×16405E,h0km,mb3.8/9, mb1 4.1/10,mb1mx3.9/22,mbtmp3.9/10,ML3.5/1,Error ellipse: s-maj=30.1km s-min=20.2km az=146.0*
*KRSC **09** 04:38:56,5606N×16401E,h10km,ML4.2*
*NEIC **09** 04:38:59.0±0.5,5630N×16397E,h35km,mb4.2/4,Error ellipse: s-maj=14.1km s-min=9.4km az=131.0*
ISC 09 04:38:56.0±1.0,5620N±004×16423E±006,h16km±6km, n45,σ1§19/64,mb4.0/13,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.79**	**271**	*i P*		**Pg**		**04 39 09.9**	**-1.4**
KBTR				*i S*		**Sg**		**04 39 19.8**	**-1.9**
BDR	**Baidarnaya**	**1.72**	**284**	*i P*		**Pn**		**04 39 25.5**	**+0.2**
BDR				*i S*		**Sn**		**04 39 46.8**	**-0.1**
SRKR	**Sorokina**	**1.76**	**286**	*eP*		**Pn**		**04 39 25.7**	**-0.1**
SRKR				*i S*		**Sn**		**04 39 46.8**	**-1.1**
ZLN	**Zelenaya**	**1.93**	**266**	*i P*		**Pn**		**04 39 28.7**	**+0.6**
ZLN				*i S*		**Sn**		**04 39 53.1**	**+1.1**
KLY	**Klyuchi**	**2.00**	**275**	*i P*		**Pn**		**04 39 27.8**	**-1.3**
KLY				*i S*		**Sn**		**04 39 50.9**	**-2.9**
KRSR	**Krestovskiy**	**2.05**	**272**	*eP*		**Pn**		**04 39 29.9**	**+0.2**
KRSR				*i S*		**Sn**		**04 39 54.2**	**-0.8**
MKZ	**Mys Kozlova**	**2.18**	**222**	*eP*		**Pn**		**04 39 30.9**	**-0.7**
MKZ				*eS*		**Sn**		**04 39 56.2**	**-2.0**
KPT	**Kopyto**	**2.26**	**266**	*i P*		**Pn**		**04 39 33.8**	**+1.1**
KPT				*i S*		**Sn**		**04 40 00.4**	**+0.2**
KMNR	**Kamenistaya**	**2.29**	**260**	*eP*		**Pn**		**04 39 34.7**	**+1.6**
KMNR				*i S*		**Sn**		**04 40 01.7**	**+0.8**
KOZR	**Kozyr**	**2.43**	**269**	PN		**Pn**		**04 39 36.6**	**+1.6**
KOZR				S		**Sn**		**04 40 06.4**	**+2.0**
KOZ	**Kozyrevsk**	**2.44**	**268**	*i P*		**Pn**		**04 39 36.6**	**+1.4**
KOZ				*i S*		**Sn**		**04 40 06.4**	**+1.7**
TUMR	**Tumrok**	**2.48**	**250**	*i P*		**Pn**		**04 39 37.0**	**+1.2**
TUMR				*i S*		**Sn**		**04 40 06.6**	**+0.8**
SRDR	**Sredinnyy**	**2.52**	**275**	*i P*		**Pn**		**04 39 37.4**	**+1.1**
SRDR				*i S*		**Sn**		**04 40 07.0**	**+0.4**
SPN	**Mys Shipunski**	**3.95**	**220**	*eP*		**Pn**		**04 39 55.2**	**-0.8**
SPN				*i S*		**Sn**		**04 40 37.3**	**-4.7**
NLC	**Nalytchevo**	**4.15**	**225**	*eP*		**Pn**		**04 39 58.8**	**+0.1**
NLC				*i S*		**Sn**		**04 40 44.8**	**-2.1**
SMAR	**Somma**	**4.31**	**229**	*eP*		**Pn**		**04 40 01.7**	**+0.9**
AVH	**Avacha**	**4.33**	**230**	*eP*		**Pn**		**04 40 02.6**	**+1.4**
AVH				*eS*		**Sn**		**04 40 50.1**	**-1.3**
GNL	**Ganaly**	**4.41**	**238**	*eP*		**Pn**		**04 40 03.9**	**+1.7**
PET	**Petropavlovsk**	**4.54**	**228**	*ePn*		**Pn**		**04 40 04.4**	**+0.4**
PET				*eSn*		**Sn**		**04 40 57.3**	**+0.8**
PET	**Petropavlovsk**	**4.54**	**228**	*eP*		**Pn**		**04 40 04.8**	**+0.8**
PET				*eS*		**Sn**		**04 40 55.0**	**-1.5**
RUS	**Russkaya**	**5.04**	**224**	*eP*		**Pn**		**04 40 11.5**	**+0.6**
RUS				*eS*		**Sn**		**04 41 06.4**	**-2.5**
GRL	**Gorelyy**	**5.13**	**227**	*eP*		**Pn**		**04 40 14.3**	**+2.2**
ASAJ	**Asahikawa**	**18.30**	**238**	P		**Pn**		**04 43 09.6**	**+0.5**
	0.3nm,0.3s,baz=339,slow=8.6,SNR=3.1								
MJAR	**Matsushiro Arr**	**26.35**	**233**	P		**P**		**04 44 31.6**	**+0.3**
	3.0nm,0.7s,mb3.9,baz=29,slow=9.0,SNR=8.1								
MJAR	**Matsushiro Arr**	**26.35**	**233**	P		**P**		**04 44 31.6**	**+0.3**
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MAJO	**Matsushiro**	**26.35**	**233**	*eP*		**P**		**04 44 30.9**	**-0.4**
MAJO				pmax		pmax			
	comp=Z,4.0nm,0.4s,mb4.3								
MAJO	**Matsushiro**	**26.35**	**233**	*eP*		**P**		**04 44 30.9**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.3								
SONM	**Songino Array**	**35.59**	**281**	P		**P**		**04 45 51.4**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=53,slow=6.2,SNR=3.8								
MKAR	**Makanchi Array**	**48.98**	**296**	P		**P**		**04 47 39.8**	**-1.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=63,slow=8.7,SNR=4.2								
CHKZ	**Chkalovo**	**49.79**	**309**	*eP*		**P**		**04 47 45.5**	**-2.4**
CHKZ				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
CHKZ	**Chkalovo**	**49.79**	**309**	*eP*		**P**		**04 47 45.5**	**-2.5**
	comp=Z,1.6nm,0.7s,mb4.2								
BRVK	**Borovoye**	**50.36**	**309**	*eP*		**P**		**04 47 51.0**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
BRVK	**Borovoye**	**50.36**	**309**	*eP*		**P**		**04 47 51.0**	**-1.3**
	comp=Z,1.1nm,0.5s,mb4.1								
PDAR	**Pinedale Array**	**53.97**	**65**	P		**P**		**04 48 20.1**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=337,slow=3.7,SNR=8.8								
ULM	**Lac du Bonnet**	**54.96**	**51**	P		**P**		**04 48 25.8**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=311,slow=9.3,SNR=3.5								
LSA	**Lhasa**	**56.61**	**274**	P		**P**		**04 48 37.6**	**-0.5**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.4s,mb5.0								
LSA	**Lhasa**	**56.61**	**274**	P		**P**		**04 48 37.6**	**-0.5**
	comp=Z,7.4nm,0.4s,mb5.1								
AKTK	**Aktyubinsk**	**57.47**	**313**	P		**P**		**04 48 44.0**	**-0.2**
AKTO	**Aktyubinsk**	**57.47**	**313**	P		**P**		**04 48 44.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=36,slow=8.7,SNR=3.3								
AKTO	**Aktyubinsk**	**57.47**	**313**	P		**P**		**04 48 44.0**	**-0.2**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
NOA	**NORSAR Array B**	**61.18**	**345**	P		**P**		**04 49 09.1**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=34,slow=7.1,SNR=2.8								
WRA	**Warramunga Arr**	**79.94**	**208**	P		**P**		**04 51 04.1**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=23,slow=5.7,SNR=5.2								
WRA	**Warramunga Arr**	**79.94**	**208**	P		**P**		**04 51 04.1**	**-0.1**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**83.61**	**208**	P		**P**		**04 51 24.1**	**+0.5**
	comp=Z,1.2nm,0.9s,mb4.0,baz=10.0,slow=6.4,SNR=5.6								
ASAR	**Alice Springs**	**83.61**	**208**	P		**P**		**04 51 24.1**	**+0.5**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

*NIC **09** 05:01:26.1±0.3,3613N×3629E,h55km,mb4.5,ML4.3, MW3.9*
*ISK **09** 05:01:31.9,3576N×3559E,h17km,ML4.5*
*ISCJB **09** 05:01:32.2±0.1,3585N±001×3553E±002,h10km, mb4.3/51,MS3.4/5,Error ellipse: s-maj=1.8km s-min=1.4km az=147.1*
*IDC **09** 05:01:32.1±0.7,3588N×3541E,h0km,mb4.0/17, mb1 4.1/22,mb1mx4.1/29,mbtmp4.0/22,ML4.1/5,MS3.2/1, Ms1 3.2/1,ms1mx2.4/32,Error ellipse: s-maj=14.5km s-min=12.3km az=72.0*
*CSEM **09** 05:01:33.7±0.1,3597N×3558E,h20km,mb4.2/1,Mw3.9, Error ellipse: s-maj=1.5km s-min=1.1km az=108.0*
*NEIC **09** 05:01:34.0,3582N×3560E,h39km,mb4.5/27, MD4.4(GRAL),MW4.5(GII),After ISK.*
*HLW **09** 05:01:34.3,3599N×3558E,h30km,Mb4.0*
*MOS **09** 05:01:34.3±1.3,3586N×3556E,h33km,mb4.5/31,Error ellipse: s-maj=8.8km s-min=4.1km az=126.9*
*NSSC **09** 05:01:35,3584N×3569E,h10km±1km*
*GRAL **09** 05:01:35.1±2.7,3581N×3543E,h0km±24km,MD4.0*
*GII **09** 05:01:36.5±9.2,3568N×3550E,h10km±244km,mb4.3/9, ML4.2/9,Mw4.0/6*
*NAO **09** 05:01:36.9,3596N×3573E,h33km,mb4.2*
ISC 09 05:01:34.6±0.5,3587N±001×3556E±002,h18km±3km, n354,σ1§26/409,mb4.3/51,MS3.4/5,8C-21D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.53**	**61**	PG		**Pg**		**05 01 44.0**	**-1.2**
SLNF	**Slenfeh**	**0.60**	**117**	⇓*iP*		**Pg**		**05 01 45.7**	**-0.8**
SLNF	**Slenfeh**	**0.60**	**117**	⇓P		**Pg**		**05 01 45.0**	**-1.5**
KRTS	**Karatas**	**0.72**	**348**	PG		**Pg**		**05 01 48.1**	**-0.7**
WRDH	**Warideh**	**0.78**	**117**	⇑*iP*		**Pb**		**05 01 48.8**	**-0.8**
WRDH	**Warideh**	**0.78**	**117**	⇑P		**Pb**		**05 01 48.0**	**-1.6**
COBT	**Iskenderun**	**0.86**	**40**	*i P*		**Pb**		**05 01 49.2**	**-1.7**
COBT				*i S*		**Sb**		**05 02 02.6**	**+0.6**
BIDA	**Albida**	**1.05**	**144**	⇑*iP*		**Pb**		**05 01 53.4**	**-0.8**
BIDA				⇑*iS*		**Sb**		**05 02 05.1**	**-2.5**
BIDA	**Albida**	**1.05**	**144**	⇑P		**Pb**		**05 01 53.0**	**-1.2**
BIDA				⇑S		**Sb**		**05 02 05.0**	**-2.6**
CEYT	**Ceyhan**	**1.15**	**7**	PN		**Pn**		**05 01 55.6**	**-0.1**
KFRA	**Kufra**	**1.20**	**123**	⇑*iP*		**Pn**		**05 01 56.2**	**-0.2**
KFRA				⇑*iS*		**Sb**		**05 02 10.0**	**-1.9**
KFRA	**Kufra**	**1.20**	**123**	⇑P		**Pn**		**05 01 56.0**	**-0.4**
KFRA				⇑S		**Sb**		**05 02 10.0**	**-1.9**
MERS	**Mersin**	**1.31**	**320**	PN		**Pn**		**05 01 56.5**	**-1.4**
MERS				SN		**Sn**		**05 02 15.8**	**+1.0**
MEST	**Erdemli**	**1.35**	**302**	*i P*		**Pn**		**05 01 56.7**	**-1.9**
MEST				*i S*		**Sn**		**05 02 12.9**	**-3.1**
KARA	**Karaisali**	**1.45**	**344**	PN		**Pn**		**05 01 59.6**	**-0.3**
KARA				SN		**Sn**		**05 02 20.5**	**+2.1**
PHNC	**Paralimni**	**1.52**	**236**	P		**Pn**		**05 01 59.9**	**-0.9**
	67nm,0.7s								
PHNC				S		**Sg**		**05 02 26.2**	**+2.5**
IKL	**Isikli**	**1.57**	**284**	PN		**Pn**		**05 01 59.8**	**-1.7**
HWQ	**Hawqa**	**1.62**	**169**	*eP*		**Pn**		**05 02 01.8**	**-0.3**
HWQ				*eS*		**Sn**		**05 02 21.3**	**-1.2**
KOZT	**Kozan**	**1.62**	**7**	PN		**Pn**		**05 02 01.8**	**-0.5**
FKH	**Fakeheh**	**1.77**	**157**	*eP*		**Pn**		**05 02 06.0**	**+1.8**
FKH				*eS*		**Sg**		**05 02 30.4**	**-1.1**
GAZ	**Gaziantep**	**1.86**	**45**	PN		**Pn**		**05 02 05.3**	**-0.2**
SLMH	**Al Salmeh**	**1.95**	**79**	⇑*iP*		**Pn**		**05 02 06.4**	**-0.3**
SLMH				⇑*iS*		**Sn**		**05 02 30.6**	**-0.1**
SLMH	**Al Salmeh**	**1.95**	**79**	⇑P		**Pn**		**05 02 06.0**	**-0.7**
SLMH				⇑S		**Sn**		**05 02 30.0**	**-0.7**
KMRS	**Kahramanmaras**	**1.96**	**33**	PN		**Pn**		**05 02 06.0**	**-0.8**
BHL	**Bhannes**	**1.96**	**178**	*eP*		**Pn**		**05 02 06.6**	**-0.2**
BHL				*eS*		**Sn**		**05 02 32.8**	**+1.8**
BHL	**Bhannes**	**1.96**	**178**	Pg		**Pn**		**05 02 06.7**	**-0.2**
MARH	**Ras Al Marh**	**1.98**	**157**	⇑*iP*		**Pn**		**05 02 08.1**	**+0.9**
MARH				⇑*iS*		**Sn**		**05 02 31.5**	**-0.1**
MARH	**Ras Al Marh**	**1.98**	**157**	⇑P		**Pn**		**05 02 08.0**	**+0.8**
MARH				⇑S		**Sn**		**05 02 31.0**	**-0.6**
CSS	**Prodhromos**	**2.04**	**244**	P		**Pn**		**05 02 07.6**	**-0.3**
	18nm,0.5s								
CSS				S		**Sg**		**05 02 39.3**	**-0.8**
MAMC	**Mammari**	**2.04**	**251**	P		**Pn**		**05 02 07.5**	**-0.4**
GZT	**Gaziantep**	**2.19**	**47**	*i P*		**Pn**		**05 02 10.0**	**0.0**
GZT				*i S*		**Sn**		**05 02 39.0**	**+2.3**
ROOS	**tl_alroos**	**2.21**	**140**	⇓*iP*		**Pn**		**05 02 10.9**	**+0.6**
ROOS	**tl_alroos**	**2.21**	**140**	⇓P		**Pn**		**05 02 10.0**	**-0.3**
ERMK	**Ermenek**	**2.28**	**291**	*i P*		**Pn**		**05 02 11.7**	**+0.4**
ERMK				*i S*		**Sb**		**05 02 42.3**	**-0.6**
JHLN	**Al Jahlan**	**2.35**	**94**	⇑*iP*		**Pn**		**05 02 12.2**	**0.0**
JHLN				⇑*iS*		**Sn**		**05 02 39.9**	**-0.6**
JHLN	**Al Jahlan**	**2.35**	**94**	⇑P		**Pn**		**05 02 12.0**	**-0.2**
JHLN				⇑S		**Sn**		**05 02 39.0**	**-1.5**
MATL	**Matirih**	**2.38**	**185**	*eP*		**Pn**		**05 02 12.7**	**+0.1**
MATL	**Matirih**	**2.38**	**185**	Pg		**Pn**		**05 02 12.6**	**-0.1**
RCY	**Rachaya**	**2.39**	**175**	*eP*		**Pn**		**05 02 12.7**	**0.0**
RCY				*eS*		**Sn**		**05 02 42.5**	**+1.0**
QASN	**Qassioun**	**2.40**	**166**	⇓*iP*		**Pn**		**05 02 14.2**	**+1.3**
QASN				⇓*iS*		**Sn**		**05 02 42.1**	**+0.2**
QASN	**Qassioun**	**2.40**	**166**	⇓P		**Pn**		**05 02 14.0**	**+1.1**
QASN				⇓S		**Sn**		**05 02 42.0**	**+0.1**
SZAC	**Souni-Zanaja**	**2.46**	**244**	P		**Pn**		**05 02 13.8**	**+0.1**
SZAC				S		**Sg**		**05 02 50.0**	**-3.6**
BRBR	**Barbar**	**2.47**	**172**	⇑*iP*		**Pn**		**05 02 14.5**	**+0.6**
BRBR				⇑*iS*		**Sn**		**05 02 43.4**	**-0.2**
BRBR	**Barbar**	**2.47**	**172**	⇑P		**Pn**		**05 02 14.0**	**+0.1**
BRBR				⇑S		**Sn**		**05 02 43.0**	**-0.6**
ALFC	**Alevga**	**2.52**	**255**	P		**Pn**		**05 02 13.5**	**-1.1**
ALFC				S		**Sg**		**05 02 51.9**	**-3.8**
HRI	**Mount Hermon**	**2.60**	**177**	Pn		**Pn**		**05 02 16.1**	**+0.4**
TOTH	**TOTAH**	**2.60**	**164**	⇑*iP*		**Pn**		**05 02 17.3**	**+1.6**
TOTH				⇑*iS*		**Sn**		**05 02 46.8**	**0.0**
TOTH	**TOTAH**	**2.60**	**164**	⇑P		**Pn**		**05 02 17.0**	**+1.3**
TOTH				⇑S		**Sn**		**05 02 46.0**	**-0.8**
KSDI	**Kefar Szold**	**2.67**	**178**	Pn		**Pn**		**05 02 16.7**	**0.0**
KSDI				Sn		**Sn**		**05 02 47.6**	**-0.9**
KSDI	**Kefar Szold**	**2.67**	**178**	P		**Pn**		**05 02 16.8**	**+0.2**
HDMB	**Hadim**	**2.71**	**295**	PN		**Pn**		**05 02 17.4**	**+0.2**
ATAB	**Bozova**	**2.72**	**53**	*i P*		**Pn**		**05 02 17.2**	**-0.1**
ATAB				*i S*		**Sg**		**05 02 58.5**	**-3.4**
AKMC	**Akamas**	**2.77**	**253**	P		**Pn**		**05 02 17.8**	**-0.2**
HNTI	**Hanita**	**2.80**	**187**	Pn		**Pn**		**05 02 18.4**	**0.0**
HNTI				Sn		**Sn**		**05 02 52.1**	**+0.5**
PPCY	**Paphos**	**2.81**	**251**	P		**Pn**		**05 02 19.3**	**+0.8**
MMA0B	**Mount Meron ar**	**2.85**	**183**	Pn		**Pn**		**05 02 19.1**	**0.0**
MMA0B				Sn		**Sn**		**05 02 52.9**	**0.0**
KSHT	**Keshet**	**2.88**	**176**	Pn		**Pn**		**05 02 20.6**	**+1.0**
BNN	**Bunyan**	**2.99**	**4**	PN		**Pn**		**05 02 21.2**	**+0.2**
MNKR	**ALMNKUR**	**3.01**	**87**	⇓*iP*		**Pn**		**05 02 21.3**	**0.0**
MNKR				⇓*iS*		**Sn**		**05 02 55.3**	**-1.6**
MNKR	**ALMNKUR**	**3.01**	**87**	⇓P		**Pn**		**05 02 21.0**	**-0.3**
MNKR				⇓S		**Sn**		**05 02 55.0**	**-1.9**
URFA	**Urfa**	**3.05**	**58**	PN		**Pn**		**05 02 21.0**	**-0.9**
OFRI	**'Ofer**	**3.27**	**189**	Pn		**Pn**		**05 02 24.8**	**-0.2**
ZALF	**Zalf**	**3.28**	**153**	⇓*iP*		**Pn**		**05 02 26.2**	**+1.1**
ZALF				⇓*iS*		**Sn**		**05 03 02.8**	**-0.8**
ZALF	**Zalf**	**3.28**	**153**	⇓P		**Pn**		**05 02 26.0**	**+0.9**
ZALF				⇓S		**Sn**		**05 03 02.0**	**-1.6**
SALA	**Sala**	**3.29**	**163**	⇑*iP*		**Pn**		**05 02 26.3**	**+1.1**
SALA				⇑*iS*		**Sn**		**05 02 52.5**	**-1.4**
SALA	**Sala**	**3.29**	**163**	⇑P		**Pn**		**05 02 26.0**	**+0.8**
SALA				⇑S		**Sn**		**05 03 02.0**	**-1.9**
KONT	**Konya--Tatoy**	**3.30**	**310**	*ePN*		**Pn**		**05 02 25.7**	**+0.4**
MALT	**Malatya**	**3.35**	**42**	⇑*iP*		**Pn**		**05 02 26.4**	**+0.4**
MALT	**Malatya**	**3.35**	**42**	⇑P		**Pn**		**05 02 26.4**	**+0.4**
MYA	**Malataya**	**3.35**	**42**	PN		**Pn**		**05 02 25.9**	**-0.2**
MMLI	**Mount Malkishu**	**3.42**	**182**	Pn		**Pn**		**05 02 27.4**	**+0.4**
MMLI				Sn		**Sn**		**05 03 07.4**	**+0.3**
MMLI	**Mount Malkishu**	**3.42**	**182**	P		**Pn**		**05 02 27.7**	**+0.7**
SLTI	**Sal'it**	**3.64**	**187**	Pn		**Pn**		**05 02 30.6**	**+0.6**
SLTI				Sn		**Sn**		**05 03 12.3**	**-0.3**
SLTI	**Sal'it**	**3.64**	**187**	P		**Pn**		**05 02 30.8**	**+0.8**
SLTI				S		**Sn**		**05 03 13.7**	**+1.2**
SFNV	**Sufian**	**3.72**	**80**	⇑*iP*		**Pn**		**05 02 30.8**	**-0.3**
SFNV				⇑*iS*		**Sn**		**05 03 13.5**	**-0.9**
SFNV	**Sufian**	**3.72**	**80**	⇑P		**Pn**		**05 02 30.0**	**-1.1**
SFNV				⇑S		**Sn**		**05 03 13.0**	**-1.4**
YOZ	**Yozgat**	**3.77**	**357**	*ePN*		**Pn**		**05 02 32.5**	**+0.7**
ELZG	**Elazig**	**3.79**	**45**	*i P*		**Pn**		**05 02 33.1**	**+1.1**
KAMT	**Kaman**	**3.79**	**338**	*ePN*		**Pn**		**05 02 32.9**	**+0.8**
KDHN	**Kadinhani**	**3.82**	**315**	*i P*		**Pn**		**05 02 34.8**	**+2.3**
KDHN				*i S*		**Sn**		**05 03 22.8**	**+5.9**
ASF	**Jabal al Asfar**	**3.85**	**163**	Pn		**Pn**		**05 02 33.7**	**+0.9**
	7.6nm,0.3s,baz=224,slow=8.6,SNR=26								
ASF				Lg				05 03 33.5	
	40nm,0.3s,baz=12,slow=21,SNR=8.9								
CDAG	**Cicekdag**	**3.87**	**346**	*i P*		**Pn**		**05 02 36.1**	**+3.0**
SVST	**Sivas**	**4.05**	**15**	*i P*		**Pn**		**05 02 38.0**	**+2.4**
BR131	**Keskin Array S**	**4.14**	**339**	*ePn*		**Pn**		**05 02 37.2**	**+0.3**
BR131	**Keskin Array S**	**4.14**	**339**	*ePn*		**Pn**		**05 02 37.2**	**+0.3**
KBSD	**Kabsdagh**	**4.17**	**73**	⇑*iP*		**Pn**		**05 02 36.9**	**-0.4**
KBSD				⇑*iS*		**Sn**		**05 03 23.1**	**-2.4**
KBSD	**Kabsdagh**	**4.17**	**73**	⇑P		**Pn**		**05 02 36.0**	**-1.3**
KBSD				⇑S		**Sn**		**05 03 23.0**	**-2.5**
SVSK	**Karacayir**	**4.20**	**15**	*ePN*		**Pn**		**05 02 38.0**	**+0.3**
DIY	**Diyarbakir**	**4.25**	**60**	*ePN*		**Pn**		**05 02 38.6**	**+0.2**
DRGI	**Dragot**	**4.26**	**182**	Pn		**Pn**		**05 02 39.5**	**+0.9**
DRGI	**Dragot**	**4.26**	**182**	P		**Pn**		**05 02 39.7**	**+1.1**
PTK	**Pertek**	**4.29**	**44**	*ePN*		**Pn**		**05 02 38.9**	**0.0**
MKRJ	**Makawir**	**4.30**	**179**	Pn		**Pn**		**05 02 40.5**	**+1.4**
AMAZ	**Amatzia**	**4.36**	**187**	Pn		**Pn**		**05 02 41.0**	**+1.1**
AMAZ				Sn		**Sn**		**05 03 31.0**	**+0.9**
MARD	**Mardin**	**4.44**	**69**	*i P*		**Pn**		**05 02 41.5**	**+0.6**
MARD				*i S*		**Sn**		**05 03 34.6**	**+2.5**
YTIR	**Yattir**	**4.51**	**185**	Pn		**Pn**		**05 02 43.5**	**+1.6**
ISP	**Isparta**	**4.51**	**297**	P		**Pn**		**05 02 43.9**	**+2.0**
MZDA	**Masada**	**4.55**	**182**	Pn		**Pn**		**05 02 43.3**	**+0.8**
MZDA				Sn		**Sn**		**05 03 34.5**	**-0.3**
MZDA	**Masada**	**4.55**	**182**	P		**Pn**		**05 02 43.4**	**+0.9**
MZDA				S		**Sn**		**05 03 36.4**	**+1.6**
ANTO	**Ankara**	**4.56**	**332**	⇓*iP*		**Pn**		**05 02 46.2**	**+3.6**
ANTO	**Ankara**	**4.56**	**332**	⇓P		**Pn**		**05 02 46.2**	**+3.6**
ELL	**Elmali**	**4.65**	**283**	*ePN*		**Pn**		**05 02 44.8**	**+0.9**
TKTP	**Tekketepe**	**4.73**	**299**	*i P*		**Pn**		**05 02 47.0**	**+2.1**
CTKT	**Corum**	**4.79**	**353**	*i P*		**Pn**		**05 02 49.3**	**+3.5**
AKAS	**Kas**	**4.84**	**276**	*i P*		**Pn**		**05 02 49.3**	**+2.8**
RTMI	**Retamim**	**4.85**	**189**	Pn		**Pn**		**05 02 47.9**	**+1.2**
MASH	**Mash'abbe Sade**	**4.90**	**188**	Pn		**Pn**		**05 02 47.7**	**+0.4**
MASH	**Mash'abbe Sade**	**4.90**	**188**	P		**Pn**		**05 02 48.5**	**+1.2**
ELDT	**Eldivan**	**4.91**	**341**	*i P*		**Pn**		**05 02 50.0**	**+2.6**
BINT	**Bingol**	**4.94**	**51**	*ePN*		**Pn**		**05 02 48.6**	**+0.8**
SVTA	**Shivta**	**4.99**	**189**	Pn		**Pn**		**05 02 49.5**	**+1.1**
SVTA	**Shivta**	**4.99**	**189**	P		**Pn**		**05 02 49.6**	**+1.1**
BEST	**Besiri**	**5.00**	**64**	*i P*		**Pn**		**05 02 49.5**	**+0.9**
GOLH	**Golhisar**	**5.02**	**288**	*i P*		**Pn**		**05 02 51.6**	**+2.6**
GOLH				*i S*		**Sn**		**05 03 53.0**	**+6.4**
KZIT	**Kziot**	**5.04**	**191**	Pn		**Pn**		**05 02 50.1**	**+0.8**
KZIT				Sn		**Sn**		**05 03 46.8**	**-0.3**
KZIT	**Kziot**	**5.04**	**191**	P		**Pn**		**05 02 51.0**	**+1.7**
KZIT				Sn		**Sn**		**05 03 46.8**	**-0.2**
EZC	**Erzincan**	**5.13**	**40**	*ePN*		**Pn**		**05 02 47.9**	**-2.6**
KELT	**Kelkit**	**5.17**	**33**	*i P*		**Pn**		**05 02 51.3**	**+0.2**
KELT				*i S*		**Sg**		**05 04 11.6**	**-9.1**
ESKT	**Eskisehir**	**5.22**	**316**	*ePN*		**Pn**		**05 02 53.8**	**+2.1**
ESKT	**Eskisehir**	**5.22**	**316**	*i P*		**Pn**		**05 02 53.5**	**+1.8**
SEYT	**Eskypehyr**	**5.22**	**316**	*i P*		**Pn**		**05 02 53.5**	**+1.8**
BTMT	**Batman**	**5.28**	**62**	*ePN*		**Pn**		**05 02 50.5**	**-2.0**
TOS	**Tosya**	**5.30**	**347**	*ePN*		**Pn**		**05 02 55.3**	**+2.5**
ZFRI	**Zfri**	**5.31**	**184**	Pn		**Pn**		**05 02 53.7**	**+0.8**
ALT	**Altintas**	**5.38**	**308**	*ePN*		**Pn**		**05 02 55.9**	**+2.0**
BNGL	**BINGOL**	**5.41**	**54**	*i P*		**Pn**		**05 02 56.3**	**+2.0**
BNGL				*i S*		**Sg**		**05 04 22.6**	**-5.6**
SGKT	**Sivrigoynuk**	**5.45**	**331**	*i P*		**Pn**		**05 02 56.7**	**+1.9**
PRNI	**Paran**	**5.52**	**185**	Pn		**Pn**		**05 02 56.6**	**+0.8**
PRNI	**Paran**	**5.52**	**185**	P		**Pn**		**05 02 56.8**	**+1.0**
PRNI				S		**Sn**		**05 04 00.9**	**+2.1**
DNZL	**Cakiroluk**

MBDF Montbardon 23.58 301 *e*P **P 05 06 43.2 -1.1**
comp=Z,15nm,0.7s,mb4.5
WSAR Wadi Sarin 23.62 116 P **P 05 06 45.2 +0.6**
comp=Z,4.0nm,1.0s,mb3.8,baz=276,slow=15,SNR=2.9
FELD Feldberg im Sc 23.64 309 *e*P **P 05 06 44.9 +0.1**
BNI Bardonecchia 23.71 302 *e*P **P 05 06 45.3 -0.2**
BNI pmax pmax
comp=Z,29nm,1.3s,mb4.5
BNI Bardonecchia 23.71 302 *e*P **P 05 06 45.3 -0.2**
comp=Z,29nm,1.3s,mb4.5
LPG La Plagne 23.77 303 *e*P **P 05 06 46.1 +0.1**
comp=Z,27nm,0.6s,mb4.5
LPG La Plagne 23.77 303 *e*P **P 05 06 46.1 +0.1**
LPG pmax pmax
comp=Z,13nm,0.6s,mb4.5
LPG La Plagne 23.77 303 *e*P **P 05 06 46.1 +0.1**
comp=Z,13nm,0.6s,mb4.5
LPL La Plagne 23.78 303 *e*P **P 05 06 46.2 +0.1**
comp=Z,26nm,0.5s,mb4.6
LPL La Plagne 23.78 303 *e*P **P 05 06 46.2 +0.1**
LPL pmax pmax
comp=Z,13nm,0.5s,mb4.6
LPL La Plagne 23.78 303 *e*P **P 05 06 46.2 +0.1**
comp=Z,13nm,0.5s,mb4.6
RSL Roselend 23.90 303 *e*P **P 05 06 46.3 -0.9**
LOMF Lomont 24.22 307 *e*P **P 05 06 49.0 -1.1**
ORIF Oris-en-Rattie 24.24 301 *e*P **P 05 06 48.8 -1.5**
comp=Z,18nm,0.6s,mb4.3
ORIF *e*MLR MLR
comp=Z,138nm,17.5s
ORIF Oris-en-Rattie 24.24 301 *e*P **P 05 06 48.8 -1.5**
ORIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 24.24 301 *e*P **P 05 06 48.8 -1.5**
comp=Z,8.8nm,0.6s,mb4.4
CDF Champ du Feu 24.28 310 *e*P **P 05 06 49.4 -1.3**
comp=Z,20nm,0.9s,mb4.2
CDF Champ du Feu 24.28 310 *e*P **P 05 06 49.4 -1.3**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
CDF Champ du Feu 24.28 310 *e*P **P 05 06 49.4 -1.3**
comp=Z,9.9nm,0.9s,mb4.2
SMRF Simiane la Rot 24.29 299 *e*P **P 05 06 49.9 -0.8**
comp=Z,8.4nm,0.7s,mb4.0
SMRF Simiane la Rot 24.29 299 *e*P **P 05 06 49.9 -0.8**
comp=Z,8.4nm,0.7s,mb4.3
HINF Hinteralfeld 24.35 308 *e*P **P 05 06 50.5 -0.8**
comp=Z,7.5nm,0.6s,mb4.0
HINF Hinteralfeld 24.35 308 *e*P **P 05 06 50.5 -0.8**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
HINF Hinteralfeld 24.35 308 *e*P **P 05 06 50.5 -0.8**
comp=Z,3.8nm,0.6s,mb4.0
HAU Haudompre 24.73 308 *e*P **P 05 06 52.9 -1.9**
comp=Z,5.3nm,0.4s,mb4.1
HAU *e*MLR MLR
comp=Z,155nm,17.0s
HAU Haudompre 24.73 308 *e*P **P 05 06 52.9 -1.9**
HAU pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
HAU MLR MLR
comp=Z,150nm,17.0s,MS3.6
HAU Haudompre 24.73 308 *e*P **P 05 06 52.9 -1.9**
comp=Z,2.7nm,0.4s,mb4.1
HAU LR LR
comp=Z,150nm,17.0s,MS3.6
VIVF Saint-Julien-l 25.07 300 *e*P **P 05 06 56.1 -1.8**
comp=Z,13nm,0.7s,mb4.3
VIVF Saint-Julien-l 25.07 300 *e*P **P 05 06 56.1 -1.8**
VIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
VIVF Saint-Julien-l 25.07 300 *e*P **P 05 06 56.1 -1.8**
comp=Z,6.4nm,0.7s,mb4.3
MEZF Maizieres J'vi 25.71 309 *e*P **P 05 07 01.1 -2.6**
comp=Z,26nm,0.5s,mb4.7
MEZF Maizieres J'vi 25.71 309 *e*P **P 05 07 01.1 -2.6**
comp=Z,26nm,0.5s,mb5.0
SMF Signal de Mont 26.00 304 *e*P **P 05 07 04.9 -1.4**
comp=Z,31nm,0.6s,mb4.7
SMF Signal de Mont 26.00 304 *e*P **P 05 07 04.9 -1.4**
SMF pmax pmax
comp=Z,15nm,0.6s,mb4.7
SMF Signal de Mont 26.00 304 *e*P **P 05 07 04.9 -1.4**
comp=Z,15nm,0.6s,mb4.7
PLDF La Plantade 26.01 303 *e*P **P 05 07 05.8 -0.6**
LBL Lubilhac 26.13 301 *e*P **P 05 07 07.1 -0.4**
LOR Lormes 26.14 306 *e*P **P 05 07 06.1 -1.5**
comp=Z,13nm,0.6s,mb4.3
LOR *e*MLR MLR
comp=Z,109nm,19.5s
LOR Lormes 26.14 306 *e*P **P 05 07 06.1 -1.5**
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
LOR MLR MLR
comp=Z,110nm,19.5s,MS3.4
LOR Lormes 26.14 306 *e*P **P 05 07 06.1 -1.5**
comp=Z,6.6nm,0.6s,mb4.3
LOR LR LR
comp=Z,110nm,19.5s,MS3.4
FINES FINESS Array B 26.30 350 P **P 05 07 08.7 -0.3**
comp=Z,2.3nm,0.4s,mb4.1,baz=150,slow=10,SNR=28
FINES FINESS Array B 26.30 350 P **P 05 07 08.7 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.4s
SSF Saint Saulge 26.32 305 *e*P **P 05 07 08.1 -1.1**
comp=Z,38nm,0.7s,mb4.7
SSF Saint Saulge 26.32 305 *e*P **P 05 07 08.1 -1.1**
SSF pmax pmax
comp=Z,19nm,0.7s,mb4.7
SSF Saint Saulge 26.32 305 *e*P **P 05 07 08.1 -1.1**
comp=Z,19nm,0.7s,mb4.7
AGO Saint Agoulin 26.36 303 *e*P **P 05 07 09.0 -0.6**
AVF Avril sur Loir 26.36 304 *e*P **P 05 07 07.9 -1.7**
comp=Z,19nm,0.6s,mb4.5
AVF Avril sur Loir 26.36 304 *e*P **P 05 07 07.9 -1.7**
AVF pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
AVF Avril sur Loir 26.36 304 *e*P **P 05 07 07.9 -1.7**
comp=Z,9.7nm,0.6s,mb4.5
MTLF Montolieu 26.62 297 *e*P **P 05 07 11.1 -0.9**
comp=Z,12nm,1.0s,mb4.1
MTLF Montolieu 26.62 297 *e*P **P 05 07 11.1 -0.9**
MTLF pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
MTLF Montolieu 26.62 297 *e*P **P 05 07 11.1 -0.9**
comp=Z,5.9nm,1.0s,mb4.1
BGF Bois d'Agland 26.65 304 *e*P **P 05 07 10.8 -1.4**
comp=Z,16nm,0.7s,mb4.3
BGF Bois d'Agland 26.65 304 *e*P **P 05 07 10.8 -1.4**
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BGF Bois d'Agland 26.65 304 *e*P **P 05 07 10.8 -1.4**
comp=Z,7.8nm,0.7s,mb4.3
KAF Kangasniemi 26.91 350 *e*p **P 05 07 12.5 -2.0**
CAF Calviac 26.91 300 *e*P **P 05 07 13.1 -1.5**
HYF Humbligny 26.94 305 *e*P **P 05 07 14.0 -0.8**
TCF Toulx Ste Croi 27.03 303 *e*P **P 05 07 14.4 -1.2**
comp=Z,11nm,0.7s,mb4.2
TCF Toulx Ste Croi 27.03 303 *e*P **P 05 07 14.4 -1.2**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
TCF Toulx Ste Croi 27.03 303 *e*P **P 05 07 14.4 -1.2**
comp=Z,5.3nm,0.7s,mb4.2
JOF Joensuu 27.21 356 *e*p **P 05 07 15.8 -1.4**
comp=Z,1.8nm,0.4s,mb4.0
JOF Joensuu 27.21 356 *e*P **P 05 07 15.8 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
RJF Les Rejaudoux 27.35 301 *e*P **P 05 07 17.6 -0.9**
comp=Z,19nm,0.8s,mb4.4
RJF *e*MLR MLR
comp=Z,113nm,17.2s
RJF Les Rejaudoux 27.35 301 *e*P **P 05 07 17.6 -0.9**
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
RJF MLR MLR
comp=Z,110nm,17.3s,MS3.5
RJF Les Rejaudoux 27.35 301 *e*P **P 05 07 17.6 -0.9**
comp=Z,9.6nm,0.8s,mb4.4
RJF LR LR
comp=Z,110nm,17.3s,MS3.5
LFF La Frestale 27.85 300 *e*P **P 05 07 21.9 -1.0**
EPF Esparros 27.97 296 *e*P **P 05 07 22.9 -1.2**
HFS Hagfors 28.08 337 P **P 05 07 24.6 -0.5**
comp=Z,5.1nm,0.9s,mb4.2,baz=146,slow=11,SNR=7.4
HFS Hagfors 28.08 337 P **P 05 07 24.6 -0.5**
HFS pmax pmax
comp=Z,5.0nm,0.9s
ETSF Etsaut 28.63 295 *e*P **P 05 07 28.6 -1.3**
comp=Z,6.0nm,0.6s,mb4.2
ETSF Etsaut 28.63 295 *e*P **P 05 07 28.6 -1.3**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ETSF Etsaut 28.63 295 *e*P **P 05 07 28.6 -1.3**
comp=Z,3.0nm,0.6s,mb4.2
MFF Saint Martin d 28.69 303 *e*P **P 05 07 28.7 -1.8**
LDF La Druitiere 29.05 307 *e*P **P 05 07 31.7 -1.9**
SJPF Ste Jean 29.12 296 *e*P **P 05 07 32.5 -1.8**
comp=Z,3.6nm,0.4s,mb4.1
SJPF Ste Jean 29.12 296 *e*P **P 05 07 32.5 -1.8**
SJPF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
SJPF Ste Jean 29.12 296 *e*P **P 05 07 32.5 -1.8**
comp=Z,1.8nm,0.4s,mb4.2
FLN La Foliniere 29.32 307 *e*P **P 05 07 34.1 -1.9**
FLN *e*MLR MLR
comp=Z,136nm,18.0s
FLN La Foliniere 29.32 307 *e*P **P 05 07 34.1 -1.9**
FLN LR LR
comp=Z,140nm,18.0s,MS3.6
GRR Gorron 29.48 306 *e*P **P 05 07 35.4 -2.1**
comp=Z,8.4nm,0.4s,mb4.5
GRR Gorron 29.48 306 *e*P **P 05 07 35.4 -2.1**
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
GRR Gorron 29.48 306 *e*P **P 05 07 35.4 -2.1**
comp=Z,4.2nm,0.4s,mb4.5
NB2 NORSAR Subarra 29.57 336 P **P 05 07 37.4 -0.9**
comp=Z,3.7nm,1.0s,mb4.1,baz=137,slow=9.3
NB2 NORSAR Subarra 29.57 336 P **P 05 07 37.4 -0.9**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
NOA NORSAR Array B 29.57 336 P **P 05 07 37.7 -0.6**
comp=Z,1.6nm,0.7s,mb3.9,baz=132,slow=8.7,SNR=3.9
NOA NORSAR Array B 29.57 336 P **P 05 07 37.7 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 29.57 336 P **P 05 07 37.7 -0.6**
BVAR Borovoye Array 29.82 44 P **P 05 07 42.1 +1.6**
comp=Z,0.5nm,0.5s,mb3.5,baz=339,slow=3.7,SNR=2.0
BVAR Borovoye Array 29.82 44 P **P 05 07 42.1 +1.7**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
SGMF Saint Gilles 30.57 306 *e*P **P 05 07 45.1 -2.1**
QUIF Quistinic 30.92 305 *e*P **P 05 07 48.1 -2.1**
comp=Z,23nm,0.8s,mb4.8
QUIF Quistinic 30.92 305 *e*P **P 05 07 48.1 -2.1**
QUIF pmax pmax
comp=Z,12nm,0.8s,mb4.8
QUIF Quistinic 30.92 305 *e*P **P 05 07 48.1 -2.1**
comp=Z,12nm,0.8s,mb4.8
ROSF Rostrenen 31.06 306 *e*P **P 05 07 48.9 -2.5**
ESDC Sonseca Array 31.30 289 P **P 05 07 53.5 -0.1**
comp=Z,1.3nm,0.6s,mb3.9,baz=79,slow=9.1,SNR=6.3
MTE Manteigas 33.96 291 *e*P **P 05 08 15.8 -1.0**
comp=Z,12nm,2.2s,mb4.5
MTE Manteigas 33.96 291 *e*P **P 05 08 15.7 -1.1**
PCBR Castelo Branco 33.98 290 *e*P **P 05 08 17.2 +0.2**
comp=Z,13nm,2.2s,mb4.5
PCBR Castelo Branco 33.98 290 *e*P **P 05 08 17.1 +0.1**
ARCES ARCESS Array B 34.17 354 P **P 05 08 18.6 -0.1**
comp=Z,1.8nm,0.5s,mb4.2,baz=169,slow=7.4,SNR=16
ARCES ARCESS Array B 34.17 354 P **P 05 08 18.6 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
PVIS Viseu 34.19 291 *e*P **P 05 08 19.7 +0.9**
PESTR Estremoz 34.20 288 *e*P **P 05 08 18.9 0.0**
comp=Z,9.4nm,1.8s,mb4.4
PBEJ Beja 34.55 287 *e*P **P 05 08 21.7 -0.2**
comp=Z,8.4nm,0.8s,mb4.7
PBEJ Beja 34.55 287 *e*P **P 05 08 21.6 -0.3**
PTEO Sao Teotonio 35.30 286 *e*P **P 05 08 28.3 -0.1**
PTEO Sao Teotonio 35.30 286 *e*P **P 05 08 28.2 -0.2**
MKAR Makanchi Array 36.26 58 P **P 05 08 37.9 +1.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=266,slow=7.3,SNR=11
MKAR Makanchi Array 36.26 58 P **P 05 08 37.9 +1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 37.93 242 P **P 05 08 50.8 0.0**
comp=Z,1.4nm,0.6s,mb3.8,baz=40,slow=9.2,SNR=18
GKN Gorkha 42.02 86 *e*P **P 05 09 26.2 +1.4**
comp=Z,30nm,0.7s,mb5.0
DMN Daman 42.56 87 *e*P **P 05 09 30.9 +1.7**
comp=Z,16nm,0.8s,mb4.8
KKN Kakani 42.62 86 *e*P **P 05 09 31.1 +1.4**
comp=Z,21nm,0.8s,mb5.0
PKI Pulchoki 42.82 87 *e*P **P 05 09 32.8 +1.5**
comp=Z,16nm,0.8s,mb4.8
PMAR Madeira 43.04 282 *e*P **P 05 09 34.2 +1.1**
comp=Z,41nm,1.5s,mb4.9
GUN Gumba 43.06 86 *e*P **P 05 09 34.9 +1.6**
comp=Z,32nm,1.0s,mb5.0
SPB4 Spitsbergen Ar 43.20 354 *e*P **P 05 09 34.7 +0.3**
BORG Borgarnes 44.17 329 *e*P **P 05 09 37.2 -5.0**
comp=Z,245nm,1.6s
DBIC Dimbokro 47.04 242 P **P 05 10 04.3 -0.5**
comp=Z,2.1nm,0.5s,mb4.3,baz=41,slow=7.8,SNR=9.5
DBIC Dimbokro 47.04 242 P **P 05 10 04.4 -0.5**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
SUMG Summit 51.42 338 *e*P **P 05 10 36.1 -2.3**
comp=Z,4.0nm,0.6s,mb4.5
SONM Songino Array 52.36 53 P **P 05 10 46.2 +0.8**
comp=Z,0.8nm,0.6s,mb3.8,baz=285,slow=7.8,SNR=5.2
SONM Songino Array 52.36 53 P **P 05 10 46.2 +0.8**
SONM pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 64.87 190 P **P 05 12 14.5 +2.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=360,slow=11,SNR=4.5
BOSA Boshof 64.87 190 P **P 05 12 14.5 +2.0**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ULM Lac du Bonnet 84.14 331 P **P 05 14 03.4 -1.1**
comp=Z,2.2nm,0.8s,mb4.3,baz=83,slow=8.1,SNR=3.8
ULM Lac du Bonnet 84.14 331 P **P 05 14 03.4 -1.1**

NEIC ***09*** *05:09:59.9, 31.07S×71.50W, h69km, MD3.9(GUC), After GUC.*

GUC 09 05:10:01.7±0.5, 31.09S×71.38W, h56km±2km, MD3.9, ML4.0, 11C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.34**	**104**	↑*i*P	Pn	05 10 12.0	+0.3
CMCH				*i* S	Sn	05 10 19.8	+0.9
CMCH				AML	AML	05 10 20.5	
comp=N,29μm,0.4s							
CMCH	**Combarbala**	**0.34**	**104**	↑*i*P	Pn	05 10 12.0	+0.3
CMCH				*i* S	Sn	05 10 19.8	+0.9
OVCH	**Ovalle**	**0.51**	**18**	⇓*i*P	Pn	05 10 13.9	+0.6
OVCH				*i* S	Sn	05 10 22.8	+1.0
OVCH				AML	AML	05 10 23.6	
comp=N,6μm,0.4s							
OVCH	**Ovalle**	**0.51**	**18**	⇓*i*P	Pn	05 10 13.9	+0.6
OVCH				*i* S	Sn	05 10 22.8	+1.0
CHNG	**Los Chungos**	**0.80**	**187**	⇓*i*P	Pn	05 10 17.3	+0.4
CHNG				*i* S	Sn	05 10 28.8	+0.7
CHNG				AML	AML	05 10 29.3	
comp=E,3μm,0.4s							
TLL	**Tololo Astrono**	**1.05**	**29**	⇓*i*P	Pn	05 10 20.9	+0.7
TLL				*i* S	Sn	05 10 35.2	+1.3
TLL				AML	AML	05 10 37.4	
comp=N,13μm,0.5s							
TLL	**Tololo Astrono**	**1.05**	**29**	⇓*i*P	Pn	05 10 20.9	+0.7
TLL				S	Sn	05 10 35.2	+1.3
LSCH	**La Serena**	**1.18**	**6**	⇓*i*P	Pn	05 10 22.3	+0.3
LSCH				*i* S	Sn	05 10 37.9	+0.8
PTCH	**Petorca**	**1.23**	**162**	⇓*i*P	Pn	05 10 23.1	+0.4
PTCH				*i* S	Sn	05 10 39.0	+0.7
PTCH				AML	AML	05 10 39.9	
comp=E,11μm,0.4s							
PTCH	**Petorca**	**1.23**	**162**	⇓*i*P	Pn	05 10 23.1	+0.4
PTCH				*i* S	Sn	05 10 39.0	+0.7
PACH	**Papudo**	**1.44**	**182**	⇓*i*P	Pn	05 10 25.9	+0.4
PACH				*i* S	Sn	05 10 44.4	+1.1
JACH	**Jahuel**	**1.72**	**157**	↑*i*P	Pn	05 10 30.1	+0.8
JACH				*i* S	Sn	05 10 51.4	+1.2
ROCH	**El Roble**	**1.90**	**171**	↑*i*P	Pn	05 10 32.5	+0.7
ROCH				*i* S	Sn	05 10 56.3	+1.8
PEL	**Peldehue**	**2.13**	**164**	↑*i*P	Pn	05 10 35.6	+0.7
PEL				*i* S	Sn	05 11 01.4	+1.2
PEL				AML	AML	05 11 05.3	
comp=E,2μm,0.3s							
PEL	**Peldehue**	**2.13**	**164**	↑*i*P	Pn	05 10 35.6	+0.7
PEL				*i* S	Sn	05 11 01.4	+1.2
CLCH	**Cerro Calan**	**2.41**	**163**	⇓*i*P	Pn	05 10 39.4	+0.7
CLCH				*i* S	Sn	05 11 08.1	+1.2
CLCH				AML	AML	05 11 23.9	
comp=E,1μm,0.6s							
FCH	**Farellones**	**2.42**	**158**	*e*P	Pn	05 10 40.2	+1.4
FCH				*i* S	Sn	05 11 09.3	+2.2
FCH				AML	AML	05 11 15.8	
comp=E,722nm,0.4s							
RCDM	**Rinconada Maip**	**2.44**	**169**	*e*P	Pn	05 10 39.5	+0.4
RCDM				*i* S	Sn	05 11 08.6	+0.9
RCDM				AML	AML	05 11 22.3	
comp=E,792nm,0.1s							
RCDM	**Rinconada Maip**	**2.44**	**169**	*e*P	Pn	05 10 39.5	+0.4
RCDM				*i* S	Sn	05 11 08.6	+0.9
ANTU	**Antumapu**	**2.55**	**166**	↑*i*P	Pn	05 10 41.3	+0.7
ANTU				*i* S	Sn	05 11 11.4	+0.9
ANTU				AML	AML	05 11 26.8	
comp=N,723nm,0.7s							
ANTU	**Antumapu**	**2.55**	**166**	↑*i*P	Pn	05 10 41.3	+0.7
ANTU				*i* S	Sn	05 11 11.4	+0.9
VACH	**Vallenar**	**2.56**	**12**	*i* P	Pn	05 10 46.3	+5.5
VACH				*i* S	Sn	05 11 16.4	+5.6
TACH	**Talagante**	**2.58**	**172**	⇓*i*P	Pn	05 10 41.6	+0.6
TACH				*i* S	Sn	05 11 11.9	+0.7
PCH	**Pirque**	**2.63**	**164**	↑*i*P	Pn	05 10 42.7	+1.0
PCH				*i* S	Sn	05 11 13.4	+1.0
CHCH	**Chadas Angostu**	**2.90**	**168**	↑*i*P	Pn	05 10 46.1	+0.7
CHCH				*i* S	Sn	05 11 19.8	+0.7
CACH	**El Canelo**	**3.09**	**168**	*i* P	Pn	05 10 49.2	+1.2
CACH				*i* S	Sn	05 11 25.9	+2.2
CICH	**Cipreses**	**3.32**	**166**	↑*i*P	Pn	05 10 52.0	+0.9
CICH				*i* S	Sn	05 11 30.3	+1.0

ISCJB ***09*** *05:12:49.0±0.4, 30.90N±0.04×66.63E±0.04, h10km, mb4.1/19, MS3.4/12, Error ellipse: s-maj=6.9km s-min=4.9km az=62.3*

IDC ***09*** *05:12:49.0±1.0, 30.84N×66.55E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML3.7/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/32, Error ellipse: s-maj=21.8km s-min=20.7km az=140.0*

NEIC ***09*** *05:12:51.0±0.7, 30.94N×66.54E, h10km, mb4.4/5, Error ellipse: s-maj=14.9km s-min=9.6km az=140.0*

NEIC At least three injured in Chaman.

BJI ***09*** *05:12:51.9, 31.44N×66.60E, h10km, mB4.9, mb4.5, Ms4.4, Msz4.0*

MOS ***09*** *05:12:53.1±0.8, 30.98N×66.58E, h33km, mb4.2/13, Error ellipse: s-maj=17.4km s-min=11.3km az=95.9*

ISC 09 05:12:51.1±0.4, 30.93N±0.04×66.63E±0.04, h10km, n69, σ1°29/82, mb4.1/19, MS3.4/12, 1C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**3.82**	**68**	P	**Pn**	**05 13 51.2**	**+1.3**
THW	**Thamme Wali**	**4.73**	**66**	⇓P	**Pn**	**05 14 03.0**	**+0.5**
CEP	**Cherat**	**5.32**	**56**	↑P	**Pn**	**05 14 11.6**	**+1.0**
CEP				S	**Sn**	**05 15 12.0**	**+0.1**
JASL	**Jaisalmer**	**5.47**	**136**	*e*P	**Pn**	**05 14 13.7**	**+1.0**
JASL				*e*S	**Sn**	**05 15 16.2**	**+0.5**
CHCP	**Chirah Chowk**	**6.24**	**62**	P	**Pn**	**05 14 24.2**	**+0.9**
THN	**Thein Dam**	**7.89**	**77**	*e*P	**Pn**	**05 14 46.1**	**+0.2**
AJM	**Ajmer**	**8.32**	**120**	*e*S	**Sn**	**05 16 22.8**	**-2.9**
AJM				AML	AML	05 16 39.2	
comp=N,115nm,0.6s							
AJM				AML	AML	05 16 40.4	
comp=E,157nm,0.5s							
BHK	**Bhakra**	**8.40**	**84**	*e*P	**Pn**	**05 14 55.4**	**+2.5**
KHET	**Khetri**	**8.49**	**107**	*e*P	**Pn**	**05 14 55.5**	**+1.4**
KHET				*e*x	**Sn**	**05 16 23.1**	**-6.9**
KHET				AML	AML	05 16 25.4	
comp=N,102nm,0.6s							
KHET				AML	AML	05 16 26.5	
comp=E,68nm,0.3s							
BHGR	**Bahadurgarh**	**9.23**	**101**	*e*S	**Sn**	**05 16 44.0**	**-4.1**
AYAN	**Aya Nagar**	**9.45**	**102**	*e*P	**Pn**	**05 15 07.5**	**+0.3**
AYAN				*e*S	**Sn**	**05 16 48.1**	**-5.5**
NDI	**New Delhi**	**9.47**	**101**	*e*P	**Pn**	**05 15 08.8**	**+1.3**
NDI				*e*S	**Sn**	**05 16 49.5**	**-4.5**
NDI				AML	AML	05 16 58.0	
comp=E,88nm,0.7s							
NDI				AML	AML	05 16 58.7	
comp=N,91nm,0.8s							
SONA	**Sohna**	**9.49**	**104**	*e*P	**Pn**	**05 15 08.8**	**+1.1**
SONA				*e*S	**Sn**	**05 16 48.4**	**-6.0**
SONA				AML	AML	05 16 54.1	
comp=N,103nm,0.4s							
SONA				AML	AML	05 16 56.3	
comp=E,190nm,0.6s							
KLP	**Kalpa**	**9.97**	**84**	*e*P	**Pn**	**05 15 15.6**	**+1.2**
KLP				*e*S	**Sn**	**05 17 01.3**	**-5.1**
KLP				AML	AML	05 17 16.4	
comp=E,349nm,0.9s							
KLP				AML	AML	05 17 20.3	
comp=N,202nm,0.7s							
WSAR	**Wadi Sarin**	**10.46**	**225**	Pn	**Pn**	**05 15 19.9**	**-1.1**
comp=N,0.6nm,0.3s,baz=111,slow=13,SNR=7.4							
WSAR				Sn	**Sn**	**05 17 08.0**	**-10**
baz=336,slow=23,SNR=2.2							
WSAR	**Wadi Sarin**	**10.46**	**225**	Pn	**Pn**	**05 15 19.9**	**-1.1**
WSAR				Sn	**Sn**	**05 17 08.0**	**-10**
LGTI	**Lohaghat**	**11.88**	**94**	*e*x	**Pn**	**05 15 50.0**	**+10**
BHPL	**Bhopal**	**12.29**	**126**	*e*P	**Pn**	**05 15 47.0**	**+0.9**
BHPL				*e*S	**Sn**	**05 17 56.4**	**-6.7**
AAK	**Ala-Archa**	**13.27**	**26**	*e*P	**Pn**	**05 15 57.3**	**-2.2**
AAK				*e*		05 18 25.5	
AAK				pmax	pmax		
comp=Z,7.0nm,0.6s							
AAK	**Ala-Archa**	**13.27**	**26**	*e*Pn	**Pn**	**05 15 57.3**	**-2.1**
comp=Z,7.1nm,0.6s							
AAK				*e*Sn	**Sn**	**05 18 25.4**	**-1.6**
KAD	**Karad**	**15.21**	**151**	*e*x	**Sn**	**05 19 21.8**	**+7.5**
GKN	**Gorkha**	**15.96**	**96**	*e*P	**Pn**	**05 16 33.6**	**-2.0**
comp=Z,44nm,0.6s							
GKN				*e*S	**Sn**	**05 19 21.0**	**-12**
DMN	**Daman**	**16.46**	**97**	*e*P	**Pn**	**05 16 40.3**	**-1.8**
comp=Z,28nm,0.7s							
KKN	**Kakani**	**16.56**	**96**	*e*P	**Pn**	**05 16 41.3**	**-2.1**
comp=Z,50nm,0.6s							
KKN				*e*S	**Sn**	**05 19 35.6**	**-12**
PKI	**Pulchoki**	**16.73**	**97**	*e*P	**Pn**	**05 16 44.1**	**-1.4**
comp=Z,30nm,0.6s							
GUN	**Gumba**	**17.04**	**95**	*e*P	**Pn**	**05 16 47.8**	**-1.7**
comp=Z,128nm,0.6s							
JIRN	**Jiri**	**17.37**	**96**	*e*P	**Pn**	**05 16 52.0**	**-1.6**
comp=Z,6.5nm,0.2s							
MKAR	**Makanchi Array**	**19.93**	**33**	P	**Pn**	**05 17 23.0**	**-1.7**
comp=Z,3.1nm,0.6s,baz=211,slow=9.3,SNR=19							
MKAR	**Makanchi Array**	**19.93**	**33**	P	**Pn**	**05 17 23.0**	**-1.7**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
GNI	**Garni**	**20.00**	**303**	P	**P**	**05 17 26.7**	**+2.8**
comp=Z,0.9nm,0.3s,baz=315,slow=14,SNR=4.4							
GNI				LR	LR	05 25 43.5	
comp=Z,89nm,20.7s,MS3.1,baz=108,slow=39							
GNI	**Garni**	**20.00**	**303**	P	**P**	**05 17 26.7**	**+2.9**
GNI				pmax	pmax		
comp=Z,1.0nm,0.3s							
GNI				MLR	MLR		
comp=Z,89nm,20.7s							
GNI	**Garni**	**20.00**	**303**	P	**P**	**05 17 26.7**	**+2.8**
GNI				LR	LR	05 25 43.5	
AKTK	**Aktyubinsk**	**20.52**	**344**	P	**P**	**05 17 29.4**	**0.0**
AKTK				LR	LR	05 26 10.3	
AKTO	**Aktyubinsk**	**20.52**	**344**	P	**P**	**05 17 29.4**	**0.0**
comp=Z,8.0nm,0.9s,baz=161,slow=9.4,SNR=21							
AKTO				LR	LR	05 26 10.3	
comp=Z,70nm,20.0s,MS3.0,baz=151,slow=39							
AKTO	**Aktyubinsk**	**20.52**	**344**	P	**P**	**05 17 29.5**	**0.0**
AKTO				pmax	pmax		
comp=Z,8.0nm,0.9s							
AKTO				MLR	MLR		
comp=Z,71nm,20.0s,MS3.0							
WMQ	**Urumqi**	**21.04**	**46**	⇓*i*P	**P**	**05 17 37.0**	**+1.9**
WMQ				AP		05 17 40.8	
WMQ				XP	sP	05 17 43.5	+4.2
WMQ				PP		05 17 59.0	
WMQ				PPP		05 18 08.0	
WMQ				*e*S	**S**	**05 21 24.0**	**-5.4**

WMQ XS sS 05 21 32.0 -1.9
WMQ AMB AMB
comp=Z,23nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,262nm,5.1s
WMQ LR LR
comp=N,423nm,8.2s
WMQ LR LR
comp=E,346nm,6.5s
WMQ LR LR
comp=Z,291nm,11.0s,MS3.9
LSA Lhasa 21.20 87 *e*P **P 05 17 39.1 +2.3**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.2
LSA Lhasa 21.20 87 *e*P **P 05 17 39.1 +2.3**
comp=Z,11nm,0.8s,mb4.2
BVAR Borovoye Array 22.25 6 P **P 05 17 48.4 +0.4**
comp=Z,12nm,0.8s,mb4.4,baz=173,slow=11,SNR=27
BVAR Borovoye Array 22.25 6 P **P 05 17 48.4 +0.3**
BVAR pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 22.27 6 *e*P **P 05 17 48.2 -0.1**
BRVK pmax pmax
comp=Z,24nm,0.8s,mb4.7
BRVK Borovoye 22.27 6 *e*P **P 05 17 48.2 -0.1**
comp=Z,24nm,0.8s,mb4.7
CHKZ Chkalovo 22.92 6 *e*P **P 05 17 54.6 -0.5**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
CHKZ Chkalovo 22.92 6 *e*P **P 05 17 54.6 -0.5**
comp=Z,7.0nm,0.8s,mb4.1
KIV Kislovodsk 22.93 311 *e*P **P 05 17 58.8 +3.5**
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.3
KIV MLR MLR
comp=Z,45nm,13.0s,MS3.1
ZAL Zalesovo 26.46 24 P **P 05 18 28.3 0.0**
comp=Z,1.5nm,0.5s,mb3.8,baz=249,slow=7.5,SNR=3.7
ZAL Zalesovo 26.46 24 P **P 05 18 28.3 0.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ATD Arta Tunnel 29.28 234 LR LR 05 31 39.1
comp=Z,66nm,18.1s,MS3.3,baz=148,slow=39
KMI Kunming 32.30 91 P **P 05 19 25.3 +5.2**
KMI AP pP 05 19 28.4 +5.2
KMI XP sP 05 19 30.1 +5.6
KMI PP PP 05 20 33.0 -0.1
KMI S **S 05 24 38.1 +4.3**
KMI SS SS 05 26 28.9 -23
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb4.7
KMI AMB AMB
comp=Z,116nm,3.9s
KMI LR LR
comp=N,145nm,21.3s,MS3.8
KMI LR LR
comp=E,92nm,17.7s,MS3.8
KMI LR LR
comp=Z,76nm,16.2s,MS3.5
KMI Kunming 32.30 91 P **P 05 19 25.3 +5.2**
comp=Z,7.0nm,0.6s,mb4.7
KMI pP pP 05 19 28.4 +5.2
KMI sP sP 05 19 30.1 +5.6
KMI PP PP 05 20 33.0 -0.1
KMI S **S 05 24 38.1 +4.3**
KMI SS SS 05 26 28.9 -23
KMI LR LR
comp=Z,80nm,16.2s,MS3.5
ZAK Zakamensk 33.46 44 *e*P **P 05 19 31.8 +1.5**
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb3.8
AKASG Malin Array Be 34.02 316 P **P 05 19 33.8 -1.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=102,slow=7.4,SNR=5.3
AKASG Malin Array Be 34.02 316 P **P 05 19 33.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 34.62 49 P **P 05 19 40.8 +0.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=260,slow=8.3,SNR=3.9
SONM LR LR 05 36 42.1
comp=Z,80nm,18.7s,MS3.5,baz=148,slow=41
SONM Songino Array 34.62 49 P **P 05 19 40.8 +0.5**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM MLR MLR
comp=Z,80nm,18.7s
FINES FINESS Array B 40.34 331 LR LR 05 40 07.1
comp=Z,85nm,21.9s,MS3.5,baz=324,slow=41
MORC Moravsky Berou 41.04 312 P **P 05 20 33.9 -0.7**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
MORC Moravsky Berou 41.04 312 P **P 05 20 33.9 -0.6**
comp=Z,1.8nm,0.6s,mb3.9
KMBO Kilima Mbogo 42.38 227 LR LR 05 41 17.5
comp=Z,56nm,20.4s,MS3.4,baz=106,slow=40
GERES GERESS Array B 43.43 310 P **P 05 20 54.4 +0.3**
comp=Z,0.3nm,0.3s,mb3.5,baz=64,slow=3.1,SNR=3.6
ARCES ARCESS Array B 45.05 341 P **P 05 21 07.1 0.0**
comp=Z,1.8nm,0.7s,mb4.0,baz=76,slow=5.1,SNR=4.5
ARCES LR LR 05 44 09.6
comp=Z,75nm,19.3s,MS3.6,baz=149,slow=42
ARCES ARCESS Array B 45.05 341 P **P 05 21 07.1 0.0**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,75nm,19.3s
NOA NORSAR Array B 46.83 327 P **P 05 21 21.4 +0.3**
comp=Z,1.7nm,1.0s,mb3.9,baz=106,slow=14,SNR=2.7
NOA LR LR 05 42 56.5
comp=Z,29nm,19.4s,MS3.2,baz=5.0,slow=39
NOA NORSAR Array B 46.83 327 P **P 05 21 21.4 +0.3**
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA MLR MLR
comp=Z,29nm,19.4s
MDJ Mudanjiang 50.44 56 P **P 05 21 48.8 0.0**
MDJ AP pP 05 21 51.9 -0.1
MDJ PCP PcP 05 23 07.9 +0.8
MDJ PP PP 05 23 43.6 -0.8
MDJ SCP ScP 05 27 03.7 +0.6
MDJ PCS PcS 05 27 05.0 +0.7
MDJ AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,188nm,3.9s
MDJ LR LR
comp=N,50nm,22.7s,MS3.5
MDJ LR LR
comp=E,21nm,24.3s,MS3.5
MDJ LR LR
comp=Z,31nm,22.2s,MS3.3
TORD Torodi Ar. Bea 61.95 269 P **P 05 23 09.8 -1.2**
comp=Z,0.9nm,0.6s,mb4.1,baz=57,slow=6.0,SNR=10
WRA Warramunga Arr 82.34 119 P **P 05 25 13.5 +0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=317,slow=4.8,SNR=3.3
ASAR Alice Springs 84.25 122 P **P 05 25 22.8 -0.1**
comp=Z,0.5nm,0.5s,mb3.9,baz=309,slow=5.5,SNR=6.4
ASAR Alice Springs 84.25 122 P **P 05 25 22.8 -0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s

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*CSEM **09** 05:16:01.5±0.4, 3851N×2803W, h6km±3km, MD3.0, Error ellipse: s-maj=6.3km s-min=1.5km az=84.0, After PDA*
*PDA **09** 05:16:01.5±0.4, 3851N×2803W, h6km±3km, MD3.0, Error ellipse: s-maj=6.3km s-min=1.5km az=84.0*
SVSA 09 05:16:01.5±0.4, 3851N×2803W, h6km±3km, MD3.0, Error ellipse: s-maj=6.3km s-min=1.5km az=84.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PID	**Ribeirinha**	**0.10**	**226**	*e*P	Pg	05 16 03.7	0.0
ROSA	**Rosais**	**0.27**	**321**	*e*P	Pg	05 16 06.6	-0.1
ROSA				*e*S	Sg	05 16 10.2	-0.1
PICO	**Pico**	**0.31**	**268**	*i* P	Pg	05 16 07.2	-0.4
PICO				*e*S	Sg	05 16 11.7	0.0
PICO	**Pico**	**0.31**	**268**	*e*S	Sg	05 16 11.7	0.0

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*ISCJB **09** 05:34:18.9±0.6, 360S±006×2822E±007, h10km, mb4.2/5, Error ellipse: s-maj=10.5km s-min=8.0km az=69.6*
*IDC **09** 05:34:20.1±1.1, 356S×2805E, h0km, mb4.2/5, mb1 4.1/9, mb1mx3.8/24, mbtmp4.1/9, ML3.7/2, Error ellipse: s-maj=26.6km s-min=23.4km az=122.0*
*NEIC **09** 05:34:21.4±0.6, 354S×2811E, h10km, Error ellipse: s-maj=13.8km s-min=10.6km az=101.0*
ISC 09 05:34:21.3±0.6, 364S±006×2817E±007, h10km, n10, σ1§13/15, mb4.2/5, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.41**	**75**	Pn	**Pn**	**05 36 36.6**	**-0.2**
	0.4nm,0.3s,baz=231,slow=19,SNR=5.4						
KMBO				Sn	**Sn**	**05 38 22.2**	**-0.5**
	0.9nm,0.3s,baz=174,slow=22,SNR=4.6						
KMBO				Lg		05 39 16.4	
	2.1nm,0.3s,baz=163,slow=19,SNR=12						
LSZ	**Lusaka**	**11.56**	**180**	Pn	**Pn**	**05 37 08.3**	**+1.9**
	1.6nm,0.3s,baz=357,slow=12,SNR=11						
LSZ				Sn	**Sn**	**05 39 12.0**	**-3.6**
	2.1nm,0.3s,baz=357,slow=14,SNR=5.4						
LSZ				Lg		05 40 24.8	
	1.2nm,0.3s,baz=105,slow=20,SNR=6.9						
LSZ	**Lusaka**	**11.56**	**180**	*e*Pn	**Pn**	**05 37 08.8**	**+2.5**
LSZ				Sn	**Sn**	**05 39 12.0**	**-3.6**
LSZ				*e*Sn	**Sn**	**05 39 14.1**	**-1.5**
LSZ				Lg		05 40 24.8	
MATP	**Matopo**	**16.69**	**179**	Pn	**Pn**	**05 38 17.0**	**+1.8**
	0.5nm,0.3s,baz=355,slow=14,SNR=7.3						
MATP				Sn	**Sn**	**05 41 19.1**	**-1.4**
	0.2nm,0.3s,baz=182,slow=7.3,SNR=3.7						
MATP				Lg		05 43 07.1	
	0.3nm,0.3s,baz=116,slow=20,SNR=4.1						
TSUM	**Tsumeb**	**18.61**	**213**	P	**Pn**	**05 38 39.0**	**0.0**
	0.2nm,0.3s,baz=26,slow=15,SNR=2.1						
TORD	**Torodi Ar. Bea**	**31.13**	**303**	P	**P**	**05 40 39.6**	**-0.4**
	4.3nm,1.0s,mb4.2,baz=118,slow=8.3,SNR=9.8						
DBIC	**Dimbokro**	**34.52**	**287**	P	**P**	**05 41 08.9**	**-0.7**
	2.4nm,0.5s,mb4.4,baz=97,slow=9.5,SNR=6.2						
NOA	**NORSAR Array B**	**65.82**	**351**	P	**P**	**05 45 06.7**	**-0.1**
	1.1nm,0.7s,mb4.0,baz=163,slow=6.2,SNR=3.4						
MKAR	**Makanchi Array**	**69.14**	**37**	P	**P**	**05 45 29.1**	**+1.4**
	1.4nm,0.7s,mb4.0,baz=246,slow=5.6,SNR=9.9						
ARCES	**ARCESS Array B**	**73.05**	**359**	P	**P**	**05 45 50.6**	**-0.7**
	3.9nm,1.1s,mb4.3,baz=163,slow=6.4,SNR=3.5						

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*MDD **09** 05:38:49.9±0.6, 3929N×9.12W, h8km±3km, mbLg2.4/18, Error ellipse: s-maj=5.2km s-min=2.6km az=109.0, PRXIMO*
*NEIC **09** 05:38:50.4, 3930N×902W, h5km, ML2.6(IGIL), MN2.5(MDD), After MDD.*
*CSEM **09** 05:38:50.1±0.1, 3927N×9.10W, h10km, ML2.9/9, Error ellipse: s-maj=2.8km s-min=1.5km az=96.0*
*IGIL **09** 05:38:50.2, 3928N×9.16W, h4km, ML2.6*
INMG 09 05:38:49.9±1.2, 3929N×910W, h1km±2km, ML2.3, Error ellipse: s-maj=3.0km s-min=1.1km az=95.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.36**	**203**	*i* Pg	Pg	05 38 56.2	-0.6
PMAFR				*e*Sg	Sg	05 39 01.1	-0.4
PMAFR							
	332nm,0.2s						
PMAFR	**Mafra**	**0.36**	**203**	*e*Sg	Sg	05 39 01.1	-0.4
	332nm,0.2s						
PLOU	**Loures**	**0.40**	**186**	*e*Pg	Pg	05 38 57.2	-0.4
PLOU				*e*Sg	Sg	05 39 02.9	0.0
PLOU							
	161nm,0.5s						
PLOU	**Loures**	**0.40**	**186**	*e*Pg	Pg	05 38 57.2	-0.4
PLOU				*e*Sg	Sg	05 39 02.9	0.0
	161nm,0.5s						
ALMR	**Almeirim**	**0.43**	**108**	*e*P	Pg	05 38 58.3	+0.3
ALMR				*e*S	Sg	05 39 04.8	+1.1
ALMR				*e*S	Sg	05 39 04.8	+1.1
ALMR				AML	AML	05 39 06.1	
	comp=N,350nm,0.6s						
ALMR	**Almeirim**	**0.43**	**108**	*e*P	Pg	05 38 58.3	+0.2
ALMR				*e*S	Sg	05 39 04.8	+1.2
ALMR	**Almeirim**	**0.43**	**108**	P	Pg	05 38 58.3	+0.2
ALMR				S	Sg	05 39 04.8	+1.1
ALMR	**Almeirim**	**0.43**	**108**	*e*P	Pg	05 38 58.3	+0.3
ALMR				*e*S	Sg	05 39 04.8	+1.1
INMG	**Instituto de M**	**0.51**	**182**	*e*S	Sg	05 39 06.2	-0.2
PTOM	**Tomar**	**0.63**	**58**	*e*Pg	Pg	05 39 02.1	+0.2
PTOM				*e*Sg	Sg	05 39 10.3	+0.3
PTOM							
	comp=N,97nm,0.1s						
PTOM	**Tomar**	**0.63**	**58**	*e*Pg	Pg	05 39 02.1	+0.2
PTOM				*e*Sg	Sg	05 39 10.3	+0.3
	comp=N,97nm,0.1s						
PLML	**Palmela**	**0.75**	**168**	*e*Sg	Sg	05 39 16.2	+2.3
MOE	**Montemor**	**0.96**	**142**	*e*P	Pg	05 39 07.6	-0.7
MOE				*e*S	Sg	05 39 20.2	-0.6
PESTR	**Estremoz**	**1.25**	**109**	*e*P	Pg	05 39 12.8	-1.0
PESTR				*e*S	Sg	05 39 29.6	-0.4
PESTR							
	comp=N,43nm,0.1s						
PCBR	**Castelo Branco**	**1.37**	**66**	*e*P	Pn	05 39 14.5	-1.6
PCBR				*e*S	Sg	05 39 32.9	-1.0
PCBR							
	comp=N,19nm,0.3s						
PBEJ	**Beja**	**1.59**	**142**	*e*P	Pn	05 39 17.4	-1.7
PBEJ				*e*S	Sn	05 39 38.6	-1.6
PBEJ							
	comp=N,13nm,0.3s						
MTE	**Manteigas**	**1.63**	**47**	*e*P	Pn	05 39 18.0	-1.7
MTE				*e*S	Sn	05 39 39.3	-2.1
MTE							
	comp=N,21nm,0.4s						
MTE	**Manteigas**	**1.63**	**47**	*e*Pn	Pn	05 39 17.9	-1.9
MTE				*e*Sn	Sn	05 39 39.0	-2.4
MTE	**Manteigas**	**1.63**	**47**	*e*Pn	Pn	05 39 17.9	-1.8
MTE				*e*Sn	Sn	05 39 39.0	-2.4
PVIS	**Viseu**	**1.70**	**33**	*e*Pn	Pn	05 39 19.1	-1.6
PVIS				*e*Sn	Sn	05 39 40.8	-2.2
PVIS							
	comp=N,24nm,0.1s						
PVIS	**Viseu**	**1.70**	**33**	*e*Pn	Pn	05 39 19.1	-1.6
PVIS				*e*Sn	Sn	05 39 40.8	-2.2
	comp=N,24nm,0.1s						
EBAD	**Badajoz**	**1.71**	**107**	Pn	Pn	05 39 18.5	-2.3
	comp=N,13nm,0.1s,SNR=44						
EBAD				Pg	Pg	05 39 20.8	-1.8
	comp=N,19nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	05 39 39.9	-3.4
	comp=N,1.7nm,0.1s,SNR=23						
EBAD				Lg		05 39 43.5	
	comp=N,85nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.71**	**107**	Pn	Pn	05 39 18.5	-2.3
	comp=N,13nm,0.1s,SNR=44						
EBAD	**Badajoz**	**1.71**	**107**	Pg	Pg	05 39 20.8	-1.9
	comp=N,19nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	05 39 39.9	-3.4
	comp=N,1.7nm,0.1s,SNR=23						
PTEO	**Sao Teotonio**	**1.76**	**170**	*e*Pg	Pg	05 39 22.1	-1.6
PTEO				*e*Sn	Sn	05 39 41.9	-2.7
PTEO							
	comp=N,39nm,0.8s						
PTO	**Porto**	**1.89**	**11**	*e*Sn	Sn	05 39 44.7	-3.0
MORF	**Marmelete**	**2.01**	**170**	*e*P	Pn	05 39 23.4	-1.6
MORF				*e*S	Sn	05 39 47.2	-3.5
MORF				*e*S	Sn	05 39 47.2	-3.5
MORF				AML	AML	05 39 55.1	
	comp=N,40nm,0.2s						
MORF	**Marmelete**	**2.01**	**170**	*e*P	Pn	05 39 23.4	-1.5
MORF				*e*S	Sn	05 39 47.2	-3.5
MORF	**Marmelete**	**2.01**	**170**	*e*P	Pn	05 39 23.4	-1.6
MORF				*e*S	Sn	05 39 47.2	-3.5
EGRO	**El Granado**	**2.16**	**144**	Pn	Pn	05 39 25.5	-1.6
	comp=N,0.1nm,0.0s,SNR=7.9						
EGRO				Pg	Pg	05 39 29.6	-1.8
	comp=N,2.3nm,0.1s,SNR=14						
EGRO				Sn	Sn	05 39 50.7	-3.8
	comp=N,1.4nm,0.1s,SNR=7.9						
EGRO				Lg		05 39 57.4	
	comp=N,9.4nm,0.4s,SNR=5.8						
EGRO	**El Granado**	**2.16**	**144**	Pn	Pn	05 39 25.5	-1.5
	comp=N,0.1nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**2.16**	**144**	Pg	Pg	05 39 29.6	-1.8
	comp=N,2.3nm,0.1s,SNR=14						
EGRO				Sn	Sn	05 39 50.7	-3.8
	comp=N,1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.43**	**128**	Pn	Pn	05 39 28.9	-1.9
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIN				Pg	Pg	05 39 34.3	-2.3
	comp=N,1.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	05 39 58.0	-3.2
	comp=N,2.6nm,0.1s,SNR=7.9						
EMIN				Lg		05 40 05.6	
	comp=N,3.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.43**	**128**	Pn	Pn	05 39 28.9	-1.9
	comp=N,0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.43**	**128**	Pg	Pg	05 39 34.3	-2.3
	comp=N,1.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	05 39 58.0	-3.2
	comp=N,2.6nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**2.55**	**18**	*e*Pn	Pn	05 39 30.4	-2.0
PCAB				*e*Sn	Sn	05 40 01.1	-3.0
PCAB							
	comp=N,17nm,0.3s						
EZAM	**Zamans**	**2.88**	**6**	Lg		05 40 20.4	
	comp=N,7.6nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**3.09**	**35**	*e*Pn	Pn	05 39 37.9	-1.9
ECAL	**Calabor**	**3.20**	**33**	Pn	Pn	05 39 39.7	-1.7
	comp=N,2.6nm,0.2s,SNR=21						
ECAL				Pg	Pg	05 39 48.1	-3.2
	comp=N,3.6nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	05 40 16.1	-4.0
	comp=N,8.1nm,0.3s,SNR=7.9						
ECAL				Lg		05 40 31.8	
	comp=N,11nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.20**	**33**	Pn	Pn	05 39 39.7	-1.6
	comp=N,2.6nm,0.2s,SNR=21						
ECAL	**Calabor**	**3.20**	**33**	Pg	Pg	05 39 48.1	-3.2
	comp=N,3.6nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	05 40 16.1	-4.0
	comp=N,8.1nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.52**	**132**	Pn	Pn	05 39 44.9	-0.8
	comp=N,0.8nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	05 40 27.3	-0.6
	comp=N,6.2nm,0.2s,SNR=7.9						
ESPR				Lg		05 40 44.8	
	comp=N,6.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.52**	**132**	Pn	Pn	05 39 44.9	-0.8
	comp=N,0.8nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	05 40 27.3	-0.6
	comp=N,6.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**3.66**	**1**	Pn	Pn	05 39 45.9	-1.7
	comp=N,1.4nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	05 40 25.1	-6.3
	comp=N,3.3nm,0.1s,SNR=7.9						
EMAZ				Lg		05 40 46.5	
	comp=N,4.0nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**3.66**	**1**	Pn	Pn	05 39 45.9	-1.7
	comp=N,1.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.71**	**106**	Pn	Pn	05 39 45.9	-2.4
	comp=N,0.3nm,0.2s,SNR=7.9						
EADA				Sn	Sn	05 40 27.2	-5.4
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				Lg		05 40 46.6	
	comp=N,8.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.71**	**106**	Pn	Pn	05 39 45.9	-2.4
	comp=N,0.3nm,0.2s,SNR=7.9						
EADA				Sn	Sn	05 40 27.2	-5.4
	comp=N,0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.99**	**83**	Sn	Sn	05 40 33.7	-5.9
	comp=N,0.9nm,0.3s,SNR=7.9						
ESDC				Lg		05 40 51.2	
	comp=N,3.4nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.99**	**83**	Sn	Sn	05 40 33.7	-5.9
	comp=N,0.9nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**4.29**	**19**	Pn	Pn	05 39 54.0	-2.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				Sn	Sn	05 40 42.9	-4.2
	comp=N,0.2nm,0.1s,SNR=7.9						
EPON				Lg		05 41 06.2	
	comp=N,2.0nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.29**	**19**	Pn	Pn	05 39 54.0	-2.3
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				Sn	Sn	05 40 42.9	-4.2
	comp=N,0.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.30**	**103**	Lg		05 41 04.8	
	comp=N,4.3nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**4.92**	**113**	Lg		05 41 25.8	
	comp=N,1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.95**	**106**	Pn	Pn	05 40 03.9	-1.5
	comp=N,0.0nm,0.1s,SNR=4.0						
EQES				Sn	Sn	05 40 58.5	-4.8
	comp=N,0.8nm,0.2s,SNR=4.0						
EQES				Lg		05 41 25.8	
	comp=N,2.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.95**	**106**	Pn	Pn	05 40 03.9	-1.5
	SNR=4.0						
EQES				Sn	Sn	05 40 58.5	-4.8
	comp=N,0.8nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**4.96**	**35**	Pn	Pn	05 40 04.1	-1.5
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI				Sn	Sn	05 40 58.2	-5.4
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**4.96**	**35**	Pn	Pn	05 40 04.1	-1.5
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI				Sn	Sn	05 40 58.2	-5.4
EVIA	**Vianos**	**5.18**	**95**	Lg		05 41 34.3	
	comp=N,0.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.62**	**72**	Sn	Sn	05 41 13.7	-5.9
	comp=N,1.5nm,0.2s,SNR=7.9						
ETOR				Lg		05 41 47.5	
	comp=N,3.8nm,0.3s,SNR=7.9						

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*ISCJB **09** 05:41:23.1±1.7, 172S±07×1792W±04, h495km±29km, mb3.8/6, Error ellipse: s-maj=122.8km s-min=17.8km az=128.0*
*IDC **09** 05:41:24.2±2.4, 1696S×17924W, h493km±39km, mb3.2/5, mb1 3.6/6, mb1mx3.3/14, mbtmp4.2/6, Error ellipse: s-maj=114.2km s-min=15.7km az=151.0*
*NEIC **09** 05:41:24.3±1.4, 1707S×179.18W, h500km±31km, mb3.9/1, Error ellipse: s-maj=134.5km s-min=17.3km az=152.0*
ISC 09 05:41:24.6±1.6, 173S±07×1790W±04, h502km±28km, n11, σ0§29/10, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.79**	**65**	P	**P**	**05 43 18.7**	**0.0**
	5.0nm,0.3s,baz=137,slow=19,SNR=6.4						
STKA	**Stephens Creek**	**38.38**	**240**	*e*P	**P**	**05 48 02.2**	**+0.1**
	2.2nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**38.38**	**240**	P	**P**	**05 48 02.6**	**+0.5**
	2.6nm,0.4s,mb4.0,baz=95,slow=10,SNR=13						
WRA	**Warramunga Arr**	**44.14**	**259**	P	**P**	**05 48 47.4**	**-0.5**
	0.4nm,0.3s,mb3.3,baz=94,slow=7.6,SNR=9.9						
AS31	**Alice Springs**	**44.37**	**254**	*e*P	**P**	**05 48 49.5**	**-0.1**
ASAR	**Alice Springs**	**44.37**	**254**	P	**P**	**05 48 49.6**	**0.0**
	8.0nm,0.5s,mb4.4,baz=88,slow=8.1,SNR=127						
ASPA	**Alice Springs**	**44.37**	**254**	*e*P	**P**	**05 48 49.5**	**-0.2**
KAKA	**Kakadu**	**46.99**	**269**	*e*P	**P**	**05 49 10.2**	**+0.5**
	4.5nm,0.3s,mb4.4						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**05 52 38.0**	**-0.2**
	0.6nm,0.8s,mb3.2,baz=235,slow=8.4,SNR=4.3						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**05 53 18.0**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=216,slow=3.5,SNR=4.4						
GERES	**GERESS Array B**	**146.91**	**345**	PKPbc	PKPbc	06 00 09.4	-0.9
	0.2nm,0.2s,baz=331,slow=5.2,SNR=4.4						

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*ISCJB **09** 06:18:08.9±0.9, 1086N±004×6237W±004, h79km±10km, Error ellipse: s-maj=7.4km s-min=5.6km az=133.9*
*NEIC **09** 06:18:09.0, 1084N×6227W, h91km, MD3.2(TRN), After TRN.*
*TRN **09** 06:18:09.3, 1082N×6226W, h89km, MD3.2*
*FUNV **09** 06:18:09.1, 1098N×6234W, h77km, MW2.9*
ISC 09 06:18:09.4±1.0, 1086N±004×6237W±004, h78km±10km, n13, σ0§84/25, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.26**	**146**	*e*P	**Pn**	**06 18 20.9**	**-0.3**
GUIV				*e*S	**Sn**	**06 18 30.6**	**+0.7**
CRUV	**Carupano**	**0.87**	**258**	*e*P	**Pn**	**06 18 26.9**	**+0.1**
CRUV				*e*S	**Sn**	**06 18 39.9**	**+0.2**
ITEV	**Isla Los Testi**	**0.89**	**303**	*e*P	**Pn**	**06 18 25.6**	**-1.4**
ITEV				*e*S	**Sn**	**06 18 38.5**	**-1.7**
GUNV	**Guanoco**	**0.90**	**219**	*e*P	**Pn**	**06 18 27.5**	**+0.5**
GUNV				*e*S	**Sn**	**06 18 41.1**	**+0.8**
TRN	**Trinidad (W)**	**0.97**	**103**	*i* P	**Pn**	**06 18 27.8**	**-0.2**
TRN				*e*S	**Sn**	**06 18 40.6**	**-1.2**
TBH	**Brigand Hill**	**1.34**	**106**	*e*P	**Pn**	**06 18 32.4**	**-0.1**
TBH				*e*S	**Sn**	**06 18 51.1**	**+1.2**
GRW	**Mount Saint Ca**	**1.46**

GRHS eS **Sn** **06 18 54.2 -0.1**
TPR Prospect 1.60 78 eP **Pn** **06 18 34.5 -1.4**
TPR eS **Sn** **06 18 54.3 -1.6**
GRSS Sisters 1.61 27 eP **Pn** **06 18 36.7 +0.7**
GRSS eS **Sn** **06 18 56.0 -0.2**
GRIC Isle de Caille 1.61 28 eP **Pn** **06 18 36.6 +0.6**
GRIC eS **Sn** **06 18 57.5 +1.3**
GRCU Cariacou 1.83 29 eP **Pn** **06 18 39.4 +0.3**
GRCU eS **Sn** **06 19 01.9 +0.4**
PCRV Puerto La Cruz 2.33 253 eP **Pn** **06 18 45.7 +0.1**

IDC 09 06:40:35.3±2.1, 6406S×14874E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, ML4.2/1, MS3.3/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=81.9km s-min=21.6km az=89.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.13**	**168**	Pn	Pn	06 43 55.4	-1.2
	1.1nm,0.3s,baz=331,slow=11,SNR=69						
VNDA				Sn	Sn	06 46 29.2	-4.9
	0.5nm,0.3s,baz=180,slow=12,SNR=3.8						
MAW	**Mawson**	**32.68**	**225**	P	P	06 47 08.4	-0.8
	1.1nm,0.8s,baz=153,slow=11,SNR=3.0						
MAW				LR	LR	06 59 51.0	
	comp=Z,50nm,18.8s,baz=252,slow=35						
ASAR	**Alice Springs**	**41.56**	**339**	P	P	06 48 24.6	0.0
	1.3nm,0.8s,baz=165,slow=8.9,SNR=8.6						
SNAA	**Sanae**	**43.15**	**193**	P	P	06 48 37.1	-0.5
	0.2nm,0.5s,baz=170,slow=11,SNR=11						
WRA	**Warramunga Arr**	**45.15**	**341**	P	P	06 48 53.0	-0.7
	0.8nm,0.5s,baz=170,slow=7.2,SNR=6.0						

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*STR **09** 07:36:50.2±0.3, 4467N×693E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 09 07:36:49.4±0.0, 4470N×674E, h2km, Md1.6/2, Ml1.8/1, Error ellipse: s-maj=1.0km s-min=0.7km az=88.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.03**	**42**	ePg	Pg	07 36 50.5	+0.4
MBDF				eSg	Sg	07 36 51.2	+0.7
	128nm,0.2s						
OG22	**Abries**	**0.19**	**51**	Pg	Pg	07 36 53.4	+0.4
OG22				Sg	Sg	07 36 56.1	+0.7
SURF	**Saint Ours**	**0.23**	**167**	Pg	Pg	07 36 54.2	+0.4
SURF				Sg	Sg	07 36 57.5	+0.7
ORIF	**Oris-en-Rattie**	**0.65**	**290**	ePg	Pg	07 37 02.0	+0.1
ORIF				eSg	Sg	07 37 10.0	-0.3
	1.6nm,0.2s						
LPG	**La Plagne**	**0.79**	**0**	ePg	Pg	07 37 04.8	+0.2
LPG				eSg	Sg	07 37 15.2	+0.3
	0.8nm,0.2s						
LPL	**La Plagne**	**0.81**	**359**	ePg	Pg	07 37 05.0	0.0
LPL				eSg	Sg	07 37 15.8	+0.3
	1.2nm,0.2s						
FRF	**La Foret Royal**	**1.15**	**183**	eSg	Sg	07 37 25.8	-0.4
	1.7nm,0.2s						

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*BJI **09** 07:43:48.8, 3077N×5590E, h14km, mB4.9, mb4.6, Ms4.4, Msz4.0*
*SZGRF **09** 07:43:50.6, 3006N×5721E, h33km, mb4.3, Northern and central Iran*
*IDC **09** 07:43:51.9±0.6, 3075N×5670E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.4/26, mbtmp4.4/22, ML4.1/3, MS3.6/12, Ms1 3.6/12, ms1mx3.4/29, Error ellipse: s-maj=15.2km s-min=13.7km az=116.0*
*ISCJB **09** 07:43:52.5±0.2, 3078N±002×5667E±002, h10km, mb4.5/56, MS3.8/12, Error ellipse: s-maj=3.5km s-min=3.1km az=8.0*
*NEIC **09** 07:43:53.4, 3083N×5674E, h14km, mb4.4/29, ML4.5(THR), MN4.9(TEH), After THR.*
*THR **09** 07:43:53.3±0.8, 3083N×5676E, h14km±8km, ML4.6*
*MOS **09** 07:43:54.7±1.1, 3071N×5657E, h33km, mb4.6/39, Error ellipse: s-maj=8.4km s-min=5.7km az=104.3*
*CSEM **09** 07:43:54.9±0.1, 3079N×5676E, h30km, mb4.5/17, Ms3.4, Error ellipse: s-maj=2.0km s-min=1.6km az=158.0*
*TEH **09** 07:43:55.7, 3080N×5679E, h10km, Mn4.9*

ISC 09 07:43:54.3±0.2, 3079N±002×5673E±002, h10km, (h26km±2.9km:pP-P), n232, σ1$32/240, mb4.5/56, MS3.8/12, 6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.81**	**178**	ePG	**Pg**	**07 44 09.1**	**-0.7**
KRBR	**Kerman**	**0.81**	**178**	Pg	**Pg**	**07 44 09.0**	**-0.8**
KRBR				Sg	**Sg**	**07 44 21.0**	**+0.7**
IBAF	**Bafgh**	**1.28**	**309**	ePn	**Pn**	**07 44 16.4**	**-1.8**
IMEH	**Mehriz**	**1.91**	**289**	ePn	**Pn**	**07 44 27.9**	**+1.0**
IMEH				eSn	**Sg**	**07 44 53.9**	**-1.9**
IMEH	**Mehriz**	**1.91**	**289**	Pn	**Pn**	**07 44 27.9**	**+1.0**
IMEH				Sn	**Sg**	**07 44 53.8**	**-2.0**
ICHK	**Chekchek**	**2.46**	**307**	ePn	**Pn**	**07 44 35.8**	**+1.4**
ICHK	**Chekchek**	**2.46**	**307**	Pn	**Pn**	**07 44 35.7**	**+1.3**
IKOO		**2.53**	**49**	ePn	**Pn**	**07 44 35.6**	**+0.1**
ITEG		**2.71**	**39**	ePn	**Pn**	**07 44 38.0**	**+0.1**
ISAD	**Sadrabad**	**2.83**	**294**	eSn	**Sn**	**07 45 15.6**	**+1.8**
IDAH		**3.30**	**53**	ePn	**Pn**	**07 44 46.5**	**+0.4**
IPAR	**Pars**	**3.32**	**254**	ePn	**Pn**	**07 44 48.6**	**+2.3**
IBND		**3.33**	**183**	ePn	**Pn**	**07 44 48.4**	**+1.9**
BNDS	**Bandar-Abbas**	**3.41**	**188**	ePN	**Pn**	**07 44 49.4**	**+1.8**
BNDS				AML	AML	07 45 49.8	
	comp=E,1μm,0.6s						
BNDS				AML	AML	07 45 52.0	
	comp=N,876nm,0.5s						
BNDS	**Bandar-Abbas**	**3.41**	**188**	Pn	**Pn**	**07 44 49.0**	**+1.4**
ISRV	**Sarvestan**	**3.43**	**247**	ePn	**Pn**	**07 44 50.1**	**+2.2**
ISRV	**Sarvestan**	**3.43**	**247**	Pn	**Pn**	**07 44 50.0**	**+2.1**
IMON		**3.46**	**45**	ePn	**Pn**	**07 44 48.7**	**+0.5**
ZHSF	**Zahedan**	**3.69**	**108**	ePN	**Pn**	**07 44 52.0**	**+0.5**
NASN	**Na'in**	**3.89**	**302**	ePN	**Pn**	**07 44 55.1**	**+0.9**
NASN				eSG	**Sb**	**07 45 54.3**	**+4.0**
NASN				AML	AML	07 46 06.2	
	comp=E,791nm,0.6s						
NASN				AML	AML	07 46 08.8	
	comp=N,961nm,0.7s						
NASN	**Na'in**	**3.89**	**302**	Pn	**Pn**	**07 44 55.0**	**+0.8**
NASN				Sg	**Sb**	**07 45 54.0**	**+3.8**
IMOK	**Mook**	**3.90**	**245**	ePn	**Pn**	**07 44 55.6**	**+1.4**
IMOK	**Mook**	**3.90**	**245**	Pn	**Pn**	**07 44 55.5**	**+1.3**
GHIR	**Ghir-Karzin**	**4.11**	**234**	ePN	**Pn**	**07 44 58.6**	**+1.5**
GHIR	**Ghir-Karzin**	**4.11**	**234**	Pn	**Pn**	**07 44 58.0**	**+0.9**
IGAR	**Garneh**	**4.13**	**292**	ePn	**Pn**	**07 45 01.6**	**+4.1**
IZEF	**Zefreh**	**4.29**	**300**	ePn	**Pn**	**07 45 01.0**	**+1.3**
IZEF	**Zefreh**	**4.29**	**300**	Pn	**Pn**	**07 45 00.9**	**+1.2**
IKLH	**Kalahroud**	**5.05**	**301**	ePn	**Pn**	**07 45 12.1**	**+2.1**
IKLH	**Kalahroud**	**5.05**	**301**	Pn	**Pn**	**07 45 12.0**	**+2.0**
ISFB	**Sefidab**	**5.20**	**314**	ePn	**Pn**	**07 45 13.1**	**+1.0**
IANJ	**Anjiloo**	**5.23**	**334**	ePn	**Pn**	**07 45 13.1**	**+0.6**
IANJ	**Anjiloo**	**5.23**	**334**	Pn	**Pn**	**07 45 13.0**	**+0.5**
IPIR	**Pirpir**	**5.32**	**292**	ePn	**Pn**	**07 45 15.2**	**+1.4**
ILAS	**Lasjerd**	**5.57**	**326**	ePn	**Pn**	**07 45 19.3**	**+2.1**
IMOG	**Moghan**	**5.73**	**22**	ePn	**Pn**	**07 45 20.0**	**+0.5**
IMOG				eSn	**Sn**	**07 46 22.7**	**-2.6**
ISHM	**Shahmirzad**	**5.77**	**331**	ePn	**Pn**	**07 45 16.2**	**-3.8**
IFIR	**Firoozkooh**	**5.87**	**327**	ePn	**Pn**	**07 45 22.3**	**+0.9**
IFIR	**Firoozkooh**	**5.87**	**327**	Pn	**Pn**	**07 45 22.2**	**+0.8**
IVRN	**Varamin**	**5.94**	**316**	ePn	**Pn**	**07 45 23.4**	**+1.1**
IVRN	**Varamin**	**5.94**	**316**	Pn	**Pn**	**07 45 23.3**	**+1.0**
IPAY	**Payeh**	**5.95**	**18**	ePn	**Pn**	**07 45 23.0**	**+0.5**
IPAY	**Payeh**	**5.95**	**18**	Pn	**Pn**	**07 45 22.9**	**+0.4**
IAKL	**Akhlamad**	**6.01**	**15**	ePn	**Pn**	**07 45 24.8**	**+1.6**
IAKL	**Akhlamad**	**6.01**	**15**	Pn	**Pn**	**07 45 24.7**	**+1.5**
IKRD	**Kardeh**	**6.15**	**14**	ePn	**Pn**	**07 45 29.0**	**+3.8**
IDMV	**Damavand**	**6.19**	**322**	ePn	**Pn**	**07 45 26.8**	**+1.1**
IDMV	**Damavand**	**6.19**	**322**	Pn	**Pn**	**07 45 26.7**	**+1.0**
IMYA	**Miamay**	**6.21**	**26**	ePn	**Pn**	**07 45 26.2**	**+0.2**
ISFR	**Esferayen**	**6.33**	**9**	ePn	**Pn**	**07 45 28.1**	**+0.5**
IAFJ	**Afjeh**	**6.57**	**322**	ePn	**Pn**	**07 45 32.2**	**+1.3**
ASAO	**Ashtian**	**6.78**	**305**	ePN	**Pn**	**07 45 35.2**	**+1.3**
IEMG	**Emamqoli**	**6.79**	**13**	ePn	**Pn**	**07 45 34.5**	**+0.5**
THKV	**Tehran--Karaj**	**7.08**	**318**	ePn	**Pn**	**07 45 38.5**	**+0.6**
VAN	**Vannovskaya**	**7.23**	**9**	P	**Pn**	**07 45 42.7**	**+2.7**
WSAR	**Wadi Sarin**	**7.71**	**167**	Pn	**Pn**	**07 45 47.0**	**+0.5**
	comp=N,4.1nm,0.3s,baz=11,slow=13,SNR=44						
WSAR				Sn	**Sn**	**07 47 12.7**	**-1.3**
	comp=N,5.4nm,0.3s,baz=126,slow=17,SNR=8.4						
WSAR	**Wadi Sarin**	**7.71**	**167**	Pn	**Pn**	**07 45 47.0**	**+0.4**
WSAR				Sn	**Sn**	**07 47 12.7**	**-1.3**
IGZV	**Gazvin**	**7.79**	**318**	ePn	**Pn**	**07 45 48.5**	**+0.8**
UMR	**Umm Al-Rimmam**	**7.90**	**263**	ePn	**Pn**	**07 45 48.9**	**-0.3**
UMR				AML	AML	07 47 19.6	
	comp=Z,34nm,0.4s						
QRN	**Al-Qurain**	**7.93**	**257**	ePn	**Pn**	**07 45 49.5**	**-0.1**
QRN				AML	AML	07 47 20.4	
	comp=Z,75nm,0.6s						
KBD	**Kabd**	**8.00**	**261**	ePn	**Pn**	**07 45 49.5**	**-1.1**
KBD				AML	AML	07 47 23.6	
	comp=Z,106nm,0.5s						
MIB	**Mutribah**	**8.18**	**265**	ePn	**Pn**	**07 45 52.1**	**-1.0**
MIB				AML	AML	07 47 23.6	
	comp=Z,50nm,0.6s						
RDF	**Al-Radifah**	**8.19**	**259**	ePn	**Pn**	**07 45 52.8**	**-0.3**
RDF				AML	AML	07 47 27.4	
	comp=Z,45nm,0.6s						
NAY	**Al-Naaiem**	**8.37**	**262**	ePn	**Pn**	**07 45 55.1**	**-0.5**
NAY				AML	AML	07 47 28.3	
	comp=Z,27nm,0.6s						
BHD	**Baghdad**	**10.77**	**286**	ex	x	07 46 27.0	
BHD				ex	x	07 48 29.0	
MSL	**Mosul**	**12.63**	**299**	ex	x	07 46 53.0	
MSL				ex	x	07 49 13.0	
GNI	**Garni**	**13.50**	**317**	Pn	**Pn**	**07 47 12.8**	**+6.9**
	baz=122,slow=9.5,SNR=2.5						
GNI				LR	LR	07 52 33.1	
	comp=Z,130nm,20.9s,baz=349,slow=39						
ZEI	**Tsey**	**15.74**	**323**	ePn	**Pn**	**07 47 37.8**	**+1.7**
MALT	**Malatya**	**16.83**	**301**	⇓iP	**Pn**	**07 47 53.3**	**+3.3**
MALT	**Malatya**	**16.83**	**301**	ePn	**Pn**	**07 47 51.8**	**+1.8**
MALT				pmax	pmax		
	comp=Z,11nm,0.9s						
MALT	**Malatya**	**16.83**	**301**	ePn	**Pn**	**07 47 51.8**	**+1.8**
	comp=Z,11nm,0.9s						
MALT	**Malatya**	**16.83**	**301**	ePn	**Pn**	**07 47 51.8**	**+1.8**
	comp=Z,11nm,0.9s						
ASF	**Jabal al Asfar**	**16.98**	**280**	Pn	**Pn**	**07 47 49.9**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=314,slow=7.4,SNR=12						
ASF				LR	LR	07 55 27.3	
	comp=Z,98nm,21.9s,baz=135,slow=41						
ASF	**Jabal al Asfar**	**16.98**	**280**	P	**Pn**	**07 47 49.9**	**-1.9**
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,98nm,21.9s						
KIV	**Kislovodsk**	**17.21**	**324**	ePn	**Pn**	**07 47 58.1**	**+3.3**
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,32nm,13.0s						
KIV	**Kislovodsk**	**17.21**	**324**	ePn	**Pn**	**07 47 58.2**	**+3.5**
	comp=Z,22nm,0.8s						
KIV	**Kislovodsk**	**17.21**	**324**	ePn	**Pn**	**07 47 58.2**	**+3.4**
	comp=Z,22nm,0.8s						
BHL	**Bhannes**	**18.08**	**285**	ePn	**Pn**	**07 48 07.2**	**+1.7**
AAK	**Ala-Archa**	**18.47**	**45**	ePn	**Pn**	**07 48 10.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
AAK	**Ala-Archa**	**18.47**	**45**	ePn	**Pn**	**07 48 11.6**	**+1.4**
	comp=Z,8.2nm,1.0s						
AAK	**Ala-Archa**	**18.47**	**45**	ePn	**Pn**	**07 48 11.6**	**+1.3**
	comp=Z,8.2nm,1.0s						
FRU	**Bishkek**	**18.65**	**45**	ePn	**Pn**	**07 48 14.5**	**+2.0**
EIL	**Elat**	**18.85**	**272**	ePn	**Pn**	**07 48 13.9**	**-1.0**
	comp=Z,214nm,0.9s						
EIL	**Elat**	**18.85**	**272**	ePn	**Pn**	**07 48 13.9**	**-1.1**
	comp=Z,214nm,0.9s						
AKTK	**Aktyubinsk**	**19.65**	**2**	P	**Pn**	**07 48 23.4**	**-1.1**
AKTK	**Aktyubinsk**	**19.65**	**2**	P	**Pn**	**07 48 23.4**	**-1.1**
AKTO	**Aktyubinsk**	**19.65**	**2**	P	**Pn**	**07 48 23.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=195,slow=9.9,SNR=15						
AKTO				LR	LR	07 56 45.2	
	comp=Z,193nm,18.3s,baz=171,slow=39						
AKTO	**Aktyubinsk**	**19.65**	**2**	iP	**Pn**	**07 48 23.3**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
POO	**Poona**	**19.74**	**124**	ex	x	07 59 31.0	
CSS	**Prodhromos**	**20.08**	**288**	ePn	**P**	**07 48 29.6**	**+1.7**
	comp=Z,86nm,1.3s						
CSS	**Prodhromos**	**20.08**	**288**	ePn	**P**	**07 48 29.5**	**+1.7**
	comp=Z,86nm,1.3s						
BR131	**Keskin Array S**	**20.81**	**302**	ePn	**P**	**07 48 35.9**	**+0.1**
	comp=Z,4.9nm,0.6s						
BR131	**Keskin Array S**	**20.81**	**302**	ePn	**P**	**07 48 35.9**	**+0.1**
	comp=Z,4.9nm,0.6s						
ATD	**Arta Tunnel**	**23.08**	**217**	P	**P**	**07 49 01.7**	**+1.6**
	comp=Z,5.3nm,0.4s,mb4.3,baz=288,slow=18,SNR=5.8						
ATD				LR	LR	07 59 36.9	
	comp=Z,156nm,18.5s,MS3.5,baz=22,slow=41						
ATD	**Arta Tunnel**	**23.08**	**217**	P	**P**	**07 49 01.7**	**+1.6**
HYB	**Hyderabad**	**23.90**	**119**	iP	**P**	**07 49 08.0**	**-0.2**
VRSR	**Storozhevoye**	**24.21**	**332**	ePn	**P**	**07 49 09.9**	**-1.1**
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
VOSK	**Vostochnaya**	**24.27**	**21**	ePn	**P**	**07 49 11.3**	**-0.3**
BRVK	**Borovoye**	**24.35**	**20**	ePn	**P**	**07 49 12.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
BRVK	**Borovoye**	**24.35**	**20**	ePn	**P**	**07 49 12.5**	**+0.3**
	comp=Z,7.1nm,0.9s,mb4.1						
BRVK	**Borovoye**	**24.35**	**20**	ePn	**P**	**07 49 12.5**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**24.35**	**20**	P	**P**	**07 49 12.2**	**-0.1**
	comp=Z,6.0nm,0.7s,mb4.2,baz=202,slow=7.8,SNR=37						
BVAR				PcP	PcP	07 52 51.1	-0.6
	comp=Z,1.6nm,0.6s,baz=202,slow=1.8,SNR=4.3						
BVAR				LR	LR	07 59 26.5	
	comp=Z,179nm,18.2s,MS3.6,baz=304,slow=38						
BVAR	**Borovoye Array**	**24.35**	**20**	P	**P**	**07 49 12.2**	**-0.1**
BVAR						07 52 51.1	
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,179nm,18.2s						
BVAR	**Borovoye Array**	**24.35**	**20**	P	**P**	**07 49 12.2**	**-0.1**
BVAR				PcP	PcP	07 52 51.1	-0.6
BVAR	**Borovoye Array**	**24.35**	**20**	PcP	PcP	07 52 51.1	-0.6
GKN	**Gorkha**	**24.45**	**89**	ePn	**P**	**07 49 13.4**	**+0.2**
	comp=Z,31nm,0.9s,mb4.7						
DMN	**Daman**	**24.95**	**90**	ePn	**P**	**07 49 18.1**	**+0.4**
	comp=Z,21nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**24.98**	**20**	ePn	**P**	**07 49 17.4**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**24.98**	**20**	ePn	**P**	**07 49 17.4**	**-0.7**
	comp=Z,2.0nm,0.7s,mb3.8						
KKN	**Kakani**	**25.05**	**90**	ePn	**P**	**07 49 19.8**	**+1.1**
	comp=Z,44nm,0.9s,mb5.0						
PKI	**Pulchoki**	**25.21**	**90**	ePn	**P**	**07 49 22.0**	**+1.8**
	comp=Z,84nm,1.0s,mb5.2						
MK31	**Makanchi Array**	**25.38**	**44**	iP	**P**	**07 49 21.5**	**-0.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**25.38**	**44**	P	**P**	**07 49 21.6**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.1,baz=225,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**25.38**	**44**	P	**P**	**07 49 21.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**25.38**	**44**	P	**P**	**07 49 21.6**	**-0.1**
GUN	**Gumba**	**25.54**	**89**	ePn	**P**	**07 49 25.9**	**+2.8**
	comp=Z,85nm,1.2s,mb5.2						
ARU	**Arti**	**25.66**	**2**	⇓iP	**P**	**07 49 24.6**	**+0.3**
ARU				e		07 50 01.1	
ARU				eS	**S**	**07 53 53.9**	**+1.3**
ARU				eSS		07 54 50.1	
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
ARU	**Arti**	**25.66**	**2**	eP	**P**	**07 49 26.2**	**+1.9**
	comp=Z,3.5nm,0.6s,mb4.1						
ARU	**Arti**	**25.66**	**2**	eP	**P**	**07 49 26.2**	**+1.9**
	comp=Z,3.5nm,0.6s,mb4.1						
WMQ	**Urumqi**	**27.68**	**53**	eP	**P**	**07 49 45.0**	**+2.6**
WMQ				AP	pP	07 49 52.0	+6.5
WMQ				PP		07 50 33.0	
WMQ				eS	**S**	**07 54 25.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,130nm,4.8s						
WMQ				LR	LR		
	comp=N,462nm,16.0s,MS4.2						
WMQ				LR	LR		
	comp=E,298nm,15.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,360nm,18.3s,MS4.0						
MLR	**Muntele Rosu**	**28.11**	**310**	P	**P**	**07 49 48.5**	**+2.3**
	comp=Z,6.5nm,0.8s,mb4.3,baz=170,slow=0.9,SNR=8.3						
MLR	**Muntele Rosu**	**28.11**	**310**	P	**P**	**07 49 48.5**	**+2.3**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN	**Obninsk**	**28.23**	**335**	eP	**P**	**07 49 47.8**	**+0.4**
OBN				e*PP	pP	07 50 05.0	+15
OBN				e		07 50 41.1	
OBN				eS	**S**	**07 54 25.1**	**-8.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.6						
AKASG	**Malin Array Be**	**28.54**	**322**	P	**P**	**07 49 49.8**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.2,baz=124,slow=8.3,SNR=19						
AKASG	**Malin Array Be**	**28.54**	**322**	P	**P**	**07 49 49.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BURAR	**Bucovina Array**	**29.37**	**314**	⇓iP	**P**	**07 49 57.8**	**+0.3**
ZAL	**Zalesovo**	**30.71**	**33**	P	**P**	**07 50 09.2**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.6,baz=232,slow=7.8,SNR=16						
ZAL				LR	LR	08 03 34.6	
	comp=Z,66nm,20.4s,MS3.3,baz=70,slow=38						
ZAL	**Zalesovo**	**30.71**	**33**	P	**P**	**07 50 09.2**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,67nm,20.4s						
PKSM	**Moragy**	**33.19**	**309**	⇓iP	**P**	**07 50 29.9**	**-1.2**
OJC	**Ojcow**	**33.67**	**316**	eP	**P**	**07 50 35.6**	**+0.3**
DPC	**Dobruska-Polom**	**35.82**	**315**	eP	**P**	**07 50 51.8**	**-2.1**
GTA	**Gaotai**	**36.00**	**64**	P	**P**	**07 50 59.8**	**+4.3**
GTA				AP	pP	07 51 07.4	+8.9
GTA				XP	sP	07 51 10.6	+11
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
JOF	**Joensuu**	**36.04**	**340**	ep	**P**	**07 50 54.4**	**-1.4**
	comp=Z,11nm,0.8s,mb4.8						
JOF	**Joensuu**	**36.04**	**340**	eP	**P**	**07 50 54.4**	**-1.4**
JOF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**36.64**	**336**	P	**P**	**07 51 00.6**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.4,baz=131,slow=9.6,SNR=20						
FINES	**FINESS Array B**	**36.64**	**336**	P	**P**	**07 51 00.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**36.64**	**336**	P	**P**	**07 51 00.6**	**-0.3**
KMBO	**Kilima Mbogo**	**36.75**	**214**	P	**P**	**07 51 02.5**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.1,baz=38,slow=11,SNR=6.2						
KMBO	**Kilima Mbogo**	**36.75**	**214**	eP	**P**	**07 51 02.4**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KMBO	**Kilima Mbogo**	**36.75**	**214**	eP	**P**	**07 51 02.4**	**+0.5**
	comp=Z,7.6nm,1.4s,mb4.3						
KAF	**Kangasniemi**	**37.02**	**337**	ep	**P**	**07 51 03.0**	**-1.1**
	baz=131,slow=8.6						
GERES	**GERESS Array B**	**37.06**	**312**	P	**P**	**07 51 04.0**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.3,baz=107,slow=8.5,SNR=23						
GERES	**GERESS Array B**	**37.06**	**312**	P	**P**	**07 51 04.0**	**-0.5**
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KHC	**Kasperske Hory**	**37.21**	**312**	eP	**P**	**07 51 05.1**	**-0.6**
KHC	**Kasperske Hory**	**37.21**	**312**	eP	**P**	**07 51 04.8**	**-0.9**
BRG	**Berggiesshubel**	**37.42**	**315**	iP	**P**	**07 51 12.7**	**+5.1**
	comp=Z,1.9nm,0.9s,mb3.9						
BRG	**Berggiesshubel**	**37.42**	**315**	iP	**P**	**07 51 12.7**	**+5.2**
BRG				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CLL	**Collm**	**38.11**	**315**	⇓iP	**P**	**07 51 13.4**	**+0.1**
CLL				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
CLL	**Collm**	**38.11**	**315**	⇓iP	**P**	**07 51 13.4**	**+0.1**
	comp=Z,13nm,1.0s,mb4.6						
BSD	**Bornholm Skovb**	**38.24**	**322**	iP	**P**	**07 51 13.3**	**-1.2**
	comp=Z,38nm,0.9s,mb5.1						
BSD				i	pP	07 51 18.0	+0.4
BSD	**Bornholm Skovb**	**38.24**	**322**	iP	**P**	**07 51 13.3**	**-1.2**
BSD				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
GRA1	**Grafenberg Arr**	**38.83**	**312**	eP	**P**	**07 51 18.8**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**38.83**	**312**	eP	**P**	**07 51 18.8**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**38.83**	**312**	eP	**P**	**07 51 18.8**	**-0.6**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**38.83**	**312**	e

ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,100nm,19.8s
VIVF Saint-Julien-I 42.74 304 *eP* **P 07 51 48.1 -3.6**
comp=Z,7.3nm,0.7s,mb4.2
VIVF Saint-Julien-I 42.74 304 *eP* **P 07 51 48.1 -3.6**
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
VIVF Saint-Julien-I 42.74 304 *eP* **P 07 51 48.1 -3.6**
comp=Z,3.7nm,0.7s,mb4.2
GIVF Givet 42.98 312 *eP* **P 07 51 50.7 -2.9**
SMF Signal de Mont 43.37 307 *eP* **P 07 51 53.8 -3.0**
comp=Z,28nm,0.9s,mb4.7
SMF Signal de Mont 43.37 307 *eP* **P 07 51 53.8 -3.0**
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.7
SMF Signal de Mont 43.37 307 *eP* **P 07 51 53.8 -3.0**
comp=Z,14nm,0.9s,mb4.7
LOR Lormes 43.39 308 *eP* **P 07 51 53.6 -3.3**
comp=Z,18nm,0.9s,mb4.5
LOR *e*MLR MLR
comp=Z,65nm,18.8s
LOR Lormes 43.39 308 *eP* **P 07 51 53.6 -3.3**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
LOR Lormes 43.39 308 *eP* **P 07 51 53.6 -3.3**
comp=Z,9.1nm,0.9s,mb4.5
SSF Saint Saulge 43.62 307 *eP* **P 07 51 55.8 -3.0**
comp=Z,15nm,0.8s,mb4.5
SSF Saint Saulge 43.62 307 *eP* **P 07 51 55.8 -3.0**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SSF Saint Saulge 43.62 307 *eP* **P 07 51 55.8 -3.0**
comp=Z,7.6nm,0.8s,mb4.5
AVF Avril sur Loir 43.71 307 *eP* **P 07 51 56.5 -3.0**
comp=Z,13nm,0.9s,mb4.3
AVF Avril sur Loir 43.71 307 *eP* **P 07 51 56.5 -3.0**
AVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
AVF Avril sur Loir 43.71 307 *eP* **P 07 51 56.5 -3.0**
comp=Z,6.7nm,0.9s,mb4.3
XAN Xi'an 43.79 71 P **P 07 52 02.6 +2.4**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.3
TCF Toulx Ste Croi 44.49 306 *eP* **P 07 52 03.0 -2.8**
comp=Z,11nm,0.8s,mb4.4
TCF Toulx Ste Croi 44.49 306 *eP* **P 07 52 03.0 -2.8**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 44.49 306 *eP* **P 07 52 03.0 -2.8**
comp=Z,5.6nm,0.8s,mb4.4
RJF Les Rejaudoux 44.98 305 *eP* **P 07 52 07.2 -2.5**
comp=Z,14nm,0.8s,mb4.6
RJF *e*MLR MLR
comp=Z,83nm,17.5s
RJF Les Rejaudoux 44.98 305 *eP* **P 07 52 07.2 -2.5**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
RJF Les Rejaudoux 44.98 305 *eP* **P 07 52 07.2 -2.5**
comp=Z,7.1nm,0.8s,mb4.6
BOD Bodaibo 47.22 38 *eP* **P 07 52 26.6 -0.7**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.7
ESDC Sonseca Array 49.53 298 P **P 07 52 42.4 -2.8**
comp=Z,0.2nm,0.3s,mb3.6,baz=54,slow=7.1,SNR=5.4
HIA Hailar 50.16 49 *eP* **P 07 52 49.1 -0.8**
NJ2 Nanjing 52.36 71 *eP* **P 07 53 05.3 -1.2**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
TOA0 Torodi Ar. Sit 53.45 264 *eP* **P 07 53 13.6 -0.9**
TOA0 Torodi Ar. Sit 53.45 264 *eP* **P 07 53 13.6 -0.9**
TORD Torodi Ar. Bea 53.45 264 P **P 07 53 13.8 -0.7**
comp=Z,16nm,0.7s,mb5.0,baz=58,slow=6.9,SNR=103
TORD LR LR 08 16 08.2
comp=Z,44nm,18.0s,MS3.5,baz=5.0,slow=36
KLR Kul'dur 57.96 48 *eP* **P 07 53 44.8 -2.1**
DBIC Dimbokro 62.26 261 P **P 07 54 15.6 -0.7**
comp=Z,5.8nm,0.9s,mb4.7,baz=57,slow=10,SNR=8.2
DBIC LR LR 08 23 27.8
comp=Z,106nm,18.0s,MS4.0,baz=47,slow=38
DBIC Dimbokro 62.26 261 P **P 07 54 15.6 -0.7**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
DBIC MLR MLR
comp=Z,106nm,18.0s
TSUM Tsumeb 62.34 222 *eP* **P 07 54 17.2 +0.3**
comp=Z,6.5nm,0.6s,mb4.9
TSUM Tsumeb 62.34 222 *eP* **P 07 54 17.2 +0.3**
comp=Z,6.5nm,0.6s,mb4.9
SUMG Summit 62.47 340 *eP* **P 07 54 17.8 +0.1**
comp=Z,15nm,0.8s,mb5.2
SUMG Summit 62.47 340 *eP* **P 07 54 17.8 0.0**
comp=Z,15nm,0.8s,mb5.2
SEY Seymchan 65.53 30 *eP* **P 07 54 37.6 -0.3**
BOSA Boshof 66.26 210 P **P 07 54 41.9 -0.7**
comp=Z,5.5nm,0.9s,mb4.6,baz=49,slow=1.3,SNR=5.9
BOSA LR LR 08 28 01.2
comp=Z,138nm,18.5s,MS4.2,baz=175,slow=40
BOSA Boshof 66.26 210 P **P 07 54 41.9 -0.7**
BOSA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BOSA MLR MLR
comp=Z,138nm,18.5s,MS4.2
INK Inuvik 80.91 4 P **P 07 56 07.0 -1.8**
comp=Z,222nm,1.0s
INK Inuvik 80.91 4 P **P 07 56 06.9 -1.8**
comp=Z,222nm,1.0s
YKA Yellowknife Ar 86.78 356 P **P 07 56 36.7 -2.0**
comp=Z,1.4nm,0.5s,mb4.4,baz=1.4,slow=6.1,SNR=5.5
YKA LR LR 08 44 15.6
comp=Z,29nm,18.4s,MS3.7,baz=170,slow=42
YKA Yellowknife Ar 86.78 356 P **P 07 56 36.7 -2.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 86.78 356 P **P 07 56 36.7 -2.0**
WRA Warramunga Arr 89.94 113 P **P 07 56 52.3 -1.5**
comp=Z,0.8nm,0.5s,mb4.3,baz=315,slow=4.1,SNR=6.9
WRA Warramunga Arr 89.94 113 P **P 07 56 52.3 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 91.61 117 P **P 07 57 00.3 -1.2**
comp=Z,2.6nm,0.7s,mb4.7,baz=304,slow=4.8,SNR=28
ASAR Alice Springs 91.61 117 P **P 07 57 00.4 -1.1**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 91.61 117 P **P 07 57 00.3 -1.2**

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*IDC **09** 08:03:19.1±10.0, 36.07N×71.07E, h171km±111km, mb3.4/4, mb1 3.3/7, mb1mx3.1/23, mbtmp3.8/7, Error ellipse: s-maj=79.9km s-min=47.0km az=95.0*
*ISCJB **09** 08:03:22.2±1.4, 36.35N±0.08×71.2E±0.02, h209km±22km, mb3.4/4, Error ellipse: s-maj=28.3km s-min=7.8km az=134.0*
*NNC **09** 08:03:33.0±3.6, 37.18N×69.60E, h70km±185km, mb3.1, mpv3.6, Error ellipse: s-maj=109.1km s-min=27.8km az=100.0*
ISC 09 08:03:22.8±1.3, 3630N±007×712E±02, h201km±21km, n15, σ0=81/18, mb3.4/4, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.39**	**134**	*eP*	**Pn**	**08 04 50.6**	**+8.5**
THN				*ex*	x	08 05 53.7	
DLH	**Dalhousie**	**5.46**	**132**	*eS*	**Sn**	**08 05 47.0**	**+0.7**
KK31	**Karatay Array**	**6.81**	**356**	⇓Pn	**Pn**	**08 04 59.7**	**-0.8**
	2.8nm,0.5s,baz=107,slow=5.6,SNR=32						
KK31				Sn	**Sn**	**08 06 08.6**	**-9.5**
	3.2nm,0.3s,baz=189,slow=23,SNR=12						
KLP	**Kalpa**	**7.56**	**127**	*eP*	**Pn**	**08 05 17.3**	**+7.1**
KLP				*eS*	**Sn**	**08 06 34.3**	**-1.4**
KLP				AML	AML	08 06 43.9	
	comp=E,104nm,0.4s						
KLP				AML	AML	08 06 46.6	
	comp=N,122nm,0.4s						
KHET	**Khetri**	**9.09**	**153**	*eS*	**Sn**	**08 07 12.9**	**+0.8**
KHET				AML	AML	08 07 14.0	
	comp=N,12nm,0.6s						
KHET				AML	AML	08 07 14.2	
	comp=E,15nm,0.2s						
SONA	**Sohna**	**9.46**	**146**	*eS*	**Sn**	**08 07 20.7**	**-0.1**
SONA				AML	AML	08 07 23.8	
	comp=N,9.4nm,0.1s						
SONA				AML	AML	08 07 24.2	
	comp=E,16nm,0.3s						
MKAR	**Makanchi Array**	**13.37**	**35**	P	**Pn**	**08 06 25.2**	**+0.5**
	comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=4.3						
AB31	**Akbulak array**	**15.32**	**331**	⇑Pn	**Pn**	**08 06 48.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=134,slow=11,SNR=9.9						
AB31				⇑Sn	**S**	**08 09 20.1**	**-19**
	comp=E,1.0nm,0.7s,baz=353,slow=16,SNR=5.6						
BVAR	**Borovoye Array**	**16.73**	**358**	P	**P**	**08 07 05.2**	**+0.7**
	comp=E,0.4nm,0.3s,baz=170,slow=10,SNR=6.6						
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P	**P**	**08 07 08.1**	**+0.4**
	comp=E,0.4nm,1.7s						
AKTO	**Aktyubinsk**	**17.02**	**330**	P	**P**	**08 07 08.2**	**+0.5**
	comp=E,0.4nm,0.3s,baz=136,slow=10,SNR=12						
FINES	**FINESS Array B**	**37.73**	**326**	P	**P**	**08 10 19.4**	**+0.5**
	comp=E,1.1nm,0.8s,mb3.4,baz=114,slow=8.2,SNR=3.4						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**08 10 49.8**	**+0.7**
	comp=E,2.8nm,0.8s,mb3.8,baz=119,slow=7.1,SNR=7.8						
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**08 11 13.3**	**-1.8**
	comp=E,0.5nm,0.7s,mb3.0,baz=96,slow=7.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**08 13 46.1**	**-0.5**
	comp=E,0.4nm,0.4s,mb3.4,baz=50,slow=6.0,SNR=8.8						

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*IDC **09** 08:18:02.5±1.1, 1648S×172.16W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.1/16, mbtmp4.3/5, ML1.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=36.6km s-min=19.5km az=127.0*
*ISCJB **09** 08:18:04.5±5.8, 164S±0.1×1723W±0.02, h20km±42km, mb4.1/7, Error ellipse: s-maj=30.0km s-min=11.3km az=55.2*
*NEIC **09** 08:18:08.9±0.8, 16.39S×172.28W, h45km, mb3.9/2, Error ellipse: s-maj=28.8km s-min=14.2km az=125.0*
ISC 09 08:18:04.0±6.7, 1643S±009×1723W±02, h5km±42km, n15, σ0=84/15, mb4.1/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.55**	**11**	Pn	**Pn**	**08 18 45.8**	**-0.2**
	4.9nm,0.3s,baz=146,slow=22,SNR=10						
AFI				Sn	**Sn**	**08 19 16.8**	**-0.6**
	56nm,0.3s,baz=102,slow=20,SNR=16						
AFI				T		08 21 44.9	
	7.6nm,0.3s,baz=76,slow=13,SNR=3.7						
AFI	**Afiamalu**	**2.55**	**11**	Pn	**Pn**	**08 18 45.8**	**-0.2**
AFI				Sn	**Sn**	**08 19 16.9**	**-0.6**
RAR	**Rarotonga**	**12.74**	**114**	LR	LR	08 25 12.2	
	comp=Z,80nm,18.6s,baz=165,slow=34						
URZ	**Urewera**	**23.67**	**201**	P	**P**	**08 23 16.1**	**-0.4**
	10nm,1.0s,mb4.2,baz=342,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**44.49**	**241**	P	**P**	**08 26 17.1**	**+0.8**
	3.7nm,0.9s,mb4.1,baz=84,slow=11,SNR=4.2						
WB2	**Warramunga Arr**	**50.67**	**257**	*eP*	**P**	**08 27 04.0**	**-0.3**
WRA	**Warramunga Arr**	**50.69**	**257**	P	**P**	**08 27 03.9**	**-0.5**
	0.9nm,0.4s,mb4.0,baz=95,slow=7.0,SNR=18						
AS31	**Alice Springs**	**50.84**	**253**	*eP*	**P**	**08 27 05.8**	**+0.2**
ASAR	**Alice Springs**	**50.84**	**253**	P	**P**	**08 27 06.1**	**+0.5**
	7.7nm,0.5s,mb4.9,baz=88,slow=8.4,SNR=164						
ASPA	**Alice Springs**	**50.85**	**253**	*eP*	**P**	**08 27 05.9**	**+0.3**
QSPA	**South Pole Qui**	**73.62**	**180**	*eP*	**P**	**08 29 35.8**	**-2.6**
	1.4nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**74.36**	**41**	P	**P**	**08 29 43.4**	**+0.7**
	1.4nm,0.9s,mb3.9,baz=234,slow=7.7,SNR=6.3						
NVAR	**Mina Array Bea**	**74.36**	**41**	P	**P**	**08 29 43.4**	**+0.7**
ANMO	**Albuquerque**	**80.63**	**49**	*eP*	**P**	**08 30 19.1**	**+1.3**
	0.7nm,0.6s,mb3.8						
TORD	**Torodi Ar. Bea**	**173.30**	**118**	PKPab	PKPab	08 39 40.4	-2.2
	0.8nm,0.8s,baz=255,slow=5.0,SNR=4.0						

IDC 09 09:14:12.8±2.9, 1394S×16732E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=126.6km s-min=46.0km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.54**	**228**	P	P	09 20 19.4	+0.4
	1.1nm,0.9s,baz=41,slow=9.6,SNR=5.9						
WRA	**Warramunga Arr**	**32.07**	**255**	P	P	09 20 41.9	+0.6
	0.2nm,0.5s,baz=82,slow=7.4,SNR=6.9						
ASAR	**Alice Springs**	**33.00**	**248**	P	P	09 20 49.5	+0.1
	0.3nm,0.3s,baz=78,slow=9.3,SNR=12						
ARCES	**ARCESS Array B**	**119.51**	**346**	PKP	PKPdf	09 33 03.7	-0.6
	1.8nm,0.9s,baz=57,slow=3.3,SNR=5.8						

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*IDC **09** 09:32:31.6±0.6, 1372N×9299E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.3/24, mbtmp4.3/17, MS3.3/2, Ms1 3.3/2, ms1mx2.8/33, Error ellipse: s-maj=27.5km s-min=12.4km az=57.0*
*ISCJB **09** 09:32:34.8±0.3, 1374N±006×9297E±006, h33km, mb4.3/26, MS3.6/2, Error ellipse: s-maj=11.3km s-min=6.0km az=88.0*
*MOS **09** 09:32:34.5±1.0, 1369N×9287E, h33km, mb4.8/6, Error ellipse: s-maj=22.7km s-min=10.0km az=111.2*
*NEIC **09** 09:32:38.5±1.5, 1382N×9308E, h49km±14km, mb4.5/7, Error ellipse: s-maj=16.2km s-min=7.9km az=68.0*
*BJI **09** 09:32:38.4, 1380N×93.10E, h48km, mB4.9, mb4.5, Ms4.1, Msz3.8*
ISC 09 09:32:36.4±2.4, 1383N±006×9304E±006, h28km±17km, n56, σ1=14/59, mb4.3/26, MS3.6/2, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.19**	**188**	*eP*	**Pn**	**09 33 02.9**	**-7.9**
PBA				*eS*	**Sn**	**09 33 25.6**	**-11**
CM31	**Chiang Mai Arr**	**7.30**	**50**	Pn	**Pn**	**09 34 19.4**	**-1.7**
VIS	**Vishakhapatnam**	**10.12**	**294**	*eP*	**Pn**	**09 34 58.0**	**-1.7**
VIS				*eS*	**Sn**	**09 36 41.3**	**-11**
KULM	**Kulim**	**11.32**	**138**	*e*Pn	**Pn**	**09 35 19.7**	**+3.5**
SHL	**Shillong**	**11.72**	**355**	*eP*	**Pn**	**09 35 20.0**	**-1.7**
SHL				*ex*	x	09 38 13.0	
BOK	**Bokaro**	**12.00**	**327**	*eP*	**Pn**	**09 35 24.2**	**-1.2**
BOK				AMb	AMB	09 35 34.6	
	comp=Z,11nm,0.6s						
PSI	**Prapat**	**12.41**	**152**	Pn	**Pn**	**09 35 33.6**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=332,slow=15,SNR=4.4						
PSI				LR	LR	09 41 02.5	
	comp=Z,146nm,18.0s,baz=228,slow=41						
HYB	**Hyderabad**	**14.40**	**286**	*i P*	**Pn**	**09 36 07.0**	**+8.7**
HYB				*eS*	**Sn**	**09 38 40.0**	**+3.0**
HYB	**Hyderabad**	**14.40**	**286**	*eP*	**Pn**	**09 36 07.0**	**+8.7**
HYB				*eS*	**Sn**	**09 38 36.0**	**-1.0**
TRD	**Trivandrum**	**16.64**	**253**	*ex*	x	09 36 07.8	
TRD				AMb	AMB	09 36 16.7	
	comp=Z,38nm,1.4s						
BHPL	**Bhopal**	**17.50**	**305**	*eP*	**Pn**	**09 36 40.0**	**+1.6**
BHPL				AMb	AMB	09 36 50.1	
	comp=Z,21nm,0.8s						
KAD	**Karad**	**18.49**	**283**	*eP*	**Pn**	**09 36 52.1**	**+1.6**
KAD				AMb	AMB	09 37 17.8	
	comp=Z,22nm,1.8s						
POO	**Poona**	**19.01**	**287**	*ex*	x	09 39 12.5	
NDI	**New Delhi**	**20.84**	**318**	*eP*	**P**	**09 37 14.9**	**-0.8**
NDI				AMb	AMB	09 37 16.3	
	comp=Z,35nm,1.1s						
AJM	**Ajmer**	**21.33**	**309**	*eP*	**P**	**09 37 22.1**	**+1.0**
AJM				AMb	AMB	09 37 24.5	
	comp=Z,20nm,0.8s,mb4.5						
LZH	**Lanzhou**	**24.19**	**22**	*eP*	**P**	**09 37 53.0**	**+2.7**
LZH				AP		09 37 58.5	
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.4						
LZH	**Lanzhou**	**24.19**	**22**	*eP*	**P**	**09 37 53.0**	**+2.7**
LZH				*SP	sP	09 38 03.0	+1.0
LZH				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.4						
LZH	**Lanzhou**	**24.19**	**22**	*eP*	**P**	**09 37 53.0**	**+2.7**
	comp=Z,22nm,1.5s,mb4.4						
LZH				pP		09 37 58.5	
LZH				sP	sP	09 38 03.0	+1.0
XAN	**Xi'an**	**24.74**	**33**	P	**P**	**09 37 56.3**	**+1.0**
XAN				AP		09 38 05.4	
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
WMQ	**Urumqi**	**30.23**	**352**	*eP*	**P**	**09 38 47.0**	**+2.4**
WMQ				AP	pP	09 39 04.0	+11
WMQ				*eS*	**S**	**09 43 40.0**	**-2.3**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,103nm,5.3s						
WMQ				LR	LR		
	comp=N,248nm,18.1s,MS4.1						
WMQ				LR	LR		
	comp=E,267nm,18.5s,MS4.1						
WMQ				LR	LR		
	comp=Z,192nm,20.4s,MS3.7						
MKAR	**Makanchi Array**	**34.07**	**347**	P	**P**	**09 39 18.7**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=163,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**34.07**	**347**	P	**P**	**09 39 18.7**	**+0.4**
SONM	**Songino Array**	**35.67**	**15**	P	**P**	**09 39 33.3**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=201,slow=7.9,SNR=6.9						
ZAL	**Zalesovo**	**40.53**	**353**	P	**P**	**09 40 12.7**	**-0.3**
	comp=Z,2.0nm,0.3s,mb4.3,baz=291,slow=4.6,SNR=4.7						
ZAL				LR	LR	09 59 47.2	
	comp=Z,37nm,19.3s,MS3.2,baz=257,slow=40						
BVAR	**Borovoye Array**	**43.04**	**340**	P	**P**	**09 40 33.9**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=145,slow=5.4,SNR=5.0						
CHKZ	**Chkalovo**	**43.52**	**341**	*eP*	**P**	**09 40 37.6**	**+0.2**
CHKZ				*e*	pP	09 40 45.6	-0.3
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**43.52**	**341**	*eP*	**P**	**09 40 37.6**	**+0.3**
	comp=Z,8.9nm,1.1s,mb4.4						
CHKZ				*e*	pP	09 40 45.6	-0.3
FITZ	**Fitzroy Crossi**	**45.17**	**134**	*eP*	**P**	**09 40 49.7**	**-0.9**
	comp=Z,3.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**45.17**	**134**	P	**P**	**09 40 49.4**	**-1.1**
	comp=Z,5.9nm,0.9s,mb4.4,baz=353,slow=4.8,SNR=10						
MJAR	**Matsushiro Arr**	**46.18**	**52**	P	**P**	**09 40 59.5**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=268,slow=7.0,SNR=4.2						
AKTK	**Aktyubinsk**	**46.26**	**329**	P	**P**	**09 40 59.6**	**+0.4**
AKTO	**Aktyubinsk**	**46.26**	**329**	P	**P**	**09 40 59.6**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=128,slow=10,SNR=9.6						
NWAO	**Narrogin (SRO)**	**51.93**	**154**	P	**P**	**09 41 41.5**	**-1.0**
	comp=Z,3.2nm,0.5s,mb4.5,baz=304,slow=3.6,SNR=3.9						
KIV	**Kislovodsk**	**52.27**	**315**	*eP*	**P**	**09 41 43.2**	**-1.9**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**52.70**	**129**	P	**P**	**09 41 47.8**	**-0.5**
	comp=Z,6.3nm,0.6s,mb4.8,baz=298,slow=9.7,SNR=116						
WRA				PcP	PcP	09 42 58.4	+0.6
	comp=Z,1.2nm,0.5s,baz=321,slow=3.1,SNR=11						
WB2	**Warramunga Arr**	**52.71**	**129**	⇑*i*P	**P**	**09 41 47.9**	**-0.5**
ASPA	**Alice Springs**	**54.63**	**133**	*eP*	**P**	**09 42 02.2**	**-0.3**
AS31	**Alice Springs**	**54.64**	**133**	*eP*	**P**	**09 42 02.2**	**-0.3**
ASAR	**Alice Springs**	**54.64**	**133**	P	**P**	**09 42 02.2**	**-0.2**
	comp=Z,6.8nm,0.4s,mb5.0,baz=309,slow=6.8,SNR=193						
BR131	**Keskin Array S**	**57.82**	**308**	*eP*	**P**	**09 42 25.1**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.5						
OBN	**Obninsk**	**59.82**	**326**	*eP*	**P**	**09 42 34.9**	**-4.2**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MLR	**Muntele Rosu**	**64.23**	**314**	⇑*i*P	**P**	**09 43 09.8**	**+1.1**
STKA	**Stephens Creek**	**65.03**	**135**	*eP*	**P**	**09 43 13.7**	**-0.2**
	comp=Z,3.5nm,1.7s,mb4.1						
STKA	**Stephens Creek**	**65.03**	**135**	P	**P**	**09 43 13.8**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=331,slow=11,SNR=5.9						
JOF	**Joensuu**	**65.05**	**334**	*ep*	**P**	**09 43 13.2**	**-0.9**
FINES	**FINESS Array B**	**66.98**	**331**	P	**P**	**09 43 25.5**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=94,slow=6.1,SNR=9.6						
ARCES	**ARCESS Array B**	**69.33**	**340**	P	**P**	**09 43 41.5**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=98,slow=6.6,SNR=13						
GERES	**GERESS Array B**	**72.72**	**317**	P	**P**	**09 44 02.1**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.4,baz=97,slow=5.5,SNR=19						
NB2	**NORSAR Subarra**	**74.05**	**330**	P	**P**	**09 44 09.0**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.4,baz=91,slow=5.9						
NB2	**NORSAR Subarra**	**74.05**	**330**	P	**P**	**09 44 09.0**	**-0.6**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**74.05**	**330**	P	**P**	**09 44 08.9**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=6.7						
LPG	**La Plagne**	**77.70**	**314**	*eP*	**P**	**09 44 29.3**	**-1.1**
	comp=Z,17nm,0.9s,mb4.7						
LPG	**La Plagne**	**77.70**	**314**	*eP*	**P**	**09 44 29.3**	**-1.1**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LPG	**La Plagne**	**77.70**	**314**	*eP*	**P**	**09 44 29.3**	**-1.1**
	comp=Z,8.5nm,0.9s,mb4.7						
BOSA	**Boshof**	**77.90**	**236**	P	**P**	**09 44 31.7**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.3,baz=137,slow=2.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**88.20**	**283**	P	**P**	**09 45 25.6**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.2,baz=94,slow=4.0,SNR=7.7						

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*ISCJB **09** 09:36:48.8±0.3, 3193S±003×6956W±004, h122km±3km, mb4.2/15, Error ellipse: s-maj=5.8km s-min=4.1km az=22.5*
*IDC **09** 09:36:48.7±1.7, 3193S×6966W, h111km±13km, mb3.9/7, mb1 4.0/10, mb1mx3.8/18, mbtmp4.3/10, Error ellipse: s-maj=26.1km s-min=16.1km az=106.0*
*NEIC **09** 09:36:49.3, 3192S×6959W, h118km, mb4.5/13, MD4.2(GUC), After GUC.*
*GUC **09** 09:36:49.3±0.8, 3192S×6959W, h118km±4km, MD4.2, ML4.4*
ISC 09 09:36:49.7±0.3, 3193S±003×6956W±004, h117km±3km, n66, σ0=83/92, md4.2/15, 16C-11D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.84**	**63**	⇓*i*P	**Pn**	**09 37 10.6**	**+0.6**
ZON				*i* S	**Sn**	**09 37 25.7**	**+0.4**
ZON				*i* S	**Sn**	**09 37 26.0**	**+0.7**
ZON				AML	AML	09 37 27.3	
	comp=N,9μm,0.5s						
MDZ	**Mendoza**	**1.12**	**148**	⇑*i*P	**Pn**	**09 37 06.8**	**-5.9**
MDZ				*i* S	**Sn**	**09 37 24.0**	**-6.2**
JACH	**Jahuel**	**1.15**	**229**	⇓*i*P	**Pn**	**09 37 13.4**	**+0.4**
JACH				*i* S	**Sn**	**09 37 31.1**	**+0.5**
CFAA	**Coronel Fontan**	**1.17**	**74**	P	**Pn**	**09 37 13.4**	**+0.2**
	comp=N,14nm,0.3s,baz=243,slow=9.8,SNR=2131						
CFAA				S	**Sn**	**09 37 30.9**	**-0.2**
	comp=N,95nm,0.3s,baz=342,slow=22,SNR=121						
PTCH	**Petorca**	**1.21**	**254**	*i* P	**Pn**	**09 37 13.5**	**-0.2**
PTCH				*i* S	**Sn**	**09 37 31.6**	**-0.2**
PTCH				AML	AML	09 37 32.9	
	comp=N,14μm,0.3s						
PTCH	**Petorca**	**1.21**	**254**	*i* P	**Pn**	**09 37 13.5**	**-0.2**
PTCH				*i* S	**Sn**	**09 37 31.6**	**-0.2**
CMCH	**Combarbala**	**1.44**	**301**	⇓*i*P	**Pn**	**09 37 16.1**	**-0.1**
CMCH				*i* S	**Sn**	**09 37 36.4**	**0.0**
FCH	**Farellones**	**1.52**	**204**	⇑*i*P	**Pn**	**09 37 18.1**	**+0.9**
FCH				*i* S	**Sn**	**09 37 39.8**	**+1.7**
FCH				AML	AML	09 37 40.7	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.54**	**218**	⇓*i*P	**Pn**	**09 37 17.1**	**-0.2**
PEL				*i* S	**Sn**	**09 37 38.0**	**-0.4**
PEL				AML	AML	09 37 39.9	
	comp=E,12μm,0.5s						
**

RCDM	**Rinconada Maip**	**1.88 214**	⇑*iP*	**Pn**	**09 37 21.0**	**-0.4**
RCDM			*i* S	**Sn**	**09 37 45.6**	**-0.1**
RCDM			AML	AML	09 37 47.0	
	comp=E,4μm,0.6s					
RCDM	**Rinconada Maip**	**1.88 214**	⇑*iP*	**Pn**	**09 37 21.0**	**-0.4**
RCDM			*i* S	**Sn**	**09 37 45.6**	**-0.1**
OVCH	**Ovalle**	**1.93 313**	⇓*iP*	**Pn**	**09 37 21.9**	**-0.2**
OVCH			*i* S	**Sn**	**09 37 46.4**	**-0.4**
OVCH			AML	AML	09 37 49.2	
	comp=E,3μm,0.6s					
OVCH	**Ovalle**	**1.93 313**	⇓*iP*	**Pn**	**09 37 21.9**	**-0.2**
OVCH			*i* S	**Sn**	**09 37 46.4**	**-0.4**
LMEL	**Las Melosas**	**1.99 196**	⇑*iP*	**Pn**	**09 37 23.2**	**+0.3**
LMEL			*i* S	**Sn**	**09 37 49.3**	**+1.1**
LMEL			AML	AML	09 37 55.7	
	comp=N,972nm,0.3s					
LMEL	**Las Melosas**	**1.99 196**	⇑*iP*	**Pn**	**09 37 23.2**	**+0.3**
LMEL			*i* S	**Sn**	**09 37 49.3**	**+1.1**
TLL	**Tololo Astrono**	**2.06 328**	⇑*iP*	**Pn**	**09 37 24.3**	**+0.6**
TLL			*i* S	**Sn**	**09 37 50.0**	**+0.4**
TLL			AML	AML	09 37 52.3	
	comp=N,6μm,0.5s					
TLL	**Tololo Astrono**	**2.06 328**	⇑*iP*	**Pn**	**09 37 24.3**	**+0.6**
TLL			*i* S	**Sn**	**09 37 50.0**	**+0.4**
CHCH	**Chadas Angostu**	**2.20 204**	⇓*iP*	**Pn**	**09 37 25.1**	**-0.4**
CHCH			*i* S	**Sn**	**09 37 52.9**	**-0.1**
TRQA	**Tornquist**	**8.72 137**	*e*Pn	**Pn**	**09 38 50.8**	**-2.2**
	comp=N,15nm,0.6s					
TRQA			*e*Sn	**Sn**	**09 40 23.0**	**-6.3**
PLCA	**Paso Flores**	**8.82 185**	P	**Pn**	**09 38 52.2**	**-2.1**
	comp=N,0.8nm,0.3s,baz=354,slow=13,SNR=22					
PLCA	**Paso Flores**	**8.82 185**	*e*Pn	**Pn**	**09 38 51.3**	**-3.0**
	comp=N,5.6nm,0.7s					
LVC	**Limon Verde**	**9.30 4**	P	**Pn**	**09 38 58.1**	**-2.7**
	comp=N,4.2nm,0.3s,baz=180,slow=9.4,SNR=42					
LVC	**Limon Verde**	**9.30 4**	*e*Pn	**Pn**	**09 38 57.6**	**-3.2**
	comp=N,8.6nm,0.4s					
CPUP	**Villa Florida**	**12.06 66**	P	**Pn**	**09 39 32.5**	**-5.1**
	comp=N,1.1nm,0.3s,baz=232,slow=13,SNR=7.9					
CPUP			S	**Sn**	**09 41 41.3**	**-9.1**
	comp=N,1.0nm,0.3s,baz=204,slow=18,SNR=2.0					
CPUP	**Villa Florida**	**12.06 66**	*e*Pn	**Pn**	**09 39 35.0**	**-2.7**
	comp=N,22nm,0.4s					
ARE	**Arequipa**	**15.50 353**	*e*P	**Pn**	**09 40 23.0**	**+1.2**
LPAZ	**La Paz**	**15.63 5**	P	**Pn**	**09 40 24.9**	**+1.5**
	comp=N,0.6nm,0.3s,baz=182,slow=8.9,SNR=33					
LPAZ	**La Paz**	**15.63 5**	*e*P	**Pn**	**09 40 25.3**	**+1.9**
	comp=N,11nm,0.9s					
SIV	**San Ignacio**	**17.65 28**	P	**Pn**	**09 40 47.1**	**-1.1**
	comp=N,1.5nm,0.3s,baz=213,slow=15,SNR=51					
USHA	**Ushuaia**	**22.91 178**	P	**P**	**09 41 43.2**	**-0.4**
	comp=N,8.1nm,0.5s,mb4.3,baz=332,slow=1.4,SNR=7.7					
OTAV	**Otavalo**	**33.08 344**	*e*P	**P**	**09 43 17.3**	**+3.0**
	comp=N,1.0nm,0.6s,mb3.8					
SNAA	**Sanae**	**52.73 159**	P	**P**	**09 45 52.4**	**0.0**
	comp=N,0.8nm,0.9s,mb3.8,baz=291,slow=7.1,SNR=5.4					
QSPA	**South Pole Qui**	**58.30 180**	*e*P	**P**	**09 46 32.8**	**+0.5**
	comp=N,2.8nm,0.7s,mb4.4					
SYO	**Syowa Base**	**67.02 158**	⇑*e*pP	pP	09 47 53.2	-5.7
JCT	**Junction City**	**68.38 332**	*e*P	**P**	**09 47 39.6**	**+1.0**
	comp=N,5.2nm,0.7s,mb4.5					
SWET	**Sewanee**	**68.54 346**	*e*P	**P**	**09 47 39.4**	**-0.2**
OXF	**Oxford**	**68.68 342**	*e*P	**P**	**09 47 40.3**	**-0.2**
	comp=N,11nm,0.5s,mb5.0					
WVT	**Waverly**	**69.84 344**	*e*P	**P**	**09 47 47.5**	**-0.2**
	comp=N,13nm,0.5s,mb5.0					
DBIC	**Dimbokro**	**72.53 70**	P	**P**	**09 48 04.2**	**+0.3**
	comp=N,3.3nm,0.5s,mb4.4,baz=216,slow=6.6,SNR=9.4					
ANMO	**Albuquerque**	**75.02 329**	*e*P	**P**	**09 48 19.7**	**+1.2**
	comp=N,1.3nm,0.6s,mb3.8					
SDCO	**Great Sand Dun**	**77.00 331**	*e*P	**P**	**09 48 30.9**	**+1.2**
	comp=N,2.2nm,0.6s,mb4.1					
PV10	**Paradox Valley**	**79.02 329**	*e*P	**P**	**09 48 41.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**81.53 69**	P	**P**	**09 48 54.3**	**+0.1**
	comp=N,2.8nm,0.6s,mb4.2,baz=280,slow=6.8,SNR=33					
TORD			pP	pP	09 49 25.0	+1.0
	comp=N,1.2nm,0.7s,baz=283,slow=7.1,SNR=4.2					
RSSD	**Black Hills**	**81.97 336**	*e*P	**P**	**09 48 56.3**	**-0.3**
	comp=N,1.5nm,0.4s,mb4.2					
PDAR	**Pinedale Array**	**82.90 332**	P	**P**	**09 49 00.7**	**-0.6**
	comp=N,0.5nm,0.6s,mb3.6,baz=135,slow=4.9,SNR=4.7					
NVAR	**Mina Array Bea**	**83.42 324**	P	**P**	**09 49 03.0**	**-1.0**
	comp=N,0.4nm,0.5s,mb3.5,baz=174,slow=5.8,SNR=4.6					
ULM	**Lac du Bonnet**	**85.08 343**	P	**P**	**09 49 11.6**	**-0.9**
	comp=N,1.8nm,0.6s,mb4.2,baz=180,slow=4.0,SNR=3.0					
ULM	**Lac du Bonnet**	**85.08 343**	P	**P**	**09 49 11.6**	**-0.9**
ASAR	**Alice Springs**	**120.34 205**	PKP	PKPdf	09 55 26.4	-0.7
	comp=N,0.3nm,0.6s,baz=126,slow=1.8,SNR=5.0					
WRA	**Warramunga Arr**	**123.56 207**	PKP	PKPdf	09 55 32.9	-0.4
	comp=N,0.9nm,0.4s,baz=158,slow=1.8,SNR=28					
AAK	**Ala-Archa**	**149.68 59**	*e*PKPbc	PKPbc	09 56 25.5	-0.2
AAK			*e*PKPab	PKPab	09 56 30.4	-0.8
ZAL	**Zalesovo**	**151.37 32**	PKPbc	PKPbc	09 56 29.6	0.0
	comp=N,4.5nm,0.5s,baz=296,slow=0.8,SNR=12					
ZAL			pPKPbc	pPKPbc	09 57 00.5	-0.6
	comp=N,2.1nm,0.4s,baz=161,slow=2.0,SNR=2.8					
MKAR	**Makanchi Array**	**153.84 47**	PKPbc	PKPbc	09 56 35.2	+0.1
	comp=N,0.2nm,0.2s,baz=343,slow=3.0,SNR=3.2					
MKAR			PKPab	PKPab	09 56 48.4	-0.2
	comp=N,1.1nm,0.6s,baz=276,slow=4.2,SNR=9.1					
MKAR	**Makanchi Array**	**153.84 47**	PKPbc	PKPbc	09 56 35.2	+0.1
MKAR			PKPab	PKPab	09 56 48.4	-0.2

*ISCJB **09** 09:46:50.9±0.5, 3765N±002×2675E±004, h5km±4km, Error ellipse: s-maj=4.9km s-min=3.6km az=131.9*
*ATH **09** 09:46:50.2, 3760N×2684E, h14km, MD3.3/3*
*CSEM **09** 09:46:50.9±0.1, 3768N×2686E, h12km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.7km az=171.0*
*NEIC **09** 09:46:50.2, 3760N×2684E, h14km, MD3.3(ATH), After ATH.*
*ISK **09** 09:46:52.0, 3770N×2689E, h32km, MD3.0*
ISC 09 09:46:51.2±0.6, 3764N±002×2674E±004, h2km±5km, n21, σ1§09/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.11**	**48**	*e*PG	**Pg**	**09 46 53.3**	**0.0**
SMG				*e*SG	**Sg**	**09 46 55.8**	**+1.1**
URLA	**Izmir**	**0.73**	**351**	*i* P	**Pg**	**09 47 04.8**	**-0.4**
URLA				*i* S	**Sg**	**09 47 15.1**	**+0.5**
BODT	**Bodrum**	**0.73**	**141**	PG	**Pg**	**09 47 06.0**	**+0.7**
BODT				SG	**Sg**	**09 47 16.3**	**+1.5**
BDRM	**Kayabasi**	**0.80**	**135**	*i* P	**Pg**	**09 47 06.7**	**+0.1**
BDRM				*i* S	**Sg**	**09 47 18.3**	**+1.3**
IZM	**Izmir**	**0.86**	**28**	PG	**Pg**	**09 47 06.7**	**-1.1**
KDAG	**Bornova**	**0.87**	**29**	*i* P	**Pg**	**09 47 06.9**	**-1.0**
KDAG				*i* S	**Sg**	**09 47 19.0**	**-0.2**
MLSB	**Milas**	**0.89**	**112**	PG	**Pg**	**09 47 07.4**	**-0.9**
MLSB				SG	**Sg**	**09 47 18.8**	**-1.1**
AYDN	**Tasoluk**	**0.91**	**88**	*i* P	**Pg**	**09 47 07.6**	**-1.0**
AYDN				*i* S	**Sg**	**09 47 19.8**	**-0.5**
APE	**Apeiranthos**	**1.12**	**240**	*e*PB	**Pb**	**09 47 12.5**	**-0.7**
APE				*e*SB	**Sb**	**09 47 28.5**	**+0.3**
DAT	**Datca**	**1.13**	**143**	PN	**Pn**	**09 47 12.6**	**-1.4**
SANT	**Santorini**	**1.63**	**219**	*e*Pn	**Pn**	**09 47 19.7**	**-1.1**
SANT				*e*Pg	**Pg**	**09 47 22.9**	**+0.5**
SANT	**Santorini**	**1.63**	**219**	*e*Pn	**Pn**	**09 47 19.7**	**-1.1**
SANT	**Santorini**	**1.63**	**219**	*e*Pg	**Pg**	**09 47 22.9**	**+0.5**
PRK	**Paraskevi**	**1.65**	**347**	*e*PN	**Pn**	**09 47 21.5**	**+0.4**
PRK				*e*SN	**Sg**	**09 47 44.5**	**+0.4**
AYVA	**Ayvalik**	**1.67**	**359**	*i* P	**Pn**	**09 47 22.3**	**+0.9**
AYVA				*i* S	**Sn**	**09 47 44.6**	**+1.3**
DALT	**Dalyan (Mudla)**	**1.75**	**119**	*e*PN	**Pn**	**09 47 20.0**	**-2.5**
DENT	**Denizli**	**1.82**	**86**	*e*PN	**Pn**	**09 47 20.2**	**-3.4**
DNZL	**Cakiroluk**	**1.83**	**88**	*i* P	**Pg**	**09 47 29.6**	**+3.3**
DNZL				*i* S	**Sg**	**09 47 54.4**	**+4.3**
GOLH	**Golhisar**	**2.28**	**99**	*i* P	**Pn**	**09 47 30.0**	**+0.1**
AKAS	**Kas**	**2.69**	**121**	*i* P	**Pn**	**09 47 36.6**	**+1.1**
AKAS				*i* S	**Sn**	**09 48 11.3**	**+2.7**
TKTP	**Tekketepe**	**2.86**	**81**	*i* P	**Pn**	**09 47 37.4**	**-0.4**

*IDC **09** 09:55:35.6±0.7, 2239S×6738W, h157km±7km, mb4.3/10, mb1 4.3/17, mb1mx4.2/21, mbtmp4.7/17, MS3.6/1, Ms1 3.5/1, ms1mx2.9/29, Error ellipse: s-maj=12.7km s-min=11.0km az=79.0*
*ISCJB **09** 09:55:37.4±0.2, 2228S±005×6719W±005, h181km, mb4.5/48, Error ellipse: s-maj=7.5km s-min=5.3km az=95.9*
*NEIC **09** 09:55:38.5±0.2, 2232S×6724W, mb4.7/46, Error ellipse: s-maj=9.5km s-min=5.5km az=49.0*

*BJI **09** 09:55:38.5, 2230S×6720W, h180km, mB4.5*
ISC 09 09:55:39.2±0.2, 2229S±005×6718W±006, h183km, h183km±1.0km: pP-P, n249, σ0§66/252, mb4.5/48, 86C-69D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.64**	**258**	P	**Pn**	**09 56 05.5**	**-7.2**
	893nm,0.3s,baz=0.0,slow=2.2,SNR=9139						
LVC				S	**Sn**	**09 56 28.2**	**-10**
	557nm,0.3s,baz=180,slow=0.4,SNR=48						
LVC	**Limon Verde**	**1.64**	**258**	*e*Pn	**Pn**	**09 56 05.5**	**-7.1**
LVC				*e*Sn	**Sn**	**09 56 26.7**	**-12**
LPAZ	**La Paz**	**6.03**	**351**	P	**Pn**	**09 57 06.4**	**-0.2**
	18nm,0.3s,baz=164,slow=7.6,SNR=236						
LPAZ				S	**Sn**	**09 58 13.9**	**-1.5**
	1.4nm,0.3s,baz=331,slow=19,SNR=3.3						
LPAZ	**La Paz**	**6.03**	**351**	*e*Pn	**Pn**	**09 57 06.0**	**-0.6**
	58nm,0.5s						
ARE	**Arequipa**	**7.08**	**324**	*e*P	**Pn**	**09 57 14.0**	**-6.3**
ARE				*i* S	**Sn**	**09 58 30.9**	**-9.4**
SIV	**San Ignacio**	**8.51**	**44**	P	**Pn**	**09 57 38.0**	**-1.1**
	62nm,0.3s,baz=225,slow=11,SNR=716						
SIV				S	**Sn**	**09 59 11.6**	**-2.7**
	8.9nm,0.3s,baz=344,slow=22,SNR=8.2						
CFAA	**Coronel Fontan**	**9.33**	**186**	P	**Pn**	**09 57 42.4**	**-7.5**
	0.5nm,0.3s,baz=1.6,slow=11,SNR=62						
CFAA				S	**Sn**	**09 59 19.0**	**-15**
	0.6nm,0.3s,baz=243,slow=20,SNR=7.3						
CPUP	**Villa Florida**	**9.84**	**116**	P	**Pn**	**09 57 54.9**	**-1.6**
	2.1nm,0.3s,baz=278,slow=11,SNR=70						
CPUP	**Villa Florida**	**9.84**	**116**	*e*Pn	**Pn**	**09 57 55.5**	**-1.0**
	114nm,0.8s						
NNA	**Nana**	**13.79**	**316**	P	**Pn**	**09 58 42.5**	**-4.5**
	1.0nm,0.3s,baz=204,slow=12,SNR=2.8						
NNA				S	**Sn**	**10 01 14.1**	**-6.4**
	1.2nm,0.3s,baz=204,slow=18,SNR=4.2						
NNA	**Nana**	**13.79**	**316**	*e*Pn	**Pn**	**09 58 47.2**	**+0.1**
	30nm,0.8s						
NNA				S	**Sn**	**10 01 14.1**	**-6.4**
TRQA	**Tornquist**	**16.34**	**165**	*e*P	**Pn**	**09 59 12.4**	**-6.0**
	45nm,0.6s						
TRQA				*e*S	**S**	**10 02 31.7**	**+12**
PLCA	**Paso Flores**	**18.61**	**188**	P	**P**	**09 59 39.2**	**-3.5**
	0.3nm,0.3s,baz=4.6,slow=12,SNR=11						
PLCA	**Paso Flores**	**18.61**	**188**	*e*P	**P**	**09 59 39.3**	**-3.4**
	9.1nm,0.9s						
ATAH	**Atahualpa**	**18.66**	**323**	P	**P**	**09 59 39.7**	**-3.5**
	0.2nm,0.3s,baz=107,slow=17,SNR=2.4						
BDFB	**Brasilia**	**19.28**	**73**	P	**P**	**09 59 51.4**	**+1.4**
	6.4nm,0.3s,baz=259,slow=10,SNR=92						
BDFB				LR	LR	10 09 06.5	
	comp=Z,173nm,20.7s,baz=244,slow=42						
BDFB	**Brasilia**	**19.28**	**73**	*e*P	**P**	**09 59 51.2**	**+1.2**
	85nm,0.6s						
OTAV	**Otavalo**	**24.94**	**332**	*e*P	**P**	**10 00 46.2**	**+0.7**
	3.9nm,0.8s,mb4.0						
ROSC	**El Rosal**	**27.87**	**345**	LR	LR	10 12 35.5	
	comp=Z,50nm,18.6s,baz=134,slow=36						
PMSA	**Palmer Station**	**42.52**	**178**	P	**P**	**10 03 14.5**	**-2.1**
	4.0nm,0.7s,mb4.2,baz=337,slow=5.7,SNR=6.0						
PMSA	**Palmer Station**	**42.52**	**178**	*e*P	**P**	**10 03 15.3**	**-1.2**
	6.6nm,0.9s,mb4.3						
VNA3	**Neumayer Olymp**	**58.82**	**161**	⇑*iP*	**P**	**10 05 17.5**	**-0.9**
VNA3				*e*		10 05 21.5	
VNA3				*e*		10 05 26.0	
VNA3				*e*		10 05 30.3	
VNA3				*e*		10 20 43.2	
VNA3				*e*		10 20 44.2	
VNA3				*e*		10 20 49.0	
VNA3				*e*		10 22 13.8	
VNA1	**Neumayer--Stat**	**59.01**	**161**	⇑*iP*	**P**	**10 05 19.3**	**-0.4**
VNA1				*e*		10 05 23.2	
VNA1				*e*		10 05 27.2	
VNA1				*e*		10 05 32.5	
VNA1				*e*		10 20 43.5	
VNA1				*e*		10 20 44.6	
VNA1				*e*		10 20 49.4	
VNA1				*e*		10 22 11.5	
OXF	**Oxford**	**60.31**	**339**	*e*P	**P**	**10 05 26.8**	**-1.7**
	17nm,0.9s,mb4.9						
PLAL	**Pickwick Lake**	**60.31**	**340**	*e*P	**P**	**10 05 26.6**	**-2.0**
	5.8nm,0.9s,mb4.4						
SNAA	**Sanae**	**61.02**	**161**	⇑*iP*	**P**	**10 05 32.0**	**-1.3**
SNAA				*e*		10 05 35.0	
SNAA				*e*		10 05 37.8	
SNAA				*e*		10 05 43.8	
SNAA				*e*		10 20 38.8	
SNAA				*e*		10 20 39.8	
SNAA				*e*		10 20 44.7	
SNAA				*e*		10 22 01.8	
SNAA	**Sanae**	**61.02**	**161**	*e*P	**P**	**10 05 32.0**	**-1.3**
	13nm,0.7s,mb4.9						
JCT	**Junction City**	**61.11**	**328**	*e*P	**P**	**10 05 32.9**	**-1.1**
	10nm,0.7s,mb4.8						
WVT	**Waverly**	**61.30**	**341**	*e*P	**P**	**10 05 33.7**	**-1.5**
	12nm,0.8s,mb4.8						
WVT				*e*	pP	10 06 15.6	-1.9
MIAR	**Mount Ida**	**61.84**	**335**	*e*P	**P**	**10 05 37.7**	**-1.1**
	13nm,1.0s,mb4.7						
CCM	**Cathedral Cave**	**64.14**	**339**	*e*P	**P**	**10 05 51.8**	**-2.2**
	8.0nm,0.8s,mb4.6						
WMOK	**Wichita Mounta**	**64.17**	**331**	*e*P	**P**	**10 05 52.2**	**-1.9**
	1.8nm,0.8s,mb4.0						
MNTX	**Cornudas Mount**	**64.96**	**324**	*e*P	**P**	**10 05 57.4**	**-1.9**
	8.1nm,1.0s,mb4.5						
MNTX				*e*pP	pP	10 06 40.6	-1.5
KSU1	**Kansas State U**	**66.99**	**335**	*e*P	**P**	**10 06 10.9**	**-1.4**
	9.9nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**67.42**	**72**	P	**P**	**10 06 15.9**	**+0.9**
	37nm,0.8s,mb5.3,baz=214,slow=6.1,SNR=37						
DBIC	**Dimbokro**	**67.42**	**72**	*e*P	**P**	**10 06 15.8**	**+0.8**
	53nm,1.0s,mb5.3						
Y22C	**IRIS PASSCAL I**	**67.61**	**325**	⇑P	**P**	**10 06 15.6**	**-0.6**
	baz=68						
LPM	**Los Pinos Moun**	**67.64**	**325**	*e*P	**P**	**10 06 15.8**	**-0.5**
QSPA	**South Pole Qui**	**67.91**	**180**	*e*P	**P**	**10 06 17.1**	**-0.9**
	12nm,0.5s,mb4.9						
LAZ	**Ladron**	**67.98**	**325**	*e*P	**P**	**10 06 18.9**	**+0.5**
LAZ				*e*pP	pP	10 07 01.4	-0.2
ANMO	**Albuquerque**	**68.05**	**326**	*e*P	**P**	**10 06 18.9**	**0.0**
	7.5nm,0.9s,mb4.4						
116A	**Eloy**	**69.17**	**321**	⇓P	**P**	**10 06 25.6**	**-0.2**
	baz=69						
115A	**Sonoran Desert**	**69.58**	**320**	⇑P	**P**	**10 06 28.6**	**+0.3**
	baz=70						
SDCO	**Great Sand Dun**	**69.75**	**328**	*e*P	**P**	**10 06 29.4**	**0.0**
	16nm,1.0s,mb4.7						
SDCO				*e*pP	pP	10 07 13.0	+0.3
Z14A	**Wintersburg**	**70.47**	**320**	⇑P	**P**	**10 06 33.5**	**-0.3**
	baz=71						
MVCO	**Mesa Verde**	**70.83**	**326**	*e*P	**P**	**10 06 36.2**	**+0.3**
	21nm,1.2s,mb4.7						
MVCO	**Mesa Verde**	**70.83**	**326**	⇓P	**P**	**10 06 36.0**	**0.0**
	baz=71,SNR=10						
X15A	**Humboldt**	**70.86**	**322**	⇑P	**P**	**10 06 36.5**	**+0.4**
	baz=71,SNR=11						
Y14A	**Wickenburg**	**70.91**	**321**	⇓P	**P**	**10 06 36.2**	**-0.2**
	baz=71,SNR=6.7						
WUAZ	**Wupatki**	**71.12**	**323**	⇓P	**P**	**10 06 38.1**	**+0.5**
	baz=71,SNR=11						
X14A	**Yava**	**71.22**	**321**	⇑P	**P**	**10 06 38.4**	**+0.1**
	baz=71,SNR=10.0						
Y13A	**Salome**	**71.31**	**320**	⇑P	**P**	**10 06 39.0**	**+0.2**
	baz=72,SNR=5.8						
W15A	**Williams**	**71.37**	**322**	⇑P	**P**	**10 06 39.9**	**+0.8**
	baz=72						
GLA	**Glamis**	**71.38**	**319**	*e*P	**P**	**10 06 39.1**	**-0.1**
GLA	**Glamis**	**71.38**	**319**	⇓P	**P**	**10 06 39.4**	**+0.2**
	baz=72						
ISCO	**Idaho Springs**	**71.43**	**330**	*e*P	**P**	**10 06 39.7**	**+0.2**
	9.3nm,1.2s,mb4.4						
ISCO				*e*pP	pP	10 07 23.9	+0.9
PV01	**Paradox Valley**	**71.58**	**327**	*e*P	**P**	**10 06 40.9**	**+0.5**
SMCO	**Snowmass**	**71.59**	**328**	*e*P	**P**	**10 06 41.0**	**+0.5**
	9.5nm,0.9s,mb4.5						
SMCO				*e*pP	pP	10 07 25.0	+1.0
Y12C	**Blythe**	**71.68**	**320**	⇑P	**P**	**10 06 40.9**	**-0.2**
	baz=72,SNR=6.3						
PDMCI	**Parker Dam,Lak**	**71.83**	**320**	⇓P	**P**	**10 06 42.0**	**+0.1**
	baz=72						
X13A	**Yucca**	**71.86**	**321**	P	**P**	**10 06 42.3**	**+0.2**
	baz=72,SNR=5.9						
W14A	**Seligman**	**71.86**	**322**	⇑P	**P**	**10 06 42.4**	**+0.3**
	baz=72,SNR=6.7						
DVTC	**Desert V Tower**	**71.89**	**318**	⇑P	**P**	**10 06 42.6**	**+0.3**
	baz=72						
SWSC	**Sam W. Stewart**	**71.89**	**318**	⇑P	**P**	**10 06 42.3**	**0.0**
	baz=72						
PV10	**Paradox Valley**	**72.00**	**327**	*e*P	**P**	**10 06 42.8**	**-0.1**
PV10				*e*pP	pP	10 07 29.9	+3.4
BC3	**Big Chuckw Mtn**	**72.17**	**319**	P	**P**	**10 06 44.2**	**+0.2**
	baz=72,SNR=6.3						
MONP	**Monument Peak**	**72.24**	**318**	⇑P	**P**	**10 06 44.4**	**0.0**
	baz=72						
W13A	**Hualapai Mount**	**72.25**	**321**	⇑P	**P**	**10 06 44.5**	**+0.1**
	baz=72						
IRM	**Iron Mountain**	**72.34**	**320**	⇑P	**P**	**10 06 45.0**	**+0.1**
	baz=72,SNR=5.5						
109C	**Camp Elliot, M**	**72.67**	**318**	⇓P	**P**	**10 06 46.9**	**0.0**
	baz=73						
BELC	**Belle Mtn.**	**72.74**	**319**	⇑P	**P**	**10 06 47.7**	**+0.4**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.75**	**319**	⇑P	**P**	**10 06 47.6**	**+0.3**
	baz=73						
W12A	**Cal Nev Ari**	**72.96**	**321**	⇓P	**P**	**10 06 48.6**	**0.0**
	baz=73						
MURC	**Murrieta**	**73.20**	**318**	⇑P	**P**	**10 06 50.1**	**+0.1**
	baz=73						
SRU	**San Rafael**	**73.31**	**326**	*e*P	**P**	**10 06 50.9**	**+0.2**
	12nm,0.9s,mb4.6						
SRU				*e*pP	pP	10 07 34.5	+0.1
BBRC	**Big Bear Sol-O**	**73.48**	**319**	⇑P	**P**	**10 06 52.0**	**+0.4**
	baz=74						
HEC	**Hector,Ludlow**	**73.50**	**320**	P	**P**	**10 06 52.3**	**+0.5**
	baz=74,SNR=7.3						
TUQ	**Turquoise Mtn.**	**73.68**	**320**	⇓P	**P**	**10 06 52.8**	**+0.1**
	baz=74						
CCUT	**Cedar City**	**73.69**	**323**	*e*P	**P**	**10 06 54.1**	**+1.2**
CCUT				*e*pP	pP	10 07 37.6	+1.0
MSU	**Marysvale**	**73.74**	**325**	*e*P	**P**	**10 06 54.0**	**+0.8**
MSU				*e*pP	pP	10 07 35.9	-1.0
CIS	**Catalina Islan**	**73.83**	**317**	⇑P	**P**	**10 06 53.6**	**-0.1**
	baz=74						
ARUT	**Antelope Range**	**73.91**	**323**	*e*P	**P**	**10 06 55.1**	**+1.0**
ARUT				*e*pP	pP	10 07 38.1	+0.2
BFSC	**Mount Baldy St**	**73.91**	**318**	⇑P	**P**	**10 06 54.0**	**-0.2**
	baz=74						
U11A	**Corn Creek**	**74.04**	**321**	⇑P	**P**	**10 06 55.1**	**+0.2**
	baz=74						
GSC	**Goldstone**	**74.11**	**320**	⇑P	**P**	**10 06 55.6**	**+0.3**
	baz=74						
RSSD	**Black Hills**	**74.21**	**333**	*e*P	**P**	**10 06 56.1**	**+0.3**
	5.3nm,0.8s,mb4.3						
DECC	**Green Verdugo**	**74.34**	**318**	⇑P	**P**	**10 06 56.8**	**+0.2**
	baz=74						
EDW2	**Edwards Air Fo**	**74.55**	**319**	⇓P	**P**	**10 06 57.8**	**0.0**
	baz=75						
LRMC	**Laurel Mountai**	**74.76**	**319**	⇑P	**P**	**10 06 59.6**	**+0.5**
	baz=75						
FURC	**Furnace Creek,**	**74.94**	**320**	P	**P**	**10 07 00.8**	**+0.8**
	baz=75,SNR=11						
MPMC	**Manual Prospec**	**75.03**	**320**	⇓P	**P**	**10 07 01.1**	**+0.5**
	baz=75						
SYO	**Syowa Base**	**75.20**	**159**	⇓*iP*	**P**	**10 07 00.2**	**-1.4**
SYO	**Syowa Base**	**75.20**	**159**	⇓*e*P	**P**	**10 07 05.8**	**+4.2**
DUG	**Dugway**	**75.31**	**326**	*e*P	**P**	**10 07 02.5**	**+0.3**
	10nm,1.2s,mb4.3						
DUG				*e*pP	pP	10 07 44.2	-1.9
DUG	**Dugway**	**75.31**	**326**	⇑P	**P**	**10 07 02.5**	**+0.3**
	baz=76,SNR=10						
ISA	**Isabella**	**75.36**	**319**	*e*P	**P**	**10 07 02.8**	**+0.3**
ISA				*e*pP	pP	10 07 46.6	+0.1
ISA	**Isabella**	**75.36**	**319**	⇑P	**P**	**10 07 02.6**	**+0.1**
	baz=76,SNR=7.6						
GRAC	**Grapevine Rang**	**75.60**	**321**	⇑P	**P**	**10 07 03.8**	**0.0**
	baz=76						
PDAR	**Pinedale Array**	**75.60**	**329**	P	**P**	**10 07 03.3**	**-0.5**
	1.3nm,0.7s,mb3.7,baz=136,slow=7.2,SNR=9.7						
CWC	**Cottonwood Cre**	**75.64**	**320**	⇑P	**P**	**10 07 04.7**	**+0.7**
	baz=76						
PKM	**Peak M

P08A	Dixie Valley	77.83	322	⇓P	P	10 07 16.6 +0.3
	baz=78					
PACP	Pacheco Peak	77.96	318	⇓P	P	10 07 17.2 +0.2
	baz=78					
GCMT	Greycliff	77.97	331	eP	P	10 07 17.2 +0.1
CMB	Columbia Colle	78.07	320	⇓P	P	10 07 17.6 -0.1
	baz=78					
TSUM	Tsumeb	78.27	106	eP	P	10 07 20.1 +1.3
	64nm,1.1s,mb5.2					
N09A	Rock Creek Ran	78.31	323	⇑P	P	10 07 18.8 -0.2
	baz=78					
R05C	Kirkwood Meado	78.33	320	⇑P	P	10 07 19.5 +0.4
	baz=78					
WCN	Washoe City	78.53	321	⇑P	P	10 07 20.5 +0.3
	baz=79					
HLID	Hailey	78.57	327	eP	P	10 07 21.2 +0.8
	15nm,1.1s,mb4.5					
HLID				epP	pP	10 08 04.7 0.0
HLID	Hailey	78.57	327	⇑P	P	10 07 20.8 +0.5
	baz=79,SNR=18					
PAHR	Pah Rah Range	78.58	322	eP	P	10 07 20.9 +0.5
	22nm,0.9s,mb4.8					
PAHR				epP	pP	10 08 05.3 +0.5
N08A	GE Springer Mi	78.60	323	⇑P	P	10 07 20.6 +0.1
	baz=79					
O07A	Toulon	78.60	322	⇑P	P	10 07 20.6 0.0
	baz=79					
M09A	Marrel Ranch,	78.66	324	⇑P	P	10 07 20.9 0.0
	baz=79					
LAVA	Lava Cap Winer	78.75	320	⇑P	P	10 07 21.6 +0.2
	baz=79					
P06A	Stead Airport,	78.86	321	⇓P	P	10 07 22.6 +0.6
	baz=79					
N07B	Gerlach	79.07	323	⇑P	P	10 07 22.7 -0.4
	baz=79					
O06A	Flanigan	79.14	322	⇓P	P	10 07 23.9 +0.4
	baz=79					
L09A	Wilkinson Ranc	79.19	324	⇓P	P	10 07 23.7 0.0
	baz=79					
Q04C	Lincoln	79.19	320	⇓P	P	10 07 23.8 +0.1
	baz=79					
BEKR	Beckwourth	79.25	321	⇑P	P	10 07 24.3 +0.2
	baz=80,SNR=7.6					
Q03C	Winters	79.44	319	⇑P	P	10 07 25.8 +0.7
	baz=80					
CVS	Carmenet Viney	79.52	319	⇓P	P	10 07 26.1 +0.5
	baz=80					
N06A	Buffalo Meadow	79.53	322	⇑P	P	10 07 25.7 0.0
	baz=80					
M07A	Soldier Meadow	79.59	323	⇓P	P	10 07 25.9 -0.1
	baz=80,SNR=6.2					
O05C	Quincy	79.64	321	⇑P	P	10 07 26.2 0.0
	baz=80,SNR=5.9					
L08A	Fields	79.67	324	⇑P	P	10 07 26.8 +0.4
	baz=80					
SUTB	Sutter Butte	79.68	320	⇑P	P	10 07 25.9 -0.6
	baz=80					
K09A	Rome	79.68	325	⇓P	P	10 07 26.4 0.0
	baz=80,SNR=6.4					
ORV	Oroville	79.72	320	P	P	10 07 26.7 +0.1
	baz=80,SNR=9.8					
EGMT	Eagleton	79.72	333	⇑P	P	10 07 25.8 -0.8
	baz=80					
ELFS	Eagle Lake Fie	79.96	322	⇓P	P	10 07 28.3 +0.4
	baz=80					
O04C	Chester	79.97	321	⇓P	P	10 07 27.9 0.0
	baz=80					
L07A	Adell	80.10	323	⇑P	P	10 07 29.0 +0.3
	baz=80					
K08A	Mann Creek Ran	80.11	324	⇑P	P	10 07 28.6 -0.1
	baz=80					
J09A	Fry Pan Ranch,	80.14	325	⇑P	P	10 07 28.7 -0.2
	baz=80					
M06C	Likely Place G	80.20	322	⇑P	P	10 07 29.1 -0.1
	baz=80,SNR=6.2					
O03C	Acorn Hollow,	80.32	320	⇓P	P	10 07 29.7 -0.2
	baz=80					
GASB	Alder Springs	80.51	320	⇓P	P	10 07 31.2 +0.3
	baz=81					
J08A	Circle Bar Ran	80.53	325	⇓P	P	10 07 31.1 +0.2
	baz=81,SNR=7.8					
I09A	Lost Marbles R	80.57	326	⇓P	P	10 07 31.0 -0.1
	baz=81,SNR=7.9					
M05C	Lookout	80.68	322	⇑P	P	10 07 31.9 +0.2
	baz=81					
BMO	Blue Mountains	80.95	326	eP	P	10 07 33.1 -0.1
	12nm,1.4s,mb4.3					
BMO				epP	pP	10 08 17.7 0.0
L05A	Lakeview	80.95	323	⇓P	P	10 07 33.5 +0.2
	baz=81					
I08A	Drewsey	80.96	325	⇑P	P	10 07 33.3 +0.1
	baz=81,SNR=9.5					
J07A	Hines	80.99	324	⇓P	P	10 07 33.6 +0.2
	baz=81					
K06A	Valley Falls	81.12	323	⇓P	P	10 07 34.4 +0.3
	baz=81,SNR=8.6					
M03C	McCloud	81.19	321	⇑P	P	10 07 34.0 -0.4
	baz=81					
M04C	Macdoel	81.35	322	⇓P	P	10 07 35.7 +0.4
	baz=82					
J06A	Christmas Vall	81.37	324	⇓P	P	10 07 35.2 -0.2
	baz=82,SNR=10					
H08A	Prairie City	81.43	326	⇑P	P	10 07 35.8 +0.1
	baz=82					
K05A	Summer Lake	81.43	323	⇑P	P	10 07 36.1 +0.4
	baz=82,SNR=6.0					
I07A	Izee	81.57	325	⇓P	P	10 07 36.8 +0.3
	baz=82					
C13A	Hot Springs	81.62	330	⇑P	P	10 07 36.6 -0.1
	baz=82					
BOSA	Boshof	81.66	117	P	P	10 07 37.5 +0.6
	12nm,0.7s,mb4.7,baz=282,slow=3.8,SNR=33					
M02C	Callahan	81.69	321	⇓P	P	10 07 37.5 +0.4
	baz=82					
F10A	Beach Ranch, E	81.69	327	⇓P	P	10 07 36.7 -0.4
	baz=82					
F09A	S2 Ranch, Elgi	81.85	327	⇑P	P	10 07 37.6 -0.3
	baz=82					
I06A	Prineville	81.86	324	⇓P	P	10 07 38.5 +0.5
	baz=82					
H07A	Lands Inn, Kim	81.95	325	⇑P	P	10 07 38.6 +0.2
	baz=82					
J05A	Fort Rock	81.99	323	⇓P	P	10 07 38.7 +0.1
	baz=82					
C12A	Trout Creek	82.06	329	⇑P	P	10 07 38.8 -0.3
	baz=82					
B13A	Whitefish	82.08	330	⇑P	P	10 07 38.7 -0.3
	baz=82					
G08A	Pilot Rock	82.10	326	⇓P	P	10 07 39.3 0.0
	baz=82					
WALA	Waterton Lakes	82.32	331	eP	P	10 07 40.1 -0.3
	74nm,2.3s,mb4.9					
F08A	Pendleton	82.35	326	⇑P	P	10 07 40.3 -0.2
	baz=83					
H06A	Lindquist Farm	82.45	325	⇓P	P	10 07 41.2 +0.2
	baz=83					
G07A	Ruggs Ranch, H	82.46	326	⇓P	P	10 07 41.2 +0.1
	baz=83					
E09A	Wood Farm, Sta	82.52	327	⇑P	P	10 07 41.5 +0.1
	baz=83					
I05A	Bend	82.58	324	⇓P	P	10 07 41.8 +0.1
	baz=83					
L02A	Cave Junction	82.60	321	⇓P	P	10 07 42.4 +0.6
	baz=83					
B12A	Libby	82.66	330	⇑P	P	10 07 41.9 -0.2
	baz=83					
H05A	Madras	82.87	324	⇑P	P	10 07 43.7 +0.5
	baz=83					
G06A	Carlson Farm,	82.94	325	⇓P	P	10 07 42.3 -1.3
	baz=83					
D09A	Jones Farm, Ri	82.98	328	⇑P	P	10 07 43.9 +0.1
	baz=83					
C10A	Spilker Farm,	83.02	329	⇓P	P	10 07 43.1 -0.9
	baz=83					
A12A	Yaak River Ran	83.02	330	⇓P	P	10 07 43.8 -0.2
	baz=83					
MAW	Mawson	83.11	163	P	P	10 07 43.2 -1.2
	6.5nm,0.7s,mb4.5,baz=202,slow=5.7,SNR=14					
MAW	Mawson	83.11	163	eP	P	10 07 43.9 -0.6
	9.2nm,1.0s,mb4.5					
LBTB	Lobatse	83.23	114	eP	P	10 07 46.1 +1.1
	9.5nm,0.8s,mb4.6					
D08A	Wollman Farm,	83.28	327	⇑P	P	10 07 45.4 +0.1
	baz=84					
G05A	Wamic	83.31	325	⇓P	P	10 07 45.5 0.0
	baz=84					
J02A	Umpqua	83.35	322	⇓P	P	10 07 45.9 +0.2
	baz=84					
E07A	Sunnyside	83.42	326	⇑P	P	10 07 45.9 -0.1
	baz=84					
C09A	Chrisman Ranch	83.47	328	P	P	10 07 46.3 0.0
	baz=84,SNR=6.1					
I03A	Eugene	83.56	323	⇓P	P	10 07 47.2 +0.4
	baz=84					
B09A	Rice	83.84	329	⇑P	P	10 07 48.1 -0.1
	baz=84					
E06A	Yakima	83.99	326	⇓P	P	10 07 48.7 -0.2
	baz=84					
C07A	Waterville	84.28	327	⇑P	P	10 07 49.4 -1.0
	baz=84,SNR=7.2					
D06A	Cle Elum	84.35	326	⇑P	P	10 07 50.1 -0.6
	baz=85					
A09A	Danville	84.43	329	⇓P	P	10 07 50.3 -0.9
	baz=85					
B07A	Winthrop	84.83	328	⇑P	P	10 07 52.1 -1.0
	baz=85,SNR=5.8					
C05A	Tolt Reservoir	85.11	326	⇓P	P	10 07 53.6 -0.9
	baz=85					
ESDC	Sonseca Array	85.27	44	P	P	10 07 56.0 +0.7
	1.9nm,0.7s,mb3.9,baz=236,slow=4.8,SNR=8.4					
B06A	Marblemount	85.55	327	⇓P	P	10 07 56.1 -0.6
	baz=86					
B05A	Bryant	85.69	327	⇑P	P	10 07 56.3 -1.1
	baz=86					
C04A	Brinnon	85.79	326	⇑P	P	10 07 57.8 -0.1
	baz=86					
A05A	Maple Falls	86.16	327	⇓P	P	10 07 58.6 -1.1
	baz=86					
LSZ	Lusaka	89.13	106	eP	P	10 08 16.9 +3.1
	15nm,1.3s,mb4.8					
YKA	Yellowknife Ar	92.47	340	P	P	10 08 28.4 -0.9
	2.7nm,0.6s,mb4.5,baz=140,slow=4.4,SNR=11					
KIS	Kishinev	109.94	46	i PS	SP	10 23 43.0 +8.9
KIS				i SSS		10 32 00.0
KIS				LRM		10 49 58.0
	13μm,19.0s					
MKAR	Makanchi Array	145.29	38	PKPbc	PKPbc	10 14 54.9 -0.3
	12nm,0.8s,baz=338,slow=2.5,SNR=8.4					
MDJ	Mudanjiang	153.80	332	PKP	PKPdf	10 15 07.8 -0.7
SONM	Songino Array	153.99	10	PKPbc	PKPbc	10 15 16.3 -0.6
	1.6nm,0.8s,baz=270,slow=0.5,SNR=4.5					
SONM				PKPab	PKPab	10 15 31.2 +0.2
	1.1nm,0.6s,baz=325,slow=3.4,SNR=3.1					
HHC	Hu-ho-hao-te	161.46	3	ePKP	PKPdf	10 15 18.3 +0.4

NIED **09** *10:01:00, 20.70N×120.50E, $h11^{km}$, Mw6.2 Best double couple: M_0=2.31000×10^{18} NP1:ϕ_s=311.00000°, δ60.00000°, λ-100.00000°. NP2:ϕ_s=150.00000°, δ32.00000°, λ-73.00000°.*

CRAAG **09** *10:01:45.6, 20.66N×120.03E, Mw6.3*

IGIL **09** *10:01:45.6, 20.66N×120.04E, $h10^{km}$, MS6.2*

ISCJB **09** *10:01:46.7±0.1, 20.71N±0.01×120.07E±0.01, $h17^{km}$, mb6.0/255, MS5.9/213, Error ellipse: s-maj=2.0km s-min=1.9km az=29.3*

IDC **09** *10:01:46.5±1.0, 20.69N×120.07E, $h10^{km}$±5^{km}, mb5.7/34, mb1 5.6/35, mb1mx5.6/36, mbtmp5.7/35, ML4.7/1, MS5.7/28, Ms1 5.8/28, ms1mx5.6/38, Error ellipse: s-maj=6.9km s-min=5.5km az=54.0*

BGS **09** *10:01:46.2, 20.65N×120.02E, $h10^{km}$, mb5.8*

BJI **09** *10:01:46.1, 20.86N×119.93E, $h10^{km}$, mB6.4, mb5.5, ML5.6, Ms6.4, Msz6.2*

GCMT **09** *10:01:46.7±0.1, 20.69N×119.98E, $h12^{km}$, MW6.3/111, Moment Tensor Solution. s106,c254; s111,c453; Duration: 3*4 Moment tensor: Scale 10^{18}Nm; M_{rr}=3.30±.02; $M_{\theta\theta}$0.21±.01; $M_{\phi\phi}$3.09±.01; $M_{r\theta}$-0.12±.03; $M_{\theta\phi}$-0.30±.01; $M_{\phi r}$0.74±.04; Best double couple: M_0=3.29600×10^{18} NP1:ϕ_s=355.00000°, δ38.00000°, λ-89.00000°. NP2:ϕ_s=173.00000°, δ52.00000°, λ-91.00000°. Principal axes: T 3.2070, Plg7.0000°, Azm264.0000°; N 0.1830, Plg1.0000°, Azm174.0000°; P -3.3860, Plg83.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

JMA **09** *10:01:47.5±0.4, 20.69N×120.52E, $h0^{km}$, M6.1*

NEIC **09** *10:01:47.4±0.1, 20.65N×120.02E, $h14^{km}$, mb6.0/146, ME6.2, MS5.9/154, MW6.1, Error ellipse: s-maj=3.2km s-min=2.9km az=62.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.97; $M_{\theta\theta}$0.48; $M_{\phi\phi}$1.51; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.56; $M_{\phi r}$-0.12; Best double couple: M_0=1.90000×10^{18} NP1:ϕ_s=333.00000°, δ48.00000°, λ-94.00000°. NP2:ϕ_s=159.00000°, δ42.00000°, λ-85.00000°. Principal axes: T 1.7600, Plg3.0000°, Azm66.0000°; N 0.2300, Plg3.0000°, Azm336.0000°; P -1.9900, Plg86.0000°, Azm198.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s=355.00000°, δ25.00000°, λ-90.00000°. NP2:ϕ_s=175.00000°, δ65.00000°, λ-90.00000°. Principal axes: T Plg20.0000°, Azm265.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm85.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [II PIVS] at Basco, Batan Islands. Also felt [II PIVS] at Callao, Pasuquin and Sanchez Mira, Luzon. Recorded [3 TAP] at Kao-hsiung; [2 TAP] in Chang-hua, P'eng-hu, P'ing-tung, T'ai-nan, T'ai-tung and Yun-lin; [1 TAP] in Chia-i, Hsin-chu, Kao-hsiung and T'ai-chung Counties, Taiwan.

MOS **09** *10:01:48.1±0.9, 20.73N×120.07E, $h33^{km}$, mb6.3/67, MS6.1/73 Error ellipse: s-maj=9.0km s-min=5.0km az=111.6*

SZGRF **09** *10:01:48.9, 20.74N×120.67E, $h33^{km}$, mb6.4, MS6.2, Philippine Islands region*

ISC 09 10:01:48.5±0.1, 20.74N±0.01×120.07E±0.01, h18km, h18km±1.0km: pP-P, n1422, σ0§97/1220, mb6.0/254, MS5.9/213, 203C-272D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SGCP	Mt. Cagua	3.11	143	eP	Pn	10 02 34.9	-1.7
SGCP				eS	Sn	10 03 10.2	-3.0
ABRA	Dolores	3.14	169	eP	Pn	10 02 35.6	-1.4
CVP	Callao Caves	3.45	151	⇑P	Pn	10 02 40.0	-1.3
CVP				i S	Sn	10 03 15.0	-6.6
NACB	Ninganchiao	3.69	22	ePn	Pn	10 02 43.1	-1.5
NACB				eSn	Sn	10 03 26.8	-0.8
YHNB	Yeheng	4.09	17	ePn	Pn	10 02 50.3	+0.2
YHNB				eSn	Sn	10 03 38.6	+1.2
CAUP	Cauayan	4.13	156	eP	Pn	10 02 51.9	+1.3
PALP	Palanan	4.28	148	⇑eP	Pn	10 02 52.9	+0.2
PALP						10 03 46.2	
PALP	Palanan	4.28	148	eP	Pn	10 02 53.1	+0.3
BOLP	Bolinao	4.34	182	eP	Pn	10 02 51.0	-2.5
BCPH	Baguio City Da	4.37	174	⇓eP	Pn	10 02 53.1	-0.8
BCPH				i S	Sn	10 03 42.1	-2.1
QZH	Quanzhou	4.40	342	⇑iP	Pn	10 02 51.9	-2.4
QZH				S	Sn	10 03 39.7	-5.3
QZH				Smax			
	comp=N,7μm,0.8s						
QZH				Smax			
	comp=E,9μm,1.0s						
QZH				LR	LR		
	comp=N,338μm,8.4s						
QZH				LR	LR		
	comp=E,520μm,10.4s						
QZH				LR	LR		
	comp=Z,420μm,13.7s						
TATO	Taipei	4.41	17	Pn	Pn	10 02 54.5	0.0
TATO	Taipei	4.41	17	ePn	Pn	10 02 54.2	-0.3
TATO				eSn	Sn	10 03 51.1	+5.7
YOJ	Yonaguni jima	4.59	36	P	Pn	10 02 57.6	+0.7
YOJ				S	Sn	10 03 50.1	+0.3
HATJ	Hateruma jima	4.77	46	P	Pn	10 02 59.1	-0.4
HATJ				S	Sn	10 03 53.4	-0.9
IRIF	Iriomote-Funau	4.92	43	P	Pn	10 03 01.0	-0.5
IRIF				S	Sn	10 03 56.0	-1.9
SCZP	Santa Cruz	4.94	182	eP	Pn	10 03 01.3	-0.5
JKRS	Kuro-shima	5.03	46	P	Pn	10 03 03.2	+0.1
JKRS				S	Sn	10 03 59.5	-1.2
BALP	Baler	5.18	164	eP	Pn	10 03 06.0	+0.9
JIJ	Ishigaki jima	5.21	45	P	Pn	10 03 05.5	0.0
JIJ				S	Sn	10 04 02.6	-2.4
PCPH	Palayan	5.24	169	⇓eP	Pn	10 03 06.3	+0.4
PCPH				i S	Sn	10 04 07.6	+1.6
HKC	Hong Kong	5.71	287	P	Pn	10 03 08.0	-4.4
JTJ	Tarama	5.77	47	⇑P	Pn	10 03 13.3	+0.1
JTJ				eS	Sn	10 04 16.6	-2.3
POLP	Polilio Island	6.24	163	eP	Pn	10 03 20.2	+0.5
JMJ	Miyako jima 2	6.29	49	P	Pn	10 03 20.0	-0.4
JMJ				eS	Sn	10 04 29.2	-2.6
JOGS	Gusukube	6.34	50	P	Pn	10 03 20.6	-0.4
JOGS				eS	Sn	10 04 31.2	-1.7
TGY	Tagaytay City	6.66	173	⇓eP	Pn	10 03 31.2	+5.8
TGY	Tagaytay City	6.66	173	Pn	Pn	10 03 27.1	+1.8
	comp=Z,100nm,0.3s,baz=262,slow=1.6,SNR=13						
GZH	Guangzhou	6.67	292	P	Pn	10 03 22.1	-3.4
GZH				Smax			
	comp=N,5μm,1.2s						
GZH				Smax			
	comp=E,5μm,1.2s						
GZH				LR	LR		
	comp=N,152μm,8.7s						
GZH				LR	LR		
	comp=E,147μm,9.6s						
GZH				LR	LR		
	comp=Z,272μm,13.7s						
LUBP	Lubang	6.97	179	eP	Pn	10 03 29.3	-0.4
BOAC	Boac	7.44	167	eP	Pn	10 03 39.3	+3.2
AUQP	San Andres	7.79	161	eP	Pn	10 03 43.0	+2.1
PVCP	Virac	8.11	151	⇓eP	Pn	10 03 43.6	-1.7
PVCP	Virac	8.11	151	eP	Pn	10 03 43.5	-1.8
JKE	Kume jima 2	8.29	47	P	Pn	10 03 46.0	-1.8
JKE				eS	Sn	10 05 18.1	-2.9
OTRP	Odiongan	8.54	167	eP	Pn	10 03 51.8	+0.5
BUSP	Coron	8.69	179	eP	Pn	10 03 52.9	-0.5
JAGN	Aguni-jima	8.77	47	P	Pn	10 03 54.0	-0.4
JAGN				eS	Sn	10 05 29.4	-3.4
NAH1	Naha	8.85	51	eS	Sn	10 05 31.4	-3.3
RCP	Roxas	9.48	164	⇑eP	Pn	10 04 09.1	+5.0
ENPP	El Nido	9.50	184	eP	Pn	10 04 03.2	-1.3
JIH	Iheya	9.56	48	P	Pn	10 04 03.8	-1.3
JIH				eS	Sn	10 05 47.2	-4.8
JOW	Kunigami	9.65	50	Pn	Pn	10 04 04.3	-2.0
	comp=Z,16nm,0.3s,baz=192,slow=13.SNR=52						
JOW				Sn	Sn	10 05 48.2	-6.0
	comp=Z,8.6nm,0.3s,baz=124,slow=28,SNR=3.3						
JOW	Kunigami	9.65	50	P	Pn	10 04 05.5	-0.9
JOW				eS	Sn	10 05 50.1	-4.2
QIZ	Qiongzhong	9.78	262	P	Pn	10 04 05.0	-3.2
QIZ				S	Sn	10 05 55.9	-1.5
QIZ				LR	LR		
	comp=E,135μm,11.0s						
QIZ				LR	LR		
	comp=Z,174μm,10.9s						
QIZ	Qiongzhong	9.78	262	ePn	Pn	10 04 05.3	-2.9
	comp=Z,454nm,0.6s						
CUYO	Cuyo Island	9.88	175	eP	Pn	10 04 09.7	+0.1
GUIM	Jordan	10.35	166	eP	Pn	10 04 19.6	+3.7
SSE	Sheshan	10.36	5	P	Pn	10 04 14.4	-1.7
SSE				AP		10 04 17.0	
SSE				PP		10 04 23.5	
SSE				S	Sn	10 06 03.7	-8.0
SSE				AMB	AMB		
	comp=Z,35nm,0.4s						
SSE				AMB	AMB		
	comp=Z,3μm,8.5s						
SSE				LR	LR		
	comp=N,123μm,15.2s						
SSE				LR	LR		
	comp=E,79μm,15.3s						
SSE				LR	LR		
	comp=Z,105μm,15.3s						
SSE	Sheshan	10.36	5	P	Pn	10 04 14.4	-1.7
	comp=Z,35nm,0.4s						
SSE				pP		10 04 17.0	
SSE				PP		10 04 23.5	
SSE				S	Sn	10 06 03.7	-8.0
JTK	Tokunoshima	10.71	47	P	Pn	10 04 18.7	-2.2
JTK				eS	Sn	10 06 14.4	-5.8
LLP	Lapu-Lapu	11.02	160	⇓eP	Pn	10 04 25.9	+0.7
	comp=Z,450μm,1.2s						
WHN	Wuhan	11.04	333	P	Pn	10 04 23.4	-2.0
WHN				S	Sn	10 06 21.1	-7.3
WHN				LR	LR		
	comp=Z,327μm,13.3s						
NJ2	Nanjing	11.31	355	eP	Pn	10 04 28.1	-1.1
NJ2				AP		10 04 36.3	
NJ2				PP		10 04 36.8	
NJ2				XP		10 04 40.1	
NJ2				S	Sn	10 06 32.5	-2.7
NJ2				XS		10 06 42.5	
NJ2				AMB	AMB		
	comp=Z,470nm,0.7s						
NJ2				LR	LR		
	comp=N,201μm,13.3s						
NJ2				LR	LR		
	comp=E,334μm,12.8s						
JMZ	Minamidaito 2	11.42	62	P	Pn	10 04 28.8	-1.9
MSLP	Maasin	11.51	156	eP	Pn	10 04 32.0	+0.1
SNPH	Sibulan	11.74	164	eP	Pn	10 04 34.5	-0.5
BATP	Bataraza	12.08	191	eP	Pn	10 04 38.6	-1.0
SCPH	Surigao	12.08	154	⇓eP	Pn	10 04 42.3	+2.5
JNN	Nakanoshima	12.67	42	P	Pn	10 04 46.6	-1.1
PAGZ	Pagadian	13.21	166	eP	Pn	10 04 59.8	+4.6
GYA	Guiyang	13.54	297	⇑iP	Pn	10 04 56.2	-3.5
GYA				AP		10 04 59.2	
GYA				XP		10 05 02.8	
GYA				PP		10 05 06.8	
GYA				S	Sn	10 07 21.2	-8.4
GYA				AMB	AMB		
	comp=Z,420nm,1.0s						
GYA				LR	LR		
	comp=N,105μm,11.2s						
GYA				LR	LR		
	comp=E,117μm,12.3s						
GYA				LR	LR		
	comp=Z,162μm,12.0s						
BUKP	Musuan	13.67	159	eP	Pn	10 05 03.4	+2.0
JFU	Fukue jima 2	14.16	31	P	Pn	10 05 08.9	+0.8
JSU	Suzuyama	14.19	39	P	Pn	10 05 12.3	+3.7
KKM	Kota Kinabalu	15.08	195	P	Pn	10 05 20.5	-0.1
KKM	Kota Kinabalu	15.08	195	eP	Pn	10 05 19.7	-0.9
TIA	Tai'an	15.63	351	eP	Pn	10 05 28.5	+0.8
TIA				AP	pP	10 05 35.1	-1.9
TIA				AMB	AMB		
	comp=Z,10μm,5.0s						
TIA				LR	LR		
	comp=N,26μm,15.5s						
TIA				LR	LR		
	comp=E,41μm,14.0s						
JNU	Nakatsue	15.63	36	P	Pn	10 05 28.2	+0.4
TSM	Tawau	16.49	188	P	Pn	10 05 40.9	+2.0
XAN	Xi'an	16.52	326	P	Pn	10 05 38.0	-1.2
XAN				S	Sn	10 08 45.9	+3.8
XAN				AMB	AMB		
	comp=Z,234nm,2.2s						
XAN				LR	LR		
	comp=N,86μm,13.0s						
XAN				LR	LR		
	comp=E,29μm,12.2s						
XAN				LR	LR		
	comp=Z,122μm,12.7s						
KMI	Kunming	16.55	289	P	Pn	10 05 37.5	-2.1
KMI				AP	pP	10 05 39.4	-7.8
KMI				XP	sP	10 05 41.3	-8.3
KMI				PP		10 05 51.3	
KMI				S	Sn	10 08 44.6	+1.8
KMI				AMB	AMB		
	comp=Z,229nm,1.6s						
KMI				AMB	AMB		
	comp=Z,7μm,4.4s						
KMI				LR	LR		
	comp=N,83μm,11.7s						
KMI				LR	LR		
	comp=E,81μm,10.9s						
KMI				LR	LR		
	comp=Z,62μm,12.3s						
KMI	Kunming	16.55	289	P	Pn	10 05 37.5	-2.1
	comp=Z,229nm,1.6s						
KMI				pP	pP	10 05 39.4	-7.8
KMI				sP	sP	10 05 41.3	-8.3
KMI				PP		10 05 51.3	
KMI				S	Sn	10 08 44.6	+1.8
KMI				SS		10 09 04.2	
KMI				SSS		10 09 17.9	
KKTK	Khon Kaen	16.93	258	P	Pn	10 05 45.0	+0.6
	comp=Z,2μm,0.7s						
INCN	Inchon	17.63	17	P	Pn	10 05 54.8	+1.7

SNR=16
INCN Inchon 17.63 17 *e*Pn **Pn 10 05 53.3 +0.2**
INCN *e*Sn **Sn 10 09 07.8 -1.2**
CD2 Chengdu 17.82 308 ⇑*i*P **Pn 10 05 53.5 -2.0**
CD2 AP pP 10 05 57.1 -4.2
CD2 XP sP 10 06 00.8 -2.9
CD2 PP 10 06 08.5
CD2 S **Sn 10 09 10.5 -3.1**
CD2 XS sS 10 09 16.0 -12
CD2 SS 10 09 34.5
CD2 AMB AMB
comp=Z,230nm,1.8s
CD2 AMB AMB
comp=Z,9μm,8.8s
CD2 LR LR
comp=N,85μm,18.0s
CD2 LR LR
comp=E,73μm,13.2s
CD2 LR LR
comp=Z,70μm,13.2s
KS15 Wonju Array Si 17.97 21 *e*Pn **Pn 10 05 58.9 +1.6**
DL2 Dalian 18.15 4 *i*P **Pn 10 05 58.9 -0.6**
DL2 S **Sn 10 09 26.1 +4.5**
DL2 AMB AMB
comp=Z,200nm,1.3s
DL2 AMB AMB
comp=Z,11μm,7.0s
DL2 LR LR
comp=N,33μm,14.2s
DL2 LR LR
comp=E,42μm,12.2s
DL2 LR LR
comp=Z,38μm,12.8s
JHS Saijyo 18.26 36 P **Pn 10 06 01.2 +0.3**
JAD Aida 18.82 38 P **Pn 10 06 07.7 0.0**
JWZ Kozaga 18.84 44 P **Pn 10 06 07.6 -0.3**
BJT Baijiatuau 19.50 351 *e*P **Pn 10 06 15.9 0.0**
BJT pmax pmax
comp=Z,621nm,0.9s
BJT Baijiatuau 19.50 351 *e*P **Pn 10 06 15.9 0.0**
comp=Z,621nm,0.9s
BJI Beijing 19.52 351 P **Pn 10 06 15.8 -0.3**
BJI S **Sn 10 09 56.3 +1.6**
BJI AMB AMB
comp=Z,466nm,0.7s
BJI AMB AMB
comp=Z,17μm,7.0s
BJI LR LR
comp=N,54μm,14.7s
BJI LR LR
comp=E,80μm,15.5s
BJI LR LR
comp=Z,37μm,16.7s
BJI Beijing 19.52 351 P **Pn 10 06 15.8 -0.3**
comp=Z,466nm,0.7s
BJI S **Sn 10 09 56.3 +1.6**
NST Nakhon Sawan 19.60 258 P **Pn 10 06 17.2 +0.2**
JKN2 Miekihoku 19.64 43 P **Pn 10 06 17.1 -0.5**
JWT Wachi 19.78 40 P **Pn 10 06 18.8 -0.4**
CHG Chiang Mai 19.98 268 ⇑P **Pn 10 06 20.3 -1.2**
comp=Z,150nm,1.4s
CHTO Chiang Mai 19.98 268 Pn **Pn 10 06 20.0 -1.5**
CHTO Chiang Mai 19.98 268 P **Pn 10 06 20.0 -1.5**
SNR=109
CHTO Chiang Mai 19.98 268 P **Pn 10 06 20.2 -1.3**
CHTO pmax pmax
comp=Z,330nm,1.3s
CHTO Chiang Mai 19.98 268 *e*P **Pn 10 06 20.2 -1.3**
comp=Z,331nm,1.3s
JIE Ise 20.02 44 P **P 10 06 21.8 +1.6**
TSUJ Tsu 2 20.03 43 P **P 10 06 22.8 +2.4**
JAA Atsumi 20.45 44 P **P 10 06 26.4 +1.5**
LZH Lanzhou 20.87 321 ⇑P **P 10 06 31.2 +1.7**
LZH AP 10 06 37.1
LZH XP sP 10 06 41.5 +4.4
LZH PP 10 06 55.0
LZH S **S 10 10 21.0 -0.4**
LZH AMB AMB
comp=Z,2μm,1.5s
LZH AMB AMB
comp=Z,5μm,4.0s
LZH LR LR
comp=E,144μm,12.8s
LZH LR LR
comp=Z,148μm,13.0s,MS6.5
LZH Lanzhou 20.87 321 ⇑P **P 10 06 31.2 +1.7**
LZH *SP sP 10 06 41.5 +4.4
LZH 10 06 55.0
LZH S **S 10 10 21.0 -0.4**
LZH *SS sS 10 10 31.0 +1.2
LZH *e*SS 10 10 56.0
LZH pmax pmax
comp=Z,2μm,1.5s
LZH MLR MLR
comp=Z,148μm,13.0s,MS6.5
LZH Lanzhou 20.87 321 ⇑P **P 10 06 31.2 +1.7**
comp=Z,2μm,1.5s
LZH pP 10 06 37.1
LZH sP sP 10 06 41.5 +4.4
LZH PP 10 06 55.0
LZH S **S 10 10 21.0 -0.4**
LZH sS sS 10 10 31.0 +1.2
LZH *e*SS 10 10 56.0
LZH LR LR
comp=Z,148μm,13.0s,MS6.5
JAO Obara 20.92 43 P **P 10 06 31.2 +1.2**
HMMJ Hamamatsu 2 20.96 44 P **P 10 06 31.8 +1.3**
NNT Nongplab 21.09 251 P **P 10 06 33.0 +1.2**
JSG Sagara 21.16 45 P **P 10 06 35.1 +2.5**
CBIJ Chichi jima 21.16 68 P **P 10 06 32.4 -0.2**
comp=Z,149nm,0.6s,mb5.5,baz=297,slow=11,SNR=7.6
CBIJ S **S 10 10 27.3 +0.1**
comp=Z,46nm,0.6s,baz=293,slow=23,SNR=2.9
CBIJ Chichi jima 21.16 68 P **P 10 06 32.8 +0.2**
JGF Kuroka 21.19 42 P **P 10 06 34.7 +1.8**
SNY Shenyang 21.23 7 ⇑P **P 10 06 32.7 -0.6**
SNY S **S 10 10 28.4 -0.1**
SNY AMB AMB
comp=Z,183nm,2.4s,mb5.0
SNY LR LR
comp=N,32μm,14.7s,MS6.3
SNY LR LR
comp=E,95μm,16.2s,MS6.3
SNY LR LR
comp=Z,68μm,16.1s,MS6.1
HHC Hu-ho-hao-te 21.31 342 *e*P **P 10 06 35.1 +0.9**
HHC AP 10 06 39.3
HHC XP sP 10 06 42.7 +0.9
HHC PP 10 06 59.4
HHC S **S 10 10 31.7 +1.6**
HHC XS sS 10 10 35.9 -2.6
HHC PCP PcP 10 10 38.7 +0.4
HHC SS 10 10 59.4
HHC PCS PcS 10 14 16.4 0.0
HHC AMB AMB
comp=Z,203nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,15μm,6.4s
HHC LR LR
comp=N,108μm,13.7s,MS6.5
HHC LR LR
comp=E,86μm,15.5s,MS6.5
HHC LR LR
comp=Z,89μm,14.9s,MS6.3
JNY Yasuok 21.36 43 P **P 10 06 35.7 +0.9**
KSM Kuching 21.39 208 *e*P **P 10 06 33.6 -1.5**
KSM *e*S **S 10 10 35.9 +4.1**
SHZ3 Shizuoka 3 21.41 44 P **P 10 06 36.3 +1.0**
JHJ Hachijo jima 2 21.42 51 P **P 10 06 35.5 +0.1**
comp=Z,418nm,0.8s,mb5.8,baz=234,slow=6.0,SNR=4.9
JHJ S **S 10 10 33.4 +1.1**
comp=Z,144nm,0.8s,baz=236,slow=23,SNR=2.0
JHJ LR LR 10 14 12.7
comp=Z,23μm,21.0s,MS5.5,baz=250,slow=35
JHJ2 Mitsune 21.44 51 P **P 10 06 37.6 +2.0**
JGN Niukaw 21.57 41 P **P 10 06 37.7 +0.7**
BTO Baotou 21.57 339 *e*P **P 10 06 36.0 -1.1**
BTO S **S 10 10 37.9 +2.6**
BTO LR LR
comp=N,22μm,15.1s,MS5.8
BTO LR LR
comp=E,21μm,14.9s,MS5.8
JIZS Izushimoda 21.65 46 P **P 10 06 38.7 +0.9**
JTT Ttatey 21.83 40 P **P 10 06 42.2 +2.4**

JNT Takato 21.86 43 P **P 10 06 41.8 +1.7**
JOD2 Odawara 2 22.10 45 P **P 10 06 44.4 +1.7**
JNG Nsakai 22.17 41 P **P 10 06 43.8 +0.4**
MAJO Matsushiro 22.32 41 *e*Pn **P 10 06 44.6 -0.5**
comp=E,870nm,1.4s,mb6.0
MAJO LR LR
comp=Z,28μm,20.0s,MS5.7
MAT Matsushiro 22.32 41 P **P 10 06 44.3 -0.8**
MAT S **S 10 10 49.2 -0.7**
MAT Matsushiro 22.32 41 P **P 10 06 46.1 +1.0**
MJAR Matsushiro Arr 22.32 41 P **P 10 06 44.7 -0.3**
comp=Z,81nm,0.8s,mb5.2,baz=231,slow=8.7,SNR=75
MJAR PcP PcP 10 10 41.2 +0.9
comp=Z,7.1nm,1.0s,baz=212,slow=0.6,SNR=4.2
MJAR S **S 10 10 51.8 +1.9**
comp=Z,8.8nm,1.0s,baz=247,slow=3.9,SNR=4.1
MJAR LR LR 10 15 27.9
comp=Z,21μm,20.2s,MS5.5,baz=230,slow=37
MJAR Matsushiro Arr 22.32 41 P **P 10 06 44.7 -0.4**
MJAR 10 10 41.2
MJAR S **S 10 10 51.8 +1.9**
MJAR Matsushiro Arr 22.32 41 P **P 10 06 44.7 -0.3**
MJAR PcP PcP 10 10 41.2 +0.9
MJAR S **S 10 10 51.8 +1.9**
MJAR LR LR 10 15 27.9
JSZ Suzu 22.42 38 P **P 10 06 48.7 +2.6**
JRY Ryogami san 22.43 43 P **P 10 06 46.9 +0.7**
SNG Songkhla 23.16 237 P **P 10 06 54.0 0.0**
comp=Z,616nm,1.0s,mb6.0
JSD Sado 23.34 38 P **P 10 06 56.2 +0.4**
CN2 Changchun 23.43 10 ⇓P **P 10 06 56.1 -0.6**
CN2 *e*XP sP 10 07 04.0 -0.4
CN2 *e*S **S 10 11 06.4 -2.4**
CN2 LR LR
comp=N,87μm,13.0s,MS6.4
CN2 LR LR
comp=E,34μm,13.0s,MS6.4
JHO Hitachi 23.86 44 P **P 10 06 57.1 -3.7**
KULM Kulim 24.32 234 *e*P **P 10 07 04.4 -0.7**
VLA Vladivostok 24.41 21 *c*e*P **P 10 07 04.7 -1.1**
VLA *e*S **S 10 11 23.8 -0.9**
VLA pmax pmax
comp=Z,777nm,2.7s,mb5.7
VLA MLR MLR
comp=Z,40μm,18.6s,MS5.9
VLA Vladivostok 24.41 21 ⇑*i*P **P 10 07 06.6 +0.8**
IMP Imphal 24.42 284 *i* x x 10 15 20.0
IMP *e*x x 10 10 45.0
JYA Atsumi 24.56 39 P **P 10 07 06.4 -0.8**
IPM Ipoh 24.58 231 P **P 10 07 06.5 -0.9**
GUMO Guam 24.71 103 P **P 10 07 07.9 -0.7**
comp=Z,418nm,0.8s,mb6.0,baz=200,slow=4.9,SNR=19
GUMO S **S 10 11 30.6 +1.0**
comp=Z,32nm,0.5s,baz=38,slow=21,SNR=2.3
GUMO LR LR 10 14 55.4
comp=Z,22μm,19.8s,MS5.7,baz=96,slow=32
GUMO Guam 24.71 103 *e*P **P 10 07 08.7 +0.1**
GUMO LR LR
comp=Z,21μm,20.0s,MS5.6
JMM Marumori 24.76 42 P **P 10 07 07.7 -1.3**
KGM Kluang 24.77 223 P **P 10 07 08.7 -0.4**
MDJ Mudanjiang 25.08 16 P **P 10 07 12.0 +0.1**
MDJ AP pP 10 07 15.0 -2.5
MDJ XP sP 10 07 16.4 -3.4
MDJ PCP PcP 10 10 45.8 -0.3
MDJ S **S 10 11 37.1 +1.6**
MDJ SCP ScP 10 14 24.8 +0.6
MDJ PCS PcS 10 14 26.2 -0.2
MDJ AMB AMB
comp=Z,368nm,0.9s,mb5.9
MDJ AMB AMB
comp=Z,8μm,7.1s
MDJ LR LR
comp=N,37μm,15.8s
MDJ LR LR
comp=E,31μm,21.2s
MDJ LR LR
comp=Z,62μm,16.8s,MS6.2
MDJ Mudanjiang 25.08 16 *e*P **P 10 07 11.9 0.0**
comp=Z,310nm,0.8s,mb5.9
MDJ LR LR
comp=Z,22μm,20.0s,MS5.7
GTA Gaotai 25.46 321 ⇓P **P 10 07 15.4 0.0**
GTA AP pP 10 07 19.6 -1.3
GTA XP sP 10 07 22.5 -0.7
GTA PP 10 07 55.4
GTA PCP PcP 10 10 47.7 +0.7
GTA S **S 10 11 43.1 +1.6**
GTA XS sS 10 11 50.7 -0.1
GTA AMB AMB
comp=Z,60nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,7μm,6.9s
GTA LR LR
comp=N,38μm,20.5s,MS6.0
GTA LR LR
comp=E,28μm,17.5s,MS6.0
GTA LR LR
comp=Z,41μm,13.7s,MS6.1
JOM Ohasama 26.07 40 P **P 10 07 19.9 -1.0**
SHL Shillong 26.34 286 *i* P **P 10 07 23.0 -0.3**
SHL *e*x x 10 11 48.0
JTM Tenmabayashi 26.79 37 P **P 10 07 27.2 -0.2**
JOT Ohata 27.18 36 P **P 10 07 30.8 -0.1**
PSI Prapat 27.26 232 P **P 10 07 31.0 -0.6**
comp=Z,217nm,1.2s,mb5.6,baz=23,slow=5.0,SNR=66
PSI PcP PcP 10 10 51.2 0.0
comp=Z,38nm,0.9s,baz=230,slow=4.7,SNR=3.8
PSI S **S 10 12 10.7 +0.9**
comp=Z,2.8nm,0.5s,baz=139,slow=12,SNR=1.5
PSI LR LR 10 18 07.4
comp=Z,22μm,19.8s,MS5.7,baz=226,slow=36
PSI Prapat 27.26 232 P **P 10 07 31.0 -0.6**
PSI 10 10 51.2
PSI S **S 10 12 10.7 +0.8**
PSI Prapat 27.26 232 P **P 10 07 31.0 -0.6**
PSI PcP PcP 10 10 51.2 0.0
PSI S **S 10 12 10.7 +0.8**
PSI LR LR 10 18 07.5
JSH Shimam 27.53 33 P **P 10 07 34.5 +0.4**
LSA Lhasa 27.58 295 P **P 10 07 36.2 +1.7**
LSA AP pP 10 07 44.0 +3.9
LSA PCP PcP 10 10 54.0 +2.1
LSA S **S 10 12 09.8 -5.3**
LSA SCP ScP 10 14 33.0 +1.4
LSA AMB AMB
comp=Z,60nm,0.8s,mb5.3
LSA LR LR
comp=N,11μm,13.6s,MS5.9
LSA LR LR
comp=E,17μm,11.3s,MS5.9
LSA LR LR
comp=Z,17μm,11.3s,MS5.9
LSA Lhasa 27.58 295 *e*P **P 10 07 35.8 +1.3**
LSA pmax pmax
comp=Z,136nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,21μm,19.0s,MS5.7
LSA Lhasa 27.58 295 *e*P **P 10 07 35.8 +1.3**
comp=Z,136nm,0.8s,mb5.6
LSA LR LR
comp=Z,21μm,19.0s,MS5.7
PBA Port Blair 27.72 255 *e*x x 10 07 24.7
PBA *e*x x 10 07 31.2
comp=Z,165nm,1.5s
PBA *e*x x 10 12 13.5
JEW Eniwo 28.40 34 P **P 10 07 43.0 +1.2**
HIA Hailar 28.46 360 *e*P **P 10 07 41.0 -1.3**
HIA pmax pmax
comp=Z,120nm,0.9s
HIA MLR MLR
comp=Z,51μm,20.0s
HIA Hailar 28.46 360 *e*P **P 10 07 41.0 -1.3**
comp=Z,120nm,0.9s,mb5.5
HIA LR LR
comp=Z,51μm,20.0s,MS6.1
ERM Erimo 28.78 37 *e*P **P 10 07 50.9 +5.6**
comp=Z,129nm,0.8s,mb5.7
ERM LR LR
comp=Z,5μm,22.0s,MS5.0
JEM Erimo 28.79 37 P **P 10 07 50.7 +5.5**
SONM Songino Array 29.20 341 P **P 10 07 48.8 -0.1**
comp=Z,49nm,0.8s,mb5.3,baz=160,slow=7.9,SNR=202
SONM PcP PcP 10 10 55.8 -0.1

comp=Z,9.3nm,1.0s,baz=80,slow=3.3,SNR=3.7
SONM S **S 10 12 43.7 +3.2**
comp=Z,2.2nm,0.9s,baz=220,slow=16,SNR=1.7
GTK Gangtok 29.42 289 *e*P **P 10 07 52.0 +1.2**
CAL Calcutta 29.53 279 *i* P **P 10 07 53.2 +1.3**
CAL *e*S **S 10 12 44.0 -1.7**
ASAJ Asahikawa 29.89 34 P **P 10 07 54.7 -0.3**
comp=Z,49nm,0.9s,mb5.2,baz=237,slow=18,SNR=13
ASAJ S **S 10 12 52.7 +1.3**
comp=Z,8.4nm,0.9s,baz=198,slow=27,SNR=2.7
ASAJ LR LR 10 20 43.4
comp=Z,28μm,21.8s,MS5.9,baz=237,slow=38
ASAJ Asahikawa 29.89 34 P **P 10 08 00.7 +5.7**
KLR Kul'dur 29.91 15 *e*P **P 10 07 48.2 -7.1**
KLR *e*S **S 10 12 42.5 -9.2**
KLR pmax pmax
comp=E,560nm,2.8s
KLR pmax pmax
comp=Z,1μm,2.8s,mb6.2
KLR pmax pmax
comp=N,5μm,15.0s
KLR pmax pmax
comp=E,2μm,15.0s
KLR pmax pmax
comp=Z,10μm,15.0s
KLR smax
comp=N,10μm,9.5s
KLR smax
comp=E,4μm,9.5s
JMP Maruseppu 30.21 35 P **P 10 07 59.7 +1.8**
JWK2 Keihoku 30.39 31 P **P 10 08 02.2 +2.7**
YUK Yuzh-Kuril'sk 31.60 37 P **P 10 08 06.0 -4.1**
YUK pmax pmax
comp=Z,5μm,7.0s
CIT Chita 31.63 352 *e*P **P 10 08 10.0 -0.4**
CIT *e* 10 08 23.3
CIT *e* 10 11 02.0
CIT pmax pmax
comp=Z,216nm,1.8s,mb5.7
BOK Bokaro 31.74 282 *e*P **P 10 08 11.4 0.0**
BOK AMb AMB 10 08 19.0
comp=Z,285nm,1.5s,mb5.9
BOK *i* x x 10 11 02.7
YSS Yuzh-Sakhalins 31.99 30κ *i*P **P 10 08 14.0 +0.4**
YSS *e**SP sP 10 08 20.0 -1.5
YSS *e* 10 08 26.9
YSS *e* 10 09 38.0
YSS *e* 10 11 03.0
YSS *i* S **S 10 13 20.0 -4.3**
YSS pmax pmax
comp=Z,220nm,0.9s,mb6.0
YSS pmax pmax
comp=N,100nm,1.0s
YSS pmax pmax
comp=E,160nm,0.9s
YSS smax
comp=E,3μm,11.0s
YSS smax
comp=N,2μm,6.0s
YSS MLR MLR
comp=N,16μm,17.0s,MS6.0
YSS MLR MLR
comp=E,19μm,17.0s,MS6.0
YSS MLR MLR
comp=Z,19μm,17.0s,MS5.8
YSS Yuzh-Sakhalins 31.99 30 *e*P **P 10 08 14.2 +0.6**
comp=Z,152nm,0.8s,mb5.9
YSS LR LR
comp=Z,17μm,19.0s,MS5.8
BWNR Bhubaneshwar 32.06 275 *e*x x 10 06 47.0
BWNR *e*x x 10 09 34.0
ZAK Zakamensk 32.42 340 *e*P **P 10 08 16.9 -0.4**
ZAK *e* 10 11 00.4
ZAK pmax pmax
comp=Z,34nm,1.2s,mb5.0
TLY Talaya 33.44 341 P **P 10 08 26.6 +0.4**
SNR=18
TLY Talaya 33.44 341 *d i*P **P 10 08 26.0 -0.2**
TLY *e* 10 09 48.5
TLY *e*S **S 10 13 39.2 -7.5**
TLY pmax pmax
comp=Z,82nm,1.0s,mb5.6
TLY MLR MLR
comp=Z,29μm,16.0s,MS6.1
TLY Talaya 33.44 341 *e*P **P 10 08 26.8 +0.5**
comp=Z,56nm,0.8s,mb5.5
TLY LR LR
comp=Z,4μm,19.0s,MS5.2
KUR Kuril'sk 33.47 37 ⇓*i*P **P 10 08 23.5 -3.0**
KUR *e*S **S 10 13 42.0 -5.1**
KUR pmax pmax
comp=N,120nm,0.8s
KUR pmax pmax
comp=E,110nm,0.8s
KUR pmax pmax
comp=Z,220nm,0.8s,mb6.1
KUR pmax pmax
comp=Z,10μm,6.0s
KUR MLR MLR
comp=N,20μm,17.0s
KUR MLR MLR
comp=Z,25μm,17.0s,MS6.0
IRK Irkutsk 33.75 342 ⇓*i*P **P 10 08 27.5 -1.5**
IRK *e*S **S 10 13 54.2 +2.6**
IRK pmax pmax
comp=Z,787nm,1.2s,mb6.5
MOY Mondy 34.27 339 *e*P **P 10 08 33.0 -0.5**
VIS Vishakhapatnam 34.78 271 *e*P **P 10 08 38.6 +0.7**
VIS AMb AMB 10 08 47.6
comp=Z,360nm,1.8s,mb6.0
VIS *i* S **S 10 14 06.1 -1.4**
KAKA Kakadu 35.40 159 *e*P **P 10 08 40.7 -2.5**
comp=Z,270nm,0.9s,mb6.2
WMQ Urumqi 35.40 318 ⇓*i*P **P 10 08 43.7 +0.5**
WMQ AP pP 10 08 48.0 -0.9
WMQ XP sP 10 08 50.5 -0.7
WMQ PP PP 10 10 02.0 -1.7
WMQ PCP PcP 10 11 14.0 +1.1
WMQ S **S 10 14 17.0 -0.1**
WMQ XS sS 10 14 24.0 -2.4
WMQ SS SS 10 16 35.0 -16
WMQ AMB AMB
comp=Z,140nm,1.5s,mb5.7
WMQ AMB AMB
comp=Z,2μm,6.0s
WMQ LR LR
comp=N,40μm,13.6s,MS6.5
WMQ LR LR
comp=E,28μm,10.7s,MS6.5
WMQ LR LR
comp=Z,47μm,24.6s
NRGR Nerungri 36.03 4 *e*P **P 10 08 46.9 -1.7**
NRGR S **S 10 14 23.6 -3.0**
NRGR smax
comp=E,117nm,0.5s
CLNS Chul'man 36.22 4 ⇓*i*P **P 10 08 49.7 -0.6**
CLNS *e* 10 10 15.6
CLNS *e*PPP 10 10 28.1
CLNS *e* 10 11 12.0
CLNS *e*S **S 10 14 27.3 -2.3**
CLNS pmax pmax
comp=N,25nm,0.8s
CLNS pmax pmax
comp=E,27nm,0.8s
CLNS pmax pmax
comp=Z,50nm,0.8s,mb5.5
CLNS pmax pmax
comp=Z,41nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,47nm,0.9s
CLNS pmax pmax
comp=E,33nm,0.9s
CLNS smax
comp=N,3μm,12.8s
CLNS smax
comp=Z,1μm,12.1s
CLNS smax
comp=E,3μm,13.4s
CLNS MLR MLR
comp=Z,28μm,14.0s,MS6.2
CLNS MLR MLR
comp=N,16μm,13.0s,MS6.2
CLNS MLR MLR
comp=E,19μm,13.0s,MS6.2
PTH Pithoragarh 36.98 292 *ex* **P 10 09 01.2 +4.4**
JBP Jabalpur 37.18 281 ⇑*i*P **P 10 09 00.8 +2.3**

JBP *ex* x 10 09 06.9
comp=Z,349nm,1.9s
JBP *i* S **S** **10 14 47.5 +3.2**
BOD Bodaibo 37.30 355 *e*P **P** **10 08 58.5 -0.9**
BOD pmax pmax
comp=Z,32nm,1.0s,mb5.1
NGP Nagpur 38.24 278⇑ *e*P **P** **10 09 06.6 -0.8**
NGP *ex* x 10 09 15.0
comp=Z,396nm,1.9s
NGP *e*S **S** **10 14 59.0 -1.3**
MDRS Chennai 38.78 265 *e*P **P** **10 09 12.1 +0.2**
MDRS AMb AMB 10 09 21.4
comp=Z,206nm,0.7s,mb6.0
MDRS *e*S **S** **10 15 10.5 +2.0**
FITZ Fitzroy Crossi 38.99 172 *e*P **P** **10 09 11.2 -2.5**
comp=Z,88nm,0.6s,mb5.7
FITZ *e*S S 10 14 47.1 -24
FITZ Fitzroy Crossi 38.99 172 P **P** **10 09 11.3 -2.4**
comp=Z,67nm,0.9s,mb5.3,baz=359,slow=9.3,SNR=25
FITZ S **S** **10 15 05.0 -6.6**
comp=Z,6.5nm,0.7s,baz=140,slow=13,SNR=1.9
HYB Hyderabad 39.30 272 *i* P **P** **10 09 17.0 +0.7**
comp=Z,100nm,1.0s,mb5.5
HYB *e*PP PP 10 10 51.0 +4.4
HYB *e*S **S** **10 15 16.0 -0.4**
HYB LR LR 10 31 14.0
comp=Z,31nm,14.0s
HYB Hyderabad 39.30 272 *e*P **P** **10 09 18.0 +1.7**
HYB *e*S **S** **10 15 12.0 -4.4**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.5
HYB Hyderabad 39.30 272 *e*P **P** **10 09 18.0 +1.7**
comp=Z,100nm,1.0s,mb5.5
HYB *e*S **S** **10 15 12.0 -4.4**
HYB *e*LR LR 10 31 14.0
BHPL Bhopal 39.52 282 *e*P **P** **10 09 18.0 -0.1**
BHPL AMb AMB 10 09 26.7
comp=Z,308nm,2.1s,mb5.7
NDI New Delhi 39.56 290 *e*P **P** **10 09 17.5 -0.9**
NDI *ex* x 10 15 12.0
COCO West Island 39.91 217 *e*P **P** **10 09 21.9 +0.5**
comp=Z,504nm,1.1s,mb6.2
COCO LR LR
comp=Z,2μm,19.0s,MS5.0
SDNR Sundarnagar 39.93 295 *ex* x 10 09 27.4
PMG Port Moresby 40.09 136 P **P** **10 09 22.4 -0.4**
comp=Z,174nm,0.8s,mb5.8,baz=357,slow=6.3,SNR=28
PMG S **S** **10 15 27.3 -0.7**
comp=Z,13nm,1.0s,baz=177,slow=14,SNR=2.1
PMG Port Moresby 40.09 136 *e*P **P** **10 09 22.6 -0.2**
comp=Z,365nm,1.0s,mb6.1
PMG LR LR
comp=Z,8μm,20.0s,MS5.6
MK31 Makanchi Array 40.17 319 *i* P **P** **10 09 23.7 +0.1**
MK31 pmax pmax
comp=Z,356nm,1.3s,mb5.9
MKAR Makanchi Array 40.17 319 P **P** **10 09 23.8 +0.2**
comp=Z,25nm,0.6s,mb5.1,baz=115,slow=9.0,SNR=125
MKAR PcP PcP 10 11 28.2 +0.6
comp=Z,45nm,0.9s,baz=103,slow=5.5,SNR=3.7
MKAR S **S** **10 15 32.0 +2.6**
comp=Z,1.7nm,0.8s,baz=241,slow=46,SNR=1.8
MKAR Makanchi Array 40.17 319 P **P** **10 09 23.8 +0.2**
MKAR PcP PcP 10 11 28.2 +0.6
MKAR S **S** **10 15 32.0 +2.6**
AKL Akola 40.18 278 *i* P **P** **10 09 23.9 +0.3**
AKL *i* x x 10 15 18.9
PALK Pallekele 40.35 256 *e*P **P** **10 09 28.0 +3.0**
PALK *e* 10 09 38.1
PALK LR LR
comp=Z,3μm,21.0s,MS5.1
BHK Bhakra 40.40 294 *ex* x 10 09 29.8
DLH Dalhousie 40.88 296 *e*P **P** **10 09 27.0 -2.4**
LATR Latur 40.98 275 *ex* x 10 09 33.4
THN Thein Dam 41.08 296 *e*P **P** **10 09 30.9 -0.1**
SKR Severo-Kuril's 41.14 35 *e*P **P** **10 09 26.0 -5.5**
SKR *e* pP 10 09 32.7 -4.5
SKR *e* 10 09 44.0
SKR *e* 10 19 12.0
SKR pmax pmax
comp=N,4μm,10.0s
SKR pmax pmax
comp=Z,6μm,10.0s
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.0
SKR MLR MLR
comp=N,6μm,18.0s,MS5.8
SKR MLR MLR
comp=Z,12μm,18.0s,MS5.8
SKR MLR MLR
comp=E,8μm,16.0s,MS5.8
MBWA Marble Bar 41.65 180 *e*P **P** **10 09 34.3 -1.4**
MBWA LR LR
comp=Z,5μm,19.0s,MS5.4
YAK Yakutsk 41.79 7 *d i*P **P** **10 09 35.9 -1.0**
YAK pmax pmax
comp=Z,202nm,0.8s,mb5.8
YAK MLR MLR
comp=Z,43μm,17.0s,MS6.4
YAK Yakutsk 41.79 7 *e*P **P** **10 09 36.0 -0.8**
comp=Z,172nm,0.7s,mb5.8
YAK LR LR
comp=Z,24μm,19.0s,MS6.1
AJM Ajmer 41.85 287 *e*P **P** **10 09 37.5 +0.1**
AJM AMb AMB 10 09 44.0
comp=Z,284nm,1.4s,mb5.7
KSH Kashi 42.01 306 P **P** **10 09 41.5 +2.9**
KSH *e*AP pP 10 09 47.9 +3.5
KSH *e*XP sP 10 09 50.3 +3.7
KSH *e*PP PP 10 11 22.8 +6.9
KSH *e*PCP PcP 10 11 36.8 +3.2
KSH *e*PPP 10 11 54.3
KSH *e*SCP ScP 10 15 26.2 +3.2
KSH *e*S **S** **10 16 02.3 +5.7**
KSH *e*XS sS 10 16 10.1 +4.1
KSH *e*SCS ScS 10 19 41.4 +1.0
KSH AMB AMB
comp=Z,3μm,6.5s
KSH LR LR
comp=Z,55μm,13.0s,MS6.6
ULHL Ulahol 42.51 310 P **P** **10 09 44.3 +1.5**
SNR=88
ZAL Zalesovo 42.63 330 P **P** **10 09 43.5 -0.2**
comp=Z,70nm,0.9s,mb5.4,baz=357,slow=8.0,SNR=130
ZAL S **S** **10 16 08.1 +2.3**
comp=Z,1.4nm,0.4s,baz=318,slow=17,SNR=1.6
ZAL LR LR 10 30 54.5
comp=Z,15μm,19.0s,MS5.9,baz=341,slow=41
ZAL Zalesovo 42.63 330 P **P** **10 09 43.5 -0.2**
ZAL S **S** **10 16 08.1 +2.3**
WRAB Tennant Creek 42.77 160 *d i*P **P** **10 09 43.2 -1.7**
WRA Warramunga Arr 42.78 160 P **P** **10 09 42.7 -2.2**
comp=Z,437nm,0.9s,mb6.2,baz=344,slow=8.3,SNR=256
WRA PcP PcP 10 11 33.8 -2.3
comp=Z,38nm,0.8s,baz=346,slow=3.1,SNR=2.8
WRA S **S** **10 16 02.7 -5.3**
comp=Z,8.1nm,1.1s,baz=331,slow=14,SNR=4.9
WB2 Warramunga Arr 42.78 160 *e*P **P** **10 09 42.6 -2.3**
WB2 *e*S **S** **10 16 01.0 -7.0**
TKM2 Tokmak 2 43.16 311 P **P** **10 09 49.3 +1.3**
SNR=59
KZA Kyzart 43.17 310 P **P** **10 09 50.3 +2.2**
SNR=50
NIL Nilore 43.25 297 P **P** **10 09 50.4 +1.7**
comp=Z,276nm,1.0s,mb5.9,SNR=7.7
TRD Trivandrum 43.32 260 *e*P **P** **10 09 49.6 +0.3**
TRD *ex* x 10 16 29.1
KAD Karad 43.41 274 *e*P **P** **10 09 50.4 +0.3**
KAD *ex* x 10 11 34.9
POO Poona 43.48 275 *ex* x 09 59 55.0
POO *e*P 10 09 49.0
comp=Z,523nm,1.2s
POO AMb AMB 10 10 33.1
comp=Z,307nm,1.5s,mb5.8
POO *ex* x 10 11 25.0
KBK Karagaybulak 43.54 311 P **P** **10 09 52.9 +1.8**
SNR=26
PET Petropavlovsk 43.73 33 *k i*P **P** **10 09 52.5 -0.1**
PET *i* S **S** **10 16 20.0 -1.9**
PET *e*SS SS 10 19 26.7 -11
PET pmax pmax
comp=Z,284nm,1.1s,mb5.9
PET MLR MLR
comp=Z,16μm,22.0s,MS5.9
PET MLR MLR
comp=Z,11μm,21.0s
PET Petropavlovsk 43.73 33 *e*P **P** **10 09 53.0 +0.4**
comp=Z,349nm,1.1s,mb6.0
PET LR LR
comp=Z,14μm,22.0s,MS5.8
UCH Uchtor 43.74 310 P **P** **10 09 55.0 +2.3**
SNR=138
CHMS Chumysh 43.77 311 P **P** **10 09 53.9 +0.9**
SNR=26
FRU Bishkek 43.83 311⇓ *i*P **P** **10 09 54.5 +1.1**
FRU *i* 10 10 06.0
FRU *e*S **S** **10 16 28.0 +4.7**
FRU pmax pmax
comp=Z,386nm,2.5s,mb5.7
FRU smax
comp=N,5μm,12.0s
AAK Ala-Archa 43.86 310 P **P** **10 09 55.1 +1.4**
SNR=41
AAK Ala-Archa 43.86 310 *d i*P **P** **10 09 53.5 -0.1**
AAK pmax pmax
comp=Z,219nm,2.3s,mb5.5
AAK MLR MLR
comp=Z,34μm,21.0s,MS6.2
AAK Ala-Archa 43.86 310 *e*P **P** **10 09 54.0 +0.3**
AAK LR LR
comp=Z,10μm,22.0s,MS5.7
MNGI Mangalore 43.88 267 *i* P **P** **10 09 53.8 0.0**
MNGI *i* S **S** **10 16 25.1 +0.9**
NVS Novosibirsk 43.90 330 *i* P **P** **10 09 53.0 -1.0**
NVS *i* 10 11 39.7
NVS *i* S **S** **10 16 21.5 -3.0**
NVS *i* 10 19 50.9
NVS pmax pmax
comp=N,371nm,1.4s
NVS pmax pmax
comp=Z,383nm,1.4s,mb5.9
NVS pmax pmax
comp=E,304nm,1.6s
NVS smax
comp=N,312nm,2.3s
NVS smax
comp=E,106nm,2.3s
USP Ospenovka 44.02 311 P **P** **10 09 55.9 +0.9**
SNR=25
KURK Kurchatov 44.13 323 P **P** **10 09 55.6 -0.2**
comp=E,1μm,1.4s,mb6.5,SNR=71
AML Almayashu 44.30 310 P **P** **10 09 59.2 +2.0**
SNR=60
EKS2 Erkin-Say 44.38 310 P **P** **10 09 59.1 +1.3**
SNR=36
MA2 Magadan 44.54 22 *d i*P **P** **10 09 58.7 -0.4**
MA2 pmax pmax
comp=Z,256nm,1.5s,mb5.8
MA2 MLR MLR
comp=Z,14μm,19.0s,MS5.9
MA2 Magadan 44.54 22 *e*P **P** **10 09 59.1 0.0**
comp=Z,174nm,1.2s,mb5.8
MA2 LR LR
comp=Z,9μm,20.0s,MS5.7
AS31 Alice Springs 46.15 162 *e*P **P** **10 10 10.3 -1.6**
AS31 *e*S **S** **10 16 37.9 -19**
ASPA Alice Springs 46.15 162 *e*P **P** **10 10 10.3 -1.6**
ASPA *e*S **S** **10 16 37.9 -19**
ASAR Alice Springs 46.15 162 P **P** **10 10 10.3 -1.5**
comp=Z,62nm,0.6s,mb5.7,baz=344,slow=6.8,SNR=324
ASAR S **S** **10 16 52.1 -4.9**
comp=Z,3.5nm,1.2s,baz=358,slow=28,SNR=2.3
ASAR LR LR 10 29 59.3
comp=Z,6μm,18.3s,MS5.5,baz=0.6,slow=37
ASAR Alice Springs 46.15 162 P **P** **10 10 10.4 -1.5**
ASAR S **S** **10 16 52.1 -4.9**
KK31 Karatay Array 46.81 310 *i* P **P** **10 10 17.5 +0.4**
KK31 pmax pmax
comp=Z,340nm,1.3s,mb6.1
KK31 Karatay Array 46.81 310 *i* P **P** **10 10 17.6 +0.5**
SEY Seymchan 47.55 19⇑ *e*P **P** **10 10 23.2 +0.4**
CTA Charters Tower 47.99 146 *j i*P **P** **10 10 26.6 +0.4**
comp=Z,507nm,0.9s,mb6.5
CTA *e*S **S** **10 17 25.0 +1.8**
CTA Charters Tower 47.99 146 P **P** **10 10 26.8 +0.5**
comp=Z,553nm,0.9s,mb6.6,baz=328,slow=9.3,SNR=157
CTA S **S** **10 17 22.7 -0.5**
comp=Z,6.3nm,0.9s,baz=162,slow=1.8,SNR=2.0
CTA SS SS 10 21 00.9 +8.8
comp=Z,1.4nm,0.6s,baz=314,slow=18,SNR=2.0
CTA Charters Tower 47.99 146 *j i*P **P** **10 10 26.6 +0.4**
CTA *e*S **S** **10 17 25.0 +1.8**
CTA pmax pmax
comp=Z,507nm,0.9s
CTAO Charters Tower 47.99 146 *e*P **P** **10 10 26.8 +0.5**
CTAO LR LR
comp=Z,4μm,21.0s,MS5.4
VOSK Vostochnaya 49.29 323 *i* P **P** **10 10 35.8 -0.4**
HNR Honiara 49.35 124 P **P** **10 10 36.3 -0.4**
comp=Z,57nm,0.8s,mb5.7,baz=65,slow=1.8,SNR=3.0
HNR S **S** **10 17 43.8 +1.4**
comp=Z,16nm,0.4s,baz=96,slow=8.3,SNR=1.8
HNR LR LR 10 28 55.0
comp=Z,6μm,21.0s,MS5.6,baz=357,slow=33
HNR Honiara 49.35 124 P **P** **10 10 36.3 -0.4**
HNR S **S** **10 17 43.8 +1.4**
BVAR Borovoye Array 49.73 323 LR LR 10 33 11.6
comp=Z,12μm,18.0s,MS5.9,baz=139,slow=38
BRVK Borovoye 49.80 323 P **P** **10 10 40.1 0.0**
SNR=102
BRVK Borovoye 49.80 323 *e*P **P** **10 10 40.6 +0.5**
comp=Z,204nm,0.9s,mb6.2
BRVK LR LR
comp=Z,4μm,20.0s,MS5.4
CHKZ Chkalovo 49.84 324 *i* P **P** **10 10 40.0 -0.4**
CHKZ pmax pmax
comp=Z,246nm,1.2s,mb6.1
CHKZ Chkalovo 49.84 324 *e*P **P** **10 10 40.3 -0.1**
comp=Z,310nm,1.1s,mb6.2
ZRNK Zerenda 50.49 322 *e*P **P** **10 10 45.5 +0.1**
ZRNK *e* pP 10 10 51.7 +0.5
ZRNK *e* 10 11 00.1
ZRNK pmax pmax
comp=Z,232nm,0.9s,mb6.2
ZRNK Zerenda 50.49 322 *e*P **P** **10 10 45.5 +0.1**
comp=Z,232nm,0.9s,mb6.2
ZRNK *e* pP 10 10 51.7 +0.5
ZRNK *e* 10 11 00.1
TIXI Tiksi 51.17 4 *e*P **P** **10 10 47.5 -3.0**
TIXI *e* 10 12 43.2
TIXI *e*S **S** **10 17 59.4 -8.4**
TIXI pmax pmax
comp=E,28nm,1.0s
TIXI pmax pmax
comp=Z,189nm,1.0s,mb6.0
TIXI pmax pmax
comp=N,60nm,0.9s
TIXI MLR MLR
comp=N,19μm,14.0s,MS6.3
TIXI MLR MLR
comp=E,4μm,14.0s,MS6.3
TIXI MLR MLR
comp=Z,40μm,14.0s,MS6.6
TIXI Tiksi 51.17 4 *i* P **P** **10 10 48.9 -1.6**
TIXI LR LR
comp=Z,36μm,19.0s,MS6.4
FORT Forrest 51.80 171⇓ *i*P **P** **10 10 53.4 -1.8**
comp=Z,191nm,0.7s,mb6.1
FORT *e*S **S** **10 18 15.9 -0.5**
KLBR Kellerberrin 52.08 183 *e*P **P** **10 10 54.8 -2.5**
comp=Z,121nm,1.1s,mb5.7
SMY Shemya 52.13 39 *e*P **P** **10 10 57.6 0.0**
SMY pmax pmax
comp=Z,204nm,1.1s,mb6.0
SMY MLR MLR
comp=Z,7μm,21.0s,MS5.7
SMY Shemya 52.13 39 *e*P **P** **10 10 57.6 0.0**
comp=Z,204nm,1.1s,mb6.0
SMY LR LR
comp=Z,7μm,21.0s,MS5.7
MUN Mundaring 52.55 184 *e*P **P** **10 11 05.2 +4.4**
MUN *e*S **S** **10 18 30.2 +3.5**
NWAO Narrogin (SRO) 53.44 183 P **P** **10 11 05.4 -1.9**
comp=Z,92nm,0.8s,mb5.8,baz=4.3,slow=8.5,SNR=20
NWAO S **S** **10 18 35.1 -3.7**
comp=Z,5.4nm,0.8s,baz=229,slow=11,SNR=2.8
NWAO Narrogin (SRO) 53.44 183 *e*P **P** **10 11 05.5 -1.8**
NWAO LR LR
comp=Z,3μm,19.0s,MS5.4
DGAR Diego Garcia 54.51 244 *e*P **P** **10 11 15.0 -0.2**
DGAR Diego Garcia 54.51 244 *e*P **P** **10 11 15.1 -0.1**
DGAR LR LR
comp=Z,1μm,20.0s,MS5.0
AMKA Amchitka 54.94 41 *e*P **P** **10 11 18.1 -0.2**
AB31 Akbulak array 55.15 316 *i* P **P** **10 11 20.1 +0.3**
BILL Bilibino 55.25 19 *d i*P **P** **10 11 19.9 -0.6**
BILL pmax pmax
comp=Z,172nm,1.2s,mb6.0
BILL MLR MLR
comp=Z,14μm,16.0s,MS6.1
BILL Bilibino 55.25 19 *i* P **P** **10 11 19.9 -0.6**
BILL LR LR
comp=Z,13μm,20.0s,MS6.0
ABKT Ailbek 55.70 302 P **P** **10 11 25.4 +1.7**
comp=Z,1μm,1.3s,mb6.8,SNR=25
VAN Vannovskaya 55.71 302 P **P** **10 11 25.0 +1.2**
VAN S **S** **10 19 11.0 +1.6**
STKA Stephens Creek 56.24 158 *e*P **P** **10 11 26.3 -1.3**
comp=Z,89nm,0.9s,mb5.8
STKA *e*S **S** **10 18 59.8 -17**
STKA Stephens Creek 56.24 158 P **P** **10 11 26.7 -0.9**
comp=Z,103nm,0.8s,mb5.9,baz=339,slow=7.0,SNR=48
STKA S **S** **10 19 12.7 -3.7**
comp=Z,2.7nm,0.9s,baz=6.0,slow=16,SNR=1.6
WBK Wadi Bani Khal 56.46 284 P **P** **10 11 30.4 +1.3**
SNR=22
AKTK Aktyubinsk 56.55 317 *i* P **P** **10 11 29.1 -0.7**
AKTO Aktyubinsk 56.55 317 LR LR 10 35 29.2
comp=Z,10μm,21.1s,MS5.9,baz=302,slow=36
AKTO PKP2bc 10 41 34.9
comp=Z,6.3nm,1.1s,baz=267,slow=2.6,SNR=2.7
AKTO Aktyubinsk 56.55 317 *i* P **P** **10 11 29.0 -0.8**
AKTO pmax pmax
comp=Z,104nm,1.5s,mb5.6
MIDW Midway 56.89 69 PFAKE 10 11 40.0 +7.8
MIDW LR LR
comp=Z,9μm,22.0s,MS5.8
SMDO Samad 57.21 285 P **P** **10 11 35.1 +0.6**
SNR=17
ARU Arti 57.26 325 P **P** **10 11 34.9 0.0**
comp=Z,2μm,0.7s,SNR=34
ARU Arti 57.26 325 *e*P **P** **10 11 34.4 -0.5**
ARU *e* 10 12 24.2
ARU *e* 10 13 36.6
ARU *e*S **S** **10 19 30.6 +0.6**
ARU *e* 10 21 13.0
ARU *e*SS SS 10 23 19.8 +0.6
ARU *e*SSS 10 25 40.3
ARU MLR MLR
comp=Z,13μm,16.0s,MS6.1
ARU MLR MLR
comp=N,6μm,14.0s,MS6.1
ARU MLR MLR
comp=E,11μm,17.0s,MS6.1
ARU Arti 57.26 325 *e*P **P** **10 11 34.5 -0.4**
ARU LR LR
comp=Z,3μm,20.0s,MS5.4
HOQ Hoqain 57.79 285 P **P** **10 11 39.4 +0.8**
SNR=19
BSY Bisya 58.04 284 P **P** **10 11 40.9 +0.6**
SNR=19
ADE Adelaide 58.16 162 *e*P **P** **10 11 41.1 -0.1**
ARQ Araqi 58.54 285 P **P** **10 11 45.1 +1.3**
SNR=16
HATD Hatta, Dubai 58.63 287 P **P** **10 11 45.2 +0.8**
SNR=18
ASHO Ashiyiah 58.72 287 P **P** **10 11 46.2 +1.1**
SNR=15
ARMA Armidale 59.23 148 *e*P **P** **10 11 49.6 +1.0**
ARMA *e*S **S** **10 19 54.0 -1.6**
RIV Riverview 61.83 151 *e*P **P** **10 12 07.5 +1.2**
DZM Mont Dzumac 62.13 131 *e*P **P** **10 12 07.4 -1.0**
DZM Mont Dzumac 62.13 131 P **P** **10 12 09.0 +0.6**
comp=Z,52nm,0.8s,mb5.7,baz=353,slow=4.5,SNR=21
DZM S **S** **10 20 33.2 +0.6**
comp=Z,7.2nm,1.1s,baz=19,slow=16,SNR=1.9
DZM LR LR 10 33 31.6
comp=Z,7μm,21.1s,MS5.8,baz=314,slow=31
CNB Canberra Magne 62.29 153 *e*P **P** **10 12 09.3 -0.2**
comp=Z,161nm,0.9s,mb6.2
TOO Toolangi 62.75 157 *e*P **P** **10 12 12.4 -0.1**
comp=Z,76nm,0.6s,mb6.0
TOO Toolangi 62.75 157 *e*P **P** **10 12 12.4 -0.1**
TOO pmax pmax
comp=Z,76nm,0.6s,mb6.0
MAK Makhachkala 63.58 309 *e*P **P** **10 12 17.2 -0.8**
MAK *e* 10 12 56.4
MAK *e*S **S** **10 20 50.6 -0.3**
MAK *e* 10 22 08.2
MAK *e*SS SS 10 25 01.1 +2.8
MAK pmax pmax
comp=Z,520nm,1.9s,mb6.2
UNV Unalaska Valle 63.78 39 PFAKE 10 12 30.0 +11
UNV LR LR
comp=Z,16μm,20.0s,MS6.2
TNA Tin City 63.86 26 *e*P **P** **10 12 22.1 +2.2**
TNA LR LR
comp=Z,4μm,20.0s,MS5.6
QRN Al-Qurain 65.15 293 *e*P **P** **10 12 27.8 -0.5**
QRN AMb AMB 10 12 35.9
comp=Z,314nm,1.5s,mb6.1
UMR Umm Al-Rimmam 65.17 294 *e*P **P** **10 12 27.7 -0.8**
UMR AMb AMB 10 12 34.6
comp=Z,158nm,0.8s,mb6.1
PECR Pechory 65.25 323 *e*P **P** **10 12 28.0 -1.0**
PECR *e* 10 14 54.5
PECR *i* S S 10 21 12.0 +0.5
PECR *e*PS 10 21 27.0
PECR *e* 10 22 19.0
PECR pmax pmax
comp=Z,500nm,2.0s,mb6.2
PECR pmax pmax
comp=Z,2μm,5.2s
PECR pmax pmax
comp=E,2μm,7.0s
PECR MLR MLR
comp=Z,6μm,14.0s,MS6.0
PECR MLR MLR
comp=N,11μm,12.0s,MS6.3
PECR MLR MLR
comp=E,7μm,13.0s,MS6.3
DGRG David-gareji 65.30 307 P **P** **10 12 30.4 +1.2**
DGRG S S 10 21 36.6 +24
RDF Al-Radifah 65.43 293 *e*P **P** **10 12 29.8 -0.4**
RDF AMb AMB 10 12 37.1
comp=Z,291nm,0.8s,mb6.4
MIB Mutribah 65.45 294 *e*P **P** **10 12 29.7 -0.5**
MIB AMb AMB 10 12 37.1
comp=Z,214nm,0.8s,mb6.2
NAY Al-Naaiem 65.63 294 *e*P **P** **10 12 30.9 -0.5**
NAY AMb AMB 10 12 38.2
comp=Z,135nm,0.7s,mb6.1
MTA Mtatsminda 65.71 307 P **P** **10 12 31.8 -0.1**
MTA S S 10 21 25.7 +8.6
TBLG Delisi 65.74 307 P **P** **10 12 38.4 +6.3**
GNI Garni 65.93 306 PKP2bc 10 41 13.0
comp=Z,1.7nm,0.4s,baz=19,slow=18,SNR=1.8
GNI LR LR 10 48 03.4
comp=Z,4μm,19.0s,MS5.6,baz=230,slow=42
GNI Garni 65.93 306 PFAKE 10 12 40.0 +6.6
GNI LR LR
comp=Z,4μm,20.0s,MS5.7
ZEI Tsey 66.24 309 *e*P **P** **10 12 35.6 +0.3**
ZEI pmax pmax
comp=Z,52nm,0.8s,mb5.6
VRHR Novokhopersk 66.95 318 *e*P **P** **10 12 39.1 -0.8**
VRHR *e*S S 10 21 32.2 -0.1
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR smax
comp=N,920nm,6.0s
VRHR smax
comp=Z,190nm,4.4s
VRHR smax
comp=E,430nm,4.3s
VRHR MLR MLR
comp=Z,4μm,10.0s,MS5.9
VRHR MLR MLR
comp=N,3μm,11.0s,MS6.0
VRHR MLR MLR
comp=E,4μm,13.0s,MS6.0
KIV Kislovodsk 66.97 310 P **P** **10 12 40.3 +0.2**

SNR=73
KIV Kislovodsk 66.97 310 *d* iP **P 10 12 40.4 +0.4**
KIV pmax pmax
comp=Z,591nm,2.2s,mb6.2
KIV MLR MLR
comp=Z,9μm,21.0s,MS6.0
KIV Kislovodsk 66.97 310 *e*P **P 10 12 40.8 +0.7**
KIV LR LR
comp=Z,3μm,20.0s,MS5.4
TVAN Van 67.19 304 *i* P **P 10 12 43.6 +2.2**
SDPT Sand Point 67.24 38 *e*P **P 10 12 41.3 -0.4**
BHD Baghdad 67.29 298 *e*x x 10 12 37.0
BHD *e*x x 10 21 17.0
MSL Mosul 67.80 302 *e*x x 10 12 45.0
MSL *i* x x 10 12 58.5
MSL *i* x x 10 13 35.0
MSL *e*x x 10 13 50.5
MSL *e*x x 10 15 22.5
MSL *e*x x 10 21 44.5
MSL *e*x x 10 22 07.0
MSL *e*x x 10 23 22.0
TMCR Tamitsa 68.08 332 *e*P **P 10 12 46.2 -0.8**
TMCR *e**PP pP 10 12 55.9 +2.9
TMCR *e**SP sP 10 13 00.7 +5.5
TMCR pmax pmax
comp=Z,329nm,1.1s,mb6.3
TAU Tasmania Unive 68.13 159 *e*P **P 10 12 48.2 +0.8**
comp=Z,215nm,1.3s,mb6.0
TAU LR LR
comp=Z,1μm,21.0s,MS5.1
MSEY Mahe Island 68.18 256 *e*P **P 10 12 47.3 -0.4**
comp=Z,89nm,1.0s,mb5.8
MSEY LR LR
comp=Z,1μm,22.0s,MS5.2
CHGN Chignik 68.33 36 *e*P **P 10 12 48.1 -0.5**
VOR Voronezh 68.41 319 *e*P **P 10 12 47.0 -2.1**
VOR pmax pmax
comp=Z,250nm,2.0s,mb5.9
VORD Divnogorie 68.43 318 *e*P **P 10 12 48.3 -0.9**
VORD pmax pmax
comp=E,100nm,0.9s
VORD pmax pmax
comp=Z,80nm,0.9s,mb5.8
VORD pmax pmax
comp=N,10.0nm,0.6s
VRSR Storozhevoye 68.47 318 *d* iP **P 10 12 48.3 -1.2**
VRSR *e**PP pP 10 12 55.0 -0.4
VRSR *e*S S 10 21 50.0 -0.4
VRSR pmax pmax
comp=N,30nm,1.0s
VRSR pmax pmax
comp=E,210nm,1.0s
VRSR pmax pmax
comp=Z,140nm,1.0s,mb6.0
ERZM Erzurum 68.53 306 *i* P **P 10 12 50.8 +0.9**
BNGL BINGOL 68.86 305 *i* P **P 10 12 52.5 +0.7**
MOS Moscow 68.90 323 *e*P **P 10 12 50.9 -1.3**
MOS *e* 10 15 24.6
MOS *e*PPP 10 17 02.0
MOS *e*S S 10 21 55.1 -0.5
MOS *e* 10 22 47.1
MOS pmax pmax
comp=Z,685nm,1.6s,mb6.3
MOS pmax pmax
comp=N,219nm,1.3s
MOS pmax pmax
comp=E,140nm,1.3s
MOS smax
comp=N,3μm,4.8s
MOS smax
comp=E,1μm,5.0s
MOS MLR MLR
comp=E,6μm,17.0s,MS6.2
MOS MLR MLR
comp=Z,11μm,17.0s,MS6.2
MOS MLR MLR
comp=N,10μm,15.0s,MS6.2
BEST Besiri 68.95 304 *i* P **P 10 12 52.7 +0.2**
LVZ Lovozero 69.26 336 P **P 10 12 53.4 -1.0**
comp=N,907nm,0.9s,mb6.7,SNR=9.1
LVZ Lovozero 69.26 336 *e*P **P 10 12 54.8 +0.4**
LVZ S S 10 21 55.3 -4.4
LVZ SSS 10 29 22.7
LVZ pmax pmax
comp=E,19nm,0.9s
LVZ pmax pmax
comp=Z,90nm,0.9s,mb5.7
LVZ pmax pmax
comp=N,18nm,0.8s
LVZ MLR MLR
comp=N,6μm,15.0s,MS6.1
LVZ MLR MLR
comp=Z,12μm,15.0s,MS6.3
LVZ MLR MLR
comp=E,5μm,14.0s,MS6.1
LVZ Lovozero 69.26 336 *e*P **P 10 12 53.0 -1.4**
SVW2 Sparrevohn 69.36 31 *e*P **P 10 12 57.1 +2.2**
MARD Mardin 69.44 303 *i* P **P 10 12 46.0 -10**
MACK Trabzon 69.56 307 *i* P **P 10 12 56.1 -0.1**
OBN Obninsk 69.57 322 *d* iP **P 10 12 55.5 -0.8**
OBN *e* 10 13 08.5
OBN *e* 10 13 18.7
OBN *e* 10 15 28.9
OBN *e*S S 10 22 02.5 -1.0
OBN *e*SS SS 10 26 34.7 +3.5
OBN pmax pmax
comp=Z,566nm,1.3s,mb6.3
OBN MLR MLR
comp=Z,8μm,17.0s,MS6.0
OBN Obninsk 69.57 322 *e*P **P 10 12 56.1 -0.2**
OBN LR LR
comp=Z,3μm,21.0s,MS5.5
APA Apatity 69.76 336⇑ *e*P **P 10 12 56.5 -1.0**
APA *e* 10 15 36.0
APA *i* S S 10 22 07.0 +1.4
APA *e*PS 10 22 34.0
APA pmax pmax
comp=Z,130nm,0.8s,mb5.9
APA pmax pmax
comp=Z,4μm,8.0s
APA MLR MLR
comp=Z,14μm,13.0s,MS6.4
KELT Kelkit 70.09 306 *i* P **P 10 13 01.1 +1.7**
ANN Anapa 70.57 312 *i* P **P 10 13 01.6 -0.9**
ELZG Elazig 70.61 305 *i* P **P 10 13 03.9 +1.2**
MALT Malatya 71.07 305⇓ *i* P **P 10 13 06.4 +0.9**
MALT Malatya 71.07 305 *e*P **P 10 13 06.7 +1.2**
comp=Z,276nm,1.3s,mb6.0
JOF Joensuu 71.20 331 *e*p **P 10 13 05.0 -1.2**
comp=Z,175nm,0.8s,mb6.0
JOF Joensuu 71.20 331 *e*P **P 10 13 05.0 -1.2**
JOF pmax pmax
comp=Z,175nm,0.8s,mb6.0
LBOS 71.23 278 *e*P **P 10 13 07.0 +0.5**
LBOS AMb AMB 10 13 09.2
comp=Z,560nm,1.4s,mb6.3
KDAK Kodiak Island 71.30 34 S S 10 22 26.4 +2.8
comp=Z,9.2nm,0.8s,baz=141,slow=21,SNR=2.5
KDAK LR LR 10 48 14.6
comp=Z,4μm,18.9s,MS5.7,baz=257,slow=39
KDAK Kodiak Island 71.30 34 *e*P **P 10 13 07.6 +0.7**
KDAK LR LR
comp=Z,2μm,22.0s,MS5.3
ATAB Bozova 71.35 304 *i* P **P 10 13 08.8 +1.6**
KEV Kevo 71.78 339 *e*P **P 10 13 08.4 -1.4**
comp=Z,71nm,0.7s,mb5.7
KEV LR LR
comp=Z,8μm,19.0s,MS6.0
DHBB Dhamar BB 71.81 279⇑ *e*P **P 10 13 10.5 +0.5**
GZT Gaziantep 71.94 304 *i* P **P 10 13 11.1 +0.3**
MCK McKinley 72.05 28 *e*P **P 10 13 11.3 -0.1**
comp=Z,278nm,1.3s,mb6.0
MCK LR LR
comp=Z,2μm,20.0s,MS5.5
PUL Pulkovo 72.20 328 *e*P **P 10 13 12.5 +0.2**
PUL S S 10 22 28.5 -5.5
PUL pmax pmax
comp=Z,296nm,0.8s,mb6.3
PUL pmax pmax
comp=E,691nm,0.9s
PUL MLR MLR
comp=E,27μm,15.0s,MS6.7
PUL MLR MLR
comp=Z,31μm,15.0s,MS6.7
PUL MLR MLR
comp=N,2μm,11.0s,MS6.7
PUL Pulkovo 72.20 328 *e*P **P 10 13 12.0 -0.3**
COLA College 72.31 27 *e*P **P 10 13 13.2 +0.3**
COLA LR LR
comp=Z,4μm,19.0s,MS5.7
ARCES ARCESS Array B 72.34 338 P **P 10 13 12.8 -0.3**
comp=Z,80nm,0.8s,mb5.7,baz=75,slow=6.4,SNR=99
ARCES S S 10 22 36.5 +0.9
comp=Z,2.1nm,0.7s,baz=31,slow=21,SNR=2.2
ARCES LR LR 10 46 27.2
comp=Z,8μm,21.7s,MS5.9,baz=77,slow=37
ARCES ARCESS Array B 72.34 338 P **P 10 13 12.8 -0.3**
ARCES S S 10 22 36.5 +0.9
ARCES ARCESS Array B 72.34 338 P **P 10 13 12.8 -0.3**
ARCES S S 10 22 36.5 +0.9
ARCES LR LR 10 46 27.2
ARE0 ARCESS Array S 72.34 338 *e*P **P 10 13 13.8 +0.6**
PMR Palmer 72.36 30 *e*P **P 10 13 13.6 +0.4**
PMR pmax pmax
comp=Z,130nm,1.0s,mb5.8
PMR MLR MLR
comp=Z,4μm,17.0s,MS5.8
PMR Palmer 72.36 30 *e*P **P 10 13 13.6 +0.4**
comp=Z,130nm,1.0s,mb5.8
PMR LR LR
comp=Z,4μm,17.0s,MS5.8
TRBA At Turbah 72.47 278 *e*P **P 10 13 14.3 +0.5**
SPB4 Spitsbergen Ar 72.62 348 *e*P **P 10 13 15.1 +0.3**
SIM Simferopol' 72.86 312 *d* iP **P 10 13 15.3 -0.9**
SIM *e*S S 10 22 41.8 +0.3
SIM *e*PS 10 23 34.0
SIM pmax pmax
comp=Z,139nm,1.0s,mb5.8
SIM MLR MLR
comp=Z,10μm,20.9s,MS6.0
SIM Simferopol' 72.86 312 *i* P **P 10 13 14.0 -2.2**
BJO Bjornoya 73.05 344 *e*P **P 10 13 14.5 -2.8**
BJO *e* 10 17 45.9
BJO *e*S S 10 22 49.0 +5.4
BJO AMS AMS 10 50 52.0
comp=Z,9μm,16.8s,MS6.1
BOYT Boyabat 73.06 308 *i* P **P 10 13 16.8 -0.7**
BJO1 Bjornoya 73.09 344 *e*P **P 10 13 14.5 -3.1**
BJO1 *e* 10 17 45.9
BJO1 *i* 10 22 52.6
BJO1 LR LR
comp=Z,9μm,16.8s,MS6.1
COBT Iskenderun 73.15 303 *i* P **P 10 13 18.4 +0.4**
KBS Kingsbay 73.19 349 *e*P **P 10 13 15.7 -2.5**
KBS *e*S S 10 22 47.0 +1.7
KBS *e*S S 10 22 48.1 +2.8
KBS *i* 10 31 18.7
KBS AMS AMS 10 49 50.2
comp=Z,18μm,18.6s,MS6.4
KBS Kingsbay 73.19 349 *e*P **P 10 13 18.0 -0.2**
KBS Kingsbay 73.19 349 *e*P **P 10 13 17.9 -0.2**
KBS LR LR
comp=Z,29μm,19.0s,MS6.6
KTK1 Kautokeino 73.24 338 *e*P **P 10 13 19.1 +0.6**
KTK1 AMb AMB 10 13 33.6
comp=Z,272nm,1.4s,mb6.0
KTK1 Kautokeino 73.24 338 *e*P **P 10 13 19.1 +0.6**
comp=Z,272nm,1.4s,mb6.0
CTKT Corum 73.33 308 *i* P **P 10 13 19.9 +0.9**
FKH Fakeheh 73.58 301 *e*P **P 10 13 21.2 +0.7**
KAF Kangasniemi 73.63 331 *ep* **P 10 13 19.5 -1.3**
comp=Z,210nm,0.9s,mb6.1,baz=75,slow=5.5
KAF Kangasniemi 73.63 331 *e*P **P 10 13 19.5 -1.3**
KAF pmax pmax
comp=Z,210nm,0.9s,mb6.1
ASF Jabal al Asfar 73.69 299 LR LR 10 49 45.3
comp=Z,4μm,21.4s,MS5.7,baz=122,slow=39
CDAG Cicekdag 73.87 307 *i* P **P 10 13 19.4 -2.8**
FINES FINESS Array B 73.89 330 P **P 10 13 21.7 -0.6**
comp=Z,166nm,0.8s,mb6.0,baz=72,slow=6.2,SNR=216
FINES LR LR 10 47 06.8
comp=Z,10μm,19.1s,MS6.1,baz=256,slow=37
DIV Divide 74.04 30 *e*P **P 10 13 24.1 +0.9**
DIV LR LR
comp=Z,17μm,20.0s,MS6.3
BALT Daday 74.15 309 *i* P **P 10 13 24.2 +0.4**
EYAK Cordova Ski Ar 74.19 31 *e*P **P 10 13 23.9 -0.2**
comp=Z,1μm,1.9s,mb6.4
BHL Bhannes 74.27 301 *e*P **P 10 13 24.8 +0.4**
ELDT Eldivan 74.37 308 *i* P **P 10 13 24.6 -0.4**
BR131 Keskin Array S 74.39 307 *e*P **P 10 13 25.4 +0.2**
BR131 LR LR
comp=Z,3μm,19.0s,MS5.6
MENT Mentasta 74.52 28 *e*P **P 10 13 26.5 +0.5**
TRO Tromso 74.55 339 *e*P **P 10 13 25.3 -0.8**
TRO *e*S S 10 23 01.8 +1.2
TRO *e*S S 10 23 02.0 +1.5
TRO *e*S S 10 23 02.5 +1.9
TRO *e*SS SS 10 27 46.6 -0.8
TRO AMS AMS 10 54 59.8
comp=Z,7μm,17.8s,MS6.0
TRO Tromso 74.55 339 *e*P **P 10 13 25.3 -0.8**
TRO *i* 10 23 05.7
TRO LR LR
comp=Z,7μm,17.8s,MS6.0
MNK Minsk 74.65 323⇓ *e*P **P 10 13 22.0 -4.7**
MNK *e*S S 10 22 56.0 -5.8
MNK *e*SSS 10 31 05.0
MNK pmax pmax
comp=Z,730nm,1.0s,mb6.6
MNK MLR MLR
comp=E,14μm,16.0s,MS6.6
MNK MLR MLR
comp=N,17μm,14.0s,MS6.6
MNK MLR MLR
comp=Z,12μm,14.0s,MS6.3
AKASG Malin Array Be 74.76 319 P **P 10 13 26.2 -1.2**
comp=Z,117nm,0.9s,mb5.8,baz=61,slow=5.8,SNR=111
AKASG S S 10 23 01.8 -1.2
comp=Z,0.2nm,0.2s,baz=140,slow=20,SNR=2.5
AKASG SS SS 10 27 43.8 -6.8
comp=Z,1.1nm,0.5s,baz=273,slow=23,SNR=6.0
AKASG LR LR 10 48 14.3
comp=Z,5μm,18.6s,MS5.8,baz=105,slow=37
AKASG Malin Array Be 74.76 319 P **P 10 13 26.2 -1.1**
AKASG S S 10 23 01.8 -1.1
AKASG SS SS 10 27 43.8 -6.8
AKASG Malin Array Be 74.76 319 P **P 10 13 26.2 -1.2**
AKASG S S 10 23 01.8 -1.2
AKASG SS SS 10 27 43.8 -6.8
AKASG LR LR 10 48 14.3
MEST Erdemli 74.78 304 *i* P **P 10 13 26.6 -0.9**
ANTO Ankara 74.99 307⇓ *i* P **P 10 13 28.4 -0.3**
ANTO Ankara 74.99 307 P **P 10 13 29.7 +1.0**
ANTO LR LR
comp=Z,2μm,20.0s,MS5.5
IDID Didziasalis 75.06 324 *e*P **P 10 13 28.9 -0.2**
IDID AMb AMB 10 13 30.7
comp=Z,6μm,0.8s
EGAK Eagle 75.11 26 *e*P **P 10 13 29.0 -0.3**
comp=Z,100nm,0.9s,mb5.8
EGAK LR LR
comp=Z,4μm,21.0s,MS5.7
IZAR Zarasai 75.22 324 *e*P **P 10 13 29.6 -0.5**
AFI Afiamalu 75.28 111 P **P 10 13 31.3 +0.9**
comp=Z,170nm,1.2s,mb5.8,baz=272,slow=12,SNR=2.6
AFI S S 10 23 11.7 +3.0
comp=Z,32nm,0.9s,baz=200,slow=21,SNR=1.9
AFI LR LR 10 41 06.1
comp=Z,4μm,21.6s,MS5.7,baz=280,slow=31
AFI Afiamalu 75.28 111 P **P 10 13 31.3 +1.0**
AFI S S 10 23 11.7 +3.0
IIGN Ignalina 75.34 324 *e*P **P 10 13 30.2 -0.4**
IIGN AMb AMB 10 13 32.6
comp=Z,3μm,0.8s
SGKT Sivrigoynuk 75.36 308 *i* P **P 10 13 30.4 -0.4**
KIP Kipapa 75.49 72 *e*P **P 10 13 32.1 +0.5**
KIP Kipapa 75.49 72 *e*P **P 10 13 32.8 +1.2**
comp=Z,78nm,0.8s,mb5.7
KIP LR LR
comp=Z,10μm,21.0s,MS6.1
ERMK Ermenek 75.73 304 *i* P **P 10 13 31.8 -1.1**
KDHN Kadinhani 75.84 306 *i* P **P 10 13 30.9 -2.7**
EIL Elat 75.96 297 *e*P **P 10 13 35.2 +1.0**
KIS Kishinev 75.96 315 *i* P **P 10 13 32.0 -2.2**
KIS *i* S S 10 23 13.0 -3.2
KIS Kishinev 75.96 315⇓ *i* P **P 10 13 32.0 -2.2**
comp=Z,2μm,6.0s
KIS Kishinev 75.96 315 *i* PcP PcP 10 13 44.0 -2.6
KIS Kishinev 75.96 315 *e*PP PP 10 16 30.0 +5.3
DAWY Dawson 76.06 26 *e*P **P 10 13 35.1 +0.3**
HENT Hendek 76.14 309 *i* P **P 10 13 33.5 -1.8**
ESKT Eskisehir 76.53 307 *i* P **P 10 13 36.4 -1.1**
INK Inuvik 76.79 21 S S 10 23 22.8 -2.6
comp=Z,3.3nm,1.0s,baz=188,slow=16,SNR=2.1
INK Inuvik 76.79 21 *e*P **P 10 13 38.6 -0.3**
INK pmax pmax
comp=Z,150nm,1.1s
INK Inuvik 76.79 21 *e*P **P 10 13 38.6 -0.4**
comp=Z,5μm,1.1s
LOF Lofoten 76.90 338 *e*P **P 10 13 40.6 +1.0**
LOF AMb AMB 10 13 47.2
comp=Z,263nm,1.2s,mb6.0
LOF Lofoten 76.90 338 *e*P **P 10 13 40.6 +1.0**
comp=Z,263nm,1.2s,mb6.0
CFR Carcaliu 76.91 313⇓ *i* P **P 10 13 39.8 +0.2**
CFR Carcaliu 76.91 313 P **P 10 13 40.1 +0.5**
ALE Alert 76.92 0 P **P 10 13 39.0 -0.7**
comp=Z,274nm,1.3s,mb6.0,SNR=8.0
HARR Harsova 77.19 313⇑ *i* P **P 10 13 41.7 +0.5**
HARR Harsova 77.19 313 P **P 10 13 42.0 +0.8**
ISP Isparta 77.25 306 *e*P **P 10 13 40.5 -1.1**
ISP Isparta 77.25 306⇓ *i* P **P 10 13 41.1 -0.4**
ISP Isparta 77.25 306 P **P 10 13 41.1 -0.5**
DESE Dese 77.29 277 *e*P **P 10 13 44.4 +2.6**
DESE *e*S S 10 23 33.8 +3.0
MOR8 Moi Rana 77.33 336 *e*P **P 10 13 39.7 -2.4**
MOR8 AMb AMB 10 13 48.6
comp=Z,198nm,1.4s,mb5.8
MOR8 Moi Rana 77.33 336 *e*P **P 10 13 39.7 -2.4**
comp=Z,198nm,1.4s,mb5.8
TKTP Tekketepe 77.34 306 *i* P **P 10 13 41.1 -0.9**
SUW Suwalki 77.41 323 *e*P **P 10 13 42.1 -0.4**
SUW *e*pP pP 10 13 47.4 -1.1
SUW *e*S S 10 23 25.9 -6.2
ULDT Uludag 77.62 308 *i* P **P 10 13 43.4 -0.2**
VRI Vrincioaia 77.66 314⇑ *i* P **P 10 13 44.1 +0.3**
VRI Vrincioaia 77.66 314 ⇑P **P 10 13 44.1 +0.3**
GDZ Gediz 77.67 307 *i* P **P 10 13 43.3 -0.6**
PLOR Plostina 77.72 314⇑ *i* P **P 10 13 45.2 +1.0**
RAO Raoul Island 77.72 128 S S 10 23 36.0 +0.6
comp=Z,46nm,0.4s,baz=110,slow=23,SNR=1.5
RAO Raoul Island 77.72 128 PFAKE 10 13 50.0 +5.8
RAO LR LR
comp=Z,4μm,21.0s,MS5.7
ELBA Catalca 77.85 309 *i* P **P 10 13 41.4 -3.5**
PRD Provadia 77.98 312 *i* P **P 10 13 46.8 +1.2**
BURAR Bucovina Array 78.13 316⇓ *i* P **P 10 13 46.4 -0.1**
BURAR Bucovina Array 78.13 316⇓⇓ P **P 10 13 46.4 0.0**
GOLH Golhisar 78.14 305 *i* P **P 10 13 44.9 -1.6**
POHA Pohakuloa 78.20 73 PFAKE 10 14 00.0 +13
POHA LR LR
comp=Z,4μm,21.0s,MS5.8
LVV L'vov 78.20 319 *i* P **P 10 13 46.8 -0.1**
LVV *i* 10 13 57.6
LVV *e* 10 16 45.4
LVV *e*S S 10 23 42.6 +1.9
LVV *i* 10 24 33.2
MLR Muntele Rosu 78.30 314⇓ *i* P **P 10 13 47.6 +0.2**
MLR Muntele Rosu 78.30 314 P **P 10 13 48.0 +0.7**
DNZL Cakiroluk 78.40 306 *i* P **P 10 13 53.8 +5.8**
AKAS Kas 78.40 304 *i* P **P 10 13 41.4 -6.6**
MANT Manisa 78.53 307 *i* P **P 10 13 48.1 -0.6**
BTOK Tokmak 78.55 308 *i* P **P 10 13 48.5 -0.2**
BUC1 Bucharest 78.59 313 P **P 10 13 50.3 +1.3**
JMB Yambol 78.77 311 *e*P **P 10 13 49.6 -0.4**
SART Tekirdag 78.89 309 *i* P **P 10 13 50.0 -0.6**
FURI Furi 78.90 275 *e*P **P 10 13 52.9 +2.1**
NSS Namsos 78.95 335 *e*P **P 10 13 48.4 -2.6**
NSS AMb AMB 10 13 53.4
comp=Z,106nm,0.8s,mb5.8
NSS *e*S S 10 23 49.4 +0.8
NSS *i* 10 33 17.4
NSS AMS AMS 10 54 06.4
comp=Z,9μm,19.0s,MS6.2
NSS Namsos 78.95 335 *e*P **P 10 13 48.4 -2.6**
comp=Z,106nm,0.8s,mb5.8
NSS LR LR
comp=Z,9μm,19.0s,MS6.2
SZH Strazhica 78.98 312 P **P 10 13 53.0 +1.8**
KWP Kalwaria 79.08 319 *e*P **P 10 13 51.9 +0.2**
KWP *e*pP pP 10 13 57.8 +0.1
KWP *e*S S 10 23 50.0 0.0
WAR Warsaw 79.22 322 *e*P **P 10 13 53.0 +0.6**
WAR *e*pP pP 10 13 58.3 -0.2
WAR *e*S S 10 23 53.2 +1.7
ZIMR 79.25 313 P **P 10 13 53.5 +0.9**
AYDN Tasoluk 79.29 306 *i* P **P 10 13 53.3 +0.4**
RPZ Rata Peaks 79.35 145 P **P 10 13 52.3 -0.8**
comp=Z,162nm,1.0s,mb5.9,baz=344,slow=3.5,SNR=10
RPZ S S 10 23 56.5 +3.6
comp=Z,22nm,1.0s,baz=326,slow=23,SNR=1.5
RPZ LR LR 10 48 25.3
comp=Z,4μm,19.1s,MS5.8,baz=309,slow=35
URZ Urewera 79.41 138 P **P 10 13 52.0 -1.5**
comp=Z,18nm,0.7s,mb5.1,baz=75,slow=6.7,SNR=2.9
URZ S S 10 23 57.7 +4.1
comp=Z,5.3nm,0.8s,baz=113,slow=23,SNR=1.7
PVL Pavlikeni 79.42 312 *i* P **P 10 13 54.7 +1.2**
SKAG Skagway 79.50 30 *e*P **P 10 13 55.1 +1.1**
comp=Z,174nm,0.9s,mb6.0
SKAG LR LR
comp=Z,4μm,17.0s,MS5.8
KDAG Bornova 79.53 307 *i* P **P 10 13 53.2 -0.9**
DAG Danmarks Havn 79.59 351⇑ *i* P **P 10 13 54.0 -0.5**
comp=Z,63nm,0.7s,mb5.7
DAG Danmarks Havn 79.59 351⇑ *i* P **P 10 13 54.0 -0.5**
DAG pmax pmax
comp=Z,63nm,0.7s,mb5.7
ALN Alexandroupoli 79.64 310 *e*P **P 10 13 54.2 -0.5**
UZH Uzhgorod 79.67 318⇑ *i* P **P 10 13 54.4 -0.5**
UZH *i* pP 10 13 59.0 -1.9
UZH *i* 10 16 54.0
UZH *i* S S 10 23 54.4 -1.9
UZH *i* SS SS 10 29 02.0 -2.7
UZH pmax pmax
comp=Z,117nm,1.0s,mb5.8
BDRM Kayabasi 79.81 306 *i* P **P 10 13 54.5 -1.2**
SNZO South Karori 79.83 141 PFAKE 10 14 10.0 +14
SNZO LR LR
comp=Z,5μm,21.0s,MS5.9
KDZ Kurdzhali 79.85 311 *i* P **P 10 13 57.7 +1.8**
BOZC Bozcaada 79.97 309 *i* P **P 10 13 55.0 -1.6**
URLA Izmir 80.04 307 *i* P **P 10 13 56.1 -0.8**
PLD Plovdiv 80.21 311 P **P 10 13 58.8 +1.0**
RZN Rozhen 80.34 311 *i* P **P 10 13 59.8 +1.3**
CHOS Chios island 80.43 307 *e*P **P 10 13 58.3 -0.8**
PGB Panagyurishte 80.44 312 *i* P **P 10 14 00.9 +1.8**
SIT Sitka 80.44 32 *e*P **P 10 13 59.6 +0.5**
comp=Z,219nm,0.9s,mb6.1
SIT LR LR
comp=Z,5μm,20.0s,MS5.8
NIE Niedzica 80.62 319 *e*P **P 10 14 00.5 +0.5**
OJC Ojcow 80.64 320 *e*P **P 10 14 00.3 +0.1**
OJC *e*PcP PcP 10 14 05.7 -1.2
OJC *e*PP PP 10 17 03.9 0.0
OJC *e*S S 10 24 05.5 -1.1
OJC *e*SS SS 10 29 23.6 +4.3
OJC L 10 52 57.6
comp=Z,38nm,21.6s
OJC Ojcow 80.64 320 *e*P **P 10 14 00.3 +0.1**
OJC *e* pP 10 14 05.7 -0.5
OJC *e* 10 17 03.9
OJC *e*SS SS 10 29 23.6 +4.3
OJC MLR MLR
comp=Z,38μm,21.6s,MS6.7
NB2 NORSAR Subarra 80.77 332 P **P 10 13 59.8 -1.1**
comp=Z,53nm,0.8s,mb5.5,baz=63,slow=5.6
NB2 NORSAR Subarra 80.77 332 P **P 10 13 59.8 -1.1**
NB2 pmax pmax
comp=Z,53nm,0.8s,mb5.5
NB2 NORSAR Subarra 80.77 332 P **P 10 13 59.8 -1.1**
comp=Z,53nm,0.8s,mb5.5
NOA NORSAR Array B 80.77 332 P **P 10 13 59.7 -1.2**
comp=Z,103nm,0.8s,mb5.8,baz=64,slow=5.3,SNR=47
NOA S S 10 24 09.0 +1.1
comp=Z,1.0nm,0.8s,baz=86,slow=12,SNR=2.0
NOA PKKPbc PKKPbc 10 32 37.1 -2.4
comp=Z,1.8nm,1.0s,baz=302,slow=22,SNR=2.5
NOA LR LR 10 55 10.2
comp=Z,15μm,18.0s,MS6.4,baz=65,slow=40
NOA NORSAR Array B 80.77 332 P **P 10 13 59.7 -1.2**

NOA				S	S	10 24 09.0	+1.1
NOA	**NORSAR Array B**	**80.77 332**		P	**P**	**10 13 59.7**	**-1.2**
NOA				S	S	10 24 09.0	+1.1
NOA				PKKPbc	PKKPbc	10 32 37.1	-2.4
NOA				LR	LR	10 55 10.2	
DJES	**Djerdap**	**80.87 314**	*i*	P	**P**	**10 14 02.1**	**+0.7**
GKP	**Gorka Klasztor**	**80.99 324**	*eP*	P	**P**	**10 14 02.1**	**+0.1**
GKP			*e*	pP	pP	10 14 07.0	-1.1
GKP			*eS*	S	S	10 24 09.1	-1.1
NAO01	**NORSAR Array S**	**81.00 332**	*eP*	P	**P**	**10 14 01.2**	**-0.9**
NAO01				LR	LR		
	comp=Z,14μm,19.0s,MS6.3						
MMB	**Musomiste**	**81.07 311**	*eP*	P	**P**	**10 14 00.8**	**-1.7**
VTS	**Vitosha**	**81.09 312**	*eP*	P	**P**	**10 14 02.3**	**-0.3**
VTS	**Vitosha**	**81.09 312**	*i*	P	**P**	**10 14 04.2**	**+1.6**
VTS	**Vitosha**	**81.09 312**	⇓*i*	P	**P**	**10 14 02.8**	**+0.2**
VTS	**Vitosha**	**81.09 312**		P	**P**	**10 14 03.1**	**+0.6**
BZS	**Buzias**	**81.13 315**	⇓*i*	P	**P**	**10 14 02.3**	**-0.5**
BZS	**Buzias**	**81.13 315**		P	**P**	**10 14 02.9**	**+0.1**
DOMB	**Dombas**	**81.23 334**	*eP*	P	**P**	**10 14 02.7**	**-0.6**
DOMB				AMb	AMB	10 14 11.0	
	comp=Z,194nm,1.5s,mb5.8						
DOMB	**Dombas**	**81.23 334**	*eP*	P	**P**	**10 14 02.7**	**-0.6**
	comp=Z,194nm,1.5s,mb5.8						
APE	**Apeiranthos**	**81.26 306**	*eP*	P	**P**	**10 14 00.7**	**-2.7**
APE	**Apeiranthos**	**81.26 306**	⇓*i*	P	**P**	**10 14 01.6**	**-1.8**
APE	**Apeiranthos**	**81.26 306**	⇓	P	**P**	**10 14 01.6**	**-1.8**
OUR	**Ouranopolis**	**81.31 310**	*eP*	P	**P**	**10 14 03.8**	**0.0**
SRS	**Serrai**	**81.33 311**	*eP*	P	**P**	**10 14 01.6**	**-2.2**
PSZ	**Piszkesteto**	**81.42 318**	⇓*eP*	P	**P**	**10 14 04.4**	**+0.1**
PSZ	**Piszkesteto**	**81.42 318**	⇓*i*	P	**P**	**10 14 03.9**	**-0.4**
PSZ	**Piszkesteto**	**81.42 318**	*eP*	P	**P**	**10 14 04.2**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.8						
PSZ	**Piszkesteto**	**81.42 318**	*eP*	P	**P**	**10 14 04.2**	**0.0**
	comp=Z,145nm,1.2s,mb5.8						
OSL	**Oslo**	**81.48 331**	*eP*	P	**P**	**10 14 04.3**	**-0.4**
BSD	**Bornholm Skovb**	**81.51 326**	*i*	S	S	10 24 16.5	+0.9
BSD							
	comp=Z,17μm,16.0s						
BSD	**Bornholm Skovb**	**81.51 326**	⇓*i*	P	**P**	**10 14 04.2**	**-0.6**
BSD			*i*	S	S	10 24 16.5	+0.9
BSD				pmax	pmax		
	comp=Z,280nm,0.9s,mb6.2						
BSD				MLR	MLR		
	comp=Z,17μm,16.0s,MS6.5						
BSD	**Bornholm Skovb**	**81.51 326**	⇓*i*	P	**P**	**10 14 04.2**	**-0.6**
	comp=Z,275nm,0.9s,mb6.2						
BSD			*i*	S	S	10 24 16.5	+0.9
BOLS	**Boljevac**	**81.53 314**	⇓*i*	P	**P**	**10 14 05.2**	**+0.3**
SANT	**Santorini**	**81.54 306**	*eP*	P	**P**	**10 14 03.1**	**-1.8**
SANT	**Santorini**	**81.54 306**	*eP**	P	**P**	**10 14 03.5**	**-1.4**
SOH	**Sokhos**	**81.60 310**	*eP**	P	**P**	**10 14 01.4**	**-3.8**
RAC	**Raciborz**	**81.65 320**	*eP**	P	**P**	**10 14 06.2**	**+0.7**
RAC			*eS*	S	S	10 24 17.5	+0.4
RAC				MLR	MLR		
	comp=E,11μm,19.9s						
PLG	**Polygyros**	**81.68 310**	*eP*	P	**P**	**10 14 02.3**	**-3.4**
OKC	**Ostrava-Krasne**	**81.77 320**	*eP*	P	**P**	**10 14 06.4**	**+0.2**
OKC			*eS*	S	S	10 24 18.8	+0.5
OKC				AMS	AMS	10 51 50.0	
	comp=E,7μm,18.4s						
OKC	**Ostrava-Krasne**	**81.77 320**	*eP*	P	**P**	**10 14 06.4**	**+0.2**
OKC			*eSKS*			10 24 18.8	
AOS	**Alonnisos**	**81.78 309**	*eP*	P	**P**	**10 14 06.6**	**+0.4**
KNT	**Kendrikon**	**81.80 311**	*eP*	P	**P**	**10 14 03.1**	**-3.2**
HORT	**Hortiatis**	**81.85 310**	*eP*	P	**P**	**10 14 05.2**	**-1.4**
JMIC	**Jan Mayen**	**81.88 345**	*eP*	P	**P**	**10 14 08.2**	**+1.5**
JMIC			*ePP*	PP	PP	10 17 19.2	+5.1
JMIC			*eS*	S	S	10 24 24.1	+4.8
JMIC			*eSS*	SS	SS	10 29 41.8	+4.1
JMIC				AMS	AMS	10 54 18.9	
	comp=Z,9μm,18.9s,MS6.1						
JMIC	**Jan Mayen**	**81.88 345**	*eP*	P	**P**	**10 14 08.2**	**+1.5**
JMIC			*i*			10 24 28.6	
JMIC				LR	LR		
	comp=Z,9μm,18.9s,MS6.1						
THE	**Thessaloniki**	**81.94 310**	*eP*	P	**P**	**10 14 05.3**	**-1.7**
VAY	**Valandovo**	**81.98 311**	*eP*	P	**P**	**10 14 05.1**	**-2.1**
VAY	**Valandovo**	**81.98 311**	⇓*i*	P	**P**	**10 14 05.9**	**-1.4**
STIP	**Stip**	**82.12 312**	*eP*	P	**P**	**10 14 07.0**	**-1.0**
STIP	**Stip**	**82.12 312**	*eP*	P	**P**	**10 14 06.6**	**-1.4**
BUD	**Budapest**	**82.12 318**	⇓*eP*	P	**P**	**10 14 07.9**	**-0.1**
KONO	**Kongsberg**	**82.12 331**	*eP*	P	**P**	**10 14 06.1**	**-1.9**
KONO			*ePP*	PP		10 17 16.7	+0.6
KONO			*eS*	S		10 24 22.6	+0.7
KONO			*eSKS*			10 24 25.7	
KONO			*i*			10 34 10.0	
KONO	**Kongsberg**	**82.12 331**	*eP*	P	**P**	**10 14 07.5**	**-0.5**
KONO				LR	LR		
	comp=Z,16μm,19.0s,MS6.4						
SLAT	**Slait**	**82.15 284**	*i*	P	**P**	**10 14 06.7**	**-1.4**
	baz=46,slow=4.6						
SLAT				AMb	AMB	10 14 11.5	
	comp=Z,26nm,1.0s,mb5.1						
MORC	**Moravsky Berou**	**82.16 320**	⇓*i*	P	**P**	**10 14 08.4**	**+0.2**
MORC	**Moravsky Berou**	**82.16 320**	*eP*	P	**P**	**10 14 08.3**	**+0.1**
MORC				pmax	pmax		
	comp=Z,87nm,1.0s,mb5.6						
MORC	**Moravsky Berou**	**82.16 320**	*eP*	P	**P**	**10 14 08.2**	**+0.1**
	comp=Z,87nm,0.9s,mb5.7						
BEO	**Belgrade**	**82.18 315**	*i*	P	**P**	**10 14 06.6**	**-1.7**
WRAK	**Wrangell Islan**	**82.20 32**	*eP*	P	**P**	**10 14 08.8**	**+0.4**
	comp=Z,86nm,0.9s,mb5.7						
WRAK				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
RES	**Resolute Bay**	**82.20 9**	*eP*	P	**P**	**10 14 08.0**	**-0.4**
RES				pmax	pmax		
	comp=Z,190nm,0.9s,mb6.0						
RES	**Resolute Bay**	**82.20 9**	*eP*	P	**P**	**10 14 08.0**	**-0.4**
	comp=Z,6μm,0.8s						
XOR	**Xorichti**	**82.21 309**	*eP*	P	**P**	**10 14 11.7**	**+3.3**
CRAG	**Craig**	**82.22 33**	*eP*	P	**P**	**10 14 09.9**	**+1.4**
	comp=Z,105nm,1.0s,mb5.7						
CRAG				LR	LR		
	comp=Z,2μm,17.0s,MS5.7						
GRG	**Griva**	**82.23 311**	*eP*	P	**P**	**10 14 07.5**	**-1.0**
GRUS	**Gruza**	**82.35 314**	*i*	P	**P**	**10 14 10.1**	**+0.9**
LIT	**Litokhoron**	**82.46 310**	*eP*	P	**P**	**10 14 08.2**	**-1.6**
KSP	**Ksiaz**	**82.48 322**	*eP*	P	**P**	**10 14 10.5**	**+0.7**
KSP			*ep*P	pP	pP	10 14 15.4	-0.5
KSP			*eS*	S	S	10 24 25.7	+0.2
KSP	**Ksiaz**	**82.48 322**	⇓*eP*	P	**P**	**10 14 10.2**	**+0.4**
KSP			*eS*	S	S	10 24 25.5	0.0
KSP			*eSS*	SS	SS	10 29 44.0	-2.6
KSP	**Ksiaz**	**82.48 322**	⇓*eP*	P	**P**	**10 14 10.2**	**+0.4**
KSP			*ePcP*	PcP	PcP	10 14 15.2	+0.3
KSP			*ePP*	PP	PP	10 17 10.0	-9.0
KSP			*eS*	S	S	10 24 25.5	0.0
KSP			*eSS*	SS	SS	10 29 44.0	-2.6
KSP			*eSSS*			10 33 59.0	
KSP				LR	LR		
	comp=Z,22μm,18.1s,MS6.6						
MRKH	**Merkhyat**	**82.49 284**	*i*	P	**P**	**10 14 08.3**	**-1.6**
	baz=45,slow=5.1						
MRKH				AMb	AMB	10 14 14.6	
	comp=N,1μm,0.9s						
MRKH				AMb	AMB	10 14 15.8	
	comp=Z,44nm,1.5s,mb5.2						
SKO	**Skopje**	**82.54 312**	*eP*	P	**P**	**10 14 09.2**	**-1.0**
SKO	**Skopje**	**82.54 312**	*eP*	P	**P**	**10 14 09.0**	**-1.2**
COP	**Copenhagen**	**82.56 327**	*i*	S	S	10 24 27.9	+1.6
COP							
	comp=Z,6μm,17.0s						
COP	**Copenhagen**	**82.56 327**	⇓*i*	P	**P**	**10 14 11.3**	**+1.0**
COP			*i*	S	S	10 24 27.9	+1.6
COP				pmax	pmax		
	comp=Z,170nm,0.9s,mb6.1						
COP				MLR	MLR		
	comp=Z,6μm,17.0s,MS6.0						
COP	**Copenhagen**	**82.56 327**	⇓*i*	P	**P**	**10 14 11.3**	**+1.0**
	comp=Z,173nm,0.9s,mb6.1						
COP			*i*	S	S	10 24 27.9	+1.6
COP				LR	LR		
	comp=Z,6μm,17.0s,MS6.0						
PKSG		**82.56 318**	⇓*eP*	P	**P**	**10 14 10.0**	**-0.3**
RGN	**Rugen**	**82.59 326**	*eP*	P	**P**	**10 14 10.7**	**+0.3**
	comp=Z,524nm,1.2s,mb6.4						
RGN	**Rugen**	**82.59 326**	*eP*	P	**P**	**10 14 10.8**	**+0.4**
	comp=Z,356nm,1.0s,mb6.3						
DPC	**Dobruska-Polom**	**82.66 321**	*eP*	P	**P**	**10 14 11.1**	**+0.3**
DPC			*eS*	S	S	10 24 27.0	-0.4
DPC				AMS	AMS	10 52 50.0	
	comp=Z,10μm,16.6s						
SMOL	**Smolenice**	**82.72 319**	*eP*	P	**P**	**10 14 12.4**	**+1.3**
DIVS	**Divcibare**	**82.75 314**	*i*	P	**P**	**10 14 11.5**	**+0.2**
DIVS	**Divcibare**	**82.75 314**	*eP*	P	**P**	**10 14 10.7**	**-0.6**
UPC	**Upice**	**82.78 321**	*eP*	P	**P**	**10 14 11.7**	**+0.3**
PKSM	**Moragy**	**82.85 317**	⇑*i*	P	**P**	**10 14 11.4**	**-0.4**
PKSM	**Moragy**	**82.85 317**		P	**P**	**10 14 11.7**	**-0.1**
VRAC	**Vranov**	**82.91 320**	⇑*i*	P	**P**	**10 14 12.2**	**+0.1**
VRAC	**Vranov**	**82.91 320**		P	**P**	**10 14 12.6**	**+0.5**
PKS9	**Tamasi**	**82.94 317**	*eP*	P	**P**	**10 14 11.7**	**-0.5**
AGG	**Agios Georgios**	**82.96 309**	*eP*	P	**P**	**10 14 10.2**	**-2.2**
BIA	**Bitola**	**82.97 311**	*eP*	P	**P**	**10 14 10.9**	**-1.5**
FNA	**Florina**	**83.01 311**	*eP*	P	**P**	**10 14 11.3**	**-1.3**
ZST	**Bratislava**	**83.04 319**	*eP*	P	**P**	**10 14 13.0**	**+0.2**
ZST			*e*			10 25 12.8	
ZST	**Bratislava**	**83.04 319**	*eP*	P	**P**	**10 14 13.0**	**+0.2**
	comp=Z,27nm,0.8s,mb5.3						
ZST			*e*			10 25 12.8	
ZST				LR	LR		
	comp=Z,6μm,18.4s,MS6.0						
RUE	**Ruedersdorf**	**83.23 324**	*eP*	P	**P**	**10 14 14.0**	**+0.3**
	comp=Z,815nm,1.4s,mb6.6						
RUE			*eS*	S	S	10 24 31.1	-2.1
BBLS	**Bajina Basta -**	**83.23 314**	*i*	P	**P**	**10 14 14.1**	**+0.3**
IVA	**Berane**	**83.27 313**	⇓*i*	P	**P**	**10 14 15.3**	**+1.3**
OHR	**Ohrid**	**83.30 311**	*eP*	P	**P**	**10 14 11.1**	**-3.0**
OHR	**Ohrid**	**83.30 311**	*i*	P	**P**	**10 14 11.5**	**-2.7**
PVY	**Plav**	**83.33 313**	⇓*i*	P	**P**	**10 14 14.8**	**+0.6**
PLE	**Pljevlja**	**83.44 314**	⇓*i*	P	**P**	**10 14 16.1**	**+1.2**
TREC	**Trest**	**83.58 320**	*eP*	P	**P**	**10 14 16.0**	**+0.4**
TREC				AMS	AMS	10 58 00.0	
	comp=Z,11μm,19.2s						
SOP	**Sopron**	**83.58 319**	⇓*eP*	P	**P**	**10 14 15.7**	**+0.1**
PVCC	**Panska Ves**	**83.61 322**	*eP*	P	**P**	**10 14 16.0**	**+0.3**
PVCC			*eSKS*			10 24 38.7	
PVCC				AMS	AMS	10 55 40.0	
	comp=Z,7μm,12.3s						
BER	**Bergen**	**83.62 333**	*eP*	P	**P**	**10 14 17.0**	**+1.2**
BER			*ePP*	PP		10 17 27.1	-1.3
BER			*eS*	S		10 24 38.0	+0.8
BER			*eS*	S		10 24 38.5	+1.3
BER				AMS	AMS	10 55 18.6	
	comp=Z,12μm,18.0s,MS6.3						
BLS5	**Blasjo**	**83.63 332**	*eP*	P	**P**	**10 14 16.5**	**+0.7**
BLS5				AMb	AMB	10 14 19.6	
	comp=Z,106nm,0.9s,mb6.0						
BLS5	**Blasjo**	**83.63 332**	*eP*	P	**P**	**10 14 16.5**	**+0.7**
	comp=Z,106nm,0.9s,mb6.0						
KMBO	**Kilima Mbogo**	**83.68 266**	P	P	**P**	**10 14 17.7**	**+1.6**
	comp=Z,83nm,1.1s,mb5.8,baz=46,slow=7.2,SNR=53						
KMBO				S	S	10 24 36.6	-1.1
	comp=Z,0.5nm,0.4s,baz=62,slow=24,SNR=2.4						
KMBO				LR	LR	10 53 45.2	
	comp=Z,4μm,18.3s,MS5.8,baz=74,slow=37						
KMBO	**Kilima Mbogo**	**83.68 266**	*eP*	P	**P**	**10 14 17.7**	**+1.7**
	comp=Z,98nm,1.0s,mb5.9						
KMBO				LR	LR		
	comp=Z,6μm,21.0s,MS6.0						
UPM	**Unac-Piva**	**83.82 314**	*eP*	P	**P**	**10 14 16.7**	**-0.1**
BRG	**Berggiesshubel**	**83.82 322**	*eP*	P	**P**	**10 14 17.0**	**+0.2**
	comp=Z,373nm,1.4s,mb6.3						
BRG			*ePP*	PP		10 17 42.6	+13
BRG			*eS*	S		10 24 38.6	-0.6
BRG	**Berggiesshubel**	**83.82 322**	*i*	P	**P**	**10 14 17.0**	**+0.2**
	comp=Z,131nm,1.1s,mb6.0						
BRG			*i*	pP		10 14 22.4	-0.5
	comp=Z,223nm,1.4s						
BRG				PP	PP	10 17 38.0	+8.0
BRG			*e*			10 21 04.0	
BRG				S	S	10 24 40.0	+0.8
BRG			*i*			10 25 24.0	
BRG				SS	SS	10 30 08.0	+1.4
BRG							
	comp=N,3μm,15.3s						
BRG							
	comp=E,6μm,15.0s						
BRG							
	comp=Z,8μm,14.5s						
BRG	**Berggiesshubel**	**83.82 322**	*i*	P	**P**	**10 14 17.0**	**+0.2**
BRG			*i*	pP		10 14 22.4	-0.5
BRG						10 17 38.0	
BRG				S	S	10 24 40.0	+0.8
BRG			*i*			10 25 24.0	
BRG				SS	SS	10 30 08.0	+1.4
BRG				LR	LR		
	comp=Z,8μm,14.5s,MS6.2						
MUD	**Monsted U'grnd**	**83.83 329**	⇓*i*	P	**P**	**10 14 17.6**	**+0.8**
	comp=Z,177nm,0.9s,mb6.2						
MUD			*e*			10 17 38.6	
MUD			*i*	S	S	10 24 42.2	+2.9
MUD			*i*			10 24 47.2	
MUD							
	comp=Z,13μm,16.0s						
MUD	**Monsted U'grnd**	**83.83 329**	⇓*i*	P	**P**	**10 14 17.6**	**+0.8**
MUD			*e*			10 17 38.6	
MUD			*i*	S	S	10 24 42.2	+2.9
MUD				pmax	pmax		
	comp=Z,180nm,0.9s,mb6.2						
MUD				MLR	MLR		
	comp=Z,13μm,16.0s,MS6.4						
MUD	**Monsted U'grnd**	**83.83 329**	⇓*i*	P	**P**	**10 14 17.6**	**+0.8**
	comp=Z,177nm,0.9s,mb6.2						
MUD			*e*			10 17 38.6	
MUD			*i*	S	S	10 24 42.2	+2.9
MUD			*i*			10 24 47.2	
PRU	**Pruhonice**	**83.85 321**	*eP*	P	**P**	**10 14 17.1**	**+0.2**
PRU			*eSKS*			10 24 38.7	
PRU				AMS	AMS	10 56 10.0	
	comp=Z,10μm,16.2s						
TIR	**Tirane**	**83.87 312**	*eP*	P	**P**	**10 14 16.4**	**-0.6**
TTG	**Podgorica**	**83.88 313**	⇓*i*	P	**P**	**10 14 16.8**	**-0.3**
PRA	**Prague**	**83.88 321**	P	P	**P**	**10 14 18.0**	**+0.9**
NKY	**Niksic**	**83.91 313**	⇓*i*	P	**P**	**10 14 15.4**	**-1.9**
CONA	**Conrad Observa**	**83.91 319**	⇑*i*	P	**P**	**10 14 17.7**	**+0.5**
	comp=Z,110nm,1.5s,mb5.8,SNR=22						
ULC	**Ulcinj**	**84.06 313**	⇓*i*	P	**P**	**10 14 18.3**	**+0.3**
FBE	**Freiberg**	**84.14 322**	*eP*	P	**P**	**10 14 18.7**	**+0.3**
	comp=Z,761nm,1.4s,mb6.6						
CLL	**Collm**	**84.17 323**	*eP*	P	**P**	**10 14 18.5**	**-0.1**
	comp=Z,343nm,1.0s,mb6.4						
CLL			*ePP*	PP		10 17 36.1	+3.3
CLL			*eS*	S		10 24 43.9	+1.2
CLL			*eSP*			10 25 30.7	
CLL			*eSS*	SS		10 30 16.4	+4.7
CLL			*ePKKPbc*	PKKPbc		10 32 31.7	-0.1
CLL			*eSSS*			10 33 48.9	
CLL			*eSSSS*			10 36 28.4	
CLL			*eL*			10 55 41.1	
	comp=Z,12μm,18.0s						
CLL	**Collm**	**84.17 323**	⇓*i*	P	**P**	**10 14 18.4**	**-0.2**
CLL			*i*	pP		10 14 23.9	-0.8
CLL			*eS*	S		10 24 42.0	-0.7
CLL				pmax	pmax		
	comp=Z,339nm,1.0s,mb6.4						
CLL				MLR	MLR		
	comp=Z,17μm,15.9s,MS6.5						
CLL	**Collm**	**84.17 323**	⇓*i*	P	**P**	**10 14 18.4**	**-0.2**
	comp=Z,339nm,1.0s,mb6.4						
CLL			*i*	pP		10 14 23.9	-0.8
CLL			*eS*	S		10 24 42.0	-0.7
CLL			*ePKKP*	PKKPbc		10 32 32.0	+0.2
CLL				LR	LR		
	comp=Z,17μm,15.9s,MS6.5						
CLL	**Collm**	**84.17 323**	⇓*i*	P	**P**	**10 14 18.4**	**-0.2**
	comp=Z,339nm,1.0s,mb6.4						
CLL			*i*	pP	pP	10 14 23.9	-0.8
	comp=Z,368nm,1.2s						
CLL			*ePP*	PP		10 17 33.0	+0.2
CLL			*e*(PPP)			10 19 42.0	
CLL			*eS*	S		10 24 42.0	-0.7
CLL			*ex*	x		10 25 11.0	
CLL			*eSP*			10 25 24.0	
CLL			*ePPS*			10 25 52.0	
CLL			*eSS*	SS		10 30 24.0	+12
CLL			*ePKKPbc*	PKKPbc		10 32 32.0	+0.2
CLL			*eSSS*			10 33 48.0	
CLL			*ex*	x		10 34 30.0	
CLL			*eSSSS*			10 36 12.0	
BUM	**Brajici-Budva**	**84.17 313**	⇓*i*	P	**P**	**10 14 18.1**	**-0.5**
BRY	**Bratogost**	**84.18 314**	⇓*i*	P	**P**	**10 14 18.2**	**-0.5**
IGT	**Igoumenitsa**	**84.22 310**	*eP*	P	**P**	**10 14 18.1**	**-0.7**
KOGS	**Kog**	**84.28 318**	⇓*eP*	P	**P**	**10 14 18.9**	**-0.2**
KOGS			*eS*	S	S	10 24 38.9	-4.9
LKD	**Levkas**	**84.30 309**	*eP*	P	**P**	**10 14 16.3**	**-2.9**
HCY	**Herceg Novi**	**84.39 313**	⇓*i*	P	**P**	**10 14 18.9**	**-0.7**
ARSA	**Arzberg**	**84.40 319**	*i*	P	**P**	**10 14 19.7**	**-0.1**
	comp=Z,1μm,4.1s,SNR=15						
BSEG	**Bad Segeberg**	**84.44 326**	*eP*	P	**P**	**10 14 20.1**	**+0.2**
	comp=Z,391nm,1.2s,mb6.4						
BSEG			*ePP*	PP		10 17 37.2	+2.1
BSEG	**Bad Segeberg**	**84.44 326**	*eP*	P	**P**	**10 14 20.1**	**+0.2**
BSEG			*e*			10 17 37.2	
BSEG				pmax	pmax		
	comp=Z,391nm,1.2s,mb6.4						
SISC	**Sisak**	**84.60 317**	P	P	**P**	**10 14 20.8**	**+0.1**
STON	**Ston**	**84.77 314**	⇓*i*	P	**P**	**10 14 20.0**	**-1.5**
KHC	**Kasperske Hory**	**84.78 321**	*eP*	P	**P**	**10 14 21.7**	**0.0**
KHC			pP	pP		10 14 25.0	-2.8
KHC			*eSKS*			10 24 44.2	
KHC				AMS	AMS	10 55 40.0	
	comp=Z,12μm,14.5s						
KHC	**Kasperske Hory**	**84.78 321**	*eP*	P	**P**	**10 14 21.7**	**0.0**
KHC			*e*			10 14 25.0	
KHC			*eSKS*			10 24 44.2	
KHC				LR	LR		
	comp=Z,12μm,14.5s,MS6.4						
GEC2	**GERESS Array S**	**84.83 320**	*eP*	P	**P**	**10 14 22.2**	**+0.3**
	comp=Z,114nm,0.9s,mb6.0						
GEC2			*ePP*	PP		10 17 38.6	+0.3
GEC2			*eS*	S		10 24 47.0	-2.3
GEC2	**GERESS Array S**	**84.83 320**	*eP*	P	**P**	**10 14 22.2**	**+0.3**
GEC2			*e*			10 17 38.6	
GEC2			*eS*	S		10 24 47.0	-2.3
GEC2				pmax	pmax		
	comp=Z,114nm,0.9s,mb6.0						
GERES	**GERESS Array B**	**84.83 320**	P	P	**P**	**10 14 22.1**	**+0.2**
	comp=Z,84nm,0.8s,mb5.9,baz=60,slow=5.3,SNR=232						
GERES				S	S	10 24 44.9	-4.4
	comp=Z,0.2nm,0.3s,baz=242,slow=27,SNR=1.6						
GERES				PKKPbc	PKKPbc	10 32 29.9	-0.3
	comp=Z,0.3nm,0.4s,baz=232,slow=3.2,SNR=4.6						
GERES				PKPPKP		10 40 37.8	
	comp=Z,3.4nm,1.1s,baz=193,slow=2.3,SNR=8.8						
GERES				LR	LR	10 59 20.5	
	comp=Z,10μm,19.0s,MS6.2,baz=321,slow=41						
GERES	**GERESS Array B**	**84.83 320**	P	P	**P**	**10 14 22.1**	**+0.2**
GERES				S	S	10 24 44.9	-4.4
TANN	**Tannenbergstha**	**84.87 322**	*eP*	P	**P**	**10 14 22.3**	**+0.2**
	comp=Z,125nm,1.0s,mb6.0						
TANN			*ePP*	PP		10 17 41.3	+2.7
TANN			*eS*	S		10 24 48.5	-1.2
PERS	**Pernice**	**84.91 318**	⇓*eP*	P	**P**	**10 14 22.1**	**-0.2**
PERS			*e*			10 15 40.5	
PERS			*eS*	S		10 24 48.3	-1.8
MOA	**Molln**	**84.92 319**	⇓*i*	P	**P**	**10 14 22.7**	**+0.3**
	comp=Z,691nm,1.9s,mb6.5,SNR=60						
WERD	**Werda**	**84.94 322**	*eP*	P	**P**	**10 14 22.6**	**+0.1**
	comp=Z,134nm,0.9s,mb6.1						
NKC	**Novy Kostel**	**84.96 322**	*eP*	P	**P**	**10 14 22.7**	**+0.1**
NKC			*eSKS*			10 24 44.5	
NKC				AMS	AMS	10 57 10.0	
	comp=Z,16μm,14.7s						
NKC	**Novy Kostel**	**84.96 322**	*eP*	P	**P**	**10 14 22.7**	**+0.1**
NKC			*eSKS*			10 24 44.5	
GUNZ	**Gunzen**	**84.97 322**	*eP*	P	**P**	**10 14 22.9**	**+0.3**
	comp=Z,268nm,0.9s,mb6.4						
WERN	**Wernitzgruen**	**84.97 322**	*eP*	P	**P**	**10 14 22.9**	**+0.3**
	comp=Z,201nm,0.9s,mb6.2						
CRES	**Cresnjev**	**85.03 317**	⇓*eP*	P	**P**	**10 14 23.1**	**+0.2**
CRES			*ePP*	PP		10 17 45.7	+5.8
WET	**Wettzell**	**85.19 321**	*eP*	P	**P**	**10 14 24.2**	**+0.5**
	comp=Z,396nm,1.6s,mb6.3						
WET			*ePP*	PP		10 17 43.9	+2.7
WET	**Wettzell**	**85.19 321**	*eP*	P	**P**	**10 14 24.2**	**+0.5**
WET			*e*			10 17 43.9	
WET				pmax	pmax		
	comp=Z,396nm,1.6s,mb6.3						
SCO	**Scoresbysund**	**85.20 348**	*i*	P	**P**	**10 14 23.7**	**-0.1**
NRDL	**Niedersach Rie**	**85.23 325**	*eP*	P	**P**	**10 14 24.4**	**+0.5**
	comp=Z,493nm,1.5s,mb6.4						
NRDL			*ePP*	PP		10 17 46.6	+5.1
MOX	**Moxa**	**85.25 323**	*eP*	P	**P**	**10 14 24.1**	**+0.1**
	comp=Z,391nm,1.6s,mb6.3						
MOX			*eS*	S		10 24 52.9	-0.5
MOX	**Moxa**	**85.25 323**	*eP*	P	**P**	**10 14 23.9**	**-0.1**
MOX			*e*	pP		10 14 28.9	-1.2
	comp=Z,435nm,1.8s						
MOX			*e*			10 15 29.1	
MOX							
	comp=Z,7μm,22.0s						
MOX	**Moxa**	**85.25 323**	*eP*	P	**P**	**10 14 23.9**	**-0.1**
MOX			*e*	pP		10 14 28.9	-1.2
MOX				MLR	MLR		
	comp=Z,7μm,22.0s,MS6.0						
MOX	**Moxa**	**85.25 323**	⇓*eP*	P	**P**	**10 14 23.9**	**-0.1**
	comp=Z,435nm,1.8s,mb6.3						
MOX			*e*			10 15 29.1	
MOX			*ePP*	PP		10 17 47.0	+5.3
MOX

GRF eS S 10 25 01.3 +1.4
GRF eL 10 57 49.9
comp=Z,11µm,21.7s
GRF Grafenberg Arr 85.91 322 eP **P 10 14 27.9 +0.6**
GRF e 10 17 49.1
GRF eS S 10 24 59.7 -0.2
GRF eS S 10 25 01.3 +1.4
GRF pmax pmax
comp=Z,921nm,2.0s,mb6.7
GRF MLR MLR
comp=Z,11µm,21.7s,MS6.2
VOY Vojsko 85.94 318 eP **P 10 14 26.6 -0.8**
VOY e 10 15 01.7
NVLJ Novalja 85.94 316 i P **P 10 14 25.1 -2.3**
CADS Cadrg 85.95 318⇓eP **P 10 14 26.8 -0.7**
CADS e pP 10 14 33.1 -0.5
CADS e 10 25 56.7
UBBA Unterbreizbach 86.08 323 eP **P 10 14 28.2 +0.1**
comp=Z,439nm,1.7s,mb6.4
PTCC Patocco-Chiusa 86.11 318 P **P 10 14 27.6 -0.7**
comp=Z,174nm,1.4s,mb6.1
GMNA Gemona 86.24 318 P **P 10 14 28.8 -0.1**
comp=Z,720nm,1.1s,mb6.8
BBB Bella Bella 86.37 35 P **P 10 14 29.4 -0.1**
comp=Z,25nm,0.8s,mb5.5,baz=325,slow=6.9,SNR=11
BBB S S 10 24 58.7 -5.7
comp=Z,1.7nm,0.7s,baz=285,slow=23,SNR=1.8
BBB Bella Bella 86.37 35 P **P 10 14 29.4 -0.1**
BBB S S 10 24 58.7 -5.7
LRW Lerwick 86.46 335 eP **P 10 14 29.3 -0.7**
LRW AMb AMB 10 14 35.6
comp=Z,133nm,1.3s,mb6.0
YKW3 Yellowknife Ar 86.48 22 eP **P 10 14 29.2 -0.9**
YKA Yellowknife Ar 86.53 22 P **P 10 14 29.8 -0.5**
comp=Z,72nm,0.9s,mb5.9,baz=315,slow=4.8,SNR=86
YKA S S 10 24 56.5 -9.4
comp=Z,1.6nm,0.9s,baz=63,slow=28,SNR=2.6
YKA PKKPbc PKKPbc 10 32 23.9 -2.3
comp=Z,2.6nm,0.8s,baz=134,slow=2.2,SNR=4.0
YKA PKPPKP 10 40 29.4
comp=Z,2.3nm,1.0s,baz=117,slow=1.1,SNR=3.6
YKA LR LR 10 58 19.8
comp=Z,4µm,18.8s,MS5.8,baz=220,slow=39
YKA Yellowknife Ar 86.53 22 P **P 10 14 29.8 -0.5**
YKA S S 10 24 56.6 -9.3
YKA Yellowknife Ar 86.53 22 P **P 10 14 29.8 -0.5**
YKA S S 10 24 56.5 -9.4
YKA PKKPbc PKKPbc 10 32 23.9 -2.3
YKA P'P' 10 40 29.4
YKA LR LR 10 58 19.8
IBBN Ibbenburen 86.58 325 eP **P 10 14 30.7 +0.1**
comp=Z,327nm,1.1s,mb6.5
IBBN eS S 10 25 03.8 -2.6
FUR Furstenfeldbru 86.58 321 eP **P 10 14 31.2 +0.6**
comp=Z,633nm,1.5s,mb6.6
FUR eS S 10 25 07.7 +1.2
FUR Furstenfeldbru 86.58 321 eP **P 10 14 31.2 +0.6**
FUR eS S 10 25 07.7 +1.2
FUR pmax pmax
comp=Z,633nm,1.5s,mb6.6
RGNG Rignano Grg 86.69 313 P **P 10 14 31.8 +0.7**
ORI Oriolo Calabro 86.76 312 P **P 10 14 32.1 +0.6**
WTTA Wattenberg 86.78 320⇓iP **P 10 14 31.5 -0.1**
comp=Z,640nm,1.8s,mb6.5,SNR=49
WTTA Wattenberg 86.78 320⇓iP **P 10 14 31.5 -0.1**
WTTA pmax pmax
comp=Z,640nm,1.8s,mb6.5
WATA Walderalm 86.78 320⇓iP **P 10 14 31.2 -0.4**
comp=Z,263nm,1.6s,mb6.2,SNR=19
WATA Walderalm 86.78 320⇓iP **P 10 14 31.2 -0.4**
WATA pmax pmax
comp=Z,263nm,1.6s,mb6.2
WIT Witteveen 86.90 326 eP **P 10 14 33.4 +1.3**
comp=Z,762nm,1.1s,mb6.8
TIP Timpagrande 86.91 311 eP **P 10 14 32.8 +0.6**
SQTA Sankt Quirin 87.06 320⇓iP **P 10 14 32.9 -0.1**
comp=Z,394nm,1.7s,mb6.4,SNR=34
SQTA Sankt Quirin 87.06 320⇓iP **P 10 14 32.9 0.0**
SQTA pmax pmax
comp=Z,394nm,1.7s,mb6.4
MOTA Moosalm 87.06 320⇓iP **P 10 14 32.3 -0.7**
comp=Z,223nm,1.4s,mb6.2,SNR=28
MOTA Moosalm 87.06 320⇓iP **P 10 14 32.3 -0.7**
MOTA pmax pmax
comp=Z,223nm,1.4s,mb6.2
TNS Taunus Mts 87.23 323 eP **P 10 14 34.0 +0.2**
comp=Z,150nm,1.4s,mb6.0
TNS eS S 10 25 11.4 -1.4
TNS Taunus Mts 87.23 323 eP **P 10 14 34.0 +0.2**
TNS eS S 10 25 11.4 -1.4
TNS pmax pmax
comp=Z,150nm,1.4s,mb6.0
WTSB Winterswijk 87.26 325⇓iP **P 10 14 33.8 -0.1**
comp=Z,127nm,3.4s
WTSB i x x 10 14 39.7
BUG Bochum--Univer 87.28 325 eP **P 10 14 33.9 -0.1**
comp=Z,249nm,1.4s,mb6.2
CTI Castel Tesino 87.33 319 P **P 10 14 33.8 -0.4**
CTI pmax pmax
comp=Z,136nm,1.1s,mb6.1
CTI Castel Tesino 87.33 319 P **P 10 14 33.8 -0.4**
comp=Z,136nm,1.1s,mb6.1
TOD Tromm 87.33 323 eP **P 10 14 33.9 -0.4**
STU Stuttgart 87.52 322 eP **P 10 14 35.2 0.0**
STU ePP PP 10 17 57.4 -2.6
STU eS S 10 25 15.2 -0.3
CING Cingoli 87.55 316 P **P 10 14 35.7 +0.4**
DAVA Damuels 87.83 320⇓iP **P 10 14 36.6 -0.1**
comp=Z,2µm,4.7s,SNR=14
AQU L'Aquila 87.86 315⇑iP **P 10 14 36.5 -0.3**
AQU L'Aquila 87.86 315 eP **P 10 14 38.3 +1.4**
FUORN Ofenpass-Fuorn 87.91 320⇓iP **P 10 14 36.9 -0.1**
comp=Z,655nm,2.3s,mb6.5
SCLL Scilla 88.03 310 P **P 10 14 38.2 +0.6**
comp=Z,126nm,1.3s,mb6.0
DAVOX Davos/Dischmat 88.07 320⇓iP **P 10 14 37.7 -0.1**
comp=Z,446nm,2.6s,mb6.2
SPAK Spaichingen-Ko 88.08 321 eP **P 10 14 37.1 -0.7**
BERNI Berninapass 88.16 319⇓eP **P 10 14 37.7 -0.5**
comp=Z,254nm,1.1s,mb6.3
LANF Langenberg 88.21 322 eP **P 10 14 38.2 -0.3**
BFO Black Forest 88.23 322 eP **P 10 14 38.4 -0.2**
comp=Z,183nm,1.7s,mb6.0
BFO ePP PP 10 18 06.2 +0.5
BFO eS S 10 25 21.3 -1.0
BFO Black Forest 88.23 322 eP **P 10 14 38.4 -0.2**
BFO e 10 18 06.2
BFO eS S 10 25 21.3 -1.0
BFO pmax pmax
comp=Z,183nm,1.7s,mb6.0
HGN Heimansgroeve 88.35 325⇓iP **P 10 14 38.8 -0.3**
comp=Z,95nm,1.6s,mb5.8
HGN ePP PP 10 18 05.4 -1.2
HGN eSKS 10 24 45.8
HGN i S S 10 25 14.4 -9.1
HGN ex x 10 27 58.4
HGN eSS SS 10 31 17.0 +4.1
HGN eSSS 10 35 26.9
MEM Membach 88.39 324 P **P 10 14 38.3 -1.0**
DRV Dumont d'Urvil 88.42 172 P **P 10 14 36.0 -3.5**
DRV Dumont d'Urvil 88.42 172 PP PP 10 18 02.0 -5.3
DRV S S 10 25 22.0 -2.1
DRV SS SS 10 31 11.0 -3.1
VDL Val di Lei 88.46 320⇓iP **P 10 14 39.6 0.0**
comp=Z,187nm,1.1s,mb6.2
FNVD Fontana Vidola 88.53 317 P **P 10 14 41.3 +1.3**
SLNA Salina 88.53 311 P **P 10 14 40.0 0.0**
comp=Z,132nm,0.7s,mb6.4
TUE Stuetta 88.54 320 P **P 10 14 40.0 0.0**
LLS Linth-Limmern 88.56 320⇓eP **P 10 14 39.8 -0.3**
comp=Z,190nm,1.3s,mb6.3
FELD Feldberg im Sc 88.65 321 eP **P 10 14 40.2 -0.3**
RAR Rarotonga 88.70 113 LR LR 10 45 05.5
comp=Z,3µm,21.9s,MS5.6,baz=334,slow=29
MUO Muotathal 88.72 320⇓eP **P 10 14 40.2 -0.7**
comp=Z,228nm,1.2s,mb6.4
CSNT Castellina Chi 88.74 316 P **P 10 14 41.0 0.0**
comp=Z,664nm,1.9s,mb6.6
WLS Welschbruch 88.76 322 eP **P 10 14 40.4 -0.6**
WLF Walferdange 88.80 324 eP **P 10 14 41.6 +0.4**
comp=Z,236nm,1.0s,mb6.5
WLF ePP PP 10 18 09.9 -0.4
WLF Walferdange 88.80 324 P **P 10 14 41.5 +0.3**
WLF Walferdange 88.80 324 eP **P 10 14 41.5 +0.3**

CDF Champ du Feu 88.80 322 eP **P 10 14 40.7 -0.5**
comp=Z,153nm,1.0s,mb6.0
CDF Champ du Feu 88.80 322 eP **P 10 14 40.7 -0.5**
CDF pmax pmax
comp=Z,77nm,1.0s,mb6.0
CDF Champ du Feu 88.80 322 eP **P 10 14 40.7 -0.5**
comp=Z,76nm,1.0s,mb6.0
BCLA Clavier 88.87 324 P **P 10 14 41.7 +0.2**
MCD Coleburn Disti 88.87 333 eP **P 10 14 41.7 +0.1**
MME1 Meikle Cairn 88.92 333 eP **P 10 14 41.7 -0.1**
TOLF Tolfa 88.92 315 P **P 10 14 41.4 -0.4**
FUSIO Fusio 88.96 320⇓iP **P 10 14 41.8 -0.2**
comp=Z,191nm,1.0s,mb6.4
ECH Echery 88.97 322 eP **P 10 14 41.7 -0.3**
MUGIO Muggio 88.99 319⇓iP **P 10 14 40.8 -1.3**
comp=Z,126nm,1.0s,mb6.2
VLC Villacollemand 89.00 317 eP **P 10 14 43.2 +1.1**
comp=Z,123nm,1.1s,mb6.2
VLC e 10 14 51.6
MVH1 Achvaich 89.05 334 eP **P 10 14 41.5 -0.9**
HASLI Hasliberg/Brie 89.12 320⇓eP **P 10 14 41.9 -0.8**
comp=Z,204nm,1.1s,mb6.4
BBS Basel-Blauen 89.14 321 eP **P 10 14 42.1 -0.8**
MOF Molkenrain 89.17 322 eP **P 10 14 42.5 -0.5**
UCC Uccle 89.17 325 P **P 10 14 42.8 -0.2**
HVZN Vizzini 89.21 310 P **P 10 14 43.2 0.0**
GIVF Givet 89.30 324 eP **P 10 14 43.1 -0.5**
comp=Z,163nm,1.0s,mb6.0
GIVF Givet 89.30 324 eP **P 10 14 43.1 -0.5**
GIVF pmax pmax
comp=Z,81nm,1.0s,mb6.0
GIVF Givet 89.30 324 eP **P 10 14 43.1 -0.5**
comp=Z,81nm,1.0s,mb6.0
BOB Bobbio (Coli) 89.30 318 P **P 10 14 44.0 +0.4**
HINF Hinterlalfeld 89.35 322 eP **P 10 14 43.0 -0.8**
comp=Z,206nm,1.4s,mb6.0
HINF Hinterlalfeld 89.35 322 eP **P 10 14 43.0 -0.8**
HINF pmax pmax
comp=Z,103nm,1.4s,mb6.0
HINF Hinterlalfeld 89.35 322 eP **P 10 14 43.0 -0.8**
comp=Z,103nm,1.4s,mb6.0
SNF Seneffe 89.37 325 P **P 10 14 44.6 +0.6**
MIR Mirnyy 89.38 190c iP **P 10 14 44.5 +0.5**
MIR e 10 25 04.5
MIR pmax pmax
comp=Z,400nm,2.0s,mb6.4
DOU Dourbes 89.42 324 P **P 10 14 43.2 -0.9**
HAU Haudompre 89.54 322 eP **P 10 14 44.0 -0.7**
comp=Z,125nm,1.0s,mb5.9
HAU eMLR MLR
comp=Z,10µm,17.2s
HAU Haudompre 89.54 322 eP **P 10 14 44.0 -0.7**
HAU pmax pmax
comp=Z,62nm,1.0s,mb5.9
HAU MLR MLR
comp=Z,10µm,17.3s,MS6.3
HAU Haudompre 89.54 322 eP **P 10 14 44.0 -0.7**
comp=Z,62nm,1.0s,mb5.9
HAU LR LR
comp=Z,10µm,17.3s,MS6.3
LOMF Lomont 89.60 321 eP **P 10 14 44.5 -0.5**
ESY Stoneypath 89.63 332 eP **P 10 14 45.2 0.0**
THEF They Montfort 89.64 322 eP **P 10 14 45.4 +0.2**
BAIF Baives 89.66 325 eP **P 10 14 44.7 -0.6**
comp=Z,119nm,1.0s,mb5.9
BAIF Baives 89.66 325 eP **P 10 14 44.7 -0.6**
BAIF pmax pmax
comp=Z,59nm,1.0s,mb5.9
BAIF Baives 89.66 325 eP **P 10 14 44.7 -0.6**
comp=Z,59nm,1.0s,mb5.9
LWH Whinny Nab 89.70 330 eP **P 10 14 44.1 -1.4**
XSO Sourhope Farm 89.73 331 eP **P 10 14 45.2 -0.4**
BORG Borgarnes 89.75 344 LR LR 10 59 16.1
comp=Z,6µm,18.5s,MS6.0,baz=44,slow=38
BORG Borgarnes 89.75 344 PFAKE 10 15 00.0 +14
BORG LR LR
comp=Z,1µm,22.0s,MS5.3
KAC Achnashellach 89.78 334 eP **P 10 14 45.0 -0.8**
SENIN Lac Senin/Sane 89.82 320⇓eP **P 10 14 45.8 -0.2**
comp=Z,114nm,0.9s,mb6.2
DIX Grande Dixence 89.90 320⇓eP **P 10 14 46.6 +0.2**
comp=Z,187nm,1.1s,mb6.3
EBL Broad Law 89.91 332 eP **P 10 14 46.7 +0.3**
MEZF Maizieres J'vi 90.02 323 eP **P 10 14 46.8 -0.2**
comp=Z,494nm,1.5s,mb6.3
MEZF Maizieres J'vi 90.02 323 eP **P 10 14 46.8 -0.2**
comp=Z,494nm,1.5s,mb6.6
KPL Plockton 90.03 334 eP **P 10 14 45.8 -1.2**
KPL AMb AMB 10 14 46.3
comp=Z,141nm,1.7s,mb6.0
CLTB Caltabellotta 90.11 311 P **P 10 14 48.7 +1.3**
comp=Z,82nm,1.0s,mb6.0
SALAN Lac Salanfe 90.13 320⇓eP **P 10 14 47.4 -0.1**
comp=Z,133nm,0.9s,mb6.2
OG01 Vacheresse 90.21 321 eP **P 10 14 48.9 +1.1**
EMV Vieux Emosson 90.22 320⇓iP **P 10 14 47.8 -0.1**
comp=Z,152nm,1.0s,mb6.3
EAB Aberfoyle 90.22 333 eP **P 10 14 46.7 -1.1**
ESK Eskdalemuir 90.27 331 eP **P 10 14 47.4 -0.8**
ESK AMb AMB 10 14 56.1
comp=Z,150nm,1.8s,mb6.0
ESK Eskdalemuir 90.27 331 eP **P 10 14 47.6 -0.5**
comp=Z,199nm,1.6s,mb6.2
ESK LR LR
comp=Z,3µm,19.0s,MS5.8
FIN Finale Ligure 90.34 318 P **P 10 14 48.0 -0.5**
FIN pmax pmax
comp=Z,734nm,1.7s,mb6.7
FIN Finale Ligure 90.34 318 P **P 10 14 48.0 -0.5**
comp=Z,734nm,1.7s,mb6.7
KAR1 Arisaig 90.38 334 eP **P 10 14 47.1 -1.5**
BHH Howats Hill 90.41 331 eP **P 10 14 48.1 -0.7**
CABF La Chapelle 90.42 321 eP **P 10 14 48.6 -0.2**
MENF Mencas 90.48 326 eP **P 10 14 48.2 -0.9**
C03A Quillayute Air 90.51 37 ⇑P **P 10 14 50.6 +1.3**
baz=90
PGBU Glenifferbraes 90.52 332 eP **P 10 14 48.2 -1.1**
PGBU AMb AMB 10 14 48.7
comp=Z,44nm,1.5s,mb5.6
BWH Wardlaw 90.56 332 eP **P 10 14 49.3 -0.1**
RSL Roselend 90.57 320 eP **P 10 14 49.5 0.0**
LPG La Plagne 90.59 320 eP **P 10 14 50.2 +0.6**
comp=Z,452nm,0.9s,mb6.5
LPG La Plagne 90.59 320 eP **P 10 14 50.2 +0.6**
LPG pmax pmax
comp=Z,226nm,0.9s,mb6.5
LPG La Plagne 90.59 320 eP **P 10 14 50.2 +0.6**
comp=Z,226nm,0.9s,mb6.5
LPL La Plagne 90.59 320 eP **P 10 14 50.0 +0.4**
comp=Z,458nm,0.9s,mb6.5
LPL La Plagne 90.59 320 eP **P 10 14 50.0 +0.4**
LPL pmax pmax
comp=Z,229nm,0.9s,mb6.5
LPL La Plagne 90.59 320 eP **P 10 14 50.0 +0.4**
comp=Z,229nm,0.9s,mb6.5
BBO1 Bothel 90.65 331 eP **P 10 14 49.0 -0.8**
IMI Imperia 90.69 318 P **P 10 14 49.9 -0.2**
comp=Z,81nm,0.6s,mb6.2
LHO Holmfirth 90.74 330 eP **P 10 14 49.6 -0.7**
PGC Sidney 90.75 36 eP **P 10 14 51.5 +1.1**
comp=Z,152nm,1.2s,mb6.2
KBI1 Birley Grange 90.76 329 eP **P 10 14 50.1 -0.3**
OG22 Abries 90.82 319 eP **P 10 14 51.3 +0.6**
BNI Bardonecchia 90.86 319 eP **P 10 14 50.8 -0.1**
BNI e 10 15 05.6
SAOF Saorge 90.86 318 eP **P 10 14 50.9 0.0**
STW Striped Peak 90.90 37 P **P 10 14 52.6 +1.5**
AUTN L'Aution 90.94 318 eP **P 10 14 51.4 +0.2**
MBDF Montbardon 90.97 319 eP **P 10 14 50.9 -0.5**
comp=Z,251nm,1.0s,mb6.2
MBDF Montbardon 90.97 319 eP **P 10 14 50.9 -0.5**
MBDF pmax pmax
comp=Z,125nm,1.0s,mb6.2
MBDF Montbardon 90.97 319 eP **P 10 14 50.9 -0.5**
comp=Z,125nm,1.0s,mb6.2
TOUF Mont Tournerai 91.04 318 eP **P 10 14 51.9 +0.2**
LUCF Luceram 91.04 318 eP **P 10 14 52.0 +0.3**
B04A Port Angeles 91.05 37 ⇓P **P 10 14 51.9 +0.1**
baz=91,SNR=12
B04A ⇓SKSac SKSac 10 25 25.2 +2.3
baz=91
SURF Saint Ours 91.07 319 eP **P 10 14 51.8 -0.1**
OG05 Jujurieux 91.08 321 eP **P 10 14 51.8 -0.1**
REVF Revere 91.11 318 eP **P 10 14 51.9 -0.1**
GDM Grand'Maison 91.13 320 eP **P 10 14 52.3 +0.2**

A04A Legoe Bay, Lum 91.13 36 ⇑P **P 10 14 52.9 +0.8**
baz=91
A04A ⇓SKSac SKSac 10 25 25.6 +2.2
baz=91
MVIF Mont Vial 91.16 318 eP **P 10 14 52.2 -0.1**
NLWA Neilton Lookou 91.20 38 PFAKE 10 15 00.0 +7.5
NLWA LR LR
comp=Z,3µm,19.0s,MS5.7
A05A Maple Falls 91.31 36 ⇑P **P 10 14 52.7 -0.3**
baz=91,SNR=19
A05A ⇓SKSac SKSac 10 25 27.7 +3.3
baz=91
GRN Grenoble 91.33 320 eP **P 10 14 52.9 -0.2**
DGI Dorgali Grotta 91.34 314 P **P 10 14 52.7 -0.4**
LOR Lormes 91.36 322 eP **P 10 14 52.6 -0.6**
comp=Z,429nm,1.6s,mb6.2
LOR eMLR MLR
comp=Z,10µm,17.8s
LOR Lormes 91.36 322 eP **P 10 14 52.6 -0.6**
LOR pmax pmax
comp=Z,214nm,1.6s,mb6.2
LOR MLR MLR
comp=Z,10µm,17.8s,MS6.3
LOR Lormes 91.36 322 eP **P 10 14 52.6 -0.6**
comp=Z,214nm,1.6s,mb6.2
LOR LR LR
comp=Z,10µm,17.8s,MS6.3
D03A Wishkah Elem. 91.41 38 P **P 10 14 54.8 +1.4**
baz=91,SNR=14
D03A ⇑SKSac SKSac 10 25 27.6 +2.6
baz=91
ORIF Oris-en-Rattie 91.42 320 eP **P 10 14 53.4 -0.1**
comp=Z,354nm,0.9s,mb6.4
ORIF eMLR MLR
comp=Z,17µm,22.2s
ORIF Oris-en-Rattie 91.42 320 eP **P 10 14 53.4 -0.1**
ORIF pmax pmax
comp=Z,177nm,0.9s,mb6.4
ORIF Oris-en-Rattie 91.42 320 eP **P 10 14 53.4 -0.1**
comp=Z,177nm,0.9s,mb6.4
C04A Brinnon 91.53 37 ⇓P **P 10 14 54.8 +0.8**
baz=91,SNR=7.0
C04A ⇑SKSac SKSac 10 25 28.1 +2.5
baz=91
MBW Mount Baker 91.53 36 P **P 10 14 54.6 +0.6**
OG25 Le Caire 91.58 319 eP **P 10 14 54.4 +0.2**
FRF La Foret Royal 91.65 318 eP **P 10 14 54.2 -0.3**
comp=Z,329nm,0.9s,mb6.4
FRF La Foret Royal 91.65 318 eP **P 10 14 54.2 -0.3**
FRF pmax pmax
comp=Z,164nm,0.9s,mb6.4
FRF La Foret Royal 91.65 318 eP **P 10 14 54.2 -0.3**
comp=Z,164nm,0.9s,mb6.4
SSF Saint Saulge 91.67 322 eP **P 10 14 54.3 -0.4**
comp=Z,166nm,1.3s,mb5.9
SSF Saint Saulge 91.67 322 eP **P 10 14 54.3 -0.4**
SSF pmax pmax
comp=Z,83nm,1.3s,mb5.9
SSF Saint Saulge 91.67 322 eP **P 10 14 54.3 -0.4**
comp=Z,83nm,1.3s,mb5.9
GNW Green Mountain 91.70 37 eP **P 10 14 56.4 +1.6**
SMF Signal de Mont 91.71 322 eP **P 10 14 54.4 -0.4**
comp=Z,316nm,1.4s,mb6.2
SMF Signal de Mont 91.71 322 eP **P 10 14 54.4 -0.4**
SMF pmax pmax
comp=Z,158nm,1.4s,mb6.2
SMF Signal de Mont 91.71 322 eP **P 10 14 54.4 -0.4**
comp=Z,158nm,1.4s,mb6.2
B05A Bryant 91.72 36 ⇑P **P 10 14 54.8 0.0**
baz=92,SNR=14
B05A ⇑SKSac SKSac 10 25 29.0 +2.3
baz=92
SBD1 Bryn Du 91.80 330 eP **P 10 14 54.8 -0.5**
E03A Lebam 91.84 38 ⇑P **P 10 14 55.7 +0.2**
baz=92,SNR=10
E03A ⇑SKSac SKSac 10 25 29.5 +2.2
baz=92
LMR La Mourre 91.85 318 eP **P 10 14 55.3 -0.2**
comp=Z,712nm,1.3s,mb6.5
LMR La Mourre 91.85 318 eP **P 10 14 55.3 -0.2**
LMR pmax pmax
comp=Z,356nm,1.3s,mb6.5
LMR La Mourre 91.85 318 eP **P 10 14 55.3 -0.2**
comp=Z,356nm,1.3s,mb6.5
HLM1 Long Mynd 91.86 329 eP **P 10 14 54.8 -0.7**
VSL Villasalto 91.89 314 eP **P 10 14 55.8 +0.2**
VSL e pP 10 15 00.3 -1.4
AVF Avril sur Loir 91.91 322 eP **P 10 14 55.3 -0.5**
comp=Z,510nm,1.6s,mb6.3
AVF Avril sur Loir 91.91 322 eP **P 10 14 55.3 -0.5**
AVF pmax pmax
comp=Z,255nm,1.6s,mb6.3
AVF Avril sur Loir 91.91 322 eP **P 10 14 55.3 -0.5**
comp=Z,255nm,1.6s,mb6.3
B06A Marblemount 91.91 36 ⇓P **P 10 14 56.0 +0.2**
baz=92,SNR=14
B06A ⇓SKSac SKSac 10 25 29.2 +1.4
baz=92
RPW Rockport 91.94 36 P **P 10 14 56.7 +0.8**
D04A Dobbs Creek Ra 91.96 37 ⇑P **P 10 14 57.4 +1.4**
baz=92
HYF Humbligny 92.06 323 eP **P 10 14 56.6 +0.2**
WLF1 Llynfaes 92.09 330 eP **P 10 14 56.8 +0.2**
SMRF Simiane la Rot 92.10 319 eP **P 10 14 56.8 +0.2**
comp=Z,194nm,1.0s,mb6.1
SMRF Simiane la Rot 92.10 319 eP **P 10 14 56.8 +0.2**
comp=Z,194nm,1.0s,mb6.4
WCB1 Church Bay 92.10 330 eP **P 10 14 56.2 -0.4**
F03A Seaside 92.17 39 ⇓P **P 10 14 57.7 +0.8**
baz=92,SNR=5.8
VIVF Saint-Julien-l 92.18 320 eP **P 10 14 56.8 -0.2**
comp=Z,200nm,1.0s,mb6.1
VIVF Saint-Julien-l 92.18 320 eP **P 10 14 56.8 -0.2**
VIVF pmax pmax
comp=Z,100nm,1.0s,mb6.1
VIVF Saint-Julien-l 92.18 320 eP **P 10 14 56.8 -0.2**
comp=Z,100nm,1.0s,mb6.1
PLDF La Plantade 92.20 321 eP **P 10 14 56.9 -0.2**
MCH1 Michaelchurch 92.24 329 eP **P 10 14 56.4 -0.8**
MCH1 eP 10 14 56.4
MCH1 AMb AMB 10 15 04.6
comp=Z,65nm,1.8s,mb5.7
SFJD Kangerlussuaq 92.25 356 S SKSac 10 25 28.9 -0.8
comp=Z,6.9nm,0.9s,baz=251,slow=6.9,SNR=2.6
SFJD Kangerlussuaq 92.25 356 i S S 10 26 01.7 +2.3
SFJD i 10 27 21.5
SFJD
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 92.25 356⇓iP **P 10 14 57.3 0.0**
SFJD i S S 10 26 01.7 +2.3
SFJD pmax pmax
comp=Z,83nm,1.2s,mb5.9
SFJD MLR MLR
comp=Z,3µm,21.0s,MS5.7
SFJD Kangerlussuaq 92.25 356⇓iP **P 10 14 57.3 0.0**
comp=Z,83nm,1.2s,mb5.9
SFJD i S S 10 26 01.7 +2.3
SFJD i 10 27 21.5
SFJD LR LR
comp=Z,3µm,21.0s,MS5.7
C05A Tolt Reservoir 92.27 37 ⇑P **P 10 14 57.2 -0.2**
baz=92,SNR=17
C05A ⇓SKSac SKSac 10 25 32.8 +3.0
baz=92
E04A Onalaska 92.30 38 ⇓P **P 10 14 58.3 +0.8**
baz=92
E04A ⇑SKSac SKSac 10 25 31.7 +1.7
baz=92
HTR Trewern Hill 92.32 329 eP **P 10 14 57.0 -0.7**
BGF Bois d'Agland 92.33 322 eP **P 10 14 57.4 -0.3**
comp=Z,216nm,1.5s,mb6.0
BGF Bois d'Agland 92.33 322 eP **P 10 14 57.4 -0.3**
BGF pmax pmax
comp=Z,108nm,1.5s,mb6.0
BGF Bois d'Agland 92.33 322 eP **P 10 14 57.4 -0.3**
comp=Z,108nm,1.5s,mb6.0
HGH Gray Hill 92.37 328 eP **P 10 14 58.0 +0.1**
D05A Enumclaw 92.38 37 ⇓P **P 10 14 58.1 +0.2**
baz=92,SNR=12
D05A ⇓SKSac SKSac 10 25 35.3 +4.9
baz=92
COLF Collangettes 92.41 321 eP **P 10 14 58.1 +0.1**
AGO Saint Agoulin 92.44 322 eP **P 10 14 59.5 +1.3**
H02A Toledo 92.59 40 ⇓P **P 10 14 59.7 +0.8**
baz=92
G03A Yamhill 92.67 39 ⇑P **P 10 15 00.2 +0.9**

baz=93,SNR=5.2
G03A ⇑SKSac SKSac 10 25 32.1 0.0
baz=93
PYM Petit Puy Mans 92.68 321 *e*P **P 10 15 00.6 +1.3**
B07A Winthrop 92.69 35 P **P 10 14 60.0 +0.6**
baz=93,SNR=29
B07A ⇑SKSac SKSac 10 25 34.7 +2.6
baz=93
LDF La Druitiere 92.82 325 *e*P **P 10 15 00.1 +0.1**
comp=Z,105nm,1.3s,mb5.8
LDF La Druitiere 92.82 325 *e*P **P 10 15 00.1 +0.1**
LDF pmax pmax
comp=Z,53nm,1.3s,mb5.8
LDF La Druitiere 92.82 325 *e*P **P 10 15 00.1 +0.1**
comp=Z,53nm,1.3s,mb5.8
LBL Lubilhac 92.83 321 *e*P **P 10 15 00.6 +0.6**
F04A Amboy 92.84 38 ⇓P **P 10 15 00.3 +0.2**
baz=93,SNR=13
F04A ⇓SKSac SKSac 10 25 35.5 +2.5
baz=93
TCF Toulx Ste Croi 92.85 322 *e*P **P 10 15 00.0 -0.1**
comp=Z,124nm,1.1s,mb5.9
TCF Toulx Ste Croi 92.85 322 *e*P **P 10 15 00.0 -0.1**
TCF pmax pmax
comp=Z,62nm,1.1s,mb6.0
TCF Toulx Ste Croi 92.85 322 *e*P **P 10 15 00.0 -0.1**
comp=Z,62nm,1.1s,mb6.0
E05A Randle 92.87 38 ⇑P **P 10 14 59.8 -0.3**
baz=93,SNR=11
E05A ⇑SKSac SKSac 10 25 35.6 +2.4
baz=93
FLN La Foliniere 92.92 325 *e*P **P 10 15 00.0 -0.4**
FLN *e*MLR MLR
comp=Z,15μm,18.8s
FLN La Foliniere 92.92 325 *e*P **P 10 15 00.0 -0.4**
FLN LR LR
comp=Z,15μm,18.8s,MS6.5
VERF Verneugheol 92.99 322 *e*P **P 10 15 00.2 -0.5**
H03A Soap Creek Ran 93.02 40 ⇓P **P 10 15 01.4 +0.5**
baz=93
H03A ⇓SKSac SKSac 10 25 36.9 +3.0
baz=93
D06A Cle Elum 93.02 37 ⇓P **P 10 15 01.1 +0.2**
baz=93,SNR=5.3
D06A ⇓SKSac SKSac 10 25 35.6 +1.6
baz=93
I02A Mapleton 93.06 40 ⇓P **P 10 15 02.0 +0.9**
baz=93
COR Corvallis 93.06 40 *e*P **P 10 15 01.4 +0.3**
COR pmax pmax
comp=Z,58nm,0.9s,mb6.0
COR MLR MLR
comp=Z,2μm,20.0s,MS5.5
COR Corvallis 93.06 40 *e*P **P 10 15 01.4 +0.4**
comp=Z,58nm,0.9s,mb6.0
COR LR LR
comp=Z,2μm,20.0s,MS5.5
LASF Ste Croix 93.09 320 *e*P **P 10 15 01.1 -0.1**
comp=Z,463nm,1.6s,mb6.4
EDM Edmonton 93.10 29 *e*P **P 10 15 01.7 +0.5**
C07A Waterville 93.17 36 ⇑P **P 10 15 01.5 -0.1**
baz=93,SNR=27
C07A ⇓SKSac SKSac 10 25 37.6 +2.8
baz=93
TBM Table Mountain 93.17 37 P **P 10 15 02.4 +0.9**
A09A Danville 93.20 34 ⇑P **P 10 15 02.4 +0.7**
baz=93,SNR=52
G04A Mulino 93.21 39 ⇑P **P 10 15 02.0 +0.2**
baz=93,SNR=12
G04A ⇓SKSac SKSac 10 25 38.5 +3.4
baz=93
WTV Waterville 93.22 36 P **P 10 15 02.0 +0.2**
K01A Sixes 93.31 42 ⇑P **P 10 15 03.0 +0.8**
baz=93
E06A Yakima 93.32 37 ⇓P **P 10 15 02.3 +0.1**
baz=93,SNR=9.7
E06A ⇓SKSac SKSac 10 25 38.9 +3.3
baz=93
GRR Gorron 93.34 325 *e*P **P 10 15 02.3 0.0**
EBG Ellensburg 93.34 37 P **P 10 15 03.5 +1.1**
KEBM Edson Butte 93.36 42 *e*P **P 10 15 04.3 +1.9**
I03A Eugene 93.41 40 ⇓P **P 10 15 03.8 +1.2**
baz=93,SNR=5.2
F05A White Salmon 93.42 38 ⇓P **P 10 15 02.7 -0.1**
baz=93,SNR=6.8
F05A ⇑SKSac SKSac 10 25 37.5 +1.3
baz=93
J02A Umpqua 93.56 41 ⇓P **P 10 15 03.5 +0.1**
baz=93,SNR=7.8
J02A ⇑SKSac SKSac 10 25 39.4 +2.5
baz=93
HOOD Mount Hood Mea 93.63 39 *e*P **P 10 15 05.5 +1.8**
C08A Higginbotham F 93.67 35 ⇑P **P 10 15 03.6 -0.2**
baz=94,SNR=15
C08A ⇓SKSac SKSac 10 25 40.5 +3.0
baz=94
H04A Detroit Lake 93.67 39 ⇓P **P 10 15 03.8 -0.1**
baz=94,SNR=8.2
H04A ⇑SKSac SKSac 10 25 39.9 +2.4
baz=94
CAF Calviac 93.69 321 *e*P **P 10 15 04.3 +0.3**
comp=Z,285nm,1.8s,mb6.1
CAF Calviac 93.69 321 *e*P **P 10 15 04.3 +0.3**
CAF pmax pmax
comp=Z,142nm,1.8s,mb6.1
CAF Calviac 93.69 321 *e*P **P 10 15 04.3 +0.3**
comp=Z,142nm,1.8s,mb6.1
KEST Kesra 93.72 310 P **P 10 15 04.3 +0.3**
comp=Z,34nm,1.0s,mb5.7,baz=298,slow=2.6,SNR=42
KEST S SKSac 10 25 41.9 +4.1
comp=Z,1.1nm,0.5s,baz=334,slow=20,SNR=2.0
KEST LR LR 11 02 24.8
comp=Z,2μm,19.7s,MS5.5,baz=170,slow=39
A10A Northport 93.74 34 ⇑P **P 10 15 04.6 +0.4**
baz=94,SNR=34
A10A ⇓SKSac SKSac 10 25 38.9 +0.9
baz=94
B09A Rice 93.77 35 ⇑P **P 10 15 04.7 +0.4**
baz=94,SNR=14
B09A ⇑SKSac SKSac 10 25 42.3 +4.2
baz=94
RJF Les Rejaudoux 93.80 322 *e*P **P 10 15 04.6 +0.1**
comp=Z,172nm,1.0s,mb6.1
RJF *e*MLR MLR
comp=Z,11μm,17.5s
RJF Les Rejaudoux 93.80 322 *e*P **P 10 15 04.6 +0.1**
RJF pmax pmax
comp=Z,86nm,1.0s,mb6.1
RJF MLR MLR
comp=Z,11μm,17.5s,MS6.4
RJF Les Rejaudoux 93.80 322 *e*P **P 10 15 04.6 +0.1**
comp=Z,86nm,1.0s,mb6.1
RJF LR LR
comp=Z,11μm,17.5s,MS6.4
G05A Wamic 93.87 38 ⇓P **P 10 15 05.0 +0.2**
baz=94
K02A Glendale 93.94 41 ⇑P **P 10 15 05.5 +0.4**
baz=94,SNR=5.3
K02A ⇓SKSac SKSac 10 25 41.8 +2.8
baz=94
E07A Sunnyside 93.94 37 ⇑P **P 10 15 05.6 +0.4**
baz=94,SNR=10
E07A ⇓SKSac SKSac 10 25 40.5 +1.5
baz=94
MFF Saint Martin d 94.00 323 *e*P **P 10 15 05.1 -0.3**
comp=Z,170nm,1.2s,mb6.1
MFF Saint Martin d 94.00 323 *e*P **P 10 15 05.1 -0.3**
MFF pmax pmax
comp=Z,85nm,1.2s,mb6.0
MFF Saint Martin d 94.00 323 *e*P **P 10 15 05.1 -0.3**
comp=Z,85nm,1.2s,mb6.0
M01C Crescent City 94.03 42 ⇓P **P 10 15 06.2 +0.6**
baz=94
C09A Chrisman Ranch 94.08 35 ⇓P **P 10 15 06.0 +0.3**
baz=94,SNR=6.9
C09A ⇓SKSac SKSac 10 25 41.7 +2.0
baz=94
OD2 Odessa Site #2 94.08 36 P **P 10 15 06.2 +0.4**
D08A Wollman Farm, 94.17 36 ⇓P **P 10 15 06.3 +0.2**
baz=94,SNR=32
D08A ⇑SKSac SKSac 10 25 44.1 +3.9
baz=94
L02A Cave Junction 94.20 42 ⇑P **P 10 15 06.6 +0.4**
baz=94
L02A ⇓SKSac SKSac 10 25 42.4 +2.0
baz=94
HAWA Hanford 94.22 37 *e*P **P 10 15 07.4 +1.0**
HAWA LR LR
comp=Z,2μm,19.0s,MS5.6
H05A Madras 94.26 39 ⇓P **P 10 15 06.5 -0.1**
baz=94,SNR=7.9
H05A ⇓SKSac SKSac 10 25 40.6 -0.1
baz=94
G06A Carlson Farm, 94.27 38 ⇓P **P 10 15 07.1 +0.4**
baz=94,SNR=11
G06A ⇑SKSac SKSac 10 25 42.6 +1.8
baz=94
F07A Phinny Hill Vi 94.29 37 ⇑P **P 10 15 07.3 +0.6**
baz=94
F07A ⇓SKSac SKSac 10 25 42.7 +1.8
baz=94
SGMF Saint Gilles 94.32 326 *e*P **P 10 15 05.8 -1.1**
comp=Z,138nm,1.3s,mb5.9
SGMF Saint Gilles 94.32 326 *e*P **P 10 15 05.8 -1.1**
SGMF pmax pmax
comp=Z,69nm,1.3s,mb5.9
SGMF Saint Gilles 94.32 326 *e*P **P 10 15 05.8 -1.1**
comp=Z,69nm,1.3s,mb5.9
B10A Chitwood Farm, 94.33 34 ⇑P **P 10 15 07.3 +0.4**
baz=94
B10A ⇑SKSac SKSac 10 25 46.1 +5.0
baz=94
NEW Newport 94.41 34 P **P 10 15 07.7 +0.4**
comp=Z,32nm,1.0s,mb5.7,baz=299,slow=3.4,SNR=33
NEW Newport 94.41 34 *e*P **P 10 15 07.7 +0.4**
NEW pmax pmax
comp=Z,45nm,1.0s
NEW Newport 94.41 34 PFAKE 10 15 20.0 +13
NEW LR LR
comp=Z,3μm,19.0s,MS5.7
MTLF Montolieu 94.49 320 *e*P **P 10 15 07.4 -0.2**
comp=Z,75nm,1.0s,mb5.8
MTLF Montolieu 94.49 320 *e*P **P 10 15 07.4 -0.2**
MTLF pmax pmax
comp=Z,38nm,1.0s,mb5.8
MTLF Montolieu 94.49 320 *e*P **P 10 15 07.4 -0.2**
comp=Z,38nm,1.0s,mb5.8
D09A Jones Farm, Ri 94.50 36 ⇑P **P 10 15 07.8 +0.1**
baz=94
D09A ⇓SKSac SKSac 10 25 46.9 +4.9
baz=94
I05A Bend 94.51 39 ⇓P **P 10 15 08.0 +0.3**
baz=94,SNR=6.4
I05A ⇓SKSac SKSac 10 25 45.7 +3.6
baz=94
LRDF Laroque-de-Fa 94.52 319 *e*P **P 10 15 07.6 -0.2**
EJON La Jonquera 94.57 319 P **P 10 15 07.2 -0.8**
comp=Z,214nm,2.1s,mb6.2
C10A Spilker Farm, 94.58 35 ⇓P **P 10 15 08.5 +0.4**
baz=94,SNR=7.5
C10A ⇑SKSac SKSac 10 25 44.7 +2.2
baz=94
CMAH Djebel Manchou 94.64 312 P **P 10 15 09.0 +0.7**
JCC Jacoby Creek 94.64 43 ⇑P **P 10 15 08.4 +0.1**
baz=94
JCC ⇓SKSac SKSac 10 25 47.7 +4.9
baz=94
ROSF Rostrenen 94.65 326 *e*P **P 10 15 07.4 -1.0**
comp=Z,105nm,1.3s,mb5.8
ROSF Rostrenen 94.65 326 *e*P **P 10 15 07.4 -1.0**
ROSF pmax pmax
comp=Z,53nm,1.3s,mb5.8
ROSF Rostrenen 94.65 326 *e*P **P 10 15 07.4 -1.0**
comp=Z,52nm,1.3s,mb5.8
FILF Fillols 94.71 319 *e*P **P 10 15 08.4 -0.3**
H06A Lindquist Farm 94.73 38 ⇑P **P 10 15 08.5 -0.2**
baz=95,SNR=12
H06A ⇓SKSac SKSac 10 25 44.1 +0.8
baz=95
CGMA Guelma 94.73 312 P **P 10 15 09.5 +0.8**
A12A Yaak River Ran 94.75 33 ⇑P **P 10 15 09.2 +0.4**
baz=95,SNR=15
ABSA Djebel Ababsia 94.77 312 P **P 10 15 10.0 +1.1**
G07A Ruggs Ranch, H 94.80 38 P **P 10 15 09.7 +0.6**
baz=95,SNR=13
G07A ⇑SKSac SKSac 10 25 45.1 +1.4
baz=95
QUIF Quistinic 94.85 326 *e*P **P 10 15 09.1 -0.2**
CARF Carcanieres 94.91 319 *e*P **P 10 15 09.2 -0.3**
E09A Wood Farm, Sta 94.92 36 ⇓P **P 10 15 09.7 +0.1**
baz=95,SNR=26
E09A ⇓SKSac SKSac 10 25 45.6 +1.3
baz=95
CAEH 'Ain El Ouahch 94.96 312 P **P 10 15 13.0 +3.2**
YBH Yreka Blue Hor 94.98 42 P **P 10 15 10.3 +0.4**
comp=Z,11nm,1.0s,mb5.2,baz=50,slow=0.8,SNR=12
YBH PP PP 10 18 56.4 -2.7
comp=Z,1.2nm,0.8s,baz=255,slow=9.9,SNR=1.7
YBH Yreka Blue Hor 94.98 42 ⇓P **P 10 15 10.6 +0.7**
baz=95,SNR=9.2
YBH ⇑SKSac SKSac 10 25 45.3 +0.7
baz=95
F08A Pendleton 95.00 37 ⇑P **P 10 15 10.0 0.0**
baz=95,SNR=18
F08A ⇓SKSac SKSac 10 25 47.9 +3.2
baz=95
J05A Fort Rock 95.02 40 ⇓P **P 10 15 10.3 +0.2**
baz=95
J05A ⇓SKSac SKSac 10 25 42.2 -2.7
baz=95
B12A Libby 95.08 33 ⇓P **P 10 15 10.7 +0.4**
baz=95,SNR=13
B12A ⇓SKSac SKSac 10 25 44.3 -0.8
baz=95
M02C Callahan 95.08 42 ⇓P **P 10 15 10.8 +0.5**
baz=95,SNR=5.4
M02C ⇓SKSac SKSac 10 25 43.1 -2.0
baz=95
K04A Chilquin 95.10 41 ⇓P **P 10 15 10.6 +0.2**
baz=95,SNR=6.5
K04A ⇓SKSac SKSac 10 25 47.8 +2.5
baz=95
VALF Valcebollere 95.14 319 *e*P **P 10 15 10.9 +0.3**
O01C Eel River Cons 95.14 44 ⇓P **P 10 15 10.5 -0.2**
baz=95
G08A Pilot Rock 95.19 37 ⇑P **P 10 15 11.0 +0.1**
baz=95,SNR=12
G08A ⇑SKSac SKSac 10 25 46.9 +1.1
baz=95
CKFL Kef-Lekhel 95.24 312 P **P 10 15 12.0 +0.9**
L04A Klamath Falls 95.25 41 ⇓P **P 10 15 11.0 -0.1**
baz=95
L04A ⇑SKSac SKSac 10 25 47.1 +1.1
baz=95
I06A Prineville 95.26 39 ⇓P **P 10 15 11.8 +0.7**
baz=95,SNR=20
I06A ⇓SKSac SKSac 10 25 49.1 +3.0
baz=95
H07A Lands Inn, Kim 95.26 38 ⇓P **P 10 15 11.4 +0.3**
baz=95,SNR=5.1
H07A ⇓SKSac SKSac 10 25 49.1 +3.0
baz=95
LHEM Herd Peak 95.35 42 P **P 10 15 12.4 +0.8**
CASM Ain Smara 95.47 312 P **P 10 15 13.5 +1.4**
M04C Macdoel 95.50 42 ⇓P **P 10 15 12.2 -0.1**
baz=95,SNR=15
M04C ⇑SKSac SKSac 10 25 51.5 +4.2
baz=95
F09A S2 Ranch, Elgi 95.54 37 ⇓P **P 10 15 12.5 +0.1**
baz=95,SNR=14
F09A ⇓SKSac SKSac 10 25 49.0 +1.5
baz=95
K05A Summer Lake 95.55 40 ⇑P **P 10 15 13.0 +0.6**
baz=95,SNR=17
WALA Waterton Lakes 95.56 32 *e*P **P 10 15 13.6 +1.1**
comp=Z,51nm,1.1s,mb5.9
I07A Izee 95.59 39 ⇑P **P 10 15 13.5 +0.8**
baz=96,SNR=12
I07A ⇑SKSac SKSac 10 25 49.3 +1.4
baz=96
M03C McCloud 95.61 42 ⇑P **P 10 15 12.1 -0.6**
baz=96,SNR=8.2
M03C ⇑SKSac SKSac 10 25 47.5 -0.5
baz=96
C12A Trout Creek 95.62 34 ⇑P **P 10 15 13.2 +0.4**
baz=96,SNR=12
C12A ⇓SKSac SKSac 10 25 49.4 +1.4
baz=96
CTEI Djebel Teioual 95.63 312 P **P 10 15 14.0 +1.2**
J06A Christmas Vall 95.69 40 P **P 10 15 13.8 +0.7**
baz=96,SNR=20
J06A ⇓SKSac SKSac 10 25 47.8 -0.6
baz=96
EMIR Miracle 95.71 319 P **P 10 15 13.3 0.0**
comp=Z,371nm,2.3s,mb6.4
B13A Whitefish 95.72 33 ⇑P **P 10 15 14.1 +0.9**
baz=96,SNR=16
B13A ⇑SKSac SKSac 10 25 49.8 +1.3
baz=96
WDC Whiskeytown Da 95.72 43 ⇑P **P 10 15 13.3 +0.1**
baz=96,SNR=6.0
WDC ⇑SKSac SKSac 10 25 49.3 +0.7
baz=96
DFRA Djebel Bou Aff 95.75 312 P **P 10 15 13.5 +0.1**
F10A Beach Ranch, E 95.75 36 ⇑P **P 10 15 14.2 +0.8**
baz=96
LASM Arnica Sink 95.77 42 P **P 10 15 14.2 +0.8**
O02C Red Bluff 95.79 43 ⇑P **P 10 15 14.0 +0.5**
baz=96,SNR=12
O02C ⇑SKSac SKSac 10 25 48.3 -0.6
baz=96
EPF Esparros 95.80 320 *e*P **P 10 15 13.3 -0.3**
P01C Double 8 Ranch 95.82 44 ⇓P **P 10 15 13.9 +0.2**
baz=96
P01C ⇑SKSac SKSac 10 25 51.7 +2.6
baz=96
H08A Prairie City 95.82 38 ⇓P **P 10 15 14.0 +0.3**
baz=96,SNR=14
H08A ⇑SKSac SKSac 10 25 48.4 -0.7
baz=96
BSMT Bassoo Peak 95.89 34 *e*P **P 10 15 14.9 +0.9**
K06A Valley Falls 95.89 40 ⇑P **P 10 15 14.9 +0.8**
baz=96,SNR=19
K06A ⇑SKSac SKSac 10 25 50.7 +1.2
baz=96
FCC Fort Churchill 95.92 17 *e*P **P 10 15 13.9 -0.3**
FCC pmax pmax
comp=Z,70nm,1.0s,mb6.0
FCC Fort Churchill 95.92 17 *e*P **P 10 15 13.9 -0.2**
comp=Z,70nm,1.0s,mb6.0
RESF Ens 95.93 320 *e*P **P 10 15 14.7 +0.5**
L05A Lakeview 95.97 41 ⇓P **P 10 15 15.1 +0.7**
baz=96,SNR=12
VIEF Viey 96.07 320 *e*P **P 10 15 15.2 +0.4**
ETOS Mallorca 96.09 316 P **P 10 15 12.7 -2.2**
comp=Z,303nm,2.0s,mb6.4
C13A Hot Springs 96.11 34 P **P 10 15 15.3 +0.3**
baz=96,SNR=6.8
C13A ⇓SKSac SKSac 10 25 51.6 +1.0
baz=96
EBIE Bielsa 96.11 320 P **P 10 15 15.8 +0.7**
comp=Z,194nm,2.8s,mb6.0
GASB Alder Springs 96.12 44 ⇓P **P 10 15 15.5 +0.5**
baz=96,SNR=12
GASB ⇑SKSac SKSac 10 25 52.4 +1.8
baz=96
J07A Hines 96.12 39 ⇓P **P 10 15 15.7 +0.7**
baz=96,SNR=26
M05C Lookout 96.17 42 ⇑P **P 10 15 15.6 +0.3**
baz=96
M05C ⇓SKSac SKSac 10 25 54.6 +3.6
baz=96
CMER Merouana 96.21 312 P **P 10 15 15.0 -0.5**
I08A Drewsey 96.24 38 ⇑P **P 10 15 15.9 +0.3**
baz=96,SNR=12
I08A ⇑SKSac SKSac 10 25 54.8 +3.6
baz=96
HOPS Hopland 96.25 44 ⇑P **P 10 15 15.6 -0.1**
baz=96
HOPS ⇓SKSac SKSac 10 25 50.4 -0.9
baz=96
SET Setif 96.26 312 P **P 10 15 18.0 +2.3**
HATC Hat Creek Radi 96.28 42 ⇑P **P 10 15 16.0 +0.2**
baz=96,SNR=12
EPOB Poblet 96.31 319 P **P 10 15 15.1 -0.8**
comp=Z,390nm,3.1s
H09A Durkee 96.31 37 ⇑P **P 10 15 16.4 +0.5**
baz=96
H09A ⇑SKSac SKSac 10 25 51.9 +0.2
baz=96
O03C Acorn Hollow, 96.37 43 ⇓P **P 10 15 16.5 +0.3**
baz=96
PPT Papeete 96.38 106 *e*PP PP 10 19 07.9 -2.0
comp=Z,671nm,27.5s
PPT Papeete 96.38 106 *e*SKSac SKSac 10 25 48.7 -3.3
comp=Z,2μm,26.8s
PPT *e*S S 10 26 31.5 -4.0
comp=Z,3μm,25.5s
PPT *e*SS SS 10 33 03.3 -5.0
comp=Z,5μm,27.2s
PPT *e*LR LR 10 45 59.2
comp=Z,19μm,27.0s,baz=292
PPT Papeete 96.38 106 LR LR 10 49 56.8
comp=Z,3μm,21.2s,MS5.8,baz=280,slow=30
MOD Modoc 96.38 41 *e*P **P 10 15 17.2 +0.9**
MOD Modoc 96.38 41 ⇑P **P 10 15 16.1 -0.1**
baz=96,SNR=6.6
MOD ⇑SKSac SKSac 10 25 52.2 +0.2
baz=96
BMO Blue Mountains 96.39 37 *e*P **P 10 15 16.8 +0.4**
BMO LR LR
comp=Z,2μm,19.0s,MS5.7
ETSF Etsaut 96.41 320 *e*P **P 10 15 16.1 -0.3**
comp=Z,31nm,0.7s,mb5.5
ETSF Etsaut 96.41 320 *e*P **P 10 15 16.1 -0.3**
ETSF pmax pmax
comp=Z,15nm,0.7s,mb5.5
ETSF Etsaut 96.41 320 *e*P **P 10 15 16.1 -0.3**
comp=Z,15nm,0.7s,mb5.5
J08A Circle Bar Ran 96.62 39 ⇑P **P 10 15 17.7 +0.4**
baz=96,SNR=30
J08A ⇑SKSac SKSac 10 25 52.0 -1.3
baz=96
M06C Likely Place G 96.67 41 ⇓P **P 10 15 17.7 +0.1**
baz=96,SNR=11
SJPF Ste Jean 96.68 321 *e*P **P 10 15 16.8 -0.8**
I09A Lost Marbles R 96.68 38 ⇓P **P 10 15 17.6 0.0**
baz=96,SNR=18
I09A ⇓SKSac SKSac 10 25 55.5 +1.9
baz=96
MNRC McLaughlin Nat 96.72 44 ⇓P **P 10 15 18.1 +0.3**
baz=97,SNR=18
MNRC ⇑SKSac SKSac 10 25 55.8 +2.0
baz=97
EALK Alkurruntz 96.78 321 P **P 10 15 21.2 +3.1**
comp=Z,52nm,0.9s,mb6.0
O04C Chester 96.79 42 ⇓P **P 10 15 18.1 0.0**
baz=97,SNR=33
O04C ⇓SKSac SKSac 10 25 55.4 +1.3
baz=97
ELIZ Elizondo 96.83 321 P **P 10 15 19.3 +1.0**
ELIZ pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
ELIZ Elizondo 96.83 321 P **P 10 15 19.3 +1.0**
comp=Z,9.2nm,1.0s,mb5.2
MCCM Marconi Confer 96.83 45 ⇑P **P 10 15 17.7 -0.6**
baz=97
ELFS Eagle Lake Fie 96.85 42 ⇑P **P 10 15 18.1 -0.3**
baz=97
L07A Adell 96.90 40 ⇓P **P 10 15 19.6 +1.1**
baz=97,SNR=19
L07A ⇓SKSac SKSac 10 25 54.6 -0.1
baz=97
SUTB Sutter Butte 96.95 44 ⇑P **P 10 15 18.1 -0.8**
baz=97
SUTB ⇓SKSac SKSac 10 25 58.1 +3.1
baz=97
ORV Oroville 96.96 43 ⇓P **P 10 15 18.2 -0.6**
baz=97,SNR=16
ORV ⇑SKSac SKSac 10 25 54.9 -0.1
baz=97
MSO Missoula 96.99 34 *e*P **P 10 15 20.4 +1.4**
MSO LR LR
comp=Z,2μm,20.0s,MS5.5
K08A Mann Creek Ran 96.99 39 ⇑P **P 10 15 19.1 +0.1**
baz=97,SNR=13
K08A ⇓SKSac SKSac 10 25 56.3 +1.1
baz=97
ERTA Horta de San J 96.99 319 P **P 10 15 17.8 -1.3**
comp=Z,113nm,1.5s,mb6.1
FARB Farallon Islan 97.00 45 ⇑P **P 10 15 18.7 -0.3**
baz=97
FARB ⇓SKSac SKSac 10 25 56.4 +1.2
baz=97
CVS Carmenet Viney 97.00 45 ⇓P **P 10 15 18.6 -0.5**
baz=97
CVS ⇑SKSac SKSac 10 25 56.4 +1.1
baz=97
LSZ Lusaka 97.00 256 *e*P **P 10 15 17.5 -1.6**
comp=Z,40nm,0.8s,mb5.9
LSZ LR LR
comp=Z,5μm,20.0s,MS6.0

ESAC San Caprasio 97.04 319 P **P 10 15 23.7 +4.5**
comp=Z,44nm,1.1s,mb5.8
PMOR Pomariorio Ree 97.04 103 *e*P **P 10 15 20.1 +0.8**
comp=Z,19nm,0.9s,mb5.5
J09A Fry Pan Ranch, 97.05 38 ⇓P **P 10 15 19.6 +0.4**
baz=97,SNR=35
J09A ⇓SKSac SKSac 10 25 57.8 +2.3
baz=97
WVOR Wild Horse Val 97.07 40 *e*P **P 10 15 19.5 +0.1**
WVOR pmax pmax
comp=Z,18nm,1.1s,mb5.4
WVOR MLR MLR
WVOR Wild Horse Val 97.07 40 *e*P **P 10 15 19.5 +0.1**
comp=Z,18nm,1.1s,mb5.4
WVOR LR LR
comp=Z,3µm,22.0s,MS5.8
OHCM Honcut 97.09 43 *e*P **P 10 15 19.1 -0.3**
O05C Quincy 97.10 43 ⇑P **P 10 15 19.1 -0.4**
baz=97,SNR=16
O05C ⇑SKSac SKSac 10 25 58.8 +3.0
baz=97
Q03C Winters 97.14 44 ⇑P **P 10 15 20.4 +0.7**
baz=97,SNR=14
Q03C ⇑SKSac SKSac 10 25 58.3 +2.4
baz=97
CHMT Chamberlain Mo 97.29 34 *e*P **P 10 15 21.0 +0.7**
N06A Buffalo Meadow 97.33 42 ⇓P **P 10 15 20.3 -0.3**
baz=97,SNR=10
N06A ⇓SKSac SKSac 10 25 56.1 -0.8
baz=97
VAH Vaihoa 97.36 103 *e*P **P 10 15 21.4 +0.7**
comp=Z,24nm,1.2s,mb5.5
M07A Soldier Meadow 97.37 41 ⇓P **P 10 15 20.7 0.0**
baz=97,SNR=13
M07A ⇓SKSac SKSac 10 25 59.8 +2.7
baz=97
L08A Fields 97.39 40 ⇓P **P 10 15 21.7 +0.9**
baz=97,SNR=11
Q04C Lincoln 97.44 44 ⇓P **P 10 15 19.9 -1.1**
baz=97,SNR=7.5
Q04C ⇑SKSac SKSac 10 25 58.4 +0.9
baz=97
K09A Rome 97.46 39 P **P 10 15 21.6 +0.5**
baz=97,SNR=15
K09A ⇑SKSac SKSac 10 26 00.2 +2.6
baz=97
BEKR Beckwourth 97.51 42 P **P 10 15 21.8 +0.4**
baz=97,SNR=17
MAW Mawson 97.53 199 P **P 10 15 19.6 -1.8**
comp=Z,3.8nm,0.6s,mb5.1,baz=45,slow=7.3,SNR=12
MAW PP PP 10 19 17.1 -1.6
comp=Z,1.3nm,0.4s,baz=36,slow=18,SNR=2.5
MAW PKKPbc PKKPbc 10 31 56.0 -2.0
comp=Z,2.7nm,0.7s,baz=264,slow=4.5,SNR=5.4
MAW LR LR 10 57 52.0
comp=Z,1µm,18.4s,MS5.4,baz=46,slow=34
MAW Mawson 97.53 199 *e*P **P 10 15 19.8 -1.6**
comp=Z,9.9nm,1.2s,mb5.2
MAW LR LR
comp=Z,2µm,21.0s,MS5.6
ABA Alger-Bouzarea 97.56 314 P **P 10 15 21.0 -0.6**
BDM Black Diamond 97.61 45 ⇓P **P 10 15 21.8 0.0**
baz=98
BDM ⇑SKSac SKSac 10 25 57.4 -1.0
baz=98
JRSC Jasper Ridge 97.66 45 ⇑P **P 10 15 21.7 -0.4**
baz=98
O06A Flanigan 97.67 42 ⇓P **P 10 15 22.2 +0.1**
baz=98,SNR=12
EMOS Mosqueruela 97.83 318 P **P 10 15 23.9 +1.1**
comp=Z,180nm,2.0s,mb6.3
N07B Gerlach 97.84 41 ⇑P **P 10 15 23.0 +0.1**
baz=98,SNR=12
N07B ⇑SKSac SKSac 10 26 01.9 +2.4
baz=98
BNLO Ben Lomond (Sa 97.86 46 ⇑P **P 10 15 22.0 -0.9**
baz=98,SNR=5.3
WENL Wente Brothers 97.86 45 ⇓P **P 10 15 22.8 -0.1**
baz=98
WENL ⇑SKSac SKSac 10 25 56.8 -2.9
baz=98
ELAN Lanestosa 97.89 322 P **P 10 15 27.9 +4.8**
comp=Z,43nm,1.4s,mb5.8
LAVA Lava Cap Winer 97.89 44 P **P 10 15 23.4 +0.3**
baz=98,SNR=21
LAVA ⇑SKSac SKSac 10 25 58.7 -1.2
baz=98
L09A Wilkinson Ranc 97.90 40 ⇑P **P 10 15 22.9 -0.2**
baz=98,SNR=7.2
L09A ⇓SKSac SKSac 10 26 02.2 +2.3
baz=98
P06A Stead Airport, 97.91 42 ⇓P **P 10 15 23.5 +0.4**
baz=98
P06A ⇑SKSac SKSac 10 26 00.5 +0.6
baz=98
EMHD Djebel Mahouad 97.94 313 P **P 10 15 24.0 +0.7**
R04C Big Horse Ranc 98.05 44 ⇑P **P 10 15 22.1 -1.7**
baz=98
R04C ⇑SKSac SKSac 10 26 04.6 +4.0
baz=98
HRY Holter Researc 98.16 33 *e*P **P 10 15 25.6 +1.3**
WCN Washoe City 98.21 43 ⇓P **P 10 15 24.5 -0.1**
baz=98,SNR=6.7
WCN ⇓SKSac SKSac 10 26 05.3 +3.9
baz=98
PAHR Pah Rah Range 98.21 42 *e*P **P 10 15 25.4 +0.9**
O07A Toulon 98.27 42 ⇓P **P 10 15 24.8 +0.1**
baz=98,SNR=9.3
O07A ⇑SKSac SKSac 10 26 03.8 +2.1
baz=98
EGMT Eagleton 98.30 31 *e*P **P 10 15 25.5 +0.6**
EGMT LR LR
comp=Z,3µm,19.0s,MS5.8
EGMT Eagleton 98.30 31 ⇑P **P 10 15 23.9 -1.0**
baz=98,SNR=9.5
EGMT ⇓SKSac SKSac 10 26 00.3 -1.6
baz=98
R05C Kirkwood Meado 98.35 43 ⇑P **P 10 15 24.6 -0.6**
baz=98,SNR=8.4
R05C ⇑SKSac SKSac 10 26 00.7 -1.4
baz=98
N08A GE Springer Mi 98.36 41 ⇓P **P 10 15 25.1 -0.1**
baz=98,SNR=12
N08A ⇑SKSac SKSac 10 26 02.4 +0.3
baz=98
TBI Tubuai 98.38 112 *e*LQ 10 43 12.0
comp=Z,4µm,31.8s
TBI Tubuai 98.38 112 *e*PP PP 10 19 17.2 -8.1
comp=Z,774nm,27.2s
TBI Tubuai 98.38 112 *e*SKSac SKSac 10 25 59.4 -2.9
comp=Z,2µm,26.5s
TBI *e*SP SP 10 28 10.8 -6.0
comp=Z,3µm,29.8s
TBI *e*SS SS 10 33 33.9 -2.7
comp=Z,3µm,33.5s
TBI *e*LR LR 10 47 07.2
comp=Z,13µm,31.8s,baz=297
M09A Marrel Ranch, 98.39 40 ⇑P **P 10 15 26.0 +0.7**
baz=98
M09A ⇑SKSac SKSac 10 26 00.8 -1.5
baz=98
LRM Limekiln Ridge 98.42 34 *e*P **P 10 15 27.1 +1.6**
PACP Pacheco Peak 98.52 45 ⇑P **P 10 15 26.0 +0.1**
baz=98,SNR=13
PACP ⇑SKSac SKSac 10 26 08.5 +5.5
baz=98
CMB Columbia Colle 98.53 44 *e*P **P 10 15 26.3 +0.3**
CMB Columbia Colle 98.53 44 ⇑P **P 10 15 25.6 -0.4**
baz=98,SNR=27
CMB ⇑SKSac SKSac 10 26 03.3 +0.2
baz=98
ETOR Torete 98.54 319 P **P 10 15 26.3 +0.3**
ETOR pmax pmax
comp=Z,8.0nm,1.0s,mb5.2
ETOR Torete 98.54 319 P **P 10 15 26.3 +0.3**
comp=Z,8.0nm,1.0s,mb5.2
O08A Rochester Mine 98.64 41 ⇑P **P 10 15 26.3 -0.1**
baz=98
DLMT Dillon 98.65 35 *e*P **P 10 15 26.7 +0.2**
comp=Z,26nm,1.0s,mb5.7
HAST UC Hastings Re 98.68 46 ⇑P **P 10 15 25.9 -0.7**
baz=99,SNR=6.0
HAST ⇑SKSac SKSac 10 26 02.2 -1.6
baz=99
N09A Rock Creek Ran 98.69 40 ⇓P **P 10 15 27.2 +0.5**
baz=99
N09A ⇑SKSac SKSac 10 26 02.1 -1.7
baz=99
HLID Hailey 98.83 37 *e*P **P 10 15 28.6 +1.3**
HLID LR LR
comp=Z,3µm,19.0s,MS5.8
HLID Hailey 98.83 37 ⇓P **P 10 15 27.3 0.0**
baz=99,SNR=13
HLID ⇓SKSac SKSac 10 26 09.7 +5.2
baz=99
EBNR Beni Rached 98.85 314 P **P 10 15 29.0 +1.6**
M10A I.L. Ranch, Tu 98.87 39 ⇓P **P 10 15 28.0 +0.5**
baz=99
M10A ⇑SKSac SKSac 10 26 10.0 +5.2
baz=99
WAKR Walker 98.88 43 *e*P **P 10 15 28.6 +1.1**
S05C Merced 98.96 45 ⇑P **P 10 15 27.6 -0.2**
baz=99
S05C ⇓SKSac SKSac 10 26 05.2 0.0
baz=99
T05C Eagle Field, D 98.98 45 ⇓P **P 10 15 26.3 -1.7**
baz=99
Q07A Schurz 99.02 43 ⇑P **P 10 15 27.7 -0.4**
baz=99
P08A Dixie Valley 99.03 42 ⇑P **P 10 15 26.9 -1.3**
baz=99
V03C Hunter Liggett 99.10 46 ⇓P **P 10 15 27.8 -0.7**
baz=99
V03C ⇓SKSac SKSac 10 26 09.3 +3.4
baz=99
BMN Battle Mountai 99.12 41 PFAKE 10 15 40.0 +11
BMN LR LR
comp=Z,2µm,21.0s,MS5.7
O09A Fish Creek Ran 99.30 41 ⇑P **P 10 15 29.7 +0.4**
baz=99
O09A ⇑SKSac SKSac 10 26 10.1 +3.2
baz=99
EANR `Ain N'Sour 99.33 314 P **P 10 15 31.0 +1.5**
R07C Lee Vining 99.37 43 ⇑P **P 10 15 29.7 +0.1**
baz=99,SNR=7.9
M11A Holland Ranch, 99.37 39 ⇑P **P 10 15 30.8 +1.1**
baz=99
N10A Dunphy 99.38 40 ⇓P **P 10 15 30.1 +0.3**
baz=99
ETRT Tiaret 99.50 313 P **P 10 15 32.0 +1.7**
ETOB Tobarra 99.52 317 P **P 10 15 30.7 +0.3**
comp=Z,92nm,1.7s,mb5.9
V04C Ramage Ranch, 99.56 46 ⇓P **P 10 15 30.3 -0.2**
baz=99
PKD Parkfield 99.61 46 ⇓P Pdif 10 15 29.9 -0.9
baz=100
Q08A Gabbs 99.62 42 ⇓P Pdif 10 15 28.9 -1.9
baz=100
Q08A ⇓SKSac SKSac 10 26 13.3 +4.8
baz=100
QLMT Earthquake Lak 99.62 34 *e*Pdif Pdif 10 15 31.7 +0.9
KCC Kaiser Creek 99.63 44 ⇓P Pdif 10 15 28.7 -2.2
baz=100,SNR=11
KCC ⇓SKSac SKSac 10 26 02.9 -5.7
baz=100
NVAR Mina Array Bea 99.64 43 P Pdif 10 15 31.4 +0.4
comp=Z,3.8nm,1.0s,baz=305,slow=5.4,SNR=16
NVAR PKiKP PKiKP 10 19 59.8 0.0
comp=Z,5.0nm,1.1s,baz=301,slow=3.1,SNR=3.8
NVAR S SKSac 10 26 06.8 -1.7
comp=Z,0.4nm,0.8s,baz=158,slow=42,SNR=1.8
O10A Cortez Mining, 99.65 40 ⇓P Pdif 10 15 29.6 -1.3
baz=100
O10A ⇑SKSac SKSac 10 26 08.2 -0.5
baz=100
U05C Westside ANR, 99.67 45 ⇓P Pdif 10 15 30.6 -0.4
baz=100
P09A Austin 99.70 41 ⇑P Pdif 10 15 31.4 +0.2
baz=100
P09A ⇑SKSac SKSac 10 26 08.4 -0.5
baz=100
MLAC Mammoth Lakes 99.77 44 ⇑P Pdif 10 15 31.9 +0.4
baz=100
N11A Elko Archery C 99.78 40 ⇑P Pdif 10 15 32.2 +0.7
baz=100
N11A ⇑SKSac SKSac 10 26 08.8 -0.5
baz=100
R08A Mina 99.81 43 ⇓P Pdif 10 15 32.4 +0.7
baz=100
GCMT Greycliff 99.88 33 *e*Pdif Pdif 10 15 34.0 +2.0
M12A Wells 99.89 39 ⇑P Pdif 10 15 31.4 -0.7
baz=100
M12A ⇑SKSac SKSac 10 26 14.5 +4.7
baz=100
YMR Madison River 99.98 34 *e*Pdif Pdif 10 15 33.6 +1.2
comp=Z,12nm,0.9s
YMR LR LR
comp=Z,5µm,22.0s,MS6.0
PTRM Twissleman Ran 99.99 46 *e*Pdif Pdif 10 15 31.9 -0.6
P10A Eureka 100.08 41 ⇑P Pdif 10 15 32.7 -0.1
baz=100
V05C Boulder Hill, 100.08 46 ⇑P Pdif 10 15 31.1 -1.7
baz=100
Q09A Carvers 100.11 42 ⇑P Pdif 10 15 32.7 -0.3
baz=100
ELK Elko 100.12 39 PFAKE 10 15 40.0 +6.9
ELK LR LR
comp=Z,4µm,21.0s,MS5.8
N12A Clover Valley, 100.17 39 ⇓P Pdif 10 15 32.5 -0.8
baz=100
YFT Old Faithful 100.19 34 *e*Pdif Pdif 10 15 36.1 +2.7
HELL Mitchell Peak, 100.20 44 ⇑P Pdif 10 15 32.6 -0.7
baz=100,SNR=9.0
HELL ⇓SKSac SKSac 10 26 10.7 -0.7
baz=100
O11A Cowboy Ranch, 100.25 40 P Pdif 10 15 34.7 +1.0
baz=100,SNR=5.7
O11A ⇑SKSac SKSac 10 26 10.8 -0.8
baz=100
S08C White Mtn Res 100.27 43 ⇓P Pdif 10 15 34.3 +0.5
baz=100,SNR=10
S08C ⇓SKSac SKSac 10 26 09.2 -2.5
baz=100
SMMC Simmler 100.33 46 ⇑P Pdif 10 15 32.3 -1.7
baz=100
SMMC ⇑SKSac SKSac 10 26 09.5 -2.5
baz=100
LKWY Lake 100.34 34 PFAKE 10 15 40.0 +6.0
LKWY LR LR
comp=Z,6µm,20.0s,MS6.1
ESDC Sonseca Array 100.40 319 P Pdif 10 15 34.4 +0.1
comp=Z,0.3nm,0.3s,baz=3.7,slow=8.0,SNR=4.2
ESDC PP PP 10 19 40.5 -0.1
comp=Z,8.0nm,1.0s,baz=50,slow=7.6,SNR=7.0
ESDC S SKSac 10 26 15.0 +2.7
comp=Z,0.3nm,0.3s,baz=297,slow=38,SNR=3.1
ESDC Sonseca Array 100.40 319 P Pdif 10 15 38.5 +4.2
ESDC PP PP 10 19 40.5 -0.1
ESDC S SKSac 10 26 15.0 +2.7
ESLA Sonseca Array 100.40 319 PFAKE 10 15 40.0 +5.7
ESLA LR LR
comp=Z,32µm,20.0s,MS6.8
TIN Tinemaha 100.50 44 ⇓P Pdif 10 15 35.1 +0.4
baz=100
IMW Indian Meadow 100.51 35 *e*Pdif Pdif 10 15 36.9 +2.1
FLWY Flagg Ranch 100.51 35 *e*Pdif Pdif 10 15 37.6 +2.9
R09A Tonopah 100.53 42 ⇓P Pdif 10 15 34.6 -0.3
baz=100,SNR=14
R09A ⇑SKSac SKSac 10 26 13.9 +0.9
baz=100
TPH Tonopah 100.54 42 PFAKE 10 15 50.0 +15
TPH LR LR
comp=Z,2µm,20.0s,MS5.5
RLMT Red Lodge 100.55 33 *e*Pdif Pdif 10 15 35.9 +0.9
comp=Z,12nm,1.0s
RLMT LR LR
comp=Z,3µm,19.0s,MS5.8
P11A Circle Ranch, 100.55 41 ⇓P Pdif 10 15 35.1 +0.2
baz=100
DGMT Dagmar 100.56 28 *e*Pdif Pdif 10 15 36.9 +1.9
DGMT LR LR
comp=Z,4µm,22.0s,MS5.8
VES Vestal, Richgr 100.64 45 ⇑P Pdif 10 15 34.3 -1.1
baz=100
N13A Wendover, West 100.67 39 ⇑P Pdif 10 15 34.9 -0.5
baz=100
PKM Peak Mountain 100.68 46 ⇑P Pdif 10 15 35.8 +0.3
baz=101
PBRG Braganca 100.69 322 *e*PP PP 10 19 47.4 +4.5
MOOW Moose Ponds 100.71 35 *e*P Pdif 10 15 36.6 +0.9
O12A Currie 100.72 40 ⇑P Pdif 10 15 34.4 -1.3
baz=101,SNR=12
S09A Goldfield 100.75 43 ⇑P Pdif 10 15 35.5 -0.3
baz=101,SNR=12
S09A ⇓SKSac SKSac 10 26 14.8 +0.8
baz=101
TPAW Teton Pass 100.78 35 *e*Pdif Pdif 10 15 38.2 +2.2
LAO LASA Array 100.94 30 *e*Pdif Pdif 10 15 38.4 +1.7
LAO LR LR
comp=Z,3µm,19.0s,MS5.9
CWC Cottonwood Cre 100.95 44 ⇑P Pdif 10 15 36.0 -0.8
baz=101
EQES Quesada 100.98 317 P Pdif 10 15 38.7 +1.9
R10A Warm Springs 100.99 42 ⇓P Pdif 10 15 37.1 +0.2
baz=101,SNR=6.4
SBC Santa Barbara 101.01 47 ⇑P Pdif 10 15 37.4 +0.4
baz=101
Q11A Duckwater 101.05 41 ⇓P Pdif 10 15 37.8 +0.7
baz=101
VNDA Vanda 101.06 172 P Pdif 10 15 35.9 -1.3
comp=Z,7.7nm,1.1s,baz=304,slow=6.1,SNR=11
VNDA PP PP 10 19 43.0 -2.7
comp=Z,5.3nm,0.9s,baz=324,slow=9.2,SNR=4.0
VNDA S SKSac 10 26 07.2 -8.3
comp=Z,0.3nm,0.7s,baz=143,slow=4.4,SNR=1.7
VNDA PKKPbc PKKPbc 10 31 49.2 +1.1
comp=Z,6.3nm,0.9s,baz=192,slow=1.4,SNR=18
VNDA Vanda 101.06 172 *e*Pdif Pdif 10 15 36.2 -1.0
VNDA LR LR
comp=Z,2µm,22.0s,MS5.6
GRAC Grapevine Rang 101.08 43 ⇓P Pdif 10 15 37.5 +0.2
baz=101
P12A McGill 101.11 40 ⇑P Pdif 10 15 37.6 +0.2
baz=101,SNR=6.4
ISA Isabella 101.15 45 *e*Pdif Pdif 10 15 38.5 +0.8
ISA LR LR
comp=Z,3µm,22.0s,MS5.7
ISA Isabella 101.15 45 ⇑P Pdif 10 15 37.0 -0.6
baz=101
AHID Auburn Hatcher 101.18 36 PFAKE 10 15 50.0 +12
AHID LR LR
comp=Z,2µm,20.0s,MS5.6
ARVC Arvin 101.22 46 ⇓P Pdif 10 15 38.2 +0.2
baz=101
BSC Santa Cruz Isl 101.32 47 ⇓P Pdif 10 15 37.8 -0.6
baz=101
DAC Darwin (Calif) 101.37 44 PFAKE 10 15 50.0 +11
DAC LR LR
comp=Z,4µm,22.0s,MS5.8
TRCR Troy Canyon 101.39 41 *e*Pdif Pdif 10 15 39.2 +0.5
PCAB Cabril 101.48 323 *e*PP PP 10 19 53.4 +4.6
MPMC Manual Prospec 101.56 44 ⇓P Pdif 10 15 38.5 -0.9
baz=101,SNR=7.0
OSI Osito Adit 101.58 46 ⇓P Pdif 10 15 38.2 -1.4
baz=102
HWUT Hardware Ranch 101.69 37 *e*Pdif Pdif 10 15 41.6 +1.6
HWUT LR LR
comp=Z,2µm,20.0s,MS5.7
FURC Furnace Creek, 101.73 44 ⇑P Pdif 10 15 39.9 -0.3
baz=102
LRMC Laurel Mountai 101.77 45 ⇓P Pdif 10 15 40.3 -0.1
baz=102
SNCC San Nicolas Is 101.82 48 PFAKE 10 15 50.0 +9.4
SNCC LR LR
comp=Z,3µm,20.0s,MS5.8
SNCC San Nicolas Is 101.82 48 ⇑P Pdif 10 15 40.8 +0.3
baz=102
DUG Dugway 101.90 39 *e*Pdif Pdif 10 15 45.0 +4.1
DUG LR LR
comp=Z,2µm,19.0s,MS5.8
DUG Dugway 101.90 39 ⇑P Pdif 10 15 41.1 +0.1
baz=102
EDW2 Edwards Air Fo 101.92 45 ⇓P Pdif 10 15 40.9 -0.1
baz=102
SBA Scott Base 102.01 171 *e*Pdif Pdif 10 15 42.8 +1.3
SBA LR LR
comp=Z,2µm,22.0s,MS5.5
BW06 Boulder Array 102.02 35 *e*Pdif Pdif 10 15 49.6 +8.1
BW06 LR LR
comp=Z,2µm,19.0s,MS5.7
PDAR Pinedale Array 102.02 35 P Pdif 10 15 42.2 +0.8
comp=Z,0.5nm,0.6s,baz=229,slow=0.8,SNR=4.4
PDAR PP PP 10 19 53.7 +0.8
comp=Z,2.1nm,0.9s,baz=316,slow=4.1,SNR=3.9
PDAR PKKPbc PKKPbc 10 31 44.5 -0.8
comp=Z,3.6nm,1.0s,baz=116,slow=3.4,SNR=12
PVIS Viseu 102.06 322 *e*PP PP 10 19 52.8 -0.4
DECC Green Verdugo 102.06 46 ⇓P Pdif 10 15 41.2 -0.4
baz=102
MTE Manteigas 102.06 322 *e*Pdif Pdif 10 15 42.5 +0.8
MTE Manteigas 102.06 322 *e*PP PP 10 19 53.6 +0.4
MTE *e*SKS 10 26 23.8
MTE *i* P 10 34 41.3
MTE Manteigas 102.06 322 *i* LQ 10 51 28.9
MTE *e*LR LR 10 54 40.7
comp=Z,7µm,16.0s
TAOE Nuku Hiva Isla 102.18 95 *e*PP PP 10 19 51.4 -2.7
comp=Z,1µm,25.5s
TAOE Nuku Hiva Isla 102.18 95 *e*PS PS 10 28 59.1 -0.7
comp=Z,7µm,32.9s
TAOE Nuku Hiva Isla 102.18 95 *e*SKSac SKSac 10 26 17.7 -3.2
comp=Z,985nm,24.1s
TAOE *e*SS SS 10 34 15.5 -14
comp=Z,11µm,30.2s
TAOE *e*LR LR 10 48 57.6
comp=Z,59µm,31.9s,baz=301
LBTB Lobatse 102.38 248 *e*Pdif Pdif 10 15 46.6 +3.5
LBTB LR LR
comp=Z,5µm,20.0s,MS6.0
PCBR Castelo Branco 102.39 321 *e*PP PP 10 19 57.5 +1.8
FMP Fort Macarthur 102.40 47 ⇓P Pdif 10 15 42.9 -0.3
baz=102
SHOC Shoshone 102.44 44 ⇓P Pdif 10 15 43.3 -0.1
baz=102
GSC Goldstone 102.46 45 *e*Pdif Pdif 10 15 44.8 +1.3
comp=Z,35nm,1.6s
GSC Goldstone 102.46 45 ⇑P Pdif 10 15 43.2 -0.3
baz=102
CIS Catalina Islan 102.50 47 ⇑P Pdif 10 15 42.4 -1.2
baz=102
ULM Lac du Bonnet 102.50 23 P Pdif 10 15 43.5 -0.1
comp=Z,6.0nm,0.8s,baz=324,slow=5.1,SNR=5.9
ULM PP PP 10 19 57.0 +0.5
comp=Z,9.0nm,1.0s,baz=326,slow=5.2,SNR=4.5
ULM PKKPbc PKKPbc 10 31 41.7 -2.2
comp=Z,4.2nm,0.8s,baz=6.9,slow=11,SNR=3.7
ULM Lac du Bonnet 102.50 23 P Pdif 10 15 43.5 -0.1
ULM PP PP 10 19 57.0 +0.5
ULM PKKPbc PKKPbc 10 31 41.7 -2.2
ULM LR LR
comp=Z,5µm,20.0s,MS6.0
BFSC Mount Baldy St 102.52 46 ⇑P Pdif 10 15 43.8 +0.1
baz=102
RRX Edison Barstow 102.58 45 ⇓P Pdif 10 15 43.6 -0.4
baz=102
MPU Maple Canyon 102.70 38 PFAKE 10 16 00.0 +15
MPU LR LR
comp=Z,3µm,20.0s,MS5.8
SHPR Sheep Range 102.80 43 *e*Pdif Pdif 10 15 49.2 +4.3
TUQ Turquoise Mtn. 102.95 44 ⇓P Pdif 10 15 45.3 -0.3
baz=103
HEC Hector,Ludlow 103.05 45 ⇑P Pdif 10 15 45.8 -0.3
baz=103
PESTR Estremoz 103.09 321 *e*Pdif Pdif 10 15 49.8 +3.6
PESTR Estremoz 103.09 321 *e*PP PP 10 19 58.5 -2.4
PESTR Estremoz 103.09 321 *e*PP PP 10 19 59.0 -1.9
PESTR *e*SKS 10 26 28.3
PESTR *i* P 10 34 46.6
PESTR Estremoz 103.09 321 *e*LQ 10 53 37.9
PESTR *e*LR LR 10 56 13.7
MURC Murrieta 103.20 46 ⇑P Pdif 10 15 46.8 +0.1
baz=103
MVU Marysvale 103.35 40 PFAKE 10 16 00.0 +13
MVU LR LR
comp=Z,2µm,21.0s,MS5.7
MSU Marysvale 103.37 40 *e*P Pdif 10 15 52.0 +4.5
109C Camp Elliot, M 103.68 47 ⇑P Pdif 10 15 48.8 -0.1
baz=104
PFO Pinyon Flat Ob 103.70 46 *e*Pdif Pdif 10 15 49.7 +0.8
PFO LR LR
comp=Z,818nm,21.0s,MS5.2
BOSA Boshof 103.70 244 Pdiff Pdif 10 15 48.0 -0.9
comp=Z,11nm,1.1s,baz=42,slow=7.2,SNR=4.1
BOSA Boshof 103.70 244 Pdif Pdif 10 15 48.0 -0.9
BOSA LR LR
comp=Z,3µm,21.0s,MS5.8
W12A Cal Nev Ari 103.72 44 ⇓P Pdif 10 15 47.6 -1.4
baz=104
BELC Belle Mtn. 103.77 45 ⇓P Pdif 10 15 47.3 -1.9
baz=104

PBEJ Beja 103.80 320 *e*PP PP 10 20 04.8 -1.4
RSSD Black Hills 103.87 31 *e*P Pdif 10 15 51.0 +1.3
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD MLR MLR
comp=Z,3µm,20.0s,MS5.9
RSSD Black Hills 103.87 31 *e*Pdif Pdif 10 15 51.0 +1.3
comp=Z,5.8nm,0.8s
RSSD LR LR
comp=Z,3µm,20.0s,MS5.9
SRU San Rafael 103.95 38 *e*P Pdif 10 15 54.1 +4.1
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 103.95 38 *e*Pdif Pdif 10 15 54.1 +4.0
comp=Z,4.8nm,0.7s
PMAFR Mafra 104.02 322 *e*Pdif Pdif 10 15 47.8 -2.6
PMAFR Mafra 104.02 322 *e*PP PP 10 20 07.7 -0.2
PMAFR Mafra 104.02 322 *e*PP PP 10 20 09.5 +1.6
PMAFR *e*SKS 10 26 31.7
PMAFR *i* P 10 34 52.3
PMAFR Mafra 104.02 322 *i* LQ 10 53 50.4
PMAFR *i* LR LR 10 54 22.7
LIS Lisbon 104.10 321 *e*PP PP 10 20 08.9 +0.4
LIS *e*SS SS 10 34 54.4 -1.7
LIS *e*SS SS 10 34 54.4 -1.7
LIS AMS AMS 11 01 12.3
comp=N,9µm,19.7s
AGMN Agassiz Refuge 104.12 24 PFAKE 10 16 00.0 +9.2
AGMN LR LR
comp=Z,4µm,21.0s,MS5.9
MONP Monument Peak 104.15 46 ⇑P Pdif 10 15 49.7 -1.3
baz=104
IRM Iron Mountain 104.23 45 ⇓P Pdif 10 15 51.5 +0.2
baz=104
BC3 Big Chuckw Mtn 104.34 45 ⇑P Pdif 10 15 51.5 -0.3
baz=104
W13A Hualapai Mount 104.48 43 ⇑P Pdif 10 15 50.9 -1.5
baz=104
SCHQ Schefferville 104.50 4 Pdiff Pdif 10 15 52.6 +0.1
comp=Z,6.3nm,0.9s,baz=328,slow=2.3,SNR=5.0
SCHQ PP PP 10 20 05.2 -6.3
comp=Z,4.6nm,0.9s,baz=346,slow=8.8,SNR=2.6
SCHQ Schefferville 104.50 4 Pdif Pdif 10 15 52.6 +0.1
SCHQ PP PP 10 20 05.2 -6.3
SCHQ LR LR
comp=Z,10µm,20.0s,MS6.4
SWSC Sam W. Stewart 104.54 46 ⇑P Pdif 10 15 52.7 0.0
baz=104
MORF Marmelete 104.74 320 *e*PP PP 10 20 13.9 +0.7
MORF *e*SS SS 10 35 05.4 +0.6
MORF *e*SS SS 10 35 05.4 +0.6
MORF AMS AMS 11 15 09.6
comp=Z,5µm,15.9s,MS6.2
PDMCI Parker Dam,Lak 104.81 44 ⇑P Pdif 10 15 53.9 0.0
baz=105
X13A Yucca 104.83 44 ⇑P Pdif 10 15 53.5 -0.4
baz=105
Y12C Blythe 104.89 45 ⇑P Pdif 10 15 51.7 -2.6
baz=105
W14A Seligman 104.92 43 ⇑P Pdif 10 15 51.5 -2.9
baz=105
GLA Glamis 105.12 45 *e*P Pdif 10 15 58.7 +3.4
GLA *e* 10 20 12.3
GLA Glamis 105.12 45 *e*Pdif Pdif 10 15 58.6 +3.4
GLA Glamis 105.12 45 ⇓P Pdif 10 15 55.4 +0.1
baz=105
PV10 Paradox Valley 105.30 38 *e*Pdif Pdif 10 15 57.0 +1.0
Y13A Salome 105.31 44 ⇓P Pdif 10 15 54.0 -2.1
baz=105
W15A Williams 105.46 42 ⇑P Pdif 10 15 54.7 -2.0
baz=105
X14A Yava 105.51 43 ⇑P Pdif 10 15 54.8 -2.2
baz=105
PV01 Paradox Valley 105.73 38 *e*Pdif Pdif 10 15 59.4 +1.4
Y14A Wickenburg 105.77 44 ⇓P Pdif 10 15 54.9 -3.3
baz=106
WUAZ Wupatki 105.80 42 *e*Pdif Pdif 10 16 00.2 +1.9
comp=Z,6.2nm,1.0s
WUAZ LR LR
comp=Z,3µm,22.0s,MS5.7
WUAZ Wupatki 105.80 42 ⇓P Pdif 10 15 58.3 +0.1
baz=106
SMCO Snowmass 105.91 36 *e*Pdif Pdif 10 16 04.0 +5.2
X15A Humboldt 105.92 43 ⇓P Pdif 10 15 59.9 +1.1
baz=106
EYMN Ely 105.99 21 PFAKE 10 20 20.0 +8.7
EYMN LR LR
comp=Z,4µm,19.0s,MS6.0
Z14A Wintersburg 106.17 44 ⇓P Pdif 10 16 00.3 +0.4
baz=106
ISCO Idaho Springs 106.21 35 PFAKE 10 20 20.0 +8.3
ISCO LR LR
comp=Z,3µm,20.0s,MS5.8
MVCO Mesa Verde 106.40 39 *e*PKPdf PKiKP 10 20 13.1 +1.0
MVCO LR LR
comp=Z,2µm,21.0s,MS5.7
MVCO Mesa Verde 106.40 39 ⇑P Pdif 10 16 00.3 -0.7
baz=106
115A Sonoran Desert 107.05 44 ⇓P Pdif 10 16 01.6 -2.3
baz=107
116A Eloy 107.48 44 ⇑P Pdif 10 16 05.4 -0.4
baz=107
ECSD EROS,Sioux Fal 107.55 27 PFAKE 10 20 20.0 +5.8
ECSD LR LR
comp=Z,3µm,19.0s,MS5.8
SDCO Great Sand Dun 107.74 36 PFAKE 10 20 30.0 +15
SDCO LR LR
comp=Z,3µm,21.0s,MS5.9
TSUM Tsumeb 107.84 256 PFAKE 10 20 30.0 +15
TSUM LR LR
comp=Z,4µm,19.0s,MS6.0
SUR Sutherland 108.37 242 PFAKE 10 20 30.0 +14
SUR LR LR
comp=Z,1µm,21.0s,MS5.5
LAZ Ladron 109.13 40 *e*PKPdf PKiKP 10 20 17.8 +0.6
ANMO Albuquerque 109.15 39 Pdiff Pdif 10 16 15.1 +1.9
comp=Z,0.7nm,0.8s,baz=247,slow=5.4,SNR=2.8
ANMO PKiKP PKiKP 10 20 18.0 +0.8
comp=Z,6.5nm,1.0s,baz=187,slow=1.0,SNR=9.5
ANMO Albuquerque 109.15 39 Pdif Pdif 10 16 15.1 +1.9
ANMO PKPdf PKiKP 10 20 18.0 +0.8
ANMO LR LR
comp=Z,3µm,22.0s,MS5.8
LENM Lemitar 109.39 40 *e*PKPdf PKiKP 10 20 17.0 -0.6
CBKS Cedar Bluff 109.99 32 PFAKE 10 20 30.0 +11
CBKS LR LR
comp=Z,4µm,20.0s,MS6.0
SCIA State Center 110.47 26 PFAKE 10 20 30.0 +10
SCIA LR LR
comp=Z,4µm,19.0s,MS6.0
QSPA South Pole Qui 110.55 180 *e*P PKiKP 10 20 18.9 -0.9
QSPA LR LR
comp=Z,2µm,21.0s,MS5.7
TOA0 Torodi Ar. Sit 110.72 294 *e*PKPdf PKiKP 10 20 19.8 -0.4
TORD Torodi Ar. Bea 110.72 294 Pdiff Pdif 10 16 19.3 -0.8
comp=Z,0.9nm,1.0s,baz=174,slow=3.0,SNR=3.4
TORD PKiKP PKiKP 10 20 20.6 +0.5
comp=Z,9.2nm,0.8s,baz=50,slow=1.7,SNR=15
TORD PP PP 10 20 56.0 -1.0
comp=Z,4.2nm,1.0s,baz=52,slow=6.0,SNR=4.5
TORD PKKPbc PKKPbc 10 31 17.9 -0.6
comp=Z,6.9nm,1.0s,baz=236,slow=2.3,SNR=11
TORD PKKPab PKKPab 10 31 29.9 +0.9
comp=Z,16nm,1.1s,baz=255,slow=4.1,SNR=11
TORD Torodi Ar. Bea 110.72 294 Pdif Pdif 10 16 19.3 -0.8
TORD PKPdf PKiKP 10 20 20.6 +0.5
TORD PP PP 10 20 56.0 -1.0
TORD PKKPbc PKKPbc 10 31 17.9 -0.6
TORD PKKPab PKKPab 10 31 29.9 +0.9
JFWS Jewell Farm 110.77 23 PFAKE 10 20 30.0 +10
JFWS LR LR
comp=Z,4µm,20.0s,MS6.0
GLMI Grayling 110.97 19 PFAKE 10 20 30.0 +9.4
GLMI LR LR
comp=Z,5µm,22.0s,MS6.1
RKT Rikitea 111.09 108 *e*PP PP 10 20 51.8 -7.8
comp=Z,619nm,27.5s
RKT Rikitea 111.09 108 *e*PS PS 10 30 25.4 -5.4
comp=Z,3µm,36.0s
RKT Rikitea 111.09 108 *e*SKSac SKSac 10 26 57.0 -3.1
comp=Z,860nm,27.0s
RKT *e*SS SS 10 36 28.7 -1.9
comp=Z,4µm,32.8s
RKT *e*LR LR 10 52 51.4
comp=Z,11µm,33.5s,baz=292
KSU1 Kansas State U 111.28 30 PFAKE 10 20 30.0 +8.8
KSU1 LR LR
comp=Z,3µm,20.0s,MS5.9
MNTX Cornudas Mount 112.06 41 *e*PKPdf PKiKP 10 20 22.5 -0.2
MNTX LR LR
comp=Z,3µm,20.0s,MS5.9
AAM Ann Arbor 113.55 19 PFAKE 10 20 40.0 +14
AAM LR LR
comp=Z,5µm,19.0s,MS6.2
LONY Lake Ozonia 113.59 11 PFAKE 10 20 40.0 +14
LONY LR LR
comp=Z,5µm,20.0s,MS6.1
WMOK Wichita Mounta 113.61 34 PKIKP PKiKP 10 20 24.9 -0.7
WMOK Wichita Mounta 113.61 34 *e*PKPdf PKiKP 10 20 25.3 -0.3
WMOK LR LR
comp=Z,3µm,20.0s,MS5.9
LPIG La Paz 113.73 50 PP PP 10 21 16.1 -2.4
comp=Z,40nm,1.1s,baz=149,slow=3.8,SNR=3.0
PKME Peaks-Kenny Pk 113.76 7 PFAKE 10 20 40.0 +14
PKME LR LR
comp=Z,6µm,19.0s,MS6.2
NCB Newcomb 114.28 11 PFAKE 10 20 40.0 +13
NCB LR LR
comp=Z,6µm,20.0s,MS6.2
LBNH Lisbon 114.41 9 PFAKE 10 20 40.0 +13
LBNH LR LR
comp=Z,6µm,20.0s,MS6.2
CCM Cathedral Cave 114.52 27 *e*PKIKP PKiKP 10 20 24.6 -2.8
CCM MLR MLR
comp=Z,3µm,21.0s,MS5.8
NVL N'lazarevskaya 115.42 200 *c i*PKIKP PKPdf 10 20 27.8 -1.3
NVL *i* 10 31 02.6
NVL *i* 10 32 17.2
NVL *i* 10 37 26.1
NVL pmax pmax
comp=Z,39nm,1.2s
NVL pmax pmax
comp=Z,2µm,17.7s
BINY Binghamton 115.64 13 *e*PKPdf PKPdf 10 20 29.3 -0.2
BINY LR LR
comp=Z,4µm,20.0s,MS6.1
ACSO Alum Creek Sta 115.64 19 *e*PKPdf PKPdf 10 20 28.4 -1.2
ACSO LR LR
comp=Z,4µm,19.0s,MS6.1
PTCN Pitcairn Islan 115.87 109 PFAKE 10 20 40.0 +10
PTCN LR LR
comp=Z,5µm,20.0s,MS6.1
HRV Harvard--Oak R 116.16 10 PFAKE 10 20 40.0 +9.5
HRV LR LR
comp=Z,6µm,19.0s,MS6.2
JCT Junction City 116.26 38 *e*PKIKP PKPdf 10 20 30.3 -0.4
JCT MLR MLR
comp=Z,3µm,20.0s,MS5.9
WES Weston 116.31 9 PFAKE 10 20 40.0 +9.2
WES LR LR
comp=Z,4µm,20.0s,MS6.0
WCI Wyandotte Cave 116.33 23 *e*PKIKP PKPdf 10 20 29.5 -1.4
WCI MLR MLR
comp=Z,4µm,19.0s,MS6.0
MIAR Mount Ida 116.39 31 *e*PKIKP PKPdf 10 20 30.6 -0.4
MIAR MLR MLR
comp=Z,4µm,19.0s,MS6.0
SSPA Standing Stone 116.69 15 *e*PKPdf PKPdf 10 20 30.1 -1.5
SSPA LR LR
comp=Z,5µm,20.0s,MS6.1
UALR University of 116.78 30 *e*PKPdf PKPdf 10 20 31.0 -0.7
MCWV Mont Chateau 117.10 17 PFAKE 10 20 40.0 +7.7
MCWV LR LR
comp=Z,5µm,19.0s,MS6.2
WVT Waverly 117.58 25 PKIKP PKPdf 10 20 31.5 -1.8
WVT Waverly 117.58 25 *e*PKPdf PKPdf 10 20 32.0 -1.3
WVT LR LR
comp=Z,4µm,20.0s,MS6.0
MVL Millersville 117.66 14 *e*PKPdf PKPdf 10 20 32.5 -0.9
NATX Nacogdoches 118.08 33 *e*PKPdf PKPdf 10 20 34.5 +0.3
NATX *e*PP PP 10 21 49.6 +0.5
NATX LR LR
comp=Z,4µm,19.0s,MS6.0
OXF Oxford 118.31 27 *e*PKIKP PKPdf 10 20 33.5 -1.2
OXF MLR MLR
comp=Z,4µm,19.0s,MS6.0
PLAL Pickwick Lake 118.47 26 *e*PKPdf PKPdf 10 20 33.3 -1.7
PLAL LR LR
comp=Z,3µm,20.0s,MS5.9
TZTN Tazewell 118.81 22 *e*PKPdf PKPdf 10 20 34.6 -1.1
TZTN LR LR
comp=Z,5µm,19.0s,MS6.2
HKT Hockley 118.89 36 *e*PKIKP PKPdf 10 20 35.5 -0.3
HKT MLR MLR
comp=Z,4µm,19.0s,MS6.0
ELN Prospectdale 119.09 19 *e*PKPdf PKPdf 10 20 35.1 -1.1
CBN Corbin 119.12 16 PFAKE 10 20 50.0 +14
CBN LR LR
comp=Z,5µm,21.0s,MS6.1
SWET Sewanee 119.12 24 *e*PKPdf PKPdf 10 20 35.5 -0.8
SWET *e*PP PP 10 22 02.0 +5.8
BLA Blacksburg 119.20 19 *e*PKIKP PKPdf 10 20 35.2 -1.2
BLA MLR MLR
comp=Z,4µm,19.0s,MS6.1
CPCT Cooper Cave 119.44 23 *e*PKPdf PKPdf 10 20 36.2 -0.7
DBIC Dimbokro 119.45 291 PKP PKPdf 10 20 36.8 -0.1
comp=Z,20nm,0.9s,baz=27,slow=2.6,SNR=11
DBIC PP PP 10 21 52.1 -6.4
comp=Z,4.9nm,0.8s,baz=93,slow=4.7,SNR=1.6
DBIC PKKPbc PKKPbc 10 30 48.1 -0.2
comp=Z,4.0nm,0.7s,baz=237,slow=7.6,SNR=4.1
DBIC Dimbokro 119.45 291 PKP PKPdf 10 20 36.8 -0.1
DBIC PP PP 10 21 52.1 -6.4
DBIC PKKPbc PKKPbc 10 30 48.1 -0.2
DBIC LR LR
comp=Z,4µm,21.0s,MS6.0
TKL Tuckaleechee C 119.52 22 PKP PKPdf 10 20 36.2 -0.8
comp=Z,16nm,0.8s,baz=138,slow=2.4,SNR=11
TKL PP PP 10 21 47.1 -12
comp=Z,1.1nm,0.5s,baz=190,slow=7.4,SNR=1.6
TKL Tuckaleechee C 119.52 22 PKP PKPdf 10 20 36.2 -0.8
TKL PP PP 10 21 47.1 -12
KVTX Kingsville 119.55 39 PFAKE 10 20 50.0 +13
KVTX LR LR
comp=Z,4µm,19.0s,MS6.1
SNAA Sanae 119.67 198 PKP PKPdf 10 20 35.2 -2.1
comp=Z,7.9nm,1.0s,baz=81,slow=4.9,SNR=18
SNAA PP PP 10 21 56.5 -3.5
comp=Z,1.2nm,0.7s,baz=221,slow=4.5,SNR=1.6
SNAA PKKPbc PKKPbc 10 30 46.3 -1.2
comp=Z,5.3nm,1.0s,baz=279,slow=2.2,SNR=21
SNAA Sanae 119.67 198 PKIKP PKPdf 10 20 35.2 -2.1
SNAA 10 21 56.5
ZAIG Zacatecas 120.00 46 *i* P PKPdf 10 20 39.5 +1.6
SFJM Santa Fe 121.20 49 *i* P PKPdf 10 20 41.5 +1.3
PPM Popocatepetl 125.21 46 *i* PKIKP PKPdf 10 20 49.6 +1.7
CAIG El Cayaco 125.44 49 *i* P PKPdf 10 20 49.4 +1.1
BBSR BB Station 126.99 5 PFAKE 10 21 00.0 +8.7
BBSR LR LR
comp=Z,3µm,20.0s,MS5.9
DWPF Disney 127.17 24 PFAKE 10 21 00.0 +8.3
DWPF LR LR
comp=Z,4µm,19.0s,MS6.1
CMIG Matias Romero 129.11 45 PP PP 10 23 01.4 -1.9
comp=Z,3.5nm,1.0s,baz=276,slow=13,SNR=2.0
SOR Soroa 131.22 29 *e*P PKPdf 10 21 01.2 +1.8
RPN Rapa Nui 134.62 108 PFAKE 10 21 20.0 +14
RPN LR LR
comp=Z,1µm,22.0s,MS5.7
PMSA Palmer Station 135.91 177 PKP PKPdf 10 21 05.6 -2.6
comp=Z,29nm,1.1s,baz=159,slow=1.4,SNR=8.5
PMSA Palmer Station 135.91 177 PKP PKPdf 10 21 05.6 -2.6
PMSA LR LR
comp=Z,2µm,19.0s,MS5.9
TGUH Tegucigalpa,Un 136.20 40 *e*PKPdf PKPdf 10 21 11.2 +2.5
TGUH LR LR
comp=Z,1µm,20.0s,MS5.7
RCC Rio Carpintero 136.67 22 *e*P PKPdf 10 21 08.9 -0.7
SJG San Juan 140.91 9 PKP PKPdf 10 21 16.4 -1.0
comp=Z,11nm,0.4s,baz=80,slow=22,SNR=1.4
SJG PP PP 10 24 14.8 -3.1
comp=Z,12nm,0.4s,baz=279,slow=20,SNR=2.8
SJG San Juan 140.91 9 PKP PKPdf 10 21 16.4 -1.0
SJG PP PP 10 24 14.8 -3.1
SJG LR LR
comp=Z,2µm,20.0s,MS5.9
DEG La Desirade 143.16 2 *e*P PKPdf 10 21 18.5 -2.8
SCG Saint Claude 143.42 3 *e*P PKPdf 10 21 19.5 -2.3
MGG Marie-Galante 143.54 2 *e*P PKPdf 10 21 17.5 -4.6
TBG Guadaloupe-3 143.59 3 *e*P PKPdf 10 21 20.3 -1.9
PAYG Puerto Ayora 144.26 60 PFAKE 10 21 30.0 +6.7
PAYG LR LR
comp=Z,2µm,19.0s,MS5.9
USHA Ushuaia 145.36 171 PKP PKPdf 10 21 24.1 -1.1
comp=Z,148nm,1.1s,baz=212,slow=3.4,SNR=17
BBGH Gun Hill 146.32 359 PFAKE 10 21 40.0 +13
BBGH LR LR
comp=Z,3µm,21.0s,MS6.1
GRW Mount Saint Ca 147.26 3 *e*P PKPdf 10 21 30.4 +2.0
TPR Prospect 148.26 2 *e*P PKPdf 10 21 32.5 +2.5
SDV Santo Domingo 148.73 21 PKP PKPdf 10 21 31.4 +0.6
comp=Z,187nm,1.0s,baz=91,slow=0.9,SNR=43
SDV Santo Domingo 148.73 21 *e*PKPdf PKPdf 10 21 31.7 +0.9
SDV *e*PKPbc PKPbc 10 21 35.1 +0.5
SDV *e*PKPab PKPab 10 21 39.9 +1.6
SDV LR LR
comp=Z,1µm,20.0s,MS5.6
TRN Trinidad (W) 148.77 3 *e*P PKPdf 10 21 31.8 +0.8
PCRV Puerto La Cruz 148.93 9 PKP PKPdf 10 21 30.7 -0.5
comp=Z,31nm,0.6s,baz=348,slow=9.6,SNR=6.8
PCRV PKPbc PKPbc 10 21 34.2 -1.0
comp=Z,37nm,0.6s,baz=172,slow=2.5,SNR=21
PCRV PP PP 10 25 04.1 -1.7
comp=Z,6.1nm,0.8s,baz=177,slow=9.6,SNR=1.8
TBH Brigand Hill 148.95 2 *e*P PKPdf 10 21 35.7 +4.5
TPP Pointe-a-Pierr 149.10 3 *e*P PKPdf 10 21 34.4 +2.9
ROSC El Rosal 150.89 31 PKP PKPdf 10 21 35.9 +1.7
comp=Z,47nm,0.9s,baz=119,slow=7.5,SNR=19
ROSC PP PP 10 25 16.4 -0.7
comp=Z,4.3nm,0.4s,baz=105,slow=22,SNR=1.8
ROSC El Rosal 150.89 31 *e*PKPdf PKPdf 10 21 36.2 +2.0
ROSC *e*PKPbc PKPbc 10 21 41.3 +1.4
OTAV Otavalo 152.38 43 *e*PKPdf PKPdf 10 21 38.2 +1.7
OTAV LR LR
comp=Z,2µm,22.0s,MS5.8
RCBR Riachuelo 152.38 299 PFAKE 10 21 50.0 +13
RCBR LR LR
comp=Z,3µm,19.0s,MS6.2
ATAH Atahualpa 157.50 55 PKP PKPdf 10 21 44.9 +1.4
comp=Z,26nm,1.2s,baz=317,slow=1.9,SNR=13
ATAH PP PP 10 25 54.6 +0.4
comp=Z,3.5nm,0.8s,baz=18,slow=13,SNR=2.6
PLCA Paso Flores 158.12 158 PKP PKPdf 10 21 44.1 -0.2
comp=Z,31nm,1.2s,baz=235,slow=4.2,SNR=9.2
PLCA PP PP 10 25 55.2 -2.4
comp=Z,1.8nm,0.8s,baz=29,slow=20,SNR=2.4
PLCA Paso Flores 158.12 158 PKP PKPdf 10 21 44.1 -0.2
PLCA PP PP 10 25 55.2 -2.4
PLCA LR LR
comp=Z,3µm,20.0s,MS6.1
NNA Nana 161.59 64 PKP PKPdf 10 21 48.5 +0.3
comp=Z,38nm,1.0s,baz=343,slow=3.5,SNR=8.9
NNA Nana 161.59 64 *e*PKPdf PKPdf 10 21 49.1 +0.8
NNA LR LR
comp=Z,533nm,22.0s
TRQA Tornquist 162.66 175 *e*PKPdf PKPdf 10 21 49.2 -0.1
TRQA LR LR
comp=Z,3µm,21.0s
LPA La Plata 165.78 187 *de*PKP PKPdf 10 21 51.0 -1.1
LPA *e*PP PP 10 26 34.0 -4.5
LPA *e*PP 10 28 49.0
CFAA Coronel Fontan 166.87 147 PP PP 10 26 42.4 -1.7
comp=Z,0.9nm,1.1s,baz=159,slow=1.9,SNR=3.1
BDFB Brasilia 167.60 292 PKP PKPdf 10 21 53.0 -0.5
comp=Z,32nm,1.1s,baz=58,slow=1.4,SNR=20
BDFB PKPab PKPab 10 22 59.1 -0.4
comp=Z,34nm,1.1s,baz=348,slow=6.5,SNR=6.1
BDFB PP PP 10 26 47.5 -0.3
comp=Z,8.6nm,0.9s,baz=71,slow=5.5,SNR=3.9
BDFB Brasilia 167.60 292 PKP PKPdf 10 21 53.0 -0.5
BDFB PKPab PKPab 10 22 59.1 -0.4
BDFB PP PP 10 26 47.5 -0.3
BDFB LR LR
comp=Z,6µm,22.0s
SAML Samuel 167.86 15 PFAKE 10 22 00.0 +6.3
SAML LR LR
comp=Z,3µm,21.0s
ARE Arequipa 168.24 71 *e*PKIKP PKPdf 10 21 56.0 +2.1
LPAZ La Paz 171.04 62 PKP PKPdf 10 21 57.2 +1.6
comp=Z,39nm,1.1s,baz=22,slow=4.0,SNR=66
LPAZ PP PP 10 27 05.3 +0.1
comp=Z,4.2nm,1.1s,baz=290,slow=5.6,SNR=2.6
LPAZ La Paz 171.04 62 *e*PKPdf PKPdf 10 21 57.3 +1.7
LPAZ LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 171.44 104 PKP PKPdf 10 21 56.7 +0.9
comp=Z,23nm,1.0s
LVC PKPab PKPab 10 23 18.5 +2.0
comp=Z,9.8nm,0.8s,baz=0.3,slow=5.3,SNR=2.6
LVC PP PP 10 27 09.0 +1.8
comp=Z,5.2nm,1.0s,baz=0.1,slow=2.2,SNR=4.8
LVC Limon Verde 171.44 104 *e*PKPdf PKPdf 10 21 57.7 +1.9
LVC LR LR
comp=Z,3µm,22.0s
CPUP Villa Florida 173.95 203 PKP PKPdf 10 21 55.3 -1.5
comp=Z,18nm,1.0s,baz=4.4,slow=0.1,SNR=18
CPUP PKPab PKPab 10 23 26.2 -1.5
comp=Z,24nm,1.2s,baz=120,slow=4.4,SNR=3.8
CPUP PP PP 10 27 16.1 -3.5
comp=Z,4.0nm,1.0s,baz=183,slow=4.8,SNR=3.6
CPUP Villa Florida 173.95 203 *e*PKPdf PKPdf 10 21 55.6 -1.3
CPUP LR LR
comp=Z,621nm,20.0s
SIV San Ignacio 175.15 13 PKP PKPdf 10 21 57.1 -0.1
comp=Z,49nm,1.0s,baz=160,slow=0.1,SNR=8.2
SIV PKPab PKPab 10 23 31.8 -1.1
comp=Z,18nm,0.8s,baz=324,slow=2.2,SNR=7.5
SIV PP PP 10 27 22.8 -2.6
comp=Z,11nm,1.0s,baz=332,slow=3.5,SNR=5.1

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*ISCJB **09** 10:05:18.1±0.3, 4050S±004×17300E±007, h255km±4km, mb4.2/6, Error ellipse: s-maj=9.7km s-min=4.4km az=70.4*
*IDC **09** 10:05:19.8±3.4, 4076S×17299E, h266km±28km, mb4.0/5, mb1 4.2/5, mb1mx3.8/11, mbtmp4.7/5, Error ellipse: s-maj=48.1km s-min=16.6km az=38.0*
*NEIC **09** 10:05:20.9, 4048S×173.17E, h245km, mb4.3/1, After WEL.*
NEIC Felt in central New Zealand.
*WEL **09** 10:05:21.0±0.3, 4048S×173.18E, h244km±2km, ML5.4/25, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, reported intensity MM 5.*
WEL Felt from Taranaki to Canterbury, and from West Coast to Hawke''s Bay, maximum.

ISC 09 10:05:18.9±0.3, 4050S±004×17303E±007, h252km±4km, n142, σ0°81/140, mb4.2/6, 7C-1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.50**	**229**	P	**Pn**	**10 05 53.2**	**+1.2**
QRZ				S	**S**	**10 06 17.6**	**-0.4**
QRZ	**Quartz Range**	**0.50**	**229**	⇑PN	**Pn**	**10 05 53.2**	**+1.2**
QRZ				SN	**S**	**10 06 17.6**	**-0.4**
DUWZ	**D'Urville Isla**	**0.74**	**114**	⇑PN	**Pn**	**10 05 53.9**	**+1.0**
DUWZ				SN	**S**	**10 06 18.9**	**-0.7**
NNZ	**Nelson**	**0.76**	**160**	P	**Pn**	**10 05 54.1**	**+1.1**
NNZ				S	**S**	**10 06 19.2**	**-0.5**
NNZ	**Nelson**	**0.76**	**160**	⇑PN	**Pn**	**10 05 54.1**	**+1.1**
NNZ				SN	**S**	**10 06 19.2**	**-0.5**
TUWZ	**Tuamarina**	**1.16**	**143**	⇑PN	**Pn**	**10 05 56.1**	**+1.0**
TUWZ				SN	**S**	**10 06 22.6**	**-0.8**
TCW	**Tory Channel**	**1.18**	**127**	P	**Pn**	**10 05 56.2**	**+1.0**
TCW	**Tory Channel**	**1.18**	**127**	⇑PN	**Pn**	**10 05 56.2**	**+1.0**
THZ	**Tophouse**	**1.26**	**184**	P	**Pn**	**10 05 57.2**	**+1.5**
THZ	**Tophouse**	**1.26**	**184**	⇑PN	**Pn**	**10 05 57.2**	**+1.5**
NRZ	**Ngariki Road**	**1.36**	**31**	P	**Pn**	**10 05 57.1**	**+0.8**
NRZ	**Ngariki Road**	**1.36**	**31**	⇓PN	**Pn**	**10 05 57.1**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.37**	**152**	P	**Pn**	**10 05 57.4**	**+1.0**
BSWZ	**Blackbirch Sta**	**1.37**	**152**	PN	**Pn**	**10 05 57.4**	**+1.0**
BSWZ				SN	**S**	**10 06 25.2**	**-0.7**
NWEZ	**Newall Road**	**1.39**	**28**	P	**Pn**	**10 05 57.3**	**+0.7**
NWEZ	**Newall Road**	**1.39**	**28**	PN	**Pn**	**10 05 57.3**	**+0.7**
MRW	**Makara Radio**	**1.46**	**120**	P	**Pn**	**10 05 57.7**	**+0.6**
MRW	**Makara Radio**	**1.46**	**120**	PN	**Pn**	**10 05 57.7**	**+0.6**
KIW	**Kapiti Island**	**1.48**	**105**	P	**Pn**	**10 05 57.9**	**+0.7**
KIW	**Kapiti Island**	**1.48**	**105**	PN	**Pn**	**10 05 57.9**	**+0.8**
NEZ	**North Egmont**	**1.48**	**34**	P	**Pn**	**10 05 57.8**	**+0.6**
NEZ	**North Egmont**	**1.48**	**34**	PN	**Pn**	**10 05 57.8**	**+0.6**
PKE	**Pukeiti**	**1.50**	**30**	P	**Pn**	**10 05 58.0**	**+0.6**
PKE	**Pukeiti**	**1.50**	**30**	PN	**Pn**	**10 05 58.0**	**+0.7**
SNZO	**South Karori**	**1.51**	**123**	*e*Pn	**Pn**	**10 05 57.9**	**+0.5**
SNZO				*e*Sn	**S**	**10 06 27.1**	**-0.6**
SNZO	**South Karori**	**1.51**	**123**	⇑PN	**Pn**	**10 05 58.0**	**+0.5**
CMWZ	**Cape Campbell**	**1.53**	**145**	P	**Pn**	**10 05 58.8**	**+1.2**

CMWZ	Cape Campbell	1.53 145	PN	Pn	10 05 58.8	+1.1
WEL	Wellington	1.53 121	P	Pn	10 05 58.2	+0.6
WEL	Wellington	1.53 121	PN	Pn	10 05 58.2	+0.6
RAEZ	Rainy Point	1.61 41	P	Pn	10 05 58.6	+0.4
RAEZ	Rainy Point	1.61 41	PN	Pn	10 05 58.6	+0.4
CAW	Cannon Point	1.66 112	P	Pn	10 05 59.3	+0.7
CAW	Cannon Point	1.66 112	PN	Pn	10 05 59.3	+0.6
BHW	Baring Head	1.66 124	P	Pn	10 05 59.1	+0.5
BHW	Baring Head	1.66 124	PN	Pn	10 05 59.1	+0.4
WAZ	Wanganui	1.68 64	P	Pn	10 05 59.6	+0.8
WAZ	Wanganui	1.68 64	PN	Pn	10 05 59.6	+0.9
MSWZ	Moikau Station	1.91 119	P	Pn	10 06 01.2	+0.5
MSWZ	Moikau Station	1.91 119	PN	Pn	10 06 01.2	+0.5
VRZ	Vera Road	1.92 45	P	Pn	10 06 00.4	-0.4
VRZ	Vera Road	1.92 45	PN	Pn	10 06 00.4	-0.4
MRZ	Mangatainoka R	1.95 95	P	Pn	10 06 01.3	+0.2
MRZ	Mangatainoka R	1.95 95	PN	Pn	10 06 01.3	+0.3
KHZ	Kahutara	1.95 169	P	Pn	10 06 01.5	+0.4
KHZ	Kahutara	1.95 169	PN	Pn	10 06 01.5	+0.4
MTW	Mount Morrison	1.99 110	P	Pn	10 06 01.8	+0.4
MTW	Mount Morrison	1.99 110	PN	Pn	10 06 01.8	+0.4
PAWZ	Paruwai Farm	2.02 117	P	Pn	10 06 02.1	+0.4
PAWZ	Paruwai Farm	2.02 117	PN	Pn	10 06 02.1	+0.4
MTVZ	Mangateitei	2.19 60	PN	Pn	10 06 03.1	-0.1
TIWZ	Tintock	2.19 98	PN	Pn	10 06 03.7	+0.4
TRWZ	Traveller	2.21 115	PN	Pn	10 06 03.9	+0.5
TSZ	Takapari Road	2.29 80	P	Pn	10 06 04.2	0.0
TSZ	Takapari Road	2.29 80	PN	Pn	10 06 04.2	0.0
WNVZ	Wahianoa	2.30 60	P	Pn	10 06 04.2	-0.1
WNVZ	Wahianoa	2.30 60	PN	Pn	10 06 04.2	0.0
DRZ	Dome Shelter	2.31 59	P	Pn	10 06 04.4	0.0
FWVZ	Far West T-bar	2.31 58	P	Pn	10 06 04.2	-0.2
FWVZ	Far West T-bar	2.31 58	PN	Pn	10 06 04.2	-0.2
WPVZ	Whakapapa	2.33 57	P	Pn	10 06 04.4	-0.2
WPVZ	Whakapapa	2.33 57	PN	Pn	10 06 04.4	-0.2
TWVZ	Taurewa	2.34 53	P	Pn	10 06 04.2	-0.5
TWVZ	Taurewa	2.34 53	PN	Pn	10 06 04.2	-0.6
MOVZ	Moawhango	2.36 63	P	Pn	10 06 04.3	-0.6
MOVZ	Moawhango	2.36 63	PN	Pn	10 06 04.3	-0.6
TUVZ	Tukino	2.37 59	P	Pn	10 06 04.9	-0.1
TUVZ	Tukino	2.37 59	PN	Pn	10 06 04.9	0.0
NGZ	Ngauruhoe	2.38 57	P	Pn	10 06 04.9	-0.2
NGZ	Ngauruhoe	2.38 57	PN	Pn	10 06 04.9	-0.3
WTVZ	West Tongariro	2.41 56	P	Pn	10 06 05.1	-0.3
WTVZ	West Tongariro	2.41 56	PN	Pn	10 06 05.1	-0.3
OTVZ	Oturere	2.43 57	PN	Pn	10 06 05.6	0.0
HIZ	Hauiti	2.44 36	P	Pn	10 06 05.0	-0.7
HIZ	Hauiti	2.44 36	PN	Pn	10 06 05.0	-0.7
KRVZ	Karewarewa	2.46 56	PN	Pn	10 06 05.5	-0.3
BFZ	Birch Farm	2.46 95	P	Pn	10 06 06.1	+0.2
BFZ	Birch Farm	2.46 95	PN	Pn	10 06 06.1	+0.2
KATZ	Kakaramea	2.56 54	P	Pn	10 06 06.8	-0.1
KATZ	Kakaramea	2.56 54	PN	Pn	10 06 06.8	0.0
RITZ	Rihia Road	2.66 56	P	Pn	10 06 07.9	0.0
RITZ	Rihia Road	2.66 56	PN	Pn	10 06 07.9	0.0
RATZ	Rangitukua	2.67 53	P	Pn	10 06 07.7	-0.3
RATZ	Rangitukua	2.67 53	PN	Pn	10 06 07.7	-0.4
HATZ	Hinemaiaia	2.86 57	P	Pn	10 06 09.0	-1.0
HATZ	Hinemaiaia	2.86 57	PN	Pn	10 06 09.0	-1.0
PXZ	Pawanui	2.97 82	PN	Pn	10 06 11.3	+0.1
BKZ	Black Stump Fm	2.98 65	P	Pn	10 06 10.7	-0.6
BKZ	Black Stump Fm	2.98 65	PN	Pn	10 06 10.7	-0.6
MQZ	McQueen's Vall	3.21 185	eP	Pn	10 06 13.2	-0.6
MQZ	McQueen's Vall	3.21 185	PN	Pn	10 06 13.2	-0.6
RPZ	Rata Peaks	3.53 204	P	Pn	10 06 17.7	+0.3
RPZ	408nm,0.3s,baz=10,slow=1.1,SNR=1918		S	S	10 07 00.7	-3.0
	127nm,0.3s,baz=44,slow=6.0,SNR=14					
WTAZ	Waiatarua	3.76 19	P	Pn	10 06 15.6	-4.4
WTAZ	Waiatarua	3.76 19	PN	Pn	10 06 15.6	-4.4
MKAZ	Moumakai	3.78 27	P	Pn	10 06 19.9	-0.3
MKAZ	Moumakai	3.78 27	PN	Pn	10 06 19.9	-0.3
OTAZ	Otara	3.84 23	P	Pn	10 06 20.8	-0.2
OTAZ	Otara	3.84 23	PN	Pn	10 06 20.8	-0.2
KNZ	Kokohu	3.88 69	P	Pn	10 06 20.8	-0.5
KNZ	Kokohu	3.88 69	PN	Pn	10 06 20.8	-0.5
MWZ	Matawai	4.10 60	P	Pn	10 06 22.3	-1.7
MWZ	Matawai	4.10 60	PN	Pn	10 06 22.3	-1.7
LBZ	Lake Benmore	4.41 208	P	Pn	10 06 27.3	-0.4
LBZ	Lake Benmore	4.41 208	PN	Pn	10 06 27.3	-0.4
WCZ	Waipu Caves	4.67 13	P	Pn	10 06 31.0	+0.2
WCZ	Waipu Caves	4.67 13	PN	Pn	10 06 31.0	+0.3
PUZ	Puketiti	4.73 61	eP	Pn	10 06 29.5	-1.9
PUZ	Puketiti	4.73 61	PN	Pn	10 06 29.5	-1.9
JCZ	Jackson Bay	4.77 220	P	Pn	10 06 31.3	-0.6
JCZ	Jackson Bay	4.77 220	PN	Pn	10 06 31.3	-0.6
ODZ	Otahua Downs	4.87 200	P	Pn	10 06 33.3	+0.2
ODZ	Otahua Downs	4.87 200	PN	Pn	10 06 33.3	+0.2
MXZ	Matakaoa Point	5.05 56	P	Pn	10 06 33.2	-2.2
MXZ	Matakaoa Point	5.05 56	PN	Pn	10 06 33.2	-2.2
EAZ	Earnscleugh	5.46 209	P	Pn	10 06 39.1	-1.3
EAZ	Earnscleugh	5.46 209	PN	Pn	10 06 39.1	-1.2
MSZ	Milford Sound	5.61 220	PN	Pn	10 06 41.5	-0.8
HHSZ	Highcliff Hill	5.67 197	PN	Pn	10 06 44.2	+1.3
MLZ	Mavora Lakes	6.01 215	eP	Pn	10 06 46.8	-0.4
MLZ	Mavora Lakes	6.01 215	PN	Pn	10 06 46.8	-0.4
WHZ	Wether Hill Ro	6.54 213	P	Pn	10 06 52.6	-1.2
WHZ	Wether Hill Ro	6.54 213	PN	Pn	10 06 52.6	-1.2
DCZ	Deep Cove	6.58 219	eP	Pn	10 06 52.1	-2.2
DCZ	Deep Cove	6.58 219	PN	Pn	10 06 52.1	-2.2
APZ	The Paps	7.30 208	PN	Pn	10 07 02.3	-1.1
STKA	Stephens Creek	26.68 279	P	P	10 10 36.8	+1.8
	5.0nm,0.8s,mb4.2,baz=104,slow=12,SNR=6.8					
ASAR	Alice Springs	36.81 285	P	P	10 12 03.4	+0.5
	5.3nm,0.6s,mb4.2,baz=110,slow=5.6,SNR=2.3					
WRA	Warramunga Arr	38.80 290	P	P	10 12 20.0	+0.5
	12nm,0.4s,mb4.8,baz=126,slow=8.4,SNR=5.2					
FITZ	Fitzroy Crossi	46.31 285	P	P	10 13 19.0	-0.7
	11nm,0.7s,mb4.3,baz=143,slow=8.3,SNR=5.1					
QSPA	South Pole Qui	49.62 180	eP	P	10 13 45.6	+0.7
	3.7nm,0.3s,mb4.2					
PLCA	Paso Flores	80.64 136	P	P	10 17 04.3	+0.6
	2.0nm,0.8s,mb3.8,baz=214,slow=7.3,SNR=7.9					
AGMN	Agassiz Refuge	119.44 50	eP	Pdif	10 20 10.2	+8.4
DBIC	Dimbokro	146.26 184	PKPbc	PKPbc	10 24 27.4	-2.4
	3.5nm,0.8s,baz=180,slow=3.0,SNR=4.0					
DBIC	Dimbokro	146.26 184	PKPbc	PKPbc	10 24 27.4	-2.4
ARCES	ARCESS Array B	146.29 340	PKPbc	PKPbc	10 24 27.1	-2.8
	2.7nm,0.7s,baz=40,slow=2.1,SNR=13					
JOF	Joensuu	148.12 328	ep	PKPbc	10 24 35.1	+0.2
	6.8nm,0.4s					
BR131	Keskin Array S	149.12 282	ePKPdf	PKPdf	10 24 36.9	+4.0
BR131			ePKPbc	PKPbc	10 24 41.8	+4.4
KAF	Kangasniemi	150.54 328	ep	PKPbc	10 24 44.3	+3.5
FINES	FINESS Array B	150.99 327	PKPbc	PKPbc	10 24 39.5	-2.3
	0.8nm,0.4s,baz=60,slow=4.6,SNR=3.4					
TORD	Torodi Ar. Bea	151.71 198	PKPbc	PKPbc	10 24 41.6	-1.9
	0.8nm,0.5s,baz=158,slow=3.1,SNR=8.2					
NB2	NORSAR Subarra	156.60 338	PKP	PKPab	10 25 12.2	-2.0
	comp=Z,2.7nm,0.8s,baz=37,slow=4.4					
NOA	NORSAR Array B	156.60 338	PKPab	PKPab	10 25 12.6	-1.6
	comp=Z,1.4nm,0.7s,baz=38,slow=4.7,SNR=4.0					

IDC **09** *10:14:50.0±10.0,* **2039N×12097E, h0**^{km}**, mb3.6**/3, **mb1 3.9**/3, **mb1mx3.6**/18, **mbtmp3.6**/3, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.9**/34, *Error ellipse:* **s-maj=351.7km s-min=30.5km az=106.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	22.05	39	P	P	10 19 46.5	+0.2
	0.9nm,0.6s,baz=226,slow=8.7,SNR=3.1						
PSI	Prapat	27.71	234	LR	LR	10 29 51.6	
	comp=Z,38nm,21.6s,baz=184,slow=32						
WRA	Warramunga Arr	42.17	161	P	P	10 22 44.5	+0.1
	1.2nm,0.6s,baz=341,slow=9.1,SNR=5.1						
ASAR	Alice Springs	45.57	163	P	P	10 23 11.9	+0.3
	0.3nm,0.5s,baz=346,slow=6.9,SNR=5.8						

NEIC **09** *10:19:38.0, 1948N×6522W, h86*^{km}*, MD3.7(RSPR), After RSPR.*

RSPR 09 10:19:38.0, 1948N×6522W, h86^{km}**±6**^{km}**, 7C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.34	207⇑	eP	Pn	10 20 00.9	-0.6
CBYP				eS	Sn	10 20 19.0	-0.2
MTP	Monte Pirata	1.41	193⇑	eP	Pn	10 20 01.9	-0.4
MTP				eS	Sn	10 20 20.3	-0.4
HUMP	Col San Antoni	1.45	204⇑	eP	Pn	10 20 02.5	-0.4
HUMP				eS	Sn	10 20 21.6	-0.1
CPD	Cerro la Pandu	1.57	205⇑	eP	Pn	10 20 04.0	-0.5
CPD				eS	Sn	10 20 24.4	-0.1
AOPR	Arecibo Observ	1.83	233⇑	eP	Pn	10 20 07.2	-0.6
AOPR				eS	Sn	10 20 30.4	-0.2
CELP	Cerrillos	1.90	223⇑	eP	Pn	10 20 08.2	-0.4
CELP				eS	Sn	10 20 31.5	-0.5
LSP	Las Mesas	2.19	234	eS	Sn	10 20 39.0	+0.1
CRPR	Cabo Rojo, PR	2.31	231⇑	eP	Pn	10 20 14.0	-0.1
CRPR				eS	Sn	10 20 41.6	-0.2

ISCJB **09** *10:22:07.8±1.2, 375S±010×151.13E±008, h460*^{km}*±12*^{km}*, mb4.2/13, Error ellipse: s-maj=15.8km s-min=11.8km az=155.9*

NEIC **09** *10:22:07.8±0.5, 364S×151.15E, mb4.7/7, Error ellipse: s-maj=9.5km s-min=8.9km az=211.0*

IDC **09** *10:22:08.5±0.6, 374S×151.08E, h453*^{km}*±6*^{km}*, mb3.7/11, mb1 3.9/14, mb1mx3.8/20, mbtmp4.6/14, Error ellipse: s-maj=12.7km s-min=10.5km az=109.0*

ISC 09 10:22:08.9±1.2, 376S±010×15111E±008, h453^{km}**±12**^{km}**, n32, σ0°69/34, mb4.2/13, 2D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.85	215	P	P	10 23 52.7	+0.6
	2.1nm,0.3s,baz=71,slow=2.9,SNR=7.0						
PMG				S	S	10 25 14.9	-1.6
	0.1nm,0.3s,baz=40,slow=16,SNR=2.4						
HNR	Honiara	10.43	123	P	P	10 24 30.0	-0.6
	10nm,0.3s,baz=136,slow=0.3,SNR=4.3						
CTA	Charters Tower	16.91	196	⇓iP	P	10 25 41.6	+1.6
	15nm,0.5s						
CTA				ePCP	S	10 28 40.4	+6.0
CTA	Charters Tower	16.91	196	P	P	10 25 41.8	+1.7
	3.6nm,0.3s,baz=16,slow=11,SNR=34						
CTA				S	S	10 28 40.0	+5.6
	0.1nm,0.3s,baz=162,slow=17,SNR=12						
CTAO	Charters Tower	16.91	196	eP	P	10 25 41.4	+1.4
	22nm,0.6s						
KAKA	Kakadu	20.49	243	eP	P	10 26 14.4	-0.1
	62nm,0.6s						
WB2	Warramunga Arr	22.93	224	⇓iP	P	10 26 36.6	0.0
WB2	Warramunga Arr	22.93	224	eP	P	10 26 36.5	0.0
WRA	Warramunga Arr	22.94	224	P	P	10 26 37.1	+0.5
	4.9nm,0.3s,mb4.4,baz=50,slow=9.2,SNR=111						
WRA				S	S	10 30 13.5	+0.2
	1.5nm,0.8s,baz=48,slow=14,SNR=4.8						
WRA				ScP	ScP	10 33 06.3	+1.3
	1.0nm,1.0s,baz=47,slow=2.5,SNR=4.8						
DZM	Mont Dzumac	23.51	142	eP	P	10 26 41.1	-0.6
DZM	Mont Dzumac	23.51	142	P	P	10 26 41.7	0.0
	26nm,0.7s,mb4.8,baz=5.4,slow=7.2,SNR=21						
AS31	Alice Springs	25.84	218	eP	P	10 27 02.4	-0.1
ASAR	Alice Springs	25.85	218	P	P	10 27 02.4	-0.1
	12nm,0.7s,mb4.5,baz=56,slow=8.5,SNR=164						
ASAR				pP		10 28 18.6	
	2.6nm,1.0s,baz=38,slow=10,SNR=1.6						
ASAR				S	S	10 30 57.8	-1.2
	1.0nm,0.8s,baz=48,slow=14,SNR=4.9						
ASPA	Alice Springs	25.85	218	eP	P	10 27 02.3	-0.2
FITZ	Fitzroy Crossi	28.73	238	eP	P	10 27 28.1	+0.3
	23nm,0.7s,mb4.7						
FITZ				ePCP		10 28 50.0	
FITZ	Fitzroy Crossi	28.73	238	P	P	10 27 28.1	+0.3
	15nm,0.7s,mb4.5,baz=71,slow=7.2,SNR=27						
FITZ				pP		10 28 47.4	
	18nm,1.1s,baz=90,slow=9.8,SNR=5.6						
STKA	Stephens Creek	29.37	197	eP	P	10 27 33.3	-0.2
	4.9nm,0.3s,mb4.4						
STKA	Stephens Creek	29.37	197	P	P	10 27 33.5	+0.1
	4.8nm,0.3s,mb4.4,baz=8.5,slow=9.0,SNR=26						
CNB	Canberra Magne	31.44	183	eP	P	10 27 52.7	+1.3
	20nm,0.7s,mb4.7						
FORT	Forrest	34.58	216	eP	P	10 28 18.1	0.0
	25nm,0.7s,mb4.8						
KSM	Kuching	41.11	277	eP	P	10 29 12.7	+1.0
URZ	Urewera	41.74	149	P	P	10 29 16.8	+0.1
	5.6nm,0.5s,mb4.3,baz=284,slow=4.7,SNR=8.9						
RPZ	Rata Peaks	43.53	159	P	P	10 29 31.5	+0.5
	8.0nm,0.7s,mb4.3,baz=182,slow=18,SNR=4.6						
PSI	Prapat	52.56	276	S	S	10 37 29.9	-0.8
	4.3nm,0.4s,baz=51,slow=19,SNR=3.6						
SONM	Songino Array	64.56	328	P	P	10 32 00.2	+0.1
	1.0nm,0.6s,mb3.6,baz=141,slow=5.1,SNR=6.1						
SONM				pP	pP	10 33 35.2	+0.2
	0.9nm,0.7s,baz=141,slow=5.1,SNR=4.3						
VNDA	Vanda	73.93	178	P	P	10 32 55.9	-0.7
	2.2nm,0.7s,mb3.8,baz=339,slow=6.5,SNR=3.3						
VNDA	Vanda	73.93	178	P	P	10 32 55.9	-0.7
MKAR	Makanchi Array	78.44	319	P	P	10 33 21.3	-0.4
	0.7nm,0.6s,mb3.2,baz=114,slow=5.4,SNR=6.1						
MKAR				pP	pP	10 35 01.0	-0.1
	0.6nm,0.8s,baz=96,slow=6.6,SNR=3.7						
BVAR	Borovoye Array	87.41	323	pP	pP	10 35 47.3	-1.6
	0.9nm,0.9s,baz=77,slow=6.4,SNR=3.0						
NVAR	Mina Array Bea	92.77	52	P	P	10 34 30.8	-0.8
	0.5nm,0.6s,mb3.7,baz=258,slow=4.5,SNR=3.6						
SIV	San Ignacio	142.60	122	PKhKP		10 40 46.5	
	1.4nm,0.5s,baz=234,slow=5.5,SNR=10						
TORD	Torodi Ar. Bea	148.38	289	PKPbc	PKPbc	10 41 03.1	-0.2
	0.5nm,0.3s,baz=87,slow=2.5,SNR=15						
TORD				pPKPbc	pPKPbc	10 42 50.0	-1.0
	3.0nm,0.8s,baz=56,slow=2.4,SNR=7.9						

NEIC **09** *10:27:26.1, 3171S×6979W, h111*^{km}*, MG4.0(GUC), After GUC.*

GUC 09 10:27:26.1±0.6, 3171S×6979W, h111^{km}**±3**^{km}**, MD3.9, ML4.0, 14C-10D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.96	80	⇓iP	Pn	10 27 47.1	+0.2
ZON				i S	Sn	10 28 03.2	+0.5
PTCH	Petorca	1.12	240	⇓iP	Pn	10 27 48.8	+0.3
PTCH				i S	Sn	10 28 06.0	+0.4
PTCH				AML	AML	10 28 09.4	
	comp=N,3μm,0.2s						
PTCH	Petorca	1.12	240	⇓iP	Pn	10 27 48.8	+0.3
PTCH				i S	Sn	10 28 06.0	+0.4
CMCH	Combarbala	1.17	297	⇓iP	Pn	10 27 49.7	+0.6
CMCH				i S	Sn	10 28 07.5	+1.0
CMCH				AML	AML	10 28 09.4	
	comp=E,11μm,0.8s						
CMCH	Combarbala	1.17	297	⇓iP	Pn	10 27 49.7	+0.6
CMCH				i S	Sn	10 28 07.5	+1.0
CHNG	Los Chungos	1.47	263	⇑iP	Pn	10 27 52.7	+0.1
CHNG				i S	Sn	10 28 12.8	+0.1
PEL	Peldehue	1.62	208	⇑iP	Pn	10 27 54.7	+0.4
PEL				i S	Sn	10 28 16.4	+0.5
PEL				AML	AML	10 28 18.1	
	comp=N,2μm,0.4s						
PEL	Peldehue	1.62	208	⇑iP	Pn	10 27 54.7	+0.4
PEL				i S	Sn	10 28 16.4	+0.5
OVCH	Ovalle	1.64	312	⇑iP	Pn	10 27 54.8	+0.2
OVCH				i S	Sn	10 28 16.8	+0.5
OVCH				AML	AML	10 28 19.9	
	comp=E,1μm,0.3s						
OVCH	Ovalle	1.64	312	⇑iP	Pn	10 27 54.8	+0.2
OVCH				i S	Sn	10 28 16.8	+0.5
FCH	Farellones	1.67	195	⇑iP	Pn	10 27 56.1	+1.1
FCH				i S	Sn	10 28 19.0	+2.1
FCH				AML	AML	10 28 22.5	
	comp=E,979nm,0.4s						
TLL	Tololo Astrono	1.77	330	⇑iP	Pn	10 27 57.3	+1.1
TLL				i S	Sn	10 28 20.6	+1.4
TLL				AML	AML	10 28 22.8	
	comp=N,3μm,0.7s						
TLL	Tololo Astrono	1.77	330	⇑iP	Pn	10 27 57.3	+1.1
TLL				i S	Sn	10 28 20.6	+1.4
CLCH	Cerro Calan	1.80	200	⇓iP	Pn	10 27 57.2	+0.7
CLCH				i S	Sn	10 28 20.6	+0.8
CLCH				AML	AML	10 28 24.2	
	comp=E,1μm,0.6s						
STL	Santa Lucia	1.87	203	i P	Pn	10 27 57.2	-0.2
STL				i S	Sn	10 28 21.4	+0.1
SAN	Santiago	1.89	203	⇑iP	Pn	10 27 58.0	+0.3
SAN				i S	Sn	10 28 22.6	+0.8
SAN				AML	AML	10 28 24.7	
	comp=N,753nm,0.9s						
SAN	Santiago	1.89	203	⇑iP	Pn	10 27 58.0	+0.3
SAN				i S	Sn	10 28 22.6	+0.8
RCDM	Rinconada Maip	1.97	206	i P	Pn	10 27 58.7	-0.1
RCDM				i S	Sn	10 28 24.1	+0.4
RCDM				AML	AML	10 28 25.2	
	comp=N,2μm,0.4s						
RCDM	Rinconada Maip	1.97	206	i P	Pn	10 27 58.7	-0.1
RCDM				i S	Sn	10 28 24.1	+0.4
SJCH	San Jose de Ma	1.98	194	⇑iP	Pn	10 27 59.4	+0.5
SJCH				i S	Sn	10 28 25.3	+1.4
ANTU	Antumapu	1.99	201	⇑iP	Pn	10 27 59.5	+0.6
ANTU				i S	Sn	10 28 24.8	+0.7
ANTU				AML	AML	10 28 25.7	
	comp=N,1μm,0.5s						
ANTU	Antumapu	1.99	201	⇑iP	Pn	10 27 59.5	+0.6
ANTU				i S	Sn	10 28 24.8	+0.7
PCH	Pirque	2.00	198	⇓iP	Pn	10 27 59.9	+0.7
LMEL	Las Melosas	2.16	189	⇓iP	Pn	10 28 01.9	+0.7
LMEL				i S	Sn	10 28 29.1	+1.2
LMEL				AML	AML	10 28 37.1	
	comp=N,683nm,0.3s						
LMEL	Las Melosas	2.16	189	⇓iP	Pn	10 28 01.9	+0.7
LMEL				i S	Sn	10 28 29.1	+1.2
CACH	El Canelo	2.50	196	⇓iP	Pn	10 28 06.2	+0.8
CACH				i S	Sn	10 28 36.9	+1.2
CICH	Cipreses	2.66	191	⇑iP	Pn	10 28 08.5	+1.0
CICH				i S	Sn	10 28 40.3	+0.9

ISCJB **09** *10:28:31.1±0.4, 2070N±005×12001E±007, h10*^{km}*, mb4.6/31, Error ellipse: s-maj=9.3km s-min=7.5km az=166.8*

IDC **09** *10:28:31.2±0.6, 2069N×12002E, h0*^{km}*, mb4.4/18, mb1 4.5/19, mb1mx4.5/24, mbtmp4.4/19, ML3.2/1, Error ellipse: s-maj=22.6km s-min=13.1km az=67.0*

NEIC **09** *10:28:32.7±0.3, 2070N×12000E, h10*^{km}*, mb5.0/14, Error ellipse: s-maj=7.8km s-min=6.1km az=92.0*

MOS **09** *10:28:34.8±0.9, 2071N×11994E, h33*^{km}*, mb5.2/11, Error ellipse: s-maj=18.1km s-min=9.4km az=121.2*

BJI **09** *10:28:34.8, 2104N×11961E, h5*^{km}*, mb4.4, ML4.2*

SZGRF **09** *10:28:37.9, 2085N×120.19E, h33*^{km}*, mb5.0, Philippine Islands region*

ISC 09 10:28:32.4±3.6, 2072N±006×12000E±007, h7^{km}**±22**^{km}**, n73, σ0°72/73, mb4.6/31, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	3.74	23	ePn	Pn	10 29 30.8	+0.2
YHNB	Yeheng	4.13	18	ePn	Pn	10 29 36.2	+0.3
QZH	Quanzhou	4.40	343	P	Pn	10 29 36.7	-2.9
QZH				S	Sn	10 30 24.5	-6.6
QZH				Smax			
	comp=N,170nm,0.7s						
QZH				Smax			
	comp=E,200nm,0.8s						
GZH	Guangzhou	6.62	292	P	Pn	10 30 06.2	-3.8
GZH				S	Sn	10 31 11.9	-14
GZH				Smax			
	comp=N,242nm,0.6s						
GZH				Smax			
	comp=E,196nm,0.7s						
JOW	Kunigami	9.72	50	Pn	Pn	10 30 52.4	-0.2
	comp=E,0.5nm,0.3s,baz=113,slow=27,SNR=3.4						
GYA	Guiyang	13.49	298	P	Pn	10 31 44.8	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJT	Baijiatuau	19.52	351	eP	Pn	10 33 01.6	+0.2
BJT				pmax	pmax		
	comp=Z,21nm,0.8s						
BJT	Baijiatuau	19.52	351	eP	Pn	10 33 01.6	+0.2
	comp=Z,21nm,0.8s						
CHTO	Chiang Mai	19.91	268	eP	Pn	10 33 05.6	-0.5
CHTO				pmax	pmax		
	comp=Z,19nm,1.5s						
CHTO	Chiang Mai	19.91	268	eP	Pn	10 33 05.5	-0.5
	comp=Z,19nm,1.5s						
MAT	Matsushiro	22.39	41	P	P	10 33 31.7	+0.5
MJAR	Matsushiro Arr	22.39	41	P	P	10 33 31.7	+0.5
	comp=Z,14nm,1.3s,mb4.2,baz=237,slow=10,SNR=9.0						
GTA	Gaotai	25.44	322	eP	P	10 34 01.3	+0.6
GTA				AP	pP	10 34 05.2	+2.3
GTA				XP	sP	10 34 08.1	+4.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
PSI	Prapat	27.18	232	P	P	10 34 17.1	+0.6
	comp=Z,6.7nm,0.9s,mb4.2,baz=187,slow=2.6,SNR=5.7						
SONM	Songino Array	29.20	341	P	P	10 34 34.7	+0.2
	comp=Z,3.5nm,0.9s,mb4.1,baz=156,slow=8.3,SNR=12						
MKAR	Makanchi Array	40.15	319	P	P	10 36 09.6	+0.6
	comp=Z,4.5nm,0.7s,mb4.3,baz=113,slow=10,SNR=28						
MKAR				PcP	PcP	10 38 13.6	+0.3
	comp=Z,1.5nm,0.8s,baz=86,slow=6.5,S

GRF			pmax	pmax			
	comp=Z,12nm,1.1s,mb5.0						
YKA	**Yellowknife Ar**	**86.58 22**	P	**P**	**10 41 16.3**	**0.0**	
	comp=Z,2.8nm,0.8s,mb4.5,baz=321,slow=4.5,SNR=4.7						
YKA	**Yellowknife Ar**	**86.58 22**	P	**P**	**10 41 16.3**	**0.0**	
DAVOX	**Davos/Dischmat**	**88.04 320**	P	**P**	**10 41 23.1**	**-0.2**	
	comp=Z,2.9nm,0.9s,mb4.5,baz=305,slow=21,SNR=2.5						
BAIF	**Baives**	**89.64 325**	*eP*	**P**	**10 41 30.2**	**-0.7**	
LPG	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.4**	**+0.2**	
	comp=Z,15nm,0.8s,mb5.1						
LPG	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.4**	**+0.2**	
LPG			pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.0						
LPG	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.4**	**+0.2**	
	comp=Z,7.4nm,0.8s,mb5.1						
LPL	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.2**	**-0.1**	
	comp=Z,20nm,0.9s,mb5.2						
LPL	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.2**	**-0.1**	
LPL			pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.2						
LPL	**La Plagne**	**90.57 320**	*eP*	**P**	**10 41 35.2**	**-0.1**	
	comp=Z,10.0nm,0.9s,mb5.2						
ORIF	**Oris-en-Rattie**	**91.39 320**	*eP*	**P**	**10 41 38.8**	**-0.3**	
	comp=Z,6.4nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	**91.39 320**	*eP*	**P**	**10 41 38.8**	**-0.3**	
ORIF			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**91.39 320**	*eP*	**P**	**10 41 38.8**	**-0.3**	
	comp=Z,3.2nm,0.7s,mb4.8						
FRF	**La Foret Royal**	**91.62 318**	*eP*	**P**	**10 41 39.5**	**-0.6**	
	comp=Z,20nm,1.0s,mb5.1						
FRF	**La Foret Royal**	**91.62 318**	*eP*	**P**	**10 41 39.5**	**-0.6**	
FRF			pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.1						
FRF	**La Foret Royal**	**91.62 318**	*eP*	**P**	**10 41 39.5**	**-0.6**	
	comp=Z,9.9nm,1.0s,mb5.1						
LMR	**La Mourre**	**91.82 318**	*eP*	**P**	**10 41 40.6**	**-0.5**	
	comp=Z,46nm,1.3s,mb5.3						
LMR	**La Mourre**	**91.82 318**	*eP*	**P**	**10 41 40.6**	**-0.5**	
LMR			pmax	pmax			
	comp=Z,23nm,1.3s,mb5.3						
LMR	**La Mourre**	**91.82 318**	*eP*	**P**	**10 41 40.6**	**-0.5**	
	comp=Z,23nm,1.3s,mb5.3						
SMRF	**Simiane la Rot**	**92.07 319**	*eP*	**P**	**10 41 42.0**	**-0.2**	
	comp=Z,46nm,1.7s,mb5.2						
SMRF	**Simiane la Rot**	**92.07 319**	*eP*	**P**	**10 41 42.0**	**-0.2**	
	comp=Z,46nm,1.7s,mb5.5						
SDV	**Santo Domingo**	**148.78 21**	*e*PKPbc	PKPbc	10 48 21.2	+0.7	
SIV	**San Ignacio**	**175.19 12**	PKP	PKPdf	10 48 43.5	+0.5	
	comp=Z,1.7nm,1.0s,baz=353,slow=3.8,SNR=6.0						

*IDC **09** 10:30:47.5±0.9, 2048N×11953E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, Error ellipse: s-maj=35.7km s-min=18.5km az=67.0*
*NEIC **09** 10:30:49.1±0.7, 2046N×11949E, h10km, Error ellipse: s-maj=24.0km s-min=14.7km az=68.0*
*ISCJB **09** 10:30:50.9±0.7, 205N±0.1×1195E±02, h33km, mb4.0/11, Error ellipse: s-maj=26.4km s-min=15.3km az=129.2*

ISC 09 10:30:53.0±0.7, 205N±01×1195E±02, h35km, n13, σ1º05/13, mb4.0/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.85**	**42**	P	**P**	**10 35 54.0**	**+1.0**
	2.9nm,0.9s,mb3.7,baz=241,slow=10,SNR=4.6						
SONM	**Songino Array**	**29.27 342**		P	**P**	**10 36 49.9**	**-1.8**
	0.6nm,0.6s,mb3.5,baz=148,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**40.02 320**		P	**P**	**10 38 25.3**	**+0.8**
	2.0nm,0.7s,mb4.0,baz=115,slow=9.7,SNR=6.9						
WRA	**Warramunga Arr**	**42.73 159**		P	**P**	**10 38 46.0**	**-0.7**
	3.2nm,0.7s,mb4.2,baz=342,slow=8.9,SNR=5.4						
ASAR	**Alice Springs**	**46.08 162**		P	**P**	**10 39 13.3**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=356,slow=8.8,SNR=5.2						
BVAR	**Borovoye Array**	**49.61 323**		P	**P**	**10 39 41.9**	**+1.1**
	0.8nm,0.7s,mb3.9,baz=127,slow=9.6,SNR=2.6						
AKTK	**Aktyubinsk**	**56.38 318**		P	**P**	**10 40 29.9**	**-0.9**
AKTO	**Aktyubinsk**	**56.38 318**		P	**P**	**10 40 29.9**	**-0.9**
	2.4nm,0.9s,mb4.2,baz=83,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**73.85 330**		P	**P**	**10 42 23.5**	**-0.5**
	3.6nm,0.9s,mb4.3,baz=104,slow=8.0,SNR=5.2						
NOA	**NORSAR Array B**	**80.75 332**		P	**P**	**10 43 01.7**	**-1.0**
	1.3nm,0.7s,mb4.0,baz=62,slow=5.2,SNR=3.3						
KMBO	**Kilima Mbogo**	**83.15 266**		P	**P**	**10 43 16.9**	**+1.6**
	1.6nm,0.8s,mb4.1,baz=251,slow=21,SNR=3.8						
KMBO	**Kilima Mbogo**	**83.15 266**		P	**P**	**10 43 16.9**	**+1.6**
GERES	**GERESS Array B**	**84.69 320**		P	**P**	**10 43 24.5**	**+1.3**
	1.2nm,0.7s,mb4.1,baz=57,slow=4.9,SNR=5.9						

*NEIC **09** 10:32:15.6±1.7, 945S×10865E, h10km, Error ellipse: s-maj=82.3km s-min=12.6km az=49.0*

IDC 09 10:32:13.8±2.2, 953S×10853E, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.2/7, ML3.6/1, Error ellipse: s-maj=99.5km s-min=18.3km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.66 119**		P	Pn	10 36 33.3	-0.1
	0.1nm,0.3s,baz=296,slow=9.7,SNR=4.4						
WRA	**Warramunga Arr**	**26.98 115**		P	P	10 37 56.9	-0.3
	0.9nm,0.6s,baz=286,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**37.84 131**		P	P	10 39 32.4	+0.3
	2.5nm,0.5s,baz=291,slow=9.1,SNR=3.8						
CTA	**Charters Tower**	**37.86 110**		P	P	10 39 33.2	+0.9
	7.8nm,0.7s,baz=284,slow=8.3,SNR=8.8						
SONM	**Songino Array**	**57.14 358**		P	P	10 42 02.0	-0.1
	1.0nm,0.5s,baz=179,slow=8.5,SNR=6.3						
MKAR	**Makanchi Array**	**60.77 340**		P	P	10 42 27.7	+0.4
	3.0nm,0.5s,baz=146,slow=8.4,SNR=29						
BVAR	**Borovoye Array**	**70.27 337**		P	P	10 43 28.6	-0.3
	1.0nm,0.5s,baz=126,slow=7.3,SNR=4.9						

*IDC **09** 10:36:06.9±1.5, 2059N×11979E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/20, mbtmp3.9/6, Error ellipse: s-maj=164.9km s-min=19.0km az=59.0*

NEIC 09 10:36:09.0±1.0, 2022N×11915E, h10km, Error ellipse: s-maj=133.0km s-min=12.7km az=58.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.01 320**		P	P	10 43 44.4	+0.4
	1.6nm,0.6s,baz=115,slow=9.9,SNR=4.7						
WRA	**Warramunga Arr**	**42.60 159**		P	P	10 44 05.3	+0.1
	2.0nm,0.7s,baz=343,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**45.93 161**		P	P	10 44 32.4	+0.5
	0.6nm,0.8s,baz=349,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**45.93 161**		P	P	10 44 32.4	+0.5
CTA	**Charters Tower**	**48.05 145**		P	P	10 44 49.0	+0.5
	3.6nm,0.8s,baz=315,slow=10.0,SNR=3.1						
BVAR	**Borovoye Array**	**49.63 323**		P	P	10 45 00.7	+0.1
	0.7nm,0.7s,baz=97,slow=12,SNR=2.9						
GERES	**GERESS Array B**	**84.68 320**		P	P	10 48 42.8	-0.2
	1.0nm,0.8s,baz=48,slow=2.9,SNR=4.1						

*NEIC **09** 10:37:59.6, 3668S×17827E, h12km, ML4.1(WEL), After WEL.*

WEL 09 10:37:58.9±0.8, 3666S×17835E, h12km, ML3.9/12, Error ellipse: s-maj=6.2km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90 182**		P	Pg	10 38 15.3	-1.0
MXZ				S	Sg	10 38 26.3	-1.8
MXZ	**Matakaoa Point**	**0.90 182**		P*	Pb	10 38 15.3	-1.2
MXZ				S*	Sb	10 38 26.3	-2.2
PUZ	**Puketiti**	**1.41 183**		P	Pn	10 38 23.8	-0.6
PUZ				S	Sn	10 38 42.3	-0.6
PUZ	**Puketiti**	**1.41 183**		PN	Pn	10 38 23.8	-0.6
PUZ				SN	Sn	10 38 42.3	-0.6
MWZ	**Matawai**	**1.79 201**	*eP*	P	Pn	10 38 28.2	-1.5
MWZ	**Matawai**	**1.79 201**	*e*P*	P	Pb	10 38 28.2	-3.4
MWZ				S*	Sb	10 38 49.4	-4.7
URZ	**Urewera**	**1.88 211**		P	Pn	10 38 29.1	-1.7
URZ	**Urewera**	**1.88 211**		P*	Pb	10 38 29.1	-4.0
URZ				S*	Sb	10 38 50.6	-5.9
MARZ	**Manawahe**	**1.88 225**		P*	Pb	10 38 30.0	-3.1
TGRZ	**Tauranga**	**1.98 237**		P	Pn	10 38 31.2	-1.0
TGRZ	**Tauranga**	**1.98 237**		P*	Pb	10 38 31.2	-3.7
KUZ	**Kuaotunu**	**2.11 267**		P	Pn	10 38 33.0	-1.0
KUZ				S	Sn	10 38 57.0	-3.2
KUZ	**Kuaotunu**	**2.11 267**		PN	Pn	10 38 33.0	-1.0
KUZ				SN	Sn	10 38 57.0	-3.2
KNZ	**Kokohu**	**2.42 193**		PN	Pn	10 38 36.2	-2.0
TOZ	**Tahuroa Road**	**2.51 244**		P*	Pb	10 38 38.7	-5.2
MKAZ	**Moumakai**	**2.59 259**		PN	Pn	10 38 40.4	-0.2
OTAZ	**Otara**	**2.76 263**		PN	Pn	10 38 42.5	-0.4
BKZ	**Black Stump Fm**	**2.90 210**		P*	Pb	10 38 43.6	-7.0

IDC 09 10:38:54.8±10.0, 1993N×12180E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=355.7km s-min=30.7km az=105.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**21.93**	**38**	P	P	10 43 50.0	+0.3
	2.4nm,0.8s,baz=240,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**41.48 162**		P	P	10 46 43.7	+0.2
	4.6nm,0.9s,baz=344,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**44.91 164**		P	P	10 47 11.3	+0.1
	0.5nm,0.5s,baz=345,slow=7.0,SNR=4.4						

JMA 09 10:40:29.3±0.4, 3224N×14231E, h82km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.27 293**		P	Pn	10 41 05.6	+0.7
BSO1	**Boso 1**	**2.65 336**		*e*S	Sn	10 41 43.2	+2.0
JHU	**Hanno**	**4.39 326**		P	Pn	10 41 35.1	+1.6
JHU				*e*S	Sn	10 42 25.1	+1.6
JHO	**Hitachi**	**4.59 342**		P	Pn	10 41 36.8	+0.5
JRY	**Ryogami san**	**4.71 324**		P	Pn	10 41 40.1	+2.2
JAG	**Ashikaga**	**4.80 331**		P	Pn	10 41 40.9	+1.8
JFK	**Kawauchi**	**5.25 347**		S	Sn	10 42 42.1	-2.3
JMM	**Marumori**	**5.75 348**		P	Pn	10 41 52.7	+0.7

*SKHL **09** 10:41:00.3±2.4, 4342N×14727E, h40km±10km, mb5.2/1*
*ISCJB **09** 10:41:03.8±1.7, 4330N±008×1470E±0.1, h22km±10km, Error ellipse: s-maj=15.2km s-min=12.7km az=104.5*
*JMA **09** 10:41:04.0±0.2, 4320N×14701E, h40km±3km, M3.5*

ISC 09 10:41:04.5±2.0, 4334N±008×1469E±02, h17km±20km, n14, σ0º86/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86 272**		P	**Pb**	**10 41 20.9**	**-0.1**
NEM2				*e*S	**Sb**	**10 41 33.5**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**1.04 312**		*e*P	**Pb**	**10 41 20.8**	**-3.2**
YUK				AMB	AMB	10 41 22.6	
	790nm,0.3s						
YUK				AMB	AMB	10 41 22.6	
	470nm,0.2s						
YUK				AMB	AMB	10 41 22.6	
	390nm,0.2s						
YUK				*i* S	**Sb**	**10 41 36.2**	**-1.1**
YUK				A		10 41 37.0	
	4μm,0.8s						
YUK				A		10 41 37.0	
	3μm,0.4s						
YUK				A		10 41 37.5	
	3μm,0.2s						
YUK				A		10 41 37.5	
	2μm,0.2s						
JRA	**Rausu**	**1.44 295**		P	**Pn**	**10 41 30.1**	**+0.4**
JRA				*e*S	**Sn**	**10 41 49.2**	**+1.0**
JNK	**Nakash**	**1.63 279**		P	**Pn**	**10 41 31.8**	**-0.5**
JNK				*e*S	**Sn**	**10 41 52.5**	**-0.3**
JAK	**Akkeshi**	**1.67 259**		P	**Pn**	**10 41 32.0**	**-0.9**
JAK				*e*S	**Sn**	**10 41 53.2**	**-0.7**
JTKR	**Abashiri--Toko**	**2.28 287**		P	**Pn**	**10 41 42.3**	**+1.0**
JAR	**Ashorobuto**	**2.30 270**		P	**Pn**	**10 41 41.7**	**+0.1**
JOB	**Onbets**	**2.31 260**		P	**Pn**	**10 41 41.5**	**-0.1**
JMP	**Maruseppu**	**2.67 286**		P	**Pn**	**10 41 48.0**	**+1.3**
JCH	**Churui**	**2.71 256**		P	**Pn**	**10 41 47.2**	**-0.1**
JCH				*e*S	**Sn**	**10 42 18.1**	**-1.6**
JEM	**Erimo**	**3.08 246**		P	**Pn**	**10 41 52.6**	**+0.3**
JFR	**Furan**	**3.17 268**		P	**Pn**	**10 41 54.2**	**+0.7**
JFR				*e*S	**Sn**	**10 42 31.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.25 252**		P	**Pn**	**10 41 54.3**	**-0.3**
JBT2	**Biratori 2**	**3.39 262**		P	**Pn**	**10 41 56.7**	**+0.1**

IDC 09 10:45:19.0±2.1, 2030N×11946E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=195.7km s-min=26.5km az=58.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.13 320**		P	P	10 52 56.5	0.0
	0.5nm,0.7s,baz=110,slow=6.6,SNR=4.6						
WRA	**Warramunga Arr**	**42.57 159**		P	P	10 53 16.6	+0.1
	3.3nm,1.1s,baz=340,slow=8.5,SNR=8.5						
ASAR	**Alice Springs**	**45.92 161**		P	P	10 53 43.4	0.0
	0.3nm,0.5s,baz=348,slow=7.3,SNR=5.1						
CTA	**Charters Tower**	**47.96 145**		P	P	10 53 59.9	+0.5
	3.6nm,0.9s,baz=339,slow=6.0,SNR=3.1						

*ISCJB **09** 10:45:54.3±0.4, 2054N±006×11978E±009, h10km, mb4.1/15, Error ellipse: s-maj=12.7km s-min=8.1km az=138.8*
*IDC **09** 10:45:54.8±0.7, 2051N×11972E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.1/13, Error ellipse: s-maj=29.3km s-min=13.9km az=66.0*
*NEIC **09** 10:45:56.1±0.4, 2053N×11977E, h10km, mb4.7/1, Error ellipse: s-maj=15.2km s-min=8.6km az=77.0*
*MOS **09** 10:45:57.3±0.8, 2044N×11972E, h33km, mb4.8/1, Error ellipse: s-maj=29.6km s-min=17.6km az=110.1*
*BJI **09** 10:46:00.4, 21.14N×11950E, h5km, mb4.2, ML3.7*

ISC 09 10:45:56.3±0.4, 2058N±006×11981E±009, h10km, n27, σ0º88/29, mb4.1/15, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.94**	**24**	*e*Pn	**Pn**	**10 46 56.4**	**-0.3**
QZH	**Quanzhou**	**4.48 346**		P	**Pn**	**10 47 01.4**	**-2.9**
QZH				S	**Sn**	**10 47 49.4**	**-7.1**
QZH				Smax			
	comp=N,110nm,0.4s						
QZH				Smax			
	comp=E,140nm,0.3s						
GZH	**Guangzhou**	**6.51 294**		P	**Pn**	**10 47 31.5**	**-0.5**
GZH				S	**Sn**	**10 48 35.5**	**-11**
GZH				Smax			
	comp=N,47nm,0.9s						
GZH				Smax			
	comp=E,72nm,0.9s						
MAT	**Matsushiro**	**22.60**	**41**	P	**P**	**10 50 56.1**	**-0.9**
MJAR	**Matsushiro Arr**	**22.60**	**41**	P	**P**	**10 50 57.0**	**0.0**
	comp=E,8.7nm,0.8s,mb4.2,baz=236,slow=10,SNR=13						
GTA	**Gaotai**	**25.43 322**		*e*P	**P**	**10 51 25.3**	**+1.2**
GTA				AP	pP	10 51 29.9	+2.7
GTA				XP	sP	10 51 33.1	+4.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
PSI	**Prapat**	**26.96 232**		P	**P**	**10 51 36.2**	**-1.8**
	comp=Z,5.8nm,0.9s,mb4.1,baz=27,slow=6.2,SNR=3.8						
PSI	**Prapat**	**26.96 232**		P	**P**	**10 51 36.2**	**-1.8**
SONM	**Songino Array**	**29.27 341**		P	**P**	**10 51 59.2**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.5,baz=22,slow=43,SNR=5.5						
MKAR	**Makanchi Array**	**40.14 320**		P	**P**	**10 53 33.0**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.8,baz=117,slow=10,SNR=11						
ZAL	**Zalesovo**	**42.65 330**		P	**P**	**10 53 53.4**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.1,baz=127,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**42.71 160**		P	**P**	**10 53 53.0**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.3,baz=343,slow=8.9,SNR=13						
WB2	**Warramunga Arr**	**42.72 160**		*e*P	**P**	**10 53 52.1**	**-1.3**
AS31	**Alice Springs**	**46.07 162**		*e*P	**P**	**10 54 20.5**	**+0.2**
ASAR	**Alice Springs**	**46.07 162**		P	**P**	**10 54 20.4**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=346,slow=6.8,SNR=8.1						
ASPA	**Alice Springs**	**46.07 162**		*e*P	**P**	**10 54 20.5**	**+0.2**
CTA	**Charters Tower**	**47.99 146**		*e*P	**P**	**10 54 37.0**	**+1.7**
	comp=Z,5.3nm,0.7s,mb4.7						
CTA	**Charters Tower**	**47.99 146**		P	**P**	**10 54 36.8**	**+1.4**
	comp=Z,6.0nm,0.8s,mb4.7,baz=322,slow=10,SNR=5.6						
CTA	**Charters Tower**	**47.99 146**		*e*P	**P**	**10 54 37.0**	**+1.7**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	**Borovoye Array**	**49.71 323**		P	**P**	**10 54 48.3**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=104,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**56.18 158**		P	**P**	**10 55 36.7**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=167,slow=21,SNR=2.4						
STKA	**Stephens Creek**	**56.18 158**		P	**P**	**10 55 36.7**	**+0.4**
AKTK	**Aktyubinsk**	**56.51 317**		P	**P**	**10 55 39.4**	**+0.8**
AKTO	**Aktyubinsk**	**56.51 317**		P	**P**	**10 55 39.4**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=113,slow=16,SNR=5.3						
FINES	**FINESS Array B**	**73.91 330**		P	**P**	**10 57 31.7**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=46,slow=8.2,SNR=4.7						
CLL	**Collm**	**84.15 323**		*e*P	**P**	**10 58 27.0**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.8						
GERES	**GERESS Array B**	**84.80 320**		P	**P**	**10 58 31.0**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=52,slow=5.1,SNR=7.1						

*ISCJB **09** 10:49:01.6±0.6, 206N±0.1×1196E±02, h10km, mb3.9/9, Error ellipse: s-maj=28.7km s-min=12.8km az=130.7*
*IDC **09** 10:49:01.9±0.9, 2070N×11970E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/20, mbtmp3.9/9, Error ellipse: s-maj=40.8km s-min=17.5km az=63.0*
*NEIC **09** 10:49:03.3±0.6, 2066N×11971E, h10km, Error ellipse: s-maj=26.1km s-min=12.1km az=67.0*

ISC 09 10:49:03.5±0.6, 207N±01×1197E±02, h10km, n13, σ0º96/13, mb3.9/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.61**	**42**	P	**P**	**10 54 04.0**	**-0.3**
	2.6nm,0.9s,mb3.7,baz=228,slow=10,SNR=4.7						
SONM	**Songino Array**	**29.15 341**		P	**P**	**10 55 05.6**	**+0.9**
	0.7nm,0.9s,mb3.4,baz=151,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**39.99 320**		P	**P**	**10 56 36.8**	**-1.6**
	1.6nm,0.8s,mb3.8,baz=102,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**42.84 160**		P	**P**	**10 57 01.7**	**0.0**
	1.9nm,0.7s,mb3.9,baz=342,slow=9.0,SNR=5.4						
WB2	**Warramunga Arr**	**42.84 160**		*e*P	**P**	**10 57 00.5**	**-1.2**
ASAR	**Alice Springs**	**46.20 162**		P	**P**	**10 57 29.3**	**+0.8**
	0.5nm,0.5s,mb3.7,baz=345,slow=6.8,SNR=4.3						
CTA	**Charters Tower**	**48.13 146**		P	**P**	**10 57 43.7**	**+0.1**
	4.8nm,1.0s,mb4.5,baz=316,slow=9.6,SNR=3.5						
CTAO	**Charters Tower**	**48.13 146**		*e*P	**P**	**10 57 47.2**	**+3.6**
	8.5nm,0.8s,mb4.8						
AKTK	**Aktyubinsk**	**56.36 317**		P	**P**	**10 58 44.5**	**-0.2**
AKTO	**Aktyubinsk**	**56.36 317**		P	**P**	**10 58 44.5**	**-0.2**
	2.7nm,0.9s,mb4.2,baz=84,slow=8.3,SNR=5.4						
NOA	**NORSAR Array B**	**80.67 332**		P	**P**	**11 01 16.5**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=67,slow=5.9,SNR=3.3						
NOA	**NORSAR Array B**	**80.67 332**		P	**P**	**11 01 16.5**	**-0.1**
GERES	**GERESS Array B**	**84.66 320**		P	**P**	**11 01 39.4**	**+1.9**
	0.8nm,0.8s,mb3.9,baz=46,slow=5.6,SNR=4.5						

IDC 09 10:51:32.1±8.0, 2050N×12049E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=235.5km s-min=31.4km az=105.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.25**	**40**	P	P	10 56 30.8	+0.3
	2.4nm,0.9s,baz=240,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**42.42 160**		P	P	10 59 28.4	0.0
	0.9nm,0.5s,baz=342,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**45.81 163**		P	P	10 59 55.8	+0.1
	0.4nm,0.4s,baz=346,slow=6.9,SNR=5.7						
CTA	**Charters Tower**	**47.58 146**		P	P	11 00 09.9	+0.4
	1.0nm,0.3s,baz=234,slow=12,SNR=2.1						

*MAN **09** 10:56:47.9, 1123N×12463E, h11km, mb3.3, ML4.5, MS2.3*
*ISCJB **09** 10:56:48.2±0.7, 1126N±003×12463E±004, h17km±6km, mb3.7/3, Error ellipse: s-maj=6.6km s-min=5.5km az=109.6*
*NEIC **09** 10:56:58.8±0.8, 934N×12289E, h10km, mb4.9/1, Error ellipse: s-maj=93.2km s-min=16.3km az=61.0*
NEIC Felt [III PIVS] at Ormoc and Tungonan, Leyte.
*IDC **09** 10:57:00.2±2.4, 969N×12495E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=262.1km s-min=24.5km az=65.0*

ISC 09 10:56:48.7±0.7, 1125N±004×12462E±004, h13km±5km, n20, σ1º05/27, mb3.7/3, 5C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.19 182**		*e*P	**Pg**	**10 56 52.7**	**-0.3**
OCLP				*e*S	**Sg**	**10 56 57.1**	**+1.2**
PLP	**Palo**	**0.37 103**		*e*P	**Pg**	**10 56 55.9**	**-0.1**
PLP				*e*S	**Sg**	**10 57 01.3**	**+0.3**
LLP	**Lapu-Lapu**	**1.12 215**		↑*i*P	**Pb**	**10 57 07.6**	**-2.4**
LLP				*i* S	**Sb**	**10 57 23.1**	**-1.4**
MSLP	**Maasin**	**1.13 168**		*e*P	**Pb**	**10 57 09.0**	**-1.1**
MSLP				*e*S	**Sb**	**10 57 24.5**	**-0.2**
MMPH	**Masbate**	**1.47 319**		*e*P	**Pn**	**10 57 14.5**	**-0.4**
MMPH				*e*S	**Sn**	**10 57 33.0**	**-1.0**
SCPH	**Surigao**	**1.69 149**		↑*e*P	**Pn**	**10 57 18.6**	**+0.7**
GUIM	**Jordan**	**2.08 253**		*e*P	**Pn**	**10 57 23.3**	**0.0**
GUIM				*e*S	**Sn**	**10 57 50.5**	**+1.3**
SNPH	**Sibulan**	**2.33 216**		↑*i*P	**Pn**	**10 57 25.5**	**-1.2**
PVCP	**Virac**	**2.38 349**		‖*e*P	**Pn**	**10 57 27.0**	**-

HATJ	**Hateruma jima**	**4.72**	**45**	P	**Pn**	**10 58 17.5 +0.5**
HATJ				*e*S	**Sn**	**10 59 10.0 -0.9**
IRIF	**Iriomote-Funau**	**4.87**	**42**	P	**Pn**	**10 58 19.5 +0.4**
IRIF				*e*S	**Sn**	**10 59 13.5 -1.0**
JKRS	**Kuro-shima**	**4.98**	**45**	P	**Pn**	**10 58 21.3 +0.7**
JKRS				*e*S	**Sn**	**10 59 16.7 -0.6**
BALP	**Baler**	**5.15**	**165**	*e*P	**Pn**	**10 58 24.1 +1.2**
JIJ	**Ishigaki jima**	**5.16**	**45**	P	**Pn**	**10 58 23.4 +0.4**
JIJ				*e*S	**Sn**	**10 59 19.9 -1.7**
JTJ	**Tarama**	**5.72**	**46**	P	**Pn**	**10 58 30.9 +0.2**
JTJ				*e*S	**Sn**	**10 59 35.3 -0.1**
JMJ	**Miyako jima 2**	**6.24**	**49**	*e*S	**Sn**	**10 59 48.3 0.0**
JOGS	**Gusukube**	**6.29**	**49**	*e*S	**Sn**	**10 59 49.6 +0.2**
TGY	**Tagaytay City**	**6.64**	**173**	Pn	**Pn**	**10 58 42.8 -0.7**
	comp=Z,76nm,0.3s,baz=195,slow=5.9,SNR=2.2					
GZH	**Guangzhou**	**6.74**	**292**	P	**Pn**	**10 58 39.9 -4.8**
GZH				S	**Sn**	**10 59 50.8 -10**
GZH				Smax		
	comp=N,330nm,0.9s					
GZH				Smax		
	comp=E,349nm,0.9s					
JOW	**Kunigami**	**9.59**	**49**	Pn	**Pn**	**10 59 22.4 -1.5**
	comp=E,0.8nm,0.3s,baz=164,slow=5.0,SNR=5.3					
QIZ	**Qiongzhong**	**9.85**	**262**	*e*P	**Pn**	**10 59 26.6 -0.8**
QIZ				LR	LR	
	comp=N,5μm,12.9s					
QIZ				LR	LR	
	comp=Z,3μm,13.1s					
NJ2	**Nanjing**	**11.32**	**354**	*e*P	**Pn**	**10 59 50.6 +3.0**
NJ2				PP		11 00 00.1
NJ2				S	**Sn**	**11 01 59.0 +5.8**
NJ2				AMB	AMB	
	comp=Z,30nm,0.6s					
NJ2				LR	LR	
	comp=N,8μm,11.0s					
NJ2				LR	LR	
	comp=E,7μm,10.4s					
NJ2				LR	LR	
	comp=Z,8μm,9.8s					
GYA	**Guiyang**	**13.61**	**297**	P	**Pn**	**11 00 15.3 -3.5**
GYA				S	**Sn**	**11 02 44.9 -4.2**
GYA				AMB	AMB	
	comp=Z,20nm,0.8s					
GYA				AMB	AMB	
	comp=Z,90nm,3.9s					
GYA				LR	LR	
	comp=N,1μm,11.0s					
GYA				LR	LR	
	comp=E,3μm,12.0s					
GYA				LR	LR	
	comp=Z,3μm,12.2s					
KMI	**Kunming**	**16.62**	**288**	P	**Pn**	**11 01 01.5 +2.9**
KMI				AMB	AMB	
	comp=Z,11nm,1.4s					
KMI	**Kunming**	**16.62**	**288**	P	**Pn**	**11 01 01.5 +2.9**
	comp=Z,11nm,1.4s					
BJT	**Baijiatuau**	**19.52**	**351**	*e*P	**Pn**	**11 01 33.6 -0.5**
BJT				pmax	pmax	
	comp=Z,40nm,0.9s					
BJT	**Baijiatuau**	**19.52**	**351**	*e*P	**Pn**	**11 01 33.6 -0.5**
	comp=Z,40nm,0.9s					
BJI	**Beijing**	**19.54**	**351**	*e*P	**Pn**	**11 01 33.9 -0.5**
BJI				AMB	AMB	
	comp=Z,46nm,0.9s					
BJI	**Beijing**	**19.54**	**351**	*e*P	**Pn**	**11 01 33.9 -0.5**
	comp=Z,46nm,0.9s					
CHTO	**Chiang Mai**	**20.05**	**268**	*e*P	**P**	**11 01 38.4 -0.2**
CHTO				pmax	pmax	
	comp=Z,33nm,1.5s					
CHTO	**Chiang Mai**	**20.05**	**268**	*e*P	**P**	**11 01 38.4 -0.2**
	comp=Z,34nm,1.5s					
LZH	**Lanzhou**	**20.92**	**320**	P	**P**	**11 01 48.8 +0.8**
LZH				AP		11 01 54.8
LZH				XP	sP	11 01 59.6 +0.8
LZH				AMB	AMB	
	comp=Z,150nm,1.5s					
LZH				AMB	AMB	
	comp=Z,611nm,4.1s					
LZH	**Lanzhou**	**20.92**	**320**	P	**P**	**11 01 48.8 +0.8**
	comp=Z,150nm,1.5s					
LZH				pP		11 01 54.8
LZH				sP	sP	11 01 59.6 +0.8
HHC	**Hu-ho-hao-te**	**21.34**	**342**	*e*P	**P**	**11 01 55.6 +3.1**
HHC				AMB	AMB	
	comp=Z,33nm,0.5s,mb4.9					
KSM	**Kuching**	**21.43**	**208**	*e*P	**P**	**11 01 52.7 -0.8**
BTO	**Baotou**	**21.60**	**339**	*e*P	**P**	**11 01 54.1 -1.3**
MAJO	**Matsushiro**	**22.28**	**41**	*e*P	**P**	**11 02 05.6 +3.1**
MAJO				pmax	pmax	
	comp=Z,31nm,1.0s,mb4.7					
MAJO	**Matsushiro**	**22.28**	**41**	*e*P	**P**	**11 02 05.6 +3.1**
	comp=Z,32nm,1.0s,mb4.7					
MAT	**Matsushiro**	**22.28**	**41**	P	**P**	**11 02 01.8 -0.7**
MJAR	**Matsushiro Arr**	**22.28**	**41**	P	**P**	**11 02 02.6 +0.1**
	comp=Z,20nm,1.0s,mb4.5,baz=238,slow=11,SNR=24					
VLA	**Vladivostok**	**24.39**	**21**	*e*P	pP	11 02 33.8 +2.4
VLA				pmax	pmax	
	comp=Z,48nm,1.4s,mb4.7					
MDJ	**Mudanjiang**	**25.06**	**16**	*e*P	**P**	**11 02 29.7 0.0**
	comp=Z,32nm,1.1s,mb4.8					
GTA	**Gaotai**	**25.51**	**321**	*e*P	**P**	**11 02 33.3 -0.4**
GTA				AP	pP	11 02 37.1 -4.5
GTA				XP	sP	11 02 40.4 -4.6
GTA				AMB	AMB	
	comp=Z,12nm,1.0s,mb4.4					
PSI	**Prapat**	**27.31**	**232**	P	**P**	**11 02 49.0 -0.9**
	comp=Z,5.0nm,0.6s,mb4.2,baz=348,slow=11,SNR=5.6					
SONM	**Songino Array**	**29.23**	**341**	P	**P**	**11 03 06.0 -1.1**
	comp=Z,4.9nm,0.9s,mb4.2,baz=160,slow=9.2,SNR=20					
YSS	**Yuzh-Sakhalins**	**31.96**	**30**	*e*P	**P**	**11 03 33.3 +2.1**
YSS				pmax	pmax	
	comp=Z,23nm,1.0s,mb5.0					
ZAK	**Zakamensk**	**32.45**	**340**	*e*P	**P**	**11 03 34.9 -0.6**
FITZ	**Fitzroy Crossi**	**38.97**	**172**	*e*P	**P**	**11 04 28.6 -2.8**
	comp=Z,8.4nm,1.0s,mb4.4					
FITZ	**Fitzroy Crossi**	**38.97**	**172**	P	**P**	**11 04 30.4 -1.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=26,slow=7.5,SNR=6.9					
MK31	**Makanchi Array**	**40.23**	**319**	*i* P	**P**	**11 04 41.8 0.0**
MK31				pmax	pmax	
	comp=Z,12nm,0.8s,mb4.7					
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**11 04 41.8 -0.1**
	comp=Z,4.8nm,0.7s,mb4.4,baz=115,slow=9.7,SNR=46					
YAK	**Yakutsk**	**41.78**	**7**	*e*P	**P**	**11 04 54.4 -0.3**
YAK				pmax	pmax	
	comp=Z,13nm,1.0s,mb4.5					
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**11 05 01.4 -0.5**
	comp=Z,3.4nm,0.8s,mb4.1,baz=356,slow=8.9,SNR=21					
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**11 05 01.4 -0.5**
WRAB	**Tennant Creek**	**42.74**	**160**	*e*P	**P**	**11 05 01.6 -0.9**
WRA	**Warramunga Arr**	**42.75**	**160**	P	**P**	**11 05 02.0 -0.5**
	comp=Z,9.2nm,0.6s,mb4.7,baz=342,slow=9.1,SNR=59					
WB2	**Warramunga Arr**	**42.75**	**160**	⇑*i*P	**P**	**11 05 02.3 -0.3**
AAK	**Ala-Archa**	**43.92**	**310**	*e*P	**P**	**11 05 11.3 -0.7**
AAK				pmax	pmax	
	comp=Z,8.0nm,1.5s,mb4.2					
NVS	**Novosibirsk**	**43.94**	**330**	⇑*i*P	**P**	**11 05 11.9 -0.3**
NVS				pmax	pmax	
	comp=N,20nm,1.4s					
NVS				pmax	pmax	
	comp=E,32nm,1.4s					
AS31	**Alice Springs**	**46.12**	**162**	*e*P	**P**	**11 05 29.2 -0.3**
ASAR	**Alice Springs**	**46.13**	**162**	P	**P**	**11 05 29.4 -0.1**
	comp=E,4.1nm,0.6s,mb4.5,baz=347,slow=7.2,SNR=38					
KK31	**Karatay Array**	**46.87**	**310**	*i* P	**P**	**11 05 35.7 +0.3**
KK31				pmax	pmax	
	comp=Z,8.0nm,0.6s,mb4.8					
SEY	**Seymchan**	**47.52**	**19**	*e*P	**P**	**11 05 41.9 +1.4**
CTA	**Charters Tower**	**47.95**	**146**	P	**P**	**11 05 45.2 +1.5**
	comp=Z,10.0nm,0.7s,mb5.0,baz=46,slow=17,SNR=2.2					
BVAR	**Borovoye Array**	**49.78**	**323**	P	**P**	**11 05 58.1 +0.3**
	comp=Z,3.2nm,0.7s,mb4.5,baz=106,slow=11,SNR=11					
BRVK	**Borovoye**	**49.85**	**323**	*e*P	**P**	**11 05 58.2 -0.1**
CHKZ	**Chkalovo**	**49.88**	**324**	*e*P	**P**	**11 05 58.1 -0.5**
TIXI	**Tiksi**	**51.17**	**4**	*e*P	**P**	**11 06 07.2 -1.1**
TIXI				pmax	pmax	
	comp=Z,11nm,1.4s,mb4.6					
FORT	**Forrest**	**51.78**	**171**	*e*P	**P**	**11 06 12.5 -0.4**
	comp=Z,16nm,0.7s,mb5.1					
KLBR	**Kellerberrin**	**52.08**	**183**	*e*P	**P**	**11 06 13.4 -1.7**
	comp=Z,5.9nm,0.5s,mb4.8					
NWAO	**Narrogin (SRO)**	**53.44**	**183**	P	**P**	**11 06 24.2 -0.9**
	comp=Z,5.5nm,0.7s,mb4.6,baz=337,slow=3.5,SNR=6.5					
BILL	**Bilibino**	**55.23**	**19**	*e*P	**P**	**11 06 38.8 +0.6**
BILL				*e*	pP	11 06 48.5 +1.9
BILL				*e*		11 07 36.9
BILL				pmax	pmax	
	comp=Z,6.0nm,1.1s,mb4.5					
BILL				MLR	MLR	
	comp=Z,1μm,21.0s,MS5.0					
AKTK	**Aktyubinsk**	**56.61**	**317**	P	**P**	**11 06 48.0 0.0**
AKTO	**Aktyubinsk**	**56.61**	**317**	P	**P**	**11 06 48.0 0.0**
	comp=Z,7.2nm,0.8s,mb4.8,baz=96,slow=8.8,SNR=21					
ARU	**Arti**	**57.31**	**325**	⇑*i*P	**P**	**11 06 51.6 -1.4**
ARU				*e*		11 07 43.2
ARU				*e*		11 08 59.8
ARU				*e*PPP		11 10 17.1
ARU				*e*S	**S**	**11 14 47.0 -0.6**
ARU				*e*SS	SS	11 18 36.8 -0.2
ARU				pmax	pmax	
	comp=Z,14nm,0.7s,mb5.1					
GNI	**Garni**	**66.00**	**306**	P	**P**	**11 07 52.2 +0.6**
	comp=Z,3.0nm,0.4s,mb4.7,baz=1.2,slow=20,SNR=2.9					
ZEI	**Tsey**	**66.30**	**309**	*e*P	**P**	**11 07 53.1 -0.4**
ZEI				*e*		11 10 17.0
ZEI				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.8					
KIV	**Kislovodsk**	**67.03**	**310**	*e*P	**P**	**11 07 58.8 +0.6**
KIV				pmax	pmax	
	comp=Z,9.0nm,0.6s,mb5.0					
OBN	**Obninsk**	**69.62**	**322**	*e*P	**P**	**11 08 14.1 -0.3**
OBN				*e*		11 08 24.3
OBN				*e*		11 10 48.1
OBN				pmax	pmax	
	comp=Z,82nm,2.1s,mb5.3					
OBN				MLR	MLR	
	comp=Z,500nm,17.0s,MS4.8					
JOF	**Joensuu**	**71.24**	**331**	*e*p	**P**	**11 08 22.5 -1.8**
	comp=Z,6.0nm,0.6s,mb4.7					
JOF	**Joensuu**	**71.24**	**331**	*e*P	**P**	**11 08 22.5 -1.8**
JOF				pmax	pmax	
	comp=Z,6.0nm,0.6s,mb4.7					
KEV	**Kevo**	**71.81**	**339**	*e*p	**P**	**11 08 26.9 -0.8**
	comp=Z,3.8nm,0.6s,mb4.5					
KEV	**Kevo**	**71.81**	**339**	*e*P	**P**	**11 08 26.9 -0.8**
KEV				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.5					
ARCES	**ARCESS Array B**	**72.37**	**338**	P	**P**	**11 08 30.7 -0.3**
	comp=Z,10nm,1.0s,mb4.7,baz=83,slow=9.9,SNR=9.3					
KAF	**Kangasniemi**	**73.67**	**331**	*e*p	**P**	**11 08 36.9 -1.9**
	comp=Z,4.4nm,0.6s,mb4.6,baz=74,slow=5.4					
KAF	**Kangasniemi**	**73.67**	**331**	*e*P	**P**	**11 08 36.9 -1.9**
KAF				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.5					
FINES	**FINESS Array B**	**73.93**	**330**	P	**P**	**11 08 39.3 -1.1**
	comp=Z,6.0nm,0.8s,mb4.6,baz=41,slow=7.8,SNR=13					
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**11 08 43.8 -1.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=64,slow=5.4,SNR=18					
SUW	**Suwalki**	**77.46**	**323**	*e*P	**P**	**11 09 00.3 -0.2**
VRI	**Vrincioaia**	**77.72**	**314**	⇑*i*P	**P**	**11 09 02.9 +1.0**
BURAR	**Bucovina Array**	**78.19**	**316**	⇑*i*P	**P**	**11 09 05.0 +0.5**
MLR	**Muntele Rosu**	**78.35**	**314**	P	**P**	**11 09 06.2 +0.7**
	comp=Z,5.7nm,0.9s,mb4.5					
MLR	**Muntele Rosu**	**78.35**	**314**	⇓*i*P	**P**	**11 09 06.1 +0.7**
KWP	**Kalwaria**	**79.13**	**319**	*e*P	**P**	**11 09 10.3 +0.6**
UZH	**Uzhgorod**	**79.72**	**318**	*e*P	**P**	**11 09 11.4 -1.5**
UZH				pmax	pmax	
	comp=Z,17nm,1.0s,mb4.9					
HFS	**Hagfors**	**80.09**	**331**	P	**P**	**11 09 14.5 -0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=101,slow=4.7,SNR=19					
OJC	**Ojcow**	**80.69**	**320**	*e*P	**P**	**11 09 18.3 +0.1**
NB2	**NORSAR Subarra**	**80.81**	**332**	P	**P**	**11 09 17.9 -0.9**
	comp=Z,2.8nm,0.6s,mb4.4,baz=62,slow=5.3					
NB2	**NORSAR Subarra**	**80.81**	**332**	P	**P**	**11 09 17.9 -0.9**
NB2				pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.4					
NOA	**NORSAR Array B**	**80.81**	**332**	P	**P**	**11 09 18.3 -0.5**
	comp=Z,4.6nm,0.7s,mb4.5,baz=62,slow=5.2,SNR=10					
NOA	**NORSAR Array B**	**80.81**	**332**	P	**P**	**11 09 18.3 -0.5**
VTS	**Vitosha**	**81.15**	**312**	⇑*i*P	**P**	**11 09 21.3 +0.7**
MORC	**Moravsky Berou**	**82.21**	**320**	⇓*i*P	**P**	**11 09 26.5 +0.3**
KSP	**Ksiaz**	**82.53**	**322**	*e*P	**P**	**11 09 28.2 +0.3**
DPC	**Dobruska-Polom**	**82.71**	**321**	*e*P	**P**	**11 09 28.9 +0.1**
PVCC	**Panska Ves**	**83.66**	**322**	*e*P	**P**	**11 09 34.5 +0.8**
KMBO	**Kilima Mbogo**	**83.76**	**266**	P	**P**	**11 09 36.1 +1.9**
	comp=Z,3.4nm,0.8s,mb4.5,baz=59,slow=6.4,SNR=9.0					
BRG	**Berggiesshubel**	**83.87**	**322**	*e*P	**P**	**11 09 35.1 +0.3**
	comp=Z,16nm,1.2s,mb5.0					
BRG	**Berggiesshubel**	**83.87**	**322**	*e*P	**P**	**11 09 35.2 +0.4**
	comp=Z,9.7nm,1.2s,mb4.8					
BRG				*e*		11 10 25.6
	comp=Z,6.7nm,1.2s					
PRU	**Pruhonice**	**83.90**	**321**	*e*P	**P**	**11 09 35.9 +1.0**
FBE	**Freiberg**	**84.18**	**322**	*e*P	**P**	**11 09 36.8 +0.4**
	comp=Z,44nm,1.4s,mb5.4					
CLL	**Collm**	**84.22**	**323**	*e*P	**P**	**11 09 36.5 -0.1**
	comp=Z,33nm,1.4s,mb5.3					
CLL	**Collm**	**84.22**	**323**	⇓*i*P	**P**	**11 09 36.5 -0.1**
CLL				*i*		11 09 50.0
CLL				pmax	pmax	
	comp=Z,33nm,1.4s,mb5.3					
CLL	**Collm**	**84.22**	**323**	⇓*i*P	**P**	**11 09 36.5 -0.1**
	comp=Z,33nm,1.4s,mb5.3					
CLL				*i*		11 09 50.0
KHC	**Kasperske Hory**	**84.83**	**321**	*e*P	**P**	**11 09 40.0 +0.3**
KHC	**Kasperske Hory**	**84.83**	**321**	*e*P	**P**	**11 09 40.1 +0.4**
GEC2	**GERESS Array S**	**84.88**	**320**	*e*P	**P**	**11 09 40.3 +0.4**
	comp=Z,25nm,1.5s,mb5.1					
GEC2	**GERESS Array S**	**84.88**	**320**	*e*P	**P**	**11 09 40.3 +0.4**
GEC2				pmax	pmax	
	comp=Z,25nm,1.5s,mb5.1					
GERES	**GERESS Array B**	**84.88**	**320**	P	**P**	**11 09 40.6 +0.7**
	comp=Z,4.2nm,0.8s,mb4.6,baz=57,slow=4.9,SNR=24					
TANN	**Tannenbergstha**	**84.92**	**322**	*e*P	**P**	**11 09 40.0 -0.1**
	comp=Z,14nm,1.4s,mb4.9					
PERS	**Pernice**	**84.96**	**318**	*e*P	**P**	**11 09 40.5 +0.1**
WERD	**Werda**	**84.99**	**322**	*e*P	**P**	**11 09 40.4 -0.1**
	comp=Z,11nm,1.0s,mb4.9					
NKC	**Novy Kostel**	**85.01**	**322**	*e*P	**P**	**11 09 40.9 +0.4**
GUNZ	**Gunzen**	**85.02**	**322**	*e*P	**P**	**11 09 41.1 +0.5**
	comp=Z,12nm,0.8s,mb5.1					
WERN	**Wernitzgruen**	**85.02**	**322**	*e*P	**P**	**11 09 41.0 +0.4**
	comp=Z,24nm,1.4s,mb5.1					
WET	**Wettzell**	**85.24**	**321**	*e*P	**P**	**11 09 42.0 +0.3**
NRDL	**Niedersach Rie**	**85.27**	**325**	*e*P	**P**	**11 09 42.5 +0.6**
	comp=Z,36nm,1.5s,mb5.3					
MOX	**Moxa**	**85.30**	**323**	*e*P	**P**	**11 09 42.2 +0.2**
	comp=Z,10.0nm,1.0s,mb4.9					
MOX	**Moxa**	**85.30**	**323**	*e*P	**P**	**11 09 42.4 +0.4**
	comp=Z,20nm,1.4s,mb5.0					
MOX	**Moxa**	**85.30**	**323**	*e*P	**P**	**11 09 42.4 +0.4**
MOX				pmax	pmax	
	comp=Z,20nm,1.4s,mb5.0					
MANZ	**Manzenberg**	**85.31**	**322**	*e*P	**P**	**11 09 43.0 +0.9**
ROTZ	**Rotzenmuhle**	**85.35**	**322**	*e*P	**P**	**11 09 43.0 +0.7**
	comp=Z,33nm,1.5s,mb5.2					
CLZ	**Clausthal**	**85.44**	**324**	*e*P	**P**	**11 09 43.3 +0.6**
	comp=Z,14nm,0.9s,mb5.1					
CLZ	**Clausthal**	**85.44**	**324**	*e*P	**P**	**11 09 43.3 +0.6**
CLZ				pmax	pmax	
	comp=Z,14nm,0.9s,mb5.1					
VISS	**Visnje**	**85.49**	**317**	*e*P	**P**	**11 09 43.4 +0.4**
CEY	**Cerknica**	**85.78**	**317**	*e*P	**P**	**11 09 44.5 +0.1**
GRF	**Grafenberg Arr**	**85.96**	**322**	*e*P	**P**	**11 09 45.9 +0.6**
	comp=Z,5.0nm,0.6s,mb4.9					
GRF	**Grafenberg Arr**	**85.96**	**322**	*e*P	**P**	**11 09 45.9 +0.6**
GRF				pmax	pmax	
	comp=Z,5.0nm,0.6s,mb4.9					
UBBA	**Unterbreizbach**	**86.12**	**323**	*e*P	**P**	**11 09 46.5 +0.4**
YKA	**Yellowknife Ar**	**86.50**	**22**	P	**P**	**11 09 48.6 +0.6**
	comp=Z,1.2nm,0.7s,mb4.3,baz=279,slow=16,SNR=4.4					
BFO	**Black Forest**	**88.28**	**322**	*e*P	**P**	**11 09 55.9 -0.6**
	comp=Z,20nm,1.7s,mb5.1					
BFO	**Black Forest**	**88.28**	**322**	*e*P	**P**	**11 09 55.9 -0.6**
BFO				pmax	pmax	
	comp=Z,20nm,1.7s,mb5.1					
EKA	**Eskdalemuir Ar**	**90.28**	**331**	P	**P**	**11 10 08.2 +2.4**
	comp=Z,1.3nm,0.9s,mb4.3,baz=53,slow=4.0,SNR=3.6					
EDM	**Edmonton**	**93.06**	**29**	*e*P	**P**	**11 10 19.7 +0.9**
SDV	**Santo Domingo**	**148.71**	**21**	*e*PKPdf	PKPdf	11 16 50.1 +1.7
SDV				*e*PKPbc	PKPbc	11 16 53.2 +0.9
LPAZ	**La Paz**	**170.98**	**62**	PKP	PKPdf	11 17 15.4 +2.2
	comp=Z,1.0nm,0.5s,baz=1.2,slow=8.3,SNR=3.6					

*IDC **09** 10:57:55.0±1.0,2089N×11984E,h0km,mb4.3/12, mb1 4.4/12,mb1mx4.3/23,mbtmp4.3/12,Error ellipse: s-maj=28.8km s-min=23.0km az=71.0*
*NEIC **09** 10:57:57.0±0.8,2081N×11985E,h10km,Error ellipse: s-maj=19.7km s-min=17.8km az=106.0*
*ISCJB **09** 10:57:58.8±0.7,209N±0.1×1199E±02,h33km,mb4.5/16, Error ellipse: s-maj=20.9km s-min=18.5km az=157.0*

ISC 09 10:58:00.9±0.7,209N±01×1199E±02,h35km,n20, σ0§99/20,mb4.5/16,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.31**	**42**	P	**P**	**11 02 55.0**	**-0.3**
	3.2nm,0.9s,mb3.7,baz=224,slow=12,SNR=1.8						
PSI	**Prapat**	**27.23**	**231**	P	**P**	**11 03 39.8**	**-1.7**
	3.5nm,0.5s,mb4.1,baz=127,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**39.94**	**319**	P	**P**	**11 05 32.4**	**+0.7**
	4.3nm,0.7s,mb4.3,baz=105,slow=10,SNR=5.0						
CTA	**Charters Tower**	**48.22**	**146**	P	**P**	**11 06 38.5**	**+0.4**
	10nm,0.8s,mb4.9,baz=312,slow=13,SNR=1.9						
BVAR	**Borovoye Array**	**49.49**	**323**	P	**P**	**11 06 48.2**	**+0.4**
	1.7nm,0.8s,mb4.1,baz=113,slow=6.9,SNR=2.4						
AKTK	**Aktyubinsk**	**56.32**	**317**	P	**P**	**11 07 38.1**	**0.0**
AKTO	**Aktyubinsk**	**56.32**	**317**	P	**P**	**11 07 38.1**	**0.0**
	6.6nm,1.0s,mb4.6,baz=69,slow=8.6,SNR=2.5						
FINES	**FINESS Array B**	**73.66**	**330**	P	**P**	**11 09 28.3**	**-2.6**
	4.8nm,0.9s,mb4.4,baz=149,slow=4.0,SNR=4.3						
AKASG	**Malin Array Be**	**74.52**	**319**	P	**P**	**11 09 34.6**	**-1.3**
	6.1nm,1.1s,mb4.5,baz=64,slow=5.5,SNR=6.4						
HFS	**Hagfors**	**79.83**	**331**	P	**P**	**11 10 04.7**	**-1.0**
	1.9nm,0.7s,mb4.2,baz=285,slow=40,SNR=2.2						
NB2	**NORSAR Subarra**	**80.55**	**332**	P	**P**	**11 10 09.0**	**-0.5**
	comp=Z,6.1nm,1.1s,mb4.4,baz=63,slow=5.6						
NOA	**NORSAR Array B**	**80.55**	**332**	P	**P**	**11 10 08.2**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=64,slow=5.4,SNR=3.0						
KMBO	**Kilima Mbogo**	**83.52**	**266**	P	**P**	**11 10 27.1**	**+1.9**
	comp=Z,3.0nm,0.9s,mb4.4,baz=54,slow=12,SNR=4.0						
CLL	**Collm**	**83.93**	**323**	*i* P	**P**	**11 10 28.0**	**+0.7**
	comp=Z,20nm,1.3s,mb5.1						
GERES	**GERESS Array B**	**84.60**	**320**	P	**P**	**11 10 31.0**	**+0.4**
	comp=Z,0.6nm,0.3s,mb4.2,baz=90,slow=4.0,SNR=5.1						
LPG	**La Plagne**	**90.36**	**320**	*e*P	**P**	**11 10 59.3**	**+0.9**
	comp=Z,16nm,0.8s,mb5.1						
LPL	**La Plagne**	**90.36**	**320**	*e*P	**P**	**11 10 59.2**	**+0.8**
	comp=Z,17nm,0.8s,mb5.1						
ORIF	**Oris-en-Rattie**	**91.18**	**320**	*e*P	**P**	**11 11 02.7**	**+0.5**
LMR	**La Mourre**	**91.61**	**318**	*e*P	**P**	**11 11 04.5**	**+0.3**
	comp=Z,19nm,1.1s,mb5.0						
LMR	**La Mourre**	**91.61**	**318**	*e*P	**P**	**11 11 04.5**	**+0.3**
	comp=Z,9.4nm,1.1s,mb5.0						

*IDC **09** 11:00:21.7±0.6,2077N×11995E,h0km,mb4.6/23, mb1 4.7/23,mb1mx4.7/26,mbtmp4.6/23,Error ellipse: s-maj=24.4km s-min=13.6km az=68.0*
*ISCJB **09** 11:00:22.8±0.3,2073N±004×12003E±005,h17km, mb4.8/49,MS5.2/4,Error ellipse: s-maj=6.8km s-min=5.3km az=169.9*
*SZGRF **09** 11:00:22.9,2035N×12130E,h33km,mb5.0,Philippine Islands region*
*NEIC **09** 11:00:23.5±0.3,2075N×11995E,h10km,mb5.0/20,Error ellipse: s-maj=9.4km s-min=6.3km az=82.0*
*BJI **09** 11:00:23.4,2084N×11984E,h5km,mB5.1,mb4.7,ML4.4, Ms5.2,Msz5.1*
*MOS **09** 11:00:25.3±1.1,2074N×11992E,h33km,mb5.1/23,Error ellipse: s-maj=11.9km s-min=6.2km az=112.2*

ISC 09 11:00:24.9±0.3,2077N±004×11997E±005,h18km, h18km±2.5km:pP-P,n115,σ1§05/123,mb4.8/49,MS5.2/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.71**	**24**	*e*Pn	**Pn**	**11 01 19.9**	**-1.3**
NACB				Sn	**Sn**	**11 02 03.9**	**-0.6**
QZH	**Quanzhou**	**4.34**	**343**	P	**Pn**	**11 01 28.1**	**-1.9**
QZH				S	**Sn**	**11 02 15.3**	**-4.9**
QZH				Smax			
	comp=N,590nm,1.0s						
QZH				Smax			
	comp=E,390nm,0.9s						
QZH				LR	LR		
	comp=N,17μm,9.8s						
QZH				LR	LR		
	comp=E,16μm,11.8s						
QZH				LR	LR		
	comp=Z,19μm,9.2s						
GZH	**Guangzhou**	**6.56**	**292**	P	**Pn**	**11 01 58.0**	**-2.5**
GZH				Smax			
	comp=N,376nm,0.7s						
GZH				Smax			
	comp=E,440nm,0.7s						
TGY	**Tagaytay City**	**6.69**	**172**	Pn	**Pn**	**11 02 05.0**	**+2.8**
	baz=221,slow=20,SNR=2.3						
NJ2	**Nanjing**	**11.28**	**355**	*e*P	**Pn**	**11 03 10.7**	**+5.5**
NJ2				XP		11 03 17.8	
NJ2				S	**Sn**	**11 05 20.0**	**+9.2**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s						
NJ2				LR	LR		
	comp=N,12μm,11.0s						
NJ2				LR	LR		
	comp

HHC AP 11 05 16.4
HHC XP sP 11 05 19.9 +2.5
HHC AMB AMB
comp=Z,24nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,2μm,13.1s
HHC LR LR
comp=Z,4μm,9.4s
KSM Kuching 21.37 207 *e*P **P 11 05 10.6 -0.7**
MAJO Matsushiro 22.37 41 *e*P **P 11 05 24.3 +2.3**
MAJO pmax pmax
comp=Z,75nm,1.5s,mb4.9
MAJO Matsushiro 22.37 41 *e*P **P 11 05 24.3 +2.3**
comp=Z,75nm,1.5s,mb4.9
MAT Matsushiro 22.37 41 P **P 11 05 21.2 -0.8**
MJAR Matsushiro Arr 22.37 41 P **P 11 05 22.3 +0.3**
comp=Z,9.7nm,0.8s,mb4.3,baz=236,slow=9.9,SNR=9.2
KULM Kulim 24.26 233 *e*P **P 11 05 40.7 -0.1**
VLA Vladivostok 24.43 21 *e*P **P 11 05 50.1 +7.7**
VLA pmax pmax
comp=Z,146nm,2.4s,mb5.0
MDJ Mudanjiang 25.09 16 P **P 11 05 49.8 +1.4**
MDJ AP pP 11 05 52.8 -1.0
MDJ XP sP 11 05 54.2 -1.8
MDJ PCP PcP 11 09 23.0 +0.4
MDJ AMB AMB
comp=Z,20nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,682nm,8.4s
MDJ LR LR
comp=N,6μm,22.8s,MS5.4
MDJ LR LR
comp=E,12μm,21.3s,MS5.4
MDJ LR LR
comp=Z,7μm,14.4s
MDJ Mudanjiang 25.09 16 *e*P **P 11 05 50.0 +1.6**
comp=Z,51nm,1.1s,mb5.0
GTA Gaotai 25.38 321 P **P 11 05 51.6 +0.6**
GTA AP pP 11 05 55.2 -1.2
GTA XP sP 11 05 58.4 -0.2
GTA PP 11 06 32.2
GTA AMB AMB
comp=Z,16nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,527nm,3.8s
GTA LR LR
comp=N,1μm,11.0s,MS5.0
GTA LR LR
comp=E,2μm,11.8s,MS5.0
GTA LR LR
comp=Z,2μm,14.4s,MS4.8
PSI Prapat 27.19 232 P **P 11 06 07.8 +0.4**
comp=Z,29nm,1.1s,mb4.7,baz=3.9,slow=4.0,SNR=12
PSI Prapat 27.19 232 P **P 11 06 07.8 +0.4**
LSA Lhasa 27.48 295 P **P 11 06 15.0 +5.0**
LSA Lhasa 27.48 295 *e*P **P 11 06 12.1 +2.1**
LSA pmax pmax
comp=Z,31nm,0.7s,mb5.0
LSA Lhasa 27.48 295 *e*P **P 11 06 12.1 +2.1**
comp=Z,31nm,0.7s,mb5.0
SONM Songino Array 29.14 341 P **P 11 06 24.1 -0.7**
comp=Z,2.6nm,0.8s,mb4.0,baz=162,slow=6.4,SNR=6.5
YSS Yuzh-Sakhalins 32.02 30 *e*P **P 11 06 49.4 -0.9**
YSS *e* 11 07 04.7
ZAK Zakamensk 32.36 340 *e*P **P 11 06 52.4 -0.8**
WMQ Urumqi 35.32 318 *e*P **P 11 07 21.5 +2.6**
WMQ AP pP 11 07 26.0 +1.6
WMQ XP sP 11 07 28.5 +1.9
WMQ PP PP 11 08 41.0 +1.9
WMQ PCP PcP 11 09 52.0 +2.9
WMQ AMB AMB
comp=Z,12nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,174nm,4.8s
WMQ LR LR
comp=N,2μm,12.4s,MS5.3
WMQ LR LR
comp=E,3μm,11.8s,MS5.3
WMQ LR LR
comp=Z,2μm,22.0s
MKAR Makanchi Array 40.09 319 P **P 11 07 59.0 -0.3**
comp=Z,6.0nm,0.6s,mb4.5,baz=115,slow=8.2,SNR=14
YAK Yakutsk 41.78 7 *e*P **P 11 08 14.1 +0.9**
YAK pmax pmax
comp=Z,18nm,1.2s,mb4.6
KSH Kashi 41.91 306 *e*P **P 11 08 17.7 +3.4**
KSH *e*AP pP 11 08 24.2 +4.4
KSH *e*XP sP 11 08 27.3 +5.3
KSH *e*PP PP 11 09 59.1 +7.8
KSH *e*PCP PcP 11 10 13.4 +3.7
KSH *e*PPP 11 10 29.9
KSH *e*SCP ScP 11 14 01.3 +2.2
KSH *e*S **S 11 14 37.0 +5.3**
KSH *e*XS sS 11 14 45.1 +4.3
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.5
ZAL Zalesovo 42.56 330 P **P 11 08 18.7 -0.8**
comp=Z,1.6nm,0.7s,mb3.8,baz=4.6,slow=6.1,SNR=5.2
ZAL Zalesovo 42.56 330 P **P 11 08 18.7 -0.9**
WRAB Tennant Creek 42.83 160 *e*P **P 11 08 19.9 -1.8**
WRA Warramunga Arr 42.84 160 P **P 11 08 20.4 -1.4**
comp=Z,24nm,1.0s,mb4.9,baz=342,slow=8.5,SNR=7.2
WB2 Warramunga Arr 42.84 160 *e*P **P 11 08 20.3 -1.5**
AAK Ala-Archa 43.77 310 *e*P **P 11 08 29.5 +0.2**
AAK pmax pmax
comp=Z,19nm,1.9s,mb4.5
KURK Kurchatov 44.05 323 P **P 11 08 32.5 +0.9**
comp=Z,124nm,0.9s,mb5.6,SNR=10
ASAR Alice Springs 46.21 162 P **P 11 08 48.1 -0.6**
comp=Z,3.1nm,0.5s,mb4.5,baz=346,slow=6.9,SNR=4.9
SEY Seymchan 47.56 19 *e*P **P 11 09 00.7 +1.4**
CTA Charters Tower 48.07 146 *e*P **P 11 09 04.3 +1.1**
comp=Z,36nm,0.9s,mb5.4
CTA Charters Tower 48.07 146 P **P 11 09 04.4 +1.2**
comp=Z,52nm,1.0s,mb5.5,baz=328,slow=12,SNR=12
CTA Charters Tower 48.07 146 *e*P **P 11 09 04.3 +1.1**
CTA pmax pmax
comp=Z,36nm,0.9s
CTAO Charters Tower 48.07 146 *e*P **P 11 09 04.0 +0.8**
BVAR Borovoye Array 49.65 323 P **P 11 09 15.5 +0.1**
comp=Z,2.0nm,0.7s,mb4.3,baz=100,slow=14,SNR=5.1
BVAR PcP PcP 11 10 36.1 -0.5
comp=Z,5.2nm,0.8s,baz=103,slow=4.7,SNR=7.1
BILL Bilibino 55.27 19 *e*P **P 11 09 57.2 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
STKA Stephens Creek 56.30 158 *e*P **P 11 10 02.7 -1.7**
comp=Z,5.6nm,0.7s,mb4.7
STKA Stephens Creek 56.30 158 P **P 11 10 04.2 -0.2**
comp=Z,7.1nm,0.7s,mb4.8,baz=344,slow=9.3,SNR=3.2
AKTK Aktyubinsk 56.47 317 P **P 11 10 05.5 -0.1**
AKTO Aktyubinsk 56.47 317 P **P 11 10 05.5 -0.1**
comp=Z,12nm,1.0s,mb4.9,baz=93,slow=5.1,SNR=13
ARU Arti 57.18 325 *e*P **P 11 10 10.2 -0.5**
ARU pmax pmax
comp=Z,25nm,1.7s,mb5.0
TOO Toolangi 62.81 157 *e*P **P 11 10 50.1 +0.8**
comp=Z,12nm,0.7s,mb5.1
TOO Toolangi 62.81 157 *e*P **P 11 10 50.1 +0.8**
TOO pmax pmax
comp=Z,12nm,0.7s,mb5.1
ZEI Tsey 66.14 309 *e*P **P 11 11 10.8 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KIV Kislovodsk 66.88 310 *e*P **P 11 11 16.4 +0.5**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
OBN Obninsk 69.49 322 *e*P **P 11 11 31.5 -0.7**
OBN pmax pmax
comp=Z,22nm,1.0s,mb5.0
MALT Malatya 70.98 305 *e*P **P 11 11 42.8 +1.5**
MALT pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MALT Malatya 70.98 305 *e*P **P 11 11 42.8 +1.4**
comp=Z,8.0nm,1.0s,mb4.6
ARCES ARCESS Array B 72.28 338 P **P 11 11 48.2 -0.9**
comp=Z,4.9nm,0.8s,mb4.5,baz=63,slow=5.6,SNR=5.6
COLA College 72.33 27 *e*P **P 11 11 50.5 +1.0**
FINES FINESS Array B 73.82 330 P **P 11 11 57.5 -0.8**
comp=Z,5.7nm,0.9s,mb4.5,baz=60,slow=7.5,SNR=8.2
AKASG Malin Array Be 74.67 319 P **P 11 12 02.2 -1.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=62,slow=5.7,SNR=8.0
EGAK Eagle 75.13 26 *e*P **P 11 12 04.3 -1.6**
comp=Z,15nm,1.6s,mb4.7
DAWY Dawson 76.08 26 *e*P **P 11 12 12.1 +0.8**

SUW Suwalki 77.33 323 *e*P **P 11 12 18.7 +0.3**
MLR Muntele Rosu 78.21 314 P **P 11 12 22.5 -0.7**
comp=Z,6.1nm,0.9s,mb4.5,baz=134,slow=4.1,SNR=4.9
KWP Kalwaria 78.99 319 *e*P **P 11 12 28.2 +0.6**
HFS Hagfors 79.98 331 P **P 11 12 31.8 -1.2**
comp=Z,12nm,1.0s,mb4.8,baz=91,slow=5.9,SNR=7.7
OJC Ojcow 80.56 320 *e*P **P 11 12 36.1 0.0**
NB2 NORSAR Subarra 80.70 332 P **P 11 12 36.0 -0.9**
comp=Z,3.4nm,0.9s,mb4.3,baz=60,slow=5.6
NB2 NORSAR Subarra 80.70 332 P **P 11 12 36.0 -0.9**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NOA NORSAR Array B 80.70 332 P **P 11 12 35.8 -1.1**
comp=Z,4.7nm,0.8s,mb4.4,baz=63,slow=5.2,SNR=8.0
VRAC Vranov 82.83 320 P **P 11 12 49.1 +1.1**
comp=Z,4.7nm,0.5s,mb4.8,baz=69,slow=8.7,SNR=5.0
KMBO Kilima Mbogo 83.58 266 P **P 11 12 53.6 +1.7**
comp=Z,8.3nm,1.0s,mb4.8,baz=49,slow=7.5,SNR=12
BRG Berggiesshubel 83.74 322 *i* P **P 11 12 53.0 +0.2**
comp=Z,9.1nm,1.2s,mb4.8
BRG *e* pP 11 13 00.3 +1.7
comp=Z,6.4nm,1.2s
BRG Berggiesshubel 83.74 322 *i* P **P 11 12 53.0 +0.2**
BRG *e* 11 13 00.4
BRG pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
CLL Collm 84.09 323 *i* P **P 11 12 54.6 0.0**
CLL *e* 11 13 03.0
CLL *e* 11 13 07.0
CLL pmax pmax
comp=Z,17nm,1.1s,mb5.1
CLL Collm 84.09 323 *i* P **P 11 12 54.6 0.0**
comp=Z,17nm,1.1s,mb5.1
CLL *e* 11 13 03.0
CLL *e* 11 13 07.0
KHC Kasperske Hory 84.70 321 *e*P **P 11 12 58.0 +0.3**
KHC Kasperske Hory 84.70 321 *e*P **P 11 12 57.2 -0.5**
GERES GERESS Array B 84.75 320 P **P 11 12 58.2 +0.3**
comp=Z,5.1nm,0.9s,mb4.7,baz=57,slow=4.9,SNR=16
CRES Cresnjev 84.95 317 *e*P **P 11 12 59.4 +0.5**
PDKS Podkum 85.14 318 *e*P **P 11 13 00.7 +0.8**
MOX Moxa 85.17 323 *e*P **P 11 13 00.6 +0.6**
comp=Z,37nm,1.9s,mb5.2
MOX Moxa 85.17 323 *e*P **P 11 13 00.6 +0.6**
MOX pmax pmax
comp=Z,37nm,1.9s,mb5.2
GRA1 Grafenberg Arr 85.83 322 *e*P **P 11 13 03.9 +0.6**
comp=Z,14nm,1.1s,mb5.1
GRF Grafenberg Arr 85.83 322 *e*P **P 11 13 03.9 +0.6**
comp=Z,14nm,1.1s,mb5.1
GRF Grafenberg Arr 85.83 322 *e*P **P 11 13 03.9 +0.6**
GRF pmax pmax
comp=Z,14nm,1.1s,mb5.1
GRF Grafenberg Arr 85.83 322 *e*P **P 11 13 03.9 +0.6**
GRF pmax pmax
comp=Z,14nm,1.1s,mb5.1
CADS Cadrg 85.86 318 *e*P **P 11 13 02.9 -0.6**
YKA Yellowknife Ar 86.54 22 P **P 11 13 06.7 -0.1**
comp=Z,5.1nm,0.8s,mb4.8,baz=310,slow=4.5,SNR=7.8
YKA Yellowknife Ar 86.54 22 P **P 11 13 06.7 -0.1**
EKA Eskdalemuir Ar 90.17 331 P **P 11 13 23.8 -0.3**
comp=Z,2.7nm,0.9s,mb4.6,baz=186,slow=7.5,SNR=3.6
LPG La Plagne 90.51 320 *e*P **P 11 13 25.2 -0.4**
comp=Z,18nm,0.9s,mb5.1
LPG La Plagne 90.51 320 *e*P **P 11 13 25.2 -0.4**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPG La Plagne 90.51 320 *e*P **P 11 13 25.2 -0.4**
comp=Z,9.3nm,0.9s,mb5.1
LPL La Plagne 90.51 320 *e*P **P 11 13 25.1 -0.6**
comp=Z,17nm,0.8s,mb5.1
LPL La Plagne 90.51 320 *e*P **P 11 13 25.1 -0.6**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LPL La Plagne 90.51 320 *e*P **P 11 13 25.1 -0.6**
comp=Z,8.5nm,0.8s,mb5.1
MBDF Montbardon 90.89 319 *e*P **P 11 13 25.9 -1.5**
ORIF Oris-en-Rattie 91.33 320 *e*P **P 11 13 28.6 -0.9**
comp=Z,12nm,0.9s,mb4.9
ORIF Oris-en-Rattie 91.33 320 *e*P **P 11 13 28.6 -0.9**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
ORIF Oris-en-Rattie 91.33 320 *e*P **P 11 13 28.6 -0.9**
comp=Z,5.8nm,0.9s,mb4.9
LMR La Mourre 91.76 318 *e*P **P 11 13 30.4 -1.1**
EDM Edmonton 93.13 29 *e*P **P 11 13 39.6 +1.8**
KEST Kesra 93.62 310 P **P 11 13 41.2 +1.1**
comp=Z,1.5nm,0.8s,mb4.5,baz=338,slow=5.4,SNR=3.7

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*ISCJB **09** 11:00:26.6± 1.3, 580S± 005× 15400E± 004, h56km± 12km, mb5.0/41, MS5.3/10, Error ellipse: s-maj=8.2km s-min=6.6km az=40.9*
*MOS **09** 11:00:26.1± 1.1, 575S× 15397E, h48km, mb5.3/11, Error ellipse: s-maj=12.5km s-min=11.9km az=127.4*
*BJI **09** 11:00:27.5, 593S× 15454E, h93km, mB5.8, mb5.2*
*IDC **09** 11:00:29.3± 1.8, 584S× 15396E, h67km± 16km, mb4.6/19, mb1 4.7/22, mb1mx4.6/25, mbtmp4.9/22, MS4.8/7, Ms1 4.8/7, ms1mx4.4/31, Error ellipse: s-maj=11.5km s-min=10.6km az=84.0*
*NEIC **09** 11:00:29.0± 1.3, 580S× 15403E, h67km± 12km, mb5.2/21, Error ellipse: s-maj=8.5km s-min=7.8km az=206.0*
ISC 09 11:00:29.7±1.0, 584S±005×15401E±004, h67km±9km, n108, σ1§10/101, mb5.0/41, 6C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.88**	**122**	P	**Pn**	**11 02 08.1**	**+0.2**
	60nm,0.3s,baz=268,slow=3.9,SNR=17						
HNR				S	**Sn**	**11 03 27.5**	**+2.8**
	39nm,0.3s,baz=274,slow=16,SNR=8.5						
HNR				LR	LR	11 04 40.0	
	comp=Z,7μm,19.6s,baz=352,slow=36						
HNR	**Honiara**	**6.88**	**122**	*e*P	**Pn**	**11 02 08.8**	**+0.9**
HNR				*e*		11 03 26.8	
HNR				pmax	pmax		
	comp=Z,462nm,0.8s						
HNR	**Honiara**	**6.88**	**122**	*e*Pn	**Pn**	**11 02 08.8**	**+0.9**
	comp=Z,462nm,0.8s						
HNR				*e*Sn	**Sn**	**11 03 26.8**	**+2.1**
PMG	**Port Moresby**	**7.66**	**242**	P	**Pn**	**11 02 16.7**	**-1.8**
	comp=Z,56nm,0.3s,baz=69,slow=4.8,SNR=74						
PMG				S	**Sn**	**11 03 45.1**	**+1.2**
	comp=Z,16nm,0.3s,baz=6.6,slow=12,SNR=11						
PMG				LR	LR	11 04 50.4	
	comp=Z,4μm,21.5s,baz=40,slow=34						
PMG	**Port Moresby**	**7.66**	**242**	*e*Pn	**Pn**	**11 02 17.1**	**-1.4**
PMG				*e*Sn	**Sn**	**11 03 42.8**	**-1.1**
CTA	**Charters Tower**	**16.05**	**207**	*i*/P	**Pn**	**11 04 10.6**	**-0.5**
	comp=Z,14nm,0.7s						
CTA	**Charters Tower**	**16.05**	**207**	P	**Pn**	**11 04 10.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=40,slow=14,SNR=22						
CTA				LR	LR	11 09 36.9	
	comp=Z,3μm,20.3s,baz=16,slow=34						
DZM	**Mont Dzumac**	**20.12**	**145**	*e*P	**P**	**11 04 57.5**	**-0.6**
DZM	**Mont Dzumac**	**20.12**	**145**	P	**P**	**11 04 57.4**	**-0.7**
	comp=Z,60nm,0.7s,baz=342,slow=11,SNR=59						
DZM				LR	LR	11 11 34.4	
	comp=Z,2μm,21.5s,baz=327,slow=33						
GUMO	**Guam**	**21.33**	**335**	P	**P**	**11 05 10.9**	**-0.2**
	comp=Z,130nm,0.9s,mb5.3,baz=187,slow=6.7,SNR=5.3						
GUMO	**Guam**	**21.33**	**335**	*e*P	**P**	**11 05 10.2**	**-0.8**
	comp=Z,147nm,0.9s,mb5.3						
KAKA	**Kakadu**	**22.35**	**251**	*e*P	**P**	**11 05 21.5**	**-0.4**
	comp=Z,52nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**23.70**	**232**	*e*P	**P**	**11 05 36.5**	**+1.2**
WRA	**Warramunga Arr**	**23.71**	**232**	P	**P**	**11 05 35.3**	**-0.2**
	comp=Z,7.8nm,0.5s,mb4.3,baz=56,slow=9.6,SNR=4.9						
WRA				PcP	PcP	11 09 18.6	+0.8
	comp=Z,5.1nm,0.5s,baz=54,slow=2.6,SNR=7.5						
WRA				S	**S**	**11 09 46.2**	**+0.6**
	comp=Z,2.8nm,1.0s,baz=52,slow=17,SNR=2.3						
ARMA	**Armidale**	**24.56**	**185**	*i*/P	**P**	**11 05 44.5**	**+1.4**
AS31	**Alice Springs**	**26.24**	**225**	*e*P	**P**	**11 06 00.7**	**+2.3**
ASAR	**Alice Springs**	**26.25**	**225**	P	**P**	**11 05 58.7**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=55,slow=9.0,SNR=5.4						
ASAR				PcP	PcP	11 09 24.1	+0.7
	comp=Z,12nm,0.7s,baz=60,slow=2.6,SNR=12						
ASPA	**Alice Springs**	**26.25**	**225**	*e*P	**P**	**11 06 00.7**	**+2.3**
STKA	**Stephens Creek**	**28.39**	**203**	P	**P**	**11 06 17.0**	**-0.6**
	comp=Z,7.2nm,0.6s,mb4.3,baz=24,slow=12,SNR=9.7						
STKA				S	LR	11 17 47.9	
	comp=Z,2μm,19.3s,baz=82,slow=37						
STKA	**Stephens Creek**	**28.39**	**203**	*i*/P	**P**	**11 06 16.4**	**-1.2**
	comp=Z,13nm,0.8s,mb4.5						
STKA				*e*P		11 06 16.9	
FITZ	**Fitzroy Crossi**	**30.26**	**244**	*i*/P	**P**	**11 06 33.7**	**-0.5**
	comp=Z,25nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.26**	**244**	P	**P**	**11 06 33.4**	**-0.8**
	comp=Z,6.1nm,0.6s,mb4.4,baz=97,slow=7.4,SNR=8.7						
URZ	**Urewera**	**38.49**	**150**	P	**P**	**11 07 45.0**	**-0.2**
	comp=Z,24nm,0.6s,mb5.2,baz=334,slow=6.6,SNR=16						
URZ	**Urewera**	**38.49**	**150**	PN	**P**	**11 07 45.1**	**-0.1**
MWZ	**Matawai**	**38.76**	**150**	PN	**P**	**11 07 47.8**	**+0.4**
PUZ	**Puketiti**	**38.92**	**149**	PN	**P**	**11 07 48.2**	**-0.6**
THZ	**Tophouse**	**39.53**	**158**	PN	**P**	**11 07 53.1**	**-0.9**
SNZO	**South Karori**	**39.86**	**155**	*e*P	**P**	**11 07 55.9**	**-0.7**
	comp=Z,163nm,1.3s,mb5.7						
LTZ	**Lake Taylor**	**40.19**	**159**	PN	**P**	**11 07 59.1**	**-0.3**
RPZ	**Rata Peaks**	**40.60**	**161**	P	**P**	**11 08 01.4**	**-1.3**
	comp=Z,40nm,1.0s,mb5.2,baz=346,slow=5.6,SNR=9.1						
JOW	**Kunigami**	**40.94**	**324**	P	**P**	**11 08 05.0**	**-0.6**
	comp=Z,32nm,0.6s,mb5.3,baz=200,slow=7.0,SNR=8.0						
KLBR	**Kellerberrin**	**42.50**	**228**	*e*P	**P**	**11 08 17.5**	**-0.8**
	comp=Z,38nm,1.4s,mb4.9						
MUN	**Mundaring**	**43.84**	**229**	*e*P	**P**	**11 08 35.4**	**+6.3**
KSM	**Kuching**	**44.24**	**278**	*e*P	**P**	**11 08 30.9**	**-1.4**
MJAR	**Matsushiro Arr**	**44.68**	**342**	P	**P**	**11 08 36.0**	**+0.2**
	comp=Z,2.0nm,0.4s,mb4.2,baz=164,slow=7.4,SNR=6.7						
MJAR	**Matsushiro Arr**	**44.68**	**342**	P	**P**	**11 08 36.0**	**+0.2**
RAR	**Rarotonga**	**47.26**	**113**	LR	LR	11 23 33.0	
	comp=Z,1μm,20.8s,baz=164,slow=29						
ASAJ	**Asahikawa**	**50.78**	**349**	P	**P**	**11 09 22.4**	**-0.6**
	comp=Z,22nm,0.7s,mb5.3,baz=224,slow=17,SNR=8.6						
YSS	**Yuzh-Sakhalins**	**53.50**	**350**	*i*/P	**P**	**11 09 45.7**	**+2.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
KULM	**Kulim**	**54.41**	**281**	*e*P	**P**	**11 09 43.7**	**-6.2**
MDJ	**Mudanjiang**	**54.81**	**339**	P	**P**	**11 09 51.5**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,642nm,7.7s						
MDJ				LR	LR		
	comp=N,6μm,23.6s						
MDJ				LR	LR		
	comp=E,12μm,21.7s						
MDJ				LR	LR		
	comp=Z,5μm,22.2s						
MDJ	**Mudanjiang**	**54.81**	**339**	*e*P	**P**	**11 09 52.0**	**-0.8**
	comp=Z,35nm,1.1s,mb5.3						
PSI	**Prapat**	**55.68**	**277**	P	**P**	**11 09 58.8**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.7,baz=146,slow=5.9,SNR=8.3						
CN2	**Changchun**	**55.74**	**335**	*e*P	**P**	**11 10 03.6**	**+4.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,5μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,5μm,12.0s						
PMOR	**Pomariorio Ree**	**57.72**	**104**	*e*P	**P**	**11 10 12.2**	**-1.2**
	comp=Z,41nm,1.2s,mb5.3						
VAH	**Vaihoa**	**57.98**	**104**	*e*P	**P**	**11 10 13.8**	**-1.5**
	comp=Z,24nm,1.0s,mb5.2						
KLR	**Kul'dur**	**58.18**	**343**	*e*P	**P**	**11 10 11.6**	**-5.0**
KLR				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
KMI	**Kunming**	**58.56**	**304**	P	**P**	**11 10 20.9**	**+1.6**
KMI				AMB	AMB		
	comp=Z,37nm,1.5s,mb5.2						
KMI	**Kunming**	**58.56**	**304**	P	**P**	**11 10 20.9**	**+1.6**
	comp=Z,37nm,1.5s,mb5.2						
CHTO	**Chiang Mai**	**59.52**	**296**	*e*P	**P**	**11 10 26.5**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
CHTO	**Chiang Mai**	**59.52**	**296**	*e*P	**P**	**11 10 26.5**	**+0.6**
	comp=Z,27nm,1.1s,mb5.2						
CD2	**Chengdu**	**60.32**	**310**	*e*P	**P**	**11 10 32.0**	**+0.6**
CD2				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.6						
CD2				AMB	AMB		
	comp=Z,2μm,9.6s						
CD2				LR	LR		
	comp=N,3μm,12.0s						
CD2				LR	LR		
	comp=Z,3μm,12.0s						
HHC	**Hu-ho-hao-te**	**60.59**	**324**	*e*P	**P**	**11 10 34.8**	**+1.6**
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
LZH	**Lanzhou**	**62.81**	**316**	P	**P**	**11 10 49.3**	**+1.1**
LZH				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,852nm,5.1s						
LZH				LR	LR		
	comp=N,2μm,15.1s						
LZH				LR	LR		
	comp=Z,4μm,16.3s						
LZH	**Lanzhou**	**62.81**	**316**	P	**P**	**11 10 49.3**	**+1.1**
LZH				*PP	pP	11 11 05.5	-0.4
LZH						11 13 09.7	
LZH				*e*S	**S**	**11 19 12.2**	**-0.1**
LZH				*SS	sS	11 19 39.9	-2.4
LZH				*e*SS	SS	11 23 19.8	+1.7
LZH				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.8						
LZH				MLR	MLR		
	comp=Z,4μm,16.3s						
LZH	**Lanzhou**	**62.81**	**316**	P	**P**	**11 10 49.3**	**+1.1**
	comp=Z,120nm,1.0s,mb5.8						
LZH				pP	pP	11 11 05.5	-0.4
LZH				sP	sP	11 11 12.5	-0.9
LZH				PP	PP	11 13 09.7	+2.8
LZH				*e*S	**S**	**11 19 12.2**	**-0.1**
LZH				sS	sS	11 19 39.9	-2.4
LZH				*e*SS	SS	11 23 19.8	+1.7
LZH				LR	LR		
	comp=Z,4μm,16.3s						
GTA	**Gaotai**	**67.23**	**317**	P	**P**	**11 11 17.9**	**+1.0**
GTA				PP	PP	11 13 49.5	+3.8
GTA				AMB	AMB		
	comp=Z,53nm,1.4s,mb5.2						
GTA				AMB	AMB		
	comp=Z,849nm,5.7s						
GTA				LR	LR		
	comp=N,3μm,12.2s						
GTA				LR	LR		
	comp=E,3μm,11.4s						
GTA				LR	LR		
	comp=Z,4μm,11.4s						
SONM	**Songino Array**	**67.84**	**327**	P	**P**	**11 11 20.1**	**-0.6**
	comp=Z,7.4nm,0.6s,mb4.7,baz=140,slow=5.1,SNR=13						
LSA	**Lhasa**	**69.82**	**304**	P	**P**	**11 11 33.8**	**+0.8**
LSA	**Lhasa**	**69.82**	**304**	*e*P	**P**	**11 11 35.1**	**+2.2**
YAK	**Yakutsk**	**70.23**	**348**	*e*P	**P**	**11 11 33.9**	**-1.6**
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
TLY	**Talaya**	**71.58**	**330**	*e*P	**P**	**11 11 48.4**	**+4.7**
TLY				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
TLY	**Talaya**	**71.58**	**330**	*e*P	**P**	**11 11 46.9**	**+3.3**
VNDA	**Vanda**	**71.76**	**178**	P	**P**	**11 11 44.2**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.4,baz=332,slow=6.8,SNR=26						
VNDA	**Vanda**	**71.76**	**178**	*e*P	**P**	**11 11 44.3**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA	**Vanda**	**71.76**	**178**	*e*P	**P**	**11 11 44.3**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.5						
SBA	**Scott Base**	**72.29**	**177**	*e*P	**P**	**11 11 48.8**	**+0.9**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**72.29**	**177**	*e*P	**P**	**11 11 48.8**	**+0.9**
	comp=Z,8.3nm,0.8s,mb4.6						
MOY	**Mondy**	**72.92**	**329**	*e*P	**P**	**11 11 51.3**	**-0.4**
MOY				pmax	pmax		
	comp=Z,40nm,3.1s						
MIR	**Mirnyy**	**73.41**	**201**	*c*/P	**P**	**11 11 56.0**	**+1.5**
MIR				*i*		11 12 05.0	
MIR				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.9						
BILL	**Bilibino**	**74.21**	**5**	*e*P	**P**	**11 11 56.5**	**-2.7**

BILL pmax pmax
comp=Z,17nm,0.9s,mb4.8
BILL Bilibino 74.21 5 *eP* **P 11 11 56.5 -2.8**
comp=Z,17nm,0.9s,mb4.8
WMQ Urumqi 77.32 317⇑ *iP* **P 11 12 17.2 +0.2**
WMQ PCP PcP 11 12 28.0 +0.7
WMQ PP PP 11 15 13.0 +1.2
WMQ AMB AMB
comp=Z,17nm,1.4s,mb4.6
WMQ AMB AMB
comp=Z,185nm,6.7s
WMQ LR LR
comp=N,2μm,18.8s
WMQ LR LR
comp=E,991nm,16.4s
WMQ LR LR
comp=Z,952nm,20.2s
MCK McKinley 81.36 22 *eP* **P 11 12 35.3 -3.6**
MCK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MCK McKinley 81.36 22 *eP* **P 11 12 35.3 -3.6**
comp=Z,9.8nm,1.0s,mb4.6
MKAR Makanchi Array 81.89 319 P **P 11 12 40.8 -1.0**
comp=Z,3.2nm,0.5s,mb4.4,baz=94,slow=7.2,SNR=8.9
COLA College 82.36 21 *eP* **P 11 12 44.7 +0.5**
COLA pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
COLA College 82.36 21 *eP* **P 11 12 44.7 +0.5**
comp=Z,6.8nm,0.6s,mb4.7
QSPA South Pole Qui 84.13 180 *eP* **P 11 12 52.7 -0.6**
comp=Z,34nm,0.6s,mb5.4
MAW Mawson 85.08 203 *eP* **P 11 12 57.4 -0.7**
comp=Z,8.8nm,0.6s,mb4.9
MAW Mawson 85.08 203 P **P 11 12 58.0 -0.1**
comp=Z,14nm,1.0s,mb4.9,baz=79,slow=7.9,SNR=14
YBH Yreka Blue Hor 88.84 48 LR LR 11 45 27.7
comp=Z,2μm,20.8s,baz=180,slow=30
INK Inuvik 88.99 21 P **P 11 13 17.7 +0.7**
comp=Z,2.3nm,0.5s,mb4.5,baz=310,slow=5.8,SNR=10
INK Inuvik 88.99 21 *eP* **P 11 13 15.9 -1.1**
comp=Z,85nm,0.5s,mb6.0
CHKZ Chkalovo 90.75 324 *eP* **P 11 13 19.7 -5.6**
ISA Isabella 91.34 54 *eP* **P 11 13 28.0 0.0**
MWC Mount Wilson 91.53 56 *eP* **P 11 13 29.2 +0.3**
NVAR Mina Array Bea 91.77 52 P **P 11 13 29.3 -0.7**
comp=Z,3.2nm,0.9s,mb4.6,baz=256,slow=6.7,SNR=12
NVAR Mina Array Bea 91.77 52 P **P 11 13 29.3 -0.7**
BAR Barrett 92.53 58 *eP* **P 11 13 35.4 +1.9**
SYO Syowa Base 93.09 199⇑ *eP* **P 11 13 34.6 -1.5**
SYO Syowa Base 93.09 199⇑ *esP* sP 11 14 00.7 -1.4
SYO Syowa Base 93.09 199⇑ *eP* **P 11 13 39.6 +3.5**
GLA Glamis 94.11 57 *eP* **P 11 13 40.4 -0.4**
EDM Edmonton 96.21 37 *eP* **P 11 13 45.8 -4.6**
EDM Edmonton 96.21 37 *eP* **P 11 13 45.8 -4.6**
PDAR Pinedale Array 98.65 48 P **P 11 14 02.3 +1.0**
comp=Z,0.6nm,0.5s,mb4.3,baz=48,slow=2.2,SNR=4.4
MAIT Maitri 99.52 192 *eP* Pdif 11 14 03.9 -1.3
AKASG Malin Array Be 116.03 324 PKP PKPdf 11 19 05.9 +1.0
comp=Z,0.9nm,0.5s,baz=46,slow=2.1,SNR=4.2
BOSA Boshof 119.97 232 PKP PKPdf 11 19 12.9 +0.4
comp=Z,2.6nm,0.7s,baz=252,slow=0.5,SNR=6.6
CLL Collm 124.33 331 *e*PKPdf PKPdf 11 19 19.0 -1.8
GERES GERESS Array B 125.56 329 PKP PKPdf 11 19 22.4 -0.8
comp=Z,1.0nm,0.5s,baz=22,slow=3.2,SNR=3.6
LPAZ La Paz 132.87 118 PKP PKPdf 11 19 38.2 +1.1
comp=Z,1.2nm,0.6s,baz=264,slow=4.3,SNR=3.7
BDFB Brasilia 149.48 135 PKPbc PKPbc 11 20 11.5 +0.4
comp=Z,8.7nm,0.7s,baz=316,slow=2.4,SNR=5.4
BDFB Brasilia 149.48 135 *e*PKPdf PKPdf 11 20 05.8 -0.9
BDFB *e*PKPbc PKPbc 11 20 11.8 +0.6
TOA0 Torodi Ar. Sit 151.77 287 *e*PKPbc PKPbc 11 20 17.3 +0.7
TOA0 *e*PKPab PKPab 11 20 25.9 +0.3
TORD Torodi Ar. Bea 151.77 287 PKPbc PKPbc 11 20 16.9 +0.3
comp=Z,12nm,0.7s,baz=88,slow=1.5,SNR=68
TORD PKPab PKPab 11 20 25.2 -0.4
comp=Z,15nm,0.8s,baz=79,slow=3.5,SNR=22
DBIC Dimbokro 158.98 273 PKPab PKPab 11 20 55.9 -0.6
comp=Z,4.8nm,0.8s,baz=71,slow=5.6,SNR=5.7

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*ISCJB **09** 11:02:01.9±0.3,2052N±004×12009E±006,h10km, mb4.8/49, Error ellipse: s-maj=8.6km s-min=6.0km az=6.5*
*IDC **09** 11:02:01.6±0.5,2050N×11995E,h0km,mb4.6/24, mb1 4.7/25,mb1mx4.7/31,mbtmp4.6/25,ML3.7/1,Error ellipse: s-maj=19.3km s-min=12.3km az=74.0*
*BJI **09** 11:02:01.9,2039N×12021E,h19km,mb4.7,ML4.5*
*NEIC **09** 11:02:03.5±0.2,2054N×12004E,h10km,mb5.1/17,Error ellipse: s-maj=8.0km s-min=5.7km az=85.0*
*MOS **09** 11:02:05.5±1.1,2052N×11999E,h33km,mb5.2/13,Error ellipse: s-maj=13.2km s-min=7.6km az=112.1*
*SZGRF **09** 11:02:24.2,2386N×11852E,h33km,mb5.1,Taiwan region*
ISC 09 11:02:03.5±3.2,2059N±004×12004E±007,h8km±20km, n101,σ1°02/99,mb4.8/49,1C-4D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.84**	**22**	*e*Pn	**Pn**	**Pn**	**11 03 02.4**	**-0.5**
QZH	**Quanzhou**	**4.53**	**343**	P		**Pn**	**11 03 09.3**	**-3.0**
QZH				Smax				
	comp=N,370nm,0.9s							
QZH				Smax				
	comp=E,1μm,1.3s							
BALP	**Baler**	**5.04**	**163**	*e*P		**Pn**	**11 03 22.2**	**+2.9**
PCPH	**Palayan**	**5.10**	**169**⇑	*e*P		**Pn**	**11 03 22.1**	**+2.0**
JOW	**Kunigami**	**9.77**	**49**	Pn		**Pn**	**11 04 24.8**	**+0.6**
	comp=E,1.7nm,0.3s,baz=148,slow=9.5,SNR=3.7							
DL2	**Dalian**	**18.30**	**4**	P		**Pn**	**11 06 19.8**	**+2.1**
DL2				AMB		AMB		
	comp=Z,30nm,1.4s							
BJT	**Baijiatuau**	**19.65**	**351**	*e*P		**Pn**	**11 06 33.7**	**-0.2**
BJT				pmax		pmax		
	comp=Z,69nm,1.4s							
BJT	**Baijiatuau**	**19.65**	**351**	*e*P		**Pn**	**11 06 33.7**	**-0.1**
	comp=Z,69nm,1.4s							
CHTO	**Chiang Mai**	**19.95**	**269**	*e*P		**Pn**	**11 06 37.1**	**-0.3**
KSM	**Kuching**	**21.25**	**208**	*e*P		**P**	**11 06 49.9**	**0.0**
HHC	**Hu-ho-hao-te**	**21.45**	**342**	*e*P		**P**	**11 06 55.5**	**+3.5**
HHC				AP			11 07 00.0	
HHC				XP		sP	11 07 02.8	+7.3
HHC				AMB		AMB		
	comp=Z,26nm,0.6s,mb4.7							
MAJO	**Matsushiro**	**22.45**	**41**	*e*P		**P**	**11 07 04.5**	**+1.7**
MAT	**Matsushiro**	**22.45**	**41**	P		**P**	**11 07 00.6**	**-2.2**
MJAR	**Matsushiro Arr**	**22.45**	**41**	P		**P**	**11 07 02.0**	**-0.8**
	comp=Z,66nm,1.2s,mb5.0,baz=238,slow=11,SNR=23							
CN2	**Changchun**	**23.58**	**10**	*e*P		**P**	**11 07 14.3**	**-0.4**
CN2				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.5							
VLA	**Vladivostok**	**24.56**	**21**	*e*P		**P**	**11 07 23.8**	**+0.2**
VLA				*e*			11 07 36.8	
VLA				pmax		pmax		
	comp=Z,83nm,1.3s,mb5.1							
MDJ	**Mudanjiang**	**25.23**	**16**	*e*P		**P**	**11 07 30.1**	**+0.3**
	comp=Z,115nm,1.1s,mb5.3							
PSI	**Prapat**	**27.14**	**232**	P		**P**	**11 07 45.9**	**-1.1**
	comp=Z,21nm,1.1s,mb4.5,baz=326,slow=4.0,SNR=7.4							
PSI	**Prapat**	**27.14**	**232**	P		**P**	**11 07 45.9**	**-1.1**
PBA	**Port Blair**	**27.66**	**255**	*e*P		x	11 09 04.8	
PBA				*ex*		x	11 09 15.6	
	comp=Z,73nm,1.6s							
PBA				*e*S		x	11 17 24.4	
ASAJ	**Asahikawa**	**30.03**	**34**	P		**P**	**11 08 14.6**	**+1.8**
	comp=Z,8.1nm,0.8s,mb4.5,baz=219,slow=12,SNR=5.8							
KLR	**Kul'dur**	**30.07**	**15**	*e*P		**P**	**11 08 10.7**	**-2.4**
KLR				pmax		pmax		
	comp=Z,150nm,2.4s,mb5.3							
YSS	**Yuzh-Sakhalins**	**32.14**	**30**	*e*P		**P**	**11 08 28.7**	**-2.6**
FITZ	**Fitzroy Crossi**	**38.84**	**171**	P		**P**	**11 09 26.9**	**-2.1**
	comp=Z,9.0nm,0.7s,mb4.6,baz=16,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**40.27**	**319**	P		**P**	**11 09 40.9**	**0.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=112,slow=9.2,SNR=4.3							
WRA	**Warramunga Arr**	**42.65**	**160**	P		**P**	**11 09 59.6**	**-0.7**
	comp=Z,25nm,0.8s,mb5.0,baz=339,slow=8.5,SNR=12							
WB2	**Warramunga Arr**	**42.65**	**160**	*e*P		**P**	**11 09 59.7**	**-0.7**
ZAL	**Zalesovo**	**42.75**	**330**	P		**P**	**11 10 00.3**	**-0.8**
	comp=Z,2.7nm,0.8s,mb4.0,baz=17,slow=6.3,SNR=4.6							
MA2	**Magadan**	**44.70**	**22**	*e*P		**P**	**11 10 16.7**	**-0.1**
MA2				pmax		pmax		
	comp=Z,30nm,1.1s,mb5.0							
ASAR	**Alice Springs**	**46.02**	**162**	P		**P**	**11 10 26.1**	**-1.2**
	comp=Z,23nm,1.2s,mb5.0,baz=336,slow=6.6,SNR=7.3							
CTA	**Charters Tower**	**47.88**	**146**⇓	*iP*		**P**	**11 10 43.3**	**+1.4**
	comp=Z,16nm,0.9s,mb5.0							
CTA	**Charters Tower**	**47.88**	**146**	P		**P**	**11 10 42.8**	**+0.9**
	comp=Z,18nm,0.8s,mb5.1,baz=318,slow=10,SNR=7.2							
CTA	**Charters Tower**	**47.88**	**146**⇓	*iP*		**P**	**11 10 43.3**	**+1.4**
CTA				pmax		pmax		
	comp=Z,16nm,0.9s							
CTAO	**Charters Tower**	**47.88**	**146**	*e*P		**P**	**11 10 42.7**	**+0.8**
BVAR	**Borovoye Array**	**49.83**	**323**	P		**P**	**11 10 56.8**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=90,slow=7.8,SNR=3.5							
KLBR	**Kellerberrin**	**51.93**	**182**	*e*P		**P**	**11 11 11.6**	**-1.1**
	comp=Z,8.4nm,0.7s,mb4.8							
NWAO	**Narrogin (SRO)**	**53.28**	**183**	P		**P**	**11 11 21.5**	**-1.2**
	comp=Z,20nm,1.1s,mb5.0,baz=41,slow=6.4,SNR=3.4							
NWAO	**Narrogin (SRO)**	**53.28**	**183**	P		**P**	**11 11 21.5**	**-1.2**
STKA	**Stephens Creek**	**56.11**	**158**	*e*P		**P**	**11 11 43.3**	**+0.1**
	comp=Z,11nm,2.0s,mb4.5							
STKA	**Stephens Creek**	**56.11**	**158**	P		**P**	**11 11 41.5**	**-1.7**
	comp=Z,6.6nm,0.7s,mb4.8,baz=297,slow=5.6,SNR=5.2							
AKTK	**Aktyubinsk**	**56.65**	**317**	P		**P**	**11 11 46.5**	**-0.5**
AKTO	**Aktyubinsk**	**56.65**	**317**	P		**P**	**11 11 46.5**	**-0.5**
	comp=Z,4.9nm,1.1s,mb4.5,baz=88,slow=9.8,SNR=3.5							
TOO	**Toolangi**	**62.62**	**157**	*e*P		**P**	**11 12 29.4**	**+1.2**
	comp=Z,6.8nm,0.7s,mb4.9							
TOO	**Toolangi**	**62.62**	**157**	*e*P		**P**	**11 12 29.4**	**+1.2**
TOO				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.9							
OBN	**Obninsk**	**69.68**	**323**	*e*P		**P**	**11 13 13.2**	**-0.3**
OBN				pmax		pmax		
	comp=Z,21nm,1.5s,mb4.8							
MALT	**Malatya**	**71.14**	**305**	*e*P		**P**	**11 13 24.0**	**+1.6**
MALT				pmax		pmax		
	comp=Z,46nm,1.9s,mb5.1							
MALT	**Malatya**	**71.14**	**305**	*e*P		**P**	**11 13 23.9**	**+1.5**
	comp=Z,46nm,1.9s,mb5.1							
JOF	**Joensuu**	**71.32**	**331**	*e*p		**P**	**11 13 22.7**	**-0.8**
	comp=Z,1.9nm,0.4s,mb4.4							
KAF	**Kangasniemi**	**73.75**	**331**	*e*p		**P**	**11 13 37.0**	**-1.0**
	baz=76,slow=5.6							
FINES	**FINESS Array B**	**74.01**	**330**	P		**P**	**11 13 39.4**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.5,baz=128,slow=3.1,SNR=6.2							
AKASG	**Malin Array Be**	**74.85**	**319**	P		**P**	**11 13 43.2**	**-1.3**
	comp=Z,4.1nm,0.9s,mb4.3,baz=63,slow=5.2,SNR=9.6							
INK	**Inuvik**	**76.94**	**21**	P		**P**	**11 13 57.3**	**+0.9**
	comp=Z,11nm,1.1s,mb4.7,baz=302,slow=3.2,SNR=4.8							
MLR	**Muntele Rosu**	**78.38**	**314**	P		**P**	**11 14 04.3**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4,baz=314,slow=2.3,SNR=3.2							
KWP	**Kalwaria**	**79.17**	**319**	*e*P		**P**	**11 14 09.0**	**+0.2**
KWP				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.1							
KWP	**Kalwaria**	**79.17**	**319**	*e*P		**P**	**11 14 08.9**	**+0.2**
	comp=Z,25nm,1.1s,mb5.1							
HFS	**Hagfors**	**80.17**	**331**	P		**P**	**11 14 13.0**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.6,baz=104,slow=4.7,SNR=8.0							
NB2	**NORSAR Subarra**	**80.89**	**332**	P		**P**	**11 14 16.9**	**-1.2**
	comp=Z,8.4nm,1.1s,mb4.6,baz=64,slow=5.6							
NB2	**NORSAR Subarra**	**80.89**	**332**	P		**P**	**11 14 16.9**	**-1.2**
NB2				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
NOA	**NORSAR Array B**	**80.89**	**332**	P		**P**	**11 14 16.8**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=64,slow=5.3,SNR=3.8							
DPC	**Dobruska-Polom**	**82.76**	**321**	*e*P		**P**	**11 14 29.1**	**+1.2**
UPC	**Upice**	**82.88**	**321**	*e*P		**P**	**11 14 29.3**	**+0.8**
VRAC	**Vranov**	**83.01**	**320**	P		**P**	**11 14 29.8**	**+0.6**
	comp=Z,2.2nm,0.3s,mb4.6,baz=98,slow=1.4,SNR=4.2							
KMBO	**Kilima Mbogo**	**83.64**	**266**	P		**P**	**11 14 33.6**	**+1.2**
	comp=Z,2.6nm,0.7s,mb4.5,baz=68,slow=5.8,SNR=9.2							
PVCC	**Panska Ves**	**83.71**	**322**	*e*P		**P**	**11 14 33.3**	**+0.5**
BRG	**Berggiesshubel**	**83.92**	**322**	*e*P		**P**	**11 14 34.1**	**+0.2**
BRG	**Berggiesshubel**	**83.92**	**322**	*e*P		**P**	**11 14 34.5**	**+0.6**
	comp=Z,29nm,1.8s,mb5.1							
BRG	**Berggiesshubel**	**83.92**	**322**	*e*P		**P**	**11 14 34.6**	**+0.7**
BRG				pmax		pmax		
	comp=Z,29nm,1.8s,mb5.1							
PRU	**Pruhonice**	**83.95**	**321**	*e*P		**P**	**11 14 34.8**	**+0.8**
FBE	**Freiberg**	**84.24**	**322**	*e*P		**P**	**11 14 35.7**	**+0.2**
	comp=Z,33nm,1.2s,mb5.3							
CLL	**Collm**	**84.27**	**323**	*e*P		**P**	**11 14 35.6**	**-0.1**
	comp=Z,24nm,1.2s,mb5.2							
CLL	**Collm**	**84.27**	**323**⇓	*iP*		**P**	**11 14 35.1**	**-0.6**
CLL				pmax		pmax		
	comp=Z,24nm,1.3s,mb5.2							
CLL	**Collm**	**84.27**	**323**⇓	*iP*		**P**	**11 14 35.1**	**-0.6**
	comp=Z,24nm,1.3s,mb5.2							
KHC	**Kasperske Hory**	**84.88**	**321**	*e*P		**P**	**11 14 39.3**	**+0.5**
GEC2	**GERESS Array S**	**84.93**	**320**	*e*P		**P**	**11 14 39.3**	**+0.3**
	comp=Z,11nm,1.2s,mb4.9							
GEC2	**GERESS Array S**	**84.93**	**320**	*e*P		**P**	**11 14 39.3**	**+0.3**
GEC2				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.9							
GERES	**GERESS Array B**	**84.93**	**320**	P		**P**	**11 14 39.1**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=64,slow=6.1,SNR=7.6							
TANN	**Tannenbergstha**	**84.97**	**322**	*e*P		**P**	**11 14 39.5**	**+0.3**
	comp=Z,16nm,1.4s,mb5.0							
WERD	**Werda**	**85.05**	**322**	*e*P		**P**	**11 14 39.7**	**+0.1**
	comp=Z,28nm,1.6s,mb5.1							
NKC	**Novy Kostel**	**85.06**	**322**	*e*P		**P**	**11 14 40.3**	**+0.6**
GUNZ	**Gunzen**	**85.07**	**322**	*e*P		**P**	**11 14 40.0**	**+0.3**
	comp=Z,16nm,1.1s,mb5.1							
WERN	**Wernitzgruen**	**85.08**	**322**	*e*P		**P**	**11 14 40.0**	**+0.3**
	comp=Z,10.0nm,0.9s,mb5.0							
WET	**Wettzell**	**85.29**	**321**	*e*P		**P**	**11 14 41.7**	**+0.9**
NRDL	**Niedersach Rie**	**85.33**	**325**	*e*P		**P**	**11 14 41.4**	**+0.4**
	comp=Z,30nm,1.5s,mb5.2							
MOX	**Moxa**	**85.35**	**323**	*e*P		**P**	**11 14 41.1**	**0.0**
	comp=Z,34nm,1.6s,mb5.2							
MOX	**Moxa**	**85.35**	**323**	*e*P		**P**	**11 14 41.7**	**+0.6**
	comp=Z,27nm,1.5s,mb5.2							
MOX	**Moxa**	**85.35**	**323**	*e*P		**P**	**11 14 41.7**	**+0.6**
MOX				pmax		pmax		
	comp=Z,27nm,1.5s,mb5.2							
MANZ	**Manzenberg**	**85.37**	**322**	*e*P		**P**	**11 14 41.7**	**+0.5**
	comp=Z,22nm,1.5s,mb5.1							
CLZ	**Clausthal**	**85.50**	**324**	*e*P		**P**	**11 14 42.4**	**+0.6**
	comp=Z,29nm,1.3s,mb5.2							
CLZ	**Clausthal**	**85.50**	**324**	*e*P		**P**	**11 14 42.4**	**+0.6**
CLZ				pmax		pmax		
	comp=Z,29nm,1.3s,mb5.2							
GTTG	**Gvttingen**	**85.86**	**324**	*e*P		**P**	**11 14 43.9**	**+0.3**
GRA1	**Grafenberg Arr**	**86.01**	**322**	*e*P		**P**	**11 14 45.0**	**+0.6**
	comp=Z,15nm,1.2s,mb5.1							
GRF	**Grafenberg Arr**	**86.01**	**322**	*e*P		**P**	**11 14 45.0**	**+0.6**
	comp=Z,15nm,1.2s,mb5.1							
GRF	**Grafenberg Arr**	**86.01**	**322**	*e*P		**P**	**11 14 45.0**	**+0.6**
GRF				pmax		pmax		
	comp=Z,15nm,1.2s,mb5.1							
GRF	**Grafenberg Arr**	**86.01**	**322**	*e*P		**P**	**11 14 45.0**	**+0.6**
GRF				pmax		pmax		
	comp=Z,15nm,1.2s,mb5.1							
UBBA	**Unterbreizbach**	**86.18**	**323**	*e*P		**P**	**11 14 45.7**	**+0.5**
YKA	**Yellowknife Ar**	**86.68**	**22**	P		**P**	**11 14 47.9**	**+0.2**
	comp=Z,5.1nm,0.7s,mb4.9,baz=308,slow=4.6,SNR=8.9							
BUG	**Bochum--Univer**	**87.38**	**325**	*e*P		**P**	**11 14 51.8**	**+0.7**
DAVOX	**Davos/Dischmat**	**88.16**	**320**	P		**P**	**11 14 53.7**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.5,baz=348,slow=19,SNR=3.1							
EDM	**Edmonton**	**93.24**	**29**	*e*P		**P**	**11 15 19.4**	**+0.9**
DLMT	**Dillon**	**98.79**	**35**	*e*P		**P**	**11 15 42.2**	**-1.6**
	comp=Z,74nm,1.7s,mb5.9							
LPAZ	**La Paz**	**171.14**	**62**	PKP		PKPdf	11 22 12.9	+0.6
	comp=Z,1.4nm,0.8s,baz=82,slow=2.9,SNR=4.0							

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*SZGRF **09** 11:04:24.7, 1978N×12086E, h33km, mb5.3, Philippine Islands region*
*IDC **09** 11:04:24.5±0.5,2065N×11987E,h0km,mb4.7/24, mb1 4.8/25,mb1mx4.8/29,mbtmp4.7/25,ML3.3/1,Error ellipse: s-maj=20.3km s-min=13.0km az=65.0*
*NEIC **09** 11:04:26.2±0.2,2063N×11990E,h10km,mb5.2/22,Error ellipse: s-maj=7.4km s-min=5.2km az=68.0*
*BJI **09** 11:04:26.3,2089N×11998E,h15km,mB5.3,mb4.8,ML4.7, Ms5.4,Msz5.1*
*ISCJB **09** 11:04:28.0±0.3,2069N±004×12005E±006,h33km, mb4.9/61,MS5.6/2, Error ellipse: s-maj=8.0km s-min=5.6km az=150.4*
*MOS **09** 11:04:28.4±1.0,2076N×12000E,h33km,mb5.4/31,Error ellipse: s-maj=13.0km s-min=5.3km az=117.0*
ISC 09 11:04:28.1±2.0,2067N±004×12002E±006,h22km±14km, h28km±3.3km:pP-P,n178,σ0°88/178,mb4.9/61,MS5.6/2, 6C-13D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**4.45**	**343**	P		**Pn**	**11 05 31.0**	**-3.3**
QZH				S		**Sn**	**11 06 19.3**	**-6.1**
QZH				Smax				
	comp=N,510nm,0.9s							
QZH				Smax				
	comp=E,990nm,1.0s							
QZH				LR		LR		
	comp=N,13μm,10.6s							
QZH				LR		LR		
	comp=E,12μm,6.4s							
QZH				LR		LR		
	comp=Z,20μm,9.0s							
GZH	**Guangzhou**	**6.65**	**292**	P		**Pn**	**11 06 04.4**	**-0.1**
GZH				S		**Sn**	**11 07 10.7**	**-8.9**
GZH				Smax				
	comp=N,378nm,0.8s							
GZH				Smax				
	comp=E,391nm,0.7s							
JOW	**Kunigami**	**9.73**	**49**	Pn		**Pn**	**11 06 47.5**	**+0.8**
	comp=E,0.6nm,0.3s,baz=212,slow=9.5,SNR=2.8							
NJ2	**Nanjing**	**11.38**	**355**	*e*P		**Pn**	**11 07 10.7**	**+1.4**
NJ2				PP			11 07 20.0	
NJ2				S		**Sn**	**11 09 18.0**	**+2.2**
NJ2				AMB		AMB		
	comp=Z,30nm,1.0s							
NJ2				LR		LR		
	comp=N,10μm,11.0s							
NJ2				LR		LR		
	comp=E,12μm,10.4s							
NJ2				LR		LR		
	comp=Z,11μm,11.8s							
BJT	**Baijiatuau**	**19.57**	**351**	*e*P		**Pn**	**11 08 54.8**	**-1.0**
BJT				pmax		pmax		
	comp=Z,39nm,0.8s							
BJT	**Baijiatuau**	**19.57**	**351**	*e*P		**Pn**	**11 08 54.8**	**-1.0**
	comp=Z,39nm,0.8s							
BJI	**Beijing**	**19.59**	**351**	P		**Pn**	**11 08 54.7**	**-1.3**
BJI				AMB		AMB		
	comp=Z,62nm,0.9s							
BJI	**Beijing**	**19.59**	**351**	P		**Pn**	**11 08 54.7**	**-1.3**
	comp=Z,62nm,0.9s							
LZH	**Lanzhou**	**20.89**	**321**	P		**P**	**11 09 09.4**	**+0.6**
LZH				AP			11 09 19.1	
LZH				AMB		AMB		
	comp=Z,140nm,1.2s							
LZH				AMB		AMB		
	comp=Z,713nm,5.1s							
LZH	**Lanzhou**	**20.89**	**321**	P		**P**	**11 09 09.4**	**+0.6**
	comp=Z,140nm,1.2s							
LZH				pP			11 09 19.1	
LZH				sP		sP	11 09 23.8	+6.1
HHC	**Hu-ho-hao-te**	**21.37**	**342**	*e*P		**P**	**11 09 13.1**	**-0.8**
HHC				AMB		AMB		
	comp=Z,56nm,0.9s,mb4.9							
HHC				LR		LR		
	comp=Z,18μm,14.0s,MS5.6							
MAJO	**Matsushiro**	**22.41**	**41**	*e*P		**P**	**11 09 27.2**	**+2.1**
MAT	**Matsushiro**	**22.41**	**41**	P		**P**	**11 09 25.4**	**+0.3**
MJAR	**Matsushiro Arr**	**22.41**	**41**	P		**P**	**11 09 26.9**	**+1.8**
	comp=Z,20nm,1.1s,mb4.5,baz=224,slow=10,SNR=10							
MJAR	**Matsushiro Arr**	**22.41**	**41**	P		**P**	**11 09 26.9**	**+1.8**
VLA	**Vladivostok**	**24.50**	**21**	*e*P		**P**	**11 09 44.8**	**-0.9**
VLA				pmax		pmax		
	comp=Z,39nm,1.3s,mb4.7							
GTA	**Gaotai**	**25.49**	**322**	P		**P**	**11 09 54.4**	**-0.3**
GTA				AP		pP	11 09 58.8	-2.4
GTA				XP		sP	11 10 01.5	-2.4
GTA				AMB		AMB		
	comp=Z,24nm,1.1s,mb4.6							
PSI	**Prapat**	**27.17**	**232**	P		**P**	**11 10 08.6**	**-1.3**
	comp=Z,23nm,1.1s,mb4.6,baz=56,slow=8.7,SNR=11							
HIA	**Hailar**	**28.53**	**360**	*e*P		**P**	**11 10 20.9**	**-1.2**
SONM	**Songino Array**	**29.25**	**341**	P		**P**	**11 10 27.5**	**-0.9**
	comp=Z,6.6nm,0.9s,mb4.3,baz=159,slow=9.9,SNR=9.6							
CIT	**Chita**	**31.70**	**352**	*e*P		**P**	**11 10 49.0**	**-1.0**
CIT				*e*			11 17 40.8	
YSS	**Yuzh-Sakhalins**	**32.08**	**30**	P		**P**	**11 10 58.0**	**+4.6**
ZAK	**Zakamensk**	**32.47**	**340**	*e*P		**P**	**11 10 55.3**	**-1.5**
BOD	**Bodaibo**	**37.36**	**355**	*e*P		**P**	**11 11 39.6**	**+0.6**
BOD				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.5							
HYB	**Hyderabad**	**39.26**	**272**	*i* P		**P**	**11 11 56.0**	**+1.0**
HYB	**Hyderabad**	**39.26**	**272**	*e*P		**P**	**11 11 56.0**	**+1.0**
MK31	**Makanchi Array**	**40.20**	**319**	*i* P		**P**	**11 12 02.6**	**-0.2**
MK31				pmax		pmax		
	comp=Z,18nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**40.20**	**319**	P		**P**	**11 12 02.8**	**0.0**
	comp=Z,9.0nm,0.7s,mb4.6,baz=116,slow=8.7,SNR=17							
YAK	**Yakutsk**	**41.87**	**7**	*e*P		**P**	**11 12 15.6**	**-0.9**
YAK				pmax		pmax		
	comp=Z,16nm,0.9s,mb4.7							
ULHL	**Ulahol**	**42.52**	**311**	P		**P**	**11 12 23.1**	**+1.2**
	SNR=13							
ZAL	**Zalesovo**	**42.67**	**330**	P		**P**	**11 12 22.4**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.3,baz

comp=Z,2.5nm,0.3s,mb4.7,baz=99,slow=22,SNR=5.9
ZEI Tsey 66.25 309 *e*P **P 11 15 12.9 -1.5**
ZEI *e**PP pP 11 15 22.8 +1.4
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV Kislovodsk 66.98 310 *e*P **P 11 15 19.7 +0.6**
KIV pmax pmax
comp=Z,35nm,1.6s,mb5.1
OBN Obninsk 69.60 322 *e*P **P 11 15 34.8 -0.7**
OBN *e* 11 18 06.8
OBN pmax pmax
comp=Z,66nm,1.4s,mb5.4
ANN Anapa 70.58 312 *e*P **P 11 15 40.8 -0.7**
ANN *i* *PP pP 11 15 51.2 +2.6
ANN *e* 11 15 55.8
ANN *e* 11 16 01.4
ANN *e* 11 18 18.0
ANN *e*S S 11 24 53.3 -0.7
ANN *e*SS SS 11 29 24.3 -1.3
ANN pmax pmax
comp=Z,23nm,0.8s,mb5.2
ANN MLR MLR
comp=Z,3μm,21.0s,MS5.5
MALT Malatya 71.08 305 ⇓*i*P **P 11 15 46.0 +1.5**
MALT Malatya 71.08 305 ⇓P **P 11 15 46.0 +1.4**
JOF Joensuu 71.24 331 *e*p **P 11 15 44.0 -1.5**
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 71.83 339 *e*p **P 11 15 47.2 -1.9**
comp=Z,9.2nm,0.7s,mb4.8
KEV Kevo 71.83 339 *e*P **P 11 15 47.2 -1.9**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SLKM Skilak Lake 72.13 31 *e*P **P 11 15 50.9 0.0**
ARCES ARCESS Array B 72.39 338 P **P 11 15 51.5 -1.0**
comp=Z,6.6nm,0.7s,mb4.7,baz=72,slow=7.8,SNR=10
KAF Kangasniemi 73.67 331 *e*p **P 11 15 58.4 -1.6**
baz=74,slow=5.5
FINES FINESS Array B 73.93 330 P **P 11 16 00.5 -1.1**
comp=Z,12nm,0.9s,mb4.8,baz=74,slow=6.9,SNR=15
FINES FINESS Array B 73.93 330 P **P 11 16 00.5 -1.1**
AKASG Malin Array Be 74.78 319 P **P 11 16 05.0 -1.5**
comp=Z,8.0nm,1.0s,mb4.6,baz=64,slow=5.5,SNR=17
AKASG Malin Array Be 74.78 319 P **P 11 16 05.0 -1.5**
SUW Suwalki 77.44 323 *e*P **P 11 16 21.6 0.0**
VRI Vrincioaia 77.68 314 ⇑*i*P **P 11 16 24.0 +1.1**
VRI Vrincioaia 77.68 314 ⇑P **P 11 16 23.9 +1.0**
BURAR Bucovina Array 78.15 316 ⇑*i*P **P 11 16 26.0 +0.4**
BURAR Bucovina Array 78.15 316 ⇑P **P 11 16 26.1 +0.5**
MLR Muntele Rosu 78.31 314 P **P 11 16 26.6 +0.1**
comp=Z,8.3nm,1.0s,mb4.6,baz=141,slow=1.3,SNR=4.6
MLR Muntele Rosu 78.31 314 ⇓*i*P **P 11 16 27.2 +0.7**
MLR Muntele Rosu 78.31 314 ⇓P **P 11 16 27.2 +0.7**
KWP Kalwaria 79.10 319 *e*P **P 11 16 31.5 +0.7**
UZH Uzhgorod 79.69 318 *e*P **P 11 16 33.0 -1.0**
UZH pmax pmax
comp=Z,27nm,1.0s,mb5.1
HFS Hagfors 80.09 331 P **P 11 16 34.9 -1.3**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=5.9,SNR=15
NIE Niedzica 80.64 319 *e*P **P 11 16 40.1 +1.0**
OJC Ojcow 80.67 320 *e*P **P 11 16 39.4 +0.1**
NB2 NORSAR Subarra 80.82 332 P **P 11 16 39.1 -1.0**
comp=Z,32nm,1.4s,mb5.1,baz=61,slow=5.3
NB2 NORSAR Subarra 80.82 332 P **P 11 16 39.1 -1.0**
NB2 pmax pmax
comp=Z,32nm,1.4s,mb5.1
NOA NORSAR Array B 80.82 332 P **P 11 16 38.9 -1.2**
comp=Z,11nm,1.0s,mb4.7,baz=63,slow=5.1,SNR=10
VTS Vitosha 81.11 312 ⇓*i*P **P 11 16 42.4 +0.8**
VTS Vitosha 81.11 312 ⇓P **P 11 16 42.4 +0.8**
PSZ Piszkesteto 81.44 318 ⇓*i*P **P 11 16 44.4 +1.0**
PSZ Piszkesteto 81.44 318 ⇓P **P 11 16 44.4 +1.0**
OKC Ostrava-Krasne 81.80 320 *e*P **P 11 16 46.0 +0.7**
MORC Moravsky Berou 82.19 320 ⇓*i*P **P 11 16 47.6 +0.3**
KSP Ksiaz 82.50 322 *e*P **P 11 16 49.8 +0.8**
KSP Ksiaz 82.50 322 *e*P **P 11 16 49.3 +0.3**
DPC Dobruska-Polom 82.68 321 *e*P **P 11 16 50.9 +1.0**
UPC Upice 82.80 321 *e*P **P 11 16 50.9 +0.4**
PKSM Moragy 82.87 317 ⇑*i*P **P 11 16 51.3 +0.4**
PKSM Moragy 82.87 317 ⇑P **P 11 16 51.3 +0.5**
VRAC Vranov 82.94 320 P **P 11 16 52.3 +1.0**
comp=Z,12nm,0.9s,mb4.9,baz=62,slow=7.3,SNR=8.5
KMBO Kilima Mbogo 83.63 266 P **P 11 16 56.5 +1.7**
comp=Z,6.8nm,0.9s,mb4.8,baz=48,slow=9.4,SNR=10
PVCC Panska Ves 83.63 322 *e*P **P 11 16 55.7 +0.9**
BRG Berggiesshubel 83.85 322 *i*P **P 11 16 56.2 +0.2**
comp=Z,19nm,1.2s,mb5.1
BRG *e* pP 11 17 03.6 +0.5
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 83.85 322 *i*P **P 11 16 56.2 +0.3**
BRG *e* pP 11 17 03.6 +0.5
BRG pmax pmax
comp=Z,19nm,1.2s,mb5.1
PRU Pruhonice 83.88 321 *e*P **P 11 16 56.9 +0.8**
CLL Collm 84.20 323 ⇓*i*P **P 11 16 57.7 0.0**
CLL *i* pP 11 17 05.6 +0.8
CLL *i* 11 17 10.0
CLL pmax pmax
comp=Z,52nm,1.3s,mb5.5
CLL Collm 84.20 323 ⇓*i*PKP **P 11 16 57.7 0.0**
comp=Z,52nm,1.3s,mb5.5
CLL *i* pP 11 17 05.6 +0.8
CLL *i* 11 17 10.0
CLL Collm 84.20 323 ⇓*i*P **P 11 16 57.7 0.0**
comp=Z,52nm,1.3s,mb5.5
CLL *i* pP pP 11 17 05.6 +0.8
CLL *i* sP sP 11 17 10.0 +2.6
KHC Kasperske Hory 84.81 321 *e*P **P 11 17 01.3 +0.5**
KHC Kasperske Hory 84.81 321 *e*P **P 11 17 00.9 +0.1**
GERES GERESS Array B 84.86 320 P **P 11 17 01.1 0.0**
comp=Z,6.2nm,0.8s,mb4.8,baz=66,slow=4.5,SNR=20
PERS Pernice 84.93 318 *e*P **P 11 17 01.7 +0.3**
NKC Novy Kostel 84.99 322 *e*P **P 11 17 02.4 +0.7**
PDKS Podkum 85.25 318 *e*P **P 11 17 03.4 +0.4**
MOX Moxa 85.28 323 *e*P **P 11 17 03.4 +0.2**
comp=Z,45nm,1.6s,mb5.3
MOX Moxa 85.28 323 *e*P **P 11 17 03.4 +0.2**
MOX pmax pmax
comp=Z,45nm,1.6s,mb5.3
VISS Visnje 85.46 317 *e*P **P 11 17 04.5 +0.5**
CEY Cerknica 85.75 317 *e*P **P 11 17 05.9 +0.4**
JAVS Javornik 85.91 318 *e*P **P 11 17 06.3 +0.1**
GRA1 Grafenberg Arr 85.94 322 *e*P **P 11 17 06.7 +0.3**
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 85.94 322 *e*P **P 11 17 06.7 +0.3**
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 85.94 322 *e*P **P 11 17 06.7 +0.3**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 85.94 322 *e*P **P 11 17 06.7 +0.3**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.4
YKA Yellowknife Ar 86.61 22 P **P 11 17 09.4 -0.4**
comp=Z,6.7nm,0.9s,mb4.9,baz=321,slow=5.3,SNR=7.5
DAVOX Davos/Dischmat 88.09 320 P **P 11 17 17.0 +0.1**
comp=Z,1.5nm,0.3s,mb4.8,baz=342,slow=17,SNR=5.2
CDF Champ du Feu 88.83 322 *e*P **P 11 17 20.1 -0.3**
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 88.83 322 *e*P **P 11 17 20.1 -0.3**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CDF Champ du Feu 88.83 322 *e*P **P 11 17 20.1 -0.3**
comp=Z,8.9nm,1.0s,mb5.0
HAU Haudompre 89.57 322 *e*P **P 11 17 23.4 -0.5**
BAIF Baives 89.69 325 *e*P **P 11 17 24.2 -0.2**
MEZF Maizieres J'vi 90.05 323 *e*P **P 11 17 26.0 -0.1**
LPG La Plagne 90.62 320 *e*P **P 11 17 29.4 +0.7**
comp=Z,34nm,0.8s,mb5.4
LPG La Plagne 90.62 320 *e*P **P 11 17 29.4 +0.7**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.4
LPG La Plagne 90.62 320 *e*P **P 11 17 29.4 +0.7**
comp=Z,17nm,0.8s,mb5.4
LPL La Plagne 90.62 320 *e*P **P 11 17 29.3 +0.5**
comp=Z,31nm,0.8s,mb5.4
LPL La Plagne 90.62 320 *e*P **P 11 17 29.3 +0.5**
LPL pmax pmax
comp=Z,16nm,0.8s,mb5.4
LPL La Plagne 90.62 320 *e*P **P 11 17 29.3 +0.5**
comp=Z,16nm,0.8s,mb5.4
LOR Lormes 91.39 322 *e*P **P 11 17 31.9 -0.4**
comp=Z,52nm,1.5s,mb5.3
LOR Lormes 91.39 322 *e*P **P 11 17 31.9 -0.4**
LOR pmax pmax
comp=Z,26nm,1.5s,mb5.3
LOR Lormes 91.39 322 *e*P **P 11 17 31.9 -0.4**
comp=Z,26nm,1.5s,mb5.3
ORIF Oris-en-Rattie 91.44 320 *e*P **P 11 17 32.8 +0.2**
comp=Z,23nm,1.0s,mb5.2
FRF La Foret Royal 91.67 318 *e*P **P 11 17 33.6 0.0**
SSF Saint Saulge 91.70 322 *e*P **P 11 17 33.4 -0.4**
comp=Z,47nm,1.5s,mb5.3
SSF Saint Saulge 91.70 322 *e*P **P 11 17 33.4 -0.4**
SSF pmax pmax
comp=Z,23nm,1.5s,mb5.3
SSF Saint Saulge 91.70 322 *e*P **P 11 17 33.4 -0.4**
comp=Z,24nm,1.5s,mb5.3
SMF Signal de Mont 91.74 322 *e*P **P 11 17 33.6 -0.3**
LMR La Mourre 91.87 318 *e*P **P 11 17 34.5 -0.1**
comp=Z,54nm,1.3s,mb5.4
LMR La Mourre 91.87 318 *e*P **P 11 17 34.5 -0.1**
LMR pmax pmax
comp=Z,27nm,1.3s,mb5.4
LMR La Mourre 91.87 318 *e*P **P 11 17 34.5 -0.1**
comp=Z,27nm,1.3s,mb5.4
AVF Avril sur Loir 91.94 322 *e*P **P 11 17 34.4 -0.5**
comp=Z,12nm,0.9s,mb4.9
AVF Avril sur Loir 91.94 322 *e*P **P 11 17 34.4 -0.5**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
AVF Avril sur Loir 91.94 322 *e*P **P 11 17 34.4 -0.5**
comp=Z,6.2nm,0.9s,mb4.9
SMRF Simiane la Rot 92.12 319 *e*P **P 11 17 36.1 +0.4**
comp=Z,50nm,1.4s,mb5.3
SMRF Simiane la Rot 92.12 319 *e*P **P 11 17 36.1 +0.4**
comp=Z,50nm,1.4s,mb5.7
VIVF Saint-Julien-l 92.21 320 *e*P **P 11 17 36.0 -0.1**
LDF La Druitiere 92.85 325 *e*P **P 11 17 39.0 -0.1**
FLN La Foliniere 92.95 325 *e*P **P 11 17 39.5 0.0**
LASF Ste Croix 93.12 320 *e*P **P 11 17 40.5 +0.2**
RJF Les Rejaudoux 93.83 322 *e*P **P 11 17 43.9 +0.3**
MTLF Montolieu 94.51 320 *e*P **P 11 17 45.8 -0.9**
ETSF Etsaut 96.44 320 *e*P **P 11 17 55.7 +0.2**
comp=Z,17nm,1.2s,mb5.0
ETSF Etsaut 96.44 320 *e*P **P 11 17 55.7 +0.2**
ETSF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
ETSF Etsaut 96.44 320 *e*P **P 11 17 55.7 +0.2**
comp=Z,8.7nm,1.2s,mb5.1
SDV Santo Domingo 148.82 21 *e*PKPbc PKPbc 11 24 14.2 +0.3
ROSC El Rosal 150.98 31 PKPbc PKPbc 11 24 21.9 +2.8
comp=Z,6.6nm,0.5s,baz=75,slow=20,SNR=5.5
LPAZ La Paz 171.12 62 PKP PKPdf 11 24 36.7 +2.1
comp=Z,2.2nm,1.0s,baz=336,slow=2.6,SNR=4.4
LPAZ La Paz 171.12 62 PKP PKPdf 11 24 36.7 +2.1

NIED ***09*** *11:08:00, 2070N×12030E, h32km, Mw5.9 Best double couple: M0 8.42000×10^17 NP1:φs 90.00000°, δ 74.00000°, λ 159.00000°. NP2:φs 186.00000°, δ 70.00000°, λ 17.00000°.*
ISCJB ***09*** *11:08:25.5±0.7, 2075N±002×12005E±002, h3km±4km, mb5.7/235, MS5.5/57, Error ellipse: s-maj=3.1km s-min=2.5km az=58.2*
CRAAG ***09*** *11:08:26.3, 2066N×11994E, Mb5.8*
BJI ***09*** *11:08:27.3, 2086N×11991E, h8km, mB5.7, mb5.3, ML5.4, Ms5.8, Msz5.6*
NEIC ***09*** *11:08:28.1±0.1, 2071N×11998E, h10km, mb5.8/119, Error ellipse: s-maj=4.6km s-min=3.8km az=78.0*
NEIC Felt [IV] at T'ai-nan, Taiwan. Recorded [2 TAP] in Kao-hsiung, P'ing-tung and T'ai-tung; [1 TAP] in Chang-hua, Chia-i, Hua-lien, Nan-t'ou, P'eng-hu, T'ai-chung and Yun-lin Counties, Taiwan.
GCMT ***09*** *11:08:28.1±0.1, 2071N×11998E, h12km, MW5.9/105, Moment Tensor Solution. s91,c163; s105,c319; Duration: 2s1 Moment tensor: Scale 10^18Nm; Mrr-0.68±.01; Mθθ 0.04±.01; Mφφ 0.63±.01; Mrθ 0.01±.02; Mθφ-0.12±.01; Mφr-0.45±.02; Best double couple: M0 0.80700×10^18 NP1:φs 163.00000°, δ 29.00000°, λ-99.00000°. NP2:φs 354.00000°, δ 62.00000°, λ-85.00000°. Principal axes: T 0.7940, Plg17.0000°, Azm80.0000°; N 0.0260, Plg5.0000°, Azm172.0000°; P -0.8200, Plg73.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MAN ***09*** *11:08:29.4, 2054N×11984E, h9km, mb4.0, ML5.0, MS8.4*
SZGRF ***09*** *11:08:29.9, 2050N×12050E, h33km, mb6.1, Philippine Islands region*
JMA ***09*** *11:08:30.6±0.5, 2066N×12031E, h98km, M5.5*
MOS ***09*** *11:08:30.2±1.0, 2076N×12004E, h33km, mb6.0/94, MS5.5/28, Error ellipse: s-maj=8.6km s-min=3.6km az=119.2*
IDC ***09*** *11:08:31.9±1.9, 2069N×12004E, h37km±15km, mb5.3/42, mb1 5.3/44, mb1mx5.3/45, mbtmp5.5/44, ML4.8/2, MS5.3/19, Ms1 5.3/19, ms1mx5.1/26, Error ellipse: s-maj=11.4km s-min=7.0km az=60.0*
BGS ***09*** *11:08:35.1, 2157N×11831E, h10km, mb5.7*
ISC 09 11:08:29.3±0.8, 2078N±002×12006E±002, h16km±4km, h19km±2.5km; pP-P, n885, σ1≤14/899, mb5.7/234, MS5.5/57, 28C-41D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.17**	**169**	*e*P	**Pn**	**11 09 17.3**	**-1.3**
NACB	**Ninganchiao**	**3.67**	**22**	*e*Pn	**Pn**	**11 09 24.8**	**-0.6**
NACB				*e*Sn	**Sn**	**11 10 03.9**	**-4.3**
CAUP	**Cauayan**	**4.16**	**156**	*e*P	**Pn**	**11 09 33.6**	**+1.5**
PALP	**Palanan**	**4.32**	**148**	⇓*e*P	**Pn**	**11 09 35.2**	**+0.9**
PALP						11 10 30.2	
QZH	**Quanzhou**	**4.36**	**342**	P	**Pn**	**11 09 34.0**	**-0.9**
QZH				S	**Sn**	**11 10 21.1**	**-4.3**
QZH				Smax			
	comp=N,4μm,0.9s						
QZH				Smax			
	comp=E,5μm,0.9s						
QZH				LR	LR		
	comp=N,80μm,9.9s						
QZH				LR	LR		
	comp=E,84μm,12.0s						
QZH				LR	LR		
	comp=Z,135μm,9.5s						
TATO	**Taipei**	**4.38**	**17**	*e*Pn	**Pn**	**11 09 34.5**	**-0.7**
TATO				*e*Sn	**Sn**	**11 10 22.4**	**-3.5**
BCPH	**Baguio City Da**	**4.40**	**174**	⇑*e*P	**Pn**	**11 09 34.6**	**-0.9**
BCPH				*i* S	**Sn**	**11 10 24.8**	**-1.5**
YOJ	**Yonaguni jima**	**4.57**	**36**	P	**Pn**	**11 09 38.4**	**+0.7**
YOJ				*e*S	**Sn**	**11 10 30.5**	**0.0**
HATJ	**Hateruma jima**	**4.76**	**46**	P	**Pn**	**11 09 40.1**	**-0.3**
HATJ				*e*S	**Sn**	**11 10 33.9**	**-1.3**
IRIF	**Iriomote-Funau**	**4.90**	**43**	P	**Pn**	**11 09 44.5**	**+2.2**
IRIF				*e*S	**Sn**	**11 10 37.9**	**-0.8**
JKRS	**Kuro-shima**	**5.02**	**46**	P	**Pn**	**11 09 43.8**	**-0.1**
JKRS				*e*S	**Sn**	**11 10 41.6**	**0.0**
JIJ	**Ishigaki jima**	**5.19**	**46**	P	**Pn**	**11 09 46.4**	**+0.1**
JIJ				*e*S	**Sn**	**11 10 43.5**	**-2.4**
BALP	**Baler**	**5.21**	**164**	*e*P	**Pn**	**11 09 45.9**	**-0.6**
PCPH	**Palayan**	**5.28**	**169**	⇑*e*P	**Pn**	**11 09 48.0**	**+0.5**
PCPH				*i* S	**Sn**	**11 10 49.5**	**+1.5**
JTJ	**Tarama**	**5.76**	**47**	P	**Pn**	**11 09 53.8**	**-0.3**
JTJ				*e*S	**Sn**	**11 10 57.2**	**-2.6**
JMJ	**Miyako jima 2**	**6.28**	**49**	P	**Pn**	**11 10 01.8**	**+0.5**
JMJ				*e*S	**Sn**	**11 11 11.4**	**-1.3**
JOGS	**Gusukube**	**6.33**	**50**	P	**Pn**	**11 10 04.4**	**+2.5**
JOGS				*e*S	**Sn**	**11 11 14.5**	**+0.7**
GZH	**Guangzhou**	**6.65**	**291**	P	**Pn**	**11 10 01.4**	**-4.9**
GZH				Smax			
	comp=N,4μm,1.0s						
GZH				Smax			
	comp=E,3μm,1.1s						
TGY	**Tagaytay City**	**6.69**	**173**	Pn	**Pn**	**11 10 06.1**	**-0.8**
	comp=E,76nm,0.3s,baz=149,slow=2.3,SNR=8.5						
BOAC	**Boac**	**7.47**	**167**	*e*P	**Pn**	**11 10 08.0**	**-10**
PVCP	**Virac**	**8.14**	**151**	⇑*e*P	**Pn**	**11 10 25.7**	**-1.1**
PVCP	**Virac**	**8.14**	**151**	*e*P	**Pn**	**11 10 25.3**	**-1.5**
JKE	**Kume jima 2**	**8.28**	**47**	P	**Pn**	**11 10 27.5**	**-1.2**
JKE				*e*S	**Sn**	**11 11 58.1**	**-3.8**
OTRP	**Odiongan**	**8.57**	**167**	*e*P	**Pn**	**11 10 34.7**	**+1.9**
BUSP	**Coron**	**8.72**	**179**	*e*P	**Pn**	**11 10 34.5**	**-0.4**
JAGN	**Aguni-jima**	**8.76**	**47**	P	**Pn**	**11 10 33.9**	**-1.4**
NAH1	**Naha**	**8.84**	**51**	*e*S	**Sn**	**11 12 12.9**	**-2.8**
ENPP	**El Nido**	**9.54**	**184**	*e*P	**Pn**	**11 10 46.1**	**+0.2**
JIH	**Iheya**	**9.54**	**48**	P	**Pn**	**11 10 46.2**	**+0.2**
JIH				*e*S	**Sn**	**11 12 30.0**	**-2.9**
JOW	**Kunigami**	**9.63**	**50**	Pn	**Pn**	**11 10 47.4**	**+0.1**
	comp=E,10nm,0.3s,baz=219,slow=10,SNR=24						
JOW				Sn	**Sn**	**11 12 32.2**	**-2.9**
	comp=E,3.6nm,0.3s,baz=127,slow=29,SNR=6.4						
JOW	**Kunigami**	**9.63**	**50**	P	**Pn**	**11 10 47.8**	**+0.5**
JOW				*e*S	**Sn**	**11 12 32.6**	**-2.6**
QIZ	**Qiongzhong**	**9.77**	**262**	P	**Pn**	**11 10 47.5**	**-1.7**
QIZ				S	**Sn**	**11 12 36.0**	**-2.5**
QIZ				LR	LR		
	comp=E,39μm,11.2s						
QIZ				LR	LR		
	comp=Z,49μm,11.5s						
QIZ	**Qiongzhong**	**9.77**	**262**	*e*Pn	**Pn**	**11 10 49.2**	**0.0**
CUYO	**Cuyo Island**	**9.91**	**175**	*e*P	**Pn**	**11 10 50.7**	**-0.4**
SSE	**Sheshan**	**10.33**	**5**	P	**Pn**	**11 10 55.4**	**-1.4**
SSE				S	**Sn**	**11 12 45.2**	**-7.0**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,1μm,9.1s						
SSE				LR	LR		
	comp=N,9μm,15.0s						
SSE				LR	LR		
	comp=E,26μm,14.4s						
SSE				LR	LR		
	comp=Z,15μm,12.9s						
SSE	**Sheshan**	**10.33**	**5**	P	**Pn**	**11 10 55.4**	**-1.4**
	comp=Z,30nm,0.7s						
SSE				S	**Sn**	**11 12 45.2**	**-7.0**
PLP	**Palo**	**10.66**	**153**	*e*P	**Pn**	**11 11 04.2**	**+2.9**
JTK	**Tokunoshima**	**10.69**	**48**	P	**Pn**	**11 11 00.5**	**-1.3**
JTK				*e*S	**Sn**	**11 12 54.9**	**-6.2**
WHN	**Wuhan**	**11.00**	**333**	P	**Pn**	**11 11 04.4**	**-1.6**
WHN				S	**Sn**	**11 13 03.1**	**-5.7**
WHN				LR	LR		
	comp=Z,56μm,14.4s						
NJ2	**Nanjing**	**11.28**	**355**	*e*P	**Pn**	**11 11 11.1**	**+1.3**
NJ2				AP		11 11 18.1	
NJ2				PP		11 11 19.7	
NJ2				S	**Sn**	**11 13 18.8**	**+3.2**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				LR	LR		
	comp=N,48μm,11.0s						
NJ2				LR	LR		
	comp=E,57μm,10.4s						
NJ2				LR	LR		
	comp=Z,108μm,9.8s						
JMZ	**Minamidaito 2**	**11.41**	**62**	P	**Pn**	**11 11 09.1**	**-2.6**
JAM	**Amami Oshima**	**11.53**	**47**	*e*S	**Sn**	**11 13 13.5**	**-8.3**
MSLP	**Maasin**	**11.54**	**156**	*e*P	**Pn**	**11 11 14.2**	**+0.8**
SCPH	**Surigao**	**12.12**	**154**	⇑*e*P	**Pn**	**11 11 24.3**	**+3.1**
JNN	**Nakanoshima**	**12.65**	**43**	P	**Pn**	**11 11 32.2**	**+3.6**
CGP	**Cagayan de Oro**	**13.04**	**159**	⇑*i*P	**Pn**	**11 11 37.7**	**+3.8**
GYA	**Guiyang**	**13.52**	**297**	⇑*i*P	**Pn**	**11 11 40.2**	**-0.2**
GYA				AP		11 11 43.8	
GYA				XP		11 11 47.0	
GYA				S	**Sn**	**11 14 07.4**	**-2.9**
GYA				AMB	AMB		
	comp=Z,150nm,0.9s						
GYA				AMB	AMB		
	comp=Z,710nm,9.6s						
GYA				LR	LR		
	comp=N,25μm,12.9s						
GYA				LR	LR		
	comp=E,22μm,12.3s						
GYA				LR	LR		
	comp=Z,28μm,14.4s						
JFU	**Fukue jima 2**	**14.14**	**31**	P	**Pn**	**11 11 48.6**	**-0.3**
JSU	**Suzuyama**	**14.18**	**39**	P	**Pn**	**11 11 53.8**	**+4.4**
KKM	**Kota Kinabalu**	**15.11**	**195**	P	**Pn**	**11 12 01.4**	**-0.7**
KKM	**Kota Kinabalu**	**15.11**	**195**	P	**Pn**	**11 12 00.4**	**-1.7**
KKM	**Kota Kinabalu**	**15.11**	**195**	P	**Pn**	**11 11 51.3**	**-11**
KKM	**Kota Kinabalu**	**15.11**	**195**	*e*Pn	**Pn**	**11 12 03.0**	**+0.9**
TIA	**Tai'an**	**15.59**	**351**	⇑P	**Pn**	**11 12 11.5**	**+3.1**
TIA				AMB	AMB		
	comp=Z,139nm,1.3s						
TIA				LR	LR		
	comp=N,7μm,15.1s						
TIA				LR	LR		
	comp=E,16μm,18.5s						
JNU	**Nakatsue**	**15.61**	**36**	P	**Pn**	**11 12 08.2**	**-0.4**
JTU	**Tsushima**	**15.98**	**29**	P	**Pn**	**11 12 13.4**	**-0.1**
XAN	**Xi'an**	**16.49**	**326**	P	**Pn**	**11 12 20.4**	**+0.5**
XAN				AP	pP	11 12 24.6	-2.4
XAN				AMB	AMB		
	comp=Z,128nm,1.2s						
XAN				AMB	AMB		
	comp=Z,1μm,9.6s						
XAN				LR	LR		
	comp=N,12μm,13.7s						
XAN				LR	LR		
	comp=E,18μm,16.7s						
XAN				LR	LR		
	comp=Z,25μm,11.9s						
TSM	**Tawau**	**16.52**	**188**	P	**Pn**	**11 12 20.1**	**-0.2**
TSM	**Tawau**	**16.52**	**188**	P	**Pn**	**11 12 20.1**	**-0.2**
KMI	**Kunming**	**16.53**	**288**	P	**Pn**	**11 12 24.3**	**+3.9**
KMI				AP	pP	11 12 26.7	-0.7
KMI				XP	sP	11 12 28.3	-1.2
KMI				AMB	AMB		
	comp=Z,124nm,1.4s						
KMI				LR	LR		
	comp=N,16μm,12.0s						
KMI				LR	LR		
	comp=E,16μm,11.6s						
KMI				LR	LR		
	comp=Z,20μm,14.6s						
KMI	**Kunming**	**16.53**	**288**	P	**Pn**	**11 12 24.3**	**+3.9**
	comp=Z,124nm,1.4s						
KMI				pP	pP	11 12 26.7	-0.7
KMI				sP	sP	11 12 28.3	-1.2
KMI				PPP		11 12 45.1	
KMI				S	**Sn**	**11 15 25.2**	**+1.6**
KMI				SSS		11 15 57.4	
KKTK	**Khon Kaen**	**16.93**	**258**	P	**Pn**	**11 12 25.0**	**-0.5**
	comp=Z,1μm,0.7s						
INCN	**Inchon**	**17.60**	**18**	*e*P	**Pn**	**11 12 34.5**	**+0.6**
	comp=Z,292nm,1.8s						
JMN	**Monobe**	**17.79**	**41**	P	**Pn**	**11 12 31.9**	**-4.3**
JMN				*e*S	**Sn**	**11 15 57.4**	**+3.3**
CD2	**Chengdu**	**17.79**	**308**	*e*P	**Pn**	**11 12 35.8**	**-0.4**
CD2				AP	pP	11 12 39.4	-2.0
CD2				XP	sP	11 12 42.9	-0.6
CD2				PP		11 12 50.6	
CD2				S	**Sn**	**11 15 51.6**	**-2.5**
CD2				XS	sS	11 15 57.5	-11
CD2				SS		11 16 14.3	
CD2				AMB	AMB		
	comp=Z,170nm,1.1s						
CD2				AMB	AMB		
	comp=Z,3μm,8.4s						
CD2				LR	LR		
	comp=N,26μm,16.8s						
CD2				LR	LR		
	comp=E,19μm,16.8s						
CD2				LR	LR		
	comp=Z,16μm,13.2s						
KS15	**Wonju Array Si**	**17.94**	**21**	*e*Pn	**Pn**	**11 12 38.3**	**+0.2**
DL2	**Dalian**	**18.12**	**4**	P	**Pn**	**11 12 42.6**	**+2.3**
DL2				AMB	AMB		
	comp=Z,130nm,0.9s						
DL2				AMB	AMB		
	comp=Z,1μm,6.0s						
DL2				LR	LR		
	comp=N,7μm,12.7s						
DL2				LR	LR		
	comp=E,11μm,12.3s						
DL2				LR	LR		
	comp=Z,7μm,10.4s						
JHS	**Saijyo**	**18.25**	**36**	P	**Pn**	**11 12 40.5**	**-1.3**
JAD	**Aida**	**18.80**	**38**	P	**Pn**	**11 12 48.8**	**+0.2**
JWZ	**Kozaga**	**18.82**	**44**	P	**Pn**	**11 12 47.9**	**-0.9**
CHAT	**Chantaburi**	**19.00**	**247**	P	**Pn**	**11 12 54.0**	**+3.0**
BJT	**Baijiatuau**	**19.47**	**351**	*e*P	**Pn**	**11 12 56.6**	**0.0**
BJT				pmax	pmax		
	comp=Z,475nm,1.0s						
BJT	**Baijiatuau**	**19.47**	**351**	*e*P	**Pn**	**11 12 56.6**	**0.0**
	comp=Z,475nm,1.0s						
BJI	**Beijing**	**19.49**	**351**	*e*P	**Pn**	**11 12 56.8**	**0.0**
BJI				S	**Sn**	**11 16 32.8**	**-2.4**
BJI				AMB	AMB		
	comp=Z,467nm,1.0s						
BJI				AMB	AMB		
	comp=Z,2μm,5.5s						
BJI				LR	LR		

comp=N,3μm,15.9s
BJI LR LR
comp=E,22μm,15.5s
BJI LR LR
comp=Z,4μm,14.6s
BJI Beijing 19.49 351 *e*P **Pn 11 12 56.8 0.0**
comp=Z,467nm,1.0s
BJI S **Sn 11 16 32.8 -2.4**
NST Nakhon Sawan 19.59 258 P **Pn 11 12 59.0 +0.9**
JKN2 Miekihoku 19.62 44 P **Pn 11 12 58.6 +0.1**
JWT Wachi 19.77 40 P **Pn 11 12 57.7 -2.4**
CHTO Chiang Mai 19.97 268 P **Pn 11 13 01.4 -1.1**
SNR=52
CHTO Chiang Mai 19.97 268 *e*P **Pn 11 13 00.4 -2.1**
comp=Z,169nm,1.1s
JIE Ise 20.00 44 P **Pn 11 13 02.0 -0.9**
TSUJ Tsu 2 20.02 43 P **P 11 13 03.0 +1.7**
CM31 Chiang Mai Arr 20.03 267 *e*P **P 11 13 01.8 +0.3**
comp=Z,72nm,0.9s
CM31 *e* 11 13 21.4
JAA Atsumi 20.43 44 P **P 11 13 06.7 +0.8**
LZH Lanzhou 20.84 321 P **P 11 13 11.1 +0.9**
LZH AP 11 13 19.9
LZH PP 11 13 35.0
LZH S **S 11 17 03.0 +0.9**
LZH AMB AMB
comp=Z,970nm,1.2s
LZH AMB AMB
comp=Z,3μm,4.3s
LZH LR LR
comp=N,29μm,12.0s
LZH LR LR
comp=Z,38μm,13.1s,MS6.0
LZH Lanzhou 20.84 321 P **P 11 13 11.1 +0.9**
LZH *SP sP 11 13 25.7 +8.9
LZH 11 13 35.0
LZH S **S 11 17 03.0 +0.9**
LZH *SS sS 11 17 13.0 +3.7
LZH *e*SS 11 17 37.0
LZH pmax pmax
comp=Z,970nm,1.2s
LZH MLR MLR
comp=Z,38μm,13.1s,MS6.0
LZH Lanzhou 20.84 321 P **P 11 13 11.1 +0.9**
comp=Z,970nm,1.2s
LZH pP 11 13 19.9
LZH sP sP 11 13 25.7 +8.9
LZH PP 11 13 35.0
LZH S **S 11 17 03.0 +0.9**
LZH sS sS 11 17 13.0 +3.7
LZH *e*SS 11 17 37.0
LZH LR LR
comp=Z,38μm,13.1s,MS6.0
JGM Miyama 20.84 41 P **P 11 13 11.1 +0.8**
JAO Obara 20.90 43 P **P 11 13 11.7 +0.8**
JKG Kaga 21.00 39 P **P 11 13 14.6 +2.6**
NNT Nongplab 21.09 250 P **P 11 13 14.0 +1.0**
JSG Sagara 21.14 45 P **P 11 13 15.5 +2.0**
CBIJ Chichi jima 21.16 68 P **P 11 13 12.7 -1.1**
comp=Z,557nm,0.9s,mb5.9,baz=308,slow=7.2,SNR=13
CBIJ LR LR 11 20 01.3
comp=Z,8μm,19.0s,MS5.1,baz=250,slow=32
CBIJ Chichi jima 21.16 68 P **P 11 13 13.9 +0.2**
JGF Kuroka 21.18 42 P **P 11 13 14.5 +0.6**
SNY Shenyang 21.20 7 ⇑P **P 11 13 15.7 +1.6**
SNY AMB AMB
comp=Z,51nm,1.5s
SNY LR LR
comp=N,8μm,15.6s,MS5.8
SNY LR LR
comp=E,25μm,14.4s,MS5.8
SNY LR LR
comp=Z,9μm,10.2s,MS5.5
HHC Hu-ho-hao-te 21.28 342 *e*P **P 11 13 16.3 +1.3**
HHC AP 11 13 20.8
HHC XP sP 11 13 24.7 +3.1
HHC XS sS 11 17 19.1 +1.1
HHC SS 11 17 34.9
HHC AMB AMB
comp=Z,132nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,2μm,4.3s
HHC LR LR
comp=N,24μm,13.5s,MS5.8
HHC LR LR
comp=E,10μm,15.1s,MS5.8
HHC LR LR
comp=Z,18μm,14.0s,MS5.6
JNY Yasuok 21.34 43 P **P 11 13 16.6 +0.9**
JHJ Hachijo jima 2 21.41 51 P **P 11 13 16.0 -0.4**
comp=Z,336nm,0.7s,mb5.8,baz=55,slow=21,SNR=9.4
KSM Kuching 21.42 208 *e*P **P 11 13 15.7 -0.8**
JHJ2 Mitsune 21.43 51 P **P 11 13 19.3 +2.7**
JIZS Izushimoda 21.63 46 P **P 11 13 19.1 +0.3**
JOD2 Odawara 2 22.09 45 P **P 11 13 24.4 +0.7**
JNG Nsakai 22.15 41 P **P 11 13 25.5 +1.1**
MAJO Matsushiro 22.30 41 *e*P **P 11 13 25.7 -0.3**
MAJO pmax pmax
comp=Z,353nm,1.0s,mb5.8
MAJO Matsushiro 22.30 41 *e*P **P 11 13 25.7 -0.3**
comp=Z,353nm,1.0s,mb5.8
MAT Matsushiro 22.30 41 P **P 11 13 23.6 -2.4**
MAT S **S 11 17 21.0 -10**
MAT Matsushiro 22.30 41 P **P 11 13 27.6 +1.6**
MJAR Matsushiro Arr 22.31 41 P **P 11 13 25.8 -0.2**
comp=Z,118nm,0.9s,mb5.3,baz=233,slow=8.7,SNR=50
JRY Ryogami san 22.41 43 P **P 11 13 27.4 +0.2**
JJN Nakama 22.64 40 P **P 11 13 28.6 -1.0**
SNG Songkhla 23.17 237 P **P 11 13 35.0 -0.2**
comp=Z,450nm,1.0s,mb5.8
JSD Sado 23.32 39 P **P 11 13 35.7 -1.0**
CN2 Changchun 23.39 10 *e*P **P 11 13 36.4 -1.1**
CN2 *e*XP sP 11 13 43.4 -0.7
CN2 *e*S **S 11 17 46.7 -3.0**
CN2 AMB AMB
comp=Z,70nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,11μm,14.0s,MS5.7
CN2 LR LR
comp=E,13μm,14.0s,MS5.7
CN2 LR LR
comp=Z,15μm,13.0s,MS5.6
JHO Hitachi 23.85 44 P **P 11 13 37.8 -4.0**
KULM Kulim 24.34 233 *e*P **P 11 13 44.6 -1.6**
VLA Vladivostok 24.38 21 *i*P **P 11 13 46.9 +0.2**
VLA pmax pmax
comp=Z,269nm,1.1s,mb5.6
VLA MLR MLR
comp=Z,7μm,13.8s,MS5.3
VLA Vladivostok 24.38 21 *e*P **P 11 13 47.8 +1.1**
IMP Imphal 24.41 284 *e*P **P 11 13 45.0 -1.9**
JYA Atsumi 24.54 39 P **P 11 13 47.0 -1.2**
IPM Ipoh 24.59 231 P **P 11 13 47.0 -1.7**
IPM Ipoh 24.59 231 P **P 11 13 49.1 +0.4**
IPM Ipoh 24.59 231 P **P 11 13 48.4 -0.3**
IPM Ipoh 24.59 231 P **P 11 13 48.7 +0.1**
GUMO Guam 24.73 103 P **P 11 13 49.3 -0.6**
comp=Z,284nm,0.8s,mb5.8,baz=264,slow=2.1,SNR=12
GUMO Guam 24.73 103 *e*P **P 11 13 50.8 +0.9**
GUMO pmax pmax
comp=Z,424nm,0.9s,mb6.0
GUMO Guam 24.73 103 *e*P **P 11 13 50.8 +0.9**
comp=Z,424nm,0.9s,mb6.0
JMM Marumori 24.74 42 P **P 11 13 50.0 0.0**
KGM Kluang 24.79 223 P **P 11 13 50.5 +0.1**
KGM Kluang 24.79 223 P **P 11 13 50.5 +0.1**
MDJ Mudanjiang 25.05 16 P **P 11 13 53.3 +0.5**
MDJ AP pP 11 13 56.4 -1.2
MDJ XP sP 11 13 57.6 -2.0
MDJ PCP PcP 11 17 27.7 +0.4
MDJ S **S 11 18 18.8 +2.3**
MDJ SCP ScP 11 21 06.6 +0.9
MDJ PCS PcS 11 21 08.0 +0.5
MDJ AMB AMB
comp=Z,83nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,971nm,6.0s
MDJ LR LR
comp=N,6μm,21.0s,MS5.5
MDJ LR LR
comp=E,12μm,16.9s,MS5.5
MDJ LR LR
comp=Z,6μm,17.3s,MS5.2
MDJ Mudanjiang 25.05 16 *e*P **P 11 13 53.2 +0.4**
comp=Z,192nm,1.0s,mb5.6
GTA Gaotai 25.43 321 P **P 11 13 56.4 +0.2**
GTA AP pP 11 14 00.6 -0.4
GTA XP sP 11 14 03.4 +0.4
GTA PP 11 14 38.0
GTA PCP PcP 11 17 29.4 +1.3
GTA S **S 11 18 25.3 +2.9**
GTA XS sS 11 18 31.0 +0.6
GTA AMB AMB
comp=Z,86nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,1μm,4.9s
GTA LR LR
comp=N,10μm,22.1s
GTA LR LR
comp=E,11μm,16.7s
GTA LR LR
comp=Z,11μm,17.9s,MS5.4
KAPI Kappang 25.63 181 P **P 11 13 57.8 -0.3**
comp=Z,539nm,0.9s,mb6.1,SNR=11
JOM Ohasama 26.05 40 P **P 11 13 58.5 -3.4**
SHL Shillong 26.32 286 *e*P **P 11 14 03.6 -0.6**
SHL AMb AMB 11 14 06.1
comp=Z,2μm,0.9s,mb6.5
SHL *e*S **S 11 18 40.0 +3.5**
JOT Ohata 27.16 36 P **P 11 14 14.6 +2.7**
PSI Prapat 27.27 232 P **P 11 14 11.2 -1.6**
comp=Z,71nm,0.8s,mb5.2,baz=28,slow=6.5,SNR=32
PSI PcP PcP 11 17 33.2 +0.8
comp=Z,15nm,0.9s,baz=271,slow=3.6,SNR=3.9
PSI LR LR 11 24 26.0
comp=Z,11μm,18.8s,MS5.5,baz=350,slow=35
PSI Prapat 27.27 232 P **P 11 14 11.3 -1.5**
PSI 11 17 33.2
PSI Prapat 27.27 232 P **P 11 14 11.2 -1.6**
PSI PcP PcP 11 17 33.2 +0.8
PSI LR LR 11 24 26.0
JSH Shimam 27.51 33 P **P 11 14 15.0 0.0**
LSA Lhasa 27.56 295 P **P 11 14 16.4 +0.9**
LSA Lhasa 27.56 295 *e*P **P 11 14 15.8 +0.3**
LSA pmax pmax
comp=Z,117nm,0.8s,mb5.6
LSA Lhasa 27.56 295 *e*P **P 11 14 15.8 +0.4**
comp=Z,117nm,0.8s,mb5.6
JEW Eniwo 28.38 34 P **P 11 14 23.5 +0.7**
HIA Hailar 28.43 360 *e*P **P 11 14 22.5 -0.7**
HIA Hailar 28.43 360 *e*P **P 11 14 25.2 +2.0**
SONM Songino Array 29.17 341 P **P 11 14 29.4 -0.4**
comp=Z,62nm,1.0s,mb5.3,baz=158,slow=6.8,SNR=36
SONM LR LR 11 28 43.0
comp=Z,9μm,18.8s,MS5.4,baz=156,slow=41
CAL Calcutta 29.52 279 *e*x x 11 14 37.4
CAL *e*x x 11 19 48.4
ASAJ Asahikawa 29.87 34 P **P 11 14 35.1 -0.9**
comp=Z,28nm,1.0s,mb5.0,baz=226,slow=14,SNR=9.8
ASAJ Asahikawa 29.87 34 P **P 11 14 37.2 +1.2**
KLR Kul'dur 29.89 15 *e*P **P 11 14 33.2 -3.0**
KLR pmax pmax
comp=E,120nm,2.2s
KLR pmax pmax
comp=Z,260nm,2.2s,mb5.6
JWK2 Keihoku 30.37 31 P **P 11 14 45.8 +5.4**
BOK Bokaro 31.72 282 *e*P **P 11 14 52.0 -0.4**
BOK AMb AMB 11 14 56.3
comp=Z,173nm,1.7s,mb5.6
BOK *i*x x 11 15 24.6
YSS Yuzh-Sakhalins 31.97 30⇑*e*P **P 11 14 53.8 -0.8**
YSS *e* 11 15 05.8
YSS *e*S **S 11 20 00.0 -5.3**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.5
YSS MLR MLR
comp=N,10μm,18.0s,MS5.6
YSS MLR MLR
comp=E,6μm,18.0s,MS5.6
YSS MLR MLR
comp=Z,9μm,18.0s,MS5.5
YSS Yuzh-Sakhalins 31.97 30 *e*P **P 11 14 53.7 -0.8**
comp=Z,134nm,1.0s,mb5.7
ZAK Zakamensk 32.38 340 *e*P **P 11 14 57.8 -0.4**
ZAK pmax pmax
comp=Z,26nm,1.0s,mb5.0
TLY Talaya 33.40 341 *e*P **P 11 15 06.4 -0.7**
TLY *e*S **S 11 20 18.0 -10**
TLY pmax pmax
comp=Z,58nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,9μm,19.0s,MS5.5
TLY Talaya 33.40 341 *e*P **P 11 15 06.1 -1.0**
comp=Z,34nm,0.7s,mb5.4
IRK Irkutsk 33.72 342 *e*P **P 11 15 09.5 -0.3**
IRK pmax pmax
comp=Z,154nm,1.3s,mb5.8
MOY Mondy 34.24 339 *e*P **P 11 15 16.0 +1.7**
MOY pmax pmax
comp=Z,105nm,2.0s,mb5.4
VIS Vishakhapatnam 34.77 271 *e*P **P 11 15 18.1 -0.8**
VIS AMb AMB 11 15 27.3
comp=Z,207nm,2.5s,mb5.6
VIS *i*x x 11 20 59.2
WMQ Urumqi 35.37 318⇑*i*P **P 11 15 25.1 +1.0**
WMQ AP pP 11 15 29.5 +0.5
WMQ XP sP 11 15 32.0 +1.0
WMQ PP PP 11 16 43.0 -1.5
WMQ PCP PcP 11 17 55.0 +1.0
WMQ S **S 11 20 58.0 0.0**
WMQ XS sS 11 21 06.0 0.0
WMQ SS SS 11 23 16.0 -16
WMQ SCS ScS 11 25 42.0 -1.5
WMQ AMB AMB
comp=Z,86nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,525nm,3.9s
WMQ LR LR
comp=N,10μm,16.4s,MS5.7
WMQ LR LR
comp=E,5μm,17.5s,MS5.7
WMQ LR LR
comp=Z,13μm,21.2s,MS5.7
KAKA Kakadu 35.43 159 *e*P **P 11 15 22.0 -2.7**
comp=Z,95nm,0.6s,mb5.9
CLNS Chul'man 36.19 4 *e*P **P 11 15 33.1 +2.0**
CLNS *e* 11 16 57.6
CLNS *e* 11 17 58.5
CLNS *e*S **S 11 21 09.4 -1.1**
CLNS *e*SS SS 11 23 35.1 -13
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=Z,37nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=N,36nm,1.1s
CLNS pmax pmax
comp=Z,21nm,1.1s,mb5.0
CLNS pmax pmax
comp=E,29nm,1.0s
CLNS smax
comp=N,672nm,13.5s
CLNS smax
comp=Z,591nm,14.0s
CLNS smax
comp=E,1μm,13.2s
CLNS MLR MLR
comp=N,4μm,13.0s,MS5.7
CLNS MLR MLR
comp=E,8μm,13.0s,MS5.7
CLNS MLR MLR
comp=Z,5μm,13.0s,MS5.5
BOD Bodaibo 37.26 355 *e*P **P 11 15 39.2 -1.1**
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.8
JOSI Joshimath 37.61 293 *e*x x 11 15 18.5
JOSI AMb AMB 11 15 21.3
comp=Z,1μm,0.8s,mb6.6
MDRS Chennai 38.78 265 *e*P **P 11 15 50.3 -2.8**
MDRS AMb AMB 11 15 56.0
comp=Z,130nm,1.1s,mb5.6
MDRS *e*x x 11 21 45.5
KLP Kalpa 38.82 295 *e*P **P 11 15 53.4 -0.1**
KLP AMb AMB 11 15 57.5
comp=Z,308nm,1.3s,mb5.9
AGRA Agra 38.87 288 *e*P **P 11 15 52.2 -1.6**
AGRA AMb AMB 11 15 55.6
comp=Z,98nm,0.5s,mb5.8
FITZ Fitzroy Crossi 39.02 172 *e*P **P 11 15 52.7 -2.4**
comp=Z,52nm,0.7s,mb5.4
FITZ *e*PCP PcP 11 18 06.1 +1.0
FITZ Fitzroy Crossi 39.02 172 P **P 11 15 53.3 -1.8**
comp=Z,22nm,0.8s,mb4.9,baz=0.2,slow=8.3,SNR=18
HYB Hyderabad 39.29 272 *i*P **P 11 15 58.0 +0.6**
HYB *e*S **S 11 21 58.0 +0.4**
HYB Hyderabad 39.29 272 *e*P **S 11 15 58.0 +0.6**
HYB *e*S **S 11 22 08.0 +10**
BHPL Bhopal 39.51 282 *e*P **P 11 15 59.1 -0.1**
BHPL AMb AMB 11 16 02.0
comp=Z,168nm,1.4s,mb5.6
NDI New Delhi 39.54 290 *e*P **P 11 15 59.7 +0.2**
NDI AMb AMB 11 16 05.6
comp=Z,56nm,1.0s,mb5.2
AYAN Aya Nagar 39.61 290 *e*P **P 11 15 58.7 -1.3**
SONA Sohna 39.65 290 *e*P **P 11 15 59.4 -0.9**
SONA AMb AMB 11 16 00.7
comp=Z,73nm,0.9s,mb5.4
BHGR Bahadurgarh 39.78 290 *e*P **P 11 16 01.4 -0.1**
BHGR AMb AMB 11 16 03.4
comp=Z,162nm,0.3s,mb6.3
KKR Kurukshetra 39.94 292 *e*P **P 11 16 02.7 0.0**
KKR AMb AMB 11 16 06.1
comp=Z,270nm,0.6s,mb6.2
PMG Port Moresby 40.12 136 P **P 11 16 04.6 +0.4**
comp=Z,96nm,0.9s,mb5.5,baz=349,slow=7.5,SNR=16
PMG S **S 11 22 09.0 -0.9**
comp=Z,7.0nm,0.7s,baz=258,slow=20,SNR=2.7
PMG LR LR 11 32 56.5
comp=Z,3μm,18.1s,MS5.1,baz=142,slow=37
PMG Port Moresby 40.12 136 *e*P **P 11 16 05.8 +1.6**
PMG pmax pmax
comp=Z,252nm,1.3s
PMG Port Moresby 40.12 136 *e*P **P 11 16 05.8 +1.5**
comp=Z,252nm,1.3s,mb5.8
MK31 Makanchi Array 40.14 319 *i*P **P 11 16 03.8 -0.7**
MKAR Makanchi Array 40.14 319 P **P 11 16 02.9 -1.6**
comp=Z,139nm,1.1s,mb5.6,baz=110,slow=10,SNR=39
MKAR PcP PcP 11 18 08.4 -0.3
comp=Z,19nm,0.8s,baz=104,slow=5.1,SNR=4.5
AKL Akola 40.17 278 *i*P **P 11 16 04.7 0.0**
AKL *i*x x 11 22 23.8
RTK Rohtak 40.25 291 *e*P **P 11 16 04.2 -1.2**
RTK AMb AMB 11 16 08.0
comp=Z,178nm,1.1s,mb5.7
BHK Bhakra 40.38 294 *e*x x 11 16 18.2
KHET Khetri 40.77 289 *e*x x 11 16 06.0
DLH Dalhousie 40.85 296 *e*P **P 11 16 09.0 -1.3**
THN Thein Dam 41.05 296 *e*P **P 11 16 10.3 -1.7**
MBWA Marble Bar 41.68 180 *e*P **P 11 16 15.3 -1.8**
YAK Yakutsk 41.76 7 *e*P **P 11 16 18.1 +0.3**
YAK *e**PP pP 11 16 26.7 +4.0
YAK *e* 11 17 53.9
YAK *e* 11 18 13.3
YAK *e*PPP 11 18 22.7
YAK *e*S **S 11 22 30.7 -3.7**
YAK *e*SS SS 11 25 34.9 -5.3
YAK *e* 11 26 20.6
YAK pmax pmax
comp=Z,118nm,1.1s,mb5.4
YAK pmax pmax
comp=N,74nm,1.3s
YAK pmax pmax
comp=E,21nm,1.2s
YAK smax
comp=N,1μm,6.6s
YAK smax
comp=Z,624nm,6.3s
YAK smax
comp=E,3μm,14.5s
YAK MLR MLR
comp=Z,4μm,14.0s,MS5.4
YAK MLR MLR
comp=N,3μm,12.0s,MS5.6
YAK MLR MLR
comp=E,4μm,12.0s,MS5.6
AJM Ajmer 41.83 287 *e*P **P 11 16 17.3 -1.1**
AJM AMb AMB 11 16 21.4
comp=Z,164nm,2.0s,mb5.3
KSH Kashi 41.98 306 *e*P **P 11 16 21.7 +2.1**
KSH *e*AP pP 11 16 27.8 +3.3
KSH *e*XP sP 11 16 31.2 +4.7
KSH *e*PP PP 11 18 03.7 +7.0
KSH *e*PCP PcP 11 18 17.8 +3.1
KSH *e*PPP 11 18 33.6
KSH *e*SCP ScP 11 22 06.1 +1.7
KSH *e*S **S 11 22 40.0 +2.4**
KSH *e*XS sS 11 22 47.6 +1.8
KSH *e*PS 11 22 56.6
KSH *e*SCS ScS 11 26 21.9 +0.2
KSH AMB AMB
comp=Z,3μm,6.5s
KSH LR LR
comp=Z,9μm,11.4s,MS5.9
ULHL Ulahol 42.48 310 P **P 11 16 24.5 +0.9**
SNR=69
ZAL Zalesovo 42.60 330 P **P 11 16 24.9 +0.3**
comp=Z,71nm,1.0s,mb5.3,baz=355,slow=8.0,SNR=42
ZAL LR LR 11 37 14.3
comp=Z,4μm,18.4s,MS5.3,baz=340,slow=40
ZAL Zalesovo 42.60 330 P **P 11 16 24.9 +0.3**
ZAL LR LR 11 37 14.3
WRAB Tennant Creek 42.81 160 *de*P **P 11 16 25.0 -1.3**
WRA Warramunga Arr 42.81 160 P **P 11 16 24.9 -1.4**
comp=Z,193nm,1.0s,mb5.8,baz=342,slow=8.9,SNR=96
WRA PcP PcP 11 18 17.9 +0.5
comp=Z,26nm,0.7s,baz=342,slow=3.5,SNR=5.1
WRA S **S 11 22 44.7 -5.2**
comp=Z,3.1nm,1.0s,baz=340,slow=14,SNR=11
WB2 Warramunga Arr 42.82 160 *e*P **P 11 16 24.1 -2.3**
WB2 *e*PCP PcP 11 18 17.9 +0.5
WB2 *e*S **S 11 22 45.9 -4.1**
TKM2 Tokmak 2 43.13 311 P **P 11 16 29.1 +0.2**
SNR=55
KZA Kyzart 43.14 310 P **P 11 16 31.1 +2.1**
SNR=17
KAD Karad 43.40 274 *e*P **P 11 16 29.3 -1.8**
KAD AMb AMB 11 16 38.6
comp=Z,81nm,2.8s,mb5.0
POO Poona 43.47 275⇑*i*x x 11 16 28.0
comp=Z,260nm,1.0s
POO AMb AMB 11 17 10.6
comp=Z,148nm,2.2s,mb5.3
KBK Karagaybulak 43.51 311 P **P 11 16 33.2 +1.1**
SNR=35
PET Petropavlovsk 43.71 33 *e*P **P 11 16 32.6 -1.0**
PET *e*S **S 11 22 58.2 -4.9**
PET pmax pmax
comp=Z,118nm,0.9s,mb5.6
PET smax
comp=E,2μm,18.8s
PET MLR MLR
comp=Z,5μm,18.0s,MS5.5
PET Petropavlovsk 43.71 33 *e*P **P 11 16 32.9 -0.7**
comp=Z,119nm,1.0s,mb5.6
UCH Uchtor 43.71 310 P **P 11 16 35.3 +1.7**
SNR=83
CHMS Chumysh 43.74 311 P **P 11 16 33.9 0.0**
SNR=40
AAK Ala-Archa 43.83 310 P **P 11 16 34.6 0.0**
SNR=32
AAK Ala-Archa 43.83 310 P **P 11 16 35.1 +0.5**
SNR=25
AAK Ala-Archa 43.83 310 *d i*P **P 11 16 34.3 -0.3**
AAK pmax pmax
comp=Z,75nm,1.2s,mb5.3
AAK MLR MLR
comp=Z,4μm,14.0s,MS5.5
AAK Ala-Archa 43.83 310 *e*P **P 11 16 33.9 -0.7**
NVS Novosibirsk 43.87 330 *i*P **P 11 16 34.4 -0.5**
NVS *i*S **S 11 23 06.2 +0.8**
NVS pmax pmax
comp=N,115nm,1.3s
NVS pmax pmax
comp=E,122nm,1.3s
NVS pmax pmax
comp=Z,149nm,1.3s,mb5.6
NVS smax
comp=N,19nm,1.9s
NVS smax
comp=E,156nm,2.3s

MNGI Mangalore 43.88 267 *e*P **P 11 16 35.0 0.0**
MNGI AMb AMB 11 16 43.1
comp=Z,193nm,1.7s,mb5.6
MNGI *i* x x 11 23 18.0
USP Ospenovka 44.00 311 P **P 11 16 36.1 +0.2**
SNR=33
KURK Kurchatov 44.10 323 P **P 11 16 36.6 -0.1**
comp=Z,1μm,1.1s,mb6.6,SNR=47
KURK Kurchatov 44.10 323 P **P 11 16 36.5 -0.2**
comp=Z,1μm,1.1s,mb6.6,SNR=47
AML Almayashu 44.28 310 P **P 11 16 39.6 +1.4**
SNR=38
EKS2 Erkin-Say 44.35 310 P **P 11 16 39.5 +0.7**
SNR=33
MA2 Magadan 44.52 22 *de*P **P 11 16 40.2 +0.1**
MA2 *e*S **S 11 23 12.8 -2.0**
MA2 *e*SS SS 11 26 24.4 -10
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.5
MA2 pmax pmax
comp=N,50nm,1.2s
MA2 MLR MLR
comp=Z,8μm,20.2s,MS5.7
MA2 Magadan 44.52 22 *e*P **P 11 16 40.4 +0.3**
AS31 Alice Springs 46.19 162 *e*P **P 11 16 51.9 -1.4**
ASPA Alice Springs 46.19 162 *e*P **P 11 16 52.5 -0.8**
ASPA *e*S **S 11 23 34.0 -4.9**
ASAR Alice Springs 46.19 162 P **P 11 16 52.0 -1.3**
comp=Z,28nm,0.8s,mb5.2,baz=342,slow=6.7,SNR=64
ASAR S **S 11 23 33.0 -5.9**
comp=Z,0.7nm,1.0s,baz=1.8,slow=15,SNR=2.6
ASAR LR LR 11 37 21.9
comp=Z,1μm,19.4s,MS5.0,baz=345,slow=38
ASAR Alice Springs 46.19 162 P **P 11 16 52.0 -1.3**
ASAR S **S 11 23 33.1 -5.8**
SEY Seymchan 47.52 19 *e*P **P 11 17 04.0 +0.3**
SEY Seymchan 47.52 19 *e*P **P 11 17 04.1 +0.4**
CTA Charters Tower 48.02 146 *e*P **P 11 17 08.1 +0.4**
comp=Z,172nm,0.9s,mb6.1
CTA *e*S **S 11 23 57.8 -7.3**
CTA Charters Tower 48.02 146 P **P 11 17 07.6 -0.1**
comp=Z,180nm,1.0s,mb6.1,baz=327,slow=9.1,SNR=50
CTA LR LR 11 36 44.0
comp=Z,3μm,19.8s,MS5.3,baz=242,slow=35
CTA Charters Tower 48.02 146 *e*P **P 11 17 08.1 +0.4**
CTA *e*S **S 11 23 57.8 -7.3**
CTA pmax pmax
comp=Z,172nm,0.9s
CTAO Charters Tower 48.02 146 *e*P **P 11 17 08.2 +0.5**
HNR Honiara 49.38 124 P **P 11 17 18.2 +0.2**
comp=Z,11nm,0.3s,mb5.3,baz=267,slow=19,SNR=2.0
BVAR Borovoye Array 49.70 323 P **P 11 17 19.7 -0.8**
comp=Z,79nm,1.0s,mb5.7,baz=114,slow=10,SNR=49
BVAR PcP PcP 11 18 40.8 -0.8
comp=Z,41nm,0.7s,baz=122,slow=3.6,SNR=10
BVAR LR LR 11 37 46.8
comp=Z,4μm,20.2s,MS5.4,baz=162,slow=35
BVAR Borovoye Array 49.70 323 P **P 11 17 19.7 -0.8**
BVAR 11 18 40.8
BRVK Borovoye 49.77 323 P **P 11 17 21.9 +0.9**
SNR=48
BRVK Borovoye 49.77 323 *e*P **P 11 17 20.8 -0.3**
BRVK pmax pmax
comp=Z,203nm,1.0s,mb6.1
BRVK Borovoye 49.77 323 *e*P **P 11 17 20.8 -0.3**
comp=Z,203nm,1.0s,mb6.1
CHKZ Chkalovo 49.81 324 *e*P **P 11 17 20.6 -0.7**
CHKZ pmax pmax
comp=Z,285nm,1.1s,mb6.2
CHKZ Chkalovo 49.81 324 *e*P **P 11 17 20.6 -0.8**
comp=Z,285nm,1.1s,mb6.2
ZRNK Zerenda 50.46 322 *e*P **P 11 17 25.8 -0.5**
ZRNK pmax pmax
comp=Z,282nm,1.0s,mb6.2
ZRNK Zerenda 50.46 322 *e*P **P 11 17 25.8 -0.4**
comp=Z,282nm,1.0s,mb6.2
TIXI Tiksi 51.14 4 *e*P **P 11 17 30.6 -0.8**
TIXI *e*S **S 11 24 41.7 -7.1**
TIXI pmax pmax
comp=Z,51nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,7μm,14.0s,MS5.8
TIXI Tiksi 51.14 4 *e*P **P 11 17 30.0 -1.4**
FORT Forrest 51.83 171 *e*P **P 11 17 36.0 -0.6**
comp=Z,109nm,0.7s,mb5.9
KLBR Kellerberrin 52.12 182 *e*P **P 11 17 36.8 -1.9**
comp=Z,39nm,0.6s,mb5.5
MUN Mundaring 52.58 184 *e*P **P 11 17 47.0 +4.8**
MUN *e*PCP PcP 11 18 59.2 +6.9
MUN *e*S **S 11 25 08.8 +0.2**
NWAO Narrogin (SRO) 53.47 183 P **P 11 17 47.3 -1.4**
comp=Z,58nm,0.8s,mb5.6,baz=3.8,slow=7.9,SNR=33
NWAO Narrogin (SRO) 53.47 183 *e*P **P 11 17 47.1 -1.6**
NWAO pmax pmax
comp=Z,80nm,0.9s
NWAO Narrogin (SRO) 53.47 183 *e*P **P 11 17 47.1 -1.6**
comp=Z,80nm,0.9s,mb5.7
AMKA Amchitka 54.92 41 *e*P **P 11 17 58.4 -0.9**
BILL Bilibino 55.23 19 *e*P **P 11 18 02.8 +1.3**
BILL pmax pmax
comp=Z,53nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,6μm,21.0s,MS5.7
BILL Bilibino 55.23 19 *e*P **P 11 18 02.9 +1.4**
ABKT Ailbek 55.67 302 P **P 11 18 05.8 +1.1**
comp=Z,959nm,1.0s,mb6.8,SNR=17
STKA Stephens Creek 56.27 158 *e*P **P 11 18 07.8 -1.2**
comp=Z,40nm,0.8s,mb5.5
STKA *e*S **S 11 26 00.8 +2.5**
STKA Stephens Creek 56.27 158 P **P 11 18 08.6 -0.4**
comp=Z,42nm,0.7s,mb5.6,baz=336,slow=7.1,SNR=50
STKA LR LR 11 43 28.0
comp=Z,2μm,19.4s,MS5.2,baz=336,slow=37
STKA Stephens Creek 56.27 158 *e*P **P 11 18 08.2 -0.8**
WBK Wadi Bani Khal 56.44 284 P **P 11 18 11.2 +0.9**
SNR=9.9
AKTK Aktyubinsk 56.52 317 P **P 11 18 10.7 -0.1**
AKTK LR LR 11 42 11.3
AKTO Aktyubinsk 56.52 317 P **P 11 18 10.7 -0.1**
comp=Z,120nm,0.9s,mb5.9,baz=83,slow=6.1,SNR=83
AKTO LR LR 11 42 11.3
comp=Z,3μm,18.4s,MS5.4,baz=301,slow=36
WSAR Wadi Sarin 56.64 285 P **P 11 18 11.6 0.0**
comp=Z,46nm,1.0s,mb5.5,baz=116,slow=9.9,SNR=22
WSAR LR LR 11 44 03.8
comp=Z,2μm,21.8s,MS5.2,baz=111,slow=38
ARU Arti 57.23 325 P **P 11 18 14.8 -1.0**
comp=Z,1μm,1.0s,SNR=8.0
ARU Arti 57.23 325 P **P 11 18 14.4 -1.4**
comp=Z,1μm,1.0s,SNR=8.0
ARU Arti 57.23 325 ⇓*i*P **P 11 18 14.2 -1.6**
ARU *e* 11 19 04.3
ARU *e* 11 20 22.0
ARU *e*S **S 11 26 12.7 +1.7**
ARU *e* 11 27 58.6
ARU pmax pmax
comp=Z,175nm,0.9s,mb6.1
ARU MLR MLR
comp=E,2μm,19.0s,MS5.4
ARU MLR MLR
comp=Z,4μm,19.0s,MS5.5
ARU MLR MLR
comp=N,2μm,18.0s,MS5.4
ARU Arti 57.23 325 *e*P **P 11 18 14.8 -1.0**
JMDO Jabal Madar 57.27 284 P **P 11 18 16.8 +0.7**
SNR=9.4
HOQ Hoqain 57.77 285 P **P 11 18 20.6 +1.0**
SNR=12
BSY Bisya 58.02 284 P **P 11 18 22.3 +0.9**
SNR=16
ARQ Araqi 58.52 285 P **P 11 18 25.6 +0.7**
SNR=8.9
HATD Hatta, Dubai 58.61 287 P **P 11 18 26.3 +0.9**
SNR=12
ASHO Ashiyiah 58.70 287 P **P 11 18 27.0 +0.9**
SNR=9.8
ARMA Armidale 59.26 148 *e*P **P 11 18 35.1 +5.1**
RIV Riverview 61.86 151 *e*P **P 11 18 50.6 +2.9**
RBK Rabkut 61.93 279 P **P 11 18 48.3 +0.2**
SNR=21
DZM Mont Dzumac 62.16 131 *e*P **P 11 18 47.3 -2.4**
DZM Mont Dzumac 62.16 131 P **P 11 18 50.3 +0.6**
comp=N,15nm,0.8s,mb5.2,baz=79,slow=21,SNR=9.1
CNB Canberra Magne 62.33 153 *e*P **P 11 18 51.3 +0.4**
comp=N,44nm,0.8s,mb5.6
TOO Toolangi 62.78 157 *e*P **P 11 18 54.3 +0.4**
comp=N,47nm,0.7s,mb5.7
TOO Toolangi 62.78 157 *e*P **P 11 18 54.3 +0.4**
TOO pmax pmax
comp=Z,47nm,0.7s,mb5.7
ABTO Aybut 62.80 279 P **P 11 18 54.3 +0.3**
SNR=16
MAK Makhachkala 63.55 309 *i*P **P 11 18 59.5 +0.5**
MAK *i* 11 19 35.8
MAK *i* 11 21 13.7
MAK *e*PPP 11 22 52.4
MAK *e*S **S 11 27 30.2 -1.8**
MAK *i* 11 28 48.7
MAK *e*SS SS 11 31 42.9 +3.7
MAK pmax pmax
comp=Z,45nm,0.4s,mb5.8
QRN Al-Qurain 65.12 293 *e*P **P 11 19 08.9 -0.4**
QRN AMb AMB 11 19 14.5
comp=Z,172nm,0.9s,mb6.1
UMR Umm Al-Rimmam 65.15 294 *e*P **P 11 19 09.2 -0.3**
UMR AMb AMB 11 19 11.6
comp=Z,91nm,1.0s,mb5.7
KBD Kabd 65.24 293 *e*P **P 11 19 09.8 -0.2**
KBD AMb AMB 11 19 12.3
comp=Z,346nm,1.1s,mb6.3
DGRG David-gareji 65.27 307 P **P 11 19 12.9 +2.6**
RDF Al-Radifah 65.41 293 *e*P **P 11 19 10.1 -1.0**
RDF AMb AMB 11 19 13.3
comp=Z,249nm,0.8s,mb6.3
MIB Mutribah 65.42 294 *e*P **P 11 19 10.0 -1.3**
MIB AMb AMB 11 19 13.2
comp=Z,107nm,0.8s,mb5.9
NAY Al-Naaiem 65.61 294 *e*P **P 11 19 11.2 -1.3**
NAY AMb AMB 11 19 14.3
comp=Z,81nm,0.8s,mb5.8
MTA Mtatsminda 65.68 307 P **P 11 19 14.4 +1.5**
GNI Garni 65.91 306 P **P 11 19 15.8 +1.4**
comp=Z,12nm,0.6s,mb5.1,baz=27,slow=8.3,SNR=21
GNI LR LR 11 52 03.7
comp=Z,1μm,21.1s,MS5.2,baz=225,slow=40
GNI Garni 65.91 306 *e*P **P 11 19 16.7 +2.3**
GNI LR LR 11 52 03.7
ZEI Tsey 66.21 309 *e*P **P 11 19 16.4 +0.1**
ZEI pmax pmax
comp=Z,89nm,1.0s,mb5.8
SEMD Semdilli 66.47 303 *e*P **P 11 19 17.0 -1.0**
CLDR Caldiran 66.67 305 *e*P **P 11 19 19.6 +0.3**
VRHR Novokhopersk 66.92 318 *e*P **P 11 19 20.0 -0.9**
VRHR pmax pmax
comp=Z,230nm,0.9s,mb6.2
VRHR pmax pmax
comp=N,20nm,0.4s
VRHR pmax pmax
comp=E,70nm,0.6s
KIV Kislovodsk 66.95 310 P **P 11 19 21.1 +0.1**
SNR=42
KIV Kislovodsk 66.95 310 *d*P **P 11 19 21.4 +0.4**
KIV *e* 11 19 49.5
KIV *e* 11 21 49.9
KIV *e*S S 11 28 15.4 +1.8
KIV *e*SS SS 11 32 29.6 -2.4
KIV pmax pmax
comp=Z,216nm,1.1s,mb6.1
KIV pmax pmax
comp=Z,869nm,2.5s,mb6.3
KIV MLR MLR
comp=Z,2μm,16.0s,MS5.5
KIV Kislovodsk 66.95 310 *e*P **P 11 19 21.1 0.0**
VANB Van 67.17 304 *e*P **P 11 19 18.4 -4.0**
CUKT Cukurca 67.21 303 *e*P **P 11 19 24.3 +1.6**
BHD Baghdad 67.27 298 *i* x x 11 19 18.0
BHD *e*x x 11 29 09.0
MSL Mosul 67.78 302 *e*x x 11 19 25.0
MSL *e*x x 11 19 36.5
MSL *e*x x 11 28 26.0
TMCR Tamitsa 68.05 332 *i*P **P 11 19 28.6 +0.6**
TMCR pmax pmax
comp=Z,191nm,1.2s,mb6.0
SIRT Sirnak 68.08 303 *e*P **P 11 19 28.0 -0.2**
VOR Voronezh 68.37 319 *e*P **P 11 19 29.5 -0.5**
VOR pmax pmax
comp=E,250nm,1.3s
VOR pmax pmax
comp=Z,340nm,1.3s,mb6.2
VOR pmax pmax
comp=N,70nm,1.2s
VORD Divnogorie 68.40 318 *e*P **P 11 19 28.8 -1.4**
VORD pmax pmax
comp=Z,100nm,0.9s,mb5.8
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,80nm,0.8s
VRSR Storozhevoye 68.44 318 *e*P **P 11 19 29.6 -0.9**
VRSR pmax pmax
comp=E,260nm,1.0s
VRSR pmax pmax
comp=Z,310nm,1.0s,mb6.3
VRSR pmax pmax
comp=N,30nm,0.9s
BNGL BINGOL 68.83 305 *i*P **P 11 19 35.1 +2.2**
MOS Moscow 68.87 323 *e*P **P 11 19 32.1 -1.1**
BEST Besiri 68.93 304 *i*P **P 11 19 36.4 +2.9**
LVZ Lovozero 69.22 336 *e*P **P 11 19 35.7 +0.4**
MARD Mardin 69.42 303 *i*P **P 11 19 36.1 -0.4**
KTUT Trabzon 69.53 307 *e*P **P 11 19 38.6 +1.4**
OBN Obninsk 69.54 322⇑*e*P **P 11 19 36.6 -0.7**
OBN *e* 11 19 58.0
OBN *e* 11 22 09.5
OBN *e*SS SS 11 33 15.3 +3.1
OBN pmax pmax
comp=Z,306nm,1.1s,mb6.1
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.3
OBN Obninsk 69.54 322 *e*P **P 11 19 36.6 -0.7**
APA Apatity 69.72 336⇓*i*P **P 11 19 38.0 -0.4**
APA *i* 11 19 49.0
APA *i* 11 20 05.5
APA pmax pmax
comp=Z,84nm,0.9s,mb5.7
KELT Kelkit 70.06 306 *i*P **P 11 19 40.9 +0.4**
PTK Pertek 70.19 305 *e*P **P 11 19 42.9 +1.6**
ANN Anapa 70.54 312 *e*P **P 11 19 40.9 -2.6**
ANN *e* 11 19 59.8
ANN *e* 11 22 18.9
ANN *e*S S 11 28 57.3 +1.0
ANN *e*SS SS 11 33 31.3 +3.7
ANN pmax pmax
comp=Z,64nm,1.5s,mb5.3
ANN MLR MLR
comp=Z,3μm,20.0s,MS5.5
ANN Anapa 70.54 312 *e*P **P 11 19 41.0 -2.5**
GRSN GIRESUNGRSN 70.65 307 *i*P **P 11 19 42.3 -1.8**
URFA Urfa 70.92 304 *e*P **P 11 19 46.8 +1.0**
MYA Malataya 71.05 305 *e*P **P 11 19 47.3 +0.7**
MALT Malatya 71.05 305⇓*i*P **P 11 19 47.6 +1.1**
MALT Malatya 71.05 305 *e*P **P 11 19 47.3 +0.8**
MALT pmax pmax
comp=Z,72nm,1.0s,mb5.6
MALT Malatya 71.05 305 *e*P **P 11 19 47.3 +0.8**
comp=Z,72nm,1.0s,mb5.6
JOF Joensuu 71.16 331 *e*p **P 11 19 45.2 -2.0**
comp=Z,152nm,0.9s,mb5.9
LBOS 71.21 278 *e*P **P 11 19 48.2 +0.7**
KDAK Kodiak Island 71.28 34 P **P 11 19 48.2 +0.3**
comp=Z,83nm,0.9s,mb5.7,baz=342,slow=5.8,SNR=11
KDAK LR LR 11 49 33.2
comp=Z,2μm,21.0s,MS5.3,baz=271,slow=34
KDAK Kodiak Island 71.28 34 *e*P **P 11 19 48.8 +0.9**
ATAB Bozova 71.32 304 *i*P **P 11 19 50.0 +1.8**
KEV Kevo 71.75 339 *e*p **P 11 19 48.6 -2.2**
comp=Z,60nm,0.7s,mb5.6
KEV Kevo 71.75 339 *e*P **P 11 19 48.6 -2.2**
KEV pmax pmax
comp=Z,60nm,0.7s,mb5.6
KEV Kevo 71.75 339 *e*P **P 11 19 50.2 -0.5**
comp=Z,63nm,0.7s,mb5.7
DHBB Dhamar BB 71.80 279⇓*e*P **P 11 19 52.2 +1.2**
SVSK Karacayir 71.80 307 *e*P **P 11 19 43.0 -8.1**
GZT Gaziantep 71.92 304 *i*P **P 11 19 52.1 +0.3**
MCK McKinley 72.03 28 *e*P **P 11 19 53.6 +1.1**
MCK pmax pmax
comp=Z,76nm,1.3s,mb5.5
MCK McKinley 72.03 28 *e*P **P 11 19 53.6 +1.1**
comp=Z,76nm,1.3s,mb5.5
PUL Pulkovo 72.17 328 *e*P **P 11 19 53.9 +0.6**
GAZ Gaziantep 72.23 304 *e*P **P 11 19 54.2 +0.6**
KVT Kavak 72.27 308 *e*P **P 11 19 55.2 +1.4**
COLA College 72.28 27 *e*P **P 11 19 55.3 +1.3**
COLA College 72.28 27 *e*P **P 11 19 55.4 +1.4**
ARCES ARCESS Array B 72.31 338 P **P 11 19 53.2 -0.9**
comp=Z,72nm,0.9s,mb5.6,baz=78,slow=6.3,SNR=52
ARCES ARCESS Array B 72.31 338 P **P 11 19 53.2 -0.9**
ARE0 ARCESS Array S 72.31 338 *e*P **P 11 19 53.8 -0.3**
PMR Palmer 72.34 30 *e*P **P 11 19 53.9 -0.4**
PMR pmax pmax
comp=Z,87nm,1.0s,mb5.6
KMRS Kahramanmaras 72.40 304 *e*P **P 11 19 56.7 +2.0**
SPB4 Spitsbergen Ar 72.58 348 *e*P **P 11 19 56.8 +1.0**
DIKM Dikmen 72.72 309 *e*P **P 11 19 57.2 +0.6**
SIM Simferopol' 72.83 312 *i*P **P 11 19 58.0 +0.8**
SIM *e*S S 11 29 22.6 0.0
SIM pmax pmax
comp=Z,73nm,1.0s,mb5.6
SIM MLR MLR
comp=Z,2μm,19.1s,MS5.4
BNN Bunyan 72.91 306 *e*P **P 11 19 58.1 +0.4**
BJO Bjornoya 73.01 344 *e*S S 11 29 28.0 +3.3
BJO AMS AMS 11 59 37.0
comp=Z,2μm,18.0s,MS5.5
BOYT Boyabat 73.03 308 *i*P **P 11 19 57.3 -1.2**
COBT Iskenderun 73.13 303 *i*P **P 11 19 57.7 -1.3**
KBS Kingsbay 73.16 349 *e*P **P 11 19 58.1 -1.1**
KBS AMS AMS 11 56 29.4
comp=Z,2μm,18.1s,MS5.5
KBS Kingsbay 73.16 349 *e*P **P 11 20 00.2 +1.0**
KBS Kingsbay 73.16 349 *e*P **P 11 20 00.3 +1.1**
KOZT Kozan 73.24 304 *e*P **P 11 19 53.4 -6.2**
CTKT Corum 73.30 308 *i*P **P 11 19 59.8 -0.2**
CEYT Ceyhan 73.41 304 *e*P **P 11 20 01.3 +0.7**
CORM Corum 73.52 307 *e*P **P 11 20 00.0 -1.3**
BZK Bozkurt 73.57 309 *e*P **P 11 20 02.4 +0.8**
KAF Kangasniemi 73.60 331 *e*p **P 11 20 00.2 -1.6**
comp=Z,17nm,0.6s,mb5.2,baz=74,slow=5.5
TOS Tosya 73.77 308 *e*P **P 11 20 03.2 +0.5**
KRTS Karatas 73.80 303 *e*P **P 11 20 03.7 +0.7**
CDAG Cicekdag 73.84 307 *i*P **P 11 20 00.8 -2.3**
FIA1 FINESS Array S 73.86 330 *e*P **P 11 20 02.7 -0.5**
FINES FINESS Array B 73.86 330 P **P 11 20 02.3 -1.0**
comp=Z,88nm,0.9s,mb5.7,baz=87,slow=6.7,SNR=77
FINES LR LR 11 52 54.2
comp=Z,4μm,18.8s,MS5.7,baz=260,slow=36
KARA Karaisali 73.89 304 *e*P **P 11 20 01.4 -2.0**
DIV Divide 74.02 30 *e*P **P 11 20 06.6 +2.3**
BALT Daday 74.12 309 *i*P **P 11 20 04.2 -0.6**
BHL Bhannes 74.24 301 *e*P **P 11 20 07.0 +1.4**
ELDT Eldivan 74.34 308 *i*P **P 11 20 03.3 -2.8**
BR131 Keskin Array S 74.37 307 *e*P **P 11 20 06.5 +0.2**
MERS Mersin 74.39 304 *e*P **P 11 20 07.2 +0.8**
KAMT Kaman 74.40 307 *e*P **P 11 20 05.7 -0.8**
MENT Mentasta 74.50 28 *e*P **P 11 20 10.0 +3.0**
TRO Tromso 74.51 339 *e*P **P 11 20 05.8 -1.2**
TRO *e*S S 11 29 45.3 +3.7
TRO AMS AMS 12 00 28.4
comp=Z,1μm,17.2s,MS5.3
MNK Minsk 74.62 323 *e*P **P 11 20 04.0 -3.7**
MNK pmax pmax
comp=Z,540nm,1.2s,mb6.3
AKASG Malin Array Be 74.73 319 P **P 11 20 06.5 -1.8**
comp=Z,70nm,0.9s,mb5.6,baz=62,slow=5.8,SNR=83
AKASG LR LR 11 56 03.9
comp=Z,2μm,20.2s,MS5.4,baz=70,slow=38
MEST Erdemli 74.76 304 *i*P **P 11 20 07.2 -1.3**
ANTO Ankara 74.96 307 P **P 11 20 10.4 +0.7**
SNR=7.0
ANTO Ankara 74.96 307⇓*i*P **P 11 20 09.7 0.0**
ANTO Ankara 74.96 307⇓P **P 11 20 09.7 0.0**
EGAK Eagle 75.08 26 *e*P **P 11 20 10.8 +0.3**
comp=Z,31nm,0.8s,mb5.3
IKL Isikli 75.21 303 *e*P **P 11 20 10.4 -0.7**
SGKT Sivrigoynuk 75.33 308 *i*P **P 11 20 10.6 -1.2**
KIP Kipapa 75.49 72 *e*P **P 11 20 13.5 +0.8**
KIP Kipapa 75.49 72 *e*P **P 11 20 15.3 +2.6**
comp=Z,147nm,1.4s,mb5.7
ERMK Ermenek 75.70 304 *i*P **P 11 20 15.1 +1.2**
KDHN Kadinhani 75.82 306 *i*P **P 11 20 13.6 -1.0**
CSS Prodhromos 75.82 302 *e*P **P 11 20 13.9 -0.8**
comp=Z,131nm,0.9s,mb5.9
KIS Kishinev 75.93 315 *e*P **P 11 20 15.0 -0.2**
EIL Elat 75.93 297 *e*P **P 11 20 16.2 +1.0**
comp=Z,1μm,1.1s,mb6.7
HDMB Hadim 75.95 304 *e*P **P 11 20 15.1 -0.2**
DAWY Dawson 76.03 26 *e*P **P 11 20 16.4 +0.6**
HENT Hendek 76.11 309 *i*P **P 11 20 14.7 -1.6**
ESKT Eskisehir 76.50 307 *i*P **P 11 20 17.7 -0.8**
INK Inuvik 76.76 21 P **P 11 20 19.6 -0.4**
comp=Z,24nm,1.0s,mb5.1,baz=289,slow=7.7,SNR=14
INK Inuvik 76.76 21 *e*P **P 11 20 19.9 -0.1**
INK pmax pmax
comp=Z,1μm,1.0s
INK Inuvik 76.76 21 *e*P **P 11 20 19.9 -0.1**
comp=Z,1μm,1.0s,mb6.8
CFR Carcaliu 76.88 313⇑*i*P **P 11 20 21.0 +0.4**
CFR Carcaliu 76.88 313⇑P **P 11 20 21.0 +0.4**
TIRR Tirgusor 76.89 313 *e*P **P 11 20 19.6 -1.1**
TIRR pmax pmax
comp=Z,51nm,1.0s,mb5.4
TIRR Tirgusor 76.89 313 *e*P **P 11 20 19.6 -1.1**
comp=Z,51nm,1.0s,mb5.4
ADVT Abdulvahap 77.07 308 *e*P **P 11 20 20.3 -1.4**
HARR Harsova 77.16 313⇓*i*P **P 11 20 22.8 +0.6**
HARR Harsova 77.16 313⇓P **P 11 20 22.8 +0.6**
ISP Isparta 77.22 306 *e*P **P 11 20 21.8 -0.8**
DESE Dese 77.27 277 *e*P **P 11 20 24.8 +1.9**
YLV Yalova 77.30 309 *e*P **P 11 20 19.4 -3.6**
MOR8 Moi Rana 77.30 336 *e*P **P 11 20 21.2 -1.8**
MOR8 AMb AMB 11 20 23.6
comp=Z,106nm,1.1s,mb5.7
TKTP Tekketepe 77.31 306 *i*P **P 11 20 20.8 -2.3**
SUW Suwalki 77.38 323 *e*P **P 11 20 23.4 -0.1**
ISK Istanbul-Kandi 77.39 309 *e*P **P 11 20 16.5 -7.0**
GEMT Gemlik 77.47 309 *e*P **P 11 20 23.6 -0.3**
ULDT Uludag 77.59 308 *i*P **P 11 20 23.3 -1.4**
VRI Vrincioaia 77.63 314⇓*i*P **P 11 20 25.5 +0.6**
VRI Vrincioaia 77.63 314⇓P **P 11 20 25.5 +0.7**
GDZ Gediz 77.64 307 *i*P **P 11 20 26.1 +1.2**
PLOR Plostina 77.69 314⇓*i*P **P 11 20 25.9 +0.7**
ELL Elmali 77.99 305 *e*P **P 11 20 27.8 +0.9**
BURAR Bucovina Array 78.10 316⇓*i*P **P 11 20 27.5 0.0**
BURAR Bucovina Array 78.10 316⇓P **P 11 20 27.5 0.0**
GOLH Golhisar 78.12 305 *i*P **P 11 20 26.9 -0.7**
LVV L'vov 78.17 319 *i*P **P 11 20 29.2 +1.3**
LVV *e* 11 20 40.4
LVV *e*S S 11 30 24.0 +2.2
LVV *e* 11 31 03.8
LVV *i* 11 38 45.0
MLR Muntele Rosu 78.27 314 P **P 11 20 28.9 +0.5**
comp=Z,80nm,0.9s,mb5.6,baz=71,slow=0.8,SNR=45
MLR Muntele Rosu 78.27 314⇓*i*P **P 11 20 28.5 +0.1**
MLR Muntele Rosu 78.27 314⇓P **P 11 20 28.5 +0.1**
DNZL Cakiroluk 78.38 306 *i*P **P 11 20 34.4 +5.4**
AKAS Kas 78.38 304 *i*P **P 11 20 24.9 -4.1**
BTOK Tokmak 78.52 308 *i*P **P 11 20 30.6 +0.8**
BUC1 Bucharest 78.56 313 P **P 11 20 32.9 +2.9**
RKY Sarkoy-Tekirda 78.86 309 *e*P **P 11 20 30.7 -0.9**
FURI Furi 78.89 275 *e*P **P 11 20 34.8 +3.0**
NSS Namsos 78.91 335 *e*P **P 11 20 30.6 -1.3**
NSS AMb AMB 11 20 32.1
comp=Z,57nm,0.8s,mb5.5
NSS *e*S S 11 30 31.0 +1.2
NSS AMS AMS 12 00 42.5
comp=Z,2μm,19.2s,MS5.5
NSS Namsos 78.91 335 *e*P **P 11 20 30.3 -1.7**
comp=Z,57nm,0.8s,mb5.5
NSS LR LR
comp=Z,2μm,19.2s,MS5.5
DALT Dalyan (Mudla) 78.96 305 *e*P **P 11 20 30.7 -1.5**
KWP Kalwaria 79.05 319 *e*P **P 11 20 33.1 +0.4**
KWP Kalwaria 79.05 319 P **P 11 20 32.4 -0.3**
KWP pmax pmax
comp=Z,380nm,1.0s,mb6.3
KWP Kalwaria 79.05 319 *e*P **P 11 20 32.5 -0.2**
comp=Z,466nm,1.0s,mb6.4
ZIMR 79.22 313 P **P 11 20 34.8 +1.1**
AYDN Tasoluk 79.27 306 *i*P **P 11 20 33.5 -0.4**
PVL Pavlikeni 79.39 312 *i*P **P 11 20 36.7 +2.2**
MLSB Milas 79.46 306 *e*P **P 11 20 35.0 +0.1**
SKAG Skagway 79.47 30 *e*P **P 11 20 38.3 +3.3**

comp=Z,67nm,1.0s,mb5.5
KDAG Bornova 79.50 307 *i* P **P 11 20 34.3 -0.9**
IZM Izmir 79.50 307 *eP* **P 11 20 33.6 -1.6**
DAG Danmarks Havn 79.56 351⇑*iP* **P 11 20 34.7 -0.8**
comp=Z,33nm,1.0s,mb5.2
DAG Danmarks Havn 79.56 351 *i P* **P 11 20 34.7 -0.8**
DAG pmax pmax
comp=Z,33nm,1.0s,mb5.2
ALN Alexandroupoli 79.61 310 *eP* **P 11 20 35.1 -0.6**
DIM Dimitrovgrad 79.61 311 P **P 11 20 37.6 +1.8**
UZH Uzhgorod 79.64 318 *eP* **P 11 20 34.2 -1.7**
UZH pmax pmax
comp=Z,153nm,1.0s,mb5.9
BDRM Kayabasi 79.78 306 *i P* **P 11 20 36.5 -0.2**
DAT Datca 79.78 305 *eP* **P 11 20 32.1 -4.6**
BODT Bodrum 79.88 306 *eP* **P 11 20 34.0 -3.2**
BOZC Bozcaada 79.94 309 *i P* **P 11 20 34.4 -3.2**
URLA Izmir 80.01 307 *i P* **P 11 20 36.2 -1.7**
HFS Hagfors 80.02 331 P **P 11 20 36.8 -1.2**
comp=Z,120nm,0.9s,mb5.8,baz=69,slow=4.9,SNR=70
RZN Rozhen 80.31 311 P **P 11 20 40.0 +0.5**
CHOS Chios island 80.41 307 *eP* **P 11 20 41.6 +1.5**
PGB Panagyurishte 80.41 312 *i P* **P 11 20 41.4 +1.3**
SIT Sitka 80.42 32 *eP* **P 11 20 43.6 +3.4**
SIT pmax pmax
comp=Z,118nm,1.0s,mb5.8
SIT Sitka 80.42 32 *eP* **P 11 20 43.6 +3.4**
comp=Z,118nm,1.0s,mb5.8
NIE Niedzica 80.59 319 *eP* **P 11 20 41.8 +0.8**
OJC Ojcow 80.61 320 *eP* **P 11 20 41.1 -0.1**
NB2 NORSAR Subarra 80.74 332 P **P 11 20 40.8 -1.1**
comp=Z,79nm,0.8s,mb5.7,baz=61,slow=5.6
NB2 NORSAR Subarra 80.74 332 P **P 11 20 40.8 -1.1**
NB2 pmax pmax
comp=Z,79nm,0.8s,mb5.7
NOA NORSAR Array B 80.74 332 P **P 11 20 40.4 -1.5**
comp=Z,84nm,0.9s,mb5.7,baz=64,slow=5.3,SNR=91
NOA PP PP 11 23 46.8 +0.9
comp=Z,4.8nm,1.0s,baz=70,slow=7.6,SNR=3.3
NOA LR LR 12 01 46.4
comp=Z,4μm,18.1s,MS5.8,baz=90,slow=40
NOA NORSAR Array B 80.74 332 P **P 11 20 40.4 -1.5**
NOA 11 23 46.8
GKP Gorka Klasztor 80.96 324 *eP* **P 11 20 43.1 +0.1**
NAO01 NORSAR Array S 80.97 332 *eP* **P 11 20 42.5 -0.6**
comp=Z,41nm,0.8s,mb5.4
MMB Musomiste 81.04 311 *eP* **P 11 20 44.3 +0.8**
VTS Vitosha 81.07 312 *eP* **P 11 20 43.3 -0.3**
VTS Vitosha 81.07 312 *i P* **P 11 20 44.5 +0.9**
VTS Vitosha 81.07 312⇓*iP* **P 11 20 44.1 +0.5**
BZS Buzias 81.10 315⇑*iP* **P 11 20 44.1 +0.3**
BZS Buzias 81.10 315 P **P 11 20 44.0 +0.2**
BZS Buzias 81.10 315⇑P **P 11 20 44.1 +0.3**
APE Apeiranthos 81.23 306⇑*iP* **P 11 20 44.4 -0.1**
APE Apeiranthos 81.23 306⇑P **P 11 20 44.4 -0.1**
SRS Serrai 81.30 311 *eP* **P 11 20 44.0 -0.8**
ZKR Zakros 81.35 304 *eP* **P 11 20 44.6 -0.5**
PSZ Piszkesteto 81.39 318⇓*e* **P 11 20 46.9 +1.6**
PSZ Piszkesteto 81.39 318⇑*iP* **P 11 20 45.6 +0.3**
PSZ Piszkesteto 81.39 318 *eP* **P 11 20 45.7 +0.4**
comp=Z,67nm,1.1s,mb5.5
BSD Bornholm Skovb 81.48 326 *i P* **P 11 20 44.2 -1.6**
comp=Z,145nm,0.8s,mb6.0
BSD Bornholm Skovb 81.48 326 *eP* **P 11 20 44.2 -1.6**
BSD pmax pmax
comp=Z,145nm,0.8s,mb6.0
BSD Bornholm Skovb 81.48 326 *eP* **P 11 20 44.2 -1.6**
comp=Z,145nm,0.8s,mb6.0
BOLS Boljevac 81.50 314⇓*iP* **P 11 20 46.6 +0.7**
SANT Santorini 81.51 306 *eP* **P 11 20 44.6 -1.4**
SOH Sokhos 81.57 310 *eP* **P 11 20 47.0 +0.8**
PLG Polygyros 81.65 310 *eP* **P 11 20 45.9 -0.9**
OKC Ostrava-Krasne 81.74 320 *eP* **P 11 20 47.6 +0.4**
OKC AMS AMS 12 01 30.0
comp=Z,2μm,13.4s
KNT Kendrikon 81.77 311 *eP* **P 11 20 46.7 -0.6**
HORT Hortiatis 81.83 310 *eP* **P 11 20 46.9 -0.7**
JMIC Jan Mayen 81.84 345 AMS AMS 12 00 08.1
comp=Z,1μm,19.5s,MS5.3
LAST Lasithi 81.90 304 *eP* **P 11 20 47.3 -0.7**
THE Thessaloniki 81.91 310 *eP* **P 11 20 47.1 -0.9**
VAY Valandovo 81.95 311 *eP* **P 11 20 45.9 -2.4**
VAY Valandovo 81.95 311 *eP* **P 11 20 46.6 -1.7**
KONO Kongsberg 82.09 331 *eP* **P 11 20 48.5 -0.5**
KONO *e*SKS 11 31 07.7
KONO Kongsberg 82.09 331 *eP* **P 11 20 49.0 0.0**
STIP Stip 82.09 311 *eP* **P 11 20 48.6 -0.4**
BUD Budapest 82.09 318⇓*e* **P 11 20 50.8 +1.8**
MORC Moravsky Berou 82.13 320⇓*iP* **P 11 20 49.2 0.0**
MORC Moravsky Berou 82.13 320 *eP* **P 11 20 49.6 +0.4**
comp=Z,72nm,0.9s,mb5.6
SLAT Slait 82.13 284 *i P* **P 11 20 48.6 -0.6**
baz=60,slow=5.3
SLAT AMb AMB 11 20 53.1
comp=Z,17nm,1.1s,mb4.9
RES Resolute Bay 82.17 9 *eP* **P 11 20 49.4 0.0**
comp=Z,2μm,0.8s
WRAK Wrangell Islan 82.18 32 *eP* **P 11 20 51.9 +2.4**
comp=Z,57nm,1.3s,mb5.3
GRG Griva 82.20 311 *eP* **P 11 20 48.7 -0.9**
GRUS Gruza 82.32 314 *i P* **P 11 20 54.9 +4.7**
LIT Litokhoron 82.44 310 *eP* **P 11 20 50.4 -0.4**
KSP Ksiaz 82.44 322 *eP* **P 11 20 51.6 +0.7**
KSP Ksiaz 82.44 322⇓*eP* **P 11 20 51.2 +0.3**
KSP LR LR
comp=Z,5μm,20.1s,MS5.8
SIVA Sivas 82.47 304 *eP* **P 11 20 48.7 -2.3**
MRKH Merkhyat 82.47 284 *i P* **P 11 20 49.6 -1.4**
MRKH AMb AMB 11 20 53.1
comp=Z,17nm,1.0s,mb5.0
SKO Skopje 82.51 312 *eP* **P 11 20 50.8 -0.5**
SKO Skopje 82.51 312 *eP* **P 11 20 50.8 -0.4**
COP Copenhagen 82.52 327 *i P* **P 11 20 52.9 +1.6**
comp=Z,103nm,1.0s,mb5.8
COP
comp=Z,2μm,17.0s
COP Copenhagen 82.52 327 *eP* **P 11 20 52.9 +1.6**
COP pmax pmax
comp=Z,103nm,1.0s,mb5.8
COP MLR MLR
comp=Z,2μm,17.0s,MS5.5
COP Copenhagen 82.52 327 *eP* **P 11 20 52.9 +1.6**
comp=Z,103nm,1.0s,mb5.8
COP LR LR
comp=Z,2μm,17.0s,MS5.5
RGN Rugen 82.56 326 *eP* **P 11 20 51.4 -0.1**
comp=Z,209nm,1.1s,mb6.1
RGN Rugen 82.56 326 *eP* **P 11 20 53.3 +1.8**
DPC Dobruska-Polom 82.62 321 *eP* **P 11 20 52.4 +0.6**
DPC *e*SKS 11 31 13.0
DPC AMS AMS 12 04 20.0
comp=Z,3μm,13.1s
DIVS Divcibare 82.72 314 *i P* **P 11 20 52.1 -0.2**
DIVS Divcibare 82.72 314 *eP* **P 11 20 52.3 0.0**
UPC Upice 82.74 321 *eP* **P 11 20 53.0 +0.6**
PKSM Moragy 82.82 317⇓*iP* **P 11 20 52.3 -0.5**
PKSM Moragy 82.82 317⇓P **P 11 20 52.3 -0.5**
VRAC Vranov 82.88 320 P **P 11 20 53.5 +0.4**
comp=Z,109nm,0.9s,mb5.9,baz=73,slow=5.4,SNR=52
VRAC Vranov 82.88 320⇓*iP* **P 11 20 53.8 +0.7**
VRAC Vranov 82.88 320⇓P **P 11 20 53.8 +0.7**
AGG Agios Georgios 82.93 309 *eP* **P 11 20 51.3 -2.1**
BIA Bitola 82.94 311 *eP* **P 11 20 51.5 -1.9**
FNA Florina 82.98 311 *eP* **P 11 20 51.7 -2.0**
ZST Bratislava 83.01 319 *eP* **P 11 20 55.6 +1.8**
ZST pmax pmax
comp=Z,26nm,1.1s,mb5.2
ZST MLR MLR
comp=Z,2μm,17.3s,MS5.5
ZST Bratislava 83.01 319 *eP* **P 11 20 55.6 +1.8**
comp=Z,26nm,1.1s,mb5.2
ZST LR LR
comp=Z,2μm,17.3s,MS5.5
KARN Karanos 83.02 305 *eP* **P 11 20 53.1 -0.7**
GVD Gavdhos 83.08 305 *eP* **P 11 20 53.7 -0.5**
comp=Z,138nm,0.9s,mb6.0
RUE Ruedersdorf 83.19 324 *eP* **P 11 20 54.8 0.0**
comp=Z,331nm,1.1s,mb6.3
RUE Ruedersdorf 83.19 324 *eP* **P 11 20 55.9 +1.2**
comp=Z,204nm,0.8s,mb6.2
BBLS Bajina Basta - 83.20 314 *i P* **P 11 20 55.3 +0.5**
OHR Ohrid 83.27 311 *eP* **P 11 20 53.8 -1.4**
OHR Ohrid 83.27 311 *eP* **P 11 20 52.7 -2.4**
TREC Trest 83.55 320 *eP* **P 11 20 57.1 +0.5**
TREC AMS AMS 11 59 00.0
comp=Z,2μm,18.6s
SOP Sopron 83.55 319⇓*e* **P 11 20 58.4 +1.8**
PVCC Panska Ves 83.57 322 *eP* **P 11 20 57.2 +0.5**
BLS5 Blasjo 83.60 332 *eP* **P 11 20 58.1 +1.3**
BLS5 AMb AMB 11 20 60.0
comp=Z,92nm,0.8s,mb6.0
KMBO Kilima Mbogo 83.67 266 P **P 11 20 58.0 +0.8**
comp=Z,40nm,0.8s,mb5.6,baz=52,slow=8.3,SNR=60
KMBO LR LR 11 55 52.4
comp=Z,2μm,20.2s,MS5.5,baz=207,slow=34
KMBO Kilima Mbogo 83.67 266 P **P 11 20 58.8 +1.6**
SNR=34
KMBO Kilima Mbogo 83.67 266 *eP* **P 11 20 58.3 +1.1**
KMBO pmax pmax
comp=Z,220nm,1.5s
KMBO Kilima Mbogo 83.67 266 *eP* **P 11 20 59.0 +1.8**
comp=Z,222nm,1.5s,mb6.1
BRG Berggiesshubel 83.79 322 *eP* **P 11 20 57.7 -0.1**
comp=Z,157nm,1.1s,mb6.0
BRG *e*S S 11 31 22.6 +2.3
BRG Berggiesshubel 83.79 322 *i P* **P 11 20 58.4 +0.5**
comp=Z,94nm,1.1s,mb5.8
BRG Berggiesshubel 83.79 322 *i P* **P 11 20 58.4 +0.6**
BRG pmax pmax
comp=Z,94nm,1.1s,mb5.8
MUD Monsted U'grnd 83.80 329 *i P* **P 11 20 59.4 +1.5**
comp=Z,101nm,0.9s,mb6.0
MUD
comp=Z,3μm,19.0s
PRU Pruhonice 83.82 321 *eP* **P 11 20 58.5 +0.5**
PRU AMS AMS 12 01 10.0
comp=Z,2μm,16.3s
TIR Tirane 83.84 312 *eP* **P 11 20 59.0 +1.0**
PRA Prague 83.85 321 P **P 11 20 59.0 +0.9**
CONA Conrad Observa 83.88 319 *i P* **P 11 20 59.0 +0.7**
comp=Z,61nm,1.4s,mb5.5,SNR=9.3
FBE Freiberg 84.10 322 *eP* **P 11 20 59.4 0.0**
comp=Z,324nm,1.1s,mb6.4
CLL Collm 84.14 323 *eP* **P 11 20 59.0 -0.6**
comp=Z,190nm,0.9s,mb6.2
CLL *e*S S 11 31 22.6 -1.2
CLL Collm 84.14 323 *i P* **P 11 21 00.0 +0.4**
CLL *i* pP 11 21 05.9 +1.0
CLL pmax pmax
comp=Z,191nm,0.9s,mb6.2
CLL MLR MLR
comp=Z,5μm,15.0s,MS6.0
CLL Collm 84.14 323 *i P* **P 11 21 00.0 +0.4**
comp=Z,191nm,0.9s,mb6.2
CLL *i* pP 11 21 05.9 +1.0
CLL LR LR
comp=Z,5μm,15.0s,MS6.0
CLL Collm 84.14 323 *i P* **P 11 21 00.0 +0.4**
comp=Z,191nm,0.9s,mb6.2
CLL *i* pP pP 11 21 05.9 +1.0
CLL *e*PP PP 11 24 14.0 +0.2
IGT Igoumenitsa 84.19 310 *eP* **P 11 20 58.6 -1.3**
LKD Levkas 84.27 309 *eP* **P 11 21 00.2 -0.1**
ARSA Arzberg 84.37 318⇑*iP* **P 11 21 01.2 +0.5**
comp=Z,270nm,2.6s,mb5.9,SNR=15
BSEG Bad Segeberg 84.41 326 *eP* **P 11 21 00.8 -0.2**
comp=Z,225nm,1.0s,mb6.2
KHC Kasperske Hory 84.75 321 *eP* **P 11 21 03.0 +0.3**
KHC x x 11 21 14.5
KHC *e*SKS 11 31 27.2
KHC AMS AMS 12 02 10.0
comp=Z,3μm,17.7s
KHC Kasperske Hory 84.75 321 *eP* **P 11 21 03.0 +0.3**
KHC *e* 11 21 14.5
KHC *e*SKS 11 31 27.2
KHC LR LR
comp=Z,3μm,17.7s,MS5.7
GEC2 GERESS Array S 84.80 320 *eP* **P 11 21 02.8 -0.2**
comp=Z,114nm,1.0s,mb6.0
GEC2 *e*S S 11 31 35.3 +4.8
GEC2 GERESS Array S 84.80 320 *eP* **P 11 21 02.8 -0.2**
GEC2 *e*S S 11 31 35.3 +4.8
GEC2 pmax pmax
comp=Z,114nm,1.0s,mb6.0
GERES GERESS Array B 84.80 320 P **P 11 21 02.7 -0.2**
comp=Z,63nm,0.9s,mb5.8,baz=66,slow=4.5,SNR=99
GERES LR LR 12 00 21.8
comp=Z,2μm,21.2s,MS5.6,baz=331,slow=37
TANN Tannenbergstha 84.84 322 *eP* **P 11 21 03.0 -0.1**
comp=Z,91nm,1.0s,mb5.9
TANN *e*S S 11 31 32.4 +1.6
PERS Pernice 84.88 318 *eP* **P 11 21 03.1 -0.2**
MOA Molln 84.89 319⇓*iP* **P 11 21 03.3 -0.1**
comp=Z,360nm,2.2s,mb6.1,SNR=47
WERD Werda 84.91 322 *eP* **P 11 21 03.2 -0.3**
comp=Z,83nm,0.9s,mb5.9
NKC Novy Kostel 84.93 322 *eP* **P 11 21 03.8 +0.2**
NKC AMS AMS 12 05 20.0
comp=Z,2μm,13.5s
GUNZ Gunzen 84.94 322 *eP* **P 11 21 03.5 -0.1**
comp=Z,156nm,0.9s,mb6.1
WERN Wernitzgruen 84.94 322 *eP* **P 11 21 03.6 -0.1**
comp=Z,136nm,0.9s,mb6.1
CRES Cresnjev 85.00 317 *eP* **P 11 21 03.3 -0.7**
CRES *e* 11 21 43.5
CRES *e*S S 11 31 35.2 +2.8
WET Wettzell 85.16 321 *eP* **P 11 21 04.9 +0.1**
comp=Z,111nm,1.3s,mb5.8
WET *e*S S 11 31 37.0 +3.0
WET Wettzell 85.16 321 *eP* **P 11 21 05.0 +0.2**
WET *e*S S 11 31 37.0 +3.0
WET pmax pmax
comp=Z,111nm,1.3s,mb5.8
WET Wettzell 85.16 321 *eP* **P 11 21 05.0 +0.2**
comp=Z,111nm,1.3s,mb5.8
WET *e*S S 11 31 37.0 +3.0
NRDL Niedersach Rie 85.19 325 *eP* **P 11 21 05.1 +0.2**
comp=Z,147nm,1.0s,mb6.1
MOX Moxa 85.22 323 *eP* **P 11 21 04.8 -0.2**
comp=Z,180nm,1.5s,mb6.0
MOX Moxa 85.22 323 *eP* **P 11 21 04.9 -0.1**
comp=Z,169nm,1.4s,mb6.0
MOX Moxa 85.22 323 *eP* **P 11 21 04.9 -0.1**
MOX pmax pmax
comp=Z,169nm,1.4s,mb6.0
MANZ Manzenberg 85.23 322 *eP* **P 11 21 05.3 +0.2**
comp=Z,110nm,1.2s,mb5.9
MANZ *e*S S 11 31 37.6 +2.9
BOJS Bojanci 85.27 317 *eP* **P 11 21 05.6 +0.3**
BOJS *e*S S 11 31 41.2 +6.1
ROTZ Rotzenmuhle 85.27 322 *eP* **P 11 21 05.6 +0.3**
comp=Z,160nm,1.0s,mb6.1
ROTZ *e*S S 11 31 36.2 +1.1
OBKA Obir 85.29 318⇓*iP* **P 11 21 05.6 +0.2**
comp=Z,562nm,3.7s,SNR=14
CLZ Clausthal 85.36 324 *eP* **P 11 21 05.9 +0.2**
comp=Z,241nm,1.2s,mb6.2
CLZ *e*S S 11 31 41.9 +6.0
CLZ Clausthal 85.36 324 *eP* **P 11 21 05.9 +0.2**
CLZ *e*S S 11 31 41.9 +6.0
CLZ pmax pmax
comp=Z,241nm,1.2s,mb6.2
LJU Ljubljana 85.50 318 *eP* **P 11 21 06.3 -0.1**
LJU *e* 11 21 08.4
GTTG Gvttingen 85.72 324 *eP* **P 11 21 07.3 -0.3**
comp=Z,126nm,0.9s,mb6.2
SUMG Summit 85.76 354 *eP* **P 11 21 07.2 -0.6**
comp=Z,38nm,1.1s,mb5.5
KBA Koelnbreinsper 85.79 319⇓*iP* **P 11 21 07.6 -0.3**
comp=Z,142nm,1.4s,mb6.0,SNR=19
KBA Koelnbreinsper 85.79 319⇓*iP* **P 11 21 07.6 -0.3**
KBA pmax pmax
comp=Z,142nm,1.4s,mb6.0
GRA1 Grafenberg Arr 85.88 322 *eP* **P 11 21 08.5 +0.2**
comp=Z,188nm,1.5s,mb6.1
GRA1 *e*PP PP 11 24 28.5 +0.6
GRA1 *e*S S 11 31 41.0 -0.1
GRF Grafenberg Arr 85.88 322 *eP* **P 11 21 08.5 +0.2**
comp=Z,188nm,1.5s,mb6.1
GRF *e*PP PP 11 24 28.5 +0.6
GRF *e*S S 11 31 41.0 -0.1
GRF Grafenberg Arr 85.88 322 *eP* **P 11 21 08.5 +0.2**
GRF *e* 11 24 28.5
GRF *e*S S 11 31 41.0 -0.1
GRF pmax pmax
comp=Z,188nm,1.5s,mb6.1
GRF Grafenberg Arr 85.88 322 *eP* **P 11 21 08.5 +0.2**
GRF *e* 11 24 28.5
GRF *e*S S 11 31 41.0 -0.1
GRF pmax pmax
comp=Z,188nm,1.5s,mb6.1
VOY Vojsko 85.90 318 *eP* **P 11 21 07.3 -1.2**
VOY *e* 11 21 32.2
CADS Cadrg 85.92 318 *eP* **P 11 21 07.7 -0.9**
CADS *e* 11 21 09.7
UBBA Unterbreizbach 86.04 323 *eP* **P 11 21 08.9 -0.3**
comp=Z,99nm,1.4s,mb5.8
PTCC Patocco-Chiusa 86.08 318 P **P 11 21 10.1 +0.8**
GMNA Gemona 86.21 318 P **P 11 21 10.3 +0.3**
BBB Bella Bella 86.35 35 P **P 11 21 12.3 +1.7**
comp=Z,14nm,1.0s,mb5.2,baz=33,slow=22,SNR=3.1
LRW Lerwick 86.42 335 *eP* **P 11 21 10.6 -0.4**
LRW AMb AMB 11 21 13.7
comp=Z,72nm,1.3s,mb5.8
YKW3 Yellowknife Ar 86.45 22 *eP* **P 11 21 12.0 +0.8**
YKA Yellowknife Ar 86.50 22 P **P 11 21 11.2 -0.2**
comp=Z,76nm,1.0s,mb5.9,baz=315,slow=4.6,SNR=35
YKA LR LR 12 06 13.2
comp=Z,738nm,18.0s,MS5.1,baz=245,slow=40
IBBN Ibbenburen 86.55 325 *eP* **P 11 21 11.4 -0.2**
comp=Z,186nm,1.1s,mb6.2
IBBN *e*S S 11 31 46.2 -1.4
FUR Furstenfeldbru 86.55 321 *eP* **P 11 21 11.8 +0.2**
comp=Z,194nm,1.1s,mb6.2
FUR Furstenfeldbru 86.55 321 *eP* **P 11 21 11.8 +0.2**
FUR pmax pmax
comp=Z,194nm,1.1s,mb6.2
ORI Oriolo Calabro 86.73 312 P **P 11 21 14.4 +1.9**
WTTA Wattenberg 86.75 320⇑*iP* **P 11 21 12.0 -0.6**
comp=Z,271nm,1.7s,mb6.2,SNR=18
WTTA Wattenberg 86.75 320⇑*iP* **P 11 21 12.0 -0.6**
WTTA pmax pmax
comp=Z,271nm,1.7s,mb6.2
WATA Walderalm 86.75 320⇑*iP* **P 11 21 12.3 -0.3**
comp=Z,96nm,1.4s,mb5.8,SNR=9.9
WATA Walderalm 86.75 320⇑*iP* **P 11 21 12.3 -0.3**
WATA pmax pmax
comp=Z,96nm,1.4s,mb5.8
WIT Witteveen 86.86 326 *eP* **P 11 21 15.7 +2.5**
comp=Z,694nm,1.8s,mb6.6
TIP Timpagrande 86.88 311 *eP* **P 11 21 12.9 -0.4**
SQTA Sankt Quirin 87.03 320⇓*iP* **P 11 21 13.7 -0.2**
comp=Z,96nm,1.3s,mb5.9,SNR=12
SQTA Sankt Quirin 87.03 320⇓*iP* **P 11 21 13.7 -0.3**
SQTA pmax pmax
comp=Z,96nm,1.3s,mb5.9
MOTA Moosalm 87.03 320⇓*iP* **P 11 21 13.6 -0.4**
comp=Z,58nm,1.1s,mb5.7,SNR=13
MOTA Moosalm 87.03 320⇓*iP* **P 11 21 13.6 -0.4**
MOTA pmax pmax
comp=Z,58nm,1.1s,mb5.7
TNS Taunus Mts 87.20 323 *eP* **P 11 21 14.7 -0.1**
comp=Z,45nm,1.3s,mb5.5
TNS *e*S S 11 31 55.2 +1.3
TNS Taunus Mts 87.20 323 *eP* **P 11 21 14.7 -0.1**
TNS *e*S S 11 31 55.2 +1.3
TNS pmax pmax
comp=Z,45nm,1.3s,mb5.5
CUC Castrocucco 87.20 312 P **P 11 21 15.5 +0.7**
WTSB Winterswijk 87.23 325 *eP* **P 11 21 14.1 -0.9**
comp=Z,66nm,1.9s,mb5.5
BUG Bochum--Univer 87.24 325 *eP* **P 11 21 14.9 -0.1**
comp=Z,272nm,2.3s,mb6.1
BUG *e*S S 11 31 55.8 +1.5
CTI Castel Tesino 87.30 319 P **P 11 21 15.2 -0.1**
TOD Tromm 87.30 323 *eP* **P 11 21 16.3 +1.0**
PSB1 Pescosannita 87.38 313 P **P 11 21 17.4 +1.7**
STU Stuttgart 87.48 322 *eP* **P 11 21 15.8 -0.4**
comp=Z,41nm,1.0s,mb5.6
STU *e*S S 11 32 00.2 +3.6
RNI2 Rionero Sannit 87.61 314 P **P 11 21 19.4 +2.6**
SNTG Esanatoglia 87.74 316 P **P 11 21 19.0 +1.6**
comp=Z,236nm,1.3s,mb6.3
DAVA Damuels 87.79 320⇑*iP* **P 11 21 18.3 +0.6**
comp=Z,720nm,4.1s
AQU L'Aquila 87.83 315⇑*iP* **P 11 21 19.2 +1.3**
AQU L'Aquila 87.83 315 *eP* **P 11 21 19.2 +1.3**
AQU pmax pmax
comp=Z,140nm,1.0s,mb6.2
AQU L'Aquila 87.83 315 *eP* **P 11 21 19.2 +1.4**
comp=Z,140nm,1.0s,mb6.2
BRMO Bormio 87.88 319 P **P 11 21 19.5 +1.4**
comp=Z,68nm,1.2s,mb5.8
MABI Malga Bissina 87.99 319 P **P 11 21 20.4 +1.8**
SCLL Scilla 88.00 310 P **P 11 21 20.0 +1.3**
MURB Monte Urbino 88.00 316 P **P 11 21 22.4 +3.7**
DAVOX Davos/Dischmat 88.04 320 P **P 11 21 18.3 -0.5**
comp=Z,30nm,1.0s,mb5.5,baz=51,slow=4.1,SNR=25
BADI Badiali 88.08 316 P **P 11 21 21.5 +2.5**
LANF Langenberg 88.18 322 *eP* **P 11 21 20.8 +1.3**
BFO Black Forest 88.20 322 *eP* **P 11 21 19.0 -0.6**
comp=Z,25nm,1.0s,mb5.4
BFO *e*S S 11 32 07.4 +3.9
BFO Black Forest 88.20 322 *eP* **P 11 21 19.0 -0.6**
BFO *e*S S 11 32 07.4 +3.9
BFO pmax pmax
comp=Z,25nm,1.0s,mb5.4
HGN Heimansgroeve 88.31 325 *eP* **P 11 21 18.7 -1.4**
comp=Z,29nm,1.4s,mb5.3
MEM Membach 88.35 324 P **P 11 21 21.1 +0.7**
FNVD Fontana Vidola 88.50 317 P **P 11 21 22.1 +1.1**
FELD Feldberg im Sc 88.62 321 *eP* **P 11 21 21.9 +0.3**
CSNT Castellina Chi 88.71 316 P **P 11 21 23.0 +1.0**
WLS Welschbruch 88.72 322 *eP* **P 11 21 23.0 +0.9**
WLF Walferdange 88.76 324 *eP* **P 11 21 22.2 -0.1**
comp=Z,148nm,0.9s,mb6.3
WLF *e*S S 11 32 21.4 +13
WLF Walferdange 88.76 324 P **P 11 21 22.6 +0.3**
WLF Walferdange 88.76 324 *eP* **P 11 21 22.9 +0.6**
WLF pmax pmax
comp=Z,137nm,0.9s,mb6.3
WLF Walferdange 88.76 324 *eP* **P 11 21 22.9 +0.6**
comp=Z,137nm,0.9s,mb6.3
CDF Champ du Feu 88.77 322 *eP* **P 11 21 21.4 -0.9**
comp=Z,123nm,1.1s,mb5.8
CDF Champ du Feu 88.77 322 *eP* **P 11 21 21.4 -0.9**
CDF pmax pmax
comp=Z,61nm,1.1s,mb5.8
CDF Champ du Feu 88.77 322 *eP* **P 11 21 21.4 -0.9**
comp=Z,62nm,1.1s,mb5.8
BCLA Clavier 88.83 324 P **P 11 21 24.0 +1.4**
BCLA XP sP 11 21 28.9 -0.9
MCD Coleburn Disti 88.84 333 *eP* **P 11 21 21.7 -1.0**
ECH Echery 88.94 322 *eP* **P 11 21 24.3 +1.2**
VLC Villacollemand 88.97 317 *eP* **P 11 21 25.2 +2.0**
comp=Z,44nm,1.1s,mb5.7
PII Pisa 89.08 317 P **P 11 21 22.6 -1.2**
BBS Basel-Blauen 89.11 321 *eP* **P 11 21 24.5 +0.6**
MOF Molkenrain 89.14 322 *eP* **P 11 21 24.5 +0.5**
UCC Uccle 89.14 325 P **P 11 21 23.8 -0.2**
HVZN Vizzini 89.18 310 P **P 11 21 26.1 +1.9**
GIVF Givet 89.27 324 *eP* **P 11 21 23.8 -0.8**
comp=Z,91nm,1.0s,mb5.8
GIVF Givet 89.27 324 *eP* **P 11 21 23.8 -0.8**
GIVF pmax pmax
comp=Z,46nm,1.0s,mb5.8
GIVF Givet 89.27 324 *eP* **P 11 21 23.8 -0.8**
comp=Z,46nm,1.0s,mb5.8
BOB Bobbio (Coli) 89.27 318 P **P 11 21 25.5 +0.9**
HINF Hinteralfeld 89.32 322 *eP* **P 11 21 23.6 -1.3**
comp=Z,85nm,1.2s,mb5.6
HINF Hinteralfeld 89.32 322 *eP* **P 11 21 23.6 -1.3**
HINF pmax pmax
comp=Z,42nm,1.2s,mb5.6
HINF Hinteralfeld 89.32 322 *eP* **P 11 21 23.6 -1.3**
comp=Z,42nm,1.2s,mb5.7
SNF Seneffe 89.34 325 P **P 11 21 25.9 +0.9**
DOU Dourbes 89.39 324 P **P 11 21 25.0 -0.2**
MIR Mirnyy 89.41 190*d iP* **P 11 21 26.0 +0.7**
MIR pmax pmax
comp=Z,290nm,1.7s,mb6.3
HAU Haudompre 89.51 322 *eP* **P 11 21 24.5 -1.3**
comp=Z,67nm,1.0s,mb5.6
HAU *e*MLR MLR
comp=Z,3μm,21.0s
HAU Haudompre 89.51 322 *eP* **P 11 21 24.5 -1.3**
HAU pmax pmax
comp=Z,33nm,1.0s,mb5.6
HAU MLR MLR
comp=Z,3μm,21.0s,MS5.7
HAU Haudompre 89.51 322 *eP* **P 11 21 24.5 -1.3**
comp=Z,33nm,1.0s,mb5.6
HAU LR LR
comp=Z,3μm,21.0s,MS5.7

LOMF Lomont 89.57 321 *eP* **P 11 21 27.1 +1.1**
THEF They Montfort 89.60 322 *eP* **P 11 21 26.7 +0.5**
BAIF Baives 89.62 325 *eP* **P 11 21 25.4 -0.9**
comp=Z,80nm,1.0s,mb5.7
BAIF Baives 89.62 325 *eP* **P 11 21 25.4 -0.9**
BAIF pmax pmax
comp=Z,40nm,1.0s,mb5.7
BAIF Baives 89.62 325 *eP* **P 11 21 25.4 -0.9**
comp=Z,40nm,1.0s,mb5.7
XSO Sourhope Farm 89.70 331 *eP* **P 11 21 27.0 +0.4**
KAC Achnashellach 89.75 334 *eP* **P 11 21 26.5 -0.4**
EDI Edinburgh 89.85 332 *eP* **P 11 21 28.6 +1.2**
EDI AMb AMB 11 21 31.6
comp=Z,85nm,1.3s,mb5.9
MEZF Maizieres J'vi 89.99 323 *eP* **P 11 21 27.4 -0.6**
comp=Z,144nm,1.1s,mb5.9
MEZF Maizieres J'vi 89.99 323 *eP* **P 11 21 27.4 -0.6**
comp=Z,144nm,1.1s,mb6.2
KPL Plockton 90.00 334 *eP* **P 11 21 28.4 +0.3**
KPL AMb AMB 11 21 29.6
comp=Z,126nm,1.3s,mb6.1
EKA Eskdalemuir Ar 90.20 331 P **P 11 21 28.9 -0.2**
comp=Z,18nm,1.1s,mb5.3,baz=86,slow=4.3,SNR=12
ESK Eskdalemuir 90.23 331 *eP* **P 11 21 29.3 +0.1**
ESK Eskdalemuir 90.23 331 *eP* **P 11 21 30.7 +1.5**
ESK pmax pmax
comp=Z,53nm,1.1s,mb5.8
ESK Eskdalemuir 90.23 331 *eP* **P 11 21 30.7 +1.6**
comp=Z,53nm,1.1s,mb5.8
ECK Cauldkaine Hil 90.28 331 *eP* **P 11 21 29.6 +0.2**
FIN Finale Ligure 90.31 318 P **P 11 21 29.2 -0.3**
KAR1 Arisaig 90.34 334 *eP* **P 11 21 30.2 +0.5**
BHH Howats Hill 90.38 331 *eP* **P 11 21 29.5 -0.3**
PGBU Glenifferbraes 90.49 332 *eP* **P 11 21 30.3 0.0**
PGBU AMb AMB 11 21 35.3
comp=Z,57nm,1.4s,mb5.7
BWH Wardlaw 90.52 331 *eP* **P 11 21 30.7 +0.2**
RSL Roselend 90.54 320 *eP* **P 11 21 30.7 +0.1**
LPG La Plagne 90.56 320 *eP* **P 11 21 30.6 -0.1**
comp=Z,246nm,0.9s,mb6.2
LPG La Plagne 90.56 320 *eP* **P 11 21 30.6 -0.1**
LPG pmax pmax
comp=Z,123nm,0.9s,mb6.2
LPG La Plagne 90.56 320 *eP* **P 11 21 30.6 -0.1**
comp=Z,123nm,0.9s,mb6.2
LPL La Plagne 90.56 320 *eP* **P 11 21 30.5 -0.2**
comp=Z,244nm,0.8s,mb6.3
LPL La Plagne 90.56 320 *eP* **P 11 21 30.5 -0.2**
LPL pmax pmax
comp=Z,122nm,0.8s,mb6.3
LPL La Plagne 90.56 320 *eP* **P 11 21 30.5 -0.2**
comp=Z,122nm,0.8s,mb6.3
LHO Holmfirth 90.70 330 *eP* **P 11 21 30.7 -0.7**
KBI1 Birley Grange 90.72 329 *eP* **P 11 21 31.3 -0.2**
PGC Sidney 90.73 36 *eP* **P 11 21 33.7 +2.2**
comp=Z,60nm,1.1s,mb5.8
DOI San Damiano 90.76 319 P **P 11 21 29.8 -1.8**
BNI Bardonecchia 90.83 319 *eP* **P 11 21 31.7 -0.2**
BNI pmax pmax
comp=Z,90nm,1.0s,mb6.0
BNI Bardonecchia 90.83 319 *eP* **P 11 21 31.7 -0.3**
comp=Z,90nm,1.0s,mb6.0
SAOF Saorge 90.83 318 *eP* **P 11 21 32.1 +0.2**
AUTN L'Aution 90.91 318 *eP* **P 11 21 32.6 +0.3**
MBDF Montbardon 90.94 319 *eP* **P 11 21 32.2 -0.2**
comp=Z,117nm,1.0s,mb5.9
MBDF Montbardon 90.94 319 *eP* **P 11 21 32.2 -0.2**
MBDF pmax pmax
comp=Z,59nm,1.0s,mb5.9
MBDF Montbardon 90.94 319 *eP* **P 11 21 32.2 -0.2**
comp=Z,58nm,1.0s,mb5.9
TOUF Mont Tournerai 91.01 318 *eP* **P 11 21 33.2 +0.4**
LUCF Luceram 91.01 318 *eP* **P 11 21 33.1 +0.3**
KWE Weaver Farm 91.02 329 *eP* **P 11 21 32.3 -0.5**
SURF Saint Ours 91.04 319 *eP* **P 11 21 33.5 +0.6**
OSD Olympics--Snow 91.05 37 P **P 11 21 37.5 +4.6**
TSA1 Sevenoaks 91.09 327 *eP* **P 11 21 33.6 +0.4**
GDM Grand'Maison 91.10 320 *eP* **P 11 21 33.8 +0.6**
MVIF Mont Vial 91.13 318 *eP* **P 11 21 33.4 +0.1**
GAL1 Galloway 91.19 332 *eP* **P 11 21 33.5 -0.1**
GAL1 AMb AMB 11 21 42.5
comp=Z,97nm,1.7s,mb5.9
VDB Vedder Mountai 91.27 36 P **P 11 21 36.8 +2.8**
GRN Grenoble 91.30 320 *eP* **P 11 21 34.7 +0.6**
LOR Lormes 91.33 322 *eP* **P 11 21 33.1 -1.1**
comp=Z,114nm,1.3s,mb5.8
LOR *e*MLR MLR
comp=Z,2μm,20.2s
LOR Lormes 91.33 322 *eP* **P 11 21 33.1 -1.1**
LOR pmax pmax
comp=Z,57nm,1.3s,mb5.7
LOR MLR MLR
comp=Z,2μm,20.3s,MS5.6
LOR Lormes 91.33 322 *eP* **P 11 21 33.1 -1.1**
comp=Z,57nm,1.3s,mb5.7
LOR LR LR
comp=Z,2μm,20.3s,MS5.6
ORIF Oris-en-Rattie 91.39 320 *eP* **P 11 21 34.0 -0.5**
comp=Z,168nm,1.0s,mb6.0
ORIF *e*MLR MLR
comp=Z,3μm,18.8s
ORIF Oris-en-Rattie 91.39 320 *eP* **P 11 21 34.0 -0.5**
ORIF pmax pmax
comp=Z,84nm,1.0s,mb6.0
ORIF Oris-en-Rattie 91.39 320 *eP* **P 11 21 34.0 -0.5**
comp=Z,84nm,1.0s,mb6.0
MBW Mount Baker 91.52 36 P **P 11 21 36.0 +0.9**
OG25 Le Caire 91.55 319 *eP* **P 11 21 35.4 +0.1**
FRF La Foret Royal 91.62 318 *eP* **P 11 21 34.8 -0.8**
comp=Z,194nm,1.0s,mb6.1
FRF La Foret Royal 91.62 318 *eP* **P 11 21 34.8 -0.8**
FRF pmax pmax
comp=Z,97nm,1.0s,mb6.1
FRF La Foret Royal 91.62 318 *eP* **P 11 21 34.8 -0.8**
comp=Z,97nm,1.0s,mb6.1
SSF Saint Saulge 91.64 322 *eP* **P 11 21 34.7 -1.0**
comp=Z,60nm,1.2s,mb5.5
SSF Saint Saulge 91.64 322 *eP* **P 11 21 34.7 -1.0**
SSF pmax pmax
comp=Z,30nm,1.2s,mb5.5
SSF Saint Saulge 91.64 322 *eP* **P 11 21 34.7 -1.0**
comp=Z,30nm,1.2s,mb5.5
SMF Signal de Mont 91.68 322 *eP* **P 11 21 34.8 -1.1**
comp=Z,108nm,1.1s,mb5.8
SMF Signal de Mont 91.68 322 *eP* **P 11 21 34.8 -1.1**
SMF pmax pmax
comp=Z,54nm,1.1s,mb5.8
SMF Signal de Mont 91.68 322 *eP* **P 11 21 34.8 -1.1**
comp=Z,54nm,1.1s,mb5.8
GNW Green Mountain 91.68 37 *eP* **P 11 21 40.4 +4.5**
SBD1 Bryn Du 91.76 330 *eP* **P 11 21 38.5 +2.2**
LMR La Mourre 91.82 318 *eP* **P 11 21 35.9 -0.6**
comp=Z,246nm,1.1s,mb6.2
LMR La Mourre 91.82 318 *eP* **P 11 21 35.9 -0.6**
LMR pmax pmax
comp=Z,123nm,1.1s,mb6.2
LMR La Mourre 91.82 318 *eP* **P 11 21 35.9 -0.6**
comp=Z,123nm,1.1s,mb6.2
VSL Villasalto 91.86 314 *eP* **P 11 21 36.6 -0.1**
comp=Z,100nm,1.0s,mb6.1
AVF Avril sur Loir 91.88 322 *eP* **P 11 21 35.7 -1.1**
comp=Z,102nm,1.2s,mb5.7
AVF Avril sur Loir 91.88 322 *eP* **P 11 21 35.7 -1.1**
AVF pmax pmax
comp=Z,51nm,1.2s,mb5.7
AVF Avril sur Loir 91.88 322 *eP* **P 11 21 35.7 -1.1**
comp=Z,51nm,1.2s,mb5.7
HYF Humbligny 92.02 323 *eP* **P 11 21 37.1 -0.4**
SMRF Simiane la Rot 92.06 319 *eP* **P 11 21 37.4 -0.3**
comp=Z,107nm,1.0s,mb5.8
SMRF Simiane la Rot 92.06 319 *eP* **P 11 21 37.4 -0.3**
comp=Z,107nm,1.0s,mb6.1
WCB1 Church Bay 92.07 330 *eP* **P 11 21 37.0 -0.7**
VIVF Saint-Julien-l 92.15 320 *eP* **P 11 21 37.4 -0.6**
comp=Z,98nm,1.0s,mb5.8
VIVF Saint-Julien-l 92.15 320 *eP* **P 11 21 37.4 -0.6**
VIVF pmax pmax
comp=Z,49nm,1.0s,mb5.8
VIVF Saint-Julien-l 92.15 320 *eP* **P 11 21 37.4 -0.6**
comp=Z,49nm,1.0s,mb5.8
PLDF La Plantade 92.17 321 *eP* **P 11 21 38.5 +0.3**
MCH1 Michaelchurch 92.20 329 P **P 11 21 37.5 -0.8**
MCH1 AMb AMB 11 21 40.3
comp=Z,34nm,1.1s,mb5.6
MCH1 Michaelchurch 92.20 329 *eP* **P 11 21 37.1 -1.2**
MCH1 *eP* 11 21 37.5
MCH1 AMb AMB 11 21 40.3
comp=Z,34nm,1.1s,mb5.6
SFJD Kangerlussuaq 92.22 356 *i* P **P 11 21 38.4 0.0**
SFJD pmax pmax
comp=Z,24nm,1.0s,mb5.5
SFJD MLR MLR
comp=Z,1μm,18.0s,MS5.4
SFJD Kangerlussuaq 92.22 356 *i* P **P 11 21 38.4 0.0**
comp=Z,24nm,1.0s,mb5.5
SFJD *e* 11 33 21.3
SFJD LR LR
comp=Z,1μm,18.0s,MS5.4
HTR Trewern Hill 92.28 329 *eP* **P 11 21 37.3 -1.3**
BGF Bois d'Agland 92.30 322 *eP* **P 11 21 37.7 -1.0**
AGO Saint Agoulin 92.41 322 *eP* **P 11 21 41.7 +2.4**
LDF La Druitiere 92.79 325 *eP* **P 11 21 40.4 -0.6**
comp=Z,43nm,1.0s,mb5.5
LDF La Druitiere 92.79 325 *eP* **P 11 21 40.4 -0.6**
LDF pmax pmax
comp=Z,21nm,1.0s,mb5.5
LDF La Druitiere 92.79 325 *eP* **P 11 21 40.4 -0.6**
comp=Z,21nm,1.0s,mb5.5
LBL Lubilhac 92.80 321 *eP* **P 11 21 42.7 +1.7**
TCF Toulx Ste Croi 92.81 322 *eP* **P 11 21 40.4 -0.7**
comp=Z,97nm,1.1s,mb5.8
TCF Toulx Ste Croi 92.81 322 *eP* **P 11 21 40.4 -0.7**
TCF pmax pmax
comp=Z,48nm,1.1s,mb5.8
TCF Toulx Ste Croi 92.81 322 *eP* **P 11 21 40.4 -0.7**
comp=Z,48nm,1.1s,mb5.8
FLN La Foliniere 92.88 325 *eP* **P 11 21 39.8 -1.6**
comp=Z,44nm,1.0s,mb5.5
FLN *e*MLR MLR
comp=Z,4μm,21.2s
FLN La Foliniere 92.88 325 *eP* **P 11 21 39.8 -1.6**
FLN pmax pmax
comp=Z,22nm,1.0s,mb5.5
FLN MLR MLR
comp=Z,4μm,21.3s,MS5.8
FLN La Foliniere 92.88 325 *eP* **P 11 21 39.8 -1.6**
comp=Z,22nm,1.0s,mb5.5
FLN LR LR
comp=Z,4μm,21.3s,MS5.8
LASF Ste Croix 93.06 320 *eP* **P 11 21 41.7 -0.6**
comp=Z,77nm,1.1s,mb5.7
EDM Edmonton 93.07 29 *eP* **P 11 21 43.6 +1.3**
GRR Gorron 93.31 325 *eP* **P 11 21 42.1 -1.3**
comp=Z,51nm,1.1s,mb5.6
GRR Gorron 93.31 325 *eP* **P 11 21 42.1 -1.3**
GRR pmax pmax
comp=Z,26nm,1.1s,mb5.6
GRR Gorron 93.31 325 *eP* **P 11 21 42.1 -1.3**
comp=Z,26nm,1.1s,mb5.6
CAF Calviac 93.66 321 *eP* **P 11 21 44.7 -0.3**
comp=Z,50nm,1.2s,mb5.5
CAF Calviac 93.66 321 *eP* **P 11 21 44.7 -0.3**
CAF pmax pmax
comp=Z,25nm,1.2s,mb5.5
CAF Calviac 93.66 321 *eP* **P 11 21 44.7 -0.3**
comp=Z,25nm,1.2s,mb5.5
KEST Kesra 93.69 310 P **P 11 21 45.7 +0.6**
comp=Z,20nm,1.0s,mb5.5,baz=332,slow=4.1,SNR=25
RJF Les Rejaudoux 93.77 322 *eP* **P 11 21 45.3 -0.2**
comp=Z,124nm,1.2s,mb5.9
RJF *e*MLR MLR
comp=Z,3μm,18.8s
RJF Les Rejaudoux 93.77 322 *eP* **P 11 21 45.3 -0.2**
RJF pmax pmax
comp=Z,62nm,1.2s,mb5.9
RJF MLR MLR
comp=Z,3μm,18.8s,MS5.7
RJF Les Rejaudoux 93.77 322 *eP* **P 11 21 45.3 -0.2**
comp=Z,62nm,1.2s,mb5.9
RJF LR LR
comp=Z,3μm,18.8s,MS5.7
MFF Saint Martin d 93.97 323 *eP* **P 11 21 45.7 -0.7**
comp=Z,92nm,1.1s,mb5.8
MFF Saint Martin d 93.97 323 *eP* **P 11 21 45.7 -0.7**
MFF pmax pmax
comp=Z,46nm,1.1s,mb5.8
MFF Saint Martin d 93.97 323 *eP* **P 11 21 45.7 -0.7**
comp=Z,46nm,1.1s,mb5.8
HAWA Hanford 94.20 37 *eP* **P 11 21 48.8 +1.3**
comp=Z,10.0nm,0.9s,mb5.2
SGMF Saint Gilles 94.29 326 *eP* **P 11 21 46.5 -1.4**
comp=Z,72nm,1.2s,mb5.7
SGMF Saint Gilles 94.29 326 *eP* **P 11 21 46.5 -1.4**
comp=Z,36nm,1.2s,mb5.7
NEW Newport 94.39 34 P **P 11 21 49.0 +0.6**
comp=Z,11nm,1.0s,mb5.2,baz=333,slow=4.2,SNR=9.6
NEW Newport 94.39 34 *eP* **P 11 21 49.6 +1.3**
NEW pmax pmax
comp=Z,22nm,1.1s
NEW Newport 94.39 34 *eP* **P 11 21 49.6 +1.2**
comp=Z,22nm,1.1s,mb5.5
MTLF Montolieu 94.46 320 *eP* **P 11 21 48.0 -0.7**
comp=Z,43nm,0.9s,mb5.6
MTLF Montolieu 94.46 320 *eP* **P 11 21 48.0 -0.7**
comp=Z,22nm,0.9s,mb5.6
CMAH Djebel Manchou 94.61 312 P **P 11 21 51.0 +1.6**
ROSF Rostrenen 94.62 326 *eP* **P 11 21 47.9 -1.5**
comp=Z,76nm,1.1s,mb5.7
ROSF Rostrenen 94.62 326 *eP* **P 11 21 47.9 -1.5**
comp=Z,38nm,1.1s,mb5.7
CGMA Guelma 94.70 312 P **P 11 21 50.0 +0.2**
ABSA Djebel Ababsia 94.74 312 P **P 11 21 52.0 +2.0**
QUIF Quistinic 94.82 326 *eP* **P 11 21 49.4 -0.9**
comp=Z,68nm,1.1s,mb5.7
QUIF Quistinic 94.82 326 *eP* **P 11 21 49.4 -0.9**
comp=Z,34nm,1.1s,mb5.7
CAEH 'Ain El Ouahch 94.93 312 P **P 11 21 55.0 +4.2**
BUOR Burton Butte 94.95 41 P **P 11 21 54.3 +3.4**
YBH Yreka Blue Hor 94.97 42 P **P 11 21 52.1 +1.1**
comp=Z,4.9nm,1.0s,mb4.9,baz=112,slow=3.5,SNR=5.7
YBH Yreka Blue Hor 94.97 42 *eP* **P 11 21 54.4 +3.4**
VALF Valcebollere 95.11 319 *eP* **P 11 21 52.2 +0.6**
CKFL Kef-Lekhel 95.21 312 P **P 11 21 54.0 +1.9**
CASM Ain Smara 95.44 312 P **P 11 21 55.0 +1.8**
WALA Waterton Lakes 95.53 32 *eP* **P 11 21 55.6 +2.1**
comp=Z,21nm,1.1s,mb5.5
CTEI Djebel Teioual 95.60 312 P **P 11 21 56.0 +2.1**
DFRA Djebel Bou Aff 95.72 312 P **P 11 21 57.0 +2.6**
BSMT Bassoo Peak 95.87 34 *eP* **P 11 21 59.5 +4.4**
RESF Ens 95.89 320 *eP* **P 11 21 56.3 +1.1**
VIEF Viey 96.04 320 *eP* **P 11 21 56.5 +0.6**
BMO Blue Mountains 96.38 37 *eP* **P 11 22 04.3 +6.9**
BMO Blue Mountains 96.38 37 *eP* **P 11 21 58.3 +0.9**
ETSF Etsaut 96.38 320 *eP* **P 11 21 57.2 -0.2**
comp=Z,28nm,1.0s,mb5.3
ETSF Etsaut 96.38 320 *eP* **P 11 21 57.2 -0.2**
comp=Z,14nm,1.0s,mb5.3
PPT Papeete 96.40 106 *eS* S 11 33 13.0 -4.2
comp=Z,2μm,26.0s
PPT *e*SS SS 11 39 46.9 -3.1
comp=Z,1μm,25.8s
PPT *e*LR LR 11 53 01.8
comp=Z,5μm,27.0s,baz=289
SJPF Ste Jean 96.65 321 *eP* **P 11 21 56.6 -2.1**
comp=Z,22nm,1.1s,mb5.2
SJPF Ste Jean 96.65 321 *eP* **P 11 21 56.6 -2.1**
comp=Z,11nm,1.1s,mb5.2
LSZ Lusaka 97.00 256 *eP* **P 11 22 00.3 0.0**
LSZ pmax pmax
comp=Z,20nm,0.8s,mb5.6
LSZ Lusaka 97.00 256 *eP* **P 11 22 00.3 0.0**
comp=Z,20nm,0.8s,mb5.6
MAW Mawson 97.55 199 P **P 11 22 02.0 -0.7**
comp=Z,3.7nm,0.9s,mb4.9,baz=51,slow=12,SNR=3.9
MAW PKKPbc PKKPbc 11 38 38.8 -0.4
comp=Z,1.0nm,0.5s,baz=237,slow=5.8,SNR=3.7
EGMT Eagleton 98.28 31 *eP* **P 11 22 07.5 +1.5**
comp=Z,9.1nm,0.9s,mb5.3
TBI Tubuai 98.40 112 *e*LR LR 11 26 39.4
comp=Z,2μm,30.8s
TBI Tubuai 98.40 112 *e*LR LR 11 53 53.6
comp=Z,5μm,30.8s,baz=295
DLMT Dillon 98.63 35 *eP* **P 11 22 11.7 +4.1**
comp=Z,16nm,1.0s,mb5.5
HLID Hailey 98.81 37 *eP* **P 11 22 11.2 +2.8**
WAKR Walker 98.86 43 *eP* **P 11 22 12.6 +4.0**
NVAR Mina Array Bea 99.62 43 P Pdif 11 22 12.1 +0.1
comp=Z,1.8nm,0.8s,baz=297,slow=6.2,SNR=9.2
VNDA Vanda 101.09 172 P Pdif 11 22 16.2 -2.4
comp=Z,2.2nm,0.9s,baz=327,slow=3.7,SNR=6.4
VNDA PKKPbc PKKPbc 11 38 29.6 +0.4
comp=Z,3.4nm,0.9s,baz=196,slow=1.5,SNR=16
PDAR Pinedale Array 102.00 35 P Pdif 11 22 21.2 -1.3
comp=Z,0.2nm,0.6s,baz=252,slow=4.6,SNR=2.4
PDAR PP PP 11 26 36.2 +2.3
comp=Z,1.6nm,1.0s,baz=316,slow=6.2,SNR=4.5
PDAR PKKPbc PKKPbc 11 38 26.2 -0.4
comp=Z,1.5nm,1.0s,baz=108,slow=3.8,SNR=7.8
TAOE Nuku Hiva Isla 102.19 95 *e*SS SS 11 41 07.0 -4.1
comp=Z,2μm,27.0s
TAOE *e*LR LR 11 55 22.8
comp=Z,19μm,32.5s,baz=300
ANMO Albuquerque 109.14 39 PKiKP PKiKP 11 26 59.1 +0.7
comp=Z,1.9nm,0.8s,baz=221,slow=0.7,SNR=8.2
QSPA South Pole Qui 110.58 180 *eP* PKiKP 11 26 57.3 -3.8
TORD Torodi Ar. Bea 110.70 294 PKiKP PKiKP 11 27 01.0 -0.3
comp=Z,3.7nm,0.8s,baz=34,slow=1.7,SNR=11
TORD PKKPbc PKKPbc 11 37 59.8 0.0
comp=Z,1.6nm,0.8s,baz=271,slow=2.8,SNR=5.4
TORD Torodi Ar. Bea 110.70 294 PKPdf PKiKP 11 27 01.0 -0.3
TORD PKKPbc PKKPbc 11 37 59.8 0.0
RKT Rikitea 111.11 108 *e*SKSac SKSac 11 33 40.1 -1.6
comp=Z,1μm,28.5s
RKT *e*SS SS 11 43 13.7 +1.4
comp=Z,835nm,36.0s
RKT *e*LR LR 11 59 31.6
comp=Z,3μm,32.2s,baz=285
NVL N'lazarevskaya 115.45 200⇓ *i*PKIKP PKPdf 11 27 10.9 +0.5
NVL pmax pmax
comp=E,7.0nm,0.7s
NVL pmax pmax
comp=Z,16nm,0.7s
NVL pmax pmax
comp=N,14nm,1.1s
JCT Junction City 116.24 38 *e*PKIKP PKPdf 11 27 13.8 +1.9
WVT Waverly 117.55 25 *e*PKIKP PKPdf 11 27 14.0 -0.4
DBIC Dimbokro 119.43 291 PKP PKPdf 11 27 18.7 +0.7
comp=N,7.0nm,0.8s,baz=336,slow=2.6,SNR=7.3
TKL Tuckaleechee C 119.50 22 PKP PKPdf 11 27 17.8 -0.4
comp=N,8.6nm,0.7s,baz=65,slow=1.4,SNR=10
SNAA Sanae 119.69 198 PKKPbc PKKPbc 11 37 28.0 -0.6
comp=N,2.1nm,0.9s,baz=313,slow=3.2,SNR=8.5
SNAA Sanae 119.69 198 *e*PKIKP PKPdf 11 27 16.0 -2.5
PMSA Palmer Station 135.94 177 PKP PKPdf 11 27 48.7 -0.8
comp=N,6.1nm,0.9s,baz=202,slow=3.6,SNR=4.4
CPD Cerro la Pandu 140.99 9 *e*PKIKP PKPdf 11 28 00.9 +2.2
USHA Ushuaia 145.39 171 PKPbc PKPbc 11 28 06.4 0.0
comp=N,35nm,0.7s,baz=202,slow=6.6,SNR=15
SDV Santo Domingo 148.70 21 *e*PKPdf PKPdf 11 28 12.8 +0.8
SDV *e*PKPbc PKPbc 11 28 17.0 +1.2
ROSC El Rosal 150.87 31 PKP PKPdf 11 28 15.8 +0.4
comp=N,23nm,0.9s,baz=92,slow=12,SNR=10.0
ROSC El Rosal 150.87 31 *e*PKPdf PKPdf 11 28 17.4 +2.0
OTAV Otavalo 152.36 43 *e*PKPdf PKPdf 11 28 20.7 +3.0
PLCA Paso Flores 158.15 158 PKP PKPdf 11 28 26.2 +0.7
comp=N,2.8nm,0.9s,baz=205,slow=12,SNR=4.9
PLCA PKPab PKPab 11 28 58.9 -0.4
comp=N,14nm,1.1s,baz=229,slow=3.4,SNR=4.9
PLCA Paso Flores 158.15 158 *e*PKIKP PKPdf 11 28 27.5 +2.0
PLCA Paso Flores 158.15 158 *e*PKPab PKPab 11 29 01.8 +2.5
NNA Nana 161.59 64 PKP PKPdf 11 28 30.3 +0.9
comp=N,7.5nm,0.7s,baz=329,slow=6.0,SNR=4.3
CFAA Coronel Fontan 166.90 147 PKP PKPdf 11 28 34.6 +0.5
comp=N,1.6nm,0.8s,baz=266,slow=2.8,SNR=18
BDFB Brasilia 167.58 292 PKP PKPdf 11 28 35.2 +0.5
comp=N,7.6nm,0.9s,baz=119,slow=0.7,SNR=6.7
BDFB PKPab PKPab 11 29 41.5 +0.9
comp=N,11nm,0.9s,baz=93,slow=1.7,SNR=7.1
BDFB Brasilia 167.58 292 PKIKP PKPdf 11 28 35.2 +0.5
BDFB *e* 11 29 41.2
BDFB Brasilia 167.58 292 PKP PKPdf 11 28 35.2 +0.5
BDFB *e*PKPab PKPab 11 29 41.2 +0.6
BDFB PKPab PKPab 11 29 41.5 +0.9
SAML Samuel 167.83 15 *e*PKPdf PKPdf 11 28 35.1 +0.2
SAML *e*PKPab PKPab 11 29 41.1 -0.6
LPAZ La Paz 171.04 61 PKP PKPdf 11 28 38.7 +1.9
comp=N,13nm,1.0s,baz=12,slow=10,SNR=9.7
CPUP Villa Florida 173.98 203 PKP PKPdf 11 28 38.0 -0.1
comp=N,5.7nm,0.9s,baz=325,slow=2.2,SNR=13
CPUP PKPab PKPab 11 30 09.0 0.0
comp=N,6.1nm,0.8s,baz=118,slow=4.6,SNR=9.0
SIV San Ignacio 175.12 13 PKP PKPdf 11 28 38.9 +0.5
comp=N,17nm,0.9s,baz=145,slow=0.9,SNR=44
SIV PKPab PKPab 11 30 14.6 +0.5
comp=N,4.1nm,0.8s,baz=327,slow=6.5,SNR=5.6

IDC 09 11:17:21.1±2.9, 2095N×11898E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=99.6km s-min=24.9km az=96.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.85**	**43**	P	P	11 22 27.8	+1.9
	1.3nm,0.5s,baz=248,slow=9.3,SNR=5.2						
WRA	**Warramunga Arr**	**43.33**	**159**	P	P	11 25 25.3	+0.5
	3.0nm,0.6s,baz=342,slow=9.1,SNR=8.8						
ASAR	**Alice Springs**	**46.67**	**161**	P	P	11 25 52.8	+1.4
	0.6nm,0.5s,baz=344,slow=6.9,SNR=12						
CTA	**Charters Tower**	**48.74**	**145**	P	P	11 26 06.1	-1.4
	4.6nm,0.9s,baz=329,slow=5.9,SNR=3.1						
INK	**Inuvik**	**76.97**	**21**	P	P	11 29 14.2	-1.4
	6.2nm,1.0s,baz=294,slow=4.2,SNR=3.2						

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*IDC **09** 11:19:30.4±1.2, 2070N×120.10E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=42.9km s-min=22.5km az=72.0*
*NEIC **09** 11:19:31.9±0.9, 2070N×120.05E, h10km, mb4.3/2, Error ellipse: s-maj=31.4km s-min=16.3km az=81.0*
*ISCJB **09** 11:19:33.4±1.0, 207N±0.1×120.1E±03, h33km, mb4.0/6, Error ellipse: s-maj=34.1km s-min=17.2km az=157.8*

ISC 09 11:19:35.6±1.0, 207N±01×1201E±02, h35km, n9, σ0°88/9, mb4.0/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	P	11 24 30.1	-0.2
	4.7nm,1.0s,mb3.9,baz=233,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	P	11 24 30.1	-0.2
MKAR	**Makanchi Array**	**40.19**	**319**	P	P	11 27 08.5	0.0
	0.7nm,0.7s,mb3.5,baz=116,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**42.76**	**160**	P	P	11 27 28.9	-0.7
	2.6nm,0.7s,mb4.1,baz=343,slow=9.0,SNR=6.0						
WB2	**Warramunga Arr**	**42.76**	**160**	*eP*	P	11 27 28.3	-1.3
ASAR	**Alice Springs**	**46.13**	**162**	P	P	11 27 56.3	-0.2
	0.6nm,0.6s,mb3.7,baz=351,slow=7.1,SNR=4.4						
CTA	**Charters Tower**	**47.98**	**146**	*eP*	P	11 28 12.0	+1.1
	5.9nm,0.9s,mb4.6						
CTA	**Charters Tower**	**47.98**	**146**	P	P	11 28 11.4	+0.6
	7.5nm,0.9s,mb4.7,baz=331,slow=6.7,SNR=5.7						
STKA	**Stephens Creek**	**56.22**	**158**	*eP*	P	11 29 13.8	+1.6
	1.8nm,1.5s,mb3.9						

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*IDC **09** 11:20:47.2±2.0, 1210N×144.00E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.2/6, Error ellipse: s-maj=55.8km s-min=28.3km az=147.0*
*NEIC **09** 11:20:48.6±1.8, 1209N×14398E, h10km, Error ellipse: s-maj=50.5km s-min=24.0km az=152.0*
*ISCJB **09** 11:20:49.4±6.8, 122N±03×1439E±02, h21km±45km, mb4.1/6, Error ellipse: s-maj=56.1km s-min=19.3km az=95.8*

ISC 09 11:20:49.6±7.0, 122N±02×1439E±03, h13km±43km, n10, σ0°86/11, mb4.1/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.69**	**32**	Pn	**Pn**	**11 21 18.7**	**-0.1**
	106nm,0.3s,baz=188,slow=9.1,SNR=32						
GUMO				Sn	**Sn**	**11 21 40.4**	**+0.1**
	143nm,0.3s,baz=32,slow=22,SNR=15						
MKAR	**Makanchi Array**	**61.91**	**317**	P	P	11 31 10.2	+1.4
	0.3nm,0.6s,mb3.6,baz=90,slow=7.8,SNR=3.4						
BVAR	**Borovoye Array**	**70.50**	**322**	P	P	11 32 03.8	-0.1
	0.9nm,0.5s,mb4.0,baz=101,slow=6.6,SNR=5.4						
YKA	**Yellowknife Ar**	**84.55**	**27**	P	P	11 33 22.6	+0.2
	0.8nm,0.5s,mb4.2,baz=285,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**84.55**	**27**	P	P	11 33 22.6	+0.2
ARCES	**ARCESS Array B**	**88.17**	**342**	P	P	11 33 40.0	-0.2
	1.6nm,0.8s,mb4.3,baz=60,slow=5.9,SNR=4.5						
ARCES	**ARCESS Array B**	**88.17**	**342**	P	P	11 33 40.0	-0.2
NVAR	**Mina Array Bea**	**88.52**	**51**	P	P	11 33 42.5	+0.6
	0.7nm,0.6s,mb4.1,baz=262,slow=6.4,SNR=7.0						
FINES	**FINESS Array B**	**92.08**	**335**	P	P	11 33 56.5	-2.0

1.7nm,0.9s,mb4.4,baz=64,slow=4.4,SNR=5.5
FINES FINESS Array B 92.08 335 P **P 11 33 56.5 -2.0**

*ISCJB **09** 11:23:50.3±2.3,56S±04×1014E±06,h34km,mb4.0/8, Error ellipse: s-maj=100.3km s-min=15.0km az=105.2*
*NEIC **09** 11:23:52.0±2.4,564S×10143E,h30km, Error ellipse: s-maj=107.0km s-min=15.7km az=52.0*
*IDC **09** 11:23:53.8±1.8,538S×10170E,h34km±5km,mb3.8/8, mb1 3.9/8,mb1mx3.8/20,mbtmp4.0/8,Error ellipse: s-maj=78.5km s-min=13.5km az=53.0*
ISC 09 11:23:52.8±2.3,57S±04×1014E±06,h36km, h36km±1.1km:pP-P,n10,σ0:98/10,mb4.0/8,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**26.75**	**120**	*e*P	**P**	**11 29 26.8**	**-2.2**
	3.8nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**26.75**	**120**	P	**P**	**11 29 28.1**	**-0.9**
	3.5nm,0.8s,mb4.0,baz=272,slow=6.8,SNR=8.8						
WRA	**Warramunga Arr**	**35.06**	**117**	P	**P**	**11 30 41.2**	**-1.0**
	2.0nm,0.8s,mb4.1,baz=291,slow=10,SNR=7.7						
WRA				pP	pP	11 30 52.0	-0.6
	0.7nm,0.5s,baz=303,slow=8.8,SNR=4.9						
ASAR	**Alice Springs**	**36.08**	**123**	P	**P**	**11 30 51.1**	**+0.1**
	1.4nm,0.5s,mb4.2,baz=298,slow=7.9,SNR=35						
STKA	**Stephens Creek**	**45.75**	**130**	P	**P**	**11 32 11.4**	**+0.8**
	1.2nm,0.5s,mb4.1,baz=318,slow=7.4,SNR=7.0						
STKA				pP	pP	11 32 21.7	+0.5
	0.9nm,0.5s,baz=286,slow=3.3,SNR=1.5						
CTA	**Charters Tower**	**45.90**	**112**	P	**P**	**11 32 13.5**	**+1.8**
	2.9nm,0.9s,mb4.2,baz=249,slow=14,SNR=4.5						
SONM	**Songino Array**	**53.45**	**4**	P	**P**	**11 33 09.4**	**+0.1**
	1.7nm,0.7s,mb4.1,baz=187,slow=9.6,SNR=9.8						
SONM				pP	pP	11 33 19.5	-0.5
	1.6nm,0.7s,baz=181,slow=9.1,SNR=6.6						
MKAR	**Makanchi Array**	**54.89**	**344**	P	**P**	**11 33 20.2**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=152,slow=8.7,SNR=5.1						
MKAR				pP	pP	11 33 30.1	-0.4
	1.4nm,0.9s,baz=145,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**54.89**	**344**	P	**P**	**11 33 20.2**	**+0.4**
BVAR	**Borovoye Array**	**64.06**	**340**	P	**P**	**11 34 22.2**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=141,slow=10,SNR=3.4						
BVAR				pP	pP	11 34 32.3	-1.6
	0.8nm,0.5s,baz=140,slow=9.7,SNR=4.1						

*SZGRF **09** 11:29:45.9, 1960N×12135E,h33km,mb5.3,Philippine Islands region*
*ISCJB **09** 11:29:46.9±0.3,2067N±005×12009E±008,h10km, mb4.6/42,MS4.8/3, Error ellipse: s-maj=12.1km s-min=6.2km az=134.0*
*IDC **09** 11:29:46.6±0.5,2062N×12000E,h0km,mb4.4/19, mb1 4.5/19,mb1mx4.5/23,mbtmp4.4/19,Error ellipse: s-maj=24.8km s-min=12.5km az=65.0*
*NEIC **09** 11:29:48.8±0.2,2066N×11993E,h10km,mb5.0/15,Error ellipse: s-maj=12.5km s-min=5.8km az=67.0*
*BJI **09** 11:29:48.7,2080N×11973E,h10km,mB4.9,mb4.6,ML4.2, Ms4.9,Msz4.4*
*MOS **09** 11:29:51.0±1.0,2081N×12004E,h33km,mb5.2/18,Error ellipse: s-maj=17.9km s-min=6.4km az=117.3*
ISC 09 11:29:47.7±2.5,2068N±005×12005E±008,h4km±15km, n111,σ0:95/111,mb4.6/42,MS4.8/3,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**4.45**	**343**	P	**Pn**	**11 30 58.4**	**+2.4**
QZH				S	**Sn**	**11 31 42.1**	**-6.2**
GZH	**Guangzhou**	**6.67**	**292**	P	**Pn**	**11 31 23.1**	**-3.4**
GZH				Smax			
	comp=N,154nm,0.8s						
GZH				Smax			
	comp=E,149nm,0.8s						
WHN	**Wuhan**	**11.09**	**334**	P	**Pn**	**11 32 25.5**	**-1.5**
NJ2	**Nanjing**	**11.38**	**355**	*e*P	**Pn**	**11 32 33.1**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA	**Guiyang**	**13.55**	**298**	P	**Pn**	**11 32 58.7**	**-2.0**
GYA				S	**Sn**	**11 35 22.9**	**-8.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,60nm,4.0s						
GYA				LR	LR		
	comp=N,670nm,12.0s						
GYA				LR	LR		
	comp=E,840nm,12.3s						
GYA				LR	LR		
	comp=Z,740nm,12.4s						
KMI	**Kunming**	**16.55**	**289**	P	**Pn**	**11 33 45.2**	**+4.6**
KMI				pmax	pmax		
	comp=Z,15nm,1.9s						
KMI	**Kunming**	**16.55**	**289**	P	**Pn**	**11 33 45.2**	**+4.6**
	comp=Z,15nm,1.9s						
XAN	**Xi'an**	**16.56**	**326**	P	**Pn**	**11 33 40.6**	**-0.2**
XAN				AP	pP	11 33 43.4	-1.1
XAN				AMB	AMB		
	comp=Z,6.0nm,1.4s						
CD2	**Chengdu**	**17.84**	**308**	*e*P	**Pn**	**11 33 56.9**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
BJT	**Baijiatuau**	**19.56**	**351**	*e*P	**Pn**	**11 34 17.3**	**-0.5**
BJT				pmax	pmax		
	comp=Z,22nm,0.9s						
BJT	**Baijiatuau**	**19.56**	**351**	*e*P	**Pn**	**11 34 17.3**	**-0.4**
	comp=Z,22nm,0.9s						
BJI	**Beijing**	**19.58**	**351**	*e*P	**Pn**	**11 34 17.4**	**-0.6**
BJI				AMB	AMB		
	comp=Z,32nm,1.0s						
BJI	**Beijing**	**19.58**	**351**	*e*P	**Pn**	**11 34 17.4**	**-0.6**
	comp=Z,32nm,1.0s						
HHC	**Hu-ho-hao-te**	**21.37**	**342**	*e*P	**P**	**11 34 37.3**	**+1.2**
HHC				AP		11 34 41.5	
HHC				XP	sP	11 34 44.9	+7.3
HHC				AMB	AMB		
	comp=Z,35nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,737nm,6.9s						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**11 34 47.5**	**+0.5**
	comp=Z,3.4nm,0.9s,mb3.8,baz=232,slow=9.4,SNR=10						
GTA	**Gaotai**	**25.50**	**322**	*e*P	**P**	**11 35 17.0**	**-0.1**
GTA				AP	pP	11 35 21.2	+3.0
GTA				XP	sP	11 35 24.0	+5.3
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
PSI	**Prapat**	**27.19**	**232**	P	**P**	**11 35 31.6**	**-0.8**
	comp=Z,2.7nm,0.6s,mb3.9,baz=45,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**29.26**	**341**	P	**P**	**11 35 50.5**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.0,baz=161,slow=8.7,SNR=12						
SONM				PcP	PcP	11 38 58.9	+1.1
	comp=Z,0.9nm,0.9s,baz=180,slow=4.0,SNR=4.2						
ZAK	**Zakamensk**	**32.47**	**340**	*e*P	**P**	**11 36 18.2**	**-1.0**
MK31	**Makanchi Array**	**40.21**	**319**	*i* P	**P**	**11 37 25.1**	**-0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**40.21**	**319**	P	**P**	**11 37 25.3**	**0.0**
	comp=Z,5.7nm,0.8s,mb4.4,baz=110,slow=10,SNR=30						
MKAR				PcP	PcP	11 39 29.6	+0.2
	comp=Z,2.2nm,0.9s,baz=104,slow=5.1,SNR=5.4						
YAK	**Yakutsk**	**41.86**	**7**	*e*P	**P**	**11 37 38.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
ULHL	**Ulahol**	**42.53**	**311**	P	**P**	**11 37 46.2**	**+1.8**
	SNR=7.4						
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**11 37 44.5**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.0,baz=0.1,slow=8.4,SNR=15						
WRAB	**Tennant Creek**	**42.72**	**160**	*e*P	**P**	**11 37 46.2**	**+0.3**
WRA	**Warramunga Arr**	**42.72**	**160**	P	**P**	**11 37 45.9**	**-0.1**
	comp=Z,6.7nm,0.9s,mb4.4,baz=342,slow=8.8,SNR=27						
WRA				PcP	PcP	11 39 37.9	+0.3
	comp=Z,1.9nm,0.8s,baz=345,slow=3.8,SNR=5.6						
WB2	**Warramunga Arr**	**42.73**	**160**	*e*P	**P**	**11 37 46.1**	**+0.1**
WB2	**Warramunga Arr**	**42.73**	**160**	*e*P	**P**	**11 37 45.9**	**-0.1**
TKM2	**Tokmak 2**	**43.18**	**311**	P	**P**	**11 37 50.5**	**+0.8**
	SNR=6.4						
KBK	**Karagaybulak**	**43.57**	**311**	P	**P**	**11 37 54.4**	**+1.7**
	SNR=5.2						
UCH	**Uchtor**	**43.76**	**310**	P	**P**	**11 37 56.4**	**+2.0**
	SNR=17						
AAK	**Ala-Archa**	**43.88**	**311**	*e*P	**P**	**11 37 55.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
NVS	**Novosibirsk**	**43.95**	**330**	*i* P	**P**	**11 37 55.8**	**0.0**
USP	**Ospenovka**	**44.05**	**311**	P	**P**	**11 37 57.8**	**+1.1**
	SNR=5.1						
KURK	**Kurchatov**	**44.17**	**323**	P	**P**	**11 37 57.5**	**-0.1**
	comp=Z,81nm,1.0s,mb5.4,SNR=5.1						
AML	**Almayashu**	**44.33**	**310**	P	**P**	**11 38 01.1**	**+2.2**
	SNR=7.3						
AS31	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**11 38 12.7**	**-0.2**
ASAR	**Alice Springs**	**46.09**	**162**	P	**P**	**11 38 11.8**	**-1.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=339,slow=6.4,SNR=17						
ASPA	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**11 38 13.3**	**+0.4**
KK31	**Karatay Array**	**46.84**	**310**	*i* P	**P**	**11 38 19.3**	**+0.5**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SEY	**Seymchan**	**47.62**	**19**	*e*P	**P**	**11 38 24.6**	**-0.2**
CTA	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**11 38 30.1**	**+2.7**
	comp=Z,14nm,1.0s,mb5.0						
CTA	**Charters Tower**	**47.95**	**146**	P	**P**	**11 38 26.8**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0,baz=329,slow=8.6,SNR=9.3						
CTA	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**11 38 30.1**	**+2.7**
CTA				pmax	pmax		
	comp=Z,15nm,1.0s						
CTAO	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**11 38 29.9**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
CTAO	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**11 38 29.9**	**+2.5**
	comp=Z,33nm,1.1s,mb5.3						
BVAR	**Borovoye Array**	**49.77**	**323**	P	**P**	**11 38 40.9**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=116,slow=10,SNR=9.0						
BVAR				PcP	PcP	11 40 02.0	-0.3
	comp=Z,4.7nm,0.9s,baz=116,slow=3.4,SNR=9.9						
CHKZ	**Chkalovo**	**49.88**	**324**	*i* P	**P**	**11 38 41.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
ZRNK	**Zerenda**	**50.53**	**322**	*i* P	**P**	**11 38 47.0**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**50.53**	**322**	*e*P	**P**	**11 38 47.1**	**-0.1**
	comp=Z,23nm,1.2s,mb5.0						
BILL	**Bilibino**	**55.33**	**19**	*e*P	**P**	**11 39 22.0**	**-0.6**
BILL				*e*		11 40 22.4	
BILL				*e*SS	SS	11 50 51.1	-0.5
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BILL				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.7						
STKA	**Stephens Creek**	**56.19**	**158**	*e*P	**P**	**11 39 29.6**	**+0.9**
	comp=Z,3.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**56.19**	**158**	P	**P**	**11 39 26.7**	**-2.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=325,slow=4.3,SNR=3.7						
AKTK	**Aktyubinsk**	**56.59**	**317**	P	**P**	**11 39 31.1**	**-0.5**
AKTO	**Aktyubinsk**	**56.59**	**317**	P	**P**	**11 39 31.1**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.8,baz=94,slow=6.9,SNR=18						
AKTO	**Aktyubinsk**	**56.59**	**317**	*i* P	**P**	**11 39 31.6**	**0.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
ARU	**Arti**	**57.30**	**325**	⇑*i* P	**P**	**11 39 35.7**	**-1.0**
ARU				*e*		11 40 26.2	
ARU				*e*		11 41 40.1	
ARU				*e*S	**S**	**11 47 33.3**	**-0.2**
ARU				*e*SS	SS	11 51 25.3	+2.6
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GNI	**Garni**	**65.95**	**306**	P	**P**	**11 40 35.4**	**+0.3**
	comp=Z,3.2nm,0.4s,mb4.7,baz=133,slow=14,SNR=3.7						
KIV	**Kislovodsk**	**67.00**	**310**	*e*P	**P**	**11 40 40.7**	**-1.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
OBN	**Obninsk**	**69.61**	**322**	*e*P	**P**	**11 40 57.4**	**-0.7**
OBN				*e*		11 43 32.8	
OBN				*e*SS	SS	11 54 33.8	-0.9
OBN				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.7						
ANN	**Anapa**	**70.60**	**312**	*e*P	**P**	**11 41 06.0**	**+1.8**
ANN				*e*		11 41 27.0	
ANN				*e*S	S	11 50 23.3	+4.7
ANN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
ANN				MLR	MLR		
	comp=Z,716nm,16.0s,MS5.0						
JOF	**Joensuu**	**71.24**	**331**	*e*p	**P**	**11 41 06.5**	**-1.6**
	comp=Z,6.0nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**72.39**	**338**	P	**P**	**11 41 14.6**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=81,slow=7.5,SNR=5.3						
KAF	**Kangasniemi**	**73.68**	**331**	*e*p	**P**	**11 41 20.8**	**-1.8**
	baz=75,slow=5.5						
FINES	**FINESS Array B**	**73.94**	**330**	P	**P**	**11 41 23.8**	**-0.3**
	comp=Z,6.6nm,0.9s,mb4.6,baz=63,slow=8.8,SNR=11						
AKASG	**Malin Array Be**	**74.79**	**319**	P	**P**	**11 41 27.9**	**-1.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=62,slow=5.7,SNR=12						
SUW	**Suwalki**	**77.45**	**323**	*e*P	**P**	**11 41 44.3**	**0.0**
KWP	**Kalwaria**	**79.11**	**319**	*e*P	**P**	**11 41 53.9**	**+0.4**
NB2	**NORSAR Subarra**	**80.82**	**332**	P	**P**	**11 42 01.2**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=66,slow=6.2						
NOA	**NORSAR Array B**	**80.82**	**332**	P	**P**	**11 42 01.0**	**-1.7**
	comp=Z,4.9nm,1.0s,mb4.4,baz=63,slow=5.1,SNR=7.3						
KSP	**Ksiaz**	**82.51**	**322**	*e*P	**P**	**11 42 12.7**	**+1.0**
DPC	**Dobruska-Polom**	**82.69**	**321**	*e*P	**P**	**11 42 13.5**	**+0.9**
PVCC	**Panska Ves**	**83.64**	**322**	*e*P	**P**	**11 42 17.7**	**+0.2**
KMBO	**Kilima Mbogo**	**83.65**	**266**	P	**P**	**11 42 18.9**	**+1.3**
	comp=Z,4.4nm,1.0s,mb4.6,baz=58,slow=8.7,SNR=8.1						
BRG	**Berggiesshubel**	**83.86**	**322**	*e*P	**P**	**11 42 18.9**	**+0.2**
	comp=Z,9.1nm,1.0s,mb4.8						
BRG	**Berggiesshubel**	**83.86**	**322**	*e*P	**P**	**11 42 18.9**	**+0.3**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
PRU	**Pruhonice**	**83.89**	**321**	*e*P	**P**	**11 42 19.5**	**+0.8**
CLL	**Collm**	**84.21**	**323**	⇓*i*P	**P**	**11 42 20.1**	**-0.3**
CLL				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.2						
CLL	**Collm**	**84.21**	**323**	⇓*i*P	**P**	**11 42 20.1**	**-0.3**
	comp=Z,21nm,1.1s,mb5.2						
KHC	**Kasperske Hory**	**84.82**	**321**	*e*P	**P**	**11 42 24.2**	**+0.7**
KHC	**Kasperske Hory**	**84.82**	**321**	*e*P	**P**	**11 42 23.9**	**+0.4**
GERES	**GERESS Array B**	**84.87**	**320**	P	**P**	**11 42 24.3**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.6,baz=57,slow=4.9,SNR=18						
NKC	**Novy Kostel**	**85.00**	**322**	*e*P	**P**	**11 42 25.0**	**+0.6**
MOX	**Moxa**	**85.29**	**323**	*e*P	**P**	**11 42 26.0**	**+0.2**
GRA1	**Grafenberg Arr**	**85.95**	**322**	*e*P	**P**	**11 42 29.9**	**+0.8**
	comp=Z,17nm,1.1s,mb5.2						
GRF	**Grafenberg Arr**	**85.95**	**322**	*e*P	**P**	**11 42 29.9**	**+0.8**
	comp=Z,17nm,1.1s,mb5.2						
GRF	**Grafenberg Arr**	**85.95**	**322**	*e*P	**P**	**11 42 29.9**	**+0.8**
GRF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
GRF	**Grafenberg Arr**	**85.95**	**322**	*e*P	**P**	**11 42 29.9**	**+0.8**
GRF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
YKA	**Yellowknife Ar**	**86.60**	**22**	P	**P**	**11 42 31.8**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.6,baz=322,slow=4.4,SNR=5.5						
YKA	**Yellowknife Ar**	**86.60**	**22**	P	**P**	**11 42 31.8**	**-0.5**
CDF	**Champ du Feu**	**88.84**	**322**	*e*P	**P**	**11 42 42.8**	**-0.3**
	comp=Z,13nm,1.0s,mb4.9						
CDF	**Champ du Feu**	**88.84**	**322**	*e*P	**P**	**11 42 42.8**	**-0.3**
CDF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
CDF	**Champ du Feu**	**88.84**	**322**	*e*P	**P**	**11 42 42.8**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.9						
HINF	**Hinterlalfeld**	**89.38**	**322**	*e*P	**P**	**11 42 44.9**	**-0.7**
LPL	**La Plagne**	**90.63**	**320**	*e*P	**P**	**11 42 51.9**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1						
LPL	**La Plagne**	**90.63**	**320**	*e*P	**P**	**11 42 51.9**	**+0.5**
LPL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.2						
LPL	**La Plagne**	**90.63**	**320**	*e*P	**P**	**11 42 51.9**	**+0.5**
	comp=Z,8.8nm,0.8s,mb5.1						
ORIF	**Oris-en-Rattie**	**91.45**	**320**	*e*P	**P**	**11 42 55.3**	**0.0**
	comp=Z,24nm,1.2s,mb5.1						
ORIF	**Oris-en-Rattie**	**91.45**	**320**	*e*P	**P**	**11 42 55.3**	**0.0**
ORIF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.1						
ORIF	**Oris-en-Rattie**	**91.45**	**320**	*e*P	**P**	**11 42 55.3**	**0.0**
	comp=Z,12nm,1.2s,mb5.1						
FRF	**La Foret Royal**	**91.68**	**318**	*e*P	**P**	**11 42 56.1**	**-0.2**
SMF	**Signal de Mont**	**91.75**	**322**	*e*P	**P**	**11 42 56.2**	**-0.4**
LMR	**La Mourre**	**91.88**	**318**	*e*P	**P**	**11 42 57.1**	**-0.1**
	comp=Z,33nm,1.3s,mb5.2						
LMR	**La Mourre**	**91.88**	**318**	*e*P	**P**	**11 42 57.1**	**-0.1**
LMR				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.2						
LMR	**La Mourre**	**91.88**	**318**	*e*P	**P**	**11 42 57.1**	**-0.1**
	comp=Z,16nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**91.95**	**322**	*e*P	**P**	**11 42 57.1**	**-0.5**
	comp=Z,23nm,1.3s,mb5.0						
AVF	**Avril sur Loir**	**91.95**	**322**	*e*P	**P**	**11 42 57.1**	**-0.5**
AVF				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
AVF	**Avril sur Loir**	**91.95**	**322**	*e*P	**P**	**11 42 57.1**	**-0.5**
	comp=Z,11nm,1.3s,mb5.0						
LPAZ	**La Paz**	**171.10**	**62**	PKP	PKPdf	11 49 58.9	+1.6
	comp=Z,1.1nm,0.9s,baz=355,slow=5.4,SNR=4.5						
LPAZ	**La Paz**	**171.10**	**62**	PKP	PKPdf	11 49 58.9	+1.6
SIV	**San Ignacio**	**175.22**	**13**	PKP	PKPdf	11 49 59.7	+0.7
	comp=Z,1.5nm,0.9s,baz=258,slow=2.7,SNR=6.4						

*IDC **09** 11:34:38.3±0.6,2065N×11986E,h0km,mb4.2/16, mb1 4.4/16,mb1mx4.3/22,mbtmp4.3/16,Error ellipse: s-maj=21.0km s-min=13.4km az=64.0*
*NEIC **09** 11:34:39.8±0.4,2073N×12006E,h10km,mb4.7/4,Error ellipse: s-maj=12.1km s-min=7.4km az=79.0*
*MOS **09** 11:34:41.6±1.0,2071N×11990E,h33km,mb4.7/4,Error ellipse: s-maj=34.7km s-min=12.6km az=117.0*
*ISCJB **09** 11:34:41.5±0.4,2074N±005×120.15E±005,h33km, mb4.3/17,Error ellipse: s-maj=8.4km s-min=4.6km az=89.5*
*JMA **09** 11:34:44.0±0.4,2057N×12052E,h82km,M4.4*
*BJI **09** 11:34:55.4,2168N×11893E,h15km,mb4.1,ML3.7*
ISC 09 11:34:43.6±0.4,2075N±005×12010E±005,h35km,n40, σ0:93/46,mb4.3/17,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.68**	**22**	*e*Pn	**Pn**	**11 35 36.8**	**-1.1**
TATO	**Taipei**	**4.39**	**17**	*e*Pn	**Pn**	**11 35 48.0**	**+0.3**
YOJ	**Yonaguni jima**	**4.57**	**36**	P	**Pn**	**11 35 51.4**	**+1.3**
YOJ				*e*S	**Sn**	**11 36 42.4**	**+0.4**
HATJ	**Hateruma jima**	**4.75**	**45**	P	**Pn**	**11 35 52.8**	**+0.2**
HATJ				*e*S	**Sn**	**11 36 45.3**	**-1.2**
IRIF	**Iriomote-Funau**	**4.90**	**43**	P	**Pn**	**11 35 54.9**	**+0.3**
IRIF				*e*S	**Sn**	**11 36 50.1**	**0.0**
JKRS	**Kuro-shima**	**5.01**	**45**	P	**Pn**	**11 35 56.8**	**+0.6**
JIJ	**Ishigaki jima**	**5.18**	**45**	P	**Pn**	**11 35 58.6**	**0.0**
JIJ				*e*S	**Sn**	**11 36 56.1**	**-1.1**
JTJ	**Tarama**	**5.75**	**47**	P	**Pn**	**11 36 06.2**	**-0.1**
JTJ				*e*S	**Sn**	**11 37 11.0**	**0.0**
GZH	**Guangzhou**	**6.69**	**292**	P	**Pn**	**11 36 18.9**	**-0.4**
GZH				S	**Sn**	**11 37 25.0**	**-9.3**
GZH				Smax			
	comp=N,105nm,0.6s						
GZH				Smax			
	comp=E,124nm,0.6s						
JOW	**Kunigami**	**9.62**	**49**	Pn	**Pn**	**11 36 57.2**	**-2.3**
	comp=E,1.0nm,0.3s,baz=131,slow=20,SNR=3.1						
QIZ	**Qiongzhong**	**9.80**	**262**	P	**Pn**	**11 37 06.2**	**+4.2**
MAT	**Matsushiro**	**22.30**	**41**	P	**P**	**11 39 39.6**	**+1.8**
MJAR	**Matsushiro Arr**	**22.30**	**41**	P	**P**	**11 39 39.2**	**+1.4**
	comp=E,9.6nm,0.9s,mb4.2,baz=237,slow=11,SNR=19						
SONM	**Songino Array**	**29.20**	**341**	P	**P**	**11 40 41.3**	**-0.5**
	comp=E,2.0nm,1.1s,mb3.8,baz=182,slow=4.5,SNR=5.4						
ASAJ	**Asahikawa**	**29.87**	**34**	P	**P**	**11 40 50.5**	**+2.8**
	comp=E,5.4nm,0.6s,mb4.4,baz=70,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**40.19**	**319**	P	**P**	**11 42 16.6**	**+0.2**
	comp=E,2.4nm,0.8s,mb4.0,baz=116,slow=9.9,SNR=13						
ZAL	**Zalesovo**	**42.64**	**330**	P	**P**	**11 42 34.5**	**-2.0**
	comp=E,2.5nm,0.3s,mb4.5,baz=42,slow=4.4,SNR=6.4						
WRA	**Warramunga Arr**	**42.78**	**160**	P	**P**	**11 42 36.9**	**-0.7**
	comp=E,5.8nm,0.7s,mb4.4,baz=342,slow=9.1,SNR=28						
WB2	**Warramunga Arr**	**42.78**	**160**	*e*P	**P**	**11 42 37.1**	**-0.6**
AS31	**Alice Springs**	**46.15**	**162**	*e*P	**P**	**11 43 04.3**	**-0.3**
ASPA	**Alice Springs**	**46.15**	**162**	*e*P	**P**	**11 43 04.3**	**-0.3**
ASAR	**Alice Springs**	**46.15**	**162**	P	**P**	**11 43 04.3**	**-0.3**
	comp=E,1.8nm,0.6s,mb4.2,baz=345,slow=6.9,SNR=43						
CTA	**Charters Tower**	**47.98**	**146**	*e*P	**P**	**11 43 20.7**	**+1.8**
	comp=E,4.5nm,0.6s,mb4.7						
CTA	**Charters Tower**	**47.98**	**146**	P	**P**	**11 43 20.7**	**+1.8**
	comp=E,6.8nm,0.7s,mb4.8,baz=332,slow=8.2,SNR=7.1						
CTA	**Charters Tower**	**47.98**	**146**	*e*P	**P**	**11 43 20.7**	**+1.8**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CTAO	**Charters Tower**	**47.98**	**146**	*e*P	**P**	**11 43 20.3**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**47.98**	**146**	*e*P	**P**	**11 43 20.3**	**+1.4**
	comp=Z,7.1nm,1.1s,mb4.6						
BVAR

PSB1	Pescosannita	1.06 232	Pg	Pn	11 37 13.3	-0.4
BAI	Bari	1.07 137	*e*Pg	Pn	11 37 14.5	+0.7
BAI			*e*Sg	Sb	11 37 28.8	+1.3
SNAL	S. Angelo Dei	1.10 209	Pg	Pn	11 37 13.2	-1.0
SNAL			Sg	Sb	11 37 28.6	+0.2
	415nm,0.4s					
AMUR	Altamura	1.11 152	Pg	Pn	11 37 13.7	-0.7
	398nm,0.2s					
MRLC	Muro Lucano	1.18 196	Pg	Pn	11 37 15.7	+0.5
	245nm,0.3s					
SG1	Sgolgore (BA)	1.20 151	*e*Pg	Pn	11 37 15.7	+0.2
SG1			*e*Sg	Sn	11 37 35.9	+4.8
CSSN	Cassano Irpino	1.23 213	Pg	Pn	11 37 15.6	-0.3
CSSN			Sg	Sn	11 37 32.5	+0.8
MCRV	Calabrutti - M	1.24 207	Pg	Pn	11 37 15.6	-0.5
	238nm,0.2s					
SGG	Gregorio Mates	1.25 247	Pg	Pn	11 37 17.5	+1.2
	72nm,0.5s					
MIDA	Miranda	1.26 259	Pg	Pn	11 37 16.8	+0.3
VAGA	Valle Agricola	1.34 250	Pg	Pn	11 37 18.7	+1.2
	87nm,0.5s					
MIGL	Miglionico	1.34 163	Pg	Pn	11 37 18.4	+0.8
NOCI	Noci	1.40 141	Pg	Pn	11 37 19.1	+0.8
MOCO	Biccari - m.te	1.41 249	Pg	Pn	11 37 08.6	-10
	363nm,0.5s					
INTR	Introdacqua	1.50 275	Pg	Pn	11 37 19.6	-0.1
	114nm,0.4s					
SLCN	Sala Consilina	1.51 188	Pg	Pn	11 37 18.5	-1.4
	158nm,0.3s					
CRAC	Craco	1.57 165	Pg	Pn	11 37 22.2	+1.5
	445nm,0.4s					
CMPR	Campora	1.64 197	Pg	Pn	11 37 20.7	-0.9
SCHR	S. Chirico Rap	1.69 176	Pg	Pn	11 37 21.7	-0.7
	47nm,0.2s					
VVLD	Villa Vallelon	1.71 270	Pg	Pn	11 37 24.6	+2.0
	61nm,0.5s					
CUC	Castrocucco	1.90 182	Pg	Pn	11 37 24.7	-0.4
	68nm,0.5s					
NVLJ	Novalja	2.78 344	*i* Pn	Pn	11 37 35.2	-2.1
NVLJ			*i* Sn	Sn	11 38 10.4	+0.3
BOJS	Bojanci	3.65 353	*i* Sn	Sn	11 38 31.2	-0.3
CEY	Cerknica	4.00 345	*i* Sn	Sn	11 38 40.8	+0.7
VOJS	Vojsko	4.39 341	*e*Pn	Pn	11 37 60.0	+0.5
VOJS			*i* Sn	Sn	11 38 48.1	-1.8

ISCJB ***09*** *11:36:53.8±0.5,2081N±009×1200E±02,h10km,mb4.1/16, Error ellipse: s-maj=28.0km s-min=8.1km az=138.8*
IDC ***09*** *11:36:54.3±0.6,2075N×11983E,h0km,mb4.1/16, mb1 4.3/16,mb1mx4.3/22,mbtmp4.1/16,Error ellipse: s-maj=36.7km s-min=12.7km az=65.0*
NEIC ***09*** *11:36:55.9±0.3,2071N×11979E,h10km,mb4.6/2,Error ellipse: s-maj=19.9km s-min=7.1km az=68.0*
MOS ***09*** *11:36:57.3±0.9,2069N×11974E,h33km,mb5.1/1,Error ellipse: s-maj=35.8km s-min=13.5km az=116.7*
BJI ***09*** *11:36:59.1,2134N×11999E,h5km,mb4.6*
ISC 09 11:36:55.9±0.5,2075N±007×1198E±02,h10km,n32,σ0°90/33,mb4.1/16,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	4.33	345	P	Pn	11 37 59.0	-2.7
QZH				S	Sn	11 38 47.0	-5.2
NJ2	Nanjing	11.29	356	*e*P	Pn	11 39 37.3	+0.1
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
GYA	Guiyang	13.34	298	P	Pn	11 40 11.2	+6.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BJI	Beijing	19.48	352	*e*P	Pn	11 41 23.8	-0.3
BJI				AMB	AMB		
	comp=Z,17nm,1.1s						
BJI	Beijing	19.48	352	*e*P	Pn	11 41 23.8	-0.3
	comp=Z,17nm,1.1s						
MJAR	Matsushiro Arr	22.47	42	P	P	11 41 56.0	+0.9
	comp=Z,1.5nm,0.7s,mb3.5,baz=231,slow=12,SNR=3.6						
SONM	Songino Array	29.12	341	P	P	11 42 57.0	+0.2
	comp=Z,1.8nm,0.8s,mb3.8,baz=156,slow=10.0,SNR=6.4						
FITZ	Fitzroy Crossi	39.03	171	*e*P	P	11 44 16.8	-5.8
	comp=Z,4.2nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	39.03	171	P	P	11 44 24.4	+1.7
	comp=Z,3.3nm,0.9s,mb4.1,baz=355,slow=10.0,SNR=5.4						
MKAR	Makanchi Array	40.02	319	P	P	11 44 31.3	+0.4
	comp=Z,2.0nm,0.8s,mb3.9,baz=115,slow=11,SNR=6.3						
ZAL	Zalesovo	42.51	330	P	P	11 44 52.6	+1.3
	comp=Z,1.6nm,0.3s,mb4.3,baz=241,slow=12,SNR=3.8						
WRA	Warramunga Arr	42.86	160	P	P	11 44 53.6	-0.6
	comp=Z,1.1nm,0.8s,mb4.6,baz=342,slow=9.0,SNR=9.6						
WB2	Warramunga Arr	42.87	160	*e*P	P	11 44 53.7	-0.6
AS31	Alice Springs	46.23	162	*e*P	P	11 45 20.6	-0.6
ASAR	Alice Springs	46.23	162	P	P	11 45 20.4	-0.7
	comp=Z,0.8nm,0.6s,mb3.8,baz=334,slow=6.7,SNR=4.5						
CTA	Charters Tower	48.12	146	*e*P	P	11 45 37.1	+1.2
	comp=Z,13nm,0.8s,mb5.0						
CTA	Charters Tower	48.12	146	P	P	11 45 36.5	+0.5
	comp=Z,20nm,0.9s,mb5.2,baz=328,slow=11,SNR=5.3						
CTA	Charters Tower	48.12	146	*e*P	P	11 45 37.1	+1.2
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	Charters Tower	48.12	146	*e*P	P	11 45 36.3	+0.4
BVAR	Borovoye Array	49.59	323	P	P	11 45 47.4	+0.2
	comp=Z,1.6nm,0.9s,mb4.0,baz=103,slow=10,SNR=3.2						
BVAR				PcP	PcP	11 47 08.7	0.0
	comp=Z,1.7nm,0.7s,baz=106,slow=3.2,SNR=5.5						
BVAR	Borovoye Array	49.59	323	P	P	11 45 47.4	+0.2
BVAR				PcP	PcP	11 47 08.7	0.0
STKA	Stephens Creek	56.33	158	*e*P	P	11 46 42.7	+5.8
	comp=Z,3.8nm,0.8s,mb4.5						
STKA	Stephens Creek	56.33	158	P	P	11 46 37.6	+0.7
	comp=Z,2.0nm,0.7s,mb4.2,baz=335,slow=14,SNR=2.5						
AKTK	Aktyubinsk	56.40	317	P	P	11 46 38.5	+1.2
AKTO	Aktyubinsk	56.40	317	P	P	11 46 38.5	+1.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=86,slow=7.8,SNR=5.7						
ARCES	ARCESS Array B	72.25	338	P	P	11 48 20.8	-0.5
	comp=Z,4.0nm,0.9s,mb4.4,baz=61,slow=19,SNR=3.5						
FINES	FINESS Array B	73.77	330	P	P	11 48 30.2	-0.1
	comp=Z,3.1nm,1.1s,mb4.2,baz=142,slow=9.6,SNR=4.6						
FINES	FINESS Array B	73.77	330	P	P	11 48 30.2	-0.1
AKASG	Malin Array Be	74.60	319	P	P	11 48 34.7	-0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=61,slow=5.0,SNR=4.5						
AKASG	Malin Array Be	74.60	319	P	P	11 48 34.7	-0.4
NOA	NORSAR Array B	80.66	332	P	P	11 49 07.4	-1.5
	comp=Z,0.9nm,0.8s,mb3.8,baz=42,slow=5.9,SNR=3.0						
GERES	GERESS Array B	84.69	320	P	P	11 49 29.5	-0.4
	comp=Z,1.4nm,0.7s,mb4.2,baz=74,slow=5.7,SNR=7.3						

NIED ***09*** *11:43:00,2060N×12030E,h32km,Mw5.4 Best double couple: M0 1.46000×1017 NP1:φs229.00000°,δ50.00000°, λ95.00000°. NP2:φs40.00000°,δ40.00000°,λ84.00000°.*
SZGRF ***09*** *11:43:29.4,1940N×12254E,h33km,mb5.4,Philippine Islands region*
MAN ***09*** *11:43:33.1,2073N×11978E,h17km,mb3.9,ML4.9,MS6.2*
ISCJB ***09*** *11:43:33.2±1.2,2058N±002×12005E±004,h2km±7km, mb4.8/59,MS5.0/13,Error ellipse: s-maj=5.8km s-min=3.5km az=178.0*
IDC ***09*** *11:43:34.2±0.5,2055N×11987E,h0km,mb4.5/20, mb1 4.6/20,mb1mx4.6/24,mbtmp4.5/20,MS4.6/4, Ms1 4.6/4,ms1mx3.9/30,Error ellipse: s-maj=20.9km s-min=9.2km az=71.0*
NEIC ***09*** *11:43:35.8±0.2,2052N×12005E,h10km,mb5.0/31,Error ellipse: s-maj=7.6km s-min=5.3km az=88.0*
BJI ***09*** *11:43:36.5,2077N×11980E,h5km,mB5.5,mb4.6,ML4.4, Ms5.3,Ms25.1*
MOS ***09*** *11:43:37.9±1.1,2051N×11993E,h33km,mb5.3/24, MS5.1/4,Error ellipse: s-maj=12.6km s-min=6.1km az=114.8*
ISC 09 11:43:36.7±1.3,2061N±002×12005E±003,h13km±8km, h18km±3.6km:pP-P,n197,σ1°25/215,mb4.8/59,MS5.0/13, 5C-15D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	3.01	168	*e*P	Pn	11 44 22.3	-1.6
SGCP	Mt. Cagua	3.01	141	*e*P	Pn	11 44 22.4	-1.6
NACB	Ninganchiao	3.83	22	*e*Pn	Pn	11 44 34.3	-0.9
CAUP	Cauayan	4.01	155	*e*P	Pn	11 44 39.8	+2.0
PALP	Palanan	4.18	147	*e*P	Pn	11 44 41.5	+1.4
PALP	Palanan	4.18	147	*e*P	Pn	11 44 40.9	+0.8
BOLP	Bolinao	4.20	182	*e*P	Pn	11 44 40.5	+0.1
YHNB	Yeheng	4.23	17	*e*Pn	Pn	11 44 40.8	+0.1
BCPH	Baguio City Da	4.23	173	*e*P	Pn	11 44 40.0	-0.8
BCPH				*i* S	Sn	11 45 31.8	+1.7
QZH	Quanzhou	4.52	343	P	Pn	11 44 41.6	-3.2
QZH				S	Sn	11 45 31.2	-6.0
QZH				Smax			
	comp=N,690nm,1.0s						
QZH				Smax			
	comp=E,620nm,0.8s						
QZH				LR	LR		
	comp=N,38μm,9.2s						
QZH				LR	LR		
	comp=E,27μm,8.7s						
QZH				LR	LR		
	comp=Z,42μm,8.8s						
TATO	Taipei	4.55	17	*e*Pn	Pn	11 44 47.6	+2.5
YOJ	Yonaguni jima	4.71	35	P	Pn	11 44 46.9	-0.5
YOJ				*e*S	Sn	11 45 38.0	-3.9
SCZP	Santa Cruz	4.81	182	*e*P	Pn	11 44 45.4	-3.3
IRIF	Iriomote-Funau	5.04	42	P	Pn	11 44 50.7	-1.1
BALP	Baler	5.05	163	*e*P	Pn	11 44 53.0	+0.9
PCPH	Palayan	5.11	169	*e*P	Pn	11 44 55.6	+2.7
JKRS	Kuro-shima	5.15	45	P	Pn	11 44 52.3	-1.1
JIJ	Ishigaki jima	5.32	45	P	Pn	11 44 54.9	-0.9
JIJ				*e*S	Sn	11 45 54.3	-2.6
JTJ	Tarama	5.88	46	P	Pn	11 45 01.9	-1.6
JTJ				*e*S	Sn	11 46 08.0	-2.7
POLP	Polilio Island	6.12	163	*e*P	Pn	11 45 09.0	+2.3
TGY	Tagaytay City	6.52	172	Pn	Pn	11 45 17.9	+5.6
	comp=Z,84nm,0.3s,baz=185,slow=7.5,SNR=8.2						
GZH	Guangzhou	6.70	293	P	Pn	11 45 11.1	-3.6
GZH				S	Sn	11 46 19.6	-11
GZH				Smax			
	comp=N,297nm,0.9s						
GZH				Smax			
	comp=E,187nm,1.0s						
GZH				LR	LR		
	comp=N,20μm,10.9s						
GZH				LR	LR		
	comp=E,14μm,12.1s						
GZH				LR	LR		
	comp=Z,16μm,12.1s						
LUBP	Lubang	6.84	178	*e*P	Pn	11 45 16.9	+0.3
AUQP	San Andres	7.67	160	*e*P	Sn	11 46 44.3	-10
PVCP	Virac	8.00	150	*e*P	Pn	11 45 33.4	+0.9
PVCP	Virac	8.00	150	*e*P	Pn	11 45 31.6	-0.9
OTRP	Odiongan	8.41	167	*e*P	Pn	11 45 46.1	+7.9
BUSP	Coron	8.55	179	*e*P	Pn	11 45 39.9	-0.3
ENPP	El Nido	9.37	184	*e*P	Pn	11 45 51.5	+0.3
QIZ	Qiongzhong	9.73	262	*e*P	Pn	11 45 55.0	-1.3
QIZ				*e*S	Sn	11 47 50.9	+5.4
QIZ				AMB	AMB		
	comp=Z,16nm,1.6s						
QIZ				LR	LR		
	comp=N,9μm,11.4s						
QIZ				LR	LR		
	comp=E,11μm,10.8s						
QIZ				LR	LR		
	comp=Z,16μm,10.6s						
QIZ	Qiongzhong	9.73	262	*e*Pn	Pn	11 45 56.7	+0.4
	comp=Z,48nm,0.8s						
JOW	Kunigami	9.75	49	Pn	Pn	11 45 54.5	-2.1
	comp=Z,1.1nm,0.3s,baz=136,slow=17,SNR=8.2						
NJ2	Nanjing	11.45	355	*e*P	Pn	11 46 25.3	+5.5
NJ2				PP		11 46 35.0	
NJ2				S	Sn	11 48 36.0	+8.5
NJ2				XS		11 48 39.6	
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s						
NJ2				LR	LR		
	comp=N,16μm,9.9s						
NJ2				LR	LR		
	comp=E,9μm,10.6s						
NJ2				LR	LR		
	comp=Z,10μm,10.7s						
BATP	Bataraza	11.94	191	*e*P	Pn	11 46 26.6	0.0
BUKP	Musuan	13.55	158	*e*P	Pn	11 46 51.8	+3.3
JNU	Nakatsue	15.76	35	P	Pn	11 47 24.0	+5.8
TIA	Tai'an	15.76	351	P	Pn	11 47 20.6	+2.4
TIA				LR	LR		
	comp=E,8μm,13.0s						
TIA				LR	LR		
	comp=E,5μm,13.4s						
KMI	Kunming	16.57	289	P	Pn	11 47 32.8	+4.1
KMI				XP	sP	11 47 38.3	+1.6
KMI				S	Sn	11 50 32.9	+0.5
KMI				SSS		11 51 05.7	
KMI				AMB	AMB		
	comp=Z,23nm,2.0s						
KMI				LR	LR		
	comp=N,5μm,12.0s						
KMI				LR	LR		
	comp=E,4μm,9.4s						
KMI				LR	LR		
	comp=Z,5μm,9.4s						
KMI	Kunming	16.57	289	P	Pn	11 47 32.8	+4.1
	comp=Z,23nm,2.0s						
KMI				sP	sP	11 47 38.3	+1.6
KMI				S	Sn	11 50 32.9	+0.5
KMI				SSS		11 51 05.7	
XAN	Xi'an	16.62	326	P	Pn	11 47 27.3	-2.0
CD2	Chengdu	17.88	308	*e*P	Pn	11 47 41.6	-3.5
CD2				AP	pP	11 47 45.1	-4.3
CD2				XP	sP	11 47 48.9	-2.3
CD2				PP		11 47 56.3	
CD2				S	Sn	11 50 55.6	-8.7
CD2				XS	sS	11 51 01.2	-16
CD2				SS		11 51 17.6	
CD2				AMB	AMB		
	comp=Z,30nm,1.8s						
CD2				LR	LR		
	comp=N,6μm,10.8s						
CD2				LR	LR		
	comp=E,7μm,10.8s						
CD2				LR	LR		
	comp=Z,3μm,9.5s						
DL2	Dalian	18.29	4	P	Pn	11 47 52.3	+2.3
DL2				AMB	AMB		
	comp=Z,30nm,0.9s						
DL2				LR	LR		
	comp=N,2μm,10.8s						
DL2				LR	LR		
	comp=E,5μm,11.7s						
DL2				LR	LR		
	comp=Z,2μm,10.3s						
NST	Nakhon Sawan	19.55	259	P	Pn	11 48 07.5	+2.3
BJT	Baijiatuau	19.63	351	*e*P	Pn	11 48 08.2	+1.9
BJT				pmax	pmax		
	comp=Z,46nm,0.8s						
BJT	Baijiatuau	19.63	351	*e*P	Pn	11 48 08.2	+1.9
	comp=Z,46nm,0.8s						
BJI	Beijing	19.65	351	P	Pn	11 48 07.5	+1.0
BJI				S	Sn	11 51 42.9	-4.1
BJI				pmax	pmax		
	comp=Z,33nm,1.2s						
BJI	Beijing	19.65	351	P	Pn	11 48 07.5	+1.0
	comp=Z,33nm,1.2s						
BJI				S	Sn	11 51 42.9	-4.1
JWT	Wachi	19.90	40	P	Pn	11 48 11.1	+1.6
CHG	Chiang Mai	19.95	269	P	Pn	11 48 09.0	-1.0
	comp=Z,43nm,1.3s						
CHTO	Chiang Mai	19.95	269	*e*P	Pn	11 48 09.0	-1.0
CHTO				pmax	pmax		
	comp=Z,57nm,1.3s						
CHTO	Chiang Mai	19.95	269	*e*P	Pn	11 48 09.0	-1.0
	comp=Z,57nm,1.3s						
JIE	Ise	20.13	44	P	P	11 48 11.0	+0.7
LZH	Lanzhou	20.96	321	*e*P	P	11 48 22.6	+3.3
LZH				AP		11 48 30.7	
LZH				AMB	AMB		
	comp=Z,320nm,1.6s						
LZH				AMB	AMB		
	comp=Z,1μm,4.2s						
LZH				LR	LR		
	comp=N,10μm,10.8s						
LZH				LR	LR		
	comp=Z,11μm,11.8s,MS5.4						
LZH	Lanzhou	20.96	321	*e*P	P	11 48 22.6	+3.3
LZH				*PP		11 48 30.7	
LZH				*SP	sP	11 48 38.0	+13
LZH						11 48 50.0	
LZH				S	S	11 52 22.1	+10
LZH				*SS	sS	11 52 34.0	+15
LZH				pmax	pmax		
	comp=Z,320nm,1.6s						
LZH				MLR	MLR		
	comp=Z,11μm,11.8s,MS5.4						
LZH	Lanzhou	20.96	321	*e*P	P	11 48 22.6	+3.3
	comp=Z,320nm,1.6s						
LZH				pP		11 48 30.7	
LZH				sP	sP	11 48 38.0	+13
LZH				PP		11 48 50.0	
LZH				S	S	11 52 22.1	+10
LZH				sS	sS	11 52 34.0	+15
LZH				*e*SS		11 53 05.0	
LZH				LR	LR		
	comp=Z,11μm,11.8s,MS5.4						
CBIJ	Chichi jima	21.24	68	LR	LR	11 55 42.0	
	comp=Z,692nm,20.8s,MS4.0,baz=184,slow=34						
KSM	Kuching	21.26	208	*e*P	P	11 48 21.1	-1.4
JGF	Kuroka	21.31	42	P	P	11 48 23.3	+0.2
SNY	Shenyang	21.37	7	P	P	11 48 24.9	+1.2
SNY				S	S	11 52 09.0	-12
SNY				AMB	AMB		
	comp=Z,26nm,2.5s,mb4.1						
SNY				LR	LR		
	comp=Z,4μm,11.1s,MS5.0						
HHC	Hu-ho-hao-te	21.43	342	*e*P	P	11 48 26.6	+2.2
HHC				AP		11 48 31.5	
HHC				XP	sP	11 48 34.1	+4.1
HHC				SS		11 52 51.0	
HHC				AMB	AMB		
	comp=Z,49nm,1.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,2μm,11.4s						
HHC				LR	LR		
	comp=N,7μm,12.6s,MS5.3						
HHC				LR	LR		
	comp=E,2μm,10.2s,MS5.3						
HHC				LR	LR		
	comp=Z,5μm,13.8s,MS5.1						
JHJ	Hachijo jima 2	21.52	51	P	P	11 48 23.8	-1.6
	comp=Z,46nm,0.5s,mb5.2,baz=96,slow=20,SNR=6.1						
BTO	Baotou	21.69	339	*e*P	P	11 48 27.7	+0.5
MAJO	Matsushiro	22.44	41	*e*P	P	11 48 37.0	+1.8
MAJO				pmax	pmax		
	comp=Z,216nm,1.6s,mb5.3						
MAJO	Matsushiro	22.44	41	*e*P	P	11 48 37.0	+1.8
	comp=Z,216nm,1.6s,mb5.3						
MAT	Matsushiro	22.44	41	P	P	11 48 35.4	+0.2
MAT				*e*S	S	11 52 43.0	+1.5
MAT	Matsushiro	22.44	41	P	P	11 48 37.3	+2.1
MJAR	Matsushiro Arr	22.44	41	P	P	11 48 34.9	-0.3
	comp=Z,14nm,1.0s,mb4.4,baz=238,slow=11,SNR=23						
JRY	Ryogami san	22.55	43	P	P	11 48 40.4	+4.1
SNG	Songkhla	23.07	237	P	P	11 48 42.0	+0.2
CN2	Changchun	23.57	10	*e*P	P	11 48 46.8	-0.2
CN2				*e*XP	sP	11 48 53.8	+1.2
CN2				*e*S	S	11 52 57.5	-2.9
CN2				LR	LR		
	comp=N,4μm,15.0s,MS5.2						
CN2				LR	LR		
	comp=E,4μm,15.0s,MS5.2						
CN2				LR	LR		
	comp=Z,4μm,14.0s,MS5.1						
KULM	Kulim	24.22	234	*e*P	P	11 48 53.2	+0.2
VLA	Vladivostok	24.55	21	*e*P	P	11 49 01.3	+5.3
VLA				*e*S	S	11 53 22.2	+5.9
VLA				pmax	pmax		
	comp=Z,125nm,1.6s,mb5.2						
VLA				MLR	MLR		
	comp=Z,3μm,17.6s,MS4.9						
GUMO	Guam	24.71	102	LR	LR	11 56 52.5	
	comp=Z,1μm,18.3s,MS4.5,baz=288,slow=32						
MDJ	Mudanjiang	25.22	16	P	P	11 49 02.9	+0.8
MDJ				AMB	AMB		
	comp=Z,28nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,778nm,5.0s						
MDJ	Mudanjiang	25.22	16	*e*P	P	11 49 03.0	+1.0
	comp=Z,85nm,1.0s,mb5.2						
KAPI	Kappang	25.46	181	P	P	11 49 03.1	-1.2
	comp=Z,162nm,1.0s,mb5.5,SNR=6.8						
GTA	Gaotai	25.55	322	P	P	11 49 05.7	+0.6
GTA				AP	pP	11 49 09.2	0.0
GTA				XP	sP	11 49 12.1	+1.2
GTA				S	S	11 53 36.3	+3.9
GTA				XS	sS	11 53 42.4	+3.3
GTA				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.4						
GTA				AMB	AMB		
	comp=Z,684nm,5.3s						
GTA				LR	LR		
	comp=N,3μm,13.3s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,14.5s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,14.5s,MS4.8						
PSI	Prapat	27.15	232	P	P	11 49 18.8	-0.7
	comp=Z,32nm,1.2s,mb4.7,baz=336,slow=3.3,SNR=17						
LSA	Lhasa	27.62	295	*e*P	P	11 49 25.6	+1.9
LSA				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9						
LSA	Lhasa	27.62	295	*e*P	P	11 49 25.6	+1.9
	comp=Z,23nm,0.8s,mb4.9						
HIA	Hailar	28.60	360	*e*P	P	11 49 33.4	+0.9
HIA				pmax	pmax		
	comp=Z,40nm,1.4s						
HIA	Hailar	28.60	360	*e*P	P	11 49 33.4	+1.0
	comp=Z,40nm,1.4s,mb5.0						
SONM	Songino Array	29.32	341	P	P	11 49 38.3	-0.6
	comp=Z,2.1nm,0.7s,mb4.0,baz=160,slow=9.0,SNR=9.0						
ASAJ	Asahikawa	30.02	34	P	P	11 49 46.8	+1.7
	comp=Z,7.6nm,0.7s,mb4.5,baz=211,slow=14,SNR=7.9						
KLR	Kul'dur	30.05	15	*e*P	P	11 49 43.4	-2.0
KLR				pmax	pmax		
	comp=E,110nm,2.6s						
KLR				pmax	pmax		
	comp=Z,190nm,2.6s,mb5.4						
CIT	Chita	31.76	352	*e*P	P	11 50 01.8	+1.4
YSS	Yuzh-Sakhalins	32.12	30	*e*P	P	11 50 12.1	+8.5
TLY	Talaya	33.56	341	*e*P	P	11 50 15.0	-1.2
TLY				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
TLY				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.0						
KAKA	Kakadu	35.28	159	*e*P	P	11 50 29.1	-2.0
	comp=Z,5.0nm,0.2s,mb5.1						
WMQ	Urumqi	35.49	318	*e*P	P	11 50 33.0	+0.1
WMQ				AP	pP	11 50 37.0	0.0
WMQ				XP	sP	11 50 40.0	+1.3
WMQ				PP	PP	11 51 53.0	-0.5
WMQ				PCP	PcP	11 53 03.0	+0.8
WMQ				S	S	11 56 06.0	-1.8
WMQ				XS	sS	11 56 13.0	-1.6
WMQ				SS	SS	11 58 24.0	-18
WMQ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,186nm,4.6s						
WMQ				LR	LR		
	comp=N,2μm,13.9s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,12.4s,MS5.3						
WMQ				LR	LR		
	comp=Z,3μm,20.6s						
FITZ	Fitzroy Crossi	38.86	172	*e*P	P	11 51 00.0	-1.5
	comp=Z,26nm,0.7s,mb5.1						
FITZ	Fitzroy Crossi	38.86	172	P	P	11 50 60.0	-1.5
	comp=Z,18nm,0.9s,mb4.8,baz=0.7,slow=10,SNR=11						
MKAR	Makanchi Array	40.26	319	P	P	11 51 12.5	-0.7
	comp=Z,3.7nm,0.6s,mb4.3,baz=115,slow=9.3,SNR=36						
MBWA	Marble Bar	41.51	180	*e*P	P	11 51 22.6	-0.9
	comp=Z,5.9nm,0.6s,mb4.4						
YAK	Yakutsk	41.93	7	*e*P	P	11 51 28.0	+1.1
YAK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.6						
WRA	Warramunga Arr	42.66	160	P	P

NVS pmax pmax
comp=Z,64nm,1.9s,mb5.0
NVS pmax pmax
comp=N,37nm,2.1s
NVS pmax pmax
comp=E,56nm,2.1s
KURK Kurchatov 44.23 323 P **P 11 51 46.8 +1.3**
comp=E,100nm,1.4s,mb5.3,SNR=5.5
MA2 Magadan 44.68 22 *e*P **P 11 51 51.2 +2.1**
MA2 pmax pmax
comp=Z,40nm,1.5s,mb5.0
MA2 Magadan 44.68 22 *e*P **P 11 51 55.8 +6.7**
comp=Z,71nm,1.7s,mb5.2
AS31 Alice Springs 46.03 162 *e*P **P 11 51 59.1 -0.8**
ASAR Alice Springs 46.03 162 P **P 11 51 59.3 -0.5**
comp=Z,13nm,1.0s,mb4.8,baz=343,slow=6.9,SNR=56
ASAR S S **11 58 48.0 +3.3**
comp=Z,0.9nm,1.1s,baz=350,slow=14,SNR=2.5
ASPA Alice Springs 46.03 162 *e*P **P 11 51 59.2 -0.6**
CTA Charters Tower 47.89 146 *e*P **P 11 52 15.5 +1.1**
comp=Z,32nm,0.9s,mb5.3
CTA Charters Tower 47.89 146 P **P 11 52 15.7 +1.3**
comp=Z,35nm,0.8s,mb5.4,baz=332,slow=9.7,SNR=32
CTA Charters Tower 47.89 146 *e*P **P 11 52 15.5 +1.1**
CTA pmax pmax
comp=Z,32nm,0.9s
CTAO Charters Tower 47.89 146 *e*P **P 11 52 15.4 +1.0**
CTAO pmax pmax
comp=Z,43nm,0.8s,mb5.5
CTAO Charters Tower 47.89 146 *e*P **P 11 52 15.4 +1.1**
comp=Z,43nm,0.8s,mb5.5
BVAR Borovoye Array 49.83 323 P **P 11 52 28.7 -0.5**
comp=Z,2.5nm,0.6s,mb4.4,baz=101,slow=9.0,SNR=15
BRVK Borovoye 49.90 323 *e*P **P 11 52 29.9 +0.1**
BRVK pmax pmax
comp=Z,19nm,1.0s,mb5.1
BRVK Borovoye 49.90 323 *e*P **P 11 52 29.9 +0.1**
comp=Z,19nm,1.0s,mb5.1
CHKZ Chkalovo 49.93 324 *e*P **P 11 52 29.5 -0.6**
CHKZ pmax pmax
comp=Z,12nm,0.9s,mb4.9
CHKZ Chkalovo 49.93 324 *e*P **P 11 52 29.5 -0.6**
comp=Z,12nm,0.9s,mb4.9
TIXI Tiksi 51.31 4 *e*P **P 11 52 37.6 -2.9**
TIXI pmax pmax
comp=Z,26nm,1.4s,mb5.0
KLBR Kellerberrin 51.95 182 *e*P **P 11 52 43.3 -1.9**
comp=Z,43nm,1.6s,mb5.1
NWAO Narrogin (SRO) 53.30 183 P **P 11 52 54.5 -0.7**
comp=Z,12nm,1.0s,mb4.8,baz=3.0,slow=9.4,SNR=5.9
NWAO Narrogin (SRO) 53.30 183 P **P 11 52 54.5 -0.7**
BILL Bilibino 55.39 19 *e*P **P 11 53 19.5 +9.1**
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
STKA Stephens Creek 56.12 158 *e*P **P 11 53 15.5 -0.2**
comp=Z,7.6nm,0.6s,mb4.9
STKA Stephens Creek 56.12 158 P **P 11 53 15.7 0.0**
comp=Z,3.1nm,0.5s,mb4.6,baz=327,slow=8.6,SNR=6.6
STKA Stephens Creek 56.12 158 *e*P **P 11 53 15.7 0.0**
AKTK Aktyubinsk 56.64 317 P **P 11 53 19.1 -0.2**
AKTO Aktyubinsk 56.64 317 P **P 11 53 19.1 -0.2**
comp=Z,3.3nm,0.8s,mb4.4,baz=95,slow=9.6,SNR=6.9
ARU Arti 57.36 325 *e*P **P 11 53 23.1 -1.4**
TOO Toolangi 62.63 157 *e*P **P 11 54 01.2 +0.5**
comp=Z,9.7nm,0.7s,mb5.0
TOO Toolangi 62.63 157 *e*P **P 11 54 01.2 +0.5**
TOO pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GOF Gofitskoye 66.67 311 *e*P **P 11 54 30.2 +3.1**
MOS Moscow 69.00 323 *e*P **P 11 54 47.0 +5.3**
MALT Malatya 71.13 305 ⇓*i*P **P 11 55 00.8 +6.0**
MALT Malatya 71.13 305 ⇓P **P 11 55 00.8 +5.9**
JOF Joensuu 71.31 331 *e*p **P 11 54 54.8 -1.1**
comp=Z,2.9nm,0.4s,mb4.6
KEV Kevo 71.90 339 *e*p **P 11 54 58.4 -1.0**
MCK McKinley 72.19 28 *e*P **P 11 55 07.1 +5.9**
MCK pmax pmax
comp=Z,19nm,1.4s,mb4.8
MCK McKinley 72.19 28 *e*P **P 11 55 07.1 +5.9**
comp=Z,19nm,1.4s,mb4.8
ARCES ARCESS Array B 72.46 338 P **P 11 55 01.9 -0.9**
comp=Z,2.8nm,0.7s,mb4.3,baz=74,slow=8.9,SNR=6.9
KAF Kangasniemi 73.74 331 *e*p **P 11 55 08.6 -1.8**
comp=Z,2.4nm,0.5s,mb4.4,baz=73,slow=5.5
KAF Kangasniemi 73.74 331 *e*P **P 11 55 08.6 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 74.00 330 P **P 11 55 11.5 -0.4**
comp=Z,2.3nm,0.5s,mb4.3,baz=64,slow=6.6,SNR=10
FINES LR LR 12 28 02.6
comp=Z,711nm,19.4s,MS5.0,baz=346,slow=36
AKASG Malin Array Be 74.84 319 P **P 11 55 16.3 -0.5**
comp=Z,1.4nm,0.6s,mb4.1,baz=64,slow=5.4,SNR=8.2
DAWY Dawson 76.19 26 *e*P **P 11 55 26.0 +1.5**
VRI Vrincioaia 77.74 314 ⇓*i*P **P 11 55 34.3 +1.1**
VRI Vrincioaia 77.74 314 ⇓P **P 11 55 34.3 +1.1**
BURAR Bucovina Array 78.22 316 ⇑*i*P **P 11 55 36.8 +0.9**
BURAR Bucovina Array 78.22 316 ⇑P **P 11 55 36.8 +0.9**
MLR Muntele Rosu 78.38 314 ⇓*i*P **P 11 55 38.3 +1.5**
MLR Muntele Rosu 78.38 314 ⇓P **P 11 55 38.3 +1.5**
KWP Kalwaria 79.17 319 *e*P **P 11 55 41.2 +0.1**
KWP pmax pmax
comp=Z,58nm,1.1s,mb5.4
KWP Kalwaria 79.17 319 *e*P **P 11 55 41.2 0.0**
comp=Z,58nm,1.1s,mb5.4
DRGR 80.10 316 ⇓*i*P **P 11 55 45.1 -1.1**
DRGR 80.10 316 ⇓P **P 11 55 45.1 -1.1**
NIE Niedzica 80.71 319 *e*P **P 11 55 50.8 +1.3**
OJC Ojcow 80.73 320 *e*P **P 11 55 50.4 +0.8**
NB2 NORSAR Subarra 80.88 332 P **P 11 55 49.5 -0.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=64,slow=5.6
NB2 NORSAR Subarra 80.88 332 P **P 11 55 49.5 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 80.88 332 P **P 11 55 48.3 -2.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=62,slow=5.2,SNR=6.6
VTS Vitosha 81.17 312 ⇓*i*P **P 11 55 52.4 +0.5**
VTS Vitosha 81.17 312 ⇓P **P 11 55 52.4 +0.5**
KSP Ksiaz 82.57 322 *e*P **P 11 55 59.8 +0.5**
KMBO Kilima Mbogo 83.65 266 P **P 11 56 04.1 -0.8**
comp=Z,4.5nm,1.1s,mb4.5,baz=30,slow=11,SNR=6.8
BRG Berggiesshubel 83.91 322 *e*P **P 11 56 06.5 +0.3**
comp=Z,12nm,1.6s,mb4.8
BRG *e* 11 56 42.0
comp=Z,17nm,1.4s
BRG
comp=N,958nm,14.4s
BRG
comp=E,1μm,18.7s
BRG
comp=Z,2μm,18.3s
BRG Berggiesshubel 83.91 322 *e*P **P 11 56 06.5 +0.3**
comp=Z,12nm,1.6s,mb4.8
BRG *e* 11 56 42.0
BRG LR LR
comp=Z,2μm,18.3s,MS5.5
CLL Collm 84.26 323 *i*P **P 11 56 07.8 -0.2**
CLL *i* 11 56 15.5
CLL pmax pmax
comp=Z,15nm,1.2s,mb5.0
CLL Collm 84.26 323 *i*P **P 11 56 07.8 -0.2**
comp=Z,15nm,1.2s,mb5.0
CLL *i*pP pP 11 56 15.5 +3.0
GERES GERESS Array B 84.92 320 P **P 11 56 11.4 +0.1**
comp=Z,1.2nm,0.6s,mb4.2,baz=64,slow=6.1,SNR=9.2
MOX Moxa 85.34 323 *e*P **P 11 56 14.1 +0.7**
MOX *e* 11 56 49.5
comp=Z,37nm,1.6s
MOX
comp=Z,900nm,19.0s
MOX Moxa 85.34 323 *e*P **P 11 56 14.1 +0.7**
comp=Z,37nm,1.6s,mb5.3
GRA1 Grafenberg Arr 86.00 322 *e*P **P 11 56 17.5 +0.8**
comp=Z,38nm,2.0s,mb5.3
GRF Grafenberg Arr 86.00 322 *e*P **P 11 56 17.5 +0.8**
comp=Z,38nm,2.0s,mb5.3
GRF Grafenberg Arr 86.00 322 *e*P **P 11 56 17.5 +0.8**
GRF pmax pmax
comp=Z,38nm,2.0s,mb5.3
GRF Grafenberg Arr 86.00 322 *e*P **P 11 56 17.5 +0.8**
GRF pmax pmax
comp=Z,38nm,2.0s,mb5.3
VOY Vojsko 86.02 318 *e*(P) **P 11 56 16.8 0.0**
VOY *e* 11 56 27.7
VOY *e* 11 56 52.3
YKA Yellowknife Ar 86.66 22 P **P 11 56 21.1 +1.1**
comp=Z,5.2nm,0.8s,mb4.8,baz=309,slow=4.6,SNR=9.6
YKA LR LR 12 37 58.5
comp=Z,255nm,19.2s,MS4.6,baz=320,slow=38
YKA Yellowknife Ar 86.66 22 P **P 11 56 21.1 +1.1**
YKA LR LR 12 37 58.5
GIVF Givet 89.39 324 *e*P **P 11 56 32.4 -0.6**
HAU Haudompre 89.64 322 *e*P **P 11 56 33.3 -0.8**
LPG La Plagne 90.68 320 *e*P **P 11 56 39.4 +0.4**
comp=Z,11nm,0.8s,mb4.9
LPG La Plagne 90.68 320 *e*P **P 11 56 39.4 +0.4**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LPG La Plagne 90.68 320 *e*P **P 11 56 39.4 +0.4**
comp=Z,5.3nm,0.8s,mb4.9
LPL La Plagne 90.68 320 *e*P **P 11 56 39.3 +0.3**
comp=Z,36nm,1.2s,mb5.3
LPL La Plagne 90.68 320 *e*P **P 11 56 39.3 +0.3**
LPL pmax pmax
comp=Z,18nm,1.2s,mb5.3
LPL La Plagne 90.68 320 *e*P **P 11 56 39.3 +0.3**
comp=Z,18nm,1.2s,mb5.3
MBDF Montbardon 91.06 319 *e*P **P 11 56 40.4 -0.4**
SSF Saint Saulge 91.77 322 *e*P **P 11 56 43.3 -0.8**
LMR La Mourre 91.94 318 *e*P **P 11 56 44.6 -0.2**
VIVF Saint-Julien-I 92.27 320 *e*P **P 11 56 46.1 -0.3**
LASF Ste Croix 93.18 320 *e*P **P 11 56 50.5 -0.1**
comp=Z,8.2nm,0.9s,mb4.9
EDM Edmonton 93.23 29 *e*P **P 11 56 52.8 +2.0**
ETSF Etsaut 96.50 320 *e*P **P 11 57 05.2 -0.6**
comp=Z,5.6nm,0.9s,mb4.7
ETSF Etsaut 96.50 320 *e*P **P 11 57 05.2 -0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
ETSF Etsaut 96.50 320 *e*P **P 11 57 05.2 -0.6**
comp=Z,2.8nm,0.9s,mb4.7
SDV Santo Domingo 148.87 21 *e*PKPdf PKPdf 12 03 20.1 0.0
ROSC El Rosal 151.02 31 *e*PKPdf PKPdf 12 03 26.8 +3.4
LPAZ La Paz 171.13 62 PKP PKPdf 12 03 47.0 +2.4
comp=Z,2.0nm,1.2s,baz=168,slow=1.4,SNR=4.8

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*SZGRF **09** 11:44:07.6, 1924N×12134E, h24km, mb5.6, Philippine Islands region*
*ISCJB **09** 11:44:09.8±0.6, 2049N±010×1199E±01, h10km, mb4.7/15, Error ellipse: s-maj=20.5km s-min=12.8km az=138.7*
*IDC **09** 11:44:09.7±0.7, 2051N×11989E, h0km, mb4.6/13, mb1 4.8/13, mb1mx4.6/21, mbtmp4.6/13, MS4.2/1, Ms1 4.2/1, ms1mx3.2/30, Error ellipse: s-maj=28.3km s-min=16.5km az=69.0*
*NEIC **09** 11:44:11.3±0.4, 2051N×11992E, h10km, Error ellipse: s-maj=15.6km s-min=9.8km az=69.0*
ISC 09 11:44:11.5±0.6, 2055N±010×1199E±01, h10km, (h24km±.8km:pP-P), n20, σ0≈71/17, mb4.7/15, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.55**	**41**	P	**P**	**11 49 11.0**	**-0.6**
	12nm,1.0s,mb4.3,baz=242,slow=10,SNR=4.2						
PSI	**Prapat**	**27.04**	**232**	P	**P**	**11 49 53.8**	**-0.1**
	7.1nm,0.7s,mb4.3,baz=357,slow=17,SNR=2.1						
MKAR	**Makanchi Array**	**40.24**	**319**	P	**P**	**11 51 48.5**	**+0.2**
	3.5nm,0.6s,mb4.3,baz=118,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**42.64**	**160**	P	**P**	**11 52 06.8**	**-1.3**
	23nm,0.7s,mb5.0,baz=342,slow=9.1,SNR=7.0						
ZAL	**Zalesovo**	**42.73**	**330**	P	**P**	**11 52 08.8**	**0.0**
	6.1nm,1.0s,mb4.3,baz=2.5,slow=7.6,SNR=4.7						
ZAL				LR	LR	12 11 52.1	
	comp=Z,292nm,20.4s,baz=77,slow=39						
ASAR	**Alice Springs**	**46.01**	**162**	P	**P**	**11 52 34.9**	**-0.1**
	22nm,1.0s,mb5.0,baz=333,slow=6.5,SNR=4.5						
CTA	**Charters Tower**	**47.90**	**146**	P	**P**	**11 52 51.1**	**+1.4**
	20nm,0.9s,mb5.2,baz=341,slow=7.3,SNR=3.1						
BVAR	**Borovoye Array**	**49.81**	**323**	P	**P**	**11 53 04.4**	**0.0**
	4.5nm,0.6s,mb4.5,baz=98,slow=10,SNR=5.5						
FINES	**FINESS Array B**	**74.00**	**330**	P	**P**	**11 55 46.4**	**-0.8**
	4.8nm,0.8s,mb4.5,baz=64,slow=8.7,SNR=4.9						
FINES	**FINESS Array B**	**74.00**	**330**	P	**P**	**11 55 46.4**	**-0.8**
AKASG	**Malin Array Be**	**74.82**	**319**	P	**P**	**11 55 51.4**	**-0.6**
	1.2nm,0.5s,mb4.1,baz=62,slow=5.1,SNR=7.1						
NB2	**NORSAR Subarra**	**80.89**	**332**	P	pP	11 56 32.8	+3.7
	comp=Z,2.8nm,0.6s,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**80.89**	**332**	P	**P**	**11 56 25.2**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=64,slow=5.2,SNR=2.7						
CLL	**Collm**	**84.25**	**323**	*i* P	**P**	**11 56 43.1**	**-0.2**
	comp=Z,55nm,1.7s,mb5.4						
CLL				*i* pP	pP	11 56 51.0	+4.4
	comp=Z,24nm,1.1s						
GERES	**GERESS Array B**	**84.90**	**320**	P	**P**	**11 56 47.5**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.4,baz=64,slow=6.1,SNR=6.8						
GRA1	**Grafenberg Arr**	**85.98**	**322**	*e*P	**P**	**11 56 53.0**	**+1.0**
	comp=Z,63nm,1.9s,mb5.5						
GRA1				*e*pP	pP	11 57 00.1	+4.8
GRF	**Grafenberg Arr**	**85.98**	**322**	*e*P	**P**	**11 56 53.0**	**+1.0**
	comp=Z,63nm,1.9s,mb5.5						
GRF				*e*pP	pP	11 57 00.1	+4.8
YKA	**Yellowknife Ar**	**86.75**	**22**	P	**P**	**11 56 56.6**	**+0.9**
	comp=Z,4.7nm,0.7s,mb4.8,baz=312,slow=4.7,SNR=5.5						
PLCA	**Paso Flores**	**157.99**	**158**	PKP	PKPdf	12 04 08.1	-0.4
	comp=Z,1.5nm,0.8s,baz=185,slow=11,SNR=3.7						
LPAZ	**La Paz**	**171.24**	**62**	PKP	PKPdf	12 04 22.3	+2.3
	comp=Z,2.3nm,1.1s,baz=13,slow=7.0,SNR=5.5						

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*ISCJB **09** 11:52:09.7±0.8, 206N±0.1×120.1E±02, h10km, mb3.7/7, Error ellipse: s-maj=32.3km s-min=14.7km az=137.5*
*IDC **09** 11:52:09.9±1.0, 2056N×120.13E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=46.3km s-min=17.7km az=68.0*
*NEIC **09** 11:52:11.4±0.7, 2057N×120.14E, h10km, Error ellipse: s-maj=27.9km s-min=13.4km az=70.0*
ISC 09 11:52:11.6±0.8, 206N±01×1201E±02, h10km, n9, σ0≈80/9, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.41**	**41**	P	**P**	**11 57 09.9**	**-0.4**
	0.8nm,0.8s,mb3.2,baz=248,slow=11,SNR=2.9						
SONM	**Songino Array**	**29.37**	**341**	P	**P**	**11 58 15.0**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=161,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**40.33**	**319**	P	**P**	**11 59 48.7**	**-0.5**
	0.5nm,0.6s,mb3.4,baz=111,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**40.33**	**319**	P	**P**	**11 59 48.7**	**-0.5**
WRA	**Warramunga Arr**	**42.60**	**160**	P	**P**	**12 00 06.9**	**-1.0**
	2.9nm,0.8s,mb4.1,baz=342,slow=9.1,SNR=13						
ZAL	**Zalesovo**	**42.80**	**330**	P	**P**	**12 00 10.0**	**+0.6**
	1.1nm,0.3s,mb4.1,baz=356,slow=3.5,SNR=4.5						
ASAR	**Alice Springs**	**45.98**	**162**	P	**P**	**12 00 34.5**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=344,slow=6.8,SNR=8.9						
CTA	**Charters Tower**	**47.83**	**146**	P	**P**	**12 00 51.0**	**+1.6**
	3.4nm,0.9s,mb4.4,baz=294,slow=10.0,SNR=3.6						
CTA	**Charters Tower**	**47.83**	**146**	P	**P**	**12 00 51.0**	**+1.6**

IDC 09 11:53:42.8±1.1, 2072N×12024E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.6/5, Error ellipse: s-maj=42.8km s-min=20.5km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.24**	**41**	P	P	11 58 42.1	+1.1
	1.8nm,0.9s,baz=240,slow=9.6,SNR=3.2						
SONM	**Songino Array**	**29.27**	**341**	P	P	11 59 45.2	-1.5
	0.3nm,0.5s,baz=149,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**40.29**	**319**	P	P	12 01 22.8	+1.1
	0.3nm,0.6s,baz=104,slow=9.1,SNR=2.6						
WRA	**Warramunga Arr**	**42.70**	**160**	P	P	12 01 41.3	-0.2
	3.9nm,0.9s,baz=342,slow=9.0,SNR=8.9						
ASAR	**Alice Springs**	**46.08**	**163**	P	P	12 02 08.8	+0.4
	0.4nm,0.5s,baz=344,slow=6.9,SNR=6.5						

IDC 09 11:55:27.0±1.4, 2060N×12025E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=140.0km s-min=20.4km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.39**	**341**	P	P	12 01 32.4	+0.5
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**40.39**	**319**	P	P	12 03 06.8	+0.1
	0.6nm,0.7s,baz=118,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**42.59**	**160**	P	P	12 03 24.6	-0.1
	2.1nm,0.8s,baz=341,slow=9.0,SNR=4.7						
ZAL	**Zalesovo**	**42.84**	**330**	P	P	12 03 25.8	-0.9
	1.5nm,0.3s,baz=317,slow=7.3,SNR=3.5						
ASAR	**Alice Springs**	**45.96**	**162**	P	P	12 03 52.2	+0.5
	0.5nm,0.8s,baz=344,slow=6.9,SNR=3.4						
BVAR	**Borovoye Array**	**49.94**	**323**	P	P	12 04 22.7	+0.1
	0.6nm,0.7s,baz=108,slow=9.5,SNR=3.7						

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*ISCJB **09** 11:57:36.8±0.3, 2065N±004×120.12E±005, h10km, mb4.3/21, Error ellipse: s-maj=7.7km s-min=4.7km az=76.1*
*IDC **09** 11:57:36.8±0.6, 2055N×12003E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, MS4.2/1, Ms1 4.2/1, ms1mx3.5/40, Error ellipse: s-maj=33.3km s-min=13.4km az=67.0*
*NEIC **09** 11:57:38.7±0.4, 2059N×12000E, h10km, mb4.7/8, Error ellipse: s-maj=16.0km s-min=7.8km az=74.0*
*MOS **09** 11:57:40.2±0.9, 2056N×11986E, h33km, mb4.6/1, Error ellipse: s-maj=23.7km s-min=10.6km az=109.5*
*JMA **09** 11:57:41.7±0.3, 2057N×12078E, h0km, M4.1*
*BJI **09** 11:57:44.6, 2104N×11949E, h5km, mb4.4, ML3.9*
ISC 09 11:57:38.7±0.3, 2066N±004×12009E±005, h10km, n50, σ1≈26/54, mb4.3/21, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**4.49**	**342**	P	**Pn**	**11 58 45.0**	**-1.7**
QZH				S	**Sn**	**11 59 33.5**	**-5.5**
QZH				Smax			
	comp=N,200nm,0.9s						
QZH				Smax			
	comp=E,280nm,0.3s						
YOJ	**Yonaguni jima**	**4.65**	**35**	*e*S	**Sn**	**11 59 43.9**	**+0.9**
HATJ	**Hateruma jima**	**4.82**	**45**	*e*S	**Sn**	**11 59 44.9**	**-2.4**
IRIF	**Iriomote-Funau**	**4.97**	**42**	P	**Pn**	**11 58 54.9**	**+1.5**
IRIF				*e*S	**Sn**	**11 59 50.1**	**-0.8**
JKRS	**Kuro-shima**	**5.08**	**45**	P	**Pn**	**11 58 56.1**	**+1.2**
JKRS				*e*S	**Sn**	**11 59 52.0**	**-1.6**
JIJ	**Ishigaki jima**	**5.26**	**45**	P	**Pn**	**11 58 58.8**	**+1.5**
JIJ				*e*S	**Sn**	**11 59 55.3**	**-2.7**
JTJ	**Tarama**	**5.82**	**46**	P	**Pn**	**11 59 06.5**	**+1.5**
JTJ				*e*S	**Sn**	**12 00 10.5**	**-1.3**
GZH	**Guangzhou**	**6.72**	**292**	P	**Pn**	**11 59 15.6**	**-1.8**
GZH				S	**Sn**	**12 00 23.8**	**-10**
GZH				Smax			
	comp=N,117nm,0.6s						
GZH				Smax			
	comp=E,95nm,0.7s						
JOW	**Kunigami**	**9.69**	**49**	LR	LR	12 03 44.1	
	comp=E,1μm,20.8s,baz=136,slow=37						
XAN	**Xi'an**	**16.60**	**326**	P	**Pn**	**12 01 35.7**	**+4.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s						
BJT	**Baijiatuau**	**19.59**	**351**	*e*P	**Pn**	**12 02 09.1**	**+0.8**
BJT				pmax	pmax		
	comp=Z,22nm,0.9s						
BJT	**Baijiatuau**	**19.59**	**351**	*e*P	**Pn**	**12 02 09.1**	**+0.9**
	comp=Z,22nm,0.9s						
NNT	**Nongplab**	**21.08**	**251**	P	**P**	**12 02 24.0**	**+0.9**
KSM	**Kuching**	**21.33**	**208**	*e*P	**P**	**12 02 27.7**	**+1.9**
HHC	**Hu-ho-hao-te**	**21.40**	**342**	*e*P	**P**	**12 02 29.1**	**+2.5**
HHC				AMB	AMB		
	comp=Z,27nm,0.3s,mb5.0						
MAJO	**Matsushiro**	**22.38**	**41**	*e*P	**P**	**12 02 39.6**	**+2.6**
MAJO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.4						
MAJO	**Matsushiro**	**22.38**	**41**	*e*P	**P**	**12 02 39.6**	**+2.6**
	comp=Z,16nm,1.1s,mb4.3						
MAT	**Matsushiro**	**22.38**	**41**	P	**P**	**12 02 38.9**	**+1.9**
MAT				*e*S	**S**	**12 06 43.0**	**0.0**
MJAR	**Matsushiro Arr**	**22.38**	**41**	P	**P**	**12 02 38.2**	**+1.2**
	comp=Z,6.6nm,0.8s,mb4.1,baz=239,slow=9.2,SNR=16						
SONM	**Songino Array**	**29.29**	**341**	P	**P**	**12 03 41.3**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.5,baz=164,slow=10,SNR=4.0						
FITZ	**Fitzroy Crossi**	**38.90**	**172**	*e*P	**P**	**12 05 03.8**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.90**	**172**	P	**P**	**12 05 02.9**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.8,baz=190,slow=17,SNR=5.8						
MKAR	**Makanchi Array**	**40.25**	**319**	P	**P**	**12 05 16.3**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.8,baz=117,slow=9.1,SNR=7.2						
WRA	**Warramunga Arr**	**42.69**	**160**	P	**P**	**12 05 34.7**	**-1.0**
	comp=Z,12nm,0.7s,mb4.7,baz=342,slow=8.9,SNR=43						
WB2	**Warramunga Arr**	**42.69**	**160**	*e*P	**P**	**12 05 34.8**	**-0.9**
WB2	**Warramunga Arr**	**42.69**	**160**	*e*P	**P**	**12 05 34.4**	**-1.3**
ZAL	**Zalesovo**	**42.71**	**330**	P	**P**	**12 05 36.6**	**+0.7**
	comp=Z,2.9nm,0.3s,mb4.5,baz=19,slow=13,SNR=6.7						
AS31	**Alice Springs**	**46.06**	**162**	*e*P	**P**	**12 06 02.2**	**-0.5**
ASPA	**Alice Springs**	**46.06**	**162**	*e*P	**P**	**12 06 02.3**	**-0.4**
ASAR	**Alice Springs**	**46.06**	**162**	P	**P**	**12 06 02.5**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=344,slow=6.9,SNR=38						
CTA	**Charters Tower**	**47.91**	**146**	*e*P	**P**	**12 06 18.7**	**+1.6**
	comp=Z,14nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**47.91**	**146**	*e*P	**P**	**12 06 18.6**	**+1.5**
	comp=Z,22nm,0.9s,mb5.2						
BVAR	**Borovoye Array**	**49.81**	**323**	P	**P**	**12 06 31.7**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=120,slow=8.8,SNR=6.0						
BVAR				PcP	PcP	12 07 52.7	+0.3
	comp=Z,1.6nm,0.7s,baz=103,slow=3.3,SNR=6.4						
STKA	**Stephens Creek**	**56.15**	**158**	P	**P**	**12 07 17.4**	**-1.0**
	comp=Z,2.9nm,0.6s,mb4.5,baz=280,slow=4.6,SNR=5.5						
AKTK	**Aktyubinsk**	**56.63**	**317**	P	**P**	**12 07 21.6**	**-0.3**
AKTO	**Aktyubinsk**	**56.63**	**317**	P	**P**	**12 07 21.6**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=114,slow=10.0,SNR=3.2						
JOF	**Joensuu**	**71.28**	**331**	*e*p	**P**	**12 08 57.5**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.4						
ARCES	**ARCESS Array B**	**72.43**	**338**	P	**P**	**12 09 04.3**	**-0.8**
	comp=Z,4.0nm,0.8s,mb4.4,baz=62,slow=8.4,SNR=4.6						
KAF	**Kangasniemi**	**73.72**	**331**	*e*p	**P**	**12 09 10.5**	**-2.3**
FINES	**FINESS Array B**	**73.98**	**330**	P	**P**	**12 09 14.7**	**+0.3**
	comp=Z,3.5nm,0.8s,mb4.4,baz=92,slow=5.9,SNR=7.8						
AKASG	**Malin Array Be**	**74.83**	**319**	P	**P**	**12 09 17.6**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=62,slow=5.3,SNR=4.4						
NB2	**NORSAR Subarra**	**80.86**	**332**	P	**P**	**12 09 52.7**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=60,slow=5.3						
NOA	**NORSAR Array B**	**80.86**	**332**	P	**P**	**12 09 52.7**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=63,slow=5.3,SNR=5.8						
NOA	**NORSAR Array B**	**80.86**	**332**	P	**P**	**12 09 52.7**	**-0.2**
BRG	**Berggiesshubel**	**83.90**	**322**	*e*P	**P**	**12 10 14.6**	**+5.8**
	comp=Z,8.8nm,1.4s,mb4.7						
CLL	**Collm**	**84.25**	**323**	*i* P	pP	12 10 18.8	+4.9
	comp=Z,26nm,1.6s						
CLL	**Collm**	**84.25**	**323**	*i* pP	pP	12 10 18.8	+4.9
	comp=Z,26nm,1.6s						
GERES	**GERESS Array B**	**84.91**	**320**	P	**P**	**12 10 14.6**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.6,baz=291,slow=30,SNR=6.3						
YKA	**Yellowknife Ar**	**86.60**	**22**	P	**P**	**12 10 22.4**	**+0.2**

ellipse: s-maj=25.7km s-min=12.7km az=120.3
*NEIC **09** 12:38:33.4±0.4,2054N×120.11E, mb4.4/6, Error ellipse: s-maj=14.1km s-min=8.3km az=75.0*
*BJI **09** 12:38:34.4,2050N×120.10E, h24km, mB4.7, mb4.4, Ms4.4, Msz4.3*

ISC 09 12:38:33.7±0.5, 2048N±007×1200E±01, h26km, h26km±.9km: pP-P, n34, σ0§79/33, mb4.0/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.96**	**21**	*e*Pn	**Pn**	**12 39 30.7**	**-2.1**
YHNB	**Yeheng**	**4.36**	**17**	*e*Pn	**Pn**	**12 39 34.5**	**-3.7**
GYA	**Guiyang**	**13.61**	**298**	P	**Pn**	**12 41 52.6**	**+7.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,80nm,3.8s						
GYA				LR	LR		
	comp=N,460nm,11.0s						
GYA				LR	LR		
	comp=E,540nm,11.2s						
GYA				LR	LR		
	comp=Z,640nm,12.4s						
BJI	**Beijing**	**19.77**	**351**	*e*P	**Pn**	**12 43 08.8**	**+5.4**
BJI				AMB	AMB		
	comp=Z,11nm,0.5s						
BJI	**Beijing**	**19.77**	**351**	*e*P	**Pn**	**12 43 08.8**	**+5.4**
	comp=Z,11nm,0.5s						
CHTO	**Chiang Mai**	**19.91**	**269**	*e*P	**Pn**	**12 43 04.7**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**19.91**	**269**	*e*P	**Pn**	**12 43 04.7**	**-0.4**
	comp=Z,7.4nm,1.1s						
MJAR	**Matsushiro Arr**	**22.56**	**41**	P	**P**	**12 43 33.6**	**+1.7**
	comp=Z,2.3nm,0.7s,mb3.7,baz=238,slow=12,SNR=6.2						
SONM	**Songino Array**	**29.43**	**341**	P	**P**	**12 44 35.7**	**+0.6**
	comp=Z,1.0nm,1.0s,mb3.5,baz=150,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**40.33**	**320**	P	**P**	**12 46 09.3**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.5,baz=113,slow=9.3,SNR=8.6						
MKAR				pP	pP	12 46 17.1	+0.4
	comp=Z,1.1nm,0.6s,baz=114,slow=9.9,SNR=9.4						
MKAR	**Makanchi Array**	**40.33**	**320**	P	**P**	**12 46 09.3**	**+0.3**
MKAR				pP	pP	12 46 17.1	+0.4
WRA	**Warramunga Arr**	**42.55**	**160**	P	**P**	**12 46 26.5**	**-0.7**
	comp=Z,8.2nm,1.0s,mb4.4,baz=342,slow=9.0,SNR=23						
WRA				pP	pP	12 46 33.7	-1.2
	comp=Z,4.4nm,0.5s,baz=342,slow=9.1,SNR=8.9						
WB2	**Warramunga Arr**	**42.56**	**160**	*e*P	**P**	**12 46 26.6**	**-0.6**
ZAL	**Zalesovo**	**42.83**	**330**	P	**P**	**12 46 29.1**	**-0.3**
	comp=Z,1.5nm,0.9s,mb3.7,baz=355,slow=7.0,SNR=8.3						
AS31	**Alice Springs**	**45.92**	**162**	*e*P	**P**	**12 46 54.1**	**-0.1**
ASAR	**Alice Springs**	**45.92**	**162**	P	**P**	**12 46 54.0**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=343,slow=6.6,SNR=19						
CTA	**Charters Tower**	**47.81**	**146**	*e*P	**P**	**12 47 10.2**	**+1.3**
	comp=Z,6.0nm,1.2s,mb4.5						
CTA	**Charters Tower**	**47.81**	**146**	P	**P**	**12 47 09.9**	**+1.0**
	comp=Z,7.8nm,1.1s,mb4.7,baz=305,slow=11,SNR=5.3						
CTA	**Charters Tower**	**47.81**	**146**	*e*P	**P**	**12 47 10.2**	**+1.3**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CTAO	**Charters Tower**	**47.81**	**146**	*e*P	**P**	**12 47 09.8**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
CTAO	**Charters Tower**	**47.81**	**146**	*e*P	**P**	**12 47 09.8**	**+0.9**
	comp=Z,15nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**49.90**	**323**	P	**P**	**12 47 24.6**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.8,baz=108,slow=9.3,SNR=3.9						
BVAR				pP	pP	12 47 32.8	0.0
	comp=Z,1.4nm,0.6s,baz=97,slow=8.5,SNR=6.3						
CHKZ	**Chkalovo**	**50.01**	**324**	*e*P	**P**	**12 47 25.9**	**0.0**
CHKZ				*PP	pP	12 47 32.9	-0.8
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**50.01**	**324**	*e*P	**P**	**12 47 25.9**	**0.0**
	comp=Z,2.7nm,1.1s,mb4.2						
CHKZ				pP	pP	12 47 32.9	-0.8
STKA	**Stephens Creek**	**56.02**	**158**	*e*P	**P**	**12 48 10.8**	**+0.7**
	comp=Z,3.1nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**56.02**	**158**	P	**P**	**12 48 09.6**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2,baz=349,slow=5.2,SNR=4.2						
AKTK	**Aktyubinsk**	**56.70**	**318**	P	**P**	**12 48 15.4**	**+0.4**
AKTO	**Aktyubinsk**	**56.70**	**318**	P	**P**	**12 48 15.4**	**+0.4**
	comp=Z,0.8nm,0.6s,mb4.0,baz=100,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**74.09**	**330**	P	**P**	**12 50 08.0**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=35,slow=5.1,SNR=3.1						
FINES				pP	pP	12 50 15.0	-0.7
	comp=Z,2.6nm,0.7s,baz=130,slow=7.7,SNR=3.4						
FINES	**FINESS Array B**	**74.09**	**330**	P	**P**	**12 50 08.0**	**+0.4**
FINES				pP	pP	12 50 15.0	-0.7
HFS	**Hagfors**	**80.25**	**331**	pP	pP	12 50 49.2	-1.1
	comp=Z,4.7nm,0.7s,baz=108,slow=3.6,SNR=6.0						
NB2	**NORSAR Subarra**	**80.98**	**332**	P	**P**	**12 50 45.3**	**-0.7**
	comp=Z,7.0nm,1.4s,mb4.4,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**80.98**	**332**	P	**P**	**12 50 45.7**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=213,slow=16,SNR=2.9						
NOA				pP	pP	12 50 52.6	-1.6
	comp=Z,2.2nm,0.8s,baz=63,slow=5.4,SNR=4.6						
GERES	**GERESS Array B**	**85.00**	**320**	P	**P**	**12 51 07.2**	**+0.4**
	comp=Z,0.3nm,0.2s,mb4.0,baz=48,slow=9.4,SNR=3.5						
GERES				pP	pP	12 51 15.2	+0.1
	comp=Z,0.5nm,0.3s,baz=68,slow=5.0,SNR=3.0						

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*NIED **09** 12:39:00,2060N×12060E, h14km, Mw4.7 Best double couple: M0 1.48000×10^16 NP1:φ0=311.00000°, δ70.00000°, λ-92.00000°. NP2:φ0=136.00000°, δ20.00000°, λ-85.00000°.*
*IDC **09** 12:39:13.1±0.5,2051N×11999E, h0km, mb4.6/22, mb1 4.7/22, mb1mx4.7/27, mbtmp4.6/22, MS4.2/3, Ms1 4.2/3, ms1mx3.5/28, Error ellipse: s-maj=24.5km s-min=10.2km az=67.0*
*ISCJB **09** 12:39:14.0±1.4,2058N±003×120.11E±004, h15km±9km, mb4.7/44, MS4.4/3, Error ellipse: s-maj=6.7km s-min=4.6km az=80.8*
*NEIC **09** 12:39:14.7±0.2,2049N×12004E, h10km, mb4.8/18, Error ellipse: s-maj=7.0km s-min=4.9km az=88.0*
*JMA **09** 12:39:15.6±0.4,2055N×12065E, h0km, M4.7*
*MOS **09** 12:39:16.6±1.2,2052N×12000E, h33km, mb5.2/11, Error ellipse: s-maj=13.8km s-min=7.2km az=122.2*
*BJI **09** 12:39:21.7,2123N×11944E, h5km, mB4.8, mb4.4, ML3.9, Ms4.6, Msz4.5*

ISC 09 12:39:15.4±1.6, 2059N±003×12010E±004, h14km±10km, n108, σ1§07/123, mb4.7/43, MS4.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.82**	**21**	*e*P	**Pn**	**12 40 14.3**	**+0.4**
NACB				*e*S	**Sn**	**12 40 59.3**	**+0.7**
YHNB	**Yeheng**	**4.23**	**16**	*e*Pn	**Pn**	**12 40 20.2**	**+0.8**
YHNB	**Yeheng**	**4.23**	**16**	*e*S	**Sn**	**12 41 06.7**	**-1.8**
QZH	**Quanzhou**	**4.55**	**343**	P	**Pn**	**12 40 21.2**	**-2.6**
QZH				S	**Sn**	**12 41 10.9**	**-5.5**
QZH				Smax			
	comp=N,190nm,0.6s						
QZH				Smax			
	comp=E,260nm,0.7s						
QZH				LR	LR		
	comp=N,5μm,9.6s						
QZH				LR	LR		
	comp=E,4μm,8.2s						
QZH				LR	LR		
	comp=Z,8μm,9.3s						
TATO	**Taipei**	**4.55**	**16**	*e*Pn	**Pn**	**12 40 26.6**	**+2.8**
YOJ	**Yonaguni jima**	**4.70**	**34**	P	**Pn**	**12 40 26.4**	**+0.5**
YOJ				*e*S	**Sn**	**12 41 20.4**	**+0.2**
HATJ	**Hateruma jima**	**4.87**	**44**	P	**Pn**	**12 40 27.6**	**-0.6**
HATJ				*e*S	**Sn**	**12 41 21.0**	**-3.3**
IRIF	**Iriomote-Funau**	**5.02**	**41**	P	**Pn**	**12 40 30.1**	**-0.1**
IRIF				*e*S	**Sn**	**12 41 26.4**	**-1.6**
JKRS	**Kuro-shima**	**5.12**	**44**	P	**Pn**	**12 40 31.9**	**+0.2**
JKRS				*e*S	**Sn**	**12 41 28.7**	**-2.0**
JIJ	**Ishigaki jima**	**5.30**	**44**	P	**Pn**	**12 40 33.7**	**-0.4**
JIJ				*e*S	**Sn**	**12 41 31.4**	**-3.6**
JTJ	**Tarama**	**5.86**	**46**	P	**Pn**	**12 40 41.6**	**-0.2**
JTJ				*e*S	**Sn**	**12 41 45.9**	**-2.9**
GZH	**Guangzhou**	**6.75**	**293**	P	**Pn**	**12 40 51.1**	**-2.9**
GZH				S	**Sn**	**12 41 59.4**	**-11**
GZH				Smax			
	comp=N,151nm,0.6s						
GZH				Smax			
	comp=E,147nm,0.6s						
JOW	**Kunigami**	**9.73**	**49**	LR	LR	12 45 45.7	
	comp=E,2μm,20.8s,baz=236,slow=40						
KMI	**Kunming**	**16.62**	**289**	P	**Pn**	**12 43 07.7**	**-0.2**
KMI				XP	sP	12 43 11.3	-4.7
KMI				S	**Sn**	**12 46 10.4**	**-1.8**
KMI				LR	LR		
	comp=N,1μm,11.5s						
KMI				LR	LR		
	comp=E,788nm,13.2s						
KMI				LR	LR		
	comp=Z,753nm,14.0s						
XAN	**Xi'an**	**16.65**	**326**	P	**Pn**	**12 43 09.3**	**+0.9**
XAN				AP	pP	12 43 11.3	-3.3
XAN				AMB	AMB		
	comp=Z,7.0nm,1.6s						
BJI	**Beijing**	**19.67**	**351**	*e*P	**Pn**	**12 43 45.1**	**-0.3**
BJI				S	**Sn**	**12 47 12.1**	**-14**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s						
BJI				AMB	AMB		
	comp=Z,244nm,3.7s						
BJI				LR	LR		
	comp=N,692nm,10.1s						
BJI				LR	LR		
	comp=E,440nm,9.8s						
BJI				LR	LR		
	comp=Z,421nm,17.9s						
BJI	**Beijing**	**19.67**	**351**	*e*P	**Pn**	**12 43 45.1**	**-0.3**
	comp=Z,15nm,0.7s						
BJI				S	**Sn**	**12 47 12.1**	**-14**
CHTO	**Chiang Mai**	**19.99**	**269**	*e*P	**Pn**	**12 43 47.9**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,26nm,1.4s						
CHTO	**Chiang Mai**	**19.99**	**269**	*e*P	**Pn**	**12 43 47.9**	**-1.3**
	comp=Z,26nm,1.4s						
LZH	**Lanzhou**	**21.00**	**321**	*e*P	**P**	**12 43 59.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,84nm,1.5s						
LZH				AMB	AMB		
	comp=Z,341nm,4.1s						
LZH	**Lanzhou**	**21.00**	**321**	*e*P	**P**	**12 43 59.5**	**+1.1**
LZH				*PP		12 44 10.0	
LZH				*SP	sP	12 44 15.5	+11
LZH				pmax	pmax		
	comp=Z,84nm,1.5s						
LZH	**Lanzhou**	**21.00**	**321**	*e*P	**P**	**12 43 59.5**	**+1.1**
	comp=Z,84nm,1.5s						
LZH				pP		12 44 10.0	
LZH				sP	sP	12 44 15.5	+11
KSM	**Kuching**	**21.27**	**208**	*e*P	**P**	**12 43 60.0**	**-1.3**
BTO	**Baotou**	**21.72**	**339**	*e*P	**P**	**12 44 06.2**	**+0.1**
BTO				S	**S**	**12 47 59.8**	**-6.3**
BTO				LR	LR		
	comp=N,280nm,8.8s						
BTO				LR	LR		
	comp=E,128nm,8.6s						
MAJO	**Matsushiro**	**22.42**	**41**	*e*P	**P**	**12 44 15.6**	**+2.0**
MAJO				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**22.42**	**41**	*e*P	**P**	**12 44 15.6**	**+2.0**
	comp=Z,20nm,1.0s,mb4.5						
MAT	**Matsushiro**	**22.42**	**41**	P	**P**	**12 44 14.2**	**+0.6**
MAT				*e*S	**S**	**12 48 22.0**	**+2.3**
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**12 44 14.9**	**+1.2**
	comp=Z,10nm,0.8s,mb4.3,baz=242,slow=9.5,SNR=11						
CN2	**Changchun**	**23.57**	**10**	*e*P	**P**	**12 44 31.9**	**+6.2**
KULM	**Kulim**	**24.25**	**234**	*e*P	**P**	**12 44 32.3**	**+0.4**
MDJ	**Mudanjiang**	**25.22**	**16**	*e*P	**P**	**12 44 42.8**	**+2.1**
	comp=Z,38nm,1.3s,mb4.8						
GTA	**Gaotai**	**25.59**	**322**	*e*P	**P**	**12 44 45.6**	**+1.5**
GTA				AP	pP	12 44 49.7	+1.4
GTA				XP	sP	12 44 52.1	+2.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
PSI	**Prapat**	**27.18**	**232**	P	**P**	**12 44 57.2**	**-1.2**
	comp=Z,6.3nm,0.7s,mb4.2,baz=13,slow=5.7,SNR=8.3						
SONM	**Songino Array**	**29.35**	**341**	P	**P**	**12 45 17.0**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=161,slow=10.0,SNR=5.7						
SONM				LR	LR	12 57 49.1	
	comp=Z,378nm,18.6s,MS4.0,baz=346,slow=38						
GUN	**Gumba**	**31.96**	**290**	*e*P	**P**	**12 45 41.0**	**+0.2**
	comp=Z,56nm,0.8s,mb5.4						
PKI	**Pulchoki**	**32.34**	**289**	*e*P	**P**	**12 45 43.9**	**-0.3**
	comp=Z,15nm,0.8s,mb4.9						
KKN	**Kakani**	**32.48**	**290**	*e*P	**P**	**12 45 44.9**	**-0.5**
	comp=Z,32nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**32.57**	**340**	*e*P	**P**	**12 45 44.7**	**-1.5**
DMN	**Daman**	**32.62**	**289**	*e*P	**P**	**12 45 46.5**	**-0.1**
	comp=Z,20nm,0.6s,mb5.2						
GKN	**Gorkha**	**33.06**	**290**	*e*P	**P**	**12 45 49.5**	**-1.0**
	comp=Z,39nm,1.0s,mb5.3						
KOLN	**Koldanda**	**33.96**	**289**	*e*P	**P**	**12 45 58.0**	**-0.3**
	comp=Z,30nm,0.9s,mb5.2						
WMQ	**Urumqi**	**35.53**	**318**	*e*P	**P**	**12 46 12.8**	**+0.9**
WMQ				AP	pP	12 46 17.0	+0.9
WMQ				XP	sP	12 46 20.0	+2.1
WMQ				PP	PP	12 47 33.0	+0.4
WMQ				PCP	PcP	12 48 43.0	+2.1
WMQ				S	**S**	**12 51 46.0**	**-1.0**
WMQ				XS	sS	12 51 53.0	-1.0
WMQ				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,148nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,12.2s,MS4.9						
WMQ				LR	LR		
	comp=E,848nm,13.9s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,18.8s,MS4.6						
FITZ	**Fitzroy Crossi**	**38.84**	**172**	*e*P	**P**	**12 46 38.8**	**-1.2**
	comp=Z,14nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**38.84**	**172**	P	**P**	**12 46 38.6**	**-1.4**
	comp=Z,8.8nm,1.0s,mb4.4,baz=354,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**40.30**	**319**	P	**P**	**12 46 52.6**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.2,baz=115,slow=9.4,SNR=15						
WRA	**Warramunga Arr**	**42.63**	**160**	P	**P**	**12 47 10.0**	**-1.3**
	comp=Z,28nm,0.7s,mb5.1,baz=342,slow=9.1,SNR=27						
WRA				S	**S**	**12 53 36.3**	**+2.5**
	comp=Z,2.0nm,1.0s,baz=343,slow=16,SNR=3.1						
WB2	**Warramunga Arr**	**42.63**	**160**	*e*P	**P**	**12 47 10.0**	**-1.3**
ZAL	**Zalesovo**	**42.77**	**330**	P	**P**	**12 47 12.6**	**+0.2**
	comp=Z,3.9nm,1.0s,mb4.1,baz=1.5,slow=8.0,SNR=12						
NVS	**Novosibirsk**	**44.04**	**330**	*i* P	**P**	**12 47 22.5**	**-0.2**
NVS				pmax	pmax		
	comp=Z,34nm,1.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,16nm,1.4s						
AS31	**Alice Springs**	**46.00**	**162**	*e*P	**P**	**12 47 38.0**	**-0.3**
ASPA	**Alice Springs**	**46.00**	**162**	*e*P	**P**	**12 47 38.1**	**-0.2**
ASAR	**Alice Springs**	**46.00**	**162**	P	**P**	**12 47 37.6**	**-0.7**
	comp=E,12nm,0.9s,mb4.8,baz=336,slow=6.9,SNR=20						
ASAR				S	**S**	**12 54 30.3**	**+7.4**
	comp=E,0.8nm,0.9s,baz=352,slow=18,SNR=5.4						
CTA	**Charters Tower**	**47.85**	**146**	*e*P	**P**	**12 47 53.0**	**+0.2**
	comp=E,22nm,1.0s,mb5.1						
CTA	**Charters Tower**	**47.85**	**146**	P	**P**	**12 47 53.6**	**+0.9**
	comp=E,27nm,1.0s,mb5.2,baz=335,slow=9.8,SNR=13						
CTA	**Charters Tower**	**47.85**	**146**	*e*P	**P**	**12 47 53.0**	**+0.2**
CTA				pmax	pmax		
	comp=Z,22nm,1.0s						
CTAO	**Charters Tower**	**47.85**	**146**	*e*P	**P**	**12 47 53.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
CTAO	**Charters Tower**	**47.85**	**146**	*e*P	**P**	**12 47 53.3**	**+0.6**
	comp=Z,41nm,1.1s,mb5.4						
HNR	**Honiara**	**49.25**	**123**	LR	LR	13 04 59.0	
	comp=Z,294nm,19.2s,MS4.3,baz=359,slow=31						
BVAR	**Borovoye Array**	**49.86**	**323**	P	**P**	**12 48 08.6**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.7,baz=108,slow=8.8,SNR=19						
BVAR				PcP	PcP	12 49 28.5	-0.1
	comp=Z,2.0nm,0.7s,baz=108,slow=4.8,SNR=4.8						
CHKZ	**Chkalovo**	**49.97**	**324**	*e*P	**P**	**12 48 08.8**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**49.97**	**324**	*e*P	**P**	**12 48 08.8**	**-0.2**
	comp=Z,8.3nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**56.09**	**158**	*e*P	**P**	**12 48 53.9**	**-0.2**
	comp=Z,4.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**56.09**	**158**	P	**P**	**12 48 53.8**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.7,baz=330,slow=9.1,SNR=8.5						
STKA	**Stephens Creek**	**56.09**	**158**	*e*P	**P**	**12 48 54.3**	**+0.2**
AKTK	**Aktyubinsk**	**56.68**	**317**	P	**P**	**12 48 58.8**	**+0.5**
AKTO	**Aktyubinsk**	**56.68**	**317**	P	**P**	**12 48 58.8**	**+0.5**
	comp=Z,2.9nm,0.6s,mb4.5,baz=94,slow=14,SNR=9.4						
ARU	**Arti**	**57.40**	**325**	*e*P	**P**	**12 49 02.0**	**-1.4**
ARU	**Arti**	**57.40**	**325**	*e*P	**P**	**12 49 03.1**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0						
MALT	**Malatya**	**71.18**	**305**	*e*P	**P**	**12 50 35.1**	**+1.4**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MALT	**Malatya**	**71.18**	**305**	*e*P	**P**	**12 50 35.1**	**+1.4**
	comp=Z,2.2nm,0.8s,mb4.1						
JOF	**Joensuu**	**71.34**	**331**	*e*p	**P**	**12 50 33.5**	**-1.2**
	comp=Z,5.2nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**73.77**	**331**	*e*p	**P**	**12 50 48.1**	**-1.1**
	baz=75,slow=5.4						
FINES	**FINESS Array B**	**74.03**	**330**	P	**P**	**12 50 50.5**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.6,baz=72,slow=6.2,SNR=10.0						
AKASG	**Malin Array Be**	**74.88**	**319**	P	**P**	**12 50 54.9**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.5,baz=62,slow=6.0,SNR=12						
MLR	**Muntele Rosu**	**78.42**	**314**	P	**P**	**12 51 16.6**	**+0.9**
	comp=Z,3.4nm,0.6s,mb4.5,baz=146,slow=17,SNR=4.6						
HFS	**Hagfors**	**80.19**	**331**	P	**P**	**12 51 24.9**	**-0.5**
	comp=Z,6.4nm,0.8s,mb4.6,baz=90,slow=7.4,SNR=7.1						
NIE	**Niedzica**	**80.74**	**319**	*e*P	**P**	**12 51 29.2**	**+0.9**
OJC	**Ojcow**	**80.77**	**320**	*e*P	**P**	**12 51 28.6**	**+0.2**
NB2	**NORSAR Subarra**	**80.92**	**332**	P	**P**	**12 51 27.7**	**-1.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=66,slow=5.3						
NB2	**NORSAR Subarra**	**80.92**	**332**	P	**P**	**12 51 27.7**	**-1.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**80.92**	**332**	P	**P**	**12 51 27.8**	**-1.4**
	comp=Z,4.7nm,1.0s,mb4.4,baz=64,slow=5.3,SNR=5.2						
VRAC	**Vranov**	**83.04**	**320**	P	**P**	**12 51 40.4**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.7,baz=78,slow=7.1,SNR=6.2						
KMBO	**Kilima Mbogo**	**83.69**	**266**	P	**P**	**12 51 45.9**	**+2.2**
	comp=Z,2.4nm,0.9s,mb4.3,baz=56,slow=5.5,SNR=6.0						
BRG	**Berggiesshubel**	**83.95**	**322**	*e*P	**P**	**12 51 46.5**	**+1.4**
	comp=Z,9.3nm,1.2s,mb4.8						
BRG	**Berggiesshubel**	**83.95**	**322**	*e*P	**P**	**12 51 46.5**	**+1.4**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8						
CLL	**Collm**	**84.30**	**323**	*i* P	**P**	**12 51 48.0**	**+1.2**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
CLL	**Collm**	**84.30**	**323**	*i* P	**P**	**12 51 48.0**	**+1.2**
	comp=Z,10.0nm,1.1s,mb4.9						
KHC	**Kasperske Hory**	**84.91**	**321**	*e*P	**P**	**12 51 51.1**	**+1.2**
GERES	**GERESS Array B**	**84.96**	**320**	P	**P**	**12 51 50.7**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.5,baz=68,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**86.66**	**22**	P	**P**	**12 51 59.6**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.5,baz=314,slow=4.8,SNR=4.5						
HAU	**Haudompre**	**89.67**	**322**	*e*P	**P**	**12 52 13.0**	**0.0**
LPG	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.2**	**+1.4**
	comp=Z,21nm,0.8s,mb5.2						
LPG	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.2**	**+1.4**
LPG				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
LPG	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.2**	**+1.4**
	comp=Z,11nm,0.8s,mb5.2						
LPL	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.1**	**+1.2**
	comp=Z,16nm,0.7s,mb5.1						
LPL	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.1**	**+1.2**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.2						
LPL	**La Plagne**	**90.72**	**320**	*e*P	**P**	**12 52 19.1**	**+1.2**
	comp=Z,8.2nm,0.7s,mb5.2						
LOR	**Lormes**	**91.49**	**322**	*e*P	**P**	**12 52 22.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**91.55**	**320**	*e*P	**P**	**12 52 21.4**	**-0.3**
	comp=Z,13nm,0.9s,mb5.0						
ORIF	**Oris-en-Rattie**	**91.55**	**320**	*e*P	**P**	**12 52 21.4**	**-0.3**
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
ORIF	**Oris-en-Rattie**	**91.55**	**320**	*e*P	**P**	**12 52 21.4**	**-0.3**
	comp=Z,6.3nm,0.9s,mb5.0						
FRF	**La Foret Royal**	**91.77**	**318**	*e*P	**P**	**12 52 23.3**	**+0.6**
LMR	**La Mourre**	**91.97**	**318**	*e*P	**P**	**12 52 24.5**	**+0.8**
	comp=Z,18nm,1.0s,mb5.1						
LMR	**La Mourre**	**91.97**	**318**	*e*P	**P**	**12 52 24.5**	**+0.8**
LMR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
LMR	**La Mourre**	**91.97**	**318**	*e*P	**P**	**12 52 24.5**	**+0.8**
	comp=Z,9.1nm,1.0s,mb5.1						
VIVF	**Saint-Julien-l**	**92.31**	**320**	*e*P	**P**	**12 52 26.0**	**+0.8**
LSZ	**Lusaka**	**96.99**	**256**	P	**P**	**12 52 46.3**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.7,baz=61,slow=5.0,SNR=4.6						
LSZ	**Lusaka**	**96.99**	**256**	P	**P**	**12 52 46.3**	**-0.3**

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*CSEM **09** 12:46:23.0,4083N×4454E, h9km, mb3.7, Error ellipse: s-maj=99.9km s-min=13.1km az=39.0, After OBN*

**MOS 09 12:46:23.2±0.8, 4083N×4454E, h9km, mb3.7/1, Error ellipse: s-

ASAR Alice Springs 46.41 164 P P 13 02 30.9 +0.4
0.2nm,0.5s,baz=345,slow=7.1,SNR=13

*ISCJB **09** 13:00:19.4±0.4,2068N±004×12012E±006,h10km, mb4.0/13,MS3.9/1, Error ellipse: s-maj=8.5km s-min=5.1km az=63.5*
*IDC **09** 13:00:19.9±0.8,2056N×11996E,h0km,mb4.0/11, mb1 4.1/11,mb1mx4.0/22,mbtmp4.0/11,MS4.0/1, Ms1 4.0/1,ms1mx3.0/23,Error ellipse: s-maj=39.1km s-min=14.3km az=66.0*
*NEIC **09** 13:00:21.6±0.4,2059N×11996E,h10km,mb4.5/2,Error ellipse: s-maj=21.2km s-min=7.6km az=69.0*
*MOS **09** 13:00:23.0±0.7,2055N×11986E,h33km,mb5.1/1,Error ellipse: s-maj=34.8km s-min=12.7km az=111.7*
*BJI **09** 13:00:24.7,2107N×11959E,h5km,mB4.6,mb4.2,ML3.4*
*JMA **09** 13:00:25.1±0.4,2070N×12026E,h132km*

ISC 09 13:00:21.5±0.4,2069N±004×12010E±006,h10km,n31, σ0°98/34,mb4.0/13,MS3.9/1,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**4.46**	**342**	P	**Pn**	**13 01 27.0**	**-2.1**
QZH				S	**Sn**	**13 02 16.5**	**-4.5**
QZH				Smax			
	comp=N,110nm,0.8s						
QZH				Smax			
	comp=E,60nm,0.6s						
YOJ	**Yonaguni jima**	**4.62**	**35**	P	**Pn**	**13 01 32.7**	**+1.3**
HATJ	**Hateruma jima**	**4.80**	**45**	*e*S	**Sn**	**13 02 29.0**	**-0.5**
IRIF	**Iriomote-Funau**	**4.95**	**42**	P	**Pn**	**13 01 37.1**	**+1.3**
IRIF				*e*S	**Sn**	**13 02 32.6**	**-0.5**
JKRS	**Kuro-shima**	**5.06**	**45**	P	**Pn**	**13 01 38.5**	**+1.1**
JKRS				*e*S	**Sn**	**13 02 34.7**	**-1.2**
JIJ	**Ishigaki jima**	**5.23**	**45**	P	**Pn**	**13 01 40.2**	**+0.4**
JIJ				*e*S	**Sn**	**13 02 39.0**	**-1.2**
JTJ	**Tarama**	**5.79**	**46**	P	**Pn**	**13 01 48.5**	**+1.0**
TGY	**Tagaytay City**	**6.60**	**173**	Pn	**Pn**	**13 01 59.6**	**+1.0**
	comp=E,28nm,0.3s,baz=181,slow=5.2,SNR=2.8						
HHC	**Hu-ho-hao-te**	**21.37**	**342**	*e*P	**P**	**13 05 08.7**	**-0.3**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,311nm,8.6s						
MJAR	**Matsushiro Arr**	**22.35**	**41**	P	**P**	**13 05 22.2**	**+2.6**
	comp=Z,3.1nm,0.9s,mb3.8,baz=239,slow=9.6,SNR=5.1						
PSI	**Prapat**	**27.24**	**232**	LR	LR	13 15 48.6	
	comp=Z,307nm,20.4s,MS3.9,baz=128,slow=34						
SONM	**Songino Array**	**29.26**	**341**	P	**P**	**13 06 24.3**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.3,baz=143,slow=9.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**38.93**	**172**	P	**P**	**13 07 48.1**	**+0.7**
	comp=Z,2.2nm,0.8s,mb3.9,baz=345,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**13 07 59.0**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.7,baz=116,slow=9.0,SNR=12						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**13 08 18.6**	**+0.2**
	comp=Z,1.0nm,0.3s,mb4.0,baz=60,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**42.72**	**160**	P	**P**	**13 08 17.3**	**-1.4**
	comp=Z,5.4nm,0.8s,mb4.3,baz=342,slow=9.0,SNR=22						
WB2	**Warramunga Arr**	**42.72**	**160**	*e*P	**P**	**13 08 17.6**	**-1.1**
WB2				*e*		13 08 25.0	
WB2	**Warramunga Arr**	**42.72**	**160**	*e*P	**P**	**13 08 17.5**	**-1.2**
WB2				*e*		13 08 25.0	
AS31	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**13 08 44.8**	**-0.9**
ASAR	**Alice Springs**	**46.09**	**162**	P	**P**	**13 08 45.0**	**-0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=345,slow=7.0,SNR=20						
ASPA	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**13 08 45.0**	**-0.7**
CTA	**Charters Tower**	**47.93**	**146**	P	**P**	**13 09 00.1**	**0.0**
	comp=Z,5.3nm,0.8s,mb4.6,baz=348,slow=12,SNR=5.7						
CTAO	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**13 09 01.3**	**+1.2**
CTAO				*e*		13 09 08.2	
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**13 09 01.3**	**+1.3**
	comp=Z,11nm,0.8s,mb4.9						
CTAO				*e*		13 09 08.2	
BVAR	**Borovoye Array**	**49.79**	**323**	P	**P**	**13 09 14.9**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=111,slow=6.5,SNR=4.9						
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**13 09 15.3**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**13 09 15.3**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.0						
AKTK	**Aktyubinsk**	**56.61**	**317**	P	**P**	**13 10 04.1**	**-0.4**
AKTO	**Aktyubinsk**	**56.61**	**317**	P	**P**	**13 10 04.1**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=76,slow=16,SNR=4.0						
FINES	**FINESS Array B**	**73.95**	**330**	P	**P**	**13 11 56.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=46,slow=8.2,SNR=4.1						
FINES	**FINESS Array B**	**73.95**	**330**	P	**P**	**13 11 56.5**	**-0.5**

MAN 09 13:08:05.2,1181N×12522E,h23km,mb1.3,ML3.3,MS3.9, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.30**	**135**	*e*P	Pb	13 08 13.2	+1.1
BESP				*e*S	Sb	13 08 16.9	+0.2
PLP	**Palo**	**0.69**	**200**	*e*P	Pb	13 08 19.4	+1.0
PLP				*e*S	Sb	13 08 30.6	+3.1
PVCP	**Virac**	**2.05**	**330**	*e*P	Pn	13 08 38.8	+0.5

*IDC **09** 13:08:23.7±0.9,2045N×12000E,h0km,mb3.9/9, mb1 4.0/9,mb1mx3.9/20,mbtmp3.9/9,Error ellipse: s-maj=42.2km s-min=17.1km az=65.0*
*NEIC **09** 13:08:25.3±0.4,2044N×11994E,h10km,mb4.5/1,Error ellipse: s-maj=20.1km s-min=8.1km az=65.0*
*ISCJB **09** 13:08:28.2±1.6,2045N±010×1200E±02,h46km±16km, mb4.0/10,Error ellipse: s-maj=31.4km s-min=11.5km az=133.1*

ISC 09 13:08:29.8±1.6,2049N±009×1201E±02,h43km±16km,n19, σ0°78/19,mb4.0/10,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.93**	**140**	*e*P	**Pn**	**13 09 11.7**	**-2.0**
CAUP	**Cauayan**	**3.91**	**154**	*e*P	**Pn**	**13 09 28.0**	**+0.8**
BALP	**Baler**	**4.94**	**163**	*e*P	**Pn**	**13 09 42.4**	**+0.9**
MJAR	**Matsushiro Arr**	**22.53**	**41**	P	**P**	**13 13 26.5**	**+0.7**
	1.5nm,0.9s,mb3.4,baz=270,slow=8.9,SNR=3.7						
SONM	**Songino Array**	**29.43**	**341**	P	**P**	**13 14 28.8**	**-0.4**
	0.2nm,0.4s,mb3.2,baz=151,slow=9.2,SNR=2.2						
MKAR	**Makanchi Array**	**40.35**	**319**	P	**P**	**13 16 03.5**	**+0.3**
	1.0nm,0.7s,mb3.7,baz=133,slow=8.5,SNR=9.8						
WRA	**Warramunga Arr**	**42.55**	**160**	P	**P**	**13 16 20.8**	**-0.4**
	5.3nm,0.7s,mb4.4,baz=342,slow=9.0,SNR=22						
WB2	**Warramunga Arr**	**42.55**	**160**	*e*P	**P**	**13 16 20.8**	**-0.5**
WB2	**Warramunga Arr**	**42.55**	**160**	*e*P	**P**	**13 16 20.9**	**-0.4**
ZAL	**Zalesovo**	**42.83**	**330**	P	**P**	**13 16 22.5**	**-1.1**
	1.6nm,0.5s,mb4.0,baz=14,slow=4.7,SNR=4.7						
AS31	**Alice Springs**	**45.92**	**162**	P	**P**	**13 16 47.7**	**-0.5**
ASAR	**Alice Springs**	**45.92**	**162**	P	**P**	**13 16 48.2**	**+0.1**
	1.9nm,0.9s,mb4.0,baz=345,slow=6.8,SNR=18						
ASPA	**Alice Springs**	**45.92**	**162**	*e*P	**P**	**13 16 47.7**	**-0.5**
CTAO	**Charters Tower**	**47.80**	**146**	*e*P	**P**	**13 17 04.6**	**+1.7**
	4.2nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**49.92**	**323**	P	**P**	**13 17 19.6**	**+0.5**
	1.2nm,0.5s,mb4.2,baz=90,slow=9.6,SNR=6.2						
CHKZ	**Chkalovo**	**50.03**	**324**	*e*P	**P**	**13 17 19.8**	**-0.2**
AKTK	**Aktyubinsk**	**56.72**	**317**	P	**P**	**13 18 09.4**	**+0.4**
AKTO	**Aktyubinsk**	**56.72**	**317**	P	**P**	**13 18 09.4**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=68,slow=13,SNR=3.5						
FINES	**FINESS Array B**	**74.10**	**330**	P	**P**	**13 20 01.0**	**-0.4**
	3.8nm,1.1s,mb4.2,baz=95,slow=14,SNR=3.8						

TRN 09 13:24:52.6,1749N×6056W,h35km,M3.7(FDF),Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.27**	**202**	*e*P	Pn	13 25 14.9	+1.0
DEG				*e*S	Sn	13 25 32.1	+2.5
MGG	**Marie-Galante**	**1.73**	**205**	*e*P	Pn	13 25 22.5	+2.3
BCG	**Bois Riant Cap**	**1.73**	**216**	*e*P	Pn	13 25 21.8	+1.6
LZG	**Guadaloupe-1**	**1.78**	**221**	*e*P	Pn	13 25 22.3	+1.4
PHG	**Guadaloupe-2**	**1.80**	**215**	*e*P	Pn	13 25 23.1	+2.0
TBG	**Guadaloupe-3**	**1.94**	**213**	*e*P	Pn	13 25 24.8	+1.8

*ISCJB **09** 13:42:18.6±0.9,207N±0.1×1199E±02,h10km,mb3.7/6, Error ellipse: s-maj=33.6km s-min=16.0km az=145.1*
*IDC **09** 13:42:18.8±1.1,2075N×11999E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/19,mbtmp3.8/6,MS2.6/1,Ms1 2.6/1, ms1mx1.9/40,Error ellipse: s-maj=46.2km s-min=19.9km az=71.0*
*NEIC **09** 13:42:20.4±0.8,2076N×11993E,h10km,Error ellipse: s-maj=29.3km s-min=13.9km az=73.0*

ISC 09 13:42:20.6±0.9,208N±01×1200E±02,h10km,n9,σ0°79/8, mb3.7/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**9.73**	**50**	LR	LR	13 47 16.0	
	comp=Z,40nm,21.9s,baz=245,slow=31						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**13 47 19.0**	**0.0**
	0.6nm,0.5s,mb3.2,baz=234,slow=16,SNR=3.4						
SONM	**Songino Array**	**29.15**	**341**	P	**P**	**13 48 21.2**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=134,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**40.09**	**319**	P	**P**	**13 49 56.7**	**+0.6**
	0.5nm,0.7s,mb3.4,baz=102,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**40.09**	**319**	P	**P**	**13 49 56.7**	**+0.6**
WRA	**Warramunga Arr**	**42.83**	**160**	P	**P**	**13 50 17.4**	**-1.3**
	1.7nm,0.6s,mb4.0,baz=342,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**46.20**	**162**	P	**P**	**13 50 45.7**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=346,slow=7.0,SNR=24						
CTA	**Charters Tower**	**48.07**	**146**	P	**P**	**13 51 00.9**	**+0.8**
	4.4nm,0.8s,mb4.5,baz=329,slow=8.9,SNR=5.0						
CTAO	**Charters Tower**	**48.07**	**146**	*e*P	**P**	**13 51 01.8**	**+1.6**
	4.4nm,0.8s,mb4.5						

*IDC **09** 13:45:09.8±0.5,1.11N×97.11E,h0km,mb4.5/27, mb1 4.5/28,mb1mx4.5/32,mbtmp4.5/28,ML3.9/1,MS4.1/11, Ms1 4.1/11,ms1mx3.7/43,Error ellipse: s-maj=15.5km s-min=10.9km az=44.0*
*ISCJB **09** 13:45:11.5±0.3,108N±004×97.13E±004,h23km,mb4.9/77, MS4.4/26,Error ellipse: s-maj=5.9km s-min=4.4km az=93.5*
*BJI **09** 13:45:11.4,092N×9724E,h32km,mB5.1,mb5.1,Ms4.7, Msz4.6*
*MOS **09** 13:45:12.9±0.9,1.11N×97.12E,h33km,mb5.2/25,Error ellipse: s-maj=10.2km s-min=6.4km az=92.0*
*NEIC **09** 13:45:13.3±0.2,1.11N×97.11E,mb4.9/25,Error ellipse: s-maj=5.6km s-min=4.5km az=47.0*

ISC 09 13:45:14.1±0.3,111N±004×9714E±004,h25km, h25km±1.1km:pP-P,n165,σ0°96/166,mb4.9/77,MS4.4/26, 4C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.45**	**47**	Pn	**Pn**	**13 45 52.4**	**-0.1**
	30nm,0.3s,baz=214,slow=7.4,SNR=244						
PSI				LR	LR	13 46 42.6	
	comp=Z,2μm,20.2s,baz=307,slow=39						
TSI	**Tuntungan**	**2.77**	**31**	P	**Pn**	**13 45 57.0**	**+0.2**
	1μm,1.0s						
PPI	**Padang Panjang**	**3.61**	**116**	P	**Pn**	**13 46 08.6**	**+0.2**
	408nm,1.1s						
IPM	**Ipoh**	**5.12**	**49**	P	**Pn**	**13 46 30.4**	**+1.2**
KULM	**Kulim**	**5.43**	**40**	*e*P	**Pn**	**13 46 33.6**	**+0.2**
KGM	**Kluang**	**6.24**	**82**	P	**Pn**	**13 46 45.6**	**+1.1**
SNG	**Songkhla**	**6.95**	**30**	P	**Pn**	**13 46 54.0**	**-0.3**
	420nm,1.0s						
KSM	**Kuching**	**13.17**	**88**	*e*P	**Pn**	**13 48 21.3**	**+1.9**
NST	**Nakhon Sawan**	**14.77**	**11**	P	**Pn**	**13 48 46.8**	**+5.5**
KKTK	**Khon Kaen**	**16.13**	**20**	⇓P	**Pn**	**13 49 02.0**	**+2.9**
	586nm,0.8s						
CM31	**Chiang Mai Arr**	**17.33**	**6**	*e*P	**Pn**	**13 49 13.4**	**-0.8**
PALK	**Pallekele**	**17.50**	**291**	*e*P	**Pn**	**13 49 17.1**	**+0.8**
CHG	**Chiang Mai**	**17.68**	**6**	⇓P	**Pn**	**13 49 17.3**	**-1.3**
	18nm,0.7s						
CHTO	**Chiang Mai**	**17.68**	**6**	*e*P	**Pn**	**13 49 16.7**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CHTO	**Chiang Mai**	**17.68**	**6**	*e*P	**Pn**	**13 49 16.7**	**-1.9**
	comp=Z,10nm,0.6s						
KKM	**Kota Kinabalu**	**19.65**	**75**	P	**Pn**	**13 49 41.6**	**-0.8**
KKM	**Kota Kinabalu**	**19.65**	**75**	*e*P	**Pn**	**13 49 41.3**	**-1.1**
MDRS	**Chennai**	**20.53**	**306**	*e*P	**P**	**13 49 45.2**	**-5.3**
MDRS				AMb	AMB	13 49 46.1	
	comp=Z,43nm,0.5s						
VIS	**Vishakhapatnam**	**21.38**	**321**	*e*P	**P**	**13 49 55.3**	**-4.3**
VIS				*ex*	x	13 53 43.7	
QIZ	**Qiongzhong**	**21.73**	**34**	P	**P**	**13 50 03.5**	**0.0**
QIZ				XS	sS	13 54 16.3	+2.7
QIZ				AMB	AMB		
	comp=Z,31nm,1.3s,mb4.6						
QIZ				LR	LR		
	comp=N,547nm,14.5s,MS4.3						
QIZ				LR	LR		
	comp=E,742nm,15.6s,MS4.3						
QIZ				LR	LR		
	comp=Z,858nm,12.8s,MS4.3						
QIZ	**Qiongzhong**	**21.73**	**34**	*e*P	**P**	**13 50 02.4**	**-1.1**
	comp=Z,39nm,1.0s,mb4.8						
PCI	**Palu**	**22.78**	**95**	P	**P**	**13 50 21.0**	**+6.4**
	comp=Z,51nm,1.4s,mb4.8						
HYB	**Hyderabad**	**24.43**	**313**	*i*P	**P**	**13 50 33.0**	**+2.3**
HYB	**Hyderabad**	**24.43**	**313**	*e*P	**P**	**13 50 38.0**	**+7.3**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**13 50 32.2**	**+1.1**
KMI				AP		13 50 39.0	
KMI				XP	sP	13 50 42.6	+1.1
KMI				PP		13 51 08.3	
KMI				PPP		13 51 18.9	
KMI				S	**S**	**13 54 51.5**	**+1.6**
KMI				XS	sS	13 55 01.6	-0.4
KMI				SS		13 55 45.0	
KMI				SSS		13 56 06.7	
KMI				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,302nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,14.2s,MS4.7						
KMI				LR	LR		
	comp=E,881nm,13.3s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,13.8s,MS4.7						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**13 50 32.2**	**+1.1**
KMI				*SP	sP	13 50 42.6	+1.1
KMI						13 51 08.3	
KMI				PPP		13 51 18.9	
KMI				S	**S**	**13 54 51.5**	**+1.6**
KMI				*SS	sS	13 55 01.6	-0.4
KMI				SS		13 55 45.0	
KMI				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.2						
KMI				MLR	MLR		
	comp=Z,2μm,13.8s,MS4.7						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**13 50 32.2**	**+1.1**
	comp=Z,110nm,1.1s,mb5.2						
KMI				pP		13 50 39.0	
KMI				sP	sP	13 50 42.6	+1.1
KMI				PP		13 51 08.3	
KMI				PPP		13 51 18.9	
KMI				S	**S**	**13 54 51.5**	**+1.6**
KMI				sS	sS	13 55 01.6	-0.4
KMI				SS		13 55 45.0	
KMI				SSS		13 56 06.7	
KMI				LR	LR		
	comp=Z,2μm,13.8s,MS4.7						
SHL	**Shillong**	**24.84**	**349**	*e*P	**P**	**13 50 32.8**	**-1.6**
SHL				*e*S	**S**	**13 54 54.0**	**-1.7**
BOK	**Bokaro**	**25.05**	**335**	*e*P	**P**	**13 50 34.9**	**-1.4**
BOK				AMb	AMB	13 50 39.1	
	comp=Z,60nm,1.7s,mb4.8						
GYA	**Guiyang**	**26.82**	**19⇑**	*i*P	**P**	**13 50 52.3**	**0.0**
GYA				AP	pP	13 51 01.8	+2.2
GYA				XP	sP	13 51 05.9	+3.2
GYA				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,270nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,13.4s,MS4.6						
GYA				LR	LR		
	comp=E,360nm,16.5s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,14.1s,MS4.6						
TGY	**Tagaytay City**	**26.84**	**60**	P	**P**	**13 50 52.6**	**+0.1**
	comp=Z,37nm,0.4s,baz=260,slow=18,SNR=2.6						
PKI	**Pulchoki**	**28.62**	**338**	*e*P	**P**	**13 51 09.4**	**+1.0**
	comp=Z,51nm,1.0s,mb5.2						
GUN	**Gumba**	**28.75**	**339**	*e*P	**P**	**13 51 10.8**	**+1.2**
	comp=Z,143nm,1.1s,mb5.6						
DMN	**Daman**	**28.77**	**337**	*e*P	**P**	**13 51 11.2**	**+1.5**
	comp=Z,45nm,0.9s,mb5.2						
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**	**13 51 11.7**	**+1.1**
	comp=Z,74nm,1.0s,mb5.4						
LSA	**Lhasa**	**29.00**	**349**	P	**P**	**13 51 13.6**	**+1.8**
LSA	**Lhasa**	**29.00**	**349**	*e*P	**P**	**13 51 12.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
LSA	**Lhasa**	**29.00**	**349**	*e*P	**P**	**13 51 12.8**	**+1.0**
	comp=Z,22nm,0.9s,mb4.9						
BHPL	**Bhopal**	**29.16**	**320**	*e*P	**P**	**13 51 11.3**	**-1.9**
BHPL				AMb	AMB	13 51 16.5	
	comp=Z,4.0nm,0.4s,mb4.5						
GKN	**Gorkha**	**29.30**	**337**	*e*P	**P**	**13 51 15.5**	**+1.0**
	comp=Z,75nm,0.9s,mb5.4						
KOLN	**Koldanda**	**29.52**	**335**	*e*P	**P**	**13 51 17.7**	**+1.3**
	comp=Z,48nm,0.8s,mb5.3						
CD2	**Chengdu**	**30.29**	**11**	*e*P	**P**	**13 51 22.9**	**-0.4**
CD2				AP	pP	13 51 28.7	-2.0
CD2				XP	sP	13 51 31.8	-1.9
CD2				PP	PP	13 52 22.5	-9.3
CD2				S	**S**	**13 56 21.4**	**-0.3**
CD2				SS	ScP	13 58 01.3	-2.7
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.6s						
CD2				LR	LR		
	comp=N,420nm,15.6s,MS4.4						
CD2				LR	LR		
	comp=E,470nm,15.6s,MS4.4						
CD2				LR	LR		
	comp=Z,620nm,12.0s,MS4.5						
MBWA	**Marble Bar**	**31.27**	**136**	P	**P**	**13 51 32.6**	**+0.7**
MBWA				*e*	pP	13 51 39.6	+0.3
QZH	**Quanzhou**	**31.48**	**39**	P	**P**	**13 51 33.5**	**-0.2**
QZH				*e*S	**S**	**13 56 42.2**	**+1.9**
QZH				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.5						
QZH				LR	LR		
	comp=N,730nm,7.5s						
QZH				LR	LR		
	comp=E,2μm,15.2s						
QZH				LR	LR		
	comp=Z,2μm,12.2s,MS4.9						
AJM	**Ajmer**	**33.23**	**321**	*e*P	**P**	**13 51 49.4**	**+0.3**
AJM				AMb	AMB	13 52 05.2	
	comp=Z,15nm,0.9s,mb4.9						
NDI	**New Delhi**	**33.38**	**327**	*e*P	**P**	**13 51 50.1**	**-0.2**
NDI				AMb	AMB	13 51 57.8	
	comp=Z,18nm,1.6s,mb4.8						
WHN	**Wuhan**	**33.52**	**28**	P	**P**	**13 51 52.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**33.92**	**126**	*e*P	**P**	**13 51 54.1**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
FITZ				*e*	pP	13 52 00.9	-1.6
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	**P**	**13 51 54.4**	**-0.7**
	comp=Z,5.1nm,0.7s,mb4.6,baz=302,slow=3.5,SNR=12						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**13 51 59.7**	**-1.0**
XAN				AP	pP	13 52 06.7	-1.4
XAN				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
LZH	**Lanzhou**	**35.35**	**9**	P	**P**	**13 52 07.0**	**-0.5**
LZH				AP	pP	13 52 14.0	-0.9
LZH				XP	sP	13 52 18.0	0.0
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,168nm,4.1s						
LZH	**Lanzhou**	**35.35**	**9**	P	**P**	**13 52 07.0**	**-0.5**
	comp=Z,42nm,1.2s,mb5.2						
LZH				pP	pP	13 52 14.0	-0.9
LZH				sP	sP	13 52 18.0	0.0
NJ2	**Nanjing**	**36.97**	**31**	*e*P	**P**	**13 52 21.2**	**-0.1**
NJ2				AP	pP	13 52 30.8	+2.0
NJ2				XP	sP	13 52 35.0	+3.2
NJ2				PP	PP	13 53 47.8	+2.1
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.3						
NJ2				LR	LR		
	comp=N,980nm,10.8s,MS4.9						
NJ2				LR	LR		
	comp=E,670nm,11.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,12.8s,MS5.0						
THN	**Thein Dam**	**37.12**	**329**	*ex*	x	13 52 27.6	
SSE	**Sheshan**	**37.52**	**35**	P	**P**	**13 52 26.3**	**+0.3**
SSE				S	**S**	**13 58 18.7**	**+5.3**
SSE				XS	sS	13 58 33.5	+7.7
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,137nm,4.3s						
SSE				LR	LR		
	comp=N,375nm,14.2s,MS4.5						
SSE				LR	LR		
	comp=E,373nm,14.4s,MS4.5						
SSE				LR	LR		
	comp=Z,433nm,13.9s,MS4.4						
SSE	**Sheshan**	**37.52**	**35**	P	**P**	**13 52 26.3**	**+0.3**
	comp=Z,31nm,0.8s,mb5.1						
SSE				PP	PcP	13 54 41.9	-1.9
SSE				S	**S**	**13 58 18.7**	**+5.3**
SSE				sS	sS	13 58 33.5	+7.7
SSE				LR	LR		
	comp=Z,430nm,13.9s,MS4.4						
KAKA	**Kakadu**	**37.62**	**113**	*e*P	**P**	**13 52 25.3**	**-1.5**
	comp=Z,16nm,0.9s,mb4.7						
GTA	**Gaotai**	**38.20**	**3⇑**	P	**P**	**13 52 31.9**	**+0.2**
GTA				AP	pP	13 52 38.3	-0.9
GTA				XP	sP	13 52 41.2	-1.0
GTA				PP	PP	13 54 01.7	+2.5
GTA				PCP	PcP	13 54 47.1	+1.2
GTA				S	**S**	**13 58 22.1**	**-1.6**
GTA				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.3						
GTA				AMB	AMB		
	comp=Z,158nm,8.0s						
GTA				LR	LR		
	comp=N,425nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=E,260nm,13.7s,MS4.5						
GTA				LR	LR		
	comp=Z,391nm,14.1s,MS4.4						
NWAO	**Narrogin (SRO)**	**38.80**	**153**	P	**P**	**13 52 36.8**	**0.0**
	comp=Z,5.9nm,0.9s,mb4.3,baz=295,slow=14,SNR=2.8						
JOW	**Kunigami**	**39.34**	**47**	P	**P**	**13 52 40.2**	**-1.1**
	comp=Z,21nm

FORT	Forrest	43.24	140	*e*P		P	13 53 19.0 +5.7
	comp=Z,71nm,0.7s,mb5.5						
WMQ	Urumqi	43.35	350	⇑*i*P		P	13 53 15.2 +1.0
WMQ				AP		pP	13 53 22.0 +0.2
WMQ				XP		sP	13 53 26.0 +1.2
WMQ				PP		PP	13 54 58.0 +2.9
WMQ				S		S	13 59 41.0 +0.5
WMQ				XS		sS	13 59 53.0 +0.1
WMQ				AMB		AMB	
	comp=Z,25nm,1.1s,mb4.9						
WMQ				AMB		AMB	
	comp=Z,132nm,4.8s						
WMQ				LR		LR	
	comp=N,514nm,19.5s,MS4.6						
WMQ				LR		LR	
	comp=E,707nm,23.0s,MS4.6						
WMQ				LR		LR	
	comp=Z,420nm,21.6s,MS4.3						
WSAR	Wadi Sarin	43.35	303	P		P	13 53 12.5 -1.7
	comp=Z,5.2nm,1.1s,mb4.2,baz=36,slow=8.7,SNR=2.4						
WSAR				LR		LR	14 09 42.7
	comp=Z,103nm,18.4s,MS3.8,baz=263,slow=34						
WSAR	Wadi Sarin	43.35	303	P		P	13 53 12.5 -1.7
WSAR				LR		LR	14 09 42.7
ASPA	Alice Springs	43.38	127	*e*P		P	13 53 14.6 +0.2
ASPA				*e*		pP	13 53 21.3 -0.7
ASAR	Alice Springs	43.38	127	P		P	13 53 14.6 +0.1
	comp=Z,7.6nm,0.9s,mb4.4,baz=298,slow=8.0,SNR=49						
ASAR				PcP		PcP	13 55 03.9 +1.2
	comp=Z,1.1nm,0.7s,baz=308,slow=3.0,SNR=3.6						
ASAR				S		S	13 59 39.1 -1.8
	comp=Z,0.9nm,0.9s,baz=302,slow=14,SNR=5.5						
AS31	Alice Springs	43.39	127	*e*P		P	13 53 14.6 +0.1
AS31				*e*		pP	13 53 21.3 -0.7
DL2	Dalian	43.78	28	P		P	13 53 18.2 +0.5
DL2				AMB		AMB	
	comp=Z,40nm,0.8s,mb5.2						
ULHL	Ulahol	45.06	338	P		P	13 53 28.9 +1.0
	SNR=10						
UCH	Uchtor	45.71	336	P		P	13 53 34.7 +1.6
	SNR=22						
TKM2	Tokmak 2	45.88	338	P		P	13 53 35.6 +1.2
	SNR=11						
KBK	Karagaybulak	45.90	337	P		P	13 53 36.2 +1.6
	SNR=14						
AAK	Ala-Archa	46.06	337	*e*P		P	13 53 35.8 0.0
AAK				pmax		pmax	
	comp=Z,8.0nm,0.8s,mb4.7						
AAK	Ala-Archa	46.06	337	*e*P		P	13 53 35.8 0.0
	comp=Z,7.7nm,0.8s,mb4.7						
EKS2	Erkin-Say	46.37	336	P		P	13 53 39.7 +1.5
	SNR=16						
USP	Ospenovka	46.59	337	P		P	13 53 40.8 +0.8
	SNR=28						
SONM	Songino Array	47.23	8	P		P	13 53 45.3 +0.3
	comp=Z,13nm,0.8s,mb4.9,baz=190,slow=9.7,SNR=52						
SONM				PcP		PcP	13 55 16.2 +0.1
	comp=Z,3.9nm,0.8s,baz=189,slow=4.9,SNR=4.7						
MK31	Makanchi Array	47.31	346	*i*P		P	13 53 45.7 +0.1
MK31				pmax		pmax	
	comp=Z,9.0nm,0.5s,mb5.0						
MKAR	Makanchi Array	47.31	346	P		P	13 53 45.9 +0.2
	comp=Z,8.1nm,0.5s,mb4.9,baz=161,slow=8.2,SNR=90						
KK31	Karatay Array	48.11	334	*i*P		P	13 53 52.3 +0.5
KK31				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb4.9						
ZAK	Zakamensk	49.37	5	*e*P		P	13 54 01.6 +0.2
CN2	Changchun	49.41	27	*e*P		P	13 54 01.4 -0.4
CN2				AMB		AMB	
	comp=Z,40nm,0.8s,mb5.5						
CN2				LR		LR	
	comp=N,500nm,14.0s,MS4.8						
CN2				LR		LR	
	comp=E,400nm,14.0s,MS4.8						
CN2				LR		LR	
	comp=Z,500nm,13.0s,MS4.7						
TLY	Talaya	50.69	5	*e*P		P	13 54 11.8 +0.3
TLY				pmax		pmax	
	comp=Z,8.0nm,0.8s,mb4.7						
TLY				MLR		MLR	
	comp=Z,264nm,17.0s,MS4.3						
TLY	Talaya	50.69	5	*e*P		P	13 54 12.0 +0.5
	comp=Z,4.6nm,0.7s,mb4.5						
PMG	Port Moresby	50.89	103	P		P	13 54 12.7 -0.3
	comp=Z,14nm,0.8s,mb4.9,baz=174,slow=9.2,SNR=3.2						
PMG	Port Moresby	50.89	103	*e*P		P	13 54 12.4 -0.6
PMG				pmax		pmax	
	comp=Z,15nm,0.8s						
PMG	Port Moresby	50.89	103	*e*P		P	13 54 12.4 -0.6
	comp=Z,15nm,0.8s,mb5.0						
HIA	Hailar	51.74	19	*e*P		P	13 54 19.2 -0.2
HIA				pmax		pmax	
	comp=Z,16nm,0.8s						
HIA	Hailar	51.74	19	*e*P		P	13 54 19.2 -0.2
	comp=Z,16nm,0.8s,mb5.0						
MJAR	Matsushiro Arr	51.80	42	P		P	13 54 19.1 -0.6
	comp=Z,2.7nm,0.7s,mb4.3,baz=221,slow=6.4,SNR=9.5						
MDJ	Mudanjiang	51.97	29	P		P	13 54 21.2 +0.1
MDJ				AP		pP	13 54 27.5 -1.3
MDJ				XP		sP	13 54 30.3 -1.5
MDJ				PCP		PcP	13 55 33.1 -0.2
MDJ				PP		PP	13 56 19.4 +0.2
MDJ				S		S	14 01 44.4 +1.6
MDJ				XS		sS	14 01 55.6 +0.1
MDJ				AMB		AMB	
	comp=Z,12nm,1.1s,mb4.7						
MDJ				AMB		AMB	
	comp=Z,172nm,4.9s						
MDJ				LR		LR	
	comp=N,145nm,16.6s,MS4.2						
MDJ				LR		LR	
	comp=E,142nm,19.9s,MS4.2						
MDJ				LR		LR	
	comp=Z,221nm,19.9s,MS4.2						
VLA	Vladivostok	52.08	32	*e*P		P	13 54 20.9 -1.0
VLA				pmax		pmax	
	comp=Z,36nm,1.2s,mb5.2						
VLA				MLR		MLR	
	comp=Z,600nm,14.4s,MS4.8						
CTA	Charters Tower	52.51	116	*e*P		P	13 54 25.9 +0.8
	comp=Z,5.4nm,0.9s,mb4.5						
CTA	Charters Tower	52.51	116	P		P	13 54 25.4 +0.3
	comp=Z,3.1nm,0.8s,mb4.3,baz=279,slow=13,SNR=3.3						
CTA	Charters Tower	52.51	116	*e*P		P	13 54 25.9 +0.8
CTA				pmax		pmax	
	comp=Z,5.0nm,0.9s						
CIT	Chita	52.57	13	*e*P		P	13 54 26.4 +0.9
CIT				pmax		pmax	
	comp=Z,41nm,1.4s,mb5.2						
OPO	Ambohidratompo	52.84	246	P		P	13 54 28.1 +0.6
	comp=Z,3.2nm,0.7s,mb4.3,baz=108,slow=6.5,SNR=3.2						
STKA	Stephens Creek	53.34	132	*e*P		P	13 54 32.0 +0.8
	comp=Z,8.1nm,0.8s,mb4.7						
STKA				*e*		pP	13 54 39.2 +0.3
STKA	Stephens Creek	53.34	132	P		P	13 54 32.1 +1.0
	comp=Z,9.8nm,0.8s,mb4.8,baz=313,slow=7.8,SNR=14						
ZAL	Zalesovo	53.63	351	P		P	13 54 33.6 +0.3
	comp=Z,12nm,0.8s,mb4.9,baz=305,slow=5.5,SNR=56						
ZAL				LR		LR	14 23 16.9
	comp=Z,105nm,18.6s,MS3.9,baz=293,slow=43						
NVS	Novosibirsk	54.76	350	*i*P		P	13 54 40.7 -0.8
NVS				pmax		pmax	
	comp=N,7.0nm,0.8s						
NVS				pmax		pmax	
	comp=Z,13nm,0.8s,mb5.0						
NVS				pmax		pmax	
	comp=E,6.0nm,0.7s						
VOSK	Vostochnaya	55.87	341	*i*P		P	13 54 48.7 -0.9
BVAR	Borovoye Array	56.32	341	P		P	13 54 52.0 -0.8
	comp=E,8.4nm,0.7s,mb4.9,baz=140,slow=8.6,SNR=52						
KLR	Kul'dur	56.36	27	*e*P		P	13 54 49.8 -3.3
KLR				pmax		pmax	
	comp=E,24nm,1.0s						
KLR				pmax		pmax	
	comp=Z,40nm,1.0s,mb5.4						
BRVK	Borovoye	56.38	341	*e*P		P	13 54 52.2 -1.0
BRVK				pmax		pmax	
	comp=Z,9.0nm,0.7s,mb4.9						
BRVK	Borovoye	56.38	341	*e*P		P	13 54 52.2 -1.0
	comp=Z,9.3nm,0.7s,mb4.9						
CHKZ	Chkalovo	56.79	341	*e*P		P	13 54 55.6 -0.6
CHKZ				*e*		pP	13 55 02.3 -1.6
CHKZ				pmax		pmax	
	comp=Z,17nm,0.7s,mb5.2						
CHKZ	Chkalovo	56.79	341	*e*P		P	13 54 55.6 -0.5
	comp=Z,17nm,0.7s,mb5.2						
CHKZ				*e*		pP	13 55 02.2 -1.7
BOD	Bodaibo	58.11	11	*e*P		P	13 55 05.0 -0.4
BOD				pmax		pmax	
	comp=Z,16nm,0.9s,mb5.0						
AKTK	Aktyubinsk	59.28	332	P		P	13 55 12.8 -0.8
AKTO	Aktyubinsk	59.28	332	P		P	13 55 12.8 -0.8
	comp=Z,4.0nm,0.9s,mb4.5,baz=135,slow=8.0,SNR=15						
AKTO	Aktyubinsk	59.28	332	*i*P		P	13 55 12.5 -1.1
KMBO	Kilima Mbogo	59.93	268	P		P	13 55 18.5 +0.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=43,slow=17,SNR=3.6						
KMBO				LR		LR	14 16 50.6
	comp=Z,63nm,20.1s,MS3.7,baz=91,slow=32						
YSS	Yuzh-Sakhalins	60.45	34	*e*P		P	13 55 21.0 -0.6
YSS				*e*		pP	13 55 28.0 -1.5
ZEI	Tsey	63.03	319	*e*P		P	13 55 40.0 +1.0
ZEI				*e**PP		pP	13 55 46.2 -0.6
ARU	Arti	63.24	337	⇑*i*P		P	13 55 39.2 -1.2
ARU				*e*			13 56 12.1
ARU				*e*			13 57 55.6
ARU				*e*S		S	14 04 10.9 +0.2
ARU				*e*SS		SS	14 08 20.0 +2.9
ARU				pmax		pmax	
	comp=Z,10.0nm,0.8s,mb5.0						
ARU	Arti	63.24	337	*e*P		P	13 55 38.5 -1.9
	comp=Z,11nm,0.8s,mb5.0						
ARU				*e*		pP	13 55 45.8 -2.4
HNR	Honiara	63.40	101	P		P	13 55 41.6 +0.2
	comp=Z,44nm,0.8s,mb5.7,baz=266,slow=3.9,SNR=6.3						
KIV	Kislovodsk	64.34	319	*e*P		P	13 55 52.1 +4.5
KIV				pmax		pmax	
	comp=Z,12nm,1.2s,mb4.8						
YAK	Yakutsk	65.52	16	*e*P		P	13 55 54.0 -1.3
YAK				*e*		pP	13 56 00.4 -2.8
YAK				pmax		pmax	
	comp=Z,62nm,1.0s,mb5.6						
YAK	Yakutsk	65.52	16	*e*P		P	13 55 54.0 -1.3
	comp=Z,62nm,1.0s,mb5.6						
YAK				*e*		pP	13 56 00.4 -2.8
LSZ	Lusaka	70.03	253	P		P	13 56 24.2 +0.5
	comp=Z,1.9nm,0.6s,mb4.2,baz=134,slow=3.7,SNR=4.9						
DZM	Mont Dzumac	71.30	114	P		P	13 56 32.7 +1.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=29,slow=19,SNR=1.8						
DZM				LR		LR	14 30 35.5
	comp=Z,251nm,19.8s,MS4.5,baz=24,slow=38						
MA2	Magadan	71.44	26	*e*P		P	13 56 31.9 -0.4
MA2				*e*		pP	13 56 38.8 -1.4
PET	Petropavlovsk	72.34	34	*e*P		P	13 56 37.1 -0.6
PET				pmax		pmax	
	comp=Z,33nm,1.3s,mb5.1						
OBN	Obninsk	72.67	328	*e*P		P	13 56 39.0 -0.6
OBN				*e*			13 56 50.5
OBN				*e*			13 59 22.5
OBN				*e*S		S	14 06 01.4 -1.9
OBN				*e*SS		SS	14 10 44.4 +1.6
OBN				pmax		pmax	
	comp=Z,6.0nm,1.2s,mb4.4						
OBN				MLR		MLR	
	comp=Z,100nm,17.0s,MS4.2						
TIXI	Tiksi	73.28	10	*e*P		P	13 56 41.8 -1.5
TIXI				pmax		pmax	
	comp=Z,10.0nm,0.7s,mb4.8						
LBTB	Lobatse	73.80	244	LR		LR	14 24 08.6
	comp=Z,137nm,20.0s,MS4.2,baz=110,slow=32						
SEY	Seymchan	73.87	23	*e*P		P	13 56 46.2 -0.5
BOSA	Boshof	74.69	240	P		P	13 56 51.5 0.0
	comp=Z,4.3nm,1.0s,mb4.3,baz=100,slow=7.4,SNR=3.9						
BOSA				LR		LR	14 28 00.4
	comp=Z,210nm,18.1s,MS4.5,baz=171,slow=34						
BOSA	Boshof	74.69	240	P		P	13 56 51.5 0.0
BOSA				LR		LR	14 28 00.4
AKASG	Malin Array Be	75.30	322	P		P	13 56 53.9 -1.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=4.7,SNR=6.2						
JOF	Joensuu	78.20	335	*e*p		P	13 57 09.6 -1.8
SUR	Sutherland	79.07	237	LR		LR	14 26 42.1
	comp=Z,189nm,19.0s,MS4.5,baz=106,slow=32						
SYO	Syowa Base	79.90	198	⇓*e*pP		pP	13 57 29.0 +0.2
FINES	FINESS Array B	80.05	333	P		P	13 57 20.9 -0.6
	comp=Z,1.5nm,0.4s,mb4.2,baz=97,slow=4.8,SNR=8.6						
KAF	Kangasniemi	80.14	333	*e*p		P	13 57 20.4 -1.6
ARCES	ARCESS Array B	82.60	340	P		P	13 57 34.8 -0.3
	comp=Z,6.2nm,1.0s,mb4.6,baz=103,slow=5.2,SNR=7.9						
GERES	GERESS Array B	84.84	319	P		P	13 57 46.9 +0.4
	comp=Z,0.9nm,0.7s,mb4.0,baz=108,slow=5.3,SNR=2.7						
VNDA	Vanda	85.75	169	P		P	13 57 50.5 -0.5
	comp=Z,0.6nm,0.8s,mb3.9,baz=255,slow=3.2,SNR=4.0						
VNDA	Vanda	85.75	169	P		P	13 57 51.0 -0.1
VNDA				*e*		pP	13 57 58.6 -0.6
VNDA				pmax		pmax	
	comp=Z,6.0nm,1.2s						
VNDA	Vanda	85.75	169	P		P	13 57 51.0 0.0
	comp=Z,5.8nm,1.2s,mb4.7						
VNDA				*e*		pP	13 57 58.6 -0.6
SBA	Scott Base	86.85	169	P		P	13 57 51.8 -4.7
SBA				*e*		pP	13 58 04.0 -0.6
SBA				pmax			
	comp=Z,7.0nm,1.1s						
SBA	Scott Base	86.85	169	P		P	13 57 51.8 -4.7
	comp=Z,7.3nm,1.1s,mb4.8						
SBA				*e*		pP	13 58 04.0 -0.6
NB2	NORSAR Subarra	87.06	331	P		P	13 57 56.8 -0.7
	comp=Z,4.3nm,0.9s,mb4.7,baz=95,slow=5.1						
NB2	NORSAR Subarra	87.06	331	P		P	13 57 56.8 -0.7
NB2				pmax		pmax	
	comp=Z,4.0nm,0.9s,mb4.7						
NOA	NORSAR Array B	87.06	331	P		P	13 57 56.6 -0.9
	comp=Z,2.5nm,0.8s,mb4.5,baz=95,slow=4.8,SNR=6.7						
NOA				LR		LR	14 42 36.2
	comp=Z,81nm,21.1s,MS4.1,baz=95,slow=40						
MAIT	Maitri	89.52	199	*e*P		P	13 58 11.1 +1.9
QSPA	South Pole Qui	91.05	180	*e*P		pP	13 58 22.8 -1.7
	comp=Z,17nm,1.5s						
TORD	Torodi Ar. Bea	95.06	283	LR		LR	14 40 29.5
	comp=Z,76nm,18.6s,MS4.2,baz=55,slow=35						
NVAR	Mina Array Bea	128.89	36	PKP		PKPdf	14 04 19.7 +0.3
	comp=Z,0.5nm,0.7s,baz=291,slow=4.5,SNR=4.1						
PDAR	Pinedale Array	130.15	26	PKP		PKPdf	14 04 21.9 0.0
	comp=Z,0.4nm,0.8s,baz=108,slow=3.3,SNR=3.7						
MIAR	Mount Ida	143.13	15	*e*PKIKP		PKPdf	14 04 42.0 -3.8
JCT	Junction City	144.68	26	*e*PKIKP		PKPdf	14 04 48.4 -0.2
JCT				*e*			14 04 55.3
CPUP	Villa Florida	144.90	222	PKP		PKPdf	14 04 49.0 0.0
	comp=Z,5.7nm,0.6s,baz=94,slow=2.2,SNR=20						
CPUP	Villa Florida	144.90	222	*e*PKPdf		PKPdf	14 04 49.1 +0.2

SKO ***09*** *13:45:44.0,4199N×2038E,h14km,M0.6,ML2.3*
ISCJB ***09*** *13:45:48.8±0.5,4187N±003×2069E±004,h10km,Error ellipse: s-maj=5.2km s-min=2.8km az=85.2*
TIR ***09*** *13:45:48.8,4190N×2063E,h10km*
NEIC ***09*** *13:45:50.8,4199N×2066E,h12km,MD2.5(PDG),After PDG.*
PDG ***09*** *13:45:50.8±0.2,4199N×2066E,h12km*

ISC 09 13:45:49.3±0.5,4188N±003×2071E±004,h1km±6km,n14,σ0:88/28,6C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	Kukesi	0.29	311	*i*Pg	Pg	13 45 53.8	-1.2
KKS				*i*Sg	Sg	13 45 58.2	-0.6
SKO	Skopje	0.55	81	*e*Pg	Pg	13 45 59.6	-0.3
SKO				*e*Sg	Sg	13 46 08.7	+1.7
SKO				*e*Lg		13 46 09.1	
	comp=E,82nm,0.3s						
SKO				*e*Lg		13 46 09.5	
	comp=N,146nm,0.3s						
OHR	Ohrid	0.78	175	*i*Pg	Pg	13 46 02.3	-1.8
OHR				*e*Sg	Sg	13 46 14.1	-0.1
OHR				*e*Lg		13 46 14.5	
	comp=E,142nm,0.5s						
OHR				*e*Lg		13 46 14.8	
	comp=N,67nm,0.4s						
PVY	Plav	0.90	323	⇑*i*Pg	Pg	13 46 05.9	-0.6
PVY				*e*Sg	Sg	13 46 18.1	-0.1
BIA	Bitola	0.98	152	*e*Pg	Pg	13 46 07.7	-0.4
BIA				*e*Sg	Sg	13 46 22.0	+1.2
BIA				*e*Lg		13 46 22.8	
	comp=E,28nm,0.3s						
BIA				*e*Lg		13 46 23.1	
	comp=N,27nm,0.4s						
ULC	Ulcinj	1.09	275	⇓*i*Pg	Pg	13 46 09.7	-0.6
ULC				*e*Sg	Sg	13 46 26.3	+1.9
IVA	Berane	1.16	329	⇑*i*Pg	Pg	13 46 10.0	-1.5
IVA				*e*Sg	Sg	13 46 27.1	+0.6
TTG	Podgorica	1.21	297	⇑*i*Pg	Pg	13 46 11.9	-0.6
TTG				*e*Sg	Sg	13 46 29.4	+1.3
BUM	Brajici-Budva	1.41	288	⇑*i*Pg	Pg	13 46 15.7	-0.7
BUM				*e*Sg	Sg	13 46 36.4	+1.7
NKY	Niksic	1.57	307	⇑*i*Pg	Pn	13 46 18.3	0.0
NKY				*e*Sg	Sg	13 46 40.5	+0.6
HCY	Herceg Novi	1.74	290	⇓*i*Pn	Pn	13 46 20.7	+0.1
HCY				*e*Sn	Sg	13 46 44.9	-0.3
PLE	Pljevlja	1.74	327	⇑*i*Pn	Pn	13 46 20.4	-0.2
PLE				*e*Sn	Sn	13 46 43.9	+0.4
UPM	Unac-Piva	1.87	315	⇓*i*Pn	Pn	13 46 22.4	0.0
UPM				*e*Sn	Sb	13 46 47.9	-0.3
BRY	Bratogost	1.90	303	⇓*i*Pn	Pn	13 46 23.3	+0.5
BRY				*e*Sn	Sb	13 46 48.3	-0.6

IDC 09 13:52:36.6±2.5,476N×12627E,h0km,mb3.4/3,mb1 3.6/3,mb1mx3.4/16,mbtmp3.4/3,Error ellipse: s-maj=215.1km s-min=28.1km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.80	162	P	P	13 58 08.1	-1.2
	0.9nm,0.7s,baz=341,slow=10,SNR=5.2						
ASAR	Alice Springs	29.22	166	P	P	13 58 41.6	+1.7
	0.2nm,0.6s,baz=346,slow=11,SNR=4.7						
MKAR	Makanchi Array	56.45	325	P	P	14 02 20.2	+0.1
	0.4nm,0.5s,baz=123,slow=8.3,SNR=4.0						

ISCJB ***09*** *13:57:14.3±1.0,35S±01×1400E±01,h33km,mb4.5/4,Error ellipse: s-maj=16.0km s-min=15.4km az=162.9*
IDC ***09*** *13:57:16.2±4.1,344S×140.12E,h36km±32km,mb4.4/5,mb1 4.6/7,mb1mx4.4/12,mbtmp4.7/7,ML3.9/2,MS4.3/1,Ms1 4.3/1,ms1mx3.0/26,Error ellipse: s-maj=31.1km s-min=17.5km az=104.0*
NEIC ***09*** *13:57:16.7±1.9,343S×14001E,h45km±14km,mb4.5/4,Error ellipse: s-maj=15.7km s-min=12.6km az=172.0*

ISC 09 13:57:15.5±3.4,35S±01×1401E±01,h29km±23km,n31,σ0:55/23,mb4.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.20	130	Pn	Pn	13 59 26.4	+0.3
	2.5nm,0.3s,baz=304,slow=8.2,SNR=10						
PMG	Port Moresby	9.20	130	*e*Pn	Pn	13 59 27.6	+1.4
	36nm,0.9s						
KAKA	Kakadu	11.90	219	*e*P	Pn	14 00 03.5	+0.3
	64nm,0.4s						
WB2	Warramunga Arr	17.32	198	*e*P	Pn	14 01 14.0	-1.1
WB2	Warramunga Arr	17.32	198	*e*P	Pn	14 01 14.6	-0.5
WRA	Warramunga Arr	17.32	198	P	Pn	14 01 14.5	-0.6
	0.8nm,0.3s,baz=17,slow=13,SNR=40						
CTA	Charters Tower	17.61	160	LR	LR	14 07 30.3	
	comp=Z,884nm,19.3s,baz=58,slow=35						
CTAO	Charters Tower	17.61	160	Pn	Pn	14 01 18.8	+0.2
FITZ	Fitzroy Crossi	20.30	223	*e*P	P	14 01 49.7	+0.8
	9.0nm,0.4s						
FITZ	Fitzroy Crossi	20.30	223	P	P	14 01 50.1	+1.1
	6.7nm,0.7s,baz=56,slow=9.4,SNR=18						
AS31	Alice Springs	20.97	196	*e*P	P	14 01 56.1	0.0
ASAR	Alice Springs	20.97	196	P	P	14 01 56.2	0.0
	20nm,0.6s,baz=25,slow=7.4,SNR=59						
ASAR				S	S	14 05 49.5	+1.2
	5.0nm,0.9s,baz=19,slow=27,SNR=4.7						
ASPA	Alice Springs	20.97	196	*e*P	P	14 01 56.1	-0.1
STKA	Stephens Creek	28.32	177	*e*Pn	P	14 03 05.8	-0.8
RPZ	Rata Peaks	48.57	150	P	P	14 05 55.9	-0.2
	42nm,1.0s,mb5.4,baz=105,slow=14,SNR=8.0						
RPZ	Rata Peaks	48.57	150	P	P	14 05 55.9	-0.2
SONM	Songino Array	58.97	334	P	P	14 07 12.6	+0.4
	0.3nm,0.5s,mb3.6,baz=141,slow=5.5,SNR=2.8						
VNDA	Vanda	74.93	175	P	P	14 08 53.5	-0.3
	4.6nm,0.7s,mb4.5,baz=326,slow=8.4,SNR=9.6						
VNDA	Vanda	74.93	175	*e*P	P	14 08 53.3	-0.4
	4.4nm,0.7s,mb4.5						
SBA	Scott Base	75.68	174	*e*P	P	14 08 58.1	0.0
MAW	Mawson	81.96	202	P	P	14 09 32.5	0.0
	3.0nm,1.0s,mb4.2,baz=99,slow=6.7,SNR=5.2						
MAW	Mawson	81.96	202	*e*P	P	14 09 32.5	0.0
	5.0nm,0.9s,mb4.4						
QSPA	South Pole Qui	86.50	180	P	P	14 09 55.1	-0.5
DBIC	Dimbokro	144.93	277	PKP	PKPdf	14 16 48.9	-0.8
	2.8nm,0.9s,baz=288,slow=13,SNR=2.6						
DBIC	Dimbokro	144.93	277	PKP	PKPdf	14 16 48.9	-0.8
LPAZ	La Paz	145.91	126	PKPbc	PKPbc	14 16 53.3	+1.2
	2.2nm,0.9s,baz=350,slow=1.3,SNR=7.6						
LPAZ	La Paz	145.91	126	*e*PKP	PKPdf	14 16 53.0	+1.6
LPAZ				PKPbc	PKPbc	14 16 53.3	+1.2
CPUP	Villa Florida	145.94	151	PKPbc	PKPbc	14 16 51.7	-0.5
	0.3nm,0.3s,baz=357,slow=0.6,SNR=3.1						
CPUP	Villa Florida	145.94	151	PKPbc	PKPbc	14 16 51.7	-0.5
SDV	Santo Domingo	149.01	79	*e*PKPbc	PKPbc	14 17 00.3	-0.3
SIV	San Ignacio	151.53	133	PKPbc	PKPbc	14 17 06.6	-0.1
	0.6nm,0.7s,baz=158,slow=19,SNR=3.3						

MOS ***09*** *13:57:18.8±0.8,993S×16095E,h33km,mb5.4/13,Error ellipse: s-maj=12.3km s-min=10.1km az=51.1*
ISCJB ***09*** *13:57:21.6±0.3,1003S±005×16087E±006,h57km,mb4.9/46,MS4.4/22,Error ellipse: s-maj=7.8km s-min=6.4km az=157.8*
IDC ***09*** *13:57:21.9±1.9,1005S×16102E,h48km±16km,mb4.4/17,mb1 4.6/20,mb1mx4.6/21,mbtmp4.7/20,ML4.6/2,MS4.2/15,Ms1 4.2/15,ms1mx3.9/28,Error ellipse: s-maj=19.0km s-min=11.6km az=71.0*
NEIC ***09*** *13:57:22.3±1.0,1002S×16090E,h50km±9km,mb5.1/23,Error ellipse: s-maj=7.7km s-min=6.5km az=76.0*
BJI ***09*** *13:57:27.3,9.12S×16025E,h50km,mB5.0,mb4.8,Ms5.1,Msz4.8*

ISC 09 13:57:23.6±0.3,1003S±004×16091E±005,h59km,h59km±1.3km:pP-P,n104,σ1:07/100,mb4.9/46,MS4.4/22,1C,Bougainville - Solomon Islands region

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

TOO Toolangi 30.74 204 *eP* **P 14 03 33.5 +0.5**
comp=Z,15nm,0.7s,mb4.9
TOO Toolangi 30.74 204 *eP* **P 14 03 33.5 +0.5**
TOO pmax pmax
comp=Z,15nm,0.7s,mb4.9
URZ Urewera 31.65 155 P **P 14 03 39.7 -1.3**
comp=Z,6.3nm,0.7s,mb4.6,baz=282,slow=13,SNR=4.6
URZ LR LR 14 13 38.9
comp=Z,265nm,21.1s,MS3.9,baz=145,slow=31
RPZ Rata Peaks 34.70 167 LR LR 14 15 46.1
comp=Z,910nm,19.1s,MS4.5,baz=233,slow=32
FITZ Fitzroy Crossi 35.09 253 P **P 14 04 10.7 -0.3**
comp=Z,4.9nm,0.7s,mb4.5,baz=65,slow=13,SNR=2.6
FITZ LR LR 14 18 23.6
comp=Z,333nm,18.1s,MS4.1,baz=62,slow=36
NWAO Narrogin (SRO) 46.15 234 P **P 14 05 43.4 +1.2**
comp=Z,12nm,0.7s,mb4.9,baz=76,slow=7.2,SNR=9.9
NWAO LR LR 14 24 59.7
comp=Z,675nm,18.8s,MS4.6,baz=103,slow=36
JHJ Hachijo jima 2 47.39 336 LR LR 14 24 07.9
comp=Z,170nm,18.1s,MS4.0,baz=263,slow=34
PPT Papeete 48.56 105 *e*LR LR 14 20 00.5
comp=Z,450nm,23.0s
PPT Papeete 48.56 105 LR LR 14 22 29.4
comp=Z,262nm,18.3s,MS4.2,baz=295,slow=31
TBI Tubuai 49.12 112 *e*LQ 14 18 25.4
comp=Z,507nm,30.5s
TBI *e*LR LR 14 20 53.2
comp=Z,371nm,26.5s,baz=290
PMOR Pomariorio Ree 50.14 101 *eP* **P 14 06 14.3 +1.4**
comp=Z,39nm,1.0s,mb5.4
VAH Vaihoa 50.40 101 *eP* **P 14 06 14.9 +0.1**
comp=Z,23nm,1.0s,mb5.1
MJAR Matsushiro Arr 51.01 336 P **P 14 06 18.5 -0.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=170,slow=8.4,SNR=7.7
MAT Matsushiro 51.01 336 P **P 14 06 18.1 -1.3**
MAT *e*S **S 14 13 20.0 -12**
KSM Kuching 51.64 280 *eP* **P 14 06 23.0 -1.2**
ASAJ Asahikawa 56.39 344 P **P 14 06 58.1 -0.7**
comp=Z,20nm,0.9s,mb5.2,baz=211,slow=5.9,SNR=2.8
ASAJ LR LR 14 28 27.2
comp=Z,339nm,19.6s,MS4.4,baz=168,slow=33
NJ2 Nanjing 58.02 318 *eP* **P 14 07 11.9 +1.7**
NJ2 AP pP 14 07 26.8 +0.8
NJ2 PP PP 14 09 21.0 +1.8
NJ2 S **S 14 14 59.0 -7.4**
NJ2 XS sS 14 15 26.0 -7.0
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
NJ2 AMB AMB
comp=Z,150nm,11.8s
NJ2 LR LR
comp=N,980nm,20.8s,MS5.0
NJ2 LR LR
comp=E,670nm,18.7s,MS5.0
MDJ Mudanjiang 61.32 335 P **P 14 07 33.9 +1.0**
MDJ AP pP 14 07 47.8 -1.1
MDJ XP sP 14 07 53.7 -1.9
MDJ PCP PcP 14 08 15.4 +0.6
MDJ PP PP 14 09 49.5 +1.1
MDJ SCP ScP 14 12 12.4 +1.1
MDJ PCS PcS 14 12 18.3 +0.6
MDJ AMB AMB
comp=Z,20nm,3.6s
MDJ LR LR
comp=N,145nm,17.0s,MS4.3
MDJ LR LR
comp=E,142nm,19.8s,MS4.3
MDJ LR LR
comp=Z,223nm,17.9s,MS4.4
MDJ Mudanjiang 61.32 335 *eP* **P 14 07 33.9 +1.0**
comp=Z,28nm,1.1s,mb5.3
CN2 Changchun 62.51 332 *eP* **P 14 07 41.4 +0.5**
CN2 *e*AP pP 14 07 57.0 +0.1
CN2 *e*XP sP 14 08 04.1 +0.5
CN2 *e*S **S 14 16 03.1 -0.8**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.8
CN2 LR LR
comp=E,400nm,15.0s,MS4.8
CN2 LR LR
comp=Z,600nm,17.0s,MS4.8
PET Petropavlovsk 62.83 358 *eP* sP 14 08 02.9 -2.8
PET *e* 14 16 09.6
PET MLR MLR
comp=Z,200nm,16.0s,MS4.4
KLR Kul'dur 64.33 339 *eP* **P 14 07 49.2 -3.7**
BJI Beijing 64.77 323 *eP* **P 14 08 00.7 +4.9**
BJI AMB AMB
comp=Z,11nm,1.1s,mb4.8
XAN Xi'an 65.96 314 P **P 14 08 03.4 -0.1**
XAN AMB AMB
comp=Z,12nm,0.8s,mb5.0
KMI Kunming 66.55 303 P **P 14 08 07.9 +0.6**
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.7
KMI LR LR
comp=N,363nm,9.0s
KMI LR LR
comp=E,317nm,9.9s
KMI LR LR
comp=Z,283nm,10.2s,MS4.8
KMI Kunming 66.55 303 P **P 14 08 07.9 +0.6**
comp=Z,11nm,1.3s,mb4.7
KMI pP pP 14 08 25.2 +1.8
KMI S S 14 16 50.2 -3.5
KMI LR LR
comp=Z,280nm,10.2s,MS4.8
CM31 Chiang Mai Arr 67.36 295 P **P 14 08 12.0 -0.4**
CM31 *e* 14 08 34.5
CHTO Chiang Mai 67.48 295 *eP* **P 14 08 13.9 +0.8**
CHTO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CHTO Chiang Mai 67.48 295 *eP* **P 14 08 13.9 +0.7**
comp=Z,4.4nm,1.0s,mb4.4
VNDA Vanda 67.48 180 P **P 14 08 12.4 -0.8**
comp=Z,5.2nm,0.9s,mb4.5,baz=347,slow=6.6,SNR=27
VNDA LR LR 14 32 11.3
comp=Z,116nm,18.1s,MS4.1,baz=341,slow=31
VNDA Vanda 67.48 180 *eP* **P 14 08 12.2 -0.9**
VNDA pmax pmax
comp=Z,4.0nm,0.7s
VNDA Vanda 67.48 180 *eP* **P 14 08 12.2 -1.0**
comp=Z,4.4nm,0.7s,mb4.6
SBA Scott Base 67.88 179 *eP* **P 14 08 14.7 -1.0**
SBA *e* 14 08 25.3
SBA pmax pmax
comp=Z,12nm,1.2s,mb4.8
SBA Scott Base 67.88 179 *eP* **P 14 08 14.7 -1.0**
comp=Z,12nm,1.2s,mb4.8
SBA *e* 14 08 25.3
HHC Hu-ho-hao-te 68.03 322 *eP* **P 14 08 18.7 +2.1**
HHC AP pP 14 08 34.7 +1.9
HHC XP sP 14 08 41.8 +2.4
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,199nm,5.1s
HHC LR LR
comp=N,271nm,10.2s
HHC LR LR
comp=E,285nm,16.5s
HHC LR LR
comp=Z,270nm,12.6s,MS4.7
CD2 Chengdu 68.24 309 *eP* **P 14 08 18.3 +0.4**
CD2 AP pP 14 08 34.7 +0.6
CD2 XP sP 14 08 41.7 +1.0
CD2 PP PP 14 10 51.4 +2.4
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=E,80nm,16.8s
CD2 LR LR
comp=Z,70nm,13.2s,MS4.1
HIA Hailar 69.21 333 *eP* **P 14 08 24.4 +0.5**
HIA *e* 14 08 31.5
HIA pmax pmax
comp=Z,26nm,0.9s
HIA Hailar 69.21 333 *eP* **P 14 08 24.4 +0.4**
comp=Z,26nm,0.9s,mb5.2
HIA *e* 14 08 31.5
MIR Mirnyy 72.13 203 *eP* **P 14 08 44.0 +2.3**
CIT Chita 73.96 332 *eP* **P 14 08 53.0 +0.5**
GTA Gaotai 74.96 315 *eP* **P 14 08 59.2 +0.9**
GTA AP pP 14 09 15.6 +0.9
GTA XP sP 14 09 22.4 +1.1
GTA AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
GTA AMB AMB
comp=Z,99nm,6.1s
GTA LR LR
comp=N,139nm,14.5s,MS4.6
GTA LR LR
comp=E,146nm,13.3s,MS4.6
GTA LR LR
comp=Z,168nm,15.2s,MS4.5
SONM Songino Array 75.08 325 P **P 14 09 00.4 +1.3**
comp=Z,4.6nm,0.6s,mb4.6,baz=137,slow=5.4,SNR=32
YAK Yakutsk 75.85 345 *eP* **P 14 09 02.9 -0.5**
YAK *e* 14 09 10.2
YAK pmax pmax
comp=Z,18nm,0.6s,mb5.2
YAK Yakutsk 75.85 345 *eP* **P 14 09 02.9 -0.5**
comp=Z,18nm,0.6s,mb5.2
YAK *e* 14 09 10.2
BOD Bodaibo 77.64 336 *eP* **P 14 09 12.7 -0.8**
BOD *e* 14 09 20.2
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BOD pmax pmax
comp=Z,14nm,1.0s,mb4.8
BILL Bilibino 77.96 2 *eP* **P 14 09 14.6 -0.7**
BILL pmax pmax
comp=Z,42nm,1.1s,mb5.3
BILL Bilibino 77.96 2 *eP* **P 14 09 14.6 -0.7**
comp=Z,42nm,1.1s,mb5.3
ZAK Zakamensk 78.19 326 *eP* **P 14 09 16.4 -0.1**
IRK Irkutsk 78.66 328 *eP* **P 14 09 18.0 -1.2**
TLY Talaya 78.68 328 *eP* **P 14 09 19.4 +0.1**
TLY *e* 14 09 26.7
TLY pmax pmax
comp=Z,21nm,1.1s,mb5.0
TLY Talaya 78.68 328 *eP* **P 14 09 19.4 +0.1**
comp=Z,21nm,1.1s,mb5.0
TLY *e* 14 09 26.7
QSPA South Pole Qui 79.97 180 *eP* **P 14 09 25.5 -0.8**
comp=Z,32nm,0.8s,mb5.3
MOY Mondy 80.09 327 *eP* **P 14 09 22.6 -4.3**
MCK McKinley 82.77 20 *eP* **P 14 09 40.2 -0.9**
MCK pmax pmax
comp=Z,26nm,1.0s,mb5.2
MCK McKinley 82.77 20 *eP* **P 14 09 40.2 -0.9**
comp=Z,26nm,1.0s,mb5.2
MAW Mawson 83.86 202 *eP* **P 14 09 46.5 -0.2**
comp=Z,18nm,0.7s,mb5.3
MAW Mawson 83.86 202 P **P 14 09 46.5 -0.2**
comp=Z,21nm,0.7s,mb5.4,baz=96,slow=6.0,SNR=28
MAW LR LR 14 41 14.3
comp=Z,110nm,18.8s,MS4.3,baz=228,slow=31
MAW Mawson 83.86 202 *eP* **P 14 09 46.5 -0.2**
MAW pmax pmax
comp=Z,19nm,0.7s
COLA College 83.87 20 *eP* **P 14 09 45.6 -1.2**
COLA pmax pmax
comp=Z,15nm,0.9s,mb5.1
COLA College 83.87 20 *eP* **P 14 09 45.6 -1.2**
comp=Z,15nm,0.9s,mb5.1
WMQ Urumqi 85.03 316 *eP* **P 14 09 56.0 +3.3**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,97nm,6.7s
WMQ LR LR
comp=N,232nm,22.0s,MS4.7
WMQ LR LR
comp=E,240nm,24.4s,MS4.7
WMQ LR LR
comp=Z,196nm,19.6s,MS4.5
EGAK Eagle 86.11 21 *eP* **P 14 09 58.1 +0.1**
comp=Z,22nm,1.2s,mb5.3
DAWY Dawson 86.38 22 *eP* **P 14 09 59.4 +0.1**
ISA Isabella 88.26 53 P **P 14 10 08.9 +0.5**
NVAR Mina Array Bea 89.04 51 P **P 14 10 13.2 +1.2**
comp=Z,3.6nm,0.8s,mb4.8,baz=248,slow=6.3,SNR=20
MKAR Makanchi Array 89.55 318 P **P 14 10 14.2 -0.2**
comp=Z,1.1nm,0.6s,mb4.4,baz=95,slow=5.9,SNR=4.7
WVOR Wild Horse Val 89.74 47 *eP* **P 14 10 16.3 +1.0**
WVOR pmax pmax
comp=Z,26nm,1.4s,mb5.4
WVOR Wild Horse Val 89.74 47 *eP* **P 14 10 16.2 +0.9**
comp=Z,26nm,1.4s,mb5.4
ZAL Zalesovo 89.98 325 P **P 14 10 14.6 -1.8**
comp=Z,2.4nm,0.6s,mb4.7,baz=271,slow=6.5,SNR=3.7
ZAL LR LR 14 51 27.5
comp=Z,76nm,18.5s,MS4.2,baz=0,2,slow=36
SYO Syowa Base 91.32 198⇓ *eP* **P 14 10 21.0 -1.7**
NEW Newport 92.11 41 *eP* **P 14 10 26.0 -0.3**
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 92.11 41 *eP* **P 14 10 26.0 -0.3**
comp=Z,9.0nm,1.1s,mb5.0
HLID Hailey 93.00 46 *eP* **P 14 10 31.8 +1.3**
comp=Z,8.6nm,1.1s,mb5.1
MSU Marysvale 93.77 52 *eP* **P 14 10 36.6 +2.6**
YKA Yellowknife Ar 96.27 28 P **P 14 10 44.6 -0.8**
comp=Z,1.5nm,0.7s,mb4.6,baz=250,slow=6.2,SNR=3.3
PDAR Pinedale Array 96.38 48 P **P 14 10 46.5 +0.6**
comp=Z,1.5nm,0.9s,mb4.4,baz=270,slow=3.0,SNR=8.6
SNAA Sanae 97.76 185 *e*Pdiff **P 14 10 52.7 +0.5**
CHKZ Chkalovo 98.17 323 P **P 14 10 52.0 -2.0**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb5.0
CHKZ Chkalovo 98.17 323 P **P 14 10 52.0 -2.0**
comp=Z,4.7nm,1.0s,mb5.0
BVAR Borovoye Array 98.23 322 P **P 14 10 52.5 -1.8**
comp=Z,0.5nm,0.3s,mb4.6,baz=142,slow=7.2,SNR=2.7
VNA3 Neumayer Olymp 98.67 183 *e*Pdiff **P 14 10 56.2 0.0**
VNA3 *e* pP 14 11 13.2 +0.1
VNA3 *e* 14 11 19.8
VNA1 Neumayer--Stat 99.17 184 *e*Pdiff **P 14 10 59.8 +1.3**
VNA1 *e* pP 14 11 15.8 +0.5
VNA1 *e* 14 11 22.6
BOSA Boshof 122.47 227 PKP PKPdf 14 16 11.6 -0.5
comp=Z,3.0nm,0.8s,baz=223,slow=10,SNR=3.7
BDFB Brasilia 141.65 131 PKP PKPdf 14 16 48.0 -0.2
comp=Z,3.3nm,0.9s,baz=133,slow=7.0,SNR=3.6
TORD Torodi Ar. Bea 159.40 281 PKPab PKPab 14 17 53.3 +0.1
comp=Z,1.6nm,1.1s,baz=45,slow=3.2,SNR=3.2

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*NIED **09** 14:03:00, 46.60N×153.20E, h11km, Mw4.1 Best double couple: M0=1.45000×10^15 NP1:φ0=249.00000°, δ=66.00000°, λ=108.00000°. NP2:φ0=31.00000°, δ=29.00000°, λ=56.00000°.*
*IDC **09** 14:03:41.1±1.1, 46.79N×152.99E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.6/1, Error ellipse: s-maj=31.9km s-min=25.3km az=164.0*
*ISCJB **09** 14:03:42.9±2.7, 46.7N±0.1×152.8E±0.1, h26km±19km, mb4.0/8, Error ellipse: s-maj=22.8km s-min=7.2km az=98.3*
*MOS **09** 14:03:44.3±0.8, 46.82N×152.75E, h33km, mb4.5/4, Error ellipse: s-maj=17.6km s-min=11.9km az=55.7*
*NEIC **09** 14:03:45.5±3.0, 46.77N×152.93E, h28km±21km, mb4.3/2, Error ellipse: s-maj=17.4km s-min=9.6km az=138.0*
ISC 09 14:03:46.9±1.2, 46.8N±0.1×152.8E±0.1, h42km±10km, n21, σ0.96/24, mb4.0/8, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**248**	⇓*i*PN	**Pn**	**14 04 38.8**	**-3.5**
KUR				*i* S	**Sn**	**14 05 23.7**	**-1.6**
KUR				pmax	pmax		
	comp=N,160nm,0.8s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,220nm,0.8s						
KUR				smax			
	comp=N,300nm,0.9s						
KUR				smax			
	comp=E,280nm,0.8s						
SKR	**Severo-Kuril's**	**4.50**	**28**	*e*PN	**Pn**	**14 04 52.0**	**-0.6**
SKR				*e*S	**Sn**	**14 05 46.0**	**+2.3**
SKR				pmax	pmax		
	comp=E,50nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				smax			
	comp=N,100nm,0.6s						
SKR				smax			
	comp=E,100nm,0.6s						
SKR				smax			
	comp=Z,100nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**243**	PN	**Pn**	**14 05 09.0**	**+1.5**
YUK				*e*S	**Sn**	**14 06 17.7**	**+7.3**
YUK				smax			
	comp=E,210nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.89**	**275**⇑	*e*PN	**Pn**	**14 05 25.6**	**+0.2**
YSS				pmax	pmax		
	comp=Z,90nm,1.7s						
PET	**Petropavlovsk**	**7.33**	**29**	*e*PN	**Pn**	**14 05 29.7**	**-1.6**
ASAJ	**Asahikawa**	**7.64**	**254**	Pn	**Pn**	**14 05 36.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=138,slow=17,SNR=7.6						
ASAJ	**Asahikawa**	**7.64**	**254**	PN	**Pn**	**14 05 36.4**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.37**	**239**	*e*PN	**Pn**	**14 05 46.0**	**+0.4**
ERM				pmax	pmax		
	comp=Z,54nm,1.0s						
ERM	**Erimo**	**8.37**	**239**	*e*P	**Pn**	**14 05 46.0**	**+0.3**
	comp=Z,54nm,1.0s						
MKAR	**Makanchi Array**	**46.75**	**297**	P	**P**	**14 12 12.2**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=67,slow=7.9,SNR=4.4						
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P	**P**	**14 12 38.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P	**P**	**14 12 38.5**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.5						
NVAR	**Mina Array Bea**	**62.62**	**62**	P	**P**	**14 14 06.3**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.8,baz=292,slow=8.9,SNR=3.6						
NVAR	**Mina Array Bea**	**62.62**	**62**	P	**P**	**14 14 06.3**	**-0.6**
FINES	**FINESS Array B**	**63.95**	**335**	P	**P**	**14 14 15.7**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=25,slow=6.3,SNR=4.2						
PDAR	**Pinedale Array**	**64.92**	**54**	P	**P**	**14 14 21.8**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=285,slow=2.3,SNR=5.3						
NB2	**NORSAR Subarra**	**68.16**	**341**	P	**P**	**14 14 43.2**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.16**	**341**	P	**P**	**14 14 43.2**	**+0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**68.16**	**341**	P	**P**	**14 14 43.1**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=6.7						
AKASG	**Malin Array Be**	**71.42**	**326**	P	**P**	**14 15 02.6**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=34,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**72.14**	**198**	P	**P**	**14 15 07.8**	**+0.7**
	comp=Z,0.3nm,0.9s,mb3.2,baz=1.9,slow=5.9,SNR=4.6						

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*IDC **09** 14:04:55.3±7.0, 35.33N×69.12E, h50km±61km, mb3.9/11, mb1 4.0/14, mb1mx3.8/24, mbtmp4.1/14, ML3.8/3, Error ellipse: s-maj=32.9km s-min=19.5km az=13.0*
*NEIC **09** 14:04:57.6±2.5, 35.40N×69.14E, h70km±20km, mb3.8/5, Error ellipse: s-maj=19.3km s-min=10.4km az=203.0*
*MOS **09** 14:04:58.3±0.8, 35.49N×69.16E, h89km, mb4.1/2, Error ellipse: s-maj=19.9km s-min=8.4km az=90.8*
*ISCJB **09** 14:05:00.3±0.9, 35.50N±0.04×69.33E±0.08, h114km±9km, mb4.0/14, Error ellipse: s-maj=11.9km s-min=6.2km az=143.2*
ISC 09 14:05:01.6±0.8, 35.49N±0.04×69.34E±0.09, h114km±8km, n49, σ1.01/54, mb4.0/14, 1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.69**	**127**	⇓P	**Pn**	**14 05 45.2**	**+1.5**
THW	**Thamme Wali**	**3.35**	**143**	P	**Pn**	**14 05 53.1**	**+0.8**
SBDP	**Sheikh Budin**	**3.41**	**159**	P	**Pn**	**14 05 53.4**	**+0.3**
AML	**Almayashu**	**7.45**	**26**	P	**Pn**	**14 06 48.5**	**+0.8**
	SNR=39						
UCH	**Uchtor**	**7.84**	**29**	P	**Pn**	**14 06 53.7**	**+0.7**
	SNR=30						
EKS2	**Erkin-Say**	**7.95**	**24**	P	**Pn**	**14 06 54.6**	**+0.2**
	SNR=20						
AAK	**Ala-Archa**	**8.18**	**28**	P	**Pn**	**14 06 58.0**	**+0.5**
	SNR=21						
AAK	**Ala-Archa**	**8.18**	**28**	*e*PN	**Pn**	**14 06 56.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
AAK	**Ala-Archa**	**8.18**	**28**	*e*Pn	**Pn**	**14 06 56.8**	**-0.8**
	comp=Z,10nm,0.4s						
AAK				*e*Sn	**Sn**	**14 08 27.7**	**-0.5**
CHMS	**Chumysh**	**8.59**	**28**	P	**Pn**	**14 07 03.6**	**+0.5**
	SNR=11						
ULHL	**Ulahol**	**8.63**	**36**	P	**Pn**	**14 07 05.7**	**+2.1**
	SNR=8.2						
USP	**Ospenovka**	**8.73**	**26**	P	**Pn**	**14 07 04.6**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**8.87**	**31**	P	**Pn**	**14 07 07.1**	**+0.3**
	SNR=15						
KOLN	**Koldanda**	**14.37**	**118**	*e*P	**Pn**	**14 08 18.3**	**-1.3**
	comp=Z,13nm,0.3s						
KOLN				*e*S	**Sn**	**14 10 50.9**	**-7.3**
MKAR	**Makanchi Array**	**14.90**	**37**	P	**Pn**	**14 08 26.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=218,slow=9.0,SNR=15						
GKN	**Gorkha**	**14.99**	**116**	*e*P	**Pn**	**14 08 25.7**	**-1.8**
	comp=Z,22nm,0.3s						
GKN				*e*S	**Sn**	**14 11 04.0**	**-9.2**
DMN	**Daman**	**15.56**	**116**	*e*P	**Pn**	**14 08 33.3**	**-1.2**
	comp=Z,23nm,0.5s						
KKN	**Kakani**	**15.58**	**115**	*e*P	**Pn**	**14 08 33.8**	**-1.1**
	comp=Z,33nm,0.6s						
PKI	**Pulchoki**	**15.80**	**116**	*e*P	**Pn**	**14 08 36.7**	**-0.9**
	comp=Z,22nm,0.5s						
GUN	**Gumba**	**15.96**	**114**	*e*P	**Pn**	**14 08 39.2**	**-0.4**
JIRN	**Jiri**	**16.33**	**114**	*e*P	**Pn**	**14 08 43.7**	**-0.4**
	comp=Z,7.0nm,0.2s						
AKTK	**Aktyubinsk**	**17.05**	**335**	P	**Pn**	**14 08 51.9**	**-1.1**
AKTK				S	**S**	**14 11 52.1**	**-11**
AKTO	**Aktyubinsk**	**17.05**	**335**	P	**Pn**	**14 08 51.9**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=150,slow=9.8,SNR=12						
AKTO				S	**S**	**14 11 52.1**	**-11**
	comp=Z,0.2nm,0.3s,baz=72,slow=20,SNR=4.6						
BVAR	**Borovoye Array**	**17.55**	**2**	P	**Pn**	**14 08 57.5**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=165,slow=8.1,SNR=12						
BRVK	**Borovoye**	**17.58**	**2**	*e*P	**Pn**	**14 08 58.1**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**17.58**	**2**	*e*P	**Pn**	**14 08 58.1**	**-1.2**
	comp=Z,4.5nm,0.7s						
CHKZ	**Chkalovo**	**18.21**	**2**	*e*P	**P**	**14 09 05.5**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	**Chkalovo**	**18.21**	**2**	*e*P	**P**	**14 09 05.5**	**-0.1**
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**21.38**	**26**	P	**P**	**14 09 40.4**	**+0.5**
	comp=Z,4.8nm,0.3s,mb4.2,baz=239,slow=6.8,SNR=13						
NVS	**Novosibirsk**	**21.61**	**22**	*e*P	**P**	**14 09 41.9**	**-0.5**
ARU	**Arti**	**22.19**	**344**	*e*P	**P**	**14 09 49.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
ARU	**Arti**	**22.19**	**344**	*e*P	**P**	**14 09 49.6**	**+1.1**
	comp=Z,4.2nm,0.8s,mb3.8						
SONM	**Songino Array**	**30.02**	**54**	P	**P**	**14 11 01.8**	**+2.4**
	comp=Z,1.3nm,0.8s,mb3.6,baz=254,slow=10,SNR=3.7						
AKASG	**Malin Array Be**	**32.55**	**310**	P	**P**	**14 11 21.9**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=110,slow=8.2,SNR=4.7						
JOF	**Joensuu**	**36.09**	**331**	*e*p	**P**	**14 11 52.2**	**-0.1**
	comp=Z,4.0nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**37.59**	**327**	P	**P**	**14 12 04.9**	**0.0**
	comp=Z,1.7nm,0.3s,mb4.3,baz=118,slow=8.4,SNR=17						
KAF	**Kangasniemi**	**37.76**	**328**	*e*p	**P**	**14 12 06.0**	**-0.4**
	baz=114,slow=8.5						
KEV	**Kevo**	**41.25**	**339**	*e*p	**P**	**14 12 35.3**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.0						
KEV	**Kevo**	**41.25**	**339**	*e*P	**P**	**14 12 35.3**	**-0.1**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**14 12 38.5**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.1,baz=117,slow=8.5,SNR=12						
ARCES	**ARCESS Array B**	**41.58**	**338**	P	**P**	**14 12 38.5**	**+0.5**
NB2	**NORSAR Subarra**	**44.39**	**324**	P	**P**	**14 13 00.1**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.2,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**324**	P	**P**	**14 13 00.4**	**-0.3**
	comp=Z,2.3nm,0.4s,mb4.3,baz=100,slow=8.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**64.34**	**268**	P	**P**	**14 15 24.4**	**-0.6**
	comp=Z,1.4nm,0.3s,mb4.2,baz=48,slow=6.4,SNR=30						
INK	**Inuvik**	**75.11**	**9**	P	**P**	**14 16 31.8**	**+0.7**
	comp=Z,2.8nm,0.5s,mb4.3,baz=16,slow=5.6,SNR=7.5						
INK	**Inuvik**	**75.11**	**9**	*e*P	**P**	**14 16 31.8**	**+0.7**
	comp=Z,91nm,0.5s						
WRA	**Warramunga Arr**	**82.62**	**121**	P	**P**	**14 17 13.8**	**+1.8**

comp=Z,0.5nm,0.7s,mb3.5,baz=322,slow=4.8,SNR=4.8
ASAR Alice Springs 84.80 124 P P 14 17 25.1 +1.9
comp=Z,0.3nm,0.7s,mb3.3,baz=315,slow=5.3,SNR=5.3
ULM Lac du Bonnet 93.64 351 P P 14 18 08.0 +3.0
comp=Z,1.9nm,0.6s,mb4.6,baz=177,slow=2.3,SNR=3.4

IGQ 09 14:11:29.3, 204S×7841W, h141km±5km, Mb4.2, Ms4.0, 4C-4D, Error ellipse: s-maj=8.5km s-min=4.7km az=173.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**0.53**	**355**	⇑P	Pn	14 11 49.9	+0.1
ARRY				S	Sn	14 12 04.1	-1.2
PATA	**Patacocha**	**0.53**	**357**	⇑P	Pn	14 11 50.5	+0.8
PATA				S	Sn	14 12 05.9	+0.6
RETU	**Refugio**	**0.59**	**356**	P	Pn	14 11 51.0	+1.0
ULBA	**Ulba**	**0.59**	**0**	⇓P	Pn	14 11 51.0	+0.9
IGUA	**Igualata**	**0.59**	**337**	P	Pn	14 11 50.2	+0.1
JUIV	**Juive**	**0.61**	**355**	⇓P	Pn	14 11 50.9	+0.7
RUN5	**Runtun**	**0.62**	**359**	P	Pn	14 11 50.7	+0.4
PISA	**Pisayambo**	**0.97**	**1**	P	Pn	14 11 54.3	+1.3
TAMB	**Tambo**	**1.34**	**2**	⇓P	Pn	14 11 57.9	+1.4
CAMI	**Rancho Maria**	**1.36**	**356**	⇑P	Pn	14 11 57.9	+1.2
CAMI				S	Sn	14 12 17.8	+0.3
VC1	**Cotopaxi 1**	**1.39**	**0**	P	Pn	14 11 58.4	+1.4
NAS1	**Nasa**	**1.40**	**357**	⇑P	Pn	14 11 58.6	+1.5
JUA2	**San Juan 2**	**1.82**	**354**	P	Pn	14 12 04.7	+2.9
GGP	**Refugio Guagua**	**1.86**	**354**	P	Pn	14 12 02.9	+0.6
TERV	**Terraza Guagua**	**1.86**	**354**	P	Pn	14 12 03.8	+1.6
TERV				S	Sn	14 12 34.0	+6.6
PINO	**Pino**	**1.88**	**354**	⇓P	Pn	14 12 03.6	+1.2
YANA	**Yana**	**1.92**	**355**	P	Pn	14 12 02.6	-0.2
YANA				S	Sn	14 12 29.1	+0.5
CAYR	**Refugio Cayamb**	**2.08**	**11**	P	Pn	14 12 06.0	+1.2
CONE	**Cono NE Rev Vo**	**2.10**	**21**	P	Pn	14 12 06.6	+1.6
CAYA	**Cayambe**	**2.14**	**11**	P	Pn	14 12 06.8	+1.4
COTA	**Cotacachi**	**2.36**	**2**	P	Pn	14 12 09.1	+0.9

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*NIED **09** 14:12:00, 2080N×12030E, h8km, Mw4.3 Best double couple: M0 3.69000×10^15 NP1:φs304.00000°, δ68.00000°, λ-101.00000°. NP2:φs151.00000°, δ25.00000°, λ-66.00000°.*
*IDC **09** 14:12:14.3±0.6, 2069N×12006E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.4/21, mbtmp4.2/16, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=28.6km s-min=12.6km az=66.0*
*ISCJB **09** 14:12:15.7±0.3, 2064N±004×12007E±004, h21km, mb4.5/34, MS3.8/3, Error ellipse: s-maj=6.1km s-min=5.7km az=109.9*
*BJI **09** 14:12:16.0, 2051N×11999E, h29km, mB4.8, mb4.4, ML4.0, Ms4.3, Msz4.1*
*MOS **09** 14:12:17.5±1.2, 2068N×12010E, h33km, mb4.8/11, Error ellipse: s-maj=14.5km s-min=8.2km az=120.5*
*SZGRF **09** 14:12:17.5, 1932N×12209E, h33km, mb5.0, Philippine Islands region*
*NEIC **09** 14:12:18.5±2.4, 2067N×12010E, h27km±17km, mb4.5/16, Error ellipse: s-maj=8.1km s-min=7.0km az=92.0*

ISC 09 14:12:17.6±0.3, 2071N±004×12014E±004, h20km, h20km±3.4km: pP-P, n84, σ1°18/85, mb4.5/34, MS3.8/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.70**	**21**	*e*Pn	**Pn**	**14 13 13.4**	**-0.3**
NACB				*e*Sn	**Sn**	**14 13 55.3**	**-1.4**
YHNB	**Yeheng**	**4.10**	**16**	*e*P	**Pn**	**14 13 18.6**	**-0.6**
YHNB				Sn	**Sn**	**14 14 04.7**	**-1.9**
TATO	**Taipei**	**4.42**	**16**	*e*P	**Pn**	**14 13 25.6**	**+2.0**
GZH	**Guangzhou**	**6.74**	**292**	P	**Pn**	**14 13 51.1**	**-4.4**
GZH				Smax			
	comp=N,145nm,0.8s						
GZH				Smax			
	comp=E,176nm,0.6s						
QIZ	**Qiongzhong**	**9.83**	**262**	P	**Pn**	**14 14 36.0**	**-1.9**
QIZ				*e*S	**Sn**	**14 16 27.1**	**-0.6**
QIZ				AMB	AMB		
	comp=Z,8.0nm,0.8s						
QIZ				LR	LR		
	comp=N,608nm,9.8s						
QIZ				LR	LR		
	comp=E,796nm,10.4s						
QIZ				LR	LR		
	comp=Z,1μm,10.4s						
QIZ	**Qiongzhong**	**9.83**	**262**	*e*Pn	**Pn**	**14 14 35.6**	**-2.3**
	comp=Z,16nm,0.7s						
GYA	**Guiyang**	**13.61**	**297**	P	**Pn**	**14 15 26.1**	**-3.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,80nm,3.8s						
GYA				LR	LR		
	comp=N,470nm,11.1s						
GYA				LR	LR		
	comp=E,670nm,10.5s						
GYA				LR	LR		
	comp=Z,760nm,11.6s						
XAN	**Xi'an**	**16.58**	**326**	P	**Pn**	**14 16 11.5**	**+2.6**
XAN				AP	pP	14 16 17.3	+0.4
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s						
KMI	**Kunming**	**16.62**	**289**	P	**Pn**	**14 16 11.9**	**+2.5**
KMI				S	**Sn**	**14 19 11.4**	**-2.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KMI				LR	LR		
	comp=N,363nm,9.0s						
KMI				LR	LR		
	comp=E,317nm,9.9s						
KMI				LR	LR		
	comp=Z,283nm,10.2s						
KMI	**Kunming**	**16.62**	**289**	P	**Pn**	**14 16 11.9**	**+2.5**
	comp=Z,10.0nm,1.2s						
KMI				S	**Sn**	**14 19 11.4**	**-2.0**
CD2	**Chengdu**	**17.89**	**308**	*e*P	**Pn**	**14 16 27.9**	**+2.7**
CD2				AP	pP	14 16 31.5	+0.1
CD2				XP	sP	14 16 35.0	+1.1
CD2				PP		14 16 43.5	
CD2				S	**Sn**	**14 19 47.4**	**+3.3**
CD2				XS	sS	14 19 51.9	-7.4
CD2				AMB	AMB		
	comp=Z,20nm,1.0s						
CD2				AMB	AMB		
	comp=Z,80nm,5.6s						
CD2				LR	LR		
	comp=N,270nm,10.8s						
CD2				LR	LR		
	comp=E,330nm,10.8s						
CD2				LR	LR		
	comp=Z,260nm,9.6s						
BJT	**Baijiatuau**	**19.54**	**351**	*e*P	**Pn**	**14 16 44.9**	**-0.4**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BJT	**Baijiatuau**	**19.54**	**351**	*e*P	**Pn**	**14 16 44.9**	**-0.4**
	comp=Z,6.5nm,0.4s						
BJI	**Beijing**	**19.57**	**351**	*e*P	**Pn**	**14 16 45.0**	**-0.6**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s						
BJI	**Beijing**	**19.57**	**351**	*e*P	**Pn**	**14 16 45.0**	**-0.6**
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**20.04**	**268**	*e*P	**P**	**14 16 49.5**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**20.04**	**268**	*e*P	**P**	**14 16 49.5**	**+0.1**
	comp=Z,6.2nm,0.9s						
LZH	**Lanzhou**	**20.93**	**320**	*e*P	**P**	**14 17 01.0**	**+1.9**
LZH				AP		14 17 07.5	
LZH				XP	sP	14 17 14.0	+6.7
LZH				AMB	AMB		
	comp=Z,42nm,1.5s						
LZH				AMB	AMB		
	comp=Z,167nm,4.1s						
LZH	**Lanzhou**	**20.93**	**320**	*e*P	**P**	**14 17 01.0**	**+1.9**
	comp=Z,42nm,1.5s						
LZH				sP	sP	14 17 14.0	+6.7
HHC	**Hu-ho-hao-te**	**21.36**	**342**	*e*P	**P**	**14 17 05.7**	**+2.0**
HHC				AP		14 17 09.9	
HHC				PP		14 17 33.6	
HHC				S	**S**	**14 20 58.5**	**-1.4**
HHC				SS		14 21 29.3	
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,252nm,10.8s						
HHC				LR	LR		
	comp=N,242nm,10.2s						
HHC				LR	LR		
	comp=E,285nm,16.3s						
HHC				LR	LR		
	comp=Z,197nm,11.0s,MS3.8						
MAJO	**Matsushiro**	**22.31**	**41**	*e*P	**P**	**14 17 16.3**	**+2.5**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
MAJO	**Matsushiro**	**22.31**	**41**	*e*P	**P**	**14 17 16.3**	**+2.5**
	comp=Z,15nm,0.9s,mb4.4						
MAT	**Matsushiro**	**22.31**	**41**	P	**P**	**14 17 14.3**	**+0.5**
MAT				*e*S	**S**	**14 21 17.0**	**-1.3**
MJAR	**Matsushiro Arr**	**22.31**	**41**	P	**P**	**14 17 13.0**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.0,baz=238,slow=10,SNR=18						
MJAR	**Matsushiro Arr**	**22.31**	**41**	P	**P**	**14 17 13.0**	**-0.8**
KULM	**Kulim**	**24.36**	**234**	*e*P	**P**	**14 17 33.6**	**-0.6**
GUMO	**Guam**	**24.64**	**103**	LR	LR	14 26 42.4	
	comp=Z,141nm,18.3s,MS3.5,baz=322,slow=35						
MDJ	**Mudanjiang**	**25.10**	**16**	P	**P**	**14 17 41.2**	**+0.3**
MDJ				PCP	PcP	14 21 14.9	-0.1
MDJ				S	**S**	**14 22 07.1**	**+2.6**
MDJ				SCP	ScP	14 24 53.9	+0.9
MDJ				PCS	PcS	14 24 54.8	-0.5
MDJ				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.6						
MDJ				LR	LR		
	comp=N,84nm,20.4s						
MDJ				LR	LR		
	comp=E,74nm,28.7s						
MDJ				LR	LR		
	comp=Z,84nm,26.1s						
MDJ	**Mudanjiang**	**25.10**	**16**	*e*P	**P**	**14 17 40.4**	**-0.5**
	comp=Z,17nm,0.9s,mb4.6						
GTA	**Gaotai**	**25.53**	**321**	*e*P	**P**	**14 17 47.6**	**+2.7**
GTA				AP	pP	14 17 52.9	+2.0
GTA				XP	sP	14 17 56.0	+2.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.0						
PSI	**Prapat**	**27.28**	**232**	P	**P**	**14 17 59.6**	**-1.1**
	comp=Z,1.4nm,0.3s,mb3.9,baz=234,slow=3.3,SNR=4.3						
LSA	**Lhasa**	**27.66**	**295**	P	**P**	**14 18 05.8**	**+1.7**
LSA	**Lhasa**	**27.66**	**295**	*e*P	**P**	**14 18 05.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
LSA	**Lhasa**	**27.66**	**295**	*e*P	**P**	**14 18 05.8**	**+1.7**
	comp=Z,12nm,0.8s,mb4.6						
SONM	**Songino Array**	**29.25**	**341**	P	**P**	**14 18 18.0**	**-0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=159,slow=9.0,SNR=9.0						
GUN	**Gumba**	**31.96**	**290**	*e*P	**P**	**14 18 42.7**	**+0.5**
	comp=Z,41nm,1.0s,mb5.2						
PKI	**Pulchoki**	**32.35**	**289**	*e*P	**P**	**14 18 45.4**	**-0.2**
	comp=Z,16nm,0.9s,mb4.8						
KKN	**Kakani**	**32.48**	**289**	*e*P	**P**	**14 18 46.4**	**-0.3**
	comp=Z,24nm,0.9s,mb5.0						
DMN	**Daman**	**32.62**	**289**	*e*P	**P**	**14 18 47.8**	**-0.1**
	comp=Z,28nm,0.9s,mb5.2						
GKN	**Gorkha**	**33.06**	**290**	*e*P	**P**	**14 18 51.4**	**-0.4**
	comp=Z,17nm,0.9s,mb5.0						
KOLN	**Koldanda**	**33.96**	**289**	*e*P	**P**	**14 18 59.5**	**-0.2**
	comp=Z,27nm,0.9s,mb5.2						
WMQ	**Urumqi**	**35.47**	**318**	*e*P	**P**	**14 19 14.0**	**+1.3**
WMQ				AP	pP	14 19 18.0	-0.8
WMQ				*e*S	**S**	**14 24 47.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,127nm,5.0s						
WMQ				LR	LR		
	comp=N,296nm,19.6s,MS4.2						
WMQ				LR	LR		
	comp=E,304nm,19.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,289nm,19.6s,MS4.0						
MKAR	**Makanchi Array**	**40.24**	**319**	P	**P**	**14 19 52.5**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.8,baz=112,slow=9.7,SNR=11						
MKAR				PcP	PcP	14 21 56.2	-0.4
	comp=Z,1.3nm,0.7s,baz=93,slow=4.9,SNR=5.1						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**14 20 13.5**	**+0.4**
	comp=Z,2.5nm,0.3s,mb4.4,baz=117,slow=1.2,SNR=5.6						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**14 20 13.5**	**+0.4**
WRA	**Warramunga Arr**	**42.73**	**160**	P	**P**	**14 20 13.0**	**-0.4**
	comp=Z,16nm,0.9s,mb4.7,baz=342,slow=8.9,SNR=35						
WRA				PcP	PcP	14 22 05.1	+0.3
	comp=Z,1.6nm,0.7s,baz=339,slow=4.0,SNR=4.7						
WB2	**Warramunga Arr**	**42.73**	**160**	*e*P	**P**	**14 20 12.8**	**-0.6**
AAK	**Ala-Archa**	**43.93**	**310**	*e*P	**P**	**14 20 23.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**43.93**	**310**	*e*P	**P**	**14 20 23.1**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.1						
AS31	**Alice Springs**	**46.10**	**162**	*e*P	**P**	**14 20 40.5**	**+0.2**
ASAR	**Alice Springs**	**46.10**	**162**	P	**P**	**14 20 40.3**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=335,slow=6.8,SNR=14						
ASPA	**Alice Springs**	**46.10**	**162**	*e*P	**P**	**14 20 40.5**	**+0.2**
CTA	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**14 20 55.9**	**+1.3**
	comp=Z,15nm,0.9s,mb5.0						
CTA	**Charters Tower**	**47.93**	**146**	P	**P**	**14 20 55.9**	**+1.3**
	comp=Z,18nm,0.9s,mb5.1,baz=326,slow=8.8,SNR=16						
CTA	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**14 20 55.9**	**+1.3**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**14 20 56.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**14 20 56.1**	**+1.4**
	comp=Z,16nm,0.8s,mb5.1						
BVAR	**Borovoye Array**	**49.80**	**323**	P	**P**	**14 21 09.1**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=108,slow=13,SNR=4.6						
BVAR				PcP	PcP	14 22 29.4	-0.2
	comp=Z,1.9nm,0.6s,baz=113,slow=4.5,SNR=8.9						
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**14 21 09.2**	**-0.6**
CHKZ				*e*		14 21 17.2	
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**14 21 09.2**	**-0.6**
	comp=Z,7.8nm,1.0s,mb4.7						
CHKZ				*e*		14 21 17.2	
STKA	**Stephens Creek**	**56.18**	**158**	P	**P**	**14 21 56.1**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=328,slow=8.9,SNR=7.1						
AKTK	**Aktyubinsk**	**56.62**	**317**	P	**P**	**14 21 59.2**	**0.0**
AKTO	**Aktyubinsk**	**56.62**	**317**	P	**P**	**14 21 59.2**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.1,baz=83,slow=11,SNR=5.2						
JOF	**Joensuu**	**71.26**	**331**	*e*p	**P**	**14 23 34.1**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**72.39**	**338**	P	**P**	**14 23 42.5**	**+0.2**
	comp=Z,4.0nm,1.0s,mb4.3,baz=55,slow=6.7,SNR=3.0						
KAF	**Kangasniemi**	**73.69**	**331**	*e*p	**P**	**14 23 47.9**	**-2.1**
	baz=74,slow=5.5						
FINES	**FINESS Array B**	**73.95**	**330**	P	**P**	**14 23 51.1**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.3,baz=338,slow=4.5,SNR=6.9						
AKASG	**Malin Array Be**	**74.82**	**319**	P	**P**	**14 23 55.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=60,slow=5.1,SNR=4.5						
NB2	**NORSAR Subarra**	**80.83**	**332**	P	**P**	**14 24 28.6**	**-1.4**
	comp=Z,5.1nm,1.1s,mb4.4,baz=62,slow=5.6						
NB2	**NORSAR Subarra**	**80.83**	**332**	P	**P**	**14 24 28.6**	**-1.4**
NB2				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
NOA	**NORSAR Array B**	**80.83**	**332**	P	**P**	**14 24 29.4**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.1,baz=63,slow=5.3,SNR=4.2						
KMBO	**Kilima Mbogo**	**83.74**	**266**	P	**P**	**14 24 49.4**	**+4.2**
	comp=Z,0.7nm,0.4s,mb4.1,baz=48,slow=15,SNR=2.4						
KMBO	**Kilima Mbogo**	**83.74**	**266**	P	**P**	**14 24 49.4**	**+4.2**
BRG	**Berggiesshubel**	**83.89**	**322**	*e*P	**P**	**14 24 46.5**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.4						
BRG				*i*	pP	14 24 54.1	+1.5
	comp=Z,9.9nm,1.2s						
BRG	**Berggiesshubel**	**83.89**	**322**	*e*P	**P**	**14 24 46.5**	**+0.5**
BRG				*i*	pP	14 24 54.1	+1.5
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
CLL	**Collm**	**84.23**	**323**	*i* P	pP	14 24 55.3	+1.0
CLL				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
CLL	**Collm**	**84.23**	**323**	*i* pP	pP	14 24 55.3	+1.0
	comp=Z,12nm,1.0s						
GERES	**GERESS Array B**	**84.90**	**320**	P	**P**	**14 24 51.5**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.3,baz=70,slow=4.4,SNR=13						
GRA1	**Grafenberg Arr**	**85.97**	**322**	*e*P	pP	14 25 04.7	+1.6
	comp=Z,8.0nm,1.1s						
GRF	**Grafenberg Arr**	**85.97**	**322**	*e*P	pP	14 25 04.7	+1.6
	comp=Z,8.0nm,1.1s						
GRF	**Grafenberg Arr**	**85.97**	**322**	*e*P	pP	14 25 04.7	+1.6
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
SDV	**Santo Domingo**	**148.74**	**21**	*e*PKPbc	PKPbc	14 32 04.3	+0.7
LPAZ	**La Paz**	**171.00**	**62**	PKP	PKPdf	14 32 26.5	+2.0
	comp=Z,1.1nm,0.9s,baz=7.9,slow=4.2,SNR=4.5						
SIV	**San Ignacio**	**175.17**	**14**	PKP	PKPdf	14 32 26.2	+0.1
	comp=Z,1.1nm,0.8s,baz=111,slow=4.3,SNR=6.0						

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*IDC **09** 14:37:48.6±0.8, 2060N×12002E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=39.9km s-min=17.3km az=67.0*
*ISCJB **09** 14:37:50.9±2.2, 2071N±004×12003E±0.10, h24km±18km, mb3.9/13, MS3.2/1, Error ellipse: s-maj=15.1km s-min=6.0km az=0.6*
*NEIC **09** 14:37:50.4±0.4, 2061N×11995E, h10km, mb4.2/3, Error ellipse: s-maj=11.2km s-min=7.7km az=85.0*
*BJI **09** 14:37:52.1, 2099N×11991E, h5km, mB4.5, mb4.3, ML3.5, Ms3.8, Msz3.5*

ISC 09 14:37:51.7±2.9, 2071N±004×11997E±008, h18km±20km, n32, σ1°11/35, mb3.9/13, MS3.2/1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.12**	**167**	*e*P	**Pn**	**14 38 39.0**	**-1.1**
SGCP	**Mt. Cagua**	**3.13**	**141**	*e*P	**Pn**	**14 38 38.3**	**-2.0**
NACB	**Ninganchiao**	**3.77**	**23**	*e*Pn	**Pn**	**14 38 49.3**	**+0.4**
NACB				*e*Sn	**Sn**	**14 39 32.1**	**-0.7**
CAUP	**Cauayan**	**4.13**	**155**	*e*P	**Pn**	**14 38 55.3**	**+1.4**
YHNB	**Yeheng**	**4.15**	**18**	*e*Pn	**Pn**	**14 38 54.2**	**-0.1**
YHNB				*e*Sn	**Sn**	**14 39 41.8**	**-0.6**
BOLP	**Bolinao**	**4.30**	**181**	*e*P	**Pn**	**14 38 57.0**	**+0.7**
PALP	**Palanan**	**4.30**	**147**	⇓*e*P	**Pn**	**14 39 02.4**	**+6.1**
PALP						14 39 49.7	
PALP	**Palanan**	**4.30**	**147**	*e*P	**Pn**	**14 38 56.0**	**-0.3**
QZH	**Quanzhou**	**4.41**	**343**	P	**Pn**	**14 38 56.0**	**-1.7**
QZH				S	**Sn**	**14 39 44.8**	**-3.8**
QZH				Smax			
	comp=N,100nm,0.9s						
QZH				Smax			
	comp=E,80nm,0.3s						
QZH				LR	LR		
	comp=N,910nm,5.9s						
QZH				LR	LR		
	comp=E,930nm,11.3s						
QZH				LR	LR		
	comp=Z,670nm,12.2s						
BALP	**Baler**	**5.17**	**163**	*e*P	**Pn**	**14 39 10.7**	**+2.6**
QIZ	**Qiongzhong**	**9.68**	**262**	Pn	**Pn**	**14 40 08.5**	**-1.6**
BJI	**Beijing**	**19.55**	**351**	*e*P	**Pn**	**14 42 20.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**19.55**	**351**	*e*P	**Pn**	**14 42 20.5**	**+0.8**
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**14 42 49.8**	**+0.5**
	comp=Z,2.3nm,0.9s,mb3.6,baz=241,slow=7.0,SNR=8.7						
MJAR				LR	LR	14 51 53.2	
	comp=Z,92nm,18.5s,MS3.2,baz=270,slow=38						
MDJ	**Mudanjiang**	**25.14**	**16**	*e*P	**P**	**14 43 17.8**	**+2.0**
	comp=Z,9.9nm,0.9s,mb4.3						
SONM	**Songino Array**	**29.21**	**341**	P	**P**	**14 43 53.3**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=167,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	**40.14**	**319**	P	**P**	**14 45 28.0**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=113,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**40.14**	**319**	P	**P**	**14 45 28.0**	**+1.4**
ZAL	**Zalesovo**	**42.62**	**330**	P	**P**	**14 45 46.2**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.1,baz=336,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**42.77**	**160**	P	**P**	**14 45 46.8**	**-1.4**
	comp=Z,4.4nm,0.8s,mb4.2,baz=343,slow=8.9,SNR=15						
WB2	**Warramunga Arr**	**42.78**	**160**	*e*P	**P**	**14 45 47.1**	**-1.1**
WB2				*e*		14 45 54.3	
WB2	**Warramunga Arr**	**42.78**	**160**	*e*P	**P**	**14 45 47.0**	**-1.2**
WB2				*e*		14 45 54.3	
AS31	**Alice Springs**	**46.14**	**162**	*e*P	**P**	**14 46 16.4**	**+1.3**
ASAR	**Alice Springs**	**46.14**	**162**	P	**P**	**14 46 14.3**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.8,baz=342,slow=6.8,SNR=9.4						
CTAO	**Charters Tower**	**48.01**	**146**	*e*P	**P**	**14 46 29.5**	**-0.2**
BVAR	**Borovoye Array**	**49.70**	**323**	P	**P**	**14 46 43.7**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=81,slow=9.3,SNR=4.9						
BVAR				PcP	PcP	14 48 03.6	-0.1
	comp=Z,0.8nm,0.7s,baz=96,slow=4.5,SNR=5.1						
CHKZ	**Chkalovo**	**49.81**	**324**	*e*P	**P**	**14 46 43.4**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.1						
ARCES	**ARCESS Array B**	**72.34**	**338**	P	**P**	**14 49 17.0**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.2,baz=62,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**73.88**	**330**	P	**P**	**14 49 25.5**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=122,slow=6.9,SNR=4.0						
NOA	**NORSAR Array B**	**80.76**	**332**	P	**P**	**14 50 03.2**	**-0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=64,slow=5.2,SNR=3.5						
NOA	**NORSAR Array B**	**80.76**	**332**	P	**P**	**14 50 03.2**	**-0.9**
GERES	**GERESS Array B**	**84.80**	**320**	P	**P**	**14 50 25.8**	**+0.7**
	comp=Z,0.4nm,0.2s,mb4.2,baz=83,slow=5.5,SNR=5.5						

MOS 09 15:04:37.9±0.6, 4244N×4380E, h16km, mb3.5/1, 2C-2D, Error ellipse: s-maj=34.9km s-min=10.3km az=71.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.34**	**13**	⇓*i*PG	Pg	15 04 46.1	+1.1
ZEI				*i* S	Sg	15 04 51.5	+1.7
DIGR	**Digorskoe uzhe**	**0.49**	**341**	⇓*i*PG	Pg	15 04 48.9	+1.2
DIGR				*i* S	Sg	15 04 56.3	+2.0
LACR	**Lac**	**0.54**	**43**	⇑*i*PG	Pg	15 04 48.7	+0.2
LACR				*i* S	Sg	15 04 56.0	+0.3

EMIN Mina Concepcio 1.86 129 Pg **Pg** **15 14 26.3 -1.9**
SNR=7.9
EMIN Lg 15 14 47.1
comp=N,0.3nm,0.1s,SNR=7.9

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*BJI **09** 15:14:31.6, 099S×125 45E, h41km, mB5.0, mb5.0, Ms4.7, Msz4.4*
*IDC **09** 15:14:32.5±0.5, 029S×125.16E, h0km, mb4.7/17, mb1 4.7/19, mb1mx4.7/21, mbtmp4.7/19, ML3.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/26, Error ellipse: s-maj=22.6km s-min=10.3km az=77.0*
*MOS **09** 15:14:35.9±1.4, 025S×125 25E, h33km, mb5.1/25, Error ellipse: s-maj=15.3km s-min=6.4km az=111.9*
*ISCJB **09** 15:14:36.9±0.2, 034S±003×125 34E±005, h43km, mb4.9/68, MS4.0/15, Error ellipse: s-maj=7.1km s-min=3.8km az=146.1*
*NEIC **09** 15:14:38.4±1.2, 028S×125 37E, h42km±12km, mb4.8/24, Error ellipse: s-maj=12.4km s-min=6.2km az=67.0*
ISC 09 15:14:39.0±0.2, 035S±003×125 38E±005, h45km, h45km±2.6km: pP-P, n160, σ1.928/167, mb4.9/68, MS4.0/15, 7C-3D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.35**	**140**	P	**Pn**	**15 15 44.3**	**+1.8**
	216nm,0.9s						
PCI	**Palu**	**5.57**	**264**	P	**Pn**	**15 16 02.5**	**+3.2**
	577nm,0.8s						
SWI	**Sorong**	**5.91**	**95**	P	**Pn**	**15 16 10.1**	**+6.2**
	55nm,0.8s						
BUKP	**Musuan**	**8.18**	**358**	*e*P	**Pn**	**15 16 38.8**	**+3.7**
PAGZ	**Pagadian**	**8.38**	**346**	*e*P	**Pn**	**15 16 39.3**	**+1.4**
IPIL	**Ipil**	**8.55**	**341⇑**	*e*P	**Pn**	**15 16 41.0**	**+0.7**
IPIL	**Ipil**	**8.55**	**341**	*e*P	**Pn**	**15 16 41.0**	**+0.8**
KKM	**Kota Kinabalu**	**11.14**	**305**	*e*P	**Pn**	**15 17 17.0**	**+1.5**
CUYO	**Cuyo Island**	**11.94**	**339**	*e*P	**Pn**	**15 17 28.8**	**+2.2**
PVCP	**Virac**	**13.91**	**355**	*e*P	**Pn**	**15 17 54.6**	**+1.2**
KAKA	**Kakadu**	**14.14**	**151**	*e*P	**Pn**	**15 17 55.0**	**-1.5**
	22nm,0.8s						
LUBP	**Lubang**	**14.89**	**340**	*e*P	**Pn**	**15 18 11.4**	**+4.9**
TGY	**Tagaytay City**	**15.02**	**343**	Pn	**Pn**	**15 18 05.0**	**-3.2**
	22nm,0.3s,baz=218,slow=19,SNR=3.4						
KSM	**Kuching**	**15.18**	**277**	*e*P	**Pn**	**15 18 10.6**	**+0.4**
BALP	**Baler**	**16.42**	**347**	*e*P	**Pn**	**15 18 27.6**	**+1.4**
SCZP	**Santa Cruz**	**16.91**	**342**	*e*P	**Pn**	**15 18 33.3**	**+1.0**
BJII	**Banjamegara**	**17.09**	**246**	P	**Pn**	**15 18 37.1**	**+2.5**
	91nm,1.7s						
CAUP	**Cauayan**	**17.54**	**349**	*e*P	**Pn**	**15 18 40.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.64**	**179**	*e*P	**Pn**	**15 18 41.4**	**0.0**
	6.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.64**	**179**	P	**Pn**	**15 18 40.8**	**-0.6**
	0.2nm,0.3s,baz=19,slow=11,SNR=5.8						
FITZ				LR	LR	15 25 28.0	
	comp=Z,122nm,18.7s,baz=5.2,slow=37						
ABRA	**Dolores**	**18.47**	**346**	*e*P	**Pn**	**15 18 49.8**	**-1.7**
LEM	**Lembang**	**18.85**	**250**	P	**Pn**	**15 18 57.2**	**+1.2**
	90nm,1.1s						
CBJI	**Citeko**	**19.44**	**252**	P	**Pn**	**15 19 02.3**	**-0.9**
	254nm,0.9s						
WRAB	**Tennant Creek**	**21.35**	**156**	*e*P	**P**	**15 19 22.4**	**0.0**
WRA	**Warramunga Arr**	**21.36**	**156**	P	**P**	**15 19 22.2**	**-0.2**
	13nm,0.8s,mb4.3,baz=338,slow=11,SNR=41						
WRA				S	**S**	**15 23 14.5**	**-2.4**
	1.5nm,1.1s,baz=342,slow=21,SNR=3.5						
WB2	**Warramunga Arr**	**21.36**	**156⇑**	*i*P	**P**	**15 19 22.6**	**+0.1**
MBWA	**Marble Bar**	**21.40**	**195**	*e*P	**P**	**15 19 23.2**	**+0.3**
	12nm,0.7s,mb4.3						
PMG	**Port Moresby**	**23.47**	**113**	P	**P**	**15 19 42.4**	**-2.2**
	24nm,1.0s,mb4.5,baz=273,slow=17,SNR=2.6						
PMG	**Port Moresby**	**23.47**	**113**	*e*P	**P**	**15 19 45.6**	**+1.0**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**23.47**	**113**	*e*P	**P**	**15 19 45.5**	**+1.0**
	comp=Z,23nm,1.0s,mb4.6						
QIZ	**Qiongzhong**	**24.57**	**322**	*e*P	**P**	**15 19 55.0**	**+0.4**
QIZ				*e*S	**S**	**15 24 18.9**	**+6.5**
QIZ				LR	LR		
	comp=Z,191nm,16.3s,MS3.7						
AS31	**Alice Springs**	**24.61**	**161**	*e*P	**P**	**15 19 55.7**	**+0.7**
ASPA	**Alice Springs**	**24.61**	**161**	*e*P	**P**	**15 19 55.7**	**+0.7**
ASAR	**Alice Springs**	**24.61**	**161**	P	**P**	**15 19 55.6**	**+0.7**
	comp=Z,5.0nm,0.8s,mb4.1,baz=354,slow=16,SNR=42						
ASAR				PcP	PcP	15 23 33.1	+1.4
	comp=Z,2.6nm,0.7s,baz=346,slow=2.0,SNR=13						
ASAR				S	**S**	**15 24 18.9**	**+5.8**
	comp=Z,1.3nm,1.0s,baz=321,slow=15,SNR=4.8						
KULM	**Kulim**	**25.32**	**283**	P	**P**	**15 20 01.5**	**+0.1**
PSI	**Prapat**	**26.63**	**277**	P	**P**	**15 20 11.2**	**-2.1**
	comp=Z,4.1nm,0.9s,mb3.9,baz=72,slow=19,SNR=3.2						
JOW	**Kunigami**	**27.17**	**6**	P	**P**	**15 20 18.1**	**-0.1**
	comp=Z,60nm,0.6s,mb5.3,baz=162,slow=13,SNR=16						
FORT	**Forrest**	**30.37**	**175**	*e*P	**P**	**15 20 47.9**	**+1.3**
	comp=Z,22nm,0.6s,mb5.0						
SSE	**Sheshan**	**31.53**	**353**	P	**P**	**15 21 00.2**	**+3.4**
SSE				S	**S**	**15 26 06.3**	**+4.3**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,5.0s						
SSE				LR	LR		
	comp=Z,103nm,22.5s,MS3.5						
SSE	**Sheshan**	**31.53**	**353**	P	**P**	**15 21 00.2**	**+3.4**
	comp=Z,25nm,0.7s,mb5.2						
SSE				S	**S**	**15 26 06.3**	**+4.3**
SSE				LR	LR		
	comp=Z,100nm,22.5s,MS3.4						
CBIJ	**Chichi jima**	**31.72**	**29**	P	**P**	**15 20 58.1**	**-0.3**
	comp=Z,32nm,0.4s,mb5.5,baz=256,slow=19,SNR=4.8						
KLBR	**Kellerberrin**	**31.90**	**192**	*e*P	**P**	**15 21 00.9**	**+0.9**
CM31	**Chiang Mai Arr**	**32.00**	**307**	*e*P	**P**	**15 21 00.4**	**-0.5**
	comp=Z,17nm,1.2s,mb4.8						
GYA	**Guiyang**	**32.18**	**327⇑**	*i*P	**P**	**15 21 02.6**	**+0.1**
GYA				AP	pP	15 21 14.5	0.0
GYA				XP	sP	15 21 19.9	0.0
GYA				PP	PP	15 22 09.0	-6.8
GYA				PCP	PcP	15 23 51.5	+1.0
GYA				S	**S**	**15 26 18.4**	**+6.1**
GYA				SCP	ScP	15 27 31.3	+0.9
GYA				SCS	ScS	15 31 28.2	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,16.9s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,17.2s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,17.0s,MS4.3						
CHTO	**Chiang Mai**	**32.20**	**308**	*e*P	**P**	**15 21 01.5**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
CHTO	**Chiang Mai**	**32.20**	**308**	*e*P	**P**	**15 21 01.5**	**-1.1**
	comp=Z,19nm,1.0s,mb4.9						
NJ2	**Nanjing**	**32.81**	**350**	*e*P	**P**	**15 21 09.1**	**+1.1**
NJ2				AP	pP	15 21 19.1	-1.0
NJ2				XP	sP	15 21 22.1	-3.3
NJ2				PP	PP	15 22 18.8	-4.0
NJ2				S	**S**	**15 26 23.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,120nm,10.0s						
NJ2				LR	LR		
	comp=N,160nm,16.0s,MS3.9						
NJ2				LR	LR		
	comp=E,140nm,20.0s,MS3.9						
NJ2				LR	LR		
	comp=Z,5μm,18.0s,MS5.2						
NWAO	**Narrogin (SRO)**	**33.30**	**193**	LR	LR	15 36 18.6	
	comp=Z,59nm,21.3s,MS3.3,baz=51,slow=39						
KMI	**Kunming**	**33.48**	**321**	P	**P**	**15 21 16.3**	**+2.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
KMI	**Kunming**	**33.48**	**321**	P	**P**	**15 21 16.3**	**+2.4**
	comp=Z,5.0nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**34.91**	**155**	*e*P	**P**	**15 21 27.4**	**+1.2**
	comp=Z,6.7nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**34.91**	**155**	P	**P**	**15 21 27.4**	**+1.2**
	comp=Z,9.8nm,0.7s,mb4.9,baz=323,slow=9.5,SNR=23						
CD2	**Chengdu**	**37.26**	**328**	*e*P	**P**	**15 21 46.4**	**+0.1**
CD2				AP	pP	15 21 58.4	-0.1
CD2				XP	sP	15 22 03.9	+0.1
CD2				PP	PP	15 23 14.6	+2.7
CD2				S	**S**	**15 27 30.4**	**0.0**
CD2				XS	sS	15 27 50.4	-0.3
CD2				SCS	ScS	15 31 54.5	-2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,80nm,18.0s,MS3.7						
CD2				LR	LR		
	comp=E,80nm,19.2s,MS3.7						
CD2				LR	LR		
	comp=Z,100nm,18.0s,MS3.6						
MJAR	**Matsushiro Arr**	**38.59**	**17**	P	**P**	**15 21 56.7**	**-0.9**
	comp=Z,16nm,0.7s,mb4.9,baz=194,slow=7.9,SNR=55						
MJAR				PcP	PcP	15 24 10.5	+1.2
	comp=Z,0.5nm,0.3s,baz=128,slow=1.2,SNR=4.4						
MJAR	**Matsushiro Arr**	**38.59**	**17**	P	**P**	**15 21 56.7**	**-0.9**
MJAR				PcP	PcP	15 24 10.5	+1.2
MAJO	**Matsushiro**	**38.59**	**17**	*e*P	**P**	**15 21 56.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.1						
MAJO	**Matsushiro**	**38.59**	**17**	*e*P	**P**	**15 21 56.5**	**-1.1**
	comp=Z,22nm,0.6s,mb5.1						
MAT	**Matsushiro**	**38.59**	**17**	P	**P**	**15 21 56.6**	**-1.0**
BJI	**Beijing**	**41.07**	**349**	*e*P	**P**	**15 22 19.3**	**+1.2**
BJI				S	**S**	**15 28 35.5**	**+7.9**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=Z,85nm,27.0s,MS3.5						
BJI	**Beijing**	**41.07**	**349**	*e*P	**P**	**15 22 19.3**	**+1.2**
	comp=Z,15nm,0.7s,mb4.7						
BJI				S	**S**	**15 28 35.5**	**+7.9**
BJI				LR	LR		
	comp=Z,90nm,27.0s,MS3.5						
LZH	**Lanzhou**	**41.42**	**333**	*e*P	**P**	**15 22 22.6**	**+1.6**
LZH				AP	pP	15 22 33.1	-0.2
LZH				XP	sP	15 22 36.5	-2.1
LZH				PP	PP	15 24 02.1	+4.9
LZH				*e*S	**S**	**15 28 34.8**	**+2.0**
LZH				XS	sS	15 28 55.4	+2.1
LZH				*e*SS	SS	15 31 35.5	-2.6
LZH				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.7						
LZH				AMB	AMB		
	comp=Z,91nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,15.4s,MS4.9						
LZH	**Lanzhou**	**41.42**	**333**	*e*P	**P**	**15 22 22.6**	**+1.6**
LZH				*PP	pP	15 22 33.1	-0.2
LZH				*SP	sP	15 22 36.5	-2.1
LZH						15 24 02.1	
LZH				*e*S	**S**	**15 28 34.8**	**+2.0**
LZH				*SS	sS	15 28 55.4	+2.1
LZH				*e*SS	SS	15 31 35.5	-2.6
LZH				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,15.4s,MS4.9						
LZH	**Lanzhou**	**41.42**	**333**	*e*P	**P**	**15 22 22.6**	**+1.6**
	comp=Z,22nm,1.1s,mb4.7						
LZH				pP	pP	15 22 33.1	-0.2
LZH				sP	sP	15 22 36.5	-2.1
LZH				PP	PP	15 24 02.1	+4.9
LZH				*e*S	**S**	**15 28 34.8**	**+2.0**
LZH				sS	sS	15 28 55.4	+2.1
LZH				*e*SS	SS	15 31 35.5	-2.6
LZH				LR	LR		
	comp=Z,1μm,15.4s,MS4.9						
HHC	**Hu-ho-hao-te**	**42.89**	**345**	*e*P	**P**	**15 22 34.0**	**+1.0**
HHC				AP	pP	15 22 46.4	+1.1
HHC				XP	sP	15 22 51.9	+1.3
HHC				S	**S**	**15 28 49.1**	**-5.4**
HHC				XS	sS	15 29 16.2	+1.1
HHC				SS	SS	15 32 06.7	-0.4
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,143nm,4.9s						
HHC				LR	LR		
	comp=N,157nm,5.6s						
HHC				LR	LR		
	comp=E,215nm,6.0s						
HHC				LR	LR		
	comp=Z,122nm,17.6s,MS3.9						
CN2	**Changchun**	**43.96**	**0**	*e*P	**P**	**15 22 43.4**	**+1.8**
CN2				*e*XP	sP	15 23 01.0	+1.8
CN2				*e*S	**S**	**15 29 12.4**	**+2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.4						
LSA	**Lhasa**	**44.24**	**315**	*e*P	**P**	**15 22 44.2**	**+0.3**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**44.24**	**315**	*e*P	**P**	**15 22 44.2**	**+0.3**
	comp=Z,9.8nm,0.6s,mb4.7						
MDJ	**Mudanjiang**	**44.93**	**4**	P	**P**	**15 22 49.5**	**+0.1**
MDJ				AP	pP	15 23 02.8	+1.1
MDJ				XP	sP	15 23 08.8	+1.8
MDJ				PCP	PcP	15 24 30.2	0.0
MDJ				PP	PP	15 24 35.2	+0.3
MDJ				SCP	ScP	15 28 18.2	-0.6
MDJ				PCS	PcS	15 28 24.0	+0.2
MDJ				S	**S**	**15 29 24.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,155nm,5.3s						
MDJ	**Mudanjiang**	**44.93**	**4**	*e*P	**P**	**15 22 49.4**	**+0.1**
	comp=Z,10nm,0.7s,mb4.8						
GTA	**Gaotai**	**45.97**	**332**	P	**P**	**15 22 57.2**	**-0.4**
GTA				AP	pP	15 23 08.8	-1.2
GTA				XP	sP	15 23 13.8	-1.5
GTA				PP	PP	15 24 44.4	-1.5
GTA				S	**S**	**15 29 33.8**	**-5.5**
GTA				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,85nm,5.3s						
GTA				LR	LR		
	comp=N,85nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=E,124nm,16.3s,MS4.0						
GTA				LR	LR		
	comp=Z,161nm,19.4s,MS4.0						
ASAJ	**Asahikawa**	**46.86**	**17**	P	**P**	**15 23 05.6**	**+1.0**
	comp=Z,26nm,0.8s,mb5.2,baz=236,slow=10,SNR=26						
GUN	**Gumba**	**47.15**	**310**	*e*P	**P**	**15 23 05.4**	**-1.5**
	comp=Z,44nm,0.5s,mb5.6						
PKI	**Pulchoki**	**47.35**	**309**	*e*P	**P**	**15 23 07.0**	**-1.4**
	comp=Z,8.9nm,0.5s,mb5.0						
KKN	**Kakani**	**47.55**	**309**	*e*P	**P**	**15 23 08.0**	**-2.0**
	comp=Z,11nm,0.5s,mb5.1						
DMN	**Daman**	**47.60**	**309**	*e*P	**P**	**15 23 08.2**	**-2.2**
	comp=Z,20nm,0.8s,mb5.2						
GKN	**Gorkha**	**48.16**	**309**	*e*P	**P**	**15 23 12.8**	**-1.8**
	comp=Z,13nm,0.5s,mb5.2						
KOLN	**Koldanda**	**48.85**	**308**	*e*P	**P**	**15 23 18.5**	**-1.5**
	comp=Z,32nm,0.8s,mb5.4						
HIA	**Hailar**	**49.66**	**355**	*e*P	**P**	**15 23 26.5**	**+0.3**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**49.66**	**355**	*e*P	**P**	**15 23 26.5**	**+0.3**
	comp=Z,14nm,0.7s,mb5.1						
KLR	**Kul'dur**	**49.69**	**5**	*e*P	**P**	**15 23 24.7**	**-1.7**
SONM	**Songino Array**	**50.76**	**344**	P	**P**	**15 23 33.4**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9,baz=157,slow=8.7,SNR=44						
SONM				PcP	PcP	15 24 51.1	+0.1
	comp=Z,2.6nm,0.7s,baz=174,slow=4.4,SNR=5.1						
SONM				LR	LR	15 44 40.2	
	comp=Z,76nm,19.7s,MS3.7,baz=170,slow=36						
SONM	**Songino Array**	**50.76**	**344**	P	**P**	**15 23 33.4**	**-1.1**
SONM						15 24 51.1	
CIT	**Chita**	**53.13**	**351**	*e*P	**P**	**15 23 52.6**	**+0.5**
ZAK	**Zakamensk**	**53.95**	**343**	*e*P	**P**	**15 23 56.9**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TLY	**Talaya**	**55.00**	**344**	*e*P	**P**	**15 24 06.0**	**+0.2**
TLY				*e*		15 24 12.6	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ	**Urumqi**	**55.34**	**327**	P	**P**	**15 24 08.5**	**+0.3**
WMQ				AP	pP	15 24 24.0	+3.1
WMQ				PCP	PcP	15 25 08.0	-0.4
WMQ				PP	PP	15 26 14.0	+1.8
WMQ				S	**S**	**15 31 46.0**	**-3.2**
WMQ				XS	sS	15 32 14.0	+3.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,170nm,5.0s						
WMQ				LR	LR		
	comp=N,380nm,20.0s,MS4.6						
WMQ				LR	LR		
	comp=E,354nm,23.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,288nm,19.4s,MS4.4						
MOY	**Mondy**	**55.77**	**342**	*e*P	**P**	**15 24 12.8**	**+1.5**
THN	**Thein Dam**	**57.03**	**310**	*e*P	**P**	**15 24 18.8**	**-1.5**
BOD	**Bodaibo**	**58.70**	**353**	*e*P	**P**	**15 24 30.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
KSH	**Kashi**	**60.03**	**317**	*e*P	**P**	**15 24 43.9**	**+2.7**
KSH				*e*AP	pP	15 24 57.3	+3.3
KSH				*e*XP	sP	15 25 02.3	+3.1
KSH				*e*PCP	PcP	15 25 29.1	+2.3
KSH				*e*PP	PP	15 26 58.3	+4.4
KSH				*e*SCP	ScP	15 29 23.3	-0.8
KSH				*e*S	**S**	**15 32 51.3**	**+0.7**
KSH				*e*PS		15 33 06.2	
KSH				*e*XS	sS	15 33 17.7	+5.7
KSH				*e*SCS	ScS	15 34 25.1	-2.8
KSH				*e*SS	SS	15 36 52.5	+4.7
KSH				AMB	AMB		
	comp=Z,105nm,1.0s,mb5.8						
KSH				LR	LR		
	comp=N,426nm,4.7s						
KSH				LR	LR		
	comp=E,521nm,5.3s						
MK31	**Makanchi Array**	**60.17**	**327**	*i*P	**P**	**15 24 40.9**	**-1.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**15 24 40.6**	**-1.5**
	comp=Z,12nm,0.6s,mb5.1,baz=126,slow=8.1,SNR=49						
ULHL	**Ulahol**	**61.20**	**320**	P	**P**	**15 24 51.4**	**+2.3**
	SNR=7.6						
TKM2	**Tokmak 2**	**61.95**	**321**	P	**P**	**15 24 55.9**	**+1.7**
	SNR=19						
KBK	**Karagaybulak**	**62.24**	**320**	P	**P**	**15 25 00.3**	**+4.2**
	SNR=8.3						
YAK	**Yakutsk**	**62.31**	**2***c*	*i*P	**P**	**15 24 56.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.5						
YAK	**Yakutsk**	**62.31**	**2**	*e*P	**P**	**15 24 55.8**	**-0.8**
	comp=Z,45nm,0.8s,mb5.7						
UCH	**Uchtor**	**62.31**	**319**	P	**P**	**15 24 59.0**	**+2.5**
	SNR=20						
AAK	**Ala-Archa**	**62.52**	**320**	P	**P**	**15 24 58.0**	**0.0**
	SNR=10.0						
AAK	**Ala-Archa**	**62.52**	**320**	*e*P	**P**	**15 24 56.8**	**-1.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**62.52**	**320**	*e*P	**P**	**15 24 56.5**	**-1.4**
	comp=Z,6.4nm,0.6s,mb4.9						
AML	**Almayashu**	**62.80**	**319**	P	**P**	**15 25 02.0**	**+2.2**
	SNR=8.2						
USP	**Ospenovka**	**62.82**	**320**	P	**P**	**15 24 58.9**	**-1.1**
	SNR=19						
MA2	**Magadan**	**62.97**	**14**	*e*P	**P**	**15 25 02.1**	**+1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
MA2	**Magadan**	**62.97**	**14**	*e*P	**P**	**15 25 01.8**	**+0.9**
	comp=Z,25nm,0.9s,mb5.3						
EKS2	**Erkin-Say**	**62.99**	**320**	P	**P**	**15 25 03.1**	**+1.9**
	SNR=23						
NVS	**Novosibirsk**	**64.92**	**335**	*i*P	**P**	**15 25 10.8**	**-3.0**
KK31	**Karatay Array**	**65.33**	**319**	*i*P	**P**	**15 25 16.2**	**-0.3**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
SEY	**Seymchan**	**66.29**	**13**	*e*P	**P**	**15 25 23.8**	**+1.2**
VOSK	**Vostochnaya**	**69.56**	**328**	*i*P	**P**	**15 25 41.6**	**-1.6**
BVAR	**Borovoye Array**	**70.02**	**328**	P	**P**	**15 25 44.8**	**-1.2**
	comp=Z,3.6nm,0.6s,mb4.5,baz=141,slow=9.6,SNR=12						
CHKZ	**Chkalovo**	**70.22**	**329**	*i*P	**P**	**15 25 45.4**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**70.22**	**329**	*e*P	**P**	**15 25 45.1**	**-2.2**
	comp=Z,8.4nm,0.8s,mb4.7						
TIXI	**Tiksi**	**71.92**	**1**	*e*P	**P**	**15 25 55.8**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BILL	**Bilibino**	**73.82**	**15**	*e*P	**P**	**15 26 08.6**	**-0.2**
BILL				*e*S	S	15 35 39.2	+2.4
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
AKTO	**Aktyubinsk**	**76.03**	**323**	*i*P	**P**	**15 26 20.9**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
ARU	**Arti**	**77.66**	**328⇓**	*i*P	**P**	**15 26 29.0**	**-1.7**
ARU				*e*		15 29 24.1	
ARU				*e*S	S	15 36 19.1	-0.2
ARU				*e*SS	SS	15 41 23.6	+4.0
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
ARU	**Arti**	**77.66**	**328**	*e*P	**P**	**15 26 29.4**	**-1.4**
	comp=Z,16nm,0.9s,mb5.0						
ORR	**Orenburg**	**78.34**	**323**	*e*P	**P**	**15 26 34.4**	**-0.1**
ORR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
UMR	**Umm Al-Rimmam**	**79.44**	**300**	*e*P	**P**	**15 26 40.0**	**-0.6**
UMR				AMb	AMB	15 26 41.4	
	comp=Z,20nm,0.8s,mb5.1						
MAW	**Mawson**	**79.48**	**200**	P	**P**	**15 26 41.2**	**+0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=34,slow=11,SNR=3.5						
RDF	**Al-Radifah**	**79.52**	**299**	*e*P	**P**	**15 26 40.5**	**-0.5**
RDF				AMb	AMB	15 26 46.5	
	comp=Z,17nm,0.9s,mb5.0						
VNDA	**Vanda**	**79.58**	**172**	P	**P**	**15 26 41.5**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=298,slow=5.0,SNR=10						
VNDA				LR	LR	16 01 59.3	
	comp=Z,48nm,18.1s,MS3.9,baz=318,slow=36						
VNDA	**Vanda**	**79.58**	**172**	*e*P	**P**	**15 26

ANN *i* *PP pP 15 27 33.7 -7.7
ANN *e*S S 15 37 48.0 -24
ANN pmax pmax
comp=Z,53nm,1.0s,mb5.8
OBN Obninsk 89.60 325 *e*P **P 15 27 30.8 -1.0**
OBN *e*SS SS 15 44 16.5 +0.4
OBN pmax pmax
comp=Z,22nm,1.3s,mb5.3
JOF Joensuu 92.17 333 *e*p **P 15 27 40.2 -3.5**
comp=Z,3.9nm,0.5s,mb5.0
ARCES ARCESS Array B 93.78 340 P **P 15 27 49.1 -2.0**
comp=Z,2.9nm,0.7s,mb4.8,baz=86,slow=6.2,SNR=8.4
AKASG Malin Array Be 94.18 321 P **P 15 27 51.4 -1.6**
comp=Z,0.7nm,0.4s,mb4.4,baz=77,slow=3.4,SNR=7.1
AKASG Malin Array Be 94.18 321 P **P 15 27 51.4 -1.6**
INK Inuvik 94.43 21 *e*P **P 15 27 53.6 -0.6**
comp=Z,146nm,0.6s
KAF Kangasniemi 94.56 332 *e*p **P 15 27 51.8 -3.0**
FINES FINESS Array B 94.76 332 P **P 15 27 53.0 -2.7**
comp=Z,1.5nm,0.9s,mb4.4,baz=108,slow=4.2,SNR=4.7
MLR Muntele Rosu 96.87 316 ⇑*i*P **P 15 28 05.2 -0.1**
BURAR Bucovina Array 97.11 318 ⇑*i*P **P 15 28 06.8 +0.4**
BOSA Boshof 98.72 241 LR LR 16 03 56.9
comp=Z,123nm,21.1s,MS4.4,baz=264,slow=30
TORD Torodi Ar. Bea 122.79 285 PKP PKPdf 15 33 31.0 +1.0
comp=Z,2.7nm,0.7s,baz=70,slow=1.9,SNR=16
TORD PKKPbc PKKPbc 15 43 24.8 +2.3
comp=Z,0.9nm,0.8s,baz=274,slow=3.8,SNR=4.2
JCT Junction City 127.70 51 *e*PKIKP PKPdf 15 33 41.9 +2.5
CCM Cathedral Cave 129.59 38 *e*PKIKP PKPdf 15 33 43.0 +0.1
DBIC Dimbokro 129.96 278 PKP PKPdf 15 33 45.0 +1.3
comp=Z,1.8nm,0.7s,baz=179,slow=1.2,SNR=3.1
DBIC Dimbokro 129.96 278 PKP PKPdf 15 33 45.0 +1.3
PLCA Paso Flores 136.62 162 PKP PKPdf 15 33 58.6 +2.5
comp=Z,1.9nm,0.7s,baz=200,slow=18,SNR=4.3
CPUP Villa Florida 153.35 175 PKPbc PKPbc 15 34 34.1 +2.0
comp=Z,2.1nm,0.5s,baz=215,slow=0.9,SNR=9.5
CPUP Villa Florida 153.35 175 *e*PKPbc PKPbc 15 34 34.0 +1.9
LPAZ La Paz 158.76 142 PKPab PKPab 15 35 11.4 +3.9
comp=Z,2.4nm,0.6s,baz=198,slow=6.7,SNR=13

IDC 09 15:23:14.2±1.8, 441N×12711E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=99.7km s-min=23.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.41**	**184**	P	P	15 28 15.0	+0.7
	2.2nm,0.9s,baz=1.0,slow=8.7,SNR=3.2						
WRA	**Warramunga Arr**	**25.22**	**164**	P	P	15 28 41.7	0.0
	1.0nm,0.6s,baz=344,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**28.68**	**167**	P	P	15 29 12.5	-0.2
	0.1nm,0.3s,baz=342,slow=8.2,SNR=2.9						
STKA	**Stephens Creek**	**38.63**	**160**	P	P	15 30 40.0	+0.8
	2.8nm,1.1s,baz=339,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**57.22**	**325**	P	P	15 33 03.4	+0.2
	0.5nm,0.7s,baz=116,slow=6.6,SNR=3.6						

*CSEM **09** 15:30:50.1, 3704N×426E, h0km, ML2.6, After ALG*
*CRAAG **09** 15:30:50.1, 3704N×426E, Ml2.6*
*ISCJB **09** 15:30:53.6±1.1, 3703N±005×42E±01, h10km, Error ellipse: s-maj=12.8km s-min=6.5km az=152.2*
*MDD **09** 15:30:54.5±1.7, 3698N×423E, h0km±22km, mb3.5/2, mbLg2.0/1, Error ellipse: s-maj=17.5km s-min=7.2km az=14.0, PRXIMO*

ISC 09 15:30:54.4±1.5, 3697N±010×42E±01, h14km±15km, n8, σ1§03/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKF	**Akfadou**	**0.44**	**139**	P	**Pg**	**15 31 02.2**	**-1.0**
ABMS	**Boumerdes**	**0.62**	**250**	P	**Pg**	**15 31 05.2**	**-1.3**
ABA	**Alger-Bouzarea**	**0.95**	**260**	P	**Pg**	**15 31 12.9**	**+0.1**
AKET	**Djebel Ketaf**	**0.95**	**196**	P	**Pg**	**15 31 13.7**	**+0.9**
ADJB	**Djebel Djouab**	**1.01**	**217**	P	**Pg**	**15 31 14.6**	**+0.6**
EMHD	**Djebel Mahouad**	**1.26**	**233**	P	**Pn**	**15 31 17.0**	**-0.7**
ETOS	**Mallorca**	**3.00**	**339**	Pn	**Pn**	**15 31 42.9**	**+1.3**
	1.0nm,0.1s,SNR=6.7						
ETOS				S	**Sn**	**15 32 16.3**	**-1.1**
	1.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.05**	**313**	Pn	**Pn**	**15 31 44.1**	**+1.8**
	1.9nm,0.2s,SNR=4.0						
EIBI				Sn	**Sn**	**15 32 18.1**	**-0.6**
	2.1nm,0.1s,SNR=7.9						

MOS 09 15:45:06.2±0.3, 4291N×4534E, h23km, mb3.6/1, 2C-4D, Error ellipse: s-maj=37.7km s-min=19.6km az=13.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.50**	**286**	⇓*i*PG	Pb	15 45 17.2	+0.8
VLKR				*e*S	Sb	15 45 27.4	+4.1
LACR	**Lac**	**0.77**	**264**	⇓*i*PG	Pb	15 45 21.1	+0.2
LACR				*i* S	Sb	15 45 34.2	+3.3
TRKR	**Terskaya**	**0.92**	**332**	⇑*i*PG	Pb	15 45 23.6	+0.1
TRKR				*i* S	Sb	15 45 38.6	+3.2
KORR	**Kora**	**0.95**	**281**	⇓*i*PG	Pb	15 45 24.2	+0.3
KORR				*e*S	Sb	15 45 39.5	+3.5
ZEI	**Tsey**	**1.07**	**263**	⇑*i*PG	Pn	15 45 25.8	+0.1
ZEI				*i* S	Sb	15 45 42.4	+2.9
DIGR	**Digorskoe uzhe**	**1.29**	**270**	⇓*i*PG	Pn	15 45 29.0	+0.2
DIGR				*i* S	Sn	15 45 48.4	+3.1

IDC 09 15:45:31.2±1.3, 2035N×11991E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=46.0km s-min=24.3km az=77.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.72**	**41**	P	P	15 50 35.1	+0.5
	1.1nm,0.7s,baz=247,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**40.38**	**320**	P	P	15 53 10.7	-0.1
	0.4nm,0.7s,baz=106,slow=8.9,SNR=4.9						
WRA	**Warramunga Arr**	**42.46**	**160**	P	P	15 53 27.6	-0.2
	1.8nm,0.5s,baz=342,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**45.82**	**162**	P	P	15 53 55.4	+0.6
	0.3nm,0.5s,baz=343,slow=6.9,SNR=13						

*NEIC **09** 15:53:21.0, 1754N×10132W, h49km, MD3.6(MEX), After MEX.*

MEX 09 15:53:22.9±1.1, 1767N×10119W, h20km±28km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.27**	**256**	*i* P	Pb	15 53 27.4	-1.7
ZIIG				*i* S	Sb	15 53 32.8	-0.5
ZIIG	**Zihuatanejo**	**0.27**	**256**	*i* P	Pb	15 53 27.4	-1.7
ZIIG				*i* S	Sb	15 53 32.8	-0.5
CAIG	**El Cayaco**	**1.08**	**125**	*i* P	Pn	15 53 38.9	-4.0
CAIG				*i* S	Sb	15 53 51.8	-4.8
ACX	**Acapulco**	**1.46**	**123**	*e*P	Pn	15 53 46.5	-1.6
MEIG	**Mezcala**	**1.52**	**80**	*e*P	Pn	15 53 45.3	-3.6
MEIG				*i* S	Sn	15 54 04.5	-3.6
PLIG	**Platanillo**	**1.76**	**66**	*e*P	Pn	15 53 50.0	-2.2
PLIG				*i* S	Sn	15 54 10.7	-3.4
PLIG	**Platanillo**	**1.76**	**66**	*e*P	Pn	15 53 50.0	-2.2
PLIG				*i* S	Sn	15 54 13.0	-1.0
IIO	**Organos**	**3.02**	**50**	*i* P	Pn	15 54 08.1	-1.5

*NEIC **09** 15:55:11.9, 1667N×9920W, h16km, MD3.5(MEX), After MEX.*

MEX 09 15:55:12.1±0.9, 1666N×9921W, h16km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.71**	**287**	*i* P	Pg	15 55 23.0	-3.0
ACX				*i* S	Sg	15 55 32.0	-3.4
PNIG	**Pinotepa**	**1.07**	**104**	*i* P	Pb	15 55 28.9	-3.4
PNIG				*i* S	Sb	15 55 41.3	-4.7
CAIG	**El Cayaco**	**1.08**	**291**	*i* P	Pb	15 55 29.4	-3.1
CAIG				*i* S	Sb	15 55 42.8	-3.6
MEIG	**Mezcala**	**1.32**	**343**	*i* P	Pn	15 55 31.9	-3.9
MEIG				*i* S	Sn	15 55 47.4	-5.6
PLIG	**Platanillo**	**1.74**	**351**	*i* P	Pn	15 55 39.0	-2.7
PLIG				*i* S	Sn	15 55 59.1	-4.4
PLIG	**Platanillo**	**1.74**	**351**	*i* P	Pn	15 55 39.0	-2.7
PLIG				*i* S	Sn	15 56 00.5	-3.1
UTMO	**Huajuapan**	**1.77**	**49**	*e*P	Pn	15 55 38.1	-4.0
UTMO				*i* S	Sn	15 55 59.0	-5.3

*ISCJB **09** 15:59:36.6±1.0, 1310N±006×1438E±01, h142km±10km, mb4.1/13, Error ellipse: s-maj=22.6km s-min=10.6km az=176.3*
*IDC **09** 15:59:38.2±0.8, 1311N×14386E, h141km±8km, mb3.9/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.3/13, Error ellipse: s-maj=19.3km s-min=11.4km az=89.0*
*NEIC **09** 15:59:38.2±0.9, 1312N×14387E, h145km±9km, mb4.2/3, Error ellipse: s-maj=16.7km s-min=8.8km az=87.0*

ISC 09 15:59:38.3±0.9, 1313N±007×1439E±01, h143km±9km, n30, σ0§89/28, mb4.1/13, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.08**	**65**	P	**Pn**	**16 00 03.3**	**+0.2**
GUMO				S	**Sn**	**16 00 21.9**	**-0.1**
GUMO	**Guam**	**1.08**	**65**	*e*Pn	**Pn**	**16 00 03.2**	**+0.1**
GUMO				*e*Sn	**Sn**	**16 00 21.7**	**-0.3**
GUMO				S	**Sn**	**16 00 21.9**	**-0.1**
JOW	**Kunigami**	**19.98**	**315**	P	**P**	**16 04 01.2**	**+1.9**
	3.0nm,0.3s,baz=140,slow=12,SNR=9.2						
MJAR	**Matsushiro Arr**	**23.86**	**349**	P	**P**	**16 04 37.3**	**-1.0**
	1.9nm,0.5s,mb3.9,baz=169,slow=9.9,SNR=8.9						
MJAR	**Matsushiro Arr**	**23.86**	**349**	P	**P**	**16 04 37.3**	**-1.0**
MAJO	**Matsushiro**	**23.86**	**349**	*e*P	**P**	**16 04 36.7**	**-1.6**
	5.6nm,0.6s,mb4.3						
MAT	**Matsushiro**	**23.86**	**349**	P	**P**	**16 04 37.9**	**-0.4**
WB2	**Warramunga Arr**	**34.18**	**196**	⇓*i*P	**P**	**16 06 09.4**	**-0.3**
WRA	**Warramunga Arr**	**34.18**	**196**	P	**P**	**16 06 09.7**	**-0.1**
	14nm,0.6s,mb4.9,baz=21,slow=11,SNR=41						
FITZ	**Fitzroy Crossi**	**35.87**	**211**	⇑*i*P	**P**	**16 06 24.2**	**-0.1**
	12nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**35.87**	**211**	P	**P**	**16 06 24.3**	**+0.1**
	6.8nm,0.8s,mb4.3,baz=38,slow=10,SNR=12						
AS31	**Alice Springs**	**37.85**	**195**	*e*P	**P**	**16 06 40.9**	**-0.1**
ASAR	**Alice Springs**	**37.85**	**195**	P	**P**	**16 06 40.9**	**-0.1**
	4.3nm,0.5s,mb4.3,baz=18,slow=12,SNR=112						
ASPA	**Alice Springs**	**37.85**	**195**	*e*P	**P**	**16 06 40.6**	**-0.4**
DZM	**Mont Dzumac**	**41.41**	**147**	P	**P**	**16 07 11.8**	**+1.4**
	1.8nm,0.5s,mb3.9,baz=131,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**44.80**	**183**	*e*P	**P**	**16 07 36.9**	**-0.8**
	1.4nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**44.80**	**183**	P	**P**	**16 07 37.1**	**-0.6**
	1.4nm,0.5s,mb3.9,baz=10,slow=9.2,SNR=17						
SONM	**Songino Array**	**46.55**	**326**	P	**P**	**16 07 52.6**	**+1.2**
	0.9nm,0.6s,mb3.6,baz=146,slow=7.3,SNR=5.2						
MUN	**Mundaring**	**52.10**	**210**	*e*P	**P**	**16 08 39.3**	**+5.8**
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**16 09 37.9**	**+0.5**
	0.5nm,0.4s,mb3.7,baz=92,slow=8.8,SNR=10						
YKA	**Yellowknife Ar**	**83.71**	**27**	P	**P**	**16 11 50.6**	**-0.4**
	1.3nm,0.4s,mb4.0,baz=285,slow=5.3,SNR=6.0						
NVAR	**Mina Array Bea**	**87.97**	**51**	P	**P**	**16 12 13.4**	**+1.5**
	6.1nm,0.7s,mb4.5,baz=269,slow=6.9,SNR=41						
FINES	**FINESS Array B**	**91.16**	**335**	P	**P**	**16 12 25.4**	**-1.4**
	1.1nm,0.6s,mb4.1,baz=72,slow=6.2,SNR=6.6						
FINES	**FINESS Array B**	**91.16**	**335**	P	**P**	**16 12 25.4**	**-1.4**
PDAR	**Pinedale Array**	**92.98**	**45**	P	**P**	**16 12 35.5**	**+0.3**
	0.6nm,0.6s,mb3.9,baz=246,slow=1.0,SNR=6.5						
SNAA	**Sanae**	**118.15**	**191**	*e*	PKPdf	16 18 13.1	+4.9
SNAA				*e*		16 18 17.8	
VNA3	**Neumayer Olymp**	**119.72**	**190**	*e*	PKPdf	16 18 07.2	-4.0
VNA3				*e*		16 18 11.8	
DBIC	**Dimbokro**	**143.22**	**301**	PKPpre		16 18 54.0	
LPAZ	**La Paz**	**148.91**	**100**	PKPbc	PKPbc	16 19 11.2	+2.2
	1.9nm,0.5s,baz=13,slow=7.3,SNR=12						
LPAZ	**La Paz**	**148.91**	**100**	*e*PKPbc	PKPbc	16 19 11.2	+2.2

*ISCJB **09** 16:20:27.3±0.4, 5031N±003×1889E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.3km az=27.1*
*NEIC **09** 16:20:29.3±0.8, 5029N×1886E, h5km, ML2.7(BUC), Error ellipse: s-maj=14.2km s-min=4.9km az=193.0*
*PRU **09** 16:20:29.6, 5030N×1887E, h0km*
*CSEM **09** 16:20:29.4±0.1, 5027N×1890E, h0km, ML2.9/4, Error ellipse: s-maj=4.6km s-min=1.6km az=20.0*
*IPEC **09** 16:20:29.0±0.2, 5031N×1889E, h2km±1km, ML2.2/4, Error ellipse: s-maj=2.3km s-min=0.8km az=168.0*
*MOS **09** 16:20:29.7±3.0, 5029N×1898E, h10km, mb4.0/1, Error ellipse: s-maj=8.4km s-min=7.1km az=128.9*
*WAR **09** 16:20:29.7, 5025N×1896E, ML2.8, Mining Induced*
*IDC **09** 16:20:30.0±1.0, 5017N×1888E, h0km, mb1 3.1/3, mb1mx3.0/18, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=24.8km s-min=8.2km az=154.0*
*VIE **09** 16:20:32.7±0.6, 4989N×1885E, h0km, mb2.1/2, ML2.3/4, Error ellipse: s-maj=3.5km s-min=3.3km az=161.0 41 km SSW of Kattowitz Suspected Mining induced.*

ISC 09 16:20:28.5±0.4, 5029N±003×1891E±003, h0km, n49, σ1§18/72, 8C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.50**	**246**	*e*Pg	**Pg**	**16 20 40.2**	**+2.0**
RAC				*e*Sg	**Sg**	**16 20 48.0**	**+3.3**
OJC	**Ojcow**	**0.58**	**97**	*e*Pg	**Pg**	**16 20 40.2**	**+0.6**
OJC				*e*Sg	**Sg**	**16 20 48.1**	**+1.0**
OKC	**Ostrava-Krasne**	**0.67**	**227**	*e*PG	**Pg**	**16 20 42.2**	**+0.8**
OKC				*e*SG	**Sg**	**16 20 50.7**	**+0.7**
	50nm,0.8s						
OKC	**Ostrava-Krasne**	**0.67**	**227**	*e*P	**Pg**	**16 20 42.2**	**+0.8**
OKC				*e*		16 20 50.7	
OKC	smax						
	comp=N,50nm,0.8s						
OKC	**Ostrava-Krasne**	**0.67**	**227**	*e*Pg	**Pg**	**16 20 42.0**	**+0.6**
OKC				*e*Sg	**Sg**	**16 20 50.4**	**+0.4**
MORC	**Moravsky Berou**	**1.02**	**240**	⇑*i*P	**Pg**	**16 20 48.0**	**-0.1**
MORC	**Moravsky Berou**	**1.02**	**240**	S	**Sg**	**16 21 02.3**	**+1.0**
MORC	**Moravsky Berou**	**1.02**	**240**	⇑P	**Pg**	**16 20 48.0**	**-0.1**
MORC				S	**Sg**	**16 21 02.3**	**+1.0**
MORC	**Moravsky Berou**	**1.02**	**240**	*e*Pg	**Pg**	**16 20 48.2**	**+0.1**
MORC				*e*Sg	**Sg**	**16 21 00.8**	**-0.5**
	comp=N,37nm,0.3s						
NIE	**Niedzica**	**1.26**	**133**	*e*Pg	**Pg**	**16 20 52.6**	**-0.1**
NIE				*e*Sg	**Sg**	**16 21 09.3**	**+0.2**
JAVC	**Velka Javorina**	**1.65**	**210**	*e*Pn	**Pn**	**16 20 59.5**	**+0.8**
JAVC				*e*Sg	**Sg**	**16 21 21.2**	**-0.2**
	comp=N,29nm,1.1s						
DPC	**Dobruska-Polom**	**1.66**	**273**	*e*PG	**Pn**	**16 20 59.1**	**+0.2**
DPC				*e*SG	**Sg**	**16 21 21.3**	**-0.5**
	comp=N,30nm,0.5s						
DPC	**Dobruska-Polom**	**1.66**	**273**	*e*P	**Pn**	**16 20 59.1**	**+0.2**
DPC				*e*		16 21 21.3	
DPC	smax						
	comp=N,30nm,0.5s						
DPC	**Dobruska-Polom**	**1.66**	**273**	*e*Pn	**Pn**	**16 20 59.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.66**	**273**	*e*Pg	**Pn**	**16 20 59.1**	**+0.2**
DPC				*e*Sg	**Sg**	**16 21 21.3**	**-0.5**
STHS	**Stebnicka Huta**	**1.75**	**119**	*e*PN	**Pn**	**16 21 00.8**	**+0.7**
STHS				*e*SN	**Sn**	**16 21 27.4**	**+4.3**
KSP	**Ksiaz**	**1.75**	**289**	*e*Pg	**Pg**	**16 21 02.9**	**+0.7**
KSP				*e*Sg	**Sg**	**16 21 26.1**	**+1.1**
VRAC	**Vranov**	**1.79**	**238**	Pg	**Pg**	**16 21 01.8**	**-1.1**
	comp=N,2.5nm,0.3s,baz=60,slow=16,SNR=16						
VRAC				Lg		16 21 24.7	
	comp=N,4.3nm,0.3s,baz=146,slow=22,SNR=16						
VRAC	**Vranov**	**1.79**	**238**	⇓*i*P	**Pn**	**16 21 01.1**	**+0.4**
VRAC	**Vranov**	**1.79**	**238**	S	**Sn**	**16 21 25.6**	**+1.4**
VRAC	**Vranov**	**1.79**	**238**	⇓P	**Pn**	**16 21 01.1**	**+0.3**
VRAC	**Vranov**	**1.79**	**238**	*e*Pn	**Pn**	**16 21 00.9**	**+0.2**
VRAC				*e*Sg	**Sg**	**16 21 25.1**	**-1.1**
	comp=N,18nm,0.5s						
VYHS	**Vyhne**	**1.80**	**181**	*e*PN	**Pn**	**16 21 00.2**	**-0.6**
VYHS				*e*SN	**Sn**	**16 21 22.8**	**-1.6**
UPC	**Upice**	**1.86**	**278**	*e*PG	**Pg**	**16 21 03.5**	**-0.8**
UPC				*e*SG	**Sg**	**16 21 28.9**	**+0.4**
KRUC	**Moravsky**	**2.04**	**234**	*e*Sn	**Sn**	**16 21 31.6**	**+1.2**
	comp=N,12nm,0.5s						
KECS	**Kecovo**	**2.08**	**150**	*e*PN	**Pn**	**16 21 03.9**	**-0.8**
KECS				*e*PG	**Pg**	**16 21 07.2**	**-1.3**
KECS				*e*SN	**Sn**	**16 21 33.7**	**+2.3**
CRVS	**Cervenica-Dubn**	**2.17**	**129**	*e*PG	**Pg**	**16 21 08.8**	**-1.3**
CRVS	**Cervenica-Dubn**	**2.17**	**129**	*e*Pg	**Pg**	**16 21 08.9**	**-1.2**
PSZ	**Piszkesteto**	**2.46**	**164**	⇓*i*P	**Pn**	**16 21 12.3**	**+2.4**
PSZ	**Piszkesteto**	**2.46**	**164**	S	**Sg**	**16 21 50.8**	**+3.1**
PSZ	**Piszkesteto**	**2.46**	**164**	⇓P	**Pn**	**16 21 12.3**	**+2.4**
KWP	**Kalwaria**	**2.54**	**104**	*e*P	**Pn**	**16 21 15.6**	**+4.6**
KOLS	**Kolonicke sedl**	**2.58**	**121**	*e*PG	**Pg**	**16 21 18.7**	**+0.7**
UZH	**Uzhgorod**	**2.77**	**126**	*e*P	**Pn**	**16 21 13.0**	**-1.1**
UZH				*e*S	**Sn**	**16 21 47.0**	**-1.2**
PRU	**Pruhonice**	**2.83**	**265**	*e*PG	**Pg**	**16 21 20.7**	**-2.0**
PRU				*e*SG	**Sg**	**16 21 57.9**	**-1.4**
CONA	**Conrad Observa**	**3.10**	**221**	⇓*i*Pn	**Pn**	**16 21 18.4**	**-0.3**
CONA				⇑*i*Sg	**Sg**	**16 22 04.6**	**-3.5**
	comp=N,3.7nm,0.5s						
BRG	**Berggiesshubel**	**3.22**	**282**	P	**Pg**	**16 21 30.3**	**+0.1**
BRG						16 22 10.5	
BRG	smax						
	comp=N,2.0nm,0.5s						
KHC	**Kasperske Hory**	**3.65**	**253**	*e*PN	**Pn**	**16 21 26.5**	**+0.3**
KHC				*e*PG	**Pg**	**16 21 33.3**	**-5.2**
KHC				*e*SG	**Sg**	**16 22 25.3**	**-0.5**
GERES	**GERESS Array B**	**3.69**	**249**	Pn	**Pn**	**16 21 26.6**	**-0.1**
	comp=N,0.2nm,0.3s,baz=56,slow=16,SNR=4.0						
GERES				Pg	**Pg**	**16 21 36.9**	**-2.2**
	comp=N,0.7nm,0.3s,baz=62,slow=17,SNR=16						
GERES				Lg		16 22 25.3	
	comp=N,1.9nm,0.3s,baz=64,slow=29,SNR=10						
GERES	**GERESS Array B**	**3.69**	**249**	Pg	**Pg**	**16 21 36.9**	**-2.3**
CLL	**Collm**	**3.88**	**287**	*e*Sg	**Sg**	**16 22 36.0**	**+2.8**
MOA	**Molln**	**3.91**	**233**	⇑*i*Sg	**Sg**	**16 22 33.4**	**-0.7**
	comp=N,4.8nm,0.6s						
DRGR		**4.32**	**143**	⇑*i*P	**Pn**	**16 21 36.0**	**+0.5**
DRGR		**4.32**	**143**	⇑P	**Pn**	**16 21 36.0**	**+0.6**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑*i*P	**Pn**	**16 21 44.6**	**+0.5**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑P	**Pn**	**16 21 44.6**	**+0.5**
AKASG	**Malin Array Be**	**6.60**	**82**	Pn	**Pn**	**16 22 05.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=317,slow=9.9,SNR=2.2						
AKASG	**Malin Array Be**	**6.60**	**82**	Pn	**Pn**	**16 22 05.5**	**-1.3**
FINES	**FINESS Array B**	**11.87**	**17**	Pn	**Pn**	**16 23 16.2**	**-2.8**
	comp=N,0.1nm,0.3s,baz=198,slow=12,SNR=3.9						

*IDC **09** 16:33:57.3±6.4, 3670N×7123E, h48km±60km, mb3.5/7, mb1 3.8/11, mb1mx3.6/23, mbtmp3.9/11, ML3.9/3, Error ellipse: s-maj=41.8km s-min=20.2km az=22.0*
*MOS **09** 16:33:57.3±1.1, 3680N×7111E, h63km, mb3.8/1, Error ellipse: s-maj=21.9km s-min=9.3km az=87.4*
*BJI **09** 16:33:58.6, 3641N×7139E, h61km, mb4.2, ML3.7, Ms3.5*
*NEIC **09** 16:33:59.1±3.0, 3681N×7118E, h63km±24km, mb4.2/1, Error ellipse: s-maj=25.2km s-min=13.3km az=205.0*
*ISCJB **09** 16:34:00.5±0.7, 3687N±003×7135E±008, h93km±9km, mb3.7/10, Error ellipse: s-maj=10.3km s-min=4.6km az=150.3*

ISC 09 16:34:01.9±0.6, 3686N±003×7134E±008, h93km±8km, n53, σ1§32/64, mb3.7/10, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.06**	**171**	P	**Pn**	**16 34 53.0**	**+4.7**
CHCP	**Chirah Chowk**	**3.56**	**153**	P	**Pn**	**16 35 00.0**	**+5.0**
CHCP				S	**Sn**	**16 35 44.0**	**+7.9**
THW	**Thamme Wali**	**4.07**	**175**	P	**Pn**	**16 35 05.4**	**+3.5**
KSH	**Kashi**	**4.51**	**53**	P	**Pn**	**16 35 11.9**	**+4.0**
KSH				*e*S	**Sn**	**16 35 58.5**	**-0.6**
KSH	Smax						
	comp=N,142nm,0.6s						
KSH	Smax						
	comp=E,137nm,0.7s						
SBDP	**Sheikh Budin**	**4.57**	**186**	P	**Pn**	**16 35 11.0**	**+2.3**
AML	**Almayashu**	**5.57**	**18**	P	**Pn**	**16 35 22.6**	**+0.4**
	SNR=70						
THN	**Thein Dam**	**5.70**	**139**	*e*P	**Pn**	**16 35 26.6**	**+2.6**
THN				*e*x	x	16 36 33.8	
UCH	**Uchtor**	**5.89**	**24**	P	**Pn**	**16 35 27.9**	**+1.2**
	SNR=20						
EKS2	**Erkin-Say**	**6.09**	**17**	P	**Pn**	**16 35 30.0**	**+0.7**
	SNR=16						
AAK	**Ala-Archa**	**6.26**	**22**	P	**Pn**	**16 35 32.8**	**+1.2**
	SNR=35						
AAK	**Ala-Archa**	**6.26**	**22**	*e*PN	**Pn**	**16 35 31.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,1μm,3.9s						
AAK	**Ala-Archa**	**6.26**	**22**	*e*Pn	**Pn**	**16 35 31.7**	**+0.1**
	comp=Z,1μm,3.9s						
AAK				*e*Sn	**Sn**	**16 36 40.1**	**-1.5**
KK31	**Karatay Array**	**6.27**	**354**	Pn	**Pn**	**16 35 30.9**	**-0.9**
	comp=Z,8.4nm,0.2s,baz=83,slow=7.0,SNR=216						
KK31				Sn	**Sn**	**16 36 37.5**	**-4.5**
	comp=Z,8.0nm,0.3s,baz=75,slow=83,SNR=8.9						
KK31	**Karatay Array**	**6.27**	**354**	Pn	**Pn**	**16 35 30.9**	**-0.9**
	comp=Z,8.4nm,0.2s,baz=83,slow=7.0,SNR=216						
KK31				Sn	**Sn**	**16 36 37.5**	**-4.5**
	comp=Z,8.0nm,0.3s,baz=75,slow=83,SNR=8.9						
KBK	**Karagaybulak**	**6.42**	**25**	P	**Pn**	**16 35 35.5**	**+1.6**
	SNR=7.8						
ULHL	**Ulahol**	**6.58**	**34**	P	**Pn**	**16 35 37.7**	**+1.7**
	SNR=12						
CHMS	**Chumysh**	**6.67**	**22**	P	**Pn**	**16 35 38.1**	**+0.9**
	SNR=25						
USP	**Ospenovka**	**6.84**	**20**	P	**Pn**	**16 35 39.8**	**+0.2**
	S

SONM Songino Array 27.91 56 P P 16 39 44.8 +1.7
comp=Z,0.7nm,0.5s,mb3.4,baz=262,slow=8.5,SNR=6.2
JOF Joensuu 35.70 330 *ep* **P 16 40 51.5 +0.3**
comp=Z,1.7nm,0.4s,mb4.3
FINES FINESS Array B 37.34 326 P P 16 41 05.5 +0.4
comp=Z,1.5nm,0.8s,mb4.0,baz=118,slow=12,SNR=5.5
ARCES ARCESS Array B 40.92 337 P P 16 41 35.5 +0.5
comp=Z,2.3nm,0.9s,mb4.0,baz=76,slow=10,SNR=4.3
NOA NORSAR Array B 44.26 323 P P 16 42 02.1 0.0
comp=Z,0.3nm,0.5s,mb3.3,baz=93,slow=8.5,SNR=3.2
TORD Torodi Ar. Bea 66.00 269 P P 16 44 38.8 +0.4
comp=Z,0.4nm,0.5s,mb3.5,baz=59,slow=5.2,SNR=5.4
INK Inuvik 73.51 9 *eP* **P 16 45 25.7 +1.2**
comp=Z,58nm,0.5s
WRA Warramunga Arr 81.95 122 P P 16 46 11.9 +0.6
comp=Z,0.3nm,0.4s,mb4.4,baz=325,slow=4.9,SNR=3.7
ASAR Alice Springs 84.23 125 P P 16 46 23.6 +0.5
comp=Z,0.5nm,0.6s,mb3.5,baz=310,slow=4.9,SNR=11

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*ISCJB **09** 16:51:24.2±0.6, 1604S×0.10×1728W±0.1, h10km, mb4.3/8, MS4.0/7, Error ellipse: s-maj=22.7km s-min=7.8km az=63.9*
*IDC **09** 16:51:24.9±1.1, 1623S×17272W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.2/16, mbtmp4.2/7, MS4.0/7, Ms1 4.0/7, ms1mx3.5/26, Error ellipse: s-maj=36.2km s-min=24.9km az=119.0*
*NEIC **09** 16:51:26.1±0.6, 1601S×17274W, h10km, mb4.6/2, Error ellipse: s-maj=23.5km s-min=11.9km az=125.0*

ISC 09 16:51:25.8±0.6, 1605S±009×1727W±01, h10km, n27, σ0°93/18, mb4.3/8, MS4.0/7, 2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**22**	Pn	**Pn**	**16 52 01.6**	**-2.1**
	22nm,0.3s,baz=146,slow=6.7,SNR=36						
AFI				Sn	**Sn**	**16 52 31.6**	**-0.3**
	132nm,0.3s,baz=279,slow=19,SNR=12						
AFI	**Afiamalu**	**2.29**	**22**	*e*Pn	**Pn**	**16 52 01.6**	**-2.1**
AFI				Sn	**Sn**	**16 52 31.6**	**-0.3**
PPT	**Papeete**	**22.16**	**97**	*e*LQ		17 00 24.5	
	317nm,25.2s						
PPT				*e*LR	LR	17 01 08.3	
	325nm,29.2s						
PPT	**Papeete**	**22.16**	**97**	LR	LR	17 03 49.2	
	comp=Z,182nm,18.1s,MS3.5,baz=270,slow=34						
TBI	**Tubuai**	**23.01**	**112**	*e*LQ		17 00 47.5	
	278nm,25.5s						
TBI				*e*LR	LR	17 01 52.1	
	232nm,26.2s,baz=293						
URZ	**Urewera**	**23.89**	**200**	P	**P**	**16 56 39.1**	**-0.5**
	17nm,1.0s,mb4.5,baz=72,slow=9.3,SNR=7.7						
HNR	**Honiara**	**27.49**	**281**	LR	LR	17 06 29.4	
	comp=Z,282nm,20.9s,MS3.8,baz=178,slow=33						
RPZ	**Rata Peaks**	**30.86**	**203**	LR	LR	17 08 07.4	
	comp=Z,2μm,19.3s,MS4.7,baz=47,slow=33						
RKT	**Rikitea**	**36.13**	**107**	*e*LQ		17 06 18.6	
	116nm,32.5s						
RKT				*e*LR	LR	17 07 40.8	
	176nm,30.2s						
STKA	**Stephens Creek**	**44.33**	**241**	P	**P**	**16 59 35.8**	**-0.3**
	3.2nm,1.0s,mb4.0,baz=105,slow=8.3,SNR=4.3						
WB2	**Warramunga Arr**	**50.37**	**257**	*e*P	**P**	**17 00 23.2**	**+0.1**
WRA	**Warramunga Arr**	**50.39**	**257**	P	**P**	**17 00 23.4**	**+0.2**
	4.2nm,1.1s,mb4.4,baz=91,slow=7.5,SNR=12						
WRA				LR	LR	17 20 50.5	
	comp=Z,129nm,18.3s,MS4.0,baz=100,slow=35						
AS31	**Alice Springs**	**50.58**	**252**	*i*P	**P**	**17 00 24.5**	**-0.2**
ASAR	**Alice Springs**	**50.58**	**252**	P	**P**	**17 00 24.4**	**-0.3**
	15nm,0.8s,mb5.0,baz=90,slow=7.7,SNR=101						
ASPA	**Alice Springs**	**50.59**	**252**	⇓*i*P	**P**	**17 00 24.5**	**-0.2**
SBA	**Scott Base**	**62.67**	**185**	*e*P	**P**	**17 01 50.9**	**+0.3**
	5.4nm,1.1s,mb4.6						
VNDA	**Vanda**	**62.81**	**186**	P	**P**	**17 01 49.7**	**-1.9**
	1.5nm,0.9s,mb4.1,baz=15,slow=6.6,SNR=5.0						
VNDA	**Vanda**	**62.81**	**186**	*e*P	**P**	**17 01 51.0**	**-0.6**
	4.4nm,1.3s,mb4.4						
NWAO	**Narrogin (SRO)**	**64.92**	**241**	LR	LR	17 29 21.5	
	comp=Z,90nm,21.9s,MS3.9,baz=134,slow=35						
MJAR	**Matsushiro Arr**	**69.88**	**320**	P	**P**	**17 02 38.2**	**+1.3**
	1.6nm,0.8s,mb4.0,baz=143,slow=5.0,SNR=4.6						
MJAR	**Matsushiro Arr**	**69.88**	**320**	P	**P**	**17 02 38.2**	**+1.3**
MSU	**Marysvale**	**78.39**	**44**	P	**P**	**17 03 28.0**	**+1.4**
PDAR	**Pinedale Array**	**82.28**	**42**	P	**P**	**17 03 49.0**	**+1.6**
	0.5nm,0.6s,mb3.6,baz=263,slow=2.4,SNR=5.5						
PDAR				LR	LR	17 33 40.2	
	comp=Z,49nm,18.4s,MS3.9,baz=161,slow=31						
ULM	**Lac du Bonnet**	**93.99**	**39**	LR	LR	17 42 10.5	
	comp=Z,60nm,18.9s,MS4.1,baz=3.2,slow=32						
MALT	**Malatya**	**144.81**	**315**	*e*PKP	PKPdf	17 11 05.5	+2.5
KMBO	**Kilima Mbogo**	**145.88**	**243**	PKPbc	PKPbc	17 11 08.2	+2.8
	1.0nm,0.4s,baz=38,slow=23,SNR=3.3						
GERES	**GERESS Array B**	**146.88**	**352**	PKPbc	PKPbc	17 11 09.7	+1.3
	0.4nm,0.8s,baz=346,slow=1.7,SNR=4.3						

IDC 09 16:58:19.3±7.1, 3075S×17845W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.6/11, mbtmp3.5/2, Error ellipse: s-maj=286.1km s-min=61.7km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.70**	**268**	P	P	17 06 18.2	+0.3
	0.3nm,0.8s,baz=106,slow=7.4,SNR=7.7						
WRA	**Warramunga Arr**	**43.73**	**273**	P	P	17 06 26.1	-0.1
	0.3nm,0.3s,baz=113,slow=6.7,SNR=2.6						
FINES	**FINESS Array B**	**145.34**	**339**	PKPbc	PKPbc	17 17 57.8	-1.2
	1.6nm,1.0s,baz=72,slow=4.5,SNR=3.6						

MAN 09 17:03:50.0, 907N×12606E, h59km, mb2.9, ML4.3, MS3.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.44**	**257**	*e*P	Pn	17 04 02.6	+1.3
SCPH	**Surigao**	**0.90**	**322**	⇓*e*P	Pn	17 04 07.5	+0.8
SCPH				*e*S	Sn	17 04 21.8	+2.8
CGP	**Cagayan de Oro**	**1.48**	**246**	⇓*i*P	Pn	17 04 15.3	+0.9
CGP				*e*S	Sn	17 04 34.4	+1.6
BUKP	**Musuan**	**1.54**	**220**	*e*P	Pn	17 04 16.9	+1.7
MSLP	**Maasin**	**1.58**	**312**	*e*P	Pn	17 04 18.1	+2.3
GUIM	**Jordan**	**3.75**	**295**	*e*P	Pn	17 04 46.7	+1.4
PVCP	**Virac**	**4.87**	**338**	*e*P	Pn	17 05 02.8	+2.1

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*LDG **09** 17:15:31.6±0.2, 1806S×16728E, h10km, Mb4.3/2, Error ellipse: s-maj=25.3km s-min=3.2km az=94.0*
*ISCJB **09** 17:15:32.7±1.4, 1843S±006×1680E±02, h33km, mb4.1/7, MS3.6/8, Error ellipse: s-maj=26.3km s-min=7.9km az=3.0*
*IDC **09** 17:15:32.3±9.0, 1837S×16834E, h32km±60km, mb4.0/7, mb1 4.2/9, mb1mx4.0/16, mbtmp4.3/9, ML4.4/2, MS3.5/11, Ms1 3.5/11, ms1mx3.4/23, Error ellipse: s-maj=50.4km s-min=28.6km az=101.0*
*NEIC **09** 17:15:32.4±5.1, 1834S×16833E, h31km±33km, mb4.3/3, Error ellipse: s-maj=26.3km s-min=14.4km az=82.0*

ISC 09 17:15:34.0±1.5, 1843S±007×1682E±02, h35km, n44, σ0°88/17, mb4.1/7, MS3.6/8, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**204**	*e*P	**Pn**	**17 16 32.3**	**-0.1**
DZM				*e*S	**Sn**	**17 17 16.6**	**-1.2**
DZM	**Mont Dzumac**	**3.98**	**204**	Pn	**Pn**	**17 16 32.3**	**-0.1**
	6.6nm,0.3s,baz=326,slow=19,SNR=94						
DZM				Sn	**Sn**	**17 17 17.1**	**-0.8**
	33nm,0.3s,baz=311,slow=23,SNR=12						
DZM				LR	LR	17 17 56.0	
	comp=Z,324nm,19.6s,baz=27,slow=35						
HNR	**Honiara**	**12.00**	**317**	Pn	**Pn**	**17 18 21.9**	**-0.6**
	9.7nm,0.3s,baz=237,slow=1.9,SNR=8.8						
HNR				LR	LR	17 22 18.4	
	comp=Z,157nm,18.7s,baz=360,slow=34						
AFI	**Afiamalu**	**19.75**	**80**	LR	LR	17 25 39.4	
	comp=Z,21nm,21.0s,baz=254,slow=31						
CTA	**Charters Tower**	**20.78**	**262**	P	**P**	**17 20 13.6**	**+1.6**
	8.2nm,0.9s,baz=91,slow=9.9,SNR=4.5						
CTA				LR	LR	17 26 59.5	
	comp=Z,200nm,19.4s,MS3.5,baz=51,slow=33						
CTAO	**Charters Tower**	**20.78**	**262**	*e*P	**P**	**17 20 13.6**	**+1.7**
	12nm,1.0s						
RPZ	**Rata Peaks**	**25.32**	**175**	LR	LR	17 29 15.9	
	comp=Z,218nm,19.9s,MS3.7,baz=194,slow=32						

STKA Stephens Creek 27.46 236 *e*P **P 17 21 18.3 +1.6**
3.9nm,0.8s,mb4.0
STKA Stephens Creek 27.46 236 P P 17 21 18.1 +1.4
5.6nm,0.9s,mb4.1,baz=91,slow=10,SNR=6.3
STKA LR LR 17 30 35.4
comp=Z,118nm,21.0s,MS3.4,baz=205,slow=33
WRA Warramunga Arr 31.98 262 P **P 17 21 55.4 -1.3**
0.5nm,0.5s,mb3.6,baz=91,slow=9.0,SNR=4.9
AS31 Alice Springs 32.38 255 ⇑*i*P **P 17 22 00.0 -0.1**
ASAR Alice Springs 32.38 255 P **P 17 21 59.9 -0.2**
3.6nm,0.8s,mb4.3,baz=84,slow=8.5,SNR=57
ASAR LR LR 17 35 00.1
comp=Z,140nm,18.6s,MS3.7,baz=110,slow=36
ASPA Alice Springs 32.38 255 ⇑*i*P **P 17 22 00.0 -0.2**
GUMO Guam 39.26 323 LR LR 17 36 55.8
comp=Z,66nm,19.0s,MS3.5,baz=135,slow=33
PPT Papeete 40.10 96 *e*LR LR 17 34 15.9
11nm,24.8s
PPT Papeete 40.10 96 LR LR 17 35 44.9
comp=Z,97nm,18.9s,MS3.7,baz=255,slow=30
FITZ Fitzroy Crossi 40.35 264 P **P 17 23 08.7 +0.6**
3.6nm,0.9s,mb4.1,baz=90,slow=8.1,SNR=3.8
FITZ LR LR 17 38 57.6
comp=Z,124nm,20.1s,MS3.8,baz=75,slow=35
NWAO Narrogin (SRO) 47.71 242 P **P 17 24 07.6 +0.4**
4.8nm,0.7s,mb4.6,baz=55,slow=8.3,SNR=3.6
VNDA Vanda 59.20 182 LR LR 17 46 37.3
comp=Z,65nm,20.4s,MS3.7,baz=335,slow=32
QSPA South Pole Qui 71.62 180 *e*P **P 17 26 52.4 +0.6**
2.4nm,0.8s,mb4.2
SONM Songino Array 85.99 323 P **P 17 28 09.5 -1.1**
0.4nm,0.4s,mb4.0,baz=151,slow=6.3,SNR=5.4
ARCES ARCESS Array B 124.04 345 PKP PKPdf 17 34 26.5 -2.0
1.9nm,0.9s,baz=73,slow=2.4,SNR=9.3
ARCES ARCESS Array B 124.04 345 PKP PKPdf 17 34 26.5 -2.0
BAIF Baives 145.94 341 *e*PKP1 PKPbc 17 35 09.0 -0.8
CDF Champ du Feu 146.32 337 ⇑*i*PKP1 PKPbc 17 35 10.1 -0.8
6.5nm,0.6s
HINF Hinteralfeld 146.97 337 *e*PKP1 PKPbc 17 35 12.3 -0.5
HAU Haudompre 147.00 337 *e*PKP1 PKPbc 17 35 12.0 -0.9
7.0nm,0.6s
MEZF Maizieres J'vi 147.03 339 *e*PKP1 PKPbc 17 35 12.5 -0.5
CABF La Chapelle 148.26 336 *e*PKP1 PKPbc 17 35 16.0 -0.3
25nm,1.0s
LDF La Druitiere 148.45 345 *e*PKP1 PKPbc 17 35 15.5 -1.3
LOR Lormes 148.50 339 *e*PKP1 PKPbc 17 35 16.1 -0.8
SSF Saint Saulge 148.80 340 ⇑*i*PKP1 PKPbc 17 35 17.0 -0.7
18nm,0.9s
LPL La Plagne 148.91 334 *e*PKP1 PKPbc 17 35 17.8 -0.2
3.0nm,0.6s
LPG La Plagne 148.91 334 *e*PKP1 PKPbc 17 35 17.9 -0.1
2.7nm,0.5s
SMF Signal de Mont 149.05 339 *e*PKP1 PKPbc 17 35 18.1 -0.2
AVF Avril sur Loir 149.09 340 *e*PKP1 PKPbc 17 35 18.2 -0.2
ORIF Oris-en-Rattie 149.74 335 *e*PKP1 PKPbc 17 35 19.6 -0.4
6.4nm,0.7s
TCF Toulx Ste Croi 149.90 340 ⇑*i*PKP1 PKPbc 17 35 19.6 -0.8
16nm,1.1s
VIVF Saint-Julien-l 150.27 336 *e*PKP1 PKPbc 17 35 22.5 +1.2
11nm,1.0s
MFF Saint Martin d 150.31 344 *e*PKP1 PKPbc 17 35 20.5 -0.9
SMRF Simiane la Rot 150.64 334 *e*PKP1 PKPbc 17 35 22.0 -0.2
17nm,1.1s
LMR La Mourre 150.75 332 *e*PKP1 PKPbc 17 35 21.7 -0.8
LASF Ste Croix 151.25 336 *e*PKP1 PKPbc 17 35 23.2 -0.4
22nm,1.1s
LFF La Frestale 151.57 341 *e*PKP1 PKPbc 17 35 23.7 -0.7

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*MAN **09** 17:16:33.6, 1481N×11947E, h13km, mb3.4, ML4.6, MS8.3*
*ISCJB **09** 17:16:35.3±0.9, 1477N±004×11947E±007, h39km±10km, mb3.7/8, Error ellipse: s-maj=11.3km s-min=6.1km az=169.1*
*IDC **09** 17:16:40.2±5.3, 1471N×11962E, h72km±52km, mb3.5/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=80.1km s-min=18.5km az=67.0*
*NEIC **09** 17:16:40.8±1.1, 1477N×11978E, h78km±11km, mb3.8/1, Error ellipse: s-maj=16.2km s-min=9.4km az=75.0*

ISC 09 17:16:36.3±2.1, 1478N±004×11949E±005, h33km±17km, n37, σ1°16/39, mb3.7/8, 4C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.07**	**22**	*e*P	**Pn**	**17 16 52.9**	**-2.2**
SCZP				*e*S	**Sn**	**17 17 03.6**	**-5.2**
LUBP	**Lubang**	**1.27**	**145**	*e*P	**Pn**	**17 16 56.5**	**-1.2**
LUBP				*e*S	**Sn**	**17 17 11.9**	**-1.7**
TGY	**Tagaytay City**	**1.55**	**115**	⇑*e*P	**Pn**	**17 17 06.8**	**+5.2**
TGY	**Tagaytay City**	**1.55**	**115**	P	**Pn**	**17 17 03.6**	**+2.0**
	84nm,0.3s,baz=240,slow=2.3,SNR=5.9						
TGY				S	**Sn**	**17 17 22.3**	**+1.6**
	201nm,0.3s,baz=130,slow=19,SNR=11						
BOLP	**Bolinao**	**1.65**	**14**	*e*P	**Pn**	**17 17 01.4**	**-1.5**
PCPH	**Palayan**	**1.74**	**63**	⇑*e*P	**Pn**	**17 17 02.5**	**-1.6**
PCPH				*i* S	**Sn**	**17 17 28.8**	**+3.6**
BCPH	**Baguio City Da**	**1.91**	**33**	⇑*e*P	**Pn**	**17 17 05.7**	**-0.9**
BCPH				*i* S	**Sn**	**17 17 29.1**	**-0.4**
BALP	**Baler**	**2.23**	**64**	*e*P	**Pn**	**17 17 11.1**	**+0.1**
BALP				*e*S	**Sn**	**17 17 28.8**	**-8.5**
POLP	**Polilio Island**	**2.37**	**91**	*e*P	**Pn**	**17 17 14.5**	**+1.6**
POLP				*e*S	**Sn**	**17 17 40.1**	**-0.7**
BOAC	**Boac**	**2.63**	**120**	*e*P	**Pn**	**17 17 15.7**	**-0.8**
BUSP	**Coron**	**2.84**	**166**	*e*P	**Pn**	**17 17 20.5**	**+1.2**
ABRA	**Dolores**	**3.09**	**22**	*e*P	**Pn**	**17 17 22.7**	**-0.1**
CAUP	**Cauayan**	**3.11**	**46**	*e*P	**Pn**	**17 17 24.4**	**+1.3**
ENPP	**El Nido**	**3.55**	**181**	*e*P	**Pn**	**17 17 29.6**	**+0.5**
PALP	**Palanan**	**3.63**	**51**	*e*P	**Pn**	**17 17 33.4**	**+3.2**
CUYO	**Cuyo Island**	**4.18**	**159**	*e*P	**Pn**	**17 17 31.0**	**-6.8**
SGCP	**Mt. Cagua**	**4.23**	**35**	*e*P	**Sn**	**17 18 31.8**	**+5.0**
PVCP	**Virac**	**4.67**	**104**	⇑*e*P	**Pn**	**17 17 45.9**	**+1.4**
PVCP	**Virac**	**4.67**	**104**	*e*P	**Pn**	**17 17 46.0**	**+1.4**
KSM	**Kuching**	**16.03**	**215**	*e*P	**Pn**	**17 20 23.6**	**+4.2**
SONM	**Songino Array**	**34.71**	**344**	P	**P**	**17 23 23.6**	**+0.6**
	0.6nm,0.6s,mb3.7,baz=159,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**37.46**	**157**	P	**P**	**17 23 45.6**	**-1.3**
	0.5nm,0.4s,mb3.7,baz=336,slow=9.4,SNR=4.5						
AS31	**Alice Springs**	**40.72**	**160**	*e*P	**P**	**17 24 13.4**	**-0.7**
ASAR	**Alice Springs**	**40.72**	**160**	P	**P**	**17 24 13.3**	**-0.7**
	0.4nm,0.5s,mb3.3,baz=334,slow=7.1,SNR=10.0						
MKAR	**Makanchi Array**	**44.48**	**324**	P	**P**	**17 24 45.7**	**+1.3**
	0.6nm,0.7s,mb3.4,baz=137,slow=9.8,SNR=3.7						
MKAR	**Makanchi Array**	**44.48**	**324**	P	**P**	**17 24 45.7**	**+1.3**
CHKZ	**Chkalovo**	**54.39**	**327**	*e*P	**P**	**17 26 00.7**	**+0.8**
	0.5nm,0.5s,mb3.7						
ARCES	**ARCESS Array B**	**77.67**	**339**	P	**P**	**17 28 29.5**	**+0.3**
	2.0nm,0.8s,mb4.1,baz=60,slow=5.8,SNR=4.7						
FINES	**FINESS Array B**	**78.78**	**331**	P	**P**	**17 28 35.9**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=44,slow=5.8,SNR=5.0						
NOA	**NORSAR Array B**	**85.77**	**332**	P	**P**	**17 29 11.6**	**-0.4**
	1.0nm,0.8s,mb4.1,baz=112,slow=4.8,SNR=3.3						
NOA	**NORSAR Array B**	**85.77**	**332**	P	**P**	**17 29 11.6**	**-0.5**

IDC 09 17:16:43.7±1.2, 1480N×11971E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=51.9km s-min=20.2km az=62.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.38**	**120**	Pn	Pg	17 17 10.1	0.0
	118nm,0.3s,baz=131,slow=7.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**33.21**	**170**	P	P	17 23 21.8	-0.6
	6.4nm,0.8s,baz=151,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**34.74**	**344**	P	P	17 23 35.2	-0.4
	0.8nm,0.7s,baz=163,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**37.40**	**157**	P	P	17 23 58.6	0.0
	0.5nm,0.4s,baz=333,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**40.67**	**160**	P		17 24 26.3	
	0.8nm,0.5s,baz=337,slow=7.0,SNR=11						
NOA	**NORSAR Array B**	**85.85**	**332**	P	P	17 29 25.9	+0.8
	1.2nm,0.8s,baz=67,slow=5.0,SNR=3.3						

IDC 09 17:54:02.6±1.5, 2054N×11974E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/33, Error ellipse: s-maj=165.0km s-min=22.2km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**24.98**	**102**	LR	LR	18 07 24.6	
	comp=Z,76nm,21.3s,baz=105,slow=32						
SONM	**Songino Array**	**29.29**	**341**	P	P	18 00 06.8	+0.2
	0.1nm,0.4s,baz=141,slow=5.5,SNR=4.0						

MKAR Makanchi Array 40.12 320 P P 18 01 39.9 -0.1
0.4nm,0.6s,baz=127,slow=8.5,SNR=3.6
WRA Warramunga Arr 42.70 160 P P 18 02 00.9 -0.2
1.7nm,0.7s,baz=340,slow=9.0,SNR=5.5
ASAR Alice Springs 46.06 162 P P 18 02 28.6 +0.5
0.3nm,0.4s,baz=345,slow=7.0,SNR=19

IDC 09 17:55:10.6±1.4, 2039N×11977E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=140.7km s-min=21.1km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.45**	**342**	P	P	18 01 16.5	+0.5
	0.3nm,0.7s,baz=149,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**40.26**	**320**	P	P	18 02 48.8	-0.4
	0.3nm,0.6s,baz=120,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**42.54**	**160**	P	P	18 03 07.8	-0.1
	4.2nm,1.0s,baz=342,slow=8.9,SNR=7.4						
ASAR	**Alice Springs**	**45.90**	**162**	P	P	18 03 35.3	+0.5
	0.4nm,0.5s,baz=343,slow=6.9,SNR=6.2						

WEL 09 17:56:47.9±0.3, 3951S×17732E, h33km, ML3.8/31, Error ellipse: s-maj=3.2km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.56**	**30**	PN	Pn	17 56 59.1	-0.4
KNZ				SN	Sn	17 57 06.9	-0.7
PXZ	**Pawanui**	**0.63**	**214**	PN	Pn	17 56 59.9	-0.6
PXZ				SN	Sn	17 57 09.7	+0.3
BKZ	**Black Stump Fm**	**0.72**	**298**	PN	Pn	17 57 00.5	-1.3
BKZ				SN	Sn	17 57 10.4	-1.4
HATZ	**Hinemaiaia**	**1.13**	**302**	PN	Pn	17 57 07.3	-0.1
TSZ	**Takapari Road**	**1.18**	**242**	PN	Pn	17 57 07.0	-1.1
MWZ	**Matawai**	**1.18**	**8**	PN	Pn	17 57 07.5	-0.6
MOVZ	**Moawhango**	**1.22**	**274**	PN	Pn	17 57 08.5	-0.1
URZ	**Urewera**	**1.26**	**353**	PN	Pn	17 57 08.6	-0.5
TUVZ	**Tukino**	**1.31**	**280**	*e*PN	Pn	17 57 10.1	+0.3
OTVZ	**Oturere**	**1.32**	**284**	PN	Pn	17 57 10.1	+0.1
WNVZ	**Wahianoa**	**1.34**	**277**	PN	Pn	17 57 10.4	+0.1

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*RSPR **09** 17:58:03.2, 1933N×6387W, h132km±16km, MD3.7/7, MD3.7/7*
*NEIC **09** 17:58:03.2, 1933N×6387W, h132km, MD3.7(RSPR), After RSPR.*

TRN 09 17:58:00.1, 1942N×6370W, h106km, 4C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**2.20**	**233**	⇓*e*P	Pn	17 58 37.2	+1.8
MTP				*e*S	Sn	17 58 03.1	+0.6
CBYP	**Canovanas**	**2.34**	**241**	⇑*e*P	Pn	17 58 38.5	+1.2
CBYP				*e*S	Sn	17 59 07.2	+1.4
HUMP	**Col San Antoni**	**2.40**	**238**	⇑*e*P	Pn	17 58 39.2	+1.1
HUMP				*e*S	Sn	17 59 09.0	+1.7
CPD	**Cerro la Pandu**	**2.51**	**237**	*e*P	Pn	17 58 42.0	+2.5
CPD				*e*S	Sn	17 59 10.8	+1.0
CELP	**Cerrillos**	**3.04**	**244**	⇓*i*P	Pn	17 58 48.4	+1.8
CELP				*e*S	Sn	17 59 22.9	+0.5
CELP	**Cerrillos**	**3.04**	**244**	⇑*i*P	Pn	17 58 48.4	+1.8
CELP				*e*S	Sn	17 59 22.9	+0.5
AOPR	**Arecibo Observ**	**3.08**	**250**	⇓*e*P	Pn	17 58 48.4	+1.3
LSP	**Las Mesas**	**3.44**	**249**	*e*S	Sn	17 59 32.6	+0.7
CRPR	**Cabo Rojo, PR**	**3.53**	**247**	⇑*e*P	Pn	17 58 53.8	+0.8
CRPR				*e*S	Sn	17 59 34.5	+0.5

CASC 09 18:02:28.0±1.2, 1032N×8635W, h16km±9km, MD3.8, ML2.6, 2C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.73**	**105**	⇑*e*P	Pg	18 02 41.9	-0.3
CRZC	**La Cruz**	**0.97**	**50**	⇑*e*P	Pb	18 02 45.5	-0.9
CRZC				*e*S	Sb	18 02 58.6	-0.3
JCR	**Jicaral**	**1.30**	**111**	*e*P	Pn	18 02 50.2	-1.3
MADN	**Villa Maderas**	**1.34**	**36**	*e*P	Pn	18 02 51.9	-0.1
MADN				*e*S	Sn	18 03 09.2	-0.3
CONN	**Concepcion**	**1.42**	**30**	*e*P	Pn	18 02 52.9	-0.3
CONN				*e*S	Sn	18 03 12.5	+1.0
COPN	**Copaltepe**	**1.86**	**353**	*e*P	Pn	18 02 59.1	-0.1
PRS1	**Puriscal**	**2.03**	**99**	*e*P	Pn	18 03 00.7	-0.8
BUS	**Buena Vista**	**2.66**	**106**	*e*P	Pn	18 03 10.9	+0.8

IGQ 09 18:07:41.2, 144S×8115W, h10km±17km, Mb4.2, Ms4.0, 2C-2D, Error ellipse: s-maj=16.7km s-min=6.5km az=167.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.51**	**91**	P	Pn	18 08 24.9	+2.8
JUIV	**Juive**	**2.69**	**90**	P	Pn	18 08 27.2	+2.7
ARRY	**Arrayan**	**2.69**	**91**	⇑P	Pn	18 08 26.4	+1.8
ARRY				S	Sn	18 08 59.0	+1.8
RETU	**Refugio**	**2.70**	**90**	P	Pn	18 08 28.1	+3.4
PATA	**Patacocha**	**2.72**	**91**	P	Pn	18 08 27.1	+2.2
RUN5	**Runtun**	**2.73**	**90**	P	Pn	18 08 28.8	+3.7
ULBA	**Ulba**	**2.74**	**90**	P	Pn	18 08 28.2	+3.0
ULBA				S	Sn	18 09 00.8	+2.4
CAMI	**Rancho Maria**	**2.75**	**74**	P	Pn	18 08 29.0	+3.6
NAS1	**Nasa**	**2.79**	**73**	P	Pn	18 08 29.8	+3.9
PISA	**Pisayambo**	**2.79**	**82**	P	Pn

-4.0110, Plg75.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

SZGRF ***09*** *18:19:34.4,5128S›2879E,h33km,mb5.3,South of Africa*

ISC 09 18:19:33.9±0.2,5101S±003›2905E±008,h10km,
(h12km±2.2km:pP-P),n462,c0°96/163,mb5.4/60,
MS5.3/161,5C-17D,South of Africa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**17.78**	**353**	*eP*	**Pn**	**18 23 38.3**	**-3.1**
GRM				AML	AML	18 26 54.5	
	comp=Z,31nm,0.6s						
GRM				*eS*	**Sn**	**18 26 55.4**	**-4.2**
SYO	**Syowa Base**	**18.76**	**168**	⇓*iP*	**Pn**	**18 23 52.8**	**-0.6**
SUR	**Sutherland**	**19.58**	**339**	P	**Pn**	**18 24 02.6**	**-0.7**
	comp=Z,2μm,0.6s,SNR=64						
SUR	**Sutherland**	**19.58**	**339**	*eP*	**Pn**	**18 24 02.4**	**-0.9**
SUR				*eS*	**Sn**	**18 27 47.2**	**+4.2**
SUR	**Sutherland**	**19.58**	**339**	P	**Pn**	**18 24 02.3**	**-1.0**
	comp=Z,50nm,0.3s,baz=146,slow=11,SNR=58						
SUR				S	**Sn**	**18 27 35.5**	**-7.6**
	comp=Z,9.1nm,0.3s,baz=226,slow=22,SNR=6.4						
SUR				LR	LR	18 30 31.5	
	comp=Z,11μm,18.1s,baz=182,slow=34						
SUR	**Sutherland**	**19.58**	**339**	*eP*	**Pn**	**18 24 02.6**	**-0.7**
	comp=Z,161nm,0.6s						
KSD	**Kokstad**	**20.45**	**1**	*eP*	**P**	**18 24 09.4**	**-2.1**
KSD				AML	AML	18 27 53.2	
	comp=Z,51nm,0.5s						
KSD				*eS*	**S**	**18 28 05.3**	**+4.9**
HVD	**Hendrik Verwoe**	**20.55**	**351**	*eP*	**P**	**18 24 12.2**	**-0.4**
HVD				AML	AML	18 43 35.3	
	comp=Z,7.5nm,0.7s						
CVNA	**Calvinia**	**20.69**	**337**	*eP*	**P**	**18 24 14.2**	**+0.1**
CVNA				*eS*	S	18 27 25.4	-40
CVNA				AML	AML	18 28 23.6	
	comp=Z,51nm,0.5s						
NVL	**N'lazarevskaya**	**21.35**	**196**	*c iP*	**P**	**18 24 20.8**	**-0.4**
NVL				*i* S	**S**	**18 28 17.5**	**-0.7**
NVL				pmax	pmax		
	comp=Z,566nm,1.5s,mb5.7						
MAIT	**Maitri**	**21.38**	**196**	*eP*	**P**	**18 24 21.3**	**-0.2**
MAIT				*eS*	**S**	**18 28 16.6**	**-2.1**
BOSA	**Boshof**	**22.55**	**351**	*eP*	**P**	**18 24 33.2**	**-0.8**
BOSA				*eS*	S	18 28 06.0	-36
BOSA				AML	AML	18 29 42.7	
	comp=Z,16nm,0.6s						
BOSA	**Boshof**	**22.55**	**351**	P	**P**	**18 24 32.8**	**-1.2**
	comp=Z,63nm,0.8s,mb5.1,baz=172,slow=12,SNR=52						
BOSA				LR	LR	18 32 00.5	
	comp=Z,8μm,19.9s,MS5.2,baz=186,slow=33						
BOSA	**Boshof**	**22.55**	**351**	*eP*	**P**	**18 24 33.0**	**-1.0**
	comp=Z,142nm,0.8s,mb5.5						
BOSA				LR	LR		
	comp=Z,8μm,19.0s,MS5.2						
UPI	**Upington**	**23.37**	**342**	*eP*	**P**	**18 24 41.6**	**-1.1**
UPI				*eS*	**S**	**18 28 47.9**	**-7.4**
UPI				AML	AML	18 29 42.9	
	comp=Z,25nm,0.7s						
MAW	**Mawson**	**23.49**	**148**	⇓*iP*	**P**	**18 24 44.2**	**+0.2**
	comp=Z,60nm,0.6s,mb5.2						
MAW				*i* S	**S**	**18 28 50.7**	**-6.6**
MAW	**Mawson**	**23.49**	**148**	P	**P**	**18 24 44.5**	**+0.5**
	comp=Z,65nm,0.7s,mb5.2,baz=297,slow=9.4,SNR=57						
MAW				S	**S**	**18 28 57.2**	**-0.1**
	comp=Z,68nm,0.8s,baz=229,slow=10,SNR=12						
MAW				LR	LR	18 31 35.9	
	comp=Z,6μm,19.8s,MS5.1,baz=299,slow=31						
MAW	**Mawson**	**23.49**	**148**	P	**P**	**18 24 44.5**	**+0.5**
MAW				S	**S**	**18 28 57.2**	**-0.1**
MAW				pmax	pmax		
	comp=Z,65nm,0.7s						
MAW				smax			
	comp=N,68nm,0.8s						
MAW				MLR	MLR		
	comp=Z,6μm,19.8s						
MAW	**Mawson**	**23.49**	**148**	⇓*iP*	**P**	**18 24 44.2**	**+0.2**
	comp=Z,60nm,0.6s,mb5.2						
MAW				*i* S	**S**	**18 28 50.7**	**-6.6**
MAW				LR	LR		
	comp=Z,9μm,19.0s,MS5.2						
POGA	**Pongola**	**23.69**	**6**	*eP*	**P**	**18 24 43.9**	**-1.9**
POGA				*eS*	S	18 28 30.7	-30
POGA				AML	AML	18 29 11.9	
	comp=Z,27nm,0.6s						
SWZ	**Schweizer**	**23.96**	**352**	*eP*	**P**	**18 24 47.8**	**-0.5**
PRYS	**Parys**	**24.09**	**356**	*eP*	**P**	**18 24 49.2**	**-0.3**
SNAA	**Sanae**	**25.17**	**203**	P	**P**	**18 24 59.3**	**0.0**
	comp=Z,68nm,0.8s,mb5.2,baz=82,slow=6.8,SNR=124						
SNAA				S	**S**	**18 29 26.3**	**+2.0**
	comp=Z,1.2nm,0.9s,baz=249,slow=18,SNR=1.5						
SNAA				LR	LR	18 32 29.2	
	comp=Z,2μm,19.2s,MS4.6,baz=45,slow=31						
SNAA	**Sanae**	**25.17**	**203**	*eP*	**P**	**18 24 59.5**	**+0.2**
SNAA				*e*	pP	18 25 01.2	-1.1
SNAA				*e*	pP	18 25 03.4	+1.1
SNAA				*e*		18 25 08.8	
SNAA				*e*		18 25 14.4	
SNAA				*e*		18 25 16.7	
SNAA				*e*		18 25 33.2	
SNAA				*e*		18 28 32.1	
SNAA	**Sanae**	**25.17**	**203**	P	**P**	**18 24 59.3**	**0.0**
SNAA				S	**S**	**18 29 26.3**	**+2.0**
SNAA				pmax	pmax		
	comp=Z,68nm,0.8s						
SNAA				smax			
	comp=N,1.0nm,0.9s						
SNAA				MLR	MLR		
	comp=Z,2μm,19.2s						
SNAA	**Sanae**	**25.17**	**203**	*eP*	**P**	**18 24 59.8**	**+0.5**
	comp=Z,406nm,0.9s,mb6.0						
KSR	**Koster**	**25.17**	**355**	*eP*	**P**	**18 24 58.7**	**-0.6**
VNA1	**Neumayer--Stat**	**26.06**	**207**	*eP*	**P**	**18 25 08.2**	**+0.8**
VNA1				*e*	pP	18 25 10.6	+0.2
VNA1				*e*		18 25 15.4	
VNA1				*e*		18 25 23.9	
VNA1				*e*		18 25 27.4	
VNA1				*e*		18 25 30.7	
VNA1				*e*		18 25 44.8	
VNA1				*e*		18 28 34.8	
LBTB	**Lobatse**	**26.09**	**353**	⇑*iP*	**P**	**18 25 06.5**	**-1.2**
LBTB	**Lobatse**	**26.09**	**353**	P	**P**	**18 25 07.0**	**-0.6**
	comp=Z,74nm,0.8s,mb5.2,baz=187,slow=8.3,SNR=54						
LBTB				LR	LR	18 33 56.2	
	comp=Z,6μm,20.7s,MS5.1,baz=111,slow=33						
LBTB	**Lobatse**	**26.09**	**353**	P	**P**	**18 25 07.0**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,74nm,0.9s,mb5.2						
LBTB				MLR	MLR		
	comp=Z,6μm,20.7s,MS5.1						
LBTB	**Lobatse**	**26.09**	**353**	*eP*	**P**	**18 25 06.6**	**-1.1**
	comp=Z,73nm,0.8s,mb5.3						
LBTB				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
VNA3	**Neumayer Olymp**	**26.75**	**207**	*eP*	**P**	**18 25 14.2**	**+0.5**
VNA3				*e*	pP	18 25 16.5	-0.2
VNA3				*e*		18 25 19.8	
VNA3				*e*		18 25 24.0	
VNA3				*e*		18 25 29.5	
VNA3				*e*		18 25 52.7	
VNA3				*e*		18 28 35.0	
VNA3				*e*		18 28 44.4	
TRIS	**Tristan da Cun**	**32.38**	**279**	PFAKE		18 26 20.0	+16
TRIS				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
TSUM	**Tsumeb**	**33.01**	**340**	*eP*	**P**	**18 26 09.1**	**0.0**
	comp=Z,72nm,0.8s,mb5.7						
TSUM				LR	LR		
	comp=Z,12μm,20.0s,MS5.6						
MIR	**Mirnyy**	**34.78**	**141**	*d iP*	**P**	**18 26 25.5**	**+1.0**
MIR				*i*		18 28 05.0	
MIR				*e*		18 32 04.0	
MIR				pmax	pmax		
	comp=Z,600nm,2.0s,mb6.2						
MIR				MLR	MLR		
	comp=Z,9μm,18.0s,MS5.6						
MIR				MLR	MLR		
	comp=N,2μm,17.0s,MS5.3						
MIR				MLR	MLR		
	comp=E,4μm,17.0s,MS5.3						
LSZ	**Lusaka**	**35.65**	**359**	*eP*	**P**	**18 26 31.6**	**-0.4**
	comp=E,44nm,0.8s,mb5.5						
LSZ				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
QSPA	**South Pole Qui**	**39.21**	**180**	P	**P**	**18 27 01.8**	**-0.3**
QSPA				PcS	PcS	18 32 58.3	-2.7
QSPA	**South Pole Qui**	**39.21**	**180**	*eP*	**P**	**18 27 01.7**	**-0.5**
	comp=Z,137nm,0.7s,mb5.8						
QSPA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
PMSA	**Palmer Station**	**46.70**	**216**	*eP*	**P**	**18 28 02.9**	**+0.1**
	comp=Z,69nm,0.9s,mb5.6						
PMSA				*e*		18 28 16.5	
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
VNDA	**Vanda**	**48.45**	**168**	P	**P**	**18 28 16.0**	**-0.5**
	comp=Z,41nm,0.7s,mb5.6,baz=240,slow=8.1,SNR=227						
VNDA				LR	LR	18 47 12.5	
	comp=Z,2μm,20.3s,MS5.2,baz=205,slow=34						
VNDA	**Vanda**	**48.45**	**168**	P	**P**	**18 28 16.1**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,54nm,0.9s						
VNDA	**Vanda**	**48.45**	**168**	*eP*	**P**	**18 28 15.7**	**-0.7**
	comp=Z,54nm,0.8s,mb5.6						
VNDA				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
SBA	**Scott Base**	**48.81**	**169**	P	**P**	**18 28 20.0**	**+0.8**
SBA				pmax	pmax		
	comp=Z,190nm,0.8s,mb6.2						
SBA	**Scott Base**	**48.81**	**169**	*eP*	**P**	**18 28 19.8**	**+0.6**
	comp=Z,188nm,0.8s,mb6.2						
SBA				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KMBO	**Kilima Mbogo**	**50.19**	**11**	P	**P**	**18 28 32.9**	**+3.2**
	comp=Z,12nm,0.9s,mb4.9,baz=187,slow=7.9,SNR=16						
KMBO				LR	LR	18 47 21.2	
	comp=Z,2μm,20.0s,MS5.1,baz=142,slow=33						
KMBO	**Kilima Mbogo**	**50.19**	**11**	P	**P**	**18 28 32.9**	**+3.2**
KMBO				pmax	pmax		
	comp=Z,12nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,2μm,20.0s						
KMBO	**Kilima Mbogo**	**50.19**	**11**	*eP*	**P**	**18 28 32.6**	**+2.9**
	comp=Z,53nm,1.4s,mb5.4						
KMBO				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
MSEY	**Mahe Island**	**51.20**	**35**	PFAKE		18 28 50.0	+13
MSEY				LR	LR		
	comp=Z,498nm,20.0s,MS4.5						
DRV	**Dumont d'Urvil**	**51.61**	**152**	P	**P**	**18 28 37.0**	**-3.5**
DRV	**Dumont d'Urvil**	**51.61**	**152**	PP	PP	18 30 37.0	-0.9
DRV				S	**S**	**18 35 58.0**	**-3.4**
DRV				R		18 44 00.0	
USHA	**Ushuaia**	**54.22**	**225**	LR	LR	18 48 36.6	
	comp=Z,2μm,18.1s,MS5.3,baz=105,slow=32						
DGAR	**Diego Garcia**	**56.32**	**55**	PFAKE		18 29 30.0	+15
DGAR				LR	LR		
	comp=Z,939nm,19.0s,MS4.9						
FURI	**Furi**	**60.24**	**11**	*eP*	**P**	**18 29 44.0**	**+1.7**
CAM3	**Guarapari**	**61.37**	**272**	(P)	**P**	**18 29 50.3**	**+0.4**
CAM3				*i*		18 29 56.2	
CAM3				*i*		18 30 02.6	
CAM3				*i*		18 30 14.1	
CAM4	**Nova Friburgo**	**61.47**	**269**	⇑*iP*	**P**	**18 29 51.0**	**+0.4**
CAM4				*i*		18 30 03.2	
CAM4				*i*		18 30 13.1	
CAM4				*i*		18 30 33.3	
CAM4				*i*		18 30 43.9	
TRQA	**Tornquist**	**62.16**	**243**	*eP*	**P**	**18 29 54.6**	**-0.7**
	comp=Z,61nm,0.7s,mb5.8						
TRQA				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
NWAO	**Narrogin (SRO)**	**64.14**	**111**	P	**P**	**18 30 07.7**	**-0.7**
	comp=Z,14nm,0.6s,mb5.2,baz=212,slow=5.7,SNR=21						
NWAO	**Narrogin (SRO)**	**64.14**	**111**	P	**P**	**18 30 07.7**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,14nm,0.6s						
NWAO	**Narrogin (SRO)**	**64.14**	**111**	*eP*	**P**	**18 30 07.6**	**-0.8**
	comp=Z,20nm,0.8s,mb5.2						
NWAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
MUN	**Mundaring**	**64.21**	**109**	*eP*	**P**	**18 30 14.8**	**+5.9**
DBIC	**Dimbokro**	**64.44**	**322**	P	**P**	**18 30 10.1**	**-0.3**
	comp=Z,40nm,0.8s,mb5.5,baz=136,slow=8.3,SNR=46						
DBIC	**Dimbokro**	**64.44**	**322**	P	**P**	**18 30 10.5**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,50nm,0.9s						
DBIC	**Dimbokro**	**64.44**	**322**	*eP*	**P**	**18 30 09.9**	**-0.5**
	comp=Z,50nm,0.8s,mb5.6						
DBIC				LR	LR		
	comp=Z,639nm,21.0s,MS4.8						
PLCA	**Paso Flores**	**64.92**	**236**	P	**P**	**18 30 12.8**	**-0.7**
	comp=Z,23nm,0.9s,mb5.2,baz=136,slow=6.4,SNR=41						
PLCA	**Paso Flores**	**64.92**	**236**	P	**P**	**18 30 12.9**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,23nm,0.9s						
PLCA	**Paso Flores**	**64.92**	**236**	*eP*	**P**	**18 30 12.7**	**-0.9**
	comp=Z,190nm,1.5s,mb5.9						
PLCA				LR	LR		
	comp=Z,991nm,21.0s,MS5.0						
KLBR	**Kellerberrin**	**65.40**	**110**	*eP*	**P**	**18 30 15.7**	**-0.9**
	comp=Z,39nm,1.3s,mb5.3						
COCO	**West Island**	**66.66**	**80**	PFAKE		18 30 40.0	+15
COCO				LR	LR		
	comp=Z,794nm,19.0s,MS5.0						
CPUP	**Villa Florida**	**67.80**	**255**	P	**P**	**18 30 31.5**	**-0.4**
	comp=Z,129nm,0.7s,mb6.1,baz=114,slow=5.4,SNR=324						
CPUP				LR	LR	18 53 47.6	
	comp=Z,2μm,21.7s,MS5.3,baz=134,slow=30						
CPUP	**Villa Florida**	**67.80**	**255**	P	**P**	**18 30 31.6**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,54nm,0.7s						
CPUP	**Villa Florida**	**67.80**	**255**	*eP*	**P**	**18 30 31.5**	**-0.5**
	comp=Z,544nm,0.6s						
CPUP				*e*		18 30 44.5	
CPUP				LR	LR		
	comp=Z,268nm,20.0s						
TOA0	**Torodi Ar. Sit**	**68.20**	**331**	*eP*	**P**	**18 30 34.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**68.20**	**331**	P	**P**	**18 30 34.6**	**+0.2**
	comp=Z,30nm,0.9s,mb5.3,baz=168,slow=6.4,SNR=99						
TORD				LR	LR	18 58 29.6	
	comp=Z,1μm,18.1s,MS5.1,baz=150,slow=34						
TORD				PKPPKP		18 58 51.2	
	comp=Z,0.4nm,0.9s,baz=341,slow=3.1,SNR=5.4						
RCBR	**Riachuelo**	**69.86**	**286**	PFAKE		18 31 00.0	+15
RCBR				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
BDFB	**Brasilia**	**69.88**	**270**	P	**P**	**18 30 45.5**	**+0.6**
	comp=Z,18nm,0.7s,mb5.1,baz=137,slow=4.0,SNR=27						
BDFB				LR	LR	18 54 48.3	
	comp=Z,2μm,21.7s,MS5.2,baz=16,slow=30						
BDFB	**Brasilia**	**69.88**	**270**	P	**P**	**18 30 45.5**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,18nm,0.7s						
BDFB				MLR	MLR		
	comp=Z,2μm,21.7s						
FCH	**Farellones**	**70.24**	**241**	*eP*	**P**	**18 30 46.2**	**-0.9**
CFAA	**Coronel Fontan**	**70.37**	**244**	LR	LR	18 56 47.3	
	comp=Z,87nm,19.9s,baz=139,slow=32						
TAU	**Tasmania Unive**	**72.18**	**137**	PFAKE		18 31 10.0	+11
TAU				LR	LR		
	comp=Z,642nm,20.0s,MS4.9						
PALK	**Pallekele**	**73.06**	**54**	PFAKE		18 31 20.0	+16
PALK				LR	LR		
	comp=Z,503nm,21.0s,MS4.8						
MBWA	**Marble Bar**	**74.27**	**104**	*eP*	**P**	**18 31 10.1**	**-1.1**
	comp=Z,62nm,1.3s,mb5.4						
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
TOO	**Toolangi**	**75.69**	**133**	*eP*	**P**	**18 31 19.9**	**+0.5**
	comp=Z,14nm,0.9s,mb4.9						
LVC	**Limon Verde**	**77.55**	**250**	PFAKE		18 31 40.0	+10
LVC				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
STKA	**Stephens Creek**	**78.39**	**127**	⇓*iP*	**P**	**18 31 34.3**	**-0.3**
	comp=Z,24nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**78.39**	**127**	P	**P**	**18 31 34.5**	**-0.1**
	comp=Z,28nm,0.8s,mb5.3,baz=217,slow=5.4,SNR=31						
STKA				LR	LR	18 58 40.4	
	comp=Z,1μm,20.7s,MS5.2,baz=206,slow=30						
WSAR	**Wadi Sarin**	**78.39**	**28**	LR	LR	19 01 50.5	
	comp=Z,1μm,18.2s,MS5.3,baz=216,slow=32						
CNB	**Canberra Magne**	**79.32**	**134**	*eP*	**P**	**18 31 39.9**	**+0.2**
	comp=Z,62nm,1.5s,mb5.3						
PSI	**Prapat**	**79.66**	**72**	P	**P**	**18 31 41.9**	**+0.3**
	comp=Z,44nm,0.6s,mb5.5,baz=234,slow=4.1,SNR=52						
PSI				LR	LR	19 02 33.2	
	comp=Z,679nm,18.6s,MS5.0,baz=206,slow=32						
PSI	**Prapat**	**79.66**	**72**	P	**P**	**18 31 41.9**	**+0.3**
PSI				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.6						
PSI				MLR	MLR		
	comp=Z,679nm,18.6s,MS5.0						
FITZ	**Fitzroy Crossi**	**80.19**	**106**	⇓*iP*	**P**	**18 31 44.0**	**-0.4**
	comp=Z,38nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**80.19**	**106**	P	**P**	**18 31 44.4**	**0.0**
	comp=Z,22nm,0.7s,mb5.2,baz=210,slow=7.8,SNR=22						
FITZ				LR	LR	19 01 28.2	
	comp=Z,2μm,20.5s,MS5.3,baz=230,slow=31						
EIL	**Elat**	**80.49**	**5**	*eP*	**P**	**18 31 47.5**	**+1.5**
	comp=Z,818nm,1.3s,mb6.5						
HYB	**Hyderabad**	**80.73**	**47**	*i P*	**P**	**18 31 48.0**	**+0.7**
HYB				*eS*	S	18 41 56.0	+0.9
HYB	**Hyderabad**	**80.73**	**47**	*eP*	**P**	**18 31 48.0**	**+0.7**
HYB				*eS*	S	18 41 56.0	+0.9
ASPA	**Alice Springs**	**80.74**	**116**	⇓*iP*	**P**	**18 31 46.9**	**-0.5**
ASAR	**Alice Springs**	**80.74**	**116**	P	**P**	**18 31 47.1**	**-0.3**
	comp=Z,31nm,0.7s,mb5.3,baz=207,slow=5.1,SNR=97						
ASAR				LR	LR	19 03 19.0	
	comp=Z,2μm,18.2s,MS5.5,baz=222,slow=32						
ASAR	**Alice Springs**	**80.74**	**116**	P	**P**	**18 31 47.1**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,31nm,0.7s						
ASAR				MLR	MLR		
	comp=Z,2μm,18.2s						
AS31	**Alice Springs**	**80.75**	**116**	⇓*iP*	**P**	**18 31 46.9**	**-0.5**
RDF	**Al-Radifah**	**81.25**	**16**	*eP*	**P**	**18 31 51.0**	**+0.9**
RDF				AMb	AMB	18 31 52.8	
	comp=Z,113nm,1.2s,mb5.7						
KBD	**Kabd**	**81.52**	**16**	*eP*	**P**	**18 31 52.5**	**+1.0**
KBD				AMb	AMB	18 31 54.1	
	comp=Z,267nm,1.2s,mb6.1						
KGM	**Kluang**	**81.72**	**76**	P	**P**	**18 31 53.4**	**+0.8**
UMR	**Umm Al-Rimmam**	**81.89**	**16**	*eP*	**P**	**18 31 54.0**	**+0.6**
UMR				AMb	AMB	18 31 56.0	
	comp=Z,153nm,1.0s,mb5.9						
LPAZ	**La Paz**	**81.94**	**254**	P	**P**	**18 31 54.4**	**+0.6**
	comp=Z,9.5nm,0.7s,mb4.8,baz=103,slow=5.2,SNR=35						
LPAZ				PKKPbc	PKKPbc	18 50 23.0	-0.6
	comp=Z,1.2nm,0.8s,baz=17,slow=14,SNR=5.9						
LPAZ				LR	LR	19 04 01.4	
	comp=Z,1μm,20.4s,MS5.3,baz=286,slow=33						
LPAZ	**La Paz**	**81.94**	**254**	*eP*	**P**	**18 31 54.2**	**+0.5**
	comp=Z,69nm,1.5s,mb5.4						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
MIB	**Mutribah**	**82.07**	**16**	*eP*	**P**	**18 31 54.9**	**+0.5**
MIB				AMb	AMB	18 31 56.8	
	comp=Z,84nm,1.1s,mb5.6						
IPM	**Ipoh**	**82.26**	**73**	P	**P**	**18 31 56.3**	**+0.9**
KULM	**Kulim**	**82.67**	**72**	*eP*	**P**	**18 31 57.5**	**-0.1**
SNZO	**South Karori**	**83.29**	**155**	PFAKE		18 32 10.0	+9.2
SNZO				LR	LR		
	comp=Z,3μm,19.0s,MS5.6						
ARE	**Arequipa**	**83.83**	**252**	*eP*	**P**	**18 32 04.0**	**+0.4**
WRA	**Warramunga Arr**	**83.91**	**114**	P	**P**	**18 32 03.5**	**-0.5**
	comp=Z,12nm,0.6s,mb5.2,baz=216,slow=4.2,SNR=48						
WRA				LR	LR	19 04 30.1	
	comp=Z,2μm,18.8s,MS5.5,baz=200,slow=32						
WRA	**Warramunga Arr**	**83.91**	**114**	P	**P**	**18 32 03.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,12nm,0.6s						
WRA				MLR	MLR		
	comp=Z,2μm,18.8s						
WB2	**Warramunga Arr**	**83.92**	**114**	⇓*iP*	**P**	**18 32 03.5**	**-0.5**
WRAB	**Tennant Creek**	**83.93**	**114**	P	**P**	**18 32 03.0**	**-1.1**
	comp=Z,242nm,0.6s,mb6.5,SNR=7.8						
WRAB	**Tennant Creek**	**83.93**	**114**	*d iP*	**P**	**18 32 03.4**	**-0.7**
ARMA	**Armidale**	**84.46**	**133**	*eP*	**P**	**18 32 05.2**	**-1.5**
SAML	**Samuel**	**84.52**	**263**	*eP*	**P**	**18 32 06.9**	**-0.2**
	comp=Z,95nm,1.0s,mb5.9						
SAML				*e*		18 32 19.8	
SAML				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
BHD	**Baghdad**	**85.00**	**13**	*ex*	x	18 32 05.0	
KSM	**Kuching**	**85.63**	**82**	*eP*	**P**	**18 32 13.1**	**+0.4**
URZ	**Urewera**	**86.79**	**155**	LR	LR	19 12 27.0	
	comp=Z,2μm,18.1s,MS5.5,baz=169,slow=37						
MSL	**Mosul**	**87.80**	**11**	*ex*	x	18 32 25.5	
KEST	**Kesra**	**88.09**	**344**	P	**P**	**18 32 27.1**	**+2.5**
	comp=Z,4.5nm,1.2s,mb4.6,baz=184,slow=8.2,SNR=6.6						
KEST				LR	LR	19 13 16.7	
	comp=Z,1μm,18.4s,MS5.4,baz=286,slow=37						
MALT	**Malatya**	**89.33**	**7**	⇓*iP*	**P**	**18 32 31.4**	**+0.9**
MALT	**Malatya**	**89.33**	**7**	*eP*	**P**	**18 32 31.6**	**+1.1**
MALT				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.4						
MALT	**Malatya**	**89.33**	**7**	*eP*	**P**	**18 32 31.6**	**+1.1**
	comp=Z,30nm,1.5s,mb5.4						
CTA	**Charters Tower**	**90.39**	**123**	*eP*	**P**	**18 32 34.7**	**-0.7**
	comp=Z,14nm,1.0s,mb5.2						
CTA	**Charters Tower**	**90.39**	**123**	P	**P**	**18 32 35.0**	**-0.4**
	comp=Z,9.2nm,0.8s,mb5.2,baz=255,slow=4.4,SNR=6.4						
CTA	**Charters Tower**	**90.39**	**123**	P	**P**	**18 32 35.1**	**-0.3**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**90.39**	**123**	PFAKE		18 32 50.0	+15
CTAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
BR131	**Keskin Array S**	**90.44**	**4**	*eP*	**P**	**18 32 35.3**	**-0.3**
	comp=Z,11nm,1.5s,mb5.0						
BR131				LR	LR		
	comp=Z,633nm,21.0s,MS5.0						
NNA	**Nana**	**90.53**	**250**	PFAKE		18 32 50.0	+14
NNA				LR	LR		
	comp=Z,321nm,21.0s,MS4.7						
ANTO	**Ankara**	**90.56**	**3**	PFAKE		18 32 50.0	+14
ANTO				LR	LR		
	comp=Z,999nm,19.0s,MS5.3						
GNI	**Garni**	**91.81**	**12**	*eP*	**P**	**18 32 43.2**	**+1.1**
	comp=Z,31nm,1.5s,mb5.4						
GNI				*e*		18 32 58.

comp=Z,145nm,19.0s,MS4.5
ANN Anapa 95.70 6 *e*P **P 18 33 03.7 +3.8**
ANN *e* 18 36 59.1
ANN pmax pmax
comp=Z,50nm,1.2s,mb5.8
LMR La Mourre 95.99 344 *e*P **P 18 32 57.8 -3.4**
comp=Z,14nm,1.1s,mb5.0
LMR La Mourre 95.99 344 *e*P **P 18 32 57.8 -3.4**
comp=Z,7.2nm,1.1s,mb5.0
MLR Muntele Rosu 96.16 358 ⇓*i*P **P 18 33 01.8 -0.2**
FRF La Foret Royal 96.18 344 *e*P **P 18 32 58.4 -3.7**
comp=Z,43nm,1.7s,mb5.3
FRF La Foret Royal 96.18 344 *e*P **P 18 32 58.4 -3.7**
comp=Z,22nm,1.7s,mb5.3
VRI Vrincioaia 96.51 358 ⇓*i*P **P 18 33 04.8 +1.2**
RAO Raoul Island 96.62 156 LR LR 19 16 22.1
comp=Z,805nm,18.9s,MS5.2,baz=180,slow=35
RAO Raoul Island 96.62 156 PFAKE 18 33 10.0 +5.9
RAO LR LR
comp=Z,2μm,19.0s,MS5.6
LSA Lhasa 97.18 51 P **P 18 33 07.0 +0.4**
LSA Lhasa 97.18 51 *e*P **P 18 33 07.0 +0.4**
comp=Z,63nm,1.5s,mb5.8
LSA LR LR
comp=Z,846nm,21.0s,MS5.2
KIS Kishinev 97.63 360 *e*P **P 18 33 12.0 +3.4**
KIS *e* 18 37 04.0
KIS Kishinev 97.63 360 *e*P **P 18 33 12.0 +3.4**
KIS LRM 19 21 20.0
comp=Z,800nm,20.0s
ORIF Oris-en-Rattie 97.63 344 *e*P **P 18 33 08.2 -0.5**
comp=Z,14nm,1.1s,mb5.1
ORIF Oris-en-Rattie 97.63 344 *e*P **P 18 33 08.2 -0.5**
comp=Z,7.0nm,1.1s,mb5.1
LPG La Plagne 98.04 344 *e*P **P 18 33 08.9 -1.6**
LPL La Plagne 98.06 344 *e*P **P 18 33 09.0 -1.6**
comp=Z,38nm,1.5s,mb5.4
LPL La Plagne 98.06 344 *e*P **P 18 33 09.0 -1.6**
comp=Z,19nm,1.5s,mb5.4
DZM Mont Dzumac 98.15 141 P **P 18 33 11.3 +0.3**
comp=Z,8.9nm,0.8s,mb5.3,baz=250,slow=21,SNR=5.3
QIZ Qiongzhong 98.95 71 ⇑P **P 18 33 15.3 +0.7**
QIZ AP pP 18 33 20.1 +2.2
QIZ PP PP 18 37 15.8 -0.5
QIZ AMB AMB
comp=Z,111nm,5.8s
QIZ LR LR
comp=E,2μm,10.0s
QIZ LR LR
comp=Z,2μm,10.3s,MS5.8
QIZ Qiongzhong 98.95 71 PFAKE 18 33 30.0 +15
QIZ LR LR
comp=Z,775nm,20.0s,MS5.2
KSH Kashi 99.06 35 *e*P **P 18 33 15.8 +0.7**
KSH *e*AP pP 18 33 21.1 +2.7
KSH *e*XP sP 18 33 24.2 +4.6
KSH *e*PP PP 18 37 20.2 +3.0
KSH *e*SKS 18 43 52.2
KSH *e*S S 18 44 41.5 -4.6
KSH *e*XS sS 18 44 50.2 -1.5
KSH LR LR
comp=N,466nm,5.2s
KSH LR LR
comp=E,527nm,5.1s
KSH LR LR
comp=Z,652nm,5.5s
BBGH Gun Hill 99.22 279 PFAKE 18 33 30.0 +14
BBGH LR LR
comp=Z,2μm,19.0s,MS5.7
KECS Kecovo 99.38 354 *e*PP PP 18 37 17.5 -2.1
VYHS Vyhne 99.51 353 *e*PP PP 18 37 18.3 -2.3
DAV Davao City (W) 99.56 91 PFAKE 18 33 30.0 +13
DAV LR LR
comp=Z,1μm,22.0s,MS5.3
KMI Kunming 99.58 62 P **P 18 33 17.8 +0.4**
KMI AMB AMB
comp=Z,7.0nm,1.8s,mb4.8
KMI AMB AMB
comp=Z,138nm,8.0s
KMI LR LR
comp=N,858nm,16.7s,MS5.4
KMI LR LR
comp=E,338nm,13.9s,MS5.4
KMI LR LR
comp=Z,1μm,18.2s,MS5.4
KMI Kunming 99.58 62 P **P 18 33 17.8 +0.4**
comp=Z,7.0nm,1.8s,mb4.8
KMI sP sP 18 33 23.4 +1.5
KMI PP PP 18 37 20.6 -0.5
KMI SKS 18 43 57.0
KMI S S 18 44 50.4 -0.1
KMI PS PS 18 46 24.9 +6.2
KMI SS SS 18 51 53.5 +13
KMI SSS 18 55 39.4
KMI LR LR
comp=Z,1μm,18.2s,MS5.4
PMG Port Moresby 99.67 118 PFAKE 18 33 30.0 +12
PMG LR LR
comp=Z,2μm,20.0s,MS5.6
KOLS Kolonicke sedl 99.73 355 *e*PP PP 18 37 23.7 +1.5
CRVS Cervenica-Dubn 99.74 355 *e*PP PP 18 37 25.2 +2.9
AVF Avril sur Loir 99.91 342 *e*P Pdif 18 33 16.1 -2.7
FUR Furstenfeldbru 99.97 348 *e*PP PP 18 37 22.5 -1.5
FUR *e*PS PS 18 46 33.9 +11
FUR *e*SS SS 18 51 44.7 -1.6
GEC2 GERESS Array S 100.34 350 *e*PP PP 18 37 23.4 -3.5
GEC2 *e*PS PS 18 46 32.2 +5.4
GEC2 *e*SS SS 18 51 47.6 -3.9
GERES GERESS Array B 100.34 350 PP PP 18 37 26.2 -0.7
comp=Z,0.8nm,0.7s,baz=179,slow=6.7,SNR=4.8
BFO Black Forest 100.54 346 *e*PP PP 18 37 28.0 -0.4
BFO *e*PS PS 18 46 35.2 +6.3
BFO *e*SS SS 18 51 52.5 -1.8
AML Almayashu 100.59 32 P Pdif 18 33 23.3 +1.4
SNR=11
TREC Trest 100.59 351 *e*PP PP 18 37 26.6 -2.2
TREC *e*PS PS 18 46 33.9 +4.4
TREC AMS AMS 19 22 00.0
comp=Z,2μm,18.0s
KHC Kasperske Hory 100.64 350 *e*PP PP 18 37 30.0 +0.9
KHC *e*PS PS 18 46 34.8 +4.9
KHC *e*SS SS 18 51 48.7 -6.9
KHC AMS AMS 19 24 10.0
comp=Z,1μm,15.7s
WET Wettzell 100.73 349 *e*PP PP 18 37 28.0 -1.8
WET *e*PS PS 18 46 36.3 +5.4
WET *e*SS SS 18 51 55.2 -1.7
STU Stuttgart 100.85 347 *e*PP PP 18 37 28.0 -2.7
STU *e*SS SS 18 51 58.6 +0.1
OKC Ostrava-Krasne 100.90 353 *e*PP PP 18 37 32.4 +1.3
OKC AMS AMS 19 25 30.0
comp=Z,800nm,18.0s
UCH Uchtor 100.95 33 P Pdif 18 33 24.6 +1.1
SNR=14
EKS2 Erkin-Say 101.09 32 P Pdif 18 33 24.5 +0.4
SNR=15
OTAV Otavalo 101.14 256 PFAKE 18 33 40.0 +16
OTAV LR LR
comp=Z,1μm,20.0s,MS5.4
AAK Ala-Archa 101.31 32 P Pdif 18 33 25.9 +0.9
SNR=8.3
AAK Ala-Archa 101.31 32 P Pdif 18 33 24.9 -0.1
AAK pmax pmax
comp=Z,78nm,1.8s
AAK Ala-Archa 101.31 32 *e*P Pdif 18 33 24.6 -0.4
comp=Z,78nm,1.8s
AAK LR LR
comp=Z,144nm,20.0s,MS4.5
PRU Pruhonice 101.38 351 *e*PP PP 18 37 31.8 -2.9
PRU *e*PS PS 18 46 41.4 +3.6
PRU *e*SS SS 18 52 00.9 -5.0
PRU AMS AMS 19 25 20.0
comp=Z,900nm,20.6s
ROTZ Rotzenmuhle 101.42 349 *e*PP PP 18 37 33.6 -1.5
ROTZ *e*PS PS 18 46 43.7 +5.4
ROTZ *e*SS SS 18 52 02.9 -3.6
GRFO Grafenberg 101.47 348 *e*PP PP 18 37 35.5 +0.1
GRF Grafenberg Arr 101.47 348 *e*PP PP 18 37 34.8 -0.6
GRF *e*PS PS 18 46 46.8 +8.0
GRF *e*SS SS 18 52 07.1 -0.1
GRF *e*L 19 22 59.6
comp=Z,919nm,20.9s
KBK Karagaybulak 101.48 33 P Pdif 18 33 27.2 +1.4
SNR=8.8

FRU Bishkek 101.52 32 *e*P Pdif 18 33 26.5 +0.5
FRU pmax pmax
comp=Z,57nm,1.2s
DPC Dobruska-Polom 101.56 352 *e*PP PP 18 37 37.2 +1.1
DPC *e*PS PS 18 46 44.5 +4.7
DPC *e*x x 18 51 59.8
DPC AMS AMS 19 23 00.0
comp=Z,900nm,24.9s
MANZ Manzenberg 101.65 349 *e*PP PP 18 37 35.5 -1.3
MANZ *e*PS PS 18 46 46.1 +5.4
MANZ *e*SS SS 18 52 08.6 -1.1
CHMS Chumysh 101.72 32 P Pdif 18 33 27.2 +0.3
SNR=5.3
UPC Upice 101.75 352 *e*PP PP 18 37 35.8 -1.7
NKC Novy Kostel 101.85 349 *e*PP PP 18 37 39.1 +0.8
NKC *e*PS PS 18 46 46.0 +3.1
NKC *e*SS SS 18 52 05.0 -7.5
NKC AMS AMS 19 19 50.0
comp=Z,2μm,23.4s
USP Ospenovka 101.87 32 P Pdif 18 33 29.0 +1.4
SNR=5.2
PVCC Panska Ves 101.91 351 *e*PP PP 18 37 37.2 -1.5
TKM2 Tokmak 2 101.94 33 P Pdif 18 33 28.3 +0.5
SNR=7.1
TANN Tannenbergstha 102.03 349 *e*PP PP 18 37 40.1 +0.5
TANN *e*PS PS 18 46 52.0 +7.2
TANN *e*SS SS 18 52 16.1 +1.2
WLF Walferdange 102.18 345 *e*PP PP 18 37 40.1 -0.7
WLF *e*PS PS 18 46 51.5 +5.1
WLF *e*SS SS 18 52 16.2 -0.9
BRG Berggiesshubel 102.31 350 *e*PP PP 18 37 40.1 -1.7
BRG *e*PS PS 18 46 53.2 +5.4
BRG *e*SS SS 18 52 21.6 +2.7
BRG Berggiesshubel 102.31 350 *e*P PKiKP 18 37 42.3 -9.0
comp=Z,16nm,1.7s
BRG S PS 18 46 57.0 +9.2
BRG SS SS 18 51 57.0 -22
BRG
comp=N,503nm,16.1s
BRG
comp=E,322nm,17.3s
BRG
comp=Z,679nm,21.0s
MOX Moxa 102.36 349 *e*PP PP 18 37 41.1 -1.0
MOX *e*PS PS 18 46 53.5 +5.2
MOX *e*SS SS 18 52 20.8 +1.3
MOX Moxa 102.36 349 *e*P PP 18 37 40.9 -1.2
MOX
comp=Z,700nm,20.0s
TNS Taunus Mts 102.37 347 *e*PP PP 18 37 42.0 -0.2
TNS *e*PS PS 18 46 53.6 +5.2
TNS *e*SS SS 18 52 21.2 +1.5
UBBA Unterbreizbach 102.73 348 *e*PS PS 18 46 57.4 +5.1
UBBA *e*SS SS 18 52 27.7 +3.0
CLL Collm 102.84 350 *e*PP PP 18 37 45.7 -0.1
CLL *e*PS PS 18 46 58.7 +5.3
CLL *e*SS SS 18 52 25.6 -0.6
CLL Collm 102.84 350 *e*PP PP 18 37 45.0 -0.8
comp=Z,71nm,2.4s
CLL *i*x x 18 38 09.4
CLL *e*PS PS 18 47 00.0 +6.6
CLL *e*x x 18 48 42.0
CLL *e*SS SS 18 52 20.0 -6.2
CLL *e*x x 18 53 06.0
CLL *e*SSS 18 56 23.0
CLL *e*SSSS 18 59 48.0
SDV Santo Domingo 102.94 268 PKKPbc PKKPbc 18 49 26.8 -2.5
comp=Z,3.4nm,0.5s,baz=24,slow=3.2,SNR=5.5
SDV Santo Domingo 102.94 268 PFAKE 18 33 40.0 +7.7
SDV LR LR
comp=Z,588nm,21.0s,MS5.1
GTTG Gvttingen 103.45 348 *e*PP PP 18 37 50.4 +0.1
GTTG *e*SS SS 18 52 37.5 +2.9
CLZ Clausthal 103.69 348 *e*PP PP 18 37 51.3 -0.8
CLZ *e*PS PS 18 47 07.4 +5.1
CLZ *e*SS SS 18 52 41.8 +4.0
BUG Bochum--Univer 103.73 346 *e*PP PP 18 37 53.2 +0.8
BUG *e*PS PS 18 47 07.8 +5.0
BUG *e*SS SS 18 52 40.3 +1.9
RUE Ruedersdorf 103.92 350 *e*PP PP 18 37 53.2 -0.6
RUE *e*PS PS 18 47 09.9 +5.2
RUE *e*SS SS 18 52 44.3 +3.3
NRDL Niedersach Rie 104.36 348 *e*PP PP 18 37 56.9 -0.2
NRDL *e*PS PS 18 47 14.4 +5.0
NRDL *e*SS SS 18 52 54.4 +7.3
IBBN Ibbenburen 104.50 347 *e*PP PP 18 37 56.9 -1.2
IBBN *e*SS SS 18 52 52.1 +3.1
RKT Rikitea 104.86 195 *e*LQ 19 03 00.3
comp=Z,798nm,34.5s
RKT Rikitea 104.86 195 *e*PP PP 18 37 54.5 -6.3
comp=Z,110nm,28.8s
RKT Rikitea 104.86 195 *e*PS PS 18 47 14.8 +0.2
comp=Z,281nm,24.5s
RKT Rikitea 104.86 195 *e*SS SS 18 52 57.3 +3.3
comp=Z,952nm,27.8s
RKT *e*LR LR 19 07 54.3
comp=Z,977nm,26.5s
BSEG Bad Segeberg 105.75 349 *e*PP PP 18 38 06.2 -1.1
BSEG *e*PS PS 18 47 28.8 +5.0
BSEG *e*SS SS 18 53 09.7 +3.7
OBN Obninsk 105.94 4 PFAKE 18 38 10.0 +12
OBN LR LR
comp=Z,179nm,20.0s,MS4.6
TBI Tubuai 105.96 181 *e*LQ 19 03 45.4
comp=Z,550nm,24.2s
TBI Tubuai 105.96 181 *e*PP PP 18 37 59.5 -9.4
comp=Z,148nm,30.0s
TBI Tubuai 105.96 181 *e*SS SS 18 53 07.1 -1.8
comp=Z,280nm,33.0s
TBI *e*LR LR 19 08 31.2
comp=Z,2μm,36.2s
TBI Tubuai 105.96 181 *e*PP PP 18 37 59.5 -9.4
TBI *e*SS SS 18 53 07.1 -1.8
TBI *e*LQ 19 03 45.4
RGN Rugen 106.00 351 *e*PP PP 18 38 08.1 -1.1
RGN *e*PS PS 18 47 31.5 +5.0
RGN *e*SS SS 18 53 11.8 +2.2
HLG Helgoland 106.31 347 *e*PP PP 18 38 11.7 +0.2
HLG *e*PS PS 18 47 34.5 +4.9
HLG *e*SS SS 18 53 16.1 +2.4
HNR Honiara 106.38 129 PFAKE 18 38 10.0 +11
HNR LR LR
comp=Z,1μm,20.0s,MS5.4
SJG San Juan 107.09 278 PFAKE 18 38 10.0 +10
SJG LR LR
comp=Z,1μm,21.0s,MS5.4
WMQ Urumqi 107.27 40 PDIF Pdif 18 33 54.5 +2.9
WMQ PP PP 18 38 25.0 +6.4
WMQ PP PP
comp=Z,259nm,5.1s
WMQ LR LR
comp=N,1μm,15.2s,MS5.7
WMQ LR LR
comp=E,1μm,19.5s,MS5.7
WMQ LR LR
comp=Z,2μm,26.2s
PAYG Puerto Ayora 107.48 246 PFAKE 18 38 10.0 +9.2
PAYG LR LR
comp=Z,975nm,20.0s,MS5.4
MKAR Makanchi Array 107.67 35 Pdiff Pdif 18 33 53.1 -0.2
comp=Z,1.8nm,0.7s,baz=213,slow=4.8,SNR=11
MKAR PKiKP PKiKP 18 38 01.6 +0.4
comp=Z,0.7nm,0.7s,baz=243,slow=2.9,SNR=3.9
GTA Gaotai 109.20 51 *e*PKP PKiKP 18 38 03.8 -0.3
GTA PP PP 18 38 41.0 +8.3
GTA PKS 18 41 39.7
GTA PP PP
comp=Z,179nm,4.9s
GTA LR LR
comp=N,616nm,21.3s,MS5.3
GTA LR LR
comp=E,654nm,18.2s,MS5.3
GTA LR LR
comp=Z,924nm,17.5s,MS5.4
ESK Eskdalemuir 109.31 341 PFAKE 18 38 10.0 +5.7
ESK LR LR
comp=Z,509nm,20.0s,MS5.1
BVAR Borovoye Array 109.34 25 PKKPbc PKKPbc 18 49 19.2 +10
comp=Z,1.1nm,0.7s,baz=21,slow=2.7,SNR=6.7
BRVK Borovoye 109.35 25 PFAKE 18 38 10.0 +5.7
BRVK LR LR
comp=Z,167nm,19.0s,MS4.6
ARU Arti 109.82 17 PFAKE 18 38 20.0 +15
ARU LR LR

comp=Z,124nm,19.0s,MS4.5
KONO Kongsberg 111.42 350 PFAKE 18 38 20.0 +12
KONO LR LR
comp=Z,2μm,19.0s,MS5.7
HFS Hagfors 111.48 352 PP PP 18 38 50.5 +1.4
comp=Z,3.7nm,0.9s,baz=203,slow=7.2,SNR=3.7
PPT Papeete 111.71 181 *e*LQ 19 05 43.1
comp=Z,2μm,31.8s
PPT Papeete 111.71 181 *e*PP PP 18 38 50.2 -0.6
comp=Z,184nm,26.5s
PPT Papeete 111.71 181 *e*PS PS 18 48 18.1 -5.0
comp=Z,858nm,27.8s
PPT Papeete 111.71 181 *e*SS SS 18 54 33.6 +7.1
comp=Z,956nm,30.0s
PPT *e*LR LR 19 11 25.3
comp=Z,4μm,35.2s
FINES FINESS Array B 112.13 358 PKiKP PKiKP 18 38 07.3 -2.3
comp=Z,1.5nm,0.9s,baz=90,slow=2.9,SNR=5.7
FINES PKKPbc PKKPbc 18 49 05.2 +4.6
comp=Z,1.8nm,0.8s,baz=15,slow=9.8,SNR=5.5
FINES FINESS Array B 112.13 358 *i* PKiKP PKiKP 18 38 07.3 -2.3
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 112.13 358 PKPdf PKiKP 18 38 07.3 -2.3
FINES PKKPbc PKKPbc 18 49 05.2 +4.6
NOA NORSAR Array B 112.61 351 PP PP 18 39 00.8 +3.6
comp=Z,2.3nm,0.9s,baz=150,slow=3.6,SNR=3.8
AFI Afiamalu 112.84 158 PFAKE 18 38 20.0 +9.1
AFI LR LR
comp=Z,783nm,19.0s,MS5.3
ZAL Zalesovo 114.52 32 PKP PKiKP 18 38 11.9 -2.2
comp=Z,1.3nm,0.6s,baz=217,slow=3.4,SNR=5.4
ZAL Zalesovo 114.52 32 PKIKP PKiKP 18 38 12.0 -2.1
ZAL pmax pmax
comp=Z,1.0nm,0.6s
NVS Novosibirsk 114.74 31 *e*PKIKP PKiKP 18 38 12.0 -2.6
SSE Sheshan 114.75 71 PKP PKiKP 18 38 16.0 +1.4
SSE PP PP
comp=Z,142nm,8.4s
SSE LR LR
comp=N,343nm,19.2s,MS5.3
SSE LR LR
comp=E,649nm,19.3s,MS5.3
SSE LR LR
comp=Z,935nm,17.9s,MS5.4
FUNA Funafuti 115.33 147 PFAKE 18 38 30.0 +14
FUNA LR LR
comp=Z,6μm,19.0s,MS6.2
HHC Hu-ho-hao-te 116.27 57 *e*PKP PKPdf 18 38 20.1 +2.6
HHC PP PP
comp=Z,300nm,5.1s
HHC LR LR
comp=N,353nm,15.5s,MS5.2
HHC LR LR
comp=E,297nm,13.9s,MS5.2
HHC LR LR
comp=Z,255nm,16.5s,MS4.9
TGUH Tegucigalpa,Un 117.32 258 PFAKE 18 38 30.0 +10
TGUH LR LR
comp=Z,646nm,22.0s,MS5.2
BJT Baijiatuau 118.17 60 PFAKE 18 38 30.0 +8.8
BJT LR LR
comp=Z,761nm,19.0s,MS5.3
BJI Beijing 118.19 60 PKP PKPdf 18 38 19.0 -2.2
BJI PP PP 18 39 34.7 -1.8
BJI PP PP
comp=Z,429nm,6.5s
BJI LR LR
comp=N,978nm,16.5s,MS5.6
BJI LR LR
comp=E,527nm,17.2s,MS5.6
BJI LR LR
comp=Z,878nm,17.0s,MS5.5
BJI Beijing 118.19 60 PKP PKPdf 18 38 19.8 -1.4
BJI PP PP 18 39 34.7 -1.8
BJI SS SS 18 55 53.9 +2.2
BJI LR LR
comp=Z,880nm,17.0s,MS5.5
APA Apatity 118.30 2 ⇓*i*PKIKP PKPdf 18 38 31.0 +10
APA *e* 18 45 36.0
APA *e* 18 49 27.0
APA *e* 18 56 00.0
APA pmax pmax
comp=Z,85nm,1.6s
APA MLR MLR
comp=Z,1μm,16.0s,MS5.7
SONM Songino Array 118.66 49 PKP PKPdf 18 38 20.4 -1.7
comp=Z,1.6nm,0.5s,baz=207,slow=2.4,SNR=13
SONM PKKPab PKKPab 18 48 37.4 -3.3
comp=Z,1.4nm,0.8s,baz=50,slow=2.0,SNR=5.3
MOY Mondy 118.98 43 *e*PKIKP PKPdf 18 38 22.5 -0.2
MOY pmax pmax
comp=Z,38nm,2.0s
ZAK Zakamensk 119.05 45 *e*PKIKP PKPdf 18 38 20.8 -2.1
ZAK pmax pmax
comp=Z,6.0nm,1.9s
TAOE Nuku Hiva Isla 119.65 192 *e*PP PP 18 39 44.9 -1.6
comp=Z,291nm,25.4s
TAOE Nuku Hiva Isla 119.65 192 *e*PS PS 18 49 36.2 +0.8
comp=Z,786nm,27.8s
TAOE Nuku Hiva Isla 119.65 192 *e*SS SS 18 56 18.7 +8.2
comp=Z,1μm,26.0s
TAOE *e*LR LR 19 15 10.0
comp=Z,2μm,25.6s
TLY Talaya 120.14 44 *e*PKIKP PKPdf 18 38 23.8 -1.2
TLY *i* 18 39 46.3
TLY pmax pmax
comp=Z,20nm,1.7s
TLY MLR MLR
comp=Z,581nm,17.0s,MS5.3
TLY Talaya 120.14 44 *e*P PKPdf 18 38 23.1 -1.8
TLY LR LR
comp=Z,161nm,20.0s,MS4.7
ARCES ARCESS Array B 120.26 359 PKP PKPdf 18 38 23.2 -2.0
comp=Z,2.0nm,0.5s,baz=210,slow=3.3,SNR=19
ARCES PKKPbc PKKPbc 18 48 29.2 -2.9
comp=Z,3.5nm,0.9s,baz=320,slow=4.7,SNR=4.5
KEV Kevo 120.46 359 PFAKE 18 38 40.0 +14
KEV LR LR
comp=Z,2μm,21.0s,MS5.6
DL2 Dalian 120.47 65 PKP PKPdf 18 38 24.6 -1.0
DL2 PP PP 18 39 54.1 +1.9
DL2 PP PP
comp=Z,110nm,5.5s
DL2 LR LR
comp=N,330nm,14.0s,MS5.2
DL2 LR LR
comp=E,280nm,13.7s,MS5.2
DL2 LR LR
comp=Z,400nm,15.2s,MS5.2
IRK Irkutsk 120.81 44 ⇑*i*PKIKP PKPdf 18 38 24.6 -1.7
IRK pmax pmax
comp=Z,49nm,2.6s
INCN Inchon 122.42 69 PFAKE 18 38 40.0 +11
INCN LR LR
comp=Z,704nm,19.0s,MS5.3
DWPF Disney 123.96 274 PFAKE 18 38 40.0 +7.7
DWPF LR LR
comp=Z,759nm,21.0s,MS5.3
CIT Chita 124.89 49 *e*PKIKP PKPdf 18 38 33.8 -0.3
CIT pmax pmax
comp=Z,100nm,2.0s
CN2 Changchun 125.85 63 *e*PKP PKPdf 18 38 33.3 -2.6
CN2 *e*PP PP 18 40 31.4 +2.9
CN2 *e*SS SS 18 57 30.1 +0.8
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,21.0s,MS5.4
CN2 LR LR
comp=E,600nm,21.0s,MS5.4
CN2 LR LR
comp=Z,600nm,21.0s,MS5.2
HIA Hailar 126.21 54 *e*P PKPdf 18 38 35.4 -1.2
HIA LR LR
comp=Z,798nm,20.0s,MS5.4
HRV Harvard--Oak R 127.43 294 PFAKE 18 38 50.0 +11
HRV LR LR
comp=Z,954nm,19.0s,MS5.5
PKME Peaks-Kenny Pk 127.84 298 PFAKE 18 38 50.0 +10
PKME LR LR
comp=Z,682nm,19.0s,MS5.3
CBN Corbin 128.18 286 PFAKE 18 38 50.0 +10
CBN LR LR
comp=Z,571nm,20.0s,MS5.2
BOD Bodaibo 128.69 43 *e*PKIKP PKPdf 18 38 39.6 -1.7

BOD pmax pmax
comp=Z,21nm,1.8s
MDJ Mudanjiang 128.69 64 PKP PKPdf 18 38 40.2 -1.1
MDJ LR LR
comp=N,317nm,22.9s,MS5.1
MDJ LR LR
comp=E,366nm,22.9s,MS5.1
MDJ LR LR
comp=Z,459nm,23.4s,MS5.1
MDJ Mudanjiang 128.69 64 PFAKE 18 38 50.0 +8.7
MDJ LR LR
comp=Z,582nm,21.0s,MS5.2
LBNH Lisbon 128.71 295 PFAKE 18 38 50.0 +8.6
LBNH LR LR
comp=Z,838nm,19.0s,MS5.5
MAJO Matsushiro 128.79 77 PKIKP PKPdf 18 38 40.9 -0.6
MAJO Matsushiro 128.79 77 *e*P PKPdf 18 38 40.7 -0.8
MAJO LR LR
comp=Z,507nm,20.0s,MS5.2
MAT Matsushiro 128.79 77 PKP PKPdf 18 38 39.8 -1.7
MJAR Matsushiro Arr 128.80 77 PKP PKPdf 18 38 41.1 -0.4
comp=Z,2.7nm,0.8s,baz=247,slow=2.3,SNR=11
VLA Vladivostok 129.11 67 *e*PKIKP PKPdf 18 38 42.0 -0.1
VLA pmax pmax
comp=Z,151nm,1.8s
BLA Blacksburg 129.41 283 *e*P Pdif 18 35 33.6 +3.6
BLA Blacksburg 129.41 283 PFAKE 18 38 50.0 +7.3
BLA LR LR
comp=Z,815nm,20.0s,MS5.4
BINY Binghamton 129.83 291 PFAKE 18 38 50.0 +6.5
BINY LR LR
comp=Z,720nm,21.0s,MS5.3
NCB Newcomb 129.87 294 PFAKE 18 38 50.0 +6.4
NCB LR LR
comp=Z,771nm,20.0s,MS5.4
SSPA Standing Stone 130.01 288 PFAKE 18 38 50.0 +6.2
SSPA LR LR
comp=Z,599nm,20.0s,MS5.3
KBS Kingsbay 130.08 356 PFAKE 18 38 50.0 +6.0
KBS LR LR
comp=Z,613nm,19.0s,MS5.3
LONY Lake Ozonia 130.46 294 PFAKE 18 39 00.0 +15
LONY LR LR
comp=Z,779nm,19.0s,MS5.4
MCWV Mont Chateau 130.59 286 PFAKE 18 39 00.0 +15
MCWV LR LR
comp=Z,837nm,21.0s,MS5.4
DAG Danmarks Havn 131.03 347 *i* P PKPdf 18 38 44.0 -1.8
DAG Danmarks Havn 131.03 347 *e*P PKPdf 18 38 44.0 -1.8
SFJD Kangerlussuaq 131.93 329 PFAKE 18 39 00.0 +13
SFJD LR LR
comp=Z,1μm,20.0s,MS5.6
SCHQ Schefferville 132.04 309 PFAKE 18 39 00.0 +12
SCHQ LR LR
comp=Z,1μm,19.0s,MS5.6
KLR Kul'dur 132.57 60 *e*PKIKP PKPdf 18 38 45.0 -3.7
KLR pmax pmax
comp=Z,60nm,1.8s
PLAL Pickwick Lake 132.76 276 PFAKE 18 39 00.0 +11
PLAL LR LR
comp=Z,713nm,20.0s,MS5.4
ACSO Alum Creek Sta 132.85 285 PFAKE 18 39 00.0 +11
ACSO LR LR
comp=Z,590nm,22.0s,MS5.2
OXF Oxford 133.29 274 PFAKE 18 39 00.0 +10
OXF LR LR
comp=Z,737nm,20.0s,MS5.4
WVT Waverly 133.33 277 PKIKP PKPdf 18 38 49.2 -0.9
WVT Waverly 133.33 277 *e*P PKPdf 18 38 48.8 -1.3
WVT LR LR
comp=Z,543nm,20.0s,MS5.3
WCI Wyandotte Cave 133.68 280 PFAKE 18 39 00.0 +9.2
WCI LR LR
comp=Z,768nm,22.0s,MS5.4
KVTX Kingsville 133.92 260 PFAKE 18 39 00.0 +8.8
KVTX LR LR
comp=Z,687nm,19.0s,MS5.4
HKT Hockley 134.31 264 PFAKE 18 39 00.0 +8.0
HKT LR LR
comp=Z,518nm,21.0s,MS5.2
AAM Ann Arbor 134.48 286 PFAKE 18 39 00.0 +7.7
AAM LR LR
comp=Z,582nm,19.0s,MS5.3
NATX Nacogdoches 134.80 267 PFAKE 18 39 00.0 +7.1
NATX LR LR
comp=Z,566nm,19.0s,MS5.3
ERM Erimo 135.17 75 PFAKE 18 39 00.0 +6.4
ERM LR LR
comp=Z,176nm,20.0s,MS4.8
MIAR Mount Ida 135.94 271 PKIKP PKPdf 18 38 53.4 -1.6
MIAR Mount Ida 135.94 271 *e*P PKPdf 18 38 52.0 -3.0
MIAR LR LR
comp=Z,668nm,20.0s,MS5.4
CCM Cathedral Cave 136.67 277 PKIKP PKPdf 18 38 55.6 -0.8
CCM Cathedral Cave 136.67 277 *e*P PKPdf 18 38 55.4 -1.0
CCM LR LR
comp=Z,648nm,22.0s,MS5.3
HDIL Hopedale 136.93 281 PFAKE 18 39 10.0 +13
HDIL LR LR
comp=Z,756nm,19.0s,MS5.5
JCT Junction City 137.16 261 PKIKP PKPdf 18 38 50.7 -6.6
JCT *e* 18 38 58.3
JCT Junction City 137.16 261 PFAKE 18 39 10.0 +13
JCT LR LR
comp=Z,365nm,19.0s,MS5.1
YAK Yakutsk 137.61 43 *i* PKIKP PKPdf 18 38 56.9 -1.2
YAK Yakutsk 137.61 43 *e*PKP PKPdf 18 38 56.0 -2.1
YAK LR LR
comp=Z,575nm,20.0s,MS5.3
YSS Yuzh-Sakhalins 137.62 69 *e*PKHKP 18 38 47.5
YSS *e* 19 00 18.0
YSS Yuzh-Sakhalins 137.62 69 PFAKE 18 39 10.0 +12
YSS LR LR
comp=Z,362nm,20.0s,MS5.1
JFWS Jewell Farm 138.85 283 PFAKE 18 39 10.0 +10
JFWS LR LR
comp=Z,617nm,20.0s,MS5.3
WMOK Wichita Mounta 139.36 267 *e*PKPpre 18 38 50.4
WMOK LR LR
comp=Z,607nm,20.0s,MS5.3
SCIA State Center 140.13 280 PFAKE 18 39 10.0 +7.3
SCIA LR LR
comp=Z,764nm,20.0s,MS5.5
TIXI Tiksi 140.30 29 PFAKE 18 39 10.0 +7.0
TIXI LR LR
comp=Z,3μm,20.0s,MS6.0
KSU1 Kansas State U 140.66 274 PFAKE 18 39 10.0 +6.3
KSU1 LR LR
comp=Z,462nm,20.0s,MS5.2
MNTX Cornudas Mount 141.47 258 PFAKE 18 39 20.0 +15
MNTX LR LR
comp=Z,501nm,19.0s,MS5.3
EYMN Ely 142.15 289 PFAKE 18 39 20.0 +14
EYMN LR LR
comp=Z,913nm,19.0s,MS5.6
CBKS Cedar Bluff 142.47 271 PFAKE 18 39 20.0 +13
CBKS LR LR
comp=Z,808nm,22.0s,MS5.4
ECSD EROS,Sioux Fal 143.22 280 *e*PKPdf PKPdf 18 39 03.6 -4.6
ECSD LR LR
comp=Z,594nm,19.0s,MS5.4
LPM Los Pinos Moun 144.00 260 *e*PKPdf PKPdf 18 39 07.0 -2.6
LENM Lemitar 144.12 259 *e*PKPdf PKPdf 18 39 07.4 -2.4
ANMO Albuquerque 144.31 261 *i* PKIKP PKPdf 18 39 07.6 -2.6
ANMO Albuquerque 144.31 261 *e*PKPdf PKPdf 18 39 07.5 -2.7
ANMO LR LR
comp=Z,599nm,19.0s,MS5.4
LAZ Ladron 144.38 259 *e*PKPdf PKPdf 18 39 08.4 -1.8
AGMN Agassiz Refuge 144.93 288 *e*PKPdf PKPdf 18 39 08.7 -2.5
AGMN LR LR
comp=Z,875nm,20.0s,MS5.5
SDCO Great Sand Dun 145.47 265 *e*PKPdf PKPdf 18 39 11.6 -0.6
SDCO LR LR
comp=Z,838nm,20.0s,MS5.5
ULM Lac du Bonnet 145.74 291 PKP PKPdf 18 39 10.6 -2.0
comp=Z,15nm,0.7s,baz=80,slow=2.1,SNR=15
ULM Lac du Bonnet 145.74 291 *e*PKPdf PKPdf 18 39 11.1 -1.5
ULM LR LR
comp=Z,1μm,21.0s,MS5.7
ISCO Idaho Springs 146.75 268 PKIKP PKPdf 18 39 14.3 0.0
ISCO Idaho Springs 146.75 268 *e*PKPdf PKPdf 18 39 14.2 -0.1
ISCO LR LR
comp=Z,961nm,19.0s,MS5.6
MA2 Magadan 146.75 52 *d* PKP2 PKPdf 18 39 14.4 +0.1
MA2 *e* 18 42 48.1
MA2 pmax pmax
comp=Z,300nm,0.9s
MA2 Magadan 146.75 52 *e*PKPdf PKPdf 18 39 13.6 -0.7
MA2 LR LR
comp=Z,631nm,19.0s,MS5.4
MVCO Mesa Verde 147.02 262 *e*PKPdf PKPdf 18 39 15.7 +1.0
MVCO LR LR
comp=Z,685nm,22.0s,MS5.4
SMCO Snowmass 147.25 266 *e*PKPdf PKPdf 18 39 17.1 +1.9
FCC Fort Churchill 147.30 306 *e*PKP2 PKPab 18 39 16.4 -3.0
PHWY Pilot Hill 147.49 271 *e*PKPdf PKPdf 18 39 13.7 -1.9
PV01 Paradox Valley 147.63 263 *e*PKPdf PKPdf 18 39 18.0 +2.2
WUAZ Wupatki 147.73 257 *e*PKPdf PKPdf 18 39 16.5 +0.6
WUAZ *e*PKPbc PKPbc 18 39 18.8 0.0
WUAZ LR LR
comp=Z,546nm,20.0s,MS5.3
SEY Seymchan 148.01 46 *d* i PKP2 PKPab 18 39 18.4 -3.8
SEY Seymchan 148.01 46 *i* PKP PKPdf 18 39 18.4 +2.0
RSSD Black Hills 148.06 276 PKPdf PKPdf 18 39 15.3 -1.2
RSSD PKPdf PKPdf 18 39 18.9 +2.4
RSSD Black Hills 148.06 276 PKIKP PKPdf 18 39 15.8 -0.7
RSSD Black Hills 148.06 276 *e*PKPdf PKPdf 18 39 15.6 -0.9
RSSD LR LR
comp=Z,608nm,19.0s,MS5.4
PV10 Paradox Valley 148.07 263 *e*PKPdf PKPdf 18 39 18.6 +2.0
GLA Glamis 148.14 250 *e*PKPdf PKPdf 18 39 18.1 +1.5
POHA Pohakuloa 148.60 172 PKPdf PKPdf 18 39 17.1 -0.3
RWWY Rawlins 148.81 270 *e*PKPdf PKPdf 18 39 13.0 -4.8
PET Petropavlovsk 149.44 66 *d* i PKP2 PKPbc 18 39 21.6 -1.6
PET Petropavlovsk 149.44 66 *e*PKPbc PKPbc 18 39 21.6 -1.6
PET LR LR
comp=Z,732nm,21.0s,MS5.5
SRU San Rafael 149.44 263 *e*PKHKP 18 39 18.1
SRU San Rafael 149.44 263 *e*PKPdf PKPdf 18 39 22.4 +3.7
PFO Pinyon Flat Ob 149.49 249 PKP2 PKPbc 18 39 23.2 -0.1
PFO Pinyon Flat Ob 149.49 249 *e*PKPbc PKPbc 18 39 23.3 0.0
PFO LR LR
comp=Z,212nm,19.0s,MS5.0
TMUT Trail Mountain 149.98 263 *e*PKPdf PKPdf 18 39 19.6 0.0
TMUT *e*PKPbc PKPbc 18 39 24.4 -0.1
DGMT Dagmar 150.07 284 *e*PKPbc PKPbc 18 39 24.0 -0.7
DGMT LR LR
comp=Z,1μm,19.0s,MS5.7
MSU Marysvale 150.12 260 *e*PKIKP PKPbc 18 39 24.9 0.0
MSU Marysvale 150.12 260 *e*PKPdf PKPdf 18 39 20.0 +0.2
MSU *e*PKPbc PKPbc 18 39 24.9 0.0
MVU Marysvale 150.14 260 PFAKE 18 39 30.0 +10
MVU LR LR
comp=Z,689nm,19.0s,MS5.5
CCUT Cedar City 150.26 258 *e*PKPdf PKPdf 18 39 19.7 -0.4
CCUT *e*PKPbc PKPbc 18 39 25.6 +0.4
ARUT Antelope Range 150.46 258 PKIKP PKPbc 18 39 26.6 +0.9
LAO LASA Array 150.60 279 *e*PKPdf PKPdf 18 39 20.3 -0.3
LAO *e*PKPbc PKPbc 18 39 25.3 -0.7
LAO LR LR
comp=Z,904nm,19.0s,MS5.6
DAU Daniels Canyon 150.66 264 PKIKP PKPdf 18 39 21.3 +0.6
DAU Daniels Canyon 150.66 264 *e*PKPdf PKPdf 18 39 21.1 +0.4
DAU *e*PKPbc PKPbc 18 39 26.4 +0.2
MPU Maple Canyon 150.67 263 *e*PKPdf PKPdf 18 39 20.7 0.0
MPU LR LR
comp=Z,1μm,22.0s,MS5.7
BW06 Boulder Array 150.86 270 *e*PKPdf PKPdf 18 39 18.9 -2.1
BW06 *e*PKPbc PKPbc 18 39 24.8 -1.8
BW06 LR LR
comp=Z,613nm,20.0s,MS5.4
PDAR Pinedale Array 150.86 270 PKP PKPdf 18 39 19.6 -1.4
comp=Z,2.0nm,0.9s,baz=132,slow=2.2,SNR=13
PDAR PKPbc PKPbc 18 39 25.5 -1.1
comp=Z,16nm,0.8s,baz=127,slow=4.5,SNR=90
GSC Goldstone 150.88 251 PKIKP PKPdf 18 39 21.7 +0.7
GSC Goldstone 150.88 251 *e*PKPdf PKPdf 18 39 21.4 +0.4
GSC *e*PKPbc PKPbc 18 39 26.6 -0.1
NLU North Lily Min 150.91 263 *e*PKPdf PKPdf 18 39 20.7 -0.4
SNCC San Nicolas Is 151.01 244 *e*PKPbc PKPbc 18 39 26.9 -0.1
SNCC LR LR
comp=Z,549nm,20.0s,MS5.4
CTU Camp Tracy 151.13 264 *e*PKPdf PKPdf 18 39 21.4 0.0
TCUT Toone Canyon 151.15 266 *e*PKPdf PKPdf 18 39 21.0 -0.4
TCUT *e*PKPbc PKPbc 18 39 26.7 -0.6
DUG Dugway 151.51 263 PKIKP PKPdf 18 39 22.4 +0.4
DUG Dugway 151.51 263 *e*PKPdf PKPdf 18 39 22.2 +0.2
DUG LR LR
comp=Z,723nm,20.0s,MS5.5
HWUT Hardware Ranch 151.51 266 *e*PKPdf PKPdf 18 39 21.2 -0.8
HWUT *e*PKPbc PKPbc 18 39 27.2 -0.9
HWUT LR LR
comp=Z,945nm,21.0s,MS5.6
RLMT Red Lodge 151.82 274 *e*PKPdf PKPdf 18 39 18.9 -3.5
RLMT *e*PKPbc PKPbc 18 39 28.0 -0.8
RLMT LR LR
comp=Z,561nm,19.0s,MS5.4
AHID Auburn Hatcher 151.83 269 *e*PKPdf PKPdf 18 39 22.1 -0.4
AHID LR LR
comp=Z,566nm,20.0s,MS5.4
SPUT South Promonto 151.91 265 *e*PKPdf PKPdf 18 39 20.4 -2.1
SPUT PKPbc PKPbc 18 39 26.6 -2.5
LOHW Long Hollow 151.95 271 *e*PKPdf PKPdf 18 39 21.7 -0.9
LOHW *e*PKPbc PKPbc 18 39 28.2 -1.0
SNOW Snow King Moun 151.97 270 *e*PKPbc PKPbc 18 39 27.9 -1.3
REDW Red Top Meadow 151.98 270 *e*PKPdf PKPdf 18 39 21.7 -0.9
DAC Darwin (Calif) 152.01 251 PFAKE 18 39 30.0 +7.3
DAC LR LR
comp=Z,977nm,19.0s,MS5.6
BGU Big Grassy Mou 152.06 264 *e*PKPdf PKPdf 18 39 22.5 -0.3
BGU *e*PKPbc PKPbc 18 39 28.7 -0.7
MOOW Moose Ponds 152.10 271 *e*PKPdf PKPdf 18 39 20.5 -2.4
MOOW *e*PKPbc PKPbc 18 39 28.1 -1.3
TPAW Teton Pass 152.10 270 *e*PKPdf PKPdf 18 39 22.4 -0.4
TPAW *e*PKPbc PKPbc 18 39 28.8 -0.7
ISA Isabella 152.12 249 PKIKP PKPdf 18 39 23.5 +0.6
ISA Isabella 152.12 249 *e*PKPdf PKPdf 18 39 23.2 +0.3
ISA LR LR
comp=Z,153nm,19.0s,MS4.8
TRCR Troy Canyon 152.13 257 *e*PKPbc PKPbc 18 39 29.3 -0.2
FLWY Flagg Ranch 152.24 271 *e*PKPdf PKPdf 18 39 22.7 -0.4
FLWY *e*PKPbc PKPbc 18 39 28.7 -1.1
RRI2 Red Ridge 152.27 270 *e*PKPbc PKPbc 18 39 27.6 -2.2
RRI2 *e* 18 39 33.9
IMW Indian Meadow 152.30 271 *e*PKPdf PKPdf 18 39 22.6 -0.6
IMW *e*PKPbc PKPbc 18 39 29.2 -0.7
DCID1 Drake Creek 152.30 270 *e*PKPbc PKPbc 18 39 29.8 -0.2
GCMT Greycliff 152.37 275 *e*PKPbc PKPbc 18 39 29.1 -1.0
HVU Hansel Valley 152.37 265 *e*PKIKP PKPdf 18 39 24.0 +0.7
YFT Old Faithful 152.50 272 *e*PKPdf PKPdf 18 39 24.6 +1.2
YFT *e*PKPbc PKPbc 18 39 31.1 +0.7
YNR Norris Junctio 152.52 273 *e*PKPbc PKPbc 18 39 29.3 -1.1
YMR Madison River 152.68 272 *e*PKPbc PKPbc 18 39 30.8 0.0
YMR LR LR
comp=Z,1μm,22.0s,MS5.7
TPH Tonopah 152.96 255 PFAKE 18 39 30.0 +5.9
TPH LR LR
comp=Z,713nm,19.0s,MS5.5
QLMT Earthquake Lak 153.05 272 *e*PKPbc PKPbc 18 39 31.8 +0.2
BILL Bilibino 153.21 35 *i* PKIKP PKPdf 18 39 30.5 +6.0
BILL Bilibino 153.21 35 *e*PKPbc PKPbc 18 39 30.6 -1.3
BILL LR LR
comp=Z,825nm,20.0s,MS5.5
MTUM Tungsten Hills 153.31 252 *e*PKPdf PKPdf 18 39 25.4 +0.8
EGMT Eagleton 153.33 280 *e*PKPdf PKPdf 18 39 23.1 -1.6
EGMT *e*PKPbc PKPbc 18 39 31.5 -0.7
EGMT LR LR
comp=Z,1μm,19.0s,MS5.7
ELK Elko 153.34 261 PKIKP PKPbc 18 39 32.5 +0.3
ELK Elko 153.34 261 *e*PKPbc PKPbc 18 39 32.3 0.0
ELK LR LR
comp=Z,1μm,19.0s,MS5.7
NVAR Mina Array Bea 153.84 254 PKP PKPdf 18 39 26.6 +1.2
comp=Z,1.8nm,0.7s,baz=187,slow=2.1,SNR=12
NVAR PKPbc PKPbc 18 39 33.3 0.0
comp=Z,3.6nm,0.5s,baz=191,slow=2.5,SNR=19
NVAR PKPab PKPab 18 39 45.0 -1.3
comp=Z,25nm,0.7s,baz=151,slow=3.5,SNR=34
MCMT McKenzie Canyo 153.94 271 *e*PKPbc PKPbc 18 39 33.3 -0.3
DLMT Dillon 154.03 273 *e*PKPab PKPab 18 39 45.1 -2.0
HLID Hailey 154.33 267 PKPdf PKPdf 18 39 25.4 -0.7
HLID LR LR
comp=Z,840nm,20.0s,MS5.6
BMN Battle Mountai 154.40 259 PFAKE 18 39 40.0 +14
BMN LR LR
comp=Z,921nm,20.0s,MS5.6
CHMT Chamberlain Mo 155.09 275 *e*PKPdf PKPdf 18 39 24.6 -2.6
PAHR Pah Rah Range 155.29 255 PKPdf PKPdf 18 39 26.6 -0.8
PAHR *e*PKPab PKPab 18 39 51.0 -1.5
MSO Missoula 155.50 275 *e*PKPdf PKPdf 18 39 25.3 -2.3
MSO LR LR
comp=Z,574nm,20.0s,MS5.4
WALA Waterton Lakes 156.28 280 *e*PKPdf PKPdf 18 39 26.7 -2.0
WVOR Wild Horse Val 156.40 261 *e*PKPdf PKPdf 18 39 28.6 -0.3
WVOR LR LR
comp=Z,817nm,19.0s,MS5.6
BMO Blue Mountains 156.77 268 PKIKP PKPdf 18 39 27.8 -1.6
BMO Blue Mountains 156.77 268 *e*PKPdf PKPdf 18 39 27.3 -2.1
BMO LR LR
comp=Z,714nm,20.0s,MS5.5
EDM Edmonton 156.97 290 *e*PKIKP PKPdf 18 39 26.2 -3.4
YKA Yellowknife Ar 157.34 314 PKPbc PKPdf 18 39 40.1 +10
comp=Z,1.2nm,0.6s,baz=50,slow=1.2,SNR=2.8
YKA PKPab PKPab 18 40 01.9 +0.6
comp=Z,3.0nm,0.7s,baz=61,slow=2.4,SNR=4.3
YKA Yellowknife Ar 157.34 314 PKIKP PKPdf 18 39 40.1 +10
YKA pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 158.03 276 PFAKE 18 39 40.0 +9.1
NEW LR LR
comp=Z,784nm,20.0s,MS5.5
SMY Shemya 158.48 72 PFAKE 18 39 40.0 +8.5
SMY LR LR
comp=Z,765nm,21.0s,MS5.5
HAWA Hanford 158.85 270 PFAKE 18 39 40.0 +8.1
HAWA LR LR
comp=Z,822nm,19.0s,MS5.6
COR Corvallis 160.42 262 PFAKE 18 39 40.0 +6.3
COR LR LR
comp=Z,650nm,19.0s
INK Inuvik 160.68 340 PKPab PKPab 18 40 13.7 -2.1
comp=Z,2.9nm,0.6s,baz=22,slow=4.7,SNR=3.9
NLWA Neilton Lookou 161.98 269 PFAKE 18 39 50.0 +15
NLWA LR LR
comp=Z,976nm,20.0s
TNA Tin City 163.00 25 PFAKE 18 39 50.0 +14
TNA LR LR
comp=Z,647nm,20.0s
EGAK Eagle 165.27 343 PFAKE 18 39 50.0 +12
EGAK LR LR
comp=Z,1μm,20.0s
COLA College 166.00 355 PFAKE 18 39 50.0 +11
COLA LR LR
comp=Z,1μm,22.0s
MCK McKinley 167.20 356 PFAKE 18 39 50.0 +10
MCK LR LR
comp=Z,639nm,20.0s
WRAK Wrangell Islan 167.74 303 PFAKE 18 39 50.0 +10
WRAK LR LR
comp=Z,1μm,19.0s
SIT Sitka 169.01 309 PFAKE 18 39 50.0 +8.8
SIT LR LR
comp=Z,2μm,20.0s
PMR Palmer 169.34 355 PFAKE 18 39 50.0 +8.6
PMR LR LR
comp=Z,859nm,19.0s
DIV Divide 169.45 346 PFAKE 18 39 50.0 +8.5
DIV LR LR
comp=Z,5μm,22.0s

HLW ***09*** *18:22:00.8, 34.10N×36.05E, h20km, Mb3.3*
GRAL ***09*** *18:22:12.5±1.0, 3307N×3558E, h14km±6km, MD3.3*
CSEM ***09*** *18:22:12.5±0.1, 3311N×3565E, h2km, Mw2.5, Error ellipse: s-maj=2.3km s-min=1.2km az=106.0*
GII ***09*** *18:22:12.3±0.6, 3305N×3562E, h0km±1km, ML3.2/6, Mw3.1/7*
ISCJB ***09*** *18:22:12.3±0.3, 3311N±002×3565E±003, h10km±3km, Error ellipse: s-maj=5.5km s-min=2.3km az=67.6*
NSSC ***09*** *18:22:14, 33.15N×35.75E, h21km±2km*
ISC 09 18:22:12.8±0.3, 3310N±002×3567E±003, h7km±3km, n47, σ0=87/70, 8D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSDI	**Kefar Szold**	**0.09**	**354**	Pg	**Pg**	**18 22 16.0**	**+1.1**
KSDI				Sg	**Sg**	**18 22 18.5**	**+2.1**
MMA0	**Mount Meron ar**	**0.24**	**249**	Pg	**Pg**	**18 22 17.6**	**0.0**
MMA0B	**Mount Meron ar**	**0.24**	**249**	Pg	**Pg**	**18 22 17.5**	**0.0**
MMA0B				Sg	**Sg**	**18 22 21.0**	**+0.2**
GLH	**Golan-Tel Qazi**	**0.39**	**183**	Pg	**Pg**	**18 22 20.8**	**+0.5**
GLH				Sg	**Sg**	**18 22 25.9**	**+0.5**
BRBR	**Barbar**	**0.39**	**37**	⇑*i*P	**Pg**	**18 22 20.9**	**+0.5**
BRBR	**Barbar**	**0.39**	**37**	⇑P	**Pg**	**18 22 20.0**	**-0.4**
BRBR				⇓S	**Sg**	**18 22 27.0**	**+1.5**
RCY	**Rachaya**	**0.40**	**18**	*i* Pg	**Pg**	**18 22 20.9**	**+0.3**
RCY				*i* Sg	**Sg**	**18 22 27.4**	**+1.4**
HNTI	**Hanita**	**0.42**	**268**	Pg	**Pg**	**18 22 20.4**	**-0.5**
MATL	**Matirih**	**0.48**	**324**	*i* P	**Pg**	**18 22 21.7**	**-0.4**
QASN	**Qassioun**	**0.67**	**49**	⇑*i*P	**Pg**	**18 22 26.0**	**+0.4**
QASN	**Qassioun**	**0.67**	**49**	⇑P	**Pg**	**18 22 25.0**	**-0.6**
QASN				⇑S	**Sg**	**18 22 35.0**	**+0.7**
TOTH	**TOTAH**	**0.69**	**67**	⇑*i*P	**Pg**	**18 22 26.2**	**+0.2**
TOTH	**TOTAH**	**0.69**	**67**	⇑P	**Pg**	**18 22 26.0**	**0.0**
TOTH				⇑S	**Sg**	**18 22 35.0**	**0.0**
MMLI	**Mount Malkishu**	**0.69**	**198**	Pg	**Pg**	**18 22 25.4**	**-0.7**
MMLI				Sg	**Sg**	**18 22 35.6**	**+0.4**
OFRI	**'Ofer**	**0.75**	**231**	Pg	**Pg**	**18 22 26.2**	**-1.0**
OFRI				Sg	**Sg**	**18 22 36.8**	**-0.1**
BHL	**Bhannes**	**0.80**	**359**	*i* Pg	**Pg**	**18 22 27.3**	**-0.9**
BHL				*i* Sg	**Sg**	**18 22 38.6**	**-0.1**
HMDT	**Nahal Hemdat**	**0.85**	**188**	Pg	**Pg**	**18 22 28.3**	**-0.9**
SALA	**Sala**	**0.97**	**113**	⇓*i*P	**Pg**	**18 22 31.3**	**-0.2**
SALA	**Sala**	**0.97**	**113**	⇓P	**Pg**	**18 22 31.0**	**-0.5**
SALA				⇓S	**Sg**	**18 22 45.0**	**+0.8**
SLTI	**Sal'it**	**1.01**	**212**	Pg	**Pg**	**18 22 30.9**	**-1.3**
SLTI				Sg	**Sg**	**18 22 45.0**	**-0.3**
SLTI	**Sal'it**	**1.01**	**212**	Pg	**Pg**	**18 22 30.8**	**-1.4**
SLTI				Sg	**Sg**	**18 22 45.0**	**-0.3**
MARH	**Ras Al Marh**	**1.15**	**36**	⇑*i*P	**Pg**	**18 22 33.9**	**-0.9**
MARH	**Ras Al Marh**	**1.15**	**36**	⇑P	**Pg**	**18 22 33.0**	**-1.8**
MARH				⇓S	**Sg**	**18 22 48.0**	**-1.7**
HWQ	**Hawqa**	**1.20**	**11**	*i* Pg	**Pg**	**18 22 34.4**	**-1.4**
HWQ				*i* Sg	**Sg**	**18 22 51.6**	**+0.3**
FKH	**Fakeheh**	**1.29**	**28**	*i* Pg	**Pg**	**18 22 36.5**	**-1.0**
FKH				*i* Sg	**Sg**	**18 22 55.4**	**+1.2**
ZALF	**Zalf**	**1.41**	**97**	⇓*i*P	**Pn**	**18 22 38.0**	**-0.9**
ZALF	**Zalf**	**1.41**	**97**	⇓P	**Pn**	**18 22 38.0**	**-0.9**
ZALF				⇓S	**Sb**	**18 22 56.0**	**-1.6**
DSI	**Dead Sea**	**1.54**	**189**	Pn	**Pn**	**18 22 39.3**	**-1.5**
AMAZ	**Amatzia**	**1.69**	**202**	Pn	**Pn**	**18 22 42.3**	**-0.5**
AMAZ				Sn	**Sn**	**18 23 05.3**	**+0.7**
YTIR	**Yattir**	**1.79**	**195**	Pn	**Pn**	**18 22 44.0**	**-0.2**
MZDA	**Masada**	**1.80**	**188**	Pn	**Pn**	**18 22 43.9**	**-0.5**
MZDA				Sn	**Sn**	**18 23 07.8**	**+0.4**
MZDA	**Masada**	**1.80**	**188**	Pn	**Pn**	**18 22 43.9**	**-0.4**
MZDA				Sn	**Sn**	**18 23 07.8**	**+0.3**
RTMI	**Retamim**	**2.20**	**202**	Pn	**Pn**	**18 22 49.7**	**-0.1**
MASH	**Mash'abbe Sade**	**2.23**	**200**	Pn	**Pn**	**18 22 50.1**	**-0.1**
SVTA	**Shivta**	**2.34**	**203**	Pn	**Pn**	**18 22 52.4**	**+0.7**
KZIT	**Kziot**	**2.44**	**207**	Pn	**Pn**	**18 22 52.4**	**-0.7**
KZIT				Sn	**Sn**	**18 23 24.7**	**+1.5**
ZFRI	**Zfri**	**2.57**	**190**	Pn	**Pn**	**18 22 55.2**	**+0.4**
ZFRI	**Zfri**	**2.57**	**190**	Pn	**Pn**	**18 22 55.2**	**+0.3**
PRNI	**Paran**	**2.80**	**192**	Pn	**Pn**	**18 22 58.0**	**0.0**
KMTI	**Karmit**	**3.09**	**195**	Pn	**Pn**	**18 23 02.9**	**+0.8**
HRFI	**Mount Harif**	**3.10**	**190**	Pn	**Pn**	**18 23 01.9**	**-0.2**
HRFI				Sn	**Sn**	**18 23 41.0**	**+1.5**
AMAG	**Maghara**	**3.22**	**221**	P	**Pn**	**18 23 02.9**	**-0.9**
MBH	**Mount Berech**	**3.36**	**191**	Pn	**Pn**	**18 23 05.8**	**+0.1**
EIL	**Elat**	**3.47**	**190**	Pn	**Pn**	**18 23 07.4**	**+0.1**
EIL				Sn	**Sn**	**18 23 51.0**	**+2.3**
HNKL	**Nakhl**	**3.48**	**205**	P	**Pn**	**18 23 07.5**	**+0.2**
TR2		**4.99**	**200**	P	**Pn**	**18 23 28.2**	**0.0**
TR2		**4.99**	**200**	P	**Pn**	**18 23 28.2**	**+0.1**
	572nm,0.3s						

ISCJB ***09*** *18:23:52.7±1.8, 459S×007×14432E±009, h95km±18km, mb4.2/13, Error ellipse: s-maj=14.2km s-min=12.2km az=17.0*
IDC ***09*** *18:23:52.8±3.3, 453S×14433E, h82km±31km, mb3.9/9, mb1 4.0/12, mb1mx4.0/16, mbtmp4.3/12, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=22.3km s-min=16.4km az=77.0*
BJI ***09*** *18:23:52.9, 453S×14443E, h96km, mB4.9, mb4.5*
NEIC ***09*** *18:23:53.7±1.3, 454S×14428E, h92km±12km, mb4.1/5, Error ellipse: s-maj=9.3km s-min=8.4km az=151.0*

ISC 09 18:23:54.7±1.6, 463S±008×14432E±008, h99km±16km, h96km±2.2km: pP-P, n37, σ0.85/32, mb4.2/13, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.52**	**149**	P	**Pn**	**18 25 14.4**	**0.0**
	4.9nm,0.3s,baz=0.5,slow=5.6,SNR=24						
PMG				S	**Sn**	**18 26 12.8**	**-3.7**
	8.7nm,0.3s,baz=298,slow=22,SNR=3.2						
PMG	**Port Moresby**	**5.52**	**149**	*e*P	**Pn**	**18 25 14.3**	**-0.1**
	62nm,0.6s						
KAKA	**Kakadu**	**14.22**	**235**	*e*P	**Pn**	**18 27 10.9**	**-0.5**
	13nm,0.5s						
CTA	**Charters Tower**	**15.48**	**173**	*e*P	**Pn**	**18 27 36.5**	**+9.0**
	2.3nm,0.6s						
CTA	**Charters Tower**	**15.48**	**173**	LR	LR	18 33 11.4	
	comp=Z,148nm,19.6s,baz=46,slow=36						
CTAO	**Charters Tower**	**15.48**	**173**	P	**Pn**	**18 27 30.0**	**+2.5**
HNR	**Honiara**	**16.22**	**108**	P	**Pn**	**18 27 37.8**	**+1.1**
	5.1nm,0.3s,baz=257,slow=2.4,SNR=6.2						
WB2	**Warramunga Arr**	**18.05**	**212**	*e*P	**Pn**	**18 27 58.6**	**-0.5**
WRA	**Warramunga Arr**	**18.06**	**212**	P	**Pn**	**18 27 58.4**	**-0.7**
	0.6nm,0.3s,baz=35,slow=12,SNR=14						
AS31	**Alice Springs**	**21.43**	**207**	*e*P	**P**	**18 28 34.9**	**+0.2**
ASAR	**Alice Springs**	**21.43**	**207**	P	**P**	**18 28 35.0**	**+0.3**
	2.2nm,0.6s,mb3.7,baz=30,slow=14,SNR=33						
ASPA	**Alice Springs**	**21.43**	**207**	*e*P	**P**	**18 28 34.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**22.65**	**232**	*e*P	**P**	**18 28 48.1**	**+0.5**
	10nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**22.65**	**232**	P	**P**	**18 28 48.3**	**+0.7**
	3.9nm,0.5s,mb4.0,baz=58,slow=9.6,SNR=23						
STKA	**Stephens Creek**	**27.23**	**185**	*e*P	**P**	**18 29 29.3**	**0.0**
	1.7nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**27.23**	**185**	P	**P**	**18 29 29.4**	**+0.1**
	2.6nm,0.7s,mb3.9,baz=356,slow=13,SNR=8.1						
DZM	**Mont Dzumac**	**27.57**	**131**	P	**P**	**18 29 32.1**	**-0.2**
	7.9nm,0.9s,mb4.2,baz=275,slow=16,SNR=6.7						
MJAR	**Matsushiro Arr**	**41.35**	**353**	P	**P**	**18 31 28.7**	**-2.1**
	1.1nm,0.6s,mb3.9,baz=181,slow=8.6,SNR=5.0						
NJ2	**Nanjing**	**43.79**	**328**	*e*P	**P**	**18 31 51.3**	**+0.7**
NJ2				AP	pP	18 32 14.1	+0.4
NJ2				XP	sP	18 32 25.4	+0.5
NJ2				S	**S**	**18 38 14.0**	**+0.2**
NJ2				XS	sS	18 38 53.0	-0.6
NJ2				LR	LR		
	comp=N,700nm,18.9s						
NJ2				LR	LR		
	comp=E,1μm,19.4s						
NJ2				LR	LR		
	comp=Z,10μm,20.3s						
KMI	**Kunming**	**50.06**	**308**	P	**P**	**18 32 40.7**	**+1.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=N,693nm,10.8s						
KMI				LR	LR		
	comp=E,460nm,10.3s						
KMI				LR	LR		
	comp=Z,411nm,10.3s						
MDJ	**Mudanjiang**	**50.77**	**346**	P	**P**	**18 32 44.4**	**-0.3**
MDJ				YP	pP	18 33 06.1	-2.3
MDJ				PCP	PcP	18 34 00.2	-0.2
MDJ				PP	PP	18 34 41.0	-0.7
MDJ				SCP	ScP	18 37 47.9	+0.4
MDJ				PCS	PcS	18 37 57.8	-0.1
MDJ				AMB	AMB		
	comp=Z,120nm,4.4s						
MDJ				LR	LR		
	comp=N,62nm,30.6s						
MDJ				LR	LR		
	comp=E,158nm,24.3s						
MDJ				LR	LR		
	comp=Z,131nm,24.3s						
LZH	**Lanzhou**	**55.45**	**320**	*e*P	**P**	**18 33 21.0**	**+2.0**
LZH				AP	pP	18 33 44.7	+1.7
LZH				XP	sP	18 33 55.9	+1.9
LZH				PP	PP	18 35 28.1	+4.3
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
SONM	**Songino Array**	**61.93**	**332**	P	**P**	**18 34 03.6**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=159,slow=6.3,SNR=5.4						
VNDA	**Vanda**	**73.44**	**176**	P	**P**	**18 35 16.2**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.0,baz=338,slow=14,SNR=7.1						
VNDA	**Vanda**	**73.44**	**176**	*e*P	**P**	**18 35 15.8**	**-0.5**
MKAR	**Makanchi Array**	**74.75**	**321**	P	**P**	**18 35 23.9**	**0.0**
	comp=Z,3.5nm,0.5s,mb4.3,baz=97,slow=8.4,SNR=46						
ZAL	**Zalesovo**	**76.45**	**328**	P	**P**	**18 35 32.8**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.1,baz=359,slow=4.8,SNR=8.8						
MAW	**Mawson**	**82.48**	**202**	P	**P**	**18 36 06.5**	**+0.3**
CHKZ	**Chkalovo**	**84.15**	**325**	*e*P	**P**	**18 36 14.0**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.3						
BRVK	**Borovoye**	**84.17**	**324**	*e*P	**P**	**18 36 14.8**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**85.33**	**180**	*e*P	**P**	**18 36 20.2**	**-0.5**
LPAZ	**La Paz**	**141.76**	**124**	PKhKP		18 43 12.6	
	comp=Z,0.7nm,0.4s,baz=278,slow=4.9,SNR=4.8						
LPAZ	**La Paz**	**141.76**	**124**	PKP	PKPdf	18 43 12.6	-2.1
TORD	**Torodi Ar. Bea**	**142.16**	**285**	PKhKP		18 43 10.6	
	comp=Z,0.2nm,0.3s,baz=64,slow=3.1,SNR=7.8						
SDV	**Santo Domingo**	**145.04**	**81**	PKP	PKPdf	18 43 20.7	+0.3
	comp=Z,2.1nm,0.5s,baz=345,slow=4.3,SNR=5.3						
SIV	**San Ignacio**	**147.58**	**130**	PKPbc	PKPbc	18 43 29.0	+1.5
	comp=Z,25nm,0.6s,baz=246,slow=3.9,SNR=131						
DBIC	**Dimbokro**	**149.26**	**275**	PKPbc	PKPbc	18 43 33.3	+1.5
	comp=Z,3.5nm,0.6s,baz=123,slow=1.8,SNR=9.8						

*ISCJB **09** 18:25:03.2±1.0, 1729N±007×7378E±007, h34km±15km, Error ellipse: s-maj=11.2km s-min=10.3km az=40.7*
*NDI **09** 18:25:07.3±11.0, 1734N×7380E, h5km, ML3.9*

ISC 09 18:25:02.9±1.6, 1733N±008×7369E±007, h10km±10km, n16, σ1§44/20, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.47**	**93**	*e*P	**Pg**	**18 25 12.0**	**-0.1**
KAD				*e*S	**Sg**	**18 25 18.0**	**-0.3**
KAD				AML	AML	18 25 18.1	
	comp=N,2μm,0.1s						
KAD				AML	AML	18 25 18.2	
	comp=E,1μm,0.2s						
POO	**Poona**	**1.20**	**7**	*e*P	Px	18 26 03.8	
POO				*e*S	Sx	18 26 22.2	
POO				AML	AML	18 26 24.2	
	comp=N,706nm,0.3s						
POO				AML	AML	18 26 24.7	
	comp=E,1μm,0.3s						
BOM	**Bombay**	**1.77**	**332**	*e*P	**Pn**	**18 25 30.4**	**-3.2**
BOM				*e*S	**Sn**	**18 25 55.7**	**-0.4**
BOM				*ex*	x	18 25 58.2	
	comp=E,9μm,0.3s						
BOM				*ex*	x	18 25 58.3	
	comp=N,16μm,0.5s						
LATR	**Latur**	**2.94**	**68**	*e*P	**Pn**	**18 25 52.5**	**+2.9**
LATR				*e*S	**Sn**	**18 26 28.3**	**+3.2**
MNGI	**Mangalore**	**4.50**	**166**	*e*P	**Pn**	**18 26 10.9**	**-0.2**
MNGI				*i* x	x	18 27 13.4	
MNGI				*ex*	x	18 27 33.9	
	comp=N,326nm,0.4s						
AKL	**Akola**	**4.60**	**43**	*i* x	x	18 26 26.2	
AKL				*i* x	x	18 27 26.4	
BHV	**Bhavnagar**	**4.63**	**342**	*e*P	**Pb**	**18 26 28.5**	**+4.3**
BHV				*e*S	**Sb**	**18 27 30.0**	**+10**
NGP	**Nagpur**	**6.33**	**52**	*e*P	**Pn**	**18 26 39.2**	**+2.9**
NGP				*e*S	**Sn**	**18 27 46.9**	**-1.7**
NGP				*ex*	x	18 28 23.0	
	comp=E,147nm,0.7s						
BHPL	**Bhopal**	**6.84**	**30**	*e*S	**Sn**	**18 28 02.4**	**+1.1**
BHPL				AML	AML	18 28 43.5	
	comp=E,603nm,0.3s						
BHPL				AML	AML	18 28 43.9	
	comp=N,421nm,0.4s						
JBP	**Jabalpur**	**8.28**	**44**	*i*P	**Pn**	**18 27 04.8**	**+1.7**
JBP				*ex*	x	18 27 06.2	
	comp=Z,13nm,0.9s						
JBP				*i* S	**Sn**	**18 28 36.5**	**-0.1**
KOLN	**Koldanda**	**13.84**	**40**	*e*P	**Pn**	**18 28 18.6**	**-0.5**
GKN	**Gorkha**	**14.65**	**42**	*e*P	**Pn**	**18 28 25.7**	**-4.5**
DMN	**Daman**	**14.69**	**44**	*e*P	**Pn**	**18 28 29.9**	**-0.8**
PKI	**Pulchoki**	**14.86**	**45**	*e*P	**Pn**	**18 28 32.7**	**-0.4**
KKN	**Kakani**	**14.92**	**44**	*e*P	**Pn**	**18 28 31.1**	**-2.8**
	comp=Z,11nm,0.7s						
GUN	**Gumba**	**15.40**	**45**	*e*P	**Pn**	**18 28 36.5**	**-3.7**

*NEIC **09** 18:32:41.6, 1674N×9972W, h10km, MD3.7(MEX), After MEX.*

MEX 09 18:32:41.7±0.6, 1673N×9972W, h10km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**306**	*i* P	Pg	18 32 46.0	-0.4
ACX				*i* S	Sg	18 32 49.5	-0.1
CAIG	**El Cayaco**	**0.61**	**301**	*i* P	Pg	18 32 52.1	-1.4
CAIG				*i* S	Sg	18 33 00.7	-0.8
MEIG	**Mezcala**	**1.19**	**5**	*i* P	Pb	18 33 00.5	-3.9
MEIG				*i* S	Sb	18 33 15.2	-4.7
PLIG	**Platanillo**	**1.67**	**7**	*i* P	Pn	18 33 08.8	-2.1
PLIG				*i* S	Sn	18 33 27.8	-4.5
UTMO	**Huajuapan**	**2.14**	**59**	*i* P	Pn	18 33 15.9	-1.5
PPM	**Popocatepetl**	**2.55**	**24**	*i* S	Sn	18 33 52.1	-2.0
PPM	**Popocatepetl**	**2.55**	**24**	*i* S	Sn	18 33 53.2	-0.9
OXX	**Oaxaca**	**2.89**	**83**	*e*P	Pn	18 33 38.0	+10
IIO	**Organos**	**3.00**	**18**	*i* P	Pn	18 33 30.4	+1.1

*NEIC **09** 18:34:06.7, 1672N×9976W, h7km, MD3.8(MEX), After MEX.*

MEX 09 18:34:06.3±0.8, 1671N×9974W, h9km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**312**	*i* P	Pg	18 34 11.0	0.0
ACX				*i* S	Sg	18 34 13.5	-0.7
CAIG	**El Cayaco**	**0.61**	**304**	*i* P	Pg	18 34 17.2	-0.9
CAIG				*i* S	Sg	18 34 25.7	-0.3
MEIG	**Mezcala**	**1.21**	**5**	*i* P	Pb	18 34 25.6	-3.8
MEIG				*i* S	Sb	18 34 40.3	-4.9
PNIG	**Pinotepa**	**1.58**	**101**	*i* P	Pn	18 34 30.3	-4.2
PNIG				*i* S	Sn	18 34 49.8	-5.1
PNIG	**Pinotepa**	**1.58**	**101**	*i* P	Pn	18 34 30.3	-4.2
PNIG				*i* S	Sn	18 34 52.7	-2.3
PLIG	**Platanillo**	**1.69**	**8**	*i* P	Pn	18 34 33.1	-2.9
PLIG				*i* S	Sn	18 34 54.8	-2.9
PPM	**Popocatepetl**	**2.57**	**24**	*e*P	Pn	18 34 45.9	-2.2
PPM				*i* S	Sn	18 35 18.0	-1.5
OXX	**Oaxaca**	**2.91**	**82**	*i* P	Pn	18 35 04.0	+11

*NIED **09** 18:40:00, 2050N×12090E, h26km, Mw4.5 Best double couple: M0=6.03000×10^15 NP1:φs=298.00000°, δ55.00000°, λ-103.00000°. NP2:φs=139.00000°, δ37.00000°, λ-72.00000°.*
*IDC **09** 18:40:45.5±0.6, 2055N×12001E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/24, mbtmp4.2/16, Error ellipse: s-maj=28.4km s-min=13.5km az=71.0*
*NEIC **09** 18:40:47.2±0.3, 2054N×12002E, h10km, mb4.8/21, Error ellipse: s-maj=9.2km s-min=6.2km az=78.0*
*ISCJB **09** 18:40:48.1±0.2, 2046N±003×11996E±005, h25km, mb4.6/40, MS4.1/3, Error ellipse: s-maj=6.5km s-min=4.0km az=134.3*
*MOS **09** 18:40:49.1±0.9, 2044N×11999E, h33km, mb5.1/17, Error ellipse: s-maj=16.6km s-min=8.1km az=118.7*
*BJI **09** 18:40:54.5, 2123N×11945E, h5km, mB4.8, mb4.3, ML3.7, Ms4.4, Msz4.2*
*MAN **09** 18:41:00.6, 1965N×12045E, h44km, MS2.9*

ISC 09 18:40:49.8±0.2, 2057N±003×12008E±004, h27km, h27km±1.4km: pP-P, n114, σ1§14/124, mb4.6/40, MS4.1/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**2.96**	**168**	*e*P	**Pn**	**18 41 32.8**	**-2.3**
SGCP	**Mt. Cagua**	**2.96**	**141**	*e*P	**Pn**	**18 41 33.7**	**-1.4**
CAUP	**Cauayan**	**3.96**	**155**	*e*P	**Pn**	**18 41 50.2**	**+1.4**
PALP	**Palanan**	**4.13**	**147**	*e*P	**Pn**	**18 41 51.9**	**+0.8**
PALP	**Palanan**	**4.13**	**147**	*e*P	**Pn**	**18 41 51.2**	**0.0**
BOLP	**Bolinao**	**4.16**	**182**	*e*P	**Pn**	**18 41 51.1**	**-0.5**
YHNB	**Yeheng**	**4.26**	**16**	*e*P	**Pn**	**18 41 51.7**	**-1.2**
QZH	**Quanzhou**	**4.57**	**343**	P	**Pn**	**18 41 53.7**	**-3.5**
QZH				S	**Sn**	**18 42 42.4**	**-6.9**
QZH				Smax			
	comp=N,100nm,1.0s						
QZH				Smax			
	comp=E,200nm,1.0s						
QZH				LR	LR		
	comp=N,1μm,6.0s						
QZH				LR	LR		
	comp=E,3μm,14.2s						
QZH				LR	LR		
	comp=Z,3μm,11.4s						
SCZP	**Santa Cruz**	**4.77**	**182**	*e*P	**Pn**	**18 41 59.6**	**-0.2**
BALP	**Baler**	**5.00**	**163**	*e*P	**Pn**	**18 42 03.9**	**+0.7**
TGY	**Tagaytay City**	**6.48**	**173**	Pn	**Pn**	**18 42 30.2**	**+6.8**
	comp=Z,6.4nm,0.3s,baz=231,slow=6.3,SNR=5.0						
GZH	**Guangzhou**	**6.74**	**293**	P	**Pn**	**18 42 22.2**	**-4.8**
GZH				S	**Sn**	**18 43 29.4**	**-13**
GZH				Smax			
	comp=N,54nm,0.6s						
GZH				Smax			
	comp=E,63nm,0.7s						
LUBP	**Lubang**	**6.79**	**179**	*e*P	**Pn**	**18 42 30.3**	**+2.6**
PVCP	**Virac**	**7.95**	**150**	*e*P	**Pn**	**18 42 42.7**	**-0.9**
BUSP	**Coron**	**8.51**	**179**	*e*P	**Pn**	**18 42 51.7**	**+0.3**
QIZ	**Qiongzhong**	**9.76**	**263**	P	**Pn**	**18 43 09.0**	**+0.6**
QIZ				S	**Sn**	**18 44 55.8**	**-1.2**
QIZ				AMB	AMB		
	comp=Z,12nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,134nm,5.8s						
QIZ				LR	LR		
	comp=N,737nm,11.8s						
QIZ				LR	LR		
	comp=E,1μm,12.2s						
QIZ				LR	LR		
	comp=Z,2μm,12.2s						
QIZ	**Qiongzhong**	**9.76**	**263**	*e*P	**Pn**	**18 43 06.3**	**-2.0**
NJ2	**Nanjing**	**11.49**	**355**	*e*P	**Pn**	**18 43 28.8**	**-3.3**
NJ2				AP		18 43 35.5	
NJ2				PP		18 43 37.6	
NJ2				XP		18 43 40.2	
NJ2				S	**Sn**	**18 45 29.6**	**-10**
NJ2				XS		18 45 41.2	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,920nm,11.6s						
NJ2				LR	LR		
	comp=E,1μm,12.9s						
NJ2				LR	LR		
	comp=Z,2μm,12.6s						
GYA	**Guiyang**	**13.63**	**298**	P	**Pn**	**18 44 03.5**	**+2.2**
GYA				S	**Sn**	**18 46 28.5**	**-3.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,80nm,3.8s						
GYA				LR	LR		
	comp=N,460nm,11.0s						
GYA				LR	LR		
	comp=E,480nm,11.2s						
GYA				LR	LR		
	comp=Z,430nm,11.0s						
KMI	**Kunming**	**16.61**	**289**	P	**Pn**	**18 44 45.1**	**+4.3**
KMI				AP	pP	18 44 49.7	-0.5
KMI				XP	sP	18 44 53.4	-0.3
KMI				PP		18 44 57.1	
KMI				PPP		18 45 02.9	
KMI				AMB	AMB		
	comp=Z,115nm,5.5s						
KMI				LR	LR		
	comp=N,728nm,15.1s						
KMI				LR	LR		
	comp=E,343nm,19.0s						
KMI				LR	LR		
	comp=Z,366nm,23.8s						
KMI	**Kunming**	**16.61**	**289**	P	**Pn**	**18 44 45.1**	**+4.3**
	comp=Z,3.0nm,1.5s						
KMI				pP	pP	18 44 49.7	-0.5
KMI				sP	sP	18 44 53.4	-0.3
KMI				PP		18 44 57.1	
KMI				PPP		18 45 02.9	
KMI				S	**Sn**	**18 47 46.5**	**+2.2**
KMI				sS	sS	18 47 57.6	-9.1
KMI				SSS		18 48 15.4	
BJT	**Baijiatuau**	**19.68**	**351**	*e*P	**Pn**	**18 45 21.0**	**+2.7**
BJT				pmax	pmax		
	comp=Z,18nm,0.9s						
BJT	**Baijiatuau**	**19.68**	**351**	*e*P	**Pn**	**18 45 21.0**	**+2.7**
	comp=Z,18nm,0.9s						
BJI	**Beijing**	**19.70**	**351**	*e*P	**Pn**	**18 45 18.4**	**-0.1**
BJI				S	**Sn**	**18 48 56.1**	**-2.9**
BJI				AMB	AMB		
	comp=Z,11nm,0.9s						
BJI				LR	LR		
	comp=N,270nm,10.2s						
BJI				LR	LR		
	comp=E,545nm,15.7s						
BJI				LR	LR		
	comp=Z,152nm,13.8s						
BJI	**Beijing**	**19.70**	**351**	*e*P	**Pn**	**18 45 18.4**	**-0.1**
	comp=Z,11nm,0.9s						
BJI				S	**Sn**	**18 48 56.1**	**-2.9**
CHTO	**Chiang Mai**	**19.98**	**269**	*e*P	**Pn**	**18 45 20.9**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,21nm,1.4s						
CHTO	**Chiang Mai**	**19.98**	**269**	*e*P	**Pn**	**18 45 20.9**	**-1.0**
	comp=Z,21nm,1.4s						
LZH	**Lanzhou**	**21.01**	**321**	*e*P	**P**	**18 45 34.0**	**+2.8**
LZH				AP		18 45 37.3	
LZH				XP	sP	18 45 40.7	-1.2
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,128nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,10.8s						
LZH				LR	LR		
	comp=Z,1μm,11.5s,MS4.5						
LZH	**Lanzhou**	**21.01**	**321**	*e*P	**P**	**18 45 34.0**	**+2.8**
	comp=Z,30nm,1.0s,mb4.6						
LZH				pP		18 45 37.3	
LZH				sP	sP	18 45 40.7	-1.2
LZH				PP		18 45 44.7	
LZH				*e*SS		18 48 18.2	
LZH				LR	LR		
	comp=Z,1μm,11.5s,MS4.5						
KSM	**Kuching**	**21.24**	**208**	*e*P	**P**	**18 45 33.1**	**-0.6**
MAT	**Matsushiro**	**22.45**	**41**	P	**P**	**18 45 48.1**	**+1.4**
MAT				*e*S	**S**	**18 49 50.0**	**-2.0**
MJAR	**Matsushiro Arr**	**22.45**	**41**	P	**P**	**18 45 48.4**	**+1.6**
	comp=Z,3.9nm,0.7s,mb3.9,baz=242,slow=12,SNR=13						
MDJ	**Mudanjiang**	**25.25**	**16**	P	**P**	**18 46 18.2**	**+4.6**
MDJ				AP	pP	18 46 24.2	+2.7
MDJ				XP	sP	18 46 27.0	+2.2
MDJ				S	**S**	**18 50 45.5**	**+7.9**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,81nm,7.2s						
MDJ				LR	LR		
	comp=N,83nm,23.8s,MS3.5						
MDJ				LR	LR		
	comp=E,170nm,22.6s,MS3.5						
MDJ				LR	LR		
	comp=Z,141nm,16.5s						
MDJ	**Mudanjiang**	**25.25**	**16**	P	**P**	**18 46 15.3**	**+1.7**
	comp=Z,21nm,1.1s,mb4.6						
PSI	**Prapat**	**27.15**	**232**	P	**P**	**18 46 31.6**	**+0.8**
	comp=Z,7.8nm,0.9s,mb4.2,baz=337,slow=22,SNR=6.8						
LSA	**Lhasa**	**27.66**	**295**	*e*P	**P**	**18 46 37.1**	**+1.7**
LSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
LSA	**Lhasa**	**27.66**	**295**	*e*P	**P**	**18 46 37.1**	**+1.7**
	comp=Z,12nm,0.7s,mb4.6						
HIA	**Hailar**	**28.64**	**360**	P	**P**	**18 46 47.4**	**+3.3**
SONM	**Songino Array**	**29.37**	**341**	P	**P**	**18 46 49.0**	**-1.6**
	comp=Z,0.9nm,1.1s,baz=152,slow=9.4,SNR=2.4						
GUN	**Gumba**	**31.95**	**290**	*e*P	**P**	**18 47 13.5**	**+0.1**
	comp=Z,42nm,0.8s,mb5.3						
PKI	**Pulchoki**	**32.34**	**289**	*e*P	**P**	**18 47 16.8**	**0.0**
	comp=Z,18nm,0.9s,mb4.9						
KKN	**Kakani**	**32.47**	**290**	*e*P	**P**	**18 47 17.8**	**-0.1**
	comp=Z,30nm,0.9s,mb5.1						
DMN	**Daman**	**32.61**	**289**	*e*P	**P**	**18 47 19.3**	**+0.2**
	comp=Z,23nm,0.8s,mb5.1						
GKN	**Gorkha**	**33.06**	**290**	*e*P	**P**	**18 47 22.3**	**-0.7**
	comp=Z,32nm,1.1s,mb5.2						
KOLN	**Koldanda**	**33.95**	**289**	*e*P	**P**	**18 47 30.8**	**-0.1**
	comp=Z,32nm,0.8s,mb5.3						
WMQ	**Urumqi**	**35.54**	**318**	*e*P	**P**	**18 47 48.0**	**+3.5**
WMQ				AP	pP	18 47 55.0	+2.5
WMQ				XP	sP	18 47 59.0	+3.2
WMQ				*e*S	**S**	**18 53 22.0**	**+3.5**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,129nm,5.5s						
WMQ				LR	LR		
	comp=N,319nm,18.0s,MS4.2						
WMQ				LR	LR		
	comp=E,292nm,19.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,268nm,20.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**38.81**	**172**	P	**P**	**18 48 13.1**	**+0.8**
	comp=Z,4.4nm,0.8s,mb4.2,baz=188,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**42.61**	**160**	P	**P**	**18 48 42.7**	**-1.0**
	comp=Z,12nm,0.8s,mb4.7,baz=342,slow=8.9,SNR=28						
WB2	**Warramunga Arr**	**42.61**	**160**	*e*P	**P**	**18 48 42.6**	**-1.1**
WB2				*e*	pP	18 48 51.1	-0.7
ZAL	**Zalesovo**	**42.78**	**330**	P	**P**	**18 48 43.6**	**-1.5**
	comp=Z,1.3nm,0.8s,mb3.7,baz=245,slow=13,SNR=2.6						
AS31	**Alice Springs**	**45.98**	**162**	*e*P	**P**	**18 49 10.0**	**-0.6**
ASPA	**Alice Springs**	**45.98**	**162**	*e*P	**P**	**18 49 10.0**	**-0.6**
ASAR	**Alice Springs**	**45.98**	**162**	P	**P**	**18 49 10.3**	**-0.3**
	comp=Z,5.5nm,1.0s,mb4.4,baz=331,slow=6.6,SNR=20						
CTA	**Charters Tower**	**47.84**	**146**	*e*P	**P**	**18 49 26.5**	**+1.3**
	comp=Z,10nm,0.9s,mb4.9						
CTA				*i*	pP	18 49 34.5	+1.2
CTA	**Charters Tower**	**47.84**	**146**	*e*P	**P**	**18 49 26.5**	**+1.3**
CTA				*i*	pP	18 49 34.5	+1.2
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	**Charters Tower**	**47.84**	**146**	*e*P	**P**	**18 49 25.8**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**47.84**	**146**	*e*P	**P**	**18 49 25.8**	**+0.6**
	comp=Z,24nm,0.9s,mb5.2						
BVAR	**Borovoye Array**	**49.87**	**323**	P	**P**	**18 49 41.0**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=111,slow=8.2,SNR=3.6						
BVAR				PcP	PcP	18 51 00.9	-0.1
	comp=Z,1.3nm,0.8s,baz=126,slow=3.7,SNR=3.0						
STKA	**Stephens Creek**	**56.07**	**158**	P	**P**	**18 50 26.1**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=336,slow=8.2,SNR=4.5						
STKA	**Stephens Creek**	**56.07**	**158**	*e*P	**P**	**18 50 27.1**	**+0.6**
AKTK	**Aktyubinsk**	**56.69**	**317**	P	**P**	**18 50 31.2**	**+0.4**
AKTO	**Aktyubinsk**	**56.69**	**317**	P	**P**	**18 50 31.2**	**+0.4**
	comp=Z,2.5nm,1.0s,mb4.2,baz=101,slow=6.3,SNR=3.6						
JOF	**

HINF	Hinteralfeld	89.49	322	eP	P	18 53 43.5	-1.0
HAU	Haudompre	89.69	322	eP	P	18 53 44.9	-0.5
LPG	La Plagne	90.73	320	eP	P	18 53 51.3	+1.0
	comp=Z,13nm,0.8s,mb5.0						
LPG	La Plagne	90.73	320	eP	P	18 53 51.3	+1.0
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
LPG	La Plagne	90.73	320	eP	P	18 53 51.3	+1.0
	comp=Z,6.7nm,0.8s,mb5.0						
LPL	La Plagne	90.73	320	eP	P	18 53 51.2	+0.9
	comp=Z,12nm,0.8s,mb5.0						
LPL	La Plagne	90.73	320	eP	P	18 53 51.2	+0.9
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
LPL	La Plagne	90.73	320	eP	P	18 53 51.2	+0.9
	comp=Z,5.8nm,0.8s,mb5.0						
MBDF	Montbardon	91.11	319	eP	P	18 53 52.0	-0.1
	comp=Z,5.4nm,0.7s,mb4.7						
MBDF	Montbardon	91.11	319	eP	P	18 53 52.0	-0.1
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
MBDF	Montbardon	91.11	319	eP	P	18 53 52.0	-0.1
	comp=Z,2.7nm,0.7s,mb4.7						
SBF	Sospel	91.14	318	eP	P	18 53 52.3	+0.1
	comp=Z,20nm,0.8s,mb5.2						
SBF	Sospel	91.14	318	eP	P	18 53 52.3	+0.1
SBF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2						
SBF	Sospel	91.14	318	eP	P	18 53 52.3	+0.1
	comp=Z,10.0nm,0.8s,mb5.2						
ORIF	Oris-en-Rattie	91.56	320	eP	P	18 53 54.6	+0.5
	comp=Z,9.6nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	91.56	320	eP	P	18 53 54.6	+0.5
ORIF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	91.56	320	eP	P	18 53 54.6	+0.5
	comp=Z,4.8nm,1.0s,mb4.8						
FRF	La Foret Royal	91.78	318	eP	P	18 53 55.4	+0.2
	comp=Z,10nm,0.8s,mb4.9						
FRF	La Foret Royal	91.78	318	eP	P	18 53 55.4	+0.2
FRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
FRF	La Foret Royal	91.78	318	eP	P	18 53 55.4	+0.2
	comp=Z,5.1nm,0.8s,mb4.9						
SSF	Saint Saulge	91.82	322	eP	P	18 53 55.2	-0.1
SMF	Signal de Mont	91.85	322	eP	P	18 53 53.0	-2.5
	comp=Z,7.8nm,0.9s,mb4.8						
SMF	Signal de Mont	91.85	322	eP	P	18 53 53.0	-2.5
SMF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
SMF	Signal de Mont	91.85	322	eP	P	18 53 53.0	-2.5
	comp=Z,3.9nm,0.9s,mb4.7						
LMR	La Mourre	91.98	318	eP	P	18 53 55.7	-0.4
	comp=Z,21nm,1.3s,mb5.0						
LMR	La Mourre	91.98	318	eP	P	18 53 55.7	-0.4
LMR				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
LMR	La Mourre	91.98	318	eP	P	18 53 55.7	-0.4
	comp=Z,10nm,1.3s,mb5.0						
SMRF	Simiane la Rot	92.23	319	eP	P	18 53 58.1	+0.9
	comp=Z,13nm,1.3s,mb4.8						
SMRF	Simiane la Rot	92.23	319	eP	P	18 53 58.1	+0.9
	comp=Z,13nm,1.3s,mb5.1						
VIVF	Saint-Julien-l	92.32	320	eP	P	18 53 58.0	+0.4
	comp=Z,6.2nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	92.32	320	eP	P	18 53 58.0	+0.4
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	92.32	320	eP	P	18 53 58.0	+0.4
	comp=Z,3.1nm,0.8s,mb4.7						
BGF	Bois d'Agland	92.47	322	eP	P	18 53 58.3	-0.1
MTLF	Montolieu	94.63	320	eP	P	18 54 08.6	+0.3
	comp=Z,4.7nm,0.9s,mb4.6						
MTLF	Montolieu	94.63	320	eP	P	18 54 08.6	+0.3
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
MTLF	Montolieu	94.63	320	eP	P	18 54 08.6	+0.3
	comp=Z,2.3nm,0.9s,mb4.6						
SDV	Santo Domingo	148.90	21	PKPbc	PKPbc	19 00 36.0	+0.9
	comp=Z,7.5nm,0.8s,baz=32,slow=5.7,SNR=5.4						

BJI 09 18:42:08.4, 4169N×8837E, h22km, mb3.8, ML3.7, Ms4.2, Msz3.6, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.19	347	‖iPG	Pn	18 42 45.5	+2.1
WMQ				SG	Sn	18 43 13.4	+3.6
WMQ				Smax			
	comp=N,2μm,0.4s						
WMQ				Smax			
	comp=E,866nm,0.4s						
MK02	Makanchi Array	6.69	321	⇑Pn	Pn	18 43 47.5	+2.2
	comp=E,5.2nm,0.6s,baz=140,slow=14						
MK02				‖Lg		18 45 32.8	
	comp=E,18nm,0.6s,baz=139,slow=29						
CHCP	Chirah Chowk	14.39	241	P	Pn	18 45 32.5	+1.8
CEP	Cherat	15.19	244	P	Pn	18 45 42.5	+1.0
CEP				S	Sn	18 48 25.0	-4.0
THW	Thamme Wali	15.92	241	P	Pn	18 45 50.5	-0.5
CD2	Chengdu	16.39	126	eP	Pn	18 45 56.6	-0.5
CD2				PP		18 46 10.4	
CD2				S	Sn	18 48 59.6	+1.3
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s						
CD2				LR	LR		
	comp=E,400nm,9.6s						
CD2				LR	LR		
	comp=Z,200nm,13.2s						

*ISCJB **09** 18:43:02.0±0.4, 2048N±007×1200E±0.1, h10km, mb4.1/13, Error ellipse: s-maj=14.4km s-min=8.9km az=145.3*
*IDC **09** 18:43:02.2±0.7, 2050N×11989E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/22, mbtmp4.1/12, Error ellipse: s-maj=28.3km s-min=14.7km az=70.0*
*NEIC **09** 18:43:03.5±0.5, 2050N×12008E, h10km, mb4.4/1, Error ellipse: s-maj=18.9km s-min=9.4km az=69.0*
*MOS **09** 18:43:05.2±1.2, 2047N×11999E, h33km, mb4.6/1, Error ellipse: s-maj=32.0km s-min=13.7km az=120.1*
*BJI **09** 18:43:09.1, 2126N×12020E, h5km, mB4.6, mb4.2, Ms4.3, Msz4.4*

ISC 09 18:43:03.9±0.4, 2051N±006×1200E±01, h10km, n28, σ1§14/29, mb4.1/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	Quanzhou	4.59	344	P	Pn	18 44 10.8	-2.6
QZH				S	Sn	18 44 59.9	-6.9
QZH				LR	LR		
	comp=N,1μm,8.6s						
QZH				LR	LR		
	comp=E,4μm,7.0s						
QZH				LR	LR		
	comp=Z,4μm,7.8s						
TGY	Tagaytay City	6.44	172	Pn	Pn	18 44 46.7	+8.0
	comp=Z,8.7nm,0.3s,baz=207,slow=11,SNR=2.8						
BJI	Beijing	19.73	351	eP	Pn	18 47 43.9	+8.7
KSM	Kuching	21.15	208	eP	P	18 47 50.3	+1.2
JHJ	Hachijo jima 2	21.63	50	P	P	18 47 55.5	+1.2
	comp=Z,144nm,0.9s,baz=267,slow=21,SNR=2.5						
MAT	Matsushiro	22.55	41	P	P	18 48 04.5	+0.4
MJAR	Matsushiro Arr	22.55	41	P	P	18 48 05.3	+1.2
	comp=Z,6.0nm,0.7s,mb4.1,baz=241,slow=12,SNR=10						
LSA	Lhasa	27.60	295	eP	P	18 48 54.0	+2.6
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
LSA	Lhasa	27.60	295	eP	P	18 48 54.0	+2.6
	comp=Z,4.7nm,0.7s,mb4.2						
FITZ	Fitzroy Crossi	38.77	171	P	P	18 50 28.1	-0.4
	comp=Z,2.0nm,0.8s,mb3.9,baz=354,slow=10,SNR=3.6						
MKAR	Makanchi Array	40.29	319	P	P	18 50 41.0	-0.2
	comp=Z,1.2nm,0.6s,mb3.8,baz=114,slow=9.0,SNR=3.8						
WRA	Warramunga Arr	42.59	160	P	P	18 50 59.8	-0.3
	comp=Z,8.3nm,0.7s,mb4.6,baz=342,slow=8.9,SNR=9.2						
WB2	Warramunga Arr	42.59	160	eP	P	18 50 59.6	-0.5
WB2				i		18 51 08.6	
ASAR	Alice Springs	45.96	162	P	P	18 51 27.4	+0.4
	comp=Z,3.1nm,0.8s,mb4.3,baz=342,slow=6.9,SNR=5.9						
CTAO	Charters Tower	47.85	146	eP	P	18 51 40.8	-1.0
BVAR	Borovoye Array	49.86	323	P	P	18 51 58.3	+1.0
	comp=Z,1.2nm,0.7s,mb4.1,baz=108,slow=9.5,SNR=3.3						
CHKZ	Chkalovo	49.97	324	eP	P	18 51 58.2	+0.1
STKA	Stephens Creek	56.06	158	P	P	18 52 43.8	+0.8
	comp=Z,1.8nm,0.7s,mb4.2,baz=324,slow=13,SNR=3.3						
STKA	Stephens Creek	56.06	158	eP	P	18 52 40.6	-2.4
AKTK	Aktyubinsk	56.66	317	P	P	18 52 48.0	+0.7
AKTO	Aktyubinsk	56.66	317	P	P	18 52 48.0	+0.7
	comp=Z,1.6nm,0.9s,mb4.0,baz=95,slow=16,SNR=3.6						
JOF	Joensuu	71.36	331	ep	P	18 54 23.2	-0.8
KEV	Kevo	71.96	339	ep	P	18 54 17.8	-10
ARCES	ARCESS Array B	72.52	338	P	P	18 54 29.0	-2.0
	comp=Z,3.5nm,0.9s,mb4.3,baz=54,slow=23,SNR=2.7						
FINES	FINESS Array B	74.05	330	P	P	18 54 37.9	-2.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=123,slow=7.0,SNR=5.0						
HFS	Hagfors	80.21	331	P	P	18 55 14.0	-0.6
	comp=Z,1.8nm,0.7s,mb4.1,baz=132,slow=4.2,SNR=4.7						
CLL	Collm	84.30	323	eP	P	18 55 37.0	+1.0
GERES	GERESS Array B	84.96	320	P	P	18 55 39.4	+0.1
	comp=Z,0.7nm,0.6s,mb4.0,baz=76,slow=5.6,SNR=5.2						

*NIED **09** 18:48:00, 2060N×12040E, h32km, Mw4.7 Best double couple: M0 1.39000×10^16 NP1:φs225.00000°, δ47.00000°, λ94.00000°. NP2:φs39.00000°, δ43.00000°, λ85.00000°.*
*IDC **09** 18:48:51.8±0.7, 2048N×11997E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, MS3.9/5, Ms1 3.9/5, ms1mx3.6/30, Error ellipse: s-maj=29.6km s-min=14.8km az=69.0*
*NEIC **09** 18:48:53.5±0.4, 2049N×11998E, h10km, mb4.1/3, Error ellipse: s-maj=12.3km s-min=7.6km az=78.0*
*ISCJB **09** 18:48:55.3±0.3, 2052N±004×12001E±007, h33km, mb4.2/21, MS3.7/4, Error ellipse: s-maj=9.7km s-min=5.0km az=137.2*
*MAN **09** 18:49:04.1, 1989N×12007E, h32km, mb3.5, ML4.6, MS6.0*

ISC 09 18:48:57.3±0.3, 2055N±004×12008E±007, h35km, n48, σ0§97/45, mb4.2/21, MS3.7/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	2.95	168	eP	Pn	18 49 39.5	-2.1
ABRA				eS	Sn	18 50 07.7	-8.1
SGCP	Mt. Cagua	2.95	141	eP	Pn	18 49 40.3	-1.4
CAUP	Cauayan	3.95	155	eP	Pn	18 49 57.1	+1.7
PALP	Palanan	4.12	147	eP	Pn	18 49 58.5	+0.7
BOLP	Bolinao	4.15	182	eP	Pn	18 49 57.1	-1.0
YHNB	Yeheng	4.27	16	eP	Pn	18 49 57.5	-2.4
BALP	Baler	4.99	163	eP	Pn	18 50 10.3	+0.6
TGY	Tagaytay City	6.46	173	Pn	Pn	18 50 36.5	+6.5
	42nm,0.3s,baz=247,slow=13,SNR=3.6						
LUBP	Lubang	6.78	179	eP	Pn	18 50 34.7	+0.4
BUSP	Coron	8.50	179	eP	Pn	18 50 58.9	+1.0
JOW	Kunigami	9.77	49	LR	LR	18 55 14.1	
	comp=Z,1μm,21.5s,baz=3.7,slow=39						
BJT	Baijiatuao	19.69	351	eP	Pn	18 53 24.5	-0.6
BJI	Beijing	19.71	351	eP	Pn	18 53 14.5	-11
	5.0nm,1.0s						
CBIJ	Chichi jima	21.23	68	LR	LR	18 59 47.3	
	comp=Z,354nm,20.1s,MS3.8,baz=207,slow=31						
JHJ	Hachijo jima 2	21.54	50	LR	LR	19 01 08.3	
	comp=Z,276nm,21.5s,MS3.6,baz=269,slow=34						
MAJO	Matsushiro	22.47	41	eP	P	18 53 55.2	+1.8
	29nm,1.4s,mb4.5						
MAT	Matsushiro	22.47	41	P	P	18 53 53.5	+0.1
MJAR	Matsushiro Arr	22.47	41	P	P	18 53 54.5	+1.2
	5.5nm,0.8s,mb4.0,baz=239,slow=11,SNR=16						
MJAR				LR	LR	19 02 35.5	
	comp=Z,184nm,20.6s,MS3.5,baz=230,slow=36						
MDJ	Mudanjiang	25.27	16	eP	P	18 54 21.6	+1.3
PSI	Prapat	27.14	232	P	P	18 54 36.7	-0.4
	4.2nm,0.4s,mb4.4,baz=305,slow=4.8,SNR=4.4						
LSA	Lhasa	27.67	295	eP	P	18 54 43.7	+1.8
	1.9nm,0.5s,mb4.0						
SONM	Songino Array	29.39	341	P	P	18 54 57.0	-0.2
	0.7nm,0.8s,mb3.4,baz=158,slow=10,SNR=4.9						
ASAJ	Asahikawa	30.05	33	LR	LR	19 07 13.5	
	comp=Z,349nm,19.7s,MS4.0,baz=311,slow=36						
GUN	Gumba	31.96	290	eP	P	18 55 20.9	+1.1
	27nm,1.0s,mb5.0						
PKI	Pulchoki	32.34	289	eP	P	18 55 23.7	+0.5
KKN	Kakani	32.47	290	eP	P	18 55 24.9	+0.5
	11nm,0.9s,mb4.7						
DMN	Daman	32.61	289	eP	P	18 55 26.2	+0.6
	14nm,0.9s,mb4.9						
GKN	Gorkha	33.06	290	eP	P	18 55 29.2	-0.3
KOLN	Koldanda	33.96	289	eP	P	18 55 37.7	+0.4
	9.3nm,0.8s,mb4.8						
MKAR	Makanchi Array	40.32	319	P	P	18 56 31.1	-0.3
	1.0nm,0.5s,mb3.8,baz=116,slow=9.0,SNR=13						
WRA	Warramunga Arr	42.59	160	P	P	18 56 49.3	-0.7
	12nm,0.9s,mb4.6,baz=342,slow=8.9,SNR=31						
WB2	Warramunga Arr	42.60	160	eP	P	18 56 49.1	-0.9
ZAL	Zalesovo	42.80	330	P	P	18 56 51.8	+0.2
	1.9nm,0.3s,mb4.4,baz=332,slow=6.0,SNR=6.7						
AS31	Alice Springs	45.97	162	eP	P	18 57 16.4	-0.5
ASAR	Alice Springs	45.97	162	P	P	18 57 16.8	-0.2
	4.9nm,1.1s,mb4.4,baz=341,slow=6.9,SNR=23						
CTAO	Charters Tower	47.83	146	eP	P	18 57 33.4	+1.9
BVAR	Borovoye Array	49.88	323	P	P	18 57 47.4	+0.1
	1.3nm,0.7s,mb4.1,baz=112,slow=8.7,SNR=9.3						
CHKZ	Chkalovo	49.99	324	eP	P	18 57 48.3	+0.2
STKA	Stephens Creek	56.06	158	P	P	18 58 32.6	-0.1
	3.5nm,1.1s,mb4.3,baz=354,slow=6.8,SNR=2.9						
STKA	Stephens Creek	56.06	158	eP	P	18 58 32.5	-0.3
AKTK	Aktyubinsk	56.70	317	P	P	18 58 37.3	0.0
AKTO	Aktyubinsk	56.70	317	P	P	18 58 37.3	0.0
	0.5nm,0.5s,mb3.8,baz=92,slow=15,SNR=5.0						
JOF	Joensuu	71.37	331	ep	P	19 00 12.5	-1.2
	2.0nm,0.5s,mb4.3						
KAF	Kangasniemi	73.80	331	ep	P	19 00 26.8	-1.3
	baz=73,slow=5.5						
FINES	FINESS Array B	74.06	330	P	P	19 00 28.8	-0.9
	1.6nm,0.7s,mb4.1,baz=53,slow=7.4,SNR=8.6						
HFS	Hagfors	80.22	331	P	P	19 01 03.3	-0.9
	1.4nm,0.8s,mb4.0,baz=120,slow=2.4,SNR=4.6						
NOA	NORSAR Array B	80.95	332	P	P	19 01 07.1	-1.0
	1.8nm,0.9s,mb4.0,baz=67,slow=5.6,SNR=3.5						
GERES	GERESS Array B	84.98	320	P	P	19 01 28.9	-0.1
	0.6nm,0.7s,mb3.8,baz=60,slow=3.2,SNR=5.0						

*ATH **09** 18:57:18.9, 3680N×2650E, h10km, MD2.9/3*
*HLW **09** 18:57:25.7, 3613N×2592E, h33km, Mb3.3*

ISC 09 18:57:01.4±6.9, 378N±04×258E±03, h10km, n6, σ1§14/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	2.42	129	ePB	Pb	18 57 46.0	+0.9
KARP	Karpathos	2.47	153	ePB	Pb	18 57 44.5	-1.4
NPS	Neapolis	2.50	183	ePN	Pg	18 57 50.3	+0.9
HMAT	Matruh	6.74	170	P	Pn	18 58 40.1	-0.3
SWA1		8.48	181	P	Pn	18 59 04.5	+0.2
SWA2		8.51	182	P	Pn	18 59 04.3	-0.3

*BJI **09** 19:05:47.2, 2075N×12020E, h5km, mb4.4, ML3.4*
*IDC **09** 19:05:50.5±1.0, 2047N×11995E, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=41.2km s-min=18.8km az=74.0*
*NEIC **09** 19:05:51.8±0.6, 2049N×12005E, h10km, mb4.6/1, Error ellipse: s-maj=21.2km s-min=8.6km az=83.0*
*ISCJB **09** 19:05:52.8±3.1, 2053N±007×1200E±0.1, h28km±25km, mb4.0/10, Error ellipse: s-maj=17.8km s-min=9.9km az=139.1*
*MAN **09** 19:06:18.8, 1897N×12112E, h11km, MS9.5*

ISC 09 19:05:54.4±3.5, 2053N±007×1201E±01, h25km±28km, n22, σ0§96/22, mb4.0/10, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	2.94	168	eP	Pn	19 06 38.8	-0.7
SGCP	Mt. Cagua	2.95	140	eP	Pn	19 06 39.2	-0.5
CAUP	Cauayan	3.94	155	eP	Pn	19 06 55.7	+2.4
PALP	Palanan	4.12	147	‖eP	Pn	19 06 57.2	+1.5
PALP	Palanan	4.12	147	eP	Pn	19 06 54.0	-1.6
YHNB	Yeheng	4.29	16	eP	Pn	19 06 56.7	-1.4
BALP	Baler	4.98	163	eP	Pn	19 07 09.7	+2.2
TGY	Tagaytay City	6.45	172	Pn	Pn	19 07 26.3	-1.5
	5.4nm,0.3s,baz=6.3,slow=18,SNR=1.6						
MJAR	Matsushiro Arr	22.49	41	P	P	19 10 53.0	+1.2
	3.9nm,0.8s,mb3.9,baz=241,slow=9.4,SNR=9.9						
SONM	Songino Array	29.39	341	P	P	19 11 56.3	+0.8
	0.2nm,0.4s,mb3.2,baz=337,slow=22,SNR=3.1						
GUN	Gumba	31.95	290	eP	P	19 12 18.7	+0.6
	16nm,0.7s,mb5.0						
PKI	Pulchoki	32.33	289	eP	P	19 12 21.7	+0.2
KKN	Kakani	32.47	290	eP	P	19 12 22.8	+0.1
	9.0nm,0.9s,mb4.6						
DMN	Daman	32.60	289	eP	P	19 12 23.5	-0.4
GKN	Gorkha	33.05	290	eP	P	19 12 27.5	-0.3
KOLN	Koldanda	33.95	289	eP	P	19 12 35.6	0.0
	7.2nm,0.8s,mb4.7						
MKAR	Makanchi Array	40.33	319	P	P	19 13 29.9	+0.2
	0.4nm,0.7s,mb3.3,baz=117,slow=10,SNR=4.0						
WRA	Warramunga Arr	42.59	160	P	P	19 13 48.1	-0.2
	3.1nm,0.7s,mb4.2,baz=342,slow=9.0,SNR=13						
WB2	Warramunga Arr	42.59	160	⇑iP	P	19 13 48.1	-0.2
ASAR	Alice Springs	45.96	162	P	P	19 14 15.4	+0.2
	0.3nm,0.4s,mb3.6,baz=341,slow=6.8,SNR=6.5						
CTAO	Charters Tower	47.83	146	P	P	19 14 28.6	-1.2
	5.3nm,1.0s,mb4.5						
GERES	GERESS Array B	84.99	320	P	P	19 18 27.2	-0.4
	0.3nm,0.6s,mb3.6,baz=77,slow=2.9,SNR=5.2						

*SZGRF **09** 19:45:44.6, 4556N×137.12E, h33km, mb4.9, Primorye, Russia*
*ISCJB **09** 19:46:13.6±0.2, 4529N±003×137.14E±0.04, h338km±2km, mb4.3/96, Error ellipse: s-maj=4.6km s-min=4.2km az=139.5*
*IDC **09** 19:46:13.9±1.2, 4523N×13694E, h328km±12km, mb3.9/25, mb1 4.0/30, mb1mx3.9/35, mbtmp4.6/30, Error ellipse: s-maj=12.0km s-min=8.0km az=71.0*
*MOS **09** 19:46:14.0±0.8, 4529N×13701E, h339km, mb4.4/34, Error ellipse: s-maj=11.1km s-min=4.9km az=118.9*
*SKHL **09** 19:46:14.2±0.8, 4540N×137.16E, h335km±10km, mb4.7/10, msh5.1/2*
*BJI **09** 19:46:14.6, 4548N×137.12E, h354km, mB4.7, mb4.4*
*NEIC **09** 19:46:15.6±0.5, 4530N×13707E, h344km±5km, mb4.4/42, Error ellipse: s-maj=6.0km s-min=5.8km az=69.0*
*JMA **09** 19:46:18.0±0.4, 4489N×13773E, h357km, M4.1*

ISC 09 19:46:14.2±0.2, 4531N±003×13715E±004, h334km±2km, h333km±3.2km: pP-P, n290, σ0§89/301, mb4.3/96, 4C-33D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	Ternei	0.48	235	iP	Pn	19 46 57.0	+0.5
TEY				AMB	AMB	19 46 57.5	
	50nm,0.7s						
TEY				AMB	AMB	19 46 57.5	
	60nm,0.7s						
TEY				AMB	AMB	19 46 57.5	
	410nm,0.7s						
TEY				iS	S	19 47 30.0	-0.3
TEY				A		19 47 30.5	
	890nm,1.3s						
TEY				A		19 47 30.5	
	1μm,1.3s						
TEY				A		19 47 31.0	
	1μm,2.0s						
TEY				A		19 47 31.0	
	1μm,2.0s						
JSK	Shakotan	3.09	128	P	Pn	19 47 13.9	+0.8
JWK2	Keihoku	3.35	88	P	Pn	19 47 18.0	+2.4
JSH	Shimam	3.39	141	P	Pn	19 47 16.3	+0.3
JHR	Hokuryu	3.63	111	P	Pn	19 47 19.5	+1.2
JOSM	Okushiri--Mats	3.64	152	P	Pn	19 47 18.8	+0.3
ASAJ	Asahikawa	4.06	105	P	Pn	19 47 23.9	+1.2
	60nm,0.3s,baz=276,slow=6.7,SNR=435						
ASAJ	Asahikawa	4.06	105	P	Pn	19 47 24.0	+1.2
ASAJ				pmax	pmax		
	comp=Z,60nm,0.3s						
YSS	Yuzh-Sakhalins	4.23	65	eP	Pn	19 47 26.5	+1.9
YSS				AMB	AMB	19 47 30.1	
	comp=Z,50nm,0.7s						
YSS				AMB	AMB	19 47 30.1	
	comp=Z,70nm,0.7s						
YSS				eS	S	19 48 21.0	-0.2
YSS				A		19 48 24.0	
	comp=Z,160nm,1.0s						
YSS				A		19 48 24.0	
	comp=Z,150nm,1.0s						
YSS	Yuzh-Sakhalins	4.23	65	⇑iP	Pn	19 47 29.8	+5.2
YSS				iS	S	19 48 23.0	+1.8
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS				smax			
	comp=E,150nm,1.1s						
YSS				smax			
	comp=N,160nm,0.9s						
YSS	Yuzh-Sakhalins	4.23	65	eP	Pn	19 47 26.3	+1.7
VLA	Vladivostok	4.37	242	‖iP	Pn	19 47 27.7	+1.6
VLA				AMB	AMB	19 47 28.4	
	comp=N,192nm,0.6s						
VLA				eS	S	19 48 24.1	+0.1
VLA	Vladivostok	4.37	242	diP	Pn	19 47 27.7	+1.6
VLA				eS	S	19 48 24.1	+0.1
VLA				pmax	pmax		
	comp=Z,192nm,0.6s						
JKB	Kayabe	4.43	139	P	Pn	19 47 25.8	-1.0
JOT	Ohata	4.85	143	P	Pn	19 47 31.2	-0.1
JTKR	Abashiri--Toko	5.00	103	P	Pn	19 47 33.7	+0.7
UGL	Uglegorsk	5.04	40	iP	Pn	19 47 35.8	+2.4
UGL				AMB	AMB	19 47 37.0	
	comp=Z,75nm,0.6s						
JCH	Churui	5.23	119	P	Pn	19 47 34.3	-1.3
JCH				eS	S	19 48 34.9	-6.5
KLR	Kul'dur	5.37	319	eP	Pn	19 47 36.0	-1.2
KLR				eS	S	19 48 42.7	-1.6
MDJ	Mudanjiang	5.41	265	P	Pn	19 47 39.3	+1.7
MDJ				S	S	19 48 46.5	+1.4
MDJ				SCP	ScP	19 57 02.7	-1.8
MDJ				PCS	PcS	19 57 38.1	+0.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,208nm,6.0s						
MDJ	Mudanjiang	5.41	265	eP	Pn	19 47 39.8	+2.1
ERM	Erimo	5.46	125	eP	Pn	19 47 38.1	-0.1
ERM				pmax	pmax		
	comp=Z,123nm,0.5s						
ERM	Erimo	5.46	125	eP	Pn	19 47 38.1	-0.1
	comp=Z,123nm,0.5s						
GRNR	Gornyy	5.48	355	⇑eP	Pn

INCN Inchon 11.11 229 *eP* **Pn 19 48 46.5 +1.1**
comp=Z,89nm,1.2s
KROS Kirovskiy 11.23 328 *eP* **Pn 19 48 44.3 -2.6**
KROS AMB AMB 19 48 46.4
comp=Z,5.0nm,0.5s
JHJ Hachijo jima 2 12.35 170 P **Pn 19 49 00.8 +0.7**
comp=Z,44nm,0.3s,baz=273,slow=20,SNR=8.1
HIA Hailar 12.46 295 *eP* **Pn 19 49 02.5 +0.9**
HIA pmax pmax
comp=Z,49nm,0.6s
HIA Hailar 12.46 295 *eP* **Pn 19 49 02.5 +0.9**
comp=Z,49nm,0.6s
CLNS Chul'man 13.85 331 *eP* **Pn 19 49 19.5 +1.6**
CLNS pmax pmax
comp=Z,33nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.9s
BJT Baijiatuau 16.30 258 P **P 19 49 42.9 -0.7**
MA2 Magadan 16.47 25⇓*iP* **P 19 49 46.6 +1.2**
MA2 Magadan 16.47 25*d iP* **P 19 49 46.6 +1.2**
MA2 pmax pmax
comp=Z,30nm,0.8s
CIT Chita 16.93 302 *eP* **P 19 49 50.1 -0.3**
YAK Yakutsk 17.30 348*d iP* **P 19 49 54.9 +0.5**
YAK *i* S **S 19 52 53.8 -3.4**
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK smax
comp=E,205nm,3.2s
YAK smax
comp=Z,295nm,3.8s
YAK smax
comp=N,384nm,2.6s
YAK pmax pmax
comp=N,48nm,1.4s
YAK Yakutsk 17.30 348 *eP* **P 19 49 53.4 -1.0**
comp=N,26nm,0.4s
CBIJ Chichi jima 18.62 166 P **P 19 50 07.3 -1.2**
comp=N,27nm,0.3s,baz=279,slow=16,SNR=11
SSE Sheshan 18.89 227 P **P 19 50 16.3 +4.9**
SSE AMB AMB
comp=Z,32nm,0.7s
SSE AMB AMB
comp=Z,64nm,5.4s
SSE Sheshan 18.89 227 P **P 19 50 16.3 +4.9**
comp=Z,32nm,0.7s
BOD Bodaibo 18.95 320 *eP* **P 19 50 10.2 -1.8**
BOD pmax pmax
comp=Z,5.0nm,0.7s
NJ2 Nanjing 19.42 233 *eP* **P 19 50 16.2 -0.7**
NJ2 XP sP 19 51 52.0 +3.0
NJ2 S **S 19 53 32.0 -5.8**
NJ2 AMB AMB
comp=Z,30nm,0.6s
NJ2 AMB AMB
comp=Z,400nm,4.2s
NJ2 LR LR
comp=N,1μm,21.6s
NJ2 LR LR
comp=E,1μm,16.9s
NJ2 LR LR
comp=Z,2μm,17.6s
SEY Seymchan 19.69 21*d iP* **P 19 50 20.0 +0.3**
JOW Kunigami 19.77 204 P **P 19 50 17.4 -3.1**
comp=Z,1.8nm,0.3s,baz=169,slow=30,SNR=7.2
SONM Songjino Array 21.23 288 P **P 19 50 34.1 -0.4**
comp=Z,22nm,0.8s,mb4.4,baz=81,slow=9.3,SNR=89
IRK Irkutsk 22.61 300 *eP* **P 19 50 45.6 -1.4**
IRK pmax pmax
comp=Z,21nm,0.9s,mb4.4
TLY Talaya 22.96 298 *eP* **P 19 50 50.1 -0.1**
TLY pmax pmax
comp=Z,16nm,0.8s,mb4.3
TLY Talaya 22.96 298 *eP* **P 19 50 49.5 -0.6**
comp=Z,15nm,0.8s,mb4.3
WHN Wuhan 23.15 238 P **P 19 50 51.3 -0.6**
ZAK Zakamensk 23.16 295 *eP* **P 19 50 51.4 -0.6**
MOY Mondy 24.61 298 *eP* **P 19 51 05.3 +0.2**
MOY pmax pmax
comp=Z,17nm,1.5s,mb4.0
LZH Lanzhou 26.72 262 *eP* **P 19 51 25.1 +1.2**
LZH AP 19 52 31.3
LZH AMB AMB
comp=Z,19nm,1.1s,mb4.2
LZH Lanzhou 26.72 262 *eP* **P 19 51 25.1 +1.2**
comp=Z,19nm,1.1s,mb4.2
LZH pP 19 52 31.3
LZH sP PP 19 52 34.6 +2.3
BILL Bilibino 27.32 24 *eP* **P 19 51 30.0 +0.7**
BILL *e**PP 19 52 32.3
BILL pmax pmax
comp=Z,30nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,200nm,17.0s
GTA Gaotai 28.03 271 P **P 19 51 36.0 +0.5**
GTA AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
KMI Kunming 34.22 246 P **P 19 52 34.0 +4.7**
comp=Z,2.0nm,1.4s
ZAL Zalesovo 34.28 304 P **P 19 52 29.3 -0.5**
comp=Z,11nm,0.5s,mb4.3,baz=25,slow=8.4,SNR=64
ZAL PcP PcP 19 54 57.9 +0.4
comp=Z,2.6nm,0.6s,baz=343,slow=3.7,SNR=8.6
ZAL ScP ScP 19 58 09.7 -0.6
comp=Z,1.1nm,0.4s,baz=343,slow=4.5,SNR=4.0
ZAL Zalesovo 34.28 304 P **P 19 52 29.3 -0.5**
ZAL 19 54 57.9
ZAL Zalesovo 34.28 304 P **P 19 52 29.3 -0.6**
ZAL PcP PcP 19 54 57.9 +0.4
ZAL ScP ScP 19 58 09.7 -0.6
WMQ Urumqi 34.83 286 *eP* **P 19 52 34.5 +0.1**
WMQ *e*S **S 19 57 40.0 0.0**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.1
WMQ AMB AMB
comp=Z,195nm,5.8s
WMQ LR LR
comp=N,308nm,15.6s
WMQ LR LR
comp=E,275nm,11.4s
WMQ LR LR
comp=Z,392nm,20.2s
NVS Novosibirsk 35.08 306 *eP* **P 19 52 35.7 -0.9**
MK31 Makanchi Array 37.45 292 *i* P **P 19 52 56.1 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.2s,mb4.0
MKAR Makanchi Array 37.45 292 P **P 19 52 56.2 -0.3**
comp=Z,6.9nm,0.6s,mb4.0,baz=66,slow=2.3,SNR=43
MKAR ScP ScP 19 58 21.5 -0.4
comp=Z,0.3nm,0.6s,baz=68,slow=3.5,SNR=4.2
LSA Lhasa 39.13 263 *eP* **P 19 53 11.6 +1.3**
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.0
LSA Lhasa 39.13 263 *eP* **P 19 53 11.6 +1.3**
comp=Z,3.8nm,0.4s,mb4.0
CHKZ Chkalovo 42.55 306 *eP* **P 19 53 37.3 -0.7**
CHKZ *e* 19 55 23.1
CHKZ pmax pmax
comp=Z,15nm,0.8s,mb4.2
CHKZ Chkalovo 42.55 306 *eP* **P 19 53 37.3 -0.7**
comp=Z,15nm,0.8s,mb4.2
CHKZ *e*PP PP 19 55 23.1 -1.6
VOSK Vostochnaya 42.62 305 *i* P **P 19 53 38.1 -0.5**
BVAR Borovoye Array 42.87 305 P **P 19 53 40.5 -0.1**
comp=Z,4.9nm,0.3s,mb4.2,baz=80,slow=11,SNR=71
BVAR PcP PcP 19 55 24.8 +0.2
comp=Z,3.7nm,0.5s,baz=77,slow=2.8,SNR=14
BRVK Borovoye 42.92 305 *eP* **P 19 53 40.7 -0.3**
BRVK *e* 19 55 24.8
BRVK pmax pmax
comp=Z,11nm,1.0s,mb3.9
BRVK Borovoye 42.92 305 *eP* **P 19 53 40.7 -0.3**
comp=Z,11nm,1.0s,mb4.0
BRVK *e* 19 55 24.8
ULHL Ulahol 43.17 288 P **P 19 53 43.6 +0.7**
SNR=5.9
TKM2 Tokmak 2 43.31 290 P **P 19 53 45.1 +1.1**
SNR=46
KDAK Kodiak Island 43.45 47 P **P 19 53 46.9 +1.7**
comp=Z,32nm,1.1s,mb4.4,baz=126,slow=14,SNR=3.4
JIRN Jiri 43.83 264 *eP* **P 19 53 49.2 +1.0**
KBK Karagaybulak 43.85 290 P **P 19 53 49.3 +0.9**
SNR=9.9
USP Ospenovka 43.89 291 P **P 19 53 49.2 +0.6**
SNR=41
GUN Gumba 43.90 265 *eP* **P 19 53 49.3 +0.6**
comp=Z,53nm,0.4s,mb5.0
AAK Ala-Archa 44.16 290 P **P 19 53 51.5 +0.7**
SNR=16
AAK Ala-Archa 44.16 290*d iP* **P 19 53 50.3 -0.5**
AAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.0
AAK Ala-Archa 44.16 290 *eP* **P 19 53 50.1 -0.7**
comp=Z,11nm,0.6s,mb4.2
KKN Kakani 44.39 265 *eP* **P 19 53 53.2 +0.6**
comp=Z,21nm,0.2s,mb4.9
PKI Pulchoki 44.43 265 *eP* **P 19 53 53.5 +0.6**
comp=Z,25nm,0.5s,mb4.6
DMN Daman 44.62 265 *eP* **P 19 53 55.0 +0.6**
comp=Z,14nm,0.3s,mb4.5
EKS2 Erkin-Say 44.63 290 P **P 19 53 55.0 +0.6**
SNR=15
GKN Gorkha 44.71 266 *eP* **P 19 53 55.4 +0.3**
comp=Z,46nm,0.4s,mb5.0
AML Almayashu 44.92 290 P **P 19 53 58.1 +1.4**
SNR=12
KOLN Koldanda 45.58 266 *eP* **P 19 54 02.7 +0.8**
KK31 Karatay Array 46.58 292 *i* P **P 19 54 09.6 0.0**
KK31 pmax pmax
comp=Z,9.0nm,0.3s,mb4.5
ARU Arti 48.19 313⇓*iP* **P 19 54 21.3 -0.5**
ARU *e* pP 19 55 30.4 +0.1
ARU *e* 19 55 41.6
ARU *e* 19 56 12.5
ARU *e*S **S 20 00 55.4 +0.5**
ARU *e* 20 03 41.0
ARU *e*SS SS 20 04 25.8 -3.2
ARU pmax pmax
comp=Z,20nm,1.3s,mb4.2
ARU Arti 48.19 313 *eP* **P 19 54 21.4 -0.4**
comp=Z,7.6nm,0.3s,mb4.4
INK Inuvik 48.63 30 P **P 19 54 26.4 +1.2**
comp=Z,2.6nm,0.3s,mb3.9,baz=290,slow=7.6,SNR=14
INK Inuvik 48.63 30 *eP* **P 19 54 26.3 +1.1**
AKTK Aktyubinsk 50.97 306 P **P 19 54 42.6 0.0**
AKTK PcP PcP 19 55 53.4 -0.2
AKTO Aktyubinsk 50.97 306 P **P 19 54 42.6 0.0**
comp=Z,6.6nm,0.3s,mb4.3,baz=76,slow=9.0,SNR=44
AKTO PcP PcP 19 55 53.4 -0.2
comp=Z,0.7nm,0.4s,baz=83,slow=4.8,SNR=3.6
ORR Orenburg 52.25 309 *eP* **P 19 54 52.5 +0.4**
ORR pmax pmax
comp=Z,20nm,0.9s,mb4.5
KEV Kevo 54.57 336 *ep* **P 19 55 07.2 -1.6**
ARCES ARCESS Array B 55.13 337 P **P 19 55 11.8 -0.9**
comp=Z,1.7nm,0.4s,mb3.7,baz=62,slow=8.2,SNR=28
ARCES ARCESS Array B 55.13 337 P **P 19 55 11.8 -0.9**
JOF Joensuu 57.19 328 *ep* **P 19 55 25.4 -1.8**
comp=Z,5.3nm,0.4s,mb4.2
KAF Kangasniemi 59.52 329 *ep* **P 19 55 41.3 -1.8**
comp=Z,9.9nm,0.4s,mb4.6,baz=48,slow=6.4
KAF Kangasniemi 59.52 329 *eP* **P 19 55 41.3 -1.8**
KAF pmax pmax
comp=Z,10.0nm,0.4s,mb4.6
OBN Obninsk 59.64 319 *eP* **P 19 55 43.9 0.0**
OBN *e**SP sP 19 57 32.8 +0.7
OBN *e*S **S 20 03 26.2 -1.2**
OBN *e*SS SS 20 07 29.2 0.0
OBN pmax pmax
comp=Z,13nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s
FIA1 FINESS Array S 60.03 329 *eP* **P 19 55 45.8 -0.8**
FINES FINESS Array B 60.03 329 P **P 19 55 45.7 -0.9**
comp=Z,7.6nm,0.4s,mb4.5,baz=54,slow=8.2,SNR=132
FINES PcP PcP 19 56 27.8 -1.0
comp=Z,2.8nm,0.7s,baz=57,slow=5.2,SNR=3.6
FINES FINESS Array B 60.03 329 P **P 19 55 45.7 -0.9**
FINES PcP PcP 19 56 27.8 -1.0
KIV Kislovodsk 63.23 306 *eP* **P 19 56 08.5 +0.7**
KIV *i* *PP pP 19 57 20.6 0.0
KIV pmax pmax
comp=Z,36nm,0.9s,mb4.9
KIV Kislovodsk 63.23 306 *eP* **P 19 56 08.4 +0.7**
comp=Z,28nm,0.8s,mb4.8
FITZ Fitzroy Crossi 63.97 192 P **P 19 56 11.9 -0.7**
comp=Z,2.0nm,0.6s,mb3.9,baz=303,slow=2.2,SNR=7.2
GNI Garni 64.39 302 P **P 19 56 15.7 +0.4**
comp=Z,2.5nm,0.4s,mb4.2,baz=328,slow=9.5,SNR=3.9
GNI Garni 64.39 302 *eP* **P 19 56 16.4 +1.1**
GNI pmax pmax
comp=Z,9.0nm,1.1s
WB2 Warramunga Arr 64.99 183 *eP* **P 19 56 18.3 -0.8**
WRA Warramunga Arr 64.99 183 P **P 19 56 18.4 -0.7**
comp=Z,3.0nm,0.5s,mb4.2,baz=358,slow=6.9,SNR=21
HFS Hagfors 65.25 333 P **P 19 56 19.7 -1.0**
comp=Z,5.2nm,0.3s,mb4.6,baz=42,slow=4.8,SNR=63
NB2 NORSAR Subarra 65.33 334 P **P 19 56 20.0 -1.3**
comp=Z,3.9nm,0.6s,mb4.2,baz=36,slow=6.5
NB2 NORSAR Subarra 65.33 334 P **P 19 56 20.0 -1.3**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
NOA NORSAR Array B 65.33 334 P **P 19 56 20.3 -1.0**
comp=Z,5.9nm,0.8s,mb4.3,baz=39,slow=6.3,SNR=15
ANN Anapa 65.62 310 *eP* **P 19 56 26.8 +3.7**
ANN *e* 19 56 52.4
ANN *i* *PP pP 19 57 41.8 +5.2
ANN *e* 19 58 57.3
ANN *e*S S 20 04 49.7 +8.4
ANN pmax pmax
comp=Z,40nm,1.2s,mb5.0
AKASG Malin Array Be 65.88 318 P **P 19 56 24.2 -0.5**
comp=Z,6.2nm,0.4s,mb4.7,baz=44,slow=6.4,SNR=55
AS31 Alice Springs 68.71 183 *eP* **P 19 56 42.4 0.0**
ASAR Alice Springs 68.71 183 P **P 19 56 42.5 +0.2**
comp=Z,2.5nm,0.4s,mb4.3,baz=356,slow=6.5,SNR=111
ASPA Alice Springs 68.71 183 *eP* **P 19 56 42.4 0.0**
MALT Malatya 69.31 304⇓*iP* **P 19 56 47.8 +1.7**
MALT Malatya 69.31 304⇓*iP* **P 19 56 47.8 +1.7**
KWP Kalwaria 69.61 321 *eP* **P 19 56 48.1 +0.2**
KWP pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
KWP Kalwaria 69.61 321 *eP* **P 19 56 48.1 +0.3**
comp=Z,8.6nm,0.6s,mb4.7
QRN Al-Qurain 69.68 291 *eP* **P 19 56 47.8 -0.5**
QRN AMb AMB 19 56 48.5
comp=Z,41nm,0.4s
RST Umm Al-Ruwaisa 69.79 292 *eP* **P 19 56 47.9 -1.1**
RST AMb AMB 19 56 48.9
comp=Z,15nm,0.7s,mb4.8
NAY Al-Naaiem 69.79 291 *eP* **P 19 56 48.2 -0.8**
NAY AMb AMB 19 56 49.2
comp=Z,7.1nm,0.6s,mb4.6
RDF Al-Radifah 69.80 291 *eP* **P 19 56 48.6 -0.5**
RDF AMb AMB 19 56 49.6
comp=Z,22nm,0.7s,mb5.0
BURAR Bucovina Array 69.92 318⇓*iP* **P 19 56 50.0 +0.3**
BURAR Bucovina Array 69.92 318⇓*P* **P 19 56 50.0 +0.3**
CFR Carcaliu 70.23 315⇓*iP* **P 19 56 51.7 +0.1**
CFR Carcaliu 70.23 315⇓*P* **P 19 56 51.7 +0.1**
KOLS Kolonicke sedl 70.31 321 *eP* **P 19 56 52.3 +0.2**
STHS Stebnicka Huta 70.41 321 *eP* **P 19 56 53.2 +0.5**
STHS pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
STHS Stebnicka Huta 70.41 321 *eP* **P 19 56 53.2 +0.5**
comp=Z,3.7nm,0.6s,mb4.3
VRI Vrincioaia 70.44 316⇓*iP* **P 19 56 54.7 +1.8**
VRI Vrincioaia 70.44 316⇓*P* **P 19 56 54.7 +1.9**
OJC Ojcow 70.44 323 *eP* **P 19 56 53.1 +0.2**
CRVS Cervenica-Dubn 70.70 321 *eP* **P 19 56 54.8 +0.4**
NIE Niedzica 70.82 322 *eP* **P 19 56 56.1 +0.9**
MLR Muntele Rosu 71.09 316⇓*iP* **P 19 56 57.7 +0.9**
MLR Muntele Rosu 71.09 316⇓*P* **P 19 56 57.7 +0.9**
BR131 Keskin Array S 71.10 308 *eP* **P 19 56 57.2 +0.4**
comp=Z,1.0nm,0.4s,mb3.9
BRTR Keskin Array B 71.10 308 P **P 19 56 57.4 +0.5**
comp=Z,2.1nm,0.4s,mb4.2,baz=66,slow=4.2,SNR=14
OKC Ostrava-Krasne 71.43 323 *eP* **P 19 56 58.9 +0.1**
DRGR 71.69 319⇓*iP* **P 19 57 00.8 +0.5**
DRGR 71.69 319⇓*P* **P 19 57 00.8 +0.5**
MORC Moravsky Berou 71.73 324⇓*iP* **P 19 57 01.1 +0.5**
MORC Moravsky Berou 71.73 324 *eP* **P 19 57 00.9 +0.3**
comp=Z,4.2nm,0.6s,mb4.3
DPC Dobruska-Polom 71.80 325 *eP* **P 19 57 01.5 +0.5**
UPC Upice 71.80 325 *eP* **P 19 57 01.4 +0.4**
PSZ Piszkesteto 72.13 321⇓*iP* **P 19 57 03.4 +0.5**
PSZ Piszkesteto 72.13 321⇓*P* **P 19 57 03.4 +0.5**
VYHS Vyhne 72.16 322 *eP* **P 19 57 03.6 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VYHS Vyhne 72.16 322 *eP* **P 19 57 03.6 +0.5**
comp=Z,3.1nm,1.0s,mb4.0
BRG Berggiesshubel 72.34 326 *eP* **P 19 57 04.1 -0.1**
comp=Z,2.5nm,0.5s,mb4.2
BRG
comp=N,190nm,22.5s
BRG
comp=E,113nm,25.2s
BRG
comp=Z,197nm,17.8s
BRG Berggiesshubel 72.34 326 *eP* **P 19 57 04.1 -0.1**
BRG pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
BRG MLR MLR
comp=N,190nm,22.5s
BRG MLR MLR
comp=E,113nm,25.3s
BRG MLR MLR
comp=Z,197nm,17.8s
CLL Collm 72.36 327 *eP* **P 19 57 04.0 -0.3**
comp=Z,12nm,0.5s,mb4.9
CLL Collm 72.36 327⇓*iP* **P 19 57 04.1 -0.2**
CLL pmax pmax
comp=Z,19nm,1.1s,mb4.7
CLL Collm 72.36 327⇓*iP* **P 19 57 04.1 -0.2**
comp=Z,19nm,1.1s,mb4.7
PVCC Panska Ves 72.36 326 *eP* **P 19 57 04.9 +0.6**
VRAC Vranov 72.49 324 P **P 19 57 05.8 +0.8**
comp=Z,3.0nm,0.5s,mb4.3,baz=44,slow=8.5,SNR=5.9
VRAC Vranov 72.49 324⇓*iP* **P 19 57 05.8 +0.8**
FBE Freiberg 72.53 327 *eP* **P 19 57 05.3 0.0**
comp=Z,6.0nm,0.5s,mb4.6
SMOL Smolenice 72.75 323 *eP* **P 19 57 07.4 +0.9**
PRU Pruhonice 72.80 325 *eP* **P 19 57 07.2 +0.4**
CLZ Clausthal 72.93 329 *eP* **P 19 57 07.8 +0.2**
comp=Z,10.0nm,0.6s,mb4.7
CLZ Clausthal 72.93 329 *eP* **P 19 57 07.8 +0.2**
CLZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
TREC Trest 72.96 324 *eP* **P 19 57 08.1 +0.3**
BZS Buzias 73.07 319⇓*iP* **P 19 57 08.4 0.0**
BZS Buzias 73.07 319⇓*P* **P 19 57 08.4 0.0**
ZST Bratislava 73.13 323 *eP* **P 19 57 08.7 -0.1**
ZST pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
ZST Bratislava 73.13 323 *eP* **P 19 57 08.7 -0.1**
comp=Z,4.5nm,0.5s,mb4.5
GTTG Gvttingen 73.32 329 *eP* **P 19 57 09.9 +0.1**
comp=Z,6.0nm,0.4s,mb4.7
GUNZ Gunzen 73.37 327 *eP* **P 19 57 10.5 +0.3**
comp=Z,6.0nm,0.6s,mb4.5
WERN Wernitzgruen 73.42 327 *eP* **P 19 57 10.5 +0.1**
comp=Z,6.0nm,0.5s,mb4.6
MOX Moxa 73.42 327 *eP* **P 19 57 10.5 0.0**
comp=Z,4.0nm,0.7s,mb4.3
MOX Moxa 73.42 327 *eP* **P 19 57 10.4 -0.1**
KHC Kasperske Hory 73.86 325 *eP* **P 19 57 13.4 +0.4**
ROTZ Rotzenmuhle 73.90 326 *eP* **P 19 57 13.8 +0.6**
comp=Z,5.0nm,1.0s,mb4.2
PKSM Moragy 73.98 321⇑*iP* **P 19 57 13.7 0.0**
PKSM Moragy 73.98 321⇑*P* **P 19 57 13.7 0.0**
GEC2 GERESS Array S 74.04 325 *eP* **P 19 57 14.1 +0.1**
comp=Z,5.0nm,1.1s,mb4.2
GEC2 GERESS Array S 74.04 325 *eP* **P 19 57 14.1 +0.1**
GEC2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
GERES GERESS Array B 74.04 325 P **P 19 57 14.2 +0.2**
comp=Z,1.9nm,0.5s,mb4.1,baz=36,slow=5.4,SNR=25
PDAR Pinedale Array 74.10 45 P **P 19 57 15.6 +1.2**
comp=Z,1.0nm,0.6s,mb3.7,baz=36,slow=1.2,SNR=7.7
WET Wettzell 74.13 326 *eP* **P 19 57 14.9 +0.4**
comp=Z,10.0nm,1.1s,mb4.5
WET Wettzell 74.13 326 *eP* **P 19 57 14.9 +0.4**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
EKA Eskdalemuir Ar 74.26 338 P **P 19 57 15.1 -0.2**
comp=Z,1.8nm,0.7s,mb3.9,baz=25,slow=5.5,SNR=7.5
ULM Uc du Bonnet 74.29 32 P **P 19 57 17.4 +2.0**
comp=Z,0.9nm,0.2s,mb4.1,baz=306,slow=8.7,SNR=5.6
GRA1 Grafenberg Arr 74.34 327 *eP* **P 19 57 16.2 +0.5**
comp=Z,13nm,0.6s,mb4.8
GRF Grafenberg Arr 74.34 327 *eP* **P 19 57 16.2 +0.5**
comp=Z,13nm,0.6s,mb4.8
GRF Grafenberg Arr 74.34 327 *eP* **P 19 57 16.2 +0.5**
GRF pmax pmax
comp=Z,13nm,0.6s,mb4.8
GRF Grafenberg Arr 74.34 327 *eP* **P 19 57 16.2 +0.5**
GRF pmax pmax
comp=Z,13nm,0.6s,mb4.8
VTS Vitosha 74.56 316⇓*iP* **P 19 57 17.6 +0.6**
VTS Vitosha 74.56 316⇓*P* **P 19 57 17.6 +0.7**
MEM Membach 75.50 330 P **P 19 57 22.7 +0.3**
STU Stuttgart 75.86 327 *eP* **P 19 57 25.1 +0.7**
comp=Z,14nm,0.6s,mb4.9
BCLA Clavier 75.91 331 P **P 19 57 24.3 -0.3**
WLF Walferdange 76.24 330 *eP* **P 19 57 26.9 +0.4**
comp=Z,22nm,1.6s,mb4.6
WLF Walferdange 76.24 330 P **P 19 57 26.9 +0.4**
GIVF Givet 76.34 331 *eP* **P 19 57 26.3 -0.8**
comp=Z,5.2nm,0.4s,mb4.3
DOU Dourbes 76.43 331 P **P 19 57 27.4 -0.1**
BFO Black Forest 76.56 328 *eP* **P 19 57 28.5 +0.3**
comp=Z,5.0nm,0.7s,mb4.3
BFO Black Forest 76.56 328 *eP* **P 19 57 28.5 +0.3**
BFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BAIF Baives 76.59 331 *eP* **P 19 57 27.7 -0.7**
CDF Champ du Feu 76.88 328 *eP* **P 19 57 29.8 -0.2**
comp=Z,6.9nm,0.6s,mb4.3
CDF Champ du Feu 76.88 328 *eP* **P 19 57 29.8 -0.2**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CDF Champ du Feu 76.88 328 *eP* **P 19 57 29.8 -0.2**
comp=Z,3.5nm,0.6s,mb4.3
STKA Stephens Creek 76.93 176 *eP* **P 19 57 30.9 +0.6**
comp=Z,3.2nm,2.0s,mb3.7
STKA Stephens Creek 76.93 176 P **P 19 57 30.6 +0.3**
comp=Z,0.8nm,0.4s,mb3.8,baz=309,slow=3.0,SNR=5.9
HINF Hinteralfeld 77.53 328 *eP* **P 19 57 33.6 0.0**
HAU Haudompre 77.56 329 *eP* **P 19 57 33.2 -0.6**
MEZF Maizieres J'vi 77.61 330 *eP* **P 19 57 33.6 -0.5**
KARP Karpathos 77.68 308 P **P 19 57 34.9 +0.5**
NPS Neapolis 78.74 309 P **P 19 57 40.0 -0.2**
CABF La Chapelle 78.83 328 *eP* **P 19 57 40.3 -0.4**
comp=Z,8.9nm,0.9s,mb4.2
RLS Riolos of Patr 78.84 314 P **P 19 57 41.9 +1.1**
LOR Lormes 79.09 330 *eP* **P 19 57 41.4 -0.7**
comp=Z,17nm,0.7s,mb4.6
IDI Anoyia 79.12 310 P **P 19 57 42.1 -0.1**
VLS Valsamata 79.20 314 P **P 19 57 43.5 +0.8**
ITM Ithomi 79.27 313 P **P 19 57 43.2 +0.1**
LDF La Druitiere 79.30 333 *eP* **P 19 57 42.3 -0.9**
comp=Z,6.0nm,0.5s,mb4.3
SSF Saint Saulge 79.39 330 *eP* **P 19 57 43.0 -0.7**
comp=Z,8.4nm,0.8s,mb4.2
LPL La Plagne 79.50 327 *eP* **P 19 57 44.5 +0.2**
comp=Z,13nm,0.7s,mb4.5
LPG La Plagne 79.51 327 *eP* **P 19 57 44.8 +0.4**
comp=Z,15nm,0.6s,mb4.6
SMF Signal de Mont 79.62 329 *eP* **P 19 57 44.3 -0.7**
comp=Z,6.8nm,0.5s,mb4.3
SMF Signal de Mont 79.62 329 *eP* **P 19 57 44.3 -0.7**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SMF Signal de Mont 79.62 329 *eP* **P 19 57 44.3 -0.7**
comp=Z,3.4nm,0.5s,mb4.3
AVF Avril sur Loir 79.67 330 *eP* **P 19 57 44.8 -0.4**
comp=Z,12nm,0.6s,mb4.5
AVF Avril sur Loir 79.67 330 *eP* **P 19 57 44.8 -0.4**
AVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
AVF Avril sur Loir 79.67 330 *eP* **P 19 57 44.8 -0.4**
comp=Z,6.3nm,0.6s,mb4.5
GRR Gorron 79.71 333 *eP* **P 19 57 44.7 -0.7**
comp=Z,8.4nm,0.4s,mb4.5
BGF Bois d'Agland 80.05 330 *eP* **P 19 57 46.7 -0.5**
comp=Z,5.7nm,0.8s,mb4.1
BGF Bois d'Agland 80.05 330 *eP* **P 19 57 46.7 -0.5**
BGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
BGF Bois d'Agland 80.05 330 *eP* **P 19 57 46.7 -0.5**

comp=Z,2.8nm,0.8s,mb4.0
MBDF Montbardon 80.15 327 *eP* **P 19 57 47.3 -0.5**
comp=Z,5.1nm,0.4s,mb4.3
MBDF Montbardon 80.15 327 *eP* **P 19 57 47.3 -0.5**
MBDF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MBDF Montbardon 80.15 327 *eP* **P 19 57 47.3 -0.5**
comp=Z,2.5nm,0.4s,mb4.3
ORIF Oris-en-Rattie 80.33 327 *eP* **P 19 57 48.7 0.0**
comp=Z,6.6nm,0.7s,mb4.2
ORIF Oris-en-Rattie 80.33 327 *eP* **P 19 57 48.7 0.0**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ORIF Oris-en-Rattie 80.33 327 *eP* **P 19 57 48.7 0.0**
comp=Z,3.3nm,0.7s,mb4.2
SGMF Saint Gilles 80.36 334 *eP* **P 19 57 48.4 -0.5**
comp=Z,17nm,0.9s,mb4.5
TCF Toulx Ste Croi 80.51 330 *eP* **P 19 57 49.3 -0.4**
comp=Z,3.1nm,0.7s,mb3.9
TCF Toulx Ste Croi 80.51 330 *eP* **P 19 57 49.3 -0.4**
TCF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TCF Toulx Ste Croi 80.51 330 *eP* **P 19 57 49.3 -0.4**
comp=Z,1.5nm,0.7s,mb3.8
ROSF Rostrenen 80.51 334 *eP* **P 19 57 49.4 -0.3**
VIVF Saint-Julien-l 80.84 328 *eP* **P 19 57 51.2 -0.2**
comp=Z,5.8nm,0.8s,mb4.1
VIVF Saint-Julien-l 80.84 328 *eP* **P 19 57 51.2 -0.2**
comp=Z,2.9nm,0.8s,mb4.1
QUIF Quistinic 80.85 334 *eP* **P 19 57 50.9 -0.6**
MFF Saint Martin d 81.05 332 *eP* **P 19 57 52.3 -0.2**
comp=Z,5.9nm,0.6s,mb4.2
FRF La Foret Royal 81.18 326 *eP* **P 19 57 53.0 -0.2**
SMRF Simiane la Rot 81.25 327 *eP* **P 19 57 54.2 +0.7**
LMR La Mourre 81.42 326 *eP* **P 19 57 53.8 -0.6**
comp=Z,5.0nm,0.6s,mb4.1
LMR La Mourre 81.42 326 *eP* **P 19 57 53.8 -0.6**
LMR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LMR La Mourre 81.42 326 *eP* **P 19 57 53.8 -0.6**
comp=Z,2.5nm,0.6s,mb4.1
RJF Les Rejaudoux 81.61 330 *eP* **P 19 57 55.1 -0.3**
comp=Z,9.9nm,0.9s,mb4.3
RJF Les Rejaudoux 81.61 330 *eP* **P 19 57 55.1 -0.3**
RJF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
RJF Les Rejaudoux 81.61 330 *eP* **P 19 57 55.1 -0.3**
comp=Z,4.9nm,0.9s,mb4.3
CAF Calviac 81.74 330 *eP* **P 19 57 56.4 +0.3**
comp=Z,13nm,1.0s,mb4.4
CAF Calviac 81.74 330 *eP* **P 19 57 56.4 +0.3**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CAF Calviac 81.74 330 *eP* **P 19 57 56.4 +0.3**
comp=Z,6.4nm,1.0s,mb4.4
LASF Ste Croix 81.81 328 *eP* **P 19 57 56.5 0.0**
comp=Z,3.6nm,0.8s,mb4.0
LFF La Frestale 82.19 330 *eP* **P 19 57 58.7 +0.3**
MTLF Montolieu 83.05 329 *eP* **P 19 58 02.8 0.0**
EPF Esparros 84.00 330 *eP* **P 19 58 07.2 -0.4**
comp=Z,7.6nm,0.8s,mb4.3
ETSF Etsaut 84.43 330 *eP* **P 19 58 10.5 +0.7**
comp=Z,12nm,0.7s,mb4.6
SJPF Ste Jean 84.48 331 *eP* **P 19 58 09.8 -0.2**
KEST Kesra 86.56 320 P **P 19 58 19.5 -0.6**
comp=Z,0.8nm,0.7s,mb3.6,baz=23,slow=9.9,SNR=3.0
ESDC Sonseca Array 88.47 331 P **P 19 58 28.5 -0.7**
comp=Z,0.4nm,0.5s,mb3.5,baz=19,slow=4.5,SNR=3.4
LPAZ La Paz 144.12 44 PKP PKPdf 20 05 12.3 +1.9
comp=Z,0.5nm,0.4s,baz=24,slow=11,SNR=4.5
LPAZ La Paz 144.12 44 PKP PKPdf 20 05 12.3 +1.9
SNAA Sanae 147.48 202 PKPbc PKPbc 20 05 17.7 -1.4
comp=Z,0.4nm,0.7s,baz=151,slow=2.0,SNR=8.0
BDFB Brasilia 150.10 10 PKPbc PKPbc 20 05 25.5 -0.1
comp=Z,4.0nm,1.0s,baz=345,slow=4.8,SNR=3.1

WEL 09 20:02:15.4±1.2, 3588S×17958E, h33km, ML3.7/4, Error ellipse: s-maj=15.1km s-min=9.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.97**	**211**	*eP**	Pb	20 02 46.5	-4.0
MXZ				S*	Sb	20 03 08.2	-6.5
MXZ				S*	Sb	20 03 09.0	-5.7
PUZ	**Puketiti**	**2.43**	**205**	PN	Pn	20 02 51.9	-0.9
PUZ				SN	Sn	20 03 18.8	-2.6
MWZ	**Matawai**	**2.95**	**213**	P*	Pb	20 02 59.8	-7.5
MWZ				S*	Sb	20 03 32.8	-10
URZ	**Urewera**	**3.09**	**219**	P*	Pb	20 03 02.9	-6.7
URZ				S*	Sb	20 03 38.6	-8.3
TGRZ	**Tauranga**	**3.24**	**234**	P*	Pb	20 03 03.0	-9.2
KNZ	**Kokohu**	**3.48**	**205**	PN	Pn	20 03 05.1	-2.1

*ISCJB **09** 20:08:05.4±0.5, 3830N×002×786W±003, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.1km az=3.6*
*MDD **09** 20:08:07.3±0.3, 3825N×797W, h11km, mbLg2.3/14, Error ellipse: s-maj=4.0km s-min=2.1km az=61.0, PRXIMO*
*INMG **09** 20:08:07.1±1.2, 3827N×793W, h2km±4km, ML2.2, Error ellipse: s-maj=2.0km s-min=1.5km az=69.0*
*IGIL **09** 20:08:09.1, 3827N×802W, h11km, ML2.2*

ISC 09 20:08:06.2±0.4, 3828N±002×792W±003, h8km±4km, n27, σ0°73/49, 1C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	**Beja**	**0.26**	**171**	*ePg*	**Pg**	**20 08 11.8**	**+0.5**
PBEJ				*eSg*	**Sg**	**20 08 14.8**	**0.0**
PBEJ							
	79nm,0.1s						
MOE	**Montemor**	**0.42**	**306**	*ePg*	**Pg**	**20 08 14.4**	**0.0**
MOE				*eSg*	**Sg**	**20 08 20.4**	**+0.5**
PESTR	**Estremoz**	**0.64**	**23**	*ePg*	**Pg**	**20 08 18.9**	**+0.3**
PESTR				*eSg*	**Sg**	**20 08 27.8**	**+0.8**
PESTR							
	48nm,0.1s						
EGRO	**El Granado**	**0.82**	**155**	⇑Pg	**Pg**	**20 08 22.4**	**+0.5**
	11nm,0.3s,SNR=18						
EGRO				Lg		20 08 34.1	
	16nm,0.3s,SNR=12						
EBAD	**Badajoz**	**0.85**	**56**	Pg	**Pg**	**20 08 24.1**	**+1.4**
	12nm,0.3s,SNR=142						
EBAD				Lg		20 08 36.1	
	41nm,0.3s,SNR=29						
PTEO	**Sao Teotonio**	**0.97**	**221**	*eP*	**Pg**	**20 08 24.7**	**-0.2**
PTEO				*eS*	**Sg**	**20 08 37.1**	**-0.4**
PTEO							
	53nm,0.3s						
ALMR	**Almeirim**	**1.02**	**330**	*eP*	**Pg**	**20 08 26.0**	**+0.3**
ALMR				*eS*	**Sg**	**20 08 39.4**	**+0.4**
ALMR				*eS*	**Sg**	**20 08 39.4**	**+0.4**
ALMR				AML	AML	20 08 42.3	
	comp=Z,33nm,0.1s						
ALMR	**Almeirim**	**1.02**	**330**	P	**Pg**	**20 08 26.0**	**+0.3**
ALMR				S	**Sg**	**20 08 39.4**	**+0.4**
EMIN	**Mina Concepcio**	**1.11**	**117**	Pg	**Pg**	**20 08 27.2**	**-0.3**
	comp=Z,5.8nm,0.3s,SNR=58						
EMIN				Lg		20 08 43.5	
	comp=Z,15nm,0.2s,SNR=30						
MORF	**Marmelete**	**1.13**	**211**	*eP*	**Pg**	**20 08 27.8**	**-0.2**
MORF				*eS*	**Sg**	**20 08 42.2**	**-0.5**
MORF				*eS*	**Sg**	**20 08 42.3**	**-0.4**
MORF				AML	AML	20 08 45.0	
	comp=N,71nm,0.1s						
MORF	**Marmelete**	**1.13**	**211**	P	**Pg**	**20 08 27.8**	**-0.2**
MORF				S	**Sg**	**20 08 42.2**	**-0.5**
PLOU	**Loures**	**1.14**	**302**	*eP*	**Pg**	**20 08 28.3**	**+0.1**
PLOU				*eS*	**Sg**	**20 08 43.2**	**+0.2**
PLOU							
	comp=N,17nm,0.3s						
PMAFR	**Mafra**	**1.27**	**303**	*eP*	**Pn**	**20 08 30.1**	**0.0**
PMAFR				*eS*	**Sb**	**20 08 47.0**	**+0.3**
PMAFR							
	comp=N,50nm,0.3s						
PCBR	**Castelo Branco**	**1.60**	**12**	*eP*	**Pn**	**20 08 35.2**	**+0.5**
PCBR				S	**Sn**	**20 08 55.9**	**+0.4**
PCBR							
	comp=N,16µm,0.1s						
MTE	**Manteigas**	**2.14**	**8**	*ePn*	**Pn**	**20 08 43.0**	**+0.9**
MTE	**Manteigas**	**2.14**	**8**	*ePg*	**Pg**	**20 08 46.3**	**-0.9**
MTE				*eSn*	**Sn**	**20 09 07.8**	**-1.0**
MTE				*eSg*	**Sg**	**20 09 14.0**	**-0.9**
MTE							
	comp=N,16nm,0.4s						
MTE	**Manteigas**	**2.14**	**8**	Pn	**Pn**	**20 08 43.0**	**+0.9**
MTE				Pg	**Pg**	**20 08 46.3**	**-0.9**
MTE				Sn	**Sn**	**20 09 07.8**	**-1.0**
MTE				Lg		20 09 14.0	
	comp=N,8.1nm,0.4s						
ESPR	**Espera**	**2.16**	**130**	Pg	**Pg**	**20 08 46.2**	**-1.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
ESPR				Lg		20 09 16.5	
	comp=N,8.5nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**2.43**	**0**	*ePg*	**Pg**	**20 08 51.5**	**-1.4**
PVIS				*eSn*	**Sn**	**20 09 16.1**	**0.0**
EADA	**Adamuz**	**2.63**	**91**	Pn	**Pn**	**20 08 49.1**	**+0.2**
	comp=N,0.6nm,0.3s,SNR=7.9						
EADA				Sn	**Sn**	**20 09 21.7**	**+0.7**
	SNR=7.9						
EADA				Lg		20 09 29.9	
	comp=N,2.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**3.00**	**3**	*ePn*	**Pn**	**20 08 54.2**	**+0.2**
PVRL				*eSg*	**Sg**	**20 09 40.6**	**-1.9**
PVRL							
	comp=N,5.9nm,0.1s						
EBAN	**Banos Encina**	**3.25**	**91**	Lg		20 09 49.3	
	comp=N,0.7nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.38**	**64**	Pn	**Pn**	**20 09 00.4**	**+1.1**
	comp=N,0.2nm,0.2s,baz=249,slow=13,SNR=3.7						
ESDC				Lg		20 09 55.0	
	comp=N,1.3nm,0.3s,baz=252,slow=30,SNR=10						
PCAB	**Cabril**	**3.43**	**359**	*ePn*	**Pn**	**20 09 00.6**	**+0.7**
PCAB				*eSg*	**Sg**	**20 09 56.8**	**+0.5**
PCAB							
	comp=N,2.7nm,0.3s						
PBRG	**Braganca**	**3.64**	**14**	*ePn*	**Pn**	**20 09 03.0**	**+0.3**
PBRG				*eSg*	**Sg**	**20 10 03.3**	**+0.3**
PBRG							
	comp=N,2.7nm,0.4s						
ECAL	**Calabor**	**3.77**	**14**	Pn	**Pn**	**20 09 04.5**	**0.0**
	comp=N,0.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**20 09 47.4**	**-1.6**
	SNR=7.9						
ECAL				Lg		20 10 06.2	
	comp=N,7.7nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.85**	**96**	Sn	**Sn**	**20 09 50.3**	**-0.8**
	SNR=4.0						
EQES				Lg		20 10 11.7	
	comp=N,0.4nm,0.4s,SNR=4.0						

*MOS **09** 20:14:41.1±1.0, 4976N×15792E, h5km, mb4.4/1, Error ellipse: s-maj=57.8km s-min=18.3km az=84.5*

KRSC 09 20:14:41, 4976N×15792E, h5km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**309**	*ePN*	Pn	20 14 57.4	-11
SKR				pmax	pmax		
	comp=Z,130nm,0.3s						
RUS	**Russkaya**	**2.70**	**8**	*eP*	Pn	20 15 26.1	+1.0
RUS				*eS*	Sn	20 15 59.2	+1.0
GRL	**Gorelyy**	**2.80**	**2**	*eP*	Pn	20 15 28.0	+1.6
GRL				*eS*	Sn	20 16 02.4	+1.9
PET	**Petropavlovsk**	**3.30**	**8**	*ePN*	Pn	20 15 36.9	+3.6
PET				*eS*	Sn	20 16 16.1	+3.2
PET				smax			
	comp=E,72nm,0.6s						
PET				smax			
	comp=N,84nm,0.6s						
PET	**Petropavlovsk**	**3.30**	**8**	P	Pn	20 15 34.9	+1.6
PET				*eS*	Sn	20 16 14.5	+1.6
NLC	**Nalytchevo**	**3.53**	**14**	*eS*	Sn	20 16 18.6	0.0
SDLR	**Sedlovina**	**3.57**	**9**	*eP*	Pn	20 15 38.8	+1.7
SDLR				*eS*	Sn	20 16 20.1	+0.4
SPN	**Mys Shipunski**	**3.59**	**21**	P	Pn	20 15 40.0	+2.7
SPN				*eS*	Sn	20 16 22.3	+2.2
GNL	**Ganaly**	**3.94**	**0**	*eP*	Pn	20 15 43.5	+1.4
MKZ	**Mys Kozlova**	**5.34**	**25**	P	Pn	20 16 02.7	+1.3
MKZ				*eS*	Sn	20 17 02.6	-0.7
KMNR	**Kamenistaya**	**6.17**	**12**	P	Pn	20 16 15.8	+3.1
ZLN	**Zelenaya**	**6.51**	**14**	P	Pn	20 16 19.2	+1.8
KBTR	**Krutoberegovo**	**7.10**	**23**	*eP*	Pn	20 16 27.7	+2.1

*CSEM **09** 20:25:25.3, 4342N×4590E, h27km, mb4.0, After OBN*

MOS 09 20:25:25.3±1.2, 4342N×4590E, h27km, mb4.0/1, 2C, Error ellipse: s-maj=12.9km s-min=8.2km az=18.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.64**	**123**	*ePG*	Pb	20 25 39.5	+1.6
DLMR				*i S*	Sb	20 25 53.5	+7.1
DLMR				pmax	pmax		
	comp=Z,280nm,0.2s						
DLMR	**Dylym**	**0.64**	**123**	*ePg*	Pb	20 25 39.5	+1.6
	comp=Z,280nm,0.2s						
DLMR				*i Sg*	Sb	20 25 53.5	+7.1
DBC	**Dubki**	**0.79**	**120**	*i PG*	Pb	20 25 37.8	-2.6
DBC				*i S*	Sb	20 25 51.2	+0.5
TRKR	**Terskaya**	**0.90**	**290**	*ePg*	Pn	20 25 43.5	+1.3
TRKR				*eSg*	Sb	20 25 57.7	+3.8
KRNR	**Karanay**	**0.95**	**128**	*ePG*	Pn	20 25 42.0	-0.8
KRNR				*eS*	Sb	20 25 57.0	+1.8
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.95**	**128**	*ePg*	Pn	20 25 42.0	-0.8
	comp=Z,25nm,0.2s						
KRNR				*eSg*	Sb	20 25 57.0	+1.8
UNCR	**Uncukul**	**0.96**	**137**	*i PG*	Pn	20 25 42.8	-0.2
UNCR				*i S*	Sb	20 25 59.0	+3.3
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
UNCR	**Uncukul**	**0.96**	**137**	*i Pg*	Pn	20 25 42.8	-0.2
	comp=Z,72nm,0.2s						
UNCR				*i Sg*	Sb	20 25 59.0	+3.3
VLKR	**Vladikavkaz**	**0.97**	**248**	*ePg*	Pn	20 25 43.1	0.0
VLKR				*i Sg*	Sb	20 25 56.9	+1.1
XNZR	**Khunzakh**	**1.06**	**146**	*ePG*	Pn	20 25 46.5	+2.2
XNZR				*i S*	Sn	20 26 03.0	+4.8
XNZR				pmax	pmax		
	comp=Z,29nm,0.2s						
XNZR	**Khunzakh**	**1.06**	**146**	*ePg*	Pn	20 25 46.5	+2.2
	comp=Z,29nm,0.2s						
XNZR				*i Sg*	Sn	20 26 03.0	+4.8
KMSR	**Komsomolskaya**	**1.17**	**268**	*i Pg*	Pn	20 25 46.4	+0.5
KMSR				*i Sg*	Sn	20 26 02.6	+1.6
ARNR	**Ardon**	**1.21**	**260**	*i Pg*	Pn	20 25 46.6	+0.2
ARNR				*i Sg*	Sn	20 26 02.9	+1.1
PRTR	**Priterechnaya**	**1.22**	**286**	*i Pg*	Pn	20 25 47.7	+1.1
PRTR				*i Sg*	Sn	20 26 04.8	+2.6
LACR	**Lac**	**1.32**	**244**	*i Pg*	Pn	20 25 47.5	-0.4
LACR				*i Sg*	Sn	20 26 04.4	-0.1
KORR	**Kora**	**1.38**	**257**	*i Pg*	Pn	20 25 48.8	0.0
KORR				*i Sg*	Sn	20 26 06.7	+0.6
KMKR	**Kumukh**	**1.56**	**145**	*ePG*	Pn	20 25 52.2	+0.9
KMKR				*i S*	Sn	20 26 15.7	+5.1
KMKR				pmax	pmax		
	comp=Z,25nm,0.2s						
KMKR	**Kumukh**	**1.56**	**145**	*ePg*	Pn	20 25 52.2	+0.9
	comp=Z,25nm,0.2s						
KMKR				*i Sg*	Sn	20 26 15.7	+5.1
ZEI	**Tsey**	**1.60**	**247**	*i Pg*	Pn	20 25 51.3	-0.5
DIGR	**Digorskoe uzhe**	**1.77**	**254**	*i Pn*	Pn	20 25 54.0	-0.2
KUBR	**Kubataba**	**1.85**	**283**	*ePn*	Pn	20 25 55.6	+0.4
SHAR	**Shatzhatmas**	**2.37**	**279**	⇑*ePN*	Pn	20 26 03.0	+0.6
SHAR				*eS*	Sn	20 26 33.3	+2.7
KIV	**Kislovodsk**	**2.39**	**284**	⇑*ePN*	Pn	20 26 02.8	+0.1
KIV				*eS*	Sn	20 26 34.4	+3.3

*IDC **09** 20:25:50.3±1.7, 2214N×9703E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=56.6km s-min=22.8km az=66.0*
*ISCJB **09** 20:25:53.9±1.5, 220N±0.1×964E±0.1, h64km±20km, mb3.4/6, Error ellipse: s-maj=29.1km s-min=11.2km az=94.9*

ISC 09 20:25:55.2±1.5, 220N±01×965E±02, h45km±22km, n15, σ1°25/17, mb3.4/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.59**	**320**	*eP*	**Pn**	**20 26 49.0**	**+0.7**
IMP				*eS*	**Sn**	**20 27 40.0**	**+11**
SHL	**Shillong**	**5.47**	**311**	*eP*	**Pn**	**20 27 15.0**	**+0.9**
SHL				*eS*	**Sn**	**20 28 23.0**	**+7.2**
NST	**Nakhon Sawan**	**7.22**	**151**	P	**Pn**	**20 27 39.3**	**+1.1**
GUN	**Gumba**	**11.24**	**303**	*eP*	**Pn**	**20 28 33.4**	**+0.3**
	13nm,0.4s						
PKI	**Pulchoki**	**11.45**	**301**	*eP*	**Pn**	**20 28 35.8**	**-0.2**
	4.5nm,0.3s						
KKN	**Kakani**	**11.65**	**302**	*eP*	**Pn**	**20 28 38.0**	**-0.8**
	5.2nm,0.3s						
DMN	**Daman**	**11.71**	**301**	*eP*	**Pn**	**20 28 39.3**	**-0.3**
	3.5nm,0.3s						
GKN	**Gorkha**	**12.25**	**301**	*eP*	**Pn**	**20 28 46.0**	**-1.0**
	11nm,0.3s						
KOLN	**Koldanda**	**12.99**	**299**	*eP*	**Pn**	**20 28 56.1**	**-1.0**
	3.7nm,0.3s						
SONM	**Songino Array**	**26.95**	**15**	P	**P**	**20 31 30.1**	**-2.2**
	0.4nm,1.0s,mb2.9,baz=184,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**27.24**	**338**	P	**P**	**20 31 36.9**	**+2.0**
	0.4nm,0.7s,mb3.1,baz=150,slow=10,SNR=4.0						
ZAL	**Zalesovo**	**33.06**	**347**	P	**P**	**20 32 28.6**	**+2.2**
	0.5nm,0.6s,mb3.6,baz=316,slow=9.3,SNR=3.4						
MJAR	**Matsushiro Arr**	**38.86**	**59**	P	**P**	**20 33 14.1**	**-1.9**
	1.3nm,0.8s,mb3.7,baz=267,slow=8.9,SNR=4.7						
WRA	**Warramunga Arr**	**55.77**	**136**	P	**P**	**20 35 26.1**	**-1.3**
	0.3nm,0.3s,mb3.8,baz=324,slow=7.4,SNR=3.8						
ASAR	**Alice Springs**	**58.23**	**139**	P	**P**	**20 35 45.5**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=322,slow=7.2,SNR=5.3						

*ISCJB **09** 20:26:49.5±0.5, 3326N±002×11606W±002, h11km±5km, Error ellipse: s-maj=4.0km s-min=3.2km az=13.9*
*NEIC **09** 20:26:50.9, 3326N×11607W, h8km, ML3.9(PAS), After PAS.*
NEIC Felt [III] at Campo and Thermal; [II] at Palm Springs, San Diego and Santee. Felt at Borrego Springs, Cerritos, Chula Vista, El Centro, Escondido, Fallbrook, Hemet, Hermosa Beach, Indio, Jacumba, Julian, La Quinta, Lakeside, Morongo Valley, Pine Valley, Rancho Mirage, San Marcos, Solana Beach and Woodland Hills.

ISC 09 20:26:49.8±0.3, 3328N±002×11606W±002, h7km±3km, n53, σ0°92/68, 18C-25D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.40**	**146**	⇑P	**Pg**	**20 26 58.2**	**+0.6**
	baz=0.4,SNR=1000						
SWSC				⇓S	**Sg**	**20 27 03.5**	**+0.6**
	baz=0.4						
PFO	**Pinyon Flat Ob**	**0.47**	**315**	*eP*	**Pg**	**20 26 59.4**	**+0.4**
PFO				*eS*	**Sg**	**20 27 05.7**	**+0.6**
PFO	**Pinyon Flat Ob**	**0.47**	**315**	P	**Pg**	**20 26 59.5**	**+0.6**
	baz=0.5,SNR=1000						
PFO				⇓S	**Sg**	**20 27 05.8**	**+0.8**
	baz=0.5						
MONP	**Monument Peak**	**0.49**	**218**	P	**Pg**	**20 26 59.6**	**+0.3**
	baz=0.5,SNR=1000						
MONP				⇓S	**Sg**	**20 27 05.9**	**+0.2**
	baz=0.5						
DVTC	**Desert V Tower**	**0.62**	**183**	⇓P	**Pg**	**20 27 01.8**	**+0.1**
	baz=0.6,SNR=74						
DVTC				⇑S	**Sg**	**20 27 10.2**	**+0.4**
	baz=0.6						
BC3	**Big Chuckw Mtn**	**0.63**	**53**	P	**Pg**	**20 27 02.8**	**+0.8**
	baz=0.7,SNR=1000						
BC3				⇓S	**Sg**	**20 27 11.8**	**+1.6**
	baz=0.7						
BELC	**Belle Mtn.**	**0.72**	**4**	P	**Pg**	**20 27 04.4**	**+0.7**
	baz=0.7,SNR=1000						
BELC				⇓S	**Sg**	**20 27 14.5**	**+1.3**
	baz=0.7						
109C	**Camp Elliot, M**	**0.96**	**247**	⇓P	**Pg**	**20 27 07.9**	**-0.3**
	baz=0.9,SNR=430						
109C				⇓S	**Sg**	**20 27 20.2**	**-0.5**
	baz=0.9						
MURC	**Murrieta**	**1.01**	**289**	⇓P	**Pg**	**20 27 09.2**	**0.0**
	baz=1.0,SNR=320						
MURC				⇓S	**Sg**	**20 27 22.4**	**+0.2**
	baz=1.0						
GLA	**Glamis**	**1.06**	**102**	*eP*	**Pg**	**20 27 08.9**	**-1.2**
GLA	**Glamis**	**1.06**	**102**	P	**Pg**	**20 27 09.2**	**-0.9**
	baz=1.1,SNR=250						
GLA				⇓S	**Sg**	**20 27 23.6**	**-0.2**
	baz=1.1						
IRM	**Iron Mountain**	**1.16**	**40**	P	**Pg**	**20 27 11.3**	**-0.8**
	baz=1.2,SNR=366						
IRM				⇑S	**Sg**	**20 27 27.8**	**+0.6**
	baz=1.2						
BBRC	**Big Bear Sol-O**	**1.22**	**324**	⇓P	**Pb**	**20 27 13.2**	**0.0**
	baz=1.2,SNR=187						
BBRC				⇑S	**Sg**	**20 27 29.2**	**+0.2**
	baz=1.2						
Y12C	**Blythe**	**1.37**	**69**	⇑P	**Pn**	**20 27 13.8**	**-1.4**
	baz=1.4						
HEC	**Hector,Ludlow**	**1.57**	**352**	⇑P	**Pn**	**20 27 17.4**	**-0.7**
	baz=1.6,SNR=89						
BFSC	**Mount Baldy St**	**1.64**	**306**	⇓P	**Pn**	**20 27 18.6**	**-0.4**
	baz=1.6,SNR=45						
CIS	**Catalina Islan**	**1.97**	**274**	⇓P	**Pn**	**20 27 23.9**	**+0.4**
	baz=1.9,SNR=131						
SCI	**San Clemente I**	**2.11**	**263**	⇑P	**Pn**	**20 27 25.6**	**+0.2**
	baz=2.1,SNR=42						
GSC	**Goldstone**	**2.11**	**343**	*ePn*	**Pn**	**20 27 24.9**	**-0.6**
GSC				*ePg*	**Pg**	**20 27 29.7**	**-0.6**
TUQ	**Turquoise Mtn.**	**2.16**	**3**	⇓P	**Pn**	**20 27 25.5**	**-0.7**
	baz=2.2						
EDW2	**Edwards Air Fo**	**2.26**	**315**	⇓P	**Pn**	**20 27 27.3**	**-0.4**
	baz=2.2,SNR=7.1						
X13A	**Yucca**	**2.27**	**54**	⇑P	**Pn**	**20 27 27.4**	**-0.3**
	baz=2.3,SNR=25						
W13A	**Hualapai Mount**	**2.56**	**44**	⇑P	**Pn**	**20 27 32.1**	**+0.4**
	baz=2.6,SNR=37						
LRMC	**Laurel Mountai**	**2.58**	**329**	⇑P	**Pn**	**20 27 31.4**	**-0.5**
	baz=2.6						
Z14A	**Wintersburg**	**2.61**	**87**	⇓P	**Pn**	**20 27 31.5**	**-0.9**
	baz=2.6						
Y14A	**Wickenburg**	**2.63**	**75**	⇑P	**Pn**	**20 27 32.1**	**-0.6**
	baz=2.7						
X14A	**Yava**	**2.89**	**65**	⇑P	**Pn**	**20 27 36.3**	**+0.1**
	baz=2.9						
SNCC	**San Nicolas Is**	**2.90**	**270**	*ePn*	**Pn**	**20 27 36.8**	**+0.4**
SNCC	**San Nicolas Is**	**2.90**	**270**	⇓P	**Pn**	**20 27 36.6**	**+0.2**
	baz=2.9						
SNCC				⇓S	**Sn**	**20 28 11.6**	**0.0**
	baz=2.9						
MPMC	**Manual Prospec**	**3.02**	**337**	⇓P	**Pn**	**20 27 37.6**	**-0.4**
	baz=3.0						
ISA	**Isabella**	**3.11**	**321**	*ePn*	**Pn**	**20 27 38.3**	**-0.9**
ISA				*ePg*	**Pg**	**20 27 47.1**	**-2.2**
ISA	**Isabella**	**3.11**	**321**	⇓P	**Pn**	**20 27 39.1**	**-0.1**
	baz=3.1						
W14A	**Seligman**	**3.13**	**51**	⇓P	**Pn**	**20 27 40.2**	**+0.7**
	baz=3.2						
115A	**Sonoran Desert**	**3.27**	**99**	⇑P	**Pn**	**20 27 40.7**	**-0.7**
	baz=3.3						
X15A	**Humbo

ISC 09 20:32:38.6±3.4, 212N±02×966E±04, h35km, n8, σ0§98/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**4.30**	**326**	*eP*	**Pn**	**20 33 40.0**	**-1.5**
IMP				*eS*	**Sn**	20 34 32.0	+1.6
SHL	**Shillong**	**6.11**	**316**	*eP*	**Pn**	**20 34 06.5**	**+0.1**
SHL				*eS*	**Sn**	20 35 13.5	-1.5
GUN	**Gumba**	**11.80**	**306**	*eP*	**Pn**	**20 35 24.6**	**+0.3**
	19nm,0.4s						
PKI	**Pulchoki**	**11.99**	**304**	*eP*	**Pn**	**20 35 28.4**	**+1.5**
	11nm,0.7s						
KKN	**Kakani**	**12.20**	**305**	*eP*	**Pn**	**20 35 29.5**	**-0.2**
	8.5nm,0.4s						
DMN	**Daman**	**12.24**	**303**	*eP*	**Pn**	**20 35 30.8**	**+0.4**
	6.1nm,0.5s						
GKN	**Gorkha**	**12.80**	**304**	*eP*	**Pn**	**20 35 37.4**	**-0.5**
	9.5nm,0.3s						
KOLN	**Koldanda**	**13.50**	**301**	*eP*	**Pn**	**20 35 47.4**	**-0.2**
	5.3nm,0.4s						

*IDC **09** 20:42:40.9±1.7, 4685N×15303E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, ML3.4/2, Error ellipse: s-maj=48.7km s-min=22.3km az=172.0*
*NEIC **09** 20:42:42.6±0.8, 4688N×15299E, h10km, mb4.3/2, Error ellipse: s-maj=21.5km s-min=12.4km az=148.0*
*ISCJB **09** 20:42:44.9±1.4, 459N±02×1529E±01, h70km±14km, mb4.1/14, Error ellipse: s-maj=31.7km s-min=10.4km az=135.3*
*MOS **09** 20:42:46.5±1.1, 4701N×15233E, h33km, mb4.3/3, Error ellipse: s-maj=23.2km s-min=19.0km az=48.7*

ISC 09 20:42:45.9±1.3, 462N±02×1529E±01, h55km±14km, n38, σ1§42/46, mb4.2/14, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.64**	**257**	*i*PN	**Pn**	**20 43 38.3**	**-1.4**
KUR				*eS*	**Sn**	**20 44 22.0**	**+0.6**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,160nm,0.5s						
KUR				smax			
	comp=N,240nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
NEM2	**Nemuro 2**	**5.81**	**244**	P	**Pn**	**20 44 08.4**	**-1.0**
NEM2				*eS*	**Sn**	20 45 13.0	-1.6
JRA	**Rausu**	**5.94**	**251**	P	**Pn**	**20 44 13.0**	**+1.8**
JNK	**Nakash**	**6.35**	**249**	P	**Pn**	**20 44 17.4**	**+0.5**
JNK				*eS*	**Sn**	20 45 29.0	+1.0
JAK	**Akkeshi**	**6.65**	**245**	P	**Pn**	**20 44 19.7**	**-1.3**
JAK				*eS*	**Sn**	20 45 32.5	-2.9
JTKR	**Abashiri--Toko**	**6.73**	**254**	P	**Pn**	**20 44 23.7**	**+1.7**
JAR	**Ashorobuto**	**7.10**	**249**	P	**Pn**	**20 44 28.1**	**+1.0**
JAR				*eS*	**Sn**	20 45 47.6	+1.2
JOB	**Onbets**	**7.25**	**247**	P	**Pn**	**20 44 29.0**	**-0.1**
JOB				*eS*	**Sn**	20 45 49.3	-0.7
JKK2	**Kamakawa 2**	**7.54**	**256**	P	**Pn**	**20 44 35.4**	**+2.2**
ASAJ	**Asahikawa**	**7.56**	**258**	Pn	**Pn**	**20 44 36.5**	**+3.0**
	comp=E,0.5nm,0.3s,baz=342,slow=32,SNR=4.9						
ASAJ	**Asahikawa**	**7.56**	**258**	P	**Pn**	**20 44 36.3**	**+2.8**
ASAJ	**Asahikawa**	**7.56**	**258**	PN	**Pn**	**20 44 36.5**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.69**	**246**	P	**Pn**	**20 44 34.8**	**-0.4**
JCH				*eS*	**Sn**	20 45 58.9	-2.0
JNB	**Noboribetsu**	**9.26**	**251**	P	**Pn**	**20 44 56.6**	**-0.1**
JNB				*eS*	**Sn**	20 46 38.6	-0.9
JYM2	**Yakumo 2**	**9.87**	**250**	P	**Pn**	**20 45 04.3**	**-0.7**
JANG	**Nango**	**10.11**	**239**	*eS*	**Sn**	**20 46 52.5**	**-7.7**
MJAR	**Matsushiro Arr**	**14.61**	**234**	Pn	**Pn**	**20 46 15.9**	**+6.6**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.5,SNR=4.4						
BILL	**Bilibino**	**23.00**	**13**	*eP*	**P**	**20 47 53.1**	**+7.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**47.08**	**298**	P	**P**	**20 51 11.6**	**-0.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=63,slow=7.0,SNR=6.3						
LSA	**Lhasa**	**50.16**	**273**	*eP*	**P**	**20 51 39.2**	**+3.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**50.16**	**273**	*eP*	**P**	**20 51 39.2**	**+3.4**
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**50.70**	**310**	*eP*	**P**	**20 51 37.9**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**50.70**	**310**	*eP*	**P**	**20 51 37.9**	**-1.9**
	comp=Z,2.3nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.12**	**310**	P	**P**	**20 51 41.5**	**-1.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=47,slow=7.8,SNR=5.4						
KKN	**Kakani**	**55.39**	**276**	*eP*	**P**	**20 52 16.8**	**+2.4**
	comp=Z,4.5nm,0.5s,mb4.8						
PKI	**Pulchoki**	**55.44**	**275**	*eP*	**P**	**20 52 16.7**	**+1.9**
DMN	**Daman**	**55.62**	**276**	*eP*	**P**	**20 52 18.4**	**+2.3**
GKN	**Gorkha**	**55.70**	**276**	*eP*	**P**	**20 52 18.3**	**+1.6**
	comp=Z,6.8nm,0.6s,mb4.8						
KOLN	**Koldanda**	**56.57**	**277**	*eP*	**P**	**20 52 24.9**	**+2.1**
	comp=Z,4.8nm,0.6s,mb4.7						
NVAR	**Mina Array Bea**	**62.84**	**62**	P	**P**	**20 53 05.5**	**-0.5**
	comp=Z,0.6nm,0.5s,mb4.0,baz=296,slow=7.5,SNR=5.0						
NVAR	**Mina Array Bea**	**62.84**	**62**	P	**P**	**20 53 05.5**	**-0.5**
FINES	**FINESS Array B**	**64.51**	**335**	P	**P**	**20 53 15.3**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=31,slow=8.9,SNR=7.7						
PDAR	**Pinedale Array**	**65.22**	**54**	P	**P**	**20 53 21.2**	**-0.4**
	comp=Z,1.1nm,0.8s,mb4.0,baz=304,slow=3.3,SNR=9.8						
NB2	**NORSAR Subarra**	**68.74**	**341**	P	**P**	**20 53 42.6**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.74**	**341**	P	**P**	**20 53 43.0**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=28,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**20 54 02.4**	**-1.1**
	comp=Z,2.3nm,0.5s,mb4.3,baz=33,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**71.95**	**326**	P	**P**	**20 54 02.4**	**-1.1**
GERES	**GERESS Array B**	**78.92**	**334**	P	**P**	**20 54 43.4**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=24,slow=7.3,SNR=3.6						

IDC 09 20:53:18.4±1.4, 027S×12549E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=148.9km s-min=22.9km az=67.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**157**	P	P	20 58 08.1	+0.7
	1.1km,0.7s,baz=337,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**24.65**	**161**	P	P	20 58 40.7	+0.1
	0.4nm,0.5s,baz=334,slow=8.2,SNR=5.1						
SONM	**Songino Array**	**50.72**	**343**	P	P	21 02 21.2	+1.4
	0.7nm,1.0s,baz=166,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**60.17**	**327**	P	P	21 03 27.1	-0.7
	0.4nm,0.4s,baz=121,slow=7.6,SNR=7.8						

*NDI **09** 21:27:20.2±4.6, 3475N×7213E, h15km±999km, ML3.2*
*ISCJB **09** 21:27:23.3±0.6, 3496N±005×7338E±006, h10km, Error ellipse: s-maj=7.4km s-min=6.6km az=86.2*

ISC 09 21:27:25.8±0.6, 3485N±005×7329E±006, h10km, n15, σ1§28/19, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.19**	**181**	P	**Pb**	**21 27 47.7**	**-0.8**
CEP	**Cherat**	**1.54**	**228**	P	**Pn**	**21 27 52.4**	**-0.8**
CEP				S	**Sn**	21 28 14.0	+0.8
THW	**Thamme Wali**	**2.42**	**213**	P	**Pn**	**21 28 06.9**	**+1.5**
THN	**Thein Dam**	**3.15**	**139**	*eP*	**Pn**	**21 28 19.1**	**+3.7**
THN				*ex*	x	21 29 05.2	
DLH	**Dalhousie**	**3.21**	**135**	*eP*	**Pn**	**21 28 15.0**	**-1.2**
DLH				*eS*	**Sn**	**21 28 56.0**	**+1.5**
SBDP	**Sheikh Budin**	**3.28**	**220**	P	**Pn**	**21 28 15.6**	**-1.7**
SDNR	**Sundarnagar**	**4.55**	**136**	*eP*	**Pn**	**21 28 36.0**	**+1.3**
SDNR				*ex*	x	21 29 29.0	
KLP	**Kalpa**	**5.32**	**127**	*eP*	**Pn**	**21 28 48.3**	**+3.1**
KLP				*eS*	**Sn**	**21 29 55.5**	**+9.0**
KLP				AML	AML	21 30 21.2	
	comp=N,52nm,0.8s						
KLP				AML	AML	21 30 21.3	
	comp=E,68nm,0.6s						
KHET	**Khetri**	**7.09**	**162**	*eS*	**Sn**	**21 30 24.4**	**-5.8**
KHET				AML	AML	21 30 28.6	
	comp=E,7.6nm,0.1s						
KHET				AML	AML	21 30 28.7	
	comp=N,6.6nm,0.1s						
KK31	**Karatay Array**	**8.52**	**346**	⇑Pn	**Pn**	**21 29 31.3**	**+2.2**
	comp=N,2.5nm,0.7s,baz=146,slow=12,SNR=6.8						
KK31				⇓Sn	**Sn**	**21 31 04.6**	**-0.6**
	comp=N,0.8nm,0.4s,baz=147,slow=31,SNR=2.5						
KOLN	**Koldanda**	**11.29**	**126**	*eP*	**Pn**	**21 30 07.3**	**+0.2**
GKN	**Gorkha**	**11.85**	**122**	*eP*	**Pn**	**21 30 13.8**	**-1.0**
	comp=N,3.2nm,0.2s						
DMN	**Daman**	**12.42**	**122**	*eP*	**Pn**	**21 30 22.1**	**-0.5**
KKN	**Kakani**	**12.43**	**121**	*eP*	**Pn**	**21 30 21.7**	**-1.0**
PKI	**Pulchoki**	**12.65**	**122**	*eP*	**Pn**	**21 30 24.8**	**-1.0**

IDC 09 21:33:42.2±4.6, 709S×12226E, h535km±72km, mb2.9/3, mb1 2.8/6, mb1mx2.7/17, mbtmp3.7/6, Error ellipse: s-maj=111.7km s-min=23.6km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**164**	*eP*	P	21 36 14.7	0.0
	5.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.43**	**164**	P	P	21 36 14.8	+0.1
	0.5nm,0.3s,baz=318,slow=6.6,SNR=16						
WRA	**Warramunga Arr**	**17.34**	**139**	P	P	21 37 14.9	+0.2
	0.2nm,0.3s,baz=316,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**19.92**	**147**	P	P	21 37 38.5	+0.3
	0.1nm,0.3s,baz=322,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**30.55**	**146**	P	P	21 39 12.0	-0.2
	2.5nm,1.0s,baz=319,slow=9.3,SNR=4.3						
SONM	**Songino Array**	**56.45**	**347**	P	P	21 42 33.1	-0.1
	0.6nm,0.6s,baz=166,slow=9.7,SNR=6.2						
MKAR	**Makanchi Array**	**64.31**	**331**	P	P	21 43 25.2	+0.1
	0.8nm,0.6s,baz=141,slow=6.8,SNR=10						

MAN 09 21:36:01.4, 1103N×12259E, h54km, mb1.9, ML3.7, MS1.9, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.40**	**181**	*eP*	Pn	21 36 13.9	+2.0
GUIM				*eS*	Sn	21 36 22.9	+3.5
OTRP	**Odiongan**	**1.44**	**337**	*eP*	Pn	21 36 25.7	+0.6
CUYO	**Cuyo Island**	**1.56**	**263**	*eP*	Pn	21 36 27.9	+1.1

KRSC 09 21:37:50, 5363N×16166E, h5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.93**	**3**	*eP*	Pg	21 38 07.8	0.0
MKZ				*eS*	Sg	21 38 20.9	+1.0
SPN	**Mys Shipunski**	**1.12**	**242**	P	Pg	21 38 11.9	+0.5
SPN				*eS*	Sg	21 38 28.6	+2.7
KII	**Karymskiy**	**1.37**	**288**	P	Pn	21 38 16.8	+1.0
KII				*eS*	Sb	21 38 35.8	+1.8
NLC	**Nalytchevo**	**1.46**	**253**	P	Pn	21 38 17.0	0.0
NLC				*eS*	Sn	21 38 36.4	-0.1
AVH	**Avacha**	**1.79**	**259**	*eP*	Pn	21 38 22.4	+0.9
AVH				S	Sn	21 38 45.6	+1.1
TUMR	**Tumrok**	**1.88**	**333**	*eP*	Pn	21 38 23.4	+0.7
TUMR				*eS*	Sn	21 38 48.4	+1.6
PET	**Petropavlovsk**	**1.90**	**253**	S	Sn	21 38 49.7	+2.3
GNL	**Ganaly**	**2.21**	**273**	*eP*	Pn	21 38 29.3	+1.9
GNL				S	Sn	21 38 57.8	+2.7
RUS	**Russkaya**	**2.25**	**239**	P	Pn	21 38 28.6	+0.8
RUS				*eS*	Sn	21 38 56.1	+0.2
KMNR	**Kamenistaya**	**2.29**	**339**	*eP*	Pn	21 38 29.5	+1.2
KMNR				*eS*	Sn	21 38 58.6	+1.7
GRL	**Gorelyy**	**2.42**	**245**	P	Pn	21 38 31.2	+1.0
GRL				S	Sn	21 39 01.5	+1.4
ZLN	**Zelenaya**	**2.44**	**349**	*eP*	Pn	21 38 31.0	+0.5
ZLN				*eS*	Sn	21 39 00.8	0.0
KPT	**Kopyto**	**2.48**	**341**	P	Pn	21 38 32.3	+1.2
KPT				S	Sn	21 39 02.9	+1.1
KBTR	**Krutoberegovo**	**2.67**	**14**	P	Pn	21 38 35.4	+1.8
KBTR				S	Sn	21 39 08.4	+2.1
KRSR	**Krestovskiy**	**2.67**	**347**	P	Pn	21 38 34.5	+0.9
KRSR				S	Sn	21 39 07.2	+0.9
KLY	**Klyuchi**	**2.75**	**348**	S	Sn	21 39 10.6	+2.2
SRDR	**Sredinnyy**	**2.92**	**338**	P	Pn	21 38 38.0	+1.0
SRKR	**Sorokina**	**3.04**	**355**	*eP*	Pn	21 38 39.3	+0.5
SRKR				S	Sn	21 39 15.3	-0.3

IDC 09 21:44:21.5±8.6, 607S×14689E, h55km±82km, mb2.6/1, mb1 3.2/3, mb1mx3.0/13, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=82.1km s-min=56.3km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**175**	P	Pn	21 45 11.0	-0.1
	6.2nm,0.3s,baz=338,slow=7.5,SNR=14						
PMG				S	Sn	21 45 50.5	+1.2
	1.6nm,0.3s,baz=327,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**18.41**	**220**	P	Pn	21 48 31.8	-0.9
	0.2nm,0.3s,baz=40,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**21.50**	**214**	P	P	21 49 05.4	-0.3
	0.3nm,0.3s,baz=51,slow=8.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc	PKPbc	22 03 53.0	+1.0
	0.6nm,1.1s,baz=76,slow=3.9,SNR=4.5						

*ATH **09** 21:49:15.9, 3533N×2694E, h24km, MD4.0/12, ML4.2*
*ISCJB **09** 21:49:16.9±0.6, 3527N±002×2698E±003, h24km±5km, mb3.7/7, Error ellipse: s-maj=4.1km s-min=3.7km az=60.3*
*NEIC **09** 21:49:16.0, 3534N×2694E, h25km, ML4.2(ATH), After ATH.*
*CSEM **09** 21:49:17.2±0.1, 3541N×2692E, h20km, ML4.2, Error ellipse: s-maj=2.3km s-min=1.6km az=163.0*
*HLW **09** 21:49:18.2, 3554N×2703E, h33km, Mb3.2*
*ISK **09** 21:49:18.2, 3540N×2687E, h38km, MD3.7*
*GII **09** 21:49:20.8±0.6, 3505N×2724E, h5km±28km, ML3.0/1*
*IDC **09** 21:49:23.3±3.8, 3525N×27.15E, h59km±34km, mb3.5/7, mb1 3.6/10, mb1mx3.5/22, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=37.0km s-min=16.4km az=154.0*

ISC 09 21:49:17.6±0.7, 3536N±002×2695E±003, h14km±4km, n75, σ1§27/92, mb3.7/7, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.26**	**42**	⇑*i*PB	**Pg**	**21 49 22.7**	**-0.4**
KARP				*e*SB	**Sg**	**21 49 27.4**	**+0.5**
NPS	**Neapolis**	**1.10**	**266**	*e*PN	**Pn**	**21 49 36.7**	**-1.8**
NPS	**Neapolis**	**1.10**	**266**	*e*Pn	**Pn**	**21 49 37.7**	**-0.8**
XRY	**Khrisi**	**1.13**	**245**	*e*PN	**Pn**	**21 49 37.6**	**-1.4**
XRY	**Khrisi**	**1.13**	**245**	*e*Pn	**Pn**	**21 49 38.0**	**-1.0**
NISR	**Nisiros**	**1.26**	**7**	*e*PN	**Pn**	**21 49 39.9**	**-0.9**
NISR				*e*SN	**Sn**	**21 49 58.5**	**+1.0**
NISR	**Nisiros**	**1.26**	**7**	*e*Pn	**Pn**	**21 49 39.5**	**-1.3**
NISR				*e*Sn	**Sn**	**21 49 58.5**	**+1.0**
ARG	**Arkhangelos**	**1.29**	**48**	*e*PN	**Pn**	**21 49 40.7**	**-0.4**
ARG				*e*SN	**Sn**	**21 49 59.2**	**+1.1**
DAT	**Datca**	**1.46**	**20**	PN	**Pn**	**21 49 42.7**	**-0.8**
DAT				SN	**Sn**	**21 50 00.6**	**-1.8**
SANT	**Santorini**	**1.58**	**310**	*e*P	**Pn**	**21 49 43.3**	**-1.8**
SANT	**Santorini**	**1.58**	**310**	*e*P	**Pn**	**21 49 43.3**	**-1.8**
BODT	**Bodrum**	**1.73**	**10**	PN	**Pn**	**21 49 46.3**	**-0.9**
BDRM	**Kayabasi**	**1.75**	**13**	*i* P	**Pn**	**21 49 46.5**	**-1.0**
BDRM				*i* S	**Sn**	**21 50 08.2**	**-1.3**
BDRM	**Kayabasi**	**1.75**	**13**	*i* P	**Pn**	**21 49 46.5**	**-1.0**
DALT	**Dalyan (Mudla)**	**1.97**	**44**	PN	**Pn**	**21 49 50.1**	**-0.3**
MLSB	**Milas**	**2.05**	**19**	PN	**Pn**	**21 49 50.7**	**-0.9**
APE	**Apeiranthos**	**2.06**	**327**	⇓*i*Pb	**Pn**	**21 49 50.3**	**-1.4**
VAM	**Vamos**	**2.25**	**272**	*e*PN	**Pn**	**21 49 53.5**	**-0.8**
VAM	**Vamos**	**2.25**	**272**	*e*Pn	**Pn**	**21 49 53.1**	**-1.2**
AKAS	**Kas**	**2.33**	**67**	*i* P	**Pn**	**21 49 57.4**	**+1.9**
AKAS				*i* S	**Sb**	**21 50 28.4**	**+0.4**
SMG	**Samos**	**2.35**	**358**	*e*PN	**Pn**	**21 49 55.6**	**-0.1**
GVD	**Gavdhos**	**2.40**	**258**	*e*P	**Pb**	**21 49 59.8**	**-0.7**
GVD	**Gavdhos**	**2.40**	**258**	*e*P	**Pb**	**21 49 59.8**	**-0.7**
AYDN	**Tasoluk**	**2.42**	**18**	*i* P	**Pn**	**21 49 57.5**	**+0.9**
AYDN				*i* S	**Sn**	**21 50 30.0**	**+3.9**
ELL	**Elmali**	**2.77**	**59**	PN	**Pn**	**21 50 02.3**	**+0.8**
GOLH	**Golhisar**	**2.83**	**48**	*i* P	**Pn**	**21 50 04.5**	**+2.2**
GOLH				*i* S	**Sg**	**21 50 46.4**	**-2.0**
DNZL	**Cakiroluk**	**2.88**	**35**	*i* P	**Pg**	**21 50 11.1**	**-1.7**
DNZL				*i* S	**Sg**	**21 50 54.5**	**+4.5**
DENT	**Denizli**	**2.92**	**34**	PN	**Pn**	**21 50 03.7**	**+0.1**
IZM	**Izmir**	**3.05**	**5**	PN	**Pn**	**21 50 05.2**	**-0.1**
KDAG	**Bornova**	**3.05**	**5**	*i* P	**Pn**	**21 50 06.8**	**+1.4**
KDAG				*i* S	**Sg**	**21 50 52.4**	**-3.3**
KYTH	**Kithira**	**3.31**	**287**	*e*PN	**Pn**	**21 50 08.5**	**-0.4**
VLI	**Veliai**	**3.52**	**294**	*e*PN	**Pn**	**21 50 11.6**	**-0.2**
VLI	**Veliai**	**3.52**	**294**	*e*Pn	**Pn**	**21 50 10.9**	**-0.9**
BCK	**Bucak**	**3.61**	**53**	*e*PN	**Pn**	**21 50 13.8**	**+0.7**
PTL	**Penteli**	**3.66**	**318**	*e*PN	**Pn**	**21 50 14.0**	**+0.3**
ATH	**Athens Observa**	**3.68**	**316**	*e*PN	**Pn**	**21 50 14.3**	**+0.3**
HMAT	**Matruh**	**4.25**	**178**	P	**Pn**	**21 50 23.9**	**+2.0**
ITM	**Ithomi**	**4.45**	**296**	*e*PN	**Pn**	**21 50 25.0**	**+0.5**
ITM	**Ithomi**	**4.45**	**296**	*e*Pn	**Pn**	**21 50 26.0**	**+1.5**
HDMB	**Hadim**	**4.76**	**69**	*e*PN	**Pn**	**21 50 30.6**	**+1.8**
ERMK	**Ermenek**	**5.00**	**73**	*i* P	**Pn**	**21 50 35.0**	**+2.9**
ERMK				*i* S	**Sn**	**21 51 32.9**	**+3.1**
ERMK	**Ermenek**	**5.00**	**73**	*i* P	**Pn**	**21 50 35.0**	**+2.8**
KONT	**Konya--Tatoy**	**5.06**	**58**	*e*PN	**Pn**	**21 50 34.8**	**+1.8**
CSS	**Prodhromos**	**5.24**	**92**	*e*P	**Pn**	**21 50 34.7**	**-0.8**
	20nm,0.6s						
CSS				*e*S	**Sn**	**21 51 27.2**	**-8.5**
CSS	**Prodhromos**	**5.24**	**92**	*e*P	**Pn**	**21 50 34.7**	**-0.8**
	20nm,0.6s						
SWA1		**6.16**	**190**	P	**Pn**	**21 50 49.8**	**+1.7**
SWA2		**6.22**	**192**	P	**Pn**	**21 50 50.4**	**+1.5**
BRTR	**Keskin Array B**	**6.88**	**49**	P	**Pn**	**21 50 59.7**	**+1.8**
	0.3nm,0.3s,baz=218,slow=15,SNR=6.2						
BRTR				S	**Sn**	**21 52 18.2**	**+2.3**
	0.1nm,0.3s,baz=219,slow=20,SNR=2.6						
GLL	**Jalalah**	**7.03**	**144**	P	**Pn**	**21 51 00.7**	**+0.7**
AMAG	**Maghara**	**7.05**	**130**	P	**Pn**	**21 51 00.7**	**+0.3**
AWBH		**7.21**	**166**	P	**Pn**	**21 51 04.0**	**+1.5**
MMC7	**Mount Meron ar**	**7.37**	**106**	Pn	**Pn**	**21 51 05.4**	**+0.7**
MMC7				Sn	**Sn**	**21 52 26.8**	**-1.4**
MMA0	**Mount Meron ar**	**7.38**	**106**	Pn	**Pn**	**21 51 05.2**	**+0.3**
MMA0				Sn	**Sn**	**21 52 27.1**	**-1.4**
SLTI	**Sal'it**	**7.42**	**112**	Sn	**Sn**	**21 52 27.2**	**-2.0**
KSDI	**Kefar Szold**	**7.53**	**104**	Pn	**Pn**	**21 51 06.6**	**-0.3**
MMLI	**Mount Malkishu**	**7.62**	**110**	Pn	**Pn**	**21 51 08.3**	**+0.2**
MMLI	**Mount Malkishu**	**7.62**	**110**	Pn	**Pn**	**21 51 08.3**	**+0.1**
KSHT	**Keshet**	**7.72**	**105**	Pn	**Pn**	**21 51 10.2**	**+0.8**
KSHT	**Keshet**	**7.72**	**105**	Pn	**Pn**	**21 51 10.2**	**+0.7**
MZDA	**Masada**	**8.11**	**117**	Sn	**Sn**	**21 52 44.2**	**-2.2**
PRNI	**Paran**	**8.41**	**124**	Sn	**Sn**	**21 52 52.1**	**-1.7**
PRNI	**Paran**	**8.41**	**124**	Sn	**Sn**	**21 52 51.4**	**-2.4**
PRNI	**Paran**	**8.41**	**124**	Sn	**Sn**	**21 52 51.4**	**-2.4**
MBH	**Mount Berech**	**8.71**	**127**	Sn	**Sn**	**21 52 59.3**	**-1.8**
EIL	**Elat**	**8.82**	**128**	Pn	**Pn**	**21 51 24.4**	**-0.2**
EIL				Sn	**Sn**	**21 53 00.6**	**-3.1**
AKASG	**Malin Array Be**	**15.43**	**5**	P	**Pn**	**21 52 58.3**	**+3.6**
	1.0nm,0.3s,baz=197,slow=11,SNR=5.0						
GERES	**GERESS Array B**	**16.65**	**328**	P	**Pn**	**21 53 16.6**	**+6.2**
	0.1nm,0.3s,baz=147,slow=12,SNR=7.9						
ESDC	**Sonseca Array**	**24.83**	**289**	P	**P**	**21 54 43.0**	**+3.7**
	0.7nm,0.7s,mb3.3,baz=82,slow=10,SNR=4.2						
AKTK	**Aktyubinsk**	**27.05**	**47**	P	**P**	**21 54 60.0**	**+0.6**
AKTO	**Aktyubinsk**	**27.05**	**47**	P	**P**	**21 54 60.0**	**+0.6**
	0.6nm,0.5s,mb3.4,baz=240,slow=3.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**31.75**	**232**	P	**P**	**21 55 42.0**	**+0.9**
	1.0nm,0.8s,mb3.7,baz=34,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**34.24**	**359**	P	**P**	**21 56 02.2**	**-0.7**
	1.5nm,0.9s,mb3.9,baz=172,slow=7.3,SNR=3.4						
ARCES				PcP	PcP	21 58 37.2	-2.1
	2.3nm,0.9s,baz=193,slow=3.7,SNR=3.7						
MKAR	**Makanchi Array**	**42.45**	**57**	P	**P**	**21 57 12.1**	**+0.2**
	0.8nm,0.5s,mb3.6,baz=272,slow=8.3,SNR=14						
ZAL	**Zalesovo**	**43.80**	**46**	P	**P**	**21 57 22.2**	**-0.6**
	0.8nm,0.4s,mb3.8,baz=258,slow=5.2,SNR=3.1						
SONM	**Songino Array**	**58.23**	**51**	P	**P**	**21 59 11.7**	**+0.4**
	0.4nm,0.4s,mb3.9,baz=283,slow=7.4,SNR=7.5						

IDC 09 21:55:41.9±20.0, 1894N×14539E, h330km±134km, mb3.3/4, mb1 3.5/6, mb1mx3.2/19, mbtmp4.2/6, Error ellipse: s-maj=184.5km s-min=56.7km az=148.0, Mariana Islands

| Code | Station Name | Δ° | AZ° |

WRA Warramunga Arr 44.92 261 P P 22 35 06.4 -0.3
1.8nm,0.5s,baz=96,slow=8.5,SNR=9.2
AKASG Malin Array Be 142.58 332 PKP PKPdf 22 46 10.0 -0.7
0.9nm,0.5s,baz=44,slow=4.6,SNR=7.0

*ISCJB **09** 22:41:26.9±5.3,2836N±008×1435E±02,h15km±38km, mb3.8/5, Error ellipse: s-maj=26.3km s-min=12.7km az=25.9*
*IDC **09** 22:41:26.6±1.9,2835N×14355E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/19,mbtmp3.7/6,ML3.6/1, Error ellipse: s-maj=55.9km s-min=21.0km az=76.0*
*NEIC **09** 22:41:30.8±1.9,2850N×14382E, Error ellipse: s-maj=69.5km s-min=10.9km az=71.0*

ISC 09 22:41:29.5±6.1,2832N±009×1434E±02,h14km±40km,n12, σ0s68/13,mb3.8/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.61**	**221**	Pn	**Pn**	**22 41 58.0**	**+0.6**
	12nm,0.3s,baz=255,slow=15,SNR=10						
CBIJ				Sn	**Sn**	**22 42 17.3**	**-0.6**
	73nm,0.3s,baz=282,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**9.29**	**333**	Pn	**Pn**	**22 43 41.7**	**-1.2**
	0.6nm,0.3s,baz=159,slow=10,SNR=5.1						
MJAR	**Matsushiro Arr**	**9.29**	**333**	Pn	**Pn**	**22 43 41.7**	**-1.2**
SONM	**Songino Array**	**34.59**	**314**	P	**P**	**22 48 18.4**	**+0.6**
	0.2nm,0.5s,mb3.3,baz=133,slow=8.5,SNR=2.3						
SONM				pP	pP	22 48 29.2	+6.9
	0.4nm,0.5s,baz=110,slow=11,SNR=4.2						
LSA	**Lhasa**	**45.37**	**285**	P	**P**	**22 49 48.6**	**+1.3**
WB2	**Warramunga Arr**	**48.76**	**191**	*eP*	**P**	**22 50 13.6**	**-0.1**
WB2	**Warramunga Arr**	**48.76**	**191**	*eP*	**P**	**22 50 13.6**	**-0.1**
WRA	**Warramunga Arr**	**48.76**	**191**	P	**P**	**22 50 13.3**	**-0.4**
	3.7nm,0.6s,mb4.6,baz=11,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**50.53**	**309**	P	**P**	**22 50 27.0**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=84,slow=11,SNR=5.4						
MKAR				pP	pP	22 50 37.9	+6.1
	0.5nm,0.8s,baz=84,slow=5.9,SNR=2.2						
ASAR	**Alice Springs**	**52.48**	**191**	P	**P**	**22 50 42.1**	**+0.4**
	0.5nm,0.9s,mb3.5,baz=8.9,slow=6.6,SNR=3.8						
STKA	**Stephens Creek**	**59.88**	**182**	P	**P**	**22 51 34.2**	**-0.4**
	2.5nm,1.0s,mb4.2,baz=355,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**59.88**	**182**	*eP*	**P**	**22 51 34.5**	**-0.2**

*ATH **09** 23:07:37.2,3907N×2337E,h21km,MD3.1/12,ML3.2*
*NEIC **09** 23:07:37.2,3907N×2337E,h21km,ML3.2(ATH), After ATH.*
*ISCJB **09** 23:07:37.1±0.5,3907N±002×2336E±003,h9km±3km, Error ellipse: s-maj=4.0km s-min=2.7km az=156.1*
*CSEM **09** 23:07:38.5±0.1,3906N×2334E,h20km,ML2.7, Error ellipse: s-maj=2.7km s-min=1.8km az=83.0*
*THE **09** 23:07:38.5,3909N×2334E,h9km,ML2.7*
*SKO **09** 23:07:41.1,3934N×2359E,h9km*

ISC 09 23:07:37.8±0.5,3907N±002×2336E±003,h10km±3km,n48, σ0s85/72,3C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.33**	**337**	*eP*g	**Pg**	**23 07 44.9**	**+0.6**
XOR				*eS*g	**Sg**	**23 07 49.4**	**+0.8**
AOS	**Alonnisos**	**0.42**	**76**	*eP*g	**Pg**	**23 07 46.3**	**+0.3**
AOS				*eS*g	**Sg**	**23 07 52.7**	**+1.1**
LKR	**Lokris**	**0.50**	**214**	↑*i*PN	**Pg**	**23 07 47.4**	**-0.2**
AGG	**Agios Georgios**	**0.80**	**267**	*eP*g	**Pg**	**23 07 52.5**	**-0.8**
AGG				*eS*g	**Sg**	**23 08 04.4**	**+0.7**
MGER	**Gerania Oros**	**1.08**	**184**	*eP*N	**Pn**	**23 07 57.7**	**-1.3**
MGER				*eS*N	**Sn**	**23 08 13.5**	**-0.6**
MGER	**Gerania Oros**	**1.08**	**184**	*eP*n	**Pn**	**23 07 57.5**	**-1.5**
MGER				*eS*n	**Sn**	**23 08 13.5**	**-0.6**
PTL	**Penteli**	**1.09**	**158**	*eP*N	**Pn**	**23 07 58.0**	**-1.1**
PTL				*eS*N	**Sn**	**23 08 13.0**	**-1.3**
PTL	**Penteli**	**1.09**	**158**	*eP*n	**Pn**	**23 07 58.3**	**-0.8**
PTL				*eS*n	**Sn**	**23 08 13.0**	**-1.3**
ATH	**Athens Observa**	**1.13**	**165**	*eP*N	**Pn**	**23 07 59.0**	**-0.7**
ATH				*eS*N	**Sn**	**23 08 14.0**	**-1.2**
ATH	**Athens Observa**	**1.13**	**165**	*eP*n	**Pn**	**23 07 59.2**	**-0.5**
ATH				*eS*n	**Sn**	**23 08 13.6**	**-1.6**
THL	**Klokotos Trika**	**1.16**	**296**	*eP*N	**Pn**	**23 07 59.0**	**-1.0**
THL	**Klokotos Trika**	**1.16**	**296**	*eP*n	**Pn**	**23 07 58.7**	**-1.3**
EVR	**Evrytania**	**1.22**	**263**	*eP*N	**Pn**	**23 08 00.5**	**-0.4**
LIT	**Litokhoron**	**1.23**	**327**	*eP*g	**Pg**	**23 08 00.8**	**-0.6**
LIT				*eS*g	**Sg**	**23 08 18.0**	**+0.6**
KVR	**Kavouri**	**1.28**	**165**	*eP*N	**Pn**	**23 08 01.5**	**-0.2**
PLG	**Polygyros**	**1.31**	**3**	*eP*g	**Pg**	**23 08 01.9**	**-1.0**
PLG				*eS*g	**Sg**	**23 08 19.1**	**-0.8**
PLG	**Polygyros**	**1.31**	**3**	↑*i*PN	**Pn**	**23 08 01.8**	**-0.3**
PLG				*eS*N	**Sn**	**23 08 19.2**	**-0.4**
PLG	**Polygyros**	**1.31**	**3**	↑*i*Pn	**Pn**	**23 08 02.0**	**-0.1**
PLG				*eS*n	**Sn**	**23 08 19.2**	**-0.4**
NAIG	**Nisos Aigina**	**1.31**	**175**	*eP*N	**Pn**	**23 08 02.0**	**-0.2**
OUR	**Ouranopolis**	**1.35**	**21**	*eP*g	**Pg**	**23 08 02.8**	**-1.0**
OUR				*eS*g	**Sg**	**23 08 21.1**	**-0.3**
HORT	**Hortiatis**	**1.54**	**353**	*eP*g	**Pn**	**23 08 05.7**	**+0.3**
HORT				*eS*g	**Sn**	**23 08 24.9**	**-0.6**
THE	**Thessaloniki**	**1.59**	**349**	*eP*g	**Pn**	**23 08 05.7**	**-0.3**
THE				*eS*g	**Sn**	**23 08 26.0**	**-0.6**
KZN	**Kozani**	**1.74**	**316**	*eP*N	**Pn**	**23 08 08.8**	**+0.7**
SOH	**Sokhos**	**1.75**	**360**	*eP*b	**Pb**	**23 08 08.7**	**-1.4**
SOH				*eS*b	**Sb**	**23 08 30.5**	**-1.6**
GRG	**Griva**	**2.03**	**339**	*eP*n	**Pn**	**23 08 12.2**	**+0.2**
GRG				*eS*n	**Sn**	**23 08 37.9**	**+0.6**
SRS	**Serrai**	**2.06**	**5**	*eP*n	**Pn**	**23 08 12.5**	**+0.1**
SRS				*eS*n	**Sn**	**23 08 37.9**	**-0.2**
KNT	**Kendrikon**	**2.12**	**351**	*eP*n	**Pn**	**23 08 12.7**	**-0.6**
KNT				*eS*n	**Sn**	**23 08 40.4**	**+0.6**
LKD	**Levkas**	**2.14**	**261**	*eP*n	**Pn**	**23 08 14.0**	**+0.4**
ITM	**Ithomi**	**2.20**	**211**	*eP*N	**Pn**	**23 08 15.2**	**+0.9**
ITM	**Ithomi**	**2.20**	**211**	*eP*n	**Pn**	**23 08 15.7**	**+1.4**
CHOS	**Chios island**	**2.22**	**107**	*eP*N	**Pn**	**23 08 15.2**	**+0.6**
PRK	**Paraskevi**	**2.27**	**85**	*eP*N	**Pn**	**23 08 15.6**	**+0.2**
FNA	**Florina**	**2.29**	**319**	*eP*n	**Pn**	**23 08 14.9**	**-0.8**
FNA				*eS*n	**Sn**	**23 08 44.8**	**+0.8**
NVR	**Nevrokopi**	**2.31**	**9**	*eP*B	**Pn**	**23 08 16.5**	**+0.6**
VLI	**Veliai**	**2.37**	**188**	*eP*N	**Pn**	**23 08 17.0**	**+0.3**
VLI	**Veliai**	**2.37**	**188**	*eP*n	**Pn**	**23 08 16.9**	**+0.2**
IGT	**Igoumenitsa**	**2.39**	**282**	*eP*n	**Pn**	**23 08 16.6**	**-0.5**
IGT				*eS*n	**Sn**	**23 08 46.8**	**+0.4**
BIA	**Bitola**	**2.50**	**322**	*eP*n	**Pn**	**23 08 21.1**	**+2.6**
BIA	**Bitola**	**2.50**	**322**	*eP*n	**Pn**	**23 08 21.0**	**+2.5**
MMB	**Musomiste**	**2.54**	**6**	*eP*n	**Pn**	**23 08 19.1**	**+0.1**
MMB				*eS*n	**Sn**	**23 08 50.9**	**+1.0**
APE	**Apeiranthos**	**2.63**	**139**	*eP*n	**Pn**	**23 08 20.5**	**+0.2**
APE				*eS*n	**Sn**	**23 08 54.3**	**+2.0**
APE	**Apeiranthos**	**2.63**	**139**	*eP*N	**Pn**	**23 08 20.6**	**+0.3**
RDO	**Rodhopi**	**2.67**	**38**	*eP*N	**Pn**	**23 08 21.0**	**+0.2**
ALN	**Alexandroupoli**	**2.76**	**48**	*eP*n	**Pn**	**23 08 22.1**	**0.0**
STIP	**Stip**	**2.77**	**342**	*eP*n	**Pn**	**23 08 23.6**	**+1.3**
STIP	**Stip**	**2.77**	**342**	*eP*n	**Pn**	**23 08 23.5**	**+1.2**
KARN	**Karanos**	**3.69**	**173**	*eP*n	**Pn**	**23 08 36.7**	**+1.9**
LAST	**Lasithi**	**4.25**	**156**	*eP*n	**Pn**	**23 08 43.5**	**+0.9**

*IDC **09** 23:17:16.9±0.8,2068N×12006E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.8/19,mbtmp3.7/8,MS3.1/1,Ms1 3.1/1, ms1mx2.6/30,Error ellipse: s-maj=39.9km s-min=16.8km az=67.0*
*BJI **09** 23:17:17.8,2005N×11932E,h33km,mb4.2,ML3.7,Ms4.0, Msz3.9*
*NEIC **09** 23:17:18.2±0.5,2063N×11997E,h10km,mb4.3/3, Error ellipse: s-maj=14.7km s-min=8.9km az=78.0*
*MOS **09** 23:17:19.6±1.2,2069N×12003E,h33km,mb4.5/3,Error ellipse: s-maj=33.5km s-min=15.3km az=119.4*
*ISCJB **09** 23:17:21.4±2.3,2072N±008×120.1E±01,h50km±22km, mb3.8/11, Error ellipse: s-maj=20.3km s-min=11.1km az=117.2*

ISC 09 23:17:24.0±2.1,2074N±009×1202E±01,h55km±21km,n23, σ0s72/24,mb3.8/11,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.66**	**21**	*eP*n	**Pn**	**23 18 18.2**	**+0.1**
NACB				*eS*	**Sn**	**23 18 59.3**	**-0.7**
YHNB	**Yeheng**	**4.07**	**16**	*eP*n	**Pn**	**23 18 23.0**	**-0.6**
YHNB				*eS*n	**Sn**	**23 19 10.5**	**+0.6**
QZH	**Quanzhou**	**4.42**	**341**	*eP*	**Pn**	**23 18 32.6**	**+4.0**
QZH				S	**Sn**	**23 19 18.9**	**+0.1**
QZH				Smax			
	comp=N,70nm,0.6s						
QZH				Smax			
	comp=E,110nm,0.8s						
JOW	**Kunigami**	**9.58**	**49**	LR	LR	23 23 53.8	
	comp=E,96nm,19.3s,baz=183,slow=41						
MJAR	**Matsushiro Arr**	**22.27**	**41**	P	**P**	**23 22 17.1**	**+0.7**
	comp=E,2.5nm,0.8s,mb3.7,baz=235,slow=11,SNR=7.1						
LSA	**Lhasa**	**27.66**	**295**	*eP*	**P**	**23 23 07.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LSA	**Lhasa**	**27.66**	**295**	*eP*	**P**	**23 23 07.2**	**+0.6**
	comp=Z,2.2nm,0.4s,mb4.1						
SONM	**Songino Array**	**29.23**	**341**	P	**P**	**23 23 20.6**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.2,baz=141,slow=7.1,SNR=3.4						
CLNS	**Chul'man**	**36.22**	**4**	*eP*	**P**	**23 24 13.7**	**-7.8**
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**23 24 55.8**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.2,baz=116,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**42.75**	**160**	P	**P**	**23 25 15.7**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.2,baz=341,slow=9.0,SNR=12						
WB2	**Warramunga Arr**	**42.75**	**160**	*eP*	**P**	**23 25 15.6**	**-0.3**
ASAR	**Alice Springs**	**46.12**	**162**	P	**P**	**23 25 42.9**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=346,slow=7.2,SNR=9.5						
CTAO	**Charters Tower**	**47.94**	**146**	*eP*	**P**	**23 25 57.0**	**0.0**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**47.94**	**146**	*eP*	**P**	**23 25 57.0**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.7						
BRVK	**Borovoye**	**49.85**	**323**	*eP*	**P**	**23 26 10.9**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**49.85**	**323**	*eP*	**P**	**23 26 10.9**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**49.89**	**324**	P	**P**	**23 26 08.9**	**-3.0**
STKA	**Stephens Creek**	**56.21**	**158**	P	**P**	**23 26 58.6**	**+0.2**
	comp=Z,1.6nm,0.8s,mb4.1,baz=348,slow=9.3,SNR=2.6						
AKTK	**Aktyubinsk**	**56.61**	**317**	P	**P**	**23 27 00.8**	**-0.4**
AKTO	**Aktyubinsk**	**56.61**	**317**	P	**P**	**23 27 00.8**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=102,slow=9.3,SNR=3.0						
CLL	**Collm**	**84.22**	**323**	epP	pP	23 29 59.0	-6.2
GERES	**GERESS Array B**	**84.89**	**321**	P	**P**	**23 29 53.9**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.4,baz=22,slow=5.4,SNR=2.4						

*CSEM **09** 23:17:40.2,6784N×2020E,h0km,ML2.9,Mining explosion. After UPP*
*UPP **09** 23:17:40.2,6784N×2020E,h0km,ML2.9,Mining explosion.*

HEL 09 23:17:40.8±0.0,6784N×2020E,h0km,ML2.9(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i*P	Pg	23 17 42.9	-0.3
KUA				*i*S	Sg	23 17 44.8	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	23 17 48.7	-0.6
NIKU				*i*S	Sg	23 17 54.8	-0.3
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	23 17 53.5	-0.8
DUNU	**Dundret**	**0.73**	**169**	*i*P	Pg	23 17 53.8	-1.0
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	23 17 55.1	-0.7
SALU	**Saltoluokta**	**0.80**	**236**	*i*P	Pg	23 17 55.0	-1.0
SALU	**Saltoluokta**	**0.80**	**236**	P	Pg	23 17 55.0	-1.0
	baz=82						
KIF	**Kilpisjarvi**	**1.20**	**10**	*eP*	Pg	23 18 03.1	-0.6
KIF				*eS*	Sg	23 18 18.9	-0.3
PAJU	**Pajala**	**1.39**	**125**	*eP*	Pg	23 18 05.7	-1.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*eP*	Pn	23 18 08.7	-0.2
HARU	**Harads**	**1.71**	**169**	*eP*	Pn	23 18 11.1	-0.7
KALU	**Kalix**	**2.34**	**146**	*eP*	Pn	23 18 21.0	+0.4
SJUU	**Sjulsmark**	**2.40**	**166**	*eP*	Pn	23 18 22.9	+1.5

*CSEM **09** 23:20:23.3,6785N×2020E,h1km,ML3.2,Mining explosion. After UPP*
*UPP **09** 23:20:23.3,6785N×2020E,h1km,ML3.2,Mining explosion.*

HEL 09 23:20:23.7±0.0,6785N×2019E,h0km,ML3.2(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**28**	*i*P	Pg	23 20 25.7	-0.3
KUA				*i*S	Sg	23 20 27.3	-0.2
NIKU	**Nikkaluokta**	**0.44**	**273**	*i*P	Pg	23 20 31.6	-0.5
LANU	**Lannavaara**	**0.71**	**73**	*i*P	Pg	23 20 36.5	-0.7
DUNU	**Dundret**	**0.75**	**169**	*i*P	Pg	23 20 37.0	-1.0
MASU	**Masugnsbyn**	**0.80**	**119**	*i*P	Pg	23 20 38.2	-0.8
SALU	**Saltoluokta**	**0.80**	**235**	*i*P	Pg	23 20 38.1	-0.9
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	23 20 38.1	-0.9
	baz=73						
KIF	**Kilpisjarvi**	**1.18**	**11**	*eP*	Pg	23 20 45.7	-0.7
KIF				*eS*	Sg	23 21 01.4	-0.3
PAJU	**Pajala**	**1.40**	**125**	*eP*	Pn	23 20 48.7	-1.8
HARU	**Harads**	**1.72**	**169**	*eP*	Pn	23 20 55.0	+0.1
KALU	**Kalix**	**2.36**	**147**	*eP*	Pn	23 21 04.2	+0.5

*ISCJB **09** 23:22:02.7±0.3,2857S±006×1249W±008,h10km, mb4.2/28,MS3.8/18, Error ellipse: s-maj=10.6km s-min=7.8km az=58.8*
*IDC **09** 23:22:02.9±0.7,2852S×1256W,h0km,mb4.0/14, mb1 4.0/14,mb1mx3.9/24,mbtmp4.0/14,MS3.8/15, Ms1 3.8/15,ms1mx3.6/27,Error ellipse: s-maj=21.5km s-min=15.7km az=141.0*
*NEIC **09** 23:22:04.6±0.3,2857S×1248W,h10km,mb4.5/14, MS3.9/1, Error ellipse: s-maj=8.7km s-min=6.7km az=120.0*

ISC 09 23:22:03.9±8.1,2856S±008×1246W±008,h6km±51km,n63, σ0s72/52,mb4.2/28,MS3.8/18,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**8.48**	**179**	Pn	**Pn**	**23 24 08.8**	**+1.4**
SUR	**Sutherland**	**28.86**	**106**	*eP*	**P**	**23 28 01.2**	**-2.0**
	6.4nm,0.9s,mb4.3						
TSUM	**Tsumeb**	**28.94**	**78**	LR	LR	23 37 30.8	
	comp=Z,160nm,19.8s,MS3.6,baz=331,slow=32						
RCBR	**Riachuelo**	**31.69**	**311**	P	**P**	**23 28 28.0**	**-0.2**
BOSA	**Boshof**	**33.02**	**99**	LR	LR	23 39 47.3	
	comp=Z,297nm,18.5s,MS4.0,baz=216,slow=32						
LBTB	**Lobatse**	**34.06**	**93**	*eP*	**P**	**23 28 48.5**	**-0.5**
	13nm,1.3s,mb4.7						
BDFB	**Brasilia**	**35.23**	**284**	P	**P**	**23 28 58.1**	**-0.9**
	4.1nm,0.8s,mb4.4,baz=118,slow=5.7,SNR=6.5						
BDFB				LR	LR	23 40 42.4	
	comp=Z,161nm,18.7s,MS3.8,baz=61,slow=32						
DBIC	**Dimbokro**	**35.78**	**13**	P	**P**	**23 29 01.9**	**-1.9**
	5.1nm,1.0s,mb4.4,baz=172,slow=9.9,SNR=3.6						
DBIC	**Dimbokro**	**35.78**	**13**	*eP*	**P**	**23 29 04.3**	**+0.5**
	3.5nm,0.8s,mb4.3						
MATP	**Matopo**	**37.99**	**87**	P	**P**	**23 29 22.8**	**+0.1**
	3.1nm,1.0s,mb4.0,baz=238,slow=18,SNR=2.3						
CPUP	**Villa Florida**	**39.71**	**262**	P	**P**	**23 29 37.4**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=60,slow=7.4,SNR=3.7						
CPUP				LR	LR	23 43 54.9	
	comp=Z,182nm,19.8s,MS3.9,baz=117,slow=33						
TRQA	**Tornquist**	**42.04**	**244**	*eP*	**P**	**23 29 56.1**	**-0.1**
	2.8nm,0.6s,mb4.1						
SNAA	**Sanae**	**43.48**	**176**	P	**P**	**23 30 07.6**	**-0.3**
	0.7nm,1.0s,mb3.4,baz=347,slow=10,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**43.66**	**20**	*eP*	**P**	**23 30 09.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**43.66**	**20**	P	**P**	**23 30 08.8**	**-0.6**
	4.6nm,1.0s,mb4.2,baz=191,slow=7.3,SNR=14						
TORD				LR	LR	23 44 43.7	
	comp=Z,92nm,18.2s,MS3.7,baz=180,slow=31						
SIV	**San Ignacio**	**46.41**	**275**	P	**P**	**23 30 31.7**	**+0.4**
	1.4nm,0.8s,mb3.9,baz=120,slow=11,SNR=7.6						
CFAA	**Coronel Fontan**	**47.92**	**252**	P	**P**	**23 30 41.9**	**-1.2**
	0.4nm,0.8s,mb3.5,baz=54,slow=5.9,SNR=5.2						
PMSA	**Palmer Station**	**48.40**	**207**	P	**P**	**23 30 44.9**	**-1.8**
	7.1nm,0.7s,mb4.8,baz=223,slow=21,SNR=6.9						
PLCA	**Paso Flores**	**48.51**	**239**	P	**P**	**23 30 47.5**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=149,slow=8.2,SNR=5.6						
PLCA				LR	LR	23 46 23.8	
	comp=Z,94nm,20.6s,MS3.8,baz=156,slow=30						
LVC	**Limon Verde**	**50.88**	**263**	LR	LR	23 50 18.1	
	comp=Z,116nm,18.6s,MS3.9,baz=180,slow=33						
SAML	**Samuel**	**51.42**	**282**	*eP*	**P**	**23 31 10.9**	**+1.2**
	5.0nm,0.8s,mb4.5						
SAML				*e*		23 31 16.3	
LPAZ	**La Paz**	**52.49**	**271**	P	**P**	**23 31 16.2**	**-1.4**
	1.1nm,0.7s,mb3.9,baz=114,slow=6.3,SNR=4.2						
LPAZ				LR	LR	23 51 16.0	
	comp=Z,59nm,21.0s,MS3.6,baz=256,slow=34						
LPAZ	**La Paz**	**52.49**	**271**	*eP*	**P**	**23 31 17.2**	**-0.5**
	3.1nm,1.1s,mb4.2						
KMBO	**Kilima Mbogo**	**54.69**	**69**	LR	LR	23 52 53.6	
	comp=Z,128nm,19.1s,MS4.0,baz=268,slow=34						
MDT	**Midelt**	**61.49**	**8**	LR	LR	23 55 35.3	
	comp=Z,61nm,18.9s,MS3.8,baz=229,slow=33						
QSPA	**South Pole Qui**	**61.67**	**180**	*eP*	**P**	**23 32 24.0**	**+1.4**
	4.9nm,0.8s,mb4.7						
PCRV	**Puerto La Cruz**	**63.41**	**300**	LR	LR	23 58 38.2	
	comp=Z,128nm,18.1s,MS4.1,baz=112,slow=35						
ATD	**Arta Tunnel**	**66.65**	**61**	LR	LR	00 01 24.5	
	comp=Z,55nm,19.7s,MS3.8,baz=205,slow=35						
EVO	**Evora**	**66.87**	**4**	*eP*	**P**	**23 32 56.7**	**-0.1**
	7.7nm,0.8s,mb4.5						
EVO				*e*MLR	MLR		
	comp=Z,46nm,20.5s						
KEST	**Kesra**	**67.17**	**19**	LR	LR	00 01 08.6	
	comp=Z,31nm,18.7s,MS3.6,baz=194,slow=35						
SDV	**Santo Domingo**	**67.33**	**295**	LR	LR	00 01 12.5	
	comp=Z,73nm,18.4s,MS3.9,baz=193,slow=35						
SDV	**Santo Domingo**	**67.33**	**295**	*eP*	**P**	**23 32 59.8**	**+0.1**
	comp=Z,9.6nm,1.1s,mb4.7						
ROSC	**El Rosal**	**68.09**	**289**	LR	LR	00 02 22.8	
	comp=Z,52nm,19.3s,MS3.8,baz=167,slow=36						
ESLA	**Sonseca Array**	**68.34**	**7**	*eP*	**P**	**23 33 06.3**	**+0.2**
EPF	**Esparros**	**72.20**	**10**	*eP*	**P**	**23 33 29.2**	**-0.5**
MTLF	**Montolieu**	**72.81**	**11**	*eP*	**P**	**23 33 32.8**	**-0.5**
LASF	**Ste Croix**	**73.81**	**12**	*eP*	**P**	**23 33 39.4**	**+0.1**
	comp=Z,16nm,1.3s,mb4.5						
FRF	**La Foret Royal**	**73.88**	**14**	*eP*	**P**	**23 33 39.7**	**0.0**
	comp=Z,9.7nm,1.1s,mb4.4						
FRF	**La Foret Royal**	**73.88**	**14**	*eP*	**P**	**23 33 39.7**	**0.0**
	comp=Z,4.8nm,1.1s,mb4.3						
VNDA	**Vanda**	**74.11**	**179**	P	**P**	**23 33 41.3**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=192,slow=5.6,SNR=3.1						
LFF	**La Frestale**	**74.13**	**10**	*eP*	**P**	**23 33 41.4**	**+0.3**
	comp=Z,44nm,1.4s,mb4.9						
LFF	**La Frestale**	**74.13**	**10**	*eP*	**P**	**23 33 41.4**	**+0.3**
	comp=Z,22nm,1.4s,mb4.9						
CAF	**Calviac**	**74.32**	**11**	*eP*	**P**	**23 33 42.2**	**-0.1**
RJF	**Les Rejaudoux**	**74.61**	**10**	*eP*	**P**	**23 33 43.8**	**-0.1**
RJF				*e*MLR	MLR		
	comp=Z,50nm,17.2s						
RJF	**Les Rejaudoux**	**74.61**	**10**	*eP*	**P**	**23 33 43.8**	**-0.1**
RJF				LR	LR		
	comp=Z,50nm,17.3s,MS3.9						
VIVF	**Saint-Julien-l**	**74.72**	**13**	*eP*	**P**	**23 33 45.0**	**+0.5**
ORIF	**Oris-en-Rattie**	**75.02**	**13**	*eP*	**P**	**23 33 46.8**	**+0.5**
ORIF				*e*MLR	MLR		
	comp=Z,70nm,21.5s						
TCF	**Toulx Ste Croi**	**75.67**	**10**	*eP*	**P**	**23 33 50.4**	**+0.4**
LPG	**La Plagne**	**75.75**	**14**	*eP*	**P**	**23 33 51.3**	**+0.8**
	comp=Z,16nm,1.1s,mb4.5						
LPG	**La Plagne**	**75.75**	**14**	*eP*	**P**	**23 33 51.3**	**+0.8**
	comp=Z,7.8nm,1.1s,mb4.5						
LPL	**La Plagne**	**75.76**	**14**	*eP*	**P**	**23 33 50.4**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.3						
LPL	**La Plagne**	**75.76**	**14**	*eP*	**P**	**23 33 50.4**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.3						
BGF	**Bois d'Agland**	**76.04**	**11**	*eP*	**P**	**23 33 52.4**	**+0.3**
SMF	**Signal de Mont**	**76.29**	**11**	*eP*	**P**	**23 33 53.8**	**+0.2**
	comp=Z,9.5nm,0.9s,mb4.4						
SMF	**Signal de Mont**	**76.29**	**11**	*eP*	**P**	**23 33 53.8**	**+0.2**
	comp=Z,4.8nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**76.64**	**11**	*eP*	**P**	**23 33 55.7**	**+0.2**
LOR	**Lormes**	**76.90**	**11**	*eP*	**P**	**23 33 57.3**	**+0.3**
	comp=Z,8.0nm,0.8s,mb4.4						
LOR				*e*MLR	MLR		
	comp=Z,54nm,17.0s						
LOR	**Lormes**	**76.90**	**11**	*eP*	**P**	**23 33 57.3**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
LOR				LR	LR		
	comp=Z,50nm,17.0s,MS3.9						
HAU	**Haudompre**	**78.07**	**13**	*eP*	**P**	**23 34 03

comp=Z,143nm,5.8s
HNR Honiara 51.46 96 P **P 23 47 26.8 +0.7**
WMQ Urumqi 54.72 342 *e*P **P 23 47 52.0 +2.0**
WMQ AP pP 23 48 02.0 -0.6
WMQ XP sP 23 48 06.0 -1.8
WMQ PCP PcP 23 48 55.0 +2.7
WMQ *e*S **S 23 55 28.0 +0.8**
WMQ XS sS 23 55 44.0 -4.2
WMQ AMB AMB
comp=Z,6.0nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,110nm,4.9s
WMQ LR LR
comp=N,232nm,20.2s,MS4.4
WMQ LR LR
comp=E,212nm,22.0s,MS4.4
WMQ LR LR
comp=Z,168nm,24.8s,MS4.0
SONM Songino Array 55.60 359 P **P 23 47 53.8 -2.5**
comp=Z,0.6nm,0.5s,mb3.9,baz=176,slow=8.7,SNR=7.6
SONM PcP PcP 23 48 54.5 -1.2
comp=Z,1.2nm,0.5s,baz=178,slow=4.0,SNR=12
SONM Songino Array 55.60 359 P **P 23 47 53.8 -2.6**
SONM PcP PcP 23 48 54.5 -1.2
MDJ Mudanjiang 55.91 19 P **P 23 48 01.0 +2.3**
MDJ AMB AMB
comp=Z,6.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,40nm,3.3s
WSAR Wadi Sarin 57.27 304 P **P 23 48 08.7 +0.4**
comp=Z,4.4nm,0.7s,mb4.6,baz=139,slow=9.1,SNR=5.1
MKAR Makanchi Array 59.11 340 P **P 23 48 18.8 -2.3**
comp=Z,2.5nm,0.6s,mb4.5,baz=150,slow=7.8,SNR=31
MAW Mawson 66.67 197 *e*P **P 23 49 12.6 +1.1**
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 68.61 337 P **P 23 49 21.0 -2.7**
comp=Z,1.4nm,0.4s,mb4.3,baz=141,slow=7.1,SNR=8.3
BRVK Borovoye 68.68 337 *e*P **P 23 49 22.9 -1.2**
comp=Z,1.1nm,0.4s,mb4.1
CHKZ Chkalovo 69.02 337 *e*P **P 23 49 24.6 -1.6**
comp=Z,4.3nm,0.5s,mb4.6
AKTK Aktyubinsk 72.41 329 P **P 23 49 45.1 -1.6**
AKTO Aktyubinsk 72.41 329 P **P 23 49 45.1 -1.6**
comp=Z,1.1nm,0.3s,mb4.3,baz=140,slow=5.1,SNR=8.7
VNDA Vanda 74.84 169 *e*P **P 23 50 01.5 +0.4**
comp=Z,0.2nm,0.4s,mb3.4
EIL Elat 79.33 302 *e*P **P 23 50 26.9 +0.6**
comp=Z,35nm,0.6s
BRTR Keskin Array B 83.13 312 P **P 23 50 44.6 -1.8**
comp=Z,0.9nm,0.8s,mb3.9,baz=134,slow=7.0,SNR=5.9
SNAA Sanae 88.84 197 *e*P **P 23 51 15.6 +1.0**
comp=Z,0.6nm,0.6s,mb4.1
FINES FINESS Array B 93.05 332 P **P 23 51 31.1 -3.0**
comp=Z,1.7nm,0.9s,mb4.5,baz=69,slow=6.3,SNR=4.1
MCK McKinley 102.96 26 Pdif Pdif 23 52 19.0 +0.2

*SKO **09** 23:44:29.4, 3883N×2034E, h0km*
*IDC **09** 23:44:30.1±1.5, 3901N×2057E, h0km, mb3.3/6, mb1 3.4/7, mb1mx3.4/22, mbtmp3.4/7, ML3.4/1, MS4.0/1, Ms1 4.0/1, ms1mx2.4/21, Error ellipse: s-maj=33.3km s-min=21.8km az=95.0*
*NEIC **09** 23:44:30.7, 3897N×2057E, h5km, ML3.7(ATH), After ATH.*
*ATH **09** 23:44:30.6, 3897N×2057E, h5km±1km, MD3.6/12, ML3.7*
*ISCJB **09** 23:44:31.4±0.3, 3896N±002×2050E±003, h10km, mb3.4/6, Error ellipse: s-maj=2.9km s-min=2.7km az=102.8*
*THE **09** 23:44:31.9, 3898N×2051E, h10km, ML3.4*
*CSEM **09** 23:44:31.5±0.1, 3904N×2058E, h2km, ML3.4, Error ellipse: s-maj=2.0km s-min=1.6km az=53.0*
ISC 09 23:44:32.5±0.3, 3898N±002×2052E±003, h10km, n84, σ1§34/111, mb3.4/6, 8C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.29**	**158**	*e*Pg	**Pg**	**23 44 37.5**	**-0.9**
LKD				*e*Sg	**Sg**	**23 44 42.5**	**+0.2**
IGT	**Igoumenitsa**	**0.57**	**346**	*e*Pg	**Pg**	**23 44 41.8**	**-1.9**
IGT				*e*Sg	**Sg**	**23 44 51.7**	**+0.6**
JAN	**Janina**	**0.73**	**21**	*e*PB	**Pg**	**23 44 44.2**	**-2.4**
JAN				*e*SB	**Sg**	**23 44 54.4**	**-1.7**
JAN	**Janina**	**0.73**	**21**	*e*Pg	**Pg**	**23 44 44.2**	**-2.4**
JAN				*e*Sb	**Sg**	**23 44 54.5**	**-1.6**
VLS	**Valsamata**	**0.80**	**176**	*e*PB	**Pg**	**23 44 46.0**	**-2.0**
KEK	**Kerkira**	**0.92**	**323**	*e*PB	**Pb**	**23 44 48.7**	**-1.9**
SRN	**Sarande**	**0.98**	**336**	*i* Pn	**Pg**	**23 44 49.3**	**-2.2**
SRN				*i* Sn	**Sg**	**23 45 10.1**	**+5.8**
SRN	**Sarande**	**0.98**	**336**	*e*Pn	**Pg**	**23 44 49.3**	**-2.2**
SRN				*i* Sn	**Sg**	**23 45 10.1**	**+5.8**
EVR	**Evrytania**	**1.01**	**93**	*e*PG	**Pg**	**23 44 48.8**	**-3.2**
EVR				*e*SB	**Sg**	**23 45 02.7**	**-2.4**
EVR	**Evrytania**	**1.01**	**93**	*e*Pg	**Pg**	**23 44 48.8**	**-3.2**
EVR				*e*Sb	**Sg**	**23 45 02.9**	**-2.2**
LSK	**Leskovik**	**1.17**	**3**	*i* Pn	**Pn**	**23 44 54.3**	**-0.7**
LSK				*i* Sg	**Sn**	**23 45 15.1**	**+4.1**
LSK	**Leskovik**	**1.17**	**3**	*e*Pn	**Pn**	**23 44 54.3**	**-0.7**
LSK				*i* Sn	**Sn**	**23 45 15.1**	**+4.1**
RLS	**Riolos of Patr**	**1.18**	**141**	*e*PG	**Pn**	**23 44 51.8**	**-3.3**
THL	**Klokotos Trika**	**1.30**	**63**	*e*PG	**Pn**	**23 44 54.1**	**-2.7**
AGG	**Agios Georgios**	**1.42**	**88**	*e*Pg	**Pn**	**23 44 56.5**	**-1.8**
AGG				*e*Sg	**Sg**	**23 45 18.9**	**+0.8**
KZN	**Kozani**	**1.64**	**36**	*e*PG	**Pn**	**23 45 00.7**	**-0.8**
LIT	**Litokhoron**	**1.90**	**53**	*e*Pb	**Pn**	**23 45 05.3**	**+0.4**
LIT				*e*Sb	**Sb**	**23 45 30.4**	**-0.5**
FNA	**Florina**	**1.92**	**20**	*e*Pb	**Pn**	**23 45 05.7**	**+0.4**
FNA				*e*Sb	**Sb**	**23 45 30.8**	**-0.9**
LKR	**Lokris**	**1.97**	**99**	*e*Pg	**Pn**	**23 45 06.3**	**+0.4**
LKR				P	**Pg**	**23 45 10.6**	**+0.3**
LKR	**Lokris**	**1.97**	**99**	P	**Pg**	**23 45 10.6**	**+0.3**
ITM	**Ithomi**	**2.11**	**148**	*e*PN	**Pn**	**23 45 08.6**	**+0.7**
XOR	**Xorichti**	**2.12**	**79**	*e*Pn	**Pn**	**23 45 08.7**	**+0.8**
BIA	**Bitola**	**2.13**	**17**	*e*Pn	**Pn**	**23 45 08.6**	**+0.4**
BIA				*e*Sn	**Sn**	**23 45 36.1**	**+1.4**
OHR	**Ohrid**	**2.14**	**6**	*e*Pn	**Pn**	**23 45 09.0**	**+0.7**
OHR				*e*Sn	**Sn**	**23 45 36.4**	**+1.4**
OHR	**Ohrid**	**2.14**	**6**	*e*Pn	**Pn**	**23 45 08.8**	**+0.4**
LCI	**Lecce**	**2.30**	**307**	Pn	**Pn**	**23 45 10.9**	**+0.5**
MGER	**Gerania Oros**	**2.37**	**114**	*e*PG	**Pn**	**23 45 13.5**	**+2.0**
TIR	**Tirane**	**2.42**	**348**	*e*Pn	**Pn**	**23 45 13.1**	**+1.0**
TIR	**Tirane**	**2.42**	**348**	P	**Pn**	**23 45 14.1**	**+2.0**
GRG	**Griva**	**2.45**	**36**	*e*Pn	**Pn**	**23 45 12.6**	**0.0**
GRG				*e*Sn	**Sn**	**23 45 44.0**	**+1.4**
THE	**Thessaloniki**	**2.51**	**48**	*e*Pn	**Pn**	**23 45 12.8**	**-0.5**
THE				*e*Sn	**Sn**	**23 45 46.5**	**+2.5**
HORT	**Hortiatis**	**2.57**	**50**	*e*Pn	**Pn**	**23 45 13.5**	**-0.6**
NAIG	**Nisos Aigina**	**2.63**	**117**	*e*Pg	**Pb**	**23 45 19.5**	**-0.3**
PLG	**Polygyros**	**2.66**	**57**	*e*Pn	**Pn**	**23 45 14.6**	**-0.8**
PLG				*e*Sn	**Sn**	**23 45 50.2**	**+2.5**
PLG	**Polygyros**	**2.66**	**57**	*e*PN	**Pn**	**23 45 15.4**	**0.0**
ATH	**Athens Observa**	**2.71**	**111**	*e*PN	**Pn**	**23 45 16.1**	**0.0**
PTL	**Penteli**	**2.79**	**108**	*e*Pg	**Pb**	**23 45 20.5**	**-1.9**
KVR	**Kavouri**	**2.80**	**113**	*e*PN	**Pn**	**23 45 18.0**	**+0.6**
VAY	**Valandovo**	**2.82**	**33**	*e*Pn	**Pn**	**23 45 18.3**	**+0.7**
VAY	**Valandovo**	**2.82**	**33**	*e*Pn	**Pn**	**23 45 18.9**	**+1.2**
KNT	**Kendrikon**	**2.85**	**39**	*e*Pn	**Pn**	**23 45 17.6**	**-0.4**
SOH	**Sokhos**	**2.86**	**49**	*e*Pn	**Pn**	**23 45 18.7**	**+0.5**
TIP	**Timpagrande**	**2.93**	**275**	*e*Pn	**Pn**	**23 45 20.2**	**+1.0**
TIP				*e*Sn	**Sn**	**23 45 55.5**	**+1.1**
VLI	**Veliai**	**2.96**	**139**	*e*Pg	**Pn**	**23 45 24.5**	**+4.9**
STIP	**Stip**	**3.00**	**25**	*e*Pn	**Pn**	**23 45 20.0**	**-0.1**
STIP				*e*Sn	**Sn**	**23 45 58.4**	**+2.3**
STIP	**Stip**	**3.00**	**25**	*e*Pn	**Pn**	**23 45 20.3**	**+0.2**
STIP	**Stip**	**3.00**	**25**	*e*Pn	**Pn**	**23 45 20.2**	**+0.1**
STIP				*e*Sn	**Sn**	**23 45 58.4**	**+2.3**
OUR	**Ouranopolis**	**3.00**	**62**	*e*Pn	**Pn**	**23 45 20.0**	**-0.1**
SKO	**Skopje**	**3.07**	**13**	*e*Pn	**Pn**	**23 45 21.3**	**+0.2**
SRS	**Serrai**	**3.19**	**47**	*e*Pn	**Pn**	**23 45 22.2**	**-0.5**
SRS				*e*Sn	**Sn**	**23 46 03.6**	**+3.0**
GRI	**Girifalco**	**3.20**	**269**	Pn	**Pn**	**23 45 25.8**	**+3.0**
NVR	**Nevrokopi**	**3.49**	**46**	*e*PN	**Pn**	**23 45 27.5**	**+0.6**
MMB	**Musomiste**	**3.58**	**42**	*e*Pn	**Pn**	**23 45 28.6**	**+0.4**
MMB				*e*Sn	**Sn**	**23 46 12.4**	**+1.9**
CUC	**Castrocucco**	**3.77**	**287**	P	**Pn**	**23 45 33.2**	**+2.4**
SLCN	**Sala Consilina**	**4.02**	**292**	Pn	**Pn**	**23 45 36.4**	**+2.2**
VTS	**Vitosha**	**4.15**	**29**	⇑*i*P	**Pn**	**23 45 36.0**	**+0.1**
VTS	**Vitosha**	**4.15**	**29**	⇑P	**Pn**	**23 45 36.0**	**+0.1**
CHOS	**Chios island**	**4.38**	**96**	*e*Pn	**Pn**	**23 45 39.2**	**+0.2**
APE	**Apeiranthos**	**4.39**	**114**	*e*Pn	**Pn**	**23 45 39.3**	**0.0**
STON	**Ston**	**4.44**	**332**	*i* Pn	**Pn**	**23 45 37.6**	**-2.2**
STON				*i* Sn	**Sn**	**23 46 30.2**	**-1.3**
KARN	**Karanos**	**4.49**	**142**	*e*Pn	**Pn**	**23 45 42.0**	**+1.5**
RGNG	**Rignano Grg**	**4.63**	**307**	Pn	**Pn**	**23 45 42.2**	**-0.3**
FG5	**Orsara di Pugl**	**4.63**	**301**	Pn	**Pn**	**23 45 42.9**	**+0.3**
ALN	**Alexandroupoli**	**4.66**	**64**	*e*Pn	**Pn**	**23 45 43.5**	**+0.5**
VAE	**Valguarnera**	**5.03**	**255**	Pn	**Pn**	**23 45 54.4**	**+6.3**
	0.6nm,0.3s,baz=90,slow=13,SNR=3.7						
VAE				Sn	**Sn**	**23 46 48.8**	**+2.5**
	1.6nm,0.3s,baz=93,slow=23,SNR=4.3						
NPS	**Neapolis**	**5.51**	**131**	P	**Pn**	**23 45 54.2**	**-0.4**
BZS	**Buzias**	**6.69**	**7**	⇓*i*P	**Pn**	**23 46 07.8**	**-3.0**
NVLJ	**Novalja**	**6.99**	**325**	*i* Pn	**Pn**	**23 46 14.0**	**-1.0**
NVLJ				*i* Sn	**Sn**	**23 47 33.0**	**-1.6**
VOIR		**7.28**	**26**	⇑*i*P	**Pn**	**23 46 22.4**	**+3.5**
VOIR		**7.28**	**26**	⇑P	**Pn**	**23 46 22.4**	**+3.5**
PKSM	**Moragy**	**7.36**	**350**	⇑*i*P	**Pn**	**23 46 20.5**	**+0.5**
PKSM	**Moragy**	**7.36**	**350**	⇑P	**Pn**	**23 46 20.5**	**+0.4**
MLR	**Muntele Rosu**	**7.65**	**30**	Pn	**Pn**	**23 46 29.7**	**+5.7**
	0.4nm,0.3s,baz=254,slow=12,SNR=7.8						
MLR	**Muntele Rosu**	**7.65**	**30**	⇑*i*P	**Pn**	**23 46 28.5**	**+4.5**
MLR	**Muntele Rosu**	**7.65**	**30**	⇑P	**Pn**	**23 46 28.5**	**+4.4**
VRI	**Vrincioaia**	**8.27**	**32**	⇓*i*P	**Pn**	**23 46 34.4**	**+1.8**
VRI	**Vrincioaia**	**8.27**	**32**	⇓P	**Pn**	**23 46 34.4**	**+1.8**
GERES	**GERESS Array B**	**11.02**	**336**	Pn	**Pn**	**23 47 10.3**	**+0.2**
	0.1nm,0.3s,baz=168,slow=16,SNR=4.5						
HFS	**Hagfors**	**21.61**	**351**	P	**P**	**23 49 20.2**	**-2.4**
	0.8nm,0.6s,mb3.3,baz=154,slow=14,SNR=3.6						
FINES	**FINESS Array B**	**22.75**	**7**	P	**P**	**23 49 32.9**	**-1.9**
	3.0nm,1.1s,mb3.6,baz=175,slow=9.2,SNR=5.3						
EKA	**Eskdalemuir Ar**	**22.78**	**324**	P	**P**	**23 49 32.9**	**-2.2**
	0.9nm,0.6s,mb3.4,baz=124,slow=10,SNR=3.7						
NOA	**NORSAR Array B**	**22.84**	**348**	P	**P**	**23 49 34.5**	**-1.2**
	0.7nm,0.6s,mb3.3,baz=157,slow=9.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.65**	**218**	P	**P**	**23 50 47.0**	**0.0**
	0.5nm,0.5s,mb3.6,baz=32,slow=10.0,SNR=12						
MKAR	**Makanchi Array**	**44.89**	**59**	P	**P**	**23 52 46.2**	**-1.0**
	0.2nm,0.6s,mb3.2,baz=275,slow=9.0,SNR=4.1						

*ISCJB **09** 23:49:56.9±0.3, 5294N±002×10756E±003, h10km, mb3.6/4, MS4.0/1, Error ellipse: s-maj=3.4km s-min=2.2km az=93.7*
*BYKL **09** 23:49:57.5±0.2, 5299N×10744E, h10km±4km*
*MOS **09** 23:49:58.3±3.3, 5299N×10734E, h10km, mb4.4/2, Error ellipse: s-maj=11.3km s-min=6.8km az=56.1*
*IDC **09** 23:50:00.7±2.3, 5277N×10717E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML3.2/2, MS4.1/1, Ms1 4.1/1, ms1mx2.9/21, Error ellipse: s-maj=40.7km s-min=24.0km az=67.0*
*NEIC **09** 23:50:02.8±1.1, 5267N×10707E, h10km, mb3.6/2, Error ellipse: s-maj=20.0km s-min=11.1km az=51.0*
ISC 09 23:49:57.7±0.2, 5295N±002×10753E±003, h10km, n54, σ1§38/108, mb3.6/4, MS4.0/1, 5C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELR	**Kotokel**	**0.38**	**119**	⇑*i*Pg	**Pg**	**23 50 05.2**	**0.0**
KELR				*e*Sg	**Sg**	**23 50 10.8**	**+0.6**
KELR				Pmax			
	1μm,0.3s						
KELR				Smax			
	8μm,0.2s						
ZRHB	**Zarechye**	**0.46**	**211**	⇓*i*Pg	**Pg**	**23 50 06.7**	**+0.1**
ZRHB				*e*		23 50 07.5	
ZRHB				*e*Sg	**Sg**	**23 50 13.7**	**+1.1**
ZRHB				*e*		23 50 15.6	
ZRHB				max			
	938nm,0.2s						
ZRHB				max			
	7μm,0.3s						
OGRR	**Ongureny**	**0.70**	**3**	⇑*i*Pg	**Pg**	**23 50 10.1**	**-1.1**
OGRR				*e*Pb	**Pb**	**23 50 11.6**	**-0.4**
OGRR				*e*Sg	**Sg**	**23 50 18.7**	**-1.7**
OGRR				*e*Sb	**Sb**	**23 50 21.7**	**+0.1**
OGRR				max			
	82nm,0.2s						
OGRR				max			
	689nm,0.5s						
OGRR	**Ongureny**	**0.70**	**3**	*e*PG	**Pg**	**23 50 10.1**	**-1.1**
TRTB	**Turuntaevo**	**0.72**	**175**	⇑*i*Pg	**Pg**	**23 50 11.5**	**-0.1**
TRTB				*e*Sg	**Sg**	**23 50 20.8**	**-0.2**
TRTB				Pmax			
	403nm,0.2s						
TRTB				Smax			
	3μm,0.5s						
TRG	**Tyrgan**	**0.74**	**256**	⇑*i*Pg	**Pg**	**23 50 10.6**	**-1.4**
TRG				*e*Pb	**Pb**	**23 50 13.0**	**+0.3**
TRG				*e*Sg	**Sg**	**23 50 20.9**	**-0.8**
TRG				*e*Sb	**Sb**	**23 50 25.4**	**+2.6**
TRG				max			
	160nm,0.2s						
TRG				max			
	3μm,0.3s						
TRG	**Tyrgan**	**0.74**	**256**	*e*PG	**Pg**	**23 50 10.6**	**-1.4**
TRG				*e*		23 50 21.1	
TRG				pmax	pmax		
	comp=Z,152nm,0.2s						
TRG				smax			
	comp=E,649nm,0.2s						
MXMB	**Maximikha**	**0.80**	**66**	⇓*i*Pg	**Pg**	**23 50 12.3**	**-0.8**
MXMB				*e*Pb	**Pb**	**23 50 15.1**	**+1.5**
MXMB				*e*		23 50 17.5	
MXMB				*e*Sg	**Sg**	**23 50 24.0**	**+0.5**
MXMB				max			
	comp=E,286nm,0.2s						
MXMB				Smax			
	comp=E,2μm,0.4s						
KAB	**Kabansk**	**1.04**	**211**	*e*PG	**Pg**	**23 50 16.7**	**-1.1**
KAB				*e*		23 50 31.7	
KAB				pmax	pmax		
	comp=Z,630nm,0.1s						
KAB				smax			
	comp=N,3μm,0.3s						
HRMR	**Khuramsha**	**1.37**	**195**	⇓*i*Pg	**Pg**	**23 50 22.7**	**-1.2**
HRMR				*e*Pb	**Pb**	**23 50 23.7**	**+0.4**
HRMR				*e*Sg	**Sg**	**23 50 41.3**	**-0.3**
HRMR				*e*Sb	**Sb**	**23 50 43.3**	**+2.5**
SYVR	**Suvo**	**1.64**	**63**	*e*Pg	**Pg**	**23 50 26.9**	**-2.3**
SYVR				*e*		23 50 33.2	
SYVR				*e*Sg	**Sg**	**23 50 49.7**	**-0.8**
SYVR				Pmax			
	comp=N,500nm,0.9s						
SYVR				Smax			
	comp=N,529nm,0.7s						
SYVR	**Suvo**	**1.64**	**63**	*e*PN	**Pn**	**23 50 27.0**	**+0.4**
SYVR				*e*		23 50 49.5	
SYVR				pmax	pmax		
	comp=Z,396nm,0.5s						
SYVR				smax			
	comp=N,431nm,0.7s						
LSTR	**Listvyanka**	**1.98**	**238**	*e*Pn	**Pn**	**23 50 31.3**	**+0.2**
LSTR				*e*Pg	**Pg**	**23 50 32.4**	**-3.1**
LSTR				*e*		23 50 37.1	
LSTR				*e*Sg	**Sg**	**23 50 57.8**	**-3.3**
LSTR				max			
	comp=N,345nm,0.6s						
LSTR				Smax			
	comp=N,489nm,0.8s						
LSTR	**Listvyanka**	**1.98**	**238**	*e*PN	**Pn**	**23 50 31.2**	**+0.1**
LSTR				*e*		23 50 32.5	
LSTR				*e*S	**Sn**	**23 50 56.0**	**+0.1**
LSTR				*e*		23 50 57.3	
LSTR				pmax	pmax		
	comp=Z,74nm,0.2s						
LSTR				smax			
	comp=N,473nm,0.3s						
IRK	**Irkutsk**	**2.11**	**252**	*e*Pg	**Pg**	**23 50 34.7**	**-3.4**
IRK				*e*Sg	**Sg**	**23 51 02.2**	**-3.3**
IRK				Pmax			
	comp=N,242nm,0.1s						
IRK				Smax			
	comp=N,2μm,0.6s						
IRK	**Irkutsk**	**2.11**	**252**	*e*PN	**Pn**	**23 50 33.9**	**+0.9**
IRK				*e*		23 51 01.6	
IRK				pmax	pmax		
	comp=Z,220nm,0.2s						
IRK				smax			
	comp=N,2μm,0.5s						
TLY	**Talaya**	**2.70**	**244**	*e*Pn	**Pn**	**23 50 41.0**	**-0.1**
TLY				*e*Pg	**Pg**	**23 50 45.2**	**-4.2**
TLY				*e*Sn	**Sn**	**23 51 13.3**	**-0.6**
TLY				*e*Sg	**Sg**	**23 51 20.0**	**-4.5**
TLY				Pmax			
	comp=N,46nm,0.2s						
TLY				Smax			
	comp=N,347nm,0.7s						
TLY	**Talaya**	**2.70**	**244**	*e*PN	**Pn**	**23 50 40.9**	**-0.2**
TLY				*e*		23 50 45.4	
TLY				*e*S	**Sn**	**23 51 13.5**	**-0.4**
TLY				*e*		23 51 20.1	
TLY				pmax	pmax		
	comp=Z,26nm,0.3s						
TLY	**Talaya**	**2.70**	**244**	*e*Pn	**Pn**	**23 50 41.2**	**+0.1**
TLY				*e*Pg	**Pg**	**23 50 46.9**	**-2.6**
TLY				*e*Sg	**Sg**	**23 51 19.8**	**-4.7**
YLYR	**Ulyunkhan**	**2.89**	**47**	⇑*i*Pn	**Pn**	**23 50 44.2**	**+0.5**
YLYR				*e*Pg	**Pg**	**23 50 47.9**	**-5.1**
YLYR				*e*Sg	**Sg**	**23 51 26.5**	**-4.0**
YLYR				Pmax			
	comp=Z,33nm,0.1s						
YLYR				Smax			
	comp=Z,256nm,1.3s						
YLYR	**Ulyunkhan**	**2.89**	**47**	*e*PN	**Pn**	**23 50 42.3**	**-1.4**
YLYR				*e*		23 50 48.1	
YLYR				*e*S	**Sn**	**23 51 18.2**	**-0.3**
YLYR				pmax	pmax		
	comp=Z,17nm,0.2s						
YLYR				smax			
	comp=N,209nm,0.8s						
NIZ	**Nizh Angarsk**	**3.07**	**22**	*e*Pn	**Pn**	**23 50 47.2**	**+1.0**
NIZ				*e*Pg	**Pg**	**23 50 51.5**	**-5.0**
NIZ				*e*Sg	**Sg**	**23 51 31.1**	**-5.2**
NIZ				Pmax			
	comp=N,52nm,0.8s						
NIZ				Smax			
	comp=N,186nm,1.0s						
NIZ	**Nizh Angarsk**	**3.07**	**22**	*e*PN	**Pn**	**23 50 47.4**	**+1.2**
NIZ				*e*		23 50 53.1	
NIZ				*e*		23 51 31.1	
NIZ				pmax	pmax		
	comp=Z,50nm,0.4s						
NIZ				smax			
	comp=N,186nm,0.6s						
ARS	**Arshan**	**3.29**	**254**	*e*	**Pn**	**23 50 50.7**	**+1.5**
ARS				*e*Pg	**Pg**	**23 50 55.3**	**-5.4**
ARS				*e*Sg	**Sg**	**23 51 37.8**	**-5.6**
ARS				Pmax			
	comp=N,222nm,0.5s						
ARS				Smax			
	comp=N,994nm,0.5s						
ARS	**Arshan**	**3.29**	**254**	*e*PN	**Pb**	**23 50 56.4**	**+0.3**
ARS				*e*		23 51 38.6	
ARS				pmax	pmax		
	comp=Z,209nm,0.4s						
ARS				smax			
	comp=E,918nm,0.5s						
KMO	**Kumora**	**3.64**	**35**	*e*Pn	**Pn**	**23 50 54.7**	**+0.6**
KMO				*e*Pg	**Pg**	**23 51 02.3**	**-5.2**
KMO				*e*Sg	**Sg**	**23 51 50.5**	**-4.2**
KMO				Pmax			
	comp=E,78nm,1.0s						
KMO				Smax			
	comp=E,229nm,1.0s						
KMO	**Kumora**	**3.64**	**35**	*e*PN	**Pn**	**23 50 56.2**	**+2.1**
KMO				*e*		23 51 04.4	
KMO				*e*S	**Sn**	**23 51 38.0**	**+0.9**
KMO				*e*		23 51 50.0	
KMO				pmax	pmax		
	comp=Z,43nm,0.3s						
KMO				smax			
	comp=N,198nm,0.8s						
ZAK	**Zakamensk**	**3.69**	**228**	*e*Pn	**Pn**	**23 50 54.8**	**+0.1**
ZAK				*e*Pg	**Pg**	**23 51 03.8**	**-4.5**
ZAK				*e*Sg	**Sg**	**23 51 52.0**	**-4.1**
ZAK				Pmax			
	comp=N,18nm,0.9s						
ZAK				Smax			
	comp=N,102nm,0.6s						
CIT	**Chita**	**3.79**	**102**	*e*Pn	**Pn**	**23 50 56.2**	**0.0**
CIT				*e*Pg	**Pg**	**23 51 07.1**	**-3.3**
CIT				*e*Sg	**Sg**	**23 51 57.4**	**-2.2**
CIT				Pmax			
	comp=N,156nm,0.7s						
CIT				Smax			
	comp=N,309nm,0.9s						
CIT	**Chita**	**3.79**	**102**	*e*PN	**Pb**	**23 51 06.4**	**+1.7**
CIT				*e*		23 51 55.9	
CIT				pmax	pmax		
	comp=Z,152nm,0.8s						
CIT				smax			
	comp=N,307nm,0.9s						
MOY	**Mondy**	**4.21**	**255**	*e*Pn	**Pn**	**23 51 04.2**	**+2.3**
MOY				*e*Pg	**Pg**	**23 51 10.8**	**-7.6**
MOY				*e*		23 51 53.4	
MOY				*e*Sg	**Sg**	**23 52 04.8**	**-8.1**
MOY				Pmax			
	comp=N,60nm,0.8s						
MOY				Smax			
	comp=N,198nm,1.2s						
MOY	**Mondy**	**4.21**	**255**	*e*PN	**Pn**	**23 51 03.8**	**+1.9**
MOY				*e*		23 51 13.2	
MOY				*e*S	**Sn**	**23 51 49.6**	**-1.6**
UKT	**Uakit**	**4.39**	**52**	*e*Pn	**Pn**	**23 51 05.1**	**+0.7**
UKT				*e*Pg	**Pg**	**23 51 16.6**	**-5.2**
UKT				*e*Sg	**Sg**	**23 52 15.0**	**-3.7**
UKT				Pmax			
	comp=N,43nm,1.3s						
UKT				Smax			
	comp=N,127nm,2.2s						
UKT	**Uakit**	**4.39**	**52**	*e*PN	**Pb**	**23 51 15.9**	**+1.0**
UKT				*e*		23 52 13.5	
UKT				pmax	pmax		
	comp=Z,29nm,0.6s						
UKT				smax			
	comp=N,89nm,0.5s						
KPC	**Khapcheranga**	**4.45**	**135**	*e*Pn	**Pn**	**23 51 05.2**	**+0.1**
KPC				*e*Pg	**Pg**	**23 51 18.0**	**-4.8**
KPC				*e*Sg	**Sg**	**23 52 16.0**	**-4.4**
KPC				Pmax			
	comp=N,49nm,0.9s						
KPC				Smax			
	comp=N,222nm,1.6s						
KPC	**Khapcheranga**	**4.45**	**135**	*e*PN	**Pn**	**23 51 05.1**	**0.0**
KPC				*e*		23 51 18.0	
KPC				*e*S	**Sn**	**23 51 55.7**	**-1.2**
KPC				*e*		23 52 16.2	
KPC				pmax	pmax		
	comp=Z,41nm,1.2s						
KPC				smax			
	comp=E,221nm,1.5s						
ORL	**Orlik**	**4.71**	**268**	*e*	**Pn**	**23 51 10.9**	**+2.1**
ORL				*e*Pg	**Pg**	**23 51 20.5**	**-7.4**
ORL				*e*		23 52 03.9	
ORL				*e*

comp=Z,3.0nm,0.7s,mb3.8
CHKZ Chkalovo 21.91 287 *e*P **P 23 54 53.8 +2.8**
comp=Z,2.5nm,0.7s,mb3.8
BVAR Borovoye Array 22.20 285 P **P 23 54 57.4 +3.2**
comp=Z,0.9nm,0.5s,mb3.4,baz=72,slow=15,SNR=6.7
BRVK Borovoye 22.26 285 *e*P **P 23 54 57.4 +2.7**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
BRVK Borovoye 22.26 285 *e*P **P 23 54 57.4 +2.7**
comp=Z,1.8nm,0.6s,mb3.7
AAK Ala-Archa 24.27 258 P **P 23 55 17.6 +2.7**
JOW Kunigami 30.33 141 LR LR 00 07 39.9
comp=Z,352nm,20.0s,MS4.0,baz=230,slow=35
TIRR Tirgusor 50.40 294 P **P 23 58 59.1 +4.0**
ASAR Alice Springs 79.67 156 P **P 00 02 09.2 +3.8**
comp=Z,0.5nm,0.8s,mb3.5,baz=351,slow=5.2,SNR=4.1

NIED ***10*** *00:00:00,2080N×12030E,h11km,Mw4.6 Best double couple: M0 9.53000×10^15 NP1:φs308.00000°,δ69.00000°, λ-94.00000°. NP2:φs139.00000°,δ22.00000°, λ-80.00000°.*
IDC ***10*** *00:00:46.7±0.6,2060N×120.14E,h0km,mb4.5/18, mb1 4.7/18,mb1mx4.6/21,mbtmp4.5/18,MS3.8/8, Ms1 3.8/8,ms1mx3.4/22,Error ellipse: s-maj=25.0km s-min=13.6km az=70.0*
BJI ***10*** *00:00:48.5,2079N×11994E,h10km,mB4.8,mb4.6,ML4.1, Ms4.3,Msz4.2*
MAN ***10*** *00:00:48.9,2066N×11982E,h45km,mb4.2,ML5.1,MS9.4*
ISCJB ***10*** *00:00:49.9±0.2,2056N±003×12001E±004,h26km, mb4.8/84,MS3.9/15,Error ellipse: s-maj=5.0km s-min=4.0km az=154.7*
GCMT ***10*** *00:00:51.3±0.7,2068N×11988E,h20km±1km,MW4.8/45, Moment Tensor Solution. s10,c10; s45,c55; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.72±.18; Mθθ0.55±.11; Mφφ1.17±.12; Mrθ0.12±.23; Mθφ-0.53±.06; Mφr0.61±.21; Best double couple: M0 1.70400×10^16 NP1:φs321.00000°,δ38.00000°,λ-107.00000°. NP2: φs162.00000°,δ54.00000°,λ-77.00000°. Principal axes: T 1.5420, Plg9.0000°, Azm243.0000°; N 0.3270, Plg10.0000°, Azm334.0000°; P -1.8660, Plg77.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***10*** *00:00:51.0±0.9,2057N×12002E,h33km,mb5.1/43 Error ellipse: s-maj=11.4km s-min=5.0km az=118.7*
NEIC ***10*** *00:00:51.3±0.2,2059N×120.10E,mb4.9/50,Error ellipse: s-maj=6.1km s-min=4.6km az=71.0*
SZGRF ***10*** *00:00:53.3,2093N×12032E,h28km,mb5.0,Philippine Islands region*
ISC 10 00:00:51.8±0.2,2060N±003×12005E±004,h28km, h28km±1.1km;pP-P,n244,σ0.97/261,mb4.8/84,MS3.9/15, 43C-5D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.84**	**22**	*e*Pn	**Pn**	**00 01 46.4**	**-2.6**
NACB				*e*Sn	**Sn**	**00 02 27.4**	**-5.8**
BOLP	**Bolinao**	**4.19**	**182**	*e*P	**Pn**	**00 01 52.5**	**-1.4**
BCPH	**Baguio City Da**	**4.22**	**173**	‖*e*P	**Pn**	**00 01 53.6**	**-0.7**
YHNB	**Yeheng**	**4.24**	**17**	*e*Pn	**Pn**	**00 01 52.1**	**-2.3**
YHNB				*e*Sn	**Sn**	**00 02 42.4**	**-0.6**
QZH	**Quanzhou**	**4.53**	**343**	P	**Pn**	**00 01 54.4**	**-4.1**
QZH				S	**Sn**	**00 02 43.1**	**-7.1**
QZH				Smax			
	comp=N,260nm,0.6s						
QZH				Smax			
	comp=E,390nm,0.8s						
QZH				LR	LR		
	comp=N,4μm,12.1s						
QZH				LR	LR		
	comp=E,4μm,12.5s						
QZH				LR	LR		
	comp=Z,3μm,10.0s						
TGY	**Tagaytay City**	**6.51**	**172**	Pn	**Pn**	**00 02 31.7**	**+6.0**
	comp=Z,47nm,0.3s,baz=177,slow=7.2,SNR=2.9						
GZH	**Guangzhou**	**6.70**	**293**	P	**Pn**	**00 02 24.2**	**-4.1**
GZH				S	**Sn**	**00 03 33.3**	**-10**
GZH				Smax			
	comp=N,228nm,0.7s						
GZH				Smax			
	comp=E,155nm,0.7s						
QIZ	**Qiongzhong**	**9.73**	**263**	P	**Pn**	**00 03 06.8**	**-3.0**
QIZ				XP		00 03 20.1	
QIZ				S	**Sn**	**00 04 57.9**	**-0.3**
QIZ				LR	LR		
	comp=E,1μm,10.3s						
QIZ				LR	LR		
	comp=Z,2μm,10.3s						
SSE	**Sheshan**	**10.51**	**5**	P	**Pn**	**00 03 23.9**	**+3.4**
SSE				S	**Sn**	**00 05 21.7**	**+4.5**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,37nm,3.5s						
SSE				LR	LR		
	comp=N,189nm,15.4s						
SSE				LR	LR		
	comp=E,296nm,15.3s						
SSE				LR	LR		
	comp=Z,275nm,16.0s						
SSE	**Sheshan**	**10.51**	**5**	P	**Pn**	**00 03 23.9**	**+3.4**
	comp=Z,20nm,0.7s						
SSE				sP		00 03 35.8	
SSE				S	**Sn**	**00 05 21.7**	**+4.5**
WHN	**Wuhan**	**11.16**	**334**	P	**Pn**	**00 03 27.3**	**-2.1**
WHN				S	**Sn**	**00 05 35.0**	**+1.9**
WHN				LR	LR		
	comp=Z,2μm,11.4s						
NJ2	**Nanjing**	**11.46**	**355**	*e*P	**Pn**	**00 03 31.0**	**-2.5**
NJ2				AP		00 03 38.1	
NJ2				PP		00 03 40.3	
NJ2				XP		00 03 43.3	
NJ2				S	**Sn**	**00 05 40.0**	**-0.5**
NJ2				XS		00 05 53.1	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,12.2s						
NJ2				LR	LR		
	comp=E,1μm,10.0s						
NJ2				LR	LR		
	comp=Z,8μm,12.3s						
GYA	**Guiyang**	**13.59**	**298**	⇑*i*P	**Pn**	**00 04 00.9**	**-1.7**
GYA				AP		00 04 08.4	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,3.8s						
GYA				LR	LR		
	comp=N,780nm,11.0s						
GYA				LR	LR		
	comp=E,600nm,10.6s						
GYA				LR	LR		
	comp=Z,790nm,11.8s						
KMI	**Kunming**	**16.57**	**289**	P	**Pn**	**00 04 45.3**	**+3.2**
KMI				S	**Sn**	**00 07 43.1**	**-2.1**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s						
KMI				LR	LR		
	comp=N,337nm,10.2s						
KMI				LR	LR		
	comp=E,473nm,8.8s						
KMI				LR	LR		
	comp=Z,359nm,9.1s						
KMI	**Kunming**	**16.57**	**289**	P	**Pn**	**00 04 45.3**	**+3.2**
	comp=Z,5.0nm,1.0s						
KMI				pP	pP	00 04 51.6	-0.2
KMI				sP	sP	00 04 55.7	+0.3
KMI				S	**Sn**	**00 07 43.1**	**-2.1**
XAN	**Xi'an**	**16.63**	**326**	P	**Pn**	**00 04 44.4**	**+1.6**
XAN				AP	pP	00 04 51.1	-1.3
XAN				AMB	AMB		
	comp=Z,13nm,1.3s						
XAN				AMB	AMB		
	comp=Z,28nm,4.9s						
XAN				LR	LR		
	comp=N,555nm,13.6s						
XAN				LR	LR		
	comp=E,309nm,11.6s						
XAN				LR	LR		
	comp=Z,700nm,10.1s						
CD2	**Chengdu**	**17.89**	**308**	*e*P	**Pn**	**00 04 58.7**	**+0.2**
CD2				AP	pP	00 05 06.5	+0.1
CD2				PP		00 05 13.6	
CD2				S	**Sn**	**00 08 13.5**	**-3.6**
CD2				XS	sS	00 08 25.9	-8.9
CD2				SS		00 08 36.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,550nm,12.0s						
CD2				LR	LR		
	comp=E,400nm,10.8s						
CD2				LR	LR		
	comp=Z,480nm,8.4s						
KS15	**Wonju Array Si**	**18.12**	**20**	*e*Pn	**Pn**	**00 05 01.9**	**+0.6**
BJI	**Beijing**	**19.66**	**351**	P	**Pn**	**00 05 19.0**	**-0.9**
BJI				AP	pP	00 05 27.6	+1.7
BJI				AMB	AMB		
	comp=Z,178nm,4.1s						
BJI				LR	LR		
	comp=N,321nm,12.9s						
BJI				LR	LR		
	comp=E,457nm,12.9s						
BJI				LR	LR		
	comp=Z,133nm,11.6s						
BJI	**Beijing**	**19.66**	**351**	P	**Pn**	**00 05 19.0**	**-0.9**
	comp=Z,355nm,0.9s						
BJI				pP	pP	00 05 27.6	+1.7
LZH	**Lanzhou**	**20.96**	**321**	*e*P	**P**	**00 05 33.6**	**+1.0**
LZH				AP		00 05 39.1	
LZH				XP	sP	00 05 43.3	-0.4
LZH				PP		00 05 58.0	
LZH				S	**S**	**00 09 22.0**	**-2.7**
LZH				XS	sS	00 09 34.0	-2.7
LZH				AMB	AMB		
	comp=Z,30nm,1.1s						
LZH				AMB	AMB		
	comp=Z,210nm,4.6s						
LZH				LR	LR		
	comp=N,980nm,10.3s						
LZH				LR	LR		
	comp=Z,1μm,12.7s,MS4.5						
LZH	**Lanzhou**	**20.96**	**321**	*e*P	**P**	**00 05 33.6**	**+1.0**
LZH				*SP	sP	00 05 43.3	-0.4
LZH						00 05 58.0	
LZH				S	**S**	**00 09 22.0**	**-2.7**
LZH				*SS	sS	00 09 34.0	-2.7
LZH				*e*SS		00 09 57.0	
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH				MLR	MLR		
	comp=Z,1μm,12.7s,MS4.5						
LZH	**Lanzhou**	**20.96**	**321**	*e*P	**P**	**00 05 33.6**	**+1.0**
	comp=Z,30nm,1.1s						
LZH				pP		00 05 39.1	
LZH				sP	sP	00 05 43.3	-0.4
LZH				PP		00 05 58.0	
LZH				S	**S**	**00 09 22.0**	**-2.7**
LZH				sS	sS	00 09 34.0	-2.7
LZH				*e*SS		00 09 57.0	
LZH				LR	LR		
	comp=Z,1μm,12.7s,MS4.5						
CBIJ	**Chichi jima**	**21.24**	**68**	LR	LR	00 11 51.0	
	comp=Z,219nm,20.3s,MS3.5,baz=56,slow=31						
SNY	**Shenyang**	**21.38**	**7**	⇑P	**P**	**00 05 34.6**	**-2.4**
SNY				AP		00 05 42.6	
SNY				XP	sP	00 05 45.2	-2.9
SNY				S	**S**	**00 09 32.7**	**-0.1**
SNY				XS	sS	00 09 41.5	-3.4
SNY				AMB	AMB		
	comp=Z,19nm,2.5s,mb4.0						
SNY				AMB	AMB		
	comp=Z,209nm,6.7s						
SNY				LR	LR		
	comp=N,256nm,16.1s,MS4.0						
SNY				LR	LR		
	comp=E,451nm,14.7s,MS4.0						
SNY				LR	LR		
	comp=Z,350nm,12.9s,MS3.9						
HHC	**Hu-ho-hao-te**	**21.44**	**342**	*e*P	**P**	**00 05 39.2**	**+1.5**
HHC				PP		00 06 03.6	
HHC				S	**S**	**00 09 30.3**	**-3.8**
HHC				PCP	PcP	00 09 40.4	+0.1
HHC				AMB	AMB		
	comp=Z,25nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,196nm,5.5s						
HHC				LR	LR		
	comp=N,413nm,15.2s,MS4.1						
HHC				LR	LR		
	comp=E,383nm,13.6s,MS4.1						
HHC				LR	LR		
	comp=Z,363nm,12.4s,MS4.0						
JHJ	**Hachijo jima 2**	**21.53**	**51**	LR	LR	00 12 50.0	
	comp=Z,250nm,19.5s,MS3.6,baz=247,slow=34						
BTO	**Baotou**	**21.70**	**339**	*e*P	**P**	**00 05 39.5**	**-1.0**
MAT	**Matsushiro**	**22.45**	**41**	P	**P**	**00 05 49.6**	**+1.1**
MAJO	**Matsushiro**	**22.45**	**41**	*e*P	**P**	**00 05 49.9**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**22.45**	**41**	*e*P	**P**	**00 05 49.9**	**+1.4**
	comp=Z,62nm,0.6s,mb5.2						
MJAR	**Matsushiro Arr**	**22.45**	**41**	P	**P**	**00 05 46.6**	**-1.8**
	comp=Z,12nm,0.7s,mb4.4,baz=237,slow=11,SNR=18						
MJAR				LR	LR	00 14 28.8	
	comp=Z,136nm,20.5s,MS3.4,baz=265,slow=37						
CN2	**Changchun**	**23.57**	**10**	*e*P	**P**	**00 05 58.5**	**-1.6**
CN2				*e*AP		00 06 07.8	
CN2				*e*PP		00 06 31.3	
CN2				*e*S	**S**	**00 10 07.3**	**-5.0**
CN2				*e*SS		00 10 57.2	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,22.0s,MS4.2						
CN2				LR	LR		
	comp=E,500nm,22.0s,MS4.2						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
VLA	**Vladivostok**	**24.56**	**21**	P	**P**	**00 06 11.0**	**+1.9**
VLA				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.1						
GUMO	**Guam**	**24.71**	**102**	LR	LR	00 13 21.3	
	comp=Z,193nm,21.9s,MS3.6,baz=291,slow=31						
MDJ	**Mudanjiang**	**25.23**	**16**	P	**P**	**00 06 14.9**	**-0.3**
MDJ				AP	pP	00 06 23.6	+0.3
MDJ				XP	sP	00 06 27.5	+0.8
MDJ				PCP	PcP	00 09 49.2	+1.0
MDJ				S	**S**	**00 10 37.8**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,34nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,88nm,3.7s						
MDJ				LR	LR		
	comp=N,52nm,36.9s,MS3.2						
MDJ				LR	LR		
	comp=E,111nm,35.6s,MS3.2						
MDJ	**Mudanjiang**	**25.23**	**16**	*e*P	**P**	**00 06 15.2**	**0.0**
	comp=E,28nm,0.9s,mb4.8						
GTA	**Gaotai**	**25.56**	**322**	*e*P	**P**	**00 06 18.4**	**+0.2**
GTA				AP	pP	00 06 28.8	+2.5
GTA				PP		00 06 58.8	
GTA				S	**S**	**00 10 42.8**	**-1.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,115nm,4.9s						
GTA				LR	LR		
	comp=N,237nm,13.7s,MS4.1						
GTA				LR	LR		
	comp=E,253nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=Z,304nm,11.8s,MS4.0						
PSI	**Prapat**	**27.14**	**232**	P	**P**	**00 06 32.8**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.2,baz=11,slow=5.7,SNR=6.0						
PSI				LR	LR	00 16 25.7	
	comp=Z,158nm,18.1s,MS3.6,baz=334,slow=34						
LSA	**Lhasa**	**27.62**	**295**	*e*P	**P**	**00 06 38.3**	**+1.5**
LSA				*e*	pP	00 06 45.0	+0.1
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**27.62**	**295**	*e*P	**P**	**00 06 38.3**	**+1.5**
	comp=Z,5.3nm,0.6s,mb4.3						
LSA				*e*	pP	00 06 45.0	0.0
HIA	**Hailar**	**28.61**	**360**	*e*P	**P**	**00 06 44.8**	**-0.8**
SONM	**Songino Array**	**29.33**	**341**	P	**P**	**00 06 51.0**	**-1.0**
	comp=Z,3.7nm,0.9s,mb4.1,baz=157,slow=8.9,SNR=24						
GUN	**Gumba**	**31.91**	**290**	*e*P	**P**	**00 07 15.5**	**+0.7**
	comp=Z,38nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**32.13**	**30**	*e*P	**P**	**00 07 17.5**	**+0.7**
YSS				pmax	pmax		
	comp=Z,16nm,0.3s,mb5.3						
YSS	**Yuzh-Sakhalins**	**32.13**	**30**	*e*P	**P**	**00 07 17.5**	**+0.8**
	comp=Z,16nm,0.3s,mb5.3						
PKI	**Pulchoki**	**32.30**	**289**	*e*P	**P**	**00 07 18.0**	**-0.2**
	comp=Z,27nm,1.0s,mb5.0						
KKN	**Kakani**	**32.43**	**290**	*e*P	**P**	**00 07 19.3**	**-0.1**
	comp=Z,31nm,0.9s,mb5.1						
ZAK	**Zakamensk**	**32.55**	**340**	*e*P	**P**	**00 07 18.4**	**-2.0**
DMN	**Daman**	**32.57**	**289**	*e*P	**P**	**00 07 20.5**	**-0.1**
	comp=Z,34nm,0.9s,mb5.3						
GKN	**Gorkha**	**33.02**	**290**	*e*P	**P**	**00 07 24.4**	**-0.1**
	comp=Z,43nm,1.0s,mb5.3						
TLY	**Talaya**	**33.57**	**341**	*e*P	**P**	**00 07 29.5**	**+0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
TLY	**Talaya**	**33.57**	**341**	*e*P	**P**	**00 07 29.5**	**+0.2**
	comp=Z,3.7nm,0.5s,mb4.6						
KOLN	**Koldanda**	**33.91**	**289**	*e*P	**P**	**00 07 32.6**	**+0.3**
	comp=Z,28nm,0.9s,mb5.2						
KAKA	**Kakadu**	**35.27**	**159**	*e*P	**P**	**00 07 41.8**	**-2.2**
	comp=Z,8.0nm,0.8s,mb4.7						
WMQ	**Urumqi**	**35.50**	**318**	*e*P	**P**	**00 07 48.0**	**+2.0**
WMQ				PP	PP	00 09 08.0	+1.2
WMQ				PCP	PcP	00 10 17.0	+2.1
WMQ				*e*S	**S**	**00 13 20.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,172nm,5.4s						
WMQ				LR	LR		
	comp=N,528nm,10.0s,MS4.7						
WMQ				LR	LR		
	comp=E,469nm,11.8s,MS4.7						
WMQ				LR	LR		
	comp=Z,648nm,20.4s						
PMG	**Port Moresby**	**40.00**	**136**	*e*P	**P**	**00 08 25.9**	**+1.9**
MKAR	**Makanchi Array**	**40.27**	**319**	P	**P**	**00 08 25.6**	**-0.6**
	comp=Z,3.4nm,0.6s,mb4.2,baz=114,slow=8.9,SNR=30						
WRAB	**Tennant Creek**	**42.64**	**160**	*e*P	**P**	**00 08 44.6**	**-1.1**
WRA	**Warramunga Arr**	**42.65**	**160**	P	**P**	**00 08 44.6**	**-1.1**
	comp=Z,26nm,0.8s,mb5.0,baz=342,slow=8.9,SNR=78						
WB2	**Warramunga Arr**	**42.65**	**160**	*e*P	**P**	**00 08 44.0**	**-1.8**
ZAL	**Zalesovo**	**42.74**	**330**	P	**P**	**00 08 46.2**	**-0.3**
	comp=Z,5.9nm,0.9s,mb4.3,baz=355,slow=8.8,SNR=3.0						
ZAL				LR	LR	00 29 54.6	
	comp=Z,76nm,18.3s,MS3.6,baz=292,slow=41						
ZAL	**Zalesovo**	**42.74**	**330**	P	**P**	**00 08 46.2**	**-0.3**
ZAL				LR	LR	00 29 54.6	
AAK	**Ala-Archa**	**43.93**	**311**	*e*P	**P**	**00 08 56.5**	**+0.4**
AAK	**Ala-Archa**	**43.93**	**311**	*e*P	**P**	**00 08 55.6**	**-0.6**
	comp=Z,1.5nm,0.7s,mb3.8						
NVS	**Novosibirsk**	**44.02**	**330**	*i* P	**P**	**00 08 55.9**	**-0.9**
NVS				pmax	pmax		
	comp=E,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,12nm,1.1s						
AS31	**Alice Springs**	**46.02**	**162**	*e*P	**P**	**00 09 12.0**	**-0.7**
AS31				*e*pP	pP	00 09 20.0	-1.1
ASAR	**Alice Springs**	**46.02**	**162**	P	**P**	**00 09 11.8**	**-0.9**
	comp=N,6.8nm,0.9s,mb4.6,baz=334,slow=6.4,SNR=35						
ASPA	**Alice Springs**	**46.02**	**162**	*e*P	**P**	**00 09 11.3**	**-1.4**
SEY	**Seymchan**	**47.69**	**19**	*e*P	**P**	**00 09 26.1**	**+0.3**
CTA	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**00 09 28.2**	**+0.9**
	comp=N,26nm,0.8s,mb5.3						
CTA	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**00 09 28.2**	**+0.9**
CTA				pmax	pmax		
	comp=Z,26nm,0.8s						
CTAO	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**00 09 28.7**	**+1.4**
BVAR	**Borovoye Array**	**49.83**	**323**	P	**P**	**00 09 41.8**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.6,baz=107,slow=9.7,SNR=32						
BVAR				PcP	PcP	00 11 02.3	-0.3
	comp=Z,3.8nm,0.7s,baz=112,slow=4.9,SNR=11						
BRVK	**Borovoye**	**49.90**	**323**	P	**P**	**00 09 43.9**	**+1.1**
	comp=Z,92nm,0.8s,mb5.9,SNR=7.1						
BRVK	**Borovoye**	**49.90**	**323**	*e*P	**P**	**00 09 42.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
BRVK	**Borovoye**	**49.90**	**323**	*e*P	**P**	**00 09 42.4**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**49.94**	**324**	*e*P	**P**	**00 09 43.0**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.94**	**324**	*e*P	**P**	**00 09 43.0**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**53.29**	**183**	*e*P	**P**	**00 10 07.5**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.29**	**183**	*e*P	**P**	**00 10 07.5**	**-0.6**
	comp=Z,15nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**56.11**	**158**	*e*P	**P**	**00 10 28.3**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.7						
STKA				*e*	pP	00 10 36.3	-0.8
STKA	**Stephens Creek**	**56.11**	**158**	P	**P**	**00 10 27.8**	**-0.7**
	comp=Z,7.4nm,0.8s,mb4.8,baz=332,slow=5.7,SNR=12						
STKA	**Stephens Creek**	**56.11**	**158**	*e*P	**P**	**00 10 28.2**	**-0.3**
STKA				*e*	pP	00 10 36.6	-0.5
AKTK	**Aktyubinsk**	**56.64**	**317**	P	**P**	**00 10 32.4**	**0.0**
AKTO	**Aktyubinsk**	**56.64**	**317**	P	**P**	**00 10 32.4**	**0.0**
	comp=Z,4.5nm,0.9s,mb4.5,baz=90,slow=8.9,SNR=12						
ARU	**Arti**	**57.37**	**325**	*e*P	**P**	**00 10 37.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ARU	**Arti**	**57.37**	**325**	*e*P	**P**	**00 10 37.1**	**-0.3**
	comp=Z,19nm,0.8s,mb5.2						
ORR	**Orenburg**	**58.83**	**319**	*e*P	**P**	**00 10 47.7**	**0.0**
ORR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
ZEI	**Tsey**	**66.31**	**309**	*e*P	**P**	**00 11 37.3**	**-0.3**
ZEI				*e*PP	pP	00 11 47.0	+0.6
KIV	**Kislovodsk**	**67.05**	**310**	*e*P	**P**	**00 11 43.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,25nm,2.4s,mb4.8						
KIV	**Kislovodsk**	**67.05**	**310**	*e*P	**P**	**00 11 42.5**	**+0.2**
MOS	**Moscow**	**69.01**	**323**	*e*P	**P**	**00 11 51.5**	**-3.1**
MOS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
OBN	**Obninsk**	**69.67**	**323**	⇑*i*P	**P**	**00 11 58.2**	**-0.6**
OBN				*e*PP	PcP	00 12 28.5	+7.0
OBN				*e*	PP	00 14 31.1	-1.8
OBN				*e*SS	SS	00 25 28.0	-5.9
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
OBN	**Obninsk**	**69.67**	**323**	*e*P	**P**	**00 11 57.8**	**-1.0**
	comp=Z,12nm,0.8s,mb4.9						
ANN	**Anapa**	**70.65**	**312**	*e*P	**P**	**00 12 03.7**	**-1.1**
ANN				*e*S	S	00 21 17.2	+0.2
ANN				pmax	pmax		
	comp=Z,125nm,6.0s						
MALT	**Malatya**	**71.14**	**305**	‖*i*P	**P**	**00 12 09.2**	**+1.5**
MALT	**Malatya**	**71.14**	**305**	‖P	**P**	**00 12 09.2**	**+1.5**
JOF	**Joensuu**	**71.31**	**331**	*ep*	**P**	**00 12 07.4**	**-1.4**
KEV	**Kevo**	**71.91**	**339**	*ep*	**P**	**00 12 11.3**	**-1.1**
	comp=Z,8.5nm,0.9s,mb4.7						
KEV	**Kevo**	**71.91**	**339**	*e*P	**P**	**00 12 11.3**	**-1.1**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MCK	**McKinley**	**72.20**	**28**	*e*P	**P**	**00 12 14.4**	**+0.3**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MCK	**McKinley**	**72.20**	**28**	*e*P	**P**	**00 12 14.4**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.5						
COLA	**College**	**72.45**	**27**	*e*P	**P**	**00 12 17.1**	**+1.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
COLA	**College**	**72.45**	**27**	*e*P	**P**	**00 12 17.1**	**+1.5**
	comp=Z,5.3nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**72.47**	**338**	P	**P**	**00 12 15.3**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.5,baz=67,slow=9.3,SNR=12						
ARCES	**ARCESS Array B**	**72.47**	**338**	P	**P**	**00 12 15.3**	**-

FINES	FINESS Array B	74.01	330	P	P	00 12 24.5 -0.3
	comp=Z,9.4nm,0.8s,mb4.8,baz=93,slow=9.5,SNR=26					
BRTR	Keskin Array B	74.46	307	P	P	00 12 27.9 +0.5
	comp=Z,0.9nm,0.9s,baz=107,slow=8.3,SNR=4.7					
AKASG	Malin Array Be	74.85	319	P	P	00 12 28.4 -1.3
	comp=Z,3.8nm,0.6s,mb4.5,baz=64,slow=5.7,SNR=4.0					
AKASG	Malin Array Be	74.85	319	P	P	00 12 28.4 -1.3
DAWY	Dawson	76.20	26	eP	P	00 12 37.8 +0.3
INK	Inuvik	76.93	21	eP	P	00 12 42.1 +0.6
	comp=Z,220nm,0.9s					
SUW	Suwalki	77.51	323	eP	P	00 12 44.7 -0.1
VRI	Vrincioaia	77.75	314	⇑iP	P	00 12 47.5 +1.4
VRI	Vrincioaia	77.75	314	⇑P	P	00 12 47.5 +1.4
BURAR	Bucovina Array	78.22	316	⇓iP	P	00 12 48.9 +0.1
BURAR	Bucovina Array	78.22	316	⇓P	P	00 12 48.9 +0.1
MLR	Muntele Rosu	78.38	314	⇑iP	P	00 12 50.4 +0.8
MLR	Muntele Rosu	78.38	314	⇑P	P	00 12 50.4 +0.7
KWP	Kalwaria	79.17	319	eP	P	00 12 54.3 +0.3
KOLS	Kolonicke sedl	79.67	318	eP	P	00 12 56.8 +0.1
DRGR		80.10	316	⇑iP	P	00 12 59.7 +0.6
DRGR		80.10	316	⇑P	P	00 12 59.7 +0.6
STHS	Stebnicka Huta	80.14	319	eP	P	00 12 59.7 +0.4
STHS				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.2					
STHS	Stebnicka Huta	80.14	319	eP	P	00 12 59.7 +0.4
	comp=Z,2.9nm,0.9s,mb4.2					
CRVS	Cervenica-Dubn	80.19	319	eP	P	00 12 59.8 +0.3
NIE	Niedzica	80.71	319	eP	P	00 13 03.2 +0.9
NIE				ePcP	PcP	00 13 10.9 +1.9
OJC	Ojcow	80.74	320	eP	P	00 13 02.7 +0.2
OJC				ePcP	PcP	00 13 10.4 +1.3
NB2	NORSAR Subarra	80.89	332	P	P	00 13 02.2 -1.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=61,slow=5.6					
NB2	NORSAR Subarra	80.89	332	P	P	00 13 02.2 -1.1
NB2				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.3					
NOA	NORSAR Array B	80.89	332	P	P	00 13 01.9 -1.3
	comp=Z,4.7nm,0.7s,mb4.5,baz=64,slow=5.3,SNR=17					
NOA				LR	LR	00 55 45.9
	comp=Z,79nm,18.2s,MS4.1,baz=310,slow=41					
KECS	Kecovo	80.94	318	eP	P	00 13 03.2 -0.3
KECS				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.2					
KECS	Kecovo	80.94	318	eP	P	00 13 03.2 -0.3
	comp=Z,3.0nm,1.0s,mb4.2					
VTS	Vitosha	81.17	312	⇑iP	P	00 13 05.8 +1.0
VTS	Vitosha	81.17	312	⇑P	P	00 13 05.8 +1.0
BZS	Buzias	81.22	315	⇑iP	P	00 13 04.3 -0.7
BZS	Buzias	81.22	315	⇑P	P	00 13 04.3 -0.8
VYHS	Vyhne	81.95	319	iP	P	00 13 09.6 +0.7
VYHS				pmax	pmax	
	comp=Z,3.0nm,1.1s,mb4.1					
VYHS	Vyhne	81.95	319	iP	P	00 13 09.6 +0.7
	comp=Z,3.2nm,1.1s,mb4.2					
MORC	Moravsky Berou	82.26	320	eP	P	00 13 10.6 +0.1
RES	Resolute Bay	82.36	9	eP	P	00 13 11.0 0.0
DPC	Dobruska-Polom	82.75	321	eP	P	00 13 13.5 +0.4
UPC	Upice	82.87	321	eP	P	00 13 19.1 +5.4
PKSM	Moragy	82.94	317	⇑iP	P	00 13 14.2 +0.2
KMBO	Kilima Mbogo	83.65	266	P	P	00 13 19.6 +1.9
	comp=Z,2.3nm,0.9s,mb4.3,baz=44,slow=6.8,SNR=6.2					
KMBO				LR	LR	00 50 31.3
	comp=Z,50nm,18.3s,MS3.9,baz=95,slow=36					
TREC	Trest	83.68	320	eP	P	00 13 18.5 +0.7
TREC				ePP	pP	00 13 26.0 -0.8
PVCC	Panska Ves	83.71	322	eP	P	00 13 18.9 +0.9
BRG	Berggiesshubel	83.92	322	eP	P	00 13 19.2 +0.1
	comp=Z,12nm,1.1s,mb4.9					
BRG	Berggiesshubel	83.92	322	eP	P	00 13 19.5 +0.4
	comp=Z,6.9nm,1.1s,mb4.7					
BRG				e	pP	00 13 27.1 -0.9
	comp=Z,7.8nm,1.3s					
BRG	Berggiesshubel	83.92	322	eP	P	00 13 19.5 +0.4
BRG				e	pP	00 13 27.1 -0.9
BRG				pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.7					
PRU	Pruhonice	83.95	321	eP	P	00 13 19.0 -0.2
PRU				ePP	pP	00 13 27.2 -1.0
CLL	Collm	84.27	323	eP	P	00 13 21.0 +0.1
	comp=Z,20nm,1.2s,mb5.1					
CLL	Collm	84.27	323	iP	P	00 13 20.7 -0.2
CLL				i*PP	pP	00 13 28.6 -1.2
CLL				pmax	pmax	
	comp=Z,20nm,1.2s,mb5.1					
CLL	Collm	84.27	323	iP	P	00 13 20.7 -0.2
	comp=Z,20nm,1.2s,mb5.1					
CLL				iPP	pP	00 13 28.6 -1.2
BSEG	Bad Segeberg	84.55	326	eP	P	00 13 22.4 +0.1
	comp=Z,14nm,0.9s,mb5.1					
KHC	Kasperske Hory	84.88	321	eP	P	00 13 24.5 +0.5
KHC				ePP	pP	00 13 32.1 -0.8
KHC	Kasperske Hory	84.88	321	eP	P	00 13 24.2 +0.2
GEC2	GERESS Array S	84.93	320	eP	P	00 13 24.4 +0.2
	comp=Z,10.0nm,1.2s,mb4.8					
GEC2	GERESS Array S	84.93	320	eP	P	00 13 24.4 +0.2
GEC2				pmax	pmax	
	comp=Z,10.0nm,1.2s,mb4.8					
GERES	GERESS Array B	84.93	320	P	P	00 13 24.5 +0.3
	comp=Z,3.9nm,0.8s,mb4.6,baz=67,slow=4.5,SNR=33					
TANN	Tannenbergstha	84.97	322	eP	P	00 13 24.3 -0.1
	comp=Z,9.0nm,1.2s,mb4.8					
PERS	Pernice	85.00	318	iP	P	00 13 24.5 -0.1
MOA	Molln	85.02	319	⇑iP	P	00 13 25.5 +0.8
	comp=Z,11nm,0.9s,mb5.0					
NKC	Novy Kostel	85.06	322	eP	P	00 13 25.3 +0.4
WET	Wettzell	85.29	321	eP	P	00 13 26.0 0.0
	comp=Z,6.0nm,1.1s,mb4.6					
WET	Wettzell	85.29	321	eP	P	00 13 26.0 0.0
WET				pmax	pmax	
	comp=Z,6.0nm,1.1s,mb4.6					
NRDL	Niedersach Rie	85.33	325	eP	P	00 13 26.6 +0.4
	comp=Z,12nm,1.0s,mb5.0					
MOX	Moxa	85.35	323	eP	P	00 13 26.3 0.0
	comp=Z,9.0nm,1.1s,mb4.8					
MOX	Moxa	85.35	323	eP	P	00 13 26.6 +0.3
	comp=Z,13nm,1.4s,mb4.9					
MOX	Moxa	85.35	323	eP	P	00 13 26.6 +0.3
MOX				pmax	pmax	
	comp=Z,13nm,1.4s,mb4.9					
MANZ	Manzenberg	85.36	322	eP	P	00 13 26.6 +0.2
	comp=Z,11nm,1.4s,mb4.8					
BOJS	Bojanci	85.39	317	iP	P	00 13 26.7 +0.2
ROTZ	Rotzenmuhle	85.41	322	eP	P	00 13 27.0 +0.4
	comp=Z,13nm,1.0s,mb5.0					
CLZ	Clausthal	85.49	324	eP	P	00 13 27.6 +0.6
	comp=Z,17nm,1.1s,mb5.1					
CLZ	Clausthal	85.49	324	eP	P	00 13 27.6 +0.6
CLZ				pmax	pmax	
	comp=Z,17nm,1.1s,mb5.1					
LJU	Ljubljana	85.62	318	iP	P	00 13 28.0 +0.3
GRA1	Grafenberg Arr	86.01	322	eP	P	00 13 30.2 +0.6
	comp=Z,36nm,2.0s,mb5.3					
GRA1				ePP	pP	00 13 38.2 -0.3
GRF	Grafenberg Arr	86.01	322	eP	P	00 13 30.2 +0.6
	comp=Z,36nm,2.0s,mb5.3					
GRF				ePP	pP	00 13 38.2 -0.3
GRF	Grafenberg Arr	86.01	322	eP	P	00 13 30.2 +0.6
GRF				e*PP	pP	00 13 38.2 -0.3
GRF				pmax	pmax	
	comp=Z,36nm,2.0s,mb5.3					
GRF	Grafenberg Arr	86.01	322	eP	P	00 13 30.2 +0.6
GRF				e*PP	pP	00 13 38.2 -0.3
GRF				pmax	pmax	
	comp=Z,36nm,2.0s,mb5.3					
YKA	Yellowknife Ar	86.67	22	P	P	00 13 32.5 -0.4
	comp=Z,6.8nm,0.7s,mb5.0,baz=310,slow=4.7,SNR=16					
YKA	Yellowknife Ar	86.67	22	P	P	00 13 32.5 -0.4
WTTA	Wattenberg	86.87	320	⇑iP	P	00 13 34.1 +0.3
	comp=Z,15nm,1.3s,mb5.0					
WTTA	Wattenberg	86.87	320	⇑iP	P	00 13 34.1 +0.3
WTTA				pmax	pmax	
	comp=Z,15nm,1.3s,mb5.1					
WATA	Walderalm	86.88	320	⇑iP	P	00 13 33.8 -0.1
	comp=Z,9.6nm,1.5s,mb4.8					
WATA	Walderalm	86.88	320	⇑iP	P	00 13 33.8 -0.1
WATA				pmax	pmax	
	comp=Z,10.0nm,1.5s,mb4.8					
SQTA	Sankt Quirin	87.15	320	⇑iP	P	00 13 35.4 +0.3
	comp=Z,6.6nm,1.1s,mb4.8					
SQTA	Sankt Quirin	87.15	320	⇑iP	P	00 13 35.5 +0.3
SQTA				pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.8					
MOTA	Moosalm	87.16	320	⇑iP	P	00 13 35.2 0.0
	comp=Z,6.9nm,1.3s,mb4.7					
MOTA	Moosalm	87.16	320	⇑iP	P	00 13 35.2 0.0
MOTA				pmax	pmax	
	comp=Z,7.0nm,1.3s,mb4.7					
TNS	Taunus Mts	87.34	323	eP	P	00 13 36.6 +0.5
	comp=Z,5.0nm,1.1s,mb4.7					
TNS	Taunus Mts	87.34	323	eP	P	00 13 36.6 +0.5
TNS				pmax	pmax	
	comp=Z,5.0nm,1.1s,mb4.7					
WLF	Walferdange	88.90	324	eP	P	00 13 44.3 +0.8
	comp=Z,17nm,1.0s,mb5.3					
CDF	Champ du Feu	88.90	322	eP	P	00 13 43.9 +0.4
HINF	Hinteralfeld	89.45	322	eP	P	00 13 46.7 +0.6
LPG	La Plagne	90.69	320	⇑iP	P	00 13 52.9 +1.0
	comp=Z,24nm,0.9s,mb5.2					
LPG	La Plagne	90.69	320	⇑iP	P	00 13 52.9 +1.0
LPG				pmax	pmax	
	comp=Z,12nm,0.9s,mb5.2					
LPG	La Plagne	90.69	320	⇑iP	P	00 13 52.9 +1.0
	comp=Z,12nm,0.9s,mb5.2					
LPL	La Plagne	90.69	320	⇑iP	P	00 13 52.8 +0.9
	comp=Z,22nm,0.9s,mb5.2					
LPL	La Plagne	90.69	320	⇑iP	P	00 13 52.8 +0.9
LPL				pmax	pmax	
	comp=Z,11nm,0.9s,mb5.2					
LPL	La Plagne	90.69	320	⇑iP	P	00 13 52.8 +0.9
	comp=Z,11nm,0.9s,mb5.2					
BNI	Bardonecchia	90.96	319	eP	P	00 13 53.6 +0.5
BNI				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb5.0					
BNI	Bardonecchia	90.96	319	eP	P	00 13 53.6 +0.4
	comp=Z,7.6nm,0.9s,mb5.0					
MBDF	Montbardon	91.07	319	eP	P	00 13 53.6 0.0
	comp=Z,8.4nm,0.9s,mb4.8					
MBDF	Montbardon	91.07	319	eP	P	00 13 53.6 0.0
MBDF				pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.8					
MBDF	Montbardon	91.07	319	eP	P	00 13 53.6 0.0
	comp=Z,4.2nm,0.9s,mb4.8					
SBF	Sospel	91.09	318	⇑iP	P	00 13 54.0 +0.3
	comp=Z,21nm,0.8s,mb5.2					
SBF	Sospel	91.09	318	⇑iP	P	00 13 54.0 +0.3
SBF				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb5.2					
SBF	Sospel	91.09	318	⇑iP	P	00 13 54.0 +0.3
	comp=Z,10nm,0.8s,mb5.2					
LOR	Lormes	91.46	322	eP	P	00 13 55.5 0.0
ORIF	Oris-en-Rattie	91.51	320	⇑iP	P	00 13 56.3 +0.6
	comp=Z,6.3nm,0.7s,mb4.7					
ORIF	Oris-en-Rattie	91.51	320	⇑iP	P	00 13 56.3 +0.6
ORIF				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.7					
ORIF	Oris-en-Rattie	91.51	320	⇑iP	P	00 13 56.3 +0.6
	comp=Z,3.2nm,0.7s,mb4.8					
FRF	La Foret Royal	91.74	318	⇑iP	P	00 13 57.0 +0.3
	comp=Z,18nm,0.9s,mb5.1					
FRF	La Foret Royal	91.74	318	⇑iP	P	00 13 57.0 +0.3
FRF				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb5.1					
FRF	La Foret Royal	91.74	318	⇑iP	P	00 13 57.0 +0.3
	comp=Z,9.1nm,0.9s,mb5.1					
SSF	Saint Saulge	91.78	322	eP	P	00 13 57.2 +0.3
	comp=Z,13nm,1.3s,mb4.8					
SSF	Saint Saulge	91.78	322	eP	P	00 13 57.2 +0.3
SSF				pmax	pmax	
	comp=Z,7.0nm,1.3s,mb4.8					
SSF	Saint Saulge	91.78	322	eP	P	00 13 57.2 +0.3
	comp=Z,6.7nm,1.3s,mb4.8					
SMF	Signal de Mont	91.81	322	eP	P	00 13 57.0 -0.1
LMR	La Mourre	91.94	318	⇑iP	P	00 13 58.1 +0.4
	comp=Z,37nm,1.2s,mb5.3					
LMR	La Mourre	91.94	318	⇑iP	P	00 13 58.1 +0.4
LMR				pmax	pmax	
	comp=Z,19nm,1.2s,mb5.3					
LMR	La Mourre	91.94	318	⇑iP	P	00 13 58.1 +0.4
	comp=Z,19nm,1.2s,mb5.3					
AVF	Avril sur Loir	92.01	322	eP	P	00 13 57.9 -0.1
SMRF	Simiane la Rot	92.19	319	⇑iP	P	00 13 59.5 +0.7
	comp=Z,13nm,1.1s,mb4.9					
SMRF	Simiane la Rot	92.19	319	⇑iP	P	00 13 59.5 +0.7
	comp=Z,13nm,1.1s,mb5.2					
VIVF	Saint-Julien-l	92.28	320	eP	P	00 13 59.7 +0.5
TCF	Toulx Ste Croi	92.95	322	eP	P	00 14 02.8 +0.5
LASF	Ste Croix	93.19	320	eP	P	00 14 04.1 +0.7
GRR	Gorron	93.44	325	eP	P	00 14 05.5 +0.9
	comp=Z,54nm,1.5s,mb5.5					
GRR	Gorron	93.44	325	eP	P	00 14 05.5 +0.9
GRR				pmax	pmax	
	comp=Z,27nm,1.5s,mb5.5					
GRR	Gorron	93.44	325	eP	P	00 14 05.5 +0.9
	comp=Z,27nm,1.5s,mb5.5					
CAF	Calviac	93.79	321	eP	P	00 14 06.9 +0.7
RJF	Les Rejaudoux	93.90	322	eP	P	00 14 07.5 +0.8
	comp=Z,20nm,1.3s,mb5.1					
RJF	Les Rejaudoux	93.90	322	eP	P	00 14 07.5 +0.8
RJF				pmax	pmax	
	comp=Z,10.0nm,1.3s,mb5.1					
RJF	Les Rejaudoux	93.90	322	eP	P	00 14 07.5 +0.8
	comp=Z,10nm,1.3s,mb5.1					
MFF	Saint Martin d	94.11	323	eP	P	00 14 08.0 +0.4
MTLF	Montolieu	94.58	320	eP	P	00 14 10.3 +0.5
	comp=Z,4.3nm,0.9s,mb4.6					
MTLF	Montolieu	94.58	320	eP	P	00 14 10.3 +0.5
MTLF				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.5					
MTLF	Montolieu	94.58	320	eP	P	00 14 10.3 +0.5
	comp=Z,2.2nm,0.9s,mb4.6					
SDV	Santo Domingo	148.88	21	ePKPdf	PKPdf	00 20 34.1 +1.3
SDV				ePKPbc	PKPbc	00 20 37.0 +0.2

*CSEM **10** 00:02:25.3, 4300N×4691E, h10km, mb4.0, After OBN*

MOS 10 00:02:25.3±1.1, 4300N×4691E, h10km, mb4.0/1, Error ellipse: s-maj=13.0km s-min=9.3km az=8.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBC	Dubki	0.06	287	i	PG		Pg	00 02 25.8	-1.6
DBC					pmax		pmax		
	comp=Z,309nm,0.1s								
DBC	Dubki	0.06	287	i	Pg		Pg	00 02 25.8	-1.6
	comp=Z,309nm,0.1s								
KRNR	Karanay	0.18	180	e	PG		Pg	00 02 30.5	+1.4
KRNR				i	S		Sg	00 02 35.3	+3.6
KRNR					pmax		pmax		
	comp=Z,20nm,0.2s								
KRNR	Karanay	0.18	180	e	Pg		Pg	00 02 30.5	+1.4
	comp=Z,20nm,0.2s								
KRNR				i	Sg		Sg	00 02 35.3	+3.6
DLMR	Dylym	0.21	288	e	PG		Pg	00 02 30.4	+0.6
DLMR				i	S		Sg	00 02 34.7	+1.9
DLMR					pmax		pmax		
	comp=Z,175nm,0.2s								
DLMR	Dylym	0.21	288	e	Pg		Pg	00 02 30.4	+0.6
	comp=Z,175nm,0.2s								
DLMR				i	Sg		Sg	00 02 34.7	+1.9
UNCR	Uncukul	0.30	196	i	PG		Pg	00 02 33.0	+1.7
UNCR				i	S		Sg	00 02 39.5	+4.1
UNCR					pmax		pmax		
	comp=Z,36nm,0.2s								
UNCR	Uncukul	0.30	196	i	Pg		Pg	00 02 33.0	+1.7
	comp=Z,36nm,0.2s								
UNCR				i	Sg		Sg	00 02 39.5	+4.1
BTLR	Botlikh	0.61	236	e	PG		Pg	00 02 38.0	+0.9
BTLR				i	S		Sg	00 02 47.5	+2.5
SNJR	Sundja	1.54	273	i	Pg		Pg	00 02 54.4	-0.4
SNJR				i	Sg		Sg	00 03 19.1	+4.3
VLKR	Vladikavkaz	1.64	272	i	Pn		Pn	00 02 55.7	+1.6
VLKR				e	Sg		Sg	00 03 21.3	+3.4
TRKR	Terskaya	1.74	295	i	Pn		Pn	00 02 57.3	+1.7
TRKR				i	Sg		Sg	00 03 24.2	+2.9
LACR	Lac	1.93	266	i	Pn		Pn	00 02 59.4	+1.3
LACR				i	Sg		Sg	00 03 27.7	+0.5
ARNR	Ardon	1.94	276	i	Pn		Pn	00 02 59.8	+1.6
ARNR				i	Sg		Sg	00 03 28.5	+1.0
KMSR	Komsomolskaya	1.95	282	i	Pn		Pn	00 03 00.0	+1.6
KMSR				i	Sg		Sg	00 03 28.9	+1.0
KORR	Kora	2.08	273	i	Pn		Pn	00 03 01.7	+1.4
KORR				i	Sb		Sb	00 03 31.8	+2.7
ZEI	Tsey	2.22	265	e	Pn		Pn	00 03 03.4	+1.2
ZEI				i	Sn		Sn	00 03 34.7	+5.0

*IDC **10** 00:16:56.6±6.5, 766S×12781E, h42km±63km, mb3.6/2, mb1 4.1/4, mb1mx3.7/13, mbtmp4.1/4, ML4.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=225.0km s-min=34.5km az=63.0*

NEIC 10 00:16:56.2±1.7, 768S×12778E, h38km±20km, mb3.8/2, Error ellipse: s-maj=20.2km s-min=12.8km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.79	138	e	P		Pn	00 18 33.4	+0.2
	87nm,0.1s								
KAKA				e	S		Sn	00 19 38.9	-10
WRA	Warramunga Arr	13.75	153		P		Pn	00 20 07.4	-1.0
	2.7nm,0.3s,baz=334,slow=14,SNR=27								
WRA					S		Sn	00 22 27.5	-12
	2.5nm,0.3s,baz=335,slow=24,SNR=10								
WB2	Warramunga Arr	13.75	153	e	P		Pn	00 20 07.1	-1.5
WB2				e	S		Sn	00 22 28.6	-11
MBWA	Marble Bar	15.49	209	e	Pn		Pn	00 20 32.1	+0.3
	9.5nm,1.2s								
AS31	Alice Springs	16.95	160	e	P		Pn	00 20 51.6	+1.3
AS31				e	S		S	00 23 52.0	-15
ASPA	Alice Springs	16.95	160	e	P		Pn	00 20 51.6	+1.3
ASPA				e	S		S	00 23 52.0	-15
ASAR	Alice Springs	16.95	160		P		Pn	00 20 52.1	+1.8
	1.6nm,0.3s,baz=336,slow=9.5,SNR=68								
ASAR					S		S	00 23 47.6	-19
	0.2nm,0.3s,baz=335,slow=16,SNR=3.9								
ASAR					LR		LR	00 26 19.4	
	comp=Z,54nm,21.6s,baz=260,slow=33								
KKM	Kota Kinabalu	17.86	319		Pn		Pn	00 21 02.4	+0.8
PMG	Port Moresby	19.25	96		P		Pn	00 21 17.8	-0.6
STKA	Stephens Creek	27.30	154	e	P		P	00 22 37.6	+0.5
	1.0nm,0.4s								
STKA	Stephens Creek	27.30	154		P		P	00 22 37.6	+0.5
	1.1nm,0.4s,baz=332,slow=11,SNR=7.6								
MKAR	Makanchi Array	67.61	328		P		P	00 27 49.3	+0.3
	0.4nm,0.6s,baz=115,slow=7.8,SNR=7.3								
TORD	Torodi Ar. Bea	126.77	281		PKP		PKPdf	00 35 55.6	0.0
	0.3nm,0.8s,baz=116,slow=0.9,SNR=4.7								

IDC 10 00:39:09.9±4.3, 1073S×11681E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=290.9km s-min=27.6km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.21	121		P		Pn	00 43 35.1	-1.2
	0.2nm,0.3s,baz=292,slow=13,SNR=3.1								
WRA					S		Sn	00 47 01.6	-11
	0.1nm,0.3s,baz=284,slow=22,SNR=2.1								
ASAR	Alice Springs	20.76	131		P		P	00 43 53.1	+0.9
	0.8nm,0.6s,baz=301,slow=10,SNR=16								
ASAR					S		S	00 47 37.7	-7.1
	0.7nm,0.8s,baz=308,slow=22,SNR=4.8								
MKAR	Makanchi Array	65.04	335		P		P	00 49 52.0	+0.1
	0.6nm,0.5s,baz=152,slow=7.2,SNR=6.2								

*IDC **10** 00:40:07.8±1.2, 2042N×11998E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=42.4km s-min=22.1km az=71.0*

*ISCJB **10** 00:40:12.3±3.2, 204N±01×1200E±03, h46km±32km, mb3.5/5, Error ellipse: s-maj=44.8km s-min=22.5km az=148.2*

ISC 10 00:40:13.3±3.2, 205N±01×1200E±03, h37km±34km, n6, σ0°09/6, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CVP	Callao Caves	3.23	147	e	P		Pn	00 41 01.5	0.0
MJAR	Matsushiro Arr	22.60	41		P		P	00 45 10.5	0.0
	0.7nm,0.3s,mb3.5,baz=230,slow=9.6,SNR=3.2								
MKAR	Makanchi Array	40.34	320		P		P	00 47 47.1	0.0
	0.7nm,0.7s,mb3.5,baz=117,slow=9.7,SNR=4.8								
WRA	Warramunga Arr	42.53	160		P		P	00 48 05.0	-0.1
	0.7nm,0.5s,mb3.7,baz=341,slow=9.0,SNR=8.1								
ZAL	Zalesovo	42.84	330		P		P	00 48 07.6	0.0
	0.6nm,0.7s,mb3.5,baz=348,slow=14,SNR=3.6								
ASAR	Alice Springs	45.90	162		P		P	00 48 32.1	+0.1
	0.7nm,0.9s,mb3.6,baz=353,slow=6.6,SNR=4.1								

MOS 10 00:55:13.0±0.7, 4247N×4369E, h22km, mb3.5/1, 2C-3D, Error ellipse: s-maj=99.9km s-min=19.9km az=61.9, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZEI	Tsey	0.34	27	⇓iPG			Pb	00 55 21.0	+0.6
ZEI				i	S		Sb	00 55 26.8	+1.4
LACR	Lac	0.57	51	⇓iPG			Pb	00 55 24.8	+0.5
LACR				i	S		Sb	00 55 33.3	+1.3
KORR	Kora	0.68	24	⇑iPG			Pb	00 55 26.6	+0.5
KORR				i	S		Sb	00 55 36.5	+1.5
ARNR	Ardon	0.84	31	⇑iPG			Pb	00 55 29.5	+0.6
ARNR				i	S		Sb	00 55 41.6	+1.9
VLKR	Vladikavkaz	0.93	51	⇓iPG			Pb	00 55 31.1	+0.7
VLKR				e	S		Sb	00 55 44.3	+2.0

BJI 10 01:00:55.7, 4417N×8332E, h7km, ML2.7, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.72	345		⇓P		Pn	01 01 42.3	+2.5
	0.9nm,0.3s,baz=162,slow=17,SNR=7.4								
MK31					⇑Lg			01 02 19.1	
	4.7nm,0.3s,baz=158,slow=28,SNR=16								
WMQ	Urumqi	3.18	95	e	P		Pn	01 01 46.0	-0.1
WMQ					S		Sn	01 02 22.2	-2.0
WMQ					Smax				
	comp=N,20nm,0.4

CVP	**Callao Caves**	3.27 151	*e*P		**Sn**	01 05 53.0	-1.5
NACB	**Ninganchiao**	3.82 20	*e*Pn		**Pn**	01 05 23.8	-0.3
NACB			*e*Sn		**Sn**	01 06 07.1	-1.1
YHNB	**Yeheng**	4.23 15	*e*Pn		**Pn**	01 05 29.6	-0.2
YHNB			Sn		**Sn**	01 06 17.1	-1.1
QZH	**Quanzhou**	4.58 342	P		**Pn**	01 05 30.5	-4.0
QZH			S		**Sn**	01 06 19.1	-7.8
QZH			Smax				
	comp=N,190nm,0.8s						
QZH			Smax				
	comp=E,210nm,0.6s						
QZH			LR	LR			
	comp=N,4μm,12.7s						
QZH			LR	LR			
	comp=E,3μm,11.8s						
QZH			LR	LR			
	comp=Z,3μm,11.2s						
BALP	**Baler**	5.00 164	*e*P		**Pn**	01 05 41.5	+1.3
GZH	**Guangzhou**	6.80 293	P		**Pn**	01 05 59.9	-5.1
GZH			S		**Sn**	01 07 08.5	-13
GZH			Smax				
	comp=N,91nm,0.6s						
GZH			Smax				
	comp=E,95nm,0.7s						
ENH	**Enshi**	13.63 317	Pn		**Pn**	01 07 34.5	-4.0
CD2	**Chengdu**	17.98 308	*e*P		**Pn**	01 08 31.0	-4.0
CD2			AP		pP	01 08 38.8	-3.6
CD2			XP		sP	01 08 43.8	-1.9
CD2			PP			01 08 45.9	
CD2			S		**Sn**	01 11 42.7	-12
CD2			XS		sS	01 11 54.1	-17
CD2			AMB		AMB		
	comp=Z,10.0nm,0.7s						
CD2			AMB		AMB		
	comp=Z,30nm,5.6s						
CD2			LR		LR		
	comp=N,450nm,13.2s						
CD2			LR		LR		
	comp=E,390nm,10.8s						
CD2			LR		LR		
	comp=Z,350nm,10.8s						
BJT	**Baijiatuau**	19.68 351	*e*P		**Pn**	01 08 54.9	-0.7
BJT			pmax		pmax		
	comp=Z,14nm,0.7s						
BJT	**Baijiatuau**	19.68 351	*e*P		**Pn**	01 08 54.9	-0.7
	comp=Z,14nm,0.7s						
BJI	**Beijing**	19.70 351	P		**Pn**	01 08 54.3	-1.5
BJI			AMB		AMB		
	comp=Z,13nm,0.9s						
BJI			LR		LR		
	comp=N,241nm,10.4s						
BJI			LR		LR		
	comp=E,396nm,10.4s						
BJI			LR		LR		
	comp=Z,136nm,17.9s						
BJI	**Beijing**	19.70 351	P		**Pn**	01 08 54.3	-1.5
	comp=Z,13nm,0.9s						
BJI			S		**Sn**	01 12 48.2	+12
CHTO	**Chiang Mai**	20.04 269	*e*P		**P**	01 08 58.2	+0.2
CHTO			pmax		pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	20.04 269	*e*P		**P**	01 08 58.2	+0.2
	comp=Z,7.1nm,1.0s						
LZH	**Lanzhou**	21.04 321	*e*P		**P**	01 09 09.7	+0.9
LZH			AP			01 09 17.5	
LZH			AMB		AMB		
	comp=Z,50nm,1.0s,mb4.8						
LZH			AMB		AMB		
	comp=Z,360nm,4.2s						
LZH			LR		LR		
	comp=N,870nm,11.2s						
LZH			LR		LR		
	comp=Z,2μm,12.9s,MS4.7						
LZH	**Lanzhou**	21.04 321	*e*P		**P**	01 09 09.7	+0.9
LZH			*SP		sP	01 09 23.2	+4.0
LZH						01 09 35.0	
LZH			S		**S**	01 13 03.3	+1.5
LZH			*SS		sS	01 13 17.0	+3.9
LZH			*e*SS			01 13 40.0	
LZH			pmax		pmax		
	comp=Z,50nm,1.0s,mb4.8						
LZH			MLR		MLR		
	comp=Z,2μm,12.9s,MS4.7						
LZH	**Lanzhou**	21.04 321	*e*P		**P**	01 09 09.7	+0.9
	comp=Z,50nm,1.0s,mb4.8						
LZH			pP			01 09 17.5	
LZH			sP		sP	01 09 23.2	+4.0
LZH			PP			01 09 35.0	
LZH			S		**S**	01 13 03.3	+1.5
LZH			sS		sS	01 13 17.0	+3.9
LZH			*e*SS			01 13 40.0	
LZH			LR		LR		
	comp=Z,2μm,12.9s,MS4.7						
CBIJ	**Chichi jima**	21.16 68	LR		LR	01 17 22.5	
	comp=Z,150nm,18.7s,MS3.4,baz=65,slow=37						
JHJ	**Hachijo jima 2**	21.47 50	LR		LR	01 16 27.5	
	comp=Z,304nm,18.3s,MS3.7,baz=280,slow=34						
HHC	**Hu-ho-hao-te**	21.49 342	*e*P		**P**	01 09 18.4	+4.7
HHC			AMB		AMB		
	comp=Z,107nm,4.6s						
HHC			LR		LR		
	comp=N,388nm,12.8s,MS4.1						
HHC			LR		LR		
	comp=E,259nm,13.3s,MS4.1						
HHC			LR		LR		
	comp=Z,255nm,13.8s,MS3.8						
MAJO	**Matsushiro**	22.40 41	*e*P		**P**	01 09 26.0	+2.6
MAJO			pmax		pmax		
	comp=Z,18nm,1.0s,mb4.5						
MAJO	**Matsushiro**	22.40 41	*e*P		**P**	01 09 26.0	+2.6
	comp=Z,18nm,1.0s,mb4.5						
MAT	**Matsushiro**	22.40 41	P		**P**	01 09 25.6	+2.2
MJAR	**Matsushiro Arr**	22.40 41	P		**P**	01 09 23.1	-0.3
	comp=Z,8.6nm,0.8s,mb4.3,baz=244,slow=9.7,SNR=13						
MJAR			LR		LR	01 18 28.0	
	comp=Z,87nm,21.1s,MS3.2,baz=245,slow=38						
CN2	**Changchun**	23.58 10	*e*P		**P**	01 09 37.9	+2.3
CN2			AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
GUMO	**Guam**	24.61 102	LR		LR	01 19 23.4	
	comp=Z,160nm,19.0s,MS3.5,baz=319,slow=36						
MDJ	**Mudanjiang**	25.22 16	*e*P		pP	01 10 02.7	+4.5
GTA	**Gaotai**	25.64 322	*e*P		**P**	01 09 54.4	0.0
GTA			AP		pP	01 09 59.0	-3.0
GTA			XP		sP	01 10 01.9	-3.2
GTA			AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
PSI	**Prapat**	27.21 232	LR		LR	01 19 40.6	
	comp=Z,171nm,21.5s,MS3.6,baz=123,slow=34						
LSA	**Lhasa**	27.72 295	*e*P		**P**	01 10 04.3	-8.9
SONM	**Songino Array**	29.38 341	P		**P**	01 10 27.1	-0.9
	comp=Z,1.8nm,0.8s,mb3.8,baz=157,slow=8.0,SNR=12						
SONM			LR		LR	01 22 37.5	
	comp=Z,129nm,18.5s,MS3.6,baz=146,slow=37						
ASAJ	**Asahikawa**	29.99 33	LR		LR	01 22 32.9	
	comp=Z,194nm,21.5s,MS3.7,baz=294,slow=36						
GUN	**Gumba**	32.01 290	*e*P		**P**	01 10 51.3	+0.1
	comp=Z,29nm,0.8s,mb5.2						
PKI	**Pulchoki**	32.40 289	*e*P		**P**	01 10 53.9	-0.7
KKN	**Kakani**	32.53 290	*e*P		**P**	01 10 55.0	-0.7
DMN	**Daman**	32.67 289	*e*P		**P**	01 10 56.5	-0.4
	comp=Z,20nm,0.8s,mb5.1						
GKN	**Gorkha**	33.12 290	*e*P		**P**	01 10 59.8	-1.0
KOLN	**Koldanda**	34.01 289	*e*P		**P**	01 11 08.1	-0.5
	comp=Z,16nm,0.9s,mb4.9						
WMQ	**Urumqi**	35.58 318	*e*P		**P**	01 11 21.5	-0.6
WMQ			AP		pP	01 11 31.0	+1.2
WMQ			XP		sP	01 11 35.0	+2.0
WMQ			PP		PP	01 12 41.0	-2.1
WMQ			PCP		PcP	01 13 52.0	+1.3
WMQ			*e*S		**S**	01 16 52.0	-4.4
WMQ			AMB		AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WMQ			AMB		AMB		
	comp=Z,150nm,4.8s						
WMQ			LR		LR		
	comp=N,492nm,16.6s,MS4.4						
WMQ			LR		LR		
	comp=E,356nm,18.4s,MS4.4						
WMQ			LR		LR		
	comp=Z,452nm,21.8s,MS4.2						
FITZ	**Fitzroy Crossi**	38.81 172	*e*P		**P**	01 11 48.2	-1.4
	comp=Z,6.5nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	38.81 172	P		**P**	01 11 47.9	-1.7
	comp=Z,3.0nm,0.7s,mb4.1,baz=10,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	40.35 319	P		**P**	01 12 01.7	-0.7
	comp=Z,1.9nm,0.7s,mb4.0,baz=115,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	42.60 160	P		**P**	01 12 20.3	-0.6
	comp=Z,10nm,0.7s,mb4.7,baz=342,slow=8.9,SNR=32						
WB2	**Warramunga Arr**	42.60 160	*e*P		**P**	01 12 20.2	-0.7
WB2	**Warramunga Arr**	42.60 160	*e*P		**P**	01 12 19.8	-1.0
WB2			*e*		pP	01 12 27.7	-1.0
ZAL	**Zalesovo**	42.81 330	LR		LR	01 30 16.8	
	comp=Z,53nm,19.2s,MS3.5,baz=268,slow=36						
PET	**Petropavlovsk**	43.83 33	P		pP	01 12 43.7	+5.1
MA2	**Magadan**	44.67 22	*e*P		pP	01 12 47.9	+2.5
AS31	**Alice Springs**	45.97 162	*e*P		**P**	01 12 47.5	-0.3
ASAR	**Alice Springs**	45.97 162	P		**P**	01 12 47.2	-0.6
	comp=Z,3.1nm,0.7s,mb4.3,baz=332,slow=6.7,SNR=22						
ASAR			LR		LR	01 33 26.7	
	comp=Z,73nm,19.1s,MS3.6,baz=179,slow=38						
ASPA	**Alice Springs**	45.97 162	*e*P		**P**	01 12 47.8	0.0
CTA	**Charters Tower**	47.81 146	*e*P		**P**	01 13 04.1	+1.9
	comp=Z,15nm,1.0s,mb5.0						
CTA	**Charters Tower**	47.81 146	P		**P**	01 13 03.3	+1.0
	comp=Z,15nm,0.9s,mb5.0,baz=326,slow=8.4,SNR=7.2						
CTA	**Charters Tower**	47.81 146	*e*P		**P**	01 13 04.1	+1.9
CTA			pmax		pmax		
	comp=Z,15nm,1.0s						
CTAO	**Charters Tower**	47.81 146	*e*P		**P**	01 13 04.0	+1.8
CTAO			pmax		pmax		
	comp=Z,18nm,0.9s,mb5.1						
CTAO	**Charters Tower**	47.81 146	*e*P		**P**	01 13 04.0	+1.7
	comp=Z,18nm,0.9s,mb5.1						
HNR	**Honiara**	49.20 123	LR		LR	01 33 22.4	
	comp=Z,84nm,18.4s,MS3.8,baz=359,slow=35						
BVAR	**Borovoye Array**	49.91 323	P		**P**	01 13 18.0	-0.3
	comp=Z,1.9nm,0.6s,mb4.3,baz=108,slow=9.5,SNR=13						
BVAR			PcP		PcP	01 14 36.8	-1.6
	comp=Z,2.0nm,0.8s,baz=108,slow=3.9,SNR=6.2						
BRVK	**Borovoye**	49.98 323	*e*P		**P**	01 13 18.8	0.0
BRVK			pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	49.98 323	*e*P		**P**	01 13 18.8	0.0
	comp=Z,3.2nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	50.01 324	*e*P		**P**	01 13 19.0	-0.1
CHKZ			pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	50.01 324	*e*P		**P**	01 13 19.0	-0.1
	comp=Z,7.0nm,1.1s,mb4.6						
STKA	**Stephens Creek**	56.06 158	*e*P		**P**	01 14 04.0	+0.3
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	56.06 158	P		**P**	01 14 04.1	+0.5
	comp=Z,3.3nm,0.9s,mb4.4,baz=333,slow=12,SNR=4.4						
STKA	**Stephens Creek**	56.06 158	*e*P		**P**	01 14 04.4	+0.7
STKA			*e*pP		pP	01 14 11.5	-0.1
ARU	**Arti**	57.44 325	*e*P		**P**	01 14 12.7	-0.8
ARU			*e*		pP	01 14 20.1	-1.4
ARU			pmax		pmax		
	comp=Z,14nm,1.3s,mb4.8						
ARU	**Arti**	57.44 325	*e*P		**P**	01 14 12.7	-0.7
	comp=Z,14nm,1.3s,mb4.8						
ARU			*e*		pP	01 14 20.1	-1.4
KIV	**Kislovodsk**	67.14 310	*e*P		**P**	01 15 18.5	+0.1
KIV			*e*		pP	01 15 26.9	+0.3
KIV			pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KIV	**Kislovodsk**	67.14 310	*e*P		**P**	01 15 18.5	+0.1
	comp=Z,3.8nm,0.6s,mb4.6						
KIV			*e*		pP	01 15 26.9	+0.3
TAU	**Tasmania Unive**	67.95 159	P		**P**	01 15 25.1	+1.6
MALT	**Malatya**	71.23 305	*e*P		**P**	01 15 45.3	+1.5
JOF	**Joensuu**	71.38 331	*e*p		**P**	01 15 43.3	-1.4
	comp=Z,5.0nm,0.7s,mb4.5						
KAF	**Kangasniemi**	73.81 331	*e*p		**P**	01 15 57.8	-1.4
	comp=Z,6.4nm,0.8s,mb4.6,baz=74,slow=5.5						
KAF	**Kangasniemi**	73.81 331	*e*P		**P**	01 15 57.8	-1.4
KAF			pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
FINES	**FINESS Array B**	74.07 330	P		**P**	01 15 59.7	-1.0
	comp=Z,3.2nm,0.7s,mb4.3,baz=91,slow=7.6,SNR=11						
AKASG	**Malin Array Be**	74.93 319	P		**P**	01 16 04.4	-1.2
	comp=Z,0.4nm,0.3s,mb3.8,baz=61,slow=5.2,SNR=6.5						
SUW	**Suwalki**	77.59 323	*e*P		**P**	01 16 19.9	-0.9
SUW			pmax		pmax		
	comp=Z,20nm,0.8s,mb5.1						
SUW	**Suwalki**	77.59 323	*e*P		**P**	01 16 19.9	-0.8
	comp=Z,20nm,0.8s,mb5.1						
VRI	**Vrincioaia**	77.83 314⇑	*i*P		**P**	01 16 23.0	+0.9
BURAR	**Bucovina Array**	78.30 316⇑	*i*P		**P**	01 16 25.1	+0.4
MLR	**Muntele Rosu**	78.46 314⇑	*i*P		**P**	01 16 26.4	+0.8
KWP	**Kalwaria**	79.25 319	*e*P		**P**	01 16 30.1	+0.2
KWP			*e*		pP	01 16 37.5	-0.7
KWP			pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KWP	**Kalwaria**	79.25 319	*e*P		**P**	01 16 30.1	+0.1
	comp=Z,8.1nm,0.6s,mb4.8						
KWP			*e*PcP		PcP	01 16 37.5	-0.6
DRGR		80.18 316⇑	*i*P		**P**	01 16 35.5	+0.5
NB2	**NORSAR Subarra**	80.95 332	P		**P**	01 16 38.0	-1.1
	comp=Z,1.2nm,0.7s,mb3.9,baz=61,slow=5.3						
NOA	**NORSAR Array B**	80.95 332	P		**P**	01 16 37.4	-1.7
	comp=Z,2.5nm,0.8s,mb4.2,baz=63,slow=5.3,SNR=6.4						
NOA			LR		LR	01 56 56.1	
	comp=Z,60nm,18.3s,MS4.0,baz=15,slow=39						
NOA	**NORSAR Array B**	80.95 332	P		**P**	01 16 37.4	-1.7
NOA			LR		LR	01 56 56.1	
VTS	**Vitosha**	81.26 312⇑	*i*P		**P**	01 16 41.2	+0.4
PSZ	**Piszkesteto**	81.59 318⇑	*i*P		**P**	01 16 45.2	+2.7
PSZ	**Piszkesteto**	81.59 318	P		**P**	01 16 42.7	+0.2
VYHS	**Vyhne**	82.03 319	*e*P		**P**	01 16 45.4	+0.6
BRG	**Berggiesshubel**	84.00 322	*e*P		**P**	01 16 55.5	+0.5
	comp=Z,6.0nm,1.1s,mb4.6						
BRG	**Berggiesshubel**	84.00 322	*e*P		**P**	01 16 55.6	+0.6
	comp=Z,3.8nm,1.1s,mb4.4						
BRG			*e*		pP	01 17 03.3	-0.1
	comp=Z,16nm,2.0s						
BRG	**Berggiesshubel**	84.00 322	*e*P		**P**	01 16 55.6	+0.6
BRG			*e*		pP	01 17 03.3	0.0
BRG			pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
CLL	**Collm**	84.34 323	*e*P		**P**	01 16 56.9	+0.1
CLL	**Collm**	84.34 323	*i* P		**P**	01 16 56.9	+0.1
CLL			*i* pP		pP	01 17 04.3	-0.8
BSEG	**Bad Segeberg**	84.62 326	*e*P		**P**	01 16 58.6	+0.4
	comp=Z,11nm,1.0s,mb4.9						
GEC2	**GERESS Array S**	85.01 321	*e*P		**P**	01 17 00.4	+0.3
	comp=Z,6.0nm,1.1s,mb4.6						
GEC2	**GERESS Array S**	85.01 321	*e*P		**P**	01 17 00.4	+0.3
GEC2			pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
GERES	**GERESS Array B**	85.01 321	P		**P**	01 16 59.7	-0.4
	comp=Z,1.3nm,0.7s,mb4.2,baz=57,slow=4.9,SNR=15						
WET	**Wettzell**	85.36 321	*e*P		**P**	01 17 02.1	+0.2
	comp=Z,7.0nm,1.6s,mb4.5						
WET	**Wettzell**	85.36 321	*e*P		**P**	01 17 02.1	+0.2
WET			pmax		pmax		
	comp=Z,7.0nm,1.6s,mb4.5						
NRDL	**Niedersach Rie**	85.40 325	*e*P		**P**	01 17 02.5	+0.4
	comp=Z,7.0nm,1.0s,mb4.8						
MANZ	**Manzenberg**	85.44 322	*e*P		**P**	01 17 03.1	+0.8
	comp=Z,4.0nm,1.2s,mb4.4						
ROTZ	**Rotzenmuhle**	85.48 322	*e*P		**P**	01 17 03.0	+0.5
	comp=Z,5.0nm,1.0s,mb4.6						
CLZ	**Clausthal**	85.57 324	*e*P		**P**	01 17 03.5	+0.6
	comp=Z,10.0nm,1.2s,mb4.9						
CLZ	**Clausthal**	85.57 324	*e*P		**P**	01 17 03.6	+0.7
CLZ			pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
CLZ	**Clausthal**	85.57 324	*e*P		**P**	01 17 03.6	+0.7
	comp=Z,10.0nm,1.2s,mb4.9						
GRA1	**Grafenberg Arr**	86.08 322	*e*P		**P**	01 17 05.6	+0.1
	comp=Z,7.0nm,1.1s,mb4.8						
GRA1			*e*pP		pP	01 17 13.4	-0.4
GRF	**Grafenberg Arr**	86.08 322	*e*P		**P**	01 17 05.6	+0.1
	comp=Z,7.0nm,1.1s,mb4.8						
GRF			*e*pP		pP	01 17 13.4	-0.4
GRF	**Grafenberg Arr**	86.08 322	*e*P		**P**	01 17 05.6	+0.1
GRF			*e*PP		pP	01 17 13.4	-0.4
GRF			pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	86.08 322	*e*P		**P**	01 17 05.6	+0.1
GRF			*e*PP		pP	01 17 13.4	-0.4
GRF			pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
YKA	**Yellowknife Ar**	86.65 22	P		**P**	01 17 08.3	0.0
	comp=Z,2.7nm,0.8s,mb4.5,baz=311,slow=4.4,SNR=4.9						
YKA			LR		LR	01 58 28.9	
	comp=Z,69nm,18.5s,MS4.1,baz=325,slow=37						
LPG	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.8	+1.1
	comp=Z,12nm,0.9s,mb4.9						
LPG	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.8	+1.1
LPG			pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
LPG	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.8	+1.1
	comp=Z,6.2nm,0.9s,mb4.9						
LPL	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.7	+1.0
	comp=Z,12nm,1.0s,mb4.9						
LPL	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.7	+1.0
LPL			pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
LPL	**La Plagne**	90.77 320⇑	*i*P		**P**	01 17 28.7	+1.0
	comp=Z,5.8nm,1.0s,mb4.9						
MBDF	**Montbardon**	91.15 319	*e*P		**P**	01 17 29.4	-0.1
SBF	**Sospel**	91.17 318	*e*P		**P**	01 17 29.8	+0.2
	comp=Z,26nm,1.0s,mb5.2						
SBF	**Sospel**	91.17 318	*e*P		**P**	01 17 29.8	+0.2
SBF			pmax		pmax		
	comp=Z,13nm,1.0s,mb5.2						
SBF	**Sospel**	91.17 318	*e*P		**P**	01 17 29.8	+0.2
	comp=Z,13nm,1.0s,mb5.2						
LOR	**Lormes**	91.54 322⇑	*i*P		**P**	01 17 31.2	-0.1
ORIF	**Oris-en-Rattie**	91.59 320⇑	*i*P		**P**	01 17 32.2	+0.6
	comp=Z,5.8nm,0.9s,mb4.6						
ORIF	**Oris-en-Rattie**	91.59 320⇑	*i*P		**P**	01 17 32.2	+0.6
ORIF			pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
ORIF	**Oris-en-Rattie**	91.59 320⇑	*i*P		**P**	01 17 32.2	+0.6
	comp=Z,2.9nm,0.9s,mb4.6						
FRF	**La Foret Royal**	91.82 318⇑	*i*P		**P**	01 17 32.9	+0.3
	comp=Z,6.7nm,0.9s,mb4.7						
FRF	**La Foret Royal**	91.82 318⇑	*i*P		**P**	01 17 32.9	+0.3
FRF			pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
FRF	**La Foret Royal**	91.82 318⇑	*i*P		**P**	01 17 32.9	+0.3
	comp=Z,3.3nm,0.9s,mb4.7						
SSF	**Saint Saulge**	91.85 322⇑	*i*P		**P**	01 17 32.8	0.0
LMR	**La Mourre**	92.02 318⇑	*i*P		**P**	01 17 34.2	+0.6
	comp=Z,15nm,1.1s,mb4.9						
LMR	**La Mourre**	92.02 318⇑	*i*P		**P**	01 17 34.2	+0.6
LMR			pmax		pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
LMR	**La Mourre**	92.02 318⇑	*i*P		**P**	01 17 34.2	+0.6
	comp=Z,7.7nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	92.35 320	*e*P		**P**	01 17 35.7	+0.6
PV01	**Paradox Valley**	105.82 38	*e*PKiKP		PKiKP	01 22 55.0	+6.7
SDV	**Santo Domingo**	148.86 21	*e*PKPdf		PKPdf	01 24 09.8	+1.5
LPAZ	**La Paz**	171.06 63	PKIKP		PKPdf	01 24 35.4	+2.5

NEIC ***10*** *01:22:36.3, 26.12S×69.23W, h138km, MG4.3(GUC), After GUC.*

GUC 10 01:22:36.3±0.8, 26.12S×69.23W, h138km±21km, ML4.3, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	1.59 219		⇓*i*P	Pn	01 23 06.5	+0.5
CPCH				*i* S	Sn	01 23 29.1	+0.4
CPCH				AML	AML	01 23 32.6	
	comp=E,14μm,0.1s						
CPCH	**Copiapo**	1.59 219		⇓*i*P	Pn	01 23 06.5	+0.5
CPCH				*i* S	Sn	01 23 29.1	+0.4
CDCH	**Caldera**	1.72 236		*e*P	Pn	01 23 08.2	+0.8
CDCH				*i* S	Sn	01 23 31.3	+0.1
CDCH				AML	AML	01 23 36.1	
	comp=N,1μm,0.2s						
CDCH	**Caldera**	1.72 236		*e*P	Pn	01 23 08.2	+0.8
CDCH				*i* S	Sn	01 23 31.3	+0.1
VACH	**Vallenar**	2.80 209		*e*P	Pn	01 23 26.2	+5.7
VACH				*i* S	Sn	01 24 00.6	+5.8
VACH				AML	AML	01 24 03.8	
	comp=E,2μm,0.1s						
VACH	**Vallenar**	2.80 209		*e*P	Pn	01 23 26.2	+5.7
VACH				*i* S	Sn	01 24 00.6	+5.8
CEN1	**Los Morros**	2.86 342		⇓*i*P	Pn	01 23 20.2	-1.2
CEN1				*i* S	Sn	01 23 51.9	-4.4
CEN1				AML	AML	01 24 03.3	
	comp=E,176nm,0.8s						
LVC	**Limon Verde**	3.51 5		*e*Pn	Pn	01 23 30.5	+0.8
LVC				*e*Sn	Sn	01 24 02.2	-9.0
TLL	**Tololo Astrono**	4.26 199		*e*P	Pn	01 23 41.1	+1.4
TLL				*i* S	Sn	01 24 30.4	+1.4
LPAZ	**La Paz**	9.84 6		Pn	Pn	01 24 55.2	+0.9
SAML	**Samuel**	18.02 20		*e*P	P	01 26 37.1	+0.7
	comp=E,0.5nm,0.4s						

NEIC ***10*** *01:26:11.6±2.5, 178.7S×168.60E, h148km±18km, mb4.2/2, Error ellipse: s-maj=24.5km s-min=17.1km az=221.0*

ISCJB ***10*** *01:26:12.3±3.9, 180.5S±02×168.5E±02, h165km±27km, mb3.9/6, Error ellipse: s-maj=41.0km s-min=26.6km az=95.3*

IDC ***10*** *01:26:12.3±4.8, 179.5S×168.58E, h153km±40km, mb3.5/5, mb1 3.6/6, mb1mx3.5/13, mbtmp4.0/6, Error ellipse: s-maj=41.5km s-min=35.2km az=169.0*

ISC 10 01:26:11.8±4.1, 179.5S±02×168.6E±02, h151km±28km, n13, σ0 40/13, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	4.63 206		*e*P	**Pn**	01 27 20.5	+0.3
DZM				*e*S	**Sn**	01 28 13.5	-0.1
DZM	**

URZ Urewera 21.82 159 P **P 02 40 25.0 +1.5**
16nm,1.0s,mb4.4,baz=341,slow=7.2,SNR=3.1
STKA Stephens Creek 27.12 235 P **P 02 41 14.4 +0.5**
4.9nm,0.8s,mb4.1,baz=26,slow=8.8,SNR=4.6
STKA LR LR 02 51 16.3
comp=Z,445nm,18.1s,MS4.1,baz=35,slow=35
WRA Warramunga Arr 31.36 261 P **P 02 41 50.4 -1.3**
1.3nm,0.7s,mb3.9,baz=83,slow=5.5,SNR=3.1
WRA LR LR 02 53 46.8
comp=Z,346nm,18.8s,MS4.0,baz=110,slow=35
AS31 Alice Springs 31.82 254 *e*P **P 02 41 57.6 +1.9**
ASAR Alice Springs 31.82 254 P **P 02 41 55.9 +0.2**
2.3nm,0.6s,mb4.2,baz=82,slow=8.4,SNR=27
ASAR LR LR 02 54 11.9
comp=Z,545nm,19.9s,MS4.2,baz=122,slow=35
FITZ Fitzroy Crossi 39.71 263 P **P 02 43 03.6 +0.3**
16nm,1.0s,mb4.7,baz=119,slow=7.3,SNR=5.6
TBI Tubuai 40.52 105 *e*S **S 02 49 18.4 +1.3**
103nm,26.8s
TBI *e*LQ 02 52 47.6
394nm,27.2s
TBI *e*LR LR 02 54 30.0
198nm,27.8s
PPT Papeete 40.82 96 *e*LQ 02 52 49.5
317nm,25.2s
PPT *e*LR LR 02 54 41.2
364nm,25.2s
PPT Papeete 40.82 96 LR LR 02 55 21.8
comp=Z,225nm,21.5s,MS4.0,baz=147,slow=29
NWAO Narrogin (SRO) 47.29 242 *e*P **P 02 44 06.1 +1.8**
5.8nm,0.6s,mb4.7
TAOE Nuku Hiva Isla 51.60 87 *e*S **S 02 51 55.9 -0.4**
436nm,25.4s
TAOE *e*LR LR 02 59 20.8
970nm,25.3s
RKT Rikitea 53.83 106 *e*LR LR 03 00 37.6
177nm,31.0s
TGY Tagaytay City 55.92 302 LR LR 03 08 53.1
comp=Z,3.1nm,19.1s,baz=45,slow=36
VNDA Vanda 59.56 181 P **P 02 45 35.4 +1.0**
1.3nm,1.1s,mb3.9,baz=12,slow=9.8,SNR=2.9
SBA Scott Base 59.83 180 *e*P **P 02 45 35.9 -0.4**
2.7nm,0.7s,mb4.4
MJAR Matsushiro Arr 60.94 333 P **P 02 45 41.5 -2.3**
0.4nm,0.3s,mb4.0,baz=178,slow=9.6,SNR=4.5
QSPA South Pole Qui 72.00 180 *e*P **P 02 46 54.4 -0.1**
15nm,1.2s,mb4.8
QSPA *e*pP pP 02 47 05.1 +1.3
SONM Songino Array 85.28 324 P **P 02 48 06.9 -0.7**
1.6nm,1.0s,mb4.1,baz=128,slow=4.5,SNR=10
SONM LR LR 03 21 04.3
comp=Z,75nm,20.4s,MS4.1,baz=209,slow=32
SNAA Sanae 90.26 183 *e*P **P 02 48 29.9 -1.6**
4.0nm,1.0s,mb4.7
GERES GERESS Array B 142.66 331 PKP PKPdf 02 55 04.7 +0.8
0.2nm,0.5s,baz=37,slow=3.3,SNR=3.5
WLF Walferdange 145.06 339 *e*PKPbc PKPbc 02 55 06.5 -1.0
WLF *e*pPKPdf pPKPdf 02 55 16.0 -1.8
GIVF Givet 145.13 340 *e*PKP1 PKPbc 02 55 05.6 -2.1
BAIF Baives 145.36 341 *e*PKP1 PKPbc 02 55 06.7 -1.8
CDF Champ du Feu 145.70 336 *e*PKP1 PKPbc 02 55 08.0 -1.5
44nm,1.3s
DAVOX Davos/Dischmat 145.92 332 PKPbc PKPbc 02 55 09.8 -0.4
3.6nm,0.8s,baz=90,slow=6.1,SNR=5.9
HAU Haudompre 146.38 337 *e*PKP1 PKPbc 02 55 10.8 -0.8
14nm,1.0s
HAU *e*MLR MLR
comp=Z,59nm,19.2s
HAU Haudompre 146.38 337 *e*PKP PKPdf 02 55 10.8 +0.5
HAU LR LR
comp=Z,60nm,19.3s,MS4.4
MEZF Maizieres J'vi 146.43 339 *e*PKP1 PKPbc 02 55 10.5 -1.3
CABF La Chapelle 147.64 336 *e*PKP1 PKPbc 02 55 13.9 -1.3
LOR Lormes 147.90 339 *e*PKP1 PKPbc 02 55 14.3 -1.6
LOR *e*MLR MLR
comp=Z,97nm,18.2s
LOR Lormes 147.90 339 *e*PKP PKPdf 02 55 14.3 +1.4
LOR LR LR
comp=Z,100nm,18.3s,MS4.6
LDF La Druitiere 147.91 344 *e*PKP1 PKPbc 02 55 14.3 -1.6
SSF Saint Saulge 148.20 339 *e*PKP1 PKPbc 02 55 15.0 -1.7
comp=Z,24nm,1.2s
LPL La Plagne 148.27 334 *e*PKP1 PKPbc 02 55 15.9 -0.9
LPG La Plagne 148.27 334 *e*PKP1 PKPbc 02 55 16.1 -0.8
GRR Gorron 148.28 345 *e*PKP1 PKPbc 02 55 15.8 -1.1
BNI Bardonecchia 148.66 333 *e*PKPbc PKPbc 02 55 17.3 -0.6
TCF Toulx Ste Croi 149.31 340 *e*PKP1 PKPbc 02 55 17.8 -1.7
comp=Z,33nm,1.4s
MFF Saint Martin d 149.75 343 *e*PKP1 PKPbc 02 55 18.7 -1.9
comp=Z,16nm,1.2s
FRF La Foret Royal 149.85 332 *e*PKP1 PKPbc 02 55 19.2 -1.6
comp=Z,23nm,1.3s
SMRF Simiane la Rot 150.00 333 *e*PKP1 PKPbc 02 55 20.1 -1.1
comp=Z,50nm,1.7s
LMR La Mourre 150.09 331 *e*PKP1 PKPbc 02 55 19.9 -1.5
comp=Z,14nm,1.1s
LASF Ste Croix 150.62 336 *e*PKP1 PKPbc 02 55 21.4 -1.3
comp=Z,30nm,1.4s
ETSF Etsaut 153.23 340 *e*PKP1 PKPbc 02 55 27.5 -1.1
comp=Z,17nm,1.4s
TORD Torodi Ar. Bea 165.47 252 PKPab PKPab 02 56 35.0 +1.5
comp=Z,0.8nm,0.9s,baz=107,slow=4.5,SNR=3.4

*IDC **10** 03:12:31.6±1.0,5579S×12240W,h0km,mb4.0/7, mb1 4.1/7,mb1mx4.1/13,mbtmp4.0/7,MS4.1/16, Ms1 4.1/16,ms1mx3.9/26,Error ellipse: s-maj=38.6km s-min=24.2km az=151.0*
*ISCJB **10** 03:12:32.7±0.7,560S±02×1225W±02,h10km,mb4.3/12, MS4.1/16,Error ellipse: s-maj=28.3km s-min=14.2km az=119.6*
*NEIC **10** 03:12:34.0±0.8,5588S×12264W,h10km,mb4.7/6,Error ellipse: s-maj=32.2km s-min=16.3km az=151.0*
ISC 10 03:12:34.4±0.7,560S±02×1226W±02,h10km,n30, σ1§12/15,mb4.3/12,MS4.1/16,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.15**	**131**	LR	LR	03 27 10.7	
	comp=Z,326nm,18.9s,MS4.0,baz=94,slow=30						
USHA	**Ushuaia**	**30.08**	**111**	LR	LR	03 27 03.7	
	comp=Z,439nm,19.4s,MS4.1,baz=195,slow=29						
VNDA	**Vanda**	**33.07**	**203**	P	**P**	**03 19 12.0**	**+1.9**
	1.5nm,1.0s,mb3.9,baz=96,slow=8.0,SNR=4.0						
RKT	**Rikitea**	**34.12**	**339**	*e*LR	LR	03 28 08.2	
	558nm,27.5s,baz=166						
PLCA	**Paso Flores**	**36.81**	**88**	LR	LR	03 30 06.4	
	comp=Z,146nm,18.6s,MS3.8,baz=225,slow=29						
PLCA	**Paso Flores**	**36.81**	**88**	P	**P**	**03 19 42.4**	**0.0**
	18nm,1.7s,mb4.6						
TBI	**Tubuai**	**38.16**	**318**	*e*LR	LR	03 30 09.2	
	413nm,28.2s,baz=163						
PPT	**Papeete**	**43.50**	**321**	*e*S	**S**	**03 27 18.4**	**+12**
	89nm,24.8s						
PPT	*e*LQ					03 30 43.2	
	428nm,28.5s						
PPT	*e*LR				LR	03 32 35.6	
	446nm,26.8s						
PPT	**Papeete**	**43.50**	**321**	LR	LR	03 34 22.3	
	comp=Z,271nm,19.7s,MS4.2,baz=264,slow=30						
SNAA	**Sanae**	**45.82**	**157**	P	**P**	**03 20 55.2**	**-1.2**
	0.7nm,0.9s,mb3.6,baz=202,slow=10,SNR=6.9						
SNAA	**Sanae**	**45.82**	**157**	*e*P	**P**	**03 20 55.4**	**-1.0**
	0.5nm,0.5s,mb3.7						
CPUP	**Villa Florida**	**54.81**	**86**	P	**P**	**03 22 06.8**	**+2.3**
	0.2nm,0.3s,mb3.6,baz=188,slow=7.1,SNR=2.8						
CPUP	LR				LR	03 40 43.1	
	comp=Z,78nm,18.3s,MS3.8,baz=204,slow=31						
MAW	**Mawson**	**56.63**	**182**	P	**P**	**03 22 17.4**	**-0.1**
	1.9nm,0.2s,mb4.8,baz=143,slow=10,SNR=3.6						
MAW	LR				LR	03 46 33.5	
	comp=Z,110nm,19.7s,MS4.0,baz=100,slow=36						
LPAZ	**La Paz**	**57.01**	**69**	P	**P**	**03 22 20.1**	**-0.2**
	5.2nm,1.2s,mb4.5,baz=180,slow=6.9,SNR=8.4						
LPAZ	LR				LR	03 40 38.5	
	comp=Z,94nm,19.4s,MS3.9,baz=262,slow=30						
LPAZ	**La Paz**	**57.01**	**69**	*e*P	**P**	**03 22 20.3**	**0.0**
	8.0nm,1.3s,mb4.6						
LPAZ	LR				LR	03 40 38.5	
SAML	**Samuel**	**65.76**	**69**	*e*P	**P**	**03 23 19.2**	**-0.2**
	3.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**67.29**	**247**	P	**P**	**03 23 30.0**	**+0.8**
	2.8nm,1.0s,mb4.3,baz=135,slow=8.6,SNR=3.3						
STKA	LR				LR	03 47 20.5	
	comp=Z,167nm,21.9s,MS4.2,baz=204,slow=31						
BDFB	**Brasilia**	**68.53**	**86**	LR	LR	03 50 31.3	
	comp=Z,119nm,21.5s,MS4.1,baz=216,slow=33						
CTA	**Charters Tower**	**74.25**	**258**	LR	LR	03 51 01.9	
	comp=Z,132nm,20.2s,MS4.2,baz=227,slow=31						
ASAR	**Alice Springs**	**77.90**	**246**	P	**P**	**03 24 31.4**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=148,slow=3.5,SNR=4.8						
ASAR	LR				LR	03 53 43.1	
	comp=Z,167nm,18.5s,MS4.4,baz=170,slow=32						
LPIG	**La Paz**	**80.47**	**11**	LR	LR	03 52 50.3	
	comp=Z,78nm,19.3s,MS4.1,baz=346,slow=30						
WRA	**Warramunga Arr**	**80.75**	**248**	P	**P**	**03 24 47.3**	**-0.6**
	0.8nm,0.3s,mb4.1,baz=149,slow=4.8,SNR=4.8						
PCRV	**Puerto La Cruz**	**81.46**	**58**	LR	LR	03 56 01.4	
	comp=Z,110nm,18.2s,MS4.2,baz=244,slow=32						
RCBR	**Riachuelo**	**83.33**	**90**	*e*P	**P**	**03 24 59.5**	**-2.0**
	20nm,1.2s,mb5.0						
SJG	**San Juan**	**87.71**	**52**	P	**P**	**03 25 24.1**	**+0.7**
	13nm,0.9s,mb5.2						
BOSA	**Boshof**	**91.35**	**152**	LR	LR	04 01 15.7	
	comp=Z,136nm,20.8s,MS4.4,baz=158,slow=32						
YBH	**Yreka Blue Hor**	**97.38**	**360**	LR	LR	03 58 52.5	
	comp=Z,116nm,19.5s,MS4.4,baz=208,slow=29						
PDAR	**Pinedale Array**	**99.03**	**10**	LR	LR	04 01 53.1	
	comp=Z,83nm,18.5s,MS4.3,baz=185,slow=30						
KSM	**Kuching**	**111.11**	**239**	*e*PKPdf	PKiKP	03 31 06.7	-1.5
GERES	**GERESS Array B**	**152.77**	**87**	PKPbc	PKPbc	03 32 28.9	-2.6
	0.5nm,0.7s,baz=215,slow=1.6,SNR=4.3						
GERES	PKPab				PKPab	03 32 37.6	-4.7
	0.7nm,0.7s,baz=222,slow=1.8,SNR=5.0						

*ISCJB **10** 03:13:16.2±0.4,4936N±002×682E±003,h0km,Error ellipse: s-maj=3.3km s-min=2.6km az=89.5*
*LDG **10** 03:13:17.9±0.1,4938N×689E,h1km,Md2.6/1,Ml2.5/11, Error ellipse: s-maj=2.3km s-min=1.4km az=30.0, Suspected Mining induced.*
*NEIC **10** 03:13:17.9,4938N×689E,h1km,MD2.6(LDG), ML2.2(STR),After LDG.*
*CSEM **10** 03:13:17.7±0.1,4938N×689E,h1km,ML2.5/10,Error ellipse: s-maj=1.0km s-min=0.9km az=24.0*
*BGR **10** 03:13:17.7±0.4,4938N×687E,h1km,ML1.6/3,Error ellipse: s-maj=7.8km s-min=5.6km az=32.0*
ISC 10 03:13:17.2±0.4,4937N±002×684E±003,h0km,n36, σ0§87/66,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**03 13 28.8**	**+1.3**
	SNR=2.4						
WLF				*e*Sg	**Sg**	**03 13 34.3**	**-0.2**
	SNR=2.9						
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**03 13 31.2**	**-0.2**
LANF				Sg	**Sg**	**03 13 42.6**	**+1.5**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**03 13 37.2**	**-1.3**
CDF				*e*Sg	**Sg**	**03 13 49.3**	**0.0**
	14nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**03 13 36.8**	**+0.5**
CDF				*e*Pn	**Pn**	**03 13 37.2**	**-1.3**
CDF				*e*Sg	**Sg**	**03 13 49.3**	**0.0**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**03 13 37.2**	**-1.3**
CDF				*e*Sg	**Sg**	**03 13 49.3**	**0.0**
	7.1nm,0.3s						
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**03 13 37.6**	**+1.0**
WLS				Sg	**Sg**	**03 13 49.8**	**+0.1**
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**03 13 40.8**	**+1.3**
	baz=45						
RFYF				*e*Sg	**Sg**	**03 13 56.1**	**+1.5**
	18nm,0.3s						
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**03 13 40.8**	**+1.3**
RFYF				*e*Sg	**Sg**	**03 13 56.1**	**+1.5**
	8.8nm,0.3s						
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**03 13 39.9**	**+0.2**
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**03 13 41.8**	**+0.2**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**03 13 42.8**	**-0.3**
	SNR=2.6						
TNS				*e*Sg	**Sg**	**03 13 59.1**	**-1.5**
	SNR=2.7						
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**03 13 42.8**	**-0.3**
TNS				*e*Sg	**Sg**	**03 14 00.5**	**-0.1**
MEM	**Membach**	**1.36**	**337**	P	**Pg**	**03 13 44.1**	**+0.9**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 13 44.3**	**+0.2**
HAU				*e*Sg	**Sg**	**03 14 02.7**	**+0.5**
	9.9nm,0.2s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 13 44.3**	**+0.2**
HAU				*e*Sg	**Sg**	**03 14 02.7**	**+0.5**
	4.9nm,0.2s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**03 13 44.8**	**+0.1**
	SNR=4.0						
BFO				*e*Sg	**Sg**	**03 14 01.9**	**-1.3**
	SNR=4.8						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**03 13 44.7**	**+0.1**
BFO				*e*Sg	**Sg**	**03 14 03.2**	**0.0**
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Sn	**Sn**	**03 14 02.6**	**-2.1**
	10.0nm,0.4s						
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Sn	**Sn**	**03 14 02.6**	**-2.1**
	5.0nm,0.4s						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**03 13 46.2**	**+0.2**
GIVF				*e*Sg	**Sg**	**03 14 05.9**	**+0.4**
	20nm,0.8s						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**03 13 46.2**	**+0.2**
GIVF				*e*Sg	**Sg**	**03 14 05.9**	**+0.4**
	10nm,0.8s						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**03 13 46.6**	**+0.1**
MOF				Sg	**Sg**	**03 14 07.1**	**+0.8**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**03 13 47.1**	**+0.2**
HINF				*e*Sg	**Sg**	**03 14 07.2**	**+0.2**
	25nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pn	**Pn**	**03 13 44.8**	**-1.3**
HINF				*e*Pg	**Pg**	**03 13 47.1**	**+0.2**
HINF				*e*Sg	**Sg**	**03 14 07.2**	**+0.2**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**03 13 47.1**	**+0.2**
HINF				*e*Sg	**Sg**	**03 14 07.2**	**+0.2**
	12nm,0.3s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Sg	**Sg**	**03 14 11.5**	**+0.8**
	4.1nm,0.2s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Sg	**Sg**	**03 14 11.5**	**+0.8**
	2.0nm,0.2s						
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg	**Pg**	**03 13 49.4**	**0.0**
BAIF	**Baives**	**1.84**	**293**	*e*Pg	**Pg**	**03 13 52.8**	**+0.2**
BAIF				*e*Sg	**Sg**	**03 14 16.7**	**+0.2**
	2.4nm,0.3s						
BAIF	**Baives**	**1.84**	**293**	*e*Pg	**Pg**	**03 13 52.8**	**+0.2**
BAIF				*e*Sg	**Sg**	**03 14 16.7**	**+0.2**
	1.2nm,0.3s						
LOMF	**Lomont**	**2.02**	**180**	Pg	**Pg**	**03 13 55.7**	**-0.2**
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**03 14 03.4**	**-1.1**
	baz=52						
LOR				*e*Sn	**Sn**	**03 14 37.3**	**-2.7**
LOR				*e*Sg	**Sg**	**03 14 49.5**	**-0.6**
	2.1nm,0.3s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**03 14 03.4**	**-1.1**
LOR				*e*Sn	**Sn**	**03 14 37.3**	**-2.7**
LOR				*e*Sg	**Sg**	**03 14 49.5**	**-0.6**
	1.0nm,0.3s						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**03 14 07.5**	**-1.3**
SSF				*e*Sg	**Sg**	**03 14 59.4**	**-0.9**
	3.8nm,0.5s						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**03 14 07.5**	**-1.3**
SSF				*e*Sg	**Sg**	**03 14 59.4**	**-0.9**
	1.9nm,0.5s						
GEC2	**GERESS Array S**	**4.54**	**94**	*e*Pn	**Pn**	**03 14 26.9**	**-0.3**
	SNR=3.3						

*IDC **10** 03:22:50.7±1.5,896S×12727E,h0km,mb4.0/2,mb1 4.0/5, mb1mx3.8/14,mbtmp3.8/5,ML3.6/3,Error ellipse: s-maj=81.1km s-min=23.9km az=67.0*
*NEIC **10** 03:22:52.5±0.7,902S×12745E,h10km,mb4.7/1,Error ellipse: s-maj=20.9km s-min=9.9km az=75.0*
*ISCJB **10** 03:22:53.5±0.8,9.13S±006×1275E±0.1,h33km,mb4.1/3, Error ellipse: s-maj=16.3km s-min=7.8km az=144.4*
ISC 10 03:22:55.1±3.3,909S±006×1275E±01,h29km±27km,n9, σ0§97/12,mb4.1/3,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.14**	**191**	Pn	**Pn**	**03 25 05.2**	**+0.2**
	0.5nm,0.3s,baz=29,slow=11,SNR=14						
FITZ				Sn	**Sn**	**03 26 45.9**	**-0.9**
	0.6nm,0.3s,baz=96,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**12.67**	**149**	Pn	**Pn**	**03 25 53.1**	**-0.3**
	0.3nm,0.3s,baz=323,slow=13,SNR=9.5						
WRA				Sn	**Sn**	**03 28 13.7**	**+0.2**
	0.6nm,0.3s,baz=331,slow=22,SNR=6.7						
MBWA	**Marble Bar**	**14.13**	**211**	Pn	**Pn**	**03 26 13.7**	**+0.4**
	44nm,1.6s						
AS31	**Alice Springs**	**15.75**	**158**	*e*Pn	**Pn**	**03 26 35.5**	**+0.6**
ASAR	**Alice Springs**	**15.75**	**158**	Pn	**Pn**	**03 26 34.7**	**-0.2**
	0.1nm,0.3s,baz=331,slow=9.5,SNR=9.1						
ASAR				Sn	**Sn**	**03 29 27.6**	**-0.9**
	0.1nm,0.3s,baz=323,slow=18,SNR=6.1						
DAV	**Davao City (W)**	**16.16**	**353**	Pn	**Pn**	**03 26 39.4**	**-0.8**
	235nm,0.3s						
STKA	**Stephens Creek**	**26.20**	**152**	P	**P**	**03 28 30.2**	**+2.9**
	2.7nm,0.8s,mb3.8,baz=313,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**68.64**	**328**	P	**P**	**03 33 54.4**	**-1.2**
	0.5nm,0.5s,mb3.7,baz=146,slow=7.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**90.04**	**269**	P	**P**	**03 35 53.7**	**+1.6**
	7.7nm,1.4s,mb4.8						

PRE 10 03:25:22.1±1.4,2120S×3307E,h5km,ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.06**	**247**	*e*P	Pn	03 26 12.9	+1.9
MSNA				*e*S	Sn	03 26 49.3	+1.3
MSNA				AML	AML	03 27 03.8	
	comp=Z,179nm,0.4s						
POGA	**Pongola**	**6.29**	**192**	*e*P	Pn	03 26 55.9	+0.4
POGA				*e*S	Sn	03 28 05.2	-2.5
POGA				AML	AML	03 28 46.9	
	comp=Z,60nm,0.5s						
SLR	**Silverton**	**6.30**	**223**	*e*S	Sn	03 28 05.3	-2.8
SLR				AML	AML	03 28 42.3	
	comp=Z,93nm,0.5s						
KSR	**Koster**	**7.32**	**230**	*e*P	Pn	03 27 11.0	+1.4
KSR				*e*S	Sn	03 28 30.0	-3.0
KSR				AML	AML	03 29 16.4	
	comp=Z,29nm,0.5s						
LBTB	**Lobatse**	**7.86**	**240**	*e*P	Pn	03 27 17.8	+0.8
LBTB				*e*S	Sn	03 28 43.1	-3.2
LBTB				AML	AML	03 29 37.9	
	comp=Z,56nm,0.7s						
SEK	**Senekal**	**8.65**	**214**	*e*P	Pn	03 27 29.7	+1.9
SEK				*e*S	Sn	03 29 02.8	-3.0
SEK				AML	AML	03 30 08.6	
	comp=Z,35nm,0.6s						
KSD	**Kokstad**	**9.87**	**199**	*e*P	Pn	03 27 45.1	+0.5
KSD				*e*S	Sn	03 29 30.0	-5.7
KSD				AML	AML	03 30 05.4	
	comp=Z,6.0nm,0.5s						
BOSA	**Boshof**	**10.24**	**222**	*e*P	Pn	03 27 50.9	+1.3
BOSA				*e*S	Sn	03 29 39.6	-5.1
BOSA				AML	AML	03 30 53.3	
	comp=Z,20nm,0.6s						
UPI	**Upington**	**12.88**	**234**	*e*P	Pn	03 28 27.5	+1.6
UPI				*e*S	Sn	03 30 43.0	-6.6
UPI				AML	AML	03 32 07.9	
	comp=Z,13nm,0.7s						

*CSEM **10** 03:32:12.0±0.3,3148N×5105E,h20km,mb4.4/8,Error ellipse: s-maj=8.6km s-min=3.2km az=144.0*
*ISCJB **10** 03:32:13.4±0.5,3165N±005×5092E±005,h10km, mb4.1/18,MS3.3/1,Error ellipse: s-maj=7.4km s-min=5.8km az=122.0*
*NEIC **10** 03:32:15.0±0.7,3164N×5087E,h10km,mb4.3/11, MN3.7(TEH),Error ellipse: s-maj=14.4km s-min=9.7km az=185.0*
*IDC **10** 03:32:14.1±1.3,3169N×5081E,h0km,mb3.9/9, mb1 4.0/13,mb1mx3.9/27,mbtmp3.9/13,ML3.8/4,MS2.9/4, Ms1 3.0/4,ms1mx2.8/36,Error ellipse: s-maj=27.3km s-min=19.4km az=175.0*
*MOS **10** 03:32:15.7±1.2,3149N×5078E,h33km,mb4.5/7,Error ellipse: s-maj=15.8km s-min=7.4km az=129.2*
*THR **10** 03:32:15.1±0.4,3178N×5108E,h14km±3km,ML3.8*
*TEH **10** 03:32:19.1,3183N×5102E,h21km,Mn3.7*
ISC 10 03:32:16.3±1.1,3182N±003×5097E±005,h11km±7km,n92, σ1§48/94,mb4.1/18,MS3.3/1,4C-4D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZEF	**Zefreh**	**1.58**	**47**	*e*Pg	**Pg**	**03 32 42.6**	**-4.0**
NASN	**Na'in**	**1.84**	**57**	*e*PG	**Pg**	**03 32 47.8**	**-3.8**
SHGR	**Shooshtar-Gavs**	**1.86**	**280**	*e*PG	**Pg**	**03 32 50.7**	**-1.4**
SHGR				AML	AML	03 33 31.7	
	comp=N,1μm,1.0s						
SHGR				AML	AML	03 33 39.9	
	comp=E,820nm,0.8s						
ISFB	**Sefidab**	**2.75**	**23**	*e*Pn	**Pn**	**03 33 01.6**	**+1.3**
ASAO	**Ashtian**	**2.84**	**344**	*e*PN	**Pn**	**03 33 03.3**	**+1.8**
ASAO				*e*SG	**Sg**	**03 33 45.9**	**-1.5**
ASAO				AML	AML	03 33 56.9	
	comp=N,427nm,0.3s						
ASAO				AML	AML	03 34 00.6	
	comp=E,239nm,0.6s						
ASAO	**Ashtian**	**2.84**	**344**	*e*Pn	**Pn**	**03 33 03.3**	**+1.8**
	SNR=52						
ASAO				*e*Sg	**Sg**	**03 33 45.9**	**-1.5**
	SNR=90						
IVRN	**Varamin**	**3.23**	**11**	*e*Pn	**Pn**	**03 33 08.0**	**+1.0**
IVRN				*e*Sn	**Sn**	**03 33 44.7**	**-0.8**
UMR	**Umm Al-Rimmam**	**3.60**	**232**	*e*P	**Pn**	**03 33 13.6**	**+1.6**
UMR				AML	AML	03 34 01.5	
	comp=Z,58nm,0.5s						
IRAZ	**Razeghan**	**3.68**	**347**	*e*Pn	**Pn**	**03 33 14.5**	**+1.3**
MIB	**Mutribah**	**3.71**	**238**	*e*P	**Pn**	**03 33 14.8**	**+1.2**
MIB				AML	AML	03 34 03.6	
	comp=Z,56nm,0.6s						
IKOM	**Komasi**	**3.73**	**310**	*e*Pn	**Pn**	**03 33 15.2**	**+1.3**
IDMV	**Damavand**	**3.85**	**13**	*e*Pn	**Pn**	**03 33 16.8**	**+1.3**
IMHD	**Mahdasht**	**3.87**	**356**	*e*Pn	**Pn**	**03 33 17.2**	**+1.5**
DAMV	**Damavand**	**3.90**	**12**	*e*PN	**Pn**	**03 33 17.1**	**+1.0**
DAMV				AML	AML	03 34 31.7	
	comp=N,97nm,0.6s						
QRN	**Al-Qurain**	**4.04**	**222**	*e*P	**Pn**	**03 33 19.7**	**+1.6**
QRN				AML	AML	03 34 15.0	
	comp=Z,66nm,0.6s						
IAFJ	**Afjeh**	**4.08**	**9**	*e*Pn	**Pn**	**03 33 19.8**	**+1.2**
THKV	**Tehran--Karaj**	**4.09**	**359**	*e*Pn	**Pn**	**03 33 19.9**	**+1.2**
IFIR	**Firoozkooh**	**4.10**	**21**	*e*Pn	**Pn**	**03 33 21.2**	**+2.4**
IFIR				*e*Sn	**Sn**	**03 34 05.1**	**-1.7**
NAY	**Al-Naaiem**	**4.11**	**232**	*e*P	**Pn**	**03 33 20.2**	**+1.2**
NAY				AML	AML	03 34 16.1	
	comp=Z,50nm,0.6s						
RDF	**Al-Radifah**	**4.12**	**227**	*e*P	**Pn**	**03 33 20.2**	**+1.0**
RDF				AML	AML	03 34 14.5	
	comp=Z,54nm,0.5s						
RST	**Umm Al-Ruwaisa**	**4.13**	**237**	*e*P	**Pn**

BR131 Keskin Array S 16.11 304 *e*Pn **Pn 03 36 04.4 +1.7**
comp=Z,4.8nm,0.8s
BRTR Keskin Array B 16.11 304 Pn **Pn 03 36 02.9 +0.2**
comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=17
AKTK Aktyubinsk 19.33 14 P **Pn 03 36 42.5 -0.1**
AKTK LR LR 03 45 47.5
AKTK Aktyubinsk 19.33 14 P **Pn 03 36 42.5 -0.1**
AKTO Aktyubinsk 19.33 14 P **Pn 03 36 42.5 -0.1**
comp=Z,0.3nm,0.3s,baz=166,slow=12,SNR=4.3
AKTO LR LR 03 45 47.5
comp=Z,73nm,19.0s,baz=108,slow=42
SANT Santorini 21.58 289 *e*P **P 03 37 06.5 +0.5**
comp=Z,15nm,0.5s,mb4.7
SANT Santorini 21.58 289 *e*P **P 03 37 06.4 +0.4**
comp=Z,15nm,0.5s,mb4.7
TIRR Tirgusor 21.69 312 ⇑*i*P **P 03 37 08.8 +1.7**
TIRR Tirgusor 21.69 312 ⇑P **P 03 37 08.8 +1.7**
GVD Gavdhos 22.64 285 *e*P **P 03 37 15.2 -2.1**
comp=Z,24nm,1.2s,mb4.5
GVD Gavdhos 22.64 285 *e*P **P 03 37 15.2 -2.0**
comp=Z,24nm,1.2s,mb4.5
PLOR Plostina 23.45 314 ⇓*i*P **P 03 37 26.4 +0.6**
MLR Muntele Rosu 23.72 312 P **P 03 37 28.6 +0.2**
comp=Z,6.9nm,0.8s,mb4.2,baz=105,slow=0.6,SNR=10
MLR Muntele Rosu 23.72 312 ⇑*i*P **P 03 37 31.0 +2.6**
MLR Muntele Rosu 23.72 312 P **P 03 37 28.6 +0.2**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 23.72 312 ⇑P **P 03 37 31.0 +2.6**
AKASG Malin Array Be 24.80 326 P **P 03 37 37.6 -0.7**
comp=Z,1.5nm,0.4s,mb3.9,baz=117,slow=7.6,SNR=11
AKBB Malin Array Si 24.80 326 *e*P **P 03 37 37.6 -0.7**
AKBB Malin Array Si 24.80 326 *e*P **P 03 37 37.5 -0.8**
BURAR Bucovina Array 25.16 316 ⇓*i*P **P 03 37 42.0 +0.5**
BURAR Bucovina Array 25.16 316 ⇓P **P 03 37 42.0 +0.4**
BVAR Borovoye Array 25.43 28 P **P 03 37 45.7 +1.7**
comp=Z,0.5nm,0.6s,mb3.3,baz=220,slow=9.1,SNR=4.5
DRGR 26.31 313 ⇓*i*P **P 03 37 47.7 -4.2**
KWP Kalwaria 27.60 318 P **P 03 37 59.2 -4.4**
KWP pmax pmax
comp=Z,17nm,1.2s,mb4.5
KWP Kalwaria 27.60 318 P **P 03 37 59.2 -4.4**
comp=Z,17nm,1.2s,mb4.6
KWP Kalwaria 27.60 318 P **P 03 37 59.2 -4.4**
comp=Z,17nm,1.2s,mb4.6
MKAR Makanchi Array 28.25 49 P **P 03 38 09.9 +0.5**
comp=Z,1.1nm,0.8s,mb3.6,baz=243,slow=8.0,SNR=3.8
SUW Suwalki 29.77 326 *e*P **P 03 38 22.4 -0.5**
SUW pmax pmax
comp=Z,15nm,0.8s,mb4.8
SUW Suwalki 29.77 326 *e*P **P 03 38 22.4 -0.4**
comp=Z,15nm,0.8s,mb4.8
SUW Suwalki 29.77 326 *e*P **P 03 38 22.4 -0.5**
comp=Z,15nm,0.8s,mb4.8
MORC Moravsky Berou 30.67 316 *e*P **P 03 38 31.9 +1.0**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
MORC Moravsky Berou 30.67 316 *e*P **P 03 38 31.9 +1.1**
comp=Z,3.4nm,0.9s,mb4.2
MORC Moravsky Berou 30.67 316 *e*P **P 03 38 31.9 +1.0**
comp=Z,3.4nm,0.9s,mb4.2
FINES FINESS Array B 33.78 339 P **P 03 38 58.0 -0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=137,slow=12,SNR=5.2
SBF Sospel 36.03 302 *e*P **P 03 39 15.3 -2.2**
FRF La Foret Royal 36.58 302 *e*P **P 03 39 20.2 -2.0**
MBDF Montbardon 36.58 304 *e*P **P 03 39 20.5 -1.7**
comp=Z,7.2nm,0.8s,mb4.3
MBDF Montbardon 36.58 304 *e*P **P 03 39 20.5 -1.7**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MBDF Montbardon 36.58 304 *e*P **P 03 39 20.5 -1.7**
comp=Z,3.6nm,0.8s,mb4.2
LPG La Plagne 36.67 305 *e*P **P 03 39 21.4 -1.6**
comp=Z,8.5nm,0.7s,mb4.4
LPG La Plagne 36.67 305 *e*P **P 03 39 21.4 -1.6**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LPG La Plagne 36.67 305 *e*P **P 03 39 21.4 -1.6**
comp=Z,4.2nm,0.7s,mb4.4
LPL La Plagne 36.69 305 *e*P **P 03 39 21.4 -1.7**
CABF La Chapelle 37.26 307 *e*P **P 03 39 25.6 -2.4**
comp=Z,12nm,0.9s,mb4.4
CABF La Chapelle 37.26 307 *e*P **P 03 39 25.6 -2.4**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
CABF La Chapelle 37.26 307 *e*P **P 03 39 25.6 -2.4**
comp=Z,6.1nm,0.9s,mb4.4
SMF Signal de Mont 38.80 306 *e*P **P 03 39 38.7 -2.3**
comp=Z,4.4nm,0.6s,mb4.1
SMF Signal de Mont 38.80 306 *e*P **P 03 39 38.7 -2.3**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SMF Signal de Mont 38.80 306 *e*P **P 03 39 38.7 -2.3**
comp=Z,2.2nm,0.6s,mb4.1
LOR Lormes 38.85 307 *e*P **P 03 39 38.8 -2.7**
NB2 NORSAR Subarra 39.03 330 P **P 03 39 42.1 -0.8**
comp=Z,0.8nm,0.6s,mb3.6,baz=122,slow=8.6
NOA NORSAR Array B 39.03 330 P **P 03 39 41.1 -1.8**
comp=Z,1.9nm,0.9s,mb3.8,baz=122,slow=8.3,SNR=5.3
NOA LR LR 03 56 53.1
comp=Z,43nm,18.9s,MS3.3,baz=90,slow=38
SSF Saint Saulge 39.07 307 *e*P **P 03 39 40.5 -2.8**
ARCES ARCESS Array B 40.41 347 P **P 03 39 53.6 -0.9**
comp=Z,4.6nm,1.0s,mb4.2,baz=152,slow=5.9,SNR=3.6
SONM Songino Array 44.51 52 P **P 03 40 29.5 +1.7**
comp=Z,0.2nm,0.4s,mb3.3,baz=280,slow=8.5,SNR=3.7
TORD Torodi Ar. Bea 48.73 259 P **P 03 40 59.5 -1.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=54,slow=6.4,SNR=15

INMG ***10*** *03:40:05.8±1.6, 3725N×781W, h3km±7km, ML1.2, Error ellipse: s-maj=4.0km s-min=3.4km az=3.0*
IGIL ***10*** *03:40:06.9, 3737N×785W, h2km, ML1.7*
MDD 10 03:40:05.8±0.7, 3724N×780W, h4km±10km, mbLg1.4/6, Error ellipse: s-maj=6.4km s-min=3.1km az=165.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.38**	**40**	Pg	Pg	03 40 12.9	-0.2
	3.0nm,0.3s,SNR=6.6						
EGRO				Lg		03 40 18.1	
	12nm,0.1s,SNR=9.8						
MORF	**Marmelete**	**0.69**	**276**	*e*P	Pg	03 40 18.2	-0.7
MORF				*e*S	Sg	03 40 27.0	-0.8
MORF				*e*S	Sg	03 40 27.1	-0.8
MORF				AML	AML	03 40 31.1	
	comp=N,30nm,0.2s						
MORF	**Marmelete**	**0.69**	**276**	*e*P	Pg	03 40 18.3	-0.6
MORF				*e*S	Sg	03 40 27.0	-0.8
MORF	**Marmelete**	**0.69**	**276**	P	Pg	03 40 18.2	-0.7
MORF				S	Sg	03 40 27.0	-0.8
PBEJ	**Beja**	**0.79**	**356**	*e*Pg	Pg	03 40 21.6	+0.8
PBEJ				*e*Sg	Sg	03 40 30.5	-0.5
PBEJ							
	comp=N,5.8nm,0.2s						
PTEO	**Sao Teotonio**	**0.80**	**293**	*e*P	Pg	03 40 20.7	-0.4
PTEO				*e*S	Sg	03 40 31.3	-0.2
PTEO							
	comp=N,3.1nm,0.3s						
EMIN	**Mina Concepcio**	**1.03**	**59**	Pg	Pg	03 40 24.2	-1.4
	comp=N,0.8nm,0.3s,SNR=16						
EMIN				Lg		03 40 37.7	
	comp=N,2.4nm,0.1s,SNR=16						
MOE	**Montemor**	**1.35**	**341**	*e*S	Sg	03 40 47.5	-1.7
ESPR	**Espera**	**1.59**	**103**	Pg	Pg	03 40 34.7	-1.7
	comp=N,1.9nm,0.2s,SNR=7.9						
ESPR				Lg		03 40 57.4	
	comp=N,2.0nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**1.63**	**6**	*e*P	Pn	03 40 35.7	+0.5
PESTR				*e*S	Sn	03 40 54.9	-1.7
PESTR							
	comp=N,1.7nm,0.3s						
EBAD	**Badajoz**	**1.63**	**22**	Pg	Pg	03 40 34.9	-2.1
	SNR=7.9						
EBAD				Lg		03 40 56.6	
	comp=N,2.8nm,0.2s,SNR=8.4						
EADA	**Adamuz**	**2.71**	**69**	Sn	Sn	03 41 22.2	-1.1
	SNR=7.9						

MOS ***10*** *03:47:30.2±0.8, 5159N×16.17E, h10km, mb4.0/1, Error ellipse: s-maj=11.0km s-min=5.5km az=76.6*
ISCJB ***10*** *03:47:30.6±0.4, 5141N±002×1608E±002, h0km, Error ellipse: s-maj=3.0km s-min=1.7km az=33.4*
NEIC ***10*** *03:47:31.2±0.4, 5154N×1615E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=5.3km s-min=3.9km az=27.0*
BGR ***10*** *03:47:31.5±0.5, 5148N×1618E, h1km, ML3.3/15, Error ellipse: s-maj=4.4km s-min=3.3km az=120.0*
CSEM ***10*** *03:47:32.3±0.1, 5148N×1611E, h1km, ML3.5/12, Error ellipse: s-maj=2.1km s-min=1.1km az=21.0*
WAR ***10*** *03:47:32.6, 5149N×1609E, ML3.0, Mining Induced*
IPEC ***10*** *03:47:32.7±0.2, 5147N×1613E, h8km±1km, ML2.9/4, Error ellipse: s-maj=1.4km s-min=0.6km az=42.0*
PRU ***10*** *03:47:33.5, 5143N×1604E, h0km*
IDC ***10*** *03:47:33.5±1.2, 5140N×1617E, h0km, mb1 3.3/4, mb1mx3.1/19, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=16.7km s-min=9.1km az=131.0*
VIE ***10*** *03:47:34.6±0.8, 5127N×1610E, h0km, mb2.4/6, ML3.0/6, Error ellipse: s-maj=5.4km s-min=4.9km az=127.0 66 km WNW of Breslau Suspected Mining induced.*
ISC 10 03:47:31.3±0.3, 5149N±002×1610E±002, h0km, n85, σ0°93/155, 7C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**169**	*i* Pg	**Pg**	**03 47 44.7**	**+0.7**
KSP				*e*Sg	**Sg**	**03 47 53.6**	**+1.0**
KSP				*e*L		03 47 56.8	
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**03 47 44.6**	**+0.6**
KSP				*e*Sg	**Sg**	**03 47 53.4**	**+0.8**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**03 47 50.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**03 47 53.3**	**-0.1**
DPC				*e*SG	**Sg**	**03 48 08.2**	**-0.2**
	136nm,0.8s						
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*P	**Pg**	**03 47 53.3**	**-0.1**
DPC				*e*		03 48 08.2	
DPC				smax			
	comp=N,136nm,0.8s						
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*Pg	**Pg**	**03 47 53.4**	**0.0**
DPC				*e*Sg	**Sg**	**03 48 08.2**	**-0.2**
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**03 47 57.3**	**-0.2**
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pn	**Pn**	**03 47 58.1**	**+0.4**
PVCC				*e*Sg	**Sg**	**03 48 16.8**	**+1.5**
BRG	**Berggiesshubel**	**1.49**	**246**	*e*Pg	**Pg**	**03 47 59.6**	**-0.3**
BRG				*e*Sg	**Sg**	**03 48 20.3**	**+1.0**
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**03 47 59.1**	**-0.3**
BRG				PG	**Pg**	**03 48 00.4**	**+0.4**
BRG				SG	**Sg**	**03 48 20.2**	**+0.9**
	comp=N,49nm,0.5s						
BRG	**Berggiesshubel**	**1.49**	**246**	P	**Pn**	**03 47 59.1**	**-0.3**
BRG						03 48 20.2	
BRG				smax			
	comp=N,49nm,0.5s						
BRG	**Berggiesshubel**	**1.49**	**246**	Pg	**Pg**	**03 48 00.4**	**+0.5**
BRG				*e*Sg	**Sg**	**03 48 18.9**	**-0.4**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pg	**Pg**	**03 48 02.0**	**-2.7**
RUE				*e*Sg	**Sg**	**03 48 29.3**	**+2.0**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pg	**Pg**	**03 48 02.0**	**-2.7**
RUE				*e*Sg	**Sg**	**03 48 29.3**	**+2.0**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**	**03 48 01.9**	**-0.9**
RUE	**Ruedersdorf**	**1.74**	**305**	Pg	**Pg**	**03 48 02.0**	**-2.7**
RUE				*e*Sg	**Sg**	**03 48 28.5**	**+1.2**
PRA	**Prague**	**1.77**	**217**	PG	**Pg**	**03 48 02.0**	**-3.4**
PRA				SG	**Sg**	**03 48 28.0**	**-0.4**
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**03 48 03.3**	**-0.3**
PRU				*e*PG	**Pg**	**03 48 05.2**	**-0.7**
PRU				*e*SG	**Sg**	**03 48 28.5**	**-0.8**
	comp=N,55nm,0.6s						
PRU	**Pruhonice**	**1.80**	**214**	*e*P	**Pn**	**03 48 03.3**	**-0.3**
PRU				*e*		03 48 28.5	
PRU				smax			
	comp=N,55nm,0.6s						
FBE	**Freiberg**	**1.82**	**253**	*e*Pg	**Pg**	**03 48 05.2**	**-1.0**
FBE				*e*Sg	**Sg**	**03 48 29.8**	**0.0**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg	**Pg**	**03 48 08.6**	**+0.1**
RAC				*e*Sg	**Sg**	**03 48 34.4**	**+0.8**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**03 48 06.0**	**+0.3**
CLL				*i* Pg	**Pg**	**03 48 08.1**	**-0.6**
CLL				*i* Sg	**Sg**	**03 48 33.6**	**-0.4**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**03 48 06.0**	**+0.3**
CLL				*i* Pg	**Pg**	**03 48 08.1**	**-0.6**
CLL				*i* Sg	**Sg**	**03 48 33.6**	**-0.4**
CLL				*i* x	x	03 48 12.2	
CLL				*i* Sg	**Sg**	**03 48 33.6**	**-0.4**
	comp=Z,57nm,1.0s						
CLL				*e*x	x	03 48 43.0	
CLL				*e*x	x	03 49 11.0	
CLL	**Collm**	**1.95**	**266**	*i* Pg	**Pg**	**03 48 08.1**	**-0.6**
CLL				Sg	**Sg**	**03 48 34.3**	**+0.3**
MORC	**Moravsky Berou**	**1.95**	**151**	⇑*i*P	**Pn**	**03 48 05.3**	**-0.3**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**03 48 05.1**	**-0.5**
MORC				*e*Sn	**Sn**	**03 48 32.6**	**+1.8**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**03 48 05.1**	**-0.6**
MORC				*e*Sg	**Sg**	**03 48 32.4**	**-1.6**
	comp=Z,58nm,0.6s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**03 48 11.0**	**-0.7**
OKC				*e*SG	**Sg**	**03 48 37.7**	**-1.4**
	comp=Z,113nm,1.1s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*P	**Pg**	**03 48 11.0**	**-0.7**
OKC				*e*		03 48 37.7	
OKC				smax			
	comp=N,113nm,1.1s						
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**03 48 09.6**	**+0.3**
	comp=N,1.7nm,0.3s,baz=350,slow=16,SNR=13						
VRAC				Lg		03 48 41.1	
	comp=N,4.3nm,0.3s,baz=259,slow=19,SNR=13						
VRAC	**Vranov**	**2.21**	**172**	⇓*i*P	**Pn**	**03 48 09.9**	**+0.7**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**03 48 09.6**	**+0.3**
VRAC				*e*Sg	**Sg**	**03 48 41.3**	**-1.1**
	comp=N,72nm,0.7s						
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**03 48 10.1**	**+0.5**
TREC				*e*PG	**Pg**	**03 48 13.2**	**-1.0**
TREC	**Trest**	**2.24**	**190**	*e*Pn	**Pn**	**03 48 10.6**	**+1.0**
TREC	**Trest**	**2.24**	**190**	*e*Pg	**Pg**	**03 48 13.2**	**-1.0**
TREC				*e*Sg	**Sg**	**03 48 42.4**	**-0.8**
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**03 48 13.1**	**+0.7**
KRUC				*e*Sg	**Sg**	**03 48 48.8**	**-1.0**
	comp=N,42nm,0.6s						
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn	**Pn**	**03 48 14.0**	**+0.2**
TANN				*e*Sg	**Sg**	**03 48 52.5**	**-0.5**
WERD	**Werda**	**2.62**	**248**	*e*Pn	**Pn**	**03 48 15.1**	**+0.3**
WERD				*e*Sg	**Sg**	**03 48 55.8**	**+0.4**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**03 48 15.6**	**+0.5**
NKC				*e*PG	**Pg**	**03 48 21.8**	**-0.1**
NKC				*e*SG	**Sg**	**03 48 56.9**	**+0.9**
	comp=N,82nm,0.7s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*P	**Pn**	**03 48 15.6**	**+0.5**
NKC				*e*		03 48 56.9	
NKC				smax			
	comp=N,82nm,0.7s						
GUNZ	**Gunzen**	**2.64**	**246**	*e*Pn	**Pn**	**03 48 16.1**	**+0.9**
GUNZ				*e*Sg	**Sg**	**03 48 55.6**	**-0.6**
WERN	**Wernitzgruen**	**2.65**	**244**	*e*Pn	**Pn**	**03 48 16.2**	**+0.9**
WERN				*e*Sg	**Sg**	**03 48 57.1**	**+0.6**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**03 48 22.3**	**-0.2**
OJC				*e*Sg	**Sg**	**03 48 57.4**	**+0.3**
JAVC	**Velka Javorina**	**2.82**	**158**	*e*Sg	**Sg**	**03 49 01.5**	**-0.6**
	comp=N,58nm,0.9s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**03 48 18.4**	**+0.2**
KHC				*e*PG	**Pg**	**03 48 24.4**	**-1.8**
KHC				*e*SN	**Sn**	**03 48 53.3**	**-0.1**
KHC				*e*SG	**Sg**	**03 49 02.6**	**-0.8**
	comp=N,37nm,0.6s						
MANZ	**Manzenberg**	**2.95**	**241**	*e*Pn	**Pn**	**03 48 20.1**	**+0.7**
MANZ				*e*Sg	**Sg**	**03 49 06.7**	**+0.6**
MANZ	**Manzenberg**	**2.95**	**241**	Pn	**Pn**	**03 48 20.1**	**+0.7**
MANZ				Sg	**Sg**	**03 49 06.7**	**+0.6**
MOX	**Moxa**	**2.95**	**255**	*e*Pn	**Pn**	**03 48 19.4**	**-0.1**
MOX				*e*Sg	**Sg**	**03 49 07.5**	**+1.3**
MOX	**Moxa**	**2.95**	**255**	*e*PN	**Pn**	**03 48 20.2**	**+0.7**
MOX				*e*PG	**Pg**	**03 48 27.8**	**-0.2**
MOX				*e*SG	**Sg**	**03 49 07.2**	**+1.0**
MOX	**Moxa**	**2.95**	**255**	*e*Pg	**Pg**	**03 48 27.8**	**-0.2**
MOX				*e*Sg	**Sg**	**03 49 06.8**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn	**Pn**	**03 48 20.8**	**+0.4**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**03 48 21.5**	**+0.5**
GEC2				*e*Sg	**Sg**	**03 49 09.4**	**-0.4**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**03 48 21.5**	**+0.5**
GEC2				*e*Sg	**Sg**	**03 49 09.4**	**-0.5**
GERES	**GERESS Array B**	**3.07**	**211**	Pn	**Pn**	**03 48 21.6**	**+0.6**
	comp=N,0.9nm,0.3s,baz=24,slow=12,SNR=27						
GERES				Pg	**Pg**	**03 48 29.4**	**-0.7**
	comp=N,2.2nm,0.3s,baz=33,slow=14,SNR=39						
GERES				Sn	**Sn**	**03 48 59.5**	**+1.1**
	comp=N,1.9nm,0.3s,baz=35,slow=26,SNR=7.3						
GERES				Lg		03 49 08.6	
	comp=N,4.6nm,0.3s,baz=29,slow=27,SNR=11						
GERES	**GERESS Array B**	**3.07**	**211**	P	**Pn**	**03 48 21.6**	**+0.6**
GERES						03 48 59.5	
GERES	**GERESS Array B**	**3.07**	**211**	Pg	**Pg**	**03 48 29.4**	**-0.7**
SMOL	**Smolenice**	**3.10**	**163**	*e*PG	**Pg**	**03 48 29.6**	**-1.2**
SMOL				*e*SG	**Sg**	**03 49 12.0**	**+0.9**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**03 48 22.0**	**+0.1**
WET				*e*Sg	**Sg**	**03 49 11.4**	**-0.5**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**03 48 22.0**	**+0.1**
WET				*e*Sg	**Sg**	**03 49 11.4**	**-0.5**
ZST	**Bratislava**	**3.36**	**168**	*e*SG	**Sg**	**03 49 18.9**	**-0.5**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	**03 48 35.9**	**-0.6**
NIE				*e*S	**Sg**	**03 49 22.1**	**+1.5**
VYHS	**Vyhne**	**3.48**	**148**	*e*SG	**Sg**	**03 49 26.3**	**+3.1**
CONA	**Conrad Observa**	**3.57**	**183**	⇑*i*Pn	**Pn**	**03 48 28.9**	**+0.9**
CONA				⇑*i*Sg	**Sg**	**03 49 24.3**	**-1.8**
	comp=N,39nm,0.7s						
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn	**Pn**	**03 48 29.1**	**+1.0**
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn	**Pn**	**03 48 29.1**	**+1.0**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**03 48 29.3**	**+1.0**
GRA1				*e*Sg	**Sg**	**03 49 27.3**	**+0.5**
GRA1	**Grafenberg Arr**	**3.59**	**242**	Pn	**Pn**	**03 48 29.3**	**+1.0**
GRA1				Sg	**Sg**	**03 49 27.3**	**+0.5**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**03 48 29.3**	**+1.0**
GRF				*e*Sg	**Sg**	**03 49 27.3**	**+0.5**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**03 48 28.3**	**-1.4**
BSD				*i* S	**Sn**	**03 49 09.9**	**-4.0**
BSD				*i*		03 49 11.3	
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**03 48 28.3**	**-1.4**
BSD				*i* S	**Sn**	**03 49 09.9**	**-4.0**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**03 48 32.2**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**03 49 35.7**	**+1.0**
	comp=N,32nm,0.7s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN	**Pn**	**03 48 33.3**	**+1.0**
STHS				*e*PG	**Pg**	**03 48 47.5**	**+1.6**
STHS				*e*SG	**Sg**	**03 49 41.2**	**+4.9**
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Pn	**Pn**	**03 48 33.3**	**+1.0**
STHS				*e*Pg	**Pg**	**03 48 47.5**	**+1.6**
STHS				*e*Sg	**Sg**	**03 49 41.3**	**+5.0**
KECS	**Kecovo**	**4.13**	**135**	*e*PG	**Pg**	**03 48 51.5**	**+0.9**
KECS				*e*SG	**Sg**	**03 49 44.9**	**+0.8**
ARSA	**Arzberg**	**4.26**	**185**	⇑*i*Pn	**Pn**	**03 48 38.1**	**+0.6**
ARSA				⇑*i*Sg	**Sg**	**03 49 46.9**	**-1.5**
	comp=N,37nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PG	**Pg**	**03 48 54.1**	**+0.1**
CRVS				*e*SG	**Sg**	**03 49 50.4**	**+0.6**
KWP	**Kalwaria**	**4.61**	**111**	*e*Pn	**Pg**	**03 48 56.7**	**-2.9**
KWP				*e*Sg	**Sg**	**03 50 09.4**	**+10**
KBA	**Koelnbreinsper**	**4.77**	**203**	⇓*i*Pn	**Pn**	**03 48 45.0**	**+0.5**
KBA				⇓*i*Sg	**Sg**	**03 50 05.0**	**+0.4**
	comp=N,13nm,0.7s						
TNS	**Taunus Mts**	**5.01**	**258**	*e*Pn	**Pn**	**03 48 46.8**	**-1.0**
TNS				*e*Sg	**Sg**	**03 50 10.9**	**-1.4**
TNS	**Taunus Mts**	**5.01**	**258**	*e*Pn	**Pn**	**03 48 46.8**	**-1.0**
TNS				*e*Sg	**Sg**	**03 50 10.9**	**-1.4**
BFO	**Black Forest**	**5.93**	**241**	*e*Sg	**Sg**	**03 50 42.3**	**+0.3**
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Lg		03 50 51.4	
	baz=226,slow=20,SNR=3.8						
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P	**Pn**	**03 49 16.5**	**+0.2**
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	**Pn**	**03 49 31.1**	**-1.9**
	comp=N,0.6nm,0.3s,baz=280,slow=12,SNR=5.7						
AKASG				Lg		03 51 55.8	
	comp=N,0.4nm,0.3s,baz=249,slow=37,SNR=3.8						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**03 50 13.4**	**-1.7**
	comp=N,0.1nm,0.3s,baz=211,slow=11,SNR=3.6						

ISCJB ***10*** *03:49:14.7±6.0, 243S±03×1776W±04, h452km±53km, mb4.1/8, Error ellipse: s-maj=63.3km s-min=21.0km az=105.6*
NEIC ***10*** *03:49:17.3±3.7, 2438S×17768W, h457km±35km, mb4.1/3, Error ellipse: s-maj=38.9km s-min=19.3km az=49.0*
IDC ***10*** *03:49:31.0±7.2, 2536S×179.12W, h490km±57km, mb3.5/5, mb1 3.6/7, mb1mx3.4/14, mbtmp4.4/7, Error ellipse: s-maj=88.6km s-min=37.4km az=42.0*
ISC 10 03:49:16.4±4.2, 243S±03×1775W±03, h456km±34km, n16, σ0°98/15, mb4.1/8, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.61**	**197**	P	**P**	**03 52 22.5**	**-0.6**
	2.8nm,0.3s,baz=320,slow=5.8,SNR=11						
DZM	**Mont Dzumac**	**14.91**	**275**	P	**P**	**03 52 27.1**	**+0.8**
	0.2nm,0.3s,baz=126,slow=18,SNR=4.6						
CTA	**Charters Tower**	**33.73**	**270**	P	**P**	**03 55 19.4**	**+1.1**
	4.3nm,0.5s,mb4.2,baz=77,slow=6.7,SNR=6.7						
CTAO	**Charters Tower**	**33.73**	**270**	*e*P	**P**	**03 55 18.9**	**+0.6**
	3.4nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**36.66**	**249**	P	**P**	**03 55 40.7**	**-2.2**
	1.6nm,0.5s,mb3.7,baz=86,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**36.66**	**249**	P	**P**	**03 55 40.7**	**-2.2**
AS31	**Alice Springs**	**44.19**	**260**	*e*P	**P**	**03 56 42.9**	**-0.5**
ASAR	**Alice Springs**	**44.19**	**260**	P	**P**	**03 56 43.2**	**-0.2**
	3.0nm,0.4s,mb4.1,baz=92,slow=7.5,SNR=75						
ASPA	**Alice Springs**	**44.19**	**260**	*e

KDAG				*i* S	**Sg**	**03 53 27.8**	**+2.1**
BODT	**Bodrum**	**1.21 128**		PN	**Pn**	**03 53 12.9**	**-1.3**
BODT				SN	**Sn**	**03 53 30.0**	**-0.7**
BDRM	**Kayabasi**	**1.29 125**		*i* P	**Pn**	**03 53 15.0**	**-0.3**
BDRM				*i* S	**Sb**	**03 53 34.6**	**+2.3**
MLSB	**Milas**	**1.41 111**		PN	**Pn**	**03 53 15.8**	**-1.2**
PRK	**Paraskevi**	**1.43**	**5**	*e*PB	**Pb**	**03 53 18.0**	**0.0**
NISR	**Nisiros**	**1.45 146**		*e*PB	**Pb**	**03 53 18.5**	**+0.3**
SANT	**Santorini**	**1.54 200**		*e*Pg	**Pg**	**03 53 19.6**	**-1.0**
SANT				*e*Sg	**Sg**	**03 53 41.2**	**+0.6**
DAT	**Datca**	**1.59 133**		PN	**Pn**	**03 53 17.9**	**-1.5**
PTL	**Penteli**	**1.80 278**		*e*PG	**Pg**	**03 53 24.5**	**-1.2**
KVR	**Kavouri**	**1.86 271**		*e*PG	**Pg**	**03 53 25.5**	**-1.4**
KVR				*e*SN	**Sb**	**03 53 50.5**	**+1.7**
KVR	**Kavouri**	**1.86 271**		*e*Pb	**Pb**	**03 53 26.5**	**+1.1**
KVR				*e*Sb	**Sb**	**03 53 50.5**	**+1.7**
ATH	**Athens Observa**	**1.91 275**		*e*PG	**Pg**	**03 53 26.5**	**-1.3**
DALT	**Dalyan (Mudla)**	**2.26 117**		*e*PN	**Pn**	**03 53 28.6**	**-0.1**
MGER	**Gerania Oros**	**2.27 275**		*e*PN	**Pn**	**03 53 31.5**	**+2.7**
KARP	**Karpathos**	**2.41 159**		*e*PB	**Pn**	**03 53 31.8**	**+1.0**
KARP	**Karpathos**	**2.41 159**		*e*Pn	**Pn**	**03 53 30.8**	**0.0**
LAST	**Lasithi**	**2.70 191**		*e*Pn	**Pn**	**03 53 37.1**	**+2.4**
VLI	**Veliai**	**2.77 248**		*e*PB	**Pn**	**03 53 36.9**	**+1.2**
VLI	**Veliai**	**2.77 248**		*e*Pn	**Pn**	**03 53 36.5**	**+0.8**
ALN	**Alexandroupoli**	**3.08 359**		*e*Pn	**Pn**	**03 53 39.4**	**-0.6**
ALN				*e*Sn	**Sn**	**03 54 15.8**	**-1.1**
ALN	**Alexandroupoli**	**3.08 359**		*e*Pn	**Pn**	**03 53 39.3**	**-0.6**
ALN				*e*Sn	**Sn**	**03 54 15.8**	**-1.0**

*BJI **10** 03:55:37.1, 20.16N×120.17E, h10km, mB4.4, mb4.1, Ms4.1, Msz3.9*
*IDC **10** 03:55:41.1±0.9, 2051N×11996E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, MS3.4/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=39.0km s-min=18.7km az=67.0*
*NEIC **10** 03:55:42.7±0.6, 2055N×12002E, h10km, mb4.3/1, Error ellipse: s-maj=19.3km s-min=10.2km az=80.0*
*ISCJB **10** 03:55:46.4±1.6, 2068N±006×1204E±02, h54km±17km, mb3.9/11, MS3.3/3, Error ellipse: s-maj=27.4km s-min=9.3km az=157.7*

ISC 10 03:55:47.6±1.5, 2065N±006×1202E±02, h46km±16km, n24, σ0§83/21, mb3.9/11, MS3.3/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**3.99**	**157**	*e*P	**Pn**	**03 56 46.8**	**+0.6**
CAUP				*e*S	Sn	03 57 05.3	-26
YHNB	**Yeheng**	**4.14**	**15**	*e*Pn	**Pn**	**03 56 47.2**	**-1.2**
YHNB				*e*Sn	**Sn**	**03 57 35.2**	**-0.3**
JOW	**Kunigami**	**9.62**	**49**	LR	LR	04 02 23.5	
	comp=Z,194nm,19.6s,baz=193,slow=41						
XAN	**Xi'an**	**16.66 325**		P	**Pn**	**03 59 38.9**	**+1.1**
XAN				AP	pP	03 59 45.2	-5.1
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s						
LZH	**Lanzhou**	**21.02 320**		*e*P	**P**	**04 00 31.5**	**+4.2**
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.3						
LZH	**Lanzhou**	**21.02 320**		*e*P	**P**	**04 00 31.5**	**+4.2**
	comp=Z,19nm,1.2s,mb4.3						
LZH				pP		04 00 41.2	
LZH				sP	sP	04 00 45.1	+1.2
MJAR	**Matsushiro Arr**	**22.31**	**41**	P	**P**	**04 00 43.3**	**+2.2**
	comp=Z,3.2nm,1.0s,mb3.7,baz=234,slow=10,SNR=10						
GUMO	**Guam**	**24.58 103**		LR	LR	04 09 22.2	
	comp=Z,59nm,18.8s,MS3.1,baz=220,slow=33						
PSI	**Prapat**	**27.29 232**		LR	LR	04 11 28.6	
	comp=Z,119nm,19.3s,MS3.5,baz=246,slow=35						
SONM	**Songino Array**	**29.33 341**		P	**P**	**04 01 45.7**	**-0.2**
	comp=Z,0.7nm,0.9s,mb3.4,baz=151,slow=6.4,SNR=4.9						
ASAJ	**Asahikawa**	**29.90**	**33**	LR	LR	04 14 11.2	
	comp=Z,68nm,18.6s,MS3.3,baz=60,slow=37						
MKAR	**Makanchi Array**	**40.32 319**		P	**P**	**04 03 19.4**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=116,slow=9.9,SNR=4.0						
WRA	**Warramunga Arr**	**42.65 160**		P	**P**	**04 03 38.6**	**-1.0**
	comp=Z,3.6nm,1.0s,mb4.1,baz=342,slow=8.7,SNR=8.6						
WB2	**Warramunga Arr**	**42.65 160**		*e*P	**P**	**04 03 39.3**	**-0.3**
ZAL	**Zalesovo**	**42.77 330**		P	**P**	**04 03 41.0**	**+0.4**
	comp=Z,1.5nm,0.3s,mb4.2,baz=231,slow=2.8,SNR=5.6						
ZAL	**Zalesovo**	**42.77 330**		P	**P**	**04 03 41.0**	**+0.4**
ASAR	**Alice Springs**	**46.03 162**		P	**P**	**04 04 06.7**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=350,slow=6.4,SNR=5.6						
AKTK	**Aktyubinsk**	**56.70 317**		P	**P**	**04 05 26.6**	**+0.1**
AKTO	**Aktyubinsk**	**56.70 317**		P	**P**	**04 05 26.6**	**+0.1**
	comp=Z,2.0nm,0.9s,mb4.2,baz=151,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**74.03 330**		P	**P**	**04 07 22.6**	**+4.0**
	comp=Z,2.0nm,0.9s,mb4.1,baz=72,slow=12,SNR=4.8						
NB2	**NORSAR Subarra**	**80.91 332**		P	**P**	**04 07 56.6**	**-0.4**
	comp=Z,6.8nm,1.2s,mb4.5,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**80.91 332**		P	**P**	**04 07 56.8**	**-0.2**
	comp=Z,1.9nm,1.0s,mb4.0,baz=63,slow=4.9,SNR=3.1						
CLL	**Collm**	**84.31 323**		*e*P	**P**	**04 08 15.0**	**+0.3**
GERES	**GERESS Array B**	**84.98 321**		P	**P**	**04 08 17.8**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=72,slow=4.3,SNR=5.1						

*NEIC **10** 04:18:08.0, 2885S×6986W, h128km, MD3.6(GUC), After GUC.*

GUC 10 04:18:08.0±1.0, 2885S×6986W, h128km±20km, MD3.5, ML3.7, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.83 289**		⇓*e*P	Pn	04 18 33.8	+4.6
VACH				*i* S	Sn	04 18 50.4	+5.1
VACH				AML	AML	04 18 51.2	
	comp=N,3μm,0.1s						
VACH	**Vallenar**	**0.83 289**		⇓*e*P	Pn	04 18 33.8	+4.6
VACH				*i* S	Sn	04 18 50.4	+5.1
CPCH	**Copiapo**	**1.55 344**		*e*P	Pn	04 18 37.2	+0.7
CPCH				*e*S	Sn	04 18 58.3	+0.1
CPCH				AML	AML	04 19 00.5	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**1.55 344**		*e*P	Pn	04 18 37.2	+0.7
CPCH				*e*S	Sn	04 18 58.3	+0.1
TLL	**Tololo Astrono**	**1.55 212**		*e*P	Pn	04 18 37.9	+1.4
TLL				*i* S	Sn	04 18 59.9	+1.7
TLL				AML	AML	04 19 03.8	
	comp=E,339nm,0.6s						
TLL	**Tololo Astrono**	**1.55 212**		*e*P	Pn	04 18 37.9	+1.4
TLL				*i* S	Sn	04 18 59.9	+1.7
CDCH	**Caldera**	**1.97 334**		*e*P	Pn	04 18 42.5	+1.1
CDCH				*i* S	Sn	04 19 07.3	+0.3
CMCH	**Combarbala**	**2.52 203**		⇑*i*P	Pn	04 18 48.9	+0.6
CMCH				*i* S	Sn	04 19 19.8	+0.5

*LDG **10** 04:33:28.6±1.5, 4289N×138W, h2km, Md1.7/2, Error ellipse: s-maj=34.0km s-min=13.4km az=57.0*

MDD 10 04:33:30.3±0.2, 4308N×150W, h0km, mbLg0.9/5, 1C, Error ellipse: s-maj=2.6km s-min=1.3km az=91.0, PRXIMO ARTIFICIAL POSIBLE, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.08 345**		Pg	Pg	04 33 31.6	-0.3
	2.5nm,0.1s,SNR=52						
ELIZ				Lg		04 33 33.7	
	13nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.14 358**		⇑Pg	Pg	04 33 33.0	+0.1
	6.2nm,0.1s,SNR=18						
EALK				Lg		04 33 35.3	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.14 195**		Pg	Pg	04 33 32.6	-0.4
	1.4nm,0.1s,SNR=7.9						
IUSE				Lg		04 33 35.0	
	8.3nm,0.1s,SNR=14						
SJPF	**Ste Jean**	**0.20**	**82**	*e*Pg	Pg	04 33 33.8	-0.4
SJPF				*e*Sg	Sg	04 33 36.3	-0.5
	5.9nm,0.3s						
SJPF	**Ste Jean**	**0.20**	**82**	Pg	Pg	04 33 33.8	-0.4
SJPF				Lg		04 33 36.3	
	3.0nm,0.3s						
OSSF	**Osses**	**0.24**	**45**	P	Pg	04 33 34.5	-0.5
OSSF				S	Sg	04 33 38.0	-0.2
IPRE	**Itoiz**	**0.30 159**		Lg		04 33 40.4	
	1.3nm,0.1s,SNR=4.0						
ETSF	**Etsaut**	**0.71 105**		*e*Pg	Pg	04 33 39.8	-4.2
ETSF				*e*Sg	Sg	04 33 48.6	-4.6
	0.7nm,0.2s						
ETSF	**Etsaut**	**0.71 105**		Pg	Pg	04 33 39.8	-4.2
ETSF				Lg		04 33 48.6	
	0.3nm,0.2s						
EBIE	**Bielsa**	**1.27 108**		Pg	Pg	04 33 54.9	+0.2
	SNR=4.0						
EBIE				Lg		04 34 12.7	
	0.2nm,0.1s,SNR=4.0						

*IDC **10** 05:25:46.5±2.2, 1788S×167.12E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.2/11, mbtmp4.4/4, MS3.9/9, Ms1 3.9/9, ms1mx3.6/27, Error ellipse: s-maj=80.4km s-min=34.5km az=137.0*
*ISCJB **10** 05:25:51.1±6.1, 1822S±0.10×1669E±02, h30km±43km, mb4.6/9, MS3.9/7, Error ellipse: s-maj=28.6km s-min=13.7km az=141.5*
*NEIC **10** 05:25:54.5±0.6, 1831S×16682E, h35km, mb4.8/6, Error ellipse: s-maj=16.9km s-min=15.0km az=96.0*

ISC 10 05:25:49.1±6.4, 1815S±009×1673E±02, h21km±43km, n37, σ0§62/16, mb4.6/9, MS3.9/7, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.99**	**192**	Pn	**Pn**	**05 26 48.8**	**-0.2**
	6.2nm,0.3s,baz=52,slow=18,SNR=8.6						
DZM				Sn	**Sn**	**05 27 35.3**	**+0.1**
	3.3nm,0.3s,baz=125,slow=20,SNR=3.1						
DZM				LR	LR	05 28 26.2	
	comp=Z,781nm,19.2s,baz=27,slow=38						
HNR	**Honiara**	**11.23 320**		LR	LR	05 31 57.9	
	comp=Z,328nm,18.2s,baz=178,slow=34						
CTA	**Charters Tower**	**19.99 261**		⇓*i*P	**Pn**	**05 30 22.6**	**+0.7**
	14nm,1.3s						
CTA	**Charters Tower**	**19.99 261**		P	**Pn**	**05 30 22.6**	**+0.7**
	0.2nm,0.3s,baz=76,slow=14,SNR=5.9						
PMG	**Port Moresby**	**21.39 291**		LR	LR	05 37 56.4	
	comp=Z,327nm,18.9s,MS3.8,baz=183,slow=34						
URZ	**Urewera**	**21.80 159**		P	**P**	**05 30 46.1**	**+6.4**
	20nm,1.1s,mb4.5,baz=297,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**26.93 235**		⇓*i*P	**P**	**05 31 29.8**	**+0.9**
	9.9nm,1.2s,mb4.2						
STKA	**Stephens Creek**	**26.93 235**		P	**P**	**05 31 30.2**	**+1.3**
	15nm,1.1s,mb4.4,baz=45,slow=8.1,SNR=13						
STKA				LR	LR	05 42 23.4	
	comp=Z,256nm,19.4s,MS3.8,baz=21,slow=37						
WB2	**Warramunga Arr**	**31.18 261**		*e*P	**P**	**05 32 06.3**	**-0.3**
WRA	**Warramunga Arr**	**31.19 261**		P	**P**	**05 32 05.8**	**-0.9**
	2.5nm,1.0s,mb4.0,baz=92,slow=8.3,SNR=9.3						
WRA				LR	LR	05 43 58.7	
	comp=Z,173nm,18.4s,MS3.8,baz=90,slow=35						
AS31	**Alice Springs**	**31.64 254**		*e*P	**P**	**05 32 09.9**	**-0.8**
ASAR	**Alice Springs**	**31.64 254**		P	**P**	**05 32 10.4**	**-0.3**
	3.1nm,0.5s,mb4.4,baz=81,slow=8.3,SNR=25						
ASAR				LR	LR	05 44 33.6	
	comp=Z,344nm,19.5s,MS4.0,baz=119,slow=36						
FORT	**Forrest**	**37.69 243**		*e*P	**P**	**05 33 03.0**	**+0.1**
	20nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**39.54 263**		⇑*i*P	**P**	**05 33 18.6**	**+0.1**
	20nm,0.9s,mb4.9						
TBI	**Tubuai**	**40.65 105**		*e*LQ		05 43 00.2	
	282nm,23.8s						
TBI				*e*LR	LR	05 44 47.4	
	131nm,31.8s						
PPT	**Papeete**	**40.98**	**96**	*e*LQ		05 43 02.4	
	427nm,28.0s						
PPT				*e*LR	LR	05 44 51.9	
	199nm,26.2s						
PPT	**Papeete**	**40.98**	**96**	LR	LR	05 45 30.6	
	comp=Z,140nm,21.1s,MS3.8,baz=239,slow=29						
CBIJ	**Chichi jima**	**51.15 331**		LR	LR	05 55 32.3	
	comp=Z,171nm,18.7s,MS4.1,baz=98,slow=35						
TAOE	**Nuku Hiva Isla**	**51.77**	**87**	*e*LR	LR	05 50 02.6	
	513nm,24.1s						
QSPA	**South Pole Qui**	**71.90 180**		*e*P	**P**	**05 37 10.5**	**-0.2**
	42nm,0.6s,mb5.5						
KMI	**Kunming**	**76.14 303**		P	**P**	**05 37 39.4**	**+3.9**
	13nm,1.1s,mb4.8						
SONM	**Songino Array**	**85.25 324**		P	**P**	**05 38 24.6**	**+0.4**
	1.3nm,0.9s,mb4.1,baz=149,slow=6.5,SNR=7.9						
LPIG	**La Paz**	**90.60**	**65**	LR	LR	06 08 53.2	
	comp=Z,76nm,19.5s,MS4.1,baz=203,slow=28						
ARCES	**ARCESS Array B**	**123.54 345**		PKP	PKPdf	05 44 42.5	-2.4
	2.2nm,0.8s,baz=2.9,slow=1.8,SNR=3.8						
CDF	**Champ du Feu**	**145.72 336**		*e*PKIKP	PKPdf	05 45 28.0	+2.0
	52nm,1.4s						
HINF	**Hinteralfeld**	**146.37 336**		*e*PKIKP	PKPbc	05 45 30.1	+1.8
HAU	**Haudompre**	**146.41 337**		*e*PKIKP	PKPbc	05 45 30.4	+1.9
CABF	**La Chapelle**	**147.66 335**		*e*PKIKP	PKPbc	05 45 32.9	+0.9
LOR	**Lormes**	**147.93 339**		*e*PKIKP	PKPbc	05 45 34.1	+1.4
LDF	**La Druitiere**	**147.96 344**		*e*PKIKP	PKPbc	05 45 33.8	+1.0
	13nm,0.8s						
SSF	**Saint Saulge**	**148.23 339**		*e*PKIKP	PKPbc	05 45 33.9	+0.4
	9.8nm,0.8s						
LPL	**La Plagne**	**148.28 334**		*e*PKIKP	PKPbc	05 45 34.4	+0.7
LPG	**La Plagne**	**148.29 334**		*e*PKIKP	PKPbc	05 45 34.7	+1.0
	10nm,0.8s						
VIVF	**Saint-Julien-l**	**149.66 335**		*e*PKIKP	PKPbc	05 45 36.5	-0.7
SMRF	**Simiane la Rot**	**150.01 333**		*e*PKIKP	PKPdf	05 45 36.1	+3.1
	21nm,1.3s						
TORD	**Torodi Ar. Bea**	**165.28 252**		PKP	PKPdf	05 45 53.7	+1.9
	0.9nm,0.9s,baz=85,slow=6.4,SNR=3.9						
TORD				PKPab	PKPab	05 46 52.1	+2.6
	0.8nm,0.8s,baz=94,slow=3.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**165.28 252**		PKP	PKPdf	05 45 53.7	+1.9
TORD				PKPab	PKPab	05 46 52.1	+2.6

*ISCJB **10** 05:29:51.2±0.9, 206N±0.1×1200E±03, h10km, mb3.7/4, Error ellipse: s-maj=39.0km s-min=14.2km az=161.5*
*IDC **10** 05:29:51.1±1.5, 2081N×12043E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=147.1km s-min=21.9km az=66.0*
*NEIC **10** 05:29:53.0±0.7, 2065N×12003E, h10km, Error ellipse: s-maj=30.0km s-min=10.9km az=80.0*

ISC 10 05:29:53.2±0.9, 207N±01×1200E±03, h10km, n6, σ0§39/6, mb3.7/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**4.18**	**17**	*e*Pn	**Pn**	**05 30 57.0**	**0.0**
SONM	**Songino Array**	**29.26 341**		P	**P**	**05 35 55.3**	**-0.1**
	0.7nm,0.8s,mb3.4,baz=161,slow=9.7,SNR=6.2						
MKAR	**Makanchi Array**	**40.20 319**		P	**P**	**05 37 29.8**	**0.0**
	0.9nm,0.7s,mb3.6,baz=122,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**42.72 160**		P	**P**	**05 37 49.8**	**-0.5**
	1.5nm,0.6s,mb3.9,baz=343,slow=9.0,SNR=9.0						
WB2	**Warramunga Arr**	**42.72 160**		*e*P	**P**	**05 37 50.6**	**+0.2**
ASAR	**Alice Springs**	**46.09 162**		P	**P**	**05 38 17.7**	**+0.4**
	0.8nm,0.7s,mb3.7,baz=344,slow=6.6,SNR=5.0						

*ISCJB **10** 05:37:39.0±0.8, 2306S±006×665W±0.1, h211km±11km, mb3.4/2, Error ellipse: s-maj=15.1km s-min=9.8km az=2.7*
*NEIC **10** 05:37:39.8±0.8, 2312S×6629W, h180km±20km, mb3.9/1, Error ellipse: s-maj=16.3km s-min=10.4km az=103.0*
*IDC **10** 05:37:40.4±1.1, 2300S×6653W, h206km±14km, mb3.3/2, mb1 3.6/9, mb1mx3.4/20, mbtmp4.1/9, Error ellipse: s-maj=19.3km s-min=14.5km az=108.0*

ISC 10 05:37:40.3±0.8, 2301S±006×665W±01, h204km±11km, n14, σ1§15/19, mb3.4/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.26 280**		P	**Pn**	**05 38 23.0**	**+1.2**
	39nm,0.3s,baz=180,slow=0.5,SNR=471						
LVC				S	**Sn**	**05 38 54.7**	**+0.5**
	20nm,0.3s,baz=180,slow=17,SNR=17						
LPAZ	**La Paz**	**6.86 347**		P	**Pn**	**05 39 20.4**	**+1.7**
	5.1nm,0.3s,baz=152,slow=8.8,SNR=156						
LPAZ				S	**Sn**	**05 40 35.8**	**-1.2**
	baz=14,slow=17,SNR=4.4						
LPAZ	**La Paz**	**6.86 347**		P	**Pn**	**05 39 20.4**	**+1.7**
LPAZ				S	**Sn**	**05 40 35.8**	**-1.2**
ARE	**Arequipa**	**8.03 323**		*e*P	**Pn**	**05 39 32.0**	**-1.9**
ARE				*e*S	**Sn**	**05 40 59.0**	**-5.5**
SIV	**San Ignacio**	**8.66**	**37**	P	**Pn**	**05 39 42.2**	**+0.1**
	1.4nm,0.3s,baz=252,slow=11,SNR=36						
SIV				S	**Sn**	**05 41 11.5**	**-7.9**
	baz=242,slow=20,SNR=2.0						
CFAA	**Coronel Fontan**	**8.70 190**		P	**Pn**	**05 39 41.3**	**-1.2**
	0.6nm,0.3s,baz=4.5,slow=12,SNR=49						
CFAA				S	**Sn**	**05 41 13.4**	**-6.8**
	0.4nm,0.3s,baz=209,slow=15,SNR=12						
CPUP	**Villa Florida**	**8.97 113**		P	**Pn**	**05 39 42.1**	**-4.1**
	0.1nm,0.3s,baz=81,slow=4.9,SNR=3.0						
SAML	**Samuel**	**14.34**	**13**	*e*Pn	**Pn**	**05 40 54.3**	**0.0**
	3.1nm,0.6s						
NNA	**Nana**	**14.74 316**		P	**Pn**	**05 40 58.4**	**-0.6**
	0.8nm,0.3s,baz=185,slow=13,SNR=4.4						
PLCA	**Paso Flores**	**17.99 190**		P	**P**	**05 41 36.1**	**+0.4**
	0.2nm,0.3s,baz=358,slow=10,SNR=4.7						
BDFB	**Brasilia**	**18.92**	**70**	P	**P**	**05 41 47.0**	**+1.3**
	0.5nm,0.3s,baz=262,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**75.79**	**69**	P	**P**	**05 49 03.9**	**+0.2**
	0.8nm,0.5s,mb3.6,baz=257,slow=5.4,SNR=13						
PDAR	**Pinedale Array**	**76.54 329**		P	**P**	**05 49 08.2**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=141,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**132.71 207**		PKP	PKPdf	05 56 32.3	+1.5
	0.6nm,0.6s,baz=343,slow=9.3,SNR=5.2						

FUNV 10 05:45:05.3, 1200N×7223W, h19km, MW3.6, 1C-1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOV	**Isla Los Monje**	**1.34**	**75**	*e*P	Pn	05 45 28.5	-0.5
IMOV				*e*S	Sn	05 45 46.5	+0.3
VIRV	**Villa del Rosa**	**1.50 187**		⇑*i*P	Pn	05 45 31.0	-0.2
VIRV				*e*S	Sn	05 45 49.4	-0.8
DABV	**Dabajuro**	**1.89 124**		*e*P	Pn	05 45 35.6	-1.0
QARV	**Quebrada Arrib**	**2.44 137**		*e*P	Pn	05 45 43.6	-0.6
QARV				*i* S	Sn	05 46 11.9	-1.6
SIQV	**Siquisique**	**2.73 119**		*e*P	Pn	05 45 47.4	-0.6
CURV	**Curarigua**	**2.98 131**		*e*P	Pn	05 45 50.5	-1.0
VIGV	**El Vigia**	**3.26 165**		*e*P	Pn	05 45 54.9	-0.4
VIGV				*e*S	Sn	05 46 30.9	-2.6
TEPV	**Terepaima**	**3.60 124**		*e*P	Pn	05 45 59.3	-0.8
TEPV				*e*S	Sn	05 46 39.3	-2.8
SANV	**Sanarito**	**3.63 133**		*e*P	Pn	05 46 00.0	-0.4
SANV				*e*S	Sn	05 46 39.8	-3.0
SOCV	**Socops**	**3.94 160**		*e*P	Pn	05 46 04.0	-0.7
SOCV				*e*S	Sn	05 46 46.9	-3.4
TURV	**Turiamo**	**4.57 109**		*e*P	Pn	05 46 11.5	-1.9
BAUV	**El Baul**	**5.12 126**		⇓*i*P	Pn	05 46 19.6	-1.3
BAUV				*e*S	Sn	05 47 13.9	-5.5
BIRV	**Birongo**	**6.04 104**		*e*P	Pn	05 46 31.8	-1.7
BIRV				*e*S	Sn	05 47 35.5	-6.6

*NEIC **10** 06:12:15.6, 5785N×15585W, h21km, ML3.8(AEIC), ML4.0(PMR), After AEIC.*
*IDC **10** 06:12:16.1±1.3, 5830N×15569W, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/23, mbtmp4.0/11, ML3.2/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/22, Error ellipse: s-maj=40.0km s-min=11.0km az=25.0*
*ISCJB **10** 06:12:17.9±0.5, 5802N±006×15604W±0.10, h33km, mb4.0/9, MS3.3/2, Error ellipse: s-maj=8.1km s-min=7.2km az=131.8*

ISC 10 06:12:19.7±0.5, 5796N±006×15602W±010, h35km, n28, σ1§30/28, mb4.0/9, MS3.3/2, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.85**	**94**	Pg	**Pn**	**06 12 47.4**	**-1.4**
	195nm,0.3s,baz=276,slow=9.4,SNR=305						
KDAK				Lg		06 13 09.9	
	128nm,0.3s,baz=343,slow=19,SNR=20						
KDAK	**Kodiak Island**	**1.85**	**94**	P	**Pn**	**06 12 46.3**	**-2.6**
KDAK				S	**Sn**	**06 13 10.0**	**-1.0**
CHGN	**Chignik**	**2.11 219**		P	**Pn**	**06 12 51.9**	**-0.6**
SVW2	**Sparrevohn**	**3.16**	**4**	P	**Pn**	**06 13 05.6**	**-1.3**
SDPT	**Sand Point**	**3.59 225**		P	**Pn**	**06 13 12.8**	**0.0**
SLKM	**Skilak Lake**	**3.93**	**47**	*e*Pn	**Pn**	**06 13 18.8**	**+1.3**
SLKM				*e*Sn	**Sn**	**06 14 14.4**	**+12**
PMR	**Palmer**	**5.04**	**41**	*e*P	**Pn**	**06 13 33.6**	**+0.8**
MCK	**McKinley**	**6.74**	**28**	*e*Pn	**Pn**	**06 13 58.2**	**+2.0**
	15nm,0.5s						
COLA	**College**	**7.96**	**26**	*e*Pn	**Pn**	**06 14 13.8**	**+1.0**
	35nm,1.1s						
IMA2	**Indian Mountai**	**8.21**	**7**	*e*Pn	**Pn**	**06 14 17.2**	**+0.9**
EGAK	**Eagle**	**9.86**	**40**	*e*Pn	**Pn**	**06 14 38.7**	**-0.2**
	14nm,0.9s						
INK	**Inuvik**	**14.41**	**35**	Pn	**Pn**	**06 15 38.5**	**-2.7**
	0.1nm,0.3s,baz=236,slow=15,SNR=2.1						
INK				LR	LR	06 21 48.8	
	comp=Z,214nm,18.6s,baz=15,slow=41						
INK	**Inuvik**	**14.41**	**35**	Pn	**Pn**	**06 15 38.5**	**-2.7**
YKA	**Yellowknife Ar**	**20.78**	**60**	P	**P**	**06 16 55.6**	**-2.1**
	6.0nm,0.8s,baz=274,slow=10,SNR=8.5						
YKA				LR	LR	06 26 08.2	
	comp=Z,100nm,18.4s,MS3.2,baz=230,slow=41						
NEW	**Newport**	**24.95**	**96**	P	**P**	**06 17 40.6**	**+0.9**
	0.9nm,0.6s,mb3.5,baz=101,slow=19,SNR=2.1						
YBH	**Y

*NEIC **10** 06:57:07.8, 34.51S×71.44W, h70km, MD3.7(GUC), After GUC.*

GUC 10 06:57:07.8±0.7, 34.51S×71.44W, h70km±4km, MD3.7, ML3.5, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.37**	**107**	⇓*i*P	Pn	06 57 19.6	+0.2
NICH	**Los Niches**	**0.52**	**161**	⇓*e*P	Pn	06 57 20.9	+0.1
NICH				*i* S	Sn	06 57 30.9	+0.5
LNV	**Longovilo**	**0.55**	**3**	⇓*i*P	Pn	06 57 21.8	+0.7
LNV				*i* S	Sn	06 57 31.7	+0.8
CACH	**El Canelo**	**0.80**	**61**	⇑*i*P	Pn	06 57 24.3	+0.5
CACH				*i* S	Sn	06 57 36.2	+0.5
CHCH	**Chadas Angostu**	**0.87**	**49**	⇑*i*P	Pn	06 57 25.2	+0.5
CHCH				*i* S	Sn	06 57 37.9	+0.7
TALC	**Talca**	**0.90**	**190**	*i* P	Pn	06 57 20.5	-4.5
TALC				*i* S	Sn	06 57 33.4	-4.5
TALC				AML	AML	06 57 34.9	
	comp=N,8μm,0.1s						
TALC	**Talca**	**0.90**	**190**	*i* P	Pn	06 57 20.5	-4.5
TALC				*i* S	Sn	06 57 33.4	-4.5
TACH	**Talagante**	**0.95**	**26**	⇑*i*P	Pn	06 57 26.0	+0.3
TACH				*i* S	Sn	06 57 39.5	+0.6
LCCH	**Las Cruces**	**1.04**	**354**	*e*P	Pn	06 57 26.9	+0.1
CTCH	**Constitucion**	**1.14**	**224**	*e*P	Pn	06 57 28.1	0.0
CTCH				*i* S	Sn	06 57 43.9	+0.7
CTCH				AML	AML	06 57 58.8	
	comp=E,2μm,0.4s						
CTCH	**Constitucion**	**1.14**	**224**	*e*P	Pn	06 57 28.1	0.0
CTCH				*i* S	Sn	06 57 43.9	+0.7
RCDM	**Rinconada Maip**	**1.15**	**28**	*e*P	Pn	06 57 28.2	+0.1
RCDM				*i* S	Sn	06 57 43.7	+0.4
RCDM				AML	AML	06 57 44.8	
	comp=E,2μm,0.2s						
RCDM	**Rinconada Maip**	**1.15**	**28**	*e*P	Pn	06 57 28.2	+0.1
RCDM				*i* S	Sn	06 57 43.7	+0.4
ANTU	**Antumapu**	**1.15**	**36**	*e*P	Pn	06 57 28.8	+0.5
ANTU				*i* S	Sn	06 57 44.5	+1.0
ANTU				AML	AML	06 57 45.7	
	comp=E,2μm,0.3s						
ANTU	**Antumapu**	**1.15**	**36**	*e*P	Pn	06 57 28.8	+0.5
ANTU				*i* S	Sn	06 57 44.5	+1.0
PCH	**Pirque**	**1.17**	**41**	*e*P	Pn	06 57 29.1	+0.6
PCH				*i* S	Sn	06 57 44.8	+0.9
LMEL	**Las Melosas**	**1.22**	**58**	*e*P	Pn	06 57 29.9	+0.8
LMEL				*i* S	Sn	06 57 46.6	+1.6
LMEL				AML	AML	06 57 49.3	
	comp=N,3μm,0.1s						
LMEL	**Las Melosas**	**1.22**	**58**	*e*P	Pn	06 57 29.9	+0.8
LMEL				*i* S	Sn	06 57 46.6	+1.6
SAN	**Santiago**	**1.24**	**32**	*e*P	Pn	06 57 29.8	+0.5
SAN				*i* S	Sn	06 57 46.1	+0.7
SJCH	**San Jose de Ma**	**1.25**	**46**	⇑*i*P	Pn	06 57 30.1	+0.6
SJCH				*i* S	Sn	06 57 47.0	+1.3
SJCH				AML	AML	06 57 51.6	
	comp=E,518nm,0.3s						
SJCH	**San Jose de Ma**	**1.25**	**46**	⇑*i*P	Pn	06 57 30.1	+0.6
SJCH				*i* S	Sn	06 57 47.0	+1.3
STL	**Santa Lucia**	**1.26**	**32**	⇑*e*P	Pn	06 57 29.6	0.0
STL				*i* S	Sn	06 57 46.5	+0.5
STL				AML	AML	06 57 47.2	
	comp=E,209nm,0.4s						
CLCH	**Cerro Calan**	**1.34**	**34**	*e*P	Pn	06 57 31.3	+0.7
CLCH				*i* S	Sn	06 57 49.4	+1.5
CLCH				AML	AML	06 57 51.1	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.50**	**25**	*e*P	Pn	06 57 33.6	+0.9
PEL				*i* S	Sn	06 57 52.9	+1.3
PEL				AML	AML	06 57 58.6	
	comp=N,859nm,0.8s						
PEL	**Peldehue**	**1.50**	**25**	*e*P	Pn	06 57 33.6	+0.9
PEL				*i* S	Sn	06 57 52.9	+1.3
CNCO	**Chanco**	**1.52**	**216**	⇓*i*P	Pn	06 57 33.1	+0.1
CNCO				AML	AML	06 57 58.3	
	comp=E,397nm,0.3s						
FCH	**Farellones**	**1.52**	**39**	⇓*i*P	Pn	06 57 34.1	+1.1
FCH				*i* S	Sn	06 57 53.5	+1.6
FCH				AML	AML	06 57 58.7	
	comp=N,874nm,0.2s						
JACH	**Jahuel**	**1.96**	**21**	*e*P	Pn	06 57 39.5	+0.7
JACH				*i* S	Sn	06 58 03.5	+1.0
COCH	**Cobquecura**	**1.96**	**214**	*e*P	Pn	06 57 38.6	-0.2
PTCH	**Petorca**	**2.28**	**11**	*e*P	Pn	06 57 44.0	+0.7
PTCH				*i* S	Sn	06 58 10.3	0.0
PTCH				AML	AML	06 58 17.0	
	comp=N,478nm,0.2s						
PTCH	**Petorca**	**2.28**	**11**	*e*P	Pn	06 57 44.0	+0.7
PTCH				S	Sn	06 58 10.3	0.0
CMCH	**Combarbala**	**3.35**	**6**	*e*P	Pn	06 57 57.7	0.0
CMCH				*i* S	Sn	06 58 36.0	-0.3
CMCH				AML	AML	06 59 00.3	
	comp=N,296nm,0.7s						
CMCH	**Combarbala**	**3.35**	**6**	*e*P	Pn	06 57 57.7	0.0
CMCH				*i* S	Sn	06 58 36.0	-0.3

*NEIC **10** 07:12:22.5, 14.62N×60.56W, h34km, MD3.7(TRN), After TRN.*

TRN 10 07:12:21.5, 14.65N×60.51W, h54km, MD3.7, M2.8(FDF), M3.6(FDF), 2C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.62**	**277**	⇓*i*P	Pn	07 12 35.0	+0.5
FDF				*e*S	Sn	07 12 45.9	+2.1
DSHT	**Scott's Head**	**1.00**	**304**	*e*P	Pn	07 12 41.6	+2.3
DSHT				*e*S	Sn	07 12 55.5	+3.0
DBCT	**Belle View Cho**	**1.01**	**307**	*e*P	Pn	07 12 41.8	+2.4
DBCT				*e*S	Sn	07 12 55.7	+3.0
DBCT				*e*S		08 59 38.7	
DBCT	**Belle View Cho**	**1.01**	**307**	*e*P	Pn	07 12 41.8	+2.4
DBCT				*e*S	Sn	07 12 55.7	+3.0
MDN	**Morne-Daniel**	**1.08**	**308**	*e*P	Pn	07 12 42.7	+2.4
MDN				*e*S	Sn	07 12 56.8	+2.5
DWS	**Wesley**	**1.19**	**320**	⇑*e*P	Pn	07 12 43.5	+1.6
DWS				*e*S	Sn	07 12 59.8	+2.7
BBL	**Barber's Block**	**1.27**	**313**	*e*P	Pn	07 12 44.3	+1.4
SSV	**Crater Summit**	**1.48**	**207**	*e*P	Pn	07 12 47.2	+1.5
SSV				*e*S	Sn	07 13 05.8	+1.9
SSV	**Crater Summit**	**1.48**	**207**	*e*P	Pn	07 12 47.2	+1.5
SSV				*e*S	Sn	07 13 05.0	+1.1
MGG	**Marie-Galante**	**1.48**	**328**	*e*P	Pn	07 12 45.7	0.0
SVB	**Belmont**	**1.55**	**208**	*e*P	Pn	07 12 48.5	+1.8
SVB				*e*S	Sn	07 13 08.0	+2.3
TBG	**Guadaloupe-3**	**1.62**	**318**	⇓*e*P	Pn	07 12 48.5	+0.9
FCV	**Fort Charlotte**	**1.65**	**206**	*e*P	Pn	07 12 49.4	+1.3
FCV				*e*S	Sn	07 13 09.7	+1.5
FCV	**Fort Charlotte**	**1.65**	**206**	*e*P	Pn	07 12 49.4	+1.3
FCV				*e*S	Sn	07 13 09.2	+1.1
DEG	**La Desirade**	**1.73**	**342**	*e*P	Pn	07 12 48.2	-1.0
DEG				*e*S	Sn	07 13 09.2	-0.9
PHG	**Guadaloupe-2**	**1.74**	**321**	*e*P	Pn	07 12 50.7	+1.5
SCG	**Saint Claude**	**1.77**	**321**	*e*P	Pn	07 12 50.7	+0.9
SCG				*e*S	Sn	07 13 13.5	+2.4
BCG	**Bois Riant Cap**	**1.78**	**323**	⇓*e*P	Pn	07 12 50.7	+0.9
LZG	**Guadaloupe-1**	**1.92**	**321**	*e*P	Pn	07 12 52.8	+1.1
GRCU	**Cariacou**	**2.35**	**203**	*e*P	Pn	07 12 59.8	+2.1
GRCU				*e*S	Sn	07 13 26.7	+1.3
GRCU	**Cariacou**	**2.35**	**203**	*e*P	Pn	07 12 59.8	+2.1
GRCU				*e*S	Sn	07 13 25.8	+0.4
GRSS	**Sisters**	**2.57**	**205**	*e*P	Pn	07 13 04.4	+3.7
GRIC	**Isle de Caille**	**2.58**	**204**	*e*P	Pn	07 13 03.5	+2.7
GRIC				*e*S	Sn	07 13 31.9	+1.1
GRHS	**Sauteurs**	**2.65**	**205**	*e*P	Pn	07 13 03.6	+1.8
GRHS				*e*S	Sn	07 13 33.8	+1.1
GRHS	**Sauteurs**	**2.65**	**205**	*e*P	Pn	07 13 04.8	+3.0
GRHS				*e*S	Sn	07 13 33.8	+1.1
GRW	**Mount Saint Ca**	**2.72**	**204**	*e*P	Pn	07 13 04.5	+1.8
GRW				*e*S	Sn	07 13 37.0	+2.6
GRW	**Mount Saint Ca**	**2.72**	**204**	*e*P	Pn	07 13 05.8	+3.2
GRW				*e*S	Sn	07 13 37.0	+2.6
TPR	**Prospect**	**3.46**	**184**	⇑*i*P	Pn	07 13 14.7	+1.9
TPR				*e*S	Sn	07 13 54.2	+1.7
TRN	**Trinidad (W)**	**4.08**	**192**	*e*P	Pn	07 13 23.6	+2.3
TRN				*e*S	Sn	07 14 06.9	-0.7

*IDC **10** 07:12:35.9±5.7, 37.06N×71.94E, h94km±49km, mb3.6/9, mb1 3.7/12, mb1mx3.6/23, mbtmp3.9/12, Error ellipse: s-maj=32.8km s-min=19.4km az=14.0*

*MOS **10** 07:12:35.2±1.1, 37.05N×71.83E, h103km, mb4.2/5, Error ellipse: s-maj=26.5km s-min=12.6km az=104.2*

*ISCJB **10** 07:12:37.7±0.7, 37.16N±0.04×72.0E±0.1, h125km±10km, mb3.9/10, Error ellipse: s-maj=13.9km s-min=5.1km az=150.4*

*NNC **10** 07:12:50.1±9.1, 38.13N×71.86E, h219km±80km, mb2.7, mpv4.0, Error ellipse: s-maj=88.1km s-min=49.2km az=16.0*

ISC 10 07:12:38.3±0.7, 37.12N±0.04×71.9E±0.1, h117km±9km, n47, σ1 9.22/57, mb3.9/10, 7C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.28**	**180**	⇑P	Pn	07 13 34.6	+6.4
CHCP	**Chirah Chowk**	**3.62**	**162**	⇓P	Pn	07 13 39.4	+6.7
THW	**Thamme Wali**	**4.31**	**182**	⇑P	Pn	07 13 47.7	+5.8
SBDP	**Sheikh Budin**	**4.89**	**191**	⇓P	Pn	07 13 54.0	+4.3
AML	**Almayashu**	**5.19**	**15**	P	Pn	07 13 54.2	+0.4
SNR=17							
UCH	**Uchtor**	**5.48**	**21**	P	Pn	07 13 58.2	+0.6
SNR=32							
EKS2	**Erkin-Say**	**5.72**	**14**	P	Pn	07 14 01.2	+0.3
SNR=49							
AAK	**Ala-Archa**	**5.86**	**19**	P	Pn	07 14 03.4	+0.7
SNR=43							
KK31	**Karatay Array**	**6.08**	**350**	P	Pn	07 14 04.8	-0.9
57nm,0.3s,baz=155,slow=12,SNR=1041							
KK31				⇑S	Sn	07 15 06.5	-7.4
28nm,0.3s,baz=157,slow=50,SNR=18							
ULHL	**Ulahol**	**6.11**	**32**	P	Pn	07 14 06.8	+0.6
SNR=20							
CHMS	**Chumysh**	**6.26**	**19**	P	Pn	07 14 08.5	+0.2
SNR=23							
TKM2	**Tokmak 2**	**6.45**	**25**	P	Pn	07 14 11.1	+0.3
SNR=18							
TKM2	**Tokmak 2**	**6.45**	**25**	⇑P	Pn	07 14 11.1	+0.4
1.3nm,0.7s							
TKM2				⇓S	Sn	07 15 18.9	-4.0
1.9nm,0.6s							
USP	**Ospenovka**	**6.45**	**17**	P	Pn	07 14 10.7	-0.1
SNR=36							
SDNR	**Sundarnagar**	**6.99**	**142**	*e*P	Pn	07 14 20.0	+2.0
SDNR				*e*S	Sn	07 15 34.0	-1.9
KLP	**Kalpa**	**7.64**	**135**	*e*P	Pn	07 14 28.3	+1.5
KLP				*e*S	Sn	07 15 52.1	+0.3
KLP				AML	AML	07 15 58.9	
comp=N,275nm,0.7s							
KLP				AML	AML	07 15 59.4	
comp=E,330nm,0.5s							
NDI	**New Delhi**	**9.51**	**151**	*e*P	Pn	07 14 51.7	-0.5
NDI				*e*S	Sn	07 16 33.2	-4.0
NDI				AML	AML	07 16 40.3	
comp=E,44nm,0.3s							
NDI				AML	AML	07 16 40.4	
comp=N,33nm,0.3s							
KHET	**Khetri**	**9.59**	**159**	*e*P	Pn	07 14 53.5	+0.2
KHET				*e*S	Sn	07 16 36.2	-2.9
KHET				AML	AML	07 16 42.7	
comp=N,19nm,0.4s							
KHET				AML	AML	07 16 42.9	
comp=E,20nm,0.3s							
AYAN	**Aya Nagar**	**9.66**	**152**	*e*P	Pn	07 14 55.3	+1.1
AYAN				*e*S	Sn	07 16 36.2	-4.5
SONA	**Sohna**	**9.85**	**152**	*e*P	Pn	07 14 57.1	+0.3
SONA				*e*S	Sn	07 16 42.3	-3.1
SONA				AML	AML	07 16 49.7	
comp=N,16nm,0.2s							
SONA				AML	AML	07 16 49.8	
comp=E,51nm,0.3s							
AJM	**Ajmer**	**10.85**	**167**	*e*P	Pn	07 15 11.3	+1.1
AJM				*e*S	Sn	07 17 06.0	-3.6
MKAR	**Makanchi Array**	**12.36**	**35**	P	Pn	07 15 29.5	-0.7
comp=E,0.2nm,0.3s,baz=218,slow=14,SNR=4.2							
BHPL	**Bhopal**	**14.62**	**160**	*e*P	Pn	07 16 01.8	+2.5
BHPL				*ex*	x	07 18 38.6	
AB31	**Akbulak array**	**14.93**	**328**	⇓P	Pn	07 16 00.0	-3.2
comp=E,2.6nm,0.3s,baz=131,slow=15,SNR=130							
AB31				⇑S	Sn	07 18 30.7	-17
comp=E,8.7nm,0.7s,baz=153,slow=21,SNR=8.6							
VOSK	**Vostochnaya**	**15.62**	**358**	⇓P	Pn	07 16 09.1	-2.8
comp=E,1.8nm,0.7s							
BVAR	**Borovoye Array**	**15.95**	**357**	P	Pn	07 16 13.5	-2.4
comp=E,0.3nm,0.3s,baz=174,slow=16,SNR=8.4							
AKTO	**Aktyubinsk**	**16.64**	**328**	⇑P	Pn	07 16 23.7	-0.7
comp=E,0.1nm,0.7s							
AKTO				⇑S	S	07 19 14.1	-16
comp=E,0.1nm,0.7s							
AKTO	**Aktyubinsk**	**16.64**	**328**	P	Pn	07 16 22.8	-1.6
comp=E,1.3nm,0.3s,baz=132,slow=15,SNR=30							
AKTO	**Aktyubinsk**	**16.64**	**328**	P	Pn	07 16 22.8	-1.6
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
ORR	**Orenburg**	**18.93**	**325**	*e*P	P	07 16 51.7	+1.8
ORR				pmax	pmax		
comp=Z,10.0nm,0.9s							
IMP	**Imphal**	**22.47**	**117**	*ex*	x	07 14 00.0	
IMP				*ex*	x	07 15 04.0	
SONM	**Songino Array**	**27.38**	**56**	P	P	07 18 13.0	+0.5
comp=Z,0.3nm,0.4s,mb3.2,baz=267,slow=8.4,SNR=3.0							
AKASG	**Malin Array Be**	**33.14**	**308**	P	P	07 19 03.9	+0.5
comp=Z,0.4nm,0.3s,mb3.7,baz=81,slow=7.3,SNR=4.7							
JOF	**Joensuu**	**35.71**	**329**	*ep*	P	07 19 25.2	-0.2
comp=Z,2.5nm,0.3s,mb4.6							
JOF	**Joensuu**	**35.71**	**329**	*e*P	P	07 19 25.2	-0.2
JOF				pmax	pmax		
comp=Z,3.0nm,0.3s,mb4.7							
FINES	**FINESS Array B**	**37.39**	**325**	P	P	07 19 39.9	+0.2
comp=Z,0.9nm,0.4s,mb4.1,baz=120,slow=9.7,SNR=10							
FINES	**FINESS Array B**	**37.39**	**325**	P	P	07 19 39.9	+0.2
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.86**	**337**	P	P	07 20 08.8	+0.2
comp=Z,2.5nm,0.9s,mb4.1,baz=345,slow=14,SNR=20							
ARCES	**ARCESS Array B**	**40.86**	**337**	P	P	07 20 08.8	+0.2
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
NB2	**NORSAR Subarra**	**44.34**	**323**	P	P	07 20 36.2	-0.4
comp=Z,0.8nm,0.7s,mb3.6,baz=95,slow=8.6							
NOA	**NORSAR Array B**	**44.34**	**323**	P	P	07 20 36.6	0.0
comp=Z,0.8nm,0.6s,mb3.6,baz=93,slow=7.7,SNR=4.1							
NOA	**NORSAR Array B**	**44.34**	**323**	P	P	07 20 36.7	+0.1
NOA				pmax	pmax		
comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	P	07 23 15.8	+0.6
comp=Z,0.7nm,0.4s,mb3.8,baz=49,slow=6.0,SNR=19							
YKA	**Yellowknife Ar**	**80.60**	**3**	P	P	07 24 37.8	0.0
comp=Z,1.5nm,0.5s,mb4.0,baz=351,slow=5.4,SNR=7.9							
YKA	**Yellowknife Ar**	**80.60**	**3**	P	P	07 24 37.8	0.0
YKA				pmax	pmax		
comp=Z,2.0nm,0.5s							
WRA	**Warramunga Arr**	**81.69**	**123**	P	P	07 24 43.7	+0.1
comp=Z,0.2nm,0.4s,mb3.3,baz=326,slow=4.9,SNR=3.0							
SCHQ	**Schefferville**	**81.82**	**337**	P	P	07 24 43.8	-0.4
comp=Z,2.1nm,0.5s,mb4.2,baz=147,slow=6.0,SNR=4.1							

TRN 10 07:14:47.2, 17.48N×60.81W, h43km, MD3.9, M3.8(FDF), 4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.99**	**279**	*e*P	Pn	07 15 05.2	+0.6
CPB				*e*S	Sn	07 15 12.8	-4.5
BPA	**Boggy Peak**	**1.09**	**247**	*e*P	Pn	07 15 07.5	+1.5
BPA				*e*S	Sn	07 15 18.3	-1.7
DEG	**La Desirade**	**1.19**	**192**	⇓*e*P	Pn	07 15 08.5	+1.2
DEG				*e*S	Sn	07 15 27.1	+4.8
BCG	**Bois Riant Cap**	**1.59**	**209**	*e*P	Pn	07 15 14.9	+1.9
LZG	**Guadaloupe-1**	**1.63**	**215**	⇓*e*P	Pn	07 15 15.3	+2.0
MGG	**Marie-Galante**	**1.63**	**198**	*e*P	Pn	07 15 15.4	+1.9
PHG	**Guadaloupe-2**	**1.67**	**209**	*e*P	Pn	07 15 16.0	+2.1
SCG	**Saint Claude**	**1.67**	**210**	⇓*e*P	Pn	07 15 16.3	+2.3
TBG	**Guadaloupe-3**	**1.81**	**207**	⇓*e*P	Pn	07 15 18.2	+2.4
SKI	**Saint Kitts**	**1.85**	**266**	*e*P	Pn	07 15 18.5	+2.1
SKI				*e*S	Sn	07 15 40.7	+2.1
BBL	**Barber's Block**	**2.05**	**198**	*e*P	Pn	07 15 20.9	+1.8
FDF	**Fort de France**	**2.75**	**187**	*e*P	Pn	07 15 30.4	+1.5
FDF				*e*S	Sn	07 16 01.7	+0.9

PRE 10 07:20:44.0±1.7, 21.68S×32.51E, h5km, ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.40**	**254**	*e*P	Pn	07 21 24.6	+0.7
MSNA				*e*S	Sn	07 21 55.0	+1.4
MSNA				AML	AML	07 22 17.2	
comp=Z,176nm,0.5s							
SLR	**Silverton**	**5.59**	**223**	*e*S	Sn	07 23 10.0	-2.4
SLR				AML	AML	07 23 54.1	
comp=Z,88nm,0.6s							
POGA	**Pongola**	**5.72**	**188**	*e*P	Pn	07 22 10.8	+1.2
POGA				*e*S	Sn	07 23 12.7	-2.9
POGA				AML	AML	07 24 00.3	
comp=Z,50nm,0.4s							
PRYS	**Parys**	**7.02**	**221**	*e*P	Pn	07 22 29.2	+1.8
PRYS				*e*S	Sn	07 23 45.6	-1.9
PRYS				AML	AML	07 24 45.2	
comp=Z,39nm,0.7s							
LBTB	**Lobatse**	**7.16**	**241**	*e*P	Pn	07 22 31.4	+2.1
LBTB				*e*S	Sn	07 23 47.5	-3.6
LBTB				AML	AML	07 24 49.4	
comp=Z,37nm,0.6s							
SEK	**Senekal**	**7.96**	**213**	*e*P	Pn	07 22 41.1	+0.8
SEK				*e*S	Sn	07 24 06.7	-4.0
SEK				AML	AML	07 24 18.2	
comp=Z,24nm,0.6s							
SWZ	**Schweizer**	**8.53**	**229**	*e*P	Pn	07 22 49.4	+1.3
SWZ				*e*S	Sn	07 24 21.3	-3.4
SWZ				AML	AML	07 24 59.3	
comp=Z,6.1nm,0.5s							
KSD	**Kokstad**	**9.25**	**197**	*e*P	Pn	07 22 59.0	+1.1
KSD				*e*S	Sn	07 24 37.3	-5.1
KSD				AML	AML	07 24 46.7	
comp=Z,5.4nm,0.6s							
BOSA	**Boshof**	**9.52**	**222**	*e*P	Pn	07 23 02.5	+0.7
BOSA				*e*S	Sn	07 24 45.7	-3.4
BOSA				AML	AML	07 25 43.8	
comp=Z,4.1nm,0.7s							
UPI	**Upington**	**12.17**	**235**	*e*P	Pn	07 23 38.9	+0.9
UPI				*e*S	Sn	07 25 48.2	-5.9
UPI				AML	AML	07 25 54.1	
comp=Z,17nm,0.7s							

IDC 10 07:41:12.2±57.0, 17.61S×172.93W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, Error ellipse: s-maj=1091.0km s-min=184.1km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.36**	**242**	P	P	07 49 16.8	+0.7
1.1nm,0.6s,baz=72,slow=6.4,SNR=4.6							
WRA	**Warramunga Arr**	**49.81**	**259**	P	P	07 50 06.7	-0.1
0.4nm,0.3s,baz=98,slow=7.1,SNR=7.0							
ASAR	**Alice Springs**	**49.89**	**254**	P	P	07 50 07.8	+0.4
4.4nm,0.7s,baz=90,slow=8.4,SNR=70							

*IDC **10** 08:02:49.8±0.4, 56.12S×122.54W, h0km, mb4.9/22, mb1 4.9/22, mb1mx4.9/24, mbtmp4.8/22, MS5.8/19, Ms1 5.8/19, ms1mx5.7/21, Error ellipse: s-maj=23.0km s-min=11.0km az=160.0*

*ISCJB **10** 08:02:50.7±0.2, 56.11S±0.05×122.38W±0.09, h10km, mb5.2/49, MS5.7/156, Error ellipse: s-maj=7.6km s-min=6.2km az=60.1*

*MOS **10** 08:02:51.4±1.5, 56.05S×122.57W, h10km, mb5.5/22, MS5.5/38, Error ellipse: s-maj=20.8km s-min=9.9km az=85.2*

*NEIC **10** 08:02:52.0±0.2, 56.10S×122.37W, h10km, mb5.3/39, MS5.7/138, MW5.9, Error ellipse: s-maj=8.9km s-min=7.8km az=130.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.97; $M_{\theta\theta}$7.72; $M_{\phi\phi}$-5.75; $M_{r\theta}$0.05; $M_{r\phi}$6.88; $M_{\theta\phi}$0.05; Best double couple: $M_0$9.60000×10^{17} NP1:ϕ_s22.00000°, δ90.00000°, λ180.00000°. NP2:ϕ_s112.00000°, δ90.00000°, λ0.00000°. Principal axes: T 10.6000, Plg0.0000°, Azm337.0000°; N -2.0000, Plg90.0000°, Azm189.0000°; P -8.6000, Plg0.0000°, Azm67.0000°;*

*BJI **10** 08:02:51.9, 56.10S×122.40W, h10km, mB5.7, Ms5.8, Msz5.5*

*GCMT **10** 08:02:52.0±0.1, 56.18S×122.41W, h12km, MW6.0/104, Moment Tensor Solution. s98, c219; s104, c357; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.10±.01; $M_{\theta\theta}$0.62±.01; $M_{\phi\phi}$-0.52±.01; $M_{r\theta}$-0.11±.02; $M_{\theta\phi}$1.01±.01; $M_{\phi r}$-0.14±.02; Best double couple: $M_0$1.17400×10^{18} NP1:ϕ_s285.00000°, δ82.00000°, λ2.00000°. NP2:ϕ_s195.00000°, δ88.00000°, λ172.00000°. Principal axes: T 1.2300, Plg7.0000°, Azm150.0000°; N -0.1110, Plg82.0000°, Azm359.0000°; P -1.1190, Plg4.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SZGRF **10** 08:02:52.6, 56.81S×124.13W, h40km, mb5.7, Southern East Pacific Rise*

ISC 10 08:02:52.7±2.5, 56.08S±0.05×122.41W±0.09, h15km±15km, h34km±.9km: pP-P, n458, σ0 9.89/127, mb5.2/49, MS5.7/156, 23C-14D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.05**	**131**	P	P	**08 08 51.8**	**-0.5**
23nm,1.0s,mb4.9,baz=243,slow=9.0,SNR=13							
PMSA				LR	LR	08 17 19.3	
comp=Z,23μm,19.5s,MS5.8,baz=265,slow=30							
PMSA	**Palmer Station**	**29.05**	**131**	*e*P	P	**08 08 52.6**	**+0.3**
38nm,1.1s,mb5.0							
PMSA				LR	LR		
comp=Z,32μm,22.0s,MS5.9							
USHA	**Ushuaia**	**29.98**	**111**	LR	LR	08 18 07.9	
comp=Z,23μm,21.9s,MS5.8,baz=220,slow=31							
PTCN	**Pitcairn Islan**	**31.48**	**347**	PFAKE		08 09 30.0	+16
PTCN				LR	LR		
comp=Z,20μm,21.0s,MS5.8							
SBA	**Scott Base**	**31.98**	**202**	*

PLCA LR LR
comp=Z,11μm,21.0s,MS5.6
TBI Tubuai 38.26 318 eLR LR 08 20 08.8
comp=Z,25μm,30.5s,baz=162
SNZO South Karori 42.52 263 PFAKE 08 11 00.0 +12
SNZO LR LR
comp=Z,5μm,21.0s,MS5.4
DRV Dumont d'Urvil 43.11 215 S **S** **08 17 19.0 +1.1**
DRV L 08 20 00.0
DRV R 08 23 00.0
TVO Taravao 43.28 321 eP **P** **08 10 54.9 +1.2**
comp=Z,120nm,1.1s,mb5.5
TVO Taravao 43.28 321 eP **P** **08 10 54.9 +1.2**
TVO pmax pmax
comp=Z,120nm,1.1s,mb5.5
TRQA Tornquist 43.39 92 eP **P** **08 10 53.7 -0.9**
comp=Z,79nm,1.4s,mb5.2
TRQA LR LR
comp=Z,14μm,21.0s,MS5.8
PAE Paea 43.51 321 eP **P** **08 10 56.5 +0.9**
comp=Z,66nm,0.9s,mb5.4
PAE Paea 43.51 321 eP **P** **08 10 56.5 +0.9**
PAE pmax pmax
comp=Z,66nm,0.9s,mb5.4
PPT Papeete 43.59 321 eLQ 08 20 51.4
comp=Z,33μm,28.2s
PPT eLR LR 08 22 38.3
comp=Z,32μm,27.0s,baz=164
PPT Papeete 43.59 321 LR LR 08 25 00.7
comp=Z,6μm,18.5s,MS5.5,baz=153,slow=30
VAH Vaihoa 45.10 325 eP **P** **08 11 08.7 +0.4**
comp=Z,184nm,1.6s,mb5.7
VNA1 Neumayer--Stat 45.23 155 ⇑iP **P** **08 11 09.9 +0.6**
VNA1 e 08 11 12.0
VNA1 e 08 11 16.3
VNA1 e 08 11 21.4
VNA1 e 08 11 39.9
VNA1 e 08 12 49.5
VNA1 e 08 12 53.8
PMOR Pomariorio Ree 45.41 324 eP **P** **08 11 11.0 +0.3**
comp=Z,70nm,1.4s,mb5.3
SNAA Sanae 45.73 157 ⇑iP **P** **08 11 12.7 -0.6**
SNAA e pP 08 11 15.0 -3.0
SNAA e 08 11 20.0
SNAA e 08 11 26.5
SNAA e 08 11 44.3
SNAA e 08 12 50.8
SNAA e 08 13 03.5
SNAA Sanae 45.73 157 eP **P** **08 11 12.7 -0.6**
SNAA pmax pmax
comp=Z,44nm,1.1s
SNAA Sanae 45.73 157 eP **P** **08 11 12.7 -0.6**
comp=Z,44nm,1.1s,mb5.3
RAO Raoul Island 47.16 281 PFAKE 08 11 40.0 +16
RAO LR LR
comp=Z,2μm,22.0s,MS5.0
LPA La Plata 47.91 92 deP **P** **08 11 30.0 -0.4**
LPA eS **S** **08 18 26.0 -1.3**
LPA eSCS ScS 08 21 23.0 -0.3
LPA
comp=Z,12μm,18.0s
TAOE Nuku Hiva Isla 49.13 337 eS **S** **08 18 40.5 -4.0**
comp=Z,23μm,25.3s
TAOE eLQ 08 23 13.3
comp=Z,11μm,40.1s
TAOE eLR LR 08 25 22.2
comp=Z,65μm,27.6s,baz=181
MAIT Maitri 49.31 162 eP **P** **08 11 41.0 -0.1**
NVL N'lazarevskaya 49.33 162 c iP **P** **08 11 40.9 -0.4**
NVL i 08 13 42.7
NVL i S **S** **08 18 51.6 +4.3**
NVL pmax pmax
comp=Z,49nm,1.8s,mb5.2
NVL MLR MLR
comp=Z,22μm,19.9s,MS6.2
LVC Limon Verde 51.34 72 P **P** **08 11 57.1 +0.6**
comp=Z,9.8nm,0.8s,mb4.8,baz=180,slow=8.1,SNR=5.8
LVC Limon Verde 51.34 72 eP **P** **08 11 57.4 +0.9**
comp=Z,76nm,1.6s,mb5.4
LVC LR LR
comp=Z,7μm,21.0s,MS5.7
SYO Syowa Base 54.53 172 ||iP **P** **08 12 19.0 -1.0**
SYO Syowa Base 54.53 172 ||iPP pP 08 12 21.8 -3.0
SYO Syowa Base 54.53 172 ||esP sP 08 12 23.6 -3.0
CPUP Villa Florida 54.74 85 P **P** **08 12 20.1 -1.5**
comp=Z,9.2nm,0.9s,mb4.8,baz=216,slow=7.3,SNR=15
CPUP LR LR 08 32 44.2
comp=Z,10μm,18.9s,MS5.9,baz=209,slow=33
CPUP Villa Florida 54.74 85 eP **P** **08 12 20.6 -1.0**
CPUP pmax pmax
comp=Z,81nm,1.3s
CPUP MLR MLR
comp=Z,2μm,19.0s
CPUP Villa Florida 54.74 85 eP **P** **08 12 20.6 -1.0**
comp=Z,81nm,1.3s,mb5.6
CPUP LR LR
comp=Z,2μm,19.0s,MS5.2
MIR Mirnyy 54.83 196 d iP **P** **08 12 24.0 +1.8**
MIR e 08 13 24.0
MIR eS **S** **08 19 54.0 -8.7**
MIR ePS 08 20 10.0
MIR pmax pmax
comp=Z,40nm,1.0s,mb5.4
MIR MLR MLR
comp=N,3μm,17.0s,MS5.5
MIR MLR MLR
comp=E,2μm,17.0s,MS5.5
MIR MLR MLR
comp=Z,6μm,17.0s,MS5.8
ARE Arequipa 55.09 65 eP **P** **08 12 24.0 -0.1**
TAU Tasmania Unive 55.95 242 PFAKE 08 12 40.0 +10
TAU LR LR
comp=Z,1μm,19.0s,MS5.0
NNA Nana 56.30 57 P **P** **08 12 33.5 +0.7**
comp=Z,9.5nm,0.8s,mb4.9,baz=228,slow=7.2,SNR=4.9
NNA LR LR 08 30 16.6
comp=Z,9μm,20.9s,MS5.8,baz=214,slow=29
NNA Nana 56.30 57 eP **P** **08 12 33.4 +0.6**
comp=Z,10nm,0.8s,mb4.9
NNA LR LR
comp=Z,3μm,22.0s,MS5.3
AFI Afiamalu 56.47 298 PFAKE 08 12 50.0 +16
AFI LR LR
comp=Z,4μm,21.0s,MS5.5
MAW Mawson 56.57 182 ⇑iP **P** **08 12 34.1 -0.6**
comp=Z,26nm,1.0s,mb5.2
MAW eS **S** **08 20 27.1 +1.2**
MAW Mawson 56.57 182 P **P** **08 12 34.1 -0.6**
comp=Z,35nm,1.0s,mb5.3,baz=182,slow=7.5,SNR=49
MAW LR LR 08 35 59.8
comp=Z,12μm,18.8s,MS6.0,baz=166,slow=35
MAW Mawson 56.57 182 ⇑iP **P** **08 12 34.1 -0.6**
MAW eS **S** **08 20 27.1 +1.2**
MAW pmax pmax
comp=Z,26nm,1.0s
LPAZ La Paz 56.97 68 P **P** **08 12 38.3 +0.8**
comp=Z,14nm,1.0s,mb5.0,baz=209,slow=5.7,SNR=32
LPAZ LR LR 08 31 18.7
comp=Z,6μm,19.4s,MS5.7,baz=212,slow=30
LPAZ La Paz 56.97 68 PFAKE 08 12 50.0 +12
LPAZ LR LR
comp=Z,7μm,21.0s,MS5.7
ATAH Atahualpa 59.97 53 P **P** **08 12 59.4 +0.9**
comp=Z,5.5nm,0.8s,mb4.6,baz=322,slow=12,SNR=3.8
ATAH LR LR 08 32 40.5
comp=Z,18μm,20.4s,MS6.2,baz=213,slow=30
CNB Canberra Magne 60.61 250 eP **P** **08 13 03.3 +0.4**
comp=Z,48nm,1.3s,mb5.5
TOO Toolangi 60.89 245 eP **P** **08 13 05.5 +0.7**
comp=Z,19nm,1.2s,mb5.1
TOO eS S 08 21 44.4 +22
TOO Toolangi 60.89 245 eP **P** **08 13 05.5 +0.7**
TOO eS S 08 21 44.4 +22
TOO pmax pmax
comp=Z,19nm,1.2s,mb5.1
SIV San Ignacio 60.97 75 P **P** **08 13 04.5 -0.8**
comp=Z,16nm,0.7s,mb5.2,baz=220,slow=6.9,SNR=61
PAYG Puerto Ayora 61.03 37 PFAKE 08 13 20.0 +14
PAYG LR LR
comp=Z,12μm,20.0s,MS6.0
DZM Mont Dzumac 61.48 273 P **P** **08 13 08.2 -0.5**
comp=Z,6.7nm,0.7s,mb4.9,baz=98,slow=12,SNR=4.5
DZM LR LR 08 34 34.0
comp=Z,5μm,20.2s,MS5.7,baz=249,slow=31
FUNA Funafuti 65.63 292 PFAKE 08 13 50.0 +14
FUNA LR LR
comp=Z,7μm,20.0s,MS5.9
OTAV Otavalo 66.42 49 eP **P** **08 13 41.5 +0.3**
comp=Z,25nm,1.2s,mb5.1
OTAV LR LR
comp=Z,5μm,22.0s,MS5.6
STKA Stephens Creek 67.33 246 ⇑iP **P** **08 13 46.9 -0.2**
comp=Z,16nm,1.8s,mb4.8
STKA iS S 08 22 45.3 +3.4
STKA Stephens Creek 67.33 246 P **P** **08 13 47.0 -0.1**
comp=Z,9.2nm,0.9s,mb4.8,baz=141,slow=9.1,SNR=11
STKA LR LR 08 37 40.7
comp=Z,8μm,20.3s,MS5.9,baz=129,slow=31
BDFB Brasilia 68.46 86 P **P** **08 13 53.7 -0.5**
comp=Z,10nm,1.0s,mb4.8,baz=162,slow=4.0,SNR=5.0
BDFB LR LR 08 41 01.2
comp=Z,12μm,21.1s,MS6.1,baz=218,slow=33
BDFB Brasilia 68.46 86 eP **P** **08 13 50.6 -3.6**
BDFB pmax pmax
comp=Z,55nm,1.4s
BDFB Brasilia 68.46 86 eP **P** **08 13 50.6 -3.6**
comp=Z,55nm,1.4s,mb5.4
BDFB LR LR 08 41 01.2
TRIS Tristan da Cun 69.95 127 PFAKE 08 14 10.0 +6.6
TRIS LR LR
comp=Z,5μm,20.0s,MS5.8
ROSC El Rosal 72.33 51 P **P** **08 14 18.9 +1.1**
comp=Z,15nm,1.0s,mb4.9,baz=150,slow=1.7,SNR=7.5
ROSC LR LR 08 40 47.6
comp=Z,5μm,19.3s,MS5.8,baz=186,slow=32
ROSC El Rosal 72.33 51 eP **P** **08 14 18.9 +1.1**
CTA Charters Tower 74.31 257 eP **P** **08 14 29.3 -0.2**
comp=Z,14nm,1.0s,mb4.9
CTA eS S 08 23 59.0 -4.0
CTA Charters Tower 74.31 257 P **P** **08 14 29.1 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=207,slow=5.3,SNR=5.9
CTA Charters Tower 74.31 257 eP **P** **08 14 29.3 -0.2**
CTA eS S 08 23 59.0 -4.0
CTA pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 74.31 257 eP **P** **08 14 29.5 0.0**
CTAO pmax pmax
comp=Z,29nm,1.1s,mb5.1
CTAO MLR MLR
comp=Z,3μm,20.0s,MS5.6
CTAO Charters Tower 74.31 257 eP **P** **08 14 29.5 0.0**
comp=Z,29nm,1.1s,mb5.1
CTAO LR LR
comp=Z,3μm,20.0s,MS5.6
FORT Forrest 74.91 237 eP **P** **08 14 34.3 +1.3**
comp=Z,26nm,0.9s,mb5.2
HNR Honiara 75.33 275 PFAKE 08 14 50.0 +15
HNR LR LR
comp=Z,905nm,20.0s,MS5.1
TGUH Tegucigalpa,Un 75.82 35 eP **P** **08 14 39.5 +1.3**
comp=Z,24nm,1.0s,mb5.1
SDV Santo Domingo 77.55 53 P **P** **08 14 48.1 +0.1**
comp=Z,9.6nm,0.9s,mb4.7,baz=232,slow=4.1,SNR=7.6
SDV Santo Domingo 77.55 53 eP **P** **08 14 48.4 +0.5**
comp=Z,39nm,1.4s,mb5.1
SDV LR LR
comp=Z,3μm,21.0s,MS5.6
NWAO Narrogin (SRO) 77.89 228 P **P** **08 14 47.6 -2.3**
comp=Z,42nm,1.2s,mb5.2,baz=137,slow=5.4,SNR=5.1
NWAO Narrogin (SRO) 77.89 228 eP **P** **08 14 50.0 +0.1**
NWAO pmax pmax
comp=Z,58nm,1.4s
NWAO MLR MLR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 77.89 228 eP **P** **08 14 50.0 +0.1**
comp=Z,58nm,1.4s,mb5.3
NWAO LR LR
comp=Z,3μm,20.0s,MS5.5
AS31 Alice Springs 77.94 246 eP **P** **08 14 49.6 -0.6**
ASAR Alice Springs 77.94 246 P **P** **08 14 48.5 -1.6**
comp=Z,3.9nm,0.9s,mb4.3,baz=150,slow=5.5,SNR=22
ASAR LR LR 08 44 52.4
comp=Z,6μm,18.5s,MS5.9,baz=139,slow=32
ASPA Alice Springs 77.94 246 eP **P** **08 14 49.6 -0.6**
MUN Mundaring 79.14 228 eP **P** **08 15 04.1 +7.3**
MUN eS S 08 25 05.7 +10
ZAIG Zacatecas 80.33 19 i P **P** **08 15 02.4 -0.8**
POHA Pohakuloa 80.56 329 PFAKE 08 15 20.0 +16
POHA LR LR
comp=Z,6μm,22.0s,MS5.9
WB2 Warramunga Arr 80.79 248 ⇑iP **P** **08 15 04.5 -1.2**
WB2 i S S 08 25 13.9 +0.6
WRA Warramunga Arr 80.80 248 P **P** **08 15 04.5 -1.3**
comp=Z,7.3nm,0.8s,mb4.6,baz=145,slow=4.8,SNR=33
WRA LR LR 08 47 45.7
comp=Z,4μm,18.2s,MS5.8,baz=150,slow=33
WRAB Tennant Creek 80.80 248 P **P** **08 15 04.4 -1.4**
comp=Z,115nm,1.1s,mb5.7,SNR=5.1
WRAB Tennant Creek 80.80 248 eP **P** **08 15 04.6 -1.2**
PCRV Puerto La Cruz 81.44 57 P **P** **08 15 08.8 -0.4**
comp=Z,17nm,1.1s,mb4.9,baz=135,slow=4.3,SNR=3.5
PMG Port Moresby 82.51 264 LR LR 08 47 22.4
comp=Z,4μm,19.5s,MS5.8,baz=150,slow=32
PMG Port Moresby 82.51 264 PFAKE 08 15 30.0 +15
PMG LR LR
comp=Z,4μm,20.0s,MS5.7
KIP Kipapa 82.88 327 PFAKE 08 15 30.0 +13
KIP LR LR
comp=Z,10μm,20.0s,MS6.2
RCBR Riachuelo 83.25 90 PFAKE 08 15 30.0 +11
RCBR LR LR
comp=Z,7μm,21.0s,MS6.0
SUR Sutherland 86.48 150 PFAKE 08 15 50.0 +15
SUR LR LR
comp=Z,2μm,19.0s,MS5.5
FITZ Fitzroy Crossi 86.77 242 eS S 08 26 03.6 -10
FITZ Fitzroy Crossi 86.77 242 P **P** **08 15 34.8 -1.5**
comp=Z,6,7nm,1.0s,mb4.8,baz=126,slow=2.9,SNR=8.7
FITZ Fitzroy Crossi 86.77 242 eP **P** **08 15 34.7 -1.6**
comp=Z,25nm,1.4s,mb5.2
FITZ eS S 08 26 03.6 -10
MBWA Marble Bar 86.98 236 eP **P** **08 15 36.6 -0.8**
MBWA LR LR
comp=Z,4μm,19.0s,MS5.8
SJG San Juan 87.69 52 PFAKE 08 15 50.0 +9.2
SJG LR LR
comp=Z,4μm,19.0s,MS5.8
JCT Junction City 88.35 19 eP **P** **08 15 43.0 -0.9**
JCT pmax pmax
comp=Z,57nm,1.5s,mb5.6
JCT MLR MLR
comp=Z,2μm,22.0s,MS5.5
JCT Junction City 88.35 19 eP **P** **08 15 43.0 -0.9**
comp=Z,57nm,1.5s,mb5.6
JCT LR LR
comp=Z,2μm,22.0s,MS5.5
BAR Barrett 88.54 5 eP **P** **08 15 45.0 +0.2**
TUC Tucson 88.60 10 eP **P** **08 15 45.1 0.0**
TUC pmax pmax
comp=Z,36nm,1.3s,mb5.5
TUC MLR MLR
comp=Z,3μm,20.0s,MS5.8
TUC Tucson 88.60 10 eP **P** **08 15 45.1 0.0**
comp=Z,36nm,1.3s,mb5.5
TUC LR LR
comp=Z,3μm,20.0s,MS5.8
MNTX Cornudas Mount 88.63 14 eP **P** **08 15 44.2 -1.0**
comp=Z,30nm,1.4s,mb5.4
MNTX LR LR
comp=Z,3μm,20.0s,MS5.7
HKT Hockley 88.64 23 eP **P** **08 15 44.9 -0.4**
HKT pmax pmax
comp=Z,106nm,2.2s,mb5.8
HKT MLR MLR
comp=Z,1μm,22.0s,MS5.3
HKT Hockley 88.64 23 eP **P** **08 15 44.9 -0.4**
comp=Z,106nm,2.2s,mb5.8
HKT LR LR
comp=Z,1μm,22.0s,MS5.3
SNCC San Nicolas Is 89.01 2 PFAKE 08 16 00.0 +13
SNCC LR LR
comp=Z,4μm,22.0s,MS5.8
GLA Glamis 89.01 6 eP **P** **08 15 47.1 +0.1**
GDL2 Guadalupe Moun 89.27 15 eP **P** **08 15 48.0 -0.2**
PFO Pinyon Flat Ob 89.48 5 eP **P** **08 15 49.4 +0.2**
PFO pmax pmax
comp=Z,16nm,1.1s,mb5.3
PFO MLR MLR
comp=Z,999nm,21.0s,MS5.2
PFO Pinyon Flat Ob 89.48 5 eP **P** **08 15 49.4 +0.2**
comp=Z,16nm,1.1s,mb5.2
PFO LR LR
comp=Z,999nm,21.0s,MS5.2
MWC Mount Wilson 90.02 4 eP **P** **08 15 53.2 +1.4**
NATX Nacogdoches 90.64 23 PFAKE 08 16 10.0 +15
NATX LR LR
comp=Z,781nm,19.0s,MS5.2
DWPF Disney 90.82 35 PFAKE 08 16 10.0 +15
DWPF LR LR
comp=Z,2μm,21.0s,MS5.5
LENM Lemitar 90.85 13 eP **P** **08 15 56.3 +0.7**
LPM Los Pinos Moun 91.04 13 eP **P** **08 15 56.4 -0.1**
LAZ Ladron 91.06 13 eP **P** **08 15 56.1 -0.5**
GSC Goldstone 91.15 5 eP **P** **08 15 57.5 +0.5**
BOSA Boshof 91.26 152 LR LR 08 54 03.7
comp=Z,8μm,18.6s,MS6.2,baz=198,slow=34
BOSA Boshof 91.26 152 PFAKE 08 16 10.0 +12
BOSA LR LR
comp=Z,10μm,21.0s,MS6.2
PTRM Twissleman Ran 91.39 2 eP **P** **08 15 58.0 -0.1**
ISA Isabella 91.44 3 eP **P** **08 15 58.1 -0.2**
ISA epP pP 08 16 08.8 +5.5
ISA LR LR
comp=Z,1μm,20.0s,MS5.3
ANMO Albuquerque 91.69 13 P **P** **08 15 58.0 -1.5**
comp=Z,5.4nm,0.9s,mb4.9,baz=176,slow=5.7,SNR=9.0
ANMO Albuquerque 91.69 13 eP **P** **08 15 58.9 -0.6**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO MLR MLR
comp=Z,2μm,21.0s
ANMO Albuquerque 91.69 13 eP **P** **08 15 58.9 -0.6**
comp=Z,15nm,1.3s,mb5.2
ANMO LR LR
comp=Z,2μm,21.0s,MS5.5
WUAZ Wupatki 91.72 9 eP **P** **08 15 59.5 -0.2**
comp=Z,14nm,1.1s,mb5.2
WUAZ epP pP 08 16 09.7 +5.1
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.6
DAC Darwin (Calif) 92.09 4 eP **P** **08 16 02.2 +0.9**
DAC pmax pmax
comp=Z,21nm,1.4s,mb5.3
DAC MLR MLR
comp=Z,4μm,22.0s,MS5.8
DAC Darwin (Calif) 92.09 4 eP **P** **08 16 02.2 +0.8**
comp=Z,21nm,1.4s,mb5.3
DAC epP pP 08 16 11.8 +5.4
DAC LR LR
comp=Z,4μm,22.0s,MS5.8
SHPR Sheep Range 92.43 6 eP **P** **08 16 03.2 +0.3**
SHPR epP pP 08 16 14.2 +6.3
WMOK Wichita Mounta 92.68 19 eP **P** **08 16 04.7 +0.6**
WMOK pmax pmax
comp=Z,16nm,1.5s,mb5.2
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.5
WMOK Wichita Mounta 92.68 19 eP **P** **08 16 04.7 +0.6**
comp=Z,16nm,1.5s,mb5.2
WMOK LR LR
comp=Z,2μm,21.0s,MS5.5
MIAR Mount Ida 93.56 24 PFAKE 08 16 20.0 +12
MIAR LR LR
comp=Z,1μm,19.0s,MS5.3
CCUT Cedar City 93.58 7 eP **P** **08 16 08.1 -0.1**
MVCO Mesa Verde 93.68 11 eP **P** **08 16 07.8 -0.9**
comp=Z,34nm,1.4s,mb5.6
MVCO e 08 16 18.6
ARUT Antelope Range 93.81 7 eP **P** **08 16 08.8 -0.5**
TPH Tonopah 93.89 4 P **P** **08 16 10.4 +0.7**
TPH pmax pmax
comp=Z,25nm,1.4s,mb5.5
TPH MLR MLR
comp=Z,3μm,21.0s,MS5.8
TPH Tonopah 93.89 4 P **P** **08 16 10.4 +0.8**
comp=Z,25nm,1.4s,mb5.5
TPH LR LR
comp=Z,3μm,21.0s,MS5.8
WAKR Walker 94.25 2 eP **P** **08 16 11.0 -0.3**
WAKR epP pP 08 16 21.7 +5.4
OXF Oxford 94.52 27 PFAKE 08 16 20.0 +7.5
OXF LR LR
comp=Z,2μm,20.0s,MS5.5
SDCO Great Sand Dun 94.56 13 PFAKE 08 16 20.0 +7.2
SDCO LR LR
comp=Z,2μm,20.0s,MS5.6
PV01 Paradox Valley 94.59 11 eP **P** **08 16 11.7 -1.2**
MVU Marysvale 94.62 8 PFAKE 08 16 20.0 +7.0
MVU LR LR
comp=Z,4μm,21.0s,MS5.9
MSU Marysvale 94.63 8 eP **P** **08 16 13.1 +0.1**
LBTB Lobatse 94.77 151 PFAKE 08 16 20.0 +6.3
LBTB LR LR
comp=Z,7μm,20.0s,MS6.1
PLAL Pickwick Lake 95.31 28 PFAKE 08 16 30.0 +14
PLAL LR LR
comp=Z,2μm,22.0s,MS5.5
SRU San Rafael 95.36 9 eP **P** **08 16 18.2 +1.8**
NLU North Lily Min 96.07 8 eP **P** **08 16 22.3 +2.7**
MPU Maple Canyon 96.17 8 PFAKE 08 16 30.0 +10
MPU LR LR
comp=Z,5μm,19.0s,MS6.0
BMN Battle Mountai 96.24 4 PFAKE 08 16 30.0 +10
BMN LR LR
comp=Z,4μm,19.0s,MS5.9
DUG Dugway 96.25 7 eP **P** **08 16 25.2 +4.7**
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.7
WVT Waverly 96.46 28 PFAKE 08 16 30.0 +8.6
WVT LR LR
comp=Z,2μm,22.0s,MS5.6
CBKS Cedar Bluff 96.48 18 PFAKE 08 16 30.0 +8.5
CBKS LR LR
comp=Z,3μm,21.0s,MS5.7
ISCO Idaho Springs 96.57 13 PFAKE 08 16 30.0 +8.1
ISCO LR LR
comp=Z,4μm,19.0s,MS5.9
ELK Elko 96.65 5 PFAKE 08 16 30.0 +7.7
ELK LR LR
comp=Z,3μm,19.0s,MS5.8
CCM Cathedral Cave 97.45 24 PFAKE 08 16 40.0 +14
CCM LR LR
comp=Z,940nm,19.0s,MS5.3
HWUT Hardware Ranch 97.75 8 PFAKE 08 16 40.0 +13
HWUT LR LR
comp=Z,3μm,20.0s,MS5.8
TSUM Tsumeb 97.77 142 PFAKE 08 16 40.0 +13
TSUM LR LR
comp=Z,5μm,21.0s,MS6.0
WVOR Wild Horse Val 98.20 3 PFAKE 08 16 40.0 +11
WVOR LR LR
comp=Z,2μm,20.0s,MS5.7
AHID Auburn Hatcher 98.94 8 PFAKE 08 16 40.0 +7.4
AHID LR LR
comp=Z,3μm,20.0s,MS5.8
BW06 Boulder Array 99.08 10 PFAKE 08 16 40.0 +6.8
BW06 LR LR
comp=Z,3μm,20.0s,MS5.8
PDAR Pinedale Array 99.08 10 P **P** **08 16 33.4 +0.3**
comp=Z,0.3nm,0.6s,baz=138,slow=5.6,SNR=2.8
PDAR LR LR 08 53 27.1
comp=Z,3μm,19.5s,MS5.8,baz=196,slow=31
HLID Hailey 99.50 6 PFAKE 08 16 50.0 +15
HLID LR LR
comp=Z,2μm,20.0s,MS5.5
COR Corvallis 100.30 359 PFAKE 08 16 50.0 +11
COR LR LR
comp=Z,3μm,21.0s,MS5.7
BMO Blue Mountains 100.65 4 PFAKE 08 16 50.0 +10
BMO LR LR
comp=Z,2μm,20.0s,MS5.7
LKWY Lake 100.79 9 PFAKE 08 16 50.0 +9.2
LKWY LR LR
comp=Z,3μm,20.0s,MS5.8
BBSR BB Station 100.83 47 PFAKE 08 16 50.0 +9.0
BBSR LR LR
comp=Z,1μm,20.0s,MS5.5
YMR Madison River 100.84 8 PFAKE 08 16 50.0 +9.0
YMR LR LR
comp=Z,1μm,19.0s,MS5.5
RSSD Black Hills 101.03 13 PFAKE 08 16 50.0 +8.1
RSSD LR LR
comp=Z,2μm,19.0s,MS5.7
CBN Corbin 101.42 35 PFAKE 08 16 50.0 +6.4
CBN LR LR
comp=Z,3μm,20.0s,MS5.9
MCWV Mont Chateau 101.98 32 PFAKE 08 17 00.0 +14

MCWV LR LR
comp=Z,4µm,19.0s,MS5.9
JFWS Jewell Farm 102.31 24 PFAKE 08 17 00.0 +12
JFWS LR LR
comp=Z,1µm,20.0s,MS5.4
MSO Missoula 102.78 6 PFAKE 08 17 00.0 +10
MSO LR LR
comp=Z,2µm,21.0s,MS5.7
LAO LASA Array 103.30 11 PFAKE 08 17 00.0 +8.1
LAO LR LR
comp=Z,2µm,19.0s,MS5.6
AAM Ann Arbor 103.35 29 PFAKE 08 17 00.0 +7.8
AAM LR LR
comp=Z,1µm,21.0s,MS5.4
SSPA Standing Stone 103.47 33 PFAKE 08 17 00.0 +7.3
SSPA LR LR
comp=Z,2µm,20.0s,MS5.7
NEW Newport 104.07 4 PFAKE 08 17 10.0 +15
NEW LR LR
comp=Z,2µm,19.0s,MS5.6
EGMT Eagleton 104.27 9 PFAKE 08 17 10.0 +14
EGMT LR LR
comp=Z,2µm,19.0s,MS5.7
COCO West Island 104.52 220 PFAKE 08 17 10.0 +13
COCO LR LR
comp=Z,503nm,20.0s,MS5.0
LSZ Lusaka 104.75 151 PFAKE 08 17 10.0 +12
LSZ LR LR
comp=Z,9µm,19.0s,MS6.3
DGMT Dagmar 105.29 12 PFAKE 08 21 30.0 +15
DGMT LR LR
comp=Z,2µm,21.0s,MS5.7
BINY Binghamton 105.49 34 PFAKE 08 21 30.0 +15
BINY LR LR
comp=Z,2µm,19.0s,MS5.8
WES Weston 107.17 37 PFAKE 08 21 30.0 +12
WES LR LR
comp=Z,3µm,20.0s,MS5.8
HRV Harvard--Oak R 107.20 37 PFAKE 08 21 30.0 +12
HRV LR LR
comp=Z,4µm,21.0s,MS5.9
NCB Newcomb 107.64 34 PFAKE 08 21 30.0 +11
NCB LR LR
comp=Z,3µm,21.0s,MS5.8
DAV Davao City (W) 108.04 255 PFAKE 08 21 30.0 +10
DAV LR LR
comp=Z,2µm,22.0s,MS5.6
ULM Lac du Bonnet 108.23 18 PFAKE 08 21 30.0 +10
ULM LR LR
comp=Z,3µm,19.0s,MS5.8
LBNH Lisbon 108.62 36 PFAKE 08 21 30.0 +9.0
LBNH LR LR
comp=Z,4µm,21.0s,MS5.9
DBIC Dimbokro 110.68 110 PFAKE 08 21 40.0 +15
DBIC LR LR
comp=Z,3µm,19.0s,MS5.9
SIT Sitka 113.26 352 PFAKE 08 21 40.0 +10
SIT LR LR
comp=Z,5µm,19.0s,MS6.1
UNV Unalaska Valle 115.37 333 PFAKE 08 21 40.0 +6.2
UNV LR LR
comp=Z,6µm,19.0s,MS6.2
DGAR Diego Garcia 115.55 196 PFAKE 08 21 50.0 +16
DGAR LR LR
comp=Z,785nm,20.0s,MS5.3
KDAK Kodiak Island 116.08 343 PFAKE 08 21 50.0 +15
KDAK LR LR
comp=Z,2µm,20.0s,MS5.7
DIV Divide 118.31 347 PFAKE 08 21 50.0 +11
DIV LR LR
comp=Z,15µm,21.0s,MS6.6
PMR Palmer 119.19 346 PFAKE 08 21 50.0 +8.8
PMR LR LR
comp=Z,3µm,20.0s,MS6.0
MSEY Mahe Island 119.43 178 PFAKE 08 21 50.0 +8.4
MSEY LR LR
comp=Z,921nm,20.0s,MS5.4
SCHQ Schefferville 119.48 33 PFAKE 08 21 50.0 +8.3
SCHQ LR LR
comp=Z,4µm,21.0s,MS6.0
TORD Torodi Ar. Bea 119.56 112 PKP PKPdf 08 21 39.9 -2.0
comp=Z,2.4nm,1.0s,baz=224,slow=1.9,SNR=7.3
SMY Shemya 120.34 321 PFAKE 08 21 50.0 +6.6
SMY LR LR
comp=Z,3µm,22.0s,MS5.9
KMBO Kilima Mbogo 120.62 156 PFAKE 08 22 00.0 +16
KMBO LR LR
comp=Z,5µm,20.0s,MS6.2
MCK McKinley 121.22 347 PFAKE 08 22 00.0 +15
MCK LR LR
comp=Z,1µm,22.0s,MS5.6
COLA College 122.19 347 PFAKE 08 22 00.0 +13
COLA LR LR
comp=Z,4µm,19.0s,MS6.1
ADH Angra Heroismo 123.69 70 *e*LR LR 09 02 37.5
MAJO Matsushiro 124.37 286 PFAKE 08 22 00.0 +8.9
MAJO LR LR
comp=Z,718nm,20.0s,MS5.3
ERM Erimo 125.76 294 PFAKE 08 22 00.0 +6.2
ERM LR LR
comp=Z,298nm,20.0s,MS5.0
TNA Tin City 126.13 338 PFAKE 08 22 00.0 +5.5
TNA LR LR
comp=Z,1µm,22.0s,MS5.6
QIZ Qiongzhong 126.37 248 PKP PKPdf 08 21 57.0 +2.1
QIZ PP PP 08 23 52.9 +2.9
QIZ PPP 08 26 34.6
QIZ SKKS SKKSac 08 30 48.6 +1.0
QIZ SS SS 08 40 49.8 -3.6
QIZ LR LR
comp=N,501nm,27.7s,MS5.1
QIZ LR LR
comp=E,324nm,26.8s,MS5.1
QIZ LR LR
comp=Z,1µm,28.6s,MS5.4
QIZ Qiongzhong 126.37 248 PFAKE 08 22 10.0 +15
QIZ LR LR
comp=Z,784nm,19.0s,MS5.4
PET Petropavlovsk 126.51 312 PFAKE 08 22 10.0 +15
PET LR LR
comp=Z,2µm,19.0s,MS5.8
PALK Pallekele 128.00 210 PFAKE 08 22 10.0 +12
PALK LR LR
comp=Z,478nm,20.0s,MS5.2
YSS Yuzh-Sakhalins 129.47 298 PFAKE 08 22 10.0 +9.2
YSS LR LR
comp=Z,982nm,20.0s,MS5.5
SSE Sheshan 129.75 268 PKP PKPdf 08 22 01.0 -0.4
SSE PP PP 08 24 18.1 +5.9
SSE SS SS 08 41 38.1 +2.8
SSE PP PP
comp=Z,44nm,7.4s
SSE LR LR
comp=N,877nm,19.9s,MS5.5
SSE LR LR
comp=E,290nm,19.9s,MS5.5
SSE LR LR
comp=Z,1µm,21.6s,MS5.6
SSE Sheshan 129.75 268 PKP PKPdf 08 22 01.7 +0.3
SSE PP PP 08 24 18.1 +5.9
SSE SS SS 08 41 38.1 +2.8
SSE LR LR
comp=Z,1µm,21.6s,MS5.6
CM31 Chiang Mai Arr 131.30 237 PFAKE 08 22 20.0 +16
CM31 LR LR
comp=Z,2µm,20.0s,MS5.7
INCN Inchon 131.40 278 PFAKE 08 22 20.0 +16
INCN LR LR
comp=Z,668nm,21.0s,MS5.3
CHTO Chiang Mai 131.61 237 PFAKE 08 22 20.0 +15
CHTO LR LR
comp=Z,2µm,20.0s,MS5.8
NJ2 Nanjing 131.77 267 *e*PKP PKPdf 08 22 04.2 -1.0
NJ2 PP PP 08 24 27.0 +1.6
NJ2 PKS 08 25 38.0
NJ2 PP PP
comp=Z,602nm,9.6s
NJ2 LR LR
comp=N,3µm,20.9s
NJ2 LR LR
comp=E,2µm,28.0s
NJ2 LR LR
comp=Z,470nm,26.2s
MDT Midelt 131.82 92 PKP PKPdf 08 22 03.2 -2.1
comp=Z,3.0nm,1.0s,baz=170,slow=3.0,SNR=5.9

BILL Bilibino 134.40 330 *e*PKIKP PKPdf 08 22 07.2 -3.0
BILL MLR MLR
comp=Z,3µm,21.0s,MS6.0
MDJ Mudanjiang 134.69 287 PKP PKPdf 08 22 10.5 -0.2
MDJ PP PP 08 24 44.2 +0.2
MDJ SS SS 08 42 38.5 +3.0
MDJ PP PP
comp=Z,101nm,5.2s
MDJ LR LR
comp=N,801nm,29.3s,MS5.4
MDJ LR LR
comp=E,734nm,31.8s,MS5.4
MDJ LR LR
comp=Z,901nm,30.5s,MS5.3
MDJ Mudanjiang 134.69 287 PFAKE 08 22 20.0 +9.3
MDJ LR LR
comp=Z,930nm,22.0s,MS5.5
KMI Kunming 135.07 246 PKIKP PKPdf 08 22 12.8 +1.4
KMI 08 24 52.1
KMI PPP 08 27 48.9
KMI 08 29 17.5
KMI SS SS 08 42 41.0 +1.0
KMI SSS 08 47 41.9
KMI MLR MLR
comp=Z,1µm,20.6s,MS5.5
KMI Kunming 135.07 246 PKP PKPdf 08 22 12.8 +1.4
KMI sPKP 08 22 26.3
KMI PP PP 08 24 52.1 +5.7
KMI PKS 08 25 47.3
KMI PPP 08 27 48.9
KMI SKS SKSdf 08 29 17.5 -4.5
KMI SKKS SKKSac 08 31 38.6 -2.8
KMI SS SS 08 42 41.0 +1.0
KMI SSS 08 47 41.9
KMI LR LR
comp=Z,1µm,20.6s,MS5.5
SEY Seymchan 135.64 319 *e*PKIKP PKPdf 08 22 10.0 -2.5
CN2 Changchun 136.40 283 *e*PKP PKPdf 08 22 13.2 -0.7
CN2 PP PP 08 24 53.9 -0.8
CN2 PKS 08 25 45.7
CN2 SKKS SKKSac 08 31 46.0 -3.3
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,20.0s,MS5.4
CN2 LR LR
comp=E,600nm,20.0s,MS5.4
CN2 LR LR
comp=Z,800nm,21.0s,MS5.4
ESDC Sonseca Array 137.11 86 PKP PKPdf 08 22 13.0 -2.2
comp=Z,0.2nm,0.3s,baz=229,slow=1.7,SNR=3.4
BJT Baijiatuau 139.01 272 PFAKE 08 22 30.0 +11
BJT LR LR
comp=Z,1µm,20.0s,MS5.6
BJI Beijing 139.02 272 PKIKP PKPdf 08 22 25.0 +6.3
BJI 08 25 21.0
BJI SS SS 08 43 27.1 +0.1
BJI MLR MLR
comp=Z,920nm,24.6s,MS5.4
BJI Beijing 139.02 272 PKP PKPdf 08 22 25.0 +6.3
BJI PP PP 08 25 21.0 +10
BJI SKKS SKKSac 08 32 10.6 +5.7
BJI SS SS 08 43 27.1 +0.1
BJI LR LR
comp=Z,920nm,24.6s,MS5.4
CD2 Chengdu 139.19 252 *e*PKP PKPdf 08 22 17.7 -1.3
CD2 PP PP 08 25 13.1 +0.9
CD2 PKS 08 25 52.2
CD2 SKKS SKKSac 08 32 02.0 -3.9
CD2 SS SS 08 43 28.5 -0.5
CD2 PP PP
comp=Z,350nm,10.8s
CD2 LR LR
comp=N,990nm,28.0s,MS5.6
CD2 LR LR
comp=E,920nm,24.0s,MS5.6
CD2 LR LR
comp=Z,960nm,26.4s,MS5.4
SHL Shillong 140.69 233 *e*PKP PKPdf 08 22 28.0 +6.3
SHL *e*PP PP 08 25 11.0 -10
SJPF Ste Jean 140.94 84 *e*PKP1 PKPdf 08 22 21.0 -1.2
comp=Z,55nm,1.3s
ETSF Etsaut 141.17 85 *e*PKP1 PKPdf 08 22 20.1 -2.5
comp=Z,38nm,1.4s
HHC Hu-ho-hao-te 142.15 270 *e*PKP PKPdf 08 22 21.4 -3.0
HHC SS SS 08 44 03.6 0.0
HHC PP PP
comp=Z,228nm,11.8s
HHC LR LR
comp=N,457nm,22.1s,MS5.4
HHC LR LR
comp=E,491nm,22.1s,MS5.4
HHC LR LR
comp=Z,815nm,28.9s
QUIF Quistinic 142.84 76 *e*PKP1 PKPdf 08 22 22.9 -2.7
comp=Z,214nm,1.8s
HIA Hailar 142.86 286 *e*PKIKP PKPdf 08 22 22.9 -2.7
HIA MLR MLR
comp=Z,2µm,22.0s
MTLF Montolieu 143.01 86 *e*PKP1 PKPdf 08 22 22.4 -3.5
LZH Lanzhou 143.09 257 *e*PKP PKPdf 08 22 28.1 +2.1
LZH APKP 08 22 33.5
LZH PP PP 08 25 41.0 +5.1
LZH SKS SKSdf 08 29 32.0 -3.2
LZH SKKS SKKSac 08 32 28.0 -0.5
LZH SS SS 08 44 17.4 +2.9
LZH PP PP
comp=Z,720nm,5.3s
LZH LR LR
comp=E,2µm,18.8s
LZH LR LR
comp=Z,3µm,21.0s,MS6.0
LZH Lanzhou 143.09 257 *e*PKIKP PKPdf 08 22 28.1 +2.1
LZH 08 22 33.5
LZH 08 25 41.0
LZH 08 29 32.0
LZH SS SS 08 44 17.4 +2.9
LZH MLR MLR
comp=Z,3µm,21.0s,MS6.0
LZH Lanzhou 143.09 257 *e*PKP PKPdf 08 22 28.1 +2.1
LZH pPKP pPKPdf 08 22 33.5 +2.4
LZH sPKP 08 22 41.7
LZH PP PP 08 25 41.0 +5.1
LZH SKS SKSdf 08 29 32.0 -3.2
LZH SKKS SKKSac 08 32 28.0 -0.5
LZH SS SS 08 44 17.4 +2.9
LZH LR LR
comp=Z,3µm,21.0s,MS6.0
MFF Saint Martin d 143.72 80 *e*PKP1 PKPdf 08 22 23.4 -3.7
comp=Z,123nm,1.9s
RJF Les Rejaudoux 143.85 83 *e*PKP1 PKPdf 08 22 25.2 -2.2
comp=Z,21nm,1.0s
RJF *e*MLR MLR
comp=Z,3µm,20.2s
RJF Les Rejaudoux 143.85 83 *e*PKP PKPdf 08 22 25.2 -2.2
RJF LR LR
comp=Z,3µm,20.3s,MS6.1
CLNS Chul'man 144.16 300 *e*PKHKP 08 22 11.7
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=E,11nm,0.9s
YAK Yakutsk 144.25 310 *e*PKIKP PKPdf 08 22 24.1 -4.0
YAK MLR MLR
comp=Z,1µm,21.0s,MS5.6
GRR Gorron 144.37 77 *e*PKP1 PKPdf 08 22 24.2 -4.1
comp=Z,49nm,1.3s
LASF Ste Croix 144.40 87 *e*PKP1 PKPdf 08 22 24.8 -3.5
comp=Z,37nm,1.1s
LSA Lhasa 144.55 236 PFAKE 08 22 40.0 +11
LSA LR LR
comp=Z,2µm,19.0s,MS5.9
LBL Lubilhac 144.77 84 PKIKP PKPdf 08 22 26.6 -2.4
FLN La Foliniere 144.79 77 *e*PKP1 PKPdf 08 22 25.8 -3.2
comp=Z,51nm,1.1s
FLN *e*MLR MLR
comp=Z,2µm,20.0s
FLN La Foliniere 144.79 77 *e*PKP PKPdf 08 22 25.8 -3.2
FLN LR LR
comp=Z,2µm,20.0s,MS5.8
TCF Toulx Ste Croi 144.84 82 *e*PKP1 PKPdf 08 22 25.9 -3.2
comp=Z,74nm,1.4s

LDF La Druitiere 144.89 77 *e*PKP1 PKPdf 08 22 26.0 -3.2
comp=Z,99nm,1.4s
PYM Petit Puy Mans 144.96 84 PKP2 PKPdf 08 22 27.3 -2.0
AGO Saint Agoulin 145.21 83 PKP PKPdf 08 22 27.8 -1.9
SMRF Simiane la Rot 145.29 88 *e*PKP1 PKPbc 08 22 28.5 -1.2
comp=Z,124nm,1.4s
VIVF Saint-Julien-l 145.34 86 *e*PKP1 PKPbc 08 22 28.1 -1.7
comp=Z,99nm,1.5s
BGF Bois d'Agland 145.35 82 *e*PKP1 PKPbc 08 22 27.8 -2.0
comp=Z,139nm,1.3s
LMR La Mourre 145.41 90 *e*PKP1 PKPbc 08 22 28.3 -1.7
comp=Z,138nm,1.3s
PLDF La Plantade 145.43 84 PKP2 PKPab 08 22 28.7 -1.6
FRF La Foret Royal 145.63 89 *e*PKP1 PKPbc 08 22 29.0 -1.7
comp=Z,93nm,1.4s
AVF Avril sur Loir 145.77 82 *e*PKP1 PKPbc 08 22 28.8 -2.4
comp=Z,61nm,1.2s
CSLB Castelbuono 145.93 104 PKP PKPdf 08 22 35.2 +4.2
SMF Signal de Mont 145.96 83 *e*PKP1 PKPbc 08 22 29.6 -2.1
comp=Z,66nm,1.2s
SSF Saint Saulge 146.01 82 *e*PKP1 PKPbc 08 22 29.4 -2.5
comp=Z,64nm,1.5s
ORIF Oris-en-Rattie 146.05 87 *e*PKP1 PKPbc 08 22 29.3 -2.7
comp=Z,42nm,1.1s
ORIF *e*MLR MLR
comp=Z,2µm,20.2s
MVIF Mont Vial 146.13 89 PKP2 PKPab 08 22 32.4 -0.5
TOUF Mont Tournerai 146.26 89 PKP2 PKPab 08 22 31.8 -1.6
SBF Sospel 146.27 90 *e*PKP1 PKPbc 08 22 30.7 -2.0
comp=Z,104nm,1.2s
LOR Lormes 146.33 82 *e*PKP1 PKPbc 08 22 30.6 -2.2
comp=Z,106nm,1.5s
LOR *e*MLR MLR
comp=Z,2µm,20.2s
LOR Lormes 146.33 82 *e*PKP PKPdf 08 22 30.6 -1.0
LOR LR LR
comp=Z,2µm,20.3s,MS6.0
AUTN L'Aution 146.34 89 PKP2 PKPab 08 22 31.9 -1.8
SAOF Saorge 146.41 90 PKIKP PKPdf 08 22 31.0 -0.8
MBDF Montbardon 146.43 88 *e*PKP1 PKPbc 08 22 31.6 -1.6
comp=Z,64nm,1.2s
IMI Imperia 146.55 90 PKP PKPdf 08 22 31.2 -0.8
BNI Bardonecchia 146.58 87 *e*PKIKP PKPdf 08 22 31.6 -0.5
ESK Eskdalemuir 146.70 65 *e*PKIKP PKPdf 08 22 31.1 -1.2
ESK MLR MLR
comp=Z,570nm,20.0s,MS5.3
DAG Danmarks Havn 146.78 24 *i* P PKPdf 08 22 30.0 -2.4
DAG Danmarks Havn 146.78 24 *e*P PKPdf 08 22 30.0 -2.4
LPG La Plagne 146.90 87 *e*PKP1 PKPbc 08 22 33.4 -1.1
comp=Z,148nm,1.4s
LPL La Plagne 146.90 87 *e*PKP1 PKPbc 08 22 33.2 -1.3
comp=Z,124nm,1.4s
CABF La Chapelle 147.19 85 *e*PKP1 PKPbc 08 22 33.3 -2.0
comp=Z,112nm,1.4s
WSAR Wadi Sarin 147.19 182 PKPbc PKPbc 08 22 33.9 -1.4
comp=Z,11nm,1.1s,baz=303,slow=23,SNR=3.6
WSAR Wadi Sarin 147.19 182 PKPbc PKPbc 08 22 33.9 -1.4
TIXI Tiksi 147.40 326 *e*PKIKP PKPdf 08 22 31.0 -2.4
TIXI *i* 08 22 36.9
TIXI *e*SS SS 08 45 03.1 -0.6
TIXI pmax pmax
comp=Z,38nm,1.1s
TIXI pmax pmax
comp=Z,38nm,1.0s
TIXI Tiksi 147.40 326 *e*PKP PKPdf 08 22 31.7 -1.7
CIT Chita 147.67 287 *e*PKHKP 08 22 27.1
MEZF Maizieres J'vi 147.69 81 *e*PKP1 PKPbc 08 22 34.7 -2.0
GTA Gaotai 147.69 257 PKP PKPdf 08 22 35.5 +1.6
GTA PP PP 08 26 06.0 +2.7
GTA SKS SKSdf 08 29 38.2 -3.8
GTA SKKS SKKSac 08 32 50.9 -3.8
GTA PP PP
comp=Z,454nm,7.2s
GTA LR LR
comp=N,633nm,21.3s,MS5.5
GTA LR LR
comp=E,507nm,22.8s,MS5.5
GTA LR LR
comp=Z,1µm,25.1s,MS5.5
GRFL Gerfalco 147.79 94 PKP PKPdf 08 22 32.8 -1.3
THEF They Montfort 148.06 82 PKP2 PKPbc 08 22 36.3 -1.4
BAIF Baives 148.07 78 *e*PKP1 PKPbc 08 22 35.5 -2.2
comp=Z,83nm,1.3s
HAU Haudompre 148.13 83 *e*PKP1 PKPbc 08 22 35.5 -2.4
comp=Z,36nm,1.1s
HAU *e*MLR MLR
comp=Z,1µm,19.8s
HAU Haudompre 148.13 83 *e*PKP PKPdf 08 22 35.5 +0.8
HAU LR LR
comp=Z,1µm,19.8s,MS5.8
CSNT Castellina Chi 148.18 94 PKP PKPbc 08 22 42.4 +4.4
MNS Montasola 148.25 96 PKIKP PKPdf 08 22 34.9 +0.1
ERBM Eremo 148.28 91 PKP PKPbc 08 22 41.6 +3.3
TIP Timpagrande 148.29 105 *e*PKPdf PKPdf 08 22 35.1 +0.2
TIP PKP PKPbc 08 22 42.4 +4.1
DOU Dourbes 148.30 78 PKP PKPdf 08 22 35.5 +0.5
HINF Hinteralfeld 148.31 83 *e*PKP1 PKPbc 08 22 36.1 -2.2
comp=Z,151nm,1.8s
GSCL Gusciola 148.34 92 PKP PKPbc 08 22 40.5 +2.1
GIVF Givet 148.43 78 *e*PKP1 PKPbc 08 22 36.6 -2.1
comp=Z,109nm,1.2s
BBS Basel-Blauen 148.47 84 PKP2 PKPbc 08 22 37.1 -1.7
MOF Molkenrain 148.48 83 PKP2 PKPab 08 22 40.0 -2.2
FNVD Fontana Vidola 148.53 92 PKP PKPbc 08 22 40.6 +1.7
SGG Gregorio Mates 148.53 99 PKP PKPbc 08 22 41.4 +2.5
AQU L'Aquila 148.63 97 ⇑ *i*P PKPdf 08 22 37.0 +1.5
AQU L'Aquila 148.63 97 *e*PKPbc PKPbc 08 22 37.0 -2.2
ECH Echery 148.70 83 PKIKP PKPdf 08 22 37.4 +1.8
SFI Santa Sofia 148.76 93 PKIKP PKPdf 08 22 37.7 +2.0
CDF Champ du Feu 148.88 83 *e*PKP1 PKPbc 08 22 37.7 -2.1
comp=Z,162nm,1.9s
WLS Welschbruch 148.92 83 PKP2 PKPbc 08 22 38.2 -1.7
TUE Stuetta 148.93 87 PKP PKPdf 08 22 37.7 +1.7
WLF Walferdange 148.93 80 *e*PKPbc PKPbc 08 22 38.8 -1.1
WLF *ep*PKPbc pPKPbc 08 22 50.1 +5.1
JMIC Jan Mayen 148.96 36 AMS AMS 09 27 14.1
comp=Z,980nm,18.6s,MS5.6
FELD Feldberg im Sc 148.98 84 PKP PKPdf 08 22 38.2 +2.2
EIL Elat 149.11 139 *e*PKPbc PKPbc 08 22 39.1 -1.3
MEM Membach 149.34 78 PKP PKPdf 08 22 39.6 +3.0
SONM Songino Array 149.39 275 PKPbc PKPbc 08 22 38.9 -2.2
comp=Z,13nm,1.3s,baz=149,slow=2.1,SNR=17
BFO Black Forest 149.42 84 *e*PKPbc PKPbc 08 22 39.3 -1.9
BRMO Bormio 149.51 88 PKP PKPdf 08 22 40.0 +3.1
DAVA Damuels 149.70 86 ⇑ *i*P PKPdf 08 22 40.1 +2.9
comp=Z,71nm,1.2s,SNR=7.0
BOD Bodaibo 149.94 297 *e*PKHKP 08 22 37.8
BOD pmax pmax
comp=Z,22nm,1.2s
SQTA Sankt Quirin 150.40 88 *i* P PKPbc 08 22 42.3 -1.3
comp=Z,73nm,1.3s,SNR=5.7
MOTA Moosalm 150.42 87 ⇑ *i*P PKPdf 08 22 42.0 +3.7
comp=Z,66nm,1.3s,SNR=6.5
BUG Bochum--Univer 150.44 78 *e*PKPbc PKPbc 08 22 41.8 -1.9
TNS Taunus Mts 150.49 80 *e*PKPbc PKPbc 08 22 42.5 -1.3
WTTA Wattenberg 150.67 88 ⇑ *i*P PKPdf 08 22 42.5 +3.8
comp=Z,92nm,1.3s,SNR=10
SANT Santorini 150.70 119 *e*PKP PKPdf 08 22 41.3 +2.5
FVI Forni Avoltri 150.93 90 PKIKP PKPbc 08 22 43.0 -1.8
ROBS Robic 151.13 91 *i* PKPbc PKPbc 08 22 43.0 -2.2
PTCC Patocco-Chiusa 151.13 91 PKP PKPbc 08 22 43.8 -1.5
VOY Vojsko 151.22 92 *e*PKPbc PKPbc 08 22 43.6 -1.9
VOY *e* 08 22 52.5
APE Apeiranthos 151.29 118 ⇑ *i*P PKPbc 08 22 43.9 -1.7
APE Apeiranthos 151.29 118 ⇑⇑ P PKPbc 08 22 43.9 -1.7
KBA Koelnbreinsper 151.52 90 ⇑ *i*P PKPbc 08 22 43.8 -2.4
comp=Z,32nm,1.2s
UBBA Unterbreizbach 151.64 80 *e*PKPbc PKPbc 08 22 45.4 -1.1
BOJS Bojanci 151.66 94 *i* PKPbc PKPbc 08 22 50.3 +3.8
GRA1 Grafenberg Arr 151.75 83 *e*PKPbc PKPbc 08 22 45.3 -1.4
GRA1 *e*PP PP 08 26 25.5 -1.3
GRA1 LR LR
comp=Z,1µm,21.5s,MS5.7
GRF Grafenberg Arr 151.75 83 *e*PKPbc PKPbc 08 22 45.3 -1.4
GRF *e*PP PP 08 26 25.5 -1.3
GRF *e*L 09 39 41.0
comp=Z,1µm,21.5s
OHR Ohrid 151.84 106 *i* P PKPdf 08 22 43.0 +2.6
OBKA Obir 151.87 92 ⇓ *i*P PKPbc 08 22 45.4 -1.6
comp=Z,45nm,1.4s,SNR=6.1
BIA Bitola 152.06 107 *i* P PKPab 08 22 55.7 -1.1
PERS Pernice 152.26 92 *e*PKPbc PKPbc 08 22 45.6 -2.3
CLZ Clausthal 152.34 79 *e*PKPbc PKPbc 08 22 46.7 -1.3
CLZ Clausthal 152.34 79 *e*PKPbc PKPbc 08 22 46.6 -1.4

MOX	**Moxa**	**152.45**	**82**	*e*PKPbc	PKPbc	08 22 46.8	-1.5
MOX				*ep*PKPbc	pPKPbc	08 22 58.7	+5.3
MOX	**Moxa**	**152.45**	**82**	*e*PKP	PKPbc	08 22 46.5	-1.8
MOX				*e*		08 22 58.6	
	comp=Z,56nm,1.5s						
MOX	**Moxa**	**152.45**	**82**	*e*PKIKP	PKPbc	08 22 46.5	-1.8
MOX				*e*		08 22 58.6	
MOX	**Moxa**	**152.45**	**82**	*e*PKP	PKPbc	08 22 46.5	-1.8
MOX				*ep*PKP	pPKPdf	08 22 58.6	+12
MOX				*e*SS	SS	08 45 49.0	-11
MOA	**Molln**	**152.47**	**89**	⇑*i*P	PKPdf	08 22 46.2	+4.7
	comp=Z,38nm,1.4s,SNR=6.5						
ZAK	**Zakamensk**	**152.48**	**278**	*e*PKIKP	PKPdf	08 22 45.2	+3.8
ZAK				*e*		08 26 31.0	
ZAK				pmax	pmax		
	comp=Z,15nm,1.4s						
KBS	**Kingsbay**	**152.65**	**18**	*e*P	PKPab	08 22 58.8	-0.6
KBS				*e*		08 55 40.8	
KBS				AMS	AMS	09 25 58.2	
	comp=Z,1μm,20.3s,MS5.8						
KBS	**Kingsbay**	**152.65**	**18**	PFAKE		08 22 50.0	+8.3
KBS				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
GEC2	**GERESS Array S**	**152.70**	**87**	*e*PKPbc	PKPbc	08 22 46.8	-2.0
GERES	**GERESS Array B**	**152.70**	**87**	PKPbc	PKPbc	08 22 46.6	-2.2
	comp=Z,9.4nm,1.0s,baz=174,slow=1.3,SNR=26						
GERES				PKPab	PKPab	08 22 59.9	+0.3
	comp=Z,9.9nm,1.0s,baz=219,slow=1.7,SNR=8.6						
WERN	**Wernitzgruen**	**152.70**	**83**	*e*PKPbc	PKPbc	08 22 47.6	-1.2
GUNZ	**Gunzen**	**152.71**	**83**	*e*PKPbc	PKPbc	08 22 47.7	-1.2
NKC	**Novy Kostel**	**152.71**	**83**	*e*PKPbc	PKPbc	08 22 47.1	-1.8
NKC				*e*PKPab	PKPab	08 22 58.4	-1.2
NKC				*ex*	x	08 45 54.5	
NKC				AMS	AMS	09 29 40.0	
	comp=Z,2μm,17.5s						
NKC	**Novy Kostel**	**152.71**	**83**	*e*PKIKP	PKPbc	08 22 47.1	-1.8
NKC				*e*		08 22 58.4	
NKC	**Novy Kostel**	**152.71**	**83**	*e*PKP	PKPbc	08 22 47.1	-1.8
NKC				*e*		08 22 58.4	
NKC				*e*		08 45 54.5	
WERD	**Werda**	**152.74**	**83**	*e*PKPbc	PKPbc	08 22 47.4	-1.5
BER	**Bergen**	**152.77**	**59**	*e*P	PKPdf	08 22 40.6	-1.3
BER				*e*		08 58 58.2	
KHC	**Kasperske Hory**	**152.78**	**86**	*e*PKPbc	PKPbc	08 22 46.5	-2.5
KHC				*ep*PKP	pPKPdf	08 22 51.3	+4.3
KHC				*e*SS	SS	08 45 59.1	-4.5
KHC				AMS	AMS	09 23 30.0	
	comp=Z,2μm,21.4s						
SKO	**Skopje**	**152.79**	**106**	*i* P	PKPdf	08 22 43.8	+1.9
TANN	**Tannenbergstha**	**152.81**	**83**	*e*PKPbc	PKPbc	08 22 47.8	-1.3
TANN				*ep*PKPbc	pPKPbc	08 23 00.8	+6.6
IRK	**Irkutsk**	**152.81**	**282**	*e*PKIKP	PKPdf	08 22 45.5	+3.6
IRK				pmax	pmax		
	comp=Z,43nm,1.5s						
ARSA	**Arzberg**	**152.84**	**91**	⇑*i*P	PKPdf	08 22 47.2	+5.2
	comp=Z,14nm,1.1s						
TLY	**Talaya**	**152.90**	**280**	*i* PKIKP	PKPdf	08 22 46.9	+4.8
TLY				pmax	pmax		
	comp=Z,26nm,1.7s						
TLY	**Talaya**	**152.90**	**280**	PFAKE		08 22 50.0	+7.9
TLY				LR	LR		
	comp=Z,539nm,19.0s,MS5.4						
VAY	**Valandovo**	**152.94**	**108**	*i* P	PKPdf	08 22 40.3	-1.9
STIP	**Stip**	**153.00**	**107**	*i* P	PKPbc	08 22 47.5	-2.0
CSS	**Prodhromos**	**153.15**	**132**	*e*PKPdf	PKPdf	08 22 41.9	-0.5
CSS				*e*PKPab	PKPab	08 23 00.3	-1.1
BSEG	**Bad Segeberg**	**153.22**	**75**	*e*PKPbc	PKPbc	08 22 48.6	-1.4
DIVS	**Divcibare**	**153.42**	**101**	*i* P	PKPdf	08 22 40.2	-2.6
CLL	**Collm**	**153.54**	**81**	*e*PKPbc	PKPbc	08 22 49.0	-1.7
CLL	**Collm**	**153.54**	**81**	*e*PKIKP	PKPdf	08 22 48.0	+5.0
CLL				*i*		08 23 03.0	
CLL				pmax	pmax		
	comp=Z,19nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,22.3s,MS6.0						
CLL	**Collm**	**153.54**	**81**	*e*PKPbc	PKPbc	08 22 48.0	-2.7
	comp=Z,19nm,1.4s						
CLL				*i* PKPab	PKPab	08 23 03.0	-0.1
	comp=Z,48nm,1.8s						
CLL				*es*PKPab		08 23 15.0	
CLL				*e*PP	PP	08 26 40.0	+3.1
CLL				*e*SS	SS	08 46 08.0	-3.9
CLL				*e*PSS		08 47 04.0	
CLL				*e*SSS		08 52 00.0	
CLL				*e*SSSS		08 56 18.0	
MUD	**Monsted U'grnd**	**153.55**	**69**	*i* P	PKPbc	08 22 53.1	+2.4
MUD							
	comp=Z,1μm,18.0s						
MUD	**Monsted U'grnd**	**153.55**	**69**	*e*P	PKPbc	08 22 53.1	+2.4
PRU	**Pruhonice**	**153.76**	**85**	*e*PKPbc	PKPbc	08 22 47.5	-3.7
PRU				*e*SS	SS	08 46 11.5	-2.8
PRU				AMS	AMS	09 24 20.0	
	comp=Z,1μm,21.0s						
BRG	**Berggiesshubel**	**153.86**	**83**	*e*PKP	PKPbc	08 22 50.5	-0.8
	comp=Z,1.2nm,0.7s						
BRG				*e*		08 23 03.5	
	comp=Z,10nm,1.4s						
BRG				*e*		08 23 22.6	
	comp=Z,4.1nm,1.0s						
BRG				PP	PP	08 26 41.0	+2.3
BRG				SS	SS	08 46 11.0	-4.4
BRG							
	comp=N,542nm,35.9s						
BRG							
	comp=E,727nm,33.5s						
BRG							
	comp=Z,936nm,29.5s						
BRG	**Berggiesshubel**	**153.86**	**83**	*e*PKIKP	PKPbc	08 22 50.5	-0.9
BRG				*e*		08 23 03.5	
BRG						08 26 41.0	
BRG				SS	SS	08 46 11.0	-4.4
BRG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRG	**Berggiesshubel**	**153.86**	**83**	*e*PKP	PKPbc	08 22 50.5	-0.8
BRG				*e*		08 23 03.5	
BRG				*e*		08 23 22.6	
BRG				PP	PP	08 26 41.0	+2.3
BRG				SS	SS	08 46 11.0	-4.4
BRG				LR	LR		
	comp=Z,940nm,29.5s,MS5.4						
TREC	**Trest**	**153.93**	**87**	AMS	AMS	09 27 20.0	
	comp=Z,1μm,17.8s						
PKSM	**Moragy**	**153.98**	**96**	⇑*i*P	PKPdf	08 22 42.3	-1.3
PKSM	**Moragy**	**153.98**	**96**	⇑P	PKPdf	08 22 42.3	-1.3
PVCC	**Panska Ves**	**154.04**	**84**	*e*SS	SS	08 46 21.7	+4.4
PVCC				AMS	AMS	09 24 10.0	
	comp=Z,2μm,24.8s						
VTS	**Vitosha**	**154.16**	**107**	⇓*i*P	PKPdf	08 22 42.8	-1.1
VTS	**Vitosha**	**154.16**	**107**	⇓P	PKPdf	08 22 42.8	-1.1
MOY	**Mondy**	**154.36**	**278**	*e*PKP2	PKPab	08 23 06.7	+0.1
MOY				pmax	pmax		
	comp=Z,58nm,3.1s						
TKTP	**Tekketepe**	**154.37**	**123**	*i* P	PKPdf	08 22 43.4	-0.8
ERMK	**Ermenek**	**154.40**	**129**	*i* P	pPKPbc	08 23 00.0	+2.4
KONO	**Kongsberg**	**154.68**	**62**	*e*		08 47 34.8	
KONO				*i*		08 57 00.2	
KONO				AMS	AMS	09 30 18.5	
	comp=Z,17μm,20.0s						
KONO	**Kongsberg**	**154.68**	**62**	PFAKE		08 22 50.0	+5.4
KONO				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
UPC	**Upice**	**154.83**	**85**	*e*PKPbc	PKPbc	08 22 56.4	+2.9
MEST	**Erdemli**	**154.88**	**131**	*i* P	PKPdf	08 22 44.0	-0.9
DPC	**Dobruska-Polom**	**154.93**	**86**	*e*SS	SS	08 46 27.7	+0.7
DPC				AMS	AMS	09 26 40.0	
	comp=Z,2μm,22.9s						
BZS	**Buzias**	**155.27**	**100**	⇓*i*P	PKPdf	08 22 43.7	-1.7
BZS	**Buzias**	**155.27**	**100**	⇓P	PKPdf	08 22 43.7	-1.7
MORC	**Moravsky Berou**	**155.33**	**88**	*e*PKIKP	PKPdf	08 22 43.9	-1.6
VYHS	**Vyhne**	**155.38**	**92**	*e*PKP	PKPdf	08 22 44.0	-1.6
NAO01	**NORSAR Array S**	**155.54**	**59**	PFAKE		08 23 00.0	+14
NAO01				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
COBT	**Iskenderun**	**155.69**	**135**	*i* P	PKPdf	08 22 49.8	+3.9
OKC	**Ostrava-Krasne**	**155.70**	**88**	AMS	AMS	09 34 30.0	
	comp=Z,1μm,21.5s						
NB2	**NORSAR Subarra**	**155.73**	**59**	PKP	PKPab	08 23 11.1	-1.4
	comp=Z,5.3nm,1.1s,baz=261,slow=4.4						
NB2	**NORSAR Subarra**	**155.73**	**59**	PKP	PKPab	08 23 11.1	-1.4
	baz=261,slow=4.4						
NOA	**NORSAR Array B**	**155.73**	**59**	PKP	PKPdf	08 22 43.7	-2.3
	comp=Z,0.3nm,0.5s,baz=308,slow=1.8,SNR=2.3						
NOA				PKPab	PKPab	08 23 12.1	-0.4
	comp=Z,4.0nm,0.9s,baz=257,slow=4.2,SNR=5.7						
KECS	**Kecovo**	**156.30**	**93**	*e*PKP	PKPdf	08 22 46.4	-0.4
KECS				*e*		08 23 13.1	
DRGR		**156.59**	**99**	⇑*i*P	PKPdf	08 22 46.2	-1.0
DRGR		**156.59**	**99**	⇑P	PKPdf	08 22 46.2	-0.9
NIE	**Niedzica**	**156.70**	**91**	*e*PKP	pPKPdf	08 22 59.5	+7.1
OJC	**Ojcow**	**156.81**	**89**	*e*PKPdf	PKPdf	08 22 48.5	+1.1
OJC				*e*PKPab	PKPab	08 23 16.4	-0.7
OJC				*e*PP	PP	08 26 54.7	-0.5
OJC				*e*SS	SS	08 46 52.0	+4.7
OJC				L		09 43 44.9	
	comp=Z,6.5nm,21.9s						
GZT	**Gaziantep**	**156.93**	**136**	*i* P	PKPdf	08 22 47.5	-0.1
ANTO	**Ankara**	**156.99**	**124**	PFAKE		08 23 00.0	+12
ANTO				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
CRVS	**Cervenica-Dubn**	**157.07**	**93**	*e*PKP	PKPab	08 23 16.0	-2.2
BR131	**Keskin Array S**	**157.26**	**126**	*e*PKPdf	PKPdf	08 22 46.6	-1.4
BR131				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
BRTR	**Keskin Array B**	**157.26**	**126**	PKP	PKPdf	08 22 46.3	-1.7
	comp=Z,5.6nm,1.1s,baz=193,slow=3.3,SNR=15						
BRTR				PKPab	PKPab	08 23 18.0	-1.0
	comp=Z,1.7nm,0.9s,baz=167,slow=7.0,SNR=3.1						
WMQ	**Urumqi**	**157.28**	**250**	PKP	PKPdf	08 22 47.2	-0.8
WMQ				PKP2	PKPab	08 23 21.0	+1.9
WMQ				PKS		08 26 20.0	
WMQ				SKS	SKSdf	08 29 47.5	-6.0
WMQ				SKKS	SKKSac	08 33 45.0	-1.8
WMQ				SS	SS	08 46 51.0	-1.3
WMQ				PP	PP		
	comp=Z,162nm,3.9s						
WMQ				LR	LR		
	comp=N,2μm,20.0s,MS6.0						
WMQ				LR	LR		
	comp=E,1μm,17.6s,MS6.0						
WMQ				LR	LR		
	comp=Z,1μm,24.0s						
UZH	**Uzhgorod**	**157.39**	**94**	*e*PKP2	PKPab	08 23 10.0	-10
CDAG	**Cicekdag**	**157.51**	**127**	*i* P	PKPdf	08 22 47.0	-1.3
MLR	**Muntele Rosu**	**157.56**	**105**	⇓*i*P	PKPdf	08 22 46.3	-2.1
MLR	**Muntele Rosu**	**157.56**	**105**	⇓P	PKPdf	08 22 46.3	-2.1
ELDT	**Eldivan**	**157.77**	**124**	*i* P	PKPdf	08 22 51.6	+2.9
MALT	**Malatya**	**158.10**	**136**	*e*PKIKP	PKPdf	08 22 49.1	0.0
VRI	**Vrincioaia**	**158.23**	**105**	⇑*i*P	PKPdf	08 22 47.5	-1.7
VRI	**Vrincioaia**	**158.23**	**105**	⇑P	PKPdf	08 22 47.5	-1.7
TRO	**Tromso**	**158.27**	**36**	*e*		08 47 45.0	
TRO				*i*		08 56 42.4	
TRO				AMS	AMS	09 34 04.4	
	comp=Z,676nm,19.9s,MS5.5						
BURAR	**Bucovina Array**	**158.46**	**99**	⇑*i*P	PKPdf	08 22 49.6	+0.1
ELZG	**Elazig**	**158.47**	**137**	*i* P	PKPdf	08 22 47.0	-2.5
CFR	**Carcaliu**	**158.54**	**108**	⇓*i*P	PKPdf	08 22 49.0	-0.6
CFR	**Carcaliu**	**158.54**	**108**	⇓P	PKPdf	08 22 49.0	-0.6
KIS	**Kishinev**	**160.06**	**105**	*i* PKIKP		08 22 38.0	
KIS				*e*		08 23 32.0	
KIS				*e*		08 27 14.0	
KIS	**Kishinev**	**160.06**	**105**	*e*PKIKP		08 22 38.0	
KIS				LRM		09 30 36.0	
	comp=Z,3μm,22.0s						
SUW	**Suwalki**	**160.30**	**82**	*e*PKIKP	PKPdf	08 22 49.4	-2.2
KEV	**Kevo**	**160.79**	**33**	PFAKE		08 23 00.0	+7.8
KEV				LR	LR		
	comp=Z,2μm,21.0s						
SIM	**Simferopol'**	**161.48**	**117**	*i* PKIKP	PKPdf	08 23 02.7	+10
SIM				pmax	pmax		
	comp=Z,47nm,8.2s						
GNI	**Garni**	**161.95**	**147**	PFAKE		08 23 00.0	+6.6
GNI				LR	LR		
	comp=Z,3μm,22.0s						
MKAR	**Makanchi Array**	**162.10**	**249**	PKPab	PKPab	08 23 38.0	-2.0
	comp=Z,3.4nm,1.0s,baz=132,slow=3.6,SNR=9.3						
MKAR				PP	PP	08 27 22.7	-1.2
	comp=Z,4.5nm,1.1s,baz=116,slow=5.5,SNR=9.8						
AKASG	**Malin Array Be**	**162.32**	**96**	PKP	PKPdf	08 22 51.5	-2.3
	comp=Z,29nm,1.4s,baz=268,slow=1.6,SNR=11						
AKASG				PKPab	PKPab	08 23 38.8	-2.3
	comp=Z,0.2nm,0.3s,baz=252,slow=4.2,SNR=2.9						
AAK	**Ala-Archa**	**162.68**	**226**	PFAKE		08 23 00.0	+5.9
AAK				LR	LR		
	comp=Z,489nm,20.0s						
ANN	**Anapa**	**162.98**	**123**	*e*PKIKP	PKPdf	08 22 50.1	-4.3
ANN				*e*		08 23 43.8	
ANN				*e*SS	SS	08 47 58.2	+5.8
ANN				pmax	pmax		
	comp=Z,52nm,1.4s						
ZAL	**Zalesovo**	**164.28**	**274**	PKPab	PKPab	08 23 47.5	-2.1
	comp=Z,1.3nm,0.4s,baz=340,slow=6.9,SNR=5.8						
KIV	**Kislovodsk**	**164.59**	**136**	*e*PKIKP	PKPdf	08 22 55.2	-0.7
KIV				*e*		08 27 34.6	
KIV				*e*PPP		08 31 26.6	
KIV				*e*SS	SS	08 48 09.5	+0.6
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV	**Kislovodsk**	**164.59**	**136**	PFAKE		08 23 10.0	+14
KIV				LR	LR		
	comp=Z,595nm,20.0s						
OBN	**Obninsk**	**168.08**	**86**	PFAKE		08 23 10.0	+11
OBN				LR	LR		
	comp=Z,992nm,22.0s						
BVAR	**Borovoye Array**	**171.95**	**253**	PKPab	PKPab	08 24 22.2	-1.4
	comp=Z,0.4nm,0.4s,baz=52,slow=6.2,SNR=3.3						
BVAR				PP	PP	08 28 16.2	+1.7
	comp=Z,0.8nm,0.8s,baz=119,slow=8.6,SNR=4.0						
BRVK	**Borovoye**	**172.03**	**253**	PFAKE		08 23 10.0	+9.1
BRVK				LR	LR		
	comp=Z,855nm,21.0s						
AKTO	**Aktyubinsk**	**174.34**	**183**	PKPab	PKPab	08 24 32.6	-1.6
	comp=Z,2.3nm,1.0s,baz=164,slow=9.4,SNR=4.2						
ARU	**Arti**	**179.35**	**303**	PFAKE		08 23 10.0	+7.3
ARU				LR	LR		
	comp=Z,615nm,21.0s						
MGAN				*e*S	**Sn**	**08 07 11.3**	**+0.2**
MGAN				*i*		08 07 12.4	
	comp=N,567nm,0.5s						
TICN	**Ticuantepe**	**3.38**	**101**	⇑*e*P	**Pn**	**08 06 33.3**	**+0.2**
SSNN	**San Juan del S**	**3.95**	**111**	*e*P	**Pn**	**08 06 40.2**	**-0.8**
CONN	**Concepcion**	**4.07**	**106**	⇓*e*P	**Pn**	**08 06 42.0**	**-0.6**
MADN	**Villa Maderas**	**4.20**	**107**	⇓*e*P	**Pn**	**08 06 43.8**	**-0.6**
PRS1	**Puriscal**	**5.87**	**117**	⇓*e*P	**Pn**	**08 07 09.1**	**+1.8**
PRS1				*e*S	**Sn**	**08 08 11.2**	**-2.1**
LCR2	**La Lucha 2**	**6.25**	**118**	⇓*e*P	**Pn**	**08 07 14.8**	**+2.2**
LCR2				*e*S	**Sn**	**08 08 21.6**	**-1.1**
BUS	**Buena Vista**	**6.55**	**118**	⇑*e*P	**Pn**	**08 07 18.9**	**+2.2**
BUS				*e*S	**Sn**	**08 08 31.6**	**+1.4**
CMIG	**Matias Romero**	**6.70**	**311**	Pn	**Pn**	**08 07 18.0**	**-0.7**
	comp=N,0.9nm,0.3s,baz=105,slow=8.9,SNR=9.3						
CMIG				Sn	**Sn**	**08 08 30.8**	**-2.9**
	comp=N,1.2nm,0.3s,baz=36,slow=14,SNR=2.3						
SOR	**Soroa**	**11.84**	**31**	*e*P	**Pn**	**08 08 36.1**	**+7.0**
ROSC	**El Rosal**	**17.00**	**116**	Pn	**Pn**	**08 09 44.7**	**+7.1**
	comp=N,0.4nm,0.3s,baz=89,slow=7.5,SNR=8.3						
ROSC	**El Rosal**	**17.00**	**116**	*e*P	**Pn**	**08 09 43.8**	**+6.1**
SDV	**Santo Domingo**	**19.04**	**100**	P	**Pn**	**08 10 02.3**	**-0.3**
	comp=N,0.6nm,0.3s,baz=309,slow=4.8,SNR=6.3						
SDV	**Santo Domingo**	**19.04**	**100**	*e*P	**Pn**	**08 10 01.9**	**-0.7**
	comp=N,7.0nm,0.8s						
NATX	**Nacogdoches**	**19.52**	**347**	*e*P	**Pn**	**08 10 08.0**	**-0.4**
	comp=N,21nm,0.5s						
JCT	**Junction City**	**20.04**	**334**	*e*P	**P**	**08 10 13.0**	**+0.5**
	comp=N,10nm,0.9s						
OXF	**Oxford**	**21.71**	**0**	*e*P	**P**	**08 10 31.1**	**+0.5**
	comp=N,87nm,0.8s,mb5.2						
MIAR	**Mount Ida**	**22.03**	**351**	*e*P	**P**	**08 10 35.6**	**+1.6**
	comp=N,23nm,0.7s,mb4.7						
SWET	**Sewanee**	**22.66**	**8**	*e*P	**P**	**08 10 40.9**	**+0.2**
HBAR	**Harrisburg**	**22.77**	**358**	*e*P	**P**	**08 10 39.8**	**-2.0**
CPCT	**Cooper Cave**	**23.11**	**11**	*e*P	**P**	**08 10 46.0**	**+0.5**
WVT	**Waverly**	**23.38**	**4**	*e*P	**P**	**08 10 48.0**	**-0.2**
TKL	**Tuckaleechee C**	**23.45**	**12**	P	**P**	**08 10 49.4**	**+0.4**
	comp=N,9.5nm,0.6s,mb4.4,baz=185,slow=12,SNR=20						
TKL				LR	LR	08 20 41.1	
	comp=N,140nm,19.2s,MS3.4,baz=202,slow=39						
WMOK	**Wichita Mounta**	**23.45**	**341**	*e*P	**P**	**08 10 47.4**	**-1.5**
	comp=N,16nm,1.0s,mb4.4						
MNTX	**Cornudas Mount**	**23.82**	**325**	*e*P	**P**	**08 10 52.2**	**-0.1**
	comp=N,11nm,0.9s,mb4.3						
MNTX				*e*		08 11 00.4	
PARMO	**Parma**	**23.85**	**360**	*e*P	**P**	**08 10 53.1**	**+0.5**
PARMO				*e*		08 11 00.5	
SIUC	**Southern Illin**	**24.91**	**1**	*e*P	**P**	**08 11 03.2**	**+1.0**
	comp=N,28nm,0.6s,mb5.0						
ELN	**Prospectdale**	**25.68**	**17**	*e*P	**P**	**08 11 10.0**	**+0.8**
LENM	**Lemitar**	**26.56**	**326**	*e*P	**P**	**08 11 19.0**	**+1.9**
ANMO	**Albuquerque**	**26.89**	**328**	P	**P**	**08 11 21.2**	**+1.1**
	comp=N,0.5nm,0.6s,mb3.2,baz=155,slow=10,SNR=3.9						
KSU1	**Kansas State U**	**27.01**	**348**	*e*P	**P**	**08 11 20.7**	**-0.5**
	comp=N,12nm,0.7s,mb4.5						
TUC	**Tucson**	**27.52**	**319**	*e*P	**P**	**08 11 28.5**	**+2.7**
	comp=N,5.7nm,1.1s,mb4.1						
ECSD	**EROS,Sioux Fal**	**31.50**	**350**	*e*P	**P**	**08 12 00.1**	**-1.0**
	comp=N,14nm,1.0s,mb4.7						
RSSD	**Black Hills**	**33.66**	**341**	*e*P	**P**	**08 12 20.3**	**+0.3**
	comp=N,3.0nm,0.6s,mb4.4						
RSSD				*e*	pP	08 12 28.1	-2.6
SAML	**Samuel**	**33.95**	**128**	*e*P	**P**	**08 12 21.5**	**-1.1**
	comp=N,3.0nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**34.57**	**334**	P	**P**	**08 12 28.3**	**+0.4**
	comp=N,0.4nm,0.7s,mb3.5,baz=124,slow=9.5,SNR=4.9						
PDAR				pP	pP	08 12 35.5	-3.0
	comp=N,0.5nm,0.6s,baz=129,slow=10,SNR=4.4						
HWUT	**Hardware Ranch**	**34.58**	**330**	*e*P	**P**	**08 12 28.4**	**+0.5**
	comp=N,4.9nm,1.2s,mb4.3						
REDW	**Red Top Meadow**	**35.62**	**333**	*e*P	**P**	**08 12 37.5**	**+0.6**
	comp=N,4.8nm,0.6s,mb4.6						
REDW				*ep*P	pP	08 12 45.7	-1.9
TPAW	**Teton Pass**	**35.76**	**333**	*e*P	**P**	**08 12 40.9**	**+2.8**
	comp=N,2.9nm,0.8s,mb4.3						
LPAZ	**La Paz**	**35.80**	**143**	*e*P	**P**	**08 12 38.2**	**-0.2**
	comp=N,29nm,1.0s,mb5.2						
AGMN	**Agassiz Refuge**	**35.86**	**353**	*e*P	**P**	**08 12 37.8**	**-1.2**
	comp=N,12nm,0.8s,mb4.9						
AGMN				*ep*P	pP	08 12 44.9	-4.8
MCMT	**McKenzie Canyo**	**37.66**	**333**	*e*P	**P**	**08 12 56.0**	**+1.7**
MCMT				*ep*P	pP	08 13 03.7	-1.3
DGMT	**Dagmar**	**37.66**	**344**	*e*P	**P**	**08 12 54.4**	**+0.1**
	comp=N,10nm,0.6s,mb4.7						
DGMT				*ep*P	pP	08 13 00.9	-4.1
ULM	**Lac du Bonnet**	**37.78**	**353**	P	**P**	**08 12 53.0**	**-2.3**
	comp=N,3.4nm,0.7s,mb4.2,baz=165,slow=14,SNR=7.7						
ULM				pP	pP	08 13 01.3	-4.8
	comp=N,4.0nm,0.7s,baz=196,slow=7.9,SNR=3.9						
ULM	**Lac du Bonnet**	**37.78**	**353**	P	**P**	**08 12 53.0**	**-2.3**
ULM				pP	pP	08 13 01.3	-4.8
EDM	**Edmonton**	**44.62**	**340**	*e*P	**P**	**08 13 50.4**	**-1.1**
EDM				*ep*P	pP	08 13 58.8	-3.6
SCHQ	**Schefferville**	**45.67**	**18**	P	**P**	**08 13 58.5**	**-1.3**
	comp=N,8.4nm,0.6s,mb4.9,baz=199,slow=5.7,SNR=12						
SCHQ	**Schefferville**	**45.67**	**18**	*e*P	**P**	**08 13 57.8**	**-2.0**
	comp=N,10nm,0.6s,mb4.9						
YKA	**Yellowknife Ar**	**52.82**	**346**	P	**P**	**08 14 53.3**	**-1.1**
	comp=N,2.3nm,0.7s,mb4.2,baz=130,slow=7.8,SNR=8.0						
FRB	**Frobisher Bay**	**53.08**	**12**	P	**P**	**08 14 55.2**	**-1.1**
	comp=N,10nm,0.9s,mb4.8,baz=212,slow=10,SNR=4.1						
DBIC	**Dimbokro**	**83.48**	**85**	P	**P**	**08 18 07.5**	**+0.9**
	comp=N,4.0nm,0.8s,mb4.5,baz=265,slow=16,SNR=4.1						
DBIC	**Dimbokro**	**83.48**	**85**	P	**P**	**08 18 07.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**88.42**	**77**	P	**P**	**08 18 30.3**	**-0.6**
	comp=N,0.4nm,0.5s,mb3.9,baz=293,slow=5.9,SNR=9.0						
WRA	**Warramunga Arr**	**137.30**	**254**	PKP	PKPdf	08 25 03.1	+0.9
	comp=N,0.1nm,0.4s,baz=359,slow=0.7,SNR=5.1						
WRA				pPKP	pPKPdf	08 25 12.3	-2.0
	comp=N,0.5nm,0.7s,baz=9.1,slow=0.8,SNR=3.2						
FITZ	**Fitzroy Crossi**	**145.62**	**257**	PKPbc	PKPbc	08 25 17.5	+0.2
	comp=N,2.9nm,1.1s,baz=338,slow=15,SNR=2.7						
FITZ				pPKPbc	pPKPbc	08 25 27.8	-1.6
	comp=N,4.1nm,0.9s,baz=200,slow=1.8,SNR=3.9						

CASC ***10*** *08:05:39.7±1.6, 1240N×8983W, h35km±999km, MD4.0, ML3.9, mb4.6(NEIC)*

ISCJB ***10*** *08:05:41.2±1.0, 1261N±008×8966W±007, h47km±9km, mb4.5/25, MS3.4/1, Error ellipse: s-maj=16.1km s-min=6.5km az=82.4*

IDC ***10*** *08:05:41.6±1.1, 1283N×8955W, h27km±5km, mb4.1/9, mb1 4.2/11, mb1mx4.0/23, mbtmp4.2/11, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/27, Error ellipse: s-maj=30.3km s-min=19.2km az=47.0*

NEIC ***10*** *08:05:43.4±1.6,

*IDC **10** 08:18:59.1±0.6,2844N×14022E,h434km±12km,mb2.9/6, mb1 3.0/10,mb1mx3.0/22,mbtmp3.8/10,Error ellipse: s-maj=38.9km s-min=10.5km az=72.0*
*JMA **10** 08:18:59.5±0.1,2849N×14032E,h442km,M3.7*
ISC 10 08:18:59.7±0.5,2843N±006×1402E±02,h436km±8km,n23, σ0§98/27,mb3.1/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.20**	**127**	P	**P**	**08 20 00.6**	**+0.5**
	21nm,0.3s,baz=270,slow=21,SNR=9.8						
CBIJ				S	**S**	**08 20 48.5**	**-0.7**
	21nm,0.3s,baz=289,slow=23,SNR=6.6						
CBIJ	**Chichi jima**	**2.20**	**127**	P	**P**	**08 20 00.4**	**+0.3**
CBIJ				S	**S**	**08 20 48.5**	**-0.6**
JHHJ	**Haha-jima-NKT**	**2.50**	**135**	*e*S	**S**	**08 20 53.2**	**+0.5**
JHJ2	**Mitsune**	**4.68**	**356**	*e*S	**S**	**08 21 24.2**	**-1.6**
JHJ	**Hachijo jima 2**	**4.69**	**356**	P	**P**	**08 20 19.9**	**-0.4**
	12nm,0.3s,baz=255,slow=20,SNR=3.9						
JHJ				S	**S**	**08 21 23.9**	**-2.2**
	14nm,0.3s,baz=73,slow=19,SNR=2.9						
BSO1	**Boso 1**	**6.24**	**6**	P	**P**	**08 20 36.7**	**+0.7**
BSO1				*e*S	**S**	**08 21 53.4**	**-1.2**
JIM2	**Oshima 3**	**6.30**	**354**	P	**P**	**08 20 37.9**	**+1.2**
BSO3	**Boso 3**	**6.36**	**2**	P	**P**	**08 20 37.5**	**+0.3**
JOD2	**Odawara 2**	**6.88**	**352**	P	**P**	**08 20 43.8**	**+1.0**
JRY	**Ryogami san**	**7.64**	**352**	P	**P**	**08 20 51.0**	**0.0**
JWT	**Wachi**	**7.96**	**330**	P	**P**	**08 20 56.3**	**+1.8**
JAG	**Ashikaga**	**8.00**	**356**	P	**P**	**08 20 54.8**	**-0.1**
JHO	**Hitachi**	**8.16**	**2**	P	**P**	**08 20 57.2**	**+0.5**
MJAR	**Matsushiro Arr**	**8.26**	**349**	P	**P**	**08 20 57.9**	**+0.1**
	0.5nm,0.3s,baz=165,slow=10.0,SNR=3.7						
JHS	**Saijyo**	**8.91**	**319**	P	**P**	**08 21 06.4**	**+1.6**
JMK	**Ichinoseki**	**10.53**	**4**	P	**P**	**08 21 24.6**	**+2.0**
JOW	**Kunigami**	**10.71**	**264**	P	**P**	**08 21 24.0**	**-0.6**
	2.0nm,0.3s,baz=114,slow=18,SNR=5.2						
SONM	**Songino Array**	**32.54**	**316**	P	**P**	**08 24 52.7**	**-0.2**
	0.6nm,0.9s,mb2.9,baz=117,slow=6.8,SNR=2.6						
MKAR	**Makanchi Array**	**48.28**	**309**	P	**P**	**08 26 58.8**	**-0.7**
	0.5nm,0.7s,mb2.9,baz=88,slow=7.7,SNR=2.8						
WRA	**Warramunga Arr**	**48.42**	**187**	P	**P**	**08 26 59.9**	**-0.6**
	0.7nm,0.3s,mb3.4,baz=4.6,slow=7.7,SNR=27						
ASAR	**Alice Springs**	**52.15**	**187**	P	**P**	**08 27 27.4**	**-0.6**
	0.2nm,0.4s,mb2.7,baz=6.9,slow=6.6,SNR=9.3						
BVAR	**Borovoye Array**	**55.88**	**317**	P	**P**	**08 27 53.9**	**-0.6**
	0.7nm,0.5s,mb3.3,baz=82,slow=6.1,SNR=4.8						
FINES	**FINESS Array B**	**75.98**	**333**	P	**P**	**08 29 59.8**	**-0.8**
	0.6nm,0.4s,mb3.6,baz=58,slow=4.6,SNR=7.1						

MAN 10 08:49:14.4,1057N×12612E,h78km,mb2.3,ML3.9,MS3.4, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.00**	**218**	‖ *e*P	Pn	08 49 33.9	+0.6
PLP	**Palo**	**1.27**	**298**	*e*P	Pn	08 49 37.5	+0.8
PLP				*e*S	Sn	08 49 48.6	-4.7

*ISCJB **10** 08:54:30.5±2.6,52N±03×1233E±06,h613km±42km, mb3.7/8,Error ellipse: s-maj=95.1km s-min=12.6km az=133.3*
*IDC **10** 08:54:30.4±1.7,526N×12338E,h585km±20km,mb3.1/8, mb1 3.3/8,mb1mx3.0/22,mbtmp4.1/8,Error ellipse: s-maj=73.8km s-min=8.5km az=66.0*
ISC 10 08:54:31.6±2.6,53N±03×1234E±06,h603km±39km,n11, σ0§57/13,mb3.7/8,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.01**	**153**	*e*P	**P**	**08 58 24.6**	**-0.6**
	3.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**23.33**	**175**	P	**P**	**08 58 54.3**	**-0.5**
	0.9nm,0.4s,mb3.7,baz=343,slow=5.0,SNR=5.6						
WRA	**Warramunga Arr**	**27.28**	**157**	P	**P**	**08 59 29.3**	**-0.2**
	6.3nm,0.4s,mb4.6,baz=338,slow=9.3,SNR=109						
WRA				S	**S**	**09 03 26.7**	**-1.3**
	0.5nm,0.5s,baz=335,slow=16,SNR=5.1						
WRA				ScP	ScP	09 05 16.2	+3.7
	0.3nm,0.5s,baz=344,slow=3.2,SNR=5.1						
WB2	**Warramunga Arr**	**27.28**	**157** ‖	*i*P	**P**	**08 59 29.2**	**-0.4**
ASAR	**Alice Springs**	**30.54**	**161**	P	**P**	**08 59 58.4**	**+0.7**
	3.4nm,0.3s,mb4.4,baz=340,slow=7.3,SNR=134						
ASAR				S	**S**	**09 04 18.7**	**+0.4**
	1.0nm,0.7s,baz=347,slow=19,SNR=8.3						
ASAR				ScP	ScP	09 05 27.2	+4.2
	0.3nm,0.5s,baz=339,slow=3.0,SNR=4.4						
ASPA	**Alice Springs**	**30.54**	**161** ‖	*i*P	**P**	**08 59 58.3**	**+0.6**
STKA	**Stephens Creek**	**40.82**	**156**	P	**P**	**09 01 23.4**	**+1.1**
	2.5nm,0.4s,mb4.1,baz=334,slow=8.2,SNR=11						
SONM	**Songino Array**	**44.83**	**344**	P	**P**	**09 01 53.1**	**-0.3**
	0.5nm,0.6s,mb3.2,baz=152,slow=9.5,SNR=3.2						
MKAR	**Makanchi Array**	**54.40**	**326**	P	**P**	**09 03 03.1**	**-0.2**
	1.0nm,0.5s,mb3.4,baz=120,slow=8.3,SNR=8.7						
MKAR				PcP	PcP	09 03 57.9	+0.5
	0.9nm,0.7s,baz=121,slow=5.2,SNR=5.8						
BVAR	**Borovoye Array**	**64.22**	**328**	P	**P**	**09 04 08.6**	**0.0**
	0.4nm,0.4s,mb3.1,baz=119,slow=5.1,SNR=2.9						
AKTO	**Aktyubinsk**	**70.38**	**322**	P	**P**	**09 04 46.2**	**+0.1**
	0.6nm,0.5s,mb3.3,baz=100,slow=8.2,SNR=5.8						

*ISCJB **10** 09:04:56.5±1.5,301S±0.1×1784W±04,h360km±16km, mb3.0/2,Error ellipse: s-maj=61.5km s-min=9.3km az=26.8*
*IDC **10** 09:04:58.7±1.6,3007S×17880W,h325km±20km,mb3.0/2, mb1 3.3/3,mb1mx3.0/11,mbtmp3.9/3,Error ellipse: s-maj=54.0km s-min=24.6km az=114.0*
ISC 10 09:04:59.8±1.9,3035S±010×1783W±04,h377km±12km, n21,σ1§16/26,mb3.0/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**16**	P	**Pn**	**09 05 42.3**	**-6.6**
	32nm,0.3s,baz=82,slow=22,SNR=3.5						
MXZ	**Matakaoa Point**	**7.73**	**201**	*e*PN	**Pn**	**09 06 51.0**	**-0.2**
MXZ				*e*SN	**S**	**09 08 22.5**	**+0.3**
PUZ	**Puketiti**	**8.22**	**199**	*e*PN	**Pn**	**09 06 57.0**	**+0.1**
PUZ				*e*SN	**S**	**09 08 33.5**	**+1.0**
MWZ	**Matawai**	**8.69**	**202**	*e*PN	**Pn**	**09 07 01.9**	**-0.3**
MWZ				*e*SN	**S**	**09 08 42.7**	**+0.2**
URZ	**Urewera**	**8.76**	**205**	P	**Pn**	**09 07 03.0**	**-0.2**
	1.0nm,0.3s,baz=82,slow=2.9,SNR=23						
URZ				S	**S**	**09 08 43.7**	**-0.5**
	2.9nm,0.3s,baz=283,slow=23,SNR=13						
URZ	**Urewera**	**8.76**	**205**	*e*PN	**Pn**	**09 07 03.8**	**+0.7**
URZ				*e*SN	**S**	**09 08 44.6**	**+0.4**
BKZ	**Black Stump Fm**	**9.79**	**205**	*e*PN	**Pn**	**09 07 16.8**	**+1.6**
PXZ	**Pawanui**	**10.44**	**201**	*e*PN	**Pn**	**09 07 21.6**	**-1.3**
PXZ				*e*SN	**S**	**09 09 18.8**	**-1.8**
BFZ	**Birch Farm**	**11.23**	**202**	*e*SN	**S**	**09 09 38.6**	**+1.3**
MRZ	**Mangatainoka R**	**11.44**	**204**	*e*SN	**S**	**09 09 38.6**	**-3.0**
KIW	**Kapiti Island**	**11.86**	**206**	*e*SN	**S**	**09 09 48.6**	**-1.4**
MTW	**Mount Morrison**	**11.91**	**203**	*e*SN	**S**	**09 09 49.9**	**-1.1**
TCW	**Tory Channel**	**12.40**	**207**	*e*SN	**S**	**09 09 59.1**	**-2.1**
NNZ	**Nelson**	**12.78**	**210**	*e*SN	**S**	**09 10 08.2**	**-0.5**
THZ	**Tophouse**	**13.43**	**210**	*e*SN	**S**	**09 10 22.8**	**+1.0**
KHZ	**Kahutara**	**13.72**	**206**	*e*SN	**S**	**09 10 29.5**	**+1.8**
LTZ	**Lake Taylor**	**14.53**	**209**	*e*SN	**S**	**09 10 44.6**	**+0.6**
MQZ	**McQueen's Vall**	**15.16**	**206**	*e*SN	**S**	**09 10 58.7**	**+2.2**
STKA	**Stephens Creek**	**34.25**	**257**	P	**P**	**09 11 11.4**	**-0.3**
	2.1nm,0.9s,mb3.4,baz=110,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**43.85**	**272**	P	**P**	**09 12 30.3**	**+0.1**
	0.2nm,0.3s,mb2.7,baz=110,slow=8.1,SNR=6.8						
FINES	**FINESS Array B**	**145.01**	**340**	PKP	PKPdf	09 23 55.3	+2.6
	0.7nm,0.3s,baz=49,slow=3.4,SNR=9.6						

*ISCJB **10** 09:16:52.9±0.9,205N±02×1200E±03,h10km,mb3.6/4, Error ellipse: s-maj=54.4km s-min=8.3km az=117.9*
*IDC **10** 09:16:52.6±1.4,2072N×12063E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.7/18,mbtmp3.7/4,Error ellipse: s-maj=143.9km s-min=20.8km az=66.0*
ISC 10 09:16:54.1±2.0,207N±02×1205E±04,h5km±11km,n8, σ1§11/10,mb3.6/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.28**	**156**	*e*P	**Pn**	**09 17 46.5**	**+0.5**
CVP				*i* S	**Sn**	**09 18 23.7**	**-1.7**
PALP	**Palanan**	**4.10**	**152**	*e*P	**Pg**	**09 18 12.3**	**-0.3**
PALP				*e*S	**Sn**	**09 18 47.4**	**+1.7**
BALP	**Baler**	**5.08**	**168**	*e*P	**Pn**	**09 18 13.6**	**+2.8**
BALP	**Baler**	**5.08**	**168**	*e*S	**Pg**	**09 18 31.1**	**-0.2**
SONM	**Songino Array**	**29.33**	**340**	P	**P**	**09 22 57.8**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=158,slow=4.7,SNR=3.2						
MKAR	**Makanchi Array**	**40.42**	**319**	P	**P**	**09 24 33.3**	**+0.2**
	0.7nm,0.6s,mb3.6,baz=104,slow=9.4,SNR=5.4						
WRA	**Warramunga Arr**	**42.65**	**161**	P	**P**	**09 24 50.3**	**-1.1**
	2.5nm,0.7s,mb4.0,baz=342,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**46.03**	**163**	P	**P**	**09 25 17.9**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=344,slow=6.9,SNR=8.3						

*ISCJB **10** 09:17:50.3±0.7,2167N±003×14299E±006,h320km±6km, mb4.2/56,Error ellipse: s-maj=9.3km s-min=5.3km az=172.5*
*IDC **10** 09:17:50.8±1.1,2163N×14296E,h312km±10km,mb3.8/20, mb1 4.0/25,mb1mx3.9/29,mbtmp4.6/25,Error ellipse: s-maj=14.7km s-min=7.2km az=89.0*
*MOS **10** 09:17:50.3±0.8,2168N×14295E,h322km,mb4.5/24,Error ellipse: s-maj=16.6km s-min=7.2km az=108.7*
*BJI **10** 09:17:51.0,2159N×143.12E,h344km,mB4.8,mb4.4*
*NEIC **10** 09:17:52.3±1.0,2164N×14295E,h328km±10km,mb4.4/18, Error ellipse: s-maj=8.3km s-min=5.6km az=73.0*
ISC 10 09:17:52.4±0.8,2164N±004×14305E±006,h328km±7km, n129,σ0§94/141,mb4.2/56,5C-2D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.49**	**352**	P	**Pn**	**09 19 13.9**	**-2.6**
	63nm,0.3s,baz=254,slow=20,SNR=26						
CBIJ				S	**S**	**09 20 19.1**	**-5.4**
	4.9nm,0.3s,baz=289,slow=24,SNR=2.4						
CBIJ	**Chichi jima**	**5.49**	**352**	P	**Pn**	**09 19 14.1**	**-2.4**
GUMO	**Guam**	**8.19**	**167**	P	**Pn**	**09 19 48.7**	**+0.2**
	14nm,0.3s,baz=161,slow=6.1,SNR=8.5						
JHJ	**Hachijo jima 2**	**11.80**	**346**	P	**Pn**	**09 20 30.4**	**-1.6**
	13nm,0.3s,baz=52,slow=23,SNR=6.2						
JHJ				S	**S**	**09 22 37.5**	**-5.8**
	13nm,0.3s,baz=271,slow=22,SNR=2.9						
JWZ	**Kozaga**	**13.51**	**333**	P	**Pn**	**09 20 53.2**	**+0.9**
JIE	**Ise**	**13.88**	**338**	P	**Pn**	**09 20 56.6**	**-0.1**
JOD2	**Odawara 2**	**14.01**	**347**	P	**P**	**09 20 57.3**	**+0.2**
JOD2				*e*S	**S**	**09 23 24.2**	**-6.1**
JOW	**Kunigami**	**14.43**	**294**	P	**P**	**09 21 01.8**	**+0.1**
	1.1nm,0.3s,baz=82,slow=16,SNR=4.3						
JMN	**Monobe**	**14.51**	**328**	P	**P**	**09 21 04.7**	**+2.1**
JYT	**Yasato**	**14.75**	**351**	P	**P**	**09 21 06.0**	**+0.8**
JYT				*e*S	**S**	**09 23 40.5**	**-4.7**
JRY	**Ryogami san**	**14.78**	**347**	P	**P**	**09 21 05.2**	**-0.3**
JRY				*e*S	**S**	**09 23 40.3**	**-5.4**
JWT	**Wachi**	**15.15**	**335**	P	**P**	**09 21 10.1**	**+0.5**
JAD	**Aida**	**15.38**	**331**	P	**P**	**09 21 13.7**	**+1.7**
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**09 21 11.0**	**-1.7**
	0.9nm,0.3s,baz=165,slow=9.5,SNR=19						
MJAR				S	**S**	**09 23 56.5**	**-2.5**
	0.6nm,0.3s,baz=141,slow=13,SNR=4.7						
MJAR				ScP	ScP	09 28 58.3	+1.5
	0.1nm,0.3s,baz=135,slow=2.8,SNR=4.2						
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**09 21 11.0**	**-1.7**
MJAR				S	**S**	**09 23 56.5**	**-2.5**
MJAR	**Matsushiro Arr**	**15.44**	**345**	P	**P**	**09 21 11.0**	**-1.7**
MJAR				S	**S**	**09 23 56.5**	**-2.5**
MJAR				ScP	ScP	09 28 58.3	+1.5
MAT	**Matsushiro**	**15.44**	**345**	P	**P**	**09 21 11.8**	**-0.9**
MAT				*e*S	**S**	**09 23 53.5**	**-5.5**
MAT	**Matsushiro**	**15.44**	**345**	P	**P**	**09 21 11.9**	**-0.8**
MAT				*e*S	**S**	**09 23 52.3**	**-6.7**
JNU	**Nakatsue**	**15.72**	**319**	P	**P**	**09 21 17.4**	**+1.6**
JHS	**Saijyo**	**15.91**	**329**	P	**P**	**09 21 19.0**	**+1.1**
JMM	**Marumori**	**16.29**	**354**	P	**P**	**09 21 23.0**	**+1.0**
JMM				*e*S	**S**	**09 24 18.0**	**+2.0**
JFU	**Fukue jima 2**	**16.78**	**314**	P	**P**	**09 21 28.0**	**+0.7**
JSD	**Sado**	**16.86**	**347**	P	**P**	**09 21 27.5**	**-0.6**
JYA	**Atsumi**	**17.14**	**351**	P	**P**	**09 21 32.2**	**+1.0**
JYA				*e*S	**S**	**09 24 37.8**	**+5.0**
JOM	**Ohasama**	**17.84**	**356**	P	**P**	**09 21 39.3**	**+0.6**
YHNB	**Yeheng**	**20.15**	**283**	*e*P	**P**	**09 22 02.7**	**-0.4**
ASAJ	**Asahikawa**	**22.42**	**359**	P	**P**	**09 22 24.2**	**+0.3**
	4.6nm,0.5s,mb4.0,baz=144,slow=12,SNR=4.6						
NJ2	**Nanjing**	**23.90**	**301**	*e*P	**P**	**09 22 37.1**	**-0.2**
NJ2				S	**S**	**09 26 31.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,13.4s						
NJ2				LR	LR		
	comp=E,300nm,11.5s						
NJ2				LR	LR		
	comp=Z,8μm,12.0s						
YSS	**Yuzh-Sakhalins**	**25.26**	**360**	*e*P	**P**	**09 22 57.0**	**+7.5**
YSS				pmax	pmax		
	comp=Z,70nm,1.4s,mb4.7						
YSS	**Yuzh-Sakhalins**	**25.26**	**360**	*e*P	**P**	**09 22 57.0**	**+7.4**
	comp=Z,70nm,1.4s,mb4.7						
KLR	**Kul'dur**	**28.96**	**345** ‖	*i*P	**P**	**09 23 18.8**	**-3.6**
HIA	**Hailar**	**33.20**	**332**	*e*P	**P**	**09 23 59.0**	**-0.3**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HIA	**Hailar**	**33.20**	**332**	*e*P	**P**	**09 23 59.0**	**-0.3**
	comp=Z,7.5nm,0.7s,mb4.0						
CD2	**Chengdu**	**36.26**	**293**	*e*P	**P**	**09 24 23.4**	**-1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**39.30**	**321**	P	**P**	**09 24 50.2**	**-0.2**
	comp=Z,2.3nm,0.5s,mb3.7,baz=134,slow=9.2,SNR=18						
GTA	**Gaotai**	**40.80**	**306**	*e*P	**P**	**09 25 03.2**	**+0.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.0						
YAK	**Yakutsk**	**41.40**	**351** ‖	*e*P	**P**	**09 25 05.9**	**-1.6**
YAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.4						
CTA	**Charters Tower**	**41.59**	**175**	P	**P**	**09 25 09.4**	**+0.4**
	comp=Z,11nm,0.8s,mb4.0,baz=353,slow=8.4,SNR=8.2						
CTAO	**Charters Tower**	**41.59**	**175**	*e*P	**P**	**09 25 08.5**	**-0.5**
CTAO				*e*PP	pP	09 26 12.1	-2.3
CTAO				pmax	pmax		
	comp=Z,106nm,2.1s,mb4.6						
CTAO	**Charters Tower**	**41.59**	**175**	*e*P	**P**	**09 25 08.5**	**-0.5**
	comp=Z,106nm,2.1s,mb4.6						
CTAO				*e*pP	pP	09 26 12.1	-2.3
SEY	**Seymchan**	**41.76**	**6** ‖	*e*P	**P**	**09 25 10.0**	**-0.4**
WRAB	**Tennant Creek**	**42.18**	**192**	*e*P	**P**	**09 25 13.1**	**-0.7**
WB2	**Warramunga Arr**	**42.19**	**192**	*e*P	**P**	**09 25 13.9**	**0.0**
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**09 25 13.4**	**-0.5**
	comp=Z,3.7nm,0.3s,mb3.9,baz=16,slow=9.2,SNR=58						
WRA				ScP	ScP	09 30 24.4	+4.5
	comp=Z,0.6nm,0.7s,baz=8.2,slow=4.9,SNR=4.7						
WRA				S	**S**	**09 31 08.1**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=0.5,slow=12,SNR=4.7						
ZAK	**Zakamensk**	**42.31**	**323**	*e*P	**P**	**09 25 13.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**43.02**	**205**	*e*P	**P**	**09 25 20.7**	**+0.3**
	comp=Z,3.4nm,0.6s,mb3.6						
FITZ	**Fitzroy Crossi**	**43.02**	**205**	P	**P**	**09 25 20.5**	**+0.1**
	comp=Z,2.0nm,0.6s,mb3.4,baz=11,slow=14,SNR=6.8						
AS31	**Alice Springs**	**45.90**	**192**	*e*P	**P**	**09 25 43.5**	**+0.5**
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**09 25 42.6**	**-0.5**
	comp=Z,1.4nm,0.3s,mb3.5,baz=13,slow=6.9,SNR=27						
ASAR				S	**S**	**09 32 01.3**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=6.7,slow=29,SNR=6.4						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**09 25 42.6**	**-0.5**
ASAR				S	**S**	**09 32 01.3**	**-0.8**
ASPA	**Alice Springs**	**45.90**	**192**	*e*P	**P**	**09 25 43.5**	**+0.4**
PSI	**Prapat**	**46.77**	**253**	P	**P**	**09 25 51.0**	**+1.2**
	comp=Z,2.8nm,0.5s,mb3.8,baz=77,slow=23,SNR=4.4						
BILL	**Bilibino**	**48.60**	**11** ‖	*e*P	**P**	**09 26 02.8**	**-0.9**
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.1						
WMQ	**Urumqi**	**50.52**	**310**	*e*P	**P**	**09 26 18.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb3.8						
TIXI	**Tiksi**	**50.70**	**354**	*e*P	**P**	**09 26 17.9**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.0						
JIRN	**Jiri**	**51.65**	**289**	*e*P	**P**	**09 26 27.2**	**+0.8**
GUN	**Gumba**	**51.89**	**289**	*e*P	**P**	**09 26 29.3**	**+1.1**
PKI	**Pulchoki**	**52.35**	**289**	*e*P	**P**	**09 26 32.0**	**+0.5**
	comp=Z,7.7nm,0.6s,mb4.2						
KKN	**Kakani**	**52.43**	**289**	*e*P	**P**	**09 26 32.5**	**+0.4**
DMN	**Daman**	**52.61**	**289**	*e*P	**P**	**09 26 34.1**	**+0.7**
GKN	**Gorkha**	**52.97**	**289**	*e*P	**P**	**09 26 36.8**	**+0.8**
STKA	**Stephens Creek**	**53.23**	**182**	P	**P**	**09 26 37.3**	**-0.6**
	comp=Z,2.0nm,0.4s,mb3.8,baz=350,slow=5.7,SNR=10						
STKA	**Stephens Creek**	**53.23**	**182**	*e*P	**P**	**09 26 37.2**	**-0.7**
KOLN	**Koldanda**	**53.91**	**289**	*e*P	**P**	**09 26 43.5**	**+0.7**
	comp=Z,3.4nm,0.2s,mb4.2						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**09 26 44.9**	**+0.1**
	comp=Z,3.9nm,0.7s,mb3.9,baz=1.4,slow=7.7,SNR=14						
ZAL				PcP	PcP	09 27 44.3	-0.3
	comp=Z,2.9nm,0.5s,baz=327,slow=5.1,SNR=6.4						
MKAR	**Makanchi Array**	**54.64**	**313**	P	**P**	**09 26 48.5**	**+0.5**
	comp=Z,4.4nm,0.5s,mb4.0,baz=91,slow=9.0,SNR=30						
MKAR				PcP	PcP	09 27 46.5	+0.2
	comp=Z,2.5nm,0.6s,baz=87,slow=5.5,SNR=8.1						
NVS	**Novosibirsk**	**55.27**	**323**	*i* P	**P**	**09 26 52.1**	**-0.4**
KDAK	**Kodiak Island**	**58.32**	**35**	P	**P**	**09 27 13.4**	**-0.3**
	comp=Z,11nm,1.0s,mb4.1,baz=168,slow=20,SNR=3.0						
AAK	**Ala-Archa**	**60.10**	**308** ‖	*e*P	**P**	**09 27 25.8**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**60.10**	**308**	*e*P	**P**	**09 27 25.4**	**-0.4**
	comp=Z,2.7nm,0.9s,mb3.7						
VOSK	**Vostochnaya**	**62.27**	**319**	P	**P**	**09 27 39.3**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
VOSK	**Vostochnaya**	**62.27**	**319**	*i* P	**P**	**09 27 39.4**	**-0.9**
CHKZ	**Chkalovo**	**62.50**	**320**	*e*P	**P**	**09 27 41.1**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**62.50**	**320**	*e*P	**P**	**09 27 41.1**	**-0.7**
	comp=Z,8.2nm,0.6s,mb4.4						
BVA0	**Borovoye Array**	**62.63**	**320**	*i* P	**P**	**09 27 42.8**	**+0.2**
BRVK	**Borovoye**	**62.70**	**320**	*e*P	**P**	**09 27 43.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
BRVK	**Borovoye**	**62.70**	**320**	*e*P	**P**	**09 27 43.2**	**+0.1**
	comp=Z,16nm,0.8s,mb4.6						
KK31	**Karatay Array**	**62.99**	**308**	*i* P	**P**	**09 27 45.7**	**+0.7**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.3						
KKAR	**Karatay Array**	**62.99**	**308**	*i* P	**P**	**09 27 45.7**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
INK	**Inuvik**	**67.67**	**24**	P	**P**	**09 28 14.2**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.3,baz=333,slow=2.3,SNR=4.7						
INK	**Inuvik**	**67.67**	**24**	*e*P	**P**	**09 28 14.4**	**-0.4**
INK				pmax	pmax		
	comp=Z,136nm,0.7s						
INK	**Inuvik**	**67.67**	**24**	*e*P	**P**	**09 28 14.3**	**-0.4**
	comp=Z,136nm,0.7s						
ARU	**Arti**	**69.24**	**324**	*e*P	**P**	**09 28 24.1**	**-0.3**
ARU				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
ARU	**Arti**	**69.24**	**324**	*e*P	**P**	**09 28 24.1**	**-0.3**
	comp=Z,14nm,1.1s,mb4.6						
AB31	**Akbulak array**	**69.50**	**316**	P	**P**	**09 28 25.6**	**-0.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	**P**	**09 29 06.8**	**-0.3**
	comp=Z,7.0nm,0.7s,mb4.5,baz=291,slow=5.9,SNR=19						
LVZ	**Lovozero**	**76.81**	**338**	P	**P**	**09 29 07.8**	**-0.6**
LVZ				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.0						
KEV	**Kevo**	**78.38**	**341**	*e*p	**P**	**09 29 16.2**	**-0.8**
	comp=Z,11nm,0.6s,mb4.8						
KEV	**Kevo**	**78.38**	**341**	*e*P	**P**	**09 29 16.2**	**-0.8**
KEV				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**09 29 20.1**	**0.0**
	comp=Z,18nm,0.7s,mb4.9,baz=73,slow=8.4,SNR=60						
ARE0	**ARCESS Array S**	**78.94**	**341**	*e*P	**P**	**09 29 20.2**	**+0.1**
JOF	**Joensuu**	**80.31**	**334**	*e*p

comp=Z,0.9nm,0.5s,baz=296,slow=1.7,SNR=8.3
LPAZ La Paz 150.07 85 *e*PKPbc PKPbc 09 37 06.8 +2.4

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*ISCJB **10** 09:26:15.9±0.7,3209S±009×1800W±03,h410km±14km, mb3.5/3,Error ellipse: s-maj=40.1km s-min=6.5km az=35.4.*
*IDC **10** 09:26:17.4±0.9,3197S×17968E,h369km±14km,mb3.3/3, mb1 3.6/7,mb1mx3.4/15,mbtmp4.4/7,Error ellipse: s-maj=34.4km s-min=12.1km az=121.0*
ISC 10 09:26:17.6±0.5,3202S±009×1797E±02,h373km±13km, n36,σ1§08/50,mb3.4/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.45**	**37**	P	**Pn**	**09 27 22.0**	**-0.7**
	20nm,0.3s,baz=275,slow=20,SNR=3.9						
RAO				S	**S**	**09 28 14.1**	**-1.1**
	62nm,0.3s,baz=107,slow=23,SNR=3.3						
MXZ	**Matakaoa Point**	**5.64**	**191**	PN	**Pn**	**09 27 47.4**	**+2.2**
MXZ				SN	**S**	**09 28 56.6**	**+0.2**
PUZ	**Puketiti**	**6.15**	**191**	PN	**Pn**	**09 27 52.7**	**+1.8**
PUZ				*e*SN	**S**	**09 29 06.0**	**-0.7**
MWZ	**Matawai**	**6.54**	**195**	PN	**Pn**	**09 27 57.0**	**+1.7**
MWZ				*e*SN	**S**	**09 29 15.2**	**+0.4**
URZ	**Urewera**	**6.57**	**198**	P	**Pn**	**09 27 57.3**	**+1.7**
	23nm,0.3s,baz=269,slow=2.9,SNR=51						
URZ				S	**S**	**09 29 14.8**	**-0.6**
	16nm,0.3s,baz=70,slow=23,SNR=20						
URZ	**Urewera**	**6.57**	**198**	PN	**Pn**	**09 27 57.0**	**+1.3**
URZ				SN	**S**	**09 29 17.3**	**+1.9**
KNZ	**Kokohu**	**7.17**	**193**	*e*PN	**Pn**	**09 28 03.9**	**+1.4**
KNZ				*e*SN	**S**	**09 29 28.6**	**+0.6**
BKZ	**Black Stump Fm**	**7.59**	**199**	*e*PN	**Pn**	**09 28 07.1**	**-0.2**
BKZ				*e*SN	**S**	**09 29 36.8**	**0.0**
WNVZ	**Wahianoa**	**8.01**	**203**	*e*PN	**Pn**	**09 28 13.6**	**+1.4**
MOVZ	**Moawhango**	**8.03**	**202**	*e*PN	**Pn**	**09 28 13.2**	**+0.7**
PXZ	**Pawanui**	**8.31**	**195**	PN	**Pn**	**09 28 16.1**	**+0.4**
PXZ				*e*SN	**S**	**09 29 48.7**	**-3.6**
TSZ	**Takapari Road**	**8.57**	**200**	PN	**Pn**	**09 28 18.2**	**-0.5**
TSZ				*e*SN	**S**	**09 29 56.0**	**-1.8**
WAZ	**Wanganui**	**8.61**	**205**	*e*PN	**Pn**	**09 28 21.0**	**+1.8**
BFZ	**Birch Farm**	**9.08**	**197**	*e*PN	**Pn**	**09 28 25.4**	**+0.7**
BFZ				*e*SN	**S**	**09 30 05.9**	**-2.9**
MRZ	**Mangatainoka R**	**9.24**	**200**	*e*PN	**Pn**	**09 28 25.1**	**-1.4**
MRZ				*e*SN	**S**	**09 30 07.3**	**-4.9**
KIW	**Kapiti Island**	**9.62**	**202**	PN	**Pn**	**09 28 30.6**	**-0.5**
MTW	**Mount Morrison**	**9.72**	**199**	*e*PN	**Pn**	**09 28 32.0**	**-0.2**
CAW	**Cannon Point**	**9.80**	**201**	*e*PN	**Pn**	**09 28 32.5**	**-0.6**
DUWZ	**D'Urville Isla**	**9.92**	**206**	*e*PN	**Pn**	**09 28 34.5**	**0.0**
PAWZ	**Paruwai Farm**	**9.95**	**199**	*e*PN	**Pn**	**09 28 35.1**	**+0.3**
MRW	**Makara Radio**	**10.02**	**202**	*e*PN	**Pn**	**09 28 34.5**	**-1.3**
SNZO	**South Karori**	**10.09**	**202**	*e*PN	**Pn**	**09 28 36.2**	**-0.4**
NNZ	**Nelson**	**10.48**	**207**	*e*PN	**Pn**	**09 28 39.4**	**-1.8**
NNZ				*e*SN	**S**	**09 30 35.1**	**-4.2**
QRZ	**Quartz Range**	**10.51**	**211**	*e*PN	**Pn**	**09 28 42.3**	**+0.8**
THZ	**Tophouse**	**11.13**	**207**	*e*PN	**Pn**	**09 28 48.0**	**-0.8**
THZ				*e*SN	**S**	**09 30 48.3**	**-5.2**
KHZ	**Kahutara**	**11.47**	**203**	*e*PN	**Pn**	**09 28 51.3**	**-1.5**
LTZ	**Lake Taylor**	**12.25**	**207**	*e*PN	**Pn**	**09 29 01.0**	**-0.9**
MOZ	**McQueen's Vall**	**12.91**	**203**	*e*PN	**Pn**	**09 29 09.3**	**-0.4**
WVZ	**Waitaha Valley**	**13.11**	**210**	*e*PN	**Pn**	**09 29 11.0**	**-1.0**
RPZ	**Rata Peaks**	**13.51**	**208**	P	**P**	**09 29 15.5**	**+0.7**
	1.9nm,0.3s,baz=45,slow=14,SNR=10						
RPZ				S	**S**	**09 31 37.5**	**-4.2**
	0.9nm,0.3s,baz=192,slow=23,SNR=6.2						
JCZ	**Jackson Bay**	**14.78**	**212**	PN	**P**	**09 29 29.4**	**+0.7**
AFI	**Afiamalu**	**19.65**	**25**	P	**P**	**09 30 20.8**	**+0.2**
	1.6nm,0.3s,baz=203,slow=23,SNR=3.9						
CTA	**Charters Tower**	**32.17**	**283**	P	**P**	**09 32 11.9**	**-0.2**
	3.4nm,0.5s,mb3.9,baz=109,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**41.08**	**270**	P	**P**	**09 33 26.9**	**+0.4**
	0.4nm,0.4s,mb3.0,baz=108,slow=7.1,SNR=9.8						
WRA	**Warramunga Arr**	**42.22**	**275**	P	**P**	**09 33 35.9**	**+0.3**
	0.9nm,0.3s,mb3.4,baz=112,slow=8.0,SNR=49						
FINES	**FINESS Array B**	**145.93**	**338**	PKPbc	PKPbc	09 45 11.4	-2.6
	1.1nm,0.8s,baz=66,slow=4.7,SNR=4.2						

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*CSEM **10** 09:27:00.3,5796N×1701E,h0km,ML2.6,Mining explosion. After UPP*
*NAO **10** 09:27:02.9±2.5,5823N×1704E,ML1.9*
UPP 10 09:27:00.3,5796N×1701E,h0km,ML2.6,Mining explosion.,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**1.17**	**26**	P	Pg	09 27 21.8	-0.9
NYNU				S	Sg	09 27 41.0	+3.1
ESKU	**Eskilstuna**	**1.31**	**346**	P	Pg	09 27 24.4	-1.0
BACU	**Backbrunna**	**1.90**	**2**	P	Pn	09 27 34.4	+0.5
NRTU	**Norrtaelje**	**1.92**	**26**	P	Pn	09 27 34.2	0.0
	baz=173						
OSTU	**Oestervaala**	**2.27**	**2**	P	Pn	09 27 39.7	+0.6
FORU	**Forsmark**	**2.51**	**13**	P	Pn	09 27 43.0	+0.7
GRAU	**Graesoe**	**2.51**	**18**	P	Pn	09 27 42.5	+0.2
HFS	**Hagfors**	**2.77**	**323**	Pn	Pn	09 27 45.9	0.0
	baz=155,slow=11						
HFS				Lg		09 28 23.1	
	baz=138,slow=28						
NB2	**NORSAR Subarra**	**4.27**	**319**	Pn	Pn	09 28 05.6	-0.9
	baz=142,slow=16						
NB2				Lg		09 29 14.2	
FIA0	**FINESS Array S**	**5.77**	**49**	Pn	Pn	09 28 25.4	-1.6
	baz=218,slow=12						
FIA0				Sn	Sn	09 29 32.5	-1.5
	baz=248,slow=28						
FIA0				Lg		09 29 55.7	
	baz=245,slow=28						
ARA0	**ARCESS Array S**	**12.19**	**14**	Pn	Pn	09 29 51.0	-4.2
	baz=195,slow=16						

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*NIED **10** 09:33:00,2880N×14270E,h5km,Mw4.4 Best double couple: M0=4.09000×10^15 NP1:φ=14.00000°,δ84.00000°, λ96.00000°. NP2:φ=151.00000°,δ8.00000°,λ48.00000°.*
*ISCJB **10** 09:33:52.4±1.4,287N±0.1×1417E±05,h10km,mb4.2/7, Error ellipse: s-maj=67.3km s-min=9.0km az=148.5*
*IDC **10** 09:33:53.8±1.6,2855N×14148E,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/20,mbtmp4.0/8,ML3.8/1,Error ellipse: s-maj=78.0km s-min=15.9km az=69.0*
ISC 10 09:33:54.6±1.2,286N±01×1417E±04,h10km,n10, σ1§13/12,mb4.2/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.60**	**164**	Pn	**Pn**	**09 34 21.8**	**-1.2**
	8.8nm,0.3s,baz=306,slow=19,SNR=9.0						
CBIJ				Sn	**Sn**	**09 34 38.4**	**-5.3**
	104nm,0.3s,baz=270,slow=20,SNR=12						
MJAR	**Matsushiro Arr**	**8.40**	**341**	Pn	**Pn**	**09 35 56.6**	**+0.2**
	1.1nm,0.3s,baz=157,slow=11,SNR=14						
MAT	**Matsushiro**	**8.40**	**341**	P	**Pn**	**09 35 57.1**	**+0.7**
MAT				eS	**Sn**	**09 37 29.4**	**-1.9**
SONM	**Songino Array**	**33.30**	**315**	P	**P**	**09 40 32.4**	**0.0**
	0.5nm,0.5s,mb3.8,baz=109,slow=8.3,SNR=4.0						
ZAL	**Zalesovo**	**48.05**	**318**	P	**P**	**09 42 33.6**	**-0.4**
	2.0nm,0.5s,mb4.5,baz=29,slow=8.5,SNR=7.3						
WRA	**Warramunga Arr**	**48.82**	**189**	P	**P**	**09 42 39.0**	**-0.9**
	4.8nm,1.0s,mb4.5,baz=16,slow=8.7,SNR=23						
MKAR	**Makanchi Array**	**49.16**	**309**	P	**P**	**09 42 42.7**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=97,slow=8.0,SNR=4.9						
ASAR	**Alice Springs**	**52.54**	**189**	P	**P**	**09 43 09.8**	**+1.7**
	1.0nm,0.5s,mb4.0,baz=351,slow=9.7,SNR=10.0						
BVAR	**Borovoye Array**	**56.61**	**317**	P	**P**	**09 43 37.3**	**-0.3**
	4.6nm,0.7s,mb4.6,baz=81,slow=9.2,SNR=20						
HFS	**Hagfors**	**81.83**	**337**	P	**P**	**09 46 16.1**	**+2.2**
	1.3nm,0.6s,mb4.0,baz=56,slow=8.8,SNR=3.8						

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*MAN **10** 09:34:38.0,2084N×12055E,h12km,mb3.4,ML4.6,MS6.2*
*ISCJB **10** 09:34:39.1±0.8,2088N±006×1222E±02,h10km,mb4.2/6, Error ellipse: s-maj=29.9km s-min=8.7km az=4.5*
*IDC **10** 09:34:40.0±0.9,2057N×12161E,h0km,mb4.1/7, mb1 4.2/7,mb1mx3.9/19,mbtmp4.1/7,Error ellipse: s-maj=38.5km s-min=19.7km az=73.0*
ISC 10 09:34:41.0±0.8,2089N±006×1222E±02,h10km,n13, σ0§86/15,mb4.2/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.19**	**187**	*e*P	**Pn**	**09 35 31.0**	**-0.2**
CVP				*i* S	**Sn**	**09 36 10.0**	**+0.7**
PALP	**Palanan**	**3.81**	**177**	*e*P	**Pg**	**09 36 03.6**	**+10**
CAUP	**Cauayan**	**3.94**	**186**	*e*P	**Pn**	**09 35 43.2**	**+1.8**
BALP	**Baler**	**5.16**	**187**	*e*P	**Pn**	**09 35 56.5**	**-1.7**
BALP				*e*S	**Sn**	**09 36 57.5**	**-0.2**
MJAR	**Matsushiro Arr**	**20.92**	**38**	P	**P**	**09 39 32.6**	**+8.9**
	0.4nm,0.5s,baz=213,slow=8.7,SNR=3.0						
WRA	**Warramunga Arr**	**42.27**	**163**	P	**P**	**09 42 34.4**	**-0.2**
	4.7nm,0.8s,mb4.1,baz=342,slow=9.1,SNR=28						
WB2	**Warramunga Arr**	**42.28**	**163**	*e*P	**P**	**09 42 34.6**	**0.0**
ASAR	**Alice Springs**	**45.72**	**165**	P	**P**	**09 43 02.0**	**-0.2**
	1.3nm,0.9s,mb3.9,baz=344,slow=7.1,SNR=12						
ASPA	**Alice Springs**	**45.72**	**165**	*e*P	**P**	**09 43 01.7**	**-0.5**
STKA	**Stephens Creek**	**55.65**	**160**	P	**P**	**09 44 16.9**	**-0.3**
	3.1nm,1.0s,mb4.3,baz=346,slow=10,SNR=4.3						
AKTO	**Aktyubinsk**	**57.81**	**317**	P	**P**	**09 44 31.5**	**-1.1**
	2.0nm,0.6s,mb4.3,baz=89,slow=13,SNR=7.7						
BRTR	**Keskin Array B**	**75.91**	**307**	P	**P**	**09 46 28.6**	**+0.8**
	1.5nm,0.6s,mb4.1,baz=90,slow=3.6,SNR=5.6						
YKA	**Yellowknife Ar**	**85.62**	**23**	P	**P**	**09 47 20.8**	**+1.1**
	2.1nm,0.9s,mb4.4,baz=316,slow=5.2,SNR=4.3						

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*ISCJB **10** 09:36:24.0±0.4,3256N±004×5549E±003,h10km,Error ellipse: s-maj=5.1km s-min=4.1km az=26.3*
*CSEM **10** 09:36:24.2±0.1,3264N×5542E,h16km,ML3.6,Error ellipse: s-maj=1.9km s-min=1.6km az=42.0*
*TEH **10** 09:36:25.3,3262N×5543E,h7km,Mn3.6*
*THR **10** 09:36:26.2±0.5,3250N×5525E,h14km±9km,ML3.4*
ISC 10 09:36:25.2±0.4,3255N±003×5548E±003,h10km,n26, σ0§97/31,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.96**	**252**	*e*Pg	**Pg**	**09 36 41.6**	**-2.0**
IBAF	**Bafgh**	**0.96**	**176**	*e*Pg	**Pg**	**09 36 43.7**	**+0.1**
IMEH	**Mehriz**	**1.37**	**213**	*e*Pg	**Pg**	**09 36 51.1**	**-0.4**
ISAD	**Sadrabad**	**1.65**	**248**	*e*Sn	**Sn**	**09 37 15.8**	**+0.4**
NASN	**Na'in**	**2.27**	**277**	*e*PG	**Pn**	**09 37 04.0**	**+1.3**
NASN				*e*SG	**Sn**	**09 37 32.1**	**+1.4**
NASN				AML	AML	09 37 33.9	
	comp=E,263nm,0.2s						
NASN				AML	AML	09 37 34.2	
	comp=N,204nm,0.2s						
NASN	**Na'in**	**2.27**	**277**	*e*Pg	**Pn**	**09 37 04.0**	**+1.3**
	SNR=90						
NASN				*e*Sg	**Sn**	**09 37 32.1**	**+1.4**
	SNR=90						
IZEF	**Zefreh**	**2.68**	**278**	*e*Pn	**Pn**	**09 37 08.8**	**+0.4**
ITEG		**2.78**	**82**	*e*Pn	**Pn**	**09 37 10.6**	**+0.8**
ITEG				*e*Sn	**Sn**	**09 37 43.8**	**+0.5**
KRBR	**Kerman**	**2.78**	**156**	*e*PN	**Pb**	**09 37 13.3**	**-1.8**
KRBR				*e*SG	**Sg**	**09 37 54.8**	**+0.2**
KRBR				AML	AML	09 38 03.1	
	comp=E,125nm,0.3s						
KRBR				AML	AML	09 38 04.2	
	comp=N,158nm,0.3s						
KRBR	**Kerman**	**2.78**	**156**	*e*Pn	**Pb**	**09 37 13.3**	**-1.7**
	SNR=52						
KRBR				*e*Sg	**Sg**	**09 37 54.8**	**+0.2**
	SNR=90						
IKOO		**2.98**	**91**	*e*Pn	**Pn**	**09 37 13.3**	**+0.7**
IANJ	**Anjiloo**	**3.19**	**336**	*e*Pn	**Pn**	**09 37 13.8**	**-1.6**
ISFB	**Sefidab**	**3.25**	**304**	*e*Pn	**Pn**	**09 37 15.4**	**-0.9**
IKLH	**Kalahroud**	**3.37**	**284**	*e*Pn	**Pn**	**09 37 18.9**	**+1.0**
IMON		**3.58**	**79**	*e*Pn	**Pn**	**09 37 21.0**	**+0.2**
IDAH		**3.71**	**86**	*e*Pn	**Pn**	**09 37 23.2**	**+0.7**
ISHM	**Shahmirzad**	**3.72**	**331**	*e*Pn	**Pn**	**09 37 21.9**	**-0.8**
IKIA	**Kiasar**	**3.94**	**338**	*e*Pn	**Pn**	**09 37 25.0**	**-0.7**
IVRN	**Varamin**	**3.97**	**309**	*e*Pn	**Pn**	**09 37 25.1**	**-1.0**
IDMV	**Damavand**	**4.16**	**318**	*e*Pn	**Pn**	**09 37 27.8**	**-1.0**
DAMV	**Damavand**	**4.23**	**318**	*e*PN	**Pn**	**09 37 31.4**	**+1.7**
DAMV				AML	AML	09 38 42.8	
	comp=E,46nm,0.6s						
DAMV				AML	AML	09 38 47.1	
	comp=N,30nm,0.8s						
IMOG	**Moghan**	**4.78**	**41**	*e*Pn	**Pn**	**09 37 37.1**	**-0.1**
IAKL	**Akhlamad**	**4.83**	**33**	*e*Pn	**Pn**	**09 37 37.0**	**-1.0**
IPAY	**Payeh**	**4.86**	**36**	*e*Pn	**Pn**	**09 37 38.2**	**-0.1**
CHTH	**Charan**	**4.92**	**314**	*e*PN	**Pn**	**09 37 40.6**	**+1.4**
ASAO	**Ashtian**	**4.97**	**295**	*e*PN	**Pn**	**09 37 40.4**	**+0.4**

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*IDC **10** 09:51:30.8±0.9,5893S×2577W,h0km,mb4.0/5,mb1 4.1/7, mb1mx3.9/19,mbtmp3.9/7,ML4.5/2,Error ellipse: s-maj=29.3km s-min=24.3km az=62.0*
*ISCJB **10** 09:51:34.6±5.3,589S±02×260W±03,h35km±49km, mb3.9/5,Error ellipse: s-maj=33.6km s-min=20.9km az=63.9*
ISC 10 09:51:37.2±4.4,590S±02×260W±03,h46km±42km,n11, σ0§90/9,mb3.9/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.80**	**155**	*e*	**Pn**	**09 54 55.2**	**+5.1**
VNA1				*e*		09 54 58.7	
SNAA	**Sanae**	**15.77**	**153**	Pn	**Pn**	**09 55 15.9**	**-0.1**
	0.6nm,0.3s,baz=326,slow=20,SNR=50						
SNAA	**Sanae**	**15.77**	**153**	*e*	**Pn**	**09 55 16.7**	**+0.7**
SNAA				*e*		09 55 18.2	
SNAA				*e*		09 55 21.8	
SNAA				*e*		09 55 31.5	
SNAA				*e*		09 55 41.1	
SNAA				*e*		09 57 57.6	
SNAA				*e*		09 58 10.2	
PMSA	**Palmer Station**	**18.61**	**236**	P	**Pn**	**09 55 51.1**	**-0.2**
	0.4nm,0.3s,baz=0.9,slow=20,SNR=3.7						
PLCA	**Paso Flores**	**33.26**	**283**	P	**P**	**09 58 09.4**	**-0.6**
	2.0nm,1.0s,mb4.0,baz=237,slow=10,SNR=2.4						
VNDA	**Vanda**	**43.63**	**182**	P	**P**	**09 59 36.2**	**-0.8**
	0.7nm,0.5s,mb3.6,baz=223,slow=0.8,SNR=12						
LPAZ	**La Paz**	**52.65**	**306**	P	**P**	**10 00 48.1**	**+1.5**
	0.9nm,0.7s,mb3.8,baz=163,slow=6.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.35**	**28**	P	**P**	**10 03 14.7**	**-1.0**
	1.1nm,0.6s,mb4.0,baz=194,slow=6.1,SNR=6.3						
ASAR	**Alice Springs**	**95.95**	**161**	P	**P**	**10 05 00.1**	**+0.9**
	0.6nm,0.7s,mb4.1,baz=179,slow=3.4,SNR=7.4						
YKA	**Yellowknife Ar**	**138.79**	**315**	PKP	PKPdf	10 10 57.8	-0.4
	1.2nm,0.6s,baz=128,slow=2.2,SNR=6.7						
SONM	**Songino Array**	**150.13**	**91**	PKPbc	PKPbc	10 11 21.9	-0.9
	1.0nm,0.7s,baz=248,slow=1.8,SNR=6.9						

MAN 10 10:01:52.9,961N×12531E,h0km,mb2.2,ML3.9,MS1.4, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.25**	**47**	↓*e*P	Pg	10 01 57.8	+0.1
MSLP	**Maasin**	**0.68**	**320**	*e*P	Pg	10 02 05.8	-0.2
MSLP				*e*S	Sg	10 02 16.7	+1.9
BUTP	**Butuan**	**0.71**	**154**	*e*P	Pg	10 02 06.8	+0.3
BUTP				*e*S	Sg	10 02 18.7	+2.9
CGP	**Cagayan de Oro**	**1.30**	**208**	↑*i*P	Pg	10 02 13.7	-4.2
CGP				*i* S	Sg	10 02 30.6	-4.1
BUKP	**Musuan**	**1.74**	**188**	*e*P	Pn	10 02 24.4	0.0

MOS 10 10:21:35.5±0.2,4236N×4510E,h10km,mb3.6/1,3C-1D, Error ellipse: s-maj=42.6km s-min=11.4km az=114.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.74**	**344**	*e*Pg	Pg	10 21 50.2	+0.5
SNJR				*i* S	Sg	10 22 03.9	+4.6
LACR	**Lac**	**0.75**	**308**	↑*i*PG	Pg	10 21 50.7	+0.7
LACR				*i* S	Sg	10 22 04.7	+4.9
VLKR	**Vladikavkaz**	**0.75**	**336**	↑*i*PG	Pg	10 21 50.6	+0.6
VLKR				*e*S	Sg	10 22 04.6	+4.8
ZEI	**Tsey**	**0.97**	**295**	↑*i*PG	Pg	10 21 54.4	+0.2
ZEI				*i* S	Sg	10 22 11.2	+4.3
ARNR	**Ardon**	**1.02**	**324**	*e*PG	Pg	10 21 55.3	+0.2
ARNR				*i* S	Sg	10 22 12.8	+4.4
KMSR	**Komsomolskaya**	**1.17**	**330**	↓*i*PG	Pg	10 21 57.7	-0.2
KMSR				*i* S	Sb	10 22 17.1	+4.2
TRKR	**Terskaya**	**1.39**	**349**	*e*PG	Pg	10 22 01.0	-1.1
TRKR				*i* S	Sb	10 22 22.7	+3.5

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*ISCJB **10** 10:24:33.2±2.3,6.11S±0.10×1498E±0.1,h46km±20km, mb4.0/7,MS3.8/4,Error ellipse: s-maj=21.6km s-min=14.4km az=61.5*
*NEIC **10** 10:24:34.9±1.9,6.12S×14993E,h52km±16km,mb4.6/2, Error ellipse: s-maj=13.2km s-min=12.1km az=63.0*
*IDC **10** 10:24:35.6±2.2,6.14S×14997E,h56km±18km,mb3.9/8, mb1 4.2/9,mb1mx4.1/14,mbtmp4.3/9,ML3.8/1,MS3.7/6, Ms1 3.7/6,ms1mx3.4/28,Error ellipse: s-maj=23.4km s-min=14.5km az=109.0*
ISC 10 10:24:33.9±2.0,610S±010×1499E±01,h35km±18km,n29, σ0§77/22,mb4.0/7,MS3.8/4,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.26**	**220**	P	**Pn**	**10 25 37.6**	**+1.3**
	36nm,0.3s,baz=46,slow=6.9,SNR=114						
PMG				S	**Sn**	**10 26 23.1**	**-1.7**
	45nm,0.3s,baz=2.9,slow=23,SNR=10.0						
PMG				LR	LR	10 27 27.3	
	comp=Z,828nm,21.4s,baz=20,slow=40						
PMG	**Port Moresby**	**4.26**	**220**	*e*Pn	**Pn**	**10 25 37.5**	**+1.2**
PMG				S	**Sn**	**10 26 23.1**	**-1.7**
PMG				*e*Sn	**Sn**	**10 26 26.1**	**+1.3**
PMG				LR	LR	10 27 27.3	
HNR	**Honiara**	**10.48**	**109**	LR	LR	10 30 44.1	
	comp=Z,123nm,19.3s,baz=359,slow=35						
KAKA	**Kakadu**	**18.43**	**248**	*e*P	**Pn**	**10 28 46.5**	**0.0**
	14nm,0.6s						
GUMO	**Guam**	**20.19**	**346**	LR	LR	10 35 54.4	
	comp=Z,259nm,18.1s,MS3.6,baz=267,slow=34						
WB2	**Warramunga Arr**	**20.44**	**226**	↓*i*P	**P**	**10 29 08.2**	**+0.1**
WB2	**Warramunga Arr**	**20.44**	**226**	*e*P	**P**	**10 29 08.2**	**0.0**
WRA	**Warramunga Arr**	**20.45**	**226**	P	**P**	**10 29 08.2**	**0.0**
	21nm,0.8s,baz=51,slow=11,SNR=94						
WRA				S	**S**	**10 32 49.3**	**-5.9**
	2.8nm,1.0s,baz=49,slow=22,SNR=3.3						
DZM	**Mont Dzumac**	**22.52**	**136**	P	**P**	**10 29 30.4**	**-0.2**
	8.6nm,0.9s,mb4.2,baz=340,slow=12,SNR=5.0						
AS31	**Alice Springs**	**23.28**	**220**	*e*P	**P**	**10 29 38.3**	**-0.2**
ASAR	**Alice Springs**	**23.28**	**220**	P	**P**	**10 29 38.0**	**-0.5**
	4.7nm,0.7s,mb4.0,baz=58,slow=9.2,SNR=51						
ASAR				PcP	PcP	10 33 24.7	-0.3
	0.9nm,0.8s,baz=63,slow=2.9,SNR=4.3						
ASAR				S	**S**	**10 33 48.6**	**+0.5**
	1.1nm,0.8s,baz=47,slow=22,SNR=5.0						
ASAR				ScP	ScP	10 36 54.9	-5.4
	0.4nm,0.6s,baz=100,slow=8.6,SNR=6.4						
ASPA	**Alice Springs**	**23.28**	**220**	*e*P	**P**	**10 29 38.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**26.51**	**241**	*e*P	**P**	**10 30 07.8**	**-0.2**
	30nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.51**	**241**	P	**P**	**10 30 08.0**	**0.0**
	4.8nm,0.5s,mb4.3,baz=63,slow=11,SNR=31						
FITZ				LR	LR	10 41 33.1	
	comp=Z,204nm,20.5s,MS3.7,baz=159,slow=38						
STKA	**Stephens Creek**	**26.79**	**196**	P	**P**	**10 30 10.8**	**+0.3**
	6.2nm,0.7s,mb4.2,baz=1.4,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**26.79**	**196**	P	**P**	**10 30 10.8**	**+0.3**
MJAR	**Matsushiro Arr**	**43.81**	**346**	P	**P**	**10 32 34.8**	**-1.6**
	1.3nm,0.6s,mb3.8,baz=170,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**65.93**	**329**	P	**P**	**10 35 16.7**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=147,slow=4.9,SNR=5.3						
SONM				LR	LR	11 01 11.0	
	comp=Z,92nm,19.1s,MS4.0,baz=31,slow=33						
MKAR	**Makanchi Array**	**79.43**	**320**	P	**P**	**10 36 37.8**	**+1.3**
	0.5nm,0.7s,mb3.5,baz=119,slow=4.4,SNR=3.4						
ZAL	**Zalesovo**	**80.66**	**327**	LR	LR	11 11 09.2	
	comp=Z,72nm,18.4s,MS4.1,baz=213,slow=35						
NOA	**NORSAR Array B**	**117.12**	**339**	PKP	PKPdf	10 43 14.7	-0.5
	0.4nm,0.5s,baz=18,slow=1.3,SNR=2.5						
PLCA	**Paso Flores**	**120.42**	**145**	PKP	PKPdf	10 43 20.9	-0.6
	1.2nm,0.7s,baz=290,slow=9.4,SNR=3.7						
PLCA	**Paso Flores**	**120.42**	**145**	PKP	PKPdf	10 43 20.9	-0.6
GERES	**GERESS Array B**	**123.61**	**327**	PKP	PKPdf	10 43 26.5	-1.1
	1.0nm,0.6s,baz=48,slow=2.0,SNR=8.7						
SDV	**Santo Domingo**	**139.72**	**83**	*e*PKPdf	PKPdf	10 43 58.4	+0.4
TOA0	**Torodi Ar. Sit**	**147.91**	**285**	*e*PKPdf	PKPdf	10 44 12.6	+0.4
TOA0				*e*PKPbc	PKPbc	10 44 15.6	+0.3
TOA0				*e*PKPab	PKPab	10 44 18.7	+0.8
TORD	**Torodi Ar. Bea**	**147.91**	**285**	PKPbc	PKPbc	10 44 15.5	+0.2
	4.6nm,0.4s,baz=85,slow=2.4,SNR=59						
TORD	**Torodi Ar. Bea**	**147.91**	**285**	PKPbc	PKPbc	10 44 15.5	+0.2
BDFB	**Brasilia**	**152.04**	**141**	PKPbc	PKPbc	10 44 25.3	0.0
	3.3nm,0.7s,baz=214,slow=2.6,SNR=4.4						

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*JSN **10**

MAT	Matsushiro	8.68 351	P	P	10 46 02.5	-0.3
SONM	Songino Array	32.70 316	P	P	10 49 47.8	+0.1
	0.4nm,0.5s,mb3.2,baz=120,slow=8.5,SNR=3.2					
SONM	Songino Array	32.70 316	P	P	10 49 47.8	+0.1
FITZ	Fitzroy Crossi	47.83 198	*e*P	P	10 51 49.1	+0.5
	7.6nm,1.5s,mb4.0					
FITZ	Fitzroy Crossi	47.83 198	P	P	10 51 48.1	-0.6
	3.4nm,1.2s,mb3.8,baz=7.1,slow=8.1,SNR=3.3					
WB2	Warramunga Arr	47.92 187	*e*P	P	10 51 49.2	-0.1
WRA	Warramunga Arr	47.92 187	P	P	10 51 49.0	-0.4
	0.9nm,0.3s,mb3.8,baz=1.9,slow=7.9,SNR=68					
MKAR	Makanchi Array	48.37 309	P	P	10 51 51.6	-1.0
	0.5nm,0.4s,mb3.4,baz=91,slow=8.6,SNR=4.1					
AS31	Alice Springs	51.65 187	*e*P	P	10 52 16.7	0.0
ASAR	Alice Springs	51.65 187	P	P	10 52 16.6	-0.1
	0.4nm,0.3s,mb3.2,baz=2.4,slow=6.1,SNR=23					
ASPA	Alice Springs	51.65 187	*e*P	P	10 52 16.7	0.0
BVAR	Borovoye Array	56.04 317	P	P	10 52 47.7	0.0
	4.2nm,0.4s,mb4.0,baz=91,slow=7.3,SNR=26					
ARCES	ARCESS Array B	72.06 340	P	P	10 54 30.2	+0.6
	0.8nm,0.5s,mb3.4,baz=69,slow=6.6,SNR=9.0					
ARCES	ARCESS Array B	72.06 340	P	P	10 54 30.2	+0.6
FINES	FINESS Array B	76.27 333	P	P	10 54 53.3	-0.1
	1.5nm,0.3s,mb3.9,baz=67,slow=5.8,SNR=17					
NOA	NORSAR Array B	82.05 337	P	P	10 55 23.6	-0.4
	0.9nm,0.6s,mb3.4,baz=46,slow=4.6,SNR=3.8					

NNC 10 11:09:03.7±16.0,3713N×7041E,h250km±268km,mb2.0, mpv3.1,3C-2D,Error ellipse: s-maj=198.7km s-min=106.9km az=10.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.97	1	⇑P	Pn	11 10 30.1	-1.3
	2.2nm,0.5s,baz=151,slow=35,SNR=27						
KK31				⇑S	S	11 11 42.6	+1.1
	0.6nm,0.3s,baz=134,slow=74,SNR=5.3						
TKM2	Tokmak 2	7.02	33	⇓P	Pn	11 10 46.3	+1.7
	0.2nm,0.5s						
TKM2				⇑S	S	11 12 05.3	-0.2
	0.4nm,0.8s						
AB31	Akbulak array	14.30	331	⇓P	Pn	11 12 15.2	-0.3
	0.4nm,0.5s,baz=166,slow=11,SNR=12						

MOS ***10*** *11:11:16.4±1.9,7391N×909E,h10km,mb4.6/1,Error ellipse: s-maj=49.1km s-min=11.9km az=99.3*
IDC ***10*** *11:11:17.9±1.1,7393N×982E,h0km,mb3.9/7,mb1 3.9/12, mb1mx3.8/24,mbtmp3.9/12,ML3.1/4,MS3.5/9,Ms1 3.5/9, ms1mx3.1/40,Error ellipse: s-maj=18.2km s-min=16.8km az=30.0*
NEIC ***10*** *11:11:17.2±0.8,7420N×936E,h10km,mb4.6/2,Error ellipse: s-maj=14.5km s-min=10.6km az=96.0*
BER ***10*** *11:11:19.0±4.0,7423N×976E,h15km±104km,MD2.5, ML2.9,ML2.8(NAO)*
ISCJB ***10*** *11:11:20.1±1.0,7409N±005×117E±03,h10km,mb4.1/9, MS3.7/5,Error ellipse: s-maj=12.2km s-min=6.9km az=171.8*
NAO ***10*** *11:11:23.9±6.3,7451N×1305E,h4km±56km,ML2.8*
HEL ***10*** *11:11:25.0±0.4,7395N×1113E,h10km,ML3.4, mb4.6(NEIC),ML2.9(BER)*
CSEM ***10*** *11:11:27.7±0.1,7450N×1581E,h30km,ML2.8,Error ellipse: s-maj=9.0km s-min=2.7km az=77.0*

ISC 10 11:11:18.5±0.9,7421N±005×105E±03,h10km,n56, σ1§78/66,mb4.1/9,MS3.7/5,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPB4	Spitsbergen Ar	4.23	16	*e*Pn	Pn	11 12 21.5	-1.4
SPB4	Spitsbergen Ar	4.23	16	*e*Pn	Pn	11 12 21.5	-1.4
SPA0	Spitsbergen Ar	4.23	17	Pn	Pn	11 12 21.4	-1.6
	baz=188,slow=16						
SPA0	Spitsbergen Ar	4.23	17	*e*	Pn	11 12 21.4	-1.6
HOPEN	Hopen	4.33	51	*e*P	Pn	11 12 25.1	+0.7
HOPEN				*e*S	Sn	11 13 13.6	-1.3
HOPEN				AML	AML	11 13 24.2	
	comp=N,46nm,0.6s						
KBS	Kingsbay	4.76	3	*e*P	Pn	11 12 26.9	-3.3
KIF	Kilpisjarvi	6.14	143	*e*P	Pn	11 12 51.5	+2.3
KIF				MPN		11 12 52.4	
	comp=Z,7.9nm,0.3s						
KIF				*e*S	Sn	11 13 55.1	-4.5
KIF	Kilpisjarvi	6.14	143	P	Pn	11 12 51.5	+2.2
	comp=Z,7.9nm,0.3s						
KIF				S	Sn	11 13 55.1	-4.5
JMIC	Jan Mayen	6.54	250	LR	LR	11 14 21.1	
	comp=Z,268nm,18.3s,baz=202,slow=29						
ARA0	ARCESS Array S	6.60	128	Pn	Pn	11 12 57.0	+1.5
	baz=327,slow=12						
ARA0				Sn	Sn	11 14 08.0	-2.9
	baz=320,slow=22						
ARA0	ARCESS Array S	6.60	128	*e*P	Pn	11 12 57.0	+1.5
ARA0				*e*S	Sn	11 14 08.0	-2.9
ARA0	ARCESS Array S	6.60	128	Pn	Pn	11 12 57.0	+1.5
	SNR=55						
ARA0				Sn	Sn	11 14 08.0	-2.8
	SNR=55						
ARCES	ARCESS Array B	6.60	128	Pn	Pn	11 12 56.4	+0.8
	comp=Z,1.0nm,0.3s,baz=332,slow=11,SNR=19						
ARCES				Sn	Sn	11 14 07.2	-3.7
	comp=Z,4.6nm,0.3s,baz=316,slow=19,SNR=16						
ARCES				LR	LR	11 16 04.4	
	comp=Z,205nm,19.9s,baz=314,slow=43						
ARCES	ARCESS Array B	6.60	128	Pn	Pn	11 12 56.4	+0.9
ARCES				Sn	Sn	11 14 07.2	-3.6
KEV	Kevo	6.76	123	*e*P	Pn	11 12 60.0	+2.2
KEV				MPN		11 13 03.9	
	comp=Z,1.4nm,0.3s						
KEV				*e*S	Sn	11 14 11.5	-3.4
KEV	Kevo	6.76	123	P	Pn	11 12 59.9	+2.1
	comp=Z,1.4nm,0.3s						
KEV				S	Sn	11 14 11.5	-3.4
SGF	Sodankyl	8.55	134	*e*P	Pn	11 13 23.1	+0.8
SGF				MPN		11 13 25.7	
	comp=Z,1.8nm,0.2s						
SGF				*e*S	Sn	11 14 53.3	-5.6
SGF	Sodankyl	8.55	134	P	Pn	11 13 23.1	+0.7
	comp=Z,1.8nm,0.2s						
SGF				S	Sn	11 14 53.3	-5.6
APA	Apatity	9.95	120	*e*P	Pn	11 13 47.2	+5.7
KU4	Liikasenvaara	10.10	131	*e*P	Pn	11 13 44.8	+1.2
KU4				MPN		11 13 47.5	
	comp=Z,1.5nm,0.3s						
KU4				*e*S	Sn	11 15 29.1	-7.8
KU4	Liikasenvaara	10.10	131	P	Pn	11 13 44.7	+1.2
	comp=Z,1.5nm,0.3s						
KU4				S	Sn	11 15 29.0	-7.8
MSF	Maaselka	10.38	134	*e*S	Sn	11 15 36.0	-7.9
MSF	Maaselka	10.38	134	S	Sn	11 15 35.9	-8.0
KU6	Riekki	10.46	132	*e*P	Pn	11 13 48.1	-0.3
KU6				*e*S	Sn	11 15 38.1	-7.5
OUL	Oulu	10.55	142	*e*P	Pn	11 13 49.7	0.0
OUL				MPN		11 13 55.3	
	comp=Z,1.4nm,0.3s						
OUL				*e*S	Sn	11 15 39.2	-8.8
KJN	Kajaani	11.79	141	*e*P	Pn	11 14 04.8	-1.8
NB2	NORSAR Subarra	13.23	179	*e*	Pn	11 14 38.3	+12
NOA	NORSAR Array B	13.23	179	Pn	Pn	11 14 22.1	-4.3
	comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=2.9						
NOA	NORSAR Array B	13.23	179	Pn	Pn	11 14 22.1	-4.3
FIA0	FINESS Array S	14.01	148	Pn	Pn	11 14 39.0	+1.9
	baz=354,slow=14						
FINES	FINESS Array B	14.01	148	Pn	Pn	11 14 35.4	-1.6
	comp=Z,0.1nm,0.3s,baz=187,slow=31,SNR=3.1						
FINES				LR	LR	11 20 00.2	
	comp=Z,55nm,18.5s,baz=161,slow=38						
HFS	Hagfors	14.19	174	Pn	Pn	11 14 37.8	-1.7
	comp=Z,0.1nm,0.3s,baz=101,slow=30,SNR=3.1						
HFS				LR	LR	11 19 26.0	
	comp=Z,95nm,19.1s,baz=332,slow=35						
HFS	Hagfors	14.19	174	Pn	Pn	11 14 46.7	+7.2
	baz=11,slow=10						
HFS	Hagfors	14.19	174	*e*	Pn	11 14 46.7	+7.2
HFS	Hagfors	14.19	174	Pn	Pn	11 14 37.8	-1.7
HFS				Pn	Pn	11 14 46.7	+7.2
HFS				LR	LR	11 19 26.0	
BORG	Borgarnes	14.41	246	Pn	Pn	11 14 37.7	-4.7
	baz=237,slow=0.9,SNR=3.3						
BORG	Borgarnes	14.41	246	Pn	Pn	11 14 37.7	-4.7
SFJD	Kangerlussuaq	20.56	281	LR	LR	11 22 38.7	
	comp=Z,181nm,19.7s,MS3.4,baz=184,slow=33						
AKASG	Malin Array Be	24.88	151	P	P	11 16 40.0	-1.3
	comp=Z,2.6nm,0.7s,mb3.9,baz=345,slow=9.8,SNR=4.9						
ARU	Arti	25.65	107	*e*P	P	11 16 50.7	+2.4
ARU				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.7						
ARU	Arti	25.65	107	*e*P	P	11 16 50.7	+2.4
	comp=Z,33nm,1.2s,mb4.7						
CHKZ	Chkalovo	31.32	97	*e*P	P	11 17 41.5	+2.6
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
CHKZ	Chkalovo	31.32	97	*e*P	P	11 17 41.5	+2.6
	comp=Z,4.7nm,1.0s,mb4.3						
BVAR	Borovoye Array	31.84	98	P	P	11 17 43.5	+0.1
	comp=Z,2.4nm,0.8s,mb4.1,baz=334,slow=9.9,SNR=6.2						
ZAL	Zalesovo	34.96	83	P	P	11 18 13.8	+3.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=137,slow=7.1,SNR=4.3						
ZAL				LR	LR	11 37 02.0	
	comp=Z,76nm,18.5s,MS3.5,baz=211,slow=44						
ZAL	Zalesovo	34.96	83	P	P	11 18 13.8	+3.2
ZAL				LR	LR	11 37 02.0	
BRTR	Keskin Array B	36.24	149	P	P	11 18 22.0	+0.3
	comp=Z,0.9nm,0.8s,mb3.8,baz=327,slow=9.2,SNR=2.7						
MKAR	Makanchi Array	40.74	91	P	P	11 19 01.4	+2.0
	comp=Z,0.5nm,0.6s,mb3.3,baz=12,slow=6.7,SNR=5.7						
MKAR	Makanchi Array	40.74	91	P	P	11 19 01.4	+2.0
SONM	Songino Array	46.22	68	P	P	11 19 45.6	+1.9
	comp=Z,1.5nm,1.0s,mb3.9,baz=4.8,slow=8.9,SNR=6.4						
PDAR	Pinedale Array	56.66	310	LR	LR	11 48 37.7	
	comp=Z,74nm,18.1s,MS3.8,baz=320,slow=40						
TORD	Torodi Ar. Bea	61.25	190	P	P	11 21 30.9	-2.9
	comp=Z,4.2nm,0.9s,mb4.6,baz=356,slow=6.9,SNR=19						
ATD	Arta Tunnel	65.30	145	LR	LR	11 51 35.2	
	comp=Z,79nm,19.2s,MS3.9,baz=56,slow=37						
CMIG	Matias Romero	77.80	289	LR	LR	11 57 02.2	
	comp=Z,52nm,19.2s,MS3.9,baz=235,slow=35						
ASAR	Alice Springs	121.47	64	PKhKP		11 30 07.6	
	comp=Z,0.5nm,0.9s,baz=352,slow=2.0,SNR=4.2						
ASAR				PKP	PKPdf	11 30 14.5	+2.4
	comp=Z,0.3nm,0.8s,baz=356,slow=2.1,SNR=4.2						
MAW	Mawson	145.51	148	PKPbc	PKPbc	11 30 54.5	-2.4
	comp=Z,2.5nm,0.6s,baz=329,slow=5.7,SNR=10						

MAN 10 11:13:56,1217N×12420E,h139km,mb1.4,ML3.3,MS5.5, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	1.18	160	*e*P	Pn	11 14 22.1	+0.7
BESP	Borongan	1.34	115	*e*P	Pn	11 14 23.7	+0.7
SCPH	Surigao	2.69	152	⇓*e*P	Pn	11 14 40.4	+1.5
BUKP	Musuan	4.35	169	*e*P	Pn	11 15 01.4	+0.8

IDC 10 11:27:13.4±13.0,919S×11971E,h190km±91km,mb3.5/1, mb1 3.1/4,mb1mx2.9/16,mbtmp3.5/4,Error ellipse: s-maj=160.0km s-min=108.5km az=62.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.56	148	P	Pn	11 29 40.0	0.0
	0.1nm,0.3s,baz=334,slow=13,SNR=6.3						
FITZ				S	Sn	11 31 38.5	+0.8
	0.4nm,0.3s,baz=179,slow=23,SNR=9.1						
WRA	Warramunga Arr	17.73	129	P	Pn	11 31 06.6	-2.1
	0.2nm,0.3s,baz=301,slow=12,SNR=20						
WB2	Warramunga Arr	17.73	129	*e*P	Pn	11 31 06.7	-2.1
ASPA	Alice Springs	19.79	138	*e*P	P	11 31 29.6	+0.5
ASAR	Alice Springs	19.79	138	P	P	11 31 29.8	+0.7
	0.2nm,0.3s,baz=314,slow=9.6,SNR=16						
STKA	Stephens Creek	30.36	141	P	P	11 33 07.5	+0.1
	0.7nm,0.3s,baz=322,slow=13,SNR=4.4						

ISCJB ***10*** *11:44:19.6±0.8,2651S±008×634W±0.1,h575km±18km, mb3.7/1,Error ellipse: s-maj=18.0km s-min=12.3km az=143.9*
IDC ***10*** *11:44:19.9±1.0,2645S×6351W,h564km±16km,mb3.3/1, mb1 3.0/7,mb1mx2.9/20,mbtmp3.8/7,Error ellipse: s-maj=22.8km s-min=19.1km az=87.0*
NEIC ***10*** *11:44:20.2±0.6,2646S×6347W,h568km±8km,Error ellipse: s-maj=14.5km s-min=13.2km az=137.0*

ISC 10 11:44:20.2±0.8,2647S±008×635W±01,h568km±17km,n10, σ0§58/12,mb3.6/1,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	5.55	90	P	P	11 45 55.5	-0.2
	1.4nm,0.3s,baz=250,slow=9.1,SNR=18						
LVC	Limon Verde	6.23	307	P	P	11 46 02.6	+0.9
	0.5nm,0.3s,baz=360,slow=10,SNR=13						
LVC				S	S	11 47 24.8	+0.1
	3.0nm,0.3s,baz=180,slow=23,SNR=24						
CFAA	Coronel Fontan	6.58	218	P	P	11 46 05.1	+0.2
	1.1nm,0.3s,baz=39,slow=11,SNR=58						
CFAA				S	S	11 47 29.9	-0.6
	0.0nm,0.3s,baz=309,slow=22,SNR=9.1						
CFAA	Coronel Fontan	6.58	218	P	P	11 46 05.1	+0.2
CFAA				S	S	11 47 29.9	-0.6
SIV	San Ignacio	10.67	13	P	P	11 46 45.0	-0.1
	0.3nm,0.3s,baz=207,slow=8.9,SNR=13						
LPAZ	La Paz	11.00	336	P	P	11 46 49.3	+0.8
	0.4nm,0.3s,baz=170,slow=9.0,SNR=12						
LPAZ				S	S	11 48 49.2	-1.1
	0.1nm,0.3s,baz=178,slow=25,SNR=3.4						
BDFB	Brasilia	18.02	56	P	P	11 47 57.4	+0.1
	0.5nm,0.3s,baz=201,slow=6.2,SNR=3.8						
TORD	Torodi Ar. Bea	74.58	67	P	P	11 55 01.6	-0.1
	1.0nm,0.4s,mb3.6,baz=224,slow=4.0,SNR=13						
MKAR	Makanchi Array	146.26	44	PKPbc	PKPbc	12 02 57.7	+0.1
	0.5nm,0.4s,baz=305,slow=2.9,SNR=5.1						
MKAR	Makanchi Array	146.26	44	PKPbc	PKPbc	12 02 57.7	+0.1

IDC ***10*** *11:50:23.9±1.6,5098N×15908E,h0km,mb3.8/4, mb1 4.2/5,mb1mx3.7/21,mbtmp3.9/5,ML3.5/1,Error ellipse: s-maj=102.8km s-min=23.6km az=142.0*
MOS ***10*** *11:50:28.4±1.0,5132N×15851E,h53km,mb4.0/3,Error ellipse: s-maj=31.2km s-min=9.7km az=75.1*
ISCJB ***10*** *11:50:30.1±0.8,5154N±008×1582E±02,h70km±10km, mb3.8/3,Error ellipse: s-maj=19.9km s-min=6.0km az=76.9*
KRSC ***10*** *11:50:32,5174N×15853E,h63km,ML4.0*

ISC 10 11:50:31.0±0.8,5150N±007×1583E±01,h55km±11km,n27, σ1§19/37,mb3.9/3,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.95	10	*e*P	Pn	11 50 48.4	+0.3
RUS				*i*S	Sn	11 51 00.7	-0.1
GRL	Gorelyy	1.06	354	*e*P	Pn	11 50 50.2	+0.6
GRL				*i*S	Sn	11 51 03.5	+0.1
PET	Petropavlovsk	1.55	9	*c i*PN	Pn	11 50 56.2	0.0
PET				*e*S	Sn	11 51 14.3	-0.9
PET	Petropavlovsk	1.55	9	*e*P	Pn	11 50 56.3	+0.1
PET				*i*S	Sn	11 51 14.1	-1.1
SKR	Severo-Kuril's	1.57	240	*e*PN	Pn	11 50 55.0	-1.5
SKR				*i*S	Sn	11 51 15.4	-0.4
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=N,90nm,0.2s						
SKR				smax			
	comp=N,2μm,0.3s						
SKR				smax			
	comp=E,4μm,0.3s						
SKR				smax			
	comp=N,4μm,1.0s						
SKR				smax			
	comp=E,5μm,1.0s						
NLC	Nalytchevo	1.81	21	*e*P	Pn	11 50 58.3	-1.4
NLC				*i*S	Sn	11 51 17.9	-3.5
SDLR	Sedlovina	1.82	12	*e*P	Pn	11 51 00.0	+0.1
SDLR				*i*S	Sn	11 51 19.5	-2.4
SPN	Mys Shipunski	1.94	33	*e*P	Pn	11 51 02.1	+0.6
SPN				*i*S	Sn	11 51 23.0	-1.7
GNL	Ganaly	2.21	355	*e*P	Pn	11 51 05.1	-0.1
GNL				*i*S	Sn	11 51 28.6	-2.7
MKZ	Mys Kozlova	3.71	33	*e*P	Pn	11 51 25.3	-0.5
MKZ				*i*S	Sn	11 52 03.6	-4.7
TUMR	Tumrok	3.96	16	P	Pn	11 51 30.4	+1.3
KMNR	Kamenistaya	4.43	15	*e*P	Pn	11 51 37.3	+1.7
KPT	Kopyto	4.63	14	P	Pn	11 51 39.4	+1.1
ZLN	Zelenaya	4.78	17	P	Pn	11 51 42.3	+2.0
SRDR	Sredinnyy	4.91	10	P	Pn	11 51 43.4	+1.3
KRSR	Krestovskiy	4.92	15	P	Pn	11 51 43.9	+1.6
KBTR	Krutoberegovo	5.44	28	*e*P	Pn	11 51 49.6	+0.2
SRKR	Sorokina	5.44	17	P	Pn	11 51 50.1	+0.6
ASAJ	Asahikawa	12.84	241	Pn	Pn	11 53 31.2	+0.6
	comp=E,0.3nm,0.3s,baz=81,slow=16,SNR=5.0						
MJAR	Matsushiro Arr	20.66	231	P	P	11 55 06.3	+0.1
	comp=E,1.9nm,0.6s,baz=23,slow=11,SNR=7.7						
MJAR	Matsushiro Arr	20.66	231	P	P	11 55 06.3	+0.1
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	Tiksi	24.09	338	*e*P	P	11 55 43.6	+2.3
PDAR	Pinedale Array	59.31	59	P	P	12 00 26.2	-0.9
	comp=Z,1.7nm,0.7s,mb4.2,baz=318,slow=3.0,SNR=17						
WRA	Warramunga Arr	74.16	203	P	P	12 02 00.2	-1.4
	comp=Z,0.7nm,0.6s,mb3.7,baz=18,slow=6.1,SNR=8.2						
WRA	Warramunga Arr	74.16	203	P	P	12 02 00.2	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	77.84	203	P	P	12 02 21.6	-0.9
	comp=Z,0.7nm,0.6s,mb3.8,baz=14,slow=5.4,SNR=18						
ASAR	Alice Springs	77.84	203	P	P	12 02 21.7	-0.9
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISCJB ***10*** *11:56:11.4±0.8,1998S±006×688W±02,h110km±12km, mb3.7/2,Error ellipse: s-maj=23.7km s-min=9.1km az=7.0*
NEIC ***10*** *11:56:12.7±0.9,2005S×6908W,h129km±12km,Error ellipse: s-maj=31.4km s-min=12.6km az=82.0*
IDC ***10*** *11:56:13.2±1.6,2011S×6869W,h116km±17km,mb3.7/2, mb1 3.5/5,mb1mx3.2/18,mbtmp3.8/5,Error ellipse: s-maj=41.2km s-min=15.7km az=102.0*

ISC 10 11:56:12.7±0.8,1999S±006×688W±02,h105km±12km,n7, σ0§83/9,mb3.7/2,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.61	182	P	Pn	11 56 53.9	+0.5
	6.3nm,0.3s,baz=0.0,slow=11,SNR=63						
LVC				S	Sn	11 57 24.2	-0.4
	8.3nm,0.3s,baz=0.1,slow=13,SNR=5.0						
LPAZ	La Paz	3.74	10	P	Pn	11 57 11.1	+2.7
	0.6nm,0.3s,baz=197,slow=6.3,SNR=25						
LPAZ				S	Sn	11 57 51.0	-0.6
	0.2nm,0.3s,baz=192,slow=7.3,SNR=4.9						
ARE	Arequipa	4.35	323	*e*P	Pn	11 57 16.0	-0.6
ARE				*e*S	Sn	11 57 58.0	-8.2
SIV	San Ignacio	8.36	63	P	Pn	11 58 10.6	-0.4
	0.7nm,0.3s,baz=266,slow=11,SNR=21						
SCHQ	Schefferville	74.54	1	P	P	12 07 40.1	+0.2
	3.8nm,0.8s,mb4.2,baz=211,slow=16,SNR=3.5						
TORD	Torodi Ar. Bea	76.75	71	P	P	12 07 52.2	-0.3
	0.3nm,0.5s,mb3.3,baz=246,slow=6.9,SNR=2.8						
MKAR	Makanchi Array	144.35	35	PKP	PKPdf	12 15 34.0	-2.4
	0.2nm,0.7s,baz=36,slow=2.7,SNR=3.5						

ISCJB ***10*** *12:07:49.5±0.5,5761N±004×17.13E±007,h0km,Error ellipse: s-maj=6.7km s-min=3.9km az=98.4*
CSEM ***10*** *12:07:50.4,5761N×1695E,h0km,ML3.2,Mining explosion. After UPP*
UPP ***10*** *12:07:50.4,5761N×1695E,h0km,ML3.2,Mining explosion.*
HEL ***10*** *12:07:51.2±0.1,5759N×1696E,h0km,ML2.1,ML3.2(UPP), Explosion*
NAO ***10*** *12:07:56.9±2.5,5808N×1700E,ML1.9*

ISC 10 12:07:50.6±0.5,5761N±004×1628E±006,h0km,n29, σ1§15/43,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSTU	Vaestervik	0.28	280	*i*P	Pg	12 07 55.2	-0.7
VSTU	Vaestervik	0.28	280	P	Pg	12 07 55.2	-0.7
	baz=121						
BYXU	Byxelkrok	0.33	183	*i*P	Pg	12 07 56.6	-0.2
OSKU	Oskarshamn	0.66	231	*i*P	Pg	12 08 02.2	-1.1
GOTU	Gotland	0.82	84	*i*P	Pg	12 08 06.6	+0.2
VIKU	Vikbolandet	0.91	349	*e*P	Pg	12 08 07.5	-0.6
LNKU	Linkoeping	1.02	307	*e*P	Pg	12 08 08.9	-1.3
LNKU	Linkoeping	1.02	307	P	Pg	12 08 08.9	-1.3
	baz=140						
NYNU	Nynaeshamn	1.48	20	*e*P	Pn	12 08 18.1	-0.4
NYNU	Nynaeshamn	1.48	20	P	Pn	12 08 18.1	-0.4
ESKU	Eskilstuna	1.66	348	*e*P	Pn	12 08 20.7	-0.2
ASKU	Askersund	1.74	319	*e*P	Pn	12 08 21.8	-0.2
DEL	Delary	2.08	238	*e*P	Pn	12 08 27.1	+0.3
NRAU	Nora	2.23	333	*e*P	Pn	12 08 30.0	+1.3
NRTU	Norrtaelje	2.23	21	*e*P	Pn	12 08 30.4	+1.7
NRTU	Norrtaelje	2.23	21	P	Pn	12 08 30.5	+1.7
	baz=185						
BACU	Backbrunna	2.25	1	*e*P	Pn	12 08 30.8	+1.7
BSD	Bornholm Skovb	2.77	206	*i*P	Pn	12 08 35.0	-1.2
BSD				*i*S	Sn	12 09 09.0	-0.8
BSD				*i*S	Sn	12 09 16.2	+5.8
HFS	Hagfors	3.07	327	Pn	Pn	12 08 41.8	+1.5
	baz=145,slow=14						
HFS				Lg		12 09 19.8	
	baz=146,slow=28						
RAF	Rauma	4.19	33	*e*P	Pn	12 08 56.6	+0.9
RAF				*e*S	Sn	12 09 45.9	+0.6
RAF				*e*SG	Sg	12 10 02.7	-2.4
RAF				MSG		12 10 05.0	
	comp=Z,3.0nm,0.2s						
NB2	NORSAR Subarra	4.55	321	Pn	Pn	12 09 00.4	-0.3
	baz=141,slow=14						
NB2				Lg		12 10 10.0	
	baz=134,slow=37						
MEF	Metsahovi	4.62	52	*e*P	Pn	12 09 03.0	+1.3
MEF				*e*S	Sn	12 09 56.1	+0.2
MEF				*e*SG	Sg	12 10 14.0	-5.0
MEF				MSG		12 10 14.9	
	comp=Z,2.2nm,0.3s						
PVF	Pernaja	5.41	53	*e*P	Pn	12 09 13.7	+1.1
P

ETSF	**Etsaut**	**0.25**	**134**	*e*Pg	Pg	12 12 08.1	-0.1
ETSF				*e*Sg	Sg	12 12 11.7	+0.1
4.9nm,0.2s							
ETSF	**Etsaut**	**0.25**	**134**	Pg	Pg	12 12 08.1	-0.1
ETSF				Lg		12 12 11.7	
2.5nm,0.2s							
SJPF	**Ste Jean**	**0.31**	**277**	*e*Pg	Pg	12 12 09.0	-0.2
SJPF				*e*Sg	Sg	12 12 13.1	-0.3
14nm,0.2s							
SJPF	**Ste Jean**	**0.31**	**277**	Pg	Pg	12 12 09.0	-0.2
SJPF				Lg		12 12 13.1	
7.2nm,0.2s							
EBIE	**Bielsa**	**0.80**	**119**	Pg	Pg	12 12 17.6	-0.8
0.2nm,0.1s,SNR=7.9							
EBIE				Lg		12 12 28.3	
0.7nm,0.1s,SNR=7.9							
EPF	**Esparros**	**0.84**	**93**	*e*Pg	Pg	12 12 18.9	-0.4
EPF				*e*Sg	Sg	12 12 29.7	-0.5
2.6nm,0.3s							
EPF	**Esparros**	**0.84**	**93**	Pg	Pg	12 12 18.9	-0.4
EPF				Lg		12 12 29.7	
1.3nm,0.3s							

IDC 10 12:32:38.9±1.3, 011S×12592E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.5/16, mbtmp3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/16, Error ellipse: s-maj=140.9km s-min=22.7km az=68.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.37**	**158**	P	P	12 37 27.8	0.0
0.8nm,0.7s,baz=337,slow=10,SNR=8.2							
ASAR	**Alice Springs**	**24.67**	**162**	P	P	12 38 01.9	+0.6
0.8nm,1.0s,baz=345,slow=10,SNR=4.6							
CBIJ	**Chichi jima**	**31.24**	**29**	LR	LR	12 49 14.7	
comp=Z,163nm,20.1s,baz=87,slow=32							
SONM	**Songino Array**	**50.68**	**343**	P	P	12 41 40.8	+0.8
0.2nm,0.5s,baz=162,slow=6.1,SNR=3.4							
MKAR	**Makanchi Array**	**60.27**	**327**	P	P	12 42 48.4	-0.6
0.3nm,0.5s,baz=131,slow=8.6,SNR=3.8							

*ISCJB **10** 13:01:45.8±1.1, 6093N×005×290E±0.1, h0km, Error ellipse: s-maj=9.6km s-min=4.9km az=88.5*
*HEL **10** 13:01:47.3±0.3, 6093N×2903E, h0km, ML2.0, Explosion*
*IDC **10** 13:01:48.6±1.7, 6100N×2890E, h0km, mb1 3.1/3, mb1mx2.9/20, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=15.4km s-min=10.4km az=158.0*

ISC 10 13:01:46.8±1.0, 6096N±005×289E±01, h0km, n12, σ0§84/19, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.80**	**239**	*e*P	**Pg**	**13 02 02.1**	**0.0**
VJF				*e*S	**Sg**	**13 02 13.5**	**+1.1**
FIA0	**FINESS Array S**	**1.47**	**291**	*e*P	**Pn**	**13 02 13.7**	**-0.9**
FIA0				*e*S	**Sg**	**13 02 34.2**	**+0.2**
FINES	**FINESS Array B**	**1.47**	**291**	Pg	**Pg**	**13 02 13.7**	**-1.3**
1.0nm,0.3s,baz=110,slow=16,SNR=28							
FINES				Lg		13 02 33.6	
4.0nm,0.3s,baz=104,slow=29,SNR=31							
FINES				Rg		13 02 40.4	
22nm,0.7s,baz=113,slow=29,SNR=34							
PVF	**Pernaja**	**1.56**	**256**	*e*P	**Pn**	**13 02 15.2**	**-0.7**
PVF				*e*S	**Sn**	**13 02 37.3**	**+0.5**
KAF	**Kangasniemi**	**1.71**	**314**	*e*P	**Pn**	**13 02 18.7**	**+0.8**
KAF				*e*S	**Sn**	**13 02 40.8**	**+0.3**
SUF	**Sumiainen**	**2.21**	**324**	*e*P	**Pn**	**13 02 26.6**	**+1.9**
SUF				*e*SB	**Sb**	**13 02 55.7**	**+0.2**
SUF				MSG		13 02 57.0	
comp=Z,8.9nm,0.1s							
JOF	**Joensuu**	**2.27**	**29**	*e*P	**Pn**	**13 02 26.0**	**+0.5**
JOF				*e*S	**Sn**	**13 02 54.1**	**0.0**
JOF				MSG		13 02 56.0	
comp=Z,7.0nm,0.2s							
KEF	**Keuruu**	**2.29**	**304**	MSG		13 02 60.0	
comp=Z,5.7nm,0.1s							
MEF	**Metsahovi**	**2.36**	**254**	*e*P	**Pn**	**13 02 27.6**	**+0.8**
MEF				*e*SB	**Sb**	**13 02 58.8**	**-1.0**
HFS	**Hagfors**	**7.56**	**270**	Pn	**Pn**	**13 03 37.7**	**-0.5**
comp=Z,0.1nm,0.3s,baz=91,slow=16,SNR=2.4							
HFS				Lg		13 05 40.6	
comp=Z,0.3nm,0.3s,baz=83,slow=26,SNR=3.6							
NOA	**NORSAR Array B**	**8.61**	**278**	Pn	**Pn**	**13 03 52.4**	**-0.3**
comp=Z,0.1nm,0.3s,baz=83,slow=14,SNR=2.3							
NOA				Lg		13 06 18.5	
comp=Z,0.3nm,0.3s,baz=304,slow=8.0,SNR=4.0							
ARCES	**ARCESS Array B**	**8.73**	**352**	Pn	**Pn**	**13 03 53.0**	**-1.4**
comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=20							
ARCES				Sn	**Sn**	**13 05 28.1**	**-5.4**
comp=Z,0.2nm,0.3s,baz=163,slow=25,SNR=3.9							
ARCES				Lg		13 06 12.8	
comp=Z,0.3nm,0.3s,baz=153,slow=33,SNR=5.3							

TRN 10 13:30:32.8, 1729N×6121W, h9km, MD3.6, M3.6(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.67**	**248**	*e*P	Pg	13 30 48.9	+3.2
BPA				*e*S	Sg	13 31 00.1	+5.7
CPB	**Codrington**	**0.68**	**300**	*e*P	Pg	13 30 48.8	+2.8
CPB				*e*S	Sg	13 31 00.7	+5.9
BCG	**Bois Riant Cap**	**1.27**	**198**	*e*P	Pn	13 30 58.6	+2.0
LZG	**Guadaloupe-1**	**1.27**	**205**	*e*P	Pn	13 30 59.6	+2.9
LZG				*e*S	Sb	13 31 22.2	+9.0
SCG	**Saint Claude**	**1.34**	**200**	*e*P	Pn	13 30 59.8	+2.1
PHG	**Guadaloupe-2**	**1.34**	**198**	*e*P	Pn	13 30 59.4	+1.8
MGG	**Marie-Galante**	**1.37**	**184**	*e*P	Pn	13 30 59.4	+1.3
TBG	**Guadaloupe-3**	**1.49**	**196**	*e*P	Pn	13 31 01.8	+2.0

TRN 10 13:33:03.5, 1738N×6123W, h50km, MD3.5, M3.8(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.62**	**294**	*e*P	Pn	13 33 17.3	+1.0
BPA	**Boggy Peak**	**0.69**	**241**	*e*P	Pn	13 33 19.6	+2.5
BPA				*e*S	Sn	13 33 29.2	+2.4
BPA				*e*S	Sn	13 33 37.5	+11
LZG	**Guadaloupe-1**	**1.34**	**203**	*e*P	Pn	13 33 27.1	+1.3
BCG	**Bois Riant Cap**	**1.34**	**196**	*e*P	Pn	13 33 27.4	+1.5
SCG	**Saint Claude**	**1.42**	**198**	*e*P	Pn	13 33 28.7	+1.9
SCG				*e*S	Sn	13 33 53.3	+9.0
PHG	**Guadaloupe-2**	**1.42**	**196**	*e*P	Pn	13 33 28.7	+1.8
MGG	**Marie-Galante**	**1.46**	**183**	*e*P	Pn	13 33 29.0	+1.6
TBG	**Guadaloupe-3**	**1.57**	**195**	*e*P	Pn	13 33 30.3	+1.3

*BJI **10** 13:51:52.0, 3640N×7069E, h10km, mb4.2, ML4.3*
*NEIC **10** 13:51:55.8±0.8, 3655N×7131E, h10km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=15.2km az=97.0*
*MOS **10** 13:51:57.1±1.3, 3657N×7131E, h33km, mb4.3/1, Error ellipse: s-maj=30.0km s-min=13.2km az=82.6*
*IDC **10** 13:52:02.4±6.0, 3675N×7141E, h62km±52km, mb3.6/8, mb1 3.8/12, mb1mx3.6/24, mbtmp4.0/12, ML3.9/4, Error ellipse: s-maj=35.8km s-min=19.4km az=23.0*
*ISCJB **10** 13:52:08.3±0.5, 3701N±003×7166E±007, h135km±7km, mb3.7/9, Error ellipse: s-maj=9.5km s-min=4.3km az=167.4*
*NNC **10** 13:52:13.9±6.5, 3744N×7138E, h169km±74km, mb2.9, mpv4.0, Error ellipse: s-maj=60.4km s-min=30.9km az=14.0*

ISC 10 13:52:09.3±0.5, 3699N±003×7173E±007, h130km±6km, n56, σ1§43/66, mb3.7/9, 4C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.16**	**177**	⇓P	**Pn**	**13 52 59.2**	**+1.3**
CEP				S	**Sn**	**13 53 37.0**	**+1.5**
CHCP	**Chirah Chowk**	**3.55**	**159**	P	**Pn**	**13 53 05.5**	**+2.5**
THW	**Thamme Wali**	**4.18**	**180**	⇓P	**Pn**	**13 53 11.9**	**+0.5**
KSH	**Kashi**	**4.19**	**52**	*e*P	**Pn**	**13 53 13.3**	**+1.8**
KSH				Smax			
comp=N,632nm,1.2s							
KSH				Smax			
comp=E,376nm,0.6s							
SBDP	**Sheikh Budin**	**4.74**	**189**	P	**Pn**	**13 53 18.2**	**-0.6**
JMU	**Jammu**	**4.99**	**148**	*e*S	**Sn**	**13 54 16.0**	**-3.0**
AML	**Almayashu**	**5.36**	**16**	P	**Pn**	**13 53 27.1**	**-0.1**
SNR=35							
THN	**Thein Dam**	**5.61**	**143**	*e*P	**Pn**	**13 53 32.2**	**+1.8**
THN				*e*S	**Sn**	**13 54 31.5**	**-2.2**
UCH	**Uchtor**	**5.66**	**21**	P	**Pn**	**13 53 31.6**	**+0.5**
SNR=51							
KZA	**Kyzart**	**5.77**	**27**	P	**Pn**	**13 53 33.7**	**+1.0**
SNR=6.1							
EKS2	**Erkin-Say**	**5.88**	**15**	P	**Pn**	**13 53 34.5**	**+0.3**
SNR=53							
AAK	**Ala-Archa**	**6.03**	**20**	P	**Pn**	**13 53 36.9**	**+0.7**
SNR=94							
AAK	**Ala-Archa**	**6.03**	**20**	*e*PN	**Pn**	**13 53 34.8**	**-1.3**
AAK				pmax	pmax		
comp=Z,43nm,0.4s							
AAK	**Ala-Archa**	**6.03**	**20**	*e*Pn	**Pn**	**13 53 34.8**	**-1.4**
comp=Z,43nm,0.4s							
AAK				*e*Sn	**Sn**	**13 54 41.0**	**-3.0**
KK31	**Karatay Array**	**6.18**	**352**	⇓Pn	**Pn**	**13 53 36.6**	**-1.6**
comp=Z,21nm,0.3s,baz=173,slow=12,SNR=243							
KK31				⇑Sn	**Sn**	**13 54 43.1**	**-4.5**
comp=Z,6.1nm,0.3s,baz=237,slow=58,SNR=4.6							
KBK	**Karagaybulak**	**6.18**	**23**	P	**Pn**	**13 53 38.9**	**+0.7**
SNR=18							
ULHL	**Ulahol**	**6.30**	**32**	P	**Pn**	**13 53 41.2**	**+1.4**
SNR=8.4							
CHMS	**Chumysh**	**6.44**	**20**	P	**Pn**	**13 53 42.3**	**+0.6**
SNR=11							
USP	**Ospenovka**	**6.62**	**18**	P	**Pn**	**13 53 44.3**	**+0.1**
SNR=14							
TKM2	**Tokmak 2**	**6.63**	**25**	P	**Pn**	**13 53 45.2**	**+1.0**
SNR=6.2							
TKM2	**Tokmak 2**	**6.63**	**25**	⇓Pn	**Pn**	**13 53 44.9**	**+0.6**
comp=Z,2.1nm,0.6s							
TKM2				⇓Sn	**Sn**	**13 54 58.3**	**-0.2**
comp=Z,2.8nm,0.8s							
SDNR	**Sundarnagar**	**6.98**	**140**	*e*P	**Pn**	**13 53 51.0**	**+2.0**
SDNR				*e*S	**Sn**	**13 55 02.0**	**-5.0**
KLP	**Kalpa**	**7.66**	**133**	*e*P	**Pn**	**13 54 00.6**	**+2.4**
KLP				*e*S	**Sn**	**13 55 19.9**	**-3.4**
KLP				AML	AML	13 55 30.5	
comp=E,305nm,0.5s							
KLP				AML	AML	13 55 35.1	
comp=N,339nm,0.8s							
KHET	**Khetri**	**9.53**	**158**	*e*P	**Pn**	**13 54 24.4**	**+1.1**
KHET				*e*S	**Sn**	**13 55 59.1**	**-9.4**
KHET				AML	AML	13 56 03.9	
comp=E,33nm,0.6s							
KHET				AML	AML	13 56 05.1	
comp=N,29nm,0.5s							
SONA	**Sohna**	**9.81**	**151**	*e*P	**Pn**	**13 54 28.4**	**+1.4**
SONA				*e*S	**Sn**	**13 56 06.6**	**-8.7**
SONA				AML	AML	13 56 14.5	
comp=E,52nm,0.3s							
SONA				AML	AML	13 56 19.1	
comp=N,28nm,0.4s							
AGRA	**Agra**	**11.06**	**150**	*e*S	**Sn**	**13 56 35.2**	**-10**
AGRA				AML	AML	13 56 45.6	
comp=E,79nm,0.5s							
AGRA				AML	AML	13 56 46.0	
comp=N,80nm,0.3s							
MK31	**Makanchi Array**	**12.56**	**35**	⇓P	**Pn**	**13 55 04.0**	**+0.7**
comp=N,2.2nm,0.8s,baz=0.0,slow=0.1,SNR=22							
MKAR	**Makanchi Array**	**12.56**	**35**	P	**Pn**	**13 55 02.4**	**-0.9**
comp=N,0.2nm,0.3s,baz=218,slow=14,SNR=9.8							
KOLN	**Koldanda**	**13.60**	**129**	*e*P	**Pn**	**13 55 15.1**	**-1.6**
KOLN				*e*S	**Sn**	**13 57 39.2**	**-7.6**
GKN	**Gorkha**	**14.09**	**126**	*e*P	**Pn**	**13 55 22.2**	**-0.9**
KKN	**Kakani**	**14.66**	**125**	*e*P	**Pn**	**13 55 29.2**	**-1.0**
DMN	**Daman**	**14.66**	**126**	*e*P	**Pn**	**13 55 29.7**	**-0.6**
PKI	**Pulchoki**	**14.89**	**125**	*e*P	**Pn**	**13 55 32.8**	**-0.3**
AB31	**Akbulak array**	**14.96**	**329**	⇑P	**Pn**	**13 55 30.8**	**-3.1**
comp=N,1.0nm,0.3s,baz=152,slow=11,SNR=35							
AB31				⇓S	**Sn**	**13 58 05.5**	**-14**
comp=N,5.0nm,0.7s,baz=145,slow=22,SNR=8.8							
GUN	**Gumba**	**14.97**	**123**	*e*P	**Pn**	**13 55 32.9**	**-1.3**
JIRN	**Jiri**	**15.35**	**123**	*e*P	**Pn**	**13 55 37.9**	**-0.9**
VOSK	**Vostochnaya**	**15.75**	**358**	⇑P	**Pn**	**13 55 41.3**	**-2.5**
comp=N,5.1nm,2.1s							
BVAR	**Borovoye Array**	**16.07**	**357**	P	**Pn**	**13 55 46.4**	**-1.4**
comp=N,0.5nm,0.3s,baz=160,slow=12,SNR=8.3							
AKTK	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**13 55 53.3**	**-1.7**
AKTO	**Aktyubinsk**	**16.66**	**328**	⇑P	**Pn**	**13 55 53.5**	**-1.5**
comp=N,0.3nm,1.1s							
AKTO	**Aktyubinsk**	**16.66**	**328**	P	**Pn**	**13 55 53.3**	**-1.7**
comp=N,0.4nm,0.3s,baz=130,slow=15,SNR=9.3							
ZAL	**Zalesovo**	**19.22**	**24**	P	**P**	**13 56 24.4**	**+1.3**
comp=N,1.3nm,0.3s,baz=253,slow=9.1,SNR=16							
ZAL	**Zalesovo**	**19.22**	**24**	P	**P**	**13 56 24.4**	**+1.3**
GTA	**Gaotai**	**22.17**	**75**	P	**P**	**13 56 59.8**	**+5.1**
GTA				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.2							
SONM	**Songino Array**	**27.58**	**56**	P	**P**	**13 57 47.1**	**+3.0**
comp=Z,1.6nm,0.8s,mb3.8,baz=258,slow=9.7,SNR=13							
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**13 59 08.7**	**-0.9**
comp=Z,1.0nm,0.6s,mb3.6,baz=115,slow=8.6,SNR=6.1							
ARCES	**ARCESS Array B**	**40.92**	**337**	P	**P**	**13 59 39.3**	**+0.5**
comp=Z,2.1nm,0.9s,mb3.8,baz=116,slow=8.2,SNR=4.1							
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**14 00 07.1**	**+0.7**
comp=Z,1.3nm,0.5s,mb3.8,baz=93,slow=7.9							
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**14 00 07.1**	**+0.7**
NB2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7							
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**14 00 06.7**	**+0.3**
comp=Z,1.7nm,0.6s,mb3.9,baz=95,slow=7.8,SNR=9.1							
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**14 00 06.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.31**	**269**	P	**P**	**14 02 43.1**	**-0.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=52,slow=5.1,SNR=5.3							
YKA	**Yellowknife Ar**	**80.73**	**3**	P	**P**	**14 04 09.6**	**+1.5**
comp=Z,1.5nm,0.7s,mb3.7,baz=350,slow=5.5,SNR=5.0							
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**14 04 14.9**	**+1.4**
comp=Z,0.5nm,0.5s,mb3.4,baz=323,slow=4.9,SNR=8.1							
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**14 04 26.9**	**+1.6**
comp=Z,0.6nm,0.7s,mb3.5,baz=311,slow=4.9,SNR=11							
PMSA	**Palmer Station**	**141.92**	**209**	*e*PKPdf	PKPdf	14 11 28.2	+2.6

*ISCJB **10** 14:00:26.0±0.3, 4344N±002×061W±003, h12km±4km, Error ellipse: s-maj=4.1km s-min=2.8km az=77.6*
*MDD **10** 14:00:28.6±0.4, 4333N×065W, h19km±6km, mbLg1.5/12, Error ellipse: s-maj=4.5km s-min=2.0km az=9.0, PRXIMO*
*NEIC **10** 14:00:28.0, 4333N×065W, h15km, ML2.5(LDG), After LDG.*
*LDG **10** 14:00:28.0±0.1, 4333N×065W, h15km, Md2.5/2, Ml2.5/6, Error ellipse: s-maj=1.2km s-min=0.8km az=131.0*
*CSEM **10** 14:00:28.1±0.1, 4334N×064W, h10km, ML2.6/8, Error ellipse: s-maj=1.9km s-min=1.3km az=134.0*

ISC 10 14:00:27.2±0.3, 4339N±002×063W±003, h19km±4km, n39, σ0§67/76, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.28**	**232**	P	**Pg**	**14 00 33.2**	**-0.3**
ORDF				S	**Sg**	**14 00 37.6**	**-0.2**
ATE	**Arette**	**0.31**	**189**	P	**Pg**	**14 00 33.7**	**-0.2**
ATE				S	**Sg**	**14 00 38.6**	**+0.2**
REYF	**Montagne du Re**	**0.36**	**151**	P	**Pg**	**14 00 34.7**	**-0.2**
REYF				S	**Sg**	**14 00 40.8**	**+0.8**
LARF	**Larrau**	**0.44**	**217**	P	**Pg**	**14 00 36.2**	**0.0**
LARF				S	**Sg**	**14 00 42.7**	**+0.6**
OSSF	**Osses**	**0.48**	**254**	P	**Pg**	**14 00 36.8**	**0.0**
OSSF				S	**Sg**	**14 00 42.8**	**-0.6**
ETSF	**Etsaut**	**0.49**	**174**	*e*Pg	**Pg**	**14 00 36.9**	**-0.3**
ETSF				*e*Sg	**Sg**	**14 00 42.7**	**-1.2**
14nm,0.2s							
ETSF	**Etsaut**	**0.49**	**174**	*e*Pg	**Pg**	**14 00 36.9**	**-0.3**
ETSF				*e*Sg	**Sg**	**14 00 42.7**	**-1.2**
6.8nm,0.2s							
SJPF	**Ste Jean**	**0.51**	**238**	*e*Pg	**Pg**	**14 00 37.4**	**-0.1**
SJPF				*e*Sg	**Sg**	**14 00 43.7**	**-0.8**
19nm,0.4s							
SJPF	**Ste Jean**	**0.51**	**238**	*e*Pg	**Pg**	**14 00 37.4**	**-0.1**
SJPF				*e*Sg	**Sg**	**14 00 43.7**	**-0.8**
9.4nm,0.4s							
LABF	**Labassere**	**0.62**	**123**	P	**Pg**	**14 00 39.7**	**+0.2**
LABF				S	**Sg**	**14 00 48.4**	**+0.6**
EALK	**Alkurruntz**	**0.66**	**255**	Pg	**Pg**	**14 00 41.3**	**+1.1**
1.4nm,0.2s,SNR=5.4							
EALK				Lg		14 00 50.5	
14nm,0.2s,SNR=12							
ELIZ	**Elizondo**	**0.69**	**251**	Pg	**Pg**	**14 00 40.0**	**-0.7**
1.7nm,0.2s,SNR=6.6							
ELIZ				Lg		14 00 50.2	
4.6nm,0.3s,SNR=6.1							
VIEF	**Viey**	**0.70**	**136**	P	**Pb**	**14 00 40.8**	**+0.1**
VIEF				S	**Sb**	**14 00 50.4**	**+0.5**
IPRE	**Itoiz**	**0.79**	**222**	Pg	**Pg**	**14 00 43.2**	**+0.6**
0.1nm,0.1s,SNR=7.9							
IPRE				Lg		14 00 54.9	
5.1nm,0.3s,SNR=7.9							
IPRE	**Itoiz**	**0.79**	**222**	Pg	**Pg**	**14 00 43.2**	**+0.6**
0.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**0.80**	**116**	*e*Pg	**Pg**	**14 00 42.9**	**+0.1**
EPF				*e*Sg	**Sg**	**14 00 53.6**	**+0.3**
18nm,0.3s							
EPF	**Esparros**	**0.80**	**116**	*e*Pg	**Pg**	**14 00 42.9**	**+0.1**
EPF				*e*Sg	**Sg**	**14 00 53.6**	**+0.3**
9.1nm,0.3s							
IUSE	**Utxeti**	**0.80**	**237**	Pg	**Pg**	**14 00 42.6**	**-0.2**
1.6nm,0.6s,SNR=7.9							
IUSE				Lg		14 00 54.5	
4.0nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.80**	**237**	Pg	**Pg**	**14 00 42.6**	**-0.3**
1.6nm,0.6s,SNR=7.9							
EBIE	**Bielsa**	**0.90**	**141**	Pg	**Pg**	**14 00 44.5**	**-0.3**
1.5nm,0.4s,SNR=7.9							
EBIE				Lg		14 00 56.1	
1.0nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**0.90**	**141**	Pg	**Pg**	**14 00 44.5**	**-0.3**
1.5nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**1.67**	**176**	Pg	**Pg**	**14 00 59.5**	**+0.2**
10nm,0.3s,SNR=7.9							
ESAC				Sn	**Sn**	**14 01 18.3**	**+2.0**
30nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**1.67**	**176**	Pg	**Pg**	**14 00 59.5**	**+0.2**
10nm,0.3s,SNR=7.9							
ESAC				Sn	**Sn**	**14 01 18.3**	**+2.0**
30nm,0.4s,SNR=7.9							
LFF	**La Frestale**	**1.84**	**32**	*e*Pg	**Pg**	**14 01 03.3**	**+0.8**
LFF				*e*Sg	**Sg**	**14 01 27.8**	**+1.4**
17nm,0.5s							
LFF	**La Frestale**	**1.84**	**32**	*e*Pg	**Pg**	**14 01 03.3**	**+0.8**
LFF				*e*Sg	**Sg**	**14 01 27.8**	**+1.4**
8.7nm,0.5s							
MTLF	**Montolieu**	**2.08**	**90**	*e*Pg	**Pg**	**14 01 06.7**	**-0.4**
MTLF				*e*Sn	**Sn**	**14 01 24.9**	**-1.5**
MTLF				*e*Sg	**Sg**	**14 01 33.3**	**-0.8**
3.2nm,0.3s							
MTLF	**Montolieu**	**2.08**	**90**	Pn	**Pn**	**14 01 00.9**	**-0.1**
MTLF				Pg	**Pg**	**14 01 06.7**	**-0.4**
MTLF				Sn	**Sn**	**14 01 24.9**	**-1.5**
MTLF				Lg		14 01 33.3	
1.6nm,0.3s							
MTLF	**Montolieu**	**2.08**	**90**	*e*Pn	**Pn**	**14 01 00.9**	**-0.1**
MTLF				*e*Pg	**Pg**	**14 01 06.7**	**-0.4**
MTLF				*e*Sn	**Sn**	**14 01 24.9**	**-1.5**
MTLF				*e*Sg	**Sg**	**14 01 33.3**	**-0.8**
MTLF	**Montolieu**	**2.08**	**90**	*e*Pg	**Pg**	**14 01 06.7**	**-0.4**
MTLF				*e*Sn	**Sn**	**14 01 24.9**	**-1.5**
MTLF				*e*Sg	**Sg**	**14 01 33.3**	**-0.8**
1.6nm,0.3s							
RJF	**Les Rejaudoux**	**2.46**	**38**	*e*Pg	**Pg**	**14 01 14.0**	**-0.3**
RJF				*e*Sn	**Sn**	**14 01 35.2**	**-0.5**
RJF				*e*Sg	**Sg**	**14 01 46.7**	**+0.5**
5.1nm,0.3s							
RJF	**Les Rejaudoux**	**2.46**	**38**	*e*Pg	**Pg**	**14 01 14.0**	**-0.3**
RJF				*e*Sn	**Sn**	**14 01 35.2**	**-0.5**
RJF				*e*Sg	**Sg**	**14 01 46.7**	**+0.5**
2.5nm,0.3s							
CAF	**Calviac**	**2.48**	**51**	*e*Pg	**Pg**	**14 01 15.1**	**+0.4**
CAF				*e*Sg	**Sg**	**14 01 47.4**	**+0.6**
4.8nm,0.2s							
CAF	**Calviac**	**2.48**	**51**	*e*Pg	**Pg**	**14 01 15.1**	**+0.4**
CAF				*e*Sg	**Sg**	**14 01 47.4**	**+0.6**
2.4nm,0.2s							
MFF	**Saint Martin d**	**3.23**	**6**	*e*Sg	**Sg**	**14 02 10.9**	**-0.1**
4.3nm,0.3s							
MFF	**Saint Martin d**	**3.23**	**6**	*e*Sg	**Sg**	**14 02 10.9**	**-0.1**
2.2nm,0.3s							
LASF	**Ste Croix**	**3.33**	**77**	*e*Pg	**Pg**	**14 01 30.0**	**-0.9**
LASF				*e*Sg	**Sg**	**14 02 13.1**	**-0.9**
1.4nm,0.2s							
LASF	**Ste Croix**	**3.33**	**77**	Pn	**Pn**	**14 01 17.9**	**-0.3**
LASF				Pg	**Pg**	**14 01 30.0**	**-0.9**
LASF				Lg		14 02 13.1	
0.7nm,0.2s							
LASF	**Ste Croix**	**3.33**	**77**	*e*Pn	**Pn**	**14 01 17.9**	**-0.3**
LASF				*e*Pg	**Pg**	**14 01 30.0**	**-0.9**
LASF				*e*Sg	**Sg**	**14 02 13.1**	**-0.9**
LASF	**Ste Croix**	**3.33**	**77**	*e*Pg	**Pg**	**14 01 30.0**	**-0.9**
LASF				*e*Sg	**Sg**	**14 02 13.1**	**-0.9**
0.7nm,0.2s							

IDC 10 14:17:28.8±56.0, 2207S×17315W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=1062.0km s-min=185.0km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.25**	**246**	P	P	14 25 14.3	-1.3
1.1nm,0.7s,baz=108,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**48.58**	**257**	P	P	14 26 14.6	+0.6
0.3nm,0.3s,baz=89,slow=7.0,SNR=24

PET	**Petropavlovsk**	**1.41 245**	*i* P		**Pn**	**14 26 51.5**	**+0.1**
PET			*i* S		**Sn**	**14 27 08.6**	**-0.3**
GNL	**Ganaly**	**1.68 273**	*i* P		**Pn**	**14 26 55.9**	**+0.9**
GNL			*i* S		**Sn**	**14 27 16.3**	**+0.9**
TUMR	**Tumrok**	**1.68 348**	*i* P		**Pn**	**14 26 55.5**	**+0.5**
TUMR			*i* S		**Sn**	**14 27 15.2**	**-0.3**
RUS	**Russkaya**	**1.82 229**	P		**Pn**	**14 26 57.2**	**+0.3**
RUS			*i* S		**Sn**	**14 27 18.0**	**-0.9**
GRL	**Gorelyy**	**1.96 237**	*e*P		**Pn**	**14 26 59.9**	**+1.1**
GRL			*i* S		**Sn**	**14 27 23.1**	**+0.9**
KMNR	**Kamenistaya**	**2.14 352**	*i* P		**Pn**	**14 27 02.7**	**+1.4**
KMNR			*i* S		**Sn**	**14 27 27.7**	**+1.1**
KPT	**Kopyto**	**2.35 353**	*e*P		**Pn**	**14 27 05.1**	**+1.0**
KPT			*e*S		**Sn**	**14 27 32.3**	**+0.5**
ZLN	**Zelenaya**	**2.38 1**	*e*P		**Pn**	**14 27 06.0**	**+1.5**
ZLN			*i* S		**Sn**	**14 27 33.7**	**+1.2**
KOZ	**Kozyrevsk**	**2.47 348**	*e*P		**Pn**	**14 27 06.2**	**+0.4**
KOZ			*e*S		**Sn**	**14 27 33.9**	**-0.9**
KOZR	**Kozyr**	**2.48 349**	PN		**Pn**	**14 27 06.2**	**+0.3**
KOZR			S		**Sn**	**14 27 33.9**	**-1.1**
KRSR	**Krestovskiy**	**2.58 358**	P		**Pn**	**14 27 08.7**	**+1.4**
KLY	**Klyuchi**	**2.68 359**	P		**Pn**	**14 27 09.6**	**+1.0**
KLY			*i* S		**Sn**	**14 27 39.2**	**-0.6**
SRDR	**Sredinnyy**	**2.75 348**	*e*P		**Pn**	**14 27 09.7**	**+0.1**
SRDR			*e*S		**Sn**	**14 27 39.9**	**-1.6**
KBTR	**Krutoberegovo**	**2.83 24**	*e*P		**Pn**	**14 27 11.4**	**+0.7**
KBTR			*e*S		**Sn**	**14 27 42.5**	**-1.1**
SRKR	**Sorokina**	**3.03 4**	P		**Pn**	**14 27 14.8**	**+1.4**
SRKR			*i* S		**Sn**	**14 27 48.6**	**+0.2**
SKR	**Severo-Kuril's**	**4.12 226**	*e*PN			14 27 44.0	
SKR			*e*S		**Sn**	**14 28 18.0**	**+2.7**
SKR			pmax	pmax			
	comp=Z,60nm,0.5s						
SKR			smax				
	comp=N,90nm,0.5s						
SKR			smax				
	comp=E,60nm,0.5s						
SKR			smax				
	comp=Z,60nm,0.5s						
VLA	**Vladivostok**	**21.72 253**	*e*P		**P**	**14 31 10.2**	**-4.2**
MJAR	**Matsushiro Arr**	**23.20 232**	P		**P**	**14 31 30.1**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.5,baz=27,slow=11,SNR=5.1						
ZAL	**Zalesovo**	**42.83 302**	LR		LR	14 53 43.4	
	comp=Z,52nm,18.7s,MS3.5,baz=266,slow=39						
MKAR	**Makanchi Array**	**48.28 296**	P		**P**	**14 35 00.9**	**-2.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=63,slow=7.4,SNR=4.8						
PDAR	**Pinedale Array**	**56.91 62**	P		**P**	**14 36 08.8**	**+1.7**
	comp=Z,0.7nm,1.0s,mb3.6,baz=289,slow=4.5,SNR=3.9						
KAF	**Kangasniemi**	**59.13 337**	*e*p		**P**	**14 36 22.0**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**59.13 337**	*e*P		**P**	**14 36 22.0**	**-0.7**
KAF			pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**59.77 337**	P		**P**	**14 36 26.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=29,slow=8.7,SNR=6.6						
NB2	**NORSAR Subarra**	**63.12 344**	P		**P**	**14 36 48.9**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.2,baz=24,slow=6.9						
NB2	**NORSAR Subarra**	**63.12 344**	P		**P**	**14 36 48.9**	**-0.8**
NB2			pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.2						
NOA	**NORSAR Array B**	**63.12 344**	P		**P**	**14 36 49.0**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.3,baz=22,slow=6.6,SNR=8.0						
AKASG	**Malin Array Be**	**68.35 329**	P		**P**	**14 37 21.2**	**-2.1**
	comp=Z,0.1nm,0.2s,mb3.4,baz=30,slow=6.4,SNR=4.0						

*GRAL **10** 14:37:15.2±2.1,3473N×3665E,h33km±80km,MD2.9*
*ISCJB **10** 14:37:16.2±0.5,3440N±003×3670E±004,h10km,Error ellipse: s-maj=4.9km s-min=3.5km az=31.4*
*NSSC **10** 14:37:16,34.39N×3665E,h10km*
ISC 10 14:37:16.7±0.6,**3439N**±003×**3671E**±005,**h21**km±15km,**n9,** σ0**88**/18,**4D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.41**	**208**	⇑P	**Pb**	**14 37 24.0**	**-1.2**
MARH				⇑S	**Sb**	**14 37 30.0**	**-1.1**
ROOS	**tl_alroos**	**0.53**	**115**	⇓P	**Pb**	**14 37 27.0**	**-0.2**
ROOS				⇓S	**Sb**	**14 37 36.0**	**+1.6**
HWQ	**Hawqa**	**0.64**	**260**	*e*Pg	**Pb**	**14 37 30.0**	**+0.8**
HWQ				*e*Sg	**Sb**	**14 37 38.0**	**+0.2**
BIDA	**Albida**	**0.70**	**333**	⇓P	**Pb**	**14 37 30.0**	**-0.2**
BIDA				⇓S	**Sb**	**14 37 39.0**	**-0.4**
KFRA	**Kufra**	**0.82**	**5**	⇑P	**Pb**	**14 37 31.0**	**-1.3**
KFRA				⇑S	**Sb**	**14 37 43.0**	**+0.1**
QASN	**Qassioun**	**0.93**	**203**	⇑P	**Pb**	**14 37 33.0**	**-1.1**
QASN				⇑S	**Sb**	**14 37 46.0**	**0.0**
BHL	**Bhannes**	**1.00**	**241**	*e*Pg	**Pb**	**14 37 35.5**	**+0.2**
BHL				*e*Sg	**Sb**	**14 37 50.0**	**+1.9**
WRDH	**Warideh**	**1.14**	**348**	⇑P	**Pn**	**14 37 37.0**	**-0.4**
WRDH				⇑S	**Sb**	**14 37 53.0**	**+0.9**
RCY	**Rachaya**	**1.17**	**220**	*e*Pg	**Pn**	**14 37 38.1**	**+0.3**
RCY				*e*Sg	**Sb**	**14 37 58.2**	**+5.3**

*ISCJB **10** 14:42:34.2±0.7,2012S±005×689W±0.1,h132km±11km, mb3.5/1,Error ellipse: s-maj=19.2km s-min=7.9km az=9.7*
*NEIC **10** 14:42:34.6±0.6,2011S×6886W,h119km±9km,mb3.8/1, Error ellipse: s-maj=12.2km s-min=6.9km az=94.0*
*IDC **10** 14:42:35.4±1.1,2016S×6875W,h121km±11km,mb3.4/3, mb1 3.6/8,mb1mx3.5/20,mbtmp4.0/8,Error ellipse: s-maj=31.2km s-min=9.0km az=99.0*
ISC 10 14:42:35.1±0.7,**2013S**±005×**689W**±01,**h125**km±12km,**n16,** σ0**99**/18,**mb3.6/1,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.48**	**180**	P	**Pn**	**14 43 15.4**	**+0.7**
	30nm,0.3s,baz=0.0,slow=10,SNR=60						
LVC				S	**Sn**	**14 43 45.2**	**0.0**
	44nm,0.3s,baz=0.0,slow=12,SNR=7.1						
LVC	**Limon Verde**	**2.48**	**180**	*e*Pn	**Pn**	**14 43 14.3**	**-0.4**
LVC				*e*Sn	**Sn**	**14 43 39.7**	**-5.5**
LPAZ	**La Paz**	**3.88**	**11**	P	**Pn**	**14 43 34.1**	**+0.9**
	5.3nm,0.3s,baz=190,slow=8.6,SNR=165						
LPAZ				S	**Sn**	**14 44 20.3**	**+2.1**
	1.0nm,0.3s,baz=225,slow=15,SNR=3.6						
ARE	**Arequipa**	**4.40**	**325**	*e*P	**Pn**	**14 43 39.0**	**-1.0**
ARE				*e*S	**Sn**	**14 44 26.0**	**-4.5**
SIV	**San Ignacio**	**8.50**	**62**	P	**Pn**	**14 44 33.7**	**-1.6**
	2.1nm,0.3s,baz=257,slow=11,SNR=56						
CFAA	**Coronel Fontan**	**11.45**	**177**	P	**Pn**	**14 45 15.4**	**+0.7**
	0.2nm,0.3s,baz=182,slow=17,SNR=31						
CPUP	**Villa Florida**	**12.29**	**122**	P	**Pn**	**14 45 25.2**	**-0.6**
	0.6nm,0.3s,baz=288,slow=12,SNR=16						
CPUP	**Villa Florida**	**12.29**	**122**	*e*Pn	**Pn**	**14 45 25.9**	**0.0**
SAML	**Samuel**	**12.41**	**27**	Pn	**Pn**	**14 45 26.9**	**-0.4**
TRQA	**Tornquist**	**18.85**	**163**	*e*Pn	**Pn**	**14 46 46.7**	**-0.6**
BDFB	**Brasilia**	**20.36**	**81**	P	**P**	**14 47 01.7**	**+0.1**
	1.5nm,0.5s,baz=259,slow=4.2,SNR=3.3						
PLCA	**Paso Flores**	**20.59**	**184**	P	**P**	**14 47 04.8**	**+0.7**
	2.3nm,0.6s,baz=0.6,slow=12,SNR=13						
PLCA	**Paso Flores**	**20.59**	**184**	P	**P**	**14 47 04.6**	**+0.5**
	3.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P	**P**	**14 54 13.8**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=256,slow=4.9,SNR=9.4						
KHC	**Kasperske Hory**	**100.20**	**41**	*e*PKP	PKiKP	15 00 38.5	+4.9
SONM	**Songino Array**	**152.10**	**7**	PKPbc	PKPbc	15 02 16.5	+0.9
	0.4nm,0.4s,baz=293,slow=0.9,SNR=4.6						

*MAN **10** 15:05:55.7,2072N×11997E,h50km,mb4.7,ML5.4,MS5.8*
*IDC **10** 15:05:55.5±0.4,2057N×12008E,h0km,mb4.8/27, mb1 4.9/28,mb1mx4.8/31,mbtmp4.8/28,ML3.8/1,MS4.1/16, Ms1 4.1/16,ms1mx3.8/46,Error ellipse: s-maj=16.7km s-min=9.3km az=67.0*
*ISCJB **10** 15:05:57.9±0.1,2055N±001×12024E±002,h26km, mb5.0/113,MS4.4/33,Error ellipse: s-maj=3.0km s-min=2.1km az=173.5*
*GCMT **10** 15:05:59.8±0.2,2054N×12005E,h16km,MW5.0/76, Moment Tensor Solution. s34,c45; s76,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.88±.17; $M_{\theta\theta}$0.57±.09; $M_{\phi\phi}$3.31±.12; $M_{r\theta}$-0.11±.31; $M_{r\phi}$-0.77±.06; $M_{\theta\phi}$-2.09±.29; Best double couple: M_0=4.24100×10^{16} NP1:ϕ_s159.00000°,δ31.00000°,λ-102.00000°. NP2: ϕ_s353.00000°,δ60.00000°,λ-83.00000°. Principal axes: T 4.0200, Plg14.0000°, Azm78.0000°; N 0.4400, Plg6.0000°, Azm170.0000°; P -4.4620, Plg74.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **10** 15:05:59.9±0.8,2070N×12018E,h33km,mb5.3/52, MS4.3/8 Error ellipse: s-maj=10.4km s-min=4.4km az=121.4*
*NEIC **10** 15:05:59.8±0.1,2055N×12016E,mb5.2/53,Error ellipse: s-maj=4.9km s-min=3.4km az=76.0*
*SZGRF **10** 15:05:59.0,2046N×12059E,h31km,mb5.2,Philippine Islands region*
*NIED **10** 15:06:00,2070N×12030E,h32km,Mw4.9 Best double couple: $M_0$2.67000×10^{16} NP1:ϕ_s87.00000°,δ65.00000°, λ151.00000°. NP2:ϕ_s190.00000°,δ63.00000°,λ28.00000°.*
*BJI **10** 15:06:01.2,2083N×11982E,h26km,mB5.0,mb4.7,ML4.3, Ms4.8,Msz4.6*
*JMA **10** 15:06:01.5±0.3,2066N×12033E,h122km,M4.1*
ISC 10 15:05:60.0±0.1,**2056N**±001×**12022E**±002,**h28**km, **h28**km±.6km:**pP-P,n353,**σ0**96**/389,**mb5.0**/113,**MS4.4**/33, **21C-28D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.25**	**170**	⇑*i*P	**Pn**	**15 06 33.5**	**-1.8**
PIP				*e*S	**Sn**	**15 07 02.0**	**-0.2**
SGCP	**Mt. Cagua**	**2.88**	**143**	*e*P	**Pn**	**15 06 44.1**	**+0.2**
ABRA	**Dolores**	**2.93**	**171**	*e*P	**Pn**	**15 06 42.9**	**-1.8**
ABRA				*e*S	**Sn**	**15 07 17.7**	**-1.2**
CVP	**Callao Caves**	**3.22**	**152**	⇑*e*P	**Pn**	**15 06 49.0**	**+0.4**
CVP				*i* S	**Sn**	**15 07 25.0**	**-1.0**
NACB	**Ninganchiao**	**3.82**	**19**	*e*P	**Pn**	**15 06 56.2**	**-0.6**
CAUP	**Cauayan**	**3.90**	**157**	*e*P	**Pn**	**15 07 00.2**	**+2.2**
PALP	**Palanan**	**4.05**	**149**	⇓*e*P	**Pn**	**15 07 02.0**	**+1.9**
PALP				*i* S	**Sn**	**15 07 51.0**	**+4.3**
PALP	**Palanan**	**4.05**	**149**	*e*P	**Pn**	**15 07 01.4**	**+1.2**
PALP				*e*S	**Sn**	**15 07 50.5**	**+3.8**
BOLP	**Bolinao**	**4.17**	**184**	*e*P	**Pn**	**15 07 01.1**	**-0.6**
BCPH	**Baguio City Da**	**4.17**	**175**	⇓*e*P	**Pn**	**15 07 01.2**	**-0.5**
BCPH				*e*S	**Sn**	**15 07 47.4**	**-2.1**
YHNB	**Yeheng**	**4.23**	**14**	*e*P	**Pn**	**15 07 02.2**	**-0.3**
QZH	**Quanzhou**	**4.62**	**341**	P	**Pn**	**15 07 04.0**	**-3.8**
QZH				S	**Sn**	**15 07 53.3**	**-7.2**
QZH				Smax			
	comp=N,520nm,1.0s						
QZH				Smax			
	comp=E,400nm,0.5s						
QZH				LR	LR		
	comp=N,5μm,7.8s						
QZH				LR	LR		
	comp=E,5μm,7.0s						
QZH				LR	LR		
	comp=Z,10μm,9.9s						
YOJ	**Yonaguni jima**	**4.66**	**33**	P	**Pn**	**15 07 09.0**	**+0.5**
YOJ				*e*S	**Sn**	**15 08 00.9**	**-0.8**
SCZP	**Santa Cruz**	**4.77**	**184**	*e*P	**Pn**	**15 07 08.8**	**-1.1**
HATJ	**Hateruma jima**	**4.81**	**43**	P	**Pn**	**15 07 10.9**	**+0.4**
HATJ				*e*S	**Sn**	**15 08 04.8**	**-0.5**
BALP	**Baler**	**4.96**	**165**	*e*P	**Pn**	**15 07 13.5**	**+0.9**
BALP				*e*S	**Sn**	**15 08 12.5**	**+3.5**
IRIF	**Iriomote-Funau**	**4.96**	**40**	P	**Pn**	**15 07 12.8**	**+0.2**
IRIF				*e*S	**Sn**	**15 08 08.8**	**-0.3**
PCPH	**Palayan**	**5.04**	**170**	⇑*e*P	**Pn**	**15 07 14.2**	**+0.5**
JKRS	**Kuro-shima**	**5.07**	**43**	P	**Pn**	**15 07 14.7**	**+0.7**
JKRS				*e*S	**Sn**	**15 08 10.5**	**-1.1**
JIJ	**Ishigaki jima**	**5.24**	**43**	P	**Pn**	**15 07 16.5**	**0.0**
JIJ				*e*S	**Sn**	**15 08 14.0**	**-2.0**
JTJ	**Tarama**	**5.80**	**45**	P	**Pn**	**15 07 24.7**	**+0.6**
JTJ				*e*S	**Sn**	**15 08 28.0**	**-1.7**
POLP	**Polilio Island**	**6.03**	**164**	*e*P	**Pn**	**15 07 27.4**	**+0.2**
JOGS	**Gusukube**	**6.36**	**48**	P	**Pn**	**15 07 31.5**	**-0.2**
JOGS				*e*S	**Sn**	**15 08 43.5**	**+0.1**
TGY	**Tagaytay City**	**6.46**	**174**	*e*P	**Pn**	**15 07 42.0**	**+8.9**
TGY	**Tagaytay City**	**6.46**	**174**	Pn	**Pn**	**15 07 37.6**	**+4.4**
	comp=Z,35nm,0.3s,baz=259,slow=1.2,SNR=7.2						
LUBP	**Lubang**	**6.79**	**180**	*e*P	**Pn**	**15 07 37.7**	**+0.1**
GZH	**Guangzhou**	**6.87**	**293**	P	**Pn**	**15 07 33.5**	**-5.3**
GZH				Smax			
	comp=N,279nm,1.1s						
GZH				Smax			
	comp=E,291nm,1.0s						
GZH				LR	LR		
	comp=N,5μm,11.7s						
GZH				LR	LR		
	comp=E,5μm,12.6s						
GZH				LR	LR		
	comp=Z,8μm,11.2s						
BOAC	**Boac**	**7.23**	**167**	*e*P	**Pn**	**15 07 37.1**	**-6.6**
PVCP	**Virac**	**7.88**	**151**	⇓*e*P	**Pn**	**15 07 52.9**	**+0.3**
PVCP	**Virac**	**7.88**	**151**	*e*P	**Pn**	**15 07 52.9**	**+0.3**
JKE	**Kume jima 2**	**8.32**	**45**	P	**Pn**	**15 07 58.1**	**-0.6**
BUSP	**Coron**	**8.51**	**180**	*e*P	**Pn**	**15 08 00.8**	**-0.5**
ENPP	**El Nido**	**9.33**	**185**	*e*P	**Pn**	**15 08 10.6**	**-2.0**
JOW	**Kunigami**	**9.66**	**48**	Pn	**Pn**	**15 08 16.6**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=198,slow=18,SNR=9.4						
JOW				Sn	**Sn**	**15 10 03.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=71,slow=23,SNR=2.1						
CUYO	**Cuyo Island**	**9.68**	**175**	*e*P	**Pn**	**15 08 17.7**	**+0.3**
QIZ	**Qiongzhong**	**9.89**	**263**	P	**Pn**	**15 08 16.8**	**-3.4**
QIZ				AP		15 08 21.7	
QIZ				S	**Sn**	**15 10 06.2**	**-4.0**
QIZ				AMB	AMB		
	comp=Z,13nm,1.0s						
QIZ				LR	LR		
	comp=E,5μm,10.6s						
QIZ				LR	LR		
	comp=Z,6μm,10.8s						
SSE	**Sheshan**	**10.53**	**5**	P	**Pn**	**15 08 29.6**	**+0.6**
SSE				XP		15 08 41.4	
SSE				S	**Sn**	**15 10 27.4**	**+1.5**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s						
SSE				AMB	AMB		
	comp=Z,85nm,7.0s						
SSE				LR	LR		
	comp=N,482nm,12.7s						
SSE				LR	LR		
	comp=E,910nm,12.6s						
SSE				LR	LR		
	comp=Z,458nm,11.7s						
SSE	**Sheshan**	**10.53**	**5**	P	**Pn**	**15 08 29.6**	**+0.6**
	comp=Z,23nm,0.8s						
SSE				sP		15 08 41.4	
SSE				S	**Sn**	**15 10 27.4**	**+1.5**
WHN	**Wuhan**	**11.26**	**333**	P	**Pn**	**15 08 35.7**	**-3.3**
WHN				S	**Sn**	**15 10 34.7**	**-9.3**
WHN				LR	LR		
	comp=Z,6μm,10.5s						
NJ2	**Nanjing**	**11.51**	**354**	*e*P	**Pn**	**15 08 45.1**	**+2.7**
NJ2				PP		15 08 55.8	
NJ2				S	**Sn**	**15 10 54.1**	**+4.1**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				LR	LR		
	comp=N,3μm,13.1s						
NJ2				LR	LR		
	comp=E,5μm,10.3s						
NJ2				LR	LR		
	comp=Z,2μm,8.2s						
GYA	**Guiyang**	**13.75**	**298**	⇑*i*P	**Pn**	**15 09 09.3**	**-3.7**
GYA				AP		15 09 14.8	
GYA				XP		15 09 18.9	
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,480nm,4.0s						
GYA				LR	LR		
	comp=N,2μm,11.7s						
GYA				LR	LR		
	comp=E,3μm,11.7s						
GYA				LR	LR		
	comp=Z,4μm,12.0s						
KKM	**Kota Kinabalu**	**14.94**	**196**	P	**Pn**	**15 09 29.6**	**+0.4**
KKM	**Kota Kinabalu**	**14.94**	**196**	*e*P	**Pn**	**15 09 29.4**	**+0.2**
TIA	**Tai'an**	**15.83**	**351**	P	**Pn**	**15 09 36.0**	**-4.8**
TIA				S	**Sn**	**15 12 27.5**	**-7.9**
TIA				LR	LR		
	comp=E,2μm,13.0s						
KMI	**Kunming**	**16.74**	**289**	P	**Pn**	**15 09 52.7**	**+0.3**
KMI				AP	pP	15 09 58.6	-3.3
KMI				XP	sP	15 10 02.3	-3.2
KMI				S	**Sn**	**15 12 55.9**	**-1.6**
KMI				SSS		15 13 28.7	
KMI				AMB	AMB		
	comp=Z,27nm,1.2s						
KMI				AMB	AMB		
	comp=Z,193nm,3.7s						
KMI				LR	LR		
	comp=N,2μm,11.7s						
KMI				LR	LR		
	comp=E,2μm,13.1s						
KMI				LR	LR		
	comp=Z,1μm,12.7s						
KMI	**Kunming**	**16.74**	**289**	P	**Pn**	**15 09 52.7**	**+0.3**
	comp=Z,27nm,1.2s						
KMI				pP	pP	15 09 58.6	-3.3
KMI				sP	sP	15 10 02.3	-3.2
KMI				S	**Sn**	**15 12 55.9**	**-1.6**
KMI				SSS		15 13 28.7	
XAN	**Xi'an**	**16.75**	**326**	P	**Pn**	**15 09 54.1**	**+1.6**
XAN				AMB	AMB		
	comp=Z,27nm,1.4s						
XAN				AMB	AMB		
	comp=Z,77nm,5.1s						
XAN				LR	LR		
	comp=N,850nm,8.9s						
XAN				LR	LR		
	comp=E,1μm,11.5s						
XAN				LR	LR		
	comp=Z,2μm,10.7s						
KKTK	**Khon Kaen**	**17.03**	**259**	P	**Pn**	**15 09 53.0**	**-3.0**
CD2	**Chengdu**	**18.04**	**308**	⇓*i*P	**Pn**	**15 10 08.2**	**-0.4**
CD2				AP	pP	15 10 14.2	-2.1
CD2				XP	sP	15 10 18.5	-1.4
CD2				PP		15 10 24.0	
CD2				S	**Sn**	**15 13 25.6**	**-3.4**
CD2				XS	sS	15 13 35.1	-11
CD2				AMB	AMB		
	comp=Z,60nm,1.3s						
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
CD2				LR	LR		
	comp=N,4μm,15.6s						
CD2				LR	LR		
	comp=E,3μm,12.0s						
CD2				LR	LR		
	comp=Z,2μm,12.0s						
DL2	**Dalian**	**18.33**	**3**	P	**Pn**	**15 10 16.9**	**+4.9**
DL2				AMB	AMB		
	comp=Z,40nm,1.0s						
DL2				AMB	AMB		
	comp=Z,190nm,5.5s						
DL2				LR	LR		
	comp=N,390nm,14.3s						
DL2				LR	LR		
	comp=E,1μm,12.7s						
DL2				LR	LR		
	comp=Z,500nm,12.4s						
BJI	**Beijing**	**19.73**	**351**	P	**Pn**	**15 10 28.2**	**-0.7**
BJI				AP	pP	15 10 36.4	+1.6
BJI				XP	sP	15 10 40.5	+2.1
BJI				S	**Sn**	**15 14 07.0**	**-2.6**
BJI				AMB	AMB		
	comp=Z,50nm,0.8s						
BJI				AMB	AMB		
	comp=Z,327nm,5.4s						
BJI				LR	LR		
	comp=N,1μm,14.1s						
BJI				LR	LR		
	comp=E,356nm,14.1s						
BJI				LR	LR		
	comp=Z,426nm,14.9s						
BJI	**Beijing**	**19.73**	**351**	P	**Pn**	**15 10 28.2**	**-0.7**
	comp=Z,50nm,0.8s						
BJI				pP	pP	15 10 36.4	+1.6
BJI				sP	sP	15 10 40.5	+2.1
BJI				S	**Sn**	**15 14 07.0**	**-2.6**
CHTO	**Chiang Mai**	**20.11**	**269**	*e*P	**P**	**15 10 31.1**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,45nm,1.3s						
CHTO	**Chiang Mai**	**20.11**	**269**	*e*P	**P**	**15 10 31.1**	**-0.4**
	comp=Z,45nm,1.3s						
CM31	**Chiang Mai Arr**	**20.17**	**268**	*e*P	**P**	**15 10 31.8**	**-0.3**
LZH	**Lanzhou**	**21.10**	**321**	P	**P**	**15 10 42.9**	**+0.7**
LZH				AP		15 10 48.8	
LZH				XP	sP	15 10 52.9	-0.4
LZH				PP		15 11 08.0	
LZH				AMB	AMB		
	comp=Z,160nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,440nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,11.7s						
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
LZH	**Lanzhou**	**21.10**	**321**	P	**P**	**15 10 42.9**	**+0.7**
LZH				*SP	sP	15 10 52.9	-0.4
LZH						15 11 08.0	
LZH				S	**S**	**15 14 36.3**	**+0.8**
LZH				*SS	sS	15 14 47.0	-0.6
LZH				*e*SS		15 15 13.0	
LZH				pmax	pmax		
	comp=Z,160nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2μm,12.8s,MS4.8						
LZH	**Lanzhou**	**21.10**	**321**	P	**P**	**15 10 42.9**	**+0.7**
	comp=Z,160nm,1.5s,mb5.1						
LZH				pP		15 10 48.8	
LZH				sP	sP	15 10 52.9	-0.4
LZH				PP		15 11 08.0	
LZH				S	**S**	**15 14 36.3**	**+0.8**
LZH				sS	sS	15 14 47.0	-0.6
LZH				*e*SS		15 15 13.0	
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
CBIJ	**Chichi jima**	**21.10**	**68**	LR	LR	15 17 04.1	
	comp=Z,433nm,21.7s,MS3.8,baz=168,slow=32						
NNT	**Nongplab**	**21.16**	**251**	P	**P**	**15 10 43.9**	**+1.1**
KSM	**Kuching**	**21.30**	**208**	*e*P	**P**	**15 10 42.9**	**-1.5**
SNY	**Shenyang**	**21.39**	**7**	P	**P**	**15 10 49.1**	**+3.7**
SNY				AP		15 10 53.7	
SNY				XP	sP	15 10 56.8	+0.3
SNY				PP		15 11 12.7	
SNY				S	**S**	**15 14 38.2**	**-3.1**
SNY				XS	sS	15 14 47.1	-6.3
SNY				AMB	AMB		
	comp=Z,16nm,1.9s,mb4.0						
SNY				LR	LR		
	comp=N,983nm,11.3s						
SNY				LR	LR		
	comp=Z,1μm,12.3s,MS4.5						
JHJ	**Hachijo jima 2**	**21.43**	**50**	LR	LR	15 18 37.1	
	comp=Z,466nm,18.9s,MS3.9,baz=275,slow=35						
HHC	**Hu-ho-hao-te**	**21.53**	**342**	*e*P	**P**	**15 10 47.9**	**+1.1**
HHC				AP		15 10 54.0	
HHC				XP	sP	15 10 55.3	-2.6
HHC				PP		15 11 11.2	
HHC				S	**S**	**15 14 39.2**	**-4.8**
HHC				XS	sS	15 14 51.8	-4.3
HHC				SS		15 15 12.9	
HHC				AMB	AMB		
	comp=Z,31nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,244nm,3.5s						
HHC				LR	LR		
	comp=N,2μm,11.2s,MS4.8						
HHC		

CN2 LR LR
comp=N,1µm,13.0s,MS4.7
CN2 LR LR
comp=E,1µm,13.0s,MS4.7
CN2 LR LR
comp=Z,14µm,13.0s
KULM Kulim 24.33 234 *e*P **P 15 11 13.9 -1.3**
VLA Vladivostok 24.53 21 *e*P **P 15 11 16.4 -0.7**
VLA MLR MLR
comp=Z,700nm,15.9s,MS4.2
GUMO Guam 24.54 102 P **P 15 11 17.8 +0.7**
comp=Z,48nm,0.5s,mb5.3,baz=252,slow=4.5,SNR=6.0
GUMO LR LR 15 19 26.4
comp=Z,329nm,18.8s,MS3.9,baz=264,slow=33
GUMO Guam 24.54 102 P **P 15 11 17.8 +0.7**
GUMO LR LR 15 19 26.4
IPM Ipoh 24.58 232 P **P 15 11 16.1 -1.4**
KGM Kluang 24.73 224 P **P 15 11 18.8 -0.1**
MDJ Mudanjiang 25.22 16 P **P 15 11 24.9 +1.6**
MDJ AP pP 15 11 31.0 -0.4
MDJ XP sP 15 11 33.7 -1.1
MDJ PCP PcP 15 14 57.4 +1.0
MDJ S **S 15 15 50.5 +3.5**
MDJ XS sS 15 16 00.8 +0.4
MDJ AMB AMB
comp=Z,50nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,331nm,4.4s
MDJ LR LR
comp=N,897nm,13.5s,MS4.5
MDJ LR LR
comp=E,532nm,14.0s,MS4.5
MDJ LR LR
comp=Z,789nm,14.8s,MS4.3
GTA Gaotai 25.69 321 ⇓P **P 15 11 27.5 -0.1**
GTA AP pP 15 11 36.5 +0.8
GTA XP sP 15 11 41.2 +2.1
GTA PCP PcP 15 14 58.9 +1.5
GTA S **S 15 15 53.8 -0.7**
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,192nm,5.7s
GTA LR LR
comp=N,520nm,16.4s,MS4.4
GTA LR LR
comp=E,702nm,15.2s,MS4.4
GTA LR LR
comp=Z,683nm,13.7s,MS4.3
SHL Shillong 26.52 286 *i* P **P 15 11 34.0 -1.1**
SHL *e*S **S 15 16 08.0 +0.4**
PSI Prapat 27.25 232 P **P 15 11 40.9 -0.8**
comp=Z,27nm,1.0s,mb4.7,baz=359,slow=3.2,SNR=20
PSI LR LR 15 22 10.2
comp=Z,458nm,18.6s,MS4.1,baz=344,slow=36
PSI Prapat 27.25 232 P **P 15 11 40.9 -0.8**
PSI LR LR 15 22 10.2
LSA Lhasa 27.79 295 P **P 15 11 47.8 +1.3**
SONM Songino Array 29.42 341 P **P 15 12 00.1 -0.9**
comp=Z,6.8nm,0.9s,mb4.4,baz=158,slow=9.3,SNR=34
ASAJ Asahikawa 29.97 33 P **P 15 12 07.0 +1.1**
comp=Z,11nm,1.0s,mb4.5,baz=253,slow=18,SNR=2.9
ASAJ LR LR 15 24 21.1
comp=Z,429nm,20.5s,MS4.1,baz=62,slow=37
KLR Kul'dur 30.06 15 *e*P **P 15 12 05.0 -1.6**
KLR MLR MLR
comp=E,1µm,13.0s
KLR MLR MLR
comp=Z,5µm,13.0s,MS5.3
JIRN Jiri 31.78 290 *e*P **P 15 12 22.4 +0.5**
GUN Gumba 32.08 290 *e*P **P 15 12 24.6 +0.1**
comp=Z,136nm,0.9s,mb5.8
YSS Yuzh-Sakhalins 32.09 30 *e*P **P 15 12 26.0 +1.5**
YSS MLR MLR
comp=Z,700nm,16.0s,MS4.4
PKI Pulchoki 32.47 289 *e*P **P 15 12 27.2 -0.7**
comp=Z,71nm,1.2s,mb5.4
KKN Kakani 32.60 290 *e*P **P 15 12 28.5 -0.5**
comp=Z,91nm,1.0s,mb5.7
ZAK Zakamensk 32.64 340 *e*P **P 15 12 28.3 -1.1**
DMN Daman 32.74 289 *e*P **P 15 12 29.7 -0.5**
comp=Z,94nm,1.1s,mb5.7
GKN Gorkha 33.19 290 *e*P **P 15 12 33.3 -0.8**
comp=Z,117nm,1.1s,mb5.7
TLY Talaya 33.66 341 *e*P **P 15 12 32.3 -6.0**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,407nm,17.0s,MS4.2
TLY Talaya 33.66 341 *e*P **P 15 12 38.1 -0.1**
comp=Z,6.9nm,0.8s,mb4.6
KOLN Koldanda 34.08 289 *e*P **P 15 12 41.3 -0.7**
comp=Z,85nm,1.0s,mb5.7
KAKA Kakadu 35.18 159 *e*P **P 15 12 50.2 -1.2**
comp=Z,16nm,0.7s,mb5.1
WMQ Urumqi 35.63 318⇑*i*P **P 15 12 55.7 +0.4**
WMQ AP pP 15 13 03.0 -0.6
WMQ XP sP 15 13 06.5 -0.5
WMQ PP PP 15 14 16.0 -0.5
WMQ PCP PcP 15 15 25.0 +1.5
WMQ S **S 15 18 29.0 -0.9**
WMQ XS sS 15 18 41.0 -2.4
WMQ AMB AMB
comp=Z,11nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,161nm,4.8s
WMQ LR LR
comp=N,2µm,11.5s,MS5.2
WMQ LR LR
comp=E,1µm,10.2s,MS5.2
WMQ LR LR
comp=Z,2µm,16.7s
BOD Bodaibo 37.49 355 *e*P **P 15 13 07.6 -3.6**
FITZ Fitzroy Crossi 38.78 172⇓*i*P **P 15 13 21.0 -1.1**
comp=Z,21nm,0.9s,mb4.9
FITZ Fitzroy Crossi 38.78 172 P **P 15 13 21.0 -1.0**
comp=Z,12nm,1.0s,mb4.6,baz=349,slow=6.8,SNR=13
MDRS Chennai 38.91 265 *ex* **P 15 13 25.6 +2.5**
PMG Port Moresby 39.86 136 P **P 15 13 34.1 +3.1**
PMG pmax pmax
comp=Z,22nm,0.8s
PMG Port Moresby 39.86 136 P **P 15 13 34.1 +3.1**
comp=Z,22nm,0.8s,mb4.9
MK31 Makanchi Array 40.41 319 P **P 15 13 34.6 -1.0**
MK31 pmax pmax
comp=Z,78nm,1.3s,mb5.3
MKAR Makanchi Array 40.41 319 P **P 15 13 32.6 -2.9**
comp=Z,17nm,0.9s,mb4.8,baz=116,slow=8.6,SNR=35
MKAR S **S 15 19 38.5 -3.6**
comp=Z,0.2nm,0.3s,baz=175,slow=40,SNR=2.3
MKAR LR LR 15 30 18.3
comp=Z,176nm,18.1s,MS4.0,baz=302,slow=36
MKAR Makanchi Array 40.41 319 P **P 15 13 32.6 -3.0**
MKAR S **S 15 19 38.5 -3.6**
KRAR Krasnoyarsk 40.86 337 *e*P **P 15 13 39.0 -0.3**
KRAR pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
YAK Yakutsk 41.96 7 *e*P **P 15 13 48.4 +0.1**
YAK *e*S **S 15 20 06.6 +1.5**
YAK pmax pmax
comp=Z,38nm,1.5s,mb4.8
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,11nm,1.3s
YAK smax
comp=E,123nm,19.7s
YAK smax
comp=N,104nm,16.3s
YAK MLR MLR
comp=N,298nm,15.0s,MS4.3
YAK MLR MLR
comp=Z,467nm,15.0s,MS4.5
YAK MLR MLR
comp=E,138nm,14.0s,MS4.3
YAK Yakutsk 41.96 7 *e*P **P 15 13 46.6 -1.7**
comp=E,21nm,0.6s,mb4.9
KSH Kashi 42.23 307 *e*P **P 15 13 53.1 +2.6**
KSH *e*PP PP 15 15 35.2 +6.7
KSH *e*PCP PcP 15 15 45.3 +1.1
KSH *e*PCS PcS 15 19 38.1 +2.0
KSH *e*S **S 15 20 13.2 +4.1**
KSH *e*XS sS 15 20 20.1 -2.8
KSH *e*SCS ScS 15 23 52.6 +1.9
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.5
KSH LR LR
comp=N,810nm,11.5s,MS5.2
KSH LR LR
comp=E,2µm,12.9s,MS5.2
KSH LR LR
comp=Z,747nm,30.5s
WRAB Tennant Creek 42.55 160 P **P 15 13 53.0 -0.2**
comp=Z,467nm,0.9s,SNR=30
WRAB Tennant Creek 42.55 160 *d i*P **P 15 13 52.8 -0.4**
WRA Warramunga Arr 42.56 160 P **P 15 13 52.5 -0.7**
comp=Z,48nm,0.8s,mb5.3,baz=342,slow=9.0,SNR=224
WRA S **S 15 20 12.9 -1.1**
comp=Z,0.9nm,1.1s,baz=328,slow=26,SNR=4.2
WRA Warramunga Arr 42.56 160 P **P 15 13 52.5 -0.7**
WRA S **S 15 20 12.9 -1.1**
WB2 Warramunga Arr 42.56 160⇓*i*P **P 15 13 53.0 -0.3**
WB2 *e*pP pP 15 14 00.0 -1.6
WB2 *e*S **S 15 20 16.0 +2.0**
ULHL Ulahol 42.73 311 P **P 15 13 55.7 +1.0**
SNR=19
ZAL Zalesovo 42.86 330 P **P 15 13 54.9 -0.7**
comp=Z,11nm,0.8s,mb4.6,baz=355,slow=8.6,SNR=55
ZAL Zalesovo 42.86 330 P **P 15 13 54.9 -0.7**
TKM2 Tokmak 2 43.38 311 P **P 15 14 00.8 +0.9**
SNR=13
POO Poona 43.64 276 *ex* pP 15 14 10.0 -0.3
KBK Karagaybulak 43.77 311 P **P 15 14 04.3 +1.3**
SNR=13
UCH Uchtor 43.96 310 P **P 15 14 06.5 +1.9**
SNR=25
CHMS Chumysh 44.00 311 P **P 15 14 05.6 +0.7**
SNR=9.0
FRU Bishkek 44.05 311 *e*P **P 15 14 06.0 +0.7**
AAK Ala-Archa 44.08 311 P **P 15 14 05.0 -0.5**
comp=Z,45nm,1.0s,mb5.2,SNR=5.9
AAK Ala-Archa 44.08 311 P **P 15 14 06.7 +1.1**
SNR=6.0
AAK Ala-Archa 44.08 311 P **P 15 14 06.0 +0.5**
SNR=7.1
AAK Ala-Archa 44.08 311⇑*e*P **P 15 14 05.6 +0.1**
AAK pmax pmax
comp=Z,13nm,1.3s,mb4.5
AAK Ala-Archa 44.08 311 *e*P **P 15 14 05.3 -0.2**
comp=Z,8.2nm,1.0s,mb4.4
NVS Novosibirsk 44.13 330 *e*P **P 15 14 03.2 -2.7**
NVS *e*S **S 15 20 34.5 -2.5**
NVS pmax pmax
comp=N,25nm,1.3s
NVS pmax pmax
comp=E,25nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s,mb4.9
NVS smax
comp=N,36nm,2.6s
NVS smax
comp=E,25nm,2.2s
USP Ospenovka 44.25 311 P **P 15 14 07.6 +0.7**
SNR=7.9
KURK Kurchatov 44.36 323 P **P 15 14 07.6 -0.2**
comp=E,205nm,0.9s,mb5.9,SNR=21
AML Almayashu 44.53 310 P **P 15 14 11.0 +1.9**
SNR=7.4
EKS2 Erkin-Say 44.60 310 P **P 15 14 10.7 +1.0**
SNR=11
AS31 Alice Springs 45.93 162⇓*i*P **P 15 14 20.4 +0.2**
AS31 *e*pP pP 15 14 28.6 -0.1
AS31 *e*S **S 15 21 05.0 +1.9**
ASPA Alice Springs 45.93 162⇓*i*P **P 15 14 20.4 +0.2**
ASPA *e*pP pP 15 14 28.6 -0.1
ASPA *e*S **S 15 21 05.0 +1.9**
ASAR Alice Springs 45.93 162 P **P 15 14 20.4 +0.2**
comp=E,12nm,0.7s,mb4.9,baz=345,slow=6.9,SNR=122
ASAR S **S 15 21 09.2 +6.1**
comp=E,0.3nm,0.7s,baz=106,slow=31,SNR=3.1
ASAR LR LR 15 34 24.5
comp=E,106nm,19.8s,MS3.8,baz=342,slow=37
ASAR Alice Springs 45.93 162 P **P 15 14 20.4 +0.2**
ASAR S **S 15 21 09.2 +6.1**
KK31 Karatay Array 47.04 310 *i* P **P 15 14 29.3 +0.4**
KK31 pmax pmax
comp=Z,16nm,0.7s,mb5.1
KKAR Karatay Array 47.04 310 *i* P **P 15 14 29.3 +0.4**
KKAR pmax pmax
comp=Z,12nm,0.8s,mb4.9
SEY Seymchan 47.67 19⇑*e*P **P 15 14 34.2 +0.3**
CTA Charters Tower 47.76 146 *e*P **P 15 14 36.9 +2.4**
comp=Z,33nm,1.1s,mb5.3
CTA *e*pP pP 15 14 42.4 -0.6
CTA Charters Tower 47.76 146 P **P 15 14 35.9 +1.4**
comp=Z,24nm,0.8s,mb5.3,baz=336,slow=10,SNR=12
CTA Charters Tower 47.76 146 *e*P **P 15 14 36.9 +2.4**
CTA *e**PP pP 15 14 42.4 -0.6
CTA pmax pmax
comp=Z,33nm,1.1s
CTAO Charters Tower 47.76 146 *e*P **P 15 14 36.8 +2.3**
CTAO pmax pmax
comp=Z,86nm,1.1s,mb5.7
CTAO Charters Tower 47.76 146 *e*P **P 15 14 36.8 +2.2**
comp=Z,86nm,1.1s,mb5.7
VOSK Vostochnaya 49.52 323 P **P 15 14 46.3 -1.7**
VOSK pmax pmax
comp=Z,15nm,1.0s,mb5.0
BVA0 Borovoye Array 49.96 323 *i* P **P 15 14 51.6 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BVAR Borovoye Array 49.96 323 P **P 15 14 51.5 +0.1**
comp=Z,8.7nm,0.7s,mb4.9,baz=105,slow=8.1,SNR=11
BVAR LR LR 15 36 18.8
comp=Z,219nm,19.2s,MS4.2,baz=139,slow=37
BRVK Borovoye 50.03 323 P **P 15 14 52.5 +0.5**
comp=Z,188nm,0.8s,SNR=8.1
BRVK Borovoye 50.03 323 P **P 15 14 51.9 0.0**
SNR=13
BRVK Borovoye 50.03 323 *e*P **P 15 14 51.3 -0.7**
BRVK pmax pmax
comp=Z,51nm,1.3s,mb5.4
BRVK Borovoye 50.03 323 *e*P **P 15 14 51.3 -0.7**
comp=Z,51nm,1.3s,mb5.4
CHKZ Chkalovo 50.07 324 *e*P **P 15 14 52.0 -0.2**
CHKZ pmax pmax
comp=Z,31nm,1.0s,mb5.3
CHKZ Chkalovo 50.07 324 *e*P **P 15 14 52.0 -0.3**
comp=Z,31nm,1.0s,mb5.3
TIXI Tiksi 51.35 3⇑*e*P **P 15 15 01.1 -0.8**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.8
FORT Forrest 51.59 171 *e*P **P 15 15 03.6 -0.1**
comp=Z,25nm,0.9s,mb5.1
FORT *e*pP pP 15 15 12.0 -0.2
KLBR Kellerberrin 51.91 183 *e*P **P 15 15 04.8 -1.2**
KLBR *e*pP pP 15 15 13.0 -1.5
NWAO Narrogin (SRO) 53.26 183 P **P 15 15 14.3 -1.8**
comp=Z,18nm,0.9s,mb5.0,baz=34,slow=4.6,SNR=5.4
AB31 Akbulak array 55.38 316 *i* P **P 15 15 31.7 +0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BILL Bilibino 55.38 19 *e*P **P 15 15 31.4 -0.1**
BILL pmax pmax
comp=Z,43nm,2.5s,mb5.0
STKA Stephens Creek 56.02 158⇓*i*P **P 15 15 36.4 +0.3**
comp=Z,14nm,1.0s,mb5.0
STKA Stephens Creek 56.02 158 P **P 15 15 36.5 +0.4**
comp=Z,9.6nm,0.9s,mb4.8,baz=320,slow=7.0,SNR=21
AKTK Aktyubinsk 56.78 317 P **P 15 15 41.0 -0.5**
AKTK LR LR 15 39 33.0
AKTO Aktyubinsk 56.78 317 P **P 15 15 41.0 -0.5**
comp=Z,5.7nm,0.6s,mb4.8,baz=96,slow=14,SNR=9.1
AKTO LR LR 15 39 33.0
comp=Z,174nm,21.5s,MS4.1,baz=289,slow=36
WSAR Wadi Sarin 56.84 285 P **P 15 15 41.8 -0.1**
comp=Z,11nm,0.8s,mb4.9,baz=122,slow=9.4,SNR=6.8
WSAR LR LR 15 44 45.9
comp=Z,122nm,18.1s,MS4.0,baz=17,slow=41
ARU Arti 57.49 325 P **P 15 15 46.7 +0.2**
comp=Z,215nm,0.8s,SNR=11
ARU Arti 57.49 325 *e*P **P 15 15 46.1 -0.4**
ARU *e**PP pP 15 15 54.2 -0.9
ARU pmax pmax
comp=Z,37nm,0.9s,mb5.4
ARU Arti 57.49 325 *e*P **P 15 15 46.1 -0.4**
comp=Z,37nm,0.9s,mb5.4
ARU *e*pP pP 15 15 54.1 -1.0
ORR Orenburg 58.97 319 *e*P **P 15 15 57.6 +0.7**
ORR pmax pmax
comp=Z,50nm,1.4s,mb5.3
CNB Canberra Magne 62.06 153 *e*P **P 15 16 19.6 +1.6**
comp=Z,21nm,1.2s,mb5.2
CNB *e*pP pP 15 16 26.5 -0.1
TOO Toolangi 62.52 158 *e*P **P 15 16 22.7 +1.6**
comp=Z,9.3nm,0.7s,mb5.0
TOO Toolangi 62.52 158 *e*P **P 15 16 22.7 +1.6**
TOO pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
GNI Garni 66.15 306 *e*P **P 15 16 45.5 +0.7**
GNI pmax pmax
comp=Z,9.0nm,1.3s
ZEI Tsey 66.46 309 *e*P **P 15 16 46.5 -0.3**
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
VRHR Novokhopersk 67.19 318 *e*P **P 15 16 50.9 -0.5**
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.4s
VRHR pmax pmax
comp=Z,20nm,0.4s,mb5.5
KIV Kislovodsk 67.20 310 P **P 15 16 52.3 +0.8**
SNR=9.2
KIV Kislovodsk 67.20 310 *e*P **P 15 16 51.6 +0.1**
KIV *e* 15 17 17.7
KIV *e*S S 15 25 41.4 -2.9
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,109nm,16.0s,MS4.2
KIV Kislovodsk 67.20 310 *e*P **P 15 16 51.8 +0.3**
comp=Z,11nm,0.7s,mb5.0
VRSR Storozhevoye 68.70 318 *e*P **P 15 17 00.8 -0.1**
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 69.13 323 *e*P **P 15 17 02.1 -1.5**
MOS *e* 15 17 31.1
MOS *e* 15 19 34.3
MOS pmax pmax
comp=Z,200nm,1.9s,mb5.7
MOS pmax pmax
comp=Z,100nm,1.6s,mb5.5
OBN Obninsk 69.80 323⇓*e*P **P 15 17 07.2 -0.6**
OBN *e* 15 19 43.4
OBN *e*S S 15 26 09.9 -5.4
OBN pmax pmax
comp=Z,70nm,1.3s,mb5.4
APA Apatity 69.98 336⇑*i*P **P 15 17 17.4 +8.5**
APA *i* 15 17 37.5
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
ANN Anapa 70.80 312 *e*P **P 15 17 11.8 -2.0**
ANN pmax pmax
comp=Z,99nm,2.0s,mb5.4
MALT Malatya 71.29 305⇓*i*P **P 15 17 17.9 +1.1**
MALT Malatya 71.29 305 *e*P **P 15 17 18.2 +1.4**
MALT pmax pmax
comp=Z,95nm,1.8s,mb5.4
MALT Malatya 71.29 305 *e*P **P 15 17 18.2 +1.3**
comp=Z,95nm,1.8s,mb5.4
JOF Joensuu 71.42 331 *ep* **P 15 17 16.5 -1.1**
comp=Z,28nm,0.8s,mb5.2
ARCES ARCESS Array B 72.56 338 P **P 15 17 24.5 0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=72,slow=7.8,SNR=6.4
ARCES LR LR 15 49 08.1
comp=Z,105nm,18.9s,MS4.1,baz=265,slow=36
KAF Kangasniemi 73.86 331 *ep* **P 15 17 30.9 -1.2**
comp=Z,25nm,0.8s,mb5.2,baz=74,slow=5.5
KAF Kangasniemi 73.86 331 *e*P **P 15 17 30.9 -1.2**
KAF pmax pmax
comp=Z,25nm,0.8s,mb5.2
FIA1 FINESS Array S 74.12 330 *e*P **P 15 17 33.1 -0.5**
FIA1 *e*pP pP 15 17 41.3 -1.2
FINES FINESS Array B 74.12 330 P **P 15 17 32.9 -0.7**
comp=Z,14nm,0.8s,mb5.0,baz=93,slow=7.8,SNR=54
FINES FINESS Array B 74.12 330 P **P 15 17 32.9 -0.7**
BRTR Keskin Array B 74.62 307 P **P 15 17 36.1 -0.4**
comp=Z,4.0nm,1.0s,mb4.3,baz=106,slow=7.9,SNR=15
AKASG Malin Array Be 74.99 319 P **P 15 17 37.2 -1.4**
comp=Z,9.7nm,0.8s,mb4.8,baz=62,slow=5.8,SNR=32
AKBB Malin Array Si 74.99 319 *e*P **P 15 17 37.8 -0.9**
AKBB *e**PP pP 15 17 46.0 -1.5
EGAK Eagle 75.21 26 *e*P **P 15 17 41.0 +1.0**
comp=Z,20nm,1.1s,mb5.0
EGAK *e*pP pP 15 17 49.1 +0.3
DAWY Dawson 76.16 26 *e*P **P 15 17 46.2 +0.8**
DAWY *e*pP pP 15 17 54.6 +0.4
EIL Elat 76.16 297 *e*P **P 15 17 45.9 +0.5**
comp=Z,450nm,1.3s
EIL pP pP 15 17 54.7 +0.5
SUW Suwalki 77.64 323 *e*P **P 15 17 53.5 -0.2**
VRI Vrincioaia 77.89 314⇓*i*P **P 15 17 55.8 +0.7**
VRI Vrincioaia 77.89 314⇓P **P 15 17 55.8 +0.7**
BURAR Bucovina Array 78.36 317⇓*i*P **P 15 17 58.2 +0.5**
BURAR Bucovina Array 78.36 317⇓P **P 15 17 58.2 +0.5**
MLR Muntele Rosu 78.52 314⇑*i*P **P 15 17 59.0 +0.4**
MLR Muntele Rosu 78.52 314⇑P **P 15 17 59.0 +0.4**
KWP Kalwaria 79.31 319 *e*P **P 15 18 03.5 +0.6**
DAG Danmarks Havn 79.80 351⇑*i*P **P 15 18 04.6 -1.0**
comp=Z,1.5nm,0.8s,mb4.0
DAG Danmarks Havn 79.80 351⇑*e*P **P 15 18 04.6 -1.0**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DAG Danmarks Havn 79.80 351⇑*e*P **P 15 18 04.6 -1.0**
comp=Z,1.5nm,0.8s,mb4.0
KOLS Kolonicke sedl 79.81 318 *e*P **P 15 18 05.9 +0.3**
DRGR 80.24 316⇓*i*P **P 15 18 08.4 +0.4**
DRGR 80.24 316⇓P **P 15 18 08.4 +0.4**
STHS Stebnicka Huta 80.28 319 *e*P **P 15 18 08.8 +0.6**
STHS *e* pP 15 18 17.6 +0.5
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
STHS Stebnicka Huta 80.28 319 *e*P **P 15 18 08.8 +0.6**
comp=Z,8.8nm,1.0s,mb4.6
STHS *e* pP 15 18 17.6 +0.5
HFS Hagfors 80.28 331 P **P 15 18 07.2 -1.1**
comp=Z,11nm,0.8s,mb4.8,baz=97,slow=4.9,SNR=18
CRVS Cervenica-Dubn 80.32 319 *e*P **P 15 18 09.1 +0.7**
NIE Niedzica 80.85 319 *e*P **P 15 18 12.1 +0.9**
NIE *e*PcP PcP 15 18 20.2 +2.4
OJC Ojcow 80.87 320 *i* P **P 15 18 11.8 +0.4**
OJC *e*PcP PcP 15 18 18.2 +0.3
NB2 NORSAR Subarra 81.00 332 P **P 15 18 11.2 -0.9**
comp=Z,22nm,1.4s,mb4.9,baz=64,slow=5.3
NB2 NORSAR Subarra 81.00 332 P **P 15 18 11.2 -0.9**
NB2 pmax pmax
comp=Z,23nm,1.4s,mb4.9
NOA NORSAR Array B 81.00 332 P **P 15 18 11.3 -0.8**
comp=Z,4.3nm,0.7s,mb4.5,baz=64,slow=5.3,SNR=18
NOA LR LR 15 58 48.5
comp=Z,193nm,18.4s,MS4.5,baz=90,slow=39
KECS Kecovo 81.07 318 *e*P **P 15 18 12.6 +0.2**
KECS *e* pP 15 18 20.2 -1.2
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KECS Kecovo 81.07 318 *e*P **P 15 18 12.6 +0.2**
comp=Z,6.4nm,1.2s,mb4.4
KECS *e* pP 15 18 20.2 -1.2
VTS Vitosha 81.32 312⇓*i*P **P 15 18 14.5 +0.7**
VTS Vitosha 81.32 312⇓P **P 15 18 14.5 +0.8**
SANT Santorini 81.76 306 *e*P **P 15 18 14.8 -1.3**
comp=Z,64nm,1.1s,mb5.5
OKC Ostrava-Krasne 82.00 320 *e*P **P 15 18 17.7 +0.3**
OKC *e*pP pP 15 18 26.4 +0.1
VYHS Vyhne 82.09 319 *e*P **P 15 18 18.2 +0.4**
VYHS *e* pP 15 18 26.6 -0.1
VYHS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
VYHS Vyhne 82.09 319 *e*P **P 15 18 18.2 +0.4**
comp=Z,7.7nm,1.2s,mb4.5
VYHS *e* pP 15 18 26.6 -0.1
MORC Moravsky Berou 82.39 320⇑*i*P **P 15 18 20.5 +1.1**
MORC Moravsky Berou 82.39 320 *e*P **P 15 18 19.8 +0.4**
MORC *PP pP 15 18 27.9 -0.4
MORC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MORC Moravsky Berou 82.39 320 *e*P **P 15 18 19.8 +0.4**
comp=Z,9.4nm,1.3s,mb4.6
MORC pP pP 15 18 27.9 -0.4
KSP Ksiaz 82.71 322 *e*P **P 15 18 21.8 +0.8**
KSP *e* pP 15 18 30.1 +0.1
KSP Ksiaz 82.71 322 *e*P **P 15 18 21.5 +0.5**

KSP *e*pP pP 15 18 29.5 -0.5
RGN Rugen 82.82 326 *e*P **P 15 18 22.2 +0.6**
DPC Dobruska-Polom 82.89 321 *e*P **P 15 18 22.2 +0.2**
DPC *e*pP pP 15 18 31.4 +0.5
UPC Upice 83.00 321 *e*P **P 15 18 23.0 +0.4**
UPC *e*pP pP 15 18 32.1 +0.6
PKSM Moragy 83.08 317 ⇓*i*P **P 15 18 23.2 +0.2**
PKSM Moragy 83.08 317 ⇓P **P 15 18 23.2 +0.2**
VRAC Vranov 83.14 320 ⇓*i*P **P 15 18 24.4 +1.1**
VRAC Vranov 83.14 320 ⇓P **P 15 18 24.4 +1.1**
RUE Ruedersdorf 83.46 324 *e*P **P 15 18 25.6 +0.7**
KMBO Kilima Mbogo 83.81 266 P **P 15 18 28.3 +1.6**
comp=Z,5.1nm,0.9s,mb4.7,baz=45,slow=9.5,SNR=9.5
KMBO LR LR 15 55 06.8
comp=Z,128nm,18.3s,MS4.3,baz=90,slow=35
KMBO Kilima Mbogo 83.81 266 *e*P **P 15 18 28.4 +1.7**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 83.81 266 *e*P **P 15 18 28.4 +1.7**
comp=Z,9.7nm,1.0s,mb4.9
TREC Trest 83.81 320 *e*P **P 15 18 27.4 +0.7**
PVCC Panska Ves 83.84 322 *e*P **P 15 18 26.7 -0.2**
PVCC *e*pP pP 15 18 36.6 +0.8
BRG Berggiesshubel 84.05 322 *e*P **P 15 18 28.3 +0.3**
comp=Z,28nm,1.2s,mb5.3
BRG Berggiesshubel 84.05 322 *i* P **P 15 18 28.4 +0.4**
comp=Z,16nm,1.3s,mb5.0
BRG *i* pP 15 18 36.8 -0.1
comp=Z,17nm,1.2s
BRG Berggiesshubel 84.05 322 *i* P **P 15 18 28.4 +0.4**
BRG *i* pP 15 18 36.8 -0.1
BRG pmax pmax
comp=Z,16nm,1.3s,mb5.0
PRU Pruhonice 84.08 321 *e*P **P 15 18 28.8 +0.7**
PRU *e*pP pP 15 18 37.2 +0.2
CONA Conrad Observa 84.14 319 ⇑*i*P **P 15 18 29.4 +1.0**
comp=Z,9.5nm,1.4s,mb4.7
CLL Collm 84.40 323 *e*P **P 15 18 29.6 -0.1**
comp=Z,31nm,1.1s,mb5.3
CLL Collm 84.40 323 ⇓*i*P **P 15 18 29.9 +0.2**
CLL *i* *PP pP 15 18 38.0 -0.7
CLL pmax pmax
comp=Z,29nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,300nm,14.7s,MS4.8
CLL Collm 84.40 323 ⇓*i*P **P 15 18 29.9 +0.2**
comp=Z,29nm,1.1s,mb5.3
CLL *i* pP pP 15 18 38.0 -0.7
CLL LR LR
comp=Z,300nm,14.7s,MS4.8
CLL Collm 84.40 323 ⇓*i*P **P 15 18 29.9 +0.2**
comp=Z,29nm,1.1s,mb5.3
CLL *i* pP pP 15 18 38.0 -0.7
BSEG Bad Segeberg 84.67 326 *e*P **P 15 18 31.5 +0.4**
comp=Z,35nm,1.1s,mb5.4
KHC Kasperske Hory 85.01 321 *e*P **P 15 18 33.4 +0.6**
KHC *e*pP pP 15 18 41.1 -0.7
GEC2 GERESS Array S 85.06 321 *e*P **P 15 18 33.5 +0.4**
comp=Z,17nm,1.2s,mb5.0
GEC2 GERESS Array S 85.06 321 *e*P **P 15 18 33.5 +0.4**
GEC2 pmax pmax
comp=Z,17nm,1.2s,mb5.0
GERES GERESS Array B 85.06 321 P **P 15 18 33.4 +0.4**
comp=Z,4.8nm,0.8s,mb4.7,baz=67,slow=4.5,SNR=35
GERES LR LR 15 58 03.7
comp=Z,130nm,21.6s,MS4.3,baz=345,slow=37
TANN Tannenbergstha 85.10 322 *e*P **P 15 18 33.5 +0.2**
comp=Z,14nm,1.1s,mb5.0
PERS Pernice 85.14 318 *i* P **P 15 18 33.3 -0.2**
MOA Molln 85.15 319 ⇑*i*P **P 15 18 34.6 +1.1**
comp=Z,24nm,1.2s,mb5.2
GUNZ Gunzen 85.20 322 *e*P **P 15 18 34.4 +0.7**
WET Wettzell 85.42 321 *e*P **P 15 18 35.5 +0.6**
comp=Z,12nm,1.0s,mb5.0
WET Wettzell 85.42 321 *e*P **P 15 18 35.5 +0.6**
WET pmax pmax
comp=Z,12nm,1.0s,mb5.0
NRDL Niedersach Rie 85.46 325 *e*P **P 15 18 35.6 +0.6**
comp=Z,29nm,1.2s,mb5.3
MOX Moxa 85.48 323 *e*P **P 15 18 35.3 +0.2**
comp=Z,28nm,1.6s,mb5.1
MOX *e* pP 15 18 44.1 0.0
MOX
comp=Z,200nm,18.0s
MOX Moxa 85.48 323 *e*P **P 15 18 35.3 +0.2**
comp=Z,28nm,1.6s,mb5.1
MOX *e*pP pP 15 18 44.1 0.0
MANZ Manzenberg 85.50 322 *e*P **P 15 18 35.9 +0.7**
comp=Z,16nm,1.2s,mb5.0
BOJS Bojanci 85.53 317 *i* P **P 15 18 35.3 -0.1**
ROTZ Rotzenmuhle 85.54 322 *e*P **P 15 18 36.2 +0.8**
comp=Z,25nm,1.2s,mb5.3
CLZ Clausthal 85.62 324 *e*P **P 15 18 36.2 +0.3**
comp=Z,36nm,1.1s,mb5.5
CLZ Clausthal 85.62 324 *e*P **P 15 18 36.2 +0.3**
CLZ pmax pmax
comp=Z,36nm,1.1s,mb5.5
GTTG Gyttingen 85.98 324 *e*P **P 15 18 38.3 +0.6**
KBA Koelnbreinsper 86.05 319 ⇑*i*P **P 15 18 38.3 +0.3**
comp=Z,12nm,1.1s,mb5.0
KBA Koelnbreinsper 86.05 319 ⇑*i*P **P 15 18 38.3 +0.3**
KBA pmax pmax
comp=Z,12nm,1.1s,mb5.0
GRA1 Grafenberg Arr 86.14 322 *e*P **P 15 18 39.1 +0.7**
comp=Z,56nm,1.7s,mb5.5
GRA1 *e*pP pP 15 18 48.2 +0.8
GRF Grafenberg Arr 86.14 322 *e*P **P 15 18 39.1 +0.7**
comp=Z,56nm,1.7s,mb5.5
GRF *e*pP pP 15 18 48.2 +0.8
GRF Grafenberg Arr 86.14 322 *e*P **P 15 18 39.1 +0.7**
GRF *e**PP pP 15 18 48.2 +0.8
GRF pmax pmax
comp=Z,56nm,1.7s,mb5.5
UBBA Unterbreizbach 86.31 323 *e*P **P 15 18 39.4 +0.2**
comp=Z,21nm,1.6s,mb5.1
ROBS Robic 86.31 318 *e*P **P 15 18 38.7 -0.6**
YKA Yellowknife Ar 86.64 22 P **P 15 18 40.8 -0.1**
comp=Z,8.8nm,0.9s,mb5.0,baz=314,slow=4.6,SNR=16
YKA Yellowknife Ar 86.64 22 P **P 15 18 40.8 -0.1**
IBBN Ibbenburen 86.81 325 *e*P **P 15 18 42.4 +0.7**
comp=Z,36nm,1.1s,mb5.5
WTTA Wattenberg 87.01 320 ⇑*i*P **P 15 18 43.1 +0.5**
comp=Z,13nm,0.9s,mb5.2
WTTA Wattenberg 87.01 320 ⇑*i*P **P 15 18 43.2 +0.5**
WTTA pmax pmax
comp=Z,13nm,0.9s,mb5.2
BUG Bochum--Univer 87.50 325 *e*P **P 15 18 45.0 -0.1**
comp=Z,20nm,1.3s,mb5.2
DAVOX Davos/Dischmat 88.30 320 P **P 15 18 49.4 +0.5**
comp=Z,1.8nm,0.5s,mb4.6,baz=302,slow=5.7,SNR=5.1
CDF Champ du Feu 89.03 322 *e*P **P 15 18 52.0 -0.3**
comp=Z,25nm,1.3s,mb5.1
CDF Champ du Feu 89.03 322 *e*P **P 15 18 52.0 -0.3**
CDF pmax pmax
comp=Z,12nm,1.3s,mb5.1
CDF Champ du Feu 89.03 322 *e*P **P 15 18 52.0 -0.3**
comp=Z,12nm,1.3s,mb5.1
GIVF Givet 89.53 324 *e*P **P 15 18 54.5 -0.1**
BAIF Baives 89.89 325 *e*P **P 15 18 56.4 +0.1**
CABF La Chapelle 90.65 321 *e*P **P 15 18 59.7 -0.2**
LPG La Plagne 90.82 320 *e*P **P 15 19 01.4 +0.7**
comp=Z,46nm,1.0s,mb5.5
LPG La Plagne 90.82 320 *e*P **P 15 19 01.4 +0.7**
LPG pmax pmax
comp=Z,23nm,1.0s,mb5.5
LPG La Plagne 90.82 320 *e*P **P 15 19 01.4 +0.7**
comp=Z,23nm,1.0s,mb5.5
LPL La Plagne 90.82 320 *e*P **P 15 19 01.3 +0.6**
comp=Z,34nm,0.9s,mb5.4
LPL La Plagne 90.82 320 *e*P **P 15 19 01.3 +0.6**
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.4
LPL La Plagne 90.82 320 *e*P **P 15 19 01.3 +0.6**
comp=Z,17nm,0.9s,mb5.4
BNI Bardonecchia 91.09 319 *e*P **P 15 19 02.3 +0.4**
BNI pmax pmax
comp=Z,23nm,1.1s,mb5.4
BNI Bardonecchia 91.09 319 *e*P **P 15 19 02.3 +0.3**
comp=Z,23nm,1.1s,mb5.4
MBDF Montbardon 91.20 319 *e*P **P 15 19 02.1 -0.3**
comp=Z,9.5nm,0.9s,mb4.8
MBDF Montbardon 91.20 319 *e*P **P 15 19 02.1 -0.3**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MBDF Montbardon 91.20 319 *e*P **P 15 19 02.1 -0.3**
comp=Z,4.8nm,0.9s,mb4.8
SBF Sospel 91.23 318 *e*P **P 15 19 02.4 -0.2**
comp=Z,52nm,1.0s,mb5.5
SBF Sospel 91.23 318 *e*P **P 15 19 02.4 -0.2**
SBF pmax pmax
comp=Z,26nm,1.0s,mb5.5
SBF Sospel 91.23 318 *e*P **P 15 19 02.4 -0.2**
comp=Z,26nm,1.0s,mb5.5
LOR Lormes 91.59 322 *e*P **P 15 19 04.1 -0.1**
LOR *e*MLR MLR
comp=Z,170nm,19.5s
LOR Lormes 91.59 322 *e*P **P 15 19 04.1 -0.1**
LOR LR LR
comp=Z,170nm,19.5s,MS4.5
ORIF Oris-en-Rattie 91.65 320 *e*P **P 15 19 04.8 +0.3**
comp=Z,22nm,1.0s,mb5.2
ORIF *e*MLR MLR
comp=Z,181nm,21.0s
ORIF Oris-en-Rattie 91.65 320 *e*P **P 15 19 04.8 +0.3**
ORIF pmax pmax
comp=Z,11nm,1.0s,mb5.1
ORIF Oris-en-Rattie 91.65 320 *e*P **P 15 19 04.8 +0.3**
comp=Z,11nm,1.0s,mb5.2
FRF La Foret Royal 91.88 318 *e*P **P 15 19 05.5 -0.1**
comp=Z,40nm,1.1s,mb5.4
FRF La Foret Royal 91.88 318 *e*P **P 15 19 05.5 -0.1**
FRF pmax pmax
comp=Z,20nm,1.1s,mb5.4
FRF La Foret Royal 91.88 318 *e*P **P 15 19 05.5 -0.1**
comp=Z,20nm,1.1s,mb5.4
SSF Saint Saulge 91.91 322 *e*P **P 15 19 05.5 -0.2**
SMF Signal de Mont 91.94 322 *e*P **P 15 19 05.8 -0.1**
LMR La Mourre 92.08 318 *e*P **P 15 19 06.7 +0.2**
comp=Z,53nm,1.2s,mb5.5
LMR La Mourre 92.08 318 *e*P **P 15 19 06.7 +0.2**
LMR pmax pmax
comp=Z,27nm,1.2s,mb5.5
LMR La Mourre 92.08 318 *e*P **P 15 19 06.7 +0.2**
comp=Z,27nm,1.2s,mb5.5
AVF Avril sur Loir 92.14 322 *e*P **P 15 19 06.5 -0.3**
SMRF Simiane la Rot 92.33 319 *e*P **P 15 19 08.1 +0.5**
comp=Z,27nm,1.2s,mb5.2
SMRF Simiane la Rot 92.33 319 *e*P **P 15 19 08.1 +0.5**
comp=Z,27nm,1.2s,mb5.5
VIVF Saint-Julien-I 92.41 320 *e*P **P 15 19 08.2 +0.2**
comp=Z,27nm,1.2s,mb5.2
VIVF Saint-Julien-I 92.41 320 *e*P **P 15 19 08.2 +0.2**
VIVF pmax pmax
comp=Z,13nm,1.2s,mb5.1
VIVF Saint-Julien-I 92.41 320 *e*P **P 15 19 08.2 +0.2**
comp=Z,13nm,1.2s,mb5.2
LDF La Druitiere 93.05 325 *e*P **P 15 19 10.7 -0.3**
TCF Toulx Ste Croi 93.08 322 *e*P **P 15 19 11.4 +0.3**
LASF Ste Croix 93.32 320 *e*P **P 15 19 12.4 +0.2**
GRR Gorron 93.57 325 *e*P **P 15 19 13.2 -0.2**
KEST Kesra 93.94 310 P **P 15 19 15.7 +0.6**
comp=Z,2.3nm,1.0s,mb4.6,baz=299,slow=4.6,SNR=5.3
RJF Les Rejaudoux 94.03 322 *e*P **P 15 19 16.1 +0.6**
RJF *e*MLR MLR
comp=Z,125nm,19.5s
RJF Les Rejaudoux 94.03 322 *e*P **P 15 19 16.1 +0.6**
RJF LR LR
comp=Z,120nm,19.5s,MS4.4
SGMF Saint Gilles 94.55 326 *e*P **P 15 19 17.3 -0.6**
MTLF Montolieu 94.72 320 *e*P **P 15 19 18.9 +0.2**
FRB Frobisher Bay 95.69 4 LR LR 16 09 52.8
comp=Z,138nm,18.3s,MS4.5,baz=264,slow=40
PPT Papeete 96.19 106 *e*LR LR 15 50 04.6
comp=Z,290nm,33.0s
PPT Papeete 96.19 106 LR LR 15 53 17.5
comp=Z,152nm,20.7s,MS4.5,baz=292,slow=30
TBI Tubuai 98.18 112 *e*LR LR 15 51 00.0
comp=Z,229nm,33.0s
TAOE Nuku Hiva Isla 102.02 95 *e*LR LR 15 52 46.9
comp=Z,690nm,29.5s
SDV Santo Domingo 148.85 21 *e*PKPdf PKPdf 15 25 42.6 +1.6
SDV *e*PKPbc PKPbc 15 25 46.0 +1.1
ROSC El Rosal 150.98 31 PKPbc PKPbc 15 25 51.5 +1.5
comp=Z,7.2nm,0.5s,baz=112,slow=20,SNR=5.3
ROSC El Rosal 150.98 31 PKPbc PKPbc 15 25 52.3 +2.2
PLCA Paso Flores 157.89 158 PKPab PKPab 15 26 27.9 +0.9
comp=Z,2.3nm,0.9s,baz=193,slow=9.0,SNR=3.9
LPAZ La Paz 171.01 63 PKP PKPdf 15 26 07.5 +2.0
comp=Z,2.1nm,1.0s,baz=358,slow=4.7,SNR=6.7

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*IDC **10** 15:10:54.2±0.8,2040N×11999E,h0km,mb4.0/10,*
mb1 4.1/10,mb1mx4.0/20,mbtmp4.0/10,MS3.7/2,
Ms1 3.7/2,ms1mx3.1/40,Error ellipse: s-maj=39.3km
s-min=16.7km az=68.0
*NEIC **10** 15:10:55.7±0.5,2044N×12006E,h10km,Error ellipse:*
s-maj=17.7km s-min=9.0km az=79.0
*ISCJB **10** 15:10:57.7±1.4,2046N×007×1201E±02,h35km±14km,*
mb3.9/10,MS3.8/1,Error ellipse: s-maj=26.4km
s-min=9.7km az=148.9
*MAN **10** 15:11:00.3,2001N×12001E,h1km,mb3.2,ML4.5*
ISC 10 15:10:59.3±3.3,2048N±006×1201E±02,h33km±25km,n22,
σ0878/21,mb3.9/10,MS3.8/1,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**2.88**	**168**	*e*P	**Pn**	**15 11 42.1**	**-0.7**
CVP	**Callao Caves**	**3.21**	**149**	*e*P	**Pn**	**15 11 47.0**	**-0.4**
CVP				*i* S	**Sn**	**15 12 24.0**	**-0.5**
NACB	**Ninganchiao**	**3.93**	**21**	*e*P	**Pn**	**15 11 55.7**	**-1.5**
PALP	**Palanan**	**4.06**	**147**	*e*P	**Pn**	**15 12 00.1**	**+1.1**
BALP	**Baler**	**4.92**	**163**	*e*P	**Pn**	**15 12 11.9**	**+1.1**
JOW	**Kunigami**	**9.81**	**48**	LR	LR	15 17 04.2	
comp=Z,371nm,18.3s,baz=152,slow=37							
MJAR	**Matsushiro Arr**	**22.51**	**41**	P	**P**	**15 15 57.0**	**+1.0**
2.0nm,0.8s,mb3.6,baz=240,slow=9.5,SNR=6.4							
MJAR	**Matsushiro Arr**	**22.51**	**41**	P	**P**	**15 15 57.0**	**+1.0**
SONM	**Songino Array**	**29.45**	**341**	P	**P**	**15 17 01.0**	**+1.1**
0.7nm,0.8s,mb3.5,baz=152,slow=9.6,SNR=3.0							
MKAR	**Makanchi Array**	**40.38**	**319**	P	**P**	**15 18 33.2**	**-0.8**
1.7nm,0.9s,mb3.8,baz=109,slow=10,SNR=4.1							
MKAR	**Makanchi Array**	**40.38**	**319**	P	**P**	**15 18 33.2**	**-0.8**
WRA	**Warramunga Arr**	**42.53**	**160**	P	**P**	**15 18 50.5**	**-1.0**
7.9nm,0.8s,mb4.5,baz=342,slow=9.0,SNR=13							
WB2	**Warramunga Arr**	**42.53**	**160**	*e*P	**P**	**15 18 51.2**	**-0.4**
ZAL	**Zalesovo**	**42.86**	**330**	P	**P**	**15 18 54.8**	**+0.5**
0.9nm,0.7s,mb3.6,baz=108,slow=3.2,SNR=3.3							
ASAR	**Alice Springs**	**45.90**	**162**	P	**P**	**15 19 18.9**	**+0.3**
2.2nm,0.9s,mb4.1,baz=328,slow=6.3,SNR=5.8							
BVAR	**Borovoye Array**	**49.95**	**323**	P	**P**	**15 19 49.5**	**-0.4**
1.0nm,0.6s,mb4.0,baz=140,slow=7.6,SNR=4.3							
STKA	**Stephens Creek**	**55.99**	**158**	P	**P**	**15 20 34.9**	**+0.5**
1.9nm,0.9s,mb4.1,baz=318,slow=12,SNR=2.7							
STKA	**Stephens Creek**	**55.99**	**158**	P	**P**	**15 20 34.9**	**+0.5**
FINES	**FINESS Array B**	**74.12**	**330**	P	**P**	**15 22 32.2**	**0.0**
2.3nm,0.8s,mb4.2,baz=64,slow=4.4,SNR=4.7							
FINES	**FINESS Array B**	**74.12**	**330**	P	**P**	**15 22 32.2**	**0.0**
YKA	**Yellowknife Ar**	**86.76**	**22**	P	**P**	**15 23 40.1**	**+0.1**
0.8nm,0.7s,mb4.0,baz=304,slow=4.4,SNR=2.5							
YBH	**Yreka Blue Hor**	**95.17**	**42**	LR	LR	15 59 39.9	
comp=Z,36nm,21.0s,MS3.8,slow=31							

IDC 10 15:11:58.6±1.3,5368N×3532W,h0km,mb3.6/3,
mb1 3.9/4,mb1mx3.5/26,mbtmp3.6/4,ML3.3/1,MS3.3/8,
Ms1 3.3/8,ms1mx3.0/38,Error ellipse: s-maj=63.9km
s-min=26.7km az=20.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.37**	**286**	LR	LR	15 22 09.5	
comp=Z,70nm,21.3s,baz=289,slow=33							
EKA	**Eskdalemuir Ar**	**18.66**	**72**	P	Pn	15 16 18.6	+0.2
0.1nm,0.3s,baz=277,slow=8.3,SNR=3.9							
ESDC	**Sonseca Array**	**25.42**	**111**	P	P	15 17 27.4	-0.4
0.4nm,0.3s,baz=320,slow=9.2,SNR=5.6							
ESDC				LR	LR	15 25 19.3	
comp=Z,51nm,20.1s,baz=320,slow=32							
NOA	**NORSAR Array B**	**25.67**	**55**	LR	LR	15 25 33.3	
comp=Z,60nm,18.2s,baz=295,slow=32							
HFS	**Hagfors**	**26.98**	**56**	LR	LR	15 26 56.5	
comp=Z,75nm,18.1s,baz=156,slow=33							
DAVOX	**Davos/Dischmat**	**29.31**	**85**	LR	LR	15 29 16.1	
comp=Z,77nm,18.3s,baz=270,slow=35							
GERES	**GERESS Array B**	**30.55**	**79**	LR	LR	15 30 43.5	
comp=Z,51nm,18.4s,baz=49,slow=37							
VRAC	**Vranov**	**32.02**	**76**	LR	LR	15 29 49.0	
comp=Z,59nm,18.1s,baz=290,slow=33							
PDAR	**Pinedale Array**	**48.48**	**289**	P	P	15 20 43.1	+0.1
0.4nm,0.6s,baz=54,slow=7.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**49.88**	**130**	P	P	15 20 53.8	+0.1
1.4nm,0.7s,baz=333,slow=8.2,SNR=4.5							
CFAA	**Coronel Fontan**	**89.60**	**208**	LR	LR	15 59 23.8	
comp=Z,16nm,21.5s,baz=263,slow=32							
ASAR	**Alice Springs**	**148.95**	**19**	PKPbc	PKPbc	15 31 47.2	-1.1
0.7nm,0.8s,baz=342,slow=2.2,SNR=6.8							

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*ISCJB **10** 15:25:06.8±0.6,5758N±004×1729E±006,h0km,Error*
ellipse: s-maj=6.2km s-min=4.5km az=114.9
*IDC **10** 15:25:07.1±2.5,5747N×1708E,h0km,mb1 3.2/4,*
mb1mx3.0/22,mbtmp3.2/4,ML2.7/4,Error ellipse:
s-maj=24.4km s-min=10.4km az=12.0
*HEL **10** 15:25:09.3±0.3,5764N×1707E,h0km,ML2.2,ML2.7(UPP),*
ML2.0(NAO),Explosion
*UPP **10** 15:25:11.8,5785N×1688E,h0km,ML2.7,Mining*
explosion.
*CSEM **10** 15:25:11.8,5785N×1688E,h0km,ML2.7,Mining*
explosion. After UPP
*BER **10** 15:25:12.6±4.6,5781N×1683E,h0km,ML2.0(NAO),*
Suspected explosion
*NAO **10** 15:25:13.0±2.7,5800N×1694E,ML2.0*
ISC 10 15:25:08.2±0.6,5760N±004×1718E±006,h0km,n34,
σ1§17/54,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**1.47**	**17**	*e*P	**Pn**	**15 25 35.2**	**-0.7**
NYNU				*e*S	**Sg**	**15 25 54.2**	**-1.3**
ESKU	**Eskilstuna**	**1.69**	**346**	*e*P	**Pn**	**15 25 37.8**	**-1.0**
ASKU	**Askersund**	**1.80**	**317**	*e*P	**Pn**	**15 25 39.0**	**-1.3**
ASKU	**Askersund**	**1.80**	**317**	P	**Pn**	**15 25 39.0**	**-1.4**
NRTU	**Norrtaelje**	**2.21**	**19**	*e*P	**Pn**	**15 25 47.5**	**+1.4**
NRTU	**Norrtaelje**	**2.21**	**19**	P	**Pn**	**15 25 47.5**	**+1.4**
baz=171							
BACU	**Backbrunna**	**2.26**	**359**	*e*P	**Pn**	**15 25 47.8**	**+1.0**
NRAU	**Nora**	**2.27**	**331**	*e*P	**Pn**	**15 25 47.3**	**+0.4**
UPP	**Uppsala**	**2.27**	**6**	*e*P	**Pn**	**15 25 48.4**	**+1.5**
NASU	**Vaermlandsnaes**	**2.49**	**304**	P	**Pn**	**15 25 49.7**	**-0.3**
OSTU	**Oestervaala**	**2.63**	**360**	*e*P	**Pn**	**15 25 53.1**	**+1.2**
BSD	**Bornholm Skovb**	**2.79**	**208**	*i* P	**Pn**	**15 25 53.6**	**-0.5**
BSD				*i*		15 26 02.1	
BSD				*i* S	**Sn**	**15 26 27.2**	**-1.3**
BSD				*i*		15 26 38.9	
GRAU	**Graesoe**	**2.83**	**14**	*e*P	**Pn**	**15 25 55.7**	**+1.1**
AAL	**Aland**	**2.97**	**28**	*e*P	**Pn**	**15 25 57.8**	**+1.3**
FALU	**Falun**	**2.98**	**347**	*e*P	**Pn**	**15 25 56.9**	**+0.2**
HFS	**Hagfors**	**3.12**	**326**	Pn	**Pn**	**15 25 59.0**	**+0.4**
0.8nm,0.3s,baz=145,slow=14,SNR=50							
HFS				Sn	**Sn**	**15 26 36.9**	**+0.4**
1.6nm,0.3s,baz=135,slow=25,SNR=11							
HFS				Lg		15 26 49.2	
2.4nm,0.3s,baz=152,slow=30,SNR=5.4							
HFS	**Hagfors**	**3.12**	**326**	Pn	**Pn**	**15 25 59.0**	**+0.5**
baz=146,slow=14							
HFS				Lg		15 26 37.0	
baz=152,slow=37							
HFS	**Hagfors**	**3.12**	**326**	*e*P	**Pn**	**15 25 59.0**	**+0.5**
HFS				*e*S	**Sn**	**15 26 37.0**	**+0.5**
IGGU	**Iggoen**	**3.28**	**1**	*e*P	**Pn**	**15 26 01.7**	**+0.9**
RAF	**Rauma**	**4.16**	**32**	*e*P	**Pn**	**15 26 31.8**	**+0.9**
RAF				*e*S	**Sn**	**15 27 02.3**	**+0.2**
RAF				*e*SG	**Sg**	**15 27 17.0**	**-4.7**
RAF				MSG		15 27 18.6	
comp=Z,2.9nm,0.2s							
MEF	**Metsahovi**	**4.57**	**52**	*e*P	**Pn**	**15 26 19.8**	**+1.3**
MEF				*e*S	**Sn**	**15 27 12.2**	**-0.1**
MEF				*e*SG	**Sg**	**15 27 29.8**	**-5.1**
MEF				MSG		15 27 32.5	
comp=Z,5.7nm,0.2s							
NB2	**NORSAR Subarra**	**4.61**	**321**	Pn	**Pn**	**15 26 17.8**	**-1.3**
baz=140,slow=16							
NB2				Sn	**Sn**	**15 27 09.9**	**-3.3**
baz=136,slow=28							
NB2				Lg		15 27 25.9	
baz=134,slow=37							
NB2	**NORSAR Subarra**	**4.61**	**321**	*e*P	**Pn**	**15 26 17.8**	**-1.3**
NB2				*e*S	**Sn**	**15 27 09.9**	**-3.3**
NB2				*e*SB	**Sb**	**15 27 25.9**	**+0.1**
NOA	**NORSAR Array B**	**4.61**	**321**	Pn	**Pn**	**15 26 16.9**	**-2.1**
comp=Z,0.2nm,0.3s,baz=59,slow=6.8,SNR=2.4							
NOA				Sn	**Sn**	**15 27 08.7**	**-4.5**
comp=Z,0.5nm,0.3s,baz=151,slow=21,SNR=2.9							
NOA				Lg		15 27 27.7	
comp=Z,1.0nm,0.3s,baz=122,slow=22,SNR=6.0							
PVF	**Pernaja**	**5.36**	**53**	*e*P	**Pn**	**15 26 31.3**	**+1.9**
PVF				*e*S	**Sn**	**15 27 30.1**	**-1.7**
PVF				*e*SG	**Sg**	**15 27 54.3**	**-6.1**
PVF				MSG		15 27 55.7	
comp=Z,1.4nm,0.2s							
FIA0	**FINESS Array S**	**5.94**	**46**	Pn	**Pn**	**15 26 37.8**	**+0.4**
baz=230,slow=12							
FIA0				Sn	**Sn**	**15 27 47.1**	**+1.0**
FIA0	**FINESS Array S**	**5.94**	**46**	*e*P	**Pn**	**15 26 38.4**	**+1.0**
FIA0				*e*S	**Sn**	**15 27 44.0**	**-2.2**
FINES	**FINESS Array B**	**5.94**	**46**	Pn	**Pn**	**15 26 37.9**	**+0.5**
comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=18							
FINES				Sn	**Sn**	**15 27 46.2**	**+0.1**
comp=Z,0.3nm,0.3s,baz=221,slow=22,SNR=5.9							
FINES				Lg		15 28 16.0	
comp=Z,0.3nm,0.3s,baz=251,slow=29,SNR=4.0							
KEF	**Keuruu**	**5.99**	**37**	*e*P	**Pn**	**15 26 39.0**	**+0.9**
KEF				*e*S	**Sn**	**15 27 46.3**	**-1.1**
KAF	**Kangasniemi**	**6.45**	**42**	*e*P	**Pn**	**15 26 44.1**	**-0.2**
KAF				*e*S	**Sn**	**15 27 56.9**	**-1.6**
SUF	**Sumiainen**	**6.81**	**37**	*e*P	**Pn**	**15 26 49.5**	**+0.3**
SUF				*e*S	**Sn**	**15 28 04.2**	**-3.2**
ARA0	**ARCESS Array S**	**12.52**	**14**	Pn	**Pn**	**15 28 03.7**	**-3.8**
baz=193,slow=14							
ARA0	**ARCESS Array S**	**12.52**	**14**	*e*P	**Pn**	**15 28 03.7**	**-3.8**
ARCES	**ARCESS Array B**	**12.52**	**14**	Pn	**Pn**	**15 28 04.2**	**-3.3**
comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=8.0							

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*ISCJB **10** 15:29:36.7±0.5,2078N±003×11999E±006,h10km,*
mb3.6/6,Error ellipse: s-maj=8.3km s-min=4.4km az=2.2
*IDC **10** 15:29:37.3±1.1,2058N×11981E,h0km,mb3.6/6,*
mb1 3.8/6,mb1mx3.6/19,mbtmp3.6/6,Error ellipse:
s-maj=44.4km s-min=19.2km az=74.0
*NEIC **10** 15:29:38.3±0.6,2064N×11969E,h10km,Error ellipse:*
s-maj=12.1km s-min=10.9km az=161.0
*BJI **10** 15:29:38.3,2060N×11970E,h10km,mb4.4,ML3.5*
*MAN **10** 15:29:39.6,2069N×11978E,h31km,mb2.9,ML4.3,MS7.1*
*JMA **10** 15:29:44.3±0.4,2079N×12040E,h117km,M3.5*
ISC 10 15:29:38.6±0.5,2078N±003×11995E±006,h10km,n25,
σ1§35/36,mb3.6/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.19**	**167**	*e*P	**Pn**	**15 30 27.4**	**-1.4**
ABRA				*e*S	**Sn**	**15 31 04.5**	**-2.5**
CVP	**Callao Caves**	**3.53**	**150**	*e*P	**Pn**	**15 30 33.6**	**+0.1**
CVP				*i* S	**Sn**	**15 31 13.0**	**-2.3**
YHNB	**Yeheng**	**4.09**	**18**	*e*Pn	**Pn**	**15 30 41.6**	**+0.5**
CAUP	**Cauayan**	**4.20**	**155**	*e*P	**Pn**	**15 30 45.4**	**+2.7**
QZH	**Quanzhou**	**4.33**	**343**	P	**Pn**	**15 30 43.3**	**-1.2**
QZH				S	**Sn**	**15 31 30.2**	**-4.8**
QZH				Smax			
comp=N,50nm,0.8s							
QZH				Smax			
comp=E,70nm,0.7s							
PALP	**Palanan**	**4.37**	**147**	*e*P	**Pn**	**15 30 45.1**	**+0.1**
PALP				*e*S	**Sn**	**15 31 37.0**	**+0.9**
YOJ	**Yonaguni jima**	**4.63**	**37**	P	**Pn**	**15 30 49.8**	**+1.3**
YOJ				*e*S	**Sn**	**15 31 40.6**	**-1.7**
HATJ	**Hateruma j

GZH S **Sn** **15 32 22.2 -7.6**
GZH Smax
comp=N,50nm,0.6s
GZH Smax
comp=E,42nm,0.6s
QIZ Qiongzhong 9.67 261 *e*Sn **Sn** **15 33 39.0 -7.4**
MJAR Matsushiro Arr 22.37 42 P **P** **15 34 40.0 +3.2**
comp=E,2.3nm,0.7s,mb3.7,baz=243,slow=12,SNR=6.8
SONM Songino Array 29.13 341 P **P** **15 35 41.1 +1.5**
comp=E,0.5nm,0.9s,mb3.2,baz=134,slow=6.2,SNR=3.0
MKAR Makanchi Array 40.08 319 P **P** **15 37 15.1 +1.0**
comp=E,1.0nm,0.9s,mb3.5,baz=115,slow=8.1,SNR=4.3
MKAR Makanchi Array 40.08 319 P **P** **15 37 15.1 +1.0**
WRA Warramunga Arr 42.85 160 P **P** **15 37 35.4 -1.4**
comp=E,1.6nm,0.4s,mb4.1,baz=342,slow=9.1,SNR=7.4
WB2 Warramunga Arr 42.85 160 *e*P **P** **15 37 36.6 -0.3**
AS31 Alice Springs 46.22 162 *e*P **P** **15 38 04.0 +0.2**
ASAR Alice Springs 46.22 162 P **P** **15 38 03.4 -0.3**
comp=E,0.3nm,0.5s,mb3.5,baz=346,slow=6.7,SNR=10.0
CTAO Charters Tower 48.08 146 P **P** **15 38 24.2 +5.9**
STKA Stephens Creek 56.31 158 P **P** **15 39 19.5 0.0**
comp=E,0.9nm,0.9s,mb3.8,baz=345,slow=16,SNR=4.5

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*ISCJB **10** 15:44:24.6±1.8, 324S±02×1799E±04, h451km±23km, mb3.0/2, Error ellipse: s-maj=55.1km s-min=24.2km az=34.0*
*IDC **10** 15:44:24.9±8.2, 3212S×17958E, h409km±98km, mb2.7/2, mb1 2.9/2, mb1mx2.8/11, mbtmp3.5/2, Error ellipse: s-maj=109.2km s-min=39.9km az=6.0*
ISC 10 15:44:27.8±1.7, 324S±02×1794E±04, h419km±30km, n23, σ0°95/29, mb2.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.27**	**189**	PN	**P**	**15 45 53.5**	**+0.1**
MXZ				SN	**S**	**15 47 01.7**	**-1.4**
PUZ	**Puketiti**	**5.78**	**189**	*e*PN	**P**	**15 45 59.1**	**+0.4**
PUZ				*e*SN	**S**	**15 47 11.6**	**-1.2**
MWZ	**Matawai**	**6.15**	**193**	*e*PN	**P**	**15 46 02.8**	**+0.1**
MWZ				*e*SN	**S**	**15 47 21.0**	**+0.9**
URZ	**Urewera**	**6.17**	**197**	P	**P**	**15 46 03.1**	**+0.2**
21nm,0.3s,baz=316,slow=1.7,SNR=129							
URZ				S	**S**	**15 47 21.9**	**+1.5**
6.1nm,0.3s,baz=175,slow=21,SNR=7.8							
URZ	**Urewera**	**6.17**	**197**	PN	**P**	**15 46 02.5**	**-0.4**
URZ				*e*SN	**S**	**15 47 20.9**	**+0.5**
KNZ	**Kokohu**	**6.79**	**191**	*e*PN	**P**	**15 46 11.4**	**+1.9**
BKZ	**Black Stump Fm**	**7.18**	**198**	*e*PN	**P**	**15 46 12.6**	**-1.2**
BKZ				*e*SN	**S**	**15 47 37.2**	**-3.4**
PXZ	**Pawanui**	**7.92**	**194**	PN	**P**	**15 46 20.7**	**-1.2**
TSZ	**Takapari Road**	**8.16**	**199**	*e*PN	**P**	**15 46 24.2**	**-0.5**
WAZ	**Wanganui**	**8.19**	**204**	*e*PN	**P**	**15 46 26.9**	**+2.0**
BFZ	**Birch Farm**	**8.68**	**196**	PN	**P**	**15 46 31.0**	**+0.6**
BFZ				*e*SN	**S**	**15 48 11.2**	**+0.2**
MRZ	**Mangatainoka R**	**8.83**	**199**	PN	**P**	**15 46 32.2**	**+0.2**
KIW	**Kapiti Island**	**9.21**	**202**	*e*PN	**P**	**15 46 36.7**	**+0.5**
TCW	**Tory Channel**	**9.73**	**203**	*e*PN	**P**	**15 46 41.7**	**-0.2**
TUWZ	**Tuamarina**	**10.04**	**204**	*e*PN	**P**	**15 46 44.4**	**-1.0**
NNZ	**Nelson**	**10.06**	**207**	*e*PN	**P**	**15 46 44.7**	**-0.9**
QRZ	**Quartz Range**	**10.07**	**211**	*e*PN	**P**	**15 46 46.6**	**+0.8**
THZ	**Tophouse**	**10.71**	**207**	PN	**P**	**15 46 53.0**	**+0.2**
KHZ	**Kahutara**	**11.05**	**203**	*e*PN	**P**	**15 46 56.1**	**-0.4**
DSZ	**Denniston Nort**	**11.14**	**211**	*e*PN	**P**	**15 46 58.8**	**+1.3**
ASAR	**Alice Springs**	**40.80**	**270**	P	**P**	**15 51 30.4**	**-0.3**
0.3nm,0.7s,mb2.7,baz=102,slow=7.0,SNR=4.9							
WRA	**Warramunga Arr**	**41.97**	**276**	P	**P**	**15 51 39.3**	**-0.7**
0.3nm,0.3s,mb3.1,baz=112,slow=8.0,SNR=11							
FINES	**FINESS Array B**	**146.13**	**337**	PKPbc	PKPbc	16 03 15.9	-3.9
0.9nm,0.5s,baz=46,slow=5.0,SNR=11							

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*ISCJB **10** 15:49:27.1±0.5, 3836S±004×1759 9E±007, h182km±4km, mb3.7/4, Error ellipse: s-maj=9.8km s-min=6.1km az=46.8*
*IDC **10** 15:49:27.6±1.3, 3822S×17528E, h107km±22km, mb3.4/3, mb1 3.7/4, mb1mx3.5/12, mbtmp3.9/4, Error ellipse: s-maj=27.2km s-min=16.4km az=132.0*
*NEIC **10** 15:49:28.7, 3826S×17604E, h172km, mb3.9/2, After WEL.*
*WEL **10** 15:49:29.2±0.2, 3827S×17604E, h167km±1km, ML4.6/25, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0*
ISC 10 15:49:28.0±0.5, 3837S±004×17601E±007, h178km±4km, n137, σ1°09/150, mb3.7/4, 32C-12D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATZ	**Paeroa**	**0.20**	**94**	P	**Pn**	**15 49 51.8**	**+0.2**
PATZ	**Paeroa**	**0.20**	**94**	⇓PN	**Pn**	**15 49 51.8**	**+0.2**
UTU	**Utuhina**	**0.24**	**37**	P	**Pn**	**15 49 51.6**	**-0.1**
UTU	**Utuhina**	**0.24**	**37**	⇓PN	**Pn**	**15 49 51.6**	**-0.1**
WHTZ	**Whakaora**	**0.30**	**188**	P	**Pn**	**15 49 52.4**	**+0.5**
WHTZ	**Whakaora**	**0.30**	**188**	PN	**Pn**	**15 49 52.4**	**+0.5**
KARZ	**Kaharoa**	**0.39**	**28**	P	**Pn**	**15 49 51.7**	**-0.4**
KARZ				S	**Sn**	**15 50 09.4**	**-1.3**
KARZ	**Kaharoa**	**0.39**	**28**	⇓PN	**Pn**	**15 49 51.7**	**-0.4**
KARZ				SN	**Sn**	**15 50 09.2**	**-1.5**
WATZ	**Wairara**	**0.40**	**212**	P	**Pn**	**15 49 52.7**	**+0.5**
WATZ	**Wairara**	**0.40**	**212**	⇑PN	**Pn**	**15 49 52.7**	**+0.5**
WATZ				SN	**Sn**	**15 50 10.8**	**0.0**
TAZ	**Tarawera**	**0.41**	**71**	P	**Pn**	**15 49 52.1**	**-0.1**
TAZ	**Tarawera**	**0.41**	**71**	⇑PN	**Pn**	**15 49 52.3**	**0.0**
LIRZ	**Lichensteins R**	**0.47**	**39**	P	**Pn**	**15 49 52.0**	**-0.4**
LIRZ				S	**Sn**	**15 50 10.2**	**-1.0**
LIRZ	**Lichensteins R**	**0.47**	**39**	⇓PN	**Pn**	**15 49 52.0**	**-0.4**
LIRZ				SN	**Sn**	**15 50 10.2**	**-1.0**
HATZ	**Hinemaiaia**	**0.53**	**173**	P	**Pn**	**15 49 53.0**	**+0.3**
HATZ	**Hinemaiaia**	**0.53**	**173**	⇑PN	**Pn**	**15 49 53.0**	**+0.4**
HATZ				SN	**Sn**	**15 50 10.8**	**-0.8**
RATZ	**Rangitukua**	**0.53**	**200**	P	**Pn**	**15 49 53.2**	**+0.5**
RATZ	**Rangitukua**	**0.53**	**200**	⇑PN	**Pn**	**15 49 53.2**	**+0.6**
RITZ	**Rihia Road**	**0.62**	**191**	P	**Pn**	**15 49 54.1**	**+1.0**
RITZ	**Rihia Road**	**0.62**	**191**	PN	**Pn**	**15 49 54.2**	**+1.1**
MARZ	**Manawahe**	**0.65**	**54**	⇓PN	**Pn**	**15 49 53.0**	**-0.2**
KATZ	**Kakaramea**	**0.66**	**202**	P	**Pn**	**15 49 54.0**	**+0.7**
KATZ	**Kakaramea**	**0.66**	**202**	⇑PN	**Pn**	**15 49 54.0**	**+0.8**
TGRZ	**Tauranga**	**0.67**	**17**	P	**Pn**	**15 49 52.6**	**-0.7**
TGRZ				S	**Sn**	**15 50 11.4**	**-1.5**
TGRZ	**Tauranga**	**0.67**	**17**	⇓PN	**Pn**	**15 49 52.6**	**-0.7**
TGRZ				*e*SN	**Sn**	**15 50 11.0**	**-1.9**
TOZ	**Tahuroa Road**	**0.75**	**328**	P	**Pn**	**15 49 53.3**	**-0.5**
TOZ	**Tahuroa Road**	**0.75**	**328**	⇑PN	**Pn**	**15 49 53.3**	**-0.5**
TOZ				SN	**Sn**	**15 50 11.6**	**-2.1**
KRVZ	**Karewarewa**	**0.78**	**201**	⇑PN	**Pn**	**15 49 54.8**	**+0.8**
WTVZ	**West Tongariro**	**0.82**	**204**	⇑PN	**Pn**	**15 49 55.1**	**+0.9**
TWVZ	**Taurewa**	**0.83**	**212**	⇑PN	**Pn**	**15 49 55.1**	**+0.8**
OTVZ	**Oturere**	**0.84**	**199**	PN	**Pn**	**15 49 55.3**	**+1.0**
NGZ	**Ngauruhoe**	**0.87**	**201**	P	**Pn**	**15 49 55.5**	**+0.9**
NGZ	**Ngauruhoe**	**0.87**	**201**	PN	**Pn**	**15 49 55.4**	**+0.9**
URZ	**Urewera**	**0.87**	**83**	P	**Pn**	**15 49 54.0**	**-0.6**
104nm,0.3s,baz=266,slow=5.0,SNR=307							
URZ				S	**Sn**	**15 50 12.8**	**-2.2**
124nm,0.3s,baz=35,slow=22,SNR=7.3							
URZ	**Urewera**	**0.87**	**83**	P	**Pn**	**15 49 54.0**	**-0.6**
URZ	**Urewera**	**0.87**	**83**	⇓PN	**Pn**	**15 49 54.0**	**-0.6**
URZ				SN	**Sn**	**15 50 12.1**	**-3.0**
BKZ	**Black Stump Fm**	**0.88**	**155**	P	**Pn**	**15 49 55.5**	**+0.8**
BKZ	**Black Stump Fm**	**0.88**	**155**	⇑PN	**Pn**	**15 49 55.5**	**+0.8**
WPVZ	**Whakapapa**	**0.91**	**203**	PN	**Pn**	**15 49 55.7**	**+0.9**
HIZ	**Hauiti**	**0.92**	**260**	P	**Pn**	**15 49 55.1**	**+0.2**
HIZ	**Hauiti**	**0.92**	**260**	⇑PN	**Pn**	**15 49 55.1**	**+0.2**
TUVZ	**Tukino**	**0.94**	**197**	P	**Pn**	**15 49 56.2**	**+1.1**
TUVZ	**Tukino**	**0.94**	**197**	⇑PN	**Pn**	**15 49 56.2**	**+1.2**
FWVZ	**Far West T-bar**	**0.96**	**202**	P	**Pn**	**15 49 56.2**	**+1.0**
FWVZ	**Far West T-bar**	**0.96**	**202**	PN	**Pn**	**15 49 55.9**	**+0.7**
DRZ	**Dome Shelter**	**0.97**	**201**	P	**Pn**	**15 49 56.7**	**+1.4**
DRZ	**Dome Shelter**	**0.97**	**201**	*e*PN	**Pn**	**15 49 56.3**	**+1.0**
TRVZ	**Turoa**	**1.00**	**201**	PN	**Pn**	**15 49 56.7**	**+1.3**
WNVZ	**Wahianoa**	**1.01**	**198**	P	**Pn**	**15 49 56.6**	**+1.0**
WNVZ	**Wahianoa**	**1.01**	**198**	⇑PN	**Pn**	**15 49 56.6**	**+1.1**
PKVZ	**Pokaka**	**1.06**	**209**	⇑PN	**Pn**	**15 49 56.9**	**+1.0**
PKVZ				SN	**Sn**	**15 50 18.4**	**+1.0**
MOVZ	**Moawhango**	**1.06**	**191**	P	**Pn**	**15 49 56.7**	**+0.8**
MOVZ	**Moawhango**	**1.06**	**191**	⇑PN	**Pn**	**15 49 56.7**	**+0.8**
MTVZ	**Mangateitei**	**1.10**	**202**	⇑PN	**Pn**	**15 49 57.2**	**+1.0**
MWZ	**Matawai**	**1.20**	**89**	P	**Pn**	**15 49 57.1**	**+0.1**
MWZ	**Matawai**	**1.20**	**89**	⇓PN	**Pn**	**15 49 57.1**	**+0.1**
VRZ	**Vera Road**	**1.24**	**232**	P	**Pn**	**15 49 58.4**	**+1.0**
VRZ	**Vera Road**	**1.24**	**232**	⇑PN	**Pn**	**15 49 58.4**	**+1.0**
KNZ	**Kokohu**	**1.46**	**117**	P	**Pn**	**15 50 00.3**	**+0.9**
KNZ	**Kokohu**	**1.46**	**117**	⇓PN	**Pn**	**15 50 00.3**	**+1.0**
RAEZ	**Rainy Point**	**1.56**	**233**	P	**Pn**	**15 50 01.7**	**+1.4**
RAEZ	**Rainy Point**	**1.56**	**233**	PN	**Pn**	**15 50 01.7**	**+1.4**
WAZ	**Wanganui**	**1.60**	**210**	P	**Pn**	**15 50 01.8**	**+1.1**
WAZ	**Wanganui**	**1.60**	**210**	⇑PN	**Pn**	**15 50 01.8**	**+1.1**
KUZ	**Kuaotunu**	**1.63**	**352**	⇓PN	**Pn**	**15 50 00.0**	**-1.0**
TSZ	**Takapari Road**	**1.69**	**181**	P	**Pn**	**15 50 02.8**	**+1.2**
TSZ	**Takapari Road**	**1.69**	**181**	⇑PN	**Pn**	**15 50 02.8**	**+1.1**
NEZ	**North Egmont**	**1.75**	**238**	P	**Pn**	**15 50 03.8**	**+1.6**
NEZ	**North Egmont**	**1.75**	**238**	⇓PN	**Pn**	**15 50 03.8**	**+1.6**
PXZ	**Pawanui**	**1.79**	**159**	⇑PN	**Pn**	**15 50 04.0**	**+1.4**
PUZ	**Puketiti**	**1.79**	**81**	P	**Pn**	**15 50 02.6**	**-0.1**
PUZ	**Puketiti**	**1.79**	**81**	⇓PN	**Pn**	**15 50 02.6**	**-0.1**
NRZ	**Ngariki Road**	**1.89**	**239**	P	**Pn**	**15 50 04.8**	**+1.1**
NRZ	**Ngariki Road**	**1.89**	**239**	PN	**Pn**	**15 50 04.7**	**+1.1**
NWEZ	**Newall Road**	**1.90**	**241**	P	**Pn**	**15 50 05.3**	**+1.5**
NWEZ	**Newall Road**	**1.90**	**241**	PN	**Pn**	**15 50 05.3**	**+1.5**
MXZ	**Matakaoa Point**	**1.99**	**67**	PN	**Pn**	**15 50 04.6**	**-0.1**
MRZ	**Mangatainoka R**	**2.32**	**188**	P	**Pn**	**15 50 08.9**	**+0.5**
MRZ	**Mangatainoka R**	**2.32**	**188**	⇑PN	**Pn**	**15 50 08.9**	**+0.5**
BFZ	**Birch Farm**	**2.32**	**176**	P	**Pn**	**15 50 09.2**	**+0.8**
BFZ	**Birch Farm**	**2.32**	**176**	⇑PN	**Pn**	**15 50 09.2**	**+0.8**
TIWZ	**Tintock**	**2.41**	**182**	⇑PN	**Pn**	**15 50 10.1**	**+0.6**
KIW	**Kapiti Island**	**2.63**	**198**	P	**Pn**	**15 50 12.0**	**-0.1**
KIW	**Kapiti Island**	**2.63**	**198**	⇑PN	**Pn**	**15 50 12.0**	**0.0**
MTW	**Mount Morrison**	**2.81**	**188**	P	**Pn**	**15 50 14.2**	**-0.1**
MTW	**Mount Morrison**	**2.81**	**188**	⇑PN	**Pn**	**15 50 14.2**	**-0.1**
CAW	**Cannon Point**	**2.83**	**195**	⇑PN	**Pn**	**15 50 14.4**	**-0.1**
DUWZ	**D'Urville Isla**	**2.92**	**213**	PN	**Pn**	**15 50 15.0**	**-0.5**
MRW	**Makara Radio**	**3.03**	**199**	P	**Pn**	**15 50 16.5**	**-0.4**
MRW	**Makara Radio**	**3.03**	**199**	⇑PN	**Pn**	**15 50 16.5**	**-0.4**
TRWZ	**Traveller**	**3.04**	**185**	⇑PN	**Pn**	**15 50 16.9**	**-0.1**
PAWZ	**Paruwai Farm**	**3.04**	**188**	P	**Pn**	**15 50 16.8**	**-0.2**
PAWZ	**Paruwai Farm**	**3.04**	**188**	⇑PN	**Pn**	**15 50 16.8**	**-0.2**
WEL	**Wellington**	**3.07**	**198**	P	**Pn**	**15 50 16.9**	**-0.4**
WEL	**Wellington**	**3.07**	**198**	PN	**Pn**	**15 50 16.9**	**-0.4**
MSWZ	**Moikau Station**	**3.10**	**191**	P	**Pn**	**15 50 17.4**	**-0.3**
MSWZ	**Moikau Station**	**3.10**	**191**	⇑PN	**Pn**	**15 50 17.4**	**-0.3**
SNZO	**South Karori**	**3.10**	**198**	P	**Pn**	**15 50 17.3**	**-0.5**
SNZO	**South Karori**	**3.10**	**198**	⇑PN	**Pn**	**15 50 17.3**	**-0.5**
TCW	**Tory Channel**	**3.14**	**205**	P	**Pn**	**15 50 17.6**	**-0.6**
TCW	**Tory Channel**	**3.14**	**205**	PN	**Pn**	**15 50 17.6**	**-0.5**
BHW	**Baring Head**	**3.16**	**196**	P	**Pn**	**15 50 18.0**	**-0.5**
BHW	**Baring Head**	**3.16**	**196**	PN	**Pn**	**15 50 17.9**	**-0.6**
TUWZ	**Tuamarina**	**3.45**	**207**	PN	**Pn**	**15 50 21.0**	**-1.0**
NNZ	**Nelson**	**3.49**	**215**	P	**Pn**	**15 50 21.5**	**-1.1**
NNZ	**Nelson**	**3.49**	**215**	PN	**Pn**	**15 50 21.5**	**-1.1**
QRZ	**Quartz Range**	**3.64**	**226**	P	**Pn**	**15 50 23.0**	**-1.4**
QRZ	**Quartz Range**	**3.64**	**226**	PN	**Pn**	**15 50 22.9**	**-1.5**
CMWZ	**Cape Campbell**	**3.65**	**202**	PN	**Pn**	**15 50 24.5**	**0.0**
BSWZ	**Blackbirch Sta**	**3.72**	**205**	P	**Pn**	**15 50 24.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**3.72**	**205**	PN	**Pn**	**15 50 24.6**	**-0.8**
THZ	**Tophouse**	**4.14**	**214**	P	**Pn**	**15 50 29.5**	**-1.3**
THZ	**Tophouse**	**4.14**	**214**	PN	**Pn**	**15 50 29.5**	**-1.3**
KHZ	**Kahutara**	**4.46**	**204**	P	**Pn**	**15 50 33.9**	**-1.0**
KHZ	**Kahutara**	**4.46**	**204**	⇑PN	**Pn**	**15 50 34.0**	**-0.9**
DSZ	**Denniston Nort**	**4.67**	**222**	*e*P	**Pn**	**15 50 35.8**	**-1.7**
DSZ	**Denniston Nort**	**4.67**	**222**	PN	**Pn**	**15 50 35.1**	**-2.5**
LTZ	**Lake Taylor**	**5.25**	**212**	*e*P	**Pn**	**15 50 43.4**	**-1.7**
CRLZ	**Canterbury Las**	**5.80**	**205**	*e*P	**Pn**	**15 50 49.8**	**-2.5**
CRLZ	**Canterbury Las**	**5.80**	**205**	PN	**Pn**	**15 50 49.8**	**-2.5**
MQZ	**McQueen's Vall**	**5.91**	**204**	P	**Pn**	**15 50 50.9**	**-2.8**
MQZ	**McQueen's Vall**	**5.91**	**204**	PN	**Pn**	**15 50 50.9**	**-2.7**
WVZ	**Waitaha Valley**	**6.18**	**219**	PN	**Pn**	**15 50 54.7**	**-2.5**
RPZ	**Rata Peaks**	**6.52**	**213**	P	**Pn**	**15 50 59.8**	**-1.9**
4.0nm,0.3s,baz=314,slow=2.2,SNR=15							
RPZ				S	**Sn**	**15 52 09.4**	**-6.3**
18nm,0.3s,baz=228,slow=9.7,SNR=24							
RPZ	**Rata Peaks**	**6.52**	**213**	PN	**Pn**	**15 51 00.0**	**-1.8**
LBZ	**Lake Benmore**	**7.44**	**214**	*e*P	**Pn**	**15 51 11.4**	**-2.4**
LBZ	**Lake Benmore**	**7.44**	**214**	PN	**Pn**	**15 51 11.4**	**-2.3**
ODZ	**Otahua Downs**	**7.78**	**209**	*e*P	**Pn**	**15 51 16.1**	**-2.2**
ODZ	**Otahua Downs**	**7.78**	**209**	PN	**Pn**	**15 51 16.1**	**-2.2**
TUZ	**Tuapeka**	**8.94**	**210**	*e*P	**Pn**	**15 51 32.2**	**-1.3**
TUZ	**Tuapeka**	**8.94**	**210**	PN	**Pn**	**15 51 32.2**	**-1.3**
AS31	**Alice Springs**	**38.60**	**280**	*e*P	**P**	**15 56 35.7**	**+2.0**
ASAR	**Alice Springs**	**38.61**	**280**	P	**P**	**15 56 35.5**	**+1.9**
0.7nm,0.3s,mb3.8,baz=124,slow=7.0,SNR=46							
VNDA	**Vanda**	**39.72**	**185**	P	**P**	**15 56 49.8**	**+6.9**
0.8nm,0.7s,mb3.5,baz=359,slow=7.4,SNR=6.9							
VNDA	**Vanda**	**39.72**	**185**	*e*P	**P**	**15 56 49.9**	**+7.0**
0.9nm,0.6s,mb3.6							
WRA	**Warramunga Arr**	**40.36**	**285**	P	**P**	**15 56 49.4**	**+1.2**
0.3nm,0.5s,mb3.2,baz=124,slow=8.2,SNR=11							
QSPA	**South Pole Qui**	**51.76**	**180**	*e*P	**P**	**15 58 21.6**	**+4.5**
2.4nm,0.3s,mb4.3							

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*MOS **10** 16:15:20.7±1.5, 5539N×11361E, h11km, mb4.4/1, Error ellipse: s-maj=14.8km s-min=9.4km az=82.2*
MOS Felt (II) at Uakit.
BYKL 10 16:15:22.1±0.2, 5551N×11363E, h20km±3km, 3C-5D, FELT I=III-IV MSK at Uakit, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UKT	**Uakit**	**0.02**	**185**	⇓*i*Pg	Pb	16 15 25.2	-0.4
UKT				*i* Sg	Sb	16 15 27.7	-0.2
UKT	**Uakit**	**0.02**	**185**	*e*PG	Pb	16 15 25.2	-0.4
UKT				*e*		16 15 27.7	
UKT				pmax	pmax		
comp=Z,3μm,0.1s							
UKT				smax			
comp=E,9μm,0.2s							
SVKR	**Severomuysk**	**0.61**	**356**	⇑*i*Pg	Pb	16 15 34.4	+0.3
SVKR				*e*Sg	Sb	16 15 43.8	+1.6
SVKR				Pmax			
comp=E,950nm,0.4s							
SVKR				Smax			
comp=E,2μm,0.6s							
SVK	**Severo-Muysk**	**0.68**	**355**	*e*PG	Pb	16 15 34.4	-0.8
SVK				*e*		16 15 43.2	
SVK				pmax	pmax		
comp=Z,918nm,0.6s							
SVK				smax			
comp=N,2μm,0.7s							
YOA	**Uoyan**	**1.24**	**301**	⇓*i*Pg	Pn	16 15 44.7	+0.4
YOA				*e*Sg	Sb	16 16 01.9	+1.4
YOA				Pmax			
comp=N,617nm,0.4s							
YOA				Smax			
comp=N,4μm,0.4s							
YOA	**Uoyan**	**1.24**	**301**	⇓*i*PG	Pn	16 15 44.9	+0.6
YOA				*i*		16 16 02.1	
YOA				pmax	pmax		
comp=Z,413nm,0.3s							
YOA				smax			
comp=N,4μm,0.5s							
KMO	**Kumora**	**1.43**	**286**	⇑*i*Pg	Pn	16 15 47.5	+0.7
KMO				*e*		16 15 52.7	
KMO				*e*Sg	Sn	16 16 06.4	+1.4
KMO				max			
comp=N,164nm,0.3s							
KMO				Smax			
comp=N,877nm,1.0s							
KMO	**Kumora**	**1.43**	**286**	*e*PG	Pn	16 15 47.5	+0.7
KMO				*e*		16 16 06.5	
KMO				pmax	pmax		
comp=Z,86nm,0.1s							
KMO				smax			
comp=E,834nm,0.4s							
NLYR	**Nelyaty**	**1.52**	**49**	*e*Pg	Pn	16 15 49.3	+1.1
NLYR				*e*Sg	Sn	16 16 10.1	+2.7
YLYR	**Ulyunkhan**	**1.55**	**247**	⇓*i*Pg	Pn	16 15 49.6	+1.0
YLYR				*e*		16 15 49.9	
YLYR				*e*Sg	Sn	16 16 10.9	+2.8
YLYR				max			
comp=E,119nm,0.2s							
YLYR				Smax			
comp=E,962nm,0.2s							
YLYR	**Ulyunkhan**	**1.55**	**247**	*e*PG	Pn	16 15 49.6	+1.0
YLYR				*e*		16 16 10.7	
YLYR				pmax	pmax		
comp=Z,121nm,0.1s							
YLYR				smax			
comp=N,655nm,0.1s							
BOD	**Bodaibo**	**2.32**	**5**	*e*Pn	Pn	16 15 59.5	+0.3
BOD				⇓*i*Pg	Pn	16 16 02.8	+3.6
BOD				*e*		16 16 07.7	
BOD				*e*Sg	Sn	16 16 33.5	+6.3
BOD				max			
comp=N,83nm,0.7s							
BOD				Smax			
comp=N,236nm,0.6s							
BOD	**Bodaibo**	**2.32**	**5**	*e*PN	Pn	16 16 02.1	+2.9
BOD				*e*		16 16 04.7	
BOD				*e*		16 16 33.9	
BOD				pmax	pmax		
comp=Z,42nm,0.3s							
BOD				smax			
comp=E,237nm,0.5s							
NIZ	**Nizh Angarsk**	**2.33**	**278**	*e*Pn	Pn	16 16 00.7	+1.4
NIZ				*e*Pg	Pn	16 16 05.4	+6.1
NIZ				*e*Sg	Sn	16 16 35.7	+8.3
NIZ				Pmax			
comp=E,57nm,0.8s							
NIZ				Smax			
comp=E,207nm,0.5s							
NIZ	**Nizh Angarsk**	**2.33**	**278**	*e*PN	Pn	16 16 00.3	+1.0
NIZ				*e*		16 16 03.9	
NIZ				*e*S	Sn	16 16 29.8	+2.4
NIZ				*e*		16 16 33.7	
NIZ				pmax	pmax		
comp=Z,44nm,0.8s							
NIZ				smax			
comp=N,207nm,0.5s							
SYVR	**Suvo**	**2.81**	**230**	*e*Pn	Pn	16 16 06.8	+0.9
SYVR				*e*Pg	Pn	16 16 12.4	+6.5
SYVR				*e*		16 16 37.3	
SYVR				*e*Sg	Sn	16 16 48.5	+9.3
SYVR				Pmax			
comp=N,28nm,0.5s							
SYVR				Smax			
comp=N,328nm,0.8s							
SYVR	**Suvo**	**2.81**	**230**	*e*PN	Pn	16 16 06.6	+0.7
SYVR				*e*		16 16 11.4	
SYVR				*e*		16 16 49.0	
SYVR				pmax	pmax		
comp=Z,28nm,0.6s							
SYVR				smax			
comp=N,231nm,0.9s							
CRS	**Chara**	**2.94**	**60**	*e*Pn	Pn	16 16 09.0	+1.3
CRS				*e*Pg	Pn	16 16 14.2	+6.5
CRS				*e*Sg	Sn	16 16 52.8	+10
CRS				Pmax			
comp=N,107nm,1.0s							
CRS				Smax			
comp=N,271nm,1.2s							
CRS	**Chara**	**2.94**	**60**	*e*PN	Pn	16 16 09.0	+1.3
CRS				*e*		16 16 14.5	
CRS				*e*		16 16 53.0	
CRS				pmax	pmax		
comp=Z,106nm,1.2s							
CRS				smax			
comp=E,272nm,1.4s							
CIT	**Chita**	**3.50**	**181**	*e*	Pn	16 16 21.0	+5.7
CIT				*e*Pg	Pn	16 16 24.4	+9.1
CIT				*e*Sg	Sn	16 17 09.8	+14
CIT				Pmax			
comp=E,21nm,0.2s							
CIT				Smax			
comp=E,165nm,0.8s							
MXMB	**Maximikha**	**3.64**	**234**	*e*	Pn	16 16 25.0	+7.8
MXMB				*e*Pg	Pn	16 16 28.0	+11
MXMB				*e*		16 16 59.8	
MXMB				*e*Sg	Sn	16 17 15.3	+16
MXMB				*e*		16 17 19.0	
MXMB				Pmax			
comp=E,46nm,0.7s							
MXMB				max			
comp=E,472nm,0.6s							
TUP	**Tupik**	**3.80**	**104**	⇑*i*Pn	Pn	16 16 20.0	+0.5
TUP				*e*Pg	Pn	16 16 30.4	+11
TUP				*e*		16 17 02.4	
TUP				*e*Sg	Sn	16 17 20.8	+17
TUP				Pmax			
comp=E,18nm,0.3s							
TUP				Smax			
comp=E,184nm,1.0s							
TUP	**Tupik**	**3.80**	**104**	*e*PN	Pn	16 16 20.0	+0.5
TUP				*e*		16 16 30.1	
TUP				*e

*NEIC **10** 16:29:52.5±0.2,347S×135.49E,mb5.0/27 Error ellipse: s-maj=7.7km s-min=4.4km az=77.0*
NEIC Felt [IV] at Nabire.
*MOS **10** 16:29:53.0±0.8,328S×135.38E,h33km,mb5.1/19,Error ellipse: s-maj=16.6km s-min=7.6km az=121.2*
ISC 10 16:29:52.7±0.3,351S±003×13569E±006,h31km, h31km±1.5km:pP-P,n194,σ1§05/170,mb5.0/64,MS4.1/17, 3C-3D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.11**	**79**	P	**Pn**	**16 31 11.8**	**+4.7**
	170nm,0.7s						
SWI	**Sorong**	**5.15**	**301**	P	**Pn**	**16 31 05.5**	**-2.1**
	985nm,0.6s						
AAI	**Ambon**	**7.48**	**268**	P	**Pn**	**16 31 38.9**	**-0.7**
	329nm,0.7s						
KAKA	**Kakadu**	**9.69**	**199**	*e*P	**Pn**	**16 32 08.3**	**-1.6**
	209nm,0.6s						
PMG	**Port Moresby**	**12.81**	**118**	Pn	**Pn**	**16 32 56.8**	**+4.2**
	3.0nm,0.3s,baz=289,slow=9.4,SNR=15						
PMG				Sn	**Sn**	**16 35 10.1**	**-4.0**
	0.5nm,0.3s,baz=287,slow=14,SNR=1.7						
PMG	**Port Moresby**	**12.81**	**118**	*e*P	**Pn**	**16 33 00.1**	**+7.5**
PMG	**Port Moresby**	**12.81**	**118**	*e*P	**Pn**	**16 32 56.4**	**+3.8**
	80nm,0.8s						
PCI	**Palu**	**16.05**	**279**	P	**Pn**	**16 33 36.4**	**+0.4**
	106nm,1.0s						
WRAB	**Tennant Creek**	**16.37**	**184**	Pn	**Pn**	**16 33 36.3**	**-3.9**
	805nm,0.7s,SNR=9.0						
WRAB	**Tennant Creek**	**16.37**	**184**	*e*P	**Pn**	**16 33 36.2**	**-4.0**
WB2	**Warramunga Arr**	**16.38**	**184**	*e*P	**Pn**	**16 33 35.9**	**-4.4**
WB2				*e*		16 33 44.1	
WB2				*e*S	**Sn**	**16 36 28.6**	**-12**
WRA	**Warramunga Arr**	**16.38**	**184**	Pn	**Pn**	**16 33 35.9**	**-4.4**
	1.8nm,0.3s,baz=2.4,slow=13,SNR=84						
WRA				Sn	**Sn**	**16 36 28.9**	**-12**
	4.1nm,0.3s,baz=4.0,slow=23,SNR=6.1						
WRA				LR	LR	16 40 26.6	
	comp=Z,1μm,21.5s,baz=5.0,slow=39						
FITZ	**Fitzroy Crossi**	**17.52**	**213**	*e*P	**Pn**	**16 33 51.4**	**-3.2**
	66nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.52**	**213**	P	**Pn**	**16 33 51.4**	**-3.2**
	2.0nm,0.3s,baz=38,slow=12,SNR=59						
FITZ				S	**Sn**	**16 36 55.5**	**-13**
	6.7nm,0.3s,baz=170,slow=12,SNR=11						
FITZ				LR	LR	16 40 57.9	
	comp=Z,338nm,21.0s,baz=40,slow=38						
GUIM	**Jordan**	**19.16**	**317**	*e*P	**Pn**	**16 34 13.8**	**-0.8**
GUMO	**Guam**	**19.28**	**28**	LR	LR	16 40 07.1	
	comp=Z,383nm,19.2s,baz=202,slow=32						
TSM	**Tawau**	**19.41**	**293**	P	**Pn**	**16 34 17.6**	**+0.1**
CTA	**Charters Tower**	**19.43**	**149**	*e*P	**Pn**	**16 34 18.8**	**+1.0**
	26nm,0.7s						
CTA	**Charters Tower**	**19.43**	**149**	P	**Pn**	**16 34 18.9**	**+1.1**
	1.5nm,0.3s,baz=322,slow=12,SNR=27						
CTA				S	**Sn**	**16 37 44.1**	**-11**
	0.3nm,0.3s,baz=278,slow=15,SNR=2.1						
CTA				LR	LR	16 42 26.3	
	comp=Z,824nm,20.6s,baz=339,slow=39						
CTA	**Charters Tower**	**19.43**	**149**	*e*P	**Pn**	**16 34 18.8**	**+1.0**
CTA				pmax	pmax		
	comp=Z,26nm,0.7s						
CTAO	**Charters Tower**	**19.43**	**149**	*e*P	**Pn**	**16 34 18.7**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,67nm,1.0s						
CTAO	**Charters Tower**	**19.43**	**149**	*e*P	**Pn**	**16 34 18.7**	**+0.9**
	comp=Z,67nm,1.0s						
RCP	**Roxas**	**19.75**	**319**	||*e*P	**Pn**	**16 34 20.4**	**-1.1**
AS31	**Alice Springs**	**20.11**	**185**	*e*P	**P**	**16 34 25.2**	**+1.4**
AS31				*e*S	**S**	**16 37 57.8**	**-10**
ASAR	**Alice Springs**	**20.11**	**185**	P	**P**	**16 34 25.3**	**+1.5**
	comp=Z,142nm,0.8s,baz=6.5,slow=11,SNR=716						
ASAR				S	**S**	**16 38 02.4**	**-5.6**
	comp=Z,12nm,0.7s,baz=17,slow=26,SNR=4.4						
ASAR	**Alice Springs**	**20.11**	**185**	P	**P**	**16 34 25.3**	**+1.5**
ASAR				S	**S**	**16 38 02.4**	**-5.6**
ASPA	**Alice Springs**	**20.11**	**185**	*e*P	**P**	**16 34 25.2**	**+1.4**
ASPA				*e*S	**S**	**16 37 57.8**	**-10**
CUYO	**Cuyo Island**	**20.41**	**315**	*e*P	**P**	**16 34 26.4**	**-0.8**
PVCP	**Virac**	**20.49**	**326**	||*e*P	**P**	**16 34 28.1**	**+0.1**
PVCP	**Virac**	**20.49**	**326**	*e*P	**P**	**16 34 28.5**	**+0.5**
OTRP	**Odiongan**	**20.81**	**319**	*e*P	**P**	**16 34 33.5**	**+2.0**
AUQP	**San Andres**	**21.13**	**323**	*e*P	**P**	**16 34 34.3**	**-0.7**
BATP	**Bataraza**	**21.62**	**305**	*e*P	**P**	**16 34 41.3**	**+1.1**
KKM	**Kota Kinabalu**	**21.64**	**296**	P	**P**	**16 34 40.4**	**+0.1**
KKM	**Kota Kinabalu**	**21.64**	**296**	*e*P	**P**	**16 34 39.3**	**-1.1**
BOAC	**Boac**	**21.75**	**321**	*e*P	**P**	**16 34 41.0**	**-0.5**
BUSP	**Coron**	**21.79**	**315**	*e*P	**P**	**16 34 41.2**	**-0.7**
TGY	**Tagaytay City**	**22.81**	**320**	P	**P**	**16 35 00.1**	**+7.3**
	comp=Z,83nm,0.2s,baz=13,slow=19,SNR=5.1						
LUBP	**Lubang**	**22.98**	**319**	*e*P	**P**	**16 34 53.5**	**-1.2**
MBWA	**Marble Bar**	**23.42**	**220**	*e*P	**P**	**16 34 58.9**	**-0.3**
	comp=Z,174nm,1.1s,mb5.4						
BALP	**Baler**	**23.68**	**324**	*e*P	**P**	**16 35 00.1**	**-1.6**
CAUP	**Cauayan**	**24.51**	**326**	*e*P	**P**	**16 35 08.8**	**-0.4**
KSM	**Kuching**	**25.84**	**281**	*e*P	**P**	**16 35 20.8**	**-0.5**
BJII	**Banjamegara**	**26.13**	**261**	P	**P**	**16 35 25.0**	**+1.1**
	comp=Z,71nm,1.5s,mb5.0						
FORT	**Forrest**	**28.06**	**194**	*e*P	**P**	**16 35 41.3**	**+0.1**
	comp=Z,29nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**28.76**	**170**	*e*P	**P**	**16 35 47.1**	**-0.3**
	comp=Z,20nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**28.76**	**170**	P	**P**	**16 35 48.0**	**+0.5**
	comp=Z,25nm,0.7s,mb5.0,baz=346,slow=7.9,SNR=59						
STKA				LR	LR	16 47 43.5	
	comp=Z,536nm,19.0s,MS4.2,baz=149,slow=37						
JOW	**Kunigami**	**31.01**	**347**	LR	LR	16 46 24.5	
	comp=Z,219nm,20.8s,MS3.8,baz=160,slow=32						
KLBR	**Kellerberrin**	**32.63**	**209**	*e*P	**P**	**16 36 22.0**	**+0.4**
	comp=Z,17nm,0.7s,mb5.1						
KGM	**Kluang**	**32.81**	**279**	P	**P**	**16 36 23.9**	**+0.7**
QIZ	**Qiongzhong**	**33.89**	**312**	P	**P**	**16 36 36.0**	**+3.4**
QIZ				S	**S**	**16 41 56.1**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
NWAO	**Narrogin (SRO)**	**33.98**	**208**	P	**P**	**16 36 33.9**	**+0.5**
	comp=Z,20nm,0.9s,mb5.0,baz=55,slow=6.4,SNR=5.3						
GZH	**Guangzhou**	**34.27**	**322**	P	**P**	**16 36 35.8**	**-0.1**
GZH				S	**S**	**16 42 03.3**	**+2.4**
GZH				LR	LR		
	comp=N,124nm,5.6s						
GZH				LR	LR		
	comp=E,143nm,8.1s						
GZH				LR	LR		
	comp=Z,230nm,20.2s,MS3.9						
PPI	**Padang Panjang**	**35.39**	**274**	P	**P**	**16 36 44.9**	**-0.7**
	comp=Z,64nm,0.8s,mb5.6						
SSE	**Sheshan**	**37.09**	**339**	P	**P**	**16 37 00.6**	**+0.5**
SSE				AP	pP	16 37 09.2	0.0
SSE				XP	sP	16 37 13.1	+0.2
SSE				PP	PP	16 38 25.6	+0.7
SSE				S	**S**	**16 42 45.6**	**+1.4**
SSE				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,65nm,5.5s						
SSE				LR	LR		
	comp=N,44nm,20.0s,MS3.8						
SSE				LR	LR		
	comp=E,136nm,19.9s,MS3.8						
SSE				LR	LR		
	comp=Z,146nm,19.5s,MS3.8						
SSE	**Sheshan**	**37.09**	**339**	P	**P**	**16 37 00.6**	**+0.5**
	comp=Z,22nm,0.9s,mb5.0						
SSE				pP	pP	16 37 09.2	0.0
SSE				sP	sP	16 37 13.1	+0.2
SSE				PP	PP	16 38 25.6	+0.7
SSE				S	**S**	**16 42 45.6**	**+1.4**
SSE				sS	sS	16 43 00.2	+1.1
SSE				SS	SS	16 45 29.2	+2.1
SSE				LR	LR		
	comp=Z,150nm,19.5s,MS3.8						
PSI	**Prapat**	**37.27**	**279**	P	**P**	**16 36 59.8**	**-1.8**
	comp=Z,3.4nm,0.3s,mb4.6,baz=97,slow=4.8,SNR=11						
NJ2	**Nanjing**	**38.82**	**337**	*e*P	**P**	**16 37 15.3**	**+0.6**
NJ2				AP	pP	16 37 25.9	+2.1
NJ2				S	**S**	**16 43 12.0**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,220nm,14.1s,MS4.3						
NJ2				LR	LR		
	comp=E,250nm,15.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,350nm,17.4s,MS4.2						
WHN	**Wuhan**	**39.53**	**330**	⇑P	**P**	**16 37 21.9**	**+1.3**
MAJO	**Matsushiro**	**39.92**	**3**	*e*P	**P**	**16 37 22.2**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**39.92**	**3**	*e*P	**P**	**16 37 22.2**	**-1.6**
	comp=Z,14nm,0.8s,mb4.7						
MAT	**Matsushiro**	**39.92**	**3**	P	**P**	**16 37 22.2**	**-1.6**
MJAR	**Matsushiro Arr**	**39.92**	**3**	P	**P**	**16 37 22.5**	**-1.4**
	comp=Z,3.6nm,0.6s,mb4.3,baz=182,slow=7.6,SNR=16						
MJAR				LR	LR	16 51 07.6	
	comp=Z,213nm,18.5s,MS4.0,baz=180,slow=32						
CHTO	**Chiang Mai**	**42.43**	**303**	*e*P	**P**	**16 37 43.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**42.43**	**303**	*e*P	**P**	**16 37 43.8**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.3						
KMI	**Kunming**	**42.81**	**313**	P	**P**	**16 37 48.3**	**+0.7**
KMI				AP	pP	16 37 56.2	-0.6
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=Z,81nm,35.2s,MS3.4						
KMI	**Kunming**	**42.81**	**313**	P	**P**	**16 37 48.3**	**+0.7**
	comp=Z,13nm,1.0s,mb4.6						
KMI				pP	pP	16 37 56.2	-0.6
KMI				LR	LR		
	comp=Z,80nm,35.2s,MS3.4						
XAN	**Xi'an**	**45.08**	**328**	P	**P**	**16 38 05.4**	**-0.4**
XAN				AP	pP	16 38 13.0	-2.0
XAN				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.6						
BJT	**Baijiatuau**	**46.88**	**339**	*e*P	**P**	**16 38 19.4**	**-0.6**
BJT				pmax	pmax		
	comp=Z,67nm,1.2s						
BJT	**Baijiatuau**	**46.88**	**339**	*e*P	**P**	**16 38 19.4**	**-0.6**
	comp=Z,67nm,1.2s,mb5.4						
BJI	**Beijing**	**46.90**	**339**	P	**P**	**16 38 19.7**	**-0.4**
BJI				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
BJI				AMB	AMB		
	comp=Z,77nm,4.2s						
BJI				LR	LR		
	comp=N,168nm,15.4s,MS4.4						
BJI				LR	LR		
	comp=E,275nm,14.8s,MS4.4						
BJI				LR	LR		
	comp=Z,119nm,18.6s,MS3.9						
BJI	**Beijing**	**46.90**	**339**	P	**P**	**16 38 19.7**	**-0.4**
	comp=Z,22nm,1.0s,mb5.0						
BJI				S	**S**	**16 45 21.5**	**+13**
BJI				LR	LR		
	comp=Z,120nm,18.6s,MS3.9						
ASAJ	**Asahikawa**	**47.82**	**7**	P	**P**	**16 38 27.9**	**+0.7**
	comp=Z,12nm,0.9s,mb4.9,baz=190,slow=5.6,SNR=8.3						
CN2	**Changchun**	**47.99**	**350**	*e*P	**P**	**16 38 34.8**	**+6.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
MDJ	**Mudanjiang**	**48.22**	**354**	P	**P**	**16 38 30.5**	**+0.1**
MDJ				AP	pP	16 38 37.9	-1.8
MDJ				XP	sP	16 38 43.6	+0.2
MDJ				PCP	PcP	16 39 57.1	-0.1
MDJ				PP	PP	16 40 22.6	-0.3
MDJ				SCP	ScP	16 43 49.9	+0.4
MDJ				PCS	PcS	16 43 53.6	+0.5
MDJ				S	**S**	**16 45 27.4**	**-0.4**
MDJ				XS	sS	16 45 43.0	-0.1
MDJ				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,55nm,3.1s						
MDJ				LR	LR		
	comp=N,42nm,20.9s,MS3.6						
MDJ				LR	LR		
	comp=E,62nm,20.9s,MS3.6						
MDJ				LR	LR		
	comp=Z,110nm,20.1s,MS3.8						
MDJ	**Mudanjiang**	**48.22**	**354**	*e*P	**P**	**16 38 30.1**	**-0.3**
	comp=Z,51nm,1.0s,mb5.5						
HHC	**Hu-ho-hao-te**	**49.35**	**336**	*e*P	**P**	**16 38 40.2**	**+1.1**
HHC				AP	pP	16 38 50.0	+1.6
HHC				XP	sP	16 38 53.9	+1.8
HHC				S	**S**	**16 45 45.1**	**+1.4**
HHC				SS	SS	16 49 11.2	-4.2
HHC				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
HHC				LR	LR		
	comp=N,132nm,14.7s						
HHC				LR	LR		
	comp=E,325nm,22.0s						
HHC				LR	LR		
	comp=Z,110nm,4.9s						
LZH	**Lanzhou**	**49.37**	**326**	*e*P	**P**	**16 38 40.0**	**+0.8**
LZH				AP	pP	16 38 48.5	-0.1
LZH				XP	sP	16 38 53.5	+1.3
LZH				PP	PP	16 40 34.8	+1.4
LZH				*e*S	**S**	**16 45 44.2**	**+0.2**
LZH				*e*SS	SS	16 49 12.2	-3.6
LZH				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,167nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS5.1						
LZH	**Lanzhou**	**49.37**	**326**	*e*P	**P**	**16 38 40.0**	**+0.8**
LZH				*PP	pP	16 38 48.5	-0.1
LZH				*SP	sP	16 38 53.5	+1.3
LZH						16 40 34.8	
LZH				*e*S	**S**	**16 45 44.2**	**+0.2**
LZH				*SS	sS	16 46 00.8	+1.5
LZH				*e*SS	SS	16 49 12.2	-3.6
LZH				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
LZH				MLR	MLR		
	comp=Z,1μm,15.3s,MS5.1						
LZH	**Lanzhou**	**49.37**	**326**	*e*P	**P**	**16 38 40.0**	**+0.8**
	comp=Z,42nm,1.0s,mb5.4						
LZH				pP	pP	16 38 48.5	-0.1
LZH				sP	sP	16 38 53.5	+1.3
LZH				PP	PP	16 40 34.8	+1.4
LZH				*e*S	**S**	**16 45 44.2**	**+0.2**
LZH				sS	sS	16 46 00.8	+1.5
LZH				*e*SS	SS	16 49 12.2	-3.6
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS5.1						
SHL	**Shillong**	**51.35**	**307**	*i* P	**P**	**16 38 54.0**	**-0.2**
KLR	**Kul'dur**	**52.64**	**357**	*e*P	**P**	**16 39 02.4**	**-1.4**
LSA	**Lhasa**	**53.91**	**311**	P	**P**	**16 39 14.8**	**+1.7**
LSA	**Lhasa**	**53.91**	**311**	*e*P	**P**	**16 39 14.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2						
LSA	**Lhasa**	**53.91**	**311**	*e*P	**P**	**16 39 14.5**	**+1.3**
	comp=Z,21nm,0.7s,mb5.2						
GTA	**Gaotai**	**53.98**	**326**	||*i*P	**P**	**16 39 14.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.4						
JIRN	**Jiri**	**56.84**	**306**	*e*P	**P**	**16 39 34.9**	**+0.7**
	comp=Z,4.6nm,0.5s,mb4.8						
GUN	**Gumba**	**57.20**	**306**	*e*P	**P**	**16 39 37.3**	**+0.5**
	comp=Z,127nm,0.7s,mb6.0						
SONM	**Songino Array**	**57.21**	**337**	P	**P**	**16 39 36.8**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.4,baz=150,slow=8.0,SNR=15						
SONM				PcP	PcP	16 40 31.1	0.0
	comp=Z,2.2nm,0.6s,baz=158,slow=4.2,SNR=3.9						
SONM				LR	LR	17 06 49.7	
	comp=Z,118nm,18.5s,MS4.0,baz=153,slow=39						
SONM	**Songino Array**	**57.21**	**337**	P	**P**	**16 39 36.8**	**-0.1**
SONM						16 40 31.1	
PKI	**Pulchoki**	**57.44**	**306**	*e*P	**P**	**16 39 38.6**	**+0.2**
	comp=Z,31nm,0.7s,mb5.5						
KKN	**Kakani**	**57.63**	**306**	*e*P	**P**	**16 39 40.1**	**+0.3**
	comp=Z,100nm,0.8s,mb5.9						
DMN	**Daman**	**57.70**	**306**	*e*P	**P**	**16 39 40.8**	**+0.5**
	comp=Z,106nm,0.8s,mb5.9						
GKN	**Gorkha**	**58.24**	**306**	*e*P	**P**	**16 39 44.5**	**+0.4**
	comp=Z,106nm,0.8s,mb6.0						
KOLN	**Koldanda**	**58.98**	**305**	*e*P	**P**	**16 39 49.9**	**+0.6**
	comp=Z,97nm,0.8s,mb5.9						
HYB	**Hyderabad**	**60.06**	**292**	*i* P	**P**	**16 39 57.5**	**+0.8**
HYB	**Hyderabad**	**60.06**	**292**	*e*P	**P**	**16 39 56.0**	**-0.7**
ZAK	**Zakamensk**	**60.48**	**337**	*e*P	**P**	**16 39 59.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
MOY	**Mondy**	**62.39**	**336**	*e*P	**P**	**16 40 12.8**	**+0.4**
BOD	**Bodaibo**	**63.58**	**347**	*e*P	**P**	**16 40 18.1**	**-2.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
WMQ	**Urumqi**	**63.80**	**323**	⇑*i*P	**P**	**16 40 22.8**	**+1.0**
WMQ				AP	pP	16 40 33.0	+1.6
WMQ				XP	sP	16 40 37.0	+2.0
WMQ				PCP	PcP	16 40 59.0	+1.5
WMQ				*e*S	**S**	**16 48 53.0**	**-1.8**
WMQ				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,221nm,4.4s						
WMQ				LR	LR		
	comp=N,294nm,22.0s,MS4.6						
WMQ				LR	LR		
	comp=E,243nm,18.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,238nm,22.2s,MS4.3						
POO	**Poona**	**64.67**	**292**	*e*x	x	16 40 24.5	
CASY	**Casey**	**65.09**	**191**	P	**P**	**16 40 29.9**	**-0.3**
YAK	**Yakutsk**	**65.52**	**357**	*e*P	**P**	**16 40 35.2**	**+2.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
YAK	**Yakutsk**	**65.52**	**357**	*e*P	**P**	**16 40 31.3**	**-1.7**
	comp=Z,16nm,0.7s,mb5.2						
SEY	**Seymchan**	**67.47**	**8**	*e*P	**P**	**16 40 46.4**	**+0.9**
MKAR	**Makanchi Array**	**68.61**	**324**	P	**P**	**16 40 53.1**	**+0.4**
	comp=Z,14nm,0.6s,mb5.1,baz=110,slow=8.1,SNR=190						
MKAR				S	S	16 49 56.3	+3.1
	comp=Z,0.1nm,0.3s,baz=128,slow=7.9,SNR=5.8						
MKAR				LR	LR	17 09 49.9	
	comp=Z,50nm,19.8s,MS3.8,baz=248,slow=35						
MKAR	**Makanchi Array**	**68.61**	**324**	P	**P**	**16 40 53.1**	**+0.4**
MKAR				S	S	16 49 56.3	+3.1
TKM2	**Tokmak 2**	**71.08**	**318**	P	**P**	**16 41 08.8**	**+1.0**
	SNR=8.3						
TKM2	**Tokmak 2**	**71.08**	**318**	P	**P**	**16 41 07.7**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**71.14**	**331**	P	**P**	**16 41 07.8**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.5,baz=3.8,slow=5.5,SNR=22						
ZAL				LR	LR	17 16 10.3	
	comp=Z,54nm,19.2s,MS3.8,baz=286,slow=39						
KBK	**Karagaybulak**	**71.41**	**317**	P	**P**	**16 41 10.9**	**+1.1**
	SNR=8.6						
UCH	**Uchtor**	**71.54**	**317**	P	**P**	**16 41 12.0**	**+1.4**
	SNR=11						
AAK	**Ala-Archa**	**71.71**	**317**	P	**P**	**16 41 12.1**	**+0.4**
	SNR=5.5						
AAK	**Ala-Archa**	**71.71**	**317**	*e*P	**P**	**16 41 11.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**71.71**	**317**	*e*P	**P**	**16 41 11.3**	**-0.3**
	comp=Z,7.5nm,0.9s,mb4.6						
USP	**Ospenovka**	**71.95**	**318**	P	**P**	**16 41 13.6**	**+0.5**
	SNR=12						
AML	**Almayashu**	**72.06**	**316**	P	**P**	**16 41 15.4**	**+1.7**
	SNR=7.9						
EKS2	**Erkin-Say**	**72.21**	**317**	P	**P**	**16 41 15.7**	**+1.1**
	SNR=15						
NVS	**Novosibirsk**	**72.41**	**331**	⇑*i*P	**P**	**16 41 14.9**	**-0.9**
NVS				pmax	pmax		
	comp=N,13nm,1.2s						
NVS				pmax	pmax		
	comp=E,14nm,1.2s						
NVS				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
KURK	**Kurchatov**	**72.66**	**326**	P	**P**	**16 41 17.9**	**+0.6**
	comp=Z,107nm,0.9s,mb5.8,SNR=8.8						
KKAR	**Karatay Array**	**74.60**	**316**	*i* P	**P**	**16 41 28.7**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
VNDA	**Vanda**	**75.27**	**174**	LR	LR	17 12 52.6	
	comp=Z,499nm,19.6s,MS4.8,baz=338,slow=34						
VNDA	**Vanda**	**75.27**	**174**	*e*P	**P**	**16 41 27.6**	**-5.0**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	**75.27**	**174**	*e*P	**P**	**16 41 27.6**	**-5.0**
	comp=Z,6.3nm,1.0s,mb4.5						
SBA	**Scott Base**	**76.08**	**174**	*e*P	**P**	**16 41 39.5**	**+2.3**
SBA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
SBA	**Scott Base**	**76.08**	**174**	*e*P	**P**	**16 41 39.5**	**+2.2**
	comp=Z,11nm,1.2s,mb4.7						
VOSK	**Vostochnaya**	**77.81**	**326**	P	**P**	**16 41 45.5**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BVA0	**Borovoye Array**	**78.26**	**326**	*i* P	**P**	**16 41 49.6**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**78.26**	**326**	P	**P**	**16 41 49.3**	**-0.1**
	comp=Z,6.7nm,0.6s,mb4.8,baz=120,slow=7.9,SNR=48						
BRVK	**Borovoye**	**78.33**	**326**	P	**P**	**16 41 50.3**	**+0.4**
	comp=Z,151nm,0.8s,mb6.0,SNR=6.3						
BRVK	**Borovoye**	**78.33**	**326**	*e*P	**P**	**16 41 49.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
BRVK	**Borovoye**	**78.33**	**326**	*e*P	**P**	**16 41 49.7**	**-0.2**
	comp=Z,23nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**78.38**	**327**	*e*P	**P**	**16 41 49.9**	**-0.2**
CHKZ				*e*		16 41 56.7	
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**78.38**	**327**	*e*P	**P**	**16 41 49.9**	**-0.2**
	comp=Z,10nm,0.8s,mb4.8						
CHKZ				*e*		16 41 56.7	
ZRNK	**Zerenda**	**79.01**	**326**	*e*P	**P**	**16 41 53.2**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**79.01**	**326**	*e*P	**P**	**16 41 53.2**	**-0.4**
	comp=Z,15nm,0.8s,mb5.0						
MAW	**Mawson**	**80.26**	**202**	*e*P	**P**	**16 42 01.2**	**+0.8**
	comp=

HINF	Hinteralfeld	117.83	324	*e*PKIKP	PKPdf	16 48 35.7	-0.2
	comp=Z,4.2nm,0.5s						
HAU	Haudompre	118.03	324	*e*PKIKP	PKPdf	16 48 36.2	-0.1
	comp=Z,6.4nm,0.6s						
MEZF	Maizieres J'vi	118.54	325	*e*PKIKP	PKPdf	16 48 37.6	+0.3
CABF	La Chapelle	118.86	323	*e*PKIKP	PKPdf	16 48 38.5	+0.6
	comp=Z,11nm,0.6s						
LPG	La Plagne	118.98	321	*e*PKIKP	PKPdf	16 48 38.7	+0.5
	comp=Z,7.8nm,0.6s						
LPL	La Plagne	118.98	321	*e*PKIKP	PKPdf	16 48 38.7	+0.5
	comp=Z,6.6nm,0.5s						
SBF	Sospel	119.28	319	*e*PKIKP	PKPdf	16 48 38.6	-0.1
MBDF	Montbardon	119.32	320	*e*PKIKP	PKPdf	16 48 38.8	0.0
	comp=Z,5.2nm,0.7s						
ORIF	Oris-en-Rattie	119.79	321	*e*PKIKP	PKPdf	16 48 39.9	+0.2
	comp=Z,4.3nm,0.6s						
LOR	Lormes	119.86	324	*e*PKIKP	PKPdf	16 48 40.4	+0.5
FRF	La Foret Royal	119.92	319	*e*PKIKP	PKPdf	16 48 40.0	0.0
LMR	La Mourre	120.11	319	*e*PKIKP	PKPdf	16 48 40.4	+0.1
	comp=Z,5.5nm,0.8s						
SSF	Saint Saulge	120.17	324	*e*PKIKP	PKPdf	16 48 40.7	+0.2
	comp=Z,5.3nm,0.8s						
SMRF	Simiane la Rot	120.42	320	*e*PKIKP	PKPdf	16 48 41.6	+0.7
VIVF	Saint-Julien-l	120.58	321	*e*PKIKP	PKPdf	16 48 41.4	+0.2
	comp=Z,6.8nm,0.7s						
BGF	Bois d'Agland	120.82	324	*e*PKIKP	PKPdf	16 48 42.1	+0.4
JCT	Junction City	121.26	56	*e*PKIKP	PKPdf	16 48 43.9	+1.4
TCF	Toulx Ste Croi	121.34	324	*e*PKIKP	PKPdf	16 48 43.1	+0.4
CAF	Calviac	122.14	323	*e*PKIKP	PKPdf	16 48 45.2	+1.0
	comp=Z,6.0nm,0.9s						
RJF	Les Rejaudouix	122.27	323	*e*PKIKP	PKPdf	16 48 45.1	+0.6
MTLF	Montolieu	122.86	321	*e*PKIKP	PKPdf	16 48 45.8	+0.2
EPF	Esparros	124.20	321	*e*PKIKP	PKPdf	16 48 48.5	+0.3
ETSF	Etsaut	124.83	322	*e*PKIKP	PKPdf	16 48 50.6	+1.2
PLCA	Paso Flores	129.85	154	PKP	PKPdf	16 49 00.8	+1.8
	comp=Z,2.0nm,0.7s,baz=227,slow=4.3,SNR=5.6						
PLCA				PKKP		16 59 11.3	
	comp=Z,1.5nm,0.8s,baz=132,slow=4.8,SNR=3.3						
PLCA	Paso Flores	129.85	154	PKP	PKPdf	16 49 00.8	+1.8
PLCA				PKKP		16 59 11.3	
TORD	Torodi Ar. Bea	133.56	285	PKP	PKPdf	16 49 06.7	+0.8
	comp=Z,2.3nm,0.8s,baz=64,slow=1.8,SNR=12						
TORD	Torodi Ar. Bea	133.56	285	PKP	PKPdf	16 49 06.7	+0.7
DBIC	Dimbokro	140.58	276	PKP	PKPdf	16 49 20.7	+1.8
	comp=Z,4.7nm,0.8s,baz=51,slow=4.8,SNR=4.9						
NNA	Nana	144.18	116	*e*PKPdf	PKPdf	16 49 25.2	-0.2
LVC	Limon Verde	144.62	138	*e*PKP	PKPdf	16 49 28.4	+2.2
CPUP	Villa Florida	147.77	158	PKPbc	PKPbc	16 49 36.0	+1.7
	comp=Z,17nm,0.6s,baz=194,slow=1.8,SNR=55						
CPUP	Villa Florida	147.77	158	*e*PKPdf	PKPdf	16 49 33.4	+2.0
CPUP				*e*PKPbc	PKPbc	16 49 36.2	+1.9
LPAZ	La Paz	149.32	131	PKP	PKPdf	16 49 38.1	+4.1
	comp=Z,12nm,0.8s,baz=293,slow=0.8,SNR=11						
LPAZ				PKPbc	PKPbc	16 49 42.2	+3.9
	comp=Z,12nm,0.8s,baz=319,slow=2.3,SNR=31						
LPAZ	La Paz	149.32	131	*e*PKPdf	PKPdf	16 49 37.7	+3.7
LPAZ				*e*PKPbc	PKPbc	16 49 42.1	+3.8
ROSC	El Rosal	150.04	86	PKPbc	PKPbc	16 49 42.6	+2.5
	comp=Z,6.9nm,0.4s,baz=96,slow=22,SNR=4.8						
SDV	Santo Domingo	153.31	77	*e*PKPdf	PKPdf	16 49 42.3	+2.2
SDV				*e*PKPbc	PKPbc	16 49 49.2	+1.7

*ISCJB **10** 16:44:24.1±0.6,3881N±002×2120E±003,h7km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=162.9*
*ATH **10** 16:44:24.2,3889N×2114E,h22km±1km,MD3.5/12,ML3.7*
*CSEM **10** 16:44:24.6±0.1,3891N×2111E,h5km,ML3.4, Error ellipse: s-maj=1.4km s-min=1.2km az=40.0*
*THE **10** 16:44:25.1,3878N×2113E,h10km,ML3.4*
*NEIC **10** 16:44:25.1,3878N×2113E,h0km,ML3.7(ATH), ML3.9(THE), After THE.*

ISC 10 16:44:25.0±0.5,3884N±002×2118E±003,h6km±4km,n54, σ1°22/91,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.43	253	*e*Pg	Pg	16 44 32.7	-0.7
LKD				*e*Sg	Sg	16 44 40.2	+1.1
EVR	Evrytania	0.50	81	*e*PN	Pg	16 44 34.8	+0.2
EVR				*e*SN	Sg	16 44 42.6	+1.6
EVR	Evrytania	0.50	81	*e*Pn	Pg	16 44 34.8	+0.2
EVR				*e*Sn	Sg	16 44 42.9	+1.9
VLS	Valsamata	0.81	215	*e*PB	Pb	16 44 40.0	-1.5
VLS				*e*SN	Sg	16 44 52.9	+1.9
RLS	Riolos of Patr	0.81	164	*e*PN	Pn	16 44 41.3	-1.7
RLS				*e*SN	Sg	16 44 53.4	+2.3
JAN	Janina	0.86	343	*e*PB	Pg	16 44 39.2	-2.3
JAN				*e*SN	Sg	16 44 51.4	-1.2
JAN	Janina	0.86	343	*e*Pb	Pg	16 44 39.2	-2.3
JAN				*e*Sn	Sg	16 44 51.6	-1.0
IGT	Igoumenitsa	0.96	317	*e*Pg	Pg	16 44 41.2	-2.2
IGT				*e*Sg	Sg	16 44 58.9	+3.0
IGT	Igoumenitsa	0.96	317	*e*Pg	Pg	16 44 41.2	-2.2
THL	Klokotos Trika	0.97	41	*e*PN	Pn	16 44 42.2	-3.1
THL				*e*SN	Sn	16 44 55.9	-3.5
THL	Klokotos Trika	0.97	41	*e*Pb	Pb	16 44 42.0	-2.3
THL				*e*Sn	Sn	16 44 55.9	-3.5
KEK	Kerkira	1.39	310	*e*PN	Pn	16 44 49.3	-1.6
KEK				*e*SN	Sn	16 45 08.2	-1.4
KEK	Kerkira	1.39	310	*e*Pn	Pn	16 44 49.3	-1.6
KEK				*e*Sn	Sn	16 45 08.5	-1.1
LSK	Leskovik	1.39	341	*i* Pn	Pn	16 44 52.6	+1.6
LSK				*i* Sn	Sg	16 45 15.0	+5.4
LSK	Leskovik	1.39	341	*e*Pn	Pn	16 44 52.6	+1.6
SRN	Sarande	1.39	319	*i* Pn	Pn	16 44 49.6	-1.4
SRN				*i* Sn	Sn	16 45 11.1	+1.5
SRN	Sarande	1.39	319	*e*Pn	Pn	16 44 49.6	-1.4
SRN				*i* Sn	Sn	16 45 11.1	+1.5
LKR	Lokris	1.43	97	*e*PN	Pn	16 44 51.8	+0.2
LKR	Lokris	1.43	97	*e*Pn	Pn	16 44 52.0	+0.4
KZN	Kozani	1.54	17	*e*PN	Pn	16 44 52.1	-0.9
KZN				*e*SN	Sn	16 45 12.0	-1.3
KZN	Kozani	1.54	17	*e*Pn	Pn	16 44 52.1	-0.9
KZN				*e*Sn	Sn	16 45 11.8	-1.5
LIT	Litokhoron	1.62	38	*e*Pb	Pb	16 44 53.7	-1.6
LIT				*e*Sb	Sb	16 45 15.9	-0.2
XOR	Xorichti	1.65	71	*e*Pb	Pb	16 44 54.2	-1.6
XOR				*e*Sb	Sb	16 45 16.8	-0.1
ITM	Ithomi	1.76	160	*e*PN	Pn	16 44 56.6	+0.6
ITM	Ithomi	1.76	160	*e*Pn	Pn	16 44 56.9	+0.9
FNA	Florina	1.95	4	*e*Pn	Pn	16 44 58.8	+0.1
FNA				*e*Sn	Sn	16 45 24.3	+0.7
NAIG	Nisos Aigina	2.11	120	*e*PN	Pn	16 45 01.5	+0.6
AOS	Alonnisos	2.13	80	*e*Pn	Pn	16 45 00.6	-0.6
AOS				*e*Sn	Sn	16 45 27.9	0.0
ATH	Athens Observa	2.17	113	*e*PB	Pb	16 45 02.0	-2.7
BIA	Bitola	2.18	3	*e*Pn	Pn	16 45 01.6	-0.3
BIA				*e*Sn	Sn	16 45 30.1	+0.9
BIA	Bitola	2.18	3	*e*Pn	Pn	16 45 02.9	+0.9
BIA				*i* Sn	Sn	16 45 32.7	+3.4
BIA	Bitola	2.18	3	*e*Pn	Pn	16 45 01.6	-0.3
BIA				*e*Sn	Sn	16 45 30.1	+0.8
KVR	Kavouri	2.27	116	*e*PB	Pn	16 45 04.0	+0.9
OHR	Ohrid	2.29	353	*e*Pn	Pn	16 45 03.8	+0.4
OHR				*e*Sn	Sn	16 45 32.4	+0.4
OHR	Ohrid	2.29	353	*e*Pn	Pn	16 45 04.8	+1.4
OHR				*i* Sn	Sb	16 45 37.2	+1.8
HORT	Hortiatis	2.30	39	*e*Pn	Pn	16 45 04.3	+0.8
HORT				*e*Sn	Sn	16 45 33.3	+1.2
GRG	Griva	2.32	24	*e*Pn	Pn	16 45 03.8	0.0
GRG				*e*Sn	Sn	16 45 32.8	+0.2
PLG	Polygyros	2.33	48	*e*Pn	Pn	16 45 03.8	-0.1
KRUS	Krusevo	2.53	1	*e*Pn	Pg	16 45 14.3	+0.8
KRUS				*i* Sn	Sg	16 45 51.3	+5.0
SOH	Sokhos	2.59	39	*e*Pn	Pn	16 45 08.2	+0.6
SOH				*e*Sn	Sn	16 45 39.9	+0.4
OUR	Ouranopolis	2.63	54	*e*Pn	Pn	16 45 08.4	+0.4
OUR				*e*Sn	Sn	16 45 40.2	-0.2
KNT	Kendrikon	2.67	29	*e*Pn	Pn	16 45 08.4	-0.2
KNT				*e*Sn	Sn	16 45 42.4	+1.1
VAY	Valandovo	2.70	23	*e*Pn	Pn	16 45 13.2	+4.2
SRS	Serrai	2.94	38	*e*Pn	Pn	16 45 12.5	+0.3
SRS				*e*Sn	Sn	16 45 47.6	-0.2
STIP	Stip	2.96	15	*e*Pn	Pn	16 45 14.0	+1.5
TIP	Timpagrande	3.46	277	*e*Pn	Pn	16 45 18.2	-1.4
TIP	Timpagrande	3.46	277	*e*Pn	Pn	16 45 18.2	-1.3
CHOS	Chios island	3.84	95	*e*Pn	Pn	16 45 25.4	+0.6
CHOS				*e*Sn	Sn	16 46 08.7	-1.6
APE	Apeiranthos	3.86	116	*e*Pn	Pn	16 45 24.0	-1.0
VTS	Vitosha	4.05	22	*e*Pn	Pn	16 45 28.6	+0.9
VTS				*e*Sn	Sn	16 46 15.7	+0.3
ALN	Alexandroupoli	4.27	60	*e*Pn	Pn	16 45 31.3	+0.7
STON	Ston	4.82	328	*i* Pn	Pn	16 45 34.5	-3.6
STON				*i* Sn	Sn	16 46 26.9	-7.4
LAST	Lasithi	5.03	136	*e*Pn	Pn	16 45 42.5	+1.5
DIVS	Divcibare	5.33	351	*i* Pn	Pn	16 45 45.5	+0.3
DIVS				Sn	Pg	16 46 06.2	-0.9

*IDC **10** 16:57:02.9±0.8,2072N×11991E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.9/21,mbtmp3.9/11,MS3.2/4, Ms1 3.2/4,ms1mx3.0/27,Error ellipse: s-maj=39.8km s-min=15.0km az=65.0*
*NEIC **10** 16:57:04.3±0.4,2078N×12004E,h10km,mb4.5/3,Error ellipse: s-maj=14.4km s-min=7.6km az=69.0*
*BJI **10** 16:57:05.3,2075N×11936E,h5km,mB4.7,mb3.9,ML3.5, Ms3.9,Msz3.8*
*ISCJB **10** 16:57:06.0±3.4,2076N±004×11994E±008,h33km±26km, mb4.2/18,MS3.0/3,Error ellipse: s-maj=13.0km s-min=6.7km az=151.3*
*MOS **10** 16:57:06.0±0.9,2072N×11990E,h33km,mb4.7/3,Error ellipse: s-maj=32.2km s-min=13.2km az=120.3*

ISC 10 16:57:08.0±3.7,2074N±004×11997E±008,h35km±28km, h23km±2.2km:pP-P,n36,σ0°71/38,mb4.2/18,MS3.0/3,1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	3.16	167	*e*P	Pn	16 57 55.1	-0.2
ABRA				*e*S	Sn	16 58 30.4	-1.4
CVP	Callao Caves	3.50	150	⇑*e*P	Pn	16 58 00.0	+0.1
CVP				*i* S	Sb	16 58 59.5	+8.3
YHNB	Yeheng	4.12	18	*e*Pn	Pn	16 58 05.0	-3.5
YHNB				*e*Sn	Sn	16 58 54.8	-0.5
CAUP	Cauayan	4.17	155	*e*P	Pn	16 58 12.4	+3.2
CAUP				*e*S	Sn	16 59 04.5	+7.9
GZH	Guangzhou	6.57	292	P	Pn	16 58 37.8	-4.4
GZH				S	Sn	16 59 45.0	-11
GZH				Smax			
	comp=N,69nm,0.5s						
GZH				Smax			
	comp=E,75nm,0.7s						
JOW	Kunigami	9.72	50	LR	LR	17 03 46.3	
	comp=E,177nm,18.8s,baz=5.0,slow=41						
LZH	Lanzhou	20.80	321	*e*P	P	17 01 46.5	+0.3
LZH				*PP		17 01 57.5	
LZH				*SP	sP	17 02 05.0	+5.2
LZH				pmax	pmax		
	comp=Z,26nm,1.5s						
LZH	Lanzhou	20.80	321	*e*P	P	17 01 46.5	+0.3
	comp=Z,26nm,1.5s						
LZH				pP		17 01 57.5	
LZH				sP	sP	17 02 05.0	+5.2
JHJ	Hachijo jima 2	21.50	51	LR	LR	17 09 21.7	
	comp=Z,88nm,19.0s,MS3.2,baz=64,slow=34						
MJAR	Matsushiro Arr	22.39	41	P	P	17 02 04.2	+1.0
	comp=Z,1.9nm,0.8s,mb3.6,baz=229,slow=9.6,SNR=5.6						
MJAR				LR	LR	17 10 32.8	
	comp=Z,52nm,21.1s,MS2.9,baz=220,slow=36						
GUMO	Guam	24.81	103	LR	LR	17 09 39.1	
	comp=Z,44nm,20.8s,MS2.9,baz=281,slow=30						
GTA	Gaotai	25.40	322	*e*P	P	17 02 32.1	0.0
GTA				AP	pP	17 02 36.4	-5.6
GTA				XP	sP	17 02 39.7	-6.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.8						
LSA	Lhasa	27.49	295	*e*P	P	17 02 52.5	+1.5
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
LSA	Lhasa	27.49	295	*e*P	P	17 02 52.5	+1.5
	comp=Z,5.1nm,0.6s,mb4.2						
SONM	Songino Array	29.17	341	P	P	17 03 05.1	-0.8
	comp=Z,0.9nm,0.9s,mb3.5,baz=153,slow=7.7,SNR=4.7						
GUN	Gumba	31.79	290	*e*P	P	17 03 28.6	-0.5
	comp=Z,16nm,0.7s,mb4.9						
PKI	Pulchoki	32.18	289	*e*P	P	17 03 32.0	-0.5
KKN	Kakani	32.31	289	*e*P	P	17 03 33.1	-0.6
	comp=Z,9.9nm,1.0s,mb4.6						
DMN	Daman	32.45	289	*e*P	P	17 03 34.9	0.0
GKN	Gorkha	32.90	290	*e*P	P	17 03 38.4	-0.4
	comp=Z,15nm,0.9s,mb4.9						
KOLN	Koldanda	33.79	289	*e*P	P	17 03 46.7	+0.1
	comp=Z,12nm,0.9s,mb4.8						
MKAR	Makanchi Array	40.11	319	P	P	17 04 40.4	+0.2
	comp=Z,2.1nm,0.6s,mb4.0,baz=116,slow=9.9,SNR=28						
ZAL	Zalesovo	42.58	330	P	P	17 05 00.2	-0.3
	comp=Z,0.7nm,0.3s,mb3.8,baz=6.7,slow=10,SNR=4.0						
WRA	Warramunga Arr	42.81	160	P	P	17 05 02.1	-0.3
	comp=Z,2.0nm,0.5s,mb4.1,baz=342,slow=9.0,SNR=31						
WB2	Warramunga Arr	42.82	160	*e*P	P	17 05 02.1	-0.4
WB2				*e*	pP	17 05 09.3	-3.4
AS31	Alice Springs	46.18	162	*e*P	P	17 05 29.7	+0.4
AS31				*e*	pP	17 05 37.0	-2.6
ASPA	Alice Springs	46.18	162	*e*P	P	17 05 29.7	+0.4
ASPA				*e*	pP	17 05 37.0	-2.6
ASAR	Alice Springs	46.18	162	P	P	17 05 29.7	+0.4
	comp=Z,1.1nm,0.5s,mb4.0,baz=347,slow=7.1,SNR=36						
BVAR	Borovoye Array	49.67	323	P	P	17 05 56.7	+0.4
	comp=Z,0.6nm,0.7s,mb3.7,baz=92,slow=10,SNR=3.6						
CHKZ	Chkalovo	49.78	324	*e*P	P	17 05 56.7	-0.4
CHKZ				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.8						
CHKZ	Chkalovo	49.78	324	*e*P	P	17 05 56.7	-0.4
	comp=Z,18nm,2.0s,mb4.8						
STKA	Stephens Creek	56.28	158	P	P	17 06 45.5	+0.4
	comp=Z,1.0nm,0.8s,mb3.9,baz=149,slow=16,SNR=2.1						
AKTK	Aktyubinsk	56.48	317	P	P	17 06 47.0	+0.5
AKTO	Aktyubinsk	56.48	317	P	P	17 06 47.0	+0.5
	comp=Z,2.1nm,0.8s,mb4.2,baz=96,slow=11,SNR=6.8						
FINES	FINESS Array B	73.84	330	P	P	17 08 38.6	-0.4
	comp=Z,1.3nm,0.8s,mb3.9,baz=66,slow=6.7,SNR=4.9						
GERES	GERESS Array B	84.77	320	P	P	17 09 39.3	+0.7
	comp=Z,1.0nm,0.8s,mb4.0,baz=46,slow=3.9,SNR=6.8						

BJI 10 17:30:41.4,4366N×8424E,h11km,ML3.1,3C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.51	85	P	Pn	17 31 24.5	+2.4
WMQ				S	Sn	17 31 57.4	+4.7
WMQ				Smax			
	comp=N,94nm,0.3s						
WMQ				Smax			
	comp=E,112nm,0.4s						
MK31	Makanchi Array	3.42	337	Pn	Pn	17 31 35.8	+1.1
	comp=E,0.6nm,0.3s,baz=159,slow=14,SNR=42						
MK31				⇑Pg	Pg	17 31 44.7	-2.3
	comp=E,1.8nm,0.2s,baz=150,slow=16,SNR=22						
MK31				⇑Lg		17 32 28.7	
	comp=E,9.8nm,0.3s,baz=161,slow=28,SNR=14						
TKM2	Tokmak 2	6.35	266	⇑Lg		17 33 59.0	
	comp=E,0.3nm,0.5s						

*IDC **10** 17:47:33.4±1.0,345S×13742E,h0km,mb4.4/5,mb1 4.6/8, mb1mx4.4/12,mbtmp4.5/8,ML4.6/3,MS3.4/7,Ms1 3.4/7, ms1mx3.1/20,Error ellipse: s-maj=36.0km s-min=15.9km az=88.0*
*ISCJB **10** 17:47:39.0±2.2,338S±006×13786E±007,h63km±21km, mb4.5/13,Error ellipse: s-maj=11.8km s-min=10.4km az=10.2*
*NEIC **10** 17:47:41.1±1.9,331S×13784E,h62km±15km,mb4.4/6, Error ellipse: s-maj=15.6km s-min=13.7km az=167.0*

ISC 10 17:47:41.9±1.6,344S±007×13785E±007,h70km±16km, n35,σ0°99/36,mb4.5/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.66	210	*e*P	Pn	17 50 12.6	+0.9
	41nm,0.4s						
PMG	Port Moresby	10.98	123	Pn	Pn	17 50 17.0	+0.9
	3.1nm,0.3s,baz=326,slow=8.5,SNR=16						
PMG				Sn	Sn	17 52 16.7	-0.5
	0.9nm,0.3s,baz=238,slow=20,SNR=2.7						
PMG	Port Moresby	10.98	123	*e*Pn	Pn	17 50 16.7	+0.6
PMG				Sn	Sn	17 52 16.8	-0.5
WB2	Warramunga Arr	16.76	191	*e*P	Pn	17 51 32.1	0.0
WRA	Warramunga Arr	16.76	192	Pn	Pn	17 51 29.2	-2.9
	5.7nm,0.3s,baz=15,slow=12,SNR=59						
WRA				Sn	Sn	17 54 35.7	-1.9
	1.0nm,0.3s,baz=18,slow=24,SNR=5.0						
GUMO	Guam	18.29	22	LR	LR	17 57 43.2	
	comp=Z,100nm,18.3s,baz=170,slow=33						
CTA	Charters Tower	18.47	154	*e*P	Pn	17 51 53.7	+0.8
	15nm,0.8s						
CTA	Charters Tower	18.47	154	P	Pn	17 51 53.2	+0.3
	1.3nm,0.3s,baz=328,slow=12,SNR=15						
CTA				LR	LR	17 59 47.2	
	comp=Z,186nm,18.1s,baz=26,slow=39						
CTAO	Charters Tower	18.47	154	*e*P	Pn	17 51 53.8	+0.9
FITZ	Fitzroy Crossi	18.86	219	*e*P	Pn	17 51 59.0	+1.4
	6.8nm,0.3s						
FITZ				*e*S	S	17 55 19.5	-7.5
FITZ	Fitzroy Crossi	18.86	219	P	Pn	17 51 57.7	+0.1
	1.4nm,0.3s,baz=28,slow=12,SNR=26						
FITZ				S	S	17 55 20.9	-6.1
	1.2nm,0.3s,baz=146,slow=13,SNR=6.9						
FITZ				LR	LR	17 58 20.4	
	comp=Z,47nm,20.8s,baz=249,slow=35						
AS31	Alice Springs	20.47	190	*e*P	P	17 52 16.6	+2.7
ASAR	Alice Springs	20.47	190	P	P	17 52 13.2	-0.7
	28nm,0.4s,baz=9.7,slow=10,SNR=528						
ASAR				S	S	17 56 02.1	+2.9
	3.6nm,0.6s,baz=15,slow=22,SNR=7.6						
ASAR				LR	LR	18 01 01.8	
	comp=Z,110nm,21.6s,baz=11,slow=40						
ASPA	Alice Springs	20.47	190	*e*P	P	17 52 13.1	-0.8
STKA	Stephens Creek	28.51	173	P	P	17 53 30.3	-0.4
	1.8nm,0.4s,mb4.0,baz=331,slow=24,SNR=2.9						
STKA				LR	LR	18 06 59.9	
	comp=Z,80nm,18.2s,baz=23,slow=41						
STKA	Stephens Creek	28.51	173	*e*P	P	17 53 31.3	+0.6
STKA				LR	LR	18 06 59.9	
FORT	Forrest	28.73	198	*e*P	P	17 53 34.1	+1.5
	15nm,0.7s,mb4.7						
KLBR	Kellerberrin	33.80	212	*e*P	P	17 54 18.0	+0.8
	9.6nm,0.7s,mb4.7						
MJAR	Matsushiro Arr	39.77	0	LR	LR	18 09 11.2	
	comp=Z,42nm,21.9s,baz=135,slow=33						
SONM	Songino Array	58.01	336	LR	LR	18 20 32.9	
	comp=Z,56nm,19.6s,baz=183,slow=34						
GUN	Gumba	58.90	306	*e*P	P	17 57 34.0	+0.4
	11nm,0.8s,mb5.0						
PKI	Pulchoki	59.15	305	*e*P	P	17 57 35.3	-0.1
	4.5nm,0.6s,mb4.7						
KKN	Kakani	59.34	305	*e*P	P	17 57 36.7	0.0
	9.2nm,0.8s,mb4.9						
DMN	Daman	59.42	305	*e*P	P	17 57 37.2	0.0
	11nm,0.8s,mb4.9						
GKN	Gorkha	59.95	305	*e*P	P	17 57 40.4	-0.5
	12nm,0.7s,mb5.0						
KOLN	Koldanda	60.71	304	*e*P	P	17 57 46.0	-0.1
	6.0nm,0.8s,mb4.7						
MKAR	Makanchi Array	69.84	323	P	P	17 58 44.3	-0.8
	0.8nm,0.5s,mb3.8,baz=109,slow=7.8,SNR=14						
VNDA	Vanda	75.14	175	P	P	17 59 17.1	+0.6
	1.6nm,0.6s,mb3.9,baz=325,slow=6.5,SNR=20						
VNDA	Vanda	75.14	175	*e*P	P	17 59 16.6	0.0
	3.5nm,1.1s,mb4.0						
SBA	Scott Base	75.92	174	*e*P	P	17 59 20.0	-1.0
CHKZ	Chkalovo	79.52	326	*e*P	P	17 59 39.8	-1.2
	1.3nm,0.7s,mb3.9						
MAW	Mawson	81.14	202	P	P	17 59 50.1	+0.4
	0.9nm,0.5s,mb3.9,baz=45,slow=5.7,SNR=6.4						
QSPA	South Pole Qui	86.52	180	*e*P	P	18 00 17.6	+0.5
CPUP	Villa Florida	146.96	154	PKPbc	PKPbc	18 07 18.6	+2.1
	1.3nm,0.6s,baz=331,slow=2.0,SNR=3.8						
LPAZ	La Paz	147.69	128	PKPbc	PKPbc	18 07 21.5	+3.0
	1.6nm,0.7s,baz=261,slow=5.7,SNR=4.9						

*ISK **10** 18:01:01.4,3789N×2590E,h24km,MD3.1*
*ISCJB **10** 18:01:02.4±0.6,3774N±003×2612E±005,h10km±5km, Error ellipse: s-maj=6.9km s-min=3.3km az=58.6*
*THE **10** 18:01:02.9,3779N×2616E,h10km,ML2.8*
*ATH **10** 18:01:03.0,3777N×2610E,h28km±1km,MD3.4/4*
*CSEM **10** 18:01:03.5±0.1,3779N×2616E,h15km,MD3.4,Error ellipse: s-maj=2.9km s-min=1.9km az=103.0*

ISC 10 18:01:03.5±0.5,3777N±003×2610E±004,h15km±4km,n21, σ0°95/37,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.59	95	*e*PN	Pg	18 01 14.9	-0.2
SMG				*e*SN	Sg	18 01 24.2	+1.3
CHOS	Chios island	0.62	357	*e*Pg	Pg	18 01 14.9	-0.8
CHOS				*e*Sg	Sg	18 01 25.3	+1.3
CHOS	Chios island	0.62	357	*e*Pg	Pg	18 01 14.9	-0.8
CHOS				*e*Sg	Sg	18 01 25.3	+1.3
URLA	Izmir	0.71	33	*i* P	Pg	18 01 17.0	-0.4
URLA				*i* S	Sg	18 01 28.0	+1.2
APE	Apeiranthos	0.83	213

OCM Ochomogo 2.07 96⇓ eP Pn 18 10 11.1 +0.5
COPN Copaltepe 2.11 346⇓ eP Pn 18 10 11.0 -0.2
MOMJ Momotombo 2.32 348⇑ eP Pn 18 10 14.2 +0.1
BUS Buena Vista 2.33 104⇑ eP Pn 18 10 14.8 +0.7
MIRN Miramar 2.39 344⇑ eP Pn 18 10 15.1 0.0
LEON Leon 2.42 340⇑ eP Pn 18 10 15.2 -0.3
CNGN Cerro Negro 2.45 345⇓ eP Pn 18 10 15.6 -0.2
CNGN eP 18 10 15.7
CNGN eS Sn **18 10 44.3 -0.3**
CNGN eS Sn **18 10 46.5 +1.9**
TELN Telica 2.58 343 eP Pn 18 10 17.7 0.0
CTCR Cotoan 3.47 110⇑ eP Pn 18 10 29.6 -0.2
CNCH Conchagua 3.59 331 eP x 18 10 32.0 +0.5
CNCH eS x **18 11 14.2 +1.4**
TGUH Tegucigalpa,Un 4.09 343 ePn Pn 18 10 37.2 -1.2
LCBS La Ceiba 4.53 321 eP x 18 10 44.6 +0.1
LFRS El Faro 4.56 320 eP x 18 10 45.1 +0.2
CMIG Matias Romero 11.03 310 Pn **Pn 18 12 14.9 +1.3**
comp=E,0.5nm,0.3s,baz=114,slow=9.3,SNR=4.2
NNA Nana 23.79 157 P **P 18 14 49.5 +1.5**
comp=E,38nm,1.4s,mb4.6
SWET Sewanee 24.98 0 eP **P 18 14 58.2 -0.6**
CPCT Cooper Cave 25.25 3 eP **P 18 15 00.9 -0.3**
MIAR Mount Ida 25.27 345 eP **P 18 15 00.8 -0.6**
comp=E,8.2nm,0.9s,mb4.3
TKL Tuckaleechee C 25.50 4 P **P 18 15 02.5 -1.0**
comp=E,3.9nm,0.5s,mb4.2,baz=188,slow=11,SNR=4.2
WVT Waverly 25.94 357 P **P 18 15 06.6 -0.9**
comp=E,4.4nm,0.6s,mb4.2
WMOK Wichita Mounta 27.13 337 eP **P 18 15 19.8 +1.7**
comp=E,5.9nm,0.8s,mb4.2
SAML Samuel 29.61 129 P **P 18 15 31.0 -9.3**
comp=E,1.3nm,0.8s,mb3.7
ACSO Alum Creek Sta 30.11 5 P **P 18 15 42.4 -2.4**
comp=E,20nm,1.2s,mb4.7
SDCO Great Sand Dun 32.60 331 eP **P 18 16 06.9 +0.2**
comp=E,2.3nm,0.8s,mb4.2
LONY Lake Ozonia 35.77 14 eP **P 18 16 32.7 -1.5**
comp=E,11nm,0.8s,mb4.8
PDAR Pinedale Array 38.46 332 P **P 18 16 56.5 -0.4**
comp=E,0.8nm,0.7s,mb3.5,baz=124,slow=8.4,SNR=6.7
HWUT Hardware Ranch 38.56 329 P **P 18 16 58.3 +0.5**
comp=E,3.6nm,0.9s,mb4.1
HWUT e 18 17 11.4
NVAR Mina Array Bea 40.35 320 P **P 18 17 14.1 +1.4**
comp=E,2.1nm,0.8s,mb3.9,baz=140,slow=6.1,SNR=12
HLID Hailey 41.43 329 eP **P 18 17 22.5 +0.8**
comp=E,2.4nm,0.9s,mb3.8
BDFB Brasilia 45.54 124 LR LR 18 39 03.0
comp=E,56nm,18.0s,MS3.5,baz=222,slow=39
SCHQ Schefferville 47.13 15 P **P 18 18 04.7 -2.5**
comp=E,3.4nm,0.6s,mb4.5,baz=213,slow=7.9,SNR=9.3
YKA Yellowknife Ar 56.21 345 P **P 18 19 12.8 -2.2**
comp=E,0.4nm,0.4s,mb3.8,baz=144,slow=6.9,SNR=5.6
YKA LR LR 18 47 03.4
comp=E,51nm,18.1s,MS3.7,baz=150,slow=40
PPT Papeete 68.51 247 LR LR 18 41 11.2
comp=E,89nm,21.4s,MS4.0,baz=319,slow=28
NOA NORSAR Array B 84.73 29 P **P 18 22 06.1 -2.8**
comp=E,0.5nm,0.7s,mb3.8,baz=254,slow=10,SNR=3.0
NOA LR LR 18 59 28.0
comp=E,31nm,19.9s,MS3.7,baz=200,slow=35
GERES GERESS Array B 88.80 41 LR LR 18 57 09.7
comp=E,45nm,20.0s,MS3.9,baz=310,slow=32
ASAR Alice Springs 139.62 245 PKP PKPdf 18 29 00.2 -2.2
comp=E,0.4nm,1.0s,baz=104,slow=2.4,SNR=3.7
WRA Warramunga Arr 139.88 251 PKP PKPdf 18 29 03.6 +0.6
comp=E,0.4nm,0.8s,baz=90,slow=1.8,SNR=4.3

*ISCJB **10** 18:17:07.0±0.3,3173S±003×6703W±003, h137km, mb4.3/36, Error ellipse: s-maj=4.5km s-min=3.9km az=147.6*
*IDC **10** 17:08.1±0.4,3169S×6703W, h134km±3km, mb4.1/16, mb1 4.2/19, mb1mx4.1/24, mbtmp4.6/19, Error ellipse: s-maj=11.0km s-min=8.6km az=15.0*
*NEIC **10** 17:08.1±0.2,3175S×6699W, mb4.5/31, Error ellipse: s-maj=4.6km s-min=4.1km az=99.0*
*BJI **10** 17:08.1,3170S×6700W, h137km, mB5.0*
*GUC **10** 17:08.4±0.9,3168S×67.19W, h147km±8km, ML5.1*
ISC 10 18:17:08.6±0.3,3173S±003×6710W±003, h139km, h139km±1.3km; pP-P, n104, σ0°87/98, mb4.3/36, 13C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.98**	**277**	P		**P**	**Pn**	**18 17 31.9**	**-0.2**
	374nm,0.3s,baz=98,slow=6.8								
CFAA				S			**Sn**	**18 17 49.8**	**-0.1**
	376nm,0.3s,baz=209,slow=17,SNR=74								
ZON	**Zonda**	**1.36**	**277**	⇑iP			**Pn**	**18 17 36.3**	**+0.5**
ZON					*i*	S	**Sn**	**18 17 56.5**	**-0.1**
MDZ	**Mendoza**	**1.88**	**232**	⇑iP			**Pn**	**18 17 41.9**	**+0.4**
MDZ				PP				18 18 09.5	
MDZ				PPP				18 18 14.1	
MDZ				LR		LR	LR	18 20 44.3	
JACH	**Jahuel**	**3.11**	**251**	⇓iP			**Pn**	**18 17 57.6**	**+0.7**
JACH					*i*	S	**Sn**	**18 18 34.4**	**+0.2**
FCH	**Farellones**	**3.13**	**239**	⇑iP			**Pn**	**18 17 58.0**	**+0.8**
FCH				AML		AML	AML	18 18 49.0	
	comp=E,1μm,0.4s								
PTCH	**Petorca**	**3.30**	**260**	⇑iP			**Pn**	**18 17 59.5**	**+0.1**
PTCH					*i*	S	**Sn**	**18 18 37.7**	**-0.9**
PTCH				AML		AML	AML	18 18 40.2	
	comp=N,5μm,0.3s								
PTCH	**Petorca**	**3.30**	**260**	⇑iP			**Pn**	**18 17 59.5**	**+0.1**
PTCH					*i*	S	**Sn**	**18 18 37.7**	**-0.9**
CLCH	**Cerro Calan**	**3.34**	**239**	⇑iP			**Pn**	**18 18 00.2**	**+0.3**
CLCH				AML		AML	AML	18 18 48.9	
	comp=E,3μm,0.5s								
PEL	**Peldehue**	**3.34**	**244**	⇓iP			**Pn**	**18 17 59.9**	**0.0**
PEL				AML		AML	AML	18 18 43.7	
	comp=E,3μm,0.6s								
LMEL	**Las Melosas**	**3.36**	**230**	*i* P			**Pn**	**18 18 00.8**	**+0.6**
CMCH	**Combarbala**	**3.38**	**278**	⇓iP			**Pn**	**18 18 01.2**	**+0.8**
CMCH					*i*	S	**Sn**	**18 18 40.7**	**+0.2**
RCDM	**Rinconada Maip**	**3.59**	**240**	⇓iP			**Pn**	**18 18 03.5**	**+0.4**
RCDM					*i*	S	**Sn**	**18 18 45.9**	**+0.6**
OVCH	**Ovalle**	**3.69**	**287**	⇑iP			**Pn**	**18 18 04.5**	**+0.1**
CHNG	**Los Chungos**	**3.75**	**267**	eP			**Pn**	**18 18 04.8**	**-0.5**
CHNG					*i*	S	**Sn**	**18 18 47.6**	**-1.5**
LSCH	**La Serena**	**4.00**	**296**	⇑iP			**Pn**	**18 18 08.5**	**-0.1**
LSCH					*i*	S	**Sn**	**18 18 53.2**	**-1.9**
VACH	**Vallenar**	**4.47**	**314**	⇑iP			**Pn**	**18 18 19.6**	**+4.9**
VACH					*i*	S	**Sn**	**18 19 09.9**	**+3.9**
CPCH	**Copiapo**	**5.20**	**326**	*i* P			**Pn**	**18 18 24.2**	**-0.2**
CPCH					*i*	S	**Sn**	**18 19 22.4**	**-1.2**
CDCH	**Caldera**	**5.67**	**324**	⇑iP			**Pn**	**18 18 30.1**	**-0.6**
CDCH					*i*	S	**Sn**	**18 19 32.6**	**-2.2**
TRQA	**Tornquist**	**7.58**	**148**	⇑iP			**Pn**	**18 18 54.7**	**-1.6**
LVC	**Limon Verde**	**9.23**	**349**	P			**Pn**	**18 19 18.1**	**-0.3**
	comp=E,9.6nm,0.3s,baz=180,slow=11,SNR=46								
LVC				S			**Sn**	**18 20 53.8**	**-6.7**
	comp=E,1.7nm,0.3s,baz=180,slow=17,SNR=2.7								
LVC	**Limon Verde**	**9.23**	**349**	ePn			**Pn**	**18 19 17.6**	**-0.7**
	comp=E,19nm,0.4s								
PLCA	**Paso Flores**	**9.40**	**196**	P			**Pn**	**18 19 18.7**	**-2.1**
	comp=E,1.2nm,0.3s,baz=358,slow=14,SNR=26								
PLCA	**Paso Flores**	**9.40**	**196**	ePn			**Pn**	**18 19 18.2**	**-2.5**
	comp=E,10nm,0.7s								
CPUP	**Villa Florida**	**10.10**	**60**	P			**Pn**	**18 19 26.5**	**-3.5**
	comp=E,3.5nm,0.3s,baz=221,slow=12,SNR=38								
CPUP	**Villa Florida**	**10.10**	**60**	ePn			**Pn**	**18 19 26.0**	**-4.0**
	comp=E,100nm,0.5s								
LPAZ	**La Paz**	**15.40**	**356**	P			**Pn**	**18 20 39.0**	**+0.5**
	comp=E,2.3nm,0.3s,baz=166,slow=8.8,SNR=39								
LPAZ	**La Paz**	**15.40**	**356**	ePn			**Pn**	**18 20 39.9**	**+1.4**
	comp=E,24nm,0.8s								
ARE	**Arequipa**	**15.72**	**344**	eP			**Pn**	**18 20 44.0**	**+1.7**
SIV	**San Ignacio**	**16.61**	**21**	P			**Pn**	**18 20 52.3**	**-0.9**
	comp=E,1.1nm,0.3s,baz=210,slow=12,SNR=39								
NNA	**Nana**	**21.61**	**333**	P			**P**	**18 21 48.1**	**+0.7**
	comp=E,10nm,0.7s,mb4.3,baz=194,slow=13,SNR=4.0								
NNA	**Nana**	**21.61**	**333**	P			**P**	**18 21 47.2**	**-0.2**
	comp=E,19nm,0.9s,mb4.5								
NNA				P				18 21 48.1	
SAML	**Samuel**	**22.96**	**10**	eP			**P**	**18 22 01.2**	**+0.4**
	comp=E,19nm,0.7s,mb4.6								
SAML				eSP			sP	18 22 46.6	+2.2
USHA	**Ushuaia**	**23.11**	**182**	P			**P**	**18 22 02.7**	**+0.5**
	comp=E,17nm,0.5s,mb4.7,baz=324,slow=4.6,SNR=15								
BDFB	**Brasilia**	**23.64**	**52**	P			**P**	**18 22 05.7**	**-1.4**
	comp=E,20nm,0.9s,mb4.7,baz=229,slow=7.4,SNR=14								
BDFB	**Brasilia**	**23.64**	**52**	eP			**P**	**18 22 06.0**	**-1.1**
	comp=E,40nm,1.0s,mb4.9								
ATAH	**Atahualpa**	**26.77**	**334**	P			**P**	**18 22 37.1**	**+1.7**
	comp=E,5.1nm,0.7s,mb4.3,baz=138,slow=2.7,SNR=4.9								
SDV	**Santo Domingo**	**40.53**	**355**	P			**P**	**18 24 33.3**	**-0.7**
	comp=E,1.8nm,0.4s,mb4.1,baz=174,slow=12,SNR=3.1								
SDV	**Santo Domingo**	**40.53**	**355**	eP			**P**	**18 24 33.5**	**-0.5**
	comp=E,6.3nm,0.9s,mb4.2								
SJG	**San Juan**	**49.57**	**1**	P			**P**	**18 25 44.1**	**-1.2**
	comp=E,7.8nm,0.4s,mb4.7,baz=67,slow=20,SNR=5.4								
SJG	**San Juan**	**49.57**	**1**	P			**P**	**18 25 44.4**	**-0.9**
	comp=E,15nm,0.7s,mb4.7								
VNA1	**Neumayer--Stat**	**50.17**	**158**	*e*			**P**	**18 25 50.5**	**+0.6**
VNA1				*e*				18 25 52.5	
SNAA	**Sanae**	**52.15**	**159**	P			**P**	**18 26 04.5**	**-0.2**
	comp=E,2.3nm,0.6s,mb4.0,baz=290,slow=6.9,SNR=67								
SNAA	**Sanae**	**52.15**	**159**	*e*			**P**	**18 26 04.4**	**-0.3**
SNAA				*e*				18 26 06.1	
SNAA				*e*				18 26 10.5	
SNAA				*e*				18 26 12.4	
SNAA	**Sanae**	**52.15**	**159**	eP			**P**	**18 26 04.2**	**-0.5**
	comp=E,18nm,1.0s,mb4.7								
MAIT	**Maitri**	**56.73**	**157**	eP			**P**	**18 26 32.9**	**-4.9**
QSPA	**South Pole Qui**	**58.50**	**180**	eP			**P**	**18 26 50.5**	**+0.4**
	comp=E,8.4nm,0.8s,mb4.6								
SYO	**Syowa Base**	**66.42**	**158⇓**	eP			**P**	**18 27 41.6**	**-1.1**
SYO	**Syowa Base**	**66.42**	**158⇓**	ePcP			PcP	18 28 10.6	-0.8
SYO	**Syowa Base**	**66.42**	**158⇓**	epP			pP	18 28 15.0	-1.3
VNDA	**Vanda**	**67.10**	**190**	P			**P**	**18 27 47.5**	**+0.5**
	comp=E,0.6nm,0.6s,mb3.6,baz=69,slow=2.2,SNR=3.6								
VNDA	**Vanda**	**67.10**	**190**	eP			**P**	**18 27 45.9**	**-1.1**
	comp=E,2.1nm,1.1s,mb3.9								
TKL	**Tuckaleechee C**	**68.84**	**345**	P			**P**	**18 27 57.0**	**-0.9**
	comp=E,5.3nm,0.7s,mb4.4,baz=151,slow=6.7,SNR=5.0								
TKL	**Tuckaleechee C**	**68.84**	**345**	P			**P**	**18 27 57.0**	**-0.9**
SWET	**Sewanee**	**68.91**	**344**	eP			**P**	**18 27 57.9**	**-0.5**
JCT	**Junction City**	**69.22**	**330**	eP			**P**	**18 28 00.4**	**+0.1**
	comp=E,4.3nm,0.5s,mb4.4								
WVT	**Waverly**	**70.25**	**342**	eP			**P**	**18 28 06.2**	**-0.4**
	comp=E,21nm,0.7s,mb5.0								
WVT				epP			pP	18 28 41.4	+0.9
WVT				esP			sP	18 28 52.5	-2.9
MIAR	**Mount Ida**	**70.48**	**337**	eP			**P**	**18 28 08.0**	**+0.1**
	comp=E,3.2nm,0.8s,mb4.1								
DBIC	**Dimbokro**	**70.50**	**69**	P			**P**	**18 28 08.4**	**+0.3**
	comp=E,4.3nm,0.6s,mb4.4,baz=210,slow=9.0,SNR=7.3								
DBIC				pP			pP	18 28 40.3	-1.6
	comp=E,6.0nm,1.1s,baz=176,slow=7.4,SNR=2.8								
DBIC	**Dimbokro**	**70.50**	**69**	eP			**P**	**18 28 08.1**	**0.0**
	comp=E,6.3nm,0.7s,mb4.5								
SUR	**Sutherland**	**72.23**	**117**	P			**P**	**18 28 17.7**	**-0.7**
	comp=E,12nm,0.9s,mb4.6								
WMOK	**Wichita Mounta**	**72.53**	**333**	eP			**P**	**18 28 20.3**	**+0.1**
	comp=E,4.2nm,0.8s,mb4.2								
WMOK				ePcP			PcP	18 28 37.9	+0.8
ACSO	**Alum Creek Sta**	**73.10**	**347**	P			**P**	**18 28 23.2**	**-0.4**
MAW	**Mawson**	**74.12**	**162**	P			**P**	**18 28 28.9**	**-0.6**
	comp=E,4.7nm,0.7s,mb4.3,baz=221,slow=6.2,SNR=13								
MAW				pP			pP	18 29 02.3	-1.5
	comp=E,5.1nm,0.9s,baz=224,slow=8.0,SNR=4.0								
MAW	**Mawson**	**74.12**	**162**	eP			**P**	**18 28 29.1**	**-0.4**
	comp=E,5.1nm,0.8s,mb4.3								
MAW				epP			pP	18 29 02.6	-1.2
ANMO	**Albuquerque**	**75.95**	**328**	P			**P**	**18 28 40.9**	**+0.8**
	comp=E,2.9nm,0.7s,mb4.0,baz=153,slow=6.7,SNR=8.8								
ANMO	**Albuquerque**	**75.95**	**328**	eP			**P**	**18 28 41.0**	**+0.9**
	comp=E,3.8nm,1.0s,mb4.0								
BOSA	**Boshof**	**77.37**	**116**	P			**P**	**18 28 47.8**	**-0.3**
	comp=E,5.9nm,0.8s,mb4.3,baz=239,slow=2.9,SNR=9.3								
BOSA				pP			pP	18 29 21.6	-0.9
	comp=E,8.6nm,0.8s,baz=235,slow=6.1,SNR=7.3								
SDCO	**Great Sand Dun**	**77.86**	**330**	eP			**P**	**18 28 52.0**	**+1.3**
	comp=E,5.2nm,0.7s,mb4.3								
MVCO	**Mesa Verde**	**78.75**	**327**	eP			**P**	**18 28 56.3**	**+0.7**
	comp=E,3.0nm,0.8s,mb4.0								
LBTB	**Lobatse**	**79.41**	**113**	eP			**P**	**18 28 59.1**	**-0.1**
	comp=E,6.6nm,0.6s,mb4.4								
LBTB				epP			pP	18 29 33.2	-0.7
TORD	**Torodi Ar. Bea**	**79.52**	**67**	P			**P**	**18 29 00.1**	**+0.3**
	comp=E,2.7nm,0.7s,mb4.0,baz=268,slow=5.8,SNR=28								
TORD				pP			pP	18 29 33.6	-0.9
	comp=E,3.2nm,0.7s,baz=262,slow=5.3,SNR=5.7								
PV01	**Paradox Valley**	**79.54**	**328**	eP			**P**	**18 29 00.8**	**+0.8**
SMCO	**Snowmass**	**79.69**	**330**	eP			**P**	**18 29 02.5**	**+1.8**
	comp=E,14nm,1.0s,mb4.5								
SMCO				epP			pP	18 29 36.8	+1.4
SMCO				esP			sP	18 29 50.9	+0.7
PV10	**Paradox Valley**	**79.95**	**328**	eP			**P**	**18 29 02.9**	**+0.7**
MSU	**Marysvale**	**81.52**	**326**	eP			**P**	**18 29 11.7**	**+1.2**
MSU				epP			pP	18 29 47.6	+2.3
RWWY	**Rawlins**	**81.88**	**331**	eP			**P**	**18 29 12.8**	**+0.4**
	comp=E,17nm,1.0s,mb4.6								
RWWY				epP			pP	18 29 48.4	+1.2
CASY	**Casey**	**82.29**	**179**	P			**P**	**18 29 12.4**	**-2.1**
	comp=E,3.7nm,0.9s,mb4.0								
DAC	**Darwin (Calif)**	**82.55**	**321**	eP			**P**	**18 29 17.0**	**+1.1**
	comp=E,3.9nm,0.8s,mb4.2								
DAC				epP			pP	18 29 51.4	+0.7
RSSD	**Black Hills**	**82.68**	**334**	eP			**P**	**18 29 16.3**	**-0.3**
	comp=E,3.4nm,0.9s,mb4.1								
HWUT	**Hardware Ranch**	**83.70**	**328**	eP			**P**	**18 29 22.1**	**+0.3**
	comp=E,5.5nm,0.7s,mb4.4								
PDAR	**Pinedale Array**	**83.75**	**330**	P			**P**	**18 29 22.4**	**+0.3**
	comp=E,1.7nm,0.7s,mb3.9,baz=138,slow=5.3,SNR=14								
PDAR				pP			pP	18 29 56.8	-0.1
	comp=E,1.4nm,0.7s,baz=120,slow=4.7,SNR=5.2								
NVAR	**Mina Array Bea**	**84.53**	**322**	P			**P**	**18 29 26.6**	**+0.6**
	comp=E,1.4nm,0.9s,mb3.7,baz=172,slow=6.2,SNR=8.1								
NVAR				pP			pP	18 30 00.7	-0.2
	comp=E,0.9nm,0.7s,baz=191,slow=5.2,SNR=4.4								
IMW	**Indian Meadow**	**85.26**	**330**	eP			**P**	**18 29 30.1**	**+0.5**
	comp=E,5.0nm,0.8s,mb4.3								
ULM	**Lac du Bonnet**	**85.52**	**342**	P			**P**	**18 29 30.1**	**-0.8**
	comp=E,6.1nm,0.8s,mb4.4,baz=211,slow=4.3,SNR=4.5								
HLID	**Hailey**	**86.53**	**328**	eP			**P**	**18 29 36.7**	**+0.8**
	comp=E,8.8nm,1.0s,mb4.5								
HLID				epP			pP	18 30 13.1	+2.1
MCMT	**McKenzie Canyo**	**86.83**	**329**	eP			**P**	**18 29 38.5**	**+1.2**
WALA	**Waterton Lakes**	**90.61**	**331**	eP			**P**	**18 29 55.1**	**0.0**
	comp=E,5.8nm,0.9s,mb4.6								
YKA	**Yellowknife Ar**	**101.32**	**340**	P			Pdif	18 30 43.2	-0.5
	comp=E,0.9nm,0.6s,baz=134,slow=4.4,SNR=7.4								
YKA	**Yellowknife Ar**	**101.32**	**340**	P			Pdif	18 30 43.2	-0.5
DAWY	**Dawson**	**110.86**	**333**	ePdif			Pdif	18 31 32.7	+6.6
WRA	**Warramunga Arr**	**124.66**	**205**	PKP			PKPdf	18 35 52.0	+0.5
	comp=E,1.6nm,0.4s,baz=157,slow=1.6,SNR=12								
HYB	**Hyderabad**	**145.83**	**106**	*i* PKP			PKPdf	18 36 33.0	+2.3
HYB				*e*				18 37 09.0	
HYB	**Hyderabad**	**145.83**	**106**	eP			PKPdf	18 36 33.0	+2.3
HYB				*e*				18 37 09.0	
AAK	**Ala-Archa**	**147.77**	**59**	ePKPbc			PKPbc	18 36 36.6	-0.4
AAK				epPKPdf			pPKPdf	18 37 10.9	-0.1
YAK	**Yakutsk**	**147.80**	**345**	ePKPbc			PKPbc	18 36 36.1	-1.0
ZAL	**Zalesovo**	**150.06**	**34**	PKPbc			PKPbc	18 36 42.3	-0.4
	comp=E,4.1nm,0.5s,baz=197,slow=1.7,SNR=19								
ZAL				pPKPbc			pPKPbc	18 37 18.0	-1.5
	comp=E,3.1nm,0.8s,baz=195,slow=2.4,SNR=5.2								
MKAR	**Makanchi Array**	**152.15**	**48**	PKPbc			PKPbc	18 36 47.6	+0.1
	comp=E,2.1nm,0.6s,baz=266,slow=2.2,SNR=33								
MKAR				PKPab			PKPab	18 36 55.3	-2.4
	comp=E,1.3nm,0.9s,baz=297,slow=3.7,SNR=3.8								
MKAR				pPKPbc			pPKPbc	18 37 24.1	-0.4
	comp=E,5.2nm,0.9s,baz=300,slow=2.7,SNR=11								
WMQ	**Urumqi**	**156.81**	**52**	ePKP			PKPdf	18 36 43.0	-4.3
MJAR	**Matsushiro Arr**	**158.54**	**290**	PKPab			PKPab	18 37 25.8	+0.7
	comp=E,2.2nm,0.8s,baz=107,slow=2.5,SNR=7.9								
MDJ	**Mudanjiang**	**161.67**	**319**	PKP			PKPdf	18 36 51.1	-1.8
SONM	**Songino Array**	**163.17**	**15**	PKPab			PKPab	18 37 45.2	-0.1
	comp=E,1.0nm,0.8s,baz=334,slow=3.8,SNR=5.5								
HHC	**Hu-ho-hao-te**	**170.84**	**6**	ePKP			PKPdf	18 36 56.1	-3.9
LZH	**Lanzhou**	**171.31**	**58**	ePKP			PKPdf	18 36 56.6	-3.7
NJ2	**Nanjing**	**174.93**	**275**	ePKP			PKPdf	18 36 58.9	-2.8

CASC 10 18:22:43.0±2.1,997N×8616W, h14km±10km, MD3.7, ML2.7,5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.55**	**73**	⇑iP			Pg	18 22 54.4	+0.6
VCR				eS			Sg	18 23 02.8	+1.7
JCR	**Jicaral**	**1.04**	**96**	⇑eP			Pb	18 23 02.3	-0.5
JCR				eS			Sb	18 23 15.5	-0.8
SSNN	**San Juan del S**	**1.35**	**13**	eP			Pn	18 23 06.1	-1.3
FORC	**Fortuna**	**1.56**	**71**	⇑eP			Pn	18 23 10.4	+0.2
MADN	**Villa Maderas**	**1.56**	**23**	⇑eP			Pn	18 23 09.8	-0.5
CGA2	**Cerro Gallo 2**	**1.67**	**88**	eP			Pn	18 23 12.0	+0.2
CONN	**Concepcion**	**1.67**	**18**	⇑eP			Pn	18 23 11.0	-0.8
PRS1	**Puriscal**	**1.82**	**89**	eP			Pn	18 23 13.0	-0.9
LAJ	**Bijagual**	**2.02**	**93**	eP			Pn	18 23 10.8	-5.7
TICN	**Ticuantepe**	**2.06**	**358**	eP			Pn	18 23 16.6	-0.5
LCR2	**La Lucha 2**	**2.14**	**96**	eP			Pn	18 23 18.8	+0.6
COPN	**Copaltepe**	**2.24**	**349**	eP			Pn	18 23 19.1	-0.6
BUS	**Buena Vista**	**2.41**	**100**	eP			Pn	18 23 22.7	+0.8
MOMJ	**Momotombo**	**2.46**	**351**	eP			Pn	18 23 22.8	+0.2
LEON	**Leon**	**2.54**	**344**	eP			Pn	18 23 23.2	-0.5
CNGN	**Cerro Negro**	**2.57**	**348**	eP			Pn	18 23 23.4	-0.8
CNGN				eS			Sn	18 23 57.5	+2.3
TELN	**Telica**	**2.70**	**346**	*i*			Sg	18 24 10.0	+0.2
	comp=Z,44nm,0.3s								

*NEIC **10** 18:28:14.9±1.0,2615S×17957E, h498km±12km, mb4.3/6, Error ellipse: s-maj=17.2km s-min=13.4km az=213.0*
*BJI **10** 18:28:14.5,2599S×17958E, h490km, mB4.8, mb4.7*
*ISCJB **10** 18:28:15.5±0.9,2621S±008×17945E±008, h506km±12km, mb4.3/17, Error ellipse: s-maj=12.9km s-min=11.2km az=126.5*
*IDC **10** 18:28:16.1±0.9,2596S×17950E, h506km±10km, mb3.8/9, mb1 3.9/12, mb1mx3.7/18, mbtmp4.7/12, Error ellipse: s-maj=21.1km s-min=10.9km az=175.0*
ISC 10 18:28:16.2±0.9,2628S±008×17953E±008, h503km±11km, n54, σ0°98/47, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.72**	**143**	P			**P**	**18 29 34.7**	**+2.2**
	85nm,0.3s,baz=86,slow=21,SNR=8.2								
RAO				S			**S**	**18 30 40.6**	**+5.8**
	124nm,0.3s,baz=79,slow=21,SNR=5.4								
RAO	**Raoul Island**	**3.72**	**143**	eP			**P**	**18 29 31.5**	**-1.1**
RAO				eS			**S**	**18 30 30.6**	**-4.2**
URZ	**Urewera**	**12.12**	**189**	P			**P**	**18 30 56.0**	**+0.2**
	9.1nm,0.3s,baz=17,slow=1.9,SNR=42								
URZ				S			**S**	**18 33 07.4**	**-11**
	2.5nm,0.3s,baz=80,slow=22,SNR=7.7								
DZM	**Mont Dzumac**	**12.66**	**287**	eP			**P**	**18 31 02.5**	**+0.9**
DZM	**Mont Dzumac**	**12.66**	**287**	P			**P**	**18 31 02.5**	**+0.9**
	5.5nm,0.3s,baz=101,slow=19,SNR=52								
AFI	**Afiamalu**	**14.76**	**35**	P			**P**	**18 31 16.0**	**-7.7**
	2.7nm,0.3s,baz=46,slow=20,SNR=4.9								
AFI	**Afiamalu**	**14.76**	**35**	eP			**P**	**18 31 15.2**	**-8.5**
	28nm,0.7s								
SNZO	**South Karori**	**15.51**	**194**	eP			**P**	**18 31 30.0**	**-1.5**
RPZ	**Rata Peaks**	**18.71**	**199**	P			**P**	**18 32 03.1**	**+0.4**
	3.0nm,0.3s,baz=313,slow=8.8,SNR=10								
HNR	**Honiara**	**25.00**	**309**	P			**P**	**18 32 55.9**	**-3.5**
	28nm,0.5s,mb5.0,baz=75,slow=3.3,SNR=4.3								
HNR	**Honiara**	**25.00**	**309**	P			**P**	**18 32 55.5**	**-3.8**
CTA	**Charters Tower**	**31.15**	**274**	eP			**P**	**18 33 53.7**	**+0.6**
	14nm,0.4s,mb4.7								
CTA	**Charters Tower**	**31.15**	**274**	P			**P**	**18 33 53.4**	**+0.3**
	20nm,0.4s,mb4.9

FITZ	**Fitzroy Crossi**	**16.75 212**	Pn	Pn	18 55 22.7	-1.9
	0.1nm,0.3s,baz=36,slow=14,SNR=3.6					
FITZ			Sn	Sn	18 58 24.6	-6.6
	0.0nm,0.3s,baz=0.0,slow=20,SNR=1.8					
ASAR	**Alice Springs**	**19.66 183**	P	Pn	18 55 59.9	-0.4
	0.2nm,0.3s,baz=7.6,slow=11,SNR=23					
ASAR			S	Sn	18 59 36.0	-5.6
	0.0nm,0.3s,baz=360,slow=26,SNR=3.1					
MKAR	**Makanchi Array**	**68.45 324**	P	P	19 02 32.6	+0.2
	0.4nm,0.6s,baz=119,slow=8.1,SNR=6.4					

*ISCJB **10** 19:01:24.6±0.2, 4322N±002×060W±002, h12km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=169.9*
*MDD **10** 19:01:26.5±0.2, 4314N×061W, h6km±3km, mbLg2.0/27, Error ellipse: s-maj=2.4km s-min=1.3km az=12.0, PRXIMO*
*NEIC **10** 19:01:26.5, 4308N×064W, h5km, ML2.5(STR), ML2.7(LDG), MN2.1(MDD), After STR.*
*CSEM **10** 19:01:26.5±0.1, 4312N×063W, h5km, ML2.7/16, Error ellipse: s-maj=1.1km s-min=0.8km az=156.0*
*STR **10** 19:01:26.5±0.2, 4308N×064W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 19:01:26.3±0.1, 4311N×064W, h6km, Md2.7/3, Ml2.7/14, Error ellipse: s-maj=1.4km s-min=1.1km az=174.0*

ISC 10 19:01:25.6±0.2, 4317N±001×061W±002, h12km±2km, n95, σ0°96/195, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.11 218**		Pg	**Pg**	**19 01 28.4**	**-0.1**
ATE	**Arette**	**0.11 218**		P	**Pg**	**19 01 28.5**	**-0.1**
ATE				S	**Sg**	**19 01 30.0**	**-0.6**
REYF	**Montagne du Re**	**0.19 122**		P	**Pg**	**19 01 30.1**	**+0.3**
REYF				S	**Sg**	**19 01 32.9**	**+0.3**
ORDF	**Ordiarp**	**0.24 281**		Pg	**Pg**	**19 01 31.4**	**+0.7**
ORDF				Sg	**Sg**	**19 01 35.2**	**+1.1**
ORDF	**Ordiarp**	**0.24 281**		P	**Pg**	**19 01 31.2**	**+0.5**
ORDF				S	**Sg**	**19 01 34.9**	**+0.8**
ETSF	**Etsaut**	**0.27 172**		*e*Pg	**Pg**	**19 01 30.9**	**-0.3**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**19 01 33.2**	**-1.8**
	204nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**0.27 172**		*e*Pg	**Pg**	**19 01 30.9**	**-0.3**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**19 01 33.2**	**-1.8**
	102nm,0.3s,SNR=1.0						
LARF	**Larrau**	**0.31 245**		Pg	**Pg**	**19 01 32.3**	**+0.5**
LARF	**Larrau**	**0.31 245**		P	**Pg**	**19 01 31.9**	**+0.1**
LARF				S	**Sg**	**19 01 36.2**	**+0.2**
FDAF	**Les Forges d'A**	**0.35 175**		P	**Pg**	**19 01 32.3**	**-0.4**
FDAF				S	**Sg**	**19 01 36.4**	**-1.0**
SJPF	**Ste Jean**	**0.45 263**		*e*Pg	**Pg**	**19 01 34.5**	**0.0**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**19 01 40.8**	**+0.2**
	46nm,0.3s						
SJPF	**Ste Jean**	**0.45 263**		*e*Pg	**Pg**	**19 01 34.5**	**0.0**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**19 01 40.8**	**+0.2**
	23nm,0.3s						
OSSF	**Osses**	**0.48 281**		Pg	**Pg**	**19 01 34.9**	**-0.2**
OSSF	**Osses**	**0.48 281**		P	**Pg**	**19 01 34.8**	**-0.3**
OSSF				S	**Sg**	**19 01 42.2**	**+0.7**
LABF	**Labassere**	**0.52 103**		Pg	**Pg**	**19 01 36.7**	**+1.0**
LABF				Sg	**Sg**	**19 01 44.2**	**+1.7**
LABF	**Labassere**	**0.52 103**		P	**Pg**	**19 01 36.3**	**+0.6**
LABF				S	**Sg**	**19 01 43.7**	**+1.2**
VIEF	**Viey**	**0.55 121**		Pg	**Pg**	**19 01 36.5**	**+0.3**
VIEF				Sg	**Sg**	**19 01 43.6**	**+0.1**
VIEF	**Viey**	**0.55 121**		P	**Pg**	**19 01 36.3**	**+0.1**
VIEF				S	**Sg**	**19 01 43.6**	**+0.1**
EALK	**Alkurruntz**	**0.66 275**		Pg	**Pg**	**19 01 38.1**	**-0.3**
	1.9nm,0.1s,SNR=6.9						
EALK				Lg		19 01 47.8	
	15nm,0.1s,SNR=7.8						
IPRE	**Itoiz**	**0.66 237**		Pg	**Pg**	**19 01 38.3**	**-0.1**
	1.9nm,0.1s,SNR=8.0						
IPRE				Lg		19 01 47.6	
	6.0nm,0.1s,SNR=12						
IPRE	**Itoiz**	**0.66 237**		Pg	**Pg**	**19 01 38.3**	**0.0**
	1.9nm,0.1s,SNR=8.0						
ELIZ	**Elizondo**	**0.67 270**		Pg	**Pg**	**19 01 37.6**	**-1.0**
	2.1nm,0.1s,SNR=7.9						
ELIZ				Lg		19 01 47.5	
	9.3nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.71 101**		*e*Pg	**Pg**	**19 01 39.8**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**19 01 49.2**	**+0.5**
	19nm,0.3s						
EPF	**Esparros**	**0.71 101**		*e*Pg	**Pg**	**19 01 39.8**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**19 01 49.2**	**+0.5**
	9.4nm,0.3s						
IUSE	**Utxeti**	**0.72 252**		Pg	**Pg**	**19 01 39.4**	**-0.2**
	1.9nm,0.1s,SNR=6.9						
IUSE				Lg		19 01 49.3	
	7.4nm,0.1s,SNR=9.7						
EBIE	**Bielsa**	**0.73 131**		Pg	**Pg**	**19 01 39.5**	**-0.3**
	8.1nm,0.0s,SNR=90						
EBIE				Lg		19 01 48.8	
	53nm,0.1s,SNR=49						
EBIE	**Bielsa**	**0.73 131**		Pg	**Pg**	**19 01 39.5**	**-0.3**
	8.1nm,0.0s,SNR=90						
RESF	**Ens**	**0.79 117**		Pg	**Pg**	**19 01 40.7**	**-0.1**
RESF				Sg	**Sg**	**19 01 50.8**	**-0.2**
RESF	**Ens**	**0.79 117**		P	**Pg**	**19 01 40.6**	**-0.1**
RESF				S	**Sg**	**19 01 50.9**	**-0.2**
EARA	**Aranguren**	**0.81 241**		Pg	**Pg**	**19 01 43.1**	**+1.8**
	3.0nm,0.1s,SNR=7.9						
EARA				Lg		19 01 52.4	
	2.5nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.05 106**		Pg	**Pg**	**19 01 48.5**	**+2.7**
MELF				Sg	**Sg**	**19 02 00.7**	**+1.3**
MELF	**Melles**	**1.05 106**		P	**Pb**	**19 01 46.0**	**+0.4**
MELF				S	**Sb**	**19 01 59.9**	**+0.6**
SALF	**Salau**	**1.38 107**		Pg	**Pg**	**19 01 54.0**	**+1.8**
SALF				Sg	**Sg**	**19 02 11.3**	**+1.2**
SALF	**Salau**	**1.38 107**		P	**Pn**	**19 01 52.5**	**+1.9**
SALF				S	**Sn**	**19 02 10.6**	**+1.7**
ESAC	**San Caprasio**	**1.45 176**		Pg	**Pg**	**19 01 53.3**	**-0.1**
	5.7nm,0.1s,SNR=7.9						
ESAC				Lg		19 02 12.0	
	56nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.45 176**		Pg	**Pg**	**19 01 53.3**	**-0.1**
	5.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.02 128**		Pg	**Pg**	**19 02 03.6**	**-0.6**
	2.8nm,0.1s,SNR=7.9						
EMIR				Lg		19 02 29.9	
	10nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.02 128**		Pg	**Pg**	**19 02 03.6**	**-0.6**
	2.8nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.02 28**		*e*Pg	**Pg**	**19 02 05.4**	**+1.1**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**19 02 25.1**	**+0.6**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**19 02 32.6**	**+2.1**
	19nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.02 28**		Pn	**Pn**	**19 02 00.5**	**+1.1**
LFF				Pg	**Pg**	**19 02 05.4**	**+1.1**
LFF				Sn	**Sn**	**19 02 25.1**	**+0.6**
LFF				Lg		19 02 32.6	
	9.6nm,0.3s						
LFF	**La Frestale**	**2.02 28**		*e*Pn	**Pn**	**19 02 00.5**	**+1.1**
LFF				*e*Pg	**Pg**	**19 02 05.4**	**+1.1**
LFF				*e*Sn	**Sn**	**19 02 25.1**	**+0.6**
LFF				*e*Sg	**Sg**	**19 02 32.6**	**+2.1**
LFF	**La Frestale**	**2.02 28**		*e*Pg	**Pg**	**19 02 05.4**	**+1.1**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**19 02 25.1**	**+0.6**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**19 02 32.6**	**+2.1**
	9.6nm,0.3s,SNR=1.0						
ELAN	**Lanestosa**	**2.06 273**		Pg	**Pg**	**19 02 03.9**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
ELAN				Lg		19 02 32.6	
	1.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.06 273**		Pg	**Pg**	**19 02 03.9**	**-1.3**
	0.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.07 84**		*e*Pg	**Pg**	**19 02 04.7**	**-0.6**
MTLF				*e*Sn	**Sn**	**19 02 25.0**	**-0.8**
MTLF				*e*Sg	**Sg**	**19 02 31.6**	**-0.6**
	3.8nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.07 84**		Pn	**Pn**	**19 02 00.2**	**+0.1**
MTLF				Pg	**Pg**	**19 02 04.7**	**-0.6**
MTLF				Sn	**Sn**	**19 02 25.0**	**-0.8**
MTLF				Lg		19 02 31.6	
	1.9nm,0.3s						
MTLF	**Montolieu**	**2.07 84**		*e*Pn	**Pn**	**19 02 00.2**	**+0.1**
MTLF				*e*Pg	**Pg**	**19 02 04.7**	**-0.6**
MTLF				*e*Sn	**Sn**	**19 02 25.0**	**-0.8**
MTLF				*e*Sg	**Sg**	**19 02 31.6**	**-0.6**
	1.9nm,0.3s,SNR=1.0						
VALF	**Valcebollere**	**2.08 111**		S	**Sn**	**19 02 33.8**	**+7.7**
EPOB	**Poblet**	**2.21 145**		Pn	**Pn**	**19 02 03.2**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**19 02 05.7**	**-2.2**
	0.1nm,0.4s,SNR=7.9						
EPOB				Sn	**Sn**	**19 02 28.4**	**-0.7**
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		19 02 35.2	
	4.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.21 145**		Pn	**Pn**	**19 02 03.2**	**+1.2**
	0.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.21 145**		Pg	**Pg**	**19 02 05.7**	**-2.2**
	0.1nm,0.4s,SNR=7.9						
EPOB				Sn	**Sn**	**19 02 28.4**	**-0.7**
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.32 162**		Pg	**Pg**	**19 02 08.5**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		19 02 38.5	
	6.8nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.32 162**		Pg	**Pg**	**19 02 08.5**	**-1.6**
	0.3nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.58 205**		Pn	**Pn**	**19 02 08.6**	**+1.5**
	SNR=7.9						
ETOR				Pg	**Pg**	**19 02 14.4**	**-0.7**
	5.0nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**19 02 39.2**	**+0.8**
	7.0nm,0.1s,SNR=7.9						
ETOR				Lg		19 02 48.1	
	11nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.58 205**		Pg	**Pg**	**19 02 14.4**	**-0.7**
	5.0nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**19 02 39.2**	**+0.8**
	7.0nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.61 47**		*e*Pg	**Pg**	**19 02 15.9**	**+0.3**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**19 02 38.5**	**-0.5**
CAF				*e*Sg	**Sg**	**19 02 50.4**	**+1.0**
	5.9nm,0.2s						
CAF	**Calviac**	**2.61 47**		Pn	**Pn**	**19 02 08.2**	**+0.7**
CAF				Pg	**Pg**	**19 02 15.9**	**+0.3**
CAF				Sn	**Sn**	**19 02 38.5**	**-0.5**
CAF				Lg		19 02 50.4	
	3.0nm,0.2s						
CAF	**Calviac**	**2.61 47**		*e*Pn	**Pn**	**19 02 08.2**	**+0.7**
CAF				*e*Pg	**Pg**	**19 02 15.9**	**+0.3**
CAF				*e*Sn	**Sn**	**19 02 38.5**	**-0.5**
CAF				*e*Sg	**Sg**	**19 02 50.4**	**+1.0**
CAF	**Calviac**	**2.61 47**		*e*Pg	**Pg**	**19 02 15.9**	**+0.3**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**19 02 38.5**	**-0.5**
CAF				*e*Sg	**Sg**	**19 02 50.4**	**+1.0**
	3.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.62 35**		*e*Pg	**Pg**	**19 02 15.7**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**19 02 39.2**	**-0.3**
RJF				*e*Sg	**Sg**	**19 02 50.7**	**+0.8**
	8.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.62 35**		Pn	**Pn**	**19 02 08.5**	**+0.8**
RJF				Pg	**Pg**	**19 02 15.7**	**-0.2**
RJF				Sn	**Sn**	**19 02 39.2**	**-0.3**
RJF				Lg		19 02 50.7	
	4.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.62 35**		*e*Pn	**Pn**	**19 02 08.5**	**+0.8**
RJF				*e*Pg	**Pg**	**19 02 15.7**	**-0.2**
RJF				*e*Sn	**Sn**	**19 02 39.2**	**-0.3**
RJF				*e*Sg	**Sg**	**19 02 50.7**	**+0.8**
RJF	**Les Rejaudoux**	**2.62 35**		*e*Pg	**Pg**	**19 02 15.7**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**19 02 39.2**	**-0.3**
RJF				*e*Sg	**Sg**	**19 02 50.7**	**+0.8**
	4.1nm,0.2s						
EJON	**La Jonquera**	**2.67 104**		Pg	**Pg**	**19 02 14.8**	**-2.0**
	0.7nm,0.1s,SNR=4.0						
EJON				Sn	**Sn**	**19 02 41.6**	**+1.0**
	0.4nm,0.2s,SNR=7.9						
EJON				Lg		19 02 51.7	
	1.9nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.67 104**		Pg	**Pg**	**19 02 14.8**	**-2.0**
	0.7nm,0.1s,SNR=4.0						
EJON				Sn	**Sn**	**19 02 41.7**	**+1.0**
	0.8nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.81 178**		Pn	**Pn**	**19 02 11.5**	**+1.3**
	0.2nm,0.3s,SNR=4.0						
EMOS				Pg	**Pg**	**19 02 17.4**	**-1.9**
	0.8nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**19 02 42.5**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
EMOS				Lg		19 02 52.0	
	1.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.81 178**		Pn	**Pn**	**19 02 11.5**	**+1.3**
EMOS				Pg	**Pg**	**19 02 17.4**	**-1.9**
EMOS				Sn	**Sn**	**19 02 42.5**	**-1.4**
EMOS				Lg		19 02 52.0	
EMOS	**Mosqueruela**	**2.81 178**		Pn	**Pn**	**19 02 11.5**	**+1.3**
	0.2nm,0.3s,SNR=4.0						
EMOS	**Mosqueruela**	**2.81 178**		Pg	**Pg**	**19 02 17.4**	**-1.9**
	0.8nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**3.37 73**		*e*Pn	**Pn**	**19 02 18.4**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 02 56.7**	**-1.1**
	1.4nm,0.2s,SNR=1.0						
LASF				*e*Sg	**Sg**	**19 03 13.1**	**-0.7**
	1.9nm,0.3s						
LASF	**Ste Croix**	**3.37 73**		*e*Pn	**Pn**	**19 02 18.4**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 02 56.7**	**-1.1**
	0.7nm,0.2s,SNR=1.0						
LASF				*e*Sg	**Sg**	**19 03 13.1**	**-0.7**
	0.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.71 32**		*e*Pn	**Pn**	**19 02 23.4**	**+0.8**
TCF				*e*Sg	**Sg**	**19 03 23.8**	**-0.9**
	3.1nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.71 32**		*e*Pn	**Pn**	**19 02 23.4**	**+0.8**
TCF				*e*Sg	**Sg**	**19 03 23.8**	**-0.9**
	1.5nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.17 64**		*e*Pg	**Pg**	**19 02 44.1**	**-1.3**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 03 15.9**	**-1.6**
VIVF				*e*Sg	**Sg**	**19 03 38.9**	**-0.5**
	2.9nm,0.6s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.17 64**		Pn	**Pn**	**19 02 29.5**	**+0.6**
VIVF				Pg	**Pg**	**19 02 44.1**	**-1.3**
VIVF				Sn	**Sn**	**19 03 15.9**	**-1.6**
VIVF				Lg		19 03 38.9	
	1.4nm,0.6s						
VIVF	**Saint-Julien-l**	**4.17 64**		*e*Pn	**Pn**	**19 02 29.5**	**+0.6**
VIVF				*e*Pg	**Pg**	**19 02 44.1**	**-1.3**
VIVF				*e*Sn	**Sn**	**19 03 15.9**	**-1.6**
VIVF				*e*Sg	**Sg**	**19 03 38.9**	**-0.5**
VIVF	**Saint-Julien-l**	**4.17 64**		*e*Pg	**Pg**	**19 02 44.1**	**-1.3**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 03 15.9**	**-1.6**
VIVF				*e*Sg	**Sg**	**19 03 38.9**	**-0.5**
	1.5nm,0.6s,SNR=1.0						
BGF	**Bois d'Agland**	**4.18 35**		*e*Pn	**Pn**	**19 02 29.8**	**+0.6**
BGF				*e*Sn	**Sn**	**19 03 16.5**	**-1.4**
BGF				*e*Sg	**Sg**	**19 03 39.4**	**-0.6**
	13nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.18 35**		*e*Pn	**Pn**	**19 02 29.8**	**+0.6**
BGF				*e*Sn	**Sn**	**19 03 16.5**	**-1.4**
BGF				*e*Sg	**Sg**	**19 03 39.4**	**-0.6**
	6.3nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**4.57 78**		*e*Pn	**Pn**	**19 02 34.4**	**0.0**
AVF	**Avril sur Loir**	**4.58 36**		*e*Pn	**Pn**	**19 02 34.9**	**+0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**19 03 25.7**	**-2.1**
AVF				*e*Sg	**Sg**	**19 03 52.0**	**-0.7**
	4.6nm,0.5s						
AVF	**Avril sur Loir**	**4.58 36**		*e*Pn	**Pn**	**19 02 34.9**	**+0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**19 03 25.7**	**-2.1**
AVF				*e*Sg	**Sg**	**19 03 52.0**	**-0.7**
	2.3nm,0.5s						
SMF	**Signal de Mont**	**4.70 41**		*e*Pn	**Pn**	**19 02 36.4**	**+0.2**
SMF				*e*Sn	**Sn**	**19 03 28.9**	**-1.7**
SMF				*e*Sg	**Sg**	**19 03 55.6**	**-0.8**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**4.70 41**		*e*Pn	**Pn**	**19 02 36.4**	**+0.2**
SMF				*e*Sn	**Sn**	**19 03 28.9**	**-1.7**
SMF				*e*Sg	**Sg**	**19 03 55.6**	**-0.8**
	0.9nm,0.3s						
SSF	**Saint Saulge**	**4.86 35**		*e*Pn	**Pn**	**19 02 39.0**	**+0.6**
SSF				*e*Sg	**Sg**	**19 04 00.8**	**-0.8**
	2.0nm,0.3s						
SSF	**Saint Saulge**	**4.86 35**		*e*Pn	**Pn**	**19 02 39.0**	**+0.6**
SSF				*e*Sg	**Sg**	**19 04 00.8**	**-0.8**
	1.0nm,0.3s						
QUIF	**Quistinic**	**5.08 340**		*e*Pn	**Pn**	**19 02 40.8**	**-0.6**
LOR	**Lormes**	**5.17 36**		*e*Sg	**Sg**	**19 04 11.0**	**-0.6**
	1.6nm,0.3s						
LOR	**Lormes**	**5.17 36**		*e*Sg	**Sg**	**19 04 11.0**	**-0.6**
	0.8nm,0.3s						
GRR	**Gorron**	**5.22 358**		*e*Pn	**Pn**	**19 02 43.9**	**+0.5**
	SNR=1.0						
SGMF	**Saint Gilles**	**5.26 346**		*e*Pn	**Pn**	**19 02 43.9**	**-0.1**
LDF	**La Druitiere**	**5.44 3**		*e*Pn	**Pn**	**19 02 45.9**	**-0.4**
ROSF	**Rostrenen**	**5.49 341**		*e*Pn	**Pn**	**19 02 46.9**	**-0.2**
FLN	**La Foliniere**	**5.59 1**		*e*Pn	**Pn**	**19 02 48.6**	**+0.1**

*ISCJB **10** 19:14:14.1±1.3, 1019S±009×1609E±0.1, h76km±11km, mb4.1/12, Error ellipse: s-maj=17.9km s-min=13.7km az=132.3*
*IDC **10** 19:14:14.6±2.0, 1017S×16100E, h68km±15km, mb3.8/9, mb1 4.2/12, mb1mx4.1/16, mbtmp4.3/12, MS3.7/11, Ms1 3.7/11, ms1mx3.4/25, Error ellipse: s-maj=23.4km s-min=14.5km az=76.0*
*NEIC **10** 19:14:14.7±1.0, 1013S×16093E, h68km±8km, mb4.6/6, Error ellipse: s-maj=11.1km s-min=8.8km az=62.0*

ISC 10 19:14:14.8±1.2, 1014S±008×1610E±01, h68km±10km, n34, σ0°77/32, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.22 305**		P	**Pn**	**19 14 36.1**	**+0.2**
	234nm,0.3s,baz=130,slow=2.1,SNR=124						
HNR				S	**Sn**	**19 14 52.8**	**+1.0**
	1μm,0.3s,baz=260,slow=6.1,SNR=38						
HNR				LR	LR	19 15 00.5	
	comp=Z,1μm,21.3s,baz=198,slow=36						
HNR	**Honiara**	**1.22 305**		*e*Pn	**Pn**	**19 14 36.1**	**+0.1**
HNR				*e*Sn	**Sn**	**19 14 50.1**	**-1.7**
DZM	**Mont Dzumac**	**12.98 157**		*e*P	**Pn**	**19 17 16.1**	**-0.2**
DZM	**Mont Dzumac**	**12.98 157**		P	**Pn**	**19 17 16.1**	**-0.1**
	1.6nm,0.3s,baz=145,slow=21,SNR=30						
DZM				S	**Sn**	**19 19 33.7**	**-5.1**
	0.6nm,0.3s,baz=60,slow=20,SNR=3.2						
DZM				LR	LR	19 21 20.2	
	comp=Z,140nm,19.2s,baz=215,slow=33						
PMG	**Port Moresby**	**13.62 272**		P	**Pn**	**19 17 26.6**	**+1.9**
	0.2nm,0.3s,baz=188,slow=19,SNR=3.3						
PMG	**Port Moresby**	**13.62 272**		P	**Pn**	**19 17 23.3**	**-1.4**
	53nm,1.3s						
CTA	**Charters Tower**	**17.28 233**		P	**Pn**	**19 18 12.7**	**+1.1**
	0.9nm,0.3s,baz=62,slow=13,SNR=17						
CTA				LR	LR	19 23 30.1	
	comp=Z,318nm,20.1s,baz=49,slow=32						
CTAO	**Charters Tower**	**17.28 233**		*e*P	**Pn**	**19 18 15.1**	**+3.6**
	60nm,0.9s						
AFI	**Afiamalu**	**26.92 101**		LR	LR	19 28 15.0	
	comp=Z,194nm,18.5s,baz=295,slow=31						
WB2	**Warramunga Arr**	**27.44 246**		*e*P	**P**	**19 19 54.3**	**+0.1**
WRA	**Warramunga Arr**	**27.45 246**		P	**P**	**19 19 54.5**	**+0.2**
	7.9nm,1.1s,mb4.2,baz=77,slow=8.9,SNR=17						
WRA				LR	LR	19 29 31.3	
	comp=Z,97nm,19.4s,baz=75,slow=33						
STKA	**Stephens Creek**	**28.09 217**		P	**P**	**19 20 01.3**	**+1.3**
	5.3nm,1.0s,mb4.0,baz=359,slow=5.1,SNR=4.7						
STKA				LR	LR	19 29 17.6	
	comp=Z,213nm,19.2s,baz=27,slow=32						
STKA	**Stephens Creek**	**28.09 217**		*e*P	**P**	**19 20 00.3**	**+0.3**
AS31	**Alice Springs**	**29.09 239**		*e*P	**P**	**19 20 08.4**	**-0.5**
ASAR	**Alice Springs**	**29.10 239**		P	**P**	**19 20 08.4**	**-0.5**
	2.6nm,0.8s,mb3.9,baz=64,slow=10,SNR=39						
ASAR				LR	LR	19 31 30.8	
	comp=Z,220nm,20.0s,baz=58,slow=36						
ASPA	**Alice Springs**	**29.10 239**		*e*P	**P**	**19 20 08.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.10 253**		*e*P	**P**	**19 21 01.8**	**+0.3**
	16nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**41.06 249**		*e*P	**P**	**19 21 51.6**	**0.0**
	14nm,0.8s,mb4.9						
JHJ	**Hachijo jima 2**	**47.52 336**		LR	LR	19 40 01.8	
	comp=Z,44nm,20.4s,baz=87,slow=32						
PPT	**Papeete**	**48.48 104**		*e*S	**S**	**19 30 00.1**	**+13**
	70nm,28.5s						
PPT				*e*LR	LR	19 36 38.6	
	104nm,23.5s						
PPT	**Papeete**	**48.48 104**		LR	LR	19 40 16.3	
	comp=Z,92nm,18.7s,baz=179,slow=32						
MJAR	**Matsushiro Arr**	**51.13 336**		P	**P**	**19 23 09.6**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=175,slow=9.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**51.13 336**		P	**P**	**19 23 09.6**	**-1.1**
ASAJ	**Asahikawa**	**56.51 344**		LR	LR	19 46 01.9	
	comp=Z,84nm,19.4s,baz=120,slow=34						
PSI	**Prapat**	**63.08 278**		LR	LR	19 53 40.2	
	comp=Z,69nm,18

DAV				*e*Sn	**Sn**	19 57 52.6	+6.7
KCP	**Kidapawan**	**1.94**	**339**	*e*P	**Pn**	19 57 23.8	-0.2
KCP				*i* S	**Sn**	19 57 51.9	+4.5
BUKP	**Musuan**	**2.77**	**345**	*e*P	**Pn**	19 57 34.4	-0.8
BUKP				*e*S	**Sn**	19 58 09.5	+2.0
BUTP	**Butuan**	**3.76**	**357**	*e*P	**Pn**	19 57 46.9	-1.8
BUTP				*e*S	**Sn**	19 58 33.5	+1.9
JOW	**Kunigami**	**21.65**	**6**	P	**P**	20 01 38.3	+0.3
	7.4nm,0.8s,mb4.1,baz=268,slow=24,SNR=6.2						
FITZ	**Fitzroy Crossi**	**23.15**	**180**	P	**P**	20 01 54.3	+0.6
	1.4nm,0.8s,mb3.3,baz=32,slow=9.5,SNR=2.8						
WRA	**Warramunga Arr**	**26.35**	**162**	P	**P**	20 02 23.0	+0.2
	0.9nm,0.4s,mb3.6,baz=340,slow=11,SNR=13						
WB2	**Warramunga Arr**	**26.36**	**162**	*e*P	**P**	20 02 25.6	+2.7
ASAR	**Alice Springs**	**29.75**	**165**	P	**P**	20 02 53.9	+0.7
	0.2nm,0.5s,baz=352,slow=7.9,SNR=5.2						
STKA	**Stephens Creek**	**39.82**	**159**	P	**P**	20 04 19.3	-0.5
	1.9nm,0.8s,mb4.0,baz=329,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**39.82**	**159**	P	**P**	20 04 19.3	-0.5
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	20 06 23.5	0.0
	0.7nm,0.6s,mb3.9,baz=116,slow=8.0,SNR=10						
ZRNK	**Zerenda**	**66.32**	**326**	P	**P**	20 07 33.4	-1.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**66.32**	**326**	P	**P**	20 07 33.4	-1.1
	comp=Z,2.5nm,0.5s,mb4.3						
UNV	**Unalaska Valle**	**72.76**	**35**	P	**P**	20 08 13.2	-1.0
	comp=Z,110nm,1.0s						
ARU	**Arti**	**73.21**	**328**	P	**P**	20 08 16.4	-0.4
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ARU	**Arti**	**73.21**	**328**	P	**P**	20 08 16.4	-0.4
	comp=Z,1.9nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**88.76**	**340**	P	**P**	20 09 39.0	-0.4
	comp=Z,2.1nm,0.8s,mb4.2,baz=80,slow=5.0,SNR=3.0						
INK	**Inuvik**	**89.15**	**21**	P	**P**	20 09 41.4	+0.2
	comp=Z,199nm,0.9s						
FINES	**FINESS Array B**	**90.11**	**332**	P	**P**	20 09 46.2	+0.5
	comp=Z,0.7nm,0.9s,mb3.8,baz=91,slow=8.9,SNR=2.8						

*NEIC **10** 20:50:13.5, 3890N×21.14E, h19km, MD3.3(ATH), After ATH.*
*ATH **10** 20:50:13.5, 3890N×21.14E, h19km±2km, MD3.3/9*
*ISCJB **10** 20:50:14.4±0.5, 3883N±003×21.16E±003, h22km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=133.6*
*THE **10** 20:50:14.3, 3861N×2110E, h20km, ML3.1*
*CSEM **10** 20:50:14.0±0.1, 3891N×2111E, h2km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.7km az=6.0*

ISC 10 20:50:14.3±0.5, 3879N±003×2117E±003, h16km±3km, n33, σ1§06/55, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.41**	**258**	*e*Pg	**Pg**	20 50 22.1	-0.6
LKD				*e*Sg	**Sg**	20 50 28.3	-0.2
EVR	**Evrytania**	**0.51**	**76**	*e*PN	**Pg**	20 50 24.2	-0.4
EVR				*e*SN	**Sg**	20 50 31.3	-0.2
EVR	**Evrytania**	**0.51**	**76**	*e*Pn	**Pg**	20 50 24.2	-0.4
EVR				*e*Sn	**Sg**	20 50 31.8	+0.3
VLS	**Valsamata**	**0.77**	**217**	*e*PB	**Pb**	20 50 29.0	-0.2
VLS				*e*SN	**Sn**	20 50 42.3	+0.7
RLS	**Riolos of Patr**	**0.77**	**162**	*e*PN	**Pn**	20 50 30.6	+0.1
JAN	**Janina**	**0.90**	**344**	*e*PN	**Pn**	20 50 28.5	-3.7
JAN				*e*SN	**Sn**	20 50 39.9	-4.9
JAN	**Janina**	**0.90**	**344**	*e*Pn	**Pn**	20 50 28.5	-3.7
JAN				*e*Sn	**Sn**	20 50 40.1	-4.7
AGG	**Agios Georgios**	**0.93**	**76**	*e*Pg	**Pg**	20 50 31.6	-0.8
AGG				*e*Sg	**Sg**	20 50 45.9	+1.1
AGG	**Agios Georgios**	**0.93**	**76**	*e*Pg	**Pg**	20 50 31.6	-0.9
AGG				*e*Sg	**Sg**	20 50 45.8	+1.1
IGT	**Igoumenitsa**	**0.98**	**319**	*e*Pg	**Pg**	20 50 30.2	-3.2
IGT				*e*Sg	**Sg**	20 50 46.3	0.0
THL	**Klokotos Trika**	**1.01**	**40**	*e*PN	**Pn**	20 50 31.4	-2.4
THL				*e*SN	**Sn**	20 50 45.1	-2.6
THL	**Klokotos Trika**	**1.01**	**40**	*e*Pn	**Pn**	20 50 31.3	-2.5
THL				*e*Sn	**Sn**	20 50 45.1	-2.6
KEK	**Kerkira**	**1.41**	**311**	*e*PN	**Pn**	20 50 38.6	-0.6
KEK				*e*SN	**Sn**	20 50 56.9	-0.5
SRN	**Sarande**	**1.41**	**320**	*i* Pn	**Pn**	20 50 38.7	-0.6
SRN				*i* Sn	**Sg**	20 51 01.4	+1.4
SRN	**Sarande**	**1.41**	**320**	*e*Pn	**Pn**	20 50 38.7	-0.6
SRN				*i* Sn	**Sg**	20 51 01.4	+1.4
LSK	**Leskovik**	**1.42**	**342**	*i* Pn	**Pn**	20 50 37.9	-1.6
LSK				*i* Sn	**Sg**	20 51 01.6	+1.3
LSK	**Leskovik**	**1.42**	**342**	*e*Pn	**Pn**	20 50 37.9	-1.6
LSK				*i* Sn	**Sg**	20 51 01.6	+1.3
LKR	**Lokris**	**1.44**	**95**	*e*PN	**Pn**	20 50 41.4	+1.7
LKR	**Lokris**	**1.44**	**95**	*e*Pn	**Pn**	20 50 42.0	+2.3
KZN	**Kozani**	**1.58**	**17**	*e*PN	**Pn**	20 50 41.2	-0.4
LIT	**Litokhoron**	**1.66**	**38**	*e*Pb	**Pb**	20 50 42.9	-1.6
LIT				*e*Sb	**Sb**	20 51 05.3	+0.2
XOR	**Xorichti**	**1.68**	**69**	*e*Pb	**Pn**	20 50 41.8	-1.1
XOR				*e*Sb	**Sn**	20 51 03.5	-0.5
ITM	**Ithomi**	**1.72**	**159**	*e*PN	**Pn**	20 50 46.5	+3.0
FNA	**Florina**	**1.99**	**5**	*e*Pn	**Pn**	20 50 48.4	+1.1
FNA				*e*Sn	**Sn**	20 51 13.6	+1.7
HORT	**Hortiatis**	**2.34**	**39**	*e*Pn	**Pn**	20 50 52.0	-0.1
GRG	**Griva**	**2.36**	**23**	*e*Pn	**Pn**	20 50 53.0	+0.6
SOH	**Sokhos**	**2.63**	**39**	*e*Pn	**Pn**	20 50 56.6	+0.5
SOH				*e*Sn	**Sn**	20 51 27.9	+0.2
OUR	**Ouranopolis**	**2.66**	**54**	*e*Pn	**Pn**	20 50 57.1	+0.6
KNT	**Kendrikon**	**2.71**	**29**	*e*Pn	**Pn**	20 50 57.4	+0.2
KNT				*e*Sn	**Sn**	20 51 29.9	+0.3
KNT	**Kendrikon**	**2.71**	**29**	*e*Pn	**Pn**	20 50 57.3	+0.1
KNT				*e*Sn	**Sn**	20 51 29.9	+0.3
SRS	**Serrai**	**2.98**	**38**	*e*Pn	**Pn**	20 51 01.3	+0.5
MMB	**Musomiste**	**3.41**	**34**	*e*Pn	**Pn**	20 51 06.9	+0.1
DIVS	**Divcibare**	**5.37**	**351**	*e*Pn	**Pn**	20 51 34.3	+0.5

IDC 10 21:01:45.4±2.2, 594S×13019E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/12, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=91.7km s-min=27.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.88**	**200**	Pn	Pn	21 04 50.4	+0.8
	0.3nm,0.3s,baz=24,slow=9.4,SNR=22						
FITZ				Sn	Sn	21 07 01.7	-12
	0.2nm,0.3s,baz=349,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**14.49**	**164**	Pn	Pn	21 05 12.2	+0.5
	0.3nm,0.3s,baz=347,slow=13,SNR=15						
WRA				Sn	Sn	21 07 40.0	-13
	0.7nm,0.3s,baz=339,slow=23,SNR=9.6						
ASAR	**Alice Springs**	**17.98**	**169**	P	Pn	21 05 56.5	-0.3
	0.1nm,0.3s,baz=343,slow=9.7,SNR=8.0						
ASAR				S	Sn	21 09 04.8	-13
	0.2nm,0.3s,baz=352,slow=26,SNR=5.2						
MKAR	**Makanchi Array**	**67.45**	**326**	P	P	21 12 43.1	+0.2
	0.4nm,0.4s,baz=112,slow=7.9,SNR=7.9						

*NEIC **10** 21:04:11.6, 3068S×7200W, h4km, ML3.2(GUC), After GUC.*

GUC 10 21:04:11.6±0.7, 3068S×7200W, h4km±7km, MD3.5, ML3.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.69**	**85**	*i* P	Pg	21 04 25.4	+0.6
OVCH				*i* S	Sg	21 04 36.3	+2.5
OVCH				AML	AML	21 04 39.6	
	comp=N,1μm,0.4s						
OVCH	**Ovalle**	**0.69**	**85**	*i* P	Pg	21 04 25.4	+0.6
OVCH				*i* S	Sg	21 04 36.3	+2.5
CMCH	**Combarbala**	**0.99**	**120**	*e*P	Pg	21 04 30.7	+0.2
CMCH				*i* S	Sg	21 04 44.5	+1.1
CMCH				AML	AML	21 04 48.4	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**0.99**	**120**	*e*P	Pg	21 04 30.7	+0.2
CMCH				*i* S	Sg	21 04 44.5	+1.1
LSCH	**La Serena**	**1.00**	**41**	*i* P	Pg	21 04 30.2	-0.6
LSCH				*i* S	Sg	21 04 44.7	+0.8
TLL	**Tololo Astrono**	**1.15**	**64**	*e*P	Pg	21 04 33.4	-0.2
TLL				*i* S	Sg	21 04 50.2	+1.8
TLL				AML	AML	21 04 53.7	
	comp=E,1μm,0.6s						
TLL	**Tololo Astrono**	**1.15**	**64**	*e*P	Pg	21 04 33.4	-0.2
TLL				*i* S	Sg	21 04 50.2	+1.8
CHNG	**Los Chungos**	**1.28**	**161**	*e*P	Pg	21 04 34.7	-1.4
CHNG				*i* S	Sg	21 04 52.7	+0.1
CHNG				AML	AML	21 04 60.0	
	comp=E,239nm,0.3s						
PTCH	**Petorca**	**1.83**	**150**	*e*P	Pn	21 04 43.8	0.0
PTCH				*i* S	Sn	21 05 07.6	+0.3
PTCH				AML	AML	21 05 16.5	
	comp=N,583nm,0.3s						
PTCH	**Petorca**	**1.83**	**150**	*e*P	Pn	21 04 43.8	0.0
PTCH				*i* S	Sn	21 05 07.6	+0.3
PEL	**Peldehue**	**2.70**	**156**	AML	AML	21 05 44.0	
	comp=N,193nm,0.4s						
ZON	**Zonda**	**2.98**	**108**	AML	AML	21 05 59.1	
	comp=E,68nm,0.5s						
CLCH	**Cerro Calan**	**2.98**	**156**	AML	AML	21 05 50.5	
	comp=E,175nm,0.6s						
FCH	**Farellones**	**3.02**	**152**	AML	AML	21 05 55.9	
	comp=E,64nm,0.4s						

IDC 10 21:04:33.3±1.3, 256N×12632E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, Error ellipse: s-maj=162.6km s-min=20.4km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**161**	P	P	21 09 47.5	+0.6
	1.1nm,0.5s,baz=340,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**27.09**	**165**	P	P	21 10 18.6	+1.0
	0.5nm,0.6s,baz=340,slow=8.1,SNR=3.5						
STKA	**Stephens Creek**	**37.19**	**158**	P	P	21 11 45.4	-0.7
	2.1nm,0.7s,baz=329,slow=12,SNR=3.7						
SONM	**Songino Array**	**48.27**	**342**	P	P	21 13 16.4	+0.4
	0.3nm,0.6s,baz=156,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	21 14 29.7	0.0
	0.3nm,0.4s,baz=131,slow=7.8,SNR=4.5						

*NEIC **10** 21:07:17.9, 3645N×1157E, h10km, ML3.3(ROM), After ROM.*
*CSEM **10** 21:07:17.9±0.7, 3645N×1157E, h10km, MD2.7/2, ML3.5/1, Error ellipse: s-maj=12.8km s-min=7.2km az=154.0, After ROM*

ROM 10 21:07:17.9±0.7, 3645N×1157E, h10km, Md2.7/2, Ml3.3/3, 1C, Error ellipse: s-maj=12.8km s-min=7.2km az=154.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**0.50**	**44**	⇑*i*Pg	Pg	21 07 27.9	+0.3
PTS				Sg	Sg	21 07 35.3	+1.2
	414nm,0.3s						
CLTB	**Caltabellotta**	**1.73**	**49**	Pg	Pg	21 07 48.1	-3.0
	69nm,0.3s						
CORL	**Corleone**	**2.00**	**43**	Pg	Pg	21 07 52.1	-4.1
	112nm,0.6s						
CSLB	**Castelbuono**	**2.48**	**53**	Pg	Pg	21 07 59.8	-5.6
	25nm,0.2s						
GIB	**Gibilmanna**	**2.49**	**51**	Pg	Pg	21 07 59.9	-5.7
GIB				Sg	Sg	21 08 30.9	-7.0
	211nm,0.6s						
IFIL	**Filicudi I Eol**	**3.18**	**48**	Pg	Pg	21 08 08.5	-10
	116nm,0.5s						
SLNA	**Salina**	**3.34**	**50**	Pg	Pg	21 08 10.0	-12
	30nm,0.4s						
VSL	**Villasalto**	**3.50**	**331**	Pg	Pg	21 08 14.0	-11
VSL				Sg	Sg	21 08 51.6	-19

IDC 10 21:17:33.8±2.2, 417N×9592E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=59.9km s-min=20.6km az=45.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.30**	**114**	Pn	Pn	21 18 29.1	+2.5
	1.8nm,0.3s,baz=304,slow=13,SNR=9.6						
PSI				Sn	Sn	21 19 09.9	+3.3
	3.2nm,0.3s,baz=311,slow=18,SNR=3.0						
PSI				Lg		21 19 19.2	
	4.1nm,0.3s,baz=129,slow=19,SNR=10.0						
SONM	**Songino Array**	**44.42**	**10**	P	P	21 25 46.4	+0.1
	0.4nm,0.9s,baz=193,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**44.72**	**124**	P	P	21 25 48.6	0.0
	0.6nm,0.5s,baz=302,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**46.22**	**129**	P	P	21 26 00.9	+0.4
	0.3nm,0.5s,baz=299,slow=7.5,SNR=4.7						

IDC 10 21:33:27.9±1.5, 2106N×12108E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=296.0km s-min=25.9km az=71.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.23**	**340**	P	P	21 39 31.5	+0.1
	0.1nm,0.4s,baz=144,slow=5.4,SNR=2.5						
WRA	**Warramunga Arr**	**42.76**	**161**	P	P	21 41 27.1	0.0
	3.3nm,1.1s,baz=342,slow=9.1,SNR=8.3						
WB2	**Warramunga Arr**	**42.76**	**161**	*e*P	P	21 41 27.2	+0.2
ASAR	**Alice Springs**	**46.17**	**164**	P	P	21 41 54.7	+0.4
	0.4nm,0.7s,baz=346,slow=6.8,SNR=4.3						

*ISCJB **10** 21:39:10.3±0.4, 2083N±003×120.10E±008, h10km, mb3.7/10, Error ellipse: s-maj=11.4km s-min=4.0km az=160.7*
*IDC **10** 21:39:10.0±0.8, 2070N×11991E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/20, mbtmp3.8/10, MS3.2/1, Ms1 3.2/1, ms1mx2.3/32, Error ellipse: s-maj=40.0km s-min=17.1km az=67.0*
*NEIC **10** 21:39:11.4±0.5, 2073N×11998E, h10km, mb4.8/2, Error ellipse: s-maj=13.7km s-min=8.2km az=82.0*
*MOS **10** 21:39:12.8±1.3, 2065N×11986E, h33km, mb4.7/1, Error ellipse: s-maj=42.5km s-min=19.2km az=114.6*
*BJI **10** 21:39:16.9, 2099N×119.15E, h5km, mb4.2, Ms4.0, Msz3.8*

ISC 10 21:39:11.9±0.4, 2083N±003×12009E±008, h10km, n26, σ1§26/32, mb3.7/10, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.22**	**169**	*e*P	**Pn**	21 40 01.8	-0.7
ABRA				*e*S	**Sn**	21 40 37.9	-2.9
CVP	**Callao Caves**	**3.52**	**152**	⇑*e*P	**Pn**	21 40 06.2	-0.4
CVP				*i* S	**Sn**	21 40 46.5	-1.7
NACB	**Ninganchiao**	**3.61**	**22**	*e*Pn	**Pn**	21 40 08.5	+0.6
NACB				*e*Sn	**Sn**	21 40 49.3	-1.3
YHNB	**Yeheng**	**4.00**	**17**	*e*Pn	**Pn**	21 40 14.7	+1.4
YHNB				*e*Sn	**Sn**	21 40 59.4	-0.9
CAUP	**Cauayan**	**4.20**	**157**	*e*P	**Pn**	21 40 18.7	+2.7
CAUP				*e*S	**Sn**	21 41 09.3	+4.2
PALP	**Palanan**	**4.35**	**149**	*e*P	**Pn**	21 40 25.1	+7.1
PALP				*e*S	**Sn**	21 41 09.6	+0.8
BALP	**Baler**	**5.25**	**164**	*e*P	**Pn**	21 40 33.2	+2.7
BALP				*e*S	**Sn**	21 41 32.8	+1.7
JOW	**Kunigami**	**9.58**	**50**	LR	LR	21 46 02.1	
	comp=Z,118nm,18.9s,baz=156,slow=42						
BJT	**Baijiatuau**	**19.42**	**351**	P	**Pn**	21 43 38.3	-1.1
BJT				pmax	pmax		
	comp=Z,25nm,1.5s						
BJT	**Baijiatuau**	**19.42**	**351**	P	**Pn**	21 43 38.3	-1.1
	comp=Z,25nm,1.5s						
KSM	**Kuching**	**21.47**	**208**	P	**P**	21 43 52.4	-8.2
MJAR	**Matsushiro Arr**	**22.25**	**41**	P	**P**	21 44 10.9	+2.0
	comp=Z,2.5nm,0.8s,mb3.7,baz=227,slow=10,SNR=8.2						
GTA	**Gaotai**	**25.40**	**321**	*e*P	**P**	21 44 41.0	+1.5
GTA				AP	pP	21 44 47.4	+4.9
GTA				XP	sP	21 44 50.7	+6.9
SONM	**Songino Array**	**29.13**	**341**	P	**P**	21 45 13.7	+0.8
	comp=Z,1.3nm,0.9s,mb3.6,baz=152,slow=8.9,SNR=9.4						
MKAR	**Makanchi Array**	**40.12**	**319**	P	**P**	21 46 46.5	-1.3
	comp=Z,0.7nm,0.9s,mb3.4,baz=116,slow=8.2,SNR=4.9						
ZAL	**Zalesovo**	**42.56**	**330**	P	**P**	21 47 07.8	-0.1
	comp=Z,0.5nm,0.4s,mb3.6,baz=330,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**42.85**	**160**	P	**P**	21 47 09.3	-0.9
	comp=Z,2.8nm,0.6s,mb4.2,baz=342,slow=9.1,SNR=28						
ASAR	**Alice Springs**	**46.23**	**162**	P	**P**	21 47 36.7	-0.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=345,slow=7.2,SNR=17						
CTAO	**Charters Tower**	**48.05**	**146**	P	**P**	21 47 50.7	-0.7
CTAO				pmax	pmax		
	comp=Z,47nm,1.5s						
CTAO	**Charters Tower**	**48.05**	**146**	P	**P**	21 47 50.7	-0.7
	comp=Z,47nm,1.5s						
BVAR	**Borovoye Array**	**49.67**	**323**	P	**P**	21 48 03.7	-0.1
	comp=Z,0.2nm,0.6s,mb3.4,baz=90,slow=6.1,SNR=2.9						
NIKO	**Nikolski**	**62.28**	**40**	P	**P**	21 49 40.1	+6.0
FINES	**FINESS Array B**	**73.83**	**330**	P	**P**	21 50 46.7	0.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=43,slow=8.6,SNR=5.0						
NOA	**NORSAR Array B**	**80.70**	**332**	P	**P**	21 51 24.3	-1.0
	comp=Z,1.0nm,0.9s,mb3.7,baz=70,slow=5.2,SNR=2.6						
NOA	**NORSAR Array B**	**80.70**	**332**	P	**P**	21 51 24.3	-1.0
GERES	**GERESS Array B**	**84.78**	**320**	P	**P**	21 51 47.2	+0.8
	comp=Z,0.3nm,0.4s,mb3.8,baz=46,slow=5.8,SNR=6.1						

MAN 10 21:39:56.6, 546N×12661E, h0km, mb2.9, ML4.3, MS4.3, Mindanao

CASC 10 21:40:52.8±2.3, 957N×8417W, h24km±5km, MD3.7, 6C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.24**	**42**	⇑*e*P	Pb	21 40 59.5	+0.7
LAJ	**Bijagual**	**0.30**	**8**	⇓*i*P	Pb	21 41 01.9	+2.2
OCM	**Ochomogo**	**0.38**	**32**	⇓*e*P	Pb	21 41 01.1	+0.1
OCM				⇓*i*P		21 41 01.3	
OCM				*e*		21 41 08.0	
OCM				*e*S	Sb	21 41 08.0	+1.3
SJS	**Escuela Geolog**	**0.39**	**16**	*e*P	Pb	21 41 01.6	+0.5
SJS				*e*S	Sb	21 41 07.5	+0.8
BUS	**Buena Vista**	**0.40**	**91**	⇓*i*P	Pb	21 41 01.7	+0.3
PRS1	**Puriscal**	**0.44**	**341**	⇑*i*P	Pb	21 41 01.1	-0.9
IRZ2	**Volcan Irazu 2**	**0.48**	**33**	⇓*i*P	Pb	21 41 03.0	+0.4
CGA2	**Cerro Gallo 2**	**0.54**	**327**	⇑*e*P	Pb	21 41 03.3	-0.3
EPA	**Esparza**	**0.60**	**315**	⇓*i*P	Pb	21 41 03.9	-0.7
POA2	**Poas 2**	**0.61**	**352**	⇑*i*P	Pb	21 41 04.9	0.0
CAO	**Cobano**	**0.94**	**278**	⇑*e*P	Pb	21 41 08.3	-2.0
JCR	**Jicaral**	**0.97**	**287**	⇓*e*P	Pn	21 41 09.5	-1.5
VACR	**Volcan Arenal**	**1.03**	**331**	⇑*e*P	Pn	21 41 11.1	-0.7
CTCR	**Cotoan**	**1.54**	**116**	⇓*e*P	Pn	21 41 17.8	-0.9
VCR	**Vista de Mar**	**1.55**	**291**	*e*P	Pn	21 41 19.7	+0.8
RIN3	**Volcan Rincon**	**1.71**	**316**	⇓*e*P	Pn	21 41 21.7	+0.7

*ISCJB **10** 21:44:57.6±0.4, 2084N±004×120.13E±008, h10km, mb4.1/14, MS3.1/2, Error ellipse: s-maj=10.2km s-min=5.6km az=174.2*
*IDC **10** 21:44:57.6±0.8, 2077N×120.13E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/21, mbtmp3.9/9, MS3.3/2, Ms1 3.3/2, ms1mx2.9/31, Error ellipse: s-maj=41.4km s-min=15.6km az=65.0*
*NEIC **10** 21:44:58.8±4.8, 2083N×120.11E, h8km±32km, mb4.6/6, Error ellipse: s-maj=11.0km s-min=8.8km az=115.0*
*MOS **10** 21:45:01.5±1.4, 2051N×11979E, h33km, mb4.9/4, Error ellipse: s-maj=43.6km s-min=12.3km az=115.7*
*BJI **10** 21:45:08.2, 2134N×119.15E, h7km, mB4.7, mb4.3, ML3.5, Ms4.0, Msz4.0*
*MAN **10** 21:45:36.3, 1820N×12105E, h1km, mb3.3, ML4.5, MS1.4*

ISC 10 21:45:00.5±3.4, 2085N±004×12018E±008, h17km±23km, n36, σ1§24/37, mb4.1/14, MS3.1/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.22**	**171**	*e*P	**Pn**	21 45 48.4	-1.9
NACB	**Ninganchiao**	**3.56**	**21**	*e*Pn	**Pn**	21 45 54.7	-0.3
NACB				*e*Sn	**Sn**	21 46 35.3	-1.4
YHNB	**Yeheng**	**3.96**	**16**	*e*Pn	**Pn**	21 46 00.2	-0.3
YHNB				*e*Sn	**Sn**	21 46 41.8	-4.8
CAUP	**Cauayan**	**4.18**	**158**	*e*P	**Pn**	21 46 05.0	+1.4
PALP	**Palanan**	**4.32**	**150**	*e*P	**Pn**	21 46 05.6	+0.2
QZH	**Quanzhou**	**4.33**	**341**	P	**Pn**	21 46 02.9	-2.6
QZH				S	**Sn**	21 46 49.5	-6.1
QZH				Smax			
	comp=N,130nm,1.1s						
QZH				Smax			
	comp=E,130nm,0.8s						
BALP	**Baler**	**5.25**	**165**	*e*P	**Pn**	21 46 18.7	+0.5
QIZ	**Qiongzhong**	**9.88**	**261**	Pn	**Pn**	21 47 20.3	-1.5
BJT	**Baijiatuau**	**19.41**	**351**	P	**Pn**	21 49 31.4	+4.4
BJT				pmax	pmax		
	comp=Z,13nm,1.0s						
BJT	**Baijiatuau**	**19.41**	**351**	P	**Pn**	21 49 31.4	+4.4
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**19.44**	**351**	P	**Pn**	21 49 32.1	+4.9
LZH	**Lanzhou**	**20.85**	**320**	*e*P	**P**	21 49 44.5	+3.1
LZH				AP		21 49 49.3	
LZH				XP	sP	21 49 52.1	+3.6
LZH				AMB	AMB		
	comp=Z,22nm,1.3s						
LZH	**Lanzhou**	**20.85**	**320**	*e*P	**P**	21 49 44.5	+3.1
	comp=Z,22nm,1.3s						
LZH				pP		21 49 49.3	
LZH				sP	sP	21 49 52.1	+3.6
HHC	**Hu-ho-hao-te**	**21.24**	**342**	*e*P	**P**	21 49 47.5	+1.8
HHC				AP		21 49 51.5	
HHC				XP	sP	21 49 53.8	+1.0
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,137nm,5.5s						
JHJ	**Hachijo jima 2**	**21.28**	**51**	LR	LR	21 56 07.5	
	comp=Z,83nm,21.8s,MS3.1,baz=237,slow=31						
KSM	**Kuching**	**21.53**	**208**	*e*P	**P**	21 49 49.5	+0.7

σ0°65/13, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.73**	**23**	*e*Pn	**Pn**	**22 18 22.1**	**-0.5**
NACB				*e*Sn	**Sn**	**22 19 03.0**	**-3.9**
YHNB	**Yeheng**	**4.12**	**18**	*e*Pn	**Pn**	**22 18 27.6**	**-0.3**
YHNB				*e*Sn	**Sn**	**22 19 16.6**	**+0.1**
JOW	**Kunigami**	**9.70**	**50**	LR	LR	22 23 28.4	
	comp=Z,72nm,18.7s,baz=65,slow=38						
MAJO	**Matsushiro**	**22.37**	**41**	P	**P**	**22 22 24.4**	**+0.9**
MJAR	**Matsushiro Arr**	**22.37**	**41**	P	**P**	**22 22 24.4**	**+0.9**
	0.4nm,0.4s,mb3.2,baz=231,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**29.19**	**341**	P	**P**	**22 23 26.0**	**-0.8**
	0.4nm,0.9s,mb3.2,baz=165,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**40.14**	**319**	P	**P**	**22 25 01.8**	**+0.5**
	0.1nm,0.4s,baz=124,slow=9.5,SNR=2.8						
WRA	**Warramunga Arr**	**42.80**	**160**	P	**P**	**22 25 22.7**	**-0.4**
	1.6nm,0.6s,mb4.0,baz=342,slow=9.1,SNR=15						
WB2	**Warramunga Arr**	**42.80**	**160**	*e*P	**P**	**22 25 23.1**	**0.0**
ASAR	**Alice Springs**	**46.17**	**162**	P	**P**	**22 25 49.9**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=339,slow=6.6,SNR=9.3						
CTAO	**Charters Tower**	**48.02**	**146**	*e*P	**P**	**22 26 04.4**	**-0.2**
	0.6nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**49.80**	**324**	*e*P	**P**	**22 26 18.7**	**+0.5**
	0.5nm,0.3s,mb4.0						

WEL 10 22:22:01.7±1.4, 3585S×17832E, h12km, ML4.1/4, Error ellipse: s-maj=16.2km s-min=8.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.71**	**180**	P*	Pb	22 22 29.0	-4.2
MXZ				S*	Sb	22 22 48.9	-5.7
MXZ				T		22 24 10.4	
MXZ				T(MAX)		22 24 25.5	
PUZ	**Puketiti**	**2.22**	**181**	PN	Pn	22 22 39.0	+0.6
MWZ	**Matawai**	**2.56**	**194**	P*	Pb	22 22 42.3	-5.3
MWZ				*e*S*	Sb	22 23 12.4	-6.7
URZ	**Urewera**	**2.60**	**201**	P*	Pb	22 22 42.9	-5.3
KNZ	**Kokohu**	**3.21**	**189**	*e*PN	Pn	22 22 52.3	+0.4
OUZ	**Omahuta**	**3.90**	**278**	*e*PN	Pn	22 22 60.0	-1.4

NIED ***10*** *22:25:00, 2070N×12060E, h8km, Mw4.2 Best double couple: M0=2.10000×10^15 NP1:φs=311.00000°, δ71.00000°, λ-86.00000°. NP2:φs=120.00000°, δ20.00000°, λ-100.00000°.*
IDC ***10*** *22:25:44.4±0.7, 2080N×120.12E, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=34.9km s-min=16.3km az=64.0*
ISCJB ***10*** *22:25:45.7±1.5, 2075N±003×12001E±005, h15km±11km, mb4.2/30, MS3.3/3, Error ellipse: s-maj=7.8km s-min=4.2km az=154.6*
MAN ***10*** *22:25:45.7, 2056N×11961E, h7km, mb3.3, ML4.5, MS3.6*
BJI ***10*** *22:25:46.6, 2092N×11994E, h5km, mB4.7, mb4.2, ML3.6, Ms4.1, Msz3.9*
NEIC ***10*** *22:25:46.6±0.3, 2077N×12003E, h10km, mb4.4/13, Error ellipse: s-maj=8.7km s-min=7.1km az=76.0*
MOS ***10*** *22:25:48.1±1.1, 2076N×12006E, h33km, mb4.8/8, Error ellipse: s-maj=17.6km s-min=8.1km az=113.9*

ISC 10 22:25:48.5±1.6, 2079N±003×12004E±005, h22km±12km, h28km±3.4km: pP-P, n84, σ1°10/94, mb4.2/30, MS3.3/3, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.19**	**168**	*e*P	**Pn**	**22 26 35.5**	**-1.8**
CVP	**Callao Caves**	**3.50**	**151**	*e*P	**Pn**	**22 26 40.0**	**-1.6**
CVP				*i* S	**Sn**	**22 27 19.0**	**-3.4**
NACB	**Ninganchiao**	**3.67**	**23**	*e*Pn	**Pn**	**22 26 44.6**	**+0.7**
NACB				*e*Sn	**Sn**	**22 27 27.5**	**+1.1**
YHNB	**Yeheng**	**4.06**	**18**	*e*Pn	**Pn**	**22 26 49.0**	**-0.2**
YHNB				*e*Sn	**Sn**	**22 27 36.0**	**-0.1**
CAUP	**Cauayan**	**4.18**	**156**	*e*P	**Pn**	**22 26 51.8**	**+0.8**
CAUP				*e*S	**Sn**	**22 27 42.4**	**+3.3**
PALP	**Palanan**	**4.34**	**148**	*e*P	**Pb**	**22 27 12.2**	**+8.1**
PALP				*e*S	**Sn**	**22 27 43.1**	**0.0**
QZH	**Quanzhou**	**4.34**	**342**	P	**Pn**	**22 26 51.4**	**-1.8**
QZH				S	**Sn**	**22 27 40.8**	**-2.3**
QZH				Smax			
	comp=N,110nm,1.2s						
QZH				Smax			
	comp=E,110nm,0.9s						
BALP	**Baler**	**5.23**	**163**	*e*P	**Pn**	**22 27 04.8**	**-0.6**
BALP				*e*S	**Sn**	**22 28 05.3**	**+0.4**
GZH	**Guangzhou**	**6.62**	**291**	P	**Pn**	**22 27 20.8**	**-3.6**
GZH				Smax			
	comp=N,47nm,0.6s						
GZH				Smax			
	comp=E,60nm,0.6s						
QIZ	**Qiongzhong**	**9.75**	**261**	Pn	**Pn**	**22 28 08.4**	**+1.1**
NJ2	**Nanjing**	**11.27**	**355**	*e*P	**Pn**	**22 28 32.8**	**+4.6**
NJ2				PP		22 28 42.7	
NJ2				S	**Sn**	**22 30 38.0**	**+4.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,410nm,12.7s						
NJ2				LR	LR		
	comp=E,490nm,12.7s						
NJ2				LR	LR		
	comp=Z,3μm,18.0s						
ENH	**Enshi**	**13.40**	**317**	*e*Pn	**Pn**	**22 28 56.1**	**-1.3**
KMI	**Kunming**	**16.50**	**288**	P	**Pn**	**22 29 42.9**	**+4.4**
KMI				S	**Sn**	**22 32 46.0**	**+5.0**
KMI				SS		22 33 02.6	
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s						
KMI				AMB	AMB		
	comp=Z,69nm,5.2s						
KMI				LR	LR		
	comp=N,135nm,10.7s						
KMI				LR	LR		
	comp=E,114nm,9.4s						
KMI				LR	LR		
	comp=Z,90nm,8.5s						
KMI	**Kunming**	**16.50**	**288**	P	**Pn**	**22 29 42.9**	**+4.4**
	comp=Z,4.0nm,0.9s						
KMI				pP	pP	22 29 51.2	+4.1
KMI				sP	sP	22 29 55.1	+5.1
KMI				S	**Sn**	**22 32 46.0**	**+5.0**
KMI				SS		22 33 02.6	
INCN	**Inchon**	**17.60**	**18**	Pn	**Pn**	**22 29 53.0**	**+0.8**
CD2	**Chengdu**	**17.76**	**308**	*e*P	**Pn**	**22 29 59.2**	**+4.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CD2				AMB	AMB		
	comp=Z,20nm,4.6s						
BJT	**Baijiatuau**	**19.45**	**351**	P	**Pn**	**22 30 14.8**	**0.0**
LZH	**Lanzhou**	**20.81**	**321**	*e*P	**P**	**22 30 31.3**	**+3.0**
LZH				AP		22 30 40.3	
LZH				PP		22 30 53.7	
LZH				AMB	AMB		
	comp=Z,19nm,1.1s						
LZH	**Lanzhou**	**20.81**	**321**	*e*P	**P**	**22 30 31.3**	**+3.0**
LZH				*SP	sP	22 30 44.5	+7.2
LZH						22 30 53.7	
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH	**Lanzhou**	**20.81**	**321**	*e*P	**P**	**22 30 31.3**	**+3.0**
	comp=Z,19nm,1.1s						
LZH				pP		22 30 40.3	
LZH				sP	sP	22 30 44.5	+7.2
LZH				PP		22 30 53.7	
HHC	**Hu-ho-hao-te**	**21.26**	**342**	*e*P	**P**	**22 30 35.1**	**+1.9**
HHC				S	**S**	**22 34 24.3**	**-4.0**
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,183nm,4.6s						
HHC				LR	LR		
	comp=N,127nm,4.3s						
HHC				LR	LR		
	comp=E,208nm,4.2s						
HHC				LR	LR		
	comp=Z,110nm,10.8s,MS3.5						
MAJO	**Matsushiro**	**22.31**	**41**	*e*P	**P**	**22 30 46.3**	**+1.8**
MJAR	**Matsushiro Arr**	**22.32**	**41**	P	**P**	**22 30 43.0**	**-1.5**
	comp=Z,3.3nm,0.9s,mb3.8,baz=240,slow=9.8,SNR=9.5						
MDJ	**Mudanjiang**	**25.05**	**16**	P	**P**	**22 31 12.0**	**+0.9**
MDJ				AP	pP	22 31 20.6	+2.9
MDJ				XP	sP	22 31 24.6	+4.2
MDJ				PCP	PcP	22 34 47.0	+1.5
MDJ				S	**S**	**22 35 32.5**	**-1.6**
MDJ				SCP	ScP	22 38 23.6	+0.4
MDJ				PCS	PcS	22 38 27.2	+1.5
MDJ				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,116nm,5.3s						
MDJ	**Mudanjiang**	**25.05**	**16**	*e*P	**P**	**22 31 11.3**	**+0.2**
	comp=Z,6.8nm,0.7s,mb4.3						
GTA	**Gaotai**	**25.40**	**321**	*e*P	**P**	**22 31 16.1**	**+1.8**
GTA				AP	pP	22 31 25.0	+4.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.7						
PSI	**Prapat**	**27.25**	**232**	LR	LR	22 41 37.4	
	comp=Z,70nm,20.1s,MS3.2,baz=251,slow=35						
LSA	**Lhasa**	**27.53**	**295**	*e*P	**P**	**22 31 35.1**	**+1.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**27.53**	**295**	*e*P	**P**	**22 31 35.1**	**+1.6**
	comp=Z,1.6nm,0.6s,mb3.8						
SONM	**Songino Array**	**29.15**	**341**	P	**P**	**22 31 46.8**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=159,slow=9.6,SNR=10						
ASAJ	**Asahikawa**	**29.88**	**34**	LR	LR	22 42 52.8	
	comp=Z,45nm,20.4s,MS3.1,baz=344,slow=34						
GUN	**Gumba**	**31.84**	**290**	*e*P	**P**	**22 32 12.3**	**+0.6**
	comp=Z,9.1nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**31.98**	**30**	P	**P**	**22 32 13.1**	**+0.2**
PKI	**Pulchoki**	**32.23**	**289**	*e*P	**P**	**22 32 15.9**	**+0.8**
KKN	**Kakani**	**32.36**	**289**	*e*P	**P**	**22 32 16.0**	**-0.2**
DMN	**Daman**	**32.50**	**289**	*e*P	**P**	**22 32 17.7**	**+0.2**
GKN	**Gorkha**	**32.94**	**290**	*e*P	**P**	**22 32 20.9**	**-0.5**
	comp=Z,9.1nm,0.9s,mb4.7						
TLY	**Talaya**	**33.38**	**341**	P	**P**	**22 32 25.7**	**+0.5**
KOLN	**Koldanda**	**33.84**	**289**	*e*P	**P**	**22 32 28.3**	**-0.9**
	comp=Z,5.2nm,0.8s,mb4.5						
WMQ	**Urumqi**	**35.35**	**318**	*e*P	**P**	**22 32 45.0**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,94nm,3.8s						
MKAR	**Makanchi Array**	**40.12**	**319**	P	**P**	**22 33 23.0**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.5,baz=116,slow=9.2,SNR=6.4						
MKAR				PcP	PcP	22 35 27.1	+0.2
	comp=Z,0.2nm,0.3s,baz=91,slow=4.9,SNR=4.1						
PMG	**Port Moresby**	**40.14**	**136**	P	**P**	**22 33 21.8**	**-0.9**
YAK	**Yakutsk**	**41.75**	**7**	*e*P	**P**	**22 33 36.2**	**+0.2**
ZAL	**Zalesovo**	**42.57**	**330**	P	**P**	**22 33 42.1**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=332,slow=9.1,SNR=5.6						
WRA	**Warramunga Arr**	**42.83**	**160**	P	**P**	**22 33 43.8**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.5,baz=343,slow=9.0,SNR=21						
WRA				PcP	PcP	22 35 35.1	-0.6
	comp=Z,0.6nm,0.6s,baz=342,slow=3.3,SNR=3.3						
WB2	**Warramunga Arr**	**42.84**	**160**	*e*P	**P**	**22 33 46.7**	**+1.9**
WB2				*e*	pP	22 33 51.3	-0.3
ASAR	**Alice Springs**	**46.20**	**162**	P	**P**	**22 34 11.2**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=341,slow=5.8,SNR=6.3						
CTAO	**Charters Tower**	**48.05**	**146**	P	**P**	**22 34 27.7**	**+1.6**
BVAR	**Borovoye Array**	**49.67**	**323**	P	**P**	**22 34 38.1**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=120,slow=8.5,SNR=2.6						
BVAR				PcP	PcP	22 35 59.5	-0.2
	comp=Z,1.2nm,0.7s,baz=98,slow=6.0,SNR=5.8						
CHKZ	**Chkalovo**	**49.78**	**324**	*e*P	**P**	**22 34 39.9**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**49.78**	**324**	*e*P	**P**	**22 34 39.9**	**+0.4**
	comp=Z,2.2nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**56.29**	**158**	P	**P**	**22 35 27.8**	**+0.4**
AKTK	**Aktyubinsk**	**56.50**	**317**	P	**P**	**22 35 27.7**	**-1.1**
AKTO	**Aktyubinsk**	**56.50**	**317**	P	**P**	**22 35 27.7**	**-1.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=81,slow=9.6,SNR=6.8						
JOF	**Joensuu**	**71.14**	**331**	*e*p	**P**	**22 37 04.7**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**73.57**	**331**	*e*p	**P**	**22 37 18.3**	**-1.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=74,slow=5.5						
KAF	**Kangasniemi**	**73.57**	**331**	*e*P	**P**	**22 37 18.3**	**-1.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**73.84**	**330**	P	**P**	**22 37 20.6**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=36,slow=7.1,SNR=9.7						
AKASG	**Malin Array Be**	**74.70**	**319**	P	**P**	**22 37 25.6**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=63,slow=6.2,SNR=4.2						
KWP	**Kalwaria**	**79.02**	**319**	*e*P	**P**	**22 37 51.6**	**+0.8**
KWP				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KWP	**Kalwaria**	**79.02**	**319**	*e*P	**P**	**22 37 51.6**	**+0.8**
	comp=Z,7.2nm,0.9s,mb4.6						
NB2	**NORSAR Subarra**	**80.72**	**332**	P	**P**	**22 37 59.4**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=61,slow=5.3						
NB2	**NORSAR Subarra**	**80.72**	**332**	P	**P**	**22 37 59.4**	**-0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**80.72**	**332**	P	**P**	**22 37 59.1**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=64,slow=5.3,SNR=4.8						
BRG	**Berggiesshubel**	**83.76**	**322**	*e*(P)	**P**	**22 38 17.0**	**+1.1**
	comp=Z,3.5nm,1.1s,mb4.4						
BRG	**Berggiesshubel**	**83.76**	**322**	P	**P**	**22 38 17.0**	**+1.1**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
CLL	**Collm**	**84.11**	**323**	⇓*i*P	**P**	**22 38 17.9**	**+0.2**
CLL				*i* *PP	pP	22 38 26.6	+1.7
CLL				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.9						
CLL	**Collm**	**84.11**	**323**	⇓*i*P	**P**	**22 38 17.9**	**+0.2**
	comp=Z,17nm,1.7s,mb4.9						
CLL				*i* pP	pP	22 38 26.6	+1.7
CLL	**Collm**	**84.11**	**323**	⇓*i*P	**P**	**22 38 17.9**	**+0.2**
	comp=Z,17nm,1.7s,mb4.9						
CLL				*i* pP	pP	22 38 26.6	+1.7
GERES	**GERESS Array B**	**84.78**	**320**	P	**P**	**22 38 21.8**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.1,baz=70,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**86.50**	**22**	P	**P**	**22 38 29.2**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.2,baz=308,slow=4.6,SNR=5.0						
YKA	**Yellowknife Ar**	**86.50**	**22**	P	**P**	**22 38 29.2**	**-0.4**
LPG	**La Plagne**	**90.53**	**320**	*e*P	**P**	**22 38 49.3**	**+0.5**
	comp=Z,7.1nm,0.8s,mb4.8						
LPG	**La Plagne**	**90.53**	**320**	*e*P	**P**	**22 38 49.3**	**+0.5**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
LPG	**La Plagne**	**90.53**	**320**	*e*P	**P**	**22 38 49.3**	**+0.5**
	comp=Z,3.5nm,0.8s,mb4.7						
LPL	**La Plagne**	**90.54**	**320**	*e*P	**P**	**22 38 49.1**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.8						
LPL	**La Plagne**	**90.54**	**320**	*e*P	**P**	**22 38 49.1**	**+0.3**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
LPL	**La Plagne**	**90.54**	**320**	*e*P	**P**	**22 38 49.1**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.8						
ORIF	**Oris-en-Rattie**	**91.36**	**320**	*e*P	**P**	**22 38 52.6**	**0.0**
FRF	**La Foret Royal**	**91.59**	**318**	*e*P	**P**	**22 38 53.4**	**-0.3**
	comp=Z,8.2nm,1.0s,mb4.7						
FRF	**La Foret Royal**	**91.59**	**318**	*e*P	**P**	**22 38 53.4**	**-0.3**
FRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
FRF	**La Foret Royal**	**91.59**	**318**	*e*P	**P**	**22 38 53.4**	**-0.3**
	comp=Z,4.1nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**91.62**	**322**	*e*P	**P**	**22 38 53.0**	**-0.8**
SMF	**Signal de Mont**	**91.65**	**322**	*e*P	**P**	**22 38 53.7**	**-0.3**

IDC 10 22:45:11.4±3.2, 3384S×17871W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/13, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=74.6km s-min=36.6km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.56**	**216**	Pn	Pn	22 46 36.1	+0.8
	2.5nm,0.3s,baz=298,slow=2.6,SNR=13						
URZ				Sn	Sn	22 47 38.6	-1.4
	1.4nm,0.3s,baz=154,slow=21,SNR=7.9						
ASAR	**Alice Springs**	**42.44**	**271**	P	P	22 53 08.1	+0.1
	0.3nm,0.5s,baz=112,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**43.74**	**276**	P	P	22 53 18.8	+0.3
	0.5nm,0.5s,baz=117,slow=7.8,SNR=7.1						
FINES	**FINESS Array B**	**148.13**	**338**	PKPbc	PKPbc	23 04 57.5	-1.7
	0.7nm,0.8s,baz=23,slow=6.2,SNR=4.9						

NIED ***10*** *22:47:00, 2490N×12450E, h8km, Mw4.0 Best double couple: M0=1.11000×10^15 NP1:φs=135.00000°, δ55.00000°, λ-102.00000°. NP2:φs=334.00000°, δ37.00000°, λ-74.00000°.*
IDC ***10*** *22:47:52.3±0.8, 2496N×12435E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/32, Error ellipse: s-maj=34.1km s-min=19.2km az=64.0*
ISCJB ***10*** *22:47:53.4±1.1, 2500N±003×12443E±003, h12km±7km, mb3.7/7, Error ellipse: s-maj=6.5km s-min=3.8km az=105.1*
JMA ***10*** *22:47:54.7±0.2, 2493N×12447E, h8km±4km, M4.3*
NEIC ***10*** *22:47:57.9±0.9, 2497N×12444E, h38km±10km, MG4.3(JMA), Error ellipse: s-maj=10.2km s-min=8.4km az=146.0*

ISC 10 22:47:54.5±0.8, 2494N±005×12445E±004, h11km±6km, n31, σ0°74/39, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.38**	**142**	P	**Pg**	**22 48 01.8**	**-0.2**
JTJ				S	**Sg**	**22 48 06.8**	**-0.3**
JIJ	**Ishigaki jima**	**0.64**	**206**	P	**Pg**	**22 48 06.7**	**-0.2**
JIJ				S	**Sg**	**22 48 15.0**	**-0.3**
JMJ	**Miyako jima 2**	**0.78**	**99**	P	**Pg**	**22 48 09.0**	**-0.6**
JMJ				*e*S	**Sg**	**22 48 19.9**	**+0.1**
JKRS	**Kuro-shima**	**0.81**	**210**	P	**Pg**	**22 48 10.0**	**-0.1**
JKRS				S	**Sg**	**22 48 21.4**	**+0.8**
IRIF	**Iriomote-Funau**	**0.89**	**227**	P	**Pg**	**22 48 11.6**	**0.0**
IRIF				S	**Sg**	**22 48 23.5**	**+0.3**
JOGS	**Gusukube**	**0.89**	**102**	P	**Pg**	**22 48 11.5**	**-0.2**
JOGS				*e*S	**Sg**	**22 48 23.1**	**-0.2**
HATJ	**Hateruma jima**	**1.06**	**214**	P	**Pb**	**22 48 14.4**	**-0.4**
HATJ				*e*S	**Sb**	**22 48 28.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.39**	**250**	P	**Pn**	**22 48 18.8**	**-1.0**
JKE	**Kume jima 2**	**2.52**	**56**	P	**Pn**	**22 48 34.6**	**-0.7**
NACB	**Ninganchiao**	**2.71**	**254**	*e*Pn	**Pn**	**22 48 38.7**	**+0.8**
YHNB	**Yeheng**	**2.80**	**265**	*e*Pn	**Pn**	**22 48 41.0**	**+1.8**
JAGN	**Aguni-jima**	**3.01**	**56**	P	**Pn**	**22 48 42.7**	**+0.7**
JAGN				S	**Sn**	**22 49 17.7**	**-0.3**
JIH	**Iheya**	**3.79**	**56**	P	**Pn**	**22 48 53.6**	**+0.8**
JOW	**Kunigami**	**3.93**	**61**	Pn	**Pn**	**22 48 55.0**	**+0.4**
	8.3nm,0.3s,baz=66,slow=21,SNR=18						
JOW				Sn	**Sn**	**22 49 32.2**	**-8.5**
	5.3nm,0.3s,baz=72,slow=20,SNR=2.7						
JOW	**Kunigami**	**3.93**	**61**	P	**Pn**	**22 48 56.0**	**+1.3**
JTK	**Tokunoshima**	**4.93**	**54**	P	**Pn**	**22 49 10.0**	**+1.5**
JAM	**Amami Oshima**	**5.76**	**52**	P	**Pn**	**22 49 20.0**	**+0.1**
MAJO	**Matsushiro**	**16.52**	**42**	Pn	**Pn**	**22 51 46.6**	**+0.5**
MJAR	**Matsushiro Arr**	**16.52**	**42**	LR	LR	22 59 19.2	
	comp=Z,53nm,18.1s,baz=300,slow=41						
MDJ	**Mudanjiang**	**20.07**	**11**	*e*P	**P**	**22 52 28.6**	**+0.9**
SONM	**Songino Array**	**26.94**	**333**	P	**P**	**22 53 33.9**	**-1.9**
	0.4nm,0.7s,baz=99,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	**39.90**	**314**	P	**P**	**22 55 27.3**	**-1.1**
	0.2nm,0.2s,mb3.4,baz=92,slow=11,SNR=4.7						
MKAR				PcP	PcP	22 57 33.6	-0.2
	0.2nm,0.2s,baz=83,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**39.90**	**314**	P	**P**	**22 55 27.3**	**-1.1**
MKAR				PcP	PcP	22 57 33.6	-0.2
ZAL	**Zalesovo**	**41.28**	**325**	P	**P**	**22 55 38.9**	**-0.8**
	0.6nm,0.3s,mb3.7,baz=60,slow=3.0,SNR=3.6						
WRA	**Warramunga Arr**	**45.64**	**167**	P	**P**	**22 56 14.2**	**-0.7**
	0.9nm,0.6s,mb3.9,baz=348,slow=8.9,SNR=8.5						
WB2	**Warramunga Arr**	**45.65**	**167**	*e*P	**P**	**22 56 15.5**	**+0.6**
BVAR	**Borovoye Array**	**49.00**	**320**	P	**P**	**22 56 40.1**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=72,slow=9.3,SNR=2.8						
BVAR				PcP	PcP	22 58 04.5	-0.5
	1.3nm,0.7s,baz=116,slow=4.1,SNR=6.1						
CHKZ	**Chkalovo**	**49.02**	**320**	P	**P**	**22 56 41.6**	**+0.4**
ASAR	**Alice Springs**	**49.18**	**169**	P	**P**	**22 56 42.9**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=352,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**72.28**	**330**	P	**P**	**22 59 19.2**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=87,slow=9.7,SNR=5.2						
YKA	**Yellowknife Ar**	**81.10**	**24**	P	**P**	**23 00 09.4**	**-0.3**
	2.1nm,0.6s,mb4.2,baz=303,slow=5.7,SNR=12						

ISCJB ***10*** *23:01:05.6±0.9, 573N±0.1×1539W±0.1, h49km±9km, mb3.7/6, Error ellipse: s-maj=18.9km s-min=9.6km az=132.9*
NEIC ***10*** *23:01:05.9, 5721N×15372W, h37km, ML3.5(AEIC), After AEIC.*
IDC ***10*** *23:01:06.8±1.1, 5744N×15382W, h35km±6km, mb3.4/7, mb1 3.6/7, mb1mx3.5/20, mbtmp3.6/7, Error ellipse: s-maj=24.5km s-min=11.1km az=174.0*

ISC 10 23:01:06.7±0.9, 573N±01×1539W±01, h42km±10km, h39km±1.1km: pP-P, n14, σ0°75/15, mb3.7/6, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.85**	**55**	Pg	**Pn**	**23 01 21.7**	**-0.5**
	85nm,0.3s,baz=229,slow=8.8,SNR=642						
KDAK				Lg		23 01 32.9	
	299nm,0.3s,baz=59,slow=21,SNR=96						
KDAK	**Kodiak Island**	**0.85**	**55**	P	**Pn**	**23 01 21.6**	**-0.6**
KDAK				S	**Sn**	**23 01 33.1**	**-0.4**
CHGN	**Chignik**	**2.69**	**250**	*e*P	**Pn**	**23 01 48.0**	**+0.5**
SVW2	**Spar

PEL				*i* S		**Sn**	**23 06 13.3 -0.2**
PEL				AML		AML	23 06 15.1
	comp=E,24μm,0.7s						
PEL	**Peldehue**	**1.33 210**	⇓	*i* P		**Pn**	**23 05 54.5 0.0**
PEL				*i* S		**Sn**	**23 06 13.3 -0.2**
ROCH	**El Roble**	**1.36 223**	⇓	*i* P		**Pn**	**23 05 54.8 -0.1**
CHNG	**Los Chungos**	**1.36 274**	⇑	*i* P		**Pn**	**23 05 54.7 -0.2**
CHNG				*i* S		**Sn**	**23 06 13.1 -1.0**
FCH	**Farellones**	**1.38 194**	⇓	*i* P		**Pn**	**23 05 56.1 +1.0**
FCH				*i* S		**Sn**	**23 06 16.1 +1.6**
FCH				AML		AML	23 06 20.3
	comp=E,7μm,0.3s						
PACH	**Papudo**	**1.41 247**	⇑	*i* P		**Pn**	**23 05 54.9 -0.6**
PACH				*i* S		**Sn**	**23 06 14.0 -1.1**
CFAA	**Coronel Fontan**	**1.47 76**		P		**Pn**	**23 05 56.3 +0.2**
	comp=E,17nm,0.3s,baz=245,slow=10,SNR=1492						
CFAA				S		**Sn**	**23 06 16.0 -0.3**
	comp=E,193nm,0.3s,baz=355,slow=20,SNR=99						
CLCH	**Cerro Calan**	**1.51 201**	⇓	*i* P		**Pn**	**23 05 56.8 +0.2**
CLCH				*i* S		**Sn**	**23 06 17.2 +0.1**
CLCH				AML		AML	23 06 19.6
	comp=N,6μm,0.4s						
STL	**Santa Lucia**	**1.58 203**	⇑	*i* P		**Pn**	**23 05 57.1 -0.3**
STL				*i* S		**Sn**	**23 06 18.3 -0.3**
SAN	**Santiago**	**1.60 203**	⇑	*i* P		**Pn**	**23 05 57.9 +0.2**
SAN				*e*S		**Sn**	**23 06 18.6 -0.5**
SAN				AML		AML	23 06 20.2
	comp=N,5μm,0.4s						
SAN	**Santiago**	**1.60 203**	⇑	*i* P		**Pn**	**23 05 57.9 +0.2**
SAN				*e*S		**Sn**	**23 06 18.6 -0.5**
RCDM	**Rinconada Maip**	**1.68 207**		*e*P		**Pn**	**23 05 58.7 0.0**
RCDM				*i* S		**Sn**	**23 06 20.9 0.0**
RCDM				AML		AML	23 06 22.2
	comp=E,7μm,0.2s						
RCDM	**Rinconada Maip**	**1.68 207**		*e*P		**Pn**	**23 05 58.7 0.0**
RCDM				*i* S		**Sn**	**23 06 20.9 0.0**
SJCH	**San Jose de Ma**	**1.70 193**		*i* P		**Pn**	**23 05 59.2 +0.4**
SJCH				*i* S		**Sn**	**23 06 21.7 +0.5**
ANTU	**Antumapu**	**1.70 201**		*i* P		**Pn**	**23 05 59.0 +0.2**
ANTU				*i* S		**Sn**	**23 06 21.1 -0.1**
ANTU				AML		AML	23 06 22.3
	comp=E,6μm,0.3s						
ANTU	**Antumapu**	**1.70 201**		*i* P		**Pn**	**23 05 59.0 +0.2**
ANTU				*i* S		**Sn**	**23 06 21.1 -0.1**
PCH	**Pirque**	**1.71 197**	⇑	*i* P		**Pn**	**23 05 59.3 +0.3**
PCH				*i* S		**Sn**	**23 06 21.9 +0.4**
OVCH	**Ovalle**	**1.76 321**		*i* P		**Pn**	**23 06 00.2 +0.5**
OVCH				*i* S		**Sn**	**23 06 23.4 +0.7**
OVCH				AML		AML	23 06 25.2
	comp=E,7μm,0.4s						
OVCH	**Ovalle**	**1.76 321**		*i* P		**Pn**	**23 06 00.2 +0.5**
OVCH				*i* S		**Sn**	**23 06 23.4 +0.7**
TACH	**Talagante**	**1.88 207**	⇑	*i* P		**Pn**	**23 06 00.7 -0.4**
TACH				*i* S		**Sn**	**23 06 24.2 -1.0**
TLL	**Tololo Astrono**	**1.97 337**	⇑	*i* P		**Pn**	**23 06 03.8 +1.5**
TLL				AML		AML	23 06 30.3
	comp=E,10μm,0.5s						
CHCH	**Chadas Angostu**	**2.04 198**	⇑	*i* P		**Pn**	**23 06 03.2 0.0**
CHCH				*i* S		**Sn**	**23 06 29.5 +0.6**
LCCH	**Las Cruces**	**2.05 223**		*e*P		**Pn**	**23 06 02.6 -0.6**
LCCH				*i* S		**Sn**	**23 06 27.4 -1.6**
CACH	**El Canelo**	**2.21 195**	⇓	*i* P		**Pn**	**23 06 05.8 +0.6**
CACH				*i* S		**Sn**	**23 06 33.3 +0.7**
CICH	**Cipreses**	**2.37 190**	⇑	*i* P		**Pn**	**23 06 07.8 +0.4**
CICH				*i* S		**Sn**	**23 06 36.6 +0.2**
PLCA	**Paso Flores**	**8.75 183**		P		**Pn**	**23 07 31.0 -2.1**
	comp=E,0.5nm,0.3s,baz=352,slow=14,SNR=7.9						
PLCA	**Paso Flores**	**8.75 183**		P		**Pn**	**23 07 31.0 -2.1**
TRQA	**Tornquist**	**8.88 135**		*e*Pn		**Pn**	**23 07 33.1 -1.9**
	comp=E,28nm,0.6s						
TRQA				*e*Sn		**Sn**	**23 09 09.3 -3.9**
LVC	**Limon Verde**	**9.38 6**		P		**Pn**	**23 07 38.7 -2.9**
	comp=E,1.3nm,0.3s,baz=187,slow=6.6,SNR=11						
CPUP	**Villa Florida**	**12.35 66**		P		**Pn**	**23 08 17.2 -4.2**
	comp=E,0.9nm,0.3s,baz=219,slow=13,SNR=6.6						
CPUP	**Villa Florida**	**12.35 66**		P		**Pn**	**23 08 17.2 -4.2**
LPAZ	**La Paz**	**15.71 6**		P		**Pn**	**23 09 06.0 +1.6**
	comp=E,0.3nm,0.3s,baz=187,slow=5.9,SNR=16						
SIV	**San Ignacio**	**17.83 29**		P		**Pn**	**23 09 28.3 -2.2**
	comp=E,0.4nm,0.3s,baz=219,slow=11,SNR=12						
NNA	**Nana**	**20.90 341**		P		**P**	**23 10 00.1 -2.8**
USHA	**Ushuaia**	**22.86 178**		P		**P**	**23 10 23.8 +0.5**
	comp=E,23nm,0.8s,mb4.6,baz=329,slow=5.1,SNR=14						
BDFB	**Brasilia**	**25.72 56**		P		**P**	**23 10 48.7 -0.6**
	comp=E,3.3nm,0.7s,mb3.9,baz=222,slow=9.8,SNR=4.3						
BDFB				LR		LR	23 20 55.2
	comp=E,44nm,20.9s,baz=216,slow=36						
ROSC	**El Rosal**	**36.88 353**		LR		LR	23 28 09.4
	comp=E,54nm,19.3s,baz=357,slow=37						
SNAA	**Sanae**	**52.79 159**		P		**P**	**23 14 33.5 +0.5**
	comp=E,1.5nm,0.7s,mb4.2,baz=288,slow=8.3,SNR=38						
SNAA	**Sanae**	**52.79 159**		*e*P		**P**	**23 14 33.7 +0.6**
	comp=E,3.0nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**58.25 180**		*e*P		**P**	**23 15 13.5 +1.4**
	comp=E,6.1nm,0.4s,mb5.0						
VNDA	**Vanda**	**66.42 191**		P		**P**	**23 16 06.3 -0.3**
	comp=E,0.4nm,0.7s,mb3.3,baz=94,slow=4.9,SNR=4.4						
VNDA	**Vanda**	**66.42 191**		*e*P		**P**	**23 16 06.7 +0.1**
	comp=E,0.9nm,0.8s,mb3.6						
SYO	**Syowa Base**	**67.08 158**	⇓	*e*P		**P**	**23 16 10.6 -0.2**
MAW	**Mawson**	**74.59 163**		P		**P**	**23 16 56.7 +0.5**
	comp=E,1.2nm,0.6s,mb3.8,baz=260,slow=15,SNR=6.8						
MAW	**Mawson**	**74.59 163**		*e*P		**P**	**23 16 57.0 +0.8**
	comp=E,2.3nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**81.83 69**		P		**P**	**23 17 37.4 +1.3**
	comp=E,0.6nm,0.7s,mb3.5,baz=284,slow=6.1,SNR=11						
TORD	**Torodi Ar. Bea**	**81.83 69**		P		**P**	**23 17 37.4 +1.3**
WRA	**Warramunga Arr**	**123.38 208**		PKP		PKPdf	23 24 13.8 +0.5
	comp=E,0.4nm,0.5s,baz=164,slow=1.7,SNR=13						
BVAR	**Borovoye Array**	**144.59 42**		PKP		PKPdf	23 24 52.8 0.0
	comp=E,0.4nm,0.6s,baz=282,slow=1.3,SNR=3.0						

IDC ***10*** *23:17:10.8*±*0.5,2076N*×*12021E,h0*^{km}*,mb4.2/19, mb1 4.4/19,mb1mx4.3/23,mbtmp4.2/19,MS3.9/1, Ms1 3.9/1,ms1mx3.3/25,Error ellipse: s-maj=27.0km s-min=10.8km az=65.0*

MAN ***10*** *23:17:11.3,2075N*×*11983E,h0*^{km}*,mb3.9,ML4.9,MS6.5*

BJI ***10*** *23:17:13.6,2088N*×*11983E,h5*^{km}*,mB5.0,mb4.4,ML4.4, Ms5.0,Msz4.7*

ISCJB ***10*** *23:17:13.9*±*0.2,2066N*±*003*×*12008E*±*004,h24*^{km}*, mb4.7/63,MS4.5/11,Error ellipse: s-maj=6.0km s-min=3.2km az=130.7*

NEIC ***10*** *23:17:13.4*±*0.3,2066N*×*12005E,h10*^{km}*,mb4.9/33,Error ellipse: s-maj=16.9km s-min=7.7km az=67.0*

SZGRF ***10*** *23:17:14.8,2037N*×*12093E,h24*^{km}*,mb5.0,Philippine Islands region*

MOS ***10*** *23:17:15.4*±*1.6,2071N*×*120.11E,h33*^{km}*,mb5.0/31,Error ellipse: s-maj=12.3km s-min=5.2km az=118.1*

ISC 10 23:17:15.9±0.2,2072N±003×12013E±004,h25^{km}, h25^{km}±1.4^{km}:pP-P,n196,σ1§43/210,mb4.7/63,MS4.5/11, 10C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.43 169**	⇓	*i* P		**Pn**	**23 17 51.0 -2.9**
SGCP	**Mt. Cagua**	**3.06 143**		*e*P		**Pn**	**23 18 01.9 -0.7**
CVP	**Callao Caves**	**3.40 152**		*e*P		**Pn**	**23 18 16.5 +9.2**
CVP				*i* S		**Sn**	**23 18 45.0 -1.8**
NACB	**Ninganchiao**	**3.69 21**		*e*Pn		**Pn**	**23 18 09.4 -1.9**
NACB				*e*Sn		**Sn**	**23 18 45.5 -8.5**
CAUP	**Cauayan**	**4.08 157**		*e*P		**Pn**	**23 18 18.8 +2.1**
YHNB	**Yeheng**	**4.10 16**		*e*Pn		**Pn**	**23 18 15.6 -1.2**
YHNB				*e*Sn		**Sn**	**23 18 51.0 -13**
PALP	**Palanan**	**4.24 149**		*e*P		**Pn**	**23 18 21.8 +3.0**
PALP				*e*S		**Sn**	**23 19 14.1 +6.7**
BOLP	**Bolinao**	**4.32 183**		*e*P		**Pn**	**23 18 20.6 +0.7**
BCPH	**Baguio City Da**	**4.34 174**	⇑	*i* P		**Pn**	**23 18 20.4 +0.3**
BCPH				*i* S		**Sn**	**23 18 54.9 -15**
QZH	**Quanzhou**	**4.43 342**		P		**Pn**	**23 18 17.6 -3.9**
QZH				Smax			
	comp=N,800nm,1.4s						
QZH				Smax			
	comp=E,780nm,0.6s						
QZH				LR		LR	
	comp=N,7μm,6.3s						
QZH				LR		LR	
	comp=E,18μm,9.6s						
QZH				LR		LR	
	comp=Z,11μm,9.5s						
BALP	**Baler**	**5.14 164**		*e*P		**Pn**	**23 18 32.1 +0.9**
PCPH	**Palayan**	**5.21 170**	⇑	*e*P		**Pn**	**23 18 33.5 +1.3**
TGY	**Tagaytay City**	**6.63 173**		Pn		**Pn**	**23 18 53.5 +1.9**
	comp=Z,29nm,0.3s,baz=195,slow=12,SNR=2.0						
GZH	**Guangzhou**	**6.72 292**		P		**Pn**	**23 18 47.5 -5.4**
GZH				S		**Sn**	**23 20 04.2 -4.5**
GZH				Smax			
	comp=N,268nm,0.8s						
GZH				Smax			
	comp=E,254nm,0.7s						
GZH				LR		LR	
	comp=N,4μm,11.5s						
GZH				LR		LR	
	comp=E,7μm,11.2s						
GZH				LR		LR	
	comp=Z,9μm,10.6s						
LUBP	**Lubang**	**6.95 179**		*e*P		**Pn**	**23 19 01.3 +5.3**
QIZ	**Qiongzhong**	**9.82 262**		P		**Pn**	**23 19 35.3 -0.1**
QIZ				S		**Sn**	**23 21 30.0 +5.2**
QIZ				AMB		AMB	
	comp=Z,13nm,0.8s						
QIZ				LR		LR	
	comp=N,4μm,9.9s						
QIZ				LR		LR	
	comp=E,6μm,10.4s						
QIZ				LR		LR	
	comp=Z,7μm,10.7s						
QIZ	**Qiongzhong**	**9.82 262**		*e*Pn		**Pn**	**23 19 28.6 -6.8**
	comp=Z,29nm,0.7s						
QIZ				*e*Sn		**Sn**	**23 21 11.4 -13**
WHN	**Wuhan**	**11.08 333**		*e*P		**Pn**	**23 19 56.2 +3.6**
WHN				S		**Sn**	**23 22 00.2 +4.5**
WHN				LR		LR	
	comp=Z,6μm,10.5s						
GYA	**Guiyang**	**13.60 297**	⇑	*i* P		**Pn**	**23 20 22.6 -4.4**
GYA				XP			23 20 32.8
GYA				S		**Sn**	**23 23 01.0 +3.8**
GYA				AMB		AMB	
	comp=Z,20nm,0.8s						
GYA				AMB		AMB	
	comp=Z,510nm,4.2s						
GYA				LR		LR	
	comp=N,3μm,12.6s						
GYA				LR		LR	
	comp=E,4μm,10.8s						
GYA				LR		LR	
	comp=Z,3μm,10.0s						
XAN	**Xi'an**	**16.57 326**		P		**Pn**	**23 21 09.2 +2.8**
XAN				AP		pP	23 21 14.8 -0.8
XAN				S		**Sn**	**23 24 13.9 +4.4**
XAN				AMB		AMB	
	comp=Z,10.0nm,1.4s						
XAN				AMB		AMB	
	comp=Z,178nm,6.3s						
XAN				LR		LR	
	comp=N,1μm,9.4s						
XAN				LR		LR	
	comp=E,2μm,9.5s						
XAN				LR		LR	
	comp=Z,3μm,10.1s						
KMI	**Kunming**	**16.60 289**		P		**Pn**	**23 21 09.0 +2.2**
KMI				AP		pP	23 21 11.9 -4.1
KMI				S		**Sn**	**23 24 09.0 -1.4**
KMI				AMB		AMB	
	comp=Z,10.0nm,1.4s						
KMI				AMB		AMB	
	comp=Z,267nm,6.4s						
KMI				LR		LR	
	comp=N,3μm,9.5s						
KMI				LR		LR	
	comp=E,2μm,7.9s						
KMI				LR		LR	
	comp=Z,2μm,9.5s						
KMI	**Kunming**	**16.60 289**		P		**Pn**	**23 21 09.0 +2.2**
	comp=Z,10.0nm,1.4s						
KMI				pP		pP	23 21 11.9 -4.1
KMI				S		**Sn**	**23 24 09.0 -1.4**
INCN	**Inchon**	**17.64 17**		P		**Pn**	**23 21 22.9 +3.1**
CD2	**Chengdu**	**17.87 308**		*e*P		**Pn**	**23 21 24.2 +1.6**
CD2				AP		pP	23 21 27.8 -2.2
CD2				XP		sP	23 21 31.5 -1.8
CD2				AMB		AMB	
	comp=Z,30nm,1.4s						
CD2				AMB		AMB	
	comp=Z,300nm,9.3s						
CD2				LR		LR	
	comp=N,4μm,14.4s						
CD2				LR		LR	
	comp=E,4μm,13.2s						
CD2				LR		LR	
	comp=Z,3μm,8.4s						
BJT	**Baijiatuau**	**19.53 351**		*e*P		**Pn**	**23 21 42.3 -0.5**
BJT				pmax		pmax	
	comp=Z,41nm,0.9s						
BJT	**Baijiatuau**	**19.53 351**		*e*P		**Pn**	**23 21 42.3 -0.4**
	comp=Z,41nm,0.9s						
BJI	**Beijing**	**19.55 351**		P		**Pn**	**23 21 41.1 -1.9**
BJI				AMB		AMB	
	comp=Z,10.0nm,1.0s						
BJI				AMB		AMB	
	comp=Z,464nm,4.0s						
BJI				LR		LR	
	comp=N,2μm,13.6s						
BJI				LR		LR	
	comp=E,529nm,15.5s						
BJI				LR		LR	
	comp=Z,471nm,13.4s						
BJI	**Beijing**	**19.55 351**		P		**Pn**	**23 21 41.1 -1.9**
	comp=Z,10.0nm,1.0s						
BJI				S		**Sn**	**23 25 25.5 +3.8**
CHTO	**Chiang Mai**	**20.03 268**		*e*P		**P**	**23 21 46.2 -0.6**
CHTO				pmax		pmax	
	comp=Z,38nm,1.5s						
CHTO	**Chiang Mai**	**20.03 268**		*e*P		**P**	**23 21 46.2 -0.6**
	comp=Z,38nm,1.5s						
LZH	**Lanzhou**	**20.92 320**		*e*P		**P**	**23 21 59.3 +2.9**
LZH				AP			23 22 07.1
LZH				AMB		AMB	
	comp=Z,60nm,1.5s						
LZH				AMB		AMB	
	comp=Z,360nm,5.2s						
LZH				LR		LR	
	comp=E,3μm,11.2s						
LZH				LR		LR	
	comp=Z,4μm,12.6s,MS5.0						
LZH	**Lanzhou**	**20.92 320**		*e*P		**P**	**23 21 59.3 +2.9**
LZH				*SP		sP	23 22 10.7 +4.1
LZH				S		**S**	**23 26 01.7 +13**
LZH				*SS		sS	23 26 16.8 +17
LZH				pmax		pmax	
	comp=Z,60nm,1.5s						
LZH				MLR		MLR	
	comp=Z,4μm,12.6s,MS5.0						
LZH	**Lanzhou**	**20.92 320**		*e*P		**P**	**23 21 59.3 +2.9**
	comp=Z,60nm,1.5s						
LZH				pP			23 22 07.1
LZH				sP		sP	23 22 10.7 +4.1
LZH				S		**S**	**23 26 01.7 +13**
LZH				sS		sS	23 26 16.8 +17
LZH				*e*SS			23 26 45.0
LZH				LR		LR	
	comp=Z,4μm,12.6s,MS5.0						
SNY	**Shenyang**	**21.25 7**	⇑	P		**P**	**23 22 04.9 +4.9**
SNY				AP			23 22 10.3
SNY				XP		sP	23 22 13.3 +3.1
SNY				PP			23 22 21.6
SNY				S		**S**	**23 25 54.7 -0.1**
SNY				XS		sS	23 26 02.6 -3.3
SNY				SS			23 26 29.2
SNY				AMB		AMB	
	comp=Z,27nm,2.5s,mb4.1						
SNY				AMB		AMB	
	comp=Z,263nm,3.5s						
SNY				LR		LR	
	comp=N,2μm,11.2s						
SNY				LR		LR	
	comp=E,1μm,8.6s						
SNY				LR		LR	
	comp=Z,2μm,12.3s,MS4.6						
HHC	**Hu-ho-hao-te**	**21.35 342**		*e*P		**P**	**23 22 05.5 +4.4**
HHC				S		**S**	**23 25 54.4 -2.4**
HHC				PCP		PcP	23 26 05.6 +1.0
HHC				AMB		AMB	
	comp=Z,25nm,0.5s,mb4.8						
HHC				AMB		AMB	
	comp=Z,255nm,3.9s						
HHC				LR		LR	
	comp=N,1μm,15.9s,MS4.8						
HHC				LR		LR	
	comp=E,2μm,11.4s,MS4.8						
HHC				LR		LR	
	comp=Z,1μm,10.2s,MS4.7						
KSM	**Kuching**	**21.40 208**		*e*P		**P**	**23 22 01.0 -0.6**
KSM				*e*			23 22 34.3
BTO	**Baotou**	**21.61 339**		*e*P		**P**	**23 22 05.6 +1.7**
BTO				S		**S**	**23 25 53.4 -8.6**
BTO				LR		LR	
	comp=N,591nm,10.3s,MS4.4						
BTO				LR		LR	
	comp=E,637nm,12.8s,MS4.4						
MAJO	**Matsushiro**	**22.31 41**		*e*P		**P**	**23 22 17.0 +5.7**
MAJO				pmax		pmax	
	comp=Z,44nm,1.3s,mb4.7						
MAJO	**Matsushiro**	**22.31 41**		*e*P		**P**	**23 22 17.0 +5.7**
	comp=Z,44nm,1.3s,mb4.7						
MAT	**Matsushiro**	**22.31 41**		P		**P**	**23 22 12.8 +1.5**
MAT				S		**S**	**23 26 16.0 +0.5**
MJAR	**Matsushiro Arr**	**22.31 41**		P		**P**	**23 22 09.7 -1.6**
	comp=Z,10nm,1.0s,mb4.2,baz=236,slow=10,SNR=21						
CN2	**Changchun**	**23.44 10**		*e*P		**P**	**23 22 20.4 -2.9**
CN2				AMB		AMB	
	comp=Z,500nm,4.0s						
CN2				LR		LR	
	comp=N,1μm,15.0s,MS4.7						
CN2				LR		LR	
	comp=E,2μm,15.0s,MS4.7						
CN2				LR		LR	
	comp=Z,2μm,14.0s,MS4.6						
VLA	**Vladivostok**	**24.41 21**		*e*P		**P**	**23 22 31.9 -0.3**
VLA				*e*S		**S**	**23 26 50.6 0.0**
VLA				pmax		pmax	
	comp=Z,99nm,1.5s,mb5.0						
VLA				MLR		MLR	
	comp=Z,800nm,15.9s,MS4.3						
MDJ	**Mudanjiang**	**25.09 16**		P		**P**	**23 22 38.0 -0.4**
MDJ				PCP		PcP	23 26 11.3 -1.1
MDJ				PCS		PcS	23 29 51.4 -1.3
MDJ				AMB		AMB	
	comp=Z,22nm,1.0s,mb4.6						
MDJ				AMB		AMB	
	comp=Z,153nm,4.9s						
MDJ				LR		LR	
	comp=N,186nm,37.1s,MS4.0						
MDJ				LR		LR	
	comp=E,712nm,32.3s,MS4.0						
MDJ				LR		LR	
	comp=Z,434nm,31.1s,MS3.8						
MDJ	**Mudanjiang**	**25.09 16**		*e*P		**P**	**23 22 38.5 +0.2**
	comp=Z,81nm,1.3s,mb5.1						
MDJ				*e*			23 23 10.9
GTA	**Gaotai**	**25.51 321**		*e*P		**P**	**23 22 44.7 +2.5**
GTA				AP		pP	23 22 50.0 +0.3
GTA				XP		sP	23 22 53.1 +0.3
GTA				PP			23 23 24.4
GTA				S		**S**	**23 27 09.6 +1.6**
GTA				XS		sS	23 27 17.9 -2.5
GTA				AMB		AMB	
	comp=Z,7.0nm,1.2s,mb4.1						
GTA				AMB		AMB	
	comp=Z,164nm,3.8s						
GTA				LR		LR	
	comp=N,1μm,9.9s						
GTA				LR		LR	
	comp=E,1μm,10.6s						
GTA				LR		LR	
	comp=Z,1μm,11.4s,MS4.7						
SHL	**Shillong**	**26.39 286**		*e*P		**P**	**23 22 50.0 -0.1**
LSA	**Lhasa**	**27.64 295**		P		**P**	**23 23 01.0 -0.4**
LSA	**Lhasa**	**27.64 295**		*e*P		**P**	**23 23 02.1 +0.7**
LSA				pmax		pmax	
	comp=Z,17nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.64 295**		*e*P		**P**	**23 23 02.1 +0.7**
	comp=Z,16nm,0.9s,mb4.7						
HIA	**Hailar**	**28.48 359**		*e*P		**P**	**23 23 10.0 +1.1**
HIA				pmax		pmax	
	comp=Z,6.0nm,0.3s						
HIA	**Hailar**	**28.48 359**		*e*P		**P**	**23 23 10.0 +1.0**
	comp=Z,5.5nm,0.3s,mb4.7						
SONM	**Songino Array**	**29.24 341**		P		**P**	**23 23 13.8 -1.8**
	comp=Z,2.5nm,0.9s,mb3.9,baz=166,slow=8.0,SNR=10						
GUN	**Gumba**	**31.94 290**		*e*P		**P**	**23 23 39.1 -0.4**
	comp=Z,33nm,0.8s,mb5.2						
YSS	**Yuzh-Sakhalins**	**31.99 30**		*e*P		**P**	**23 23 46.3 +6.4**
YSS				pmax		pmax	
	comp=Z,26nm,1.3s,mb4.9						
PKI	**Pulchoki**	**32.33 289**		*e*P		**P**	**23 23 42.3 -0.6**
	comp=Z,33nm,1.1s,mb5.1						
ZAK	**Zakamensk**	**32.46 340**		*e*P		**P**	**23 23 43.5 -0.5**
KKN	**Kakani**	**32.46 289**		*e*P		**P**	**23 23 42.7 -1.4**
	comp=Z,32nm,1.0s,mb5.1						
DMN	**Daman**	**32.60 289**		*e*P		**P**	**23 23 43.9 -1.4**
	comp=Z,85nm,1.3s,mb5.5						
GKN	**Gorkha**	**33.05 290**		*e*P		**P**	**23 23 47.8 -1.4**
	comp=Z,45nm,1.1s,mb5.3						
TLY	**Talaya**	**33.48 341**		P		**P**	**23 23 55.7 +2.8**
KOLN	**Koldanda**	**33.94 289**		*e*P		**P**	**23 23 55.7 -1.3**
	comp=Z,28nm,0.9s,mb5.2						
KAKA	**Kakadu**	**35.36 159**		*e*P		**P**	**23 24 08.0 -1.2**
	comp=Z,22nm,1.2s,mb5.0						
WMQ	**Urumqi**	**35.45 318**		*e*P		**P**	**23 24 10.0 0.0**
WMQ				AP		pP	23 24 20.0 +2.4
WMQ				XP		sP	23 24 24.0 +3.3
WMQ				AMB		AMB	
	comp=Z,13nm,1.2s,mb4.7						
WMQ				AMB		AMB	
	comp=Z,240nm,5.8s						
WMQ				LR		LR	
	comp=N,1μm,14.2s,MS4.9						
WMQ				LR		LR	
	comp=E,895nm,10.4s,MS4.9						
WMQ				LR		LR	
	comp=Z,1μm,18.0s						
FITZ	**Fitzroy Crossi**	**38.96 172**		*e*P		**P**	**23 24 41.2 +1.4**
	comp=Z,5.9nm,0.7s,mb4.4						
FITZ				*e*			23 24 45.9
FITZ	**Fitzroy Crossi**	**38.96 172**		P		**P**	**23 24 38.1 -1.7**
	comp=Z,3.2nm,0.9s,mb4.0,baz=20,slow=10,SNR=3.5						
FITZ	**Fitzroy Crossi**	**38.96 172**		P		**P**	**23 24 38.1 -1.7**
FITZ				*e*P			23 24 41.2
FITZ				*e*		pP	23 24 45.9 -1.5
PMG	**Port Moresby**	**40.03 136**		P		**P**	**23 24 46.9 -1.9**
	comp=Z,12nm,0.7s,mb4.7,baz=354,slow=12,SNR=1.6						
PMG	**Port Moresby**	**40.03 136**		*e*P		**P**	**23 24 51.4 +2.6**
MKAR	**Makanchi Array**	**40.23 319**		P		**P**	**23 24 48.7 -1.6**
	comp=Z,1.5nm,0.7s,mb3.8,baz=109,slow=11,SNR=12						
MBWA	**Marble Bar**	**41.62 181**		*e*P		**P**	**23 25 02.7 +0.9**
	comp=Z,3.0nm,0.6s,mb4.1						
YAK	**Yakutsk**	**41.81**	7⇑	*e*P		**P**	**23 25 08.2 +4.9**
YAK				pmax		pmax	
	comp=Z,9.0nm,0.4s,mb4.8						
ZAL	**Zalesovo**	**42.67 330**		P		**P**	**23 25 08.7 -1.7**
	comp=Z,2.8nm,0.6s,mb4.1,baz=162,slow=3.3,SNR=13						
WRAB	**Tennant Creek**	**42.73 160**		*e*P		**P**	**23 25 09.1 -1.8**
WRA	**Warramunga Arr**	**42.74 160**		P		**P**	**23 25 09.8 -1.1**
	comp=Z,26nm,0.8s,mb5.1,baz=342,slow=9.2,SNR=72						
WB2	**Warramunga Arr**	**42.74 160**		*e*P		**P**	**23 25 10.0 -1.0**
FRU	**Bishkek**	**43.88 311**		*

BRVK pmax pmax
comp=Z,24nm,1.2s,mb5.1
BRVK Borovoye 49.85 323 *e*P **P 23 26 09.4 +2.6**
comp=Z,24nm,1.2s,mb5.1
BRVK *e*PcP PcP 23 27 26.0 -1.1
CHKZ Chkalovo 49.88 324 *e*P **P 23 26 09.4 +2.3**
CHKZ *e* 23 27 28.4
CHKZ pmax pmax
comp=Z,25nm,1.2s,mb5.1
CHKZ Chkalovo 49.88 324 *e*P **P 23 26 09.4 +2.3**
comp=Z,25nm,1.2s,mb5.1
CHKZ *e*PcP PcP 23 27 28.4 +1.2
ZRNK Zerenda 50.54 322 *e*P **P 23 26 11.4 -0.6**
ZRNK pmax pmax
comp=Z,34nm,1.3s,mb5.1
ZRNK Zerenda 50.54 322 *e*P **P 23 26 11.4 -0.6**
comp=Z,34nm,1.3s,mb5.1
TIXI Tiksi 51.19 4 *e*P **P 23 26 20.0 +3.0**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KLBR Kellerberrin 52.06 183 *e*P **P 23 26 22.6 -0.9**
comp=Z,29nm,1.2s,mb5.1
NWAO Narrogin (SRO) 53.41 183 P **P 23 26 32.0 -1.4**
comp=Z,15nm,1.0s,mb4.9,baz=286,slow=8.4,SNR=3.1
STKA Stephens Creek 56.20 158 *e*P **P 23 26 53.9 +0.3**
comp=Z,6.4nm,1.0s,mb4.6
STKA Stephens Creek 56.20 158 P **P 23 26 53.5 -0.1**
comp=Z,7.2nm,0.8s,mb4.8,baz=343,slow=8.4,SNR=11
AKTK Aktyubinsk 56.60 317 P **P 23 26 56.5 +0.1**
AKTO Aktyubinsk 56.60 317 P **P 23 26 56.5 +0.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=107,slow=8.4,SNR=5.1
ARU Arti 57.31 325 *e*P **P 23 27 00.6 -0.9**
ARU pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ARU Arti 57.31 325 *e*P **P 23 27 01.3 -0.2**
comp=Z,21nm,1.1s,mb5.1
ORR Orenburg 58.79 318 *e*P **P 23 27 11.8 -0.1**
ORR pmax pmax
comp=Z,30nm,1.4s,mb5.1
TOO Toolangi 62.71 157 *e*P **P 23 27 39.9 +1.4**
comp=Z,9.4nm,0.8s,mb5.0
TOO Toolangi 62.71 157 *e*P **P 23 27 39.9 +1.4**
TOO pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
GNI Garni 65.99 306 *e*P **P 23 27 59.5 -0.5**
GNI pmax pmax
comp=Z,4.0nm,1.3s
KIV Kislovodsk 67.03 310⇑ *e*P **P 23 28 06.8 +0.1**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KIV Kislovodsk 67.03 310 *e*P **P 23 28 08.0 +1.4**
comp=Z,12nm,0.8s,mb5.0
TAU Tasmania Unive 68.09 159 *e*P **P 23 28 15.6 +2.2**
VOR Voronezh 68.45 319 P **P 23 28 18.0 +2.3**
VOR pmax pmax
comp=E,50nm,1.3s
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.4
MOS Moscow 68.95 323 *e*P **P 23 28 20.2 +1.4**
LVZ Lovozero 69.30 336⇑ *e*P **P 23 28 20.2 -0.7**
LVZ pmax pmax
comp=Z,38nm,1.7s,mb5.0
OBN Obninsk 69.62 322⇑ *e*P **P 23 28 22.4 -0.5**
OBN *e*S S 23 37 34.6 +5.0
OBN pmax pmax
comp=Z,18nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
OBN Obninsk 69.62 322 *e*P **P 23 28 22.6 -0.3**
MALT Malatya 71.13 305 *e*P **P 23 28 35.0 +2.9**
MALT *e* 23 28 52.4
MCK McKinley 72.05 28 *e*P **P 23 28 38.8 +1.1**
COLA College 72.31 27 *e*P **P 23 28 40.5 +1.3**
ARCES ARCESS Array B 72.38 338 P **P 23 28 38.5 -1.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=328,slow=25,SNR=3.0
KAF Kangasniemi 73.67 331 *e*p **P 23 28 52.5 +5.2**
comp=Z,5.2nm,0.8s,mb4.5,baz=74,slow=5.4
KAF Kangasniemi 73.67 331 *e*P **P 23 28 52.5 +5.2**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FINES FINESS Array B 73.94 330 P **P 23 28 48.0 -0.8**
comp=Z,1.3nm,0.9s,mb3.9,baz=66,slow=4.6,SNR=6.2
BRTR Keskin Array B 74.45 307 P **P 23 28 51.4 -0.5**
comp=Z,0.5nm,0.7s,baz=304,slow=13,SNR=2.3
AKASG Malin Array Be 74.81 319 P **P 23 28 52.7 -1.2**
comp=Z,0.5nm,0.6s,baz=65,slow=5.6,SNR=6.8
AKASG Malin Array Be 74.81 319 P **P 23 28 52.7 -1.2**
SUW Suwalki 77.46 323 *e*P **P 23 29 08.3 -0.7**
SUW *e* pP 23 29 15.8 -1.3
SUW Suwalki 77.46 323 *e*P **P 23 29 08.3 -0.7**
SUW *e*PcP PcP 23 29 15.8 -3.5
KWP Kalwaria 79.13 319 *e*P **P 23 29 18.8 +0.6**
KWP *e* pP 23 29 26.5 +0.1
KWP pmax pmax
comp=Z,49nm,1.3s,mb5.3
KWP Kalwaria 79.13 319 *e*P **P 23 29 18.8 +0.6**
comp=Z,49nm,1.3s,mb5.3
KWP *e*PcP PcP 23 29 26.5 0.0
NIE Niedzica 80.67 319 *e*P **P 23 29 27.5 +1.0**
OJC Ojcow 80.69 320 *e*P **P 23 29 26.8 +0.1**
NB2 NORSAR Subarra 80.82 332 P **P 23 29 25.5 -1.8**
comp=Z,5.0nm,1.4s,mb4.2,baz=67,slow=5.3
NB2 NORSAR Subarra 80.82 332 P **P 23 29 25.5 -1.8**
NB2 pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
NOA NORSAR Array B 80.82 332 P **P 23 29 25.1 -2.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=64,slow=5.3,SNR=3.2
KECS Kecovo 80.89 318 *e*P **P 23 29 28.1 +0.3**
KECS pmax pmax
comp=Z,8.0nm,2.0s,mb4.3
KECS Kecovo 80.89 318 *e*P **P 23 29 28.1 +0.3**
comp=Z,8.1nm,2.0s,mb4.3
PSZ Piszkesteto 81.47 318 *e*P **P 23 29 32.0 +1.2**
OKC Ostrava-Krasne 81.82 320 *e*P **P 23 29 34.9 +2.2**
OKC *e*pP pP 23 29 40.6 -0.3
OKC Ostrava-Krasne 81.82 320 *e*P **P 23 29 34.9 +2.2**
OKC *e* pP 23 29 40.6 -0.3
VYHS Vyhne 81.91 319 *e*P **P 23 29 32.9 -0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 81.91 319 *e*P **P 23 29 32.9 -0.2**
comp=Z,4.5nm,1.1s,mb4.3
MORC Moravsky Berou 82.21 320 *e*P **P 23 29 34.8 +0.1**
RES Resolute Bay 82.22 9 *e*P **P 23 29 36.5 +1.7**
KSP Ksiaz 82.53 322 *e*P **P 23 29 37.5 +1.1**
DPC Dobruska-Polom 82.70 321 *e*P **P 23 29 35.8 -1.5**
DPC *e*pP pP 23 29 44.2 -1.3
DPC Dobruska-Polom 82.70 321 *e*P **P 23 29 35.8 -1.5**
DPC *e* pP 23 29 44.2 -1.3
UPC Upice 82.82 321 *e*P **P 23 29 40.5 +2.6**
UPC *e*pP pP 23 29 45.8 -0.3
UPC Upice 82.82 321 *e*P **P 23 29 40.5 +2.6**
UPC *e* 23 29 45.8
TREC Trest 83.63 320 *e*P **P 23 29 45.1 +3.0**
TREC Trest 83.63 320 *e*P **P 23 29 34.8 -7.3**
TREC *e* 23 29 45.1
PVCC Panska Ves 83.66 322 *e*P **P 23 29 42.2 0.0**
PVCC *e*pP pP 23 29 50.5 +0.1
PVCC Panska Ves 83.66 322 *e*P **P 23 29 42.2 0.0**
PVCC *e* pP 23 29 50.5 +0.1
KMBO Kilima Mbogo 83.73 266 P **P 23 29 44.2 +1.6**
comp=Z,5.3nm,1.1s,mb4.6,baz=47,slow=8.4,SNR=6.7
KMBO Kilima Mbogo 83.73 266 P **P 23 29 44.2 +1.6**
PRU Pruhonice 83.90 321 *e*P **P 23 29 43.5 +0.1**
PRU *e*pP pP 23 29 51.5 -0.2
PRU Pruhonice 83.90 321 *e*P **P 23 29 43.5 +0.1**
PRU *e* pP 23 29 51.5 -0.2
CLL Collm 84.22 323 *i*P **P 23 29 44.8 -0.3**
CLL *i* pP 23 29 52.3 -1.0
CLL pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
CLL Collm 84.22 323 *i*P **P 23 29 44.8 -0.3**
comp=Z,7.0nm,1.1s,mb4.7
CLL *i* pP 23 29 52.3 -1.0
CLL Collm 84.22 323 *i*P **P 23 29 44.8 -0.3**
comp=Z,7.0nm,1.1s,mb4.7
CLL *e*PcP PcP 23 29 48.0 -0.8
CLL *i* pP pP 23 29 52.3 -1.0
KHC Kasperske Hory 84.83 321 *e*P **P 23 29 46.5 -1.7**
KHC *e*pP pP 23 29 56.2 -0.2
KHC Kasperske Hory 84.83 321 *e*P **P 23 29 46.5 -1.7**
KHC *e* 23 29 56.2
GERES GERESS Array B 84.88 320 P **P 23 29 48.1 -0.3**
comp=Z,1.7nm,0.8s,mb4.2,baz=60,slow=5.4,SNR=10.0
MOA Molln 84.97 319⇑ *i*P **P 23 29 49.7 +0.8**
comp=Z,11nm,1.3s,mb4.8
MOX Moxa 85.30 323 *e*P **P 23 29 53.5 +3.0**
comp=Z,14nm,1.5s,mb4.9
GRA1 Grafenberg Arr 85.96 322 *e*P **P 23 29 54.7 +0.9**
comp=Z,16nm,1.3s,mb5.1
GRA1 *e*pP pP 23 30 01.9 -0.1
GRF Grafenberg Arr 85.96 322 *e*P **P 23 29 54.7 +0.9**
comp=Z,16nm,1.3s,mb5.1
GRF *e*pP pP 23 30 01.9 -0.1
comp=Z,16nm,1.3s
GRF Grafenberg Arr 85.96 322 *e*P **P 23 29 54.7 +0.9**
GRF *e**PP pP 23 30 01.9 -0.1
GRF pmax pmax
comp=Z,16nm,1.3s,mb5.1
GRF Grafenberg Arr 85.96 322 *e*P **P 23 29 54.7 +0.9**
GRF *e**PP pP 23 30 01.9 -0.1
GRF pmax pmax
comp=Z,16nm,1.3s,mb5.1
YKW3 Yellowknife Ar 86.48 22 *e*P **P 23 29 55.6 -0.7**
YKA Yellowknife Ar 86.53 22 P **P 23 29 55.4 -1.2**
comp=Z,4.0nm,0.9s,mb4.6,baz=313,slow=4.4,SNR=6.6
LPG La Plagne 90.64 320 *e*P **P 23 30 14.4 -1.7**
comp=Z,13nm,0.9s,mb5.0
LPG La Plagne 90.64 320 *e*P **P 23 30 14.4 -1.7**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
LPG La Plagne 90.64 320 *e*P **P 23 30 14.4 -1.7**
comp=Z,6.5nm,0.9s,mb5.0
LPL La Plagne 90.64 320 *e*P **P 23 30 14.3 -1.8**
comp=Z,12nm,0.9s,mb4.9
LPL La Plagne 90.64 320 *e*P **P 23 30 14.3 -1.8**
LPL pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LPL La Plagne 90.64 320 *e*P **P 23 30 14.3 -1.8**
comp=Z,5.8nm,0.9s,mb4.9
MBDF Montbardon 91.02 319 *e*P **P 23 30 15.1 -2.8**
comp=Z,4.1nm,0.7s,mb4.5
MBDF Montbardon 91.02 319 *e*P **P 23 30 15.1 -2.8**
MBDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
MBDF Montbardon 91.02 319 *e*P **P 23 30 15.1 -2.8**
comp=Z,2.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 91.47 320 *e*P **P 23 30 17.9 -2.0**
comp=Z,8.4nm,0.8s,mb4.8
ORIF Oris-en-Rattie 91.47 320 *e*P **P 23 30 17.9 -2.0**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 91.47 320 *e*P **P 23 30 17.9 -2.0**
comp=Z,4.2nm,0.8s,mb4.8
FRF La Foret Royal 91.70 318 *e*P **P 23 30 18.6 -2.4**
LMR La Mourre 91.90 318 *e*P **P 23 30 19.6 -2.3**
comp=Z,37nm,1.5s,mb5.2
LMR La Mourre 91.90 318 *e*P **P 23 30 19.6 -2.3**
LMR pmax pmax
comp=Z,18nm,1.5s,mb5.2
LMR La Mourre 91.90 318 *e*P **P 23 30 19.6 -2.3**
comp=Z,18nm,1.5s,mb5.2
HOOD Mount Hood Mea 93.61 39 *e*P **P 23 30 34.6 +4.7**
PPT Papeete 96.32 106 *e*LR LR 00 01 35.9
comp=Z,305nm,26.2s
TBI Tubuai 98.33 112 *e*LR LR 00 02 30.6
comp=Z,230nm,29.5s
SBA Scott Base 101.98 171 *e*P Pdif 23 31 06.4 -1.2
BW06 Boulder Array 102.01 35 *e*Pdif Pdif 23 31 07.7 +0.1
TAOE Nuku Hiva Isla 102.13 95 *e*LR LR 00 04 17.3
comp=Z,1μm,32.2s
RSSD Black Hills 103.86 31 *e*P Pdif 23 31 16.7 +0.8
RKT Rikitea 111.03 108 *e*LR LR 00 08 23.3
comp=Z,216nm,30.8s
SDV Santo Domingo 148.74 21 *e*PKPbc PKPbc 23 37 00.3 -0.6

IDC ***10*** *23:17:44.9±0.5,2073N×11999E,h0km,mb4.7/22, mb1 4.8/22,mb1mx4.7/25,mbtmp4.6/22,MS4.3/1, Ms1 4.3/1,ms1mx3.0/31,Error ellipse: s-maj=24.3km s-min=11.7km az=65.0*
NEIC ***10*** *23:17:45.7±0.3,2077N×12002E,h10km,mb5.1/19,Error ellipse: s-maj=12.4km s-min=7.1km az=69.0*
ISCJB ***10*** *23:17:47.8±0.3,2074N±005×120.10E±007,h33km, mb4.9/43,MS4.2/2,Error ellipse: s-maj=10.4km s-min=6.4km az=134.2*
MOS ***10*** *23:17:48.1±1.0,2084N×12003E,h33km,mb5.4/20,Error ellipse: s-maj=12.0km s-min=5.9km az=117.0*
SZGRF ***10*** *23:17:48.0,2034N×12062E,h33km,mb5.2,Philippine Islands region*
ISC 10 23:17:50.1±1.6,2083N±005×12018E±008,h37km±14km, n158,σ1§03/155,mb4.9/43,MS4.2/2,5C-5D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**6.73**	**174**	Pn	**Pn**	**23 19 29.9**	**+3.5**
	133nm,0.3s,baz=198,slow=18,SNR=5.8						
JOW	**Kunigami**	**9.52**	**50**	LR	LR	23 24 36.7	
	comp=Z,2μm,18.8s,baz=30,slow=42						
SSE	**Sheshan**	**10.26**	**5**	P	**Pn**	**23 20 07.1**	**-7.6**
	40nm,0.7s						
SSE				sP		23 21 05.3	
SSE				S	**Sn**	**23 22 06.0**	**-2.5**
BJT	**Baijiatuan**	**19.43**	**351**	*e*P	**Pn**	**23 22 13.9**	**-0.7**
CHTO	**Chiang Mai**	**20.08**	**268**	*e*P	**P**	**23 22 20.1**	**-0.1**
LZH	**Lanzhou**	**20.86**	**320**	*e*P	**P**	**23 22 29.7**	**+1.0**
MAJO	**Matsushiro**	**22.19**	**41**	*e*P	**P**	**23 22 42.8**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**22.19**	**41**	*e*P	**P**	**23 22 42.8**	**-0.2**
	comp=Z,12nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**22.19**	**41**	P	**P**	**23 22 46.1**	**+3.1**
	comp=Z,24nm,1.1s,mb4.5,baz=229,slow=9.8,SNR=9.4						
PSI	**Prapat**	**27.39**	**232**	P	**P**	**23 23 31.4**	**-0.4**
	comp=Z,3.3nm,0.3s,mb4.3,baz=17,slow=11,SNR=4.8						
LSA	**Lhasa**	**27.64**	**294**	*e*P	**P**	**23 23 34.1**	**0.0**
HIA	**Hailar**	**28.37**	**359**	*e*P	**P**	**23 23 41.0**	**+0.3**
SONM	**Songino Array**	**29.15**	**341**	P	**P**	**23 23 47.4**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.3,baz=157,slow=9.6,SNR=8.4						
SONM				PcP	PcP	23 26 55.9	+1.4
	comp=Z,2.0nm,1.1s,baz=145,slow=5.3,SNR=4.3						
ZAK	**Zakamensk**	**32.37**	**340**	*e*P	**P**	**23 24 08.4**	**-7.6**
FITZ	**Fitzroy Crossi**	**39.06**	**172**	P	**P**	**23 25 12.5**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.2,baz=323,slow=15,SNR=2.4						
FITZ	**Fitzroy Crossi**	**39.06**	**172**	*e*pP	**P**	**23 25 17.2**	**+3.9**
FITZ	**Fitzroy Crossi**	**39.06**	**172**	*e*pP	**P**	**23 25 17.2**	**+3.9**
PMG	**Port Moresby**	**40.08**	**136**	P	**P**	**23 25 22.8**	**+1.0**
	comp=Z,22nm,0.9s,mb4.9,baz=4.1,slow=14,SNR=3.3						
PMG	**Port Moresby**	**40.08**	**136**	*e*P	**P**	**23 25 22.7**	**+0.9**
PMG				pmax	pmax		
	comp=Z,15nm,0.6s						
PMG	**Port Moresby**	**40.08**	**136**	*e*P	**P**	**23 25 22.7**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**40.17**	**319**	P	**P**	**23 25 23.1**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.2,baz=118,slow=10,SNR=7.7						
MKAR				PcP	PcP	23 27 27.1	+0.8
	comp=Z,2.9nm,0.7s,baz=101,slow=4.4,SNR=5.2						
YAK	**Yakutsk**	**41.69**	**7**	P	**P**	**23 25 35.2**	**+0.1**
MBWA	**Marble Bar**	**41.74**	**181**	*e*P	**P**	**23 25 33.9**	**-1.6**
	comp=Z,3.7nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**42.60**	**330**	P	**P**	**23 25 42.8**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.2,baz=247,slow=1.1,SNR=9.0						
WRA	**Warramunga Arr**	**42.83**	**160**	P	**P**	**23 25 43.1**	**-1.2**
	comp=Z,22nm,0.9s,mb4.9,baz=340,slow=8.6,SNR=8.4						
WB2	**Warramunga Arr**	**42.83**	**160**	*e*P	**P**	**23 25 43.9**	**-0.5**
WB2	**Warramunga Arr**	**42.83**	**160**	*e*pP	**P**	**23 25 43.9**	**-0.5**
FRU	**Bishkek**	**43.84**	**311**	*e*P	**P**	**23 25 53.0**	**+0.5**
AAK	**Ala-Archa**	**43.87**	**310**	*e*P	**P**	**23 25 53.0**	**+0.2**
AAK	**Ala-Archa**	**43.87**	**310**	*e*pP	**P**	**23 25 53.0**	**+0.2**
MA2	**Magadan**	**44.43**	**22**	*e*P	**P**	**23 25 58.2**	**+1.0**
AS31	**Alice Springs**	**46.21**	**162**	*e*pP	**P**	**23 26 09.5**	**-1.8**
ASAR	**Alice Springs**	**46.21**	**162**	P	**P**	**23 26 12.3**	**+1.0**
	comp=Z,6.2nm,0.8s,mb4.6,baz=344,slow=7.3,SNR=6.0						
CTA	**Charters Tower**	**48.01**	**146**	P	**P**	**23 26 26.7**	**+1.3**
	comp=Z,23nm,0.7s,mb5.3,baz=334,slow=9.5,SNR=6.4						
CTA	**Charters Tower**	**48.01**	**146**	*e*pP	**P**	**23 26 26.9**	**+1.5**
CTAO	**Charters Tower**	**48.01**	**146**	*e*pP	**P**	**23 26 22.9**	**-2.5**
BVAR	**Borovoye Array**	**49.72**	**323**	P	**P**	**23 26 38.8**	**+0.4**
	comp=Z,4.5nm,1.0s,mb4.5,baz=95,slow=11,SNR=8.9						
BRVK	**Borovoye**	**49.79**	**323**	*e*pP	**P**	**23 26 39.3**	**+0.3**
CHKZ	**Chkalovo**	**49.82**	**324**	*e*pP	**P**	**23 26 38.0**	**-1.3**
ZRNK	**Zerenda**	**50.48**	**322**	*e*P	**P**	**23 26 44.0**	**-0.2**
ZRNK	**Zerenda**	**50.48**	**322**	*e*pP	**P**	**23 26 44.0**	**-0.2**
TIXI	**Tiksi**	**51.08**	**4**	*e*P	**P**	**23 26 46.7**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KLBR	**Kellerberrin**	**52.18**	**183**	*e*pP	**P**	**23 26 55.7**	**-1.2**
BILL	**Bilibino**	**55.14**	**19**	P	**P**	**23 27 19.1**	**+0.5**
STKA	**Stephens Creek**	**56.28**	**158**	P	**P**	**23 27 26.9**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.8,baz=351,slow=7.9,SNR=5.8						
STKA	**Stephens Creek**	**56.28**	**158**	*e*pP	**P**	**23 27 25.9**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.7						
AKTK	**Aktyubinsk**	**56.55**	**317**	P	**P**	**23 27 29.1**	**+0.3**
AKTO	**Aktyubinsk**	**56.55**	**317**	P	**P**	**23 27 29.1**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.7,baz=102,slow=11,SNR=8.8						
ARU	**Arti**	**57.25**	**324**	*e*P	**P**	**23 27 33.5**	**-0.2**
ARU	**Arti**	**57.25**	**324**	*e*pP	**P**	**23 27 33.5**	**-0.2**
ORR	**Orenburg**	**58.74**	**318**	*e*P	**P**	**23 27 43.7**	**-0.4**
TOO	**Toolangi**	**62.79**	**158**	*e*P	**P**	**23 28 12.4**	**+0.7**
TOO	**Toolangi**	**62.79**	**158**	*e*pP	**P**	**23 28 12.4**	**+0.7**
KIV	**Kislovodsk**	**66.99**	**310**	*e*P	**P**	**23 28 38.8**	**-0.2**
MOS	**Moscow**	**68.89**	**323**	*e*P	**P**	**23 28 49.9**	**-1.1**
OBN	**Obninsk**	**69.56**	**322**	*e*P	**P**	**23 28 55.0**	**-0.1**
OBN	**Obninsk**	**69.56**	**322**	*e*P	**P**	**23 28 54.7**	**-0.4**
	comp=Z,29nm,1.1s,mb5.1						
APA	**Apatity**	**69.72**	**336⇑**	*i*P	**P**	**23 28 55.8**	**-0.3**
APA				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**72.29**	**338**	P	**P**	**23 29 12.0**	**+0.3**
	comp=Z,8.8nm,0.9s,mb4.7,baz=356,slow=13,SNR=5.6						
ARCES	**ARCESS Array B**	**72.29**	**338**	P	**P**	**23 29 12.0**	**+0.3**
FINES	**FINESS Array B**	**73.86**	**330**	P	**P**	**23 29 21.0**	**0.0**
	comp=Z,11nm,1.0s,mb4.7,baz=75,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**73.86**	**330**	P	**P**	**23 29 21.0**	**0.0**
BRTR	**Keskin Array B**	**74.42**	**307**	P	**P**	**23 29 25.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=52,slow=5.7,SNR=2.8						
AKASG	**Malin Array Be**	**74.75**	**319**	P	**P**	**23 29 25.5**	**-0.7**
	comp=Z,8.3nm,1.0s,mb4.6,baz=63,slow=5.5,SNR=14						
AKBB	**Malin Array Si**	**74.75**	**319**	*e*P	**P**	**23 29 25.6**	**-0.6**
SUW	**Suwalki**	**77.40**	**323**	*e*P	**P**	**23 29 41.2**	**0.0**
SUW				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.5						
SUW	**Suwalki**	**77.40**	**323**	*e*pP	**P**	**23 29 41.2**	**0.0**
	comp=Z,69nm,1.0s,mb5.5						
SUW	**Suwalki**	**77.40**	**323**	*e*pP	**P**	**23 29 40.8**	**-0.4**
VRI	**Vrincioaia**	**77.67**	**314⇓**	*i*P	**P**	**23 29 44.4**	**+1.7**
BURAR	**Bucovina Array**	**78.13**	**316⇓**	*i*P	**P**	**23 29 46.7**	**+1.4**
MLR	**Muntele Rosu**	**78.30**	**314⇑**	*i*P	**P**	**23 29 48.1**	**+1.9**
KOLS	**Kolonicke sedl**	**79.58**	**318**	*e*P	**P**	**23 29 53.6**	**+0.4**
UZH	**Uzhgorod**	**79.66**	**318**	*e*P	**P**	**23 29 53.0**	**-0.7**
UZH				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
DRGR		**80.02**	**316⇑**	*i*P	**P**	**23 29 56.7**	**+1.1**
CRVS	**Cervenica-Dubn**	**80.09**	**319**	*e*P	**P**	**23 29 54.9**	**-1.1**
NB2	**NORSAR Subarra**	**80.74**	**332**	P	**P**	**23 29 58.9**	**-0.6**
	comp=Z,19nm,1.1s,mb4.9,baz=65,slow=5.6						
NB2	**NORSAR Subarra**	**80.74**	**332**	P	**P**	**23 29 58.1**	**-1.4**
NB2				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
NB2	**NORSAR Subarra**	**80.74**	**332**	P	**P**	**23 29 58.1**	**-1.4**
	comp=Z,17nm,1.1s,mb4.9						
NOA	**NORSAR Array B**	**80.74**	**332**	P	**P**	**23 29 59.0**	**-0.5**
	comp=Z,7.2nm,1.0s,mb4.6,baz=65,slow=5.3,SNR=8.0						
KECS	**Kecovo**	**80.84**	**318**	*e*P	**P**	**23 30 00.6**	**+0.6**
VTS	**Vitosha**	**81.11**	**312⇓**	*i*P	**P**	**23 30 03.3**	**+1.9**
BZS	**Buzias**	**81.14**	**315⇓**	*i*P	**P**	**23 30 01.9**	**+0.3**
PSZ	**Piszkesteto**	**81.41**	**318**	*e*pP	**P**	**23 30 03.5**	**+0.5**
OKC	**Ostrava-Krasne**	**81.77**	**320**	*e*P	**P**	**23 30 05.4**	**+0.5**
VYHS	**Vyhne**	**81.86**	**319**	*e*P	**P**	**23 30 06.1**	**+0.7**
MORC	**Moravsky Berou**	**82.15**	**320⇑**	*i*P	**P**	**23 30 08.1**	**+1.1**
MORC	**Moravsky Berou**	**82.15**	**320**	*e*P	**P**	**23 30 07.7**	**+0.7**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**82.15**	**320**	*e*P	**P**	**23 30 07.7**	**+0.8**
	comp=Z,5.9nm,0.8s,mb4.6						
KSP	**Ksiaz**	**82.47**	**322**	*e*P	**P**	**23 30 09.3**	**+0.7**
DPC	**Dobruska-Polom**	**82.65**	**321**	*e*P	**P**	**23 30 10.5**	**+1.0**
UPC	**Upice**	**82.77**	**321**	*e*P	**P**	**23 30 10.9**	**+0.7**
PKSM	**Moragy**	**82.85**	**317⇑**	*i*P	**P**	**23 30 11.4**	**+0.8**
VRAC	**Vranov**	**82.91**	**320⇓**	*i*P	**P**	**23 30 12.8**	**+1.9**
TREC	**Trest**	**83.57**	**320**	*e*P	**P**	**23 30 14.9**	**+0.6**
PVCC	**Panska Ves**	**83.60**	**322**	*e*P	**P**	**23 30 14.8**	**+0.4**
KMBO	**Kilima Mbogo**	**83.78**	**266**	P	**P**	**23 30 17.2**	**+1.8**
	comp=Z,7.9nm,1.1s,mb4.8,baz=42,slow=9.0,SNR=6.9						
KMBO	**Kilima Mbogo**	**83.78**	**266**	P	**P**	**23 30 17.2**	**+1.8**
KMBO				*e*pP	PcP	23 30 17.9	-1.6
PRU	**Pruhonice**	**83.84**	**321**	*e*P	**P**	**23 30 16.2**	**+0.5**
CLL	**Collm**	**84.16**	**323**	*e*P	**P**	**23 30 17.6**	**+0.3**
CLL	**Collm**	**84.16**	**323**	*i*P	**P**	**23 30 17.6**	**+0.3**
	comp=Z,28nm,1.2s,mb5.3						
KHC	**Kasperske Hory**	**84.78**	**321**	*e*P	**P**	**23 30 20.9**	**+0.5**
GERES	**GERESS Array B**	**84.83**	**320**	P	**P**	**23 30 21.3**	**+0.6**
	comp=Z,5.1nm,0.8s,mb4.7,baz=57,slow=4.9,SNR=16						
MOX	**Moxa**	**85.24**	**323**	*e*P	**P**	**23 30 23.5**	**+0.8**
GRA1	**Grafenberg Arr**	**85.90**	**322**	*e*P	**P**	**23 30 27.3**	**+1.3**
	comp=Z,25nm,1.3s,mb5.3						
GRF	**Grafenberg Arr**	**85.90**	**322**	*e*P	**P**	**23 30 27.3**	**+1.3**
	comp=Z,25nm,1.3s,mb5.3						
GRF	**Grafenberg Arr**	**85.90**	**322**	*e*P	**P**	**23 30 27.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.3						
GRF	**Grafenberg Arr**	**85.90**	**322**	*e*P	**P**	**23 30 27.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.3						
YKW3	**Yellowknife Ar**	**86.36**	**22**	*e*pP	**P**	**23 30 28.9**	**+0.6**
YKA	**Yellowknife Ar**	**86.41**	**22**	P	**P**	**23 30 29.8**	**+1.2**
	comp=Z,17nm,1.2s,mb5.2,baz=316,slow=4.7,SNR=7.5						
CDF	**Champ du Feu**	**88.79**	**322**	*e*P	**P**	**23 30 38.6**	**-1.4**
HAU	**Haudompre**	**89.53**	**322**	*e*P	**P**	**23 30 41.7**	**-1.8**
HAU				*e*MLR	MLR		
	comp=Z,96nm,20.2s						
HAU	**Haudompre**	**89.53**	**322**	*e*P	**P**	**23 30 41.7**	**-1.8**
HAU				LR	LR		
	comp=Z,100nm,20.3s,MS4.2						
BAIF	**Baives**	**89.64**	**325**	*e*P	**P**	**23 30 42.6**	**-1.4**
	comp=Z,28nm,1.2s,mb5.2						
BAIF	**Baives**	**89.64**	**325**	*e*P	**P**	**23 30 42.6**	**-1.4**
BAIF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.2						
BAIF	**Baives**	**89.64**	**325**	*e*P	**P**	**23 30 42.6**	**-1.4**
	comp=Z,14nm,1.

comp=Z,8.6nm,1.2s,mb5.0
SMF Signal de Mont 91.70 322 eP P 23 30 51.9 -1.6
LMR La Mourre 91.85 318 eP P 23 30 53.2 -1.0
comp=Z,68nm,1.5s,mb5.5
LMR La Mourre 91.85 318 eP P 23 30 53.2 -1.0
LMR pmax pmax
comp=Z,34nm,1.5s,mb5.5
LMR La Mourre 91.85 318 eP P 23 30 53.2 -1.0
comp=Z,34nm,1.5s,mb5.5
AVF Avril sur Loir 91.90 322 eP P 23 30 53.0 -1.5
comp=Z,21nm,1.4s,mb5.0
AVF Avril sur Loir 91.90 322 eP P 23 30 53.0 -1.5
AVF pmax pmax
comp=Z,11nm,1.4s,mb5.0
AVF Avril sur Loir 91.90 322 eP P 23 30 53.0 -1.5
comp=Z,11nm,1.4s,mb5.0
VIVF Saint-Julien-l 92.17 320 eP P 23 30 54.6 -1.1
comp=Z,69nm,1.6s,mb5.4
VIVF Saint-Julien-l 92.17 320 eP P 23 30 54.6 -1.1
VIVF pmax pmax
comp=Z,34nm,1.6s,mb5.4
VIVF Saint-Julien-l 92.17 320 eP P 23 30 54.6 -1.1
comp=Z,34nm,1.6s,mb5.4
BGF Bois d'Agland 92.32 322 eP P 23 30 54.9 -1.5
TCF Toulx Ste Croi 92.84 322 eP P 23 30 57.8 -1.0
EDM Edmonton 92.97 29 P P 23 31 01.1 +1.7
KEST Kesra 93.73 310 P P 23 31 04.0 +1.0
comp=Z,2.4nm,1.1s,mb4.5,baz=345,slow=8.3,SNR=4.0
RJF Les Rejaudoux 93.79 322 eP P 23 31 02.6 -0.6
comp=Z,51nm,1.4s,mb5.5
RJF eMLR MLR
comp=Z,74nm,21.5s
RJF Les Rejaudoux 93.79 322 eP P 23 31 02.6 -0.6
RJF pmax pmax
comp=Z,26nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,70nm,21.5s,MS4.1
RJF Les Rejaudoux 93.79 322 eP P 23 31 02.6 -0.6
comp=Z,26nm,1.4s,mb5.5
RJF LR LR
comp=Z,70nm,21.5s,MS4.1
MTLF Montolieu 94.48 320 eP P 23 31 05.2 -1.2
HRY Holter Researc 98.03 33 epP pP 23 31 31.7 -2.5
ROSC El Rosal 150.77 31 ePKPdf PKPdf 23 37 33.8 +1.1
LPAZ La Paz 170.92 62 ePKIKP PKPdf 23 37 54.9 +0.7

IDC ***10*** *23:22:10.9±0.7, 2074N×120.10E, h0km, mb3.9/14, mb1 4.1/14, mb1mx4.0/22, mbtmp4.0/14, Error ellipse: s-maj=34.9km s-min=16.2km az=68.0*
NEIC ***10*** *23:22:12.4±0.3, 2068N×120.12E, h10km, mb4.2/6, Error ellipse: s-maj=10.3km s-min=6.6km az=79.0*
ISCJB ***10*** *23:22:14.1±2.4, 2074N±004×12018E±008, h33km±18km, mb4.0/20, Error ellipse: s-maj=13.5km s-min=5.7km az=158.8*
MOS ***10*** *23:22:14.3±1.0, 2072N×120.10E, h33km, mb4.3/2, Error ellipse: s-maj=18.3km s-min=10.9km az=116.8*
MAN ***10*** *23:22:16.6, 2058N×120.18E, h47km, mb3.6, ML4.7, MS4.1*
ISC 10 23:22:16.1±2.6, 2076N±004×12024E±008, h33km±19km, n42, σ0°90/46, mb4.0/20, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	3.12	172	eP	Pn	23 23 01.9	-1.0
CVP	Callao Caves	3.39	153	eP	Pn	23 23 07.0	+0.4
CVP				i S	Sn	23 23 45.0	-0.6
NACB	Ninganchiao	3.63	20	ePn	Pn	23 23 10.3	+0.4
NACB				eSn	Sn	23 23 48.7	-2.8
YHNB	Yeheng	4.04	15	ePn	Pn	23 23 16.3	+0.8
YHNB				eSn	Sn	23 24 00.9	-0.7
PALP	Palanan	4.22	150	eP	Pn	23 23 16.5	-1.5
PALP				eS	Sn	23 24 10.4	+4.3
BALP	Baler	5.15	165	eP	Pn	23 23 31.3	+0.5
BJT	Baijiatuan	19.51	351	eP	Pn	23 26 41.6	-0.3
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	Baijiatuan	19.51	351	eP	Pn	23 26 41.6	-0.3
	comp=Z,9.3nm,0.7s						
MAJO	Matsushiro	22.21	41	eP	P	23 27 09.4	-0.2
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
MAJO	Matsushiro	22.21	41	eP	P	23 27 09.4	-0.3
	comp=Z,3.2nm,0.4s,mb4.1						
MJAR	Matsushiro Arr	22.21	41	P	P	23 27 10.5	+0.8
	comp=Z,6.9nm,1.2s,mb4.0,baz=226,slow=10,SNR=9.0						
GUMO	Guam	24.57	103	eP	P	23 27 34.0	+1.2
MDJ	Mudanjiang	25.03	16	eP	P	23 27 38.0	+1.0
	comp=Z,12nm,0.8s,mb4.5						
LSA	Lhasa	27.72	295	eP	P	23 28 02.5	+1.2
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
LSA	Lhasa	27.72	295	eP	P	23 28 02.5	+1.2
	comp=Z,2.6nm,0.6s,mb4.0						
SONM	Songino Array	29.24	341	P	P	23 28 14.5	-0.3
	comp=Z,1.1nm,0.7s,mb3.7,baz=157,slow=9.4,SNR=4.5						
FITZ	Fitzroy Crossi	38.98	172	P	P	23 29 39.2	+0.1
	comp=Z,1.6nm,0.7s,mb3.9,baz=34,slow=7.3,SNR=3.2						
MKAR	Makanchi Array	40.27	319	P	P	23 29 49.8	-0.1
	comp=Z,0.7nm,0.7s,mb3.5,baz=112,slow=9.3,SNR=4.0						
MKAR				PcP	PcP	23 31 52.5	-0.6
	comp=Z,0.2nm,0.3s,baz=104,slow=2.4,SNR=3.6						
ZAL	Zalesovo	42.70	330	P	P	23 30 09.0	-0.7
	comp=Z,0.7nm,0.8s,mb3.4,baz=0.1,slow=7.1,SNR=3.6						
ZAL	Zalesovo	42.70	330	P	P	23 30 09.0	-0.7
WRA	Warramunga Arr	42.74	160	P	P	23 30 09.9	-0.2
	comp=Z,3.0nm,0.8s,mb4.1,baz=343,slow=9.1,SNR=6.2						
WB2	Warramunga Arr	42.74	160	eP	P	23 30 09.9	-0.2
PET	Petropavlovsk	43.64	33	eP	P	23 30 20.1	+2.7
ASAR	Alice Springs	46.12	163	P	P	23 30 37.5	+0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=344,slow=6.9,SNR=5.7						
BVAR	Borovoye Array	49.81	323	P	P	23 31 04.4	-1.3
	comp=Z,0.4nm,0.5s,mb3.7,baz=72,slow=9.3,SNR=2.9						
BVAR				PcP	PcP	23 32 25.8	-0.2
	comp=Z,1.2nm,0.7s,baz=73,slow=2.0,SNR=4.6						
CHKZ	Chkalovo	49.92	324	eP	P	23 31 06.6	+0.1
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
CHKZ	Chkalovo	49.92	324	eP	P	23 31 06.5	+0.1
	comp=Z,1.4nm,0.8s,mb4.0						
STKA	Stephens Creek	56.19	158	P	P	23 31 53.3	+0.6
AKTK	Aktyubinsk	56.65	317	P	P	23 31 55.6	-0.4
AKTO	Aktyubinsk	56.65	317	P	P	23 31 55.6	-0.4
	comp=Z,0.7nm,0.6s,mb3.9,baz=83,slow=8.1,SNR=4.3						
ARU	Arti	57.34	324	eP	P	23 32 01.3	+0.5
KIV	Kislovodsk	67.08	310	eP	P	23 33 08.0	+1.9
OBN	Obninsk	69.66	322	eP	P	23 33 22.4	+0.2
JOF	Joensuu	71.26	331	ep	P	23 33 31.1	-0.9
	comp=Z,1.4nm,0.5s,mb4.2						
ARCES	ARCESS Array B	72.38	338	P	P	23 33 38.4	-0.4
	comp=Z,2.4nm,0.8s,mb4.2,baz=95,slow=7.4,SNR=3.5						
FINES	FINESS Array B	73.96	330	P	P	23 33 47.3	-0.8
	comp=Z,1.6nm,0.7s,mb4.1,baz=53,slow=7.4,SNR=10						
NB2	NORSAR Subarra	80.83	332	P	P	23 34 25.4	-1.1
	comp=Z,0.1nm,0.6s,mb2.9,baz=67,slow=5.9						
NOA	NORSAR Array B	80.83	332	P	P	23 34 25.7	-0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=63,slow=5.1,SNR=4.0						
CLL	Collm	84.25	323	eP	P	23 34 45.0	+0.7
GERES	GERESS Array B	84.92	321	P	P	23 34 48.1	+0.4
	comp=Z,1.0nm,0.7s,mb4.0,baz=74,slow=4.7,SNR=9.3						
YKA	Yellowknife Ar	86.46	22	P	P	23 34 55.6	+0.3
	comp=Z,1.1nm,0.7s,mb4.2,baz=313,slow=4.3,SNR=6.0						
CASY	Casey	87.08	184	eP	P	23 34 54.9	-3.5
	comp=Z,12nm,1.1s,mb5.0						

IDC ***10*** *23:35:20.1±0.8, 2078N×12007E, h0km, mb3.9/10, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, MS3.3/2, Ms1 3.3/2, ms1mx2.6/36, Error ellipse: s-maj=39.6km s-min=17.0km az=70.0*
NEIC ***10*** *23:35:21.6±0.4, 2078N×12008E, h10km, mb4.4/3, Error ellipse: s-maj=14.0km s-min=6.9km az=83.0*
ISCJB ***10*** *23:35:23.1±1.8, 2080N±004×120.1E±01, h31km±13km, mb4.0/12, MS3.1/2, Error ellipse: s-maj=18.8km s-min=6.3km az=7.4*
MOS ***10*** *23:35:23.1±1.2, 2077N×12000E, h33km, mb4.4/3, Error ellipse: s-maj=37.9km s-min=16.1km az=108.0*
MAN ***10*** *23:36:03.7, 1792N×12108E, h1km, MS1.0*
ISC 10 23:35:22.7±3.1, 2081N±004×1200E±01, h15km±20km, n26, σ0°85/28, mb4.0/12, MS3.1/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	3.21	168	eP	Pn	23 36 12.2	-0.4
CVP	Callao Caves	3.53	151	eP	Pn	23 36 17.0	0.0
NACB	Ninganchiao	3.66	23	ePn	Pn	23 36 18.2	-0.5
NACB				eSn	Sn	23 37 00.9	-0.6
YHNB	Yeheng	4.04	18	ePn	Pn	23 36 23.7	-0.3
YHNB				eSn	Sn	23 37 12.7	+1.5
CAUP	Cauayan	4.21	156	eP	Pn	23 36 28.5	+2.1
BALP	Baler	5.25	163	eP	Pn	23 36 42.3	+1.6
BALP				eS	Pb	23 36 53.5	-0.7
LZH	Lanzhou	20.78	321	eP	P	23 40 11.5	+8.3
LZH				*PP		23 40 22.0	
LZH				*SP	sP	23 40 30.0	+21
LZH				pmax	pmax		
	comp=Z,30nm,1.5s						
LZH	Lanzhou	20.78	321	eP	P	23 40 11.5	+8.3
	comp=Z,30nm,1.5s						
LZH				pP		23 40 22.0	
LZH				sP	sP	23 40 30.0	+21
MJAR	Matsushiro Arr	22.31	41	P	P	23 40 19.5	-0.1
	comp=Z,1.4nm,0.6s,mb3.6,baz=235,slow=10,SNR=5.8						
MJAR				LR	LR	23 49 26.1	
	comp=Z,75nm,21.9s,MS3.1,baz=275,slow=38						
GUMO	Guam	24.79	103	LR	LR	23 49 19.6	
	comp=Z,75nm,20.9s,MS3.2,baz=258,slow=34						
SONM	Songino Array	29.12	341	P	P	23 41 23.1	+0.2
	comp=Z,0.8nm,0.9s,mb3.5,baz=148,slow=8.7,SNR=4.3						
TLY	Talaya	33.36	341	eP	P	23 41 59.2	-1.0
TLY				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
TLY	Talaya	33.36	341	eP	P	23 41 59.2	-1.1
	comp=Z,2.5nm,0.4s,mb4.5						
MKAR	Makanchi Array	40.09	319	P	P	23 42 58.2	+0.6
	comp=Z,0.5nm,0.7s,mb3.4,baz=113,slow=12,SNR=3.5						
MKAR				PcP	PcP	23 45 02.3	+0.2
	comp=Z,0.2nm,0.3s,baz=132,slow=4.1,SNR=3.2						
WRA	Warramunga Arr	42.86	160	P	P	23 43 19.5	-0.8
	comp=Z,5.0nm,0.6s,mb4.4,baz=342,slow=9.0,SNR=41						
WB2	Warramunga Arr	42.86	160	eP	P	23 43 19.4	-0.9
AS31	Alice Springs	46.23	162	eP	P	23 43 47.3	+0.1
ASPA	Alice Springs	46.23	162	eP	P	23 43 47.3	+0.1
ASAR	Alice Springs	46.23	162	P	P	23 43 47.0	-0.2
	comp=Z,1.4nm,0.4s,mb4.2,baz=344,slow=7.0,SNR=35						
CHKZ	Chkalovo	49.75	324	eP	P	23 44 15.5	+1.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	Chkalovo	49.75	324	eP	P	23 44 15.5	+1.1
	comp=Z,1.6nm,0.7s,mb4.2						
STKA	Stephens Creek	56.32	158	P	P	23 45 02.2	-0.6
	comp=Z,1.6nm,0.7s,mb4.2,baz=350,slow=11,SNR=3.7						
FINES	FINESS Array B	73.81	330	P	P	23 46 56.4	-0.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=60,slow=11,SNR=3.4						
NOA	NORSAR Array B	80.69	332	P	P	23 47 33.8	-1.4
	comp=Z,0.8nm,0.8s,mb3.7,baz=124,slow=6.8,SNR=3.5						
GERES	GERESS Array B	84.75	320	P	P	23 47 57.2	+1.0
	comp=Z,0.5nm,0.7s,mb3.8,baz=57,slow=4.9,SNR=5.3						
YKA	Yellowknife Ar	86.49	22	P	P	23 48 04.8	-0.1
	comp=Z,1.2nm,0.8s,mb4.2,baz=310,slow=5.4,SNR=4.5						

IDC ***10*** *23:50:22.4±0.9, 5232N×3196W, h0km, mb3.8/17, mb1 3.9/18, mb1mx3.9/30, mbtmp3.8/18, ML4.3/1, MS3.5/1, Ms1 3.6/1, ms1mx2.9/38, Error ellipse: s-maj=24.3km s-min=15.2km az=17.0*
ISCJB ***10*** *23:50:23.5±0.7, 524N±0.1×320W±0.1, h10km, mb4.0/29, MS3.3/4, Error ellipse: s-maj=15.6km s-min=7.8km az=49.7*
NEIC ***10*** *23:50:24.5±0.6, 5229N×3203W, h10km, mb4.3/14, Error ellipse: s-maj=14.7km s-min=7.5km az=207.0*
ISC 10 23:50:24.5±0.7, 5235N±010×320W±01, h10km, n63, σ1°13/63, mb4.0/29, MS3.3/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	Eskdalemuir	17.19	69	eP	Pn	23 54 25.4	+0.7
	5.9nm,0.6s						
EKA	Eskdalemuir Ar	17.22	69	P	Pn	23 54 25.2	+0.1
	0.5nm,0.3s,baz=267,slow=11,SNR=18						
SUMG	Summit	20.50	354	eP	P	23 55 03.7	+1.0
	4.4nm,0.6s						
SCHQ	Schefferville	20.70	291	eP	P	23 55 08.6	+3.8
SJPF	Ste Jean	22.51	102	eP	P	23 55 26.7	+2.4
	22nm,1.1s,mb4.2						
SJPF	Ste Jean	22.51	102	eP	P	23 55 26.7	+2.4
	11nm,1.1s,mb4.2						
BAIF	Baives	22.65	81	eP	P	23 55 25.0	-0.7
	55nm,1.4s,mb4.5						
BAIF	Baives	22.65	81	eP	P	23 55 25.0	-0.7
	28nm,1.4s,mb4.5						
LFF	La Frestale	22.71	96	eP	P	23 55 27.6	+1.2
	92nm,1.6s,mb4.7						
LFF	La Frestale	22.71	96	eP	P	23 55 27.6	+1.2
	46nm,1.6s,mb4.7						
TCF	Toulx Ste Croi	22.95	92	eP	P	23 55 30.5	+1.6
	56nm,1.5s,mb4.5						
TCF	Toulx Ste Croi	22.95	92	eP	P	23 55 30.5	+1.6
	28nm,1.5s,mb4.5						
RJF	Les Rejaudoux	23.00	94	eP	P	23 55 28.8	-0.7
RJF				eMLR	MLR		
	comp=Z,142nm,22.2s						
RJF	Les Rejaudoux	23.00	94	eP	P	23 55 28.8	-0.7
RJF				LR	LR		
	comp=Z,140nm,22.3s,MS3.4						
ESDC	Sonseca Array	23.06	112	P	P	23 55 28.4	-1.7
	comp=Z,2.2nm,0.8s,mb3.6,baz=309,slow=8.8,SNR=10						
ESDC				LR	LR	00 02 30.6	
	comp=Z,101nm,18.3s,MS3.3,baz=250,slow=32						
BGF	Bois d'Agland	23.22	90	eP	P	23 55 32.1	+0.4
SSF	Saint Saulge	23.39	89	eP	P	23 55 33.2	-0.4
AVF	Avril sur Loir	23.42	90	eP	P	23 55 33.7	-0.2
LOR	Lormes	23.52	88	eP	P	23 55 34.8	-0.1
	comp=Z,16nm,1.1s,mb4.1						
LOR				eMLR	MLR		
	comp=Z,84nm,19.2s						
LOR	Lormes	23.52	88	eP	P	23 55 34.8	-0.1
	comp=Z,7.8nm,1.1s,mb4.0						
LOR				LR	LR		
	comp=Z,80nm,19.3s,MS3.2						
CAF	Calviac	23.53	95	eP	P	23 55 34.7	-0.3
	comp=Z,20nm,1.3s,mb4.1						
CAF	Calviac	23.53	95	eP	P	23 55 34.7	-0.3
	comp=Z,10nm,1.3s,mb4.1						
MEZF	Maizieres J'vi	23.74	84	eP	P	23 55 36.2	-0.7
SMF	Signal de Mont	23.79	90	eP	P	23 55 37.7	+0.3
	comp=Z,9.9nm,0.8s,mb4.0						
SMF	Signal de Mont	23.79	90	eP	P	23 55 37.7	+0.3
	comp=Z,4.9nm,0.8s,mb4.0						
HAU	Haudompre	24.73	85	eP	P	23 55 45.4	-0.6
HAU				eMLR	MLR		
	comp=Z,96nm,20.2s						
HAU	Haudompre	24.73	85	eP	P	23 55 45.4	-0.6
HAU				LR	LR		
	comp=Z,100nm,20.3s,MS3.3						
NOA	NORSAR Array B	24.84	52	P	P	23 55 47.1	+0.2
	comp=Z,0.9nm,0.9s,mb3.3,baz=272,slow=11,SNR=3.1						
HINF	Hinteralfeld	25.12	85	eP	P	23 55 49.2	-0.3
CDF	Champ du Feu	25.13	83	eP	P	23 55 48.3	-1.3
VIVF	Saint-Julien-l	25.16	93	eP	P	23 55 51.6	+1.7
CABF	La Chapelle	25.18	88	eP	P	23 55 50.1	0.0
ORIF	Oris-en-Rattie	25.87	91	eP	P	23 55 56.9	+0.6
	comp=Z,15nm,1.1s,mb4.1						
ORIF				eMLR	MLR		
	comp=Z,132nm,22.0s						
ORIF	Oris-en-Rattie	25.87	91	eP	P	23 55 56.9	+0.6
	comp=Z,7.3nm,1.1s,mb4.1						
LPL	La Plagne	26.09	90	eP	P	23 55 59.6	+1.2
LPG	La Plagne	26.11	90	eP	P	23 56 00.0	+1.4
SMRF	Simiane la Rot	26.17	94	eP	P	23 55 59.9	+0.8
	comp=Z,35nm,1.6s,mb4.3						
SMRF	Simiane la Rot	26.17	94	eP	P	23 55 59.9	+0.8
	comp=Z,35nm,1.6s,mb4.6						
MDT	Midelt	27.79	124	P	P	23 56 14.6	+0.9
	comp=Z,0.9nm,1.0s,mb3.4,baz=318,slow=15,SNR=4.2						
GERES	GERESS Array B	28.84	79	P	P	23 56 22.4	-0.6
	comp=Z,1.1nm,0.8s,mb3.6,baz=302,slow=7.7,SNR=5.2						
MORC	Moravsky Berou	30.75	75	eP	P	23 56 39.9	-0.1
	comp=Z,0.9nm,0.6s,mb3.8						
SPB4	Spitsbergen Ar	31.04	17	eP	P	23 56 43.1	+0.7
ARCES	ARCESS Array B	31.21	35	P	P	23 56 41.4	-2.6
	comp=Z,5.4nm,1.0s,mb4.3,baz=147,slow=8.7,SNR=3.1						
FINES	FINESS Array B	31.95	50	P	P	23 56 49.5	-1.0
	comp=Z,0.5nm,0.6s,mb3.5,baz=297,slow=6.1,SNR=4.1						
KEST	Kesra	33.50	103	P	P	23 57 01.8	-2.2
	comp=Z,2.1nm,1.0s,mb4.0,baz=186,slow=6.6,SNR=3.6						
KWP	Kalwaria	33.85	72	P	P	23 57 07.2	+0.1
AKASG	Malin Array Be	37.12	67	P	P	23 57 34.4	-0.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=299,slow=8.6,SNR=6.2						
AKASG	Malin Array Be	37.12	67	P	P	23 57 34.4	-0.8
OBN	Obninsk	39.17	58	eP	P	23 57 53.2	+0.7
YKA	Yellowknife Ar	42.60	317	P	P	23 58 20.8	+0.1
	comp=Z,1.1nm,0.8s,mb3.6,baz=59,slow=9.1,SNR=4.1						
BRTR	Keskin Array B	45.74	79	P	P	23 58 46.1	+0.2
	comp=Z,1.4nm,0.9s,mb3.9,baz=287,slow=6.4,SNR=4.4						
TORD	Torodi Ar. Bea	47.49	133	P	P	23 58 58.1	-1.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=336,slow=7.1,SNR=7.3						
KIV	Kislovodsk	48.45	69	eP	P	23 59 08.6	+1.5
	comp=Z,1.4nm,0.5s,mb4.2						
ARU	Arti	49.20	47	eP	P	23 59 13.3	+0.4
	comp=Z,2.1nm,0.5s,mb4.4						
MALT	Malatya	49.51	77	P	P	23 59 16.9	+1.7
PDAR	Pinedale Array	50.84	292	P	P	23 59 25.5	+0.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=68,slow=8.2,SNR=7.6						
AKTK	Aktyubinsk	52.62	54	P	P	23 59 36.7	-1.9
AKTO	Aktyubinsk	52.62	54	P	P	23 59 36.7	-1.9
	comp=Z,1.4nm,0.5s,mb4.1,baz=350,slow=9.0,SNR=4.8						
MCK	McKinley	54.30	331	P	P	23 59 53.0	+2.1
BVAR	Borovoye Array	56.64	45	P	P	00 00 06.6	-1.1
	comp=Z,1.9nm,0.6s,mb4.3,baz=304,slow=5.8,SNR=16						
NVAR	Mina Array Bea	58.68	293	P	P	00 00 20.8	-1.4
	comp=Z,0.2nm,0.5s,mb3.4,baz=212,slow=16,SNR=2.8						
MKAR	Makanchi Array	66.39	43	P	P	00 01 12.7	-0.9
	comp=Z,0.7nm,0.6s,mb3.9,baz=344,slow=5.6,SNR=7.1						
SONM	Songino Array	74.06	28	P	P	00 02 00.3	-0.3
	comp=Z,0.4nm,0.7s,mb3.5,baz=335,slow=6.4,SNR=4.5						

NIED ***10*** *23:58:00, 3720N×143.10E, h11km, Mw5.6 Best double couple: M0 2.97000×10^17 NP1:φs 11.00000°, δ69.00000°, λ80.00000°. NP2:φs 217.00000°, δ23.00000°, λ115.00000°.*
JMA ***10*** *23:58:03.5±0.2, 37.19N×143.03E, h50km, M6.0*
JMA Felt III J1.
MOS ***10*** *23:58:04.7±0.8, 37.15N×142.92E, h33km, mb6.1/102, MS5.5/51, Error ellipse: s-maj=9.1km s-min=5.9km az=112.6*
NEIC ***10*** *23:58:04.0±0.1, 3720N×142.66E, h9km, mb5.8/129, ME5.7, MS5.3/131, MW6.0, MW5.6(NIED), Error ellipse: s-maj=3.6km s-min=2.8km az=168.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^18Nm; Mrr 0.21; Mθθ 0.12; Mφφ -0.32; Mrθ 0.62; Mφθ -0.06; Mφr 1.12; Best double couple: M0 1.30000×10^18 NP1:φs 29.00000°, δ85.00000°, λ97.00000°. NP2:φs 157.00000°, δ9.00000°, λ38.00000°. Principal axes: T 1.2800, Plg50.0000°, Azm306.0000°; N 0.0700, Plg7.0000°, Azm208.0000°; P -1.3400, Plg39.0000°, Azm113.0000°; Broadband fault plane solution: P waves. NP1:φs 205.00000°, δ15.00000°, λ90.00000°. NP2:φs 25.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm295.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm115.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Iwaki, Tokyo, Yokosuka and Yonezawa. Recorded [3 JMA] in Miyagi; [2 JMA] in Fukushima, Iwate and Yamagata; [1 JMA] in Akita, Aomori, Ibaraki, Nagano, Niigata and Saitama Prefectures.
GCMT ***10*** *23:58:04.2±0.1, 3720N×143.04E, h19km, MW5.7/100, Moment Tensor Solution. s76,c150; s100,c243; Duration: 1°6 Moment tensor: Scale 10^17Nm; Mrr 2.26±.05; Mθθ -0.42±.03; Mφφ -1.84±.03; Mrθ 1.28±.08; Mθφ -0.94±.02; Mφr 2.80±.10; Best double couple: M0 3.83400×10^17 NP1:φs 208.00000°, δ18.00000°, λ93.00000°. NP2:φs 25.00000°, δ72.00000°, λ89.00000°. Principal axes: T 3.8100, Plg63.0000°, Azm293.0000°; N 0.0450, Plg1.0000°, Azm25.0000°; P -3.8580, Plg27.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***10*** *23:58:05.9±0.1, 37.16N±002×142.80E±002, h32km, mb5.7/241, MS5.5/171 Error ellipse: s-maj=2.9km s-min=1.7km az=152.0*
BJI ***10*** *23:58:05.5, 3723N×142.23E, h10km, mB5.9, mb5.6, Ms5.9, Msz5.8*
IDC ***10*** *23:58:05.5±1.1, 37.11N×142.91E, h23km±5km, mb5.0/33, mb1 5.0/36, mb1mx5.0/37, mbtmp5.1/36, ML4.2/3, MS5.2/8, Ms1 5.2/8, ms1mx4.7/20, Error ellipse: s-maj=8.6km s-min=6.2km az=83.0*
SZGRF ***10*** *23:58:07.3, 3746N×143.48E, h37km, mb6.1, MS5.8, Off east coast of Honshu, Japan*
BGS ***10*** *23:58:08.6, 3746N×140.44E, h10km, mb5.8*
ISC 10 23:58:08.1±0.1, 3726N±002×14276E±002, h34km, h34km±.3km: pP-P, n1374, σ0°91/1305, mb5.7/241, MS5.5/171, 394C-207D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.51	275	↑P	Pn	23 58 31.8	-0.9
JFK				eS	Sn	23 58 53.3	+2.1
JIO	Ouri	1.64	317	↑P	Pn	23 58 33.5	-0.9
JMM	Marumori	1.68	292	↑P	Pn	23 58 34.4	-0.6
JMM				eS	Sn	23 58 57.3	+1.9
JHO	Hitachi	1.87	251	↑P	Pn	23 58 36.1	-1.6
JFT	Otama	1.95	278	↑P	Pn	23 58 39.0	+0.3
JMK	Ichinoseki	2.08	325	↑P	Pn	23 58 39.6	-1.0
JSB	Shiboa	2.29	264	↑P	Pn	23 58 43.7	+0.3
JOM	Ohasama	2.50	333	↑P	Pn	23 58 45.0	-1.3
JOM				eS	Sn	23 59 16.1	+0.6
JYK	Kaneyama	2.52	312	↑P	Pn	23 58 46.3	-0.3
JAG	Ashikaga	2.78	254	↑P	Pn	23 58 49.7	-0.5
JNS	Sasagawa	2.80	283	↑P	Pn	23 58 51.4	+1.0
JNS				eS	Sn	23 59 26.3	+3.4
JKT	Katashina	2.85	261	↑P	Pn	23 58 51.6	+0.4
BSO1	Boso 1	2.97	210	↓P	Pn	23 58 50.4	-2.4
JHK	Hiroka	2.99	271	↑P	Pn	23 58 53.3	+0.3
JAW	Awa shima	3.03	294	↑P	Pn	23 58 54.3	+0.7
BSO3	Boso 3	3.06	217	↓P	Pn	23 58 52.1

	comp=Z,13nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,38μm,18.5s						
YUK	**Yuzh-Kuril'sk**	**7.17**	**18**	*e*P	**Pn**	**23 59 44.5**	**-5.9**
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				pmax	pmax		
	comp=E,390nm,0.5s						
YUK				pmax	pmax		
	comp=E,550nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.1s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,1.0s						
YUK				MLR	MLR		
	comp=Z,22μm,17.0s						
YUK				MLR	MLR		
	comp=N,8μm,16.0s						
YUK				MLR	MLR		
	comp=E,30μm,14.0s						
KUR	**Kuril'sk**	**8.85**	**24**⇓	*i*P	**Pn**	**00 00 05.2**	**-8.3**
KUR				pmax	pmax		
	comp=N,130nm,0.9s						
KUR				pmax	pmax		
	comp=E,100nm,0.9s						
KUR				pmax	pmax		
	comp=Z,200nm,0.9s						
KUR				MLR	MLR		
	comp=N,20μm,12.0s						
KUR				MLR	MLR		
	comp=E,69μm,12.0s						
KUR				MLR	MLR		
	comp=Z,39μm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.69**	**360**⇓	*e*P	**Pn**	**00 00 22.6**	**-2.4**
YSS				*e*S	**Sn**	**00 02 08.0**	**-4.7**
YSS				pmax	pmax		
	comp=N,250nm,1.0s						
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS				smax			
	comp=N,390nm,1.0s						
YSS				MLR	MLR		
	comp=E,50μm,16.0s						
YSS				MLR	MLR		
	comp=Z,27μm,16.0s						
YSS				MLR	MLR		
	comp=N,27μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.69**	**360**	*e*Pn	**Pn**	**00 00 23.8**	**-1.2**
JUS	**Usuki**	**9.94**	**248**	P	**Pn**	**00 00 28.6**	**+0.2**
CBIJ	**Chichi jima**	**10.14**	**183**	Pn	**Pn**	**00 00 24.9**	**-6.3**
	comp=N,16nm,0.3s,baz=281,slow=16,SNR=9.0						
CBIJ				Sn	**Sn**	**00 02 09.5**	**-14**
	comp=N,29nm,0.3s,baz=287,slow=23,SNR=4.0						
CBIJ				LR	LR	00 04 10.4	
	comp=N,7μm,18.3s,baz=360,slow=36						
VLA	**Vladivostok**	**10.17**	**309**	*i* P	**Pn**	**00 00 32.1**	**+0.5**
VLA	**Vladivostok**	**10.17**	**309**	*i* P	**Pn**	**00 00 32.1**	**+0.5**
UGL	**Uglegorsk**	**11.83**	**358**	*e*P	**Pn**	**00 00 51.0**	**-3.3**
UGL				S	**Sn**	**00 03 11.0**	**+6.0**
UGL				pmax	pmax		
	comp=Z,396nm,1.2s						
UGL				smax			
	comp=N,2μm,12.0s						
UGL				smax			
	comp=E,7μm,12.0s						
UGL				MLR	MLR		
	comp=Z,29μm,15.0s						
UGL				MLR	MLR		
	comp=N,38μm,17.0s						
UGL				MLR	MLR		
	comp=E,47μm,16.0s						
KS15	**Wonju Array Si**	**11.85**	**275**	*e*Pn	**Pn**	**00 00 56.8**	**+2.3**
MDJ	**Mudanjiang**	**12.37**	**311**	P	**Pn**	**00 01 01.5**	**-0.2**
MDJ				AP		00 01 07.9	
MDJ				PP		00 01 11.1	
MDJ				S	**Sn**	**00 03 18.7**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,185nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,5μm,7.8s						
MDJ				LR	LR		
	comp=E,25μm,13.4s						
MDJ				LR	LR		
	comp=N,23μm,14.1s						
MDJ				LR	LR		
	comp=Z,41μm,13.4s						
MDJ	**Mudanjiang**	**12.37**	**311**⇑	*i*P	**Pn**	**00 01 00.7**	**-1.0**
	comp=Z,406nm,1.3s						
MDJ				*e*S	**Sn**	**00 03 16.5**	**-1.8**
INCN	**Inchon**	**12.84**	**276**	*e*Pn	**Pn**	**00 01 09.8**	**+1.8**
KLR	**Kul'dur**	**14.39**	**330**⇓	*e*P	**Pn**	**00 01 23.0**	**-6.3**
KLR				*e*S	**Sn**	**00 04 03.5**	**-4.1**
KLR				pmax	pmax		
	comp=E,120nm,1.6s						
KLR				pmax	pmax		
	comp=Z,170nm,1.6s						
KLR				pmax	pmax		
	comp=N,2μm,9.0s						
KLR				pmax	pmax		
	comp=E,1μm,9.0s						
KLR				pmax	pmax		
	comp=Z,3μm,9.0s						
KLR				MLR	MLR		
	comp=N,38μm,14.0s						
KLR				MLR	MLR		
	comp=E,28μm,14.0s						
CN2	**Changchun**	**14.69**	**302**	*e*P	**Pn**	**00 01 30.7**	**-2.6**
CN2				*e*XP	sP	00 01 42.9	-9.5
CN2				*e*S	**Sn**	**00 04 13.7**	**-1.2**
CN2				AMB	AMB		
	comp=Z,50nm,1.3s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,24μm,14.0s						
CN2				LR	LR		
	comp=E,19μm,14.0s						
CN2				LR	LR		
	comp=Z,19μm,15.0s						
SNY	**Shenyang**	**15.48**	**293**	⇑P	**Pn**	**00 01 42.3**	**-1.5**
SNY				AP	pP	00 01 50.0	-6.8
SNY				S	**Sn**	**00 04 34.5**	**+0.3**
SNY				SS		00 04 49.5	
SNY				AMB	AMB		
	comp=Z,2μm,1.3s						
SNY				AMB	AMB		
	comp=Z,4μm,12.0s						
SNY				LR	LR		
	comp=N,13μm,11.8s						
SNY				LR	LR		
	comp=E,36μm,14.1s						
SNY				LR	LR		
	comp=Z,49μm,13.5s						
JOW	**Kunigami**	**16.07**	**234**	Pn	**Pn**	**00 01 47.9**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=134,slow=12,SNR=5.2						
JOW				Sn	**Sn**	**00 04 47.3**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=143,slow=20,SNR=2.6						
JOW				LR	LR	00 07 16.3	
	comp=Z,5μm,21.9s,baz=178,slow=34						
SKR	**Severo-Kuril's**	**16.47**	**31**	*e*P	**Pn**	**00 01 53.0**	**-3.5**
SKR				*e*S	**Sn**	**00 05 02.0**	**+3.8**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,240nm,1.2s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				smax			
	comp=N,3μm,10.0s						
SKR				smax			
	comp=E,7μm,10.0s						
SKR				MLR	MLR		
	comp=N,8μm,12.0s						
SKR				MLR	MLR		
	comp=E,13μm,12.0s						
SKR				MLR	MLR		
	comp=Z,13μm,12.0s						
SSE	**Sheshan**	**18.86**	**257**	P	**Pn**	**00 02 24.0**	**-2.0**
SSE				XP	sP	00 02 33.4	-5.2
SSE				S	**Sn**	**00 05 55.3**	**-0.8**
SSE				AMB	AMB		
	comp=Z,46nm,1.2s						
SSE				AMB	AMB		
	comp=Z,3μm,8.9s						
SSE				LR	LR		
	comp=N,14μm,14.5s						
SSE				LR	LR		
	comp=E,13μm,14.6s						
SSE				LR	LR		
	comp=Z,23μm,13.0s						
SSE	**Sheshan**	**18.86**	**257**	P	**Pn**	**00 02 24.0**	**-2.0**
	comp=Z,46nm,1.2s						
SSE				sP	sP	00 02 33.4	-5.2
SSE				S	**Sn**	**00 05 55.3**	**-0.8**
SSE				sS	sS	00 06 11.5	-0.6
PET	**Petropavlovsk**	**19.27**	**30**	*e*P	**Pn**	**00 02 29.7**	**-1.2**
PET				*e*S	**Sn**	**00 06 04.0**	**-2.0**
PET				pmax	pmax		
	comp=Z,52nm,1.2s						
PET				pmax	pmax		
	comp=Z,600nm,4.7s						
PET				MLR	MLR		
	comp=Z,12μm,14.0s						
PET				MLR	MLR		
	comp=Z,12μm,14.0s						
PET	**Petropavlovsk**	**19.27**	**30**	*e*P	**Pn**	**00 02 29.1**	**-1.9**
PET				*e*Pn	pP	00 02 40.2	+1.4
NJ2	**Nanjing**	**20.32**	**262**	*e*P	**P**	**00 02 40.1**	**-1.1**
NJ2				AP		00 02 46.4	
NJ2				XP	sP	00 02 53.4	-1.1
NJ2				PP		00 03 03.9	
NJ2				S	**S**	**00 06 21.0**	**-6.1**
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,5μm,8.6s						
NJ2				LR	LR		
	comp=N,22μm,15.5s,MS5.8						
NJ2				LR	LR		
	comp=E,26μm,13.0s,MS5.8						
NJ2				LR	LR		
	comp=Z,108μm,14.2s,MS6.3						
HIA	**Hailar**	**20.53**	**313**	*e*P	**P**	**00 02 40.0**	**-3.4**
HIA	**Hailar**	**20.53**	**313**	PFAKE		00 02 50.0	+6.6
HIA				LR	LR		
	comp=Z,19μm,20.0s,MS5.5						
TIA	**Tai'an**	**20.56**	**275**	⇑P	**P**	**00 02 41.5**	**-2.3**
TIA				AP		00 02 48.4	
TIA				XP	sP	00 02 52.0	-5.1
TIA				PP		00 03 05.9	
TIA				AMB	AMB		
	comp=Z,243nm,1.4s						
TIA				AMB	AMB		
	comp=Z,831nm,4.5s						
TIA				LR	LR		
	comp=N,17μm,14.0s,MS5.9						
TIA				LR	LR		
	comp=E,28μm,13.0s,MS5.9						
BJI	**Beijing**	**20.93**	**286**	P	**P**	**00 02 44.4**	**-3.3**
BJI				S	**S**	**00 06 25.8**	**-13**
BJI				AMB	AMB		
	comp=Z,224nm,1.4s						
BJI				AMB	AMB		
	comp=Z,4μm,11.8s						
BJI				LR	LR		
	comp=N,10μm,13.5s,MS5.5						
BJI				LR	LR		
	comp=E,7μm,12.3s,MS5.5						
BJI				LR	LR		
	comp=Z,7μm,15.7s,MS5.1						
BJI	**Beijing**	**20.93**	**286**	P	**P**	**00 02 44.4**	**-3.3**
	comp=Z,224nm,1.4s						
BJI				S	**S**	**00 06 25.8**	**-13**
BJI				LR	LR		
	comp=Z,7μm,15.7s,MS5.1						
BJT	**Baijiatuau**	**20.93**	**286**	PFAKE		00 03 00.0	+12
BJT				LR	LR		
	comp=Z,8μm,19.0s,MS5.1						
YHNB	**Yeheng**	**22.16**	**242**	*e*P	**P**	**00 02 56.6**	**-4.3**
NACB	**Ninganchiao**	**22.33**	**240**⇓	*e*P	**P**	**00 03 01.5**	**-1.2**
NRGR	**Nerungri**	**22.85**	**334**	*i* P	**P**	**00 03 07.5**	**-0.8**
NRGR				S	**S**	**00 07 08.3**	**-7.2**
NRGR				smax			
	comp=N,192nm,1.1s						
MA2	**Magadan**	**22.93**	**10**	*e*P	**P**	**00 03 07.5**	**-1.5**
MA2				pmax	pmax		
	comp=Z,216nm,1.1s,mb5.5						
MA2	**Magadan**	**22.93**	**10**	*e*P	**P**	**00 03 07.5**	**-1.6**
	comp=Z,216nm,1.1s,mb5.5						
CLNS	**Chul'man**	**22.93**	**334**⇑	*i*P	**P**	**00 03 04.5**	**-4.6**
CLNS				*e**PP		00 03 11.2	
CLNS				*e*		00 03 18.3	
CLNS				*e*		00 06 52.6	
CLNS				*e*S	**S**	**00 07 08.0**	**-8.9**
CLNS				*e*SS		00 07 54.5	
CLNS				pmax	pmax		
	comp=E,109nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,387nm,1.1s,mb5.8						
CLNS				pmax	pmax		
	comp=N,378nm,1.2s						
CLNS				smax			
	comp=E,4μm,12.4s						
CLNS				smax			
	comp=Z,3μm,12.9s						
CLNS				smax			
	comp=N,6μm,12.8s						
CLNS				MLR	MLR		
	comp=Z,26μm,13.0s,MS5.9						
CLNS				MLR	MLR		
	comp=N,21μm,15.0s,MS5.8						
CLNS				MLR	MLR		
	comp=E,18μm,16.0s,MS5.8						
CLNS	**Chul'man**	**22.93**	**334**	*e*P	**P**	**00 03 04.6**	**-4.5**
GUMO	**Guam**	**23.64**	**175**	P	**P**	**00 03 14.2**	**-2.0**
	comp=E,19nm,0.3s,mb5.0,baz=323,slow=17,SNR=2.2						
GUMO				S	**S**	**00 07 29.2**	**+0.8**
	comp=E,25nm,0.4s,baz=190,slow=21,SNR=1.9						
GUMO				LR	LR	00 10 23.7	
	comp=E,5μm,19.6s,MS5.0,baz=7.3,slow=31						
GUMO	**Guam**	**23.64**	**175**	P	**P**	**00 03 14.2**	**-2.1**
GUMO				S	**S**	**00 07 29.2**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,19nm,0.3s,mb5.0						
GUMO				smax			
	comp=N,25nm,0.4s						
GUMO				MLR	MLR		
	comp=Z,5μm,19.6s,MS5.0						
GUMO	**Guam**	**23.64**	**175**	*e*P	**P**	**00 03 16.5**	**+0.2**
GUMO				LR	LR		
	comp=Z,6μm,21.0s,MS5.0						
QZH	**Quanzhou**	**23.99**	**246**⇑	*i*P	**P**	**00 03 15.6**	**-3.8**
QZH				S	**S**	**00 07 31.5**	**-2.5**
QZH				AMB	AMB		
	comp=Z,440nm,1.0s,mb5.8						
QZH				AMB	AMB		
	comp=Z,4μm,8.0s						
QZH				LR	LR		
	comp=N,15μm,15.4s,MS5.7						
QZH				LR	LR		
	comp=E,17μm,16.0s,MS5.7						
QZH				LR	LR		
	comp=Z,23μm,15.5s,MS5.8						
HHC	**Hu-ho-hao-te**	**24.43**	**288**	*e*P	**P**	**00 03 21.2**	**-2.2**
HHC				XP	sP	00 03 34.2	-3.1
HHC				PP		00 03 56.2	
HHC				S	**S**	**00 07 45.2**	**+4.1**
HHC				SS		00 08 28.0	
HHC				AMB	AMB		
	comp=Z,62nm,1.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,3μm,6.9s						
HHC				LR	LR		
	comp=N,5μm,11.8s,MS5.9						
HHC				LR	LR		
	comp=E,22μm,13.3s,MS5.9						
HHC				LR	LR		
	comp=Z,26μm,13.3s,MS5.9						
WHN	**Wuhan**	**24.46**	**263**	⇑P	**P**	**00 03 22.4**	**-1.3**
WHN				S	**S**	**00 07 43.0**	**+1.4**
WHN				AMB	AMB		
	comp=Z,8μm,8.2s						
WHN				LR	LR		
	comp=Z,48μm,13.6s,MS6.2						
CIT	**Chita**	**25.27**	**315**	*e*P	**P**	**00 03 31.4**	**+0.3**
CIT				*e*		00 04 18.7	
CIT				pmax	pmax		
	comp=Z,4μm,2.6s,mb6.5						
BTO	**Baotou**	**25.61**	**288**	*e*P	**P**	**00 03 31.5**	**-2.7**
BTO				AMB	AMB		
	comp=Z,53nm,1.2s,mb5.0						
BTO				LR	LR		
	comp=N,4μm,16.2s,MS5.4						
BTO				LR	LR		
	comp=E,7μm,13.2s,MS5.4						
YAK	**Yakutsk**	**26.10**	**346**	*e*P	**P**	**00 03 38.3**	**-0.3**
YAK				*e*		00 04 20.2	
YAK				*e*		00 07 05.2	
YAK				*e*S	**S**	**00 08 05.5**	**-2.2**
YAK				*e*		00 14 24.7	
YAK				pmax	pmax		
	comp=Z,308nm,0.9s,mb5.8						
YAK				pmax	pmax		
	comp=N,115nm,1.1s						
YAK				pmax	pmax		
	comp=E,94nm,1.3s						
YAK				smax			
	comp=E,3μm,6.0s						
YAK				smax			
	comp=Z,1μm,4.9s						
YAK				smax			
	comp=N,1μm,3.1s						
YAK				MLR	MLR		
	comp=Z,23μm,16.0s,MS5.8						
YAK				MLR	MLR		
	comp=N,16μm,14.0s,MS5.8						
YAK				MLR	MLR		
	comp=E,13μm,12.0s,MS5.8						
YAK	**Yakutsk**	**26.10**	**346**	*e*P	**P**	**00 03 37.6**	**-1.0**
YAK				LR	LR		
	comp=Z,14μm,21.0s,MS5.5						
SEY	**Seymchan**	**26.38**	**10**⇑	*e*P	**P**	**00 03 41.1**	**0.0**
SMY	**Shemya**	**26.75**	**45**	PFAKE		00 03 50.0	+5.5
SMY				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
CAUP	**Cauayan**	**27.40**	**228**	*e*P	**P**	**00 03 48.2**	**-2.1**
XAN	**Xi'an**	**27.60**	**274**	P	**P**	**00 03 51.8**	**-0.3**
XAN				PP		00 04 33.8	
XAN				S	**S**	**00 08 18.6**	**-13**
XAN				AMB	AMB		
	comp=Z,226nm,1.7s,mb5.5						
XAN				AMB	AMB		
	comp=Z,3μm,9.2s						
XAN				LR	LR		
	comp=N,4μm,13.6s,MS5.5						
XAN				LR	LR		
	comp=E,9μm,14.5s,MS5.5						
XAN				LR	LR		
	comp=Z,15μm,14.7s,MS5.7						
BOD	**Bodaibo**	**27.93**	**327**⇓	*i*P	**P**	**00 03 54.2**	**-0.8**
BOD				pmax	pmax		
	comp=Z,325nm,1.3s,mb5.8						
ENH	**Enshi**	**28.43**	**266**	PFAKE		00 04 10.0	+11
ENH				LR	LR		
	comp=Z,2.0nm,21.0s						
BALP	**Baler**	**28.49**	**227**	*e*P	**P**	**00 03 59.3**	**-0.7**
SONM	**Songino Array**	**28.56**	**303**	P	**P**	**00 04 01.7**	**+1.0**
	comp=Z,326nm,1.0s,mb6.0,baz=102,slow=6.6,SNR=953						
SONM				S	**S**	**00 08 50.8**	**+4.3**
	comp=Z,1.2nm,0.9s,baz=232,slow=42,SNR=2.5						
SONM				LR	LR	00 16 03.4	
	comp=Z,7μm,18.4s,MS5.3,baz=115,slow=38						
SONM	**Songino Array**	**28.56**	**303**	P	**P**	**00 04 01.7**	**+1.0**
SONM				S	**S**	**00 08 50.8**	**+4.3**
BCPH	**Baguio City Da**	**28.58**	**229**⇑	*e*P	**P**	**00 03 58.5**	**-2.4**
HKC	**Hong Kong**	**28.81**	**247**⇑	*i*P	**P**	**00 04 04.0**	**+1.2**
HKC				S	**S**	**00 08 56.0**	**+5.7**
PVCP	**Virac**	**28.83**	**220**	*e*P	**P**	**00 04 03.4**	**+0.3**
GZH	**Guangzhou**	**28.95**	**249**	P	**P**	**00 04 00.0**	**-4.1**
GZH				S	**S**	**00 08 46.3**	**-6.3**
GZH				AMB	AMB		
	comp=Z,131nm,1.7s,mb5.4						
GZH				LR	LR		
	comp=N,9μm,14.0s,MS5.7						
GZH				LR	LR		
	comp=E,9μm,14.6s,MS5.7						
GZH				LR	LR		
	comp=Z,15μm,14.6s,MS5.8						
BOLP	**Bolinao**	**28.98**	**230**	*e*P	**P**	**00 04 02.7**	**-1.7**
TGY	**Tagaytay City**	**30.16**	**226**	P	**P**	**00 04 13.5**	**-1.4**
	comp=Z,297nm,0.4s,baz=48,slow=20,SNR=5.7						
IRK	**Irkutsk**	**30.75**	**312**⇑	*i*P	**P**	**00 04 20.2**	**+0.1**
IRK				pmax	pmax		
	comp=Z,296nm,2.9s,mb5.6						
LUBP	**Lubang**	**30.86**	**227**	*e*P	**P**	**00 04 18.0**	**-3.0**
ZAK	**Zakamensk**	**30.98**	**308**⇓	*i*P	**P**	**00 04 22.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,144nm,1.8s,mb5.5						
OTRP	**Odiongan**	**30.98**	**222**	*e*P	**P**	**00 04 21.7**	**-0.4**
TLY	**Talaya**	**31.00**	**310**	P	**P**	**00 04 23.5**	**+1.2**
	SNR=36						
TLY	**Talaya**	**31.00**	**310**	*e*P	**P**	**00 04 21.9**	**-0.4**
TLY				*e*		00 05 23.7	
TLY				*e*S	**S**	**00 09 29.8**	**+5.0**
TLY				pmax	pmax		
	comp=Z,137nm,1.1s,mb5.7						
TLY	**Talaya**	**31.00**	**310**	*e*P	**P**	**00 04 23.1**	**+0.8**
TLY				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
LZH	**Lanzhou**	**31.09**	**280**	⇑P	**P**	**00 04 23.6**	**+0.5**
LZH				XP	sP	00 04 34.0	-3.1
LZH				PP	PP	00 05 27.0	-6.6
LZH				S	**S**	**00 09 26.0**	**-0.2**
LZH				AMB	AMB		
	comp=Z,670nm,1.2s,mb6.3						
LZH				AMB	AMB		
	comp=Z,3μm,4.4s						
LZH				LR	LR		
	comp=E,32μm,14.0s						
LZH				LR	LR		
	comp=Z,32μm,15.3s,MS6.1						
LZH	**Lanzhou**	**31.09**	**280**	⇑P	**P**	**00 04 23.6**	**+0.5**
LZH				*PP	pP	00 04 34.0	+1.1
LZH				*SP	sP	00 04 38.8	+1.7
LZH						00 05 27.0	
LZH				S	**S**	**00 09 26.0**	**-0.2**
LZH				*SS	sS	00 09 43.0	+0.5
LZH				*e*SS	SS	00 11 15.0	-25
LZH				pmax	pmax		
	comp=Z,670nm,1.2s,mb6.3						
LZH				MLR	MLR		
	comp=Z,32μm,15.3s,MS6.1						
LZH	**Lanzhou**	**31.09**	**280**	⇑P	**P**	**00 04 23.6**	**+0.5**
	comp=Z,670nm,1.2s,mb6.3						
LZH				pP	pP	00 04 34.0	+1.1
LZH				sP	sP	00 04 38.8	+1.7
LZH				PP	PP	00 05 27.0	-6.6
LZH				S	**S**	**00 09 26.0**	**-0.2**
LZH				sS	sS	00 09 43.0	+0.5
LZH				*e*SS	SS	00 11 15.0	-25
LZH				LR	LR		
	comp=Z,32μm,15.3s,MS6.1						
BUSP	**Coron**	**32.28**	**225**	*e*P	**P**	**00 04 32.6**	**-0.9**
GYA	**Guiyang**	**32.32**	**261**⇑	*i*P	**P**	**00 04 33.4**	**-0.5**
GYA				AP	pP	00 04 42.8	-0.9
GYA				XP	sP	00 04 46.6	-1.3
GYA				S	**S**	**00 09 49.5**	**+4.1**
GYA				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,1μm,8.4s						
GYA				LR	LR		
	comp=N,10μm,18.5s,MS5.7						
GYA				LR	LR		
	comp=E,8μm,16.4s,MS5.7						
GYA				LR	LR		
	comp=Z,9μm,18.8s,MS5.5						
MOY	**Mondy**	**32.62**	**310**	*e*P	**P**	**00 04 37.2**	**+0.7**
MOY				pmax	pmax		
	comp=Z,400nm,2.7s,mb5.9						
CD2	**Chengdu**	**32.75**	**271**⇑	*i*P	**P**	**00 04 37.2**	**-0.4**
CD2				AP	pP	00 04 46.7	-0.8
CD2				XP	sP	00 04 50.6	-1.0
CD2				PP	PP	00 05 46.4	-5.6
CD2				PCP	PcP	00 07 22.9	+0.4
CD2				S	**S**	**00 09 44.5**	**-7.6**
CD2				SS	SS	00 11 47.4	-26
CD2				SCS	ScS	00 15 01.3	-2.3
CD2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8						
CD2				AMB	AMB		
	comp=Z,2μm,9.6s						
CD2				LR	LR		
	comp=N,17μm,14.4s,MS6.0						

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CD2                                   LR    LR
     comp=E,16µm,14.4s,MS6.0
CD2                                   AMB   AMB
     comp=Z,19µm,13.2s
ENPP El Nido          33.36 225 eP          P     00 04 42.4 -0.5
BUKP Musuan           33.37 213 eP          P     00 04 45.7 +2.6
BILL Bilibino         33.52  16d iP         P     00 04 43.4 -0.9
BILL                            i SS        SS    00 12 27.7 -1.6
BILL                                  pmax  pmax
     comp=Z,121nm,1.0s,mb5.8
BILL                                  MLR   MLR
     comp=E,6µm,15.0s,MS5.4
BILL Bilibino         33.52  16 i P          P     00 04 43.4 -0.9
BILL                                  LR    LR
     comp=Z,5µm,21.0s,MS5.2
GTA  Gaotai           33.53 287⇑iP          P     00 04 45.4 +1.0
GTA                                   AP    pP    00 04 52.6 -1.7
GTA                                   XP    sP    00 04 56.2 -2.2
GTA                                   S     S     00 10 09.3 +5.1
GTA                                   SCS   ScS   00 15 08.6 +0.9
GTA                                   AMB   AMB
     comp=Z,249nm,1.3s,mb6.0
GTA                                   AMB   AMB
     comp=Z,2µm,5.0s
GTA                                   LR    LR
     comp=N,7µm,13.0s,MS5.7
GTA                                   LR    LR
     comp=E,8µm,16.0s,MS5.7
GTA                                   LR    LR
     comp=Z,12µm,15.7s,MS5.7
DAV  Davao City (W)   33.88 212 PFAKE         00 05 00.0 +13
DAV                                   LR    LR
     comp=Z,3µm,19.0s,MS5.0
QIZ  Qiongzhong       34.01 247 P           P     00 04 48.7 +0.1
QIZ                                   AP    pP    00 04 58.5  0.0
QIZ                                   S     S     00 10 12.8 +1.3
QIZ                                   SCP   ScP   00 11 07.5 -0.7
QIZ                                   AMB   AMB
     comp=Z,75nm,1.4s,mb5.4
QIZ                                   AMB   AMB
     comp=Z,2µm,6.6s
QIZ                                   LR    LR
     comp=N,5µm,17.4s,MS5.5
QIZ                                   LR    LR
     comp=E,6µm,19.0s,MS5.5
QIZ                                   LR    LR
     comp=Z,8µm,15.4s,MS5.6
QIZ  Qiongzhong       34.01 247⇑iP          P     00 04 50.0 +1.4
     comp=Z,456nm,1.9s,mb6.1
QIZ                             e     pP    00 04 59.4 +0.9
QIZ                             ePP   PP    00 06 09.3 +3.5
QIZ                                   LR    LR
     comp=Z,4µm,20.0s,MS5.2
MIDW Midway           34.52  93 PFAKE         00 05 00.0 +7.0
MIDW                                  LR    LR
     comp=Z,5µm,20.0s,MS5.2
TIXI Tiksi            35.20 352 eP          P     00 04 54.6 -4.3
TIXI                            e             00 06 12.9
TIXI                            eS            S     00 10 25.0 -5.0
TIXI                            eSS           SS    00 12 42.1 -22
TIXI                                  pmax  pmax
     comp=Z,67nm,1.1s,mb5.5
TIXI                                  MLR   MLR
     comp=Z,12µm,17.0s,MS5.7
TIXI Tiksi            35.20 352⇑iP          P     00 04 57.2 -1.7
TIXI                                  LR    LR
     comp=Z,12µm,19.0s,MS5.7
KMI  Kunming          36.06 262 P           P     00 05 06.3  0.0
KMI                                   AP    pP    00 05 16.3 +0.1
KMI                                   PP    PP    00 06 27.9 -0.7
KMI                                   S     S     00 10 42.3 -0.8
KMI                                   AMB   AMB
     comp=Z,149nm,1.5s,mb5.7
KMI                                   AMB   AMB
     comp=Z,1µm,6.9s
KMI                                   LR    LR
     comp=N,8µm,13.5s,MS5.8
KMI                                   LR    LR
     comp=E,11µm,17.3s,MS5.8
KMI                                   LR    LR
     comp=Z,11µm,16.1s,MS5.7
KMI  Kunming          36.06 262 P           P     00 05 06.3  0.0
KMI                                   *PP   pP    00 05 16.3 +0.1
KMI                                   *SP   sP    00 05 21.0 +0.7
KMI                                               00 06 27.9
KMI                                   PPP         00 06 48.1
KMI                                   S     S     00 10 42.3 -0.8
KMI                                   *SS   sS    00 10 59.5  0.0
KMI                                   SS    SS    00 13 06.9 -14
KMI                                   SSS         00 13 36.7
KMI                                   pmax  pmax
     comp=Z,149nm,1.5s,mb5.7
KMI                                   MLR   MLR
     comp=Z,11µm,16.1s,MS5.7
KMI  Kunming          36.06 262 P           P     00 05 06.3  0.0
     comp=Z,149nm,1.5s,mb5.7
KMI                                   pP    pP    00 05 16.3 +0.1
KMI                                   sP    sP    00 05 21.0 +0.7
KMI                                   PP    PP    00 06 27.9 -0.7
KMI                                   PPP         00 06 48.1
KMI                                   S     S     00 10 42.3 -0.8
KMI                                   sS    sS    00 10 59.5  0.0
KMI                                   SS    SS    00 13 06.9 -14
KMI                                   SSS         00 13 36.7
KMI                                   LR    LR
     comp=Z,11µm,16.1s,MS5.7
KRAR Krasnoyarsk      38.05 316c iP         P     00 05 23.2  0.0
KRAR                                  pmax  pmax
     comp=Z,525nm,1.7s,mb6.0
KRAR                                  MLR   MLR
     comp=Z,12µm,17.0s,MS5.8
UNV  Unalaska Valle   38.30  48 PFAKE         00 05 40.0 +15
UNV                                   LR    LR
     comp=Z,9µm,19.0s,MS5.6
KKM  Kota Kinabalu    39.38 224 P           P     00 05 35.5 +1.1
TSM  Tawau            39.95 221 P           P     00 05 40.0 +0.9
TNA  Tin City         40.13  29 PFAKE         00 05 50.0 +9.4
TNA                                   LR    LR
     comp=Z,1µm,20.0s,MS4.8
WMQ  Urumqi           41.70 297⇑iP          P     00 05 54.6 +1.1
WMQ                                   XP    sP    00 06 04.5 -3.2
WMQ                                   SCP   ScP   00 11 37.0 -0.2
WMQ                                   S     S     00 12 08.5 +0.4
WMQ                                   SS    SS    00 15 11.2 -3.1
WMQ                                   AMB   AMB
     comp=Z,25nm,1.4s,mb4.7
WMQ                                   AMB   AMB
     comp=Z,342nm,4.6s
WMQ                                   LR    LR
     comp=N,9µm,13.4s,MS6.0
WMQ                                   LR    LR
     comp=E,8µm,13.4s,MS6.0
WMQ                                   LR    LR
     comp=Z,9µm,21.4s
CHTO Chiang Mai       42.39 257 P           P     00 05 59.9 +0.8
     SNR=27
CHTO Chiang Mai       42.39 257 PFAKE         00 06 10.0 +11
CHTO                                  LR    LR
     comp=Z,4µm,20.0s,MS5.3
ZAL  Zalesovo         42.58 312 P           P     00 06 01.0 +0.3
     comp=Z,167nm,1.1s,mb5.7,baz=22,slow=8.2,SNR=419
ZAL                                   S     S     00 12 23.0 +2.0
     comp=Z,1.7nm,0.8s,baz=43,slow=2.8,SNR=2.0
ZAL                                   ScS   ScS   00 15 58.9 -0.5
     comp=Z,0.6nm,0.3s,baz=355,slow=23,SNR=2.5
CM31 Chiang Mai Arr   42.60 256 PFAKE         00 06 10.0 +9.2
CM31                                  LR    LR
     comp=Z,4µm,19.0s,MS5.3
LSA  Lhasa            43.26 276 P           P     00 06 07.4 +1.2
LSA                                   AP    pP    00 06 16.5 +0.2
LSA                                   PP    PP    00 07 47.8 +0.8
LSA                                   PCP   PcP   00 07 54.3 -0.6
LSA                                   SCP   ScP   00 11 43.0 -0.5
LSA                                   PCS   PcS   00 11 47.6 +0.2
LSA                                   S     S     00 12 33.1 +2.1
LSA                                   SCS   ScS   00 16 04.7 +1.1
LSA                                   AMB   AMB
     comp=Z,60nm,1.3s,mb5.2
LSA                                   AMB   AMB
     comp=Z,2µm,9.9s
LSA                                   LR    LR
     comp=N,3µm,15.6s,MS5.5
LSA                                   LR    LR
     comp=E,4µm,15.6s,MS5.5
LSA                                   LR    LR
     comp=Z,6µm,16.3s,MS5.6
LSA  Lhasa            43.26 276 PFAKE         00 06 20.0 +14
LSA                                   LR    LR
     comp=Z,5µm,19.0s,MS5.5
NST  Nakhon Sawan     43.34 252 P           P     00 06 08.0 +1.2
NVS  Novosibirsk      43.47 314 eP          P     00 06 08.2 +0.3
NVS                             e             00 07 52.6
NVS                             eS            S     00 12 32.0 -2.1
NVS                                   pmax  pmax
     comp=Z,547nm,1.2s,mb6.2
NVS                                   pmax  pmax
     comp=N,67nm,1.9s
NVS                                   pmax  pmax
     comp=E,457nm,1.3s
NVS                                   pmax  pmax
     comp=Z,156nm,2.2s,mb5.3
NVS                                   pmax  pmax
     comp=N,156nm,2.6s
NVS                                   pmax  pmax
     comp=E,130nm,1.9s
NVS                                   smax
     comp=N,82nm,2.2s
NVS                                   smax
     comp=E,200nm,2.7s
SVW2 Sparrevohn       44.69  37 eP          P     00 06 18.1 +0.5
SVW2                            ep            pP    00 06 27.5 -0.3
SVW2                            ePP           PP    00 08 01.9 -0.3
MK31 Makanchi Array   44.91 302 i P           P     00 06 19.0 -0.4
MKAR Makanchi Array   44.91 302 P             P     00 06 19.9 +0.4
     comp=E,111nm,0.8s,mb5.7,baz=86,slow=8.7,SNR=516
MKAR                            S             S     00 12 58.5 +3.4
     comp=E,1.1nm,0.9s,baz=268,slow=30,SNR=1.9
MKAR Makanchi Array   44.91 302 P             P     00 06 19.9 +0.4
MKAR                            S             S     00 12 58.5 +3.4
NNT  Nongplab         45.58 249 P             P     00 06 26.0 +1.3
IMA2 Indian Mountai   45.95  31 eP            P     00 06 26.8 -0.9
IMA2                            epP           pP    00 06 36.1 -1.6
KDAK Kodiak Island    46.21  42 P             P     00 06 28.0 -1.7
     comp=E,436nm,1.3s,mb6.2,SNR=6.4
KDAK Kodiak Island    46.21  42 P             P     00 06 28.7 -1.0
     comp=E,21nm,0.7s,mb5.2,baz=312,slow=6.5,SNR=10.0
KDAK                            S             S     00 13 06.0 -7.8
     comp=E,25nm,1.2s,baz=19,slow=14,SNR=1.6
KDAK Kodiak Island    46.21  42 eP            P     00 06 31.1 +1.4
KDAK                                  LR    LR
     comp=Z,770nm,20.0s,MS4.7
KSM  Kuching          46.49 228⇑iP          P     00 06 32.5 +0.6
KSM                             e             pP    00 06 43.0 +1.0
PMG  Port Moresby     46.60 174 P           P     00 06 30.4 -2.4
     comp=Z,13nm,0.8s,mb4.9,baz=233,slow=21,SNR=2.2
PMG                             S             S     00 13 18.4 -0.9
     comp=Z,9.3nm,0.7s,baz=184,slow=12,SNR=2.1
PMG  Port Moresby     46.60 174 eP            P     00 06 32.3 -0.4
PMG                             epP           pP    00 06 41.1 -1.8
PMG                             ePP           PP    00 08 22.2 -0.3
PMG                                   LR    LR
     comp=Z,1µm,20.0s,MS4.9
KURK Kurchatov        46.64 308 P             P     00 06 33.9 +0.8
     comp=Z,4µm,1.0s
KAPI Kappang          47.21 212 P             P     00 06 36.9 -0.6
     comp=Z,738nm,1.1s,mb6.5,SNR=7.2
PMR  Palmer           47.80  37 eP            P     00 06 41.2 -0.9
PMR                             e*PP          pP    00 06 51.2 -1.1
PMR                                   pmax  pmax
     comp=Z,78nm,1.2s,mb5.6
PMR                                   MLR   MLR
     comp=Z,3µm,19.0s,MS5.2
PMR  Palmer           47.80  37 eP            P     00 06 41.2 -0.9
     comp=Z,78nm,1.2s,mb5.6
PMR                             epP           pP    00 06 51.2 -1.1
PMR                                   LR    LR
     comp=Z,3µm,19.0s,MS5.2
MCK  McKinley         47.85  34 eP            P     00 06 42.3 -0.2
MCK                                   MLR   MLR
     comp=Z,1µm,19.0s,MS4.9
JIRN Jiri             48.07 276 eP            P     00 06 45.4 +1.2
     comp=Z,6.2nm,0.4s,mb5.0
GUN  Gumba            48.21 276 eP            P     00 06 46.1 +0.9
     comp=Z,2µm,1.8s
COLA College          48.31  32 eP            P     00 06 45.7 -0.4
COLA                                  pmax  pmax
     comp=Z,22nm,0.8s,mb5.2
COLA                                  MLR   MLR
     comp=Z,2µm,19.0s,MS5.1
COLA College          48.31  32 eP            P     00 06 45.7 -0.4
     comp=Z,22nm,0.8s,mb5.2
COLA                                  LR    LR
     comp=Z,2µm,19.0s,MS5.1
SNG  Songkhla         48.56 243 P             P     00 06 49.0 +1.0
     comp=Z,360nm,1.0s,mb6.4
PKI  Pulchoki         48.73 276 eP            P     00 06 49.7 +0.4
     comp=Z,267nm,1.3s,mb6.1
KKN  Kakani           48.73 276 eP            P     00 06 50.0 +0.7
     comp=Z,742nm,1.5s,mb6.5
CAL  Calcutta         48.79 268 eP            P     00 06 52.2 +2.5
CAL                             eS            S     00 13 56.9 +6.5
DMN  Daman            48.95 276 eP            P     00 06 51.7 +0.7
     comp=Z,639nm,1.6s,mb6.4
GKN  Gorkha           49.15 277 eP            P     00 06 53.3 +0.8
     comp=Z,954nm,1.3s,mb6.7
HNR  Honiara          49.16 157 P             P     00 06 48.5 -4.0
     comp=Z,74nm,0.4s,mb6.1,baz=93,slow=8.4,SNR=2.3
HNR                             S             S     00 13 53.5 -2.1
     comp=Z,46nm,0.4s,baz=82,slow=6.0,SNR=2.5
HNR  Honiara          49.16 157 P             P     00 06 48.5 -4.0
HNR                             S             S     00 13 53.5 -2.1
HNR                                   LR    LR
     comp=Z,4µm,21.0s,MS5.3
DIV  Divide           49.45  37 eP            P     00 06 54.9 +0.1
DIV                                   LR    LR
     comp=Z,8µm,19.0s,MS5.7
EYAK Cordova Ski Ar   49.52  38 eP            P     00 06 53.8 -1.5
     comp=Z,129nm,1.4s,mb5.8
EYAK                            epP           pP    00 07 05.4 -0.1
KOLN Koldanda         50.08 277 eP            P     00 07 00.3 +0.8
     comp=Z,641nm,1.5s,mb6.4
BOK  Bokaro           50.12 271 eP            P     00 07 00.4 +0.5
BOK                                   AMb   AMB   00 07 02.7
     comp=Z,152nm,1.2s,mb5.9
IPM  Ipoh             50.18 240 P             P     00 07 00.7 +0.3
ULHL Ulahol           50.22 298 P             P     00 07 01.2 +0.6
     SNR=44
KGM  Kluang           50.44 235 P             P     00 07 03.8 +1.5
TKM2 Tokmak 2         50.47 299 P             P     00 07 03.9 +1.4
     SNR=84
TKM2 Tokmak 2         50.47 299 P             P     00 07 03.6 +1.1
TKM2                                  pmax  pmax
     comp=Z,703nm,1.6s,mb6.4
TKM2 Tokmak 2         50.47 299 i P           P     00 07 03.7 +1.2
KAKA Kakadu           50.64 193 eP            P     00 07 02.5 -1.3
     comp=Z,21nm,0.8s,mb5.1
KAKA                            e             pP    00 07 13.1 -0.9
VOSK Vostochnaya      50.94 312 P             P     00 07 04.8 -1.2
VOSK                                  pmax  pmax
     comp=Z,209nm,1.0s,mb6.0
CHKZ Chkalovo         50.95 313⇑iP          P     00 07 06.0 -0.1
CHKZ                            e*PP          pP    00 07 15.4 -1.0
CHKZ                            e             00 08 19.1
CHKZ                            e             00 09 01.1
KZA  Kyzart           50.98 298 P             P     00 07 09.1 +2.8
     SNR=7.4
KBK  Karagaybulak     51.01 298 P             P     00 07 07.7 +1.1
     SNR=77
CHMS Chumysh          51.04 299 P             P     00 07 07.4 +0.6
     SNR=18
USP  Ospenovka        51.13 299 P             P     00 07 08.0 +0.4
     SNR=40
FRU  Bishkek          51.19 299⇑iP          P     00 07 08.7 +0.8
FRU                             i             pP    00 07 19.5 +1.3
FRU                             i             00 09 08.0
FRU                             S             S     00 14 28.0 +4.2
FRU                             eS            S     00 14 32.0 +8.2
FRU                                   pmax  pmax
     comp=Z,680nm,2.2s,mb6.2
FRU                                   MLR   MLR
     comp=E,13µm,16.0s
FRU                                   MLR   MLR
     comp=Z,11µm,16.0s,MS6.0
FRU                                   MLR   MLR
     comp=E,11µm,14.0s
FRU                                   MLR   MLR
     comp=Z,12µm,14.0s
BVA0 Borovoye Array   51.22 312 i P           P     00 07 08.2  0.0
BVA0                                  pmax  pmax
     comp=Z,36nm,1.2s,mb5.2
BVAR Borovoye Array   51.22 312 P             P     00 07 08.4 +0.2
     comp=Z,99nm,0.9s,mb5.7,baz=79,slow=7.7,SNR=228
BVAR                                  S     S     00 14 27.3 +3.0
     comp=Z,2.2nm,1.1s,baz=305,slow=22,SNR=2.3
BRVK Borovoye         51.27 312 P             P     00 07 09.1 +0.5
     SNR=73
BRVK Borovoye         51.27 312 eP            P     00 07 08.8 +0.2
BRVK                                  pmax  pmax
     comp=Z,140nm,0.9s,mb5.9
BRVK                                  MLR   MLR
     comp=Z,1µm,19.0s,MS5.0
BRVK Borovoye         51.27 312 eP            P     00 07 08.8 +0.3
     comp=Z,140nm,0.9s,mb5.9
BRVK                                  LR    LR
     comp=Z,1µm,19.0s,MS5.0
KSH  Kashi            51.30 294 ⇑P            P     00 07 10.6 +1.8
KSH                             eAP           pP    00 07 20.6 +1.6
KSH                             ePCP          PcP   00 08 26.2 +2.8
KSH                             ePP           PP    00 09 08.0 +2.1
KSH                             ePPP                00 10 09.0
KSH                             eSCP          ScP   00 12 17.8 +0.5
KSH                             eS            S     00 14 25.8 +0.4
KSH                             eSCS          ScS   00 16 54.4 -2.1
KSH                             eSS           SS    00 18 01.7 +0.5
KSH                                   AMB   AMB
     comp=Z,3µm,6.5s
KSH                                   LR    LR
     comp=N,15µm,14.4s,MS6.4
KSH                                   LR    LR
     comp=E,21µm,14.9s,MS6.4
KSH                                   LR    LR
     comp=Z,22µm,14.2s,MS6.3
AAK  Ala-Archa        51.33 299 P             P     00 07 09.8 +0.7
     SNR=21
AAK  Ala-Archa        51.33 299 P             P     00 07 09.0  0.0
     SNR=68
AAK  Ala-Archa        51.33 299c iP           P     00 07 08.1 -0.9
AAK                                   pmax  pmax
     comp=Z,23nm,1.0s,mb5.1
AAK                                   MLR   MLR
     comp=Z,11µm,19.0s,MS5.9
AAK  Ala-Archa        51.33 299 eP            P     00 07 08.2 -0.8
AAK                                   LR    LR
     comp=Z,2µm,20.0s,MS5.2
UCH  Uchtor           51.45 298 P             P     00 07 11.3 +1.4
     SNR=26
EKS2 Erkin-Say        51.83 299 P             P     00 07 13.3 +0.6
     SNR=34
DAWY Dawson           52.03  33 eP            P     00 07 15.8 +1.6
DAWY                            epP           pP    00 07 24.1 -0.4
ZRNK Zerenda          52.05 313⇑iP          P     00 07 14.4  0.0
ZRNK                            e*PP          pP    00 07 24.2 -0.5
ZRNK                                  pmax  pmax
     comp=Z,318nm,1.1s,mb6.2
ZRNK Zerenda          52.05 313⇑iP          P     00 07 14.4  0.0
     comp=Z,318nm,1.1s,mb6.2
ZRNK                            epP           pP    00 07 24.2 -0.4
AML  Almayashu        52.06 298 P             P     00 07 15.9 +1.5
     SNR=29
PSI  Prapat           52.84 240 P             P     00 07 20.6 +0.5
     comp=Z,30nm,1.0s,mb5.2,baz=31,slow=3.6,SNR=22
PSI                             S             S     00 14 48.3 +1.8
     comp=Z,1.6nm,0.4s,baz=341,slow=11,SNR=2.3
INK  Inuvik           53.70  27 P             P     00 07 26.1 -0.4
     comp=Z,8.1nm,0.9s,baz=265,slow=10,SNR=7.7
INK                             S             S     00 15 01.1 +2.9
     comp=Z,3.8nm,1.1s,baz=25,slow=16,SNR=2.3
INK  Inuvik           53.70  27 eP            P     00 07 26.2 -0.4
     comp=Z,2µm,1.2s
KK31 Karatay Array    53.95 300 i P           P     00 07 28.4 +0.1
KK31                                  pmax  pmax
     comp=Z,553nm,1.3s,mb6.3
KK31 Karatay Array    53.95 300 i P           P     00 07 28.5 +0.2
KKAR Karatay Array    53.95 300 i P           P     00 07 28.4 +0.1
KKAR                                  pmax  pmax
     comp=Z,718nm,1.3s,mb6.4
THN  Thein Dam        54.21 286 ex            x     00 07 29.3
NDI  New Delhi        54.69 281 eP            P     00 07 32.0 -1.7
JBP  Jabalpur         55.13 274⇑iP          P     00 07 38.1 +1.1
JBP                             ex            x     00 07 54.8
     comp=Z,292nm,1.4s
VIS  Vishakhapatnam   55.31 266 eP            P     00 07 39.5 +1.2
VIS                                   AMb   AMB   00 07 41.6
     comp=Z,200nm,1.1s,mb6.0
VIS                             i S           S     00 15 21.6 +1.6
NIL  Nilore           55.57 289 P             P     00 07 41.3 +1.2
     comp=Z,312nm,0.9s,mb6.3,SNR=6.6
FUNA Funafuti         56.90 135 PFAKE         00 08 00.0 +10
FUNA                                  LR    LR
     comp=Z,10µm,20.0s,MS5.9
NGP  Nagpur           56.90 273⇑iP          P     00 07 48.1 -1.5
NGP                             ex            x     00 07 50.5
     comp=Z,272nm,1.6s
NGP                             ex            x     00 15 39.8
ARU  Arti             56.91 319 P             P     00 07 49.8 +0.2
     comp=Z,2µm,1.3s,SNR=70
ARU  Arti             56.91 319⇑iP          P     00 07 49.3 -0.3
ARU                             e             pP    00 07 59.3 -0.7
ARU                             e             00 08 42.9
ARU                             eS            S     00 15 41.5 +0.4
ARU                             e             00 17 34.4
ARU                             eSS           SS    00 19 30.2 +0.6
ARU                             eSSS          00 21 45.9
ARU                                   pmax  pmax
     comp=Z,331nm,1.5s,mb6.1
ARU  Arti             56.91 319 eP            P     00 07 49.2 -0.5
ARU                                   LR    LR
     comp=Z,2µm,20.0s,MS5.2
CTAO Charters Tower   57.13 176 eP            P     00 07 50.4 -0.8
CTAO                            e*PP          pP    00 08 00.3 -1.3
CTAO                                  MLR   MLR
     comp=Z,1µm,19.0s,MS5.0
BHPL Bhopal           57.13 276 eP            P     00 07 50.9 -0.3
BHPL                                  AMb   AMB   00 07 53.2
     comp=Z,131nm,1.3s,mb5.8
FITZ Fitzroy Crossi   57.38 199 eP            P     00 07 52.2 -0.8
     comp=Z,58nm,1.5s,mb5.4
FITZ Fitzroy Crossi   57.38 199 S             S     00 15 47.8 +0.5
     comp=Z,2.4nm,0.9s,baz=196,slow=20,SNR=2.6
FITZ                                  ScS   ScS   00 17 40.2 +0.5
     comp=Z,3.2nm,1.1s,baz=210,slow=12,SNR=3.1
WRAB Tennant Creek    57.43 189 P             P     00 07 51.0 -2.3
     comp=Z,1µm,0.8s,SNR=20
WRAB Tennant Creek    57.43 189 eP            P     00 07 51.5 -1.8
WB2  Warramunga Arr   57.44 189 eP            P     00 07 51.4 -2.0
WB2                             e             pP    00 08 02.8 -1.0
WRA  Warramunga Arr   57.44 189 P             P     00 07 51.5 -1.9
     comp=Z,58nm,0.8s,mb5.6,baz=9.9,slow=7.2,SNR=121
WRA                             S             S     00 15 44.3 -3.9
     comp=Z,2.0nm,1.1s,baz=348,slow=7.0,SNR=4.0
WRA                                   LR    LR    00 30 15.5
     comp=Z,882nm,21.0s,MS4.8,baz=15,slow=34
WRA  Warramunga Arr   57.44 189 P             P     00 07 51.5 -1.9
WRA                             S             S     00 15 44.3 -3.8
AJM  Ajmer            57.74 280 i P           P     00 07 55.0 -0.5
AJM                             eP            00 07 55.4
AJM                                   AMb   AMB   00 07 57.8
     comp=Z,137nm,1.5s,mb5.8
AB31 Akbulak array    58.62 310 i P           P     00 08 00.3 -1.4
HYB  Hyderabad        59.29 269⇑eP            P     00 08 07.0 +0.7
HYB                             eS            S     00 16 16.0 +3.8
HYB                                   pmax  pmax
     comp=Z,207nm,0.8s,mb6.2
HYB  Hyderabad        59.29 269⇑eP            P     00 08 07.0 +0.7
     comp=Z,207nm,0.8s,mb6.2
HYB                             e             00 09 05.0
HYB                             eS            S     00 16 16.0 +3.8
AKTK Aktyubinsk       59.33 312 P             P     00 08 06.3 -0.3
AKTK                            S             S     00 16 16.8 +4.1
AKTO Aktyubinsk       59.33 312 P             P     00 08 06.3 -0.3
     comp=Z,64nm,1.0s,mb5.6,baz=75,slow=7.1,SNR=88
AKTO                            S             S     00 16 16.8 +4.1
     comp=Z,1.5nm,0.9s,baz=233,slow=21,SNR=2.7
AKTO Aktyubinsk       59.33 312 P             P     00 08 04.0 -2.6
AKTO                                  pmax  pmax
     comp=Z,27nm,1.1s,mb5.2
ALE  Alert            59.82   4 P             P     00 08 09.0 -1.0
     comp=Z,424nm,1.2s,mb6.3,SNR=20
LATR Latur            60.34 271 ex            P     00 08 08.3 -5.2
SPB4 Spitsbergen Ar   60.52 349 eP            P     00 08 16.2 +1.4
SPB4                            epP           pP    00 08 32.2 +7.0
KBS  Kingsbay         60.62 350 eP            P     00 08 15.3 -0.2
KBS                                   AMb   AMB   00 08 17.6
     comp=Z,85nm,1.2s,mb5.8
KBS                             eS            S     00 16 35.0 +5.6
KBS                                   AMS   AMS   00 37 59.3
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comp=Z,2µm,18.5s,MS5.2
KBS Kingsbay 60.62 350 *e*P **P 00 08 15.7 +0.2**
KBS *e**PP pP 00 08 25.9 0.0
KBS pmax pmax
comp=Z,142nm,1.1s,mb6.0
KBS MLR MLR
comp=Z,3µm,19.0s,MS5.4
KBS Kingsbay 60.62 350 *e*P **P 00 08 15.7 +0.2**
comp=Z,142nm,1.1s,mb6.0
KBS *e*pP pP 00 08 25.9 0.0
KBS LR LR
comp=Z,3µm,19.0s,MS5.4
ORR Orenburg 60.75 314 *i* P **P 00 08 16.1 -0.3**
ORR *i* pP 00 08 26.1 -0.7
ORR PPP 00 11 58.2
ORR S **S 00 16 32.0 +1.0**
ORR pmax pmax
comp=Z,230nm,2.1s,mb5.9
ORR MLR MLR
comp=Z,4µm,13.0s,MS5.8
AS31 Alice Springs 61.17 189 *e*P **P 00 08 17.7 -1.5**
AS31 *e* pP 00 08 29.2 -0.4
ASAR Alice Springs 61.17 189 P **P 00 08 17.6 -1.5**
comp=Z,27nm,0.9s,mb5.4,baz=10,slow=6.2,SNR=96
ASAR S **S 00 16 34.4 -2.0**
comp=Z,1.1nm,1.1s,baz=206,slow=26,SNR=2.7
ASAR PKP2ab 00 37 54.1
comp=Z,2.3nm,1.0s,baz=192,slow=2.7,SNR=7.3
ASAR Alice Springs 61.17 189 P **P 00 08 17.7 -1.5**
ASAR S **S 00 16 34.4 -1.9**
ASPA Alice Springs 61.17 189 *e*P **P 00 08 17.7 -1.5**
ASPA *e* pP 00 08 29.2 -0.4
MBWA Marble Bar 62.03 204 *e*P **P 00 08 24.0 -0.9**
comp=Z,74nm,1.0s,mb5.8
MBWA LR LR
comp=Z,644nm,20.0s,MS4.8
RES Resolute Bay 62.12 15 *e*P **P 00 08 24.8 -0.8**
RES *e**PP pP 00 08 35.3 -0.7
LVZ Lovozero 62.35 336 *e*P **P 00 08 26.6 -0.5**
LVZ *e**PP pP 00 08 36.8 -0.8
LVZ *e* 00 10 46.4
LVZ *e*PPP 00 12 14.6
LVZ *e*S **S 00 16 51.4 +0.1**
LVZ *e*SS SS 00 20 56.8 +1.8
LVZ pmax pmax
comp=Z,106nm,1.4s,mb5.8
LVZ pmax pmax
comp=N,30nm,1.3s
LVZ pmax pmax
comp=E,9.0nm,0.9s
LVZ smax
comp=Z,664nm,4.1s
LVZ smax
comp=N,313nm,3.5s
LVZ smax
comp=E,198nm,2.9s
LVZ MLR MLR
comp=Z,7µm,14.0s,MS6.0
LVZ MLR MLR
comp=N,834nm,13.0s,MS5.9
LVZ MLR MLR
comp=E,5µm,13.0s,MS5.9
LVZ Lovozero 62.35 336⇑ *e*P **P 00 08 26.7 -0.4**
POO Poona 62.44 273 *ex* PcP 00 09 02.6 -4.2
BJO Bjornoya 62.48 345 *e*S **S 00 16 56.1 +3.2**
BJO AMS AMS 00 39 45.5
comp=Z,7µm,17.3s,MS5.9
KAD Karad 62.83 272 *e*P **P 00 08 30.5 +0.1**
KAD AMb AMB 00 08 32.7
comp=Z,275nm,1.1s,mb6.3
APA Apatity 62.93 336⇓ *i*P **P 00 08 30.4 -0.6**
APA *i* pP 00 08 39.8 -1.6
APA *i* 00 09 14.0
APA *e*S **S 00 16 54.0 -4.5**
APA *e* 00 18 20.0
APA *e*SS SS 00 21 00.0 -4.1
APA pmax pmax
comp=Z,260nm,1.5s,mb6.1
APA MLR MLR
comp=Z,11µm,16.0s,MS6.1
TMCR Tamitsa 63.07 332⇑ *i*P **P 00 08 31.6 -0.3**
TMCR *e**PP pP 00 08 41.9 -0.5
TMCR *e**SP sP 00 08 46.9 +0.5
TMCR pmax pmax
comp=Z,376nm,1.1s,mb6.4
YKA Yellowknife Ar 63.07 31 P **P 00 08 30.5 -1.4**
comp=Z,6.5nm,1.0s,mb4.7,baz=296,slow=6.8,SNR=16
YKA S **S 00 17 00.3 0.0**
comp=Z,2.2nm,1.2s,baz=359,slow=20,SNR=2.8
YKA Yellowknife Ar 63.07 31 P **P 00 08 30.5 -1.4**
YKA S **S 00 17 00.4 +0.1**
YKA smax
comp=N,2.0nm,1.2s
PALK Pallekele 63.47 258 *e*P **P 00 08 35.5 +0.9**
comp=N,109nm,1.3s,mb5.8
PALK *e*pP pP 00 08 46.1 +1.0
PALK LR LR
comp=Z,687nm,19.0s,MS4.8
KEV Kevo 63.62 340 *e*p pP 00 08 44.1 -1.9
comp=Z,93nm,0.9s
KEV Kevo 63.62 340 *e*P **P 00 08 34.2 -1.3**
KEV *e* pP 00 08 44.1 -1.9
KEV MLR MLR
comp=Z,2µm,19.0s,MS5.3
ARCES ARCESS Array B 64.17 340 P **P 00 08 38.7 -0.5**
comp=Z,29nm,1.0s,mb5.2,baz=52,slow=7.9,SNR=21
ARCES S **S 00 17 17.1 +3.2**
comp=Z,3.4nm,0.9s,baz=12,slow=24,SNR=2.4
ARE0 ARCESS Array S 64.17 340 *e*P **P 00 08 38.8 -0.3**
ABKT Ailbek 64.67 299 P **P 00 08 42.3 -0.1**
comp=Z,724nm,1.0s,mb6.7,SNR=28
VAN Vannovskaya 64.67 299 *e*P **P 00 08 42.2 -0.2**
C03A Quillayute Air 65.09 48⇑P **P 00 08 47.5 +2.3**
baz=65
OBC Olympics--Boni 65.33 48 P **P 00 08 48.6 +1.9**
PGC Sidney 65.40 47 *e*P **P 00 08 48.8 +1.6**
comp=Z,58nm,1.0s,mb5.6
COCO West Island 65.41 231 *e*P **P 00 08 48.4 +1.2**
COCO *e*pP pP 00 08 59.8 +2.0
COCO LR LR
comp=Z,283nm,22.0s
DAG Danmarks Havn 65.64 355⇓ *i*P **P 00 08 48.1 -0.7**
comp=Z,34nm,1.1s,mb5.3
DAG Danmarks Havn 65.64 355⇓ *i*P **P 00 08 48.1 -0.7**
DAG pmax pmax
comp=Z,34nm,1.1s,mb5.3
B04A Port Angeles 65.66 47⇓P **P 00 08 50.0 +1.2**
baz=66
TRD Trivandrum 65.67 262 *e*P **P 00 08 49.6 +0.7**
TRD AMb AMB 00 09 02.0
comp=Z,204nm,1.2s,mb6.0
A04A Legoe Bay, Lum 65.80 46⇑P **P 00 08 49.8 0.0**
baz=66
TRO Tromso 65.85 341 *e*P **P 00 08 47.9 -2.2**
TRO AMb AMB 00 09 01.2
comp=Z,164nm,1.9s,mb5.7
TRO *e*S S 00 17 39.6 +5.0
TRO *e*SKS 00 18 47.0
TRO AMS AMS 00 45 08.4
comp=Z,4µm,17.7s,MS5.6
D03A Wishkah Elem. 65.96 48⇓P **P 00 08 51.7 +0.9**
baz=66
D03A ⇑S S 00 17 40.5 +4.6
baz=66
A05A Maple Falls 66.02 46⇓P **P 00 08 51.2 0.0**
baz=66
C04A Brinnon 66.14 47⇓P **P 00 08 52.6 +0.6**
baz=66
C04A ⇓S S 00 17 39.7 +1.5
baz=66
JOF Joensuu 66.27 332 *ep* pP 00 09 01.3 -2.0
JOF Joensuu 66.27 332 *e*P **P 00 08 50.8 -2.0**
JOF *e* pP 00 09 01.3 -2.0
GNW Green Mountain 66.30 48 *e*P **P 00 08 55.5 +2.5**
GNW *e*pP pP 00 09 03.9 +0.4
E03A Lebam 66.36 49⇓P **P 00 08 53.8 +0.4**
baz=66
B05A Bryant 66.38 47⇓P **P 00 08 54.1 +0.6**
baz=66
B05A ⇓S S 00 17 44.2 +3.1
baz=66
AFI Afiamalu 66.45 131 PFAKE 00 09 00.0 +6.0
AFI LR LR
comp=Z,2µm,19.0s,MS5.3
B06A Marblemount 66.60 46⇓S S 00 17 44.6 +0.8
baz=66
F03A Seaside 66.67 49⇓P **P 00 08 54.9 -0.5**
baz=66,SNR=5.3
E04A Onalaska 66.85 48⇑P **P 00 08 56.3 -0.2**
baz=67
E04A ⇓S S 00 17 50.1 +3.4
baz=67
C05A Tolt Reservoir 66.90 47⇑P **P 00 08 56.9 +0.1**
baz=67,SNR=6.5
C05A ⇓S S 00 17 48.5 +1.1
baz=67
D05A Enumclaw 66.98 48⇓P **P 00 08 58.5 +1.2**
baz=67
D05A ⇓S S 00 17 52.0 +3.6
baz=67
H02A Toledo 67.03 51⇑P **P 00 08 58.6 +1.0**
baz=67
G03A Yamhill 67.15 50⇑P **P 00 08 58.8 +0.4**
baz=67
G03A ⇑S S 00 17 54.1 +3.7
baz=67
LVP Lakeview Peak 67.30 49 P **P 00 08 59.7 +0.4**
F04A Amboy 67.36 49⇓P **P 00 08 59.5 -0.2**
baz=67,SNR=5.2
F04A ⇑S S 00 17 54.9 +2.0
baz=67
B07A Winthrop 67.42 46⇓P **P 00 09 00.4 +0.3**
baz=67
B07A ⇑S S 00 17 54.7 +1.1
baz=67
E05A Randle 67.43 48⇓P **P 00 09 00.6 +0.4**
baz=67
E05A ⇑S S 00 17 55.8 +2.1
baz=67
I02A Mapleton 67.47 51⇓S S 00 17 56.7 +2.4
baz=67
COR Corvallis 67.51 50 *e*P **P 00 09 01.5 +0.8**
COR *e**PP pP 00 09 11.3 +0.1
COR pmax pmax
comp=Z,75nm,0.9s,mb5.7
COR MLR MLR
comp=Z,937nm,20.0s,MS5.0
COR Corvallis 67.51 50 *e*P **P 00 09 01.5 +0.9**
comp=Z,75nm,0.9s,mb5.7
COR *e*pP pP 00 09 11.3 +0.1
COR LR LR
comp=Z,937nm,20.0s,MS5.0
K01A Sixes 67.68 53⇓P **P 00 09 03.3 +1.6**
baz=68
G04A Mulino 67.69 50⇓P **P 00 09 02.0 +0.1**
baz=68
G04A ⇓S S 00 17 58.5 +1.6
baz=68
MOS Moscow 67.71 324α *i*P **P 00 09 01.7 -0.3**
MOS *i* pP 00 09 12.3 -0.2
MOS *e* 00 09 32.4
MOS *e* 00 11 31.0
MOS *i* S S 00 17 58.9 +1.8
MOS pmax pmax
comp=Z,900nm,2.0s,mb6.5
MOS pmax pmax
comp=Z,369nm,1.6s,mb6.2
MOS smax
comp=N,1µm,3.5s
MOS smax
comp=E,500nm,3.5s
MOS MLR MLR
comp=N,6µm,14.0s,MS6.0
MOS MLR MLR
comp=E,4µm,14.0s,MS6.0
MOS MLR MLR
comp=Z,12µm,14.0s,MS6.3
KEBM Edson Butte 67.73 53 *e*P **P 00 09 02.6 +0.6**
ARMA Armidale 67.83 172 *e*P **P 00 09 03.0 +0.3**
ARMA *e* pP 00 09 13.4 +0.1
I03A Eugene 67.83 51⇓P **P 00 09 02.9 +0.1**
baz=68,SNR=6.3
I03A ⇓S S 00 18 01.9 +3.3
baz=68
C07A Waterville 67.85 46⇑P **P 00 09 03.1 +0.3**
baz=68,SNR=5.5
C07A ⇑S S 00 17 59.4 +0.7
baz=68
E06A Yakima 67.91 48⇑P **P 00 09 02.7 -0.5**
baz=68,SNR=6.8
E06A ⇑S S 00 18 01.3 +1.8
baz=68
WTV Waterville 67.91 46 P **P 00 09 03.1 -0.1**
J02A Umpqua 67.96 52⇓P **P 00 09 03.9 +0.4**
baz=68
J02A ⇓S S 00 18 04.2 +4.1
baz=68
F05A White Salmon 67.96 49⇑P **P 00 09 04.2 +0.7**
baz=68
F05A ⇓S S 00 18 02.6 +2.5
baz=68
A09A Danville 68.02 45⇑S S 00 18 01.9 +1.2
baz=68
VLL Laurance Lake 68.05 49 P **P 00 09 04.9 +0.9**
TDH Tom, Dick, Har 68.07 49 P **P 00 09 04.8 +0.7**
HOOD Mount Hood Mea 68.14 49 *e*P **P 00 09 05.6 +1.0**
KBO Bosley Butte 68.14 53 *e*pP pP 00 09 17.0 +1.8
H04A Detroit Lake 68.14 50⇑P **P 00 09 04.5 -0.2**
baz=68,SNR=16
H04A ⇓S S 00 18 05.3 +3.0
baz=68
BROR Big Rock Looko 68.19 50 P **P 00 09 05.4 +0.5**
VRHR Novokhopersk 68.25 318 *e*P **P 00 09 02.7 -2.6**
VRHR *e**SP sP 00 09 15.0 -4.8
VRHR *e*S S 00 18 04.5 +1.0
VRHR pmax pmax
comp=N,60nm,1.1s
VRHR pmax pmax
comp=Z,120nm,1.1s,mb5.8
VRHR pmax pmax
comp=E,70nm,1.3s
VRHR smax
comp=N,30nm,1.0s
VRHR smax
comp=Z,6.0nm,0.4s
VRHR smax
comp=E,80nm,1.3s
VRHR MLR MLR
comp=Z,8µm,11.0s,MS6.2
VRHR MLR MLR
comp=N,4µm,16.0s,MS6.2
VRHR MLR MLR
comp=E,9µm,14.0s,MS6.2
K02A Glendale 68.32 52⇓P **P 00 09 06.2 +0.4**
baz=68
G05A Wamic 68.38 49⇓P **P 00 09 07.4 +1.2**
baz=68
G05A ⇓S S 00 18 07.7 +2.6
baz=68
C08A Higginbotham F 68.38 46⇑P **P 00 09 06.8 +0.6**
baz=68,SNR=5.5
PUL Pulkovo 68.55 330⇑ *e*P **P 00 09 06.2 -1.0**
B09A Rice 68.55 45⇓P **P 00 09 06.1 -1.1**
baz=68
B09A ⇓S S 00 18 07.3 +0.1
baz=68
E07A Sunnyside 68.56 47⇑P **P 00 09 06.5 -0.8**
baz=68
E07A ⇑S S 00 18 10.8 +3.6
baz=68
OBN Obninsk 68.56 324*c i*P **P 00 09 06.9 -0.4**
OBN *e* 00 09 25.7
OBN *i* 00 11 40.6
OBN *i* S S 00 18 08.5 +1.3
OBN *i* SS SS 00 22 34.9 +3.3
OBN pmax pmax
comp=Z,175nm,1.0s,mb5.9
OBN MLR MLR
comp=Z,12µm,15.0s,MS6.2
OBN Obninsk 68.56 324 *e*P **P 00 09 06.8 -0.5**
OBN LR LR
comp=Z,1µm,20.0s,MS5.2
L02A Cave Junction 68.56 53⇓P **P 00 09 08.0 +0.7**
baz=68
A10A Northport 68.59 44⇑P **P 00 09 06.9 -0.5**
baz=68
KAF Kangasniemi 68.60 333 *ep* **P 00 09 05.7 -1.8**
comp=Z,15nm,0.6s,mb5.1,baz=48,slow=6.0
KAF Kangasniemi 68.60 333 *ep* pP 00 09 16.8 -1.3
baz=48,slow=6.0
KAF Kangasniemi 68.60 333 *e*P **P 00 09 05.7 -1.8**
comp=Z,15nm,0.6s,mb5.1
KAF *e*P pP 00 09 16.8 -1.3
H05A Madras 68.74 50⇑P **P 00 09 08.3 -0.2**
baz=69
STKA Stephens Creek 68.78 181 *e*P **P 00 09 07.1 -1.6**
comp=Z,4.6nm,0.8s
STKA *e* pP 00 09 18.5 -0.7
STKA Stephens Creek 68.78 181 P **P 00 09 07.1 -1.5**
comp=Z,5.5nm,0.8s,baz=320,slow=9.5,SNR=5.7
STKA S S 00 18 08.9 -0.9
comp=Z,2.8nm,0.9s,baz=84,slow=22,SNR=2.0
STKA Stephens Creek 68.78 181 *e*P **P 00 09 07.2 -1.5**
STKA *e*pP pP 00 09 18.9 -0.3
G06A Carlson Farm, 68.79 49⇓P **P 00 09 08.5 -0.2**
baz=69,SNR=6.4
G06A ⇓S S 00 18 12.8 +2.8
baz=69
HAWA Hanford 68.84 47 *e*P **P 00 09 10.5 +1.5**
HAWA LR LR
comp=Z,627nm,20.0s,MS4.8
D08A Wollman Farm, 68.84 47⇓P **P 00 09 09.1 +0.1**
baz=69
F07A Phinny Hill Vi 68.87 48⇓P **P 00 09 09.6 +0.4**
baz=69
F07A ⇑S S 00 18 12.2 +1.4
baz=69
FORT Forrest 69.07 194 *e*P **P 00 09 09.3 -1.1**
comp=Z,37nm,0.7s,mb5.4
FORT *e* pP 00 09 21.5 +0.5
FIA1 FINESS Array S 69.12 333⇑ *e*P **P 00 09 09.9 -0.8**
FIA1 *e*pP pP 00 09 20.0 -1.3
FINES FINESS Array B 69.12 333 P **P 00 09 10.2 -0.5**
comp=Z,38nm,0.9s,mb5.3,baz=61,slow=9.0,SNR=101
FINES S S 00 18 13.1 -0.8
comp=Z,1.2nm,0.9s,baz=226,slow=7.7,SNR=2.4
KHMM Horse Mountain 69.15 54 *e*P **P 00 09 13.5 +2.6**
VOR Voronezh 69.17 320 *e*P **P 00 09 10.5 -0.5**
VOR *e* pP 00 09 21.0 -0.6
VOR 00 11 40.0
VOR pmax pmax
comp=N,120nm,1.2s
VOR pmax pmax
comp=E,200nm,1.2s
VOR pmax pmax
comp=Z,250nm,1.2s,mb6.0
VOR pmax pmax
comp=Z,240nm,2.0s,mb5.8
VOR pmax pmax
comp=N,100nm,1.5s
VOR pmax pmax
comp=E,220nm,1.8s
MAK Makhachkala 69.17 309*c i*P **P 00 09 11.3 +0.2**
MAK *e* 00 09 34.3
MAK *i* 00 11 43.9
MAK *i* S S 00 18 18.2 +3.8
MAK *i* 00 19 08.7
MAK pmax pmax
comp=Z,308nm,1.7s,mb6.0
MAK MLR MLR
comp=Z,12µm,14.0s,MS6.3
D09A Jones Farm, Ri 69.19 46⇑P **P 00 09 11.0 -0.2**
baz=69
D09A ⇓S S 00 18 15.2 +0.5
baz=69
NEW Newport 69.22 45 *e*P **P 00 09 11.1 -0.3**
NEW pmax pmax
comp=Z,64nm,1.4s
NEW MLR MLR
comp=Z,1µm,19.0s
NEW Newport 69.22 45 *e*P **P 00 09 11.1 -0.2**
comp=Z,64nm,1.4s,mb5.4
NEW LR LR
comp=Z,1µm,19.0s,MS5.1
H06A Lindquist Farm 69.24 49⇑P **P 00 09 10.5 -1.0**
baz=69
H06A ⇑S S 00 18 17.5 +2.3
baz=69
C10A Spilker Farm, 69.35 45⇓S S 00 18 17.2 +0.6
baz=69
YBH Yreka Blue Hor 69.35 53 *e*pP pP 00 09 22.6 -0.2
YBH Yreka Blue Hor 69.35 53⇓P **P 00 09 12.4 +0.2**
baz=69
YBH ⇓S S 00 18 20.3 +3.7
baz=69
G07A Ruggs Ranch, H 69.36 48⇑P **P 00 09 12.0 -0.2**
baz=69
G07A ⇓S S 00 18 19.7 +3.1
baz=69
M02C Callahan 69.44 53⇑P **P 00 09 12.7 -0.1**
baz=69
N02C Big Bar 69.45 54⇑P **P 00 09 13.0 +0.2**
baz=69
N02C ⇑S S 00 18 21.4 +3.6
baz=69
J05A Fort Rock 69.46 51⇓P **P 00 09 13.0 +0.1**
baz=69,SNR=7.6
J05A ⇓S S 00 18 19.4 +1.6
baz=69
K04A Chilquin 69.51 52⇓S S 00 18 21.7 +3.3
baz=69
MOR8 Moi Rana 69.53 340 *e*P **P 00 09 11.2 -2.1**
MOR8 AMb AMB 00 09 12.9
comp=Z,115nm,1.2s,mb5.7
MOR8 *i* pP 00 09 21.1 -2.7
MOR8 Moi Rana 69.53 340 *e*P **P 00 09 11.2 -2.1**
comp=Z,115nm,1.2s,mb5.7
MOR8 *i* pP 00 09 21.1 -2.7
VORD Divnogorie 69.55 319 *e*P **P 00 09 12.9 -0.5**
VORD pmax pmax
comp=Z,190nm,1.5s,mb5.8
VORD pmax pmax
comp=N,90nm,1.3s
VORD pmax pmax
comp=E,110nm,1.3s
E09A Wood Farm, Sta 69.58 47⇓P **P 00 09 13.4 -0.2**
baz=69
E09A ⇑S S 00 18 20.1 +0.8
baz=69
F08A Pendleton 69.60 48⇑P **P 00 09 14.1 +0.4**
baz=69
F08A ⇓S S 00 18 22.2 +2.7
baz=69
A12A Yaak River Ran 69.67 44⇓P **P 00 09 14.4 +0.3**
baz=70
A12A ⇑S S 00 18 21.5 +1.2
baz=70
I06A Prineville 69.74 50⇑P **P 00 09 15.5 +1.0**
baz=70,SNR=5.3
I06A ⇓S S 00 18 21.6 +0.5
baz=70
G08A Pilot Rock 69.77 48⇓P **P 00 09 12.9 -1.9**
baz=70
G08A ⇓S S 00 18 22.7 +1.3
baz=70
H07A Lands Inn, Kim 69.78 49⇑P **P 00 09 14.1 -0.7**
baz=70,SNR=6.7
H07A ⇓S S 00 18 22.8 +1.2
baz=70
M04C Macdoel 69.88 52⇑P **P 00 09 15.1 -0.4**
baz=70
M04C ⇑S S 00 18 25.0 +2.2
baz=70
B12A Libby 69.96 44⇓P **P 00 09 16.8 +0.9**
baz=70
B12A ⇑S S 00 18 24.3 +0.6
baz=70
K05A Summer Lake 69.97 51⇑P **P 00 09 16.4 +0.4**
baz=70,SNR=18
M03C McCloud 69.97 53⇑P **P 00 09 15.1 -0.9**
baz=70
M03C ⇑S S 00 18 25.1 +1.2
baz=70
WDC Whiskeytown Da 70.07 54 *e*P **P 00 09 18.4 +1.8**
WDC Whiskeytown Da 70.07 54⇓P **P 00 09 16.3 -0.3**
baz=70
WDC ⇓S S 00 18 27.7 +2.6
baz=70
I07A Izee 70.09 49⇑P **P 00 09 16.6 -0.2**
baz=70,SNR=5.9
I07A ⇓S S 00 18 27.2 +1.9
baz=70
JMIC Jan Mayen 70.11 350 S S 00 18 26.5 +1.0
comp=E,60nm,0.5s,baz=160,slow=9.7,SNR=2.4
JMIC Jan Mayen 70.11 350 *e*S S 00 18 26.5 +1.0
JMIC AMS AMS 00 45 48.5
comp=Z,1µm,17.9s,MS5.2
O02C Red Bluff 70.13 54⇓P **P 00 09 16.9 -0.1**
baz=70

O02C ⇑S S 00 18 29.5 +3.8
baz=70
J06A Christmas Vall 70.14 50 ⇓P **P 00 09 17.2 +0.1**
baz=70,SNR=8.5
J06A ⇑S S 00 18 27.6 +1.7
baz=70
P01C Double 8 Ranch 70.14 55 ⇓P **P 00 09 17.0 0.0**
baz=70
K06A Valley Falls 70.33 51 ⇓P **P 00 09 18.3 +0.1**
baz=70,SNR=8.7
K06A ⇑S S 00 18 31.2 +3.1
baz=70
H08A Prairie City 70.36 49 ⇓P **P 00 09 17.6 -0.7**
baz=70,SNR=12
H08A ⇓S S 00 18 30.3 +1.9
baz=70
L05A Lakeview 70.37 52 ⇑P **P 00 09 17.5 -1.0**
baz=70,SNR=6.4
L05A ⇓S S 00 18 31.5 +2.9
baz=70
F10A Beach Ranch, E 70.41 47 ⇓P **P 00 09 17.1 -1.6**
baz=70
F10A ⇓S S 00 18 31.6 +2.6
baz=70
GASB Alder Springs 70.45 55 ⇓P **P 00 09 18.4 -0.6**
baz=70
SUMG Summit 70.46 0 *e*P **P 00 09 19.0 0.0**
comp=Z,89nm,1.0s,mb5.7
M05C Lookout 70.55 53 ⇑P **P 00 09 19.1 -0.4**
baz=70
M05C ⇑S S 00 18 33.0 +2.4
baz=70
J07A Hines 70.59 50 ⇓P **P 00 09 18.8 -1.0**
baz=70,SNR=6.7
B13A Whitefish 70.63 44 ⇑P **P 00 09 18.9 -1.1**
baz=70
HATC Hat Creek Radi 70.64 53 ⇓P **P 00 09 19.2 -0.9**
baz=70
BSMT Bassoo Peak 70.75 44 *e*P **P 00 09 23.3 +2.5**
BSMT *ep*P pP 00 09 30.8 -0.5
I08A Drewsey 70.75 49 ⇓P **P 00 09 20.0 -0.7**
baz=71,SNR=6.1
I08A ⇑S S 00 18 35.2 +2.2
baz=71
MOD Modoc 70.78 52 ⇑P **P 00 09 20.6 -0.4**
baz=71,SNR=6.1
MOD ⇓S S 00 18 34.5 +1.1
baz=71
H09A Durkee 70.88 48 ⇑P **P 00 09 20.8 -0.7**
baz=71
H09A ⇓S S 00 18 37.4 +3.0
baz=71
C13A Hot Springs 70.97 44 ⇓P **P 00 09 21.5 -0.5**
baz=71
BMO Blue Mountains 70.98 48 *e*P **P 00 09 22.2 0.0**
comp=Z,103nm,1.6s,mb5.5
BMO LR LR
comp=Z,1μm,19.0s,MS5.1
K07A Rock Creek Ran 71.01 51 P **P 00 09 22.5 +0.2**
baz=71,SNR=12
K07A ⇓S S 00 18 36.8 +0.8
baz=71
MNRC McLaughlin Nat 71.05 55 ⇑P **P 00 09 22.6 0.0**
baz=71
MNRC ⇓S S 00 18 40.1 +3.7
baz=71
M06C Likely Place G 71.05 52 ⇓P **P 00 09 23.1 +0.5**
baz=71
M06C ⇑S S 00 18 40.1 +3.6
baz=71
J08A Circle Bar Ran 71.11 50 P **P 00 09 23.6 +0.6**
baz=71,SNR=9.8
J08A ⇓S S 00 18 38.9 +1.7
baz=71
O04C Chester 71.15 53 ⇓P **P 00 09 23.7 +0.5**
baz=71
O04C ⇓S S 00 18 38.2 +0.6
baz=71
MCCM Marconi Confer 71.16 56 ⇓P **P 00 09 21.8 -1.4**
baz=71
ELFS Eagle Lake Fie 71.21 53 ⇑P **P 00 09 23.8 +0.2**
baz=71
I09A Lost Marbles R 71.21 49 ⇓P **P 00 09 23.7 +0.1**
baz=71,SNR=9.2
I09A ⇓S S 00 18 40.5 +2.1
baz=71
SUTB Sutter Butte 71.29 55 ⇓S S 00 18 40.6 +1.3
baz=71
ORV Oroville 71.30 54 ⇑P **P 00 09 23.8 -0.3**
baz=71,SNR=8.6
ORV ⇓S S 00 18 40.1 +0.8
baz=71
DGRG David-gareji 71.31 308 P **P 00 09 24.1 -0.1**
FARB Farallon Islan 71.32 57 ⇑S S 00 18 41.8 +2.2
baz=71
L07A Adell 71.32 51 P **P 00 09 23.1 -1.1**
baz=71,SNR=13
L07A ⇓S S 00 18 42.6 +3.1
baz=71
CVS Carmenet Viney 71.33 56 ⇑P **P 00 09 24.3 0.0**
baz=71
CVS ⇓S S 00 18 42.3 +2.6
baz=71
OHCM Honcut 71.43 54 *e*P **P 00 09 26.1 +1.2**
O05C Quincy 71.45 54 ⇑P **P 00 09 25.5 +0.5**
baz=71
O05C ⇓S S 00 18 41.5 +0.4
baz=71
K08A Mann Creek Ran 71.45 50 ⇑P **P 00 09 25.4 +0.4**
baz=71,SNR=6.2
K08A ⇓S S 00 18 42.4 +1.3
baz=71
NSS Namsos 71.45 340 *e*P **P 00 09 23.0 -2.0**
NSS *e*S S 00 18 43.0 +1.9
NSS AMS AMS 00 46 02.0
comp=Z,6μm,18.3s,MS5.9
ZEI Tsey 71.50 310 *e*P **P 00 09 25.0 -0.3**
ZEI *e**PP pP 00 09 34.0 -1.9
ZEI pmax pmax
comp=Z,62nm,1.1s,mb5.5
WVOR Wild Horse Val 71.52 51 ⇓*e*P **P 00 09 25.7 +0.2**
WVOR *e**PP pP 00 09 36.0 -0.1
WVOR pmax pmax
comp=Z,120nm,1.6s,mb5.6
WVOR MLR MLR
comp=Z,982nm,20.0s,MS5.1
WVOR Wild Horse Val 71.52 51 ⇓*e*P **P 00 09 25.7 +0.2**
comp=Z,120nm,1.6s,mb5.6
WVOR *ep*P pP 00 09 36.0 -0.1
WVOR LR LR
comp=Z,982nm,20.0s,MS5.1
MTA Mtatsminda 71.54 309 P **P 00 09 25.3 -0.2**
J09A Fry Pan Ranch, 71.56 49 P **P 00 09 26.2 +0.6**
baz=71,SNR=14
J09A ⇓S S 00 18 45.5 +3.2
baz=71
TBLG Delisi 71.56 309 *e*P **P 00 09 26.4 +0.7**
TBLG Delisi 71.56 309 P **P 00 09 26.4 +0.7**
KIV Kislovodsk 71.57 311 P **P 00 09 26.9 +1.2**
SNR=159
KIV Kislovodsk 71.57 311 *c i*P **P 00 09 26.5 +0.8**
KIV *e* 00 09 44.1
KIV *e*S S 00 18 45.1 +2.6
KIV *e*SS SS 00 23 18.9 +0.9
KIV pmax pmax
comp=Z,343nm,1.1s,mb6.2
KIV pmax pmax
comp=Z,2μm,2.7s,mb6.5
KIV Kislovodsk 71.57 311 *e*P **P 00 09 26.5 +0.8**
N06A Buffalo Meadow 71.71 53 ⇑P **P 00 09 26.2 -0.4**
baz=72,SNR=8.0
N06A ⇓S S 00 18 44.5 +0.5
baz=72
Q04C Lincoln 71.77 55 ⇑S S 00 18 47.9 +3.2
baz=72
M07A Soldier Meadow 71.77 52 ⇑P **P 00 09 27.4 +0.5**
baz=72,SNR=12
M07A ⇓S S 00 18 46.4 +1.6
baz=72
MSO Missoula 71.81 45 *e*P **P 00 09 26.8 -0.4**
MSO LR LR
comp=Z,887nm,19.0s,MS5.0
L08A Fields 71.84 51 ⇓P **P 00 09 27.5 +0.2**
baz=72,SNR=12
L08A ⇑S S 00 18 46.3 +0.7
baz=72
BEKR Beckwourth 71.86 54 ⇓P **P 00 09 27.1 -0.3**
baz=72,SNR=9.6
ONI Oni 71.88 310 P **P 00 09 28.3 +0.7**
BDM Black Diamond 71.93 56 ⇑S S 00 18 49.4 +2.8
baz=72
WBK Wadi Bani Khal 71.93 285 P **P 00 09 29.4 +1.5**
SNR=22
K09A Rome 71.94 50 ⇑P **P 00 09 26.9 -1.0**
baz=72,SNR=7.9
K09A ⇑S S 00 18 48.3 +1.6
baz=72
JRSC Jasper Ridge 71.99 57 ⇑S S 00 18 51.2 +4.0
baz=72
O06A Flanigan 72.04 53 ⇓P **P 00 09 28.5 -0.1**
baz=72,SNR=12
O06A ⇓S S 00 18 49.0 +1.1
baz=72
BIDO Bidbid 72.08 286 P **P 00 09 30.3 +1.5**
SNR=20
CHMT Chamberlain Mo 72.14 44 *e*P **P 00 09 29.6 +0.5**
CHMT *ep*P pP 00 09 37.7 -2.1
BNLO Ben Lomond (Sa 72.18 57 ⇓P **P 00 09 29.1 -0.3**
baz=72
WENL Wente Brothers 72.19 56 ⇑S S 00 18 51.9 +2.4
baz=72
LAVA Lava Cap Winer 72.23 55 ⇑P **P 00 09 29.1 -0.6**
baz=72
M08A Happy Creek Ra 72.23 51 ⇓P **P 00 09 29.9 +0.2**
baz=72,SNR=5.4
M08A ⇑S S 00 18 53.1 +3.0
baz=72
N07B Gerlach 72.24 52 ⇓P **P 00 09 29.9 +0.2**
baz=72,SNR=5.9
N07B ⇑S S 00 18 52.1 +2.0
baz=72
P06A Stead Airport, 72.26 53 ⇓S S 00 18 53.3 +2.9
baz=72
L09A Wilkinson Ranc 72.35 50 ⇓P **P 00 09 29.7 -0.7**
baz=72
L09A ⇓S S 00 18 53.8 +2.3
baz=72
R04C Big Horse Ranc 72.38 55 ⇓S S 00 18 53.0 +1.3
baz=72
SMDO Samad 72.39 286 P **P 00 09 32.0 +1.3**
SNR=22
GNI Garni 72.44 307 P **P 00 09 32.2 +1.3**
comp=Z,26nm,1.1s,mb5.1,baz=133,slow=2.2,SNR=45
GNI S S 00 18 56.9 +4.5
comp=Z,0.4nm,0.4s,baz=56,slow=17,SNR=1.9
GNI Garni 72.44 307 P **P 00 09 32.4 +1.4**
SNR=86
GNI Garni 72.44 307 *e*P **P 00 09 32.1 +1.2**
GNI LR LR
comp=Z,2μm,20.0s,MS5.4
S04C Ingram Canyon, 72.53 56 ⇓P **P 00 09 31.0 -0.6**
baz=72
S04C ⇑S S 00 18 55.5 +1.9
baz=72
WCN Washoe City 72.56 54 ⇓P **P 00 09 30.8 -0.9**
baz=72
WCN ⇑S S 00 18 55.6 +1.7
baz=72
PAHR Pah Rah Range 72.58 53 *e*P **P 00 09 32.3 +0.6**
O07A Toulon 72.64 53 ⇓P **P 00 09 32.1 -0.1**
baz=72,SNR=14
O07A ⇑S S 00 18 55.1 +0.3
baz=72
HOQ Hoqain 72.67 287 P **P 00 09 33.1 +0.7**
SNR=27
R05C Kirkwood Meado 72.69 54 ⇑P **P 00 09 32.1 -0.3**
baz=72
R05C ⇑S S 00 18 57.4 +2.0
baz=72
JMDO Jabal Madar 72.73 285 P **P 00 09 33.5 +0.8**
SNR=22
IZAR Zarasai 72.80 328 *e*P **P 00 09 32.9 -0.1**
IZAR AMb AMB 00 09 44.6
comp=Z,2μm,0.9s
M09A Marrel Ranch, 72.82 51 ⇓P **P 00 09 33.1 -0.1**
baz=73
M09A ⇓S S 00 18 59.1 +2.2
baz=73
PACP Pacheco Peak 72.84 56 ⇓P **P 00 09 33.0 -0.3**
baz=73
PACP ⇓S S 00 18 57.3 +0.3
baz=73
CMB Columbia Colle 72.86 55 ⇓P **P 00 09 32.9 -0.6**
baz=73,SNR=10
CMB ⇓S S 00 18 58.9 +1.6
baz=73
IDID Didziasalis 72.88 327 *e*P **P 00 09 33.4 -0.2**
IDID AMb AMB 00 09 45.2
comp=Z,2μm,1.1s
HATD Hatta, Dubai 72.89 288 P **P 00 09 34.6 +1.0**
SNR=18
MNK Minsk 72.94 326 ⇑*e*P **P 00 09 30.0 -3.9**
MNK *e* 00 12 12.0
MNK *e*PPP 00 14 00.0
MNK *e*S S 00 19 00.0 +1.9
MNK *e*SS SS 00 23 36.0 -2.8
MNK pmax pmax
comp=N,290nm,1.5s
MNK pmax pmax
comp=E,230nm,1.5s
MNK pmax pmax
comp=N,290nm,1.5s
MNK MLR MLR
comp=E,15μm,16.0s,MS6.4
MNK MLR MLR
comp=Z,14μm,16.0s,MS6.3
MNK MLR MLR
comp=N,7μm,16.0s,MS6.4
HAST UC Hastings Re 73.01 57 ⇓P **P 00 09 34.3 0.0**
baz=73
HAST ⇑S S 00 19 00.3 +1.4
baz=73
ASHO Ashiyiah 73.02 288 P **P 00 09 35.2 +0.8**
SNR=21
HRY Holter Researc 73.05 44 *e*P **P 00 09 34.7 +0.2**
IIGN Ignalina 73.07 328 *e*P **P 00 09 34.6 -0.1**
IIGN AMb AMB 00 09 46.3
comp=Z,3μm,0.9s
N09A Rock Creek Ran 73.10 51 ⇓P **P 00 09 34.8 -0.1**
baz=73,SNR=6.0
N09A ⇑S S 00 19 01.7 +1.7
baz=73
R06C Coleville 73.20 54 ⇓P **P 00 09 36.0 +0.5**
baz=73
R06C ⇑S S 00 19 01.8 +0.8
baz=73
WAKR Walker 73.22 54 *e*P **P 00 09 37.6 +2.1**
BSY Bisya 73.22 286 P **P 00 09 36.4 +0.9**
SNR=25
LRM Limekiln Ridge 73.23 45 *e*P **P 00 09 35.8 +0.1**
S05C Merced 73.28 56 ⇑P **P 00 09 34.8 -1.1**
baz=73
S05C ⇓S S 00 19 02.9 +0.8
baz=73
T05C Eagle Field, D 73.31 56 ⇓S S 00 19 07.0 +4.7
baz=73
M10A I.L. Ranch, Tu 73.33 50 ⇓P **P 00 09 35.8 -0.4**
baz=73,SNR=7.7
M10A ⇑S S 00 19 04.5 +1.9
baz=73
EGMT Eagleton 73.39 42 *ep*P pP 00 09 44.0 -3.2
EGMT LR LR
comp=Z,1μm,19.0s,MS5.2
EGMT Eagleton 73.39 42 ⇑P **P 00 09 36.3 -0.3**
baz=73
ARQ Araqi 73.41 287 P **P 00 09 37.6 +0.9**
SNR=24
DLMT Dillon 73.42 45 *e*P **P 00 09 38.5 +1.7**
comp=Z,131nm,1.4s,mb5.7
V03C Hunter Liggett 73.42 57 ⇑P **P 00 09 36.3 -0.5**
baz=73
V03C ⇑S S 00 19 05.2 +1.6
baz=73
HLID Hailey 73.43 48 *e*P **P 00 09 37.0 +0.2**
HLID LR LR
comp=Z,880nm,19.0s,MS5.1
HLID Hailey 73.43 48 P **P 00 09 37.1 +0.3**
baz=73,SNR=30
HLID ⇑S S 00 19 07.0 +3.3
baz=73
CLDR Caldiran 73.53 307 *e*P **P 00 09 38.6 +1.2**
BMN Battle Mountai 73.53 52 *e*P **P 00 09 39.9 +2.5**
BMN pmax pmax
comp=Z,66nm,1.3s,mb5.4
BMN MLR MLR
comp=Z,851nm,19.0s,MS5.0
BMN Battle Mountai 73.53 52 *e*P **P 00 09 39.9 +2.5**
comp=Z,66nm,1.3s,mb5.4
BMN LR LR
comp=Z,851nm,19.0s,MS5.0
BCA Borcka 73.65 310 *e*P **P 00 09 38.4 +0.3**
O09A Fish Creek Ran 73.70 52 ⇓P **P 00 09 39.2 +0.8**
baz=74,SNR=8.6
O09A ⇓S S 00 19 08.2 +1.4
baz=74
R07C Lee Vining 73.70 54 ⇓S S 00 19 09.3 +2.5
baz=74
NWAO Narrogin (SRO) 73.77 202 P **P 00 09 37.4 -1.5**
comp=Z,11nm,0.9s,mb4.8,baz=82,slow=14,SNR=3.3
NWAO S S 00 19 08.0 +0.4
comp=Z,5.3nm,0.8s,baz=238,slow=23,SNR=1.6
NWAO Narrogin (SRO) 73.77 202 P **P 00 09 37.4 -1.4**
NWAO S S 00 19 08.0 +0.4
NWAO pmax pmax
comp=Z,11nm,0.9s
NWAO smax
comp=N,5.0nm,0.9s
NWAO Narrogin (SRO) 73.77 202 *e*P **P 00 09 38.1 -0.7**
NWAO *ep*P pP 00 09 48.8 -0.7
NWAO LR LR
comp=Z,814nm,19.0s,MS5.0
N10A Dunphy 73.81 51 ⇑S S 00 19 09.3 +1.3
baz=74
M11A Holland Ranch, 73.84 50 ⇑P **P 00 09 39.7 +0.4**
baz=74,SNR=5.5
M11A ⇑S S 00 19 10.0 +1.6
baz=74
V04C Ramage Ranch, 73.89 57 ⇓P **P 00 09 38.7 -0.8**
baz=74
V04C ⇓S S 00 19 12.4 +3.5
baz=74
PKD Parkfield 73.93 57 ⇑P **P 00 09 39.2 -0.5**
baz=74
PKD ⇑S S 00 19 11.2 +1.8
baz=74
KCC Kaiser Creek 73.96 55 ⇓P **P 00 09 40.2 +0.3**
baz=74
KCC ⇑S S 00 19 10.3 +0.6
baz=74
Q08A Gabbs 73.98 53 ⇑P **P 00 09 40.3 +0.2**
baz=74
NVAR Mina Array Bea 73.99 54 P **P 00 09 40.4 +0.3**
comp=Z,8.6nm,0.7s,mb4.8,baz=296,slow=6.5,SNR=30
NVAR S S 00 19 10.7 +0.6
comp=Z,0.2nm,0.6s,baz=312,slow=34,SNR=2.1
O10A Cortez Mining, 74.06 51 ⇓P **P 00 09 41.0 +0.5**
baz=74
O10A ⇑S S 00 19 12.8 +1.9
baz=74
P09A Austin 74.09 52 ⇓P **P 00 09 40.3 -0.3**
baz=74
P09A ⇓S S 00 19 13.5 +2.3
baz=74
MLAC Mammoth Lakes 74.10 55 ⇑P **P 00 09 40.2 -0.6**
baz=74
ANN Anapa 74.15 314 *i* P **P 00 09 40.6 -0.4**
SEMD Semdilli 74.16 305 *e*P **P 00 09 41.2 +0.1**
R08A Mina 74.16 54 ⇓P **P 00 09 41.4 +0.3**
baz=74
R08A ⇓S S 00 19 15.4 +3.4
baz=74
VANB Van 74.18 307 *e*P **P 00 09 41.6 +0.4**
TVAN Van 74.21 306 *i* P **P 00 09 41.3 -0.1**
DOMB Dombas 74.22 339 *e*P **P 00 09 41.0 -0.4**
DOMB *i* pP 00 09 51.9 -0.3
N11A Elko Archery C 74.23 51 ⇑P **P 00 09 42.0 +0.5**
baz=74
N11A ⇓S S 00 19 13.8 +1.0
baz=74
HFS Hagfors 74.33 336 P **P 00 09 41.4 -0.6**
comp=Z,37nm,0.9s,mb5.3,baz=46,slow=4.3,SNR=42
M12A Wells 74.39 50 P **P 00 09 43.5 +1.1**
baz=74,SNR=13
M12A ⇑S S 00 19 15.6 +1.2
baz=74
NB2 NORSAR Subarra 74.39 338 P **P 00 09 41.9 -0.6**
comp=Z,103nm,1.1s,mb5.7,baz=39,slow=6.2
NB2 NORSAR Subarra 74.39 338 P **P 00 09 41.9 -0.6**
NB2 pmax pmax
comp=Z,103nm,1.1s,mb5.7
NOA NORSAR Array B 74.39 338 P **P 00 09 42.0 -0.4**
comp=Z,40nm,0.9s,mb5.3,baz=38,slow=5.8,SNR=95
NOA S S 00 19 12.9 -1.7
comp=Z,0.7nm,0.9s,baz=59,slow=18,SNR=2.9
QLMT Earthquake Lak 74.40 45 *e*P **P 00 09 42.9 +0.4**
V05C Boulder Hill, 74.40 57 ⇓P **P 00 09 42.8 +0.3**
baz=74
MTUM Tungsten Hills 74.44 55 *e*P **P 00 09 44.4 +1.7**
MTUM *ep*P pP 00 10 01.3 +7.9
P10A Eureka 74.47 52 ⇑P **P 00 09 43.1 +0.2**
baz=74
Q09A Carvers 74.48 53 ⇑P **P 00 09 43.2 +0.2**
baz=74
HELL Mitchell Peak, 74.52 56 P **P 00 09 43.3 +0.1**
baz=74,SNR=8.4
HELL ⇑S S 00 19 16.6 +0.6
baz=74
ELK Elko 74.58 50 *e*P pP 00 09 54.4 +0.2
ELK MLR MLR
comp=Z,962nm,20.0s
ELK Elko 74.58 50 *ep*P pP 00 09 54.4 +0.2
ELK LR LR
comp=Z,962nm,20.0s,MS5.1
S08C White Mtn Res 74.61 55 ⇑P **P 00 09 44.0 +0.3**
baz=74,SNR=12
S08C ⇑S S 00 19 20.5 +3.5
baz=74
N12A Clover Valley, 74.64 50 ⇓P **P 00 09 44.3 +0.5**
baz=74,SNR=5.3
N12A ⇑S S 00 19 20.1 +2.8
baz=74
NAO01 NORSAR Array S 74.65 338 PFAKE 00 09 50.0 +6.1
NAO01 LR LR
comp=Z,5μm,20.0s,MS5.8
SMMC Simmler 74.65 57 ⇓S S 00 19 19.8 +2.4
baz=74
O11A Cowboy Ranch, 74.68 51 ⇑P **P 00 09 43.7 -0.4**
baz=74,SNR=7.0
O11A ⇓S S 00 19 18.4 +0.6
baz=74
ERZM Erzurum 74.70 309 *i* P **P 00 09 45.5 +1.3**
EZM Erzurum 74.70 309 *e*P **P 00 09 45.6 +1.4**
YMR Madison River 74.76 45 *e*P **P 00 09 45.0 +0.5**
comp=Z,35nm,0.9s,mb5.3
YMR *ep*P pP 00 09 54.5 -0.8
YMR LR LR
comp=Z,1μm,20.0s,MS5.2
AKASG Malin Array Be 74.78 323 P **P 00 09 44.0 -0.6**
comp=Z,45nm,0.9s,mb5.4,baz=45,slow=5.9,SNR=212
AKASG S S 00 19 19.4 +0.5
comp=Z,0.2nm,0.2s,baz=296,slow=29,SNR=2.7
AKBB Malin Array Si 74.78 323 ⇑*i*P **P 00 09 44.3 -0.4**
AKBB *e**PP pP 00 09 54.3 -1.0
AKBB *e* 00 12 29.3
CUKT Cukurca 74.81 305 *e*P **P 00 09 45.1 +0.2**
TPH Tonopah 74.89 54 *e*P **P 00 09 47.7 +2.4**
TPH *e**PP pP 00 09 54.8 -1.2
TPH pmax pmax
comp=Z,60nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,965nm,20.0s,MS5.1
TPH Tonopah 74.89 54 *e*P **P 00 09 47.6 +2.3**
comp=Z,60nm,1.1s,mb5.4
TPH *ep*P pP 00 09 54.8 -1.2
TPH LR LR
comp=Z,965nm,20.0s,MS5.1
R09A Tonopah 74.89 53 ⇓P **P 00 09 45.9 +0.5**
baz=75,SNR=15
R09A ⇑S S 00 19 22.1 +2.0
baz=75
P11A Circle Ranch, 74.96 52 ⇓P **P 00 09 45.9 +0.2**
baz=75
P11A ⇓S S 00 19 22.5 +1.6
baz=75
VES Vestal, Richgr 74.97 56 ⇑P **P 00 09 45.8 0.0**
baz=75
YFT Old Faithful 74.97 45 *e*P **P 00 09 47.1 +1.3**
YFT *ep*P pP 00 09 57.4 +0.9
PKM Peak Mountain 75.01 58 ⇓P **P 00 09 45.9 -0.2**
baz=75
KTUT Trabzon 75.05 310 *e*P **P 00 09 46.1 -0.1**

MACK Trabzon 75.07 310 *i* P **P 00 09 48.5 +2.1**
S09A Goldfield 75.09 54 ⇑P **P 00 09 45.9 -0.6**
baz=75,SNR=12
S09A ⇑S S 00 19 23.8 +1.4
baz=75
LKWY Lake 75.15 45 *e*P **P 00 09 50.8 +4.0**
LKWY pmax pmax
comp=Z,63nm,1.5s,mb5.3
LKWY MLR MLR
comp=Z,1μm,19.0s,MS5.3
LKWY Lake 75.15 45 *e*P **P 00 09 50.8 +4.0**
comp=Z,63nm,1.5s,mb5.3
LKWY LR LR
comp=Z,1μm,19.0s,MS5.3
N13A Wendover, West 75.15 50 ⇑P **P 00 09 46.4 -0.4**
baz=75
N13A ⇓S S 00 19 24.5 +1.5
baz=75
O12A Currie 75.17 51 ⇑P **P 00 09 47.4 +0.5**
baz=75,SNR=8.6
O12A ⇓S S 00 19 24.1 +0.9
baz=75
IMW Indian Meadow 75.25 46⇑*e*P **P 00 09 47.9 +0.5**
comp=Z,52nm,0.8s,mb5.5
IMW *e*pP pP 00 09 58.1 +0.1
FLWY Flagg Ranch 75.27 46 *e*P **P 00 09 48.9 +1.3**
comp=Z,236nm,1.7s,mb5.8
FLWY *e*pP pP 00 09 58.7 +0.5
SUW Suwalki 75.28 328 *e*P **P 00 09 47.1 -0.5**
SUW *e*PcP PcP 00 09 57.6 -3.2
SUW *e*S S 00 19 24.3 -0.1
SUW L 00 45 45.8
comp=Z,8.2nm,17.4s
SUW Suwalki 75.28 328⇑*e*P **P 00 09 47.1 -0.5**
SUW *e*PcP PcP 00 09 57.6 -3.2
SUW *e*S S 00 19 24.3 -0.1
CWC Cottonwood Cre 75.28 55 ⇑P **P 00 09 48.2 +0.6**
baz=75
CWC ⇑S S 00 19 25.4 +0.9
baz=75
SBC Santa Barbara 75.34 58 ⇓P **P 00 09 48.3 +0.4**
baz=75
RRI2 Red Ridge 75.36 46 *e*P **P 00 09 54.0 +6.0**
BNGL BINGOL 75.39 308 *i* P **P 00 09 49.6 +1.4**
GRAC Grapevine Rang 75.42 55 ⇑P **P 00 09 49.0 +0.6**
baz=75
SIRT Sirnak 75.42 306 *e*P **P 00 09 49.0 +0.6**
Q11A Duckwater 75.44 52 ⇓P **P 00 09 49.3 +0.8**
baz=75,SNR=5.5
RLMT Red Lodge 75.44 44 *e*P **P 00 09 48.2 -0.2**
comp=Z,132nm,1.8s,mb5.6
RLMT *e*pP pP 00 09 58.8 -0.4
MOOW Moose Ponds 75.45 46 *e*P **P 00 09 49.3 +0.8**
comp=Z,88nm,1.5s,mb5.5
MOOW *e*pP pP 00 09 58.9 -0.3
HVU Hansel Valley 75.46 48 *e*P **P 00 09 50.8 +2.2**
ISA Isabella 75.47 56 PFAKE 00 10 00.0 +11
ISA LR LR
comp=Z,1μm,21.0s,MS5.1
ISA Isabella 75.47 56 ⇓P **P 00 09 47.3 -1.4**
baz=75,SNR=6.2
ISA ⇑S S 00 19 24.5 -2.0
baz=75
TPAW Teton Pass 75.49 46 *e*P **P 00 09 49.6 +0.8**
comp=Z,112nm,1.3s,mb5.6
TPAW *e*pP pP 00 09 59.1 -0.4
P12A McGill 75.53 51 ⇑P **P 00 09 49.5 +0.5**
baz=75,SNR=6.5
P12A ⇓S S 00 19 28.2 +1.0
baz=75
ARVC Arvin 75.54 57 ⇓P **P 00 09 49.4 +0.3**
baz=75
ARVC ⇑S S 00 19 28.9 +1.5
baz=75
LOHW Long Hollow 75.61 46 *e*P **P 00 09 50.4 +0.9**
LOHW *e*pP pP 00 10 00.2 +0.1
SNOW Snow King Moun 75.62 46 *e*P **P 00 09 50.6 +1.0**
comp=Z,56nm,1.0s,mb5.5
REDW Red Top Meadow 75.63 46 *e*P **P 00 09 50.2 +0.7**
comp=Z,86nm,1.3s,mb5.5
REDW *e*pP pP 00 09 58.8 -1.5
BTMT Batman 75.63 307 *e*P **P 00 09 50.3 +0.7**
DAC Darwin (Calif) 75.69 55 *e*P **P 00 09 50.7 +0.8**
DAC MLR MLR
comp=Z,773nm,20.0s,MS5.0
MSL Mosul 75.71 305 *e*x x 00 09 50.0
MSL *e*x x 00 10 01.0
MSL *e*x x 00 10 08.5
MSL *e*x x 00 19 11.0
RAO Raoul Island 75.74 145 PFAKE 00 10 00.0 +10
RAO LR LR
comp=Z,2μm,19.0s,MS5.5
EZC Erzincan 75.75 309 *e*P **P 00 09 53.6 +3.3**
TRCR Troy Canyon 75.77 53 *e*P **P 00 09 51.3 +0.9**
TRCR *e*pP pP 00 10 00.2 -0.9
BGU Big Grassy Mou 75.82 49 *e*P **P 00 09 51.2 +0.5**
BGU *e*pP pP 00 10 01.0 -0.3
AHID Auburn Hatcher 75.85 47 PFAKE 00 10 00.0 +9.2
AHID LR LR
comp=Z,759nm,21.0s,MS5.0
BINT Bingol 75.86 308 *e*P **P 00 09 51.8 +0.9**
KELT Kelkit 75.86 310 *i* P **P 00 09 51.9 +1.0**
MPMC Manual Prospec 75.89 55 ⇑P **P 00 09 50.3 -0.8**
baz=76,SNR=12
MPMC ⇓S S 00 19 31.9 +0.7
baz=76
OSI Osito Adit 75.91 57 ⇑P **P 00 09 51.3 +0.1**
baz=76
OSI ⇓S S 00 19 33.0 +1.6
baz=76
SIM Simferopol' 75.92 316*ce*P **P 00 09 51.3 +0.1**
SIM *e* pP 00 10 01.6 -0.3
SIM 00 12 37.1
SIM PPP 00 14 27.0
SIM *e*S S 00 19 33.3 +1.8
SIM MLR MLR
comp=Z,6μm,16.0s,MS6.0
SPUT South Promonto 75.94 49 *e*P **P 00 09 52.2 +0.9**
DGMT Dagmar 75.99 39 *e*P **P 00 09 51.1 -0.5**
DGMT *e*pP pP 00 10 01.4 -1.0
DGMT LR LR
comp=Z,1μm,19.0s,MS5.3
KONO Kongsberg 75.99 338 *e*P **P 00 09 51.1 -0.5**
KONO *e*S S 00 19 32.6 +0.3
KONO Kongsberg 75.99 338⇑*e*P **P 00 09 49.4 -2.2**
KONO Kongsberg 75.99 338 *e*P **P 00 09 51.5 -0.2**
comp=Z,107nm,1.2s,mb5.7
KONO *e*pP pP 00 10 01.6 -0.7
KONO LR LR
comp=Z,5μm,19.0s,MS5.8
GRSN GIRESUNGRSN 76.00 311 *i* P **P 00 09 51.2 -0.5**
FURC Furnace Creek, 76.06 55 ⇑P **P 00 09 52.1 0.0**
baz=76,SNR=7.2
FURC ⇑S S 00 19 33.3 +0.2
baz=76
LAO LASA Array 76.10 41 PFAKE 00 10 00.0 +7.7
LAO LR LR
comp=Z,1μm,20.0s,MS5.2
LRMC Laurel Mountai 76.10 56 ⇓P **P 00 09 52.6 +0.3**
baz=76
LRMC ⇑S S 00 19 32.6 -0.9
baz=76
SNCC San Nicolas Is 76.16 59 *e*P **P 00 09 54.6 +2.0**
comp=Z,73nm,1.1s,mb5.5
SNCC *e*pP pP 00 10 02.6 -0.7
SNCC LR LR
comp=Z,2μm,19.0s,MS5.5
SNCC San Nicolas Is 76.16 59 ⇓P **P 00 09 53.6 +1.0**
baz=76
EDW2 Edwards Air Fo 76.25 57 ⇑P **P 00 09 53.1 +0.1**
baz=76,SNR=5.8
EDW2 ⇓S S 00 19 36.4 +1.3
baz=76
HWUT Hardware Ranch 76.28 48 *e*P **P 00 09 53.9 +0.6**
comp=Z,145nm,1.5s,mb5.7
HWUT LR LR
comp=Z,901nm,19.0s,MS5.1
FRB Frobisher Bay 76.31 14 P **P 00 09 52.3 -1.1**
comp=Z,33nm,0.8s,mb5.3,baz=306,slow=5.5,SNR=7.3
DECC Green Verdugo 76.39 57 ⇑S S 00 19 37.2 +0.5
baz=76
DUG Dugway 76.39 50 *e*P **P 00 09 54.4 +0.5**
DUG pmax pmax
comp=Z,89nm,1.4s,mb5.5
DUG MLR MLR
comp=Z,827nm,19.0s,MS5.1
DUG Dugway 76.39 50 *e*P **P 00 09 54.4 +0.5**
comp=Z,89nm,1.4s,mb5.5
DUG LR LR
comp=Z,827nm,19.0s,MS5.1
DUG Dugway 76.39 50 ⇓P **P 00 09 53.5 -0.4**
baz=76
DUG ⇑S S 00 19 39.0 +2.3
baz=76
UMR Umm Al-Rimmam 76.43 297 *e*P **P 00 09 53.4 -0.8**
UMR AMb AMB 00 09 56.1
comp=Z,130nm,1.4s,mb5.7
PTK Pertek 76.53 309 *e*P **P 00 09 56.1 +1.4**
MIB Mutribah 76.56 297 *e*P **P 00 09 54.2 -0.6**
MIB AMb AMB 00 09 56.7
comp=Z,125nm,1.3s,mb5.7
MWC Mount Wilson 76.58 57 *e*P pP 00 10 04.8 -0.9
MWC Mount Wilson 76.58 57 *ep*P pP 00 10 04.8 -0.9
MARD Mardin 76.60 307 *i* P **P 00 09 55.9 +0.8**
BHD Baghdad 76.61 302 *ex* x 00 09 51.0
BHD *ex* x 00 10 05.0
BHD *ex* x 00 12 40.0
BHD *ex* x 00 19 34.0
DIY Diyarbakir 76.61 307 *e*P **P 00 09 55.9 +0.8**
BER Bergen 76.63 340 *e*P **P 00 09 54.0 -1.2**
BER *e*S S 00 19 41.7 +2.4
BER *e*S S 00 19 45.0 +5.7
BER AMS AMS 00 47 36.1
comp=Z,5μm,17.7s,MS5.9
KBD Kabd 76.66 296 *e*P **P 00 09 55.0 -0.4**
KBD AMb AMB 00 09 57.7
comp=Z,455nm,1.4s,mb6.2
TCUT Toone Canyon 76.68 48 *e*P **P 00 09 58.8 +3.2**
CTU Camp Tracy 76.73 49 *e*P **P 00 09 58.1 +2.3**
BW06 Boulder Array 76.74 46 *e*P **P 00 09 55.7 -0.2**
BW06 LR LR
comp=Z,1μm,19.0s,MS5.2
PDAR Pinedale Array 76.74 46 P **P 00 09 55.2 -0.7**
comp=Z,3.6nm,0.7s,baz=283,slow=2.1,SNR=28
PDAR S S 00 19 42.4 +1.9
comp=Z,0.2nm,0.5s,baz=90,slow=18,SNR=2.5
SHOC Shoshone 76.78 55 ⇑P **P 00 09 56.4 +0.3**
baz=77
SHOC ⇑S S 00 19 42.3 +1.4
baz=77
GSC Goldstone 76.78 56 *e*P **P 00 09 57.6 +1.5**
GSC Goldstone 76.78 56 ⇓P **P 00 09 55.9 -0.2**
baz=77,SNR=6.2
CIS Catalina Islan 76.83 58 ⇓S S 00 19 42.2 +0.7
baz=77
BFSC Mount Baldy St 76.84 57 ⇓P **P 00 09 57.1 +0.6**
baz=77
BFSC ⇓S S 00 19 41.3 -0.4
baz=77
NAY Al-Naaiem 76.94 297 *e*P **P 00 09 56.2 -0.8**
NAY AMb AMB 00 09 58.9
comp=Z,109nm,1.4s,mb5.6
RST Umm Al-Ruwaisa 76.97 297 *e*P **P 00 09 56.2 -1.0**
RST AMb AMB 00 09 58.8
comp=Z,132nm,1.5s,mb5.7
SCI San Clemente I 76.98 59 ⇓P **P 00 09 56.3 -1.0**
baz=77
NLU North Lily Min 76.99 50 *e*P **P 00 09 57.9 +0.6**
ELZG Elazig 77.02 309 *i* P **P 00 09 59.0 +1.5**
SHPR Sheep Range 77.14 54 *e*P **P 00 09 60.0 +1.8**
DAU Daniels Canyon 77.20 49 *e*P **P 00 09 59.5 +1.0**
MPU Maple Canyon 77.22 49 *e*P **P 00 09 59.7 +1.1**
MPU LR LR
comp=Z,1μm,20.0s,MS5.1
KVT Kavak 77.23 312 *e*P **P 00 09 58.7 +0.1**
TUQ Turquoise Mtn. 77.28 55 ⇑P **P 00 09 58.7 -0.2**
baz=77,SNR=6.5
TUQ ⇑S S 00 19 47.6 +1.2
baz=77
DIKM Dikmen 77.34 313 *e*P **P 00 09 59.6 +0.4**
SVSK Karacayir 77.38 311 *e*P **P 00 10 00.5 +1.0**
HEC Hector,Ludlow 77.38 56 ⇑P **P 00 09 58.1 -1.4**
baz=77
HEC ⇓S S 00 19 47.7 +0.2
baz=77
TOKT Tokat 77.40 311 *e*P **P 00 10 00.9 +1.3**
KIS Kishinev 77.42 320*c i*P **P 00 09 58.0 -1.7**
KIS *i* pP 00 10 08.0 -2.4
KIS *e* 00 12 52.0
KIS *e*PPP 00 14 40.0
KIS *e*S S 00 19 48.0 +0.1
KIS *e*PS 00 20 10.0
KIS pmax pmax
comp=Z,1μm,10.0s
KIS pmax pmax
comp=Z,700nm,12.0s
KIS MLR MLR
comp=N,12μm,15.0s,MS6.5
KIS MLR MLR
comp=E,11μm,15.0s,MS6.5
KIS MLR MLR
comp=Z,16μm,15.0s,MS6.5
KIS MLR MLR
comp=Z,16μm,15.0s
KIS Kishinev 77.42 320⇑*i*P **P 00 09 58.0 -1.7**
comp=Z,1μm,10.0s
KIS Kishinev 77.42 320 *i* PcP PcP 00 10 08.0 -2.1
KIS Kishinev 77.42 320 *e*PP PP 00 12 52.0 -2.4
WAR Warsaw 77.45 328 *e*P **P 00 10 00.5 +0.6**
WAR *e*PcP PcP 00 10 10.8 +0.6
WAR *e*SKS 00 20 01.3
WAR L 00 47 15.6
comp=Z,8.8nm,16.9s
ARUT Antelope Range 77.46 52 *e*P **P 00 10 01.2 +1.2**
ARUT *e*PP pP 00 10 10.5 -0.2
MYA Malataya 77.48 309 *e*P **P 00 10 01.4 +1.4**
MALT Malatya 77.48 309⇑*i*P **P 00 10 01.6 +1.5**
MALT Malatya 77.48 309 *e*P **P 00 10 01.6 +1.5**
MURC Murrieta 77.53 57 ⇑P **P 00 09 59.6 -0.7**
baz=77
MURC ⇓S S 00 19 49.1 0.0
baz=77
BORG Borgarnes 77.56 353 P **P 00 09 56.4 -4.1**
comp=Z,62nm,1.0s,mb5.5,baz=323,slow=4.4,SNR=4.4
BORG Borgarnes 77.56 353 P **P 00 09 56.4 -4.1**
BORG *ep*P pP 00 10 08.0 -3.2
U12A Valley of Fire 77.59 54 ⇓P **P 00 10 01.2 +0.6**
baz=77
U12A ⇑S S 00 19 51.8 +2.0
baz=77
CCUT Cedar City 77.66 52 *e*P **P 00 10 01.7 +0.6**
CCUT *ep*P pP 00 10 11.7 -0.1
BOYT Boyabat 77.69 313 *i* P **P 00 10 02.4 +1.2**
BYBT Boyabat 77.74 313 *e*P **P 00 10 02.5 +1.0**
BSD Bornholm Skovb 77.75 332⇑*i*P **P 00 10 01.0 -0.6**
comp=Z,62nm,1.1s,mb5.5
BSD *i* pP 00 10 11.4 -0.9
BSD *i* pP 00 10 11.5 -0.8
BSD *i* S S 00 19 51.3 -0.2
BSD
comp=Z,3μm,18.0s
BSD Bornholm Skovb 77.75 332⇑*i*P **P 00 10 01.0 -0.6**
comp=Z,62nm,1.1s,mb5.5
BSD *i* pP 00 10 11.4 -0.9
BSD *i* pP 00 10 11.5 -0.8
BSD *i* S S 00 19 51.3 -0.2
URFA Urfa 77.77 308 *e*P **P 00 10 03.0 +1.3**
MVU Marysvale 77.79 51 PFAKE 00 10 10.0 +8.2
MVU LR LR
comp=Z,926nm,19.0s,MS5.1
MSU Marysvale 77.81 51 *e*P **P 00 10 03.1 +1.2**
LVV L'vov 77.83 324 *e*P **P 00 10 01.2 -0.8**
LVV *e* pP 00 10 12.4 -0.3
LVV *e* 00 13 00.8
LVV *e*PPP 00 14 51.0
LVV *e*S S 00 19 54.8 +2.4
LVV *e*PS 00 20 33.6
LVV MLR MLR
comp=N,2μm,15.0s,MS5.9
LVV MLR MLR
comp=E,4μm,15.0s,MS5.9
LVV MLR MLR
comp=Z,4μm,15.0s,MS5.9
BZK Bozkurt 77.87 314 *e*P **P 00 10 01.4 -0.8**
TMUT Trail Mountain 77.92 50 *e*P **P 00 10 05.2 +2.7**
IAS Iasi 77.93 321 P **P 00 10 02.7 +0.2**
109C Camp Elliot, M 78.01 58 ⇑P **P 00 10 03.7 +0.7**
baz=78
109C ⇓S S 00 19 54.7 +0.4
baz=78
PFO Pinyon Flat Ob 78.02 57 *e*P **P 00 10 04.5 +1.4**
PFO pmax pmax
comp=Z,83nm,1.6s,mb5.4
PFO MLR MLR
comp=Z,458nm,19.0s,MS4.8
PFO Pinyon Flat Ob 78.02 57 *e*P **P 00 10 04.5 +1.4**
comp=Z,83nm,1.6s,mb5.4
PFO LR LR
comp=Z,458nm,19.0s,MS4.8
PFO Pinyon Flat Ob 78.02 57 ⇑P **P 00 10 03.7 +0.6**
baz=78
PFO ⇑S S 00 19 54.2 -0.2
baz=78
W12A Cal Nev Ari 78.05 55 ⇑P **P 00 10 02.7 -0.5**
baz=78
W12A ⇓S S 00 19 53.9 -0.9
baz=78
ATAB Bozova 78.08 308 *i* P **P 00 10 04.4 +1.0**
BELC Belle Mtn. 78.09 56 ⇓P **P 00 10 02.1 -1.4**
baz=78,SNR=6.2
BELC ⇑S S 00 19 54.2 -1.0
baz=78
COP Copenhagen 78.21 334⇑*i*P **P 00 10 04.1 0.0**
comp=Z,54nm,1.1s,mb5.4
COP *i* pP 00 10 14.7 -0.1
COP *i* S S 00 19 57.8 +1.4
COP
comp=Z,3μm,16.0s
COP Copenhagen 78.21 334⇑*i*P **P 00 10 04.1 0.0**
COP *i* pP 00 10 14.7 -0.1
COP *i* S S 00 19 57.8 +1.4
COP pmax pmax
comp=Z,54nm,1.1s,mb5.4
COP MLR MLR
comp=Z,3μm,16.0s,MS5.7
CTKT Corum 78.26 312 *i* P **P 00 10 05.2 +0.8**
GKP Gorka Klasztor 78.26 330 *e*P **P 00 10 03.3 -1.1**
GKP *e*PcP PcP 00 10 14.6 +0.9
GKP *e*S S 00 19 57.9 +0.9
GKP *e*SKS 00 20 17.2
BAR Barrett 78.43 58 *e*P **P 00 10 06.6 +1.2**
TOS Tosya 78.44 313 *e*P **P 00 10 07.0 +1.6**
SRU San Rafael 78.45 50 *e*P **P 00 10 05.8 +0.4**
MONP Monument Peak 78.47 58 ⇓P **P 00 10 04.8 -0.7**
baz=78
MONP ⇓S S 00 20 00.2 +1.0
baz=78
BALT Daday 78.50 314 *i* P **P 00 10 07.2 +1.5**
IRM Iron Mountain 78.56 56 ⇑P **P 00 10 05.5 -0.5**
baz=78,SNR=5.5
IRM ⇑S S 00 20 00.2 0.0
baz=78
KWP Kalwaria 78.57 325 *e*P **P 00 10 06.8 +0.7**
KWP *e*PcP PcP 00 10 17.4 +2.3
KWP *e*S S 00 20 03.1 +2.8
KWP *es*S sS 00 20 08.1 -10
KWP L 00 49 27.1
comp=Z,9.4nm,16.1s
KWP Kalwaria 78.57 325⇑*e*P **P 00 10 06.8 +0.7**
KWP *e*PcP PcP 00 10 17.4 +2.3
KWP *e*S S 00 20 03.1 +2.8
KWP *e*SS sS 00 20 08.1 -10
GZT Gaziantep 78.61 308 *i* P **P 00 10 07.6 +1.3**
CORM Corum 78.63 312 *e*P **P 00 10 07.4 +1.0**
BC3 Big Chuckw Mtn 78.66 56 ⇑P **P 00 10 05.9 -0.7**
baz=78,SNR=5.1
BC3 ⇑S S 00 20 02.7 +1.5
baz=78
MUD Monsted U'grnd 78.70 336⇑*i*P **P 00 10 06.7 -0.1**
MUD *i* pP 00 10 17.2 -0.3
MUD *i* S S 00 20 10.1 +8.4
MUD
comp=Z,4μm,19.0s
MUD Monsted U'grnd 78.70 336⇑*i*P **P 00 10 06.7 -0.1**
MUD *i* pP 00 10 17.2 -0.3
MUD *i* S S 00 20 10.1 +8.4
ULM Lac du Bonnet 78.72 34 P **P 00 10 05.2 -1.7**
comp=Z,8.2nm,1.0s,baz=320,slow=7.7,SNR=3.7
ULM S S 00 19 59.7 -2.2
comp=Z,3.0nm,0.9s,baz=103,slow=12,SNR=1.7
ULM Lac du Bonnet 78.72 34 P **P 00 10 05.2 -1.7**
ULM S S 00 19 59.7 -2.2
ULM LR LR
comp=Z,2μm,19.0s,MS5.4
RWWY Rawlins 78.77 46 *e*P **P 00 10 09.1 +1.9**
RGN Rugen 78.78 333 *e*P **P 00 10 07.3 +0.1**
comp=Z,312nm,1.2s,mb6.1
RGN *ep*P pP 00 10 18.3 +0.3
RGN Rugen 78.78 333 *e*P **P 00 10 07.1 -0.1**
comp=Z,212nm,0.9s,mb6.1
RGN *e*PcP PcP 00 10 15.4 -0.5
RGN *ep*P pP 00 10 18.2 +0.2
BURAR Bucovina Array 78.80 322⇑*i*P **P 00 10 07.8 +0.4**
BURAR Bucovina Array 78.80 322 ⇑P **P 00 10 07.8 +0.5**
W13A Hualapai Mount 78.82 54 ⇓P **P 00 10 07.8 +0.3**
baz=79
W13A ⇑S S 00 20 04.5 +1.6
baz=79
DVTC Desert V Tower 78.83 58 ⇑P **P 00 10 05.9 -1.6**
baz=79
SWSC Sam W. Stewart 78.86 57 ⇑P **P 00 10 07.3 -0.5**
baz=79
KMRS Kahramanmaras 78.93 309 *e*P **P 00 10 08.9 +0.8**
RSSD Black Hills 78.94 42 *e*P **P 00 10 07.7 -0.4**
GAZ Gaziantep 78.94 308 *e*P **P 00 10 09.9 +1.8**
CANT Cankiri 78.95 313 *e*P **P 00 10 09.6 +1.4**
CFR Carcaliu 78.99 319 P **P 00 10 09.0 +0.6**
DGAR Diego Garcia 79.08 252 PFAKE 00 10 20.0 +11
DGAR LR LR
comp=Z,295nm,20.0s,MS4.6
SAFT Safranbolu 79.09 314 *e*P **P 00 10 10.0 +1.1**
CDAG Cicekdag 79.14 312 *i* P **P 00 10 09.9 +0.7**
PDMCI Parker Dam,Lak 79.14 55 ⇑P **P 00 10 09.2 0.0**
baz=79
ELDT Eldivan 79.14 313 *i* P **P 00 10 09.9 +0.7**
X13A Yucca 79.16 55 P **P 00 10 09.4 +0.1**
baz=79,SNR=10
X13A ⇑S S 00 20 06.4 -0.2
baz=79
Y12C Blythe 79.22 56 ⇓P **P 00 10 08.3 -1.3**
baz=79
Y12C ⇓S S 00 20 06.3 -0.9
baz=79
VRI Vrincioaia 79.25 320⇑*i*P **P 00 10 10.1 +0.3**
VRI Vrincioaia 79.25 320 P **P 00 10 10.5 +0.7**
W14A Seligman 79.27 54 ⇑P **P 00 10 09.1 -0.8**
baz=79,SNR=11
W14A ⇑S S 00 20 08.5 +0.7
baz=79
KOLS Kolonicke sedl 79.27 325 *e*P **P 00 10 10.1 +0.2**
KOLS *e* pP 00 10 20.5 -0.2
KOLS *e*S S 00 19 59.8 -8.0
PLOR Plostina 79.30 320⇓*i*P **P 00 10 10.4 +0.3**
TIRR Tirgusor 79.33 318⇑*i*P **P 00 10 10.1 -0.2**
TIRR Tirgusor 79.33 318 ⇑P **P 00 10 10.2 -0.1**
TIRR P pP 00 10 19.6 -1.4
RAR Rarotonga 79.42 127 PFAKE 00 10 20.0 +9.2
RAR LR LR
comp=Z,1.0nm,21.0s
HARR Harsova 79.43 319 P **P 00 10 06.2 -4.6**
GLA Glamis 79.44 57 *e*P **P 00 10 12.9 +2.0**
GLA Glamis 79.44 57 ⇓P **P 00 10 11.0 +0.1**
baz=79
GLA ⇓S S 00 20 10.0 +0.4
baz=79
OJC Ojcow 79.45 327 *i* P **P 00 10 11.2 +0.3**
OJC *i* PcP PcP 00 10 21.5 +2.6
OJC *e*S S 00 20 08.0 -1.7
OJC L 00 48 18.0
comp=Z,59nm,18.0s
OJC Ojcow 79.45 327⇑*i*P **P 00 10 11.2 +0.3**
OJC *i* pP 00 10 21.5 -0.2
OJC *e*S S 00 20 08.0 -1.7
UZH Uzhgorod 79.48 324⇓*i*P **P 00 10 10.0 -1.1**
UZH *i* pP 00 10 21.2 -0.6
UZH *e* 00 13 11.0
UZH *i* S S 00 20 08.0 -2.0
UZH *i* PS 00 20 55.0
UZH MLR MLR
comp=Z,12μm,15.0s,MS6.4
BR131 Keskin Array S 79.51 312 *e*P **P 00 10 11.6 +0.4**
comp=Z,84nm,1.1s,mb5.6
BR131 LR LR

comp=Z,1µm,19.0s,MS5.3
BRTR Keskin Array B 79.51 312 P **P 00 10 11.6 +0.3**
comp=Z,23nm,1.1s,mb5.0,baz=105,slow=2.8,SNR=68
BRTR PP PP 00 13 06.2 -5.6
comp=Z,12nm,1.1s,baz=68,slow=6.8,SNR=3.6
BRTR S S 00 20 13.0 +2.7
comp=Z,0.3nm,0.4s,baz=342,slow=12,SNR=2.7
KOZT Kozan 79.61 309 *e*P **P 00 10 12.3 +0.6**
Y13A Salome 79.64 55 ⇓P **P 00 10 12.7 +0.8**
baz=80
Y13A ⇑S S 00 20 13.0 +1.3
baz=80
NIE Niedzica 79.81 326 *e*P **P 00 10 13.5 +0.6**
NIE e pP 00 10 24.3 +0.7
NIE Niedzica 79.81 326 *e*P **P 00 10 13.5 +0.6**
NIE *e* pP 00 10 24.3 +0.7
W15A Williams 79.81 54 ⇓P **P 00 10 13.8 +0.9**
baz=80
W15A ⇓S S 00 20 16.8 +3.4
baz=80
PV10 Paradox Valley 79.81 49 *e*P **P 00 10 15.2 +2.3**
PV10 *e*pP pP 00 10 24.7 +1.1
X14A Yava 79.85 54 ⇑P **P 00 10 13.7 +0.6**
baz=80,SNR=11
X14A ⇓S S 00 20 16.1 +2.2
baz=80
SGKT Sivrigoynuk 79.89 314 *i* P **P 00 10 13.7 +0.5**
MLR Muntele Rosu 79.91 320 ⇑*i*P **P 00 10 13.6 +0.2**
MLR Muntele Rosu 79.91 320 P **P 00 10 13.8 +0.4**
ANTO Ankara 79.91 313 ⇑*i*P **P 00 10 14.3 +0.9**
ANTO Ankara 79.91 313 ⇑P **P 00 10 14.3 +0.9**
ANTO LR LR
comp=Z,1µm,19.0s,MS5.3
COBT Iskenderun 79.95 308 *i* P **P 00 10 14.6 +1.0**
CEYT Ceyhan 79.96 309 *e*P **P 00 10 13.9 +0.2**
Y14A Wickenburg 80.10 55 ⇑P **P 00 10 15.0 +0.6**
baz=80,SNR=7.5
Y14A ⇑S S 00 20 17.5 +0.9
baz=80
WUAZ Wupatki 80.17 53 *e*P **P 00 10 15.9 +1.1**
comp=Z,93nm,1.2s,mb5.6
WUAZ LR LR
comp=Z,840nm,20.0s,MS5.1
WUAZ Wupatki 80.17 53 ⇓P **P 00 10 15.4 +0.5**
baz=80
WUAZ ⇓S S 00 20 20.3 +3.0
baz=80
RUE Ruedersdorf 80.22 331 *e*P **P 00 10 15.0 -0.1**
comp=Z,235nm,1.4s,mb5.9
RUE Ruedersdorf 80.22 331 *e*P **P 00 10 14.9 -0.1**
comp=Z,401nm,2.1s,mb6.0
RUE *e*pP pP 00 10 24.0 -1.8
SNX Sinaia 80.22 320 ⇑*i*P **P 00 10 15.8 +0.7**
SNX Sinaia 80.22 320 ⇑P **P 00 10 15.8 +0.7**
KARA Karaisali 80.23 310 *e*P **P 00 10 14.2 -0.9**
RAC Raciborz 80.25 327 *e*P **P 00 10 16.0 +0.8**
RAC MLR MLR
comp=Z,10µm,16.7s,MS6.2
PV01 Paradox Valley 80.25 49 *e*P **P 00 10 17.2 +2.0**
X15A Humboldt 80.26 54 ⇑P **P 00 10 16.2 +0.9**
baz=80,SNR=14
X15A ⇑S S 00 20 19.8 +1.6
baz=80
HTY Hatay 80.27 308 *e*P **P 00 10 15.2 -0.1**
OBR Brabster 80.34 343 *e*P **P 00 10 15.4 -0.3**
BSEG Bad Segeberg 80.34 334 *e*P **P 00 10 15.6 -0.2**
comp=Z,216nm,1.2s,mb6.0
BSEG Bad Segeberg 80.34 334 *e*P **P 00 10 15.6 -0.2**
VOIR 80.40 321 ⇓*i*P **P 00 10 16.7 +0.7**
VOIR 80.40 321 ⇓P **P 00 10 16.7 +0.7**
OKC Ostrava-Krasne 80.45 327 ⇑*i*P **P 00 10 16.6 +0.3**
OKC *e*pP pP 00 10 26.9 -0.2
OKC *e*S S 00 20 21.4 +1.2
OKC AMS AMS 00 49 00.0
comp=Z,8µm,16.4s
OKC Ostrava-Krasne 80.45 327 ⇑*i*P **P 00 10 16.6 +0.3**
OKC *e*pP pP 00 10 26.9 -0.2
OKC *e*S S 00 20 21.4 +1.2
KRTS Karatas 80.47 309 *e*P **P 00 10 15.7 -0.7**
KSP Ksiaz 80.48 329 *e*P **P 00 10 16.9 +0.4**
KSP *e*PcP PcP 00 10 27.3 +4.0
KSP *e*S S 00 20 23.0 +2.5
KSP *e*SS SS 00 25 30.3 -2.5
KSP L 00 49 20.0
comp=Z,14nm,16.5s
KSP Ksiaz 80.48 329 ⇑*e*P **P 00 10 16.7 +0.2**
KSP *e**PP pP 00 10 27.0 -0.2
KSP *e* 00 13 16.0
KSP *e*S S 00 20 18.0 -2.5
KSP MLR MLR
comp=Z,16µm,16.5s,MS6.4
KSP Ksiaz 80.48 329 ⇑*e*P **P 00 10 16.7 +0.2**
KSP *e*pP pP 00 10 27.0 -0.2
KSP *e*PP PP 00 13 16.0 -3.9
KSP *e*S S 00 20 18.0 -2.5
KSP *e*SS SS 00 25 23.0 -10
KSP *e*SSS 00 29 13.0
KSP LR LR
comp=Z,16µm,16.5s,MS6.4
Z14A Wintersburg 80.50 55 ⇑P **P 00 10 16.7 +0.1**
baz=80
Z14A ⇓S S 00 20 20.6 -0.1
baz=80
SMCO Snowmass 80.53 48 *e*P **P 00 10 17.4 +0.6**
comp=Z,93nm,1.5s,mb5.5
ORE Reay 80.54 343 *e*P **P 00 10 16.6 -0.2**
DRGR 80.59 323 ⇑*i*P **P 00 10 17.4 +0.3**
DRGR 80.59 323 P **P 00 10 17.4 +0.3**
MORC Moravsky Berou 80.76 328 ⇑*i*P **P 00 10 18.3 +0.3**
MORC Moravsky Berou 80.76 328 *e*P **P 00 10 18.2 +0.2**
MORC pmax pmax
comp=Z,167nm,1.3s,mb5.8
MORC Moravsky Berou 80.76 328 *e*P **P 00 10 18.2 +0.2**
comp=Z,168nm,1.3s,mb5.8
MERS Mersin 80.81 310 *e*P **P 00 10 18.6 +0.4**
DPC Dobruska-Polom 80.84 329 ⇑*i*P **P 00 10 18.6 +0.2**
DPC *e*pP pP 00 10 29.7 +0.5
DPC *e*PP PP 00 13 21.0 -1.9
DPC *e*S S 00 20 24.8 +0.5
DPC AMS AMS 00 49 20.0
comp=Z,7µm,15.2s
UPC Upice 80.85 329 ⇑*i*P **P 00 10 18.7 +0.3**
UPC *e*pP pP 00 10 26.8 -2.4
UPC *e*PP PP 00 13 20.7 -2.2
MVCO Mesa Verde 80.89 50 *e*P **P 00 10 18.9 +0.3**
comp=Z,128nm,1.5s,mb5.6
MVCO *e*pP pP 00 10 29.1 -0.3
MVCO Mesa Verde 80.89 50 ⇑P **P 00 10 18.8 +0.2**
baz=81
MVCO ⇑S S 00 20 25.5 +0.7
baz=81
ISCO Idaho Springs 80.92 46 *e*P **P 00 10 21.2 +2.4**
ISCO MLR MLR
comp=Z,1µm,20.0s,MS5.3
HLG Helgoland 80.98 335 *e*S S 00 20 28.5 +2.7
PSZ Piszkesteto 81.10 325 ⇑*e*PcP **P 00 10 20.4 +0.6**
PSZ Piszkesteto 81.10 325 ⇑*i*P **P 00 10 20.4 +0.6**
PSZ Piszkesteto 81.10 325 *e*P **P 00 10 20.2 +0.5**
KDHN Kadinhani 81.19 312 *i* P **P 00 10 19.9 -0.3**
MEST Erdemli 81.22 309 *i* P **P 00 10 20.7 +0.3**
ESKT Eskisehir 81.27 313 *e*P **P 00 10 21.1 +0.4**
ESKT Eskisehir 81.27 313 *i* P **P 00 10 20.4 -0.3**
REB Eisghbrachaidh 81.28 343 *e*P **P 00 10 20.5 -0.3**
115A Sonoran Desert 81.38 55 ⇓P **P 00 10 21.9 +0.6**
baz=81
115A ⇓S S 00 20 30.7 +0.8
baz=81
BRG Berggiesshubel 81.41 330 *e*P **P 00 10 21.3 -0.1**
comp=Z,113nm,1.3s,mb5.6
BRG *e*S S 00 20 30.4 +0.2
BRG Berggiesshubel 81.41 330 ⇑*i*P **P 00 10 21.4 -0.1**
comp=Z,41nm,1.5s,mb5.1
BRG *i* pP pP 00 10 31.7 -0.4
comp=Z,68nm,1.3s
BRG *i* PP PP 00 13 26.1 -1.4
comp=Z,17nm,1.3s
BRG S S 00 20 33.0 +2.8
BRG SS SS 00 25 51.0 +4.3
BRG *e*PKKP PKKPbc 00 28 36.6 -19
comp=Z,7.4nm,1.8s
BRG *e* 00 34 17.8
comp=Z,4.1nm,1.1s
BRG *e*PKPPKP 00 36 50.5
comp=Z,10nm,1.9s
BRG
comp=N,4µm,14.8s
BRG
comp=E,4µm,17.1s
BRG
comp=Z,6µm,15.3s
BRG Berggiesshubel 81.41 330 ⇑*i*P **P 00 10 21.4 0.0**
BRG *i* *PP pP 00 10 31.7 -0.5
BRG *i* 00 13 26.1
BRG S S 00 20 33.0 +2.8
BRG SS SS 00 25 51.0 +4.3
BRG pmax pmax
comp=Z,41nm,1.5s,mb5.1
BRG MLR MLR
comp=Z,6µm,15.3s,MS6.1
BRG Berggiesshubel 81.41 330 ⇑*i*P **P 00 10 21.4 -0.1**
comp=Z,41nm,1.5s,mb5.1
BRG *i* pP pP 00 10 31.7 -0.4
BRG *i* PP PP 00 13 26.1 -1.4
BRG S S 00 20 33.0 +2.8
BRG SS SS 00 25 51.0 +4.3
BRG *e*PKKP PKKPbc 00 28 36.6 -19
BRG *e* 00 34 17.8
BRG *e*P'P' 00 36 50.5
BRG LR LR
comp=Z,6µm,15.3s,MS6.1
KONT Konya--Tatoy 81.42 311 *e*P **P 00 10 21.5 0.0**
PVCC Panska Ves 81.42 330 ⇑*i*P **P 00 10 21.8 +0.3**
PVCC *e*pP pP 00 10 32.4 +0.1
PVCC *e*S S 00 20 31.4 +1.1
PVCC AMS AMS 00 49 40.0
comp=Z,8µm,15.5s
CLL Collm 81.44 331 *e*P **P 00 10 21.1 -0.5**
comp=Z,90nm,1.3s,mb5.5
CLL *e*pP pP 00 10 31.4 -0.9
CLL *e*PP PP 00 13 26.9 -0.9
CLL *e*PPP 00 15 13.6
CLL *e*PPPP 00 16 35.0
CLL *e*S S 00 20 31.6 +1.1
CLL *e*SP 00 21 20.0
CLL *e*SS SS 00 25 47.7 +0.6
CLL *e*SSS 00 29 29.3
CLL *e*L 00 50 01.9
comp=Z,8µm,18.0s
CLL Collm 81.44 331 ⇑*i*P **P 00 10 21.2 -0.4**
CLL *i* *PP pP 00 10 31.3 -1.0
CLL *e*S S 00 20 31.0 +0.5
CLL pmax pmax
comp=Z,88nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,9µm,14.4s,MS6.3
CLL Collm 81.44 331 ⇑*i*P **P 00 10 21.2 -0.4**
comp=Z,88nm,1.3s,mb5.5
CLL *i* pP pP 00 10 31.3 -1.0
CLL *e*S S 00 20 31.0 +0.5
CLL LR LR
comp=Z,9µm,14.4s,MS6.3
CLL Collm 81.44 331 ⇑*i*P **P 00 10 21.2 -0.4**
comp=Z,88nm,1.3s,mb5.5
CLL *i* pP pP 00 10 31.3 -1.0
CLL *e*S S 00 20 31.0 +0.5
CLL *e*PP PP 00 13 27.0 -0.8
CLL *e*PPP 00 15 16.0
CLL *e*PPPP 00 16 36.0
CLL *e*S S 00 20 31.0 +0.5
CLL *e*SP 00 21 12.0
CLL *e*SS SS 00 25 36.0 -11
CLL *e*x x 00 26 42.0
CLL *e*SSS 00 29 12.0
CLL *e*PKPPKPdf 00 37 00.0
MME1 Meikle Cairn 81.46 342 *e*P **P 00 10 21.2 -0.5**
ZIMR 81.48 319 P **P 00 10 22.2 +0.4**
VRAC Vranov 81.52 328 ⇑*i*P **P 00 10 22.4 +0.4**
VRAC Vranov 81.52 328 P **P 00 10 22.5 +0.5**
NRDL Niedersach Rie 81.58 333 *e*P **P 00 10 22.1 -0.2**
comp=Z,155nm,1.5s,mb5.7
FBE Freiberg 81.60 330 *e*P **P 00 10 22.4 0.0**
comp=Z,270nm,1.4s,mb6.0
JMB Yambol 81.66 318 *e*P **P 00 10 22.9 +0.2**
JMB Yambol 81.66 318 P **P 00 10 22.9 +0.2**
JMB P 00 10 23.1
RRH Rhenigidale 81.78 344 *e*P **P 00 10 23.4 0.0**
116A Eloy 81.81 55 ⇓P **P 00 10 24.0 +0.5**
baz=82
116A ⇓S S 00 20 36.0 +1.6
baz=82
BUD Budapest 81.82 325 ⇑*e*PcP **P 00 10 23.9 +0.3**
PRA Prague 81.83 329 ⇑P **P 00 10 24.0 +0.3**
PRA pP pP 00 10 35.0 +0.6
ULDT Uludag 81.84 315 *i* P **P 00 10 24.3 +0.6**
KAC Achnashellach 81.85 343 *e*P **P 00 10 23.7 0.0**
PRU Pruhonice 81.85 329 ⇑*i*P **P 00 10 23.9 +0.1**
PRU *e*pP pP 00 10 34.3 -0.2
PRU *e*S S 00 20 36.8 +2.0
PRU AMS AMS 00 50 00.0
comp=Z,8µm,15.6s
ERMK Ermenek 81.94 310 *i* P **P 00 10 24.1 -0.1**
BZS Buzias 81.97 323 ⇑*i*P **P 00 10 24.1 -0.3**
BZS Buzias 81.97 323 P **P 00 10 24.2 -0.1**
BHL Bhannes 81.98 307 *e*P **P 00 10 24.1 -0.3**
HDMB Hadim 81.99 311 *e*P **P 00 10 23.9 -0.6**
TREC Trest 82.00 328 ⇑*i*P **P 00 10 24.8 +0.3**
TREC *e*pP pP 00 10 35.0 -0.3
TREC AMS AMS 00 51 40.0
comp=Z,8µm,13.9s
CLZ Clausthal 82.01 332 *e*P **P 00 10 24.6 0.0**
comp=Z,244nm,1.3s,mb6.0
CLZ Clausthal 82.01 332 *e*P **P 00 10 24.6 0.0**
CLZ pmax pmax
comp=Z,244nm,1.3s,mb6.0
CLZ Clausthal 82.01 332 *e*P **P 00 10 24.6 0.0**
comp=Z,244nm,1.3s,mb6.0
ALT Altintas 82.01 313 *e*P **P 00 10 25.0 +0.4**
KPL Plockton 82.07 343 *e*P **P 00 10 25.2 +0.3**
KPL AMb AMB 00 10 26.9
comp=Z,258nm,1.6s,mb5.9
KSB Sheil Bridge 82.14 343 *e*P **P 00 10 25.1 -0.1**
ASF Jabal al Asfar 82.28 305 P **P 00 10 26.9 +0.9**
comp=Z,5.0nm,0.9s,baz=310,slow=1.1,SNR=27
ASF PP PP 00 13 34.8 +0.1
comp=Z,9.1nm,0.9s,baz=254,slow=2.7,SNR=4.0
ASF S S 00 20 43.1 +4.0
comp=Z,0.6nm,0.7s,baz=288,slow=19,SNR=2.4
SDCO Great Sand Dun 82.34 48 *e*P **P 00 10 27.0 +0.7**
SDCO LR LR
comp=Z,1µm,19.0s,MS5.3
TANN Tannenbergstha 82.35 331 *e*P **P 00 10 26.1 -0.3**
comp=Z,161nm,1.9s,mb5.6
TANN *e*S S 00 20 39.9 0.0
GDZ Gediz 82.35 314 *i* P **P 00 10 26.6 +0.3**
EYMN Ely 82.36 33 *e*pP pP 00 10 35.7 -1.6
EYMN LR LR
comp=Z,2µm,19.0s,MS5.4
WERD Werda 82.39 331 *e*P **P 00 10 26.5 -0.1**
comp=Z,167nm,1.8s,mb5.7
GTTG Gvttingen 82.40 332 *e*P **P 00 10 26.3 -0.3**
comp=Z,147nm,1.2s,mb5.8
GTTG *e*S S 00 20 41.5 +1.1
KSDI Kefar Szold 82.44 306 P **P 00 10 27.5 +0.7**
MFT Murefte 82.44 316 *e*P **P 00 10 26.3 -0.6**
GUNZ Gunzen 82.44 331 *e*P **P 00 10 27.0 +0.1**
comp=Z,255nm,1.9s,mb5.8
WERN Wernitzgruen 82.49 330 *e*P **P 00 10 27.2 +0.1**
comp=Z,308nm,2.0s,mb5.9
MOX Moxa 82.50 331 *e*P **P 00 10 27.0 -0.2**
comp=Z,195nm,1.6s,mb5.8
MOX *e*S S 00 20 41.5 +0.1
MOX Moxa 82.50 331 *e*P **P 00 10 27.0 -0.2**
comp=Z,121nm,1.5s,mb5.6
MOX
comp=Z,4µm,19.0s
MOX Moxa 82.50 331 ⇑*i*P **P 00 10 27.0 -0.2**
MOX *i* pP 00 10 38.0 +0.1
MOX *e*S S 00 20 43.0 +1.6
MOX pmax pmax
comp=Z,92nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,4µm,19.0s,MS5.8
MOX Moxa 82.50 331 ⇑*i*P **P 00 10 27.0 -0.2**
comp=Z,92nm,1.9s,mb5.4
MOX *i* P pP 00 10 38.0 +0.1
MOX *e*PP PP 00 13 30.0 -6.5
MOX *e*S S 00 20 43.0 +1.6
MOX LR LR
comp=Z,4µm,19.0s,MS5.8
TKTP Tekketepe 82.57 313 *i* P **P 00 10 26.6 -0.9**
IBBN Ibbenburen 82.57 334 *e*P **P 00 10 27.1 -0.4**
comp=Z,232nm,1.3s,mb6.0
IBBN *e*S S 00 20 40.9 -1.2
TUC Tucson 82.57 55 *e*P **P 00 10 29.0 +1.5**
TUC MLR MLR
comp=Z,1µm,20.0s,MS5.2
ISP Isparta 82.59 312 *e*P **P 00 10 26.9 -0.7**
ISP Isparta 82.59 312 ⇓*i*P **P 00 10 27.9 +0.3**
ISP Isparta 82.59 312 P **P 00 10 26.9 -0.7**
ISP P 00 10 27.5
ISP *e*pP pP 00 10 37.9 -0.5
ESY Stoneypath 82.61 341 *e*P **P 00 10 27.0 -0.8**
SOP Sopron 82.77 327 ⇑*e*PcP PcP 00 10 29.1 -4.3
CSS Prodhromos 82.77 309 *e*P **P 00 10 27.8 -0.8**
CSS Prodhromos 82.77 309 P **P 00 10 28.2 -0.3**
BCK Bucak 82.79 312 *e*P **P 00 10 28.1 -0.6**
EAB Aberfoyle 82.81 342 *e*P **P 00 10 28.9 +0.1**
MANZ Manzenberg 82.83 330 *e*P **P 00 10 28.7 -0.2**
comp=Z,10µm,7.9s
MANZ *e*S S 00 20 46.7 +1.9
EBL Broad Law 82.85 341 *e*P **P 00 10 28.7 -0.3**
CONA Conrad Observa 82.88 327 *i* P **P 00 10 29.8 +0.7**
comp=Z,101nm,1.4s,mb5.7,SNR=13
XSO Sourhope Farm 82.90 341 *e*P **P 00 10 28.9 -0.3**
KHC Kasperske Hory 82.91 329 ⇑*i*P **P 00 10 29.4 +0.1**
KHC *e*pP pP 00 10 40.0 -0.1
KHC *e*x x 00 10 57.5
KHC AMS AMS 00 50 50.0
comp=Z,8µm,15.6s
KHC Kasperske Hory 82.91 329 ⇑*i*P **P 00 10 29.4 +0.1**
KHC *e**PP pP 00 10 40.0 -0.1
KHC MLR MLR
comp=Z,8µm,15.6s,MS6.2
PLD Plovdiv 82.91 319 *e*P **P 00 10 29.3 0.0**
PLD Plovdiv 82.91 319 P **P 00 10 29.3 0.0**
PLD P 00 10 29.6
PKSM Moragy 82.94 325 ⇑*i*P **P 00 10 29.0 -0.4**
PKSM Moragy 82.94 325 P **P 00 10 29.0 -0.4**
ROTZ Rotzenmuhle 82.96 330 *e*P **P 00 10 30.0 +0.4**
comp=Z,276nm,1.7s,mb6.0
ROTZ *e*S S 00 20 46.9 +0.7
UBBA Unterbreizbach 82.97 332 *e*P **P 00 10 28.9 -0.7**
comp=Z,83nm,1.6s,mb5.5
UBBA *e*S S 00 20 46.6 +0.4
ALN Alexandroupoli 83.04 317 *e*P **P 00 10 29.7 -0.3**
ALN Alexandroupoli 83.04 317 P **P 00 10 29.7 -0.3**
ALN P 00 10 30.2
MMLI Mount Malkishu 83.07 306 ⇑P **P 00 10 30.9 +0.8**
ECSD EROS,Sioux Fal 83.07 39 *e*P **P 00 10 29.0 -1.1**
comp=Z,20nm,0.9s,mb5.2
ECSD *e*pP pP 00 10 39.7 -1.2
GEC2 GERESS Array S 83.09 329 *e*P **P 00 10 29.8 -0.4**
comp=Z,97nm,1.4s,mb5.6
GEC2 *e*S S 00 20 48.6 +1.2
GEC2 GERESS Array S 83.09 329 *e*P **P 00 10 29.8 -0.4**
GEC2 *e*S S 00 20 48.6 +1.2
GEC2 pmax pmax
comp=Z,97nm,1.4s,mb5.6
GEC2 GERESS Array S 83.09 329 *e*P **P 00 10 29.8 -0.4**
comp=Z,97nm,1.4s,mb5.6
GEC2 *e*S S 00 20 48.6 +1.2
GERES GERESS Array B 83.09 329 P **P 00 10 29.9 -0.3**
comp=Z,7.4nm,0.9s,mb4.7,baz=35,slow=4.9,SNR=48
GERES PP PP 00 13 38.6 -2.8
comp=Z,7.9nm,1.0s,baz=46,slow=5.8,SNR=5.3
GERES S S 00 20 51.3 +3.9
comp=Z,0.2nm,0.4s,baz=145,slow=26,SNR=2.7
GERES GERESS Array B 83.09 329 P **P 00 10 29.9 -0.3**
GERES PP PP 00 13 38.6 -2.8
GERES S S 00 20 51.3 +3.9
CANB Canakkale 83.09 316 *e*P **P 00 10 30.3 +0.1**
HMDT Nahal Hemdat 83.12 305 ⇑P **P 00 10 30.9 +0.5**
ANTB Antalya 83.13 312 *e*P **P 00 10 29.3 -1.1**
RDO Rodhopi 83.14 317 *e*P **P 00 10 31.2 +0.7**
PGBU Glenifferbraes 83.18 342 *e*P **P 00 10 31.1 +0.4**
PGBU AMb AMB 00 10 33.5
comp=Z,103nm,1.5s,mb5.6
WTSB Winterswijk 83.19 334 ⇑*e*P **P 00 10 30.1 -0.6**
comp=Z,67nm,1.5s,mb5.4
WTSB *e*x x 00 10 40.7
comp=Z,100nm,1.4s
WET Wettzell 83.19 330 *e*P **P 00 10 30.3 -0.4**
comp=Z,164nm,1.5s,mb5.8
WET *e*S S 00 20 50.3 +1.9
WET Wettzell 83.19 330 *e*P **P 00 10 30.3 -0.4**
WET *e*S S 00 20 50.3 +1.9
WET pmax pmax
comp=Z,164nm,1.5s,mb5.8
WET Wettzell 83.19 330 *e*P **P 00 10 30.3 -0.4**
comp=Z,164nm,1.5s,mb5.8
WET *e*S S 00 20 50.3 +1.9
OFRI 'Ofer 83.23 306 P **P 00 10 31.5 +0.5**
EKA Eskdalemuir Ar 83.28 341 P **P 00 10 31.1 -0.1**
comp=Z,13nm,1.1s,mb4.9,baz=24,slow=5.0,SNR=9.4
PMOR Pomariorio Ree 83.28 114 *e*P **P 00 10 30.0 -1.2**
comp=Z,57nm,1.4s,mb5.4
ESK Eskdalemuir 83.30 341 *e*P **P 00 10 31.2 -0.1**
ESK AMb AMB 00 10 35.9
comp=Z,118nm,1.6s,mb5.7
ESK Eskdalemuir 83.30 341 *e*P **P 00 10 31.8 +0.5**
ESK *e**PP pP 00 10 41.7 -0.4
ESK pmax pmax
comp=Z,68nm,1.2s,mb5.5
ESK MLR MLR
comp=Z,657nm,21.0s,MS5.0
ESK Eskdalemuir 83.30 341 *e*P **P 00 10 31.8 +0.4**
comp=Z,68nm,1.2s,mb5.5
ESK *e*pP pP 00 10 41.7 -0.4
ESK LR LR
comp=Z,657nm,21.0s,MS5.0
VTS Vitosha 83.35 320 *e*P **P 00 10 31.8 +0.2**
VTS Vitosha 83.35 320 ⇑*i*P **P 00 10 32.0 +0.4**
VTS Vitosha 83.35 320 P **P 00 10 31.2 -0.3**
VTS P 00 10 31.8
ECK Cauldkaine Hil 83.41 341 *e*P **P 00 10 31.7 -0.1**
GRA1 Grafenberg Arr 83.41 331 *e*P **P 00 10 32.2 +0.3**
comp=Z,426nm,1.5s,mb6.2
GRA1 *e*pP pP 00 10 42.6 -0.1
GRA1 *e*S S 00 20 52.7 +2.0
GRA1 LR LR
comp=Z,4µm,18.9s,MS5.8
GRF Grafenberg Arr 83.41 331 *e*P **P 00 10 32.2 +0.3**
comp=Z,426nm,1.5s,mb6.2
GRF *e*pP pP 00 10 42.6 -0.1
GRF *e*S S 00 20 52.7 +2.0
GRF *e*L 00 53 16.2
comp=Z,4µm,18.9s
GRF Grafenberg Arr 83.41 331 *e*P **P 00 10 32.2 +0.3**
GRF *e**PP pP 00 10 42.6 -0.1
GRF *e*S S 00 20 52.7 +2.0
GRF pmax pmax
comp=Z,426nm,1.5s,mb6.2
GRF MLR MLR
comp=Z,4µm,18.9s,MS5.8
GRF Grafenberg Arr 83.41 331 *e*P **P 00 10 32.2 +0.3**
GRF *e**PP pP 00 10 42.6 -0.1
GRF *e*S S 00 20 52.7 +2.0
GRF pmax pmax
comp=Z,426nm,1.5s,mb6.2
GRF MLR MLR
comp=Z,4µm,18.9s,MS5.8
GRF Grafenberg Arr 83.41 331 *e*P **P 00 10 32.2 +0.3**
comp=Z,426nm,1.5s,mb6.2
GRF *e*pP pP 00 10 42.6 -0.1
GRF *e*S S 00 20 52.7 +2.0
GRF LR LR
comp=Z,4µm,18.9s,MS5.8
SLTI Sal'it 83.44 306 ⇑P **P 00 10 32.6 +0.6**
XAL Allendale 83.45 340 *e*P **P 00 10 30.5 -1.6**
BUG Bochum--Univer 83.46 334 *e*P **P 00 10 31.7 -0.4**
comp=Z,219nm,1.8s,mb5.9
BUG *e*S S 00 20 52.9 +1.8
SNZO South Karori 83.47 156 PFAKE 00 10 40.0 +7.8
SNZO LR LR
comp=Z,2µm,20.0s,MS5.5
BHH Howats Hill 83.51 341 *e*P **P 00 10 32.0 -0.4**
DENT Denizli 83.51 313 *e*P **P 00 10 33.2 +0.8**
DNZL Cakiroluk 83.55 313 *i* P **P 00 10 39.8 +7.3**
ARSA Arzberg 83.55 327 ⇓*i*P **P 00 10 32.5 -0.1**
comp=Z,401nm,3.3s,SNR=9.1
GOLH Golhisar 83.55 312 *i* P **P 00 10 39.0 +6.4**

LAZ Ladron 83.55 51 *eP* **P 00 10 33.1 +0.5**
ANMO Albuquerque 83.61 51 *eP* **P 00 10 32.6 -0.3**
ANMO Albuquerque 83.61 51 *eP* **P 00 10 33.3 +0.4**
comp=Z,78nm,1.3s,mb5.7
ANMO LR LR
comp=Z,811nm,19.0s,MS5.1
MOA Molln 83.63 328 *i* P **P 00 10 33.0 +0.1**
comp=Z,526nm,4.0s,SNR=16
DRGI Dragot 83.63 305 ⇑P **P 00 10 33.5 +0.5**
VAH Vaihoa 83.63 114 *eP* **P 00 10 32.2 -0.8**
comp=Z,62nm,1.4s,mb5.6
ELL Elmali 83.67 312 *eP* **P 00 10 32.4 -0.9**
PPT Papeete 83.77 117 *eS* S 00 20 50.5 -3.8
comp=Z,461nm,25.0s
PPT *eSS* SS 00 26 25.6 +3.8
comp=Z,298nm,23.2s
PPT *eLR* LR 00 36 05.2
comp=Z,2μm,21.2s,baz=308
MMB Musomiste 83.79 319 *eP* **P 00 10 34.1 +0.3**
MMB Musomiste 83.79 319 P **P 00 10 34.1 +0.3**
MMB P 00 10 34.3
LENM Lemitar 83.81 51 *eP* **P 00 10 36.5 +2.6**
MZDA Masada 83.83 305 P **P 00 10 34.3 +0.3**
KOGS Kog 83.85 326 *eP* **P 00 10 33.5 -0.6**
DIVS Divcibare 83.87 322 *eP* **P 00 10 33.8 -0.4**
NVR Nevrokopi 83.89 318 *eP* **P 00 10 34.7 +0.4**
Y22C IRIS PASSCAL I 83.90 52 ⇑P **P 00 10 35.6 +1.2**
baz=84
LPM Los Pinos Moun 83.93 51 *eP* **P 00 10 36.9 +2.4**
TNS Taunus Mts 84.03 332 *eP* **P 00 10 34.8 -0.3**
comp=Z,206nm,1.9s,mb5.9
TNS Taunus Mts 84.03 332 *eP* **P 00 10 34.8 -0.3**
TNS pmax pmax
comp=Z,206nm,1.9s,mb5.9
TNS Taunus Mts 84.03 332 *eP* **P 00 10 34.8 -0.3**
comp=Z,206nm,1.9s,mb5.9
PRK Paraskevi 84.06 316 *eP* **P 00 10 35.2 0.0**
GAL1 Galloway 84.09 342 *eP* **P 00 10 35.2 -0.1**
GAL1 *eP* 00 10 35.2
GAL1 AMb AMB 00 10 37.7
comp=Z,178nm,1.5s,mb6.0
IZM Izmir 84.09 315 *eP* **P 00 10 35.0 -0.4**
GROS Grobnik 84.17 326 *eP* **P 00 10 35.4 -0.4**
AKAS Kas 84.20 312 *i* P **P 00 10 35.1 -0.8**
SRS Serrai 84.20 318 *eP* **P 00 10 35.4 -0.5**
SRS Serrai 84.20 318 P **P 00 10 35.4 -0.5**
SRS P 00 10 35.7
PERS Pernice 84.20 327 *eP* **P 00 10 35.7 -0.2**
PERS *epP* pP 00 10 46.2 -0.5
PERS *eS* S 00 20 59.2 +0.6
AYDN Tasoluk 84.24 314 *i* P **P 00 10 37.0 +0.9**
KSL Kastellorizon 84.27 312 *eP* **P 00 10 36.0 -0.3**
TOD Tromm 84.41 332 *eP* **P 00 10 36.5 -0.5**
MASH Mash'abbe Sade 84.41 305 P **P 00 10 36.9 -0.1**
DALT Dalyan (Mudla) 84.41 313 *eP* **P 00 10 37.1 +0.1**
DOBS Dobrina 84.42 326 *eP* **P 00 10 36.3 -0.7**
DOBS *epP* pP 00 10 46.8 -1.1
DOBS *ePP* PP 00 13 52.2 -0.1
RTMI Retamim 84.43 305 ⇑P **P 00 10 36.9 -0.2**
ZFRI Zfri 84.44 304 ⇑P **P 00 10 37.3 +0.2**
HGN Heimansgroeve 84.49 334 *eP* **P 00 10 37.2 -0.2**
comp=Z,108nm,1.5s,mb5.8
HGN *ex* x 00 10 47.2
comp=Z,155nm,1.4s
HGN *ePP* PP 00 13 39.0 -14
HGN *eS* S 00 21 00.9 -0.6
HGN *eSSS* 00 30 21.2
LHO Holmfirth 84.52 340 *eP* **P 00 10 37.3 -0.3**
STIP Stip 84.52 320 *eP* **P 00 10 37.1 -0.4**
STIP Stip 84.52 320 *i* P **P 00 10 37.2 -0.3**
KNT Kendrikon 84.53 319 *eP* **P 00 10 37.2 -0.4**
KNT Kendrikon 84.53 319 P **P 00 10 37.2 -0.4**
KNT P 00 10 37.4
SISC Sisak 84.54 325 P **P 00 10 36.8 -0.8**
SOH Sokhos 84.54 318 *eP* **P 00 10 30.8 -6.8**
SOH Sokhos 84.54 318 P **P 00 10 30.8 -6.8**
SOH P 00 10 37.1
OBKA Obir 84.55 327 ⇑*iP* **P 00 10 36.8 -0.9**
comp=Z,490nm,3.9s
OUR Ouranopolis 84.55 318 *eP* **P 00 10 37.7 0.0**
OUR Ouranopolis 84.55 318 P **P 00 10 37.4 -0.3**
OUR P 00 10 37.7
MLSB Milas 84.55 313 *eP* **P 00 10 38.1 +0.4**
SVTA Shivta 84.56 305 ⇑P **P 00 10 37.6 -0.1**
RPZ Rata Peaks 84.59 160 S S 00 20 57.5 -5.0
comp=Z,5.1nm,0.8s,baz=72,slow=19,SNR=2.3
MEM Membach 84.59 334 P **P 00 10 37.5 -0.4**
MEM E pP 00 10 45.3 -3.4
MEM AP pP 00 10 48.5 -0.2
VAY Valandovo 84.59 319 *eP* **P 00 10 37.6 -0.3**
VAY Valandovo 84.59 319 *i* P **P 00 10 37.8 -0.1**
VAY Valandovo 84.59 319 P **P 00 10 37.3 -0.6**
VAY P 00 10 37.6
FUR Furstenfeldbru 84.61 330 *eP* **P 00 10 38.0 0.0**
comp=Z,203nm,1.1s,mb6.2
FUR *eS* S 00 21 04.0 +1.3
FUR Furstenfeldbru 84.61 330 *eP* **P 00 10 38.0 0.0**
FUR *eS* S 00 21 04.0 +1.3
FUR pmax pmax
comp=Z,203nm,1.1s,mb6.2
FUR Furstenfeldbru 84.61 330 *eP* **P 00 10 38.0 0.0**
comp=Z,203nm,1.1s,mb6.2
FUR *eS* S 00 21 04.0 +1.3
KBA Koelnbreinsper 84.62 328 *i* P **P 00 10 37.8 -0.3**
comp=Z,304nm,2.1s,mb6.0,SNR=13
KBA Koelnbreinsper 84.62 328 *i* P **P 00 10 37.8 -0.2**
KBA pmax pmax
comp=Z,304nm,2.1s,mb6.1
CRES Cresnjev 84.68 326 *eP* **P 00 10 37.6 -0.7**
CRES *epP* pP 00 10 48.0 -1.2
PRNI Paran 84.68 304 ⇑P **P 00 10 38.6 +0.3**
KBI1 Birley Grange 84.69 339 *eP* **P 00 10 37.7 -0.7**
SKO Skopje 84.70 320 *eP* **P 00 10 39.3 +0.9**
SKO Skopje 84.70 320 *i* P **P 00 10 39.6 +1.2**
SKO Skopje 84.70 320 P **P 00 10 39.3 +0.9**
SKO P 00 10 39.5
KZIT Kziot 84.72 305 ⇑P **P 00 10 38.5 -0.1**
WIM Isle of Man 84.73 341 *eP* **P 00 10 38.0 -0.6**
CHOS Chios island 84.78 315 *eP* **P 00 10 37.6 -1.2**
PLG Polygyros 84.81 318 *eP* **P 00 10 38.7 -0.3**
PLG Polygyros 84.81 318 *eP* **P 00 10 38.8 -0.2**
PLG Polygyros 84.81 318 P **P 00 10 38.6 -0.4**
SMG Samos 84.81 314 *eP* **P 00 10 37.7 -1.3**
SCHQ Schefferville 84.82 17 P **P 00 10 39.1 +0.1**
comp=Z,7.3nm,1.0s,mb4.8,baz=337,slow=7.5,SNR=3.1
SCHQ S S 00 21 01.4 -3.4
comp=Z,2.2nm,0.8s,baz=192,slow=18,SNR=1.8
SCHQ LR LR 00 48 24.5
comp=Z,2μm,21.7s,MS5.5,baz=70,slow=36
SCHQ Schefferville 84.82 17 PFAKE 00 10 50.0 +11
SCHQ LR LR
comp=Z,4μm,21.0s,MS5.8
HORT Hortiatis 84.83 318 *eP* **P 00 10 38.4 -0.7**
HORT Hortiatis 84.83 318 P **P 00 10 38.0 -1.1**
HORT P 00 10 38.4
HRFI Mount Harif 84.86 304 P **P 00 10 39.3 0.0**
THE Thessaloniki 84.88 318 *eP* **P 00 10 38.4 -0.9**
THE Thessaloniki 84.88 318 P **P 00 10 38.4 -0.9**
THE P 00 10 38.6
BDRM Kayabasi 84.91 313 *i* P **P 00 10 38.8 -0.7**
LJU Ljubljana 84.92 327 *eP* **P 00 10 38.9 -0.7**
LJU *ePP* PP 00 13 58.4 +2.1
LJU *eS* S 00 21 05.1 -0.7
LJU *e* 00 30 27.1
LJU Ljubljana 84.92 327 *eP* **P 00 10 38.9 -0.6**
LJU *e* 00 13 58.4
LJU *eS* S 00 21 05.1 -0.7
CBKS Cedar Bluff 84.92 44 *eP* pP 00 10 48.8 -1.6
CBKS MLR MLR
comp=Z,1μm,19.0s,MS5.3
CBKS Cedar Bluff 84.92 44 *epP* pP 00 10 48.8 -1.6
CBKS LR LR
comp=Z,1μm,19.0s,MS5.3
STU Stuttgart 84.94 331 *eP* **P 00 10 39.4 -0.2**
STU *eS* S 00 21 04.8 -1.2
STU Stuttgart 84.94 331 *eP* **P 00 10 39.2 -0.4**
GRG Griva 84.94 319 *eP* **P 00 10 39.1 -0.6**
GRG Griva 84.94 319 P **P 00 10 39.1 -0.6**
GRG P 00 10 39.3
GMM Mts of Mourne 84.97 342 *eP* **P 00 10 39.3 -0.5**
BODT Bodrum 84.98 314 *eP* **P 00 10 40.2 +0.3**
KWE Weaver Farm 84.99 339 *eP* **P 00 10 39.6 -0.3**

BCLA Clavier 85.00 334 P **P 00 10 39.5 -0.4**
BCLA AP pP 00 10 50.4 -0.3
UCC Uccle 85.00 335 P **P 00 10 39.1 -0.9**
UCC E pP 00 10 46.7 -4.1
UCC AP pP 00 10 49.3 -1.4
DAT Datca 85.06 313 *eP* **P 00 10 38.9 -1.3**
ARG Arkhangelos 85.09 312 *eP* **P 00 10 40.1 -0.3**
MBH Mount Berech 85.10 304 P **P 00 10 40.4 -0.1**
PTCC Patocco-Chiusa 85.14 328 P **P 00 10 39.3 -1.4**
comp=Z,30nm,1.0s,mb5.4
WATA Walderalm 85.15 329⇓*iP* **P 00 10 40.5 -0.2**
comp=Z,254nm,2.2s,mb6.0
WATA Walderalm 85.15 329⇓*iP* **P 00 10 40.5 -0.2**
WATA pmax pmax
comp=Z,254nm,2.2s,mb6.0
WATA Walderalm 85.15 329⇓*iP* **P 00 10 40.5 -0.2**
comp=Z,254nm,2.2s,mb6.0
EIL Elat 85.16 304 *eP* **P 00 10 41.0 +0.2**
TAOE Nuku Hiva Isla 85.18 105 *ePP* PP 00 13 47.5 -11
comp=Z,354nm,25.4s
TAOE Nuku Hiva Isla 85.18 105 *eS* S 00 21 02.8 -5.6
comp=Z,960nm,25.6s
TAOE *eSS* SS 00 26 47.7 +5.1
comp=Z,594nm,25.2s
TAOE *eLR* LR 00 37 08.9
comp=Z,7μm,22.8s
WTTA Wattenberg 85.19 329⇑*iP* **P 00 10 40.7 -0.2**
comp=Z,491nm,3.5s
WTTA Wattenberg 85.19 329⇑*iP* **P 00 10 40.7 -0.2**
WTTA pmax pmax
comp=Z,491nm,3.5s
CEY Cerknica 85.20 327 *eP* **P 00 10 39.8 -1.2**
CEY *epP* pP 00 10 50.4 -1.4
CEY *ePP* PP 00 13 59.2 +0.6
CEY *e* 00 22 10.2
VOY Vojsko 85.20 327 *eP* **P 00 10 39.4 -1.6**
VOY *e* pP 00 10 50.0 -1.8
FVI Forni Avoltri 85.24 328 P **P 00 10 39.8 -1.3**
FVI pmax pmax
comp=Z,44nm,1.3s,mb5.4
FVI Forni Avoltri 85.24 328 P **P 00 10 39.8 -1.3**
comp=Z,44nm,1.3s,mb5.4
SNF Seneffe 85.27 335 P **P 00 10 41.0 -0.3**
SNF AP pP 00 10 51.9 -0.3
LANF Langenberg 85.29 332 *eP* **P 00 10 41.3 -0.1**
LANF Langenberg 85.29 332 *eP* **P 00 10 41.3 -0.1**
GMNA Gemona 85.30 328 P **P 00 10 40.2 -1.2**
comp=Z,200nm,1.0s,mb6.2
WLF Walferdange 85.33 333 *eP* **P 00 10 41.8 +0.2**
comp=Z,311nm,1.6s,mb6.2
WLF Walferdange 85.33 333 P **P 00 10 41.9 +0.3**
WLF AP pP 00 10 50.1 -2.4
WLF Walferdange 85.33 333 *eP* **P 00 10 41.3 -0.3**
MOTA Moosalm 85.34 329⇑*iP* **P 00 10 41.4 -0.2**
comp=Z,118nm,1.3s,mb5.9,SNR=13
MOTA Moosalm 85.34 329⇑*iP* **P 00 10 41.4 -0.2**
MOTA pmax pmax
comp=Z,118nm,1.3s,mb5.9
SQTA Sankt Quirin 85.39 329⇓*iP* **P 00 10 41.8 -0.1**
comp=Z,87nm,1.4s,mb5.7
SQTA Sankt Quirin 85.39 329⇓*iP* **P 00 10 41.9 0.0**
SQTA pmax pmax
comp=Z,87nm,1.4s,mb5.7
GIVF Givet 85.43 334⇑*iP* **P 00 10 41.5 -0.6**
comp=Z,391nm,1.5s,mb6.0
GIVF Givet 85.43 334⇑*iP* **P 00 10 41.5 -0.6**
GIVF pmax pmax
comp=Z,195nm,1.5s,mb6.0
GIVF Givet 85.43 334⇑*iP* **P 00 10 41.5 -0.6**
comp=Z,195nm,1.5s,mb6.0
BIA Bitola 85.46 320 *eP* **P 00 10 40.9 -1.3**
BIA Bitola 85.46 320 *i* P **P 00 10 41.3 -0.9**
BIA Bitola 85.46 320 P **P 00 10 40.9 -1.3**
BIA P 00 10 41.0
SBD1 Bryn Du 85.48 340 *eP* **P 00 10 42.6 +0.3**
DOU Dourbes 85.51 334 P **P 00 10 42.1 -0.4**
DOU AP pP 00 10 53.0 -0.3
LIT Litokhoron 85.51 318 *eP* **P 00 10 41.8 -0.7**
LIT Litokhoron 85.51 318 P **P 00 10 41.8 -0.8**
FNA Florina 85.60 319 *eP* **P 00 10 41.6 -1.3**
FNA Florina 85.60 319 P **P 00 10 41.5 -1.5**
FNA P 00 10 41.6
BFO Black Forest 85.63 331 P **P 00 10 42.1 -1.0**
comp=Z,750nm,1.1s,mb6.8,SNR=22
BFO Black Forest 85.63 331 *eP* **P 00 10 42.7 -0.4**
comp=Z,218nm,1.1s,mb6.3
BFO *epP* pP 00 10 53.6 -0.3
BFO *eS* S 00 21 12.1 -0.7
BFO Black Forest 85.63 331 *eP* **P 00 10 42.7 -0.4**
BFO *e*PP pP 00 10 53.6 -0.3
BFO *eS* S 00 21 12.1 -0.7
BFO pmax pmax
comp=Z,218nm,1.1s,mb6.3
BFO Black Forest 85.63 331 *eP* **P 00 10 42.7 -0.4**
comp=Z,218nm,1.1s,mb6.3
BFO *epP* pP 00 10 53.6 -0.3
BFO *eS* S 00 21 12.1 -0.7
SPAK Spaichingen-Ko 85.64 331 *eP* **P 00 10 43.2 0.0**
OHR Ohrid 85.66 320 *eP* **P 00 10 42.5 -0.7**
OHR Ohrid 85.66 320 *i* P **P 00 10 42.6 -0.7**
OHR Ohrid 85.66 320 P **P 00 10 42.3 -0.9**
OHR P 00 10 42.5
XOR Xorichti 85.67 317 *eP* pP 00 10 52.1 -2.0
BAIF Baives 85.68 335⇑*iP* **P 00 10 42.8 -0.5**
comp=Z,244nm,1.2s,mb6.0
BAIF Baives 85.68 335⇑*iP* **P 00 10 42.8 -0.5**
BAIF pmax pmax
comp=Z,122nm,1.2s,mb6.0
BAIF Baives 85.68 335⇑*iP* **P 00 10 42.8 -0.5**
comp=Z,122nm,1.2s,mb6.0
HLM1 Long Mynd 85.72 340 *eP* **P 00 10 43.2 -0.3**
YRE Yr Eifl 85.72 341 *eP* **P 00 10 42.8 -0.8**
KZN Kozani 85.75 319 *eP* pP 00 10 51.3 -3.2
SKP1 Kophill 85.84 338 *eP* **P 00 10 43.5 -0.7**
DAVA Damuels 85.88 330 *i* P **P 00 10 44.2 -0.1**
comp=Z,270nm,1.5s,mb6.3,SNR=20
STON Ston 85.89 323 *i* P **P 00 10 42.0 -2.4**
STON Ston 85.89 323⇑*iP* **P 00 10 42.1 -2.3**
SSW Stow on the Wo 85.92 339 *eP* **P 00 10 45.1 +0.6**
WLS Welschbruch 85.93 332 *eP* **P 00 10 44.5 -0.1**
WLS Welschbruch 85.93 332 *eP* **P 00 10 44.5 -0.1**
MENF Mencas 85.93 336 *eP* **P 00 10 44.2 -0.4**
MENF Mencas 85.93 336 *eP* **P 00 10 44.2 -0.4**
CDF Champ du Feu 85.96 332⇑*iP* **P 00 10 44.4 -0.3**
comp=Z,384nm,1.3s,mb6.2
CDF Champ du Feu 85.96 332⇑*iP* **P 00 10 44.4 -0.3**
CDF pmax pmax
comp=Z,192nm,1.3s,mb6.2
CDF Champ du Feu 85.96 332⇑*iP* **P 00 10 44.4 -0.3**
comp=Z,192nm,1.3s,mb6.2
TIR Tirane 85.96 321 *eP* **P 00 10 43.7 -1.1**
TIR Tirane 85.96 321 P **P 00 10 43.7 -1.1**
TIR P 00 10 44.9
TSA1 Sevenoaks 85.97 338 *eP* **P 00 10 45.2 +0.5**
DLF Lyons Farm 85.97 342⇓*iP* pP 00 10 55.7 +0.1
APE Apeiranthos 86.00 315 *eP* **P 00 10 38.1 -6.8**
APE Apeiranthos 86.00 315 *eP* pP 00 10 55.0 -0.8
APE Apeiranthos 86.00 315 P **P 00 10 38.1 -6.8**
APE P 00 10 43.1
LIBD Limburg 86.06 332 *eP* **P 00 10 44.7 -0.5**
DCN Croghan 86.11 343⇓*iP* pP 00 10 56.9 +0.6
SCIA State Center 86.11 38 *eP* **P 00 10 45.0 -0.5**
comp=Z,25nm,0.8s,mb5.5
SCIA *epP* pP 00 10 55.3 -1.0
KARP Karpathos 86.12 313 *eP* **P 00 10 45.0 -0.5**
FELD Feldberg im Sc 86.13 331⇑*eP* **P 00 10 45.3 -0.3**
ECH Echery 86.17 332 *eP* **P 00 10 45.4 -0.4**
ECH Echery 86.17 332 *eP* **P 00 10 45.4 -0.4**
MCH1 Michaelchurch 86.22 340 *eP* **P 00 10 45.9 -0.1**
MCH1 *eP* 00 10 45.9
MCH1 AMb AMB 00 10 48.5
comp=Z,93nm,1.6s,mb5.8
HTR Trewern Hill 86.22 340 *eP* **P 00 10 45.9 -0.2**
LKR Lokris 86.29 317 *eP* **P 00 10 43.1 -3.2**
DAVOX Davos/Dischmat 86.29 330 P **P 00 10 45.9 -0.4**
comp=Z,12nm,1.0s,mb5.1,baz=67,slow=2.2,SNR=17
DAVOX PP PP 00 14 03.4 -4.1
comp=Z,4.3nm,0.9s,baz=22,slow=13,SNR=2.6
DAVOX S S 00 21 13.1 -6.1
comp=Z,0.9nm,0.7s,baz=319,slow=13,SNR=2.1
SWN1 Swindon 86.31 339 *eP* **P 00 10 46.1 -0.3**
SWN1 *eP* 00 10 46.1
SWN1 AMb AMB 00 10 49.1

comp=Z,213nm,1.7s,mb6.1
AGG Agios Georgios 86.38 318 *eP* **P 00 10 46.1 -0.7**
KSU1 Kansas State U 86.43 42 *eP* **P 00 10 45.7 -1.3**
comp=Z,30nm,0.8s,mb5.6
KSU1 *epP* pP 00 10 56.4 -1.4
MNTX Cornudas Mount 86.44 52 *eP* **P 00 10 46.9 -0.2**
comp=Z,64nm,1.5s,mb5.6
MNTX LR LR
comp=Z,721nm,19.0s,MS5.1
MOF Molkenrain 86.48 332 *eP* **P 00 10 46.4 -0.9**
MOF Molkenrain 86.48 332 *eP* **P 00 10 46.4 -0.9**
HGH Gray Hill 86.49 339 *eP* **P 00 10 47.5 +0.2**
SANT Santorini 86.53 314 *eP* **P 00 10 48.0 +0.4**
comp=Z,54nm,1.0s,mb5.7
SANT *epP* pP 00 10 57.1 -1.2
THEF They Montfort 86.59 333 *eP* **P 00 10 47.5 -0.3**
THEF They Montfort 86.59 333 *eP* **P 00 10 47.5 -0.3**
HINF Hinteralfeld 86.61 332⇑*iP* **P 00 10 47.2 -0.8**
comp=Z,70nm,1.1s,mb5.5
HINF Hinteralfeld 86.61 332⇑*iP* **P 00 10 47.2 -0.8**
HINF pmax pmax
comp=Z,35nm,1.0s,mb5.5
HINF Hinteralfeld 86.61 332⇑*iP* **P 00 10 47.2 -0.8**
comp=Z,35nm,1.0s,mb5.5
MABI Malga Bissina 86.62 329 P **P 00 10 46.8 -1.2**
HAU Haudompre 86.64 332⇑*iP* **P 00 10 47.4 -0.7**
comp=Z,130nm,1.1s,mb5.8
HAU *eMLR* MLR
comp=Z,3μm,18.0s
HAU Haudompre 86.64 332⇑*iP* **P 00 10 47.4 -0.7**
HAU pmax pmax
comp=Z,65nm,1.1s,mb5.8
HAU MLR MLR
comp=Z,3μm,18.0s,MS5.8
HAU Haudompre 86.64 332⇑*iP* **P 00 10 47.4 -0.7**
comp=Z,65nm,1.1s,mb5.8
HAU LR LR
comp=Z,3μm,18.0s,MS5.8
BBS Basel-Blauen 86.66 331 *eP* **P 00 10 47.7 -0.5**
MEZF Maizieres J'vi 86.70 333⇑*iP* **P 00 10 48.2 -0.2**
comp=Z,634nm,1.6s,mb6.3
MEZF Maizieres J'vi 86.70 333⇑*iP* **P 00 10 48.2 -0.2**
comp=Z,634nm,1.6s,mb6.6
JAN Janina 86.70 319 *eP* **P 00 10 47.2 -1.2**
GDL2 Guadalupe Moun 86.75 51 *eP* **P 00 10 48.9 +0.3**
TUE Stuetta 86.75 330 P **P 00 10 48.5 -0.1**
JFWS Jewell Farm 86.77 36 *eP* pP 00 10 58.0 -1.6
JFWS MLR MLR
comp=Z,1μm,19.0s,MS5.4
JFWS Jewell Farm 86.77 36 *epP* pP 00 10 58.0 -1.5
JFWS LR LR
comp=Z,1μm,19.0s,MS5.4
ZKR Zakros 86.97 313 *eP* **P 00 10 49.4 -0.3**
ZKR Zakros 86.97 313 P **P 00 10 49.4 -0.3**
ZKR P 00 10 50.0
LOMF Lomont 87.01 332 *eP* **P 00 10 49.5 -0.4**
LOMF Lomont 87.01 332 *eP* **P 00 10 49.5 -0.4**
IGT Igoumenitsa 87.06 319 *eP* **P 00 10 40.9 -9.2**
IGT Igoumenitsa 87.06 319 P **P 00 10 49.2 -0.9**
KEK Kerkira 87.21 320 *eP* **P 00 10 48.8 -2.0**
NPS Neapolis 87.22 313 *eP* pP 00 11 02.0 +0.2
HEX Exmoor 87.28 340 *eP* **P 00 10 50.8 -0.3**
LAST Lasithi 87.37 313 *eP* **P 00 10 51.0 -0.6**
LAST Lasithi 87.37 313 P **P 00 10 50.6 -1.0**
LAST P 00 10 51.0
RSM Repubblica di 87.49 327 P **P 00 10 52.7 +0.5**
LKD Levkas 87.50 318 *eP* **P 00 10 50.7 -1.6**
LKD Levkas 87.50 318 P **P 00 10 50.7 -1.6**
LKD P 00 10 51.6
FSSB Fossombrone 87.53 326 P **P 00 10 52.1 -0.3**
RLS Riolos of Patr 87.54 318 *eP* **P 00 10 50.5 -2.0**
TBI Tubuai 87.72 122 *ePP* PP 00 14 14.8 -4.2
comp=Z,95nm,28.5s
TBI Tubuai 87.72 122 *eS* S 00 21 27.9 -5.1
comp=Z,996nm,29.0s
TBI *eSS* SS 00 27 22.1 +2.3
comp=Z,321nm,26.8s
TBI *eLR* LR 00 37 42.7
comp=Z,2μm,23.2s,baz=313
SFI Santa Sofia 87.78 327 P **P 00 10 53.7 +0.1**
SFI pmax pmax
comp=Z,130nm,1.4s,mb6.0
SFI Santa Sofia 87.78 327 P **P 00 10 53.7 +0.1**
comp=Z,130nm,1.4s,mb6.0
SIVA Sivas 87.86 313 *eP* pP 00 11 05.0 +0.2
VMG Vicchio 87.86 327 P **P 00 10 54.8 +0.8**
comp=Z,288nm,1.7s,mb6.2
FNVD Fontana Vidola 87.88 327 P **P 00 10 54.4 +0.3**
CABF La Chapelle 87.91 332⇑*iP* **P 00 10 53.9 -0.3**
comp=Z,186nm,1.7s,mb5.8
CABF La Chapelle 87.91 332⇑*iP* **P 00 10 53.9 -0.3**
CABF pmax pmax
comp=Z,93nm,1.7s,mb5.7
CABF La Chapelle 87.91 332⇑*iP* **P 00 10 53.9 -0.3**
comp=Z,93nm,1.7s,mb5.7
OG01 Vacheresse 87.92 331 *eP* **P 00 10 54.6 +0.4**
OG01 Vacheresse 87.92 331 *eP* **P 00 10 54.6 +0.4**
VLS Valsamata 87.93 318 *eP* pP 00 11 05.5 +0.3
ITM Ithomi 87.93 317 *eP* pP 00 11 05.0 -0.2
VAM Vamos 87.94 314 *eP* pP 00 11 06.0 +0.8
CRE Caprese Michel 87.96 327 P **P 00 10 54.3 -0.1**
CRE pmax pmax
comp=Z,118nm,1.6s,mb5.9
CRE Caprese Michel 87.96 327 P **P 00 10 54.3 -0.1**
comp=Z,118nm,1.6s,mb5.9
GSCL Gusciola 87.96 328 P **P 00 10 54.7 +0.2**
comp=Z,271nm,2.1s,mb6.1
MURB Monte Urbino 87.99 326 P **P 00 10 54.5 -0.1**
KARN Karanos 88.10 314 *eP* pP 00 11 05.4 -0.5
LOR Lormes 88.17 333⇑*iP* **P 00 10 55.1 -0.4**
comp=Z,364nm,1.4s,mb6.1
LOR *eMLR* MLR
comp=Z,3μm,19.0s
LOR Lormes 88.17 333⇑*iP* **P 00 10 55.1 -0.4**
LOR pmax pmax
comp=Z,182nm,1.4s,mb6.1
LOR MLR MLR
comp=Z,3μm,19.0s,MS5.7
LOR Lormes 88.17 333⇑*iP* **P 00 10 55.1 -0.4**
comp=Z,182nm,1.4s,mb6.1
LOR LR LR
comp=Z,3μm,19.0s,MS5.7
VLC Villacollemand 88.20 328 P **P 00 10 54.9 -0.7**
VLC *epP* pP 00 11 07.1 +0.7
FG4 Candela 88.27 323 P **P 00 10 55.7 -0.2**
FG4 pmax pmax
comp=Z,160nm,1.0s,mb6.2
FG4 Candela 88.27 323 P **P 00 10 55.7 -0.2**
comp=Z,160nm,1.0s,mb6.2
AQU L'Aquila 88.31 325⇑*iP* **P 00 10 56.0 -0.1**
AQU L'Aquila 88.31 325 *eP* **P 00 10 56.4 +0.3**
FLN La Foliniere 88.34 337⇑*iP* **P 00 10 55.8 -0.5**
comp=Z,314nm,1.4s,mb6.0
FLN *eMLR* MLR
comp=Z,6μm,17.8s
FLN La Foliniere 88.34 337⇑*iP* **P 00 10 55.8 -0.5**
FLN pmax pmax
comp=Z,157nm,1.4s,mb6.0
FLN MLR MLR
comp=Z,6μm,17.8s,MS6.1
FLN La Foliniere 88.34 337⇑*iP* **P 00 10 55.8 -0.5**
comp=Z,157nm,1.4s,mb6.0
FLN LR LR
comp=Z,6μm,17.8s,MS6.1
INTR Introdacqua 88.35 325 P **P 00 10 54.4 -1.9**
WMOK Wichita Mounta 88.35 46 *eP* **P 00 10 56.1 -0.2**
WMOK pmax pmax
comp=Z,42nm,1.3s,mb5.5
WMOK MLR MLR
comp=Z,865nm,19.0s,MS5.2
WMOK Wichita Mounta 88.35 46 *eP* **P 00 10 56.1 -0.2**
comp=Z,42nm,1.3s,mb5.5
WMOK LR LR
comp=Z,865nm,19.0s,MS5.2
CSNT Castellina Chi 88.36 327 P **P 00 10 55.0 -1.4**
comp=Z,140nm,1.5s,mb6.0
LDF La Druitiere 88.38 336⇑*iP* **P 00 10 56.0 -0.4**
comp=Z,368nm,1.5s,mb6.1
LDF La Druitiere 88.38 336⇑*iP* **P 00 10 56.0 -0.4**
LDF pmax pmax
comp=Z,184nm,1.5s,mb6.1
LDF La Druitiere 88.38 336⇑*iP* **P 00 10 56.0 -0.4**
comp=Z,184nm,1.5s,mb6.1
GVD Gavdhos 88.40 314 *eP* pP 00 11 07.0 -0.4
MIDA Miranda 88.47 324 P **P 00 10 56.5 -0.4**

RNI2 Rionero Sannit 88.47 324 P **P 00 10 56.8 -0.1**
RSL Roselend 88.47 331 *e*P **P 00 10 56.8 -0.1**
RSL Roselend 88.47 331 *e*P **P 00 10 56.8 -0.1**
SSF Saint Saulge 88.47 333⇑*i*P **P 00 10 56.5 -0.4**
comp=Z,168nm,1.3s,mb5.8
SSF Saint Saulge 88.47 333⇑*i*P **P 00 10 56.5 -0.4**
SSF pmax pmax
comp=Z,84nm,1.3s,mb5.8
SSF Saint Saulge 88.47 333⇑*i*P **P 00 10 56.5 -0.4**
comp=Z,84nm,1.3s,mb5.8
PII Pisa 88.49 328 P **P 00 10 55.2 -1.8**
PII pmax pmax
comp=Z,33nm,1.3s,mb5.4
PII Pisa 88.49 328 P **P 00 10 55.2 -1.8**
comp=Z,33nm,1.3s,mb5.4
PSB1 Pescosannita 88.54 323 P **P 00 10 56.6 -0.6**
LPL La Plagne 88.58 331⇑*i*P **P 00 10 57.3 -0.1**
comp=Z,64nm,1.1s,mb5.6
LPL La Plagne 88.58 331⇑*i*P **P 00 10 57.3 -0.1**
LPL pmax pmax
comp=Z,32nm,1.1s,mb5.6
LPL La Plagne 88.58 331⇑*i*P **P 00 10 57.3 -0.1**
comp=Z,32nm,1.1s,mb5.6
LPG La Plagne 88.58 331⇑*i*P **P 00 10 57.5 +0.1**
comp=Z,131nm,1.3s,mb5.8
LPG La Plagne 88.58 331⇑*i*P **P 00 10 57.5 +0.1**
LPG pmax pmax
comp=Z,65nm,1.3s,mb5.8
LPG La Plagne 88.58 331⇑*i*P **P 00 10 57.5 +0.1**
comp=Z,65nm,1.3s,mb5.8
HYF Humbligny 88.60 334 *e*P **P 00 10 57.7 +0.2**
ORI Oriolo Calabro 88.64 322 P **P 00 10 57.9 +0.3**
SMF Signal de Mont 88.71 333⇑*i*P **P 00 10 57.6 -0.4**
comp=Z,386nm,1.6s,mb6.2
SMF Signal de Mont 88.71 333⇑*i*P **P 00 10 57.6 -0.4**
SMF pmax pmax
comp=Z,193nm,1.6s,mb6.2
SMF Signal de Mont 88.71 333⇑*i*P **P 00 10 57.6 -0.4**
comp=Z,193nm,1.6s,mb6.2
AVF Avril sur Loir 88.76 333⇑*i*P **P 00 10 57.9 -0.3**
comp=Z,462nm,1.6s,mb6.3
AVF Avril sur Loir 88.76 333⇑*i*P **P 00 10 57.9 -0.3**
AVF pmax pmax
comp=Z,231nm,1.6s,mb6.3
AVF Avril sur Loir 88.76 333⇑*i*P **P 00 10 57.9 -0.3**
comp=Z,231nm,1.6s,mb6.3
GRR Gorron 88.79 337⇑*i*P **P 00 10 58.2 -0.2**
comp=Z,441nm,1.3s,mb6.3
GRR Gorron 88.79 337⇑*i*P **P 00 10 58.2 -0.2**
GRR pmax pmax
comp=Z,221nm,1.3s,mb6.3
GRR Gorron 88.79 337⇑*i*P **P 00 10 58.2 -0.2**
comp=Z,221nm,1.3s,mb6.3
BNI Bardonecchia 88.98 331 *e*P **P 00 11 00.4 +1.1**
BNI *e**PP pP 00 11 07.7 -2.4
BNI pmax pmax
comp=Z,116nm,1.8s,mb5.9
BNI Bardonecchia 88.98 331 *e*P **P 00 11 00.4 +1.1**
comp=Z,116nm,1.8s,mb5.9
BNI *e*pP pP 00 11 07.7 -2.4
RDP Rocca di Papa 89.09 325 P **P 00 10 58.8 -1.0**
BGF Bois d'Agland 89.14 334⇑*i*P **P 00 10 59.8 -0.2**
comp=Z,228nm,1.6s,mb5.9
BGF Bois d'Agland 89.14 334⇑*i*P **P 00 10 59.8 -0.2**
BGF pmax pmax
comp=Z,114nm,1.6s,mb6.0
BGF Bois d'Agland 89.14 334⇑*i*P **P 00 10 59.8 -0.2**
comp=Z,114nm,1.6s,mb6.0
TIP Timpagrande 89.16 321 *e*P **P 00 10 60.0 -0.1**
MBDF Montbardon 89.22 330⇑*i*P **P 00 11 01.4 +1.0**
comp=Z,58nm,1.1s,mb5.5
MBDF Montbardon 89.22 330⇑*i*P **P 00 11 01.4 +1.0**
MBDF pmax pmax
comp=Z,29nm,1.1s,mb5.5
MBDF Montbardon 89.22 330⇑*i*P **P 00 11 01.4 +1.0**
comp=Z,29nm,1.1s,mb5.5
PLDF La Plantade 89.36 333 *e*P **P 00 11 01.1 0.0**
PLDF La Plantade 89.36 333 *e*P **P 00 11 01.1 0.0**
ORIF Oris-en-Rattie 89.41 331⇑*i*P **P 00 11 01.0 -0.3**
comp=Z,173nm,1.7s,mb5.8
ORIF *e*MLR MLR
comp=Z,4μm,17.0s
ORIF Oris-en-Rattie 89.41 331⇑*i*P **P 00 11 01.0 -0.3**
ORIF pmax pmax
comp=Z,86nm,1.7s,mb5.8
ORIF Oris-en-Rattie 89.41 331⇑*i*P **P 00 11 01.0 -0.3**
comp=Z,86nm,1.7s,mb5.8
SGMF Saint Gilles 89.43 338⇑*i*P **P 00 11 01.3 -0.1**
comp=Z,170nm,1.2s,mb6.0
SGMF Saint Gilles 89.43 338⇑*i*P **P 00 11 01.3 -0.1**
SGMF pmax pmax
comp=Z,85nm,1.2s,mb6.0
SGMF Saint Gilles 89.43 338⇑*i*P **P 00 11 01.3 -0.1**
comp=Z,85nm,1.2s,mb6.0
IMI Imperia 89.44 329 P **P 00 11 00.8 -0.6**
comp=Z,70nm,1.5s,mb5.8
AGO Saint Agoulin 89.47 333 *e*P **P 00 11 01.3 -0.3**
AGO Saint Agoulin 89.47 333 *e*P **P 00 11 01.3 -0.3**
SAOF Saorge 89.52 329 *e*P **P 00 11 00.9 -0.9**
SAOF Saorge 89.52 329 *e*P **P 00 11 00.9 -0.9**
AUTN L'Aution 89.56 330 *e*P **P 00 11 01.3 -0.7**
AUTN L'Aution 89.56 330 *e*P **P 00 11 01.3 -0.7**
ROSF Rostrenen 89.58 338⇑*i*P **P 00 11 02.0 -0.1**
comp=Z,272nm,1.3s,mb6.1
ROSF Rostrenen 89.58 338⇑*i*P **P 00 11 02.0 -0.1**
ROSF pmax pmax
comp=Z,136nm,1.3s,mb6.1
ROSF Rostrenen 89.58 338⇑*i*P **P 00 11 02.0 -0.1**
comp=Z,136nm,1.3s,mb6.1
TCF Toulx Ste Croi 89.60 334⇑*i*P **P 00 11 02.1 -0.1**
comp=Z,225nm,1.7s,mb5.9
TCF Toulx Ste Croi 89.60 334⇑*i*P **P 00 11 02.1 -0.1**
TCF pmax pmax
comp=Z,113nm,1.7s,mb5.9
TCF Toulx Ste Croi 89.60 334⇑*i*P **P 00 11 02.1 -0.1**
comp=Z,113nm,1.7s,mb5.9
TOUF Mont Tournerai 89.62 330 *e*P **P 00 11 01.9 -0.4**
TOUF Mont Tournerai 89.62 330 *e*P **P 00 11 01.9 -0.4**
SBF Sospel 89.67 329⇑*i*P **P 00 11 01.3 -1.2**
comp=Z,213nm,1.5s,mb6.0
SBF Sospel 89.67 329⇑*i*P **P 00 11 01.3 -1.2**
SBF pmax pmax
comp=Z,106nm,1.5s,mb6.0
SBF Sospel 89.67 329⇑*i*P **P 00 11 01.3 -1.2**
comp=Z,106nm,1.5s,mb6.0
LUCF Luceram 89.68 330 *e*P **P 00 11 01.8 -0.7**
COLF Collangettes 89.72 333 *e*P **P 00 11 03.5 +0.8**
COLF Collangettes 89.72 333 *e*P **P 00 11 03.5 +0.8**
MVIF Mont Vial 89.75 330 *e*P **P 00 11 02.4 -0.5**
MVIF Mont Vial 89.75 330 *e*P **P 00 11 02.4 -0.5**
PYM Petit Puy Mans 89.78 333 *e*P **P 00 11 03.2 +0.2**
PYM Petit Puy Mans 89.78 333 *e*P **P 00 11 03.2 +0.2**
REVF Revere 89.80 329 *e*P **P 00 11 01.6 -1.5**
REVF Revere 89.80 329 *e*P **P 00 11 01.6 -1.5**
QUIF Quistinic 89.92 338⇑*i*P **P 00 11 03.3 -0.4**
comp=Z,64nm,1.0s,mb5.6
QUIF Quistinic 89.92 338⇑*i*P **P 00 11 03.3 -0.4**
QUIF pmax pmax
comp=Z,32nm,1.0s,mb5.6
QUIF Quistinic 89.92 338⇑*i*P **P 00 11 03.3 -0.4**
comp=Z,32nm,1.0s,mb5.6
VIVF Saint-Julien-l 89.92 332⇑*i*P **P 00 11 03.4 -0.3**
comp=Z,127nm,1.4s,mb5.8
VIVF Saint-Julien-l 89.92 332⇑*i*P **P 00 11 03.4 -0.3**
VIVF pmax pmax
comp=Z,63nm,1.4s,mb5.8
VIVF Saint-Julien-l 89.92 332⇑*i*P **P 00 11 03.4 -0.3**
comp=Z,63nm,1.4s,mb5.8
CCM Cathedral Cave 90.01 40 *e*P **P 00 11 01.9 -2.2**
CCM *e**PP pP 00 11 13.0 -2.0
CCM pmax pmax
comp=Z,56nm,1.2s,mb5.8
CCM MLR MLR
comp=Z,986nm,20.0s,MS5.2
CCM Cathedral Cave 90.01 40 *e*P **P 00 11 01.9 -2.2**
comp=Z,56nm,1.2s,mb5.8
CCM *e*pP pP 00 11 13.0 -1.9
CCM LR LR
comp=Z,986nm,20.0s,MS5.2
LBL Lubilhac 90.13 333 *e*P **P 00 11 05.1 +0.4**
LBL Lubilhac 90.13 333 *e*P **P 00 11 05.1 +0.4**
AAM Ann Arbor 90.22 33 PFAKE 00 11 20.0 +15
AAM LR LR
comp=Z,1μm,20.0s,MS5.4
FRF La Foret Royal 90.24 330⇑*i*P **P 00 11 04.1 -1.0**
comp=Z,136nm,1.4s,mb5.8
FRF La Foret Royal 90.24 330⇑*i*P **P 00 11 04.1 -1.0**
FRF pmax pmax
comp=Z,68nm,1.4s,mb5.8
FRF La Foret Royal 90.24 330⇑*i*P **P 00 11 04.1 -1.0**
comp=Z,68nm,1.4s,mb5.8
LCHF La Chataignera 90.27 336 *e*P **P 00 11 05.9 +0.6**
LCHF La Chataignera 90.27 336 *e*P **P 00 11 05.9 +0.6**
SMRF Simiane la Rot 90.31 331⇑*i*P **P 00 11 05.3 -0.2**
comp=Z,120nm,1.6s,mb5.7
SMRF Simiane la Rot 90.31 331⇑*i*P **P 00 11 05.3 -0.2**
comp=Z,120nm,1.6s,mb6.0
VILF Villemus 90.36 330 *e*P **P 00 11 05.9 +0.2**
VILF Villemus 90.36 330 *e*P **P 00 11 05.9 +0.2**
TAVF Tavernes 90.42 330 *e*P **P 00 11 06.1 +0.1**
TAVF Tavernes 90.42 330 *e*P **P 00 11 06.1 +0.1**
LMR La Mourre 90.48 330⇑*i*P **P 00 11 05.5 -0.8**
comp=Z,217nm,1.4s,mb6.0
LMR La Mourre 90.48 330⇑*i*P **P 00 11 05.5 -0.8**
LMR pmax pmax
comp=Z,108nm,1.4s,mb6.0
LMR La Mourre 90.48 330⇑*i*P **P 00 11 05.5 -0.8**
comp=Z,108nm,1.4s,mb6.0
PRAF Pradon 90.62 331 *e*P **P 00 11 07.4 +0.5**
PRAF Pradon 90.62 331 *e*P **P 00 11 07.4 +0.5**
MSEY Mahe Island 90.64 265 PFAKE 00 11 20.0 +13
MSEY LR LR
comp=Z,437nm,19.0s,MS4.9
PUYF Puyloubier 90.64 330 *e*P **P 00 11 07.2 +0.2**
PUYF Puyloubier 90.64 330 *e*P **P 00 11 07.2 +0.2**
TREF Trevaresse 90.69 331 *e*P **P 00 11 07.4 +0.2**
TREF Trevaresse 90.69 331 *e*P **P 00 11 07.4 +0.2**
RJF Les Rejaudoux 90.69 334⇑*i*P **P 00 11 07.3 0.0**
comp=Z,254nm,1.4s,mb6.1
RJF *e*MLR MLR
comp=Z,5μm,17.5s
RJF Les Rejaudoux 90.69 334⇑*i*P **P 00 11 07.3 0.0**
RJF pmax pmax
comp=Z,127nm,1.4s,mb6.1
RJF MLR MLR
comp=Z,5μm,17.5s,MS6.0
RJF Les Rejaudoux 90.69 334⇑*i*P **P 00 11 07.3 0.0**
comp=Z,127nm,1.4s,mb6.1
RJF LR LR
comp=Z,5μm,17.5s,MS6.0
JCT Junction City 90.75 50 *e*P **P 00 11 09.0 +1.5**
JCT MLR MLR
comp=Z,1μm,19.0s,MS5.3
CAF Calviac 90.82 333⇑*i*P **P 00 11 08.3 +0.4**
comp=Z,155nm,1.1s,mb5.9
CAF Calviac 90.82 333⇑*i*P **P 00 11 08.3 +0.4**
CAF pmax pmax
comp=Z,78nm,1.1s,mb6.0
CAF Calviac 90.82 333⇑*i*P **P 00 11 08.3 +0.4**
comp=Z,78nm,1.1s,mb6.0
BERF Bertagne 90.83 330 *e*P **P 00 11 07.2 -0.7**
BERF Bertagne 90.83 330 *e*P **P 00 11 07.2 -0.7**
GELF Grande-Etoile 90.87 330 *e*P **P 00 11 08.3 +0.2**
GELF Grande-Etoile 90.87 330 *e*P **P 00 11 08.3 +0.2**
LASF Ste Croix 90.89 332⇑*i*P **P 00 11 08.2 0.0**
comp=Z,115nm,1.3s,mb5.7
LFF La Frestale 91.28 334⇑*i*P **P 00 11 10.3 +0.3**
comp=Z,206nm,1.2s,mb6.0
LFF La Frestale 91.28 334⇑*i*P **P 00 11 10.3 +0.3**
LFF pmax pmax
comp=Z,103nm,1.2s,mb6.0
LFF La Frestale 91.28 334⇑*i*P **P 00 11 10.3 +0.3**
comp=Z,103nm,1.2s,mb6.0
MSNY Massena 91.35 26 *e*P **P 00 11 10.0 -0.3**
MSNY *e*pP pP 00 11 20.6 -0.6
MIAR Mount Ida 91.42 43 *e*P **P 00 11 10.5 -0.2**
MIAR MLR MLR
comp=Z,1μm,19.0s,MS5.3
DGI Dorgali Grotta 91.65 326 P **P 00 11 10.9 -0.8**
LONY Lake Ozonia 91.78 26 *e*pP pP 00 11 23.0 -0.2
MTLF Montolieu 92.13 332⇑*i*P **P 00 11 14.1 +0.2**
comp=Z,93nm,1.2s,mb5.7
MTLF Montolieu 92.13 332⇑*i*P **P 00 11 14.1 +0.2**
MTLF pmax pmax
comp=Z,47nm,1.2s,mb5.7
MTLF Montolieu 92.13 332⇑*i*P **P 00 11 14.1 +0.2**
comp=Z,46nm,1.2s,mb5.7
ACSO Alum Creek Sta 92.20 33 PFAKE 00 11 20.0 +5.7
ACSO LR LR
comp=Z,1μm,20.0s,MS5.4
WCI Wyandotte Cave 92.31 37 PFAKE 00 11 30.0 +15
WCI LR LR
comp=Z,1μm,19.0s,MS5.3
VSL Villasalto 92.42 326 *e*pP pP 00 11 24.6 -1.6
NCB Newcomb 92.47 26 *e*pP pP 00 11 25.8 -0.6
NCB LR LR
comp=Z,2μm,20.0s,MS5.5
MIV Mineville/With 92.62 25 *e*P **P 00 11 11.8 -4.3**
MLS Moulis 92.88 333 *e*P **P 00 11 17.2 -0.2**
NATX Nacogdoches 92.88 46 PFAKE 00 11 30.0 +13
NATX LR LR
comp=Z,1μm,19.0s,MS5.3
PKME Peaks-Kenny Pk 92.91 22 *e*P **P 00 11 17.6 0.0**
comp=Z,29nm,1.1s,mb5.6
PKME *e*pP pP 00 11 28.2 -0.2
LBNH Lisbon 93.01 24 *e*P pP 00 11 30.2 +1.3
LBNH MLR MLR
comp=Z,2μm,20.0s,MS5.5
LBNH Lisbon 93.01 24 *e*pP pP 00 11 30.2 +1.4
LBNH LR LR
comp=Z,2μm,20.0s,MS5.5
VALF Valcebollere 93.02 332 *e*P **P 00 11 18.0 0.0**
EPF Esparros 93.09 333⇑*i*P **P 00 11 17.9 -0.4**
comp=Z,92nm,1.6s,mb5.7
EPF Esparros 93.09 333⇑*i*P **P 00 11 17.9 -0.4**
EPF pmax pmax
comp=Z,46nm,1.6s,mb5.7
EPF Esparros 93.09 333⇑*i*P **P 00 11 17.9 -0.4**
comp=Z,46nm,1.6s,mb5.7
ACCN Adirondack Com 93.18 26 *e*pP pP 00 11 29.9 +0.2
WVT Waverly 93.22 39 PFAKE 00 11 30.0 +11
WVT LR LR
comp=Z,1μm,19.0s,MS5.3
RESF Ens 93.28 333 *e*P **P 00 11 20.5 +1.3**
RESF Ens 93.28 333 *e*P **P 00 11 20.5 +1.3**
VIEF Viey 93.33 334 *e*P **P 00 11 20.1 +0.6**
VIEF Viey 93.33 334 *e*P **P 00 11 20.1 +0.6**
BINY Binghamton 93.38 28 PFAKE 00 11 30.0 +10
BINY LR LR
comp=Z,2μm,20.0s,MS5.5
WVL Waterville 93.44 23 *e*pP pP 00 11 30.8 -0.1
ETSF Etsaut 93.52 334⇑*i*P **P 00 11 21.0 +0.7**
comp=Z,110nm,1.4s,mb5.8
ETSF Etsaut 93.52 334⇑*i*P **P 00 11 21.0 +0.7**
ETSF pmax pmax
comp=Z,55nm,1.4s,mb5.8
ETSF Etsaut 93.52 334⇑*i*P **P 00 11 21.0 +0.7**
comp=Z,55nm,1.4s,mb5.8
HKT Hockley 93.52 48 PFAKE 00 11 30.0 +10
HKT LR LR
comp=Z,829nm,20.0s,MS5.2
SJPF Ste Jean 93.56 334⇑*i*P **P 00 11 21.9 +1.4**
comp=Z,32nm,1.1s,mb5.3
SJPF Ste Jean 93.56 334⇑*i*P **P 00 11 21.9 +1.4**
SJPF pmax pmax
comp=Z,16nm,1.1s,mb5.4
SJPF Ste Jean 93.56 334⇑*i*P **P 00 11 21.9 +1.4**
comp=Z,16nm,1.1s,mb5.4
OXF Oxford 93.68 41 *e*P **P 00 11 21.0 -0.1**
OXF pmax pmax
comp=Z,42nm,1.1s,mb5.8
OXF MLR MLR
comp=Z,807nm,20.0s,MS5.2
OXF Oxford 93.68 41 *e*P **P 00 11 21.0 0.0**
comp=Z,42nm,1.1s,mb5.8
OXF LR LR
comp=Z,807nm,20.0s,MS5.2
SSPA Standing Stone 93.99 30 PFAKE 00 11 30.0 +7.5
SSPA LR LR
comp=Z,2μm,20.0s,MS5.5
PLAL Pickwick Lake 94.00 40 PFAKE 00 11 30.0 +7.5
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
MCWV Mont Chateau 94.02 32 PFAKE 00 11 30.0 +7.3
MCWV LR LR
comp=Z,2μm,20.0s,MS5.5
HRV Harvard--Oak R 94.67 25 PFAKE 00 11 40.0 +14
HRV LR LR
comp=Z,2μm,20.0s,MS5.5
WES Weston 94.86 25 PFAKE 00 11 40.0 +14
WES LR LR
comp=Z,966nm,20.0s,MS5.3
KEST Kesra 95.49 324 P **P 00 11 28.8 -0.6**
comp=Z,3.6nm,1.1s,mb4.7,baz=292,slow=1.3,SNR=4.7
KEST PP PP 00 15 15.5 -4.9
comp=Z,3.7nm,1.2s,baz=289,slow=6.1,SNR=3.8
KEST S S 00 22 07.0 -36
comp=Z,0.8nm,1.1s,baz=164,slow=19,SNR=2.6
BLA Blacksburg 95.83 33 PFAKE 00 11 40.0 +9.1
BLA LR LR
comp=Z,1μm,19.0s,MS5.4
CBN Corbin 96.28 31 PFAKE 00 11 40.0 +7.1
CBN LR LR
comp=Z,2μm,20.0s,MS5.6
ESDC Sonseca Array 97.56 335 P **P 00 11 38.3 -0.4**
comp=Z,1.9nm,0.8s,mb4.7,baz=42,slow=2.9,SNR=7.7
ESDC PP PP 00 15 31.6 -4.8
comp=Z,3.6nm,1.0s,baz=38,slow=7.9,SNR=3.7
ESLA Sonseca Array 97.56 335 *e*pP pP 00 11 49.8 +0.1
ESLA LR LR
comp=Z,18μm,20.0s
RKT Rikitea 97.84 113 *e*PP PP 00 15 22.7 -16
comp=Z,138nm,26.0s
RKT Rikitea 97.84 113 *e*SP SP 00 24 24.6 -2.0
comp=Z,443nm,28.5s
RKT *e*SS SS 00 29 42.9 -2.0
comp=Z,480nm,27.5s
RKT *e*LR LR 00 43 00.6
comp=Z,2μm,23.5s,baz=310
DWPF Disney 102.87 39 PFAKE 00 12 10.0 +7.6
DWPF LR LR
comp=Z,1μm,20.0s,MS5.5
KMBO Kilima Mbogo 103.01 279 Pdiff Pdif 00 12 03.6 +0.5
comp=Z,3.3nm,1.2s,baz=180,slow=1.5,SNR=3.8
KMBO Kilima Mbogo 103.01 279 Pdif Pdif 00 12 03.6 +0.5
KMBO LR LR
comp=Z,918nm,20.0s,MS5.3
MDT Midelt 103.93 332 Pdiff Pdif 00 12 07.0 -0.2
comp=Z,1.6nm,1.0s,baz=252,slow=2.1,SNR=2.8
MDT PP PP 00 16 18.5 -6.0
comp=Z,10nm,1.3s,baz=32,slow=8.0,SNR=5.3
BBSR BB Station 106.14 24 PFAKE 00 16 40.0 +11
BBSR LR LR
comp=Z,1μm,20.0s,MS5.4
VNDA Vanda 115.11 175 PKP PKiKP 00 16 44.5 -1.1
comp=Z,0.4nm,0.7s,baz=352,slow=4.8,SNR=4.2
VNDA Vanda 115.11 175 PKP PKiKP 00 16 44.5 -1.1
VNDA LR LR
comp=Z,818nm,19.0s,MS5.4
SBA Scott Base 115.77 175 *e*PKIKP PKPdf 00 16 45.4 -1.5
TORD Torodi Ar. Bea 117.93 316 PKP PKPdf 00 16 50.4 -0.7
comp=Z,3.1nm,1.0s,baz=307,slow=2.7,SNR=9.4
TORD PP PP 00 17 54.4 -11
comp=Z,9.3nm,1.3s,baz=28,slow=3.2,SNR=7.7
LSZ Lusaka 118.56 272 *e*PKIKP PKPdf 00 16 52.9 +0.7
LSZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
PAYG Puerto Ayora 119.12 66 PFAKE 00 17 00.0 +6.7
PAYG LR LR
comp=Z,1μm,20.0s,MS5.6
MAW Mawson 120.21 206 PKP PKPdf 00 16 53.4 -2.0
comp=Z,2.3nm,0.9s,baz=292,slow=5.3,SNR=4.2
MSKU Masuku 121.39 295 PFAKE 00 17 10.0 +12
MSKU LR LR
comp=Z,2.0nm,19.0s
SDV Santo Domingo 124.45 41 *e*PKPdf PKPdf 00 17 03.4 -0.1
SDV LR LR
comp=Z,377nm,19.0s,MS5.1
ROSC El Rosal 125.70 48 PKP PKPdf 00 17 06.6 +0.7
comp=Z,2.7nm,0.4s,baz=264,slow=18,SNR=2.7
LBTB Lobatse 125.73 264 PKP PKPdf 00 17 05.0 -1.1
comp=Z,9.9nm,1.0s,baz=147,slow=2.6,SNR=7.4
LBTB Lobatse 125.73 264 PKP PKPdf 00 17 05.0 -1.1
LBTB LR LR
comp=Z,932nm,20.0s,MS5.5
OTAV Otavalo 126.71 55 PFAKE 00 17 20.0 +12
OTAV LR LR
comp=Z,682nm,19.0s,MS5.3
DBIC Dimbokro 126.85 318 PKP PKPdf 00 17 07.5 -0.7
comp=Z,7.9nm,1.0s,baz=240,slow=9.0,SNR=3.5
DBIC PP PP 00 19 01.1 -4.6
comp=Z,12nm,1.1s,baz=26,slow=11,SNR=3.8
DBIC Dimbokro 126.85 318 PKP PKPdf 00 17 07.5 -0.7
DBIC PP PP 00 19 01.1 -4.6
DBIC LR LR
comp=Z,2μm,20.0s,MS5.8
QSPA South Pole Qui 127.00 180 *e*P PKPdf 00 17 05.5 -2.9
QSPA LR LR
comp=Z,817nm,19.0s,MS5.4
BOSA Boshof 127.68 260 PKP PKPdf 00 17 08.5 -1.2
comp=Z,5.5nm,1.0s,baz=79,slow=14,SNR=3.5
BOSA Boshof 127.68 260 PKP PKPdf 00 17 08.5 -1.2
BOSA LR LR
comp=Z,849nm,19.0s,MS5.5
SYO Syowa Base 128.89 207⇑*e*P PKPdf 00 17 09.8 -2.2
TSUM Tsumeb 129.16 275 *e*PKPdf PKPdf 00 17 13.7 +1.1
TSUM LR LR
comp=Z,1μm,19.0s,MS5.6
NNA Nana 136.54 65 *e*PKPdf PKPdf 00 17 26.2 -0.2
NNA *e*pPKPdf pPKPdf 00 17 36.5 -1.2
NNA LR LR
comp=Z,162nm,21.0s,MS4.7
NVL N'lazarevskaya 137.90 202 *e*PKIKP pPKPdf 00 17 38.5 -1.6
NVL pmax pmax
comp=Z,20nm,1.2s
NVL pmax pmax
comp=Z,561nm,19.3s
SNAA Sanae 141.27 197 PKhKP 00 17 26.1
comp=Z,1.1nm,1.0s,baz=156,slow=7.8,SNR=3.9
SNAA PKP PKPdf 00 17 33.4 -1.7
comp=Z,3.4nm,1.1s,baz=133,slow=1.9,SNR=11
SNAA PP PP 00 20 35.8 -1.6
comp=Z,2.0nm,1.1s,baz=125,slow=8.1,SNR=6.0
SNAA Sanae 141.27 197 *e* PKPdf 00 17 34.4 -0.7
SNAA *e* 00 17 37.1
SNAA *e* 00 17 45.5
SNAA *e* 00 17 51.4
SNAA *e* 00 17 57.3
SNAA *e* 00 18 06.8
SNAA *e* 00 18 13.2
SNAA *e* 00 18 18.9
SNAA *e* 00 18 25.5
SNAA Sanae 141.27 197 PKP PKPdf 00 17 26.1 -9.0
SNAA *e*PKPdf PKPdf 00 17 29.1 -6.0
SNAA PKP PKPdf 00 17 33.4 -1.7
SNAA PP PP 00 20 35.8 -1.6
VNA1 Neumayer--Stat 143.22 196 *e* PKPdf 00 17 33.6 -5.0
VNA1 *e* 00 17 36.8
VNA1 *e* 00 17 46.2
VNA1 *e* 00 17 49.2
VNA1 *e* 00 17 52.0
VNA1 *e* 00 17 56.5
VNA1 *e* 00 18 03.1
VNA1 *e* 00 18 09.0
VNA1 *e* 00 18 13.0
VNA1 *e* 00 18 19.4
VNA1 *e* 00 18 25.2
SAML Samuel 143.32 46 *e*PKPdf PKPdf 00 17 37.7 -1.0
SAML LR LR
comp=Z,616nm,19.0s,MS5.4
LPAZ La Paz 145.65 61 PKPbc PKPbc 00 17 42.9 -0.2
comp=Z,3.3nm,0.6s,baz=4.2,slow=5.1,SNR=17
LPAZ La Paz 145.65 61 PKIKP PKPdf 00 17 42.9 +0.1
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ La Paz 145.65 61 *e*PKPdf PKPdf 00 17 43.1 +0.4
LPAZ LR LR
comp=Z,638nm,20.0s,MS5.4
PMSA Palmer Station 148.19 158 PFAKE 00 18 00.0 +13
PMSA LR LR
comp=Z,897nm,20.0s,MS5.6
RCBR Riachuelo 148.69 357 *e*PKPdf PKPdf 00 17 48.3 +0.5
RCBR LR LR
comp=Z,829nm,19.0s,MS5.5
LVC Limon Verde 149.08 71 *e*PKPdf PKPdf 00 17 50.0 +1.5
LVC LR LR
comp=Z,1μm,21.0s,MS5.6
PLCA Paso Flores 153.97 108 PKPbc PKPbc 00 18 03.7 -0.2
comp=Z,1.3nm,0.4s,baz=71,slow=18,SNR=7.0
PLCA Paso Flores 153.97 108 PKPbc PKPbc 00 18 03.7 -0.2
PLCA LR LR
comp=Z,777nm,19.0s,MS5.5
BDFB Brasilia 156.44 27 *e*PKIKP PKPdf 00 17 57.9 -1.4
BDFB MLR MLR
comp=Z,1μm,21.0s

CPUP	**Villa Florida**	**159.78**	**63**	*e*PKIKP	PKPdf	00 18 01.5	-1.8
CPUP				*e*		00 18 13.1	
CPUP				MLR	MLR		
comp=Z,172nm,19.0s							
CAM3	**Guarapari**	**163.28**	**11**	(P)	pPKPdf	00 18 17.9	-0.3
CAM3				*i*		00 18 21.8	
CAM3				*i*		00 18 30.0	
CAM3				*i*		00 18 42.5	

*IDC **10** 23:59:44.1±0.9, 37.18N×142.71E, h0km, mb4.8/9, mb1 5.0/10, mb1mx4.7/22, mbtmp4.8/10, MS4.9/2, Ms1 4.8/2, ms1mx3.9/19, Error ellipse: s-maj=23.8km s-min=20.7km az=78.0*
*ISCJB **10** 23:59:47.9±4.0, 37.1N±0.1×142.7E±0.3, h40km±34km, mb4.9/8, MS4.9/2, Error ellipse: s-maj=36.0km s-min=22.8km az=147.7*
ISC 10 23:59:49.5±3.9, 372N±01×1426E±03, h36km±34km, n12, σ0°79/10, mb4.9/8, MS4.9/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.61**	**261**	Pn	**Pn**	**00 00 42.8**	**-0.1**
baz=32,slow=38,SNR=1.9							
SONM	**Songino Array**	**28.52**	**303**	P	**P**	**00 05 42.4**	**+0.9**
33nm,0.9s,mb5.1,baz=105,slow=8.7,SNR=4.1							
ZAL	**Zalesovo**	**42.55**	**312**	P	**P**	**00 07 41.3**	**-0.4**
19nm,0.9s,mb4.8,baz=317,slow=5.2,SNR=2.6							
MKAR	**Makanchi Array**	**44.87**	**302**	P	**P**	**00 08 00.4**	**+0.1**
15nm,0.7s,mb4.9,baz=83,slow=9.9,SNR=2.5							
BVAR	**Borovoye Array**	**51.20**	**312**	P	**P**	**00 08 49.4**	**+0.2**
15nm,0.8s,mb5.0,baz=70,slow=6.0,SNR=2.6							
FITZ	**Fitzroy Crossi**	**57.28**	**199**	LR	LR	00 30 52.3	
comp=Z,486nm,19.5s,MS4.6,baz=198,slow=33							
WRA	**Warramunga Arr**	**57.35**	**189**	P	**P**	**00 09 33.9**	**-0.2**
16nm,1.0s,mb5.0,baz=7.9,slow=7.4,SNR=2.4							
ASAR	**Alice Springs**	**61.08**	**189**	P	**P**	**00 09 59.7**	**-0.1**
7.3nm,0.8s,mb4.8,baz=2.1,slow=7.2,SNR=3.2							
YKA	**Yellowknife Ar**	**63.19**	**30**	P	**P**	**00 10 12.8**	**-1.1**
8.3nm,1.1s,mb4.8,baz=304,slow=7.2,SNR=2.1							
NOA	**NORSAR Array B**	**74.42**	**338**	P	**P**	**00 11 22.8**	**-1.1**
8.0nm,0.8s,mb4.7,baz=38,slow=5.9,SNR=2.4							
PDAR	**Pinedale Array**	**76.86**	**46**	P	**P**	**00 11 39.5**	**+1.8**
0.4nm,0.6s,baz=112,slow=39,SNR=1.9							
ULM	**Lac du Bonnet**	**78.84**	**34**	LR	LR	00 50 31.0	
comp=Z,1μm,18.4s,MS5.2,baz=264,slow=39							

JMA 11 00:12:58.4±0.4, 4405N×14812E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.85**	**249**	P	Pn	00 13 31.7	+0.3
NEM2				*e*S	Sn	00 13 56.0	+0.4
JRA	**Rausu**	**2.17**	**268**	P	Pn	00 13 36.6	+0.9
JRA				*e*S	Sn	00 14 04.0	+0.7
JNK	**Nakash**	**2.50**	**260**	P	Pn	00 13 41.3	+0.9
JAK	**Akkeshi**	**2.70**	**248**	P	Pn	00 13 44.0	+0.9
JAK				*e*S	Sn	00 14 17.5	+1.0
JAR	**Ashorobuto**	**3.25**	**258**	P	Pn	00 13 52.5	+2.0
JAR				*e*S	Sn	00 14 32.4	+2.5
JCH	**Churui**	**3.76**	**249**	P	Pn	00 13 59.0	+1.4
JCH				*e*S	Sn	00 14 43.6	+1.1
JKB	**Kayabe**	**5.63**	**250**	P	Pn	00 14 25.0	+1.7
JKB				*e*S	Sn	00 15 29.2	+0.5
JOT	**Ohata**	**5.85**	**245**	P	Pn	00 14 27.7	+1.3

*ISCJB **11** 00:21:29.9±0.2, 1990N±003×12133E±006, h34km, mb4.5/38, Error ellipse: s-maj=7.9km s-min=3.8km az=154.8*
*MAN **11** 00:21:30.6, 1997N×12126E, h57km, mb3.5, ML4.7, MS7.1*
*IDC **11** 00:21:31.6±0.7, 1979N×12144E, h36km±5km, mb3.9/16, mb1 4.1/17, mb1mx4.0/24, mbtmp4.2/17, ML4.4/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/42, Error ellipse: s-maj=25.5km s-min=9.6km az=68.0*
*NEIC **11** 00:21:31.8±0.2, 1985N×12143E, mb4.8/17, Error ellipse: s-maj=9.1km s-min=4.9km az=79.0*
*BJI **11** 00:21:35.7, 2028N×12081E, h36km, mB4.8, mb4.5, ML4.0*
ISC 11 00:21:32.2±0.2, 1992N±003×12134E±005, h36km, h36km±2.0km; pP-P, n89, σ1°09/95, mb4.5/38, 10C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.73**	**203**	*e*S	**Sn**	**00 22 22.5**	**+1.9**
SGCP	**Mt. Cagua**	**1.80**	**158**	*e*P	**Pn**	**00 22 01.2**	**+0.5**
SGCP				*e*S	**Sn**	**00 22 24.2**	**+1.9**
CVP	**Callao Caves**	**2.25**	**168**	||*e*P	**Pn**	**00 22 01.0**	**-6.0**
ABRA	**Dolores**	**2.34**	**195**	*e*P	**Pn**	**00 22 08.0**	**-0.1**
PALP	**Palanan**	**3.02**	**160**	||*e*P	**Pn**	**00 22 19.1**	**+1.6**
PALP				*e*S	**Sn**	**00 22 59.0**	**+6.5**
PALP	**Palanan**	**3.02**	**160**	*e*P	**Pn**	**00 22 19.1**	**+1.5**
PALP				*e*S	**Sn**	**00 22 59.4**	**+6.8**
NACB	**Ninganchiao**	**4.24**	**3**	*e*Pn	**Pn**	**00 22 33.8**	**-0.4**
NACB				*e*Sn	**Sn**	**00 23 22.1**	**-0.3**
YHNB	**Yeheng**	**4.72**	**0**	*e*Pn	**Pn**	**00 22 42.1**	**+1.2**
YHNB				*e*Sn	**Sn**	**00 23 38.0**	**+3.5**
QZH	**Quanzhou**	**5.61**	**334**	P	**Pn**	**00 22 50.2**	**-2.8**
QZH				S	**Sn**	**00 23 49.7**	**-6.5**
QZH				Smax			
comp=N,240nm,1.3s							
QZH				Smax			
comp=E,150nm,0.8s							
TGY	**Tagaytay City**	**5.80**	**184**	P	**Pn**	**00 22 58.4**	**+2.6**
comp=E,52nm,0.3s,baz=315,slow=2.9,SNR=2.9							
PVCP	**Virac**	**6.84**	**156**	*e*P	**Pn**	**00 23 10.9**	**+0.9**
GZH	**Guangzhou**	**8.08**	**294**	P	**Pn**	**00 23 22.7**	**-4.4**
JOW	**Kunigami**	**9.37**	**41**	Pn	**Pn**	**00 23 44.2**	**-0.5**
comp=E,8.7nm,0.3s,baz=200,slow=14,SNR=18							
QIZ	**Qiongzhong**	**10.88**	**267**	P	**Pn**	**00 24 02.0**	**-3.4**
QIZ				S	**Sn**	**00 25 54.9**	**-11**
QIZ				AMB	AMB		
comp=Z,24nm,0.9s							
QIZ	**Qiongzhong**	**10.88**	**267**	*e*Pn	**Pn**	**00 24 01.9**	**-3.5**
comp=Z,18nm,0.6s							
QIZ				*e*Sn	**Sn**	**00 25 57.1**	**-8.8**
WHN	**Wuhan**	**12.32**	**331**	P	**Pn**	**00 24 25.7**	**+0.7**
GYA	**Guiyang**	**14.98**	**298**	⇑|*i*P	**Pn**	**00 24 59.2**	**-2.0**
GYA				AMB	AMB		
comp=Z,20nm,0.8s							
XAN	**Xi'an**	**17.87**	**324**	P	**Pn**	**00 25 37.3**	**-0.6**
XAN				AMB	AMB		
comp=Z,18nm,1.4s							
BJT	**Baijiatuau**	**20.52**	**349**	*e*P	**P**	**00 26 06.7**	**-0.5**
comp=Z,40nm,0.8s							
BJT				*e*		00 26 10.5	
BJI	**Beijing**	**20.54**	**349**	P	**P**	**00 26 07.3**	**-0.1**
BJI				AMB	AMB		
comp=Z,25nm,1.1s							
BJI	**Beijing**	**20.54**	**349**	P	**P**	**00 26 07.3**	**-0.1**
comp=Z,25nm,1.1s							
CHTO	**Chiang Mai**	**21.16**	**271**	*e*P	**P**	**00 26 14.6**	**+0.5**
comp=Z,8.2nm,0.9s,mb4.1							
CHTO				*e*		00 26 24.2	
KSM	**Kuching**	**21.28**	**212**	*e*P	**P**	**00 26 15.8**	**+0.3**
MAJO	**Matsushiro**	**22.19**	**38**	*e*P	**P**	**00 26 25.0**	**-0.2**
MJAR	**Matsushiro Arr**	**22.19**	**38**	P	**P**	**00 26 26.3**	**+1.1**
comp=Z,4.0nm,0.9s,mb3.9,baz=231,slow=7.9,SNR=12							
LZH	**Lanzhou**	**22.26**	**320**	*e*P	**P**	**00 26 26.0**	**+0.1**
LZH				AP		00 26 36.5	
LZH				XP	sP	00 26 41.0	+1.0
LZH				AMB	AMB		
comp=Z,43nm,1.3s,mb4.7							
LZH				AMB	AMB		
comp=Z,189nm,4.6s							
LZH	**Lanzhou**	**22.26**	**320**	*e*P	**P**	**00 26 26.0**	**+0.1**
comp=Z,43nm,1.3s,mb4.7							
LZH				pP		00 26 36.5	
LZH				sP	sP	00 26 41.0	+1.0
GTA	**Gaotai**	**26.84**	**321**	*e*P	**P**	**00 27 09.4**	**+0.2**
GTA				AP	pP	00 27 16.1	-3.4
GTA				XP	sP	00 27 19.6	-4.2
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.0							
HIA	**Hailar**	**29.30**	**358**	P	**P**	**00 27 31.3**	**+0.1**
SONM	**Songino Array**	**30.37**	**340**	P	**P**	**00 27 40.8**	**+0.2**
comp=Z,1.7nm,0.8s,mb3.8,baz=159,slow=9.9,SNR=14							
SONM				LR	LR	00 39 56.1	
comp=Z,572nm,21.2s,baz=152,slow=36							
GUN	**Gumba**	**33.29**	**291**	*e*P	**P**	**00 28 06.3**	**+0.1**

comp=Z,16nm,0.7s,mb5.1							
PKI	**Pulchoki**	**33.67**	**290**	*e*P	**P**	**00 28 08.8**	**-0.8**
comp=Z,5.1nm,0.5s,mb4.7							
KKN	**Kakani**	**33.80**	**290**	*e*P	**P**	**00 28 10.7**	**0.0**
DMN	**Daman**	**33.94**	**290**	*e*P	**P**	**00 28 11.7**	**-0.2**
comp=Z,6.2nm,0.5s,mb4.8							
KAKA	**Kakadu**	**34.22**	**160**	*e*P	**P**	**00 28 11.1**	**-3.2**
comp=Z,7.3nm,0.6s,mb4.8							
GKN	**Gorkha**	**34.39**	**291**	*e*P	**P**	**00 28 15.2**	**-0.6**
comp=Z,6.8nm,0.6s,mb4.8							
KOLN	**Koldanda**	**35.29**	**290**	*e*P	**P**	**00 28 23.4**	**-0.1**
comp=Z,32nm,1.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**38.02**	**173**	*e*P	**P**	**00 28 44.5**	**-2.4**
comp=Z,3.0nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**38.02**	**173**	P	**P**	**00 28 44.3**	**-2.5**
comp=Z,1.8nm,0.3s,mb4.2,baz=4.6,slow=5.4,SNR=11							
PMG	**Port Moresby**	**38.67**	**137**	P	**P**	**00 28 51.8**	**-0.6**
MBWA	**Marble Bar**	**40.86**	**182**	*e*P	**P**	**00 29 09.3**	**-1.1**
comp=Z,9.3nm,0.6s,mb4.6							
MKAR	**Makanchi Array**	**41.57**	**319**	P	**P**	**00 29 16.5**	**+0.2**
comp=Z,2.9nm,0.8s,mb4.0,baz=114,slow=9.9,SNR=25							
WRA	**Warramunga Arr**	**41.62**	**161**	P	**P**	**00 29 14.7**	**-2.0**
comp=Z,15nm,0.6s,mb4.8,baz=342,slow=9.0,SNR=160							
WRA				S	**S**	**00 35 27.4**	**-3.1**
comp=Z,0.9nm,0.7s,baz=346,slow=17,SNR=4.0							
WB2	**Warramunga Arr**	**41.62**	**161**	||*i*P	**P**	**00 29 14.8**	**-1.9**
WB2	**Warramunga Arr**	**41.62**	**161**	*e*P	**P**	**00 29 15.1**	**-1.7**
ZAL	**Zalesovo**	**43.94**	**330**	P	**P**	**00 29 36.0**	**+0.5**
comp=Z,2.1nm,0.7s,mb4.0,baz=5.6,slow=7.3,SNR=12							
MA2	**Magadan**	**44.87**	**21**	P	**P**	**00 29 42.6**	**-0.4**
AS31	**Alice Springs**	**45.02**	**164**	*e*P	**P**	**00 29 42.8**	**-1.4**
ASPA	**Alice Springs**	**45.02**	**164**	*e*P	**P**	**00 29 43.0**	**-1.2**
ASAR	**Alice Springs**	**45.02**	**164**	P	**P**	**00 29 43.0**	**-1.1**
comp=Z,9.8nm,0.3s,mb5.1,baz=340,slow=6.7,SNR=198							
ASAR				S	**S**	**00 36 19.4**	**-0.9**
comp=Z,1.1nm,0.9s,baz=356,slow=18,SNR=4.7							
CTAO	**Charters Tower**	**46.65**	**147**	*e*P	**P**	**00 29 58.5**	**+1.4**
comp=Z,12nm,0.9s,mb4.8							
FORT	**Forrest**	**50.82**	**173**	*e*P	**P**	**00 30 28.4**	**-0.7**
comp=Z,51nm,0.8s,mb5.5							
BVAR	**Borovoye Array**	**51.10**	**323**	P	**P**	**00 30 31.5**	**+0.3**
comp=Z,1.2nm,0.7s,mb4.0,baz=108,slow=9.5,SNR=10							
BRVK	**Borovoye**	**51.17**	**323**	*e*P	**P**	**00 30 31.9**	**+0.2**
comp=Z,594nm,3.5s							
BRVK				*e*pP	pP	00 30 42.5	+0.1
CHKZ	**Chkalovo**	**51.20**	**324**	*e*P	**P**	**00 30 32.0**	**+0.1**
comp=Z,4.3nm,0.8s,mb4.4							
CHKZ				*e*pP	pP	00 30 41.9	-0.8
CHKZ				*e*sP	sP	00 30 47.9	+1.0
KLBR	**Kellerberrin**	**51.34**	**184**	*e*P	**P**	**00 30 31.8**	**-1.1**
NWAO	**Narrogin (SRO)**	**52.70**	**184**	*e*P	**P**	**00 30 42.9**	**-0.2**
comp=Z,17nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**55.04**	**159**	P	**P**	**00 30 59.3**	**-0.9**
comp=Z,6.4nm,0.7s,mb4.8,baz=344,slow=5.9,SNR=11							
AKTK	**Aktyubinsk**	**57.96**	**318**	P	**P**	**00 31 21.0**	**+0.1**
AKTO	**Aktyubinsk**	**57.96**	**318**	P	**P**	**00 31 21.0**	**+0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=102,slow=15,SNR=4.3							
CNB	**Canberra Magne**	**61.03**	**154**	*e*P	**P**	**00 31 42.5**	**+0.4**
comp=Z,15nm,0.9s,mb5.1							
TOO	**Toolangi**	**61.54**	**158**	*e*P	**P**	**00 31 46.1**	**+0.5**
comp=Z,11nm,0.5s,mb5.2							
GNI	**Garni**	**67.38**	**306**	P	**P**	**00 32 26.3**	**+2.6**
comp=Z,1.6nm,0.7s,mb4.2,baz=187,slow=8.1,SNR=2.4							
KIV	**Kislovodsk**	**68.41**	**310**	*e*P	**P**	**00 32 30.9**	**+0.7**
comp=Z,11nm,0.9s,mb4.9							
KIV				*e*pP	pP	00 32 42.1	+0.8
KIV				*e*sP	sP	00 32 47.2	+1.7
JOF	**Joensuu**	**72.48**	**331**	*e*p	**P**	**00 32 55.4**	**+0.3**
comp=Z,0.9nm,0.4s,mb4.0							
MALT	**Malatya**	**72.52**	**305**	⇑|*i*P	**P**	**00 32 56.9**	**+1.6**
MALT	**Malatya**	**72.52**	**305**	⇑P	**P**	**00 32 56.9**	**+1.7**
KEV	**Kevo**	**72.97**	**339**	*e*p	**P**	**00 33 01.2**	**+3.2**
ARCES	**ARCESS Array B**	**73.53**	**339**	P	**P**	**00 33 01.2**	**-0.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=74,slow=7.6,SNR=4.5							
KAF	**Kangasniemi**	**74.92**	**331**	*e*p	**P**	**00 33 11.4**	**+2.0**
comp=Z,0.5nm,0.4s,mb3.8							
FINES	**FINESS Array B**	**75.19**	**330**	P	**P**	**00 33 11.4**	**+0.5**
comp=Z,1.3nm,0.7s,mb4.0,baz=57,slow=6.1,SNR=8.4							
FINES				pP	pP	00 33 23.3	+1.1
comp=Z,4.7nm,0.8s,baz=72,slow=6.2,SNR=9.3							
FINES	**FINESS Array B**	**75.19**	**330**	P	**P**	**00 33 11.4**	**+0.5**
FINES				pP	pP	00 33 23.3	+1.1
AKASG	**Malin Array Be**	**76.15**	**319**	P	**P**	**00 33 15.6**	**-0.8**
comp=Z,0.5nm,0.5s,mb3.7,baz=63,slow=6.3,SNR=3.7							
SUW	**Suwalki**	**78.78**	**323**	*e*P	**P**	**00 33 30.7**	**-0.4**
comp=Z,21nm,1.0s,mb5.0							
SUW				*e*PcP	PcP	00 33 41.0	+1.1
VRI	**Vrincioaia**	**79.08**	**315**	⇑|*i*P	**P**	**00 33 36.0**	**+3.2**
VRI	**Vrincioaia**	**79.08**	**315**	⇑P	**P**	**00 33 36.0**	**+3.2**
BURAR	**Bucovina Array**	**79.54**	**317**	⇑|*i*P	**P**	**00 33 34.9**	**-0.4**
BURAR	**Bucovina Array**	**79.54**	**317**	⇑P	**P**	**00 33 34.9**	**-0.4**
MLR	**Muntele Rosu**	**79.72**	**315**	||*i*P	**P**	**00 33 41.3**	**+5.1**
MLR	**Muntele Rosu**	**79.72**	**315**	||P	**P**	**00 33 41.2**	**+5.0**
KWP	**Kalwaria**	**80.47**	**319**	*e*P	**P**	**00 33 41.6**	**+1.3**
comp=Z,15nm,1.0s,mb4.9							
KWP				*e*pP	pP	00 33 51.7	+0.1
DRGR		**81.43**	**317**	⇑|*i*P	pP	00 33 56.2	-0.5
DRGR		**81.43**	**317**	⇑P	pP	00 33 56.2	-0.5
NB2	**NORSAR Subarra**	**82.05**	**333**	P	**P**	**00 33 48.0**	**-0.7**
comp=Z,1.6nm,1.0s,mb3.9,baz=65,slow=5.3							
NOA	**NORSAR Array B**	**82.05**	**333**	P	**P**	**00 33 48.1**	**-0.6**
comp=Z,0.8nm,0.8s,mb3.7,baz=63,slow=5.3,SNR=3.7							
NOA				pP	pP	00 33 59.6	-0.4
comp=Z,1.5nm,0.8s,baz=63,slow=5.2,SNR=5.9							
MORC	**Moravsky Berou**	**83.55**	**321**	⇑|*i*P	pP	00 34 11.6	+3.8
GERES	**GERESS Array B**	**86.22**	**321**	P	**P**	**00 34 10.9**	**+1.0**
comp=Z,0.3nm,0.6s,mb3.7,baz=59,slow=8.1,SNR=2.6							
YKA	**Yellowknife Ar**	**86.83**	**23**	P	**P**	**00 34 12.4**	**-0.5**
comp=Z,2.2nm,0.5s,mb4.6,baz=308,slow=4.8,SNR=25							
YKA				pP	pP	00 34 23.3	-0.9
comp=Z,2.1nm,0.6s,baz=311,slow=4.7,SNR=8.2							
SDV	**Santo Domingo**	**149.04**	**23**	*e*PKPdf	PKPdf	00 41 13.6	+1.3

*NEIC **11** 00:26:45.1, 3801S×17606E, h203km, MG3.8(WEL), After WEL.*
WEL 11 00:26:44.5±0.5, 3796S×17607E, h206km±4km, ML3.8/14, 1C, Error ellipse: s-maj=7.7km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.87**	**110**	P	Pn	00 27 14.1	+0.1
URZ	**Urewera**	**0.87**	**110**	PN	Pn	00 27 14.1	0.0
URZ				SN	Sn	00 27 36.8	-0.2
MWZ	**Matawai**	**1.21**	**109**	P	Pn	00 27 16.6	+0.3
MWZ				S	Sn	00 27 40.5	-0.5
MWZ	**Matawai**	**1.21**	**109**	PN	Pn	00 27 16.6	+0.3
MWZ				SN	Sn	00 27 40.5	-0.5
BKZ	**Black Stump Fm**	**1.25**	**165**	P	Pn	00 27 17.1	+0.5
BKZ	**Black Stump Fm**	**1.25**	**165**	⇑PN	Pn	00 27 17.0	+0.4
BKZ				SN	Sn	00 27 41.3	-0.3
MOVZ	**Moawhango**	**1.47**	**190**	P	Pn	00 27 18.5	+0.1
MOVZ	**Moawhango**	**1.47**	**190**	PN	Pn	00 27 18.4	0.0
KNZ	**Kokohu**	**1.65**	**131**	*e*P	Pn	00 27 20.2	+0.2
KNZ	**Kokohu**	**1.65**	**131**	*e*PN	Pn	00 27 20.2	+0.3
PUZ	**Puketiti**	**1.73**	**94**	*e*PN	Pn	00 27 20.0	-0.8
MXZ	**Matakaoa Point**	**1.81**	**78**	PN	Pn	00 27 21.5	-0.1
TSZ	**Takapari Road**	**2.10**	**182**	P	Pn	00 27 24.2	-0.2
TSZ	**Takapari Road**	**2.10**	**182**	PN	Pn	00 27 24.1	-0.3
PXZ	**Pawanui**	**2.16**	**164**	PN	Pn	00 27 24.9	-0.2
MRZ	**Mangatainoka R**	**2.73**	**188**	P	Pn	00 27 29.9	-1.4
MRZ				S	Sn	00 28 04.8	-3.0
MRZ	**Mangatainoka R**	**2.73**	**188**	PN	Pn	00 27 29.9	-1.3
MRZ				SN	Sn	00 28 04.8	-3.1
KIW	**Kapiti Island**	**3.04**	**197**	P	Pn	00 27 33.1	-1.7
KIW	**Kapiti Island**	**3.04**	**197**	PN	Pn	00 27 32.9	-1.9
MTW	**Mount Morrison**	**3.23**	**188**	P	Pn	00 27 34.9	-2.2
MTW	**Mount Morrison**	**3.23**	**188**	PN	Pn	00 27 34.9	-2.2
CAW	**Cannon Point**	**3.24**	**194**	P	Pn	00 27 35.4	-1.8
CAW	**Cannon Point**	**3.24**	**194**	PN	Pn	00 27 35.4	-1.8
MRW	**Makara Radio**	**3.43**	**198**	P	Pn	00 27 37.7	-1.9
MRW	**Makara Radio**	**3.43**	**198**	PN	Pn	00 27 37.7	-1.9
TRWZ	**Traveller**	**3.45**	**185**	PN	Pn	00 27 37.9	-1.9
MSWZ	**Moikau Station**	**3.51**	**190**	P	Pn	00 27 38.0	-2.5
MSWZ	**Moikau Station**	**3.51**	**190**	PN	Pn	00 27 38.0	-2.5
TCW	**Tory Channel**	**3.53**	**203**	P	Pn	00 27 38.6	-2.2
TCW	**Tory Channel**	**3.53**	**203**	PN	Pn	00 27 38.5	-2.3
TUWZ	**Tuamarina**	**3.84**	**205**	PN	Pn	00 27 42.1	-2.3
NNZ	**Nelson**	**3.86**	**212**	*e*P	Pn	00 27 42.2	-2.6
NNZ	**Nelson**	**3.86**	**212**	PN	Pn	00 27 42.3	-2.5

*ISCJB **11** 00:37:54.5±1.2, 673S±008×155.1E±0.1, h386km±15km, mb4.3/16, Error ellipse: s-maj=17.4km s-min=12.6km az=37.4*
*IDC **11** 00:37:56.9±1.7, 681S×15523E, h402km±19km, mb3.9/7, mb1 3.9/11, mb1mx3.7/17, mbtmp4.6/11, Error ellipse: s-maj=20.3km s-min=14.2km az=116.0*
*NEIC **11** 00:37:56.2±0.8, 672S×15522E, h397km±8km, mb4.3/9, Error ellipse: s-maj=9.6km s-min=8.8km az=122.0*
*BJI **11** 00:37:56.1, 670S×15520E, h396km, mB4.5, mb4.3*
ISC 11 00:37:56.5±1.0, 676S±008×15524E±010, h398km±12km, n40, σ0°71/38, mb4.3/16, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.36**	**120**	P	**Pn**	**00 39 20.6**	**-1.5**
37nm,0.3s,baz=263,slow=5.3,SNR=4.2							
HNR	**Honiara**	**5.36**	**120**	*e*Pn	**Pn**	**00 39 21.3**	**-0.8**
PMG	**Port Moresby**	**8.42**	**251**	P	**Pn**	**00 39 57.3**	**+1.1**
5.7nm,0.3s,baz=54,slow=3.8,SNR=13							
PMG	**Port Moresby**	**8.42**	**251**	*e*Pn	**Pn**	**00 39 57.1**	**+0.9**
CTA	**Charters Tower**	**15.86**	**213**	P	**P**	**00 41 18.2**	**0.0**
1.1nm,0.3s,baz=36,slow=13,SNR=7.6							
CTAO	**Charters Tower**	**15.86**	**213**	*e*P	**P**	**00 41 19.8**	**+1.5**
5.0nm,0.5s							
DZM	**Mont Dzumac**	**18.67**	**146**	P	**P**	**00 41 48.8**	**+0.8**
2.7nm,0.3s,baz=211,slow=11,SNR=17							
WB2	**Warramunga Arr**	**24.14**	**235**	||*i*P	**P**	**00 42 38.7**	**+0.2**
WRA	**Warramunga Arr**	**24.15**	**235**	P	**P**	**00 42 38.8**	**+0.2**
11nm,0.4s,mb4.6,baz=60,slow=9.0,SNR=216							
AS31	**Alice Springs**	**26.51**	**228**	*e*P	**P**	**00 42 59.2**	**-0.4**
ASAR	**Alice Springs**	**26.51**	**228**	P	**P**	**00 42 59.4**	**-0.2**
6.1nm,0.3s,mb4.5,baz=58,slow=9.6,SNR=94							
ASAR				S	**S**	**00 47 03.4**	**-0.7**
1.4nm,1.0s,baz=50,slow=18,SNR=4.4							
ASAR				ScP	ScP	00 49 18.6	+5.0
0.5nm,0.5s,baz=60,slow=2.7,SNR=4.7							
ASPA	**Alice Springs**	**26.51**	**228**	*e*P	**P**	**00 42 59.2**	**-0.4**
STKA	**Stephens Creek**	**28.05**	**205**	P	**P**	**00 43 13.3**	**+0.2**
1.4nm,0.3s,mb3.7,baz=24,slow=10,SNR=7.2							
STKA	**Stephens Creek**	**28.05**	**205**	*e*Pn	**P**	**00 43 13.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.97**	**246**	||*i*P	**P**	**00 43 37.7**	**-1.0**
28nm,0.6s,mb4.8							
FORT	**Forrest**	**34.93**	**223**	*e*P	**P**	**00 44 12.6**	**0.0**
24nm,0.5s,mb4.8							
MBWA	**Marble Bar**	**37.20**	**244**	*e*P	**P**	**00 44 30.9**	**-0.7**
8.8nm,0.4s,mb4.4							
KKM	**Kota Kinabalu**	**40.97**	**287**	P	**P**	**00 45 02.3**	**-0.1**
KLBR	**Kellerberrin**	**42.82**	**230**	*e*P	**P**	**00 45 16.5**	**-0.6**
28nm,1.2s,mb4.5							
NWAO	**Narrogin (SRO)**	**43.83**	**228**	*e*P	**P**	**00 45 25.4**	**+0.3**
1.1nm,0.6s,mb3.4							
KSM	**Kuching**	**45.59**	**279**	*e*P	**P**	**00 45 38.5**	**-0.3**
KULM	**Kulim**	**55.79**	**281**	*e*P	**P**	**00 46 53.4**	**-0.5**
MDJ	**Mudanjiang**	**56.12**	**338**	P	**P**	**00 46 56.5**	**+0.4**
KMI	**Kunming**	**60.09**	**304**	P	**P**	**00 47 23.2**	**-0.2**
KMI				AMB	AMB		
comp=Z,4.0nm,0.9s,mb3.9							
KMI	**Kunming**	**60.09**	**304**	P	**P**	**00 47 23.2**	**-0.2**
comp=Z,4.0nm,0.9s,mb3.9							
SONM	**Songino Array**	**69.28**	**327**	P	**P**	**00 48 22.7**	**+0.7**
comp=Z,3.0nm,0.8s,mb4.0,baz=139,slow=6.6,SNR=20							
LSA	**Lhasa**	**71.34**	**304**	P	**P**	**00 48 35.0**	**+0.6**
WMQ	**Urumqi**	**78.82**	**317**	*e*P	**P**	**00 49 18.0**	**+1.5**
WMQ				AM

ASAR Alice Springs 45.16 268 P **P 01 07 32.0 +0.8**
4.4nm,0.8s,mb4.3,baz=104,slow=7.4,SNR=21
WB2 Warramunga Arr 46.30 273 *e*P **P 01 07 40.3 0.0**
WRA Warramunga Arr 46.31 273 P **P 01 07 40.1 -0.2**
4.6nm,0.5s,mb4.7,baz=113,slow=7.5,SNR=36
SBA Scott Base 46.38 185 *e*P **P 01 07 45.7 +4.8**
10nm,0.9s,mb4.8
VNDA Vanda 46.49 187 P **P 01 07 45.0 +3.2**
2.2nm,1.0s,mb4.0,baz=5.9,slow=4.4,SNR=6.8
FITZ Fitzroy Crossi 54.49 270 *e*P **P 01 08 44.0 +1.8**
6.1nm,0.8s,mb4.6
QSPA South Pole Qui 57.87 180 *e*P **P 01 09 09.4 +3.1**
19nm,1.0s,mb5.1
PMSA Palmer Station 69.70 155 *e*P **P 01 10 23.7 -0.5**
9.9nm,1.0s,mb4.7
MAW Mawson 71.33 200 *e*P **P 01 10 36.9 +2.8**
12nm,1.2s,mb4.7
SNAA Sanae 76.24 178 *e* **P 01 11 03.7 +0.8**
SNAA *e* 07 02 43.7
SNAA *e* 07 02 44.8
SNAA *e* 07 02 49.1
SNAA *e* 07 02 52.6
SNAA *e* 07 03 22.4
SNAA *e* 07 03 30.2
SNAA Sanae 76.24 178 *e*P **P 01 11 03.2 +0.3**
4.0nm,0.8s,mb4.4
VNA1 Neumayer--Stat 76.99 176 *e* **P 01 11 08.2 +1.1**
VNA1 *e* 07 02 49.9
VNA1 *e* 07 02 55.1
VNA1 *e* 07 02 57.7
VNA1 *e* 07 03 36.1
JHJ Hachijo jima 2 77.49 323 LR LR 01 36 54.6
comp=Z,847nm,21.9s,MS5.0,baz=311,slow=29
PLCA Paso Flores 79.69 132 P **P 01 11 22.6 +0.6**
2.8nm,0.9s,mb4.2,baz=205,slow=5.5,SNR=5.3
PLCA Paso Flores 79.69 132 *e*P **P 01 11 22.1 0.0**
2.4nm,0.8s,mb4.2
MJAR Matsushiro Arr 80.98 324 P **P 01 11 28.1 -0.9**
2.2nm,0.8s,mb4.2,baz=162,slow=5.2,SNR=6.2
TRQA Tornquist 86.62 134 P **P 01 11 58.2 +0.4**
NVAR Mina Array Bea 88.17 41 P **P 01 12 03.6 -1.8**
0.7nm,0.7s,mb4.0,baz=229,slow=7.0,SNR=4.9
LPAZ La Paz 95.45 113 P **P 01 12 38.1 -0.9**
1.1nm,0.9s,mb4.3,baz=225,slow=7.1,SNR=3.7
MKAR Makanchi Array 120.59 309 PKP PKPdf 01 18 04.6 -1.4
0.6nm,0.6s,baz=186,slow=1.2,SNR=3.8
CHKZ Chkalovo 129.12 315 *e*PKPdf PKPdf 01 18 21.0 -1.4
JOF Joensuu 144.91 339 *e*pkp PKPdf 01 18 46.7 -4.7
GNI Garni 146.81 295 PKPbc PKPbc 01 18 56.0 -0.4
1.0nm,0.4s,baz=356,slow=19,SNR=3.6
KAF Kangasniemi 146.99 341 *e*pkp PKPdf 01 18 50.9 -4.0
FINES FINESS Array B 147.60 341 PKPbc PKPbc 01 18 56.5 -2.2
5.2nm,0.8s,baz=66,slow=2.3,SNR=13
FINES FINESS Array B 147.60 341 PKPbc PKPbc 01 18 56.5 -2.2
NB2 NORSAR Subarra150.86 353 PKP PKPbc 01 19 04.5 -2.3
comp=Z,1.3nm,0.7s,baz=9.7,slow=2.7
NOA NORSAR Array B150.86 353 PKPbc PKPbc 01 19 04.8 -2.0
comp=Z,2.8nm,0.8s,baz=14,slow=4.2,SNR=9.4
TORD Torodi Ar. Bea 160.81 172 PKP PKPdf 01 19 14.7 +0.3
comp=Z,1.0nm,0.9s,baz=245,slow=1.9,SNR=4.3
TORD PKPab PKPab 01 19 57.5 +0.8
comp=Z,5.0nm,0.9s,baz=188,slow=4.5,SNR=15

ISCJB ***11*** *01:02:20.6±0.3,5767N±003×1709E±005,h0km,Error ellipse: s-maj=5.0km s-min=2.7km az=105.3*
CSEM ***11*** *01:02:21.7±0.1,5754N×1708E,h1km,ML3.1,Error ellipse: s-maj=3.0km s-min=1.9km az=155.0,Mining explosion.*
IDC ***11*** *01:02:22.3±3.0,5746N×1696E,h0km,mb1 3.2/4, mb1mx3.0/21,mbtmp3.1/4,ML2.5/4,Error ellipse: s-maj=32.8km s-min=11.9km az=8.0*
UPP ***11*** *01:02:22.9,5761N×1695E,h0km,ML3.1,Mining explosion.*
HEL ***11*** *01:02:24.6±0.2,5765N×1707E,h0km,ML1.9,ML3.1(UPP), Explosion*
BER ***11*** *01:02:26.5±5.3,5778N×1702E,h0km±23km,ML2.0, ML1.9(NAO)*
NAO ***11*** *01:02:29.1±2.5,5804N×1700E,ML1.9*
ISC 11 01:02:22.7±0.3,5762N±003×1704E±004,h0km,n54, σ1°35/94,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSTU	**Vaestervik**	**0.27**	**278**	*i* P	**Pg**	**01 02 27.7**	**-0.2**
BYXU	**Byxelkrok**	**0.33**	**183**	*i* P	**Pg**	**01 02 29.1**	**0.0**
OSKU	**Oskarshamn**	**0.67**	**230**	*i* P	**Pg**	**01 02 34.7**	**-0.7**
GOTU	**Gotland**	**0.82**	**85**	*i* P	**Pg**	**01 02 39.0**	**+0.4**
VIKU	**Vikbolandet**	**0.90**	**349**	*e*P	**Pg**	**01 02 39.9**	**-0.1**
LNKU	**Linkoeping**	**1.02**	**307**	*e*P	**Pg**	**01 02 41.4**	**-0.8**
NYNU	**Nynaeshamn**	**1.48**	**20**	*e*P	**Pn**	**01 02 50.6**	**+0.1**
ESKU	**Eskilstuna**	**1.65**	**348**	*e*P	**Pn**	**01 02 53.2**	**+0.3**
ASKU	**Askersund**	**1.73**	**318**	*e*P	**Pn**	**01 02 54.0**	**0.0**
DEL	**Delary**	**2.08**	**238**	*e*P	**Pn**	**01 02 58.9**	**0.0**
NRAU	**Nora**	**2.22**	**333**	*e*P	**Pn**	**01 03 02.4**	**+1.7**
NRTU	**Norrtaelje**	**2.22**	**21**	*e*P	**Pn**	**01 03 02.9**	**+2.1**
BACU	**Backbrunna**	**2.24**	**1**	*e*P	**Pn**	**01 03 03.0**	**+2.0**
UPP	**Uppsala**	**2.26**	**8**	*e*P	**Pn**	**01 03 03.8**	**+2.4**
NASU	**Vaermlandsnaes**	**2.42**	**304**	P	**Pn**	**01 03 04.4**	**+0.9**
OSTU	**Oestervaala**	**2.62**	**1**	*e*P	**Pn**	**01 03 08.2**	**+2.0**
BSD	**Bornholm Skovb**	**2.78**	**206**	*i* P	**Pn**	**01 03 07.7**	**-0.7**
BSD				*i* S	**Sn**	**01 03 42.1**	**-0.6**
BSD				*e*S	**Sg**	**01 03 51.9**	**-0.1**
GRAU	**Graesoe**	**2.83**	**15**	*e*P	**Pn**	**01 03 11.0**	**+1.9**
FALU	**Falun**	**2.95**	**348**	*e*P	**Pn**	**01 03 11.8**	**+1.1**
AAL	**Aland**	**2.99**	**30**	*e*P	**Pn**	**01 03 13.1**	**+1.8**
HFS	**Hagfors**	**3.06**	**327**	Pn	**Pn**	**01 03 14.2**	**+1.9**
	0.6nm,0.3s,baz=146,slow=16,SNR=44						
HFS				Sn	**Sn**	**01 03 52.4**	**+2.8**
	1.8nm,0.3s,baz=140,slow=25,SNR=17						
HFS	**Hagfors**	**3.06**	**327**	Pn	**Pn**	**01 03 14.2**	**+1.9**
	baz=145,slow=22						
HFS				Lg		01 03 52.7	
	baz=143,slow=37						
COP	**Copenhagen**	**3.20**	**235**	*i* P	**Pn**	**01 03 13.9**	**-0.3**
COP				*e*S	**Sn**	**01 03 52.9**	**-0.2**
RAF	**Rauma**	**4.18**	**33**	*e*P	**Pn**	**01 03 29.1**	**+1.4**
RAF				*e*S	**Sn**	**01 04 16.5**	**-0.8**
RAF				*e*SG	**Sg**	**01 04 31.6**	**-5.5**
MUD	**Monsted U'grnd**	**4.45**	**258**	*i* P	**Pn**	**01 03 31.3**	**-0.2**
MUD				*i* S	**Sg**	**01 04 38.2**	**-7.6**
NB2	**NORSAR Subarra**	**4.54**	**321**	Pn	**Pn**	**01 03 32.1**	**-0.6**
	baz=143,slow=14						
NB2				Sn	**Sn**	**01 04 25.3**	**-0.9**
NB2				Lg		01 04 44.0	
	baz=137,slow=37						
NB2	**NORSAR Subarra**	**4.54**	**321**	Pn	**Pn**	**01 03 32.1**	**-0.6**
	SNR=4.8						
NB2				Sn	**Sn**	**01 04 25.3**	**-0.9**
NOA	**NORSAR Array B**	**4.54**	**321**	Pn	**Pn**	**01 03 32.4**	**-0.3**
	0.2nm,0.3s,baz=146,slow=12,SNR=2.3						
NOA				Sn	**Sn**	**01 04 25.1**	**-1.1**
	0.4nm,0.3s,baz=142,slow=24,SNR=2.5						
MEF	**Metsahovi**	**4.62**	**53**	*e*P	**Pn**	**01 03 34.9**	**+1.2**
MEF				*e*S	**Sn**	**01 04 27.1**	**-0.9**
MEF				*e*SG	**Sg**	**01 04 45.1**	**-5.8**
MEF	**Metsahovi**	**4.62**	**53**	P	**Pn**	**01 03 34.9**	**+1.2**
MEF				Sg	**Sg**	**01 04 45.1**	**-5.9**
VSU	**Vasula**	**5.22**	**77**	*e*P	**Pn**	**01 03 43.3**	**+1.3**
VSU				*e*S	**Sn**	**01 04 41.4**	**-1.5**
VSU				*e*SG	**Sg**	**01 05 02.5**	**-7.9**
PVF	**Pernaja**	**5.41**	**54**	*e*P	**Pn**	**01 03 45.9**	**+1.3**
PVF				*e*S	**Sn**	**01 04 46.4**	**-1.2**
PVF				*e*SG	**Sg**	**01 05 09.6**	**-6.9**
PVF	**Pernaja**	**5.41**	**54**	P	**Pn**	**01 03 45.8**	**+1.2**
PVF				Sg	**Sg**	**01 05 09.6**	**-6.9**
BLS5	**Blasjo**	**5.83**	**292**	*e*P	**Pn**	**01 03 50.8**	**+0.4**
BLS5				*e*S	**Sn**	**01 04 55.0**	**-3.0**
BLS5				AML	AML	01 05 02.4	
	comp=Z,2.7nm,0.6s						
ODD1	**Odda**	**5.88**	**297**	*e*P	**Pn**	**01 03 50.0**	**-1.1**
ODD1				*e*S	**Sn**	**01 04 53.1**	**-6.1**
FIA0	**FINESS Array S**	**5.98**	**46**	Pn	**Pn**	**01 03 54.2**	**+1.7**
	baz=225,slow=12						
FIA0				Sn	**Sn**	**01 05 01.2**	**-0.5**
	baz=231,slow=22						
FIA0				Lg		01 05 24.9	
	baz=240,slow=22						
FIA0	**FINESS Array S**	**5.98**	**46**	*e*P	**Pn**	**01 03 54.3**	**+1.8**
FIA0				*e*S	**Sn**	**01 04 60.0**	**-1.7**
FIA0				*e*SG	**Sg**	**01 05 27.9**	**-7.0**
FIA0				MSG		01 05 31.3	
	comp=Z,0.7nm,0.3s						
FIA0	**FINESS Array S**	**5.98**	**46**	P	**Pn**	**01 03 54.2**	**+1.7**
FIA0				Sg	**Sg**	**01 05 27.9**	**-7.0**
	comp=Z,0.7nm,0.3s						
FINES	**FINESS Array B**	**5.98**	**46**	Pn	**Pn**	**01 03 53.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=223,slow=12,SNR=25						
FINES				Sn	**Sn**	**01 05 02.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=230,slow=22,SNR=8.8						
KEF	**Keuruu**	**6.02**	**38**	*e*P	**Pn**	**01 03 53.6**	**+0.6**
KEF				*e*S	**Sn**	**01 05 00.6**	**-2.1**
KEF				*e*SG	**Sg**	**01 05 28.6**	**-7.6**
KEF				MSG		01 05 31.1	
	comp=Z,1.0nm,0.3s						
KEF	**Keuruu**	**6.02**	**38**	P	**Pn**	**01 03 53.6**	**+0.6**
KEF				Sg	**Sg**	**01 05 28.6**	**-7.6**
	comp=Z,1.0nm,0.3s						
VAF	**Ylistaro**	**6.11**	**25**	*e*P	**Pn**	**01 03 56.2**	**+1.9**
VAF				*e*S	**Sn**	**01 05 02.5**	**-2.4**
VAF				*e*SG	**Sg**	**01 05 30.2**	**-8.8**
VAF	**Ylistaro**	**6.11**	**25**	P	**Pn**	**01 03 56.1**	**+1.8**
VJF	**Virojoki**	**6.16**	**57**	*e*P	**Pn**	**01 03 55.5**	**+0.7**
VJF				*e*S	**Sn**	**01 05 04.5**	**-1.5**
VJF				*e*SG	**Sg**	**01 05 32.3**	**-8.2**
VJF	**Virojoki**	**6.16**	**57**	P	**Pn**	**01 03 55.5**	**+0.6**
VJF				Sg	**Sg**	**01 05 32.2**	**-8.3**
KMY	**Karmoy**	**6.40**	**289**	*e*P	**Pn**	**01 03 56.8**	**-1.3**
KMY				*e*S	**Sn**	**01 05 07.2**	**-4.8**
KMY				AML	AML	01 05 15.8	
	comp=Z,4.5nm,0.7s						
KAF	**Kangasniemi**	**6.48**	**42**	*e*P	**Pn**	**01 04 00.7**	**+1.4**
KAF				*e*S	**Sn**	**01 05 11.5**	**-2.5**
KAF				*e*SG	**Sg**	**01 05 42.1**	**-8.8**
KAF				MSG		01 05 46.7	
	comp=Z,0.7nm,0.3s						
KAF	**Kangasniemi**	**6.48**	**42**	P	**Pn**	**01 04 00.7**	**+1.4**
KAF				Sg	**Sg**	**01 05 42.0**	**-8.9**
	comp=Z,0.7nm,0.3s						
EGD	**Espegrend**	**6.66**	**298**	*e*P	**Pn**	**01 04 01.3**	**-0.5**
ASK	**Askoy**	**6.75**	**300**	*e*P	**Pn**	**01 04 01.9**	**-1.1**
ASK				*e*S	**Sn**	**01 05 15.0**	**-5.6**
ASK				AML	AML	01 05 20.3	
	comp=Z,3.0nm,0.6s						
SUF	**Sumiainen**	**6.84**	**38**	*e*P	**Pn**	**01 04 05.2**	**+1.0**
SUF				*e*S	**Sn**	**01 05 20.6**	**-2.1**
SUF				*e*SG	**Sg**	**01 05 52.8**	**-9.5**
SUF				MSG		01 05 56.7	
	comp=Z,0.9nm,0.3s						
ARA0	**ARCESS Array S**	**12.52**	**14**	Pn	**Pn**	**01 05 19.1**	**-3.0**
	baz=194,slow=16						
ARA0	**ARCESS Array S**	**12.52**	**14**	Pn	**Pn**	**01 05 19.0**	**-3.1**
	SNR=5.2						
ARCES	**ARCESS Array B**	**12.52**	**14**	Pn	**Pn**	**01 05 18.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=13						

ISCJB ***11*** *01:24:01.8±2.3,2059N±006×11996E±009,h3km±16km, mb4.2/27,MS5.1/1,Error ellipse: s-maj=15.7km s-min=8.1km az=122.3*
IDC ***11*** *01:24:03.0±0.8,2065N×12005E,h0km,mb4.0/14, mb1 4.2/14,mb1mx4.1/21,mbtmp4.0/14,Error ellipse: s-maj=33.3km s-min=17.2km az=65.0*
NEIC ***11*** *01:24:04.3±0.3,2064N×12008E,h10km,mb4.5/9,Error ellipse: s-maj=11.4km s-min=7.0km az=69.0*
BJI ***11*** *01:24:18.2,2091N×11985E,h7km,mB5.1,mb4.7,ML4.6, Ms5.3,Msz5.1*
ISC 11 01:24:05.8±2.2,2064N±006×12005E±009,h18km±15km, n45,σ0°81/46,mb4.2/27,MS5.1/1,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**3.04**	**141**	*e*P	**Pn**	**01 24 53.4**	**+0.4**
SGCP				*e*S	**Sg**	**01 25 43.3**	**0.0**
YHNB	**Yeheng**	**4.20**	**17**	Pn	**Pn**	**01 25 08.6**	**-0.3**
PCPH	**Palayan**	**5.14**	**169**	⇑*e*P	**Pn**	**01 25 28.5**	**+6.6**
XAN	**Xi'an**	**16.59**	**326**	P	**Pn**	**01 27 59.4**	**+1.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s						
LZH	**Lanzhou**	**20.94**	**321**	*e*P	**P**	**01 28 47.5**	**0.0**
LZH				AP		01 28 56.0	
LZH				AMB	AMB		
	comp=Z,43nm,1.5s						
LZH				AMB	AMB		
	comp=Z,196nm,4.5s						
LZH	**Lanzhou**	**20.94**	**321**	*e*P	**P**	**01 28 47.5**	**0.0**
	comp=Z,43nm,1.5s						
LZH				pP		01 28 56.0	
SNY	**Shenyang**	**21.34**	**7**	⇑P	**P**	**01 28 58.1**	**+6.3**
SNY				AMB	AMB		
	comp=Z,17nm,1.9s,mb4.0						
SNY				AMB	AMB		
	comp=Z,546nm,9.6s						
SNY				LR	LR		
	comp=N,3μm,11.4s,MS5.3						
SNY				LR	LR		
	comp=E,7μm,12.6s,MS5.3						
SNY				LR	LR		
	comp=Z,3μm,10.8s,MS4.9						
MAJO	**Matsushiro**	**22.41**	**41**	P	**P**	**01 29 00.6**	**-2.8**
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**01 29 04.1**	**+0.7**
	comp=Z,1.5nm,0.6s,mb3.6,baz=239,slow=11,SNR=5.0						
GTA	**Gaotai**	**25.53**	**322**	*e*P	**P**	**01 29 33.2**	**-0.1**
GTA				AP	pP	01 29 37.5	-1.3
GTA				XP	sP	01 29 40.3	-0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
LSA	**Lhasa**	**27.61**	**295**	*e*P	**P**	**01 29 50.9**	**-1.2**
	comp=Z,4.6nm,0.4s,mb4.5						
SONM	**Songino Array**	**29.29**	**341**	P	**P**	**01 30 06.7**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.6,baz=158,slow=9.3,SNR=8.1						
GUN	**Gumba**	**31.91**	**290**	*e*P	**P**	**01 30 30.5**	**+0.3**
	comp=Z,17nm,0.8s,mb4.9						
PKI	**Pulchoki**	**32.29**	**289**	*e*P	**P**	**01 30 33.0**	**-0.5**
KKN	**Kakani**	**32.42**	**290**	*e*P	**P**	**01 30 34.4**	**-0.3**
	comp=Z,17nm,0.9s,mb4.8						
DMN	**Daman**	**32.56**	**289**	*e*P	**P**	**01 30 35.6**	**-0.3**
GKN	**Gorkha**	**33.01**	**290**	*e*P	**P**	**01 30 39.1**	**-0.7**
	comp=Z,2.2nm,0.2s,mb4.7						
KOLN	**Koldanda**	**33.91**	**289**	*e*P	**P**	**01 30 46.9**	**-0.8**
MKAR	**Makanchi Array**	**40.24**	**319**	P	**P**	**01 31 41.7**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.0,baz=113,slow=10,SNR=13						
MBWA	**Marble Bar**	**41.54**	**180**	P	**P**	**01 31 50.2**	**-2.0**
	comp=Z,4.5nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.69**	**160**	P	**P**	**01 32 01.6**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.1,baz=342,slow=8.8,SNR=13						
WB2	**Warramunga Arr**	**42.69**	**160**	*e*P	**P**	**01 32 01.8**	**+0.3**
ZAL	**Zalesovo**	**42.71**	**330**	P	**P**	**01 32 01.9**	**+0.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=349,slow=10,SNR=6.8						
ZAL	**Zalesovo**	**42.71**	**330**	P	**P**	**01 32 01.9**	**+0.2**
UCH	**Uchtor**	**43.79**	**310**	P	**P**	**01 32 12.2**	**+1.7**
	SNR=5.6						
ASAR	**Alice Springs**	**46.06**	**162**	P	**P**	**01 32 28.9**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=344,slow=6.5,SNR=6.6						
CTAO	**Charters Tower**	**47.91**	**146**	*e*P	**P**	**01 32 43.7**	**+0.7**
	comp=Z,8.5nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**49.80**	**323**	P	**P**	**01 32 57.5**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=111,slow=12,SNR=5.4						
BRVK	**Borovoye**	**49.87**	**323**	*e*P	**P**	**01 32 58.0**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**49.91**	**324**	*e*P	**P**	**01 32 58.1**	**-0.2**
	comp=Z,4.6nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**50.56**	**322**	*e*P	**P**	**01 33 02.9**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**56.15**	**158**	P	**P**	**01 33 44.1**	**-0.2**
AKTK	**Aktyubinsk**	**56.62**	**317**	P	**P**	**01 33 47.9**	**+0.3**
AKTO	**Aktyubinsk**	**56.62**	**317**	P	**P**	**01 33 47.9**	**+0.3**
	comp=Z,2.3nm,0.9s,mb4.2,baz=94,slow=7.1,SNR=8.2						
FINES	**FINESS Array B**	**73.97**	**330**	P	**P**	**01 35 39.8**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=116,slow=8.7,SNR=7.0						
AKASG	**Malin Array Be**	**74.82**	**319**	P	**P**	**01 35 44.0**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=62,slow=8.8,SNR=5.0						
KWP	**Kalwaria**	**79.14**	**319**	*e*P	**P**	**01 36 10.1**	**+0.7**
NB2	**NORSAR Subarra**	**80.86**	**332**	P	**P**	**01 36 17.5**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**80.86**	**332**	P	**P**	**01 36 17.8**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=63,slow=5.0,SNR=4.3						
NOA	**NORSAR Array B**	**80.86**	**332**	P	**P**	**01 36 17.8**	**-0.9**
KMBO	**Kilima Mbogo**	**83.66**	**266**	P	**P**	**01 36 35.3**	**+2.0**
	comp=Z,0.4nm,0.5s,mb3.9,baz=63,slow=17,SNR=4.2						
BRG	**Berggiesshubel**	**83.89**	**322**	*e*P	**P**	**01 36 35.2**	**+0.7**
	comp=Z,9.0nm,1.7s,mb4.6						
BRG				*i*		01 36 56.9	
	comp=Z,15nm,1.3s						
CLL	**Collm**	**84.24**	**323**	*i* P	**P**	**01 36 36.4**	**+0.1**
	comp=Z,12nm,1.3s,mb4.9						
GERES	**GERESS Array B**	**84.90**	**320**	P	**P**	**01 36 40.2**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.1,baz=64,slow=6.1,SNR=10						
YKA	**Yellowknife Ar**	**86.63**	**22**	P	**P**	**01 36 48.1**	**-0.1**
	comp=Z,1.5nm,0.9s,mb4.2,baz=320,slow=4.7,SNR=4.2						

BJI ***11*** *01:24:10.7,21.13N×11952E,h10km,mB4.9,mb4.2,ML4.7, Ms5.5,Msz5.0*
IDC ***11*** *01:24:17.4±0.5,2066N×11991E,h0km,mb4.4/21, mb1 4.5/22,mb1mx4.5/26,mbtmp4.4/22,ML3.5/1,MS4.5/1, Ms1 4.5/1,ms1mx3.3/24,Error ellipse: s-maj=23.4km s-min=11.6km az=63.0*
NEIC ***11*** *01:24:18.8±0.2,2069N×11995E,h10km,mb5.2/59, MS4.9/5,Error ellipse: s-maj=5.3km s-min=4.2km az=69.0*
GCMT ***11*** *01:24:18.8±0.3,2065N×11992E,h12km,MW5.2/80, Moment Tensor Solution. s35,c42; s80,c127; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67±.02; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$0.64±.02; $M_{r\theta}$-0.37±.05; $M_{\phi\phi}$0.01±.01; $M_{\phi r}$-0.07±.05; Best double couple: $M_0$0.74000×10^{17} NP1:ϕ_s160.00000°,δ46.00000°,λ-123.00000°. NP2: ϕ_s23.00000°,δ53.00000°,λ-61.00000°. Principal axes: T 0.6460, Plg4.0000°, Azm93.0000°; N 0.1890, Plg23.0000°, Azm184.0000°; P -0.8340, Plg67.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***11*** *01:24:19.4±0.2,2067N±003×11995E±004,h25km, mb5.0/115,MS4.9/13 Error ellipse: s-maj=5.5km s-min=3.9km az=135.8*
MOS ***11*** *01:24:21.6±0.9,2085N×11988E,h33km,mb5.4/49, MS4.8/6,Error ellipse: s-maj=10.7km s-min=4.5km az=124.4*
SZGRF ***11*** *01:24:24.3,21.16N×12007E,h29km,mb5.6,MS4.9, Taiwan region*
ISC 11 01:24:21.3±0.2,2070N±003×11999E±004,h26km, h26km±.7km:pP-P,n310,σ0°91/308,mb5.0/115,MS4.9/13, 28C-10D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.44**	**166**	⇓*i*P	**Pn**	**01 24 59.0**	**-0.3**
CVP	**Callao Caves**	**3.45**	**150**	*e*P	**Sn**	**01 25 53.5**	**+0.3**
YHNB	**Yeheng**	**4.16**	**18**	Pn	**Pn**	**01 25 15.9**	**-7.0**
BOLP	**Bolinao**	**4.29**	**181**	*e*P	**Pn**	**01 25 24.1**	**-0.8**
BCPH	**Baguio City Da**	**4.33**	**172**	⇑*i*P	**Pn**	**01 25 24.6**	**-0.8**
QZH	**Quanzhou**	**4.42**	**343**	P	**Pn**	**01 25 23.1**	**-3.5**
QZH				S	**Sn**	**01 26 08.9**	**-8.2**
QZH				Smax			
	comp=N,690nm,1.2s						
QZH				Smax			
	comp=E,1μm,1.3s						
QZH				LR	LR		
	comp=N,21μm,10.0s						
QZH				LR	LR		
	comp=E,39μm,10.3s						
QZH				LR	LR		
	comp=Z,34μm,8.5s						
LUBP	**Lubang**	**6.93**	**178**	*e*P	**Pn**	**01 26 01.6**	**+0.5**
QIZ	**Qiongzhong**	**9.69**	**262**	*e*P	**Pn**	**01 26 41.0**	**+2.0**
QIZ				S	**Sn**	**01 28 29.0**	**+2.1**
QIZ				AMB	AMB		
	comp=Z,20nm,1.6s						
QIZ				LR	LR		
	comp=N,7μm,12.2s						
QIZ				LR	LR		
	comp=Z,6μm,16.7s						
QIZ	**Qiongzhong**	**9.69**	**262**	Pn	**Pn**	**01 26 39.6**	**+0.6**
JOW	**Kunigami**	**9.74**	**50**	Pn	**Pn**	**01 26 39.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=300,slow=20,SNR=4.3						
GYA	**Guiyang**	**13.49**	**298**	⇑*i*P	**Pn**	**01 27 28.9**	**-2.0**
GYA				AP		01 27 33.4	
GYA				XP		01 27 35.8	
GYA				S	**Sn**	**01 29 50.1**	**-10**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,1μm,4.2s						
GYA				LR	LR		
	comp=N,7μm,14.1s						
GYA				LR	LR		
	comp=E,10μm,11.1s						
GYA				LR	LR		
	comp=Z,12μm,10.1s						
TIA	**Tai'an**	**15.66**	**351**	⇓P	**Pn**	**01 27 59.7**	**-0.4**
TIA				LR	LR		
	comp=N,2μm,9.0s						
TIA				LR	LR		
	comp=E,3μm,10.0s						
KMI	**Kunming**	**16.49**	**289**	P	**Pn**	**01 28 09.1**	**-1.6**
KMI				AP	pP	01 28 15.4	-4.9
KMI				XP	sP	01 28 19.6	-4.1
KMI				PP		01 28 22.5	
KMI				PPP		01 28 27.7	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,154nm,3.7s						
KMI				LR	LR		
	comp=N,4μm,12.8s						
KMI				LR	LR		
	comp=E,4μm,12.8s						
KMI				LR	LR		
	comp=Z,4μm,16.0s						
KMI	**Kunming**	**16.49**	**289**	P	**Pn**	**01 28 09.1**	**-1.6**
	comp=Z,7.0nm,1.2s						
KMI				pP	pP	01 28 15.4	-4.9
KMI				sP	sP	01 28 19.6	-4.1
KMI				PP		01 28 22.5	
KMI				PPP		01 28 27.7	
KMI				S	**Sn**	**01 31 05.3**	**-7.6**
KMI				sS	sS	01 31 14.3	-21
KMI				SS		01 31 25.3	
KMI				SSS		01 31 39.3	
XAN	**Xi'an**	**16.51**	**326**	P	**Pn**	**01 28 10.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,54nm,2.1s						
XAN				AMB	AMB		

comp=Z,835nm,16.6s
BJI Beijing 19.55 351 P Pn 01 28 47.0 -1.3
comp=Z,48nm,1.2s
BJI S Sn 01 31 57.8 -29
CHTO Chiang Mai 19.89 268 P Pn 01 28 51.2 -1.2
CHTO pmax pmax
comp=Z,166nm,2.1s
CHTO Chiang Mai 19.89 268 P Pn 01 28 51.2 -1.2
comp=Z,166nm,2.1s
LZH Lanzhou 20.85 321 P P 01 29 01.9 +0.9
LZH PP 01 29 26.0
LZH AMB AMB
comp=Z,3μm,4.2s
LZH LR LR
comp=E,11μm,11.0s
LZH LR LR
comp=Z,13μm,12.5s,MS5.5
LZH Lanzhou 20.85 321 P P 01 29 01.9 +0.9
LZH *SP sP 01 29 17.9 +6.3
LZH 01 29 26.0
LZH S **S 01 32 49.1 -3.2**
LZH *SS sS 01 33 05.0 +1.2
LZH *e*SS 01 33 25.0
LZH pmax pmax
comp=Z,540nm,1.4s
LZH MLR MLR
comp=Z,13μm,12.5s,MS5.5
LZH Lanzhou 20.85 321 P P 01 29 01.9 +0.9
comp=Z,540nm,1.4s
LZH pP 01 29 11.8
LZH sP sP 01 29 17.9 +6.3
LZH PP 01 29 26.0
LZH S **S 01 32 49.1 -3.2**
LZH sS sS 01 33 05.0 +1.2
LZH *e*SS 01 33 25.0
LZH LR LR
comp=Z,13μm,12.5s,MS5.5
KSM Kuching 21.32 208 P P 01 29 05.8 -0.3
HHC Hu-ho-hao-te 21.33 342 *e*P **P 01 29 06.4 +0.2**
HHC AMB AMB
comp=Z,52nm,1.5s,mb4.6
HHC AMB AMB
comp=Z,940nm,12.6s
HHC LR LR
comp=N,6μm,11.0s,MS5.2
HHC LR LR
comp=E,3μm,13.6s,MS5.2
HHC LR LR
comp=Z,4μm,11.8s,MS5.0
BTO Baotou 21.59 339 *e*P **P 01 29 07.8 -1.2**
BTO S **S 01 33 04.1 -2.6**
BTO LR LR
comp=N,2μm,10.1s,MS4.8
BTO LR LR
comp=E,1μm,12.3s,MS4.8
MAJO Matsushiro 22.41 41 *e*P **P 01 29 18.9 +1.1**
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.4
MAJO Matsushiro 22.41 41 *e*P **P 01 29 18.9 +1.2**
comp=Z,14nm,0.8s,mb4.5
MAT Matsushiro 22.41 41 P **P 01 29 18.4 +0.6**
MJAR Matsushiro Arr 22.41 41 P **P 01 29 20.2 +2.5**
comp=Z,7.5nm,0.9s,mb4.1,baz=233,slow=10,SNR=17
MDJ Mudanjiang 25.15 16 P **P 01 29 36.7 -7.5**
MDJ AMB AMB
comp=Z,29nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,215nm,3.9s
MDJ LR LR
comp=N,647nm,26.1s
MDJ LR LR
comp=E,912nm,17.9s
MDJ LR LR
comp=Z,455nm,19.6s
MDJ Mudanjiang 25.15 16 *e*P **P 01 29 44.0 -0.3**
comp=Z,122nm,1.8s,mb5.1
GTA Gaotai 25.45 322 ⇓P **P 01 29 46.8 -0.1**
GTA AMB AMB
comp=Z,38nm,1.9s,mb4.6
GTA AMB AMB
comp=Z,804nm,5.0s
GTA LR LR
comp=N,3μm,11.1s
GTA LR LR
comp=E,3μm,9.6s
GTA LR LR
comp=Z,4μm,9.2s
SHL Shillong 26.27 286 *e*P **P 01 29 56.2 +1.8**
SHL AMb AMB 01 30 01.9
comp=Z,490nm,0.8s,mb6.1
AGT Agartala 26.76 282 *i* P **P 01 30 00.0 +1.2**
PSI Prapat 27.16 232 LR LR 01 40 44.9
comp=Z,1μm,19.4s,MS4.4,baz=23,slow=36
LSA Lhasa 27.53 295 P **P 01 30 05.4 -0.3**
LSA AP pP 01 30 13.7 +0.2
LSA XP sP 01 30 18.6 +1.9
LSA LR LR
comp=N,1μm,11.1s
LSA LR LR
comp=E,1μm,9.6s
LSA LR LR
comp=Z,2μm,10.3s,MS4.9
LSA Lhasa 27.53 295 *e*P **P 01 30 07.3 +1.6**
LSA pmax pmax
comp=Z,69nm,1.4s,mb5.1
LSA Lhasa 27.53 295 *e*P **P 01 30 07.3 +1.5**
comp=Z,69nm,1.4s,mb5.1
HIA Hailar 28.50 360 *e*P **P 01 30 13.3 -1.1**
HIA pmax pmax
comp=Z,4.0nm,0.3s
HIA Hailar 28.50 360 *e*P **P 01 30 13.3 -1.1**
comp=Z,3.8nm,0.3s,mb4.6
SONM Songino Array 29.22 341 P **P 01 30 20.5 -0.2**
comp=Z,4.6nm,1.0s,mb4.2,baz=162,slow=9.7,SNR=19
CAL Calcutta 29.46 279 *e*P **P 01 30 20.7 -2.2**
CAL *ex* x 01 37 31.2
YSS Yuzh-Sakhalins 32.07 30 P **P 01 30 46.6 +0.6**
ZAK Zakamensk 32.43 340 *e*P **P 01 30 48.3 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
TLY Talaya 33.45 341 *e*P **P 01 31 04.6 +6.6**
TLY pmax pmax
comp=Z,12nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,713nm,12.0s,MS4.6
VIS Vishakhapatnam 34.70 271 *i* x x 01 36 47.0
WMQ Urumqi 35.38 318 P **P 01 31 15.0 +0.3**
WMQ AP pP 01 31 19.8 -2.8
WMQ XP sP 01 31 23.6 -2.2
WMQ PP PP 01 32 35.0 -0.2
WMQ AMB AMB
comp=Z,16nm,1.3s,mb4.8
WMQ AMB AMB
comp=Z,173nm,5.8s
WMQ LR LR
comp=N,2μm,12.0s,MS5.2
WMQ LR LR
comp=E,2μm,10.8s,MS5.2
WMQ LR LR
comp=Z,2μm,20.2s
MDRS Chennai 38.70 265 *e*P **P 01 31 43.7 +0.8**
FITZ Fitzroy Crossi 38.96 171 P **P 01 31 43.7 -1.4**
comp=Z,1.2nm,0.6s,baz=19,slow=12,SNR=3.3
HYB Hyderabad 39.23 272 *i* P **P 01 31 48.0 +0.7**
HYB Hyderabad 39.23 272 *e*P **P 01 31 48.0 +0.7**
BHPL Bhopal 39.45 282 *e*P **P 01 31 47.5 -1.8**
BHPL AMb AMB 01 31 53.2
comp=Z,32nm,1.3s,mb4.9
NDI New Delhi 39.50 290 *e*P **P 01 31 49.9 +0.3**
NDI AMb AMB 01 31 57.1
comp=Z,11nm,0.5s,mb4.8
MK31 Makanchi Array 40.16 319 P **P 01 31 53.2 -1.9**
MK31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MK31 Makanchi Array 40.16 319 *e*P **P 01 31 54.8 -0.3**
MKAR Makanchi Array 40.16 319 P **P 01 31 55.3 +0.3**
comp=Z,4.4nm,0.7s,mb4.3,baz=116,slow=9.4,SNR=18
AJM Ajmer 41.79 287 *e*P **P 01 32 08.3 -0.2**
AJM AMb AMB 01 32 10.1
comp=Z,23nm,2.3s,mb4.4
YAK Yakutsk 41.84 7⇑*e*P **P 01 32 07.7 -1.3**
YAK pmax pmax
comp=Z,23nm,1.4s,mb4.6
YAK Yakutsk 41.84 7 P **P 01 32 08.6 -0.3**

ULHL Ulahol 42.48 311 P **P 01 32 15.5 +1.4**
SNR=9.6
ZAL Zalesovo 42.63 330 P **P 01 32 15.7 +0.3**
comp=Z,6.3nm,1.1s,mb4.3,baz=353,slow=9.3,SNR=21
WRAB Tennant Creek 42.76 160 *e*P **P 01 32 13.5 -2.9**
WRA Warramunga Arr 42.76 160 P **P 01 32 15.9 -0.5**
comp=Z,10nm,0.7s,mb4.7,baz=342,slow=9.0,SNR=17
WB2 Warramunga Arr 42.77 160 *e*P **P 01 32 15.8 -0.7**
TKM2 Tokmak 2 43.12 311 P **P 01 32 21.1 +1.7**
SNR=7.4
TKM2 Tokmak 2 43.12 311 P **P 01 32 19.9 +0.5**
TKM2 pmax pmax
comp=Z,112nm,2.0s,mb5.2
KAD Karad 43.33 274 *e*P **P 01 32 19.4 -1.6**
KAD AMb AMB 01 32 25.5
comp=Z,22nm,1.4s,mb4.7
POO Poona 43.41 275 *e*P **P 01 32 19.0 -2.6**
CHMS Chumysh 43.74 311 P **P 01 32 25.0 +0.7**
SNR=5.9
FRU Bishkek 43.79 311⇑*e*P **P 01 32 26.0 +1.2**
FRU *e* 01 34 11.0
FRU pmax pmax
comp=Z,148nm,2.4s,mb5.3
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.0
MNGI Mangalore 43.80 267 *e*P **P 01 32 25.4 +0.6**
MNGI AMb AMB 01 32 28.1
comp=Z,36nm,1.4s,mb4.9
PET Petropavlovsk 43.81 33⇑*e*P **P 01 32 25.4 +0.5**
PET pmax pmax
comp=Z,49nm,1.6s,mb5.0
AAK Ala-Archa 43.83 311 P **P 01 32 25.7 +0.7**
SNR=8.8
AAK Ala-Archa 43.83 311⇑*e*P **P 01 32 25.2 +0.2**
AAK pmax pmax
comp=Z,29nm,2.2s,mb4.6
AAK Ala-Archa 43.83 311 *e*P **P 01 32 25.0 0.0**
comp=Z,26nm,1.6s,mb4.7
NVS Novosibirsk 43.90 330 *e*P **P 01 32 24.2 -1.4**
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=E,44nm,1.8s
NVS pmax pmax
comp=Z,51nm,1.8s,mb5.0
USP Ospenovka 43.99 311 P **P 01 32 27.2 +0.8**
SNR=8.4
GOA Goa 44.07 271 *e*P **P 01 32 25.4 -1.6**
GOA AMb AMB 01 32 40.4
comp=Z,22nm,0.3s,mb5.4
AML Almayashu 44.27 310 P **P 01 32 30.6 +2.0**
SNR=7.3
EKS2 Erkin-Say 44.34 310 P **P 01 32 30.4 +1.2**
SNR=6.6
MA2 Magadan 44.62 22 *e*P **P 01 32 32.9 +1.6**
AS31 Alice Springs 46.13 162 *e*P **P 01 32 43.2 -0.2**
ASPA Alice Springs 46.13 162 *e*P **P 01 32 43.2 -0.2**
ASAR Alice Springs 46.13 162 P **P 01 32 43.2 -0.2**
comp=Z,2.9nm,0.6s,mb4.4,baz=344,slow=6.5,SNR=24
KK31 Karatay Array 46.78 310 *i* P **P 01 32 49.1 +0.6**
KKAR Karatay Array 46.78 310 *i* P **P 01 32 49.1 +0.6**
CTA Charters Tower 48.00 146 P **P 01 32 59.6 +1.7**
comp=Z,11nm,0.5s,mb5.1,baz=329,slow=11,SNR=11
CTAO Charters Tower 48.00 146 *e*P **P 01 32 59.0 +1.1**
CTAO pmax pmax
comp=Z,154nm,1.6s,mb5.8
CTAO Charters Tower 48.00 146 *e*P **P 01 32 59.0 +1.1**
comp=Z,154nm,1.6s,mb5.8
VOSK Vostochnaya 49.27 323 P **P 01 33 05.8 -1.9**
VOSK pmax pmax
comp=Z,48nm,1.8s,mb5.2
BVA0 Borovoye Array 49.72 323 *i* P **P 01 33 11.1 0.0**
BVA0 pmax pmax
comp=Z,21nm,2.2s,mb4.8
BVAR Borovoye Array 49.72 323 P **P 01 33 11.3 +0.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=115,slow=10.0,SNR=13
BVAR PcP PcP 01 34 31.8 -0.1
comp=Z,2.9nm,0.6s,baz=112,slow=4.3,SNR=8.1
BRVK Borovoye 49.79 323 P **P 01 33 12.1 +0.4**
SNR=12
BRVK Borovoye 49.79 323 *e*P **P 01 33 11.9 +0.2**
BRVK pmax pmax
comp=Z,99nm,1.8s,mb5.5
BRVK Borovoye 49.79 323 *e*P **P 01 33 11.9 +0.2**
comp=Z,98nm,1.8s,mb5.5
CHKZ Chkalovo 49.83 324 *e*P **P 01 33 11.1 -0.8**
CHKZ pmax pmax
comp=Z,44nm,1.4s,mb5.3
CHKZ Chkalovo 49.83 324 *e*P **P 01 33 11.1 -0.9**
comp=Z,44nm,1.4s,mb5.3
ZRNK Zerenda 50.48 322 *e*P **P 01 33 16.8 -0.1**
ZRNK pmax pmax
comp=Z,26nm,1.1s,mb5.2
ZRNK Zerenda 50.48 322 *e*P **P 01 33 16.8 0.0**
comp=Z,26nm,1.1s,mb5.2
TIXI Tiksi 51.22 4⇑*e*P **P 01 33 21.1 -1.4**
TIXI pmax pmax
comp=Z,18nm,1.6s,mb4.8
NWAO Narrogin (SRO) 53.39 183 *e*P **P 01 33 38.4 -0.2**
NWAO pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 53.39 183 *e*P **P 01 33 38.4 -0.1**
comp=Z,6.3nm,0.8s,mb4.6
AB31 Akbulak array 55.13 316 P **P 01 33 49.0 -2.2**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ABKT Ailbek 55.66 302 P **P 01 33 56.7 +1.7**
comp=Z,99nm,1.7s,mb5.6,SNR=6.9
STKA Stephens Creek 56.23 158 *e*P **P 01 33 59.2 +0.1**
comp=Z,2.9nm,0.5s,mb4.6
STKA Stephens Creek 56.23 158 P **P 01 33 59.0 -0.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=342,slow=6.9,SNR=8.4
AKTK Aktyubinsk 56.53 317 P **P 01 34 01.4 +0.1**
AKTO Aktyubinsk 56.53 317 P **P 01 34 01.4 +0.1**
comp=Z,5.7nm,0.8s,mb4.7,baz=84,slow=8.2,SNR=20
AKTO Aktyubinsk 56.53 317 P **P 01 34 00.3 -1.0**
AKTO pmax pmax
comp=Z,14nm,1.8s,mb4.7
ARU Arti 57.25 325⇑*i*P **P 01 34 05.8 -0.6**
ARU *e* 01 34 57.5
ARU *e* 01 36 16.4
ARU *e*S **S 01 42 02.4 +1.7**
ARU *e* 01 43 49.4
ARU *e*SS SS 01 45 49.2 -0.8
ARU pmax pmax
comp=Z,32nm,1.6s,mb5.1
ARU Arti 57.25 325 *e*P **P 01 34 05.1 -1.3**
comp=Z,63nm,1.4s,mb5.5
ORR Orenburg 58.72 319 *e*P **P 01 34 16.7 0.0**
ORR pmax pmax
comp=Z,100nm,2.1s,mb5.5
GNI Garni 65.89 306 P **P 01 35 06.2 +1.5**
comp=Z,1.4nm,0.4s,mb4.3,baz=184,slow=21,SNR=6.1
GNI Garni 65.89 306⇑*e*P **P 01 35 05.2 +0.5**
GNI pmax pmax
comp=Z,12nm,1.7s
VRHR Novokhopersk 66.93 318 *e*P **P 01 35 11.6 +0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.6s
KIV Kislovodsk 66.94 310 P **P 01 35 12.2 +0.7**
SNR=8.2
KIV Kislovodsk 66.94 310 *e*P **P 01 35 11.6 +0.2**
KIV *e* 01 35 39.2
KIV *e* 01 37 39.9
KIV *e*S S 01 44 03.7 +0.8
KIV *e*SS SS 01 48 24.1 +2.6
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,634nm,18.0s,MS4.9
KIV Kislovodsk 66.94 310 *e*P **P 01 35 12.2 +0.8**
comp=Z,56nm,1.6s,mb5.3
VRSR Storozhevoye 68.45 318 *e*P **P 01 35 20.2 -0.7**
VRSR pmax pmax
comp=Z,20nm,1.4s,mb5.0
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 68.89 323 *e*P **P 01 35 21.3 -2.4**
MOS *e* 01 39 30.9
MOS pmax pmax
comp=Z,300nm,2.5s,mb5.8
MOS pmax pmax
comp=Z,92nm,1.7s,mb5.4
OBN Obninsk 69.56 322⇓*i*P **P 01 35 27.0 -0.8**
OBN pmax pmax
comp=Z,58nm,1.6s,mb5.3
OBN Obninsk 69.56 322 *e*P **P 01 35 27.1 -0.7**
comp=Z,14nm,0.8s,mb4.9
MALT Malatya 71.03 305⇑*i*P **P 01 35 38.7 +1.9**
MALT Malatya 71.03 305 *e*P **P 01 35 37.8 +1.0**
MALT pmax pmax
comp=Z,120nm,2.1s,mb5.5
MALT Malatya 71.03 305 *e*P **P 01 35 37.8 +1.0**
comp=Z,120nm,2.1s,mb5.5
JOF Joensuu 71.20 331 *e*p **P 01 35 36.9 -0.9**
comp=Z,2.5nm,0.6s,mb4.3
KEV Kevo 71.79 339 *e*p **P 01 35 40.6 -0.8**
comp=Z,1.9nm,0.5s,mb4.3
KEV Kevo 71.79 339 *e*P **P 01 35 40.6 -0.8**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ARCES ARCESS Array B 72.35 338 P **P 01 35 44.8 0.0**
comp=Z,3.7nm,0.7s,mb4.4,baz=72,slow=7.2,SNR=11
KAF Kangasniemi 73.63 331 *e*p **P 01 35 50.4 -1.9**
comp=Z,5.0nm,0.7s,mb4.5,baz=73,slow=5.5
KAF Kangasniemi 73.63 331 *e*P **P 01 35 50.4 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ASF Jabal al Asfar 73.64 299 P **P 01 35 53.6 +1.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=78,slow=1.2,SNR=11
FINES FINESS Array B 73.89 330 P **P 01 35 53.6 -0.2**
comp=Z,10.0nm,1.0s,mb4.7,baz=67,slow=6.8,SNR=18
BR131 Keskin Array S 74.36 307 *e*P **P 01 35 56.0 -0.6**
BRTR Keskin Array B 74.36 307 P **P 01 35 57.1 +0.5**
comp=Z,0.6nm,0.7s,baz=347,slow=5.1,SNR=4.1
AKASG Malin Array Be 74.74 319 P **P 01 35 57.8 -1.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=64,slow=5.4,SNR=26
AKBB Malin Array Si 74.74 319 *e*P **P 01 35 57.6 -1.2**
CFR Carcaliu 76.88 313⇑*i*P **P 01 36 11.8 +0.8**
CFR Carcaliu 76.88 313 P **P 01 36 11.6 +0.5**
SUW Suwalki 77.40 323 *e*P **P 01 36 13.4 -0.5**
SUW *e* 01 36 16.8
SUW *e* pP 01 36 21.5 -0.9
SUW Suwalki 77.40 323 *e*P **P 01 36 13.6 -0.4**
comp=Z,28nm,1.0s,mb5.2
SUW *e* 01 36 16.8
SUW *e* pP 01 36 21.5 -0.9
VRI Vrincioaia 77.63 314⇓*i*P **P 01 36 15.8 +0.5**
VRI Vrincioaia 77.63 314 P **P 01 36 16.4 +1.2**
BURAR Bucovina Array 78.11 316⇑*i*P **P 01 36 18.5 +0.6**
BURAR Bucovina Array 78.11 316 ⇑P **P 01 36 18.6 +0.7**
LVV L'vov 78.18 319 *i* P **P 01 36 17.9 -0.4**
LVV *e* pP 01 36 27.7 +0.9
MLR Muntele Rosu 78.27 314⇑*i*P **P 01 36 19.6 +0.8**
MLR Muntele Rosu 78.27 314 ⇑P **P 01 36 19.6 +0.8**
KWP Kalwaria 79.06 319 *e*P **P 01 36 23.3 +0.2**
KWP *e* pP 01 36 31.9 +0.3
KWP pmax pmax
comp=Z,115nm,1.5s,mb5.6
KWP Kalwaria 79.06 319 *e*P **P 01 36 23.3 +0.1**
comp=Z,115nm,1.5s,mb5.6
KWP *e*PcP PcP 01 36 31.9 +0.3
KWP Kalwaria 79.06 319 *e* **P 01 36 23.5 +0.4**
DAG Danmarks Havn 79.62 351⇑*i*P **P 01 36 24.7 -1.5**
comp=Z,30nm,1.5s,mb5.0
DAG Danmarks Havn 79.62 351⇑*e*P **P 01 36 24.7 -1.5**
DAG pmax pmax
comp=Z,31nm,1.5s,mb5.0
DAG Danmarks Havn 79.62 351⇑*e*P **P 01 36 24.7 -1.5**
comp=Z,31nm,1.5s,mb5.0
UZH Uzhgorod 79.64 318 *e*P **P 01 36 24.7 -1.6**
UZH pmax pmax
comp=Z,26nm,1.3s,mb5.0
DRGR 79.99 316⇑*i*P **P 01 36 29.1 +0.9**
DRGR 79.99 316 P **P 01 36 28.9 +0.7**
STHS Stebnicka Huta 80.03 319 *e*P **P 01 36 28.8 +0.4**
STHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
STHS Stebnicka Huta 80.03 319 *e*P **P 01 36 28.8 +0.4**
comp=Z,5.9nm,1.4s,mb4.3
CRVS Cervenica-Dubn 80.07 319 *e*P **P 01 36 29.4 +0.8**
NIE Niedzica 80.60 319 *e*P **P 01 36 32.5 +1.0**
OJC Ojcow 80.62 320 *e*P **P 01 36 31.5 -0.1**
OJC *e*PcP PcP 01 36 39.8 +1.4
NB2 NORSAR Subarra 80.78 332 P **P 01 36 31.4 -1.0**
comp=Z,16nm,1.1s,mb4.8,baz=64,slow=5.6
NB2 NORSAR Subarra 80.78 332 P **P 01 36 31.3 -1.1**
NB2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
NB2 NORSAR Subarra 80.78 332 P **P 01 36 31.3 -1.1**
comp=Z,12nm,0.9s,mb4.8
NOA NORSAR Array B 80.78 332 P **P 01 36 31.4 -1.0**
comp=Z,3.1nm,0.7s,mb4.4,baz=63,slow=5.2,SNR=13
KECS Kecovo 80.82 318 *e*P **P 01 36 32.3 -0.4**
KECS pmax pmax
comp=Z,12nm,1.6s,mb4.6
KECS Kecovo 80.82 318 *e*P **P 01 36 32.3 -0.4**
comp=Z,12nm,1.6s,mb4.6
VTS Vitosha 81.06 312⇑*i*P **P 01 36 35.0 +1.0**
VTS Vitosha 81.06 312 P **P 01 36 34.9 +0.9**
PSZ Piszkesteto 81.39 318 *e*P **P 01 36 36.1 +0.4**
PSZ *e* pP 01 36 42.3 -1.9
PSZ pmax pmax
comp=Z,34nm,1.6s,mb5.0
PSZ Piszkesteto 81.39 318 *e*P **P 01 36 36.1 +0.4**
comp=Z,34nm,1.6s,mb5.0
PSZ *e*PcP PcP 01 36 42.3 +0.6
OKC Ostrava-Krasne 81.76 320 *e*P **P 01 36 37.9 +0.3**
VYHS Vyhne 81.84 319 *i* P **P 01 36 38.9 +0.8**
VYHS *e* pP 01 36 46.4 -0.2
VYHS pmax pmax
comp=Z,25nm,1.7s,mb4.9
VYHS Vyhne 81.84 319 *i* P **P 01 36 38.9 +0.8**
comp=Z,25nm,1.7s,mb4.9
VYHS *e* pP 01 36 46.4 -0.2
KSP Ksiaz 82.46 322 *e*P **P 01 36 42.1 +0.8**
KSP *e* pP 01 36 49.5 -0.3
KSP Ksiaz 82.46 322 *e*P **P 01 36 41.6 +0.3**
KSP *e*pP pP 01 36 49.3 -0.5
DPC Dobruska-Polom 82.64 321 *e*P **P 01 36 42.5 +0.2**
SMOL Smolenice 82.70 319 *e*P **P 01 36 43.5 +0.9**
UPC Upice 82.76 321 *e*P **P 01 36 42.8 -0.1**
UPC *e*pP pP 01 36 51.0 -0.4
VRAC Vranov 82.89 320⇑*i*P **P 01 36 44.7 +1.1**
VRAC Vranov 82.89 320 P **P 01 36 44.6 +1.1**
RUE Ruedersdorf 83.21 324 *e*P **P 01 36 46.0 +0.8**
comp=Z,109nm,1.4s,mb5.7
RUE *e*pP pP 01 36 53.8 0.0
TREC Trest 83.56 320 *e*P **P 01 36 47.9 +0.9**
TREC *e*pP pP 01 36 55.6 0.0
PVCC Panska Ves 83.59 322 *e*P **P 01 36 47.6 +0.4**
PVCC *e*pP pP 01 36 55.7 0.0
KMBO Kilima Mbogo 83.60 266 P **P 01 36 49.1 +1.9**
comp=Z,3.7nm,0.9s,mb4.5,baz=58,slow=7.8,SNR=10
KMBO Kilima Mbogo 83.60 266 P **P 01 36 50.4 +3.2**
SNR=5.8
BRG Berggiesshubel 83.81 322 *e*P **P 01 36 48.4 +0.1**
comp=Z,80nm,1.7s,mb5.6
BRG Berggiesshubel 83.81 322 *i* **P 01 36 48.7 +0.4**
comp=Z,48nm,1.7s,mb5.3
PRU Pruhonice 83.83 321 *e*P **P 01 36 48.9 +0.5**
PRU *e*pP pP 01 36 56.9 0.0
PRU AMS AMS 02 18 20.0
comp=Z,500nm,15.0s
CONA Conrad Observa 83.89 319⇑*i*P **P 01 36 49.8 +1.1**
comp=Z,14nm,1.7s,mb4.8
FBE Freiberg 84.12 322 *e*P **P 01 36 50.1 +0.2**
comp=Z,102nm,1.5s,mb5.7
CLL Collm 84.15 323 *e*P **P 01 36 50.1 +0.1**
comp=Z,68nm,1.6s,mb5.5
CLL Collm 84.15 323⇓*i*P **P 01 36 50.0 -0.1**
comp=Z,67nm,1.6s,mb5.5
CLL *i* pP pP 01 36 57.5 -1.1
KOGS Kog 84.25 318 *e*P **P 01 36 50.4 -0.2**
ARSA Arzberg 84.38 318⇓*i*P **P 01 36 51.4 +0.2**
comp=Z,11nm,1.3s,mb4.8
BSEG Bad Segeberg 84.43 326 *e*P **P 01 36 51.5 0.0**
comp=Z,61nm,1.5s,mb5.5
BSEG *e*pP pP 01 36 59.8 -0.2
KHC Kasperske Hory 84.77 321 *e*P **P 01 36 53.4 +0.3**
KHC *e*pP pP 01 37 01.5 -0.2
KHC AMS AMS 02 19 00.0
comp=Z,500nm,13.8s
GEC2 GERESS Array S 84.82 320 *e*P **P 01 36 53.6 +0.2**
comp=Z,51nm,1.7s,mb5.4

GEC2 GERESS Array S 84.82 320 *eP* **P 01 36 53.6 +0.2**
GEC2 pmax pmax
comp=Z,51nm,1.7s,mb5.4
GERES GERESS Array B 84.82 320 P **P 01 36 54.1 +0.7**
comp=Z,2.1nm,0.7s,mb4.4,baz=66,slow=4.5,SNR=18
TANN Tannenbergstha 84.86 322 *eP* **P 01 36 53.7 +0.1**
comp=Z,55nm,1.7s,mb5.4
PERS Pernice 84.89 318 *eP* **P 01 36 53.9 +0.1**
MOA Molln 84.90 319⇓ *iP* **P 01 36 54.4 +0.5**
comp=Z,36nm,1.5s,mb5.3
WERD Werda 84.93 322 *eP* **P 01 36 54.1 +0.1**
comp=Z,54nm,1.6s,mb5.4
GUNZ Gunzen 84.95 322 *eP* **P 01 36 54.2 +0.1**
comp=Z,61nm,1.5s,mb5.5
WERN Wernitzgruen 84.96 322 *eP* **P 01 36 54.3 +0.2**
comp=Z,40nm,1.5s,mb5.3
WERN *e*pP pP 01 37 02.7 0.0
CRES Cresnjev 85.01 317 *eP* **P 01 36 55.0 +0.6**
WET Wettzell 85.17 321 *eP* **P 01 36 55.6 +0.4**
comp=Z,66nm,1.8s,mb5.5
WET Wettzell 85.17 321 *eP* **P 01 36 55.6 +0.4**
WET pmax pmax
comp=Z,66nm,1.8s,mb5.5
NRDL Niedersach Rie 85.22 325 *eP* **P 01 36 55.8 +0.4**
comp=Z,92nm,1.6s,mb5.7
MOX Moxa 85.23 323 *eP* **P 01 36 55.5 0.0**
comp=Z,75nm,1.6s,mb5.6
MOX Moxa 85.23 323 *eP* **P 01 36 55.9 +0.4**
comp=Z,87nm,1.9s,mb5.6
MOX
comp=Z,500nm,19.0s
MANZ Manzenberg 85.25 322 *eP* **P 01 36 56.1 +0.5**
comp=Z,60nm,1.7s,mb5.5
BOJS Bojanci 85.28 317 *eP* **P 01 36 56.1 +0.4**
ROTZ Rotzenmuhle 85.29 322 *eP* **P 01 36 56.5 +0.7**
comp=Z,64nm,1.6s,mb5.5
CLZ Clausthal 85.38 324 *eP* **P 01 36 56.7 +0.5**
comp=Z,65nm,1.5s,mb5.5
CLZ Clausthal 85.38 324 *eP* **P 01 36 56.7 +0.5**
CLZ pmax pmax
comp=Z,65nm,1.5s,mb5.5
LJU Ljubljana 85.51 318 *eP* **P 01 36 57.0 +0.2**
GTTG Gvttingen 85.74 324 *eP* **P 01 36 58.1 +0.1**
comp=Z,90nm,1.8s,mb5.7
KBA Koelnbreinsper 85.80 319⇓ *iP* **P 01 36 58.4 +0.1**
comp=Z,12nm,1.2s,mb5.0
KBA Koelnbreinsper 85.80 319⇓ *iP* **P 01 36 58.4 +0.1**
KBA pmax pmax
comp=Z,12nm,1.2s,mb5.0
GRA1 Grafenberg Arr 85.89 322 *eP* **P 01 36 59.3 +0.5**
comp=Z,89nm,1.8s,mb5.7
GRA1 *e*pP pP 01 37 07.7 +0.4
GRA1 LR LR
comp=Z,400nm,18.3s,MS4.8
GRF Grafenberg Arr 85.89 322 *eP* **P 01 36 59.3 +0.5**
comp=Z,89nm,1.8s,mb5.7
GRF *e*pP pP 01 37 07.7 +0.4
GRF *e*L 02 17 58.0
comp=Z,405nm,18.3s
GRF Grafenberg Arr 85.89 322 *eP* **P 01 36 59.3 +0.5**
GRF *e**PP pP 01 37 07.7 +0.4
GRF pmax pmax
comp=Z,89nm,1.8s,mb5.7
GRF MLR MLR
comp=Z,400nm,18.3s,MS4.8
GRF Grafenberg Arr 85.89 322 *eP* **P 01 36 59.3 +0.5**
GRF *e**PP pP 01 37 07.7 +0.4
GRF pmax pmax
comp=Z,89nm,1.8s,mb5.7
GRF MLR MLR
comp=Z,400nm,18.3s,MS4.8
UBBA Unterbreizbach 86.06 323 *eP* **P 01 37 00.0 +0.4**
comp=Z,59nm,1.7s,mb5.5
FUR Furstenfeldbru 86.56 321 *eP* **P 01 37 02.6 +0.5**
comp=Z,190nm,2.2s,mb5.9
FUR *e*pP pP 01 37 10.9 +0.3
FUR Furstenfeldbru 86.56 321 *eP* **P 01 37 02.6 +0.5**
FUR *e**PP pP 01 37 10.8 +0.2
FUR pmax pmax
comp=Z,190nm,2.2s,mb5.9
FUR Furstenfeldbru 86.56 321 *eP* **P 01 37 02.6 +0.5**
comp=Z,190nm,2.2s,mb5.9
FUR *e*pP pP 01 37 10.8 +0.2
IBBN Ibbenburen 86.57 325 *eP* **P 01 37 02.6 +0.5**
comp=Z,78nm,1.5s,mb5.7
YKA Yellowknife Ar 86.60 22 P **P 01 37 02.0 -0.2**
comp=Z,4.5nm,0.9s,mb4.7,baz=310,slow=4.5,SNR=9.8
WTTA Wattenberg 86.76 320⇑ *iP* **P 01 37 03.2 +0.2**
comp=Z,27nm,1.5s,mb5.2
WTTA Wattenberg 86.76 320⇑ *iP* **P 01 37 03.2 +0.2**
WTTA pmax pmax
comp=Z,27nm,1.5s,mb5.3
SQTA Sankt Quirin 87.04 320⇑ *iP* **P 01 37 03.5 -0.9**
comp=Z,33nm,1.5s,mb5.3
SQTA Sankt Quirin 87.04 320⇑ *iP* **P 01 37 03.5 -0.9**
SQTA pmax pmax
comp=Z,33nm,1.5s,mb5.3
TNS Taunus Mts 87.22 323 *eP* **P 01 37 05.6 +0.3**
comp=Z,73nm,2.1s,mb5.5
TNS Taunus Mts 87.22 323 *eP* **P 01 37 05.6 +0.3**
TNS pmax pmax
comp=Z,73nm,2.1s,mb5.5
BUG Bochum--Univer 87.26 325 *eP* **P 01 37 05.3 -0.2**
comp=Z,85nm,1.9s,mb5.7
DAVA Damuels 87.81 320⇑ *iP* **P 01 37 08.6 +0.5**
comp=Z,14nm,1.6s,mb5.0
CDF Champ du Feu 88.79 322 *eP* **P 01 37 12.3 -0.4**
comp=Z,50nm,1.6s,mb5.3
CDF Champ du Feu 88.79 322 *eP* **P 01 37 12.3 -0.4**
CDF pmax pmax
comp=Z,25nm,1.6s,mb5.3
CDF Champ du Feu 88.79 322 *eP* **P 01 37 12.3 -0.4**
comp=Z,25nm,1.6s,mb5.3
GIVF Givet 89.29 324 *eP* **P 01 37 14.6 -0.5**
HINF Hinteralfeld 89.33 322 *eP* **P 01 37 14.3 -1.0**
comp=Z,35nm,1.6s,mb5.1
HINF Hinteralfeld 89.33 322 *eP* **P 01 37 14.3 -1.0**
HINF pmax pmax
comp=Z,18nm,1.6s,mb5.2
HINF Hinteralfeld 89.33 322 *eP* **P 01 37 14.3 -1.0**
comp=Z,18nm,1.6s,mb5.1
HAU Haudompre 89.53 322 *eP* **P 01 37 15.6 -0.6**
HAU *e*MLR MLR
comp=Z,520nm,20.8s
HAU Haudompre 89.53 322 *eP* **P 01 37 15.6 -0.6**
HAU LR LR
comp=Z,520nm,20.8s,MS4.9
BAIF Baives 89.64 325 *eP* **P 01 37 16.3 -0.5**
comp=Z,46nm,1.5s,mb5.3
BAIF Baives 89.64 325 *eP* **P 01 37 16.3 -0.5**
BAIF pmax pmax
comp=Z,23nm,1.5s,mb5.3
BAIF Baives 89.64 325 *eP* **P 01 37 16.3 -0.5**
comp=Z,23nm,1.5s,mb5.3
MEZF Maizieres J'vi 90.01 323 *eP* **P 01 37 18.2 -0.3**
comp=Z,158nm,1.8s,mb5.7
MEZF Maizieres J'vi 90.01 323 *eP* **P 01 37 18.2 -0.3**
comp=Z,158nm,1.8s,mb6.0
LPG La Plagne 90.57 320 *eP* **P 01 37 21.6 +0.5**
comp=Z,30nm,1.0s,mb5.3
LPG La Plagne 90.57 320 *eP* **P 01 37 21.6 +0.5**
LPG pmax pmax
comp=Z,15nm,1.0s,mb5.3
LPG La Plagne 90.57 320 *eP* **P 01 37 21.6 +0.5**
comp=Z,15nm,1.0s,mb5.3
LPL La Plagne 90.58 320 *eP* **P 01 37 21.4 +0.3**
comp=Z,50nm,1.2s,mb5.4
LPL La Plagne 90.58 320 *eP* **P 01 37 21.4 +0.3**
LPL pmax pmax
comp=Z,25nm,1.2s,mb5.4
LPL La Plagne 90.58 320 *eP* **P 01 37 21.4 +0.3**
comp=Z,25nm,1.2s,mb5.4
BNI Bardonecchia 90.84 319 *eP* **P 01 37 23.1 +0.7**
BNI pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
BNI Bardonecchia 90.84 319 *eP* **P 01 37 23.1 +0.7**
comp=Z,4.9nm,0.6s,mb5.0
MBDF Montbardon 90.95 319 *eP* **P 01 37 23.3 +0.4**
comp=Z,9.9nm,0.8s,mb4.9
MBDF Montbardon 90.95 319 *eP* **P 01 37 23.3 +0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MBDF Montbardon 90.95 319 *eP* **P 01 37 23.3 +0.4**
comp=Z,4.9nm,0.8s,mb4.9
SBF Sospel 90.98 318 *eP* **P 01 37 22.6 -0.4**
comp=Z,30nm,0.8s,mb5.4
SBF Sospel 90.98 318 *eP* **P 01 37 22.6 -0.4**
SBF pmax pmax
comp=Z,15nm,0.8s,mb5.4
SBF Sospel 90.98 318 *eP* **P 01 37 22.6 -0.4**
comp=Z,15nm,0.8s,mb5.4
LOR Lormes 91.35 322 *eP* **P 01 37 24.1 -0.6**
comp=Z,32nm,1.4s,mb5.2
LOR *e*MLR MLR
comp=Z,490nm,21.0s
LOR Lormes 91.35 322 *eP* **P 01 37 24.1 -0.6**
LOR pmax pmax
comp=Z,16nm,1.4s,mb5.2
LOR MLR MLR
comp=Z,490nm,21.0s,MS4.9
LOR Lormes 91.35 322 *eP* **P 01 37 24.1 -0.6**
comp=Z,16nm,1.4s,mb5.2
LOR LR LR
comp=Z,490nm,21.0s,MS4.9
ORIF Oris-en-Rattie 91.40 320 *eP* **P 01 37 24.9 0.0**
comp=Z,22nm,1.1s,mb5.1
ORIF *e*MLR MLR
comp=Z,702nm,20.0s
ORIF Oris-en-Rattie 91.40 320 *eP* **P 01 37 24.9 0.0**
ORIF pmax pmax
comp=Z,11nm,1.1s,mb5.1
ORIF Oris-en-Rattie 91.40 320 *eP* **P 01 37 24.9 0.0**
comp=Z,11nm,1.1s,mb5.1
FRF La Foret Royal 91.63 318 *eP* **P 01 37 25.7 -0.3**
comp=Z,66nm,1.4s,mb5.5
FRF La Foret Royal 91.63 318 *eP* **P 01 37 25.7 -0.3**
FRF pmax pmax
comp=Z,33nm,1.4s,mb5.5
FRF La Foret Royal 91.63 318 *eP* **P 01 37 25.7 -0.3**
comp=Z,33nm,1.4s,mb5.5
SSF Saint Saulge 91.66 322 *eP* **P 01 37 25.6 -0.5**
comp=Z,66nm,1.7s,mb5.4
SSF Saint Saulge 91.66 322 *eP* **P 01 37 25.6 -0.5**
SSF pmax pmax
comp=Z,33nm,1.7s,mb5.4
SSF Saint Saulge 91.66 322 *eP* **P 01 37 25.6 -0.5**
comp=Z,33nm,1.7s,mb5.4
SMF Signal de Mont 91.69 322 *eP* **P 01 37 25.6 -0.7**
comp=Z,53nm,1.5s,mb5.3
SMF Signal de Mont 91.69 322 *eP* **P 01 37 25.6 -0.7**
SMF pmax pmax
comp=Z,27nm,1.5s,mb5.4
SMF Signal de Mont 91.69 322 *eP* **P 01 37 25.6 -0.7**
comp=Z,26nm,1.5s,mb5.3
LMR La Mourre 91.83 318 *eP* **P 01 37 26.7 -0.2**
comp=Z,140nm,1.7s,mb5.7
LMR La Mourre 91.83 318 *eP* **P 01 37 26.7 -0.2**
LMR pmax pmax
comp=Z,70nm,1.7s,mb5.7
LMR La Mourre 91.83 318 *eP* **P 01 37 26.7 -0.2**
comp=Z,70nm,1.7s,mb5.7
AVF Avril sur Loir 91.90 322 *eP* **P 01 37 26.6 -0.6**
SMRF Simiane la Rot 92.08 319 *eP* **P 01 37 28.3 +0.2**
comp=Z,62nm,1.6s,mb5.4
SMRF Simiane la Rot 92.08 319 *eP* **P 01 37 28.3 +0.2**
comp=Z,62nm,1.6s,mb5.7
VIVF Saint-Julien-l 92.16 320 *eP* **P 01 37 28.1 -0.4**
BGF Bois d'Agland 92.32 322 *eP* **P 01 37 28.8 -0.4**
TCF Toulx Ste Croi 92.83 322 *eP* **P 01 37 31.2 -0.3**
LASF Ste Croix 93.07 320 *eP* **P 01 37 32.6 -0.1**
GRR Gorron 93.33 325 *eP* **P 01 37 32.9 -0.9**
RJF Les Rejaudoux 93.79 322 *eP* **P 01 37 36.0 +0.1**
RJF *e*MLR MLR
comp=Z,442nm,19.5s
RJF Les Rejaudoux 93.79 322 *eP* **P 01 37 36.0 +0.1**
RJF LR LR
comp=Z,440nm,19.5s,MS4.9
MTLF Montolieu 94.47 320 *eP* **P 01 37 38.9 -0.2**
EPF Esparros 95.78 320 *eP* **P 01 37 44.9 -0.2**
PPT Papeete 96.44 106 *e*LR LR 02 08 59.9
comp=Z,1μm,30.2s
TBI Tubuai 98.44 112 *e*LR LR 02 09 55.7
comp=Z,519nm,32.8s
RKT Rikitea 111.15 108 *e*LR LR 02 15 48.8
comp=Z,593nm,29.5s
USHA Ushuaia 145.33 171 PKPbc PKPbc 01 43 57.3 +0.8
comp=Z,5.8nm,0.6s,baz=135,slow=5.7,SNR=7.8
SDV Santo Domingo 148.80 21 *e*PKP PKPbc 01 44 06.5 +0.2
ROSC El Rosal 150.97 31 *e*PKPdf PKPdf 01 44 09.0 +3.1
ROSC *e*PKPbc PKPbc 01 44 13.4 +1.8
LPAZ La Paz 171.14 62 PKP PKPdf 01 44 29.0 +1.8
comp=Z,2.3nm,1.1s,baz=340,slow=3.6,SNR=6.1
SIV San Ignacio 175.21 12 PKP PKPdf 01 44 29.6 +0.8
comp=Z,1.6nm,1.0s,baz=252,slow=3.2,SNR=5.6

IDC ***11*** *01:26:06.9±0.5,2072N×11997E,h0km,mb4.7/22, mb1 4.8/23,mb1mx4.7/27,mbtmp4.7/23,ML3.6/1,MS4.5/7, Ms1 4.5/7,ms1mx4.0/29,Error ellipse: s-maj=20.9km s-min=9.7km az=65.0*

NEIC ***11*** *01:26:08.4±0.2,2069N×11995E,h10km,mb5.2/52,Error ellipse: s-maj=5.7km s-min=4.4km az=80.0*

BJI ***11*** *01:26:08.3,2073N×12006E,h13km,mB5.3,mb4.8,Ms5.3, Msz5.1*

GCMT ***11*** *01:26:08.4±0.2,2085N×12004E,h12km,MW5.2/84, Moment Tensor Solution. s39,c56; s84,c144; Duration: 1!0 Moment tensor: Scale 10^17^Nm; Mrr=0.76±.02; Mθθ=0.06±.01; Mφφ=0.69±.02; Mrθ=0.17±.05; Mrφ=0.14±.01; Mθφ=-0.46±.05; Best double couple: M=0.88600×10^17^ NP1:φs=205.00000°,δ32.00000°,λ-64.00000°. NP2: φs=356.00000°,δ61.00000°,λ-105.00000°. Principal axes: T 0.8400, Plg15.0000°, Azm97.0000°; N 0.0920, Plg13.0000°, Azm3.0000°; P -0.9330, Plg70.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***11*** *01:26:10.4±0.2,2068N±002×12000E±003,h34km, mb5.0/104,MS4.9/20 Error ellipse: s-maj=4.3km s-min=3.1km az=168.9*

MOS ***11*** *01:26:10.4±1.0,2072N×11995E,h33km,mb5.4/45, MS5.0/7,Error ellipse: s-maj=9.4km s-min=4.7km az=118.4*

SZGRF ***11*** *01:26:12.7,2064N×12054E,h42km,mb5.3,Philippine Islands region*

ISC 11 01:26:12.4±0.2,2073N±002×11999E±003,h36km, h36km±3.2km:pP-P,n295,σ1!03/308,mb5.0/104,MS4.9/20, 17C-21D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.47**	**166**	⇓*iP*	**Pn**	**01 26 47.2**	**-2.9**
SGCP	**Mt. Cagua**	**3.15**	**142**	*eP*	**Pn**	**01 26 56.2**	**-3.3**
NACB	**Ninganchiao**	**3.73**	**23**	*e*Pn	**Pn**	**01 27 06.5**	**-1.0**
NACB				*e*Sn	**Sn**	**01 27 49.2**	**-1.1**
YHNB	**Yeheng**	**4.12**	**18**	*e*Pn	**Pn**	**01 27 12.8**	**-0.1**
YHNB				*e*Sn	**Sn**	**01 28 01.2**	**+1.4**
CAUP	**Cauayan**	**4.15**	**155**	*eP*	**Pn**	**01 27 15.2**	**+1.9**
PALP	**Palanan**	**4.32**	**147**	*eP*	**Pn**	**01 27 16.4**	**+0.9**
BOLP	**Bolinao**	**4.33**	**181**	*eP*	**Pn**	**01 27 15.0**	**-0.6**
QZH	**Quanzhou**	**4.39**	**343**	*eP*	**Pn**	**01 27 13.2**	**-3.3**
QZH				LR	LR		
comp=N,31μm,8.5s
QZH				LR	LR		
comp=E,26μm,9.5s
QZH				LR	LR		
comp=Z,29μm,9.8s
BALP	**Baler**	**5.19**	**163**	*eP*	**Pn**	**01 27 28.2**	**+0.7**
POLP	**Polilio Island**	**6.25**	**162**	*eP*	**Pn**	**01 27 43.9**	**+1.7**
POLP	**Polilio Island**	**6.25**	**162**	*eP*	**Pn**	**01 27 43.9**	**+1.7**
LUBP	**Lubang**	**6.96**	**178**	*eP*	**Pn**	**01 27 53.7**	**+1.8**
BUSP	**Coron**	**8.68**	**179**	*eP*	**Pn**	**01 28 15.4**	**0.0**
QIZ	**Qiongzhong**	**9.70**	**262**	P	**Pn**	**01 28 34.2**	**+4.8**
QIZ				S	**Sn**	**01 30 22.0**	**+5.0**
QIZ				AMB	AMB		
comp=Z,29nm,0.8s
QIZ				LR	LR		
comp=N,12μm,12.0s
QIZ				LR	LR		
comp=E,9μm,11.0s
QIZ				LR	LR		
comp=Z,15μm,11.5s
QIZ	**Qiongzhong**	**9.70**	**262**	Pn	**Pn**	**01 28 21.9**	**-7.5**
JOW	**Kunigami**	**9.71**	**50**	Pn	**Pn**	**01 28 27.6**	**-2.0**
comp=Z,1.2nm,0.3s,baz=173,slow=17,SNR=3.0
JOW				LR	LR	01 32 39.0	
comp=Z,6μm,20.2s,baz=290,slow=40
NJ2	**Nanjing**	**11.32**	**355**	*eP*	**Pn**	**01 28 55.1**	**+3.5**
NJ2				AP		01 29 02.4	
NJ2				PP		01 29 04.6	
NJ2				S	**Sn**	**01 31 02.2**	**+5.4**
NJ2				XS		01 31 13.2	
NJ2				AMB	AMB		
comp=Z,40nm,0.7s
NJ2				LR	LR		
comp=N,8μm,10.5s
NJ2				LR	LR		
comp=E,17μm,12.2s
NJ2				LR	LR		
comp=Z,13μm,9.1s
TIA	**Tai'an**	**15.63**	**351**	P	**Pn**	**01 29 54.7**	**+4.8**
TIA				LR	LR		
comp=N,3μm,11.1s
TIA				LR	LR		
comp=E,6μm,11.0s
KMI	**Kunming**	**16.48**	**289**	P	**Pn**	**01 30 04.2**	**+3.4**
KMI				AP	pP	01 30 12.0	-0.3
KMI				S	**S**	**01 33 02.4**	**-11**
KMI				XS	sS	01 33 12.8	-15
KMI				AMB	AMB		
comp=Z,27nm,1.9s
KMI				AMB	AMB		
comp=Z,430nm,3.4s
KMI				LR	LR		
comp=N,5μm,11.9s
KMI				LR	LR		
comp=E,4μm,9.5s
KMI				LR	LR		
comp=Z,5μm,8.6s
KMI	**Kunming**	**16.48**	**289**	P	**Pn**	**01 30 04.2**	**+3.4**
comp=Z,27nm,1.9s
KMI				pP	pP	01 30 12.0	-0.3
KMI				sP	sP	01 30 16.8	-0.1
KMI				PP		01 30 21.3	
KMI				PPP		01 30 24.5	
KMI				S	**S**	**01 33 02.4**	**-11**
KMI				sS	sS	01 33 12.8	-15
XAN	**Xi'an**	**16.48**	**326**	P	**Pn**	**01 30 02.8**	**+1.9**
XAN				AMB	AMB		
comp=Z,58nm,2.3s
XAN				LR	LR		
comp=N,2μm,8.2s
XAN				LR	LR		
comp=E,5μm,8.6s
XAN				LR	LR		
comp=Z,6μm,9.2s
CD2	**Chengdu**	**17.76**	**308**	*e*P	**Pn**	**01 30 22.5**	**+5.7**
CD2				S	**S**	**01 33 37.6**	**-2.1**
CD2				AMB	AMB		
comp=Z,100nm,1.6s
CD2				AMB	AMB		
comp=Z,2μm,8.4s
CD2				LR	LR		
comp=N,5μm,9.6s
CD2				LR	LR		
comp=E,7μm,9.6s
CD2				LR	LR		
comp=Z,8μm,9.6s
DL2	**Dalian**	**18.17**	**4**	P	**Pn**	**01 30 23.3**	**+1.5**
DL2				AMB	AMB		
comp=Z,30nm,1.1s
DL2				AMB	AMB		
comp=Z,190nm,3.6s
DL2				LR	LR		
comp=N,2μm,11.0s
DL2				LR	LR		
comp=E,4μm,11.3s
DL2				LR	LR		
comp=Z,2μm,10.4s
BJT	**Baijiatuau**	**19.50**	**351**	*e*P	**Pn**	**01 30 38.2**	**+0.4**
BJI	**Beijing**	**19.52**	**351**	P	**Pn**	**01 30 37.3**	**-0.8**
BJI				S	**S**	**01 34 12.1**	**-3.1**
BJI				AMB	AMB		
comp=Z,48nm,1.2s
BJI				AMB	AMB		
comp=Z,1μm,11.8s
BJI				LR	LR		
comp=E,1μm,15.2s
BJI				LR	LR		
comp=Z,963nm,16.3s
BJI	**Beijing**	**19.52**	**351**	P	**Pn**	**01 30 37.3**	**-0.8**
comp=Z,48nm,1.2s
BJI				pP	pP	01 30 51.7	+5.8
BJI				sP	sP	01 31 01.1	+11
BJI				S	**S**	**01 34 12.1**	**-3.1**
CHTO	**Chiang Mai**	**19.90**	**268**	*e*P	**Pn**	**01 30 41.3**	**-1.3**
CHTO				pmax	pmax		
comp=Z,229nm,2.1s
CHTO	**Chiang Mai**	**19.90**	**268**	*e*P	**Pn**	**01 30 41.3**	**-1.3**
comp=Z,229nm,2.1s
CM31	**Chiang Mai Arr**	**19.96**	**267**	*e*P	**Pn**	**01 30 43.7**	**+0.4**
LZH	**Lanzhou**	**20.83**	**321**	P	**P**	**01 30 51.2**	**+0.4**
LZH				AP		01 31 02.6	
LZH				PP		01 31 15.0	
LZH				AMB	AMB		
comp=Z,440nm,1.4s
LZH				AMB	AMB		
comp=Z,2μm,4.2s
LZH				LR	LR		
comp=E,11μm,11.0s
LZH				LR	LR		
comp=Z,13μm,12.5s,MS5.5
LZH	**Lanzhou**	**20.83**	**321**	P	**P**	**01 30 51.2**	**+0.4**
comp=Z,440nm,1.4s
LZH				pP		01 31 02.6	
LZH				sP	sP	01 31 09.3	+4.6
LZH				PP		01 31 15.0	
LZH				S	**S**	**01 34 55.0**	**+14**
LZH				sS	sS	01 35 15.0	+19
LZH				LR	LR		
comp=Z,13μm,12.5s,MS5.5
CBIJ	**Chichi jima**	**21.24**	**68**	LR	LR	01 37 02.1	
comp=Z,1μm,20.6s,MS4.3,baz=151,slow=31
SNY	**Shenyang**	**21.25**	**7**	⇑P	**P**	**01 30 56.0**	**+0.6**
SNY				AP		01 31 05.1	
SNY				XP	sP	01 31 08.8	-0.4
SNY				PP		01 31 22.5	
SNY				AMB	AMB		
comp=Z,45nm,2.5s,mb4.4
SNY				AMB	AMB		
comp=Z,661nm,12.0s
SNY				LR	LR		
comp=N,3μm,11.2s,MS5.3
SNY				LR	LR		
comp=E,7μm,13.1s,MS5.3
SNY				LR	LR		
comp=Z,3μm,10.8s,MS4.9
HHC	**Hu-ho-hao-te**	**21.30**	**342**	*e*P	**P**	**01 30 59.9**	**+4.0**
HHC				AMB	AMB		
comp=Z,23nm,0.4s,mb4.9
HHC				AMB	AMB		
comp=Z,1μm,10.0s
HHC				LR	LR		
comp=N,2μm,11.0s,MS5.0
HHC				LR	LR		
comp=E,3μm,10.8s,MS5.0
HHC				LR	LR		
comp=Z,4μm,10.0s,MS5.1
KSM	**Kuching**	**21.35**	**208**	*e*P	**P**	**01 30 55.3**	**-1.1**
MAJO	**Matsushiro**	**22.38**	**41**	*e*P	**P**	**01 31 09.5**	**+2.0**
MAJO				pmax	pmax		
comp=Z,86nm,1.3s,mb5.0
MAJO	**Matsushiro**	**22.38**	**41**	*e*P	**P**	**01 31 09.5**	**+2.0**
comp=Z,86nm,1.3s,mb5.0
MAT	**Matsushiro**	**22.38**	**41**	P	**P**	**01 31 05.9**	**-1.6**
MAT				S	**S**	**01 35 08.0**	**-3.6**
MJAR	**Matsushiro Arr**	**22.38**	**41**	P	**P**	**01 31 07.1**	**-0.4**
comp=Z,40nm,1.1s,mb4.8,baz=231,slow=10,SNR=19
MJAR				LR	LR	01 39 22.4	
comp=Z,987nm,20.9s,MS4.2,baz=215,slow=36
CN2	**Changchun**	**23.45**	**10**	*e*P	**P**	**01 31 20.4**	**+1.7**
CN2				*e*S	**S**	**01 35 25.0**	**-4.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3
CN2				AMB	AMB		
comp=Z,200nm,5.0s
CN2				LR	LR		
comp=N,4μm,11.0s,MS5.3
CN2				LR	LR		
comp=E,3μm,11.0s,MS5.3
CN2				LR	LR		
comp=Z,4μm,13.0s,MS5.0
KULM	**Kulim**	**24.25**	**233**	*e*P	**P**	**01 31 26.4**	**+0.4**
VLA	**Vladivostok**	**24.45**	**21**	*e*P	**P**	**01 31 27.3**	**-0.5**
GUMO	**Guam**	**24.79**	**103**	P	**P**	**01 31 31.4**	**+0.5**
MDJ	**Mudanjiang**	**25.11**	**16**	P	**P**	**01 31 33.6**	**-0.2**

MDJ PP 01 32 17.0
MDJ S **S** **01 35 56.8 +0.6**
MDJ AMB AMB
comp=Z,80nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,367nm,3.8s
MDJ LR LR
comp=N,1µm,14.3s,MS4.9
MDJ LR LR
comp=E,2µm,12.5s,MS4.9
MDJ LR LR
comp=Z,2µm,12.5s,MS4.9
MDJ Mudanjiang 25.11 16 *e*P **P** **01 31 34.2 +0.4**
comp=Z,78nm,1.0s,mb5.2
GTA Gaotai 25.42 322 ⇑P **P** **01 31 37.8 +1.2**
GTA S **S** **01 36 00.8 -0.2**
GTA AMB AMB
comp=Z,32nm,1.5s,mb4.6
GTA AMB AMB
comp=Z,1µm,6.5s
GTA LR LR
comp=N,3µm,11.5s,MS5.2
GTA LR LR
comp=E,3µm,10.3s,MS5.2
GTA LR LR
comp=Z,4µm,9.9s
PSI Prapat 27.19 232 P **P** **01 31 52.2 -0.3**
comp=Z,15nm,0.9s,mb4.5,baz=54,slow=6.0,SNR=4.2
PSI Prapat 27.19 232 P **P** **01 31 52.2 -0.3**
LSA Lhasa 27.52 295 *e*P **P** **01 31 57.7 +2.2**
HIA Hailar 28.47 360 *e*P **P** **01 32 04.1 +0.1**
SONM Songino Array 29.19 341 P **P** **01 32 09.8 -0.6**
comp=Z,2.8nm,0.6s,mb4.2,baz=165,slow=9.5,SNR=8.6
SONM ScP ScP 01 38 58.6 +2.6
comp=Z,1.1nm,1.1s,baz=116,slow=3.4,SNR=4.1
SONM LR LR 01 44 05.7
comp=Z,805nm,18.8s,MS4.4,baz=153,slow=37
KLR Kul'dur 29.95 16 *e*P **P** **01 32 13.8 -3.3**
JIRN Jiri 31.52 289 *e*P **P** **01 32 31.6 +0.6**
BOK Bokaro 31.67 282 *e*P **P** **01 32 31.7 -0.6**
BOK AMb AMB 01 32 35.1
comp=Z,34nm,1.3s,mb5.0
GUN Gumba 31.82 290 *e*P **P** **01 32 34.0 +0.4**
comp=Z,218nm,1.3s,mb5.8
YSS Yuzh-Sakhalins 32.04 30⇑*e*P **P** **01 32 35.1 -0.5**
YSS pmax pmax
comp=Z,48nm,1.5s,mb5.1
YSS Yuzh-Sakhalins 32.04 30 P **P** **01 32 38.0 +2.4**
PKI Pulchoki 32.21 289 *e*P **P** **01 32 36.6 -0.4**
comp=Z,34nm,0.8s,mb5.2
KKN Kakani 32.34 289 *e*P **P** **01 32 37.6 -0.6**
comp=Z,67nm,1.0s,mb5.5
DMN Daman 32.48 289 *e*P **P** **01 32 39.4 0.0**
comp=Z,81nm,1.0s,mb5.5
GKN Gorkha 32.92 290 *e*P **P** **01 32 42.5 -0.8**
comp=Z,84nm,1.1s,mb5.6
TLY Talaya 33.42 341 *e*P **P** **01 32 49.1 +1.4**
KOLN Koldanda 33.82 289 *e*P **P** **01 32 50.8 -0.3**
comp=Z,75nm,1.0s,mb5.6
VIS Vishakhapatnam 34.70 271 *e*P **P** **01 32 57.7 -1.0**
VIS AMb AMB 01 33 02.1
comp=Z,38nm,2.0s,mb5.0
WMQ Urumqi 35.36 318 P **P** **01 33 06.3 +1.9**
WMQ PP PP 01 34 28.0 +3.0
WMQ PCP PcP 01 35 35.0 +1.0
WMQ S **S** **01 38 35.0 -1.4**
WMQ SS SS 01 40 57.0 -14
WMQ AMB AMB
comp=Z,15nm,1.4s,mb4.7
WMQ AMB AMB
comp=Z,198nm,6.5s
WMQ LR LR
comp=N,2µm,10.8s,MS5.2
WMQ LR LR
comp=E,1µm,10.8s,MS5.2
WMQ LR LR
comp=Z,2µm,19.6s
MDRS Chennai 38.70 265 *e*P **P** **01 33 32.2 -0.6**
MDRS AMb AMB 01 33 32.6
comp=Z,25nm,0.3s,mb5.5
FITZ Fitzroy Crossi 38.99 171 *e*P **P** **01 33 34.7 -0.5**
comp=Z,25nm,0.9s,mb4.9
FITZ Fitzroy Crossi 38.99 171 P **P** **01 33 33.8 -1.4**
comp=Z,12nm,0.9s,mb4.6,baz=1.7,slow=7.8,SNR=6.3
BHPL Bhopal 39.45 282 *e*P **P** **01 33 36.8 -2.3**
BHPL AMb AMB 01 33 41.0
comp=Z,34nm,1.2s,mb5.0
PMG Port Moresby 40.13 136 P **P** **01 33 44.9 +0.2**
comp=Z,28nm,0.8s,mb5.1,baz=295,slow=9.2,SNR=5.6
PMG Port Moresby 40.13 136 *e*P **P** **01 33 45.6 +0.9**
MK31 Makanchi Array 40.13 319 *e*P **P** **01 33 46.0 +1.2**
MKAR Makanchi Array 40.13 319 P **P** **01 33 44.4 -0.4**
comp=Z,7.1nm,0.7s,mb4.5,baz=116,slow=9.0,SNR=13
MKAR PcP PcP 01 35 49.6 +0.9
comp=Z,1.7nm,0.7s,baz=89,slow=4.0,SNR=4.2
MKAR Makanchi Array 40.13 319 P **P** **01 33 44.4 -0.4**
MKAR PcP PcP 01 35 49.6 +0.8
PALK Pallekele 40.27 256 *e*P **P** **01 33 47.8 +1.9**
comp=Z,9.0nm,0.9s,mb4.5
MBWA Marble Bar 41.63 180 *e*P **P** **01 33 56.7 -0.4**
AJM Ajmer 41.78 287 *e*P **P** **01 33 58.5 +0.1**
AJM AMb AMB 01 33 60.0
comp=Z,42nm,1.5s,mb4.9
YAK Yakutsk 41.81 7⇑*e*P **P** **01 33 57.2 -1.4**
YAK pmax pmax
comp=Z,46nm,1.5s,mb4.9
YAK Yakutsk 41.81 7 *e*P **P** **01 33 58.5 -0.1**
KSH Kashi 41.95 306 *e*P **P** **01 34 02.2 +2.5**
KSH *e*PP PP 01 35 43.6 +6.5
KSH *e*PCP PcP 01 35 57.6 +3.0
KSH *e*PCS PcS 01 39 47.0 +0.7
KSH *e*S **S** **01 40 14.1 -1.7**
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.5
KSH LR LR
comp=N,2µm,10.2s
KSH LR LR
comp=E,4µm,9.3s
KSH LR LR
comp=Z,11µm,12.3s,MS5.9
ZAL Zalesovo 42.60 330 P **P** **01 34 05.7 +0.7**
comp=Z,6.3nm,1.0s,mb4.3,baz=355,slow=6.7,SNR=6.3
ZAL LR LR 01 51 36.5
comp=Z,824nm,18.8s,MS4.7,baz=340,slow=36
WRAB Tennant Creek 42.79 160 P **P** **01 34 05.1 -1.4**
comp=Z,689nm,1.2s,SNR=7.3
WRAB Tennant Creek 42.79 160 *e*P **P** **01 34 06.8 +0.3**
WRA Warramunga Arr 42.79 160 P **P** **01 34 05.4 -1.2**
comp=Z,33nm,0.8s,mb5.1,baz=342,slow=9.1,SNR=19
WRA PcP PcP 01 35 57.8 +0.4
comp=Z,4.1nm,0.5s,baz=347,slow=3.6,SNR=4.8
WRA S **S** **01 40 32.9 +4.7**
comp=Z,2.1nm,1.0s,baz=347,slow=15,SNR=4.3
WB2 Warramunga Arr 42.80 160 *e*P **P** **01 34 05.3 -1.3**
WB2 *e* pP 01 34 13.3 -3.7
KAD Karad 43.33 274 *e*P **P** **01 34 09.1 -1.8**
PET Petropavlovsk 43.78 33 *e*P **P** **01 34 15.0 +0.4**
AAK Ala-Archa 43.81 311⇑*e*P **P** **01 34 13.8 -0.9**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
AAK Ala-Archa 43.81 311 *e*P **P** **01 34 16.0 +1.2**
NVS Novosibirsk 43.87 330 *e*P **P** **01 34 09.1 -6.2**
GOA Goa 44.08 271 *e*x x 01 34 40.4
GOA AMb AMB 01 34 42.5
comp=Z,130nm,0.1s
MA2 Magadan 44.58 22 P **P** **01 34 18.0 -3.0**
MA2 *e* 01 40 46.8
MA2 pmax pmax
comp=Z,70nm,1.3s,mb5.3
MA2 Magadan 44.58 22 *e*P **P** **01 34 20.8 -0.2**
comp=Z,58nm,1.3s,mb5.2
AS31 Alice Springs 46.16 162 *e*P **P** **01 34 32.4 -1.1**
ASPA Alice Springs 46.16 162 *e*P **P** **01 34 32.4 -1.1**
ASAR Alice Springs 46.16 162 P **P** **01 34 33.1 -0.3**
comp=Z,8.6nm,0.5s,mb4.9,baz=346,slow=7.0,SNR=21
ASAR S **S** **01 41 29.6 +12**
comp=Z,0.8nm,0.8s,baz=349,slow=18,SNR=3.5
ASAR LR LR 01 55 10.4
comp=Z,233nm,21.2s,MS4.1,baz=349,slow=38
ASAR Alice Springs 46.16 162 P **P** **01 34 33.2 -0.3**
ASAR S **S** **01 41 29.6 +12**
SEY Seymchan 47.58 19⇑*e*P **P** **01 34 44.9 +0.3**
CTA Charters Tower 48.02 146 *e*P **P** **01 34 49.3 +1.3**
comp=Z,43nm,0.6s,mb5.7
CTA Charters Tower 48.02 146 P **P** **01 34 49.2 +1.2**
comp=Z,52nm,0.6s,mb5.7,baz=329,slow=10,SNR=16
CTA Charters Tower 48.02 146 *e*P **P** **01 34 49.3 +1.3**
CTA pmax pmax
comp=Z,43nm,0.6s
CTAO Charters Tower 48.02 146 *e*P **P** **01 34 49.3 +1.3**
BVAR Borovoye Array 49.69 323 P **P** **01 35 00.3 -0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=108,slow=8.0,SNR=4.5
BVAR PcP PcP 01 36 20.8 -0.8
comp=Z,3.1nm,0.6s,baz=128,slow=3.6,SNR=4.9
BRVK Borovoye 49.76 323 *e*P **P** **01 35 01.4 +0.1**
BRVK pmax pmax
comp=Z,40nm,1.4s,mb5.3
BRVK Borovoye 49.76 323 *e*P **P** **01 35 01.4 +0.1**
comp=Z,40nm,1.4s,mb5.3
CHKZ Chkalovo 49.80 324 *e*P **P** **01 35 01.2 -0.4**
CHKZ pmax pmax
comp=Z,33nm,1.4s,mb5.2
CHKZ Chkalovo 49.80 324 *e*P **P** **01 35 01.2 -0.4**
comp=Z,34nm,1.4s,mb5.2
ZRNK Zerenda 50.45 322 *e*P **P** **01 35 06.0 -0.5**
ZRNK pmax pmax
comp=Z,33nm,1.3s,mb5.2
ZRNK Zerenda 50.45 322 *e*P **P** **01 35 06.0 -0.5**
comp=Z,33nm,1.3s,mb5.2
ZRNK *e*P 01 35 06.2
TIXI Tiksi 51.19 4 *e*P **P** **01 35 09.7 -2.4**
TIXI *e*S **S** **01 42 27.6 -0.3**
TIXI *e*SS SS 01 46 02.2 -1.3
TIXI pmax pmax
comp=Z,17nm,1.4s,mb4.8
TIXI MLR MLR
comp=Z,1µm,14.0s,MS5.0
KLBR Kellerberrin 52.07 182 *e*P **P** **01 35 17.4 -1.2**
comp=Z,8.8nm,0.5s,mb5.0
NWAO Narrogin (SRO) 53.42 183 *e*P **P** **01 35 29.3 +0.7**
NWAO *e* pP 01 35 38.0 -1.3
BILL Bilibino 55.29 19⇓*i*P **P** **01 35 41.0 -1.3**
BILL *i* pP 01 35 49.0 -3.9
BILL *i* 01 36 42.0
BILL *i* 01 37 43.2
BILL pmax pmax
comp=Z,37nm,1.4s,mb5.2
ABKT Ailbek 55.64 302 P **P** **01 35 45.6 +0.8**
comp=Z,123nm,1.1s,mb5.8,SNR=5.6
STKA Stephens Creek 56.26 158 *e*P **P** **01 35 48.4 -0.8**
comp=Z,8.4nm,0.8s,mb4.8
STKA Stephens Creek 56.26 158 P **P** **01 35 48.5 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=325,slow=6.3,SNR=9.0
STKA LR LR 02 01 46.6
comp=Z,374nm,18.9s,MS4.5,baz=113,slow=38
AKTK Aktyubinsk 56.51 317 P **P** **01 35 50.9 0.0**
AKTO Aktyubinsk 56.51 317 P **P** **01 35 50.9 0.0**
comp=Z,9.7nm,0.8s,mb4.9,baz=87,slow=8.5,SNR=11
WSAR Wadi Sarin 56.58 285 PcP PcP 01 36 48.6 +1.0
comp=Z,5.3nm,0.8s,baz=50,slow=4.1,SNR=3.6
ARU Arti 57.23 325⇑*i*P **P** **01 35 55.1 -1.0**
ARU *e* 01 36 47.5
ARU *e* 01 38 04.8
ARU *e*PPP 01 39 21.6
ARU *e*S **S** **01 43 50.3 +0.9**
ARU *e* 01 45 45.9
ARU *e*SS SS 01 47 42.2 +3.5
ARU *e*SSS 01 49 57.2
ARU pmax pmax
comp=Z,36nm,2.0s,mb5.1
ARU MLR MLR
comp=N,300nm,16.0s,MS4.7
ARU MLR MLR
comp=Z,600nm,16.0s,MS4.8
ARU MLR MLR
comp=E,400nm,15.0s,MS4.7
ARU Arti 57.23 325 *e*P **P** **01 35 55.5 -0.6**
comp=E,13nm,0.6s,mb5.1
TOO Toolangi 62.77 157 *e*P **P** **01 36 34.9 +0.9**
comp=E,11nm,0.6s,mb5.2
TOO Toolangi 62.77 157 *e*P **P** **01 36 34.9 +0.9**
TOO pmax pmax
comp=Z,11nm,0.6s,mb5.2
GNI Garni 65.88 306⇑*e*P **P** **01 36 55.3 +0.9**
GNI pmax pmax
comp=Z,17nm,1.5s
ZEI Tsey 66.19 309 *e*P **P** **01 36 57.7 +1.3**
ZEI *e**PP pP 01 37 06.4 -0.9
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KIV Kislovodsk 66.92 310 *e*P **P** **01 37 01.3 +0.2**
KIV *e* 01 37 26.5
KIV *e*S S 01 45 50.4 -1.2
KIV pmax pmax
comp=Z,19nm,0.7s,mb5.2
KIV Kislovodsk 66.92 310 *e*P **P** **01 37 01.5 +0.4**
comp=Z,19nm,0.8s,mb5.2
VOR Voronezh 68.36 319 *e*P **P** **01 37 10.0 -0.2**
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.4
VRSR Storozhevoye 68.43 318 *e*P **P** **01 37 09.7 -0.9**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.0s
OBN Obninsk 69.53 322⇑*e*P **P** **01 37 16.6 -0.9**
OBN *e* 01 37 38.3
OBN pmax pmax
comp=Z,47nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
OBN Obninsk 69.53 322 *e*P **P** **01 37 16.2 -1.2**
comp=Z,14nm,0.6s,mb5.1
APA Apatity 69.73 336⇓*e*P **P** **01 37 26.0 +7.3**
APA *i* 01 37 46.0
APA *e*S S 01 46 33.0 +7.9
APA *e* 01 47 17.0
APA pmax pmax
comp=Z,51nm,1.5s,mb5.2
APA MLR MLR
comp=Z,1µm,14.0s,MS5.3
ANN Anapa 70.52 312 *e*P **P** **01 37 22.3 -1.2**
ANN *e*S S 01 46 35.1 +0.8
ANN pmax pmax
comp=Z,54nm,1.7s,mb5.2
ANN MLR MLR
comp=N,404nm,14.0s,MS5.0
ANN MLR MLR
comp=E,367nm,14.0s,MS5.0
ANN MLR MLR
comp=Z,457nm,14.0s,MS4.9
MALT Malatya 71.02 305⇓*i*P **P** **01 37 28.0 +1.5**
MALT Malatya 71.02 305 ⇓P **P** **01 37 28.1 +1.6**
MALT Malatya 71.02 305 *e*P **P** **01 37 27.6 +1.1**
comp=Z,42nm,1.8s,mb5.1
JOF Joensuu 71.17 331 *e*p **P** **01 37 25.0 -2.5**
comp=Z,2.0nm,0.4s,mb4.4
KEV Kevo 71.76 339 *e*p **P** **01 37 30.1 -0.9**
comp=Z,4.5nm,0.7s,mb4.5
KEV Kevo 71.76 339 *e*P **P** **01 37 30.1 -0.9**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MCK McKinley 72.10 28 P **P** **01 37 34.3 +1.2**
ARCES ARCESS Array B 72.32 338 P **P** **01 37 34.4 0.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=78,slow=7.5,SNR=10
ARE0 ARCESS Array S 72.32 338 *e*P **P** **01 37 35.2 +0.8**
COLA College 72.35 27 P **P** **01 37 33.9 -0.7**
PMR Palmer 72.41 30 P **P** **01 37 35.4 +0.5**
KAF Kangasniemi 73.60 331 *e*p **P** **01 37 40.2 -1.8**
comp=Z,3.2nm,0.6s,mb4.4,baz=74,slow=5.5
KAF Kangasniemi 73.60 331 *e*P **P** **01 37 40.2 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ASF Jabal al Asfar 73.62 299 P **P** **01 37 44.3 +2.2**
comp=Z,3.1nm,1.0s,mb4.2,baz=85,slow=0.6,SNR=5.7
FINES FINESS Array B 73.86 330 P **P** **01 37 43.3 -0.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=74,slow=6.4,SNR=7.4
BRTR Keskin Array B 74.34 307 P **P** **01 37 46.5 +0.2**
comp=Z,1.0nm,0.6s,baz=116,slow=3.1,SNR=6.7
AKASG Malin Array Be 74.72 319 P **P** **01 37 47.2 -1.2**
comp=Z,4.1nm,0.8s,mb4.4,baz=61,slow=5.9,SNR=8.9
AKASG Malin Array Be 74.72 319 P **P** **01 37 47.2 -1.2**
AKBB Malin Array Si 74.72 319 *e*P **P** **01 37 48.0 -0.5**
CSS Prodhromos 75.79 302 *e*P **P** **01 37 55.4 +0.8**
DAWY Dawson 76.10 26 *e*P **P** **01 37 57.7 +1.3**
INK Inuvik 76.83 21 *e*P **P** **01 38 01.1 +0.6**
INK pmax pmax
comp=Z,29nm,1.3s
INK Inuvik 76.83 21 *e*P **P** **01 38 01.1 +0.6**
comp=Z,28nm,1.3s,mb5.0
SUW Suwalki 77.38 323 *e*P **P** **01 38 03.0 -0.6**
VRI Vrincioaia 77.61 314⇓*i*P **P** **01 38 04.7 -0.2**
VRI Vrincioaia 77.61 314 ⇓P **P** **01 38 04.7 -0.2**
BURAR Bucovina Array 78.09 316⇓*i*P **P** **01 38 07.6 0.0**
BURAR Bucovina Array 78.09 316 ⇓P **P** **01 38 07.6 +0.1**
MLR Muntele Rosu 78.25 314⇓*i*P **P** **01 38 08.7 +0.2**
MLR Muntele Rosu 78.25 314 ⇓P **P** **01 38 08.7 +0.3**
KWP Kalwaria 79.04 319 *e*P **P** **01 38 13.1 +0.3**
DRGR 79.97 316⇓*i*P **P** **01 38 18.1 +0.2**
DRGR 79.97 316 ⇓P **P** **01 38 18.1 +0.3**
CRVS Cervenica-Dubn 80.05 319 *e*P **P** **01 38 17.9 -0.4**
NIE Niedzica 80.58 319 *e*P **P** **01 38 22.2 +1.1**
OJC Ojcow 80.60 320 *e*P **P** **01 38 21.0 -0.3**
NB2 NORSAR Subarra 80.75 332 P **P** **01 38 21.0 -1.1**
comp=Z,8.0nm,0.9s,mb4.7,baz=64,slow=5.3
NB2 NORSAR Subarra 80.75 332 P **P** **01 38 21.0 -1.1**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NOA NORSAR Array B 80.75 332 P **P** **01 38 21.0 -1.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=63,slow=5.2,SNR=6.8
KECS Kecovo 80.80 318 *e*P **P** **01 38 22.7 +0.4**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 80.80 318 *e*P **P** **01 38 22.7 +0.4**
comp=Z,5.1nm,1.3s,mb4.3
GKP Gorka Klasztor 80.95 324 *e*P **P** **01 38 23.3 +0.2**
VTS Vitosha 81.05 312⇑*i*P **P** **01 38 22.9 -0.7**
VTS Vitosha 81.05 312 ⇑P **P** **01 38 22.9 -0.8**
BZS Buzias 81.08 315⇑*i*P **P** **01 38 23.6 -0.2**
BZS Buzias 81.08 315 ⇑P **P** **01 38 23.6 -0.2**
PSZ Piszkesteto 81.37 318 *e*P **P** **01 38 25.4 0.0**
PSZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PSZ Piszkesteto 81.37 318 *e*P **P** **01 38 25.4 0.0**
comp=Z,9.6nm,1.1s,mb4.6
OKC Ostrava-Krasne 81.73 320 *e*P **P** **01 38 27.5 +0.2**
VYHS Vyhne 81.82 319 *i* P **P** **01 38 28.1 +0.4**
VYHS pmax pmax
comp=Z,16nm,1.8s,mb4.7
VYHS Vyhne 81.82 319 *i* P **P** **01 38 28.1 +0.4**
comp=Z,16nm,1.8s,mb4.6
MORC Moravsky Berou 82.12 320 *e*P **P** **01 38 29.7 +0.4**
MORC pmax pmax
comp=Z,27nm,1.8s,mb4.9
MORC Moravsky Berou 82.12 320 *e*P **P** **01 38 29.7 +0.4**
comp=Z,27nm,1.8s,mb4.9
KSP Ksiaz 82.44 322 *e*P **P** **01 38 32.1 +1.1**
KSP Ksiaz 82.44 322 *e*P **P** **01 38 30.6 -0.4**
DPC Dobruska-Polom 82.62 321 *e*P **P** **01 38 33.0 +1.1**
UPC Upice 82.73 321 *e*P **P** **01 38 32.8 +0.3**
VRAC Vranov 82.87 320⇓*i*P **P** **01 38 33.8 +0.6**
VRAC Vranov 82.87 320 ⇓P **P** **01 38 33.8 +0.6**
TREC Trest 83.54 320 *e*P **P** **01 38 37.6 +0.9**
PVCC Panska Ves 83.57 322 *e*P **P** **01 38 37.5 +0.7**
KMBO Kilima Mbogo 83.60 266 P **P** **01 38 38.5 +1.5**
comp=Z,8.3nm,0.9s,mb4.9,baz=35,slow=9.2,SNR=13
KMBO Kilima Mbogo 83.60 266 *e*P **P** **01 38 38.8 +1.8**
BRG Berggiesshubel 83.78 322 *e*P **P** **01 38 38.2 +0.3**
comp=Z,25nm,1.4s,mb5.2
BRG Berggiesshubel 83.78 322 *i* P **P** **01 38 38.2 +0.2**
comp=Z,15nm,1.4s,mb5.0
BRG *e* 01 42 02.4
comp=Z,7.5nm,1.9s
PRU Pruhonice 83.81 321 *e*P **P** **01 38 38.4 +0.3**
FBE Freiberg 84.10 322 *e*P **P** **01 38 39.9 +0.4**
comp=Z,50nm,1.4s,mb5.5
FBE *e*pP pP 01 38 52.0 +1.3
CLL Collm 84.13 323 *e*P **P** **01 38 39.6 -0.1**
comp=Z,45nm,1.5s,mb5.4
CLL Collm 84.13 323⇓*i*P **P** **01 38 39.7 0.0**
CLL pmax pmax
comp=Z,44nm,1.5s,mb5.4
CLL MLR MLR
comp=Z,800nm,13.5s,MS5.3
CLL Collm 84.13 323⇓*i*P **P** **01 38 39.7 0.0**
comp=Z,44nm,1.5s,mb5.4
CLL *e*pP pP 01 39 02.0 +11
CLL LR LR
comp=Z,800nm,13.5s,MS5.3
CLL Collm 84.13 323⇓*i*P **P** **01 38 39.7 0.0**
comp=Z,44nm,1.5s,mb5.4
CLL *e*(sP) PcP 01 38 45.0 +1.5
CLL *e*S S 01 49 06.0 +4.1
KOGS Kog 84.23 318 *e*P **P** **01 38 40.4 +0.2**
ARSA Arzberg 84.36 318⇑*i*P **P** **01 38 41.5 +0.6**
comp=Z,14nm,1.5s,mb4.8
BSEG Bad Segeberg 84.41 326 *e*P **P** **01 38 41.5 +0.4**
comp=Z,40nm,1.6s,mb5.3
KHC Kasperske Hory 84.74 321 *e*P **P** **01 38 43.0 +0.2**
KHC Kasperske Hory 84.74 321⇑*e*P **P** **01 38 43.3 +0.5**
GEC2 GERESS Array S 84.79 320 *e*P **P** **01 38 43.4 +0.3**
comp=Z,32nm,1.6s,mb5.2
GEC2 GERESS Array S 84.79 320 *e*P **P** **01 38 43.4 +0.3**
GEC2 pmax pmax
comp=Z,32nm,1.6s,mb5.2
GERES GERESS Array B 84.79 320 P **P** **01 38 43.1 0.0**
comp=Z,3.5nm,0.9s,mb4.5,baz=63,slow=3.6,SNR=10
TANN Tannenbergstha 84.83 322 *e*P **P** **01 38 43.5 +0.3**
comp=Z,30nm,1.6s,mb5.2
PERS Pernice 84.87 318 *e*P **P** **01 38 44.1 +0.7**
MOA Molln 84.88 319⇓*i*P **P** **01 38 44.8 +1.4**
comp=Z,24nm,1.6s,mb5.1
WERD Werda 84.91 322 *e*P **P** **01 38 43.5 -0.1**
comp=Z,38nm,1.6s,mb5.3
GUNZ Gunzen 84.93 322 *e*P **P** **01 38 44.2 +0.5**
comp=Z,48nm,1.5s,mb5.4
WERN Wernitzgruen 84.94 322 *e*P **P** **01 38 43.8 0.0**
comp=Z,35nm,1.6s,mb5.2
WERN *e*pP pP 01 38 56.3 +1.3
CRES Cresnjev 84.99 317 *e*P **P** **01 38 45.4 +1.4**
WET Wettzell 85.15 321 *e*P **P** **01 38 45.5 +0.7**
comp=Z,44nm,1.8s,mb5.3
WET Wettzell 85.15 321 *e*P **P** **01 38 45.5 +0.7**
WET pmax pmax
comp=Z,44nm,1.8s,mb5.3
NRDL Niedersach Rie 85.19 325 *e*P **P** **01 38 45.6 +0.6**
comp=Z,62nm,1.7s,mb5.5
MOX Moxa 85.21 323 *e*P **P** **01 38 45.3 +0.2**
comp=Z,37nm,1.6s,mb5.3
MOX Moxa 85.21 323 *e*P **P** **01 38 45.9 +0.8**
comp=Z,32nm,1.6s,mb5.2
MOX Moxa 85.21 323 *e*P **P** **01 38 45.9 +0.8**
MOX pmax pmax
comp=Z,32nm,1.6s,mb5.2
MANZ Manzenberg 85.22 322 *e*P **P** **01 38 45.9 +0.7**
comp=Z,49nm,1.8s,mb5.3
BOJS Bojanci 85.26 317 *e*P **P** **01 38 46.3 +0.9**
ROTZ Rotzenmuhle 85.27 322 *e*P **P** **01 38 46.2 +0.8**
comp=Z,37nm,1.5s,mb5.3
CLZ Clausthal 85.35 324 *e*P **P** **01 38 46.4 +0.5**
comp=Z,76nm,1.6s,mb5.6
CLZ Clausthal 85.35 324 *e*P **P** **01 38 46.4 +0.5**
CLZ pmax pmax
comp=Z,76nm,1.6s,mb5.6
GRA1 Grafenberg Arr 85.87 322 *e*P **P** **01 38 49.1 +0.7**
comp=Z,46nm,1.6s,mb5.5
GRA1 *e*pP pP 01 39 01.4 +1.8
GRF Grafenberg Arr 85.87 322 *e*P **P** **01 38 49.1 +0.7**
comp=Z,46nm,1.6s,mb5.5
GRF *e*pP pP 01 39 01.4 +1.8
GRF Grafenberg Arr 85.87 322 *e*P **P** **01 38 49.1 +0.7**
GRF *e**PP pP 01 39 01.4 +1.8
GRF pmax pmax
comp=Z,46nm,1.6s,mb5.5
GRF Grafenberg Arr 85.87 322 *e*P **P** **01 38 49.1 +0.7**
GRF *e**PP pP 01 39 01.4 +1.8
GRF pmax pmax
comp=Z,46nm,1.6s,mb5.5
UBBA Unterbreizbach 86.04 323 *e*P **P** **01 38 49.8 +0.5**
comp=Z,48nm,1.8s,mb5.4
YKW3 Yellowknife Ar 86.52 22 *e*P **P** **01 38 51.8 +0.2**
FUR Furstenfeldbru 86.54 321 *e*P **P** **01 38 52.5 +0.8**
comp=Z,78nm,1.6s,mb5.7
FUR Furstenfeldbru 86.54 321 *e*P **P** **01 38 52.5 +0.8**
FUR pmax pmax
comp=Z,78nm,1.6s,mb5.7
YKA Yellowknife Ar 86.57 22 P **P** **01 38 52.3 +0.5**
comp=Z,4.7nm,0.8s,mb4.8,baz=313,slow=4.9,SNR=12
WTTA Wattenberg 86.74 320⇓*i*P **P** **01 38 53.2 +0.5**
comp=Z,26nm,1.4s,mb5.3
WTTA Wattenberg 86.74 320⇓*i*P **P** **01 38 53.2 +0.5**
WTTA pmax pmax
comp=Z,26nm,1.4s,mb5.3
SQTA Sankt Quirin 87.02 320⇑*i*P **P** **01 38 53.9 -0.2**

comp=Z,34nm,1.6s,mb5.3
SQTA Sankt Quirin 87.02 320 ⇑ *i*P **P 01 38 53.9 -0.1**
SQTA pmax pmax
comp=Z,34nm,1.6s,mb5.3
TNS Taunus Mts 87.20 323 *e*P **P 01 38 56.0 +1.1**
comp=Z,63nm,2.2s,mb5.5
TNS Taunus Mts 87.20 323 *e*P **P 01 38 56.0 +1.1**
TNS pmax pmax
comp=Z,63nm,2.2s,mb5.5
STU Stuttgart 87.48 322 P **P 01 38 56.0 -0.3**
WLF Walferdange 88.76 324 *e*P **P 01 39 04.2 +1.8**
comp=Z,12nm,0.6s,mb5.4
CDF Champ du Feu 88.76 322 *e*P **P 01 39 01.0 -1.4**
HINF Hinteralfeld 89.31 322 *e*P **P 01 39 03.6 -1.3**
BAIF Baives 89.62 325 *e*P **P 01 39 05.4 -1.0**
MEZF Maizieres J'vi 89.98 323 *e*P **P 01 39 07.4 -0.7**
CABF La Chapelle 90.38 321 *e*P **P 01 39 09.2 -0.7**
LPG La Plagne 90.55 320 *e*P **P 01 39 10.5 -0.2**
comp=Z,24nm,0.8s,mb5.3
LPG La Plagne 90.55 320 *e*P **P 01 39 10.5 -0.2**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.3
LPG La Plagne 90.55 320 *e*P **P 01 39 10.5 -0.2**
comp=Z,12nm,0.8s,mb5.3
LPL La Plagne 90.55 320 *e*P **P 01 39 10.4 -0.3**
comp=Z,15nm,0.7s,mb5.2
LPL La Plagne 90.55 320 *e*P **P 01 39 10.4 -0.3**
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
LPL La Plagne 90.55 320 *e*P **P 01 39 10.4 -0.3**
comp=Z,7.6nm,0.7s,mb5.1
BNI Bardonecchia 90.82 319 *e*P **P 01 39 12.2 +0.2**
MBDF Montbardon 90.93 319 *e*P **P 01 39 11.1 -1.4**
comp=Z,11nm,0.8s,mb4.9
MBDF Montbardon 90.93 319 *e*P **P 01 39 11.1 -1.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MBDF Montbardon 90.93 319 *e*P **P 01 39 11.1 -1.4**
comp=Z,5.4nm,0.8s,mb4.9
SBF Sospel 90.96 318 *e*P **P 01 39 11.5 -1.1**
comp=Z,19nm,0.7s,mb5.2
SBF Sospel 90.96 318 *e*P **P 01 39 11.5 -1.1**
SBF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
SBF Sospel 90.96 318 *e*P **P 01 39 11.5 -1.1**
comp=Z,9.5nm,0.7s,mb5.2
ORIF Oris-en-Rattie 91.38 320 *e*P **P 01 39 14.0 -0.6**
comp=Z,8.1nm,0.7s,mb4.9
ORIF Oris-en-Rattie 91.38 320 *e*P **P 01 39 14.0 -0.6**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 91.38 320 *e*P **P 01 39 14.0 -0.6**
comp=Z,4.1nm,0.7s,mb4.9
FRF La Foret Royal 91.60 318 *e*P **P 01 39 14.7 -0.9**
comp=Z,16nm,0.8s,mb5.1
FRF La Foret Royal 91.60 318 *e*P **P 01 39 14.7 -0.9**
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
FRF La Foret Royal 91.60 318 *e*P **P 01 39 14.7 -0.9**
comp=Z,7.8nm,0.8s,mb5.1
SMF Signal de Mont 91.67 322 *e*P **P 01 39 14.7 -1.2**
comp=Z,82nm,1.8s,mb5.5
SMF Signal de Mont 91.67 322 *e*P **P 01 39 14.7 -1.2**
SMF pmax pmax
comp=Z,41nm,1.8s,mb5.5
SMF Signal de Mont 91.67 322 *e*P **P 01 39 14.7 -1.2**
comp=Z,41nm,1.8s,mb5.5
LMR La Mourre 91.81 318 *e*P **P 01 39 15.8 -0.8**
AVF Avril sur Loir 91.87 322 *e*P **P 01 39 15.5 -1.4**
comp=Z,8.5nm,0.8s,mb4.8
AVF Avril sur Loir 91.87 322 *e*P **P 01 39 15.5 -1.4**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
AVF Avril sur Loir 91.87 322 *e*P **P 01 39 15.5 -1.4**
comp=Z,4.3nm,0.8s,mb4.8
SMRF Simiane la Rot 92.05 319 *e*P **P 01 39 17.1 -0.6**
VIVF Saint-Julien-l 92.14 320 *e*P **P 01 39 17.4 -0.7**
LASF Ste Croix 93.05 320 *e*P **P 01 39 21.5 -0.8**
EDM Edmonton 93.15 29 *e*P **P 01 39 24.1 +1.3**
GRR Gorron 93.30 325 *e*P **P 01 39 22.8 -0.7**
comp=Z,81nm,1.5s,mb5.6
GRR Gorron 93.30 325 *e*P **P 01 39 22.8 -0.7**
GRR pmax pmax
comp=Z,40nm,1.5s,mb5.6
GRR Gorron 93.30 325 *e*P **P 01 39 22.8 -0.7**
comp=Z,40nm,1.5s,mb5.6
MTLF Montolieu 94.45 320 *e*P **P 01 39 27.4 -1.3**
comp=Z,18nm,1.4s,mb5.0
MTLF Montolieu 94.45 320 *e*P **P 01 39 27.4 -1.3**
MTLF pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
MTLF Montolieu 94.45 320 *e*P **P 01 39 27.4 -1.3**
comp=Z,8.9nm,1.4s,mb5.0
NEW Newport 94.46 34 *e*P **P 01 39 26.1 -2.7**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 94.46 34 *e*P **P 01 39 26.1 -2.7**
comp=Z,7.6nm,1.1s,mb5.0
USHA Ushuaia 145.36 171 PKPbc PKPbc 01 45 46.9 +0.6
comp=Z,11nm,0.8s,baz=147,slow=3.2,SNR=7.9
SDV Santo Domingo 148.77 21 *e*PKPdf PKPdf 01 45 53.2 +1.1
SDV *e*PKPbc PKPbc 01 45 57.5 +1.5
ROSC El Rosal 150.94 30 *e*PKPbc PKPbc 01 46 03.3 +2.0
OTAV Otavalo 152.44 43 *e*PKPdf PKPdf 01 46 00.7 +2.9
OTAV *e*PKPbc PKPbc 01 46 07.9 +3.2
NNA Nana 161.67 64 PKPdf PKPdf 01 46 08.5 -1.0

JMA 11 01:34:13.2±0.1, 2795N×13115E, h67km, M3.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**1.44**	**289**	P	Pn	01 34 37.9	+0.7
JAM				S	Sn	01 34 55.1	-0.2
JTK	**Tokunoshima**	**1.95**	**266**	P	Pn	01 34 44.9	+0.8
JTK				*e*S	Sn	01 35 07.5	-0.2
JMZ	**Minamidaito 2**	**2.12**	**178**	P	Pn	01 34 47.2	+0.8
JMZ				*e*S	Sn	01 35 11.3	-0.5
JNN	**Nakanoshima**	**2.19**	**330**	P	Pn	01 34 48.0	+0.7
JTN	**Tanegashima 3**	**2.70**	**357**	P	Pn	01 34 54.9	+0.7
JTN				*e*S	Sn	01 35 26.0	+0.2
JOW	**Kunigami**	**2.79**	**247**	P	Pn	01 34 56.0	+0.5
JOW				*e*S	Sn	01 35 27.5	-0.5
JTSR	**Tashiro 2**	**3.21**	**357**	P	Pn	01 35 02.6	+1.4
JTSR				*e*S	Sn	01 35 38.6	+0.3
JAGN	**Aguni-jima**	**3.73**	**250**	P	Pn	01 35 09.0	+0.7
JAGN				*e*S	Sn	01 35 50.0	-1.1
JTZ	**Takazaki**	**3.94**	**359**	P	Pn	01 35 13.1	+2.0
JTZ				*e*S	Sn	01 35 55.2	-0.9
JKE	**Kume jima 2**	**4.21**	**248**	P	Pn	01 35 14.8	-0.1
JKE				*e*S	Sn	01 36 03.2	+0.4
JIU2	**Izumi 2**	**4.59**	**356**	P	Pn	01 35 21.5	+1.5
JIU2				S	Sn	01 36 10.5	-1.5

*IDC **11** 01:39:22.5±1.1, 1998N×12086E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.2/17, mbtmp4.2/8, Error ellipse: s-maj=41.1km s-min=22.7km az=49.0*
*NEIC **11** 01:39:25.4±0.7, 2016N×12081E, h10km, mb4.6/17, Error ellipse: s-maj=14.7km s-min=9.9km az=137.0*
*ISCJB **11** 01:39:28.3±0.9, 206N±0.1×1202E±0.1, h10km, mb4.5/33, Error ellipse: s-maj=20.9km s-min=7.8km az=80.3*
*SZGRF **11** 01:39:32.7, 2239N×12344E, h33km, mb4.5, Southeast of Taiwan*
*BJI **11** 01:39:33.9, 2122N×12026E, h9km, mb4.4, ML3.6*

ISC 11 01:39:27.3±4.2, 205N±01×1204E±01, h1km±23km, n62, σ0°92/64, mb4.5/33, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.83**	**17**	*e*Pn	**Pn**	**01 40 27.8**	**+0.4**
YHNB	**Yeheng**	**4.25**	**13**	*e*Pn	**Pn**	**01 40 34.8**	**+1.6**
YHNB				*e*Sn	**Sn**	**01 41 24.4**	**+1.0**
QZH	**Quanzhou**	**4.71**	**340**	P	**Pn**	**01 40 34.7**	**-4.7**
QZH				S	**Sn**	**01 41 24.1**	**-11**
QZH				Smax			
	comp=N,90nm,0.6s						
QZH				Smax			
	comp=E,160nm,0.8s						
QIZ	**Qiongzhong**	**10.01**	**263**	P	**Pn**	**01 41 52.9**	**+0.8**
ENH	**Enshi**	**13.82**	**317**	*e*P	**Pn**	**01 42 49.2**	**+5.0**
	comp=E,0.3nm,0.3s						
INCN	**Inchon**	**17.78**	**17**	P	**Pn**	**01 43 35.5**	**-0.4**
BJT	**Baijiatuau**	**19.78**	**350**	*e*P	**Pn**	**01 44 00.6**	**+0.3**
	comp=E,14nm,0.8s						
LZH	**Lanzhou**	**21.22**	**321**	*e*P	**P**	**01 44 21.1**	**+6.6**
LZH				AP		01 44 25.3	
LZH				XP	sP	01 44 28.1	+13
LZH				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.4						
LZH	**Lanzhou**	**21.22**	**321**	*e*P	**P**	**01 44 21.1**	**+6.6**
	comp=Z,24nm,1.2s,mb4.4						
LZH				pP		01 44 25.3	
LZH				sP	sP	01 44 28.1	+13
MJAR	**Matsushiro Arr**	**22.33**	**41**	P	**P**	**01 44 23.3**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=221,slow=9.6,SNR=3.2						
MDJ	**Mudanjiang**	**25.24**	**16**	P	**P**	**01 44 52.5**	**-2.2**
GTA	**Gaotai**	**25.81**	**321**	*e*P	**P**	**01 45 00.2**	**+0.3**
GTA				AP		01 45 06.6	
GTA				XP	sP	01 45 09.7	+9.3
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**27.93**	**295**	P	**P**	**01 45 20.2**	**+1.3**
HIA	**Hailar**	**28.70**	**359**	*e*P	**P**	**01 45 25.6**	**-0.2**
	comp=Z,7.1nm,0.3s,mb5.0						
SONM	**Songino Array**	**29.52**	**341**	P	**P**	**01 45 33.0**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.8,baz=162,slow=8.6,SNR=8.2						
YSS	**Yuzh-Sakhalins**	**32.07**	**29**	P	**P**	**01 45 52.6**	**-3.0**
GUN	**Gumba**	**32.22**	**290**	*e*P	**P**	**01 45 57.0**	**+0.1**
	comp=Z,30nm,0.9s,mb5.2						
PKI	**Pulchoki**	**32.60**	**289**	*e*P	**P**	**01 45 59.6**	**-0.7**
KKN	**Kakani**	**32.74**	**290**	*e*P	**P**	**01 46 00.5**	**-1.0**
	comp=Z,16nm,0.9s,mb5.0						
DMN	**Daman**	**32.88**	**289**	*e*P	**P**	**01 46 02.2**	**-0.5**
	comp=Z,14nm,0.7s,mb5.0						
GKN	**Gorkha**	**33.32**	**290**	*e*P	**P**	**01 46 05.3**	**-1.3**
	comp=Z,18nm,0.9s,mb5.0						
KOLN	**Koldanda**	**34.22**	**289**	*e*P	**P**	**01 46 13.6**	**-0.8**
	comp=Z,19nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**40.53**	**319**	P	**P**	**01 47 07.9**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.0,baz=113,slow=10,SNR=14						
ZAL	**Zalesovo**	**42.97**	**330**	P	**P**	**01 47 28.2**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.1,baz=354,slow=10,SNR=6.9						
BRVK	**Borovoye**	**50.15**	**323**	*e*P	**P**	**01 48 24.5**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.19**	**324**	*e*P	**P**	**01 48 23.9**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.2						
AKTK	**Aktyubinsk**	**56.91**	**317**	P	**P**	**01 49 13.8**	**-0.1**
AKTO	**Aktyubinsk**	**56.91**	**317**	P	**P**	**01 49 13.8**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.4,baz=86,slow=6.8,SNR=11						
ARU	**Arti**	**57.61**	**325**	*e*P	**P**	**01 49 18.4**	**-0.4**
	comp=Z,2.0nm,0.4s,mb4.5						
JOF	**Joensuu**	**71.54**	**331**	*e*p	**P**	**01 50 48.3**	**-1.5**
	comp=Z,4.2nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**73.97**	**331**	*e*p	**P**	**01 51 03.4**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.3,baz=74,slow=5.3						
FINES	**FINESS Array B**	**74.23**	**330**	P	**P**	**01 51 05.8**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=98,slow=7.9,SNR=9.0						
AKASG	**Malin Array Be**	**75.11**	**319**	P	**P**	**01 51 10.4**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=64,slow=6.6,SNR=5.5						
URZ	**Urewera**	**79.05**	**138**	P	**P**	**01 51 24.2**	**-8.9**
	comp=Z,42nm,0.3s,baz=350,slow=1.7,SNR=119						
KWP	**Kalwaria**	**79.43**	**319**	*e*P	**P**	**01 51 36.1**	**+0.9**
	comp=Z,5.0nm,0.6s,mb4.7						
NB2	**NORSAR Subarra**	**81.11**	**332**	P	**P**	**01 51 43.8**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=60,slow=5.6						
NOA	**NORSAR Array B**	**81.11**	**332**	P	**P**	**01 51 44.0**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=61,slow=5.2,SNR=7.8						
KMBO	**Kilima Mbogo**	**83.93**	**267**	P	**P**	**01 52 01.4**	**+2.5**
	comp=Z,1.4nm,0.8s,mb4.3,baz=47,slow=13,SNR=5.2						
KMBO	**Kilima Mbogo**	**83.93**	**267**	P	**P**	**01 52 01.4**	**+2.5**
CLL	**Collm**	**84.52**	**323**	*e*P	**P**	**01 52 02.0**	**+0.1**
	comp=Z,7.0nm,1.2s,mb4.8						
GERES	**GERESS Array B**	**85.19**	**321**	P	**P**	**01 52 06.1**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.3,baz=64,slow=6.1,SNR=16						
GRA1	**Grafenberg Arr**	**86.26**	**322**	*e*P	**P**	**01 52 11.7**	**+1.1**
	comp=Z,3.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**86.26**	**322**	*e*P	**P**	**01 52 11.7**	**+1.1**
	comp=Z,3.0nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**86.65**	**22**	P	**P**	**01 52 14.1**	**+1.6**
	comp=Z,1.7nm,0.8s,mb4.3,baz=321,slow=5.3,SNR=5.5						
LPG	**La Plagne**	**90.95**	**320**	*e*P	**P**	**01 52 33.8**	**+0.9**
	comp=Z,4.0nm,0.7s,mb4.8						
LPG	**La Plagne**	**90.95**	**320**	*e*P	**P**	**01 52 33.8**	**+0.9**
	comp=Z,4.0nm,0.7s,mb4.9						
LPL	**La Plagne**	**90.95**	**320**	*e*P	**P**	**01 52 33.6**	**+0.7**
	comp=Z,6.4nm,0.7s,mb4.8						
LPL	**La Plagne**	**90.95**	**320**	*e*P	**P**	**01 52 33.6**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.8						
MBDF	**Montbardon**	**91.33**	**319**	*e*P	**P**	**01 52 34.4**	**-0.3**
SBF	**Sospel**	**91.36**	**318**	*e*P	**P**	**01 52 34.8**	**0.0**
ORIF	**Oris-en-Rattie**	**91.77**	**320**	*e*P	**P**	**01 52 37.2**	**+0.5**
	comp=Z,6.7nm,0.8s,mb4.7						
ORIF	**Oris-en-Rattie**	**91.77**	**320**	*e*P	**P**	**01 52 37.2**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.7						
FRF	**La Foret Royal**	**92.00**	**318**	*e*P	**P**	**01 52 37.9**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.5						
FRF	**La Foret Royal**	**92.00**	**318**	*e*P	**P**	**01 52 37.9**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.5						
SSF	**Saint Saulge**	**92.03**	**322**	*e*P	**P**	**01 52 37.7**	**-0.2**
	comp=Z,9.8nm,1.1s,mb4.7						
SSF	**Saint Saulge**	**92.03**	**322**	*e*P	**P**	**01 52 37.7**	**-0.2**
	comp=Z,4.9nm,1.1s,mb4.8						
LMR	**La Mourre**	**92.20**	**318**	*e*P	**P**	**01 52 39.0**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
LMR	**La Mourre**	**92.20**	**318**	*e*P	**P**	**01 52 39.0**	**+0.3**
	comp=Z,5.6nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**92.54**	**320**	*e*P	**P**	**01 52 39.7**	**-0.5**
LASF	**Ste Croix**	**93.45**	**320**	*e*P	**P**	**01 52 44.8**	**+0.4**
ROSF	**Rostrenen**	**95.00**	**326**	*e*P	**P**	**01 52 50.6**	**-1.0**
	comp=Z,64nm,1.3s,mb5.6						
ROSF	**Rostrenen**	**95.00**	**326**	*e*P	**P**	**01 52 50.6**	**-1.0**
	comp=Z,32nm,1.3s,mb5.6						

IDC 11 01:49:08.2±2.2, 507N×12692E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=165.3km s-min=25.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.90**	**164**	P	P	01 54 41.1	-0.7
	0.9nm,0.4s,baz=344,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**29.36**	**167**	P	P	01 55 14.2	+1.4
	0.5nm,0.5s,baz=354,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**56.57**	**325**	P	P	01 58 52.6	+0.1
	1.0nm,0.6s,baz=115,slow=6.3,SNR=11						

IDC 11 01:50:01.9±1.3, 3391S×17882W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/32, Error ellipse: s-maj=64.8km s-min=38.6km az=179.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.33**	**212**	*e*PN	Pn	01 51 08.0	-1.0
MXZ				SN	Sn	01 51 58.4	-1.7
MWZ	**Matawai**	**5.31**	**213**	*e*PN	Pn	01 51 21.0	-1.5
MWZ				SN	Sn	01 52 22.9	-1.5
URZ	**Urewera**	**5.45**	**216**	LR	LR	01 53 42.5	
	comp=Z,108nm,19.3s,baz=322,slow=40						
URZ	**Urewera**	**5.45**	**216**	*e*PN	Pn	01 51 23.6	-0.7
KNZ	**Kokohu**	**5.83**	**208**	*e*PN	Pn	01 51 27.6	-1.9
ASAR	**Alice Springs**	**42.36**	**271**	P	P	01 57 58.2	+0.6
	1.3nm,0.7s,baz=111,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.66**	**276**	P	P	01 58 08.6	+0.3
	1.6nm,0.5s,baz=117,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**128.38**	**314**	PKP	PKPdf	02 09 10.5	+0.1
	0.5nm,0.4s,baz=75,slow=1.6,SNR=4.1						
JOF	**Joensuu**	**145.38**	**336**	*e*p	PKPbc	02 09 39.5	-2.1
	1.4nm,0.4s						
KAF	**Kangasniemi**	**147.58**	**338**	*e*p	PKPdf	02 09 46.4	+1.0
FINES	**FINESS Array B**	**148.16**	**337**	PKPbc	PKPbc	02 09 48.6	-1.0
	2.7nm,0.6s,baz=90,slow=3.8,SNR=16						
NB2	**NORSAR Subarra**	**152.09**	**350**	PKP	PKPdf	02 09 57.0	+4.4
	comp=Z,0.6nm,0.6s,baz=12,slow=2.4						
NOA	**NORSAR Array B**	**152.09**	**350**	PKPbc	PKPbc	02 09 58.2	-1.0
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=4.0						
BRTR	**Keskin Array B**	**153.47**	**292**	PKPab	PKPab	02 10 12.2	-2.2
	comp=Z,0.7nm,0.8s,baz=16,slow=1.8,SNR=4.2						
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc	PKPbc	02 10 01.8	-0.6
	comp=Z,0.6nm,0.5s,baz=40,slow=2.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**159.32**	**181**	PKPab	PKPab	02 10 39.5	-0.1
	comp=Z,0.6nm,0.8s,baz=189,slow=4.0,SNR=4.6						

*IDC **11** 01:50:29.2±5.7, 4218N×14729E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/21, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=138.7km s-min=35.5km az=4.0*
*ISCJB **11** 01:50:42.5±1.3, 4359N±009×1472E±0.1, h51km±10km, mb4.2/6, Error ellipse: s-maj=17.3km s-min=11.8km az=108.3*
*JMA **11** 01:50:43.7±0.2, 4346N×14705E, h32km±3km, M3.9*
*SKHL **11** 01:50:44.3±0.6, 4390N×147.10E, h54km±11km, mb4.7/2*
*MOS **11** 01:50:47.1±0.7, 4423N×14663E, h55km, mb4.4/6, Error ellipse: s-maj=29.2km s-min=24.0km az=108.1*

ISC 11 01:50:43.4±1.3, 4361N±010×1472E±01, h44km±11km, n28, σ0°96/34, mb4.2/6, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.04**	**294**	⇓ *i*P	**Pn**	**01 51 01.5**	**0.0**
YUK				AMB	AMB	01 51 03.4	
	460nm,0.2s						
YUK				AMB	AMB	01 51 03.4	
	310nm,0.2s						
YUK				AMB	AMB	01 51 03.4	
	1μm,0.2s						
YUK				*i* S	**Sn**	**01 51 14.9**	**+0.1**
YUK				A		01 51 19.7	
	4μm,0.2s						
YUK				A		01 51 19.7	
	1μm,0.2s						
YUK				A		01 51 21.4	
	3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.04**	**294**	⇓ *i*PN	**Pn**	**01 51 01.5**	**0.0**
YUK				*i* S	**Sn**	**01 51 14.9**	**+0.1**
YUK				pmax	pmax		
	comp=N,460nm,0.3s						
YUK				pmax	pmax		
	comp=E,460nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax			
	comp=N,4μm,0.3s						
YUK				smax			
	comp=E,1μm,0.3s						
YUK				smax			
	comp=E,3μm,0.5s						
NEM2	**Nemuro 2**	**1.07**	**257**	P	**Pn**	**01 51 01.0**	**-0.9**
NEM2				*e*S	**Sn**	**01 51 13.4**	**-2.2**
JRA	**Rausu**	**1.52**	**283**	P	**Pn**	**01 51 08.7**	**+0.6**
JRA				*e*S	**Sn**	**01 51 27.1**	**+0.4**
KUR	**Kuril'sk**	**1.69**	**17**	*e*P	**Pn**	**01 51 09.0**	**-1.5**
KUR				AMB	AMB	01 51 11.8	
	comp=E,140nm,0.5s						
JNK	**Nakash**	**1.78**	**270**	P	**Pn**	**01 51 11.6**	**-0.1**
JNK				*e*S	**Sn**	**01 51 32.4**	**-0.7**
JAK	**Akkeshi**	**1.91**	**252**	P	**Pn**	**01 51 13.1**	**-0.3**
JTKR	**Abashiri--Toko**	**2.39**	**280**	P	**Pn**	**01 51 21.6**	**+1.6**
JOB	**Onbets**	**2.54**	**255**	P	**Pn**	**01 51 22.4**	**+0.3**
JMP	**Maruseppu**	**2.79**	**279**	P	**Pn**	**01 51 27.3**	**+1.8**
JCH	**Churui**	**2.96**	**252**	P	**Pn**	**01 51 28.0**	**+0.1**
JKK2	**Kamakawa 2**	**3.22**	**276**	P	**Pn**	**01 51 32.9**	**+1.5**
ASAJ	**Asahikawa**	**3.35**	**280**	Pn	**Pn**	**01 51 32.0**	**-1.1**
	comp=E,1.6nm,0.3s,baz=144,slow=19,SNR=2.9						
ASAJ				Sn	**Sn**	**01 52 19.4**	**+7.7**
	comp=E,2.4nm,0.3s,baz=108,slow=20,SNR=2.9						
JNBK	**Urakawa-nobuka**	**3.51**	**249**	P	**Pn**	**01 51 36.1**	**+0.7**
INK	**Inuvik**	**46.51**	**30**	P	**P**	**01 59 07.8**	**+1.5**
	comp=E,1.6nm,0.4s,mb4.3,baz=316,slow=6.0,SNR=6.6						
INK	**Inuvik**	**46.51**	**30**	P	**P**	**01 59 07.8**	**+1.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**59.38**	**340**	P	**P**	**02 00 41.3**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.4,baz=53,slow=8.0,SNR=4.5						
ARCES	**ARCESS Array B**	**59.38**	**340**	P	**P**	**02 00 41.3**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JOF	**Joensuu**	**62.22**	**332**	*e*p	**P**	**02 00 59.2**	**-1.2**
	comp=Z,1.8nm,0.4s,mb4.5						
JOF	**Joensuu**	**62.22**	**332**	*e*P	**P**	**02 00 59.2**	**-1.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**64.44**	**333**	*e*p	**P**	**02 01 14.4**	**-0.8**
	baz=41,slow=6.1						
FINES	**FINESS Array B**	**65.00**	**333**	P	**P**	**02 01 18.8**	**-0.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=45,slow=8.5,SNR=17						
FINES	**FINESS Array B**	**65.00**	**333**	P	**P**	**02 01 18.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**69.74**	**339**	P	**P**	**02 01 48.5**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.74**	**339**	P	**P**	**02 01 48.9**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=33,slow=6.1,SNR=7.4						
NOA	**NORSAR Array B**	**69.74**	**339**	P	**P**	**02 01 48.9**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.70**	**324**	P	**P**	**02 02 00.7**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=41,slow=6.3,SNR=5.1						
AKASG	**Malin Array Be**	**71.70**	**324**	P	**P**	**02 02 00.7**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NIED **11** 01:51:00, 2080N×12050E, h11km, Mw4.7 Best double couple: M0 1.27000×10^16 NP1:φs305.00000°, δ71.00000°, λ-93.00000°. NP2:φs133.00000°, δ19.00000°, λ-82.00000°.*
*ISCJB **11** 01:51:28.0±1.5, 2073N±003×12009E±004, h5km±9km, mb4.8/68, MS3.6/6, Error ellipse: s-maj=5.9km s-min=4.3km az=0.6*
*IDC **11** 01:51:28.7±0.5, 2075N×12001E, h0km, mb4.5/20, mb1 4.6/20, mb1mx4.5/26, mbtmp4.5/20, MS3.8/7, Ms1 3.8/7, ms1mx3.5/35, Error ellipse: s-maj=22.9km s-min=11.6km az=71.0*
*NEIC **11** 01:51:30.4±0.2, 2072N×12004E, h10km, mb4.9/32, Error ellipse: s-maj=6.0km s-min=4.2km az=96.0*
*BJI **11** 01:51:31.2, 2089N×11984E, h18km, mB5.0, mb4.6, ML4.3, Ms4.6, Msz4.4*
*MOS **11** 01:51:32.4±1.0, 2077N×12003

JOW Kunigami 9.56 49 LR LR 01 57 08.7
comp=E,904nm,22.0s,baz=209,slow=35
QIZ Qiongzhong 9.87 262 *e*P **Pn** **01 53 50.2 -2.4**
QIZ S **Sn** **01 55 37.1 -5.6**
QIZ LR LR
comp=N,1μm,9.9s
QIZ LR LR
comp=E,2μm,10.5s
QIZ LR LR
comp=Z,2μm,9.7s
QIZ Qiongzhong 9.87 262 *e*Pn **Pn** **01 53 50.1 -2.5**
comp=Z,24nm,0.8s
QIZ *e*Sn **Sn** **01 55 33.4 -9.3**
WHN Wuhan 11.05 333 *e*P **Pn** **01 54 11.5 +2.6**
NJ2 Nanjing 11.30 354 *e*P **Pn** **01 54 16.5 +4.3**
NJ2 PP 01 54 25.9
NJ2 S **Sn** **01 56 24.0 +6.2**
NJ2 AMB AMB
comp=Z,30nm,0.6s
NJ2 LR LR
comp=N,2μm,10.9s
NJ2 LR LR
comp=E,3μm,10.1s
NJ2 LR LR
comp=Z,2μm,11.9s
GYA Guiyang 13.61 297 P **Pn** **01 54 40.0 -3.8**
GYA AP 01 54 43.8
GYA XP 01 54 47.6
GYA S **Sn** **01 57 03.6 -11**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,540nm,11.2s
GYA LR LR
comp=E,580nm,11.0s
GYA LR LR
comp=Z,640nm,11.9s
JNU Nakatsue 15.56 36 P **Pn** **01 55 13.7 +3.6**
XAN Xi'an 16.55 325 P **Pn** **01 55 24.4 +1.6**
XAN AMB AMB
comp=Z,14nm,1.5s
KMI Kunming 16.62 288 P **Pn** **01 55 27.1 +3.3**
KMI S **Sn** **01 58 32.8 +5.1**
KMI pmax pmax
comp=Z,17nm,1.2s
KMI Kunming 16.62 288 P **Pn** **01 55 27.1 +3.3**
comp=Z,17nm,1.2s
KMI pP pP 01 55 33.3 +1.3
KMI sP sP 01 55 37.3 +2.5
KMI PP 01 55 41.9
KMI PPP 01 55 50.0
KMI S **Sn** **01 58 32.8 +5.1**
INCN Inchon 17.58 17 Pn **Pn** **01 55 35.9 +0.3**
BJT Baijiatuau 19.49 351 *e*P **Pn** **01 55 58.8 -0.1**
BJT 01 59 37.4
BJT pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuau 19.49 351 *e*P **Pn** **01 55 58.8 -0.2**
comp=Z,20nm,0.8s
BJT Sn **Sn** **01 59 37.4 +0.4**
BJI Beijing 19.51 351 P **Pn** **01 55 58.4 -0.8**
BJI AMB AMB
comp=Z,28nm,1.0s
BJI LR LR
comp=N,898nm,13.9s
BJI LR LR
comp=E,634nm,13.8s
BJI LR LR
comp=Z,284nm,17.1s
BJI Beijing 19.51 351 P **Pn** **01 55 58.4 -0.8**
comp=Z,28nm,1.0s
JWT Wachi 19.71 40 P **Pn** **01 56 01.3 -0.2**
CHTO Chiang Mai 20.07 268 *e*P **P** **01 56 04.3 +0.4**
CHTO pmax pmax
comp=Z,43nm,1.5s
CHTO Chiang Mai 20.07 268 *e*P **P** **01 56 04.3 +0.4**
comp=Z,43nm,1.5s
CM31 Chiang Mai Arr 20.13 267 *e*P **P** **01 56 03.9 -0.7**
LZH Lanzhou 20.90 320 *e*P **P** **01 56 13.6 +0.6**
LZH AP 01 56 21.7
LZH XP sP 01 56 27.2 +5.4
LZH AMB AMB
comp=Z,240nm,1.5s
LZH AMB AMB
comp=Z,1μm,4.2s
LZH Lanzhou 20.90 320 *e*P **P** **01 56 13.6 +0.6**
comp=Z,240nm,1.5s
LZH pP 01 56 21.7
LZH sP sP 01 56 27.2 +5.4
CBIJ Chichi jima 21.07 68 LR LR 02 02 58.5
comp=Z,245nm,20.9s,MS3.6,baz=24,slow=32
JGF Kuroka 21.11 42 P **P** **01 56 15.4 +0.1**
HHC Hu-ho-hao-te 21.31 342 *e*P **P** **01 56 18.8 +1.4**
HHC AP 01 56 28.1
HHC XP sP 01 56 32.2 +6.0
HHC AMB AMB
comp=Z,24nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,534nm,7.5s
JHJ Hachijo jima 2 21.34 51 LR LR 02 03 52.7
comp=Z,352nm,20.1s,MS3.8,baz=325,slow=35
KSM Kuching 21.46 208 *e*P **P** **01 56 18.1 -0.9**
MAJO Matsushiro 22.25 41 *e*P **P** **01 56 30.0 +2.6**
MAJO pmax pmax
comp=Z,25nm,1.0s,mb4.6
MAJO Matsushiro 22.25 41 *e*P **P** **01 56 29.9 +2.6**
comp=Z,25nm,1.0s,mb4.6
MAT Matsushiro 22.25 41 P **P** **01 56 29.3 +1.9**
MJAR Matsushiro Arr 22.25 41 P **P** **01 56 27.6 +0.2**
comp=Z,11nm,1.0s,mb4.3,baz=231,slow=10,SNR=14
MJAR LR LR 02 04 55.5
comp=Z,392nm,18.1s,MS3.9,baz=220,slow=36
JRY Ryogami san 22.35 43 P **P** **01 56 29.4 +0.9**
GUMO Guam 24.63 103 LR LR 02 06 20.1
comp=Z,274nm,18.9s,MS3.8,baz=355,slow=36
MDJ Mudanjiang 25.03 16 P **P** **01 56 54.9 +0.3**
MDJ AMB AMB
comp=Z,41nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,220nm,5.5s
MDJ Mudanjiang 25.03 16 *e*P **P** **01 56 55.2 +0.6**
comp=Z,24nm,0.7s,mb4.8
GTA Gaotai 25.50 321 *e*P **P** **01 56 58.6 -0.2**
GTA AP pP 01 57 06.2 +0.9
GTA XP sP 01 57 10.4 +2.5
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.2
JOM Ohasama 25.99 40 P **P** **01 57 01.4 -1.9**
PSI Prapat 27.34 232 P **P** **01 57 15.4 -0.1**
comp=Z,19nm,1.1s,mb4.5,baz=5.6,slow=4.8,SNR=8.6
PSI LR LR 02 06 24.0
comp=Z,395nm,19.9s,MS4.0,baz=124,slow=33
HIA Hailar 28.44 359 P **P** **01 57 23.9 -1.3**
SONM Songino Array 29.21 341 P **P** **01 57 31.8 -0.3**
comp=Z,5.0nm,0.9s,mb4.2,baz=158,slow=9.4,SNR=24
SONM LR LR 02 10 06.3
comp=Z,26nm,21.6s,MS2.8,baz=63,slow=38
KLR Kul'dur 29.87 15 *e*P **P** **01 57 38.4 +0.5**
GUN Gumba 31.96 290 *e*P **P** **01 57 56.6 +0.2**
comp=Z,51nm,1.0s,mb5.3
PKI Pulchoki 32.35 289 *e*P **P** **01 57 59.2 -0.6**
comp=Z,28nm,1.1s,mb5.0
ZAK Zakamensk 32.42 340 *e*P **P** **01 58 00.1 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
KKN Kakani 32.48 289 *e*P **P** **01 58 00.3 -0.7**
comp=Z,36nm,1.0s,mb5.2
DMN Daman 32.62 289 *e*P **P** **01 58 02.0 -0.2**
comp=Z,44nm,1.0s,mb5.4
GKN Gorkha 33.07 290 *e*P **P** **01 58 05.1 -1.0**
comp=Z,35nm,1.0s,mb5.2
KOLN Koldanda 33.97 289 *e*P **P** **01 58 13.4 -0.5**
comp=Z,30nm,1.0s,mb5.2
FITZ Fitzroy Crossi 39.00 172 *e*P **P** **01 58 56.0 -0.9**
comp=Z,8.6nm,0.9s,mb4.5
FITZ Fitzroy Crossi 39.00 172 P **P** **01 58 56.1 -0.8**
comp=Z,3.3nm,0.8s,mb4.1,baz=347,slow=6.3,SNR=4.3
MK31 Makanchi Array 40.21 319 *e*P **P** **01 59 06.4 -0.6**
MKAR Makanchi Array 40.21 319 P **P** **01 59 06.5 -0.5**
comp=Z,2.6nm,0.8s,mb4.0,baz=109,slow=11,SNR=11
MKAR PcP PcP 02 01 10.8 0.0
comp=Z,1.9nm,0.8s,baz=86,slow=3.8,SNR=4.1
YAK Yakutsk 41.75 7 *e*P **P** **01 59 19.0 -0.7**
YAK pmax pmax
comp=Z,15nm,1.0s,mb4.6
ZAL Zalesovo 42.65 330 P **P** **01 59 26.9 0.0**
comp=Z,1.7nm,0.8s,mb3.8,baz=349,slow=8.7,SNR=10.0
WRAB Tennant Creek 42.77 160 *e*P **P** **01 59 26.0 -1.9**
WRA Warramunga Arr 42.77 160 P **P** **01 59 27.7 -0.2**
comp=Z,21nm,0.8s,mb4.9,baz=342,slow=9.0,SNR=61
WRA PcP PcP 02 01 19.9 +0.7
comp=Z,3.5nm,0.8s,baz=338,slow=3.3,SNR=5.2
WB2 Warramunga Arr 42.78 160 *e*P **P** **01 59 27.8 -0.2**
WB2 *e* pP 01 59 34.4 -0.2
WB2 Warramunga Arr 42.78 160 *e*P **P** **01 59 27.9 -0.2**
WB2 *e* pP 01 59 34.4 -0.2
AAK Ala-Archa 43.91 310⇑ *e*P **P** **01 59 36.6 -0.5**
AAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
AS31 Alice Springs 46.15 162 *e*P **P** **01 59 55.2 +0.3**
AS31 *e* pP 02 00 01.9 +0.3
ASPA Alice Springs 46.15 162 *e*P **P** **01 59 55.2 +0.2**
ASPA *e* pP 02 00 01.9 +0.3
ASAR Alice Springs 46.15 162 P **P** **01 59 55.1 +0.2**
comp=Z,4.5nm,0.8s,mb4.4,baz=331,slow=6.9,SNR=27
SEY Seymchan 47.49 19⇑ *e*P **P** **02 00 06.2 +0.7**
CTA Charters Tower 47.96 146 *e*P **P** **02 00 11.1 +2.0**
comp=Z,19nm,0.9s,mb5.1
CTA Charters Tower 47.96 146 P **P** **02 00 11.3 +2.2**
comp=Z,27nm,0.9s,mb5.3,baz=319,slow=10,SNR=9.4
CTA Charters Tower 47.96 146 *e*P **P** **02 00 11.1 +2.0**
CTA pmax pmax
comp=Z,19nm,0.9s
CTAO Charters Tower 47.96 146 *e*P **P** **02 00 11.1 +2.0**
CTAO pmax pmax
comp=Z,31nm,1.0s,mb5.3
CTAO Charters Tower 47.96 146 *e*P **P** **02 00 11.1 +2.0**
comp=Z,31nm,1.0s,mb5.3
BVAR Borovoye Array 49.76 323 P **P** **02 00 22.6 -0.3**
comp=Z,1.8nm,0.8s,mb4.1,baz=112,slow=12,SNR=8.7
BVAR PcP PcP 02 01 43.0 -0.7
comp=Z,1.7nm,0.8s,baz=113,slow=3.3,SNR=4.4
BRVK Borovoye 49.83 323 *e*P **P** **02 00 21.3 -2.2**
BRVK *e* 02 01 42.6
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BRVK Borovoye 49.83 323 *e*P **P** **02 00 21.3 -2.1**
comp=Z,4.9nm,0.9s,mb4.5
BRVK *e*PcP PcP 02 01 42.6 -1.3
CHKZ Chkalovo 49.87 324 *e*P **P** **02 00 22.7 -1.0**
CHKZ pmax pmax
comp=Z,11nm,1.1s,mb4.8
CHKZ Chkalovo 49.87 324 *e*P **P** **02 00 22.7 -1.0**
comp=Z,11nm,1.1s,mb4.8
NWAO Narrogin (SRO) 53.47 183 P **P** **02 00 49.8 -0.8**
comp=Z,14nm,0.9s,mb4.9,baz=41,slow=9.3,SNR=3.5
STKA Stephens Creek 56.23 158 *e*P **P** **02 01 11.3 +0.7**
comp=Z,5.7nm,0.8s,mb4.7
STKA Stephens Creek 56.23 158 P **P** **02 01 11.4 +0.8**
comp=Z,5.6nm,0.7s,mb4.7,baz=346,slow=7.4,SNR=7.5
STKA Stephens Creek 56.23 158 *e*P **P** **02 01 11.3 +0.7**
ARU Arti 57.29 324⇓ *i*P **P** **02 01 17.3 -0.9**
ARU *e* 02 03 27.0
ARU *e*PPP 02 04 42.6
ARU *e*S **S** **02 09 14.1 +0.9**
ARU *e* 02 11 02.3
ARU *e*SS SS 02 13 00.1 -2.4
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ARU Arti 57.29 324 *e*P **P** **02 01 17.4 -0.8**
comp=Z,5.9nm,0.8s,mb4.7
ORR Orenburg 58.78 318 *e*P **P** **02 01 28.0 -0.6**
ORR pmax pmax
comp=Z,20nm,1.2s,mb5.0
GNI Garni 65.99 306⇑ *e*P **P** **02 02 16.8 0.0**
GNI pmax pmax
comp=Z,4.0nm,1.2s
ZEI Tsey 66.29 309 *e*P **P** **02 02 18.3 -0.5**
ZEI *e**PP PP 02 04 45.7 +0.9
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KIV Kislovodsk 67.03 310⇑ *e*P **P** **02 02 24.3 +0.8**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
VRSR Storozhevoye 68.51 318 *e*P **P** **02 02 32.3 -0.5**
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,0.9s
OBN Obninsk 69.61 322⇑ *e*P **P** **02 02 38.8 -0.8**
OBN *i* 02 02 53.6
OBN pmax pmax
comp=Z,24nm,1.5s,mb4.9
ANN Anapa 70.62 312 *e*P **P** **02 02 42.0 -3.8**
ANN pmax pmax
comp=Z,51nm,1.6s,mb5.2
MALT Malatya 71.13 305⇓ *i*P **P** **02 02 48.7 -0.2**
MALT Malatya 71.13 305⇓ P **P** **02 02 48.7 -0.2**
FINES FINESS Array B 73.91 330 P **P** **02 03 05.1 -0.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=101,slow=8.0,SNR=12
FINES FINESS Array B 73.91 330 P **P** **02 03 05.1 -0.4**
AKASG Malin Array Be 74.80 319 P **P** **02 03 09.5 -1.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=62,slow=5.0,SNR=14
AKASG Malin Array Be 74.80 319 P **P** **02 03 09.5 -1.1**
SUW Suwalki 77.44 323 *e*P **P** **02 03 25.2 -0.5**
VRI Vrincioaia 77.70 314⇑ *i*P **P** **02 03 26.1 -1.1**
VRI Vrincioaia 77.70 314⇑ P **P** **02 03 26.1 -1.0**
BURAR Bucovina Array 78.17 316⇓ *i*P **P** **02 03 30.2 +0.4**
BURAR Bucovina Array 78.17 316⇓ P **P** **02 03 30.2 +0.5**
MLR Muntele Rosu 78.34 314⇓ *i*P **P** **02 03 30.5 -0.2**
MLR Muntele Rosu 78.34 314⇓ P **P** **02 03 30.6 -0.1**
KWP Kalwaria 79.12 319 *e*P **P** **02 03 35.4 +0.4**
UZH Uzhgorod 79.70 318 *e*P **P** **02 03 36.8 -1.4**
UZH *e* pP 02 03 43.6 -1.6
UZH pmax pmax
comp=Z,17nm,1.0s,mb4.9
DRGR 80.06 316⇑ *i*P **P** **02 03 40.4 +0.3**
DRGR 80.06 316⇑ P **P** **02 03 40.4 +0.4**
STHS Stebnicka Huta 80.09 319 *e*P **P** **02 03 40.8 +0.6**
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
STHS Stebnicka Huta 80.09 319 *e*P **P** **02 03 40.8 +0.6**
comp=Z,3.0nm,1.0s,mb4.2
CRVS Cervenica-Dubn 80.13 319 *e*P **P** **02 03 41.5 +1.0**
NIE Niedzica 80.66 319 *e*P **P** **02 03 44.1 +0.8**
OJC Ojcow 80.68 320 *e*P **P** **02 03 43.8 +0.4**
OJC *e*PcP PcP 02 03 50.3 +0.1
NB2 NORSAR Subarra 80.79 332 P **P** **02 03 42.9 -1.1**
comp=Z,12nm,1.2s,mb4.7,baz=63,slow=5.6
NB2 NORSAR Subarra 80.79 332 P **P** **02 03 42.9 -1.1**
NB2 pmax pmax
comp=Z,12nm,1.2s,mb4.7
NB2 NORSAR Subarra 80.79 332 P **P** **02 03 42.9 -1.1**
comp=Z,12nm,1.2s,mb4.7
NOA NORSAR Array B 80.79 332 P **P** **02 03 43.1 -0.9**
comp=Z,3.0nm,0.9s,mb4.2,baz=64,slow=5.2,SNR=6.8
VTS Vitosha 81.14 312⇓ *i*P **P** **02 03 46.5 +0.6**
VTS Vitosha 81.14 312⇓ P **P** **02 03 46.5 +0.6**
PSZ Piszkesteto 81.45 318 *e*P **P** **02 03 47.0 -0.6**
OPO Ambohidratompo 81.48 247 P **P** **02 03 48.6 +0.9**
comp=Z,6.2nm,0.9s,mb4.5,baz=93,slow=9.0,SNR=4.8
OKC Ostrava-Krasne 81.81 320 *e*P **P** **02 03 43.9 -5.5**
VYHS Vyhne 81.90 319 *i*P **P** **02 03 49.5 -0.4**
VYHS *e*PCP PcP 02 03 56.6 +1.1
VYHS Vyhne 81.90 319 *i*P **P** **02 03 49.5 -0.4**
VYHS *e* pP 02 03 56.7 -0.2
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 81.90 319 *i*P **P** **02 03 49.5 -0.4**
comp=Z,3.9nm,1.1s,mb4.2
VYHS *e* pP 02 03 56.7 -0.2
MORC Moravsky Berou 82.19 320⇑ *i*P **P** **02 03 52.0 +0.5**
MORC Moravsky Berou 82.19 320⇑ P **P** **02 03 52.1 +0.6**
MORC Moravsky Berou 82.19 320 *e*P **P** **02 03 51.3 -0.1**
KSP Ksiaz 82.51 322 *e*P **P** **02 03 53.6 +0.5**
KSP Ksiaz 82.51 322 *e*P **P** **02 03 53.4 +0.3**
RGN Rugen 82.62 326 *e*P **P** **02 03 54.2 +0.5**
DPC Dobruska-Polom 82.69 321 *e*P **P** **02 03 54.3 +0.3**
UPC Upice 82.81 321 *e*P **P** **02 03 55.2 +0.5**
PKSM Moragy 82.89 317⇑ *i*P **P** **02 03 54.8 -0.3**
PKSM Moragy 82.89 317⇑ P **P** **02 03 54.8 -0.3**
TREC Trest 83.61 320 *e*P **P** **02 03 59.5 +0.7**
PVCC Panska Ves 83.64 322 *e*P **P** **02 03 59.4 +0.5**
KMBO Kilima Mbogo 83.77 266 P **P** **02 04 00.3 +0.7**
comp=Z,6.4nm,1.1s,mb4.7,baz=8.9,slow=7.9,SNR=7.1
BRG Berggiesshubel 83.85 322 *e*P **P** **02 04 00.4 +0.4**
comp=Z,22nm,1.4s,mb5.1
BRG Berggiesshubel 83.85 322 *i*P **P** **02 04 00.5 +0.5**
comp=Z,13nm,1.4s,mb4.9
BRG *e* 02 08 21.1
comp=Z,9.0nm,2.0s
PRU Pruhonice 83.88 321 *e*P **P** **02 04 00.7 +0.5**
FBE Freiberg 84.17 322 *e*P **P** **02 04 02.2 +0.6**
comp=Z,26nm,1.1s,mb5.3
CLL Collm 84.20 323 *e*P **P** **02 04 01.9 +0.1**
comp=Z,29nm,1.6s,mb5.2
CLL Collm 84.20 323⇑ *i*P **P** **02 04 02.0 +0.2**
CLL pmax pmax
comp=Z,28nm,1.5s,mb5.2
CLL Collm 84.20 323⇑ *i*P **P** **02 04 02.0 +0.2**
comp=Z,28nm,1.5s,mb5.2
BSEG Bad Segeberg 84.47 326 *e*P **P** **02 04 03.5 +0.3**
comp=Z,12nm,1.0s,mb5.0
KHC Kasperske Hory 84.82 321 *e*P **P** **02 04 05.5 +0.6**
KHC Kasperske Hory 84.82 321⇑ *e*P **P** **02 04 04.5 -0.4**
GEC2 GERESS Array S 84.87 321 *e*P **P** **02 04 05.6 +0.4**
comp=Z,18nm,1.5s,mb5.0
GEC2 GERESS Array S 84.87 321 *e*P **P** **02 04 05.6 +0.4**
GEC2 pmax pmax
comp=Z,18nm,1.5s,mb5.0
GERES GERESS Array B 84.87 321 P **P** **02 04 05.7 +0.5**
comp=Z,3.3nm,0.9s,mb4.5,baz=59,slow=5.1,SNR=22
TANN Tannenbergstha 84.90 322 *e*P **P** **02 04 05.8 +0.4**
comp=Z,9.0nm,1.3s,mb4.7
WERD Werda 84.98 322 *e*P **P** **02 04 06.1 +0.4**
comp=Z,16nm,1.5s,mb4.9
GUNZ Gunzen 85.00 322 *e*P **P** **02 04 06.3 +0.5**
comp=Z,15nm,1.2s,mb5.0
WERN Wernitzgruen 85.01 322 *e*P **P** **02 04 06.2 +0.3**
comp=Z,15nm,1.2s,mb5.0
WET Wettzell 85.23 321 *e*P **P** **02 04 07.7 +0.7**
comp=Z,28nm,1.7s,mb5.1
WET Wettzell 85.23 321 *e*P **P** **02 04 07.7 +0.7**
WET pmax pmax
comp=Z,28nm,1.7s,mb5.1
NRDL Niedersach Rie 85.26 325 *e*P **P** **02 04 07.8 +0.7**
comp=Z,19nm,1.4s,mb5.0
MOX Moxa 85.28 323 *e*P **P** **02 04 07.5 +0.3**
comp=Z,24nm,1.6s,mb5.1
MOX Moxa 85.28 323 *e*P **P** **02 04 07.6 +0.4**
comp=Z,28nm,1.8s,mb5.1
MOX Moxa 85.28 323 *e*P **P** **02 04 07.6 +0.4**
MOX pmax pmax
comp=Z,28nm,1.8s,mb5.1
MANZ Manzenberg 85.30 322 *e*P **P** **02 04 08.2 +0.9**
comp=Z,12nm,1.4s,mb4.8
ROTZ Rotzenmuhle 85.34 322 *e*P **P** **02 04 08.4 +0.9**
comp=Z,14nm,1.1s,mb5.0
CLZ Clausthal 85.42 324 *e*P **P** **02 04 08.7 +0.8**
comp=Z,13nm,1.1s,mb5.0
CLZ Clausthal 85.42 324 *e*P **P** **02 04 08.7 +0.8**
CLZ pmax pmax
comp=Z,13nm,1.1s,mb5.0
GRA1 Grafenberg Arr 85.94 322 *e*P **P** **02 04 11.4 +0.9**
comp=Z,13nm,1.3s,mb5.0
GRF Grafenberg Arr 85.94 322 *e*P **P** **02 04 11.4 +0.9**
comp=Z,13nm,1.3s,mb5.0
GRF Grafenberg Arr 85.94 322 *e*P **P** **02 04 11.4 +0.9**
GRF pmax pmax
comp=Z,13nm,1.3s,mb5.0
GRF Grafenberg Arr 85.94 322 *e*P **P** **02 04 11.4 +0.9**
GRF pmax pmax
comp=Z,13nm,1.3s,mb5.0
YKA Yellowknife Ar 86.47 22 P **P** **02 04 13.8 +0.7**
comp=Z,4.7nm,1.1s,mb4.7,baz=310,slow=4.7,SNR=10.0
FUR Furstenfeldbru 86.62 321 *e*P **P** **02 04 14.7 +0.8**
comp=Z,24nm,1.1s,mb5.3
FUR Furstenfeldbru 86.62 321 *e*P **P** **02 04 14.7 +0.8**
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.3
CDF Champ du Feu 88.83 322 *e*P **P** **02 04 23.9 -0.6**
comp=Z,7.1nm,1.0s,mb4.7
CDF Champ du Feu 88.83 322 *e*P **P** **02 04 23.9 -0.6**
CDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
CDF Champ du Feu 88.83 322 *e*P **P** **02 04 23.9 -0.6**
comp=Z,3.5nm,1.0s,mb4.6
LPG La Plagne 90.63 320 *e*P **P** **02 04 33.2 +0.3**
comp=Z,15nm,0.9s,mb5.0
LPG La Plagne 90.63 320 *e*P **P** **02 04 33.2 +0.3**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
LPG La Plagne 90.63 320 *e*P **P** **02 04 33.2 +0.3**
comp=Z,7.4nm,0.9s,mb5.0
LPL La Plagne 90.63 320 *e*P **P** **02 04 33.1 +0.2**
comp=Z,14nm,0.9s,mb5.0
LPL La Plagne 90.63 320 *e*P **P** **02 04 33.1 +0.2**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
LPL La Plagne 90.63 320 *e*P **P** **02 04 33.1 +0.2**
comp=Z,7.1nm,0.9s,mb5.0
SBF Sospel 91.04 318 *e*P **P** **02 04 34.2 -0.6**
ORIF Oris-en-Rattie 91.46 320 *e*P **P** **02 04 36.6 -0.1**
comp=Z,7.9nm,0.9s,mb4.8
ORIF Oris-en-Rattie 91.46 320 *e*P **P** **02 04 36.6 -0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 91.46 320 *e*P **P** **02 04 36.6 -0.1**
comp=Z,4.0nm,0.9s,mb4.8
FRF La Foret Royal 91.69 318 *e*P **P** **02 04 37.4 -0.4**
comp=Z,9.8nm,1.0s,mb4.8
FRF La Foret Royal 91.69 318 *e*P **P** **02 04 37.4 -0.4**
FRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
FRF La Foret Royal 91.69 318 *e*P **P** **02 04 37.4 -0.4**
comp=Z,4.9nm,1.0s,mb4.8
LMR La Mourre 91.89 318 *e*P **P** **02 04 38.5 -0.2**
comp=Z,35nm,1.4s,mb5.2
LMR La Mourre 91.89 318 *e*P **P** **02 04 38.5 -0.2**
LMR pmax pmax
comp=Z,18nm,1.4s,mb5.2
LMR La Mourre 91.89 318 *e*P **P** **02 04 38.5 -0.2**
comp=Z,18nm,1.4s,mb5.2
BGF Bois d'Agland 92.36 322 *e*P **P** **02 04 40.5 -0.4**
comp=Z,23nm,1.2s,mb5.1
BGF Bois d'Agland 92.36 322 *e*P **P** **02 04 40.5 -0.4**
BGF pmax pmax
comp=Z,12nm,1.2s,mb5.1
BGF Bois d'Agland 92.36 322 *e*P **P** **02 04 40.5 -0.4**
comp=Z,12nm,1.2s,mb5.1
EDM Edmonton 93.03 29 *e*P **P** **02 04 44.6 +0.6**
LSZ Lusaka 97.09 256 P **P** **02 05 01.5 -1.1**
comp=Z,1.4nm,0.6s,mb4.5,baz=80,slow=6.1,SNR=4.8
GNAR Gosnell 116.75 27 *e*PKPdf PKPdf 02 10 17.1 +2.3
SDV Santo Domingo 148.68 21 *e*PKPbc PKPbc 02 11 18.4 +0.9
LPAZ La Paz 170.96 62 PKP PKPdf 02 11 41.3 +2.7
comp=Z,2.2nm,1.1s,baz=252,slow=3.2,SNR=3.7
LPAZ La Paz 170.96 62 *e*PKPdf PKPdf 02 11 40.9 +2.3
LPAZ PKP PKPdf 02 11 41.3 +2.7

NDI 11 02:12:45.5±3.4, 1724N×7360E, h5km, ML3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.56**	**83**	*e*P	Pg	02 12 57.2	+1.0
KAD				*e*S	Sg	02 13 03.2	-0.4
KAD				*e*S	Sg	02 13 03.4	-0.2
KAD				AML	AML	02 13 07.9	
	comp=E,300nm,0.3s						
KAD				AML	AML	02 13 08.6	
	comp=N,450nm,0.3s						
BOM	**Bombay**	**1.81**	**336**	*e*P	Pn	02 13 17.5	+0.2
BOM				*e*S	Sn	02 13 41.7	+1.1
BOM				*e*x	x	02 13 44.5	
	comp=N,5μm,0.3s						
BOM				*e*x	x	02 13 47.0	
	comp=E,4μm,0.3s						
LATR	**Latur**	**3.05**	**67**	*e*P	Pn	02 13 33.4	-1.0
LATR				*e*S	Sn	02 14 12.4	+1.1
AKL	**Akola**	**4.72**	**43**	*i*x	Sb	02 15 11.9	+6.0
AKL				*i*x	x	02 15 37.0	
BHPL	**Bhopal**	**6.97**	**30**	*e*P	Pn	02 14 27.0	-1.2
BHPL				*e*S	Sn	02 15 43.1	-4.7
BHPL				AML	AML	02 16 30.1	
	comp=N,29nm,0.5s						
BHPL				AML	AML	02 16 30.6	
	comp=E,53nm,0.4s						

IDC 11 02:14:10.4±1.6, 2069N×11994E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=61.3km s-min=24.7km az=85.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.44**	**41**	P	P	02 19 11.4	+0.5
	0.6nm,0.4s,baz=229,slow=11,SNR=4.2						
SONM	**Songino Array**	**29.21**	**341**	P	P	02 20 13.8	+0.1
	0.5nm,0.7s,baz=150,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**42.77**	**160**	P	P	02 22 09.7	+0.1
	2.0nm,1.0s,baz=343,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**46.14**	**162**	P	P	02 22 36.9	+0.3
	0.3nm,0.6s,baz=349,slow=7.5,SNR=3.2						

*ISCJB **11** 02:15:07.8±0.9, 24.17S±005×670W±02, h176km±25km, mb3.2/1, Error ellipse: s-maj=33.7km s-min=8.7km az=3.6*
*IDC **11** 02:15:08.6±1.2, 24.14S×6703W, h170km±28km, mb3.1/1, mb1 3.1/5, mb1mx3.1/18, mbtmp3.6/5, Error ellipse: s-maj=35.4km s-min=13.9km az=90.0*
*NEIC **11** 02:15:09.3±0.9, 24.13S×6695W, h173km±23km, Error ellipse: s-maj=29.4km s-min=13.2km az=99.0*

ISC 11 02:15:08.7±0.8, 2417S±005×669W±02, h159km±26km, n7, σ1§03/11, mb3.2/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.39**	**310**	P	**Pn**	**02 15 50.3**	**+1.3**
	4.2nm,0.3s,baz=113,slow=14,SNR=49						
LVC				S	**Sn**	**02 16 19.9**	**-0.2**
	10nm,0.3s,baz=0.7,slow=22,SNR=31						
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**02 16 56.3**	**+1.0**
	0.1nm,0.3s,baz=14,slow=10,SNR=5.6						
CFAA				S	**Sn**	**02 18 17.9**	**-1.4**
	0.0nm,0.3s,baz=294,slow=18,SNR=2.9						
LPAZ	**La Paz**	**7.92**	**352**	P	**Pn**	**02 17 01.8**	**+0.8**
	0.5nm,0.3s,baz=151,slow=4.7,SNR=19						
LPAZ				S	**Sn**	**02 18 28.0**	**-1.5**
	0.0nm,0.3s,baz=20,slow=15,SNR=2.3						
LPAZ	**La Paz**	**7.92**	**352**	*e*Pn	**Pn**	**02 17 01.8**	**+0.8**
LPAZ				S	**Sn**	**02 18 28.0**	**-1.5**
SIV	**San Ignacio**	**9.82**	**35**	P	**Pn**	**02 17 25.4**	**-0.7**
	0.3nm,0.3s,baz=251,slow=10,SNR=9.7						
BDFB	**Brasilia**	**19.69**	**68**	P	**P**	**02 19 26.6**	**+1.1**
	0.3nm,0.3s,baz=248,slow=11,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.57**	**69**	P	**P**	**02 26 40.8**	**-0.6**
	0.3nm,0.5s,mb3.2,baz=259,slow=5.1,SNR=6.8						

MAN 11 02:20:24.8, 1166N×12403E, h1km, mb3.3, ML4.5, MS9.8, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.83**	**137**	*e*P	Pg	02 20 37.7	-3.1
PLP	**Palo**	**1.05**	**118**	*e*P	Pg	02 20 46.0	+1.0
PLP				*e*S	Sg	02 20 54.4	-4.2
RCP	**Roxas**	**1.27**	**266**	*e*P	Sg	02 21 01.9	-3.6
LLP	**Lapu-Lapu**	**1.34**	**183**	*i*P	Pg	02 20 49.4	-1.1
LLP				*i*S	Sg	02 21 02.9	-5.0
GUIM	**Jordan**	**1.75**	**234**	*e*P	Pn	02 21 04.2	+7.8
TBP	**Tagbilaran**	**1.97**	**185**	*e*P	Pn	02 20 59.8	+0.5
TBP				*e*S	Sn	02 21 21.7	-2.9
SCPH	**Surigao**	**2.35**	**142**	*e*P	Pn	02 21 04.3	-0.3
SNPH	**Sibulan**	**2.43**	**199**	*i*P	Pn	02 21 08.0	+2.3
BOAC	**Boac**	**2.79**	**310**	*e*P	Pn	02 21 11.3	+0.7
PAGZ	**Pagadian**	**3.84**	**190**	*e*P	Pn	02 21 27.1	+2.0

IDC 11 02:57:35.7±9.2, 804S×11286E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=163.8km s-min=133.1km az=178.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.93**	**122**	P	P	03 02 50.7	-0.7
	0.8nm,0.8s,baz=295,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**25.46**	**130**	P	P	03 03 05.3	+0.1
	0.3nm,0.7s,baz=303,slow=8.8,SNR=3.2						
STKA	**Stephens Creek**	**35.73**	**136**	P	P	03 04 37.4	+1.3
	1.9nm,0.6s,baz=303,slow=10,SNR=6.3						

*IDC **11** 03:28:16.7±0.6, 168N×12655E, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.3/18, mbtmp4.3/13, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/21, Error ellipse: s-maj=52.4km s-min=9.8km az=71.0*
*NEIC **11** 03:28:18.3±0.3, 171N×12661E, h10km, mb4.7/15, Error ellipse: s-maj=16.5km s-min=5.2km az=74.0*
*ISCJB **11** 03:28:19.9±0.4, 169N±006×1266E±0.1, h33km, mb4.6/39, MS4.2/3, Error ellipse: s-maj=18.5km s-min=6.0km az=137.3*
*BJI **11** 03:28:19.2, 170N×12660E, h10km, mB5.2, mb4.8, Ms4.6, Msz4.4*
*MOS **11** 03:28:22.4±0.9, 209N×12647E, h33km, mb4.9/16, Error ellipse: s-maj=27.7km s-min=9.8km az=119.6*

ISC 11 03:28:22.0±0.4, 168N±006×1266E±01, h35km, (h33km±4.3km:pP-P), n65, σ0§94/70, mb4.6/39, MS4.2/3, 3C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.42**	**158**	*e*P	**Pn**	**03 32 03.4**	**+6.6**
	53nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.68**	**183**	*e*P	**Pn**	**03 32 47.6**	**-2.0**
	5.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.68**	**183**	P	**Pn**	**03 32 47.8**	**-1.8**
	0.3nm,0.3s,baz=14,slow=14,SNR=8.3						
WRAB	**Tennant Creek**	**22.77**	**161**	*e*P	**P**	**03 33 20.1**	**-1.2**
WRA	**Warramunga Arr**	**22.78**	**161**	P	**P**	**03 33 20.3**	**-1.0**
	29nm,0.9s,mb4.7,baz=337,slow=11,SNR=34						
WRA				S	**S**	**03 37 32.8**	**+4.7**
	0.7nm,0.7s,baz=348,slow=15,SNR=3.0						
WB2	**Warramunga Arr**	**22.78**	**161**	*e*P	**P**	**03 33 20.4**	**-1.0**
MBWA	**Marble Bar**	**23.67**	**196**	*e*P	**P**	**03 33 30.6**	**+0.2**
	13nm,1.0s,mb4.3						
QIZ	**Qiongzhong**	**23.82**	**317**	P	**P**	**03 33 32.0**	**+0.3**
QIZ				S	**S**	**03 37 47.7**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.1						
QIZ				AMB	AMB		
	comp=Z,71nm,3.2s						
QIZ				LR	LR		
	comp=N,190nm,15.6s						
QIZ				LR	LR		
	comp=Z,183nm,25.7s						
AS31	**Alice Springs**	**26.17**	**165**	*e*P	**P**	**03 33 55.0**	**+2.0**
ASAR	**Alice Springs**	**26.17**	**165**	P	**P**	**03 33 52.9**	**-0.1**
	comp=Z,5.2nm,0.7s,mb4.2,baz=342,slow=7.0,SNR=42						
ASAR				S	**S**	**03 38 28.1**	**+5.6**
	comp=Z,0.4nm,0.7s,baz=344,slow=19,SNR=2.9						
ASPA	**Alice Springs**	**26.17**	**165**	*e*P	**P**	**03 33 55.0**	**+2.0**
CHTO	**Chiang Mai**	**32.02**	**304**	*e*P	**P**	**03 34 45.0**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
CHTO	**Chiang Mai**	**32.02**	**304**	*e*P	**P**	**03 34 45.0**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.2						
FORT	**Forrest**	**32.30**	**178**	*e*P	**P**	**03 34 49.1**	**+1.5**
	comp=Z,18nm,0.7s,mb5.0						
KMI	**Kunming**	**32.77**	**317**	P	**P**	**03 34 52.1**	**+0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KMI	**Kunming**	**32.77**	**317**	P	**P**	**03 34 52.1**	**+0.4**
	comp=Z,6.0nm,1.0s,mb4.5						
CD2	**Chengdu**	**36.24**	**326**	*e*P	**P**	**03 35 23.4**	**+1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
STKA	**Stephens Creek**	**36.27**	**158**	*e*P	**P**	**03 35 22.3**	**+0.4**
	comp=Z,4.4nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**36.27**	**158**	P	**P**	**03 35 21.8**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=344,slow=7.7,SNR=6.8						
MJAR	**Matsushiro Arr**	**36.31**	**16**	P	**P**	**03 35 22.2**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=194,slow=8.4,SNR=4.4						
MJAR				LR	LR	03 49 44.6	
	comp=Z,111nm,19.3s,MS3.6,baz=170,slow=36						
MAJO	**Matsushiro**	**36.31**	**16**	*e*P	**P**	**03 35 21.9**	**-0.4**
BJT	**Baijiatuau**	**39.33**	**347**	*e*P	**P**	**03 35 47.8**	**+0.1**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**39.33**	**347**	*e*P	**P**	**03 35 47.8**	**+0.1**
	comp=Z,7.8nm,0.6s,mb4.6						
LZH	**Lanzhou**	**40.22**	**331**	*e*P	**P**	**03 35 55.5**	**+0.4**
LZH				AP	pP	03 36 03.5	-1.9
LZH				XP	sP	03 36 07.5	-2.1
LZH				PP	PP	03 37 32.9	+4.9
LZH				*e*S	**S**	**03 42 06.8**	**+7.0**
LZH				XS	sS	03 42 16.9	+0.2
LZH				AMB	AMB		
	comp=Z,38nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,128nm,4.2s						
LZH				LR	LR		
	comp=N,423nm,14.2s						
LZH				LR	LR		
	comp=Z,923nm,15.1s,MS4.8						
LZH	**Lanzhou**	**40.22**	**331**	*e*P	**P**	**03 35 55.5**	**+0.4**
LZH				*PP	pP	03 36 03.5	-1.9
LZH				*SP	sP	03 36 07.5	-2.1
LZH						03 37 32.9	
LZH				pmax	pmax		
	comp=Z,38nm,1.5s,mb4.9						
LZH				MLR	MLR		
	comp=Z,920nm,15.1s,MS4.8						
LZH	**Lanzhou**	**40.22**	**331**	*e*P	**P**	**03 35 55.5**	**+0.4**
	comp=Z,38nm,1.5s,mb4.9						
LZH				pP	pP	03 36 03.5	-1.9
LZH				sP	sP	03 36 07.5	-2.1
LZH				PP	PP	03 37 32.9	+4.9
LZH				*e*S	**S**	**03 42 06.8**	**+7.0**
LZH				sS	sS	03 42 16.9	+0.2
LZH				*e*SS	SS	03 44 54.9	-3.7
LZH				LR	LR		
	comp=Z,920nm,15.1s,MS4.8						
GUN	**Gumba**	**46.86**	**308**	*e*P	**P**	**03 36 47.7**	**-0.9**
	comp=Z,14nm,0.6s,mb5.0						
PKI	**Pulchoki**	**47.09**	**307**	*e*P	**P**	**03 36 49.7**	**-0.7**
KKN	**Kakani**	**47.28**	**307**	*e*P	**P**	**03 36 51.0**	**-0.9**
DMN	**Daman**	**47.34**	**307**	*e*P	**P**	**03 36 52.1**	**-0.3**
	comp=Z,29nm,1.1s,mb5.1						
GKN	**Gorkha**	**47.89**	**307**	*e*P	**P**	**03 36 55.0**	**-1.6**
	comp=Z,5.2nm,0.3s,mb5.0						
KOLN	**Koldanda**	**48.62**	**306**	*e*P	**P**	**03 37 01.6**	**-0.6**
	comp=Z,23nm,0.8s,mb5.2						
SONM	**Songino Array**	**49.20**	**342**	P	**P**	**03 37 07.3**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=159,slow=7.3,SNR=8.6						
WMQ	**Urumqi**	**54.34**	**326**	*e*P	**P**	**03 37 46.7**	**+1.6**
WMQ				AP	pP	03 37 57.0	+1.4
WMQ				XP	sP	03 38 01.0	+1.3
WMQ				PCP	PcP	03 38 50.0	+1.3
WMQ				*e*S	**S**	**03 45 20.0**	**-0.7**
WMQ				XS	sS	03 45 37.0	-1.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,151nm,4.4s						
WMQ				LR	LR		
	comp=N,202nm,24.2s,MS4.2						
WMQ				LR	LR		
	comp=E,200nm,24.3s,MS4.2						
WMQ				LR	LR		
	comp=Z,186nm,23.4s,MS4.1						
BOD	**Bodaibo**	**56.87**	**352**	*e*P	**P**	**03 38 01.5**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
MK31	**Makanchi Array**	**59.18**	**326**	*i*P	**P**	**03 38 19.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
MKAR	**Makanchi Array**	**59.18**	**326**	P	**P**	**03 38 18.8**	**-0.5**
	comp=Z,2.1nm,0.4s,mb4.5,baz=119,slow=7.5,SNR=27						
MKAR	**Makanchi Array**	**59.18**	**326**	*i*P	**P**	**03 38 19.0**	**-0.3**
AAK	**Ala-Archa**	**61.80**	**319**	*e*P	**P**	**03 38 37.3**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**61.80**	**319**	*e*P	**P**	**03 38 36.9**	**-0.4**
	comp=Z,6.1nm,1.3s,mb4.6						
BVAR	**Borovoye Array**	**68.97**	**327**	P	**P**	**03 39 23.7**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=133,slow=8.3,SNR=13						
BRVK	**Borovoye**	**69.05**	**327**	*e*P	**P**	**03 39 23.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BRVK	**Borovoye**	**69.05**	**327**	*e*P	**P**	**03 39 23.5**	**-0.7**
	comp=Z,10nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**69.15**	**328**	*e*P	**P**	**03 39 24.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**69.15**	**328**	*e*P	**P**	**03 39 24.3**	**-0.5**
	comp=Z,8.2nm,1.2s,mb4.5						
AB31	**Akbulak array**	**73.67**	**321**	*i*P	**P**	**03 39 51.0**	**-1.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AKTK	**Aktyubinsk**	**75.19**	**322**	P	**P**	**03 40 00.7**	**-0.2**
AKTO	**Aktyubinsk**	**75.19**	**322**	P	**P**	**03 40 00.7**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.4,baz=107,slow=7.2,SNR=12						
ARU	**Arti**	**76.60**	**328**	*i*P	**P**	**03 40 08.5**	**-0.4**
ARU				*e*	pP	03 40 19.2	-0.7
ARU				*e*		03 43 00.6	
ARU				*e*S	S	03 49 53.1	+0.3
ARU				*e*SS	SS	03 54 48.4	0.0
ARU				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ARU	**Arti**	**76.60**	**328**	*e*P	**P**	**03 40 08.1**	**-0.8**
	comp=Z,7.3nm,0.8s,mb4.7						
ORR	**Orenburg**	**77.49**	**323**	*e*P	**P**	**03 40 14.1**	**+0.2**
ORR				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**03 40 35.6**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=304,slow=4.8,SNR=11						
VNDA	**Vanda**	**81.42**	**173**	*e*P	**P**	**03 40 35.7**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**81.42**	**173**	*e*P	**P**	**03 40 35.7**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.2						
ZEI	**Tsey**	**83.52**	**313**	*e*P	**P**	**03 40 46.9**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**84.47**	**314**	*e*P	**P**	**03 40 53.0**	**+1.9**
KIV				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.8						
VRHR	**Novokhopersk**	**85.55**	**321**	*e*P	**P**	**03 40 56.9**	**+0.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.3						
VRHR				pmax	pmax		
	comp=N,2.0nm,0.3s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.4s						
VRSR	**Storozhevoye**	**87.09**	**321**	*e*P	**P**	**03 41 05.1**	**+1.0**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
MALT	**Malatya**	**87.55**	**308**	*e*P	**P**	**03 41 07.9**	**+1.6**
MALT				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.1						
MALT	**Malatya**	**87.55**	**308**	*e*P	**P**	**03 41 07.9**	**+1.6**
	comp=Z,16nm,1.4s,mb5.1						
OBN	**Obninsk**	**88.67**	**325**	*e*P	**P**	**03 41 11.8**	**+0.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
BRTR	**Keskin Array B**	**91.24**	**310**	P	**P**	**03 41 23.1**	**-0.5**
	comp=Z,1.4nm,0.9s,mb4.3,baz=133,slow=6.9,SNR=4.6						
ARCES	**ARCESS Array B**	**92.33**	**340**	P	**P**	**03 41 28.4**	**-0.3**
	comp=Z,5.2nm,1.0s,mb4.8,baz=98,slow=6.7,SNR=3.6						
FINES	**FINESS Array B**	**93.58**	**332**	P	**P**	**03 41 34.4**	**0.0**
	comp=Z,0.7nm,0.7s,mb4.2,baz=113,slow=3.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.43**	**287**	PKP	PKPdf	03 47 17.7	+2.3
	comp=Z,0.6nm,0.9s,baz=77,slow=1.5,SNR=6.2						

*ISCJB **11** 03:30:41.1±1.8, 66N±01×1240E±02, h581km±25km, mb3.8/10, Error ellipse: s-maj=31.9km s-min=12.7km az=145.2*
*NEIC **11** 03:30:42.0±1.3, 659N×12400E, h570km±16km, mb3.7/4, Error ellipse: s-maj=22.5km s-min=10.0km az=71.0*
*IDC **11** 03:30:43.3±1.6, 655N×124.17E, h586km±19km, mb3.0/6, mb1 3.1/6, mb1mx2.9/20, mbtmp4.1/6, Error ellipse: s-maj=35.6km s-min=10.4km az=74.0*

ISC 11 03:30:42.3±1.7, 656N±010×1240E±02, h574km±23km, n14, σ0§74/14, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.78**	**267**	*e*P	**P**	**03 32 37.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.56**	**176**	P	**P**	**03 35 18.3**	**+0.5**
	0.8nm,0.3s,mb3.9,baz=26,slow=14,SNR=8.1						
CHTO	**Chiang Mai**	**27.28**	**299**	*e*P	**P**	**03 35 42.2**	**+0.5**
	1.6nm,0.5s,mb3.9						
MBWA	**Marble Bar**	**27.87**	**189**	*e*P	**P**	**03 35 46.5**	**-0.4**
	1.2nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**28.23**	**159**	P	**P**	**03 35 50.0**	**0.0**
	0.3nm,0.4s,mb3.3,baz=332,slow=10,SNR=2.4						
WRA				S	**S**	**03 39 54.0**	**-2.2**
	0.3nm,0.3s,baz=330,slow=16,SNR=3.2						
WRA				ScP	ScP	03 41 31.8	+0.4
	1.0nm,0.6s,baz=340,slow=3.1,SNR=7.6						
ASAR	**Alice Springs**	**31.56**	**162**	P	**P**	**03 36 19.9**	**+1.3**
	0.4nm,0.4s,mb3.5,baz=337,slow=7.0,SNR=3.7						
ASAR				S	**S**	**03 40 47.0**	**-0.5**
	2.5nm,0.9s,baz=346,slow=19,SNR=11						
ASAR				ScP	ScP	03 41 42.6	+0.2
	0.5nm,0.5s,baz=342,slow=3.4,SNR=5.7						
MJAR	**Matsushiro Arr**	**32.54**	**22**	P	**P**	**03 36 26.6**	**-0.3**
	2.2nm,0.7s,mb3.9,baz=191,slow=9.3,SNR=4.8						
NWAO	**Narrogin (SRO)**	**39.80**	**189**	P	**P**	**03 37 27.4**	**+0.8**
	3.9nm,0.3s,mb4.4,baz=104,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**53.70**	**325**	P	**P**	**03 39 11.8**	**+0.6**
	3.2nm,0.4s,mb4.0,baz=121,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**53.70**	**325**	P	**P**	**03 39 11.8**	**+0.6**
BRVK	**Borovoye**	**63.56**	**327**	*e*P	**P**	**03 40 16.6**	**-0.7**
	2.2nm,0.7s,mb3.6						
CASY	**Casey**	**73.32**	**186**	*e*P	**P**	**03 41 15.9**	**-0.3**
	1.3nm,0.7s,mb3.6						
TORD	**Torodi Ar. Bea**	**119.46**	**289**	PKP	PKPdf	03 48 27.5	+0.3
	0.1nm,0.3s,baz=71,slow=1.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**119.46**	**289**	PKP	PKPdf	03 48 27.5	+0.3

WEL 11 03:35:37.0±0.5, 3522S×17904E, h234km±7km, ML4.0/3, Error ellipse: s-maj=12.9km s-min=7.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.41**	**194**	PN	Pn	03 36 22.1	-0.1
MXZ				SN	S	03 36 57.7	-0.1
PUZ	**Puketiti**	**2.91**	**192**	PN	Pn	03 36 28.0	+0.4
PUZ				SN	S	03 37 07.5	0.0
URZ	**Urewera**	**3.40**	**206**	PN	Pn	03 36 33.4	+0.3
MRZ	**Mangataiboka R**	**6.08**	**206**	PN	Pn	03 37 04.2	-1.6
TCW	**Tory Channel**	**7.06**	**211**	PN	Pn	03 37 16.0	-2.2

*ISCJB **11** 03:39:04.1±0.4, 5758N±003×1732E±006, h0km, Error ellipse: s-maj=6.0km s-min=3.2km az=92.2*
*CSEM **11** 03:39:05.7±0.2, 5756N×1715E, h1km, ML3.1, Error ellipse: s-maj=6.2km s-min=4.3km az=139.0, Mining explosion.*
*UPP **11** 03:39:06.4, 5762N×1697E, h0km, ML3.1, Mining explosion.*
*HEL **11** 03:39:07.0±0.1, 5761N×1702E, h0km, ML1.9, ML3.1(UPP), Explosion*
*IDC **11** 03:39:09.0±2.4, 5774N×1703E, h0km, mb1 3.1/4, mb1mx2.9/22, mbtmp3.0/4, ML2.3/3, Error ellipse: s-maj=24.3km s-min=9.7km az=5.0*

ISC 11 03:39:06.1±0.4, 5761N±003×1715E±006, h0km, n34, σ1§33/56, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYXU	**Byxelkrok**	**0.33**	**193**	*i*P	**Pg**	**03 39 12.9**	**+0.5**
VSTU	**Vaestervik**	**0.33**	**279**	*i*P	**Pg**	**03 39 11.3**	**-1.1**
OSKU	**Oskarshamn**	**0.70**	**234**	*i*P	**Pg**	**03 39 18.5**	**-1.1**
GOTU	**Gotland**	**0.77**	**84**	*i*P	**Pg**	**03 39 22.3**	**+1.5**
VIKU	**Vikbolandet**	**0.93**	**345**	*e*P	**Pg**	**03 39 23.2**	**-0.7**
LNKU	**Linkoeping**	**1.07**	**306**	*e*P	**Pg**	**03 39 24.9**	**-1.7**
NYNU	**Nynaeshamn**	**1.47**	**18**	*e*P	**Pn**	**03 39 33.9**	**+0.1**
ESKU	**Eskilstuna**	**1.68**	**347**	*e*P	**Pn**	**03 39 36.5**	**-0.1**
ASKU	**Askersund**	**1.78**	**317**	*e*P	**Pn**	**03 39 37.6**	**-0.5**
DEL	**Delary**	**2.12**	**239**	*e*P	**Pn**	**03 39 42.6**	**-0.2**
NRTU	**Norrtaelje**	**2.22**	**20**	*e*P	**Pn**	**03 39 46.2**	**+2.1**
BACU	**Backbrunna**	**2.25**	**359**	*e*P	**Pn**	**03 39 46.5**	**+1.9**
NRAU	**Nora**	**2.26**	**332**	*e*P	**Pn**	**03 39 45.8**	**+1.2**
NASU	**Vaermlandsnaes**	**2.48**	**304**	P	**Pn**	**03 39 48.3**	**+0.6**
OSTU	**Oestervaala**	**2.63**	**360**	*e*P	**Pn**	**03 39 51.8**	**+2.0**
BSD	**Bornholm Skovb**	**2.79**	**207**	*i*P	**Pn**	**03 39 51.7**	**-0.3**
BSD				*i*S	**Sn**	**03 40 25.2**	**-1.1**
BSD				*e*S	**Sg**	**03 40 35.7**	**-0.1**
GRAU	**Graesoe**	**2.83**	**14**	*e*P	**Pn**	**03 39 54.7**	**+2.2**
HFS	**Hagfors**	**3.10**	**326**	Pn	**Pn**	**03 39 57.4**	**+1.2**
	0.4nm,0.3s,baz=145,slow=14,SNR=35						
HFS				Sn	**Sn**	**03 40 34.4**	**+0.3**
	1.6nm,0.3s,baz=147,slow=25,SNR=18						
RAF	**Rauma**	**4.16**	**33**	*e*P	**Pn**	**03 40 12.9**	**+2.0**
RAF				*e*S	**Sn**	**03 41 00.6**	**+0.4**
RAF				*e*SG	**Sg**	**03 41 14.9**	**-5.0**
RAF	**Rauma**	**4.16**	**33**	P	**Pn**	**03 40 12.8**	**+1.9**
RAF				Sg	**Sg**	**03 41 14.8**	**-5.0**
MEF	**Metsahovi**	**4.58**	**52**	*e*P	**Pn**	**03 40 17.9**	**+1.3**
MEF				*e*S	**Sn**	**03 41 09.0**	**-1.5**
MEF				*e*SG	**Sg**	**03 41 28.2**	**-5.0**
MEF	**Metsahovi**	**4.58**	**52**	P	**Pn**	**03 40 17.8**	**+1.2**
MEF				Sg	**Sg**	**03 41 28.1**	**-5.1**
NOA	**NORSAR Array B**	**4.59**	**321**	Pn	**Pn**	**03 40 16.4**	**-0.4**
	0.2nm,0.3s,baz=141,slow=13,SNR=2.9						
NOA				Sn	**Sn**	**03 41 07.2**	**-3.6**
	0.3nm,0.3s,baz=147,slow=21,SNR=2.4						
NOA				Lg		03 41 27.9	
	0.7nm,0.3s,baz=136,slow=26,SNR=4.6						
PVF	**Pernaja**	**5.37**	**53**	*e*P	**Pn**	**03 40 28.6**	**+1.1**
PVF				*e*S	**Sn**	**03 41 26.9**	**-3.1**
PVF				*e*SG	**Sg**	**03 41 50.8**	**-7.9**
PVF	**P

ASAR	**Alice Springs**	**48.49 253**	P	**P**	**03 57 26.1**	**+0.2**
	4.6nm,0.7s,mb4.2,baz=86,slow=8.4,SNR=36					
VNDA	**Vanda**	**62.34 186**	*e*P	**P**	**03 59 04.2**	**-0.4**
	0.4nm,0.5s,mb3.5					
NVAR	**Mina Array Bea**	**75.94 43**	P	**P**	**04 00 29.0**	**+0.7**
	0.1nm,0.3s,mb2.9,baz=249,slow=7.6,SNR=2.6					
PDAR	**Pinedale Array**	**83.88 42**	P	**P**	**04 01 10.7**	**-0.1**
	0.6nm,0.7s,mb3.4,baz=198,slow=2.3,SNR=5.2					
BRTR	**Keskin Array B**	**145.94 319**	PKPbc	PKPbc	04 08 19.7	0.0
	1.2nm,1.0s,baz=105,slow=3.6,SNR=4.1					
GERES	**GERESS Array B**	**146.80 350**	PKPbc	PKPbc	04 08 22.3	+0.1
	0.4nm,0.6s,baz=22,slow=1.4,SNR=4.1					

ISCJB ***11*** *03:58:39.4±0.8, 4776N±003×737E±005, h10km, Error ellipse: s-maj=5.7km s-min=3.8km az=89.3*
STR ***11*** *03:58:40.0±0.2, 4778N×737E, h10km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***11*** *03:58:41.0±0.2, 4778N×737E, h5km, Md2.0/2, Ml2.0/5, Error ellipse: s-maj=3.5km s-min=2.3km az=105.0*

ISC 11 03:58:40.3±0.9, 4777N±003×737E±005, h10km, n12, σ0.51/22, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.18**	**297**	Pg	**Pg**	**03 58 44.3**	**+0.1**
MOF				Sg	**Sg**	**03 58 47.2**	**+0.4**
HINF	**Hinteralfeld**	**0.35**	**278**	*e*Pg	**Pg**	**03 58 47.0**	**-0.3**
HINF				*e*Sg	**Sg**	**03 58 51.8**	**-0.2**
	3.3nm,0.2s						
ECH	**Echery**	**0.47**	**342**	Pg	**Pg**	**03 58 49.2**	**-0.2**
ECH				Sg	**Sg**	**03 58 55.5**	**-0.1**
WLS	**Welschbruch**	**0.64**	**359**	Pg	**Pg**	**03 58 52.2**	**-0.5**
WLS				Sg	**Sg**	**03 59 01.6**	**+0.4**
CDF	**Champ du Feu**	**0.65**	**354**	*e*Pg	**Pg**	**03 58 53.3**	**+0.5**
CDF				*e*Sg	**Sg**	**03 59 01.1**	**-0.1**
	3.3nm,0.3s						
HAU	**Haudompre**	**0.73**	**289**	*e*Pg	**Pg**	**03 58 55.1**	**+0.8**
HAU				*e*Sg	**Sg**	**03 59 04.6**	**+0.7**
	4.4nm,0.2s						
BFO	**Black Forest**	**0.85**	**49**	*e*Sg	**Sg**	**03 59 07.5**	**-0.3**
THEF	**They Montfort**	**1.04**	**297**	Pg	**Pg**	**03 59 00.4**	**+0.2**
THEF				Sg	**Sg**	**03 59 14.1**	**+0.4**
CABF	**La Chapelle**	**1.45**	**218**	*e*Pg	**Pg**	**03 59 08.2**	**0.0**
CABF				*e*Sg	**Sg**	**03 59 27.8**	**+0.7**
	1.5nm,0.3s						
SFTF	**Sexfontaines**	**1.63**	**286**	*e*Pg	**Pg**	**03 59 11.3**	**-0.2**
	baz=108						
SFTF				*e*Sg	**Sg**	**03 59 32.5**	**-0.1**
	4.3nm,0.3s						
MEZF	**Maizieres J'vi**	**1.72**	**296**	*e*Pg	**Pg**	**03 59 12.8**	**-0.4**
MEZF				*e*Sg	**Sg**	**03 59 35.1**	**-0.4**
	1.8nm,0.3s						
LOR	**Lormes**	**2.43**	**259**	*e*Sg	**Sg**	**03 59 56.9**	**-1.6**
	1.3nm,0.2s,baz=79						

MEX 11 04:19:53.4±0.7, 1719N×10041W, h26km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**134**	*i* P	Pb	04 19 58.0	-1.2
CAIG				*i* S	Sb	04 20 01.5	-1.6
ACX	**Acapulco**	**0.57**	**124**	*e*P	Pb	04 20 02.5	-2.4
ACX				*i* S	Sb	04 20 11.0	-1.6
MEIG	**Mezcala**	**1.06**	**46**	*i* P	Pn	04 20 10.3	-2.2
MEIG				*i* S	Sn	04 20 22.4	-3.9

ISCJB ***11*** *04:26:35.8±0.3, 3976N±002×353W±002, h1km±2km, Error ellipse: s-maj=2.8km s-min=2.2km az=147.3*
LDG ***11*** *04:26:39.9±0.1, 3970N×347W, h2km, Md3.6/1, Ml3.1/9, Error ellipse: s-maj=1.8km s-min=1.5km az=135.0*
INMG ***11*** *04:26:39.9±1.5, 3969N×351W, h6km±3km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.5km az=86.0*
MDD ***11*** *04:26:39.6±0.3, 3970N×351W, h3km±3km, mbLg2.8/41, Error ellipse: s-maj=2.2km s-min=1.7km az=80.0, PRXIMO II-III AS I LA GUARDIA LILLO TURLEQUE I VILLANUEVA DE BOGAS*
MDD EMS: II-III EL ROMERAL TEMBLEQUE.
NEIC ***11*** *04:26:40.1, 3969N×349W, h7km, ML3.1(LDG), MN2.9(MDD), After MDD.*
NEIC Felt [III] at El Romeral, Tembleque and Villacanas; [I] at La Guardia, Lillo and Turleque.
CSEM ***11*** *04:26:40.6±0.0, 3968N×344W, h10km, ML3.1/11, Error ellipse: s-maj=1.1km s-min=1.0km az=96.0*

ISC 11 04:26:37.9±0.3, 3973N±001×351W±002, h5km±2km, n115, σ1.21/218, 6D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**0.35**	**261**	⇓Pg	**Pg**	**04 26 45.9**	**+1.3**
	62nm,0.2s,baz=85,slow=19,SNR=18						
ESDC				Lg		04 26 51.0	
	49nm,0.2s,baz=86,slow=32,SNR=7.9						
ESDC	**Sonseca Array**	**0.35**	**261**	Pg	**Pg**	**04 26 45.9**	**+1.2**
	62nm,0.2s,SNR=18						
ESDC				Lg		04 26 51.0	
	49nm,0.2s,SNR=7.9						
ESLA	**Sonseca Array**	**0.35**	**261**	⇓*i*Pg	**Pg**	**04 26 46.9**	**+2.3**
ESLA				*e*Sg	**Sg**	**04 26 50.6**	**+1.3**
ESLA	**Sonseca Array**	**0.35**	**261**	⇓Pg	**Pg**	**04 26 46.9**	**+2.2**
GUD	**Guadarrama**	**1.03**	**332**	⇓Pg	**Pg**	**04 26 58.7**	**+1.0**
	22nm,0.2s,SNR=18						
GUD				Lg		04 27 12.7	
	163nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**1.03**	**332**	⇓Pg	**Pg**	**04 26 58.7**	**+1.0**
GUD				Lg		04 27 12.7	
ETOR	**Torete**	**1.56**	**45**	Pn	**Pn**	**04 27 06.8**	**+0.6**
	13nm,0.1s,SNR=7.9						
ETOR				Pg	**Pg**	**04 27 09.8**	**+2.1**
	87nm,0.2s,SNR=7.9						
ETOR				Lg		04 27 28.1	
	432nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**1.58**	**188**	Pn	**Pn**	**04 27 05.9**	**-0.6**
	3.0nm,0.1s,SNR=7.9						
EBAN				Pg	**Pg**	**04 27 07.7**	**-0.5**
	58nm,0.1s,SNR=80						
EBAN				Lg		04 27 28.0	
	61nm,0.1s,SNR=22						
EADA	**Adamuz**	**1.77**	**208**	Pn	**Pn**	**04 27 09.6**	**+0.5**
	1.8nm,0.1s,SNR=84						
EADA				Pg	**Pg**	**04 27 12.8**	**+1.1**
	18nm,0.1s,SNR=7.9						
EADA				Lg		04 27 35.3	
	134nm,0.1s,SNR=44						
EADA	**Adamuz**	**1.77**	**208**	Pn	**Pn**	**04 27 09.6**	**+0.5**
	1.8nm,0.1s,SNR=84						
EADA	**Adamuz**	**1.77**	**208**	Pg	**Pg**	**04 27 12.8**	**+1.0**
	18nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.87**	**125**	Pn	**Pn**	**04 27 10.5**	**0.0**
	2.1nm,0.1s,SNR=7.9						
ETOB				Pg	**Pg**	**04 27 13.9**	**+0.1**
	6.7nm,0.1s,SNR=55						
ETOB				Lg		04 27 37.7	
	90nm,0.2s,SNR=33						
ETOB	**Tobarra**	**1.87**	**125**	Pn	**Pn**	**04 27 10.5**	**0.0**
	2.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.87**	**125**	Pg	**Pg**	**04 27 13.9**	**+0.1**
	6.7nm,0.1s,SNR=55						
EQES	**Quesada**	**1.96**	**170**	Pn	**Pn**	**04 27 12.1**	**+0.4**
	0.8nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	**04 27 15.0**	**-0.4**
	13nm,0.1s,SNR=105						
EQES				Lg		04 27 40.2	
	24nm,0.1s,SNR=7.2						
EQES	**Quesada**	**1.96**	**170**	Pn	**Pn**	**04 27 12.1**	**+0.4**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.96**	**170**	Pg	**Pg**	**04 27 15.0**	**-0.4**
	13nm,0.1s,SNR=105						
EHUE	**Huescar**	**2.04**	**159**	Pg	**Pg**	**04 27 15.7**	**-1.4**
	10.0nm,0.2s,SNR=7.9						
EHUE				Lg		04 27 43.2	
	23nm,0.2s,SNR=9.9						
ELUQ	**Luque**	**2.25**	**195**	Pg	**Pg**	**04 27 20.7**	**-0.2**
	9.3nm,0.2s,SNR=7.9						
ELUQ				Lg		04 27 50.5	
	26nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.42**	**74**	Pn	**Pn**	**04 27 19.4**	**+1.4**
	1.5nm,0.2s,SNR=11						
EMOS				Pg	**Pg**	**04 27 24.7**	**+0.5**
	5.1nm,0.2s,SNR=23						
EMOS				Sn	**Sn**	**04 27 49.0**	**+1.0**
	2.6nm,0.1s,SNR=7.9						
EMOS				Lg		04 27 55.6	
	11nm,0.3s,SNR=6.6						
EMOS	**Mosqueruela**	**2.42**	**74**	Pn	**Pn**	**04 27 19.4**	**+1.4**
	1.5nm,0.2s,SNR=11						
EMOS	**Mosqueruela**	**2.42**	**74**	Pg	**Pg**	**04 27 24.7**	**+0.5**
	5.1nm,0.2s,SNR=23						
EMOS				Sn	**Sn**	**04 27 49.0**	**+1.0**
	2.6nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.45**	**181**	Pn	**Pn**	**04 27 18.4**	**-0.1**
	0.5nm,0.2s,SNR=7.9						
ECOG				Pg	**Pg**	**04 27 23.4**	**-1.4**
	5.9nm,0.2s,SNR=13						
ECOG				Lg		04 27 56.4	
	18nm,0.3s,SNR=11						
EQUE	**Quentar**	**2.52**	**179**	Pn	**Pn**	**04 27 17.7**	**-1.8**
	0.4nm,0.1s,SNR=4.0						
EQUE				Pg	**Pg**	**04 27 25.6**	**-0.6**
	14nm,0.3s,SNR=22						
EQUE				Lg		04 27 58.7	
	11nm,0.2s,SNR=6.6						
EMUR	**La Murta**	**2.59**	**136**	Pg	**Pg**	**04 27 27.4**	**-0.1**
	7.2nm,0.1s,SNR=22						
EMUR				Sn	**Sn**	**04 27 50.8**	**-1.5**
	SNR=7.9						
EMUR				Lg		04 28 01.1	
	46nm,0.3s,SNR=9.1						
EMUR	**La Murta**	**2.59**	**136**	Pg	**Pg**	**04 27 27.4**	**-0.2**
EMUR				Sn	**Sn**	**04 27 50.8**	**-1.5**
EMUR	**La Murta**	**2.59**	**136**	Pg	**Pg**	**04 27 27.4**	**-0.1**
	7.2nm,0.1s,SNR=22						
EMUR				Sn	**Sn**	**04 27 50.8**	**-1.4**
	SNR=7.9						
ELOJ	**Sierra Loja**	**2.63**	**191**	Pg	**Pg**	**04 27 28.2**	**0.0**
	4.3nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**2.75**	**111**	Pn	**Pn**	**04 27 22.6**	**0.0**
	1.0nm,0.2s,SNR=7.6						
EBEN				Pg	**Pg**	**04 27 30.6**	**0.0**
	4.9nm,0.3s,SNR=9.4						
EBEN				Lg		04 28 05.7	
	7.8nm,0.2s,SNR=12						
EBEN	**Beniarda**	**2.75**	**111**	Pn	**Pn**	**04 27 22.6**	**0.0**
	1.0nm,0.2s,SNR=7.6						
EBEN	**Beniarda**	**2.75**	**111**	Pg	**Pg**	**04 27 30.6**	**0.0**
	4.9nm,0.3s,SNR=9.4						
EBER	**Berja**	**2.87**	**170**	Pn	**Pn**	**04 27 27.6**	**+3.3**
	0.6nm,0.2s,SNR=7.9						
EBER				Pg	**Pg**	**04 27 34.0**	**+1.1**
	6.2nm,0.2s,SNR=20						
EBER				Lg		04 28 11.8	
	11nm,0.3s,SNR=7.6						
EBAD	**Badajoz**	**2.89**	**251**	⇓Pn	**Pn**	**04 27 25.2**	**+0.7**
	2.9nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**04 27 32.3**	**-0.9**
	4.4nm,0.1s,SNR=15						
EBAD				Lg		04 28 10.8	
	51nm,0.2s,SNR=7.1						
EBAD	**Badajoz**	**2.89**	**251**	Pn	**Pn**	**04 27 25.2**	**+0.7**
	2.9nm,0.1s,SNR=18						
EBAD	**Badajoz**	**2.89**	**251**	Pg	**Pg**	**04 27 32.3**	**-0.9**
	4.4nm,0.1s,SNR=15						
EGUA	**Guajares**	**2.89**	**181**	Pg	**Pg**	**04 27 33.4**	**+0.1**
	1.3nm,0.3s,SNR=7.9						
EGUA				Lg		04 28 12.0	
	1.4nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.94**	**159**	Pn	**Pn**	**04 27 25.2**	**0.0**
	0.7nm,0.2s,SNR=4.0						
ENIJ				Pg	**Pg**	**04 27 34.9**	**+0.7**
	6.0nm,0.3s,SNR=7.9						
ENIJ				Lg		04 28 13.3	
	6.0nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**3.05**	**48**	Pn	**Pn**	**04 27 27.9**	**+1.2**
	2.7nm,0.2s,SNR=4.0						
ESAC				Pg	**Pg**	**04 27 37.2**	**+0.9**
	6.9nm,0.1s,SNR=5.9						
ESAC				Lg		04 28 15.6	
	188nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**3.05**	**48**	Pn	**Pn**	**04 27 27.9**	**+1.2**
	2.7nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**3.05**	**48**	Pg	**Pg**	**04 27 37.2**	**+0.9**
	6.9nm,0.1s,SNR=5.9						
PCBR	**Castelo Branco**	**3.06**	**273**	*e*Pn	**Pn**	**04 27 27.7**	**+0.9**
PCBR				*e*Sn	**Sn**	**04 28 04.4**	**+0.7**
PCBR				*e*Sg	**Sg**	**04 28 14.8**	**-1.2**
PCBR							
	15nm,0.3s						
PCBR	**Castelo Branco**	**3.06**	**273**	*e*Pn	**Pn**	**04 27 27.7**	**+0.9**
PCBR				*e*Sn	**Sn**	**04 28 04.4**	**+0.7**
PCBR				*e*Sg	**Sg**	**04 28 14.8**	**-1.2**
	15nm,0.3s						
EMIN	**Mina Concepcio**	**3.15**	**233**	Pn	**Pn**	**04 27 29.5**	**+1.4**
	0.8nm,0.1s,SNR=7.6						
EMIN				Pg	**Pg**	**04 27 39.7**	**+1.4**
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**04 28 04.8**	**-1.3**
	10nm,0.5s,SNR=5.9						
EMIN				Lg		04 28 19.5	
	7.2nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**3.15**	**233**	Pn	**Pn**	**04 27 29.5**	**+1.4**
	0.8nm,0.1s,SNR=7.6						
EMIN	**Mina Concepcio**	**3.15**	**233**	Pg	**Pg**	**04 27 39.7**	**+1.4**
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**04 28 04.8**	**-1.3**
	10nm,0.5s,SNR=5.9						
MTE	**Manteigas**	**3.16**	**283**	*e*Pn	**Pn**	**04 27 29.5**	**+1.2**
MTE				*e*Sn	**Sn**	**04 28 05.5**	**-0.9**
MTE				*e*Sg	**Sg**	**04 28 17.8**	**-1.7**
MTE							
	20nm,0.4s						
MTE	**Manteigas**	**3.16**	**283**	Pn	**Pn**	**04 27 29.5**	**+1.2**
MTE				Sn	**Sn**	**04 28 05.5**	**-0.9**
MTE				Lg		04 28 17.8	
	9.9nm,0.4s						
MTE	**Manteigas**	**3.16**	**283**	*e*Pn	**Pn**	**04 27 29.5**	**+1.2**
MTE				*e*Sn	**Sn**	**04 28 05.5**	**-0.9**
ERTA	**Horta de San J**	**3.19**	**66**	Pn	**Pn**	**04 27 29.3**	**+0.7**
	0.5nm,0.2s,SNR=8.5						
ERTA				Pg	**Pg**	**04 27 38.3**	**-0.6**
	1.9nm,0.2s,SNR=5.7						
ERTA				Sn	**Sn**	**04 28 07.2**	**+0.3**
	3.9nm,0.2s,SNR=7.9						
ERTA				Lg		04 28 20.4	
	14nm,0.2s,SNR=6.4						
ERTA	**Horta de San J**	**3.19**	**66**	Pn	**Pn**	**04 27 29.3**	**+0.7**
	0.5nm,0.2s,SNR=8.5						
ERTA	**Horta de San J**	**3.19**	**66**	Pg	**Pg**	**04 27 38.3**	**-0.6**
	1.9nm,0.2s,SNR=5.7						
ERTA				Sn	**Sn**	**04 28 07.2**	**+0.3**
	3.9nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**3.21**	**311**	*e*Pn	**Pn**	**04 27 30.4**	**+1.5**
PBRG				*e*Sn	**Sn**	**04 28 07.6**	**+0.1**
PBRG				*e*Sg	**Sg**	**04 28 19.7**	**-1.3**
PBRG							
	23nm,0.5s						
PBRG	**Braganca**	**3.21**	**311**	Pn	**Pn**	**04 27 30.4**	**+1.5**
PBRG				Sn	**Sn**	**04 28 07.6**	**+0.1**
PBRG				Lg		04 28 19.7	
	12nm,0.5s						
PBRG	**Braganca**	**3.21**	**311**	*e*Pn	**Pn**	**04 27 30.4**	**+1.5**
PBRG				*e*Sn	**Sn**	**04 28 07.6**	**+0.1**
PESTR	**Estremoz**	**3.28**	**256**	*e*Pn	**Pn**	**04 27 31.1**	**+1.2**
PESTR				*e*Sn	**Sn**	**04 28 08.6**	**-0.6**
PESTR				*e*Sg	**Sg**	**04 28 21.1**	**-2.1**
PESTR							
	25nm,0.4s						
PESTR	**Estremoz**	**3.28**	**256**	*e*Pn	**Pn**	**04 27 31.1**	**+1.2**
PESTR				*e*Sn	**Sn**	**04 28 08.6**	**-0.6**
PESTR				*e*Sg	**Sg**	**04 28 21.1**	**-2.1**
	25nm,0.4s						
ECAL	**Calabor**	**3.29**	**313**	Pn	**Pn**	**04 27 32.4**	**+2.3**
	1.0nm,0.2s,SNR=7.9						
ECAL				Pg	**Pg**	**04 27 41.9**	**+0.9**
	2.4nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**04 28 10.8**	**+1.2**
	5.8nm,0.2s,SNR=4.0						
ECAL				Lg		04 28 26.0	
	15nm,0.2s,SNR=8.4						
ECAL	**Calabor**	**3.29**	**313**	Pn	**Pn**	**04 27 32.4**	**+2.3**
ECAL				Pg	**Pg**	**04 27 41.9**	**+0.9**
ECAL				Sn	**Sn**	**04 28 10.8**	**+1.2**
ECAL				Lg		04 28 26.0	
ECAL	**Calabor**	**3.29**	**313**	Pn	**Pn**	**04 27 32.4**	**+2.3**
	1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.29**	**313**	Pg	**Pg**	**04 27 41.9**	**+0.9**
	2.4nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**04 28 10.8**	**+1.2**
	5.8nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**3.31**	**198**	Pn	**Pn**	**04 27 31.1**	**+0.8**
	SNR=7.9						
EMIJ				Pg	**Pg**	**04 27 39.4**	**-2.0**
	1.3nm,0.2s,SNR=7.9						
EMIJ				Lg		04 28 25.4	
	13nm,0.4s,SNR=5.2						
EARA	**Aranguren**	**3.37**	**25**	Sn	**Sn**	**04 28 11.4**	**-0.1**
	6.5nm,0.2s,SNR=7.9						
EARA				Lg		04 28 28.5	
	18nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.40**	**214**	Pg	**Pg**	**04 27 45.4**	**+2.3**
	2.8nm,0.1s,SNR=7.6						
ESPR				Lg		04 28 30.6	
	6.2nm,0.2s,SNR=8.6						
PVIS	**Viseu**	**3.50**	**288**	*e*Pn	**Pn**	**04 27 34.0**	**+1.2**
PVIS				*e*Sn	**Sn**	**04 28 14.3**	**-0.2**
PVIS				*e*Sg	**Sg**	**04 28 27.3**	**-2.8**
PVIS							
	12nm,0.4s						
PVIS	**Viseu**	**3.50**	**288**	Pn	**Pn**	**04 27 34.0**	**+1.2**
PVIS				Sn	**Sn**	**04 28 14.3**	**-0.2**
PVIS				Lg		04 28 27.3	
	6.0nm,0.4s						
PVIS	**Viseu**	**3.50**	**288**	*e*Pn	**Pn**	**04 27 34.0**	**+1.2**
PVIS				*e*Sn	**Sn**	**04 28 14.3**	**-0.2**
ELAN	**Lanestosa**	**3.50**	**1**	Pn	**Pn**	**04 27 35.1**	**+2.3**
	0.3nm,0.1s,SNR=7.9						
ELAN				Pg	**Pg**	**04 27 45.5**	**+0.6**
	5.9nm,0.2s,SNR=17						
ELAN				Lg		04 28 31.1	
	7.1nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**3.50**	**1**	Pn	**Pn**	**04 27 35.1**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.50**	**1**	Pg	**Pg**	**04 27 45.5**	**+0.6**
	5.9nm,0.2s,SNR=17						
PVRL	**Vila Real**	**3.56**	**297**	*e*Pn	**Pn**	**04 27 34.9**	**+1.2**
PVRL				*e*Sn	**Sn**	**04 28 15.9**	**-0.1**
PVRL				*e*Sg	**Sg**	**04 28 30.6**	**-1.5**
PVRL							
	13nm,0.2s						
PVRL	**Vila Real**	**3.56**	**297**	*e*Pn	**Pn**	**04 27 34.9**	**+1.2**
PVRL				*e*Sn	**Sn**	**04 28 15.9**	**-0.1**
PVRL				*e*Sg	**Sg**	**04 28 30.6**	**-1.5**
	13nm,0.2s						
EVO	**Evora**	**3.70**	**253**	*e*Pn	**Pn**	**04 27 37.1**	**+1.5**
EVO	**Evora**	**3.70**	**253**	*e*Pg	**Pg**	**04 27 48.2**	**-0.5**
EVO				*e*Sn	**Sn**	**04 28 21.7**	**+2.1**
EVO				*e*Sg	**Sg**	**04 28 36.0**	**-0.7**
	50nm,0.4s						
EARI	**Arriondas**	**3.79**	**341**	Pn	**Pn**	**04 27 39.1**	**+2.2**
	0.2nm,0.1s,SNR=6.6						
EARI				Pg	**Pg**	**04 27 50.8**	**+0.3**
	7.3nm,0.7s,SNR=12						
EARI				Lg		04 28 39.4	
	6.2nm,0.3s,SNR=6.7						
EARI	**Arriondas**	**3.79**	**341**	Pn	**Pn**	**04 27 39.1**	**+2.3**
	0.2nm,0.1s,SNR=6.6						
EARI	**Arriondas**	**3.79**	**341**	Pg	**Pg**	**04 27 50.8**	**+0.4**
	7.3nm,0.7s,SNR=12						
EARI				Lg		04 28 39.4	
	6.2nm,0.3s,SNR=6.7						
SJPF	**Ste Jean**	**3.79**	**26**	*e*Pn	**Pn**	**04 27 37.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**04 28 21.5**	**-0.4**
SJPF				*e*Sg	**Sg**	**04 28 38.0**	**-1.7**
	7.6nm,0.3s						
SJPF	**Ste Jean**	**3.79**	**26**	*e*Pn	**Pn**	**04 27 37.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**04 28 21.5**	**-0.4**
SJPF				*e*Sg	**Sg**	**04 28 38.0**	**-1.7**
	3.8nm,0.3s						
PBEJ	**Beja**	**3.80**	**245**	*e*Sn	**Sn**	**04 28 21.2**	**-0.9**
PBEJ				*e*Sg	**Sg**	**04 28 36.9**	**-3.0**
PBEJ							
	14nm,0.7s						
PBEJ	**Beja**	**3.80**	**245**	*e*Sn	**Sn**	**04 28 21.2**	**-0.9**
PBEJ				*e*Sg	**Sg**	**04 28 36.9**	**-3.0**
	14nm,0.7s						
EGRO	**El Granado**	**3.80**	**236**	Pn	**Pn**	**04 27 37.2**	**+0.1**
	1.8nm,0.1s,SNR=4.0						
EGRO				Sn	**Sn**	**04 28 21.4**	**-0.7**
	9.5nm,0.3s,SNR=5.2						
EGRO				Lg		04 28 40.4	
	3.7nm,0.1s,SNR=6.3						
EIBI	**Ibiza**	**3.83**	**99**	Pn	**Pn**	**04 27 37.1**	**-0.3**
	0.5nm,0.1s,SNR=4.0						
EIBI				Sn	**Sn**	**04 28 20.0**	**-2.8**
	2.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.83**	**99**	Pn	**Pn**	**04 27 37.1**	**-0.3**
	0.5nm,0.1s,SNR=4.0						
EIBI				Sn	**Sn**	**04 28 20.0**	**-2.8**
EPOB	**Poblet**	**3.86**	**64**	Pn	**Pn**	**04 27 37.6**	**-0.2**
	1.0nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**04 28 21.9**	**-1.5**
	1.2nm,0.2s,SNR=7.9						
EPOB				Lg		04 28 40.3	
	8.5nm,0.5s,SNR=6.2						
EPOB	**Poblet**	**3.86**	**64**	Pn	**Pn**	**04 27 37.6**	**-0.2**
EPOB				Sn	**Sn**	**04 28 21.9**	**-1.5**
ETSF	**Etsaut**	**3.87**	**34**	*e*Pn	**Pn**	**04 27 38.7**	**+0.7**
ETSF				*e*Sn	**Sn**	**04 28 22.0**	**-1.8**
ETSF				*e*Sg	**Sg**	**04 28 37.7**	**-4.4**
	9.0nm,0.3s						
ETSF	**Etsaut**	**3.87**	**34**	Pn	**Pn**	**04 27 38.7**	**+0.7**
ETSF				Sn	**Sn**	**04 28 22.0**	**-1.8**
ETSF				Lg		04 28 37.7	
	4.5nm,0.3s						
ETSF	**Etsaut**	**3.87**	**34**	*e*Pn	**Pn**	**04 27 38.7**	**+0.7**
ETSF				*e*Sn	**Sn**	**04 28 22.0**	**-1.8**
MOE	**Montemor**	**3.95**	**254**	*e*Pn	**Pn**	**04 27 40.0**	**+0.9**
MOE				*e*Sn	**Sn**	**04 28 25.4**	**-0.4**
MOE				*e*Sg	**Sg**	**04 28 42.3**	**-2.5**
PCAB	**Cabril**	**3.96**	**301**	*e*Pn	**Pn**	**

2.9nm,0.3s
MTLF Montolieu 5.61 48 *e*Pn **Pn 04 28 02.2 +0.3**
MTLF *e*Sg **Sg 04 29 34.8 -3.3**
1.5nm,0.3s
LFF La Frestale 6.08 30 *e*Pn **Pn 04 28 08.2 -0.2**
LFF *e*Sn **Sn 04 29 15.4 -3.0**
4.2nm,0.3s
LFF La Frestale 6.08 30 *e*Pn **Pn 04 28 08.2 -0.2**
LFF *e*Sn **Sn 04 29 15.4 -3.0**
2.1nm,0.3s
CAF Calviac 6.63 37 *e*Pn **Pn 04 28 14.6 -1.4**
CAF *e*Sn **Sn 04 29 26.8 -5.1**
1.1nm,0.2s
CAF Calviac 6.63 37 *e*Pn **Pn 04 28 14.6 -1.4**
CAF *e*Sn **Sn 04 29 26.8 -5.1**
0.6nm,0.2s
RJF Les Rejaudoux 6.69 32 *e*Pn **Pn 04 28 16.7 -0.1**
RJF *e*Sn' **Sn 04 29 28.4 -5.0**
3.6nm,0.5s
RJF Les Rejaudoux 6.69 32 *e*Pn **Pn 04 28 16.7 -0.1**
RJF *e*Sn **Sn 04 29 28.4 -5.0**
1.8nm,0.5s
LASF Ste Croix 7.00 49 *e*Pn **Pn 04 28 21.2 +0.2**
LASF *e*Sg **Sg 04 30 18.2 -4.5**
3.0nm,0.5s
LASF Ste Croix 7.00 49 *e*Pn **Pn 04 28 21.2 +0.2**
LASF *e*Sg **Sg 04 30 18.2 -4.5**
1.5nm,0.5s
QUIF Quistinic 8.19 2 *e*Pn **Pn 04 28 37.3 0.0**
SGMF Saint Gilles 8.55 4 *e*Pn **Pn 04 28 42.1 -0.1**
ROSF Rostrenen 8.61 1 *e*Pn **Pn 04 28 42.1 -0.9**

NEIC ***11*** *05:05:46.8, 3356N×2612E, h45km, MD3.6(ATH), After ATH.*
ATH ***11*** *05:05:49.1, 3389N×2632E, h23km, MD3.6/3*
ISCJB ***11*** *05:05:53.9±0.9, 3438N±004×2668E±006, h24km±8km, mb3.5/5, Error ellipse: s-maj=9.1km s-min=4.9km az=111.8*
IDC ***11*** *05:05:53.8±1.5, 3472N×2626E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=48.8km s-min=26.8km az=134.0*
CSEM ***11*** *05:05:53.4±0.1, 3433N×2665E, h15km, MD3.6, Error ellipse: s-maj=3.7km s-min=1.8km az=57.0*
THE ***11*** *05:05:54.5, 3447N×2666E, h10km*
HLW ***11*** *05:05:57.9, 3427N×2669E, h33km, Mb3.2*
ISC 11 05:05:54.9±0.7, 3440N±003×2653E±005, h17km±5km, n28, σ1§15/37, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.76**	**340**	*e*Pg	**Pg**	**05 06 09.5**	**-0.3**
ZKR				*e*Sg	**Sg**	**05 06 21.6**	**+1.7**
XRY	**Khrisi**	**0.84**	**305**	*e*PN	**Pg**	**05 06 10.3**	**-1.0**
NPS	**Neapolis**	**1.15**	**319**	*e*PN	**Pn**	**05 06 16.2**	**0.0**
NPS				*e*SN	**Sg**	**05 06 35.9**	**+3.7**
NPS	**Neapolis**	**1.15**	**319**	*e*P	**Pn**	**05 06 17.2**	**+1.0**
NPS				*e*S	**Sg**	**05 06 35.9**	**+3.7**
LAST	**Lasithi**	**1.16**	**312**	*e*Pg	**Pg**	**05 06 16.1**	**-1.2**
LAST				*e*Sg	**Sg**	**05 06 32.4**	**0.0**
KARP	**Karpathos**	**1.26**	**24**	*e*P	**Pg**	**05 06 20.8**	**+1.6**
KARP				*e*S	**Sg**	**05 06 47.7**	**+12**
SIVA	**Sivas**	**1.55**	**294**	*e*Pg	**Pg**	**05 06 23.5**	**-1.3**
SIVA				*e*Sg	**Sg**	**05 06 44.6**	**-0.3**
GVD	**Gavdhos**	**2.07**	**283**	*e*Pn	**Pn**	**05 06 30.7**	**+1.9**
GVD	**Gavdhos**	**2.07**	**283**	*e*Pn	**Pn**	**05 06 30.8**	**+2.0**
KARN	**Karanos**	**2.37**	**296**	*e*Pn	**Pn**	**05 06 33.2**	**+0.2**
KARN				*e*Sn	**Sn**	**05 07 02.7**	**+1.0**
APE	**Apeiranthos**	**2.79**	**343**	*e*Pn	**Pn**	**05 06 37.9**	**-0.8**
APE				*e*Sn	**Sn**	**05 07 11.2**	**-0.7**
HMAT	**Matruh**	**3.33**	**172**	P	**Pn**	**05 06 45.4**	**-0.7**
CHOS	**Chios island**	**4.00**	**355**	*e*Pn	**Pn**	**05 06 54.9**	**-0.5**
CHOS				*e*Sn	**Sn**	**05 07 39.9**	**-2.0**
SWA1		**5.17**	**188**	P	**Pn**	**05 07 11.6**	**+0.2**
SWA2		**5.22**	**190**	P	**Pn**	**05 07 12.5**	**+0.4**
AWBH		**6.39**	**161**	P	**Pn**	**05 07 27.9**	**-0.3**
GLL	**Jalalah**	**6.51**	**136**	P	**Pn**	**05 07 29.3**	**-0.6**
AMAG	**Maghara**	**6.76**	**122**	P	**Pn**	**05 07 33.4**	**+0.1**
HFRF	**Wahat Farafira**	**7.38**	**168**	P	**Pn**	**05 07 41.5**	**-0.3**
TR2		**8.58**	**132**	P	**Pn**	**05 07 57.8**	**-0.5**
AKASG	**Malin Array Be**	**16.41**	**6**	Pn	**Pn**	**05 09 46.4**	**+2.0**
	0.8nm,0.3s,baz=193,slow=11,SNR=4.9						
AKASG	**Malin Array Be**	**16.41**	**6**	Pn	**Pn**	**05 09 46.3**	**+1.9**
FINES	**FINESS Array B**	**27.07**	**360**	P	**P**	**05 11 34.5**	**-1.9**
	0.3nm,0.3s,mb3.3,baz=164,slow=9.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.90**	**233**	P	**P**	**05 12 12.2**	**+1.8**
	0.2nm,0.5s,mb3.2,baz=35,slow=8.4,SNR=5.3						
ARCES	**ARCESS Array B**	**35.20**	**359**	P	**P**	**05 12 46.4**	**-1.6**
	3.2nm,0.9s,mb4.2,baz=178,slow=8.5,SNR=5.8						
ARCES	**ARCESS Array B**	**35.20**	**359**	P	**P**	**05 12 46.4**	**-1.6**
MKAR	**Makanchi Array**	**43.26**	**56**	P	**P**	**05 13 55.8**	**+0.5**
	0.3nm,0.6s,mb3.2,baz=286,slow=6.5,SNR=4.4						
SONM	**Songino Array**	**59.10**	**51**	P	**P**	**05 15 56.5**	**+2.2**
	0.2nm,0.4s,mb3.5,baz=290,slow=6.0,SNR=2.6						

NIED ***11*** *05:11:00, 2080N×12020E, h11km, Mw4.4 Best double couple: M0:5.19000×10^15 NP1:φs311.00000°, δ65.00000°, λ-99.00000°. NP2:φs151.00000°, δ26.00000°, λ-72.00000°.*
IDC ***11*** *05:11:24.4±0.6, 2066N×12012E, h0km, mb4.4/18, mb1 4.5/18, mb1mx4.4/24, mbtmp4.4/18, Error ellipse: s-maj=32.5km s-min=13.0km az=63.0*
NEIC ***11*** *05:11:26.3±0.4, 2068N×12033E, h10km, mb4.6/20, Error ellipse: s-maj=10.5km s-min=8.0km az=77.0*
MOS ***11*** *05:11:27.9±1.1, 2067N×12029E, h33km, mb4.9/13, Error ellipse: s-maj=15.8km s-min=7.5km az=119.0*
BJI ***11*** *05:11:28.2, 2082N×11999E, h21km, mB4.8, mb4.4, ML4.1, Ms4.7, Msz4.4*
ISCJB ***11*** *05:11:29.4±0.6, 2072N±003×12027E±006, h45km±6km, mb4.5/40, MS4.6/3, Error ellipse: s-maj=9.0km s-min=5.2km az=154.5*
ISC 11 05:11:31.5±0.6, 2074N±003×12032E±006, h49km±6km, h26km±2.1km: pP-P, n102, σ1§10/109, mb4.5/40, MS4.6/3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.97**	**146**	*e*P	**Pn**	**05 12 14.3**	**-1.9**
ABRA	**Dolores**	**3.10**	**173**	*e*P	**Pn**	**05 12 20.1**	**+2.2**
CVP	**Callao Caves**	**3.34**	**155⇑**	*e*P	**Pn**	**05 12 20.5**	**-0.7**
NACB	**Ninganchiao**	**3.62**	**19**	*e*Pn	**Pn**	**05 12 24.4**	**-0.6**
YHNB	**Yeheng**	**4.03**	**14**	*e*Pn	**Pn**	**05 12 29.5**	**-1.2**
YHNB				*e*Sn	**Sn**	**05 13 16.2**	**-0.5**
CAUP	**Cauayan**	**4.04**	**159**	*e*P	**Pn**	**05 12 31.4**	**+0.6**
PALP	**Palanan**	**4.17**	**151**	*e*P	**Pn**	**05 12 39.2**	**+6.6**
BOLP	**Bolinao**	**4.35**	**185**	*e*P	**Pn**	**05 12 32.8**	**-2.4**
QZH	**Quanzhou**	**4.47**	**340**	P	**Pn**	**05 12 32.2**	**-4.6**
QZH				S	**Sn**	**05 13 21.2**	**-6.3**
QZH				Smax			
	comp=N,200nm,0.7s						
QZH				Smax			
	comp=E,290nm,1.0s						
QZH				LR	LR		
	comp=N,7μm,10.9s						
QZH				LR	LR		
	comp=E,10μm,10.7s						
QZH				LR	LR		
	comp=Z,7μm,10.5s						
BALP	**Baler**	**5.12**	**166**	*e*P	**Pn**	**05 12 46.7**	**+1.2**
GZH	**Guangzhou**	**6.88**	**291**	P	**Pn**	**05 13 02.1**	**-7.7**
GZH				Smax			
	comp=N,147nm,0.6s						
GZH				Smax			
	comp=E,149nm,0.8s						
GZH				LR	LR		
	comp=N,2μm,8.1s						
GZH				LR	LR		
	comp=E,3μm,8.1s						
GZH				LR	LR		
	comp=Z,4μm,8.4s						
LUBP	**Lubang**	**6.97**	**181**	*e*P	**Pn**	**05 13 13.8**	**+2.9**
QIZ	**Qiongzhong**	**10.00**	**262**	*e*P	**Pn**	**05 13 47.2**	**-5.3**
QIZ				LR	LR		
	comp=N,2μm,10.0s						
QIZ				LR	LR		
	comp=E,3μm,10.2s						
QIZ				LR	LR		
	comp=Z,3μm,10.8s						
QIZ	**Qiongzhong**	**10.00**	**262**	*e*Pn	**Pn**	**05 13 52.8**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSE	**Sheshan**	**10.34**	**4**	P	**Pn**	**05 13 50.5**	**-6.7**
	comp=Z,18nm,0.7s						
SSE				S	**Sn**	**05 15 40.0**	**-12**
NJ2	**Nanjing**	**11.34**	**354**	*e*P	**Pn**	**05 14 12.9**	**+2.1**
NJ2				AP		05 14 19.8	
NJ2				PP		05 14 21.9	
NJ2				XP		05 14 25.0	
NJ2				S	**Sn**	**05 16 21.0**	**+4.9**
NJ2				XS		05 16 32.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,3μm,7.1s						
NJ2				LR	LR		
	comp=E,2μm,9.3s						
NJ2				LR	LR		
	comp=Z,14μm,9.7s						
XAN	**Xi'an**	**16.65**	**325**	P	**Pn**	**05 15 23.0**	**+1.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s						
XAN				LR	LR		
	comp=N,628nm,10.4s						
XAN				LR	LR		
	comp=E,1μm,9.5s						
XAN				LR	LR		
	comp=Z,1μm,8.9s						
KMI	**Kunming**	**16.77**	**288**	P	**Pn**	**05 15 24.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s						
KMI	**Kunming**	**16.77**	**288**	P	**Pn**	**05 15 24.3**	**+1.5**
	comp=Z,7.0nm,0.7s						
CD2	**Chengdu**	**18.00**	**308**	*e*P	**Pn**	**05 15 38.2**	**+0.1**
CD2				AP	pP	05 15 47.5	-1.8
CD2				PP		05 15 53.9	
CD2				S	**S**	**05 18 54.5**	**-7.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=Z,120nm,12.4s						
BJT	**Baijiatuau**	**19.54**	**350**	*e*P	**Pn**	**05 15 56.2**	**-0.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJT	**Baijiatuau**	**19.54**	**350**	*e*P	**Pn**	**05 15 56.2**	**-0.4**
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**19.56**	**350**	P	**Pn**	**05 15 56.6**	**-0.2**
BJI				AP	pP	05 16 07.3	+0.8
BJI				AMB	AMB		
	comp=Z,28nm,0.9s						
BJI				AMB	AMB		
	comp=Z,84nm,3.9s						
BJI				LR	LR		
	comp=N,969nm,12.2s						
BJI				LR	LR		
	comp=E,313nm,12.2s						
BJI				LR	LR		
	comp=Z,252nm,16.5s						
BJI	**Beijing**	**19.56**	**350**	P	**Pn**	**05 15 56.6**	**-0.2**
	comp=Z,28nm,0.9s						
BJI				pP	pP	05 16 07.3	+0.8
BJI				sP	sP	05 16 12.4	-0.3
CHTO	**Chiang Mai**	**20.20**	**268**	*e*P	**P**	**05 16 02.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**20.20**	**268**	*e*P	**P**	**05 16 02.8**	**+0.7**
	comp=Z,4.5nm,0.8s						
LZH	**Lanzhou**	**21.01**	**320**	*e*P	**P**	**05 16 13.7**	**+2.8**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.4						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=E,2μm,12.8s						
LZH				LR	LR		
	comp=Z,2μm,13.5s,MS4.7						
LZH	**Lanzhou**	**21.01**	**320**	*e*P	**P**	**05 16 13.7**	**+2.8**
	comp=Z,30nm,1.5s,mb4.4						
LZH				pP		05 16 27.4	
LZH				sP	sP	05 16 32.8	+4.3
LZH				PP		05 17 10.0	
LZH				PPP		05 17 24.0	
LZH				*e*SS		05 22 40.0	
LZH				LR	LR		
	comp=Z,2μm,13.5s,MS4.7						
MAJO	**Matsushiro**	**22.18**	**41**	*e*P	**P**	**05 16 24.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.5						
MAJO	**Matsushiro**	**22.18**	**41**	*e*P	**P**	**05 16 24.3**	**+1.0**
	comp=Z,7.6nm,0.4s,mb4.5						
MJAR	**Matsushiro Arr**	**22.18**	**41**	P	**P**	**05 16 24.0**	**+0.7**
	comp=Z,2.6nm,0.3s,mb4.1,baz=236,slow=5.1,SNR=12						
MDJ	**Mudanjiang**	**25.02**	**16**	P	**P**	**05 16 52.1**	**+1.2**
MDJ				AP	pP	05 17 00.4	-3.0
MDJ				XP	sP	05 17 05.4	-3.9
MDJ				PP		05 17 33.3	
MDJ				S	**S**	**05 21 15.6**	**+4.1**
MDJ				SCP	ScP	05 24 01.1	+1.5
MDJ				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,93nm,3.7s						
MDJ				LR	LR		
	comp=E,285nm,27.4s						
MDJ				LR	LR		
	comp=Z,204nm,17.5s						
MDJ	**Mudanjiang**	**25.02**	**16**	*e*P	**P**	**05 16 52.7**	**+1.9**
	comp=Z,25nm,0.9s,mb4.7						
GTA	**Gaotai**	**25.60**	**321**	*e*P	**P**	**05 16 54.0**	**-2.1**
GTA				AP	pP	05 17 01.3	-7.4
GTA				XP	sP	05 17 04.6	-10
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.6						
GTA				AMB	AMB		
	comp=Z,48nm,3.8s						
GTA				LR	LR		
	comp=N,583nm,9.9s						
GTA				LR	LR		
	comp=E,581nm,10.7s						
GTA				LR	LR		
	comp=Z,678nm,11.5s,MS4.4						
SONM	**Songino Array**	**29.28**	**341**	P	**P**	**05 17 28.5**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.8,baz=162,slow=9.0,SNR=10.0						
GUN	**Gumba**	**32.10**	**290**	*e*P	**P**	**05 17 53.6**	**-0.4**
	comp=Z,25nm,1.0s,mb5.0						
PKI	**Pulchoki**	**32.49**	**289**	*e*P	**P**	**05 17 55.9**	**-1.5**
KKN	**Kakani**	**32.62**	**289**	*e*P	**P**	**05 17 57.4**	**-1.1**
DMN	**Daman**	**32.76**	**289**	*e*P	**P**	**05 17 58.8**	**-0.9**
	comp=Z,15nm,0.9s,mb4.9						
GKN	**Gorkha**	**33.21**	**290**	*e*P	**P**	**05 18 04.0**	**+0.4**
KOLN	**Koldanda**	**34.10**	**289**	*e*P	**P**	**05 18 10.3**	**-1.1**
	comp=Z,9.2nm,0.8s,mb4.8						
WMQ	**Urumqi**	**35.56**	**318**	*e*P	**P**	**05 18 26.0**	**+2.1**
WMQ				PP	PP	05 19 47.0	+1.7
WMQ				*e*S	**S**	**05 23 58.0**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,131nm,5.0s						
WMQ				LR	LR		
	comp=N,746nm,11.4s,MS4.8						
WMQ				LR	LR		
	comp=E,654nm,11.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,528nm,15.1s,MS4.4						
FITZ	**Fitzroy Crossi**	**38.95**	**172**	*e*P	**P**	**05 18 54.5**	**+1.8**
	comp=Z,8.7nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**40.33**	**319**	P	**P**	**05 19 02.9**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.1,baz=114,slow=8.9,SNR=23						
MKAR	**Makanchi Array**	**40.33**	**319**	P	**P**	**05 19 02.9**	**-1.2**
WRA	**Warramunga Arr**	**42.70**	**160**	P	**P**	**05 19 22.6**	**-1.0**
	comp=Z,10.0nm,0.8s,mb4.6,baz=343,slow=8.9,SNR=25						
WB2	**Warramunga Arr**	**42.70**	**160**	*e*P	**P**	**05 19 21.3**	**-2.3**
ZAL	**Zalesovo**	**42.75**	**330**	P	**P**	**05 19 23.6**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.1,baz=360,slow=9.1,SNR=12						
AS31	**Alice Springs**	**46.08**	**163**	P	**P**	**05 19 50.6**	**0.0**
ASAR	**Alice Springs**	**46.08**	**163**	P	**P**	**05 19 50.5**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=343,slow=6.7,SNR=9.5						
CTA	**Charters Tower**	**47.86**	**146**	P	**P**	**05 20 04.6**	**+0.1**
	comp=Z,9.6nm,0.3s,mb5.3,baz=152,slow=20,SNR=20						
CTA	**Charters Tower**	**47.86**	**146**	P	**P**	**05 20 04.6**	**+0.1**
BVAR	**Borovoye Array**	**49.87**	**323**	P	**P**	**05 20 19.8**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=98,slow=9.3,SNR=13						
BVAR				PcP	PcP	05 21 39.2	-0.6
	comp=Z,2.9nm,0.8s,baz=126,slow=4.6,SNR=8.1						
BRVK	**Borovoye**	**49.94**	**323**	*e*P	**P**	**05 20 20.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.1						
BRVK	**Borovoye**	**49.94**	**323**	*e*P	**P**	**05 20 20.6**	**+0.2**
	comp=Z,28nm,1.5s,mb5.1						
CHKZ	**Chkalovo**	**49.97**	**324**	*e*P	**P**	**05 20 20.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
CHKZ	**Chkalovo**	**49.97**	**324**	*e*P	**P**	**05 20 20.4**	**-0.3**
	comp=Z,9.2nm,1.2s,mb4.7						
AB31	**Akbulak array**	**55.31**	**316**	*i* P	**P**	**05 20 58.5**	**-1.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**56.15**	**158**	*e*P	**P**	**05 21 06.9**	**+0.8**
	comp=Z,6.5nm,1.9s,mb4.3						
STKA	**Stephens Creek**	**56.15**	**158**	P	**P**	**05 21 05.9**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=128,slow=11,SNR=3.6						
AKTK	**Aktyubinsk**	**56.71**	**317**	P	**P**	**05 21 09.6**	**-0.5**
AKTO	**Aktyubinsk**	**56.71**	**317**	P	**P**	**05 21 09.6**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.3,baz=98,slow=15,SNR=4.6						
ARU	**Arti**	**57.40**	**324⇑**	*i* P	**P**	**05 21 14.7**	**-0.2**
ARU				*e*		05 23 20.2	
ARU				*e*S	**S**	**05 29 11.0**	**+2.8**
ARU				*e*SS	SS	05 33 00.7	+2.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ARU	**Arti**	**57.40**	**324**	*e*P	**P**	**05 21 14.9**	**0.0**
	comp=Z,6.4nm,0.4s,mb5.0						
OBN	**Obninsk**	**69.71**	**322**	*e*P	**P**	**05 22 29.6**	**-6.6**
OBN				*e*		05 22 36.7	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
JOF	**Joensuu**	**71.31**	**331**	*e*p	**P**	**05 22 45.4**	**-0.5**
	comp=Z,6.0nm,0.5s,mb4.8						
KEV	**Kevo**	**71.87**	**339**	*e*p	**P**	**05 22 49.2**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7						
KEV	**Kevo**	**71.87**	**339**	*e*P	**P**	**05 22 49.2**	**-0.1**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**72.42**	**338**	P	**P**	**05 22 51.5**	**-1.2**
	comp=Z,5.0nm,0.9s,mb4.4,baz=50,slow=8.1,SNR=9.0						
KAF	**Kangasniemi**	**73.74**	**331**	*e*p	**P**	**05 22 59.7**	**-0.7**
	baz=74,slow=5.4						
FINES	**FINESS Array B**	**74.01**	**330**	P	**P**	**05 23 01.4**	**-0.6**
	comp=Z,5.7nm,0.8s,mb4.5,baz=76,slow=8.0,SNR=17						
AKASG	**Malin Array Be**	**74.91**	**319**	P	**P**	**05 23 04.8**	**-2.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=55,slow=4.7,SNR=7.1						
HFS	**Hagfors**	**80.17**	**331**	P	**P**	**05 23 36.1**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.7,baz=87,slow=6.1,SNR=17						
NB2	**NORSAR Subarra**	**80.88**	**332**	P	**P**	**05 23 39.7**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=61,slow=5.3						
NB2	**NORSAR Subarra**	**80.88**	**332**	P	**P**	**05 23 39.7**	**-0.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**80.88**	**332**	P	**P**	**05 23 40.0**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=64,slow=5.2,SNR=12						
BRG	**Berggiesshubel**	**83.96**	**322**	*i* P	**P**	**05 23 57.9**	**+1.5**
	comp=Z,4.8nm,1.1s,mb4.5						
BRG				*e*		05 25 03.0	
	comp=Z,11nm,1.7s						
BRG				*e*		05 25 11.3	
	comp=Z,11nm,1.3s						
BRG	**Berggiesshubel**	**83.96**	**322**	*i* P	**P**	**05 23 57.9**	**+1.5**
	comp=Z,4.8nm,1.1s,mb4.5						
BRG				*e*		05 25 03.0	
BRG				*e*		05 25 11.3	
CLL	**Collm**	**84.31**	**323**	*e*P	**P**	**05 23 59.0**	**+0.8**
CLL				*e*		05 24 07.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
CLL	**Collm**	**84.31**	**323**	*e*P	**P**	**05 23 59.0**	**+0.8**
	comp=Z,10.0nm,1.1s,mb4.9						
CLL				*e*pP	pP	05 24 07.0	-5.4
GERES	**GERESS Array B**	**84.98**	**321**	P	**P**	**05 24 02.1**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.4,baz=59,slow=5.1,SNR=13						
YKA	**Yellowknife Ar**	**86.44**	**22**	P	**P**	**05 24 10.2**	**+1.4**
	comp=Z,3.9nm,0.7s,mb4.8,baz=314,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**86.44**	**22**	P	**P**	**05 24 10.2**	**+1.4**
DAVOX	**Davos/Dischmat**	**88.22**	**320**	P	**P**	**05 24 18.5**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.4,baz=199,slow=22,SNR=3.0						
CDF	**Champ du Feu**	**88.94**	**322**	*e*P	**P**	**05 24 20.7**	**-0.1**
CABF	**La Chapelle**	**90.56**	**321**	*e*P	**P**	**05 24 28.5**	**+0.2**
LPG	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.9**	**+0.7**
	comp=Z,14nm,0.9s,mb5.0						
LPG	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.9**	**+0.7**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb5.0						
LPG	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.9**	**+0.7**
	comp=Z,6.8nm,0.9s,mb5.0						
LPL	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.9						
LPL	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.8**	**+0.6**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
LPL	**La Plagne**	**90.74**	**320**	*e*P	**P**	**05 24 29.8**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.9						
SBF	**Sospel**	**91.15**	**318**	*e*P	**P**	**05 24 31.0**	**-0.1**
LOR	**Lormes**	**91.50**	**322**	*e*P	**P**	**05 24 32.5**	**-0.2**
ORIF	**Oris-en-Rattie**	**91.57**	**320**	*e*P	**P**	**05 24 33.3**	**+0.3**
	comp=Z,4.7nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**91.57**	**320**	*e*P	**P**	**05 24 33.3**	**+0.3**
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
ORIF	**Oris-en-Rattie**	**91.57**	**320**	*e*P	**P**	**05 24 33.3**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**91.85**	**322**	*e*P	**P**	**05 24 34.0**	**-0.3**
LMR	**La Mourre**	**92.00**	**318**	*e*P	**P**	**05 24 35.2**	**+0.2**
	comp=Z,36nm,1.3s,mb5.2						
LMR	**La Mourre**	**92.00**	**318**	*e*P	**P**	**05 24 35.2**	**+0.2**
LMR				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.2						
LMR	**La Mourre**	**92.00**	**318**	*e*P	**P**	**05 24 35.2**	**+0.2**
	comp=Z,18nm,1.3s,mb5.2						
SDV	**Santo Domingo**	**148.65**	**21**	PKPbc	PKPbc	05 31 13.8	+0.7
	comp=Z,5.0nm,0.6s,baz=263,slow=1.4,SNR=8.6						

MAN ***11*** *05:11:55.9, 1883N×12127E, h1km, MS2.9*
BJI ***11*** *05:12:25.6, 1997N×120.12E, h15km, mB4.5, mb4.4, Ms4.6*
IDC ***11*** *05:12:30.9±0.7, 2071N×11994E, h0

BTO				S	S	05 21 26.0	+4.1
BTO				LR	LR		
	comp=N,296nm,9.0s						
BTO				LR	LR		
	comp=E,283nm,11.4s						
MAJO	**Matsushiro**	**22.42**	**41**	*e*P	**P**	**05 17 33.0**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.6						
MAJO	**Matsushiro**	**22.42**	**41**	*e*P	**P**	**05 17 33.0**	**+1.4**
	comp=Z,39nm,1.4s,mb4.7						
MAT	**Matsushiro**	**22.42**	**41**	P	**P**	**05 17 32.8**	**+1.2**
MAT				S	**S**	**05 21 30.0**	**-8.0**
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**05 17 32.5**	**+0.8**
	comp=Z,9.5nm,1.0s,mb4.2,baz=242,slow=10,SNR=6.9						
MJAR				LR	LR	05 26 11.6	
	comp=Z,298nm,20.5s,MS3.7,baz=230,slow=37						
MDJ	**Mudanjiang**	**25.16**	**16**	*e*P	**P**	**05 17 57.5**	**-0.7**
	comp=Z,32nm,1.0s,mb4.8						
GTA	**Gaotai**	**25.45**	**322**	*e*P	**P**	**05 18 01.9**	**+1.1**
GTA				AP	pP	05 18 10.5	+6.6
GTA				XP	sP	05 18 13.7	+8.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**29.23**	**341**	P	**P**	**05 18 33.2**	**-1.6**
	comp=Z,2.6nm,0.9s,mb4.0,baz=157,slow=11,SNR=5.2						
ASAJ	**Asahikawa**	**29.99**	**34**	LR	LR	05 31 29.9	
	comp=Z,418nm,20.2s,MS4.1,baz=198,slow=38						
KLR	**Kul'dur**	**29.99**	**16**	*e*P	**P**	**05 18 42.2**	**+0.7**
KLR				MLR	MLR		
	comp=E,1μm,13.5s						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS4.9						
ZAK	**Zakamensk**	**32.44**	**340**	*e*P	**P**	**05 19 03.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**38.95**	**171**	*e*P	**P**	**05 19 58.3**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.95**	**171**	P	**P**	**05 19 58.2**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.8,baz=9.1,slow=14,SNR=2.5						
ZAL	**Zalesovo**	**42.63**	**330**	P	**P**	**05 20 29.7**	**+0.3**
	comp=Z,1.2nm,0.5s,mb3.9,baz=344,slow=4.9,SNR=3.1						
ZAL	**Zalesovo**	**42.63**	**330**	P	**P**	**05 20 29.7**	**+0.3**
WRAB	**Tennant Creek**	**42.75**	**160**	*de*P	**P**	**05 20 30.7**	**+0.4**
WRA	**Warramunga Arr**	**42.75**	**160**	P	**P**	**05 20 30.0**	**-0.3**
	comp=Z,9.2nm,0.5s,mb4.8,baz=342,slow=9.1,SNR=18						
WB2	**Warramunga Arr**	**42.76**	**160**	*e*P	**P**	**05 20 30.5**	**+0.2**
AAK	**Ala-Archa**	**43.83**	**311**	⇓*e*P	**P**	**05 20 40.7**	**+1.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
AS31	**Alice Springs**	**46.12**	**162**	*e*P	**P**	**05 20 58.3**	**+1.0**
ASAR	**Alice Springs**	**46.12**	**162**	P	**P**	**05 20 57.7**	**+0.4**
	comp=Z,3.4nm,0.4s,mb4.6,baz=344,slow=7.0,SNR=19						
BVAR	**Borovoye Array**	**49.72**	**323**	P	**P**	**05 21 25.8**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=110,slow=11,SNR=2.3						
BRVK	**Borovoye**	**49.80**	**323**	*e*P	**P**	**05 21 26.7**	**+1.0**
CHKZ	**Chkalovo**	**49.83**	**324**	*e*P	**P**	**05 21 26.4**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**49.83**	**324**	*e*P	**P**	**05 21 26.4**	**+0.4**
	comp=Z,5.6nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**56.22**	**158**	*e*P	**P**	**05 22 14.2**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**56.22**	**158**	P	**P**	**05 22 14.1**	**+1.0**
	comp=Z,5.1nm,0.7s,mb4.6,baz=343,slow=6.8,SNR=4.7						
STKA	**Stephens Creek**	**56.22**	**158**	*e*P	**P**	**05 22 14.2**	**+1.2**
WSAR	**Wadi Sarin**	**56.59**	**285**	LR	LR	05 48 29.9	
	comp=Z,82nm,18.4s,MS3.9,baz=225,slow=38						
ARU	**Arti**	**57.26**	**325**	⇓*i*P	**P**	**05 22 20.1**	**-0.4**
ARU				*e*		05 24 24.5	
ARU				*e*S	**S**	**05 30 15.9**	**-0.5**
ARU				*e*SS	SS	05 34 06.6	+1.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ARU	**Arti**	**57.26**	**325**	*e*P	**P**	**05 22 20.3**	**-0.1**
	comp=Z,3.4nm,0.4s,mb4.7						
KIV	**Kislovodsk**	**66.94**	**310**	*e*P	**P**	**05 23 28.9**	**+3.4**
KIV				*e*S	S	05 32 22.4	+3.7
KIV				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
KIV				MLR	MLR		
	comp=Z,104nm,18.0s,MS4.1						
MOS	**Moscow**	**68.90**	**323**	*e*P	**P**	**05 23 44.8**	**+7.0**
OBN	**Obninsk**	**69.57**	**322**	⇓*e*P	**P**	**05 23 42.1**	**+0.2**
OBN				*e*		05 23 50.3	
OBN				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
FINES	**FINESS Array B**	**73.90**	**330**	P	**P**	**05 24 05.8**	**-2.2**
	comp=Z,5.0nm,1.0s,mb4.4,baz=46,slow=8.2,SNR=5.0						
AFI	**Afiamalu**	**75.33**	**111**	LR	LR	05 51 50.3	
	comp=Z,104nm,20.6s,MS4.1,baz=75,slow=31						
HFS	**Hagfors**	**80.06**	**331**	P	**P**	**05 24 41.1**	**-1.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=182,slow=4.5,SNR=4.3						
OJC	**Ojcow**	**80.63**	**320**	*e*P	pP	05 24 55.3	+6.2
NB2	**NORSAR Subarra**	**80.78**	**332**	P	**P**	**05 24 45.9**	**-0.7**
	comp=Z,6.4nm,1.2s,mb4.4,baz=65,slow=5.6						
NB2	**NORSAR Subarra**	**80.78**	**332**	P	**P**	**05 24 45.9**	**-0.7**
NB2				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
UPC	**Upice**	**82.77**	**321**	*e*P	pP	05 25 06.4	+6.1
KMBO	**Kilima Mbogo**	**83.59**	**266**	P	**P**	**05 25 02.8**	**+1.5**
	comp=Z,0.9nm,0.6s,mb4.1,baz=222,slow=24,SNR=1.8						
PVCC	**Panska Ves**	**83.60**	**322**	*e*P	pP	05 25 11.7	+7.1
PRU	**Pruhonice**	**83.84**	**321**	*e*P	pP	05 25 12.1	+6.2
CLL	**Collm**	**84.16**	**323**	*i*P	**P**	**05 25 04.7**	**+0.5**
CLL				*e*		05 25 13.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
CLL	**Collm**	**84.16**	**323**	*i*P	**P**	**05 25 04.7**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.9						
CLL				*i*PcP	PcP	05 25 08.7	+0.7
CLL				*e*pP	pP	05 25 13.0	+5.5
KHC	**Kasperske Hory**	**84.77**	**321**	*e*P	pP	05 25 16.6	+6.0
KHC	**Kasperske Hory**	**84.77**	**321**	⇑*i*P	**P**	**05 25 07.8**	**+0.5**
GERES	**GERESS Array B**	**84.82**	**320**	P	**P**	**05 25 07.0**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.1,baz=69,slow=4.4,SNR=5.3						
MOX	**Moxa**	**85.24**	**323**	*e*P	pP	05 25 18.8	+5.8
GRA1	**Grafenberg Arr**	**85.90**	**322**	*e*P	pP	05 25 22.6	+6.3
	comp=Z,11nm,1.1s						
GRF	**Grafenberg Arr**	**85.90**	**322**	*e*P	pP	05 25 22.6	+6.3
	comp=Z,11nm,1.1s						
GRF				LR	LR		
	comp=Z,2μm,21.0s						
YKA	**Yellowknife Ar**	**86.61**	**22**	P	**P**	**05 25 16.0**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.6,baz=310,slow=4.6,SNR=4.8						
CDF	**Champ du Feu**	**88.79**	**322**	*e*P	**P**	**05 25 25.2**	**-1.7**
LPG	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.1**	**-0.2**
	comp=Z,13nm,1.0s,mb4.9						
LPG	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.1**	**-0.2**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
LPG	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.1**	**-0.2**
	comp=Z,6.6nm,1.0s,mb4.9						
LPL	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.0**	**-0.3**
	comp=Z,12nm,0.9s,mb4.9						
LPL	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.0**	**-0.3**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
LPL	**La Plagne**	**90.58**	**320**	*e*P	**P**	**05 25 35.0**	**-0.3**
	comp=Z,5.9nm,0.9s,mb4.9						
MBDF	**Montbardon**	**90.96**	**319**	*e*P	**P**	**05 25 35.7**	**-1.3**
LOR	**Lormes**	**91.35**	**322**	*e*P	**P**	**05 25 37.8**	**-1.0**
FRF	**La Foret Royal**	**91.63**	**318**	*e*P	**P**	**05 25 39.3**	**-0.8**
SMF	**Signal de Mont**	**91.70**	**322**	*e*P	**P**	**05 25 39.5**	**-1.0**
LMR	**La Mourre**	**91.83**	**318**	*e*P	**P**	**05 25 40.3**	**-0.8**
	comp=Z,37nm,1.4s,mb5.2						
LMR	**La Mourre**	**91.83**	**318**	*e*P	**P**	**05 25 40.3**	**-0.8**
LMR				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.2						
LMR	**La Mourre**	**91.83**	**318**	*e*P	**P**	**05 25 40.3**	**-0.8**
	comp=Z,19nm,1.4s,mb5.2						
AVF	**Avril sur Loir**	**91.90**	**322**	*e*P	**P**	**05 25 40.3**	**-1.1**
SMRF	**Simiane la Rot**	**92.08**	**319**	*e*P	**P**	**05 25 40.5**	**-1.7**
LASF	**Ste Croix**	**93.08**	**320**	*e*P	**P**	**05 25 46.1**	**-0.7**

ISCJB ***11*** *05:25:24.6±1.1, 6.1S±03°×1056E±04, h150km, mb3.9/10, Error ellipse: s-maj=66.2km s-min=14.3km az=98.1*
NEIC ***11*** *05:25:25.9±0.8, 6.24S×105.38E, h150km, mb4.0/1, Error ellipse: s-maj=49.4km s-min=10.7km az=49.0*
IDC ***11*** *05:25:28.2±15.0, 6.18S×105.46E, h170km±140km, mb3.7/9, mb1 3.8/9, mb1mx3.6/19, mbtmp4.1/9, Error ellipse: s-maj=77.1km s-min=22.7km az=58.0*
ISC 11 05:25:26.1±1.1, 62S±03°×1054E±04, h150km, n11, σ0°61/11, mb3.9/10, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.26**	**119**	P	**P**	**05 31 31.0**	**-0.7**
	0.3nm,0.3s,mb3.5,baz=305,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**32.46**	**125**	P	**P**	**05 31 42.4**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=300,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**42.36**	**132**	P	**P**	**05 33 05.8**	**+0.4**
	4.7nm,0.3s,mb4.5,baz=312,slow=8.4,SNR=14						
SONM	**Songino Array**	**53.82**	**1**	P	**P**	**05 34 34.3**	**+1.1**
	0.4nm,0.5s,mb3.4,baz=183,slow=8.4,SNR=3.3						
SONM				PcP	PcP	05 35 36.4	-0.7
	0.7nm,0.4s,baz=180,slow=4.5,SNR=6.0						
MKAR	**Makanchi Array**	**56.61**	**341**	P	**P**	**05 34 53.1**	**-0.2**
	0.5nm,0.3s,mb3.8,baz=141,slow=7.3,SNR=3.4						
BVAR	**Borovoye Array**	**66.02**	**338**	P	**P**	**05 35 56.1**	**-0.5**
	1.8nm,0.6s,mb4.1,baz=139,slow=7.7,SNR=10						
CHKZ	**Chkalovo**	**66.45**	**338**	*e*P	**P**	**05 35 59.2**	**-0.1**
	0.9nm,0.4s,mb4.0						
BRTR	**Keskin Array B**	**80.10**	**312**	P	**P**	**05 37 20.2**	**+0.9**
	1.6nm,0.8s,mb3.7,baz=100,slow=5.1,SNR=5.6						
FINES	**FINESS Array B**	**90.32**	**332**	P	**P**	**05 38 09.6**	**-0.5**
	0.5nm,0.7s,mb3.6,baz=94,slow=7.6,SNR=4.0						
FINES	**FINESS Array B**	**90.32**	**332**	P	**P**	**05 38 09.6**	**-0.5**
ARCES	**ARCESS Array B**	**92.24**	**340**	P	**P**	**05 38 18.2**	**-0.7**
	3.1nm,0.9s,mb4.3,baz=101,slow=5.6,SNR=5.1						

IDC ***11*** *05:38:56.9±1.1, 1339N×9278E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=50.5km s-min=20.8km az=54.0*
ISCJB ***11*** *05:38:59.4±0.9, 133N±02°×926E±02, h33km, mb3.9/8, Error ellipse: s-maj=30.6km s-min=14.7km az=82.0*
NEIC ***11*** *05:39:01.5±0.7, 1342N×9281E, h30km, mb4.0/1, Error ellipse: s-maj=31.3km s-min=12.6km az=54.0*
ISC 11 05:39:02.2±0.9, 134N±02°×927E±02, h35km, n10, σ0°58/10, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.73**	**178**	*e*P	x	05 39 24.6	
PBA				*e*S	x	05 39 47.4	
PBA				*e*x	x	05 40 08.2	
	comp=E,749nm,0.6s						
PBA				*e*x	x	05 40 08.5	
	comp=N,368nm,0.8s						
VIS	**Vishakhapatnam**	**9.98**	**297**	*i*P	**Pn**	**05 41 22.2**	**-0.9**
VIS				*i*S	**Sn**	**05 43 07.5**	**-6.3**
MKAR	**Makanchi Array**	**34.42**	**347**	P	**P**	**05 45 46.1**	**-0.1**
	comp=N,0.8nm,0.7s,mb3.8,baz=153,slow=8.2,SNR=6.2						
SONM	**Songino Array**	**36.19**	**16**	P	**P**	**05 46 01.2**	**-0.2**
	comp=N,0.2nm,0.4s,mb3.4,baz=205,slow=6.2,SNR=2.8						
CHKZ	**Chkalovo**	**43.81**	**341**	*e*P	**P**	**05 47 04.2**	**-0.4**
	comp=N,1.4nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**52.70**	**128**	P	**P**	**05 48 13.1**	**-0.2**
	comp=N,0.4nm,0.3s,mb3.8,baz=311,slow=7.8,SNR=6.5						
ASAR	**Alice Springs**	**54.60**	**132**	P	**P**	**05 48 26.9**	**-0.2**
	comp=N,1.0nm,1.0s,mb3.8,baz=308,slow=7.1,SNR=6.8						
BRTR	**Keskin Array B**	**57.82**	**309**	P	**P**	**05 48 50.9**	**+0.8**
	comp=N,0.6nm,0.5s,mb3.9,baz=134,slow=8.8,SNR=4.8						
ARCES	**ARCESS Array B**	**69.62**	**340**	P	**P**	**05 50 08.1**	**+0.2**
	comp=N,2.8nm,0.8s,mb4.2,baz=76,slow=5.7,SNR=4.5						
GERES	**GERESS Array B**	**72.80**	**317**	P	**P**	**05 50 28.3**	**+1.1**
	comp=N,0.4nm,0.2s,mb3.9,baz=87,slow=7.0,SNR=3.7						

KRSC 11 05:39:52, 5208N×15906E, h24km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.49**	**317**	*i*P	Pb	05 40 03.2	+1.2
RUS				*i*S	Sb	05 40 10.7	+2.0
GRL	**Gorelyy**	**0.77**	**308**	*e*P	Pb	05 40 07.2	+0.5
GRL				*i*S	Sb	05 40 17.9	+1.2
PET	**Petropavlovsk**	**0.98**	**345**	*e*P	Pn	05 40 10.8	+0.6
PET				*i*S	Sb	05 40 24.1	+1.4
NLC	**Nalytchevo**	**1.11**	**9**	*e*P	Pn	05 40 11.9	-0.1
NLC				*i*S	Sb	05 40 26.1	-0.3
SPN	**Mys Shipunski**	**1.18**	**30**	*e*P	Pn	05 40 14.6	+1.7
SPN				*i*S	Sn	05 40 31.5	+3.3
AVH	**Avacha**	**1.20**	**351**	*e*P	Pn	05 40 14.4	+1.1
AVH				*i*S	Sn	05 40 30.4	+1.5
GNL	**Ganaly**	**1.75**	**338**	*e*P	Pn	05 40 22.4	+1.5
GNL				*i*S	Sn	05 40 44.8	+2.3
MKZ	**Mys Kozlova**	**2.95**	**32**	P	Pn	05 40 39.5	+2.1
MKZ				*i*S	Sn	05 41 14.2	+2.2
KMNR	**Kamenistaya**	**3.75**	**10**	P	Pn	05 40 51.5	+3.2
ZLN	**Zelenaya**	**4.08**	**14**	P	Pn	05 40 55.7	+2.9
KBTR	**Krutoberegovo**	**4.69**	**27**	P	Pn	05 41 04.1	+2.9

ISCJB ***11*** *05:43:10.2±0.5, 896N±004×12199E±004, h33km, mb4.0/4, Error ellipse: s-maj=6.4km s-min=4.8km az=56.8*
MAN ***11*** *05:43:10.4, 897N×12203E, h34km, mb3.6, ML4.7, MS5.2*
IDC ***11*** *05:43:10.9±1.0, 754N×11979E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=174.6km s-min=18.6km az=66.0*
ISC 11 05:43:10.4±2.4, 896N±005×12202E±004, h24km±22km, n22, σ1°04/23, mb4.0/4, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.26**	**72**	⇑*i*P	**Pn**	**05 43 31.5**	**-0.9**
SNPH				*i*S	**Sn**	**05 43 48.5**	**0.0**
IPIL	**Ipil**	**1.29**	**155**	*e*P	**Pn**	**05 43 32.7**	**-0.1**
IPIL				*e*S	**Sn**	**05 43 48.1**	**-1.2**
DCPH	**Dipolog City**	**1.37**	**106**	⇑*e*P	**Pn**	**05 43 32.5**	**-1.5**
PAGZ	**Pagadian**	**1.74**	**129**	*e*P	**Pn**	**05 43 39.4**	**+0.4**
GUIM	**Jordan**	**1.75**	**19**	*e*P	**Pn**	**05 43 38.8**	**-0.3**
TBP	**Tagbilaran**	**1.95**	**68**	*e*P	**Pn**	**05 43 41.9**	**-0.1**
CUYO	**Cuyo Island**	**2.12**	**332**	*e*P	**Pn**	**05 43 44.6**	**+0.2**
LLP	**Lapu-Lapu**	**2.34**	**55**	*e*P	**Pn**	**05 43 47.4**	**0.0**
LLP				*e*S	**Sn**	**05 44 14.4**	**-1.0**
RCP	**Roxas**	**2.68**	**15**	⇑*e*P	**Pn**	**05 43 55.3**	**+3.3**
CGP	**Cagayan de Oro**	**2.69**	**101**	⇓*i*P	**Pn**	**05 43 52.4**	**+0.3**
BUKP	**Musuan**	**3.19**	**109**	*e*P	**Pn**	**05 44 02.2**	**+3.2**
PPR	**Puerto Princes**	**3.35**	**284**	⇑*e*P	**Pn**	**05 44 00.8**	**-0.4**
PPR				*e*S	**Sn**	**05 44 38.3**	**-1.9**
ENPP	**El Nido**	**3.39**	**311**	*e*P	**Pn**	**05 44 02.4**	**+0.6**
BUSP	**Coron**	**3.52**	**329**	*e*P	**Pn**	**05 44 02.9**	**-0.6**
LUBP	**Lubang**	**5.05**	**340**	*e*P	**Pn**	**05 44 25.3**	**+0.7**
WRA	**Warramunga Arr**	**31.18**	**157**	P	**P**	**05 49 28.2**	**+0.7**
	0.9nm,0.5s,mb3.9,baz=339,slow=9.4,SNR=7.8						
ASAR	**Alice Springs**	**34.45**	**161**	P	**P**	**05 49 57.2**	**+1.2**
	3.1nm,0.7s,mb4.4,baz=340,slow=6.7,SNR=29						
SONM	**Songino Array**	**40.94**	**344**	P	sP	05 51 01.5	+0.4
	0.3nm,0.5s,baz=167,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**44.71**	**156**	P	**P**	**05 51 22.1**	**+0.6**
	2.6nm,0.8s,mb4.1,baz=340,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**50.62**	**325**	P	**P**	**05 52 10.2**	**+2.8**
	0.5nm,0.7s,mb3.6,baz=128,slow=9.7,SNR=4.0						
ARCES	**ARCESS Array B**	**83.95**	**339**	P	sP	05 55 46.8	-2.2
	2.9nm,0.9s,baz=70,slow=5.3,SNR=4.0						
PLCA	**Paso Flores**	**146.44**	**163**	PKPbc	PKPbc	06 02 51.7	+2.3
	1.2nm,1.0s,baz=272,slow=5.9,SNR=4.2						

IDC 11 05:57:10.7±4.0, 559S×14698E, h156km±52km, mb3.6/3, mb1 3.8/5, mb1mx3.5/14, mbtmp4.1/5, Error ellipse: s-maj=72.7km s-min=28.7km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**177**	P	Pn	05 58 09.2	+0.7
	8.5nm,0.3s,baz=346,slow=5.9,SNR=15						
PMG				S	Sn	05 58 53.6	+0.2
	15nm,0.3s,baz=81,slow=23,SNR=9.3						
WB2	**Warramunga Arr**	**18.83**	**220**	*e*P	P	06 01 19.6	+1.1
WRA	**Warramunga Arr**	**18.84**	**220**	P	P	06 01 19.4	+0.8
	0.9nm,0.3s,baz=41,slow=12,SNR=28						
ASAR	**Alice Springs**	**21.95**	**214**	P	P	06 01 53.2	+1.4
	3.7nm,0.6s,baz=47,slow=7.6,SNR=47						
ASPA	**Alice Springs**	**21.95**	**214**	*e*P	P	06 01 53.4	+1.5
FITZ	**Fitzroy Crossi**	**24.27**	**237**	*e*P	P	06 02 12.5	-0.9
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.27**	**237**	P	P	06 02 12.9	-0.5
	6.4nm,0.6s,baz=52,slow=9.9,SNR=44						
SONM	**Songino Array**	**64.03**	**331**	P	P	06 07 28.1	+0.4
	0.5nm,0.4s,baz=147,slow=6.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**144.97**	**285**	PKP	PKPdf	06 16 29.1	-0.2
	0.7nm,0.8s,baz=81,slow=3.7,SNR=4.9						

ISCJB ***11*** *06:00:40.7±0.3, 770N±004×10304W±004, h10km, mb5.1/107, MS5.4/148, Error ellipse: s-maj=6.4km s-min=3.8km az=84.8*
IDC ***11*** *06:00:44.7±0.7, 829N×10352W, h0km, mb4.8/14, mb1 4.9/14, mb1mx4.8/20, mbtmp4.8/14, MS5.3/17, Ms1 5.3/17, ms1mx5.2/21, Error ellipse: s-maj=26.5km s-min=13.0km az=59.0*
MOS ***11*** *06:00:46.4±1.1, 844N×10315W, h10km, mb5.4/32, MS5.3/35, Error ellipse: s-maj=12.4km s-min=5.6km az=92.9*
BJI ***11*** *06:00:47.3, 840N×10320W, h10km, mB5.6, Ms5.6, Msz5.3*
NEIC ***11*** *06:00:48.3±0.2, 841N×10317W, h10km, mb5.2/103, MS5.4/134, MW5.8, Error ellipse: s-maj=4.4km s-min=3.3km az=58.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13; $M_{\theta\theta}$4.41; $M_{\phi\phi}$-4.54; $M_{r\theta}$1.23; $M_{\theta\phi}$-4.38; $M_{\phi r}$-0.04; Best double couple: $M_0$6.40000×10^{17} NP1:ϕ_s67.00000°, δ85.00000°, λ170.00000°. NP2:ϕ_s158.00000°, δ80.00000°, λ5.00000°. Principal axes: T 6.4100, Plg10.0000°, Azm22.0000°; N -0.0600, Plg79.0000°, Azm222.0000°; P -6.3500, Plg4.0000°, Azm113.0000°;*
GCMT ***11*** *06:00:48.3±0.1, 842N×10338W, h12km, MW5.7/95, Moment Tensor Solution. s92,c188; s95,c274; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.95±.05; $M_{\theta\theta}$2.11±.05; $M_{\phi\phi}$-1.16±.06; $M_{r\theta}$-0.53±.12; $M_{\theta\phi}$-4.69±.04; $M_{\phi r}$-0.25±.14; Best double couple: $M_0$5.00900×10^{17} NP1:ϕ_s350.00000°, δ83.00000°, λ-4.00000°. NP2:ϕ_s81.00000°, δ86.00000°, λ-172.00000°. Principal axes: T 5.4550, Plg3.0000°, Azm215.0000°; N -0.8930, Plg82.0000°, Azm107.0000°; P -4.5630, Plg8.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 11 06:00:43.6±0.3, 780N±004×10306W±003, h10km, n618, σ0°80/668, mb5.1/107, MS5.4/148, 189C-178D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**9.52**	**18**	*e*P	**Pn**	**06 02 59.0**	**-1.7**
CAIG	**El Cayaco**	**9.59**	**16**	*i*P	**Pn**	**06 02 59.0**	**-2.6**
PNIG	**Pinotepa**	**9.81**	**29**	*i*P	**Pn**	**06 03 00.0**	**-4.6**
ZIIG	**Zihuatanejo**	**9.87**	**9**	*i*P	**Pn**	**06 03 04.6**	**-1.0**
HUIG	**Huatulco**	**10.44**	**40**	*i*P	**Pn**	**06 03 08.5**	**-4.8**
PLIG	**Platanillo**	**11.09**	**18**	*i*P	**Pn**	**06 03 21.9**	**-0.2**
VHO	**Vista Hermosa**	**11.09**	**33**	*i*P	**Pn**	**06 03 18.8**	**-3.5**
OXX	**Oaxaca**	**11.11**	**33**	*e*P	**Pn**	**06 03 19.5**	**-2.9**
MOIG	**Morelia**	**11.95**	**9**	*i*P	**Pn**	**06 03 34.5**	**+0.6**
PPM	**Popocatepetl**	**12.00**	**21**	*i*P	**Pn**	**06 03 34.7**	**0.0**
CMIG	**Matias Romero**	**12.20**	**40**	Pn	**Pn**	**06 03 33.6**	**-3.8**
	2.0nm,0.3s,baz=218,slow=10.0,SNR=20						
CMIG				LR	LR	06 07 10.8	
	comp=Z,46μm,21.4s,baz=212,slow=32						
IIO	**Organos**	**12.46**	**19**	*e*P	**Pn**	**06 03 41.4**	**+0.5**
SFJM	**Santa Fe**	**12.61**	**0**	*e*P	**Pn**	**06 03 39.0**	**-4.0**
TUIG	**Tuzandepetl**	**13.20**	**39**	*i*P	**Pn**	**06 03 51.5**	**+0.4**
LVIG	**Laguna Verde**	**13.49**	**28**	*i*P	**Pn**	**06 03 53.1**	**-1.9**
CCIG	**Comitan**	**13.60**	**51**	*i*P	**Pn**	**06 03 57.4**	**+0.9**
ZAIG	**Zacatecas**	**14.89**	**2**	*i*P	**Pn**	**06 04 13.2**	**-0.9**
PAYG	**Puerto Ayora**	**15.27**	**123**	*e*Pn	sP	06 04 29.8	+1.6
	500nm,1.6s						
TGUH	**Tegucigalpa,Un**	**16.70**	**67**	*e*P	**Pn**	**06 04 43.9**	**+6.3**
	706nm,1.8s						
LPIG	**La Paz**	**17.64**	**338**	P	**Pn**	**06 04 47.3**	**-2.0**
	baz=76,slow=4.1,SNR=9.5						
LPIG				LR	LR	06 09 43.3	
	comp=Z,17μm,18.5s,baz=162,slow=32						
**L

GLA ⇓S S 06 11 07.7 -1.5
baz=27
DVTC Desert V Tower 27.54 336 ⇑P P 06 06 30.2 -0.3
baz=27
Y14A Wickenburg 27.59 342 P P 06 06 30.4 -0.5
baz=27,SNR=18
Y14A ⇓S S 06 11 11.3 -0.9
baz=27
SWSC Sam W. Stewart 27.67 336 ⇑P P 06 06 31.2 -0.4
baz=27
Y13A Salome 27.73 340 ⇓P P 06 06 31.8 -0.4
baz=27
Y13A ⇓S S 06 11 14.0 -0.6
baz=27
BAR Barrett 27.80 335 *e*P P 06 06 32.8 0.0
X15A Humboldt 27.87 344 ⇑P P 06 06 33.4 0.0
baz=27,SNR=16
MONP Monument Peak 27.87 335 P P 06 06 33.2 -0.3
baz=27,SNR=15
MONP ⇑S S 06 11 15.4 -1.4
baz=27
Y12C Blythe 27.91 339 ⇑P P 06 06 33.4 -0.4
baz=27
Y12C ⇑S S 06 11 16.7 -0.7
baz=27
MIAR Mount Ida 28.02 17 *e*P P 06 06 34.1 -0.6
MIAR pmax pmax
comp=Z,148nm,1.6s,mb5.4
MIAR MLR MLR
comp=Z,7μm,20.0s,MS5.3
MIAR Mount Ida 28.02 17 *e*P P 06 06 34.1 -0.6
comp=Z,148nm,1.6s,mb5.4
MIAR LR LR
comp=Z,7μm,20.0s,MS5.3
X14A Yava 28.05 343 ⇓P P 06 06 34.9 0.0
baz=28,SNR=12
X14A ⇑S S 06 11 20.3 +0.8
baz=28
109C Camp Elliot, M 28.16 334 ⇓P P 06 06 35.0 -1.0
baz=28
109C ⇓S S 06 11 20.4 -0.9
baz=28
BC3 Big Chuckw Mtn 28.17 338 ⇑P P 06 06 35.7 -0.4
baz=28,SNR=8.7
BC3 ⇑S S 06 11 21.8 +0.4
baz=28
PDMCI Parker Dam,Lak 28.28 340 P P 06 06 36.9 -0.2
baz=28,SNR=7.6
PDMCI ⇑S S 06 11 23.5 +0.3
baz=28
X13A Yucca 28.45 341 ⇓P P 06 06 38.4 -0.2
baz=28,SNR=17
X13A ⇓S S 06 11 26.1 +0.2
baz=28
IRM Iron Mountain 28.51 339 ⇓P P 06 06 38.7 -0.3
baz=28,SNR=17
IRM ⇑S S 06 11 26.8 +0.1
baz=28
PFO Pinyon Flat Ob 28.52 336 P P 06 06 39.9 +0.7
comp=Z,144nm,1.2s,mb5.6,SNR=6.2
PFO Pinyon Flat Ob 28.52 336 *e*P P 06 06 38.9 -0.3
PFO pmax pmax
comp=Z,82nm,1.5s,mb5.2
PFO MLR MLR
comp=Z,1μm,20.0s,MS4.6
PFO Pinyon Flat Ob 28.52 336 *e*P P 06 06 38.9 -0.3
comp=Z,82nm,1.5s,mb5.2
PFO LR LR
comp=Z,1μm,20.0s,MS4.6
PFO Pinyon Flat Ob 28.52 336 P P 06 06 39.0 -0.2
baz=28,SNR=23
PFO ⇓S S 06 11 27.0 +0.1
baz=28
W15A Williams 28.53 344 ⇓P P 06 06 40.0 +0.7
baz=28
W15A ⇑S S 06 11 27.0 -0.1
baz=28
WUAZ Wupatki 28.62 346 *e*P P 06 06 40.3 +0.2
comp=Z,31nm,1.0s,mb5.0
WUAZ LR LR
comp=Z,5μm,20.0s,MS5.1
WUAZ Wupatki 28.62 346 P P 06 06 40.6 +0.5
baz=28,SNR=20
WUAZ ⇓S S 06 11 29.1 +0.6
baz=28
ATAH Atahualpa 28.65 120 P sP 06 06 50.9 +6.2
comp=Z,8.9nm,1.0s,baz=320,slow=9.5,SNR=9.4
BELC Belle Mtn. 28.68 337 P P 06 06 40.4 -0.2
baz=28,SNR=11
BELC ⇑S S 06 11 30.4 +0.9
baz=28
ROSC El Rosal 28.70 94 P P 06 06 49.6 +8.8
comp=Z,6.3nm,0.8s,mb4.4,baz=87,slow=23,SNR=8.4
ROSC LR LR 06 15 40.5
comp=Z,5μm,20.9s,MS5.1,baz=315,slow=31
ROSC El Rosal 28.70 94 *e*P sP 06 06 51.1 +6.0
DWPF Disney 28.73 43 *e*P P 06 06 43.0 +1.9
comp=Z,41nm,1.4s,mb5.0
DWPF LR LR
comp=Z,16μm,21.0s,MS5.6
W14A Seligman 28.80 343 P P 06 06 42.0 +0.4
baz=28,SNR=20
W14A ⇑S S 06 11 32.6 +1.4
baz=28
MURC Murrieta 28.81 335 ⇑P P 06 06 41.0 -0.8
baz=28
MURC ⇑S S 06 11 30.3 -1.3
baz=28
SCI San Clemente I 28.88 332 ⇑P P 06 06 42.7 +0.3
baz=28
W13A Hualapai Mount 28.93 341 P P 06 06 43.1 +0.3
baz=28,SNR=7.8
W13A ⇓S S 06 11 32.6 -0.9
baz=28
RCC Rio Carpintero 29.14 63 *e*P pP 06 06 53.3 +5.5
HLGC Holguin 29.15 61 *e*P P 06 06 47.6 +2.8
CIS Catalina Islan 29.17 333 ⇑P P 06 06 44.3 -0.7
baz=29
CIS ⇓S S 06 11 38.1 +0.9
baz=29
BBRC Big Bear Sol-O 29.27 336 ⇓P P 06 06 45.9 +0.1
baz=29
BBRC ⇓S S 06 11 40.3 +1.5
baz=29
FMP Fort Macarthur 29.38 333 ⇑S S 06 11 41.3 +0.8
baz=29
OXF Oxford 29.41 23 *e*P P 06 06 46.6 -0.5
OXF *e* 06 09 57.3
OXF pmax pmax
comp=Z,65nm,1.4s,mb5.2
OXF MLR MLR
comp=Z,5μm,20.0s,MS5.1
OXF Oxford 29.41 23 *e*P P 06 06 46.6 -0.5
comp=Z,65nm,1.4s,mb5.2
OXF *e*PcP PcP 06 09 57.2 +4.3
OXF LR LR
comp=Z,5μm,20.0s,MS5.1
W12A Cal Nev Ari 29.44 340 ⇑P P 06 06 47.1 -0.2
baz=29
W12A ⇓S S 06 11 41.7 +0.3
baz=29
HEC Hector,Ludlow 29.54 337 ⇑P P 06 06 48.1 -0.2
baz=29
HEC ⇑S S 06 11 43.3 +0.3
baz=29
BFSC Mount Baldy St 29.56 335 ⇓P P 06 06 47.9 -0.5
baz=29,SNR=18
BFSC ⇓S S 06 11 44.1 +0.9
baz=29
SNCC San Nicolas Is 29.56 331 *e*P P 06 06 49.0 +0.5
comp=Z,0.2nm,1.3s
SNCC LR LR
comp=Z,8μm,19.0s,MS5.4
SNCC San Nicolas Is 29.56 331 ⇓P P 06 06 47.6 -0.8
baz=29,SNR=7.6
SNCC ⇓S S 06 11 44.2 +0.9
baz=29
MVCO Mesa Verde 29.69 351 *e*P P 06 06 49.2 -0.4
comp=Z,36nm,0.9s,mb5.1
MVCO Mesa Verde 29.69 351 ⇑P P 06 06 48.6 -1.0
baz=29,SNR=25
MVCO ⇓S S 06 11 45.2 -0.2
baz=29
MWC Mount Wilson 29.71 334 *e*P P 06 06 50.2 +0.4
DECC Green Verdugo 29.85 334 ⇓P P 06 06 50.7 -0.3
baz=29
DECC ⇑S S 06 11 48.7 +0.9
baz=29

SDCO Great Sand Dun 29.89 356 *e*P P 06 06 51.6 +0.2
comp=Z,92nm,1.7s,mb5.2
SDCO *e*PcP PcP 06 09 56.7 +2.5
SDCO LR LR
comp=Z,16μm,22.0s,MS5.6
TUQ Turquoise Mtn. 29.93 339 P P 06 06 51.9 +0.2
baz=29,SNR=8.1
TUQ ⇓S S 06 11 48.7 -0.4
baz=29
GSC Goldstone 30.14 337 *e*P P 06 06 53.4 -0.2
GSC *e* 06 09 58.1
GSC Goldstone 30.14 337 P P 06 06 53.5 0.0
baz=30,SNR=15
GSC ⇓S S 06 11 52.5 +0.1
baz=30
BSC Santa Cruz Isl 30.23 332 ⇓P P 06 06 53.2 -1.1
baz=30
EDW2 Edwards Air Fo 30.25 335 ⇓P P 06 06 53.9 -0.6
baz=30,SNR=16
EDW2 ⇑S S 06 11 54.2 +0.1
baz=30
OSI Osito Adit 30.33 334 ⇓P P 06 06 54.4 -0.9
baz=30
OSI ⇓S S 06 11 57.5 +2.1
baz=30
PLAL Pickwick Lake 30.36 25 *e*P P 06 06 55.2 -0.3
comp=Z,69nm,1.5s,mb5.2
PLAL LR LR
comp=Z,3μm,22.0s,MS5.0
U12A Valley of Fire 30.37 341 ⇑P P 06 06 55.3 -0.2
baz=30
U12A ⇓S S 06 11 57.7 +1.8
baz=30
SHOC Shoshone 30.47 339 ⇓P P 06 06 56.3 -0.2
baz=30
SHOC ⇑S S 06 11 58.7 +1.1
baz=30
PV01 Paradox Valley 30.61 351 *e*P P 06 06 57.4 -0.3
SBC Santa Barbara 30.63 332 ⇓P P 06 06 57.7 -0.2
baz=30
SBC ⇑S S 06 12 01.5 +1.4
baz=30
U11A Corn Creek 30.63 340 ⇑P P 06 06 58.2 +0.3
baz=30
SHPR Sheep Range 30.63 341 *e*P P 06 06 57.6 -0.3
LRMC Laurel Mountai 30.64 336 ⇑P P 06 06 57.7 -0.3
baz=30,SNR=6.8
LRMC ⇓S S 06 12 01.5 +1.3
baz=30
ARVC Arvin 30.81 334 ⇑P P 06 06 58.8 -0.7
baz=30
PV10 Paradox Valley 30.92 351 *e*P P 06 06 59.4 -1.1
CBKS Cedar Bluff 31.02 5 *e*P P 06 07 01.0 -0.4
CBKS pmax pmax
comp=Z,112nm,1.4s,mb5.5
CBKS MLR MLR
comp=Z,19μm,20.0s,MS5.7
CBKS Cedar Bluff 31.02 5 *e*P P 06 07 01.0 -0.3
comp=Z,112nm,1.4s,mb5.5
CBKS LR LR
comp=Z,19μm,20.0s,MS5.7
PKM Peak Mountain 31.06 333 ⇓P P 06 07 00.8 -0.9
baz=30,SNR=8.0
PKM ⇓S S 06 12 09.1 +2.4
baz=30
CCUT Cedar City 31.06 344 *e*P P 06 07 02.4 +0.7
MPMC Manual Prospec 31.07 337 ⇓P P 06 07 01.8 +0.1
baz=31,SNR=16
MPMC ⇑S S 06 12 07.9 +1.0
baz=31
ISA Isabella 31.12 335 *e*P P 06 07 02.3 +0.1
ISA *e* 06 10 00.2
ISA MLR MLR
comp=Z,948nm,20.0s,MS4.5
ISA Isabella 31.12 335 P P 06 07 02.3 +0.1
baz=31,SNR=22
ISA ⇓S S 06 12 08.4 +0.7
baz=31
FURC Furnace Creek, 31.19 338 ⇓P P 06 07 02.3 -0.6
baz=31
FURC ⇓S S 06 12 09.7 +0.8
baz=31
DAC Darwin (Calif) 31.30 337 *e*P P 06 07 04.0 +0.2
DAC *e* 06 10 01.1
DAC pmax pmax
comp=Z,30nm,1.5s,mb4.9
DAC MLR MLR
comp=Z,7μm,19.0s,MS5.3
DAC Darwin (Calif) 31.30 337 *e*P P 06 07 04.0 +0.2
comp=Z,30nm,1.5s,mb4.9
DAC *e*PcP PcP 06 10 01.1 +3.2
DAC LR LR
comp=Z,7μm,19.0s,MS5.3
ARUT Antelope Range 31.30 344 *e*P P 06 07 04.0 +0.2
SMCO Snowmass 31.44 354 *e*P P 06 07 05.3 +0.3
comp=Z,76nm,1.4s,mb5.3
WVT Waverly 31.45 24 *e*P P 06 07 04.6 -0.5
WVT pmax pmax
comp=Z,24nm,1.3s,mb4.9
WVT MLR MLR
comp=Z,5μm,20.0s,MS5.2
WVT Waverly 31.45 24 *e*P P 06 07 04.6 -0.5
comp=Z,24nm,1.3s,mb4.9
WVT LR LR
comp=Z,5μm,20.0s,MS5.2
SMMC Simmler 31.48 333 ⇓P P 06 07 05.0 -0.4
baz=31,SNR=11
SMMC ⇓S S 06 12 13.6 +0.2
baz=31
SWET Sewanee 31.49 27 *e*P P 06 07 05.7 +0.2
VES Vestal, Richgr 31.52 335 ⇑P P 06 07 05.2 -0.6
baz=31,SNR=9.7
CWC Cottonwood Cre 31.63 337 ⇓P P 06 07 06.8 +0.1
baz=31,SNR=5.7
CWC ⇑S S 06 12 17.5 +1.7
baz=31
MSU Marysvale 31.67 346 *e*P P 06 07 07.6 +0.6
MSU *e* 06 10 02.5
MVU Marysvale 31.67 346 PFAKE 06 07 20.0 +13
MVU LR LR
comp=Z,8μm,19.0s,MS5.4
KSU1 Kansas State U 31.70 10 *e*P P 06 07 06.8 -0.6
comp=Z,23nm,0.9s,mb5.0
GRAC Grapevine Rang 31.85 338 ⇓P P 06 07 08.8 +0.2
baz=31
GRAC ⇓S S 06 12 21.3 +2.1
baz=31
PTRM Twissleman Ran 31.86 333 *e*P P 06 07 09.6 +0.8
SRU San Rafael 31.89 349 *e*P P 06 07 09.1 +0.1
SRU pmax pmax
comp=Z,25nm,1.1s,mb5.0
SRU San Rafael 31.89 349 *e*P P 06 07 09.1 +0.1
comp=Z,25nm,1.1s,mb5.0
V05C Boulder Hill, 31.90 334 ⇓P P 06 07 09.4 +0.3
baz=31
V05C ⇓S S 06 12 21.2 +1.2
baz=31
ISCO Idaho Springs 31.95 356 *e*P P 06 07 09.5 0.0
ISCO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ISCO MLR MLR
comp=Z,18μm,20.0s,MS5.8
ISCO Idaho Springs 31.95 356 *e*P P 06 07 09.5 0.0
comp=Z,8.9nm,1.0s,mb4.5
ISCO LR LR
comp=Z,18μm,20.0s,MS5.8
CCM Cathedral Cave 31.96 18 *e*P P 06 07 07.6 -2.0
CCM pmax pmax
comp=Z,99nm,2.0s,mb5.3
CCM MLR MLR
comp=Z,7μm,20.0s,MS5.3
CCM Cathedral Cave 31.96 18 *e*P P 06 07 07.6 -2.1
comp=Z,99nm,2.0s,mb5.3
CCM LR LR
comp=Z,7μm,20.0s,MS5.3
RCTC Rector, Farmer 31.99 335 ⇓P P 06 07 09.2 -0.8
baz=32
RCTC ⇑S S 06 12 21.3 -0.1
baz=32
SDV Santo Domingo 32.10 86 *e*P P 06 07 18.7 +7.9
comp=Z,107nm,1.2s,mb5.5
SDV *e*PcP PcP 06 10 05.7 +5.7
SDV LR LR
comp=Z,2μm,21.0s,MS4.7
V04C Ramage Ranch, 32.15 332 ⇓P P 06 07 11.2 -0.1
baz=32,SNR=8.4
V04C ⇓S S 06 12 22.8 -1.1
baz=32

TMUT Trail Mountain 32.21 348 *e*P P 06 07 12.0 +0.2
HELL Mitchell Peak, 32.22 336 P P 06 07 12.2 +0.3
baz=32,SNR=38
HELL ⇑S S 06 12 24.6 -0.3
baz=32
TIN Tinemaha 32.23 337 ⇓P P 06 07 11.1 -0.9
baz=32
TIN ⇓S S 06 12 26.6 +1.6
baz=32
PKD Parkfield 32.26 333 ⇓P P 06 07 12.0 -0.2
baz=32,SNR=9.9
PKD ⇑S S 06 12 26.3 +0.8
baz=32
SIUC Southern Illin 32.32 21 *e*P P 06 07 13.1 +0.3
comp=Z,29nm,1.1s,mb5.0
CPCT Cooper Cave 32.34 29 *e*P P 06 07 13.5 +0.5
U05C Westside ANR, 32.39 334 ⇓P P 06 07 13.3 -0.1
baz=32
S09A Goldfield 32.44 339 ⇓P P 06 07 14.1 +0.2
baz=32
S09A ⇑S S 06 12 29.8 +1.4
baz=32
TRCR Troy Canyon 32.45 341 *e*P P 06 07 15.2 +1.2
S08C White Mtn Res 32.59 337 P P 06 07 15.9 +0.8
baz=32,SNR=19
S08C ⇓S S 06 12 33.1 +2.4
baz=32
MTUM Tungsten Hills 32.62 337 *e*P P 06 07 16.4 +1.0
V03C Hunter Liggett 32.64 332 ⇑P P 06 07 15.4 -0.2
baz=32,SNR=6.8
NNA Nana 32.65 127 *e*P P 06 07 25.4 +10
comp=Z,38nm,1.3s,mb5.2
NNA LR LR
comp=Z,1μm,21.0s,MS4.6
TPH Tonopah 32.75 339 *e*P P 06 07 16.2 -0.4
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TPH MLR MLR
comp=Z,6μm,21.0s,MS5.3
TPH Tonopah 32.75 339 *e*P P 06 07 16.2 -0.4
comp=Z,8.4nm,0.8s,mb4.7
TPH LR LR
comp=Z,6μm,21.0s,MS5.3
R09A Tonopah 32.85 339 ⇓P P 06 07 17.4 0.0
baz=32,SNR=15
R09A ⇓S S 06 12 35.3 +0.6
baz=32
LRV Little Rabbit 32.87 333 *e*P P 06 07 17.6 0.0
TKL Tuckaleechee C 32.87 30 P P 06 07 17.7 +0.1
comp=Z,17nm,1.0s,mb4.9,baz=194,slow=8.3,SNR=11
TKL Tuckaleechee C 32.87 30 P P 06 07 17.7 +0.1
KCC Kaiser Creek 32.89 336 ⇑P P 06 07 17.9 +0.1
baz=32
KCC ⇓S S 06 12 35.1 -0.3
baz=32
Q11A Duckwater 32.93 342 ⇓P P 06 07 18.4 +0.3
baz=32,SNR=18
Q11A ⇑S S 06 12 37.3 +1.4
baz=32
MLAC Mammoth Lakes 32.96 337 ⇑P P 06 07 18.9 +0.5
baz=32,SNR=13
MPU Maple Canyon 32.98 348 *e*P P 06 07 18.7 +0.1
comp=Z,62nm,1.0s,mb5.5
MPU LR LR
comp=Z,6μm,20.0s,MS5.3
NLU North Lily Min 33.02 347 *e*P P 06 07 18.7 -0.2
HAST UC Hastings Re 33.08 332 ⇓P P 06 07 19.0 -0.4
baz=33,SNR=7.5
HAST ⇓S S 06 12 36.9 -1.5
baz=33
T05C Eagle Field, D 33.10 334 ⇑P P 06 07 18.8 -0.8
baz=33
USIN University of 33.11 23 *e*P P 06 07 20.1 +0.5
comp=Z,37nm,0.9s,mb5.3
P12A McGill 33.28 343 ⇓P P 06 07 21.5 +0.3
baz=33,SNR=8.2
P12A ⇑S S 06 12 42.4 +0.9
baz=33
DAU Daniels Canyon 33.29 349 *e*P P 06 07 21.1 -0.2
S05C Merced 33.33 334 ⇑P P 06 07 20.9 -0.7
baz=33
S05C ⇑S S 06 12 41.6 -0.6
baz=33
Q09A Carvers 33.42 340 ⇑P P 06 07 22.9 +0.5
baz=33
Q09A ⇑S S 06 12 44.9 +1.3
baz=33
DUG Dugway 33.42 346 *e*P P 06 07 22.5 +0.1
DUG pmax pmax
comp=Z,61nm,1.2s,mb5.4
DUG MLR MLR
comp=Z,5μm,19.0s,MS5.2
DUG Dugway 33.42 346 *e*P P 06 07 22.5 +0.1
comp=Z,61nm,1.2s,mb5.4
DUG LR LR
comp=Z,5μm,19.0s,MS5.2
DUG Dugway 33.42 346 P P 06 07 22.6 +0.2
baz=33,SNR=35
DUG ⇑S S 06 12 44.9 +1.3
baz=33
PHWY Pilot Hill 33.43 357 *e*P P 06 07 22.4 -0.1
R07C Lee Vining 33.44 337 ⇓P P 06 07 22.9 +0.3
baz=33
R07C ⇓S S 06 12 45.2 +1.2
baz=33
NVAR Mina Array Bea 33.46 338 P P 06 07 21.3 -1.4
comp=Z,4.0nm,0.8s,mb4.4,baz=169,slow=7.7,SNR=24
NVAR PcP PcP 06 10 05.8 +2.0
comp=Z,0.9nm,0.8s,baz=186,slow=3.3,SNR=3.8
NVAR Mina Array Bea 33.46 338 P P 06 07 21.3 -1.4
NVAR PcP PcP 06 10 05.8 +2.0
PACP Pacheco Peak 33.47 333 ⇓P P 06 07 23.2 +0.3
baz=33
PACP ⇑S S 06 12 43.5 -0.9
baz=33
P11A Circle Ranch, 33.61 342 ⇓P P 06 07 24.5 +0.5
baz=33,SNR=7.6
P11A ⇓S S 06 12 46.5 0.0
baz=33
CTU Camp Tracy 33.66 348 *e*P P 06 07 24.9 +0.4
comp=Z,40nm,1.0s,mb5.3
TZTN Tazewell 33.69 29 *e*P P 06 07 25.5 +0.8
comp=Z,52nm,1.2s,mb5.3
Q08A Gabbs 33.70 339 ⇑P P 06 07 25.2 +0.4
baz=33,SNR=16
Q08A ⇑S S 06 12 48.7 +0.7
baz=33
WCI Wyandotte Cave 33.87 24 *e*P P 06 07 26.3 0.0
WCI *e* 06 10 10.1
WCI pmax pmax
comp=Z,78nm,1.5s,mb5.4
WCI MLR MLR
comp=Z,4μm,22.0s,MS5.1
WCI Wyandotte Cave 33.87 24 *e*P P 06 07 26.3 0.0
comp=Z,78nm,1.5s,mb5.4
WCI *e*PcP PcP 06 10 10.1 +5.1
WCI LR LR
comp=Z,4μm,22.0s,MS5.1
P10A Eureka 33.89 341 ⇓P P 06 07 27.2 +0.7
baz=33,SNR=9.6
P10A ⇑S S 06 12 51.0 +0.1
baz=33
S04C Ingram Canyon, 33.90 333 ⇑P P 06 07 25.9 -0.7
baz=33
S04C ⇑S S 06 12 49.8 -1.2
baz=33
CMB Columbia Colle 33.94 335 ⇑P P 06 07 26.7 -0.2
baz=33
CMB ⇑S S 06 12 50.8 -0.8
baz=33
WAKR Walker 33.96 337 *e*P P 06 07 28.0 +1.0
BNLO Ben Lomond (Sa 33.98 332 ⇓P P 06 07 27.2 0.0
baz=34,SNR=5.2
BNLO ⇑S S 06 12 53.1 +0.9
baz=34
O12A Currie 33.98 344 ⇑P P 06 07 27.6 +0.3
baz=34,SNR=34
O12A ⇓S S 06 12 53.7 +1.4
baz=34
R06C Coleville 33.98 337 ⇓P P 06 07 27.1 -0.1
baz=34,SNR=12
R06C ⇑S S 06 12 53.7 +1.5
baz=34
TCUT Toone Canyon 34.00 349 *e*P P 06 07 28.4 +1.0
P09A Austin 34.05 340 ⇓P P 06 07 27.8 0.0
baz=34

P09A ⇑S S 06 12 53.7 +0.3
baz=34
O11A Cowboy Ranch, 34.11 343 ⇑P P 06 07 28.5 +0.1
baz=34
O11A ⇓S S 06 12 55.5 +1.2
baz=34
BGU Big Grassy Mou 34.16 346 *e*P P 06 07 28.4 -0.4
WENL Wente Brothers 34.19 333 ⇑S S 06 12 57.6 +2.1
baz=34
JRSC Jasper Ridge 34.23 332 ⇓S S 06 12 55.3 -0.8
baz=34
R04C Big Horse Ranc 34.36 335 ⇑P P 06 07 30.7 +0.2
baz=34
R04C ⇑S S 06 12 59.0 +0.9
baz=34
R05C Kirkwood Meado 34.38 336 ⇓P P 06 07 31.0 +0.3
baz=34
R05C ⇑S S 06 12 59.9 +1.4
baz=34
N13A Wendover, West 34.38 345 ⇓P P 06 07 31.1 +0.3
baz=34
N13A ⇑S S 06 13 00.5 +1.9
baz=34
SPUT South Promonto 34.40 347 *e*P P 06 07 29.6 -1.3
P08A Dixie Valley 34.50 339 ⇓P P 06 07 32.0 +0.3
baz=34
HWUT Hardware Ranch 34.51 349 *e*P P 06 07 31.4 -0.4
comp=Z,36nm,1.0s,mb5.3
HWUT LR LR
comp=Z,5μm,19.0s,MS5.3
BDM Black Diamond 34.51 333 ⇓S S 06 13 02.3 +1.9
baz=34
O10A Cortez Mining, 34.51 342 ⇓P P 06 07 32.4 +0.5
baz=34,SNR=5.8
O10A ⇓S S 06 13 02.3 +1.7
baz=34
ELK Elko 34.56 344 PFAKE 06 07 40.0 +7.7
ELK LR LR
comp=Z,5μm,19.0s,MS5.2
BLO Bloomington 34.60 23 *e*P P 06 07 33.0 +0.4
BLO pmax pmax
comp=Z,86nm,1.4s,mb5.5
BLO Bloomington 34.60 23 *e*P P 06 07 33.0 +0.4
comp=Z,86nm,1.4s,mb5.5
N12A Clover Valley, 34.60 344 ⇑P P 06 07 33.1 +0.5
baz=34,SNR=12
N12A ⇓S S 06 13 03.7 +1.8
baz=34
O09A Fish Creek Ran 34.62 341 P P 06 07 33.4 +0.5
baz=34,SNR=13
O09A ⇑S S 06 13 01.9 -0.3
baz=34
P07A Fallon 34.65 338 ⇓P P 06 07 33.9 +0.8
baz=34
LAVA Lava Cap Winer 34.70 335 ⇑P P 06 07 33.3 -0.2
baz=34
LAVA ⇓S S 06 13 03.9 +0.6
baz=34
N11A Elko Archery C 34.77 343 ⇓P P 06 07 34.4 +0.4
baz=34
N11A ⇑S S 06 13 06.4 +2.0
baz=34
WCN Washoe City 34.77 337 ⇑P P 06 07 34.8 +0.7
baz=34,SNR=14
WCN ⇑S S 06 13 06.5 +2.0
baz=34
FARB Farallon Islan 34.82 332 ⇑P P 06 07 35.6 +1.0
baz=34
FARB ⇓S S 06 13 05.7 +0.5
baz=34
BMN Battle Mountai 34.87 341 *e*P P 06 07 34.7 -0.3
BMN pmax pmax
comp=Z,57nm,1.6s,mb5.2
BMN MLR MLR
comp=Z,3μm,19.0s,MS5.1
BMN Battle Mountai 34.87 341 *e*P P 06 07 34.7 -0.3
comp=Z,57nm,1.6s,mb5.2
BMN LR LR
comp=Z,3μm,19.0s,MS5.1
N10A Dunphy 34.91 342 ⇓P P 06 07 36.0 +0.7
baz=34
N10A ⇓S S 06 13 08.3 +1.7
baz=34
HVU Hansel Valley 34.92 347 *e*P P 06 07 34.6 -0.8
HVU pmax pmax
comp=Z,32nm,1.1s,mb5.2
HVU Hansel Valley 34.92 347 *e*P P 06 07 34.6 -0.8
comp=Z,32nm,1.1s,mb5.2
PAHR Pah Rah Range 34.98 338 *e*P P 06 07 36.4 +0.5
comp=Z,60nm,1.6s,mb5.3
Q04C Lincoln 35.03 335 ⇓P P 06 07 36.8 +0.4
baz=34
Q04C ⇓S S 06 13 09.5 +0.9
baz=34
SCIA State Center 35.07 13 *e*P P 06 07 36.2 -0.5
comp=Z,201nm,1.7s,mb5.8
M12A Wells 35.09 344 P P 06 07 37.2 +0.3
baz=35,SNR=17
M12A ⇑S S 06 13 11.2 +1.7
baz=35
CVS Carmenet Viney 35.10 333 P P 06 07 37.9 +0.9
baz=35,SNR=6.4
CVS ⇓S S 06 13 11.3 +1.8
baz=35
MCCM Marconi Confer 35.13 332 ⇑P P 06 07 37.8 +0.6
baz=35
MCCM ⇓S S 06 13 11.0 +1.0
baz=35
Q03C Winters 35.14 334 ⇑P P 06 07 37.8 +0.5
baz=35
P06A Stead Airport, 35.15 337 ⇓P P 06 07 38.0 +0.5
baz=35
P06A ⇑S S 06 13 11.8 +1.4
baz=35
O07A Toulon 35.19 339 ⇓P P 06 07 37.9 +0.1
baz=35,SNR=9.8
O07A ⇓S S 06 13 11.4 +0.4
baz=35
RPN Rapa Nui 35.24 190 LR LR 06 18 14.8
comp=Z,2μm,21.1s,MS4.7,baz=10,slow=30
RPN Rapa Nui 35.24 190 PFAKE 06 08 00.0 +22
RPN LR LR
comp=Z,2μm,19.0s,MS4.8
BW06 Boulder Array 35.30 352 *e*P P 06 07 38.4 -0.3
comp=Z,65nm,1.3s,mb5.4
BW06 LR LR
comp=Z,3μm,20.0s,MS5.1
PDAR Pinedale Array 35.30 352 P P 06 07 38.2 -0.5
comp=Z,24nm,0.9s,mb5.1,baz=165,slow=7.7,SNR=60
PDAR PcP PcP 06 10 10.7 +1.6
comp=Z,2.7nm,1.1s,baz=121,slow=4.6,SNR=4.2
PDAR LR LR 06 20 28.8
comp=Z,2μm,18.9s,MS4.9,baz=4.3,slow=34
N09A Rock Creek Ran 35.35 341 ⇑P P 06 07 39.2 +0.1
baz=35
N09A ⇑S S 06 13 13.4 0.0
baz=35
M11A Holland Ranch, 35.35 343 P P 06 07 40.0 +0.9
baz=35,SNR=9.7
M11A ⇑S S 06 13 14.1 +0.7
baz=35
BEKR Beckwourth 35.49 337 ⇑P P 06 07 40.6 +0.3
baz=35,SNR=9.1
BEKR ⇓S S 06 13 16.0 +0.4
baz=35
OHCM Honcut 35.50 335 *e*P P 06 07 40.8 +0.4
MNRC McLaughlin Nat 35.53 334 ⇓P P 06 07 40.9 +0.2
baz=35
MNRC ⇑S S 06 13 18.3 +2.2
baz=35
SUTB Sutter Butte 35.53 335 ⇑P P 06 07 41.0 +0.3
baz=35
SUTB ⇑S S 06 13 18.4 +2.1
baz=35
AHID Auburn Hatcher 35.54 350 *e*P P 06 07 40.8 0.0
comp=Z,20nm,0.8s,mb5.1
AHID LR LR
comp=Z,5μm,20.0s,MS5.2
O06A Flanigan 35.55 338 ⇓P P 06 07 41.0 +0.2
baz=35,SNR=9.9
O06A ⇑S S 06 13 17.1 +0.7
baz=35
ELN Prospectdale 35.62 31 *e*P P 06 07 42.4 +1.0
M10A I.L. Ranch, Tu 35.65 343 P P 06 07 42.4 +0.6
baz=35,SNR=14
M10A ⇑S S 06 13 18.6 +0.6
baz=35
ORV Oroville 35.69 335 ⇑P P 06 07 42.3 +0.3
baz=35,SNR=14
ORV ⇓S S 06 13 19.0 +0.4
baz=35
N07B Gerlach 35.77 339 ⇑P P 06 07 43.0 +0.3
baz=35,SNR=7.4
N07B ⇓S S 06 13 20.4 +0.5
baz=35
BLA Blacksburg 35.78 32 *e*P P 06 07 43.7 +0.9
BLA pmax pmax
comp=Z,165nm,1.5s,mb5.7
BLA MLR MLR
comp=Z,4μm,21.0s,MS5.2
BLA Blacksburg 35.78 32 *e*P P 06 07 43.7 +0.9
comp=Z,165nm,1.5s,mb5.7
BLA LR LR
comp=Z,4μm,21.0s,MS5.2
O05C Quincy 35.80 336 ⇓P P 06 07 43.1 +0.2
baz=35
O05C ⇑S S 06 13 21.2 +1.0
baz=35
M09A Marrel Ranch, 35.84 341 ⇓P P 06 07 43.6 +0.3
baz=35,SNR=6.8
M09A ⇓S S 06 13 20.9 0.0
baz=35
FWV Forest Hill 35.86 31 *e*P P 06 07 44.5 +1.0
HOPS Hopland 35.90 333 *e*P P 06 07 45.4 +1.5
HOPS Hopland 35.90 333 ⇑P P 06 07 44.4 +0.5
baz=35
HOPS ⇑S S 06 13 25.5 +3.6
baz=35
N06A Buffalo Meadow 36.06 338 P P 06 07 45.5 +0.3
baz=36,SNR=22
N06A ⇑S S 06 13 24.8 +0.5
baz=36
REDW Red Top Meadow 36.08 350 *e*P P 06 07 44.5 -0.9
comp=Z,44nm,1.1s,mb5.3
RRI2 Red Ridge 36.14 350 *e*P P 06 07 50.6 +4.7
comp=Z,26nm,0.7s,mb5.3
SNOW Snow King Moun 36.16 350 *e*P P 06 07 46.0 0.0
comp=Z,62nm,1.2s,mb5.4
M08A Happy Creek Ra 36.17 340 ⇑P P 06 07 46.4 +0.3
baz=36,SNR=7.1
M08A ⇑S S 06 13 27.0 +1.1
baz=36
O04C Chester 36.17 336 ⇑P P 06 07 46.7 +0.6
baz=36,SNR=21
O04C ⇑S S 06 13 27.7 +1.8
baz=36
RSSD Black Hills 36.19 359 *e*P P 06 07 45.9 -0.4
RSSD pmax pmax
comp=Z,64nm,1.5s,mb5.3
RSSD MLR MLR
comp=Z,17μm,19.0s,MS5.8
RSSD Black Hills 36.19 359 *e*P P 06 07 45.9 -0.4
comp=Z,64nm,1.5s,mb5.3
RSSD LR LR
comp=Z,17μm,19.0s,MS5.8
TPAW Teton Pass 36.22 350 *e*P P 06 07 46.3 -0.3
comp=Z,25nm,1.0s,mb5.1
ECSD EROS,Sioux Fal 36.24 8 *e*P P 06 07 45.3 -1.4
comp=Z,72nm,1.6s,mb5.3
LOHW Long Hollow 36.28 351 *e*P P 06 07 46.6 -0.5
comp=Z,44nm,1.1s,mb5.3
ELFS Eagle Lake Fie 36.28 337 ⇑P P 06 07 47.8 +0.7
baz=36,SNR=29
ELFS ⇓S S 06 13 29.3 +1.6
baz=36
GASB Alder Springs 36.28 334 ⇑P P 06 07 47.5 +0.4
baz=36,SNR=10
GASB ⇓S S 06 13 28.8 +1.0
baz=36
DCID1 Drake Creek 36.36 350 *e*P P 06 07 47.8 0.0
M07A Soldier Meadow 36.38 339 P P 06 07 48.4 +0.4
baz=36,SNR=13
M07A ⇓S S 06 13 30.8 +1.6
baz=36
P01C Double 8 Ranch 36.41 333 ⇑P P 06 07 48.5 +0.3
baz=36
P01C ⇓S S 06 13 31.8 +2.2
baz=36
MOOW Moose Ponds 36.44 351 *e*P P 06 07 47.8 -0.7
comp=Z,16nm,1.0s,mb4.9
L09A Wilkinson Ranc 36.45 342 ⇑P P 06 07 48.7 +0.2
baz=36
L09A ⇓S S 06 13 28.1 -2.1
baz=36
IMW Indian Meadow 36.61 350 *e*P P 06 07 49.5 -0.4
comp=Z,75nm,1.6s,mb5.3
M06C Likely Place G 36.69 338 P P 06 07 51.5 +0.8
baz=36,SNR=23
M06C ⇓S S 06 13 34.8 +0.8
baz=36
HATC Hat Creek Radi 36.74 336 ⇑P P 06 07 51.1 +0.1
baz=36
HATC ⇑S S 06 13 36.5 +1.8
baz=36
JFWS Jewell Farm 36.75 16 *e*P P 06 07 50.6 -0.5
JFWS pmax pmax
comp=Z,42nm,1.4s,mb5.1
JFWS MLR MLR
comp=Z,7μm,20.0s,MS5.4
JFWS Jewell Farm 36.75 16 *e*P P 06 07 50.6 -0.5
comp=Z,42nm,1.4s,mb5.1
JFWS LR LR
comp=Z,7μm,20.0s,MS5.4
O02C Red Bluff 36.75 334 ⇓P P 06 07 51.2 +0.1
baz=36
O02C ⇑S S 06 13 34.7 -0.2
baz=36
FLWY Flagg Ranch 36.76 351 *e*P P 06 07 51.0 -0.1
comp=Z,42nm,1.0s,mb5.2
L08A Fields 36.82 341 P P 06 07 51.6 -0.1
baz=36,SNR=19
L08A ⇑S S 06 13 35.9 0.0
baz=36
ACSO Alum Creek Sta 36.95 26 *e*P P 06 07 53.0 +0.2
comp=Z,82nm,1.4s,mb5.4
ACSO LR LR
comp=Z,4μm,19.0s,MS5.2
WDC Whiskeytown Da 36.98 335 *e*P P 06 07 52.1 -1.0
WDC Whiskeytown Da 36.98 335 ⇓P P 06 07 52.8 -0.3
baz=36,SNR=9.7
WDC ⇑S S 06 13 37.3 -1.1
baz=36
HLID Hailey 36.99 346 *e*P P 06 07 53.2 +0.1
comp=Z,12nm,0.9s,mb4.7
HLID *e*PcP PcP 06 10 18.7 +4.6
HLID LR LR
comp=Z,5μm,19.0s,MS5.3
HLID Hailey 36.99 346 P P 06 07 53.4 +0.2
baz=36,SNR=23
HLID ⇓S S 06 13 39.2 +0.8
baz=36
L07A Adell 37.00 340 ⇑P P 06 07 53.7 +0.4
baz=36,SNR=20
L07A ⇓S S 06 13 39.4 +0.7
baz=36
M05C Lookout 37.08 337 ⇑P P 06 07 54.3 +0.3
baz=37,SNR=7.6
M05C ⇑S S 06 13 40.1 +0.2
baz=37
K09A Rome 37.09 342 P P 06 07 54.0 +0.1
baz=37,SNR=36
K09A ⇑S S 06 13 38.8 -1.2
baz=37
WVOR Wild Horse Val 37.13 341 *e*P P 06 07 53.5 -0.9
WVOR pmax pmax
comp=Z,36nm,1.3s,mb5.0
WVOR MLR MLR
comp=Z,4μm,19.0s,MS5.2
WVOR Wild Horse Val 37.13 341 *e*P P 06 07 53.5 -0.9
comp=Z,36nm,1.3s,mb5.0
WVOR LR LR
comp=Z,4μm,19.0s,MS5.2
YFT Old Faithful 37.14 351 *e*P P 06 07 55.5 +1.1
O01C Eel River Cons 37.17 333 ⇑P P 06 07 55.3 +0.7
baz=37
O01C ⇑S S 06 13 41.6 +0.3
baz=37
LKWY Lake 37.18 351 *e*P P 06 07 55.6 +0.8
LKWY pmax pmax
comp=Z,19nm,1.1s,mb4.8
LKWY MLR MLR
comp=Z,8μm,22.0s,MS5.5
LKWY Lake 37.18 351 *e*P P 06 07 55.6 +0.8
comp=Z,19nm,1.1s,mb4.8
LKWY LR LR
comp=Z,8μm,22.0s,MS5.5
MOD Modoc 37.24 339 *e*P P 06 07 56.2 +0.9
MOD Modoc 37.24 339 ⇑P P 06 07 55.0 -0.3
baz=37,SNR=13
MOD ⇓S S 06 13 42.7 +0.4
baz=37
K08A Mann Creek Ran 37.35 341 P P 06 07 56.5 +0.3
baz=37,SNR=18
K08A ⇓S S 06 13 43.0 -1.0
baz=37
YMR Madison River 37.37 351 *e*P P 06 07 56.5 +0.1
comp=Z,27nm,1.1s,mb5.0
YMR LR LR
comp=Z,4μm,22.0s,MS5.2
M03C McCloud 37.39 336 ⇓P P 06 07 56.4 -0.1
baz=37
M03C ⇑S S 06 13 42.7 -1.9
baz=37
N02C Big Bar 37.51 334 ⇓P P 06 07 57.4 -0.1
baz=37,SNR=10
N02C ⇑S S 06 13 45.7 -0.6
baz=37
CPD Cerro la Pandu 37.53 71 *e*P P 06 08 01.8 +4.0
L05A Lakeview 37.56 338 ⇓P P 06 07 58.8 +0.8
baz=37,SNR=19
L05A ⇓S S 06 13 48.7 +1.6
baz=37
K07A Rock Creek Ran 37.57 340 P P 06 07 58.4 +0.4
baz=37,SNR=20
K07A ⇑S S 06 13 49.4 +2.2
baz=37
RLMT Red Lodge 37.57 353 *e*P P 06 07 57.4 -0.7
comp=Z,16nm,1.0s,mb4.7
QLMT Earthquake Lak 37.60 350 *e*P P 06 07 59.1 +0.8
J09A Fry Pan Ranch, 37.68 342 P P 06 07 59.2 +0.2
baz=37,SNR=11
J09A ⇑S S 06 13 49.1 0.0
baz=37
M04C Macdoel 37.71 337 ⇑P P 06 07 59.3 0.0
baz=37,SNR=25
M04C ⇑S S 06 13 50.0 +0.6
baz=37
KHMM Horse Mountain 37.73 334 *e*P P 06 08 00.5 +1.1
KHMM *e*PcP PcP 06 10 21.2 +4.8
M02C Callahan 37.79 335 ⇓P P 06 07 59.3 -0.6
baz=37
M02C ⇑S S 06 13 48.7 -1.9
baz=37
JCC Jacoby Creek 37.81 334 ⇓P P 06 08 00.2 0.0
baz=37
JCC ⇑S S 06 13 50.9 -0.1
baz=37
MCMT McKenzie Canyo 37.86 349 *e*P P 06 08 00.8 +0.3
MTP Monte Pirata 37.88 71 *e*P P 06 08 05.7 +5.0
J08A Circle Bar Ran 37.91 342 P P 06 08 01.0 0.0
baz=37,SNR=8.2
J08A ⇑S S 06 13 52.3 -0.2
baz=37
MCWV Mont Chateau 37.94 30 *e*P P 06 08 01.7 +0.6
comp=Z,82nm,1.2s,mb5.3
MCWV LR LR
comp=Z,3μm,21.0s,MS5.1
K06A Valley Falls 38.01 339 ⇑P P 06 08 02.2 +0.5
baz=38,SNR=7.7
K06A ⇓S S 06 13 54.4 +0.5
baz=38
PCRV Puerto La Cruz 38.01 83 P P 06 08 08.8 +7.0
comp=Z,19nm,1.2s,mb4.7,baz=259,slow=5.2,SNR=2.6
YBH Yreka Blue Hor 38.02 336 *e*P P 06 08 01.1 -0.7
YBH Yreka Blue Hor 38.02 336 ⇓P P 06 08 00.8 -1.0
baz=38,SNR=10
YBH ⇓S S 06 13 51.3 -2.8
baz=38
L04A Klamath Falls 38.07 337 ⇑P P 06 08 02.1 -0.1
baz=38
L04A ⇑S S 06 13 53.7 -1.2
baz=38
CBN Corbin 38.14 34 *e*P P 06 08 04.3 +1.4
CBN LR LR
comp=Z,4μm,19.0s,MS5.2
K05A Summer Lake 38.17 339 P P 06 08 03.9 +0.8
baz=38,SNR=20
K05A ⇓S S 06 13 57.1 +0.8
baz=38
J07A Hines 38.20 341 P P 06 08 03.3 0.0
baz=38,SNR=8.2
J07A ⇑S S 06 13 55.4 -1.4
baz=38
I09A Lost Marbles R 38.25 343 ⇓P P 06 08 03.4 -0.4
baz=38
I09A ⇑S S 06 13 55.8 -1.8
baz=38
GCMT Greycliff 38.28 353 *e*P P 06 08 04.1 0.0
DLMT Dillon 38.32 349 *e*P P 06 08 04.5 0.0
comp=Z,48nm,1.2s,mb5.1
KRMB Red Mountain 38.34 334 *e*P P 06 08 05.1 +0.5
J06A Christmas Vall 38.37 340 P P 06 08 04.8 0.0
baz=38,SNR=27
J06A ⇑S S 06 13 59.5 +0.1
baz=38
K04A Chilquin 38.38 338 ⇑P P 06 08 05.3 +0.4
baz=38
K04A ⇓S S 06 13 58.3 -1.3
baz=38
AAM Ann Arbor 38.40 23 *e*P P 06 08 05.5 +0.5
AAM MLR MLR
comp=Z,3μm,19.0s,MS5.2
I08A Drewsey 38.44 342 ⇓P P 06 08 05.0 -0.4
baz=38
M01C Crescent City 38.70 335 ⇑P P 06 08 07.6 0.0
baz=38
M01C ⇑S S 06 14 03.6 -0.8
baz=38
L02A Cave Junction 38.73 335 ⇓P P 06 08 08.0 +0.2
baz=38
L02A ⇓S S 06 14 04.6 -0.4
baz=38
LRM Limekiln Ridge 38.74 349 *e*P P 06 08 08.0 0.0
J05A Fort Rock 38.78 339 P P 06 08 08.8 +0.5
baz=38,SNR=34
J05A ⇑S S 06 14 06.9 +1.3
baz=38
LAO LASA Array 38.84 357 *e*P P 06 08 08.2 -0.6
comp=Z,25nm,0.7s,mb5.1
LAO LR LR
comp=Z,2μm,21.0s,MS5.0
H09A Durkee 38.86 343 ⇑P P 06 08 08.6 -0.4
baz=38,SNR=9.2
H09A ⇓S S 06 14 06.2 -0.6
baz=38
I07A Izee 38.89 341 ⇑P P 06 08 08.9 -0.3
baz=38,SNR=6.0
I07A ⇑S S 06 14 05.8 -1.5
baz=38
BMO Blue Mountains 38.93 344 *e*P P 06 08 08.4 -1.1
comp=Z,19nm,1.3s,mb4.7
BMO LR LR
comp=Z,3μm,19.0s,MS5.1
I06A Prineville 39.00 340 P P 06 08 10.3 +0.2
baz=38,SNR=20
I06A ⇓S S 06 14 09.4 +0.4
baz=38
H08A Prairie City 39.02 342 P P 06 08 10.1 -0.3
baz=38,SNR=11
H08A ⇓S S 06 14 08.3 -1.1
baz=38
K02A Glendale 39.20 336 ⇓P P 06 08 11.8 0.0
baz=39,SNR=10
K02A ⇑S S 06 14 10.4 -1.5
baz=39
ALLY Alegheny Colle 39.35 27 *e*P P 06 08 14.0 +0.9
H07A Lands Inn, Kim 39.37 341 ⇓P P 06 08 13.0 -0.1
baz=39,SNR=22
H07A ⇑S S 06 14 14.4 -0.1
baz=39
ARE Arequipa 39.46 128 *e*P P 06 08 24.0 +10
K01A Sixes 39.63 335 ⇑S S 06 14 18.0 -0.5
baz=39
VIPM Ingram Point 39.64 340 P P 06 08 16.4 +1.0
SSPA Standing Stone 39.65 30 *e*P P 06 08 16.0 +0.5
comp=Z,109nm,1.5s,mb5.4
SSPA LR LR
comp=Z,4μm,19.0s,MS5.2
J02A Umpqua 39.73 336 ⇑P P 06 08 16.7 +0.4
baz=39,SNR=9.3
J02A ⇑S S 06 14 20.1 +0.2
baz=39
H06A Lindquist Farm 39.74 341 ⇑P P 06 08 16.6 +0.3
baz=39,SNR=15

H06A ⇓S S 06 14 21.5 +1.4
baz=39
G08A Pilot Rock 39.81 342 ⇓P **P 06 08 16.6 -0.2**
baz=39,SNR=14
F09A S2 Ranch, Elgi 39.89 344 ⇑P **P 06 08 16.8 -0.8**
F09A baz=39 ⇓S S 06 14 20.7 -1.6
baz=39
CHMT Chamberlain Mo 39.94 349 *e*P **P 06 08 17.1 -0.9**
F10A Beach Ranch, E 39.95 345 ⇑P **P 06 08 17.4 -0.6**
F10A baz=39 ⇓S S 06 14 21.2 -2.0
baz=39
H05A Madras 39.97 340 ⇑P **P 06 08 18.1 -0.1**
H05A baz=40 ⇑S S 06 14 22.7 -0.8
baz=40
MVL Millersville 39.98 33 *e*P **P 06 08 19.3 +1.0**
MSO Missoula 39.99 348 *e*P **P 06 08 17.4 -1.0**
MSO comp=Z,4.8nm,0.8s,mb4.3 LR LR
comp=Z,3μm,19.0s,MS5.1
G07A Ruggs Ranch, H 40.01 342 P **P 06 08 18.6 +0.1**
G07A baz=40,SNR=8.0 ⇑S S 06 14 24.3 +0.3
baz=40
BROR Big Rock Looko 40.07 338 P **P 06 08 19.0 -0.1**
I03A Eugene 40.13 337 ⇑P **P 06 08 20.0 +0.4**
I03A baz=40,SNR=38 ⇓S S 06 14 22.8 -3.1
baz=40
F08A Pendleton 40.22 343 ⇓P **P 06 08 19.9 -0.4**
F08A baz=40 ⇓S S 06 14 24.1 -3.1
baz=40
G06A Carlson Farm, 40.29 341 ⇓P **P 06 08 20.5 -0.3**
G06A baz=40,SNR=8.7 ⇓S S 06 14 27.3 -0.9
baz=40
H04A Detroit Lake 40.33 339 ⇑P **P 06 08 20.5 -0.7**
H04A baz=40,SNR=27 ⇓S S 06 14 27.7 -1.2
baz=40
I02A Mapleton 40.37 337 ⇑P **P 06 08 21.3 -0.2**
I02A baz=40,SNR=7.8 ⇑S S 06 14 28.7 -0.8
baz=40
EGMT Eagleton 40.49 353 *e*P **P 06 08 21.7 -0.8**
EGMT comp=Z,84nm,1.3s,mb5.3 LR LR
comp=Z,5μm,19.0s,MS5.4
EGMT Eagleton 40.49 353 ⇓P **P 06 08 22.2 -0.3**
baz=40,SNR=12
TAOE Nuku Hiva Isla 40.49 247 *e*S **S 06 14 43.6 +12**
TAOE comp=Z,7μm,18.5s *e*LQ 06 17 44.4
comp=Z,40μm,27.6s
TAOE *e*LR LR 06 19 15.4
comp=Z,21μm,25.3s,baz=63
G05A Wamic 40.52 340 ⇑P **P 06 08 22.8 0.0**
G05A baz=40 ⇑S S 06 14 33.2 +1.5
baz=40
DGMT Dagmar 40.54 359 *e*P **P 06 08 22.4 -0.6**
DGMT comp=Z,76nm,0.9s,mb5.3 LR LR
comp=Z,17μm,19.0s,MS5.9
F07A Phinny Hill Vi 40.65 342 ⇓P **P 06 08 24.2 +0.4**
F07A baz=40 ⇓S S 06 14 33.6 -0.1
baz=40
COR Corvallis 40.66 338 *e*P **P 06 08 23.9 0.0**
COR comp=Z,34nm,0.9s,mb5.0 pmax pmax
COR comp=Z,5μm,20.0s,MS5.4 MLR MLR
COR Corvallis 40.66 338 *e*P **P 06 08 23.9 0.0**
COR comp=Z,34nm,0.9s,mb5.0 LR LR
comp=Z,5μm,20.0s,MS5.4
E09A Wood Farm, Sta 40.69 344 ⇑P **P 06 08 23.3 -0.9**
E09A baz=40 ⇓S S 06 14 31.3 -3.0
baz=40
HOOD Mount Hood Mea 40.70 340 *e*P **P 06 08 24.7 +0.4**
H03A Soap Creek Ran 40.73 338 ⇑P **P 06 08 24.3 -0.2**
H03A baz=40 ⇓S S 06 14 32.3 -2.6
baz=40
F06A Goldendale 40.80 341 ⇑P **P 06 08 24.9 -0.2**
F06A baz=40 ⇑S S 06 14 34.2 -1.7
baz=40
AGMN Agassiz Refuge 40.82 7 *e*P **P 06 08 24.1 -1.1**
comp=Z,62nm,0.9s,mb5.2
PRW Prosser 40.86 342 P **P 06 08 26.4 +0.8**
G04A Mulino 40.89 339 ⇑P **P 06 08 25.5 -0.3**
G04A baz=40 ⇓S S 06 14 36.2 -1.0
baz=40
C13A Hot Springs 40.93 348 ⇓P **P 06 08 25.8 -0.3**
HAWA Hanford 40.98 343 *e*P **P 06 08 26.2 -0.3**
HAWA comp=Z,36nm,1.4s,mb4.8 LR LR
comp=Z,3μm,19.0s,MS5.2
H02A Toledo 41.00 337 ⇓P **P 06 08 26.3 -0.4**
H02A baz=40 ⇑S S 06 14 37.8 -1.1
baz=40
F05A White Salmon 41.13 340 ⇓P **P 06 08 28.0 +0.2**
F05A baz=41,SNR=9.2 ⇓S S 06 14 41.5 +0.7
baz=41
BSMT Bassoo Peak 41.14 348 *e*P **P 06 08 28.3 +0.4**
GBL Gable Mountain 41.14 343 P **P 06 08 28.2 +0.3**
C12A Trout Creek 41.15 347 ⇓P **P 06 08 27.5 -0.5**
baz=41
EYMN Ely 41.20 12 *e*P **P 06 08 27.4 -0.9**
EYMN comp=Z,14nm,0.7s,mb4.7 LR LR
comp=Z,7μm,21.0s,MS5.5
E07A Sunnyside 41.22 342 ⇓P **P 06 08 28.6 0.0**
E07A baz=41,SNR=16 ⇑S S 06 14 42.3 0.0
baz=41
D09A Jones Farm, Ri 41.24 344 ⇓P **P 06 08 28.0 -0.7**
baz=41,SNR=6.5
G03A Yamhill 41.27 338 ⇑P **P 06 08 28.3 -0.7**
G03A baz=41 ⇑S S 06 14 42.7 -0.2
baz=41
D08A Wollman Farm, 41.41 344 ⇓P **P 06 08 29.2 -0.8**
baz=41,SNR=11
D08A ⇑S S 06 14 43.7 -1.2
baz=41
BRNJ Basking Ridge 41.43 33 *e*P **P 06 08 31.7 +1.4**
F04A Amboy 41.50 340 ⇓P **P 06 08 30.4 -0.4**
F04A baz=41 ⇑S S 06 14 43.9 -2.4
baz=41
E06A Yakima 41.56 341 P **P 06 08 31.5 +0.2**
E06A baz=41,SNR=12 ⇑S S 06 14 48.3 +1.1
baz=41
B13A Whitefish 41.58 349 P **P 06 08 31.0 -0.5**
B13A baz=41,SNR=9.4 ⇓S S 06 14 43.8 -3.6
baz=41
C10A Spilker Farm, 41.68 346 ⇑P **P 06 08 32.0 -0.3**
C10A baz=41 ⇓S S 06 14 47.3 -1.7
baz=41
EBG Ellensburg 41.76 342 P **P 06 08 33.3 +0.4**
BINY Binghamton 41.77 31 *e*P **P 06 08 34.0 +0.9**
BINY comp=Z,74nm,1.2s,mb5.2 LR LR
comp=Z,3μm,22.0s,MS5.2
E05A Randle 41.83 341 P **P 06 08 33.5 0.0**
E05A baz=41,SNR=12 ⇑S S 06 14 51.8 +0.7
baz=41
B12A Libby 41.90 348 ⇑P **P 06 08 33.6 -0.4**
baz=41,SNR=11
F03A Seaside 41.90 339 ⇓P **P 06 08 33.1 -1.0**
F03A baz=41 ⇑S S 06 14 53.1 +0.8
baz=41

C09A Chrisman Ranch 41.91 345 ⇓P **P 06 08 33.5 -0.7**
baz=41
C09A ⇑S S 06 14 51.8 -0.6
baz=41
TBM Table Mountain 42.00 342 P **P 06 08 35.1 +0.2**
PAL Palisades 42.01 33 *e*P **P 06 08 36.1 +1.1**
PAL pmax pmax
comp=Z,45nm,1.0s,mb5.0
PAL Palisades 42.01 33 *e*P **P 06 08 36.1 +1.1**
comp=Z,45nm,1.0s,mb5.1
LPAZ La Paz 42.04 125 P **P 06 08 45.0 +10**
comp=Z,31nm,0.9s,mb4.9,baz=314,slow=7.7,SNR=44
LPAZ La Paz 42.04 125 *e*P **P 06 08 45.1 +10**
LPAZ pmax pmax
comp=Z,85nm,1.1s
LPAZ MLR MLR
comp=Z,3μm,22.0s
LPAZ La Paz 42.04 125 *e*P **P 06 08 45.1 +10**
comp=Z,85nm,1.1s,mb5.3
LPAZ LR LR
comp=Z,3μm,22.0s,MS5.2
TWW Teanaway 42.05 342 P **P 06 08 36.1 +0.8**
NEW Newport 42.05 346 *e*P **P 06 08 34.5 -0.9**
NEW pmax pmax
comp=Z,31nm,0.9s
NEW MLR MLR
comp=Z,4μm,21.0s
NEW Newport 42.05 346 *e*P **P 06 08 34.5 -0.9**
comp=Z,32nm,0.9s,mb4.9
NEW LR LR
comp=Z,4μm,21.0s,MS5.3
D06A Cle Elum 42.09 342 ⇑P **P 06 08 35.4 -0.3**
baz=42
D06A ⇑S S 06 14 56.0 +0.9
baz=42
C08A Higginbotham F 42.10 344 P **P 06 08 35.8 0.0**
baz=42,SNR=8.9
C08A ⇑S S 06 14 52.8 -2.5
baz=42
B10A Chitwood Farm, 42.11 346 ⇓P **P 06 08 35.0 -0.8**
baz=42
B10A ⇓S S 06 14 53.5 -1.9
baz=42
WALA Waterton Lakes 42.13 349 *e*P **P 06 08 35.8 -0.2**
comp=Z,93nm,1.7s,mb5.1
E04A Onalaska 42.18 340 ⇑P **P 06 08 36.7 +0.3**
baz=42,SNR=9.0
WTV Waterville 42.28 343 P **P 06 08 36.8 -0.5**
C07A Waterville 42.31 343 ⇑P **P 06 08 37.4 0.0**
baz=42,SNR=19
C07A ⇑S S 06 14 59.0 +0.8
baz=42
A12A Yaak River Ran 42.35 348 ⇓P **P 06 08 37.5 -0.3**
baz=42,SNR=9.1
E03A Lebam 42.43 339 P **P 06 08 38.7 +0.3**
baz=42,SNR=11
E03A ⇓S S 06 14 59.4 -0.7
baz=42
D05A Enumclaw 42.45 341 ⇑P **P 06 08 38.5 -0.2**
baz=42,SNR=14
B09A Rice 42.45 345 ⇑P **P 06 08 38.2 -0.4**
baz=42
B09A ⇑S S 06 14 58.2 -2.2
baz=42
ULM Lac du Bonnet 42.74 7 P **P 06 08 39.3 -1.7**
comp=Z,19nm,0.9s,mb4.8,baz=200,slow=9.5,SNR=9.4
ULM LR LR 06 26 07.0
comp=Z,4μm,19.4s,MS5.3,baz=192,slow=36
ULM Lac du Bonnet 42.74 7 *e*P **P 06 08 38.9 -2.0**
comp=Z,32nm,1.0s,mb5.0
ULM LR LR
comp=Z,8μm,19.0s,MS5.6
C05A Tolt Reservoir 42.80 341 ⇓P **P 06 08 40.9 -0.5**
baz=42
A10A Northport 42.83 346 ⇑P **P 06 08 41.1 -0.5**
baz=42,SNR=5.7
A10A ⇑S S 06 15 04.5 -1.4
baz=42
D03A Wishkah Elem. 42.99 339 ⇑P **P 06 08 42.1 -0.9**
baz=42
D03A ⇓S S 06 15 08.5 +0.2
baz=42
B07A Winthrop 43.02 343 ⇑P **P 06 08 42.3 -0.9**
baz=42
B07A ⇑S S 06 15 07.4 -1.3
baz=42
GNW Green Mountain 43.06 340 *e*P **P 06 08 43.2 -0.3**
SAML Samuel 43.07 112 *e*P **P 06 08 50.4 +6.8**
comp=Z,68nm,1.1s,mb5.3
SAML *e* 06 10 32.7
A09A Danville 43.08 345 ⇓P **P 06 08 43.0 -0.7**
baz=43
BBSR BB Station 43.17 50 *e*P **P 06 08 47.7 +3.3**
comp=Z,70nm,1.4s,mb5.2
BBSR LR LR
comp=Z,5μm,22.0s,MS5.4
C04A Brinnon 43.24 340 ⇓P **P 06 08 44.4 -0.6**
baz=43
B05A Bryant 43.43 342 P **P 06 08 45.6 -0.9**
baz=43,SNR=6.8
B06A Marblemount 43.47 342 ⇓P **P 06 08 45.5 -1.4**
baz=43
B04A Port Angeles 43.71 340 ⇓P **P 06 08 48.6 -0.2**
baz=43
RKT Rikitea 43.80 225 *e*S **S 06 15 33.4 +13**
comp=Z,4μm,14.0s
RKT *e*LQ 06 19 08.4
comp=Z,2μm,33.5s
RKT *e*LR LR 06 21 21.2
comp=Z,15μm,28.2s,baz=42
ACCN Adirondack Com 43.81 31 *e*P **P 06 08 50.6 +1.0**
NCB Newcomb 43.95 30 *e*P **P 06 08 51.5 +0.8**
comp=Z,65nm,1.4s,mb5.2
NCB LR LR
comp=Z,6μm,19.0s,MS5.5
C03A Quillayute Air 43.98 339 ⇑P **P 06 08 50.4 -0.6**
baz=44
A04A Legoe Bay, Lum 44.03 341 ⇑P **P 06 08 51.4 0.0**
baz=44,SNR=14
A05A Maple Falls 44.08 342 ⇑P **P 06 08 51.2 -0.6**
baz=44
PGC Sidney 44.21 341 *e*P **P 06 08 52.3 -0.5**
comp=Z,29nm,1.0s,mb5.0
LONY Lake Ozonia 44.24 29 *e*P **P 06 08 53.7 +0.6**
comp=Z,55nm,1.5s,mb5.1
HRV Harvard--Oak R 44.32 34 PFAKE 06 09 10.0 +16
HRV LR LR
comp=Z,3μm,19.0s,MS5.3
WES Weston 44.37 34 PFAKE 06 09 10.0 +16
WES LR LR
comp=Z,2μm,21.0s,MS5.1
HNH Hanover 44.75 32 *e*P **P 06 08 58.6 +1.5**
comp=Z,4.6nm,1.2s,mb4.2
FRNY Flat Rock 44.89 30 *e*P **P 06 08 59.0 +0.8**
LVC Limon Verde 45.07 133 *e*P **P 06 09 10.3 +11**
comp=Z,33nm,1.1s,mb5.1
LVC LR LR
comp=Z,5μm,21.0s,MS5.4
LBNH Lisbon 45.30 32 PFAKE 06 09 10.0 +8.5
LBNH LR LR
comp=Z,5μm,19.0s,MS5.4
EDM Edmonton 46.06 351 *e*P **P 06 09 06.3 -1.2**
VAH Vaihoa 49.74 243 *e*P **P 06 09 41.8 +5.8**
comp=Z,77nm,1.2s,mb5.6
PMOR Pomariorio Ree 49.88 243 *e*P **P 06 09 42.8 +5.7**
comp=Z,62nm,1.3s,mb5.5
PPT Papeete 52.41 241 *e*S **S 06 17 32.7 +11**
comp=Z,3μm,12.5s
PPT *e*LQ 06 22 48.9
comp=Z,5μm,24.8s
PPT *e*LR LR 06 24 51.4
comp=Z,10μm,25.0s,baz=60
PPT Papeete 52.41 241 LR LR 06 26 02.8
comp=Z,4μm,19.1s,MS5.5,baz=68,slow=29
TBI Tubuai 54.91 234 *e*S **S 06 18 07.3 +11**
comp=Z,7μm,17.8s
TBI *e*LR LR 06 26 15.8
comp=Z,9μm,28.5s,baz=59
SCHQ Schefferville 55.08 25 P **P 06 10 15.3 -0.3**
comp=Z,18nm,1.2s,mb5.0,baz=264,slow=6.2,SNR=3.8
SCHQ LR LR 06 35 10.2
comp=Z,4μm,18.8s,MS5.5,baz=219,slow=38
SCHQ Schefferville 55.08 25 *e*P **P 06 10 15.7 +0.1**
comp=Z,44nm,1.3s,mb5.3
SCHQ LR LR
comp=Z,7μm,19.0s,MS5.8
SIT Sitka 55.20 339 PFAKE 06 10 30.0 +13
SIT LR LR

comp=Z,5μm,22.0s,MS5.5
YKA Yellowknife Ar 55.24 354 P **P 06 10 15.9 -0.9**
comp=Z,7.4nm,0.9s,mb4.7,baz=164,slow=7.6,SNR=8.2
YKA PcP PcP 06 11 17.8 +0.1
comp=Z,4.1nm,0.9s,baz=158,slow=4.2,SNR=5.0
YKA LR LR 06 34 08.0
comp=Z,6μm,19.2s,MS5.7,baz=170,slow=37
YKA Yellowknife Ar 55.24 354 P **P 06 10 15.9 -0.9**
YKA 06 11 17.8
YKA Yellowknife Ar 55.24 354 P **P 06 10 15.9 -0.9**
YKA PcP PcP 06 11 17.8 +0.1
YKA LR LR 06 34 08.0
YKW3 Yellowknife Ar 55.31 354 *e*P **P 06 10 17.5 +0.2**
CPUP Villa Florida 55.86 129 P **P 06 10 28.3 +7.0**
comp=Z,27nm,1.0s,mb5.2,baz=297,slow=8.4,SNR=13
CPUP Villa Florida 55.86 129 *e*P **P 06 10 29.4 +8.2**
CPUP pmax pmax
comp=Z,67nm,0.8s
CPUP Villa Florida 55.86 129 *e*P **P 06 10 29.4 +8.1**
comp=Z,67nm,0.8s,mb5.7
PLCA Paso Flores 56.81 151 P **P 06 10 37.2 +9.2**
comp=Z,17nm,1.2s,mb5.0,baz=313,slow=6.9,SNR=7.6
PLCA LR LR 06 29 46.1
comp=Z,3μm,19.5s,MS5.4,baz=315,slow=30
PLCA Paso Flores 56.81 151 *e*P **P 06 10 38.0 +10**
PLCA pmax pmax
comp=Z,38nm,1.4s
PLCA MLR MLR
comp=Z,3μm,19.0s
PLCA Paso Flores 56.81 151 *e*P **P 06 10 38.0 +10**
comp=Z,38nm,1.4s,mb5.2
PLCA LR LR
comp=Z,3μm,19.0s,MS5.4
BDFB Brasilia 59.28 113 P **P 06 10 51.7 +6.4**
comp=Z,11nm,0.9s,mb4.9,baz=287,slow=8.4,SNR=10
BDFB LR LR 06 35 33.4
comp=Z,2μm,18.4s,MS5.3,baz=150,slow=35
BDFB Brasilia 59.28 113 *e*P **P 06 10 51.9 +6.5**
BDFB pmax pmax
comp=Z,45nm,1.1s
BDFB MLR MLR
comp=Z,5μm,19.0s
BDFB Brasilia 59.28 113 *e*P **P 06 10 51.9 +6.5**
comp=Z,45nm,1.1s,mb5.4
BDFB LR LR
comp=Z,5μm,19.0s,MS5.7
DAWY Dawson 61.83 343 *e*P **P 06 11 02.7 -0.1**
DIV Divide 61.89 338 PFAKE 06 11 20.0 +17
DIV LR LR
comp=Z,7μm,22.0s,MS5.8
KDAK Kodiak Island 62.72 333 PFAKE 06 11 20.0 +11
KDAK LR LR
comp=Z,581nm,21.0s,MS4.7
EGAK Eagle 62.88 343 *e*P **P 06 11 10.0 +0.2**
comp=Z,7.3nm,0.8s,mb4.9
PMR Palmer 63.44 337 *e*P **P 06 11 12.8 -0.7**
PMR pmax pmax
comp=Z,21nm,1.0s,mb5.2
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.2
PMR Palmer 63.44 337 *e*P **P 06 11 12.8 -0.8**
comp=Z,21nm,1.0s,mb5.2
PMR LR LR
comp=Z,2μm,20.0s,MS5.2
INK Inuvik 63.73 348 *e*P **P 06 11 16.0 +0.6**
INK pmax pmax
comp=Z,268nm,1.5s
INK Inuvik 63.73 348 *e*P **P 06 11 15.9 +0.6**
comp=Z,268nm,1.5s,mb6.0
MCK McKinley 64.68 339 *e*P **P 06 11 22.1 +0.4**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MCK MLR MLR
comp=Z,2μm,21.0s,MS5.2
MCK McKinley 64.68 339 *e*P **P 06 11 22.1 +0.4**
comp=Z,3.9nm,0.8s,mb4.5
MCK LR LR
comp=Z,2μm,21.0s,MS5.2
COLA College 65.03 341 P **P 06 11 27.4 +3.5**
COLA MLR MLR
comp=Z,2μm,22.0s,MS5.2
UNV Unalaska Valle 68.22 325 PFAKE 06 12 00.0 +16
UNV LR LR
comp=Z,10μm,21.0s,MS6.0
RCBR Riachuelo 68.34 99 *e*P **P 06 11 53.6 +8.6**
RCBR LR LR
comp=Z,3μm,20.0s,MS5.5
AFI Afiamalu 71.52 253 PFAKE 06 12 20.0 +15
AFI LR LR
comp=Z,2μm,22.0s,MS5.2
MIDW Midway 72.55 297 PFAKE 06 12 30.0 +19
MIDW LR LR
comp=Z,2μm,21.0s,MS5.4
TNA Tin City 72.68 337 PFAKE 06 12 20.0 +8.4
TNA LR LR
comp=Z,1μm,21.0s,MS5.2
SUMG Summit 75.14 16 *e*P **P 06 12 26.8 +0.8**
comp=Z,28nm,1.0s,mb5.2
PMSA Palmer Station 77.98 164 *e*P **P 06 12 50.1 +8.0**
comp=Z,14nm,1.3s,mb4.7
PMSA LR LR
comp=Z,1μm,20.0s,MS5.2
FUNA Funafuti 79.15 260 PFAKE 06 13 10.0 +21
FUNA LR LR
comp=Z,10μm,19.0s,MS6.2
SMY Shemya 79.51 322 PFAKE 06 13 00.0 +10
SMY LR LR
comp=Z,3μm,21.0s,MS5.5
DAG Danmarks Havn 81.17 13 *i* P **P 06 13 00.0 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
DAG Danmarks Havn 81.17 13 *e*P **P 06 13 00.0 +0.6**
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAG Danmarks Havn 81.17 13 *e*P **P 06 13 00.0 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
BILL Bilibino 83.08 338 PFAKE 06 13 20.0 +11
BILL LR LR
comp=Z,2μm,22.0s,MS5.5
JMIC Jan Mayen 84.17 19 AMS AMS 06 52 10.9
comp=Z,2μm,18.3s,MS5.5
KBS Kingsbay 87.06 10 *e*PP PP 06 16 51.8 -0.9
KBS *e*S S 06 24 08.1 -0.4
KBS *e*SS SS 06 29 48.9 -2.5
KBS AMS AMS 06 53 02.1
comp=Z,1μm,18.5s,MS5.4
KBS Kingsbay 87.06 10 PFAKE 06 13 40.0 +11
KBS LR LR
comp=Z,2μm,19.0s,MS5.6
PET Petropavlovsk 88.79 323 PFAKE 06 13 50.0 +12
PET LR LR
comp=Z,1μm,20.0s,MS5.3
ESK Eskdalemuir 89.22 34 PFAKE 06 13 50.0 +10
ESK LR LR
comp=Z,500nm,21.0s,MS4.9
SNZO South Karori 89.30 228 PFAKE 06 14 00.0 +20
SNZO LR LR
comp=Z,3μm,19.0s,MS5.8
BJO Bjornoya 90.70 13 AMS AMS 06 56 01.2
comp=Z,2μm,18.8s,MS5.6
MA2 Magadan 91.40 331 PFAKE 06 14 00.0 +10
MA2 LR LR
comp=Z,2μm,20.0s,MS5.6
ESDC Sonseca Array 92.02 50 LR LR 06 52 57.5
comp=Z,1μm,19.1s,MS5.3,baz=300,slow=34
ESLA Sonseca Array 92.02 50 PFAKE 06 14 10.0 +17
ESLA LR LR
comp=Z,9μm,21.0s,MS6.2
BER Bergen 92.20 28 *e*PP PP 06 17 34.5 +0.8
BER *e* 06 25 56.4
BER *e*SS SS 06 31 04.4 -1.5
RPZ Rata Peaks 92.37 226 LR LR 06 45 13.8
comp=Z,2μm,21.8s,MS5.5,baz=99,slow=29
TRO Tromso 93.30 17 *i* SP 06 26 14.0 -4.4
TRO *e*SS SS 06 31 26.9 +5.2
TRO AMS AMS 06 55 24.1
comp=Z,2μm,21.2s,MS5.5
NSS Namsos 93.42 23 AMS AMS 06 54 58.1
comp=Z,1μm,20.7s,MS5.3
TIXI Tiksi 93.77 346 *e*P **P 06 14 01.9 +1.1**
TIXI pmax pmax
comp=Z,18nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.5
TIXI Tiksi 93.77 346 PFAKE 06 14 10.0 +9.2
TIXI LR LR
comp=Z,2μm,21.0s,MS5.6

KONO	**Kongsberg**	**94.46**	**28**	*e*SKS			06 24 39.0	
KONO				*i*			06 26 35.3	
KONO				*e*SS	SS		06 31 35.4	-2.9
KONO	**Kongsberg**	**94.46**	**28**	PFAKE			06 14 20.0	+16
KONO				LR	LR			
comp=Z,3μm,22.0s,MS5.7								
NAO01	**NORSAR Array S**	**94.56**	**27**	PFAKE			06 14 20.0	+16
NAO01				LR	LR			
comp=Z,3μm,21.0s,MS5.7								
NOA	**NORSAR Array B**	**94.62**	**26**	LR	LR		06 54 50.9	
comp=Z,2μm,21.6s,MS5.5,baz=280,slow=34								
ARCES	**ARCESS Array B**	**95.23**	**16**	LR	LR		06 57 23.4	
comp=Z,2μm,20.9s,MS5.6,baz=320,slow=36								
KEV	**Kevo**	**95.49**	**16**	PFAKE			06 14 20.0	+11
KEV				LR	LR			
comp=Z,2μm,21.0s,MS5.6								
DBIC	**Dimbokro**	**97.17**	**82**	LR	LR		06 55 09.2	
comp=Z,807nm,18.5s,MS5.2,baz=266,slow=34								
DBIC	**Dimbokro**	**97.17**	**82**	PFAKE			06 14 30.0	+14
DBIC				LR	LR			
comp=Z,1μm,22.0s,MS5.4								
SBA	**Scott Base**	**97.61**	**192**	*e*P	**P**		**06 14 24.4**	**+6.1**
SBA				pmax	pmax			
comp=Z,82nm,2.3s,mb5.8								
SBA	**Scott Base**	**97.61**	**192**	*e*P	**P**		**06 14 24.4**	**+6.2**
comp=Z,82nm,2.3s,mb5.8								
QSPA	**South Pole Qui**	**97.77**	**180**	*e*P	**P**		**06 14 26.0**	**+7.0**
comp=Z,12nm,1.2s,mb5.3								
HNR	**Honiara**	**98.11**	**262**	PFAKE			06 14 40.0	+20
HNR				LR	LR			
comp=Z,2μm,22.0s,MS5.5								
VNDA	**Vanda**	**98.67**	**193**	LR	LR		06 50 40.6	
comp=Z,995nm,20.6s,MS5.3,baz=92,slow=30								
VNDA	**Vanda**	**98.67**	**193**	*e*P	**P**		**06 14 30.3**	**+7.3**
VNDA				pmax	pmax			
comp=Z,6.0nm,1.6s								
VNDA				MLR	MLR			
comp=Z,1μm,22.0s								
VNDA	**Vanda**	**98.67**	**193**	*e*P	**P**		**06 14 30.3**	**+7.3**
comp=Z,5.9nm,1.6s,mb4.9								
VNDA				LR	LR			
comp=Z,1μm,22.0s,MS5.4								
GRF	**Grafenberg Arr**	**99.33**	**37**	*e*L			06 55 35.5	
comp=Z,2μm,21.0s								
YAK	**Yakutsk**	**99.44**	**338**	PFAKE			06 14 40.0	+14
YAK				LR	LR			
comp=Z,6μm,19.0s,MS6.1								
YSS	**Yuzh-Sakhalins**	**100.36**	**321**	PFAKE			06 14 40.0	+9.4
YSS				LR	LR			
comp=Z,6μm,20.0s,MS6.1								
PVCC	**Panska Ves**	**100.92**	**35**	AMS	AMS		06 54 30.0	
comp=Z,2μm,26.3s								
KHC	**Kasperske Hory**	**100.96**	**37**	*ex*	x		06 27 28.4	
KHC				AMS	AMS		06 56 30.0	
comp=Z,2μm,21.2s								
PRU	**Pruhonice**	**101.15**	**36**	*ex*	x		06 27 18.6	
PRU				AMS	AMS		06 57 40.0	
comp=Z,2μm,25.0s								
ERM	**Erimo**	**102.00**	**316**	PFAKE			06 14 50.0	+12
ERM				LR	LR			
comp=Z,1μm,21.0s,MS5.5								
DPC	**Dobruska-Polom**	**102.00**	**35**	*ex*	x		06 27 37.1	
DPC				AMS	AMS		06 55 10.0	
comp=Z,2μm,25.6s								
TREC	**Trest**	**102.01**	**36**	AMS	AMS		06 54 40.0	
comp=Z,2μm,24.8s								
OKC	**Ostrava-Krasne**	**103.28**	**35**	*e*SP	SP		06 28 03.3	-3.1
MAJO	**Matsushiro**	**107.68**	**312**	PFAKE			06 19 30.0	+19
MAJO				LR	LR			
comp=Z,5μm,20.0s,MS6.1								
OBN	**Obninsk**	**108.87**	**23**	PFAKE			06 19 30.0	+17
OBN				LR	LR			
comp=Z,728nm,22.0s,MS5.2								
GUMO	**Guam**	**109.31**	**287**	PFAKE			06 19 30.0	+16
GUMO				LR	LR			
comp=Z,5μm,19.0s,MS6.1								
MDJ	**Mudanjiang**	**109.57**	**323**	PDIF	Pdif		06 15 12.9	+1.4
MDJ				PP	PP		06 19 46.0	+0.9
MDJ				S	Sdif		06 27 22.4	-1.1
MDJ				PS	PS		06 29 11.4	-1.3
MDJ				SS	SS		06 35 05.0	-2.5
MDJ				PP	PP			
comp=Z,70nm,3.8s								
MDJ				LR	LR			
comp=N,295nm,28.1s,MS4.8								
MDJ				LR	LR			
comp=E,196nm,25.5s,MS4.8								
MDJ				LR	LR			
comp=Z,122nm,22.8s,MS4.4								
MDJ	**Mudanjiang**	**109.57**	**323**	PFAKE			06 19 30.0	+16
MDJ				LR	LR			
comp=Z,5μm,20.0s,MS6.1								
TAU	**Tasmania Unive**	**109.63**	**227**	PFAKE			06 19 30.0	+15
TAU				LR	LR			
comp=Z,591nm,22.0s,MS5.1								
PMG	**Port Moresby**	**110.66**	**263**	PFAKE			06 19 30.0	+13
PMG				LR	LR			
comp=Z,1μm,22.0s,MS5.5								
HIA	**Hailar**	**111.99**	**331**	PFAKE			06 19 30.0	+11
HIA				LR	LR			
comp=Z,9μm,19.0s,MS6.4								
CTAO	**Charters Tower**	**112.03**	**252**	PFAKE			06 19 40.0	+21
CTAO				LR	LR			
comp=Z,2μm,22.0s,MS5.6								
CN2	**Changchun**	**112.48**	**324**	*e*PKP	PKiKP		06 19 20.2	+0.2
ARU	**Arti**	**114.22**	**11**	PFAKE			06 19 40.0	+17
ARU				LR	LR			
comp=Z,565nm,19.0s,MS5.2								
INCN	**Inchon**	**115.36**	**318**	PFAKE			06 19 40.0	+15
INCN				LR	LR			
comp=Z,6μm,22.0s,MS6.2								
TLY	**Talaya**	**116.47**	**342**	PFAKE			06 19 40.0	+12
TLY				LR	LR			
comp=Z,1μm,19.0s,MS5.6								
CASY	**Casey**	**117.20**	**195**	PFAKE			06 19 50.0	+21
CASY				LR	LR			
comp=Z,2μm,19.0s,MS5.7								
ANTO	**Ankara**	**117.46**	**37**	PFAKE			06 19 50.0	+20
ANTO				LR	LR			
comp=Z,1μm,22.0s,MS5.5								
BR131	**Keskin Array S**	**118.06**	**37**	PFAKE			06 19 50.0	+19
BR131				LR	LR			
comp=Z,811nm,20.0s,MS5.3								
BRVK	**Borovoye**	**119.12**	**5**	PFAKE			06 19 50.0	+17
BRVK				LR	LR			
comp=Z,803nm,19.0s,MS5.4								
MAW	**Mawson**	**119.53**	**174**	*e*PKIKP	PKPdf		06 19 40.0	+6.5
KIV	**Kislovodsk**	**119.89**	**28**	PFAKE			06 19 50.0	+16
KIV				LR	LR			
comp=Z,392nm,19.0s,MS5.1								
BJT	**Baijiatuau**	**120.21**	**326**	PFAKE			06 19 50.0	+15
BJT				LR	LR			
comp=Z,8μm,21.0s,MS6.3								
TSUM	**Tsumeb**	**121.42**	**108**	*e*PKPdf	PKPdf		06 19 44.7	+7.5
TSUM				LR	LR			
comp=Z,2μm,21.0s,MS5.7								
HHC	**Hu-ho-hao-te**	**122.06**	**329**	*e*PKP	PKPdf		06 19 40.3	+1.9
HHC				PP	PP		06 21 15.7	+3.0
SUR	**Sutherland**	**122.62**	**123**	PFAKE			06 20 00.0	+21
SUR				LR	LR			
comp=Z,502nm,22.0s,MS5.1								
WRA	**Warramunga Arr**	**123.23**	**251**	PKP	PKPdf		06 19 42.3	+1.7
comp=Z,4.9nm,1.0s,baz=90,slow=1.8,SNR=17								
ASAR	**Alice Springs**	**123.31**	**247**	PKP	PKPdf		06 19 42.8	+2.0
comp=Z,4.4nm,1.0s,baz=126,slow=2.2,SNR=17								
GNI	**Garni**	**123.79**	**29**	PFAKE			06 20 00.0	+18
GNI				LR	LR			
comp=Z,1μm,21.0s,MS5.6								
MKAR	**Makanchi Array**	**125.44**	**355**	PKP	PKPdf		06 19 45.8	+0.9
comp=Z,8.5nm,1.1s,baz=42,slow=2.0,SNR=19								
TATO	**Taipei**	**125.75**	**308**	PFAKE			06 20 00.0	+15
TATO				LR	LR			
comp=Z,3μm,22.0s,MS5.9								
BOSA	**Boshof**	**127.18**	**120**	PKP	PKPdf		06 19 55.2	+7.1
comp=Z,6.2nm,0.9s,baz=330,slow=5.0,SNR=5.3								
BOSA	**Boshof**	**127.18**	**120**	PKP	PKPdf		06 19 55.2	+7.1
BOSA				LR	LR			
comp=Z,2μm,21.0s,MS5.8								
WMQ	**Urumqi**	**127.71**	**350**	*e*PKP	PKPdf		06 19 52.2	+3.0
WMQ				PP	PP		06 21 55.0	+4.5
WMQ				PKS			06 23 27.5	
WMQ				PPP			06 24 42.0	
WMQ				SKS	SKSdf		06 26 59.0	-2.0
WMQ				SKKS	SKKSac		06 28 42.0	-6.3
WMQ				SS	SS		06 38 57.0	-5.2
WMQ				PP	PP			
comp=Z,159nm,5.7s								
WMQ				LR	LR			
comp=N,2μm,19.0s,MS5.9								
WMQ				LR	LR			
comp=E,2μm,19.4s,MS5.9								
WMQ				LR	LR			
comp=Z,2μm,21.2s,MS5.7								
LBTB	**Lobatse**	**128.19**	**116**	PFAKE			06 20 10.0	+20
LBTB				LR	LR			
comp=Z,2μm,19.0s,MS5.9								
GTA	**Gaotai**	**128.47**	**337**	*e*PKP	PKPdf		06 19 54.0	+3.4
GTA				XPKP			06 20 02.6	
XAN	**Xi'an**	**128.52**	**326**	PKP	PKPdf		06 19 53.6	+2.9
DAV	**Davao City (W)**	**129.30**	**286**	PFAKE			06 20 10.0	+18
DAV				LR	LR			
comp=Z,5μm,19.0s,MS6.2								
LZH	**Lanzhou**	**129.55**	**332**	*e*PKP	PKPdf		06 19 57.2	+4.5
LZH				PP	PP		06 22 08.5	+5.9
LZH				*e*SKS	SKSdf		06 27 03.7	-0.6
LZH				SKKS	SKKSac		06 28 55.7	-4.1
LZH				*e*SS	SS		06 39 21.3	-3.7
LZH				PP	PP			
comp=Z,136nm,5.1s								
LZH				LR	LR			
comp=N,315nm,19.5s								
LZH				LR	LR			
comp=Z,452nm,20.4s,MS5.2								
LZH	**Lanzhou**	**129.55**	**332**	*e*PKIKP	PKPdf		06 19 57.2	+4.5
LZH							06 22 08.5	
LZH				*e*			06 27 03.7	
LZH				*e*SS	SS		06 39 21.3	-3.7
LZH				MLR	MLR			
comp=Z,450nm,20.4s,MS5.2								
LZH	**Lanzhou**	**129.55**	**332**	*e*PKP	PKPdf		06 19 57.2	+4.5
LZH				sPKP			06 20 11.6	
LZH				PP	PP		06 22 08.5	+5.9
LZH				*e*SKS	SKSdf		06 27 03.7	-0.6
LZH				SKKS	SKKSac		06 28 55.7	-4.1
LZH				*e*SS	SS		06 39 21.3	-3.7
LZH				LR	LR			
comp=Z,450nm,20.4s,MS5.2								
AAK	**Ala-Archa**	**129.76**	**2**	*e*PKIKP	PKPdf		06 19 55.9	+2.8
AAK				MLR	MLR			
comp=Z,1μm,19.0s,MS5.5								
LSZ	**Lusaka**	**131.74**	**103**	PFAKE			06 20 10.0	+13
LSZ				LR	LR			
comp=Z,2μm,22.0s,MS5.8								
NWAO	**Narrogin (SRO)**	**135.12**	**230**	PFAKE			06 20 20.0	+17
NWAO				LR	LR			
comp=Z,1μm,20.0s,MS5.6								
GYA	**Guiyang**	**135.37**	**321**	PKP	PKPdf		06 20 07.9	+4.2
GYA				PP	PP			
comp=Z,120nm,7.8s								
GYA				LR	LR			
comp=N,280nm,20.4s,MS5.1								
GYA				LR	LR			
comp=E,260nm,20.8s,MS5.1								
GYA				LR	LR			
comp=Z,310nm,21.0s,MS5.0								
MBWA	**Marble Bar**	**136.64**	**247**	PFAKE			06 20 20.0	+14
MBWA				LR	LR			
comp=Z,1μm,20.0s,MS5.7								
QIZ	**Qiongzhong**	**138.02**	**310**	PFAKE			06 20 30.0	+21
QIZ				LR	LR			
comp=Z,1μm,19.0s,MS5.7								
KMI	**Kunming**	**138.75**	**323**	PKP	PKPdf		06 20 13.8	+3.9
KMI				XPKP			06 20 21.2	
KMI				PP	PP		06 23 03.5	+2.5
KMI				PKS			06 23 47.1	
KMI				SS	SS		06 41 13.9	-2.0
KMI				SSS			06 46 22.3	
KMI				PP	PP			
comp=Z,160nm,5.6s								
KMI	**Kunming**	**138.75**	**323**	PKIKP	PKPdf		06 20 13.8	+3.9
KMI							06 20 21.2	
KMI							06 23 03.5	
KMI				SS	SS		06 41 13.9	-2.0
KMI				SSS			06 46 22.3	
KMI	**Kunming**	**138.75**	**323**	PKP	PKPdf		06 20 13.8	+3.9
KMI				sPKP			06 20 21.2	
KMI				PP	PP		06 23 03.5	+2.5
KMI				PKS			06 23 47.1	
KMI				SS	SS		06 41 13.9	-2.0
KMI				SSS			06 46 22.3	
KMBO	**Kilima Mbogo**	**139.91**	**82**	PFAKE			06 20 30.0	+18
KMBO				LR	LR			
comp=Z,2μm,20.0s,MS5.8								
LSA	**Lhasa**	**140.29**	**340**	PFAKE			06 20 30.0	+17
LSA				LR	LR			
comp=Z,2μm,21.0s,MS5.9								
KLP	**Kalpa**	**140.87**	**358**	*e*P	PKPdf		06 20 15.0	+1.2
GUN	**Gumba**	**143.47**	**347**	*e*P	PKPdf		06 20 23.3	+4.9
comp=Z,28nm,0.9s								
GKN	**Gorkha**	**143.64**	**348**	*e*P	PKPdf		06 20 22.8	+4.1
comp=Z,25nm,1.0s								
KKN	**Kakani**	**143.72**	**347**	*e*P	PKPdf		06 20 23.7	+4.9
comp=Z,28nm,1.0s								
SHL	**Shillong**	**143.79**	**337**	*e*P	PKPdf		06 20 20.0	+1.1
SHL				*ex*	x		06 22 41.0	
PKI	**Pulchoki**	**143.90**	**347**	*e*P	PKPdf		06 20 22.7	+3.6
comp=Z,27nm,1.1s								
DMN	**Daman**	**143.93**	**348**	*e*P	PKPdf		06 20 23.3	+4.1
comp=Z,42nm,1.1s								
AYAN	**Aya Nagar**	**143.93**	**360**	*e*P	PKPdf		06 20 22.1	+2.9
AYAN				AMb	AMB		06 20 26.2	
comp=Z,14nm,0.9s								
KOLN	**Koldanda**	**144.06**	**350**	*e*P	PKPdf		06 20 21.0	+1.6
comp=Z,29nm,1.3s								
KUDL	**Kundal**	**144.27**	**1**	*e*P	PKPdf		06 20 20.8	+1.0
KHET	**Khetri**	**144.32**	**2**	*ex*	x		06 20 16.1	
JASL	**Jaisalmer**	**144.99**	**9**	*e*P	PKPdf		06 20 23.3	+2.2
KSM	**Kuching**	**145.47**	**284**	*e*PKPdf	PKPdf		06 20 24.1	+2.3
AGT	**Agartala**	**145.55**	**336**	*e*P	PKPdf		06 20 27.0	+5.0
CHTO	**Chiang Mai**	**145.79**	**321**	*e*PKPdf	PKPdf		06 20 24.7	+2.3
CHTO				LR	LR			
comp=Z,1μm,20.0s,MS5.7								
AJM	**Ajmer**	**145.86**	**4**	*e*P	PKPdf		06 20 25.0	+2.5
CM31	**Chiang Mai Arr**	**146.06**	**320**	PFAKE			06 20 40.0	+17
CM31				LR	LR			
comp=Z,11μm,20.0s								
BOK	**Bokaro**	**147.41**	**345**	*e*P	PKPbc		06 20 29.9	+2.3
BOK				AMb	AMB		06 20 32.6	
comp=Z,24nm,0.8s								
CAL	**Calcutta**	**147.85**	**340**	*ex*	x		06 20 38.6	
BHPL	**Bhopal**	**149.15**	**359**	*e*P	PKPdf		06 20 30.0	+2.0
BHPL				AMb	AMB		06 20 40.7	
comp=Z,58nm,1.4s								
POO	**Poona**	**153.66**	**7**	*e*P	PKPdf		06 20 36.0	+1.1
VIS	**Vishakhapatnam**	**153.87**	**346**	*ex*	x		06 20 44.9	
HYB	**Hyderabad**	**154.90**	**356**	*i* P	PKPbc		06 20 42.0	-3.3
HYB	**Hyderabad**	**154.90**	**356**	*e*P	PKPbc		06 20 42.0	-3.3
KAD	**Karad**	**154.91**	**6**	*e*P	PKPdf		06 20 40.6	+4.0
KAD				AMb	AMB		06 20 51.8	
comp=Z,14nm,0.5s								
MSEY	**Mahe Island**	**158.44**	**83**	PFAKE			06 21 00.0	+19
MSEY				LR	LR			
comp=Z,498nm,20.0s,MS5.3								
COCO	**West Island**	**159.93**	**256**	PFAKE			06 21 00.0	+17
COCO				LR	LR			
comp=Z,294nm,19.0s,MS5.2								
PALK	**Pallekele**	**164.57**	**346**	PFAKE			06 21 00.0	+12
PALK				LR	LR			
comp=Z,387nm,21.0s								
DGAR	**Diego Garcia**	**175.53**	**85**	PFAKE			06 21 10.0	+16
DGAR				LR	LR			
comp=Z,425nm,19.0s								

NEIC ***11*** *06:11:48.8, 1723N×9960W, h53km, MD3.8(MEX), After MEX.*

MEX 11 06:11:49.0±0.8, 1725N×9960W, h51km±15km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.49**	**219**	*i* P	Pn	06 11 58.0	-2.2
ACX				*i* S	Sn	06 12 07.0	-1.2
CAIG	**El Cayaco**	**0.67**	**253**	*i* P	Pn	06 12 01.1	-1.3
CAIG				*i* S	Sn	06 12 10.3	-1.8
CAIG	**El Cayaco**	**0.67**	**253**	*i* P	Pn	06 12 01.1	-1.3
CAIG				*i* S	Sn	06 12 10.3	-1.8
MEIG	**Mezcala**	**0.67**	**358**	*i* P	Pn	06 12 00.7	-1.8
MEIG				*i* S	Sn	06 12 10.2	-2.0
PLIG	**Platanillo**	**1.14**	**5**	*i* P	Pn	06 12 07.4	-1.2
PLIG				*i* S	Sn	06 12 21.5	-1.7
PLIG	**Platanillo**	**1.14**	**5**	*i* P	Pn	06 12 07.4	-1.2
PLIG				*i* S	Sn	06 12 23.1	-0.1
UTMO	**Huajuapan**	**1.81**	**71**	*i* P	Pn	06 12 16.6	-1.0
UTMO				*i* S	Sn	06 12 37.8	-1.7
PPM	**Popocatepetl**	**2.03**	**27**	*i* P	Pn	06 12 20.5	-0.3
PPM				*e*P		06 12 21.5	
PPM				*i* S	Sn	06 12 44.0	-0.9
PPM	**Popocatepetl**	**2.03**	**27**	*e*P	Pn	06 12 21.5	+0.8
PPM				*i* S	Sn	06 12 44.7	-0.2
VHO	**Vista Hermosa**	**2.74**	**93**	*i* P	Pn	06 12 30.3	-0.2
VHO				*i* S	Sn	06 13 00.7	-1.7
OXX	**Oaxaca**	**2.75**	**93**	*e*P	Pn	06 12 33.5	+2.9

NIED ***11*** *06:43:00, 2100N×12050E, h8km, Mw5.7 Best double couple: M0=4.54000×10^17 NP1:φs=308.00000°, δ68.00000°, λ-93.00000°. NP2:φs=136.00000°, δ22.00000°, λ-82.00000°.*

IDC ***11*** *06:43:52.0±0.3, 2074N×120.16E, h0km, mb5.4/34, mb1 5.4/34, mb1mx5.4/35, mbtmp5.4/34, ML3.9/1, MS5.1/26, Ms1 5.1/26, ms1mx4.9/42, Error ellipse: s-maj=13.8km s-min=8.5km az=66.0*

MAN ***11*** *06:43:53.0, 2079N×11995E, h31km, mb4.1, ML5.0, MS6.4*

NEIC ***11*** *06:43:53.8±0.1, 2071N×12008E, h10km, mb5.7/126, MW5.7, Error ellipse: s-maj=3.6km s-min=3.2km az=71.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17 Nm; Mrr-3.43; Mθθ0.48; Mφφ2.94; Mrθ-2.17; Mφθ-1.01; Mφr2.82; Best double couple: M0=4.90000×10^17 NP1: φs=148.00000°, δ68.00000°, λ-99.00000°. NP2: φs=351.00000°, δ23.00000°, λ-69.00000°. Principal axes: T 4.7500, Plg23.0000°, Azm245.0000°; N 0.2800, Plg8.0000°, Azm151.0000°; P -5.0300, Plg65.0000°, Azm43.0000°;*

GCMT ***11*** *06:43:53.8±0.1, 2071N×11994E, h12km, MW5.7/106, Moment Tensor Solution. s85,c141; s106,c295; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr-4.03±.03; Mθθ1.66±.03; Mφφ2.37±.04; Mrθ-1.46±.10; Mφθ-1.36±.03; Mφr2.31±.11; Best double couple: M0=4.61900×10^17 NP1:φs=320.00000°, δ27.00000°, λ-94.00000°. NP2:φs=145.00000°, δ63.00000°, λ-88.00000°. Principal axes: T 4.3100, Plg18.0000°, Azm234.0000°; N 0.6180, Plg2.0000°, Azm324.0000°; P -4.9280, Plg72.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***11*** *06:43:55.4±0.1, 2065N±002×12006E±002, h29km, mb5.6/232, MS5.4/72 Error ellipse: s-maj=2.7km s-min=2.1km az=117.5*

BJI ***11*** *06:43:56.0, 2099N×11984E, h23km, mB5.8, mb5.2, ML5.4, Ms5.9, Msz5.8*

MOS ***11*** *06:43:56.0±0.9, 2077N×120.13E, h33km, mb5.9/103, MS5.5/38, Error ellipse: s-maj=7.7km s-min=3.5km az=120.7*

SZGRF ***11*** *06:43:59.1, 21.13N×11986E, h29km, mb5.9, MS5.5, Taiwan region*

ISC 11 06:43:57.3±0.1, 2069N±002×12010E±002, h31km, h31km±.5km: pP-P, n954, σ0=90/919, mb5.6/231, MS5.4/72, 118C-148D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.40**	**168**	⇓*i* P	**Pn**	**06 44 31.5**	**-2.9**
PIP				*e*S	**Sn**	**06 44 59.0**	**-3.7**
SGCP	**Mt. Cagua**	**3.05**	**143**	*e*P	**Pn**	**06 44 42.1**	**-1.2**
SGCP				*e*S	**Sn**	**06 45 17.8**	**-0.9**
ABRA	**Dolores**	**3.08**	**169**	*e*P	**Pn**	**06 44 41.7**	**-2.1**
CVP	**Callao Caves**	**3.38**	**151**	⇓*e*P	**Pn**	**06 44 46.0**	**-2.0**
CVP				*i* S	**Sn**	**06 45 24.5**	**-2.6**
NACB	**Ninganchiao**	**3.74**	**21**	*e*Pn	**Pn**	**06 44 48.7**	**-4.1**
NACB				*e*Sn	**Sn**	**06 45 31.9**	**-3.9**
CAUP	**Cauayan**	**4.06**	**156**	*e*P	**Pn**	**06 44 58.7**	**+1.4**
YHNB	**Yeheng**	**4.14**	**16**	*e*Pn	**Pn**	**06 44 55.2**	**-3.1**
PALP	**Palanan**	**4.22**	**148**	⇑*e*P	**Pn**	**06 45 00.1**	**+0.5**
PALP				*i* S	**Sn**	**06 45 53.6**	**+5.8**
PALP	**Palanan**	**4.22**	**148**	*e*P	**Pn**	**06 44 59.9**	**+0.3**
PALP				*e*S	**Sn**	**06 45 50.0**	**+2.3**
BOLP	**Bolinao**	**4.29**	**182**	*e*P	**Pn**	**06 44 58.4**	**-1.9**
BCPH	**Baguio City Da**	**4.31**	**174**	⇓*e*P	**Pn**	**06 44 59.5**	**-1.2**
BCPH				*i* S	**Sn**	**06 45 52.1**	**+2.3**
QZH	**Quanzhou**	**4.46**	**342**	⇓*i* P	**Pn**	**06 44 58.0**	**-4.8**
QZH				S	**Sn**	**06 45 46.3**	**-7.3**
QZH				Smax			
comp=N,2μm,0.9s							
QZH				Smax			
comp=E,3μm,1.1s							
QZH				LR	LR		
comp=N,121μm,9.3s							
QZH				LR	LR		
comp=E,194μm,9.8s							
QZH				LR	LR		
comp=Z,121μm,8.8s							
SCZP	**Santa Cruz**	**4.89**	**182**	*e*P	**Pn**	**06 45 08.2**	**-0.4**
BALP	**Baler**	**5.11**	**164**	*e*P	**Pn**	**06 45 11.5**	**-0.2**
PCPH	**Palayan**	**5.18**	**169**	⇓*e*P	**Pn**	**06 45 12.1**	**-0.6**
HKC	**Hong Kong**	**5.75**	**287**	⇑*i* P	**Pn**	**06 45 16.0**	**-4.5**
HKC				*i* S	**Sn**	**06 46 26.0**	**+0.6**
POLP	**Polilio Island**	**6.18**	**163**	*e*P	**Pn**	**06 45 27.1**	**+0.8**
TGY	**Tagaytay City**	**6.60**	**173**	⇑*e*P	**Pn**	**06 45 42.8**	**+11**
TGY	**Tagaytay City**	**6.60**	**173**	Pn	**Pn**	**06 45 32.9**	**+0.8**
comp=Z,42nm,0.3s,baz=183,slow=11,SNR=3.9							
TGY				LR	LR	06 48 22.4	
comp=Z,79nm,20.2s,baz=72,slow=41							
GZH	**Guangzhou**	**6.71**	**292**	P	**Pn**	**06 45 28.5**	**-5.2**
GZH				S	**Sn**	**06 46 35.2**	**-14**
GZH				Smax			
comp=N,2μm,0.7s							
GZH				Smax			
comp=E,3μm,0.9s							
GZH				LR	LR		
comp=N,46μm,10.6s							
GZH				LR	LR		
comp=E,39μm,11.2s							
GZH				LR	LR		
comp=Z,72μm,10.3s							
LUBP	**Lubang**	**6.92**	**179**	*e*P	**Pn**	**06 45 37.0**	**+0.6**
PVCP	**Virac**	**8.04**	**151**	⇑*e*P	**Pn**	**06 45 50.7**	**-1.3**
PVCP	**Virac**	**8.04**	**151**	*e*P	**Pn**	**06 45 50.7**	**-1.3**
OTRP	**Odiongan**	**8.48**	**167**	*e*P	**Pn**	**06 46 00.3**	**+2.4**
BUSP	**Coron**	**8.63**	**179**	*e*P	**Pn**	**06 45 59.4**	**-0.7**
ENPP	**El Nido**	**9.45**	**184**	*e*P	**Pn**	**06 46 09.6**	**-1.6**
JOW	**Kunigami**	**9.67**	**49**	Pn	**Pn**	**06 46 11.2**	**-3.0**
comp=Z,2.7nm,0.3s,baz=256,

WHN			LR	LR		
	comp=Z,90μm,9.2s					
NJ2	**Nanjing**	**11.37 355**	*e*P	**Pn**	**06 46 37.8**	**+0.2**
NJ2			AP		06 46 44.4	
NJ2			PP		06 46 46.0	
NJ2			XP		06 46 50.0	
NJ2			AMB	AMB		
	comp=Z,100nm,1.0s					
NJ2			LR	LR		
	comp=N,57μm,9.3s					
NJ2			LR	LR		
	comp=E,33μm,10.7s					
NJ2			LR	LR		
	comp=Z,46μm,12.2s					
BATP	**Bataraza**	**12.03 191**	*e*P	**Pn**	**06 46 42.7**	**-3.8**
CGP	**Cagayan de Oro**	**12.94 159**	*e*P	**Pn**	**06 46 54.5**	**-4.6**
GYA	**Guiyang**	**13.59 298**	⇑*i*P	**Pn**	**06 47 03.1**	**-4.8**
GYA			AP		06 47 08.2	
GYA			XP		06 47 10.6	
GYA			S	**Sn**	**06 49 25.1**	**-13**
GYA			AMB	AMB		
	comp=Z,90nm,0.8s					
GYA			AMB	AMB		
	comp=Z,840nm,8.4s					
GYA			LR	LR		
	comp=N,32μm,11.9s					
GYA			LR	LR		
	comp=E,27μm,11.0s					
GYA			LR	LR		
	comp=Z,38μm,11.4s					
KKM	**Kota Kinabalu**	**15.03 195**	P	**Pn**	**06 47 29.6**	**+2.1**
KKM	**Kota Kinabalu**	**15.03 195**	*e*Pn	**Pn**	**06 47 27.3**	**-0.2**
KKM			*e*PcP	PcP	06 52 36.2	+1.6
TIA	**Tai'an**	**15.69 351**	⇓P	**Pn**	**06 47 35.3**	**-0.7**
TIA			XP	sP	06 47 45.5	-6.5
TIA			AMB	AMB		
	comp=Z,2μm,5.0s					
TIA			LR	LR		
	comp=N,10μm,12.0s					
TIA			LR	LR		
	comp=E,23μm,12.0s					
TSM	**Tawau**	**16.44 188**	P	**Pn**	**06 47 46.9**	**+1.3**
XAN	**Xi'an**	**16.58 326**	P	**Pn**	**06 47 46.3**	**-1.1**
XAN			AMB	AMB		
	comp=Z,93nm,1.1s					
XAN			AMB	AMB		
	comp=Z,2μm,14.3s					
XAN			LR	LR		
	comp=N,8μm,10.0s					
XAN			LR	LR		
	comp=E,22μm,10.9s					
XAN			LR	LR		
	comp=Z,32μm,10.7s					
KMI	**Kunming**	**16.59 289**	P	**Pn**	**06 47 44.6**	**-2.9**
KMI			AP	pP	06 47 50.5	-7.5
KMI			XP	sP	06 47 54.0	-8.0
KMI			PP		06 47 59.2	
KMI			PPP		06 48 06.4	
KMI			AMB	AMB		
	comp=Z,1μm,6.6s					
KMI			LR	LR		
	comp=N,16μm,13.8s					
KMI			LR	LR		
	comp=E,21μm,8.7s					
KMI			LR	LR		
	comp=Z,15μm,10.1s					
KMI	**Kunming**	**16.59 289**	P	**Pn**	**06 47 44.6**	**-2.9**
	comp=Z,16nm,1.6s					
KMI			pP	pP	06 47 50.5	-7.5
KMI			sP	sP	06 47 54.0	-8.0
KMI			PP		06 47 59.2	
KMI			PPP		06 48 06.4	
KMI			S	**Sn**	**06 50 55.1**	**+4.4**
KMI			sS	sS	06 51 04.2	-10
KMI			SS		06 51 19.5	
KMI			SSS		06 51 29.4	
KKTK	**Khon Kaen**	**16.94 258**	⇓P	**Pn**	**06 47 52.3**	**+0.3**
	comp=Z,741nm,0.9s					
INCN	**Inchon**	**17.68 17**	*e*Pn	**Pn**	**06 47 59.9**	**-1.2**
CD2	**Chengdu**	**17.87 308**	*e*P	**Pn**	**06 47 59.5**	**-4.0**
CD2			AP	pP	06 48 07.4	-4.8
CD2			XP	sP	06 48 11.9	-4.3
CD2			S	**Sn**	**06 51 17.2**	**-4.6**
CD2			AMB	AMB		
	comp=Z,210nm,1.2s					
CD2			AMB	AMB		
	comp=Z,1μm,6.0s					
CD2			LR	LR		
	comp=N,36μm,8.4s					
CD2			LR	LR		
	comp=E,36μm,10.6s					
CD2			LR	LR		
	comp=Z,27μm,9.6s					
DL2	**Dalian**	**18.21 4**	*i*P	**Pn**	**06 48 07.8**	**+0.2**
DL2			S	**Sn**	**06 51 31.9**	**+2.0**
DL2			AMB	AMB		
	comp=Z,80nm,1.0s					
DL2			AMB	AMB		
	comp=Z,4μm,7.0s					
DL2			LR	LR		
	comp=N,9μm,10.7s					
DL2			LR	LR		
	comp=E,14μm,12.5s					
DL2			LR	LR		
	comp=Z,10μm,12.8s					
BJT	**Baijiatuau**	**19.56 351**	*e*P	**Pn**	**06 48 21.9**	**-2.0**
BJT			pmax	pmax		
	comp=Z,155nm,0.9s					
BJT	**Baijiatuau**	**19.56 351**	*e*P	**Pn**	**06 48 21.9**	**-2.0**
	comp=Z,155nm,0.9s					
BJI	**Beijing**	**19.58 351**	P	**Pn**	**06 48 21.3**	**-2.9**
BJI			S	**Sn**	**06 51 50.9**	**-12**
BJI			AMB	AMB		
	comp=Z,158nm,0.8s					
BJI			AMB	AMB		
	comp=Z,6μm,8.4s					
BJI			LR	LR		
	comp=N,20μm,15.2s					
BJI			LR	LR		
	comp=E,6μm,15.2s					
BJI			LR	LR		
	comp=Z,6μm,24.4s					
BJI	**Beijing**	**19.58 351**	P	**Pn**	**06 48 21.3**	**-2.9**
	comp=Z,158nm,0.8s					
BJI			S	**Sn**	**06 51 50.9**	**-12**
NST	**Nakhon Sawan**	**19.61 259**	P	**Pn**	**06 48 24.0**	**-0.5**
CHTO	**Chiang Mai**	**20.00 268**	P	**Pn**	**06 48 27.7**	**-1.4**
	SNR=45					
CHTO	**Chiang Mai**	**20.00 268**	*e*P	**Pn**	**06 48 27.4**	**-1.7**
CHTO			pmax	pmax		
	comp=Z,84nm,1.1s					
CHTO	**Chiang Mai**	**20.00 268**	*e*P	**Pn**	**06 48 27.4**	**-1.7**
	comp=Z,85nm,1.1s					
LZH	**Lanzhou**	**20.93 321**	⇑P	**P**	**06 48 38.0**	**+0.7**
LZH			AP		06 48 46.9	
LZH			XP	sP	06 48 50.8	+1.2
LZH			PP		06 49 02.0	
LZH			AMB	AMB		
	comp=Z,290nm,1.2s					
LZH			AMB	AMB		
	comp=Z,2μm,4.7s					
LZH			LR	LR		
	comp=E,21μm,11.3s					
LZH			LR	LR		
	comp=Z,33μm,12.5s,MS5.9					
LZH	**Lanzhou**	**20.93 321**	⇑P	**P**	**06 48 38.0**	**+0.7**
LZH			*SP	sP	06 48 50.8	+1.2
LZH					06 49 02.0	
LZH			S	**S**	**06 52 29.3**	**+0.4**
LZH			*SS	sS	06 52 40.0	-2.2
LZH			*e*SS		06 53 05.0	
LZH			pmax	pmax		
	comp=Z,290nm,1.2s					
LZH			MLR	MLR		
	comp=Z,33μm,12.5s,MS5.9					
LZH	**Lanzhou**	**20.93 321**	⇑P	**P**	**06 48 38.0**	**+0.7**
	comp=Z,290nm,1.2s					
LZH			pP		06 48 46.9	
LZH			sP	sP	06 48 50.8	+1.2
LZH			PP		06 49 02.0	
LZH			S	**S**	**06 52 29.3**	**+0.4**
LZH			sS	sS	06 52 40.0	-2.2
LZH			*e*SS		06 53 05.0	
LZH			LR	LR		
	comp=Z,33μm,12.5s,MS5.9					
NNT	**Nongplab**	**21.09 251**	P	**P**	**06 48 40.3**	**+1.2**
CBIJ	**Chichi jima**	**21.16 68**	LR	LR	06 55 54.2	
	comp=Z,3μm,19.2s,MS4.7,baz=292,slow=34					
SNY	**Shenyang**	**21.28 7**	⇓P	**P**	**06 48 38.8**	**-2.3**
SNY			AP		06 48 48.2	
SNY			XP	sP	06 48 52.2	-1.2
SNY			PP		06 49 01.1	
SNY			S	**S**	**06 52 37.4**	**+1.5**
SNY			AMB	AMB		
	comp=Z,99nm,2.5s,mb4.7					
SNY			AMB	AMB		
	comp=Z,3μm,8.7s					
SNY			LR	LR		
	comp=N,15μm,13.9s					
SNY			LR	LR		
	comp=Z,19μm,12.0s,MS5.7					
KSM	**Kuching**	**21.35 208**	*e*P	**P**	**06 48 41.6**	**-0.3**
HHC	**Hu-ho-hao-te**	**21.37 342**	*e*P	**P**	**06 48 41.6**	**-0.5**
HHC			AP		06 48 51.1	
HHC			XP	sP	06 48 55.5	+1.1
HHC			PP		06 49 05.5	
HHC			PCP	PcP	06 52 47.9	+2.7
HHC			SS		06 53 06.1	
HHC			PCS	PcS	06 56 19.7	-3.7
HHC			AMB	AMB		
	comp=Z,135nm,0.9s,mb5.3					
HHC			AMB	AMB		
	comp=Z,4μm,4.8s					
HHC			LR	LR		
	comp=N,14μm,10.4s,MS5.8					
HHC			LR	LR		
	comp=E,18μm,14.4s,MS5.8					
HHC			LR	LR		
	comp=Z,18μm,12.6s,MS5.7					
JHJ	**Hachijo jima 2**	**21.44 51**	P	**P**	**06 48 45.0**	**+2.2**
	comp=Z,201nm,0.8s,mb5.5,baz=235,slow=11,SNR=4.9					
JHJ			LR	LR	06 56 18.7	
	comp=Z,8μm,21.5s,MS5.1,baz=71,slow=35					
BTO	**Baotou**	**21.64 339**	*e*P	**P**	**06 48 43.4**	**-1.5**
BTO			LR	LR		
	comp=N,6μm,11.0s,MS5.4					
BTO			LR	LR		
	comp=E,7μm,13.1s,MS5.4					
MAJO	**Matsushiro**	**22.35 41**	*e*P	**P**	**06 48 51.8**	**-0.8**
MAJO			*e*		06 52 47.0	
MAT	**Matsushiro**	**22.35 41**	P	**P**	**06 48 51.4**	**-1.2**
MAT			S	**S**	**06 52 59.0**	**+2.3**
MJAR	**Matsushiro Arr**	**22.35 41**	P	**P**	**06 48 50.6**	**-2.0**
	comp=E,72nm,0.9s,mb5.1,baz=231,slow=8.9,SNR=38					
MJAR			LR	LR	06 58 05.6	
	comp=E,5μm,20.4s,MS5.0,baz=220,slow=38					
SNG	**Songkhla**	**23.15 237**	P	**P**	**06 49 01.0**	**-0.1**
	comp=E,384nm,0.9s,mb5.8					
CN2	**Changchun**	**23.48 10**	⇑P	**P**	**06 49 02.0**	**-2.4**
CN2			*e*XP	sP	06 49 14.0	-2.9
CN2			*e*S	**S**	**06 53 10.6**	**-5.0**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.9s					
CN2			AMB	AMB		
	comp=Z,200nm,5.0s					
CN2			LR	LR		
	comp=N,14μm,13.0s,MS5.8					
CN2			LR	LR		
	comp=E,19μm,13.0s,MS5.8					
CN2			LR	LR		
	comp=Z,17μm,14.0s,MS5.7					
KULM	**Kulim**	**24.31 234**	*e*P	**P**	**06 49 10.4**	**-1.6**
VLA	**Vladivostok**	**24.46 21**	⇓*e*P	**P**	**06 49 12.9**	**-0.4**
VLA			pmax	pmax		
	comp=Z,304nm,1.3s,mb5.6					
VLA			MLR	MLR		
	comp=Z,6μm,17.0s,MS5.2					
VLA	**Vladivostok**	**24.46 21**	⇓*e*P	**P**	**06 49 12.0**	**-1.3**
IMP	**Imphal**	**24.46 285**	*e*P	**P**	**06 49 12.0**	**-1.4**
IPM	**Ipoh**	**24.57 232**	P	**P**	**06 49 13.8**	**-0.5**
GUMO	**Guam**	**24.68 103**	P	**P**	**06 49 14.4**	**-1.0**
	comp=Z,156nm,0.8s,mb5.6,baz=333,slow=14,SNR=2.6					
GUMO			LR	LR	06 57 00.8	
	comp=Z,5μm,18.9s,MS5.0,baz=85,slow=32					
KGM	**Kluang**	**24.75 224**	P	**P**	**06 49 15.8**	**-0.1**
MDJ	**Mudanjiang**	**25.13 16**	P	**P**	**06 49 18.4**	**-1.1**
MDJ			AP	pP	06 49 28.4	0.0
MDJ			XP	sP	06 49 33.4	+1.2
MDJ			S	**S**	**06 53 42.3**	**0.0**
MDJ			XS	sS	06 53 55.7	-1.4
MDJ			SCP	ScP	06 56 29.4	-0.4
MDJ			AMB	AMB		
	comp=Z,281nm,0.8s,mb5.8					
MDJ			AMB	AMB		
	comp=Z,3μm,4.8s					
MDJ			LR	LR		
	comp=E,7μm,18.6s					
MDJ			LR	LR		
	comp=Z,4μm,19.8s,MS5.0					
MDJ	**Mudanjiang**	**25.13 16**	*e*P	**P**	**06 49 18.4**	**-1.1**
	comp=Z,294nm,1.0s,mb5.8					
GTA	**Gaotai**	**25.52 321**	⇓P	**P**	**06 49 22.4**	**-0.6**
GTA			AP	pP	06 49 31.2	-0.8
GTA			XP	sP	06 49 35.9	+0.1
GTA			PP		06 50 01.8	
GTA			PCP	PcP	06 52 55.2	+1.3
GTA			S	**S**	**06 53 47.5**	**-0.9**
GTA			PCS	PcS	06 56 34.4	-0.1
GTA			AMB	AMB		
	comp=Z,53nm,1.1s,mb5.0					
GTA			AMB	AMB		
	comp=Z,1μm,5.0s					
GTA			LR	LR		
	comp=N,12μm,10.3s,MS5.8					
GTA			LR	LR		
	comp=E,9μm,10.7s,MS5.8					
GTA			LR	LR		
	comp=Z,12μm,9.9s					
KAPI	**Kappang**	**25.54 181**	P	**P**	**06 49 22.7**	**-0.5**
	comp=Z,384nm,0.8s,mb6.0,SNR=5.4					
SHL	**Shillong**	**26.37 286**	*e*P	**P**	**06 49 30.0**	**-0.7**
SHL			AMb	AMB	06 49 37.2	
	comp=Z,976nm,1.4s,mb6.1					
SHL			*e*x	x	06 54 11.0	
AGT	**Agartala**	**26.86 282**	*i* x	**P**	**06 49 38.0**	**+2.9**
AGT			*i* x	x	06 52 17.0	
PSI	**Prapat**	**27.24 232**	P	**P**	**06 49 38.1**	**-0.4**
	comp=Z,77nm,1.0s,mb5.2,baz=30,slow=5.1,SNR=34					
PSI			PcP	PcP	06 52 58.6	+0.7
	comp=Z,6.9nm,0.5s,baz=3.2,slow=4.5,SNR=4.2					
PSI			S	**S**	**06 54 17.8**	**+2.3**
	comp=Z,1.5nm,0.4s,baz=14,slow=16,SNR=1.5					
PSI			LR	LR	07 00 06.7	
	comp=Z,7μm,18.9s,MS5.3,baz=312,slow=36					
PSI	**Prapat**	**27.24 232**	P	**P**	**06 49 38.2**	**-0.3**
PSI					06 52 58.6	
PSI			S	**S**	**06 54 17.8**	**+2.2**
LSA	**Lhasa**	**27.63 295**	P	**P**	**06 49 41.8**	**-0.2**
LSA			AP	pP	06 49 51.4	+0.4
LSA			XP	sP	06 49 55.5	+0.7
LSA			S	**S**	**06 54 24.1**	**+2.4**
LSA			SCS	ScS	07 00 25.8	-3.3
LSA			AMB	AMB		
	comp=Z,80nm,0.8s,mb5.4					
LSA			LR	LR		
	comp=N,7μm,12.1s,MS5.7					
LSA			LR	LR		
	comp=E,8μm,10.7s,MS5.7					
LSA			LR	LR		
	comp=Z,9μm,11.6s,MS5.6					
LSA	**Lhasa**	**27.63 295**	*e*P	**P**	**06 49 43.4**	**+1.4**
LSA			pmax	pmax		
	comp=Z,57nm,0.8s,mb5.2					
LSA	**Lhasa**	**27.63 295**	*e*P	**P**	**06 49 43.4**	**+1.4**
	comp=Z,57nm,0.8s,mb5.2					
PBA	**Port Blair**	**27.73 255**	*e*x	x	06 49 30.0	
PBA			*e*x	x	06 50 08.9	
	comp=Z,101nm,0.4s					
PBA			*e*x	x	06 52 11.6	
HIA	**Hailar**	**28.52 360**	*e*P	**P**	**06 49 48.2**	**-1.7**
HIA			pmax	pmax		
	comp=Z,71nm,1.1s					
HIA	**Hailar**	**28.52 360**	*e*P	**P**	**06 49 48.2**	**-1.8**
	comp=Z,71nm,1.1s,mb5.3					
ERM	**Erimo**	**28.82 37**	*ce*P	**P**	**06 49 51.0**	**-1.6**
SONM	**Songino Array**	**29.26 341**	P	**P**	**06 49 55.0**	**-1.6**
	comp=Z,35nm,0.9s,mb5.1,baz=159,slow=8.6,SNR=108					
SONM			PcP	PcP	06 53 03.0	+0.1
	comp=Z,5.8nm,1.1s,baz=101,slow=4.7,SNR=4.7					
SONM			LR	LR	07 02 03.5	
	comp=Z,8μm,19.8s,MS5.3,baz=257,slow=37					
SONM	**Songino Array**	**29.26 341**	P	**P**	**06 49 55.0**	**-1.6**
SONM					06 53 03.0	
CAL	**Calcutta**	**29.57 279**	*e*P	**P**	**06 50 01.0**	**+1.8**
CAL			*e*S	**S**	**06 54 53.5**	**+1.3**
ASAJ	**Asahikawa**	**29.93 34**	P	**P**	**06 50 01.2**	**-1.2**
	comp=Z,40nm,1.1s,mb5.1,baz=232,slow=16,SNR=7.5					
ASAJ			LR	LR	07 02 51.8	
	comp=Z,10μm,20.1s,MS5.5,baz=245,slow=38					
KLR	**Kul'dur**	**29.96 15**	⇑*i*P	**P**	**06 49 59.0**	**-3.8**
KLR			*e*		06 51 12.5	
KLR			*e*S	**S**	**06 55 00.0**	**+1.6**
KLR			pmax	pmax		
	comp=N,2μm,11.0s					
KLR			pmax	pmax		
	comp=Z,3μm,11.0s					
KLR			smax			
	comp=N,2μm,7.0s					
KLR			smax			
	comp=E,2μm,7.0s					
JIRN	**Jiri**	**31.63 289**	*e*P	**P**	**06 50 17.5**	**0.0**
CIT	**Chita**	**31.69 352**	*e*P	**P**	**06 50 16.6**	**-1.4**
CIT			*e*		06 51 33.6	
CIT			*e*		06 53 08.6	
CIT			pmax	pmax		
	comp=Z,175nm,2.9s,mb5.4					
BOK	**Bokaro**	**31.77 282**	*e*P	**P**	**06 50 18.3**	**-0.5**
BOK			AMb	AMB	06 50 21.2	
	comp=Z,58nm,1.1s,mb5.3					
GUN	**Gumba**	**31.93 290**	*e*P	**P**	**06 50 20.1**	**0.0**
	comp=Z,323nm,0.8s,mb6.2					
YSS	**Yuzh-Sakhalins**	**32.03 30**	⇑*e*P	**P**	**06 50 21.0**	**0.0**
YSS			*e**SP	sP	06 50 32.3	-1.5
YSS					06 51 29.0	
YSS			S	**S**	**06 55 27.0**	**-3.8**
YSS			*e*SSS		06 57 50.0	
YSS			pmax	pmax		
	comp=Z,140nm,1.0s,mb5.8					
YSS			pmax	pmax		
	comp=N,60μm,1.0s					
YSS			MLR	MLR		
	comp=Z,5μm,18.0s,MS5.3					
YSS			MLR	MLR		
	comp=N,5μm,20.0s,MS5.5					
YSS			MLR	MLR		
	comp=E,7μm,18.0s,MS5.5					
YSS	**Yuzh-Sakhalins**	**32.03 30**	*e*P	**P**	**06 50 20.3**	**-0.7**
	comp=E,115nm,0.9s,mb5.7					
PKI	**Pulchoki**	**32.32 289**	*e*P	**P**	**06 50 23.3**	**-0.2**
	comp=E,109nm,0.9s,mb5.7					
KKN	**Kakani**	**32.45 289**	*e*P	**P**	**06 50 24.5**	**-0.1**
	comp=E,181nm,0.9s,mb5.9					
ZAK	**Zakamensk**	**32.48 340**	*e*P	**P**	**06 50 23.4**	**-1.5**
ZAK			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7					
DMN	**Daman**	**32.59 289**	*e*P	**P**	**06 50 25.7**	**-0.2**
	comp=Z,224nm,0.9s,mb6.1					
GKN	**Gorkha**	**33.03 290**	*e*P	**P**	**06 50 28.5**	**-1.3**
	comp=Z,217nm,1.0s,mb6.0					
TLY	**Talaya**	**33.50 341**	*d i*P	**P**	**06 50 29.5**	**-4.3**
TLY			*e*		06 51 39.5	
TLY			*e*S	**S**	**06 55 49.0**	**-4.6**
TLY			*e*SS	SS	06 57 48.7	-30
TLY			pmax	pmax		
	comp=Z,53nm,1.6s,mb5.2					
TLY			MLR	MLR		
	comp=Z,7μm,15.0s,MS5.5					
TLY	**Talaya**	**33.50 341**	*e*P	**P**	**06 50 33.3**	**-0.6**
	comp=Z,20nm,0.7s,mb5.2					
IRK	**Irkutsk**	**33.81 342**	*e*P	**P**	**06 50 31.6**	**-5.0**
IRK			*e*		06 53 10.3	
IRK			pmax	pmax		
	comp=Z,109nm,0.8s,mb5.8					
KOLN	**Koldanda**	**33.93 289**	*e*P	**P**	**06 50 36.8**	**-0.8**
	comp=Z,207nm,0.9s,mb6.1					
MOY	**Mondy**	**34.33 339**	*e*P	**P**	**06 50 40.3**	**-0.8**
MOY			pmax	pmax		
	comp=Z,127nm,2.6s,mb5.4					
VIS	**Vishakhapatnam**	**34.80 272**	*e*P	**P**	**06 50 45.2**	**0.0**
VIS			*i* x	x	06 56 11.0	
KAKA	**Kakadu**	**35.34 159**	*e*P	**P**	**06 50 47.9**	**-1.8**
	comp=Z,53nm,0.8s,mb5.5					
KAKA			*e*PCP	PcP	06 53 20.0	+0.5
WMQ	**Urumqi**	**35.46 318**	P	**P**	**06 50 51.8**	**+1.0**
WMQ			AP	pP	06 51 01.5	+1.6
WMQ			XP	sP	06 51 05.5	+1.8
WMQ			PCP	PcP	06 53 20.0	+0.1
WMQ			S	**S**	**06 56 23.0**	**-0.9**
WMQ			AMB	AMB		
	comp=Z,41nm,0.8s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,334nm,4.6s					
WMQ			LR	LR		
	comp=N,13μm,17.8s,MS5.9					
WMQ			LR	LR		
	comp=E,12μm,13.0s,MS5.9					
WMQ			LR	LR		
	comp=Z,12μm,20.3s					
CLNS	**Chul'man**	**36.28 4**	*e*P	**P**	**06 50 55.5**	**-2.3**
CLNS			*e**PP	pP	06 51 05.9	-1.0
CLNS			*e*PPP		06 52 25.4	
CLNS			*e*		06 53 21.3	
CLNS			*e*S	**S**	**06 56 29.8**	**-6.6**
CLNS			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0					
CLNS			pmax	pmax		
	comp=N,12nm,0.7s					
CLNS			pmax	pmax		
	comp=E,12nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0					
CLNS			pmax	pmax		
	comp=N,19nm,1.0s					
CLNS			pmax	pmax		
	comp=E,14nm,0.9s					
CLNS			smax			
	comp=N,585nm,10.2s					
CLNS			smax			
	comp=Z,411nm,10.7s					
CLNS			smax			
	comp=E,992nm,12.3s					
CLNS			MLR	MLR		
	comp=N,4μm,12.0s,MS5.6					
CLNS			MLR	MLR		
	comp=E,6μm,12.0s,MS5.6					
CLNS			MLR	MLR		
	comp=Z,6μm,12.0s,MS5.6					
CLNS	**Chul'man**	**36.28 4**	*e*P	**P**	**06 50 55.4**	**-2.4**
JBP	**Jabalpur**	**37.22 281**	⇑*i*P	**P**	**06 51 07.0**	**+1.3**
JBP			*e*x	x	06 51 08.7	
	comp=Z,105nm,1.3s					
JBP			*i* S	**S**	**06 56 53.3**	**+2.6**
BOD	**Bodaibo**	**37.35 355**	*e*P	**P**	**06 51 01.9**	**-5.1**
BOD			*e*		06 53 23.6	
BOD			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7					
BOD			pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8					
NGP	**Nagpur**	**38.27 278**	⇑*i*P	**P**	**06 51 13.0**	**-1.7**
NGP			*e*x	x	06 51 25.1	
	comp=Z,108nm,1.6s					
NGP			*e*S	**S**	**06 57 07.5**	**+0.8**
MDRS	**Chennai**	**38.80 265**	*e*P	**P**	**06 51 18.3**	**-0.8**
MDRS			⇑*e*P		06 51 19.7	
MDRS			AMb	AMB	06 51 29.3	
	comp=Z,75nm,0.5s,mb5.7					
MDRS			*e*x	x	06 52 51.7	
FITZ	**Fitzroy Crossi**	**38.93 172**	⇓*i*P	**P**	**06 51 18.4**	**-1.8**
	comp=Z,66nm,0.9s,mb5.4					
FITZ			*e*PCP	PcP	06 53 30.5	0.0
FITZ			*e*S	**S**	**06 57 13.1**	**-3.5**
FITZ	**Fitzroy Crossi**	**38.93 172**	P	**P**	**06 51 19.0**	**-1.2**
	comp=Z,46nm,1.1s,mb5.1,baz=344,slow=7.4,SNR=19					
HYB	**Hyderabad**	**39.33 272**	*i* P	**P**	**06 51 24.0**	**+0.4**
HYB			*e*S	**S**	**06 57 24.0**	**+1.4**
HYB			LR	LR	07 13 24.0	
	comp=Z,5.1nm,14.0s					
HYB	**Hyderabad**	**39.33 272**	*e*P	**P**	**06 51 24.0**	**+0.4**
HYB			*e*S	**S**	**06 57 24.0**	**+1.4**
HYB	**Hyderabad**	**39.33 272**	*e*P	**P**	**06 51 24.0**	**+0.4**
HYB			*e*S	**S**	**06 57 24.0**	**+1.4**
HYB			*e*LR	LR	07 13 24.0	
BHPL	**Bhopal**	**39.56 282**	*e*P	**P**	**06 51 25.5**	**0.0**
BHPL			AMb	AMB	06 51 27.0	
	comp=Z,56nm,0.8s,mb5.3					

BHPL *i* x x 06 53 02.2
NDI New Delhi 39.60 290 *e*P **P 06 51 25.4 -0.4**
SDNR Sundarnagar 39.98 295 *e*P **P 06 51 29.0 0.0**
PMG Port Moresby 40.03 136 P **P 06 51 29.2 -0.2**
comp=Z,57nm,0.9s,mb5.3,baz=354,slow=7.0,SNR=6.7
PMG Port Moresby 40.03 136 *e*P **P 06 51 29.8 +0.4**
AKL Akola 40.21 278 *i* P **P 06 51 31.6 +0.7**
AKL *i* S **S 06 57 37.6 +1.7**
MK31 Makanchi Array 40.23 319 *i* P **P 06 51 30.1 -1.0**
MK31 pmax pmax
comp=Z,32nm,0.8s,mb5.1
MKAR Makanchi Array 40.23 319 P **P 06 51 30.2 -0.8**
comp=Z,20nm,0.8s,mb4.9,baz=115,slow=8.8,SNR=118
MKAR PcP PcP 06 53 34.7 +0.1
comp=Z,26nm,0.8s,baz=98,slow=5.0,SNR=11
MKAR LR LR 07 08 26.7
comp=Z,3μm,19.3s,MS5.2,baz=202,slow=37
MKAR Makanchi Array 40.23 319 *i* P **P 06 51 30.1 -1.0**
MKAR pmax pmax
comp=Z,26nm,0.8s
KRAR Krasnoyarsk 40.70 337⇓*i* P **P 06 51 34.3 -0.6**
KRAR pmax pmax
comp=Z,67nm,0.8s,mb5.3
KRAR MLR MLR
comp=Z,6μm,18.0s,MS5.5
THN Thein Dam 41.12 296 *e*P **P 06 51 37.4 -1.0**
MBWA Marble Bar 41.59 181 *e*P **P 06 51 39.1 -3.1**
comp=Z,30nm,0.9s,mb4.9
YAK Yakutsk 41.84 7 *e*P **P 06 51 43.4 -0.9**
YAK *e* 06 53 22.2
YAK *e* 06 53 38.3
YAK *e*PPP 06 53 50.5
YAK *e*S **S 06 57 59.5 -0.6**
YAK *e*SSS 07 01 38.3
YAK *e* 07 01 43.4
YAK pmax pmax
comp=Z,125nm,1.1s,mb5.5
YAK pmax pmax
comp=N,67nm,1.4s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=Z,820nm,6.7s
YAK pmax pmax
comp=N,393nm,3.0s
YAK pmax pmax
comp=E,143nm,2.6s
YAK smax
comp=N,1μm,8.8s
YAK smax
comp=E,1μm,6.3s
YAK MLR MLR
comp=N,6μm,14.0s,MS5.8
YAK MLR MLR
comp=Z,6μm,14.0s,MS5.6
YAK MLR MLR
comp=E,6μm,13.0s,MS5.8
YAK Yakutsk 41.84 7 *e*P **P 06 51 42.9 -1.4**
comp=E,74nm,0.7s,mb5.4
AJM Ajmer 41.89 287 *i* P **P 06 51 44.0 -0.7**
KSH Kashi 42.06 306 P **P 06 51 48.2 +2.1**
KSH *e*AP pP 06 51 58.1 +2.8
KSH *e*PP PP 06 53 29.3 +5.6
KSH *e*PCP PcP 06 53 42.7 +2.1
KSH *e*PPP 06 54 01.0
KSH *e*SCP ScP 06 57 28.6 -0.1
KSH *e*PCS PcS 06 57 37.0 +4.7
KSH *e*S **S 06 58 05.9 +2.6**
KSH *e*SCS ScS 07 01 44.6 -1.6
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.5
KSH LR LR
comp=N,4μm,9.9s
KSH LR LR
comp=E,9μm,11.0s
KSH LR LR
comp=Z,11μm,12.3s,MS5,9
AAA Alma-Ata 42.37 312 *i* P **P 06 51 50.9 +2.3**
AAA *i* S **S 06 58 13.3 +5.4**
AAA pmax pmax
comp=Z,1μm,3.6s
AAA smax
comp=E,2μm,5.9s
AAA MLR MLR
comp=Z,7μm,12.5s,MS5.7
ULHL Ulahol 42.56 310 P **P 06 51 50.6 +0.4**
SNR=54
ZAL Zalesovo 42.69 330 P **P 06 51 50.0 -1.3**
comp=Z,38nm,0.9s,mb5.1,baz=354,slow=8.3,SNR=74
ZAL PcP PcP 06 53 41.9 -0.8
comp=Z,6.4nm,0.7s,baz=18,slow=3.4,SNR=3.3
ZAL LR LR 07 10 29.4
comp=Z,3μm,19.0s,MS5.2,baz=237,slow=37
ZAL Zalesovo 42.69 330 P **P 06 51 50.0 -1.2**
ZAL 06 53 41.9
ZAL Zalesovo 42.69 330 P **P 06 51 50.0 -1.3**
ZAL PcP PcP 06 53 41.9 -0.8
ZAL LR LR 07 10 29.4
WRAB Tennant Creek 42.71 160 P **P 06 51 50.0 -1.4**
comp=Z,1μm,1.1s,mb6.6,SNR=79
WRAB Tennant Creek 42.71 160 *d* iP **P 06 51 50.7 -0.7**
WRA Warramunga Arr 42.72 160 P **P 06 51 49.6 -1.8**
comp=Z,135nm,0.9s,mb5.7,baz=342,slow=8.9,SNR=237
WRA PcP PcP 06 53 43.0 +0.2
comp=Z,19nm,0.7s,baz=343,slow=3.6,SNR=5.0
WRA S **S 06 58 05.8 -7.2**
comp=Z,1.6nm,1.2s,baz=7.9,slow=10,SNR=3.6
WB2 Warramunga Arr 42.72 160 *e*P **P 06 51 50.0 -1.5**
WB2 *e*PCP PcP 06 53 42.2 -0.6
WB2 *e*S **S 06 58 10.9 -2.1**
TKM2 Tokmak 2 43.21 311 P **P 06 51 56.9 +1.5**
SNR=40
TKM2 Tokmak 2 43.21 311 P **P 06 51 54.9 -0.6**
TKM2 pmax pmax
comp=Z,66nm,1.3s,mb5.2
TKM2 Tokmak 2 43.21 311 *i* P **P 06 51 54.0 -1.5**
KAD Karad 43.44 274 *e*P **P 06 51 58.1 +0.8**
KAD AMb AMB 06 52 07.1
comp=Z,23nm,1.4s,mb4.7
POO Poona 43.51 275⇑*i* P **P 06 51 57.0 -0.9**
comp=Z,62nm,1.1s,mb5.2
POO *e*x x 06 52 33.2
KBK Karagaybulak 43.60 311 P **P 06 52 00.3 +1.8**
SNR=17
PET Petropavlovsk 43.77 33⇑*i* P **P 06 51 59.6 -0.3**
PET *e*S **S 06 58 29.7 +1.4**
PET pmax pmax
comp=Z,2μm,3.4s
PET pmax pmax
comp=Z,119nm,1.1s,mb5.5
PET pmax pmax
comp=Z,900nm,5.6s
PET smax
comp=E,1μm,25.0s
PET MLR MLR
comp=Z,4μm,20.0s,MS5.3
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 43.77 33 *e*P **P 06 51 58.9 -1.0**
comp=Z,98nm,1.0s,mb5.5
UCH Uchtor 43.80 310 P **P 06 52 02.2 +2.1**
SNR=84
CHMS Chumysh 43.83 311 P **P 06 52 01.1 +0.7**
SNR=15
FRU Bishkek 43.88 311⇑*e*P **P 06 52 04.0 +3.2**
FRU *e* 06 54 26.0
FRU *e*S **S 06 58 34.0 +4.0**
FRU *e* 07 01 44.0
FRU *e*SS SS 07 02 02.0 +15
FRU pmax pmax
comp=Z,84nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,5μm,17.0s,MS5.5
FRU MLR MLR
comp=N,6μm,15.0s
MNGI Mangalore 43.91 267 *i* P **P 06 52 01.4 +0.4**
MNGI AMb AMB 06 52 04.5
comp=Z,75nm,0.3s,mb5.9
MNGI *i* S **S 06 58 32.1 +1.7**
AAK Ala-Archa 43.91 311 P **P 06 52 00.9 -0.2**
comp=Z,155nm,1.0s,mb5.7,SNR=16
AAK Ala-Archa 43.91 311 P **P 06 52 02.6 +1.5**
SNR=18
AAK Ala-Archa 43.91 311 *d* iP **P 06 52 00.5 -0.6**
AAK pmax pmax
comp=Z,20nm,0.8s,mb4.9
AAK MLR MLR
comp=Z,4μm,16.0s,MS5.5
AAK Ala-Archa 43.91 311 *e*P **P 06 52 00.6 -0.5**
comp=Z,16nm,0.8s,mb4.8
AAK *e*PcP PcP 06 53 46.3 -0.5
NVS Novosibirsk 43.97 330⇑*i* P **P 06 52 00.5 -1.0**
NVS *e* 06 53 45.4
NVS *e*S **S 06 58 27.8 -3.4**
NVS pmax pmax
comp=N,36nm,1.1s
NVS pmax pmax
comp=E,39nm,1.1s
NVS pmax pmax
comp=Z,65nm,1.1s,mb5.3
NVS pmax pmax
comp=N,20nm,1.6s
NVS pmax pmax
comp=E,33nm,1.6s
NVS pmax pmax
comp=Z,69nm,1.6s,mb5.1
NVS smax
comp=N,135nm,2.6s
NVS smax
comp=E,118nm,2.6s
USP Ospenovka 44.08 311 P **P 06 52 03.1 +0.6**
SNR=15
GOA Goa 44.18 271 *e*x x 06 51 54.5
GOA AMb AMB 06 51 55.8
comp=Z,49nm,0.5s,mb5.5
KURK Kurchatov 44.19 323 P **P 06 52 03.8 +0.5**
comp=Z,684nm,1.1s,mb6.3,SNR=69
AML Almayashu 44.36 310 P **P 06 52 06.8 +2.1**
SNR=36
EKS2 Erkin-Say 44.43 310 P **P 06 52 06.7 +1.5**
SNR=22
MA2 Magadan 44.59 22 *d* iP **P 06 52 04.6 -1.9**
MA2 *i* 06 53 49.0
MA2 *e*S **S 06 58 37.5 -2.8**
MA2 *e*SSS 07 02 52.8
MA2 pmax pmax
comp=Z,100nm,1.1s,mb5.6
MA2 MLR MLR
comp=Z,12μm,18.0s,MS5.8
MA2 Magadan 44.59 22 *e*P **P 06 52 05.4 -1.1**
comp=Z,70nm,1.1s,mb5.4
MA2 *e*pP pP 06 52 14.6 -1.2
AS31 Alice Springs 46.09 162 *e*P **P 06 52 18.3 -0.1**
AS31 *e*S **S 06 58 57.0 -5.0**
ASAR Alice Springs 46.09 162 P **P 06 52 18.3 -0.1**
comp=Z,14nm,0.4s,mb5.2,baz=343,slow=6.8,SNR=119
ASAR ScP ScP 06 57 49.4 +4.2
comp=Z,2.5nm,0.9s,baz=344,slow=4.7,SNR=4.1
ASAR S **S 06 59 07.5 +5.5**
comp=Z,1.2nm,0.9s,baz=346,slow=18,SNR=3.7
ASPA Alice Springs 46.09 162 *e*P **P 06 52 18.3 -0.1**
ASPA *e*S **S 06 58 57.0 -5.0**
KK31 Karatay Array 46.87 310 *i* P **P 06 52 24.2 -0.3**
KK31 pmax pmax
comp=Z,143nm,1.2s,mb5.8
KK31 Karatay Array 46.87 310 *i* P **P 06 52 24.3 -0.2**
KKAR Karatay Array 46.87 310 *i* P **P 06 52 24.2 -0.3**
KKAR pmax pmax
comp=Z,171nm,1.2s,mb5.8
SEY Seymchan 47.59 19⇓*e*P **P 06 52 29.9 -0.3**
SEY Seymchan 47.59 19⇑*i* P **P 06 52 29.0 -1.2**
CTA Charters Tower 47.93 146⇓*i* P **P 06 52 34.0 +1.2**
comp=Z,123nm,1.2s,mb5.8
CTA *e*S **S 06 59 32.0 +3.8**
CTA Charters Tower 47.93 146 P **P 06 52 33.1 +0.3**
comp=Z,187nm,1.1s,mb6.0,baz=329,slow=9.7,SNR=31
CTA LR LR 07 11 55.4
comp=Z,2μm,18.5s,MS5.1,baz=73,slow=35
CTA Charters Tower 47.93 146⇓*i* P **P 06 52 34.0 +1.2**
CTA *e*S **S 06 59 32.0 +3.8**
CTA pmax pmax
comp=Z,123nm,1.2s
CTAO Charters Tower 47.93 146 *e*P **P 06 52 33.7 +1.0**
comp=Z,247nm,1.1s,mb6.2
CTAO *e*pP pP 06 52 42.3 +0.1
HNR Honiara 49.30 123 LR LR 07 09 41.8
comp=Z,1μm,22.0s,MS4.9,baz=359,slow=31
BVA0 Borovoye Array 49.79 323 *i* P **P 06 52 46.5 -0.5**
BVA0 pmax pmax
comp=Z,44nm,2.3s,mb5.1
BVAR Borovoye Array 49.79 323 P **P 06 52 46.8 -0.3**
comp=Z,36nm,0.9s,mb5.4,baz=113,slow=11,SNR=117
BVAR PcP PcP 06 54 07.3 -0.2
comp=Z,44nm,0.8s,baz=117,slow=4.1,SNR=20
BRVK Borovoye 49.86 323 P **P 06 52 47.1 -0.5**
comp=Z,513nm,1.0s,mb6.5,SNR=49
BRVK Borovoye 49.86 323 *e*P **P 06 52 47.1 -0.5**
BRVK *e**PP pP 06 52 56.7 -0.3
BRVK *e* 06 54 07.7
BRVK pmax pmax
comp=Z,94nm,1.0s,mb5.8
BRVK Borovoye 49.86 323 *e*P **P 06 52 47.1 -0.5**
comp=Z,94nm,1.0s,mb5.8
BRVK *e*pP pP 06 52 56.7 -0.3
BRVK *e*PcP PcP 06 54 07.7 -0.1
CHKZ Chkalovo 49.90 324 *e*P **P 06 52 47.1 -0.8**
CHKZ *e**PP pP 06 52 56.4 -0.8
CHKZ *e* 06 54 07.0
CHKZ pmax pmax
comp=Z,98nm,1.0s,mb5.8
CHKZ Chkalovo 49.90 324 *e*P **P 06 52 47.1 -0.8**
comp=Z,98nm,1.0s,mb5.8
CHKZ *e*pP pP 06 52 56.4 -0.8
CHKZ *e*PcP PcP 06 54 07.0 -1.0
TIXI Tiksi 51.23 4 *e*P **P 06 52 54.1 -3.8**
TIXI *e*S **S 07 00 03.9 -10**
TIXI pmax pmax
comp=Z,67nm,1.0s,mb5.5
TIXI MLR MLR
comp=Z,6μm,15.0s,MS5.8
TIXI Tiksi 51.23 4 *i* P **P 06 52 55.7 -2.2**
FORT Forrest 51.74 171 *e*P **P 06 53 01.3 -0.4**
comp=Z,69nm,0.8s,mb5.6
KLBR Kellerberrin 52.03 183 *e*P **P 06 53 02.6 -1.3**
comp=Z,37nm,1.0s,mb5.3
MUN Mundaring 52.50 184 *e*P **P 06 53 13.7 +6.4**
MUN *e*S **S 07 00 42.8 +11**
NWAO Narrogin (SRO) 53.38 183 P **P 06 53 13.2 -0.7**
comp=Z,27nm,0.8s,mb5.2,baz=7.4,slow=7.0,SNR=9.1
AB31 Akbulak array 55.21 316 *i* P **P 06 53 26.6 -0.6**
AB31 pmax pmax
comp=Z,180nm,1.2s,mb6.0
AB31 Akbulak array 55.21 316 *i* P **P 06 53 26.7 -0.5**
BILL Bilibino 55.30 19⇓*i* P **P 06 53 26.5 -1.3**
BILL *i* pP 06 53 36.3 -1.0
BILL *i* 06 54 28.3
BILL pmax pmax
comp=Z,70nm,1.0s,mb5.7
BILL MLR MLR
comp=Z,3μm,15.0s,MS5.5
BILL Bilibino 55.30 19 *e*P **P 06 53 27.2 -0.6**
comp=Z,63nm,1.0s,mb5.6
ABKT Ailbek 55.75 302 P **P 06 53 32.6 +1.5**
comp=Z,508nm,1.0s,mb6.5,SNR=13
STKA Stephens Creek 56.18 158⇓*i* P **P 06 53 34.0 -0.1**
comp=Z,25nm,0.7s,mb5.3
STKA *e*S **S 07 01 21.2 -0.2**
STKA Stephens Creek 56.18 158 P **P 06 53 34.2 +0.1**
comp=Z,35nm,0.8s,mb5.4,baz=335,slow=7.3,SNR=39
SVE Sverdlovsk 56.30 325⇓*i* P **P 06 53 37.0 +2.0**
SVE *e* 06 54 28.0
SVE *i* S **S 07 01 25.0 +2.0**
SVE pmax pmax
comp=Z,53nm,3.0s
SVE pmax pmax
comp=Z,1μm,6.0s
SVE smax
comp=N,2μm,8.0s
SVE smax
comp=E,2μm,8.0s
SVE MLR MLR
comp=N,2μm,12.0s
SVE MLR MLR
comp=Z,3μm,12.0s,MS5.6
AKTK Aktyubinsk 56.61 317 P **P 06 53 37.1 -0.1**
AKTO Aktyubinsk 56.61 317 P **P 06 53 37.1 -0.1**
comp=Z,49nm,0.8s,mb5.6,baz=90,slow=7.6,SNR=141
WSAR Wadi Sarin 56.69 285 P **P 06 53 38.8 +1.0**
comp=Z,17nm,0.9s,mb5.1,baz=123,slow=6.1,SNR=10
BIDO Bidbid 57.10 285 P **P 06 53 42.7 +2.0**
SNR=7.7
ARU Arti 57.32 325 P **P 06 53 41.9 -0.4**
comp=Z,489nm,0.8s,mb6.6,SNR=15
ARU Arti 57.32 325⇓*i* P **P 06 53 41.3 -1.0**
ARU *e* 06 54 30.1
ARU *e* 06 55 46.6
ARU *e*S **S 07 01 37.2 +0.7**
ARU *e* 07 03 26.3
ARU pmax pmax
comp=Z,83nm,0.9s,mb5.8
ARU MLR MLR
comp=N,1μm,16.0s,MS5.2
ARU MLR MLR
comp=Z,2μm,16.0s,MS5.3
ARU MLR MLR
comp=E,1μm,17.0s,MS5.2
ARU Arti 57.32 325 *e*P **P 06 53 41.0 -1.3**
comp=E,119nm,1.0s,mb5.9
ARU *e*pP pP 06 53 50.1 -1.6
HOQ Hoqain 57.82 285 P **P 06 53 47.1 +1.4**
SNR=9.7
BSY Bisya 58.08 284 P **P 06 53 48.8 +1.2**
SNR=7.2
ORR Orenburg 58.80 319 *e*P **P 06 53 52.4 -0.2**
ORR pmax pmax
comp=Z,170nm,1.1s,mb6.0
ORR MLR MLR
comp=Z,2μm,17.0s,MS5.3
ARMA Armidale 59.17 148 *e*P **P 06 53 57.2 +2.0**
RBK Rabkut 61.97 279 P **P 06 54 15.1 +0.8**
SNR=13
DZM Mont Dzumac 62.07 131 P **P 06 54 15.2 +0.2**
comp=Z,16nm,0.8s,mb5.2,baz=101,slow=23,SNR=5.3
DZM LR LR 07 16 34.6
comp=Z,1μm,19.3s,MS5.1,baz=21,slow=32
CNB Canberra Magne 62.23 153 *e*P **P 06 54 16.9 +0.9**
comp=Z,48nm,1.0s,mb5.6
WHFO Wadi Hawf 62.27 280 P **P 06 54 16.6 +0.3**
SNR=7.2
TOO Toolangi 62.68 157⇓*i* P **P 06 54 20.0 +1.0**
comp=Z,30nm,0.7s,mb5.5
TOO Toolangi 62.68 157⇓*i* P **P 06 54 20.0 +1.0**
TOO pmax pmax
comp=Z,30nm,0.7s,mb5.5
ABTO Aybut 62.85 279 P **P 06 54 20.8 +0.7**
SNR=12
MAK Makhachkala 63.64 309 *i* P **P 06 54 23.3 -2.0**
MAK *i* 06 55 00.6
MAK *e* 06 56 49.4
MAK *e*PPP 06 58 22.0
MAK *e*S **S 07 02 56.8 -0.5**
MAK *e* 07 04 15.8
MAK pmax pmax
comp=Z,174nm,1.1s,mb6.0
FUNA Funafuti 64.92 110 *e*P **P 06 54 34.0 +0.3**
comp=Z,84nm,0.9s,mb5.8
QRN Al-Qurain 65.19 293 *e*P **P 06 54 35.1 -0.4**
QRN AMb AMB 06 54 36.8
comp=Z,34nm,0.7s,mb5.5
UMR Umm Al-Rimmam 65.21 294 *e*P **P 06 54 35.4 -0.3**
UMR AMb AMB 06 54 36.9
comp=Z,41nm,0.6s,mb5.6
RDF Al-Radifah 65.47 293 *e*P **P 06 54 37.2 -0.1**
RDF AMb AMB 06 54 38.7
comp=Z,112nm,0.7s,mb6.0
MIB Mutribah 65.49 294 *e*P **P 06 54 37.1 -0.4**
MIB AMb AMB 06 54 38.6
comp=Z,72nm,0.6s,mb5.9
NAY Al-Naaiem 65.68 294 *e*P **P 06 54 38.1 -0.5**
NAY AMb AMB 06 54 39.8
comp=Z,42nm,0.7s,mb5.6
RST Umm Al-Ruwaisa 65.84 294 *e*P **P 06 54 38.7 -1.0**
RST AMb AMB 06 54 40.5
comp=Z,27nm,0.8s,mb5.3
GNI Garni 65.99 306 P **P 06 54 42.1 +1.4**
comp=Z,8.0nm,0.3s,mb5.2,baz=195,slow=14,SNR=8.4
GNI Garni 65.99 306 P **P 06 54 44.2 +3.5**
SNR=9.4
GNI Garni 65.99 306⇓*e*P **P 06 54 41.8 +1.1**
GNI pmax pmax
comp=Z,34nm,1.3s
GNI Garni 65.99 306 *e*P **P 06 54 42.2 +1.5**
comp=Z,36nm,0.8s,mb5.5
ZEI Tsey 66.29 309 *e*P **P 06 54 42.3 -0.3**
ZEI *e**PP pP 06 54 51.2 -1.1
ZEI *e* 06 57 10.9
ZEI pmax pmax
comp=Z,41nm,0.9s,mb5.5
SEMD Semdilli 66.55 303 *e*P **P 06 54 46.0 +1.8**
CLDR Caldiran 66.75 305 *e*P **P 06 54 47.7 +2.2**
VRHR Novokhopersk 67.01 318 *e*P **P 06 54 46.5 -0.7**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s,mb6.0
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR MLR MLR
comp=N,790nm,11.0s,MS5.5
VRHR MLR MLR
comp=Z,1μm,11.0s,MS5.3
VRHR MLR MLR
comp=E,1μm,12.0s,MS5.5
KIV Kislovodsk 67.03 310 P **P 06 54 48.6 +1.3**
comp=E,708nm,0.7s,SNR=9.9
KIV Kislovodsk 67.03 310 *e*P **P 06 54 47.7 +0.4**
KIV *e* 06 55 17.4
KIV *e*S S 07 03 39.7 +0.8
KIV pmax pmax
comp=Z,109nm,0.9s,mb5.9
KIV pmax pmax
comp=Z,368nm,2.2s,mb6.0
KIV MLR MLR
comp=Z,2μm,18.0s,MS5.3
KIV Kislovodsk 67.03 310 *e*P **P 06 54 48.2 +0.9**
comp=Z,77nm,0.7s,mb5.8
CUKT Cukurca 67.28 303 *e*P **P 06 54 49.2 +0.2**
BHD Baghdad 67.34 298 *e*x x 06 54 45.0
BHD *e*x x 07 03 48.0
MSL Mosul 67.85 302 *e*x x 06 54 53.5
TMCR Tamitsa 68.14 332 *e*P **P 06 54 53.8 -0.5**
TMCR *e**PP pP 06 55 03.8 -0.2
TMCR pmax pmax
comp=Z,75nm,0.8s,mb5.8
BCA Borcka 68.15 307 *e*P **P 06 54 53.6 -0.7**
SIRT Sirnak 68.16 303 *e*P **P 06 54 53.6 -0.8**
CHGN Chignik 68.36 36 *e*P **P 06 54 55.4 -0.3**
VOR Voronezh 68.46 319 *e*P **P 06 54 56.0 -0.4**
VOR pmax pmax
comp=E,90nm,1.1s
VOR pmax pmax
comp=Z,290nm,1.1s,mb6.2
VORD Divnogorie 68.49 318 *e*P **P 06 54 55.4 -1.1**
VORD pmax pmax
comp=Z,60nm,1.0s,mb5.6
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VRSR Storozhevoye 68.53 318 *d* iP **P 06 54 55.8 -1.0**
VRSR *e**PP pP 06 55 03.5 -3.0
VRSR *e* 06 55 21.8
VRSR *e*S S 07 03 54.3 -2.5
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=Z,80nm,0.9s,mb5.7
VRSR pmax pmax
comp=E,140nm,1.0s
VRSR smax
comp=N,550nm,4.7s
VRSR smax
comp=Z,130nm,3.7s
VRSR smax
comp=E,290nm,4.0s
BNGL BINGOL 68.91 305 *i* P **P 06 55 00.6 +1.4**
MOS Moscow 68.96 323 *e*P **P 06 54 58.6 -0.9**
MOS *e* pP 06 55 09.3 +0.1
MOS *e* 06 55 16.8
MOS *e* 06 57 29.9
MOS *e*S S 07 04 02.2 +0.2
MOS pmax pmax
comp=Z,300nm,1.5s,mb6.0
MOS pmax pmax
comp=Z,147nm,1.2s,mb5.8
MOS Moscow 68.96 323 *e*P **P 06 54 58.5 -1.0**

LVZ	**Lovozero**	**69.32 336**	*e*P	**P**	**06 55 01.7**	**0.0**
LVZ			*e**PP	pP	06 55 11.2	-0.2
LVZ			*e*S	S	07 04 08.5	+2.3
LVZ			*e*SS	SS	07 08 33.7	+0.4
LVZ			pmax	pmax		
	comp=Z,54nm,1.0s,mb5.4					
LVZ			pmax	pmax		
	comp=N,55nm,2.0s					
LVZ			pmax	pmax		
	comp=E,11nm,0.8s					
LVZ			smax			
	comp=Z,228nm,3.0s					
LVZ			smax			
	comp=N,405nm,2.6s					
LVZ			smax			
	comp=E,174nm,2.4s					
LVZ			MLR	MLR		
	comp=Z,2μm,11.0s,MS5.6					
LVZ			MLR	MLR		
	comp=N,2μm,12.0s,MS5.7					
LVZ			MLR	MLR		
	comp=E,1μm,12.0s,MS5.7					
LVZ	**Lovozero**	**69.32 336⇑**	*e*P	**P**	**06 55 01.3**	**-0.4**
MARD	**Mardin**	**69.49 303**	*i* P	**P**	**06 55 03.1**	**+0.3**
OBN	**Obninsk**	**69.63 322**	*d i*P	**P**	**06 55 02.6**	**-1.0**
OBN			*i*	pP	06 55 10.8	-2.5
OBN			pmax	pmax		
	comp=Z,151nm,1.2s,mb5.8					
OBN			MLR	MLR		
	comp=Z,1μm,16.0s,MS5.3					
OBN	**Obninsk**	**69.63 322**	*e*P	**P**	**06 55 02.8**	**-0.9**
	comp=Z,57nm,0.6s,mb5.7					
IMA2	**Indian Mountai**	**69.77 26**	*e*P	**P**	**06 55 05.1**	**+0.7**
EZC	**Erzincan**	**69.79 306**	*e*P	**P**	**06 55 08.1**	**+3.5**
APA	**Apatity**	**69.82 336⇓**	*i*P	**P**	**06 55 03.8**	**-1.0**
APA			*i*	pP	06 55 11.7	-2.8
APA			*i*		06 55 25.3	
APA			*i* S	S	07 04 12.0	-0.1
APA			*e*		07 04 56.0	
APA			*e*SS	SS	07 08 39.0	-2.0
APA			pmax	pmax		
	comp=Z,96nm,0.8s,mb5.8					
APA			MLR	MLR		
	comp=Z,5μm,13.0s,MS5.9					
KELT	**Kelkit**	**70.14 306**	*i* P	**P**	**06 55 06.8**	**+0.1**
PTK	**Pertek**	**70.27 305**	*e*P	**P**	**06 55 08.0**	**+0.5**
ANN	**Anapa**	**70.63 312**	*e*P	**P**	**06 55 09.2**	**-0.5**
ANN			*e*	pP	06 55 17.7	-1.8
ANN			*e*		06 57 47.2	
ANN			*e*S	S	07 04 21.0	-0.5
ANN			*e*		07 05 09.5	
ANN			pmax	pmax		
	comp=Z,97nm,1.3s,mb5.6					
ANN			MLR	MLR		
	comp=N,2μm,14.0s					
ANN			MLR	MLR		
	comp=Z,1μm,14.0s,MS5.3					
URFA	**Urfa**	**71.00 304**	*e*P	**P**	**06 55 12.9**	**+1.0**
MYA	**Malataya**	**71.12 305**	*e*P	**P**	**06 55 14.5**	**+1.7**
MALT	**Malatya**	**71.13 305⇓**	*i*P	**P**	**06 55 13.9**	**+1.2**
MALT	**Malatya**	**71.13 305**	*e*P	**P**	**06 55 13.7**	**+1.0**
	comp=Z,27nm,0.9s,mb5.2					
JOF	**Joensuu**	**71.26 331**	*e*p	**P**	**06 55 11.4**	**-2.1**
	comp=Z,53nm,0.6s,mb5.7					
JOF	**Joensuu**	**71.26 331**	*e*P	**P**	**06 55 11.4**	**-2.1**
JOF			pmax	pmax		
	comp=Z,53nm,0.6s,mb5.7					
KDAK	**Kodiak Island**	**71.34 34**	P	**P**	**06 55 14.8**	**+0.8**
	comp=Z,668nm,1.3s,mb6.4,SNR=5.8					
KDAK	**Kodiak Island**	**71.34 34**	P	**P**	**06 55 13.4**	**-0.6**
	comp=Z,103nm,1.0s,mb5.7,baz=4.0,slow=3.1,SNR=17					
KDAK	**Kodiak Island**	**71.34 34**	*e*P	**P**	**06 55 13.6**	**-0.4**
	comp=Z,93nm,1.0s,mb5.7					
KDAK			*e*pP	pP	06 55 23.8	0.0
KEV	**Kevo**	**71.84 339**	*e*p	**P**	**06 55 15.0**	**-2.1**
	comp=Z,42nm,0.8s,mb5.4					
KEV	**Kevo**	**71.84 339**	*e*P	**P**	**06 55 15.0**	**-2.1**
KEV			pmax	pmax		
	comp=Z,42nm,0.8s,mb5.4					
SVSK	**Karacayir**	**71.88 307**	*e*P	**P**	**06 55 18.4**	**+1.1**
GZT	**Gaziantep**	**72.00 304**	*i* P	**P**	**06 55 19.0**	**+1.0**
MCK	**McKinley**	**72.09 28**	*e*P	**P**	**06 55 18.2**	**-0.4**
MCK			pmax	pmax		
	comp=Z,71nm,1.5s,mb5.4					
MCK	**McKinley**	**72.09 28**	*e*P	**P**	**06 55 18.2**	**-0.4**
	comp=Z,71nm,1.5s,mb5.4					
PUL	**Pulkovo**	**72.26 328⇑**	*e*P	**P**	**06 55 19.5**	**-0.1**
COLA	**College**	**72.35 27**	*e*P	**P**	**06 55 18.3**	**-1.8**
COLA			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0					
COLA	**College**	**72.35 27**	*e*P	**P**	**06 55 18.2**	**-1.8**
	comp=Z,17nm,0.8s,mb5.0					
KVT	**Kavak**	**72.35 308**	*e*P	**P**	**06 55 17.4**	**-2.7**
PMR	**Palmer**	**72.40 30**	*e*P	**P**	**06 55 19.9**	**-0.5**
PMR			pmax	pmax		
	comp=Z,121nm,1.3s,mb5.7					
PMR			MLR	MLR		
	comp=Z,2μm,21.0s,MS5.4					
PMR	**Palmer**	**72.40 30**	*e*P	**P**	**06 55 19.9**	**-0.5**
	comp=Z,121nm,1.3s,mb5.7					
PMR			LR	LR		
	comp=Z,2μm,21.0s,MS5.4					
ARCES	**ARCESS Array B**	**72.40 338**	P	**P**	**06 55 19.6**	**-0.8**
	comp=Z,51nm,0.9s,mb5.5,baz=76,slow=6.8,SNR=47					
ARCES			LR	LR	07 32 45.5	
	comp=Z,1μm,18.4s,MS5.3,baz=160,slow=40					
ARE0	**ARCESS Array S**	**72.40 338**	*e*P	**P**	**06 55 18.6**	**-1.8**
ARE0			*e*pP	pP	06 55 28.7	-1.5
KMRS	**Kahramanmaras**	**72.48 304**	*e*P	**P**	**06 55 21.3**	**+0.4**
SPB4	**Spitsbergen Ar**	**72.68 348**	*e*P	**P**	**06 55 22.1**	**0.0**
SPB4			*e*pP	pP	06 55 29.4	-2.4
DIKM	**Dikmen**	**72.81 309**	*e*P	**P**	**06 55 23.8**	**+1.0**
SIM	**Simferopol'**	**72.91 312**	*c i*P	**P**	**06 55 24.6**	**+1.2**
SIM			*e*S	S	07 04 50.0	+2.2
SIM			pmax	pmax		
	comp=Z,53nm,1.1s,mb5.4					
SIM			MLR	MLR		
	comp=Z,2μm,22.0s,MS5.3					
BOYT	**Boyabat**	**73.12 308**	*i* P	**P**	**06 55 24.9**	**+0.3**
KOZT	**Kozan**	**73.31 304**	*e*P	**P**	**06 55 25.8**	**0.0**
CTKT	**Corum**	**73.38 308**	*i* P	**P**	**06 55 26.7**	**+0.5**
CEYT	**Ceyhan**	**73.49 304**	*e*P	**P**	**06 55 25.8**	**-1.0**
CORM	**Corum**	**73.60 307**	*e*P	**P**	**06 55 29.0**	**+1.5**
KAF	**Kangasniemi**	**73.69 331**	*e*p	**P**	**06 55 26.2**	**-1.8**
	baz=74,slow=5.5					
TOS	**Tosya**	**73.85 308**	*e*P	**P**	**06 55 29.4**	**+0.4**
CDAG	**Cicekdag**	**73.92 307**	*i* P	**P**	**06 55 28.1**	**-1.3**
FIA1	**FINESS Array S**	**73.95 330**	*e*P	**P**	**06 55 28.6**	**-1.0**
FINES	**FINESS Array B**	**73.95 330**	P	**P**	**06 55 28.8**	**-0.8**
	comp=Z,73nm,0.8s,mb5.6,baz=83,slow=6.1,SNR=143					
FINES			LR	LR	07 33 39.6	
	comp=Z,2μm,18.5s,MS5.3,baz=269,slow=40					
KARA	**Karaisali**	**73.97 304**	*e*P	**P**	**06 55 29.6**	**-0.1**
DIV	**Divide**	**74.08 30**	*e*P	**P**	**06 55 29.7**	**-0.6**
	comp=Z,151nm,1.0s,mb5.9					
DIV			*e*pP	pP	06 55 40.1	0.0
BALT	**Daday**	**74.20 309**	*i* P	**P**	**06 55 31.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**74.23 31**	*e*P	**P**	**06 55 31.3**	**+0.1**
EYAK			*e*pP	pP	06 55 41.4	+0.5
BHL	**Bhannes**	**74.32 301**	*e*P	**P**	**06 55 33.3**	**+1.6**
ELDT	**Eldivan**	**74.42 308**	*i* P	**P**	**06 55 32.6**	**+0.3**
BR131	**Keskin Array S**	**74.45 307**	*e*P	**P**	**06 55 32.5**	**+0.1**
	comp=Z,1.8nm,0.5s					
BRTR	**Keskin Array B**	**74.45 307**	P	**P**	**06 55 32.6**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=114,slow=6.1,SNR=19					
BRTR			PP	PP	06 58 12.8	-6.1
	comp=Z,3.5nm,1.1s,baz=88,slow=6.0,SNR=4.0					
BRTR			LR	LR	07 32 13.0	
	comp=Z,682nm,19.1s,MS5.0,baz=278,slow=39					
MERS	**Mersin**	**74.47 304**	*e*P	**P**	**06 55 32.7**	**+0.1**
MENT	**Mentasta**	**74.56 28**	*e*P	**P**	**06 55 33.8**	**+0.7**
MNK	**Minsk**	**74.71 323**	*e*P	**P**	**06 55 30.0**	**-4.0**
AKASG	**Malin Array Be**	**74.82 319**	P	**P**	**06 55 33.5**	**-1.0**
	comp=Z,56nm,0.9s,mb5.5,baz=61,slow=5.7,SNR=59					
AKASG			LR	LR	07 30 25.6	
	comp=Z,1μm,19.1s,MS5.3,baz=90,slow=37					
AKBB	**Malin Array Si**	**74.82 319**	*e*P	**P**	**06 55 33.4**	**-1.2**
AKBB			*e**PP	pP	06 55 44.4	0.0
MEST	**Erdemli**	**74.84 304**	*i* P	**P**	**06 55 34.5**	**-0.2**
ANTO	**Ankara**	**75.04 307⇓**	*i*P	**P**	**06 55 35.6**	**-0.3**
ANTO	**Ankara**	**75.04 307**	*e*P	**P**	**06 55 36.5**	**+0.6**
ANTO			*e**PP	pP	06 55 45.8	+0.1
ANTO			*e**SP	sP	06 55 50.9	+1.6
ANTO			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0					
ANTO	**Ankara**	**75.04 307**	*e*P	**P**	**06 55 36.5**	**+0.6**
	comp=Z,16nm,0.8s,mb5.0					
ANTO			*e*pP	pP	06 55 45.8	+0.1
ANTO			*e*sP	sP	06 55 50.9	+1.5
EGAK	**Eagle**	**75.15 26**	*e*P	**P**	**06 55 36.0**	**-0.5**
	comp=Z,44nm,1.0s,mb5.3					
AFI	**Afiamalu**	**75.23 111**	LR	LR	07 23 21.6	
	comp=Z,813nm,19.7s,MS5.0,baz=137,slow=32					
AFI	**Afiamalu**	**75.23 111**	*e*P	**P**	**06 55 38.1**	**+1.1**
AFI			*e**PP	pP	06 55 46.0	-0.8
AFI			pmax	pmax		
	comp=Z,111nm,1.4s,mb5.6					
AFI	**Afiamalu**	**75.23 111**	*e*P	**P**	**06 55 38.0**	**+1.1**
	comp=Z,111nm,1.4s,mb5.6					
AFI			*e*pP	pP	06 55 46.0	-0.8
SGKT	**Sivrigoynuk**	**75.41 308**	*i* P	**P**	**06 55 39.0**	**+1.0**
KIP	**Kipapa**	**75.48 72⇑**	*e*P	**P**	**06 55 39.5**	**+1.1**
CSS	**Prodhromos**	**75.90 302**	*e*P	**P**	**06 55 40.8**	**0.0**
KDHN	**Kadinhani**	**75.90 306**	*i* P	**P**	**06 55 39.7**	**-1.1**
EIL	**Elat**	**76.00 297**	*e*P	**P**	**06 55 41.9**	**+0.5**
	comp=Z,563nm,1.1s,mb6.4					
KIS	**Kishinev**	**76.01 315**	*e*P	**P**	**06 55 38.0**	**-3.5**
KIS			*e*S	S	07 05 20.0	-2.5
KIS			MLR	MLR		
	comp=E,2μm,18.0s					
KIS			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4					
KIS			MLR	MLR		
	comp=Z,2μm,18.0s					
KIS	**Kishinev**	**76.01 315**	*e*P	**P**	**06 55 38.0**	**-3.5**
KIS			*e*S	S	07 05 20.0	-2.5
KIS			LRM		07 32 00.0	
	comp=Z,2μm,18.0s					
DAWY	**Dawson**	**76.10 26**	*e*P	**P**	**06 55 41.5**	**-0.5**
HENT	**Hendek**	**76.20 309**	*i* P	**P**	**06 55 40.4**	**-2.1**
ESKT	**Eskisehir**	**76.58 307**	*i* P	**P**	**06 55 44.3**	**-0.4**
INK	**Inuvik**	**76.83 21**	P	**P**	**06 55 44.9**	**-1.2**
	comp=Z,28nm,1.0s,mb5.1,baz=305,slow=6.2,SNR=14					
INK	**Inuvik**	**76.83 21**	*e*P	**P**	**06 55 44.3**	**-1.8**
INK			pmax	pmax		
	comp=Z,70nm,1.2s					
INK	**Inuvik**	**76.83 21**	*e*P	**P**	**06 55 44.2**	**-1.8**
	comp=Z,2μm,1.3s					
CFR	**Carcaliu**	**76.96 313**	P	**P**	**06 55 47.3**	**+0.5**
TIRR	**Tirgusor**	**76.97 313⇓**	*i*P	**P**	**06 55 47.0**	**+0.1**
TIRR	**Tirgusor**	**76.97 313**	*e*P	**P**	**06 55 46.6**	**-0.3**
TIRR			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5					
TIRR	**Tirgusor**	**76.97 313**	*e*P	**P**	**06 55 46.6**	**-0.3**
	comp=Z,60nm,1.0s,mb5.5					
HARR	**Harsova**	**77.24 313**	P	**P**	**06 55 49.4**	**+1.0**
ISP	**Isparta**	**77.30 306**	*e*P	**P**	**06 55 47.2**	**-1.6**
ISP	**Isparta**	**77.30 306**	*e*P	**P**	**06 55 49.5**	**+0.8**
ISP			pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2					
TKTP	**Tekketepe**	**77.39 306**	*i* P	**P**	**06 55 48.8**	**-0.4**
SUW	**Suwalki**	**77.47 323**	*e*P	**P**	**06 55 49.4**	**-0.3**
SUW	**Suwalki**	**77.47 323**	*e*P	**P**	**06 55 49.1**	**-0.6**
ULDT	**Uludag**	**77.68 308**	*i* P	**P**	**06 55 51.1**	**+0.3**
VRI	**Vrincioaia**	**77.72 314⇓**	*i*P	**P**	**06 55 50.3**	**-0.8**
VRI	**Vrincioaia**	**77.72 314**	P	**P**	**06 55 52.1**	**+1.1**
BURAR	**Bucovina Array**	**78.19 316⇓**	*i*P	**P**	**06 55 53.8**	**+0.1**
BURAR	**Bucovina Array**	**78.19 316**	⇓P	**P**	**06 55 53.8**	**+0.1**
LVV	**L'vov**	**78.26 319**	*e*P	**P**	**06 55 55.6**	**+1.5**
LVV			*e*S	S	07 05 51.4	+4.4
LVV			*i* PS		07 06 35.9	
MLR	**Muntele Rosu**	**78.35 314⇓**	*i*P	**P**	**06 55 54.8**	**+0.2**
MLR	**Muntele Rosu**	**78.35 314**	P	**P**	**06 55 55.1**	**+0.6**
JMB	**Yambol**	**78.83 311**	*e*P	**P**	**06 55 57.9**	**+0.7**
JMB	**Yambol**	**78.83 311**	*i* P	**P**	**06 55 58.0**	**+0.8**
KWP	**Kalwaria**	**79.14 319**	*e*P	**P**	**06 55 59.2**	**+0.3**
KWP	**Kalwaria**	**79.14 319**	*e*P	**P**	**06 55 58.3**	**-0.6**
KWP			pmax	pmax		
	comp=Z,310nm,1.0s,mb6.2					
WAR	**Warsaw**	**79.27 322**	*e*P	**P**	**06 56 01.3**	**+1.7**
RPZ	**Rata Peaks**	**79.29 145**	P	**P**	**06 55 58.5**	**-1.2**
	comp=Z,63nm,1.0s,mb5.5,baz=110,slow=3.1,SNR=9.0					
RPZ			LR	LR	07 28 47.1	
	comp=Z,784nm,19.1s,MS5.1,baz=193,slow=34					
ZIMR		**79.31 313**	P	**P**	**06 56 00.7**	**+0.9**
URZ	**Urewera**	**79.35 138**	LR	LR	07 29 47.3	
	comp=Z,841nm,19.2s,MS5.1,baz=172,slow=35					
SKAG	**Skagway**	**79.54 30**	*e*P	**P**	**06 56 02.4**	**+1.3**
	comp=Z,92nm,0.9s,mb5.7					
SKAG			LR	LR		
	comp=Z,1μm,19.0s,MS5.2					
KDAG	**Bornova**	**79.58 307**	*i* P	**P**	**06 56 01.5**	**+0.2**
KOLS	**Kolonicke sedl**	**79.64 318**	*e*P	**P**	**06 56 01.9**	**+0.3**
DAG	**Danmarks Havn**	**79.65 351**	*i* P	**P**	**06 56 00.0**	**-1.7**
	comp=Z,30nm,0.7s,mb5.3					
DAG	**Danmarks Havn**	**79.65 351**	*e*P	**P**	**06 56 00.0**	**-1.7**
DAG			pmax	pmax		
	comp=Z,30nm,0.7s,mb5.3					
DAG	**Danmarks Havn**	**79.65 351**	*e*P	**P**	**06 56 00.0**	**-1.7**
	comp=Z,30nm,0.7s,mb5.3					
ALN	**Alexandroupoli**	**79.70 310**	*e*P	**P**	**06 56 01.1**	**-0.8**
UZH	**Uzhgorod**	**79.72 318⇑**	*i*P	**P**	**06 56 02.0**	**-0.1**
UZH			pmax	pmax		
	comp=Z,102nm,1.0s,mb5.7					
KDZ	**Kurdzhali**	**79.91 311**	*i* P	**P**	**06 56 03.8**	**+0.7**
DRGR		**80.07 316⇓**	*i*P	**P**	**06 56 04.1**	**+0.1**
DRGR		**80.07 316**	P	**P**	**06 56 04.6**	**+0.6**
STHS	**Stebnicka Huta**	**80.11 319**	*i* P	**P**	**06 56 04.7**	**+0.5**
STHS			pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2					
STHS	**Stebnicka Huta**	**80.11 319**	*i* P	**P**	**06 56 04.7**	**+0.5**
	comp=Z,35nm,1.0s,mb5.2					
CRVS	**Cervenica-Dubn**	**80.15 319**	*e*P	**P**	**06 56 04.5**	**+0.1**
CRVS			*e*SS	SS	07 11 35.5	+18
PLD	**Plovdiv**	**80.27 311**	*e*P	**P**	**06 56 05.4**	**+0.4**
NIE	**Niedzica**	**80.68 319**	*e*P	**P**	**06 56 07.8**	**+0.6**
OJC	**Ojcow**	**80.70 320**	*i* P	**P**	**06 56 07.4**	**0.0**
OJC			*e*S	S	07 06 11.6	-1.2
OJC			L		07 35 17.9	
	comp=Z,10nm,16.7s					
NB2	**NORSAR Subarra**	**80.84 332**	P	**P**	**06 56 06.3**	**-1.8**
	comp=Z,90nm,1.0s,mb5.7,baz=65,slow=5.3					
NB2	**NORSAR Subarra**	**80.84 332**	P	**P**	**06 56 06.3**	**-1.8**
NB2			pmax	pmax		
	comp=Z,91nm,1.0s,mb5.7					
NOA	**NORSAR Array B**	**80.84 332**	P	**P**	**06 56 06.2**	**-1.9**
	comp=Z,56nm,0.9s,mb5.5,baz=64,slow=5.3,SNR=112					
NOA			LR	LR	07 35 03.3	
	comp=Z,3μm,18.2s,MS5.6,baz=55,slow=38					
KECS	**Kecovo**	**80.90 318**	*i* P	**P**	**06 56 08.7**	**+0.3**
KECS			pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0					
KECS	**Kecovo**	**80.90 318**	*i* P	**P**	**06 56 08.7**	**+0.3**
	comp=Z,22nm,1.0s,mb5.0					
GKP	**Gorka Klasztor**	**81.05 324**	*e*P	**P**	**06 56 09.0**	**-0.2**
NAO01	**NORSAR Array S**	**81.07 332**	*e*P	**P**	**06 56 08.2**	**-1.2**
	comp=Z,36nm,0.9s,mb5.3					
MMB	**Musomiste**	**81.12 311**	*e*P	**P**	**06 56 09.4**	**-0.2**
MMB	**Musomiste**	**81.12 311**	*i* P	**P**	**06 56 09.0**	**-0.6**
VTS	**Vitosha**	**81.15 312**	*e*P	**P**	**06 56 08.6**	**-1.2**
VTS	**Vitosha**	**81.15 312**	*i* P	**P**	**06 56 10.0**	**+0.2**
VTS	**Vitosha**	**81.15 312**	*i*P	**P**	**06 56 10.5**	**+0.7**
BZS	**Buzias**	**81.19 315**	*i*P	**P**	**06 56 09.6**	**-0.3**
BZS	**Buzias**	**81.19 315**	P	**P**	**06 56 10.2**	**+0.3**
OUR	**Ouranopolis**	**81.37 310**	*e*P	**P**	**06 56 10.8**	**-0.1**
SRS	**Serrai**	**81.38 311**	*e*P	**P**	**06 56 10.0**	**-1.0**
OPO	**Ambohidratompo**	**81.38 246**	P	**P**	**06 56 12.2**	**+1.2**
	comp=Z,20nm,1.0s,mb5.0,baz=83,slow=6.8,SNR=16					
ZKR	**Zakros**	**81.42 304**	*e*P	**P**	**06 56 10.9**	**-0.3**
PSZ	**Piszkesteto**	**81.47 318⇓**	*e*P	**P**	**06 56 11.4**	**-0.1**
PSZ	**Piszkesteto**	**81.47 318⇓**	*i*P	**P**	**06 56 10.8**	**-0.7**
PSZ	**Piszkesteto**	**81.47 318**	*e*P	**P**	**06 56 11.7**	**+0.2**
	comp=Z,51nm,1.3s,mb5.3					
LIKS	**Likavka**	**81.55 319**	*i* P	**P**	**06 56 08.5**	**-3.4**
LIKS			pmax	pmax		
	comp=Z,100nm,0.8s,mb5.8					
LIKS	**Likavka**	**81.55 319**	*i* P	**P**	**06 56 08.5**	**-3.4**
	comp=Z,100nm,0.8s,mb5.8					
BSD	**Bornholm Skovb**	**81.58 326**	*e*S	S	07 06 22.3	+0.4
BSD						
	comp=Z,2μm,17.0s					
BSD	**Bornholm Skovb**	**81.58 326⇓**	*i*P	**P**	**06 56 11.3**	**-0.7**
BSD			*e*S	S	07 06 22.3	+0.4
BSD			pmax	pmax		
	comp=Z,132nm,0.8s,mb5.9					
BSD	**Bornholm Skovb**	**81.58 326⇓**	*i*P	**P**	**06 56 11.3**	**-0.7**
	comp=Z,132nm,0.8s,mb5.9					
BSD			*e*S	S	07 06 22.3	+0.4
SANT	**Santorini**	**81.59 306**	*e*P	**P**	**06 56 11.7**	**-0.4**
PLG	**Polygyros**	**81.74 310**	*e*P	**P**	**06 56 12.6**	**-0.2**
OKC	**Ostrava-Krasne**	**81.83 320⇓**	*i*P	**P**	**06 56 13.5**	**+0.1**
OKC			AMS	AMS	07 35 50.0	
	comp=Z,2μm,13.7s					
KNT	**Kendrikon**	**81.86 311**	*e*P	**P**	**06 56 13.1**	**-0.4**
HORT	**Hortiatis**	**81.91 310**	*e*P	**P**	**06 56 11.5**	**-2.3**
VYHS	**Vyhne**	**81.92 319**	*i* P	**P**	**06 56 14.1**	**+0.3**
VYHS	**Vyhne**	**81.92 319**	*e*S	S	07 06 26.2	+0.7
VYHS	**Vyhne**	**81.92 319**	*i* P	**P**	**06 56 14.2**	**+0.4**
VYHS			*e*S	S	07 06 26.2	+0.7
VYHS			pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3					
VYHS	**Vyhne**	**81.92 319**	*i* P	**P**	**06 56 14.2**	**+0.4**
	comp=Z,42nm,1.0s,mb5.3					
VYHS			*e*S	S	07 06 26.2	+0.7
LAST	**Lasithi**	**81.98 304**	*e*P	**P**	**06 56 14.2**	**0.0**
VAY	**Valandovo**	**82.03 311**	*e*P	**P**	**06 56 13.5**	**-1.0**
VAY	**Valandovo**	**82.03 311**	*i* P	**P**	**06 56 13.9**	**-0.6**
BUD	**Budapest**	**82.18 318⇑**	*e*PcP	PcP	06 56 16.9	-3.6
KONO	**Kongsberg**	**82.19 331⇑**	*i*P	**P**	**06 56 14.5**	**-0.7**
KONO	**Kongsberg**	**82.19 331**	*e*P	**P**	**06 56 14.6**	**-0.6**
	comp=Z,23nm,0.7s,mb5.2					
KONO			*e*pP	pP	06 56 23.8	-1.3
MORC	**Moravsky Berou**	**82.22 320⇓**	*i*P	**P**	**06 56 15.6**	**+0.2**
MORC	**Moravsky Berou**	**82.22 320**	*e*P	**P**	**06 56 15.2**	**-0.2**
	comp=Z,58nm,0.9s,mb5.5					
MORC			*e*pP	pP	06 56 24.0	-1.3
RES	**Resolute Bay**	**82.26 9**	*e*P	**P**	**06 56 15.3**	**-0.3**
RES			pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7					
GRG	**Griva**	**82.28 311**	*e*P	**P**	**06 56 14.8**	**-0.9**
LIT	**Litokhoron**	**82.52 310**	*e*P	**P**	**06 56 15.3**	**-1.6**
KSP	**Ksiaz**	**82.54 322⇓**	*e*P	**P**	**06 56 17.4**	**+0.4**
KSP			*e**PP	pP	06 56 25.1	-1.8
KSP			*e*S	S	07 06 28.0	-3.8
KSP			MLR	MLR		
	comp=Z,4μm,18.4s,MS5.8					
SIVA	**Sivas**	**82.55 304**	*e*P	**P**	**06 56 16.6**	**-0.4**
SKO	**Skopje**	**82.60 312**	*e*P	**P**	**06 56 15.9**	**-1.4**
SKO	**Skopje**	**82.60 312**	*i* P	**P**	**06 56 17.0**	**-0.4**
COP	**Copenhagen**	**82.62 327**	*i* S	S	07 06 37.4	+4.8
COP						
	comp=Z,1μm,17.0s					
COP	**Copenhagen**	**82.62 327**	*i* P	**P**	**06 56 18.3**	**+0.8**
COP			*i* S	S	07 06 37.4	+4.8
COP			pmax	pmax		
	comp=Z,71nm,0.9s,mb5.7					
COP			MLR	MLR		
	comp=Z,1μm,17.0s,MS5.4					
COP	**Copenhagen**	**82.62 327**	*i* P	**P**	**06 56 18.3**	**+0.8**
	comp=Z,71nm,0.9s,mb5.7					
COP			*i* S	S	07 06 37.4	+4.8
COP			LR	LR		
	comp=Z,1μm,17.0s,MS5.4					
DPC	**Dobruska-Polom**	**82.72 321⇓**	*i*P	**P**	**06 56 18.4**	**+0.4**
DPC			*e*SKS		07 06 32.3	
DIVS	**Divcibare**	**82.81 314**	*i* P	**P**	**06 56 18.4**	**0.0**
DIVS	**Divcibare**	**82.81 314**	*e*P	**P**	**06 56 17.9**	**-0.5**
UPC	**Upice**	**82.83 321⇓**	*i*P	**P**	**06 56 19.2**	**+0.6**
PKSM	**Moragy**	**82.90 317⇓**	*i*P	**P**	**06 56 18.3**	**-0.7**
PKSM	**Moragy**	**82.90 317**	P	**P**	**06 56 19.4**	**+0.5**
VRAC	**Vranov**	**82.97 320⇓**	*i*P	**P**	**06 56 20.0**	**+0.7**
VRAC	**Vranov**	**82.97 320**	P	**P**	**06 56 20.1**	**+0.8**
AGG	**Agios Georgios**	**83.02 309**	*e*P	**P**	**06 56 17.1**	**-2.4**
BIA	**Bitola**	**83.02 311**	*i* P	**P**	**06 56 17.9**	**-1.6**
KARN	**Karanos**	**83.10 305**	*e*P	**P**	**06 56 20.6**	**+0.6**
ZST	**Bratislava**	**83.10 319**	*e*P	**P**	**06 56 20.1**	**+0.1**
ZST			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1					
ZST	**Bratislava**	**83.10 319**	*e*P	**P**	**06 56 20.1**	**+0.1**
	comp=Z,18nm,1.0s,mb5.0					
GVD	**Gavdhos**	**83.16 305**	*e*P	**P**	**06 56 20.3**	**0.0**
RUE	**Ruedersdorf**	**83.29 324**	*e*P	**P**	**06 56 21.4**	**+0.5**
	comp=Z,234nm,1.1s,mb6.1					
RUE			*e*pP	pP	06 56 29.9	-0.9
RUE	**Ruedersdorf**	**83.29 324**	*e*P	**P**	**06 56 21.7**	**+0.7**
	comp=Z,225nm,1.0s,mb6.2					
BBLS	**Bajina Basta -**	**83.29 314**	*i* P	**P**	**06 56 21.4**	**+0.5**
OHR	**Ohrid**	**83.36 311**	*e*P	**P**	**06 56 20.1**	**-1.2**
OHR	**Ohrid**	**83.36 311**	*i* P	**P**	**06 56 19.8**	**-1.5**
TREC	**Trest**	**83.64 320⇓**	*i*P	**P**	**06 56 23.2**	**+0.5**

CLL LR LR
comp=Z,3µm,15.0s,MS5.8
CLL Collm 84.23 323 *i* P **P 06 56 25.6 -0.1**
comp=Z,174nm,1.1s,mb6.1
CLL *i* PcP PcP 06 56 29.6 +0.1
CLL *i* pP pP 06 56 34.0 -1.7
CLL *i* sP sP 06 56 36.8 -2.5
CLL *e*S S 07 06 49.0 +0.1
CLL *e*SP 07 07 35.0
KOGS Kog 84.33 318 *e*P **P 06 56 26.2 -0.1**
LKD Levkas 84.35 309 *e*P **P 06 56 25.1 -1.2**
ARSA Arzberg 84.46 319 ||*i*P **P 06 56 26.9 -0.1**
comp=Z,214nm,2.6s,mb5.8,SNR=12
BSEG Bad Segeberg 84.50 326 *e*P **P 06 56 27.2 +0.1**
comp=Z,183nm,0.9s,mb6.2
BSEG *e*pP pP 06 56 35.5 -1.6
BSEG Bad Segeberg 84.50 326 *e*P **P 06 56 27.2 +0.1**
BSEG *e**PP pP 06 56 35.5 -1.6
BSEG pmax pmax
comp=Z,183nm,0.9s,mb6.2
KHC Kasperske Hory 84.84 321 ||*i*P **P 06 56 28.9 0.0**
KHC x x 06 56 56.5
KHC *e*SKS 07 06 48.2
KHC AMS AMS 07 41 30.0
comp=Z,2µm,14.6s
KHC Kasperske Hory 84.84 321 ||*i*P **P 06 56 28.9 0.0**
KHC *e* 06 56 56.5
KHC *e*SKS 07 06 48.2
KHC LR LR
comp=Z,2µm,14.6s,MS5.7
GEC2 GERESS Array S 84.89 320 *e*P **P 06 56 29.4 +0.3**
comp=Z,89nm,1.0s,mb5.8
GEC2 GERESS Array S 84.89 320 *e*P **P 06 56 29.4 +0.3**
GEC2 pmax pmax
comp=Z,89nm,1.0s,mb5.8
GERES GERESS Array B 84.89 320 P **P 06 56 29.4 +0.3**
comp=Z,57nm,0.8s,mb5.7,baz=66,slow=4.5,SNR=174
GERES LR LR 07 37 40.5
comp=Z,2µm,20.7s,MS5.5,baz=68,slow=38
TANN Tannenbergstha 84.93 322 *e*P **P 06 56 29.4 +0.1**
comp=Z,71nm,1.1s,mb5.7
PERS Pernice 84.97 318 *e*P **P 06 56 29.4 -0.1**
MOA Molln 84.98 319 *i* P **P 06 56 30.0 +0.5**
comp=Z,632nm,3.0s,SNR=32
WERD Werda 85.00 322 *e*P **P 06 56 29.4 -0.3**
comp=Z,51nm,0.8s,mb5.7
GUNZ Gunzen 85.03 322 *e*P **P 06 56 29.9 +0.1**
comp=Z,132nm,1.0s,mb6.0
WERN Wernitzgruen 85.03 322 *e*P **P 06 56 29.7 -0.1**
comp=Z,129nm,1.0s,mb6.0
WERN *e*pP pP 06 56 38.4 -1.3
CRES Cresnjev 85.09 317 *e*P **P 06 56 30.3 +0.2**
WET Wettzell 85.25 321 *e*P **P 06 56 31.2 +0.3**
comp=Z,65nm,1.3s,mb5.6
WET Wettzell 85.25 321 *e*P **P 06 56 31.2 +0.3**
WET pmax pmax
comp=Z,65nm,1.3s,mb5.6
NRDL Niedersach Rie 85.29 325 *e*P **P 06 56 31.2 +0.1**
comp=Z,126nm,1.0s,mb6.0
MOX Moxa 85.31 323 *e*P **P 06 56 31.0 -0.2**
comp=Z,103nm,1.3s,mb5.8
MOX Moxa 85.31 323 *e*P **P 06 56 30.8 -0.4**
comp=Z,95nm,1.5s,mb5.7
MOX *e* pP 06 56 39.2 -1.9
MOX
comp=Z,2µm,17.0s
MOX Moxa 85.31 323 *e*P **P 06 56 30.8 -0.4**
comp=Z,95nm,1.5s,mb5.7
MOX *e*pP pP 06 56 39.2 -1.9
MANZ Manzenberg 85.32 322 *e*P **P 06 56 31.6 +0.3**
comp=Z,74nm,1.1s,mb5.7
BOJS Bojanci 85.36 317 *e*P **P 06 56 31.8 +0.4**
BOJS *e* pP 06 56 41.4 0.0
ROTZ Rotzenmuhle 85.37 322 *e*P **P 06 56 31.8 +0.3**
comp=Z,135nm,1.0s,mb6.0
OBKA Obir 85.38 318 *i* P **P 06 56 31.7 +0.2**
comp=Z,382nm,2.8s,mb6.0,SNR=13
CLZ Clausthal 85.45 324 *e*P **P 06 56 32.1 +0.2**
comp=Z,166nm,1.1s,mb6.1
CLZ Clausthal 85.45 324 *e*P **P 06 56 32.1 +0.2**
CLZ pmax pmax
comp=Z,166nm,1.1s,mb6.1
LJU Ljubljana 85.59 318 *e*P **P 06 56 32.7 +0.1**
LJU *e* pP 06 56 42.1 -0.5
LJU *e*S S 07 07 00.3 -2.0
GTTG Gvttingen 85.81 324 *e*P **P 06 56 33.7 0.0**
comp=Z,106nm,1.0s,mb6.0
SUMG Summit 85.86 354 *e*P **P 06 56 33.7 -0.2**
comp=Z,62nm,1.1s,mb5.8
SUMG *e*pP pP 06 56 44.2 +0.4
KBA Koelnbreinsper 85.88 319 ||*i*P **P 06 56 33.9 -0.1**
comp=Z,119nm,1.7s,mb5.8,SNR=11
KBA Koelnbreinsper 85.88 319 ||*i*P **P 06 56 33.9 -0.1**
KBA pmax pmax
comp=Z,119nm,1.7s,mb5.8
GRA1 Grafenberg Arr 85.97 322 *e*P **P 06 56 34.8 +0.3**
comp=Z,151nm,1.6s,mb6.0
GRA1 LR LR
comp=Z,2µm,19.5s,MS5.5
GRF Grafenberg Arr 85.97 322 *e*P **P 06 56 34.8 +0.3**
comp=Z,151nm,1.6s,mb6.0
GRF *e*L 07 37 47.8
comp=Z,2µm,19.5s
GRF Grafenberg Arr 85.97 322 *e*P **P 06 56 34.8 +0.3**
GRF pmax pmax
comp=Z,151nm,1.6s,mb6.0
GRF MLR MLR
comp=Z,2µm,19.5s,MS5.5
GRF Grafenberg Arr 85.97 322 *e*P **P 06 56 34.8 +0.3**
GRF pmax pmax
comp=Z,151nm,1.6s,mb6.0
GRF MLR MLR
comp=Z,2µm,19.5s,MS5.5
GRFO Grafenberg 85.97 322 *e*P **P 06 56 34.8 +0.3**
comp=Z,143nm,1.6s,mb6.0
GRFO Grafenberg 85.97 322 *e*P **P 06 56 34.8 +0.3**
GRFO pmax pmax
comp=Z,143nm,1.6s,mb6.0
VOY Vojsko 85.99 318 *e*P **P 06 56 33.3 -1.3**
VOY *e* pP 06 56 42.3 -2.2
CADS Cadrg 86.01 318 *e*P **P 06 56 33.9 -0.7**
UBBA Unterbreizbach 86.14 323 *e*P **P 06 56 35.2 -0.1**
comp=Z,41nm,1.2s,mb5.5
PTCC Patocco-Chiusa 86.17 318 P **P 06 56 35.0 -0.5**
comp=Z,18nm,1.0s,mb5.3
YKW3 Yellowknife Ar 86.52 22 *e*P **P 06 56 37.0 -0.2**
YKA Yellowknife Ar 86.57 22 P **P 06 56 37.1 -0.3**
comp=Z,36nm,0.8s,mb5.6,baz=315,slow=4.7,SNR=57
YKA LR LR 07 41 12.2
comp=Z,833nm,19.2s,MS5.2,baz=220,slow=40
IBBN Ibbenburen 86.64 325 *e*P **P 06 56 38.0 +0.2**
comp=Z,125nm,1.0s,mb6.1
IBBN *e*pP pP 06 56 46.4 -1.3
SEST Monte Rota 86.72 319 P **P 06 56 37.9 -0.3**
WTTA Wattenberg 86.84 320 ||*i*P **P 06 56 38.5 -0.2**
comp=Z,145nm,1.3s,mb6.0,SNR=29
WTTA Wattenberg 86.84 320 ||*i*P **P 06 56 38.5 -0.2**
WTTA pmax pmax
comp=Z,145nm,1.3s,mb6.0
WATA Walderalm 86.84 320 ⇑*i*P **P 06 56 38.6 -0.1**
comp=Z,23nm,0.9s,mb5.4
WATA Walderalm 86.84 320 ⇑*i*P **P 06 56 38.6 -0.2**
WATA pmax pmax
comp=Z,23nm,0.9s,mb5.4
TIP Timpagrande 86.96 311 *e*P **P 06 56 39.5 +0.2**
TIP *e*pP pP 06 56 50.4 +1.2
CASY Casey 87.00 184 *e*P **P 06 56 39.2 -0.3**
SQTA Sankt Quirin 87.12 320 *i* P **P 06 56 40.2 +0.1**
comp=Z,37nm,1.0s,mb5.6,SNR=13
SQTA Sankt Quirin 87.12 320 *i* P **P 06 56 40.2 +0.1**
SQTA pmax pmax
comp=Z,37nm,1.0s,mb5.6
MOTA Moosalm 87.12 320 ⇑*i*P **P 06 56 40.2 0.0**
comp=Z,34nm,1.0s,mb5.5,SNR=11
MOTA Moosalm 87.12 320 ⇑*i*P **P 06 56 40.2 +0.1**
MOTA pmax pmax
comp=Z,34nm,1.0s,mb5.5
CUC Castrocucco 87.29 312 P **P 06 56 40.0 -0.9**
TNS Taunus Mts 87.29 323 *e*P **P 06 56 41.4 +0.4**
comp=Z,38nm,1.2s,mb5.5
TNS Taunus Mts 87.29 323 *e*P **P 06 56 41.4 +0.4**
TNS pmax pmax
comp=Z,38nm,1.2s,mb5.5
WTSB Winterswijk 87.32 325 ||*e*P **P 06 56 40.7 -0.3**
comp=Z,76nm,2.9s,mb5.4
BUG Bochum--Univer 87.33 325 *e*P **P 06 56 41.1 -0.1**
comp=Z,34nm,1.0s,mb5.5
STU Stuttgart 87.58 322 *e*P **P 06 56 42.4 +0.1**
STU pmax pmax
comp=Z,21nm,0.3s,mb5.8
STU Stuttgart 87.58 322 *e*P **P 06 56 42.4 0.0**
comp=Z,21nm,0.3s,mb5.8
CING Cingoli 87.61 316 P **P 06 56 42.7 +0.2**
MIDA Miranda 87.66 314 P **P 06 56 43.4 +0.7**
DAVA Damuels 87.89 320 ||*i*P **P 06 56 43.8 0.0**
comp=Z,676nm,4.1s,SNR=6.1
SOI Samo 87.92 310 P **P 06 56 44.1 +0.1**
AQU L'Aquila 87.92 315 ||*i*P **P 06 56 45.0 +1.0**
AQU L'Aquila 87.92 315 *e*P **P 06 56 45.5 +1.6**
comp=Z,55nm,0.8s,mb5.8
BRMO Bormio 87.97 319 P **P 06 56 44.3 +0.1**
MABI Malga Bissina 88.08 319 P **P 06 56 45.6 +0.9**
MURB Monte Urbino 88.09 316 P **P 06 56 45.4 +0.6**
BADI Badiali 88.16 316 P **P 06 56 46.7 +1.6**
BFO Black Forest 88.29 322 P **P 06 56 45.8 +0.1**
comp=Z,95nm,0.9s,mb6.0,SNR=5.2
BFO Black Forest 88.29 322 *e*P **P 06 56 45.5 -0.2**
comp=Z,29nm,1.1s,mb5.4
BFO Black Forest 88.29 322 *e*P **P 06 56 45.5 -0.2**
BFO pmax pmax
comp=Z,29nm,1.1s,mb5.4
RAVA Ravarino 88.31 318 P **P 06 56 46.8 +1.0**
DRV Dumont d'Urvil 88.36 172 PP PP 07 00 13.0 -0.8
DRV Dumont d'Urvil 88.36 172 SS SS 07 13 16.0 -3.1
MNS Montasola 88.39 315 P **P 06 56 45.5 -0.7**
HGN Heimansgroeve 88.41 325 ||*e*P **P 06 56 45.6 -0.7**
comp=Z,40nm,1.2s,mb5.5
MEM Membach 88.45 324 P **P 06 56 46.5 0.0**
FNVD Fontana Vidola 88.58 317 P **P 06 56 48.5 +1.4**
RDP Rocca di Papa 88.64 314 P **P 06 56 47.7 +0.3**
FELD Feldberg im Sc 88.71 321 *e*P **P 06 56 47.5 -0.2**
CSNT Castellina Chi 88.80 316 P **P 06 56 47.9 -0.2**
comp=Z,110nm,1.6s,mb5.9
WLS Welschbruch 88.82 322 *e*P **P 06 56 49.0 +0.8**
WLF Walferdange 88.86 324 *e*P **P 06 56 48.6 +0.2**
comp=Z,149nm,0.9s,mb6.3
WLF Walferdange 88.86 324 P **P 06 56 48.9 +0.5**
WLF AP pP 06 56 57.4 -1.0
WLF Walferdange 88.86 324 *e*P **P 06 56 48.7 +0.3**
comp=Z,128nm,0.9s,mb6.2
WLF *e*pP pP 06 56 57.5 -0.8
CDF Champ du Feu 88.86 322 *e*P **P 06 56 47.9 -0.5**
comp=Z,89nm,1.0s,mb5.8
CDF Champ du Feu 88.86 322 *e*P **P 06 56 47.9 -0.5**
CDF pmax pmax
comp=Z,44nm,1.0s,mb5.7
CDF Champ du Feu 88.86 322 *e*P **P 06 56 47.9 -0.5**
comp=Z,44nm,1.0s,mb5.8
BCLA Clavier 88.93 324 P **P 06 56 48.7 0.0**
VLC Villacollemand 89.06 317 *e*P **P 06 56 49.3 0.0**
comp=Z,39nm,1.0s,mb5.7
VLC *e*pP pP 06 56 59.0 -0.3
PII Pisa 89.17 317 P **P 06 56 49.6 -0.3**
PII pmax pmax
comp=Z,66nm,1.3s,mb5.8
PII Pisa 89.17 317 P **P 06 56 49.6 -0.3**
comp=Z,66nm,1.3s,mb5.8
BBS Basel-Blauen 89.20 321 *e*P **P 06 56 49.7 -0.3**
MOF Molkenrain 89.23 322 *e*P **P 06 56 49.9 -0.2**
UCC Uccle 89.24 325 P **P 06 56 50.1 -0.1**
MIR Mirnyy 89.32 190 *e*P **P 06 56 51.0 +0.4**
MIR pmax pmax
comp=Z,120nm,1.5s,mb6.0
BOB Bobbio (Coli) 89.36 318 P **P 06 56 51.2 +0.5**
GIVF Givet 89.36 324 *e*P **P 06 56 50.2 -0.5**
comp=Z,95nm,1.1s,mb5.7
GIVF Givet 89.36 324 *e*P **P 06 56 50.2 -0.5**
GIVF pmax pmax
comp=Z,47nm,1.1s,mb5.7
GIVF Givet 89.36 324 *e*P **P 06 56 50.2 -0.5**
comp=Z,47nm,1.1s,mb5.7
HINF Hinteralfeld 89.41 322 *e*P **P 06 56 50.1 -0.9**
comp=Z,60nm,1.1s,mb5.5
HINF Hinteralfeld 89.41 322 *e*P **P 06 56 50.1 -0.9**
HINF pmax pmax
comp=Z,30nm,1.1s,mb5.5
HINF Hinteralfeld 89.41 322 *e*P **P 06 56 50.1 -0.9**
comp=Z,30nm,1.1s,mb5.5
SNF Seneffe 89.43 325 P **P 06 56 51.7 +0.6**
DOU Dourbes 89.48 324 P **P 06 56 51.2 -0.1**
HAU Haudompre 89.60 322 *e*P **P 06 56 51.0 -0.9**
comp=Z,65nm,0.9s,mb5.6
HAU *e*MLR MLR
comp=Z,2µm,17.2s
HAU Haudompre 89.60 322 *e*P **P 06 56 51.0 -0.9**
HAU pmax pmax
comp=Z,33nm,0.9s,mb5.7
HAU MLR MLR
comp=Z,2µm,17.3s,MS5.5
HAU Haudompre 89.60 322 *e*P **P 06 56 51.0 -0.9**
comp=Z,33nm,0.9s,mb5.7
HAU LR LR
comp=Z,2µm,17.3s,MS5.5
THEF They Montfort 89.69 322 *e*P **P 06 56 52.5 +0.2**
BAIF Baives 89.72 325 *e*P **P 06 56 51.9 -0.5**
comp=Z,76nm,1.0s,mb5.7
BAIF Baives 89.72 325 *e*P **P 06 56 51.9 -0.5**
BAIF pmax pmax
comp=Z,38nm,1.0s,mb5.7
BAIF Baives 89.72 325 *e*P **P 06 56 51.9 -0.5**
comp=Z,38nm,1.0s,mb5.7
MEZF Maizieres J'vi 90.08 323 *e*P **P 06 56 53.8 -0.3**
comp=Z,104nm,1.0s,mb5.8
MEZF Maizieres J'vi 90.08 323 *e*P **P 06 56 53.8 -0.3**
comp=Z,104nm,1.0s,mb6.1
KPL Plockton 90.09 334 *e*P **P 06 56 53.4 -0.7**
KPL AMb AMB 06 56 58.0
comp=Z,56nm,1.9s,mb5.6
OG01 Vacheresse 90.27 321 *e*P **P 06 56 55.4 +0.4**
ESK Eskdalemuir 90.33 331 *e*P **P 06 56 54.5 -0.8**
ESK AMb AMB 06 56 58.4
comp=Z,53nm,1.7s,mb5.6
FIN Finale Ligure 90.40 318 P **P 06 56 55.5 -0.1**
FIN pmax pmax
comp=Z,67nm,0.9s,mb6.0
FIN Finale Ligure 90.40 318 P **P 06 56 55.5 -0.1**
comp=Z,67nm,0.9s,mb6.0
CABF La Chapelle 90.47 321 *e*P **P 06 56 55.4 -0.5**
comp=Z,16nm,0.8s,mb5.1
CABF La Chapelle 90.47 321 *e*P **P 06 56 55.4 -0.5**
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
CABF La Chapelle 90.47 321 *e*P **P 06 56 55.4 -0.5**
comp=Z,8.1nm,0.8s,mb5.1
MENF Mencas 90.54 326 *e*P **P 06 56 56.8 +0.5**
RSL Roselend 90.63 320 *e*P **P 06 56 57.1 +0.4**
LPG La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
comp=Z,251nm,0.8s,mb6.3
LPG La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
LPG pmax pmax
comp=Z,125nm,0.8s,mb6.3
LPG La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
comp=Z,126nm,0.8s,mb6.3
LPL La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
comp=Z,252nm,0.9s,mb6.3
LPL La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
LPL pmax pmax
comp=Z,126nm,0.9s,mb6.2
LPL La Plagne 90.65 320 *e*P **P 06 56 57.1 +0.3**
comp=Z,126nm,0.9s,mb6.2
IMI Imperia 90.75 318 P **P 06 56 56.9 -0.3**
comp=Z,51nm,0.9s,mb5.8
PGC Sidney 90.79 36 *e*P **P 06 56 57.4 0.0**
comp=Z,46nm,1.0s,mb5.8
LHO Holmfirth 90.80 330 *e*P **P 06 56 57.1 -0.4**
KBI1 Birley Grange 90.82 329 *e*P **P 06 56 57.0 -0.6**
SAOF Saorge 90.92 318 *e*P **P 06 56 58.2 +0.2**
BNI Bardonecchia 90.92 319 *e*P **P 06 56 58.1 +0.1**
BNI pmax pmax
comp=Z,69nm,0.9s,mb6.0
BNI Bardonecchia 90.92 319 *e*P **P 06 56 58.1 +0.1**
comp=Z,69nm,0.9s,mb6.0
STW Striped Peak 90.94 37 P **P 06 56 59.5 +1.4**
AUTN L'Aution 91.00 318 *e*P **P 06 56 59.0 +0.6**
MBDF Montbardon 91.03 319 *e*P **P 06 56 57.9 -0.6**
comp=Z,64nm,0.8s,mb5.7
MBDF Montbardon 91.03 319 *e*P **P 06 56 57.9 -0.6**
MBDF pmax pmax
comp=Z,32nm,0.8s,mb5.7
MBDF Montbardon 91.03 319 *e*P **P 06 56 57.9 -0.6**
comp=Z,32nm,0.8s,mb5.7
SBF Sospel 91.06 318 *e*P **P 06 56 58.2 -0.5**
comp=Z,283nm,0.8s,mb6.3
SBF Sospel 91.06 318 *e*P **P 06 56 58.2 -0.5**
SBF pmax pmax
comp=Z,141nm,0.8s,mb6.3
SBF Sospel 91.06 318 *e*P **P 06 56 58.2 -0.5**
comp=Z,141nm,0.8s,mb6.3
B04A Port Angeles 91.08 37 ||P **P 06 56 59.1 +0.4**
baz=91
LUCF Luceram 91.10 318 *e*P **P 06 56 59.0 +0.1**
TOUF Mont Tournerai 91.10 318 *e*P **P 06 56 59.3 +0.4**
SURF Saint Ours 91.13 319 *e*P **P 06 56 59.5 +0.5**
OG05 Jujurieux 91.14 321 *e*P **P 06 56 59.2 +0.1**
A04A Legoe Bay, Lum 91.16 36 ||P **P 06 56 59.4 +0.2**
baz=91
GDM Grand'Maison 91.19 320 *e*P **P 06 56 59.5 +0.2**
MVIF Mont Vial 91.22 318 *e*P **P 06 56 59.8 +0.4**
A05A Maple Falls 91.35 36 ||P **P 06 57 00.1 +0.1**
baz=91
GRN Grenoble 91.39 320 *e*P **P 06 57 01.1 +0.9**
LOR Lormes 91.42 322 *e*P **P 06 56 59.7 -0.6**
comp=Z,68nm,1.1s,mb5.6
LOR *e*MLR MLR
comp=Z,2µm,18.0s
LOR Lormes 91.42 322 *e*P **P 06 56 59.7 -0.6**
LOR pmax pmax
comp=Z,34nm,1.1s,mb5.6
LOR MLR MLR
comp=Z,2µm,18.0s,MS5.5
LOR Lormes 91.42 322 *e*P **P 06 56 59.7 -0.6**
comp=Z,34nm,1.1s,mb5.6
LOR LR LR
comp=Z,2µm,18.0s,MS5.5
D03A Wishkah Elem. 91.44 38 ||P **P 06 57 01.2 +0.8**
baz=91
ORIF Oris-en-Rattie 91.48 320 *e*P **P 06 57 00.6 0.0**
comp=Z,124nm,0.9s,mb6.0
ORIF *e*MLR MLR
comp=Z,3µm,19.5s
ORIF Oris-en-Rattie 91.48 320 *e*P **P 06 57 00.6 0.0**
ORIF pmax pmax
comp=Z,62nm,0.9s,mb5.9
ORIF Oris-en-Rattie 91.48 320 *e*P **P 06 57 00.6 0.0**
comp=Z,62nm,0.9s,mb5.9
C04A Brinnon 91.57 37 ⇑P **P 06 57 02.0 +1.0**
baz=91
OG25 Le Caire 91.64 319 *e*P **P 06 57 01.7 +0.3**
FRF La Foret Royal 91.70 318 *e*P **P 06 57 01.3 -0.4**
comp=Z,155nm,0.9s,mb6.0
FRF La Foret Royal 91.70 318 *e*P **P 06 57 01.3 -0.4**
FRF pmax pmax
comp=Z,77nm,0.9s,mb6.0
FRF La Foret Royal 91.70 318 *e*P **P 06 57 01.3 -0.4**
comp=Z,77nm,0.9s,mb6.0
GNW Green Mountain 91.73 37 *e*P **P 06 57 03.2 +1.4**
SSF Saint Saulge 91.73 322 *e*P **P 06 57 01.1 -0.7**
comp=Z,55nm,1.2s,mb5.5
SSF Saint Saulge 91.73 322 *e*P **P 06 57 01.1 -0.7**
SSF pmax pmax
comp=Z,27nm,1.2s,mb5.5
SSF Saint Saulge 91.73 322 *e*P **P 06 57 01.1 -0.7**
comp=Z,27nm,1.2s,mb5.5
B05A Bryant 91.75 36 ||P **P 06 57 02.9 +1.0**
baz=92
SMF Signal de Mont 91.77 322 *e*P **P 06 57 01.3 -0.7**
comp=Z,49nm,1.0s,mb5.5
SMF Signal de Mont 91.77 322 *e*P **P 06 57 01.3 -0.7**
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.5
SMF Signal de Mont 91.77 322 *e*P **P 06 57 01.3 -0.7**
comp=Z,24nm,1.0s,mb5.5
SBD1 Bryn Du 91.86 330 *e*P **P 06 57 01.7 -0.7**
E03A Lebam 91.87 38 ||P **P 06 57 03.0 +0.6**
baz=92
LMR La Mourre 91.91 318 *e*P **P 06 57 02.5 -0.1**
comp=Z,164nm,1.0s,mb6.0
LMR La Mourre 91.91 318 *e*P **P 06 57 02.5 -0.1**
LMR pmax pmax
comp=Z,82nm,1.0s,mb6.0
LMR La Mourre 91.91 318 *e*P **P 06 57 02.5 -0.1**
comp=Z,82nm,1.0s,mb6.0
VSL Villasalto 91.94 314 *e*P **P 06 57 02.1 -0.6**
comp=Z,68nm,0.9s,mb6.0
VSL *e*pP pP 06 57 11.6 -1.2
B06A Marblemount 91.95 36 ||P **P 06 57 03.3 +0.5**
baz=92
AVF Avril sur Loir 91.97 322 *e*P **P 06 57 02.2 -0.7**
comp=Z,84nm,1.3s,mb5.6
AVF Avril sur Loir 91.97 322 *e*P **P 06 57 02.2 -0.7**
AVF pmax pmax
comp=Z,42nm,1.3s,mb5.6
AVF Avril sur Loir 91.97 322 *e*P **P 06 57 02.2 -0.7**
comp=Z,42nm,1.3s,mb5.6
D04A Dobbs Creek Ra 92.00 37 ⇑P **P 06 57 03.6 +0.6**
baz=92
TAVF Tavernes 92.04 318 *e*P **P 06 57 03.7 +0.5**
HYF Humbligny 92.11 323 *e*P **P 06 57 03.7 +0.1**
VILF Villemus 92.13 319 *e*P **P 06 57 04.2 +0.6**
SMRF Simiane la Rot 92.16 319 *e*P **P 06 57 03.9 +0.2**
comp=Z,75nm,0.9s,mb5.7
SMRF Simiane la Rot 92.16 319 *e*P **P 06 57 03.9 +0.2**
comp=Z,75nm,0.9s,mb6.0
F03A Seaside 92.21 39 ||P **P 06 57 04.7 +0.7**
baz=92
VIVF Saint-Julien-l 92.24 320 *e*P **P 06 57 03.9 -0.2**
comp=Z,90nm,1.0s,mb5.8
VIVF Saint-Julien-l 92.24 320 *e*P **P 06 57 03.9 -0.2**
VIVF pmax pmax
comp=Z,45nm,1.0s,mb5.8
VIVF Saint-Julien-l 92.24 320 *e*P **P 06 57 03.9 -0.2**
comp=Z,45nm,1.0s,mb5.8
C05A Tolt Reservoir 92.30 37 ⇑P **P 06 57 04.9 +0.5**
baz=92
MCH1 Michaelchurch 92.30 329 *e*P **P 06 57 03.0 -1.4**
MCH1 *e*P 06 57 03.0
MCH1 AMb AMB 06 57 06.6
comp=Z,39nm,2.0s,mb5.4
PUYF Puyloubier 92.31 318 *e*P **P 06 57 04.8 +0.3**
E04A Onalaska 92.33 38 ⇑P **P 06 57 05.1 +0.5**
baz=92
RMW Rattlesnake Mo 92.37 37 P **P 06 57 06.0 +1.3**
HTR Trewern Hill 92.38 329 *e*P **P 06 57 03.3 -1.5**
BGF Bois d'Agland 92.39 322 *e*P **P 06 57 04.4 -0.4**
comp=Z,78nm,1.3s,mb5.6
BGF Bois d'Agland 92.39 322 *e*P **P 06 57 04.4 -0.4**
BGF pmax pmax
comp=Z,39nm,1.3s,mb5.6
BGF Bois d'Agland 92.39 322 *e*P **P 06 57 04.4 -0.4**
comp=Z,39nm,1.3s,mb5.6
D05A Enumclaw 92.42 37 ||P **P 06 57 05.7 +0.8**
baz=92
BERF Bertagne 92.43 318 *e*P **P 06 57 05.9 +0.9**
TREF Trevaresse 92.46 319 *e*P **P 06 57 05.9 +0.8**
PRAF Pradon 92.50 319 *e*P **P 06 57 06.3 +1.0**
GELF Grande-Etoile 92.56 318 *e*P **P 06 57 06.3 +0.7**
H02A Toledo 92.62 40 ⇑P **P 06 57 06.8 +0.9**
baz=92
WRW Wenatchee Ridg 92.66 36 P **P 06 57 07.0 +0.9**
G03A Yamhill 92.70 39 ||P **P 06 57 06.4 +0.1**
baz=92
B07A Winthrop 92.72 35 P **P 06 57 07.0 +0.6**
baz=92,SNR=17
F04A Amboy 92.87 38 ⇑P **P 06 57 07.4 +0.4**
baz=93
LDF La Druitiere 92.88 325 *e*P **P 06 57 06.9 -0.2**
comp=Z,51nm,1.1s,mb5.6
LDF La Druitiere 92.88 325 *e*P **P 06 57 06.9 -0.2**
LDF pmax pmax
comp=Z,25nm,1.1s,mb5.6
LDF La Druitiere 92.88 325 *e*P **P 06 57 06.9 -0.2**
comp=Z,25nm,1.1s,mb5.6
E05A Randle 92.90 38 ⇑P **P 06 57 07.4 +0.2**
baz=93
TCF Toulx Ste Croi 92.91 322 *e*P **P 06 57 06.9 -0.3**
comp=Z,65nm,1.0s,mb5.7
TCF Toulx Ste Croi 92.91 322 *e*P **P 06 57 06.9 -0.3**
TCF pmax pmax
comp=Z,33nm,1.0s,mb5.7
TCF Toulx Ste Croi 92.91 322 *e*P **P 06 57 06.9 -0.3**
comp=Z,33nm,1.0s,mb5.7
FLN La Foliniere 92.98 325 *e*P **P 06 57 07.1 -0.4**
FLN *e*MLR MLR
comp=Z,3µm,17.5s
FLN La Foliniere 92.98 325 *e*P **P 06 57 07.1 -0.4**
FLN LR LR
comp=Z,3µm,17.5s,MS5.8

MPOR	Mary's Peak	92.98	40	P		P	06 57 09.1 +1.6
H03A	Soap Creek Ran	93.05	40	⇓P		P	06 57 08.5 +0.7
	baz=93						
D06A	Cle Elum	93.06	37	⇓P		P	06 57 08.5 +0.6
	baz=93						
TWW	Teanaway	93.07	37	P		P	06 57 09.1 +1.1
I02A	Mapleton	93.09	40	⇓P		P	06 57 08.4 +0.4
	baz=93						
EDM	Edmonton	93.14	29	*e*P		P	06 57 08.4 +0.1
EDM				*e*pP		pP	06 57 17.3 -1.0
LASF	Ste Croix	93.15	320	*e*P		P	06 57 08.3 0.0
	comp=Z,69nm,1.1s,mb5.7						
C07A	Waterville	93.20	36	⇑P		P	06 57 08.4 -0.2
	baz=93						
G04A	Mulino	93.24	39	⇑P		P	06 57 09.3 +0.5
	baz=93						
A09A	Danville	93.24	34	⇑P		P	06 57 09.3 +0.6
	baz=93,SNR=23						
WTV	Waterville	93.26	36	P		P	06 57 09.3 +0.5
K01A	Sixes	93.33	42	⇓P		P	06 57 09.9 +0.7
	baz=93						
E06A	Yakima	93.35	37	⇓P		P	06 57 09.6 +0.4
	baz=93,SNR=6.2						
EBG	Ellensburg	93.37	37	P		P	06 57 10.1 +0.7
KEBM	Edson Butte	93.38	42	*e*P		P	06 57 10.5 +1.1
GRR	Gorron	93.40	325	*e*P		P	06 57 09.3 -0.2
I03A	Eugene	93.44	40	⇓P		P	06 57 10.3 +0.7
	baz=93						
F05A	White Salmon	93.45	38	⇑P		P	06 57 10.0 +0.2
	baz=93						
J02A	Umpqua	93.59	41	⇓P		P	06 57 10.8 +0.4
	baz=93						
HOOD	Mount Hood Mea	93.66	39	*e*P		P	06 57 11.9 +1.2
H04A	Detroit Lake	93.70	39	⇓P		P	06 57 11.0 +0.1
	baz=94						
C08A	Higginbotham F	93.70	35	⇑P		P	06 57 11.1 +0.2
	baz=94,SNR=17						
CAF	Calviac	93.75	321	*e*P		P	06 57 11.2 +0.1
	comp=Z,29nm,0.9s,mb5.4						
CAF	Calviac	93.75	321	*e*P		P	06 57 11.2 +0.1
CAF				pmax		pmax	
	comp=Z,14nm,0.9s,mb5.4						
CAF	Calviac	93.75	321	*e*P		P	06 57 11.2 +0.1
	comp=Z,14nm,0.9s,mb5.4						
KEST	Kesra	93.77	310	P		P	06 57 11.6 +0.4
	comp=Z,14nm,0.9s,mb5.4,baz=309,slow=2.0,SNR=24						
KEST				LR		LR	07 44 43.8
	comp=Z,362nm,18.6s,MS4.9,baz=183,slow=39						
A10A	Northport	93.78	34	⇑P		P	06 57 11.2 0.0
	baz=94,SNR=16						
B09A	Rice	93.80	35	⇓P		P	06 57 11.4 0.0
	baz=94,SNR=13						
RJF	Les Rejaudoux	93.86	322	*e*P		P	06 57 11.8 +0.2
	comp=Z,78nm,1.0s,mb5.8						
RJF				*e*MLR		MLR	
	comp=Z,1μm,20.0s						
RJF	Les Rejaudoux	93.86	322	*e*P		P	06 57 11.8 +0.2
RJF				pmax		pmax	
	comp=Z,39nm,1.0s,mb5.8						
RJF				MLR		MLR	
	comp=Z,2μm,20.0s,MS5.5						
RJF	Les Rejaudoux	93.86	322	*e*P		P	06 57 11.8 +0.2
	comp=Z,39nm,1.0s,mb5.8						
RJF				LR		LR	
	comp=Z,2μm,20.0s,MS5.5						
G05A	Wamic	93.90	38	⇑P		P	06 57 11.9 +0.1
	baz=94						
F06A	Goldendale	93.91	38	⇓P		P	06 57 12.8 +1.0
	baz=94						
K02A	Glendale	93.96	41	⇑P		P	06 57 12.5 +0.4
	baz=94						
E07A	Sunnyside	93.98	37	⇓P		P	06 57 12.9 +0.7
	baz=94,SNR=6.4						
C09A	Chrisman Ranch	94.11	35	⇑P		P	06 57 12.6 -0.1
	baz=94,SNR=7.6						
OD2	Odessa Site #2	94.12	36	P		P	06 57 13.3 +0.5
D08A	Wollman Farm,	94.20	36	⇓P		P	06 57 12.9 -0.2
	baz=94						
L02A	Cave Junction	94.22	42	⇓P		P	06 57 13.4 +0.1
	baz=94						
HAWA	Hanford	94.25	37	*e*P		P	06 57 12.9 -0.5
	comp=Z,10nm,0.8s,mb5.3						
H05A	Madras	94.29	39	⇑P		P	06 57 13.8 +0.2
	baz=94						
G06A	Carlson Farm,	94.30	38	⇑P		P	06 57 13.8 +0.2
	baz=94,SNR=6.2						
F07A	Phinny Hill Vi	94.32	37	⇑P		P	06 57 14.3 +0.6
	baz=94						
B10A	Chitwood Farm,	94.37	34	⇓P		P	06 57 14.2 +0.3
	baz=94						
SGMF	Saint Gilles	94.38	326	*e*P		P	06 57 13.8 -0.2
	comp=Z,90nm,1.2s,mb5.8						
SGMF	Saint Gilles	94.38	326	*e*P		P	06 57 13.8 -0.2
SGMF				pmax		pmax	
	comp=Z,45nm,1.2s,mb5.8						
SGMF	Saint Gilles	94.38	326	*e*P		P	06 57 13.8 -0.2
	comp=Z,45nm,1.2s,mb5.8						
NEW	Newport	94.44	34	*e*P		P	06 57 14.5 +0.2
NEW				*e**PP		pP	06 57 23.7 -0.6
NEW				*e*			07 01 01.1
NEW				pmax		pmax	
	comp=Z,17nm,1.0s						
NEW	Newport	94.44	34	*e*P		P	06 57 14.5 +0.3
	comp=Z,17nm,1.0s,mb5.4						
NEW				*e*pP		pP	06 57 23.7 -0.6
NEW				*e*PP		PP	07 01 01.1 -0.7
D09A	Jones Farm, Ri	94.53	36	⇑P		P	06 57 14.5 -0.2
	baz=94,SNR=5.9						
MTLF	Montolieu	94.55	320	*e*P		P	06 57 14.5 -0.3
	comp=Z,42nm,1.0s,mb5.5						
MTLF	Montolieu	94.55	320	*e*P		P	06 57 14.5 -0.3
MTLF				pmax		pmax	
	comp=Z,21nm,1.0s,mb5.5						
MTLF	Montolieu	94.55	320	*e*P		P	06 57 14.5 -0.3
	comp=Z,21nm,1.0s,mb5.5						
C10A	Spilker Farm,	94.62	35	⇓P		P	06 57 15.2 +0.1
	baz=94						
JCC	Jacoby Creek	94.67	43	⇑P		P	06 57 15.7 +0.4
	baz=94						
ROSF	Rostrenen	94.71	326	*e*P		P	06 57 15.2 -0.3
	comp=Z,154nm,1.4s,mb5.9						
ROSF	Rostrenen	94.71	326	*e*P		P	06 57 15.2 -0.3
ROSF				pmax		pmax	
	comp=Z,77nm,1.4s,mb5.9						
ROSF	Rostrenen	94.71	326	*e*P		P	06 57 15.2 -0.3
	comp=Z,77nm,1.4s,mb5.9						
H06A	Lindquist Farm	94.76	38	⇑P		P	06 57 15.5 -0.2
	baz=94,SNR=6.6						
A12A	Yaak River Ran	94.79	33	⇑P		P	06 57 15.8 0.0
	baz=95,SNR=12						
G07A	Ruggs Ranch, H	94.84	38	⇑P		P	06 57 16.3 +0.2
	baz=95						
E09A	Wood Farm, Sta	94.95	36	⇑P		P	06 57 16.5 -0.1
	baz=95,SNR=12						
YBH	Yreka Blue Hor	95.01	42	*e*P		P	06 57 17.4 +0.5
YBH	Yreka Blue Hor	95.01	42	⇑P		P	06 57 17.5 +0.7
	baz=95						
F08A	Pendleton	95.03	37	⇑P		P	06 57 17.4 +0.4
	baz=95,SNR=9.0						
J05A	Fort Rock	95.05	40	⇓P		P	06 57 17.2 +0.1
	baz=95,SNR=7.5						
M02C	Callahan	95.11	42	⇓P		P	06 57 18.0 +0.7
	baz=95						
B12A	Libby	95.12	33	⇓P		P	06 57 17.7 +0.4
	baz=95						
K04A	Chilquin	95.13	41	⇑P		P	06 57 17.7 +0.2
	baz=95						
N02C	Big Bar	95.13	43	⇓P		P	06 57 17.7 +0.3
	baz=95,SNR=11						
O01C	Eel River Cons	95.17	44	⇓P		P	06 57 17.9 +0.3
	baz=95						
G08A	Pilot Rock	95.23	37	⇓P		P	06 57 18.3 +0.4
	baz=95,SNR=7.4						
L04A	Klamath Falls	95.28	41	⇓P		P	06 57 18.2 +0.1
	baz=95						
I06A	Prineville	95.29	39	⇓P		P	06 57 18.7 +0.6
	baz=95,SNR=11						
H07A	Lands Inn, Kim	95.29	38	⇓P		P	06 57 18.5 +0.3
	baz=95						
M04C	Macdoel	95.53	42	⇓P		P	06 57 19.6 +0.4
	baz=95,SNR=6.8						
F09A	S2 Ranch, Elgi	95.57	37	⇓P		P	06 57 19.8 +0.4
	baz=95,SNR=8.8						
K05A	Summer Lake	95.58	40	⇑P		P	06 57 19.9 +0.5
	baz=95,SNR=9.4						
WALA	Waterton Lakes	95.59	32	*e*P		P	06 57 20.6 +1.1
	comp=Z,22nm,1.0s,mb5.5						
I07A	Izee	95.62	39	⇑P		P	06 57 20.0 +0.3
	baz=95,SNR=6.0						
M03C	McCloud	95.63	42	⇓P		P	06 57 20.4 +0.6
	baz=95,SNR=6.1						
C12A	Trout Creek	95.66	34	⇓P		P	06 57 20.2 +0.4
	baz=95						
J06A	Christmas Vall	95.72	40	⇑P		P	06 57 20.3 +0.2
	baz=96,SNR=9.3						
WDC	Whiskeytown Da	95.75	43	⇓P		P	06 57 20.6 +0.4
	baz=96						
B13A	Whitefish	95.75	33	⇓P		P	06 57 20.7 +0.5
	baz=96						
F10A	Beach Ranch, E	95.79	36	⇑P		P	06 57 20.4 0.0
	baz=96						
O02C	Red Bluff	95.81	43	⇑P		P	06 57 20.9 +0.4
	baz=96,SNR=8.7						
P01C	Double 8 Ranch	95.84	44	⇑P		P	06 57 20.7 0.0
	baz=96						
H08A	Prairie City	95.85	38	⇓P		P	06 57 21.0 +0.3
	baz=96,SNR=9.1						
EPF	Esparros	95.86	320	*e*P		P	06 57 20.6 -0.1
BSMT	Bassoo Peak	95.92	34	*e*P		P	06 57 23.6 +2.6
K06A	Valley Falls	95.92	40	⇓P		P	06 57 21.5 +0.5
	baz=96,SNR=6.7						
L05A	Lakeview	96.00	41	⇓P		P	06 57 21.9 +0.5
	baz=96,SNR=6.9						
C13A	Hot Springs	96.14	34	⇓P		P	06 57 22.3 +0.2
	baz=96						
GASB	Alder Springs	96.14	44	⇓P		P	06 57 22.7 +0.6
	baz=96,SNR=11						
J07A	Hines	96.15	39	⇓P		P	06 57 22.5 +0.4
	baz=96,SNR=15						
M05C	Lookout	96.20	42	⇓P		P	06 57 22.9 +0.6
	baz=96,SNR=6.0						
I08A	Drewsey	96.27	38	⇑P		P	06 57 22.8 +0.1
	baz=96						
HOPS	Hopland	96.27	44	⇓P		P	06 57 23.0 +0.4
	baz=96						
HATC	Hat Creek Radi	96.30	42	P		P	06 57 23.0 +0.3
	baz=96,SNR=7.0						
H09A	Durkee	96.34	37	⇑P		P	06 57 23.1 +0.1
	baz=96						
PPT	Papeete	96.34	106	*e*PS		PS	07 10 04.5 +0.3
	comp=Z,406nm,29.0s						
PPT	Papeete	96.34	106	*e*S		S	07 08 40.2 -0.6
	comp=Z,766nm,23.2s						
PPT				*e*SS		SS	07 15 20.9 +7.3
	comp=Z,427nm,27.5s						
PPT				*e*LR		LR	07 28 36.9
	comp=Z,3μm,27.0s,baz=293						
PPT	Papeete	96.34	106	LR		LR	07 31 05.6
	comp=Z,849nm,21.3s,MS5.2,baz=310,slow=29						
MOD	Modoc	96.41	41	⇓P		P	06 57 23.6 +0.3
	baz=96,SNR=8.6						
ETSF	Etsaut	96.47	320	*e*P		P	06 57 22.9 -0.6
	comp=Z,21nm,0.9s,mb5.3						
ETSF	Etsaut	96.47	320	*e*P		P	06 57 22.9 -0.6
ETSF				pmax		pmax	
	comp=Z,10.0nm,0.9s,mb5.2						
ETSF	Etsaut	96.47	320	*e*P		P	06 57 22.9 -0.6
	comp=Z,10nm,0.9s,mb5.3						
K07A	Rock Creek Ran	96.59	40	⇓P		P	06 57 24.6 +0.6
	baz=96,SNR=6.5						
J08A	Circle Bar Ran	96.65	39	⇑P		P	06 57 24.6 +0.3
	baz=96,SNR=10						
M06C	Likely Place G	96.70	41	⇑P		P	06 57 24.9 +0.3
	baz=96						
I09A	Lost Marbles R	96.71	38	⇑P		P	06 57 24.6 0.0
	baz=96,SNR=17						
SJPF	Ste Jean	96.74	321	*e*P		P	06 57 24.1 -0.6
MNRC	McLaughlin Nat	96.75	44	⇓P		P	06 57 25.0 +0.2
	baz=96,SNR=13						
O04C	Chester	96.82	42	⇓P		P	06 57 25.2 +0.1
	baz=97,SNR=11						
MCCM	Marconi Confer	96.86	45	⇓P		P	06 57 24.9 -0.4
	baz=97,SNR=5.5						
L07A	Adell	96.92	40	⇓P		P	06 57 25.7 +0.2
	baz=97,SNR=10						
SUTB	Sutter Butte	96.98	44	⇓P		P	06 57 25.2 -0.6
	baz=97						
ORV	Oroville	96.98	43	P		P	06 57 25.3 -0.5
	baz=97,SNR=11						
LSZ	Lusaka	97.01	256	*e*P		P	06 57 25.2 -0.8
LSZ				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb5.3						
LSZ	Lusaka	97.01	256	*e*P		P	06 57 25.2 -0.7
	comp=Z,7.9nm,0.6s,mb5.3						
K08A	Mann Creek Ran	97.02	39	⇓P		P	06 57 25.9 -0.1
	baz=97						
CVS	Carmenet Viney	97.03	45	⇑P		P	06 57 25.3 -0.7
	baz=97						
J09A	Fry Pan Ranch,	97.08	38	⇑P		P	06 57 26.0 -0.3
	baz=97,SNR=13						
OHCM	Honcut	97.12	43	*e*P		P	06 57 26.4 -0.1
O05C	Quincy	97.13	43	⇑P		P	06 57 26.6 +0.1
	baz=97						
Q03C	Winters	97.16	44	⇓P		P	06 57 27.0 +0.4
	baz=97						
CHMT	Chamberlain Mo	97.33	34	*e*P		P	06 57 28.9 +1.5
N06A	Buffalo Meadow	97.36	42	⇓P		P	06 57 27.6 0.0
	baz=97,SNR=6.1						
M07A	Soldier Meadow	97.40	41	⇓P		P	06 57 28.0 +0.3
	baz=97						
L08A	Fields	97.42	40	⇑P		P	06 57 28.0 +0.1
	baz=97,SNR=7.7						
MAW	Mawson	97.48	199	⇓*i*P		P	06 57 26.9 -1.2
	comp=Z,2.1nm,0.9s,mb4.6						
MAW	Mawson	97.48	199	P		P	06 57 27.0 -1.1
	comp=Z,3.3nm,1.0s,mb4.7,baz=39,slow=8.4,SNR=5.5						
MAW				LR		LR	07 42 04.2
	comp=Z,323nm,18.0s,MS4.9,baz=32,slow=36						
MAW	Mawson	97.48	199	⇓*i*P		P	06 57 26.9 -1.2
MAW				pmax		pmax	
	comp=Z,2.0nm,0.9s						
K09A	Rome	97.49	39	⇑P		P	06 57 28.2 +0.1
	baz=97,SNR=5.4						
BEKR	Beckwourth	97.53	42	⇓P		P	06 57 28.5 +0.2
	baz=97						
JRSC	Jasper Ridge	97.69	45	⇑P		P	06 57 28.7 -0.3
	baz=98						
O06A	Flanigan	97.70	42	⇓P		P	06 57 29.0 -0.1
	baz=98,SNR=8.8						
M08A	Happy Creek Ra	97.84	40	⇑P		P	06 57 29.6 -0.1
	baz=98						
N07B	Gerlach	97.87	41	⇑P		P	06 57 29.7 -0.1
	baz=98,SNR=7.1						
BNLO	Ben Lomond (Sa	97.88	46	⇑P		P	06 57 30.1 +0.2
	baz=98						
LAVA	Lava Cap Winer	97.92	44	⇓P		P	06 57 30.1 0.0
	baz=98						
S04C	Ingram Canyon,	98.24	45	⇑P		P	06 57 31.7 +0.2
	baz=98						
WCN	Washoe City	98.24	43	⇓P		P	06 57 31.7 +0.1
	baz=98						
PAHR	Pah Rah Range	98.24	42	*e*P		P	06 57 31.8 +0.3
O07A	Toulon	98.29	42	⇑P		P	06 57 31.9 +0.1
	baz=98						
EGMT	Eagleton	98.34	31	*e*P		P	06 57 32.6 +0.7
	comp=Z,14nm,0.9s,mb5.5						
EGMT	Eagleton	98.34	31	⇓P		P	06 57 31.6 -0.3
	baz=98						
TBI	Tubuai	98.34	112	*e*PS		PS	07 10 26.9 +1.0
	comp=Z,263nm,28.8s						
TBI	Tubuai	98.34	112	*e*S		S	07 08 55.7 -2.2
	comp=Z,106nm,28.0s						
TBI				*e*LR		LR	07 29 30.5
	comp=Z,1μm,31.0s,baz=300						
R05C	Kirkwood Meado	98.38	43	⇓P		P	06 57 32.1 0.0
	baz=98						
M09A	Marrel Ranch,	98.42	40	⇓P		P	06 57 32.5 +0.2
	baz=98						
LRM	Limekiln Ridge	98.46	34	*e*P		P	06 57 34.1 +1.6
PACP	Pacheco Peak	98.54	45	⇓P		P	06 57 33.0 +0.2
	baz=98						
CMB	Columbia Colle	98.56	44	⇓P		P	06 57 33.0 0.0
	baz=98						
DLMT	Dillon	98.69	35	*e*P		P	06 57 33.4 -0.1
	comp=Z,14nm,1.0s,mb5.5						
HAST	UC Hastings Re	98.70	46	⇑P		P	06 57 33.4 -0.2
	baz=98						
HLID	Hailey	98.86	37	⇑P		P	06 57 34.4 +0.1
	baz=99						
R06C	Coleville	98.88	43	⇑P		P	06 57 34.6 +0.3
	baz=99						
WAKR	Walker	98.90	43	*e*P		P	06 57 35.6 +1.1
MCMT	McKenzie Canyo	98.90	35	*e*P		P	06 57 37.5 +3.0
S05C	Merced	98.98	45	⇑P		P	06 57 35.1 +0.3
	baz=99						
O09A	Fish Creek Ran	99.33	41	⇑P		P	06 57 36.9 +0.5
	baz=99						
R07C	Lee Vining	99.39	43	⇑P		P	06 57 36.9 +0.3
	baz=99						
PKD	Parkfield	99.63	46	⇓P		Pdif	06 57 37.9 +0.2
	baz=99						
Q08A	Gabbs	99.65	42	⇑P		Pdif	06 57 37.8 0.0
	baz=99						
KCC	Kaiser Creek	99.66	44	⇑P		Pdif	06 57 38.0 +0.1
	baz=100						
NVAR	Mina Array Bea	99.67	43	P		Pdif	06 57 37.6 -0.3
	comp=Z,1.5nm,0.7s,baz=299,slow=6.1,SNR=12						
MLAC	Mammoth Lakes	99.79	44	⇓P		Pdif	06 57 38.0 -0.4
	baz=100						
M12A	Wells	99.93	39	⇓P		Pdif	06 57 39.2 +0.2
	baz=100						
PTRM	Twissleman Ran	100.02	46	*e*Pdif		Pdif	06 57 39.8 +0.3
HELL	Mitchell Peak,	100.22	45	⇑P		Pdif	06 57 40.3 0.0
	baz=100						
O11A	Cowboy Ranch,	100.28	40	⇑P		Pdif	06 57 40.9 +0.3
	baz=100						
S08C	White Mtn Res	100.30	43	⇓P		Pdif	06 57 41.3 +0.6
	baz=100						
SMMC	Simmler	100.35	46	⇑P		Pdif	06 57 41.5 +0.6
	baz=100						
IMW	Indian Meadow	100.54	35	*e*Pdif		Pdif	06 57 44.2 +2.4
R09A	Tonopah	100.56	42	⇓P		Pdif	06 57 42.1 +0.2
	baz=100						
P11A	Circle Ranch,	100.58	41	⇑P		Pdif	06 57 42.7 +0.7
	baz=100						
DCID1	Drake Creek	100.61	35	*e*Pdif		Pdif	06 57 41.4 -0.7
PKM	Peak Mountain	100.71	46	⇑P		Pdif	06 57 42.8 +0.3
	baz=100						
O12A	Currie	100.75	40	⇓P		Pdif	06 57 43.2 +0.6
	baz=100						
S09A	Goldfield	100.77	43	⇓P		Pdif	06 57 42.8 0.0
	baz=101						
REDW	Red Top Meadow	100.95	35	*e*Pdif		Pdif	06 57 44.3 +0.7
	comp=Z,26nm,2.0s						
VNDA	Vanda	101.00	172	P		Pdif	06 57 43.2 -0.6
	comp=Z,1.8nm,1.1s,baz=266,slow=2.4,SNR=5.8						
VNDA				PKKPbc		PKKPbc	07 13 55.9 +0.8
	comp=Z,3.2nm,0.8s,baz=176,slow=2.5,SNR=17						
VNDA	Vanda	101.00	172	P		Pdif	06 57 43.2 -0.6
VNDA				PKKPbc		PKKPbc	07 13 55.9 +0.8
Q11A	Duckwater	101.08	41	⇑P		Pdif	06 57 44.1 -0.1
	baz=101						
P12A	McGill	101.14	40	⇑P		Pdif	06 57 44.9 +0.4
	baz=101						
ISA	Isabella	101.17	45	⇑P		Pdif	06 57 44.4 -0.1
	baz=101						
MPMC	Manual Prospec	101.59	44	⇓P		Pdif	06 57 46.7 +0.3
	baz=101						
FURC	Furnace Creek,	101.75	44	⇑P		Pdif	06 57 47.5 +0.4
	baz=102						
EDW2	Edwards Air Fo	101.95	46	⇑P		Pdif	06 57 48.8 +0.8
	baz=102						
PDAR	Pinedale Array	102.05	35	P		Pdif	06 57 47.5 -1.0
	comp=Z,0.6nm,0.8s,baz=341,slow=3.1,SNR=4.3						
PDAR				PKKPbc		PKKPbc	07 13 49.7 -2.3
	comp=Z,1.3nm,1.0s,baz=151,slow=3.4,SNR=6.3						
TAOE	Nuku Hiva Isla	102.15	95	*e*SS		SS	07 16 40.2 +5.3
	comp=Z,839nm,26.2s						
TAOE				*e*LR		LR	07 31 01.4
	comp=Z,8μm,31.2s						
GSC	Goldstone	102.48	45	⇑P		Pdif	06 57 51.7 +1.3
	baz=102						
BELC	Belle Mtn.	103.79	45	⇓P		Pdif	06 57 55.7 -0.6
	baz=104						
MONP	Monument Peak	104.17	46	⇓P		Pdif	06 57 57.9 0.0
	baz=104						
IRM	Iron Mountain	104.26	45	⇑P		Pdif	06 57 58.8 +0.5
	baz=104						
PDMCI	Parker Dam,Lak	104.83	44	⇑P		Pdif	06 58 01.7 +0.9
	baz=105						
X13A	Yucca	104.85	44	⇑P		Pdif	06 58 02.2 +1.3
	baz=105						
Y12C	Blythe	104.92	45	⇑P		Pdif	06 58 02.9 +1.7
	baz=105						
W14A	Seligman	104.94	43	⇑P		Pdif	06 58 02.7 +1.4
	baz=105						
GLA	Glamis	105.14	45	⇑P		Pdif	06 58 04.1 +1.8
	baz=105						
PV10	Paradox Valley	105.33	38	*e*Pdif		Pdif	06 58 04.2 +1.1
X14A	Yava	105.54	43	⇑P		PKiKP	07 02 18.7 +1.5
	baz=105						
X15A	Humboldt	105.94	43	⇑P		PKiKP	07 02 19.6 +1.6
	baz=106						
116A	Eloy	107.51	44	⇓P		PKiKP	07 02 22.5 +1.6
	baz=107						
QSPA	South Pole Qui	110.49	180	*e*P		PKiKP	07 02 25.4 -1.1
TORD	Torodi Ar. Bea	110.76	294	Pdiff		Pdif	06 58 27.1 -0.1
	comp=Z,0.9nm,0.9s,baz=95,slow=3.0,SNR=2.6						
TORD				PKiKP		PKiKP	07 02 26.9 -0.1
	comp=Z,3.5nm,0.8s,baz=19,slow=1.7,SNR=18						
TORD				PKKPbc		PKKPbc	07 13 24.9 -0.3
	comp=Z,2.2nm,0.8s,baz=280,slow=2.5,SNR=8.8						
RKT	Rikitea	111.05	108	*e*SS		SS	07 18 40.8 +4.9
	comp=Z,382nm,29.5s						
RKT				*e*LR		LR	07 35 13.1
	comp=Z,2μm,27.0s,baz=302						
MDV	Middlebury	114.49	10	*e*PKPdf		PKiKP	07 02 29.9 -4.2
NVL	N'lazarevskaya	115.38	200	⇓*i*PKIKP		PKPdf	07 02 34.7 -1.1
NVL				pmax		pmax	
	comp=Z,19nm,1.1s						
NVL				pmax		pmax	
	comp=N,7.0nm,0.9s						
NVL				pmax		pmax	
	comp=E,4.0nm,0.8s						
MAIT	Maitri	115.41	200	*e*PKP		PKPdf	07 02 35.2 -0.7
ACSO	Alum Creek Sta	115.69	19	*e*PKPdf		PKPdf	07 02 35.7 -0.7
JCT	Junction City	116.29	38	*e*PKIKP		PKPdf	07 02 37.5 -0.1
WCI	Wyandotte Cave	116.37	23	*e*PKIKP		PKPdf	07 02 37.1 -0.6
MIAR	Mount Ida	116.42	31	*e*PKIKP		PKPdf	07 02 38.0 +0.2
WVT	Waverly	117.62	25	*e*PKIKP		PKPdf	07 02 39.1 -1.0
OXF	Oxford	118.35	28	*e*PKIKP		PKPdf	07 02 41.0 -0.6
OXF				*e*			07 03 57.0
PLAL	Pickwick Lake	118.51	26	*e*PKPdf		PKPdf	07 02 40.2 -1.6
ELN	Prospectdale	119.14	19	*e*PKPdf		PKPdf	07 02 42.2 -0.9
CPCT	Cooper Cave	119.49	23	*e*PKPdf		PKPdf	07 02 42.7 -1.0
DBIC	Dimbokro	119.50	291	PKP		PKPdf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.77**	**84**	⇓*i*P	Pn	06 54 22.8	+4.0
VACH				*i* S	Sn	06 54 33.2	+4.2
VACH				AML	AML	06 54 33.4	
	comp=E,20μm,0.1s						
LSCH	**La Serena**	**1.28**	**165**	⇑*i*P	Pn	06 54 26.9	+1.0
LSCH				*i* S	Sn	06 54 43.6	+1.8
TLL	**Tololo Astrono**	**1.66**	**155**	⇑*i*P	Pn	06 54 33.2	+2.1
TLL				*i* S	Sn	06 54 54.9	+3.7
TLL				AML	AML	06 54 58.9	
	comp=E,5μm,0.7s						
TLL	**Tololo Astrono**	**1.66**	**155**	⇑*i*P	Pn	06 54 33.2	+2.1
TLL				*i* S	Sn	06 54 54.9	+3.7
CPCH	**Copiapo**	**1.72**	**41**	*i* P	Pn	06 54 33.5	+1.6
CPCH				*i* S	Sn	06 54 54.9	+2.3
CPCH				AML	AML	06 55 00.8	
	comp=E,4μm,0.1s						
CPCH	**Copiapo**	**1.72**	**41**	*i* P	Pn	06 54 33.5	+1.6
CPCH				*i* S	Sn	06 54 54.9	+2.3
CDCH	**Caldera**	**1.73**	**24**	*e*P	Pn	06 54 31.0	-1.1
OVCH	**Ovalle**	**1.97**	**169**	*e*P	Pn	06 54 36.6	+1.2
OVCH				*i* S	Sn	06 54 59.7	+0.8
OVCH				AML	AML	06 55 16.6	
	comp=E,2μm,0.5s						
OVCH	**Ovalle**	**1.97**	**169**	*e*P	Pn	06 54 36.6	+1.2
OVCH				S	Sn	06 54 59.7	+0.8
CMCH	**Combarbala**	**2.56**	**168**	⇓*i*P	Pn	06 54 44.6	+1.2
PTCH	**Petorca**	**3.64**	**171**	*e*P	Pn	06 54 59.5	+1.2
PTCH				*i* S	Sn	06 55 41.2	+1.2
PTCH				AML	AML	06 56 00.2	
	comp=N,663nm,0.3s						
PTCH	**Petorca**	**3.64**	**171**	*e*P	Pn	06 54 59.5	+1.2
PTCH				*i* S	Sn	06 55 41.2	+1.2
ZON	**Zonda**	**3.84**	**139**	*e*P	Pn	06 55 02.7	+1.6
PEL	**Peldehue**	**4.54**	**170**	*e*P	Pn	06 55 12.4	+1.7
FCH	**Farellones**	**4.79**	**167**	*e*P	Pn	06 55 17.0	+2.9
CLCH	**Cerro Calan**	**4.81**	**169**	*e*P	Pn	06 55 16.7	+2.4
TACH	**Talagante**	**5.01**	**173**	*e*P	Pn	06 55 18.2	+1.1

IDC 11 07:04:25.6±6.9, 2224N×14444E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/19, mbtmp3.7/5, MS4.3/2, Ms1 4.3/2, ms1mx3.4/38, Error ellipse: s-maj=274.5km s-min=22.7km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.61**	**177**	LR	LR	07 09 21.3	
	comp=Z,1μm,19.2s,baz=167,slow=34						
SONM	**Songino Array**	**39.68**	**319**	P	P	07 12 00.1	+0.8
	0.7nm,0.5s,baz=114,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**43.07**	**194**	P	P	07 12 28.2	+1.1
	0.6nm,0.7s,baz=16,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**46.76**	**193**	P	P	07 12 56.0	-0.6
	0.4nm,0.6s,baz=16,slow=10,SNR=9.2						
MKAR	**Makanchi Array**	**55.19**	**312**	P	P	07 13 59.5	-0.6
	0.7nm,0.8s,baz=83,slow=3.8,SNR=5.6						
BVAR	**Borovoye Array**	**63.02**	**319**	P	P	07 14 54.3	0.0
	1.5nm,0.6s,baz=98,slow=8.2,SNR=8.6						
RAR	**Rarotonga**	**69.47**	**125**	LR	LR	07 43 06.2	
	comp=Z,265nm,18.6s,baz=170,slow=33						

IDC 11 07:07:59.1±1.5, 2092N×12100E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=142.2km s-min=20.4km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.33**	**340**	P	P	07 14 03.6	+0.2
	0.4nm,0.6s,baz=163,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**40.61**	**319**	P	P	07 15 40.6	0.0
	0.2nm,0.5s,baz=100,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**42.65**	**161**	P	P	07 15 57.2	-0.1
	2.4nm,0.6s,baz=342,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**46.06**	**163**	P	P	07 16 25.2	+0.6
	0.5nm,0.5s,baz=343,slow=6.9,SNR=10.0						

MAN 11 07:17:17.1, 2073N×11993E, h32km, mb4.8, ML5.5, MS7.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**3.17**	**141**	*e*P	Pn	07 18 05.4	+0.7
CVP	**Callao Caves**	**3.50**	**149**	⇓*i*P	Pn	07 18 10.5	+1.3
CVP				*i* S	Sn	07 18 51.5	+2.1
CAUP	**Cauayan**	**4.17**	**154**	*e*P	Pn	07 18 22.2	+3.9
BOLP	**Bolinao**	**4.32**	**180**	*e*P	Pn	07 18 21.6	+1.1
BALP	**Baler**	**5.20**	**162**	*e*P	Pn	07 18 35.3	+2.7

*STR **11** 07:19:04.2±0.1, 4308N×062W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 07:19:04.2±0.1, 4307N×064W, h10km, Md1.8/2, Error ellipse: s-maj=2.0km s-min=0.8km az=13.0*

MDD 11 07:19:04.4±0.3, 4307N×065W, h12km±2km, mbLg1.0/8, Error ellipse: s-maj=4.0km s-min=1.7km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**287**	Pg	Pg	07 19 06.3	-0.3
ATE				Sg	Sg	07 19 07.9	-0.3
ATE	**Arette**	**0.04**	**287**	P	Pg	07 19 06.4	-0.3
ATE				S	Sg	07 19 08.0	-0.2
REYF	**Montagne du Re**	**0.18**	**91**	Pg	Pg	07 19 08.2	-0.3
REYF				Sg	Sg	07 19 11.1	-0.2
REYF	**Montagne du Re**	**0.18**	**91**	P	Pg	07 19 08.3	-0.2
REYF				S	Sg	07 19 11.2	-0.1
ETSF	**Etsaut**	**0.19**	**160**	*e*Pg	Pg	07 19 08.5	0.0
ETSF				*e*Sg	Sg	07 19 11.2	-0.1
	16nm,0.3s						
ETSF	**Etsaut**	**0.19**	**160**	Pg	Pg	07 19 08.5	0.0
ETSF				Lg		07 19 11.2	
	8.2nm,0.3s						
LARF	**Larrau**	**0.25**	**262**	Pg	Pg	07 19 09.6	-0.1
LARF				Sg	Sg	07 19 13.7	+0.5
LARF	**Larrau**	**0.25**	**262**	P	Pg	07 19 09.7	0.0
LARF				S	Sg	07 19 13.6	+0.4
ORDF	**Ordiarp**	**0.26**	**304**	Pg	Pg	07 19 09.6	-0.1
ORDF				Sg	Sg	07 19 13.4	+0.1
ORDF	**Ordiarp**	**0.26**	**304**	P	Pg	07 19 09.5	-0.2
ORDF				S	Sg	07 19 13.7	+0.4
SJPF	**Ste Jean**	**0.43**	**276**	*e*Pg	Pg	07 19 12.4	-0.4
SJPF				*e*Sg	Sg	07 19 18.3	-0.2
	5.1nm,0.2s						
SJPF	**Ste Jean**	**0.43**	**276**	Pg	Pg	07 19 12.4	-0.4
SJPF				Lg		07 19 18.3	
	2.5nm,0.2s						
VIEF	**Viey**	**0.53**	**111**	Pg	Pg	07 19 14.2	-0.5
VIEF				Sg	Sg	07 19 21.0	-0.7
VIEF	**Viey**	**0.53**	**111**	P	Pg	07 19 14.3	-0.4
VIEF				S	Sg	07 19 21.1	-0.6
IPRE	**Itoiz**	**0.59**	**243**	Pg	Pg	07 19 14.2	-1.6
	0.3nm,0.1s,SNR=4.0						
IPRE				Lg		07 19 23.9	
	1.6nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.65**	**278**	Pg	Pg	07 19 16.5	-0.6
	0.6nm,0.1s,SNR=7.9						
ELIZ				Lg		07 19 24.1	
	2.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.67**	**260**	Pg	Pg	07 19 15.4	-2.1
	0.7nm,0.1s,SNR=4.0						
IUSE				Lg		07 19 26.4	
	1.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.70**	**123**	Pg	Pg	07 19 17.4	-0.5
	1.0nm,0.1s,SNR=7.9						
EBIE				Lg		07 19 26.1	
	2.8nm,0.1s,SNR=11						
EPF	**Esparros**	**0.72**	**93**	*e*Pg	Pg	07 19 18.2	-0.2
EPF				*e*Sg	Sg	07 19 27.8	-0.1
	2.0nm,0.2s						
EPF	**Esparros**	**0.72**	**93**	Pg	Pg	07 19 18.2	-0.2
EPF				Lg		07 19 27.8	
	1.0nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**174**	Lg		07 19 49.4	
	1.9nm,0.1s,SNR=4.0						

IDC 11 07:21:36.4±1.5, 2078N×12036E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=140.6km s-min=21.3km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.26**	**341**	P	P	07 27 40.6	+0.5
	0.4nm,0.7s,baz=161,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**40.32**	**319**	P	P	07 29 15.2	-0.3
	0.2nm,0.5s,baz=108,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**42.72**	**160**	P	P	07 29 35.9	+0.7
	1.3nm,0.6s,baz=343,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**46.10**	**163**	P	P	07 30 01.9	-0.4
	0.5nm,0.7s,baz=345,slow=6.8,SNR=5.0						

*NEIC **11** 07:31:50.4, 3247S×7175W, h31km, MD3.6(GUC), After GUC.*

GUC 11 07:31:50.4±0.6, 3247S×7175W, h31km±2km, MD3.6, ML2.4, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**105**	⇓*i*P	Pb	07 31 57.6	0.0
PACH				*i* S	Sb	07 32 02.7	+0.2
CHNG	**Los Chungos**	**0.62**	**20**	*e*P	Pb	07 32 02.2	-0.6
CHNG				*i* S	Sb	07 32 11.3	+0.1
PTCH	**Petorca**	**0.73**	**74**	⇓*i*P	Pn	07 32 04.7	+0.1
PTCH				*i* S	Sb	07 32 14.5	+0.3
PTCH				AML	AML	07 32 19.3	
	comp=E,332nm,0.2s						
PTCH	**Petorca**	**0.73**	**74**	⇓*i*P	Pn	07 32 04.7	+0.1
PTCH				*i* S	Sb	07 32 14.5	+0.3
JACH	**Jahuel**	**1.00**	**103**	⇑*i*P	Pn	07 32 08.6	+0.3
JACH				*i* S	Sn	07 32 22.3	+0.9
LCCH	**Las Cruces**	**1.02**	**171**	*e*P	Pn	07 32 08.3	-0.2
PEL	**Peldehue**	**1.12**	**127**	*e*P	Pn	07 32 10.6	+0.5
PEL				*i* S	Sn	07 32 25.5	+1.0
PEL				AML	AML	07 32 27.5	
	comp=E,299nm,0.3s						
PEL	**Peldehue**	**1.12**	**127**	*e*P	Pn	07 32 10.6	+0.5
PEL				*i* S	Sn	07 32 25.5	+1.0
RCDM	**Rinconada Maip**	**1.29**	**142**	*e*P	Pn	07 32 13.1	+0.7
RCDM				*i* S	Sn	07 32 29.8	+1.2
RCDM				AML	AML	07 32 31.8	
	comp=E,127nm,0.1s						
RCDM	**Rinconada Maip**	**1.29**	**142**	*e*P	Pn	07 32 13.1	+0.7
RCDM				*i* S	Sn	07 32 29.8	+1.2
TACH	**Talagante**	**1.37**	**150**	⇓*i*P	Pn	07 32 14.2	+0.9
CLCH	**Cerro Calan**	**1.38**	**133**	*e*P	Pn	07 32 14.7	+1.1
CLCH				*i* S	Sn	07 32 33.0	+2.2
CMCH	**Combarbala**	**1.44**	**27**	⇑*i*P	Pn	07 32 15.2	+0.9
CMCH				*i* S	Sn	07 32 34.2	+2.0
CMCH				AML	AML	07 32 38.8	
	comp=E,141nm,0.4s						
CMCH	**Combarbala**	**1.44**	**27**	⇑*i*P	Pn	07 32 15.2	+0.9
CMCH				*i* S	Sn	07 32 34.2	+2.0
ANTU	**Antumapu**	**1.45**	**140**	⇓*i*P	Pn	07 32 15.4	+0.9
ANTU				*i* S	Sn	07 32 34.6	+2.2
ANTU				AML	AML	07 32 40.1	
	comp=N,50nm,0.1s						
ANTU	**Antumapu**	**1.45**	**140**	⇓*i*P	Pn	07 32 15.4	+0.9
ANTU				*i* S	Sn	07 32 34.6	+2.2
FCH	**Farellones**	**1.50**	**125**	*e*P	Pn	07 32 16.6	+1.4
FCH				*i* S	Sn	07 32 36.7	+3.0
FCH				AML	AML	07 32 37.7	
	comp=E,46nm,0.2s						
LMEL	**Las Melosas**	**1.90**	**137**	*e*P	Pn	07 32 22.3	+1.7
LMEL				*i* S	Sn	07 32 46.5	+3.1
CACH	**El Canelo**	**1.91**	**150**	*i* S	Sn	07 32 47.9	+4.1

*NIED **11** 07:32:00, 2100N×120.40E, h11km, Mw4.8 Best double couple: M0 1.57000×10^16 NP1:φs315.00000°, δ71.00000°, λ-87.00000°. NP2:φs126.00000°, δ19.00000°, λ-99.00000°.*
*IDC **11** 07:32:18.4±0.5, 2076N×120.02E, h0km, mb4.6/16, mb1 4.8/17, mb1mx4.7/22, mbtmp4.7/17, ML4.9/1, MS4.1/8, Ms1 4.1/8, ms1mx3.7/30, Error ellipse: s-maj=25.0km s-min=12.1km az=71.0*
*BJI **11** 07:32:20.3, 2093N×119.90E, h8km, mB5.0, mb4.7, ML4.2, Ms4.7, Msz4.5*
*ISCJB **11** 07:32:21.0±0.2, 2077N±003×120.17E±003, h25km, mb4.9/74, MS4.2/13, Error ellipse: s-maj=4.3km s-min=3.3km az=96.7*
*NEIC **11** 07:32:22.8±0.2, 2073N×120.13E, mb5.0/30, Error ellipse: s-maj=5.4km s-min=3.8km az=87.0*
*MOS **11** 07:32:22.5±0.9, 2080N×120.16E, h33km, mb5.2/31, Error ellipse: s-maj=11.3km s-min=5.1km az=117.7*
*SZGRF **11** 07:32:29.0, 2195N×119.76E, h29km, mb5.2, Taiwan region*

ISC 11 07:32:23.1±0.2, 2081N±003×12013E±003, h27km, h27km±.6km: pP-P, n229, σ0=90/241, mb4.9/74, MS4.2/13, 33C-19D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.62**	**22**	*e*Pn	**Pn**	**07 33 17.3**	**0.0**
YHNB	**Yeheng**	**4.01**	**16**	*e*Pn	**Pn**	**07 33 22.8**	**0.0**
YHNB				*e*Sn	**Sn**	**07 34 13.5**	**+4.5**
QZH	**Quanzhou**	**4.36**	**341**	P	**Pn**	**07 33 24.9**	**-2.7**
QZH				S	**Sn**	**07 34 12.0**	**-5.4**
QZH				Smax			
	comp=N,460nm,1.1s						
QZH				Smax			
	comp=E,450nm,1.2s						
QZH				LR	LR		
	comp=N,7μm,12.1s						
QZH				LR	LR		
	comp=E,10μm,10.0s						
QZH				LR	LR		
	comp=Z,8μm,10.1s						
YOJ	**Yonaguni jima**	**4.51**	**36**	P	**Pn**	**07 33 30.2**	**+0.6**
YOJ				*e*S	**Sn**	**07 34 20.2**	**-0.9**
HATJ	**Hateruma jima**	**4.69**	**46**	P	**Pn**	**07 33 32.3**	**+0.2**
HATJ				*e*S	**Sn**	**07 34 24.2**	**-1.5**
IRIF	**Iriomote-Funau**	**4.84**	**43**	P	**Pn**	**07 33 34.2**	**+0.1**
IRIF				*e*S	**Sn**	**07 34 28.5**	**-0.7**
JKRS	**Kuro-shima**	**4.95**	**46**	P	**Pn**	**07 33 36.0**	**+0.3**
JKRS				*e*S	**Sn**	**07 34 31.4**	**-0.7**
JIJ	**Ishigaki jima**	**5.12**	**46**	P	**Pn**	**07 33 37.0**	**-1.1**
JIJ				*e*S	**Sn**	**07 34 34.9**	**-1.5**
GZH	**Guangzhou**	**6.70**	**291**	P	**Pn**	**07 33 54.9**	**-4.8**
GZH				Smax			
	comp=N,203nm,0.9s						
GZH				Smax			
	comp=E,127nm,1.0s						
TGY	**Tagaytay City**	**6.71**	**173**	Pn	**Pn**	**07 33 59.3**	**-0.6**
	comp=E,24nm,0.3s,baz=191,slow=15,SNR=3.1						
JOW	**Kunigami**	**9.56**	**50**	LR	LR	07 39 00.2	
	comp=E,1μm,18.5s,baz=115,slow=42						
QIZ	**Qiongzhong**	**9.84**	**261**	P	**Pn**	**07 34 40.6**	**-2.2**
QIZ				XP		07 34 48.9	
QIZ				S	**Sn**	**07 36 30.2**	**-2.2**
QIZ				XS		07 36 40.5	
QIZ				AMB	AMB		
	comp=Z,349nm,9.7s						
QIZ				LR	LR		
	comp=E,3μm,10.4s						
QIZ				LR	LR		
	comp=Z,3μm,10.5s						
QIZ	**Qiongzhong**	**9.84**	**261**	*e*Pn	**Pn**	**07 34 42.1**	**-0.7**
QIZ				*e*Sn	**Sn**	**07 36 19.3**	**-13**
NJ2	**Nanjing**	**11.26**	**354**	*e*P	**Pn**	**07 35 06.1**	**+3.9**
NJ2				PP		07 35 15.6	
NJ2				S	**Sn**	**07 37 12.0**	**+4.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,4μm,11.3s						
NJ2				LR	LR		
	comp=E,4μm,8.8s						
NJ2				LR	LR		
	comp=Z,5μm,9.7s						
GYA	**Guiyang**	**13.56**	**297**	P	**Pn**	**07 35 31.4**	**-2.3**
GYA				AP		07 35 35.2	
GYA				XP		07 35 38.6	
GYA				S	**Sn**	**07 37 55.1**	**-8.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,3.9s						
GYA				LR	LR		
	comp=N,830nm,11.4s						
GYA				LR	LR		
	comp=E,640nm,11.2s						
GYA				LR	LR		
	comp=Z,710nm,11.0s						
KKM	**Kota Kinabalu**	**15.16**	**195**	*e*Pn	**Pn**	**07 35 54.6**	**-0.7**
JNU	**Nakatsue**	**15.55**	**36**	P	**Pn**	**07 36 05.1**	**+4.7**
TIA	**Tai'an**	**15.57**	**351**	⇑P	**Pn**	**07 36 01.6**	**+0.8**
TIA				LR	LR		
	comp=E,1μm,13.0s						
XAN	**Xi'an**	**16.50**	**325**	P	**Pn**	**07 36 11.0**	**-1.7**
XAN				S	**Sn**	**07 39 12.3**	**-2.7**
XAN				LR	LR		
	comp=N,545nm,10.5s						
XAN				LR	LR		
	comp=E,741nm,11.3s						
XAN				LR	LR		
	comp=Z,1μm,10.5s						
KMI	**Kunming**	**16.58**	**288**	P	**Pn**	**07 36 15.8**	**+2.1**
KMI				AP	pP	07 36 21.1	-2.1
KMI				XP	sP	07 36 25.0	-1.7
KMI				PP		07 36 28.5	
KMI				S	**Sn**	**07 39 17.6**	**+0.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,143nm,3.5s						
KMI				LR	LR		
	comp=N,839nm,11.7s						
KMI				LR	LR		
	comp=E,754nm,10.1s						
KMI				LR	LR		
	comp=Z,785nm,10.9s						
KMI	**Kunming**	**16.58**	**288**	P	**Pn**	**07 36 15.8**	**+2.1**
	comp=Z,7.0nm,1.1s						
KMI				pP	pP	07 36 21.1	-2.1
KMI				sP	sP	07 36 25.0	-1.7
KMI				PP		07 36 28.5	
KMI				S	**Sn**	**07 39 17.6**	**+0.6**
KMI				sS	sS	07 39 27.7	-12
CD2	**Chengdu**	**17.82**	**308**	*e*P	**Pn**	**07 36 27.5**	**-1.7**
CD2				AP	pP	07 36 33.5	-3.5
CD2				PP		07 36 42.7	
CD2				S	**Sn**	**07 39 44.9**	**-2.2**
CD2				XS	sS	07 39 54.4	-10
CD2				AMB	AMB		
	comp=Z,30nm,1.3s						
CD2				LR	LR		
	comp=N,2μm,10.8s						
CD2				LR	LR		
	comp=E,2μm,10.8s						
CD2				LR	LR		
	comp=Z,2μm,9.6s						
JWZ	**Kozaga**	**18.75**	**44**	P	**Pn**	**07 36 41.5**	**+1.0**
BJT	**Baijiatuau**	**19.45**	**351**	*e*P	**Pn**	**07 36 48.7**	**-0.2**
BJT				pmax	pmax		
	comp=Z,73nm,1.3s						
BJT	**Baijiatuau**	**19.45**	**351**	*e*P	**Pn**	**07 36 48.6**	**-0.2**
	comp=Z,73nm,1.3s						
BJI	**Beijing**	**19.47**	**351**	P	**Pn**	**07 36 48.5**	**-0.6**
BJI				AMB	AMB		
	comp=Z,50nm,1.0s						
BJI				AMB	AMB		
	comp=Z,598nm,4.4s						
BJI				LR	LR		
	comp=N,349nm,18.6s						
BJI				LR	LR		
	comp=E,237nm,18.6s						
BJI	**Beijing**	**19.47**	**351**	P	**Pn**	**07 36 48.5**	**-0.6**
	comp=E,50nm,1.0s						
JWT	**Wachi**	**19.70**	**40**	P	**Pn**	**07 36 51.3**	**-0.6**
CHTO	**Chiang Mai**	**20.04**	**268**	*e*P	**P**	**07 36 53.7**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,21nm,1.4s						
CHTO	**Chiang Mai**	**20.04**	**268**	*e*P	**P**	**07 36 53.7**	**-0.2**
	comp=Z,21nm,1.4s						
CM31	**Chiang Mai Arr**	**20.10**	**267**	P	**P**	**07 36 53.7**	**-0.9**
	comp=Z,17nm,0.6s						
LZH	**Lanzhou**	**20.86**	**320**	*e*P	**P**	**07 37 03.5**	**+0.6**
LZH				AP		07 37 12.5	
LZH				XP	sP	07 37 15.5	+1.9
LZH				PP		07 37 25.6	
LZH				*e*S	**S**	**07 40 48.5**	**-5.6**
LZH				XS	sS	07 40 58.6	-7.2
LZH				*e*SS		07 41 19.5	
LZH				AMB	AMB		
	comp=Z,70nm,1.5s						
LZH				AMB	AMB		
	comp=Z,290nm,4.1s						
LZH				LR	LR		
	comp=N,1μm,11.4s						
LZH				LR	LR		
	comp=Z,2μm,12.3s,MS4.6						
LZH	**Lanzhou**	**20.86**	**320**	*e*P	**P**	**07 37 03.5**	**+0.6**
LZH				*SP	sP	07 37 15.5	+1.9
LZH						07 37 25.6	
LZH				*e*S	**S**	**07 40 48.5**	**-5.6**
LZH				*SS	sS	07 40 58.6	-7.2
LZH				*e*SS		07 41 19.5	
LZH				pmax	pmax		
	comp=Z,70nm,1.5s						
LZH				MLR	MLR		
	comp=Z,2μm,12.3s,MS4.6						
LZH	**Lanzhou**	**20.86**	**320**	*e*P	**P**	**07 37 03.5**	**+0.6**
	comp=Z,70nm,1.5s						
LZH				pP		07 37 12.5	
LZH				sP	sP	07 37 15.5	+1.9
LZH				PP		07 37 25.6	
LZH				*e*S	**S**	**07 40 48.5**	**-5.6**
LZH				sS	sS	07 40 58.6	-7.2
LZH				*e*SS		07 41 19.5	
LZH				LR	LR		
	comp=Z,2μm,12.3s,MS4.6						
CBIJ	**Chichi jima**	**21.09**	**68**	LR	LR	07 45 17.8	
	comp=Z,317nm,18.1s,MS3.7,baz=24,slow=37						
JGF	**Kuroka**	**21.11**	**42**	P	**P**	**07 37 05.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**21.27**	**342**	*e*P	**P**	**07 37 08.0**	**+0.7**
HHC				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,498nm,14.7s						
JHJ	**Hachijo jima 2**	**21.34**	**51**	LR	LR	07 44 33.6	
	comp=Z,371nm,21.9s,MS3.7,baz=194,slow=34						
KSM	**Kuching**	**21.47**	**208**	*e*P	**P**	**07 37 08.3**	**-1.3**
BTO	**Baotou**	**21.54**	**339**	*e*P	**P**	**07 37 09.6**	**-0.6**
BTO				S	**S**	**07 40 56.6**	**-11**
BTO				LR	LR		
	comp=N,378nm,9.8s						
BTO				LR	LR		
	comp=E,451nm,13.7s						
JOD2	**Odawara 2**	**22.02**	**45**	P	**P**	**07 37 15.5**	**+0.1**
MAJO	**Matsushiro**	**22.24**	**41**	*e*P	**P**	**07 37 18.5**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,67nm,1.3s,mb4.9						
MAJO	**Matsushiro**	**22.24**	**41**	*e*P	**P**	**07 37 18.5**	**+0.8**
	comp=Z,67nm,1.3s,mb4.9						
MAT	**Matsushiro**	**22.24**	**41**	P	**P**	**07 37 16.6**	**-1.1**
MAT	**Matsushiro**	**22.24**	**41**	P	**P**	**07 37 18.8**	**+1.1**
MJAR	**Matsushiro Arr**	**22.24**	**41**	P	**P**	**07 37 17.0**	**-0.7**
	comp=Z,30nm,1.1s,mb4.6,baz=235,slow=10,SNR=21						
MJAR				LR	LR	07 46 30.8	
	comp=Z,269nm,19.3s,MS3.7,baz=245,slow=38						
JRY	**Ryogami san**	**22.35**	**43**	P	**P**	**07 37 20.9**	**+2.0**
JSD	**Sado**	**23.25**	**38**	P	**P**	**07 37 28.3**	**-0.2**
CN2	**Changchun**	**23.36**	**10**	*e*P	**P**	**07 37 31.8**	**+2.3**
KULM	**Kulim**	**24.41**	**233**	*e*P	**P**	**07 37 37.9**	**-1.3**
GUMO	**Guam**	**24.67**	**103**	LR	LR	07 45 36.9	
	comp=Z,228nm,18.6s,MS3.7,baz=288,slow=32						
MDJ	**Mudanjiang**	**25.01**	**16**	P	**P**	**07 37 44.8**	**+0.1**
MDJ				S	**S**	**07 42 11.0**	**+4.0**
MDJ				AMB	AMB		
	comp=Z,74nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,322nm,3.4s						
MDJ				LR	LR

GTA XP sP 07 37 57.2 -2.7
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.1
GTA LR LR
comp=N,571nm,9.2s
GTA LR LR
comp=E,639nm,11.1s
GTA LR LR
comp=Z,678nm,11.5s,MS4.4
JOM Ohasama 25.98 40 P P 07 37 50.7 -2.9
PSI Prapat 27.34 232 P P 07 38 04.0 -1.7
comp=Z,23nm,1.1s,mb4.6,baz=351,slow=4.0,SNR=10
SONM Songino Array 29.16 341 P P 07 38 21.7 -0.3
comp=Z,6.1nm,0.9s,mb4.3,baz=158,slow=7.5,SNR=35
SONM PcP PcP 07 41 29.5 +0.4
comp=Z,2.2nm,1.2s,baz=151,slow=3.4,SNR=3.6
ASAJ Asahikawa 29.81 34 LR LR 07 51 07.1
comp=Z,560nm,20.5s,MS4.2,baz=243,slow=38
GUN Gumba 31.92 290 *eP* **P 07 38 46.5 +0.1**
comp=Z,31nm,0.8s,mb5.2
PKI Pulchoki 32.31 289 *eP* **P 07 38 49.3 -0.5**
comp=Z,22nm,1.0s,mb5.0
ZAK Zakamensk 32.38 340 *eP* **P 07 38 49.7 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
KKN Kakani 32.44 289 *eP* **P 07 38 50.5 -0.4**
comp=Z,22nm,0.8s,mb5.0
DMN Daman 32.58 289 *eP* **P 07 38 51.8 -0.4**
comp=Z,28nm,1.1s,mb5.1
GKN Gorkha 33.02 290 *eP* **P 07 38 55.2 -0.9**
comp=Z,28nm,1.0s,mb5.2
DANN Dangsing 33.82 290 *eP* **P 07 39 02.7 -0.3**
KOLN Koldanda 33.92 289 *eP* **P 07 39 03.4 -0.5**
comp=Z,21nm,0.9s,mb5.0
MOY Mondy 34.24 339 *eP* **P 07 39 07.1 +0.5**
WMQ Urumqi 35.40 318 *eP* **P 07 39 17.6 +1.0**
WMQ AP pP 07 39 25.2 +0.6
WMQ XP sP 07 39 28.0 +0.1
WMQ PP PP 07 40 37.0 -0.2
WMQ PCP PcP 07 41 47.0 +0.8
WMQ *eS* **S 07 44 50.0 +0.4**
WMQ XS sS 07 45 02.0 -0.8
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,132nm,4.5s
WMQ LR LR
comp=N,980nm,19.4s,MS4.7
WMQ LR LR
comp=E,964nm,17.4s,MS4.7
WMQ LR LR
comp=Z,898nm,20.4s,MS4.5
FITZ Fitzroy Crossi 39.04 172 *eP* **P 07 39 45.2 -2.3**
comp=Z,9.8nm,0.9s,mb4.5
FITZ Fitzroy Crossi 39.04 172 P **P 07 39 45.5 -2.0**
comp=Z,6.0nm,0.9s,mb4.3,baz=122,slow=7.8,SNR=4.3
MKAR Makanchi Array 40.17 319 P **P 07 39 56.6 -0.2**
comp=Z,4.3nm,1.0s,mb4.2,baz=113,slow=9.3,SNR=22
MKAR PcP PcP 07 42 00.4 -0.5
comp=Z,2.4nm,0.8s,baz=98,slow=5.0,SNR=7.9
KRAR Krasnoyarsk 40.60 337⇓ *eP* **P 07 39 58.5 -2.0**
KRAR pmax pmax
comp=Z,37nm,0.5s,mb5.3
YAK Yakutsk 41.72 7 *cePP* **P 07 40 09.3 -0.4**
YAK pmax pmax
comp=Z,67nm,1.7s,mb5.0
KSH Kashi 42.02 306 *eP* **P 07 40 15.7 +3.6**
KSH *eAP* pP 07 40 23.5 +3.3
KSH *ePP* PP 07 41 57.3 +7.8
KSH *ePCP* PcP 07 42 10.1 +3.2
KSH *eS* **S 07 46 35.5 +6.1**
KSH *eSCS* ScS 07 50 13.8 +1.0
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.5
KSH LR LR
comp=N,523nm,5.3s
KSH LR LR
comp=E,817nm,7.4s
KSH LR LR
comp=Z,1μm,21.3s,MS4.7
WRAB Tennant Creek 42.81 160 *c iP* **P 07 40 18.2 -0.4**
WRA Warramunga Arr 42.82 160 P **P 07 40 17.6 -1.0**
comp=Z,20nm,0.8s,mb4.9,baz=342,slow=9.0,SNR=78
WRA PcP PcP 07 42 09.0 -0.5
comp=Z,2.1nm,0.8s,baz=346,slow=3.5,SNR=4.5
WB2 Warramunga Arr 42.82 160 *eP* **P 07 40 16.6 -2.1**
TKM2 Tokmak 2 43.16 311 P **P 07 40 21.8 +0.4**
TKM2 pmax pmax
comp=Z,44nm,2.1s,mb4.8
PET Petropavlovsk 43.65 33 *eP* **P 07 40 25.0 -0.4**
PET *eS* **S 07 46 52.7 -0.7**
PET pmax pmax
comp=Z,31nm,0.9s,mb5.0
PET MLR MLR
comp=Z,300nm,21.0s,MS4.2
AAK Ala-Archa 43.86 310⇓ *eP* **P 07 40 27.1 0.0**
AAK pmax pmax
comp=Z,14nm,2.5s,mb4.2
KURK Kurchatov 44.12 323 P **P 07 40 29.7 +0.6**
comp=Z,89nm,1.3s,mb5.3,SNR=5.8
MA2 Magadan 44.47 22⇓ *eP* **P 07 40 31.9 0.0**
MA2 pmax pmax
comp=Z,34nm,1.3s,mb4.9
AS31 Alice Springs 46.19 162 *eP* **P 07 40 45.0 -0.6**
ASAR Alice Springs 46.19 162 P **P 07 40 45.1 -0.5**
comp=Z,2.2nm,0.5s,mb4.4,baz=345,slow=7.0,SNR=36
ASPA Alice Springs 46.19 162 *eP* **P 07 40 45.0 -0.6**
KK31 Karatay Array 46.82 310 *i P* **P 07 40 50.7 +0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KKAR Karatay Array 46.82 310 *i P* **P 07 40 50.7 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SEY Seymchan 47.47 19⇑ *eP* **P 07 40 55.9 +0.3**
CTA Charters Tower 48.01 146 *eP* **P 07 41 01.2 +1.4**
comp=Z,11nm,0.7s,mb5.0
CTA Charters Tower 48.01 146 P **P 07 41 01.2 +1.5**
comp=Z,20nm,1.0s,mb5.1,baz=332,slow=12,SNR=6.5
CTA Charters Tower 48.01 146 *eP* **P 07 41 01.2 +1.4**
CTA pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 49.79 323 P **P 07 41 13.0 -0.4**
comp=Z,80nm,0.9s,mb5.8,SNR=8.5
BRVK Borovoye 49.79 323 P **P 07 41 13.4 0.0**
TIXI Tiksi 51.11 4⇑ *eP* **P 07 41 22.0 -1.4**
TIXI pmax pmax
comp=Z,21nm,1.7s,mb4.8
BILL Bilibino 55.18 19⇓ *eP* **P 07 41 53.4 0.0**
BILL pmax pmax
comp=Z,44nm,1.7s,mb5.2
STKA Stephens Creek 56.27 158 *eP* **P 07 42 01.5 +0.3**
comp=Z,4.5nm,0.6s,mb4.7
STKA Stephens Creek 56.27 158 P **P 07 42 00.4 -0.8**
comp=Z,5.7nm,0.9s,mb4.6,baz=336,slow=5.6,SNR=7.7
AKTO Aktyubinsk 56.55 317 P **P 07 42 02.9 -0.3**
AKTO pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
ARU Arti 57.25 324⇓ *iP* **P 07 42 07.6 -0.5**
ARU *e* 07 44 13.8
ARU *eS* **S 07 50 02.8 +0.5**
ARU *e* 07 51 56.2
ARU *eSS* SS 07 53 54.0 +2.4
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 57.25 324 *eP* **P 07 42 07.8 -0.4**
comp=Z,4.4nm,0.4s,mb4.8
TOO Toolangi 62.78 158 *eP* **P 07 42 46.9 +0.8**
comp=Z,4.3nm,0.6s,mb4.8
TOO Toolangi 62.78 158 *eP* **P 07 42 46.9 +0.8**
TOO pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
GNI Garni 65.94 306⇑ *iP* **P 07 43 07.5 +0.7**
GNI pmax pmax
comp=Z,18nm,1.7s
KIV Kislovodsk 66.98 310 *eP* **P 07 43 14.0 +0.6**
KIV *ePP* pP 07 43 22.2 +0.3
KIV pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
KIV Kislovodsk 66.98 310 *eP* **P 07 43 14.0 +0.6**
comp=Z,6.5nm,0.4s,mb5.0
KIV *epP* pP 07 43 22.2 +0.4
VRSR Storozhevoye 68.46 318 *eP* **P 07 43 22.6 -0.2**
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=E,10.0nm,0.9s
MOS Moscow 68.89 323 *eP* **P 07 43 23.3 -2.1**
MOS *e* pP 07 43 29.5 -4.4
MOS *eS* S 07 52 24.6 -3.3
MOS pmax pmax
comp=Z,50nm,1.1s,mb5.4
OBN Obninsk 69.56 322⇑ *eP* **P 07 43 29.1 -0.5**
OBN *e* pP 07 43 37.5 -0.6
OBN *e* 07 43 43.3
OBN pmax pmax
comp=Z,38nm,1.2s,mb5.2
JOF Joensuu 71.17 331 *ep* **P 07 43 37.6 -1.8**
comp=Z,9.7nm,0.8s,mb4.8
MCK McKinley 71.97 28 *eP* **P 07 43 45.1 +0.8**
MCK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MCK McKinley 71.97 28 *eP* **P 07 43 45.1 +0.9**
comp=Z,7.1nm,1.1s,mb4.5
ARCES ARCESS Array B 72.30 338 P **P 07 43 45.2 -1.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=70,slow=7.9,SNR=6.4
ARCES LR LR 08 19 58.1
comp=Z,331nm,18.9s,MS4.6,baz=54,slow=40
KAF Kangasniemi 73.61 331 *ep* **P 07 43 52.1 -1.8**
baz=74,slow=5.5
FINES FINESS Array B 73.87 330 P **P 07 43 54.6 -0.9**
comp=Z,8.4nm,0.9s,mb4.7,baz=79,slow=9.9,SNR=20
BRTR Keskin Array B 74.40 307 P **P 07 43 59.2 +0.6**
comp=Z,0.6nm,0.7s,baz=98,slow=9.2,SNR=3.7
AKASG Malin Array Be 74.75 319 P **P 07 43 59.9 -0.7**
comp=Z,5.9nm,0.8s,mb4.5,baz=64,slow=5.5,SNR=16
AKASG Malin Array Be 74.75 319 P **P 07 43 59.9 -0.7**
DAWY Dawson 75.98 26 *eP* **P 07 44 08.5 +0.8**
SUW Suwalki 77.40 323 *eP* **P 07 44 15.7 0.0**
VRI Vrincioaia 77.66 314⇓ *iP* **P 07 44 18.0 +0.9**
VRI Vrincioaia 77.66 314⇓ *P* **P 07 44 17.9 +0.8**
BURAR Bucovina Array 78.13 316⇓ *iP* **P 07 44 20.8 +1.0**
BURAR Bucovina Array 78.13 316⇓ *P* **P 07 44 20.8 +1.1**
MLR Muntele Rosu 78.29 314⇓ *iP* **P 07 44 21.4 +0.7**
MLR Muntele Rosu 78.29 314⇓ *P* **P 07 44 21.4 +0.8**
KWP Kalwaria 79.07 319 *eP* **P 07 44 25.8 +0.9**
UZH Uzhgorod 79.66 318 *eP* **P 07 44 28.0 -0.2**
UZH pmax pmax
comp=Z,20nm,1.0s,mb5.0
DRGR 80.01 316⇓ *iP* **P 07 44 30.7 +0.6**
DRGR 80.01 316⇓ *P* **P 07 44 30.7 +0.6**
CRVS Cervenica-Dubn 80.08 319 *eP* **P 07 44 29.7 -0.8**
NIE Niedzica 80.61 319 *eP* **P 07 44 34.1 +0.8**
OJC Ojcow 80.63 320 *eP* **P 07 44 33.7 +0.3**
NB2 NORSAR Subarra 80.75 332 P **P 07 44 33.0 -1.0**
comp=Z,19nm,1.2s,mb4.9,baz=61,slow=5.6
NB2 NORSAR Subarra 80.75 332 P **P 07 44 33.0 -1.0**
NB2 pmax pmax
comp=Z,19nm,1.2s,mb4.9
NB2 NORSAR Subarra 80.75 332 P **P 07 44 33.0 -1.0**
comp=Z,19nm,1.2s,mb4.9
NOA NORSAR Array B 80.75 332 P **P 07 44 32.7 -1.3**
comp=Z,7.1nm,1.0s,mb4.6,baz=64,slow=5.3,SNR=11
NOA LR LR 08 23 35.1
comp=Z,156nm,19.1s,MS4.4,baz=120,slow=38
NOA NORSAR Array B 80.75 332 P **P 07 44 32.7 -1.3**
NOA LR LR 08 23 35.1
KECS Kecovo 80.84 318 *eP* **P 07 44 35.1 +0.6**
KECS pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
KECS Kecovo 80.84 318 *eP* **P 07 44 35.1 +0.6**
comp=Z,5.8nm,1.5s,mb4.3
VYHS Vyhne 81.85 319 *eP* **P 07 44 40.2 +0.3**
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VYHS Vyhne 81.85 319 *eP* **P 07 44 40.2 +0.3**
comp=Z,7.3nm,1.2s,mb4.5
MORC Moravsky Berou 82.15 320⇓ *iP* **P 07 44 42.1 +0.7**
MORC Moravsky Berou 82.15 320⇓ *P* **P 07 44 42.1 +0.7**
KSP Ksiaz 82.46 322 *eP* **P 07 44 43.9 +0.8**
KSP *e* pP 07 44 52.6 +0.9
KSP Ksiaz 82.46 322 *eP* **P 07 44 43.8 +0.7**
KSP *epP* pP 07 44 51.0 -0.7
DPC Dobruska-Polom 82.64 321 *eP* **P 07 44 44.6 +0.6**
UPC Upice 82.76 321 *eP* **P 07 44 45.2 +0.6**
UPC *epP* pP 07 44 53.6 +0.3
PKSM Moragy 82.84 317⇓ *iP* **P 07 44 45.5 +0.4**
VRAC Vranov 82.90 320⇓ *iP* **P 07 44 46.5 +1.1**
TREC Trest 83.57 320 *eP* **P 07 44 49.9 +1.1**
PVCC Panska Ves 83.59 322 *eP* **P 07 44 50.1 +1.2**
PVCC *epP* pP 07 44 57.9 +0.3
BRG Berggiesshubel 83.81 322 *eP* **P 07 44 50.6 +0.6**
comp=Z,22nm,1.3s,mb5.1
BRG Berggiesshubel 83.81 322 *i P* **P 07 44 50.7 +0.6**
comp=Z,14nm,1.3s,mb4.9
BRG *e* pP 07 44 59.2 +0.5
comp=Z,11nm,1.4s
BRG Berggiesshubel 83.81 322 *i P* **P 07 44 50.7 +0.7**
BRG *e* pP 07 44 59.2 +0.5
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.9
PRU Pruhonice 83.84 321 *eP* **P 07 44 50.8 +0.6**
PRU *epP* pP 07 44 59.2 +0.4
FBE Freiberg 84.12 322 *eP* **P 07 44 52.2 +0.6**
comp=Z,38nm,1.1s,mb5.4
FBE *epP* pP 07 45 00.9 +0.6
CLL Collm 84.15 323 *eP* **P 07 44 51.9 +0.1**
comp=Z,30nm,1.2s,mb5.3
CLL Collm 84.15 323⇓ *iP* **P 07 44 51.7 -0.1**
CLL *i* pP 07 45 00.2 -0.3
CLL pmax pmax
comp=Z,30nm,1.2s,mb5.3
CLL Collm 84.15 323⇓ *iP* **P 07 44 51.7 -0.1**
comp=Z,30nm,1.2s,mb5.3
CLL *i* sP sP 07 45 00.2 -3.4
BSEG Bad Segeberg 84.42 326 *eP* **P 07 44 53.7 +0.5**
comp=Z,29nm,1.0s,mb5.4
KHC Kasperske Hory 84.77 321 *eP* **P 07 44 55.5 +0.6**
KHC *epP* pP 07 45 03.9 +0.3
KHC *ex* x 07 45 21.0
KHC Kasperske Hory 84.77 321 *eP* **P 07 44 55.5 +0.6**
KHC *ePP* pP 07 45 03.9 +0.3
GEC2 GERESS Array S 84.82 320 *eP* **P 07 44 55.6 +0.4**
comp=Z,14nm,1.2s,mb5.0
GEC2 GERESS Array S 84.82 320 *eP* **P 07 44 55.6 +0.4**
GEC2 pmax pmax
comp=Z,14nm,1.2s,mb5.0
GERES GERESS Array B 84.82 320 P **P 07 44 55.2 0.0**
comp=Z,4.6nm,0.8s,mb4.7,baz=67,slow=4.5,SNR=29
TANN Tannenbergstha 84.86 322 *eP* **P 07 44 55.7 +0.3**
comp=Z,22nm,1.4s,mb5.1
PERS Pernice 84.90 318 *i P* **P 07 44 55.8 +0.2**
WERD Werda 84.93 322 *eP* **P 07 44 56.1 +0.4**
comp=Z,26nm,1.5s,mb5.1
GUNZ Gunzen 84.95 322 *eP* **P 07 44 56.4 +0.6**
comp=Z,27nm,1.2s,mb5.2
GUNZ *epP* pP 07 45 04.7 +0.2
WERN Wernitzgruen 84.96 322 *eP* **P 07 44 56.4 +0.5**
comp=Z,23nm,1.2s,mb5.2
WET Wettzell 85.18 321 *eP* **P 07 44 57.7 +0.7**
comp=Z,21nm,1.5s,mb5.0
WET Wettzell 85.18 321 *eP* **P 07 44 57.7 +0.7**
WET pmax pmax
comp=Z,21nm,1.5s,mb5.0
PDKS Podkum 85.22 318 *eP* **P 07 44 57.5 +0.4**
MOX Moxa 85.23 323 *eP* **P 07 44 57.6 +0.4**
comp=Z,11nm,1.1s,mb4.9
MANZ Manzenberg 85.25 322 *eP* **P 07 44 58.2 +0.9**
comp=Z,12nm,1.2s,mb4.9
ROTZ Rotzenmuhle 85.29 322 *eP* **P 07 44 58.3 +0.8**
comp=Z,21nm,1.1s,mb5.2
CLZ Clausthal 85.37 324 *eP* **P 07 44 58.7 +0.8**
comp=Z,30nm,1.2s,mb5.3
CLZ *epP* pP 07 45 06.9 +0.3
CLZ Clausthal 85.37 324 *eP* **P 07 44 58.7 +0.8**
CLZ *ePP* pP 07 45 06.9 +0.3
CLZ pmax pmax
comp=Z,30nm,1.2s,mb5.3
LJU Ljubljana 85.52 318 *eP* **P 07 44 59.2 +0.5**
GTTG Gvttingen 85.74 324 *eP* **P 07 45 00.2 +0.4**
comp=Z,23nm,1.1s,mb5.3
GRA1 Grafenberg Arr 85.90 322 *eP* **P 07 45 01.3 +0.8**
comp=Z,24nm,1.5s,mb5.2
GRA1 *epP* pP 07 45 09.7 +0.5
GRF Grafenberg Arr 85.90 322 *eP* **P 07 45 01.3 +0.8**
comp=Z,24nm,1.5s,mb5.2
GRF *epP* pP 07 45 09.7 +0.5
GRF Grafenberg Arr 85.90 322 *eP* **P 07 45 01.3 +0.8**
GRF *ePP* pP 07 45 09.7 +0.5
GRF pmax pmax
comp=Z,24nm,1.5s,mb5.2
GRF Grafenberg Arr 85.90 322 *eP* **P 07 45 01.3 +0.8**
GRF *ePP* pP 07 45 09.7 +0.5
GRF pmax pmax
comp=Z,24nm,1.5s,mb5.2
CADS Cadrg 85.94 318 *eP* **P 07 45 00.4 -0.4**
UBBA Unterbreizbach 86.06 323 *eP* **P 07 45 01.9 +0.5**
YKA Yellowknife Ar 86.45 22 P **P 07 45 03.2 -0.1**
comp=Z,19nm,1.2s,mb5.2,baz=312,slow=4.8,SNR=11
YKA Yellowknife Ar 86.45 22 P **P 07 45 03.2 -0.1**
IBBN Ibbenburen 86.56 325 *eP* **P 07 45 04.2 +0.4**
comp=Z,29nm,1.8s,mb5.2
FUR Furstenfeldbru 86.57 321 *eP* **P 07 45 04.5 +0.6**
CDF Champ du Feu 88.79 322⇑ *iP* **P 07 45 14.9 +0.4**
GIVF Givet 89.28 324⇑ *iP* **P 07 45 17.2 +0.4**
HAU Haudompre 89.53 322⇑ *iP* **P 07 45 18.0 0.0**
BAIF Baives 89.64 325⇑ *iP* **P 07 45 18.8 +0.3**
LPG La Plagne 90.58 320⇑ *iP* **P 07 45 24.1 +1.2**
comp=Z,28nm,0.8s,mb5.3
LPG La Plagne 90.58 320⇑ *iP* **P 07 45 24.1 +1.2**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.3
LPG La Plagne 90.58 320⇑ *iP* **P 07 45 24.1 +1.2**
comp=Z,14nm,0.8s,mb5.3
LPL La Plagne 90.58 320⇑ *iP* **P 07 45 24.0 +1.1**
comp=Z,28nm,0.9s,mb5.3
LPL La Plagne 90.58 320⇑ *iP* **P 07 45 24.0 +1.1**
LPL pmax pmax
comp=Z,14nm,0.9s,mb5.3
LPL La Plagne 90.58 320⇑ *iP* **P 07 45 24.0 +1.1**
comp=Z,14nm,0.9s,mb5.3
MBDF Montbardon 90.96 319 *eP* **P 07 45 24.9 +0.2**
comp=Z,10nm,0.9s,mb4.9
MBDF Montbardon 90.96 319 *eP* **P 07 45 24.9 +0.2**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MBDF Montbardon 90.96 319 *eP* **P 07 45 24.9 +0.2**
comp=Z,5.2nm,0.9s,mb4.9
SBF Sospel 90.99 318⇑ *iP* **P 07 45 25.2 +0.4**
comp=Z,28nm,0.9s,mb5.3
SBF Sospel 90.99 318⇑ *iP* **P 07 45 25.2 +0.4**
SBF pmax pmax
comp=Z,14nm,0.9s,mb5.3
SBF Sospel 90.99 318⇑ *iP* **P 07 45 25.2 +0.4**
comp=Z,14nm,0.9s,mb5.3
LOR Lormes 91.35 322⇑ *iP* **P 07 45 26.7 +0.3**
ORIF Oris-en-Rattie 91.41 320⇑ *iP* **P 07 45 27.5 +0.8**
comp=Z,15nm,0.9s,mb5.0
ORIF Oris-en-Rattie 91.41 320⇑ *iP* **P 07 45 27.5 +0.8**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 91.41 320⇑ *iP* **P 07 45 27.5 +0.8**
comp=Z,7.6nm,0.9s,mb5.0
FRF La Foret Royal 91.64 318 *eP* **P 07 45 28.3 +0.5**
SSF Saint Saulge 91.66 322⇑ *iP* **P 07 45 28.0 +0.1**
SMF Signal de Mont 91.70 322⇑ *iP* **P 07 45 28.4 +0.3**
LMR La Mourre 91.84 318⇑ *iP* **P 07 45 29.3 +0.6**
comp=Z,49nm,1.3s,mb5.4
LMR La Mourre 91.84 318⇑ *iP* **P 07 45 29.3 +0.6**
LMR pmax pmax
comp=Z,25nm,1.3s,mb5.4
LMR La Mourre 91.84 318⇑ *iP* **P 07 45 29.3 +0.6**
comp=Z,24nm,1.3s,mb5.4
AVF Avril sur Loir 91.90 322⇑ *iP* **P 07 45 29.3 +0.3**
SMRF Simiane la Rot 92.09 319⇑ *iP* **P 07 45 30.8 +0.9**
VIVF Saint-Julien-l 92.17 320 *eP* **P 07 45 30.9 +0.7**
TCF Toulx Ste Croi 92.83 322⇑ *iP* **P 07 45 34.0 +0.7**
FLN La Foliniere 92.90 325⇑ *iP* **P 07 45 34.1 +0.5**
EDM Edmonton 93.02 29 *eP* **P 07 45 34.3 +0.1**
SDV Santo Domingo 148.66 21 *ePKPdf* PKPdf 07 52 04.7 +0.8
SDV *ePKPbc* PKPbc 07 52 08.6 +0.9
ROSC El Rosal 150.81 31 *ePKPbc* PKPbc 07 52 13.9 +0.9
comp=Z,4.9nm,0.5s,baz=92,slow=22,SNR=8.5
ROSC El Rosal 150.81 31 *ePKPbc* PKPbc 07 52 15.2 +2.2
ROSC *ePKPab* PKPab 07 52 23.9 +3.7
OTAV Otavalo 152.29 43 *ePKPdf* PKPdf 07 52 11.2 +1.5
OTAV *ePKPbc* PKPbc 07 52 18.4 +2.0
CFAA Coronel Fontan 166.89 147 PKP PKPdf 07 52 26.4 +0.2
comp=Z,0.1nm,0.4s,baz=82,slow=19,SNR=3.6
LPAZ La Paz 170.97 62 PKP PKPdf 07 52 31.1 +2.3
comp=Z,2.5nm,1.1s,baz=44,slow=4.7,SNR=7.0
LPAZ La Paz 170.97 62 *ePKPdf* PKPdf 07 52 29.9 +1.1

IDC ***11*** *07:35:24.2±1.6, 838N×103.11W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, ML3.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/22, Error ellipse: s-maj=57.6km s-min=31.7km az=94.0*
ISCJB ***11*** *07:35:25.5±0.9, 84N±0.1×103.3W±0.1, h10km, mb4.3/21, MS4.0/1, Error ellipse: s-maj=23.6km s-min=10.0km az=76.7*
NEIC ***11*** *07:35:28.4±0.8, 857N×103.07W, h10km, mb4.4/19, Error ellipse: s-maj=19.3km s-min=9.3km az=221.0*
BJI ***11*** *07:35:28.3, 860N×103.10W, h10km, mB5.5, Ms4.8, Msz4.4*
ISC 11 07:35:27.8±0.9, 84N±01×1033W±01, h10km, n139, σ0±59/133, mb4.3/21, MS4.0/1, 45C-43D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.90**	**43**	Pn	**Pn**	**07 38 12.4**	**-5.0**
	0.2nm,0.3s,baz=222,slow=12,SNR=4.9						
JCT	**Junction City**	**22.18**	**8**	*eP*	**P**	**07 40 24.4**	**+0.4**
	6.1nm,0.8s,mb4.1						
MNTX	**Cornudas Mount**	**23.23**	**356**	*eP*	**P**	**07 40 34.8**	**-0.4**
	16nm,1.4s,mb4.2						
GDL2	**Guadalupe Moun**	**23.67**	**358**	*eP*	**P**	**07 40 39.1**	**-0.5**
TUC	**Tucson**	**24.75**	**345**	*eP*	**P**	**07 40 49.4**	**0.0**
	15nm,1.4s,mb4.3						
116A	**Eloy**	**25.24**	**343**	⇓P	**P**	**07 40 53.7**	**-0.2**
	baz=25						
115A	**Sonoran Desert**	**25.53**	**342**	⇓P	**P**	**07 40 56.6**	**+0.1**
	baz=26						
OTAV	**Otavalo**	**26.07**	**107**	*eP*	**P**	**07 41 01.3**	**0.0**
	5.3nm,0.9s,mb4.1						
LAZ	**Ladron**	**26.09**	**353**	*eP*	**P**	**07 41 02.1**	**+0.6**
Z14A	**Wintersburg**	**26.36**	**342**	⇑P	**P**	**07 41 04.1**	**0.0**
	baz=26						
ANMO	**Albuquerque**	**26.55**	**354**	P	**P**	**07 41 06.1**	**+0.3**
	0.2nm,0.3s,mb3.1,baz=169,slow=12,SNR=3.9						
ANMO	**Albuquerque**	**26.55**	**354**	*eP*	**P**	**07 41 06.7**	**+1.0**
	20nm,2.1s,mb4.3						
GLA	**Glamis**	**26.72**	**338**	*eP*	**P**	**07 41 07.2**	**0.0**
GLA	**Glamis**	**26.72**	**338**	P	**P**	**07 41 07.2**	**0.0**
	baz=27,SNR=6.6						
Y14A	**Wickenburg**	**26.91**	**342**	⇓P	**P**	**07 41 09.0**	**+0.1**
	baz=27						
Y13A	**Salome**	**27.06**	**340**	⇓P	**P**	**07 41 10.7**	**+0.4**
	baz=27						
MONP	**Monument Peak**	**27.20**	**335**	⇑P	**P**	**07 41 11.1**	**-0.4**
	baz=27						
X15A	**Humboldt**	**27.20**	**344**	⇑P	**P**	**07 41 11.2**	**-0.4**
	baz=27						
X14A	**Yava**	**27.37**	**343**	⇑P	**P**	**07 41 11.8**	**-1.4**
	baz=28						
MIAR	**Mount Ida**	**27.49**	**18**	*eP*	**P**	**07 41 13.7**	**-0.5**
	11nm,1.2s,mb4.3						
BC3	**Big Chuckw Mtn**	**27.49**	**338**	⇓P	**P**	**07 41 12.5**	**-1.7**
	baz=28						
PDMCI	**Parker Dam,Lak**	**27.61**	**340**	⇓P	**P**	**07 41 14.5**	**-0.7**
	baz=28						
X13A	**Yucca**	**27.78**	**341**	⇑P	**P**	**07 41 16.1**	**-0.7**
	baz=28,SNR=6.0						
IRM	**Iron Mountain**	**27.83**	**339**	⇓P	**P**	**07 41 17.2**	**0.0**
	baz=28						
W15A	**Williams**	**27.86**	**344**	⇓P	**P**	**07 41 18.0**	**+0.5**
	baz=28						
WUAZ	**Wupatki**	**27.95**	**346**	*eP*	**P**	**07 41 18.8**	**+0.5**
WUAZ	**Wupatki**	**27.95**	**346**	⇓P	**P**	**07 41 18.6**	**+0.3**
	baz=28						
BELC	**Belle Mtn.**	**28.01**	**337**	⇑P	**P**	**07 41 18.5**	**-0.3**
	baz=28						
W14A	**Seligman**	**28.12**	**343**	⇓P	**P**	**07 41 20.0**	**+0.2**
	baz=28						
BFSC	**Mount Baldy St**	**28.88**	**335**	⇓P	**P**	**07 41 26.5**	**-0.1**
	baz=29						
OXF	**Oxford**	**28.93**	**24**	*eP*	**P**	**07 41 27.2**	**+0.1**
SDCO	**Great Sand Dun**	**29.25**	**356**	*eP*	**P**	**07 41 25.3**	**-4.6**
	20nm,2.1s,mb4.5						
GSC	**Goldstone**	**29.46**	**337**	⇑P	**P**	**07 41 31.9**	**+0.2**
	baz=30						
EDW2	**Edwards Air Fo**	**29.57**	**335**	⇑P	**P**	**07 41 32.4**	**-0.3**
	baz=30						

PV01	Paradox Valley	29.95	352	eP	P	07 41 36.6 +0.5
PV10	Paradox Valley	30.26	351	eP	P	07 41 38.2 -0.6
MPMC	Manual Prospec	30.39	337	⇓P	P	07 41 40.2 +0.2
	baz=30					
ISA	Isabella	30.45	335	⇑P	P	07 41 40.4 -0.1
	baz=31					
FURC	Furnace Creek,	30.52	338	⇑P	P	07 41 41.3 +0.2
	baz=31					
ARUT	Antelope Range	30.63	344	eP	P	07 41 42.6 +0.5
SMMC	Simmler	30.81	333	⇓P	P	07 41 44.2 +0.5
	baz=31					
HELL	Mitchell Peak,	31.55	335	⇓P	P	07 41 50.5 +0.4
	baz=32					
S09A	Goldfield	31.77	339	⇑P	P	07 41 52.5 +0.4
	baz=32					
S08C	White Mtn Res	31.92	337	⇓P	P	07 41 53.7 +0.3
	baz=32					
V03C	Hunter Liggett	31.97	332	⇓P	P	07 41 54.1 +0.3
	baz=32					
R09A	Tonopah	32.17	339	⇓P	P	07 41 55.5 -0.2
	baz=32					
Q11A	Duckwater	32.26	342	⇑P	P	07 41 56.8 +0.4
	baz=32					
MLAC	Mammoth Lakes	32.29	337	⇑P	P	07 41 57.1 +0.4
	baz=32					
SDV	Santo Domingo	32.30	87	eP	P	07 41 56.0 -0.8
	4.3nm,1.0s,mb4.2					
P12A	McGill	32.61	343	⇑P	P	07 41 59.9 +0.4
	baz=33					
DUG	Dugway	32.75	346	eP	P	07 42 02.0 +1.3
	9.6nm,1.3s,mb4.6					
DUG	Dugway	32.75	346	⇓P	P	07 42 00.7 0.0
	baz=33					
R07C	Lee Vining	32.77	337	⇑P	P	07 42 01.1 +0.2
	baz=33					
NVAR	Mina Array Bea	32.78	338	P	P	07 42 00.2 -0.8
	1.6nm,0.9s,mb4.0,baz=171,slow=8.6,SNR=8.5					
NVAR	Mina Array Bea	32.78	338	P	P	07 42 00.2 -0.8
P11A	Circle Ranch,	32.94	342	⇑P	P	07 42 03.1 +0.8
	baz=33					
Q08A	Gabbs	33.03	339	⇓P	P	07 42 03.7 +0.5
	baz=33					
P10A	Eureka	33.22	341	⇑P	P	07 42 05.7 +0.9
	baz=33					
R06C	Coleville	33.30	337	⇑P	P	07 42 05.2 -0.3
	baz=33					
O12A	Currie	33.31	344	P	P	07 42 06.2 +0.6
	baz=33,SNR=9.2					
O11A	Cowboy Ranch,	33.44	343	⇑P	P	07 42 07.4 +0.7
	baz=34					
HWUT	Hardware Ranch	33.84	349	eP	P	07 42 10.9 +0.7
	14nm,1.4s,mb4.7					
N12A	Clover Valley,	33.93	344	⇑P	P	07 42 11.8 +0.8
	baz=34					
O09A	Fish Creek Ran	33.95	341	⇑P	P	07 42 11.7 +0.5
	baz=34					
PAHR	Pah Rah Range	34.31	338	eP	P	07 42 15.4 +1.2
	8.5nm,1.1s,mb4.6					
M12A	Wells	34.42	344	⇑P	P	07 42 15.8 +0.5
	baz=35					
BW06	Boulder Array	34.64	352	eP	P	07 42 16.9 -0.2
	13nm,1.5s,mb4.6					
PDAR	Pinedale Array	34.64	352	P	P	07 42 16.7 -0.5
	2.6nm,0.8s,mb4.2,baz=156,slow=7.6,SNR=11					
N09A	Rock Creek Ran	34.67	341	⇑P	P	07 42 17.9 +0.4
	baz=35					
OHCM	Honcut	34.82	335	eP	P	07 42 19.1 +0.4
SUTB	Sutter Butte	34.86	334	⇓P	P	07 42 18.6 -0.5
	baz=35					
O06A	Flanigan	34.87	338	⇓P	P	07 42 18.9 -0.2
	baz=35					
M10A	I.L. Ranch, Tu	34.98	343	⇑P	P	07 42 20.5 +0.4
	baz=35					
ORV	Oroville	35.01	335	⇓P	P	07 42 20.7 +0.3
	baz=35					
N06A	Buffalo Meadow	35.38	338	⇑P	P	07 42 23.9 +0.4
	baz=36					
RRI2	Red Ridge	35.48	350	eP	P	07 42 30.1 +5.6
O04C	Chester	35.49	336	⇑P	P	07 42 25.0 +5.5
	baz=36					
SNOW	Snow King Moun	35.50	351	eP	P	07 42 25.1 +0.6
RSSD	Black Hills	35.56	359	eP	P	07 42 24.8 -0.3
	6.9nm,1.4s,mb4.4					
LOHW	Long Hollow	35.62	351	eP	P	07 42 25.7 0.0
	6.9nm,1.3s,mb4.4					
M07A	Soldier Meadow	35.71	339	⇑P	P	07 42 27.0 +0.6
	baz=36					
MOOW	Moose Ponds	35.78	351	eP	P	07 42 27.7 +0.7
M06C	Likely Place G	36.02	338	⇑P	P	07 42 29.3 +0.2
	baz=36,SNR=5.5					
FLWY	Flagg Ranch	36.10	351	eP	P	07 42 31.9 +2.2
L08A	Fields	36.15	341	P	P	07 42 30.1 0.0
	baz=36,SNR=6.9					
HLID	Hailey	36.32	346	eP	P	07 42 31.7 +0.1
	2.8nm,0.9s,mb4.2					
L07A	Adell	36.33	340	⇓P	P	07 42 31.7 0.0
	baz=36,SNR=5.4					
M05C	Lookout	36.41	337	⇓P	P	07 42 32.3 0.0
	baz=36					
K09A	Rome	36.41	342	⇓P	P	07 42 32.2 -0.2
	baz=36,SNR=6.8					
O01C	Eel River Cons	36.50	333	⇓P	P	07 42 33.1 0.0
	baz=37					
MOD	Modoc	36.56	339	eP	P	07 42 34.7 +1.0
MOD	Modoc	36.56	339	⇓P	P	07 42 33.3 -0.4
	baz=37					
K08A	Mann Creek Ran	36.68	341	⇓P	P	07 42 34.3 -0.3
	baz=37					
M03C	McCloud	36.72	336	⇓P	P	07 42 34.7 -0.3
	baz=37					
N02C	Big Bar	36.83	334	⇓P	P	07 42 36.1 +0.1
	baz=37					
L05A	Lakeview	36.88	338	⇓P	P	07 42 36.9 +0.5
	baz=37					
K07A	Rock Creek Ran	36.89	340	⇓P	P	07 42 36.7 +0.2
	baz=37					
M04C	Macdoel	37.04	337	⇑P	P	07 42 37.8 +0.1
	baz=37					
J08A	Circle Bar Ran	37.24	342	⇓P	P	07 42 38.7 -0.7
	baz=37					
K06A	Valley Falls	37.33	339	⇓P	P	07 42 39.7 -0.5
	baz=38					
YBH	Yreka Blue Hor	37.34	336	P	P	07 42 38.5 -1.8
	2.8nm,0.9s,mb4.1,baz=332,slow=3.6,SNR=5.6					
K05A	Summer Lake	37.49	339	⇓P	P	07 42 41.9 +0.3
	baz=38					
I09A	Lost Marbles R	37.58	343	⇓P	P	07 42 42.0 -0.3
	baz=38					
DLMT	Dillon	37.66	349	eP	P	07 42 43.4 +0.4
	20nm,1.5s,mb4.6					
J06A	Christmas Vall	37.70	340	P	P	07 42 43.4 +0.1
	baz=38,SNR=6.5					
M01C	Crescent City	38.02	334	⇑P	P	07 42 46.4 +0.3
	baz=38					
L02A	Cave Junction	38.06	335	⇑P	P	07 42 46.5 +0.1
	baz=38					
J05A	Fort Rock	38.10	339	⇓P	P	07 42 46.9 +0.1
	baz=38					
I06A	Prineville	38.33	340	⇑P	P	07 42 48.6 0.0
	baz=38					
K02A	Glendale	38.52	336	⇑P	P	07 42 50.1 -0.2
	baz=39					
H06A	Lindquist Farm	39.07	341	P	P	07 42 54.9 0.0
	baz=39,SNR=6.0					
H05A	Madras	39.29	340	⇑P	P	07 42 56.1 -0.6
	baz=39					
G07A	Ruggs Ranch, H	39.33	342	⇓P	P	07 42 56.8 -0.3
	baz=40					
I03A	Eugene	39.45	337	⇓P	P	07 42 58.3 +0.2
	baz=40					
G06A	Carlson Farm,	39.61	341	⇑P	P	07 42 59.0 -0.4
	baz=40					
H04A	Detroit Lake	39.66	339	⇓P	P	07 42 58.7 -1.1
	baz=40					
H03A	Soap Creek Ran	40.06	338	⇑P	P	07 43 02.9 -0.2
	baz=40					
F06A	Goldendale	40.13	341	⇑P	P	07 43 03.6 -0.1
	baz=40					
F05A	White Salmon	40.46	340	⇑P	P	07 43 06.1 -0.3
	baz=41					
E07A	Sunnyside	40.55	342	⇑P	P	07 43 06.9 -0.3
	baz=41					
D09A	Jones Farm, Ri	40.57	344	⇑P	P	07 43 06.9 -0.5
	baz=41					
D08A	Wollman Farm,	40.73	344	⇓P	P	07 43 07.8 -0.9
	baz=41					
E06A	Yakima	40.88	341	⇑P	P	07 43 09.3 -0.6
	baz=41					
C10A	Spilker Farm,	41.01	346	⇓P	P	07 43 10.9 -0.1
	baz=41					
E05A	Randle	41.15	341	⇑P	P	07 43 12.2 +0.1
	baz=41					
C09A	Chrisman Ranch	41.24	345	⇑P	P	07 43 12.5 -0.4
	baz=41					
NEW	Newport	41.38	346	eP	P	07 43 13.5 -0.6
	0.2nm,0.9s					
WALA	Waterton Lakes	41.47	349	eP	P	07 43 15.5 +0.8
	7.0nm,1.4s,mb4.1					
C07A	Waterville	41.63	343	⇓P	P	07 43 15.5 -0.6
	baz=42					
A09A	Danville	42.41	345	⇑P	P	07 43 21.4 -1.0
	baz=42					
LPAZ	La Paz	42.61	125	eP	P	07 43 24.9 +0.9
	2.2nm,0.9s,mb3.9					
B05A	Bryant	42.76	342	⇑P	P	07 43 23.0 -2.3
	baz=43					
EDM	Edmonton	45.40	352	eP	P	07 43 45.0 -1.5
PPT	Papeete	52.50	240	LR	LR	07 59 15.8
	comp=Z,136nm,20.9s,MS4.0,baz=330,slow=27					
NJ2	Nanjing	123.08	317	ePKP	PKPdf	07 54 21.6 -2.9
WRA	Warramunga Arr	123.19	252	PKP	PKPdf	07 54 23.5 -1.2
	0.7nm,0.8s,baz=82,slow=1.3,SNR=6.2					
ASAR	Alice Springs	123.32	247	PKP	PKPdf	07 54 24.4 -0.5
	0.8nm,0.8s,baz=69,slow=1.3,SNR=6.8					
MKAR	Makanchi Array	124.80	355	PKP	PKPdf	07 54 27.0 -0.8
	0.4nm,0.8s,baz=354,slow=1.2,SNR=4.0					
WMQ	Urumqi	127.05	350	ePKP	PKPdf	07 54 31.0 -1.1

NEIC ***11*** *07:37:17.1, 3565S×7256W, h62km, MD3.5(GUC), After GUC.*

GUC 11 07:37:17.1±0.6, 3565S×7256W, h62km±6km, MD3.5, ML2.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	Chanco	0.09	166	⇑iP	Pn	07 37 26.6	+0.2
CNCO				i S	Sn	07 37 33.4	+0.3
CNCO				AML	AML	07 37 34.3	
	comp=N,350nm,0.5s						
CNCO	Chanco	0.09	166	⇑iP	Pn	07 37 26.6	+0.2
CNCO				i S	Sn	07 37 33.4	+0.3
TALC	Talca	0.80	72	eP	Pn	07 37 29.7	-3.0
TALC				i S	Sn	07 37 41.5	-2.6
TALC				AML	AML	07 37 43.7	
	comp=N,965nm,0.1s						
TALC	Talca	0.80	72	eP	Pn	07 37 29.7	-3.0
TALC				i S	Sn	07 37 41.5	-2.6
CICH	Cipreses	2.20	54	eP	Pn	07 37 52.0	+0.7
CACH	El Canelo	2.22	47	eP	Pn	07 37 52.5	+0.9
CACH				i S	Sn	07 38 19.8	+1.9
CHCH	Chadas Angostu	2.32	43	⇓iP	Pn	07 37 53.2	+0.3
CHCH				i S	Sn	07 38 21.2	+0.9

IDC ***11*** *07:38:51.1±2.0, 3404S×17865W, h0km, mb4.3/3, mb1 4.5/4, mb1mx4.1/13, mbtmp4.4/4, ML4.4/1, Error ellipse: s-maj=57.9km s-min=35.8km az=149.0*
ISCJB ***11*** *07:38:55.4±2.7, 341S±01×1788W±04, h33km, mb4.2/3, Error ellipse: s-maj=48.3km s-min=12.8km az=19.8*
WEL ***11*** *07:39:42.9±0.9, 3709S×17925E, h33km, ML3.5/6, Error ellipse: s-maj=10.7km s-min=7.0km az=0.0*

ISC 11 07:38:56.4±2.7, 342S±01×1786W±04, h35km, n15, σ0°68/12, mb4.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakoa Point	4.21	215	ePN	Pn	07 39 58.6	+0.5
MXZ				SN	Pn	07 40 10.2	+12
PUZ	Puketiti	4.65	212	ePN	Pn	07 40 03.5	-0.6
MWZ	Matawai	5.20	215	ePN	Pn	07 40 11.9	+0.3
URZ	Urewera	5.35	219	Pn	Pn	07 40 13.8	+0.1
	13nm,0.3s,baz=41,slow=1.6,SNR=102						
URZ				Sn	Sn	07 41 13.9	-0.1
	7.5nm,0.3s,baz=137,slow=21,SNR=10						
URZ	Urewera	5.35	219	ePN	Pn	07 40 13.6	0.0
TGRZ	Tauranga	5.46	228	Pn	Pn	07 40 20.6	+5.3
BKZ	Black Stump Fm	6.35	217	PN	Pn	07 40 27.9	+0.4
CTA	Charters Tower	34.06	285	P	P	07 45 38.6	+1.4
	5.0nm,0.8s,mb4.5,baz=116,slow=12,SNR=4.0						
ASAR	Alice Springs	42.51	271	P	P	07 46 47.5	-0.7
	1.9nm,0.7s,mb4.0,baz=109,slow=7.6,SNR=20						
WRA	Warramunga Arr	43.84	276	P	P	07 46 58.1	-0.9
	3.2nm,0.6s,mb4.2,baz=117,slow=7.5,SNR=20						
JOF	Joensuu	145.66	336	ep	PKPdf	07 58 30.5	-0.5
	2.4nm,0.5s						
KAF	Kangasniemi	147.86	338	ep	PKPdf	07 58 36.9	+2.2
	1.1nm,0.4s						
FINES	FINESS Array B	148.43	337	PKPbc	PKPbc	07 58 38.6	-0.5
	3.2nm,0.6s,baz=34,slow=3.5,SNR=17						
NB2	NORSAR Subarra	152.35	350	PKP	PKPbc	07 58 49.6	+1.1
	comp=Z,0.6nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	152.35	350	PKPbc	PKPbc	07 58 47.4	-1.1
	comp=Z,1.1nm,0.7s,baz=14,slow=4.1,SNR=5.4						

CSEM ***11*** *07:41:04.6±0.2, 3754N×2014E, h12km, MD3.6, Error ellipse: s-maj=6.4km s-min=3.8km az=81.0*
ISCJB ***11*** *07:41:05.7±0.8, 3764N±004×2045E±007, h6km, Error ellipse: s-maj=8.8km s-min=4.5km az=139.2*
HLW ***11*** *07:41:06.7, 3804N×2083E, h33km, Mb3.6*
ATH ***11*** *07:41:09.4, 3781N×2065E, h6km±5km, MD3.6/11*
THE ***11*** *07:41:10.1, 3752N×2048E, h28km, ML3.7*
NEIC ***11*** *07:41:10.6, 3784N×2070E, h7km, MD3.6(ATH), ML4.2(THE), After ATH.*

ISC 11 07:41:08.1±0.7, 3772N±003×2055E±006, h6km, n45, σ1°27/55, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.46	4	ePB	Pg	07 41 17.1	0.0
VLS				eSB	Sg	07 41 22.6	-0.5
VLS	Valsamata	0.46	4	ePg	Pg	07 41 17.1	0.0
VLS				eSb	Sg	07 41 23.4	+0.3
RLS	Riolos of Patr	0.80	64	ePB	Pg	07 41 22.1	-1.4
RLS				eSB	Sg	07 41 32.1	-1.8
RLS	Riolos of Patr	0.80	64	ePb	Pg	07 41 21.9	-1.6
RLS				eSb	Sg	07 41 31.7	-2.2
LKD	Levkas	0.99	4	ePg	Pg	07 41 26.3	-0.9
ITM	Ithomi	1.22	116	ePN	Pn	07 41 31.6	-0.1
ITM				eSB	Sb	07 41 48.5	+1.0
ITM	Ithomi	1.22	116	ePn	Pn	07 41 32.0	+0.3
ITM				eSb	Sb	07 41 50.3	+2.8
EVR	Evrytania	1.55	39	ePB	Pb	07 41 36.7	-0.6
EVR	Evrytania	1.55	39	ePb	Pb	07 41 37.7	+0.4
IGT	Igoumenitsa	1.82	355	ePn	Pn	07 41 40.2	+0.2
IGT				eSn	Sn	07 42 04.2	+0.8
IGT	Igoumenitsa	1.82	355	ePn	Pn	07 41 40.2	+0.2
IGT				eSn	Sn	07 42 04.2	+0.8
AGG	Agios Georgios	1.91	46	ePn	Pn	07 41 42.6	+1.4
AGG				eSn	Sn	07 42 05.8	+0.2
JAN	Janina	1.95	7	ePG	Pg	07 41 44.1	-1.5
JAN	Janina	1.95	7	ePg	Pg	07 41 46.0	+0.4
KEK	Kerkira	2.08	344	ePB	Pb	07 41 44.0	-2.3
KEK	Kerkira	2.08	344	ePb	Pb	07 41 44.2	-2.1
LKR	Lokris	2.14	63	ePB	Pn	07 41 44.0	-0.4
LKR	Lokris	2.14	63	ePb	Pb	07 41 45.0	-2.3
VLI	Veliai	2.15	117	ePG	Pg	07 41 48.8	-0.5
MGER	Gerania Oros	2.16	82	ePN	Pn	07 41 46.6	+2.0
MGER	Gerania Oros	2.16	82	ePb	Pb	07 41 46.0	-1.6
THL	Klokotos Trika	2.17	31	ePG	Pg	07 41 47.9	-1.9
THL	Klokotos Trika	2.17	31	ePg	Pg	07 41 48.2	-1.6
NAIG	Nisos Aigina	2.33	88	ePN	Pn	07 41 49.6	+2.6
NAIG	Nisos Aigina	2.33	88	ePn	Pn	07 41 50.0	+3.0
XOR	Xorichti	2.65	51	ePn	Pn	07 41 51.5	+0.2
XOR	Xorichti	2.65	51	ePn	Pn	07 41 51.5	+0.2
LIT	Litokhoron	2.82	32	ePn	Pn	07 41 55.6	+1.9
AOS	Alonnisos	2.99	60	ePn	Pn	07 41 56.0	0.0
AOS	Alonnisos	2.99	60	ePn	Pn	07 41 56.0	0.0
FNA	Florina	3.13	12	ePn	Pn	07 41 59.9	+1.9
BIA	Bitola	3.35	10	ePn	Pn	07 42 02.0	+0.9
PLG	Polygyros	3.48	39	ePn	Pn	07 42 03.3	+0.5
HORT	Hortiatis	3.49	34	ePn	Pn	07 42 03.6	+0.6
GRG	Griva	3.54	23	ePn	Pn	07 42 05.4	+1.7
OUR	Ouranopolis	3.74	45	ePn	Pn	07 42 06.3	0.0
SOH	Sokhos	3.79	34	ePn	Pn	07 42 08.8	+1.7
KNT	Kendrikon	3.89	27	ePn	Pn	07 42 08.9	+0.4
CHOS	Chios island	4.39	80	ePn	Pn	07 42 15.8	+0.5
STON	Ston	5.59	338	i Pn	Pn	07 42 30.4	-1.5
STON				i Sn	Sn	07 43 32.8	-3.6
STON	Ston	5.59	338	i Pn	Pn	07 42 30.3	-1.5
HMAT	Matruh	8.53	139	P	Pn	07 43 11.0	-1.2
SWA2		9.39	153	P	Pn	07 43 24.7	+0.8
SWA1		9.46	151	⇑P	Pn	07 43 24.2	-0.7
HFRF	Wahat Farafira	12.40	146	P	Pn	07 44 03.4	-1.7

BJI ***11*** *07:50:11.9, 2155N×9433E, h86km, mb4.7*
ISCJB ***11*** *07:50:13.5±1.1, 2151N±006×9392E±006, h107km±11km, mb4.0/11, Error ellipse: s-maj=11.4km s-min=7.2km az=89.0*
IDC ***11*** *07:50:13.9±5.8, 2162N×9451E, h98km±53km, mb3.7/10, mb1 3.9/11, mb1mx3.6/23, mbtmp4.1/11, Error ellipse: s-maj=51.9km s-min=13.0km az=57.0*
NEIC ***11*** *07:50:13.4±1.3, 2153N×9430E, h97km±13km, mb4.0/3, Error ellipse: s-maj=21.4km s-min=8.2km az=62.0*

ISC 11 07:50:13.9±0.8, 2150N±006×9400E±006, h95km±8km, n34, σ1°38/42, mb3.9/11, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.49	335	eP	Pn	07 51 20.0	+0.4
SHL				eS	Sn	07 52 08.0	-2.6
CHTO	Chiang Mai	5.36	119	ePn	Pn	07 51 25.9	-5.5
	36nm,0.6s						
LSA	Lhasa	8.56	343	P	Pn	07 52 15.4	+0.5
LSA				Smax			
	comp=N,50nm,0.6s						
LSA				Smax			
	comp=E,70nm,0.6s						
LSA	Lhasa	8.56	343	ePn	Pn	07 52 15.4	+0.5
	comp=E,61nm,0.3s						
KMI	Kunming	8.81	64	P	Pn	07 52 16.4	-1.9
KMI				AMB	AMB		
	comp=Z,25nm,1.2s						
JIRN	Jiri	9.38	312	ePn	Pn	07 52 28.2	+2.1
JIRN				eSn	Sn	07 54 09.0	-0.8
GUN	Gumba	9.75	312	ePn	Pn	07 52 32.9	+1.7
GUN				eSn	Sn	07 54 18.7	-0.2
	comp=Z,207nm,0.4s						
PKI	Pulchoki	9.88	309	ePn	Pn	07 52 34.7	+1.8
PKI				eSn	Sn	07 54 20.9	-1.0
	comp=Z,118nm,0.4s						
KKN	Kakani	10.10	310	ePn	Pn	07 52 37.2	+1.3
KKN				eSn	Sn	07 54 26.4	-0.9
	comp=Z,146nm,0.5s						
DMN	Daman	10.12	309	ePn	Pn	07 52 37.8	+1.6
DMN				eSn	Sn	07 54 26.1	-1.7
	comp=Z,205nm,0.5s						
GKN	Gorkha	10.69	309	ePn	Pn	07 52 45.1	+1.2
GKN				eSn	Sn	07 54 39.8	-1.7
	comp=Z,200nm,0.3s						
VIS	Vishakhapatnam	10.73	251	i P	Pn	07 52 48.4	+3.9
VIS				i S	Sn	07 54 41.7	-0.9
KOLN	Koldanda	11.33	305	ePn	Pn	07 52 53.9	+1.3
KOLN				eSn	Sn	07 54 55.5	-1.6
	comp=Z,191nm,0.5s						
JBP	Jabalpur	13.07	280	⇓ix	x	07 53 24.6	
JBP				ex	x	07 53 25.4	
	comp=Z,20nm,1.3s						
JBP				i S	Sn	07 55 34.5	-5.1
KULM	Kulim	17.36	157	ePn	Pn	07 54 09.4	-0.6
PSI	Prapat	19.19	165	P	Pn	07 54 31.6	-0.4
	comp=Z,2.4nm,0.3s,baz=343,slow=8.8,SNR=26						
WMQ	Urumqi	22.87	348	eP	P	07 55 11.5	+2.2
AAK	Ala-Archa	26.66	327	P	P	07 55 43.1	-0.7
	comp=Z,6.5nm,1.3s,mb4.0						
MKAR	Makanchi Array	26.97	342	P	P	07 55 47.0	+0.5
	comp=Z,2.2nm,0.6s,mb3.9,baz=139,slow=11,SNR=20						
MKAR				PcP	PcP	07 59 06.2	+0.3
	comp=Z,0.6nm,0.4s,baz=214,slow=2.2,SNR=6.1						
MKAR	Makanchi Array	26.97	342	P	P	07 55 47.0	+0.5
MKAR				PcP	PcP	07 59 06.2	+0.3
BVAR	Borovoye Array	36.31	336	P	P	07 57 08.8	+0.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=140,slow=12,SNR=4.8						
AKTK	Aktyubinsk	40.36	325	P	P	07 57 44.0	+1.8
AKTO	Aktyubinsk	40.36	325	P	P	07 57 44.0	+1.8
	comp=Z,3.2nm,0.3s,mb4.6,baz=119,slow=7.9,SNR=23						
WRA	Warramunga Arr	57.03	133	P	P	07 59 47.5	-2.4
	comp=Z,1.2nm,0.6s,mb4.1,baz=321,slow=7.4,SNR=16						
ASAR	Alice Springs	59.37	137	P	P	08 00 04.8	-1.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=322,slow=7.6,SNR=12						
KAF	Kangasniemi	60.80	330	ep	P	08 00 15.5	-0.4
FINES	FINESS Array B	60.81	329	P	P	08 00 15.7	-0.3
	comp=Z,0.3nm,0.3s,mb3.8,baz=76,slow=5.0,SNR=3.8						
ARCES	ARCESS Array B	62.54	338	P	P	08 00 27.1	-0.4
	comp=Z,4.2nm,0.9s,mb4.4,baz=86,slow=6.9,SNR=7.8						
GERES	GERESS Array B	67.84	315	P	P	08 01 02.9	+1.1
	comp=Z,0.7nm,0.5s,mb3.7,baz=58,slow=13,SNR=6.4						
NB2	NORSAR Subarra	67.96	329	P	P	08 01 01.7	-0.9
	comp=Z,0.5nm,0.5s,mb3.6,baz=84,slow=6.5						
NOA	NORSAR Array B	67.96	329	P	P	08 01 01.8	-0.8
	comp=Z,0.5nm,0.6s,mb3.5,baz=90,slow=6.0,SNR=3.7						
INK	Inuvik	84.01	16	eP	P	08 02 31.1	-2.7
	comp=Z,92nm,0.5s						
TORD	Torodi Ar. Bea	87.37	283	P	P	08 02 52.8	+2.5
	comp=Z,0.5nm,1.0s,mb3.4,baz=61,slow=4.3,SNR=5.8						
ROSC	El Rosal	151.42	335	PKPbc	PKPbc	08 09 58.4	+1.8
	comp=Z,11nm,0.6s,baz=116,slow=6.0,SNR=9.9						

IDC ***11*** *08:01:19.8±0.9, 836N×10321W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.1/19, mbtmp4.0/9, ML3.3/1, MS4.2/5, Ms1 4.2/5, ms1mx3.8/22, Error ellipse: s-maj=38.6km s-min=17.2km az=64.0*
BJI ***11*** *08:01:20.2, 850N×10310W, h10km, mB5.7, Ms4.8, Msz4.5*
ISCJB ***11*** *08:01:21.1±0.6, 841N±009×10314W±009, h10km, mb4.3/27, MS4.2/4, Error ellipse: s-maj=17.3km s-min=8.2km az=90.2*
NEIC ***11*** *08:01:23.2±0.6, 848N×10307W, h10km, mb4.6/20, Error ellipse: s-maj=14.0km s-min=6.9km az=50.0*

ISC 11 08:01:23.5±0.6, 847N±009×10308W±008, h10km, n187, σ0°63/175, mb4.3/27, MS4.2/4, 49C-64D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.71	42	Pn	Pn	08 04 08.6	-2.0
	0.2nm,0.3s,baz=248,slow=13,SNR=4.5						
CMIG				LR	LR	08 07 41.5	
	comp=Z,1μm,20.8s,baz=269,slow=32						
JCT	Junction City	22.11	8	eP	P	08 06 19.6	+0.7
	8.9nm,0.9s,mb4.2						
HKT	Hockley	22.42	17	eP	P	08 06

PDMCI	Parker Dam,Lak	27.64	340	⇑P	P	08 07 10.9 -0.4
	baz=28					
X13A	Yucca	27.81	341	⇑P	P	08 07 12.5 -0.3
	baz=28					
IRM	Iron Mountain	27.88	338	P	P	08 07 13.6 +0.3
	baz=28,SNR=6.5					
W15A	Williams	27.88	344	⇑P	P	08 07 14.4 +1.0
	baz=28					
PFO	Pinyon Flat Ob	27.89	336	⇓P	P	08 07 14.0 +0.4
	baz=28					
WUAZ	Wupatki	27.97	345	eP	P	08 07 14.7 +0.5
	32nm,1.6s,mb4.7					
WUAZ	Wupatki	27.97	345	⇑P	P	08 07 14.9 +0.7
	baz=28					
BELC	Belle Mtn.	28.05	337	⇓P	P	08 07 14.5 -0.4
	baz=28					
W14A	Seligman	28.15	342	⇓P	P	08 07 15.9 +0.1
	baz=28					
W13A	Hualapai Mount	28.29	341	⇓P	P	08 07 16.7 -0.4
	baz=28					
BFSC	Mount Baldy St	28.94	334	⇑P	P	08 07 22.0 -0.8
	baz=29					
MVCO	Mesa Verde	29.03	351	⇑P	P	08 07 23.2 -0.3
	baz=29					
TUQ	Turquoise Mtn.	29.30	338	⇓P	P	08 07 26.0 0.0
	baz=29					
GSC	Goldstone	29.51	337	⇑P	P	08 07 27.4 -0.5
	baz=30					
PV01	Paradox Valley	29.94	351	eP	P	08 07 31.6 -0.1
PV10	Paradox Valley	30.25	351	eP	P	08 07 33.8 -0.6
MPMC	Manual Prospec	30.44	337	⇑P	P	08 07 36.1 0.0
	baz=30					
ISA	Isabella	30.50	335	⇑P	P	08 07 36.5 -0.2
	baz=31					
ARUT	Antelope Range	30.65	344	eP	P	08 07 37.2 -0.7
DAC	Darwin (Calif)	30.67	337	eP	P	08 07 38.5 +0.3
WVT	Waverly	30.84	25	eP	P	08 07 38.8 -0.9
	2.9nm,0.9s,mb4.1					
SRU	San Rafael	31.23	349	eP	P	08 07 43.3 +0.2
HELL	Mitchell Peak,	31.60	335	⇓P	P	08 07 46.3 -0.1
	baz=32					
CPCT	Cooper Cave	31.77	30	eP	P	08 07 47.6 -0.3
S09A	Goldfield	31.81	338	⇑P	P	08 07 48.2 0.0
	baz=32					
S08C	White Mtn Res	31.97	337	⇑P	P	08 07 50.1 +0.6
	baz=32					
SDV	Santo Domingo	32.07	87	eP	P	08 07 52.3 +1.8
	12nm,1.1s,mb4.6					
R09A	Tonopah	32.21	339	⇓P	P	08 07 51.8 0.0
	baz=32					
Q11A	Duckwater	32.28	341	⇓P	P	08 07 52.6 +0.2
	baz=32					
MPU	Maple Canyon	32.33	348	eP	P	08 07 53.8 +1.1
MLAC	Mammoth Lakes	32.34	336	⇓P	P	08 07 53.5 +0.7
	baz=32					
DAU	Daniels Canyon	32.63	348	eP	P	08 07 55.8 +0.4
P12A	McGill	32.64	343	⇓P	P	08 07 55.3 -0.1
	baz=33					
DUG	Dugway	32.76	346	eP	P	08 07 57.6 +1.0
DUG	Dugway	32.76	346	⇑P	P	08 07 57.1 +0.6
	baz=33,SNR=9.4					
R07C	Lee Vining	32.82	336	⇓P	P	08 07 57.4 +0.3
	baz=33					
NVAR	Mina Array Bea	32.83	338	P	P	08 07 57.5 +0.4
	1.4nm,0.8s,mb4.0,baz=174,slow=8.4,SNR=12					
P11A	Circle Ranch,	32.96	342	⇓P	P	08 07 59.1 +0.8
	baz=33					
Q08A	Gabbs	33.07	338	⇓P	P	08 07 59.7 +0.5
	baz=33					
P10A	Eureka	33.25	341	⇓P	P	08 08 01.6 +0.8
	baz=33					
O12A	Currie	33.33	344	P	P	08 08 02.6 +1.2
	baz=33,SNR=12					
R06C	Coleville	33.35	336	⇓P	P	08 08 01.6 -0.1
	baz=33					
O11A	Cowboy Ranch,	33.47	342	⇑P	P	08 08 03.3 +0.6
	baz=34					
HWUT	Hardware Ranch	33.84	349	eP	P	08 08 06.8 +0.8
	7.2nm,1.1s,mb4.5					
O10A	Cortez Mining,	33.87	341	⇓P	P	08 08 07.0 +0.8
	baz=34					
N12A	Clover Valley,	33.95	344	⇓P	P	08 08 07.7 +0.7
	baz=34					
O09A	Fish Creek Ran	33.98	340	⇑P	P	08 08 07.8 +0.7
	baz=34					
N11A	Elko Archery C	34.12	343	⇓P	P	08 08 09.0 +0.6
	baz=34					
M12A	Wells	34.44	344	⇓P	P	08 08 11.3 +0.1
	baz=35					
BW06	Boulder Array	34.63	352	eP	P	08 08 12.8 0.0
	10nm,1.3s,mb4.6					
PDAR	Pinedale Array	34.63	352	P	P	08 08 12.9 +0.2
	3.5nm,0.9s,mb4.3,baz=161,slow=7.7,SNR=27					
M11A	Holland Ranch,	34.70	343	⇑P	P	08 08 13.5 +0.1
	baz=35					
BEKR	Beckwourth	34.87	336	⇓P	P	08 08 15.2 +0.4
	baz=35					
OHCM	Honcut	34.88	335	eP	P	08 08 15.3 +0.4
O06A	Flanigan	34.92	337	⇓P	P	08 08 15.2 -0.1
	baz=35					
SUTB	Sutter Butte	34.92	334	⇓P	P	08 08 15.2 -0.1
	baz=35					
M10A	I.L. Ranch, Tu	35.01	342	⇑P	P	08 08 16.4 +0.3
	baz=35,SNR=5.7					
ORV	Oroville	35.07	335	⇓P	P	08 08 16.8 +0.2
	baz=35					
M09A	Marrel Ranch,	35.20	341	⇓P	P	08 08 17.7 0.0
	baz=35					
REDW	Red Top Meadow	35.41	350	eP	P	08 08 19.6 0.0
	14nm,1.4s,mb4.7					
N06A	Buffalo Meadow	35.43	338	⇓P	P	08 08 20.0 +0.3
	baz=36,SNR=5.0					
RRI2	Red Ridge	35.48	350	eP	P	08 08 25.4 +5.3
SNOW	Snow King Moun	35.49	350	eP	P	08 08 20.9 +0.7
	22nm,1.5s,mb4.9					
M08A	Happy Creek Ra	35.53	340	⇓P	P	08 08 20.9 +0.4
	baz=36					
O04C	Chester	35.55	336	⇑P	P	08 08 21.2 +0.5
	baz=36					
GASB	Alder Springs	35.67	334	⇑P	P	08 08 22.3 +0.5
	baz=36					
M07A	Soldier Meadow	35.75	339	⇓P	P	08 08 22.3 -0.2
	baz=36					
MOOW	Moose Ponds	35.77	350	eP	P	08 08 22.7 +0.1
	14nm,1.8s,mb4.6					
IMW	Indian Meadow	35.95	350	eP	P	08 08 24.8 +0.6
	16nm,1.6s,mb4.7					
M06C	Likely Place G	36.07	337	⇑P	P	08 08 25.7 +0.5
	baz=36					
FLWY	Flagg Ranch	36.09	351	eP	P	08 08 25.1 -0.2
L08A	Fields	36.18	341	⇑P	P	08 08 25.9 -0.2
	baz=36,SNR=8.6					
HLID	Hailey	36.33	346	eP	P	08 08 27.6 +0.2
	12nm,1.6s,mb4.6					
HLID	Hailey	36.33	346	⇓P	P	08 08 27.6 +0.2
	baz=36					
L07A	Adell	36.36	339	⇓P	P	08 08 28.2 +0.5
	baz=36					
K09A	Rome	36.44	342	P	P	08 08 28.8 +0.4
	baz=37,SNR=9.3					
M05C	Lookout	36.45	337	⇑P	P	08 08 28.2 -0.2
	baz=36					
WVOR	Wild Horse Val	36.49	340	eP	P	08 08 28.9 0.0
	11nm,1.2s,mb4.7					
MOD	Modoc	36.61	338	eP	P	08 08 30.3 +0.5
MOD	Modoc	36.61	338	⇓P	P	08 08 29.8 0.0
	baz=37					
K08A	Mann Creek Ran	36.71	341	P	P	08 08 31.1 +0.4
	baz=37,SNR=6.2					
M03C	McCloud	36.77	336	⇑P	P	08 08 31.3 +0.1
	baz=37					
N02C	Big Bar	36.89	334	⇓P	P	08 08 32.2 0.0
	baz=37					
K07A	Rock Creek Ran	36.93	340	P	P	08 08 33.0 +0.5
	baz=37,SNR=7.3					
L05A	Lakeview	36.93	338	⇓P	P	08 08 33.0 +0.5
	baz=37					
J09A	Fry Pan Ranch,	37.04	342	⇓P	P	08 08 33.5 0.0
	baz=37					
M04C	Macdoel	37.09	336	P	P	08 08 34.1 +0.2
	baz=37,SNR=5.8					
M02C	Callahan	37.17	335	⇓P	P	08 08 34.1 -0.4
	baz=37					
MCMT	McKenzie Canyo	37.20	348	eP	P	08 08 34.8 0.0
J08A	Circle Bar Ran	37.27	341	⇓P	P	08 08 35.2 -0.2
	baz=37					
YBH	Yreka Blue Hor	37.40	336	P	P	08 08 35.5 -1.0
	2.2nm,0.8s,mb4.0,baz=90,slow=5.6,SNR=6.8					
YBH	Yreka Blue Hor	37.40	336	⇓P	P	08 08 35.9 -0.5
	baz=38					
L04A	Klamath Falls	37.44	337	⇑P	P	08 08 36.7 -0.1
	baz=38					
K05A	Summer Lake	37.54	338	⇓P	P	08 08 38.4 +0.8
	baz=38					
J07A	Hines	37.56	340	⇓P	P	08 08 37.9 +0.1
	baz=38					
I09A	Lost Marbles R	37.60	343	⇓P	P	08 08 39.0 +0.8
	baz=38					
DLMT	Dillon	37.66	349	eP	P	08 08 39.2 +0.5
J06A	Christmas Vall	37.73	339	P	P	08 08 39.6 +0.2
	baz=38,SNR=6.5					
L02A	Cave Junction	38.12	335	⇑P	P	08 08 42.1 -0.4
	baz=38					
J05A	Fort Rock	38.15	338	P	P	08 08 43.4 +0.6
	baz=38,SNR=5.5					
H09A	Durkee	38.21	343	⇓P	P	08 08 43.8 +0.4
	baz=38					
I07A	Izee	38.25	341	⇑P	P	08 08 44.1 +0.3
	baz=38					
I06A	Prineville	38.36	340	P	P	08 08 45.0 +0.4
	baz=38,SNR=10					
H08A	Prairie City	38.38	342	⇓P	P	08 08 45.0 +0.3
	baz=38					
K02A	Glendale	38.58	336	⇓P	P	08 08 46.3 -0.2
	baz=39					
H07A	Lands Inn, Kim	38.73	341	⇓P	P	08 08 47.9 +0.2
	baz=39					
H06A	Lindquist Farm	39.10	340	⇓P	P	08 08 50.6 -0.3
	baz=39,SNR=6.2					
J02A	Umpqua	39.11	336	⇑P	P	08 08 51.2 +0.3
	baz=39					
G08A	Pilot Rock	39.16	342	⇑P	P	08 08 50.9 -0.5
	baz=39					
F10A	Beach Ranch, E	39.30	344	⇓P	P	08 08 51.6 -0.9
	baz=39					
H05A	Madras	39.33	339	⇓P	P	08 08 52.8 0.0
	baz=39					
G07A	Ruggs Ranch, H	39.36	341	⇑P	P	08 08 53.4 +0.3
	baz=40					
I03A	Eugene	39.50	337	⇓P	P	08 08 54.4 +0.2
	baz=40					
G06A	Carlson Farm,	39.65	340	⇓P	P	08 08 55.3 -0.1
	baz=40					
H04A	Detroit Lake	39.70	339	⇓P	P	08 08 55.3 -0.6
	baz=40					
H03A	Soap Creek Ran	40.10	338	⇑P	P	08 08 58.8 -0.4
	baz=40					
F06A	Goldendale	40.16	341	⇓P	P	08 08 59.2 -0.5
	baz=40					
HAWA	Hanford	40.33	342	eP	P	08 09 00.8 -0.3
C12A	Trout Creek	40.49	347	⇓P	P	08 09 02.0 -0.4
	baz=41					
F05A	White Salmon	40.49	340	⇑P	P	08 09 01.8 -0.6
	baz=41					
E07A	Sunnyside	40.58	342	⇓P	P	08 09 03.3 +0.2
	baz=41					
D09A	Jones Farm, Ri	40.59	344	⇓P	P	08 09 02.5 -0.7
	baz=41					
D08A	Wollman Farm,	40.76	343	⇓P	P	08 09 03.9 -0.7
	baz=41					
B13A	Whitefish	40.91	348	⇓P	P	08 09 05.1 -0.8
	baz=41					
E06A	Yakima	40.91	341	⇓P	P	08 09 05.4 -0.5
	baz=41					
C10A	Spilker Farm,	41.03	345	⇑P	P	08 09 06.2 -0.7
	baz=41					
E05A	Randle	41.19	340	⇑P	P	08 09 07.6 -0.6
	baz=41					
B12A	Libby	41.24	347	⇓P	P	08 09 07.7 -0.8
	baz=41					
C09A	Chrisman Ranch	41.26	344	⇑P	P	08 09 08.8 0.0
	baz=41					
NEW	Newport	41.40	346	eP	P	08 09 09.0 -0.9
D06A	Cle Élum	41.45	342	⇓P	P	08 09 10.2 -0.1
	baz=42					
C08A	Higginbotham F	41.45	344	⇑P	P	08 09 09.4 -0.9
	baz=42					
WALA	Waterton Lakes	41.46	349	eP	P	08 09 09.8 -0.6
	7.6nm,1.3s,mb4.2					
C07A	Waterville	41.66	343	⇑P	P	08 09 11.0 -1.0
	baz=42					
A12A	Yaak River Ran	41.69	348	⇑P	P	08 09 11.9 -0.4
	baz=42					
B09A	Rice	41.80	345	⇓P	P	08 09 12.7 -0.5
	baz=42					
D05A	Enumclaw	41.81	341	⇑P	P	08 09 13.4 +0.1
	baz=42					
ULM	Lac du Bonnet	42.07	7	P	P	08 09 12.3 -3.1
	2.7nm,0.8s,mb3.9,baz=161,slow=4.5,SNR=3.0					
C05A	Tolt Reservoir	42.16	341	⇓P	P	08 09 15.3 -0.8
	baz=42					
A10A	Northport	42.17	346	⇑P	P	08 09 15.3 -0.9
	baz=42					
D03A	Wishkah Elem.	42.36	339	⇓P	P	08 09 16.2 -1.6
	baz=42					
B07A	Winthrop	42.37	343	⇑P	P	08 09 17.1 -0.8
	baz=42					
A09A	Danville	42.42	345	⇑P	P	08 09 17.6 -0.7
	baz=42					
LPAZ	La Paz	42.45	125	P	P	08 09 18.5 0.0
	1.9nm,0.9s,mb3.7,baz=329,slow=10,SNR=7.6					
LPAZ	La Paz	42.45	125	eP	P	08 09 19.0 +0.5
	3.9nm,1.1s,mb4.0					
B05A	Bryant	42.79	341	⇓P	P	08 09 19.0 -2.2
	baz=43					
B06A	Marblemount	42.83	342	⇑P	P	08 09 20.3 -1.3
	baz=43					
A04A	Legoe Bay, Lum	43.39	341	P	P	08 09 26.0 -0.1
	baz=44,SNR=7.4					
EDM	Edmonton	45.39	351	eP	P	08 09 41.0 -1.1
SIV	San Ignacio	48.17	120	P	P	08 10 03.0 -0.9
	0.4nm,0.4s,mb3.8,baz=311,slow=10,SNR=4.1					
YKA	Yellowknife Ar	54.57	353	LR	LR	08 34 30.8
	comp=Z,209nm,18.9s,MS4.2,baz=200,slow=36					
PLCA	Paso Flores	57.41	151	P	P	08 11 11.3 -0.8
	3.1nm,1.0s,mb4.3,baz=288,slow=6.2,SNR=3.0					
NOA	NORSAR Array B	94.03	26	LR	LR	08 55 41.1
	comp=Z,72nm,18.3s,MS4.2,baz=255,slow=35					
ARCES	ARCESS Array B	94.59	16	LR	LR	08 57 11.0
	comp=Z,122nm,18.9s,MS4.4,baz=106,slow=35					
HFS	Hagfors	95.53	27	LR	LR	08 54 34.2
	comp=Z,88nm,20.2s,MS4.2,baz=254,slow=33					
HHC	Hu-ho-hao-te	121.47	330	ePKP	PKPdf	08 20 16.9 -0.2
NJ2	Nanjing	123.20	317	ePKP	PKPdf	08 20 16.5 -3.9
WRA	Warramunga Arr	123.42	252	PKP	PKPdf	08 20 18.3 -2.6
	1.2nm,0.7s,baz=89,slow=2.1,SNR=7.5					
ASAR	Alice Springs	123.55	247	PKP	PKPdf	08 20 18.8 -2.3
	1.1nm,0.8s,baz=89,slow=2.0,SNR=6.5					
MKAR	Makanchi Array	124.77	356	PKP	PKPdf	08 20 19.8 -3.6
	0.3nm,0.6s,baz=5.0,slow=4.9,SNR=3.1					
WMQ	Urumqi	127.04	350	ePKP	PKPdf	08 20 27.0 -0.8
LZH	Lanzhou	128.95	332	ePKP	PKPdf	08 20 27.6 -3.8
KMI	Kunming	138.19	324	PKP	PKPdf	08 20 48.3 -0.5

IDC 11 08:09:15.6±1.3, 2038N×12062E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/20, Error ellipse: s-maj=45.6km s-min=24.2km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	9.51	46	LR	LR	08 15 28.6	
	comp=Z,185nm,20.7s,baz=345,slow=39						
MJAR	Matsushiro Arr	22.26	40	P	P	08 14 14.5	+0.4
	0.8nm,0.5s,baz=238,slow=12,SNR=4.3						
MKAR	Makanchi Array	40.78	319	P	P	08 16 58.4	-0.1
	0.3nm,0.5s,baz=115,slow=13,SNR=3.3						
WRA	Warramunga Arr	42.27	161	P	P	08 17 10.8	+0.1
	0.8nm,0.5s,baz=342,slow=9.1,SNR=8.3						
ASAR	Alice Springs	45.66	163	P	P	08 17 38.1	+0.3
	0.2nm,0.4s,baz=344,slow=6.9,SNR=5.9						

*MOS **11** 08:12:02.0±0.2, 5303N×157.18E, h317km, mb4.3/1, Error ellipse: s-maj=78.1km s-min=38.4km az=49.6*

KRSC 11 08:12:01, 5306N×15717E, h309km, ML4.1, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	Gorelyy	0.75	133	iP	Pn	08 12 44.2	+2.9
GNL	Ganaly	0.79	36	iP	Pn	08 12 43.0	+1.5
GNL				iS	S	08 13 13.3	-0.4
PET	Petropavlovsk	0.90	92	ePN	Pn	08 12 44.2	+2.3
PET					pmax	pmax	
	comp=Z,100nm,0.9s						
PET	Petropavlovsk	0.90	92	eP	Pn	08 12 44.2	+2.3
PET				iS	S	08 13 15.1	+0.7
AVH	Avacha	0.97	77	iP	Pn	08 12 44.8	+2.6
RUS	Russkaya	1.03	127	iP	Pn	08 12 44.4	+2.0
RUS				iS	S	08 13 15.4	-0.1
NLC	Nalytchevo	1.32	84	eP	Pn	08 12 46.2	+2.3
NLC				iS	S	08 13 18.7	+0.6
SPN	Mys Shipunski	1.72	88	iP	Pn	08 12 48.7	+2.2
SPN				iS	S	08 13 22.7	-0.1
MKZ	Mys Kozlova	3.09	59	eP	Pn	08 13 00.6	+2.4
MKZ				iS	S	08 13 43.2	-0.8
KMNR	Kamenistaya	3.24	32	P	Pn	08 13 02.7	+3.0
ZLN	Zelenaya	3.64	34	P	Pn	08 13 06.6	+2.8
KBTR	Krutoberegovo	4.55	44	eP	Pn	08 13 15.8	+2.1
KBTR				eS	S	08 14 09.2	-3.0

*CSEM **11** 08:28:32.2±0.2, 5150N×16.14E, h2km, ML2.5/3, Error ellipse: s-maj=3.8km s-min=1.7km az=34.0, Suspected Mining induced.*
*PRU **11** 08:28:33.4, 5143N×16.13E, h0km*
*VIE **11** 08:28:33.8±0.4, 5132N×1622E, h0km, mb2.0/3, ML2.5/3, Error ellipse: s-maj=2.9km s-min=2.4km az=178.0 60 km WNW of Breslau Suspected Mining induced.*
*NEIC **11** 08:28:36.0±1.2, 5128N×1600E, h5km, MG2.5(WAR), Error ellipse: s-maj=14.8km s-min=8.0km az=196.0*

WAR 11 08:28:33.4, 5147N×1611E, ML2.5, 1C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	⇓iPg	Pg	08 28 45.1	-0.5
KSP				iSg	Sg	08 28 53.6	-0.3
UPC	Upice	0.96	184	ePG	Pg	08 28 51.2	-0.7
DPC	Dobruska-Polom	1.13	173	ePG	Pg	08 28 53.8	-1.2
DPC				eSG	Sg	08 29 08.6	-1.1
	16nm,0.3s						
PVCC	Panska Ves	1.35	226	ePG	Pg	08 28 58.2	-1.1
PVCC				eSG	Sg	08 29 16.6	-0.3
	56nm,0.2s						
BRG	Berggiesshubel	1.49	247	PG	Pg	08 29 00.6	-1.3
BRG				SG	Sg	08 29 20.9	-0.3
	17nm,0.4s						
BRG	Berggiesshubel	1.49	247	Pg	Pg	08 29 00.6	-1.3
BRG				Sg	Sg	08 29 20.9	-0.3
PRU	Pruhonice	1.79	214	ePG	Pg	08 29 05.8	-1.8
PRU				eSG	Sg	08 29 28.9	-1.9
	14nm,0.3s						
MORC	Moravsky Berou	1.93	151	ePn	Pn	08 29 05.8	-1.6
MORC	Moravsky Berou	1.93	151	ePn	Pn	08 29 05.8	-1.6
MORC				eSg	Sg	08 29 33.1	-2.2
CLL	Collm	1.95	266	iPg	Pg	08 29 09.5	-1.3
CLL				iSg	Sg	08 29 35.0	-1.1
	comp=Z,11nm,0.8s						
OKC	Ostrava-Krasne	2.09	141	ePG	Pg	08 29 12.3	-1.1
OKC				eSG	Sg	08 29 37.4	-3.1
VRAC	Vranov	2.19	172	eSg	Sg	08 29 41.9	-1.7
KHC	Kasperske Hory	2.85	216	ePN	Pn	08 29 18.8	-1.3
KHC				ePG	Pg	08 29 23.8	-4.2
KHC				eSN	Sn	08 29 54.0	-1.1
KHC				eSG	Sg	08 30 02.5	-2.4
MOX	Moxa	2.95	256	ePG	Pg	08 29 29.5	-0.5
MOX				eSG	Sg	08 30 08.3	+0.1
MOA	Molln	3.81	199	⇑iPn	Pn	08 29 32.5	-0.9
MOA				⇓iSg	Sg	08 30 36.1	+0.1
	comp=Z,3.0nm,0.3s						
KWP	Kalwaria	4.59	111	Pn	Pn	08 29 45.5	+1.4

JMA 11 08:29:50.1±0.5, 4478N×14924E, h30km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.89	242	P	Pn	08 30 32.9	-1.2
NEM2				eS	Sn	08 31 04.5	-3.3
JRA	Rausu	3.07	256	P	Pn	08 30 38.2	+1.6
JRA				eS	Sn	08 31 14.9	+2.6
JNK	Nakash	3.46	251	P	Pn	08 30 42.5	+0.5
JNK				eS	Sn	08 31 20.8	-1.2
JAK	Akkeshi	3.74	243	P	Pn	08 30 44.9	-0.8
JAK				eS	Sn	08 31 25.0	-3.7
JTKR	Abashiri--Toko	3.91	260	P	Pn	08 30 50.1	+2.1
JAR	Ashorobuto	4.21	251	P	Pn	08 30 53.4	+1.1
JAR				eS	Sn	08 31 39.2	-1.2
JOB	Onbets	4.34	246	P	Pn	08 30 54.3	+0.4
JOB				eS	Sn	08 31 40.5	-3.0
JCH	Churui	4.78	245	P	Pn	08 30 59.6	-0.4
JCH				eS	Sn	08 31 50.9	-3.5
JEM	Erimo	5.22	240	P	Pn	08 31 06.9	+0.8
JNBK	Urakawa-nobuka	5.34	244	P	Pn	08 31 07.3	-0.4
JNBK				eS	Sn	08 32 05.4	-2.7
JKB	Kayabe	6.65	247	P	Pn	08 31 25.1	-0.6
JANG	Nango	7.20	235	P	Pn	08 31 30.7	-2.6
JANG				eS	Sn	08 32 44.2	-10
JTH	Tanohata	7.29	231	eS	Sn	08 32 44.7	-12
OFUJ	Ofunato	8.02	227	eS	Sn	08 33 02.7	-11
JRG	Rokugo	8.36	233	eS	Sn	08 33 14.4	-8.1
JIO	Ouri	8.65	226	eS	Sn	08 33 16.4	-13

IDC 11 08:38:37.0±0.8, 2060N×11977E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.7/8, MS3.1/1, Ms1 3.1/1, ms1mx2.7/33, Error ellipse: s-maj=40.0km s-min=16.6km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	9.96	50	LR	LR	08 44 41.8	
	comp=Z,107nm,21.8s,baz=336,slow=37						
MJAR	Matsushiro Arr	22.62	41	P	P	08 43 40.0	+0.7
	2.3nm,0.8s,baz=246,slow=12,SNR=6.1						
SONM	Songino Array	29.25	341	P	P	08 44 40.3	-0.3
	0.5nm,0.6s,baz=152,slow=7.1,SNR=4.1						
FITZ	Fitzroy Crossi	38.88	171	P	P	08 46 05.4	+1.3
	1.5nm,0.7s,baz=353,slow=11,SNR=3.5						
MKAR	Makanchi Array	40.10	320	P	P	08 46 13.5	-0.8
	0.3nm,0.6s,baz=109,slow=11,SNR=3.2						
WRA	Warramunga Arr	42.74	160	P	P	08 46 35.1	-0.8
	1.5nm,0.5s,baz=342,slow=9.2,SNR=14						
ASAR	Alice Springs	46.10	162	P	P	08 47 02.6	-0.2
	1.0nm,0.7s,baz=347,slow=6.9,SNR=6.2						
BVAR	Borovoye Array	49.68	323	P	P	08 47 30.8	+0.3
	0.2nm,0.4s,baz=69,slow=12,SNR=2.9						
BVAR				PcP	PcP	08 48 51.7	-0.1
	0.6nm,0.5s,baz=100,slow=6.3,SNR=4.0						
GERES	GERESS Array B	84.77	320	P	P	08 51 14.0	+0.9
	0.3nm,0.3s,baz=46,slow=3.9,SNR=4.6						

IDC 11 08:47:37.6±2.3, 5413N×8718E, h0km, mb1 3.1/3, mb1mx3.1/24, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=23.4km s-min=15.1km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	1.42	263	Pg	Pg	08 48 03.5	-1.2
	5.0nm,0.3s,baz=39,slow=2,SNR=20						
ZAL				Lg		08 48 24.1	
	8.6nm,0.3s,baz=296,slow=10,SNR=12						
MKAR	Makanchi Array	7.97	205	P

8.8nm,0.3s,baz=265,slow=6.9,SNR=2.5
HNR S Sn 09 05 16.0 +1.0
32nm,0.3s,baz=88,slow=17,SNR=6.0
DZM Mont Dzumac 9.23 181 P Pn 09 04 18.8 +1.4
2.4nm,0.3s,baz=326,slow=13,SNR=18
DZM S Sn 09 05 57.6 -1.8
0.4nm,0.3s,baz=98,slow=20,SNR=2.8
STKA Stephens Creek 29.86 226 P P 09 08 05.7 +1.2
3.6nm,0.6s,baz=57,slow=8.8,SNR=9.6
WRA Warramunga Arr 31.80 253 P P 09 08 21.8 +0.2
0.4nm,0.5s,baz=85,slow=9.5,SNR=9.1
ASAR Alice Springs 32.88 246 P P 09 08 31.0 0.0
0.9nm,0.6s,baz=71,slow=9.4,SNR=21
SONM Songino Array 80.61 324 P P 09 14 08.1 +0.1
0.5nm,0.3s,baz=140,slow=6.7,SNR=8.7
MKAR Makanchi Array 95.41 317 P P 09 15 19.6 -0.1
0.7nm,0.6s,baz=85,slow=5.9,SNR=7.0

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*ISCJB **11** 09:18:23.8±2.4,3380S±007×1788W±02,h10km±19km, mb4.5/4, Error ellipse: s-maj=33.3km s-min=8.7km az=27.0*
*IDC **11** 09:18:23.8±1.6,3374S×17877W,h0km,mb4.5/2, mb1 4.8/3,mb1mx4.1/12,mbtmp4.6/3,ML4.3/1,MS3.9/2, Ms1 3.9/2,ms1mx3.1/19,Error ellipse: s-maj=56.5km s-min=30.0km az=136.0*
*NEIC **11** 09:18:26.2±3.6,3369S×17881W,h15km±22km,mb4.6/2, Error ellipse: s-maj=17.4km s-min=9.7km az=117.0*
ISC 11 09:18:24.7±3.0,3378S±007×1788W±02,h4km±23km,n23, σ0§63/20,mb4.5/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**211**	PN	**Pn**	**09 19 33.5**	**+0.5**
MXZ				SN	**Sn**	**09 20 26.1**	**+0.8**
RAO	**Raoul Island**	**4.58**	**10**	*e*Pn	**Pn**	**09 19 33.8**	**-0.8**
PUZ	**Puketiti**	**4.91**	**208**	*e*PN	**Pn**	**09 19 38.5**	**-0.7**
PUZ				*e*SN	**Sn**	**09 20 36.6**	**+0.2**
MWZ	**Matawai**	**5.44**	**212**	PN	**Pn**	**09 19 46.0**	**-0.4**
MWZ				SN	**Sn**	**09 20 49.0**	**-0.4**
URZ	**Urewera**	**5.57**	**215**	Pn	**Pn**	**09 19 49.1**	**+0.8**
URZ	8.6nm,0.3s,baz=41,slow=3.2,SNR=76			Sn	**Sn**	**09 20 53.8**	**+1.0**
URZ	**Urewera**	**5.57**	**215**	PN	**Pn**	**09 19 48.6**	**+0.3**
URZ	19nm,0.3s,baz=156,slow=19,SNR=8.3			SN	**Sn**	**09 20 52.0**	**-0.7**
BKZ	**Black Stump Fm**	**6.58**	**214**	PN	**Pn**	**09 20 02.5**	**+0.3**
BKZ				SN	**Sn**	**09 21 16.1**	**-1.6**
DZM	**Mont Dzumac**	**17.48**	**308**	LR	LR	09 28 00.4	
	comp=Z,389nm,18.3s,baz=4.3,slow=33						
AS31	**Alice Springs**	**42.38**	**271**	*e*P	**P**	**09 26 20.5**	**+0.5**
ASAR	**Alice Springs**	**42.38**	**271**	P	**P**	**09 26 20.3**	**+0.3**
	4.3nm,0.7s,mb4.2,baz=112,slow=7.4,SNR=58						
ASPA	**Alice Springs**	**42.38**	**271**	*e*P	**P**	**09 26 20.5**	**+0.5**
WB2	**Warramunga Arr**	**43.66**	**276**	*e*P	**P**	**09 26 30.6**	**+0.2**
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**09 26 30.4**	**-0.1**
	6.4nm,0.7s,mb4.5,baz=118,slow=7.4,SNR=51						
FITZ	**Fitzroy Crossi**	**51.77**	**273**	*e*P	**P**	**09 27 33.0**	**-0.4**
	6.2nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	**56.34**	**180**	*e*P	**P**	**09 28 07.2**	**+0.5**
	5.0nm,0.8s,mb4.6						
QSPA				*e*pP	pP	09 28 18.9	+11
JOF	**Joensuu**	**145.27**	**336**	*e*pkp	PKPdf	09 38 00.5	-3.1
KAF	**Kangasniemi**	**147.47**	**338**	*e*pkp	PKPdf	09 38 06.4	-1.0
FIA1	**FINESS Array S**	**148.04**	**338**	*e*PKPdf	PKPdf	09 38 07.6	-0.7
FINES	**FINESS Array B**	**148.04**	**338**	PKPbc	PKPbc	09 38 09.8	-1.6
	4.3nm,0.7s,baz=82,slow=4.0,SNR=16						
NB2	**NORSAR Subarra**	**151.97**	**350**	PKP	PKPdf	09 38 18.6	+4.1
	comp=Z,0.9nm,0.7s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**151.97**	**350**	PKPbc	PKPbc	09 38 20.6	-0.4
	comp=Z,0.9nm,0.8s,baz=20,slow=4.7,SNR=5.3						
BRTR	**Keskin Array B**	**153.44**	**292**	PKPbc	PKPbc	09 38 23.5	-0.8
	comp=Z,1.3nm,0.8s,baz=116,slow=2.9,SNR=5.2						
AKASG	**Malin Array Be**	**153.47**	**318**	PKPbc	PKPbc	09 38 23.2	-1.1
	comp=Z,0.9nm,0.5s,baz=55,slow=1.8,SNR=6.9						

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*NEIC **11** 09:58:38.9,3242S×7164W,h43km,MD3.8(GUC),After GUC.*
GUC 11 09:58:38.9±1.0,3242S×7164W,h43km±2km,MD3.8, ML3.1,8C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.21**	**125**	↑*i*P	Pn	09 58 47.0	+0.4
PACH				*i* S	Sn	09 58 52.6	+0.6
CHNG	**Los Chungos**	**0.55**	**12**	↓*i*P	Pn	09 58 50.7	+0.3
CHNG				*i* S	Sn	09 58 58.8	+0.2
IHA	**Instituto Hidr**	**0.60**	**180**	↑*i*P	Pn	09 58 51.5	+0.4
IHA				*i* S	Sn	09 59 00.2	+0.3
PTCH	**Petorca**	**0.62**	**76**	↑*i*P	Pn	09 58 52.3	+0.9
PTCH				*i* S	Sn	09 59 01.7	+1.4
PTCH				AML	AML	09 59 03.7	
	comp=N,2μm,0.1s						
PTCH	**Petorca**	**0.62**	**76**	↑*i*P	Pn	09 58 52.3	+0.9
PTCH				*i* S	Sn	09 59 01.7	+1.4
PEL	**Peldehue**	**1.08**	**132**	↑*i*P	Pn	09 58 58.9	+1.3
PEL				*i* S	Sn	09 59 13.2	+1.9
PEL				AML	AML	09 59 14.2	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.08**	**132**	↑*i*P	Pn	09 58 58.9	+1.3
PEL				*i* S	Sn	09 59 13.2	+1.9
RCDM	**Rinconada Maip**	**1.28**	**147**	↑*e*P	Pn	09 59 01.3	+1.0
RCDM				*i* S	Sn	09 59 18.0	+1.8
RCDM				AML	AML	09 59 18.6	
	comp=E,682nm,0.1s						
RCDM	**Rinconada Maip**	**1.28**	**147**	↑*e*P	Pn	09 59 01.3	+1.0
RCDM				*i* S	Sn	09 59 18.0	+1.8
CLCH	**Cerro Calan**	**1.34**	**137**	↓*i*P	Pn	09 59 02.6	+1.4
CLCH				*i* S	Sn	09 59 19.7	+1.9
CLCH				AML	AML	09 59 23.2	
	comp=E,297nm,0.6s						
CMCH	**Combarbala**	**1.35**	**24**	↓*i*P	Pn	09 59 02.4	+1.0
CMCH				*i* S	Sn	09 59 19.8	+1.7
CMCH				AML	AML	09 59 22.6	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**1.35**	**24**	↓*i*P	Pn	09 59 02.4	+1.0
CMCH				*i* S	Sn	09 59 19.8	+1.7
ANTU	**Antumapu**	**1.43**	**144**	*i* P	Pn	09 59 03.3	+1.0
ANTU				*i* S	Sn	09 59 21.6	+1.8
ANTU				AML	AML	09 59 24.1	
	comp=N,264nm,0.1s						
ANTU	**Antumapu**	**1.43**	**144**	*i* P	Pn	09 59 03.3	+1.0
ANTU				*i* S	Sn	09 59 21.6	+1.8
FCH	**Farellones**	**1.45**	**129**	↓*i*P	Pn	09 59 04.4	+1.7
FCH				*i* S	Sn	09 59 23.2	+2.7
FCH				AML	AML	09 59 23.6	
	comp=N,239nm,0.3s						
LNV	**Longovilo**	**1.54**	**173**	*e*P	Pn	09 59 03.7	-0.2
CHCH	**Chadas Angostu**	**1.72**	**152**	*i* P	Pn	09 59 07.8	+1.5
LMEL	**Las Melosas**	**1.87**	**140**	*e*P	Pn	09 59 10.4	+2.1
LMEL				*i* S	Sn	09 59 33.5	+2.8
LMEL				AML	AML	09 59 39.6	
	comp=N,228nm,0.2s						
LMEL	**Las Melosas**	**1.87**	**140**	*e*P	Pn	09 59 10.4	+2.1
LMEL				*i* S	Sn	09 59 33.5	+2.8
CACH	**El Canelo**	**1.90**	**153**	*e*P	Pn	09 59 10.6	+1.8
TLL	**Tololo Astrono**	**2.36**	**18**	*e*P	Pn	09 59 16.9	+1.8
TLL				*i* S	Sn	09 59 43.1	+0.3
TLL				AML	AML	09 59 55.8	
	comp=N,99nm,0.3s						
TLL	**Tololo Astrono**	**2.36**	**18**	P	Pn	09 59 16.9	+1.8
TLL				S	Sn	09 59 43.1	+0.3

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*ISCJB **11** 10:04:41.6±0.8,3248N±004×10174E±009,h10km, mb3.7/3,Error ellipse: s-maj=10.7km s-min=5.9km az=153.2*
*IDC **11** 10:04:41.7±1.3,3252N×10172E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/22,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=88.6km s-min=23.1km az=61.0*
*BJI **11** 10:04:42.3,3244N×10150E,h15km,ML3.6,Ms3.7, Msz3.4*
ISC 11 10:04:43.8±0.8,3253N±006×1019E±01,h10km,n9, σ1§21/14,mb3.7/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.29**	**134**	*e*P	**Pn**	**10 05 22.4**	**+0.8**
CD2				PG	**Pg**	**10 05 24.6**	**-3.1**
CD2				S	**Sn**	**10 05 50.6**	**+0.7**
CD2				SG	**Sg**	**10 05 56.1**	**-1.3**
CD2				Smax			
	comp=N,2μm,0.8s						
CD2				Smax			
	comp=E,2μm,1.2s						
LZH	**Lanzhou**	**3.91**	**24**	P	**Pn**	**10 05 50.1**	**+6.1**
LZH				PG	**Pg**	**10 05 58.7**	**-0.1**
LZH				SG	**Sg**	**10 06 56.2**	**+6.7**
LZH				Smax			
	comp=N,230nm,0.9s						
LZH				Smax			
	comp=E,290nm,0.8s						
LZH				LR	LR		
	comp=E,1μm,4.5s						
LZH				LR	LR		
	comp=Z,2μm,5.2s						
XAN	**Xi'an**	**6.11**	**74**	P	**Pn**	**10 06 15.1**	**+1.0**
KMI	**Kunming**	**7.42**	**174**	P	**Pn**	**10 06 33.9**	**+1.8**
SONM	**Songino Array**	**15.67**	**11**	Pn	**Pn**	**10 08 25.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**20.65**	**319**	P	**P**	**10 09 23.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=119,slow=12,SNR=3.6						
ZAL	**Zalesovo**	**24.62**	**335**	P	**P**	**10 10 02.2**	**-2.1**
	comp=Z,1.2nm,0.4s,mb3.7,baz=329,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**60.73**	**145**	P	**P**	**10 14 56.2**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.8,baz=337,slow=7.0,SNR=6.6						
ASAR	**Alice Springs**	**63.71**	**147**	P	**P**	**10 15 14.9**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.4,baz=328,slow=6.8,SNR=5.4						

IDC 11 10:40:53.8±9.9,700S×12953E,h69km±98km,mb3.6/2, mb1 3.7/4,mb1mx3.5/13,mbtmp3.9/4,ML3.9/2,Error ellipse: s-maj=110.0km s-min=42.2km az=61.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.69**	**161**	P	Pn	10 44 03.6	-1.0
	0.8nm,0.3s,baz=339,slow=14,SNR=79						
WRA				S	Sn	10 46 26.1	-8.9
	1.9nm,0.3s,baz=337,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.10**	**166**	P	Pn	10 44 50.2	+2.1
	0.4nm,0.3s,baz=341,slow=9.7,SNR=31						
ASAR				S	S	10 47 48.9	-14
	0.3nm,0.3s,baz=356,slow=29,SNR=4.5						
STKA	**Stephens Creek**	**27.19**	**157**	P	P	10 46 30.6	-0.2
	1.1nm,0.6s,baz=317,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	10 51 45.5	+0.2
	0.4nm,0.3s,baz=112,slow=8.0,SNR=5.8						

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*ISCJB **11** 10:50:08.7±0.8,2392S±005×6651W±010,h203km±11km, mb4.0/6,Error ellipse: s-maj=15.1km s-min=7.4km az=37.2*
*IDC **11** 10:50:09.0±1.1,2393S×6647W,h192km±13km,mb3.6/4, mb1 3.8/11,mb1mx3.6/22,mbtmp4.3/11,Error ellipse: s-maj=19.6km s-min=11.6km az=99.0*
*NEIC **11** 10:50:09.6±0.7,2389S×6651W,h200km±9km,mb4.4/4, Error ellipse: s-maj=13.9km s-min=7.7km az=106.0*
*BJI **11** 10:50:10.5,2390S×6650W,h200km,mB4.9*
*GUC **11** 10:50:11.9±0.7,2418S×6701W,h230km,ML5.2*
ISC 11 10:50:09.7±0.8,2392S±005×6653W±010,h199km±11km, n33,σ1§06/39,mb4.0/6,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.55**	**300**	P	**Pn**	**10 50 55.9**	**+1.9**
	52nm,0.3s,baz=128,slow=6.4,SNR=630						
LVC				S	**Sn**	**10 51 29.1**	**+0.5**
	335nm,0.3s,baz=333,slow=19,SNR=44						
LVC	**Limon Verde**	**2.55**	**300**	*e*Pn	**Pn**	**10 50 56.2**	**+2.2**
LVC				*e*Sn	**Sn**	**10 51 29.4**	**+0.8**
CEN1	**Los Morros**	**3.41**	**278**	↓*i*P	**Pn**	**10 51 06.5**	**+2.3**
CEN1				*i* S	**Sn**	**10 51 47.6**	**+0.9**
CEN1				AML	AML	10 51 50.7	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**3.56**	**273**	↑*i*P	**Pn**	**10 51 06.9**	**+0.8**
ANCH				*i* S	**Sn**	**10 51 48.5**	**-1.6**
ANCH				AML	AML	10 51 51.5	
	comp=N,3μm,0.4s						
ANCH	**Antofagasta**	**3.56**	**273**	↑*i*P	**Pn**	**10 51 06.9**	**+0.8**
ANCH				*i* S	**Sn**	**10 51 48.5**	**-1.6**
CPN1	**Cerro Paranal**	**3.61**	**258**	↑*e*P	**Pn**	**10 51 07.5**	**+0.9**
CPN1				*i* S	**Sn**	**10 51 50.0**	**-1.1**
CPN1				AML	AML	10 51 52.7	
	comp=E,2μm,0.3s						
CDCH	**Caldera**	**5.00**	**230**	*i* P	**Pn**	**10 51 22.8**	**-1.2**
CDCH				*i* S	**Sn**	**10 52 18.2**	**-4.4**
LPAZ	**La Paz**	**7.74**	**348**	P	**Pn**	**10 52 00.6**	**+1.1**
	comp=E,5.2nm,0.3s,baz=160,slow=6.8,SNR=146						
LPAZ				S	**Sn**	**10 53 25.9**	**-1.0**
	comp=E,1.0nm,0.3s,baz=181,slow=25,SNR=8.6						
LPAZ	**La Paz**	**7.74**	**348**	*e*Pn	**Pn**	**10 52 00.5**	**+1.0**
	comp=E,10.0nm,0.3s						
LPAZ				*e*Sn	**Sn**	**10 53 24.9**	**-1.9**
CFAA	**Coronel Fontan**	**7.81**	**191**	P	**Pn**	**10 51 59.8**	**-0.6**
	comp=E,2.3nm,0.3s,baz=2.6,slow=14,SNR=176						
CFAA				S	**Sn**	**10 53 22.7**	**-5.8**
	comp=E,2.4nm,0.3s,baz=292,slow=23,SNR=7.8						
CFAA	**Coronel Fontan**	**7.81**	**191**	P	**Pn**	**10 51 59.8**	**-0.6**
CFAA				S	**Sn**	**10 53 22.7**	**-5.8**
ARE	**Arequipa**	**8.76**	**327**	*e*P	**Pn**	**10 52 11.0**	**-1.8**
ARE				*e*S	**Sn**	**10 53 45.0**	**-6.0**
SIV	**San Ignacio**	**9.40**	**34**	P	**Pn**	**10 52 20.5**	**-0.7**
	comp=E,3.5nm,0.3s,baz=222,slow=13,SNR=74						
SAML	**Samuel**	**15.22**	**13**	*e*Pn	**Pn**	**10 53 34.0**	**-0.7**
NNA	**Nana**	**15.38**	**319**	P	**Pn**	**10 53 36.9**	**+0.3**
	comp=E,1.4nm,0.3s,baz=7.3,slow=20,SNR=4.4						
PLCA	**Paso Flores**	**17.11**	**190**	P	**Pn**	**10 53 55.7**	**-1.5**
	comp=E,0.4nm,0.3s,baz=9.0,slow=14,SNR=11						
BDFB	**Brasilia**	**19.25**	**68**	P	**P**	**10 54 19.8**	**+0.7**
	comp=E,0.7nm,0.3s,baz=241,slow=16,SNR=4.7						
VNA1	**Neumayer--Stat**	**57.28**	**160**	*e*	**P**	**10 59 37.6**	**+1.1**
VNA1				*e*		10 59 43.0	
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**10 59 50.5**	**+0.2**
	comp=E,1.4nm,0.6s,mb3.8,baz=287,slow=7.6,SNR=26						
SNAA	**Sanae**	**59.29**	**161**	*e*	**P**	**10 59 50.7**	**+0.3**
SNAA				*e*		10 59 55.9	
SNAA	**Sanae**	**59.29**	**161**	*e*P	**P**	**10 59 50.4**	**0.0**
	comp=E,1.9nm,0.6s,mb3.9						
QSPA	**South Pole Qui**	**66.29**	**180**	*e*P	**P**	**11 00 37.0**	**+0.4**
	comp=E,10nm,0.5s,mb4.7						
SYO	**Syowa Base**	**73.47**	**159**	↑*e*P	**P**	**11 01 20.0**	**-0.3**
VNDA	**Vanda**	**74.86**	**190**	P	**P**	**11 01 28.4**	**+0.1**
	comp=E,0.8nm,0.9s,mb3.3,baz=169,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.14**	**69**	P	**P**	**11 01 34.8**	**-0.7**
	comp=E,1.1nm,0.5s,mb3.8,baz=255,slow=5.7,SNR=11						
MAW	**Mawson**	**81.39**	**163**	P	**P**	**11 02 04.3**	**+0.2**
	comp=E,3.6nm,0.8s,mb4.1,baz=202,slow=6.6,SNR=11						
CASY	**Casey**	**90.06**	**179**	*e*P	**P**	**11 02 47.4**	**+0.6**
	comp=E,2.9nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**128.71**	**204**	PKP	PKPdf	11 08 53.2	+0.1
	comp=E,1.2nm,0.7s,baz=134,slow=2.0,SNR=14						
WRA	**Warramunga Arr**	**131.90**	**207**	PKP	PKPdf	11 08 59.6	+0.5
	comp=E,0.6nm,0.3s,baz=155,slow=1.9,SNR=24						
MKAR	**Makanchi Array**	**146.19**	**40**	PKPbc	PKPbc	11 09 25.3	-1.2
	comp=E,1.2nm,0.5s,baz=296,slow=3.5,SNR=16						
WMQ	**Urumqi**	**151.00**	**40**	*e*PKP	PKPbc	11 09 37.0	-1.8
LZH	**Lanzhou**	**165.29**	**32**	*e*PKP	PKPdf	11 09 54.6	+4.6
LZH				APKP		11 10 37.3	
CD2	**Chengdu**	**168.91**	**49**	*e*PKP	PKPdf	11 09 52.1	-0.6

IDC 11 10:58:07.9±1.2,832N×10091W,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.9/17,mbtmp3.7/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/25,Error ellipse: s-maj=74.3km s-min=27.1km az=58.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**18.09**	**331**	LR	LR	11 07 12.8	
	comp=Z,91nm,19.7s,baz=342,slow=30						
NVAR	**Mina Array Bea**	**33.83**	**335**	P	P	11 04 50.8	-1.1
	0.5nm,0.8s,baz=157,slow=7.8,SNR=4.4						
PDAR	**Pinedale Array**	**35.15**	**349**	P	P	11 05 04.6	+1.4
	0.6nm,0.8s,baz=181,slow=7.4,SNR=5.9						
LPAZ	**La Paz**	**40.62**	**127**	P	P	11 05 50.2	+0.8
	1.5nm,0.5s,baz=349,slow=14,SNR=6.0						
WRA	**Warramunga Arr**	**125.41**	**252**	PKP	PKPdf	11 17 12.4	+1.6
	0.5nm,1.0s,baz=97,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**125.47**	**247**	PKP	PKPdf	11 17 11.4	+0.5
	0.7nm,1.0s,baz=90,slow=2.8,SNR=4.4						

IGQ 11 12:11:15.1,072N×7910W,h10km±2km,Mb4.0,Ms3.8, 9C-2D,Error ellipse: s-maj=2.8km s-min=1.6km az=85.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**0.85**	**117**	↑↑P	Pg	12 11 33.0	+1.5
YANA	**Yana**	**0.99**	**148**	P	Pg	12 11 35.0	+0.9
YANA				S	Sg	12 11 49.9	+3.0
PINO	**Pino**	**1.00**	**151**	↑↑P	Pg	12 11 35.3	+0.9
TERV	**Terraza Guagua**	**1.02**	**151**	↑↑P	Pg	12 11 35.5	+0.8
GGP	**Refugio Guagua**	**1.02**	**150**	↓↓P	Pg	12 11 35.5	+0.8
MAG1	**Magdalena**	**1.04**	**221**	P	Pg	12 11 34.5	-0.5
MAG1				S	Sg	12 11 48.4	-0.1
JUA2	**San Juan 2**	**1.05**	**152**	↑↑P	Pg	12 11 35.9	+0.6
JUA2				S	Sg	12 11 51.5	+2.4
ANGU	**Angureal**	**1.28**	**121**	P	Pn	12 11 40.4	+1.4
CAYA	**Cayambe**	**1.28**	**120**	↑↑P	Pn	12 11 39.9	+0.8
CAYR	**Refugio Cayamb**	**1.30**	**123**	↓↓P	Pn	12 11 40.4	+1.1
NAS1	**Nasa**	**1.48**	**155**	↑↑P	Pn	12 11 43.9	+2.1
ANTI	**Antisana**	**1.49**	**141**	↑↑P	Pn	12 11 43.2	+1.2
ANTI				S	Sn	12 12 02.4	+0.9
CAMI	**Rancho Maria**	**1.51**	**157**	P	Pn	12 11 43.8	+1.6
VC1	**Cotopaxi 1**	**1.52**	**153**	↑↑P	Pn	12 11 43.9	+1.5
TAMB	**Tambo**	**1.58**	**152**	↑↑P	Pn	12 11 44.9	+1.7
TAMB				S	Sn	12 12 06.8	+3.1
CONE	**Cono NE Rev Vo**	**1.66**	**118**	P	Pn	12 11 46.7	+2.5
CONE				S	Sn	12 12 08.6	+3.1
LAV3	**Lava3-Reventad**	**1.68**	**119**	P	Pn	12 11 46.4	+1.9
PISA	**Pisayambo**	**1.91**	**158**	P	Pn	12 11 50.3	+2.6
PISA				S	Sn	12 12 16.2	+4.5
RUN5	**Runtun**	**2.23**	**162**	P	Pn	12 11 55.6	+3.5
RUN5				S	Sn	12 12 23.9	+4.2
ULBA	**Ulba**	**2.26**	**162**	P	Pn	12 11 55.0	+2.4
ARRY	**Arrayan**	**2.30**	**164**	P	Pn	12 11 55.8	+2.6
ARRY				S	Sn	12 12 25.0	+3.5
PATA	**Patacocha**	**2.31**	**163**	P	Pn	12 11 56.2	+3.1

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*HLW **11** 12:30:13.5,3454N×2634E,h33km,Mb3.9*
*CSEM **11** 12:30:15.2±0.1,3409N×2622E,h40km,mb4.0/8,Error ellipse: s-maj=2.7km s-min=1.3km az=34.0*
*MOS **11** 12:30:15.0±1.9,3413N×2607E,h33km,mb4.4/9,Error ellipse: s-maj=13.3km s-min=7.9km az=75.4*
*NEIC **11** 12:30:15.6,3424N×2611E,h24km,mb3.9/3,MD3.9(ATH), After ATH.*
*ISCJB **11** 12:30:15.2±0.4,3417N±003×2634E±003,h33km±5km, mb4.1/20,MS2.9/3,Error ellipse: s-maj=5.2km s-min=3.5km az=95.1*
*IDC **11** 12:30:19.0±3.1,3439N×2614E,h43km±28km,mb3.9/12, mb1 3.9/16,mb1mx3.8/27,mbtmp4.0/16,ML4.0/4,MS3.0/4, Ms1 3.0/4,ms1mx2.7/32,Error ellipse: s-maj=25.8km s-min=13.3km az=160.0*
*ATH **11** 12:30:19.9,3454N×2608E,h42km±1km,MD3.9/11*
*GII **11** 12:30:21.4±999.0,3371N×2671E,h6km±30km,ML3.0/2*
ISC 11 12:30:16.2±0.9,3421N±003×2626E±003,h27km±9km, n111,σ1§16/122,mb4.1/20,MS2.9/3,1C-8D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.81**	**325**	*e*P	**Pb**	**12 30 30.5**	**-1.2**
XRY	**Khrisi**	**0.81**	**325**	*e*Pn	**Pn**	**12 30 29.9**	**-1.9**
NPS	**Neapolis**	**1.18**	**333**	*e*P	**Pn**	**12 30 36.0**	**-0.9**
NPS	**Neapolis**	**1.18**	**333**	*e*Pn	**Pn**	**12 30 36.5**	**-0.4**
KARP	**Karpathos**	**1.53**	**29**	*e*P	**Pn**	**12 30 43.6**	**+1.9**
KARP	**Karpathos**	**1.53**	**29**	*e*Pn	**Pn**	**12 30 44.0**	**+2.3**
KARP				*e*Sn	**Sn**	**12 31 05.6**	**+5.0**
GVD	**Gavdhos**	**1.90**	**290**	*e*P	**Pn**	**12 30 48.0**	**+1.2**
VAM	**Vamos**	**2.07**	**306**	*e*P	**Pn**	**12 30 50.0**	**+0.8**
VAM	**Vamos**	**2.07**	**306**	*e*Pn	**Pn**	**12 30 50.5**	**+1.3**
SANT	**Santorini**	**2.25**	**343**	*e*Pn	**Pn**	**12 30 52.4**	**+0.8**
SANT	**Santorini**	**2.25**	**343**	*e*Pn	**Pn**	**12 30 52.4**	**+0.7**
ARG	**Arkhangelos**	**2.52**	**37**	*e*P	**Pn**	**12 30 58.0**	**+2.7**
APE	**Apeiranthos**	**2.91**	**348**	*e*P	**Pn**	**12 31 00.5**	**-0.2**
BDRM	**Kayabasi**	**3.01**	**18**	*i* P	**Pn**	**12 31 03.3**	**+1.2**
BDRM				*i* S	**Sn**	**12 31 37.8**	**+0.6**
HMAT	**Matruh**	**3.19**	**167**	P	**Pn**	**12 31 05.7**	**+1.2**
KYTH	**Kithira**	**3.35**	**309**	*e*P	**Pn**	**12 31 07.7**	**+0.9**
AKAS	**Kas**	**3.40**	**53**	*i* P	**Pn**	**12 31 09.0**	**+1.5**
AKAS				*i* S	**Sn**	**12 31 46.3**	**-0.7**
SMG	**Samos**	**3.52**	**7**	*e*P	**Pn**	**12 31 10.0**	**+0.9**
DABA	**Dabaa**	**3.62**	**151**	↓↓P	**Pn**	**12 31 12.0**	**+1.5**
AYDN	**Tasoluk**	**3.69**	**20**	*i* P	**Pn**	**12 31 13.3**	**+2.0**
AYDN				*i* S	**Sn**	**12 31 51.2**	**-2.7**
VLI	**Veliai**	**3.69**	**314**	*e*P	**Pn**	**12 31 11.5**	**+0.1**
VLI	**Veliai**	**3.69**	**314**	*e*Pn	**Pn**	**12 31 10.9**	**-0.5**
ITM	**Ithomi**	**4.61**	**311**	*e*P	**Pn**	**12 31 24.7**	**+0.7**
ITM	**Ithomi**	**4.61**	**311**	*e*Pn	**Pn**	**12 31 24.0**	**0.0**
HBRG	**Burj al 'Arab**	**4.72**	**139**	P	**Pn**	**12 31 24.1**	**-1.5**
SWA1		**4.96**	**186**	P	**Pn**	**12 31 29.6**	**+0.

comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.62 7 P **Pn 12 34 06.1 -1.2**
GERES GERESS Array B 17.35 331 P **Pn 12 34 17.0 +0.6**
comp=Z,0.2nm,0.3s,baz=144,slow=11,SNR=4.1
ESDC Sonseca Array 24.70 292 P **P 12 35 34.9 0.0**
comp=Z,2.2nm,0.5s,mb3.9,baz=81,slow=9.2,SNR=15
ESLA Sonseca Array 24.70 292 *eP* **P 12 35 34.8 -0.2**
comp=Z,0.5nm,0.5s,mb3.3
ESLA Sonseca Array 24.70 292 *eP* **P 12 35 34.8 -0.1**
comp=Z,0.5nm,0.5s,mb3.3
MDT Midelt 25.73 276 P **P 12 35 44.5 +0.1**
comp=Z,1.0nm,0.6s,mb3.5,baz=91,slow=12,SNR=4.6
HFS Hagfors 27.21 346 P **P 12 35 57.3 -0.4**
comp=Z,1.0nm,0.4s,mb3.7,baz=134,slow=13,SNR=5.1
HFS LR LR 12 46 55.6
comp=Z,44nm,18.5s,MS3.0,baz=23,slow=37
HFS Hagfors 27.21 346 P **P 12 35 57.3 -0.3**
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS MLR MLR
comp=Z,44nm,18.5s
FINES FINESS Array B 27.25 360 P **P 12 35 55.9 -2.1**
comp=Z,0.4nm,0.3s,mb3.4,baz=157,slow=12,SNR=5.4
AKTK Aktyubinsk 28.25 45 P **P 12 36 07.6 +0.6**
AKTK Aktyubinsk 28.25 45 P **P 12 36 07.6 +0.6**
comp=Z,1.0nm,0.6s,mb3.6
AKTO Aktyubinsk 28.25 45 P **P 12 36 07.6 +0.6**
comp=Z,1.2nm,0.6s,mb3.7,baz=59,slow=2.0,SNR=3.4
AKTO Aktyubinsk 28.25 45 P **P 12 36 07.6 +0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NOA NORSAR Array B 28.55 345 LR LR 12 47 33.0
comp=Z,13nm,20.9s,MS2.5,baz=180,slow=36
EKA Eskdalemuir Ar 29.34 325 P **P 12 36 15.7 -1.0**
comp=Z,2.1nm,0.9s,mb3.9,baz=121,slow=11,SNR=3.9
EKA Eskdalemuir Ar 29.34 325 P **P 12 36 15.7 -0.9**
EKA pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 30.60 233 P **P 12 36 28.8 +1.0**
comp=Z,0.9nm,0.3s,mb4.1,baz=32,slow=8.8,SNR=24
ARCES ARCESS Array B 35.38 360 P **P 12 37 07.2 -2.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=172,slow=9.2,SNR=6.5
ARCES ARCESS Array B 35.38 360 P **P 12 37 07.3 -2.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
CHKZ Chkalovo 36.64 44 *eP* **P 12 37 21.0 +0.7**
CHKZ pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
CHKZ Chkalovo 36.64 44 *eP* **P 12 37 21.0 +0.6**
comp=Z,3.4nm,0.4s,mb4.5
CHKZ Chkalovo 36.64 44 *eP* **P 12 37 21.0 +0.7**
comp=Z,3.4nm,0.4s,mb4.5
AAK Ala-Archa 38.28 63 *eP* **P 12 37 35.1 +0.9**
AAK pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
AAK Ala-Archa 38.28 63 *eP* **P 12 37 35.1 +0.9**
comp=Z,1.1nm,0.5s,mb3.8
AAK Ala-Archa 38.28 63 *eP* **P 12 37 35.1 +0.9**
comp=Z,1.1nm,0.5s,mb3.8
MKAR Makanchi Array 43.55 56 P **P 12 38 18.8 +1.1**
comp=Z,5.6nm,0.6s,mb4.5,baz=278,slow=6.5,SNR=60
MKAR Makanchi Array 43.55 56 P **P 12 38 18.8 +1.2**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
ZAL Zalesovo 45.00 45 P **P 12 38 29.4 +0.2**
comp=Z,2.3nm,0.4s,mb4.3,baz=228,slow=6.4,SNR=7.2
ZAL LR LR 13 03 25.5
comp=Z,27nm,19.0s,MS3.2,baz=267,slow=44
KOLN Koldanda 49.03 81 *eP* **P 12 39 01.9 +1.2**
comp=Z,5.7nm,0.6s,mb4.8
GKN Gorkha 49.79 80 *eP* **P 12 39 07.6 +1.1**
comp=Z,8.6nm,0.5s,mb5.0
KKN Kakani 50.40 80 *eP* **P 12 39 12.5 +1.4**
comp=Z,10nm,0.6s,mb5.1
PKI Pulchoki 50.59 81 *eP* **P 12 39 13.8 +1.3**
GUN Gumba 50.84 80 *eP* **P 12 39 15.8 +1.4**
comp=Z,10nm,0.6s,mb5.0
SONM Songino Array 59.39 50 P **P 12 40 17.5 +1.4**
comp=Z,1.2nm,0.5s,mb4.2,baz=282,slow=8.0,SNR=12
SONM Songino Array 59.39 50 P **P 12 40 17.5 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SCHQ Schefferville 64.50 320 P **P 12 40 49.5 -0.9**
comp=Z,2.2nm,0.5s,mb4.4,baz=45,slow=7.1,SNR=10
WRA Warramunga Arr 115.58 97 PKP PKPdf 12 48 55.3 -0.4
comp=Z,0.2nm,0.5s,baz=310,slow=2.0,SNR=5.0

IDC 11 12:34:39.4±3.8, 2059N×12107E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/35, Error ellipse: s-maj=303.2km s-min=28.2km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.90**	**319**	P	P	12 42 23.2	-0.1
	0.1nm,0.3s,baz=106,slow=9.1,SNR=3.8						
MKAR				LR	LR	13 00 29.6	
	comp=Z,22nm,19.5s,baz=227,slow=38						
WRA	**Warramunga Arr**	**42.33**	**161**	P	P	12 42 35.1	+0.1
	2.4nm,0.6s,baz=342,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**45.74**	**163**	P	P	12 43 02.7	+0.4
	0.5nm,0.8s,baz=346,slow=6.5,SNR=4.7						

IDC 11 13:42:11.0±6.7, 838S×1258 0E, h193km±70km, mb3.3/1, mb1 3.5/3, mb1mx3.2/13, mbtmp3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/10, Error ellipse: s-maj=176.1km s-min=24.1km az=62.0

ISC 11 13:42:06.5±2.1, 93S±01×1244E±01, h146km±24km, n8, σ1°63/12, mb3.6/1, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.57**	**114**	*eP*	**Pn**	**13 44 08.6**	**+1.1**
	6.4nm,0.4s						
KAKA				*eS*	**Sn**	**13 45 41.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**8.86**	**173**	*eP*	**Pn**	**13 44 10.3**	**-1.1**
	5.4nm,0.8s						
FITZ				*eS*	Sx	13 45 45.0	
WRA	**Warramunga Arr**	**14.29**	**139**	P	**Pn**	**13 45 23.7**	**+1.5**
	1.2nm,0.3s,baz=324,slow=13,SNR=52						
WRA				S	**Sn**	**13 47 56.8**	**-3.7**
	1.3nm,0.3s,baz=312,slow=23,SNR=8.7						
WB2	**Warramunga Arr**	**14.30**	**139**	*eP*	**Pn**	**13 45 23.6**	**+1.3**
WB2				*eS*	**Sn**	**13 47 53.4**	**-7.3**
ASPA	**Alice Springs**	**16.94**	**149**	⇓*iP*	**Pn**	**13 45 58.8**	**+4.0**
ASPA				*eS*	**S**	**13 49 00.9**	**-2.2**
ASAR	**Alice Springs**	**16.94**	**149**	P	**Pn**	**13 45 58.8**	**+4.0**
	0.6nm,0.3s,baz=319,slow=11,SNR=31						
ASAR				S	**S**	**13 49 05.0**	**+1.8**
	0.3nm,0.3s,baz=321,slow=20,SNR=10.0						
PSI	**Prapat**	**28.11**	**294**	LR	LR	14 01 54.9	
	comp=Z,157nm,18.6s,baz=96,slow=41						
MKAR	**Makanchi Array**	**67.25**	**330**	P	**P**	**13 52 44.0**	**-1.1**
	0.6nm,0.7s,mb3.6,baz=147,slow=6.2,SNR=7.5						

MAN 11 13:55:06.5, 1037N×12601E, h10km, mb2.5, ML4.0, MS2.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.77**	**221**	⇑*eP*	Pg	13 55 21.2	-0.3
SCPH				*eS*	Sg	13 55 36.4	+4.8
MSLP	**Maasin**	**1.15**	**259**	*eP*	Pb	13 55 27.9	-0.7
MSLP				*eS*	Sb	13 55 50.4	+6.8
PLP	**Palo**	**1.29**	**308**	*eP*	Pn	13 55 29.9	-0.6
PLP				*eS*	Sb	13 55 48.3	+0.9
BESP	**Borongan**	**1.35**	**336**	*eP*	Pn	13 55 30.6	-0.9
OCLP	**Ormoc**	**1.53**	**296**	*eP*	Pn	13 55 32.2	-1.8

ISC 11 14:16:17.3±1.8, 3016N±009×696E±01, h80km±28km, n17, σ0°97/22, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**2.36**	**25**	P	**Pn**	**14 16 52.6**	**-1.4**
THW	**Thamme Wali**	**3.19**	**34**	⇓P	**Pn**	**14 17 04.9**	**-0.3**
CEP	**Cherat**	**4.14**	**27**	P	**Pn**	**14 17 17.8**	**-0.2**
CEP				S	**Sn**	**14 18 05.0**	**-0.2**
CHCP	**Chirah Chowk**	**4.67**	**41**	P	**Pn**	**14 17 25.1**	**-0.1**
THN	**Thein Dam**	**5.69**	**65**	*eP*	**Pn**	**14 17 39.3**	**+0.1**
KHET	**Khetri**	**5.80**	**109**	*eS*	**Sn**	**14 18 43.7**	**-2.1**
KHET				AML	AML	14 18 45.6	
	comp=E,6.2nm,0.2s						
KHET				AML	AML	14 19 28.0	
	comp=N,26nm,0.9s						
KUDL	**Kundal**	**6.34**	**107**	*eP*	**Pn**	**14 17 49.7**	**+1.7**
KUDL				*eS*	**Sn**	**14 18 58.3**	**-0.6**
KUDL				AML	AML	14 19 00.3	
	comp=E,11nm,0.5s						
NDI	**New Delhi**	**6.79**	**101**	*eS*	**Sn**	**14 19 10.0**	**0.0**
SONA	**Sohna**	**6.80**	**104**	*eP*	**Pn**	**14 17 56.1**	**+1.8**
SONA				*eS*	**Sn**	**14 19 10.1**	**-0.1**
SONA				*eS*	**Sn**	**14 19 10.4**	**+0.2**
SONA				AML	AML	14 19 12.7	
	comp=N,12nm,0.2s						
SONA				AML	AML	14 19 13.0	
	comp=E,12nm,0.1s						
KLP	**Kalpa**	**7.55**	**77**	*eP*	**Pn**	**14 18 05.9**	**+1.3**
KLP				*eS*	**Sn**	**14 19 30.3**	**+1.8**
KLP				AML	AML	14 19 38.0	
	comp=N,64nm,0.7s						
KLP				AML	AML	14 19 40.8	
	comp=E,66nm,1.3s						
AGRA	**Agra**	**7.87**	**110**	*eS*	**Sn**	**14 19 35.6**	**-0.9**
AGRA				AML	AML	14 19 43.9	
	comp=N,33nm,0.1s						
KOLN	**Koldanda**	**12.47**	**98**	*eP*	**Pn**	**14 19 12.1**	**+0.4**
	comp=N,7.5nm,0.5s						
GKN	**Gorkha**	**13.31**	**96**	*eP*	**Pn**	**14 19 22.5**	**-0.3**
	comp=N,10nm,0.4s						
DMN	**Daman**	**13.81**	**97**	*eP*	**Pn**	**14 19 29.8**	**+0.5**
PKI	**Pulchoki**	**14.08**	**97**	*eP*	**Pn**	**14 19 32.8**	**-0.1**
GUN	**Gumba**	**14.40**	**95**	*eP*	**Pn**	**14 19 35.9**	**-1.2**
	comp=N,28nm,0.6s						
JIRN	**Jiri**	**14.73**	**96**	*eP*	**Pn**	**14 19 41.1**	**-0.2**

NEIC 11 14:20:45.6, 4551N×2658E, h111km, MD2.9(BUC), After BUC.
CSEM 11 14:20:46.0±0.7, 4554N×2663E, h110km±7km, MD3.5/3, Error ellipse: s-maj=6.8km s-min=3.8km az=29.0, After BUC

BUC 11 14:20:45.7±0.9, 4552N×2658E, h112km±9km, MD3.5/3, 10C-4D, Error ellipse: s-maj=8.7km s-min=5.6km az=25.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.36**	**17**	⇑*iP*	Pn	14 21 02.2	+0.3
VRI				*i* S	Sn	14 21 14.1	0.0
VRI	**Vrincioaia**	**0.36**	**17**	⇑P	Pn	14 21 02.2	+0.3
VRI				S	Sn	14 21 14.5	+0.4
VRI	**Vrincioaia**	**0.36**	**17**	⇑*iP*	Pn	14 21 02.2	+0.3
VRI				*i* S	Sn	14 21 14.5	+0.4
MLR	**Muntele Rosu**	**0.45**	**267**	⇑*iP*	Pn	14 21 03.1	+0.7
MLR				*i* S	Sn	14 21 15.4	+0.5
MLR	**Muntele Rosu**	**0.45**	**267**	⇑P	Pn	14 21 03.1	+0.7
MLR				S	Sn	14 21 15.4	+0.4
VOIR		**1.08**	**266**	⇓*iP*	Pn	14 21 08.0	+0.2
VOIR				*i* S	Sn	14 21 24.4	-0.2
VOIR		**1.08**	**266**	⇓P	Pn	14 21 08.0	+0.2
VOIR				S	Sn	14 21 24.4	-0.2
CFR	**Carcaliu**	**1.15**	**107**	⇑*iP*	Pn	14 21 08.9	+0.3
CFR				*i* S	Sn	14 21 25.6	-0.4
CFR	**Carcaliu**	**1.15**	**107**	⇑P	Pn	14 21 07.7	-0.9
CFR	**Carcaliu**	**1.15**	**107**	⇓*iP*	Pn	14 21 08.9	+0.3
HARR	**Harsova**	**1.27**	**130**	⇑*iP*	Pn	14 21 10.5	+0.6
HARR	**Harsova**	**1.27**	**130**	⇑P	Pn	14 21 09.6	-0.3
BURAR	**Bucovina Array**	**2.30**	**336**	⇑*iP*	Pn	14 21 23.5	+1.0
BURAR				*i* S	Sn	14 21 51.7	+0.9
BURAR	**Bucovina Array**	**2.30**	**336**	⇑P	Pn	14 21 23.5	+0.9
BURAR				S	Sn	14 21 51.7	+1.0

GUC 11 14:21:32.3±0.9, 22.12S×70.09W, h26km±6km, MD4.6, ML4.6
NEIC 11 14:21:35.8±0.6, 2206S×7039W, mb4.4/5, ML4.6(GUC), Error ellipse: s-maj=16.5km s-min=10.0km az=113.0
NEIC Felt [III] at Maria Elena and Tocopilla.
BJI 11 14:21:35.0, 22.10S×7040W, h36km, mB5.0, Ms4.9, Msz4.7
ISCJB 11 14:21:37.6±1.3, 22.17S±006×7016W±009, h60km±9km, mb4.4/7, MS3.4/1, Error ellipse: s-maj=16.7km s-min=6.3km az=63.8
IDC 11 14:21:37.1±0.9, 22.19S×70.14W, h35km±5km, mb4.2/6, mb1 4.0/8, mb1mx3.8/18, mbtmp4.2/8, ML4.1/1, MS3.2/4, Ms1 3.3/4, ms1mx3.1/19, Error ellipse: s-maj=18.6km s-min=14.3km az=11.0

ISC 11 14:21:37.1±1.4, 2208S±007×703W±01, h44km±10km, h38km±.7km: pP-P, n39, σ1°26/36, mb4.4/7, MS3.4/1, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.31**	**175**	⇑*iP*	**Pn**	**14 21 57.5**	**-1.4**
CEN1				*i* S	**Sn**	**14 22 16.5**	**+1.2**
CEN1				AML	AML	14 22 19.0	
	comp=E,16μm,0.6s						
LVC	**Limon Verde**	**1.41**	**112**	Pg	**Pn**	**14 22 00.2**	**-0.1**
	comp=E,2μm,0.3s,baz=290,slow=11,SNR=9823						
LVC				Lg		14 22 16.5	
	comp=E,2μm,0.3s,baz=66,slow=16,SNR=49						
LVC				LR	LR	14 22 35.1	
	comp=E,2μm,18.0s,baz=253,slow=48						
LVC	**Limon Verde**	**1.41**	**112**	*e*Pn	**Pn**	**14 21 59.9**	**-0.5**
LVC				*e*Sn	**Sn**	**14 22 14.7**	**-2.9**
ANCH	**Antofagasta**	**1.60**	**183**	⇓*iP*	**Pn**	**14 22 05.4**	**+2.5**
ANCH				*i* S	**Sn**	**14 22 25.4**	**+3.0**
ANCH				AML	AML	14 22 28.8	
	comp=E,9μm,0.4s						
ANCH	**Antofagasta**	**1.60**	**183**	⇓*iP*	**Pn**	**14 22 05.4**	**+2.5**
ANCH				*i* S	**Sn**	**14 22 25.4**	**+3.0**
CPN1	**Cerro Paranal**	**2.54**	**182**	⇓*iP*	**Pn**	**14 22 13.8**	**-2.0**
CPN1				*i* S	**Sn**	**14 22 46.0**	**+0.5**
CPN1				AML	AML	14 22 50.5	
	comp=E,5μm,0.5s						
CDCH	**Caldera**	**5.00**	**185**	*eP*	**Pn**	**14 22 44.9**	**-4.7**
CDCH				*i* S	**Sn**	**14 23 45.9**	**-0.1**
LPAZ	**La Paz**	**6.12**	**20**	Pn	**Pn**	**14 23 10.5**	**+5.5**
	comp=E,4.6nm,0.3s,baz=214,slow=5.5,SNR=63						
LPAZ				LR	LR	14 25 56.5	
	comp=E,335nm,21.4s,baz=311,slow=42						
LPAZ	**La Paz**	**6.12**	**20**	*e*Pn	**Pn**	**14 23 10.7**	**+5.7**
	comp=E,86nm,0.8s						
CFAA	**Coronel Fontan**	**9.67**	**169**	Pn	**Pn**	**14 23 51.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=0.1,slow=13,SNR=4.0						
CFAA				Sn	**Sn**	**14 25 41.8**	**+0.9**
	comp=E,0.1nm,0.3s,baz=326,slow=18,SNR=3.3						
CFAA				LR	LR	14 27 49.6	
	comp=E,33nm,21.3s,baz=331,slow=39						
CFAA	**Coronel Fontan**	**9.67**	**169**	Pn	**Pn**	**14 23 51.9**	**-1.7**
CFAA				Sn	**Sn**	**14 25 41.8**	**+0.9**
CFAA				LR	LR	14 27 49.6	
SIV	**San Ignacio**	**10.63**	**57**	Pn	**Pn**	**14 24 07.9**	**+1.1**
	comp=E,10nm,0.3s,baz=248,slow=13,SNR=160						
SIV				Sn	**Sn**	**14 26 06.3**	**+1.7**
	baz=230,slow=15,SNR=4.0						
SAML	**Samuel**	**14.75**	**29**	*eP*	**Pn**	**14 25 00.7**	**-2.1**
	comp=E,11nm,1.0s						
PLCA	**Paso Flores**	**18.60**	**181**	P	**Pn**	**14 25 50.1**	**-1.2**
	comp=E,0.1nm,0.3s,baz=222,slow=4.0,SNR=4.2						
PLCA				LR	LR	14 32 47.7	
	comp=E,134nm,21.8s,baz=359,slow=36						
PLCA	**Paso Flores**	**18.60**	**181**	*eP*	**Pn**	**14 25 50.4**	**-0.9**
	comp=E,2.7nm,0.6s						
BDFB	**Brasilia**	**22.05**	**77**	P	**P**	**14 26 28.9**	**+0.9**
	comp=E,2.5nm,0.3s,mb4.1,baz=210,slow=12,SNR=3.8						
BDFB				LR	LR	14 35 59.3	
	comp=E,175nm,21.4s,MS3.4,baz=258,slow=39						
RCBR	**Riachuelo**	**36.97**	**69**	*eP*	**P**	**14 28 42.2**	**0.0**
	comp=E,4.3nm,0.6s,mb4.5						
SNAA	**Sanae**	**62.17**	**161**	P	**P**	**14 31 53.6**	**-0.3**
	comp=E,0.6nm,0.8s,mb3.8,baz=339,slow=4.1,SNR=9.1						
SNAA				pP	pP	14 32 04.1	-2.4
	comp=E,0.4nm,0.7s,baz=280,slow=5.5,SNR=3.6						
SNAA	**Sanae**	**62.17**	**161**	*eP*	**P**	**14 31 53.2**	**-0.7**
	comp=E,1.7nm,0.6s,mb4.3						
DBIC	**Dimbokro**	**70.15**	**74**	P	**P**	**14 32 45.4**	**+0.3**
	comp=E,8.5nm,0.7s,mb4.8,baz=210,slow=7.3,SNR=9.2						
DBIC				pP	pP	14 32 56.9	-1.0
	comp=E,5.6nm,0.7s,baz=215,slow=6.9,SNR=2.0						
DBIC	**Dimbokro**	**70.15**	**74**	*eP*	**P**	**14 32 45.3**	**+0.1**
	comp=E,6.1nm,0.6s,mb4.7						
SYO	**Syowa Base**	**76.42**	**160**	⇓*eP*	**P**	**14 33 21.4**	**-0.7**
SYO	**Syowa Base**	**76.42**	**160**	⇑*e*PcP	PcP	14 33 33.0	-0.7
TOA0	**Torodi Ar. Sit**	**78.78**	**71**	*eP*	**P**	**14 33 35.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**78.78**	**71**	P	**P**	**14 33 35.5**	**+0.3**
	comp=E,8.8nm,0.5s,mb4.9,baz=255,slow=5.2,SNR=89						
TORD				pP	pP	14 33 46.6	-1.5
	comp=E,7.8nm,0.7s,baz=259,slow=5.8,SNR=5.6						
MAW	**Mawson**	**84.15**	**164**	P	**P**	**14 34 03.4**	**-0.2**
	comp=E,2.1nm,0.8s,mb4.3,baz=209,slow=6.8,SNR=4.9						
MAW				pP	pP	14 34 15.0	-1.7
	comp=E,2.1nm,0.8s,baz=180,slow=9.1,SNR=4.7						
BOSA	**Boshof**	**84.33**	**118**	P	**P**	**14 34 05.0**	**+0.5**
	comp=E,2.9nm,0.7s,mb4.5,baz=282,slow=12,SNR=5.2						
BOSA	**Boshof**	**84.33**	**118**	*eP*	**P**	**14 34 05.0**	**+0.5**
	comp=E,2.1nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**128.79**	**209**	PKP	PKPdf	14 40 41.1	+1.4
	comp=E,0.3nm,0.8s,baz=153,slow=2.0,SNR=4.1						
WRA	**Warramunga Arr**	**131.78**	**212**	PKP	PKPdf	14 40 47.3	+1.9
	comp=E,0.3nm,0.5s,baz=155,slow=1.7,SNR=7.6						
AAK	**Ala-Archa**	**144.25**	**47**	*e*PKP	PKPdf	14 41 07.2	-1.1
MKAR	**Makanchi Array**	**146.87**	**35**	PKPbc	PKPbc	14 41 14.3	-0.3
	comp=E,3.4nm,0.7s,baz=351,slow=1.4,SNR=6.3						
MKAR	**Makanchi Array**	**146.87**	**35**	PKPbc	PKPbc	14 41 14.3	-0.4
WMQ	**Urumqi**	**151.69**	**35**	*e*PKP	PKPdf	14 41 19.0	-1.4
SONM	**Songino Array**	**154.17**	**5**	PKPbc	PKPbc	14 41 33.6	+1.3
	comp=E,0.7nm,0.8s,baz=259,slow=3.0,SNR=3.6						
SONM				PKPab	PKPab	14 41 47.9	+1.9
	comp=E,0.4nm,0.6s,baz=339,slow=3.6,SNR=2.7						
HHC	**Hu-ho-hao-te**	**161.22**	**356**	*e*PKP	PKPdf	14 41 30.5	-2.3
LZH	**Lanzhou**	**165.14**	**19**	*e*PKP	PKPdf	14 41 34.5	-2.0
LZH				XPKP		14 41 49.0	
NJ2	**Nanjing**	**167.14**	**323**	*e*PKP	PKPdf	14 41 35.5	-2.6
CD2	**Chengdu**	**169.73**	**30**	*e*PKP	PKPdf	14 41 36.9	-2.9

ISCJB 11 14:30:29.7±0.5, 4591N±002×315E±004, h10km±6km, Error ellipse: s-maj=5.0km s-min=3.7km az=158.7
STR 11 14:30:30.4±0.1, 4593N×3.16E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 11 14:30:31.1±0.1, 4591N×3.14E, h4km, Md1.8/1, Ml1.7/6, Error ellipse: s-maj=1.3km s-min=1.0km az=56.0

ISC 11 14:30:30.5±0.5, 4591N±002×315E±004, h10km±9km, n12, σ0°43/22, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.14**	**354**	Pg	**Pg**	**14 30 33.6**	**-0.1**
AGO				Sg	**Sg**	**14 30 35.6**	**-0.3**
PLDF	**La Plantade**	**0.33**	**80**	Pg	**Pg**	**14 30 37.0**	**-0.1**
PLDF				Sg	**Sg**	**14 30 41.5**	**0.0**
BGF	**Bois d'Agland**	**0.68**	**342**	*e*Pg	**Pg**	**14 30 43.6**	**-0.1**
BGF				*e*Sg	**Sg**	**14 30 52.9**	**+0.3**
BGF				*e*Sn	**Sg**	**14 30 56.0**	**+3.4**
	7.8nm,0.2s						
LBL	**Lubilhac**	**0.68**	**174**	Pg	**Pg**	**14 30 44.0**	**+0.3**
LBL				Sg	**Sg**	**14 30 53.2**	**+0.6**
TCF	**Toulx Ste Croi**	**0.76**	**300**	*e*Pg	**Pg**	**14 30 44.9**	**-0.2**
TCF				*e*Sg	**Sg**	**14 30 55.4**	**+0.4**
	3.6nm,0.2s						
SMF	**Signal de Mont**	**0.88**	**33**	*e*Pg	**Pg**	**14 30 47.9**	**+0.5**
SMF				*e*Sg	**Sg**	**14 30 59.6**	**+0.8**
	3.8nm,0.2s						
AVF	**Avril sur Loir**	**0.89**	**9**	*e*Pg	**Pg**	**14 30 47.8**	**+0.2**
AVF				*e*Sg	**Sg**	**14 30 58.9**	**-0.3**
	0.8nm,0.2s						
SSF	**Saint Saulge**	**1.18**	**12**	*e*Sg	**Sg**	**14 31 08.0**	**-0.4**
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**1.30**	**243**	*e*Sg	**Sg**	**14 31 11.8**	**-0.5**
	2.0nm,0.2s						
LOR	**Lormes**	**1.44**	**19**	*e*Pg	**Pg**	**14 30 58.0**	**-0.2**
LOR				*e*Sg	**Sg**	**14 31 16.5**	**-0.4**
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**1.50**	**134**	*e*Pn	**Pn**	**14 30 57.4**	**-0.1**
VIVF	**Saint-Julien-l**	**1.50**	**134**	*e*Pg	**Pg**	**14 30 59.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**14 31 18.5**	**-0.4**
	1.5nm,0.2s						

ATH 11 14:43:29.2, 3428N×2643E, h42km±3km, MD3.5/3
CSEM 11 14:43:29.3±0.1, 3465N×2669E, h10km, MD3.5, Error ellipse: s-maj=3.2km s-min=1.4km az=36.0
ISCJB 11 14:43:30.7±0.6, 3452N±006×2661E±007, h10km, Error ellipse: s-maj=11.0km s-min=4.7km az=92.4
HLW 11 14:43:32.4, 3472N×2662E, h33km, Mb3.5

ISC 11 14:43:31.8±0.6, 3459N±006×2658E±007, h10km, n14, σ0°61/17, 2C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.79**	**292**	*e*P	**Pg**	**14 43 46.2**	**-0.8**
XRY				*e*S	**Sg**	**14 43 58.0**	**+0.8**
XRY	**Khrisi**	**0.79**	**292**	*e*P	**Pg**	**14 43 46.5**	**-0.5**
NPS	**Neapolis**	**1.04**	**311**	*e*P	**Pg**	**14 43 50.6**	**-1.3**
NPS				*e*S	**Sg**	**14 44 05.5**	**0.0**
KARP	**Karpathos**	**1.07**	**26**	*e*P	**Pb**	**14 43 53.4**	**+1.0**
KARP				*e*S	**Sg**	**14 44 11.8**	**+5.5**
HMAT	**Matruh**	**3.51**	**173**	⇑P	**Pn**	**14 44 25.9**	**-0.5**
DABA	**Dabaa**	**3.84**	**158**	P	**Pn**	**14 44 30.9**	**0.0**
HBRG	**Burj al 'Arab**	**4.85**	**145**	⇓P	**Pn**	**14 44 44.4**	**-0.4**
SWA1		**5.36**	**188**	⇓P	**Pn**	**14 44 52.7**	**+0.9**
SWA2		**5.41**	**190**	P	**Pn**	**14 44 53.1**	**+0.6**
HSAF	**As Saff**	**6.50**	**138**	⇓P	**Pn**	**14 45 07.6**	**+0.1**
GLL	**Jalalah**	**6.62**	**138**	⇓P	**Pn**	**14 45 09.1**	**0.0**
AMAG	**Maghara**	**6.83**	**123**	⇓P	**Pn**	**14 45 11.7**	**-0.4**
SUZ		**7.10**	**130**	⇓P	**Pn**	**14 45 15.5**	**-0.2**
HFRF	**Wahat Farafira**	**7.56**	**168**	⇑P	**Pn**	**14 45 22.2**	**+0.2**

IDC 11 15:14:12.2±3.1, 2204N×14422E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=142.6km s-min=26.2km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.83**	**194**	P	P	15 22 12.3	+0.5
	0.4nm,0.3s,baz=13,slow=9.5,SNR=22			

mb1 3.7/11, mb1mx3.6/21, mbtmp4.0/11, Error ellipse: s-maj=27.6km s-min=10.5km az=84.0
*NEIC **11** 16:02:22.5±0.7, 30.10S×68.97W, h107km±7km, mb3.9/2, Error ellipse: s-maj=16.1km s-min=7.6km az=94.0*
*ISCJB **11** 16:02:23.9±0.5, 3036S±003×69.14W±005, h130km±5km, mb3.7/8, Error ellipse: s-maj=7.5km s-min=5.1km az=149.1*
*GUC **11** 16:02:24.3±0.6, 3037S×69.12W, h122km±4km, MD4.0, ML4.1*

ISC 11 16:02:23.3±0.5,**3024S**±004×**6907W**±005,**h116**km±6km, **n48**, σ1§**11**/65,**mb3.8**/8,**8C-7D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.35**	**166**	⇑*i*P	**Pn**	**16 02 49.2**	**+0.4**
ZON				*i* S	**Sn**	**16 03 08.2**	**+0.1**
TLL	**Tololo Astrono**	**1.50**	**272**	⇑*i*P	**Pn**	**16 02 52.4**	**+1.9**
TLL				*i* S	**Sn**	**16 03 13.6**	**+2.5**
TLL				AML	AML	16 03 14.9	
	comp=N,4μm,0.4s						
TLL	**Tololo Astrono**	**1.50**	**272**	⇑*i*P	**Pn**	**16 02 52.4**	**+1.9**
TLL				*i* S	**Sn**	**16 03 13.6**	**+2.5**
CFAA	**Coronel Fontan**	**1.54**	**152**	P	**Pn**	**16 02 51.5**	**+0.6**
	comp=N,14nm,0.3s,baz=332,slow=12,SNR=364						
CFAA				S	**Sn**	**16 03 12.4**	**+0.4**
	comp=N,50nm,0.3s,baz=281,slow=12,SNR=50						
OVCH	**Ovalle**	**1.88**	**258**	⇑*i*P	**Pn**	**16 02 55.4**	**+0.4**
OVCH				*i* S	**Sn**	**16 03 19.7**	**+0.5**
OVCH				AML	AML	16 03 22.9	
	comp=N,2μm,0.5s						
OVCH	**Ovalle**	**1.88**	**258**	⇑*i*P	**Pn**	**16 02 55.4**	**+0.4**
OVCH				*i* S	**Sn**	**16 03 19.7**	**+0.5**
CMCH	**Combarbala**	**1.91**	**240**	⇓*i*P	**Pn**	**16 02 55.9**	**+0.5**
CMCH				*i* S	**Sn**	**16 03 20.1**	**+0.2**
CMCH				AML	AML	16 03 23.2	
	comp=N,4μm,0.6s						
CMCH	**Combarbala**	**1.91**	**240**	⇓*i*P	**Pn**	**16 02 55.9**	**+0.5**
CMCH				*i* S	**Sn**	**16 03 20.1**	**+0.2**
VACH	**Vallenar**	**2.21**	**318**	⇑*i*P	**Pn**	**16 03 02.0**	**+2.7**
VACH				*i* S	**Sn**	**16 03 30.8**	**+4.0**
PTCH	**Petorca**	**2.57**	**218**	⇓*i*P	**Pn**	**16 03 03.7**	**-0.2**
PTCH				*e*S	**Sn**	**16 03 33.7**	**-1.3**
PTCH				AML	AML	16 03 42.0	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**2.57**	**218**	⇓*i*P	**Pn**	**16 03 03.7**	**-0.2**
PTCH				*e*S	**Sn**	**16 03 33.7**	**-1.3**
MDZ	**Mendoza**	**2.65**	**176**	*e*P	**Pn**	**16 03 07.2**	**+2.4**
MDZ				*e*S	**Sn**	**16 03 37.8**	**+1.0**
CHNG	**Los Chungos**	**2.65**	**231**	⇓*i*P	**Pn**	**16 03 04.8**	**-0.1**
CHNG				*i* S	**Sn**	**16 03 36.3**	**-0.6**
CHNG				AML	AML	16 03 47.0	
	comp=E,344nm,0.5s						
JACH	**Jahuel**	**2.76**	**208**	*i* S	**Sn**	**16 03 38.6**	**-0.8**
PACH	**Papudo**	**3.06**	**221**	*i* P	**Pn**	**16 03 10.1**	**-0.2**
PACH				*i* S	**Sn**	**16 03 45.4**	**-1.0**
ROCH	**El Roble**	**3.19**	**211**	⇑*i*P	**Pn**	**16 03 12.4**	**+0.5**
ROCH				*i* S	**Sn**	**16 03 49.1**	**-0.4**
PEL	**Peldehue**	**3.21**	**205**	*e*P	**Pn**	**16 03 12.4**	**+0.2**
PEL				*e*S	**Sn**	**16 03 49.0**	**-0.9**
PEL				AML	AML	16 04 19.4	
	comp=E,374nm,0.4s						
PEL	**Peldehue**	**3.21**	**205**	*e*P	**Pn**	**16 03 12.4**	**+0.2**
PEL				*e*S	**Sn**	**16 03 49.0**	**-0.9**
FCH	**Farellones**	**3.25**	**198**	⇑*i*P	**Pn**	**16 03 14.5**	**+1.7**
FCH				*i* S	**Sn**	**16 03 52.0**	**+1.1**
FCH				AML	AML	16 04 01.1	
	comp=E,201nm,0.9s						
CLCH	**Cerro Calan**	**3.39**	**201**	*e*P	**Pn**	**16 03 14.9**	**+0.3**
CLCH				*i* S	**Sn**	**16 03 52.9**	**-1.3**
CLCH				*e*		16 03 54.0	
CLCH				AML	AML	16 04 24.7	
	comp=E,385nm,0.7s						
RCDM	**Rinconada Maip**	**3.56**	**204**	*i* P	**Pn**	**16 03 17.0**	**+0.1**
RCDM				AML	AML	16 03 20.5	
	comp=N,215nm,0.2s						
RCDM				*i* S	**Sn**	**16 03 57.3**	**-1.1**
PCH	**Pirque**	**3.59**	**200**	*e*P	**Pn**	**16 03 17.6**	**+0.4**
PCH				*i* S	**Sn**	**16 03 57.9**	**-1.1**
LMEL	**Las Melosas**	**3.73**	**195**	AML	AML	16 04 22.3	
	comp=N,112nm,0.3s						
CHCH	**Chadas Angostu**	**3.92**	**200**	⇓*i*P	**Pn**	**16 03 21.6**	**-0.1**
CHCH				*i* S	**Sn**	**16 04 05.6**	**-1.3**
CACH	**El Canelo**	**4.08**	**198**	⇓*i*P	**Pn**	**16 03 24.3**	**+0.5**
LVC	**Limon Verde**	**7.59**	**1**	P	**Pn**	**16 04 08.9**	**-2.4**
	comp=N,9.0nm,0.3s,baz=189,slow=8.5,SNR=124						
LVC				S	**Sn**	**16 05 30.4**	**-5.3**
	comp=N,1.2nm,0.3s,baz=173,slow=23,SNR=3.0						
LVC	**Limon Verde**	**7.59**	**1**	*e*Pn	**Pn**	**16 04 08.6**	**-2.6**
LVC				S	**Sn**	**16 05 30.4**	**-5.3**
PLCA	**Paso Flores**	**10.54**	**186**	P	**Pn**	**16 04 50.6**	**-0.5**
	comp=N,0.3nm,0.3s,baz=0.8,slow=14,SNR=4.6						
PLCA	**Paso Flores**	**10.54**	**186**	*e*P	**Pn**	**16 04 50.3**	**-0.8**
CPUP	**Villa Florida**	**11.06**	**72**	P	**Pn**	**16 04 54.7**	**-3.3**
	comp=N,0.8nm,0.3s,baz=222,slow=14,SNR=7.8						
CPUP	**Villa Florida**	**11.06**	**72**	P	**Pn**	**16 04 54.7**	**-3.3**
LPAZ	**La Paz**	**13.91**	**4**	P	**Pn**	**16 05 33.6**	**-1.8**
	comp=N,0.5nm,0.3s,baz=178,slow=7.3,SNR=14						
LPAZ	**La Paz**	**13.91**	**4**	*e*Pn	**Pn**	**16 05 33.1**	**-2.2**
SIV	**San Ignacio**	**15.96**	**29**	P	**Pn**	**16 05 59.2**	**-2.0**
	comp=N,0.3nm,0.3s,baz=212,slow=15,SNR=5.6						
SAML	**Samuel**	**21.88**	**16**	*e*P	**P**	**16 07 09.9**	**+3.1**
	comp=N,4.7nm,0.5s,mb4.1						
SNAA	**Sanae**	**54.15**	**159**	P	**P**	**16 11 36.7**	**+0.2**
	comp=N,0.2nm,0.6s,mb3.4,baz=281,slow=11,SNR=10						
MNTX	**Cornudas Mount**	**70.58**	**328**	P	**P**	**16 13 26.0**	**+0.2**
	comp=N,1.0nm,0.8s,mb3.7						
DBIC	**Dimbokro**	**71.57**	**71**	P	**P**	**16 13 32.5**	**+0.7**
	comp=N,2.8nm,0.8s,mb4.1,baz=226,slow=6.5,SNR=4.3						
MAW	**Mawson**	**76.05**	**163**	P	**P**	**16 13 58.5**	**+0.7**
	comp=N,0.4nm,0.4s,mb3.5,baz=225,slow=8.6,SNR=6.5						
BOSA	**Boshof**	**79.56**	**117**	P	**P**	**16 14 18.0**	**+0.6**
	comp=N,2.3nm,1.1s,mb3.9,baz=231,slow=6.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**80.53**	**69**	P	**P**	**16 14 23.2**	**+0.6**
	comp=N,2.2nm,0.4s,mb4.3,baz=277,slow=6.6,SNR=43						
PDAR	**Pinedale Array**	**81.62**	**331**	P	**P**	**16 14 29.2**	**+0.9**
	comp=N,0.6nm,0.6s,mb3.6,baz=108,slow=4.8,SNR=5.3						
ASAR	**Alice Springs**	**122.04**	**205**	PKP	PKPdf	16 21 04.0	0.0
	comp=N,0.7nm,1.1s,baz=133,slow=1.8,SNR=4.8						
WRA	**Warramunga Arr**	**125.26**	**207**	PKP	PKPdf	16 21 11.1	+0.9
	comp=N,0.6nm,0.5s,baz=159,slow=1.7,SNR=29						
AAK	**Ala-Archa**	**148.43**	**57**	*e*PKPbc	PKPbc	16 21 56.0	-0.2
ZAL	**Zalesovo**	**149.71**	**31**	PKPbc	PKPbc	16 21 59.8	+0.4
	comp=N,3.5nm,0.4s,baz=153,slow=2.0,SNR=11						
MKAR	**Makanchi Array**	**152.37**	**45**	PKPbc	PKPbc	16 22 05.7	+0.1
	comp=N,1.2nm,0.4s,baz=291,slow=2.2,SNR=19						
MKAR				PKPab	PKPab	16 22 16.3	+0.2
	comp=N,0.5nm,0.4s,baz=312,slow=2.8,SNR=8.2						
MKAR	**Makanchi Array**	**152.37**	**45**	PKPbc	PKPbc	16 22 05.7	+0.1
MKAR				PKPab	PKPab	16 22 16.3	+0.2

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*SOF **11** 16:46:53.1, 4296N×1873E, h10km, MD2.5*
*THE **11** 16:46:59.6, 4254N×1964E, h1km, ML3.4*
*TIR **11** 16:47:00.3, 4236N×1985E, h13km, Ml3.2*
*ISCJB **11** 16:47:01.1±0.3, 4238N±001×1984E±002, h6km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=89.8*
*CSEM **11** 16:47:01.0±0.1, 4237N×1987E, h0km, ML3.4, Error ellipse: s-maj=1.5km s-min=1.1km az=117.0*
*PDG **11** 16:47:02.1±0.6, 4243N×1981E, h11km±1km*
*NEIC **11** 16:47:03.5±0.7, 4244N×1973E, h10km, ML2.9(BUC), ML3.2(PDG), ML3.3(ROM), Error ellipse: s-maj=8.8km s-min=5.1km az=140.0*
*SKO **11** 16:47:03.0, 4231N×2017E, h0km*
*ROM **11** 16:47:05.2±0.6, 4211N×1956E, h12km, Md3.0/13, Ml3.3/13, Error ellipse: s-maj=11.1km s-min=2.7km az=134.0*

ISC 11 16:47:01.6±0.3,**4237N**±001×**1987E**±002,**h1**km±2km,**n93**, σ1§**10**/137,**16C-11D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.15**	**90**	*i* Pg	**Pg**	**16 47 04.2**	**-0.2**
BCI				*i* Sg	**Sg**	**16 47 07.3**	**+0.9**
PVY	**Plav**	**0.24**	**19**	⇑*i*Pg	**Pg**	**16 47 06.0**	**-0.1**
PVY				*e*Sg	**Sg**	**16 47 09.7**	**+0.4**
PUK	**Puka**	**0.33**	**176**	*i* Pg	**Pg**	**16 47 07.1**	**-0.7**
PUK				*i* Sg	**Sg**	**16 47 12.3**	**+0.3**
TTG	**Podgorica**	**0.45**	**278**	*e*Pg	**Pg**	**16 47 09.1**	**-1.2**
TTG				*e*Sg	**Sg**	**16 47 16.4**	**+0.3**
KKS	**Kukesi**	**0.50**	**126**	*i* Pg	**Pg**	**16 47 10.8**	**-0.3**
KKS				*i* Sg	**Sg**	**16 47 21.2**	**+3.6**
IVA	**Berane**	**0.50**	**3**	⇑*i*Pg	**Pg**	**16 47 10.9**	**-0.3**
IVA				*e*Sg	**Sg**	**16 47 17.8**	**+0.1**
IVA	**Berane**	**0.50**	**3**	⇑*i*Pg	**Pg**	**16 47 10.9**	**-0.3**
IVA				*e*Sg	**Sg**	**16 47 17.8**	**+0.1**
ULC	**Ulcinj**	**0.61**	**229**	⇓*i*Pg	**Pg**	**16 47 12.7**	**-0.6**
ULC				*e*Sg	**Sg**	**16 47 23.6**	**+2.4**
BUM	**Brajici-Budva**	**0.72**	**265**	⇑*i*Pg	**Pg**	**16 47 14.8**	**-0.5**
BUM				*e*Sg	**Sg**	**16 47 26.2**	**+1.5**
NKY	**Niksic**	**0.78**	**305**	⇑*i*Pg	**Pg**	**16 47 15.2**	**-1.3**
NKY				*e*Sg	**Sg**	**16 47 26.8**	**+0.2**
PHP	**Peshkopia**	**0.81**	**148**	*i* Pg	**Pg**	**16 47 15.6**	**-1.4**
PHP				*i* Sg	**Sg**	**16 47 28.3**	**+0.8**
SJES	**Sjenica**	**0.90**	**4**	Pg	**Pg**	**16 47 18.3**	**-0.5**
SJES				Sg	**Sg**	**16 47 31.8**	**+1.3**
HCY	**Herceg Novi**	**1.01**	**275**	⇓*i*Pg	**Pg**	**16 47 20.3**	**-0.7**
HCY				*e*Sg	**Sg**	**16 47 35.7**	**+1.5**
TIR	**Tirane**	**1.02**	**180**	Pn	**Pn**	**16 47 21.1**	**-1.9**
TIR	**Tirane**	**1.02**	**180**	*e*Pg	**Pg**	**16 47 21.0**	**-0.1**
TIR				*e*Sg	**Sg**	**16 47 37.5**	**+3.2**
TIR	**Tirane**	**1.02**	**180**	*i* Pg	**Pg**	**16 47 21.0**	**-0.1**
TIR				*i* Sg	**Sg**	**16 47 37.5**	**+3.2**
PLE	**Pljevlja**	**1.02**	**340**	⇑*i*Pg	**Pg**	**16 47 19.8**	**-1.3**
PLE				*e*Sg	**Sg**	**16 47 34.6**	**+0.2**
UPM	**Unac-Piva**	**1.09**	**320**	*e*Pg	**Pg**	**16 47 21.4**	**-1.1**
UPM				*e*Sg	**Sg**	**16 47 37.4**	**+0.8**
BRY	**Bratogost**	**1.11**	**299**	*e*Pg	**Pg**	**16 47 20.7**	**-2.2**
BRY				*e*Sg	**Sg**	**16 47 37.7**	**+0.4**
TREB	**Trebinje**	**1.17**	**288**	P	**Pg**	**16 47 23.3**	**-0.7**
SKO	**Skopje**	**1.24**	**108**	*e*Pg	**Pg**	**16 47 25.1**	**-0.2**
SKO				*e*Sg	**Sg**	**16 47 45.1**	**+3.9**
SKO	**Skopje**	**1.24**	**108**	*e*Pn	**Pn**	**16 47 24.1**	**-1.8**
SKO	**Skopje**	**1.24**	**108**	*e*Pn	**Pn**	**16 47 24.1**	**-1.9**
SKO	**Skopje**	**1.24**	**108**	*e*Pg	**Pg**	**16 47 25.1**	**-0.1**
SKO				*e*Sg	**Sg**	**16 47 45.1**	**+3.8**
OHR	**Ohrid**	**1.44**	**151**	*e*Pb	**Pb**	**16 47 27.6**	**-1.5**
OHR				*e*Sb	**Sb**	**16 47 49.7**	**+1.8**
OHR	**Ohrid**	**1.44**	**151**	*e*Pn	**Pn**	**16 47 27.6**	**-1.2**
OHR	**Ohrid**	**1.44**	**151**	*e*Pn	**Pn**	**16 47 27.5**	**-1.3**
BBLS	**Bajina Basta -**	**1.54**	**348**	*i* Pn	**Pn**	**16 47 30.8**	**+0.7**
BBLS				Sn	**Sn**	**16 47 51.3**	**+0.6**
GRUS	**Gruza**	**1.64**	**22**	*i* Pn	**Pn**	**16 47 32.6**	**+1.0**
GRUS				Sn	**Sn**	**16 47 55.4**	**+2.1**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**16 47 31.7**	**-0.4**
STON				*i* Sn	**Sg**	**16 47 57.9**	**+2.5**
STON	**Ston**	**1.68**	**288**	*i* Pn	**Pn**	**16 47 31.6**	**-0.4**
STON				*i* Sn	**Sg**	**16 47 57.8**	**+2.4**
DIVS	**Divcibare**	**1.73**	**3**	*i* Pn	**Pn**	**16 47 32.5**	**-0.3**
DIVS				Sn	**Sn**	**16 47 56.6**	**+1.0**
BIA	**Bitola**	**1.73**	**140**	*e*Pb	**Pn**	**16 47 32.6**	**-0.2**
BIA				*e*Sb	**Sb**	**16 47 57.1**	**+0.6**
BIA	**Bitola**	**1.73**	**140**	*e*Pn	**Pn**	**16 47 32.4**	**-0.4**
STIP	**Stip**	**1.86**	**110**	*e*Pn	**Pn**	**16 47 33.0**	**-1.5**
STIP				*e*Sn	**Sn**	**16 47 59.0**	**+0.4**
STIP	**Stip**	**1.86**	**110**	*e*Pn	**Pn**	**16 47 31.9**	**-2.6**
FNA	**Florina**	**1.95**	**144**	*e*Pn	**Pn**	**16 47 35.7**	**-0.1**
FNA				*e*Sn	**Sn**	**16 48 02.8**	**+1.9**
GRG	**Griva**	**2.37**	**126**	*e*Pn	**Pn**	**16 47 41.6**	**0.0**
KKB	**Krupnik**	**2.45**	**101**	*e*P	**Pg**	**16 47 48.5**	**+0.1**
VTS	**Vitosha**	**2.48**	**84**	*e*P	**Pb**	**16 47 46.8**	**-0.2**
VTS	**Vitosha**	**2.48**	**84**	⇑*i*P	**Pb**	**16 47 47.3**	**+0.3**
KNT	**Kendrikon**	**2.57**	**117**	*e*Pn	**Pn**	**16 47 44.4**	**0.0**
KNT	**Kendrikon**	**2.57**	**117**	*e*Pn	**Pn**	**16 47 44.3**	**0.0**
NOCI	**Noci**	**2.63**	**234**	Pn	**Pn**	**16 47 45.5**	**+0.4**
	97nm,0.3s						
KEK	**Kerkira**	**2.65**	**181**	Pn	**Pn**	**16 47 45.9**	**+0.4**
SG1	**Sgolgore (BA)**	**2.83**	**238**	*e*Pn	**Pn**	**16 47 47.1**	**-0.9**
AMUR	**Altamura**	**2.85**	**240**	Pn	**Pn**	**16 47 47.3**	**-0.8**
AMUR				Sn	**Sn**	**16 48 20.9**	**-2.2**
	119nm,0.6s						
IGT	**Igoumenitsa**	**2.85**	**173**	*e*Pn	**Pn**	**16 47 47.0**	**-1.3**
IGT				*e*Sn	**Sn**	**16 48 23.5**	**+0.2**
MMB	**Musomiste**	**2.98**	**104**	*e*P	**Pg**	**16 47 57.0**	**-1.7**
MMB				*i* S	**Sg**	**16 48 43.0**	**+5.6**
FGMS	**Monte Sant'Ang**	**2.99**	**259**	Pn	**Pn**	**16 47 49.9**	**-0.2**
	17nm,0.3s						
HORT	**Hortiatis**	**3.00**	**125**	*e*Pn	**Pn**	**16 47 49.1**	**-1.2**
HORT				*e*Sn	**Sn**	**16 48 28.1**	**+1.1**
LIT	**Litokhoron**	**3.01**	**138**	*e*Pn	**Pn**	**16 47 50.9**	**+0.5**
MSAG	**Monte S. Angel**	**3.02**	**259**	Pn	**Pn**	**16 47 50.7**	**-0.3**
SOH	**Sokhos**	**3.04**	**119**	*e*Pn	**Pn**	**16 47 50.7**	**-0.1**
SRS	**Serrai**	**3.06**	**113**	*e*Pn	**Pn**	**16 47 50.8**	**-0.3**
RGNG	**Rignano Grg**	**3.26**	**259**	Pn	**Pn**	**16 47 53.4**	**-0.5**
PLG	**Polygyros**	**3.35**	**125**	*e*Pn	**Pn**	**16 47 55.1**	**0.0**
BZS	**Buzias**	**3.48**	**21**	⇑*i*P	**Pn**	**16 47 56.5**	**-0.4**
BZS	**Buzias**	**3.48**	**21**	⇑P	**Pn**	**16 47 56.5**	**-0.5**
GZR	**Gura Zlata**	**3.69**	**34**	⇑*i*P	**Pn**	**16 48 00.6**	**+0.9**
GZR	**Gura Zlata**	**3.69**	**34**	⇑P	**Pn**	**16 48 00.6**	**+0.9**
LKD	**Levkas**	**3.71**	**170**	*e*Pn	**Pn**	**16 47 59.0**	**-1.0**
LKD				*e*Sn	**Sn**	**16 48 43.3**	**-1.0**
SLCN	**Sala Consilina**	**3.75**	**240**	Pn	**Pn**	**16 48 00.5**	**0.0**
	80nm,0.4s						
AGG	**Agios Georgios**	**3.83**	**150**	*e*Pn	**Pn**	**16 48 02.2**	**+0.5**
AGG				*e*Sn	**Sn**	**16 48 47.8**	**+0.5**
MCRV	**Calabrutti - M**	**3.86**	**247**	Pn	**Pn**	**16 48 02.5**	**+0.4**
	33nm,0.4s						
CDRU	**Civita di Ruta**	**3.91**	**243**	Pn	**Pn**	**16 48 02.0**	**-0.7**
	36nm,0.5s						
XOR	**Xorichti**	**3.92**	**139**	*e*Pn	**Pn**	**16 48 03.3**	**+0.5**
PKSM	**Moragy**	**3.94**	**348**	⇑*i*P	**Pn**	**16 48 02.3**	**-0.9**
PKSM	**Moragy**	**3.94**	**348**	⇑P	**Pn**	**16 48 02.4**	**-0.9**
TIP	**Timpagrande**	**3.96**	**218**	*e*Pn	**Pn**	**16 48 02.8**	**-0.7**
TIP	**Timpagrande**	**3.96**	**218**	*e*Pn	**Pn**	**16 48 02.8**	**-0.7**
CMPR	**Campora**	**4.00**	**241**	Pn	**Pn**	**16 48 03.3**	**-0.7**
	38nm,0.4s						
SGG	**Gregorio Mates**	**4.21**	**258**	Pn	**Pn**	**16 48 07.9**	**+1.0**
	36nm,0.6s						
MIDA	**Miranda**	**4.24**	**262**	Pn	**Pn**	**16 48 08.3**	**+1.0**
	32nm,0.5s						
NVLJ	**Novalja**	**4.25**	**303**	*i* (Pn)	**Pn**	**16 48 06.2**	**-1.2**
NVLJ				*i* Sn	**Sn**	**16 49 00.4**	**+2.8**
VAGA	**Valle Agricola**	**4.31**	**259**	Pn	**Pn**	**16 48 09.5**	**+1.2**
	39nm,0.4s						
INTR	**Introdacqua**	**4.44**	**267**	Pn	**Pn**	**16 48 10.1**	**0.0**
	45nm,0.6s						
VVLD	**Villa Vallelon**	**4.67**	**266**	Pn	**Pn**	**16 48 14.2**	**+1.0**
	36nm,0.7s						
FIAM	**Fiamignano**	**5.00**	**271**	Pn	**Pn**	**16 48 18.9**	**+1.1**
	23nm,0.7s						
LNSS	**Leonessa**	**5.05**	**275**	Pn	**Pn**	**16 48 20.8**	**+2.3**
	38nm,0.5s						
MLR	**Muntele Rosu**	**5.39**	**53**	⇑*i*P	**Pn**	**16 48 25.8**	**+2.7**
PSZ	**Piszkesteto**	**5.55**	**0**	⇓*e*Pn	**Pn**	**16 48 24.5**	**-0.8**
PSZ				*e*Sn	**Sn**	**16 49 28.7**	**-1.1**
PSZ	**Piszkesteto**	**5.55**	**0**	⇓*i*P	**Pn**	**16 48 25.8**	**+0.5**
PSZ	**Piszkesteto**	**5.55**	**0**	⇓P	**Pn**	**16 48 25.8**	**+0.5**
OBKA	**Obir**	**5.62**	**319**	⇑*i*Pn	**Pn**	**16 48 27.7**	**+1.4**
OBKA				⇓*i*Sn	**Sn**	**16 49 29.9**	**-1.6**
VOY	**Vojsko**	**5.64**	**313**	Pn	**Pn**	**16 48 28.6**	**+2.0**
VOY				*e*		16 49 35.9	
VOY				*e*		16 50 13.5	
ARSA	**Arzberg**	**5.78**	**329**	⇓*i*Pn	**Pn**	**16 48 28.5**	**+0.1**
ARSA				⇓*i*Sn	**Sn**	**16 49 32.2**	**-3.1**
KECS	**Kecovo**	**6.13**	**4**	*e*PN	**Pn**	**16 48 32.9**	**-0.4**
KECS				*e*SN	**Sn**	**16 49 40.2**	**-3.9**
KECS	**Kecovo**	**6.13**	**4**	*e*Pn	**Pn**	**16 48 32.9**	**-0.4**
KECS				*e*Sn	**Sn**	**16 49 40.2**	**-3.9**
VYHS	**Vyhne**	**6.17**	**354**	*e*PN	**Pn**	**16 48 33.8**	**0.0**
VYHS				*e*SN	**Sn**	**16 49 40.8**	**-4.2**
CONA	**Conrad Observa**	**6.24**	**334**	⇓*i*Pn	**Pn**	**16 48 35.5**	**+0.7**
CONA				⇑*i*Sn	**Sn**	**16 49 42.6**	**-4.1**
CRVS	**Cervenica-Dubn**	**6.63**	**9**	*e*PN	**Pn**	**16 48 39.9**	**-0.2**
MOA	**Molln**	**6.76**	**326**	⇓*i*Pn	**Pn**	**16 48 42.8**	**+0.9**
MOA				⇓*i*Sn	**Sn**	**16 49 57.5**	**-2.1**

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*IDC **11** 17:00:23.3±0.5, 1360N×9269W, h0km, mb4.8/29, mb1 5.0/31, mb1mx5.0/32, mbtmp4.8/31, ML5.1/1, MS4.3/22, Ms1 4.3/22, ms1mx4.1/32, Error ellipse: s-maj=19.6km s-min=10.6km az=59.0*
*ISCJB **11** 17:00:26.0±0.7, 1380N±003×9269W±002, h16km±5km, mb5.2/157, MS4.4/36, Error ellipse: s-maj=5.5km s-min=2.4km az=58.6*
*BJI **11** 17:00:28.4, 1370N×9260W, h35km, mB5.4, Ms5.6, Msz4.8*
*NEIC **11** 17:00:29.4±0.2, 1369N×9263W, mb5.2/127, MS4.5/11, MD5.0(MEX), Error ellipse: s-maj=5.2km s-min=3.0km az=215.0*
*MOS **11** 17:00:29.1±0.8, 1383N×9272W, h39km, mb5.3/67, MS4.6/12, Error ellipse: s-maj=7.8km s-min=4.6km az=92.2*
*GCMT **11** 17:00:29.4±0.2, 1364N×9296W, h12km, MW5.2/91, Moment Tensor Solution. s67,c104; s91,c164; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.83±.01; $M_{\theta\theta}$0.55±.01; $M_{\phi\phi}$0.27±.02; $M_{r\theta}$-0.08±.04; $M_{\theta\phi}$-0.44±.01; $M_{r\phi}$0.05±.04; Best double couple: $M_0$0.85600×10^{17} NP1:ϕ_s307.00000°, δ42.00000°, λ-89.00000°. NP2:ϕ_s126.00000°, δ48.00000°, λ-91.00000°. Principal axes: T 0.8780, Plg3.0000°, Azm216.0000°; N -0.0430, Plg0.0000°, Azm126.0000°; P -0.8350, Plg87.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **11** 17:00:30.9, 1279N×9125W, h37km, mb5.3, MS4.6, Off coast of central America*
*CASC **11** 17:00:31.8±2.0, 1375N×9253W, h61km±79km, MD4.7, ML4.7, mb5.2(NEIC)*
*MEX **11** 17:00:34.5±0.8, 1409N×9320W, h16km±28km, MD5.0*

ISC 11 17:00:30.9±0.3,**1385N**±003×**9263W**±002,**h36**km±2km, **h35**km±1.6km:**pP-P**,**n740**, σ0§**85**/695,**mb5.2**/157,**MS4.4**/36, **127C-120D**,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.07**	**64**	⇑*e*P	**Pn**	**17 00 51.0**	**+1.7**
TP2	**Tecpan 2**	**1.81**	**59**	⇑*e*P	**Pn**	**17 01 00.4**	**+0.9**
FUG	**Fuego 3**	**1.83**	**71**	⇑*e*P	**Pn**	**17 01 00.1**	**+0.3**
TER	**Terranova**	**1.94**	**76**	⇑*e*P	**Pn**	**17 01 01.2**	**0.0**
PCG	**Pacaya**	**2.03**	**74**	*e*P	**Pn**	**17 01 03.1**	**+0.5**
GCG	**Guatemala City**	**2.16**	**70**	⇓*e*P	**Pn**	**17 01 06.0**	**+1.7**
GCG				*e*P		17 01 07.2	
CCIG	**Comitan**	**2.46**	**11**	*i* P	**Pn**	**17 01 10.3**	**+1.9**
CCIG				*i* S	**Sn**	**17 01 38.0**	**+0.8**
CCIG	**Comitan**	**2.46**	**11**	*i* P	**Pn**	**17 01 10.3**	**+1.9**
CCIG				*i* S	**Sn**	**17 01 36.5**	**-0.8**
SCX	**San Cristobal**	**2.87**	**360**	*i* P	**Pn**	**17 01 16.0**	**+2.0**
SCX				*i* S	**Sn**	**17 01 45.0**	**-2.3**
SCX	**San Cristobal**	**2.87**	**360**	*i* P	**Pn**	**17 01 16.0**	**+2.0**
SCX				*i* S	**Sn**	**17 01 48.0**	**+0.7**
RBDL	**Robledal**	**2.87**	**84**	⇓*e*P	x	17 01 15.5	
RBDL				*e*S	x	17 01 47.6	
RTR	**El Retiro**	**2.90**	**89**	⇓*e*P	x	17 01 15.6	
RTR				*e*S	x	17 01 48.9	
SBLS	**San Blas**	**2.92**	**90**	⇓*e*P	x	17 01 15.6	
SNJE	**San Jose**	**2.94**	**89**	⇓*e*P	x	17 01 16.0	
SNJE				*e*S	x	17 01 50.1	
MTO2	**Montecristo 2**	**3.21**	**80**	⇑*e*P	x	17 01 20.3	
BOQS	**Boqueron**	**3.25**	**92**	⇑*e*P	x	17 01 20.4	
BOQS				*e*S	x	17 01 57.5	
SNET	**Serv Nac Est T**	**3.31**	**92**	*e*P	x	17 01 20.1	
LFRS	**El Faro**	**3.47**	**93**	⇑*e*P	x	17 01 22.9	
LBRS	**Las Brisas**	**3.48**	**91**	⇑*e*P	x	17 01 23.6	
LBRS				*e*S	x	17 02 02.6	
LCBS	**La Ceiba**	**3.55**

HKT Hockley 16.29 350 *e*P **Pn 17 04 17.3 +0.5**
comp=Z,36nm,1.3s
RCC Rio Carpintero 17.31 67 *e*P **Pn 17 04 28.7 -0.9**
DWPF Disney 17.60 35 P **Pn 17 04 33.3 +0.1**
comp=Z,24nm,0.6s
JCT Junction City 17.82 339 *e*P **Pn 17 04 35.8 -0.1**
JCT pmax pmax
comp=Z,85nm,1.0s
JCT Junction City 17.82 339 *e*P **Pn 17 04 35.8 -0.1**
comp=Z,85nm,1.0s
NATX Nacogdoches 17.92 354 *e*P **Pn 17 04 37.4 +0.3**
comp=Z,42nm,0.8s
MASC Masc 18.67 68 *e*P **Pn 17 04 47.5 +1.2**
OTAV Otavalo 19.50 133 *e*P **Pn 17 04 54.3 -1.8**
comp=Z,74nm,1.2s
LPIG La Paz 19.56 304 P **Pn 17 04 54.4 -2.6**
comp=Z,6.0nm,0.3s,baz=149,slow=3.4,SNR=7.2
LPIG LR LR 17 12 45.7
comp=Z,403nm,21.4s,baz=124,slow=38
LPIG La Paz 19.56 304 P **Pn 17 04 54.4 -2.6**
LPIG LR LR 17 12 45.7
ROSC El Rosal 20.13 115 P **P 17 05 04.7 +3.1**
comp=Z,77nm,1.1s,baz=294,slow=1.0,SNR=21
ROSC El Rosal 20.13 115 *e*P **P 17 05 03.8 +2.1**
MIAR Mount Ida 20.62 358 *e*P **P 17 05 06.7 -0.2**
MIAR pmax pmax
comp=Z,87nm,1.2s
MIAR Mount Ida 20.62 358 *e*P **P 17 05 06.7 -0.3**
comp=Z,87nm,1.2s
OXF Oxford 20.77 8 *e*P **P 17 05 08.5 -0.1**
OXF pmax pmax
comp=Z,78nm,1.0s
OXF Oxford 20.77 8 *e*P **P 17 05 08.5 -0.1**
comp=Z,78nm,1.0s
UALR University of 20.83 1 *e*P **P 17 05 09.9 +0.6**
comp=Z,30nm,0.8s
MNTX Cornudas Mount 21.27 329 *e*P **P 17 05 13.5 -0.5**
comp=Z,64nm,1.0s,mb4.9
MNTX LR LR
comp=Z,482nm,19.0s,MS3.9
PLAL Pickwick Lake 21.43 10 *e*P **P 17 05 15.0 -0.7**
comp=Z,31nm,1.0s,mb4.6
WMOK Wichita Mounta 21.52 346 *e*P **P 17 05 15.8 -0.9**
WMOK pmax pmax
comp=Z,23nm,0.6s,mb4.8
WMOK Wichita Mounta 21.52 346 *e*P **P 17 05 15.8 -0.9**
comp=Z,24nm,0.6s,mb4.8
SWET Sewanee 22.11 15 *e*P **P 17 05 21.8 -1.2**
SDV Santo Domingo 22.11 101 P **P 17 05 19.7 -3.3**
comp=Z,36nm,0.7s,mb4.9,baz=324,slow=1.7,SNR=19
SDV LR LR 17 14 46.2
comp=Z,487nm,18.6s,MS4.0,baz=148,slow=39
SDV Santo Domingo 22.11 101 *e*P **P 17 05 18.5 -4.5**
comp=Z,79nm,0.9s,mb5.1
WVT Waverly 22.60 10 *e*P **P 17 05 26.3 -1.8**
WVT *e**PP 17 05 36.9
WVT pmax pmax
comp=Z,20nm,0.6s,mb4.7
WVT Waverly 22.60 10 *e*P **P 17 05 26.3 -1.8**
comp=Z,20nm,0.6s,mb4.7
WVT *e*pP 17 05 36.9
CPCT Cooper Cave 22.71 17 *e*P **P 17 05 28.6 -0.7**
JSC Jenkinsville 22.80 25 *e*P **P 17 05 31.1 +0.8**
TKL Tuckaleechee C 23.13 19 P **P 17 05 32.9 -0.8**
comp=Z,29nm,0.6s,mb4.9,baz=191,slow=9.2,SNR=34
TKL LR LR 17 16 19.6
comp=Z,1μm,19.3s,MS4.3,baz=211,slow=41
Y22C IRIS PASSCAL I 23.94 330 ⇓P **P 17 05 42.8 +1.3**
baz=24
SIUC Southern Illin 23.96 7 *e*P **P 17 05 41.0 -0.7**
comp=Z,74nm,0.9s,mb5.1
LPM Los Pinos Moun 24.00 330 *e*P **P 17 05 42.3 +0.3**
TZTN Tazewell 24.02 18 *e*P **P 17 05 41.5 -0.6**
comp=Z,80nm,0.8s,mb5.2
TZTN *e*pP 17 05 51.2
LENM Lemitar 24.04 330 *e*P **P 17 05 43.1 +0.7**
CCM Cathedral Cave 24.14 3 *e*P **P 17 05 40.6 -2.7**
comp=Z,70nm,1.0s,mb5.0
LAZ Ladron 24.31 330 *e*P **P 17 05 46.2 +1.3**
USIN University of 24.42 10 *e*P **P 17 05 45.6 -0.3**
comp=Z,61nm,0.7s,mb5.1
ANMO Albuquerque 24.44 332 P **P 17 05 46.6 +0.6**
comp=Z,6.0nm,0.8s,baz=155,slow=14,SNR=19
ANMO Albuquerque 24.44 332 *e*P **P 17 05 46.1 +0.1**
ANMO pmax pmax
comp=Z,19nm,1.2s
ANMO MLR MLR
comp=Z,387nm,22.0s
ANMO Albuquerque 24.44 332 *e*P **P 17 05 46.1 +0.1**
comp=Z,19nm,1.2s,mb4.4
ANMO LR LR
comp=Z,387nm,22.0s,MS3.9
TUC Tucson 24.76 321 *e*P **P 17 05 49.0 0.0**
TUC *e**PP 17 06 00.2
TUC pmax pmax
comp=Z,49nm,1.1s,mb5.0
TUC Tucson 24.76 321 *e*P **P 17 05 49.0 0.0**
comp=Z,49nm,1.1s,mb5.0
TUC *e*pP 17 06 00.2
SLM Saint Louis 24.77 4 *e*P **P 17 05 49.2 +0.1**
SLM pmax pmax
comp=Z,46nm,0.6s,mb5.2
SLM Saint Louis 24.77 4 *e*P **P 17 05 49.2 +0.1**
comp=Z,46nm,0.6s,mb5.2
WCI Wyandotte Cave 24.92 12 *e*P **P 17 05 49.1 -1.3**
WCI pmax pmax
comp=Z,140nm,0.8s,mb5.5
WCI Wyandotte Cave 24.92 12 *e*P **P 17 05 49.1 -1.4**
comp=Z,140nm,0.8s,mb5.5
ATAH Atahualpa 25.08 145 P **P 17 05 51.5 -0.3**
comp=Z,107nm,1.1s,mb5.3,baz=326,slow=7.6,SNR=26
ATAH LR LR 17 12 55.7
comp=Z,374nm,18.6s,MS3.9,baz=184,slow=30
KSU1 Kansas State U 25.39 353 *e*P **P 17 05 53.5 -1.2**
comp=Z,128nm,0.7s,mb5.6
116A Eloy 25.50 320 ⇑P **P 17 05 55.6 0.0**
baz=26,SNR=8.4
ELN Prospectdale 25.58 22 *e*P **P 17 05 54.4 -2.0**
CBKS Cedar Bluff 25.64 347 *e*P **P 17 05 57.5 +0.5**
CBKS pmax pmax
comp=Z,305nm,1.3s,mb5.7
CBKS Cedar Bluff 25.64 347 *e*P **P 17 05 57.5 +0.5**
comp=Z,305nm,1.3s,mb5.7
BLA Blacksburg 25.69 23 *e*P **P 17 05 56.7 -0.7**
BLA pmax pmax
comp=Z,35nm,0.8s,mb4.9
BLA Blacksburg 25.69 23 *e*P **P 17 05 56.7 -0.7**
comp=Z,35nm,0.8s,mb4.9
FWV Forest Hill 25.87 22 P **P 17 05 58.0 -1.0**
115A Sonoran Desert 25.92 320 ⇓P **P 17 05 59.6 +0.1**
baz=26
MTP Monte Pirata 26.36 77 *e*P **P 17 06 00.2 -3.2**
MTP *e*pP pP 17 06 09.6 -4.1
SDCO Great Sand Dun 26.41 337 *e*P **P 17 06 05.0 +1.1**
comp=Z,137nm,1.4s,mb5.3
Z14A Wintersburg 26.81 320 ⇑P **P 17 06 07.5 -0.1**
baz=27,SNR=7.9
X15A Humboldt 27.14 323 ⇓P **P 17 06 10.8 +0.2**
baz=27,SNR=13
Y14A Wickenburg 27.23 321 P **P 17 06 11.3 0.0**
baz=28,SNR=11
MVCO Mesa Verde 27.23 332 *e*P **P 17 06 12.1 +0.8**
comp=Z,110nm,1.5s,mb5.2
MVCO Mesa Verde 27.23 332 ⇑P **P 17 06 12.1 +0.8**
baz=28
WUAZ Wupatki 27.39 325 *e*P **P 17 06 12.8 +0.1**
comp=Z,42nm,1.0s,mb4.9
WUAZ *e*pP pP 17 06 23.0 0.0
WUAZ Wupatki 27.39 325 ⇑P **P 17 06 13.2 +0.5**
baz=28
X14A Yava 27.52 322 ⇓P **P 17 06 14.1 +0.1**
baz=28,SNR=12
ACSO Alum Creek Sta 27.61 16 *e*P **P 17 06 14.1 -0.6**
comp=Z,17nm,0.6s,mb4.8
PCRV Puerto La Cruz 27.61 94 P **P 17 06 15.2 +0.5**
comp=Z,4.1nm,0.3s,mb4.5,baz=302,slow=21,SNR=2.2
W15A Williams 27.65 324 ⇓P **P 17 06 15.7 +0.7**
baz=28,SNR=9.7
Y13A Salome 27.66 320 ⇓P **P 17 06 15.3 +0.1**
baz=28
GLA Glamis 27.82 317 *e*P **P 17 06 16.5 -0.1**
GLA Glamis 27.82 317 ⇑P **P 17 06 16.6 0.0**
baz=28,SNR=22
PV01 Paradox Valley 28.02 333 *e*P **P 17 06 19.7 +1.4**
Y12C Blythe 28.06 319 ⇓P **P 17 06 18.8 0.0**
baz=28,SNR=5.4

W14A Seligman 28.15 323 P **P 17 06 20.0 +0.5**
baz=28,SNR=17
PDMCI Parker Dam,Lak 28.17 320 ⇑P **P 17 06 19.6 -0.1**
baz=28,SNR=11
X13A Yucca 28.17 321 ⇑P **P 17 06 19.9 +0.1**
baz=28
SMCO Snowmass 28.22 336 *e*P **P 17 06 21.5 +1.3**
comp=Z,48nm,1.3s,mb5.0
ISCO Idaho Springs 28.26 339 *e*P **P 17 06 21.3 +0.8**
ISCO pmax pmax
comp=Z,64nm,1.6s,mb5.0
ISCO Idaho Springs 28.26 339 *e*P **P 17 06 21.3 +0.8**
comp=Z,64nm,1.6s,mb5.0
SWSC Sam W. Stewart 28.40 316 ⇓P **P 17 06 21.7 -0.1**
baz=29,SNR=8.3
PV10 Paradox Valley 28.43 332 *e*P **P 17 06 22.5 +0.4**
DVTC Desert V Tower 28.44 315 ⇓P **P 17 06 22.1 -0.1**
baz=29,SNR=11
W13A Hualapai Mount 28.55 322 P **P 17 06 23.9 +0.8**
baz=29,SNR=21
BC3 Big Chuckw Mtn 28.60 317 P **P 17 06 23.8 +0.2**
baz=29,SNR=42
IRM Iron Mountain 28.72 319 P **P 17 06 24.9 +0.3**
baz=29,SNR=25
MONP Monument Peak 28.80 315 ⇑P **P 17 06 25.4 +0.1**
baz=29,SNR=10
BELC Belle Mtn. 29.17 317 ⇓P **P 17 06 28.6 -0.1**
baz=29,SNR=17
PFO Pinyon Flat Ob 29.24 316 *e*P **P 17 06 28.7 -0.5**
PFO pmax pmax
comp=Z,19nm,1.1s,mb4.7
PFO Pinyon Flat Ob 29.24 316 *e*P **P 17 06 28.7 -0.5**
comp=Z,19nm,1.1s,mb4.7
PFO Pinyon Flat Ob 29.24 316 ⇑P **P 17 06 29.3 0.0**
baz=30,SNR=10
109C Camp Elliot, M 29.27 315 ⇑P **P 17 06 28.6 -0.8**
baz=30
W12A Cal Nev Ari 29.28 321 ⇑P **P 17 06 29.8 +0.2**
baz=30
SSPA Standing Stone 29.64 23 *e*P **P 17 06 31.5 -1.2**
comp=Z,25nm,0.9s,mb4.9
SSPA LR LR
comp=Z,1μm,22.0s,MS4.5
SRU San Rafael 29.71 331 *e*P **P 17 06 34.1 +0.7**
SRU pmax pmax
comp=Z,71nm,1.7s,mb5.1
SRU San Rafael 29.71 331 *e*P **P 17 06 34.1 +0.8**
comp=Z,71nm,1.7s,mb5.1
MVL Millersville 29.71 26 *e*P **P 17 06 32.7 -0.7**
MURC Murrieta 29.74 316 ⇓P **P 17 06 33.7 0.0**
baz=30
U12A Valley of Fire 29.84 323 ⇑P **P 17 06 35.0 +0.5**
baz=30,SNR=12
HEC Hector,Ludlow 29.90 318 ⇑P **P 17 06 35.3 +0.3**
baz=30
BBRC Big Bear Sol-O 29.94 317 ⇓P **P 17 06 36.3 +0.8**
baz=30
CCUT Cedar City 29.96 326 *e*P **P 17 06 37.1 +1.5**
CCUT *e*PcP PcP 17 09 37.6 +0.2
ECSD EROS,Sioux Fal 29.97 354 *e*P **P 17 06 34.8 -0.9**
comp=Z,72nm,1.4s,mb5.2
TUQ Turquoise Mtn. 30.02 320 ⇑P **P 17 06 36.5 +0.3**
baz=30,SNR=8.1
MSU Marysvale 30.05 328 *e*P **P 17 06 37.4 +1.0**
MSU *e* 17 09 37.7
NNA Nana 30.07 148 LR LR 17 16 33.1
comp=Z,325nm,18.5s,MS4.0,baz=334,slow=32
ARUT Antelope Range 30.18 326 *e*P **P 17 06 38.7 +1.2**
ARUT *e**PP pP 17 06 47.8 -0.1
TMUT Trail Mountain 30.18 331 *e*P **P 17 06 38.5 +1.0**
SCI San Clemente I 30.32 313 ⇓P **P 17 06 38.7 -0.1**
baz=31
RRX Edison Barstow 30.36 318 ⇓P **P 17 06 39.6 +0.4**
baz=31
BFSC Mount Baldy St 30.42 316 ⇓P **P 17 06 39.4 -0.3**
baz=31,SNR=10
CIS Catalina Islan 30.46 314 ⇑P **P 17 06 39.9 -0.1**
baz=31,SNR=5.2
RWWY Rawlins 30.49 338 *e*P **P 17 06 41.6 +1.3**
comp=Z,136nm,1.4s,mb5.5
GSC Goldstone 30.50 319 *e*P **P 17 06 40.6 +0.2**
GSC *e* 17 09 38.2
GSC Goldstone 30.50 319 ⇑P **P 17 06 40.6 +0.2**
baz=31,SNR=6.0
SHOC Shoshone 30.54 320 ⇑P **P 17 06 40.8 +0.1**
baz=31
FMP Fort Macarthur 30.55 315 ⇑P **P 17 06 40.4 -0.4**
baz=31
DECC Green Verdugo 30.88 316 ⇓P **P 17 06 43.8 +0.1**
baz=31
MPU Maple Canyon 30.95 331 *e*P **P 17 06 45.6 +1.3**
comp=Z,29nm,1.1s,mb5.0
EDW2 Edwards Air Fo 31.02 317 P **P 17 06 44.9 -0.1**
baz=31,SNR=9.0
DAU Daniels Canyon 31.08 332 *e*P **P 17 06 46.8 +1.3**
NLU North Lily Min 31.11 330 *e*P **P 17 06 46.9 +1.1**
SNCC San Nicolas Is 31.16 313 ⇓P **P 17 06 45.7 -0.5**
baz=31
LRMC Laurel Mountai 31.18 318 P **P 17 06 46.6 +0.3**
baz=31,SNR=8.4
FURC Furnace Creek, 31.27 320 ⇓P **P 17 06 47.2 +0.1**
baz=32,SNR=5.7
OSI Osito Adit 31.35 316 ⇓P **P 17 06 47.8 -0.1**
baz=32
MPMC Manual Prospec 31.41 319 ⇓P **P 17 06 48.4 0.0**
baz=32,SNR=31
CTU Camp Tracy 31.54 332 *e*P **P 17 06 50.4 +0.9**
comp=Z,43nm,1.1s,mb5.2
DAC Darwin (Calif) 31.61 319 *e*P **P 17 06 50.1 0.0**
DAC *e* 17 09 41.0
DAC pmax pmax
comp=Z,29nm,1.1s,mb5.0
DAC Darwin (Calif) 31.61 319 *e*P **P 17 06 50.1 0.0**
comp=Z,28nm,1.1s,mb5.0
DAC *e*PcP PcP 17 09 41.0 -0.8
BSC Santa Cruz Isl 31.64 314 ⇓P **P 17 06 50.1 -0.3**
baz=32
DUG Dugway 31.65 330 *e*P **P 17 06 51.2 +0.7**
DUG pmax pmax
comp=Z,76nm,1.9s,mb5.2
DUG Dugway 31.65 330 *e*P **P 17 06 51.2 +0.7**
comp=Z,76nm,1.9s,mb5.2
DUG Dugway 31.65 330 ⇓P **P 17 06 51.1 +0.6**
baz=32
RSSD Black Hills 31.70 344 *e*P **P 17 06 51.5 +0.5**
RSSD *e**PP pP 17 07 02.7 +1.4
RSSD pmax pmax
comp=Z,11nm,0.8s,mb4.7
RSSD Black Hills 31.70 344 *e*P **P 17 06 51.5 +0.5**
comp=Z,11nm,0.8s,mb4.7
RSSD *e*pP pP 17 07 02.7 +1.4
BINY Binghamton 31.71 24 *e*P **P 17 06 49.9 -1.1**
comp=Z,60nm,0.8s,mb5.5
TCUT Toone Canyon 31.72 332 *e*P **P 17 06 52.4 +1.3**
ARVC Arvin 31.72 316 ⇓P **P 17 06 51.2 +0.1**
baz=32
TRCR Troy Canyon 31.77 324 *e*P **P 17 06 52.3 +0.8**
ISA Isabella 31.80 318 *e*P **P 17 06 52.4 +0.6**
ISA *e* 17 09 42.1
ISA Isabella 31.80 318 ⇓P **P 17 06 52.3 +0.5**
baz=32,SNR=9.7
GRAC Grapevine Rang 31.92 321 ⇑P **P 17 06 53.5 +0.6**
baz=32
SBC Santa Barbara 31.93 315 ⇑P **P 17 06 52.5 -0.5**
baz=32
CWC Cottonwood Cre 32.01 319 ⇓P **P 17 06 54.3 +0.6**
baz=32
Q11A Duckwater 32.15 325 P **P 17 06 56.0 +1.2**
baz=32,SNR=19
HWUT Hardware Ranch 32.18 333 *e*P **P 17 06 55.5 +0.3**
comp=Z,52nm,1.4s,mb5.2
HWUT *e*PcP PcP 17 09 42.6 -0.8
P12A McGill 32.19 327 ⇑P **P 17 06 56.1 +0.9**
baz=32,SNR=18
PKM Peak Mountain 32.26 315 ⇓P **P 17 06 55.8 0.0**
baz=32,SNR=8.9
S09A Goldfield 32.30 322 ⇓P **P 17 06 56.6 +0.3**
baz=32,SNR=27
VES Vestal, Richgr 32.30 317 ⇑P **P 17 06 56.5 +0.3**
baz=32,SNR=9.9
PDAR Pinedale Array 32.30 336 P **P 17 06 56.8 +0.5**
comp=Z,11nm,0.9s,mb4.7,baz=140,slow=8.8,SNR=58
PDAR PcP PcP 17 09 42.1 -1.6
comp=Z,2.1nm,0.9s,baz=153,slow=0.7,SNR=3.4
BGU Big Grassy Mou 32.32 330 *e*P **P 17 06 57.0 +0.6**
BGU *e*PcP PcP 17 09 43.1 -0.6
SPUT South Promonto 32.34 331 *e*P **P 17 06 55.4 -1.2**

TIN Tinemaha 32.49 320 ⇓P **P 17 06 58.6 +0.7**
baz=33
TPH Tonopah 32.53 322 *e*P **P 17 06 59.1 +0.9**
TPH pmax pmax
comp=Z,13nm,1.0s,mb4.8
TPH Tonopah 32.53 322 *e*P **P 17 06 59.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
SMMC Simmler 32.61 316 ⇑P **P 17 06 59.3 +0.3**
baz=33
O12A Currie 32.68 328 ⇑P **P 17 07 00.6 +1.0**
baz=33,SNR=41
RCTC Rector, Farmer 32.68 318 ⇓P **P 17 06 59.7 +0.1**
baz=33
P11A Circle Ranch, 32.70 326 ⇑P **P 17 07 00.6 +0.9**
baz=33
S08C White Mtn Res 32.73 321 P **P 17 07 00.9 +1.0**
baz=33,SNR=33
HELL Mitchell Peak, 32.76 319 ⇑P **P 17 07 00.6 +0.4**
baz=33
N13A Wendover, West 32.84 329 ⇑P **P 17 07 01.8 +0.9**
baz=33
V05C Boulder Hill, 32.86 317 ⇑P **P 17 07 01.7 +0.6**
baz=33
HVU Hansel Valley 32.87 332 *e*P **P 17 07 01.9 +0.7**
HVU pmax pmax
comp=Z,92nm,1.3s,mb5.5
HVU Hansel Valley 32.87 332 *e*P **P 17 07 01.9 +0.7**
comp=Z,92nm,1.3s,mb5.5
MTUM Tungsten Hills 32.88 320 *e*P **P 17 07 01.4 +0.1**
AHID Auburn Hatcher 32.92 335 *e*P **P 17 07 02.1 +0.4**
comp=Z,42nm,1.1s,mb5.3
PTRM Twissleman Ran 32.95 316 *e*P **P 17 07 03.1 +1.2**
Q09A Carvers 33.01 323 ⇓P **P 17 07 03.3 +0.8**
baz=33
O11A Cowboy Ranch, 33.06 327 ⇓P **P 17 07 03.7 +0.9**
baz=33,SNR=15
P10A Eureka 33.14 325 ⇓P **P 17 07 04.6 +1.1**
baz=33
MLAC Mammoth Lakes 33.23 320 ⇓P **P 17 07 05.0 +0.7**
baz=34
N12A Clover Valley, 33.26 328 ⇓P **P 17 07 05.3 +0.7**
baz=34,SNR=6.2
U05C Westside ANR, 33.27 317 ⇓P **P 17 07 04.7 -0.1**
baz=34
ELK Elko 33.29 328 *e*P **P 17 07 05.9 +1.1**
ELK pmax pmax
comp=Z,42nm,1.2s
ELK MLR MLR
comp=Z,484nm,20.0s
ELK Elko 33.29 328 *e*P **P 17 07 05.9 +1.1**
comp=Z,42nm,1.2s,mb5.2
ELK LR LR
comp=Z,484nm,20.0s,MS4.2
REDW Red Top Meadow 33.32 335 *e*P **P 17 07 05.7 +0.6**
comp=Z,218nm,1.3s,mb5.9
REDW *e*pP pP 17 07 14.8 -0.7
PKD Parkfield 33.33 316 ⇓P **P 17 07 05.1 -0.1**
baz=34,SNR=10
KCC Kaiser Creek 33.34 319 ⇓P **P 17 07 05.3 0.0**
baz=34,SNR=28
SNOW Snow King Moun 33.36 336 *e*P **P 17 07 06.8 +1.2**
comp=Z,178nm,1.0s,mb6.0
V04C Ramage Ranch, 33.38 316 ⇓P **P 17 07 05.7 0.0**
baz=34,SNR=7.0
NVAR Mina Array Bea 33.41 322 P **P 17 07 06.3 +0.5**
comp=Z,28nm,0.8s,mb5.2,baz=147,slow=7.8,SNR=200
NVAR PcP PcP 17 09 46.0 -0.8
comp=Z,4.9nm,0.9s,baz=172,slow=2.7,SNR=7.4
LOHW Long Hollow 33.43 336 *e*P **P 17 07 06.7 +0.6**
comp=Z,180nm,1.5s,mb5.8
Q08A Gabbs 33.46 323 ⇑P **P 17 07 07.2 +0.8**
baz=34
TPAW Teton Pass 33.46 335 *e*P **P 17 07 07.0 +0.6**
comp=Z,134nm,1.4s,mb5.7
P09A Austin 33.47 324 ⇑P **P 17 07 07.3 +0.8**
baz=34
N11A Elko Archery C 33.60 327 ⇓P **P 17 07 08.5 +1.0**
baz=34
MOOW Moose Ponds 33.60 336 *e*P **P 17 07 07.9 +0.3**
comp=Z,85nm,1.5s,mb5.5
MOOW *e*pP pP 17 07 18.4 +0.4
MOOW *e*PcP PcP 17 09 46.3 -1.0
M12A Wells 33.62 329 P **P 17 07 08.5 +0.8**
baz=34,SNR=52
O10A Cortez Mining, 33.63 326 ⇓P **P 17 07 08.8 +1.0**
baz=34,SNR=5.5
R07C Lee Vining 33.64 321 ⇓P **P 17 07 08.7 +0.8**
baz=34,SNR=11
IMW Indian Meadow 33.80 336 *e*P **P 17 07 09.8 +0.5**
comp=Z,41nm,1.1s,mb5.3
IMW *e*PcP PcP 17 09 47.7 -0.2
V03C Hunter Liggett 33.84 316 ⇑P **P 17 07 09.9 +0.2**
baz=34,SNR=10
FLWY Flagg Ranch 33.86 336 *e*P **P 17 07 10.6 +0.7**
comp=Z,47nm,0.9s,mb5.4
FLWY *e*pP pP 17 07 21.7 +1.5
FLWY *e*PcP PcP 17 09 47.1 -0.9
NCB Newcomb 33.90 24 *e*P **P 17 07 08.6 -1.6**
comp=Z,48nm,1.3s,mb5.3
LRV Little Rabbit 33.92 317 *e*P **P 17 07 10.7 +0.4**
O09A Fish Creek Ran 33.92 325 P **P 17 07 11.2 +0.8**
baz=34,SNR=18
N10A Dunphy 33.94 327 ⇑P **P 17 07 11.1 +0.6**
baz=34
T05C Eagle Field, D 33.96 318 ⇓P **P 17 07 10.1 -0.6**
baz=34
S05C Merced 34.00 319 ⇓P **P 17 07 10.4 -0.6**
baz=34,SNR=5.1
Q07A Schurz 34.03 322 ⇓P **P 17 07 12.1 +0.7**
baz=34
M11A Holland Ranch, 34.07 328 ⇑P **P 17 07 12.4 +0.7**
baz=34,SNR=23
P08A Dixie Valley 34.10 324 ⇓P **P 17 07 12.7 +0.8**
baz=34
BMN Battle Mountai 34.12 326 *e*P **P 17 07 12.9 +0.8**
BMN pmax pmax
comp=Z,27nm,1.0s,mb5.1
BMN Battle Mountai 34.12 326 *e*P **P 17 07 12.9 +0.8**
comp=Z,27nm,1.0s,mb5.1
LKWY Lake 34.15 337 *e*P **P 17 07 12.5 +0.1**
LKWY pmax pmax
comp=Z,74nm,1.4s,mb5.4
LKWY Lake 34.15 337 *e*P **P 17 07 12.5 +0.1**
comp=Z,74nm,1.4s,mb5.4
R06C Coleville 34.16 321 ⇓P **P 17 07 13.4 +0.9**
baz=34,SNR=5.8
RLMT Red Lodge 34.22 339 *e*P **P 17 07 13.3 +0.3**
comp=Z,38nm,0.8s,mb5.4
HAST UC Hastings Re 34.26 316 ⇓P **P 17 07 12.7 -0.6**
baz=34,SNR=11
LONY Lake Ozonia 34.30 23 *e*P **P 17 07 12.3 -1.3**
comp=Z,32nm,0.9s,mb5.2
PACP Pacheco Peak 34.43 317 ⇑P **P 17 07 14.6 -0.2**
baz=35,SNR=9.0
CMB Columbia Colle 34.44 319 ⇓P **P 17 07 14.7 -0.2**
baz=35,SNR=11
AGMN Agassiz Refuge 34.45 356 *e*P **P 17 07 13.0 -1.9**
comp=Z,31nm,1.0s,mb5.2
AGMN *e*PcP PcP 17 09 48.3 -1.4
YMR Madison River 34.46 337 *e*P **P 17 07 16.1 +1.1**
comp=Z,91nm,1.2s,mb5.6
P07A Fallon 34.47 323 ⇑P **P 17 07 15.6 +0.5**
baz=35
M10A I.L. Ranch, Tu 34.52 328 ⇓P **P 17 07 16.3 +0.7**
baz=35,SNR=23
O08A Rochester Mine 34.55 324 ⇓P **P 17 07 16.0 +0.3**
baz=35
N09A Rock Creek Ran 34.58 326 ⇑P **P 17 07 16.5 +0.5**
baz=35,SNR=19
R05C Kirkwood Meado 34.66 321 P **P 17 07 17.7 +1.0**
baz=35,SNR=8.9
LAO LASA Array 34.67 343 P **P 17 07 17.2 +0.4**
comp=Z,78nm,1.4s,mb5.5
S04C Ingram Canyon, 34.74 318 ⇑P **P 17 07 17.3 -0.1**
baz=35,SNR=6.5
QLMT Earthquake Lak 34.77 336 *e*P **P 17 07 19.3 +1.6**
WCN Washoe City 34.83 322 ⇑P **P 17 07 18.9 +0.6**
baz=35
PAHR Pah Rah Range 34.87 323 *e*P **P 17 07 19.1 +0.6**
comp=Z,120nm,1.9s,mb5.5
O07A Toulon 34.87 324 ⇓P **P 17 07 18.9 +0.3**
baz=35,SNR=26
R04C Big Horse Ranc 34.92 319 ⇓P **P 17 07 19.6 +0.6**
baz=35,SNR=6.4
M09A Marrel Ranch, 34.94 327 ⇑P **P 17 07 19.9 +0.8**
baz=35,SNR=26
HLID Hailey 35.01 332 *e*P **P 17 07 20.2 +0.4**
comp=Z,40nm,1.1s,mb5.3

HLID LR LR
comp=Z,711nm,19.0s,MS4.4
HLID Hailey 35.01 332 ⇓P P 17 07 20.3 +0.5
baz=35
BNLO Ben Lomond (Sa 35.08 317 ⇑P P 17 07 20.3 -0.1
baz=35
WENL Wente Brothers 35.08 318 ⇓P P 17 07 20.7 +0.3
baz=35
LAVA Lava Cap Winer 35.10 320 ⇓P P 17 07 20.7 +0.1
baz=35
P06A Stead Airport, 35.16 322 ⇓P P 17 07 21.5 +0.4
baz=35
JRSC Jasper Ridge 35.28 317 ⇓P P 17 07 22.2 +0.1
baz=36
N07B Gerlach 35.33 324 ⇑P P 17 07 22.6 0.0
baz=36,SNR=7.9
MCMT McKenzie Canyo 35.34 335 *e*P **P 17 07 24.1 +1.5**
BDM Black Diamond 35.34 318 ⇓P P 17 07 23.3 +0.7
baz=36
O06A Flanigan 35.43 323 P **P 17 07 24.1 +0.7**
baz=36,SNR=34
M08A Happy Creek Ra 35.46 326 ⇑P P 17 07 23.9 +0.3
baz=36,SNR=12
L09A Wilkinson Ranc 35.47 327 ⇓P P 17 07 23.7 0.0
baz=36
Q04C Lincoln 35.55 320 ⇓P P 17 07 24.9 +0.5
baz=36
BEKR Beckwourth 35.55 322 P **P 17 07 25.3 +0.9**
baz=36,SNR=13
DLMT Dillon 35.67 336 *e*P **P 17 07 26.8 +1.3**
comp=Z,126nm,1.2s,mb5.7
N06A Buffalo Meadow 35.81 324 P **P 17 07 27.1 +0.4**
baz=36,SNR=68
DGMT Dagmar 35.82 347 P **P 17 07 27.4 +0.7**
comp=Z,27nm,0.7s,mb5.3
Q03C Winters 35.83 319 ⇓P P 17 07 27.7 +0.8
baz=36
M07A Soldier Meadow 35.85 325 ⇓P P 17 07 27.0 0.0
baz=36
OHCM Honcut 35.91 320 *e*P **P 17 07 27.5 0.0**
FARB Farallon Islan 35.94 317 ⇓P P 17 07 27.6 -0.2
baz=36
O05C Quincy 35.95 322 ⇑P P 17 07 28.6 +0.8
baz=36
CVS Carmenet Viney 35.95 318 ⇑P P 17 07 27.8 0.0
baz=36,SNR=5.2
L08A Fields 35.95 327 ⇓P P 17 07 27.8 0.0
baz=36,SNR=45
K09A Rome 35.98 328 ⇓P P 17 07 28.6 +0.5
baz=36,SNR=67
ORV Oroville 36.05 321 ⇓P P 17 07 28.7 -0.1
baz=36,SNR=9.2
MCCM Marconi Confer 36.11 318 ⇑P P 17 07 29.4 +0.1
baz=36,SNR=5.0
ELFS Eagle Lake Fie 36.24 323 ⇓P P 17 07 31.0 +0.6
baz=36
MNRC McLaughlin Nat 36.24 319 ⇓P P 17 07 31.0 +0.7
baz=36
O04C Chester 36.27 322 ⇑P P 17 07 31.1 +0.5
baz=36,SNR=9.5
WVOR Wild Horse Val 36.27 327 *e*P **P 17 07 30.7 +0.1**
WVOR *e* 17 09 55.2
WVOR pmax pmax
comp=Z,69nm,1.3s,mb5.4
WVOR Wild Horse Val 36.27 327 *e*P **P 17 07 30.7 +0.1**
comp=Z,69nm,1.3s,mb5.4
WVOR *e*PcP PcP 17 09 55.2 +0.1
L07A Adell 36.37 326 ⇓P P 17 07 31.9 +0.5
baz=37,SNR=34
ULM Lac du Bonnet 36.39 356 P **P 17 07 30.0 -1.7**
comp=Z,12nm,0.8s,mb4.9,baz=176,slow=10.0,SNR=11
ULM PcP PcP 17 09 54.4 -1.1
comp=Z,5.2nm,0.6s,baz=161,slow=4.5,SNR=5.2
ULM LR LR 17 23 11.3
comp=Z,285nm,19.9s,MS4.0,baz=277,slow=37
ULM Lac du Bonnet 36.39 356 *e*P **P 17 07 29.7 -1.9**
comp=Z,11nm,0.6s,mb5.0
ULM *e*PcP PcP 17 09 54.0 -1.4
J09A Fry Pan Ranch, 36.46 329 ⇑P P 17 07 32.4 +0.2
baz=37,SNR=29
M06C Likely Place G 36.47 324 ⇑P P 17 07 32.8 +0.5
baz=37,SNR=14
HOPS Hopland 36.71 319 ⇓P P 17 07 34.7 +0.3
baz=37
K07A Rock Creek Ran 36.78 327 ⇑P P 17 07 35.2 +0.3
baz=37,SNR=48
HATC Hat Creek Radi 36.80 322 ⇓P P 17 07 35.1 0.0
baz=37,SNR=8.4
MOD Modoc 36.83 325 ⇑P P 17 07 35.3 -0.1
baz=37,SNR=17
J08A Circle Bar Ran 36.84 328 P **P 17 07 35.8 +0.3**
baz=37,SNR=31
GASB Alder Springs 36.87 320 ⇓P P 17 07 36.2 +0.5
baz=37,SNR=9.6
I09A Lost Marbles R 36.91 329 P **P 17 07 36.1 +0.1**
baz=37,SNR=59
EGMT Eagleton 36.92 341 *e*P **P 17 07 36.8 +0.6**
comp=Z,146nm,1.4s,mb5.6
EGMT Eagleton 36.92 341 ⇑P P 17 07 36.6 +0.4
baz=37
SAML Samuel 36.98 126 *e*P **P 17 07 33.0 -3.6**
comp=Z,25nm,0.9s,mb5.0
P01C Double 8 Ranch 37.15 319 ⇓P P 17 07 38.5 +0.4
baz=37,SNR=10
CHMT Chamberlain Mo 37.21 336 *e*P **P 17 07 38.6 0.0**
O02C Red Bluff 37.22 320 ⇑P P 17 07 38.5 -0.1
baz=38,SNR=6.3
L05A Lakeview 37.22 324 P **P 17 07 39.2 +0.5**
baz=38,SNR=23
I08A Drewsey 37.28 329 ⇓P P 17 07 38.9 -0.2
baz=38,SNR=8.3
J07A Hines 37.28 327 ⇓P P 17 07 38.8 -0.5
baz=38,SNR=5.2
WDC Whiskeytown Da 37.31 321 ⇑P P 17 07 37.1 -2.3
baz=38
BMO Blue Mountains 37.34 331 *e*P **P 17 07 38.9 -0.9**
comp=Z,42nm,1.5s,mb5.0
H09A Durkee 37.38 330 ⇑P P 17 07 39.4 -0.6
baz=38,SNR=14
K06A Valley Falls 37.40 326 ⇓P P 17 07 39.6 -0.5
baz=38,SNR=9.4
MSO Missoula 37.41 336 *e*P **P 17 07 40.6 +0.3**
comp=Z,32nm,1.2s,mb5.0
KIPM Iron Peak 37.44 319 *e*P **P 17 07 41.0 +0.5**
M03C McCloud 37.48 322 ⇑P P 17 07 40.0 -0.9
baz=38
M04C Macdoel 37.63 323 ⇓P P 17 07 41.8 -0.3
baz=38,SNR=9.9
J06A Christmas Vall 37.65 326 P **P 17 07 41.5 -0.8**
baz=38,SNR=11
K05A Summer Lake 37.70 325 ⇓P P 17 07 42.7 0.0
baz=38,SNR=7.0
H08A Prairie City 37.77 329 ⇓P P 17 07 43.0 -0.3
baz=38
I07A Izee 37.88 328 ⇑P P 17 07 43.4 -0.9
baz=38,SNR=18
L04A Klamath Falls 37.91 324 ⇓P P 17 07 44.0 -0.5
baz=38
N02C Big Bar 37.92 321 ⇑P P 17 07 42.9 -1.6
baz=38,SNR=14
M02C Callahan 37.98 322 ⇑P P 17 07 43.1 -2.1
baz=38
K04A Chilquin 38.09 324 ⇑P P 17 07 45.8 -0.3
baz=38
YBH Yreka Blue Hor 38.11 323 ⇓P P 17 07 44.5 -1.6
baz=38,SNR=8.3
F10A Beach Ranch, E 38.15 332 P **P 17 07 46.2 -0.3**
baz=38,SNR=48
I06A Prineville 38.15 327 ⇓P P 17 07 46.3 -0.3
baz=38
KHMM Horse Mountain 38.21 321 *e*P **P 17 07 46.8 -0.3**
KHMM *e*pP pP 17 07 56.7 -0.9
KHMM *e*PcP PcP 17 10 01.2 +0.2
J05A Fort Rock 38.26 326 ⇑P P 17 07 47.2 -0.2
baz=38,SNR=10
F09A S2 Ranch, Elgi 38.27 331 ⇑P P 17 07 47.1 -0.4
baz=38,SNR=6.8
H07A Lands Inn, Kim 38.27 328 P **P 17 07 46.9 -0.6**
baz=38,SNR=36
C13A Hot Springs 38.36 336 ⇑P P 17 07 47.6 -0.7
baz=39,SNR=7.8
JCC Jacoby Creek 38.36 320 ⇑P P 17 07 48.1 -0.2
baz=39,SNR=14
G08A Pilot Rock 38.46 330 ⇑P P 17 07 48.4 -0.7
baz=39,SNR=5.7
LPAZ La Paz 38.51 140 P **P 17 07 47.7 -1.9**
comp=Z,7.3nm,0.8s,mb4.4,baz=335,slow=8.4,SNR=24
LPAZ PcP PcP 17 10 00.6 -1.3
comp=Z,4.7nm,0.9s,baz=24,slow=7.0,SNR=5.2
LPAZ LR LR 17 22 31.8
comp=Z,305nm,21.9s,MS4.1,baz=286,slow=35
LPAZ La Paz 38.51 140 *e*P **P 17 07 47.2 -2.4**
LPAZ *e* 17 10 01.0
LPAZ pmax pmax
comp=Z,10.0nm,0.9s
LPAZ La Paz 38.51 140 *e*P **P 17 07 47.1 -2.4**
comp=Z,10nm,0.9s,mb4.6
LPAZ *e*PcP PcP 17 10 01.0 -0.9
KRMB Red Mountain 38.70 321 *e*P **P 17 07 50.8 -0.3**
KRMB *e*PcP PcP 17 10 02.4 -0.1
C12A Trout Creek 38.74 335 ⇑P P 17 07 51.2 -0.3
baz=39
F08A Pendleton 38.74 330 ⇓P P 17 07 50.4 -1.1
baz=39
H06A Lindquist Farm 38.76 328 ⇓P P 17 07 51.2 -0.4
baz=39,SNR=15
G07A Ruggs Ranch, H 38.80 329 ⇓P P 17 07 51.2 -0.7
baz=39,SNR=7.8
B13A Whitefish 38.88 337 ⇑P P 17 07 52.7 0.0
baz=39,SNR=12
L02A Cave Junction 38.89 322 ⇓P P 17 07 51.6 -1.2
baz=39
E09A Wood Farm, Sta 38.98 332 ⇑P P 17 07 52.3 -1.1
baz=39,SNR=11
M01C Crescent City 39.02 322 ⇑P P 17 07 53.7 -0.1
baz=39,SNR=7.0
H05A Madras 39.16 327 ⇓P P 17 07 54.2 -0.8
baz=39
K02A Glendale 39.20 323 ⇑P P 17 07 54.3 -1.0
baz=39
G06A Carlson Farm, 39.26 328 ⇓P P 17 07 55.5 -0.4
baz=40,SNR=6.0
KBO Bosley Butte 39.30 322 *e*P **P 17 07 56.5 +0.4**
F07A Phinny Hill Vi 39.37 330 ⇑P P 17 07 56.8 0.0
baz=40
B12A Libby 39.40 336 ⇓P P 17 07 57.3 +0.3
baz=40,SNR=6.0
D09A Jones Farm, Ri 39.46 332 ⇑P P 17 07 56.8 -0.7
baz=40,SNR=8.2
BROR Big Rock Looko 39.57 326 P **P 17 07 58.0 -0.4**
C10A Spilker Farm, 39.59 334 ⇑P P 17 07 58.2 -0.5
baz=40
G05A Wamic 39.61 328 ⇓P P 17 07 58.9 +0.1
baz=40,SNR=11
J02A Umpqua 39.62 324 ⇑P P 17 07 58.6 -0.2
baz=40,SNR=7.0
H04A Detroit Lake 39.70 327 P **P 17 07 58.9 -0.6**
baz=40,SNR=43
F06A Goldendale 39.70 329 ⇑P P 17 07 59.4 -0.2
baz=40
D08A Wollman Farm, 39.73 332 ⇑P P 17 07 59.0 -0.8
baz=40
KEBM Edson Butte 39.76 323 *e*P **P 17 08 00.7 +0.7**
A12A Yaak River Ran 39.80 336 ⇑P P 17 08 00.3 0.0
baz=40
K01A Sixes 39.80 323 ⇑P P 17 08 00.0 -0.3
baz=40
E07A Sunnyside 39.81 330 ⇑P P 17 08 00.2 -0.2
baz=40
I03A Eugene 39.83 325 ⇓P P 17 08 00.0 -0.6
baz=40,SNR=15
NEW Newport 39.86 334 P **P 17 08 00.2 -0.6**
NEW pmax pmax
comp=Z,4.0nm,0.4s
NEW Newport 39.86 334 P **P 17 08 00.2 -0.6**
comp=Z,4.0nm,0.4s,mb4.5
OD2 Odessa Site #2 39.89 332 P **P 17 08 01.0 -0.1**
B10A Chitwood Farm, 39.93 334 ⇑P P 17 08 00.6 -0.8
baz=40
VLL Laurance Lake 39.95 328 P **P 17 08 02.9 +1.3**
C09A Chrisman Ranch 40.00 333 ⇑P P 17 08 01.8 -0.2
baz=40,SNR=6.1
RNO Roman Nose 40.05 325 P **P 17 08 02.9 +0.4**
F05A White Salmon 40.13 328 ⇓P P 17 08 03.5 +0.4
baz=40,SNR=5.3
I02A Mapleton 40.16 325 ⇑P P 17 08 03.1 -0.2
baz=40
G04A Mulino 40.20 327 ⇓P P 17 08 03.2 -0.5
baz=40
EPH Ephrata 40.27 332 P **P 17 08 04.2 -0.1**
C08A Higginbotham F 40.33 332 ⇑P P 17 08 04.6 -0.2
baz=41
E06A Yakima 40.34 330 ⇓P P 17 08 04.7 -0.2
baz=41,SNR=27
B09A Rice 40.42 334 ⇑P P 17 08 04.8 -0.7
baz=41,SNR=13
A10A Northport 40.60 335 ⇑P P 17 08 06.4 -0.6
baz=41
TBM Table Mountain 40.60 331 P **P 17 08 07.7 +0.7**
F04A Amboy 40.65 328 ⇑P P 17 08 06.8 -0.6
baz=41
H02A Toledo 40.68 325 ⇓P P 17 08 07.7 0.0
baz=41
G03A Yamhill 40.70 327 ⇓P P 17 08 07.6 -0.2
baz=41,SNR=12
C07A Waterville 40.73 332 ⇓P P 17 08 07.8 -0.2
baz=41
D06A Cle Elum 40.74 330 ⇓P P 17 08 08.0 -0.1
baz=41
E05A Randle 40.74 329 ⇑P P 17 08 08.2 0.0
baz=41
A09A Danville 41.03 334 ⇓P P 17 08 09.9 -0.6
baz=41
F03A Seaside 41.25 327 ⇑P P 17 08 12.3 0.0
baz=42,SNR=6.4
E04A Onalaska 41.25 328 ⇑P P 17 08 11.8 -0.5
baz=42
D05A Enumclaw 41.29 330 ⇑P P 17 08 12.4 -0.2
baz=42,SNR=5.5
B07A Winthrop 41.32 332 ⇑P P 17 08 12.2 -0.6
baz=42
C05A Tolt Reservoir 41.50 330 ⇓P P 17 08 13.7 -0.6
baz=42
E03A Lebam 41.65 328 ⇓P P 17 08 15.6 0.0
baz=42
B06A Marblemount 41.98 331 ⇑P P 17 08 17.6 -0.8
baz=42
B05A Bryant 42.09 331 ⇑P P 17 08 17.8 -1.4
baz=42,SNR=5.7
D03A Wishkah Elem. 42.14 328 ⇑P P 17 08 19.8 +0.2
baz=42,SNR=5.3
C04A Brinnon 42.14 329 ⇑P P 17 08 18.7 -0.9
baz=42
OSD Olympics--Snow 42.57 329 P **P 17 08 23.9 +0.8**
EDM Edmonton 42.58 342 *e*P **P 17 08 22.7 -0.5**
A05A Maple Falls 42.61 331 ⇓P P 17 08 22.8 -0.6
baz=43
B04A Port Angeles 42.63 329 ⇑P P 17 08 23.2 -0.4
baz=43
A04A Legoe Bay, Lum 42.70 331 ⇑P P 17 08 23.7 -0.4
baz=43
PGC Sidney 43.01 330 *e*P **P 17 08 26.3 -0.3**
comp=Z,165nm,1.2s,mb5.6
SCHQ Schefferville 45.57 21 P **P 17 08 45.5 -1.6**
comp=Z,12nm,0.8s,mb4.9,baz=213,slow=3.8,SNR=8.8
SCHQ PcP PcP 17 10 24.4 -0.8
comp=Z,13nm,1.0s,baz=354,slow=0.4,SNR=3.4
SCHQ LR LR 17 29 24.2
comp=Z,738nm,19.0s,MS4.6,baz=239,slow=38
SCHQ Schefferville 45.57 21 *e*P **P 17 08 45.5 -1.7**
comp=Z,8.5nm,0.6s,mb4.8
YKA Yellowknife Ar 51.03 347 P **P 17 09 29.0 -0.2**
comp=Z,19nm,0.7s,mb5.1,baz=150,slow=7.3,SNR=21
YKA PcP PcP 17 10 43.5 -1.3
comp=Z,7.4nm,0.8s,baz=150,slow=4.0,SNR=4.7
YKA Yellowknife Ar 51.03 347 P **P 17 09 29.0 -0.2**
YKA PcP PcP 17 10 43.5 -1.3
TAOE Nuku Hiva Isla 52.28 247 *e*S **S 17 17 01.7 +0.5**
comp=Z,1μm,24.8s
TAOE *e*LR LR 17 24 06.5
comp=Z,2μm,27.9s
CPUP Villa Florida 52.67 139 P **P 17 09 37.7 -3.7**
comp=Z,12nm,0.8s,mb4.9,baz=305,slow=7.7,SNR=28
CPUP LR LR 17 32 28.6
comp=Z,123nm,18.1s,MS4.0,baz=311,slow=37
CPUP Villa Florida 52.67 139 *e*P **P 17 09 37.5 -3.9**
CPUP pmax pmax
comp=Z,66nm,0.9s
CPUP Villa Florida 52.67 139 *e*P **P 17 09 37.5 -3.9**
comp=Z,66nm,0.9s,mb5.6
BDFB Brasilia 52.96 122 P **P 17 09 41.4 -2.2**
comp=Z,33nm,0.8s,mb5.3,baz=296,slow=8.1,SNR=25
BDFB LR LR 17 33 04.0
comp=Z,372nm,18.7s,MS4.5,baz=326,slow=37
RKT Rikitea 55.39 229 *e*S **S 17 17 42.0 -1.2**
comp=Z,403nm,28.8s
RKT *e*LR LR 17 26 04.6
comp=Z,1μm,27.2s
PLCA Paso Flores 58.04 160 P **P 17 10 17.0 -3.1**
comp=Z,18nm,1.0s,mb5.0,baz=341,slow=7.5,SNR=14
PLCA LR LR 17 30 28.4
comp=Z,146nm,19.8s,MS4.1,baz=349,slow=31
PLCA Paso Flores 58.04 160 *e*P **P 17 10 16.5 -3.6**
PLCA pmax pmax
comp=Z,37nm,1.3s
PLCA Paso Flores 58.04 160 *e*P **P 17 10 16.5 -3.6**
comp=Z,37nm,1.3s,mb5.3
DAWY Dawson 59.59 338 *e*P **P 17 10 29.7 -1.2**
EYAK Cordova Ski Ar 60.34 333 *e*P **P 17 10 36.0 0.0**
INK Inuvik 60.41 344 *e*P **P 17 10 35.8 -0.7**
INK pmax pmax
comp=Z,4μm,1.3s
INK Inuvik 60.41 344 *e*P **P 17 10 35.8 -0.7**
comp=Z,4μm,1.3s
EGAK Eagle 60.62 338 *e*P **P 17 10 36.8 -1.2**
comp=Z,28nm,1.2s,mb5.3
PMR Palmer 62.27 333 *e*P **P 17 10 48.4 -0.7**
PMR pmax pmax
comp=Z,15nm,0.5s,mb5.4
PMR Palmer 62.27 333 *e*P **P 17 10 48.4 -0.7**
comp=Z,15nm,0.5s,mb5.4
SLKM Skilak Lake 62.33 332 *e*P **P 17 10 48.9 -0.6**
MCK McKinley 63.08 335 *e*P **P 17 10 53.6 -0.8**
MCK pmax pmax
comp=Z,26nm,1.2s,mb5.2
MCK McKinley 63.08 335 *e*P **P 17 10 53.6 -0.9**
comp=Z,26nm,1.2s,mb5.2
COLA College 63.15 337 *e*P **P 17 10 53.7 -1.2**
COLA pmax pmax
comp=Z,19nm,1.0s,mb5.2
COLA College 63.15 337 *e*P **P 17 10 53.7 -1.2**
comp=Z,19nm,1.0s,mb5.2
PPT Papeete 64.28 243 *e*S **S 17 19 37.8 +0.2**
comp=Z,268nm,26.8s
PPT *e*SS SS 17 23 43.3 -4.2
comp=Z,134nm,32.5s
PPT *e*LR LR 17 29 42.9
comp=Z,1μm,27.8s,baz=62
PPT Papeete 64.28 243 LR LR 17 31 16.0
comp=Z,310nm,19.1s,MS4.5,baz=327,slow=29
CHGN Chignik 65.19 326 *e*P **P 17 11 06.7 -1.6**
TBI Tubuai 66.76 237 *e*S S 17 20 07.5 -0.4
comp=Z,344nm,35.0s
ALE Alert 69.76 4 P **P 17 11 36.6 -0.6**
comp=Z,211nm,0.8s,mb6.1,SNR=8.1
EFI East Falkland 71.83 158 ⇑*i*P **P 17 11 46.8 -3.0**
DAG Danmarks Havn 72.95 13 ⇑*i*P **P 17 11 54.9 -1.5**
comp=Z,52nm,1.2s,mb5.3
DAG Danmarks Havn 72.95 13 ⇑*i*P **P 17 11 54.9 -1.5**
DAG pmax pmax
comp=Z,52nm,1.2s,mb5.3
EVO Evora 77.34 53 *e*P **P 17 12 20.1 -1.7**
comp=Z,30nm,1.2s,mb4.8
EVO *e*MLR MLR
comp=Z,261nm,19.5s
EKA Eskdalemuir Ar 78.44 36 P **P 17 12 27.7 -0.2**
comp=Z,9.5nm,0.7s,mb4.8,baz=278,slow=5.6,SNR=24
KBS Kingsbay 79.27 11 ⇓*i*P **P 17 12 33.0 +0.6**
ROSF Rostrenen 79.37 43 *e*P **P 17 12 33.3 +0.4**
QUIF Quistinic 79.50 43 *e*P **P 17 12 34.2 +0.5**
comp=Z,25nm,1.0s,mb4.8
QUIF Quistinic 79.50 43 *e*P **P 17 12 34.2 +0.5**
QUIF pmax pmax
comp=Z,12nm,1.0s,mb4.8
QUIF Quistinic 79.50 43 *e*P **P 17 12 34.2 +0.5**
comp=Z,12nm,1.0s,mb4.8
SGMF Saint Gilles 79.85 43 *e*P **P 17 12 34.9 -0.7**
comp=Z,36nm,0.9s,mb5.0
SGMF Saint Gilles 79.85 43 *e*P **P 17 12 34.9 -0.7**
SGMF pmax pmax
comp=Z,18nm,0.9s,mb5.0
SGMF Saint Gilles 79.85 43 *e*P **P 17 12 34.9 -0.7**
comp=Z,18nm,0.9s,mb5.0
ESDC Sonseca Array 80.28 52 P **P 17 12 37.0 -0.9**
comp=Z,1.5nm,0.5s,mb4.2,baz=284,slow=5.9,SNR=11
ESDC LR LR 17 43 02.2
comp=Z,215nm,21.3s,MS4.5,baz=255,slow=32
GRR Gorron 80.95 42 *e*P **P 17 12 41.2 -0.3**
comp=Z,58nm,1.0s,mb5.2
GRR Gorron 80.95 42 *e*P **P 17 12 41.2 -0.3**
GRR pmax pmax
comp=Z,29nm,1.0s,mb5.2
GRR Gorron 80.95 42 *e*P **P 17 12 41.2 -0.3**
comp=Z,29nm,1.0s,mb5.2
MDT Midelt 80.99 58 P **P 17 12 41.2 -0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=282,slow=6.0,SNR=7.1
FLN La Foliniere 81.12 42 *e*P **P 17 12 42.3 -0.1**
comp=Z,61nm,1.0s,mb5.2
FLN *e*MLR MLR
comp=Z,395nm,21.8s
FLN La Foliniere 81.12 42 *e*P **P 17 12 42.3 -0.1**
FLN pmax pmax
comp=Z,30nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,400nm,21.8s,MS4.7
FLN La Foliniere 81.12 42 *e*P **P 17 12 42.3 -0.1**
comp=Z,30nm,1.0s,mb5.2
FLN LR LR
comp=Z,400nm,21.8s,MS4.7
BILL Bilibino 81.37 338 *d*/*i*P **P 17 12 42.6 -1.1**
BILL *i* pP 17 12 54.9 -0.1
BILL pmax pmax
comp=Z,114nm,1.6s,mb5.5
BILL Bilibino 81.37 338 *e*P **P 17 12 43.3 -0.4**
comp=Z,58nm,1.0s,mb5.5
LDF La Druitiere 81.39 42 *e*P **P 17 12 43.6 -0.2**
comp=Z,71nm,1.2s,mb5.2
LDF La Druitiere 81.39 42 *e*P **P 17 12 43.6 -0.2**
LDF pmax pmax
comp=Z,36nm,1.2s,mb5.2
LDF La Druitiere 81.39 42 *e*P **P 17 12 43.6 -0.2**
comp=Z,36nm,1.2s,mb5.2
SJPF Ste Jean 81.69 48 *e*P **P 17 12 45.6 +0.2**
comp=Z,84nm,1.4s,mb5.2
SJPF Ste Jean 81.69 48 *e*P **P 17 12 45.6 +0.2**
SJPF pmax pmax
comp=Z,42nm,1.4s,mb5.2
SJPF Ste Jean 81.69 48 *e*P **P 17 12 45.6 +0.2**
comp=Z,42nm,1.4s,mb5.2
ETSF Etsaut 82.21 48 *e*P **P 17 12 48.1 0.0**
LFF La Frestale 82.71 46 *e*P **P 17 12 50.5 -0.2**
comp=Z,53nm,1.1s,mb5.2
LFF La Frestale 82.71 46 *e*P **P 17 12 50.5 -0.2**
LFF pmax pmax
comp=Z,26nm,1.1s,mb5.2
LFF La Frestale 82.71 46 *e*P **P 17 12 50.5 -0.2**
comp=Z,26nm,1.1s,mb5.2
EPF Esparros 82.83 48 *e*P **P 17 12 51.3 0.0**
comp=Z,74nm,1.5s,mb5.2
EPF Esparros 82.83 48 *e*P **P 17 12 51.3 0.0**
EPF pmax pmax
comp=Z,37nm,1.5s,mb5.2
EPF Esparros 82.83 48 *e*P **P 17 12 51.3 0.0**
comp=Z,37nm,1.5s,mb5.2
RJF Les Rejaudoux 83.17 45 *e*P **P 17 12 52.8 -0.3**
comp=Z,26nm,1.0s,mb4.9
RJF *e*MLR MLR
comp=Z,347nm,21.2s
RJF Les Rejaudoux 83.17 45 *e*P **P 17 12 52.8 -0.3**
RJF pmax pmax
comp=Z,13nm,1.0s,mb4.9
RJF MLR MLR
comp=Z,350nm,21.3s,MS4.7
RJF Les Rejaudoux 83.17 45 *e*P **P 17 12 52.8 -0.3**
comp=Z,13nm,1.0s,mb4.9
RJF LR LR
comp=Z,350nm,21.3s,MS4.7
TCF Toulx Ste Croi 83.42 44 *e*P **P 17 12 53.9 -0.5**
comp=Z,66nm,1.6s,mb5.1
TCF Toulx Ste Croi 83.42 44 *e*P **P 17 12 53.9 -0.5**
TCF pmax pmax
comp=Z,33nm,1.6s,mb5.1
TCF Toulx Ste Croi 83.42 44 *e*P **P 17 12 53.9 -0.5**
comp=Z,33nm,1.6s,mb5.1
CAF Calviac 83.63 45 *e*P **P 17 12 54.4 -1.1**
SNF Seneffe 83.77 40 P **P 17 12 57.5 +1.2**
BGF Bois d'Agland 83.79 44 *e*P **P 17 12 55.8 -0.5**
comp=Z,90nm,1.3s,mb5.4
BGF Bois d'Agland 83.79 44 *e*P **P 17 12 55.8 -0.5**
BGF pmax pmax
comp=Z,45nm,1.3s,mb5.4
BGF Bois d'Agland 83.79 44 *e*P **P 17 12 55.8 -0.5**

comp=Z,45nm,1.3s,mb5.4
BAIF Baives 83.83 40 *e*P P **17 12 57.1 +0.6**
DOU Dourbes 84.07 40 P P **17 12 58.3 +0.6**
AVF Avril sur Loir 84.07 43 *e*P P **17 12 56.9 -0.8**
MTLF Montolieu 84.10 47 *e*P P **17 12 57.7 -0.2**
comp=Z,121nm,1.7s,mb5.5
MTLF Montolieu 84.10 47 *e*P P **17 12 57.7 -0.2**
MTLF pmax pmax
comp=Z,61nm,1.7s,mb5.5
MTLF Montolieu 84.10 47 *e*P P **17 12 57.7 -0.2**
comp=Z,61nm,1.7s,mb5.5
SSF Saint Saulge 84.11 43 *e*P P **17 12 57.2 -0.7**
comp=Z,32nm,1.1s,mb5.0
SSF Saint Saulge 84.11 43 *e*P P **17 12 57.2 -0.7**
SSF pmax pmax
comp=Z,16nm,1.1s,mb5.1
SSF Saint Saulge 84.11 43 *e*P P **17 12 57.2 -0.7**
comp=Z,16nm,1.1s,mb5.1
GIVF Givet 84.21 40 *e*P P **17 12 58.7 +0.3**
KONO Kongsberg 84.23 30⇑ *i*P P **17 12 58.4 -0.2**
LOR Lormes 84.29 43 *e*P P **17 12 58.4 -0.5**
comp=Z,75nm,1.3s,mb5.3
LOR *e*MLR MLR
comp=Z,358nm,23.0s
LOR Lormes 84.29 43 *e*P P **17 12 58.4 -0.5**
LOR pmax pmax
comp=Z,38nm,1.3s,mb5.4
LOR MLR MLR
comp=Z,360nm,23.0s,MS4.7
LOR Lormes 84.29 43 *e*P P **17 12 58.4 -0.5**
comp=Z,38nm,1.3s,mb5.4
LOR LR LR
comp=Z,360nm,23.0s,MS4.7
BCLA Clavier 84.43 40 P P **17 12 58.8 -0.8**
SMF Signal de Mont 84.43 43 *e*P P **17 12 58.8 -0.8**
comp=Z,42nm,1.2s,mb5.1
SMF Signal de Mont 84.43 43 *e*P P **17 12 58.8 -0.8**
SMF pmax pmax
comp=Z,21nm,1.2s,mb5.1
SMF Signal de Mont 84.43 43 *e*P P **17 12 58.8 -0.8**
comp=Z,21nm,1.2s,mb5.1
NB2 NORSAR Subarra 84.56 28 P P **17 13 00.6 +0.4**
comp=Z,1.0nm,0.8s,baz=295,slow=4.8
NB2 NORSAR Subarra 84.56 28 P P **17 13 00.6 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 84.56 28 P P **17 13 01.2 +1.0**
comp=Z,15nm,1.0s,mb5.1,baz=291,slow=4.7,SNR=24
NOA LR LR 17 48 40.6
comp=Z,236nm,21.4s,MS4.5,baz=285,slow=34
MEZF Maizieres J'vi 84.76 41 *e*P P **17 13 01.1 -0.1**
comp=Z,111nm,1.5s,mb5.5
MEZF Maizieres J'vi 84.76 41 *e*P P **17 13 01.1 -0.1**
comp=Z,111nm,1.5s,mb5.8
MEM Membach 84.81 39 P P **17 13 02.1 +0.6**
LASF Ste Croix 85.08 46 *e*P P **17 13 03.2 +0.4**
comp=Z,96nm,1.5s,mb5.4
WLF Walferdange 85.15 40 *e*P P **17 13 03.5 +0.3**
comp=Z,54nm,1.6s,mb5.4
WLF Walferdange 85.15 40 P P **17 13 03.7 +0.5**
BUG Bochum--Univer 85.35 38 *e*P P **17 13 04.2 0.0**
comp=Z,16nm,0.9s,mb5.2
VIVF Saint-Julien-I 85.44 45 *e*P P **17 13 05.1 +0.5**
comp=Z,117nm,1.6s,mb5.5
VIVF Saint-Julien-I 85.44 45 *e*P P **17 13 05.1 +0.5**
VIVF pmax pmax
comp=Z,58nm,1.6s,mb5.5
VIVF Saint-Julien-I 85.44 45 *e*P P **17 13 05.1 +0.5**
comp=Z,58nm,1.6s,mb5.5
HAU Haudompre 85.73 42 *e*P P **17 13 05.9 -0.2**
comp=Z,28nm,0.8s,mb5.2
HAU *e*MLR MLR
comp=Z,402nm,22.8s
HAU Haudompre 85.73 42 *e*P P **17 13 05.9 -0.2**
HAU pmax pmax
comp=Z,14nm,0.8s,mb5.2
HAU MLR MLR
comp=Z,400nm,22.8s,MS4.8
HAU Haudompre 85.73 42 *e*P P **17 13 05.9 -0.2**
comp=Z,14nm,0.8s,mb5.2
HAU LR LR
comp=Z,400nm,22.8s,MS4.8
CABF La Chapelle 85.94 43 *e*P P **17 13 07.1 0.0**
comp=Z,34nm,1.2s,mb5.1
CABF La Chapelle 85.94 43 *e*P P **17 13 07.1 0.0**
CABF pmax pmax
comp=Z,17nm,1.2s,mb5.2
CABF La Chapelle 85.94 43 *e*P P **17 13 07.1 0.0**
comp=Z,17nm,1.2s,mb5.2
HFS Hagfors 86.02 29 P P **17 13 07.5 0.0**
comp=Z,5.2nm,0.9s,mb4.8,baz=227,slow=3.5,SNR=5.6
HINF Hinteralfeld 86.11 42 *e*P P **17 13 07.3 -0.6**
comp=Z,37nm,1.2s,mb5.2
HINF Hinteralfeld 86.11 42 *e*P P **17 13 07.3 -0.6**
HINF pmax pmax
comp=Z,18nm,1.2s,mb5.2
HINF Hinteralfeld 86.11 42 *e*P P **17 13 07.3 -0.6**
comp=Z,18nm,1.2s,mb5.2
CDF Champ du Feu 86.21 41 *e*P P **17 13 08.0 -0.4**
comp=Z,33nm,1.1s,mb5.2
CDF Champ du Feu 86.21 41 *e*P P **17 13 08.0 -0.4**
CDF pmax pmax
comp=Z,17nm,1.1s,mb5.2
CDF Champ du Feu 86.21 41 *e*P P **17 13 08.0 -0.4**
comp=Z,17nm,1.1s,mb5.2
ORIF Oris-en-Rattie 86.25 45 *e*P P **17 13 08.9 +0.2**
comp=Z,23nm,1.0s,mb5.1
ORIF *e*MLR MLR
comp=Z,223nm,20.0s
ORIF Oris-en-Rattie 86.25 45 *e*P P **17 13 08.9 +0.2**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.1
ORIF Oris-en-Rattie 86.25 45 *e*P P **17 13 08.9 +0.2**
comp=Z,12nm,1.0s,mb5.1
DBIC Dimbokro 86.28 84 P P **17 13 07.7 -1.1**
comp=Z,8.3nm,1.0s,mb4.9,baz=234,slow=10,SNR=3.5
DBIC LR LR 17 45 41.2
comp=Z,260nm,21.7s,MS4.6,baz=292,slow=32
SMRF Simiane la Rot 86.30 46 *e*P P **17 13 09.2 +0.3**
comp=Z,54nm,1.3s,mb5.3
SMRF Simiane la Rot 86.30 46 *e*P P **17 13 09.2 +0.3**
comp=Z,54nm,1.3s,mb5.6
BSEG Bad Segeberg 86.38 35 *e*P P **17 13 09.5 +0.2**
comp=Z,22nm,0.9s,mb5.4
TNS Taunus Mts 86.42 39 *e*P P **17 13 09.5 0.0**
comp=Z,24nm,1.1s,mb5.3
TNS Taunus Mts 86.42 39 *e*P P **17 13 09.5 0.0**
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.3
ARCES ARCESS Array B 86.47 18 P P **17 13 09.3 -0.4**
comp=Z,6.5nm,0.8s,mb4.9,baz=305,slow=4.3,SNR=9.7
ARCES LR LR 17 50 20.0
comp=Z,374nm,21.9s,MS4.8,baz=284,slow=35
LPL La Plagne 86.67 44 *e*P P **17 13 11.3 +0.6**
comp=Z,23nm,1.0s,mb5.0
LPL La Plagne 86.67 44 *e*P P **17 13 11.3 +0.6**
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.1
LPL La Plagne 86.67 44 *e*P P **17 13 11.3 +0.6**
comp=Z,12nm,1.0s,mb5.1
LPG La Plagne 86.69 44 *e*P P **17 13 11.6 +0.8**
comp=Z,41nm,1.3s,mb5.2
LPG La Plagne 86.69 44 *e*P P **17 13 11.6 +0.8**
LPG pmax pmax
comp=Z,21nm,1.3s,mb5.2
LPG La Plagne 86.69 44 *e*P P **17 13 11.6 +0.8**
comp=Z,20nm,1.3s,mb5.2
NRDL Niedersach Rie 86.71 37 *e*P P **17 13 11.7 +0.8**
comp=Z,23nm,1.2s,mb5.3
BFO Black Forest 86.91 41 *e*P P **17 13 11.4 -0.5**
comp=Z,18nm,1.6s,mb5.0
BFO Black Forest 86.91 41 *e*P P **17 13 11.4 -0.5**
BFO pmax pmax
comp=Z,18nm,1.6s,mb5.0
MBDF Montbardon 86.92 45 *e*P P **17 13 12.0 +0.1**
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 86.92 45 *e*P P **17 13 12.0 +0.1**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MBDF Montbardon 86.92 45 *e*P P **17 13 12.0 +0.1**
comp=Z,9.1nm,1.0s,mb5.0
GTTG Gvttingen 86.93 38 *e*P P **17 13 12.3 +0.3**
comp=Z,9.0nm,0.6s,mb5.2
LMR La Mourre 87.13 46 *e*P P **17 13 12.6 -0.3**
comp=Z,33nm,1.0s,mb5.2
LMR La Mourre 87.13 46 *e*P P **17 13 12.6 -0.3**
LMR pmax pmax
comp=Z,16nm,1.0s,mb5.2
LMR La Mourre 87.13 46 *e*P P **17 13 12.6 -0.3**
comp=Z,16nm,1.0s,mb5.2
FRF La Foret Royal 87.16 46 *e*P P **17 13 12.7 -0.4**
comp=Z,44nm,1.2s,mb5.3
FRF La Foret Royal 87.16 46 *e*P P **17 13 12.7 -0.4**
FRF pmax pmax
comp=Z,22nm,1.2s,mb5.3
FRF La Foret Royal 87.16 46 *e*P P **17 13 12.7 -0.4**
comp=Z,22nm,1.2s,mb5.3
SBF Sospel 87.62 45 *e*P P **17 13 14.9 -0.4**
MOX Moxa 88.21 38 *e*P P **17 13 18.5 +0.4**
comp=Z,12nm,1.2s,mb5.0
MOX Moxa 88.21 38 *e*P P **17 13 21.4 +3.3**
DAVA Damuels 88.22 42⇑ *i*P P **17 13 19.2 +1.0**
comp=Z,17nm,1.1s,mb5.2
DAVA Damuels 88.22 42⇑ *i*P P **17 13 19.2 +1.0**
comp=Z,17nm,1.1s,mb5.2
DAVA Damuels 88.22 42⇑ *i*P P **17 13 19.2 +1.0**
comp=Z,17nm,1.1s,mb5.2
GRA1 Grafenberg Arr 88.28 39 *e*P P **17 13 18.1 -0.4**
comp=Z,42nm,1.8s,mb5.4
GRA1 *e*pP pP 17 13 28.2 -1.7
GRA1 *e*S S 17 24 00.5 -0.2
GRA1 LR LR
comp=Z,200nm,19.4s,MS4.5
GRF Grafenberg Arr 88.28 39 *e*P P **17 13 18.1 -0.4**
comp=Z,42nm,1.8s,mb5.4
GRF *e*pP pP 17 13 28.2 -1.7
GRF *e*S S 17 24 00.5 -0.2
GRF *e*L 17 48 42.9
comp=Z,238nm,19.4s
GRF Grafenberg Arr 88.28 39 *e*P P **17 13 18.1 -0.4**
GRF *e**PP pP 17 13 28.2 -1.7
GRF *e*S S 17 24 00.5 -0.2
GRF pmax pmax
comp=Z,42nm,1.8s,mb5.4
GRF MLR MLR
comp=Z,200nm,19.4s,MS4.5
GRF Grafenberg Arr 88.28 39 *e*P P **17 13 18.1 -0.4**
GRF *e**PP pP 17 13 28.2 -1.7
GRF *e*S S 17 24 00.5 -0.2
GRF pmax pmax
comp=Z,42nm,1.8s,mb5.4
GRF MLR MLR
comp=Z,200nm,19.4s,MS4.5
DAVOX Davos/Dischmat 88.38 42 P P **17 13 19.8 +0.9**
comp=Z,3.6nm,0.9s,mb4.6,baz=292,slow=6.2,SNR=3.9
SEY Seymchan 88.63 335*c i*P P **17 13 19.4 -0.7**
WERD Werda 88.69 38 *e*P P **17 13 21.8 +1.4**
comp=Z,59nm,2.3s,mb5.5
WERN Wernitzgruen 88.78 38 *e*P P **17 13 21.7 +0.9**
comp=Z,40nm,1.9s,mb5.4
TANN Tannenbergstha 88.79 38 *e*P P **17 13 20.9 0.0**
comp=Z,10.0nm,1.0s,mb5.1
CLL Collm 88.80 37 *i*P P **17 13 21.4 +0.5**
CLL pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
CLL Collm 88.80 37 *i*P P **17 13 21.4 +0.5**
comp=Z,7.0nm,0.5s,mb5.2
ROTZ Rotzenmuhle 88.86 39 *e*P P **17 13 21.8 +0.6**
comp=Z,27nm,1.8s,mb5.3
PGF Pioggiola 89.10 46 *e*P P **17 13 21.8 -0.5**
comp=Z,28nm,1.0s,mb5.3
PGF Pioggiola 89.10 46 *e*P P **17 13 21.8 -0.5**
PGF pmax pmax
comp=Z,14nm,1.0s,mb5.2
PGF Pioggiola 89.10 46 *e*P P **17 13 21.8 -0.5**
comp=Z,14nm,1.0s,mb5.2
FBE Freiberg 89.14 37 *e*P P **17 13 23.3 +0.8**
comp=Z,94nm,2.2s,mb5.7
WET Wettzell 89.49 39 *e*P P **17 13 25.0 +0.9**
comp=Z,39nm,1.7s,mb5.5
WET Wettzell 89.49 39 *e*P P **17 13 25.0 +0.9**
WET pmax pmax
comp=Z,39nm,1.7s,mb5.5
BRG Berggiesshubel 89.51 37 *e*P P **17 13 24.1 -0.1**
comp=Z,11nm,1.2s,mb5.1
BRG Berggiesshubel 89.51 37 *e*P P **17 13 24.9 +0.6**
comp=Z,6.7nm,1.1s,mb4.9
BRG *e* 17 24 12.0
BRG
comp=N,76nm,22.5s
BRG
comp=E,138nm,20.9s
BRG
comp=Z,170nm,16.1s
BRG Berggiesshubel 89.51 37 *e*P P **17 13 24.9 +0.7**
BRG *e* 17 24 12.0
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
BRG MLR MLR
comp=Z,170nm,16.1s,MS4.6
BRG Berggiesshubel 89.51 37 *e*P P **17 13 24.9 +0.6**
comp=Z,6.7nm,1.1s,mb4.9
BRG *e* 17 24 12.0
BRG LR LR
comp=Z,170nm,16.1s,MS4.6
KHC Kasperske Hory 89.92 39 *e*P P **17 13 26.5 +0.3**
KHC *ex* x 17 13 46.0
KHC AMS AMS 17 53 00.0
comp=Z,300nm,19.5s
PVCC Panska Ves 90.01 38 *e*P P **17 13 26.9 +0.4**
GEC2 GERESS Array S 90.10 39 *e*P P **17 13 26.0 -1.0**
comp=Z,7.0nm,1.2s,mb4.9
GEC2 GERESS Array S 90.10 39 *e*P P **17 13 26.0 -1.0**
GEC2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
GERES GERESS Array B 90.10 39 P P **17 13 27.1 +0.1**
comp=Z,3.4nm,1.0s,mb4.6,baz=298,slow=2.9,SNR=16
GERES LR LR 17 50 37.2
comp=Z,196nm,19.5s,MS4.5,baz=296,slow=33
PRU Pruhonice 90.19 38 *e*P P **17 13 26.6 -0.8**
PRU AMS AMS 17 53 30.0
comp=Z,300nm,22.2s
TIXI Tiksi 90.27 348 ||*i*P P **17 13 24.9 -2.9**
TIXI pmax pmax
comp=Z,29nm,0.9s,mb5.6
KBA Koelnbreinsper 90.52 41⇑ *i*P P **17 13 30.0 +1.1**
comp=Z,12nm,1.3s,mb5.1
KBA Koelnbreinsper 90.52 41⇑ *i*P P **17 13 30.0 +1.1**
KBA pmax pmax
comp=Z,13nm,1.3s,mb5.1
KAF Kangasniemi 90.63 24 *e*p P **17 13 26.3 -3.1**
MOA Mollin 90.82 40⇑ *i*P P **17 13 30.9 +0.6**
comp=Z,5.7nm,1.0s,mb4.9
UPC Upice 90.87 37 *e*P P **17 13 30.9 +0.3**
FIA1 FINESS Array S 90.89 25 *e*P P **17 13 29.9 -0.8**
FINES FINESS Array B 90.89 25 P P **17 13 30.0 -0.7**
comp=Z,11nm,1.1s,mb5.1,baz=298,slow=4.1,SNR=14
FINES LR LR 17 56 03.2
comp=Z,141nm,21.2s,MS4.4,baz=292,slow=37
FINES FINESS Array B 90.89 25 P P **17 13 30.0 -0.7**
FINES LR LR 17 56 03.1
TORD Torodi Ar. Bea 91.00 76 P P **17 13 30.1 -1.1**
comp=Z,0.8nm,0.7s,mb4.2,baz=289,slow=4.9,SNR=6.9
TORD LR LR 17 48 39.7
comp=Z,243nm,20.6s,MS4.6,baz=190,slow=32
CADS Cadrg 91.07 42 *e*P P **17 13 32.3 +0.8**
DPC Dobruska-Polom 91.11 37 *e*P P **17 13 32.3 +0.6**
DPC AMS AMS 17 51 50.0
comp=Z,400nm,16.3s
KEST Kesra 91.47 53 P P **17 13 33.5 +0.2**
comp=Z,6.5nm,1.0s,mb4.9,baz=245,slow=3.2,SNR=14
KEST LR LR 17 48 34.8
comp=Z,55nm,18.7s,MS4.0,baz=296,slow=32
VRAC Vranov 91.69 38 P P **17 13 34.5 +0.1**
comp=Z,4.4nm,0.8s,mb4.9,baz=245,slow=5.5,SNR=4.7
CEY Cerknica 91.70 42 *e*P P **17 13 35.3 +0.9**
JOF Joensuu 92.10 22 *e*p P **17 13 33.2 -3.1**
LEGS Legarje 92.20 42 *e*P P **17 13 37.4 +0.7**
OKC Ostrava-Krasne 92.39 37 *e*P P **17 13 37.4 -0.2**
OKC AMS AMS 17 55 10.0
comp=Z,200nm,18.0s
OJC Ojcow 93.19 36 *e*P P **17 13 42.0 +0.7**
VYHS Vyhne 93.37 38 *e*P P **17 13 42.7 +0.6**
VYHS pmax pmax
comp=Z,25nm,2.1s,mb5.3
VYHS Vyhne 93.37 38 *e*P P **17 13 42.7 +0.6**
comp=Z,25nm,2.1s,mb5.3
PSZ Piszkesteto 94.26 39 *e*P P **17 13 46.2 0.0**
PSZ pmax pmax
comp=Z,33nm,1.4s,mb5.6
PSZ Piszkesteto 94.26 39 *e*P P **17 13 46.2 0.0**
comp=Z,33nm,1.4s,mb5.6
KECS Kecovo 94.36 38 *e*P P **17 13 42.4 -4.3**
KECS pmax pmax
comp=Z,6.0nm,1.4s,mb4.8
KECS Kecovo 94.36 38 *e*P P **17 13 42.4 -4.3**
comp=Z,5.5nm,1.4s,mb4.8
STHS Stebnicka Huta 94.39 37 *e*P P **17 13 46.5 -0.3**
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
STHS Stebnicka Huta 94.39 37 *e*P P **17 13 46.5 -0.3**
comp=Z,2.9nm,1.0s,mb4.7
CRVS Cervenica-Dubn 94.75 37 *e*P P **17 13 49.5 +1.0**
KOLS Kolonicke sedl 95.21 37 *e*P P **17 13 51.4 +0.8**
UZH Uzhgorod 95.36 37⇑ *i*P P **17 13 51.5 +0.2**
UZH *e* pP 17 13 59.6 -3.2
UZH pmax pmax
comp=Z,36nm,1.2s,mb5.7
AKASG Malin Array Be 98.18 33 P P **17 14 03.0 -1.1**
comp=Z,0.2nm,0.2s,mb4.2,baz=278,slow=4.6,SNR=6.8
AKASG PP PP 17 18 00.5 -3.2
comp=Z,0.4nm,0.5s,baz=297,slow=7.4,SNR=4.3
AKASG LR LR 17 58 17.1
comp=Z,120nm,18.4s,MS4.4,baz=300,slow=35
AKASG Malin Array Be 98.18 33 P P **17 14 03.0 -1.0**
AKASG 17 18 00.5
MLR Muntele Rosu 99.07 39 P P **17 14 07.0 -1.0**
comp=Z,4.7nm,1.0s,mb5.0,baz=327,slow=2.5,SNR=4.4
OBN Obninsk 99.09 27*c i*P P **17 14 07.5 -0.6**
OBN *e* pP 17 14 17.6 -2.0
OBN pmax pmax
comp=Z,51nm,1.8s,mb5.8
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.8
MOS Moscow 99.13 26 *e*P P **17 14 08.0 -0.3**
MOS pmax pmax
comp=Z,29nm,1.0s,mb5.8
SNAA Sanae 102.98 161 *e*Pdiff Pdif 17 14 21.7 -3.7
SNAA *e* 17 14 33.1
SNAA *e* 17 14 36.8
MDJ Mudanjiang 110.31 329 PDIF Pdif 17 14 56.6 -1.4
MDJ PS PS 17 29 06.6 +2.9
MDJ SS SS 17 34 59.0 +0.6
MDJ LR LR
comp=Z,60nm,23.2s,MS4.1
BVAR Borovoye Array 111.81 11 PKiKP PKiKP 17 19 00.7 -1.0
comp=Z,0.9nm,0.9s,baz=318,slow=2.0,SNR=4.1
BVAR PKKPbc PKKPbc 17 29 59.3 +4.8
comp=Z,0.6nm,0.9s,baz=176,slow=6.6,SNR=3.8
ZAL Zalesovo 112.45 2 PP PP 17 19 45.6 -3.6
comp=Z,1.0nm,0.6s,baz=128,slow=5.7,SNR=3.1
CN2 Changchun 112.92 331 *e*PKP PKiKP 17 19 02.5 -1.4
SONM Songino Array 116.29 346 PKP PKPdf 17 19 08.5 -1.8
comp=Z,1.1nm,0.8s,baz=337,slow=3.4,SNR=4.0
SONM PP PP 17 20 15.2 -1.1
comp=Z,1.8nm,0.9s,baz=4.2,slow=6.1,SNR=7.0
SONM PKKPbc PKKPbc 17 29 35.6 -3.7
comp=Z,0.9nm,0.8s,baz=250,slow=1.9,SNR=4.2
SONM Songino Array 116.29 346 PKIKP PKPdf 17 19 08.5 -1.8
SONM 17 20 15.2
MKAR Makanchi Array 119.46 4 PKP PKPdf 17 19 14.6 -1.8
comp=Z,1.8nm,0.9s,baz=27,slow=2.2,SNR=12
MKAR PP PP 17 20 35.7 -2.7
comp=Z,0.9nm,0.8s,baz=18,slow=4.3,SNR=4.1
MKAR PKKPbc PKKPbc 17 29 24.4 -3.5
comp=Z,0.5nm,0.7s,baz=134,slow=5.2,SNR=4.9
MKAR Makanchi Array 119.46 4 PKIKP PKPdf 17 19 14.6 -1.8
MKAR 17 20 35.7
MKAR Makanchi Array 119.46 4 PKP PKPdf 17 19 14.6 -1.8
MKAR PP PP 17 20 35.7 -2.7
MKAR PKKPbc PKKPbc 17 29 24.4 -3.5
BJI Beijing 120.06 335 PKIKP PKPdf 17 19 19.9 +2.3
BJI SS SS 17 37 23.8 +17
BJI MLR MLR
comp=Z,130nm,23.3s,MS4.5
BOSA Boshof 120.85 115 PKP PKPdf 17 19 17.2 -1.9
comp=Z,7.6nm,0.9s,baz=303,slow=3.8,SNR=7.9
HHC Hu-ho-hao-te 121.14 339 *e*PKP PKPdf 17 19 18.8 -0.9
HHC PP PP 17 20 52.8 +3.0
HHC LR LR
comp=N,151nm,11.8s
HHC LR LR
comp=E,156nm,5.0s
HHC LR LR
comp=Z,124nm,22.4s
AAK Ala-Archa 122.56 11*d i*PKIKP PKPdf 17 19 21.1 -1.3
WMQ Urumqi 122.61 360 *e*PKP PKPdf 17 19 21.5 -1.0
WMQ XPKP 17 19 36.0
WMQ PP PP 17 21 04.0 +4.2
WMQ PKS 17 22 57.0
WMQ PPP 17 23 40.0
WMQ SKS SKSdf 17 26 28.0 -3.6
WMQ SKKS SKKSac 17 27 50.0 -6.1
WMQ SS SS 17 37 40.0 +1.1
WMQ PP PP
comp=Z,108nm,4.6s
WMQ LR LR
comp=N,511nm,27.6s,MS5.1
WMQ LR LR
comp=E,347nm,29.2s,MS5.1
WMQ LR LR
comp=Z,551nm,25.8s,MS5.1
MATP Matopo 123.61 105 PKP PKPdf 17 19 22.4 -2.0
comp=Z,4.6nm,0.7s,baz=274,slow=1.7,SNR=11
MAW Mawson 123.95 169 *e*P PKPdf 17 19 21.2 -3.9
comp=Z,2.9nm,0.8s
MAW Mawson 123.95 169 PKP PKPdf 17 19 21.4 -3.6
comp=Z,4.1nm,0.9s,baz=281,slow=5.5,SNR=9.3
CASY Casey 125.37 191 *e*P PKPdf 17 19 24.4 -3.4
GTA Gaotai 125.76 348 *e*PKP PKPdf 17 19 27.9 -0.6
GTA XPKP 17 19 39.6
KSH Kashi 125.85 11 *e*PKP PKPdf 17 19 28.7 0.0
KSH *e*XPKP 17 19 42.7
KSH *e*PKS 17 23 02.9
KSH *e*PPP 17 24 06.0
KSH *e*SKS SKSdf 17 26 33.7 -4.0
KSH *e*SKKS SKKSac 17 28 14.9 -2.0
KSH *e*SS SS 17 38 22.2 +2.3
KSH PP PP
comp=Z,342nm,4.9s
KSH LR LR
comp=N,293nm,5.1s
KSH LR LR
comp=E,165nm,4.3s
STKA Stephens Creek 127.45 240 *e*P PKPdf 17 19 29.7 -2.1
comp=E,6.9nm,0.9s
STKA Stephens Creek 127.45 240 PKP PKPdf 17 19 29.4 -2.4
comp=E,9.7nm,0.9s,baz=315,slow=1.6,SNR=9.0
LZH Lanzhou 127.95 343 *e*P PKPdf 17 19 32.5 -0.2
LZH pP 17 19 39.5
LZH sP 17 19 44.0
XAN Xi'an 128.14 337 PKP PKPdf 17 19 31.8 -1.3
WRAB Tennant Creek 134.76 256 ||*i*PKIKP PKPdf 17 19 43.2 -2.4
WRA Warramunga Arr 134.77 256 PKP PKPdf 17 19 44.1 -1.5
comp=E,5.6nm,1.0s,baz=74,slow=1.9,SNR=12
WRA Warramunga Arr 134.77 256⇑ *i*PKIKP PKPdf 17 19 44.0 -1.6
ASAR Alice Springs 135.04 250 PKhKP 17 19 34.8
comp=E,0.9nm,0.9s,baz=87,slow=5.8,SNR=5.9
ASAR PKP PKPdf 17 19 44.0 -2.2
comp=E,2.5nm,0.9s,baz=101,slow=2.1,SNR=11
LSA Lhasa 136.55 355 PKP PKPdf 17 19 49.8 +0.9
LSA Lhasa 136.55 355 *e*PKPdf PKPdf 17 19 49.8 +0.9
AJM Ajmer 138.04 17 *e*P PKPdf 17 19 51.7 0.0
GKN Gorkha 138.31 4 *e*P PKPdf 17 19 47.5 -4.7
comp=E,48nm,1.2s
GUN Gumba 138.46 2 *e*P PKPdf 17 19 49.8 -2.6
KMI Kunming 138.46 339 PKP PKPdf 17 19 51.0 -1.4
KMI XPKP 17 20 09.3
KMI PP PP 17 22 43.7 +1.1
KMI SKKS SKKSac 17 29 31.9 -2.2
KMI SS SS 17 40 50.5 -2.8
KMI SSS 17 46 04.6
KMI PP PP
comp=Z,112nm,7.0s
KMI LR LR
comp=N,112nm,23.6s,MS4.7
KMI LR LR
comp=E,108nm,21.6s,MS4.7
KMI LR LR
comp=Z,177nm,21.6s,MS4.8
KMI Kunming 138.46 339 PKIKP PKPdf 17 19 51.0 -1.4
KMI 17 20 03.1
KMI 17 20 09.3
KMI 17 22 43.7
KMI SS SS 17 40 50.5 -2.8
KMI SSS 17 46 04.6
KMI MLR MLR

comp=Z,180nm,21.6s,MS4.8
KMI Kunming 138.46 339 PKP PKPdf 17 19 51.0 -1.4
KMI pPKP pPKPdf 17 20 03.1 -1.2
KMI sPKP 17 20 09.3
KMI PP PP 17 22 43.7 +1.1
KMI SKKS SKKSac 17 29 31.9 -2.2
KMI SS SS 17 40 50.5 -2.8
KMI SSS 17 46 04.6
KMI LR LR
comp=Z,180nm,21.6s,MS4.8
KOLN Koldanda 138.46 5 *e*P PKPdf 17 19 48.4 -4.1
comp=Z,37nm,1.3s
KKN Kakani 138.56 3 *e*P PKPdf 17 19 47.9 -4.7
comp=Z,23nm,1.0s
DMN Daman 138.73 3 *e*P PKPdf 17 19 48.6 -4.3
comp=Z,25nm,1.0s
PKI Pulchoki 138.78 3 *e*P PKPdf 17 19 48.3 -4.7
comp=Z,27nm,1.2s
BHPL Bhopal 141.87 15 *e*P PKPdf 17 19 59.1 +0.4
BOK Bokaro 142.56 2 *e*P PKPdf 17 19 56.7 -3.1
FITZ Fitzroy Crossi 143.01 258 *e*P PKPdf 17 19 56.2 -4.5
comp=Z,14nm,0.9s
POO Poona 145.17 23⇑*i*P PKPbc 17 20 01.0 -3.1
POO *ex* x 17 20 36.0
CHTO Chiang Mai 145.59 340 *e*PKIKP PKPdf 17 20 04.2 -0.9
KKTK Khon Kaen 146.34 333 ⇓P PKPdf 17 20 07.0 +0.6
comp=Z,247nm,0.8s
KAD Karad 146.41 23 *e*P PKPdf 17 20 04.2 -2.4
KAD AMb AMB 17 20 09.7
comp=Z,125nm,1.2s
NWAO Narrogin (SRO) 146.84 230 *e*PKIKP PKPdf 17 20 06.1 -1.2
KLBR Kellerberrin 147.04 233 *e*P PKPdf 17 20 06.2 -1.4
comp=Z,111nm,1.4s
HYB Hyderabad 147.73 16 *i* P PKPdf 17 20 07.5 -1.2
comp=Z,100nm,1.0s
HYB Hyderabad 147.73 16 *e*P PKPdf 17 20 08.0 -0.7
VIS Vishakhapatnam 148.37 7 *e*P PKPdf 17 20 06.7 -3.1
VIS AMb AMB 17 20 19.8
comp=Z,50nm,0.9s
KSM Kuching 152.64 302 *e*PKPbc PKPbc 17 20 22.9 -0.6
PSI Prapat 159.87 324 PKP PKPdf 17 20 24.9 -1.0
comp=Z,3.4nm,0.7s,baz=6.9,slow=22,SNR=6.7
PSI PKPab PKPab 17 21 04.8 -0.4
comp=Z,25nm,1.0s,baz=300,slow=2.8,SNR=15

NAO **11** *17:02:14.7, 4052N*$_{\times}$*1209E, h33*^{km}*, mb2.9*
SZGRF **11** *17:02:15.2, 3907N*$_{\times}$*1482E, h10*^{km}*, Tyrrhenian Sea*
ROM **11** *17:02:22.6*$_{\pm}$*0.2, 3967N*$_{\times}$*1531E, h315*^{km}$_{\pm}$*3*^{km}*, Ml3.8/58, Error ellipse: s-maj=2.8km s-min=2.7km az=7.0*
PDG **11** *17:02:22.8*$_{\pm}$*0.7, 3973N*$_{\times}$*1527E, h311*^{km}$_{\pm}$*2*^{km}
PRU **11** *17:02:22.7, 3998N*$_{\times}$*1490E, h0*^{km}*, M4.4*
LDG **11** *17:02:23.8*$_{\pm}$*0.3, 3985N*$_{\times}$*1536E, h280*^{km}*, Mb4.4/42, Error ellipse: s-maj=14.4km s-min=7.0km az=24.0*
CSEM **11** *17:02:24.4*$_{\pm}$*0.0, 3966N*$_{\times}$*1512E, h300*^{km}*, mb4.1/20, ML4.1/18, Error ellipse: s-maj=1.1km s-min=0.9km az=6.0*
BJI **11** *17:02:24.0, 3970N*$_{\times}$*1520E, h297*^{km}*, mB5.0, mb4.8*
MOS **11** *17:02:25.0*$_{\pm}$*1.0, 3969N*$_{\times}$*1512E, h305*^{km}*, mb4.1/18, Error ellipse: s-maj=3.9km s-min=2.9km az=112.0*
ISCJB **11** *17:02:25.0*$_{\pm}$*0.1, 3969N*$_{\pm}$*002*$_{\times}$*15.18E*$_{\pm}$*002, h301*^{km}$_{\pm}$*1*^{km}*, mb4.2/41, Error ellipse: s-maj=2.5km s-min=2.0km az=24.3*
IDC **11** *17:02:26.6*$_{\pm}$*0.9, 3983N*$_{\times}$*1501E, h300*^{km}$_{\pm}$*11*^{km}*, mb3.7/15, mb1 3.7/26, mb1mx3.7/35, mbtmp4.4/26, Error ellipse: s-maj=10.1km s-min=9.1km az=151.0*
NEIC **11** *17:02:26.1*$_{\pm}$*0.1, 3970N*$_{\times}$*1517E, h298*^{km}$_{\pm}$*2*^{km}*, mb4.4/72, MD3.8(PDG), Error ellipse: s-maj=2.8km s-min=2.0km az=191.0*
ISC 11 17:02:26.0$_{\pm}$0.1**,3972N**$_{\pm}$002$_{\times}$**1520E**$_{\pm}$002**, h295**^{km}$_{\pm}$1^{km}**, n543,** σ1**9**10/591**, mb4.3**/40**, 67C-72D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CUC	**Castrocucco**	**0.55**	**59**	⇓*i*Pn	**Pn**	**17 03 04.1**	**0.0**
CUC				Sn	**S**	**17 03 33.4**	**-0.9**
524nm,0.9s							
CMPR	**Campora**	**0.61**	**7**	Pn	**Pn**	**17 03 04.6**	**+0.4**
CMPR				Sn	**S**	**17 03 34.4**	**-0.2**
326nm,1.0s							
SLCN	**Sala Consilina**	**0.75**	**26**	⇓*i*Pn	**Pn**	**17 03 05.1**	**+0.4**
314nm,0.8s							
CDRU	**Civita di Ruta**	**0.78**	**6**	⇑*i*Pn	**Pn**	**17 03 05.2**	**+0.4**
CDRU				Sn	**S**	**17 03 35.2**	**-0.4**
188nm,1.2s							
SCHR	**S. Chirico Rap**	**0.83**	**54**	⇓*i*Pn	**Pn**	**17 03 05.4**	**+0.4**
SCHR				Sn	**S**	**17 03 37.0**	**+1.0**
368nm,1.1s							
ORI	**Oriolo Calabro**	**1.02**	**70**	⇓*i*Pn	**Pn**	**17 03 06.1**	**+0.3**
MRLC	**Muro Lucano**	**1.06**	**12**	Pn	**Pn**	**17 03 06.9**	**+0.9**
MRLC				Sn	**S**	**17 03 38.0**	**+0.1**
471nm,2.0s							
MCRV	**Calabrutti - M**	**1.07**	**359**	⇑*i*Pn	**Pn**	**17 03 06.7**	**+0.6**
MCRV				Sn	**S**	**17 03 38.2**	**+0.3**
405nm,1.5s							
CRAC	**Craco**	**1.15**	**55**	⇓*i*Pn	**Pn**	**17 03 06.3**	**-0.2**
CRAC				Sn	**S**	**17 03 38.9**	**+0.2**
457nm,0.8s							
SLNA	**Salina**	**1.19**	**194**	Pn	**Pn**	**17 03 07.1**	**+0.4**
176nm,0.4s							
SNAL	**S. Angelo Dei**	**1.21**	**0**	⇑*i*Pn	**Pn**	**17 03 07.5**	**+0.7**
SNAL				Sn	**S**	**17 03 40.4**	**+1.1**
488nm,1.3s							
IFIL	**Filicudi I Eol**	**1.25**	**203**	⇑*i*Pn	**Pn**	**17 03 07.0**	**0.0**
1μm,1.3s							
VULT	**Monte Vulture**	**1.28**	**14**	⇓*e*Pn	**Pn**	**17 03 07.3**	**+0.1**
293nm,1.5s							
LLI	**Lipari**	**1.28**	**189**	Pn	**Pn**	**17 03 08.3**	**+1.1**
1μm,0.8s							
GRI	**Girifalco**	**1.30**	**133**	⇑*e*Pn	**Pn**	**17 03 07.3**	**0.0**
GRI				Sn	**S**	**17 03 38.5**	**-1.7**
813nm,0.4s							
MIGL	**Miglionico**	**1.30**	**47**	⇓*i*Pn	**Pn**	**17 03 06.6**	**-0.7**
MIGL				Sn	**S**	**17 03 39.6**	**-0.6**
841nm,0.8s							
CAFE	**Carife**	**1.31**	**1**	⇑*i*Pn	**Pn**	**17 03 08.3**	**+0.9**
CAFE				Sn	**S**	**17 03 41.6**	**+1.3**
1μm,2.0s							
TIP	**Timpagrande**	**1.32**	**113**	⇓*i*Pn	**Pn**	**17 03 07.4**	**0.0**
TIP				Sn	**S**	**17 03 38.8**	**-1.6**
601nm,0.5s							
TIP	**Timpagrande**	**1.32**	**113**	⇓*i*Pn	**Pn**	**17 03 07.4**	**0.0**
TIP				*e*S	**S**	**17 03 33.9**	**-6.5**
TIP				Sn	**S**	**17 03 38.8**	**-1.6**
SERS	**Sersale**	**1.34**	**120**	⇓*i*Pn	**Pn**	**17 03 07.4**	**-0.1**
SERS				Sn	**S**	**17 03 38.6**	**-2.0**
810nm,0.2s							
VPL	**Vulcano Piano**	**1.34**	**187**	Pn	**Pn**	**17 03 08.3**	**+0.7**
669nm,0.5s							
PALZ	**Palazzo San Ge**	**1.36**	**25**	Pn	**Pn**	**17 03 07.4**	**-0.3**
PALZ				Sn	**S**	**17 03 39.9**	**-0.9**
FG4	**Candela**	**1.44**	**10**	Pn	**Pn**	**17 03 09.0**	**+0.9**
44nm,0.2s							
MSRU	**Castanea**	**1.47**	**170**	⇓*i*Pn	**Pn**	**17 03 07.5**	**-0.9**
MSRU				Sn	**S**	**17 03 39.5**	**-2.6**
2μm,0.8s							
SCLL	**Scilla**	**1.51**	**164**	Pn	**Pn**	**17 03 07.9**	**-0.7**
206nm,0.5s							
MSI	**Messina ING**	**1.53**	**170**	Pn	**Pn**	**17 03 08.0**	**-0.8**
2μm,0.4s							
PSB1	**Pescosannita**	**1.54**	**349**	⇑*i*Pn	**Pn**	**17 03 09.7**	**+0.9**
123nm,1.0s							
CEL	**Celeste**	**1.55**	**159**	⇓*e*Pn	**Pn**	**17 03 07.7**	**-1.2**
CEL				Sn	**S**	**17 03 39.6**	**-3.4**
997nm,0.7s							
PLAC	**Placanica**	**1.59**	**142**	⇓*e*Pn	**Pn**	**17 03 08.3**	**-0.9**
PLAC				Sn	**S**	**17 03 41.1**	**-2.4**
487nm,0.9s							
CDT	**Castel del Mon**	**1.59**	**31**	*e*Pg	**Pn**	**17 03 08.4**	**-0.8**
CDT				*e*Sg	S	17 03 19.7	-24
SG1	**Sgolgore (BA)**	**1.59**	**45**	*e*Pg	**Pn**	**17 03 08.5**	**-0.7**
SG1				*e*Sg	S	17 03 19.9	-24
AMUR	**Altamura**	**1.60**	**42**	⇓*i*Pn	**Pn**	**17 03 08.7**	**-0.6**
AMUR				Sn	**S**	**17 03 41.6**	**-2.1**
246nm,1.2s							
VENT	**Ventotene**	**1.74**	**309**	⇑*i*Pn	**Pn**	**17 03 10.9**	**+0.7**
VENT				Sn	**S**	**17 03 46.9**	**+1.5**
131nm,0.3s							
MTTG	**Motta San Giov**	**1.75**	**167**	⇓*i*Pn	**Pn**	**17 03 10.0**	**-0.3**
854nm,0.6s							
SOI	**Samo**	**1.77**	**158**	⇓*i*Pn	**Pn**	**17 03 09.7**	**-0.7**
SOI				Sn	**S**	**17 03 42.6**	**-3.2**
849nm,0.5s							
MMME	**Mongiuffi-Meli**	**1.78**	**179**	⇓*i*Pn	**Pn**	**17 03 10.5**	**0.0**
MMME				Sn	**S**	**17 03 45.8**	**-0.1**
2μm,1.3s							
SGG	**Gregorio Mates**	**1.78**	**340**	⇑*i*Pn	**Pn**	**17 03 11.6**	**+1.1**
89nm,0.5s							
NOCI	**Noci**	**1.79**	**52**	⇓*i*Pn	**Pn**	**17 03 10.0**	**-0.6**
NOCI				Sn	**S**	**17 03 43.7**	**-2.3**
630nm,1.0s							
VAGA	**Valle Agricola**	**1.85**	**337**	⇑*i*Pn	**Pn**	**17 03 12.0**	**+0.9**
VAGA				Sn	**S**	**17 03 49.6**	**+2.7**
72nm,0.5s							
USI	**Ustica**	**1.86**	**238**	⇑*i*Pn	**Pn**	**17 03 11.5**	**+0.3**
284nm,0.5s							
BAI	**Bari**	**1.89**	**42**	*e*Pg	**Pn**	**17 03 11.1**	**-0.3**
GIB	**Gibilmanna**	**1.95**	**208**	⇑*i*Pn	**Pn**	**17 03 12.0**	**+0.2**
GIB				Sn	**S**	**17 03 48.7**	**+0.4**
674nm,0.7s							
RGNG	**Rignano Grg**	**1.98**	**8**	Pn	**Pn**	**17 03 11.8**	**-0.3**
CSLB	**Castelbuono**	**1.99**	**207**	⇑*i*Pn	**Pn**	**17 03 12.2**	**+0.1**
351nm,1.0s							
ESLN	**Serra La Nave**	**2.03**	**185**	Pn	**Pn**	**17 03 13.8**	**+1.4**
MIDA	**Miranda**	**2.06**	**340**	⇑*i*Pn	**Pn**	**17 03 14.0**	**+1.3**
MIDA				Sn	**S**	**17 03 53.1**	**+3.3**
126nm,0.5s							
MSAG	**Monte S. Angel**	**2.07**	**15**	⇓*i*Pn	**Pn**	**17 03 12.6**	**-0.2**
FGMS	**Monte Sant'Ang**	**2.07**	**16**	Pn	**Pn**	**17 03 12.6**	**-0.2**
20nm,0.3s							
CERA	**Filignano**	**2.08**	**335**	⇑*i*Pn	**Pn**	**17 03 13.7**	**+0.8**
76nm,0.8s							
MPG	**Monte Pellegri**	**2.11**	**223**	⇓*i*Pn	**Pn**	**17 03 13.9**	**+0.8**
104nm,0.4s							
RNI2	**Rionero Sannit**	**2.14**	**338**	⇑*i*Pn	**Pn**	**17 03 15.1**	**+1.7**
RNI2				Sn	**S**	**17 03 54.5**	**+3.4**
105nm,0.5s							
VAE	**Valguarnera**	**2.32**	**196**	P	**Pn**	**17 03 16.7**	**+1.8**
6.7nm,0.3s,baz=219,slow=3.9,SNR=8.9							
LCI	**Lecce**	**2.32**	**74**	⇓*i*Pn	**Pn**	**17 03 14.5**	**-0.4**
207nm,0.3s							
CORL	**Corleone**	**2.34**	**220**	⇑*i*Pn	**Pn**	**17 03 15.6**	**+0.5**
GIUL	**Giuliano Di Ro**	**2.36**	**322**	⇑*i*Pn	**Pn**	**17 03 16.1**	**+0.8**
78nm,0.9s							
HAGA	**Augusta**	**2.43**	**181**	Pn	**Pn**	**17 03 14.7**	**-1.2**
HAGA				Sn	**S**	**17 03 54.1**	**-1.5**
683nm,1.4s							
AGST	**Augusta-Monte**	**2.46**	**179**	⇓*e*Pn	**Pn**	**17 03 14.7**	**-1.4**
240nm,0.8s							
VVLD	**Villa Vallelon**	**2.46**	**331**	⇑*i*Pn	**Pn**	**17 03 17.2**	**+1.0**
69nm,0.8s							
INTR	**Introdacqua**	**2.50**	**337**	⇑*i*Pn	**Pn**	**17 03 16.7**	**+0.2**
98nm,0.7s							
GUAR	**Guarcino**	**2.52**	**326**	⇑*i*Pn	**Pn**	**17 03 17.6**	**+0.9**
125nm,1.6s							
SSY	**Sortino**	**2.56**	**182**	Pn	**Pn**	**17 03 16.2**	**-0.9**
277nm,0.3s							
HVZN	**Vizzini**	**2.56**	**189**	⇓*i*Pn	**Pn**	**17 03 17.3**	**+0.2**
HVZN				Sn	**S**	**17 03 57.5**	**-0.3**
2μm,1.3s							
CLTB	**Caltabellotta**	**2.64**	**217**	⇑*i*Pn	**Pn**	**17 03 18.1**	**+0.3**
124nm,0.4s							
ERC	**Erice**	**2.64**	**231**	Pn	**Pn**	**17 03 18.2**	**+0.4**
1μm,0.7s							
FAVR	**Favara**	**2.72**	**207**	⇑*i*Pn	**Pn**	**17 03 19.7**	**+1.1**
119nm,0.3s							
HAVL	**Avola**	**2.75**	**181**	⇓*i*Pn	**Pn**	**17 03 18.1**	**-0.8**
HAVL				Sn	**S**	**17 03 59.8**	**-1.3**
384nm,0.6s							
HMDC	**Modica**	**2.77**	**187**	⇓*i*Pn	**Pn**	**17 03 19.1**	**0.0**
HMDC				Sn	**S**	**17 04 00.6**	**-0.8**
198nm,0.8s							
RDP	**Rocca di Papa**	**2.78**	**318**	⇑*i*Pn	**Pn**	**17 03 20.2**	**+1.1**
114nm,0.5s							
CERT	**Cerreto**	**2.79**	**324**	⇑*i*Pn	**Pn**	**17 03 20.1**	**+0.8**
35nm,0.7s							
FAGN	**Fagnano**	**2.83**	**335**	Pn	**Pn**	**17 03 21.3**	**+1.7**
70nm,0.5s							
AQU	**L'Aquila**	**2.97**	**333**	Pn	**Pn**	**17 03 22.7**	**+1.7**
167nm,1.4s							
FIAM	**Fiamignano**	**3.00**	**329**	⇑*i*Pn	**Pn**	**17 03 22.8**	**+1.5**
FIAM				Sn	**S**	**17 04 07.4**	**+2.0**
41nm,0.9s							
TERO	**Teramo**	**3.15**	**338**	Pn	**Pn**	**17 03 24.9**	**+2.1**
MNS	**Montasola**	**3.28**	**325**	⇑*i*Pn	**Pn**	**17 03 25.1**	**+1.0**
MNS				Sn	**S**	**17 04 11.2**	**+0.6**
138nm,2.3s							
LNSS	**Leonessa**	**3.31**	**331**	Pn	**Pn**	**17 03 25.8**	**+1.3**
289nm,1.9s							
TOLF	**Tolfa**	**3.38**	**315**	⇑*i*Pn	**Pn**	**17 03 26.2**	**+1.1**
37nm,0.8s							
KEK	**Kerkira**	**3.55**	**89**	⇓*i*Pn	**Pn**	**17 03 26.8**	**-0.1**
KEK				Sn	**S**	**17 04 13.5**	**-2.2**
104nm,0.5s							
HCY	**Herceg Novi**	**3.70**	**41**	⇓*i*Pn	**Pn**	**17 03 28.4**	**-0.1**
HCY				*e*Sn	**S**	**17 04 16.8**	**-1.8**
ULC	**Ulcinj**	**3.81**	**53**	⇓*i*Pn	**Pn**	**17 03 29.9**	**+0.1**
ULC				*e*Sn	**S**	**17 04 18.6**	**-2.1**
BUM	**Brajici-Budva**	**3.81**	**46**	⇓*i*Pn	**Pn**	**17 03 29.8**	**0.0**
BUM				*e*Sn	**S**	**17 04 19.1**	**-1.7**
PTS	**Pantelleria**	**3.84**	**222**	⇓*i*Pn	**Pn**	**17 03 30.8**	**+0.7**
36nm,0.5s							
TIR	**Tirane**	**3.91**	**64**	Pn	**Pn**	**17 03 31.5**	**+0.6**
152nm,0.6s							
TIR	**Tirane**	**3.91**	**64**	*e*P	**Pn**	**17 03 31.4**	**+0.5**
IGT	**Igoumenitsa**	**3.97**	**91**	*e*P	**Pn**	**17 03 31.5**	**0.0**
BRY	**Bratogost**	**4.06**	**37**	⇑*i*Pn	**Pn**	**17 03 32.9**	**+0.3**
BRY				*e*Sn	**S**	**17 04 24.0**	**-1.8**
BRY	**Bratogost**	**4.06**	**37**	⇑*i*Pn	**Pn**	**17 03 32.8**	**+0.3**
TTG	**Podgorica**	**4.10**	**47**	⇓*i*Pn	**Pn**	**17 03 32.8**	**-0.1**
TTG				*e*Sn	**S**	**17 04 24.5**	**-2.1**
NKY	**Niksic**	**4.22**	**42**	⇓*i*Pn	**Pn**	**17 03 34.2**	**0.0**
NKY				*e*Sn	**S**	**17 04 27.2**	**-1.8**
DGI	**Dorgali Grotta**	**4.34**	**280**	⇑*i*Pn	**Pn**	**17 03 35.7**	**+0.1**
21nm,1.1s							
LKD	**Levkas**	**4.35**	**102**	*e*P	**Pn**	**17 03 35.9**	**+0.1**
FSSB	**Fossombrone**	**4.37**	**336**	⇓*i*Pn	**Pn**	**17 03 36.4**	**+0.4**
28nm,0.3s							
UPM	**Unac-Piva**	**4.46**	**37**	⇓*i*Pn	**Pn**	**17 03 38.0**	**+1.0**
UPM				*e*Sn	**S**	**17 04 32.1**	**-1.9**
OHR	**Ohrid**	**4.50**	**70**	*e*P	**Pn**	**17 03 38.6**	**+1.2**
VSL	**Villasalto**	**4.50**	**269**	⇑*i*Pn	**Pn**	**17 03 38.2**	**+0.7**
VSL				Sn	**S**	**17 04 34.3**	**-0.6**
62nm,0.6s							
VSL	**Villasalto**	**4.50**	**269**	*e*Pn	**Pn**	**17 03 37.9**	**+0.4**
VSL				Sn	**S**	**17 04 34.3**	**-0.6**
VSL	**Villasalto**	**4.50**	**269**	*e*Pn	**Pn**	**17 03 37.9**	**+0.4**
VSL				Sn	**S**	**17 04 34.3**	**-0.6**
62nm,0.6s							
PVY	**Plav**	**4.61**	**50**	⇓*i*Pn	**Pn**	**17 03 39.6**	**+0.8**
PVY				*e*Sn	**S**	**17 04 35.7**	**-1.4**
GRFL	**Gerfalco**	**4.67**	**319**	Pn	**Pn**	**17 03 40.9**	**+1.4**
1.0nm,0.2s							
IVA	**Berane**	**4.74**	**47**	⇓*i*Pn	**Pn**	**17 03 40.7**	**+0.5**
IVA				*e*Sn	**S**	**17 04 37.7**	**-2.1**
CSNT	**Castellina Chi**	**4.76**	**323**	⇓*i*Pn	**Pn**	**17 03 41.8**	**+1.3**
183nm,3.6s							
PLE	**Pljevlja**	**4.79**	**40**	⇓*i*Pn	**Pn**	**17 03 41.3**	**+0.5**
PLE				*e*Sn	**S**	**17 04 39.4**	**-1.5**
FNA	**Florina**	**4.84**	**75**	*e*P	**Pn**	**17 03 41.8**	**+0.4**
BIA	**Bitola**	**4.86**	**72**	*e*P	**Pn**	**17 03 41.5**	**-0.1**
BIA	**Bitola**	**4.86**	**72**	*e*Pn	**Pn**	**17 03 41.6**	**0.0**
SFI	**Santa Sofia**	**4.88**	**330**	Pn	**Pn**	**17 03 42.9**	**+1.1**
21nm,1.1s							
PII	**Pisa**	**5.32**	**320**	⇑*i*Pn	**Pn**	**17 03 48.8**	**+1.9**
14nm,0.8s							
PII	**Pisa**	**5.32**	**320**	⇑*i*P	**Pn**	**17 03 48.8**	**+1.9**
PII				pmax	pmax		
comp=Z,14nm,0.8s							
FNVD	**Fontana Vidola**	**5.39**	**327**	Pn	**Pn**	**17 03 48.7**	**+0.9**
comp=Z,77nm,2.1s							
PGF	**Pioggiola**	**5.47**	**303**	*e*P	**Pn**	**17 03 48.8**	**0.0**
comp=Z,23nm,0.8s							
PGF	**Pioggiola**	**5.47**	**303**	*e*P	**Pn**	**17 03 48.8**	**0.0**
comp=Z,11nm,0.8s							
PZZT	**Monte Pizzetto**	**5.47**	**325**	Pn	**Pn**	**17 03 49.4**	**+0.6**
comp=Z,20nm,0.3s							
MAIM		**5.47**	**322**	⇓*i*Pn	**Pn**	**17 03 49.9**	**+1.1**
comp=Z,50nm,0.9s							
BDI	**Bagni Di Lucca**	**5.54**	**323**	⇓*i*Pn	**Pn**	**17 03 50.0**	**+0.4**
comp=Z,36nm,0.9s							
BDI	**Bagni Di Lucca**	**5.54**	**323**	⇓*i*P	**Pn**	**17 03 50.0**	**+0.4**
BDI				pmax	pmax		
comp=Z,36nm,0.9s							
AGG	**Agios Georgios**	**5.57**	**95**	*e*P	**Pn**	**17 03 51.4**	**+1.4**
LIT	**Litokhoron**	**5.62**	**84**	*e*P	**Pn**	**17 03 50.8**	**+0.2**
GRG	**Griva**	**5.64**	**75**	*e*P	**Pn**	**17 03 51.1**	**+0.3**
DIVS	**Divcibare**	**5.65**	**38**	*e*P	**Pn**	**17 03 48.6**	**-2.4**
STIP	**Stip**	**5.67**	**67**	*e*Pn	**Pn**	**17 03 50.2**	**-0.9**
SARO	**Sassorosso**	**5.72**	**323**	P	**Pn**	**17 03 51.7**	**-0.1**
BOJS	**Bojanci**	**5.79**	**0**	*i*	**Pn**	**17 03 53.3**	**+0.7**
VINC	**Vinca**	**5.81**	**321**	P	**Pn**	**17 03 52.5**	**-0.3**
VAY	**Valandovo**	**5.84**	**72**	*e*Pn	**Pn**	**17 03 52.6**	**-0.6**
ERBM	**Eremo**	**5.90**	**324**	Pn	**Pn**	**17 03 55.6**	**+1.8**
comp=Z,153nm,2.3s							
VALM		**5.92**	**323**	P	**Pn**	**17 03 54.0**	**-0.1**
BACM		**5.95**	**322**	P	**Pn**	**17 03 54.9**	**+0.4**
THE	**Thessaloniki**	**6.02**	**79**	*e*P	**Pn**	**17 03 55.2**	**0.0**
THE	**Thessaloniki**	**6.02**	**79**	*e*P	**Pn**	**17 03 55.2**	**-0.1**
KNT	**Kendrikon**	**6.05**	**74**	*e*P	**Pn**	**17 03 56.1**	**+0.4**
KEST	**Kesra**	**6.11**	**231**	P	**Pn**	**17 03 57.0**	**+0.6**
comp=Z,0.4nm,0.3s,baz=315,slow=3.5,SNR=18							
GRAM		**6.11**	**323**	P	**Pn**	**17 03 55.9**	**-0.5**
XOR	**Xorichti**	**6.19**	**91**	*e*P	**Pn**	**17 03 58.2**	**+0.9**
JAVS	**Javornik**	**6.23**	**353**	*i*	**Pn**	**17 03 57.7**	**-0.1**
SC2M	**Scurtabr**	**6.30**	**320**	P	**Pn**	**17 03 58.6**	**-0.1**
SOH	**Sokhos**	**6.33**	**77**	*e*P	**Pn**	**17 03 59.7**	**+0.6**
PLG	**Polygyros**	**6.36**	**81**	*e*P	**Pn**	**17 03 59.4**	**0.0**
SRS	**Serrai**	**6.56**	**75**	*e*P	**Pn**	**17 04 01.8**	**0.0**
VTS	**Vitosha**	**6.69**	**62**	*e*P	**Pn**	**17 04 05.0**	**+1.6**
VTS	**Vitosha**	**6.69**	**62**	⇑*i*P	**Pn**	**17 04 04.8**	**+1.4**
AOS	**Alonnisos**	**6.74**	**92**	*e*P	**Pn**	**17 04 04.1**	**+0.1**
MMB	**Musomiste**	**6.75**	**71**	*e*P	**Pn**	**17 04 04.8**	**+0.7**
OUR	**Ouranopolis**	**6.77**	**82**	*e*P	**Pn**	**17 04 04.6**	**+0.2**
OBKA	**Obir**	**6.81**	**356**	⇑*i*P	**Pn**	**17 04 05.4**	**+0.6**
comp=Z,6.6nm,0.5s							
FIN	**Finale Ligure**	**6.88**	**313**	P	**Pn**	**17 04 06.2**	**+0.5**
RORO		**6.90**	**312**	P	**Pn**	**17 04 07.6**	**+1.6**
PCP	**Pian Castagno**	**6.91**	**316**	P	**Pn**	**17 04 06.4**	**+0.3**
NEGI	**Negi**	**6.96**	**309**	P	**Pn**	**17 04 07.1**	**+0.4**
PKSM	**Moragy**	**6.97**	**20**	⇑*i*P	**Pn**	**17 04 06.9**	**+0.1**
PKSM	**Moragy**	**6.97**	**20**	⇑P	**Pn**	**17 04 06.9**	**+0.1**
MONE	**Monesi**	**7.06**	**311**	P	**Pn**	**17 04 08.6**	**+0.7**
ROB	**Roburent**	**7.12**	**312**	P	**Pn**	**17 04 09.7**	**+1.0**
SAOF	**Saorge**	**7.12**	**309**	P	**Pn**	**17 04 09.2**	**+0.5**
SBF	**Sospel**	**7.13**	**308**	*e*P	**Pn**	**17 04 08.9**	**+0.1**
comp=Z,53nm,0.6s							
SBF	**Sospel**	**7.13**	**308**	*e*P	**Pn**	**17 04 08.9**	**+0.1**
comp=Z,27nm,0.6s							
TOUF	**Mont Tournerai**	**7.33**	**308**	P	**Pn**	**17 04 12.1**	**+0.9**
ENR	**Entracque**	**7.34**	**310**	P	**Pn**	**17 04 12.0**	**+0.6**
STV	**Sta Anna Valdi**	**7.41**	**310**	P	**Pn**	**17 04 13.1**	**+0.9**
LMR	**La Mourre**	**7.46**	**302**	*e*P	**Pn**	**17 04 12.7**	**-0.1**
comp=Z,38nm,0.8s							
LMR	**La Mourre**	**7.46**	**302**	*e*P	**Pn**	**17 04 12.7**	**-0.1**
comp=Z,19nm,0.8s							
FRF	**La Foret Royal**	**7.47**	**304**	*e*P	**Pn**	**17 04 13.1**	**+0.2**
comp=Z,40nm,0.7s							
FRF	**La Foret Royal**	**7.47**	**304**	*e*P	**Pn**	**17 04 13.1**	**+0.2**
comp=Z,20nm,0.7s							
KBA	**Koelnbreinsper**	**7.48**	**350**	⇓*i*	**Pn**	**17 04 24.1**	**+11**
comp=Z,9.9nm,0.6s							
KBA	**Koelnbreinsper**	**7.48**	**350**		**Pn**	**17 04 24.1**	**+11**
comp=Z,9.9nm,0.6s							
KBA	**Koelnbreinsper**	**7.48**	**350**	*e*Pn	**Pn**	**17 04 13.7**	**+0.6**
KBA	**Koelnbreinsper**	**7.48**	**350**	⇑*i*P	**Pn**	**17 04 13.8**	**+0.7**
KBA				pmax	pmax		
comp=Z,6.0nm,0.6s							
KBA	**Koelnbreinsper**	**7.48**	**350**	⇑*i*P	**Pn**	**17 04 13.8**	**+0.7**
comp=Z,5.5nm,0.6s							
KBA				*i*		17 04 24.1	
KBA	**Koelnbreinsper**	**7.48**	**350**	*i* P	**Pn**	**17 04 13.8**	**+0.7**

EMV **Vieux Emosson** 8.79 319⇓*i*P Pn 17 04 27.8 -1.4
comp=Z,31nm,0.6s
SENIN **Lac Senin/Sane** 8.81 322⇓*i*P Pn 17 04 28.9 -0.5
comp=Z,37nm,0.6s
SALAN **Lac Salanfe** 8.81 319⇑*e*P Pn 17 04 28.4 -1.0
comp=Z,64nm,1.4s
GRYON **Gryon** 8.82 320⇓*i*P Pn 17 04 28.5 -1.0
comp=Z,101nm,1.4s
PSZ **Piszkesteto** 8.87 21⇑*e* Pn 17 04 30.3 +0.1
WIMIS **Wimmis** 8.88 324⇑*i*P Pn 17 04 29.2 -1.0
FUR **Furstenfeldbru** 8.91 343 *e*Pn Pn 17 04 30.8 +0.2
AIGLE **Aigle** 8.96 320⇓*i*P Pn 17 04 29.5 -1.7
comp=Z,63nm,1.2s
SIVA **Sivas** 8.97 119 *e*P Pn 17 04 32.8 +1.4
OG01 **Vacheresse** 9.09 319 P Pn 17 04 32.2 -0.6
MTUR **Matau** 9.13 50⇓*i*P Pn 17 04 40.0 +6.6
VYHS **Vyhne** 9.16 15 *e*PN Pn 17 04 34.6 +0.9
GEC2 **GERESS Array S** 9.19 354 *e*Pn Pn 17 04 34.1 0.0
GERES **GERESS Array B** 9.19 354 P Pn 17 04 33.9 -0.2
comp=Z,0.4nm,0.3s,baz=169,slow=13,SNR=12
VOIR **Voirons** 9.24 49⇑*i*P Pn 17 04 37.1 +2.4
VIVF **Saint-Julien-I** 9.34 307 *e*P Pn 17 04 35.2 -0.7
comp=Z,47nm,1.0s
VIVF **Saint-Julien-I** 9.34 307 *e*P Pn 17 04 35.2 -0.7
comp=Z,24nm,1.0s
SULZ **Cheisacher** 9.34 329⇑*e*P Pn 17 04 30.4 -5.6
comp=Z,31nm,0.5s
LAST **Lasithi** 9.35 116 *e*P Pn 17 04 35.9 -0.2
BALST **Balsthal** 9.36 327⇓*i*P Pn 17 04 35.4 -0.8
comp=Z,172nm,0.9s
GIMEL **St. Georges /** 9.44 319⇓*e*P Pn 17 04 29.6 -7.5
comp=Z,50nm,0.9s
KHC **Kasperske Hory** 9.48 354 *e*P Pn 17 04 36.9 -0.8
LASF **Ste Croix** 9.51 301 *e*P Pn 17 04 37.5 -0.6
comp=Z,86nm,1.1s
LASF **Ste Croix** 9.51 301 *e*P Pn 17 04 37.5 -0.6
comp=Z,43nm,1.1s
OG05 **Jujurieux** 9.54 315 P Pn 17 04 38.5 +0.1
KECS **Kecovo** 9.55 22 *es*PN 17 04 45.0
WET **Wettzell** 9.57 351 *e*Pn Pn 17 04 38.3 -0.5
WET **Wettzell** 9.57 351 *e*Pn Pn 17 04 38.4 -0.4
CABF **La Chapelle** 9.58 319 *e*P Pn 17 04 37.9 -1.0
comp=Z,131nm,0.7s
BOURR **Bourrignon** 9.61 326⇓*i*P Pn 17 04 35.8 -3.4
comp=Z,97nm,0.8s
BRANT **Les Verrieres** 9.62 322⇓*i*P Pn 17 04 35.6 -3.7
comp=Z,70nm,0.5s
VRAC **Vranov** 9.64 5 P Pn 17 04 39.4 -0.3
comp=Z,1.7nm,0.3s,baz=188,slow=7.1,SNR=3.1
VRAC **Vranov** 9.64 5 P Pn 17 04 39.4 -0.3
VRAC pmax pmax
comp=Z,2.0nm,0.3s
FELD **Feldberg im Sc** 9.67 330 P Pn 17 04 39.7 -0.3
LOMF **Lomont** 9.75 324 P Pn 17 04 38.4 -2.6
MLR **Muntele Rosu** 9.80 50 P Pn 17 04 43.6 +2.0
comp=Z,2.0nm,0.3s,baz=306,slow=7.1,SNR=18
MLR **Muntele Rosu** 9.80 50⇑*i*P Pn 17 04 44.5 +2.9
MLR **Muntele Rosu** 9.80 50 P Pn 17 04 43.6 +2.0
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR **Muntele Rosu** 9.80 50 ⇑P Pn 17 04 44.5 +2.9
ZKR **Zakros** 9.89 114 *e*P Pn 17 04 43.0 +0.3
BFO **Black Forest** 9.93 332 *e*Pn Pn 17 04 42.4 -0.8
BFO *es*Sn S 17 06 31.6 -3.5
MOF **Molkenrain** 10.00 327 P Pn 17 04 43.2 -0.9
HINF **Hinteralfeld** 10.10 326 *e*P Pn 17 04 43.9 -1.3
comp=Z,37nm,0.4s
HINF **Hinteralfeld** 10.10 326 *e*P Pn 17 04 43.9 -1.3
HINF pmax pmax
comp=Z,18nm,0.4s
HINF **Hinteralfeld** 10.10 326 *e*P Pn 17 04 43.9 -1.3
comp=Z,18nm,0.4s
ROTZ **Rotzenmuhle** 10.27 349 *e*Pn Pn 17 04 49.3 +1.9
ECH **Echery** 10.28 328 P Pn 17 04 47.3 -0.2
VALF **Valcebollere** 10.31 289 P Pn 17 04 51.3 +3.4
WLS **Welschbruch** 10.36 330 P Pn 17 04 48.5 0.0
GRA1 **Grafenberg Arr** 10.37 346 *e*Pn Pn 17 04 49.1 +0.5
GRF **Grafenberg Arr** 10.37 346 *e*Pn Pn 17 04 49.1 +0.5
MTLF **Montolieu** 10.39 295 *e*P Pn 17 04 49.2 +0.4
CDF **Champ du Feu** 10.39 329 *e*P Pn 17 04 48.1 -0.8
comp=Z,32nm,0.5s
CDF **Champ du Feu** 10.39 329 *e*P Pn 17 04 48.1 -0.8
CDF pmax pmax
comp=Z,16nm,0.5s
CDF **Champ du Feu** 10.39 329 *e*P Pn 17 04 48.1 -0.8
comp=Z,16nm,0.5s
LBL **Lubilhac** 10.40 306 P Pn 17 04 50.0 +1.0
PLOR **Plostina** 10.41 50⇓*i*P Pn 17 04 51.2 +2.1
HAU **Haudompre** 10.46 325 *e*P Pn 17 04 48.6 -1.1
comp=Z,32nm,0.4s
HAU **Haudompre** 10.46 325 *e*P Pn 17 04 48.6 -1.1
HAU pmax pmax
comp=Z,16nm,0.4s
HAU **Haudompre** 10.46 325 *e*P Pn 17 04 48.6 -1.1
comp=Z,16nm,0.4s
MANZ **Manzenberg** 10.50 349 *e*Pn Pn 17 04 52.4 +2.2
KOLS **Kolonicke sedl** 10.51 26 *es*PN 17 04 55.5
PLDF **La Plantade** 10.55 310 P Pn 17 04 50.4 -0.4
STHS **Stebnicka Huta** 10.61 22 *e*PN Pn 17 04 53.1 +1.5
DPC **Dobruska-Polom** 10.66 4 *e*P Pn 17 04 56.6 +4.4
BURAR **Bucovina Array** 10.72 39⇓*i*P Pn 17 04 56.2 +3.3
BURAR **Bucovina Array** 10.72 39 ⇓P Pn 17 04 56.2 +3.4
WERN **Wernitzgruen** 10.76 350 *e*Pn Pn 17 04 53.9 +0.5
THEF **They Montfort** 10.79 325 P Pn 17 04 52.7 -1.0
SMF **Signal de Mont** 10.80 314 *e*P Pn 17 04 51.9 -2.0
comp=Z,55nm,0.5s
SMF **Signal de Mont** 10.80 314 *e*P Pn 17 04 51.9 -2.0
SMF pmax pmax
comp=Z,28nm,0.5s
SMF **Signal de Mont** 10.80 314 *e*P Pn 17 04 51.9 -2.0
comp=Z,28nm,0.5s
PYM **Petit Puy Mans** 10.80 308 P Pn 17 04 53.4 -0.5
PVCC **Panska Ves** 10.82 358 *e*P Pn 17 04 54.6 +0.4
GUNZ **Gunzen** 10.84 350 *e*Pn Pn 17 04 54.9 +0.5
TANN **Tannenbergstha** 10.87 351 *e*Pn Pn 17 04 58.7 +3.9
EPOB **Poblet** 10.87 283 P Pn 17 04 57.3 +2.5
comp=Z,6.8nm,0.4s
AGO **Saint Agoulin** 10.88 310 P Pn 17 04 54.8 -0.1
TOD **Tromm** 10.88 337 P Pn 17 04 58.5 +3.6
WERD **Werda** 10.92 350 *e*Pn Pn 17 04 55.5 +0.1
CFR **Carcaliu** 11.00 56⇑*i*P Pn 17 05 00.4 +4.0
CAF **Calviac** 11.03 302 *e*P Pn 17 04 55.5 -1.2
comp=Z,30nm,0.8s
CAF **Calviac** 11.03 302 *e*P Pn 17 04 55.5 -1.2
CAF pmax pmax
comp=Z,15nm,0.8s
CAF **Calviac** 11.03 302 *e*P Pn 17 04 55.5 -1.2
comp=Z,15nm,0.8s
AVF **Avril sur Loir** 11.16 313 *e*P Pn 17 04 56.9 -1.4
comp=Z,44nm,0.6s
AVF **Avril sur Loir** 11.16 313 *e*P Pn 17 04 56.9 -1.4
AVF pmax pmax
comp=Z,22nm,0.6s
AVF **Avril sur Loir** 11.16 313 *e*P Pn 17 04 56.9 -1.4
comp=Z,22nm,0.6s
LOR **Lormes** 11.17 316 *e*P Pn 17 04 55.9 -2.5
comp=Z,12nm,0.5s
LOR **Lormes** 11.17 316 *e*P Pn 17 04 55.9 -2.5
LOR pmax pmax
comp=Z,6.0nm,0.5s
LOR **Lormes** 11.17 316 *e*P Pn 17 04 55.9 -2.5
comp=Z,6.1nm,0.5s
MOX **Moxa** 11.22 348 *e*Pn Pn 17 05 00.6 +1.6
SSF **Saint Saulge** 11.23 315 *e*P Pn 17 04 56.9 -2.3
comp=Z,15nm,0.4s
SSF **Saint Saulge** 11.23 315 *e*P Pn 17 04 56.9 -2.3
SSF pmax pmax
comp=Z,8.0nm,0.4s
SSF **Saint Saulge** 11.23 315 *e*P Pn 17 04 56.9 -2.3
comp=Z,7.5nm,0.4s
KWP **Kalwaria** 11.26 26 *e*P Pn 17 05 02.2 +2.7
MELF **Melles** 11.31 291 P Pn 17 05 03.3 +3.1
BGF **Bois d'Agland** 11.32 311 *e*P Pn 17 04 58.9 -1.3
comp=Z,87nm,0.8s
BGF **Bois d'Agland** 11.32 311 *e*P Pn 17 04 58.9 -1.3
BGF pmax pmax
comp=Z,44nm,0.8s
BGF **Bois d'Agland** 11.32 311 *e*P Pn 17 04 58.9 -1.3
comp=Z,44nm,0.8s
MEZF **Maizieres J'vi** 11.41 324 *e*P Pn 17 04 59.8 -1.5
comp=Z,59nm,0.7s
MEZF **Maizieres J'vi** 11.41 324 *e*P Pn 17 04 59.8 -1.5
comp=Z,59nm,0.7s
ERTA **Horta de San J** 11.42 281 P Pn 17 05 03.8 +2.3
comp=Z,13nm,0.4s
RJF **Les Rejaudoux** 11.54 303 *e*P Pn 17 05 00.3 -2.6
comp=Z,32nm,0.9s
RJF **Les Rejaudoux** 11.54 303 *e*P Pn 17 05 00.3 -2.6
RJF pmax pmax
comp=Z,16nm,0.9s
RJF **Les Rejaudoux** 11.54 303 *e*P Pn 17 05 00.3 -2.6
comp=Z,16nm,0.9s
TCF **Toulx Ste Croi** 11.55 309 *e*P Pn 17 05 02.2 -0.9
comp=Z,14nm,0.8s
TCF **Toulx Ste Croi** 11.55 309 *e*P Pn 17 05 02.2 -0.9
TCF pmax pmax
comp=Z,7.0nm,0.8s
TCF **Toulx Ste Croi** 11.55 309 *e*P Pn 17 05 02.2 -0.9
comp=Z,7.2nm,0.8s
RESF **Ens** 11.61 290 P Pn 17 05 03.7 0.0
EPF **Esparros** 11.65 291 *e*P Pn 17 05 04.0 -0.2
comp=Z,15nm,0.8s
EPF **Esparros** 11.65 291 *e*P Pn 17 05 04.0 -0.2
EPF pmax pmax
comp=Z,7.0nm,0.8s
EPF **Esparros** 11.65 291 *e*P Pn 17 05 04.0 -0.2
comp=Z,7.3nm,0.8s
UBBA **Unterbreizbach** 11.69 344 *e*Pn Pn 17 05 06.1 +1.4
CLL **Collm** 11.70 353 *e*P Pn 17 05 06.0 +1.2
comp=Z,12nm,1.0s
EBIE **Bielsa** 11.73 290 P Pn 17 05 05.5 +0.3
comp=Z,14nm,0.7s
WLF **Walferdange** 11.84 330 P Pn 17 05 08.4 +1.9
VIEF **Viey** 11.85 290 P Pn 17 05 06.2 -0.5
LFF **La Frestale** 11.90 301 *e*P Pn 17 05 07.8 +0.4
comp=Z,59nm,0.7s
LFF **La Frestale** 11.90 301 *e*P Pn 17 05 07.8 +0.4
LFF pmax pmax
comp=Z,30nm,0.7s
LFF **La Frestale** 11.90 301 *e*P Pn 17 05 07.8 +0.4
comp=Z,30nm,0.7s
EBEN **Beniarda** 12.01 270 P Pn 17 05 11.6 +2.9
comp=Z,112nm,1.4s
EMOS **Mosqueruela** 12.03 278 P Pn 17 05 12.2 +3.3
comp=Z,31nm,1.0s
ESAC **San Caprasio** 12.06 285 P Pn 17 05 10.6 +1.3
comp=Z,61nm,0.5s
ETSF **Etsaut** 12.27 290 *e*P Pn 17 05 12.5 +0.7
comp=Z,38nm,0.6s
ETSF **Etsaut** 12.27 290 *e*P Pn 17 05 12.5 +0.7
ETSF pmax pmax
comp=Z,19nm,0.6s
ETSF **Etsaut** 12.27 290 *e*P Pn 17 05 12.5 +0.7
comp=Z,19nm,0.6s
GTTG **Gvttingen** 12.38 345 *e*Pn Pn 17 05 14.0 +0.8
MEM **Membach** 12.67 332 P Pn 17 05 17.7 +1.1
GIVF **Givet** 12.71 328 *e*P Pn 17 05 16.1 -1.1
comp=Z,5.1nm,0.3s
GIVF **Givet** 12.71 328 *e*P Pn 17 05 16.1 -1.1
GIVF pmax pmax
comp=Z,3.0nm,0.3s
GIVF **Givet** 12.71 328 *e*P Pn 17 05 16.1 -1.1
comp=Z,2.5nm,0.3s
BCLA **Clavier** 12.77 330 P Pn 17 05 17.4 -0.5
SJPF **Ste Jean** 12.79 291 *e*P Pn 17 05 18.4 +0.3
comp=Z,58nm,0.7s
SJPF **Ste Jean** 12.79 291 *e*P Pn 17 05 18.4 +0.3
SJPF pmax pmax
comp=Z,29nm,0.7s
SJPF **Ste Jean** 12.79 291 *e*P Pn 17 05 18.4 +0.3
comp=Z,29nm,0.7s
DOU **Dourbes** 12.80 328 P Pn 17 05 18.5 +0.3
BAIF **Baives** 12.94 327 *e*P Pn 17 05 17.2 -2.6
comp=Z,13nm,0.6s
BAIF **Baives** 12.94 327 *e*P Pn 17 05 17.2 -2.6
BAIF pmax pmax
comp=Z,7.0nm,0.6s
BAIF **Baives** 12.94 327 *e*P Pn 17 05 17.2 -2.6
comp=Z,6.6nm,0.6s
EALK **Alkurruntz** 13.01 291 P Pn 17 05 21.6 +0.9
comp=Z,8.3nm,0.6s
ELIZ **Elizondo** 13.02 291 P Pn 17 05 21.1 +0.3
ELIZ pmax pmax
comp=Z,10.0nm,0.4s
ELIZ **Elizondo** 13.02 291 P Pn 17 05 21.1 +0.2
comp=Z,10nm,0.4s
ETOR **Torete** 13.23 280 P Pn 17 05 23.1 -0.3
ETOR pmax pmax
comp=Z,18nm,0.7s
ETOR **Torete** 13.23 280 P Pn 17 05 23.1 -0.3
comp=Z,18nm,0.7s
EVIA **Vianos** 13.78 271 P Pn 17 05 30.3 +0.3
EVIA pmax pmax
comp=Z,20nm,0.6s
EVIA **Vianos** 13.78 271 P Pn 17 05 30.3 +0.3
comp=Z,20nm,0.6s
LDF **La Druitiere** 14.11 314 *e*P Pn 17 05 32.0 -2.0
comp=Z,51nm,0.4s
LDF **La Druitiere** 14.11 314 *e*P Pn 17 05 32.0 -2.0
LDF pmax pmax
comp=Z,26nm,0.4s
LDF **La Druitiere** 14.11 314 *e*P Pn 17 05 32.0 -2.0
comp=Z,26nm,0.4s
BR131 **Keskin Array S** 14.20 84 *e*P Pn 17 05 36.4 +1.4
comp=Z,7.1nm,0.6s
BRTR **Keskin Array B** 14.20 84 P Pn 17 05 36.9 +1.9
comp=Z,0.8nm,0.3s,baz=264,slow=8.3,SNR=25
BRTR **Keskin Array B** 14.20 84 P Pn 17 05 36.9 +1.9
BRTR pmax pmax
comp=Z,1.0nm,0.3s
ELAN **Lanestosa** 14.40 290 P Pn 17 05 36.9 -0.5
comp=Z,19nm,0.8s
FLN **La Foliniere** 14.40 314 *e*P Pn 17 05 35.5 -1.9
comp=Z,63nm,0.6s
FLN **La Foliniere** 14.40 314 *e*P Pn 17 05 35.5 -1.9
FLN pmax pmax
comp=Z,31nm,0.6s
FLN **La Foliniere** 14.40 314 *e*P Pn 17 05 35.5 -1.9
comp=Z,32nm,0.6s
GRR **Gorron** 14.42 312 *e*P Pn 17 05 36.8 -0.8
AKASG **Malin Array Be** 14.75 37 P Pn 17 05 39.8 -1.8
comp=Z,12nm,0.3s,baz=231,slow=10,SNR=45
AKASG S S 17 08 20.2 -1.7
comp=Z,0.8nm,0.3s,baz=233,slow=20,SNR=4.4
AKASG **Malin Array Be** 14.75 37 *i*P Pn 17 05 39.7 -1.8
AKASG pmax pmax
comp=Z,13nm,0.4s
AKASG **Malin Array Be** 14.75 37 *i*P Pn 17 05 39.7 -1.8
comp=Z,13nm,0.4s
AKBB **Malin Array Si** 14.75 37 *e*P Pn 17 05 39.6 -1.9
ESDC **Sonseca Array** 14.76 276 P Pn 17 05 41.0 -0.7
comp=Z,1.9nm,0.3s,baz=77,slow=11,SNR=29
ESDC **Sonseca Array** 14.76 276 P Pn 17 05 40.8 -0.8
comp=Z,1.1nm,0.5s
ESLA **Sonseca Array** 14.76 276 *e*P Pn 17 05 40.8 -0.8
comp=Z,1.7nm,0.7s
GUD **Guadarrama** 14.83 280 P Pn 17 05 41.3 -1.1
GUD pmax pmax
comp=Z,7.0nm,0.5s
GUD **Guadarrama** 14.83 280 P Pn 17 05 41.3 -1.2
comp=Z,7.1nm,0.5s
EBAN **Banos Encina** 14.86 270 P Pn 17 05 41.5 -1.3
EBAN pmax pmax
comp=Z,6.0nm,0.4s
EBAN **Banos Encina** 14.86 270 P Pn 17 05 41.5 -1.3
comp=Z,5.6nm,0.4s
EGUA **Guajares** 15.02 265 P Pn 17 05 43.1 -1.6
EGUA pmax pmax
comp=Z,1.0nm,0.3s
EGUA **Guajares** 15.02 265 P Pn 17 05 43.1 -1.6
comp=Z,0.5nm,0.3s
ERON **Agron** 15.15 266 P Pn 17 05 46.1 -0.2
comp=Z,9.5nm,0.6s
ERON **Agron** 15.15 266 P Pn 17 05 46.1 -0.2
comp=Z,9.5nm,0.6s
SGMF **Saint Gilles** 15.34 310 *e*P Pn 17 05 46.1 -2.4
comp=Z,30nm,0.7s
SGMF **Saint Gilles** 15.34 310 *e*P Pn 17 05 46.1 -2.4
SGMF pmax pmax
comp=Z,15nm,0.7s
SGMF **Saint Gilles** 15.34 310 *e*P Pn 17 05 46.1 -2.4
comp=Z,15nm,0.7s
ELUQ **Luque** 15.37 268 P Pn 17 05 47.6 -1.2
ELUQ pmax pmax
comp=Z,30nm,0.4s
ELUQ **Luque** 15.37 268 P Pn 17 05 47.6 -1.1
comp=Z,30nm,0.4s
ELUQ **Luque** 15.37 268 P Pn 17 05 47.6 -1.2
comp=Z,30nm,0.4s
ELOJ **Sierra Loja** 15.38 267 P Pn 17 05 47.4 -1.6
ELOJ pmax pmax
comp=Z,4.0nm,0.4s
ELOJ **Sierra Loja** 15.38 267 P Pn 17 05 47.4 -1.5
comp=Z,4.0nm,0.4s
ELOJ **Sierra Loja** 15.38 267 P Pn 17 05 47.4 -1.6
comp=Z,4.2nm,0.4s
EADA **Adamuz** 15.47 271 P Pn 17 05 48.5 -1.5
comp=Z,4.0nm,0.6s
EADA **Adamuz** 15.47 271 P Pn 17 05 48.5 -1.5
comp=Z,9.4nm,0.6s
QUIF **Quistinic** 15.56 308 *e*P Pn 17 05 48.8 -2.3
comp=Z,18nm,0.5s
QUIF **Quistinic** 15.56 308 *e*P Pn 17 05 48.8 -2.3
QUIF pmax pmax
comp=Z,9.0nm,0.5s
QUIF **Quistinic** 15.56 308 *e*P Pn 17 05 48.8 -2.3
comp=Z,8.9nm,0.5s
ROSF **Rostrenen** 15.81 309 *e*P Pn 17 05 51.1 -2.8
comp=Z,21nm,0.6s
ROSF **Rostrenen** 15.81 309 *e*P Pn 17 05 51.1 -2.8
ROSF pmax pmax
comp=Z,10.0nm,0.6s
ROSF **Rostrenen** 15.81 309 *e*P Pn 17 05 51.1 -2.8
comp=Z,10nm,0.6s
EMIJ **Mijas** 16.02 265 P P 17 05 54.5 0.0
comp=Z,56nm,0.5s
EMIJ **Mijas** 16.02 265 P P 17 05 54.5 +0.1
comp=Z,56nm,0.5s
EJIF **Jimena Fronter** 16.59 265 P P 17 05 59.4 -1.2
EJIF pmax pmax
comp=Z,12nm,0.4s
EJIF **Jimena Fronter** 16.59 265 P P 17 05 59.4 -1.3
comp=Z,12nm,0.4s
EJIF **Jimena Fronter** 16.59 265 P P 17 05 59.4 -1.2
comp=Z,12nm,0.4s
ECAL **Calabor** 16.75 285 P P 17 06 02.4 0.0
comp=Z,12nm,0.5s
ECAL **Calabor** 16.75 285 P P 17 06 02.4 +0.1
comp=Z,12nm,0.5s
PBRG **Braganca** 16.75 284 *e*P P 17 06 02.2 -0.2
comp=Z,22nm,1.5s
ESPR **Espera** 16.77 267 P P 17 06 01.4 -1.2
comp=Z,34nm,0.7s
ESPR **Espera** 16.77 267 P P 17 06 01.4 -1.2
comp=Z,34nm,0.7s
ERUA **La Rua** 17.06 286 P P 17 06 05.0 -0.7
ERUA pmax pmax
comp=Z,12nm,0.6s
ERUA **La Rua** 17.06 286 P P 17 06 05.0 -0.6
comp=Z,12nm,0.6s
ERUA **La Rua** 17.06 286 P P 17 06 05.0 -0.7
comp=Z,12nm,0.6s
EPON **Pontenova** 17.11 289 P P 17 06 06.2 -0.1
comp=Z,51nm,1.2s
EPON **Pontenova** 17.11 289 P P 17 06 06.2 -0.1
comp=Z,51nm,1.2s
EMIN **Mina Concepcio** 17.17 270 P P 17 06 07.1 +0.2
comp=Z,63nm,0.8s
EMIN **Mina Concepcio** 17.17 270 P P 17 06 07.1 +0.2
comp=Z,63nm,0.8s
ANN **Anapa** 17.21 66*c* *i*P P 17 06 06.5 -0.8
ANN *e*S S 17 09 10.1 -1.0
ANN pmax pmax
comp=Z,100nm,1.0s
ANN **Anapa** 17.21 66 *i*P P 17 06 06.5 -0.8
comp=Z,100nm,1.0s
EBAD **Badajoz** 17.23 274 P P 17 06 07.2 -0.4
comp=Z,6.7nm,0.4s
EBAD **Badajoz** 17.23 274 P P 17 06 07.2 -0.4
comp=Z,6.7nm,0.4s
MDT **Midelt** 17.38 253 P P 17 06 08.8 -0.4
comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=22
MTE **Manteigas** 17.42 280 *e*P P 17 06 10.6 +1.0
comp=Z,33nm,1.9s
PCBR **Castelo Branco** 17.43 278 *e*P P 17 06 09.0 -0.7
comp=Z,17nm,1.1s
PVRL **Vila Real** 17.50 282 *e*P P 17 06 11.3 +0.9
PESTR **Estremoz** 17.66 275 *e*P P 17 06 12.8 +0.6
PVIS **Viseu** 17.66 281 *e*P P 17 06 12.1 -0.1
comp=Z,44nm,1.8s
EGRO **El Granado** 17.85 270 P P 17 06 13.6 -0.7
comp=Z,17nm,0.5s
EGRO **El Granado** 17.85 270 P P 17 06 13.6 -0.7
comp=Z,17nm,0.5s
PBEJ **Beja** 18.04 272 *e*P P 17 06 15.9 -0.3
comp=Z,7.4nm,0.9s
EVO **Evora** 18.05 274 *e*P P 17 06 15.5 -0.8
comp=Z,6.2nm,0.5s
MALT **Malatya** 18.10 87⇑*i*P P 17 06 18.2 +1.3
MALT **Malatya** 18.10 87 ⇑P P 17 06 18.2 +1.3
STS **Santiago** 18.11 288 P P 17 06 16.2 -0.8
STS pmax pmax
comp=Z,9.0nm,0.6s
STS **Santiago** 18.11 288 P P 17 06 16.2 -0.8
comp=Z,8.6nm,0.6s
STS **Santiago** 18.11 288 P P 17 06 16.2 -0.8
comp=Z,9.0nm,0.6s
EZAM **Zamans** 18.21 285 P P 17 06 16.0 -2.1
EZAM pmax pmax
comp=Z,21nm,0.9s
EZAM **Zamans** 18.21 285 P P 17 06 16.0 -2.0
comp=Z,21nm,0.9s
EZAM **Zamans** 18.21 285 P P 17 06 16.0 -2.1
comp=Z,21nm,0.9s
EIL **Elat** 19.05 116 *e*P P 17 06 28.8 +1.8
comp=Z,204nm,0.9s
EIL **Elat** 19.05 116 *e*P P 17 06 28.8 +1.8
comp=Z,204nm,0.9s
ASF **Jabal al Asfar** 19.08 106 P P 17 06 29.9 +2.4
comp=Z,0.8nm,0.3s,baz=172,slow=4.7,SNR=13
ASF **Jabal al Asfar** 19.08 106 P P 17 06 29.9 +2.5
ASF pmax pmax
comp=Z,1.0nm,0.3s
EKA **Eskdalemuir Ar** 19.85 328 P P 17 06 33.4 -2.1
comp=Z,2.3nm,0.3s,baz=134,slow=9.4,SNR=42
EKA **Eskdalemuir Ar** 19.85 328 P P 17 06 33.4 -2.1
EKA pmax pmax
comp=Z,2.0nm,0.3s
VRSR **Storozhevoye** 20.28 48 *e*P P 17 06 38.4 -1.6
VRSR pmax pmax
comp=Z,20nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR **Storozhevoye** 20.28 48 *e*P P 17 06 38.4 -1.6
comp=E,20nm,0.7s
HFS **Hagfors** 20.46 358 P P 17 06 39.9 -2.1
comp=E,6.2nm,0.4s,baz=168,slow=12,SNR=42
HFS **Hagfors** 20.46 358 P P 17 06 39.9 -2.0
HFS pmax pmax
comp=Z,6.0nm,0.4s
KIV **Kislovodsk** 20.87 69 *e*P P 17 06 46.4 +0.4
KIV pmax pmax
comp=Z,14nm,1.0s
KIV **Kislovodsk** 20.87 69 P P 17 06 46.1 +0.2
comp=Z,7.6nm,0.8s
KIV **Kislovodsk** 20.87 69 P P 17 06 46.1 +0.1
comp=Z,7.6nm,0.8s
OBN **Obninsk** 21.00 36⇑*i*P P 17 06 46.2 -0.9
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN **Obninsk** 21.00 36 *i*P P 17 06 46.2 -0.9
comp=Z,8.0nm,0.9s
NB2 **NORSAR Subarra** 21.49 355 P P 17 06 50.1 -1.5
comp=Z,0.4nm,0.5s,mb3.0,baz=176,slow=11
NOA **NORSAR Array B** 21.49 355 P P 17 06 49.9 -1.8
comp=Z,2.1nm,0.7s,mb3.6,baz=182,slow=12,SNR=12
NOA **NORSAR Array B** 21.49 355 P P 17 06 49.9 -1.7
NOA pmax pmax
comp=Z,2.0nm,0.7s
ZEI **Tsey** 21.75 73 *e*P P 17 06 55.8 +1.8
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
ZEI **Tsey** 21.75 73 *e*P P 17 06 55.8 +1.8
comp=Z,9.0nm,0.9s,mb4.1
GNI **Garni** 22.61 79 P P 17 07 03.7 +1.8
comp=Z,10nm,0.6s,mb4.3,baz=299,slow=4.1,SNR=8.0
GNI **Garni** 22.61 79*d* *i*P P 17 07 04.1 +2.2
GNI pmax pmax
comp=Z,37nm,1.7s
FINES **FINESS Array B** 22.76 14 P P 17 07 02.7 -0.5
comp=Z,3.4nm,0.4s,mb4.0,baz=181,slow=8.2,SNR=46
FINES **FINESS Array B** 22.76 14 P P 17 07 02.7 -0.5
FINES pmax pmax
comp=Z,3.0nm,0.4s
KAF **Kangasniemi** 23.43 13 *ep* P 17 07 07.0 -2.2
baz=200,slow=10

JOF	Joensuu	25.17	17	*e*p	P	17 07 23.3	-1.7
RST	Umm Al-Ruwaisa	27.96	102	*e*P	P	17 07 50.7	+1.0
RST				AMb	AMB	17 07 51.5	
comp=Z,18nm,0.6s,mb4.7							
MIB	Mutribah	28.07	101	*e*P	P	17 07 52.0	+1.3
MIB				AMb	AMB	17 07 52.9	
comp=Z,35nm,0.6s,mb5.0							
NAY	Al-Naaiem	28.27	102	*e*P	P	17 07 53.3	+0.8
NAY				AMb	AMB	17 07 54.1	
comp=Z,4.5nm,0.7s,mb4.0							
UMR	Umm Al-Rimmam	28.47	101	*e*P	P	17 07 55.5	+1.2
UMR				AMb	AMB	17 07 56.1	
comp=Z,25nm,0.5s,mb4.9							
RDF	Al-Radifah	28.66	102	*e*P	P	17 07 57.3	+1.3
RDF				AMb	AMB	17 07 59.0	
comp=Z,16nm,0.7s,mb4.6							
TORD	Torodi Ar. Bea	29.02	208	P	P	17 07 59.0	-0.1
comp=Z,0.5nm,0.4s,mb3.3,baz=10,slow=9.1,SNR=7.3							
ORR	Orenburg	29.73	53	*e*P	P	17 08 05.8	+0.4
ORR				pmax	pmax		
comp=Z,20nm,1.0s,mb4.6							
ORR	Orenburg	29.73	53	*e*P	P	17 08 05.8	+0.4
comp=Z,20nm,1.0s,mb4.6							
ARCES	ARCESS Array B	30.38	7	P	P	17 08 09.5	-1.6
comp=Z,0.6nm,0.3s,mb3.6,baz=196,slow=8.4,SNR=22							
ARCES	ARCESS Array B	30.38	7	P	P	17 08 09.5	-1.6
ARCES				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKTK	Aktyubinsk	31.67	56	P	P	17 08 22.5	+0.2
AKTK	Aktyubinsk	31.67	56	P	P	17 08 22.5	+0.2
comp=Z,2.0nm,0.4s,mb4.0							
AKTO	Aktyubinsk	31.67	56	P	P	17 08 22.5	+0.2
comp=Z,2.3nm,0.4s,mb4.0,baz=247,slow=7.1,SNR=14							
AKTO	Aktyubinsk	31.67	56	P	P	17 08 22.5	+0.2
AKTO				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.0							
ARU	Arti	32.78	45⇑	*i*P	P	17 08 31.8	-0.2
ARU				*e*S	S	17 13 25.5	-1.1
ARU				*e*SS	SS	17 15 58.4	-2.8
ARU				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.3							
ARU	Arti	32.78	45	*e*P	P	17 08 31.6	-0.4
comp=Z,10nm,0.6s,mb4.5							
ARU	Arti	32.78	45	*e*P	P	17 08 31.6	-0.4
comp=Z,10nm,0.6s,mb4.5							
AB31	Akbulak array	32.89	58	*e*P	P	17 08 33.1	+0.2
DBIC	Dimbokro	37.52	214	P	P	17 09 11.9	-0.3
comp=Z,2.3nm,0.6s,mb3.8,baz=51,slow=23,SNR=4.8							
DBIC	Dimbokro	37.52	214	P	P	17 09 11.9	-0.2
DBIC				pmax	pmax		
comp=Z,2.0nm,0.6s							
BRVK	Borovoye	39.29	51	*e*P	P	17 09 27.6	+0.8
BRVK				pmax	pmax		
comp=Z,24nm,0.6s,mb4.8							
BRVK	Borovoye	39.29	51	*e*P	P	17 09 27.6	+0.8
comp=Z,24nm,0.6s,mb4.8							
BRVK	Borovoye	39.29	51	*e*P	P	17 09 27.6	+0.8
comp=Z,24nm,0.6s,mb4.8							
BVA0	Borovoye Array	39.36	51	*i*P	P	17 09 27.7	+0.3
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.2							
BVA0	Borovoye Array	39.36	51	*i*P	P	17 09 27.7	+0.3
comp=Z,1.0nm,0.9s,mb3.2							
BVAR	Borovoye Array	39.36	51	P	P	17 09 27.9	+0.6
comp=Z,4.9nm,0.4s,mb4.3,baz=250,slow=5.9,SNR=55							
BVAR				PP	PP	17 11 02.4	-2.2
comp=Z,1.4nm,0.7s,baz=280,slow=8.9,SNR=3.6							
BVAR	Borovoye Array	39.36	51	P	P	17 09 27.9	+0.5
BVAR						17 11 02.4	
BVAR				pmax	pmax		
comp=Z,5.0nm,0.4s							
BVAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BVAR	Borovoye Array	39.36	51	PP	PP	17 11 02.4	-2.3
VOSK	Vostochnaya	39.73	52	P	P	17 09 30.7	+0.3
VOSK				pmax	pmax		
comp=Z,7.0nm,1.1s,mb3.9							
VOSK	Vostochnaya	39.73	52	P	P	17 09 30.7	+0.3
comp=Z,7.0nm,1.1s,mb3.9							
KK31	Karatay Array	40.99	67	*i*P	P	17 09 40.9	+0.2
KK31				pmax	pmax		
comp=Z,6.0nm,0.3s,mb4.3							
KK31	Karatay Array	40.99	67	*i*P	P	17 09 40.9	+0.2
comp=Z,6.0nm,0.3s,mb4.3							
KKAR	Karatay Array	40.99	67	*i*P	P	17 09 40.9	+0.2
KKAR				pmax	pmax		
comp=Z,2.0nm,0.4s,mb3.7							
AAK	Ala-Archa	43.93	66	*d*iP	P	17 10 04.5	+0.3
AAK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.6							
AAK	Ala-Archa	43.93	66	*e*P	P	17 10 03.6	-0.6
comp=Z,3.2nm,0.6s,mb3.7							
AAK	Ala-Archa	43.93	66	*e*P	P	17 10 03.6	-0.6
comp=Z,3.2nm,0.6s,mb3.7							
NVS	Novosibirsk	46.68	48	*e*P	P	17 10 24.8	-0.9
ZAL	Zalesovo	47.76	48	P	P	17 10 34.0	+0.1
comp=Z,7.6nm,0.3s,mb4.4,baz=173,slow=5.7,SNR=20							
ZAL	Zalesovo	47.76	48	*i*P	P	17 10 34.2	+0.3
ZAL				pmax	pmax		
comp=Z,8.0nm,0.4s							
ZAL	Zalesovo	47.76	48	*i*P	P	17 10 34.2	+0.3
comp=Z,8.0nm,0.4s,mb4.4							
MK31	Makanchi Array	48.03	58	*i*P	P	17 10 36.2	+0.2
MK31				pmax	pmax		
comp=Z,7.0nm,0.3s,mb4.5							
MK31	Makanchi Array	48.03	58	*e*P	P	17 10 36.2	+0.3
MK31	Makanchi Array	48.03	58	*i*P	P	17 10 36.2	+0.2
comp=Z,7.0nm,0.3s,mb4.5							
MKAR	Makanchi Array	48.03	58	P	P	17 10 36.0	+0.1
comp=Z,12nm,0.4s,mb4.6,baz=283,slow=6.9,SNR=203							
MKAR	Makanchi Array	48.03	58⇑	*e*P	P	17 10 35.2	-0.8
SCHQ	Schefferville	54.48	315	P	P	17 11 22.3	-1.3
comp=Z,2.1nm,0.4s,mb3.8,baz=28,slow=18,SNR=6.8							
KOLN	Kołdanda	56.87	80	*e*P	P	17 11 40.5	+0.1
comp=Z,8.1nm,0.5s,mb4.4							
GKN	Gorkha	57.53	79	*e*P	P	17 11 45.1	0.0
comp=Z,25nm,0.8s,mb4.7							
DMN	Daman	58.09	79	*e*P	P	17 11 49.5	+0.6
comp=Z,24nm,0.8s,mb4.7							
KKN	Kakani	58.13	79	*e*P	P	17 11 49.2	0.0
comp=Z,14nm,0.7s,mb4.5							
PKI	Pulchoki	58.34	79	*e*P	P	17 11 50.8	+0.2
comp=Z,18nm,0.8s,mb4.6							
GUN	Gumba	58.52	78	*e*P	P	17 11 52.4	+0.5
comp=Z,15nm,0.6s,mb4.6							
JIRN	Jiri	58.89	78	*e*P	P	17 11 55.0	+0.6
comp=Z,6.0nm,0.3s,mb4.5							
TIXI	Tiksi	59.63	20⇑	*e*P	P	17 11 58.6	-0.8
TIXI				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.1							
TIXI	Tiksi	59.63	20	*e*P	P	17 11 58.6	-0.8
comp=Z,10.0nm,1.7s,mb4.1							
SONM	Songino Array	62.65	49	P	P	17 12 20.2	+0.6
comp=Z,2.4nm,0.7s,mb3.9,baz=288,slow=7.8,SNR=9.3							
SONM	Songino Array	62.65	49	P	P	17 12 20.2	+0.6
SONM				pmax	pmax		
comp=Z,2.0nm,0.7s							
ULM	Lac du Bonnet	71.95	321	P	P	17 13 17.1	-0.5
comp=Z,4.1nm,0.6s,mb4.2,baz=27,slow=4.8,SNR=7.8							
SEY	Seymchan	72.12	19	*c*iP	P	17 13 19.5	+0.9
SEY	Seymchan	72.12	19	*i*P	P	17 13 19.5	+0.9
NJ2	Nanjing	79.54	57	*e*P	P	17 14 03.2	+2.8
NJ2				AMB	AMB		
comp=Z,30nm,1.0s,mb5.0							
PET	Petropavlovsk	82.37	21⇑	*e*P	P	17 14 14.8	-0.4
PET				pmax	pmax		
comp=Z,92nm,1.7s,mb5.2							
PET	Petropavlovsk	82.37	21	*e*P	P	17 14 14.8	-0.4
comp=Z,92nm,1.7s,mb5.2							
PDAR	Pinedale Array	83.87	323	P	P	17 14 23.2	+0.4
comp=Z,1.3nm,0.6s,mb4.0,baz=60,slow=7.3,SNR=12							
VNDA	Vanda	139.58	169	PKP	PKPdf	17 21 19.1	+0.6
comp=Z,0.8nm,0.7s,baz=320,slow=3.4,SNR=5.4							
VNDA	Vanda	139.58	169	PKIKP	PKPdf	17 21 19.1	+0.6
VNDA				pmax	pmax		
comp=Z,1.0nm,0.7s							

MOS 11 17:13:17.7±2.4, 4300N×4762E, h15km, mb3.9/1, 2D, Error ellipse: s-maj=33.0km s-min=12.5km az=174.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	Uncukul	0.67	245	*e*PG	Pg	17 13 36.0	+5.2
UNCR				*e*S	Sg	17 13 43.5	+3.8
UNCR				pmax	pmax		
comp=Z,21nm,0.2s							
DLMR	Dylym	0.73	276	⇓*i*PG	Pg	17 13 31.0	-0.9
DLMR				pmax	pmax		
comp=Z,525nm,0.2s							
XNZR	Khunzakh	0.82	236	⇓*i*PG	Pg	17 13 31.0	-2.6
XNZR				pmax	pmax		
comp=Z,109nm,0.2s							
SNJR	Sundja	2.06	273	*e*PN	Pn	17 13 52.8	+1.1
VLKR	Vladikavkaz	2.16	272	*e*PN	Pn	17 13 54.2	+1.1
LACR	Lac	2.45	267	*e*PN	Pn	17 13 57.9	+0.8
ARNR	Ardon	2.45	275	*e*PN	Pn	17 13 58.7	+1.6
PRTR	Priterechnaya	2.54	288	*e*PN	Pn	17 14 01.5	+3.1
PRTR				*e*S	Sn	17 14 30.0	+0.9
ZEI	Tsey	2.74	266	*e*PN	Pn	17 14 01.7	+0.5

ISC 11 17:42:43.8±1.7, 3660N±005×692E±03, h100km, n13, σ0°78/15, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.53	141	P	Pn	17 43 37.2	+0.7
CEP				S	Sn	17 44 17.0	-0.3
THW	Thamme Wali	4.32	151	P	Pn	17 43 47.1	-0.1
SBDP	Sheikh Budin	4.48	163	P	Pn	17 43 48.5	-0.9
AML	Almayashu	6.52	31	P	Pn	17 44 17.5	+0.5
SNR=15							
KK31	Karatay Array	6.57	8	P	Pn	17 44 19.1	+1.4
0.3nm,0.2s,baz=188,slow=14,SNR=13							
KK31				⇓S	Sn	17 45 29.3	-2.0
1.0nm,0.4s,baz=193,slow=22,SNR=5.4							
UCH	Uchtor	6.95	34	P	Pn	17 44 23.3	+0.4
SNR=21							
EKS2	Erkin-Say	7.00	29	P	Pn	17 44 24.0	+0.5
SNR=21							
AAK	Ala-Archa	7.27	32	P	Pn	17 44 27.6	+0.3
SNR=11							
KBK	Karagaybulak	7.49	34	P	Pn	17 44 30.8	+0.6
SNR=5.5							
CHMS	Chumysh	7.67	32	P	Pn	17 44 32.7	-0.1
SNR=8.1							
USP	Ospenovka	7.79	30	P	Pn	17 44 33.9	-0.5
SNR=5.5							
TKM2	Tokmak 2	7.99	36	P	Pn	17 44 36.5	-0.5
SNR=8.8							
TKM2	Tokmak 2	7.99	36	⇑P	Pn	17 44 36.1	-0.9
0.2nm,0.5s							

*ISK **11** 17:52:41.6, 3595N×3152E, h20km, MD3.5*
*HLW **11** 17:53:38.9, 3623N×3130E, h33km, Mb3.6*
*CSEM **11** 17:53:42.5±0.1, 3586N×3144E, h60km, Mw3.2, Error ellipse: s-maj=2.8km s-min=2.2km az=80.0*
*ISCJB **11** 17:53:42.5±0.3, 3587N±002×3147E±003, h74km±13km, Error ellipse: s-maj=4.7km s-min=3.4km az=94.0*
*NIC **11** 17:53:43.1±0.2, 3599N×3164E, h41km, ML3.5, MW3.2*
*GRAL **11** 17:55:19.7±2.0, 3404N×3547E, h18km±16km, MD2.7*

ISC 11 17:53:43.6±1.7, 3589N±002×3148E±003, h31km±16km, n56, σ0°98/72, 2C-9D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	Akamas	1.10	141	P	Pn	17 54 02.6	-0.3
ALFC	Alevga	1.17	128	⇑P	Pn	17 54 02.7	-1.1
26nm,0.2s							
ALFC				S	Sn	17 54 17.9	-0.8
ALFC	Alevga	1.17	128⇑	*e*P	Pn	17 54 02.7	-1.1
26nm,0.2s							
ANTB	Antalya	1.21	327	PN	Pn	17 54 03.1	-1.3
PPCY	Paphos	1.23	144	P	Pn	17 54 05.9	+1.3
HDMB	Hadim	1.35	37	PN	Pn	17 54 04.0	-2.3
ERMK	Ermenek	1.38	57	*i*P	Pn	17 54 06.0	-0.8
ERMK				*i*S	Sn	17 54 26.6	+2.6
ELL	Elmali	1.53	305	PN	Pn	17 54 08.6	-0.2
MAMC	Mammari	1.59	116	P	Pn	17 54 08.4	-1.2
SZAC	Souni-Zanaja	1.61	134	P	Pn	17 54 10.8	+0.9
SZAC				S	Sn	17 54 35.4	+5.8
BCK	Bucak	1.73	336	PN	Pn	17 54 11.3	-0.2
CSS	Prodhromos	1.77	121	P	Pn	17 54 10.5	-1.6
3.5nm,0.3s							
CSS				S	Sn	17 54 32.6	-1.0
GOLH	Golhisar	2.05	312	*i*P	Pn	17 54 18.6	+2.7
GOLH				*i*S	Sn	17 54 47.4	+7.0
ISP	Isparta	2.10	339	PN	Pn	17 54 15.9	-0.7
ISP				SN	Sn	17 54 40.7	-1.0
KONT	Konya--Tatoy	2.17	19	PN	Pn	17 54 16.8	-0.8
PHNC	Paralimni	2.26	112	P	Pn	17 54 19.0	+0.1
4.7nm,0.6s							
PHNC				S	Sn	17 54 48.9	+3.2
MEST	Erdemli	2.27	71	*i*P	Pn	17 54 19.0	+0.1
MEST				*i*S	Sn	17 54 46.6	+0.9
TKTP	Tekketepe	2.34	337	*i*P	Pn	17 54 21.9	+2.0
TKTP				*i*S	Sn	17 54 52.5	+4.8
DALT	Dalyan (Mudla)	2.46	292	*e*PN	Pn	17 54 22.0	+0.5
MERS	Mersin	2.64	67	*e*PN	Pn	17 54 23.8	-0.3
KDHN	Kadinhani	2.68	11	*i*P	Pn	17 54 24.3	-0.3
KDHN				*i*S	Sn	17 54 55.3	-0.6
DENT	Denizli	2.71	314	*e*PN	Pn	17 54 25.2	+0.2
KARA	Karaisali	3.19	63	*e*PN	Pn	17 54 31.6	0.0
KRTS	Karatas	3.22	77	*e*PN	Pn	17 54 32.2	+0.1
DAT	Datca	3.26	286	*e*PN	Pn	17 54 33.6	+1.0
MLSB	Milas	3.29	296	*e*PN	Pn	17 54 33.6	+0.6
BDRM	Kayabasi	3.46	291	*i*P	Pn	17 54 35.6	+0.4
BDRM				*i*S	Sn	17 55 15.8	+0.6
MANT	Manisa	3.49	319	*i*P	Pn	17 54 36.5	+0.8
MANT				*i*S	Sn	17 54 53.1	-23
BODT	Bodrum	3.56	290	*e*PN	Pn	17 54 37.0	+0.3
ESKT	Eskisehir	3.66	352	*e*PN	Pn	17 54 38.0	-0.1
ESKT	Eskisehir	3.66	352	*i*P	Pn	17 54 38.4	+0.4
ESKT				*i*S	Sn	17 55 19.6	-0.6
SEYT	Eskypehyr	3.66	352	*i*P	Pn	17 54 38.4	+0.3
KOZT	Kozan	3.84	64	*e*PN	Pn	17 54 40.8	+0.3
KAMT	Kaman	3.90	26	*e*PN	Pn	17 54 41.2	-0.2
COBT	Iskenderun	3.92	79	*i*P	Pn	17 54 42.7	+1.1
COBT				*i*S	Sn	17 55 25.9	-0.6
BHL	Bhannes	3.96	119	*e*Pg	Sn	17 55 23.7	-3.8
BHL				*e*Sg	Sn	17 55 28.7	+1.1
HWQ	Hawqa	4.00	112	*e*Pg	Sn	17 55 28.1	-0.4
IZM	Izmir	4.20	308	*e*PN	Pn	17 54 46.0	+0.5
RCY	Rachaya	4.30	123	*e*Pg	Sn	17 55 31.7	-4.3
RCY				*e*Sg	Sn	17 55 38.1	+2.0
KMRS	Kahramanmaras	4.65	68	*e*PN	Pn	17 54 52.3	+0.7
SGKT	Sivrigoynuk	4.70	5	*i*P	Pn	17 54 52.3	-0.1
SGKT				*i*S	Sn	17 55 34.0	-12
AMAG	Maghara	5.43	164	⇓P	Pn	17 55 02.8	+0.5
DABA	Dabaa	5.55	210	⇓P	Pn	17 55 02.6	-1.4
KOT	Kottamia	5.95	177	P	Pn	17 55 09.7	+0.1
HMAT	Matruh	6.02	219	⇓P	Pn	17 55 08.2	-2.3
SUZ		6.13	169	⇓P	Pn	17 55 12.8	+0.7
HSAF	As Saff	6.25	179	⇓P	Pn	17 55 14.0	+0.3
HNAT	Natroun	6.28	187	⇓P	Pn	17 55 13.8	-0.2
GLL	Jalalah	6.29	178	⇓P	Pn	17 55 14.6	+0.3
HNKL	Nakhl	6.30	160	P	Pn	17 55 15.2	+0.8
TR2		7.72	165	P	Pn	17 55 34.8	+1.0
AWBH		7.85	197	P	Pn	17 55 35.9	+0.3
SWA1		8.20	218	P	Pn	17 55 39.0	-1.5
SWA2		8.35	219	⇓P	Pn	17 55 40.9	-1.6
SWA2		8.35	219	P	Pn	17 55 40.8	-1.6
HFRF	Wahat Farafira	9.12	198	⇓P	Pn	17 55 53.3	+0.3

*CSEM **11** 17:58:41.9±0.1, 3442N×3205E, h30km, Mw2.8, Error ellipse: s-maj=2.6km s-min=2.0km az=107.0*
*ISCJB **11** 17:58:42.5±0.8, 3442N±007×32.17E±005, h57km±23km, Error ellipse: s-maj=12.5km s-min=6.2km az=25.6*
*HLW **11** 17:58:43.8, 3441N×3205E, h33km, Mb3.3*
*NIC **11** 17:58:43.8±0.3, 3440N×32.13E, h25km, ML3.4, MW3.1*
*GII **11** 17:58:44.2±0.0, 3442N×3235E, h15km±1km, ML2.8/6, Mw3.0/3*

ISC 11 17:58:43.9±0.8, 3446N±006×3219E±005, h49km±27km, n37, σ0°61/43, 3C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.44	17	⇑iP	Pn	17 58 53.8	-0.6
AKMC	Akamas	0.58	12	⇑iP	Pn	17 58 55.7	-0.3
SZAC	Souni-Zanaja	0.65	63	P	Pn	17 58 56.4	-0.5
29nm,0.2s							
SZAC				S	Sn	17 59 06.3	0.0
ALFC	Alevga	0.77	26	⇑P	Pn	17 58 58.3	-0.2
63nm,0.1s							
ALFC				S	Sn	17 59 09.9	+0.7
CSS	Prodhromos	1.07	62	P	Pn	17 59 02.3	-0.2
7.8nm,0.1s							
CSS				S	Sn	17 59 17.3	+1.1
MAMC	Mammari	1.11	50	P	Pn	17 59 03.6	+0.6
HNTI	Hanita	2.84	118	Sn	Sn	17 59 58.7	-1.1
OFRI	'Ofer	2.97	127	Sn	Sn	18 00 01.9	-1.0
MMC7	Mount Meron ar	3.03	117	Pn	Pn	17 59 29.0	-0.4
MMC6	Mount Meron ar	3.04	118	Pn	Pn	17 59 29.2	-0.3
MMA0	Mount Meron ar	3.04	117	Pn	Pn	17 59 29.3	-0.2
MMC5	Mount Meron ar	3.06	117	Pn	Pn	17 59 29.2	-0.4
KSDI	Kefar Szold	3.16	113	Pn	Pn	17 59 30.3	-0.7
KSDI				Sn	Sn	18 00 06.8	-0.7
HRI	Mount Hermon	3.19	111	Pn	Pn	17 59 31.8	+0.3
MMLI	Mount Malkishu	3.38	126	Pn	Pn	17 59 34.2	+0.1
MMLI				Sn	Sn	18 00 12.6	-0.3
HMDT	Nahal Hemdat	3.56	127	Sn	Sn	18 00 17.5	+0.2
AMAG	Maghara	3.91	167	⇓P	Pn	17 59 41.1	-0.2
DRGI	Dragot	3.93	136	Sn	Sn	18 00 26.5	0.0
DSI	Dead Sea	3.94	136	Pn	Pn	17 59 42.1	+0.3
YTIR	Yattir	3.95	141	Sn	Sn	18 00 26.9	-0.1
KZIT	Kziot	4.01	152	Sn	Sn	18 00 28.7	+0.4
HHAG	Hagoal	4.50	181	P	Pn	17 59 50.5	+1.1
HHAG	Hagoal	4.50	181	P	Pn	17 59 50.5	+1.1
KOT	Kottamia	4.53	184	P	Pn	17 59 50.4	+0.5
SUZ		4.64	173	P	Pn	17 59 52.0	+0.6
PRNI	Paran	4.74	149	Pn	Pn	17 59 53.2	+0.4
PRNI				Sn	Sn	18 00 47.0	+0.5
HNKL	Nakhl	4.77	161	P	Pn	17 59 52.8	-0.3
GLL	Jalalah	4.89	185	P	Pn	17 59 54.7	-0.1
HNAT	Natroun	5.00	196	P	Pn	17 59 56.0	-0.3
HRFI	Mount Harif	5.03	151	Pn	Pn	17 59 56.5	-0.2
MBH	Mount Berech	5.20	153	Pn	Pn	18 00 00.5	+1.4
AQBJ	Aqaba	5.31	152	Pn	Pn	18 00 01.6	+1.1
EIL	Elat	5.32	153	Pn	Pn	18 00 01.7	+1.0
HMAT	Matruh	5.44	233	P	Pn	18 00 01.4	-1.0
HKAT	Jabal Katrina	6.12	165	P	Pn	18 00 11.8	+0.2
TR2		6.20	167	P	Pn	18 00 12.2	-0.6
SWA2		7.73	230	P	Pn	18 00 32.9	-0.9

*ISCJB **11** 18:05:16.5±0.7, 2097S±007×686W±0.1, h119km±11km, mb4.2/3, Error ellipse: s-maj=18.3km s-min=9.3km az=136.9*
*IDC **11** 18:05:17.4±1.8, 2096S×6854W, h105km±19km, mb4.0/3, mb1 3.9/6, mb1mx3.6/19, mbtmp4.2/6, Error ellipse: s-maj=28.4km s-min=20.3km az=124.0*
*NEIC **11** 18:05:18.3±0.9, 2105S×6850W, h115km±11km, mb3.7/1, Error ellipse: s-maj=18.0km s-min=12.2km az=83.0*

ISC 11 18:05:17.8±0.7, 2097S±006×685W±01, h108km±11km, n13, σ0°62/15, mb4.2/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.68	193	P	Pn	18 05 47.2	+0.5
35nm,0.3s,baz=19,slow=13,SNR=228							
LVC				S	Sn	18 06 08.6	0.0
163nm,0.3s,baz=263,slow=23,SNR=137							
LPAZ	La Paz	4.67	5	P	Pn	18 06 31.0	+4.8
2.2nm,0.3s,baz=200,slow=7.3,SNR=65							
ARE	Arequipa	5.29	327	*e*P	Pn	18 06 35.0	+0.4
ARE				*e*S	Sn	18 07 34.0	-0.4
SIV	San Ignacio	8.62	56	P	Pn	18 07 19.9	+0.1
15nm,0.3s,baz=251,slow=11,SNR=127							
CFAA	Coronel Fontan	10.60	179	P	Pn	18 07 41.9	-4.6
0.1nm,0.3s,baz=349,slow=10,SNR=4.2							
CFAA				S	Sn	18 09 31.8	-11
0.3nm,0.3s,baz=186,slow=15,SNR=8.2							
CPUP	Villa Florida	11.56	120	P	Pn	18 07 58.3	-1.0
0.6nm,0.3s,baz=278,slow=9.4,SNR=8.0							
PLCA	Paso Flores	19.78	185	P	P	18 09 39.1	-0.3
0.1nm,0.3s,baz=12,slow=15,SNR=4.8							
PLCA	Paso Flores	19.78	185	*e*P	P	18 09 39.1	-0.2
4.2nm,1.1s							
TKL	Tuckaleechee C	58.14	345	P	P	18 14 59.4	-0.8
1.5nm,0.4s,mb4.4,baz=127,slow=20,SNR=4.2							
DBIC	Dimbokro	68.23	73	P	P	18 16 07.7	+0.9
1.6nm,0.4s,mb4.2,baz=229,slow=11,SNR=3.4							
DBIC	Dimbokro	68.23	73	P	P	18 16 07.7	+0.9
TORD	Torodi Ar. Bea	76.83	70	P	P	18 16 58.3	+0.5
2.3nm,0.5s,mb4.1,baz=255,slow=5.2,SNR=44							
MKAR	Makanchi Array	144.99	36	PKP	PKPdf	18 24 42.8	+0.6
0.2nm,0.4s,baz=324,slow=2.4,SNR=6.8							

*NEIC **11** 18:41:51.2, 1665N×98.13W, h20km, MD3.8(MEX), After MEX.*

MEX 11 18:41:50.7±0.9, 1666N×9815W, h27km±17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.27	176	*i*P	Pb	18 41 55.7	-1.6
PNIG				*i*S	Sb	18 42 00.7	-1.2
UTMO	Huajuapan	1.21	16	*i*P	Pn	18 42 09.4	-2.5
UTMO				*i*S	Sn	18 42 24.3	-3.1
VHO	Vista Hermosa	1.42	73	*i*P	Pn	18 42 11.9	-2.8
VHO				*i*S	Sn	18 42 29.7	-2.7
OXX	Oaxaca	1.43	73	*i*P	Pn	18 42 13.5	-1.3
ACX	Acapulco	1.71	277	*i*P	Pn	18 42 18.0

BOLP Bolinao 4.37 184 *e*P **Pn 18 59 33.7 +3.9**
SCZP Santa Cruz 4.97 184 *e*P **Pn 18 59 38.1 +0.1**
BALP Baler 5.16 165 *e*P **Pn 18 59 40.5 -0.1**
GZH Guangzhou 6.80 291 P **Pn 18 59 57.1 -6.0**
JOW Kunigami 9.52 49 LR LR 19 04 25.9
comp=Z,146nm,21.9s,baz=309,slow=38
BJI Beijing 19.52 351 P **Pn 19 02 51.2 -0.1**
BJI AMB AMB
comp=Z,8.0nm,0.9s
BJI Beijing 19.52 351 P **Pn 19 02 51.2 -0.1**
comp=Z,8.0nm,0.9s
LZH Lanzhou 20.95 320 *e*P **P 19 03 05.5 +0.3**
LZH AP 19 03 14.5
LZH AMB AMB
comp=Z,20nm,1.2s
LZH Lanzhou 20.95 320 *e*P **P 19 03 05.5 +0.3**
comp=Z,20nm,1.2s
LZH pP 19 03 14.5
LZH sP sP 19 03 20.0 -0.4
JHJ Hachijo jima 2 21.29 51 LR LR 19 10 07.1
comp=Z,62nm,18.7s,MS3.0,baz=156,slow=33
MJAR Matsushiro Arr 22.21 41 P **P 19 03 18.9 +0.1**
comp=Z,1.6nm,0.8s,mb3.5,baz=238,slow=12,SNR=3.3
MJAR LR LR 19 11 23.7
comp=Z,60nm,21.2s,MS3.0,baz=275,slow=35
MDJ Mudanjiang 25.02 16 P **P 19 03 47.4 +1.3**
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.2
MDJ AMB AMB
comp=Z,46nm,3.4s
GTA Gaotai 25.54 321 *e*P **P 19 03 52.0 +1.3**
GTA AP pP 19 03 56.8 -4.9
GTA XP sP 19 03 59.7 -6.9
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb3.9
LSA Lhasa 27.71 295 *e*P **P 19 04 11.7 +1.4**
comp=Z,3.2nm,0.7s,mb4.1
SONM Songino Array 29.23 341 P **P 19 04 23.7 -0.1**
comp=Z,1.1nm,0.8s,mb3.7,baz=161,slow=9.2,SNR=4.2
ASAJ Asahikawa 29.79 33 LR LR 19 16 03.3
comp=Z,56nm,18.3s,MS3.2,baz=277,slow=36
FITZ Fitzroy Crossi 38.99 172 P **P 19 05 47.6 -0.6**
comp=Z,3.3nm,0.4s,mb4.5,baz=352,slow=14,SNR=4.5
MKAR Makanchi Array 40.26 319 P **P 19 05 58.1 -0.7**
comp=Z,0.5nm,0.8s,mb3.3,baz=107,slow=10,SNR=5.2
MKAR PcP PcP 19 08 02.4 +0.4
comp=Z,0.4nm,0.8s,baz=100,slow=4.3,SNR=3.7
ZAL Zalesovo 42.69 330 P **P 19 06 18.5 -0.2**
comp=Z,0.6nm,0.4s,mb3.7,baz=343,slow=6.2,SNR=3.1
ZAL Zalesovo 42.69 330 P **P 19 06 18.5 -0.2**
WRA Warramunga Arr 42.75 160 P **P 19 06 19.4 +0.2**
comp=Z,1.6nm,0.6s,mb3.9,baz=342,slow=8.9,SNR=5.1
ASAR Alice Springs 46.13 163 P **P 19 06 46.2 0.0**
comp=Z,0.4nm,0.5s,mb3.6,baz=338,slow=7.6,SNR=2.9
BVAR Borovoye Array 49.80 323 P **P 19 07 15.0 +0.3**
comp=Z,0.6nm,0.7s,mb3.7,baz=102,slow=12,SNR=3.6
BVAR PcP PcP 19 08 35.5 +0.6
comp=Z,0.4nm,0.5s,baz=104,slow=6.3,SNR=3.6
BRVK Borovoye 49.87 323 *e*P **P 19 07 13.2 -1.9**
comp=Z,2.8nm,1.0s,mb4.2
CHKZ Chkalovo 49.91 324 *e*P **P 19 07 15.2 -0.2**
comp=Z,4.1nm,1.2s,mb4.3
AKTK Aktyubinsk 56.64 317 P **P 19 08 05.1 +0.2**
AKTO Aktyubinsk 56.64 317 P **P 19 08 05.1 +0.2**
comp=Z,0.5nm,0.5s,mb3.8,baz=87,slow=13,SNR=4.2
FINES FINESS Array B 73.95 330 P **P 19 09 57.1 +0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=52,slow=12,SNR=4.9
AKASG Malin Array Be 74.84 319 P **P 19 10 01.4 -0.7**
comp=Z,0.1nm,0.3s,mb3.2,baz=63,slow=3.5,SNR=4.6
NOA NORSAR Array B 80.82 332 LR LR 19 50 25.3
comp=Z,14nm,19.1s,MS3.3,baz=310,slow=39
GERES GERESS Array B 84.91 321 P **P 19 10 56.1 -0.5**
comp=Z,0.2nm,0.5s,mb3.5,baz=80,slow=5.4,SNR=6.9

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*NEIC **11** 19:11:52.3, 1854N×6859W, h185km, MD3.7(RSPR), After RSPR.*
RSPR 11 19:11:52.3, 1854N×6859W, h185km±4km, MD3.7/6, MD3.7/6, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.41**	**93**↑	*e*P	Pn	19 12 24.3	+0.5
AGPR				*e*S	Sn	19 12 48.1	+0.1
LSP	**Las Mesas**	**1.48**	**104**↑	*e*P	Pn	19 12 24.5	+0.1
LSP				*e*S	Sn	19 12 49.9	+0.7
CRPR	**Cabo Rojo, PR**	**1.51**	**111**↑	*e*P	Pn	19 12 24.2	-0.5
CRPR				*e*S	Sn	19 12 50.4	+0.7
AOPR	**Arecibo Observ**	**1.75**	**96**↑	*e*P	Pn	19 12 27.2	+0.1
AOPR				*e*S	Sn	19 12 55.0	+0.9
CELP	**Cerrillos**	**1.97**	**103**↑	*e*P	Pn	19 12 30.2	+0.9
CELP				*e*S	Sn	19 12 58.1	+0.1
HUMP	**Col San Antoni**	**2.63**	**98**↑	*e*P	Pn	19 12 37.0	+0.2
HUMP				*e*S	Sn	19 13 12.6	+1.2

IDC 11 19:15:25.5±4.4, 649S×12890E, h255km±44km, mb2.8/1, mb1 3.0/4, mb1mx2.9/14, mbtmp3.6/4, Error ellipse: s-maj=67.2km s-min=17.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**195**	*e*P	Pn	19 18 08.9	+0.4
	12nm,4.2s						
FITZ	**Fitzroy Crossi**	**11.97**	**195**	P	Pn	19 18 08.7	+0.2
	0.2nm,0.3s,baz=34,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**14.38**	**159**	P	Pn	19 18 37.7	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=7.4						
WRA				S	S	19 21 16.3	-0.5
	0.1nm,0.3s,baz=328,slow=22,SNR=3.3						
WB2	**Warramunga Arr**	**14.38**	**159**	*e*P	Pn	19 18 40.0	+2.0
ASAR	**Alice Springs**	**17.74**	**165**	P	P	19 19 16.6	+1.8
	0.3nm,0.3s,baz=344,slow=11,SNR=38						
ASAR				S	S	19 22 25.3	-0.2
	0.1nm,0.3s,baz=350,slow=25,SNR=3.8						
ASPA	**Alice Springs**	**17.74**	**165**	*e*P	P	19 19 16.6	+1.7
MKAR	**Makanchi Array**	**67.21**	**327**	P	P	19 25 52.0	-0.3
	0.2nm,0.4s,baz=122,slow=7.8,SNR=5.0						

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*IDC **11** 19:16:14.0±4.0, 3540N×631W, h0km, mb4.2/3, mb1 4.2/5, mb1mx3.7/25, mbtmp4.0/5, ML3.6/2, Error ellipse: s-maj=97.8km s-min=22.0km az=92.0*
*NEIC **11** 19:16:21.6, 35.18N×4.74W, h0km, mb3.6/4, MN2.7(MDD), After MDD.*
*ISCJB **11** 19:16:22.3±0.6, 3536N±001×472W±002, h9km±4km, mb4.1/4, Error ellipse: s-maj=2.7km s-min=2.4km az=8.5*
*SFS **11** 19:16:22.0, 3520N×470W, h0km, ML2.7*
*CSEM **11** 19:16:22.3±0.4, 3525N×451W, h3km±3km, ML3.3/5, Error ellipse: s-maj=2.7km s-min=2.1km az=139.0*
*MDD **11** 19:16:23.7±0.3, 3533N×466W, h0km, mbLg2.6/24, Error ellipse: s-maj=3.4km s-min=3.0km az=8.0, PRXIMO*
*LDG **11** 19:16:23.4±0.3, 3512N×472W, h10km, Ml3.1/3, Error ellipse: s-maj=5.6km s-min=3.3km az=175.0*
*CNRM **11** 19:16:23.9, 3541N×463W, h3km, MD4.1*
*INMG **11** 19:16:23.0±1.3, 3526N×472W, h0km, ML2.8, Error ellipse: s-maj=4.5km s-min=2.6km az=11.0*
ISC 11 19:16:23.7±0.5, 3534N±001×468W±002, h9km±3km, n130, σ1§27/196, mb4.1/4, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKH	**Dar Kharkhour**	**0.57**	**285**	P	**Pg**	**19 16 33.0**	**-1.8**
DKH				S	**Sg**	**19 16 43.0**	**+0.7**
DKH	**Dar Kharkhour**	**0.57**	**285**	*e*Pg	**Pg**	**19 16 33.0**	**-1.8**
TOU	**Touzarine**	**0.85**	**116**	P	**Pg**	**19 16 39.0**	**-1.0**
TOU				S	**Sg**	**19 16 52.0**	**+0.9**
TOU	**Touzarine**	**0.85**	**116**	*i* P	**Pg**	**19 16 39.0**	**-1.0**
RSA	**Sarsar**	**1.05**	**244**	P	**Pg**	**19 16 42.5**	**-1.3**
RSA				S	**Sg**	**19 17 00.0**	**+2.6**
TSY	**Tnine Yamani**	**1.05**	**272**	P	**Pg**	**19 16 45.0**	**+1.1**
TSY				S	**Sg**	**19 17 00.5**	**+2.9**
TSY	**Tnine Yamani**	**1.05**	**272**	*i* P	**Pg**	**19 16 45.0**	**+1.1**
REAL	**Reales**	**1.22**	**340**	P	**Pb**	**19 16 42.2**	**-4.6**
REAL				S	**Sb**	**19 17 05.8**	**+3.0**
EMIJ	**Mijas**	**1.23**	**357**	⇓P	**Pn**	**19 16 42.7**	**-4.3**
	5.4nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**19 16 58.2**	**-4.6**
	19nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.28**	**330**	P	**Pn**	**19 16 45.4**	**-2.3**
	8.9nm,0.4s,SNR=20						
EJIF				S	**Sb**	**19 17 06.9**	**+2.4**
	100nm,0.8s,SNR=8.4						
MOMI	**Momias**	**1.30**	**320**	*i* P	**Pn**	**19 16 50.0**	**+2.0**
MAL	**Malaga**	**1.40**	**9**	*e*P	**Pn**	**19 16 46.6**	**-2.8**
EMEL	**Melilla**	**1.41**	**91**	P	**Pn**	**19 16 48.6**	**-0.9**
	34nm,0.1s,SNR=16						
EMEL				S	**Sn**	**19 17 08.3**	**+0.1**
	34nm,0.1s						
EMLI	**Melilla**	**1.42**	**91**	P	**Pn**	**19 16 48.6**	**-1.0**
	34nm,0.1s,SNR=16						
MELI	**Melilla**	**1.43**	**91**	P	**Pn**	**19 16 47.4**	**-2.4**
MELI				S	**Sn**	**19 17 11.9**	**+3.2**
MELI	**Melilla**	**1.43**	**91**	*e*P	**Pn**	**19 16 47.4**	**-2.4**
EALB	**Alboran**	**1.47**	**65**	P	**Pn**	**19 16 48.8**	**-1.5**
	24nm,0.2s,SNR=20						
EALB				S	**Sn**	**19 17 10.8**	**+1.1**
	124nm,0.4s,SNR=9.6						
EALB	**Alboran**	**1.47**	**65**	P	**Pn**	**19 16 48.8**	**-1.5**
	24nm,0.2s,SNR=20						
CNIL	**Conil**	**1.52**	**313**	*e*P	**Pn**	**19 16 53.0**	**+2.0**
ZAI	**Zaio**	**1.63**	**103**	P	**Pn**	**19 16 51.0**	**-1.5**
ZAI				S	**Sn**	**19 17 12.0**	**-1.6**
ZAI	**Zaio**	**1.63**	**103**	*i* P	**Pn**	**19 16 51.0**	**-1.5**
LIJA	**Lijar**	**1.67**	**340**	P	**Pn**	**19 16 53.0**	**-0.1**
LIJA				S	**Sn**	**19 17 19.0**	**+4.4**
LIJA	**Lijar**	**1.67**	**340**	*i* P	**Pn**	**19 16 53.0**	**-0.1**
SFS	**San Fernando**	**1.67**	**313**	P	**Pn**	**19 16 52.7**	**-0.4**
SFS				S	**Sn**	**19 17 10.2**	**-4.5**
SFS	**San Fernando**	**1.67**	**313**	*e*P	**Pn**	**19 16 52.7**	**-0.4**
EGUA	**Guajares**	**1.75**	**31**	P	**Pn**	**19 16 52.0**	**-2.1**
	2.0nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**19 17 19.0**	**+2.5**
	6.8nm,0.4s,SNR=7.9						
ESPR	**Espera**	**1.80**	**328**	P	**Pn**	**19 16 54.9**	**0.0**
	7.2nm,0.4s,SNR=12						
ESPR				S	**Sn**	**19 17 18.9**	**+1.1**
	152nm,0.7s,SNR=7.6						
ESPR	**Espera**	**1.80**	**328**	P	**Pn**	**19 16 54.9**	**+0.1**
	7.2nm,0.4s,SNR=12						
ERON	**Agron**	**1.82**	**23**	P	**Pn**	**19 16 52.2**	**-2.9**
	11nm,0.3s,SNR=25						
ERON				S	**Sn**	**19 17 19.2**	**+0.9**
	180nm,2.1s						
ERON	**Agron**	**1.82**	**23**	P	**Pn**	**19 16 52.2**	**-2.9**
ERON				P		19 16 56.8	
ERON				S	**Sn**	**19 17 19.2**	**+0.9**
ERON	**Agron**	**1.82**	**23**	P	**Pn**	**19 16 56.8**	**+1.7**
ELOJ	**Sierra Loja**	**1.85**	**13**	P	**Pn**	**19 16 54.3**	**-1.3**
	22nm,0.5s,SNR=35						
ELOJ				S	**Sn**	**19 17 22.4**	**+3.2**
	43nm,0.7s,SNR=4.9						
IFR	**Ifrane**	**1.85**	**192**	P	**Pn**	**19 16 52.0**	**-3.6**
TAF	**Taforalt**	**1.93**	**105**	P	**Pn**	**19 16 53.0**	**-3.7**
EQUE	**Quentar**	**2.12**	**28**	P	**Pn**	**19 16 59.2**	**-0.1**
	12nm,0.4s,SNR=42						
EQUE				S	**Sn**	**19 17 27.3**	**+1.7**
	58nm,0.9s,SNR=7.9						
EBER	**Berja**	**2.13**	**43**	P	**Pn**	**19 16 58.1**	**-1.2**
	15nm,0.3s,SNR=36						
EBER				S	**Sn**	**19 17 27.5**	**+1.6**
	64nm,0.8s,SNR=7.2						
EBER	**Berja**	**2.13**	**43**	P	**Pn**	**19 16 58.2**	**-1.2**
ECOG	**Cogollos-Vega**	**2.13**	**25**	P	**Pn**	**19 16 59.8**	**+0.3**
	12nm,0.3s,SNR=16						
ECOG				S	**Sn**	**19 17 27.5**	**+1.5**
	134nm,0.8s,SNR=8.6						
ELUQ	**Luque**	**2.24**	**8**	P	**Pn**	**19 17 02.2**	**+1.2**
	7.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**19 17 32.8**	**+4.1**
	25nm,0.5s,SNR=7.9						
RTC	**Rabat Centre**	**2.24**	**234**	P	**Pn**	**19 17 02.0**	**+1.0**
RTC				S	**Sn**	**19 17 30.0**	**+1.3**
RTC	**Rabat Centre**	**2.24**	**234**	*i* P	**Pn**	**19 17 02.0**	**+1.0**
CZD	**Col de Zad**	**2.32**	**187**	P	**Pn**	**19 17 02.0**	**0.0**
CZD				S	**Sn**	**19 17 32.0**	**+1.3**
CZD	**Col de Zad**	**2.32**	**187**	*i* P	**Pn**	**19 17 02.0**	**0.0**
MDT	**Midelt**	**2.52**	**179**	Pn	**Pn**	**19 17 02.9**	**-1.8**
	13nm,0.3s,baz=1.0,slow=7.2,SNR=280						
MDT				Sn	**Sn**	**19 17 37.7**	**+2.2**
	16nm,0.3s,baz=115,slow=23,SNR=7.6						
ENIJ	**Nijar**	**2.58**	**50**	P	**Pn**	**19 17 05.8**	**+0.2**
	4.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.78**	**27**	P	**Pn**	**19 17 09.2**	**+0.9**
	4.4nm,0.2s,SNR=20						
EQES				S	**Sn**	**19 17 43.5**	**+1.5**
	59nm,0.6s,SNR=6.1						
EQES	**Quesada**	**2.78**	**27**	P	**Pn**	**19 17 09.2**	**+0.8**
	4.4nm,0.2s,SNR=20						
EADA	**Adamuz**	**2.82**	**2**	P	**Pn**	**19 17 08.6**	**-0.3**
	2.6nm,0.1s,SNR=20						
EADA				S	**Sn**	**19 17 43.7**	**+0.6**
	39nm,0.9s						
EADA	**Adamuz**	**2.82**	**2**	P	**Pn**	**19 17 08.6**	**-0.4**
	2.6nm,0.1s,SNR=20						
EMIN	**Mina Concepcio**	**2.91**	**327**	P	**Pn**	**19 17 09.9**	**-0.2**
	1.1nm,0.2s,SNR=26						
EMIN				S	**Sn**	**19 17 46.1**	**+1.0**
	60nm,1.1s						
EMIN	**Mina Concepcio**	**2.91**	**327**	P	**Pn**	**19 17 09.9**	**-0.2**
	1.1nm,0.2s,SNR=26						
EBAN	**Banos Encina**	**2.91**	**14**	P	**Pn**	**19 17 10.1**	**-0.1**
	6.0nm,0.3s,SNR=7.9						
EBAN				S	**Sn**	**19 17 47.7**	**+2.5**
	38nm,0.6s,SNR=7.9						
KIB	**El Ksiba**	**2.98**	**203**	P	**Pn**	**19 17 12.0**	**+0.9**
KIB				S	**Sn**	**19 17 47.0**	**+0.1**
KIB	**El Ksiba**	**2.98**	**203**	*e*P	**Pn**	**19 17 12.0**	**+0.9**
AVE	**Averroes**	**3.04**	**229**	P	**Pn**	**19 17 08.5**	**-3.4**
EGRO	**El Granado**	**3.15**	**315**	P	**Pn**	**19 17 13.1**	**-0.3**
	18nm,0.4s,SNR=12						
EGRO				S	**Sn**	**19 17 50.8**	**-0.2**
	46nm,0.9s						
EGRO	**El Granado**	**3.15**	**315**	P	**Pn**	**19 17 13.1**	**-0.3**
	18nm,0.4s,SNR=12						
ZFT	**Errachidia**	**3.31**	**175**	P	**Pn**	**19 17 14.0**	**-1.6**
ZFT				S	**Sn**	**19 17 55.0**	**0.0**
ZFT	**Errachidia**	**3.31**	**175**	*i* P	**Pn**	**19 17 14.0**	**-1.6**
TZC	**Tazercounte**	**3.52**	**206**	P	**Pn**	**19 17 18.0**	**-0.5**
TZC				S	**Sn**	**19 18 00.5**	**+0.2**
TZC	**Tazercounte**	**3.52**	**206**	*i* P	**Pn**	**19 17 18.0**	**-0.5**
PBEJ	**Beja**	**3.71**	**317**	*e*Pn	**Pn**	**19 17 20.7**	**-0.4**
PBEJ				*e*Sn	**Sn**	**19 18 04.3**	**-0.6**
	10nm,0.8s						
PBEJ	**Beja**	**3.71**	**317**	*e*Pn	**Pn**	**19 17 20.7**	**-0.4**
PBEJ				*e*Sn	**Sn**	**19 18 04.3**	**-0.6**
	10nm,0.8s						
EVIA	**Vianos**	**3.73**	**27**	P	**Pn**	**19 17 22.1**	**+0.7**
	SNR=7.9						
EMUR	**La Murta**	**3.73**	**47**	P	**Pn**	**19 17 21.3**	**-0.1**
	4.2nm,0.5s,SNR=7.9						
EMUR				S	**Sn**	**19 18 05.5**	**0.0**
	49nm,1.0s,SNR=7.9						
EMUR	**La Murta**	**3.73**	**47**	P	**Pn**	**19 17 21.3**	**-0.1**
	4.2nm,0.5s,SNR=7.9						
MORF	**Marmelete**	**3.76**	**303**	*e*Pn	**Pn**	**19 17 22.1**	**+0.3**
MORF				*e*Sn	**Sn**	**19 18 04.9**	**-1.2**
MORF							
	13nm,0.8s						
MORF	**Marmelete**	**3.76**	**303**	*e*Pn	**Pn**	**19 17 22.1**	**+0.3**
MORF				*e*Sn	**Sn**	**19 18 04.9**	**-1.2**
	13nm,0.8s						
EBAD	**Badajoz**	**3.89**	**332**	P	**Pn**	**19 17 23.0**	**-0.6**
	2.3nm,0.2s,SNR=18						
EBAD				S	**Sn**	**19 18 08.1**	**-1.2**
	2.2nm,0.4s						
EBAD	**Badajoz**	**3.89**	**332**	P	**Pn**	**19 17 23.0**	**-0.6**
	2.3nm,0.2s,SNR=18						
PTEO	**Sao Teotonio**	**3.93**	**305**	*e*Pn	**Pn**	**19 17 23.3**	**-0.9**
PTEO				*e*Sn	**Sn**	**19 18 09.4**	**-1.0**
PTEO							
	29nm,0.8s						
PTEO	**Sao Teotonio**	**3.93**	**305**	*e*Pn	**Pn**	**19 17 23.3**	**-0.9**
PTEO				*e*Sn	**Sn**	**19 18 09.4**	**-1.0**
	29nm,0.8s						
ETOB	**Tobarra**	**4.14**	**36**	P	**Pn**	**19 17 28.1**	**+1.0**
	1.1nm,0.2s,SNR=6.4						
ETOB				S	**Sn**	**19 18 15.2**	**-0.5**
	1.6nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**4.14**	**36**	P	**Pn**	**19 17 28.1**	**+1.0**
	1.1nm,0.2s,SNR=6.4						
EVO	**Evora**	**4.16**	**321**	*e*Pn	**Pn**	**19 17 26.7**	**-0.6**
EVO				*e*Sn	**Sn**	**19 18 16.6**	**+0.7**
	44nm,0.7s						
PESTR	**Estremoz**	**4.22**	**327**	*e*Pn	**Pn**	**19 17 29.3**	**+1.2**
PESTR				*e*Sn	**Sn**	**19 18 16.6**	**-0.9**
PESTR							
	14nm,0.5s						
PESTR	**Estremoz**	**4.22**	**327**	*e*Pn	**Pn**	**19 17 29.3**	**+1.2**
PESTR				*e*Sn	**Sn**	**19 18 16.6**	**-0.9**
	14nm,0.5s						
MOE	**Montemor**	**4.33**	**318**	*e*Pn	**Pn**	**19 17 30.6**	**+1.0**
MOE				*e*Sn	**Sn**	**19 18 20.1**	**-0.1**
ESDC	**Sonseca Array**	**4.37**	**7**	Pn	**Pn**	**19 17 29.8**	**-0.4**
	2.0nm,0.3s,baz=186,slow=12,SNR=18						
ESDC				Sn	**Sn**	**19 18 21.2**	**+0.1**
	0.5nm,0.3s,baz=188,slow=16,SNR=5.3						
ESDC	**Sonseca Array**	**4.37**	**7**	P	**Pn**	**19 17 29.9**	**-0.2**
	2.7nm,0.2s,baz=189,slow=12,SNR=16						
ESDC				S	**Sn**	**19 18 20.9**	**-0.2**
	7.8nm,0.5s,baz=189,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.37**	**7**	P	**Pn**	**19 17 29.9**	**-0.2**
	2.7nm,0.2s,SNR=16						
ESLA	**Sonseca Array**	**4.37**	**7**	*e*P	**Pn**	**19 17 28.6**	**-1.5**
ESLA	**Sonseca Array**	**4.37**	**7**	*e*P	**Pn**	**19 17 28.6**	**-1.5**
TIO	**Tiouine**	**4.90**	**207**	P	**Pn**	**19 17 34.0**	**-3.5**
OUK	**Oukaimeden**	**4.91**	**214**	P	**Pn**	**19 17 39.0**	**+1.4**
OUK				S	**Sn**	**19 18 34.0**	**-0.5**
OUK	**Oukaimeden**	**4.91**	**214**	*i* P	**Pn**	**19 17 39.0**	**+1.4**
PCBR	**Castelo Branco**	**5.01**	**335**	*e*Pn	**Pn**	**19 17 38.7**	**-0.3**
PCBR				*e*Sn	**Sn**	**19 18 36.9**	**-0.1**
PCBR							
	8.6nm,0.6s						
PCBR	**Castelo Branco**	**5.01**	**335**	*e*Pn	**Pn**	**19 17 38.7**	**-0.3**
PCBR				*e*Sn	**Sn**	**19 18 36.9**	**-0.1**
	8.6nm,0.6s						
CIA	**Chichaoua**	**5.08**	**223**	P	**Pn**	**19 17 40.0**	**+0.1**
CIA				S	**Sn**	**19 18 39.0**	**+0.3**
CIA	**Chichaoua**	**5.08**	**223**	*i* P	**Pn**	**19 17 40.0**	**+0.1**
GUD	**Guadarrama**	**5.31**	**4**	P	**Pn**	**19 17 42.2**	**-0.9**
	0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**19 18 44.5**	**+0.1**
	3.1nm,0.5s,SNR=7.9						
MTE	**Manteigas**	**5.54**	**337**	*e*Pn	**Pn**	**19 17 46.8**	**+0.6**
ETOR	**Torete**	**5.85**	**20**	P	**Pn**	**19 17 50.8**	**+0.3**
	8.9nm,0.3s,SNR=7.9						
ETOR				S	**Sn**	**19 18 56.5**	**-1.3**
	3.9nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.94**	**336**	*e*Pn	**Pn**	**19 17 52.4**	**+0.7**
PVIS				*e*Sn	**Sn**	**19 18 58.7**	**-1.1**
PVIS							
	8.4nm,0.7s						
PVIS	**Viseu**	**5.94**	**336**	*e*Pn	**Pn**	**19 17 52.4**	**+0.7**
PVIS				*e*Sn	**Sn**	**19 18 58.7**	**-1.1**
	8.4nm,0.7s						
EMOS	**Mosqueruela**	**6.02**	**32**	P	**Pn**	**19 17 53.3**	**+0.4**
	1.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.02**	**32**	P	**Pn**	**19 17 53.3**	**+0.4**
	1.0nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**6.39**	**339**	*e*Pn	**Pn**	**19 17 57.0**	**-0.9**
PVRL				*e*Sn	**Sn**	**19 19 09.6**	**-1.4**
PVRL							
	8.4nm,0.4s						
PBRG	**Braganca**	**6.65**	**347**	*e*Pn	**Pn**	**19 18 01.0**	**-0.6**
PBRG				*e*Sn	**Sn**	**19 19 15.2**	**-2.3**
PBRG							
	4.4nm,0.6s						
ECAL	**Calabor**	**6.79**	**347**	P	**Pn**	**19 18 02.9**	**-0.5**
	3.1nm,0.2s,SNR=13						
ECAL				S	**Sn**	**19 19 18.2**	**-2.6**
	1.8nm,0.4s						
ERTA	**Horta de San J**	**6.86**	**34**	P	**Pn**	**19 18 05.7**	**+1.2**
	0.7nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**6.86**	**34**	P	**Pn**	**19 18 05.7**	**+1.3**
	0.7nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**6.88**	**339**	*e*Pn	**Pn**	**19 18 04.4**	**-0.3**
PCAB				*e*Sn	**Sn**	**19 19 19.7**	**-3.4**
PCAB							
	9.2nm,0.6s						
ELAN	**Lanestosa**	**7.94**	**7**	P	**Pn**	**19 18 21.2**	**+1.9**
ELAN	**Lanestosa**	**7.94**	**7**	P	**Pn**	**19 18 21.2**	**+1.9**
EARI	**Arriondas**	**7.96**	**357**	P	**Pn**	**19 18 19.8**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**19 19 48.4**	**-1.3**
	1.0nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**8.16**	**35**	P	**Pn**	**19 18 22.9**	**+0.5**
	4.4nm,0.6s,SNR=4.0						
EMIR	**Miracle**	**8.16**	**35**	P	**Pn**	**19 18 22.9**	**+0.6**
ETSF	**Etsaut**	**8.20**	**22**	*e*Pn	**Pn**	**19 18 23.3**	**+0.5**
ETSF				*e*Sn	**Sn**	**19 19 52.5**	**-3.1**
	0.5nm,0.4s						
ETSF	**Etsaut**	**8.20**	**22**	*e*Pn	**Pn**	**19 18 23.3**	**+0.5**
ETSF				*e*Sn	**Sn**	**19 19 52.5**	**-3.1**
	0.2nm,0.4s						
EPON	**Pontenova**	**8.20**	**347**	P	**Pn**	**19 18 23.5**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**8.21**	**18**	*e*Pn	**Pn**	**19 18 24.0**	**+1.0**
SJPF				*e*Sn	**Sn**	**19 19 52.8**	**-3.1**
	1.2nm,0.3s						
SJPF	**Ste Jean**	**8.21**	**18**	*e*Pn	**Pn**	**19 18 24.0**	**+1.0**
SJPF				*e*Sn	**Sn**	**19 19 52.8**	**-3.1**
	0.6nm,0.3s						
EALK	**Alkurruntz**	**8.24**	**16**	P	**Pn**	**19 18 25.1**	**+1.7**
	2.8nm,0.4s,SNR=7.9						
EALK				S	**Sn**	**19 19 53.4**	**-3.2**
	1.3nm,0.4s,SNR=7.9						
EPF	**Esparros**	**8.61**	**25**	*e*Pn	**Pn**	**19 18 28.5**	**0.0**
QUIF	**Quistinic**	**12.62**	**5**	*e*Pn	**Pn**	**19 19 23.0**	**-0.3**
PGF	**Pioggiola**	**12.85**	**52**	*e*Pn	**Pn**	**19 19 25.4**	**-1.0**
SGMF	**Saint Gilles**	**13.00**	**6**	*e*Pn	**Pn**	**19 19 27.8**	**-0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.36**	**90**	P	**P**	**19 42 27.8**	**+1.0**
	48nm,0.3s,baz=109,slow=23,SNR=55						
CBIJ				S	**S**	**19 43 09.6**	**-0.6**
	72nm,0.3s,baz=290,slow=22,SNR=11						
JHJ	**Hachijo jima 2**	**6.04**	**353**	P	**P**	**19 43 07.6**	**+1.2**
	12nm,0.3s,baz=253,slow=22,SNR=17						
JHJ				S	**S**	**19 44 21.6**	**-1.1**
	3.2nm,0.3s,baz=233,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**47.17**	**188**	P	**P**	**19 49 25.8**	**-0.3**
	0.5nm,0.3s,mb3.3,baz=6.7,slow=8.0,SNR=23						
MKAR	**Makanchi Array**	**49.42**	**310**	P	**P**	**19 49 43.1**	**0.0**
	0.4nm,0.4s,mb3.1,baz=89,slow=9.3,SNR=7.7						
ASAR	**Alice Springs**	**50.89**	**188**	P	**P**	**19 49 53.3**	**-0.6**
	0.2nm,0.5s,mb2.6,baz=0.1,slow=5.1,SNR=3.7						
BVAR	**Borovoye Array**	**57.12**	**317**	P	**P**	**19 50 38.6**	**+0.4**
	2.8nm,0.5s,mb3.9,baz=87,slow=7.4,SNR=18						
ARCES	**ARCESS Array B**	**73.08**	**341**	P	**P**	**19 52 20.5**	**+0.9**
	1.8nm,0.7s,mb3.7,baz=72,slow=7.8,SNR=7.2						
JOF	**Joensuu**	**74.47**	**333**	*e*p	**P**	**19 52 27.2**	**-0.3**
	2.0nm,0.4s,mb4.1						
KAF	**Kangasniemi**	**76.87**	**334**	*e*p	**P**	**19 52 40.3**	**-0.6**
	3.7nm,0.4s,mb4.4,baz=54,slow=5.3						
FINES	**FINESS Array B**	**77.33**	**333**	P	**P**	**19 52 43.7**	**+0.2**
	3.8nm,0.4s,mb4.4,baz=68,slow=5.3,SNR=78						
FINES	**FINESS Array B**	**77.33**	**333**	P	**P**	**19 52 43.7**	**+0.2**
AKASG	**Malin Array Be**	**81.80**	**323**	P	**P**	**19 53 07.2**	**0.0**
	0.7nm,0.5s,mb3.6,baz=51,slow=4.9,SNR=7.1						
AKASG	**Malin Array Be**	**81.80**	**323**	P	**P**	**19 53 07.2**	**0.0**
NB2	**NORSAR Subarra**	**83.09**	**338**	P	**P**	**19 53 13.4**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**83.09**	**338**	P	**P**	**19 53 13.6**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.8,baz=45,slow=5.0,SNR=4.9						

ISCJB ***11*** *19:42:19.8±0.3, 4681N±001×668E±003, h5km±3km, Error ellipse: s-maj=3.0km s-min=2.1km az=2.0*
ZUR ***11*** *19:42:20.5, 4680N×684E, h-2km±3km, ML1.9/7*
STR ***11*** *19:42:21.3±0.2, 4679N×689E, h10km±1km, Ml2. 1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***11*** *19:42:21.5±0.1, 4681N×679E, h3km, Md2.5/1, Ml2.4/17, Error ellipse: s-maj=1.3km s-min=0.8km az=99.0*
ISC 11 19:42:20.9±0.3, 4681N±001×675E±003, h12km±3km, n41, σ0°70/68, 3C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORNY	**Torny/Romont**	**0.15**	**103**	*e*Sg	**Pg**	**19 42 22.7**	**-1.7**
	4μm,0.3s						
TORNY	**Torny/Romont**	**0.15**	**103**	⇓*i*Pg	**Sg**	**19 42 24.6**	**-2.3**
	4μm,0.3s						
BRANT	**Les Verrieres**	**0.23**	**305**	⇓*i*Pg	**Pg**	**19 42 27.1**	**+1.4**
	289nm,0.4s						
GIMEL	**St. Georges /**	**0.43**	**231**	⇑*i*Pg	**Pg**	**19 42 30.3**	**+0.9**
	107nm,0.2s						
OG01	**Vacheresse**	**0.48**	**185**	Pg	**Pg**	**19 42 30.5**	**+0.2**
OG01				Sg	**Sg**	**19 42 37.7**	**+1.0**
AIGLE	**Aigle**	**0.49**	**163**	*e*Pg	**Pg**	**19 42 30.2**	**-0.2**
	129nm,0.2s						
CABF	**La Chapelle**	**0.49**	**247**	*e*Pg	**Pg**	**19 42 31.9**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 42 38.5**	**+1.3**
	23nm,0.2s,SNR=1.0						
LOMF	**Lomont**	**0.55**	**6**	Pg	**Pg**	**19 42 32.9**	**+1.4**
LOMF				Sg	**Sg**	**19 42 40.3**	**+1.6**
SENIN	**Lac Senin/Sane**	**0.59**	**139**	⇑*i*P	**Pg**	**19 42 31.4**	**-0.9**
	103nm,0.3s						
SENIN				*i* S	**Sg**	**19 42 39.8**	**-0.2**
	103nm,0.3s						
BOURR	**Bourrignon**	**0.67**	**29**	⇑*i*Pg	**Pg**	**19 42 33.9**	**0.0**
	58nm,2.9s						
BALST	**Balsthal**	**0.83**	**50**	*e*P	**Pg**	**19 42 36.7**	**-0.3**
	156nm,0.5s						
HINF	**Hinteralfeld**	**1.01**	**4**	*e*Pg	**Pg**	**19 42 40.6**	**+0.2**
HINF	**Hinteralfeld**	**1.01**	**4**	*e*Pn	**Pn**	**19 42 41.1**	**+0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**19 42 53.4**	**-0.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**19 42 54.8**	**-0.2**
	24nm,0.3s						
MOF	**Molkenrain**	**1.08**	**14**	Pg	**Pg**	**19 42 42.0**	**+0.4**
MOF				Sg	**Sg**	**19 42 55.9**	**+0.3**
RSL	**Roselend**	**1.12**	**184**	Pg	**Pg**	**19 42 43.3**	**+0.8**
RSL				Sg	**Sg**	**19 42 57.3**	**+0.2**
HAU	**Haudompre**	**1.23**	**347**	*e*Pn	**Pn**	**19 42 44.1**	**+0.3**
	SNR=1.0						
HAU	**Haudompre**	**1.23**	**347**	*e*Pg	**Pg**	**19 42 44.8**	**+0.3**
HAU				*e*Sg	**Sg**	**19 43 00.5**	**0.0**
	8.8nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.29**	**180**	*e*Pn	**Pn**	**19 42 45.4**	**+0.7**
LPL	**La Plagne**	**1.29**	**180**	*e*Pg	**Pg**	**19 42 46.1**	**+0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 43 03.3**	**+0.8**
	4.0nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.31**	**180**	*e*Pn	**Pn**	**19 42 45.6**	**+0.6**
LPG	**La Plagne**	**1.31**	**180**	*e*Pg	**Pg**	**19 42 46.9**	**+0.8**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 43 03.7**	**+0.6**
	5.8nm,0.4s,SNR=1.0						
ECH	**Echery**	**1.44**	**11**	Pg	**Pg**	**19 42 48.4**	**0.0**
ECH				Sg	**Sg**	**19 43 07.2**	**+0.1**
CDF	**Champ du Feu**	**1.64**	**12**	*e*Pn	**Pn**	**19 42 49.4**	**-0.1**
	SNR=1.0						
CDF	**Champ du Feu**	**1.64**	**12**	*e*Pg	**Pg**	**19 42 52.1**	**-0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**19 43 13.1**	**-0.7**
	3.2nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.81**	**321**	*e*Pg	**Pg**	**19 42 56.1**	**+0.4**
	baz=135						
SFTF				*e*Sg	**Sg**	**19 43 19.2**	**0.0**
	6.6nm,0.4s,baz=139						
ORIF	**Oris-en-Rattie**	**1.98**	**198**	*e*Pg	**Pg**	**19 42 58.0**	**-0.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**19 43 23.9**	**-0.8**
	6.1nm,0.6s,SNR=1.0						
SMF	**Signal de Mont**	**2.01**	**266**	*e*Pn	**Pn**	**19 42 55.0**	**+0.5**
SMF	**Signal de Mont**	**2.01**	**266**	*e*Pg	**Pg**	**19 42 58.0**	**-1.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**19 43 18.6**	**-0.9**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**19 43 25.1**	**-0.3**
	3.8nm,0.2s,SNR=1.0						
RFYF	**Reffroy**	**2.01**	**335**	*e*Sg	**Sg**	**19 43 25.2**	**-0.4**
	5.1nm,0.2s						
LOR	**Lormes**	**2.03**	**284**	*e*Pn	**Pn**	**19 42 55.1**	**+0.3**
LOR	**Lormes**	**2.03**	**284**	*e*Pg	**Pg**	**19 42 59.2**	**-0.6**
	baz=106,SNR=1.0						
LOR				*e*Sg	**Sg**	**19 43 26.1**	**0.0**
	3.8nm,0.2s,baz=114,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.05**	**327**	*e*Pg	**Pg**	**19 42 59.6**	**-0.5**
	baz=145						
MEZF				*e*Sg	**Sg**	**19 43 26.1**	**-0.5**
	5.8nm,0.4s,baz=143,SNR=1.0						
MBDF	**Montbardon**	**2.08**	**180**	*e*Pg	**Pg**	**19 43 00.5**	**-0.3**
MBDF				*e*Sg	**Sg**	**19 43 27.5**	**-0.3**
	0.8nm,0.2s						
SSF	**Saint Saulge**	**2.24**	**278**	*e*Pn	**Pn**	**19 42 58.2**	**+0.5**
SSF	**Saint Saulge**	**2.24**	**278**	*e*Pg	**Pg**	**19 43 03.0**	**-0.7**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**19 43 32.7**	**0.0**
	4.3nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.33**	**271**	*e*Pn	**Pn**	**19 42 59.3**	**+0.3**
AVF	**Avril sur Loir**	**2.33**	**271**	*e*Pg	**Pg**	**19 43 04.9**	**-0.7**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**19 43 27.1**	**-0.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**19 43 35.7**	**-0.1**
	1.2nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.43**	**217**	*e*Pn	**Pn**	**19 43 00.6**	**+0.2**
VIVF	**Saint-Julien-l**	**2.43**	**217**	*e*Pg	**Pg**	**19 43 07.5**	**0.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 43 29.3**	**-0.8**
VIVF				*e*Sg	**Sg**	**19 43 38.4**	**-0.6**
	2.8nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**2.70**	**266**	*e*Pn	**Pn**	**19 43 04.3**	**+0.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**19 43 35.9**	**-0.7**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**19 43 46.7**	**-0.8**
	5.6nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.41**	**218**	*e*Pn	**Pn**	**19 43 13.9**	**+0.1**

LDG ***11*** *19:47:07.3±0.1, 4708N×737E, h8km, Md1.9/1, Ml1.9/7, Error ellipse: s-maj=2.3km s-min=1.1km az=118.0*
STR 11 19:47:11.8±1.1, 4722N×753E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.50**	**286**	Pg	Pg	19 47 21.9	+0.6
LOMF				Sg	Sg	19 47 28.9	+1.1
HINF	**Hinteralfeld**	**0.75**	**323**	*e*Pg	Pg	19 47 22.8	-3.5
HINF	**Hinteralfeld**	**0.75**	**323**	*e*P	Pg	19 47 24.0	-2.3
HINF				*e*Sg	Sg	19 47 33.4	-2.6
HINF				*e*Sn	Sg	19 47 35.4	-0.6
	8.7nm,0.3s						
ECH	**Echery**	**1.03**	**346**	Pg	Pg	19 47 30.4	-1.1
ECH				Sg	Sg	19 47 45.0	+0.2
HAU	**Haudompre**	**1.12**	**315**	*e*Pg	Pg	19 47 28.9	-4.4
HAU				*e*Sg	Sg	19 47 43.9	-4.0
	2.9nm,0.2s						
CABF	**La Chapelle**	**1.16**	**239**	*e*Pg	Pg	19 47 26.2	-7.9
CABF				*e*Sg	Sg	19 47 39.3	-10
	1.4nm,0.3s						
CDF	**Champ du Feu**	**1.21**	**352**	*e*Pg	Pg	19 47 32.6	-2.3
CDF				*e*Sg	Sg	19 47 50.3	-0.2
	2.5nm,0.2s						
MEZF	**Maizieres J'vi**	**2.10**	**308**	*e*Sg	Sg	19 48 13.9	-5.5
	1.7nm,0.3s						
LOR	**Lormes**	**2.50**	**272**	*e*Pg	Pg	19 47 51.8	-7.9
LOR				*e*Sg	Sg	19 48 22.9	-9.3
	0.9nm,0.2s						
SMF	**Signal de Mont**	**2.59**	**259**	*e*Sg	Sg	19 48 24.7	-10
	0.4nm,0.2s						

IDC 11 20:24:38.0±4.2, 227S×15243E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/13, mbtmp3.8/2, Error ellipse: s-maj=175.4km s-min=51.2km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.91**	**224**	P	P	20 30 02.4	-0.2
	1.4nm,0.6s,baz=48,slow=9.2,SNR=28						
ASAR	**Alice Springs**	**27.82**	**219**	P	P	20 30 29.7	+0.9
	1.0nm,1.1s,baz=53,slow=8.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.09**	**292**	PKPbc	PKPbc	20 44 28.9	+0.8
	0.1nm,0.5s,baz=82,slow=1.4,SNR=5.0						

SFS ***11*** *20:39:43.0, 3680N×722W, h0km, ML2.4*
LDG ***11*** *20:39:43.0±0.3, 3676N×748W, h10km, Ml3.3/1, Error ellipse: s-maj=5.2km s-min=4.3km az=139.0*
NEIC ***11*** *20:39:44.0, 3675N×740W, h29km, MN2.6(MDD), After MDD.*
INMG ***11*** *20:39:44.1±1.2, 3675N×740W, h22km±3km, MD2.8, ML2.5, Error ellipse: s-maj=4.0km s-min=1.9km az=47.0*
CSEM ***11*** *20:39:45.1±0.2, 3689N×718W, h40km, ML2.4, Error ellipse: s-maj=5.3km s-min=2.3km az=30.0*
MDD 11 20:39:43.8±0.7, 3673W×743W, h34km±17km, mbLg2.6/19, 1C-3D, Error ellipse: s-maj=8.3km s-min=3.9km az=32.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.66**	**12**	⇓P	Pn	20 39 56.1	-0.6
	36nm,0.1s,SNR=18						
ERIP				S	Sn	20 40 05.0	-0.8
	174nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.81**	**357**	⇓P	Pn	20 39 58.2	-0.4
	28nm,0.1s,SNR=18						
EGRO				S	Sn	20 40 08.5	-0.9
	197nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.81**	**357**	P	Pn	20 39 58.2	-0.5
	28nm,0.1s,SNR=18						
EGRO				S	Sn	20 40 08.5	-1.0
	197nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**1.14**	**301**	*e*P	Pn	20 40 02.2	-1.0
MORF				*e*S	Sn	20 40 16.0	-1.6
MORF							
	56nm,0.1s						
EMIN	**Mina Concepcio**	**1.20**	**30**	P	Pn	20 40 03.3	-0.8
	0.9nm,0.0s,SNR=27						
EMIN				S	Sn	20 40 17.4	-1.8
	8.7nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**1.20**	**30**	P	Pn	20 40 03.3	-0.8
	0.9nm,0.0s,SNR=27						
EMIN				S	Sn	20 40 17.4	-1.8
	8.7nm,0.1s,SNR=12						
ESPR	**Espera**	**1.27**	**83**	⇓P	Pn	20 40 04.4	-0.7
	16nm,0.1s,SNR=18						
ESPR				S	Sn	20 40 20.2	-0.7
	187nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.27**	**83**	P	Pn	20 40 04.4	-0.6
	16nm,0.1s,SNR=18						
ESPR				S	Sn	20 40 20.2	-0.7
	187nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.32**	**309**	*e*P	Pn	20 40 05.2	-0.5
PTEO				*e*S	Sn	20 40 20.5	-1.6
PTEO							
	24nm,0.1s						
PBEJ	**Beja**	**1.34**	**345**	*e*P	Pn	20 40 05.5	-0.5
PBEJ				*e*S	Sn	20 40 22.2	-0.5
PBEJ							
	22nm,0.1s						
EJIF	**Jimena Fronter**	**1.60**	**99**	P	Pn	20 40 08.8	-0.8
	2.8nm,0.2s,SNR=13						
LIJA	**Lijar**	**1.64**	**83**	P	Pn	20 40 09.5	-0.6
LIJA				S	Sn	20 40 29.5	-0.3
LIJA	**Lijar**	**1.64**	**83**	*i* P	Pn	20 40 09.5	-0.6
EVO	**Evora**	**1.86**	**346**	*e*Pn	Pn	20 40 13.0	-0.2
EVO	**Evora**	**1.86**	**346**	*e*Pg	Pn	20 40 17.5	+4.3
EVO				*e*Sn	Sn	20 40 34.8	-0.7
	31nm,0.2s						
MOE	**Montemor**	**1.94**	**338**	*e*Pn	Pn	20 40 14.0	-0.2
MOE				*e*Sn	Sn	20 40 35.4	-1.9
EBAD	**Badajoz**	**2.05**	**9**	P	Pn	20 40 15.0	-0.8
	3.2nm,0.1s,SNR=20						
EBAD				S	Sn	20 40 38.5	-1.7
	6.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.05**	**9**	P	Pn	20 40 15.0	-0.8
	3.2nm,0.1s,SNR=20						
EBAD				S	Sn	20 40 38.5	-1.7
	6.7nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.14**	**357**	*e*Pn	Pn	20 40 16.3	-0.7
PESTR				*e*Sn	Sn	20 40 41.1	-1.3
PESTR							
	13nm,0.3s						
EMIJ	**Mijas**	**2.14**	**94**	P	Pn	20 40 16.6	-0.5
	0.5nm,0.1s,SNR=7.3						
EMIJ				S	Sn	20 40 41.5	-0.9
	1.3nm,0.1s,SNR=7.9						
PLOU	**Loures**	**2.55**	**328**	*i* Pn	Pn	20 40 22.7	+0.1
PLOU				*e*Sn	Sn	20 40 51.1	-1.4
PLOU							
	15nm,0.1s						
ELOJ	**Sierra Loja**	**2.66**	**80**	S	Sn	20 40 52.7	-2.4
	1.3nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**2.66**	**71**	P	Pn	20 40 24.2	+0.1
	0.8nm,0.1s,SNR=7.9						
ELUQ				S	Sn	20 40 53.2	-2.0
	1.2nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.67**	**327**	*e*Pn	Pn	20 40 24.1	-0.1
PMAFR				*e*Sn	Sn	20 40 54.0	-1.3
PMAFR							
	37nm,0.1s						
PMAFR	**Mafra**	**2.67**	**327**	*e*Pn	Pn	20 40 24.1	-0.1
PMAFR				*e*Sn	Sn	20 40 54.0	-1.3
EADA	**Adamuz**	**2.69**	**57**	P	Pn	20 40 24.0	-0.6
	1.7nm,0.1s,SNR=30						
EADA				S	Sn	20 40 53.2	-2.7
	2.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.69**	**57**	P	Pn	20 40 24.0	-0.5
	1.7nm,0.1s,SNR=30						
EADA				S	Sn	20 40 53.2	-2.7
	2.5nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**3.10**	**87**	P	Pn	20 40 29.6	-0.7
	0.4nm,0.2s,SNR=7.9						
EGUA				S	Sn	20 41 03.9	-2.2
	0.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.11**	**359**	*e*Pn	Pn	20 40 29.8	-0.5
PCBR				*e*Sn	Sn	20 41 04.0	-2.3
PCBR							
	12nm,0.1s						
PCBR	**Castelo Branco**	**3.11**	**359**	*e*Pn	Pn	20 40 29.8	-0.5
PCBR				*e*Sn	Sn	20 41 04.0	-2.3
	12nm,0.1s						
ECOG	**Cogollos-Vega**	**3.14**	**79**	S	Sn	20 41 05.0	-2.1
	2.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.23**	**80**	P	Pn	20 40 32.7	+0.7
	0.1nm,0.1s,SNR=7.9						
EQUE				S	Sn	20 41 07.6	-1.7
	1.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.24**	**63**	⇑P	Pn	20 40 30.4	-1.7
	4.1nm,0.1s,SNR=18						
EBAN				S	Sn	20 41 06.1	-3.2
	0.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.24**	**63**	P	Pn	20 40 30.4	-1.7
	4.1nm,0.1s,SNR=18						
EBAN				S	Sn	20 41 06.1	-3.3
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.64**	**72**	P	Pn	20 40 35.9	-1.7
	2.5nm,0.1s,SNR=13						
EQES				S	Sn	20 41 16.6	-2.7
	2.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.64**	**72**	P	Pn	20 40 35.9	-1.7
	2.5nm,0.1s,SNR=13						
EQES				S	Sn	20 41 16.6	-2.7
	2.6nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.65**	**86**	P	Pn	20 40 38.1	+0.3
	1.8nm,0.3s,SNR=7.9						
EBER				S	Sn	20 41 17.4	-2.1
	0.8nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.65**	**86**	P	Pn	20 40 38.1	+0.4
	1.8nm,0.3s,SNR=7.9						
EBER				S	Sn	20 41 17.4	-2.1
	0.8nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.00**	**355**	*e*Pn	Pn	20 40 42.1	-0.5
PVIS				*e*Sn	Sn	20 41 25.5	-2.7
PVIS							
	11nm,0.1s						
ESDC	**Sonseca Array**	**4.01**	**42**	P	Pn	20 40 42.2	-0.6
	16nm,0.1s,baz=227,slow=13,SNR=3.8						
ESDC				S	Sn	20 41 25.2	-3.4
	6.0nm,0.2s,baz=225,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.01**	**42**	P	Pn	20 40 42.2	-0.6
	16nm,0.1s,SNR=3.8						
ESDC				S	Sn	20 41 25.2	-3.4
	6.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.35**	**62**	P	Pn	20 40 45.4	-2.0
	1.6nm,0.1s,SNR=7.0						
EVIA				S	Sn	20 41 33.0	-3.8
	2.4nm,0.3s,SNR=8.0						
EVIA	**Vianos**	**4.35**	**62**	P	Pn	20 40 45.3	-2.1
	1.6nm,0.1s,SNR=7.0						
EVIA				S	Sn	20 41 33.0	-3.9
	2.4nm,0.3s,SNR=8.0						
PVRL	**Vila Real**	**4.55**	**357**	*e*Sn	Sn	20 41 38.2	-3.6
PVRL							
	11nm,0.1s						
PVRL	**Vila Real**	**4.55**	**357**	Sn	Sn	20 41 38.2	-3.6
	5.5nm,0.1s						
GUD	**Guadarrama**	**4.68**	**32**	P	Pn	20 40 51.3	-0.5
	SNR=7.9						
PCAB	**Cabril**	**5.00**	**355**	*e*Sn	Sn	20 41 48.6	-4.3
PCAB							
	6.4nm,0.1s						
PCAB	**Cabril**	**5.00**	**355**	Sn	Sn	20 41 48.6	-4.3
	3.2nm,0.1s						
ETOB	**Tobarra**	**5.04**	**66**	P	Pn	20 40 55.7	-1.2
	0.6nm,0.1s,SNR=7.8						
ETOB				S	Sn	20 41 49.8	-4.1
	SNR=7.9						
ETOB	**Tobarra**	**5.04**	**66**	P	Pn	20 40 55.7	-1.2
	0.6nm,0.1s,SNR=7.8						
ETOB				S	Sn	20 41 49.8	-4.1
	SNR=7.9						
PBRG	**Braganca**	**5.10**	**6**	*e*Pn	Pn	20 40 56.8	-0.9
PBRG				*e*Sn	Sn	20 41 51.8	-3.6
PBRG							
	5.3nm,0.1s						
ECAL	**Calabor**	**5.24**	**6**	S	Sn	20 41 56.1	-2.6
	SNR=7.9						
ECAL	**Calabor**	**5.24**	**6**	S	Sn	20 41 56.1	-2.6
	SNR=7.9						
ETOR	**Torete**	**5.86**	**44**	P	Pn	20 41 07.8	-0.3
	4.0nm,0.1s,SNR=7.9						
ETOR				S	Sn	20 42 07.8	-6.2
	6.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.86**	**44**	P	Pn	20 41 07.8	-0.3
	SNR=7.9						
ETOR				S	Sn	20 42 07.8	-6.3
	6.2nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**6.04**	**69**	P	Pn	20 41 09.6	-1.0
	SNR=7.9						
EBEN				S	Sn	20 42 13.1	-5.5
	1.2nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**6.04**	**69**	P	Pn	20 41 09.6	-1.0
	SNR=7.9						
EBEN				S	Sn	20 42 13.1	-5.5
	1.2nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.33**	**350**	P	Pn	20 41 14.2	-0.3
	0.7nm,0.1s,SNR=7.9						
EMAZ				S	Sn	20 42 22.2	-3.4
	1.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.33**	**350**	P	Pn	20 41 14.2	-0.4
EMAZ				S	Sn	20 42 22.2	-3.5
EMAZ	**Mazaricos**	**6.33**	**350**	P	Pn	20 41 14.2	-0.4
	SNR=7.9						
EMAZ				S	Sn	20 42 22.2	-3.4
	1.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.55**	**54**	P	Pn	20 41 17.9	+0.3
	SNR=7.9						
EMOS				S	Sn	20 42 29.1	-2.0
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.55**	**54**	P	Pn	20 41 17.9	+0.3
EARI	**Arriondas**	**6.79**	**14**	S	Sn	20 42 30.3	-6.5
	SNR=7.9						

CSEM ***11*** *21:01:45.8, 2972N×5136E, h15km, ML3.1, After THR*
THR ***11*** *21:01:45.8±0.4, 2972N×5136E, h15km±7km, ML3.1*
ISCJB ***11*** *21:01:47.4±0.5, 2972N±004×5160

IDC 11 21:10:25.5±5.6, 1316N×14297E, h182km±69km, mb3.4/3, mb1 3.6/3, mb1mx3.2/18, mbtmp3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=120.2km s-min=27.0km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.90**	**77**	P	Pn	21 11 02.9	+1.4
	11nm,0.3s,baz=196,slow=11,SNR=5.2						
GUMO				S	Sn	21 11 29.5	0.0
	29nm,0.3s,baz=170,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**33.97**	**195**	P	P	21 16 51.7	+0.1
	2.1nm,0.7s,baz=16,slow=9.3,SNR=23						
ASAR	**Alice Springs**	**37.66**	**194**	P	P	21 17 23.1	+0.2
	0.9nm,0.7s,baz=17,slow=13,SNR=16						
SONM	**Songino Array**	**46.04**	**326**	LR	LR	21 37 46.3	
	comp=Z,49nm,21.8s,baz=222,slow=36						
FINES	**FINESS Array B**	**90.76**	**335**	P	P	21 23 07.5	-0.3
	1.3nm,1.0s,baz=72,slow=8.9,SNR=4.5						

SZGRF 11 21:19:23.8, 2244S×17874W, h33km, South of Fiji Islands
ISCJB 11 21:19:33.3±0.7, 2193S±006×17949W±005, h591km±10km, mb4.8/41, Error ellipse: s-maj=9.7km s-min=7.1km az=139.3
NEIC 11 21:19:34.2±0.7, 2193S×17946W, h591km±8km, mb5.0/21, Error ellipse: s-maj=9.8km s-min=6.4km az=166.0
BJI 11 21:19:34.2, 2190S×17950W, h591km, mB4.9, mb4.8
IDC 11 21:19:35.0±1.0, 2196S×17955W, h595km±9km, mb4.1/14, mb1 4.1/18, mb1mx4.0/22, mbtmp5.1/18, Error ellipse: s-maj=11.7km s-min=9.9km az=4.0
MOS 11 21:19:35.2±3.2, 2199S×17960W, h585km, mb5.0/10, Error ellipse: s-maj=11.8km s-min=10.8km az=23.1
BGS 11 21:19:38.6, 2193S×17946W, h591km, mb5.0(NEIC)

ISC 11 21:19:34.3±0.7, 2198S±006×17948W±005, h586km±9km, n272, σ1$05/101, mb4.8/41, 21C-40D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.38**	**169**	P	P	21 21 26.6	-0.5
	92nm,0.3s,baz=292,slow=23,SNR=6.0						
RAO				S	S	21 22 58.9	-0.7
	57nm,0.3s,baz=75,slow=20,SNR=2.8						
AFI	**Afiamalu**	**10.86**	**44**	P	P	21 22 00.0	-1.3
	4.8nm,0.3s,baz=89,slow=8.6,SNR=8.6						
AFI				S	S	21 23 55.7	-6.4
	4.8nm,0.3s,baz=29,slow=22,SNR=7.7						
AFI	**Afiamalu**	**10.86**	**44**	*eP*	P	21 22 00.1	-1.2
AFI				*eS*	S	21 23 54.0	-8.2
AFI				pmax	pmax		
	comp=Z,51nm,0.8s						
AFI	**Afiamalu**	**10.86**	**44**	*eP*	P	21 22 00.1	-1.2
	comp=Z,51nm,0.8s						
AFI				*eS*	S	21 23 54.0	-8.2
DZM	**Mont Dzumac**	**13.06**	**267**	P	P	21 22 22.2	-1.3
	comp=Z,1.7nm,0.3s,baz=90,slow=18,SNR=11						
URZ	**Urewera**	**16.49**	**190**	P	P	21 22 55.1	-1.5
	comp=Z,2.4nm,0.3s,baz=291,slow=2.4,SNR=10.0						
URZ				S	S	21 25 32.9	-8.6
	comp=Z,1.8nm,0.3s,baz=160,slow=20,SNR=10.0						
RAR	**Rarotonga**	**18.34**	**91**	P	P	21 23 13.3	-0.2
	comp=Z,2.2nm,0.3s,baz=242,slow=5.5,SNR=8.4						
RPZ	**Rata Peaks**	**23.06**	**198**	P	P	21 23 56.0	+0.1
	comp=Z,10nm,0.8s,mb4.5,baz=27,slow=12,SNR=5.5						
ARMA	**Armidale**	**27.20**	**246**	⇓*iP*	P	21 24 34.5	+2.2
TBI	**Tubuai**	**27.71**	**99**	*eP*	P	21 24 37.6	+0.8
	comp=Z,87nm,0.8s,mb5.5						
PPT	**Papeete**	**28.45**	**86**	*eP*	P	21 24 44.1	+0.9
	comp=Z,31nm,1.2s,mb4.8						
PPT	**Papeete**	**28.45**	**86**	*eP*	P	21 24 44.1	+0.9
PPT				pmax	pmax		
	comp=Z,31nm,1.2s						
TVO	**Taravao**	**28.70**	**87**	*eP*	P	21 24 46.0	+0.6
	comp=Z,84nm,0.8s,mb5.4						
TVO	**Taravao**	**28.70**	**87**	*eP*	P	21 24 46.0	+0.6
TVO				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.4						
CNB	**Canberra Magne**	**30.27**	**237**	⇓*iP*	P	21 25 00.4	+1.5
	comp=Z,33nm,0.6s,mb5.1						
PMOR	**Pomariorio Ree**	**30.70**	**82**	*eP*	P	21 25 03.1	+0.5
	comp=Z,98nm,1.3s,mb5.3						
VAH	**Vaihoa**	**30.88**	**83**	*eP*	P	21 25 04.5	+0.4
	comp=Z,70nm,0.9s,mb5.3						
CTA	**Charters Tower**	**32.00**	**267**	⇓*iP*	P	21 25 14.8	+1.1
	comp=Z,17nm,0.4s,mb5.0						
CTA				*e*		21 27 45.5	
CTA	**Charters Tower**	**32.00**	**267**	P	P	21 25 14.8	+1.1
	comp=Z,19nm,0.4s,mb5.0,baz=93,slow=10,SNR=39						
CTA				PcP	PcP	21 27 45.3	+0.1
	comp=Z,5.9nm,0.5s,baz=143,slow=5.1,SNR=5.1						
CTAO	**Charters Tower**	**32.00**	**267**	*eP*	P	21 25 14.7	+1.0
TOO	**Toolangi**	**33.92**	**235**	⇓*iP*	P	21 25 30.8	+1.0
	comp=Z,18nm,0.6s,mb4.9						
TOO	**Toolangi**	**33.92**	**235**	⇓*iP*	P	21 25 30.8	+1.0
TOO				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
PMG	**Port Moresby**	**34.38**	**286**	P	P	21 25 34.5	+0.9
	comp=Z,40nm,0.6s,mb5.2,baz=95,slow=3.4,SNR=14						
PMG	**Port Moresby**	**34.38**	**286**	*eP*	P	21 25 34.4	+0.8
PMG	**Port Moresby**	**34.38**	**286**	*eP*	P	21 25 34.3	+0.7
	comp=Z,69nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**35.92**	**246**	*eP*	P	21 25 47.2	+0.8
	comp=Z,16nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**35.92**	**246**	P	P	21 25 47.5	+1.1
	comp=Z,21nm,0.5s,mb4.9,baz=88,slow=9.8,SNR=72						
AS31	**Alice Springs**	**42.86**	**258**	⇓*iP*	P	21 26 42.4	+0.5
AS31				*eS*	S	21 32 22.2	-2.6
ASAR	**Alice Springs**	**42.86**	**258**	P	P	21 26 42.5	+0.5
	comp=Z,65nm,0.8s,mb5.2,baz=96,slow=8.2,SNR=658						
ASAR				PcP	PcP	21 28 19.4	+0.2
	comp=Z,8.9nm,0.6s,baz=99,slow=4.1,SNR=9.5						
ASAR				ScP	ScP	21 31 15.6	+0.7
	comp=Z,2.2nm,0.9s,baz=108,slow=4.8,SNR=4.0						
ASAR				S	S	21 32 21.4	-3.4
	comp=Z,7.3nm,0.9s,baz=97,slow=15,SNR=22						
ASAR	**Alice Springs**	**42.86**	**258**	P	P	21 26 42.5	+0.6
ASAR						21 28 19.4	
ASAR				S	S	21 32 21.4	-3.4
ASPA	**Alice Springs**	**42.86**	**258**	⇓*iP*	P	21 26 42.4	+0.5
ASPA				*eS*	S	21 32 22.2	-2.6
WB2	**Warramunga Arr**	**43.04**	**264**	⇓*iP*	P	21 26 43.3	0.0
WB2				*eS*	S	21 32 22.8	-4.6
WRAB	**Tennant Creek**	**43.04**	**264**	*dP*	P	21 26 43.3	-0.1
WRA	**Warramunga Arr**	**43.05**	**264**	P	P	21 26 43.2	-0.2
	comp=Z,43nm,0.6s,mb5.2,baz=97,slow=8.0,SNR=532						
WRA				PcP	PcP	21 28 20.1	+0.3
	comp=Z,2.5nm,0.4s,baz=102,slow=3.7,SNR=4.9						
WRA				ScP	ScP	21 31 16.8	+1.1
	comp=Z,3.9nm,0.8s,baz=93,slow=4.0,SNR=9.5						
WRA				S	S	21 32 23.9	-3.7
	comp=Z,2.8nm,0.9s,baz=95,slow=13,SNR=8.7						
WRA	**Warramunga Arr**	**43.05**	**264**	P	P	21 26 43.2	-0.2
WRA						21 28 20.1	
WRA				S	S	21 32 23.9	-3.7
KAKA	**Kakadu**	**46.65**	**273**	⇓*iP*	P	21 27 11.0	+0.1
	comp=Z,67nm,0.3s,mb5.7						
KAKA				*eS*	S	21 33 16.4	-1.6
FORT	**Forrest**	**47.45**	**248**	⇓*iP*	P	21 27 16.7	-0.2
	comp=Z,54nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.48**	**264**	*eP*	P	21 27 46.7	+0.2
	comp=Z,30nm,0.6s,mb4.9						
FITZ				*eS*	S	21 34 23.2	-0.5
FITZ	**Fitzroy Crossi**	**51.48**	**264**	P	P	21 27 47.0	+0.6
	comp=Z,12nm,0.3s,mb4.7,baz=76,slow=5.1,SNR=114						
KLBR	**Kellerberrin**	**56.19**	**246**	⇓*iP*	P	21 28 19.3	-0.3
	comp=Z,46nm,0.9s,mb4.7						
MBWA	**Marble Bar**	**56.20**	**259**	*eP*	P	21 28 19.3	-0.3
	comp=Z,58nm,0.6s,mb5.0						
VNDA	**Vanda**	**56.33**	**185**	P	P	21 28 21.3	+0.8
	comp=Z,3.3nm,0.7s,baz=355,slow=7.2,SNR=24						
VNDA	**Vanda**	**56.33**	**185**	P	P	21 28 21.3	+0.8
NWAO	**Narrogin (SRO)**	**56.48**	**244**	P	P	21 28 21.6	+0.1
	comp=Z,15nm,0.6s,mb4.4,baz=132,slow=8.3,SNR=20						
NWAO	**Narrogin (SRO)**	**56.48**	**244**	*eP*	P	21 28 20.9	-0.6
MUN	**Mundaring**	**57.45**	**245**	*eP*	P	21 28 35.7	+7.5
CASY	**Casey**	**62.05**	**205**	⇓*iP*	P	21 28 58.1	-0.5
JHJ	**Hachijo jima 2**	**67.18**	**324**	P	P	21 29 30.2	-0.7
	comp=Z,41nm,0.5s,mb5.1,baz=236,slow=21,SNR=4.7						
QSPA	**South Pole Qui**	**68.10**	**180**	*eP*	P	21 29 36.9	+0.4
	comp=Z,12nm,0.9s,mb4.3						
MIR	**Mirnyy**	**69.08**	**205**	*dP*	P	21 29 43.5	+1.2
MIR				*e*		21 29 57.0	
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.5						
JOW	**Kunigami**	**70.08**	**311**	P	P	21 29 48.4	0.0
	comp=Z,12nm,0.5s,mb4.6,baz=85,slow=4.7,SNR=7.0						
MJAR	**Matsushiro Arr**	**70.60**	**325**	P	P	21 29 51.0	-0.3
	comp=Z,9.3nm,0.6s,mb4.5,baz=156,slow=5.6,SNR=29						
MAJO	**Matsushiro**	**70.60**	**325**	*eP*	P	21 29 51.1	-0.3
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**70.60**	**325**	*eP*	P	21 29 51.1	-0.2
	comp=Z,5.6nm,0.6s,mb4.3						
MAT	**Matsushiro**	**70.60**	**325**	P	P	21 29 50.8	-0.6
KSM	**Kuching**	**72.27**	**279**	*eP*	P	21 30 01.5	+0.5
YSS	**Yuzh-Sakhalins**	**76.61**	**334**	⇓*iP*	P	21 30 24.8	-0.6
YSS				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6						
PET	**Petropavlovsk**	**77.06**	**347**	*eP*	P	21 30 24.9	-3.0
PET				pmax	pmax		
	comp=Z,18nm,0.3s,mb5.0						
MAW	**Mawson**	**79.71**	**200**	⇓*iP*	P	21 30 41.4	-0.6
	comp=Z,5.8nm,0.6s,mb4.1						
MAW	**Mawson**	**79.71**	**200**	P	P	21 30 41.7	-0.3
	comp=Z,6.7nm,0.6s,mb4.1,baz=136,slow=7.1,SNR=29						
MAW	**Mawson**	**79.71**	**200**	⇓*iP*	P	21 30 41.4	-0.6
MAW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ	**Mudanjiang**	**80.94**	**326**	P	P	21 30 48.8	+0.4
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,40nm,3.7s						
MDJ	**Mudanjiang**	**80.94**	**326**	*eP*	P	21 30 49.3	+0.9
CN2	**Changchun**	**82.64**	**323**	*eP*	P	21 30 57.9	+0.9
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**83.04**	**44**	P	P	21 30 59.7	+0.7
	comp=Z,0.6nm,0.7s,baz=218,slow=6.8,SNR=3.9						
SYO	**Syowa Base**	**84.99**	**193**	⇑*eP*	P	21 31 06.5	-2.1
SYO	**Syowa Base**	**84.99**	**193**	⇑*e*PcP	PcP	21 31 10.0	-0.6
KKTK	**Khon Kaen**	**85.08**	**290**	⇓*iP*	P	21 31 10.6	+1.6
	comp=Z,370nm,0.6s						
BJT	**Baijiatuan**	**85.97**	**316**	*eP*	P	21 31 13.9	+0.6
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuan**	**85.97**	**316**	*eP*	P	21 31 13.9	+0.6
	comp=Z,8.9nm,0.6s,mb4.6						
SNAA	**Sanae**	**86.57**	**179**	⇓*iP*	P	21 31 14.2	-1.9
SNAA				*e*		21 31 15.7	
SNAA				*e*		21 31 18.8	
SNAA	**Sanae**	**86.57**	**179**	*eP*	P	21 31 13.9	-2.2
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**86.57**	**179**	*eP*	P	21 31 13.9	-2.2
	comp=Z,1.3nm,0.5s,mb3.9						
VNA1	**Neumayer--Stat**	**87.42**	**177**	⇓*iP*	P	21 31 19.2	-0.9
VNA1				*e*		21 31 20.4	
VNA1				*e*		21 31 24.6	
SEY	**Seymchan**	**87.50**	**348**	*ciP*	P	21 31 19.8	-0.7
XAN	**Xi'an**	**87.94**	**308**	P	P	21 31 23.3	+0.8
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
KMI	**Kunming**	**88.80**	**298**	P	P	21 31 28.6	+2.1
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.4						
KMI	**Kunming**	**88.80**	**298**	P	P	21 31 28.6	+2.1
	comp=Z,9.0nm,1.5s,mb4.4						
PLCA	**Paso Flores**	**89.25**	**134**	P	P	21 31 29.1	+0.4
	comp=Z,1.4nm,0.8s,mb3.9,baz=269,slow=10,SNR=3.4						
HHC	**Hu-ho-hao-te**	**89.40**	**315**	*eP*	P	21 31 28.5	-0.8
HHC				SKS		21 41 02.5	
HHC				S	S	21 41 23.8	-6.7
HHC				XS	sS	21 45 19.7	+2.8
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,61nm,3.4s						
CHTO	**Chiang Mai**	**89.46**	**290**	*eP*	P	21 31 31.1	+1.6
CHTO				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**89.46**	**290**	*eP*	P	21 31 31.1	+1.6
	comp=Z,20nm,0.8s,mb5.0						
COLA	**College**	**89.94**	**13**	⇑*iP*	P	21 31 29.0	-2.8
BILL	**Bilibino**	**90.36**	**355**	⇑*eP*	P	21 31 29.8	-3.9
BILL				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
CD2	**Chengdu**	**90.43**	**303**	*eP*	P	21 31 32.6	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
LZH	**Lanzhou**	**92.58**	**308**	*eP*	P	21 31 45.1	+1.2
LZH				PP	PP	21 35 39.5	+3.6
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.0						
LZH	**Lanzhou**	**92.58**	**308**	*eP*	P	21 31 45.1	+1.2
	comp=Z,19nm,1.2s,mb5.0						
LZH				pP	pP	21 33 45.2	-6.0
LZH				sP	sP	21 34 38.2	-11
LZH				PP	PP	21 35 39.5	+3.6
YAK	**Yakutsk**	**92.97**	**339**	*deP*	P	21 31 43.8	-1.9
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
ZAL	**Zalesovo**	**110.78**	**321**	PKiKP	PKiKP	21 36 58.8	-2.4
	comp=Z,1.4nm,0.4s,baz=259,slow=2.7,SNR=6.0						
MK31	**Makanchi Array**	**111.20**	**313**	*i* PKIKP	PKiKP	21 37 00.0	-2.1
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**111.20**	**313**	Pdiff	Pdif	21 33 08.1	+1.0
	comp=Z,0.2nm,0.5s,baz=104,slow=5.2,SNR=4.0						
MKAR				PKiKP	PKiKP	21 37 00.2	-1.9
	comp=Z,1.2nm,0.5s,baz=189,slow=1.0,SNR=32						
MKAR	**Makanchi Array**	**111.20**	**313**	Pdif	Pdif	21 33 08.1	+1.0
MKAR				PKPdif	PKiKP	21 37 00.2	-1.9
AAK	**Ala-Archa**	**116.12**	**308**	*c* PKIKP	PKPdif	21 37 09.4	-2.1
VOSK	**Vostochnaya**	**118.96**	**319**	PKIKP	PKPdif	21 37 14.8	-2.1
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KK31	**Karatay Array**	**119.08**	**308**	*i* PKIKP	PKPdif	21 37 15.7	-1.5
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**119.08**	**308**	*i* PKIKP	PKPdif	21 37 15.7	-1.5
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	**Chkalovo**	**119.15**	**320**	*e*PKIKP	PKPdif	21 37 14.8	-2.5
BVA0	**Borovoye Array**	**119.31**	**319**	*i* PKIKP	PKPdif	21 37 15.8	-1.8
BRVK	**Borovoye**	**119.37**	**319**	*e*PKIKP	PKPdif	21 37 16.0	-1.7
BOSA	**Boshof**	**124.33**	**206**	PKP	PKPdif	21 37 27.0	-0.3
	comp=Z,3.3nm,0.9s,baz=143,slow=10,SNR=4.9						
ARU	**Arti**	**125.61**	**325**	*i* PKIKP	PKPdif	21 37 28.4	-1.3
ARU				*e*		21 39 29.3	
ARU	**Arti**	**125.61**	**325**	*e*PKPdif	PKPdif	21 37 28.5	-1.2
AB31	**Akbulak array**	**126.19**	**316**	*i* PKIKP	PKPdif	21 37 29.7	-1.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEV	**Kevo**	**129.64**	**348**	*e*pkp	PKPdif	21 37 34.1	-3.3
ARCES	**ARCESS Array B**	**130.11**	**349**	PKhKP		21 37 25.1	
	comp=Z,2.0nm,0.8s,baz=335,slow=1.4,SNR=5.6						
ARCES				PKP	PKPdif	21 37 36.3	-1.9
	comp=Z,4.3nm,0.5s,baz=22,slow=1.3,SNR=33						
ARCES				SKPbc	SKPbc	21 40 04.7	-2.4
	comp=Z,4.5nm,0.8s,baz=13,slow=3.7,SNR=5.1						
ARCES	**ARCESS Array B**	**130.11**	**349**	PKIKP	PKPdif	21 37 36.3	-2.0
ARCES						21 40 04.7	
JOF	**Joensuu**	**134.09**	**341**	*e*pkp	PKPdif	21 37 42.3	-3.5
LSZ	**Lusaka**	**134.11**	**219**	*e*PKIKP	PKPdif	21 37 47.7	+1.9
KAF	**Kangasniemi**	**136.17**	**343**	*e*pkp	PKPdif	21 37 46.6	-3.0
FIA1	**FINESS Array S**	**136.77**	**342**	PKPdif	PKPdif	21 37 49.5	-1.2
FINES	**FINESS Array B**	**136.78**	**342**	PKhKP		21 37 36.4	
	comp=Z,1.0nm,0.5s,baz=29,slow=5.5,SNR=13						
FINES				PKP	PKPdif	21 37 48.6	-2.1
	comp=Z,2.7nm,0.5s,baz=100,slow=4.2,SNR=13						
FINES				SKPbc	SKPbc	21 40 27.0	-2.0
	comp=Z,0.8nm,0.4s,baz=63,slow=3.1,SNR=7.3						
FINES	**FINESS Array B**	**136.78**	**342**	PKP	PKPdif	21 37 48.6	-2.1
FINES				SKPbc	SKPbc	21 40 27.0	-2.0
KMBO	**Kilima Mbogo**	**137.44**	**242**	PKP	PKPdif	21 37 53.7	+1.8
	comp=Z,1.4nm,1.0s,baz=230,slow=23,SNR=7.0						
KMBO				SKPbc	SKPbc	21 40 32.3	+1.4
	comp=Z,2.1nm,1.0s,baz=358,slow=2.5,SNR=4.8						
KMBO	**Kilima Mbogo**	**137.44**	**242**	PKP	PKPdif	21 37 53.7	+1.8
KMBO				SKPbc	SKPbc	21 40 32.3	+1.4
GNI	**Garni**	**138.49**	**306**	⇑*i*PKIKP	PKPdif	21 37 53.8	-0.1
NB2	**NORSAR Subarra**	**140.26**	**352**	PKP	PKPdif	21 37 57.9	+0.8
	comp=Z,1.2nm,0.4s,baz=15,slow=4.0						
NOA	**NORSAR Array B**	**140.26**	**352**	PKhKP		21 37 49.4	
	comp=Z,3.4nm,0.8s,baz=16,slow=4.6,SNR=10.0						
NOA				PKP	PKPdif	21 37 57.0	-0.1
	comp=Z,1.8nm,0.5s,baz=14,slow=3.9,SNR=5.5						
NOA	**NORSAR Array B**	**140.26**	**352**	PKP	PKPdif	21 37 57.0	-0.1
KELT	**Kelkit**	**142.56**	**308**	*i* P	PKPdif	21 37 59.0	-2.2
ELZG	**Elazig**	**143.22**	**305**	*i* P	PKPdif	21 38 01.8	-0.6
AKASG	**Malin Array Be**	**143.60**	**329**	PKP	PKPdif	21 38 00.0	-3.0
	comp=Z,19nm,0.4s,baz=42,slow=4.0,SNR=143						
AKASG				SKPbc	SKPbc	21 40 44.7	-2.2
	comp=Z,0.7nm,0.5s,baz=40,slow=2.3,SNR=5.8						
AKASG	**Malin Array Be**	**143.60**	**329**	PKP	PKPdif	21 38 00.0	-3.0
AKASG				SKPbc	SKPbc	21 40 44.7	-2.2
AKBB	**Malin Array Si**	**143.60**	**329**	*e*PKHKP		21 38 00.1	
MALT	**Malatya**	**143.69**	**305**	⇑*iP*	PKPdif	21 38 02.7	-0.5
MALT	**Malatya**	**143.69**	**305**	*e*PKPdif	PKPdif	21 38 02.3	-0.8
SUW	**Suwalki**	**143.70**	**337**	*e*PKP	PKPdif	21 38 01.2	-2.0
SIM	**Simferopol'**	**144.19**	**318**	*i* PKIKP	PKPdif	21 38 03.7	-0.3
SIM				pmax	pmax		
	comp=Z,23nm,0.8s						
SIM				pmax	pmax		
	comp=Z,29nm,9.5s						
SVST	**Sivas**	**144.36**	**308**	*i* P	PKPdif	21 38 05.3	+1.0
GZT	**Gaziantep**	**144.60**	**304**	*i* P	PKPdif	21 38 05.3	+0.5
MUD	**Monsted U'grnd**	**144.98**	**352**	*i* P	PKPdif	21 38 05.2	-0.2
	comp=Z,20nm,0.7s						
BSD	**Bornholm Skovb**	**145.19**	**346**	*i* P	PKPdif	21 38 05.8	0.0
	comp=Z,33nm,0.6s						
BOYT	**Boyabat**	**145.22**	**312**	*i* P	PKPdif	21 38 07.3	+1.5
CTKT	**Corum**	**145.61**	**311**	*i* P	PKPdif	21 38 07.7	+1.2
COBT	**Iskenderun**	**145.84**	**303**	*i* P	PKPbc	21 38 09.0	+0.3
GKP	**Gorka Klasztor**	**146.25**	**342**	*e*PKP	PKPdif	21 38 09.0	+1.5
XSO	**Sourhope Farm**	**146.47**	**3**	*e*P	PKPdif	21 38 09.4	+1.5
ESK	**Eskdalemuir**	**146.59**	**4**	*e*P	PKPdif	21 38 08.9	+0.8
LVV	**L'vov**	**146.59**	**332**	*i* PKIKP	PKPdif	21 38 09.6	+1.5
ELDT	**Eldivan**	**146.62**	**311**	*i* P	PKPbc	21 38 10.6	-0.3
ECK	**Cauldkaine Hil**	**146.73**	**4**	*e*P	PKPdif	21 38 09.8	+1.5
BR131	**Keskin Array S**	**146.76**	**310**	*e*PKPbc	PKPbc	21 38 10.2	-1.1
BRTR	**Keskin Array B**	**146.76**	**310**	PKP	PKPdif	21 38 07.9	-0.5
	comp=Z,8.7nm,0.7s,baz=60,slow=4.0,SNR=46						
BRTR				PKPbc	PKPbc	21 38 10.6	-0.6
	comp=Z,9.1nm,0.7s,baz=132,slow=4.3,SNR=45						
GAL1	**Galloway**	**146.92**	**6**	*e*P	PKPdif	21 38 10.4	+1.7
XAL	**Allendale**	**147.10**	**3**	*e*P	PKPdif	21 38 10.6	+1.6
BDL	**Dobcross Hall**	**147.12**	**4**	*e*P	PKPdif	21 38 10.9	+1.9
BSEG	**Bad Segeberg**	**147.24**	**349**	*e*PKPbc	PKPbc	21 38 11.7	-0.8
KWP	**Kalwaria**	**147.30**	**333**	*e*PKP	PKPbc	21 38 12.2	-0.5
ANTO	**Ankara**	**147.31**	**310**	⇑*i*P	PKPbc	21 38 12.7	0.0
ANTO	**Ankara**	**147.31**	**310**	*e*PKPbc	PKPbc	21 38 12.3	-0.4
CKE	**Keswick**	**147.32**	**4**	*e*P	PKPbc	21 38 11.4	-1.3
XDE	**Dent Fell**	**147.38**	**4**	*e*P	PKPbc	21 38 11.8	-1.1
MEST	**Erdemli**	**147.45**	**304**	*i* P	PKPbc	21 38 12.1	-0.9
BURAR	**Bucovina Array**	**147.62**	**328**	⇑*i*P	PKPbc	21 38 13.5	0.0
RUE	**Ruedersdorf**	**147.88**	**345**	*e*PKPbc	PKPbc	21 38 13.7	-0.4
OJC	**Ojcow**	**147.99**	**336**	*e*PKPdif	PKPbc	21 38 13.8	-0.6
VRI	**Vrincioaia**	**148.00**	**324**	⇓*i*P	PKPbc	21 38 13.5	-0.9
VRI	**Vrincioaia**	**148.00**	**324**	⇓P	PKPbc	21 38 13.5	-0.9
KOLS	**Kolonicke sedl**	**148.02**	**333**	*e*PKP	PKPbc	21 38 14.2	-0.3
HARR	**Harsova**	**148.05**	**322**	PKIKP	PKPdif	21 38 04.0	-6.5
PLOR	**Plostina**	**148.06**	**324**	⇑*i*P	PKPbc	21 38 13.8	-0.8
STHS	**Stebnicka Huta**	**148.07**	**334**	*i* PKP	PKPbc	21 38 14.6	0.0
DCN	**Croghan**	**148.12**	**9**

MANZ	Manzenberg	150.59	345	*e*PKPbc	PKPbc	21 38 20.1	-0.5
ROTZ	Rotzenmuhle	150.77	344	*e*PKPbc	PKPbc	21 38 20.6	-0.4
HEX	Exmoor	150.77	6	*e*P	PKPbc	21 38 19.7	-1.3
BZS	Buzias	150.79	329	⇑*i*P	PKPbc	21 38 20.3	-0.8
KHC	Kasperske Hory	150.98	342	*e*PKPbc	PKPbc	21 38 21.0	-0.5
KHC				*e*PKPab	PKPab	21 38 31.2	-0.6
GRF	Grafenberg Arr	151.07	346	*e*PKPbc	PKPbc	21 38 21.0	-0.7
GRF				*e*PKPab	PKPab	21 38 31.9	-0.3
UCC	Uccle	151.08	355	PKPbc	PKPbc	21 38 20.3	-1.5
MEM	Membach	151.10	353	PKPbc	PKPbc	21 38 20.9	-0.8
MEM				PKPab	PKPab	21 38 32.0	-0.3
TNS	Taunus Mts	151.13	349	*e*PKPbc	PKPbc	21 38 21.2	-0.7
WET	Wettzell	151.17	343	*e*PKPbc	PKPbc	21 38 21.5	-0.4
WET				*e*PKPab	PKPab	21 38 32.6	0.0
GEC2	GERESS Array S	151.21	342	*e*PKPbc	PKPbc	21 38 21.1	-0.9
GERES	GERESS Array B	151.21	342	PKP	PKPdf	21 38 15.0	-0.4
	comp=Z,0.6nm,0.8s,baz=355,slow=1.6,SNR=4.4						
GERES				PKPbc	PKPbc	21 38 20.8	-1.2
	comp=Z,4.4nm,0.4s,baz=22,slow=2.0,SNR=52						
GERES				PKPab	PKPab	21 38 32.4	-0.4
	comp=Z,1.7nm,0.5s,baz=24,slow=4.0,SNR=7.3						
GERES				SKP		21 40 44.3	
	comp=Z,0.9nm,0.8s,baz=48,slow=1.5,SNR=4.0						
GERES	GERESS Array B	151.21	342	PKIKP	PKPdf	21 38 15.0	-0.4
GERES						21 38 20.8	
GERES						21 38 32.4	
CONA	Conrad Observa	151.33	338	⇑*i*PKiKP	PKiKP	21 38 21.7	-0.9
	comp=Z,8.7nm,0.7s						
BCLA	Clavier	151.37	354	PKPbc	PKPbc	21 38 22.5	+0.1
BCLA				PKPab	PKPab	21 38 32.4	-1.0
DYA	Yadsworthy	151.38	6	*e*P	PKPbc	21 38 20.9	-1.5
PKSM	Moragy	151.68	333	⇓*i*P	PKPbc	21 38 22.1	-1.0
GIVF	Givet	151.73	354	*e*PKIKP	PKPbc	21 38 22.0	-1.2
	comp=Z,27nm,0.8s						
DOU	Dourbes	151.75	354	PKPbc	PKPbc	21 38 22.7	-0.6
DOU				PKPab	PKPab	21 38 34.1	-1.0
BAIF	Baives	151.82	355	*e*PKIKP	PKPbc	21 38 22.2	-1.2
	comp=Z,16nm,0.9s						
MOA	Molln	151.92	340	⇓*i*P	PKPbc	21 38 22.5	-1.1
	comp=Z,3.0nm,0.5s						
WLF	Walferdange	152.01	352	PKPbc	PKPbc	21 38 23.8	0.0
VTS	Vitosha	152.04	323	⇑*i*P	PKPbc	21 38 22.5	-1.4
FUR	Furstenfeldbru	152.48	344	*e*PKPab	PKPab	21 38 37.9	-0.3
PERS	Pernice	152.70	338	*i* PKPbc	PKPbc	21 38 23.9	-1.4
KBA	Koelnbreinsper	152.90	341	⇑*i*P	PKPbc	21 38 24.2	-1.6
	comp=Z,4.0nm,0.5s						
CDF	Champ du Feu	153.07	350	*e*PKIKP	PKPbc	21 38 24.9	-1.2
	comp=Z,3.6nm,0.6s						
GCIS	Gornji Cirnik	153.17	336	*i* PKPbc	PKPbc	21 38 25.4	-0.9
WATA	Walderalm	153.17	343	⇑*i*P	PKPbc	21 38 25.4	-1.0
	comp=Z,1.8nm,0.7s						
WTTA	Wattenberg	153.22	343	⇓*i*P	PKPbc	21 38 25.6	-0.9
	comp=Z,7.3nm,0.4s						
FLN	La Foliniere	153.26	1	*e*PKIKP	PKPbc	21 38 24.9	-1.6
	comp=Z,11nm,0.6s						
MEZF	Maizieres J'vi	153.29	353	*e*PKIKP	PKPbc	21 38 25.5	-1.1
MOTA	Moosalm	153.29	344	⇑*i*P	PKPbc	21 38 25.9	-0.7
	comp=Z,2.7nm,0.9s						
SQTA	Sankt Quirin	153.38	344	⇓*i*P	PKPbc	21 38 25.9	-0.9
	comp=Z,1.8nm,0.8s						
LJU	Ljubljana	153.41	338	*e*PKPbc	PKPbc	21 38 25.9	-1.0
LJU				*e*		21 38 41.5	
LDF	La Druitiere	153.44	1	*e*PKIKP	PKPbc	21 38 25.1	-1.8
HAU	Haudompre	153.61	351	*e*PKIKP	PKPbc	21 38 25.8	-1.5
BOJS	Bojanci	153.62	336	*e*PKPbc	PKPbc	21 38 26.6	-0.7
GRR	Gorron	153.62	2	*e*PKIKP	PKPbc	21 38 25.7	-1.6
	comp=Z,7.4nm,0.5s						
CEY	Cerknica	153.71	338	*i* PKPbc	PKPbc	21 38 26.5	-1.0
CEY				*e*		21 38 42.6	
HINF	Hinteralfeld	153.72	350	*e*PKIKP	PKPbc	21 38 25.9	-1.6
KEST	Kesra	164.28	333	PKPab	PKPab	21 39 28.9	-0.6
	comp=Z,1.1nm,0.7s,baz=318,slow=3.9,SNR=4.8						
TORD	Torodi Ar. Bea	171.15	187	PKP	PKPdf	21 38 34.9	-1.0
	comp=Z,2.3nm,0.8s,baz=276,slow=0.5,SNR=10						
TORD				PKPab	PKPab	21 39 58.8	-1.2
	comp=Z,2.2nm,0.7s,baz=168,slow=6.0,SNR=10.0						

*ISCJB **11** 21:31:09.4±4.6, 231S±04×1794W±06, h500km, mb4.1/7, Error ellipse: s-maj=89.3km s-min=19.7km az=104.9*
*NEIC **11** 21:31:11.0±4.9, 231S×17937W, h509km±47km, mb4.7/3, Error ellipse: s-maj=50.6km s-min=19.4km az=217.0*
*IDC **11** 21:31:14.9±7.9, 2337S×17966W, h531km±72km, mb3.6/7, mb1 3.7/8, mb1mx3.5/16, mbtmp4.5/8, Error ellipse: s-maj=68.8km s-min=22.4km az=46.0*

ISC 11 21:31:09.9±4.6, 231S±04×1793W±06, h500km, n18, σ0°38/15, mb4.1/7, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.42	191	P		**P**	**21 34 24.6 +0.2**
	1.2nm,0.3s,baz=334,slow=3.4,SNR=3.9						
RPZ	Rata Peaks	22.05	199	P		**P**	**21 35 27.0 0.0**
	6.0nm,0.5s,mb4.4,baz=349,slow=16,SNR=5.1						
CTA	Charters Tower	32.14	269	⇓*i*P		**P**	**21 36 56.4 +0.8**
	10.0nm,0.3s,mb4.7						
CTA	Charters Tower	32.14	269	P		**P**	**21 36 56.6 +1.0**
	13nm,0.3s,mb4.8,baz=96,slow=11,SNR=25						
CTAO	Charters Tower	32.14	269	*e*P		**P**	**21 36 56.3 +0.8**
	13nm,0.4s,mb4.7						
STKA	Stephens Creek	35.63	247	P		**P**	**21 37 24.9 -0.2**
	3.0nm,0.6s,mb3.9,baz=70,slow=8.5,SNR=6.8						
STKA	Stephens Creek	35.63	247	*e*P		**P**	**21 37 24.9 -0.1**
AS31	Alice Springs	42.82	260	*e*P		**P**	**21 38 23.0 -0.1**
ASAR	Alice Springs	42.82	260	P		**P**	**21 38 23.0 -0.1**
	3.9nm,0.5s,mb4.1,baz=96,slow=7.3,SNR=50						
ASPA	Alice Springs	42.82	260	*e*P		**P**	**21 38 23.0 -0.1**
WB2	Warramunga Arr	43.12	265	*e*P		**P**	**21 38 24.9 -0.5**
WRA	Warramunga Arr	43.13	265	P		**P**	**21 38 25.1 -0.4**
	4.8nm,0.3s,mb4.3,baz=94,slow=8.5,SNR=221						
FITZ	Fitzroy Crossi	51.55	265	*e*P		**P**	**21 39 29.8 +0.8**
	5.8nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	51.55	265	P		**P**	**21 39 28.9 0.0**
	2.8nm,0.5s,mb3.8,baz=111,slow=7.2,SNR=16						
MAW	Mawson	78.72	200	P		**P**	**21 42 20.0 0.0**
	1.0nm,0.6s,mb3.5,baz=120,slow=8.1,SNR=3.4						
BRVK	Borovoye	120.34	319	PKPdf	PKPdf	21 49 01.6	-2.3
AKASG	Malin Array Be	144.65	328	PKP	PKPdf	21 49 50.6	+1.4
	0.9nm,0.4s,baz=43,slow=4.2,SNR=6.6						
BRTR	Keskin Array B	147.61	309	PKPbc	PKPbc	21 49 58.8	+1.1
	0.4nm,0.6s,baz=127,slow=3.8,SNR=3.0						

*IDC **11** 21:53:14.3±4.5, 1168S×16653E, h228km±44km, mb3.8/9, mb1 4.0/10, mb1mx3.8/16, mbtmp4.4/10, MS3.6/1, Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=30.9km s-min=20.6km az=155.0*
*NEIC **11** 21:53:15.9±3.0, 1170S×16654E, h249km±31km, mb4.2/2, Error ellipse: s-maj=26.1km s-min=13.3km az=164.0*
*ISCJB **11** 21:53:16.4±4.2, 118S±02×1665E±0.1, h269km±45km, mb4.0/10, Error ellipse: s-maj=32.5km s-min=19.5km az=145.0*

ISC 11 21:53:17.6±4.3, 119S±02×1667E±01, h269km±48km, n30, σ0°81/17, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.12	181	*e*P		**Pn**	**21 55 38.3 +0.9**
DZM				*e*S		**S**	**21 57 30.2 -1.0**
DZM	Mont Dzumac	10.12	181	P		**Pn**	**21 55 39.0 +1.6**
	8.6nm,0.3s,baz=209,slow=22,SNR=57						
CTA	Charters Tower	21.21	245	*e*P		**P**	**21 57 42.8 +0.1**
	6.3nm,0.7s,mb4.0						
CTA	Charters Tower	21.21	245	P		**P**	**21 57 42.6 -0.1**
	8.5nm,0.6s,mb4.2,baz=76,slow=13,SNR=9.4						
STKA	Stephens Creek	30.45	225	P		**P**	**21 59 06.8 +1.3**
	2.6nm,0.5s,mb4.0,baz=28,slow=10.0,SNR=8.5						
WB2	Warramunga Arr	32.02	251	*e*P		**P**	**21 59 19.1 -0.1**
WRA	Warramunga Arr	32.03	251	P		**P**	**21 59 19.1 -0.2**
	3.2nm,0.6s,mb4.1,baz=85,slow=9.2,SNR=40						
AS31	Alice Springs	33.21	245	*e*P		**P**	**21 59 28.5 -1.0**
ASAR	Alice Springs	33.22	245	P		**P**	**21 59 29.1 -0.4**
	2.6nm,0.4s,mb4.1,baz=68,slow=10,SNR=19						
FITZ	Fitzroy Crossi	40.02	256	*e*P		**P**	**22 00 27.4 +0.7**
	9.4nm,1.0s,mb4.1						
MJAR	Matsushiro Arr	55.13	332	P		**P**	**22 02 20.7 -1.6**
	0.6nm,0.3s,mb3.5,baz=168,slow=8.0,SNR=5.8						
MJAR				LR	LR	22 21 55.7	
	comp=Z,60nm,19.6s,baz=290,slow=31						
SONM	Songino Array	79.87	324	P		**P**	**22 04 57.1 +0.6**
	0.4nm,0.3s,mb3.6,baz=129,slow=4.9,SNR=5.8						
YBH	Yreka Blue Hor	83.86	45	P		**P**	**22 05 16.7 -0.4**
	0.9nm,0.5s,mb3.8,baz=212,slow=9.5,SNR=3.5						
NVAR	Mina Array Bea	85.90	50	P		**P**	**22 05 27.5 +0.2**
	1.0nm,0.5s,mb3.9,baz=236,slow=6.4,SNR=7.9						
MKAR	Makanchi Array	94.74	317	P		**P**	**22 06 09.1 +0.6**
	2.8nm,0.7s,mb4.5,baz=86,slow=6.3,SNR=29						
MKAR	Makanchi Array	94.74	317	P		**P**	**22 06 09.1 +0.6**
ARCES	ARCESS Array B	117.38	346	PKP	PKPdf	22 11 31.1	0.0
	7.3nm,1.1s,baz=93,slow=2.7,SNR=5.5						
FINES	FINESS Array B	122.88	339	PKP	PKPdf	22 11 42.2	+0.6
	1.2nm,0.8s,baz=90,slow=1.9,SNR=8.7						
LPL	La Plagne	142.37	337	*e*PKP1	PKPdf	22 12 16.5	-1.6
LPG	La Plagne	142.38	337	*e*PKP1	PKPdf	22 12 17.4	-0.7
BGF	Bois d'Agland	142.83	341	*e*PKP1	PKPdf	22 12 17.3	-1.6
	8.8nm,0.6s						
MBDF	Montbardon	143.01	336	*e*PKP1	PKPdf	22 12 17.7	-1.5
ORIF	Oris-en-Rattie	143.20	337	*e*PKP1	PKPdf	22 12 18.0	-1.6
	5.8nm,0.7s						
SBF	Sospel	143.45	334	*e*PKP1	PKPdf	22 12 18.1	-1.9
	11nm,0.7s						
PGF	Pioggiola	143.80	332	*e*PKP1	PKPdf	22 12 19.5	-1.1
	7.6nm,0.7s						
FRF	La Foret Royal	144.03	335	*e*PKP1	PKPdf	22 12 20.1	-0.9
	34nm,1.1s						
SMRF	Simiane la Rot	144.11	336	*e*PKP1	PKPdf	22 12 19.6	-1.6
LMR	La Mourre	144.27	335	*e*PKP1	PKPdf	22 12 21.1	-0.3
	16nm,0.7s						
KEST	Kesra	148.62	323	PKPbc	PKPbc	22 12 35.0	+2.2
	1.6nm,0.7s,baz=154,slow=1.1,SNR=7.9						
ESDC	Sonseca Array	151.11	345	PKPbc	PKPbc	22 12 39.4	+0.6
	0.9nm,0.7s,baz=3.5,slow=3.3,SNR=3.9						
ESDC				PKPab	PKPab	22 12 49.0	+1.5
	0.8nm,0.5s,baz=15,slow=4.0,SNR=7.7						

IDC 11 21:55:28.4±6.5, 1021S×16157E, h94km±42km, mb3.7/3, mb1 3.9/4, mb1mx3.5/14, mbtmp4.1/4, Error ellipse: s-maj=60.8km s-min=33.5km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.77	296	P		Pn	21 55 57.4 -0.4
	36nm,0.3s,baz=98,slow=1.9,SNR=8.1						
HNR				S		Sn	21 56 20.4 +0.3
	418nm,0.3s,baz=295,slow=2.0,SNR=23						
CTA	Charters Tower	17.73	235	P		Pn	21 59 30.2 +1.1
	0.3nm,0.3s,baz=72,slow=13,SNR=3.0						
WRA	Warramunga Arr	27.98	247	P		P	22 01 10.0 -0.1
	1.3nm,0.6s,baz=76,slow=9.2,SNR=7.0						
WRA				pP	pP	22 01 29.7	-1.5
	0.7nm,0.6s,baz=75,slow=9.0,SNR=4.5						
SONM	Songino Array	75.60	325	P		P	22 07 04.0 +1.1
	2.1nm,1.0s,baz=136,slow=4.9,SNR=5.3						
MKAR	Makanchi Array	90.12	318	P		P	22 08 17.1 -0.8
	0.3nm,0.9s,baz=93,slow=5.9,SNR=4.4						

PRE 11 22:04:29.8±1.6, 2139S×3282E, h5km, ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	Messina	2.77	249	*e*P		Pn	22 05 15.8 +1.0
MSNA				*e*S		Sn	22 05 50.5 +1.9
MSNA				AML	AML	22 06 05.2	
	comp=Z,92nm,0.4s						
SLR	Silverton	6.01	223	*e*S		Sn	22 07 05.7 -2.7
SLR				AML	AML	22 07 46.7	
	comp=Z,24nm,0.5s						
POGA	Pongola	6.06	190	*e*P		Pn	22 06 01.0 +1.0
POGA				*e*S		Sn	22 07 06.7 -3.0
POGA				AML	AML	22 07 16.9	
	comp=Z,7.4nm,0.6s						
KSR	Koster	7.02	230	*e*P		Pn	22 06 15.0 +1.8
KSR				*e*S		Sn	22 07 30.3 -3.1
KSR				AML	AML	22 07 42.0	
	comp=Z,4.8nm,0.2s						
LBTB	Lobatse	7.56	240	*e*P		Pn	22 06 21.0 +0.3
LBTB				*e*S		Sn	22 07 44.0 -2.8
LBTB				AML	AML	22 08 42.8	
	comp=Z,12nm,0.6s						
BOSA	Boshof	9.94	222	*e*P		Pn	22 06 54.3 +1.0
BOSA				*e*S		Sn	22 08 40.6 -4.6
BOSA				AML	AML	22 08 59.6	
	comp=Z,2.4nm,0.8s						

*ISCJB **11** 22:09:17.3±0.4, 4020S±003×17427E±005, h117km±5km, mb4.2/3, Error ellipse: s-maj=7.6km s-min=3.9km az=58.5*
*IDC **11** 22:09:17.5±1.7, 4025S×17456E, h110km±16km, mb3.7/2, mb1 3.7/4, mb1mx3.5/13, mbtmp3.9/4, Error ellipse: s-maj=34.9km s-min=15.3km az=142.0*
*WEL **11** 22:09:19.0±0.2, 4017S×17425E, h105km±2km, ML4.6/24, Error ellipse: s-maj=1.5km s-min=0.6km az=90.0, reported intensity MM 4.*
WEL Felt from Wanganui to Wellington, and from Nelson to Manawatu, maximum.
*NEIC **11** 22:09:18.7, 4016S×17426E, h108km, MG4.6(WEL), After WEL.*
NEIC Felt at Nelson and Wanganui.

ISC 11 22:09:18.3±0.4, 4019S±003×17428E±005, h109km±5km, n112, σ0°89/115, mb4.2/3, 9C-3D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.68	204	⇑PN		**Pn**	**22 09 36.7 +0.3**
DUWZ				SN		**Sn**	**22 09 49.6 -0.3**
WAZ	Wanganui	0.69	52	P		**Pn**	**22 09 36.9 +0.4**
WAZ	Wanganui	0.69	52	⇑PN		**Pn**	**22 09 36.9 +0.4**
KIW	Kapiti Island	0.83	145	P		**Pn**	**22 09 38.0 +0.3**
KIW				S		**Sn**	**22 09 51.2 -1.1**
KIW	Kapiti Island	0.83	145	⇑PN		**Pn**	**22 09 38.0 +0.3**
KIW				SN		**Sn**	**22 09 51.2 -1.2**
NRZ	Ngariki Road	0.89	342	P		**Pn**	**22 09 38.1 -0.2**
NRZ	Ngariki Road	0.89	342	⇑PN		**Pn**	**22 09 38.1 -0.2**
RAEZ	Rainy Point	0.90	6	P		**Pn**	**22 09 38.6 +0.2**
RAEZ	Rainy Point	0.90	6	⇓PN		**Pn**	**22 09 38.6 +0.2**
NEZ	North Egmont	0.92	351	*e*PN		**Pn**	**22 09 38.5 -0.1**
NWEZ	Newall Road	0.96	341	P		**Pn**	**22 09 39.0 0.0**
NWEZ	Newall Road	0.96	341	⇓PN		**Pn**	**22 09 39.0 0.0**
PKE	Pukeiti	1.01	347	P		**Pn**	**22 09 39.4 -0.1**
PKE	Pukeiti	1.01	347	PN		**Pn**	**22 09 39.4 -0.1**
TCW	Tory Channel	1.03	180	P		**Pn**	**22 09 40.3 +0.6**
TCW				S		**Sn**	**22 09 55.1 -0.7**
TCW	Tory Channel	1.03	180	⇑PN		**Pn**	**22 09 40.3 +0.6**
TCW				SN		**Sn**	**22 09 55.1 -0.7**
MRW	Makara Radio	1.09	163	P		**Pn**	**22 09 41.1 +0.8**
MRW	Makara Radio	1.09	163	⇑PN		**Pn**	**22 09 41.2 +0.8**
CAW	Cannon Point	1.10	147	P		**Pn**	**22 09 41.1 +0.7**
CAW	Cannon Point	1.10	147	PN		**Pn**	**22 09 41.2 +0.8**
MRZ	Mangatainoka R	1.10	116	PN		**Pn**	**22 09 40.8 +0.4**
VRZ	Vera Road	1.12	19	*e*P		**Pn**	**22 09 40.6 -0.1**
VRZ	Vera Road	1.12	19	⇓PN		**Pn**	**22 09 40.6 -0.1**
WEL	Wellington	1.16	162	PN		**Pn**	**22 09 41.8 +0.7**
SNZO	South Karori	1.17	164	⇑PN		**Pn**	**22 09 41.9 +0.7**
PKVZ	Pokaka	1.21	43	PN		**Pn**	**22 09 41.9 +0.2**
MTVZ	Mangateitei	1.22	49	PN		**Pn**	**22 09 41.9 +0.2**
NNZ	Nelson	1.24	213	P		**Pn**	**22 09 42.4 +0.4**
NNZ	Nelson	1.24	213	PN		**Pn**	**22 09 42.4 +0.4**
TUWZ	Tuamarina	1.27	192	PN		**Pn**	**22 09 42.6 +0.3**
BHW	Baring Head	1.30	160	P		**Pn**	**22 09 43.2 +0.5**
BHW	Baring Head	1.30	160	PN		**Pn**	**22 09 43.2 +0.5**
TRVZ	Turoa	1.32	48	PN		**Pn**	**22 09 43.3 +0.5**
WNVZ	Wahianoa	1.33	50	P		**Pn**	**22 09 43.3 +0.3**
WNVZ	Wahianoa	1.33	50	PN		**Pn**	**22 09 43.7 +0.7**
DRZ	Dome Shelter	1.34	48	P		**Pn**	**22 09 44.1 +0.9**
DRZ	Dome Shelter	1.34	48	*e*PN		**Pn**	**22 09 44.1 +1.0**
FWVZ	Far West T-bar	1.35	47	P		**Pn**	**22 09 43.7 +0.5**
FWVZ	Far West T-bar	1.35	47	PN		**Pn**	**22 09 43.6 +0.4**
TIWZ	Tintock	1.36	116	PN		**Pn**	**22 09 43.8 +0.5**
MOVZ	Moawhango	1.37	56	P		**Pn**	**22 09 43.3 -0.2**
MOVZ	Moawhango	1.37	56	PN		**Pn**	**22 09 43.3 -0.3**
WPVZ	Whakapapa	1.38	45	P		**Pn**	**22 09 44.1 +0.5**
WPVZ	Whakapapa	1.38	45	PN		**Pn**	**22 09 44.1 +0.5**
TUVZ	Tukino	1.40	50	PN		**Pn**	**22 09 44.1 +0.3**
TWVZ	Taurewa	1.43	39	P		**Pn**	**22 09 44.0 -0.1**
TWVZ	Taurewa	1.43	39	PN		**Pn**	**22 09 44.0 -0.1**
MSWZ	Moikau Station	1.43	149	⇑PN		**Pn**	**22 09 44.8 +0.6**
NGZ	Ngauruhoe	1.43	46	P		**Pn**	**22 09 44.7 +0.5**
NGZ	Ngauruhoe	1.43	46	PN		**Pn**	**22 09 44.7 +0.5**
WTVZ	West Tongariro	1.47	44	P		**Pn**	**22 09 44.9 +0.2**
WTVZ	West Tongariro	1.47	44	PN		**Pn**	**22 09 44.9 +0.3**
OTVZ	Oturere	1.48	47	PN		**Pn**	**22 09 45.0 +0.3**
PAWZ	Paruwai Farm	1.48	144	P		**Pn**	**22 09 45.4 +0.7**
PAWZ	Paruwai Farm	1.48	144	⇑PN		**Pn**	**22 09 45.3 +0.6**
QRZ	Quartz Range	1.48	244	P		**Pn**	**22 09 44.4 -0.4**
QRZ	Quartz Range	1.48	244	PN		**Pn**	**22 09 44.4 -0.4**
KRVZ	Karewarewa	1.51	44	*e*PN		**Pn**	**22 09 45.5 +0.3**
BSWZ	Blackbirch Sta	1.56	191	P		**Pn**	**22 09 46.6 +0.9**
BSWZ	Blackbirch Sta	1.56	191	PN		**Pn**	**22 09 46.6 +0.9**
CMWZ	Cape Campbell	1.56	182	P		**Pn**	**22 09 47.2 +1.4**
CMWZ	Cape Campbell	1.56	182	PN		**Pn**	**22 09 47.2 +1.4**
BFZ	Birch Farm	1.58	109	PN		**Pn**	**22 09 46.1 +0.2**
TRWZ	Traveller	1.61	139	PN		**Pn**	**22 09 46.7 +0.3**
KATZ	Kakaramea	1.63	43	P		**Pn**	**22 09 47.4 +0.8**
KATZ	Kakaramea	1.63	43	PN		**Pn**	**22 09 47.4 +0.9**
HIZ	Hauiti	1.73	15	P		**Pn**	**22 09 47.4 -0.4**
HIZ	Hauiti	1.73	15	PN		**Pn**	**22 09 47.4 -0.3**
RATZ	Rangitukua	1.75	42	P		**Pn**	**22 09 49.4 +1.4**
RATZ	Rangitukua	1.75	42	PN		**Pn**	**22 09 49.4 +1.3**
WATZ	Wairara	1.85	38	P		**Pn**	**22 09 49.7 +0.3**
WATZ	Wairara	1.85	38	PN		**Pn**	**22 09 49.7 +0.4**
THZ	Tophouse	1.89	213	P		**Pn**	**22 09 50.3 +0.5**
THZ	Tophouse	1.89	213	PN		**Pn**	**22 09 50.3 +0.4**
PXZ	Pawanui	1.98	86	PN		**Pn**	**22 09 50.9 -0.2**
BKZ	Black Stump Fm	1.99	60	P		**Pn**	**22 09 50.4 -0.6**
BKZ	Black Stump Fm	1.99	60	PN		**Pn**	**22 09 50.4 -0.7**
DSZ	Denniston Nort	2.44	229	P		**Pn**	**22 09 56.8 -0.1**
DSZ	Denniston Nort	2.44	229	PN		**Pn**	**22 09 56.8 0.0**
KNZ	Kokohu	2.87	67	PN		**Pn**	**22 10 00.7 -1.8**
URZ	Urewera	2.92	50	P		**Pn**	**22 10 01.3 -1.9**
	2.5nm,0.3s,baz=244,slow=7.6,SNR=14						
URZ				S		**Sn**	**22 10 34.7 -3.0**
	43nm,0.3s,baz=101,slow=18,SNR=24						
URZ	Urewera	2.92	50	*e*P		**Pn**	**22 10 01.0 -2.2**
URZ	Urewera	2.92	50	PN		**Pn**	**22 10 01.0 -2.2**
LTZ	Lake Taylor	3.00	210	*e*P		**Pn**	**22 10 03.6 -0.7**
LTZ	Lake Taylor	3.00	210	PN		**Pn**	**22 10 03.6 -0.6**
MWZ	Matawai	3.12	55	P		**Pn**	**22 10 04.0 -1.9**
MWZ	Matawai	3.12	55	PN		**Pn**	**22 10 04.0 -1.9**
MQZ	McQueen's Vall	3.72	199	*e*P		**Pn**	**22 10 11.9 -1.9**
MQZ	McQueen's Vall	3.72	199	PN		**Pn**	**22 10 11.9 -1.9**
PUZ	Puketiti	3.74	57	*e*P		**Pn**	**22 10 11.7 -2.4**
PUZ	Puketiti	3.74	57	PN		**Pn**	**22 10 11.7 -2.4**
WVZ	Waitaha Valley	3.92	221	PN		**Pn**	**22 10 15.7 -0.9**
MXZ	Matakaoa Point	4.09	51	*e*P		**Pn**	**22 10 17.3 -1.5**
MXZ	Matakaoa Point	4.09	51	PN		**Pn**	**22 10 17.3 -1.4**
RPZ	Rata Peaks	4.27	213	P		**Pn**	**22 10 21.1 -0.1**
	1.0nm,0.3s,baz=98,slow=8.7,SNR=18						
RPZ				S		**Sn**	**22 11 04.8 -5.2**
	9.7nm,0.3s,baz=320,slow=6.0,SNR=5.9						
RPZ	Rata Peaks	4.27	213	*e*P		**Pn**	**22 10 21.0 -0.2**
RPZ	Rata Peaks	4.27	213	PN		**Pn**	**22 10 21.0 -0.2**
FOZ	Fox Glacier	4.81	224	*e*P		**Pn**	**22 10 26.0 -2.5**
FOZ	Fox Glacier	4.81	224	PN		**Pn**	**22 10 26.0 -2.5**
LBZ	Lake Benmore	5.18	215	*e*P		**Pn**	**22 10 33.0 -0.5**
LBZ	Lake Benmore	5.18	215	PN		**Pn**	**22 10 33.0 -0.5**
ODZ	Otahua Downs	5.55	208	*e*P		**Pn**	**22 10 37.2 -1.2**
ODZ	Otahua Downs	5.55	208	PN		**Pn**	**22 10 37.2 -1.2**
JCZ	Jackson Bay	5.65	225	*e*P		**Pn**	**22 10 38.1 -1.8**
JCZ	Jackson Bay	5.65	225	PN		**Pn**	**22 10 38.1 -1.8**
ASAR	Alice Springs	37.66	284	P		**P**	**22 16 23.9 +1.2**
	0.9nm,0.3s,mb4.0,baz=118,slow=6.9,SNR=20						
WRA

comp=E,510nm,11.2s
GYA LR LR
BJT Baijiatuau 19.54 350 *e*P **Pn 23 03 33.2 +2.3**
comp=Z,4.7nm,0.4s
LZH Lanzhou 21.04 320 *e*P **P 23 03 38.5 -7.4**
LZH AP 23 03 45.2
LZH XP sP 23 03 51.0 -3.2
LZH PP 23 04 04.0
LZH S **S 23 07 30.0 -9.3**
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.5
LZH AMB AMB
comp=Z,120nm,4.4s
LZH LR LR
comp=E,470nm,10.6s
LZH LR LR
comp=Z,630nm,12.4s,MS4.2
JHJ Hachijo jima 2 21.19 50 LR LR 23 11 34.9
comp=Z,95nm,19.7s,MS3.2,baz=290,slow=36
MAJO Matsushiro 22.12 41 P **P 23 03 59.9 +2.4**
MJAR Matsushiro Arr 22.12 41 P **P 23 03 57.4 -0.1**
comp=Z,2.3nm,0.8s,mb3.6,baz=230,slow=10,SNR=7.8
MJAR LR LR 23 12 38.0
comp=Z,98nm,21.2s,MS3.2,baz=255,slow=37
MDJ Mudanjiang 24.99 16 P **P 23 04 24.9 -0.7**
MDJ AP 23 04 32.6
MDJ S **S 23 08 38.9 -10**
MDJ AMB AMB
comp=Z,13nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,102nm,4.1s
MDJ LR LR
comp=E,65nm,21.8s
MDJ LR LR
comp=Z,45nm,16.1s
MDJ Mudanjiang 24.99 16 *e*P **P 23 04 25.3 -0.3**
comp=Z,10nm,0.9s,mb4.3
GTA Gaotai 25.63 321 *e*P **P 23 04 32.0 +0.5**
GTA AP pP 23 04 36.7 -0.9
GTA XP sP 23 04 39.4 -0.7
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb3.9
GTA AMB AMB
comp=Z,123nm,3.8s
GTA LR LR
comp=N,142nm,13.8s,MS3.8
GTA LR LR
comp=E,177nm,15.7s,MS3.8
GTA LR LR
comp=Z,157nm,13.8s,MS3.7
PSI Prapat 27.49 232 LR LR 23 14 07.2
comp=Z,159nm,19.2s,MS3.6,baz=321,slow=33
LSA Lhasa 27.84 295 *e*P **P 23 04 55.5 +4.1**
comp=Z,5.3nm,0.7s,mb4.3
SONM Songino Array 29.29 341 P **P 23 05 03.6 -0.6**
comp=Z,0.3nm,0.3s,mb3.5,baz=140,slow=7.0,SNR=2.4
SONM pP pP 23 05 09.0 -1.3
comp=Z,2.5nm,0.8s,baz=159,slow=9.3,SNR=5.9
ASAJ Asahikawa 29.72 33 LR LR 23 16 52.0
comp=Z,78nm,19.4s,MS3.4,baz=174,slow=36
GUN Gumba 32.16 290 *e*P **P 23 05 33.9 +4.3**
comp=Z,23nm,0.8s,mb5.1
PKI Pulchoki 32.55 289 *e*P **P 23 05 36.3 +3.3**
KKN Kakani 32.68 289 *e*P **P 23 05 37.7 +3.6**
comp=Z,12nm,0.8s,mb4.9
DMN Daman 32.82 289 *e*P **P 23 05 38.5 +3.2**
comp=Z,16nm,0.9s,mb5.0
GKN Gorkha 33.26 290 *e*P **P 23 05 40.4 +1.2**
comp=Z,7.2nm,0.8s,mb4.7
TLY Talaya 33.52 341 *e*P **P 23 05 43.5 +2.1**
KOLN Koldanda 34.16 289 *e*P **P 23 05 44.4 -2.6**
comp=Z,12nm,0.8s,mb4.9
MKAR Makanchi Array 40.36 319 P **P 23 06 39.4 -0.2**
comp=Z,3.0nm,0.7s,mb4.1,baz=113,slow=11,SNR=10
MKAR pP pP 23 06 44.5 -1.3
comp=Z,3.0nm,0.7s,baz=112,slow=10,SNR=21
MKAR LR LR 23 23 22.9
comp=Z,39nm,19.5s,MS3.3,baz=359,slow=36
MKAR Makanchi Array 40.36 319 P **P 23 06 39.4 -0.2**
MKAR pP pP 23 06 44.5 -1.3
MKAR LR LR 23 23 22.9
WRA Warramunga Arr 42.69 160 P **P 23 06 57.2 -1.6**
comp=Z,5.7nm,0.8s,mb4.4,baz=342,slow=9.1,SNR=27
WB2 Warramunga Arr 42.69 160 *e*P **P 23 06 57.1 -1.7**
ZAL Zalesovo 42.77 330 P **P 23 06 57.5 -1.8**
comp=Z,0.6nm,0.4s,mb3.6,baz=180,slow=25,SNR=3.6
ZAL pP pP 23 07 03.4 -2.2
comp=Z,1.1nm,0.4s,baz=343,slow=3.1,SNR=4.1
ASAR Alice Springs 46.08 163 P **P 23 07 24.8 -1.1**
comp=Z,1.4nm,0.4s,mb4.2,baz=344,slow=6.7,SNR=15
BVAR Borovoye Array 49.90 323 P **P 23 07 55.8 +0.5**
comp=Z,0.2nm,0.4s,mb3.5,baz=126,slow=7.4,SNR=2.4
BVAR pP pP 23 08 00.7 -1.0
comp=Z,0.7nm,0.7s,baz=114,slow=10,SNR=4.4
BVAR pPcP 23 09 20.4
comp=Z,0.8nm,0.6s,baz=114,slow=3.6,SNR=4.7
BRVK Borovoye 49.97 323 *e*P **P 23 08 01.1 +5.2**
comp=Z,2.7nm,1.1s,mb4.2
CHKZ Chkalovo 50.00 324 *e*P **P 23 07 58.3 +2.1**
comp=Z,3.6nm,1.0s,mb4.4
STKA Stephens Creek 56.14 158 P **P 23 08 40.7 -0.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=315,slow=22,SNR=3.9
AKTK Aktyubinsk 56.74 317 P **P 23 08 44.3 -1.4**
AKTK pP pP 23 08 50.6 -1.5
AKTO Aktyubinsk 56.74 317 P **P 23 08 44.3 -1.4**
comp=Z,0.5nm,0.4s,mb3.9,baz=118,slow=11,SNR=3.2
AKTO pP pP 23 08 50.6 -1.5
comp=Z,2.5nm,0.8s,baz=100,slow=8.8,SNR=5.5
JOF Joensuu 71.33 331 *ep* **P 23 10 24.7 +3.1**
comp=Z,4.9nm,0.8s,mb4.5
KEV Kevo 71.88 339 *ep* **P 23 10 28.7 +3.8**
comp=Z,6.1nm,0.8s,mb4.6
KAF Kangasniemi 73.76 331 *ep* **P 23 10 39.8 +3.7**
comp=Z,2.5nm,0.5s,mb4.4,baz=74,slow=5.5
FINES FINESS Array B 74.03 330 P **P 23 10 37.2 -0.4**
comp=Z,2.7nm,0.7s,mb4.3,baz=38,slow=9.6,SNR=5.1
FINES pP pP 23 10 42.8 -1.4
comp=Z,3.1nm,0.8s,baz=33,slow=7.3,SNR=7.2
BRTR Keskin Array B 74.62 307 pP pP 23 10 47.6 0.0
comp=Z,0.8nm,0.9s,baz=91,slow=10,SNR=3.4
BRTR LR LR 23 47 17.1
comp=Z,92nm,18.0s,MS4.1,baz=296,slow=39
INK Inuvik 76.67 22 P **P 23 10 54.9 +2.1**
KWP Kalwaria 79.26 319 *e*P **P 23 11 11.6 +4.4**
comp=Z,13nm,1.1s,mb4.8
HFS Hagfors 80.19 331 P **P 23 11 12.1 -0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=114,slow=21,SNR=2.5
HFS pP pP 23 11 16.8 -2.1
comp=Z,3.2nm,0.7s,baz=65,slow=7.0,SNR=4.2
NB2 NORSAR Subarra 80.90 332 P **P 23 11 09.3 -6.7**
comp=Z,1.4nm,0.8s,mb3.9,baz=61,slow=5.3
NOA NORSAR Array B 80.90 332 pP pP 23 11 20.5 -2.1
comp=Z,2.1nm,0.9s,baz=63,slow=5.4,SNR=4.8
NOA LR LR 23 49 05.2
comp=Z,28nm,18.4s,MS3.6,baz=25,slow=37
VRAC Vranov 83.09 320 pP pP 23 11 33.8 -0.4
comp=Z,2.1nm,0.6s,baz=78,slow=9.3,SNR=4.3
CLL Collm 84.33 323 *e*(P) **P 23 11 39.0 +5.1**
GERES GERESS Array B 85.01 321 P **P 23 11 37.9 +0.6**
comp=Z,0.7nm,0.8s,mb3.9,baz=67,slow=2.6,SNR=5.0
GERES pP pP 23 11 43.3 -0.7
comp=Z,2.2nm,0.8s,baz=67,slow=4.5,SNR=12
GRA1 Grafenberg Arr 86.08 322 *e*P **P 23 11 40.6 -2.1**
comp=Z,5.0nm,1.2s,mb4.6
GRA1 *e*pP pP 23 11 48.5 -0.8
GRF Grafenberg Arr 86.08 322 *e*P **P 23 11 40.6 -2.1**
comp=Z,5.0nm,1.2s,mb4.6
GRF *e*pP pP 23 11 48.5 -0.8

ISCJB ***11*** *23:17:13.2±2.6,378N±02×695E±02,h33km, Error ellipse: s-maj=24.7km s-min=20.1km az=63.5*
NNC ***11*** *23:17:17.3±8.2,3824N×6945E,h13km±68km,mb3.0, mpv2.6,Error ellipse: s-maj=85.3km s-min=64.5km az=167.0*
ISC 11 23:17:14.9±2.6,377N±02×695E±02,h35km,n8,σ0§94/10, 6C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.42**	**8**	⇑Pn	**Pn**	**23 18 34.6**	**+1.4**
	0.7nm,0.3s,baz=186,slow=16,SNR=16						
KK31				⇑Sn	**Sn**	**23 19 34.1**	**-0.3**
	1.0nm,0.3s,baz=196,slow=25,SNR=3.8						
KK31				⇑Lg		23 19 55.2	
	4.7nm,0.6s,baz=211,slow=23,SNR=4.2						
AML	**Almayashu**	**5.44**	**35**	P	**Pn**	**23 18 33.6**	**+0.1**
	SNR=7.0						
UCH	**Uchtor**	**5.90**	**39**	P	**Pn**	**23 18 39.5**	**-0.3**
	SNR=8.1						
EKS2	**Erkin-Say**	**5.90**	**32**	P	**Pn**	**23 18 41.3**	**+1.5**
	SNR=8.9						
AAK	**Ala-Archa**	**6.20**	**36**	P	**Pn**	**23 18 43.6**	**-0.3**
	SNR=5.5						
USP	**Ospenovka**	**6.70**	**33**	P	**Pn**	**23 18 50.0**	**-0.8**
	SNR=7.4						
TKM2	**Tokmak 2**	**6.95**	**40**	⇓Pn	**Pn**	**23 18 50.8**	**-3.4**
	0.1nm,0.3s						
TKM2				⇑Lg		23 20 43.2	
	0.3nm,0.7s						
AB31	**Akbulak array**	**13.45**	**332**	⇑Pn	**Pn**	**23 20 22.7**	**-0.6**
	0.1nm,0.3s,baz=143,slow=12,SNR=5.5						
AB31				⇑Sn	**Sn**	**23 22 44.1**	**-7.3**
	0.6nm,0.7s,baz=304,slow=44,SNR=4.4						

NSSP ***11*** *23:41:26.3,3902N×4430E,h5km,ML3.5*
CSEM ***11*** *23:41:32.5±0.1,3909N×4437E,h2km,mb3.6/5,ML3.9/1*
TEH ***11*** *23:41:33.1,3902N×4415E,h5km,Mn3.7*
MOS ***11*** *23:41:33.1±1.8,3901N×4435E,h6km,mb3.8/5,Error ellipse: s-maj=9.3km s-min=7.1km az=78.0*
ISK ***11*** *23:41:33.0,3912N×4425E,h5km,ML4.0*
NEIC ***11*** *23:41:33.1,3902N×4415E,h5km,mb3.8/4,ML3.7(THR), ML4.1(ISK),MN3.7(TEH),After TEH.*
IDC ***11*** *23:41:33.3±1.4,3910N×4421E,h0km,mb3.5/5,mb1 3.5/8, mb1mx3.5/22,mbtmp3.5/8,ML3.1/3,MS3.3/3,Ms1 3.3/3, ms1mx2.8/30,Error ellipse: s-maj=26.0km s-min=11.6km az=127.0*
ISCJB ***11*** *23:41:34.4±0.2,3913N±002×4433E±002,h10km,mb3.5/8, MS3.5/2,Error ellipse: s-maj=2.8km s-min=2.3km az=135.3*
THR ***11*** *23:41:37.1±0.3,3919N×4448E,h14km±5km,ML3.7*
ISC 11 23:41:35.1±0.2,3912N±002×4434E±002,h10km,n106, σ1§42/128,mb3.5/8,MS3.5/2,3C-4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.33**	**273**	*i* PG	**Pg**	**23 41 38.6**	**-3.1**
CLDR				*i* SG	**Sg**	**23 41 43.5**	**-2.6**
CLDR	**Caldiran**	**0.33**	**273**	Pg	**Pg**	**23 41 38.6**	**-3.0**
MAKU	**Maku**	**0.35**	**49**	*e*PG	**Pg**	**23 41 42.4**	**+0.3**
MAKU				AML	AML	23 41 49.3	
	comp=E,19μm,0.4s						
MAKU				AML	AML	23 41 49.3	
	comp=N,20μm,0.4s						
MAKU	**Maku**	**0.35**	**49**	*e*Pg	**Pg**	**23 41 42.0**	**-0.1**
MAKU				*e*Sg	**Sg**	**23 41 46.0**	**-0.8**
MAKU	**Maku**	**0.35**	**49**	*e*Pg	**Pg**	**23 41 42.4**	**+0.3**
	SNR=110						
MAKU				*e*Sg	**Sg**	**23 41 46.0**	**-0.8**
VANB	**Van**	**0.91**	**235**	Pg	**Pg**	**23 41 50.7**	**-1.9**
VANB				Sg	**Sg**	**23 42 04.7**	**+0.2**
VANB	**Van**	**0.91**	**235**	*i* Pg	**Pg**	**23 41 50.7**	**-2.0**
VANB				Sg	**Sg**	**23 42 04.7**	**+0.2**
TVAN	**Van**	**0.94**	**231**	*i* P	**Pg**	**23 41 50.6**	**-2.7**
TVAN				*i* S	**Sg**	**23 42 03.4**	**-2.1**
VANT	**Van**	**1.01**	**228**	PG	**Pg**	**23 41 53.6**	**-0.9**
ERE	**Yerevan**	**1.05**	**5**	P	**Pg**	**23 41 53.0**	**-2.3**
GNI	**Garni**	**1.07**	**17**	PN	**Pn**	**23 41 54.6**	**-1.6**
GNI				SN	**Sn**	**23 42 11.4**	**+0.3**
GNI	**Garni**	**1.07**	**17**	Pg	**Pg**	**23 41 55.0**	**-0.7**
	comp=N,186nm,0.3s,baz=260,slow=2.4,SNR=375						
GNI				Lg		23 42 11.1	
	comp=N,1μm,0.3s,baz=358,slow=20,SNR=64						
GNI	**Garni**	**1.07**	**17**	PG	**Pg**	**23 41 55.0**	**-0.7**
GNI						23 42 11.1	
GNI				pmax	pmax		
	comp=Z,186nm,0.3s						
GNI				smax			
	comp=N,1.0nm,0.3s						
GNI	**Garni**	**1.07**	**17**	⇓P	**Pg**	**23 41 55.0**	**-0.7**
GNI				Sg	**Sg**	**23 42 11.1**	**+1.5**
GNI				*e*Sn	**Sn**	**23 42 11.4**	**+0.3**
IMRD	**Marand**	**1.14**	**111**	*e*Pg	**Pg**	**23 41 55.1**	**-1.9**
IMRD				Sg	**Sg**	**23 42 13.2**	**+1.4**
AGRT	**Agri**	**1.16**	**295**	PN	**Pn**	**23 41 54.2**	**-3.1**
AGRT	**Agri**	**1.16**	**295**	Pn	**Pn**	**23 41 54.9**	**-2.4**
AGRT	**Agri**	**1.16**	**295**	Pg	**Pb**	**23 41 54.9**	**-2.3**
ISHB	**Shabestar**	**1.30**	**130**	*e*Pg	**Pn**	**23 41 57.9**	**-1.5**
ISHB				Sg	**Sb**	**23 42 15.0**	**-1.5**
HARI	**Harich**	**1.50**	**350**	⇓P	**Pn**	**23 42 01.3**	**-0.8**
GRS	**Goris**	**1.59**	**76**	P	**Pn**	**23 42 02.0**	**-1.3**
HKR	**Hakkari**	**1.61**	**197**	PN	**Pn**	**23 42 02.5**	**-1.1**
ITBZ	**Tabriz**	**1.67**	**122**	Pn	**Pn**	**23 42 03.9**	**-0.5**
ITBZ				Sn	**Sn**	**23 42 26.6**	**+0.7**
KAMZ	**Kamo**	**1.73**	**350**	P	**Pn**	**23 42 04.9**	**-0.3**
SEMD	**Semdilli**	**1.78**	**175**	PN	**Pn**	**23 42 05.8**	**-0.1**
STE	**Stepanavan**	**1.87**	**1**	P	**Pn**	**23 42 08.4**	**+0.8**
IAZR	**Azarshahr**	**1.94**	**138**	*e*Pn	**Pn**	**23 42 08.9**	**+0.8**
CUKT	**Cukurca**	**1.96**	**197**	PN	**Pn**	**23 42 08.8**	**+0.4**
SIRT	**Sirnak**	**2.20**	**223**	PN	**Pn**	**23 42 11.5**	**-0.3**
IHRS	**Heris**	**2.26**	**110**	Pn	**Pn**	**23 42 14.2**	**+1.7**
IHRS				Lg		23 42 46.3	
BTMT	**Batman**	**2.42**	**248**	*e*PN	**Pn**	**23 42 16.7**	**+2.0**
ERZM	**Erzurum**	**2.43**	**290**	*i* P	**Pn**	**23 42 15.8**	**+0.9**
ERZM				*i* S	**Sg**	**23 42 56.9**	**+3.7**
EZM	**Erzurum**	**2.43**	**290**	PN	**Pn**	**23 42 15.0**	**+0.1**
DGRG	**David-gareji**	**2.46**	**18**	P	**Pn**	**23 42 18.1**	**+2.9**
DGRG				S	**Sg**	**23 42 52.7**	**-1.3**
IBST	**Bostanabad**	**2.46**	**125**	Pn	**Pn**	**23 42 14.8**	**-0.4**
IBST				Lg		23 42 51.8	
IBST	**Bostanabad**	**2.46**	**125**	*e*Pn	**Pn**	**23 42 14.8**	**-0.4**
BNGL	**BINGOL**	**2.49**	**267**	*i* P	**Pn**	**23 42 15.9**	**+0.2**
BNGL				*i* S	**Sb**	**23 42 51.4**	**+0.7**
MTA	**Mtatsminda**	**2.59**	**8**	P	**Pb**	**23 42 21.4**	**-0.3**
MTA				S	**Sg**	**23 42 56.9**	**-1.4**
TBLG	**Delisi**	**2.62**	**7**	*e*PN	**Pn**	**23 42 19.9**	**+2.4**
TBLG				*e*S	**Sg**	**23 42 59.5**	**+0.1**
TBLG	**Delisi**	**2.62**	**7**	P	**Pn**	**23 42 19.9**	**+2.4**
TBLG				S	**Sg**	**23 42 59.5**	**+0.2**
GRMI	**Germi**	**2.79**	**95**	*e*PN	**Pn**	**23 42 22.1**	**+2.3**
GRMI				*e*SG	**Sg**	**23 43 01.2**	**-3.5**
GRMI				AML	AML	23 43 10.8	
	comp=N,148nm,0.8s						
GRMI	**Germi**	**2.79**	**95**	*e*Pn	**Pn**	**23 42 22.0**	**+2.2**
GRMI				*e*Sg	**Sg**	**23 43 01.0**	**-3.7**
GRMI	**Germi**	**2.79**	**95**	*e*Pn	**Pn**	**23 42 22.1**	**+2.3**
	SNR=52						
GRMI				*e*Sg	**Sg**	**23 43 01.2**	**-3.5**
	comp=N,148nm,0.8s,SNR=90						
MSL	**Mosul**	**3.00**	**200**	*ex*	x	23 42 22.5	
MSL				*ex*	x	23 42 27.5	
MSL				*i* x	x	23 42 32.5	
MSL				*ex*	x	23 42 58.5	
MSL				*i* x	x	23 43 05.0	
MSL				*i* x	x	23 43 12.0	
BINT	**Bingol**	**3.01**	**266**	PN	**Pn**	**23 42 23.6**	**+0.8**
BINT	**Bingol**	**3.01**	**266**	Pn	**Pn**	**23 42 23.6**	**+0.8**
BCA	**Borcka**	**3.11**	**319**	PN	**Pn**	**23 42 25.3**	**+1.0**
BCA	**Borcka**	**3.11**	**319**	Pn	**Pn**	**23 42 25.3**	**+1.0**
DIY	**Diyarbakir**	**3.45**	**250**	PN	**Pn**	**23 42 29.8**	**+0.9**
DIY	**Diyarbakir**	**3.45**	**250**	Pn	**Pn**	**23 42 29.8**	**+0.9**
EZC	**Erzincan**	**3.56**	**282**	PN	**Pn**	**23 42 35.9**	**+5.5**
EZC	**Erzincan**	**3.56**	**282**	Pn	**Pn**	**23 42 35.9**	**+5.5**
ZEI	**Tsey**	**3.66**	**355**	*e*PN	**Pn**	**23 42 32.8**	**+1.1**
ZEI				*e*		23 42 40.5	
ZEI				*e*		23 43 20.1	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,44nm,0.4s						
ZEI				smax			
	comp=E,118nm,0.8s						
ZEI	**Tsey**	**3.66**	**355**	*e*Pn	**Pn**	**23 42 32.8**	**+1.1**
	comp=E,5.0nm,0.1s						
PTK	**Pertek**	**3.86**	**268**	PN	**Pn**	**23 42 35.2**	**+0.7**
PTK	**Pertek**	**3.86**	**268**	Pn	**Pn**	**23 42 35.2**	**+0.7**
KTUT	**Trabzon**	**3.97**	**299**	*e*PN	**Pn**	**23 42 37.0**	**+0.9**
URFA	**Urfa**	**4.66**	**251**	*e*PN	**Pn**	**23 42 46.3**	**+0.8**
URFA	**Urfa**	**4.66**	**251**	Pn	**Pn**	**23 42 46.3**	**+0.9**
SNGE	**Sanandaj**	**4.69**	**148**	*e*PN	**Pn**	**23 42 49.6**	**+3.8**
SNGE	**Sanandaj**	**4.69**	**148**	*e*Pn	**Pn**	**23 42 49.0**	**+3.1**
MYA	**Malataya**	**4.69**	**262**	*e*PN	**Pn**	**23 42 47.2**	**+1.2**
MALT	**Malatya**	**4.70**	**262**	*e*Pn	**Pn**	**23 42 44.3**	**-1.7**
MALT				*e*Pg	**Pg**	**23 42 59.7**	**-5.4**
MALT				*e*Sg	**Sg**	**23 44 13.3**	**+7.5**
MALT	**Malatya**	**4.70**	**262**	*e*Pn	**Pn**	**23 42 44.3**	**-1.7**
MALT	**Malatya**	**4.70**	**262**	*e*Pg	**Pg**	**23 42 59.7**	**-5.3**
KIV	**Kislovodsk**	**4.98**	**346**	⇑*e*PN	**Pn**	**23 42 53.0**	**+3.0**
KIV	**Kislovodsk**	**4.98**	**346**	*e*Pn	**Pn**	**23 42 48.5**	**-1.5**
	comp=E,26nm,0.9s						
KIV	**Kislovodsk**	**4.98**	**346**	*e*Pn	**Pn**	**23 42 48.5**	**-1.5**
	comp=E,26nm,0.9s						
SVSK	**Karacayir**	**5.73**	**280**	*e*PN	**Pn**	**23 43 02.0**	**+1.7**
GAZ	**Gaziantep**	**5.95**	**253**	*e*PN	**Pn**	**23 43 04.9**	**+1.7**
GAZ	**Gaziantep**	**5.95**	**253**	Pn	**Pn**	**23 43 05.0**	**+1.8**
KMRS	**Kahramanmaras**	**6.07**	**257**	*e*PN	**Pn**	**23 43 06.6**	**+1.7**
ASAO	**Ashtian**	**6.45**	**133**	*e*PN	**Pn**	**23 43 13.7**	**+3.5**
ASAO	**Ashtian**	**6.45**	**133**	*e*Pn	**Pn**	**23 43 13.0**	**+2.9**
BNN	**Bunyan**	**6.62**	**270**	*e*PN	**Pn**	**23 43 13.3**	**+0.8**
BNN	**Bunyan**	**6.62**	**270**	Pn	**Pn**	**23 43 14.4**	**+1.9**
BNN	**Bunyan**	**6.62**	**270**	Pn	**Pn**	**23 43 14.4**	**+1.9**
BRTR	**Keskin Array B**	**8.30**	**278**	Pn	**Pn**	**23 43 38.7**	**+3.1**
	comp=E,0.1nm,0.3s,baz=92,slow=14,SNR=10						
ASF	**Jabal al Asfar**	**9.21**	**223**	Pn	**Pn**	**23 43 44.9**	**-3.0**
	comp=E,0.1nm,0.3s,baz=173,slow=13,SNR=2.9						
AKTK	**Aktyubinsk**	**14.88**	**36**	Pn	**Pn**	**23 45 04.5**	**-0.9**
AKTK				LR	LR	23 51 05.2	
AKTK	**Aktyubinsk**	**14.88**	**36**	P	**Pn**	**23 45 04.6**	**-0.9**
	comp=E,47nm,21.5s						
AKTO	**Aktyubinsk**	**14.88**	**36**	Pn	**Pn**	**23 45 04.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=240,slow=11,SNR=6.9						
AKTO				LR	LR	23 51 05.1	
	comp=E,47nm,21.5s,baz=223,slow=38						
AKASG	**Malin Array Be**	**15.73**	**322**	Pn	**Pn**	**23 45 16.0**	**-0.8**
	comp=E,0.2nm,0.3s,baz=133,slow=12,SNR=2.8						
OBN	**Obninsk**	**16.83**	**344**	⇓*e*P	**Pn**	**23 45 34.4**	**+3.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU	**Arti**	**19.71**	**24**	⇓*i*P	**Pn**	**23 46 07.1**	**+1.0**
ARU				*e*S	**Sn**	**23 49 36.3**	**-11**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**19.71**	**24**	*e*P	**Pn**	**23 46 05.1**	**-0.9**
	comp=Z,5.3nm,0.7s						
ARU	**Arti**	**19.71**	**24**	*e*P	**Pn**	**23 46 05.1**	**-1.0**
	comp=Z,5.3nm,0.7s						
PSZ	**Piszkesteto**	**19.72**	**304**	P	**Pn**	**23 46 03.6**	**-2.6**
SVE	**Sverdlovsk**	**20.71**	**26**	*e*P	**P**	**23 46 15.0**	**-0.5**
BRVK	**Borovoye**	**22.59**	**43**	*e*P	**P**	**23 46 37.0**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
BRVK	**Borovoye**	**22.59**	**43**	*e*P	**P**	**23 46 37.0**	**+1.3**
	comp=Z,2.0nm,0.8s,mb3.6						
BVAR	**Borovoye Array**	**22.64**	**44**	P	**P**	**23 46 37.4**	**+1.2**
	comp=Z,1.4nm,0.6s,mb3.5,baz=240,slow=10,SNR=11						
BVAR				LR	LR	23 56 25.3	
	comp=Z,35nm,19.8s,MS2.8,baz=139,slow=39						
BVAR	**Borovoye Array**	**22.64**	**44**	P	**P**	**23 46 37.4**	**+1.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,35nm,19.8s						
AAK	**Ala-Archa**	**23.01**	**72**	⇑*e*P	**P**	**23 46 47.4**	**+7.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
AAK	**Ala-Archa**	**23.01**	**72**	*e*P	**P**	**23 46 41.9**	**+1.8**
	comp=Z,3.7nm,1.1s,mb3.7						
AAK	**Ala-Archa**	**23.01**	**72**	*e*P	**P**	**23 46 41.9**	**+1.8**
	comp=Z,3.7nm,1.1s,mb3.7						
CHKZ	**Chkalovo**	**23.06**	**42**	*e*P	**P**	**23 46 40.6**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
CHKZ	**Chkalovo**	**23.06**	**42**	*e*P	**P**	**23 46 40.6**	**0.0**
	comp=Z,1.5nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**23.06**	**42**	*e*P	**P**	**23 46 40.6**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.4						
GERES	**GERESS Array B**	**23.95**	**304**	P	**P**	**23 46 49.8**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.0,baz=113,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**25.03**	**339**	P	**P**	**23 46 58.6**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.5,baz=148,slow=11,SNR=5.2						
FINES	**FINESS Array B**	**25.03**	**339**	P	**P**	**23 46 58.6**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**28.59**	**62**	P	**P**	**23 47 32.6**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.5,baz=265,slow=7.2,SNR=8.4						
MKAR	**Makanchi Array**	**28.59**	**62**	⇓*e*P	**P**	**23 47 33.7**	**+2.3**
TORD	**Torodi Ar. Bea**	**45.62**	**247**	P	**P**	**23 49 53.1**	**-2.5**
	comp=Z,0.8nm,0.9s,mb3.6,baz=33,slow=7.0,SNR=4.3						
JOW	**Kunigami**	**69.17**	**72**	LR	LR	00 24 23.9	
	comp=Z,177nm,21.8s,MS4.3,baz=0.2,slow=37						

IDC ***11*** *23:43:45.0±2.0,279S×14174E,h0km,mb3.8/4,mb1 3.9/5, mb1mx3.8/14,mbtmp3.8/5,ML3.8/1,MS3.3/2,Ms1 3.3/2, ms1mx2.7/26,Error ellipse: s-maj=72.1km s-min=24.6km az=97.0*
ISCJB ***11*** *23:43:49.1±1.7,287S±010×1415E±03,h33km,mb3.8/5, MS3.3/1,Error ellipse: s-maj=44.8km s-min=13.6km az=8.6*
NEIC ***11*** *23:43:49.7±1.1,286S×14177E,h35km,mb4.0/2,Error ellipse: s-maj=31.7km s-min=13.7km az=99.0*
ISC 11 23:43:50.7±1.7,286S±010×1417E±03,h35km,n12, σ0§84/10,mb3.8/5,MS3.3/1,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.38**	**222**	*e*P	**Pn**	**23 46 56.5**	**-1.4**
	10nm,0.5s						
CTA	**Charters Tower**	**17.70**	**166**	LR	LR	23 54 27.3	
	comp=Z,54nm,19.4s,baz=50,slow=36						
WB2	**Warramunga Arr**	**18.42**	**202**	*e*P	**Pn**	**23 48 03.3**	**+0.2**
WRA	**Warramunga Arr**	**18.42**	**202**	P	**Pn**	**23 48 02.5**	**-0.6**
	0.3nm,0.3s,baz=17,slow=12,SNR=26						
FITZ	**Fitzroy Crossi**	**21.81**	**225**	*e*P	**P**	**23 48 41.7**	**+2.0**
	7.7nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.81**	**225**	P	**P**	**23 48 41.3**	**+1.6**
	6.7nm,1.1s,mb4.0,baz=41,slow=9.3,SNR=5.8						
FITZ				LR	LR	23 58 04.4	
	comp=Z,122nm,21.3s,MS3.3,baz=103,slow=39						
ASAR	**Alice Springs**	**22.00**	**199**	P	**P**	**23 48 42.1**	**+0.4**
	1.9nm,0.9s,mb3.5,baz=29,slow=10,SNR=9.7						
KKM	**Kota Kinabalu**	**26.90**

PSI Prapat 27.28 232 LR LR 00 33 29.9
comp=Z,168nm,18.8s,MS3.6,baz=244,slow=35
LSA Lhasa 27.55 295 *e*P **P** **00 23 30.2 +1.2**
comp=Z,3.2nm,0.5s,mb4.2
SONM Songino Array 29.15 341 P **P** **00 23 44.5 +1.3**
comp=Z,0.2nm,0.3s,mb3.3,baz=160,slow=9.0,SNR=2.6
MKAR Makanchi Array 40.13 319 P **P** **00 25 17.6 -0.3**
comp=Z,0.7nm,0.7s,mb3.5,baz=117,slow=6.9,SNR=8.2
MKAR PcP PcP 00 27 21.1 -1.3
comp=Z,0.4nm,0.8s,baz=137,slow=3.4,SNR=3.5
ZAL Zalesovo 42.58 330 P **P** **00 25 38.7 +0.6**
comp=Z,1.8nm,0.3s,mb4.3,baz=51,slow=18,SNR=6.0
ZAL Zalesovo 42.58 330 P **P** **00 25 38.7 +0.6**
WRA Warramunga Arr 42.83 160 P **P** **00 25 39.3 -0.8**
comp=Z,3.0nm,0.6s,mb4.2,baz=342,slow=9.0,SNR=32
WRA PcP PcP 00 27 31.2 -0.1
comp=Z,1.0nm,0.7s,baz=346,slow=3.4,SNR=6.7
WB2 Warramunga Arr 42.83 160 *e*P **P** **00 25 40.0 -0.2**
ASAR Alice Springs 46.20 162 P **P** **00 26 06.3 -0.8**
comp=Z,1.4nm,0.6s,mb4.0,baz=343,slow=6.5,SNR=16
CTAO Charters Tower 48.04 146 *e*P **P** **00 26 23.5 +2.1**
comp=Z,10nm,0.8s,mb4.9
BVAR Borovoye Array 49.68 323 P **P** **00 26 35.9 +1.8**
comp=Z,0.9nm,0.7s,mb3.9,baz=129,slow=11,SNR=2.3
BRVK Borovoye 49.75 323 *e*P **P** **00 26 34.0 -0.6**
comp=Z,1.8nm,0.6s,mb4.3
AKTK Aktyubinsk 56.51 317 P **P** **00 27 23.9 -0.5**
AKTO Aktyubinsk 56.51 317 P **P** **00 27 23.9 -0.5**
comp=Z,0.4nm,0.4s,mb3.8,baz=209,slow=3.1,SNR=3.6

NIED **12** *00:48:00,2480N×143.10E,h11km,Mw4.7 Best double couple: M0=1.20000×10^16 NP1:φ=73.00000°,δ=78.00000°,λ=135.00000°. NP2:φ=175.00000°,δ=46.00000°,λ=16.00000°.*
IDC **12** *00:48:03.1±0.6,2479N×14258E,h0km,mb4.3/14, mb1 4.5/16,mb1mx4.5/20,mbtmp4.3/16,ML4.6/2,MS4.2/23, Ms1 4.2/23,ms1mx4.0/35,Error ellipse: s-maj=23.1km s-min=14.2km az=79.0*
SZGRF **12** *00:48:05.7,2367N×14225E,h34km,mb4.8,Volcano Islands, Japan, region*
JMA **12** *00:48:06.2±0.2,2480N×143.14E,h102km,M4.8*
ISCJB **12** *00:48:06.6±0.3,2480N±003×14254E±006,h31km, mb4.7/59,MS4.4/30,Error ellipse: s-maj=7.3km s-min=4.9km az=160.4*
BJI **12** *00:48:07.3,2484N×14275E,h40km,mB5.0,mb4.7,Ms4.6, Msz4.4*
NEIC **12** *00:48:08.1±0.2,2482N×14254E,mb4.9/21,MS4.3/1, MW4.7(NIED),Error ellipse: s-maj=6.3km s-min=4.4km az=71.0*
MOS **12** *00:48:08.6±0.9,2518N×14247E,h33km,mb5.0/23, MS4.3/5,Error ellipse: s-maj=19.1km s-min=7.0km az=122.2*
ISC 12 00:48:08.5±1.2,2480N±003×14259E±006,h32km±8km, h33km±.8km:pP-P,n146,σ1§05/138,mb4.7/59,MS4.4/30, 6C-4D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.86**	**349**	P		**Pn**	**Pn**	**00 48 39.5**	**+1.5**
JHHJ				*e*S			**Sn**	**00 49 05.3**	**+4.9**
CBIJ	**Chichi jima**	**2.31**	**351**	Pn		**Pn**	**Pn**	**00 48 44.5**	**+0.2**
	178nm,0.3s,baz=107,slow=23,SNR=16								
CBIJ				Sn			**Sn**	**00 49 14.3**	**+2.7**
	454nm,0.3s,baz=113,slow=22,SNR=6.3								
CBIJ				LR		LR	LR	00 49 16.6	
	comp=Z,1μm,18.1s,baz=80,slow=32								
CBIJ	**Chichi jima**	**2.31**	**351**	P		**Pn**	**Pn**	**00 48 45.3**	**+1.0**
CBIJ				*e*S		**Sn**	**Sn**	**00 49 14.1**	**+2.5**
JHJ	**Hachijo jima 2**	**8.64**	**344**	LR		LR	LR	00 53 22.9	
	comp=Z,925nm,19.9s,baz=155,slow=37								
BSO1	**Boso 1**	**9.92**	**352**	P		**Pn**	**Pn**	**00 50 29.1**	**+0.4**
BSO3	**Boso 3**	**10.13**	**350**	P		**Pn**	**Pn**	**00 50 32.7**	**+1.1**
JIM2	**Oshima 3**	**10.26**	**345**	P		**Pn**	**Pn**	**00 50 33.3**	**0.0**
JOD2	**Odawara 2**	**10.86**	**345**	P		**Pn**	**Pn**	**00 50 42.9**	**+1.3**
JNY	**Yasuok**	**11.29**	**340**	P		**Pn**	**Pn**	**00 50 48.2**	**+0.7**
GUMO	**Guam**	**11.36**	**169**	LR		LR	LR	00 54 23.6	
	comp=Z,733nm,18.5s,baz=319,slow=34								
GUMO	**Guam**	**11.36**	**169**	P		**Pn**	**Pn**	**00 50 48.5**	**+0.1**
JRY	**Ryogami san**	**11.62**	**345**	P		**Pn**	**Pn**	**00 50 51.2**	**-0.8**
JHO	**Hitachi**	**11.90**	**352**	P		**Pn**	**Pn**	**00 50 53.2**	**-2.6**
MJAR	**Matsushiro Arr**	**12.29**	**343**	Pn		**Pn**	**Pn**	**00 50 58.5**	**-2.7**
	1.4nm,0.3s,baz=160,slow=10,SNR=6.9								
MJAR				LR			LR	00 55 39.3	
	comp=Z,525nm,18.9s,baz=210,slow=37								
MAJO	**Matsushiro**	**12.29**	**343**	*e*P		**Pn**	**Pn**	**00 51 00.4**	**-0.8**
MAJO				pmax		pmax	pmax		
	comp=Z,19nm,0.8s								
MAJO	**Matsushiro**	**12.29**	**343**	*e*Pn		**Pn**	**Pn**	**00 51 00.3**	**-0.9**
	comp=Z,19nm,0.8s								
MAT	**Matsushiro**	**12.29**	**343**	P		**Pn**	**Pn**	**00 50 59.5**	**-1.7**
MAT				*e*S		**Sn**	**Sn**	**00 53 18.0**	**+0.9**
JOW	**Kunigami**	**13.05**	**282**	LR		LR	LR	00 56 08.3	
	comp=Z,1μm,18.8s,baz=114,slow=37								
TATO	**Taipei**	**19.14**	**275**	P		**Pn**	**Pn**	**00 52 27.1**	**-2.9**
YHNB	**Yeheng**	**19.27**	**274**	*e*P		**Pn**	**Pn**	**00 52 29.2**	**-2.2**
ASAJ	**Asahikawa**	**19.27**	**0**	LR		LR	LR	01 00 48.5	
	comp=Z,344nm,19.7s,baz=160,slow=40								
YSS	**Yuzh-Sakhalins**	**22.11**	**0**	*e*P		**P**	**P**	**00 53 02.0**	**+1.0**
YSS				*e*S		**S**	**S**	**00 57 02.0**	**-0.9**
YSS				smax					
	comp=E,1μm,11.0s								
YSS				MLR		MLR	MLR		
	comp=N,500nm,16.0s								
YSS				MLR		MLR	MLR		
	comp=Z,500nm,16.0s,MS4.0								
MDJ	**Mudanjiang**	**22.42**	**335**	P		**P**	**P**	**00 53 04.8**	**+0.5**
MDJ				AP				00 53 13.4	
MDJ				XP		sP		00 53 18.0	+0.9
MDJ				S		**S**	**S**	**00 57 09.7**	**+0.8**
MDJ				SCS		ScS		01 04 13.4	-5.1
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.0								
MDJ				AMB		AMB			
	comp=Z,139nm,5.8s								
MDJ				LR		LR			
	comp=N,546nm,17.3s,MS4.2								
MDJ				LR		LR			
	comp=E,505nm,16.2s,MS4.2								
MDJ				LR		LR			
	comp=Z,1μm,16.6s,MS4.4								
MDJ	**Mudanjiang**	**22.42**	**335**	*e*P		**P**		**00 53 04.1**	**-0.2**
	comp=Z,5.2nm,0.5s,mb4.2								
SNY	**Shenyang**	**23.17**	**322**	⇑P		**P**	**P**	**00 53 11.3**	**-0.9**
SNY				AP				00 53 22.8	
SNY				PP				00 53 46.7	
SNY				S		**S**	**S**	**00 57 24.9**	**+3.4**
SNY				AMB		AMB			
	comp=Z,19nm,0.6s,mb4.7								
SNY				AMB		AMB			
	comp=Z,155nm,4.3s								
SNY				LR		LR			
	comp=N,284nm,12.1s,MS4.2								
SNY				LR		LR			
	comp=E,603nm,15.7s,MS4.2								
SNY				LR		LR			
	comp=Z,427nm,18.2s,MS3.9								
TIA	**Tai'an**	**24.64**	**303**	*e*P		**P**	**P**	**00 53 26.3**	**+0.3**
KLR	**Kul'dur**	**25.82**	**344**	*e*P		**P**	**P**	**00 53 34.2**	**-2.5**
KLR				*e*S		**S**	**S**	**00 58 03.5**	**-0.6**
KLR				MLR		MLR	MLR		
	comp=N,900nm,12.5s								
KLR				MLR		MLR	MLR		
	comp=Z,4μm,12.5s,MS5.1								
BJT	**Baijiatuau**	**26.84**	**311**	P		**P**	**P**	**00 53 45.3**	**-0.7**
XAN	**Xi'an**	**30.62**	**295**	P		**P**	**P**	**00 54 20.6**	**+1.0**
XAN				AMB		AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5								
QIZ	**Qiongzhong**	**30.87**	**266**	P		**P**	**P**	**00 54 23.4**	**+1.7**
QIZ				PP		PP	PP	00 55 28.5	-3.2
QIZ				S		**S**	**S**	**00 59 24.8**	**+1.3**
QIZ				XS		sS	sS	00 59 40.0	+1.0
QIZ				AMB		AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5								
QIZ				AMB		AMB	AMB		
	comp=Z,101nm,5.0s								
QIZ				LR		LR	LR		
	comp=E,304nm,16.8s								
QIZ				LR		LR	LR		
	comp=Z,382nm,19.3s,MS4.1								
PMG	**Port Moresby**	**34.29**	**172**	*e*P		**P**	**P**	**00 54 55.8**	**+4.1**
PMG				pmax		pmax	pmax		
	comp=Z,21nm,0.9s								
PMG	**Port Moresby**	**34.29**	**172**	*e*P		**P**	**P**	**00 54 55.8**	**+4.1**
	comp=Z,21nm,0.9s,mb5.1								
CD2	**Chengdu**	**34.74**	**289**	*e*P		**P**	**P**	**00 54 55.8**	**+0.2**
CD2				AP		pP	pP	00 55 05.5	+0.5
CD2				XP		sP	sP	00 55 09.8	+0.9
CD2				PP		PP	PP	00 56 12.7	-1.9
CD2				S		**S**	**S**	**01 00 21.9**	**-1.8**
CD2				XS		sS	sS	01 00 37.9	-1.3
CD2				SS		SS	SS	01 02 34.7	-20
CD2				AMB		AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8								
CD2				AMB		AMB	AMB		
	comp=Z,30nm,4.8s								
CD2				LR		LR	LR		
	comp=N,480nm,15.6s,MS4.5								
CD2				LR		LR	LR		
	comp=E,450nm,18.0s,MS4.5								
CD2				LR		LR	LR		
	comp=Z,560nm,18.0s,MS4.3								
LZH	**Lanzhou**	**35.03**	**298**	*e*P		**P**	**P**	**00 54 59.0**	**+0.9**
LZH				PP		PP	PP	00 56 16.1	-1.8
LZH				PCP		PcP	PcP	00 57 31.9	+2.3
LZH				*e*S		**S**	**S**	**01 00 28.0**	**-0.2**
LZH				AMB		AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1								
LZH				AMB		AMB	AMB		
	comp=Z,141nm,5.2s								
LZH				LR		LR	LR		
	comp=E,1μm,14.2s								
LZH				LR		LR	LR		
	comp=Z,2μm,15.3s,MS5.0								
LZH	**Lanzhou**	**35.03**	**298**	*e*P		**P**	**P**	**00 54 59.0**	**+0.9**
	comp=Z,23nm,1.0s,mb5.1								
LZH				sP		pP	pP	00 55 26.5	+19
LZH				pP		sP	sP	00 55 47.0	+36
KMI	**Kunming**	**36.04**	**279**	P		**P**	**P**	**00 55 07.6**	**+0.9**
KMI				AP		pP	pP	00 55 17.7	+1.5
KMI				XP		sP	sP	00 55 21.8	+1.7
KMI				PP		PP	PP	00 56 29.1	+0.2
KMI				S		**S**	**S**	**01 00 40.9**	**-2.6**
KMI				SSS				01 03 29.9	
KMI				AMB		AMB	AMB		
	comp=Z,18nm,1.2s,mb4.9								
KMI				AMB		AMB	AMB		
	comp=Z,165nm,9.9s								
KMI				LR		LR	LR		
	comp=N,156nm,14.2s								
KMI				LR		LR	LR		
	comp=E,376nm,19.9s								
KMI				LR		LR	LR		
	comp=Z,466nm,19.0s,MS4.3								
KMI	**Kunming**	**36.04**	**279**	P		**P**	**P**	**00 55 07.6**	**+0.9**
KMI				*PP		pP	pP	00 55 17.7	+1.5
KMI				*SP		sP	sP	00 55 21.8	+1.7
KMI								00 56 29.1	
KMI				S		**S**	**S**	**01 00 40.9**	**-2.6**
KMI				*SS		sS	sS	01 00 58.0	-1.1
KMI				SS		SS	SS	01 03 01.3	-20
KMI				SSS				01 03 29.9	
KMI				pmax		pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9								
KMI				MLR		MLR	MLR		
	comp=Z,470nm,19.0s,MS4.3								
KMI	**Kunming**	**36.04**	**279**	P		**P**	**P**	**00 55 07.6**	**+0.9**
	comp=Z,18nm,1.2s,mb4.9								
KMI				pP		pP	pP	00 55 17.7	+1.5
KMI				sP		sP	sP	00 55 21.8	+1.7
KMI				PP		PP	PP	00 56 29.1	+0.2
KMI				S		**S**	**S**	**01 00 40.9**	**-2.6**
KMI				sS		sS	sS	01 00 58.0	-1.1
KMI				SS		SS	SS	01 03 01.3	-20
KMI				SSS				01 03 29.9	
KMI				LR		LR	LR		
	comp=Z,470nm,19.0s,MS4.3								
SONM	**Songino Array**	**36.64**	**318**	P		**P**	**P**	**00 55 10.8**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.0,baz=130,slow=8.8,SNR=8.2								
SONM				LR		LR	LR	01 11 28.0	
	comp=Z,424nm,18.1s,MS4.3,baz=244,slow=38								
YAK	**Yakutsk**	**38.23**	**350**	⇑*e*P		**P**	**P**	**00 55 15.8**	**-10**
YAK				pmax		pmax	pmax		
	comp=Z,12nm,0.5s,mb4.9								
GTA	**Gaotai**	**38.68**	**303**	*e*P		**P**	**P**	**00 55 29.4**	**+0.2**
GTA				AP		pP	pP	00 55 37.0	-1.7
GTA				XP		sP	sP	00 55 40.8	-1.8
GTA				AMB		AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0								
GTA				AMB		AMB	AMB		
	comp=Z,60nm,4.7s								
GTA				LR		LR	LR		
	comp=N,281nm,16.8s,MS4.3								
GTA				LR		LR	LR		
	comp=E,267nm,15.3s,MS4.3								
GTA				LR		LR	LR		
	comp=Z,352nm,14.5s,MS4.3								
BOD	**Bodaibo**	**38.79**	**336**	*e*P		**P**	**P**	**00 55 30.0**	**0.0**
BOD				pmax		pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5								
ZAK	**Zakamensk**	**39.59**	**320**	*e*P		**P**	**P**	**00 55 34.4**	**-2.3**
ZAK				pmax		pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8								
TLY	**Talaya**	**39.96**	**322**	*e*P		**P**	**P**	**00 55 38.7**	**-1.1**
TLY				pmax		pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1								
TLY	**Talaya**	**39.96**	**322**	*e*P		**P**	**P**	**00 55 38.7**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.1								
CTAO	**Charters Tower**	**44.76**	**175**	*e*P		**P**	**P**	**00 56 19.3**	**+0.4**
CTAO				pmax		pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0								
CTAO	**Charters Tower**	**44.76**	**175**	*e*P		**P**	**P**	**00 56 19.3**	**+0.5**
	comp=Z,30nm,1.1s,mb5.0								
WRAB	**Tennant Creek**	**45.18**	**191**	⇑*e*P		**P**	**P**	**00 56 21.8**	**-0.4**
WB2	**Warramunga Arr**	**45.19**	**191**	⇑*i*P		**P**	**P**	**00 56 22.0**	**-0.3**
WRA	**Warramunga Arr**	**45.19**	**191**	P		**P**	**P**	**00 56 22.2**	**0.0**
	comp=Z,3.4nm,0.4s,mb4.5,baz=11,slow=8.2,SNR=113								
FITZ	**Fitzroy Crossi**	**45.73**	**203**	*e*P		**P**	**P**	**00 56 26.8**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8								
WMQ	**Urumqi**	**48.23**	**307**	⇓*i*P		**P**	**P**	**00 56 46.9**	**+0.8**
WMQ				AP		pP	pP	00 56 57.0	+1.2
WMQ				XP		sP	sP	00 57 01.0	+1.4
WMQ				PCP		PcP	PcP	00 58 14.0	+1.2
WMQ				PPP				00 59 30.0	
WMQ				S		**S**	**S**	**01 03 43.0**	**-0.3**
WMQ				XS		sS	sS	01 04 00.0	+0.7
WMQ				AMB		AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8								
WMQ				AMB		AMB	AMB		
	comp=Z,156nm,4.3s								
WMQ				LR		LR	LR		
	comp=N,578nm,14.8s,MS4.9								
WMQ				LR		LR	LR		
	comp=E,641nm,12.9s,MS4.9								
WMQ				LR		LR	LR		
	comp=Z,480nm,18.0s								
ASAR	**Alice Springs**	**48.91**	**191**	P		**P**	**P**	**00 56 50.8**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=8.1,slow=7.1,SNR=13								
ASAR				LR		LR	LR	01 15 19.0	
	comp=Z,268nm,19.9s,MS4.2,baz=349,slow=34								
GUN	**Gumba**	**50.53**	**287**	*e*P		**P**	**P**	**00 57 05.7**	**+2.1**
	comp=Z,43nm,0.9s,mb5.4								
PKI	**Pulchoki**	**51.00**	**286**	*e*P		**P**	**P**	**00 57 08.7**	**+1.6**
KKN	**Kakani**	**51.07**	**287**	*e*P		**P**	**P**	**00 57 09.3**	**+1.6**
DMN	**Daman**	**51.26**	**286**	*e*P		**P**	**P**	**00 57 11.7**	**+2.6**
ZAL	**Zalesovo**	**51.48**	**320**	P		**P**	**P**	**00 57 10.1**	**-0.6**
	comp=Z,2.0nm,0.4s,mb4.4,baz=6.0,slow=8.1,SNR=7.4								
ZAL				PcP		PcP	PcP	00 58 24.8	+0.1
	comp=Z,1.2nm,0.3s,baz=359,slow=6.8,SNR=3.5								
ZAL				LR		LR	LR	01 20 12.5	
	comp=Z,294nm,19.7s,MS4.3,baz=33,slow=38								
ZAL	**Zalesovo**	**51.48**	**320**	P		**P**	**P**	**00 57 10.1**	**-0.6**
ZAL								00 58 24.8	
GKN	**Gorkha**	**51.59**	**287**	*e*P		**P**	**P**	**00 57 13.1**	**+1.5**
	comp=Z,26nm,0.8s,mb5.2								
MK31	**Makanchi Array**	**52.23**	**311**	*i*P		**P**	**P**	**00 57 16.0**	**-0.3**
MK31				pmax		pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5								
MKAR	**Makanchi Array**	**52.23**	**311**	P		**P**	**P**	**00 57 16.1**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=85,slow=9.5,SNR=30								
MKAR				PcP		PcP	PcP	00 58 28.0	+0.5
	comp=Z,1.2nm,0.4s,baz=124,slow=1.7,SNR=12								
MKAR				LR		LR	LR	01 20 49.5	
	comp=Z,179nm,18.2s,MS4.1,baz=94,slow=38								
MKAR	**Makanchi Array**	**52.23**	**311**	P		**P**	**P**	**00 57 16.1**	**-0.2**
MKAR								00 58 28.0	
MKAR	**Makanchi Array**	**52.23**	**311**	P		**P**	**P**	**00 57 16.1**	**-0.3**
MKAR				PcP		PcP	PcP	00 58 28.0	+0.5
MKAR				LR		LR	LR	01 20 49.5	
KOLN	**Koldanda**	**52.54**	**287**	*e*P		**P**	**P**	**00 57 20.3**	**+1.7**
	comp=Z,20nm,0.9s,mb5.0								
NVS	**Novosibirsk**	**52.54**	**321**	*e*P		**P**	**P**	**00 57 16.4**	**-2.2**
STKA	**Stephens Creek**	**56.37**	**181**	*e*P		**P**	**P**	**00 57 46.1**	**-0.3**
	comp=Z,5.4nm,1.1s,mb4.5								
STKA	**Stephens Creek**	**56.37**	**181**	P		**P**	**P**	**00 57 46.0**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.5,baz=17,slow=3.5,SNR=4.7								
STKA				LR		LR	LR	01 20 07.3	
	comp=Z,113nm,18.8s,MS4.0,baz=295,slow=34								
FRU	**Bishkek**	**57.77**	**306**	*e*P		**P**	**P**	**00 57 57.5**	**+1.1**
AAK	**Ala-Archa**	**57.88**	**306**	⇑*i*P		**P**	**P**	**00 57 56.7**	**-0.4**
AAK				pmax		pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6								
AAK	**Ala-Archa**	**57.88**	**306**	*e*P		**P**	**P**	**00 57 57.3**	**+0.2**
	comp=Z,1.8nm,0.3s,mb4.6								
VOSK	**Vostochnaya**	**59.63**	**318**	P		**P**	**P**	**00 58 07.9**	**-1.4**
VOSK				pmax		pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9								
CHKZ	**Chkalovo**	**59.83**	**319**	*e*P		**P**	**P**	**00 58 10.0**	**-0.7**
CHKZ				*e*PP		pP	pP	00 58 21.0	+0.4
CHKZ				pmax		pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7								
CHKZ	**Chkalovo**	**59.83**	**319**	*e*P		**P**	**P**	**00 58 10.0**	**-0.6**
	comp=Z,10.0nm,1.2s,mb4.7								
CHKZ				*e*pP		pP	pP	00 58 21.0	+0.4
BVA0	**Borovoye Array**	**59.98**	**318**	*i*P		**P**	**P**	**00 58 11.5**	**-0.2**
BVA0				pmax		pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3								
BVAR	**Borovoye Array**	**59.98**	**318**	LR		LR	LR	01 24 57.6	
	comp=Z,235nm,18.5s,MS4.4,baz=322,slow=37								
BRVK	**Borovoye**	**60.05**	**318**	*e*P		**P**	**P**	**00 58 12.1**	**-0.1**
BRVK				*e*PP		pP	pP	00 58 21.7	-0.4
BRVK				pmax		pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0								
BRVK	**Borovoye**	**60.05**	**318**	*e*P		**P**	**P**	**00 58 12.1**	**0.0**
	comp=Z,20nm,1.2s,mb5.0								
BRVK				*e*pP		pP	pP	00 58 21.7	-0.4
KK31	**Karatay Array**	**60.73**	**307**	*i*P		**P**	**P**	**00 58 17.2**	**+0.3**
KK31				pmax		pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6								
KKAR	**Karatay Array**	**60.73**	**307**	*e*P		**P**	**P**	**00 58 17.2**	**+0.3**
KKAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3								
INK	**Inuvik**	**64.97**	**24**	P		**P**	**P**	**00 58 43.9**	**-1.2**
	comp=Z,3.5nm,1.1s,mb4.3,baz=24,slow=3.9,SNR=5.9								
INK	**Inuvik**	**64.97**	**24**	*e*P		**P**	**P**	**00 58 44.7**	**-0.3**
INK				pmax		pmax	pmax		
	comp=Z,288nm,1.1s								
INK	**Inuvik**	**64.97**	**24**	*e*P		**P**	**P**	**00 58 44.6**	**-0.4**
	comp=Z,288nm,1.1s								
ARU	**Arti**	**66.46**	**323**	⇓*i*P		**P**	**P**	**00 58 52.4**	**-2.3**
ARU				*e*				00 59 17.8	
ARU				*e*				01 01 18.6	
ARU				*e*S		S		01 07 48.0	+5.2
ARU				pmax		pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8								
ARU				MLR		MLR			
	comp=Z,300nm,18.5s,MS4.5								
ARU				MLR		MLR			
	comp=N,80nm,16.0s,MS4.4								
ARU				MLR		MLR			
	comp=E,200nm,18.0s,MS4.4								
ARU	**Arti**	**66.46**	**323**	*e*P		**P**	**P**	**00 58 54.2**	**-0.5**
	comp=E,9.5nm,0.9s,mb4.8								
AB31	**Akbulak array**	**66.96**	**315**	P		**P**	**P**	**00 58 57.5**	**-0.4**
AB31				pmax		pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5								
AKTO	**Aktyubinsk**	**67.93**	**317**	LR		LR	LR	01 30 42.6	
	comp=Z,175nm,18.1s,MS4.3,baz=198,slow=38								
ARCES	**ARCESS Array B**	**75.82**	**341**	P		**P**	**P**	**00 59 51.9**	**+0.6**
	comp=Z,6.5nm,0.9s,mb4.5,baz=60,slow=7.3,SNR=20								
ARCES				LR		LR	LR	01 37 52.6	
	comp=Z,337nm,19.2s,MS4.7,baz=259,slow=39								
YBH	**Yreka Blue Hor**	**77.24**	**50**	P		**P**	**P**	**00 59 59.8**	**+0.4**
	baz=220,slow=2.6								
JOF	**Joensuu**	**77.30**	**334**	*e*p		**P**	**P**	**00 59 59.2**	**-0.5**
	comp=Z,7.5nm,0.4s,mb5.0								
PPT	**Papeete**	**78.35**	**116**	*e*LR		LR	LR	01 23 52.2	
	comp=Z,80nm,21.0s								
PPT	**Papeete**	**78.35**	**116**	LR		LR	LR	01 26 42.1	
	comp=Z,115nm,19.9s,MS4.2,baz=291,slow=30								
NEW	**Newport**	**78.36**	**42**	*e*P		**P**	**P**	**01 00 05.7**	**+0.1**
NEW				*e*			pP	01 00 15.3	-0.5
VRSR	**Storozhevoye**	**78.94**	**321**	*e*P		**P**	**P**	**01 00 09.2**	**+0.4**
VRSR				pmax		pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7								
VRSR				pmax		pmax	pmax		
	comp=N,10.0nm,2.2s								
VRSR				pmax		pmax	pmax		
	comp=E,6.0nm,1.1s								
KAF	**Kangasniemi**	**79.69**	**335**	*e*p		**P**	**P**	**01 00 12.2**	**-0.7**
	comp=E,9.8nm,0.5s,mb5.0,baz=54,slow=5.0								
KAF	**Kangasniemi**	**79.69**	**335**	*e*P		**P**	**P**	**01 00 12.2**	**-0.7**
KAF				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0								
KIV	**Kislovodsk**	**79.88**	**314**	*e*P		**P**	**P**	**01 00 05.4**	**-8.5**
KIV				pmax		pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6

PV10	Paradox Valley	88.12	48	eP		P	01 00 56.9	+1.0
PV10				epP		pP	01 01 07.1	+0.8
BURAR	Bucovina Array	88.60	323	⇓iP		P	01 00 59.8	+1.7
KWP	Kalwaria	88.71	326	P		P	01 00 58.1	-0.6
KWP				pmax		pmax		
	comp=Z,24nm,1.3s,mb5.4							
KWP	Kalwaria	88.71	326	P		P	01 00 58.1	-0.5
	comp=Z,24nm,1.3s,mb5.4							
ULM	Lac du Bonnet	89.16	33	LR		LR	01 45 47.5	
	comp=Z,90nm,18.3s,MS4.2,baz=16,slow=39							
SDCO	Great Sand Dun	90.84	47	P		P	01 01 08.9	+0.3
ANMO	Albuquerque	91.67	50	⇓iP		P	01 01 12.2	-0.3
ANMO	Albuquerque	91.67	50	eP		P	01 01 13.0	+0.5
	comp=Z,7.9nm,1.4s,mb4.8							
ANMO				epP		pP	01 01 22.6	-0.2
VRAC	Vranov	91.96	328	LR		LR	01 46 45.2	
	comp=Z,290nm,18.1s,MS4.8,baz=52,slow=38							
CLL	Collm	92.22	331	eP		pP	01 01 24.0	-1.4
CLL				pmax		pmax		
	comp=Z,14nm,1.5s,mb5.1							
CLL	Collm	92.22	331	epP		pP	01 01 24.0	-1.4
	comp=Z,14nm,1.5s							
PRU	Pruhonice	92.46	329	eP		pP	01 01 27.5	+1.0
RKT	Rikitea	93.03	114	eLR		LR	01 30 40.8	
	comp=Z,81nm,24.2s							
KHC	Kasperske Hory	93.51	329	eP		P	01 01 21.0	0.0
KHC				ex		x	01 01 37.0	
GERES	GERESS Array B	93.66	329	P		P	01 01 20.4	-1.2
	comp=Z,0.9nm,0.8s,mb4.3,baz=30,slow=6.2,SNR=6.1							
GERES				LR		LR	01 50 39.8	
	comp=Z,118nm,18.8s,MS4.4,baz=215,slow=40							
GRA1	Grafenberg Arr	94.18	331	eP		P	01 01 24.1	+0.1
	comp=Z,6.0nm,1.4s,mb4.8							
GRA1				epP		pP	01 01 34.2	-0.2
GRF	Grafenberg Arr	94.18	331	eP		P	01 01 24.1	+0.1
	comp=Z,6.0nm,1.4s,mb4.8							
GRF				epP		pP	01 01 34.2	-0.2
GRF	Grafenberg Arr	94.18	331	eP		P	01 01 24.1	+0.1
GRF				e*PP		pP	01 01 34.2	-0.2
GRF				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.8							
GRF	Grafenberg Arr	94.18	331	eP		P	01 01 24.1	+0.1
GRF				e*PP		pP	01 01 34.2	-0.2
GRF				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.8							
DAVOX	Davos/Dischmat	96.93	329	LR		LR	01 49 08.1	
	comp=Z,124nm,18.0s,MS4.4,baz=76,slow=38							
TORD	Torodi Ar. Bea	126.35	310	PKP		PKPdf	01 07 08.0	+0.2
	comp=Z,1.4nm,1.2s,baz=30,slow=1.4,SNR=7.8							
TORD	Torodi Ar. Bea	126.35	310	PKP		PKPdf	01 07 08.0	+0.2
PLCA	Paso Flores	148.15	128	PKPbc		PKPbc	01 07 50.9	-0.1
	comp=Z,2.3nm,0.7s,baz=236,slow=6.5,SNR=5.9							
LPAZ	La Paz	150.07	79	PKPbc		PKPbc	01 07 57.6	+1.9
	comp=Z,2.7nm,0.8s,baz=343,slow=1.9,SNR=10							
SAML	Samuel	150.82	62	ePKPdf		PKPdf	01 07 51.1	-0.8

JMA 12 01:26:41.6±0.1, 4318N×14523E, h79km±1km, M3.7, 3C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.42	64	⇓P	Pn	01 26 54.5	-0.1
NEM2				eS	Sn	01 27 03.8	-0.3
JAK	Akkeshi	0.43	245	⇑P	Pn	01 26 54.6	-0.1
JAK				eS	Sn	01 27 04.3	0.0
JNK	Nakash	0.55	318	P	Pn	01 26 55.2	-0.5
JNK				eS	Sn	01 27 05.2	-0.9
JRA	Rausu	0.76	354	⇑P	Pn	01 26 58.0	+0.2
JRA				eS	Sn	01 27 10.5	+0.6
JOB	Onbets	1.06	255	⇑P	Pn	01 27 01.5	+0.2
JOB				eS	Sn	01 27 16.1	+0.1
JAR	Ashorobuto	1.07	277	⇓P	Pn	01 27 01.6	+0.1
JAR				eS	Sn	01 27 15.9	-0.4
JTKR	Abashiri--Toko	1.24	310	⇓P	Pn	01 27 03.8	+0.2
JTKR				eS	Sn	01 27 19.6	-0.5
JCH	Churui	1.48	248	P	Pn	01 27 06.5	-0.1
JCH				eS	Sn	01 27 24.6	-1.0
JMP	Maruseppu	1.59	302	⇓P	Pn	01 27 08.4	+0.4
JMP				eS	Sn	01 27 28.1	+0.1

*ISCJB **12** 01:31:53.7±0.3, 1787S±004×6924W±005, h139km, mb4.4/32, Error ellipse: s-maj=7.2km s-min=5.4km az=94.7*

*IDC **12** 01:31:55.0±0.5, 1805S×6926W, h138km±3km, mb4.1/18, mb1 4.2/23, mb1mx4.2/26, mbtmp4.5/23, MS3.0/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=11.9km s-min=7.5km az=99.0*

*NEIC **12** 01:31:55.2±0.3, 1794S×6922W, mb4.6/18, Error ellipse: s-maj=9.4km s-min=6.4km az=64.0*

ISC 12 01:31:55.5±0.3, 1798S±005×6934W±005, h141km, h141km±1.6km: pP-P, n76, σ1§14/78, mb4.4/32, 2C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.04	35	P	Pn	01 32 31.7	+1.2
	193nm,0.3s,baz=226,slow=7.5,SNR=5562						
LPAZ				S	Sn	01 32 59.0	+1.7
	120nm,0.3s,baz=75,slow=19,SNR=14						
LPAZ				LR	LR	01 33 08.0	
	comp=Z,313nm,18.3s,baz=289,slow=35						
LPAZ	La Paz	2.04	35	P	Pn	01 32 31.7	+1.2
LPAZ				S	Sn	01 32 59.0	+1.7
LPAZ				LR	LR	01 33 08.0	
ARE	Arequipa	2.55	306	⇑iP	Pn	01 32 36.0	-0.7
ARE				iS	Sn	01 33 07.0	-1.6
LVC	Limon Verde	4.63	175	P	Pn	01 33 02.0	-1.8
	21nm,0.3s,baz=343,slow=10,SNR=180						
LVC				S	Sn	01 33 52.1	-4.8
	67nm,0.3s,baz=276,slow=17,SNR=11						
SIV	San Ignacio	8.15	77	P	Pn	01 33 48.3	-2.5
	15nm,0.3s,baz=270,slow=11,SNR=84						
SIV				S	Sn	01 35 15.6	-5.9
	7.0nm,0.3s,baz=359,slow=22,SNR=10						
NNA	Nana	9.38	308	P	Pn	01 34 03.2	-4.1
	11nm,0.3s,baz=139,slow=12,SNR=18						
NNA				S	Sn	01 35 42.0	-9.1
	6.0nm,0.3s,baz=195,slow=15,SNR=4.6						
NNA	Nana	9.38	308	P	Pn	01 34 03.2	-4.1
NNA				S	Sn	01 35 42.0	-9.1
SAML	Samuel	10.78	34	ePn	Pn	01 34 22.9	-3.0
	15nm,0.7s						
SAML				e		01 34 36.0	
SAML				eSn	Sn	01 36 20.3	-4.7
CFAA	Coronel Fontan	13.61	176	P	Pn	01 34 57.6	-5.0
	0.1nm,0.3s,baz=354,slow=11,SNR=3.8						
CFAA				S	Sn	01 37 19.5	-14
	0.2nm,0.3s,baz=107,slow=20,SNR=5.7						
CFAA	Coronel Fontan	13.61	176	P	Pn	01 34 57.6	-5.0
CFAA				S	Sn	01 37 19.5	-14
CPUP	Villa Florida	13.88	129	P	Pn	01 35 03.3	-2.8
	1.0nm,0.3s,baz=291,slow=12,SNR=19						
CPUP				ScP	ScP	01 43 40.0	+2.3
	0.1nm,0.3s,baz=284,slow=4.2,SNR=2.9						
ATAH	Atahualpa	14.03	320	P	Pn	01 35 07.2	-0.8
	0.2nm,0.3s,baz=90,slow=13,SNR=3.5						
OTAV	Otavalo	20.20	333	eP	P	01 36 21.3	+2.3
	3.5nm,0.8s						
OTAV				eS	S	01 40 01.0	+3.1
BDFB	Brasilia	20.54	87	P	P	01 36 21.8	-0.9
	52nm,0.5s,baz=264,slow=9.6,SNR=38						
BDFB	Brasilia	20.54	87	eP	P	01 36 26.8	+4.1
	19nm,0.7s						
PLCA	Paso Flores	22.70	182	P	P	01 36 44.9	-0.2
	4.3nm,0.9s,mb3.9,baz=356,slow=12,SNR=6.3						
PLCA	Paso Flores	22.70	182	eP	P	01 36 45.7	+0.5
PLCA				epP		01 37 07.8	
CAM4	Nova Friburgo	25.49	104	⇑iP	P	01 37 10.3	-0.2
CAM4				i		01 37 12.4	
CAM4				i		01 37 15.8	
CAM4				i		01 37 59.5	
SDV	Santo Domingo	26.72	357	P	P	01 37 21.0	-0.6
	2.6nm,0.3s,mb4.3,baz=16,slow=4.4,SNR=7.3						
PCRV	Puerto La Cruz	28.36	10	P	P	01 37 35.0	-1.1
	4.9nm,0.3s,mb4.7,baz=330,slow=7.6,SNR=4.2						
RCBR	Riachuelo	34.80	74	eP	P	01 38 33.5	+1.0
	13nm,0.5s,mb4.8						
MTP	Monte Pirata	36.04	6	eP	P	01 38 40.5	-2.5
USHA	Ushuaia	36.79	179	P	P	01 38 49.5	0.0
	5.5nm,0.9s,mb4.2,baz=349,slow=16,SNR=2.8						
CMIG	Matias Romero	42.97	323	P	P	01 39 41.2	+0.8
	4.1nm,0.7s,mb4.2,baz=107,slow=5.4,SNR=9.0						
CMIG	Matias Romero	42.97	323	P	P	01 39 41.2	+0.7
DWPF	Disney	47.29	345	P	P	01 40 14.8	+0.3
BBSR	BB Station	50.26	5	P	P	01 40 35.6	-1.6
SWET	Sewanee	55.20	343	eP	P	01 41 12.6	-0.9
OXF	Oxford	55.58	340	eP	P	01 41 14.7	-1.5
	5.7nm,0.4s,mb4.8						
WVT	Waverly	56.59	342	eP	P	01 41 22.1	-1.2
	4.2nm,0.4s,mb4.6						
MIAR	Mount Ida	57.09	336	eP	P	01 41 27.6	+0.6
	2.5nm,0.5s,mb4.3						
SIUC	Southern Illin	58.47	342	eP	P	01 41 36.2	-0.3
	38nm,0.7s,mb5.3						
ACSO	Alum Creek Sta	59.28	348	P	P	01 41 41.1	-1.0
CCM	Cathedral Cave	59.41	340	eP	P	01 41 41.8	-1.3
	4.2nm,0.4s,mb4.6						
WMOK	Wichita Mounta	59.43	332	eP	P	01 41 43.2	0.0
	1.4nm,0.3s,mb4.3						
KSU1	Kansas State U	62.25	336	eP	P	01 42 03.0	+0.8
ANMO	Albuquerque	63.35	326	P	P	01 42 09.5	0.0
JFWS	Jewell Farm	63.57	343	eP	P	01 42 10.5	-0.4
	13nm,0.4s,mb5.1						
VNA1	Neumayer--Stat	63.73	161	⇓i	P	01 42 13.2	+1.2
VNA1				e		01 42 17.1	
VNA1				e		01 42 31.4	
VNA1				e		01 42 37.4	
VNA1				e	pP	01 42 46.7	+0.9
SDCO	Great Sand Dun	65.03	329	eP	P	01 42 21.8	+1.3
	2.7nm,0.6s,mb4.2						
SNAA	Sanae	65.73	161	⇓i	P	01 42 25.2	+0.3
SNAA				e		01 42 29.1	
SNAA				e		01 42 43.3	
SNAA				e		01 42 49.3	
SNAA				e	pP	01 42 58.7	-0.2
SNAA	Sanae	65.73	161	eP	P	01 42 25.0	0.0
	3.0nm,0.8s,mb4.2						
DBIC	Dimbokro	68.17	75	P	P	01 42 40.1	-0.2
	46nm,0.7s,mb5.3,baz=222,slow=6.3,SNR=45						
ARUT	Antelope Range	69.25	324	P	P	01 42 49.3	+2.3
PDAR	Pinedale Array	70.87	330	P	P	01 42 57.5	+0.6
	0.6nm,0.5s,mb3.6,baz=116,slow=6.8,SNR=5.9						
PDAR				pP	pP	01 43 30.9	-0.6
	0.6nm,0.5s,baz=127,slow=6.1,SNR=3.2						
HWUT	Hardware Ranch	71.00	328	P	P	01 42 58.5	+0.8
ULM	Lac du Bonnet	71.85	342	P	P	01 43 02.5	-0.3
	5.1nm,0.4s,mb4.6,baz=143,slow=6.0,SNR=22						
ULM				pP	pP	01 43 36.4	-1.0
	2.2nm,0.5s,baz=149,slow=12,SNR=1.8						
ULM	Lac du Bonnet	71.85	342	P	P	01 43 02.5	-0.3
ULM				pP	pP	01 43 36.4	-1.0
NVAR	Mina Array Bea	72.49	322	P	P	01 43 07.9	+1.3
	0.6nm,0.7s,mb3.4,baz=161,slow=6.0,SNR=8.3						
NVAR				pP	pP	01 43 42.3	+1.1
	0.5nm,0.8s,baz=156,slow=5.9,SNR=3.7						
SCHQ	Schefferville	72.54	2	P	P	01 43 05.3	-1.6
	7.1nm,0.8s,mb4.4,baz=171,slow=7.6,SNR=5.7						
SCHQ	Schefferville	72.54	2	eP	P	01 43 06.6	-0.4
PAHR	Pah Rah Range	73.96	322	eP	P	01 43 17.1	+1.9
	5.7nm,0.8s,mb4.3						
TOA0	Torodi Ar. Sit	76.58	71	eP	P	01 43 30.2	-0.1
TORD	Torodi Ar. Bea	76.58	71	P	P	01 43 30.0	-0.3
	20nm,0.5s,mb5.0,baz=254,slow=5.5,SNR=297						
TORD				pP	pP	01 44 06.5	+1.3
	7.0nm,1.0s,baz=252,slow=5.4,SNR=2.2						
MDT	Midelt	79.82	51	P	P	01 43 48.9	+0.9
	5.2nm,0.8s,mb4.2,baz=228,slow=3.7,SNR=13						
VNDA	Vanda	80.23	190	P	P	01 43 50.3	0.0
	0.4nm,0.7s,mb3.2,baz=13,slow=3.8,SNR=3.2						
TSUM	Tsumeb	81.45	107	eP	P	01 43 57.6	+0.9
	4.6nm,0.6s,mb4.3						
TSUM				ePcP	PcP	01 44 04.9	+2.5
ESDC	Sonseca Array	83.62	45	P	P	01 44 07.7	-0.3
	3.4nm,0.8s,mb4.1,baz=256,slow=4.9,SNR=10						
ESLA	Sonseca Array	83.62	45	P	P	01 44 08.6	+0.6
BOSA	Boshof	85.46	118	P	P	01 44 17.6	+0.3
	2.5nm,0.7s,mb4.0,baz=298,slow=12,SNR=8.3						
LBTB	Lobatse	86.86	115	eP	P	01 44 24.9	+0.8
	1.9nm,0.4s,mb4.3						
YKA	Yellowknife Ar	87.75	341	P	P	01 44 28.5	+0.2
	2.4nm,0.5s,mb4.3,baz=133,slow=4.7,SNR=9.8						
MAW	Mawson	87.81	163	P	P	01 44 28.9	+0.3
	4.4nm,0.8s,mb4.4,baz=235,slow=5.7,SNR=13						
MAW	Mawson	87.81	163	eP	P	01 44 29.1	+0.5
	2.8nm,0.5s,mb4.3						
KEST	Kesra	91.51	53	P	P	01 44 46.0	+0.1
	1.8nm,0.8s,mb4.2,baz=93,slow=4.2,SNR=6.7						
LSZ	Lusaka	92.29	107	eP	P	01 44 51.1	+1.5
	2.3nm,0.4s,mb4.6						
SUMG	Summit	92.66	9	P	P	01 44 51.8	+0.6
ASAR	Alice Springs	132.80	210	PKP	PKPdf	01 50 54.7	+1.1
	0.4nm,0.6s,baz=125,slow=1.9,SNR=6.2						
ASAR				pPKP	pPKPdf	01 51 28.4	-2.8
	1.1nm,1.0s,baz=134,slow=3.6,SNR=4.3						
BVAR	Borovoye Array	133.09	32	PKP	PKPdf	01 50 55.4	+1.2
	0.8nm,0.6s,baz=261,slow=2.8,SNR=5.9						
BVAR				SKPbc	SKPbc	01 54 10.9	+1.9
	1.4nm,0.8s,baz=300,slow=3.3,SNR=7.9						
WRA	Warramunga Arr	135.73	213	PKP	PKPdf	01 51 00.5	+1.4
	0.4nm,0.5s,baz=147,slow=1.7,SNR=8.2						
WRA				pPKP	pPKPdf	01 51 35.6	-1.1
	1.2nm,0.8s,baz=152,slow=1.7,SNR=4.6						
WRA				SKPbc	SKPbc	01 54 18.6	+1.2
	1.7nm,0.9s,baz=142,slow=2.6,SNR=6.9						
ZAL	Zalesovo	138.92	23	PKP	PKPdf	01 51 05.3	+0.3
	2.7nm,0.5s,baz=199,slow=2.4,SNR=3.0						
ZAL				pPKP	pPKPdf	01 51 42.4	-0.2
	1.7nm,0.6s,baz=209,slow=1.7,SNR=4.1						
ZAL				SKPbc	SKPbc	01 54 28.4	+1.6
	1.1nm,0.7s,baz=170,slow=5.5,SNR=5.0						
ZAL	Zalesovo	138.92	23	PKP	PKPdf	01 51 05.3	+0.3
ZAL				pPKP	pPKPdf	01 51 42.4	-0.2
ZAL				SKPbc	SKPbc	01 54 28.4	+1.6
MK31	Makanchi Array	142.97	33	ePKPdf	PKPdf	01 51 09.9	-2.4
MKAR	Makanchi Array	142.97	33	PKhKP		01 51 09.1	
	1.1nm,0.6s,baz=303,slow=2.6,SNR=9.9						
MKAR				SKPbc	SKPbc	01 54 38.9	+1.6
	0.9nm,0.8s,baz=321,slow=2.6,SNR=4.9						
MJAR	Matsushiro Arr	149.48	313	pPKPbc	pPKPbc	01 52 03.9	-1.3
	3.1nm,0.8s,baz=67,slow=1.4,SNR=4.1						
SONM	Songino Array	150.02	6	PKPbc	PKPbc	01 51 30.4	+1.2
	5.7nm,0.6s,baz=314,slow=1.7,SNR=24						
SONM				pPKPbc	pPKPbc	01 52 07.3	+0.7
	5.4nm,0.8s,baz=333,slow=1.8,SNR=8.0						

*NEIC **12** 01:37:52.2, 3482S×7171W, h44km, MD3.8(GUC), After GUC.*

GUC 12 01:37:52.2±0.8, 3482S×7171W, h44km±2km, MD3.8, ML3.4, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.44	115	⇑iP	Pn	01 38 02.5	+0.2
NICH				iS	Sn	01 38 10.4	+0.9
TALC	Talca	0.58	174	⇑iP	Pn	01 37 58.8	-5.3
TALC				iS	Sn	01 38 07.9	-4.8
SFDO	San Fernando	0.61	71	⇑iP	Pn	01 38 04.8	+0.3
LNV	Longovilo	0.90	16	eP	Pn	01 38 08.8	+0.4
LNV				iS	Sn	01 38 21.3	+1.1
LNCH	Linares	1.03	175	⇑iP	Pn	01 38 11.4	+1.2
LNCH				iS	Sn	01 38 24.9	+1.4
CNCO	Chanco	1.13	216	⇑iP	Pn	01 38 12.4	+0.8
CNCO				iS	Sn	01 38 27.4	+1.4
CNCO				AML	AML	01 38 28.8	
	comp=E,955nm,0.8s						
CNCO	Chanco	1.13	216	⇑iP	Pn	01 38 12.4	+0.8
CNCO				iS	Sn	01 38 27.4	+1.4
CACH	El Canelo	1.16	53	⇓iP	Pn	01 38 12.6	+0.7
CICH	Cipreses	1.18	65	⇓iP	Pn	01 38 13.0	+0.8
CHCH	Chadas Angostu	1.24	45	⇑iP	Pn	01 38 13.9	+0.8
CHCH				iS	Sn	01 38 30.3	+1.6
TACH	Talagante	1.33	29	eP	Pn	01 38 14.9	+0.7
TACH				iS	Sn	01 38 32.2	+1.5
LCCH	Las Cruces	1.34	5	eP	Pn	01 38 15.3	+0.8
RCDM	Rinconada Maip	1.52	30	⇓iP	Pn	01 38 17.3	+0.4
RCDM				iS	Sn	01 38 36.6	+1.0
RCDM				AML	AML	01 38 41.5	
	comp=E,949nm,0.1s						
RCDM	Rinconada Maip	1.52	30	⇓iP	Pn	01 38 17.3	+0.4
RCDM				iS	Sn	01 38 36.6	+1.0
ANTU	Antumapu	1.53	36	eP	Pn	01 38 18.3	+1.2
ANTU				iS	Sn	01 38 37.6	+1.8
	comp=E,1μm,0.4s						
ANTU	Antumapu	1.53	36	eP	Pn	01 38 18.3	+1.2
ANTU				iS	Sn	01 38 37.6	+1.8
PCH	Pirque	1.55	40	eP	Pn	01 38 18.2	+0.8
PCH				iS	Sn	01 38 38.4	+2.1
COCH	Cobquecura	1.58	214	eP	Pn	01 38 18.5	+0.8
COCH				iS	Sn	01 38 38.1	+1.2
SAN	Santiago	1.62	33	iS	Sn	01 38 39.8	+1.9
SAN				AML	AML	01 38 42.9	
	comp=E,477nm,0.4s						
CLCH	Cerro Calan	1.72	35	iP	Pn	01 38 20.6	+1.0
CLCH				iS	Sn	01 38 42.8	+2.4
CLCH				AML	AML	01 38 47.3	
	comp=N,644nm,0.6s						
CCHI	Chillan	1.81	189	eP	Pn	01 38 23.7	+2.9
CCHI				iS	Sn	01 38 47.3	+4.8
PEL	Peldehue	1.88	27	⇓iP	Pn	01 38 23.1	+1.3
PEL				AML	AML	01 38 53.5	
	comp=N,641nm,0.5s						
FCH	Farellones	1.90	39	⇑iP	Pn	01 38 23.3	+1.2
FCH				iS	Sn	01 38 47.7	+2.9
FCH				AML	AML	01 38 51.4	
	comp=N,681nm,0.2s						
JACH	Jahuel	2.33	24	eP	Pn	01 38 28.6	+0.7

*IDC **12** 02:05:14.0±1.8, 830N×9342E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=87.1km s-min=22.4km az=57.0*

*ISCJB **12** 02:05:24.9±1.4, 84N±03×936E±04, h100km, mb3.8/8, Error ellipse: s-maj=66.0km s-min=13.7km az=110.5*

ISC 12 02:05:28.4±5.8, 84N±03×936E±04, h115km±55km, n12, σ1§12/12, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	Pulchoki	20.56	339	eP	P	02 10 00.4	+2.5
DMN	Daman	20.70	338	eP	P	02 10 01.8	+2.4
GUN	Gumba	20.71	340	eP	P	02 09 57.8	-1.7
KKN	Kakani	20.80	339	eP	P	02 10 00.6	+0.1
GKN	Gorkha	21.23	338	eP	P	02 10 04.0	-1.1
	11nm,0.6s,mb4.4						
KOLN	Koldanda	21.44	335	eP	P	02 10 06.8	-0.5
	5.6nm,0.7s,mb4.0						
MKAR	Makanchi Array	39.44	348	P	P	02 12 46.0	-1.2
	0.3nm,0.5s,mb3.4,baz=172,slow=8.0,SNR=3.6						
SONM	Songino Array	40.74	13	P	P	02 12 58.4	+0.4
	0.9nm,0.8s,mb3.6,baz=190,slow=7.7,SNR=3.9						
WRA	Warramunga Arr	49.01	126	P	P	02 14 03.3	-0.1
	0.5nm,0.6s,mb3.6,baz=307,slow=8.6,SNR=8.0						
ASAR	Alice Springs	50.67	130	P	P	02 14 16.1	0.0
	0.2nm,0.4s,mb3.5,baz=301,slow=8.0,SNR=4.2						
FINES	FINESS Array B	71.98	332	P	P	02 16 39.5	0.0
	0.6nm,0.7s,mb3.5,baz=93,slow=7.6,SNR=4.2						
ARCES	ARCESS Array B	74.57	340	P	P	02 16 55.3	+0.6
	4.1nm,0.9s,mb4.2,baz=39,slow=7.8,SNR=4.5						

*IDC **12** 02:26:19.7±0.7, 2340S×17589W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.4/17, mbtmp4.3/11, ML4.1/1, MS4.3/21, Ms1 4.3/21, ms1mx4.1/30, Error ellipse: s-maj=23.9km s-min=18.3km az=132.0*

*BJI **12** 02:26:23.3, 2368S×17535W, h43km, mB5.4, mb5.1, Ms5.3, Msz4.8*

*ISCJB **12** 02:26:24.1±0.4, 2355S±008×17599W±009, h33km, mb4.7/23, MS4.4/22, Error ellipse: s-maj=13.1km s-min=11.2km az=82.4*

*NEIC **12** 02:26:26.8±3.6, 2345S×17603W, h43km±31km, mb4.8/15, Error ellipse: s-maj=17.0km s-min=12.7km az=201.0*

*GCMT **12** 02:26:26.8±0.4, 2377S×17520W, h28km±1km, MW5.0/68, Moment Tensor Solution. s32,c44; s68,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.41±.20; $M_{\theta\theta}$-0.65±.14; $M_{\phi\phi}$-2.76±.13; $M_{r\theta}$0.95±.23; $M_{\theta\phi}$-0.92±.10; $M_{\phi r}$1.93±.18; Best double couple: $M_0$3.90500×10^{16} NP1:ϕ_s198.00000°, δ28.00000°, λ85.00000°. NP2: ϕ_s24.00000°, δ62.00000°, λ93.00000°. Principal axes: T 4.0610, Plg73.0000°, Azm300.0000°; N -0.3150, Plg2.0000°, Azm202.0000°; P -3.7490, Plg17.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 02:26:25.8±0.5, 2357S±008×17590W±009, h35km, (h49km±7.8km: pP-P), n116, σ1§20/44, mb4.7/23, MS4.4/22, 3C-6D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.37	23	Sn	Sn	02 30 30.6	-16
	7.2nm,0.3s,baz=110,slow=18,SNR=3.9						
AFI	Afiamalu	10.37	23	ePn	Pn	02 28 46.1	-5.8
	55nm,0.5s						
RAR	Rarotonga	15.10	84	Pn	Pn	02 29 44.7	-12
	5.9nm,0.3s,baz=240,slow=8.3,SNR=12						
RAR				Sn	Sn	02 32 15.2	-27
	1.0nm,0.3s,baz=73,slow=17,SNR=3.2						
URZ	Urewera	15.82	201	Pn	Pn	02 30 07.0	+1.2
	0.8nm,0.3s,baz=307,slow=5.1,SNR=3.5						
DZM	Mont Dzumac	16.35	272	Pn	Pn	02 30 19.1	+6.5
	0.5nm,0.3s,baz=100,slow=19,SNR=5.3						
DZM				LR	LR	02 34 14.2	
	comp=Z,288nm,20.3s,baz=99,slow=29						
RPZ	Rata Peaks	22.79	205	P	P	02 31 27.4	+2.1
	9.4nm,0.7s,mb4.3,baz=42,slow=15,SNR=2.8						
TBI	Tubuai	24.24	95	eLQ	

14nm,1.1s,mb4.9
JHJ Hachijo jima 2 70.44 322 LR LR 03 02 25.6
comp=Z,110nm,19.2s,MS4.1,baz=197,slow=31
JOW Kunigami 73.62 310 LR LR 03 07 58.4
comp=Z,187nm,18.8s,MS4.4,baz=81,slow=34
MJAR Matsushiro Arr 73.82 323 LR LR 03 04 53.9
comp=Z,288nm,21.5s,MS4.5,baz=175,slow=31
MAW Mawson 79.35 199 *eP* **P 02 38 27.6 -0.4**
3.8nm,0.8s,mb4.4
MAW Mawson 79.35 199 P **P 02 38 27.7 -0.3**
6.3nm,1.0s,mb4.5,baz=120,slow=4.7,SNR=12
MAW LR LR 03 10 15.0
comp=Z,164nm,21.1s,MS4.3,baz=82,slow=33
YBH Yreka Blue Hor 81.49 37 LR LR 03 08 30.6
comp=Z,209nm,18.8s,MS4.5,baz=229,slow=31
NVAR Mina Array Bea 81.94 42 P **P 02 38 41.2 -0.7**
5.1nm,1.3s,mb4.3,baz=235,slow=8.8,SNR=6.4
NVAR Mina Array Bea 81.94 42 P **P 02 38 41.2 -0.7**
TUC Tucson 83.37 51 *eP* **P 02 38 50.4 +1.1**
1.3nm,0.7s,mb4.1
MDJ Mudanjiang 84.13 324 P **P 02 38 54.2 +1.0**
MDJ AP pP 02 39 10.8 +6.5
MDJ PP PP 02 42 06.0 -1.6
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,106nm,5.9s
MDJ LR LR
comp=N,38nm,23.2s,MS4.1
MDJ LR LR
comp=E,75nm,20.0s,MS4.1
MDJ LR LR
comp=Z,104nm,22.4s,MS4.2
SYO Syowa Base 84.17 192⇑ *eP* **P 02 38 52.4 -1.0**
WVOR Wild Horse Val 84.25 39 *eP* **P 02 38 54.0 +0.2**
comp=Z,4.2nm,1.0s,mb4.5
SNAA Sanae 84.90 178 *eP* **P 02 38 55.4 -1.7**
SNAA *e* 02 38 59.0
SNAA *e* pP 02 39 06.8 -1.3
SNAA *e* 02 39 10.4
SNAA *e* 02 39 16.2
SNAA Sanae 84.90 178 *eP* **P 02 38 56.4 -0.7**
comp=Z,11nm,1.4s,mb4.8
VNA1 Neumayer--Stat 85.64 176 *eP* **P 02 38 58.5 -2.3**
VNA1 *e* 02 39 01.5
VNA1 *e* pP 02 39 09.4 -2.4
VNA1 *e* 02 39 14.1
VNA1 *e* 02 39 20.4
PLCA Paso Flores 85.77 133 LR LR 03 09 53.2
comp=Z,105nm,18.6s,MS4.3,baz=66,slow=30
PSI Prapat 86.69 274 LR LR 03 19 54.8
comp=Z,205nm,18.2s,MS4.6,baz=108,slow=37
ANMO Albuquerque 87.82 50 *eP* **P 02 39 11.2 -0.2**
comp=Z,2.4nm,0.9s,mb4.4
PDAR Pinedale Array 89.87 42 P **P 02 39 20.6 -0.5**
comp=Z,0.5nm,1.0s,mb3.8,baz=251,slow=2.8,SNR=2.8
PDAR LR LR 03 13 34.9
comp=Z,99nm,19.2s,MS4.3,baz=258,slow=32
KMI Kunming 92.46 296 P **P 02 39 35.3 +2.2**
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb5.0
KMI Kunming 92.46 296 P **P 02 39 35.3 +2.2**
comp=Z,9.0nm,1.1s,mb5.0
HHC Hu-ho-hao-te 92.87 314 *eP* **P 02 39 35.2 +0.2**
HHC AMB AMB
comp=Z,22nm,0.5s,mb5.8
HHC AMB AMB
comp=Z,129nm,6.9s
CHTO Chiang Mai 93.10 289 *eP* **P 02 39 37.7 +1.7**
comp=Z,6.6nm,0.8s,mb5.1
CD2 Chengdu 94.07 302 *eP* **P 02 39 41.2 +0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,8.8s
LZH Lanzhou 96.16 307 *eP* **P 02 39 50.5 +0.4**
LZH AP pP 02 40 08.0 +6.8
LZH XP sP 02 40 13.0 +7.8
LZH AMB AMB
comp=Z,17nm,1.0s,mb5.4
LZH Lanzhou 96.16 307 *eP* **P 02 39 50.5 +0.4**
comp=Z,17nm,1.0s,mb5.4
LZH pP pP 02 40 08.0 +6.8
LZH sP sP 02 40 13.0 +7.8
YKA Yellowknife Ar 98.48 24 LR LR 03 16 35.0
comp=Z,74nm,19.8s,MS4.2,baz=60,slow=31
LPAZ La Paz 99.10 112 LR LR 03 17 09.2
comp=Z,92nm,18.9s,MS4.3,baz=251,slow=31
WMQ Urumqi 110.39 310 *e*PKP PKiKP 02 44 53.0 -1.2
WMQ PP PP 02 45 33.0 +3.5
WMQ PKS 02 48 28.0
WMQ PP PP
comp=Z,97nm,6.0s
WMQ LR LR
comp=N,130nm,18.5s,MS4.8
WMQ LR LR
comp=E,242nm,22.2s,MS4.8
WMQ LR LR
comp=Z,248nm,19.8s,MS4.8
MKAR Makanchi Array 114.70 312 PKP PKiKP 02 45 00.4 -2.0
comp=Z,0.6nm,0.7s,baz=90,slow=1.2,SNR=5.9
SCHQ Schefferville 119.84 39 PKP PKPdf 02 45 08.8 -3.5
comp=Z,6.1nm,0.9s,baz=248,slow=6.9,SNR=3.5
CHKZ Chkalovo 122.49 320 *e*PKPdf PKPdf 02 45 15.8 -1.6
ARCES ARCESS Array B 132.27 350 PKP PKPdf 02 45 35.9 -0.2
comp=Z,3.2nm,0.9s,baz=351,slow=5.0,SNR=3.0
FINES FINESS Array B 139.25 344 PKP PKPdf 02 45 47.8 -1.2
comp=Z,0.5nm,0.7s,baz=160,slow=6.1,SNR=4.6
NOA NORSAR Array B 142.23 354 PKhKP 02 45 48.9
comp=Z,1.4nm,0.9s,baz=22,slow=3.9,SNR=3.5
SUW Suwalki 146.38 340 *e*PKPbc PKPbc 02 46 01.6 -1.4
AKASG Malin Array Be 146.63 331 PKPbc PKPbc 02 46 02.2 -1.5
comp=Z,6.9nm,0.7s,baz=42,slow=3.9,SNR=16
AKASG Malin Array Be 146.63 331 PKPbc PKPbc 02 46 02.2 -1.5
AKBB Malin Array Si 146.63 331 *e*PKPbc PKPbc 02 46 02.3 -1.3
MALT Malatya 147.31 305 ||*i*P PKPbc 02 46 06.6 +1.0
MALT Malatya 147.31 305 *e*PKPbc PKPbc 02 46 06.4 +0.9
KWP Kalwaria 150.17 335 *e*PKPbc PKPbc 02 46 12.6 -0.3
BR131 Keskin Array S 150.31 310 *e*PKPbc PKPbc 02 46 12.3 -1.0
BRTR Keskin Array B 150.31 310 PKPbc PKPbc 02 46 12.4 -0.8
comp=Z,3.7nm,0.8s,baz=111,slow=2.8,SNR=17
BURAR Bucovina Array 150.68 330 ||*i*P PKPbc 02 46 14.8 +0.7
BURAR Bucovina Array 150.68 330 ||P PKPbc 02 46 14.8 +0.7
ANTO Ankara 150.85 311 ||*i*P PKPbc 02 46 14.6 +0.1
ANTO Ankara 150.85 311 *e*PKPbc PKPbc 02 46 14.8 +0.3
STHS Stebnicka Huta 150.89 337 *e*PKP PKPbc 02 46 15.3 +0.7
STHS *e* 02 46 20.6
KOLS Kolonicke sedl 150.90 335 *e*PKP PKPbc 02 46 15.2 +0.5
NIE Niedzica 151.22 338 *e*PKP PKPbc 02 46 16.1 +0.7
CRVS Cervenica-Dubn 151.24 336 *e*PKP PKPbc 02 46 15.7 +0.2
CLL Collm 151.46 348 *e*PKPbc PKPbc 02 46 15.0 -1.0
comp=Z,11nm,0.8s
CLL *ep*PKPbc pPKPbc 02 46 27.0 -0.4
UPC Upice 151.55 344 *e*PKPbc PKPbc 02 46 15.7 -0.5
DPC Dobruska-Polom 151.62 343 *e*PKPbc PKPbc 02 46 16.4 +0.1
BRG Berggiesshubel 151.69 347 *e*PKP PKPbc 02 46 15.9 -0.6
comp=Z,5.2nm,0.9s
MORC Moravsky Berou 151.79 341 ||*i*P PKPbc 02 46 16.5 -0.2
MORC Moravsky Berou 151.79 341 *e*PKPbc PKPbc 02 46 16.9 +0.2
EIL Elat 151.81 289 *e*PKPbc PKPbc 02 46 17.4 +0.6
EIL *e*PKPab PKPab 02 46 27.6 +1.8
MLR Muntele Rosu 151.84 326⇑ *i*P PKPbc 02 46 15.8 -1.1
MLR Muntele Rosu 151.84 326 ⇑P PKPbc 02 46 15.8 -1.1
PVCC Panska Ves 151.88 346 *e*PKPbc PKPbc 02 46 14.3 -2.6
KECS Kecovo 151.94 336 *e*PKP PKPab 02 46 26.2 -0.2
PRU Pruhonice 152.39 345 *e*PKPbc PKPbc 02 46 17.8 -0.3
VRAC Vranov 152.49 342 ||*i*P PKPab 02 46 29.4 +0.7
VYHS Vyhne 152.51 338 *e*PKP PKPab 02 46 28.8 0.0
PSZ Piszkesteto 152.63 337 *e*PKPab PKPab 02 46 29.7 +0.4
TREC Trest 152.80 344 *e*PKPbc PKPbc 02 46 16.0 -3.0
GRA1 Grafenberg Arr 153.33 350 *e*PKP PKPab 02 46 32.6 +0.4
GRF Grafenberg Arr 153.33 350 *e*PKP PKPab 02 46 32.6 +0.4
KHC Kasperske Hory 153.41 346 *e*PKPdf PKPdf 02 46 14.8 +2.1
KHC *e*PKPab PKPab 02 46 31.0 -1.6
BAIF Baives 153.56 360 *e*PKP2 PKPab 02 46 39.8 +6.6
GERES GERESS Array B 153.65 346 PKPbc PKPbc 02 46 20.4 -0.5
comp=Z,0.6nm,0.7s,baz=37,slow=3.3,SNR=5.8
FLN La Foliniere 154.59 7 *e*PKP2 PKPab 02 46 44.7 +7.1
LOR Lormes 156.35 0 *e*PKP2 PKPab 02 46 52.5 +7.4
SSF Saint Saulge 156.55 1 *e*PKP2 PKPab 02 46 53.5 +7.5
comp=Z,13nm,0.9s
AVF Avril sur Loir 156.82 1 *e*PKP2 PKPab 02 46 53.7 +6.6
SMF Signal de Mont 156.97 0 *e*PKP2 PKPab 02 46 53.9 +6.1
comp=Z,22nm,1.1s
LPG La Plagne 158.01 355 *e*PKP2 PKPab 02 46 58.2 +5.9
RJF Les Rejaudoux 158.21 5 *e*PKP2 PKPab 02 47 00.4 +7.3
KEST Kesra 167.05 341 PKPab PKPab 02 47 32.1 +0.3
comp=Z,0.8nm,0.8s,baz=90,slow=1.0,SNR=3.4
TORD Torodi Ar. Bea 169.39 167 PKPab PKPab 02 47 41.9 -0.3
comp=Z,0.7nm,0.8s,baz=172,slow=4.4,SNR=3.1

IDC 12 02:43:13.0±1.4, 1620S×17268W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.1/16, mbtmp4.0/6, ML1.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.2/40, Error ellipse: s-maj=68.1km s-min=17.9km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.44**	**21**	Pn	Pn	02 43 54.0	-0.1
6.5nm,0.3s,baz=256,slow=14,SNR=7.1							
AFI				Sn	Sn	02 44 24.9	+0.3
34nm,0.3s,baz=62,slow=20,SNR=15							
HNR	**Honiara**	**27.50**	**281**	LR	LR	02 58 29.6	
comp=Z,60nm,19.2s,baz=179,slow=33							
STKA	**Stephens Creek**	**44.24**	**241**	P	P	02 51 23.1	-1.0
2.7nm,0.8s,baz=108,slow=14,SNR=3.2							
WRA	**Warramunga Arr**	**50.34**	**257**	P	P	02 52 11.8	+0.3
1.3nm,0.5s,baz=97,slow=7.1,SNR=44							
ASAR	**Alice Springs**	**50.52**	**253**	P	P	02 52 13.7	+0.7
9.8nm,0.5s,baz=88,slow=8.6,SNR=117							
ASPA	**Alice Springs**	**50.53**	**253**	*e*P	P	02 52 13.5	+0.5
YBH	**Yreka Blue Hor**	**73.82**	**37**	P	P	02 54 48.9	-0.4
1.3nm,0.9s,baz=156,slow=11,SNR=4.2							
NVAR	**Mina Array Bea**	**74.46**	**42**	P	P	02 54 52.2	-0.8
0.4nm,0.7s,baz=226,slow=7.1,SNR=3.8							
PDAR	**Pinedale Array**	**82.40**	**42**	P	P	02 55 38.9	+1.9
0.4nm,1.0s,baz=262,slow=6.3,SNR=2.3							
ATAH	**Atahualpa**	**92.16**	**98**	LR	LR	03 25 25.9	
comp=Z,78nm,20.7s,baz=21,slow=28							
LVC	**Limon Verde**	**96.05**	**116**	LR	LR	03 31 35.2	
comp=Z,71nm,18.4s,baz=174,slow=30							
GERES	**GERESS Array B**	**147.03**	**352**	PKPbc	PKPbc	03 02 57.6	0.0
0.5nm,0.8s,baz=251,slow=4.1,SNR=3.7							
BRTR	**Keskin Array B**	**147.21**	**321**	PKPbc	PKPbc	03 02 59.0	+0.8
0.7nm,0.6s,baz=168,slow=6.3,SNR=3.9							

IDC 12 02:47:13.6±19.0, 2180S×17941W, h601km±203km, mb3.3/5, mb1 3.4/5, mb1mx3.1/14, mbtmp4.3/5, 1C-2D, Error ellipse: s-maj=131.8km s-min=106.2km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.08**	**267**	P	P	02 52 53.5	+0.6
4.5nm,0.8s,baz=70,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**36.05**	**245**	⇑*i*P	P	02 53 26.5	+0.5
1.6nm,0.5s							
STKA	**Stephens Creek**	**36.05**	**245**	P	P	02 53 26.2	+0.2
2.3nm,0.6s,baz=63,slow=4.9,SNR=6.4							
STKA	**Stephens Creek**	**36.05**	**245**	*e*P	P	02 53 26.2	+0.2
AS31	**Alice Springs**	**42.96**	**258**	*e*P	P	02 54 21.4	+0.3
ASAR	**Alice Springs**	**42.96**	**258**	P	P	02 54 21.3	+0.2
2.3nm,0.3s,baz=95,slow=8.2,SNR=16							
ASPA	**Alice Springs**	**42.96**	**258**	*e*P	P	02 54 21.4	+0.2
WB2	**Warramunga Arr**	**43.13**	**264**	||*i*P	P	02 54 22.1	-0.4
WRA	**Warramunga Arr**	**43.14**	**264**	P	P	02 54 22.4	-0.1
1.4nm,0.3s,baz=97,slow=7.9,SNR=71							
KAKA	**Kakadu**	**46.71**	**273**	||*i*P	P	02 54 49.7	-0.1
4.4nm,0.2s							
FITZ	**Fitzroy Crossi**	**51.57**	**264**	*e*P	P	02 55 25.9	+0.5
6.4nm,1.4s							
FITZ	**Fitzroy Crossi**	**51.57**	**264**	P	P	02 55 25.9	+0.5
2.0nm,0.6s,baz=103,slow=7.4,SNR=18							
MBWA	**Marble Bar**	**56.30**	**259**	*e*P	P	02 55 58.4	-0.2
0.9nm,0.3s							
ARCES	**ARCESS Array B**	**129.94**	**349**	PKP	PKPdf	03 05 15.3	-0.6
1.5nm,0.8s,baz=101,slow=0.5,SNR=3.7							
ARCES	**ARCESS Array B**	**129.94**	**349**	PKP	PKPdf	03 05 15.3	-0.6
AKASG	**Malin Array Be**	**143.48**	**329**	PKP	PKPdf	03 05 39.4	-1.4
1.1nm,0.3s,baz=42,slow=4.0,SNR=12							
BRTR	**Keskin Array B**	**146.70**	**310**	PKPbc	PKPbc	03 05 49.3	+0.2
0.7nm,0.6s,baz=139,slow=5.9,SNR=3.9							
GERES	**GERESS Array B**	**151.06**	**342**	PKPbc	PKPbc	03 05 59.5	-0.2
0.5nm,0.5s,baz=7.6,slow=4.0,SNR=4.9							

NEIC 12 02:47:18.7±1.2, 2177S×179.73W, h650km, mb3.7/2, Error ellipse: s-maj=59.7km s-min=14.9km az=152.0

IDC 12 02:47:15.6±22.0, 2156S×17918W, h533km±218km, mb3.4/5, mb1 3.6/5, mb1mx3.2/14, mbtmp4.4/5, Error ellipse: s-maj=135.7km s-min=99.6km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.30**	**266**	P	P	02 53 01.0	+0.4
1.7nm,0.4s,baz=91,slow=14,SNR=5.2							
STKA	**Stephens Creek**	**36.34**	**245**	P	P	02 53 34.6	+0.2
2.5nm,0.5s,baz=82,slow=10,SNR=7.3							
STKA	**Stephens Creek**	**36.34**	**245**	*i* pP	P	02 53 34.5	+0.1
STKA	**Stephens Creek**	**36.34**	**245**	*i* pP	P	02 53 34.5	+0.1
AS31	**Alice Springs**	**43.21**	**258**	*ep*P	P	02 54 29.7	+0.1
ASAR	**Alice Springs**	**43.21**	**258**	P	P	02 54 29.8	+0.2
3.7nm,0.4s,baz=94,slow=8.4,SNR=15							
ASPA	**Alice Springs**	**43.22**	**258**	*ep*P	P	02 54 29.7	+0.1
WB2	**Warramunga Arr**	**43.36**	**263**	*ep*P	P	02 54 30.7	0.0
WRA	**Warramunga Arr**	**43.37**	**263**	P	P	02 54 30.5	-0.3
2.2nm,0.3s,baz=96,slow=8.2,SNR=32							
KAKA	**Kakadu**	**46.91**	**273**	*ep*P	P	02 54 58.1	+0.2
FITZ	**Fitzroy Crossi**	**51.80**	**263**	P	P	02 55 34.5	+0.5
1.3nm,0.3s,baz=122,slow=7.9,SNR=11							
FITZ	**Fitzroy Crossi**	**51.80**	**263**	*ep*P	P	02 55 34.3	+0.3
AKASG	**Malin Array Be**	**143.38**	**330**	PKP	PKPdf	03 05 47.6	-1.7
1.2nm,0.3s,baz=42,slow=3.9,SNR=12							
BRTR	**Keskin Array B**	**146.71**	**310**	PKPbc	PKPbc	03 05 57.7	0.0
0.7nm,0.7s,baz=94,slow=4.3,SNR=3.3							
GERES	**GERESS Array B**	**150.96**	**342**	PKPbc	PKPbc	03 06 08.0	+0.1
0.3nm,0.4s,baz=0.0,slow=1.9,SNR=5.5							

IDC 12 02:55:22.1±2.0, 383S×101.43E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, MS3.5/2, Ms1 3.5/2, ms1mx2.9/37, Error ellipse: s-maj=98.3km s-min=16.5km az=52.0

ISCJB 12 02:55:24.1±1.5, 40S±04×1012E±04, h33km, mb4.1/9, MS3.9/1, Error ellipse: s-maj=77.9km s-min=11.7km az=100.7

NEIC 12 02:55:25.9±1.3, 401S×101.24E, h30km, mb4.4/1, Error ellipse: s-maj=66.6km s-min=9.5km az=51.0

ISC 12 02:55:26.7±1.5, 40S±04×1012E±04, h35km, n13, σ0=62/12, mb4.1/9, MS3.9/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.15**	**342**	LR	LR	03 00 36.7	
comp=Z,146nm,19.2s,baz=196,slow=45							
FITZ	**Fitzroy Crossi**	**27.72**	**122**	P	P	**03 01 10.5**	**-1.2**
1.9nm,0.8s,mb3.8,baz=297,slow=6.8,SNR=4.4							
WRA	**Warramunga Arr**	**35.97**	**119**	P	P	**03 02 23.5**	**-0.5**
2.2nm,0.4s,mb4.4,baz=302,slow=8.9,SNR=28							
WB2	**Warramunga Arr**	**35.98**	**119**	*e*P	P	**03 02 23.9**	**-0.1**
ASAR	**Alice Springs**	**37.12**	**125**	P	P	**03 02 34.4**	**+0.6**
1.3nm,0.5s,mb4.0,baz=298,slow=7.5,SNR=18							
STKA	**Stephens Creek**	**46.93**	**131**	P	P	**03 03 55.0**	**+1.2**
2.8nm,0.8s,mb4.3,baz=316,slow=4.4,SNR=3.6							
SONM	**Songino Array**	**51.84**	**4**	P	P	**03 04 31.8**	**+0.6**
1.4nm,0.8s,mb4.0,baz=182,slow=9.0,SNR=8.2							
MK31	**Makanchi Array**	**53.29**	**344**	*e*P	P	**03 04 42.6**	**+0.6**
MKAR	**Makanchi Array**	**53.29**	**344**	P	P	**03 04 42.0**	**0.0**
0.7nm,0.3s,mb4.0,baz=169,slow=8.2,SNR=10							
MKAR				LR	LR	03 29 59.4	
comp=Z,109nm,21.1s,MS3.9,baz=97,slow=39							
BVAR	**Borovoye Array**	**62.48**	**340**	P	P	**03 05 45.8**	**-0.7**
0.9nm,0.4s,mb4.2,baz=139,slow=7.9,SNR=5.6							
CHKZ	**Chkalovo**	**62.94**	**340**	*e*P	P	**03 05 49.1**	**-0.4**
2.3nm,0.7s,mb4.4							
AKTK	**Aktyubinsk**	**65.69**	**331**	P	P	**03 06 07.5**	**-0.1**
AKTO	**Aktyubinsk**	**65.69**	**331**	P	P	**03 06 07.5**	**0.0**
0.4nm,0.3s,mb3.9,baz=135,slow=7.1,SNR=4.1							

ISCJB 12 03:09:02.7±1.7, 728S±006×129.48E±008, h41km±17km, mb4.6/31, Error ellipse: s-maj=14.2km s-min=9.0km az=143.8

BJI 12 03:09:03.9, 724S×129.77E, h53km, mB5.1, mb4.7, Ms4.7, Msz4.4

IDC 12 03:09:04.8±3.2, 716S×129.47E, h44km±29km, mb4.2/13, mb1 4.3/15, mb1mx4.3/18, mbtmp4.5/15, ML4.6/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=23.1km s-min=13.8km az=65.0

NEIC 12 03:09:05.6±1.2, 721S×129.42E, h54km±10km, mb4.5/16, Error ellipse: s-maj=8.8km s-min=7.5km az=55.0

ISC 12 03:09:06.4±1.2, 733S±006×129.56E±008, h59km±12km, n88, σ1=30/73, mb4.6/31, 5C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.06**	**152**	*e*P	**Pn**	**03 10 35.0**	**+1.7**
166nm,0.4s							
KAKA				*e*S	**Sn**	**03 11 40.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.37**	**199⇑**	*i*P	**Pn**	**03 11 45.6**	**-0.4**
38nm,0.3s							
FITZ				*e*S	**Sn**	**03 13 41.2**	**-10**
FITZ	**Fitzroy Crossi**	**11.37**	**199**	P	**Pn**	**03 11 45.7**	**-0.3**
6.4nm,0.3s,baz=29,slow=12,SNR=132							
FITZ				S	**Sn**	**03 13 42.7**	**-8.7**
16nm,0.3s,baz=51,slow=17,SNR=9.3							
FITZ				LR	LR	03 16 20.6	
comp=Z,201nm,18.5s,baz=24,slow=38							
WRA	**Warramunga Arr**	**13.37**	**160**	P	**Pn**	**03 12 10.6**	**-2.6**
6.5nm,0.3s,baz=335,slow=14,SNR=87							
WRA				S	**Sn**	**03 14 31.9**	**-8.3**
13nm,0.3s,baz=338,slow=22,SNR=15							
WRA				ScP	ScP	03 21 02.2	-4.0
baz=338,slow=2.2,SNR=4.8							
WRA	**Warramunga Arr**	**13.37**	**160**	P	**Pn**	**03 12 10.6**	**-2.7**
WRA				S	**Sn**	**03 14 31.9**	**-8.3**
WRA				ScP	ScP	03 21 02.2	-4.0
WB2	**Warramunga Arr**	**13.37**	**160⇑**	*i*P	**Pn**	**03 12 10.8**	**-2.5**
WB2				*e*S	**Sn**	**03 14 30.9**	**-9.4**
MBWA	**Marble Bar**	**16.71**	**214**	*e*P	**Pn**	**03 12 56.3**	**-0.2**
26nm,0.7s							
MBWA				*e*Sn	**Sn**	**03 15 52.0**	**-9.3**
AS31	**Alice Springs**	**16.77**	**166**	*e*P	**Pn**	**03 12 57.7**	**+0.4**
AS31				*e*S	**S**	**03 15 53.5**	**-17**
ASAR	**Alice Springs**	**16.77**	**166**	P	**Pn**	**03 12 56.1**	**-1.2**
2.3nm,0.3s,baz=344,slow=11,SNR=57							
ASAR				S	**S**	**03 15 52.5**	**-18**
2.1nm,0.3s,baz=349,slow=24,SNR=4.3							
ASAR				ScP	ScP	03 21 08.2	-4.1
0.3nm,0.3s,baz=349,slow=1.9,SNR=4.5							
ASPA	**Alice Springs**	**16.77**	**166**	*e*P	**Pn**	**03 12 57.7**	**+0.4**
ASPA				*e*S	**S**	**03 15 53.5**	**-17**
PMG	**Port Moresby**	**17.54**	**98**	P	**Pn**	**03 13 08.2**	**+1.5**
3.2nm,0.3s,baz=303,slow=11,SNR=6.8							
PMG				S	**S**	**03 16 11.9**	**-14**
0.7nm,0.3s,baz=244,slow=22,SNR=3.2							
PMG	**Port Moresby**	**17.54**	**98**	*e*P	**Pn**	**03 13 08.8**	**+2.1**
60nm,0.9s							
KKM	**Kota Kinabalu**	**18.80**	**315**	*e*P	**Pn**	**03 13 24.6**	**+2.5**
CTA	**Charters Tower**	**20.56**	**130**	*e*P	**P**	**03 13 44.1**	**+3.9**
8.3nm,0.9s							
CTA				*e*S	**S**	**03 17 36.9**	**+10**
CTA	**Charters Tower**	**20.56**	**130**	P	**P**	**03 13 42.4**	**+2.1**
5.1nm,0.8s,baz=279,slow=13,SNR=2.9							
CTAO	**Charters Tower**	**20.56**	**130**	*e*P	**P**	**03 13 43.3**	**+3.1**
11nm,0.8s							
KSM	**Kuching**	**21.10**	**294**	*e*P	**P**	**03 13 49.1**	**+3.1**
FORT	**Forrest**	**23.37**	**183⇑**	*i*P	**P**	**03 14 11.5**	**+1.7**
26nm,0.7s,mb4.8							
FORT				*e*S	**S**	**03 18 24.4**	**+6.2**
KLBR	**Kellerberrin**	**26.54**	**203**	*e*P	**P**	**03 14 40.1**	**+1.5**
KLBR				*e*S	S	03 19 41.4	+33
STKA	**Stephens Creek**	**26.88**	**157⇑**	*i*P	**P**	**03 14 42.8**	**+1.1**
2.3nm,0.3s,mb4.2							
STKA				*e*S	S	03 19 47.7	+34
STKA	**Stephens Creek**	**26.88**	**157**	P	**P**	**03 14 42.6**	**+0.9**
6.1nm,0.8s,mb4.2,baz=342,slow=9.7,SNR=9.5							
NWAO	**Narrogin (SRO)**	**27.92**	**203**	P	**P**	**03 14 51.4**	**+0.4**
10nm,0.8s,mb4.5,baz=48,slow=12,SNR=3.3							
NWAO				LR	LR	03 27 21.0	
comp=Z,159nm,20.0s,baz=119,slow=39							
NWAO	**Narrogin (SRO)**	**27.92**	**203**	P	**P**	**03 14 51.4**	**+0.4**
NWAO				LR	LR	03 27 21.0	
PSI	**Prapat**	**32.18**	**287**	P	**P**	**03 15 28.9**	**+0.2**
6.8nm,0.8s,mb4.6,baz=106,slow=8.4,SNR=9.0							
CHTO	**Chiang Mai**	**39.82**	**311**	*e*P	**P**	**03 16 33.2**	**-0.7**
11nm,0.8s,mb4.7							
NJ2	**Nanjing**	**40.47**	**346**	*e*P	**P**	**03 16 39.2**	**-0.1**
NJ2				AMB	AMB		
comp=Z,30nm,0.9s,mb5.0							
KMI	**Kunming**	**41.50**	**322**	P	**P**	**03 16 50.2**	**+2.5**
KMI				AMB	AMB		
comp=Z,6.0nm,0.9s,mb4.2							
KMI	**Kunming**	**41.50**	**322**	P	**P**	**03 16 50.2**	**+2.5**
comp=Z,6.0nm,0.9s,mb4.2							
MJAR	**Matsushiro Arr**	**44.39**	**10**	P	**P**	**03 17 09.0**	**-2.1**
comp=Z,3.0nm,1.1s,mb4.0,baz=189,slow=8.7,SNR=5.8							
CD2	**Chengdu**	**45.35**	**328**	*e*P	**P**	**03 17 19.8**	**+1.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
LZH	**Lanzhou**	**49.49**	**332**	*e*P	**P**	**03 17 53.0**	**+2.2**
LZH				AP	pP	03 18 03.0	-3.2
LZH				XP	sP	03 18 08.0	-4.9
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.8							
LZH	**Lanzhou**	**49.49**	**332**	*e*P	**P**	**03 17 53.0**	**+2.2**
comp=Z,10.0nm,1.0s,mb4.8							
LZH				pP	pP	03 18 03.0	-3.2
LZH				sP	sP	03 18 08.0	-4.9
MDJ	**Mudanjiang**	**51.70**	**0**	P	**P**	**03 18 09.2**	**+1.7**
MDJ				AP	pP	03 18 18.5	-4.4
MDJ				PCP	PcP	03 19 23.2	+2.9
MDJ				PP	PP	03 20 05.4	-0.1
MDJ				PCS	PcS	03 23 20.7	+2.4
MDJ				S	**S**	**03 25 30.0**	**+5.2**
MDJ				AMB	AMB		
comp=Z,3.0nm,0.6s,mb4.4							
MDJ				AMB	AMB		
comp=Z,106nm,5.9s							
JIRN	**Jiri**	**54.47**	**312**	*e*P	**P**	**03 18 27.9**	**0.0**
comp=Z,6.3nm,0.2s,mb5.1							
GUN	**Gumba**	**54.84**	**312**	*e*P	**P**	**03 18 29.8**	**-0.7**
comp=Z,20nm,0.4s,mb5.5							
PKI	**Pulchoki**	**55.01**	**311**	*e*P	**P**	**03 18 31.7**	**-0.1**
comp=Z,16nm,0.5s,mb5.3							
KKN	**Kakani**	**55.22**	**311**	*e*P	**P**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNOW	Snow King Moun	116.40	45	*e*PKPdf	PKPdf	03 27 44.3	+0.9
LOHW	Long Hollow	116.46	45	*e*PKPdf	PKPdf	03 27 44.0	+0.5
BW06	Boulder Array	117.43	45	*e*PKPdf	PKPdf	03 27 45.9	+0.5
PDAR	Pinedale Array	117.43	45	PKP	PKPdf	03 27 45.4	0.0
	comp=Z,0.6nm,0.7s,baz=268,slow=1.0,SNR=6.9						
RSSD	Black Hills	120.79	42	*e*PKPdf	PKPdf	03 27 51.2	-0.7
SDCO	Great Sand Dun	121.84	50	*e*PKPdf	PKPdf	03 27 54.7	+0.9
ANMO	Albuquerque	121.85	53	*e*PKPdf	PKPdf	03 27 54.8	+0.9
ULM	Lac du Bonnet	122.96	33	*e*PKPdf	PKPdf	03 27 54.6	-1.4
MNTX	Cornudas Mount	123.50	57	*e*PKPdf	PKPdf	03 27 57.8	+0.7
CBKS	Cedar Bluff	125.77	47	*e*PKPdf	PKPdf	03 28 01.6	+0.2
WMOK	Wichita Mounta	127.94	51	*e*PKPdf	PKPdf	03 28 06.0	+0.5
JCT	Junction City	128.44	57	*e*PKPdf	PKPdf	03 28 06.9	+0.4
TORD	Torodi Ar. Bea	128.44	281	PKP	PKPdf	03 28 06.3	-0.2
	comp=Z,1.9nm,0.6s,baz=114,slow=1.9,SNR=17						
TORD	Torodi Ar. Bea	128.44	281	PKP	PKPdf	03 28 06.3	-0.2
DBIC	Dimbokro	134.76	272	PKP	PKPdf	03 28 19.8	+1.3
	comp=Z,2.6nm,0.8s,baz=37,slow=5.1,SNR=5.6						
DBIC	Dimbokro	134.76	272	*e*PKPdf	PKPdf	03 28 19.8	+1.3
WVT	Waverly	135.43	44	*e*PKPdf	PKPdf	03 28 20.1	+0.4
TKL	Tuckaleechee C	138.46	42	PKP	PKPdf	03 28 25.0	-0.3
	comp=Z,2.8nm,0.6s,baz=326,slow=4.0,SNR=4.5						
LVC	Limon Verde	145.18	149	PKPbc	PKPbc	03 28 39.6	+2.6
	comp=Z,3.3nm,0.5s,baz=295,slow=3.0,SNR=7.1						
LVC	Limon Verde	145.18	149	*e*PKPbc	PKPbc	03 28 39.3	+2.3
CPUP	Villa Florida	145.88	169	PKPbc	PKPbc	03 28 40.0	+0.8
	comp=Z,2.3nm,0.5s,baz=187,slow=2.1,SNR=16						
CPUP	Villa Florida	145.88	169	*e*PKPbc	PKPbc	03 28 39.8	+0.6
LPAZ	La Paz	150.72	143	PKP	PKPdf	03 28 49.1	+2.7
	comp=Z,1.3nm,0.4s,baz=77,slow=2.0,SNR=5.8						
LPAZ				PKPbc	PKPbc	03 28 54.5	+2.5
	comp=Z,2.5nm,0.4s,baz=63,slow=4.6,SNR=28						
LPAZ	La Paz	150.72	143	*e*PKPdf	PKPdf	03 28 48.7	+2.4
LPAZ				*e*PKPbc	PKPbc	03 28 54.2	+2.3
SIV	San Ignacio	154.55	156	PKP	PKPdf	03 28 53.4	+1.4
	comp=Z,0.8nm,0.8s,baz=214,slow=3.6,SNR=4.6						
SIV				PKPab	PKPab	03 29 17.1	+1.9
	comp=Z,3.0nm,0.6s,baz=200,slow=5.0,SNR=18						

IDC ***12*** *03:18:09.4±5.6, 221N×7774W, h65km±52km, mb3.4/5, mb1 3.6/6, mb1mx3.4/23, mbtmp3.7/6, ML2.2/1, Error ellipse: s-maj=39.7km s-min=21.7km az=46.0*

NEIC ***12*** *03:18:10.8±1.2, 226N×7765W, h79km±13km, mb3.9/3, Error ellipse: s-maj=16.2km s-min=12.8km az=69.0*

ISCJB ***12*** *03:18:12.3±0.6, 231N±007×7758W±008, h107km±10km, mb3.7/7, Error ellipse: s-maj=15.7km s-min=8.0km az=78.0*

IGQ ***12*** *03:18:17.4, 179N×79.17W, h18km±8km, Mb4.3, Ms4.1, Error ellipse: s-maj=9.0km s-min=3.0km az=137.9*

ISC 12 03:18:13.5±0.6, 230N±007×7759W±008, h100km±10km, n24, σ1$30/26, mb3.7/7, 1C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	Cotacachi	2.09	201	P	Pn	03 18 48.7	+1.5
COTA				S	Sn	03 19 10.9	-2.1
OTAV	Otavalo	2.22	203	*e*Pn	Pn	03 18 45.2	-3.7
CAYA	Cayambe	2.25	190	P	Pn	03 18 56.9	+7.6
CAYA				S	Sn	03 19 21.3	+4.6
CAYR	Refugio Cayamb	2.31	190	P	Pn	03 18 55.3	+5.3
CAYR				S	Sn	03 19 21.1	+3.0
PINO	Pino	2.65	203	P	Pn	03 18 53.9	-0.6
GGP	Refugio Guagua	2.66	202	P	Pn	03 18 53.4	-1.2
TERV	Terraza Guagua	2.66	202	P	Pn	03 18 54.1	-0.5
JUA2	San Juan 2	2.70	202	P	Pn	03 18 54.8	-0.4
ANTI	Antisana	2.79	192	P	Pn	03 18 55.8	-0.6
VC1	Cotopaxi 1	3.03	196	⇑P	Pn	03 19 00.6	+1.0
NAS1	Nasa	3.05	197	P	Pn	03 19 00.7	+0.9
TAMB	Tambo	3.08	195	P	Pn	03 19 01.4	+1.2
CAMI	Rancho Maria	3.10	197	P	Pn	03 19 01.2	+0.7
ROSC	El Rosal	4.12	52	P	Pn	03 19 12.6	-1.7
	2.9nm,0.3s,baz=288,slow=16,SNR=7.0						
ROSC				S	Sn	03 20 02.7	+1.2
	4.4nm,0.3s,baz=84,slow=23,SNR=5.4						
SAML	Samuel	18.19	128	*e*P	Pn	03 22 18.3	-1.1
	1.7nm,0.8s						
CMIG	Matias Romero	22.47	312	P	P	03 23 02.1	-2.2
	1.0nm,0.5s,mb3.5,baz=80,slow=12,SNR=4.7						
SIV	San Ignacio	24.43	139	P	P	03 23 22.5	-0.1
	0.5nm,0.4s,mb3.2,baz=330,slow=10,SNR=5.0						
ANMO	Albuquerque	42.14	324	*e*P	P	03 25 57.2	+1.3
	1.6nm,0.7s,mb3.9						
SDCO	Great Sand Dun	43.59	327	*e*P	P	03 26 08.9	+1.4
	1.9nm,0.8s,mb3.9						
PDAR	Pinedale Array	49.37	329	P	P	03 26 52.6	-0.1
	0.2nm,0.4s,mb3.4,baz=134,slow=10,SNR=3.4						
ULM	Lac du Bonnet	50.23	345	P	P	03 26 57.5	-1.8
	3.9nm,0.8s,mb4.4,baz=140,slow=8.2,SNR=4.4						
NVAR	Mina Array Bea	51.72	319	P	P	03 27 11.9	+1.5
	0.5nm,0.6s,mb3.7,baz=132,slow=5.2,SNR=5.4						
NVAR				PcP	PcP	03 28 23.3	+0.9
	0.4nm,0.5s,baz=154,slow=3.4,SNR=4.8						
WRA	Warramunga Arr	144.23	238	PKP	PKPdf	03 37 37.0	-0.6
	0.3nm,0.5s,baz=113,slow=2.5,SNR=5.6						
FITZ	Fitzroy Crossi	152.33	234	PKPbc	PKPbc	03 37 58.2	+0.6
	1.4nm,0.6s,baz=194,slow=4.2,SNR=6.8						

IDC ***12*** *03:18:47.5±1.1, 020S×12531E, h0km, mb4.1/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.1/8, Error ellipse: s-maj=83.5km s-min=19.6km az=65.0*

ISCJB ***12*** *03:18:50.2±0.9, 00S±02×1257E±04, h33km, mb4.0/9, Error ellipse: s-maj=67.0km s-min=15.0km az=131.8*

NEIC ***12*** *03:18:52.3±0.7, 0.16S×125.49E, h35km, mb4.2/1, Error ellipse: s-maj=57.2km s-min=12.5km az=65.0*

ISC 12 03:18:52.5±0.9, 01S±02×1257E±04, h35km, n11, σ0$73/10, mb4.0/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.50	157	P	P	03 23 37.0	-1.2
	1.2nm,0.7s,mb3.5,baz=337,slow=12,SNR=6.8						
ASAR	Alice Springs	24.79	162	P	P	03 24 12.4	+1.4
	0.6nm,0.5s,mb3.4,baz=342,slow=8.6,SNR=4.9						
ASAR				PcP	PcP	03 27 48.4	+1.5
	0.5nm,0.5s,baz=356,slow=2.1,SNR=5.6						
SONM	Songino Array	50.57	343	P	P	03 27 48.0	+0.4
	0.7nm,0.5s,mb3.8,baz=149,slow=8.3,SNR=6.0						
MKAR	Makanchi Array	60.10	327	P	P	03 28 56.2	+0.1
	2.4nm,0.5s,mb4.5,baz=122,slow=8.4,SNR=22						
BVAR	Borovoye Array	69.94	328	P	P	03 30 00.1	0.0
	0.9nm,0.5s,mb3.9,baz=128,slow=11,SNR=5.5						
CHKZ	Chkalovo	70.13	329	*e*P	P	03 30 00.5	-0.8
	2.0nm,0.9s,mb4.0						
AKTK	Aktyubinsk	75.98	322	P	P	03 30 36.2	+0.3
AKTO	Aktyubinsk	75.98	322	P	P	03 30 36.2	+0.3
	3.9nm,0.6s,mb4.5,baz=107,slow=8.6,SNR=17						
KMBO	Kilima Mbogo	88.43	269	P	P	03 31 41.3	+0.3
	1.2nm,0.6s,mb4.3,baz=76,slow=7.5,SNR=3.9						
ASF	Jabal al Asfar	89.00	302	P	P	03 31 42.7	-0.9
	0.6nm,0.4s,mb4.3,baz=348,slow=9.3,SNR=4.2						
TORD	Torodi Ar. Bea	123.01	286	PKP	PKPdf	03 37 45.9	+0.8
	0.5nm,0.6s,baz=67,slow=1.4,SNR=11						

NAO ***12*** *03:20:00.3, 3733N×3126E, h33km, mb3.9*

HLW ***12*** *03:20:02.3, 3826N×2904E, h33km, Mb3.4*

BJI ***12*** *03:20:04.0, 3780N×2920E, h8km, mB5.0, mb4.7, Ms4.4, Msz4.0*

ISCJB ***12*** *03:20:06.3±0.4, 3784N±001×2925E±002, h9km±3km, mb4.1/14, Error ellipse: s-maj=2.5km s-min=2.0km az=50.6*

ISK ***12*** *03:20:06.7, 3783N×2919E, h10km, ML4.2*

NEIC ***12*** *03:20:06.0, 3783N×2919E, h9km, mb4.3/6, ML3.8(ATH), ML4.0(ISK), ML4.3(THE), After ISK.*

CSEM ***12*** *03:20:06.8±0.0, 3784N×2924E, h10km, mb4.3/5, Error ellipse: s-maj=1.3km s-min=0.9km az=45.0*

MOS ***12*** *03:20:06.8±0.6, 3796N×2922E, h9km, mb4.1/9, Error ellipse: s-maj=7.2km s-min=4.4km az=120.8*

THE ***12*** *03:20:07.9, 3793N×2933E, h10km, ML4.0*

IDC ***12*** *03:20:10.4±3.6, 3788N×2921E, h30km±27km, mb3.8/8, mb1 3.9/13, mb1mx3.8/25, mbtmp3.9/13, ML3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=19.6km s-min=15.1km az=2.0*

GII ***12*** *03:20:12.5±1.9, 3710N×2916E, h2km±137km*

ISC 12 03:20:08.2±0.4, 3785N±001×2924E±002, h12km±3km, n217, σ1$19/262, mb4.1/14, 5C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.19	240	*i*PG	Pg	03 20 10.4	-2.0
GOLH	Golhisar	0.66	158	*i*P	Pg	03 20 20.9	-0.2
GOLH				*i*S	Sg	03 20 32.0	+2.2
TKTP	Tekketepe	0.87	77	*i*P	Pg	03 20 24.3	-0.7
TKTP				*i*S	Sg	03 20 40.7	+4.3
ISP	Isparta	1.00	90	PG	Pg	03 20 26.4	-1.1
ISP				SG	Sg	03 20 43.0	+2.5
ISP	Isparta	1.00	90	*e*Pg	Pg	03 20 26.5	-1.0
ISP				*e*Sg	Sg	03 20 40.7	+0.2
AYDN	Tasoluk	1.10	260	*i*P	Pb	03 20 27.3	-1.8
AYDN				*i*S	Sb	03 20 45.2	+1.8
BCK	Bucak	1.14	110	PN	Pn	03 20 29.4	-0.5
DALT	Dalyan (Mudla)	1.19	204	PN	Pn	03 20 28.4	-2.5
ELL	Elmali	1.22	154	PN	Pn	03 20 30.4	-0.7
GDZ	Gediz	1.25	9	*i*P	Pn	03 20 30.0	-1.5
GDZ				*i*S	Sb	03 20 46.0	-1.7
MLSB	Milas	1.29	245	PN	Pn	03 20 30.6	-1.5
ANTB	Antalya	1.47	130	*e*PN	Pn	03 20 34.4	-0.1
BDRM	Kayabasi	1.63	242	*i*P	Pn	03 20 36.5	-0.3
BDRM				*i*S	Sg	03 21 02.4	+1.7
KDAG	Bornova	1.65	290	*i*P	Pn	03 20 35.4	-1.7
KDAG				*i*S	Sn	03 21 00.1	+1.8
IZM	Izmir	1.66	290	PN	Pn	03 20 35.3	-1.8
KSL	Kastellorizon	1.72	171	*e*P	Pn	03 20 39.5	+1.5
BODT	Bodrum	1.73	243	PN	Pn	03 20 37.2	-0.9
DAT	Datca	1.74	230	PN	Pn	03 20 37.8	-0.4
BLCB	Balcova	1.82	288	PN	Pn	03 20 38.2	-1.1
BLCB	Balcova	1.82	288	*e*Pb	Pb	03 20 39.8	-1.6
BLCB				*e*Sb	Sb	03 21 03.1	-1.0
BLCB	Balcova	1.82	288	*e*Pn	Pn	03 20 38.2	-1.1
BLCB				S	Sn	03 21 03.1	+0.9
ARG	Arkhangelos	1.86	209	*e*P	Pn	03 20 41.6	+1.7
ARG	Arkhangelos	1.86	209	P	Pn	03 20 42.1	+2.2
SMG	Samos	1.91	266	*e*P	Pn	03 20 39.1	-1.5
SMG	Samos	1.91	266	P	Pn	03 20 39.2	-1.4
ESKT	Eskisehir	2.09	37	PN	Pn	03 20 43.0	0.0
ESKT	Eskisehir	2.09	37	*i*P	Pn	03 20 43.6	+0.6
ESKT				*i*S	Sg	03 21 13.3	-1.9
SEYT	Eskypehyr	2.09	37	*i*P	Pn	03 20 43.6	+0.6
SEYT				*i*S	Sg	03 21 13.3	-1.9
NISR	Nisiros	2.09	234	*e*P	Pn	03 20 45.5	+2.4
BTOK	Tokmak	2.13	334	*i*P	Pg	03 20 47.8	-1.2
BTOK				*i*S	Sg	03 21 18.2	+1.6
URLA	Izmir	2.15	284	*i*P	Pg	03 20 48.6	-0.8
URLA				*i*S	Sg	03 21 17.1	-0.1
ULDT	Uludag	2.29	358	*i*P	Pn	03 20 46.3	+0.5
ULDT				*i*S	Sg	03 21 20.2	-1.5
KIZT	Kizilcal	2.31	63	PN	Pn	03 20 46.5	+0.4
KDHN	Kadinhani	2.36	73	*i*P	Pn	03 20 46.8	0.0
KDHN				*i*S	Sg	03 21 29.6	+5.6
KONT	Konya--Tatoy	2.47	87	PN	Pn	03 20 48.7	+0.5
IZI	Iznik	2.49	4	PN	Pn	03 20 49.3	+0.8
KCT	Karacabey	2.51	344	PN	Pn	03 20 48.9	+0.1
GPA	Golpazari	2.57	18	PN	Pn	03 20 50.3	+0.6
CHOS	Chios island	2.57	283	*e*Pn	Pn	03 20 49.5	-0.2
CHOS				*e*Sn	Sn	03 21 22.1	+1.2
GEMT	Gemlik	2.58	359	PN	Pn	03 20 49.6	-0.2
ADVT	Abdulvahap	2.61	8	PN	Pn	03 20 50.3	+0.2
EDC	Edincik	2.71	337	*e*PN	Pn	03 20 52.4	+0.8
YLV	Yalova	2.71	2	*e*PN	Pn	03 20 52.1	+0.5
PRK	Paraskevi	2.71	302	*e*P	Pn	03 20 50.8	-0.8
PRK	Paraskevi	2.71	302	P	Pn	03 20 51.3	-0.3
CANB	Canakkale	2.75	322	*e*PN	Pn	03 20 52.6	+0.5
OSMT	Osmaniye	2.77	7	*e*PN	Pn	03 20 53.1	+0.7
KARP	Karpathos	2.84	217	*e*P	Pn	03 20 54.1	+0.7
KARP	Karpathos	2.84	217	P	Pn	03 20 54.6	+1.2
HRT	Hereke	2.98	6	*e*PN	Pn	03 20 55.5	+0.2
EZN	Ezine	3.01	312	*e*PN	Pn	03 20 55.2	-0.5
MRMT	Marmara Adasi	3.03	336	*e*PN	Pn	03 20 56.4	+0.4
APE	Apeiranthos	3.06	256	*e*Pn	Pn	03 20 57.0	+0.7
APE				*e*Sn	Sn	03 21 33.7	+0.8
APE	Apeiranthos	3.06	256	*e*P	Pn	03 20 57.3	+1.0
APE	Apeiranthos	3.06	256	⇑*i*P	Pn	03 20 56.0	-0.3
ERMK	Ermenek	3.17	111	*i*P	Pn	03 21 01.1	+3.3
ERMK				*i*S	Sg	03 21 50.9	+0.9
ISK	Istanbul-Kandi	3.21	358	*e*PN	Pn	03 20 59.2	+0.7
ISK	Istanbul-Kandi	3.21	358	*e*Pn	Pn	03 20 58.8	+0.3
HENT	Hendek	3.23	23	*i*P	Pb	03 21 06.3	+0.8
HENT				*i*S	Sg	03 21 55.3	+3.3
RKY	Sarkoy-Tekirda	3.25	331	*e*PN	Pn	03 20 59.5	+0.4
ELBA	Catalca	3.35	349	*i*P	Pb	03 21 09.1	+1.6
ELBA				*i*S	Sg	03 21 56.3	+0.5
SANT	Santorini	3.37	245	*e*Pn	Pn	03 21 01.3	+0.7
KLYT	Kilyos	3.40	357	*e*PN	Pn	03 21 01.9	+0.8
ANTO	Ankara	3.42	53	⇑*i*P	Pn	03 21 02.7	+1.3
ANTO	Ankara	3.42	53	*e*Pn	Pn	03 21 02.1	+0.7
ANTO				*e*Pg	Pg	03 21 11.8	-2.0
ANTO	Ankara	3.42	53	*e*Pn	Pn	03 21 02.1	+0.7
ANTO	Ankara	3.42	53	*e*Pg	Pg	03 21 11.8	-2.0
ZKR	Zakros	3.66	223	*e*Pn	Pn	03 21 06.0	+1.3
ZKR				*e*Sn	Sn	03 21 49.2	+1.4
ENEZ	Enez	3.75	321	*e*PN	Pn	03 21 05.5	-0.3
AKMC	Akamas	3.76	138	P	Pn	03 21 06.9	+0.9
LIA	Limnos Island	3.77	304	*e*P	Pn	03 21 06.3	+0.1
ALFC	Alevga	3.81	134	P	Pn	03 21 06.0	-0.7
	2.0nm,0.2s						
KAMT	Kaman	3.81	65	*e*PN	Pn	03 21 07.7	+0.9
KDZE	Karadeniz Ereo	3.85	25	*e*PN	Pn	03 21 08.3	+1.0
PPCY	Paphos	3.88	139	P	Pn	03 21 08.2	+0.6
NPS	Neapolis	3.90	230	*e*P	Pn	03 21 08.5	+0.5
NPS	Neapolis	3.90	230	P	Pn	03 21 09.8	+1.8
BR131	Keskin Array S	3.91	60	*e*Pn	Pn	03 21 08.4	+0.4
BR131				*e*Pg	Pg	03 21 20.1	-3.0
BR131	Keskin Array S	3.91	60	*e*Pn	Pn	03 21 08.4	+0.3
BR131	Keskin Array S	3.91	60	*e*Pg	Pg	03 21 20.1	-3.0
BRTR	Keskin Array B	3.91	60	Pn	Pn	03 21 08.2	+0.1
	3.3nm,0.3s,baz=240,slow=16,SNR=93						
BRTR				Pg	Pg	03 21 20.4	-2.6
	4.7nm,0.3s,baz=237,slow=16,SNR=25						
BRTR				Sn	Sn	03 21 54.8	+0.8
	1.3nm,0.3s,baz=230,slow=11,SNR=2.8						
BRTR				Lg		03 22 17.4	
	baz=230,slow=26,SNR=3.2						
BRTR	Keskin Array B	3.91	60	P	Pn	03 21 08.2	+0.1
BRTR						03 21 54.8	
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BRTR				smax			
	comp=N,1.0nm,0.3s						
BRTR	Keskin Array B	3.91	60	Pg	Pg	03 21 20.5	-2.6
BRTR				S	Sn	03 21 54.8	+0.9
	comp=N,1.0nm,0.3s						
ALN	Alexandroupoli	3.92	322	*e*Pn	Pn	03 21 06.9	-1.4
LAST	Lasithi	4.05	230	*e*Pn	Pn	03 21 11.0	+1.0
MEST	Erdemli	4.11	106	*i*P	Pn	03 21 11.9	+1.1
MEST				*i*S	Sn	03 22 01.9	+3.0
XRY	Khrisi	4.13	225	*e*P	Pn	03 21 12.1	+1.0
MAMC	Mammari	4.17	129	P	Pn	03 21 13.1	+1.4
SZAC	Souni-Zanaja	4.26	135	P	Pn	03 21 13.5	+0.6
SAFT	Safranbolu	4.30	37	*e*PN	Pn	03 21 15.0	+1.5
MERS	Mersin	4.32	102	*e*PN	Pn	03 21 14.8	+1.1
IDI	Anoyia	4.34	235	P	Pn	03 21 16.8	+2.8
RDO	Rodhopi	4.36	320	*e*P	Pn	03 21 13.4	-0.9
CANT	Cankiri	4.37	50	*e*PN	Pn	03 21 15.9	+1.5
CSS	Prodhromos	4.38	130	P	Pn	03 21 13.6	-0.9
	comp=N,0.9nm,0.3s						
CSS	Prodhromos	4.38	130	*e*Pn	Pn	03 21 13.9	-0.6
CSS				*e*Sn	Sn	03 22 04.4	-1.1
CDAG	Cicekdag	4.38	65	*i*P	Pn	03 21 15.8	+1.2
CDAG				*i*S	Sn	03 22 12.7	+7.1
AOS	Alonnisos	4.41	289	*e*Pn	Pn	03 21 15.0	+0.1
SIVA	Sivas	4.56	233	*e*Pn	Pn	03 21 18.9	+1.9
SIVA				*e*Sn	Sn	03 22 10.3	+0.4
OUR	Ouranopolis	4.79	303	*e*Pn	Pn	03 21 19.4	-0.7
PHNC	Paralimni	4.79	125	P	Pn	03 21 22.0	+1.8
	comp=N,1.3nm,0.8s						
CORM	Corum	4.79	59	*e*PN	Pn	03 21 22.3	+2.1
KDZ	Kurdzhali	4.80	323	P	Pn	03 21 20.0	-0.4
TOS	Tosya	4.88	48	*e*PN	Pn	03 21 23.4	+2.0
KARN	Karanos	4.93	242	*e*Pn	Pn	03 21 23.9	+1.7
LKR	Lokris	4.98	281	P	Pn	03 21 24.0	+1.2
GVD	Gavdhos	5.13	236	*e*Pn	Pn	03 21 26.5	+1.6
PLG	Polygyros	5.16	301	*e*Pn	Pn	03 21 26.1	+0.7
NVR	Nevrokopi	5.43	312	P	Pn	03 21 29.2	+0.3
SOH	Sokhos	5.44	305	*e*Pn	Pn	03 21 28.7	-0.4
SRS	Serrai	5.45	308	*e*Pn	Pn	03 21 28.3	-0.9
PLD	Plovdiv	5.50	322	*e*Pn	Pn	03 21 29.3	-0.6
PLD				*e*Sn	Sn	03 22 31.2	-1.8
HORT	Hortiatis	5.50	302	*e*Pn	Pn	03 21 29.6	-0.4
AGG	Agios Georgios	5.55	284	*e*Pn	Pn	03 21 30.4	-0.2
BYBT	Boyabat	5.58	48	*e*PN	Pn	03 21 33.6	+2.5
THE	Thessaloniki	5.61	302	*e*Pn	Pn	03 21 31.0	-0.5
MMB	Musomiste	5.66	313	*e*Pn	Pn	03 21 31.0	-1.1
MMB				*e*Sn	Sn	03 22 35.5	-1.4
LIT	Litokhoron	5.72	295	*e*Pn	Pn	03 21 33.4	+0.4
KNT	Kendrikon	5.92	306	*e*Pn	Pn	03 21 35.5	-0.1
SZH	Strazhica	5.97	336	P	Pn	03 21 40.6	+4.3
PVL	Pavlikeni	6.13	332	P	Pn	03 21 38.0	-0.6
GRG	Griva	6.14	302	*e*Pn	Pn	03 21 39.3	+0.6
KZN	Kozani	6.31	295	P	Pn	03 21 42.8	+1.8
VTS	Vitosha	6.61	318	*e*Pn	Pn	03 21 45.0	-0.2
VTS				*e*Sn	Sn	03 22 58.3	-2.2
VTS	Vitosha	6.61	318	⇑*i*P	Pn	03 21 43.4	-1.8
FNA	Florina	6.76	298	*e*Pn	Pn	03 21 47.8	+0.5
LKD	Levkas	6.81	280	*e*Pn	Pn	03 21 48.9	+0.9
MMA1	Mount Meron ar	6.97	132	Pn	Pn	03 21 50.1	0.0
MMA1				Sn	Sn	03 23 07.8	-1.5
KSDI	Kefar Szold	7.00	130	Pn	Pn	03 21 51.4	+0.9
KSDI				Sn	Sn	03 23 08.0	-2.0
OFRI	'Ofer	7.02	136	Pn	Pn	03 21 50.1	-0.7
KSHT	Keshet	7.23	130	Pn	Pn	03 21 54.7	+1.0
MALT	Malatya	7.26	84	⇓*i*P	Pn	03 21 56.6	+2.5
MALT	Malatya	7.26	84	*e*Pn	Pn	03 21 53.3	-0.8
SLTI	Sal'it	7.34	138	Pn	Pn	03 21 54.8	-0.4
MMLI	Mount Malkishu	7.40	135	Pn	Pn	03 21 56.2	+0.2
MMLI				Sn	Sn	03 23 16.9	-3.0
SEV	Sevastopol'	7.47	25	*e*P	Pn	03 21 52.1	-4.9
SEV				*e*S	Sn	03 23 13.9	-7.8
SEV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SEV				smax			
	comp=N,2.0nm,1.0s						
SEV				smax			
	comp=E,7.0nm,1.0s						
AMAZ	Amatzia	7.84	142	Pn	Pn	03 22 01.9	-0.2
AMAZ				Sn	Sn	03 23 26.1	-4.8
AMAG	Maghara	7.90	154	P	Pn	03 22 01.7	-1.2
SIM	Simferopol'	7.98	26	*e*S	Sn	03 23 29.7	-4.4
SIM				smax			
	comp=E,60nm,0.7s						
MLR	Muntele Rosu	8.02	343	Pn	Pn	03 22 05.5	+0.9
	comp=E,0.7nm,0.3s,baz=122,slow=5.2,SNR=8.4						
MLR	Muntele Rosu	8.02	343	⇓*i*P	Pn	03 22 05.2	+0.7
MLR	Muntele Rosu	8.02	343	P	Pn	03 22 05.5	+1.0
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	Muntele Rosu	8.02	343	⇓P	Pn	03 22 05.2	+0.7
DRGI	Dragot	8.04	139	Pn	Pn	03 22 04.7	-0.1
DRGI	Dragot	8.04	139	Pn	Pn	03 22 04.6	-0.1
DSI	Dead Sea	8.05	139	Pn	Pn	03 22 05.1	+0.2
KZIT	Kziot	8.13	147	Pn	Pn	03 22 04.9	-1.1
KZIT				Sn	Sn	03 23 32.7	-5.2
RTMI	Retamim	8.14	145	Pn	Pn	03 22 05.0	-1.1
VOIR		8.20	339	⇓*i*P	Pn	03 22 07.6	+0.6
VOIR		8.20	339	⇓P	Pn	03 22 07.6	+0.6
PLOR	Plostina	8.22	347	⇓*i*P	Pn	03 22 08.3	+1.0
VRI	Vrincioaia	8.22	348	⇑*i*P	Pn	03 22 07.7	+0.4
VRI	Vrincioaia	8.22	348	⇑P	Pn	03 22 07.7	+0.3

WMQ	**Urumqi**	**43.83**	**63**	*eP*	**P**	**03 28 16.0**	**+1.9**
SONM	**Songino Array**	**55.24**	**53**	P	**P**	**03 29 41.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=295,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**55.24**	**53**	P	**P**	**03 29 41.0**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LZH	**Lanzhou**	**58.09**	**67**	*eP*	**P**	**03 30 03.0**	**+1.6**
LZH				AP	pP	03 30 06.5	+1.4
LZH				XP	sP	03 30 09.0	+2.5
LZH				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
LZH	**Lanzhou**	**58.09**	**67**	*eP*	**P**	**03 30 03.0**	**+1.6**
	comp=Z,12nm,1.0s,mb4.9						
LZH				pP	pP	03 30 06.5	+1.4
LZH				sP	sP	03 30 09.0	+2.5
KMI	**Kunming**	**62.49**	**78**	P	**P**	**03 30 30.4**	**-1.1**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.9						
KMI	**Kunming**	**62.49**	**78**	P	**P**	**03 30 30.4**	**-1.1**
	comp=Z,7.0nm,0.7s,mb4.9						
NJ2	**Nanjing**	**70.90**	**64**	*eP*	**P**	**03 31 25.3**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
MDJ	**Mudanjiang**	**70.97**	**48**	P	**P**	**03 31 23.2**	**-2.4**
MDJ				PP	PP	03 34 04.6	+1.8
MDJ				S	S	03 40 42.9	+1.7
MDJ				SCS	ScS	03 41 29.6	+0.1
MDJ				SS	SS	03 45 14.0	0.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,91nm,5.0s						
MDJ				LR	LR		
	comp=N,33nm,25.6s						
MDJ				LR	LR		
	comp=E,29nm,25.6s						
MDJ				LR	LR		
	comp=Z,62nm,33.8s						

NIED **12** *03:23:00,41.00N×142.00E,h62km,Mw4.0 Best double couple: M0 1.13000×10^15 NP1:φs29.00000°,δ70.00000°, λ89.00000°. NP2:φs212.00000°,δ20.00000°,λ93.00000°.*
MOS **12** *03:23:04.4±1.3,40.71N×141.72E,h33km,mb4.2/11,Error ellipse: s-maj=20.6km s-min=12.5km az=88.5*
ISCJB **12** *03:23:08.9±0.4,40.97N±0.003×141.94E±0.006,h68km±3km, mb4.0/15,Error ellipse: s-maj=8.3km s-min=4.3km az=48.2*
JMA **12** *03:23:09.1±0.1,40.97N×142.01E,h56km±2km,M3.8*
JMA Felt II J1.
IDC **12** *03:23:10.8±2.0,40.93N×142.08E,h77km±17km,mb3.7/11, mb1 3.8/13,mb1mx3.6/24,mbtmp4.0/13,MS3.8/1, Ms1 3.8/1,ms1mx2.7/35,Error ellipse: s-maj=25.6km s-min=13.1km az=95.0*
NEIC **12** *03:23:10.9±0.9,40.96N×142.13E,h79km±9km,mb4.1/2, Error ellipse: s-maj=16.3km s-min=10.5km az=112.0*
NEIC Recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures.

ISC 12 03:23:09.9±0.4,4097N±0.003×14193E±0.006,h61km±3km, n55,σ0§87/64,mb4.1/15,5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.68**	**208**	‖P	**Pn**	**03 23 23.2**	**-0.7**
JANG				S	**Sn**	**03 23 33.1**	**-1.1**
JTM	**Tenmabayashi**	**0.68**	**254**	‖P	**Pn**	**03 23 23.7**	**-0.3**
JTM				S	**Sn**	**03 23 34.0**	**-0.3**
JOT	**Ohata**	**0.78**	**302**	P	**Pn**	**03 23 24.6**	**-0.6**
JKB	**Kayabe**	**1.14**	**324**	‖P	**Pn**	**03 23 29.2**	**-0.5**
JKB				*e*S	**Sn**	**03 23 43.9**	**-0.6**
JAH	**Hinai**	**1.26**	**232**	‖P	**Pn**	**03 23 31.5**	**+0.1**
JAH				*e*S	**Sn**	**03 23 48.3**	**+0.8**
ERM	**Erimo**	**1.39**	**41**	*e*P	**Pn**	**03 23 33.2**	**+0.1**
JEM	**Erimo**	**1.39**	**41**	P	**Pn**	**03 23 32.8**	**-0.3**
JEM				*e*S	**Sn**	**03 23 50.9**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.44**	**25**	P	**Pn**	**03 23 33.7**	**-0.1**
JIW	**Iwasaki**	**1.51**	**256**	P	**Pn**	**03 23 34.8**	**+0.1**
JOM	**Ohasama**	**1.58**	**198**	P	**Pn**	**03 23 35.4**	**-0.2**
JOM				*e*S	**Sn**	**03 23 54.4**	**-0.6**
JNB	**Noboribetsu**	**1.64**	**336**	P	**Pn**	**03 23 35.7**	**-0.7**
JNB				*e*S	**Sn**	**03 23 56.1**	**-0.4**
JYM2	**Yakumo 2**	**1.64**	**315**	‖P	**Pn**	**03 23 36.5**	**+0.1**
ASAJ	**Asahikawa**	**3.18**	**9**	P	**Pn**	**03 23 57.8**	**+0.4**
	6.2nm,0.3s,baz=226,slow=11,SNR=43						
ASAJ				S	**Sn**	**03 24 36.3**	**+2.2**
	4.1nm,0.3s,baz=355,slow=26,SNR=8.1						
ASAJ	**Asahikawa**	**3.18**	**9**	P	**Pn**	**03 23 57.8**	**+0.4**
ASAJ				S	**Sn**	**03 24 36.3**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.22**	**42**	P	**Pn**	**03 24 12.5**	**+0.9**
MAT	**Matsushiro**	**5.30**	**215**	P	**Pn**	**03 24 28.8**	**+2.4**
MAT				*e*S	**Sn**	**03 25 27.3**	**+1.2**
MJAR	**Matsushiro Arr**	**5.30**	**215**	P	**Pn**	**03 24 29.3**	**+2.9**
	comp=N,1.0nm,0.3s,baz=24,slow=14,SNR=11						
MJAR	**Matsushiro Arr**	**5.30**	**215**	P	**Pn**	**03 24 29.3**	**+2.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBIJ	**Chichi jima**	**13.85**	**179**	LR	LR	03 31 06.6	
	comp=Z,395nm,19.0s,baz=96,slow=34						
SONM	**Songino Array**	**26.13**	**297**	P	**P**	**03 28 39.4**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.5,baz=85,slow=7.7,SNR=5.8						
SONM	**Songino Array**	**26.13**	**297**	P	**P**	**03 28 39.4**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**42.48**	**299**	P	**P**	**03 30 58.9**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.6,baz=84,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**42.48**	**299**	P	**P**	**03 30 58.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GUN	**Gumba**	**47.28**	**272**	*e*P	**P**	**03 31 37.7**	**+0.6**
	comp=Z,50nm,0.9s						
KKN	**Kakani**	**47.80**	**273**	*e*P	**P**	**03 31 41.6**	**+0.5**
	comp=Z,17nm,0.8s,mb5.1						
PKI	**Pulchoki**	**47.82**	**272**	*e*P	**P**	**03 31 41.5**	**+0.2**
CHKZ	**Chkalovo**	**47.98**	**311**	*e*P	**P**	**03 31 41.5**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**47.98**	**311**	*e*P	**P**	**03 31 41.5**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2						
DMN	**Daman**	**48.03**	**272**	*e*P	**P**	**03 31 43.5**	**+0.6**
GKN	**Gorkha**	**48.18**	**273**	*e*P	**P**	**03 31 44.4**	**+0.4**
BVAR	**Borovoye Array**	**48.29**	**310**	P	**P**	**03 31 44.5**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=78,slow=8.0,SNR=8.4						
BVAR	**Borovoye Array**	**48.29**	**310**	P	**P**	**03 31 44.5**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**49.07**	**296**	*e*P	**P**	**03 31 51.8**	**+0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**49.07**	**296**	*e*P	**P**	**03 31 51.8**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.1						
KOLN	**Koldanda**	**49.08**	**274**	*e*P	**P**	**03 31 51.6**	**+0.6**
AKTO	**Aktyubinsk**	**56.39**	**310**	P	**P**	**03 32 44.9**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=63,slow=12,SNR=4.9						
AKTO	**Aktyubinsk**	**56.39**	**310**	P	**P**	**03 32 44.9**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**61.01**	**188**	P	**P**	**03 33 15.7**	**-1.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=5.6,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**61.01**	**188**	P	**P**	**03 33 15.7**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**62.70**	**331**	*ep*	**P**	**03 33 24.0**	**-4.3**
	comp=Z,5.0nm,0.6s,mb4.8						
JOF	**Joensuu**	**62.70**	**331**	*e*P	**P**	**03 33 24.0**	**-4.3**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**64.74**	**188**	P	**P**	**03 33 39.9**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.7,baz=358,slow=4.6,SNR=5.3						
ASAR	**Alice Springs**	**64.74**	**188**	P	**P**	**03 33 39.9**	**-1.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAF	**Kangasniemi**	**65.01**	**332**	*ep*	**P**	**03 33 37.7**	**-5.8**
	baz=46,slow=6.2						
FINES	**FINESS Array B**	**65.53**	**332**	P	**P**	**03 33 45.8**	**-1.1**
	comp=Z,4.7nm,0.7s,mb4.6,baz=47,slow=8.5,SNR=22						
FINES	**FINESS Array B**	**65.53**	**332**	P	**P**	**03 33 45.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HFS	**Hagfors**	**70.67**	**335**	P	**P**	**03 34 18.2**	**-0.9**
	comp=Z,0.8nm,0.3s,mb4.1,baz=34,slow=6.8,SNR=13						
HFS	**Hagfors**	**70.67**	**335**	P	**P**	**03 34 18.2**	**-0.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**70.72**	**337**	P	**P**	**03 34 18.4**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.72**	**337**	P	**P**	**03 34 18.7**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=37,slow=6.2,SNR=7.5						
NOA	**NORSAR Array B**	**70.72**	**337**	P	**P**	**03 34 18.7**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**03 34 23.2**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=45,slow=6.0,SNR=8.4						
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**03 34 23.2**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**03 34 23.2**	**-0.6**
PDAR	**Pinedale Array**	**74.64**	**46**	P	**P**	**03 34 43.1**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=310,slow=2.6,SNR=4.1						

CASC 12 03:53:02.0±2.3,871N×8439W,h5km±11km,MD4.2,ML3.2, 3C-4D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**1.10**	**20**	‖*e*P	Pg	03 53 22.2	-0.8
LCR2				*e*S	Sg	03 53 39.4	+2.1
LAJ	**Bijagual**	**1.18**	**13**	‖*e*P	Pg	03 53 20.1	-4.5
CAO	**Cobano**	**1.21**	**325**	‖*e*P	Pg	03 53 22.6	-2.7
OCM	**Ochomogo**	**1.25**	**20**	*e*P	Pg	03 53 24.4	-1.6
SJS	**Escuela Geolog**	**1.27**	**15**	*e*P	Pg	03 53 26.8	+0.5
PRS1	**Puriscal**	**1.27**	**4**	‖*e*P	Pg	03 53 23.2	-3.1
EPA	**Esparza**	**1.29**	**351**	*e*P	Pn	03 53 25.6	-1.1
CGA2	**Cerro Gallo 2**	**1.30**	**357**	*e*P	Pn	03 53 26.4	-0.5
JCR	**Jicaral**	**1.34**	**328**	*e*P	Pn	03 53 24.9	-2.5
VTU	**Volcan Turrial**	**1.45**	**25**	‖*e*P	Pn	03 53 28.7	-0.2
POA2	**Poas 2**	**1.47**	**5**	*e*P	Pn	03 53 28.1	-1.0
CTCR	**Cotoan**	**1.62**	**83**	‖*e*P	Pn	03 53 28.3	-3.0
LIO	**Limon**	**1.86**	**46**	*e*P	Pn	03 53 33.6	-0.9
LIM1	**Limonal**	**2.15**	**337**	‖*e*P	Pn	03 53 39.3	+0.7
MADN	**Villa Maderas**	**2.91**	**337**	*e*P	Pn	03 53 48.5	-0.5
CONN	**Concepcion**	**3.09**	**337**	*e*P	Pn	03 53 53.7	+2.2
COPN	**Copaltepe**	**4.07**	**328**	*e*P	Pn	03 54 07.1	+2.1
MIRN	**Miramar**	**4.36**	**329**	*e*P	Pn	03 54 11.1	+2.2
MIRN				*e*S	Sn	03 55 00.7	+0.7
CNGN	**Cerro Negro**	**4.40**	**329**	*e*P	Pn	03 54 11.0	+1.6
LEON	**Leon**	**4.43**	**326**	*e*P	Pn	03 54 12.6	+2.7
LEON				*i*		03 55 03.9	
	comp=Z,53nm,0.6s						

ISCJB **12** *04:04:05.2±0.7,12.74N±0.010×48.76E±0.009,h10km, mb3.9/17,MS3.7/16,Error ellipse: s-maj=14.7km s-min=12.2km az=102.9*
IDC **12** *04:04:05.4±0.8,12.78N×48.76E,h0km,mb3.8/12, mb1 3.9/13,mb1mx3.9/23,mbtmp3.8/13,ML3.9/1,MS3.7/19, Ms1 3.7/19,ms1mx3.6/37,Error ellipse: s-maj=21.2km s-min=20.0km az=59.0*
NEIC **12** *04:04:06.9±0.5,12.76N×48.75E,h10km,mb4.0/5,Error ellipse: s-maj=12.1km s-min=10.2km az=140.0*
CSEM **12** *04:04:11.6±0.2,12.88N×48.64E,h10km,mb4.1/5,Error ellipse: s-maj=8.2km s-min=4.5km az=137.0*

ISC 12 04:04:07.3±0.7,1277N±0.010×4876E±0.009,h10km,n45, σ1§02/31,mb3.9/17,MS3.7/16,1C-2D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.91**	**259**	Pn	**Pn**	**04 05 34.8**	**0.0**
	3.5nm,0.3s,baz=269,slow=19,SNR=7.3						
ATD				LR	LR	04 07 16.2	
	comp=Z,309nm,18.6s,baz=40,slow=32						
WSAR	**Wadi Sarin**	**14.02**	**41**	LR	LR	04 12 42.3	
	comp=Z,242nm,20.2s,baz=242,slow=37						
KMBO	**Kilima Mbogo**	**17.91**	**220**	LR	LR	04 14 51.9	
	comp=Z,255nm,18.1s,baz=255,slow=36						
EIL	**Elat**	**21.14**	**325**	*e*P	**P**	**04 08 56.2**	**+3.9**
	296nm,1.2s						
EIL	**Elat**	**21.14**	**325**	*e*P	**P**	**04 08 56.2**	**+3.8**
	296nm,1.2s						
ASF	**Jabal al Asfar**	**22.17**	**332**	P	**P**	**04 09 04.5**	**+1.1**
	2.8nm,0.4s,mb4.0,baz=34,slow=4.0,SNR=6.4						
ASF				LR	LR	04 17 12.1	
	comp=Z,184nm,19.0s,MS3.5,baz=257,slow=36						
MALT	**Malatya**	**27.05**	**342**	*e*P	**P**	**04 09 52.6**	**+2.8**
	2.1nm,0.9s,mb3.7						
MALT	**Malatya**	**27.05**	**342**	*e*P	**P**	**04 09 52.6**	**+2.8**
	2.1nm,0.9s,mb3.7						
GNI	**Garni**	**27.51**	**353**	LR	LR	04 22 31.6	
	comp=Z,606nm,19.9s,MS4.2,baz=168,slow=40						
GNI	**Garni**	**27.51**	**353**	*e*P	**P**	**04 09 55.8**	**+2.0**
	9.4nm,0.8s,mb4.5						
GNI	**Garni**	**27.51**	**353**	*e*P	**P**	**04 09 55.8**	**+2.0**
	9.4nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**29.99**	**336**	P	**P**	**04 10 15.8**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=149,slow=14,SNR=4.9						
BRTR				LR	LR	04 22 40.0	
	comp=Z,86nm,18.3s,MS3.4,baz=229,slow=37						
BR131	**Keskin Array S**	**29.99**	**336**	*e*P	**P**	**04 10 15.3**	**-0.6**
	0.5nm,0.5s,mb3.5						
BR131	**Keskin Array S**	**29.99**	**336**	*e*P	**P**	**04 10 15.3**	**-0.6**
	0.5nm,0.5s,mb3.5						
AAK	**Ala-Archa**	**37.19**	**32**	*e*P	**P**	**04 11 19.0**	**+0.5**
	4.5nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**37.19**	**32**	*e*P	**P**	**04 11 19.0**	**+0.5**
	4.5nm,1.1s,mb4.2						
MLR	**Muntele Rosu**	**37.94**	**334**	LR	LR	04 28 25.2	
	comp=Z,121nm,19.7s,MS3.7,baz=304,slow=38						
MLR	**Muntele Rosu**	**37.94**	**334**	‖*i*P	**P**	**04 11 33.6**	**+8.7**
VOIR		**38.29**	**333**	‖*i*P	**P**	**04 11 34.4**	**+6.5**
AKTO	**Aktyubinsk**	**38.32**	**10**	LR	LR	04 31 43.1	
	comp=Z,101nm,18.2s,MS3.7,baz=202,slow=43						
MATP	**Matopo**	**38.53**	**211**	P	**P**	**04 11 30.4**	**+0.5**
	1.9nm,0.9s,mb3.8,baz=4.7,slow=9.0,SNR=4.8						
BURAR	**Bucovina Array**	**39.93**	**335**	‖*i*P	**P**	**04 11 41.6**	**0.0**
AKASG	**Malin Array Be**	**41.05**	**341**	P	**P**	**04 11 50.4**	**-0.5**
	1.7nm,0.7s,mb3.8,baz=152,slow=7.4,SNR=9.0						
BVAR	**Borovoye Array**	**43.72**	**19**	LR	LR	04 33 00.3	
	comp=Z,126nm,18.8s,MS3.9,baz=139,slow=40						
MKAR	**Makanchi Array**	**44.09**	**33**	P	**P**	**04 12 14.8**	**-0.8**
	0.6nm,0.7s,mb3.5,baz=216,slow=5.4,SNR=4.7						
MKAR				LR	LR	04 33 59.0	
	comp=Z,34nm,18.5s,MS3.3,baz=357,slow=41						
CHKZ	**Chkalovo**	**44.34**	**18**	*e*P	**P**	**04 12 16.3**	**-1.2**
	1.6nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**44.34**	**18**	*e*P	**P**	**04 12 16.3**	**-1.3**
	1.6nm,0.8s,mb3.8						
VRAC	**Vranov**	**45.05**	**331**	LR	LR	04 32 20.5	
	comp=Z,54nm,18.6s,MS3.5,baz=337,slow=38						
TORD	**Torodi Ar. Bea**	**45.81**	**276**	P	**P**	**04 12 29.3**	**+0.1**
	1.7nm,0.6s,mb4.2,baz=87,slow=7.2,SNR=23						
GERES	**GERESS Array B**	**46.18**	**328**	P	**P**	**04 12 32.0**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=147,slow=7.8,SNR=5.8						
BOSA	**Boshof**	**47.00**	**209**	LR	LR	04 32 32.7	
	comp=Z,72nm,20.5s,MS3.6,baz=8.7,slow=36						
FINES	**FINESS Array B**	**51.31**	**346**	P	**P**	**04 13 10.9**	**-0.7**
	2.0nm,0.8s,mb4.1,baz=91,slow=7.6,SNR=6.0						
FINES				LR	LR	04 36 06.1	
	comp=Z,59nm,21.8s,MS3.6,baz=20,slow=37						
FINES	**FINESS Array B**	**51.31**	**346**	P	**P**	**04 13 10.9**	**-0.7**
MDT	**Midelt**	**52.51**	**302**	LR	LR	04 35 06.7	
	comp=Z,62nm,18.1s,MS3.7,baz=178,slow=35						
ESDC	**Sonseca Array**	**53.44**	**310**	P	**P**	**04 13 25.8**	**-1.6**
	0.4nm,0.7s,mb3.5,baz=116,slow=8.3,SNR=3.2						
HFS	**Hagfors**	**53.86**	**339**	LR	LR	04 39 56.8	
	comp=Z,108nm,19.1s,MS3.9,baz=135,slow=40						
NB2	**NORSAR Subarra**	**55.37**	**339**	P	**P**	**04 13 39.3**	**-2.1**
	comp=Z,3.4nm,1.0s,mb4.3,baz=133,slow=7.4						
NOA	**NORSAR Array B**	**55.37**	**339**	P	**P**	**04 13 40.5**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=107,slow=7.8,SNR=3.3						
NOA				LR	LR	04 40 33.6	
	comp=Z,67nm,18.1s,MS3.8,baz=300,slow=40						
ARCES	**ARCESS Array B**	**58.62**	**351**	LR	LR	04 39 53.9	
	comp=Z,60nm,18.7s,MS3.7,baz=137,slow=37						
SONM	**Songino Array**	**59.07**	**42**	P	**P**	**04 14 07.9**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=240,slow=5.8,SNR=4.0						
SONM				LR	LR	04 39 32.9	
	comp=Z,87nm,21.3s,MS3.9,baz=137,slow=36						
JMIC	**Jan Mayen**	**67.65**	**343**	LR	LR	04 46 57.7	
	comp=Z,129nm,18.3s,MS4.2,baz=82,slow=38						
WRA	**Warramunga Arr**	**90.22**	**110**	P	**P**	**04 17 08.4**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.8,baz=297,slow=3.7,SNR=34						
ASAR	**Alice Springs**	**90.69**	**114**	P	**P**	**04 17 10.2**	**0.0**
	comp=Z,0.3nm,0.3s,mb4.1,baz=285,slow=5.2,SNR=6.3						
NVAR	**Mina Array Bea**	**127.66**	**347**	PKP	PKPdf	04 23 14.3	+1.5
	comp=Z,0.6nm,0.8s,baz=52,slow=0.5,SNR=4.5						
NVAR	**Mina Array Bea**	**127.66**	**347**	PKP	PKPdf	04 23 14.3	+1.5

MOS **12** *04:28:33.9±0.8,5172N×1605E,h10km,mb3.7/1,Error ellipse: s-maj=11.1km s-min=5.1km az=84.0*
IPEC **12** *04:28:34.5±0.3,5168N×1615E,h0km,ML3.0/4,Error ellipse: s-maj=1.9km s-min=1.5km az=45.0*
NEIC **12** *04:28:34.9±0.4,5168N×1601E,h5km,ML3.4(SZGRF), Error ellipse: s-maj=5.5km s-min=4.4km az=70.0*
BGR **12** *04:28:35.5±0.6,5162N×1605E,h1km,ML3.4/14,Error ellipse: s-maj=10.0km s-min=4.4km az=165.0*
ISCJB **12** *04:28:35.6±0.3,5145N±002×1597E±002,h0km,Error ellipse: s-maj=2.6km s-min=1.8km az=21.2*
PRU **12** *04:28:36.9,5155N×1594E,h0km*
WAR **12** *04:28:37.0,5158N×1599E,ML3.0,Mining Induced*
CSEM **12** *04:28:37.8±0.1,5151N×1596E,h1km,ML3.6/11,Error ellipse: s-maj=2.5km s-min=1.4km az=8.0*
IDC **12** *04:28:38.3±2.1,5162N×1564E,h16km±18km,mb1 3.5/9, mb1mx3.3/25,mbtmp3.4/9,ML3.1/9,Error ellipse: s-maj=16.1km s-min=8.9km az=96.0*
VIE **12** *04:28:39.0±0.6,5134N×1594E,h0km,mb2.8/6,ML3.2/6, Error ellipse: s-maj=3.7km s-min=3.3km az=150.0 80 km WNW of Breslau Suspected Mining induced.*

ISC 12 04:28:35.2±0.3,5160N±002×1600E±002,h0km,n84, σ1§09/154,7C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**166**	*e*Pg	**Pg**	**04 28 50.9**	**+0.8**
KSP				*i*		04 28 52.6	
KSP				*e*Sg	**Sg**	**04 29 01.1**	**+0.9**
KSP	**Ksiaz**	**0.78**	**166**	*e*Pg	**Pg**	**04 28 50.9**	**+0.8**
KSP				*i*		04 28 52.6	
KSP				*e*Sg	**Sg**	**04 29 01.0**	**+0.8**
KSP	**Ksiaz**	**0.78**	**166**	*e*Pg	**Pg**	**04 28 50.9**	**+0.8**
KSP				*e*Sg	**Sg**	**04 29 00.9**	**+0.7**
UPC	**Upice**	**1.09**	**180**	*e*PG	**Pg**	**04 28 56.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.27**	**171**	*e*PG	**Pg**	**04 28 59.6**	**+0.1**
DPC				*e*SG	**Sg**	**04 29 16.0**	**+0.1**
	139nm,0.5s						
DPC	**Dobruska-Polom**	**1.27**	**171**	*e*P	**Pg**	**04 28 59.6**	**+0.1**
DPC				*e*		04 29 16.0	
DPC				smax			
	comp=N,139nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**221**	*e*PG	**Pg**	**04 29 02.2**	**+0.2**
PVCC				*e*SG	**Sg**	**04 29 21.0**	**+0.8**
BRG	**Berggiesshubel**	**1.48**	**241**	*e*Pg	**Pg**	**04 29 03.4**	**-0.2**
BRG				*e*Sg	**Sg**	**04 29 24.3**	**+1.5**
BRG	**Berggiesshubel**	**1.48**	**241**	PN	**Pn**	**04 29 02.8**	**-0.2**
BRG				PG	**Pg**	**04 29 03.9**	**+0.3**
BRG				SG	**Sg**	**04 29 23.7**	**+0.9**
	comp=N,156nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**241**	P	**Pn**	**04 29 02.8**	**-0.3**
BRG						04 29 23.7	
BRG				smax			
	comp=N,156nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**241**	Pg	**Pg**	**04 29 03.9**	**+0.3**
BRG				Sg	**Sg**	**04 29 24.3**	**+1.5**
RUE	**Ruedersdorf**	**1.63**	**304**	*e*Pn	**Pn**	**04 29 02.3**	**-2.8**
RUE				*e*Sn	**Sn**	**04 29 21.7**	**-5.1**
RUE	**Ruedersdorf**	**1.63**	**304**	*e*Pn	**Pn**	**04 29 02.3**	**-2.8**
RUE				*e*Sn	**Sn**	**04 29 21.7**	**-5.1**
FBE	**Freiberg**	**1.80**	**249**	*e*Pn	**Pn**	**04 29 08.7**	**+1.3**
FBE				*e*Sg	**Sg**	**04 29 33.6**	**+0.7**
PRA	**Prague**	**1.82**	**214**	PG	**Pg**	**04 29 08.0**	**-2.1**
GKP	**Gorka Klasztor**	**1.84**	**24**	*e*Pn	**Pn**	**04 29 15.4**	**+7.5**
GKP				*e*Pg	**Pg**	**04 29 17.2**	**+6.8**
GKP				*e*Sn	**Sn**	**04 29 38.0**	**+6.1**
GKP				*e*Sg	**Sg**	**04 29 41.5**	**+7.3**
GKP	**Gorka Klasztor**	**1.84**	**24**	*e*P	**Pn**	**04 29 15.4**	**+7.5**
GKP				*e*		04 29 17.2	
PRU	**Pruhonice**	**1.86**	**210**	*e*PN	**Pn**	**04 29 08.2**	**-0.1**
PRU				*e*PG	**Pg**	**04 29 10.2**	**-0.6**
PRU				*e*SG	**Sg**	**04 29 34.3**	**-0.6**
	comp=N,70nm,0.5s						
PRU	**Pruhonice**	**1.86**	**210**	*e*P	**Pn**	**04 29 08.2**	**-0.1**
PRU				*e*		04 29 34.3	
PRU		

JAVC				*e*Sg		Sg	04 30 09.9 +0.1
	comp=Z,103nm,1.6s						
MANZ	Manzenberg	2.95	238	*e*Pn		Pn	04 29 24.0 +0.7
ROTZ	Rotzenmuhle	3.03	234	*e*Pn		Pn	04 29 25.0 +0.6
GEC2	GERESS Array S	3.13	209	*e*Pn		Pn	04 29 27.0 +1.3
GEC2	GERESS Array S	3.13	209	*e*Pn		Pn	04 29 27.0 +1.3
GERES	GERESS Array B	3.13	209	Pn		Pn	04 29 26.0 +0.3
	comp=Z,2.4nm,0.3s,baz=31,slow=12,SNR=60						
GERES				Pg		Pg	04 29 33.3 -1.8
	comp=Z,7.8nm,0.3s,baz=28,slow=17,SNR=47						
GERES				Lg			04 30 13.7
	comp=Z,8.5nm,0.3s,baz=36,slow=18,SNR=6.8						
GERES	GERESS Array B	3.13	209	P		Pn	04 29 26.0 +0.3
GERES							04 30 13.7
GERES				pmax		pmax	
	comp=Z,2.0nm,0.3s						
GERES				pmax		pmax	
	comp=Z,8.0nm,0.3s						
GERES	GERESS Array B	3.13	209	Pg		Pg	04 29 33.3 -1.8
WET	Wettzell	3.17	220	*e*Pn		Pn	04 29 27.1 +0.8
WET	Wettzell	3.17	220	*e*Pn		Pn	04 29 27.1 +0.9
SMOL	Smolenice	3.22	163	*e*PG		Pg	04 29 36.9 0.0
SMOL				*e*SG		Sg	04 30 21.3 +2.6
ZST	Bratislava	3.48	168	*e*PG		Pg	04 29 40.5 -1.4
ZST				*e*SG		Sg	04 30 26.7 -0.3
NIE	Niedzica	3.51	127	*e*P		Pg	04 29 41.8 -0.7
NIE				*e*S		Sg	04 30 27.6 -0.5
BSD	Bornholm Skovb	3.58	350	*i* P		Pn	04 29 31.2 -0.7
BSD				*e*S		Sn	04 30 10.1 -4.8
BSD				*i* S		Sn	04 30 13.2 -1.7
GRA1	Grafenberg Arr	3.59	240	*e*Pn		Pn	04 29 32.8 +0.7
GRA1				*e*Sg		Sg	04 30 30.8 +0.3
GRA1	Grafenberg Arr	3.59	240	Pn		Pn	04 29 32.8 +0.7
GRA1				Sg		Sg	04 30 30.8 +0.3
GRF	Grafenberg Arr	3.59	240	*e*Pn		Pn	04 29 32.8 +0.8
GRF				*e*Sg		Sg	04 30 30.8 +0.2
VYHS	Vyhne	3.61	148	*e*PG		Pg	04 29 45.4 +1.1
VYHS				*e*SG		Sg	04 30 32.0 +1.0
CONA	Conrad Observa	3.68	181	⇓*i*Pn		Pn	04 29 33.8 +0.6
CONA				⇑*i*Sg		Sg	04 30 31.9 -1.4
	comp=Z,38nm,0.5s						
MOA	Molln	3.92	197	*i* Pn		Pn	04 29 37.2 +0.6
	SNR=8.9						
MOA				⇑*i*Sg		Sg	04 30 40.8 -0.2
	comp=Z,39nm,0.6s						
STHS	Stebnicka Huta	4.00	121	*e*PN		Pn	04 29 38.4 +0.8
STHS				*e*PG		Pg	04 29 51.2 -0.6
STHS				*e*SG		Sg	04 30 46.9 +3.3
STHS	Stebnicka Huta	4.00	121	*e*Pn		Pn	04 29 38.5 +0.9
STHS				*e*Pg		Pg	04 29 51.2 -0.6
STHS				*e*Sg		Sg	04 30 46.9 +3.3
KECS	Kecovo	4.25	135	*e*PN		Pn	04 29 41.6 +0.4
KECS				*e*PG		Pg	04 29 56.3 -0.4
KECS				*e*SG		Sg	04 30 54.3 +2.5
ARSA	Arzberg	4.36	184	⇑*i*Pn		Pn	04 29 43.1 +0.4
ARSA				⇑*i*Sg		Sg	04 30 54.4 -1.0
	comp=Z,26nm,0.8s						
CRVS	Cervenica-Dubn	4.42	125	*e*PN		Pn	04 29 46.8 +3.3
CRVS				*e*PG		Pg	04 29 59.4 -0.5
KWP	Kalwaria	4.70	112	*e*Pn		Pb	04 30 02.3 +3.8
KWP				*e*Sg		Sg	04 31 16.4 +10
KOLS	Kolonicke sedl	4.83	121	*e*PN		Pn	04 29 49.4 +0.3
KOLS				*e*PG		Pg	04 30 12.0 +4.3
KOLS				*e*SG		Sg	04 31 14.9 +4.6
KBA	Koelnbreinsper	4.85	202	⇑*i*Pn		Pn	04 29 50.5 +1.2
	SNR=14						
KBA				⇑*i*Sg		Sg	04 31 10.2 -0.7
	comp=Z,16nm,0.7s						
DAVOX	Davos/Dischmat	6.27	222	Pn		Pn	04 30 10.6 +1.7
	baz=303,slow=22,SNR=5.4						
DAVOX				Lg			04 31 53.4
	baz=198,slow=20,SNR=2.8						
AKASG	Malin Array Be	8.37	91	Pn		Pn	04 30 38.5 +0.8
	comp=Z,1.0nm,0.3s,baz=278,slow=12,SNR=4.8						
AKASG	Malin Array Be	8.37	91	P		Pn	04 30 38.5 +0.8
AKASG				pmax		pmax	
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	8.65	352	Pn		Pn	04 30 40.2 -1.4
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=7.9						
NOA	NORSAR Array B	9.83	346	Pn		Pn	04 30 55.2 -2.5
	comp=Z,0.1nm,0.3s,baz=158,slow=14,SNR=2.6						
FINES	FINESS Array B	11.31	25	Pn		Pn	04 31 16.0 -2.0
	comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=6.6						
FINES				Sn		Sn	04 33 15.0 -10
	comp=Z,0.2nm,0.3s,baz=177,slow=29,SNR=3.6						
EKA	Eskdalemuir Ar	12.01	296	Pn		Pn	04 31 23.4 -4.0
	comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=3.7						
JOF	Joensuu	14.00	30	*e*p		Pn	04 31 48.7 -6.0
ARCES	ARCESS Array B	18.55	11	Pn		Pn	04 32 48.9 -4.6
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=5.1						

ISCJB ***12*** *04:35:28.1±1.1,307N±0.1×139.1E±04,h447km±17km, mb3.2/7, Error ellipse: s-maj=57.7km s-min=19.4km az=152.8*
JMA ***12*** *04:35:28.6±0.6,3073N×139.12E,h454km,M3.5*
IDC ***12*** *04:35:29.0±2.4,3057N×13879E,h431km±30km,mb2.9/6, mb1 3.0/7,mb1mx2.9/20,mbtmp3.6/7, Error ellipse: s-maj=57.8km s-min=14.7km az=74.0*
NEIC ***12*** *04:35:29.1±1.1,3059N×13875E,h431km±18km,mb3.5/2, Error ellipse: s-maj=49.6km s-min=14.3km az=74.0*

ISC 12 04:35:29.7±1.0,308N±02×1392E±04,h451km±17km,n15, σ0°79/16,mb3.2/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	Odawara 2	4.48	359	P	P	04 36 49.2	+0.1
JNY	Yasuok	4.71	347	P	P	04 36 52.1	+0.9
JYN	Shimob	4.74	354	P	P	04 36 52.2	+0.7
JHU	Hanno	5.07	1	P	P	04 36 54.5	-0.1
JRY	Ryogami san	5.23	357	P	P	04 36 56.8	+0.5
JAG	Ashikaga	5.64	2	P	P	04 36 59.9	-0.4
JAG				*e*S	S	04 38 11.6	-2.7
MJAR	Matsushiro Arr	5.81	352	P	P	04 37 02.1	+0.1
	1.0nm,0.3s,baz=165,slow=11,SNR=7.1						
MAJO	Matsushiro	5.81	352	*e*Pn	P	04 37 02.1	+0.1
	5.4nm,0.6s						
SONM	Songino Array	30.26	314	P	P	04 41 02.0	-0.2
	0.2nm,0.4s,mb2.9,baz=108,slow=9.4,SNR=3.5						
MKAR	Makanchi Array	46.14	307	P	P	04 43 11.6	-0.5
	0.3nm,0.5s,mb3.0,baz=99,slow=6.6,SNR=3.4						
WRA	Warramunga Arr	50.64	186	P	P	04 43 44.6	-1.2
	0.4nm,0.3s,mb3.2,baz=0.9,slow=7.9,SNR=24						
CHKZ	Chkalovo	53.39	316	P	P	04 44 05.2	-0.6
	0.8nm,0.6s,mb3.2						
ASAR	Alice Springs	54.37	186	P	P	04 44 13.0	+0.3
	0.2nm,0.4s,mb2.8,baz=27,slow=12,SNR=4.8						
ARCES	ARCESS Array B	69.21	340	P	P	04 45 51.3	+1.3
	5.3nm,1.1s,mb4.0,baz=64,slow=8.5,SNR=5.6						
FINES	FINESS Array B	73.49	333	P	P	04 46 15.7	+0.4
	0.5nm,0.6s,mb3.2,baz=57,slow=7.0,SNR=3.8						

BJI ***12*** *04:51:08.4,840N×10320W,h10km,mB5.5,Ms4.9,Msz4.7*
ISCJB ***12*** *04:51:09.1±0.5,842N±007×10323W±009,h10km, mb4.3/28,MS4.2/14,Error ellipse: s-maj=13.1km s-min=8.5km az=129.7*
IDC ***12*** *04:51:10.8±1.6,855N×10301W,h0km,mb3.7/6,mb1 4.0/7, mb1mx3.9/20,mbtmp3.7/7,ML3.6/1,MS4.2/15,Ms1 4.2/15, ms1mx4.1/28,Error ellipse: s-maj=62.8km s-min=18.8km az=63.0*
NEIC ***12*** *04:51:10.4±0.7,839N×10321W,h10km,mb4.5/25,Error ellipse: s-maj=19.0km s-min=7.6km az=50.0*
GCMT ***12*** *04:51:10.4±0.4,846N×10332W,h12km,MW5.0/68, Moment Tensor Solution. s28,c31; s68,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.73±.12; Mθθ1.48±.10; Mφφ-0.75±.14; Mrθ-1.51±.31; Mθφ-3.34±.09; Mφr-0.26±.35; Best double couple: M0 3.86500×10^16 NP1:φs350.00000°,δ65.00000°,λ-7.00000°. NP2: φs83.00000°,δ84.00000°,λ-155.00000°. Principal axes: T 4.1310, Plg13.0000°, Azm214.0000°; N -0.5360, Plg64.0000°, Azm96.0000°; P -3.5980, Plg22.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 04:51:10.9±0.5,840N±006×10325W±008,h10km,n62, σ1§10/45,mb4.3/28,MS4.2/14,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.87	43	Pn	Pn	04 53 58.3	-1.9
	0.4nm,0.3s,baz=257,slow=8.5,SNR=6.6						
CMIG				LR	LR	04 57 33.8	
	comp=Z,3μm,21.4s,baz=210,slow=33						
LPIG	La Paz	17.01	337	LR	LR	05 00 04.5	
	comp=Z,1μm,19.6s,baz=162,slow=31						
JCT	Junction City	22.20	8	*e*P	P	04 56 09.2	+1.9
	4.7nm,0.3s,mb4.4						
HKT	Hockley	22.53	17	*e*P	P	04 56 08.9	-1.9
	33nm,1.6s,mb4.5						
MNTX	Cornudas Mount	23.26	355	*e*P	P	04 56 18.0	-0.6
	12nm,1.4s,mb4.1						
TUC	Tucson	24.80	345	*e*P	P	04 56 32.8	-0.2
	15nm,1.4s,mb4.3						
OTAV	Otavalo	26.00	107	*e*P	P	04 56 46.1	+2.2
	25nm,1.4s,mb4.5						
LAZ	Ladron	26.12	353	*e*P	P	04 56 45.9	+0.9
ANMO	Albuquerque	26.59	354	P	P	04 56 51.7	+2.5
	0.6nm,0.6s,mb3.3,baz=181,slow=9.5,SNR=3.8						
ANMO	Albuquerque	26.59	354	*e*P	P	04 56 49.8	+0.6
	5.1nm,1.5s,mb3.8						
GLA	Glamis	26.77	338	*e*P	P	04 56 51.2	+0.4
MIAR	Mount Ida	27.50	17	*e*P	P	04 56 57.6	+0.2
	37nm,1.8s,mb4.6						
WUAZ	Wupatki	27.99	346	*e*P	P	04 57 01.6	-0.2
	7.0nm,1.0s,mb4.2						
ROSC	El Rosal	28.93	95	LR	LR	05 06 03.4	
	comp=Z,353nm,20.4s,MS4.0,baz=336,slow=31						
MVCO	Mesa Verde	29.07	351	*e*P	P	04 57 09.7	-1.7
ATAH	Atahualpa	29.12	121	LR	LR	05 04 33.6	
	comp=Z,119nm,20.5s,MS3.5,baz=312,slow=28						
SDV	Santo Domingo	32.24	87	*e*P	P	04 57 39.9	+0.5
	12nm,1.1s,mb4.7						
DAU	Daniels Canyon	32.67	349	*e*P	P	04 57 43.2	+0.1
DUG	Dugway	32.79	346	*e*P	P	04 57 44.8	+0.6
	24nm,1.8s,mb4.8						
NVAR	Mina Array Bea	32.83	338	P	P	04 57 45.9	+1.3
	0.3nm,0.6s,mb3.4,baz=153,slow=8.1,SNR=5.0						
HWUT	Hardware Ranch	33.88	349	*e*P	P	04 57 56.2	+2.5
	4.8nm,0.9s,mb4.4						
BW06	Boulder Array	34.67	352	*e*P	P	04 58 00.4	-0.2
	11nm,1.3s,mb4.6						
PDAR	Pinedale Array	34.67	352	P	P	04 58 00.6	-0.1
	1.9nm,0.7s,mb4.1,baz=162,slow=7.8,SNR=18						
PDAR				LR	LR	05 12 06.5	
	comp=Z,136nm,20.2s,MS3.7,baz=5.1,slow=36						
PDAR	Pinedale Array	34.67	352	P	P	04 58 00.6	-0.1
PDAR				LR	LR	05 12 06.5	
SNOW	Snow King Moun	35.54	351	*e*P	P	04 58 08.5	+0.5
	12nm,1.2s,mb4.7						
RSSD	Black Hills	35.59	359	*e*P	P	04 58 07.8	-0.7
	1.6nm,0.6s,mb4.1						
TPAW	Teton Pass	35.59	350	*e*P	P	04 58 08.6	+0.1
	28nm,1.8s,mb4.9						
LOHW	Long Hollow	35.66	351	*e*P	P	04 58 09.3	+0.2
	5.4nm,1.0s,mb4.4						
MOOW	Moose Ponds	35.81	351	*e*P	P	04 58 11.4	+1.0
	2.1nm,0.9s,mb4.1						
FLWY	Flagg Ranch	36.13	351	*e*P	P	04 58 13.3	+0.1
	24nm,1.4s,mb4.9						
HLID	Hailey	36.36	346	*e*P	P	04 58 15.2	+0.1
	7.2nm,1.5s,mb4.4						
WVOR	Wild Horse Val	36.51	341	*e*P	P	04 58 16.3	0.0
	19nm,1.7s,mb4.7						
MCMT	McKenzie Canyo	37.23	349	*e*P	P	04 58 22.8	+0.2
GCMT	Greycliff	37.66	353	*e*P	P	04 58 26.0	-0.2
CHMT	Chamberlain Mo	39.32	349	*e*P	P	04 58 39.1	-1.0
AGMN	Agassie Refuge	40.25	8	*e*P	P	04 58 46.9	-1.0
TAOE	Nuku Hiva Isla	40.56	246	*e*LQ		05 08 05.9	
	2μm,25.2s						
TAOE				*e*LR	LR	05 09 35.2	
	1μm,25.2s,baz=65						
NEW	Newport	41.42	346	*e*P	P	04 58 57.2	-0.4
	6.3nm,1.0s,mb4.2						
ULM	Lac du Bonnet	42.16	7	LR	LR	05 16 20.5	
	comp=Z,222nm,21.0s,MS4.0,baz=292,slow=36						
LPAZ	La Paz	42.54	125	P	P	04 59 08.1	+1.4
	1.7nm,0.8s,mb3.8,baz=285,slow=4.6,SNR=7.1						
LPAZ				LR	LR	05 14 47.4	
	comp=Z,191nm,21.4s,MS4.0,baz=146,slow=33						
LPAZ	La Paz	42.54	125	*e*P	P	04 59 07.5	+0.8
	8.1nm,1.3s,mb4.3						
SAML	Samuel	43.47	112	*e*P	P	04 59 13.1	-1.1
	3.3nm,0.9s,mb4.1						
RKT	Rikitea	44.10	224	*e*S	S	05 05 51.1	-0.8
	90nm,25.8s						
RKT				*e*LR	LR	05 11 29.6	
	964nm,27.5s,baz=35						
EDM	Edmonton	45.44	351	*e*P	P	04 59 28.5	-1.4
CFAA	Coronel Fontan	51.99	142	P	P	05 00 23.3	+3.0
	0.2nm,0.7s,mb3.1,baz=312,slow=8.2,SNR=4.2						
PPT	Papeete	52.54	240	*e*S	S	05 07 46.7	-4.5
	102nm,26.5s						
PPT				*e*LQ		05 13 10.5	
	431nm,26.5s						
PPT				*e*LR	LR	05 15 11.8	
	639nm,25.0s,baz=53						
SCHQ	Schefferville	54.61	25	LR	LR	05 25 52.5	
	comp=Z,335nm,18.1s,MS4.5,baz=266,slow=38						
YKA	Yellowknife Ar	54.62	354	LR	LR	05 24 30.3	
	comp=Z,301nm,19.7s,MS4.4,baz=175,slow=37						
TBI	Tubuai	55.11	234	*e*S	S	05 08 24.9	-1.0
	168nm,27.5s						
TBI				*e*LR	LR	05 16 36.9	
	604nm,27.2s,baz=63						
CPUP	Villa Florida	56.38	129	P	P	05 00 52.4	+0.1
	1.2nm,0.7s,mb4.0,baz=293,slow=7.7,SNR=5.3						
CPUP	Villa Florida	56.38	129	*e*P	P	05 00 50.2	-2.1
	21nm,1.3s,mb5.0						
PLCA	Paso Flores	57.43	151	LR	LR	05 19 36.3	
	comp=Z,323nm,21.8s,MS4.4,baz=314,slow=30						
PLCA	Paso Flores	57.43	151	*e*P	P	05 00 56.3	-3.4
	5.8nm,1.1s,mb4.5						
BDFB	Brasilia	59.69	114	LR	LR	05 26 14.4	
	comp=Z,308nm,18.2s,MS4.5,baz=150,slow=35						
ESDC	Sonseca Array	91.77	50	LR	LR	05 42 52.3	
	comp=Z,112nm,18.7s,MS4.3,baz=35,slow=34						
NOA	NORSAR Array B	94.16	26	LR	LR	05 45 54.3	
	comp=Z,125nm,18.4s,MS4.4,baz=300,slow=35						
ARCES	ARCESS Array B	94.70	16	LR	LR	05 47 35.8	
	comp=Z,148nm,19.7s,MS4.5,baz=242,slow=36						
FINES	FINESS Array B	100.02	22	LR	LR	05 47 21.2	
	comp=Z,160nm,21.8s,MS4.5,baz=308,slow=34						
HHC	Hu-ho-hao-te	121.44	329	*e*PKP	PKPdf	05 10 02.8	-1.7
WMQ	Urumqi	127.08	350	*e*PKP	PKPdf	05 10 13.0	-2.3
LZH	Lanzhou	128.93	332	*e*PKP	PKPdf	05 10 17.5	-1.3
LZH				LR	LR		
	comp=N,123nm,19.1s						
LZH				LR	LR		
	comp=Z,245nm,20.3s,MS4.9						
CD2	Chengdu	133.12	328	*e*PKP	PKPdf	05 10 22.9	-3.9

IDC 12 04:52:48.6±3.5,235S×15230E,h0km,mb3.9/3,mb1 4.1/3, mb1mx3.7/14,mbtmp3.9/3,Error ellipse: s-maj=130.0km s-min=47.5km az=116.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.77	224	P	P	04 58 12.9	+0.9
	1.0nm,0.3s,baz=48,slow=9.5,SNR=37						
ASAR	Alice Springs	27.68	219	P	P	04 58 38.1	-0.1
	0.6nm,0.5s,baz=48,slow=8.1,SNR=8.7						
FITZ	Fitzroy Crossi	30.48	237	P	P	04 59 03.4	+0.3
	1.0nm,0.5s,baz=50,slow=12,SNR=7.5						
TORD	Torodi Ar. Bea	149.00	292	PKPbc	PKPbc	05 12 39.1	+0.6
	0.2nm,0.3s,baz=88,slow=2.7,SNR=8.2						

IDC ***12*** *05:25:60.0±1.0,2343S×17589W,h0km,mb4.2/8, mb1 4.4/8,mb1mx4.3/15,mbtmp4.2/8,Error ellipse: s-maj=30.8km s-min=25.0km az=166.0*
NEIC ***12*** *05:26:01.7±0.4,2343S×17589W,h10km,mb4.8/13,Error ellipse: s-maj=14.6km s-min=11.1km az=166.0*
BJI ***12*** *05:26:02.4,2312S×17568W,h12km,mB5.4,mb5.0,Ms5.1, Msz4.8*
ISCJB ***12*** *05:26:04.3±0.6,2357S±007×1760W±0.1,h33km,mb4.6/18, MS4.7/1,Error ellipse: s-maj=14.3km s-min=9.9km az=25.1*

ISC 12 05:26:06.1±0.6,2355S±007×1759W±01,h35km, (h36km±3km):pP-P),n48,σ0§94/35,mb4.6/18,MS4.7/1,2C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.96	197	Sn	Sn	05 28 39.1	+0.3
	43nm,0.3s,baz=64,slow=23,SNR=3.7						
AFI	Afiamalu	10.35	23	Pn	Pn	05 28 23.2	-8.7
	2.6nm,0.3s,baz=202,slow=19,SNR=3.2						
AFI				Sn	Sn	05 30 10.3	-16
	3.9nm,0.3s,baz=30,slow=22,SNR=3.7						
RAR	Rarotonga	15.10	84	Pn	Pn	05 29 25.5	-11
	5.2nm,0.3s,baz=234,slow=7.1,SNR=20						
RAR				Sn	Sn	05 31 56.9	-26
	1.8nm,0.3s,baz=254,slow=21,SNR=5.0						
DZM	Mont Dzumac	16.35	272	Pn	Pn	05 29 57.1	+4.3
	0.2nm,0.3s,baz=112,slow=19,SNR=2.5						
TBI	Tubuai	24.25	95	*e*LR	LR	05 37 04.8	
	703nm,29.0s,baz=263						
PPT	Papeete	25.33	81	*e*LQ		05 36 16.7	
	568nm,20.8s						
PPT				*e*LR	LR	05 37 29.6	
	883nm,30.0s,baz=254						
CTA	Charters Tower	35.24	268	*e*P	P	05 32 57.7	+0.6
	11nm,1.3s,mb4.6						
CTA	Charters Tower	35.24	268	P	P	05 32 57.2	+0.1
	3.4nm,0.4s,mb4.6,baz=99,slow=9.1,SNR=5.6						
CTAO	Charters Tower	35.24	268	*e*P	P	05 32 57.9	+0.8
	35nm,1.3s,mb5.1						
TAOE	Nuku Hiva Isla	37.18	73	*e*LR	LR	05 42 56.5	
	621nm,28.3s						
RKT	Rikitea	37.49	98	*e*LR	LR	05 43 10.7	
	388nm,29.8s,baz=249						
PMG	Port Moresby	37.98	285	*e*P	P	05 33 20.3	-0.1
	36nm,1.0s,mb5.0						
STKA	Stephens Creek	38.34	248	P	P	05 33 23.6	+0.1
	0.9nm,0.3s,mb4.0,baz=65,slow=5.3,SNR=3.5						
STKA	Stephens Creek	38.34	248	*e*P	P	05 33 23.4	-0.1
AS31	Alice Springs	45.80	259	*e*P	P	05 34 24.6	+0.3
ASAR	Alice Springs	45.80	259	P	P	05 34 23.7	-0.6
	5.2nm,0.9s,mb4.5,baz=91,slow=8.5,SNR=26						
WB2	Warramunga Arr	46.17	264	*e*P	P	05 34 26.0	-1.2
WRA	Warramunga Arr	46.18	264	P	P	05 34 25.7	-1.6
	1.3nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=26						
KAKA	Kakadu	50.03	273	*e*P	P	05 34 56.1	-1.0
	26nm,1.4s,mb5.1						
FITZ	Fitzroy Crossi	54.60	264	P	P	05 35 31.6	+0.6
	1.5nm,0.7s,mb4.1,baz=117,slow=9.8,SNR=2.3						
VNDA	Vanda	55.07	186	P	P	05 35 34.9	+0.5
	2.0nm,1.0s,mb4.1,baz=6.8,slow=7.2,SNR=6.7						
VNDA	Vanda	55.07	186	*e*P	P	05 35 35.6	+1.2
	3.7nm,1.1s,mb4.3						
CASY	Casey	62.07	206	*e*P	P	05 36 22.6	-0.6
	8.2nm,0.9s,mb4.9						
QSPA	South Pole Qui	66.54	180	*e*P	P	05 36 52.7	+0.3
	24nm,1.4s,mb5.0						
MAW	Mawson	79.36	199	*e*P	P	05 38 08.3	0.0
	3.1nm,0.8s,mb4.3						
MAW	Mawson	79.36	199	P	P	05 38 08.3	0.0
	3.8nm,0.8s,mb4.4,baz=121,slow=7.3,SNR=12						
NVAR	Mina Array Bea	81.93	42	P	P	05 38 21.8	-0.3
	1.8nm,1.1s,mb3.9,baz=227,slow=8.8,SNR=6.5						
MDJ	Mudanjiang	84.12	324	P	P	05 38 34.8	+1.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,39nm,4.3s						
SYO	Syowa Base	84.19	192⇑	*e*P	P	05 38 33.0	-0.7
SYO	Syowa Base	84.19	192⇑	*e*pP	pP	05 38 44.0	-0.7
SNAA	Sanae	84.92	178	*e*	P	05 38 38.4	+1.0
SNAA				*e*		05 38 42.7	
SNAA				*e*	pP	05 38 49.2	+0.8
SNAA	Sanae	84.92	178	*e*P	P	05 38 36.0	-1.4
	comp=Z,6.2nm,1.3s,mb4.6						
VNA1	Neumayer--Stat	85.66	176	*e*	P	05 38 49.5	+8.4
VNA1				*e*		05 38 53.9	
VNA1				*e*	pP	05 39 00.1	+7.9
MNTX	Cornudas Mount	86.95	54	*e*P	P	05 38 46.8	-0.7
	comp=Z,6.0nm,1.2s,mb4.7						
ANMO	Albuquerque	87.81	50	*e*P	P	05 38 51.6	0.0
	comp=Z,3.0nm,1.1s,mb4.4						
KMI	Kunming	92.45	296	P	P	05 39 15.1	+1.8
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.8						
KMI	Kunming	92.45	296	P	P	05 39 15.1	+1.8
	comp=Z,5.0nm,1.0s,mb4.8						
LZH	Lanzhou	96.15	307	*e*P	P	05 39 34.5	+4.3
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
LZH	Lanzhou	96.15	307	*e*P	P	05 39 34.5	+4.3
	comp=Z,13nm,1.0s,mb5.3						
LZH				pP	pP	05 39 45.5	+4.1
LZH				sP	sP	05 39 52.0	+6.6
WMQ	Urumqi	110.38	310	*e*PKP	PKiKP	05 44 34.0	-0.4
WMQ				PP	PP	05 45 14.0	+4.3
WMQ				PP	PP		
	comp=Z,112nm,5.6s						
WMQ				LR	LR		
	comp=N,147nm,21.4s,MS4.8						
WMQ				LR	LR		
	comp=E,245nm,23.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,188nm,25.8s,MS4.5						
AKASG	Malin Array Be	146.61	331	PKPbc	PKPbc	05 45 42.1	-1.7
	comp=Z,5.5nm,0.7s,baz=42,slow=3.9,SNR=17						
AKBB	Malin Array Si	146.61	331	*e*PKPbc	PKPbc	05 45 42.4	-1.5
MALT	Malatya	147.29	305	*e*PKPbc	PKPbc	05 45 46.2	+0.4
BR131	Keskin Array S	150.30	310	*e*PKPbc	PKPbc	05 45 52.9	-0.5
BRTR	Keskin Array B	150.30	310	PKPbc	PKPbc	05 45 53.1	-0.3
	comp=Z

6.0nm,0.4s,mb4.8,baz=68,slow=10,SNR=14
CTAO Charters Tower 35.35 268 *eP* **P 05 37 27.2 -0.5**
9.4nm,0.4s,mb5.1
PMG Port Moresby 38.13 286 P **P 05 37 49.8 -1.5**
31nm,0.8s,mb5.1,baz=112,slow=5.6,SNR=5.5
PMG LR LR 05 50 48.6
comp=Z,304nm,21.8s,MS4.1,baz=161,slow=32
PMG Port Moresby 38.13 286 *eP* **P 05 37 50.6 -0.7**
38nm,0.9s,mb5.1
STKA Stephens Creek 38.38 248 *eP* **P 05 37 53.0 -0.5**
3.6nm,0.6s,mb4.3
STKA Stephens Creek 38.38 248 P **P 05 37 53.3 -0.3**
4.5nm,0.6s,mb4.3,baz=94,slow=7.9,SNR=7.7
AS31 Alice Springs 45.88 259 *eP* **P 05 38 54.1 -0.5**
ASAR Alice Springs 45.88 259 P **P 05 38 54.1 -0.5**
11nm,0.9s,mb4.8,baz=91,slow=8.5,SNR=48
ASAR LR LR 05 58 26.3
comp=Z,704nm,18.9s,MS4.6,baz=59,slow=36
ASPA Alice Springs 45.88 259 *eP* **P 05 38 54.1 -0.5**
FITZ Fitzroy Crossi 54.70 264 P **P 05 40 02.8 +1.5**
7.5nm,0.7s,mb4.8,baz=148,slow=9.5,SNR=3.3
VNDA Vanda 54.93 186 P **P 05 40 04.1 +1.1**
1.8nm,1.0s,mb4.1,baz=7.3,slow=7.2,SNR=7.1
VNDA Vanda 54.93 186 *eP* **P 05 40 04.5 +1.5**
11nm,1.5s,mb4.7
CASY Casey 61.98 206 *eP* **P 05 40 51.9 -0.3**
QSPA South Pole Qui 66.38 180 *eP* **P 05 41 22.0 +1.0**
13nm,1.0s,mb4.9
PMSA Palmer Station 77.54 156 LR LR 06 10 11.1
comp=Z,136nm,18.2s,MS4.3,baz=135,slow=31
MAW Mawson 79.25 199 P **P 05 42 38.4 +1.1**
11nm,1.0s,mb4.7,baz=101,slow=8.7,SNR=12
YSS Yuzh-Sakhalins 79.67 333 *eP* **P 05 42 39.5 -0.1**
26nm,0.8s,mb5.2
YBH Yreka Blue Hor 81.54 37 LR LR 06 13 01.8
comp=Z,217nm,18.1s,MS4.5,baz=228,slow=31
NVAR Mina Array Bea 81.97 42 P **P 05 42 51.1 -0.8**
1.7nm,1.0s,mb3.9,baz=227,slow=9.2,SNR=8.9
MDJ Mudanjiang 84.31 324 P **P 05 43 04.5 +0.5**
MDJ AMB AMB
comp=Z,13nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,97nm,4.2s
MDJ Mudanjiang 84.31 324 *eP* **P 05 43 04.1 +0.1**
comp=Z,9.1nm,0.8s,mb5.0
CCUT Cedar City 84.56 45 *eP* **P 05 43 05.8 +0.5**
SNAA Sanae 84.76 178 *ePdiff* **P 05 43 06.0 -0.2**
SNAA *e* pP 05 43 14.1 -3.2
SNAA *e* pP 05 43 18.2 +0.9
SNAA *e* 05 43 25.5
SNAA *e* 05 43 28.8
SNAA Sanae 84.76 178 *eP* **P 05 43 05.5 -0.7**
comp=Z,7.0nm,1.2s,mb4.7
VNA1 Neumayer--Stat 85.49 176 *ePdiff* **P 05 43 13.9 +4.0**
VNA1 *e* pP 05 43 23.1 +2.1
VNA1 *e* pP 05 43 26.8 +5.8
VNA1 *e* 05 43 34.1
VNA1 *e* 05 43 38.5
PSI Prapat 86.81 274 P **P 05 43 17.4 +1.0**
comp=Z,5.9nm,1.0s,mb4.8,baz=173,slow=6.6,SNR=4.1
MNTX Cornudas Mount 86.95 54 *eP* **P 05 43 16.8 -0.4**
comp=Z,6.1nm,1.1s,mb4.7
PMR Palmer 87.67 12 *eP* **P 05 43 14.8 -5.7**
comp=Z,8.5nm,0.6s,mb5.2
ANMO Albuquerque 87.82 50 *eP* **P 05 43 21.0 -0.3**
comp=Z,3.9nm,1.2s,mb4.5
PDAR Pinedale Array 89.90 42 P **P 05 43 31.6 +0.5**
comp=Z,0.4nm,0.8s,mb3.8,baz=232,slow=4.4,SNR=3.2
SDCO Great Sand Dun 89.91 48 *eP* **P 05 43 30.1 -1.1**
comp=Z,7.6nm,1.7s,mb4.8
COLA College 90.90 12 *eP* **P 05 43 33.9 -1.9**
comp=Z,4.5nm,0.8s,mb4.8
KMI Kunming 92.62 296 P **P 05 43 44.4 +0.7**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
KMI Kunming 92.62 296 P **P 05 43 44.4 +0.7**
comp=Z,10.0nm,1.1s,mb5.2
CHTO Chiang Mai 93.25 289 *eP* **P 05 43 47.6 +1.0**
comp=Z,9.4nm,1.0s,mb5.2
LZH Lanzhou 96.33 307 *eP* **P 05 44 01.5 +0.8**
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH Lanzhou 96.33 307 *eP* **P 05 44 01.5 +0.8**
LZH pP pP 05 44 18.5 +6.6
LZH sP sP 05 44 25.0 +9.1
WMQ Urumqi 110.56 310 *e*PKP PKiKP 05 49 04.0 -0.5
WMQ PP PP 05 49 44.0 +3.3
WMQ PPP 05 52 04.0
WMQ PKS 05 52 39.0
WMQ PP PP
comp=Z,125nm,4.9s
WMQ LR LR
comp=N,174nm,23.4s,MS4.8
WMQ LR LR
comp=E,244nm,25.2s,MS4.8
WMQ LR LR
comp=Z,228nm,20.5s,MS4.7
MKAR Makanchi Array 114.88 312 PKP PKiKP 05 49 10.3 -2.4
comp=Z,1.0nm,0.8s,baz=52,slow=2.0,SNR=7.1
MKAR Makanchi Array 114.88 312 PKP PKiKP 05 49 10.3 -2.4
CHKZ Chkalovo 122.66 320 *e*PKPdf PKPdf 05 49 25.7 -1.9
BRVK Borovoye 122.90 319 *e*PKPdf PKPdf 05 49 26.2 -1.9
LBTB Lobatse 127.33 205 *e*PKPdf PKPdf 05 49 33.6 -2.9
FINES FINESS Array B 139.41 344 PKP PKPdf 05 49 57.6 -1.7
comp=Z,1.3nm,0.8s,baz=11,slow=1.0,SNR=4.2
KELT Kelkit 146.31 308 *i* P PKPdf 05 50 13.0 +1.6
AKASG Malin Array Be 146.80 331 PKPbc PKPbc 05 50 12.2 -1.8
comp=Z,11nm,0.8s,baz=41,slow=3.9,SNR=29
ELZG Elazig 147.00 305 *i* P PKPdf 05 50 15.6 +3.1
MALT Malatya 147.47 305 ⇑*i*P PKPdf 05 50 16.2 +2.8
MALT Malatya 147.47 305 *e*PKPbc PKPbc 05 50 15.8 -0.1
GZT Gaziantep 148.40 303 *i* P PKPbc 05 50 18.5 +0.1
BOYT Boyabat 148.91 312 *i* P PKPbc 05 50 19.8 0.0
CTKT Corum 149.32 311 *i* P PKPbc 05 50 20.4 -0.3
BSEG Bad Segeberg 149.46 353 *ep*PKPbc pPKPbc 05 50 31.8 -0.7
ELDT Eldivan 150.32 311 *i* P PKPbc 05 50 22.6 -0.6
BR131 Keskin Array S 150.49 310 *e*PKPbc PKPbc 05 50 22.8 -0.8
BR131 *e*PKPab PKPab 05 50 30.6 +0.3
BRTR Keskin Array B 150.49 310 PKPbc PKPbc 05 50 22.8 -0.8
comp=Z,6.1nm,0.8s,baz=118,slow=3.1,SNR=21
BURAR Bucovina Array 150.85 330 ⇓*i*P PKPbc 05 50 25.2 +0.8
OJC Ojcow 150.88 339 *e*P PKPbc 05 50 24.0 -0.5
NRDL Niedersach Rie 150.90 353 *e*PKPbc PKPbc 05 50 23.5 -1.1
NRDL *ep*PKPbc pPKPbc 05 50 35.5 -0.5
ANTO Ankara 151.02 311 ⇓*i*P PKPbc 05 50 24.9 +0.1
STHS Stebnicka Huta 151.06 337 *e*PKP PKPbc 05 50 24.9 0.0
STHS *e* 05 50 36.2
KOLS Kolonicke sedl 151.07 335 *e*PKP PKPbc 05 50 24.4 -0.6
KOLS *e* 05 50 32.1
SGKT Sivrigoynuk 151.22 312 *i* P PKPbc 05 50 24.6 -0.7
MEST Erdemli 151.24 303 *i* P PKPbc 05 50 24.4 -1.0
VRI Vrinciaia 151.36 326 ⇑*i*P PKPbc 05 50 25.3 -0.3
CRVS Cervenica-Dubn 151.41 336 *e*PKP PKPbc 05 50 25.4 -0.3
CRVS *e* 05 50 33.8
CLZ Clausthal 151.51 352 *e*PKPbc PKPbc 05 50 25.1 -0.9
CLZ *ep*PKPbc pPKPbc 05 50 36.9 -0.5
CLL Collm 151.62 348 *e*PKPbc PKPbc 05 50 25.2 -1.0
CLL *ep*PKPbc pPKPbc 05 50 37.2 -0.5
CLL Collm 151.62 348 ⇑*i*P PKPbc 05 50 25.4 -0.8
CLL *i* 05 50 37.4
CLL Collm 151.62 348 ⇑*i*PKPbc PKPbc 05 50 25.4 -0.8
comp=Z,17nm,0.8s
CLL *e*PKPab PKPab 05 50 32.0 -2.9
CLL Collm 151.62 348 ⇓*i*(PKPbc) pPKPbc 05 50 37.5 -0.1
comp=Z,23nm,0.9s
BRG Berggiesshubel 151.85 347 *e*PKPbc PKPbc 05 50 25.8 -1.0
BRG *ep*PKPbc pPKPbc 05 50 38.0 -0.2
BRG Berggiesshubel 151.85 347 *i* PKP PKPbc 05 50 25.8 -1.0
comp=Z,8.0nm,0.8s
BRG *i* 05 50 38.0
comp=Z,9.0nm,0.8s
GTTG Gvttingen 151.85 352 *ep*PKPbc pPKPbc 05 50 37.8 -0.4
FBE Freiberg 151.92 348 *e*PKPbc PKPbc 05 50 26.6 -0.3
FBE *ep*PKPbc pPKPbc 05 50 38.3 0.0
EIL Elat 151.96 289 *e*PKPbc PKPbc 05 50 27.2 +0.2
EIL *e*PKPab PKPab 05 50 35.2 -1.1
MORC Moravsky Berou 151.96 341 ⇑*i*P PKPbc 05 50 26.5 -0.5
MORC Moravsky Berou 151.96 341 *e*PKPbc PKPbc 05 50 25.8 -1.2
MORC *e*PKPab PKPab 05 50 33.3 -3.0
MLR Muntele Rosu 152.02 326 ⇓*i*P PKPdf 05 50 25.2 +4.6
KECS Kecovo 152.12 337 *e*PKP PKPab 05 50 36.4 -0.6
MOX Moxa 152.50 350 *e*PKPbc PKPbc 05 50 27.3 -0.9
VOIR 152.51 327 ⇑*i*P PKPab 05 50 38.4 -0.2
PRU Pruhonice 152.55 345 *e*PKPab PKPab 05 50 34.4 -4.4
PRU pPKP pPKPdf 05 50 38.9 +6.1
PRU Pruhonice 152.55 345 *eP* PKPab 05 50 34.4 -4.4
PRU *e* 05 50 38.9
WERD Werda 152.57 349 *e*PKPbc PKPbc 05 50 27.8 -0.6
TANN Tannenbergstha 152.57 349 *e*PKPbc PKPbc 05 50 28.0 -0.4
TANN *ep*PKPbc pPKPbc 05 50 39.6 -0.2
GUNZ Gunzen 152.65 349 *e*PKPbc PKPbc 05 50 28.1 -0.4
VYHS Vyhne 152.68 339 *e*PKP PKPdf 05 50 27.6 +6.0
VYHS *e* 05 50 39.4
MANZ Manzenberg 153.05 349 *ep*PKPbc pPKPbc 05 50 40.4 -0.5
GRA1 Grafenberg Arr 153.49 350 *ep*PKPbc pPKPbc 05 50 41.1 -0.7
GRF Grafenberg Arr 153.49 350 *ep*PKPbc pPKPbc 05 50 41.1 -0.7
KHC Kasperske Hory 153.57 346 *e*PKPbc PKPbc 05 50 30.0 -0.6
KHC *e*PKPab PKPab 05 50 42.0 -1.1
KHC *ex* x 05 50 54.0
GZR Gura Zlata 153.63 330 ⇑*i*P PKPbc 05 50 30.0 -0.7
GERES GERESS Array B 153.81 346 PKPbc PKPbc 05 50 29.4 -1.7
comp=Z,1.1nm,0.8s,baz=111,slow=3.0,SNR=4.5
KEST Kesra 167.22 341 PKPab PKPab 05 51 41.7 -0.8
comp=Z,1.2nm,0.9s,baz=335,slow=5.2,SNR=3.9
TORD Torodi Ar. Bea 169.23 167 PKP PKPdf 05 50 37.9 -1.3
comp=Z,1.2nm,1.0s,baz=350,slow=1.8,SNR=3.7

SZGRF ***12*** *05:30:30.2, 392N×9549E, h33km, mb5.6, Off west coast of northern Sumatera, Indonesia*
BJI ***12*** *05:30:33.3, 472N×9497E, h40km, mB5.0, mb5.2, Ms4.7, Msz4.5*
MOS ***12*** *05:30:34.7±0.9, 507N×9504E, h33km, mb5.7/108, MS4.8/26, Error ellipse: s-maj=8.1km s-min=3.5km az=126.2*
ISCJB ***12*** *05:30:35.1±0.1, 495N±003×9506E±002, h40km, mb5.4/231, MS4.8/108, Error ellipse: s-maj=4.1km s-min=3.1km az=47.0*
NEIC ***12*** *05:30:35.4±0.1, 494N×9501E, h30km, mb5.5/150, MS4.9/78, Error ellipse: s-maj=4.3km s-min=2.6km az=210.0*
NEIC Felt [III] at Banda Aceh.
GCMT ***12*** *05:30:35.4±0.4, 480N×9509E, h41km, MW5.0/43, Moment Tensor Solution. s38,c51; s43,c54; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.27±.22; Mθθ-1.90±.14; Mφφ-1.37±.16; Mrθ-0.18±.13; Mφφ2.72±.11; Mφr-0.14±.16; Best double couple: M0 3.83100×10¹⁶ NP1:φs138.00000°, δ45.00000°, λ98.00000°. NP2: φs306.00000°, δ46.00000°, λ82.00000°. Principal axes: T 3.2930, Plg84.0000°, Azm135.0000°; N 1.0750, Plg6.0000°, Azm312.0000°; P -4.3680, Plg0.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***12*** *05:30:38.3±1.5, 500N×9509E, h54km±13km, mb4.9/30, mb1 4.9/31, mb1mx4.9/32, mbtmp5.1/31, MS4.2/13, Ms1 4.2/13, ms1mx3.9/32 Error ellipse: s-maj=12.1km s-min=7.9km az=51.0*
ISC 12 05:30:37.3±0.1, 495N±003×9504E±002, h42km, h42km±2.0km; pP-P, n1010, σ0.91/702, mb5.4/231, MS4.8/108, 218C-65D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
PSI	**Prapat**	**4.42**	**119**	P	**Pn**	**05 31 44.0**		**+2.1**
	38nm,0.3s,baz=308,slow=12,SNR=212							
PSI				S	**Sn**	**05 32 35.8**		**+3.8**
	57nm,0.3s,baz=112,slow=11,SNR=6.3							
PSI				LR	LR	05 33 46.8		
	comp=Z,4μm,19.4s,baz=286,slow=42							
PSI	**Prapat**	**4.42**	**119**	P	**Pn**	**05 31 44.0**		**+2.2**
PSI				S	**Sn**	**05 32 35.8**		**+3.8**
PSI	**Prapat**	**4.42**	**119**	P	**Pn**	**05 31 44.0**		**+2.1**
PSI				S	**Sn**	**05 32 35.8**		**+3.8**
PSI				LR	LR	05 33 46.8		
KULM	**Kulim**	**5.60**	**86**	*e*Pn	**Pn**	**05 31 59.0**		**+1.0**
KULM				*e*Sn	**Sn**	**05 32 54.9**		**-6.1**
SNG	**Songkhla**	**5.97**	**68**	P	**Pn**	**05 32 05.0**		**+1.9**
	126nm,1.0s							
IPM	**Ipoh**	**5.98**	**94**	P	**Pn**	**05 32 04.7**		**+1.5**
PBA	**Port Blair**	**7.04**	**341**	*e*P	Px	05 32 07.8		
PBA				*e*S	Sx	05 33 17.5		
KGM	**Kluang**	**8.76**	**109**	P	**Pn**	**05 32 42.3**		**+0.9**
NNT	**Nongplab**	**8.89**	**31**	P	**Pn**	**05 32 47.5**		**+4.3**
CHAT	**Chantaburi**	**10.30**	**43**	P	**Pn**	**05 33 03.0**		**+0.6**
	625nm,0.5s							
NST	**Nakhon Sawan**	**11.77**	**25**	⇑P	**Pn**	**05 33 25.2**		**+2.7**
CHG	**Chiang Mai**	**14.29**	**15**	⇑P	**Pn**	**05 34 01.4**		**+4.4**
	85nm,0.7s							
CHTO	**Chiang Mai**	**14.29**	**15**	*eP*	**Pn**	**05 34 00.0**		**+3.0**
CHTO				pmax	pmax			
	comp=Z,53nm,0.7s							
CHTO	**Chiang Mai**	**14.29**	**15**	*e*Pn	**Pn**	**05 33 60.0**		**+3.0**
	comp=Z,53nm,0.7s							
PALK	**Pallekele**	**14.44**	**280**	Pn	**Pn**	**05 34 00.8**		**+1.8**
	comp=Z,190nm,1.0s,SNR=6.9							
PALK	**Pallekele**	**14.44**	**280**	*e*Pn	**Pn**	**05 34 00.4**		**+1.4**
KSM	**Kuching**	**15.63**	**102**	*e*Pn	**Pn**	**05 34 16.7**		**+2.2**
MDRS	**Chennai**	**16.68**	**300**	*eP*	**Pn**	**05 34 28.1**		**+0.2**
MDRS				AMb	AMB	05 34 33.7		
	comp=Z,101nm,0.3s							
VIS	**Vishakhapatnam**	**17.10**	**319**	*eP*	**Pn**	**05 34 33.3**		**+0.1**
VIS				AMb	AMB	05 34 50.4		
	comp=Z,103nm,1.4s							
VIS				*ex*	x	05 37 32.8		
TRD	**Trivandrum**	**18.30**	**282**	*eP*	**Pn**	**05 34 51.1**		**+3.2**
TRD				⇓*ex*	x	05 38 22.1		
IMP	**Imphal**	**19.75**	**357**	*ex*	x	05 35 07.0		
QIZ	**Qiongzhong**	**20.11**	**45**	P	**P**	**05 35 10.7**		**+3.3**
QIZ				AP		05 35 19.4		
QIZ				XP	sP	05 35 23.7		+0.8
QIZ				PP		05 35 28.7		
QIZ				S	**S**	**05 38 52.0**		**+1.0**
QIZ				XS	sS	05 39 04.3		-3.1
QIZ				SS		05 39 21.1		
QIZ				LR	LR			
	comp=N,596nm,15.6s,MS4.3							
QIZ				LR	LR			
	comp=E,1μm,17.7s,MS4.3							
QIZ				LR	LR			
	comp=Z,1μm,19.1s,MS4.3							
QIZ	**Qiongzhong**	**20.11**	**45**	*eP*	**P**	**05 35 10.2**		**+2.7**
	comp=Z,42nm,0.9s							
QIZ				LR	LR			
	comp=Z,1μm,20.0s,MS4.3							
BOK	**Bokaro**	**20.71**	**336**	*eP*	**P**	**05 35 15.3**		**+1.3**
BOK				AMb	AMB	05 35 20.1		
	comp=Z,152nm,0.9s							
BOK				*e*S	**S**	**05 39 05.7**		**+2.8**
SHL	**Shillong**	**20.72**	**352**	*eP*	**P**	**05 35 13.2**		**-0.9**
SHL				AMb	AMB	05 35 15.7		
	comp=Z,632nm,0.9s							
SHL				*ex*	x	05 38 56.5		
KKM	**Kota Kinabalu**	**21.10**	**86**	*eP*	**P**	**05 35 18.6**		**+0.4**
KMI	**Kunming**	**21.38**	**19**	P	**P**	**05 35 23.4**		**+2.3**
KMI				AP		05 35 31.4		
KMI				XP	sP	05 35 35.6		-1.1
KMI				PP		05 35 50.3		
KMI				PPP		05 36 00.5		
KMI				AMB	AMB			
	comp=Z,36nm,1.0s,mb4.7							
KMI				AMB	AMB			
	comp=Z,68nm,3.4s							
KMI				LR	LR			
	comp=N,956nm,15.9s,MS4.4							
KMI				LR	LR			
	comp=E,735nm,17.2s,MS4.4							
KMI				LR	LR			
	comp=Z,1μm,15.5s,MS4.3							
KMI	**Kunming**	**21.38**	**19**	P	**P**	**05 35 23.4**		**+2.3**
KMI				*SP	sP	05 35 35.6		-1.1
KMI						05 35 50.3		
KMI				S	**S**	**05 39 20.6**		**+4.6**
KMI				SS		05 40 00.8		
KMI				pmax	pmax			
	comp=Z,36nm,1.0s,mb4.7							
KMI				MLR	MLR			
	comp=Z,1μm,15.5s,MS4.3							
KMI	**Kunming**	**21.38**	**19**	P	**P**	**05 35 23.4**		**+2.3**
	comp=Z,36nm,1.0s,mb4.7							
KMI				pP		05 35 31.4		
KMI				sP	sP	05 35 35.6		-1.1
KMI				PP		05 35 50.3		
KMI				PPP		05 36 00.5		
KMI				S	**S**	**05 39 20.6**		**+4.6**
KMI				sS	sS	05 39 33.4		+0.8
KMI				SS		05 40 00.8		
KMI				LR	LR			
	comp=Z,1μm,15.5s,MS4.3							
MNGI	**Mangalore**	**21.48**	**293**	*i* P	**P**	**05 35 24.6**		**+2.4**
MNGI				*i* S	**S**	**05 39 23.7**		**+5.6**
TSM	**Tawau**	**22.77**	**91**	P	**P**	**05 35 37.5**		**+1.5**
JBP	**Jabalpur**	**23.22**	**323**	⇑*i*P	**P**	**05 35 42.3**		**+1.6**
JBP				*i* S	**S**	**05 39 54.9**		**+5.4**
AKL	**Akola**	**23.49**	**313**	*i* P	**P**	**05 35 45.5**		**+2.1**
AKL				*i* x	x	05 39 44.4		
KAD	**Karad**	**23.83**	**303**	*eP*	**P**	**05 35 48.5**		**+2.0**
KAD				*ex*	x	05 40 06.3		
KAD				*ex*	x	05 40 08.6		
JIRN	**Jiri**	**24.11**	**340**	*eP*	**P**	**05 35 48.9**		**-0.1**
PKI	**Pulchoki**	**24.30**	**339**	*eP*	**P**	**05 35 50.5**		**-0.2**
	comp=Z,26nm,0.4s,mb5.0							
DMN	**Daman**	**24.44**	**338**	*eP*	**P**	**05 35 51.4**		**-0.6**
GUN	**Gumba**	**24.44**	**340**	*eP*	**P**	**05 35 51.9**		**-0.1**
	comp=Z,128nm,0.6s,mb5.5							
KKN	**Kakani**	**24.54**	**339**	*eP*	**P**	**05 35 53.3**		**+0.4**
	comp=Z,70nm,0.7s,mb5.3							
POO	**Poona**	**24.71**	**305**	⇑*i*P	**P**	**05 35 55.0**		**+0.6**
	comp=Z,200nm,1.0s,mb5.6							
POO				*ex*	x	05 36 32.2		
POO				*ex*	x	05 40 22.0		
LSA	**Lhasa**	**24.89**	**352**	P	**P**	**05 35 55.8**		**-0.3**
LSA	**Lhasa**	**24.89**	**352**	*eP*	**P**	**05 35 56.4**		**+0.3**
LSA				pmax	pmax			
	comp=Z,34nm,0.6s,mb5.0							
LSA				MLR	MLR			
	comp=Z,643nm,22.0s,MS4.1							
LSA	**Lhasa**	**24.89**	**352**	*eP*	**P**	**05 35 56.4**		**+0.3**
	comp=Z,34nm,0.6s,mb5.0							
LSA				LR	LR			
	comp=Z,643nm,22.0s,MS4.1							
BHPL	**Bhopal**	**24.89**	**319**	*eP*	**P**	**05 35 57.4**		**+1.3**
GKN	**Gorkha**	**24.97**	**338**	*eP*	**P**	**05 35 56.8**		**0.0**
	comp=Z,48nm,0.3s,mb5.6							
KOLN	**Koldanda**	**25.17**	**336**	*eP*	**P**	**05 35 59.4**		**+0.7**
	comp=Z,193nm,0.7s,mb5.7							
DANN	**Dangsing**	**25.62**	**336**	*eP*	**P**	**05 36 03.4**		**+0.7**
KAPI	**Kappang**	**26.59**	**112**	P	**P**	**05 36 10.0**		**-1.5**
	comp=Z,318nm,0.9s,mb5.8,SNR=7.5							
TGY	**Tagaytay City**	**27.08**	**69**	P	**P**	**05 36 17.2**		**+1.3**
	comp=Z,142nm,0.4s,baz=170,slow=7.6,SNR=4.7							
CD2	**Chengdu**	**27.09**	**17**	P	**P**	**05 36 15.1**		**-0.9**
CD2				AP	pP	05 36 22.9		-4.4
CD2				PP		05 37 03.6		
CD2				S	**S**	**05 40 48.0**		**-3.3**
CD2				AMB	AMB			
	comp=Z,110nm,0.8s,mb5.4							
CD2				LR	LR			
	comp=N,1μm,16.8s,MS4.5							
CD2				LR	LR			
	comp=E,600nm,18.0s,MS4.5							
LGTI	**Lohaghat**	**28.10**	**332**	*eP*	**P**	**05 36 26.0**		**+0.9**
AJM	**Ajmer**	**28.95**	**320**	*eP*	**P**	**05 36 33.8**		**+1.2**
NDI	**New Delhi**	**29.04**	**326**	*eP*	**P**	**05 36 32.0**		**-1.4**
QZH	**Quanzhou**	**30.11**	**46**	*eP*	**P**	**05 36 43.0**		**+0.2**
QZH				*e*S	**S**	**05 41 38.6**		**-0.1**
QZH				LR	LR			
	comp=N,2μm,15.8s,MS5.0							
QZH				LR	LR			
	comp=E,1μm,13.8s,MS5.0							
QZH				LR	LR			
	comp=Z,1μm,21.2s							
DAV	**Davao City (W)**	**30.44**	**85**	PFAKE		05 37 00.0		+14
DAV				LR	LR			
	comp=Z,593nm,20.0s,MS4.2							
WHN	**Wuhan**	**31.29**	**33**	P	**P**	**05 36 53.8**		**+0.5**
WHN				LR	LR			
	comp=Z,3μm,14.8s,MS5.0							
XAN	**Xi'an**	**31.68**	**22**	P	**P**	**05 36 56.1**		**-0.7**
XAN				AMB	AMB			
	comp=Z,108nm,0.8s,mb5.7							
XAN				LR	LR			
	comp=N,429nm,17.4s,MS4.3							
XAN				LR	LR			
	comp=E,361nm,18.5s,MS4.3							
XAN				LR	LR			
	comp=Z,1μm,17.1s,MS4.7							
LZH	**Lanzhou**	**32.03**	**14**	*eP*	**P**	**05 36 59.5**		**-0.3**
LZH				AP	pP	05 37 07.5		-3.6
LZH				PP	PP	05 38 08.6		-4.0
LZH				AMB	AMB			
	comp=Z,32nm,1.0s,mb5.1							
LZH				AMB	AMB			
	comp=Z,86nm,4.4s							
LZH				LR	LR			
	comp=E,3μm,14.4s							
LZH				LR	LR			
	comp=Z,4μm,15.6s,MS5.2							
LZH	**Lanzhou**	**32.03**	**14**	*eP*	**P**	**05 36 59.5**		**-0.3**
LZH				*PP	pP	05 37 07.5		-3.6
LZH				*SP	sP	05 37 11.5		-4.6
LZH						05 38 08.6		
LZH						05 39 50.0		
LZH				*e*S	**S**	**05 42 09.1**		**+0.4**
LZH				*SS	sS	05 42 23.1		-4.5
LZH				SS	SS	05 44 04.0		-23
LZH				pmax	pmax			
	comp=Z,32nm,1.0s,mb5.1							
LZH				MLR	MLR			
	comp=Z,4μm,15.6s,MS5.2							
LZH	**Lanzhou**	**32.03**	**14**	*eP*	**P**	**05 36 59.5**		**-0.3**
	comp=Z,32nm,1.0s,mb5.1							
LZH				pP	pP	05 37 07.5		-3.6
LZH				sP	sP	05 37 11.5		-4.6
LZH				PP	PP	05 38 08.6		-4.0
LZH				PcP	PcP	05 39 50.0		+1.3
LZH				*e*S	**S**	**05 42 09.1**		**+0.4**
LZH				sS	sS	05 42 23.1		-4.5
LZH				SS	SS	05 44 04.0		-23
LZH				LR	LR			
	comp=Z,4μm,15.6s,MS5.2							
TATO	**Taipei**	**32.26**	**49**	PFAKE		05 37 10.0		+8.2
TATO				LR	LR			
	comp=Z,579nm,22.0s,MS4.2							
THN	**Thein Dam**	**32.77**	**329**	*eP*	**P**	**05 37 04.6**		**-1.7**
GTA	**Gaotai**	**34.58**	**7**	⇑P	**P**	**05 37 21.7**		**-0.3**
GTA				AP	pP	05 37 31.7		-1.7
GTA				XP	sP	05 37 34.7		-3.6
GTA				PP	PP	05 38 38.8		-2.0
GTA				PCP	PcP	05 39 56.5		+0.6
GTA				S	**S**	**05 42 47.4**		**-0.8**
GTA				SCP	ScP	05 43 37.2		-0.6
GTA				SCS	ScS	05 47 38.5		-2.2
GTA				AMB	AMB			
	comp=Z,46nm,0.9s,mb5.4							
GTA				AMB	AMB			
	comp=Z,86nm,3.8s							
GTA				LR	LR			
	comp=N,257nm,18.3s,MS4.1							
GTA				LR	LR			
	comp=E,206nm,20.6s,MS4.1							
GTA				LR	LR			
	comp=Z,280nm,23.3s,MS3.9							
NJ2	**Nanjing**	**34.98**	**37**	*eP*	**P**	**05 37 26.1**		**+0.6**
NJ2				AP	pP	05 37 36.6		-0.3
NJ2				XP	sP	05 37 40.1		-1.8
NJ2				PP	PP	05 38 45.6		+0.3
NJ2				S	**S**	**05 42 55.0**		**+0.5**
NJ2				XS	sS	05 43 11.0		-2.5
NJ2				AMB	AMB			
	comp=Z,70nm,1.0s,mb5.5							
NJ2				AMB	AMB			
	comp=Z,180nm,10.0s							
NJ2				LR	LR			
	comp=N,1μm,12.0s,MS5.0							
NJ2				LR	LR			
	comp=E,1μm,12.7s,MS5.0							
NJ2				LR	LR			
	comp=Z,5μm,13.3s,MS5.4							
MBWA	**Marble Bar**	**35.49**	**138**	*eP*	**P**	**05 37 29.5**		**-0.4**
SSE	**Sheshan**	**35.78**	**40**	P	**P**	**05 37 33.2**		**+0.9**
SSE				XP	sP	05 37 46.0		-2.7
SSE				S	**S

comp=N,152nm,21.0s,MS4.0
SSE LR LR
comp=E,238nm,21.0s,MS4.0
SSE LR LR
comp=Z,328nm,20.3s,MS4.1
SSE Sheshan 35.78 40 P **P 05 37 33.2 +0.9**
comp=Z,44nm,0.7s,mb5.5
SSE sP sP 05 37 46.0 -2.7
SSE S **S 05 43 07.9 +1.2**
SSE sS sS 05 43 23.0 -2.7
SSE LR LR
comp=Z,330nm,20.3s,MS4.1
TIA Tai'an 37.15 30 ⇓P **P 05 37 44.6 +0.6**
FITZ Fitzroy Crossi 37.89 128 *e*P **P 05 37 49.0 -1.3**
comp=Z,54nm,0.8s,mb5.3
FITZ Fitzroy Crossi 37.89 128 P **P 05 37 49.1 -1.2**
comp=Z,37nm,0.8s,mb5.1,baz=309,slow=5.8,SNR=48
JOW Kunigami 38.45 52 P **P 05 37 55.8 +0.8**
comp=Z,12nm,0.4s,mb5.0,baz=257,slow=3.9,SNR=7.3
KSH Kashi 38.49 336 *e*P **P 05 37 56.3 +1.0**
KSH *e*AP pP 05 38 06.3 -0.5
KSH *e*XP sP 05 38 10.3 -1.5
KSH *e*PP PP 05 39 28.5 +4.6
KSH *e*PCP PcP 05 40 09.8 +2.1
KSH *e*S **S 05 43 47.7 -0.2**
KSH *e*SCP ScP 05 43 53.8 +1.6
KSH *e*XS sS 05 44 09.5 +2.4
KSH *e*SS SS 05 46 28.5 -10
KSH *e*SCS ScS 05 48 02.3 -0.2
KSH LR LR
comp=N,287nm,5.2s
KSH LR LR
comp=E,410nm,4.9s
HHC Hu-ho-hao-te 38.70 20 *e*P **P 05 37 57.7 +0.6**
HHC AP pP 05 38 08.0 -0.6
HHC XP sP 05 38 11.5 -2.0
HHC PP PP 05 39 34.1 +8.0
HHC PCP PcP 05 40 10.9 +2.6
HHC S **S 05 43 51.0 0.0**
HHC PCS PcS 05 43 57.4 -0.3
HHC XS sS 05 44 10.7 +0.5
HHC SS SS 05 46 35.7 -6.8
HHC SCS ScS 05 48 03.0 -0.7
HHC AMB AMB
comp=Z,40nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,131nm,5.7s
HHC LR LR
comp=N,395nm,26.5s
HHC LR LR
comp=E,409nm,13.9s
HHC LR LR
comp=Z,449nm,24.5s,MS4.2
WBK Wadi Bani Khal 39.02 300 P **P 05 38 02.8 +3.0**
SNR=7.7
WMQ Urumqi 39.25 352 ⇓*i*P **P 05 38 02.1 +0.4**
WMQ AP pP 05 38 11.6 -1.6
WMQ XP sP 05 38 16.0 -2.2
WMQ PP PP 05 39 36.5 +4.3
WMQ PCP PcP 05 40 11.0 +1.0
WMQ S **S 05 44 00.0 +0.6**
WMQ XS sS 05 44 16.0 -2.6
WMQ AMB AMB
comp=Z,26nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,184nm,4.1s
WMQ LR LR
comp=N,1μm,27.0s,MS4.8
WMQ LR LR
comp=E,2μm,29.2s,MS4.8
WMQ LR LR
comp=Z,920nm,28.0s,MS4.5
JMDO Jabal Madar 39.69 299 P **P 05 38 08.1 +2.8**
SNR=5.8
BJT Baijiatuau 39.77 26 *e*P **P 05 38 07.1 +1.1**
BJT pmax pmax
comp=Z,95nm,0.9s
BJT MLR MLR
comp=Z,471nm,21.0s
BJT Baijiatuau 39.77 26 *e*P **P 05 38 07.0 +1.0**
comp=Z,95nm,0.9s,mb5.5
BJT LR LR
comp=Z,471nm,21.0s,MS4.3
BJI Beijing 39.79 26 P **P 05 38 07.4 +1.2**
BJI S **S 05 44 08.8 +1.3**
BJI AMB AMB
comp=Z,105nm,0.9s,mb5.6
BJI LR LR
comp=N,445nm,20.1s,MS4.4
BJI LR LR
comp=E,333nm,17.9s,MS4.4
BJI LR LR
comp=Z,414nm,23.8s
BJI Beijing 39.79 26 P **P 05 38 07.4 +1.2**
comp=Z,105nm,0.9s,mb5.6
BJI S **S 05 44 08.8 +1.3**
BJI SS SS 05 47 09.5 +5.0
BJI LR LR
comp=Z,410nm,23.8s,MS4.2
SMDO Samad 39.98 300 P **P 05 38 10.6 +2.9**
SNR=6.8
BIDO Bidbid 40.08 301 P **P 05 38 12.0 +3.5**
SNR=14
BSY Bisya 40.60 300 P **P 05 38 15.9 +3.1**
SNR=17
ULHL Ulaho! 40.73 338 P **P 05 38 15.1 +1.1**
SNR=29
HOQ Hoqain 40.80 301 P **P 05 38 17.5 +3.0**
SNR=15
KZA Kyzart 40.96 337 P **P 05 38 17.9 +2.0**
SNR=6.2
KAKA Kakadu 41.09 116 *e*P **P 05 38 15.3 -1.7**
comp=Z,31nm,0.8s,mb5.0
UCH Uchtor 41.37 337 P **P 05 38 20.7 +1.5**
SNR=159
ARQ Araqi 41.39 300 P **P 05 38 22.7 +3.3**
SNR=5.3
DL2 Dalian 41.51 32 P **P 05 38 21.7 +1.3**
DL2 *e*S **S 05 44 37.0 +3.9**
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
DL2 LR LR
comp=N,340nm,17.2s,MS4.4
DL2 LR LR
comp=E,240nm,15.5s,MS4.4
DL2 LR LR
comp=Z,320nm,15.7s,MS4.3
TKM2 Tokmak 2 41.56 338 P **P 05 38 21.9 +1.1**
SNR=64
TKM2 Tokmak 2 41.56 338 P **P 05 38 21.3 +0.5**
TKM2 pmax pmax
comp=Z,111nm,1.2s,mb5.4
KBK Karagaybulak 41.57 338 P **P 05 38 22.7 +1.8**
SNR=52
AML Almayashu 41.62 336 P **P 05 38 22.8 +1.5**
SNR=12
AAK Ala-Archa 41.73 337 P **P 05 38 23.0 +0.9**
SNR=69
AAK Ala-Archa 41.73 337 P **P 05 38 22.7 +0.6**
comp=Z,512nm,1.0s,mb6.1,SNR=60
AAK Ala-Archa 41.73 337 P **P 05 38 22.9 +0.7**
SNR=56
AAK Ala-Archa 41.73 337*c i*P **P 05 38 22.5 +0.4**
AAK pmax pmax
comp=Z,129nm,1.3s,mb5.4
AAK MLR MLR
comp=Z,200nm,19.0s,MS4.0
AAK Ala-Archa 41.73 337 *e*P **P 05 38 22.5 +0.3**
AAK *e*PcP PcP 05 40 18.0 0.0
RBK Rabkut 41.85 291 P **P 05 38 26.0 +2.9**
SNR=5.4
FRU Bishkek 41.85 337 *i*P **P 05 38 24.0 +0.8**
FRU *e* 05 38 40.0
FRU pmax pmax
comp=Z,180nm,1.8s,mb5.4
MUN Mundaring 41.89 153 *e*P **P 05 38 31.3 +7.8**
CHMS Chumysh 41.94 338 P **P 05 38 24.6 +0.8**
SNR=29
EKS2 Erkin-Say 42.03 336 P **P 05 38 26.0 +1.4**
SNR=52
HATD Hatta, Dubai 42.25 302 P **P 05 38 29.4 +3.0**
SNR=6.2
ASHO Ashiyiah 42.26 302 P **P 05 38 29.2 +2.7**
SNR=9.7
USP Ospenovka 42.26 338 P **P 05 38 27.4 +0.9**
SNR=122

KLBR Kellerberrin 42.30 151 *e*P **P 05 38 25.8 -1.0**
comp=Z,29nm,0.9s,mb4.9
WHFO Wadi Hawf 42.34 291 P **P 05 38 29.7 +2.6**
SNR=6.5
ABTO Aybut 42.66 290 P **P 05 38 32.5 +2.7**
SNR=7.0
MKAR Makanchi Array 43.12 347 P **P 05 38 33.1 -0.3**
comp=Z,83nm,0.8s,mb5.5,baz=162,slow=7.8,SNR=281
MKAR PcP PcP 05 40 21.8 -0.9
comp=Z,6.2nm,0.5s,baz=190,slow=3.6,SNR=4.3
MKAR S **S 05 44 55.1 -1.6**
comp=Z,0.8nm,0.9s,baz=132,slow=10.0,SNR=2.0
MKAR LR LR 05 59 26.3
comp=Z,224nm,20.9s,MS4.0,baz=170,slow=40
MKAR Makanchi Array 43.12 347 *i* P **P 05 38 33.2 -0.3**
MKAR pmax pmax
comp=Z,83nm,0.8s
MKAR Makanchi Array 43.12 347 P **P 05 38 33.1 -0.3**
MKAR PcP PcP 05 40 21.8 -0.9
MKAR S **S 05 44 55.1 -1.6**
MKAR LR LR 05 59 26.3
NWAO Narrogin (SRO) 43.16 152 P **P 05 38 33.5 -0.3**
comp=Z,43nm,0.8s,mb5.2,baz=308,slow=7.1,SNR=10
INCN Inchon 43.36 37 PFAKE 05 38 50.0 +15
INCN LR LR
comp=Z,568nm,19.0s,MS4.5
SONM Songino Array 43.82 11 P **P 05 38 38.7 -0.5**
comp=Z,13nm,0.8s,mb4.7,baz=190,slow=8.9,SNR=70
SONM PcP PcP 05 40 24.3 -0.8
comp=Z,16nm,0.9s,baz=194,slow=3.6,SNR=8.5
SONM ScP ScP 05 44 12.2 -1.2
comp=Z,2.1nm,1.1s,baz=207,slow=5.0,SNR=4.2
SONM LR LR 05 59 24.8
comp=Z,262nm,18.4s,MS4.2,baz=289,slow=39
SONM Songino Array 43.82 11 P **P 05 38 38.7 -0.4**
SONM 05 40 24.3
SNY Shenyang 44.67 31 ⇑P **P 05 38 45.8 -0.1**
SNY S **S 05 45 24.2 +4.8**
SNY AMB AMB
comp=Z,31nm,0.8s,mb5.2
SNY AMB AMB
comp=Z,169nm,5.4s
SNY LR LR
comp=N,543nm,18.6s,MS4.5
SNY LR LR
comp=E,331nm,20.6s,MS4.5
SNY LR LR
comp=Z,582nm,19.0s,MS4.5
ZAK Zakamensk 45.80 7⇑*i*P **P 05 38 54.1 -0.8**
ZAK *e* 05 40 31.4
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WRA Warramunga Arr 45.87 124 P **P 05 38 55.3 -0.1**
comp=Z,203nm,0.9s,baz=302,slow=9.3,SNR=740
WRA PcP PcP 05 40 32.0 -0.1
comp=Z,6.4nm,0.8s,baz=300,slow=8.7,SNR=3.5
WRA ScP ScP 05 44 21.8 0.0
comp=Z,2.9nm,1.0s,baz=311,slow=3.7,SNR=5.9
WRA S **S 05 45 31.5 -5.2**
comp=Z,2.7nm,1.2s,baz=301,slow=14,SNR=3.9
WRA PKiKP PKiKP 05 47 27.2 -1.3
comp=Z,0.4nm,0.6s,baz=301,slow=1.6,SNR=4.7
WRA Warramunga Arr 45.87 124 P **P 05 38 55.3 -0.1**
WRA 05 40 32.0
WRA S **S 05 45 31.5 -5.2**
WRA Warramunga Arr 45.87 124 P **P 05 38 55.3 -0.1**
WRA PcP PcP 05 40 32.0 -0.1
WRA ScP ScP 05 44 21.8 0.0
WRA S **S 05 45 31.5 -5.2**
WRAB Tennant Creek 45.87 124 P **P 05 38 55.0 -0.5**
comp=Z,1μm,0.7s,SNR=49
WRAB Tennant Creek 45.87 124*c i*P **P 05 38 55.5 0.0**
WB2 Warramunga Arr 45.88 124⇑*i*P **P 05 38 55.2 -0.3**
ABKT Ailbek 46.98 319 P **P 05 39 05.0 +0.9**
comp=Z,486nm,0.7s,mb6.5,SNR=10
CN2 Changchun 47.05 30 ⇓P **P 05 39 04.8 +0.1**
CN2 *e*XP sP 05 39 16.7 -4.6
CN2 *e*S **S 05 45 53.8 +0.1**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
CN2 AMB AMB
comp=Z,100nm,6.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,300nm,16.0s,MS4.4
CN2 LR LR
comp=Z,300nm,17.0s,MS4.3
TLY Talaya 47.12 7 P **P 05 39 05.1 -0.1**
comp=Z,85nm,0.8s,mb5.7,SNR=5.8
TLY Talaya 47.12 7 *e*P **P 05 39 04.7 -0.5**
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,206nm,18.0s,MS4.1
TLY Talaya 47.12 7 *e*P **P 05 39 04.8 -0.4**
TLY *e*PcP PcP 05 40 36.0 -0.5
ASPA Alice Springs 47.38 129 *e*P **P 05 39 07.2 0.0**
ASAR Alice Springs 47.38 129 P **P 05 39 06.7 -0.6**
comp=Z,29nm,0.7s,mb5.3,baz=299,slow=7.9,SNR=187
ASAR PcP PcP 05 40 37.2 -0.2
comp=Z,1.6nm,0.5s,baz=290,slow=3.4,SNR=4.7
ASAR S **S 05 45 55.6 -2.7**
comp=Z,1.6nm,0.8s,baz=295,slow=14,SNR=8.4
ASAR PKiKP PKiKP 05 47 29.1 -1.0
comp=Z,0.5nm,0.5s,baz=323,slow=0.5,SNR=4.4
ASAR Alice Springs 47.38 129 P **P 05 39 06.7 -0.6**
ASAR PcP PcP 05 40 37.2 -0.2
ASAR S **S 05 45 55.6 -2.7**
AS31 Alice Springs 47.38 129 *e*P **P 05 39 07.2 -0.1**
FORT Forrest 47.52 141⇑*i*P **P 05 39 08.4 +0.1**
comp=Z,52nm,0.7s,mb5.7
KURK Kurchatov 47.65 346 P **P 05 39 09.3 0.0**
comp=Z,252nm,0.6s,mb6.4,SNR=26
HIA Hailar 48.87 21 *e*P **P 05 39 18.4 -0.4**
HIA pmax pmax
comp=Z,19nm,0.8s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 48.87 21 *e*P **P 05 39 18.4 -0.4**
comp=Z,19nm,0.8s,mb5.2
HIA LR LR
comp=Z,1μm,20.0s,MS4.9
ZAL Zalesovo 49.55 352 P **P 05 39 23.3 -0.6**
comp=Z,19nm,0.6s,mb5.3,baz=304,slow=6.2,SNR=76
ZAL S **S 05 46 26.7 -2.2**
comp=Z,1.7nm,0.8s,baz=200,slow=22,SNR=6.2
ZAL Zalesovo 49.55 352 P **P 05 39 23.3 -0.6**
ZAL S **S 05 46 26.7 -2.2**
MDJ Mudanjiang 49.75 32 *e*P **P 05 39 25.8 +0.3**
comp=Z,33nm,0.9s,mb5.4
MDJ LR LR
comp=Z,408nm,20.0s,MS4.4
VLA Vladivostok 50.05 35 *e*P **P 05 39 26.8 -0.9**
VLA pmax pmax
comp=Z,72nm,1.7s,mb5.4
QRN Al-Qurain 50.48 303 *e*P **P 05 39 31.5 +0.5**
QRN AMb AMB 05 39 33.5
comp=Z,128nm,0.7s,mb6.1
MAJO Matsushiro 50.50 46 *e*P **P 05 39 31.7 +0.5**
MAJO *e* 05 40 48.8
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAJO MLR MLR
comp=Z,532nm,19.0s,MS4.6
MAJO Matsushiro 50.50 46 *e*P **P 05 39 31.7 +0.6**
comp=Z,11nm,0.9s,mb4.8
MAJO *e*PcP PcP 05 40 48.8 0.0
MAJO LR LR
comp=Z,532nm,19.0s,MS4.6
MAT Matsushiro 50.50 46 P **P 05 39 31.1 -0.1**
MJAR Matsushiro Arr 50.50 46 P **P 05 39 31.1 -0.1**
comp=Z,4.2nm,0.7s,mb4.5,baz=248,slow=7.7,SNR=11
MJAR PcP PcP 05 40 48.2 -0.5
comp=Z,7.8nm,0.7s,baz=236,slow=2.9,SNR=13
MJAR ScP ScP 05 44 40.4 -1.0
comp=Z,0.8nm,0.4s,baz=249,slow=3.5,SNR=4.4
MJAR LR LR 06 02 24.4
comp=Z,388nm,20.3s,MS4.4,baz=225,slow=38
MJAR Matsushiro Arr 50.50 46 P **P 05 39 31.1 -0.1**
MJAR 05 40 48.2
MJAR Matsushiro Arr 50.50 46 P **P 05 39 31.1 -0.1**
MJAR PcP PcP 05 40 48.2 -0.5
MJAR ScP ScP 05 44 40.4 -1.0

MJAR LR LR 06 02 24.4
NVS Novosibirsk 50.65 351⇑*i*P **P 05 39 29.6 -2.7**
NVS *i* 05 40 47.0
NVS *e* 05 46 51.2
NVS pmax pmax
comp=Z,46nm,1.2s,mb5.3
NVS pmax pmax
comp=N,43nm,1.4s
NVS pmax pmax
comp=E,39nm,1.4s
KBD Kabd 50.81 304 *e*P **P 05 39 34.2 +0.7**
KBD AMb AMB 05 39 36.3
comp=Z,334nm,1.1s,mb6.2
UMR Umm Al-Rimmam 50.91 304 *e*P **P 05 39 34.6 +0.3**
UMR AMb AMB 05 39 35.7
comp=Z,89nm,0.8s,mb5.7
MIB Mutribah 51.31 305 *e*P **P 05 39 38.0 +0.8**
MIB AMb AMB 05 39 39.8
comp=Z,224nm,1.0s,mb6.0
VOSK Vostochnaya 51.58 342 P **P 05 39 38.8 -0.5**
VOSK pmax pmax
comp=Z,102nm,0.8s,mb5.8
BVA0 Borovoye Array 52.03 341 *i* P **P 05 39 41.9 -0.7**
BVA0 pmax pmax
comp=Z,18nm,0.8s,mb5.0
BVAR Borovoye Array 52.03 341 P **P 05 39 42.2 -0.4**
comp=Z,112nm,0.7s,mb5.9,baz=143,slow=8.4,SNR=436
BRVK Borovoye 52.09 341 P **P 05 39 42.1 -1.0**
comp=Z,1μm,0.7s,SNR=59
BRVK Borovoye 52.09 341 P **P 05 39 43.0 -0.1**
SNR=39
BRVK Borovoye 52.09 341 *e*P **P 05 39 42.7 -0.4**
BRVK pmax pmax
comp=Z,173nm,0.9s,mb6.0
BRVK Borovoye 52.09 341 *e*P **P 05 39 42.7 -0.4**
comp=Z,173nm,0.9s,mb6.0
CHKZ Chkalovo 52.51 342⇑*i*P **P 05 39 46.1 -0.1**
CHKZ pmax pmax
comp=Z,285nm,0.8s,mb6.2
CHKZ Chkalovo 52.51 342⇑*i*P **P 05 39 46.1 0.0**
comp=Z,285nm,0.8s,mb6.2
AB31 Akbulak array 53.21 332 *i* P **P 05 39 50.6 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.4
PMG Port Moresby 53.86 105 P **P 05 39 55.3 -0.8**
comp=Z,13nm,0.6s,mb5.1,baz=356,slow=19,SNR=4.1
KLR Kul'dur 53.96 29 *e*P **P 05 39 53.0 -3.8**
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,62nm,1.4s,mb5.3
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.1
BOD Bodaibo 54.78 12 *e*P **P 05 40 01.7 -1.1**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AKTK Aktyubinsk 54.93 332 P **P 05 40 02.9 -1.0**
AKTO Aktyubinsk 54.93 332 P **P 05 40 02.9 -1.0**
comp=Z,12nm,0.5s,mb5.2,baz=127,slow=7.4,SNR=43
AKTO Aktyubinsk 54.93 332 P **P 05 40 03.1 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CTA Charters Tower 56.13 118 *e*P **P 05 40 12.4 -0.1**
comp=Z,13nm,1.1s,mb4.9
CTA Charters Tower 56.13 118 P **P 05 40 12.3 -0.1**
comp=Z,13nm,0.9s,mb4.9,baz=311,slow=9.5,SNR=4.5
CTA Charters Tower 56.13 118 *e*P **P 05 40 12.4 -0.1**
CTA pmax pmax
comp=Z,13nm,1.1s
CTAO Charters Tower 56.13 118 *e*P **P 05 40 12.6 +0.1**
CTAO pmax pmax
comp=Z,24nm,1.1s,mb5.1
CTAO Charters Tower 56.13 118 *e*P **P 05 40 12.6 +0.1**
comp=Z,24nm,1.1s,mb5.1
ERM Erimo 56.44 42 PFAKE 05 40 30.0 +15
ERM LR LR
comp=Z,120nm,20.0s,MS4.0
CLNS Chul'man 56.87 19 *e*P **P 05 40 11.5 -6.3**
CLNS pmax pmax
comp=Z,12nm,0.6s,mb5.1
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,600nm,17.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.7
CLNS MLR MLR
comp=E,400nm,17.0s,MS4.7
GNI Garni 57.12 315 P **P 05 40 19.3 -0.2**
comp=E,9.0nm,0.5s,mb5.1,baz=6.9,slow=7.2,SNR=10
GNI Garni 57.12 315 P **P 05 40 20.3 +0.8**
SNR=7.1
GNI Garni 57.12 315 *e*P **P 05 40 20.0 +0.5**
GNI pmax pmax
comp=Z,34nm,0.9s
GNI MLR MLR
comp=Z,166nm,21.0s
GNI Garni 57.12 315 *e*P **P 05 40 20.0 +0.5**
comp=Z,34nm,0.9s,mb5.4
GNI LR LR
comp=Z,166nm,21.0s,MS4.1
STKA Stephens Creek 57.46 133 *e*P **P 05 40 21.6 -0.3**
comp=Z,10nm,0.9s,mb4.9
STKA Stephens Creek 57.46 133 P **P 05 40 21.5 -0.5**
comp=Z,9.9nm,0.8s,mb4.9,baz=302,slow=7.1,SNR=11
KMBO Kilima Mbogo 58.04 266 P **P 05 40 28.0 +2.0**
comp=Z,11nm,0.9s,mb4.9,baz=54,slow=10,SNR=19
KMBO LR LR 06 01 30.0
comp=Z,329nm,20.5s,MS4.4,baz=275,slow=32
KMBO Kilima Mbogo 58.04 266 *i* P **P 05 40 28.7 +2.7**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 58.04 266 *e*P **P 05 40 27.7 +1.7**
comp=Z,16nm,1.1s,mb5.0
KMBO LR LR
comp=Z,409nm,21.0s,MS4.5
SVE Sverdlovsk 58.43 339⇑*e*P **P 05 40 29.0 +0.3**
SVE *e* pP 05 40 40.0 -0.8
SVE pmax pmax
comp=Z,220nm,1.3s,mb6.0
YSS Yuzh-Sakhalins 58.55 36⇑*i*P **P 05 40 29.8 +0.2**
YSS *e* pP 05 40 40.0 -1.6
YSS *e* 05 42 40.0
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 58.55 36 *e*P **P 05 40 30.2 +0.7**
comp=Z,80nm,0.9s,mb5.8
YSS LR LR
comp=Z,373nm,20.0s,MS4.5
ZEI Tsey 58.78 318 *e*P **P 05 40 31.5 +0.3**
ZEI *e**PP pP 05 40 39.2 -4.0
ZEI *e* 05 41 19.7
ZEI pmax pmax
comp=Z,27nm,0.7s,mb5.4
ARU Arti 58.91 337⇓*i*P **P 05 40 31.1 -1.0**
ARU *e* 05 41 20.4
ARU *e* 05 42 38.6
ARU *e*S **S 05 48 35.0 -0.1**
ARU *e*SS SS 05 52 25.3 -3.8
ARU pmax pmax
comp=Z,69nm,1.0s,mb5.6
ARU Arti 58.91 337 *e*P **P 05 40 31.5 -0.6**
comp=Z,80nm,1.0s,mb5.7
MARD Mardin 58.96 311 *i* P **P 05 40 31.9 -0.4**
KIV Kislovodsk 60.08 319 P **P 05 40 40.2 +0.1**
SNR=6.1
KIV Kislovodsk 60.08 319*c i*P **P 05 40 39.9 -0.2**
KIV pmax pmax
comp=Z,56nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,70nm,18.0s,MS3.8
KIV Kislovodsk 60.08 319 *e*P **P 05 40 39.9 -0.3**
comp=Z,34nm,0.8s,mb5.4
ELZG Elazig 60.68 312 *i* P **P 05 40 44.4 +0.1**
KELT Kelkit 61.02 314 *i* P **P 05 40 47.0 +0.4**
MALT Malatya 61.04 311⇓*i*P **P 05 40 47.2 +0.5**
MALT Malatya 61.04 311 *e*P **P 05 40 47.2 +0.5**
comp=Z,23nm,1.0s,mb5.3
GZT Gaziantep 61.41 310 *i* P **P 05 40 50.0 +0.8**
EIL Elat 61.67 301 *e*P **P 05 40 51.8 +0.9**
comp=Z,487nm,0.8s
GRSN GIRESUNGRSN 61.99 314 *i* P **P 05 40 52.9 -0.2**

BHL Bhannes 61.99 306 *e*P P **05 40 54.7 +1.6**
COBT Iskenderun 62.18 309 *i* P P **05 40 55.5 +1.1**
YAK Yakutsk 62.48 18*c i*P P **05 40 54.4 -2.0**
YAK pmax pmax
comp=Z,51nm,0.8s,mb5.7
YAK Yakutsk 62.48 18 *e*P P **05 40 54.2 -2.1**
comp=Z,28nm,0.7s,mb5.5
YAK LR LR
comp=Z,842nm,19.0s,MS4.9
TOO Toolangi 63.12 137 *e*P P **05 41 01.7 +1.1**
comp=Z,18nm,1.1s,mb5.1
TOO Toolangi 63.12 137 *e*P P **05 41 01.7 +1.1**
TOO pmax pmax
comp=Z,18nm,1.1s,mb5.1
VRHR Novokhopersk 63.84 326 *e*P P **05 41 03.8 -1.5**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.4s
MEST Erdemli 63.84 308 *i* P P **05 41 05.6 +0.2**
ANN Anapa 63.88 318 *e*P P **05 41 03.9 -1.8**
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.5
CSS Prodhromos 64.11 306 *e*P P **05 41 07.5 +0.3**
comp=Z,95nm,1.3s,mb5.7
CTKT Corum 64.41 313 *i* P P **05 41 09.5 +0.3**
CDAG Cicekdag 64.44 312 *i* P P **05 41 08.8 -0.5**
BOYT Boyabat 64.56 314 *i* P P **05 41 10.0 -0.1**
CNB Canberra Magne 64.79 133 *e*P P **05 41 11.8 +0.2**
comp=Z,28nm,1.0s,mb5.2
ERMK Ermenek 64.81 308 *i* P P **05 41 12.3 +0.5**
BR131 Keskin Array S 65.02 312 *e*P P **05 41 12.3 -0.7**
comp=Z,16nm,0.5s,mb5.3
BRTR Keskin Array B 65.02 312 P P **05 41 12.6 -0.5**
comp=Z,30nm,0.7s,mb5.4,baz=131,slow=7.1,SNR=116
BRTR Keskin Array B 65.02 312 *i* P P **05 41 12.6 -0.5**
BRTR pmax pmax
comp=Z,30nm,0.7s
VRSR Storozhevoye 65.27 325 *e*P P **05 41 12.9 -1.8**
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.3
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,40nm,0.9s
ELDT Eldivan 65.38 312 *i* P P **05 41 15.2 -0.1**
VOR Voronezh 65.48 326 *e*P P **05 41 15.0 -1.1**
VOR pmax pmax
comp=Z,100nm,1.2s,mb5.7
ANTO Ankara 65.68 312 P P **05 41 17.5 +0.1**
SNR=6.0
ANTO Ankara 65.68 312⇑*i*P P **05 41 17.1 -0.3**
ANTO Ankara 65.68 312 *e*P P **05 41 16.8 -0.5**
comp=Z,29nm,0.8s,mb5.4
BALT Daday 65.69 314 *i* P P **05 41 17.5 +0.1**
SIM Simferopol' 66.16 317*c i*P P **05 41 20.0 -0.5**
SIM pmax pmax
comp=Z,43nm,0.6s,mb5.7
SGKT Sivrigoynuk 66.41 312 *i* P P **05 41 22.2 +0.2**
ISP Isparta 66.95 309 *e*P P **05 41 24.6 -0.9**
ESKT Eskisehir 67.06 311 *i* P P **05 41 25.9 -0.3**
TKTP Tekketepe 67.14 309 *i* P P **05 41 26.4 -0.2**
HENT Hendek 67.32 312 *i* P P **05 41 27.5 -0.4**
GOLH Golhisar 67.56 308 *i* P P **05 41 29.2 -0.2**
GDZ Gediz 68.00 310 *i* P P **05 41 31.7 -0.4**
MOS Moscow 68.03 329 *e*P P **05 41 30.3 -2.0**
MOS *i* pP 05 41 43.9 -0.7
MOS pmax pmax
comp=Z,108nm,1.1s,mb5.8
OBN Obninsk 68.32 328*c i*P P **05 41 33.1 -1.0**
OBN *e* pP 05 41 46.2 -0.2
OBN pmax pmax
comp=Z,101nm,1.6s,mb5.6
ULDT Uludag 68.48 311 *i* P P **05 41 34.9 -0.2**
ISK Istanbul-Kandi 68.73 312 *e*P P **05 41 36.2 -0.5**
MA2 Magadan 68.94 27 *e*P P **05 41 37.2 -0.8**
MA2 pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
MA2 Magadan 68.94 27 *e*P P **05 41 37.0 -0.9**
comp=Z,14nm,0.6s,mb5.0
AYDN Tasoluk 68.96 308 *i* P P **05 41 38.5 +0.4**
LSZ Lusaka 69.17 252 *e*P P **05 41 40.7 +1.3**
LSZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
LSZ MLR MLR
comp=Z,462nm,20.0s,MS4.7
LSZ Lusaka 69.17 252 *e*P P **05 41 40.7 +1.2**
comp=Z,21nm,1.1s,mb5.0
LSZ LR LR
comp=Z,462nm,20.0s,MS4.7
BDRM Kayabasi 69.20 308 *i* P P **05 41 38.9 -0.7**
KDAG Bornova 69.57 309 *i* P P **05 41 42.4 +0.5**
ZKR Zakros 69.87 305 *e*P P **05 41 44.2 +0.5**
TIXI Tiksi 69.91 11*c i*P P **05 41 41.5 -2.5**
TIXI pmax pmax
comp=Z,28nm,0.6s,mb5.4
TIXI Tiksi 69.91 11⇑*i*P P **05 41 41.6 -2.4**
TIXI LR LR
comp=Z,4μm,21.0s,MS5.7
LAST Lasithi 70.48 305 *e*P P **05 41 47.5 +0.1**
CHOS Chios island 70.50 309 *e*P P **05 41 48.1 +0.5**
SANT Santorini 70.66 307 *e*P P **05 41 48.2 -0.3**
comp=Z,108nm,0.6s,mb6.0
ALN Alexandroupoli 70.94 312 *e*P P **05 41 49.7 -0.5**
AKASG Malin Array Be 70.99 322 P P **05 41 48.8 -1.8**
comp=Z,14nm,0.6s,mb5.1,baz=89,slow=5.2,SNR=74
AKBB Malin Array Si 70.99 322 *e*P P **05 41 48.7 -1.9**
SIVA Sivas 71.00 305 *e*P P **05 41 50.9 +0.3**
SEY Seymchan 71.20 24*c i*P P **05 41 50.9 -1.0**
SEY Seymchan 71.20 24⇑*i*P P **05 41 50.0 -1.9**
MIR Mirnyy 71.34 181 *e*P P **05 42 02.0 +9.3**
MIR *e* pP 05 42 14.0 +9.0
MIR pmax pmax
comp=Z,120nm,1.0s,mb5.8
VRI Vrincioaia 71.42 317⇑*i*P P **05 41 53.6 +0.4**
VRI Vrincioaia 71.42 317 P P **05 41 53.8 +0.6**
PLOR Plostina 71.47 317⇓*i*P P **05 41 54.0 +0.5**
LOS Limnos 71.50 310 *e*P pP 05 42 10.4 +4.4
DIM Dimitrovgrad 71.52 313 *e*P P **05 41 53.8 0.0**
KDZ Kurdzhali 71.54 312 P P **05 41 54.0 +0.1**
TMCR Tamitsa 71.65 337 *i* P P **05 41 54.0 -0.6**
TMCR pmax pmax
comp=Z,84nm,1.0s,mb5.6
KARN Karanos 71.78 306 *e*P P **05 41 55.6 +0.3**
PVL Pavlikeni 71.88 314 P P **05 41 56.0 +0.1**
MLR Muntele Rosu 71.88 316⇑*i*P P **05 41 56.2 +0.2**
MLR Muntele Rosu 71.88 316 P P **05 41 56.4 +0.4**
ZIMR 71.93 314 P P **05 41 57.0 +0.7**
CASY Casey 71.94 173 *e*P P **05 41 55.9 -0.4**
comp=Z,12nm,1.0s,mb4.8
CASY LR LR
comp=Z,476nm,22.0s,MS4.7
PLD Plovdiv 72.14 313 *e*P P **05 41 56.9 -0.6**
VOIR 72.49 316⇓*i*P P **05 41 58.8 -0.8**
VOIR 72.49 316⇓P P **05 41 58.8 -0.8**
PGB Panagyurishte 72.61 313 P P **05 41 59.7 -0.6**
MMB Musomiste 72.78 312 P P **05 41 59.5 -1.8**
SRS Serrai 72.80 311 *e*P P **05 42 00.3 -1.1**
PLG Polygyros 72.81 311 *e*P P **05 42 00.6 -0.8**
BURAR Bucovina Array 72.81 318⇑*i*P P **05 42 01.9 +0.4**
HORT Hortiatis 73.10 311 *e*P P **05 42 01.9 -1.3**
KKB Krupnik 73.29 312 P P **05 42 02.7 -1.6**
VTS Vitosha 73.31 313 *e*P P **05 42 04.0 -0.4**
VTS Vitosha 73.31 313 P P **05 42 04.0 -0.4**
VTS Vitosha 73.31 313⇑*i*P P **05 42 04.1 -0.3**
KNT Kendrikon 73.33 311 *e*P P **05 42 03.8 -0.8**
AGG Agios Georgios 73.48 309 *e*P P **05 42 03.5 -1.9**
LIT Litokhoron 73.49 310 *e*P P **05 42 04.1 -1.4**
VAY Valandovo 73.60 312 *e*P P **05 42 04.8 -1.4**
LBTB Lobatse 73.66 242 *e*P P **05 42 08.0 +1.5**
LBTB *e* pP 05 42 22.5 +3.6
LBTB pmax pmax
comp=Z,36nm,0.8s,mb5.3
LBTB MLR MLR
comp=Z,477nm,20.0s,MS4.8
LBTB Lobatse 73.66 242 *e*P P **05 42 08.0 +1.5**
comp=Z,36nm,0.8s,mb5.4
LBTB *e*PcP PcP 05 42 22.5 +0.4
LBTB LR LR
comp=Z,477nm,20.0s,MS4.8
GRG Griva 73.67 311 *e*P P **05 42 05.4 -1.1**
JOF Joensuu 73.86 335 *e*p P **05 42 05.9 -1.7**
comp=Z,53nm,0.7s,mb5.6
JOF Joensuu 73.86 335 *e*P P **05 42 05.9 -1.7**
JOF pmax pmax
comp=Z,53nm,0.7s,mb5.6
STIP Stip 73.93 312 *e*P P **05 42 06.8 -1.3**
LVV L'vov 74.02 320 *e*P P **05 42 08.0 -0.6**
GZR Gura Zlata 74.06 316 P P **05 42 09.1 +0.2**
BIA Bitola 74.49 311 *e*P P **05 42 10.0 -1.3**
SKO Skopje 74.52 312 *e*P P **05 42 10.2 -1.3**
LVZ Lovozero 74.59 340 P P **05 42 09.5 -2.5**
comp=Z,363nm,0.6s,mb6.5,SNR=8.8
LVZ Lovozero 74.59 340 *e*P P **05 42 10.5 -1.5**
LVZ pmax pmax
comp=Z,37nm,0.8s,mb5.4
LVZ pmax pmax
comp=N,5.0nm,0.9s
LVZ pmax pmax
comp=E,10.0nm,0.6s
LKD Levkas 74.75 309 *e*P P **05 42 12.1 -0.7**
DZM Mont Dzumac 74.77 114 P P **05 42 14.2 +1.3**
comp=E,12nm,0.9s,mb4.8,baz=130,slow=18,SNR=3.9
BOSA Boshof 74.82 239 P P **05 42 14.0 +0.8**
comp=E,20nm,0.8s,mb5.1,baz=90,slow=5.2,SNR=35
BOSA LR LR 06 10 03.9
comp=E,192nm,18.4s,MS4.4,baz=172,slow=32
BOSA Boshof 74.82 239 *e*P P **05 42 14.3 +1.0**
BOSA *e* pP 05 42 27.7 +2.0
BOSA pmax pmax
comp=Z,34nm,1.0s,mb5.2
BOSA Boshof 74.82 239 *e*P P **05 42 14.2 +1.0**
comp=Z,34nm,1.0s,mb5.2
BOSA *e*PcP PcP 05 42 27.7 +0.6
KWP Kalwaria 74.83 320 *e*P P **05 42 13.4 +0.1**
APA Apatity 74.88 340⇓*i*P P **05 42 12.0 -1.6**
APA *i* 06 42 26.2
APA pmax pmax
comp=Z,45nm,0.7s,mb5.5
OHR Ohrid 74.89 311 *e*P P **05 42 11.4 -2.3**
OHR Ohrid 74.89 311 *e*P P **05 42 12.3 -1.4**
BZS Buzias 74.90 316⇑*i*P P **05 42 13.4 -0.3**
BZS Buzias 74.90 316 P P **05 42 13.9 +0.2**
UZH Uzhgorod 74.92 319⇑*i*P P **05 42 13.4 -0.4**
UZH *i* 05 42 20.0
UZH *e* pP 05 42 25.8 -0.4
UZH pmax pmax
comp=Z,51nm,1.0s,mb5.4
KOLS Kolonicke sedl 74.98 319 *e*P P **05 42 14.7 +0.5**
IGT Igoumenitsa 75.08 309 *e*P P **05 42 06.7 -8.1**
SUW Suwalki 75.39 325 *e*P P **05 42 15.6 -0.9**
CRVS Cervenica-Dubn 75.51 319 *e*P P **05 42 17.6 +0.4**
PVY Plav 75.68 313⇑*i*P P **05 42 17.1 -1.1**
FIA1 FINESS Array S 75.70 332 *e*P P **05 42 17.3 -1.0**
FIA1 *e*PcP PcP 05 42 30.4 -0.6
FINES FINESS Array B 75.70 332 P P **05 42 17.3 -1.0**
comp=Z,32nm,0.7s,mb5.4,baz=104,slow=8.0,SNR=105
FINES LR LR 06 17 29.2
comp=Z,84nm,20.6s,MS4.0,baz=328,slow=37
STHS Stebnicka Huta 75.73 320 *i* P P **05 42 18.7 +0.2**
STHS *es*P sP 05 42 33.3 -2.4
STHS Stebnicka Huta 75.73 320 *i* P P **05 42 18.7 +0.2**
STHS *e* pP 05 42 33.3 +2.4
STHS pmax pmax
comp=Z,57nm,0.7s,mb5.6
STHS Stebnicka Huta 75.73 320 *i* P P **05 42 18.7 +0.2**
comp=Z,57nm,0.7s,mb5.6
STHS *e* pP 05 42 33.3 +2.4
IVA Berane 75.77 313⇑*i*P P **05 42 18.1 -0.5**
KAF Kangasniemi 75.79 333 *ep* P **05 42 17.2 -1.6**
comp=Z,46nm,0.6s,mb5.6,baz=104,slow=5.3
KAF Kangasniemi 75.79 333 *e*P P **05 42 17.2 -1.6**
KAF pmax pmax
comp=Z,46nm,0.6s,mb5.6
DIVS Divcibare 75.84 314 *i* P P **05 42 18.8 -0.3**
DIVS Divcibare 75.84 314 *e*P P **05 42 18.7 -0.4**
MAW Mawson 75.88 192 *e*P P **05 42 19.6 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
MAW Mawson 75.88 192 P P **05 42 19.2 -0.1**
comp=Z,3.2nm,0.6s,baz=27,slow=9.1,SNR=13
MAW Mawson 75.88 192 *e*P P **05 42 19.6 +0.3**
MAW pmax pmax
comp=Z,9.0nm,0.9s
KECS Kecovo 76.08 319 *i* P P **05 42 20.5 0.0**
KECS *es*P sP 05 42 32.9 -4.8
KECS Kecovo 76.08 319 *i* P P **05 42 20.5 0.0**
KECS *e* pP 05 42 32.9 0.0
KECS pmax pmax
comp=Z,31nm,0.7s,mb5.3
KECS Kecovo 76.08 319 *i* P P **05 42 20.5 0.0**
comp=Z,31nm,0.7s,mb5.3
KECS *e* pP 05 42 32.9 0.0
ULC Ulcinj 76.14 312⇑*i*P P **05 42 20.4 -0.4**
PLE Pljevlja 76.18 313⇑*i*P P **05 42 21.2 +0.2**
TTG Podgorica 76.18 312⇑*i*P P **05 42 20.2 -0.8**
BBLS Bajina Basta - 76.23 314 *i* P P **05 42 22.0 +0.7**
NIE Niedzica 76.33 320 *e*P P **05 42 22.5 +0.6**
PSZ Piszkesteto 76.39 318⇑*e*P P **05 42 22.4 +0.1**
PSZ Piszkesteto 76.39 318⇑*i*P P **05 42 22.4 +0.1**
PSZ Piszkesteto 76.39 318 *e*P P **05 42 22.2 0.0**
comp=Z,55nm,0.8s,mb5.5
NKY Niksic 76.42 313⇑*i*P P **05 42 21.6 -0.7**
BUM Brajici-Budva 76.44 312⇑*i*P P **05 42 21.6 -0.9**
UPM Unac-Piva 76.52 313⇑*i*P P **05 42 22.5 -0.5**
HCY Herceg Novi 76.75 312⇑*i*P P **05 42 23.2 -1.0**
BRY Bratogost 76.76 313⇑*i*P P **05 42 23.4 -0.9**
OJC Ojcow 76.78 320 *i* P P **05 42 24.5 +0.1**
PKSM Moragy 77.03 316⇑*i*P P **05 42 25.6 -0.3**
PKSM Moragy 77.03 316⇑P P **05 42 25.7 -0.2**
PKSM Moragy 77.03 316 P P **05 42 25.9 0.0**
VYHS Vyhne 77.17 319 *i* P P **05 42 26.6 0.0**
VYHS Vyhne 77.17 319 *i* P P **05 42 26.7 +0.1**
VYHS pmax pmax
comp=Z,42nm,1.4s,mb5.2
VYHS Vyhne 77.17 319 *i* P P **05 42 26.7 +0.1**
comp=Z,42nm,1.4s,mb5.2
OKC Ostrava-Krasne 77.78 320⇑*i*P P **05 42 30.4 +0.3**
TIP Timpagrande 77.81 309 *e*P P **05 42 30.4 +0.2**
KEV Kevo 77.87 341 *ep* P **05 42 29.4 -1.2**
comp=Z,38nm,0.7s,mb5.4
KEV Kevo 77.87 341 *e*P P **05 42 29.4 -1.2**
KEV pmax pmax
comp=Z,38nm,0.7s,mb5.4
MORC Moravsky Berou 78.17 320 *e*P P **05 42 32.5 +0.3**
MORC pmax pmax
comp=Z,49nm,0.9s,mb5.4
MORC Moravsky Berou 78.17 320 *e*P P **05 42 32.5 +0.3**
comp=Z,49nm,0.9s,mb5.4
ZST Bratislava 78.29 318 *i* P P **05 42 33.0 +0.1**
ZST *es*P sP 05 42 45.7 -4.4
ZST Bratislava 78.29 318 *i* P P **05 42 33.0 +0.1**
ZST *e* pP 05 42 45.7 +0.4
ZST pmax pmax
comp=Z,122nm,0.9s,mb5.8
ZST MLR MLR
comp=Z,1μm,14.4s,MS5.4
ZST Bratislava 78.29 318 *i* P P **05 42 33.0 +0.1**
comp=Z,122nm,0.9s,mb5.8
ZST *e* pP 05 42 45.7 +0.4
ZST LR LR
comp=Z,1μm,14.4s,MS5.4
ARCES ARCESS Array B 78.30 340 P P **05 42 32.4 -0.6**
comp=Z,23nm,0.6s,mb5.3,baz=91,slow=5.8,SNR=156
ARCES LR LR 06 20 21.8
comp=Z,181nm,20.8s,MS4.4,baz=322,slow=38
ARE0 ARCESS Array S 78.30 340 *e*P P **05 42 32.4 -0.6**
CEL Celeste 78.43 308 *i* P P **05 42 34.3 +0.6**
BILL Bilibino 78.46 21 *e*P P **05 42 32.3 -1.5**
BILL pmax pmax
comp=Z,24nm,1.2s,mb5.0
BILL Bilibino 78.46 21 *e*P P **05 42 32.2 -1.6**
BILL LR LR
comp=Z,519nm,21.0s,MS4.8
CUC Castrocucco 78.58 310 P P **05 42 34.0 -0.5**
KTK1 Kautokeino 78.93 340 *e*P P **05 42 36.5 +0.1**
KTK1 AMb AMB 05 42 37.6
comp=Z,97nm,1.1s,mb5.6
KTK1 *es*P sP 05 42 49.4 -4.2
KTK1 Kautokeino 78.93 340 *e*P P **05 42 36.5 +0.1**
comp=Z,97nm,1.1s,mb5.6
DPC Dobruska-Polom 79.01 320⇑*i*P P **05 42 37.4 +0.6**
KSP Ksiaz 79.07 321 *e*P P **05 42 37.5 +0.3**
KSP Ksiaz 79.07 321⇑*e*P P **05 42 37.3 +0.1**
CONA Conrad Observa 79.09 318⇑*i*P P **05 42 37.3 0.0**
comp=Z,23nm,0.8s,mb5.2,SNR=13
UPC Upice 79.22 320⇑*i*P P **05 42 38.3 +0.3**
ARSA Arzberg 79.27 317⇓*i*P P **05 42 38.6 +0.3**
comp=Z,92nm,1.2s,mb5.6,SNR=26
BOJS Bojanci 79.33 315 *i* P P **05 42 38.7 +0.1**
SUR Sutherland 79.43 236 *e*P P **05 42 40.8 +1.6**
comp=Z,40nm,0.9s,mb5.3
TREC Trest 79.45 319⇑*i*P P **05 42 37.5 -1.7**
PERS Pernice 79.50 316 *i* P P **05 42 39.8 +0.3**
VISS Visnje 79.64 316 *i* P P **05 42 40.4 +0.2**
VISS *i* pP 05 42 53.3 +0.5
TSUM Tsumeb 79.84 250 *e*P P **05 42 42.8 +1.5**
comp=Z,12nm,1.0s,mb4.8
CSLB Castelbuono 79.87 308 P P **05 42 42.0 +0.5**
comp=Z,20nm,0.6s,mb5.2
LJU Ljubljana 79.87 316 *e*P P **05 42 41.7 +0.2**
OBKA Obir 79.88 316 *i* P P **05 42 42.1 +0.5**
comp=Z,72nm,1.2s,mb5.5,SNR=23
PRU Pruhonice 80.12 320⇑*i*P P **05 42 43.1 +0.2**
PVCC Panska Ves 80.14 320⇑*i*P P **05 42 43.2 +0.2**
MOA Molln 80.16 318 *i* P P **05 42 42.9 -0.2**
comp=Z,39nm,1.2s,mb5.2,SNR=14
VOY Vojsko 80.31 316 *e*P P **05 42 43.7 -0.2**
VOY *e* pP 05 42 56.3 -0.1
AQU L'Aquila 80.51 312 *e*P P **05 42 45.1 +0.1**
AQU pmax pmax
comp=Z,84nm,0.9s,mb5.7
AQU L'Aquila 80.51 312 *e*P P **05 42 45.1 +0.2**
comp=Z,84nm,0.9s,mb5.7
CLTB Caltabellotta 80.53 307 P P **05 42 45.8 +0.8**
comp=Z,20nm,0.4s,mb5.4
TRO Tromso 80.56 340 *e*P P **05 42 43.1 -2.2**
BRG Berggiesshubel 80.56 321 *e*P P **05 42 45.3 +0.1**
comp=Z,37nm,1.0s,mb5.3
BRG Berggiesshubel 80.56 321⇑*i*P P **05 42 45.4 +0.1**
comp=Z,19nm,0.9s,mb5.0
BRG *e*pP pP 05 42 59.3 +1.6
comp=Z,6.7nm,1.1s
BRG *e*PP PP 05 45 56.4 +7.4
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 80.56 321⇑*i*P P **05 42 45.4 +0.2**
BRG *e**PP pP 05 42 59.3 +1.5
BRG *e* 05 45 56.4
BRG pmax pmax
comp=Z,19nm,0.9s,mb5.0
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
USI Ustica 80.58 308 P P **05 42 45.4 +0.1**
comp=Z,219nm,1.0s,mb6.0
ROBS Robic 80.59 316 *i* P P **05 42 45.0 -0.3**
GEC2 GERESS Array S 80.59 319 *e*P P **05 42 45.7 +0.3**
comp=Z,98nm,0.9s,mb5.7
GEC2 GERESS Array S 80.59 319 *e*P P **05 42 45.7 +0.3**
GEC2 pmax pmax
comp=Z,98nm,0.9s,mb5.7
GERES GERESS Array B 80.59 319 P P **05 42 45.7 +0.3**
comp=Z,69nm,0.9s,mb5.6,baz=93,slow=5.5,SNR=254
KHC Kasperske Hory 80.69 319⇑*i*P P **05 42 45.9 0.0**
KHC Kasperske Hory 80.69 319*c i*P P **05 42 46.0 +0.1**
CING Cingoli 80.69 313 P P **05 42 46.2 +0.2**
PTCC Patocco-Chiusa 80.70 316 P P **05 42 45.8 -0.2**
comp=Z,77nm,0.7s,mb5.7
KBA Koelnbreinsper 80.74 317 *i* P P **05 42 45.9 -0.3**
comp=Z,43nm,1.2s,mb5.3,SNR=13
KBA Koelnbreinsper 80.74 317 *i* P P **05 42 45.9 -0.3**
KBA pmax pmax
comp=Z,43nm,1.2s,mb5.2
RUE Ruedersdorf 80.77 322 *e*P P **05 42 46.4 0.0**
comp=Z,110nm,0.9s,mb5.8
RUE Ruedersdorf 80.77 322 *e*P P **05 42 46.2 -0.1**
comp=Z,51nm,0.3s,mb5.9
GMNA Gemona 80.78 316 P P **05 42 46.3 -0.1**
comp=Z,457nm,1.0s,mb6.4
FBE Freiberg 80.94 321 *e*P P **05 42 47.4 +0.2**
comp=Z,63nm,0.9s,mb5.5
WET Wettzell 81.15 319 *e*P P **05 42 48.5 +0.1**
comp=Z,48nm,0.9s,mb5.4
WET Wettzell 81.15 319 *e*P P **05 42 48.5 +0.1**
WET pmax pmax
comp=Z,48nm,0.9s,mb5.4
CLL Collm 81.18 321 *e*P P **05 42 48.0 -0.5**
CLL pmax pmax
comp=Z,40nm,1.1s,mb5.3
CLL Collm 81.18 321 *e*P P **05 42 48.0 -0.5**
comp=Z,40nm,1.1s,mb5.3
CLL *e*PP PP 05 45 56.0 +1.9
MURB Monte Urbino 81.18 313 P P **05 42 49.0 +0.5**
TANN Tannenbergstha 81.48 320 *e*P P **05 42 50.1 0.0**
comp=Z,17nm,1.0s,mb4.9
WERN Wernitzgruen 81.53 320 *e*P P **05 42 50.5 +0.1**
comp=Z,25nm,0.9s,mb5.1
GUNZ Gunzen 81.56 320 *e*P P **05 42 50.6 +0.1**
comp=Z,30nm,1.0s,mb5.2
WERD Werda 81.58 320 *e*P P **05 42 50.5 -0.1**
comp=Z,30nm,1.0s,mb5.2
ROTZ Rotzenmuhle 81.61 319 *e*P P **05 42 51.3 +0.5**
comp=Z,45nm,0.9s,mb5.4
MANZ Manzenberg 81.69 320 *e*P P **05 42 51.8 +0.6**
comp=Z,61nm,1.0s,mb5.5
MOR8 Moi Rana 81.69 336 *e*P P **05 42 49.7 -1.6**
MOR8 AMb AMB 05 42 50.9
comp=Z,56nm,0.7s,mb5.6
MOR8 *e*pP pP 05 43 00.5 -3.3
MOR8 Moi Rana 81.69 336 *e*P P **05 42 49.7 -1.6**
comp=Z,56nm,0.7s,mb5.6
BRES Bressanone 81.83 316 P P **05 42 51.5 -0.5**
WTTA Wattenberg 81.91 317 *i* P P **05 42 52.0 -0.4**
comp=Z,96nm,1.1s,mb5.6,SNR=28
WTTA Wattenberg 81.91 317 *i* P P **05 42 52.0 -0.4**
WTTA pmax pmax
comp=Z,96nm,1.1s,mb5.6
WATA Walderalm 81.95 317⇑*i*P P **05 42 52.0 -0.6**
comp=Z,40nm,1.1s,mb5.3,SNR=8.9
WATA Walderalm 81.95 317⇑*i*P P **05 42 52.0 -0.6**
WATA pmax pmax
comp=Z,40nm,1.1s,mb5.3
MOX Moxa 82.03 320 *e*P P **05 42 52.8 -0.2**
comp=Z,22nm,0.8s,mb5.1
MOX Moxa 82.03 320 *e*P P **05 42 52.9 -0.1**
comp=Z,41nm,1.1s,mb5.3
MOX Moxa 82.03 320 *e*P P **05 42 52.9 -0.1**
MOX pmax pmax
comp=Z,41nm,1.1s,mb5.3
CSNT Castellina Chi 82.08 313 P P **05 42 52.2 -1.1**
comp=Z,15nm,0.5s,mb5.2
FUR Furstenfeldbru 82.18 318 *e*P P **05 42 53.3 -0.5**
comp=Z,44nm,0.7s,mb5.5
FUR Furstenfeldbru 82.18 318 *e*P P **05 42 53.3 -0.5**
FUR pmax pmax
comp=Z,44nm,0.7s,mb5.5
SQTA Sankt Quirin 82.20 317⇑*i*P P **05 42 53.5 -0.4**
comp=Z,37nm,0.9s,mb5.3,SNR=25
SQTA Sankt Quirin 82.20 317⇑*i*P P **05 42 53.5 -0.4**
SQTA pmax pmax
comp=Z,37nm,0.9s,mb5.3
FNVD Fontana Vidola 82.21 314 P P **05 42 55.1 +1.1**
GRA1 Grafenberg Arr 82.25 319 *e*P P **05 42 54.5 +0.3**
comp=Z,62nm,0.9s,mb5.5
GRF Grafenberg Arr 82.25 319 *e*P P **05 42 54.5 +0.3**
GRF pmax pmax
comp=Z,62nm,0.9s,mb5.5
GRF Grafenberg Arr 82.25 319 *e*P P **05 42 54.5 +0.3**
GRF pmax pmax
comp=Z,62nm,0.9s,mb5.5
GRF Grafenberg Arr 82.25 319 *e*P P **05 42 54.5 +0.3**
comp=Z,62nm,0.9s,mb5.5
MOTA Moosalm 82.28 317⇑*i*P P **05 42 53.8 -0.5**
comp=Z,47nm,1.0s,mb5.4,SNR=25
MOTA Moosalm 82.28 317⇑*i*P P **05 42 53.8 -0.5**
MOTA pmax pmax
comp=Z,47nm,1.0s,mb5.4
NSS Namsos 82.58 334 *e*P P **05 42 53.9 -2.0**
NSS AMb AMB 05 42 54.9
comp=Z,80nm,0.8s,mb5.8
NSS Namsos 82.58 334 *e*P P **05 42 53.9 -2.0**
comp=Z,80nm,0.8s,mb5.8
BDI Bagni Di Lucca 82.59 314 P P **05 42 55.2 -0.8**
PII Pisa 82.64 313 P P **05 42 55.1 -1.1**
PII pmax pmax
comp=Z,29nm,0.6s,mb5.5
PII Pisa 82.64 313 P P **05 42 55.1 -1.1**
comp=Z,28nm,0.6s,mb5.5
MABI Malga Bissina 82.66 316 P P **05 42 56.8 +0.5**
NB2 NORSAR Subarra 82.70 331 P P **05 42 55.3 -1.2**
comp=Z,36nm,0.9s,mb5.4,baz=95,slow=5.3
NB2 NORSAR Subarra 82.70 331 P P **05 42 55.3 -1.2**

NB2 pmax pmax
comp=Z,36nm,0.9s,mb5.4
NOA NORSAR Array B 82.70 331 P **P** **05 42 55.4 -1.2**
comp=Z,23nm,0.8s,mb5.2,baz=93,slow=5.5,SNR=57
NOA LR LR 06 22 40.5
comp=Z,74nm,21.6s,MS4.0,baz=55,slow=38
CLZ Clausthal 82.84 321 *eP* **P** **05 42 57.1 -0.1**
CLZ pmax pmax
comp=Z,54nm,0.9s,mb5.6
CLZ Clausthal 82.84 321 *eP* **P** **05 42 57.1 -0.1**
comp=Z,54nm,0.9s,mb5.6
NAO01 NORSAR Array S 82.85 331 *eP* **P** **05 42 55.6 -1.7**
comp=Z,19nm,0.8s,mb5.2
SPB4 Spitsbergen Ar 82.87 348 *eP* **P** **05 42 56.4 -1.0**
SYO Syowa Base 82.90 197⇓ *eP* **P** **05 42 57.2 -0.3**
SYO Syowa Base 82.90 197⇑ *esP* sP 05 43 13.4 -1.4
BSEG Bad Segeberg 82.92 324 *eP* **P** **05 42 57.7 0.0**
comp=Z,82nm,1.0s,mb5.7
BSEG Bad Segeberg 82.92 324 *eP* **P** **05 42 57.7 0.0**
BSEG pmax pmax
comp=Z,82nm,1.0s,mb5.7
BSEG Bad Segeberg 82.92 324 *eP* **P** **05 42 57.7 0.0**
NRDL Niedersach Rie 83.02 322 *eP* **P** **05 42 58.3 +0.1**
comp=Z,75nm,1.4s,mb5.5
UBBA Unterbreizbach 83.06 320 *eP* **P** **05 42 57.8 -0.6**
GTTG Gvttingen 83.09 321 *eP* **P** **05 42 58.2 -0.3**
comp=Z,24nm,0.7s,mb5.3
DAVA Damuels 83.11 317⇑ *iP* **P** **05 42 58.7 +0.1**
comp=Z,86nm,1.2s,mb5.7,SNR=18
RPZ Rata Peaks 83.36 135 P **P** **05 42 59.4 -0.5**
comp=Z,28nm,1.0s,mb5.2,baz=42,slow=5.5,SNR=4.3
BOB Bobbio (Coli) 83.42 314 P **P** **05 43 00.7 +0.5**
KONO Kongsberg 83.45 329⇑ *eP* **P** **05 42 59.3 -1.1**
TUE Stuetta 83.47 316 P **P** **05 43 00.6 +0.1**
VSL Villasalto 83.54 309 *eP* **P** **05 43 00.8 0.0**
comp=Z,63nm,1.0s,mb5.7
STU Stuttgart 83.57 318 *eP* **P** **05 43 00.6 -0.4**
comp=Z,35nm,0.7s,mb5.6
STU Stuttgart 83.57 318 *eP* **P** **05 43 00.9 -0.1**
STU pmax pmax
comp=Z,39nm,0.7s,mb5.7
STU Stuttgart 83.57 318 *eP* **P** **05 43 00.9 -0.1**
comp=Z,39nm,0.7s,mb5.7
KEST Kesra 83.65 305 P **P** **05 43 02.5 +1.1**
comp=Z,18nm,0.8s,mb5.2,baz=4.4,slow=0.5,SNR=50
PGF Pioggiola 83.77 312⇑ *iP* **P** **05 43 02.1 +0.1**
comp=Z,42nm,0.8s,mb5.3
PGF Pioggiola 83.77 312⇑ *iP* **P** **05 43 02.1 +0.1**
PGF pmax pmax
comp=Z,21nm,0.8s,mb5.3
PGF Pioggiola 83.77 312⇑ *iP* **P** **05 43 02.1 +0.1**
comp=Z,21nm,0.8s,mb5.3
TOD Tromm 83.82 319 *eP* **P** **05 43 01.8 -0.5**
SPAK Spaichingen-Ko 83.84 318 *eP* **P** **05 43 02.0 -0.4**
TNS Taunus Mts 84.05 320 *eP* **P** **05 43 03.4 -0.1**
comp=Z,50nm,1.0s,mb5.6
TNS Taunus Mts 84.05 320 *eP* **P** **05 43 03.4 -0.1**
TNS pmax pmax
comp=Z,50nm,1.0s,mb5.6
BFO Black Forest 84.15 318 P **P** **05 43 03.6 -0.4**
comp=Z,267nm,0.7s,mb6.5,SNR=10.0
BFO Black Forest 84.15 318 *eP* **P** **05 43 03.3 -0.7**
comp=Z,40nm,0.8s,mb5.6
BFO Black Forest 84.15 318 *eP* **P** **05 43 03.3 -0.7**
BFO pmax pmax
comp=Z,40nm,0.8s,mb5.6
FELD Feldberg im Sc 84.37 318 *eP* **P** **05 43 04.6 -0.5**
IBBN Ibbenburen 84.45 322 *eP* **P** **05 43 05.4 -0.1**
comp=Z,64nm,0.8s,mb5.8
LANF Langenberg 84.48 319 *eP* **P** **05 43 05.5 -0.2**
LIBD Limburg 84.64 318 *eP* **P** **05 43 05.9 -0.5**
BUG Bochum--Univer 84.77 321 *eP* **P** **05 43 07.0 -0.1**
comp=Z,65nm,1.0s,mb5.7
SAOF Saorge 84.79 314 *eP* **P** **05 43 07.1 -0.1**
WLS Welschbruch 84.80 318 *eP* **P** **05 43 06.8 -0.4**
CDF Champ du Feu 84.85 318⇑ *iP* **P** **05 43 06.9 -0.6**
comp=Z,42nm,0.9s,mb5.3
CDF Champ du Feu 84.85 318⇑ *iP* **P** **05 43 06.9 -0.6**
CDF pmax pmax
comp=Z,21nm,0.9s,mb5.3
CDF Champ du Feu 84.85 318⇑ *iP* **P** **05 43 06.9 -0.6**
comp=Z,21nm,0.9s,mb5.3
SBF Sospel 84.88 313⇑ *iP* **P** **05 43 07.6 -0.1**
comp=Z,194nm,0.8s,mb6.0
SBF Sospel 84.88 313⇑ *iP* **P** **05 43 07.6 -0.1**
SBF pmax pmax
comp=Z,97nm,0.8s,mb6.0
SBF Sospel 84.88 313⇑ *iP* **P** **05 43 07.6 -0.1**
comp=Z,97nm,0.8s,mb6.0
AUTN L'Aution 84.88 314 *eP* **P** **05 43 07.9 +0.2**
REVF Revere 84.93 313 *eP* **P** **05 43 07.9 0.0**
ECH Echery 84.93 318 *eP* **P** **05 43 07.9 0.0**
LUCF Luceram 84.94 314 *eP* **P** **05 43 07.9 -0.1**
RUP Ruppelstein 84.95 319 *eP* **P** **05 43 07.6 -0.4**
MOF Molkenrain 84.97 317 *eP* **P** **05 43 07.4 -0.7**
FUNA Funafuti 84.97 99 PFAKE 05 43 20.0 +12
FUNA LR LR
comp=Z,7μm,19.0s
TOUF Mont Tournerai 85.01 314 *eP* **P** **05 43 08.6 +0.3**
MVIF Mont Vial 85.08 314 *eP* **P** **05 43 08.8 +0.1**
HINF Hinteralfeld 85.15 317⇑ *iP* **P** **05 43 08.1 -0.9**
comp=Z,17nm,0.8s,mb4.9
HINF Hinteralfeld 85.15 317⇑ *iP* **P** **05 43 08.1 -0.9**
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
HINF Hinteralfeld 85.15 317⇑ *iP* **P** **05 43 08.1 -0.9**
comp=Z,8.4nm,0.8s,mb4.9
LOMF Lomont 85.18 317 *eP* **P** **05 43 08.5 -0.7**
LPG La Plagne 85.31 315⇑ *iP* **P** **05 43 10.0 +0.2**
comp=Z,115nm,0.8s,mb5.8
LPG La Plagne 85.31 315⇑ *iP* **P** **05 43 10.0 +0.2**
LPG pmax pmax
comp=Z,58nm,0.8s,mb5.8
LPG La Plagne 85.31 315⇑ *iP* **P** **05 43 10.0 +0.2**
comp=Z,58nm,0.8s,mb5.8
LPL La Plagne 85.32 315⇑ *iP* **P** **05 43 10.0 +0.1**
comp=Z,148nm,0.8s,mb5.8
LPL La Plagne 85.32 315⇑ *iP* **P** **05 43 10.0 +0.1**
LPL pmax pmax
comp=Z,74nm,0.8s,mb5.9
LPL La Plagne 85.32 315⇑ *iP* **P** **05 43 10.0 +0.1**
comp=Z,74nm,0.8s,mb5.9
OG01 Vacheresse 85.32 316 *eP* **P** **05 43 10.0 +0.1**
MBDF Montbardon 85.32 314 *eP* **P** **05 43 09.2 -0.7**
comp=Z,51nm,0.9s,mb5.3
MBDF Montbardon 85.32 314 *eP* **P** **05 43 09.2 -0.7**
MBDF pmax pmax
comp=Z,25nm,0.9s,mb5.3
MBDF Montbardon 85.32 314 *eP* **P** **05 43 09.2 -0.7**
comp=Z,26nm,0.9s,mb5.3
BNI Bardonecchia 85.38 315 *eP* **P** **05 43 09.9 -0.2**
BNI pmax pmax
comp=Z,29nm,0.8s,mb5.5
BNI Bardonecchia 85.38 315 *eP* **P** **05 43 09.9 -0.2**
comp=Z,29nm,0.8s,mb5.5
RSL Roselend 85.39 315 *eP* **P** **05 43 10.0 -0.2**
FRF La Foret Royal 85.46 313⇑ *iP* **P** **05 43 10.6 0.0**
comp=Z,165nm,1.0s,mb5.8
FRF La Foret Royal 85.46 313⇑ *iP* **P** **05 43 10.6 0.0**
FRF pmax pmax
comp=Z,83nm,1.0s,mb5.8
FRF La Foret Royal 85.46 313⇑ *iP* **P** **05 43 10.6 0.0**
comp=Z,83nm,1.0s,mb5.8
HAU Haudompre 85.48 318⇑ *iP* **P** **05 43 10.1 -0.6**
comp=Z,131nm,0.8s,mb5.8
HAU *eMLR* MLR
comp=Z,78nm,17.2s
HAU Haudompre 85.48 318⇑ *iP* **P** **05 43 10.1 -0.6**
HAU pmax pmax
comp=Z,65nm,0.8s,mb5.8
HAU MLR MLR
comp=Z,80nm,17.3s,MS4.2
HAU Haudompre 85.48 318⇑ *iP* **P** **05 43 10.1 -0.6**
comp=Z,65nm,0.8s,mb5.8
HAU LR LR
comp=Z,80nm,17.3s,MS4.2
WLF Walferdange 85.54 319 *eP* **P** **05 43 11.1 +0.1**
comp=Z,25nm,1.0s,mb5.4
WLF Walferdange 85.54 319 P **P** **05 43 11.6 +0.6**
WLF Walferdange 85.54 319 *eP* **P** **05 43 10.6 -0.4**
WLF pmax pmax
comp=Z,37nm,1.3s,mb5.5
WLF Walferdange 85.54 319 *eP* **P** **05 43 10.6 -0.3**
comp=Z,37nm,1.3s,mb5.5
LMR La Mourre 85.57 313 *eP* **P** **05 43 11.0 -0.1**
comp=Z,95nm,1.1s,mb5.7
LMR La Mourre 85.57 313 *eP* **P** **05 43 11.0 -0.1**
LMR pmax pmax
comp=Z,48nm,1.1s,mb5.6
LMR La Mourre 85.57 313 *eP* **P** **05 43 11.0 -0.1**
comp=Z,48nm,1.1s,mb5.6
MEM Membach 85.60 320 P **P** **05 43 11.3 +0.1**
THEF They Montfort 85.72 318 *eP* **P** **05 43 11.3 -0.5**
CABF La Chapelle 85.72 316⇑ *iP* **P** **05 43 11.9 0.0**
comp=Z,84nm,0.9s,mb5.7
CABF La Chapelle 85.72 316⇑ *iP* **P** **05 43 11.9 0.0**
CABF pmax pmax
comp=Z,42nm,0.9s,mb5.7
CABF La Chapelle 85.72 316⇑ *iP* **P** **05 43 11.9 0.0**
comp=Z,42nm,0.9s,mb5.7
OG25 Le Caire 85.84 314 *eP* **P** **05 43 12.5 +0.1**
ORIF Oris-en-Rattie 85.95 315⇑ *iP* **P** **05 43 12.7 -0.3**
comp=Z,47nm,0.8s,mb5.5
ORIF *eMLR* MLR
comp=Z,134nm,21.2s
ORIF Oris-en-Rattie 85.95 315⇑ *iP* **P** **05 43 12.7 -0.3**
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.5
ORIF Oris-en-Rattie 85.95 315⇑ *iP* **P** **05 43 12.7 -0.3**
comp=Z,23nm,0.8s,mb5.5
BCLA Clavier 86.06 320 P **P** **05 43 13.6 +0.1**
OG05 Jujurieux 86.18 316 *eP* **P** **05 43 14.1 -0.1**
SMRF Simiane la Rot 86.22 314⇑ *iP* **P** **05 43 14.8 +0.5**
comp=Z,43nm,0.8s,mb5.4
SMRF Simiane la Rot 86.22 314⇑ *iP* **P** **05 43 14.8 +0.5**
comp=Z,43nm,0.8s,mb5.7
MEZF Maizieres J'vi 86.32 318 *eP* **P** **05 43 14.6 -0.2**
GIVF Givet 86.38 320 *eP* **P** **05 43 14.8 -0.3**
comp=Z,56nm,0.9s,mb5.5
GIVF Givet 86.38 320 *eP* **P** **05 43 14.8 -0.3**
GIVF pmax pmax
comp=Z,28nm,0.9s,mb5.5
GIVF Givet 86.38 320 *eP* **P** **05 43 14.8 -0.3**
comp=Z,28nm,0.9s,mb5.5
DFRA Djebel Bou Aff 86.42 306 P **P** **05 43 17.0 +1.7**
DOU Dourbes 86.53 320 P **P** **05 43 15.5 -0.4**
SNF Seneffe 86.70 320 P **P** **05 43 16.6 -0.1**
BAIF Baives 86.78 320⇑ *iP* **P** **05 43 17.0 -0.1**
comp=Z,71nm,0.8s,mb5.7
BAIF Baives 86.78 320⇑ *iP* **P** **05 43 17.0 -0.1**
BAIF pmax pmax
comp=Z,36nm,0.8s,mb5.7
BAIF Baives 86.78 320⇑ *iP* **P** **05 43 17.0 -0.1**
comp=Z,36nm,0.8s,mb5.7
VIVF Saint-Julien-I 86.81 315⇑ *iP* **P** **05 43 17.1 -0.1**
comp=Z,63nm,0.9s,mb5.6
VIVF Saint-Julien-I 86.81 315⇑ *iP* **P** **05 43 17.1 -0.1**
VIVF pmax pmax
comp=Z,32nm,0.9s,mb5.5
VIVF Saint-Julien-I 86.81 315⇑ *iP* **P** **05 43 17.1 -0.1**
comp=Z,32nm,0.9s,mb5.5
URZ Urewera 86.83 129 P **P** **05 43 15.9 -1.4**
comp=Z,20nm,0.7s,mb5.4,baz=319,slow=3.9,SNR=11
LOR Lormes 87.20 317⇑ *iP* **P** **05 43 18.8 -0.3**
comp=Z,109nm,0.9s,mb5.8
LOR *eMLR* MLR
comp=Z,115nm,17.0s
LOR Lormes 87.20 317⇑ *iP* **P** **05 43 18.8 -0.3**
LOR pmax pmax
comp=Z,55nm,0.9s,mb5.8
LOR MLR MLR
comp=Z,110nm,17.0s,MS4.3
LOR Lormes 87.20 317⇑ *iP* **P** **05 43 18.8 -0.3**
comp=Z,55nm,0.9s,mb5.8
LOR LR LR
comp=Z,110nm,17.0s,MS4.3
SMF Signal de Mont 87.26 316⇑ *iP* **P** **05 43 19.0 -0.4**
comp=Z,112nm,0.8s,mb5.8
SMF Signal de Mont 87.26 316⇑ *iP* **P** **05 43 19.0 -0.4**
SMF pmax pmax
comp=Z,56nm,0.8s,mb5.8
SMF Signal de Mont 87.26 316⇑ *iP* **P** **05 43 19.0 -0.4**
comp=Z,56nm,0.8s,mb5.8
LASF Ste Croix 87.45 314⇑ *iP* **P** **05 43 20.5 +0.2**
comp=Z,64nm,1.0s,mb5.5
SSF Saint Saulge 87.46 317⇑ *iP* **P** **05 43 20.0 -0.4**
comp=Z,48nm,1.0s,mb5.4
SSF Saint Saulge 87.46 317⇑ *iP* **P** **05 43 20.0 -0.4**
SSF pmax pmax
comp=Z,24nm,1.0s,mb5.4
SSF Saint Saulge 87.46 317⇑ *iP* **P** **05 43 20.0 -0.4**
comp=Z,24nm,1.0s,mb5.4
PLDF La Plantade 87.47 316 *eP* **P** **05 43 20.6 +0.2**
AVF Avril sur Loir 87.59 317⇑ *iP* **P** **05 43 20.6 -0.4**
comp=Z,79nm,1.0s,mb5.6
AVF Avril sur Loir 87.59 317⇑ *iP* **P** **05 43 20.6 -0.4**
AVF pmax pmax
comp=Z,40nm,1.0s,mb5.6
AVF Avril sur Loir 87.59 317⇑ *iP* **P** **05 43 20.6 -0.4**
comp=Z,40nm,1.0s,mb5.6
LBL Lubilhac 87.79 315 *eP* **P** **05 43 22.7 +0.8**
AGO Saint Agoulin 87.80 316 *eP* **P** **05 43 22.5 +0.5**
PYM Petit Puy Mans 87.91 316 *eP* **P** **05 43 22.7 +0.2**
BGF Bois d'Agland 87.95 316⇑ *iP* **P** **05 43 22.8 +0.1**
comp=Z,85nm,0.9s,mb5.7
BGF Bois d'Agland 87.95 316⇑ *iP* **P** **05 43 22.8 +0.1**
BGF pmax pmax
comp=Z,42nm,0.9s,mb5.7
BGF Bois d'Agland 87.95 316⇑ *iP* **P** **05 43 22.8 +0.1**
comp=Z,42nm,0.9s,mb5.7
HYF Humbligny 88.03 317 *eP* **P** **05 43 23.4 +0.3**
MENF Mencas 88.05 320 *eP* **P** **05 43 23.2 0.0**
EJON La Jonquera 88.28 312 P **P** **05 43 24.6 +0.3**
comp=Z,13nm,0.9s,mb5.2
TCF Toulx Ste Croi 88.42 316⇑ *iP* **P** **05 43 25.0 +0.1**
comp=Z,33nm,1.0s,mb5.2
TCF Toulx Ste Croi 88.42 316⇑ *iP* **P** **05 43 25.0 +0.1**
TCF pmax pmax
comp=Z,16nm,1.0s,mb5.2
TCF Toulx Ste Croi 88.42 316⇑ *iP* **P** **05 43 25.0 +0.1**
comp=Z,16nm,1.0s,mb5.2
CAF Calviac 88.65 315⇑ *iP* **P** **05 43 26.4 +0.4**
comp=Z,36nm,0.9s,mb5.4
CAF Calviac 88.65 315⇑ *iP* **P** **05 43 26.4 +0.4**
CAF pmax pmax
comp=Z,18nm,0.9s,mb5.4
CAF Calviac 88.65 315⇑ *iP* **P** **05 43 26.4 +0.4**
comp=Z,18nm,0.9s,mb5.4
MTLF Montolieu 88.69 313⇑ *iP* **P** **05 43 26.5 +0.3**
comp=Z,42nm,0.9s,mb5.5
MTLF Montolieu 88.69 313⇑ *iP* **P** **05 43 26.5 +0.3**
MTLF pmax pmax
comp=Z,21nm,0.9s,mb5.5
MTLF Montolieu 88.69 313⇑ *iP* **P** **05 43 26.5 +0.3**
comp=Z,21nm,0.9s,mb5.5
RJF Les Rejaudoux 89.00 315⇑ *iP* **P** **05 43 28.1 +0.4**
comp=Z,48nm,0.9s,mb5.5
RJF *eMLR* MLR
comp=Z,126nm,17.5s
RJF Les Rejaudoux 89.00 315⇑ *iP* **P** **05 43 28.1 +0.4**
RJF pmax pmax
comp=Z,24nm,0.9s,mb5.5
RJF MLR MLR
comp=Z,130nm,17.5s,MS4.4
RJF Les Rejaudoux 89.00 315⇑ *iP* **P** **05 43 28.1 +0.4**
comp=Z,24nm,0.9s,mb5.5
RJF LR LR
comp=Z,130nm,17.5s,MS4.4
EMIR Miracle 89.34 312 P **P** **05 43 30.3 +1.0**
comp=Z,44nm,0.8s,mb5.8
LFF La Frestale 89.58 315⇑ *iP* **P** **05 43 30.9 +0.5**
comp=Z,103nm,1.2s,mb5.8
LFF La Frestale 89.58 315⇑ *iP* **P** **05 43 30.9 +0.5**
LFF pmax pmax
comp=Z,51nm,1.2s,mb5.7
LFF La Frestale 89.58 315⇑ *iP* **P** **05 43 30.9 +0.5**
comp=Z,51nm,1.2s,mb5.7
EPOB Poblet 89.74 311 P **P** **05 43 31.6 +0.5**
comp=Z,31nm,0.8s,mb5.7
LDF La Druitiere 89.74 319⇑ *iP* **P** **05 43 31.1 0.0**
comp=Z,98nm,0.8s,mb5.9
LDF La Druitiere 89.74 319⇑ *iP* **P** **05 43 31.1 0.0**
LDF pmax pmax
comp=Z,49nm,0.8s,mb5.9
LDF La Druitiere 89.74 319⇑ *iP* **P** **05 43 31.1 0.0**
comp=Z,49nm,0.8s,mb5.9
EIBI Ibiza 89.79 309 P **P** **05 43 33.0 +1.6**
comp=Z,54nm,1.3s,mb5.7
RAO Raoul Island 89.81 119 LR LR 06 25 04.9
comp=Z,145nm,19.5s,MS4.4,baz=237,slow=36
VNDA Vanda 89.90 168 P **P** **05 43 31.5 -0.4**
comp=Z,3.3nm,0.6s,mb4.8,baz=287,slow=5.0,SNR=17
VNDA LR LR 06 21 26.3
comp=Z,176nm,20.5s,MS4.5,baz=344,slow=34
VNDA Vanda 89.90 168 *eP* **P** **05 43 31.1 -0.8**
VNDA pmax pmax
comp=Z,30nm,1.5s
VNDA MLR MLR
comp=Z,265nm,19.0s
VNDA Vanda 89.90 168 *eP* **P** **05 43 31.1 -0.8**
comp=Z,30nm,1.5s,mb5.4
VNDA LR LR
comp=Z,265nm,19.0s,MS4.7
FLN La Foliniere 89.95 319⇑ *iP* **P** **05 43 32.1 0.0**
comp=Z,112nm,0.8s,mb5.9
FLN *eMLR* MLR
comp=Z,101nm,19.8s
FLN La Foliniere 89.95 319⇑ *iP* **P** **05 43 32.1 0.0**
FLN pmax pmax
comp=Z,56nm,0.8s,mb6.0
FLN MLR MLR
comp=Z,100nm,19.8s,MS4.2
FLN La Foliniere 89.95 319⇑ *iP* **P** **05 43 32.1 0.0**
comp=Z,56nm,0.8s,mb6.0
FLN LR LR
comp=Z,100nm,19.8s,MS4.2
GRR Gorron 90.25 318 *eP* **P** **05 43 33.7 +0.2**
comp=Z,110nm,1.1s,mb5.8
GRR Gorron 90.25 318 *eP* **P** **05 43 33.7 +0.2**
GRR pmax pmax
comp=Z,55nm,1.1s,mb5.8
GRR Gorron 90.25 318 *eP* **P** **05 43 33.7 +0.2**
comp=Z,55nm,1.1s,mb5.8
EBIE Bielsa 90.28 313 P **P** **05 43 34.8 +1.2**
comp=Z,12nm,0.9s,mb5.2
ERTA Horta de San J 90.34 311 P **P** **05 43 35.0 +1.0**
comp=Z,33nm,1.3s,mb5.5
DAG Danmarks Havn 90.50 348⇑ *iP* **P** **05 43 32.7 -2.0**
comp=Z,6.8nm,0.4s,mb5.3
DAG Danmarks Havn 90.50 348⇑ *iP* **P** **05 43 32.7 -2.0**
DAG pmax pmax
comp=Z,7.0nm,0.4s,mb5.3
ESK Eskdalemuir 90.65 326 *eP* **P** **05 43 35.4 0.0**
ESK pmax pmax
comp=Z,20nm,0.7s,mb5.6
ESK Eskdalemuir 90.65 326 *eP* **P** **05 43 35.4 0.0**
comp=Z,20nm,0.7s,mb5.6
ETSF Etsaut 90.76 313 *eP* **P** **05 43 36.6 +0.7**
comp=Z,40nm,0.8s,mb5.5
ETSF Etsaut 90.76 313 *eP* **P** **05 43 36.6 +0.7**
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.5
ETSF Etsaut 90.76 313 *eP* **P** **05 43 36.6 +0.7**
comp=Z,20nm,0.8s,mb5.5
ESAC San Caprasio 90.85 312 P **P** **05 43 37.2 +0.9**
comp=Z,39nm,0.9s,mb5.7
SBA Scott Base 91.01 168 *eP* **P** **05 43 37.7 +0.7**
SBA pmax pmax
comp=Z,19nm,1.0s,mb5.4
SBA Scott Base 91.01 168 *eP* **P** **05 43 37.6 +0.6**
comp=Z,19nm,1.0s,mb5.4
EMOS Mosqueruela 91.02 310 P **P** **05 43 38.9 +1.8**
comp=Z,42nm,0.9s,mb5.8
SJPF Ste Jean 91.22 313⇑ *iP* **P** **05 43 38.9 +0.9**
comp=Z,86nm,1.1s,mb5.7
SJPF Ste Jean 91.22 313⇑ *iP* **P** **05 43 38.9 +0.9**
SJPF pmax pmax
comp=Z,43nm,1.1s,mb5.7
SJPF Ste Jean 91.22 313⇑ *iP* **P** **05 43 38.9 +0.9**
comp=Z,43nm,1.1s,mb5.7
SGMF Saint Gilles 91.39 318⇑ *iP* **P** **05 43 38.8 0.0**
comp=Z,67nm,0.9s,mb5.7
SGMF Saint Gilles 91.39 318⇑ *iP* **P** **05 43 38.8 0.0**
SGMF pmax pmax
comp=Z,33nm,0.9s,mb5.7
SGMF Saint Gilles 91.39 318⇑ *iP* **P** **05 43 38.8 0.0**
comp=Z,33nm,0.9s,mb5.7
QUIF Quistinic 91.85 318 *eP* **P** **05 43 40.7 -0.2**
comp=Z,53nm,0.9s,mb5.6
QUIF Quistinic 91.85 318 *eP* **P** **05 43 40.7 -0.2**
QUIF pmax pmax
comp=Z,27nm,0.9s,mb5.6
QUIF Quistinic 91.85 318 *eP* **P** **05 43 40.7 -0.2**
comp=Z,27nm,0.9s,mb5.6
ROSF Rostrenen 91.85 319⇑ *iP* **P** **05 43 41.0 +0.1**
comp=Z,67nm,1.0s,mb5.6
ROSF Rostrenen 91.85 319⇑ *iP* **P** **05 43 41.0 +0.1**
ROSF pmax pmax
comp=Z,33nm,1.0s,mb5.6
ROSF Rostrenen 91.85 319⇑ *iP* **P** **05 43 41.0 +0.1**
comp=Z,34nm,1.0s,mb5.6
EMUR La Murta 91.95 308 P **P** **05 43 42.5 +1.1**
comp=Z,12nm,0.9s,mb5.2
ETOB Tobarra 92.08 309 P **P** **05 43 42.7 +0.7**
comp=Z,15nm,0.9s,mb5.3
TORD Torodi Ar. Bea 92.14 283 P **P** **05 43 43.0 +0.8**
comp=Z,6.2nm,0.8s,mb5.0,baz=80,slow=4.5,SNR=32
TORD LR LR 06 24 01.7
comp=Z,133nm,19.0s,MS4.4,baz=110,slow=35
ETOR Torete 92.16 311 P **P** **05 43 43.1 +0.8**
ETOR pmax pmax
comp=Z,37nm,0.7s,mb5.8
ETOR Torete 92.16 311 P **P** **05 43 43.1 +0.8**
comp=Z,37nm,0.7s,mb5.8
MAIT Maitri 92.43 199 *eP* **P** **05 43 45.0 +1.4**
EVIA Vianos 92.82 309 P **P** **05 43 45.7 +0.3**
EVIA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
EVIA Vianos 92.82 309 P **P** **05 43 45.7 +0.3**
comp=Z,6.9nm,1.0s,mb5.0
EHUE Huescar 93.01 308 P **P** **05 43 46.3 0.0**
EHUE pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
EHUE Huescar 93.01 308 P **P** **05 43 46.3 0.0**
comp=Z,6.5nm,0.6s,mb5.2
EBER Berja 93.38 307 P **P** **05 43 48.9 +0.9**
comp=Z,18nm,0.7s,mb5.6
EQES Quesada 93.39 308 P **P** **05 43 48.6 +0.6**
comp=Z,11nm,1.1s,mb5.2
GUD Guadarrama 93.76 311 P **P** **05 43 49.6 -0.1**
GUD pmax pmax
comp=Z,14nm,0.7s,mb5.5
GUD Guadarrama 93.76 311 P **P** **05 43 49.6 -0.1**
comp=Z,14nm,0.7s,mb5.5
ESDC Sonseca Array 93.78 310 P **P** **05 43 50.4 +0.6**
comp=Z,7.0nm,0.7s,mb5.2,baz=60,slow=4.2,SNR=35
ESDC PKKP PKKPbc 06 00 53.1 -0.4
comp=Z,1.0nm,0.7s,baz=290,slow=3.9,SNR=6.3
ESDC Sonseca Array 93.78 310 P **P** **05 43 50.3 +0.5**
comp=Z,5.0nm,1.4s,mb4.8
ECOG Cogollos-Vega 93.86 308 P **P** **05 43 49.1 -1.1**
ECOG pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
ECOG Cogollos-Vega 93.86 308 P **P** **05 43 49.1 -1.1**
comp=Z,5.1nm,0.8s,mb5.0
EBAN Banos Encina 93.89 309 P **P** **05 43 50.3 0.0**
EBAN pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
EBAN Banos Encina 93.89 309 P **P** **05 43 50.3 -0.1**
comp=Z,7.4nm,0.8s,mb5.2
EGUA Guajares 93.93 307 P **P** **05 43 49.0 -1.5**
IMA2 Indian Mountai 93.97 22 *eP* **P** **05 43 50.3 -0.4**
ERON Agron 94.09 308 P **P** **05 43 49.1 -2.1**
comp=Z,3.1nm,0.2s,mb5.4
ELUQ Luque 94.36 308 P **P** **05 43 51.6 -0.9**
ELUQ pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
ELUQ Luque 94.36 308 P **P** **05 43 51.6 -0.9**
comp=Z,6.4nm,1.0s,mb5.0
EADA Adamuz 94.50 309 P **P** **05 43 53.8 +0.6**
comp=Z,11nm,1.3s,mb5.1
QSPA South Pole Qui 94.87 180 PFAKE 05 44 10.0 +15
QSPA LR LR
comp=Z,361nm,20.0s,MS4.8
SVW2 Sparrevohn 94.91 27 *eP* **P** **05 43 54.2 -0.8**
EMIJ Mijas 94.93 307 P **P** **05 43 54.7 -0.4**
comp=Z,4.6nm,1.4s,mb4.7
EJIF Jimena Fronter 95.50 307 P **P** **05 43 56.6 -1.1**
EJIF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
EJIF Jimena Fronter 95.50 307 P **P** **05 43 56.6 -1.1**
comp=Z,5.6nm,0.8s,mb5.0
ESPR Espera 95.73 308 P **P** **05 43 58.8 0.0**
comp=Z,4.6nm,0.8s,mb5.0
COLA College 96.68 22 PFAKE 05 44 10.0 +6.9
COLA LR LR
comp=Z,183nm,20.0s,MS4.6
SUMG Summit 97.17 347 *eP* **P** **05 44 06.0 +0.7**
comp=Z,13nm,0.7s,mb5.5
DBIC Dimbokro 99.22 278 LR LR 06 25 10.6

comp=Z,111nm,20.5s,MS4.3,baz=98,slow=33
RAR **Rarotonga** 105.92 111 PFAKE 05 49 10.0 +13
RAR LR LR
comp=Z,1.0nm,21.0s
A04A **Legoe Bay, Lum** 117.22 27 ⇑P PKPdf 05 49 17.1 -0.8
baz=117
EDM **Edmonton** 117.29 19 *e*PKIKP PKPdf 05 49 17.0 -1.1
A05A **Maple Falls** 117.30 27 ⇑P PKPdf 05 49 17.4 -0.7
baz=117
B04A **Port Angeles** 117.33 28 ⇓P PKPdf 05 49 17.2 -0.9
baz=117
C04A **Brinnon** 117.83 28 ⇑P PKPdf 05 49 18.6 -0.5
baz=118
B05A **Bryant** 117.83 27 ⇑P PKPdf 05 49 19.1 0.0
baz=118,SNR=11
HDW **Hoodsport** 117.84 28 P PKPdf 05 49 19.8 +0.6
B06A **Marblemount** 117.92 27 ⇓P PKPdf 05 49 18.6 -0.6
baz=118
RPW **Rockport** 117.96 27 P PKPdf 05 49 18.8 -0.6
E03A **Lebam** 118.38 29 ⇑P PKPdf 05 49 19.8 -0.4
baz=118
C05A **Tolt Reservoir** 118.44 27 P PKPdf 05 49 19.9 -0.4
baz=118,SNR=5.7
SCHQ **Schefferville** 118.55 348 PFAKE 05 49 30.0 +10
SCHQ LR LR
comp=Z,716nm,21.0s,MS5.3
B07A **Winthrop** 118.57 26 ⇑P PKPdf 05 49 20.2 -0.3
baz=118
D05A **Enumclaw** 118.67 28 ⇑P PKPdf 05 49 20.7 0.0
baz=118,SNR=6.3
F03A **Seaside** 118.82 30 ⇓P PKPdf 05 49 21.0 0.0
baz=119
A09A **Danville** 118.83 25 ⇓P PKPdf 05 49 20.9 -0.1
baz=119
C07A **Waterville** 119.18 26 P PKPdf 05 49 21.0 -0.7
baz=119,SNR=9.7
D06A **Cle Elum** 119.20 27 ⇑P PKPdf 05 49 21.4 -0.3
baz=119
E05A **Randle** 119.24 28 ⇓P PKPdf 05 49 21.3 -0.5
baz=119
A10A **Northport** 119.24 24 ⇑P PKPdf 05 49 21.7 -0.1
baz=119
TBM **Table Mountain** 119.33 27 P PKPdf 05 49 21.7 -0.3
F04A **Amboy** 119.38 29 P PKPdf 05 49 22.3 +0.2
baz=119,SNR=7.2
B09A **Rice** 119.44 25 P PKPdf 05 49 22.1 -0.1
baz=119,SNR=17
C08A **Higginbotham F** 119.55 26 ⇓P PKPdf 05 49 22.1 -0.3
baz=119
D07A **Quincy** 119.59 27 ⇓P PKPdf 05 49 22.3 -0.2
baz=119
E06A **Yakima** 119.62 28 P PKPdf 05 49 22.7 +0.1
baz=119,SNR=6.7
EPH **Ephrata** 119.64 26 P PKPdf 05 49 22.1 -0.4
H03A **Soap Creek Ran** 119.83 31 ⇑P PKPdf 05 49 23.3 +0.3
baz=120
C09A **Chrisman Ranch** 119.87 25 ⇓P PKPdf 05 49 22.7 -0.3
baz=120
G04A **Mulino** 119.87 30 ⇓P PKPdf 05 49 23.0 0.0
baz=120
F05A **White Salmon** 119.87 29 ⇑P PKPdf 05 49 22.7 -0.3
baz=120
B10A **Chitwood Farm,** 119.92 24 ⇓P PKPdf 05 49 23.3 +0.2
baz=120
NEW **Newport** 119.98 24 *e*PKIKP PKPdf 05 49 22.7 -0.5
NEW MLR MLR
comp=Z,369nm,20.0s
A12A **Yaak River Ran** 120.03 23 ⇑P PKPdf 05 49 23.6 +0.3
baz=120
E07A **Sunnyside** 120.12 27 ⇓P PKPdf 05 49 23.7 +0.1
baz=120
D08A **Wollman Farm,** 120.16 26 ⇓P PKPdf 05 49 23.5 0.0
baz=120
C10A **Spilker Farm,** 120.26 25 P PKPdf 05 49 23.8 0.0
baz=120,SNR=5.2
F06A **Goldendale** 120.28 28 ⇑P PKPdf 05 49 24.1 +0.2
baz=120
VFP **Flag Point** 120.28 29 P PKPdf 05 49 24.3 +0.5
I03A **Eugene** 120.33 31 ⇑P PKPdf 05 49 24.1 +0.2
baz=120
RSW **Rattlesnake Hi** 120.36 27 P PKPdf 05 49 24.5 +0.5
H04A **Detroit Lake** 120.39 30 P PKPdf 05 49 24.0 0.0
baz=120,SNR=10
HAWA **Hanford** 120.39 27 *e*PKPdf PKPdf 05 49 23.9 -0.1
HAWA LR LR
comp=Z,351nm,19.0s,MS5.0
G05A **Wamic** 120.41 29 ⇑P PKPdf 05 49 23.6 -0.5
baz=120
D09A **Jones Farm, Ri** 120.43 26 P PKPdf 05 49 23.9 -0.2
baz=120,SNR=7.8
B12A **Libby** 120.44 23 ⇑P PKPdf 05 49 23.9 -0.2
baz=120
BROR **Big Rock Looko** 120.55 31 P PKPdf 05 49 24.3 -0.1
F07A **Phinny Hill Vi** 120.59 28 ⇓P PKPdf 05 49 24.6 +0.2
baz=120
J02A **Umpqua** 120.60 32 ⇓P PKPdf 05 49 24.4 0.0
baz=120
G06A **Carlson Farm,** 120.74 29 ⇓P PKPdf 05 49 24.7 0.0
baz=120,SNR=6.3
H05A **Madras** 120.89 29 ⇑P PKPdf 05 49 25.7 +0.7
baz=121
J03A **Ideyld Park** 120.92 32 ⇓P PKPdf 05 49 25.2 +0.2
baz=121
E09A **Wood Farm, Sta** 120.92 26 P PKPdf 05 49 25.0 0.0
baz=121,SNR=6.1
B13A **Whitefish** 120.95 23 ⇑P PKPdf 05 49 24.7 -0.4
baz=121,SNR=10
K02A **Glendale** 121.06 32 ⇑P PKPdf 05 49 25.4 +0.1
baz=121
C12A **Trout Creek** 121.10 24 ⇓P PKPdf 05 49 25.5 +0.1
baz=121
G07A **Ruggs Ranch, H** 121.18 28 ⇑P PKPdf 05 49 25.4 -0.1
baz=121
F08A **Pendleton** 121.19 27 P PKPdf 05 49 25.6 0.0
baz=121,SNR=5.5
LNOR **Lincton Mounta** 121.35 27 PKIKP PKPdf 05 49 25.6 -0.3
L02A **Cave Junction** 121.42 33 ⇑P PKPdf 05 49 26.4 +0.4
baz=121
C13A **Hot Springs** 121.47 23 P PKPdf 05 49 26.0 -0.1
baz=121,SNR=7.2
G08A **Pilot Rock** 121.49 28 P PKPdf 05 49 26.1 0.0
baz=121,SNR=9.4
F09A **S2 Ranch, Elgi** 121.65 27 P PKPdf 05 49 26.3 -0.1
baz=121,SNR=18
H07A **Lands Inn, Kim** 121.73 28 P PKPdf 05 49 26.9 +0.3
baz=122,SNR=22
F10A **Beach Ranch, E** 121.74 26 P PKPdf 05 49 26.5 -0.1
baz=122,SNR=37
J05A **Fort Rock** 121.87 31 P PKPdf 05 49 27.6 +0.8
baz=122,SNR=15
I06A **Prineville** 121.90 29 P PKPdf 05 49 27.6 +0.7
baz=122,SNR=8.4
K04A **Chilquin** 122.09 31 ⇓P PKPdf 05 49 27.4 +0.1
baz=122
I07A **Izee** 122.14 29 P PKPdf 05 49 28.3 +0.9
baz=122,SNR=11
YBH **Yreka Blue Hor** 122.19 33 ⇓P PKPdf 05 49 27.4 -0.1
baz=122
H08A **Prairie City** 122.21 28 ⇑P PKPdf 05 49 27.7 +0.2
baz=122
L04A **Klamath Falls** 122.32 32 ⇑P PKPdf 05 49 28.0 +0.2
baz=122
M02C **Callahan** 122.35 33 P PKPdf 05 49 28.7 +0.9
baz=122,SNR=12
MSO **Missoula** 122.42 23 *e*PKPdf PKPdf 05 49 27.1 -0.9
MSO LR LR
comp=Z,184nm,22.0s,MS4.7
J06A **Christmas Vall** 122.44 30 P PKPdf 05 49 28.1 +0.1
baz=122,SNR=23
K05A **Summer Lake** 122.44 31 P PKPdf 05 49 28.9 +0.9
baz=122,SNR=11
N02C **Big Bar** 122.49 34 P PKPdf 05 49 28.9 +0.8
baz=122,SNR=8.2
CHMT **Chamberlain Mo** 122.62 23 *e*PKPdf PKPdf 05 49 27.5 -0.8
M04C **Macdoel** 122.62 32 P PKPdf 05 49 28.9 +0.5
baz=122,SNR=6.4
O01C **Eel River Cons** 122.66 35 ⇑P PKPdf 05 49 29.2 +0.8
baz=122
I08A **Drewsey** 122.72 28 P PKPdf 05 49 29.2 +0.7
baz=122,SNR=9.2
K06A **Valley Falls** 122.72 30 P PKPdf 05 49 29.4 +0.9
baz=122,SNR=12
J07A **Hines** 122.76 29 P PKPdf 05 49 29.6 +1.1
baz=123,SNR=10
M03C **McCloud** 122.83 33 P PKPdf 05 49 29.1 +0.4
baz=123,SNR=5.5
EGMT **Eagleton** 122.93 20 *e*PKPdf PKPdf 05 49 28.2 -0.7
EGMT LR LR
comp=Z,354nm,20.0s,MS5.0
EGMT **Eagleton** 122.93 20 P PKPdf 05 49 28.8 -0.2
baz=123,SNR=20
L05A **Lakeview** 122.96 31 P PKPdf 05 49 29.8 +0.9
baz=123,SNR=7.0
I09A **Lost Marbles R** 123.06 28 P PKPdf 05 49 29.2 +0.1
baz=123,SNR=5.8
KIPM **Iron Peak** 123.08 35 *e*PKPdf PKPdf 05 49 29.5 +0.3
WDC **Whiskeytown Da** 123.08 34 P PKPdf 05 49 28.9 -0.3
baz=123,SNR=7.5
J08A **Circle Bar Ran** 123.18 29 P PKPdf 05 49 30.2 +0.8
baz=123,SNR=21
O02C **Red Bluff** 123.22 34 P PKPdf 05 49 30.4 +0.9
baz=123,SNR=7.2
LTIM **Timbered Crate** 123.24 32 P PKPdf 05 49 30.0 +0.5
M05C **Lookout** 123.29 32 ⇓P PKPdf 05 49 29.8 +0.2
baz=123
K07A **Rock Creek Ran** 123.30 30 P PKPdf 05 49 30.3 +0.7
baz=123,SNR=26
MOD **Modoc** 123.34 31 PFAKE 05 49 40.0 +10
MOD LR LR
comp=Z,154nm,21.0s,MS4.6
P01C **Double 8 Ranch** 123.39 35 P PKPdf 05 49 30.6 +0.9
baz=123,SNR=6.1
HATC **Hat Creek Radi** 123.51 33 P PKPdf 05 49 30.8 +0.8
baz=123,SNR=6.0
J09A **Fry Pan Ranch,** 123.53 28 P PKPdf 05 49 30.6 +0.6
baz=123,SNR=12
LBCM **Butte Creek Ri** 123.55 33 P PKPdf 05 49 30.6 +0.5
GASB **Alder Springs** 123.62 35 ⇓P PKPdf 05 49 30.9 +0.7
baz=123,SNR=10
K08A **Mann Creek Ran** 123.64 29 ⇓P PKPdf 05 49 31.3 +1.0
baz=123
L07A **Adell** 123.75 30 P PKPdf 05 49 31.8 +1.4
baz=124,SNR=7.6
M06C **Likely Place G** 123.75 32 P PKPdf 05 49 31.4 +0.9
baz=124,SNR=7.0
O03C **Acorn Hollow,** 123.76 34 ⇑P PKPdf 05 49 30.6 0.0
baz=124
WVOR **Wild Horse Val** 123.79 30 *e*PKIKP PKPdf 05 49 30.9 +0.3
WVOR MLR MLR
comp=Z,250nm,19.0s,MS4.9
HOPS **Hopland** 123.86 35 ⇑P PKPdf 05 49 31.5 +0.8
baz=124
K09A **Rome** 124.03 29 P PKPdf 05 49 31.7 +0.7
baz=124,SNR=25
ELFS **Eagle Lake Fie** 124.04 32 P PKPdf 05 49 31.9 +0.9
baz=124,SNR=9.3
O04C **Chester** 124.06 33 P PKPdf 05 49 31.8 +0.7
baz=124,SNR=11
L08A **Fields** 124.12 30 P PKPdf 05 49 32.3 +1.1
baz=124,SNR=17
DLMT **Dillon** 124.16 23 *e*PKPdf PKPdf 05 49 31.5 +0.3
DGMT **Dagmar** 124.20 15 *e*PKPdf PKPdf 05 49 31.1 -0.2
ULM **Lac du Bonnet** 124.22 8 PKP PKPdf 05 49 30.6 -0.8
comp=Z,15nm,0.7s,baz=353,slow=2.8,SNR=21
ULM **Lac du Bonnet** 124.22 8 *e*PKPdf PKPdf 05 49 30.3 -1.0
ULM LR LR
comp=Z,451nm,20.0s,MS5.1
M07A **Soldier Meadow** 124.30 31 P PKPdf 05 49 32.8 +1.2
baz=124,SNR=9.2
MNRC **McLaughlin Nat** 124.30 35 P PKPdf 05 49 32.5 +1.0
baz=124,SNR=8.8
ORV **Oroville** 124.37 34 P PKPdf 05 49 31.2 -0.4
baz=124,SNR=8.8
O05C **Quincy** 124.40 33 P PKPdf 05 49 32.3 +0.6
baz=124,SNR=7.2
N06A **Buffalo Meadow** 124.42 32 P PKPdf 05 49 32.3 +0.5
baz=124,SNR=16
SUTB **Sutter Butte** 124.43 34 ⇑P PKPdf 05 49 31.4 -0.4
baz=124
MCMT **McKenzie Canyo** 124.50 24 *e*PKPdf PKPdf 05 49 32.2 +0.3
OHCM **Honcut** 124.53 34 *e*PKPdf PKPdf 05 49 31.7 -0.3
MCCM **Marconi Confer** 124.54 36 ⇑P PKPdf 05 49 32.1 +0.1
baz=124
L09A **Wilkinson Ranc** 124.58 29 P PKPdf 05 49 33.5 +1.4
baz=124,SNR=12
CVS **Carmenet Viney** 124.65 36 P PKPdf 05 49 33.0 +0.8
baz=124,SNR=5.0
M08A **Happy Creek Ra** 124.65 30 ⇑P PKPdf 05 49 33.4 +1.2
baz=124,SNR=8.2
Q03C **Winters** 124.71 35 ⇑P PKPdf 05 49 33.1 +0.8
baz=124
BEKR **Beckwourth** 124.77 33 P PKPdf 05 49 32.7 +0.3
baz=125,SNR=8.8
O06A **Flanigan** 124.84 32 P PKPdf 05 49 33.3 +0.8
baz=125,SNR=15
N07B **Gerlach** 124.85 31 P PKPdf 05 49 33.5 +0.9
baz=125,SNR=11
HLID **Hailey** 124.87 26 *e*PKPdf PKPdf 05 49 33.0 +0.4
HLID LR LR
comp=Z,217nm,22.0s,MS4.8
HLID **Hailey** 124.87 26 P PKPdf 05 49 33.2 +0.6
baz=125,SNR=24
GCMT **Greycliff** 124.89 21 *e*PKPdf PKPdf 05 49 32.6 0.0
Q04C **Lincoln** 124.93 34 ⇓P PKPdf 05 49 33.3 +0.6
baz=125
QLMT **Earthquake Lak** 125.06 23 *e*PKPdf PKPdf 05 49 33.8 +0.8
TAOE **Nuku Hiva Isla** 125.11 97 *e*LR LR 05 47 02.6
comp=Z,591nm,41.5s,baz=254
M09A **Marrel Ranch,** 125.13 30 ⇓P PKPdf 05 49 34.3 +1.2
baz=125
P06A **Stead Airport,** 125.16 33 ⇑P PKPdf 05 49 33.9 +0.7
baz=125
LAO **LASA Array** 125.24 18 *e*PKPdf PKPdf 05 49 34.1 +0.8
LAO LR LR
comp=Z,323nm,19.0s,MS5.0
BDM **Black Diamond** 125.26 36 ⇓P PKPdf 05 49 33.9 +0.5
baz=125
LAVA **Lava Cap Winer** 125.35 34 P PKPdf 05 49 34.0 +0.5
baz=125,SNR=5.3
O07A **Toulon** 125.35 32 P PKPdf 05 49 34.5 +1.0
baz=125,SNR=11
YMR **Madison River** 125.37 23 *e*PKPdf PKPdf 05 49 34.8 +1.2
YMR LR LR
comp=Z,1μm,21.0s,MS5.6
JRSC **Jasper Ridge** 125.41 36 ⇑P PKPdf 05 49 34.2 +0.6
baz=125
M10A **I.L. Ranch, Tu** 125.50 29 P PKPdf 05 49 35.4 +1.5
baz=125,SNR=7.9
WCN **Washoe City** 125.50 33 P PKPdf 05 49 34.8 +1.0
baz=125,SNR=5.3
N09A **Rock Creek Ran** 125.53 30 P PKPdf 05 49 35.3 +1.4
baz=125,SNR=7.6
R04C **Big Horse Ranc** 125.58 35 ⇑P PKPdf 05 49 34.4 +0.4
baz=125
YFT **Old Faithful** 125.61 23 *e*PKPdf PKPdf 05 49 36.0 +1.9
BNLO **Ben Lomond (Sa** 125.63 36 ⇑P PKPdf 05 49 34.8 +0.7
baz=126
LKWY **Lake** 125.67 22 PFAKE 05 49 50.0 +16
LKWY LR LR
comp=Z,327nm,19.0s,MS5.0
R05C **Kirkwood Meado** 125.75 34 P PKPdf 05 49 35.4 +1.0
baz=126,SNR=5.8
S04C **Ingram Canyon,** 125.88 36 ⇓P PKPdf 05 49 35.0 +0.5
baz=126
M11A **Holland Ranch,** 125.93 28 P PKPdf 05 49 36.2 +1.5
baz=126,SNR=13
BMN **Battle Mountai** 126.00 30 PFAKE 05 49 50.0 +15
BMN LR LR
comp=Z,250nm,21.0s,MS4.9
IMW **Indian Meadow** 126.03 23 *e*PKPdf PKPdf 05 49 35.6 +0.8
CMB **Columbia Colle** 126.05 34 P PKPdf 05 49 35.2 +0.3
baz=126,SNR=6.0
P08A **Dixie Valley** 126.11 31 ⇑P PKPdf 05 49 36.3 +1.3
baz=126
N10A **Dunphy** 126.13 30 ⇑P PKPdf 05 49 36.1 +1.1
baz=126
DCID1 **Drake Creek** 126.19 23 *e*PKPdf PKPdf 05 49 35.5 +0.4
O09A **Fish Creek Ran** 126.21 30 P PKPdf 05 49 36.2 +1.0
baz=126,SNR=5.4
R06C **Coleville** 126.22 33 P PKPdf 05 49 36.5 +1.3
baz=126,SNR=12
MOOW **Moose Ponds** 126.23 23 *e*PKPdf PKPdf 05 49 35.6 +0.4
PACP **Pacheco Peak** 126.24 36 P PKPdf 05 49 36.5 +1.3
baz=126,SNR=5.8
M12A **Wells** 126.35 28 P PKPdf 05 49 36.4 +0.9
baz=126,SNR=26
TPAW **Teton Pass** 126.37 23 *e*PKPdf PKPdf 05 49 36.2 +0.7
LOHW **Long Hollow** 126.40 23 *e*PKPdf PKPdf 05 49 36.0 +0.5
N11A **Elko Archery C** 126.43 29 ⇑P PKPdf 05 49 36.9 +1.2
baz=126
O10A **Cortez Mining,** 126.46 30 ⇓P PKPdf 05 49 36.8 +1.2
baz=126
SNOW **Snow King Moun** 126.47 23 *e*PKPdf PKPdf 05 49 36.4 +0.7
HAST **UC Hastings Re** 126.50 37 P PKPdf 05 49 36.8 +1.1
baz=126,SNR=6.2
REDW **Red Top Meadow** 126.52 23 *e*PKPdf PKPdf 05 49 36.2 +0.5
S05C **Merced** 126.56 35 P PKPdf 05 49 37.0 +1.2
baz=126,SNR=5.2
P09A **Austin** 126.70 31 ⇑P PKPdf 05 49 36.6 +0.4
baz=126
N12A **Clover Valley,** 126.74 28 P PKPdf 05 49 37.5 +1.3
baz=126,SNR=14
R07C **Lee Vining** 126.76 34 ⇑P PKPdf 05 49 36.9 +0.6
baz=127
LRV **Little Rabbit** 126.79 36 *e*PKPdf PKPdf 05 49 37.6 +1.3
Q08A **Gabbs** 126.80 32 P PKPdf 05 49 37.4 +1.1
baz=127,SNR=5.5
NVAR **Mina Array Bea** 126.92 33 PKP PKPdf 05 49 38.0 +1.4
comp=Z,9.8nm,0.8s,baz=293,slow=3.6,SNR=60
NVAR **Mina Array Bea** 126.92 33 PKP PKPdf 05 49 38.0 +1.4
AHID **Auburn Hatcher** 126.92 24 PFAKE 05 49 50.0 +13
AHID LR LR
comp=Z,272nm,21.0s,MS4.9
V03C **Hunter Liggett** 126.94 37 ⇑P PKPdf 05 49 37.2 +0.7
baz=127
P10A **Eureka** 126.99 30 ⇓P PKPdf 05 49 37.4 +0.7
baz=127
O11A **Cowboy Ranch,** 127.00 29 P PKPdf 05 49 37.8 +1.1
baz=127,SNR=18
N13A **Wendover, West** 127.12 28 ⇑P PKPdf 05 49 37.7 +0.8
baz=127
KCC **Kaiser Creek** 127.15 34 ⇓P PKPdf 05 49 37.7 +0.7
baz=127
MLAC **Mammoth Lakes** 127.20 34 ⇑P PKPdf 05 49 38.1 +1.0
baz=127
Q09A **Carvers** 127.21 32 ⇓P PKPdf 05 49 38.4 +1.3
baz=127
O12A **Currie** 127.33 29 P PKPdf 05 49 38.5 +1.1
baz=127,SNR=14
U05C **Westside ANR,** 127.38 36 ⇑P PKPdf 05 49 38.3 +0.9
baz=127
P11A **Circle Ranch,** 127.39 30 ⇑P PKPdf 05 49 38.6 +1.1
baz=127
PKD **Parkfield** 127.40 36 P PKPdf 05 49 38.6 +1.2
baz=127,SNR=7.5
V04C **Ramage Ranch,** 127.42 37 ⇑P PKPdf 05 49 38.6 +1.1
baz=127
BW06 **Boulder Array** 127.52 23 PFAKE 05 49 50.0 +12
BW06 LR LR
comp=Z,226nm,19.0s,MS4.9
PDAR **Pinedale Array** 127.53 23 PKP PKPdf 05 49 37.5 -0.2
comp=Z,9.8nm,0.8s,baz=89,slow=1.3,SNR=60
MTUM **Tungsten Hills** 127.55 34 *e*PKPdf PKPdf 05 49 39.1 +1.3
BGU **Big Grassy Mou** 127.60 27 *e*PKPdf PKPdf 05 49 38.4 +0.6
S08C **White Mtn Res** 127.66 33 P PKPdf 05 49 39.7 +1.8
baz=128,SNR=14
HWUT **Hardware Ranch** 127.69 25 *e*PKPdf PKPdf 05 49 38.3 +0.3
HWUT LR LR
comp=Z,243nm,21.0s,MS4.9
R09A **Tonopah** 127.71 32 P PKPdf 05 49 39.0 +1.0
baz=128,SNR=8.6
TPH **Tonopah** 127.75 32 PFAKE 05 49 50.0 +12
TPH LR LR
comp=Z,239nm,19.0s,MS4.9
HELL **Mitchell Peak,** 127.77 35 P PKPdf 05 49 38.7 +0.6
baz=128,SNR=14
P12A **McGill** 127.87 29 ⇑P PKPdf 05 49 39.6 +1.2
baz=128
RCTC **Rector, Farmer** 127.91 35 ⇑P PKPdf 05 49 38.6 +0.2
baz=128
TIN **Tinemaha** 127.95 34 ⇓P PKPdf 05 49 39.4 +0.9
baz=128
Q11A **Duckwater** 127.99 30 ⇓P PKPdf 05 49 39.6 +1.1
baz=128,SNR=9.2
S09A **Goldfield** 128.01 32 P PKPdf 05 49 39.9 +1.3
baz=128,SNR=13
R10A **Warm Springs** 128.08 31 ⇓P PKPdf 05 49 39.6 +0.9
baz=128
SMMC **Simmler** 128.16 37 ⇓P PKPdf 05 49 40.0 +1.1
baz=128
RSSD **Black Hills** 128.22 17 *e*PKIKP PKPdf 05 49 39.1 +0.1
DUG **Dugway** 128.29 27 *e*PKIKP PKPdf 05 49 39.7 +0.5
DUG MLR MLR
comp=Z,143nm,21.0s,MS4.6
DUG **Dugway** 128.29 27 P PKPdf 05 49 39.9 +0.8
baz=128,SNR=20
VES **Vestal, Richgr** 128.33 36 ⇑P PKPdf 05 49 39.1 -0.1
baz=128
TRCR **Troy Canyon** 128.40 31 *e*PKPdf PKPdf 05 49 40.1 +0.7
GRAC **Grapevine Rang** 128.46 33 P PKPdf 05 49 40.6 +1.1
baz=128,SNR=6.8
CWC **Cottonwood Cre** 128.47 34 ⇑P PKPdf 05 49 40.5 +1.0
baz=128
RKT **Rikitea** 128.53 116 *e*LR LR 05 47 25.2
comp=Z,539nm,32.0s,baz=275
PKM **Peak Mountain** 128.55 37 P PKPdf 05 49 41.5 +1.8
baz=128,SNR=5.3
DAU **Daniels Canyon** 128.80 26 *e*PKIKP PKPdf 05 49 40.4 +0.3
ISA **Isabella** 128.81 35 PFAKE 05 49 50.0 +10
ISA LR LR
comp=Z,63nm,20.0s,MS4.3
ISA **Isabella** 128.81 35 ⇓P PKPdf 05 49 40.7 +0.5
baz=129
DAC **Darwin (Calif)** 128.86 34 *e*PKIKP PKPdf 05 49 41.3 +1.1
DAC MLR MLR
comp=Z,225nm,19.0s,MS4.9
MPU **Maple Canyon** 128.96 26 PFAKE 05 49 50.0 +10
MPU LR LR
comp=Z,825nm,22.0s,MS5.4
ARVC **Arvin** 128.97 36 ⇑P PKPdf 05 49 41.5 +1.1
baz=129
MPMC **Manual Prospec** 129.08 34 ⇓P PKPdf 05 49 42.1 +1.4
baz=129,SNR=17
FURC **Furnace Creek,** 129.13 33 P PKPdf 05 49 42.1 +1.3
baz=129,SNR=6.5
BSC **Santa Cruz Isl** 129.28 38 ⇓P PKPdf 05 49 42.1 +1.1
baz=129
RWWY **Rawlins** 129.34 22 *e*PKPdf PKPdf 05 49 41.1 0.0
LRMC **Laurel Mountai** 129.38 35 ⇑P PKPdf 05 49 42.6 +1.3
baz=129,SNR=6.5
EDW2 **Edwards Air Fo** 129.64 36 ⇓P PKPdf 05 49 43.1 +1.3
baz=129,SNR=9.5
LBNH **Lisbon** 129.65 348 PFAKE 05 49 50.0 +8.3
LBNH LR LR
comp=Z,431nm,19.0s,MS5.2
TMUT **Trail Mountain** 129.74 27 *e*PKPdf PKPdf 05 49 42.6 +0.7
SHOC **Shoshone** 129.87 33 ⇑P PKPdf 05 49 43.8 +1.6
baz=130,SNR=8.7
MVU **Marysvale** 129.93 28 PFAKE 05 49 50.0 +7.7
MVU LR LR
comp=Z,254nm,22.0s,MS4.9
MSU **Marysvale** 129.94 28 *e*PKIKP PKPdf 05 49 43.7 +1.4
GSC **Goldstone** 130.01 34 *e*PKIKP PKPdf 05 49 43.4 +1.0
GSC **Goldstone** 130.01 34 ⇑P PKPdf 05 49 43.9 +1.4
baz=130,SNR=8.9
SRU **San Rafael** 130.19 26 *e*PKIKP PKPdf 05 49 43.2 +0.4
BFSC **Mount Baldy St** 130.28 36 ⇓P PKPdf 05 49 43.6 +0.6
baz=130
NCB **Newcomb** 130.35 350 PFAKE 05 49 50.0 +6.9
NCB LR LR
comp=Z,442nm,19.0s,MS5.2
U12A **Valley of Fire** 130.40 32 ⇑P PKPdf 05 49 44.6 +1.5
baz=130,SNR=5.3
TUQ **Turquoise Mtn.** 130.40 33 ⇓P PKPdf 05 49 44.4 +1.2
baz=130,SNR=6.8
ECSD **EROS,Sioux Fal** 130.41 11 *e*PKPdf PKPdf 05 49 42.7 -0.5
CIS **Catalina Islan** 130.42 37 ⇑P PKPdf 05 49 44.0 +0.8
baz=130
HEC **Hector,Ludlow** 130.62 34 ⇑P PKPdf 05 49 44.7 +1.1
baz=130
SCI **San Clemente I** 130.63 38 ⇓P PKPdf 05 49 44.7 +1.1
baz=130
BBRC **Big Bear Sol-O** 130.69 35 ⇓P PKPdf 05 49 45.1 +1.4
baz=130
MURC **Murrieta** 131.00 36 ⇓P PKPdf 05 49 45.4 +1.1
baz=131
W12A **Cal Nev Ari** 131.08 33 ⇑P PKPdf 05 49 45.5 +1.0
baz=131
HRV **Harvard--Oak R** 131.22 347 PFAKE 05 50 00.0 +15
HRV LR LR
comp=Z,458nm,19.0s,MS5.2
WES **Weston** 131.28 347 PFAKE 05 50 00.0 +15
WES LR LR
comp=Z,1μm,19.0s,MS5.6
BELC **Belle Mtn.** 131.41 35 ⇑P PKPdf 05 49 46.4 +1.3
baz=131,SNR=7.0
PFO **Pinyon Flat Ob** 131.43 36 *e*PKIKP PKPdf 05 49 45.8 +0.7
PFO MLR MLR
comp=Z,90nm,19.0s,MS4.5
PFO **Pinyon Flat Ob** 131.43 36 ⇓P PKPdf 05 49 46.4 +1.3
baz=131,SNR=6.3
PV10 **Paradox Valley** 131.45 25 *e*PKPdf PKPdf 05 49 45.5 +0.4

109C	Camp Elliot, M	131.56	37	⇓P	PKPdf	05 49 46.6	+1.2
	baz=131						
ISCO	Idaho Springs	131.57	21	*e*PKIKP	PKPdf	05 49 45.1	-0.3
ISCO				MLR	MLR		
	comp=Z,293nm,20.0s,MS5.0						
W13A	Hualapai Mount	131.76	32	⇑P	PKPdf	05 49 46.9	+1.2
	baz=132,SNR=7.8						
IRM	Iron Mountain	131.77	34	⇑P	PKPdf	05 49 46.7	+0.9
	baz=132,SNR=6.7						
MONP	Monument Peak	131.97	36	⇓P	PKPdf	05 49 47.3	+1.1
	baz=132,SNR=9.2						
BC3	Big Chuckw Mtn	131.97	35	⇓P	PKPdf	05 49 47.1	+0.9
	baz=132						
W14A	Seligman	132.09	31	⇓P	PKPdf	05 49 47.5	+1.1
	baz=132,SNR=11						
JFWS	Jewell Farm	132.12	5	PFAKE		05 50 00.0	+14
JFWS				LR	LR		
	comp=Z,319nm,20.0s,MS5.0						
PDMCI	Parker Dam,Lak	132.22	33	⇓P	PKPdf	05 49 47.5	+0.8
	baz=132						
SWSC	Sam W. Stewart	132.30	36	⇓P	PKPdf	05 49 47.4	+0.7
	baz=132						
DVTC	Desert V Tower	132.32	36	⇑P	PKPdf	05 49 47.8	+1.0
	baz=132						
BINY	Binghamton	132.37	351	PFAKE		05 50 00.0	+13
BINY				LR	LR		
	comp=Z,502nm,19.0s,MS5.2						
Y12C	Blythe	132.43	34	⇑P	PKPdf	05 49 48.0	+1.0
	baz=132						
W15A	Williams	132.53	31	⇓P	PKPdf	05 49 48.5	+1.3
	baz=132						
MVCO	Mesa Verde	132.66	26	*e*PKPdf	PKPdf	05 49 48.3	+0.9
MVCO	Mesa Verde	132.66	26	P	PKPdf	05 49 48.6	+1.2
	baz=132,SNR=7.0						
WUAZ	Wupatki	132.71	30	*e*PKPdf	PKPdf	05 49 48.8	+1.3
WUAZ				LR	LR		
	comp=Z,356nm,19.0s,MS5.1						
WUAZ	Wupatki	132.71	30	⇑P	PKPdf	05 49 48.5	+1.0
	baz=132,SNR=5.4						
Y13A	Salome	132.76	33	⇑P	PKPdf	05 49 49.1	+1.5
	baz=133						
SCIA	State Center	132.76	8	*e*PKPdf	PKPdf	05 49 47.1	-0.5
X14A	Yava	132.76	32	⇓P	PKPdf	05 49 49.1	+1.5
	baz=133,SNR=6.2						
GLA	Glamis	132.77	35	*e*PKIKP	PKPdf	05 49 49.0	+1.3
GLA	Glamis	132.77	35	P	PKPdf	05 49 49.3	+1.7
	baz=133,SNR=15						
X15A	Humboldt	133.09	31	P	PKPdf	05 49 50.1	+1.8
	baz=133,SNR=13						
Y14A	Wickenburg	133.11	32	P	PKPdf	05 49 49.8	+1.5
	baz=133,SNR=6.3						
SDCO	Great Sand Dun	133.42	23	*e*PKPdf	PKPdf	05 49 49.3	+0.5
SDCO				LR	LR		
	comp=Z,405nm,19.0s,MS5.2						
Z14A	Wintersburg	133.58	33	⇓P	PKPdf	05 49 50.3	+1.1
	baz=133						
SSPA	Standing Stone	134.18	352	PFAKE		05 50 00.0	+10
SSPA				LR	LR		
	comp=Z,372nm,19.0s,MS5.1						
CBKS	Cedar Bluff	134.35	16	PFAKE		05 50 00.0	+9.4
CBKS				LR	LR		
	comp=Z,538nm,19.0s,MS5.3						
115A	Sonoran Desert	134.47	33	⇑P	PKPdf	05 49 52.2	+1.3
	baz=134						
MVL	Millersville	134.58	351	*e*PKPdf	PKPdf	05 49 51.4	+0.3
116A	Eloy	134.86	32	⇑P	PKPdf	05 49 53.1	+1.5
	baz=135						
KSU1	Kansas State U	134.86	13	*e*PKPdf	PKPdf	05 49 51.4	-0.2
ACSO	Alum Creek Sta	135.00	358	PFAKE		05 50 00.0	+8.2
ACSO				LR	LR		
	comp=Z,231nm,19.0s,MS4.9						
ANMO	Albuquerque	135.45	25	*e*PKIKP	PKPdf	05 49 53.7	+1.0
ANMO				MLR	MLR		
	comp=Z,549nm,19.0s						
TUC	Tucson	135.55	32	*e*PKIKP	PKPdf	05 49 53.4	+0.5
TUC				MLR	MLR		
	comp=Z,338nm,20.0s,MS5.1						
LPM	Los Pinos Moun	135.91	26	*e*PKPdf	PKPdf	05 49 54.0	+0.5
CBN	Corbin	136.49	351	PFAKE		05 50 10.0	+15
CBN				LR	LR		
	comp=Z,321nm,20.0s,MS5.0						
CCM	Cathedral Cave	136.82	7	PFAKE		05 50 10.0	+15
CCM				LR	LR		
	comp=Z,500nm,19.0s,MS5.3						
WCI	Wyandotte Cave	137.02	2	*e*PKIKP	PKPdf	05 49 55.8	+0.2
WCI				MLR	MLR		
	comp=Z,422nm,19.0s,MS5.2						
WMOK	Wichita Mounta	138.43	17	*e*PKIKP	PKPdf	05 49 57.2	-1.0
WMOK				MLR	MLR		
	comp=Z,197nm,19.0s,MS4.9						
MNTX	Cornudas Mount	138.68	27	*e*PKPdf	PKPdf	05 49 58.9	+0.2
MNTX				LR	LR		
	comp=Z,254nm,19.0s,MS5.0						
WVT	Waverly	139.05	4	*e*PKIKP	PKPdf	05 49 59.0	-0.3
WVT				MLR	MLR		
	comp=Z,282nm,19.0s,MS5.0						
CNNC	Cliffs of the	139.47	351	PFAKE		05 50 10.0	+10
CNNC				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
CPCT	Cooper Cave	139.81	359	*e*PKPdf	PKPdf	05 50 00.2	-0.5
UALR	University of	139.88	9	*e*PKPdf	PKPdf	05 50 00.8	0.0
MIAR	Mount Ida	139.88	11	*e*PKHKP		05 49 54.5	
MIAR				*e*		05 50 00.0	
MIAR				MLR	MLR		
	comp=Z,365nm,19.0s,MS5.2						
PLAL	Pickwick Lake	140.17	4	*e*PKPdf	PKPdf	05 50 00.7	-0.7
PLAL				LR	LR		
	comp=Z,325nm,19.0s,MS5.1						
OXF	Oxford	140.53	6	PFAKE		05 50 10.0	+8.0
OXF				LR	LR		
	comp=Z,459nm,20.0s,MS5.2						
JCT	Junction City	142.01	21	*e*PKHKP		05 49 59.5	
JCT				*e*		05 50 05.4	
JCT				MLR	MLR		
	comp=Z,351nm,19.0s,MS5.1						
PLCA	Paso Flores	142.10	198	PKhKP		05 49 59.7	
	comp=Z,4.8nm,0.6s,baz=215,slow=0.3,SNR=17						
PLCA	Paso Flores	142.10	198	*e*PKPpre		05 50 00.0	
BDFB	Brasilia	142.20	251	PKhKP		05 50 00.6	
	comp=Z,4.0nm,0.7s,baz=99,slow=3.5,SNR=7.0						
BDFB	Brasilia	142.20	251	PKP	PKPdf	05 50 00.6	-4.4
BDFB				LR	LR		
	comp=Z,307nm,21.0s,MS5.0						
NATX	Nacogdoches	142.34	14	PFAKE		05 50 20.0	+15
NATX				LR	LR		
	comp=Z,247nm,20.0s,MS5.0						
HKT	Hockley	143.77	16	*e*PKIKP	PKPdf	05 50 06.1	-1.7
HKT				MLR	MLR		
	comp=Z,266nm,19.0s,MS5.0						
KVTX	Kingsville	145.36	20	PFAKE		05 50 20.0	+10
KVTX				LR	LR		
	comp=Z,1μm,22.0s,MS5.6						
CPUP	Villa Florida	146.10	228	PKPbc	PKPbc	05 50 13.0	+0.2
	comp=Z,31nm,0.9s,baz=94,slow=2.8,SNR=63						
CPUP	Villa Florida	146.10	228	*e*PKPbc	PKPbc	05 50 12.4	-0.3
DWPF	Disney	146.96	354	*e*PKPbc	PKPbc	05 50 15.5	+0.2
DWPF				LR	LR		
	comp=Z,230nm,19.0s,MS5.0						
CFAA	Coronel Fontan	149.19	209	PKP	PKPdf	05 50 17.1	+0.2
	comp=Z,4.5nm,0.7s,baz=217,slow=2.2,SNR=2.1						
CFAA				PKPbc	PKPbc	05 50 21.0	-0.2
	comp=Z,4.5nm,0.7s,baz=159,slow=3.2,SNR=8.9						
CFAA	Coronel Fontan	149.19	209	PKP	PKPdf	05 50 17.1	+0.2
CFAA				PKPbc	PKPbc	05 50 21.0	-0.2
MTP	Monte Pirata	150.15	321	*e*PKPbc	PKPbc	05 50 23.8	+0.3
CPD	Cerro la Pandu	150.43	321	*e*PKIKP	PKPbc	05 50 24.7	+0.5
CPD				*e*		05 50 32.0	
SJG	San Juan	150.51	321	*e*PKIKP	PKPbc	05 50 24.1	-0.3
SOR	Soroa	152.36	356	*e*P	PKPbc	05 50 29.2	+0.5
SIV	San Ignacio	154.11	243	PKP	PKPdf	05 50 25.1	+0.7
	comp=Z,3.6nm,0.9s,baz=100,slow=2.0,SNR=17						
SIV				PKPbc	PKPbc	05 50 32.2	-0.3
	comp=Z,3.7nm,0.8s,baz=104,slow=6.1,SNR=12						
SIV				PKPab	PKPab	05 50 47.2	+1.0
	comp=Z,6.5nm,0.6s,baz=133,slow=5.0,SNR=22						
PCRV	Puerto La Cruz	154.79	307	PKPbc	PKPbc	05 50 34.1	+0.1
	baz=323,slow=10						
LPAZ	La Paz	160.01	234	PKP	PKPdf	05 50 33.7	+1.8
	comp=Z,7.4nm,0.9s,baz=106,slow=2.5,SNR=21						
LPAZ				PKPab	PKPab	05 51 13.5	+1.9
	comp=Z,8.8nm,0.8s,baz=108,slow=5.3,SNR=11						
LPAZ	La Paz	160.01	234	*e*PKPdf	PKPdf	05 50 33.1	+1.3
LPAZ				*e*PKPab	PKPab	05 51 12.9	+1.3
LPAZ				LR	LR		
	comp=Z,188nm,19.0s						
SDV	Santo Domingo	160.18	314	*e*PKPdf	PKPdf	05 50 32.6	+0.6
SDV				*e*PKPab	PKPab	05 51 12.9	+0.5
SDV				LR	LR		
	comp=Z,107nm,19.0s						
ROSC	El Rosal	165.59	312	PKP	PKPdf	05 50 39.3	+2.1
	comp=Z,18nm,0.9s,baz=102,slow=4.4,SNR=13						
ROSC				PKPab	PKPab	05 51 38.0	+1.9
	comp=Z,5.2nm,0.7s,baz=99,slow=2.7,SNR=5.1						
ROSC	El Rosal	165.59	312	*e*PKPdf	PKPdf	05 50 39.0	+1.8
ROSC				*e*PKPab	PKPab	05 51 37.2	+1.1
OTAV	Otavalo	171.71	308	*e*PKPdf	PKPdf	05 50 42.4	+1.2
OTAV				*e*PKPab	PKPab	05 52 04.6	+1.4
OTAV				LR	LR		
	comp=Z,99nm,19.0s						

IDC ***12*** *05:51:07.7±0.7,2329S×176.12W,h0km,mb4.5/11, mb1 4.7/13,mb1mx4.6/18,mbtmp4.6/13,ML4.6/2,MS4.3/12, Ms1 4.3/12,ms1mx3.9/29,Error ellipse: s-maj=20.4km s-min=15.4km az=159.0*

NEIC ***12*** *05:51:09.6±0.3,2338S×17598W,h10km,mb4.9/21,Error ellipse: s-maj=11.4km s-min=7.5km az=132.0*

GCMT ***12*** *05:51:09.6±0.3,2382S×175.14W,h31km±1km,MW5.1/61, Moment Tensor Solution. s35,c49; s61,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.97±.22; Mθθ-0.64±.14; Mφφ-3.33±.14; Mrθ1.22±.17; Mθφ-1.04±.09; Mφr2.50±.17; Best double couple: M0*4.73100×10^16 *NP1:*ϕ_s*195.00000°,δ27.00000°,λ83.00000°. NP2:* ϕ_s*23.00000°,δ63.00000°,λ93.00000°. Principal axes: T 4.8820, Plg72.0000°, Azm301.0000°; N -0.3040, Plg3.0000°, Azm201.0000°; P -4.5790, Plg18.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***12*** *05:51:12.4±0.3,2353S×005×17600W±007,h37km, mb4.8/30,MS4.4/13 Error ellipse: s-maj=9.7km s-min=6.5km az=64.4*

BJI ***12*** *05:51:12.5,2326S×17589W,h31km,mB5.5,mb5.1,Ms5.2, Msz4.8*

ISC 12 05:51:14.2±0.3,2352S±005×17593W±007,h40km, h40km±.9km:pP-P,n108,σ1§04/67,mb4.8/30,MS4.4/13,5C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.98	197	Pn	Pn	05 52 41.6	+1.5
	54nm,0.3s,baz=103,slow=22,SNR=3.0						
RAO				Sn	Sn	05 53 47.2	0.0
	61nm,0.3s,baz=73,slow=21,SNR=5.2						
AFI	Afiamalu	10.34	23	Pn	Pn	05 53 31.0	-8.9
	4.0nm,0.3s,baz=198,slow=20,SNR=5.3						
AFI				Sn	Sn	05 55 17.8	-17
	8.9nm,0.3s,baz=14,slow=22,SNR=5.9						
AFI	Afiamalu	10.34	23	*e*Pn	Pn	05 53 32.1	-7.8
	53nm,0.8s						
AFI				*e*Sn	Sn	05 55 17.6	-17
RAR	Rarotonga	15.13	84	Pn	Pn	05 54 32.9	-12
	12nm,0.3s,baz=248,slow=7.7,SNR=26						
RAR				Sn	Sn	05 57 04.5	-27
	1.4nm,0.3s,baz=263,slow=23,SNR=4.6						
RAR				LR	LR	05 58 12.8	
	comp=Z,279nm,21.2s,baz=150,slow=28						
URZ	Urewera	15.85	200	Pn	Pn	05 54 52.7	-1.7
	0.6nm,0.3s,baz=39,slow=6.5,SNR=3.6						
URZ				Sn	Sn	05 57 34.2	-15
	0.8nm,0.3s,baz=97,slow=15,SNR=3.9						
DZM	Mont Dzumac	16.32	272	*e*P	Pn	05 55 04.1	+3.8
DZM	Mont Dzumac	16.32	272	Pn	Pn	05 55 04.7	+4.4
	0.7nm,0.3s,baz=80,slow=17,SNR=13						
RPZ	Rata Peaks	22.82	205	P	P	05 56 14.4	+0.9
	7.2nm,0.6s,mb4.3,baz=225,slow=5.7,SNR=4.2						
TBI	Tubuai	24.28	95	*e*LQ		06 00 41.8	
	561nm,29.8s						
TBI				*e*LR	LR	06 02 12.2	
	1μm,29.8s,baz=264						
PPT	Papeete	25.36	81	*e*LQ		06 01 24.8	
	897nm,21.8s						
PPT				*e*LR	LR	06 02 40.1	
	2μm,27.2s,baz=250						
PPT	Papeete	25.36	81	LR	LR	06 04 08.6	
	comp=Z,340nm,20.3s,MS3.9,baz=268,slow=31						
HNR	Honiara	26.98	297	LR	LR	06 06 15.5	
	comp=Z,502nm,18.9s,MS4.1,baz=180,slow=34						
ARMA	Armidale	29.64	250	*e*P	P	05 57 11.4	-4.5
CTA	Charters Tower	35.21	268	*e*P	P	05 58 04.8	+0.2
	9.1nm,0.5s,mb5.0						
CTA	Charters Tower	35.21	268	P	P	05 58 04.0	-0.5
	14nm,0.9s,mb4.9,baz=108,slow=13,SNR=9.1						
CTAO	Charters Tower	35.21	268	*e*P	P	05 58 04.1	-0.5
	13nm,0.7s,mb5.0						
TAOE	Nuku Hiva Isla	37.20	73	*e*LR	LR	06 08 04.8	
	1μm,28.7s,baz=245						
RKT	Rikitea	37.52	98	*e*LR	LR	06 08 20.6	
	754nm,29.5s,baz=266						
PMG	Port Moresby	37.94	285	P	P	05 58 26.6	-1.3
	32nm,0.8s,mb5.1,baz=134,slow=9.5,SNR=5.7						
PMG				LR	LR	06 11 23.8	
	comp=Z,322nm,20.3s,MS4.1,baz=165,slow=32						
PMG	Port Moresby	37.94	285	*e*P	P	05 58 27.8	-0.1
	58nm,1.1s,mb5.2						
STKA	Stephens Creek	38.32	248	*e*P	P	05 58 30.1	-0.9
	2.2nm,0.4s,mb4.2						
STKA	Stephens Creek	38.32	248	P	P	05 58 30.7	-0.4
	2.6nm,0.5s,mb4.2,baz=59,slow=11,SNR=5.3						
STKA				LR	LR	06 12 22.5	
	comp=Z,954nm,19.6s,MS4.6,baz=46,slow=33						
AS31	Alice Springs	45.77	259	*e*P	P	05 59 32.6	+0.8
ASAR	Alice Springs	45.77	259	P	P	05 59 31.1	-0.7
	10nm,0.9s,mb4.8,baz=94,slow=8.3,SNR=48						
ASAR				S	S	06 06 13.0	+0.4
	0.9nm,0.9s,baz=99,slow=16,SNR=4.2						
ASAR				LR	LR	06 17 45.6	
	comp=Z,615nm,20.6s,MS4.5,baz=112,slow=35						
ASPA	Alice Springs	45.77	259	*e*P	P	05 59 32.6	+0.8
WB2	Warramunga Arr	46.14	264	*e*P	P	05 59 32.5	-2.2
WB2				*e*S	S	06 06 15.2	-2.7
WRA	Warramunga Arr	46.15	264	P	P	05 59 32.9	-1.9
	10nm,0.8s,mb4.8,baz=101,slow=8.3,SNR=44						
WRA				S	S	06 06 18.5	+0.4
	2.8nm,1.0s,baz=106,slow=14,SNR=5.0						
WRA				LR	LR	06 17 20.7	
	comp=Z,561nm,19.1s,MS4.5,baz=125,slow=34						
WRA	Warramunga Arr	46.15	264	P	P	05 59 32.9	-1.9
WRA				S	S	06 06 18.5	+0.4
WRA				LR	LR	06 17 20.7	
KAKA	Kakadu	50.00	273	*e*P	P	06 00 03.7	-0.8
	12nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	54.58	264	*e*P	P	06 00 38.3	-0.2
	6.3nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	54.58	264	LR	LR	06 22 31.9	
	comp=Z,444nm,19.3s,MS4.5,baz=95,slow=35						
SBA	Scott Base	55.01	184	*e*P	P	06 00 43.4	+1.8
	16nm,0.9s,mb5.0						
VNDA	Vanda	55.10	186	P	P	06 00 42.8	+0.5
	2.2nm,0.9s,mb4.2,baz=1.3,slow=7.1,SNR=12						
VNDA	Vanda	55.10	186	*e*P	P	06 00 43.1	+0.9
	8.4nm,1.3s,mb4.6						
NWAO	Narrogin (SRO)	58.77	245	LR	LR	06 23 55.3	
	comp=Z,355nm,19.1s,MS4.5,baz=88,slow=34						
MBWA	Marble Bar	59.10	259	*e*P	P	06 01 11.5	+0.9
	8.0nm,0.9s,mb4.8						
RPN	Rapa Nui	59.68	109	LR	LR	06 19 06.4	
	comp=Z,186nm,20.2s,MS4.2,baz=104,slow=28						
CASY	Casey	62.08	206	*e*P	P	06 01 30.2	-0.7
QSPA	South Pole Qui	66.56	180	*e*P	P	06 01 59.9	-0.3
	50nm,1.2s,mb5.4						
MAW	Mawson	79.38	199	*e*P	P	06 03 15.9	-0.1
	6.9nm,1.4s,mb4.4						
MAW	Mawson	79.38	199	P	P	06 03 15.7	-0.3
	7.8nm,0.8s,mb4.7,baz=120,slow=6.9,SNR=17						
ISA	Isabella	80.11	44	*e*P	P	06 03 20.4	+0.4
ISA				*e*pP	pP	06 03 31.2	-0.8
NVAR	Mina Array Bea	81.93	42	P	P	06 03 28.8	-0.9
	1.4nm,0.9s,mb3.9,baz=225,slow=9.0,SNR=7.2						
NJ2	Nanjing	83.27	309	*e*P	P	06 03 37.6	+0.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
TUC	Tucson	83.36	51	*e*P	P	06 03 37.4	+0.3
	comp=Z,6.7nm,1.3s,mb4.5						
TUC				*e*pP	pP	06 03 49.0	-0.2
MDJ	Mudanjiang	84.08	324	P	P	06 03 42.5	+1.7
MDJ				AP	pP	06 03 52.0	-0.9
MDJ				XP	sP	06 03 55.6	-1.8
MDJ				PP	PP	06 06 56.8	+1.7
MDJ				S	S	06 14 05.3	+2.9
MDJ				SS	SS	06 19 35.3	+3.8
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,438nm,13.8s						
MDJ				LR	LR		
	comp=N,26nm,29.1s						
MDJ				LR	LR		
	comp=E,73nm,21.6s						
MDJ				LR	LR		
	comp=Z,94nm,17.9s						
SYO	Syowa Base	84.20	192⇑	*e*P	P	06 03 40.0	-1.4
SYO	Syowa Base	84.20	192⇑	*e*PcP	PcP	06 03 45.3	+0.1
SYO	Syowa Base	84.20	192⇑	*e*pP	pP	06 03 51.5	-2.0
WVOR	Wild Horse Val	84.24	39	*e*P	P	06 03 41.3	-0.3
	comp=Z,9.3nm,1.2s,mb4.8						
WVOR				*e*pP	pP	06 03 53.0	-0.7
ARUT	Antelope Range	84.62	45	*e*P	P	06 03 44.2	+0.7
WUAZ	Wupatki	84.71	48	*e*P	P	06 03 44.1	+0.1
	comp=Z,12nm,1.4s,mb4.8						
WUAZ				*e*pP	pP	06 03 56.0	-0.1
SNAA	Sanae	84.94	178	*e*	P	06 03 44.1	-1.1
SNAA				*e*	pP	06 03 56.1	-1.2
SNAA	Sanae	84.94	178	*e*P	P	06 03 44.1	-1.1
	comp=Z,13nm,1.1s,mb5.0						
SNAA				*e*pP	pP	06 03 56.0	-1.2
VNA1	Neumayer--Stat	85.68	176	*e*	P	06 03 49.3	+0.4
VNA1				*e*	pP	06 04 00.6	-0.4
MSU	Marysvale	85.85	45	*e*P	P	06 03 50.5	+0.8
PSI	Prapat	86.66	274	P	P	06 03 54.0	+0.3
	comp=Z,4.3nm,0.9s,mb4.7,baz=123,slow=3.0,SNR=6.3						
PSI	Prapat	86.66	274	P	P	06 03 54.0	+0.3
MNTX	Cornudas Mount	86.96	54	*e*P	P	06 03 54.7	-0.4
	comp=Z,11nm,1.2s,mb5.0						
MNTX				*e*pP	pP	06 04 07.1	-0.2
LAZ	Ladron	87.06	51	*e*P	P	06 03 55.8	+0.2
LAZ				*e*pP	pP	06 04 07.6	-0.1
ANMO	Albuquerque	87.82	50	*e*P	P	06 03 59.4	+0.2
	comp=Z,6.3nm,1.3s,mb4.7						
ANMO				*e*pP	pP	06 04 11.7	+0.2
CMIG	Matias Romero	88.81	71	LR	LR	06 38 09.9	
	comp=Z,114nm,18.2s,MS4.3,baz=238,slow=32						
PDAR	Pinedale Array	89.86	42	P	P	06 04 07.6	-1.3
	comp=Z,0.4nm,0.7s,mb3.9,baz=208,slow=7.2,SNR=2.6						
SDCO	Great Sand Dun	89.90	48	*e*P	P	06 04 08.4	-0.7
	comp=Z,5.8nm,1.4s,mb4.7						
SDCO				*e*pP	pP	06 04 20.9	-0.3
COLA	College	90.75	12	*e*P	P	06 04 11.1	-2.0
	comp=Z,3.2nm,0.8s,mb4.7						
XAN	Xi'an	91.47	307	P	P	06 04 17.3	+0.9
XAN				AMB	AMB		
	comp=Z,11nm,1.9s,mb4.9						
DAWY	Dawson	91.84	15	*e*P	P	06 04 17.5	-0.6
KMI	Kunming	92.41	296	P	P	06 04 22.9	+2.2
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb5.1						
KMI	Kunming	92.41	296	P	P	06 04 22.9	+2.2
	comp=Z,9.0nm,0.9s,mb5.1						
CHTO	Chiang Mai	93.06	289	*e*P	P	06 04 25.4	+1.8
	comp=Z,7.8nm,0.8s,mb5.2						
CD2	Chengdu	94.02	302	*e*P	P	06 04 28.5	+0.4
CD2				AP	pP	06 04 40.0	-0.3
CD2				XP	sP	06 04 45.0	+0.2
CD2				PP	PP	06 08 18.0	+3.5
CD2				SKS		06 14 59.0	
CD2				S	S	06 15 33.5	-2.1
CD2				XS	sS	06 15 51.3	-4.7
CD2				SS	SS	06 21 57.7	+1.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,120nm,19.2s						
CD2				LR	LR		
	comp=Z,230nm,15.6s,MS4.7						
SONM	Songino Array	99.28	318	LR	LR	06 51 15.1	
	comp=Z,126nm,18.4s,MS4.5,baz=356,slow=36						
WMQ	Urumqi	110.34	310	*e*PKP	PKiKP	06 09 42.5	+0.5
WMQ				XPKP		06 09 57.0	
WMQ				PP	PP	06 10 22.0	+4.9
WMQ				PKS		06 13 18.0	
WMQ				SKS	SKSdf	06 16 49.0	-1.9
WMQ				PP	PP		
	comp=Z,141nm,4.7s						
WMQ				LR	LR		
	comp=N,370nm,21.2s,MS5.0						
WMQ				LR	LR		
	comp=E,224nm,23.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,285nm,22.5s,MS4.8						
MKAR	Makanchi Array	114.65	312	PKP	PKiKP	06 09 47.7	-2.5
	comp=Z,1.0nm,0.7s,baz=64,slow=2.8,SNR=11						
MKAR	Makanchi Array	114.65	312	PKP	PKiKP	06 09 47.7	-2.5
CHKZ	Chkalovo	122.43	320	*e*PKPdf	PKPdf	06 10 03.4	-1.8
BRVK	Borovoye	122.67	319	*e*PKPdf	PKPdf	06 10 04.4	-1.2
FINES	FINESS Array B	139.20	344	PKP	PKPdf	06 10 37.0	+0.2
	comp=Z,1.0nm,0.7s,baz=79,slow=9.9,SNR=4.4						
AKASG	Malin Array Be	146.57	331	PKPbc	PKPbc	06 10 50.1	-1.2
	comp=Z,8.6nm,0.7s,baz=41,slow=3.9,SNR=36						
AKBB	Malin Array Si	146.57	331	*e*PKPbc	PKPbc	06 10 50.1	-1.2
MALT	Malatya	147.25	305	*e*PKPbc	PKPbc	06 10 54.0	+0.7
GZT	Gaziantep	148.18	303	*i* P	PKPbc	06 10 56.4	+0.6
BOYT	Boyabat	148.68	312	*i* P	PKPbc	06 10 57.6	+0.5
CTKT	Corum	149.09	311	*i* P	PKPdf	06 10 56.5	+2.6
OJC	Ojcow	150.66	339	*e*P	PKPbc	06 11 00.5	-1.4
STHS	Stebnicka Huta	150.84	337	*e*PKP	PKPbc	06 11 03.0

mb1mx3.6/20, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=60.0km s-min=28.6km az=47.0
ISCJB ***12*** *06:08:06.0±1.1, 18N±01×967E±01, h33km, mb3.7/4, Error ellipse: s-maj=16.4km s-min=13.4km az=85.0*
NEIC ***12*** *06:08:08.0±1.1, 181N×9678E, h30km, mb3.6/1, Error ellipse: s-maj=19.9km s-min=13.8km az=58.0*

ISC 12 06:08:08.2±1.1, 18N±01×967E±01, h35km, n10, σ1°05/11, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.47**	**65**	Pn	**Pn**	**06 08 44.9**	**-1.0**
	0.4nm,0.3s,baz=228,slow=12,SNR=2.5						
PSI	**Prapat**	**2.47**	**65**	Pn	**Pn**	**06 08 44.9**	**-1.0**
KULM	**Kulim**	**5.30**	**48**	*e*Pn	**Pn**	**06 09 23.3**	**-1.5**
KULM				*e*Sn	**Sn**	**06 10 26.2**	**+1.7**
CHTO	**Chiang Mai**	**17.10**	**7**	*e*Pn	**Pn**	**06 12 03.0**	**-1.4**
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**42.77**	**122**	P	**P**	**06 16 02.4**	**+0.2**
	0.7nm,0.8s,mb3.4,baz=302,slow=9.2,SNR=4.4						
AS31	**Alice Springs**	**44.14**	**127**	*e*P	**P**	**06 16 13.6**	**+0.3**
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**06 16 33.0**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=156,slow=9.3,SNR=9.2						
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**06 16 33.0**	**+0.4**
SONM	**Songino Array**	**46.67**	**9**	P	**P**	**06 16 33.2**	**0.0**
	0.3nm,0.4s,mb3.6,baz=194,slow=13,SNR=4.2						
ZAL	**Zalesovo**	**52.92**	**351**	P	**P**	**06 17 22.2**	**+1.4**
	1.2nm,0.5s,mb4.1,baz=307,slow=9.8,SNR=4.7						

IDC ***12*** *06:16:40.3±2.3, 1775S×16822E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/13, mbtmp4.1/6, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/27, Error ellipse: s-maj=50.6km s-min=36.6km az=89.0*
NEIC ***12*** *06:16:42.0±1.6, 1778S×16822E, h10km, mb4.4/1, Error ellipse: s-maj=32.3km s-min=17.9km az=84.0*
ISCJB ***12*** *06:16:46.6±4.6, 180S±02×1680E±03, h45km±38km, mb4.0/5, Error ellipse: s-maj=47.5km s-min=31.5km az=6.7*

ISC 12 06:16:47.2±4.6, 180S±02×1682E±03, h43km±38km, n9, σ0°71/11, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.36**	**202**	*e*P	**Pn**	**06 17 51.3**	**+0.5**
DZM				*e*S	**Sn**	**06 18 38.6**	**-1.7**
DZM	**Mont Dzumac**	**4.36**	**202**	Pn	**Pn**	**06 17 51.4**	**+0.6**
	15nm,0.3s,baz=156,slow=15,SNR=241						
DZM				Sn	**Sn**	**06 18 40.6**	**+0.3**
	45nm,0.3s,baz=328,slow=22,SNR=16						
DZM				LR	LR	06 19 25.8	
	comp=Z,228nm,18.5s,baz=22,slow=36						
WB2	**Warramunga Arr**	**32.02**	**261**	*e*P	**P**	**06 23 09.8**	**+0.4**
WRA	**Warramunga Arr**	**32.03**	**261**	P	**P**	**06 23 09.4**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=82,slow=5.8,SNR=8.2						
ASAR	**Alice Springs**	**32.47**	**254**	P	**P**	**06 23 13.2**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=83,slow=8.5,SNR=8.3						
FITZ	**Fitzroy Crossi**	**40.38**	**263**	*e*P	**P**	**06 24 21.6**	**+0.8**
	6.4nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.38**	**263**	P	**P**	**06 24 21.3**	**+0.5**
	3.4nm,0.7s,mb4.0,baz=121,slow=11,SNR=10						
MAW	**Mawson**	**79.19**	**202**	P	**P**	**06 28 48.2**	**+0.6**
	1.3nm,0.7s,mb4.0,baz=105,slow=4.2,SNR=5.8						
SONM	**Songino Array**	**85.64**	**323**	P	**P**	**06 29 20.0**	**-1.2**
	1.2nm,0.8s,mb4.2,baz=141,slow=6.5,SNR=7.2						

ISCJB ***12*** *06:18:57.4±3.2, 3431N±006×2549E±009, h9km±25km, Error ellipse: s-maj=12.9km s-min=8.9km az=144.6*
NEIC ***12*** *06:18:58.2, 3431N×2538E, h24km, MD3.4(ATH), After ATH.*
ATH ***12*** *06:18:58.3, 3431N×2538E, h24km±1km, MD3.4/4*
HLW ***12*** *06:18:59.2, 3447N×2538E, h33km, Mb3.3*
CSEM ***12*** *06:18:59.1±0.1, 3430N×2544E, h25km, MD3.4, Error ellipse: s-maj=5.8km s-min=2.9km az=78.0*

ISC 12 06:18:59.3±1.6, 3435N±005×2544E±009, h15km±12km, n11, σ0°70/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.57**	**21**	*e*PN	**Pg**	**06 19 10.7**	**+0.2**
NPS	**Neapolis**	**0.93**	**9**	*e*PN	**Pn**	**06 19 16.4**	**-1.3**
NPS				*e*SN	**Sn**	**06 19 30.2**	**-0.5**
GVD	**Gavdhos**	**1.22**	**294**	*e*PN	**Pn**	**06 19 21.1**	**-0.6**
VAM	**Vamos**	**1.47**	**316**	*e*PN	**Pn**	**06 19 25.0**	**-0.2**
VAM				*e*SN	**Sn**	**06 19 45.2**	**+1.1**
VAM	**Vamos**	**1.47**	**316**	*e*Pn	**Pn**	**06 19 24.9**	**-0.3**
VAM				*e*Sn	**Sn**	**06 19 45.2**	**+1.1**
KARP	**Karpathos**	**1.85**	**49**	*e*PN	**Pn**	**06 19 31.9**	**+1.5**
HMAT	**Matruh**	**3.53**	**156**	P	**Pn**	**06 19 53.6**	**+0.1**
DABA	**Dabaa**	**4.10**	**143**	P	**Pn**	**06 20 01.4**	**+0.1**
SWA1		**5.07**	**177**	P	**Pn**	**06 20 14.9**	**+0.2**
SWA2		**5.09**	**180**	P	**Pn**	**06 20 14.9**	**0.0**
SUZ		**7.71**	**124**	P	**Pn**	**06 20 50.4**	**-0.5**

ISCJB ***12*** *06:19:27.7±0.7, 2857S±003×7191W±007, h33km, mb4.3/4, Error ellipse: s-maj=8.6km s-min=4.1km az=14.5*
NEIC ***12*** *06:19:29.4, 2862S×7164W, h32km, mb4.5/1, ML4.8(GUC), After GUC.*
GUC ***12*** *06:19:29.4±1.1, 2862S×7164W, h32km±5km, ML4.8*
IDC ***12*** *06:19:36.9±3.5, 2862S×7124W, h70km±27km, mb4.1/3, mb1 3.9/6, mb1mx3.6/18, mbtmp4.0/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=45.1km s-min=27.5km az=108.0*

ISC 12 06:19:30.4±0.7, 2859S±003×7177W±007, h35km, n38, σ1°08/55, mb4.3/4, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.89**	**89**	⇓*i*P	**Pn**	**06 19 48.5**	**+2.1**
VACH				*i* S	**Sn**	**06 19 59.1**	**+1.0**
VACH				AML	AML	06 19 59.2	
	comp=N,13μm,0.2s						
LCO	**Las Campanas**	**1.03**	**114**	*e*P	**Pn**	**06 19 45.9**	**-2.4**
LCO				*i* S	**Sn**	**06 19 59.9**	**-1.6**
LSCH	**La Serena**	**1.39**	**161**	⇑*i*P	**Pn**	**06 19 52.8**	**-0.5**
LSCH				*i* S	**Sn**	**06 20 09.8**	**-0.6**
CPCH	**Copiapo**	**1.75**	**46**	⇑*i*P	**Pn**	**06 19 58.3**	**0.0**
TLL	**Tololo Astrono**	**1.79**	**152**	⇑*i*P	**Pn**	**06 19 59.0**	**+0.3**
TLL				*i* S	**Sn**	**06 20 21.5**	**+1.3**
TLL				AML	AML	06 20 28.8	
	comp=N,14μm,0.6s						
TLL	**Tololo Astrono**	**1.79**	**152**	⇑*i*P	**Pn**	**06 19 59.0**	**+0.3**
TLL				*i* S	**Sn**	**06 20 21.5**	**+1.3**
OVCH	**Ovalle**	**2.07**	**166**	⇓*i*P	**Pn**	**06 20 02.7**	**+0.1**
OVCH				*i* S	**Sn**	**06 20 27.5**	**+0.2**
OVCH				AML	AML	06 20 42.0	
	comp=E,4μm,0.6s						
OVCH	**Ovalle**	**2.07**	**166**	⇓*i*P	**Pn**	**06 20 02.7**	**+0.1**
OVCH				*i* S	**Sn**	**06 20 27.5**	**+0.2**
CMCH	**Combarbala**	**2.66**	**166**	⇓*i*P	**Pn**	**06 20 10.3**	**-0.4**
CMCH				*i* S	**Sn**	**06 20 42.1**	**+0.4**
CMCH				AML	AML	06 20 52.9	
	comp=E,7μm,0.7s						
CMCH	**Combarbala**	**2.66**	**166**	⇓*i*P	**Pn**	**06 20 10.3**	**-0.4**
CMCH				*i* S	**Sn**	**06 20 42.1**	**+0.4**
CHNG	**Los Chungos**	**3.29**	**176**	*e*P	**Pn**	**06 20 18.8**	**-0.6**
CHNG				*i* S	**Sn**	**06 20 55.1**	**-2.2**
CHNG				AML	AML	06 21 16.6	
	comp=E,690nm,0.7s						
JACH	**Jahuel**	**4.21**	**166**	*e*P	**Pn**	**06 20 32.0**	**0.0**
CFAA	**Coronel Fontan**	**4.29**	**135**	P	**Pn**	**06 20 35.4**	**+2.2**
	comp=E,1.8nm,0.3s,baz=314,slow=13,SNR=58						
CFAA				S	**Sn**	**06 21 26.9**	**+5.0**
	comp=E,1.7nm,0.3s,baz=87,slow=16,SNR=5.9						
PEL	**Peldehue**	**4.63**	**169**	⇑*i*P	**Pn**	**06 20 38.2**	**+0.3**
PEL				*i* S	**Sn**	**06 21 30.0**	**-0.5**
PEL				AML	AML	06 21 55.7	
	comp=E,741nm,0.7s						
PEL	**Peldehue**	**4.63**	**169**	⇑*i*P	**Pn**	**06 20 38.2**	**+0.3**
PEL				*i* S	**Sn**	**06 21 30.0**	**-0.5**
LCCH	**Las Cruces**	**4.87**	**178**	*i* P	**Pn**	**06 20 40.3**	**-0.8**
FCH	**Farellones**	**4.89**	**165**	*e*P	**Pn**	**06 20 42.5**	**+1.1**
FCH				*i* S	**Sn**	**06 21 38.4**	**+1.6**
FCH				AML	AML	06 22 09.3	
	comp=E,298nm,0.9s						
CLCH	**Cerro Calan**	**4.91**	**168**	*e*P	**Pn**	**06 20 42.0**	**+0.3**
CLCH				*i* S	**Sn**	**06 21 36.7**	**-0.5**
CLCH				AML	AML	06 22 09.6	
	comp=E,623nm,0.8s						
RCDM	**Rinconada Maip**	**4.96**	**171**	*e*P	**Pn**	**06 20 42.6**	**+0.4**
RCDM				*i* S	**Sn**	**06 21 37.7**	**-0.6**
RCDM				AML	AML	06 22 05.0	
	comp=E,304nm,0.6s						
RCDM	**Rinconada Maip**	**4.96**	**171**	*e*P	**Pn**	**06 20 42.6**	**+0.4**
RCDM				*i* S	**Sn**	**06 21 37.7**	**-0.6**
TACH	**Talagante**	**5.10**	**172**	⇓*i*P	**Pn**	**06 20 44.1**	**-0.1**
LVC	**Limon Verde**	**6.49**	**24**	P	**Pn**	**06 21 03.3**	**0.0**
	comp=E,0.5nm,0.3s,baz=180,slow=6.5,SNR=11						
LVC				S	**Sn**	**06 22 14.3**	**-1.8**
	comp=E,1.2nm,0.3s,baz=203,slow=7.7,SNR=3.6						
LVC				Lg		06 22 43.0	
	comp=E,3.8nm,0.3s,baz=9.4,slow=21,SNR=4.8						
LVC				LR	LR	06 23 38.7	
	comp=E,152nm,20.2s,baz=195,slow=38						
LVC	**Limon Verde**	**6.49**	**24**	*e*Pn	**Pn**	**06 21 02.7**	**-0.6**
	comp=E,13nm,0.6s						
LVC				S	**Sn**	**06 22 14.3**	**-1.8**
LVC				Lg		06 22 43.0	
LVC				LR	LR	06 23 38.7	
PLCA	**Paso Flores**	**12.16**	**176**	P	**Pn**	**06 22 26.8**	**+5.7**
	comp=E,0.2nm,0.3s,baz=216,slow=24,SNR=3.0						
TRQA	**Tornquist**	**12.49**	**142**	*e*Pn	**Pn**	**06 22 26.4**	**+0.8**
	comp=E,6.7nm,0.7s						
TRQA				*e*Sn	**Sn**	**06 24 40.4**	**-3.0**
LPAZ	**La Paz**	**12.70**	**16**	P	**Pn**	**06 22 33.5**	**+5.1**
	comp=E,0.1nm,0.3s,baz=187,slow=10,SNR=9.5						
CPUP	**Villa Florida**	**13.02**	**83**	P	**Pn**	**06 22 36.4**	**+3.5**
	comp=E,0.2nm,0.3s,baz=223,slow=15,SNR=5.2						
CPUP	**Villa Florida**	**13.02**	**83**	*e*Pn	**Pn**	**06 22 26.6**	**-6.2**
SIV	**San Ignacio**	**15.96**	**40**	P	**Pn**	**06 23 07.1**	**-5.1**
	comp=E,0.2nm,0.3s,baz=256,slow=17,SNR=4.5						
EFI	**East Falkland**	**25.25**	**160**	*e*P	**P**	**06 24 57.1**	**+4.1**
	comp=E,12nm,0.8s,mb4.5						
BDFB	**Brasilia**	**25.44**	**65**	P	**P**	**06 24 54.7**	**-0.2**
	comp=E,4.0nm,0.7s,mb4.0,baz=199,slow=5.1,SNR=6.7						
SNAA	**Sanae**	**56.52**	**159**	*e*	**P**	**06 29 09.9**	**+0.8**
SNAA				*e*	pP	06 29 20.2	+0.5
SNAA				*e*		06 29 42.9	
DBIC	**Dimbokro**	**73.29**	**73**	P	**P**	**06 30 58.0**	**-0.2**
	comp=E,4.2nm,0.8s,mb4.4,baz=207,slow=6.8,SNR=3.8						
DBIC	**Dimbokro**	**73.29**	**73**	P	**P**	**06 30 58.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.17**	**70**	P	**P**	**06 31 48.7**	**+1.1**
	comp=E,2.5nm,0.7s,mb4.2,baz=272,slow=5.4,SNR=15						
WRA	**Warramunga Arr**	**125.56**	**211**	PKP	PKPdf	06 38 30.0	+2.2
	comp=E,0.3nm,0.7s,baz=163,slow=1.8,SNR=5.5						
ZAL	**Zalesovo**	**149.43**	**28**	PKPbc	PKPbc	06 39 17.4	+1.7
	comp=E,2.7nm,0.5s,baz=174,slow=2.9,SNR=8.7						
MKAR	**Makanchi Array**	**152.78**	**41**	PKPbc	PKPbc	06 39 25.2	+1.8
	comp=E,0.9nm,0.7s,baz=344,slow=2.1,SNR=11						

NEIC ***12*** *06:31:41.2, 2870S×7147W, h6km, ML3.6(GUC), After GUC.*

GUC 12 06:31:41.2±0.7, 2870S×7147W, h6km±5km, ML3.6, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.63**	**79**	⇓*i*P	Pg	06 31 59.1	+5.7
VACH				*i* S	Sg	06 32 08.6	+6.9
VACH				AML	AML	06 32 10.4	
	comp=E,5μm,0.3s						
VACH	**Vallenar**	**0.63**	**79**	⇓*i*P	Pg	06 31 59.1	+5.7
VACH				*i* S	Sg	06 32 08.6	+6.9
LCO	**Las Campanas**	**0.74**	**115**	*e*P	Pg	06 31 56.5	+1.0
LCO				*i* S	Sg	06 32 07.8	+2.7
LSCH	**La Serena**	**1.22**	**171**	*e*P	Pg	06 32 03.3	-1.3
LSCH				*i* S	Sg	06 32 20.0	-0.5
TLL	**Tololo Astrono**	**1.57**	**159**	⇓*i*P	Pn	06 32 09.7	0.0
TLL				*i* S	Sn	06 32 31.6	+1.2
TLL				AML	AML	06 32 34.8	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**1.57**	**159**	⇓*i*P	Pn	06 32 09.7	0.0
TLL				*i* S	Sn	06 32 31.6	+1.2
CPCH	**Copiapo**	**1.66**	**37**	*i* P	Pn	06 32 10.2	-0.6
CPCH				*i* S	Sn	06 32 32.8	+0.4
CPCH				AML	AML	06 32 39.8	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**1.66**	**37**	*i* P	Pn	06 32 10.2	-0.6
CPCH				*i* S	Sn	06 32 32.8	+0.4
OVCH	**Ovalle**	**1.92**	**173**	*e*P	Pn	06 32 14.2	-0.2
OVCH				*i* S	Sn	06 32 39.4	+0.6
OVCH				AML	AML	06 32 46.8	
	comp=E,455nm,0.4s						
OVCH	**Ovalle**	**1.92**	**173**	*e*P	Pn	06 32 14.2	-0.2
OVCH				*i* S	Sn	06 32 39.4	+0.6
CMCH	**Combarbala**	**2.50**	**171**	⇑*i*P	Pn	06 32 20.8	-1.6
CMCH				*i* S	Sn	06 32 52.7	-0.5
CMCH				AML	AML	06 33 04.5	
	comp=E,806nm,0.8s						
CMCH	**Combarbala**	**2.50**	**171**	⇑*i*P	Pn	06 32 20.8	-1.6
CMCH				*i* S	Sn	06 32 52.7	-0.5

ISCJB ***12*** *06:49:05.5±0.9, 2861S±003×7185W±008, h41km±10km, mb4.2/6, MS3.3/1, Error ellipse: s-maj=12.2km s-min=5.3km az=19.1*
NEIC ***12*** *06:49:06.5, 2864S×7154W, h33km, mb4.8/2, ML4.3(GUC), After GUC.*
GUC ***12*** *06:49:06.5±0.9, 2864S×7154W, h33km±4km, MD4.3, ML4.3*
IDC ***12*** *06:49:12.0±4.5, 2864S×7131W, h61km±31km, mb3.8/4, mb1 3.7/7, mb1mx3.5/19, mbtmp3.9/7, ML3.1/2, MS3.3/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=60.0km s-min=25.2km az=93.0*

ISC 12 06:49:07.3±0.9, 2863S±003×7184W±009, h38km±10km, n30, σ0°94/41, mb4.2/6, MS3.3/1, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.95**	**87**	⇓*i*P	**Pn**	**06 49 24.8**	**+0.6**
VACH				*i* S	**Sn**	**06 49 35.3**	**-1.1**
VACH				AML	AML	06 49 35.4	
	comp=E,26μm,0.1s						
LCO	**Las Campanas**	**1.07**	**111**	*e*P	**Pn**	**06 49 22.1**	**-3.6**
LCO				*i* S	**Sn**	**06 49 34.2**	**-5.2**
LSCH	**La Serena**	**1.38**	**158**	⇑*i*P	**Pn**	**06 49 29.2**	**-0.8**
LSCH				*i* S	**Sn**	**06 49 46.0**	**-1.0**
TLL	**Tololo Astrono**	**1.78**	**150**	⇑*i*P	**Pn**	**06 49 35.6**	**+0.1**
TLL				*i* S	**Sn**	**06 49 57.0**	**+0.1**
TLL				AML	AML	06 50 03.3	
	comp=E,7μm,0.5s						
TLL	**Tololo Astrono**	**1.78**	**150**	⇑*i*P	**Pn**	**06 49 35.6**	**+0.1**
TLL				*i* S	**Sn**	**06 49 57.0**	**+0.1**
CPCH	**Copiapo**	**1.82**	**46**	⇑*i*P	**Pn**	**06 49 34.6**	**-1.5**
CPCH				AML	AML	06 50 03.3	
	comp=E,8μm,0.1s						
OVCH	**Ovalle**	**2.05**	**165**	*e*P	**Pn**	**06 49 38.9**	**-0.4**
OVCH				*i* S	**Sn**	**06 50 03.8**	**+0.2**
OVCH				AML	AML	06 50 18.7	
	comp=E,2μm,0.7s						
OVCH	**Ovalle**	**2.05**	**165**	*e*P	**Pn**	**06 49 38.9**	**-0.4**
OVCH				*i* S	**Sn**	**06 50 03.8**	**+0.2**
CMCH	**Combarbala**	**2.64**	**164**	*e*P	**Pn**	**06 49 46.8**	**-0.6**
CMCH				*i* S	**Sn**	**06 50 18.3**	**+0.1**
CMCH				AML	AML	06 50 37.8	
	comp=E,4μm,0.5s						
CMCH	**Combarbala**	**2.64**	**164**	*e*P	**Pn**	**06 49 46.8**	**-0.6**
CMCH				*i* S	**Sn**	**06 50 18.3**	**+0.1**
CHNG	**Los Chungos**	**3.26**	**175**	*e*P	**Pn**	**06 49 55.0**	**-0.9**
CHNG				AML	AML	06 50 52.4	
	comp=E,285nm,0.7s						
PTCH	**Petorca**	**3.71**	**168**	⇓*i*P	**Pn**	**06 50 02.0**	**0.0**
PTCH				*i* S	**Sn**	**06 50 44.2**	**-0.3**
JACH	**Jahuel**	**4.18**	**165**	*e*P	**Pn**	**06 50 08.9**	**+0.3**
CFAA	**Coronel Fontan**	**4.30**	**134**	P	**Pn**	**06 50 11.7**	**+1.5**
	comp=E,0.6nm,0.3s,baz=314,slow=13,SNR=109						
CFAA				S	**Sn**	**06 51 00.5**	**+1.3**
	comp=E,1.5nm,0.3s,baz=343,slow=7.6,SNR=3.9						
PEL	**Peldehue**	**4.61**	**168**	*e*P	**Pn**	**06 50 14.7**	**+0.2**
CLCH	**Cerro Calan**	**4.88**	**167**	*e*P	**Pn**	**06 50 18.8**	**+0.6**
LVC	**Limon Verde**	**6.54**	**24**	P	**Pn**	**06 50 35.0**	**-6.0**
	comp=E,0.2nm,0.3s,baz=198,slow=16,SNR=3.5						
LVC				S	**Sn**	**06 51 53.9**	**-0.5**
	comp=E,2.5nm,0.3s,baz=202,slow=21,SNR=3.8						
LVC				Lg		06 52 20.9	
	comp=E,5.3nm,0.3s,baz=204,slow=23,SNR=8.8						
LVC				LR	LR	06 53 10.5	
	comp=E,186nm,20.2s,baz=216,slow=37						
LVC	**Limon Verde**	**6.54**	**24**	*e*Pn	**Pn**	**06 50 41.1**	**+0.1**
LVC				S	**Sn**	**06 51 53.9**	**-0.5**
LVC				Lg		06 52 20.9	
LVC				LR	LR	06 53 10.5	
LPAZ	**La Paz**	**12.75**	**16**	P	**Pn**	**06 52 08.4**	**+2.5**
	comp=E,0.1nm,0.3s,baz=177,slow=9.2,SNR=5.1						
CPUP	**Villa Florida**	**13.08**	**83**	P	**Pn**	**06 52 12.7**	**+2.1**
	comp=E,0.2nm,0.3s,baz=262,slow=10,SNR=2.2						
CPUP				LR	LR	06 57 31.1	
	comp=E,112nm,21.0s,baz=62,slow=40						
SIV	**San Ignacio**	**16.03**	**41**	P	**Pn**	**06 52 49.5**	**-0.4**
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=7.3						
BDFB	**Brasilia**	**25.51**	**65**	P	**P**	**06 54 31.5**	**-0.6**
	comp=E,1.6nm,0.7s,mb3.6,baz=34,slow=14,SNR=3.1						
BDFB				LR	LR	07 05 40.5	
	comp=E,87nm,19.1s,MS3.3,baz=118,slow=39						
SNAA	**Sanae**	**56.51**	**159**	P	**P**	**06 58 45.3**	**-0.3**
	comp=E,0.5nm,0.8s,mb3.6,baz=265,slow=5.3,SNR=5.4						
CNNC	**Cliffs of the**	**63.78**	**354**	*e*P	**P**	**06 59 35.0**	**-0.4**
	comp=E,12nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**73.35**	**73**	P	**P**	**07 00 33.7**	**-1.4**
	comp=E,5.3nm,1.1s,mb4.4,baz=182,slow=11,SNR=3.5						
DBIC	**Dimbokro**	**73.35**	**73**	P	**P**	**07 00 33.7**	**-1.4**
ISCO	**Idaho Springs**	**74.98**	**334**	*e*P	**P**	**07 00 45.4**	**+0.7**
	comp=E,1.8nm,0.3s,mb4.5						
TORD	**Torodi Ar. Bea**	**82.24**	**71**	P	**P**	**07 01 25.7**	**+1.2**
	comp=E,1.6nm,0.7s,mb4.0,baz=247,slow=5.1,SNR=7.0						
ZAL	**Zalesovo**	**149.49**	**28**	PKPbc	PKPbc	07 08 53.9	+1.5
	comp=E,1.1nm,0.8s,baz=184,slow=6.0,SNR=5.2						
MKAR	**Makanchi Array**	**152.84**	**41**	PKPbc	PKPbc	07 09 01.4	+1.1
	comp=E,0.6nm,0.7s,baz=306,slow=2.3,SNR=4.8						

ISCJB ***12*** *07:06:09.6±0.6, 0.46S±007×1346E±0.1, h14km, mb4.4/8, MS3.8/2, Error ellipse: s-maj=15.3km s-min=10.1km az=9.8*
NEIC ***12*** *07:06:11.4±0.6, 044S×13455E, mb4.5/6, Error ellipse: s-maj=15.8km s-min=10.2km az=93.0*
NEIC Felt [II] at Manokwari.
IDC ***12*** *07:06:14.0±1.4, 086S×13437E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, ML3.9/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/23, Error ellipse: s-maj=57.3km s-min=21.7km az=72.0*

ISC 12 07:06:09.7±6.0, 045S±007×1345E±01, h1km±40km, n25, σ1°23/21, mb4.4/8, MS3.8/2, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.35**	**190**	*e*P	**Pn**	**07 09 06.2**	**-0.4**
	10nm,0.5s						
GUMO	**Guam**	**17.32**	**36**	LR	LR	07 15 28.2	
	comp=Z,149nm,19.5s,baz=248,slow=31						
GUMO	**Guam**	**17.32**	**36**	*e*Pn	**Pn**	**07 10 12.9**	**+0.3**
	90nm,1.1s						
WB2	**Warramunga Arr**	**19.37**	**180**	⇓*i*P	**Pn**	**07 10 36.9**	**-0.9**
WRA	**Warramunga Arr**	**19.37**	**181**	P	**Pn**	**07 10 36.4**	**-1.4**
	0.4nm,0.3s,baz=360,slow=12,SNR=35						
KKM	**Kota Kinabalu**	**19.38**	**290**	*e*P	**Pn**	**07 10 38.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.59**	**206**	*e*P	**Pn**	**07 10 39.3**	**-1.1**
	7.8nm,0.6s						
FITZ				*e*S	**Sn**	**07 14 00.1**	**-21**
FITZ	**Fitzroy Crossi**	**19.59**	**206**	P	**Pn**	**07 10 38.9**	**-1.5**
	0.4nm,0.3s,baz=36,slow=7.7,SNR=13						
CTA	**Charters Tower**	**22.64**	**150**	P	**P**	**07 11 13.6**	**+1.5**
	6.2nm,1.0s,mb4.0,baz=203,slow=7.7,SNR=2.5						
AS31	**Alice Springs**	**23.08**	**181**	*e*P	**P**	**07 11 20.5**	**+3.8**
ASAR	**Alice Springs**	**23.08**	**181**	P	**P**	**07 11 17.4**	**+0.6**
	1.3nm,0.5s,mb3.6,baz=7.2,slow=11,SNR=25						
ASAR				LR	LR	07 20 47.3	
	comp=Z,304nm,19.9s,MS3.8,baz=5.0,slow=38						
ASPA	**Alice Springs**	**23.08**	**181**	*e*P	**P**	**07 11 20.5**	**+3.8**
KSM	**Kuching**	**24.29**	**275**	*e*P	**P**	**07 11 28.8**	**+0.4**
KSM				*e*		07 11 33.1	
MBWA	**Marble Bar**	**25.14**	**214**	*e*P	**P**	**07 11 37.0**	**+0.7**
	12nm,1.3s,mb4.3						
MBWA				*e*pP		07 11 40.4	
STKA	**Stephens Creek**	**31.96**	**169**	P	**P**	**07 12 38.8**	**+1.7**
	2.7nm,0.8s,mb4.1,baz=328,slow=11,SNR=2.3						
MA2	**Magadan**	**61.19**	**9**	*e*P	**P**	**07 16 24.8**	**-1.2**
	40nm,1.4s,mb5.3						
MKAR	**Makanchi Array**	**65.47**	**323**	P	pP	07 17 00.3	+5.5
	0.9nm,0.6s,baz=116,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**65.47**	**323**	P	pP	07 17 00.3	+5.5
CASY	**Casey**	**67.86**	**190**	*e*P	**P**	**07 17 01.4**	**-8.3**
	58nm,1.0s						
CASY				*e*pP		07 17 05.9	
VNDA	**Vanda**	**78.41**	**174**	P	**P**	**07 18 14.7**	**+2.7**
	0.5nm,0.8s,mb3.5,baz=315,slow=7.2,SNR=2.8						
VNDA	**Vanda**	**78.

TLL	**Tololo Astrono**	**1.59 159**	*e*P	Pn	07 35 29.6	0.0
TLL			*i* S	Sn	07 35 52.0	+1.4
TLL			AML	AML	07 35 57.1	
	comp=E,2μm,0.6s					
CPCH	**Copiapo**	**1.63 37**⇑	*i*P	Pn	07 35 29.7	-0.5
CPCH			*i* S	Sn	07 35 51.8	0.0
CPCH			AML	AML	07 35 55.8	
	comp=E,2μm,0.1s					
OVCH	**Ovalle**	**1.94 174**	*i* P	Pn	07 35 34.0	-0.3
OVCH			*i* S	Sn	07 35 59.1	-0.2
OVCH			AML	AML	07 36 06.1	
	comp=N,626nm,0.4s					
CMCH	**Combarbala**	**2.52 171**⇓	*i*P	Pn	07 35 40.5	-1.8
CMCH			*i* S	Sn	07 36 13.0	-0.6
CMCH			AML	AML	07 36 30.7	
	comp=E,1μm,0.7s					

ISCJB ***12*** *07:41:17.3±1.1,96S±02×1086E±02,h10km,mb3.8/6, Error ellipse: s-maj=39.5km s-min=19.6km az=110.4*
IDC ***12*** *07:41:19.2±3.0,930S×10897E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.7/16,mbtmp3.7/5,Error ellipse: s-maj=142.1km s-min=20.8km az=53.0*
NEIC ***12*** *07:41:19.5±0.8,956S×10863E,h10km,mb4.5/1,Error ellipse: s-maj=29.6km s-min=14.7km az=56.0*

ISC 12 07:41:19.5±1.1,96S±02×1086E±02,h10km,n6,σ0°40/6, mb3.8/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.92**	**115**	P	**P**	**07 47 00.5**	**-0.3**
	0.8nm,0.7s,mb3.3,baz=287,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**27.95**	**123**	P	**P**	**07 47 10.1**	**0.0**
	0.3nm,0.6s,mb3.1,baz=309,slow=9.6,SNR=4.8						
STKA	**Stephens Creek**	**37.77**	**131**	P	**P**	**07 48 36.2**	**+0.5**
	2.0nm,0.6s,mb4.0,baz=324,slow=7.3,SNR=5.4						
SONM	**Songino Array**	**57.20**	**358**	P	**P**	**07 51 06.5**	**-0.3**
	0.3nm,0.6s,mb3.5,baz=177,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**60.83**	**340**	P	**P**	**07 51 32.2**	**+0.3**
	0.9nm,0.5s,mb4.1,baz=142,slow=7.9,SNR=11						
MAW	**Mawson**	**65.37**	**198**	*e*P	**P**	**07 52 01.9**	**-0.2**
	1.4nm,0.4s,mb4.3						

ISCJB ***12*** *07:45:34.3±0.4,3586N±002×397W±002,h8km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=148.4*
MDD ***12*** *07:45:35.7±0.3,3581N×396W,h0km,mbLg2.8/16,Error ellipse: s-maj=3.0km s-min=2.5km az=21.0,PRXIMO*
NEIC ***12*** *07:45:36.1,3587N×397W,h0km,MN2.8(MDD),After MDD.*
SFS ***12*** *07:45:36.0,3587N×397W,h0km,ML2.8*
LDG ***12*** *07:45:37.2±0.2,3570N×393W,h10km,Ml3.3/2,Error ellipse: s-maj=4.3km s-min=3.8km az=4.0*
CNRM ***12*** *07:45:37.5,3580N×388W,h19km,MD3.7*
INMG ***12*** *07:45:37.1±1.3,3593N×396W,h0km±3km,ML2.9,Error ellipse: s-maj=2.8km s-min=2.0km az=154.0*
CSEM ***12*** *07:45:38.0±0.1,3568N×384W,h30km,ML3.6/7,Error ellipse: s-maj=3.7km s-min=2.9km az=71.0*

ISC 12 07:45:35.0±0.4,3584N±002×397W±002,h5km±3km,n82, σ1°38/132,6C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.62**	**178**	*i* P	**Pg**	**07 45 48.0**	**+1.2**
MPAL				*i* S	**Sg**	**07 45 55.5**	**+0.7**
EALB	**Alboran**	**0.77**	**82**	⇑Pg	**Pg**	**07 45 50.3**	**+0.6**
	SNR=18						
EALB				Lg		07 46 00.7	
	2μm,0.3s,SNR=18						
EALB	**Alboran**	**0.77**	**82**	Pg	**Pg**	**07 45 50.3**	**+0.6**
	SNR=18						
TOU	**Touzarine**	**0.90**	**168**	*i* P	**Pg**	**07 45 53.5**	**+1.3**
TOU				*i* S	**Sg**	**07 46 02.5**	**-1.3**
MAL	**Malaga**	**0.95**	**338**	*i* P	**Pg**	**07 45 54.8**	**+1.5**
EMIJ	**Mijas**	**0.97**	**318**	Pg	**Pg**	**07 45 54.3**	**+0.7**
	30nm,0.3s,SNR=49						
EMIJ				Lg		07 46 08.3	
	44nm,0.1s,SNR=5.0						
EMEL	**Melilla**	**0.99**	**123**	Pg	**Pg**	**07 45 52.8**	**-1.1**
	332nm,0.3s,SNR=15						
EMEL				Lg		07 46 04.9	
	369nm,0.1s,SNR=9.2						
EMLI	**Melilla**	**0.99**	**123**	Pg	**Pg**	**07 45 52.8**	**-1.3**
	332nm,0.3s,SNR=15						
MELI	**Melilla**	**1.01**	**123**	P	**Pg**	**07 45 53.2**	**-1.1**
MELI				S	**Sg**	**07 46 06.8**	**-0.6**
MELI	**Melilla**	**1.01**	**123**	*i* P	**Pg**	**07 45 53.2**	**-1.1**
MELI				*i* S	**Sg**	**07 46 06.8**	**-0.6**
EGUA	**Guajares**	**1.04**	**18**	⇓Pg	**Pg**	**07 45 54.4**	**-0.6**
	2.9nm,0.2s,SNR=18						
EGUA				Lg		07 46 08.3	
	19nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.18**	**6**	Pg	**Pg**	**07 45 56.9**	**-0.8**
	2.4nm,0.2s,SNR=16						
ERON				Lg		07 46 11.9	
	48nm,0.3s,SNR=16						
DKH	**Dar Kharkhour**	**1.19**	**253**	P	**Pg**	**07 45 57.5**	**-0.2**
DKH				P		07 45 58.0	
DKH				S	**Sg**	**07 46 12.0**	**-1.1**
DKH	**Dar Kharkhour**	**1.19**	**253**	*i* P	**Pg**	**07 45 57.5**	**-0.2**
DKH				*i* S	**Sg**	**07 46 12.0**	**-1.1**
ELOJ	**Sierra Loja**	**1.31**	**354**	Pg	**Pg**	**07 45 59.1**	**-1.0**
	1.5nm,0.2s,SNR=17						
ELOJ				Lg		07 46 18.6	
	37nm,0.3s,SNR=12						
ZAI	**Zaio**	**1.33**	**131**	*i* P	**Pn**	**07 45 58.0**	**-2.2**
ZAI				*i* S	**Sb**	**07 46 13.5**	**-4.2**
EJIF	**Jimena Fronter**	**1.36**	**297**	Pg	**Pg**	**07 45 59.5**	**-1.5**
	2.9nm,0.3s,SNR=22						
EJIF				Lg		07 46 18.5	
	45nm,0.5s,SNR=5.0						
EBER	**Berja**	**1.37**	**39**	⇑Pg	**Pg**	**07 45 59.9**	**-1.3**
	27nm,0.3s,SNR=18						
EBER				Lg		07 46 19.1	
	104nm,0.3s,SNR=9.1						
EBER	**Berja**	**1.37**	**39**	⇑Pg	**Pg**	**07 46 00.0**	**-1.3**
EQUE	**Quentar**	**1.43**	**17**	Pg	**Pg**	**07 46 02.0**	**-0.3**
	19nm,0.3s,SNR=49						
EQUE				Lg		07 46 19.6	
	32nm,0.3s,SNR=9.8						
ECOG	**Cogollos-Vega**	**1.47**	**13**	Pg	**Pg**	**07 46 03.4**	**+0.2**
	21nm,0.4s,SNR=19						
ECOG				Lg		07 46 21.5	
	27nm,0.3s,SNR=12						
LIJA	**Lijar**	**1.57**	**313**	P	**Pn**	**07 46 05.8**	**+2.2**
LIJA	**Lijar**	**1.57**	**313**	*i* P	**Pn**	**07 46 05.8**	**+2.3**
TAF	**Taforalt**	**1.64**	**128**	P	**Pn**	**07 45 59.5**	**-4.9**
TAF				S	**Sn**	**07 46 17.6**	**-8.3**
TSY	**Tnine Yamani**	**1.69**	**255**	*e*P	**Pn**	**07 46 04.0**	**-1.3**
TSY				*e*S	**Sn**	**07 46 26.5**	**-0.8**
ELUQ	**Luque**	**1.73**	**352**	Pg	**Pg**	**07 46 06.7**	**-1.5**
	12nm,0.2s,SNR=7.9						
ELUQ				Lg		07 46 29.8	
	25nm,0.2s,SNR=7.9						
CNIL	**Conil**	**1.77**	**288**	*e*P	**Pn**	**07 46 09.0**	**+2.7**
RSA	**Sarsar**	**1.80**	**238**	P	**Pn**	**07 46 08.5**	**+1.8**
RSA				S	**Sn**	**07 46 29.5**	**-0.4**
ENIJ	**Nijar**	**1.82**	**51**	Pn	**Pn**	**07 46 04.6**	**-2.3**
	6.9nm,0.3s,SNR=9.8						
ESPR	**Espera**	**1.83**	**305**	Pg	**Pg**	**07 46 09.5**	**-0.7**
	2.6nm,0.3s,SNR=8.5						
ESPR				Lg		07 46 33.7	
	38nm,0.3s,SNR=7.9						
ESPR	**Espera**	**1.83**	**305**	Pg	**Pg**	**07 46 09.5**	**-0.7**
	2.6nm,0.3s,SNR=8.5						
SCRT	**Cerro San Cris**	**1.95**	**295**	P	**Pn**	**07 45 57.2**	**-12**
EQES	**Quesada**	**2.09**	**20**	⇑Pg	**Pg**	**07 46 13.3**	**-1.7**
	43nm,0.4s,SNR=18						
EQES				Lg		07 46 40.2	
	228nm,0.4s,SNR=20						
EQES	**Quesada**	**2.09**	**20**	Pg	**Pg**	**07 46 13.3**	**-1.7**
	43nm,0.4s,SNR=18						
EHUE	**Huescar**	**2.26**	**29**	⇓Pg	**Pg**	**07 46 14.5**	**-3.8**
	16nm,0.2s,SNR=18						
EHUE				Lg		07 46 42.8	
	21nm,0.3s,SNR=5.0						
EBAN	**Banos Encina**	**2.32**	**4**	Pg	**Pg**	**07 46 17.5**	**-2.0**
	5.1nm,0.2s,SNR=5.6						
EBAN				Lg		07 46 46.0	
	20nm,0.4s,SNR=5.8						
EADA	**Adamuz**	**2.37**	**348**	Pn	**Pn**	**07 46 16.2**	**+1.6**
	2.3nm,0.1s,SNR=26						
EADA				Sn	**Sn**	**07 46 44.3**	**+0.3**
	21nm,0.3s,SNR=4.6						
EADA				Lg		07 46 49.9	
	23nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**2.37**	**348**	Pn	**Pn**	**07 46 16.1**	**+1.5**
EADA				Sn	**Sn**	**07 46 44.3**	**+0.3**
	21nm,0.3s,SNR=4.6						
EMIN	**Mina Concepcio**	**2.90**	**312**	Pn	**Pn**	**07 46 22.4**	**+0.6**
	2.7nm,0.2s,SNR=24						
EMIN				Sn	**Sn**	**07 46 55.6**	**-1.4**
	5.9nm,0.3s,SNR=7.5						
EMIN	**Mina Concepcio**	**2.90**	**312**	Pn	**Pn**	**07 46 22.4**	**+0.6**
	2.7nm,0.2s,SNR=24						
EMIN				Sn	**Sn**	**07 46 55.6**	**-1.4**
	5.9nm,0.3s,SNR=7.5						
CZD	**Col de Zad**	**2.94**	**198**	*i* P	**Pn**	**07 46 23.0**	**+0.6**
CZD				*i* S	**Sn**	**07 46 55.0**	**-3.0**
EMUR	**La Murta**	**2.96**	**47**	Pn	**Pn**	**07 46 23.6**	**+0.9**
	11nm,0.4s,SNR=14						
EMUR				Sn	**Sn**	**07 46 57.4**	**-1.3**
	15nm,0.3s,SNR=7.5						
EMUR	**La Murta**	**2.96**	**47**	Pn	**Pn**	**07 46 23.6**	**+0.9**
	11nm,0.4s,SNR=14						
EMUR				Sn	**Sn**	**07 46 57.4**	**-1.3**
	15nm,0.3s,SNR=7.5						
EVIA	**Vianos**	**3.03**	**22**	Pn	**Pn**	**07 46 24.6**	**+1.0**
	1.4nm,0.2s,SNR=12						
EVIA				Sn	**Sn**	**07 47 00.9**	**+0.7**
	5.4nm,0.4s,SNR=7.4						
EVIA	**Vianos**	**3.03**	**22**	Pn	**Pn**	**07 46 24.5**	**+0.9**
EVIA				Sn	**Sn**	**07 47 00.9**	**+0.7**
	5.4nm,0.4s,SNR=7.4						
ERIP	**Rio Piedras**	**3.05**	**301**	Pn	**Pn**	**07 46 25.0**	**+1.0**
	13nm,0.2s,SNR=7.9						
ERIP				Sn	**Sn**	**07 46 60.0**	**-0.9**
	41nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.29**	**302**	Pn	**Pn**	**07 46 28.0**	**+0.8**
	0.6nm,0.2s,SNR=30						
EGRO				Sn	**Sn**	**07 47 06.0**	**-0.7**
	9.5nm,0.2s,SNR=7.7						
EGRO	**El Granado**	**3.29**	**302**	Pn	**Pn**	**07 46 28.0**	**+0.8**
	0.6nm,0.2s,SNR=30						
EGRO				Sn	**Sn**	**07 47 06.0**	**-0.7**
	9.5nm,0.2s,SNR=7.7						
ETOB	**Tobarra**	**3.40**	**34**	Pn	**Pn**	**07 46 30.8**	**+2.1**
	13nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**07 47 10.2**	**+0.8**
	4.1nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**3.40**	**34**	Pn	**Pn**	**07 46 30.8**	**+2.1**
	13nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**3.68**	**208**	*i* P	**Pn**	**07 46 34.0**	**+1.4**
KIB				*i* S	**Sn**	**07 47 13.0**	**-3.3**
EBAD	**Badajoz**	**3.79**	**321**	Pn	**Pn**	**07 46 34.7**	**+0.7**
	4.4nm,0.2s,SNR=16						
EBAD				Sn	**Sn**	**07 47 18.1**	**-0.9**
	11nm,0.2s,SNR=5.4						
EBAD	**Badajoz**	**3.79**	**321**	Pn	**Pn**	**07 46 34.7**	**+0.7**
	4.4nm,0.2s,SNR=16						
EBAD				Sn	**Sn**	**07 47 18.1**	**-0.9**
PBEJ	**Beja**	**3.81**	**306**	*e*Pn	**Pn**	**07 46 35.9**	**+1.6**
PBEJ				*e*Sn	**Sn**	**07 47 18.9**	**-0.6**
PBEJ							
	16nm,0.4s						
PBEJ	**Beja**	**3.81**	**306**	*e*Pn	**Pn**	**07 46 35.9**	**+1.6**
PBEJ				*e*Sn	**Sn**	**07 47 18.9**	**-0.6**
	16nm,0.4s						
ZFT	**Errachidia**	**3.81**	**185**	*e*P	**Pn**	**07 46 34.0**	**-0.4**
ZFT				*i* S	**Sn**	**07 47 16.0**	**-3.6**
ESDC	**Sonseca Array**	**3.83**	**0**	⇑Pn	**Pn**	**07 46 36.6**	**+2.1**
	7.7nm,0.2s,baz=183,slow=12,SNR=18						
ESDC				Sn	**Sn**	**07 47 18.4**	**-1.5**
	0.3nm,0.1s,baz=43,slow=11,SNR=6.4						
ESDC				Lg		07 47 35.8	
	8.9nm,0.6s,baz=182,slow=29,SNR=8.4						
ESDC	**Sonseca Array**	**3.83**	**0**	⇑Pn	**Pn**	**07 46 36.6**	**+2.0**
ESDC				Sn	**Sn**	**07 47 18.5**	**-1.4**
ESLA	**Sonseca Array**	**3.83**	**0**	*e*Pn	**Pn**	**07 46 35.7**	**+1.1**
MORF	**Marmelete**	**4.04**	**293**	*e*Pn	**Pn**	**07 46 38.8**	**+1.3**
MORF				*e*Sn	**Sn**	**07 47 24.5**	**-0.7**
MORF							
	12nm,0.4s						
MORF	**Marmelete**	**4.04**	**293**	*e*Pn	**Pn**	**07 46 38.8**	**+1.3**
MORF				*e*Sn	**Sn**	**07 47 24.5**	**-0.7**
	12nm,0.4s						
EBEN	**Beniarda**	**4.13**	**45**	Pn	**Pn**	**07 46 39.6**	**+0.8**
	SNR=7.9						
EBEN	**Beniarda**	**4.13**	**45**	Pn	**Pn**	**07 46 39.6**	**+0.8**
PESTR	**Estremoz**	**4.17**	**317**	*e*Pn	**Pn**	**07 46 40.3**	**+0.9**
PESTR				*e*Sn	**Sn**	**07 47 27.6**	**-0.9**
PTEO	**Sao Teotonio**	**4.18**	**295**	*e*Pn	**Pn**	**07 46 40.7**	**+1.3**
PTEO				*e*Sn	**Sn**	**07 47 28.3**	**-0.4**
PTEO							
	23nm,0.5s						
PTEO	**Sao Teotonio**	**4.18**	**295**	*e*Pn	**Pn**	**07 46 40.7**	**+1.3**
PTEO				*e*Sn	**Sn**	**07 47 28.3**	**-0.4**
	23nm,0.5s						
EVO	**Evora**	**4.20**	**311**	*e*Pn	**Pn**	**07 46 41.3**	**+1.6**
EVO				*e*Sn	**Sn**	**07 47 29.6**	**+0.5**
	33nm,0.4s						
TZC	**Tazercounte**	**4.24**	**210**	P	**Pn**	**07 46 42.0**	**+1.8**
TZC				S	**Sn**	**07 47 25.0**	**-5.0**
TZC	**Tazercounte**	**4.24**	**210**	*e*P	**Pn**	**07 46 42.0**	**+1.8**
MOE	**Montemor**	**4.40**	**309**	*e*Pn	**Pn**	**07 46 43.8**	**+1.3**
MOE				*e*Sn	**Sn**	**07 47 33.1**	**-1.1**
PCBR	**Castelo Branco**	**4.86**	**326**	*e*Pn	**Pn**	**07 46 50.2**	**+1.4**
PCBR				*e*Sn	**Sn**	**07 47 44.1**	**-1.4**
PCBR							
	9.9nm,0.5s						
PCBR	**Castelo Branco**	**4.86**	**326**	*e*Pn	**Pn**	**07 46 50.2**	**+1.4**
PCBR				*e*Sn	**Sn**	**07 47 44.1**	**-1.4**
	9.9nm,0.5s						
MTE	**Manteigas**	**5.35**	**329**	*e*Pn	**Pn**	**07 46 56.7**	**+1.2**
MTE				*e*Sn	**Sn**	**07 47 55.8**	**-1.7**
MTE							
	15nm,0.5s						
MTE	**Manteigas**	**5.35**	**329**	*e*Pn	**Pn**	**07 46 56.7**	**+1.2**
MTE				*e*Sn	**Sn**	**07 47 55.8**	**-1.7**
	15nm,0.5s						
PVIS	**Viseu**	**5.76**	**329**	*e*Pn	**Pn**	**07 47 02.8**	**+1.6**
PVIS				*e*Sn	**Sn**	**07 48 05.7**	**-2.0**
PVRL	**Vila Real**	**6.17**	**333**	*e*Pn	**Pn**	**07 47 08.6**	**+1.9**
PVRL				*e*Sn	**Sn**	**07 48 15.5**	**-2.2**
PVRL							
	14nm,0.2s						
PBRG	**Braganca**	**6.33**	**341**	*e*Pn	**Pn**	**07 47 10.7**	**+1.7**
PBRG				*e*Sn	**Sn**	**07 48 18.9**	**-2.9**
ECAL	**Calabor**	**6.46**	**341**	Pn	**Pn**	**07 47 12.8**	**+2.0**
	7.0nm,0.4s,SNR=20						
ECAL				Sn	**Sn**	**07 48 21.6**	**-3.3**
	1.3nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**6.46**	**341**	Pn	**Pn**	**07 47 12.8**	**+2.0**
ECAL				Sn	**Sn**	**07 48 21.5**	**-3.4**
ETSF	**Etsaut**	**7.53**	**20**	*e*Pn	**Pn**	**07 47 27.1**	**+1.7**
SJPF	**Ste Jean**	**7.57**	**15**	*e*Pn	**Pn**	**07 47 27.4**	**+1.5**
SJPF				*e*Sn	**Sn**	**07 48 48.6**	**-3.5**
	1.3nm,0.3s						
SJPF	**Ste Jean**	**7.57**	**15**	*e*Pn	**Pn**	**07 47 27.4**	**+1.5**
SJPF				*e*Sn	**Sn**	**07 48 48.6**	**-3.5**
	0.6nm,0.3s						

ISCJB ***12*** *07:46:52.3±0.6,3571N±003×402W±003,h21km±6km, Error ellipse: s-maj=6.1km s-min=3.8km az=36.9*
MDD ***12*** *07:46:53.1±0.7,3578N×395W,h0km,mbLg2.5/16,Error ellipse: s-maj=6.9km s-min=3.7km az=30.0,PRXIMO*
SFS ***12*** *07:46:53.0,3579N×394W,h0km,ML2.4*
NEIC ***12*** *07:46:53.1,3578N×395W,h0km,MN2.5(MDD),After MDD.*
CSEM ***12*** *07:46:53.0±0.2,3569N×398W,h30km,ML2.4,Error ellipse: s-maj=5.1km s-min=3.4km az=23.0*

ISC 12 07:46:51.9±0.6,3575N±003×399W±003,h7km±4km,n36, σ0°90/59,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.80**	**76**	P	**Pg**	**07 47 07.6**	**+0.3**
	41nm,0.1s,SNR=7.9						
EALB				S	**Sg**	**07 47 17.5**	**-0.1**
	184nm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.80**	**76**	P	**Pg**	**07 47 07.6**	**+0.4**
	41nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**0.95**	**118**	P	**Pg**	**07 47 10.0**	**-0.2**
	61nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**07 47 22.4**	**-0.2**
	304nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.96**	**118**	P	**Pg**	**07 47 10.0**	**-0.3**
	61nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**07 47 22.4**	**-0.4**
	304nm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.97**	**118**	S	**Sg**	**07 47 22.8**	**-0.4**
MELI	**Melilla**	**0.97**	**118**	*e*S	**Sg**	**07 47 22.8**	**-0.4**
EMIJ	**Mijas**	**1.03**	**322**	P	**Pg**	**07 47 12.2**	**+0.5**
	5.1nm,0.1s,SNR=7.9						
EMIJ				S	**Sg**	**07 47 25.4**	**+0.3**
	56nm,0.1s,SNR=7.9						
MAL	**Malaga**	**1.03**	**341**	*e*P	**Pg**	**07 47 12.6**	**+0.9**
MAL				*e*S	**Sg**	**07 47 25.2**	**+0.1**
EGUA	**Guajares**	**1.13**	**17**	P	**Pg**	**07 47 11.7**	**-1.9**
	2.0nm,0.1s,SNR=7.9						
EGUA				S	**Sg**	**07 47 27.4**	**-1.0**
	10nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.40**	**355**	P	**Pn**	**07 47 17.3**	**-0.5**
	3.3nm,0.2s,SNR=7.9						
ELOJ				S	**Sb**	**07 47 35.8**	**-0.7**
	6.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.45**	**37**	P	**Pn**	**07 47 18.5**	**-0.1**
	5.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**07 47 36.2**	**-1.6**
	SNR=7.9						
EBER	**Berja**	**1.45**	**37**	P	**Pn**	**07 47 18.5**	**0.0**
	5.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**07 47 36.2**	**-1.6**
	SNR=7.9						
EQUE	**Quentar**	**1.52**	**17**	P	**Pn**	**07 47 19.5**	**+0.1**
	13nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**07 47 39.7**	**+0.2**
	5.3nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.56**	**12**	S	**Sn**	**07 47 40.1**	**-0.4**
	16nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.56**	**12**	S	**Sn**	**07 47 40.1**	**-0.5**
	16nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**1.82**	**353**	S	**Sn**	**07 47 48.6**	**+1.6**
	8.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.17**	**19**	P	**Pn**	**07 47 30.5**	**+1.9**
	7.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**07 47 57.4**	**+1.7**
	44nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.17**	**19**	P	**Pn**	**07 47 30.5**	**+2.0**
	7.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**07 47 57.4**	**+1.7**
	44nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**2.34**	**28**	P	**Pn**	**07 47 31.8**	**+0.9**
	5.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**07 48 01.2**	**+1.2**
	2.0nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.34**	**28**	P	**Pn**	**07 47 31.8**	**+0.9**
	5.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**07 48 01.1**	**+1.2**
EADA	**Adamuz**	**2.46**	**349**	P	**Pn**	**07 47 34.3**	**+1.8**
	1.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**07 48 02.7**	**0.0**
	14nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.46**	**349**	P	**Pn**	**07 47 34.3**	**+1.9**
	1.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**07 48 02.7**	**0.0**
	14nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.95**	**314**	P	**Pn**	**07 47 39.8**	**+0.6**
	SNR=7.9						
EMIN				S	**Sn**	**07 48 14.5**	**-0.3**
	2.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.95**	**314**	P	**Pn**	**07 47 39.8**	**+0.6**
	SNR=7.9						
EMIN				S	**Sn**	**07 48 14.5**	**-0.4**
	2.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.04**	**46**	P	**Pn**	**07 47 41.2**	**+0.9**
	SNR=7.9						
EMUR				S	**Sn**	**07 48 15.8**	**-1.1**
	5.3nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.04**	**46**	P	**Pn**	**07 47 41.2**	**+0.8**
	SNR=7.9						
EMUR				S	**Sn**	**07 48 15.8**	**-1.2**
	5.3nm,0.4s,SNR=7.9						
ERIP	**Rio Piedras**	**3.09**	**303**	P	**Pn**	**07 47 42.0**	**+0.9**
	3.8nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**07 48 17.3**	**-1.0**
	11nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.33**	**303**	P	**Pn**	**07 47 45.2**	**+0.8**
	3.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**07 48 23.5**	**-0.7**
	4.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.33**	**303**	P	**Pn**	**07 47 45.2**	**+0.8**
	3.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**07 48 23.5**	**-0.7**
	4.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.85**	**322**	S	**Sn**	**07 48 35.7**	**-1.3**
	5.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.85**	**322**	S	**Sn**	**07 48 35.7**	**-1.4**
	5.7nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**3.85**	**307**	*e*Sn	**Sn**	**07 48 37.4**	**+0.3**
MORF	**Marmelete**	**4.06**	**294**	*e*Sn	**Sn**	**07 48 42.3**	**-0.1**
PTEO	**Sao Teotonio**	**4.21**	**297**	*e*Sn	**Sn**	**07 48 45.4**	**-0.5**
PESTR	**Estremoz**	**4.23**	**318**	*e*Sn	**Sn**	**07 48 45.6**	**-0.9**
PCBR	**Castelo Branco**	**4.93**	**327**	*e*Sn	**Sn**	**07 49 02.6**	**-1.1**

ISCJB ***12*** *07:48:42.8±0.8,2888S±003×713W±0.1,h66km±7km, mb4.0/2,Error ellipse: s-maj=15.3km s-min=4.7km az=23.3.*
NEIC ***12*** *07:48:43.7,2889S×71.19W,h45km,MG4.3(GUC),After GUC.*
GUC ***12*** *07:48:43.7±0.7,2889S×71.19W,h45km±3km,ML4.3*
IDC ***12*** *07:48:44.2±4.2,2875S×7132W,h58km±31

comp=E,279nm,0.3s
FCH Farellones 4.56 168 *e*P **Pn 07 49 51.1 +1.2**
CLCH Cerro Calan 4.59 171 *e*P **Pn 07 49 50.9 +0.6**
CLCH *i* S **Sn 07 50 41.4 -0.9**
CLCH AML AML 07 50 58.5
comp=E,210nm,0.4s
LVC Limon Verde 6.61 20 P **Pn 07 50 16.1 -2.0**
comp=E,0.4nm,0.3s,baz=218,slow=12,SNR=6.0
LVC S **Sn 07 51 39.3 +7.3**
comp=E,1.6nm,0.3s,baz=288,slow=19,SNR=2.3
LVC Lg 07 52 06.3
comp=E,8.0nm,0.3s,baz=132,slow=23,SNR=5.6
LVC Limon Verde 6.61 20 P **Pn 07 50 16.1 -2.0**
LVC *e*Pn **Pn 07 50 16.6 -1.5**
LVC S **Sn 07 51 39.4 +7.3**
LVC Lg 07 52 06.3
CPUP Villa Florida 12.74 82 P **Pn 07 51 42.5 +0.7**
comp=E,0.2nm,0.3s,baz=230,slow=16,SNR=3.3
CPUP Villa Florida 12.74 82 *e*Pn **Pn 07 51 41.8 0.0**
CPUP P 07 51 42.5
LPAZ La Paz 12.87 14 P **Pn 07 51 43.9 +0.3**
comp=E,0.1nm,0.3s,baz=189,slow=17,SNR=2.2
LPAZ La Paz 12.87 14 P **Pg 07 51 43.9 +0.3**
SIV San Ignacio 15.96 39 P **Pn 07 52 24.0 -0.3**
comp=E,0.1nm,0.3s,baz=222,slow=17,SNR=4.5
MAW Mawson 77.95 164 *e*P **P 08 00 35.8 +0.4**
comp=E,10nm,1.8s,mb4.5
TORD Torodi Ar. Bea 81.96 70 P **P 08 00 56.9 -0.2**
comp=E,0.6nm,0.5s,mb3.8,baz=270,slow=5.3,SNR=5.5
WRA Warramunga Arr 125.49 210 PKP PKPdf 08 07 39.3 +1.2
comp=E,0.6nm,0.7s,baz=153,slow=1.7,SNR=12
ZAL Zalesovo 149.52 28 PKPbc PKPbc 08 08 26.9 +0.6
comp=E,2.3nm,0.3s,baz=122,slow=3.5,SNR=3.1
ZAL Zalesovo 149.52 28 PKPbc PKPbc 08 08 26.9 +0.6
MKAR Makanchi Array 152.77 42 PKPbc PKPbc 08 08 34.0 +0.2
comp=E,0.4nm,0.5s,baz=317,slow=1.2,SNR=5.2

*ISCJB **12** 07:53:49.2±0.2,3581N±001×397W±002,h10km,Error ellipse: s-maj=2.2km s-min=2.0km az=66.4*
*MDD **12** 07:53:50.7±0.3,3583N×396W,h0km,mbLg3.5/9,Error ellipse: s-maj=2.8km s-min=2.5km az=26.0,PRXIMO*
*SFS **12** 07:53:50.0,3586N×397W,h0km,ML3.4*
*NEIC **12** 07:53:50.9,3586N×397W,h0km,ML3.6(LDG), MN3.4(MDD),After MDD.*
*LDG **12** 07:53:51.6±0.2,3567N×391W,h10km,Ml3.6/4,Error ellipse: s-maj=4.5km s-min=3.7km az=7.0*
*INMG **12** 07:53:51.6±1.4,3589N×396W,h2km±3km,ML3.3,Error ellipse: s-maj=2.8km s-min=2.6km az=152.0*
*CNRM **12** 07:53:52.4,3577N×392W,h17km,MD4.0*
*CSEM **12** 07:53:52.3±0.1,3565N×386W,h35km,ML3.9/17,Error ellipse: s-maj=2.6km s-min=2.4km az=111.0*

ISC 12 07:53:50.1±0.2,3580N±001×397W±002,h10km,n133,σ1§44/222,3C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.57**	**178**	*i* P	**Pg**	**07 54 03.0**	**+1.8**
MPAL				*i* S	**Sg**	**07 54 09.5**	**+0.8**
EALB	**Alboran**	**0.77**	**79**	⇑Pg	**Pg**	**07 54 05.3**	**+0.2**
EALB	2μm,0.4s,SNR=18			Lg		07 54 15.3	
EALB	**Alboran**	**0.77**	**79**	Pg	**Pg**	**07 54 05.3**	**+0.3**
	5μm,0.4s,SNR=5.0						
EALB	**Alboran**	**0.77**	**79**	Pg	**Pg**	**07 54 05.3**	**+0.3**
	2μm,0.4s,SNR=18						
TOU	**Touzarine**	**0.85**	**168**	*i* P	**Pg**	**07 54 07.0**	**+0.5**
TOU				*i* S	**Sg**	**07 54 19.0**	**+1.4**
EMEL	**Melilla**	**0.96**	**121**	⇓Pg	**Pg**	**07 54 07.7**	**-1.0**
	831nm,0.2s,SNR=18						
EMEL				Lg		07 54 19.1	
	3μm,0.2s,SNR=84						
EMLI	**Melilla**	**0.97**	**120**	Pg	**Pg**	**07 54 07.7**	**-1.1**
	831nm,0.2s,SNR=18						
MELI	**Melilla**	**0.98**	**120**	⇓P	**Pg**	**07 54 07.9**	**-1.1**
MELI				S	**Sg**	**07 54 20.5**	**-1.3**
MELI	**Melilla**	**0.98**	**120**	*i* P	**Pg**	**07 54 07.9**	**-1.1**
MELI				*e*S	**Sg**	**07 54 20.5**	**-1.3**
MAL	**Malaga**	**0.99**	**339**	*i* P	**Pg**	**07 54 09.1**	**-0.1**
MAL				*e*S	**Sg**	**07 54 22.8**	**+0.6**
EMIJ	**Mijas**	**1.00**	**320**	Pg	**Pg**	**07 54 09.1**	**-0.3**
	68nm,0.3s,SNR=114						
EMIJ				Lg		07 54 22.5	
	323nm,0.2s,SNR=18						
EGUA	**Guajares**	**1.08**	**17**	⇓Pg	**Pb**	**07 54 09.3**	**-1.6**
	23nm,0.2s,SNR=18						
EGUA				Lg		07 54 23.0	
	77nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.08**	**17**	Pg	**Pb**	**07 54 09.3**	**-1.6**
	23nm,0.2s,SNR=18						
EGUA				Lg		07 54 23.0	
	77nm,0.2s,SNR=7.9						
DKH	**Dar Kharkhour**	**1.17**	**255**	P	**Pb**	**07 54 12.0**	**-0.5**
DKH				P		07 54 12.0	
DKH				S	**Sb**	**07 54 28.0**	**+0.3**
DKH	**Dar Kharkhour**	**1.17**	**255**	*e*P	**Pb**	**07 54 12.0**	**-0.5**
DKH				*i* S	**Sb**	**07 54 28.0**	**+0.3**
REAL	**Reales**	**1.21**	**305**	P	**Pn**	**07 54 11.6**	**-1.6**
REAL				S	**Sb**	**07 54 26.7**	**-2.1**
REAL	**Reales**	**1.21**	**305**	*e*P	**Pn**	**07 54 11.6**	**-1.5**
ERON	**Agron**	**1.23**	**6**	Pg	**Pn**	**07 54 11.4**	**-1.8**
	8.7nm,0.2s,SNR=27						
ERON				Lg		07 54 28.0	
	114nm,0.3s,SNR=5.0						
ERON	**Agron**	**1.23**	**6**	Pg	**Pn**	**07 54 11.4**	**-1.8**
ERON				Lg		07 54 28.0	
MDAL	**Dalia**	**1.23**	**275**	*i* P	**Pn**	**07 54 14.5**	**+1.1**
ZAI	**Zaio**	**1.30**	**129**	*i* P	**Pn**	**07 54 13.0**	**-1.3**
ZAI				*i* S	**Sb**	**07 54 28.5**	**-2.8**
ELOJ	**Sierra Loja**	**1.36**	**354**	Pg	**Pn**	**07 54 14.1**	**-1.0**
	5.3nm,0.2s,SNR=27						
ELOJ				Lg		07 54 33.2	
	112nm,0.4s,SNR=15						
EJIF	**Jimena Fronter**	**1.38**	**299**	Pg	**Pn**	**07 54 14.3**	**-1.1**
	2.5nm,0.2s,SNR=30						
EJIF				Lg		07 54 35.6	
	36nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.40**	**38**	⇑Pg	**Pn**	**07 54 14.8**	**-0.9**
	71nm,0.3s,SNR=18						
EBER				Lg		07 54 33.5	
	241nm,0.3s,SNR=5.0						
EBER	**Berja**	**1.40**	**38**	Pg	**Pn**	**07 54 14.8**	**-0.9**
	71nm,0.3s,SNR=18						
EQUE	**Quentar**	**1.47**	**17**	⇑Pg	**Pn**	**07 54 16.8**	**+0.2**
	57nm,0.3s,SNR=18						
EQUE				Lg		07 54 35.5	
	97nm,0.4s,SNR=21						
EQUE	**Quentar**	**1.47**	**17**	Pg	**Pn**	**07 54 16.8**	**+0.2**
	57nm,0.3s,SNR=18						
ECOG	**Cogollos-Vega**	**1.51**	**12**	Pg	**Pn**	**07 54 17.1**	**-0.1**
	34nm,0.2s,SNR=65						
ECOG				Lg		07 54 36.9	
	76nm,0.3s,SNR=5.0						
MOMI	**Momias**	**1.51**	**291**	P	**Pg**	**07 54 20.9**	**+1.7**
MOMI				S	Sx	07 54 48.8	
MOMI	**Momias**	**1.51**	**291**	*i* P	**Pg**	**07 54 20.9**	**+1.8**
LIJA	**Lijar**	**1.60**	**314**	P	**Pg**	**07 54 20.8**	**-0.1**
LIJA				S	**Sg**	**07 54 45.0**	**+3.4**
LIJA	**Lijar**	**1.60**	**314**	*i* P	**Pg**	**07 54 20.8**	**0.0**
LIJA				*i* S	**Sg**	**07 54 45.0**	**+3.4**
TAF	**Taforalt**	**1.61**	**127**	P	**Pn**	**07 54 14.0**	**-4.5**
TAF				S	**Sn**	**07 54 33.0**	**-6.3**
TSY	**Tnine Yamani**	**1.68**	**256**	*i* P	**Pn**	**07 54 22.0**	**+2.4**
TSY				*i* S	**Sn**	**07 54 40.0**	**-1.2**
RSA	**Sarsar**	**1.77**	**239**	*i* P	**Pn**	**07 54 23.0**	**+2.2**
RSA				*i* S	**Sn**	**07 54 41.0**	**-2.4**
ELUQ	**Luque**	**1.78**	**352**	Pg	**Pn**	**07 54 21.9**	**+1.1**
	7.9nm,0.2s,SNR=7.9						
ELUQ				Lg		07 54 44.9	
	95nm,0.3s,SNR=7.9						
CNIL	**Conil**	**1.78**	**289**	P	**Pg**	**07 54 23.8**	**-0.5**
CNIL				S	**Sg**	**07 54 49.2**	**+1.9**
CNIL	**Conil**	**1.78**	**289**	*i* P	**Pg**	**07 54 23.8**	**-0.5**
CNIL				*e*S	**Sg**	**07 54 49.2**	**+1.8**
ENIJ	**Nijar**	**1.84**	**50**	Pn	**Pn**	**07 54 19.5**	**-2.2**
	96nm,0.4s,SNR=9.7						
ENIJ				Pg	**Pg**	**07 54 25.3**	**-0.2**
	132nm,0.4s,SNR=25						
ESPR	**Espera**	**1.86**	**306**	Pg	**Pg**	**07 54 24.1**	**-1.7**
	3.8nm,0.2s,SNR=19						
ESPR				Lg		07 54 49.4	
	74nm,0.3s,SNR=5.0						
ESPR	**Espera**	**1.86**	**306**	Pg	**Pg**	**07 54 24.1**	**-1.7**
	3.8nm,0.2s,SNR=19						
SFS	**San Fernando**	**1.93**	**291**	P	**Pg**	**07 54 28.0**	**+0.9**
SFS				S	**Sg**	**07 54 53.5**	**+1.4**
SFS	**San Fernando**	**1.93**	**291**	*e*P	**Pg**	**07 54 28.0**	**+0.9**
SFS				*e*S	**Sg**	**07 54 53.5**	**+1.4**
SCRT	**Cerro San Cris**	**1.97**	**296**	P	**Pg**	**07 54 30.2**	**+2.4**
SCRT				S	**Sg**	**07 54 56.2**	**+2.9**
EQES	**Quesada**	**2.13**	**20**	Pg	**Pb**	**07 54 27.9**	**-0.8**
	224nm,0.4s,SNR=280						
EQES				Lg		07 54 55.1	
	514nm,0.4s,SNR=5.0						
EQES	**Quesada**	**2.13**	**20**	Pg	**Pb**	**07 54 27.9**	**-0.8**
	224nm,0.4s,SNR=280						
EHUE	**Huescar**	**2.30**	**28**	Pn	**Pn**	**07 54 28.7**	**+0.7**
	57nm,0.2s,SNR=38						
EHUE				Lg		07 54 59.1	
	34nm,0.3s,SNR=5.0						
EBAN	**Banos Encina**	**2.37**	**4**	Pn	**Pn**	**07 54 29.2**	**+0.2**
	1.6nm,0.1s,SNR=14						
EBAN				Lg		07 55 00.3	
	45nm,0.4s,SNR=5.0						
EBAN	**Banos Encina**	**2.37**	**4**	Pn	**Pn**	**07 54 29.2**	**+0.2**
EBAN				Lg		07 55 00.2	
EADA	**Adamuz**	**2.42**	**349**	Pn	**Pn**	**07 54 31.3**	**+1.6**
	3.6nm,0.1s,SNR=48						
EADA				Sn	**Sn**	**07 54 59.8**	**+0.6**
	25nm,0.2s,SNR=4.5						
EADA				Lg		07 55 04.5	
	83nm,0.2s,SNR=4.8						
EADA	**Adamuz**	**2.42**	**349**	Pn	**Pn**	**07 54 31.3**	**+1.7**
	3.6nm,0.1s,SNR=48						
EADA				Sn	**Sn**	**07 54 59.8**	**+0.6**
	25nm,0.2s,SNR=4.5						
IFR	**Ifrane**	**2.47**	**203**	P	**Pn**	**07 54 29.5**	**-0.8**
IFR				S	**Sn**	**07 54 57.5**	**-3.0**
CZD	**Col de Zad**	**2.90**	**198**	*i* P	**Pn**	**07 54 38.0**	**+1.7**
CZD				*i* S	**Sn**	**07 55 10.0**	**-1.1**
EMIN	**Mina Concepcio**	**2.93**	**313**	Pn	**Pn**	**07 54 36.8**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**07 55 10.6**	**-1.3**
	10nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.93**	**313**	Pn	**Pn**	**07 54 36.8**	**+0.1**
EMIN				Sn	**Sn**	**07 55 10.6**	**-1.3**
EMIN	**Mina Concepcio**	**2.93**	**313**	Pn	**Pn**	**07 54 36.8**	**+0.1**
	3.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**07 55 10.6**	**-1.3**
	10nm,0.2s,SNR=7.9						
CART	**Cartagena**	**2.98**	**52**	P	**Pn**	**07 54 37.6**	**+0.2**
CART				S	**Sn**	**07 55 10.1**	**-3.1**
CART	**Cartagena**	**2.98**	**52**	*e*P	**Pn**	**07 54 37.7**	**+0.3**
CART				*e*S	**Sn**	**07 55 10.1**	**-3.1**
EMUR	**La Murta**	**2.99**	**46**	Pn	**Pn**	**07 54 38.4**	**+0.8**
	26nm,0.3s,SNR=44						
EMUR				Sn	**Sn**	**07 55 12.8**	**-0.7**
	38nm,0.3s,SNR=5.0						
EMUR	**La Murta**	**2.99**	**46**	Pn	**Pn**	**07 54 38.4**	**+0.8**
	26nm,0.3s,SNR=44						
EMUR				Sn	**Sn**	**07 55 12.8**	**-0.7**
	38nm,0.3s,SNR=5.0						
EVIA	**Vianos**	**3.07**	**22**	Pn	**Pn**	**07 54 38.2**	**-0.5**
	0.8nm,0.2s,SNR=29						
EVIA				Lg		07 55 21.9	
	35nm,0.4s,SNR=5.5						
ERIP	**Rio Piedras**	**3.08**	**302**	Pn	**Pn**	**07 54 39.5**	**+0.8**
	32nm,0.1s,SNR=7.9						
ERIP				Pg	**Pg**	**07 54 48.4**	**-0.6**
	43nm,0.1s,SNR=7.9						
ERIP				Sn	**Sn**	**07 55 15.2**	**-0.3**
	74nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.31**	**303**	Pn	**Pn**	**07 54 42.7**	**+0.7**
	9.1nm,0.1s,SNR=59						
EGRO				Sn	**Sn**	**07 55 20.2**	**-1.3**
	33nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**3.31**	**303**	Pn	**Pn**	**07 54 42.7**	**+0.7**
	9.1nm,0.1s,SNR=59						
EGRO				Sn	**Sn**	**07 55 20.2**	**-1.2**
	33nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.44**	**34**	Pn	**Pn**	**07 54 45.3**	**+1.6**
	35nm,0.2s,SNR=108						
ETOB				Sn	**Sn**	**07 55 23.7**	**-0.8**
	10nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**3.44**	**34**	Pn	**Pn**	**07 54 45.3**	**+1.6**
	35nm,0.2s,SNR=108						
ETOB				Sn	**Sn**	**07 55 23.7**	**-0.8**
	10nm,0.3s,SNR=5.0						
KIB	**El Ksiba**	**3.64**	**209**	*i* P	**Pn**	**07 54 46.0**	**-0.5**
KIB				*i* S	**Sn**	**07 55 27.0**	**-2.5**
ZFT	**Errachidia**	**3.77**	**185**	*i* P	**Pn**	**07 54 49.0**	**+0.8**
ZFT				*i* S	**Sn**	**07 55 30.0**	**-2.6**
AVE	**Averroes**	**3.78**	**230**	P	**Pn**	**07 54 48.5**	**+0.1**
AVE				S	**Sn**	**07 55 30.0**	**-2.9**
EBAD	**Badajoz**	**3.82**	**321**	⇓Pn	**Pn**	**07 54 49.6**	**+0.6**
	9.7nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**07 55 31.7**	**-2.3**
	13nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**3.82**	**321**	Pn	**Pn**	**07 54 49.6**	**+0.6**
	9.7nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**07 55 31.7**	**-2.3**
	13nm,0.2s,SNR=5.0						
PBEJ	**Beja**	**3.83**	**307**	*e*Pn	**Pn**	**07 54 49.8**	**+0.7**
PBEJ				*e*Sn	**Sn**	**07 55 33.4**	**-0.8**
PBEJ							
	39nm,0.3s						
PBEJ	**Beja**	**3.83**	**307**	*e*Pn	**Pn**	**07 54 49.8**	**+0.7**
PBEJ				*e*Sn	**Sn**	**07 55 33.4**	**-0.8**
	39nm,0.3s						
ESDC	**Sonseca Array**	**3.87**	**0**	Pn	**Pn**	**07 54 51.4**	**+1.8**
	12nm,0.2s,baz=181,slow=12,SNR=68						
ESDC				Sn	**Sn**	**07 55 35.2**	**0.0**
	3.2nm,0.2s,baz=178,slow=22,SNR=9.2						
ESDC				Lg		07 55 50.2	
	17nm,0.4s,baz=180,slow=29,SNR=8.0						
ESDC	**Sonseca Array**	**3.87**	**0**	Pn	**Pn**	**07 54 51.4**	**+1.8**
	12nm,0.2s,SNR=68						
ESDC				Sn	**Sn**	**07 55 35.2**	**0.0**
	3.2nm,0.2s,SNR=9.2						
ESLA	**Sonseca Array**	**3.87**	**0**	*e*Pn	**Pn**	**07 54 51.2**	**+1.5**
ESLA				*e*Sn	**Sn**	**07 55 34.8**	**-0.3**
ESLA				*e*Sg	**Sg**	**07 55 52.7**	**-1.7**
ESLA	**Sonseca Array**	**3.87**	**0**	*e*Pn	**Pn**	**07 54 51.2**	**+1.6**
ESLA				*e*Sn	**Sn**	**07 55 34.8**	**-0.4**
MORF	**Marmelete**	**4.06**	**293**	*e*Pn	**Pn**	**07 54 53.4**	**+1.2**
MORF				*e*Sn	**Sn**	**07 55 38.3**	**-1.5**
MORF							
	34nm,0.2s						
MORF	**Marmelete**	**4.06**	**293**	*e*Pn	**Pn**	**07 54 53.4**	**+1.2**
MORF				*e*Sn	**Sn**	**07 55 38.3**	**-1.5**
	34nm,0.2s						
EBEN	**Beniarda**	**4.17**	**45**	Pn	**Pn**	**07 54 53.5**	**-0.2**
	6.9nm,0.3s,SNR=20						
EBEN				Sn	**Sn**	**07 55 39.2**	**-3.3**
	8.4nm,0.5s,SNR=4.0						
EBEN	**Beniarda**	**4.17**	**45**	Pn	**Pn**	**07 54 53.5**	**-0.2**
	6.9nm,0.3s,SNR=20						
EBEN				Sn	**Sn**	**07 55 39.2**	**-3.2**
	8.4nm,0.5s,SNR=4.0						
TZC	**Tazercounte**	**4.20**	**211**	*i* P	**Pn**	**07 54 55.0**	**+0.8**
TZC				*i* S	**Sn**	**07 55 41.0**	**-2.3**
PTEO	**Sao Teotonio**	**4.20**	**296**	*e*Pn	**Pn**	**07 54 55.3**	**+1.1**
PTEO				*e*Sn	**Sn**	**07 55 42.4**	**-0.9**
PTEO							
	58nm,0.1s						
PTEO	**Sao Teotonio**	**4.20**	**296**	*e*Pn	**Pn**	**07 54 55.3**	**+1.1**
PTEO				*e*Sn	**Sn**	**07 55 42.4**	**-0.9**
	58nm,0.1s						
PESTR	**Estremoz**	**4.21**	**318**	*e*Pn	**Pn**	**07 54 54.8**	**+0.5**
PESTR				*e*Sn	**Sn**	**07 55 42.1**	**-1.4**
PESTR							
	30nm,0.5s						
PESTR	**Estremoz**	**4.21**	**318**	*e*Pn	**Pn**	**07 54 54.8**	**+0.5**
PESTR				*e*Sn	**Sn**	**07 55 42.1**	**-1.4**
	30nm,0.5s						
EVO	**Evora**	**4.23**	**311**	*e*Pn	**Pn**	**07 54 56.3**	**+1.7**
EVO				*e*Sn	**Sn**	**07 55 44.3**	**+0.3**
	82nm,0.3s						
MOE	**Montemor**	**4.43**	**309**	*e*Pn	**Pn**	**07 54 58.5**	**+1.1**
MOE				*e*Sn	**Sn**	**07 55 47.6**	**-1.4**
PLML	**Palmela**	**4.80**	**306**	*e*Pn	**Pn**	**07 55 03.8**	**+1.3**
GUD	**Guadarrama**	**4.84**	**358**	Pn	**Pn**	**07 55 03.4**	**+0.4**
	3.1nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**07 55 56.3**	**-2.8**
	6.5nm,0.5s,SNR=7.9						
GUD				Lg		07 56 21.3	
	14nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**4.84**	**358**	Pn	**Pn**	**07 55 03.4**	**+0.4**
	3.1nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**07 55 56.3**	**-2.8**
	6.5nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**4.90**	**327**	*e*Pn	**Pn**	**07 55 04.5**	**+0.7**
PCBR				*e*Sn	**Sn**	**07 55 58.5**	**-2.0**
PCBR							
	32nm,0.6s						
PCBR	**Castelo Branco**	**4.90**	**327**	*e*Pn	**Pn**	**07 55 04.5**	**+0.7**
PCBR				*e*Sn	**Sn**	**07 55 58.5**	**-2.0**
	32nm,0.6s						
PLOU	**Loures**	**5.15**	**308**	*e*Pn	**Pn**	**07 55 08.4**	**+1.1**
PLOU				*e*Sn	**Sn**	**07 56 05.1**	**-1.6**
PLOU							
	47nm,0.4s						
PLOU	**Loures**	**5.15**	**308**	*e*Pn	**Pn**	**07 55 08.4**	**+1.1**
PLOU				*e*Sn	**Sn**	**07 56 05.1**	**-1.6**
	47nm,0.4s						
ETOR	**Torete**	**5.24**	**16**	Pn	**Pn**	**07 55 09.4**	**+1.0**
	13nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**07 56 04.7**	**-4.1**
	13nm,0.4s,SNR=7.9						
ETOR				Lg		07 56 32.3	
	46nm,0.5s,SNR=7.9						
ETOR	**Torete**	**5.24**	**16**	Pn	**Pn**	**07 55 09.4**	**+1.0**
ETOR				Sn	**Sn**	**07 56 04.7**	**-4.1**
ETOR				Lg		07 56 32.3	
ETOR	**Torete**	**5.24**	**16**	Pn	**Pn**	**07 55 09.4**	**+1.0**
ETOR				Sn	**Sn**	**07 56 04.7**	**-4.1**
	13nm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**07 56 04.7**	**-4.1**
PMAFR	**Mafra**	**5.28**	**308**	*e*Pn	**Pn**	**07 55 10.1**	**+1.1**
PMAFR				*e*Sn	**Sn**	**07 56 07.6**	**-2.2**
PMAFR							
	48nm,0.5s						
PMAFR	**Mafra**	**5.28**	**308**	*e*Pn	**Pn**	**07 55 10.1**	**+1.1**
PMAFR				*e*Sn	**Sn**	**07 56 07.6**	**-2.2**
	48nm,0.5s						
EIBI	**Ibiza**	**5.32**	**51**	Pn	**Pn**	**07 55 10.0**	**+0.4**
	6.8nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**07 56 07.2**	**-3.7**
	6.3nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.32**	**51**	Pn	**Pn**	**07 55 10.0**	**+0.5**
	6.8nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**07 56 07.2**	**-3.7**
	6.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.33**	**30**	Pn	**Pn**	**07 55 11.5**	**+1.8**
	1.8nm,0.2s,SNR=7.8						
EMOS				Sn	**Sn**	**07 56 06.1**	**-5.0**
	1.7nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**5.33**	**30**	Pn	**Pn**	**07 55 11.5**	**+1.8**
	1.8nm,0.2s,SNR=7.8						
MTE	**Manteigas**	**5.39**	**330**	*e*Pn	**Pn**	**07 55 11.4**	**+0.9**
MTE				*e*Sn	**Sn**	**07 56 11.0**	**-1.6**
MTE							
	38nm,0.4s						
PVIS	**Viseu**	**5.80**	**329**	*e*Pn	**Pn**	**07 55 17.7**	**+1.5**
PVIS				*e*Sn	**Sn**	**07 56 19.7**	**-3.0**
PVIS							
	14nm,0.2s						
CIA	**Chichaoua**	**5.81**	**225**	P	**Pn**	**07 55 16.0**	**-0.3**
CIA				S	**Sn**	**07 56 19.0**	**-3.9**
CIA	**Chichaoua**	**5.81**	**225**	*i* P	**Pn**	**07 55 16.0**	**-0.3**
ERTA	**Horta de San J**	**6.16**	**32**	Pn	**Pn**	**07 55 22.9**	**+1.8**
	6.7nm,0.4s,SNR=13						
ERTA	**Horta de San J**	**6.16**	**32**	Pn	**Pn**	**07 55 22.9**	**+1.8**
PBRG	**Braganca**	**6.38**	**341**	*e*Pn	**Pn**	**07 55 25.3**	**+1.2**
PBRG				*e*Sn	**Sn**	**07 56 33.3**	**-3.6**
ECAL	**Calabor**	**6.50**	**341**	Pn	**Pn**	**07 55 27.8**	**+1.9**
	27nm,0.4s,SNR=13						
ECAL				Sn	**Sn**	**07 56 37.2**	**-2.9**
	7.4nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**6.50**	**341**	Pn	**Pn**	**07 55 27.8**	**+2.0**
ETOS	**Mallorca**	**6.68**	**52**	Pn	**Pn**	**07 55 30.2**	**+2.0**
	1.7nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**6.68**	**52**	Pn	**Pn**	**07 55 30.2**	**+2.0**
PCAB	**Cabril**	**6.70**	**333**	*e*Sn	**Sn**	**07 56 42.1**	**-2.8**
ELAN	**Lanestosa**	**7.44**	**3**	Pn	**Pn**	**07 55 41.2**	**+2.5**
	1.6nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**7.44**	**3**	Pn	**Pn**	**07 55 41.2**	**+2.6**
EMIR	**Miracle**	**7.46**	**33**	Pn	**Pn**	**07 55 40.5**	**+1.5**
	6.4nm,0.2s,SNR=8.4						
EMIR	**Miracle**	**7.46**	**33**	Pn	**Pn**	**07 55 40.5**	**+1.5**
EARI	**Arriondas**	**7.55**	**353**	Pn	**Pn**	**07 55 43.3**	**+3.0**
	7.3nm,0.8s,SNR=8.0						
EARI				Sn	**Sn**	**07 57 03.1**	**-2.8**
	4.4nm,0.5s,SNR=6.3						
EARI	**Arriondas**	**7.55**	**353**	Pn	**Pn**	**07 55 43.3**	**+3.0**
EARI				Sn	**Sn**	**07 57 03.2**	**-2.7**
ETSF	**Etsaut**	**7.57**	**19**	*e*Pn	**Pn**	**07 55 41.9**	**+1.5**
ETSF				*e*Sn	**Sn**	**07 57 02.6**	**-3.7**
	3.3nm,0.5s						
ETSF	**Etsaut**	**7.57**	**19**	*e*Pn	**Pn**	**07 55 41.9**	**+1.5**
ETSF				*e*Sn	**Sn**	**07 57 02.6**	**-3.7**
	1.6nm,0.5s						
ELIZ	**Elizondo**	**7.59**	**14**	Pn	**Pn**	**07 55 42.3**	**+1.5**
	3.1nm,0.2s,SNR=7.6						
SJPF	**Ste Jean**	**7.61**	**15**	*e*Pn	**Pn**	**07 55 42.5**	**+1.5**
SJPF				*e*Sn	**Sn**	**07 57 03.6**	**-3.7**
	10nm,0.6s						
SJPF	**Ste Jean**	**7.61**	**15**	*e*Pn	**Pn**	**07 55

11nm,0.5s,SNR=9.3
ECOG Cogollos-Vega 1.48 12 S Sb 08 02 45.3 -3.0
5.7nm,0.3s,SNR=7.9
ELUQ Luque 1.75 352 P Pn 08 02 34.4 +2.2
4.1nm,0.3s,SNR=4.0
ELUQ S Sn 08 02 53.8 -1.2
5.6nm,0.3s,SNR=7.9
EQES Quesada 2.10 19 S Sn 08 03 03.2 -0.4
18nm,0.3s,SNR=9.1
EQES Quesada 2.10 19 S Sn 08 03 03.2 -0.3
18nm,0.3s,SNR=9.1
EADA Adamuz 2.39 348 P Pn 08 02 40.5 -0.5
0.5nm,0.1s,SNR=7.6
EADA S Sn 08 03 10.2 -0.7
5.5nm,0.3s,SNR=5.3
EADA Adamuz 2.39 348 P Pn 08 02 40.5 -0.5
0.5nm,0.1s,SNR=7.6
EADA S Sn 08 03 10.2 -0.6
5.5nm,0.3s,SNR=5.3
EMIN Mina Concepcio 2.92 312 P Pn 08 02 47.2 -1.1
0.3nm,0.1s,SNR=7.9
EMIN S Sn 08 03 19.9 -4.1
1.5nm,0.3s,SNR=7.9
EMIN Mina Concepcio 2.92 312 P Pn 08 02 47.2 -1.1
0.3nm,0.1s,SNR=7.9
EMIN S Sn 08 03 19.9 -4.0
1.5nm,0.3s,SNR=7.9
CZD Col de Zad 2.93 198 *i* P Pn 08 02 47.0 -1.3
CZD *i* S Sn 08 03 20.0 -4.0
EMUR La Murta 2.96 46 P Pn 08 02 47.2 -1.6
2.8nm,0.4s,SNR=7.9
EMUR S Sn 08 03 22.0 -2.8
4.0nm,0.4s,SNR=7.9
EMUR La Murta 2.96 46 P Pn 08 02 47.2 -1.6
2.8nm,0.4s,SNR=7.9
EMUR S Sn 08 03 22.0 -2.9
4.0nm,0.4s,SNR=7.9
EGRO El Granado 3.32 302 P Pn 08 02 52.1 -1.6
2.0nm,0.2s,SNR=7.9
EGRO S Sn 08 03 29.5 -4.1
2.6nm,0.3s,SNR=7.9
ETOB Tobarra 3.41 33 P Pn 08 02 55.2 +0.3
3.0nm,0.2s,SNR=5.6
ESDC Sonseca Array 3.84 360 P Pn 08 03 00.4 -0.5
0.5nm,0.2s,baz=182,slow=12,SNR=4.0

*NEIC **12** 08:02:01.3±0.7, 492N×9493E, h30km, mb4.4/1, Error ellipse: s-maj=35.4km s-min=9.8km az=46.0*
*ISCJB **12** 08:02:04.4±2.8, 49N±02×950E±02, h78km±24km, mb4.2/10, Error ellipse: s-maj=44.6km s-min=13.4km az=96.8*
*IDC **12** 08:02:05.0±4.0, 493N×9499E, h65km±36km, mb3.8/8, mb1 3.9/9, mb1mx3.6/24, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=51.1km s-min=16.6km az=50.0*
ISC 12 08:02:05.9±2.6, 49N±02×950E±02, h73km±22km, n16, σ0°52'/16, mb4.2/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.48**	**118**	P	**Pn**	**08 03 10.1**	**-1.2**
	3.0nm,0.3s,baz=319,slow=13,SNR=17						
PSI				S	**Sn**	**08 04 03.3**	**+1.2**
	2.5nm,0.3s,baz=128,slow=12,SNR=5.8						
WSAR	**Wadi Sarin**	**39.48**	**301**	P	**P**	**08 09 29.5**	**+0.3**
	5.2nm,1.0s,mb4.3,baz=56,slow=18,SNR=2.0						
MKAR	**Makanchi Array**	**43.12**	**347**	P	**P**	**08 09 58.9**	**0.0**
	0.9nm,0.4s,mb3.8,baz=157,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**43.12**	**347**	P	**P**	**08 09 58.9**	**0.0**
SONM	**Songino Array**	**43.85**	**11**	P	**P**	**08 10 04.2**	**-0.6**
	0.4nm,0.6s,mb3.3,baz=195,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**45.92**	**124**	P	**P**	**08 10 21.2**	**-0.1**
	3.1nm,0.5s,mb4.3,baz=301,slow=9.6,SNR=47						
WB2	**Warramunga Arr**	**45.93**	**124**	*e*P	**P**	**08 10 21.1**	**-0.3**
ASPA	**Alice Springs**	**47.43**	**129**	*e*P	**P**	**08 10 32.8**	**-0.2**
AS31	**Alice Springs**	**47.43**	**129**	*e*P	**P**	**08 10 32.8**	**-0.3**
ASAR	**Alice Springs**	**47.43**	**129**	P	**P**	**08 10 33.1**	**+0.1**
	0.7nm,0.4s,mb3.8,baz=299,slow=7.7,SNR=24						
BVAR	**Borovoye Array**	**52.02**	**341**	P	**P**	**08 11 08.2**	**+0.3**
	1.9nm,0.7s,mb4.2,baz=149,slow=10.0,SNR=9.2						
CHKZ	**Chkalovo**	**52.50**	**342**	*e*P	**P**	**08 11 11.7**	**+0.3**
	2.9nm,0.6s,mb4.5						
KWP	**Kalwaria**	**74.79**	**320**	*e*P	**P**	**08 13 38.8**	**+0.6**
	64nm,0.6s,mb5.5						
FINES	**FINESS Array B**	**75.68**	**332**	P	**P**	**08 13 43.0**	**-0.3**
	1.9nm,1.0s,mb3.8,baz=115,slow=7.3,SNR=5.8						
ARCES	**ARCESS Array B**	**78.29**	**340**	P	**P**	**08 13 58.0**	**+0.1**
	2.0nm,0.7s,mb4.0,baz=52,slow=9.3,SNR=5.3						
WVOR	**Wild Horse Val**	**123.84**	**30**	*e*PKPdf	PKPdf	08 20 59.3	+3.9

MDD 12 08:14:08.1±0.5, 3617N×343W, h0km, mb3.6/1, mbLg1.8/7, 1C, Error ellipse: s-maj=6.1km s-min=2.9km az=57.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.39**	**125**	⇑P	Pg	08 14 15.1	-0.4
	14nm,0.1s,SNR=18						
EALB				S	Sg	08 14 20.5	-0.1
	244nm,0.2s,SNR=22						
EGUA	**Guajares**	**0.68**	**351**	P	Pg	08 14 19.6	-1.4
	0.8nm,0.1s,SNR=7.9						
EGUA				S	Sg	08 14 29.3	-0.5
	2.6nm,0.1s,SNR=7.9						
EBER	**Berja**	**0.85**	**30**	P	Pg	08 14 23.9	-0.5
	0.3nm,0.1s,SNR=10						
EBER				S	Sg	08 14 35.8	+0.4
	24nm,0.2s,SNR=9.7						
EMEL	**Melilla**	**0.94**	**156**	P	Pg	08 14 25.6	-0.6
	27nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.04**	**359**	P	Pg	08 14 27.5	-0.5
	0.9nm,0.3s,SNR=6.8						
EQUE				S	Sg	08 14 41.6	+0.2
	6.5nm,0.4s,SNR=6.0						
EMIJ	**Mijas**	**1.16**	**291**	P	Pg	08 14 29.7	-0.5
	0.7nm,0.1s,SNR=7.1						
EMIJ				S	Sg	08 14 44.7	-0.6
	10nm,0.3s,SNR=12						
ENIJ	**Nijar**	**1.27**	**50**	P	Pg	08 14 30.5	-1.9
	1.3nm,0.2s,SNR=7.9						
ENIJ				S	Sg	08 14 44.8	-4.1
	3.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.66**	**10**	P	Pn	08 14 38.6	+0.2
	1.2nm,0.1s,SNR=7.9						
EQES				S	Sn	08 15 01.2	+0.8
	3.7nm,0.2s,SNR=6.4						
EJIF	**Jimena Fronter**	**1.67**	**280**	P	Pn	08 14 36.9	-1.8
	1.2nm,0.1s,SNR=4.0						

*INMG **12** 08:33:14.4±1.4, 3807N×934W, h26km±6km, ML1.9, Error ellipse: s-maj=6.9km s-min=3.2km az=73.0*
MDD 12 08:33:14.4±1.1, 3808N×934W, h26km±9km, mbLg2.2/12, Error ellipse: s-maj=13.4km s-min=5.9km az=67.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.72**	**138**	*e*Pg	Pb	08 33 27.6	-0.8
PTEO				*e*Sg	Sb	08 33 37.6	-0.4
PTEO							
	11nm,0.1s						
PLOU	**Loures**	**0.81**	**10**	*e*P	Pb	08 33 29.1	-0.9
PLOU				*e*S	Sb	08 33 39.9	-0.7
PLOU							
	45nm,0.2s						
PMAFR	**Mafra**	**0.87**	**3**	*e*P	Pb	08 33 30.3	-0.7
PMAFR				*e*S	Sb	08 33 41.0	-1.2
PMAFR							
	66nm,0.2s						
MOE	**Montemor**	**0.89**	**60**	*e*P	Pn	08 33 30.3	-1.0
MOE				*e*S	Sb	08 33 41.5	-1.3
MORF	**Marmelete**	**0.95**	**145**	*e*P	Pn	08 33 30.7	-1.3
MORF				*e*S	Sb	08 33 42.2	-2.2
MORF							
	11nm,0.1s						
PBEJ	**Beja**	**1.16**	**92**	*e*S	Sn	08 33 47.8	-2.2
PBEJ							
	8.1nm,0.2s						
PBEJ	**Beja**	**1.16**	**92**	S	Sn	08 33 47.8	-2.2
	4.1nm,0.2s						
EGRO	**El Granado**	**1.57**	**110**	P	Pn	08 33 39.9	-0.7
	0.6nm,0.1s,SNR=5.7						
EGRO				S	Sn	08 34 00.3	+0.3
	2.4nm,0.1s,SNR=5.7						
PESTR	**Estremoz**	**1.58**	**60**	*e*P	Pn	08 33 39.4	-1.3
PESTR				*e*S	Sn	08 33 57.8	-2.5
PESTR							
	3.1nm,0.2s						
EBAD	**Badajoz**	**1.95**	**69**	P	Pn	08 33 45.2	-0.5
	1.2nm,0.1s,SNR=11						
EBAD				S	Sn	08 34 06.4	-2.9
	4.7nm,0.1s,SNR=9.1						
EMIN	**Mina Concepcio**	**2.13**	**98**	P	Pn	08 33 48.3	0.0
	0.4nm,0.1s,SNR=12						
EMIN				S	Sn	08 34 11.3	-2.7
	2.6nm,0.1s,SNR=17						
PVIS	**Viseu**	**2.86**	**23**	*e*Sn	Sn	08 34 28.7	-3.1
PVIS							
	4.0nm,0.1s						
PVIS	**Viseu**	**2.86**	**23**	Sn	Sn	08 34 28.7	-3.1
	2.0nm,0.1s						
EADA	**Adamuz**	**3.76**	**87**	P	Pn	08 34 10.4	-0.2
	0.7nm,0.1s,SNR=6.2						
EADA				S	Sn	08 34 50.0	-4.0
	1.9nm,0.1s,SNR=7.3						
ECAL	**Calabor**	**4.34**	**27**	P	Pn	08 34 17.6	-1.1
	0.5nm,0.1s,SNR=9.9						
ECAL				S	Sn	08 35 04.6	-3.9
	2.1nm,0.3s,SNR=5.0						
ESDC	**Sonseca Array**	**4.49**	**68**	P	Pn	08 34 19.6	-1.0
	1.1nm,0.1s,baz=253,slow=13,SNR=7.0						
ESDC				S	Sn	08 35 07.6	-4.4
	0.5nm,0.1s,baz=252,slow=22,SNR=3.6						
EQUE	**Quentar**	**4.76**	**99**	S	Sn	08 35 15.4	-3.4
	1.0nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**4.87**	**3**	S	Sn	08 35 14.6	-6.8
	1.5nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.26**	**62**	P	Pn	08 34 44.4	-0.7
	16nm,0.1s,SNR=7.9						
ETOR				S	Sn	08 35 50.5	-5.3
	2.5nm,0.3s,SNR=7.9						

*ISCJB **12** 08:34:35.6±0.6, 4455N±002×678E±005, h12km±6km, Error ellipse: s-maj=6.3km s-min=3.3km az=150.7*
*STR **12** 08:34:36.9±0.1, 4455N×687E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **12** 08:34:36.7±0.0, 4456N×682E, h3km, Md1.8/1, Ml1.8/6, Error ellipse: s-maj=0.6km s-min=0.3km az=76.0*
ISC 12 08:34:36.3±0.6, 4455N±002×680E±005, h11km±6km, n12, σ0°19'/21, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.07**	**170**	Pg	**Pg**	**08 34 38.9**	**+0.2**
SURF				Sg	**Sg**	**08 34 40.1**	**-0.3**
MBDF	**Montbardon**	**0.17**	**354**	*e*Pg	**Pg**	**08 34 40.3**	**+0.1**
MBDF				*e*Sg	**Sg**	**08 34 42.4**	**-0.4**
	14nm,0.2s						
OG22	**Abries**	**0.29**	**21**	Pg	**Pg**	**08 34 42.4**	**+0.2**
OG22				Sg	**Sg**	**08 34 46.2**	**0.0**
ORIF	**Oris-en-Rattie**	**0.75**	**300**	*e*Pg	**Pg**	**08 34 51.1**	**+0.3**
ORIF				*e*Sg	**Sg**	**08 35 00.9**	**+0.3**
	3.1nm,0.3s						
LUCF	**Luceram**	**0.77**	**149**	Pg	**Pg**	**08 34 51.2**	**0.0**
LUCF				Sg	**Sg**	**08 35 01.2**	**-0.1**
SBF	**Sospel**	**0.83**	**146**	*e*Pg	**Pg**	**08 34 52.3**	**0.0**
SBF				*e*Sg	**Sg**	**08 35 03.3**	**+0.1**
	4.8nm,0.3s						
LPG	**La Plagne**	**0.95**	**358**	*e*Sg	**Sg**	**08 35 06.9**	**0.0**
	3.4nm,0.3s						
LPL	**La Plagne**	**0.96**	**357**	*e*Sg	**Sg**	**08 35 07.3**	**-0.2**
	2.6nm,0.2s						
FRF	**La Foret Royal**	**1.00**	**186**	*e*Pg	**Pg**	**08 34 55.8**	**+0.3**
FRF				*e*Sg	**Sg**	**08 35 08.6**	**+0.1**
	6.3nm,0.3s						
SMRF	**Simiane la Rot**	**1.05**	**237**	*e*Sn	**Sn**	**08 35 11.4**	**-0.3**
	0.7nm,0.2s						
LMR	**La Mourre**	**1.24**	**190**	*e*Pg	**Pg**	**08 34 59.9**	**-0.2**
LMR				*e*Sg	**Sg**	**08 35 16.1**	**-0.1**
	3.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.54**	**282**	*e*Pg	**Pg**	**08 35 05.8**	**-0.2**
VIVF				*e*Sg	**Sg**	**08 35 26.0**	**0.0**
	1.1nm,0.3s						

IDC 12 08:41:14.7±8.2, 2041S×17883W, h626km±90km, mb3.0/5, mb1 3.2/5, mb1mx3.0/13, mbtmp4.1/5, Error ellipse: s-maj=117.9km s-min=43.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.72**	**264**	P	P	08 46 58.7	+0.7
	3.7nm,0.8s,baz=100,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**37.13**	**244**	P	P	08 47 33.5	-0.9
	1.9nm,1.0s,baz=101,slow=5.2,SNR=2.1						
ASAR	**Alice Springs**	**43.78**	**257**	P	P	08 48 27.6	+0.7
	1.5nm,0.5s,baz=96,slow=7.5,SNR=33						
ASAR				PcP	PcP	08 50 00.2	+1.1
	0.5nm,0.6s,baz=108,slow=4.1,SNR=5.0						
ASPA	**Alice Springs**	**43.78**	**257**	*e*P	P	08 48 27.5	+0.5
WB2	**Warramunga Arr**	**43.83**	**262**	*e*P	P	08 48 27.8	+0.5
WRA	**Warramunga Arr**	**43.84**	**262**	P	P	08 48 27.7	+0.3
	1.2nm,0.3s,baz=97,slow=7.7,SNR=104						
PDAR	**Pinedale Array**	**89.43**	**44**	P	P	08 53 07.2	+0.8
	0.3nm,0.6s,baz=227,slow=3.3,SNR=4.7						
AKASG	**Malin Array Be**	**142.55**	**331**	PKP	PKPdf	08 59 35.2	-2.5
	1.4nm,0.4s,baz=42,slow=4.0,SNR=7.9						

*NEIC **12** 08:55:34.3, 2863S×7166W, h29km, ML3.7(GUC), After GUC.*
GUC 12 08:55:34.3±1.1, 2863S×7166W, h29km±7km, MD4.0, ML3.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.79**	**86**	⇓*i*P	Pn	08 55 53.2	+3.7
VACH				*i* S	Sb	08 56 03.6	+3.7
VACH				AML	AML	08 56 03.7	
	comp=E,5μm,0.1s						
LCO	**Las Campanas**	**0.92**	**115**	⇓*i*P	Pn	08 55 51.0	-0.3
LCO				*i* S	Sn	08 56 04.8	+1.3
LSCH	**La Serena**	**1.32**	**164**	*e*P	Pn	08 55 57.3	+0.5
LSCH				*i* S	Sn	08 56 14.7	+1.2
TLL	**Tololo Astrono**	**1.70**	**154**	⇑*i*P	Pn	08 56 03.9	+1.9
TLL				*i* S	Sn	08 56 26.2	+3.4
TLL				AML	AML	08 56 33.7	
	comp=N,996nm,0.6s						
TLL	**Tololo Astrono**	**1.70**	**154**	⇑*i*P	Pn	08 56 03.9	+1.9
TLL				*i* S	Sn	08 56 26.2	+3.4
CPCH	**Copiapo**	**1.71**	**43**	*e*P	Pn	08 56 03.6	+1.4
CPCH				*i* S	Sn	08 56 25.8	+2.7
CPCH				AML	AML	08 56 27.3	
	comp=E,2μm,0.0s						
CPCH	**Copiapo**	**1.71**	**43**	*e*P	Pn	08 56 03.6	+1.4
CPCH				*i* S	Sn	08 56 25.8	+2.7
CMCH	**Combarbala**	**2.60**	**167**	*e*P	Pn	08 56 15.4	+1.1
CMCH				*i* S	Sn	08 56 47.7	+2.8
CMCH				AML	AML	08 57 08.7	
	comp=E,512nm,0.7s						
CMCH	**Combarbala**	**2.60**	**167**	*e*P	Pn	08 56 15.4	+1.1
CMCH				*i* S	Sn	08 56 47.7	+2.8

NEIC 12 09:06:57.8, 4794S×16577E, h77km, ML3.8(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.87**	**55**	PN	Pn	09 07 27.3	-0.6
APZ				SN	Sn	09 08 24.3	+34
SYZ	**Scrubby Hill**	**2.69**	**60**	*e*PN	Pn	09 07 38.7	-0.2
SYZ				SN	Sn	09 08 41.7	+31
MLZ	**Mavora Lakes**	**3.08**	**33**	*e*P	Pn	09 07 43.4	-0.7
MLZ	**Mavora Lakes**	**3.08**	**33**	PN	Pn	09 07 43.3	-0.8
MLZ				*e*SN	Sn	09 08 53.4	+34
TUZ	**Tuapeka**	**3.31**	**55**	*e*P	Pn	09 07 47.2	0.0
TUZ	**Tuapeka**	**3.31**	**55**	PN	Pn	09 07 47.2	0.0
TUZ				SN	Sn	09 09 00.3	+35
MSZ	**Milford Sound**	**3.59**	**25**	*e*P	Pn	09 07 51.2	+0.1
MSZ	**Milford Sound**	**3.59**	**25**	PN	Pn	09 07 50.6	-0.5
WKZ	**Wanaka**	**3.84**	**37**	*e*P	Pn	09 07 54.7	+0.2
WKZ	**Wanaka**	**3.84**	**37**	PN	Pn	09 07 54.9	+0.5
JCZ	**Jackson Bay**	**4.39**	**29**	*e*P	Pn	09 08 02.2	+0.2
JCZ	**Jackson Bay**	**4.39**	**29**	*e*PN	Pn	09 08 02.0	0.0

*IDC **12** 09:10:57.6±2.1, 387S×1346E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.8/10, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=96.9km s-min=26.3km az=77.0*
*NEIC **12** 09:11:03.4±4.2, 394S×1346E, h35km±32km, mb4.2/1, Error ellipse: s-maj=48.8km s-min=20.9km az=64.0*
*ISCJB **12** 09:11:07.1±3.1, 44S±01×1347E±02, h54km±28km, mb3.9/3, Error ellipse: s-maj=31.3km s-min=20.7km az=59.8*
ISC 12 09:11:11.8±3.7, 45S±02×1345E±02, h78km±30km, n11, σ0°67'/14, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.39**	**194**	*e*P	**Pn**	**09 13 10.6**	**+0.1**
	6.9nm,0.4s						
WB2	**Warramunga Arr**	**15.32**	**181**	*e*P	**Pn**	**09 14 39.6**	**-3.8**
WB2				*e*Pn	**Pn**	**09 14 44.5**	**+1.0**
WB2				epPn		09 14 52.4	
WRA	**Warramunga Arr**	**15.32**	**181**	Pn	**Pn**	**09 14 39.5**	**-3.9**
	0.2nm,0.3s,baz=6.1,slow=13,SNR=13						
WRA				Sn	**Sn**	**09 17 31.6**	**-0.6**
	0.1nm,0.3s,baz=7.6,slow=23,SNR=4.9						
FITZ	**Fitzroy Crossi**	**16.05**	**212**	Pn	**Pn**	**09 14 51.8**	**-0.9**
	0.2nm,0.3s,baz=38,slow=12,SNR=8.5						
FITZ				Sn	**Sn**	**09 17 50.6**	**+0.5**
	0.1nm,0.3s,baz=214,slow=13,SNR=3.6						
AS31	**Alice Springs**	**19.03**	**182**	*e*P	**Pn**	**09 15 29.2**	**+0.2**
AS31				*e*P		09 15 29.3	
ASAR	**Alice Springs**	**19.03**	**182**	P	**Pn**	**09 15 29.4**	**+0.4**
	0.6nm,0.3s,baz=8.0,slow=11,SNR=55						
ASPA	**Alice Springs**	**19.03**	**182**	*e*P	**Pn**	**09 15 29.3**	**+0.3**
STKA	**Stephens Creek**	**27.99**	**167**	P	**P**	**09 16 55.4**	**+0.3**
	2.1nm,0.9s,mb3.7,baz=333,slow=9.0,SNR=2.3						
STKA	**Stephens Creek**	**27.99**	**167**	P	**P**	**09 16 55.4**	**+0.3**
MKAR	**Makanchi Array**	**68.76**	**324**	P	**P**	**09 22 00.5**	**-6.8**
	0.9nm,0.6s,mb3.8,baz=112,slow=7.9,SNR=11						
MAW	**Mawson**	**78.89**	**202**	*e*P	**P**	**09 23 06.2**	**-0.3**
	3.2nm,1.1s,mb4.1						

*ISCJB **12** 09:13:38.2±0.5, 5890N±003×1887E±005, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=121.6*
*CSEM **12** 09:13:38.1±0.1, 5886N×1877E, h1km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.2km az=144.0, Mining explosion.*
*UPP **12** 09:13:39.1, 5890N×1882E, h0km, ML3.0, Mining explosion.*
*HEL **12** 09:13:40.0±0.1, 5890N×1878E, h0km, ML2.2, ML3.0(UPP), Explosion*
*IDC **12** 09:13:43.9±2.1, 5926N×1868E, h0km, mb1 3.0/4, mb1mx2.9/21, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=31.5km s-min=6.8km az=173.0*
ISC 12 09:13:39.1±0.5, 5891N±003×1884E±005, h0km, n27, σ1°14'/51, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.45**	**283**	*i* P	**Pg**	**09 13 47.5**	**-0.1**
NYNU				*i* S	**Sg**	**09 13 53.0**	**-0.3**
NRTU	**Norrtaelje**	**0.78**	**352**	*i* P	**Pg**	**09 13 53.8**	**-0.2**
VIKU	**Vikbolandet**	**1.19**	**251**	*e*P	**Pg**	**09 14 00.9**	**-0.9**
VIKU	**Vikbolandet**	**1.19**	**251**	P	**Pg**	**09 14 00.9**	**-1.0**
GOTU	**Gotland**	**1.23**	**187**	*e*P	**Pg**	**09 14 01.8**	**-1.0**
GOTU				*e*S	**Sg**	**09 14 18.2**	**-0.5**
BACU	**Backbrunna**	**1.30**	**318**	*e*P	**Pg**	**09 14 03.3**	**-0.7**
ESKU	**Eskilstuna**	**1.30**	**285**	*e*P	**Pg**	**09 14 03.1**	**-1.0**
AAL	**Aland**	**1.40**	**24**	*e*P	**Pn**	**09 14 05.4**	**-0.4**
AAL				*e*S	**Sg**	**09 14 23.6**	**-0.5**
RAF	**Rauma**	**2.58**	**33**	*e*P	**Pn**	**09 14 22.9**	**+0.9**
RAF				*e*S	**Sn**	**09 14 56.3**	**+2.2**
RAF				MSG		09 15 03.0	
	comp=Z,9.1nm,0.2s						
RAF	**Rauma**	**2.58**	**33**	P	**Pn**	**09 14 22.9**	**+0.8**
RAF				S	**Sn**	**09 14 56.3**	**+2.1**
	comp=Z,9.1nm,0.2s						
HFS	**Hagfors**	**2.90**	**297**	Pn	**Pn**	**09 14 27.3**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=123,slow=16,SNR=18						
HFS				Pg	**Pg**	**09 14 30.3**	**-4.3**
	comp=Z,0.9nm,0.3s,baz=115,slow=16,SNR=21						
HFS				Sn	**Sn**	**09 15 04.1**	**+2.1**
	comp=Z,1.3nm,0.3s,baz=114,slow=24,SNR=7.9						
MEF	**Metsahovi**	**3.12**	**63**	*e*P	**Pn**	**09 14 30.2**	**+0.8**
MEF				*e*S	**Sn**	**09 15 08.6**	**+1.2**
MEF				MSG		09 15 15.5	
	comp=Z,6.3nm,0.3s						
MEF	**Metsahovi**	**3.12**	**63**	P	**Pn**	**09 14 30.2**	**+0.7**
MEF				S	**Sn**	**09 15 08.5**	**+1.1**
	comp=Z,6.3nm,0.3s						
PVF	**Pernaja**	**3.92**	**62**	*e*P	**Pn**	**09 14 40.7**	**+0.2**
PVF				*e*SG	**Sg**	**09 15 43.1**	**-1.8**
PVF				MSG		09 15 45.9	
	comp=Z,4.2nm,0.3s						
PVF	**Pernaja**	**3.92**	**62**	P	**Pn**	**09 14 40.6**	**+0.2**
PVF				Sg	**Sg**	**09 15 43.1**	**-1.8**
	comp=Z,4.2nm,0.3s						
NOA	**NORSAR Array B**	**4.39**	**302**	Pn	**Pn**	**09 14 46.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=14,SNR=2.9						
NOA				Pg	**Pg**	**09 14 56.0**	**-7.1**
	comp=Z,0.4nm,0.3s,baz=186,slow=14,SNR=3.0						
NOA				Lg		09 15 52.3	
	comp=Z,0.8nm,0.3s,baz=210,slow=16,SNR=2.8						
FIA0	**FINESS Array S**	**4.42**	**52**	*e*P	**Pn**	**09 14 48.8**	**+1.5**
FIA0				*e*S	**Sn**	**09 15 40.6**	**+1.2**
FIA0				*e*SG	**Sg**	**09 15 59.3**	**-1.7**
FIA0				MSG		09 16 01.9	
	comp=Z,2.8nm,0.2s						
FIA0	**FINESS Array S**	**4.42**	**52**	P	**Pn**	**09 14 48.8**	**+1.5**
FIA0				S	**Sn**	**09 15 40.6**	**+1.1**
FINES	**FINESS Array B**	**4.42**	**52**	Pn	**Pn**	**09 14 49.5**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=246,slow=12,SNR=11						
FINES				Pg	**Pg**	**09 14 58.6**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=235,slow=15,SNR=9.2						
FINES				Sn	**Sn**	**09 15 40.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=244,slow=25,SNR=4.3						
FINES				Lg		09 15 55.4	
	comp=Z,1.0nm,0.3s,baz=245,slow=23,SNR=12						
KEF	**Keuruu**	**4.42**	**40**	*e*P	**Pn**	**09 14 48.7**	**+1.3**
KEF				*e*S	**Sn**	**09 15 40.0**	**+0.4**
KEF				*e*SG	**Sg**	**09 15 59.2**	**-1.9**
KEF				MSG		09 16 00.6	
	comp=Z,2.7nm,0.2s						
KEF	**Keuruu**	**4.42**	**40**	P	**Pn**	**09 14 48.7**	**+1.3**
KEF				S	**Sn**	**09 15 39.9**	**+0.3**
VAF	**Ylistaro**	**4.55**	**23**	*e*P	**Pn**	**09 14 50.2**	**+1.0**
VAF				*e*S	**Sn**	**09 15 43.0**	**+0.3**
VAF				*e*SG	**Sg**	**09 16 02.5**	**-2.7**
VAF				MSG		09 16 05.1	
	comp=Z,4.0nm,0.2s						
VAF	**Ylistaro**	**4.55**	**23**	P	**Pn**	**

ellipse: s-maj=4.5km s-min=1.9km az=177.0
*NEIC **12** 09:53:29.5, 3656N×2134E, h42km, MG3.8(ATH), After ATH.*
*ATH **12** 09:53:29.7, 3657N×2135E, h51km±7km, MD3.8/14, ML3.8*
*HLW **12** 09:53:41.2, 3031N×1775E, h33km, Mb3.6*
ISC 12 09:53:28.6±0.6, 3643N±005×2120E±006, h51km±49km, n40, σ1§10/49, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.95**	**38**	*eP*	**Pn**	**09 53 45.0**	**-0.6**
ITM				*eS*	**Sn**	**09 53 56.6**	**-1.5**
ITM	**Ithomi**	**0.95**	**38**	*eP*	**Pn**	**09 53 44.5**	**-1.1**
ITM				*eS*	**Sn**	**09 53 56.6**	**-1.5**
VLI	**Veliai**	**1.43**	**78**	*eP*	**Pn**	**09 53 52.7**	**+0.6**
VLI				*eS*	**Sn**	**09 54 09.0**	**-0.7**
KYTH	**Kithira**	**1.49**	**95**	*eP*	**Pn**	**09 53 54.0**	**+1.1**
RLS	**Riolos of Patr**	**1.64**	**7**	*eP*	**Pn**	**09 53 55.5**	**+0.6**
RLS	**Riolos of Patr**	**1.64**	**7**	*eP*	**Pn**	**09 53 55.8**	**+0.9**
VLS	**Valsamata**	**1.81**	**345**	*eP*	**Pn**	**09 53 58.5**	**+1.2**
VLS	**Valsamata**	**1.81**	**345**	*eP*	**Pn**	**09 53 58.0**	**+0.7**
NAIG	**Nisos Aigina**	**2.26**	**53**	*eP*	**Pn**	**09 54 03.6**	**+0.2**
MGER	**Gerania Oros**	**2.26**	**46**	*eP*	**Pn**	**09 54 03.4**	**-0.1**
EVR	**Evrytania**	**2.53**	**11**	*eP*	**Pn**	**09 54 07.7**	**+0.6**
EVR	**Evrytania**	**2.53**	**11**	*eP*	**Pn**	**09 54 08.7**	**+1.6**
ATH	**Athens Observa**	**2.53**	**52**	*eP*	**Pn**	**09 54 07.6**	**+0.5**
ATH	**Athens Observa**	**2.53**	**52**	*eP*	**Pn**	**09 54 07.8**	**+0.7**
LKR	**Lokris**	**2.64**	**32**	*eP*	**Pn**	**09 54 09.1**	**+0.5**
PTL	**Penteli**	**2.67**	**52**	*eP*	**Pn**	**09 54 09.3**	**+0.2**
PTL	**Penteli**	**2.67**	**52**	*eP*	**Pn**	**09 54 09.4**	**+0.3**
THL	**Klokotos Trika**	**3.19**	**11**	*eP*	**Pn**	**09 54 16.7**	**+0.5**
KEK	**Kerkira**	**3.46**	**342**	*eP*	**Pn**	**09 54 21.8**	**+1.9**
KZN	**Kozani**	**3.90**	**6**	*eP*	**Pn**	**09 54 26.8**	**+0.9**
KZN	**Kozani**	**3.90**	**6**	*eP*	**Pn**	**09 54 26.6**	**+0.7**
SOI	**Samo**	**4.42**	**293**	Pn	**Pn**	**09 54 33.0**	**0.0**
TIP	**Timpagrande**	**4.46**	**309**	*ePn*	**Pn**	**09 54 33.4**	**-0.2**
TIP				*eSn*	**Sn**	**09 55 20.9**	**-3.3**
TIP	**Timpagrande**	**4.46**	**309**	*ePn*	**Pn**	**09 54 33.4**	**-0.2**
TIP				*eSn*	**Sn**	**09 55 20.9**	**-3.3**
BIA	**Bitola**	**4.58**	**1**	*ePn*	**Pn**	**09 54 34.7**	**-0.6**
BIA				*eSg*	**Sn**	**09 55 26.6**	**-0.7**
BIA	**Bitola**	**4.58**	**1**	*ePn*	**Pn**	**09 54 34.7**	**-0.6**
BIA				*eSg*	**Sn**	**09 55 26.5**	**-0.7**
CEL	**Celeste**	**4.61**	**295**	P	**Pn**	**09 54 36.9**	**+1.3**
OHR	**Ohrid**	**4.68**	**356**	*ePn*	**Pn**	**09 54 35.8**	**-0.9**
OHR				*eSg*	**Sn**	**09 55 28.4**	**-1.3**
OHR	**Ohrid**	**4.68**	**356**	*ePn*	**Pn**	**09 54 35.7**	**-1.0**
OHR				*eSg*	**Sn**	**09 55 28.4**	**-1.3**
KRUS	**Krusevo**	**4.93**	**0**	*ePn*	**Pn**	**09 54 40.1**	**0.0**
KRUS	**Krusevo**	**4.93**	**0**	*ePn*	**Pn**	**09 54 40.0**	**-0.1**
VAY	**Valandovo**	**5.00**	**12**	*ePn*	**Pn**	**09 54 41.7**	**+0.7**
VAY	**Valandovo**	**5.00**	**12**	*ePn*	**Pn**	**09 54 41.6**	**+0.6**
HVZN	**Vizzini**	**5.26**	**280**	Pn	**Pn**	**09 54 44.2**	**-0.3**
	779nm,1.0s						
GIB	**Gibilmanna**	**5.93**	**287**	Pn	**Pn**	**09 54 54.1**	**+0.3**
DIVS	**Divcibare**	**7.71**	**354**	*i* Pn	**Pn**	**09 55 15.7**	**-2.6**
SWA2		**8.01**	**152**	P	**Pn**	**09 55 18.9**	**-3.4**
SWA1		**8.09**	**151**	P	**Pn**	**09 55 21.7**	**-1.7**
CSS	**Prodhromos**	**9.98**	**95**	*ePn*	**Pn**	**09 55 50.8**	**+1.6**
	37nm,0.6s						
HFRF	**Wahat Farafira**	**11.05**	**145**	P	**Pn**	**09 56 00.6**	**-3.2**

*ISCJB **12** 10:09:42.5±0.6, 4435N±003×706E±005, h8km±7km, Error ellipse: s-maj=6.7km s-min=3.3km az=108.4*
*STR **12** 10:09:42.9±0.3, 4436N×709E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **12** 10:09:43.0±0.1, 4437N×709E, h2km, Md2.0/2, Ml2.0/4, Error ellipse: s-maj=1.5km s-min=0.7km az=55.0*
ISC 12 10:09:42.8±0.6, 4436N±003×708E±005, h12km±6km, n13, σ0§42/24, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.23**	**302**	Pg	**Pg**	**10 09 47.5**	**-0.2**
SURF				Sg	**Sg**	**10 09 51.6**	**+0.7**
MBDF	**Montbardon**	**0.43**	**329**	*e*Pg	**Pg**	**10 09 51.4**	**+0.1**
MBDF				*e*Sg	**Sg**	**10 09 57.0**	**-0.1**
	10.0nm,0.3s						
AUTN	**L'Aution**	**0.44**	**146**	Pg	**Pg**	**10 09 51.7**	**+0.2**
AUTN				Sg	**Sg**	**10 09 56.7**	**-0.7**
LUCF	**Luceram**	**0.50**	**158**	Pg	**Pg**	**10 09 52.8**	**+0.1**
LUCF				Sg	**Sg**	**10 09 59.5**	**+0.2**
SAOF	**Saorge**	**0.50**	**137**	Pg	**Pg**	**10 09 52.7**	**0.0**
SAOF				Sg	**Sg**	**10 09 59.3**	**-0.1**
SBF	**Sospel**	**0.56**	**153**	*e*Pg	**Pg**	**10 09 54.2**	**+0.5**
SBF				*e*Sg	**Sg**	**10 10 01.3**	**+0.3**
	8.2nm,0.2s						
FRF	**La Foret Royal**	**0.86**	**202**	*e*Pg	**Pg**	**10 09 59.3**	**-0.1**
FRF				*e*Sg	**Sg**	**10 10 10.6**	**0.0**
FRF				*e*Sn	**Sn**	**10 10 13.0**	**-0.2**
	9.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.02**	**304**	*e*Pg	**Pg**	**10 10 02.3**	**-0.3**
ORIF				*e*Sg	**Sg**	**10 10 15.6**	**-0.3**
	1.7nm,0.3s						
LMR	**La Mourre**	**1.10**	**202**	*e*Pg	**Pg**	**10 10 03.7**	**-0.4**
LMR				*e*Sg	**Sg**	**10 10 18.3**	**-0.2**
	6.8nm,0.2s						
SMRF	**Simiane la Rot**	**1.15**	**251**	*e*Pg	**Pg**	**10 10 04.7**	**-0.3**
SMRF	**Simiane la Rot**	**1.15**	**251**	*e*P	**Pb**	**10 10 06.2**	**+1.5**
SMRF				*e*Sg	**Sg**	**10 10 19.7**	**-0.2**
	0.9nm,0.2s						
LPL	**La Plagne**	**1.18**	**348**	*e*Pg	**Pg**	**10 10 05.3**	**-0.3**
VIVF	**Saint-Julien-l**	**1.79**	**287**	*e*Pn	**Pn**	**10 10 13.3**	**-0.3**

*ISCJB **12** 10:17:06.6±0.4, 5902N±004×1830E±006, h0km, Error ellipse: s-maj=6.0km s-min=3.2km az=111.5*
*CSEM **12** 10:17:07.2±0.1, 5903N×1818E, h1km, ML2.9, Error ellipse: s-maj=4.6km s-min=2.2km az=139.0, Mining explosion.*
*UPP **12** 10:17:07.3, 5900N×1819E, h0km, ML2.9, Mining explosion.*
*HEL **12** 10:17:08.2±0.1, 5900N×1818E, h0km, ML1.8, ML2.9(UPP), Explosion*
ISC 12 10:17:07.5±0.4, 5902N±003×1821E±006, h0km, n35, σ0§95/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.11**	**263**	*i* P	**Pg**	**10 17 09.3**	**-0.2**
NRTU	**Norrtaelje**	**0.69**	**18**	*i* P	**Pg**	**10 17 20.6**	**-0.2**
VIKU	**Vikbolandet**	**0.94**	**237**	*e*P	**Pg**	**10 17 24.7**	**-0.9**
ESKU	**Eskilstuna**	**0.96**	**284**	*e*P	**Pg**	**10 17 25.0**	**-1.0**
BACU	**Backbrunna**	**1.01**	**327**	*e*P	**Pg**	**10 17 26.3**	**-0.6**
GRAU	**Graesoe**	**1.33**	**7**	*e*P	**Pg**	**10 17 32.3**	**-0.7**
OSTU	**Oestervaala**	**1.33**	**336**	*e*P	**Pg**	**10 17 32.2**	**-0.8**
GOTU	**Gotland**	**1.35**	**172**	*e*P	**Pg**	**10 17 31.4**	**-1.9**
FORU	**Forsmark**	**1.37**	**359**	*e*P	**Pg**	**10 17 33.0**	**-0.8**
FORU	**Forsmark**	**1.37**	**359**	P	**Pg**	**10 17 33.0**	**-0.8**
AAL	**Aland**	**1.47**	**37**	*e*P	**Pn**	**10 17 34.7**	**-0.6**
VSTU	**Vaestervik**	**1.62**	**214**	*e*P	**Pn**	**10 17 36.7**	**-0.7**
LNKU	**Linkoeping**	**1.63**	**242**	*e*P	**Pn**	**10 17 36.7**	**-0.7**
NRAU	**Nora**	**1.72**	**290**	*e*P	**Pn**	**10 17 38.7**	**0.0**
ASKU	**Askersund**	**1.76**	**267**	*e*P	**Pn**	**10 17 39.1**	**-0.1**
BYXU	**Byxelkrok**	**1.85**	**201**	*e*P	**Pn**	**10 17 40.6**	**+0.2**
FALU	**Falun**	**1.91**	**322**	*e*P	**Pn**	**10 17 42.1**	**+0.8**
IGGU	**Iggoen**	**1.92**	**347**	*e*P	**Pn**	**10 17 41.6**	**+0.2**
OSKU	**Oskarshamn**	**2.15**	**212**	*e*P	**Pn**	**10 17 45.6**	**+1.1**
UDD	**Uddeholm**	**2.58**	**297**	*e*P	**Pn**	**10 17 51.6**	**+1.1**
NASU	**Vaermlandsnaes**	**2.60**	**270**	P	**Pn**	**10 17 52.5**	**+1.6**
RAF	**Rauma**	**2.69**	**40**	*e*P	**Pn**	**10 17 52.6**	**+0.6**
RAF				*e*S	**Sn**	**10 18 26.1**	**+0.8**
RAF				MSG		10 18 34.6	
	comp=Z,2.6nm,0.2s						
RAF	**Rauma**	**2.69**	**40**	P	**Pn**	**10 17 52.6**	**+0.6**
RAF				S	**Sn**	**10 18 26.0**	**+0.8**
	comp=Z,2.6nm,0.2s						
MEF	**Metsahovi**	**3.36**	**66**	*e*P	**Pn**	**10 18 02.2**	**+1.0**
MEF				*e*S	**Sn**	**10 18 42.2**	**+0.3**
MEF				MSG		10 19 02.7	
	comp=Z,3.0nm,0.2s						
MEF	**Metsahovi**	**3.36**	**66**	P	**Pn**	**10 18 02.2**	**+0.9**
MEF				S	**Sn**	**10 18 42.2**	**+0.3**
	comp=Z,3.0nm,0.2s						
PVF	**Pernaja**	**4.16**	**65**	*e*P	**Pn**	**10 18 12.6**	**+0.3**
PVF				*e*S	**Sn**	**10 19 00.3**	**-1.2**
PVF				MSG		10 19 23.1	
	comp=Z,1.5nm,0.2s						
PVF	**Pernaja**	**4.16**	**65**	P	**Pn**	**10 18 12.5**	**+0.3**
PVF				S	**Sn**	**10 19 00.3**	**-1.2**
	comp=Z,1.5nm,0.2s						
KEF	**Keuruu**	**4.55**	**43**	*e*P	**Pn**	**10 18 19.1**	**+1.4**
KEF				*e*S	**Sn**	**10 19 11.5**	**+0.2**
KEF				MSG		10 19 31.9	
	comp=Z,0.9nm,0.2s						
KEF	**Keuruu**	**4.55**	**43**	P	**Pn**	**10 18 19.0**	**+1.3**
KEF				S	**Sn**	**10 19 11.4**	**+0.1**
	comp=Z,0.9nm,0.2s						
VAF	**Ylistaro**	**4.58**	**26**	*e*P	**Pn**	**10 18 20.0**	**+1.9**
VAF				*e*S	**Sn**	**10 19 12.2**	**+0.2**
VAF				*e*Sg	**Sg**	**10 19 31.6**	**-3.1**
VAF				MSG		10 19 32.5	
	comp=Z,1.3nm,0.2s						
VAF	**Ylistaro**	**4.58**	**26**	P	**Pn**	**10 18 19.9**	**+1.9**
VAF				S	**Sn**	**10 19 12.1**	**+0.1**
VAF				Sg	**Sg**	**10 19 31.6**	**-3.1**
	comp=Z,1.3nm,0.2s						
FIA0	**FINESS Array S**	**4.61**	**55**	*e*P	**Pn**	**10 18 19.9**	**+1.4**
FIA0				*e*S	**Sn**	**10 19 12.6**	**-0.2**
FIA0				*e*Sg	**Sg**	**10 19 32.8**	**-2.9**
FIA0				MSG		10 19 33.0	
	comp=Z,1.2nm,0.3s						
FIA0	**FINESS Array S**	**4.61**	**55**	P	**Pn**	**10 18 19.9**	**+1.4**
FIA0				S	**Sn**	**10 19 12.5**	**-0.2**
KAF	**Kangasniemi**	**5.06**	**49**	*e*P	**Pn**	**10 18 25.0**	**+0.4**
KAF				*e*S	**Sn**	**10 19 23.2**	**-0.5**
KAF				MSG		10 19 42.4	
	comp=Z,0.8nm,0.2s						
SUF	**Sumiainen**	**5.37**	**43**	*e*P	**Pn**	**10 18 29.2**	**+0.4**
SUF				*e*S	**Sn**	**10 19 31.1**	**-0.2**
SUF				MSG		10 19 55.8	
	comp=Z,0.6nm,0.2s						

IDC 12 10:18:14.9±2.9, 962S×10975E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/24, Error ellipse: s-maj=153.4km s-min=29.0km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**24.20**	**165**	LR	LR	10 32 37.0	
	comp=Z,149nm,18.1s,baz=189,slow=36						
WRA	**Warramunga Arr**	**25.86**	**116**	P	P	10 23 49.0	+0.9
	0.6nm,0.8s,baz=288,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**36.87**	**132**	P	P	10 25 24.6	-0.3
	0.9nm,0.7s,baz=289,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**61.28**	**339**	P	P	10 28 32.0	+0.1
	0.6nm,0.6s,baz=143,slow=7.6,SNR=4.9						

*ISCJB **12** 10:23:00.8±0.8, 86N±01×1034W±02, h10km, mb4.2/25, MS4.0/13, Error ellipse: s-maj=25.9km s-min=8.5km az=109.2*
*IDC **12** 10:23:00.3±0.9, 871N×10342W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/22, mbtmp3.9/10, ML3.2/1, MS4.0/13, Ms1 4.0/13, ms1mx3.8/27, Error ellipse: s-maj=35.6km s-min=16.8km az=61.0*
*NEIC **12** 10:23:02.4±0.6, 862N×10336W, h10km, mb4.4/19, Error ellipse: s-maj=17.7km s-min=9.1km az=58.0*
*BJI **12** 10:23:02.4, 860N×10340W, h10km, mB5.4, Ms4.9, Msz4.6*
ISC 12 10:23:03.4±0.8, 870N±010×1033W±01, h10km, n57, σ1§12/37, mb4.2/25, MS4.0/13, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.70**	**44**	Pn	**Pn**	**10 25 48.5**	**-2.0**
	0.1nm,0.3s,baz=191,slow=10,SNR=3.4						
CMIG				LR	LR	10 29 25.7	
	comp=Z,1μm,21.2s,baz=212,slow=33						
JCT	**Junction City**	**21.92**	**8**	*e*P	**P**	**10 27 58.5**	**+1.7**
	20nm,1.1s,mb4.5						
HKT	**Hockley**	**22.27**	**17**	*e*P	**P**	**10 28 02.5**	**+1.9**
	19nm,1.5s,mb4.3						
MNTX	**Cornudas Mount**	**22.97**	**355**	*e*P	**P**	**10 28 08.0**	**0.0**
	13nm,1.1s,mb4.3						
TUC	**Tucson**	**24.50**	**345**	*e*P	**P**	**10 28 22.6**	**-0.2**
	11nm,1.3s,mb4.2						
LAZ	**Ladron**	**25.82**	**353**	*e*P	**P**	**10 28 35.8**	**+1.0**
LAZ				*e*		10 28 45.5	
OTAV	**Otavalo**	**26.14**	**107**	*e*P	**P**	**10 28 37.7**	**-0.1**
	21nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**26.29**	**354**	P	**P**	**10 28 37.2**	**-1.8**
	0.3nm,0.4s,mb3.2,baz=147,slow=11,SNR=1.8						
ANMO	**Albuquerque**	**26.29**	**354**	*e*P	**P**	**10 28 42.2**	**+3.1**
	4.1nm,1.1s,mb3.9						
GLA	**Glamis**	**26.48**	**338**	*e*P	**P**	**10 28 39.2**	**-1.5**
MIAR	**Mount Ida**	**27.24**	**18**	*e*P	**P**	**10 28 47.1**	**-0.5**
	4.9nm,0.8s,mb4.1						
PFO	**Pinyon Flat Ob**	**27.60**	**336**	*e*P	**P**	**10 28 50.0**	**-0.9**
	8.8nm,1.4s,mb4.2						
WUAZ	**Wupatki**	**27.70**	**346**	*e*P	**P**	**10 28 52.8**	**+1.1**
	5.0nm,0.9s,mb4.1						
WUAZ				*e*		10 29 02.0	
MVCO	**Mesa Verde**	**28.77**	**351**	*e*P	**P**	**10 29 01.4**	**+0.1**
	5.4nm,0.9s,mb4.3						
ROSC	**El Rosal**	**29.02**	**96**	LR	LR	10 37 58.0	
	comp=Z,202nm,19.5s,MS3.7,baz=168,slow=31						
ATAH	**Atahualpa**	**29.32**	**121**	LR	LR	10 37 25.2	
	comp=Z,64nm,21.8s,MS3.2,baz=238,slow=29						
PV10	**Paradox Valley**	**30.00**	**351**	*e*P	**P**	**10 29 11.4**	**-0.7**
TKL	**Tuckaleechee C**	**32.23**	**31**	P	**P**	**10 29 30.2**	**-1.6**
	3.3nm,0.9s,mb4.2,baz=217,slow=10,SNR=3.5						
SDV	**Santo Domingo**	**32.28**	**87**	*e*P	**P**	**10 29 32.7**	**+0.4**
	19nm,1.1s,mb4.8						
DAU	**Daniels Canyon**	**32.37**	**349**	*e*P	**P**	**10 29 33.0**	**0.0**
DUG	**Dugway**	**32.49**	**346**	*e*P	**P**	**10 29 35.7**	**+1.6**
	5.9nm,1.2s,mb4.3						
NVAR	**Mina Array Bea**	**32.54**	**338**	P	**P**	**10 29 34.1**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=156,slow=7.4,SNR=3.9						
HWUT	**Hardware Ranch**	**33.58**	**349**	*e*P	**P**	**10 29 43.6**	**-0.1**
	4.5nm,1.2s,mb4.3						
PDAR	**Pinedale Array**	**34.38**	**352**	P	**P**	**10 29 50.1**	**-0.5**
	2.6nm,0.9s,mb4.2,baz=162,slow=8.1,SNR=18						
RRI2	**Red Ridge**	**35.22**	**350**	*e*P	**P**	**10 30 01.3**	**+3.4**
	5.1nm,0.8s,mb4.5						
FLWY	**Flagg Ranch**	**35.84**	**351**	*e*P	**P**	**10 30 02.9**	**-0.2**
	9.2nm,1.0s,mb4.7						
HLID	**Hailey**	**36.06**	**346**	*e*P	**P**	**10 30 05.4**	**+0.3**
	7.7nm,1.4s,mb4.4						
QLMT	**Earthquake Lak**	**36.68**	**350**	*e*P	**P**	**10 30 11.3**	**+0.9**
MCMT	**McKenzie Canyo**	**36.94**	**349**	*e*P	**P**	**10 30 13.2**	**+0.6**
YBH	**Yreka Blue Hor**	**37.10**	**336**	P	**P**	**10 30 11.3**	**-2.6**
	1.5nm,0.9s,mb3.8,baz=98,slow=7.1,SNR=3.9						
TAOE	**Nuku Hiva Isla**	**40.63**	**246**	*e*LR	LR	10 41 21.5	
	578nm,25.4s,baz=60						
NEW	**Newport**	**41.13**	**346**	*e*P	**P**	**10 30 46.7**	**-1.0**
	4.0nm,1.0s,mb4.0						
ULM	**Lac du Bonnet**	**41.88**	**7**	LR	LR	10 48 44.6	
	comp=Z,204nm,18.8s,MS4.0,baz=343,slow=37						
LPAZ	**La Paz**	**42.76**	**125**	P	**P**	**10 30 59.9**	**-1.1**
	7.8nm,1.1s,mb4.4,baz=306,slow=9.7,SNR=8.7						
LPAZ	**La Paz**	**42.76**	**125**	*e*P	**P**	**10 30 59.7**	**-1.2**
	10nm,1.1s,mb4.5						
RKT	**Rikitea**	**44.27**	**224**	*e*LR	LR	10 43 08.6	
	386nm,27.0s						
EDM	**Edmonton**	**45.14**	**351**	*e*P	**P**	**10 31 20.7**	**+0.6**
CFAA	**Coronel Fontan**	**52.26**	**142**	P	**P**	**10 32 14.0**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=168,slow=0.2,SNR=3.9						
CFAA	**Coronel Fontan**	**52.26**	**142**	P	**P**	**10 32 14.0**	**-0.8**
YKA	**Yellowknife Ar**	**54.33**	**354**	LR	LR	10 55 21.6	
	comp=Z,143nm,21.2s,MS4.0,baz=165,slow=36						
SCHQ	**Schefferville**	**54.38**	**25**	LR	LR	10 56 52.8	
	comp=Z,111nm,19.2s,MS3.9,baz=252,slow=37						
CPUP	**Villa Florida**	**56.61**	**129**	P	**P**	**10 32 47.5**	**+1.0**
	0.9nm,0.6s,mb4.0,baz=323,slow=5.1,SNR=4.5						
CPUP	**Villa Florida**	**56.61**	**129**	*e*P	**P**	**10 32 48.4**	**+1.9**
	18nm,1.2s,mb5.0						
PLCA	**Paso Flores**	**57.71**	**151**	LR	LR	10 51 50.5	
	comp=Z,178nm,21.2s,MS4.2,baz=76,slow=30						
BDFB	**Brasilia**	**59.86**	**114**	P	**P**	**10 33 10.5**	**+1.3**
	3.5nm,0.9s,mb4.4,baz=275,slow=6.8,SNR=4.1						
BDFB				LR	LR	10 58 08.2	
	comp=Z,96nm,19.7s,MS3.9,baz=150,slow=35						
ESDC	**Sonseca Array**	**91.63**	**50**	LR	LR	11 10 01.4	
	comp=Z,92nm,20.4s,MS4.2,baz=285,slow=31						
NOA	**NORSAR Array B**	**93.93**	**26**	LR	LR	11 16 54.2	
	comp=Z,81nm,18.9s,MS4.2,baz=305,slow=34						
ARCES	**ARCESS Array B**	**94.44**	**16**	LR	LR	11 18 09.7	
	comp=Z,66nm,18.9s,MS4.1,baz=185,slow=35						
VNDA	**Vanda**	**99.48**	**193**	LR	LR	11 11 45.4	
	comp=Z,60nm,19.1s,MS4.1,baz=38,slow=29						
FINES	**FINESS Array B**	**99.77**	**22**	LR	LR	11 18 58.5	
	comp=Z,55nm,20.2s,MS4.0,baz=120,slow=34						
HHC	**Hu-ho-hao-te**	**121.16**	**330**	*e*PKP	PKPdf	10 41 55.6	-0.9
NJ2	**Nanjing**	**122.89**	**317**	*e*PKP	PKPdf	10 41 55.5	-4.3
WRA	**Warramunga Arr**	**123.28**	**252**	PKP	PKPdf	10 42 01.3	+0.8
	0.4nm,0.6s,baz=96,slow=2.2,SNR=7.5						
ASAR	**Alice Springs**	**123.43**	**247**	PKP	PKPdf	10 41 58.5	-2.4
	0.4nm,0.8s,baz=97,slow=0.8,SNR=5.8						
MKAR	**Makanchi Array**	**124.54**	**355**	PKP	PKPdf	10 41 59.4	-3.6
	0.5nm,0.7s,baz=48,slow=2.1,SNR=3.3						
WMQ	**Urumqi**	**126.79**	**350**	*e*PKP	PKPdf	10 42 05.0	-2.3
LZH	**Lanzhou**	**128.65**	**332**	*e*PKP	PKPdf	10 42 09.5	-1.3
LZH				XPKP		10 42 19.5	
LZH				LR	LR		
	comp=N,125nm,19.2s						
LZH				LR	LR		
	comp=Z,254nm,20.3s,MS4.9						

*HEL **12** 10:32:35.5±0.3, 5898N×1795E, h0km, ML1.9, Explosion*
*ISCJB **12** 10:32:38.3±1.2, 5938N±009×182E±0.1, h0km, Error ellipse: s-maj=12.9km s-min=8.1km az=139.3*
*IDC **12** 10:32:39.7±2.9, 5925N×1827E, h0km, mb1 3.2/3, mb1mx3.0/21, mbtmp3.1/3, ML2.1/2, Error ellipse: s-maj=36.4km s-min=9.0km az=178.0*
ISC 12 10:32:38.7±1.2, 5922N±009×182E±01, h0km, n11, σ1§24/21, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**2.54**	**43**	*e*P	**Pn**	**10 33 21.5**	**+0.4**
RAF				*e*S	**Sn**	**10 33 55.0**	**+2.4**
RAF				MSG		10 34 03.3	
	comp=Z,3.3nm,0.2s						
MEF	**Metsahovi**	**3.28**	**70**	*e*P	**Pn**	**10 33 31.3**	**-0.1**
MEF				*e*SG	**Sg**	**10 34 23.1**	**-1.1**
MEF				MSG		10 34 23.9	
	comp=Z,3.9nm,0.2s						
NOA	**NORSAR Array B**	**3.96**	**301**	Pn	**Pn**	**10 33 39.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=2.6						
NOA				Pg	**Pg**	**10 33 48.5**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=114,slow=13,SNR=2.7						
NOA				Lg		10 34 42.8	
	comp=Z,0.7nm,0.3s,baz=103,slow=15,SNR=5.0						
PVF	**Pernaja**	**4.07**	**68**	*e*P	**Pn**	**10 33 42.0**	**-0.2**
PVF				*e*S	**Sn**	**10 34 31.3**	**+0.7**
PVF				MSG		10 34 51.9	
	comp=Z,2.2nm,0.2s						
VAF	**Ylistaro**	**4.40**	**27**	*e*P	**Pn**	**10 33 48.4**	**+1.7**
VAF				*e*SG	**Sg**	**10 34 59.2**	**-0.9**
VAF				MSG		10 35 01.6	
	comp=Z,1.6nm,0.2s						
KEF	**Keuruu**	**4.41**	**45**	*e*P	**Pn**	**10 33 47.7**	**+0.9**
KEF				*e*S	**Sn**	**10 34 40.7**	**+1.9**
KEF				MSG		10 35 02.4	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**4.50**	**57**	*e*P	**Pn**	**10 33 48.6**	**+0.5**
FIA0				*e*SG	**Sg**	**10 35 01.0**	**-2.2**
FIA0				MSG		10 35 06.0	
	comp=Z,1.2nm,0.2s						
FINES	**FINESS Array B**	**4.50**	**57**	Pn	**Pn**	**10 33 48.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=253,slow=12,SNR=8.0						
FINES				Sn	**Sn**	**10 34 39.2**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=244,slow=20,SNR=7.3						
FINES				Lg		10 34 58.8	
	comp=Z,0.6nm,0.3s,baz=245,slow=20,SNR=7.5						
KAF	**Kangasniemi**	**4.92**	**50**	*e*P	**Pn**	**10 33 53.9**	**0.0**
KAF				*e*S	**Sn**	**10 34 52.1**	**+0.6**
KAF				MSG		10 35 15.0	
	comp=Z,1.1nm,0.2s						
SUF	**Sumiainen**	**5.22**	**44**	*e*P	**Pn**	**10 33 57.6**	**-0.4**
SUF				*e*S	**Sn**	**10 34 59.8**	**+1.0**
SUF				MSG		10 35 27.5	
	comp=Z,1.0nm,0.2s						
ARCES	**ARCESS Array B**	**10.82**	**14**	Pn	**Pn**	**10 35 12.3**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=6.6						

*NEIC **12** 10:33:53.9, 1591N×9764W, h27km, MD3.7(MEX), After MEX.*
**MEX 12 10:33:54.0±0.7, 1591N×9764W, h19km±65km, MD3.7, Near coast

comp=Z,190nm,18.3s,MS4.0,baz=248,slow=30
TAOE Nuku Hiva Isla 51.60 86 *e*LR LR 11 05 02.5
390nm,29.9s
RKT Rikitea 53.54 105 *e*LR LR 11 05 53.6
118nm,31.2s
QSPA South Pole Qui 71.10 180 *e*P **P 10 52 20.3 -0.4**
3.5nm,1.0s,mb4.2
QSPA *e* 10 52 31.6
MAW Mawson 78.09 202 *e*P **P 10 53 02.9 +1.6**
2.8nm,0.8s,mb4.2
MAW Mawson 78.09 202 P **P 10 53 02.1 +0.8**
1.8nm,0.9s,mb4.0,baz=108,slow=9.5,SNR=6.3
SONM Songino Array 86.03 324 P **P 10 53 43.0 +0.1**
0.7nm,0.8s,mb3.9,baz=159,slow=4.9,SNR=5.8
NVAR Mina Array Bea 89.82 49 P **P 10 54 02.1 +1.1**
0.7nm,0.6s,mb4.2,baz=231,slow=8.1,SNR=11
ARCES ARCESS Array B 124.37 345 PKP PKPdf 11 00 00.1 -1.3
0.9nm,0.6s,baz=27,slow=2.2,SNR=5.7
CDF Champ du Feu 146.54 336 *e*PKP1 PKPbc 11 00 44.4 +0.7
11nm,0.7s
HAU Haudompre 147.23 336 *e*PKP1 PKPbc 11 00 46.2 +0.5
9.4nm,0.8s
MEZF Maizieres J'vi 147.28 338 *e*PKP1 PKPbc 11 00 46.9 +1.0
15nm,0.7s
CABF La Chapelle 148.47 335 *e*PKP1 PKPbc 11 00 50.1 +1.0
19nm,0.8s
LOR Lormes 148.75 338 *e*PKP1 PKPbc 11 00 50.5 +0.7
6.6nm,0.6s
SSF Saint Saulge 149.06 339 *e*PKP1 PKPbc 11 00 51.3 +0.8
3.9nm,0.5s
BGF Bois d'Agland 149.72 339 *e*PKP1 PKPbc 11 00 54.1 +1.9
TORD Torodi Ar. Bea 165.22 249 PKPab PKPab 11 02 03.5 -0.6
0.9nm,0.9s,baz=96,slow=1.3,SNR=3.4

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*UPP **12** 10:58:23.8,5900N×1820E,h0km,ML3.1,Mining explosion.*
*CSEM **12** 10:58:23.6±0.1,5907N×1806E,h1km,ML3.1,Error ellipse: s-maj=4.1km s-min=2.5km az=132.0,Mining explosion.*
HEL 12 10:58:24.8±0.1,5901N×1814E,h0km,ML1.8,ML3.1(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.07**	**269**	*i* P		Pg	10 58 26.0	-0.1
NRTU	**Norrtaelje**	**0.72**	**20**	*i* P		Pg	10 58 37.3	-1.3
VIKU	**Vikbolandet**	**0.90**	**237**	*e*P		Pg	10 58 41.4	-0.7
ESKU	**Eskilstuna**	**0.93**	**285**	*e*P		Pg	10 58 41.6	-1.0
BACU	**Backbrunna**	**1.00**	**329**	*e*P		Pg	10 58 43.0	-1.0
OSTU	**Oestervaala**	**1.33**	**338**	*e*P		Pg	10 58 48.9	-1.4
GOTU	**Gotland**	**1.34**	**170**	*e*P		Pg	10 58 48.0	-2.5
GRAU	**Graesoe**	**1.35**	**9**	*e*P		Pg	10 58 48.9	-1.7
FORU	**Forsmark**	**1.39**	**1**	*e*P		Pg	10 58 49.7	-1.7
AAL	**Aland**	**1.51**	**38**	*e*P		Pn	10 58 51.3	-1.7
VSTU	**Vaestervik**	**1.59**	**213**	*e*P		Pn	10 58 53.4	-0.9
VSTU	**Vaestervik**	**1.59**	**213**	P		Pn	10 58 53.3	-0.9
BYXU	**Byxelkrok**	**1.82**	**200**	*e*P		Pn	10 58 57.2	-0.1
BYXU	**Byxelkrok**	**1.82**	**200**	P		Pn	10 58 57.2	-0.2
RAF	**Rauma**	**2.72**	**40**	*e*P		Pn	10 59 09.8	+0.1
RAF				*e*S		Sn	10 59 44.3	+0.9
RAF				MSG			10 59 51.3	
	comp=Z,3.0nm,0.2s							
RAF	**Rauma**	**2.72**	**40**	P		Pn	10 59 09.8	0.0
RAF				S		Sn	10 59 44.2	+0.8
	comp=Z,3.0nm,0.2s							
MEF	**Metsahovi**	**3.40**	**66**	*e*P		Pn	10 59 19.3	+0.1
MEF				*e*S		Sn	11 00 00.1	-0.2
MEF				MSG			11 00 12.1	
	comp=Z,2.9nm,0.2s							
MEF	**Metsahovi**	**3.40**	**66**	P		Pn	10 59 19.2	+0.1
MEF				S		Sn	11 00 00.0	-0.2
	comp=Z,2.9nm,0.2s							
PVF	**Pernaja**	**4.20**	**65**	*e*S		Sn	11 00 18.8	-1.0
PVF				MSG			11 00 40.8	
	comp=Z,1.5nm,0.2s							
PVF	**Pernaja**	**4.20**	**65**	S		Sn	11 00 18.7	-1.1
	comp=Z,1.5nm,0.2s							
KEF	**Keuruu**	**4.59**	**43**	*e*P		Pn	10 59 36.0	+0.5
KEF				*e*S		Sn	11 00 29.7	+0.2
KEF				MSG			11 00 50.4	
	comp=Z,1.3nm,0.2s							
KEF	**Keuruu**	**4.59**	**43**	P		Pn	10 59 35.9	+0.5
KEF				S		Sn	11 00 29.6	+0.1
	comp=Z,1.3nm,0.2s							
VAF	**Ylistaro**	**4.61**	**27**	*e*P		Pn	10 59 34.8	-0.9
VAF				*e*S		Sn	11 00 29.9	-0.1
VAF				MSG			11 00 50.3	
	comp=Z,1.1nm,0.2s							
VAF	**Ylistaro**	**4.61**	**27**	P		Pn	10 59 34.7	-1.0
VAF				S		Sn	11 00 29.8	-0.2
	comp=Z,1.1nm,0.2s							
FIA0	**FINESS Array S**	**4.65**	**55**	*e*P		Pn	10 59 36.5	+0.2
FIA0				*e*S		Sn	11 00 29.7	-1.3
FIA0				MSG			11 00 53.1	
	comp=Z,0.9nm,0.2s							
KAF	**Kangasniemi**	**5.09**	**49**	*e*P		Pn	10 59 41.8	-0.5
KAF				*e*S		Sn	11 00 40.0	-1.9
KAF				MSG			11 01 04.1	
	comp=Z,0.9nm,0.2s							
SUF	**Sumiainen**	**5.40**	**43**	*e*P		Pn	10 59 45.7	-0.9
SUF				*e*S		Sn	11 00 47.8	-1.7
SUF				MSG			11 01 14.7	
	comp=Z,0.9nm,0.2s							

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*NEIC **12** 10:59:59.7,2822S×7145W,h50km,MG3.7(GUC),After GUC.*
GUC 12 10:59:59.7±1.0,2822S×7145W,h50km,ML3.7,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.70**	**121**	*i* P		Pn	11 00 21.5	+8.1
VACH				*i* S		Sn	11 00 32.7	+9.3
VACH				AML		AML	11 00 34.2	
	comp=N,4μm,0.1s							
VACH	**Vallenar**	**0.70**	**121**	*i* P		Pn	11 00 21.5	+8.1
VACH				*i* S		Sn	11 00 32.7	+9.3
LCO	**Las Campanas**	**1.02**	**140**	*e*P		Pn	11 00 19.2	+1.5
LCO				*i* S		Sn	11 00 33.0	+2.0
CPCH	**Copiapo**	**1.29**	**49**	*e*P		Pn	11 00 22.4	+1.0
CPCH				*i* S		Sn	11 00 38.3	+0.8
CPCH				AML		AML	11 00 39.6	
	comp=E,8μm,0.1s							
CPCH	**Copiapo**	**1.29**	**49**	*e*P		Pn	11 00 22.4	+1.0
CPCH				*i* S		Sn	11 00 38.3	+0.8
TLL	**Tololo Astrono**	**2.02**	**164**	⇑*i*P		Pn	11 00 32.6	+1.3
TLL				*i* S		Sn	11 00 57.2	+1.9
CMCH	**Combarbala**	**2.97**	**173**	⇑*i*P		Pn	11 00 44.9	+0.6
CMCH				*i* S		Sn	11 01 18.2	-0.4
CMCH				AML		AML	11 01 19.4	
	comp=N,85nm,0.5s							
CMCH	**Combarbala**	**2.97**	**173**	⇑*i*P		Pn	11 00 44.9	+0.6
CMCH				S		Sn	11 01 18.2	-0.4

IDC 12 11:07:19.5±32.0,1880S×17507W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/14,mbtmp4.1/4,Error ellipse: s-maj=629.0km s-min=163.2km az=87.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.02**	**243**	P		P	11 15 04.6	+0.3
0.8nm,0.3s,baz=90,slow=8.1,SNR=3.2								
WRA	**Warramunga Arr**	**47.60**	**260**	P		P	11 15 57.7	+0.7
0.6nm,0.3s,baz=97,slow=7.4,SNR=39								
ASAR	**Alice Springs**	**47.62**	**255**	P		P	11 15 57.5	+0.3
2.4nm,0.6s,baz=98,slow=7.5,SNR=58								
FITZ	**Fitzroy Crossi**	**56.01**	**260**	P		P	11 16 59.8	0.0
4.7nm,1.2s,baz=69,slow=8.6,SNR=3.1								

WEL 12 11:10:08.6±0.3,3486S×17827E,h33km,ML3.8/3,Error ellipse: s-maj=4.1km s-min=1.9km az=90.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.21**	**180**	PN		Pn	11 10 56.1	-0.6
PUZ				*e*SN		Sn	11 11 31.5	-2.2
MWZ	**Matawai**	**3.52**	**190**	P*		Pb	11 11 01.1	-9.2
MWZ				S*		Sb	11 11 41.6	-11
URZ	**Urewera**	**3.52**	**195**	P*		Pb	11 11 01.0	-9.2
URZ				S*		Sb	11 11 41.0	-12

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*NEIC **12** 11:11:19.5,3039S×6934W,h16km,ML3.7(GUC),After GUC.*
GUC 12 11:11:19.5±1.0,3039S×6934W,h16km±8km,ML3.7, 6C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.28**	**280**	⇓*i*P		Pn	11 11 42.0	-0.8
TLL				*i* S		Sb	11 11 58.8	-0.7
TLL				AML		AML	11 12 00.8	
	comp=N,1μm,0.5s							
TLL	**Tololo Astrono**	**1.28**	**280**	⇓*i*P		Pn	11 11 42.0	-0.8
TLL				*i* S		Sb	11 11 58.8	-0.7
ZON	**Zonda**	**1.29**	**154**	⇑*i*P		Pn	11 11 41.7	-1.1
OVCH	**Ovalle**	**1.62**	**262**	⇓*i*P		Pn	11 11 47.1	-0.3
OVCH				*i* S		Sn	11 12 08.2	+0.4
OVCH				AML		AML	11 12 13.7	
	comp=N,818nm,0.4s							
OVCH	**Ovalle**	**1.62**	**262**	⇓*i*P		Pn	11 11 47.1	-0.3
OVCH				*i* S		Sn	11 12 08.2	+0.4
CMCH	**Combarbala**	**1.63**	**241**	⇑*i*P		Pn	11 11 47.2	-0.2
CMCH				*i* S		Sn	11 12 08.6	+0.5
CMCH				AML		AML	11 12 10.9	
	comp=N,4μm,0.5s							
CMCH	**Combarbala**	**1.63**	**241**	⇑*i*P		Pn	11 11 47.2	-0.2
CMCH				*i* S		Sn	11 12 08.6	+0.5
LSCH	**La Serena**	**1.72**	**286**	*e*P		Pn	11 11 48.7	0.0
LSCH				*i* S		Sn	11 12 10.8	+0.5
LCO	**Las Campanas**	**1.81**	**319**	⇑*i*P		Pn	11 11 50.8	+0.8
LCO				*i* S		Sn	11 12 14.5	+1.8
LCO				AML		AML	11 12 16.4	
	comp=E,1μm,0.4s							
LCO	**Las Campanas**	**1.81**	**319**	⇑*i*P		Pn	11 11 50.8	+0.8
LCO				*i* S		Sn	11 12 14.5	+1.8
VACH	**Vallenar**	**2.19**	**325**	⇑*i*P		Pn	11 12 00.8	+5.6
VACH				*i* S		Sn	11 12 29.2	+7.3
PTCH	**Petorca**	**2.31**	**216**	AML		AML	11 12 31.7	
	comp=E,2μm,0.3s							
CHNG	**Los Chungos**	**2.37**	**231**	⇓*i*P		Pn	11 11 58.6	+0.9
CHNG				*i* S		Sn	11 12 28.3	+1.8
CHNG				AML		AML	11 12 32.4	
	comp=N,355nm,0.8s							
MDZ	**Mendoza**	**2.52**	**171**	*e*P		Pn	11 12 04.3	+4.5
MDZ				*e*S		Sn	11 12 42.5	+12
FCH	**Farellones**	**3.04**	**195**	*e*P		Pn	11 12 10.2	+3.3
FCH				*i* S		Sn	11 12 48.0	+5.1
FCH				AML		AML	11 12 55.9	
	comp=E,105nm,0.6s							
LMEL	**Las Melosas**	**3.52**	**192**	*e*P		Pn	11 12 16.7	+3.2

IDC 12 11:31:28.7±1.6,2321S×17590W,h0km,mb4.1/4, mb1 4.2/5,mb1mx4.0/15,mbtmp4.2/5,ML2.7/1,MS3.6/4, Ms1 3.6/4,ms1mx3.2/21,Error ellipse: s-maj=50.9km s-min=30.0km az=137.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.04**	**24**	Pn		Pn	11 33 52.6	-1.5
3.5nm,0.3s,baz=9.0,slow=18,SNR=5.9								
AFI				Sn		Sn	11 35 37.7	-10
2.7nm,0.3s,baz=37,slow=21,SNR=3.9								
RAR	**Rarotonga**	**15.07**	**86**	Pn		Pn	11 34 55.0	-7.8
3.1nm,0.3s,baz=263,slow=8.3,SNR=16								
RAR				LR		LR	11 38 26.6	
comp=Z,72nm,21.9s,baz=195,slow=28								
URZ	**Urewera**	**16.15**	**200**	Pn		Pn	11 35 11.2	-5.8
0.2nm,0.3s,baz=330,slow=14,SNR=1.9								
URZ				Sn		Sn	11 38 01.4	-15
0.6nm,0.3s,baz=309,slow=13,SNR=4.5								
TBI	**Tubuai**	**24.28**	**96**	*e*LR		LR	11 42 34.9	
160nm,28.2s								
PPT	**Papeete**	**25.29**	**82**	*e*LR		LR	11 43 01.2	
86nm,22.8s								
PPT	**Papeete**	**25.29**	**82**	LR		LR	11 44 41.9	
comp=Z,106nm,19.6s,baz=268,slow=31								
CTA	**Charters Tower**	**35.25**	**268**	P		P	11 38 26.4	+1.6
2.1nm,0.4s,baz=96,slow=11,SNR=8.2								
RKT	**Rikitea**	**37.54**	**98**	*e*LR		LR	11 48 39.9	
83nm,32.2s								
STKA	**Stephens Creek**	**38.47**	**248**	LR		LR	11 52 54.4	
comp=Z,145nm,20.2s,baz=25,slow=33								
ASAR	**Alice Springs**	**45.86**	**259**	P		P	11 39 52.6	0.0
0.9nm,0.6s,baz=93,slow=8.5,SNR=11								
ASAR				LR		LR	11 59 06.3	
comp=Z,129nm,19.4s,baz=146,slow=36								
WRA	**Warramunga Arr**	**46.21**	**264**	P		P	11 39 54.2	-1.2
0.6nm,0.3s,baz=94,slow=8.3,SNR=12								
MAW	**Mawson**	**79.68**	**199**	P		P	11 43 37.1	-1.0
0.6nm,0.5s,baz=134,slow=9.7,SNR=4.1								
AKASG	**Malin Array Be**	**146.31**	**331**	PKPbc		PKPbc	11 51 10.4	-0.8
1.0nm,0.5s,baz=40,slow=4.3,SNR=9.1								
BRTR	**Keskin Array B**	**150.08**	**310**	PKPbc		PKPbc	11 51 21.8	+0.5
0.6nm,0.5s,baz=140,slow=4.0,SNR=3.2								
BRTR				PKPab		PKPab	11 51 28.9	+1.8
1.0nm,0.6s,baz=75,slow=5.2,SNR=3.8								

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*CSEM **12** 11:33:03.5±0.1,5900N×1838E,h2km,ML2.7,Error ellipse: s-maj=3.7km s-min=2.1km az=131.0,Mining explosion.*
*UPP **12** 11:33:04.6,5900N×1819E,h0km,ML2.7,Mining explosion.*
HEL 12 11:33:05.4±0.1,5900N×1819E,h0km,ML1.9,ML2.7(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.10**	**271**	*i* P		Pg	11 33 06.7	-0.6
NRTU	**Norrtaelje**	**0.71**	**18**	*i* P		Pg	11 33 18.0	-1.1
VIKU	**Vikbolandet**	**0.93**	**238**	*e*P		Pg	11 33 22.1	-1.1
VIKU	**Vikbolandet**	**0.93**	**238**	P		Pg	11 33 22.0	-1.1
ESKU	**Eskilstuna**	**0.95**	**285**	*e*P		Pg	11 33 22.3	-1.4
BACU	**Backbrunna**	**1.02**	**328**	*e*P		Pg	11 33 23.6	-1.2
BACU	**Backbrunna**	**1.02**	**328**	P		Pg	11 33 23.6	-1.3
GOTU	**Gotland**	**1.34**	**171**	*e*P		Pg	11 33 28.8	-2.2
OSTU	**Oestervaala**	**1.34**	**337**	*e*P		Pg	11 33 29.6	-1.5
GRAU	**Graesoe**	**1.35**	**7**	*e*P		Pg	11 33 29.7	-1.5
AAL	**Aland**	**1.49**	**37**	*e*P		Pn	11 33 32.1	-1.4
VSTU	**Vaestervik**	**1.60**	**214**	*e*P		Pn	11 33 34.1	-0.9
LNKU	**Linkoeping**	**1.61**	**242**	*e*P		Pn	11 33 34.0	-1.0
NRAU	**Nora**	**1.71**	**291**	*e*P		Pn	11 33 36.0	-0.4
ASKU	**Askersund**	**1.74**	**268**	*e*P		Pn	11 33 36.5	-0.4
BYXU	**Byxelkrok**	**1.83**	**201**	*e*P		Pn	11 33 38.0	-0.1
FALU	**Falun**	**1.91**	**322**	*e*P		Pn	11 33 39.5	+0.2
IGGU	**Iggoen**	**1.93**	**347**	*e*P		Pn	11 33 38.9	-0.5
OSKU	**Oskarshamn**	**2.13**	**212**	*e*P		Pn	11 33 43.0	+0.8
RAF	**Rauma**	**2.71**	**40**	*e*P		Pn	11 33 49.9	-0.3
RAF				*e*S		Sn	11 34 24.0	+0.4
RAF				MSG			11 34 30.2	
	comp=Z,3.1nm,0.1s							
RAF	**Rauma**	**2.71**	**40**	P		Pn	11 33 49.8	-0.4
RAF				S		Sn	11 34 23.9	+0.3
	comp=Z,3.1nm,0.1s							
KEF	**Keuruu**	**4.57**	**43**	*e*P		Pn	11 34 14.9	-0.9
KEF				*e*S		Sn	11 35 08.8	-0.8
KEF				*e*SG		Sg	11 35 26.6	-5.8
KEF				MSG			11 35 30.9	
	comp=Z,1.4nm,0.1s							
KEF	**Keuruu**	**4.57**	**43**	P		Pn	11 34 14.9	-0.9
KEF				S		Sn	11 35 08.8	-0.9
KEF				Sg		Sg	11 35 26.5	-5.9
	comp=Z,1.4nm,0.1s							
VAF	**Ylistaro**	**4.60**	**26**	*e*P		Pn	11 34 17.2	+1.0
VAF				*e*S		Sn	11 35 09.5	-0.8
VAF				*e*SG		Sg	11 35 29.4	-3.9
VAF				MSG			11 35 30.8	
	comp=Z,1.2nm,0.2s							
VAF	**Ylistaro**	**4.60**	**26**	P		Pn	11 34 17.2	+1.0
VAF				S		Sn	11 35 09.5	-0.8
FIA0	**FINESS Array S**	**4.63**	**55**	*e*P		Pn	11 34 14.9	-1.7
FIA0				*e*S		Sn	11 35 08.8	-2.3
FIA0				*e*SG		Sg	11 35 27.7	-6.5
FIA0				MSG			11 35 32.4	
	comp=Z,1.3nm,0.2s							
FIA0	**FINESS Array S**	**4.63**	**55**	P		Pn	11 34 14.9	-1.7
FIA0				S		Sn	11 35 08.8	-2.3
FIA0				Sg		Sg	11 35 27.7	-6.5
	comp=Z,1.3nm,0.2s							
KAF	**Kangasniemi**	**5.08**	**49**	*e*P		Pn	11 34 22.3	-0.4
KAF				*e*S		Sn	11 35 19.9	-2.1
SUF	**Sumiainen**	**5.39**	**43**	*e*P		Pn	11 34 26.0	-1.0
SUF				*e*S		Sn	11 35 27.3	-2.4
JOF	**Joensuu**	**7.49**	**53**	*e*P		Pn	11 34 53.5	-2.5

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*HEL **12** 11:46:55.7±0.2,5892N×1817E,h0km,ML1.8,Explosion*
*ISCJB **12** 11:46:57.0±1.1,5936N±008×1818E±0.1,h0km,Error ellipse: s-maj=12.5km s-min=7.4km az=142.0*
*IDC **12** 11:46:59.9±2.6,5923N×1826E,h0km,mb1 3.0/3, mb1mx2.8/21,mbtmp2.8/3,ML2.3/3,Error ellipse: s-maj=35.0km s-min=8.1km az=178.0*
ISC 12 11:46:57.3±1.1,5922N±008×1809E±009,h0km,n12, σ1°12/23,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**2.58**	**44**	*e*P		**Pn**	**11 47 41.5**	**+1.2**
RAF				*e*S		**Sn**	**11 48 15.0**	**+2.6**
RAF				MSG			11 48 22.1	
	comp=Z,2.8nm,0.1s							
MEF	**Metsahovi**	**3.35**	**70**	*e*P		**Pn**	**11 47 50.4**	**-0.5**
MEF				*e*S		**Sn**	**11 48 30.6**	**-0.8**
MEF				MSG			11 48 44.6	
	comp=Z,2.3nm,0.2s							
NOA	**NORSAR Array B**	**3.89**	**301**	Pn		**Pn**	**11 47 59.5**	**+1.1**
comp=Z,0.1nm,0.3s,baz=127,slow=8.3,SNR=2.3								
NOA				Pg		**Pg**	**11 48 10.2**	**-1.7**
comp=Z,0.2nm,0.3s,baz=97,slow=7.2,SNR=2.7								
NOA				Lg			11 49 02.4	
comp=Z,0.5nm,0.3s,baz=130,slow=25,SNR=3.9								
PVF	**Pernaja**	**4.14**	**68**	*e*PG		**Pg**	**11 48 11.4**	**-5.3**
PVF				*e*SG		**Sg**	**11 49 05.4**	**-4.9**
PVF				MSG			11 49 07.0	
	comp=Z,1.9nm,0.2s							
VAF	**Ylistaro**	**4.43**	**28**	*e*SG		**Sg**	**11 49 19.8**	**+0.1**
VAF				MSG			11 49 23.7	
	comp=Z,1.1nm,0.2s							
KEF	**Keuruu**	**4.46**	**46**	*e*P		**Pn**	**11 48 07.6**	**+1.5**
KEF				*e*S		**Sn**	**11 48 59.4**	**+0.8**
KEF				*e*SG		**Sg**	**11 49 18.2**	**-2.2**
KEF				MSG			11 49 22.1	
	comp=Z,1.2nm,0.1s							
FIA0	**FINESS Array S**	**4.55**	**57**	*e*P		**Pn**	**11 48 07.7**	**+0.2**
FIA0				*e*S		**Sn**	**11 49 00.8**	**-0.3**
FIA0				MSG			11 49 21.9	
	comp=Z,1.0nm,0.2s							
FINES	**FINESS Array B**	**4.55**	**57**	Pn		**Pn**	**11 48 08.1**	**+0.6**
comp=Z,0.1nm,0.3s,baz=250,slow=13,SNR=5.4								
FINES				Pg		**Pg**	**11 48 17.3**	**-7.3**
comp=Z,0.2nm,0.3s,baz=241,slow=14,SNR=4.8								
FINES				Sn		**Sn**	**11 49 01.5**	**+0.5**
comp=Z,0.3nm,0.3s,baz=245,slow=22,SNR=7.2								
FINES				Lg			11 49 18.6	
comp=Z,0.4nm,0.3s,baz=244,slow=24,SNR=7.8								
VJF	**Virojoki**	**4.95**	**70**	*e*P		**Pn**	**11 48 11.3**	**-1.6**
VJF				MSG			11 49 41.6	
	comp=Z,1.2nm,0.2s							
KAF	**Kangasniemi**	**4.97**	**51**	*e*P		**Pn**	**11 48 13.7**	**+0.5**
KAF				*e*S		**Sn**	**11 49 11.3**	**-0.1**
KAF				MSG			11 49 33.1	
	comp=Z,1.0nm,0.2s							
SUF	**Sumiainen**	**5.27**	**45**	*e*P		**Pn**	**11 48 17.3**	**0.0**
SUF				*e*S		**Sn**	**11 49 18.7**	**+0.1**
SUF				MSG			11 49 47.2	
	comp=Z,0.7nm,0.2s							
ARCES	**ARCESS Array B**	**10.83**	**14**	Pn		**Pn**	**11 49 32.4**	**-1.1**
comp=Z,0.1nm,0.3s,baz=196,slow=14,SNR=6.1								

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*BJI **12** 11:56:59.9,1958S×176.13W,h157km,mB5.2,mb4.7*
*IDC **12** 11:57:06.0±2.7,1987S×17606W,h211km±24km,mb4.2/12, mb1 4.4/13,mb1mx4.3/16,mbtmp4.7/13,Error ellipse: s-maj=14.9km s-min=10.9km az=98.0*
*ISCJB **12** 11:57:07.3±1.7,1980S±006×176.14W±006,h232km±15km, mb4.5/33,Error ellipse: s-maj=11.1km s-min=8.0km az=97.1*
*NEIC **12** 11:57:08.6±0.3,1978S×176.12W,mb4.6/23,Error ellipse: s-maj=10.3km s-min=7.0km az=140.0*
ISC 12 11:57:10.2±1.6,1992S±006×17607W±006,h248km±14km, n86,σ0°86/66,mb4.5/33,6C-10D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.25**	**35**	P		**Pn**	**11 58 41.7**	**-12**
18nm,0.3s,baz=117,slow=2.2,SNR=36								
AFI				S		S	11 59 54.4	-23
90nm,0.3s,baz=205,slow=22,SNR=11								
AFI	**Afiamalu**	**7.25**	**35**	*e*Pn		**Pn**	**11 58 41.8**	**-12**
111nm,0.5s								
AFI				*e*Sn		S	11 59 54.5	-23
RAR	**Rarotonga**	**15.32**	**98**	P		**Pn**	**12 00 38.6**	**+4.4**
1.6nm,0.3s,baz=258,slow=13,SNR=12								
DZM	**Mont Dzumac**	**16.47**	**259**	*e*P		**P**	**12 00 48.1**	**+1.8**
DZM	**Mont Dzumac**	**16.47**	**259**	P		**P**	**12 00 49.0**	**+2.8**
19nm,0.3s,baz=76,slow=18,SNR=133								
URZ	**Urewera**	**19.21**	**196**	P		**P**	**12 01 14.1**	**-1.8**
3.7nm,0.3s,baz=16,slow=2.7,SNR=27								
URZ				S		**S**	**12 04 39.1**	**-0.9**
1.4nm,0.3s,baz=248,slow=23,SNR=7.3								
SNZO	**South Karori**	**22.73**	**198**	*e*P		**P**	**12 01 51.7**	**+0.7**
34nm,0.8s,mb4.9								
RPZ	**Rata Peaks**	**26.06**	**202**	P		**P**	**12 02 24.1**	**+3.0**
17nm,0.6s,mb4.9,baz=333,slow=21,SNR=13								
CTA	**Charters Tower**	**35.35**	**263**	⇓*i*P		**P**	**12 03 42.5**	**+0.2**
54nm,0.7s,mb5.2								
CTA	**Charters Tower**	**35.35**	**263**	P		**P**	**12 03 42.7**	**+0.4**
86nm,0.7s,mb5.4,baz=89,slow=10,SNR=90								
CTAO	**Charters Tower**	**35.35**	**263**	*e*P		**P**	**12 03 42.5**	**+0.2**
98nm,0.7s,mb5.4								
PMG	**Port Moresby**	**36.99**	**281**	P		**P**	**12 03 56.2**	**+0.1**
48nm,0.9s,mb5.0,baz=86,slow=4.8,SNR=9.2								
PMG	**Port Moresby**	**36.99**	**281**	*e*P		**P**	**12 03 56.2**	**0.0**
41nm,0.8s,mb5.0								
PMG				*e*pP		pP	12 04 46.6	+0.2
STKA	**Stephens Creek**	**39.67**	**244**	*e*P		**P**	**12 04 18.5

MAJO	**Matsushiro**	**70.84**	**322**	*eP*		**P**	**12 07 58.8**	**-1.3**
	5.4nm,0.6s,mb4.3							
ISA	**Isabella**	**77.64**	**45**	*eP*		**P**	**12 08 39.1**	**-0.1**
DAC	**Darwin (Calif)**	**78.58**	**45**	*eP*		**P**	**12 08 44.6**	**+0.2**
NVAR	**Mina Array Bea**	**79.37**	**43**	P		**P**	**12 08 48.4**	**-0.3**
	3.8nm,0.9s,mb4.0,baz=230,slow=9.0,SNR=16							
NJ2	**Nanjing**	**80.92**	**309**	*eP*		**P**	**12 08 57.6**	**+0.7**
NJ2				AMB	AMB			
	comp=Z,20nm,0.6s,mb4.9							
MDJ	**Mudanjiang**	**81.10**	**324**	P		**P**	**12 08 58.2**	**+0.3**
MDJ				AP	pP		12 09 37.0	-20
MDJ				XP	sP		12 09 55.2	-28
MDJ				PP	PP		12 12 06.7	+0.1
MDJ				S	S		12 18 54.5	+8.2
MDJ				AMB	AMB			
	comp=Z,12nm,1.6s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,35nm,4.9s							
TUC	**Tucson**	**81.20**	**51**	*eP*		**P**	**12 08 58.6**	**+0.2**
WUAZ	**Wupatki**	**82.40**	**48**	*eP*		**P**	**12 09 05.2**	**+0.6**
	comp=Z,6.3nm,1.1s,mb4.2							
MAW	**Mawson**	**82.72**	**199**	*eP*		**P**	**12 09 06.5**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0							
MAW	**Mawson**	**82.72**	**199**	P		**P**	**12 09 06.7**	**+0.4**
	comp=Z,3.9nm,0.9s,mb4.2,baz=97,slow=3.5,SNR=11							
CN2	**Changchun**	**82.96**	**322**	*eP*		**P**	**12 09 07.4**	**-0.1**
CN2				*e*AP		pP	12 09 48.0	-19
CN2				*e*S		S	12 19 11.4	+6.2
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.4							
CN2				AMB		AMB		
	comp=Z,500nm,5.0s							
HAWA	**Hanford**	**83.42**	**36**	*eP*		**P**	**12 09 09.5**	**-0.4**
HLID	**Hailey**	**84.71**	**40**	*eP*		**P**	**12 09 16.1**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.0							
SRU	**San Rafael**	**84.82**	**45**	*eP*		**P**	**12 09 16.4**	**-0.5**
MNTX	**Cornudas Mount**	**84.94**	**54**	*eP*		**P**	**12 09 17.6**	**0.0**
	comp=Z,5.5nm,1.1s,mb4.2							
ANMO	**Albuquerque**	**85.63**	**51**	*eP*		**P**	**12 09 20.6**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.6							
GDL2	**Guadalupe Moun**	**85.94**	**54**	*eP*		**P**	**12 09 23.0**	**+0.5**
PDAR	**Pinedale Array**	**87.30**	**43**	P		**P**	**12 09 27.9**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=234,slow=2.1,SNR=6.4							
SYO	**Syowa Base**	**87.68**	**192**⇓	*eP*		**P**	**12 09 29.5**	**-1.3**
SYO	**Syowa Base**	**87.68**	**192**⇓	*e*PcP		PcP	12 09 30.6	-1.9
PLCA	**Paso Flores**	**88.35**	**133**	P		**P**	**12 09 34.1**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.2,baz=239,slow=7.4,SNR=8.4							
PLCA	**Paso Flores**	**88.35**	**133**	*eP*		**P**	**12 09 34.0**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.2							
SNAA	**Sanae**	**88.53**	**178**	*eP*		**P**	**12 09 33.9**	**-0.9**
SNAA				*e*			12 09 35.5	
SNAA				*e*			12 09 36.8	
VNA1	**Neumayer--Stat**	**89.27**	**176**	*eP*		**P**	**12 09 38.2**	**-0.1**
VNA1				*e*			12 09 39.8	
VNA1				*e*			12 09 40.9	
HHC	**Hu-ho-hao-te**	**90.25**	**314**	*eP*		**P**	**12 09 43.5**	**+0.7**
HHC				AP		pP	12 10 23.9	-19
HHC				XP		sP	12 10 41.0	-28
HHC				SKS			12 19 56.6	
HHC				S		S	12 20 21.0	+5.8
HHC				AMB		AMB		
	comp=Z,14nm,0.4s,mb5.1							
HHC				AMB		AMB		
	comp=Z,140nm,4.1s							
HHC				LR		LR		
	comp=N,120nm,4.7s							
HHC				LR		LR		
	comp=E,142nm,5.3s							
HHC				LR		LR		
	comp=Z,144nm,14.7s							
KMI	**Kunming**	**90.70**	**296**	P		**P**	**12 09 45.9**	**+1.0**
KMI				AP		pP	12 10 26.1	-19
KMI				XP		sP	12 10 46.3	-24
KMI				PP		PP	12 13 26.6	+2.7
KMI				S		S	12 20 23.0	+3.7
KMI				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.6							
KMI				AMB		AMB		
	comp=Z,72nm,8.1s							
KMI				LR		LR		
	comp=N,256nm,16.1s							
KMI				LR		LR		
	comp=E,166nm,9.5s							
KMI				LR		LR		
	comp=Z,212nm,11.7s							
KMI	**Kunming**	**90.70**	**296**	P		**P**	**12 09 45.9**	**+1.0**
	comp=Z,8.0nm,1.0s,mb4.6							
KMI				pP		pP	12 10 26.1	-19
KMI				sP		sP	12 10 46.3	-24
KMI				PP		PP	12 13 26.6	+2.7
KMI				S		S	12 20 23.0	+3.7
KMI				SS		SS	12 26 21.5	-5.8
KMI				LR		LR		
	comp=Z,210nm,11.7s							
CD2	**Chengdu**	**92.01**	**302**	*eP*		**P**	**12 09 51.7**	**+0.8**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
LZH	**Lanzhou**	**93.86**	**307**	*eP*		**P**	**12 10 02.0**	**+2.5**
LZH				AP		pP	12 10 41.0	-19
LZH				XP		sP	12 10 58.0	-27
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.9							
LZH	**Lanzhou**	**93.86**	**307**	*eP*		**P**	**12 10 02.0**	**+2.5**
	comp=Z,13nm,1.0s,mb4.9							
LZH				pP		pP	12 10 41.0	-19
LZH				sP		sP	12 10 58.0	-27
SONM	**Songino Array**	**96.51**	**319**	P		**P**	**12 10 11.4**	**-0.1**
	comp=Z,0.7nm,1.0s,mb3.9,baz=140,slow=4.7,SNR=3.9							
MKAR	**Makanchi Array**	**112.11**	**313**	PKiKP		PKiKP	12 15 14.9	-1.2
	comp=Z,0.4nm,0.5s,baz=200,slow=0.3,SNR=7.8							
FINES	**FINESS Array B**	**135.70**	**345**	PKP		PKPdf	12 16 01.6	+0.5
	comp=Z,2.3nm,1.0s,baz=132,slow=2.8,SNR=4.7							
AKASG	**Malin Array Be**	**143.35**	**333**	PKhKP			12 16 11.0	
	comp=Z,2.3nm,0.4s,baz=39,slow=4.0,SNR=8.8							
MALT	**Malatya**	**144.99**	**309**⇑	*i*P		PKPdf	12 16 19.2	+1.4
MALT	**Malatya**	**144.99**	**309**	*e*PKPbc		PKPdf	12 16 18.6	+0.7
BURAR	**Bucovina Array**	**147.41**	**333**⇓	*i*P		PKPbc	12 16 26.0	+1.2
BURAR	**Bucovina Array**	**147.41**	**333**⇓	P		PKPbc	12 16 26.0	+1.2
BR131	**Keskin Array S**	**147.76**	**314**	*e*PKPbc		PKPbc	12 16 25.6	-0.1
BRTR	**Keskin Array B**	**147.76**	**314**	PKPbc		PKPbc	12 16 25.1	-0.5
	comp=Z,4.9nm,0.8s,baz=149,slow=4.8,SNR=16							
CLL	**Collm**	**147.87**	**349**⇑	*i*PKP		PKPbc	12 16 26.0	0.0
CLL	**Collm**	**147.87**	**349**⇑	*i*PKPbc		PKPbc	12 16 26.0	0.0
	comp=Z,9.0nm,0.8s							
MORC	**Moravsky Berou**	**148.29**	**343**⇑	*i*P		PKPab	12 16 35.0	+4.1
MLR	**Muntele Rosu**	**148.68**	**330**⇑	*i*P		PKPbc	12 16 28.4	+0.3
MLR	**Muntele Rosu**	**148.68**	**330**⇑	P		PKPbc	12 16 28.4	+0.3
VYHS	**Vyhne**	**149.06**	**341**	*e*PKP		PKPbc	12 16 28.9	-0.1
KHC	**Kasperske Hory**	**149.84**	**347**	*e*PKPbc		PKPbc	12 16 31.0	+0.1
KHC				*e*PKPab		PKPab	12 16 37.0	-0.3
GERES	**GERESS Array B**	**150.09**	**347**	PKPbc		PKPbc	12 16 31.3	-0.2
	comp=Z,2.9nm,0.7s,baz=48,slow=2.0,SNR=14							
GZR	**Gura Zlata**	**150.20**	**333**⇓	*i*P		PKPbc	12 16 30.6	-1.2
GZR	**Gura Zlata**	**150.20**	**333**⇓	P		PKPbc	12 16 30.6	-1.2
EIL	**Elat**	**150.29**	**295**	*e*PKPbc		PKPbc	12 16 33.0	+1.0
PKSM	**Moragy**	**151.12**	**339**⇓	*i*P		PKPbc	12 16 33.4	-0.5
PKSM	**Moragy**	**151.12**	**339**⇓	P		PKPbc	12 16 33.4	-0.5
ESDC	**Sonseca Array**	**159.17**	**17**	PKPab		PKPab	12 17 16.4	-0.6
	comp=Z,0.3nm,0.5s,baz=325,slow=3.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**172.94**	**162**	PKP		PKPdf	12 16 49.4	-0.1
	comp=Z,1.3nm,1.1s,baz=342,slow=1.6,SNR=4.0							
TORD				PKPab		PKPab	12 18 18.0	+0.3
	comp=Z,0.7nm,0.8s,baz=170,slow=5.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**172.94**	**162**	PKP		PKPdf	12 16 49.4	-0.1
TORD				PKPab		PKPab	12 18 18.0	+0.2

NIED ***12*** *12:36:00,2080N×12040E,h11km,Mw4.3 Best double couple: M0:3.56000×10^15 NP1:φs305.00000°,δ69.00000°, λ-92.00000°. NP2:φs130.00000°,δ21.00000°, λ-85.00000°.*
IDC ***12*** *12:36:13.2±0.7,2069N×11992E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.1/19,mbtmp4.1/10,MS3.5/3, Ms1 3.5/3,ms1mx2.9/33,Error ellipse: s-maj=38.8km s-min=15.5km az=67.0*
NEIC ***12*** *12:36:14.9±0.5,2071N×11997E,h10km,mb5.0/6,Error ellipse: s-maj=19.2km s-min=8.6km az=85.0*
ISCJB ***12*** *12:36:14.8±1.9,2077N±004×11986E±007,h24km±15km, mb4.3/16,MS3.4/3,Error ellipse: s-maj=12.1km s-min=5.1km az=148.0*
MAN ***12*** *12:36:16.8,2089N×12021E,h33km,mb3.7,ML4.8,MS6.6*
BJI ***12*** *12:36:20.2,2128N×11948E,h15km,mB4.2,mb3.7,ML3.6, Ms4.1,Msz4.0*

ISC 12 12:36:16.1±2.4,2077N±004×11989E±007,h17km±16km, n38,σ1§33/46,mb4.3/16,MS3.4/3,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.20**	**166**	*eP*	**Pn**	**12 37 07.0**	**+1.4**
SGCP	**Mt. Cagua**	**3.23**	**141**	*eP*	**Pn**	**12 37 04.8**	**-1.3**
SGCP				*e*S	**Sn**	**12 37 42.2**	**-1.9**
CVP	**Callao Caves**	**3.55**	**149**⇑	*eP*	**Pn**	**12 37 10.0**	**-0.4**
CVP				*i* S	**Sn**	**12 37 52.0**	**0.0**
NACB	**Ninganchiao**	**3.74**	**25**	*e*Pn	**Pn**	**12 37 11.2**	**-1.8**
NACB				*e*Sn	**Sn**	**12 37 50.1**	**-6.6**
YHNB	**Yeheng**	**4.12**	**19**	*e*Pn	**Pn**	**12 37 16.3**	**-1.9**
CAUP	**Cauayan**	**4.22**	**154**	*eP*	**Pn**	**12 37 22.0**	**+2.4**
CAUP				*e*S	**Sn**	**12 38 13.4**	**+4.9**
QZH	**Quanzhou**	**4.33**	**344**	P	**Pn**	**12 37 17.0**	**-4.1**
QZH				S	**Sn**	**12 38 03.0**	**-8.1**
QZH				Smax			
	comp=N,150nm,0.5s						
QZH				Smax			
	comp=E,130nm,0.7s						
BOLP	**Bolinao**	**4.36**	**180**	*eP*	**Pn**	**12 37 22.6**	**+1.0**
PALP	**Palanan**	**4.40**	**147**⇑	*e*P	**Pn**	**12 37 22.5**	**+0.4**
PALP				*e*S	**Sn**	**12 38 15.2**	**+2.4**
PALP	**Palanan**	**4.40**	**147**	*eP*	**Pn**	**12 37 22.8**	**+0.7**
PALP				*e*S	**Sn**	**12 38 14.1**	**+1.2**
TATO	**Taipei**	**4.44**	**19**	Pn	**Pn**	**12 37 25.1**	**+2.5**
TATO				*e*Sn	**Sn**	**12 38 14.8**	**+0.8**
BALP	**Baler**	**5.25**	**162**	*eP*	**Pn**	**12 37 35.8**	**+2.0**
GZH	**Guangzhou**	**6.50**	**292**	P	**Pn**	**12 37 48.0**	**-3.0**
GZH				S	**Sn**	**12 38 54.2**	**-11**
GZH				Smax			
	comp=N,53nm,0.9s						
GZH				Smax			
	comp=E,59nm,1.0s						
JHJ	**Hachijo jima 2**	**21.54**	**51**	LR	LR	12 47 39.6	
	comp=E,106nm,20.2s,MS3.2,baz=242,slow=32						
MJAR	**Matsushiro Arr**	**22.42**	**42**	P	**P**	**12 41 13.9**	**0.0**
	comp=E,6.2nm,0.9s,mb4.0,baz=234,slow=9.3,SNR=9.7						
MJAR				LR	LR	12 50 33.6	
	comp=E,92nm,19.8s,MS3.2,baz=155,slow=38						
GTA	**Gaotai**	**25.34**	**322**	*eP*	**P**	**12 41 45.9**	**+3.9**
GTA				AP	pP	12 41 51.0	+3.9
GTA				XP	sP	12 41 54.7	+5.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
PSI	**Prapat**	**27.14**	**232**	LR	LR	12 51 50.9	
	comp=Z,192nm,19.4s,MS3.7,baz=360,slow=34						
SONM	**Songino Array**	**29.12**	**341**	P	**P**	**12 42 15.7**	**-0.4**
	comp=Z,0.8nm,1.0s,mb3.4,baz=143,slow=5.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.04**	**171**	*eP*	**P**	**12 43 40.6**	**-1.3**
	comp=Z,3.7nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**40.05**	**319**	P	**P**	**12 43 49.8**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.6,baz=112,slow=9.6,SNR=10						
MKAR				PcP	PcP	12 45 54.9	-0.1
	comp=Z,0.2nm,0.3s,baz=94,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**42.86**	**160**	P	**P**	**12 44 12.4**	**-1.0**
	comp=Z,6.9nm,0.6s,mb4.6,baz=342,slow=9.0,SNR=75						
WRA				PcP	PcP	12 46 04.1	-0.2
	comp=Z,2.0nm,0.6s,baz=345,slow=3.5,SNR=11						
WB2	**Warramunga Arr**	**42.86**	**160**⇓	*i*P	**P**	**12 44 12.4**	**-1.0**
WB2				*e*S	**S**	**12 50 46.0**	**+8.8**
AS31	**Alice Springs**	**46.23**	**162**	*eP*	**P**	**12 44 39.8**	**-0.5**
AS31				*e*		12 44 49.6	
ASPA	**Alice Springs**	**46.23**	**162**	*eP*	**P**	**12 44 39.8**	**-0.5**
ASPA				*e*		12 44 49.6	
ASAR	**Alice Springs**	**46.23**	**162**	P	**P**	**12 44 39.4**	**-0.9**
	comp=Z,3.2nm,0.6s,mb4.4,baz=343,slow=6.1,SNR=7.0						
ASAR				PcP	PcP	12 46 15.6	-0.2
	comp=Z,0.9nm,0.6s,baz=341,slow=2.7,SNR=6.5						
CTA	**Charters Tower**	**48.10**	**146**	*eP*	**P**	**12 44 56.2**	**+1.3**
	comp=Z,11nm,0.7s,mb5.0						
CTAO	**Charters Tower**	**48.10**	**146**	*eP*	**P**	**12 44 56.0**	**+1.1**
	comp=Z,12nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**49.72**	**324**	*eP*	**P**	**12 45 09.5**	**+2.2**
	comp=Z,30nm,1.0s,mb5.3						
FORT	**Forrest**	**51.85**	**171**	*eP*	**P**	**12 45 21.9**	**-1.4**
	comp=Z,13nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**52.10**	**182**	*eP*	**P**	**12 45 24.1**	**-1.1**
	comp=Z,25nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**56.32**	**158**	*eP*	**P**	**12 45 55.8**	**-0.2**
	comp=Z,7.5nm,1.9s,mb4.4						
STKA	**Stephens Creek**	**56.32**	**158**	P	**P**	**12 45 55.4**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.4,baz=333,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**56.32**	**158**	*eP*	**P**	**12 45 55.8**	**-0.2**
AKTK	**Aktyubinsk**	**56.42**	**317**	P	**P**	**12 45 57.7**	**+1.0**
AKTO	**Aktyubinsk**	**56.42**	**317**	P	**P**	**12 45 57.7**	**+1.0**
	comp=Z,1.4nm,0.9s,mb4.0,baz=90,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**72.25**	**338**	P	**P**	**12 47 42.2**	**+1.8**
	comp=Z,5.0nm,1.0s,mb4.4,baz=69,slow=8.2,SNR=3.7						
FINES	**FINESS Array B**	**73.79**	**330**	P	**P**	**12 47 50.7**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=58,slow=13,SNR=3.4						
GERES	**GERESS Array B**	**84.71**	**320**	P	**P**	**12 48 48.2**	**-0.9**
	comp=Z,0.3nm,0.3s,mb4.0,baz=66,slow=7.8,SNR=4.1						

NEIC ***12*** *12:39:09.9,3065S×7180W,h40km,MG3.9(GUC),After GUC.*

GUC 12 12:39:09.9±0.9,3065S×7180W,h40km±4km,ML3.9, 10C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.52**	**86**⇑	*i*P	Pn	12 39 21.1	+0.2
OVCH				*i* S	Sn	12 39 29.2	+0.5
OVCH				AML	AML	12 39 31.3	
	comp=N,5μm,0.4s						
OVCH	**Ovalle**	**0.52**	**86**⇑	*i*P	Pn	12 39 21.1	+0.2
OVCH				*i* S	Sn	12 39 29.2	+0.5
CMCH	**Combarbala**	**0.86**	**127**⇑	*i*P	Pn	12 39 26.1	+0.5
CMCH				*i* S	Sn	12 39 38.1	+1.2
CMCH				AML	AML	12 39 38.5	
	comp=N,14μm,0.3s						
CMCH	**Combarbala**	**0.86**	**127**⇑	*i*P	Pn	12 39 26.1	+0.5
CMCH				*i* S	Sn	12 39 38.1	+1.2
LSCH	**La Serena**	**0.88**	**33**⇑	*i*P	Pn	12 39 26.6	+0.8
LSCH				*i* S	Sn	12 39 38.6	+1.2
TLL	**Tololo Astrono**	**0.99**	**61**⇓	*i*P	Pn	12 39 28.8	+1.5
TLL				*i* S	Sn	12 39 42.4	+2.4
TLL				AML	AML	12 39 45.4	
	comp=N,3μm,0.6s						
TLL	**Tololo Astrono**	**0.99**	**61**⇓	*i*P	Pn	12 39 28.8	+1.5
TLL				*i* S	Sn	12 39 42.4	+2.4
CHNG	**Los Chungos**	**1.26**	**168**⇓	*i*P	Pn	12 39 30.6	-0.3
CHNG				*i* S	Sn	12 39 45.6	-1.1
PTCH	**Petorca**	**1.77**	**155**⇓	*i*P	Pn	12 39 39.2	+1.1
PTCH				*i* S	Sn	12 40 01.1	+1.8
PTCH				AML	AML	12 40 07.5	
	comp=E,3μm,0.4s						
PTCH	**Petorca**	**1.77**	**155**⇓	*i*P	Pn	12 39 39.2	+1.1
PTCH				*i* S	Sn	12 40 01.1	+1.8
LCO	**Las Campanas**	**1.89**	**31**	*eP*	Pn	12 39 40.8	+1.1
LCO				AML	AML	12 40 14.2	
	comp=N,556nm,0.4s						
JACH	**Jahuel**	**2.27**	**153**⇑	*i*P	Pn	12 39 46.4	+1.5
JACH				*i* S	Sn	12 40 14.1	+2.4
PEL	**Peldehue**	**2.66**	**159**⇓	*i*P	Pn	12 39 51.2	+1.0
PEL				*i* S	Sn	12 40 23.3	+2.1
PEL				AML	AML	12 40 35.6	
	comp=N,832nm,0.6s						
PEL	**Peldehue**	**2.66**	**159**⇓	*i*P	Pn	12 39 51.2	+1.0
PEL				*i* S	Sn	12 40 23.3	+2.1
CLCH	**Cerro Calan**	**2.94**	**159**⇑	*i*P	Pn	12 39 55.6	+1.5
CLCH				*i* S	Sn	12 40 29.8	+1.7
CLCH				AML	AML	12 40 46.6	
	comp=E,525nm,0.5s						
CLCH				AML	AML	12 40 47.5	
	comp=E,616nm,0.5s						
RCDM	**Rinconada Maip**	**2.95**	**164**⇑	*i*P	Pn	12 39 55.3	+1.0
RCDM				*i* S	Sn	12 40 30.2	+1.7
RCDM				AML	AML	12 40 33.8	
	comp=N,342nm,0.1s						
RCDM	**Rinconada Maip**	**2.95**	**164**⇑	*i*P	Pn	12 39 55.3	+1.0
RCDM				*i* S	Sn	12 40 30.2	+1.7
FCH	**Farellones**	**2.96**	**155**⇓	*i*P	Pn	12 39 56.3	+1.9
FCH				*i* S	Sn	12 40 31.3	+2.6
FCH				AML	AML	12 40 44.1	
	comp=E,242nm,0.4s						
TACH	**Talagante**	**3.08**	**166**⇓	*i*P	Pn	12 39 56.9	+0.8
PCH	**Pirque**	**3.16**	**160**⇓	*i*P	Pn	12 39 58.6	+1.6
PCH				*i* S	Sn	12 40 35.0	+1.6
CHCH	**Chadas Angostu**	**3.42**	**164**	*eP*	Pn	12 40 01.9	+1.2
CHCH				*i* S	Sn	12 40 41.1	+1.3
LMEL	**Las Melosas**	**3.46**	**157**	*eP*	Pn	12 40 03.1	+1.8
LMEL				*i* S	Sn	12 40 43.5	+2.5
LMEL				AML	AML	12 40 47.2	
	comp=N,351nm,1.0s						
LMEL	**Las Melosas**	**3.46**	**157**	*eP*	Pn	12 40 03.1	+1.8
LMEL				*i* S	Sn	12 40 43.5	+2.5
CACH	**El Canelo**	**3.60**	**164**⇑	*i*P	Pn	12 40 05.0	+1.8
CICH	**Cipreses**	**3.84**	**163**	*eP*	Pn	12 40 08.1	+1.6
SFDO	**San Fernando**	**4.01**	**171**⇓	*i*P	Pn	12 40 09.4	+0.7

ISCJB ***12*** *13:18:25.5±2.6,360N±0.1×453E±0.1,h10km,Error ellipse: s-maj=22.6km s-min=14.9km az=130.0*
ISK ***12*** *13:18:28.4,36.10N×4494E,h8km,ML3.6*

ISC 12 13:18:26.5±2.8,360N±02×452E±02,h10km,n10,σ1§02/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEMD	**Semdilli**	**1.47**	**338**	PN	**Pn**	**13 18 53.3**	**+0.2**
SEMD				SN	**Sn**	**13 19 11.6**	**-0.8**
MSL	**Mosul**	**1.75**	**281**	*ex*	x	13 18 56.0	
MSL				*ex*	x	13 19 15.0	
CUKT	**Cukurca**	**1.81**	**315**	PN	**Pn**	**13 18 57.1**	**-0.6**
HKR	**Hakkari**	**1.99**	**324**	PN	**Pn**	**13 19 00.1**	**-0.1**
SIRT	**Sirnak**	**2.70**	**305**	*e*PN	**Pn**	**13 19 10.1**	**+0.1**
BHD	**Baghdad**	**2.79**	**195**	*ex*	x	13 19 12.0	
BHD				*ex*	x	13 19 47.0	
TVAN	**Van**	**2.92**	**331**	*i* P	**Pn**	**13 19 14.4**	**+1.3**
VANB	**Van**	**2.99**	**331**	*e*PN	**Pn**	**13 19 14.8**	**+0.9**
BEST	**Besiri**	**3.69**	**302**	*i* P	**Pb**	**13 19 30.3**	**-1.5**
BEST				*i* S	**Sn**	**13 20 11.2**	**+4.0**
MARD	**Mardin**	**3.81**	**292**	*i* P	**Pb**	**13 19 32.7**	**-1.2**
MARD				*i* S	**Sn**	**13 20 11.4**	**+1.3**

BJI ***12*** *13:30:55.3,3423N×2571E,h22km,mB5.1,mb4.8,Ms5.0, Msz4.6*
MOS ***12*** *13:30:57.9±1.4,3436N×2651E,h10km,mb4.9/68, MS4.0/32,Error ellipse: s-maj=4.7km s-min=2.3km az=112.7*
ISCJB ***12*** *13:30:58.6±0.5,3431N±002×2658E±002,h17km±3km, mb4.7/114,MS4.2/26,Error ellipse: s-maj=2.8km s-min=1.7km az=65.9*
HLW ***12*** *13:30:59.9,3436N×2666E,h176km,Mb4.5*
CRAAG ***12*** *13:31:00.6,3423N×2659E,Mb4.6*
CSEM ***12*** *13:31:00.8±0.0,3426N×2661E,h41km,mb4.7/72,Ms3.9, Mw3.8,Error ellipse: s-maj=1.4km s-min=0.7km az=37.0*
ATH ***12*** *13:31:02.7,3454N×2646E,h21km±1km,MD4.3/24,ML4.5*
NEIC ***12*** *13:31:02.8,3454N×2647E,h22km,mb4.7/103, ML4.1(ATH),After ATH.*
IDC ***12*** *13:31:03.4±3.2,3456N×2647E,h30km±23km,mb4.5/21, mb1 4.5/29,mb1mx4.5/33,mbtmp4.5/29,ML4.4/7,MS4.2/18, Ms1 4.2/18,ms1mx3.9/34,Error ellipse: s-maj=13.1km s-min=11.5km az=158.0*
NIC ***12*** *13:31:03.1±0.3,3437N×2661E,h25km,mb4.7,ML4.2, MW3.9,Earthquake Crete Greece 113 km S Palaikastron.*
PDG ***12*** *13:31:03.8±0.2,3388N×2407E,h3km±1km*
GII ***12*** *13:31:05.6±0.5,3415N×2722E,h1km±29km,mb4.5/7, ML4.4/7,Mw4.2/11*
SZGRF ***12*** *13:31:05.0,3449N×2636E,h33km,mb4.3,MS3.7,Crete, Greece*
NAO ***12*** *13:31:11.2,3508N×2447E,h33km,mb4.1*

ISC 12 13:31:02.6±0.5,3434N±002×2658E±001,h32km±4km, h40km±2.7km:pP-P,n707,σ1§34/749,mb4.7/114,MS4.2/26, 25C-25D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.91**	**307**	*e*PB	**Pb**	**13 31 16.0**	**-3.8**
NPS	**Neapolis**	**1.22**	**320**	*e*PN	**Pn**	**13 31 21.9**	**-1.4**
NPS				*e*SN	**Sn**	**13 31 35.1**	**-3.6**
NPS	**Neapolis**	**1.22**	**320**	*e*Pn	**Pn**	**13 31 22.2**	**-1.1**
NPS				*e*S	**Sn**	**13 31 35.1**	**-3.6**
KARP	**Karpathos**	**1.30**	**21**	*e*PN	**Pn**	**13 31 24.9**	**+0.5**
KARP				*e*SN	**Sn**	**13 31 41.0**	**+0.4**
IDI	**Anoyia**	**1.68**	**305**	P	**Pn**	**13 31 30.7**	**+1.0**
GVD	**Gavdhos**	**2.12**	**284**	*e*PN	**Pn**	**13 31 37.1**	**+1.4**
SANT	**Santorini**	**2.23**	**336**	*e*Pn	**Pn**	**13 31 37.6**	**+0.5**
SANT	**Santorini**	**2.23**	**336**	*e*Pn	**Pn**	**13 31 37.6**	**+0.4**
VAM	**Vamos**	**2.23**	**299**	*e*PN	**Pn**	**13 31 38.6**	**+1.4**
VAM	**Vamos**	**2.23**	**299**	*e*P	**Pn**	**13 31 39.1**	**+1.9**
ARG	**Arkhangelos**	**2.26**	**

EVR Evrytania 5.97 321 *e*Pn **Pn 13 32 30.9 +2.3**
AYT Al 'Ayyat 6.03 139 P **Pn 13 32 28.9 -0.6**
KDHN Kadinhani 6.11 45 *i* P **Pn 13 32 23.8 -6.8**
ULDT Uludag 6.14 19 *i* P **Pn 13 32 29.0 -2.0**
VLS Valsamata 6.17 310 *e*PN **Pn 13 32 33.4 +2.0**
VLS Valsamata 6.17 310 *e*Pn **Pn 13 32 33.1 +1.7**
PHNC Paralimni 6.18 82 P **Pn 13 32 31.7 +0.2**
9.9nm,0.6s
PHNC S **Sn 13 33 43.3 +2.3**
ESKT Eskisehir 6.20 32 *e*P **Pn 13 32 24.1 -7.7**
ESKT Eskisehir 6.20 32 *i* P **Pn 13 32 21.9 -10**
KOT Kottamia 6.26 133 P **Pn 13 32 31.8 -0.8**
AWBH 6.32 161 P **Pn 13 32 33.3 -0.1**
HSAF As Saff 6.32 137 P **Pn 13 32 33.3 -0.2**
THL Klokotos Trika 6.37 326 *e*PN **Pn 13 32 35.7 +1.6**
THL Klokotos Trika 6.37 326 *e*Pn **Pn 13 32 35.3 +1.2**
ENEZ Enez 6.40 357 *e*P **Pn 13 32 25.7 -8.8**
HHAG Hagoal 6.40 132 P **Pn 13 32 33.8 -0.8**
GEMT Gemlik 6.43 18 *i* P **Pn 13 32 28.9 -6.1**
GLL Jalalah 6.44 136 P **Pn 13 32 34.3 -0.8**
LKD Levkas 6.46 314 P **Pn 13 32 39.3 +3.9**
PLG Polygyros 6.52 338 *e*PN **Pn 13 32 37.3 +1.1**
MEST Erdemli 6.57 68 *i* P **Pn 13 32 38.3 +1.4**
ADVT Abdulvahap 6.58 22 *e*P **Pn 13 32 39.8 +2.7**
YLV Yalova 6.60 19 *e*P **Pn 13 32 36.5 -0.8**
LIT Litokhoron 6.61 332 P **Pn 13 32 39.1 +1.6**
AMAG Maghara 6.70 122 P **Pn 13 32 37.7 -1.0**
HORT Hortiatis 6.83 337 P **Pn 13 32 42.5 +2.0**
RDO Rodhopi 6.85 353 P **Pn 13 32 40.7 0.0**
THE Thessaloniki 6.91 336 P **Pn 13 32 44.1 +2.6**
MERS Mersin 6.95 66 *e*P **Pn 13 32 39.5 -2.6**
SUZ 6.95 128 P **Pn 13 32 41.6 -0.4**
SOH Sokhos 6.96 339 P **Pn 13 32 44.3 +2.1**
ISK Istanbul-Kandi 7.00 16 *e*P **Pn 13 32 51.1 +8.4**
SRS Serrai 7.17 342 P **Pn 13 32 47.0 +1.9**
KLYT Kilyos 7.17 15 *e*P **Pn 13 32 53.3 +8.2**
OFRI 'Ofer 7.23 101 Pn **Pn 13 32 46.0 +0.1**
OFRI 'Ofer 7.23 101 P **Pn 13 32 47.5 +1.6**
ZNM 7.29 131 P **Pn 13 32 46.2 -0.6**
HFRF Wahat Farafira 7.32 168 P **Pn 13 32 47.0 -0.2**
KDZ Kurdzhali 7.36 353 *e*P **Pn 13 32 46.3 -1.4**
SLTI Sal'it 7.39 104 Pn **Pn 13 32 47.6 -0.5**
SLTI Sn **Sn 13 34 07.3 -3.4**
SLTI Sal'it 7.39 104 P **Pn 13 32 48.0 -0.1**
GRG Griva 7.39 335 P **Pn 13 32 49.6 +1.5**
KNT Kendrikon 7.41 338 P **Pn 13 32 50.6 +2.2**
ANTO Ankara 7.42 40 *e*P **Pn 13 32 57.6 +9.1**
KZIT Kziot 7.43 115 Pn **Pn 13 32 48.7 0.0**
KZIT Sn **Sn 13 34 09.5 -2.3**
MMA0 Mount Meron ar 7.47 98 Pn **Pn 13 32 49.8 +0.5**
MMA0 Sn **Sn 13 34 11.1 -1.8**
MMA0B Mount Meron ar 7.47 98 Pn **Pn 13 32 50.0 +0.8**
BHL Bhannes 7.54 91 *e*Pn **Pn 13 32 50.4 +0.3**
AMAZ Amatzia 7.54 109 Pn **Pn 13 32 49.9 -0.4**
AMAZ Sn **Sn 13 34 11.6 -3.0**
AMAZ Amatzia 7.54 109 Pn **Pn 13 32 49.8 -0.4**
AMAZ Sn **Sn 13 34 11.6 -3.0**
RTMI Retamim 7.58 113 Pn **Pn 13 32 50.8 0.0**
MMB Musomiste 7.58 344 P **Pn 13 32 52.0 +1.2**
MMB Musomiste 7.58 344 P **Pn 13 32 54.2 +3.4**
SVTA Shivta 7.58 114 Pn **Pn 13 32 50.7 -0.1**
SVTA Shivta 7.58 114 P **Pn 13 32 51.6 +0.8**
SGKT Sivrigoynuk 7.60 33 *i* P **Pn 13 32 47.8 -3.1**
KAMT Kaman 7.61 47 *e*P **Pn 13 32 50.0 -1.1**
MMLI Mount Malkishu 7.63 102 Pn **Pn 13 32 51.3 -0.1**
MMLI Mount Malkishu 7.63 102 P **Pn 13 32 51.4 -0.1**
FNA Florina 7.65 329 P **Pn 13 32 55.5 +3.9**
KSDI Kefar Szold 7.65 96 Pn **Pn 13 32 51.7 0.0**
KSDI Sn **Sn 13 34 14.3 -2.8**
KSDI Kefar Szold 7.65 96 P **Pn 13 32 52.1 +0.4**
VAY Valandovo 7.66 337 *e*Pn **Pn 13 32 52.6 +0.8**
VAY Valandovo 7.66 337 *e*Pn **Pn 13 32 52.5 +0.7**
HNKL Nakhl 7.66 123 P **Pn 13 32 50.5 -1.3**
RCY Rachaya 7.73 94 *e*Pn **Pn 13 32 52.5 -0.2**
HWQ Hawqa 7.75 88 *e*Pn **Pn 13 32 53.0 -0.1**
YTIR Yattir 7.77 110 Pn **Pn 13 32 53.5 +0.2**
HMDT Nahal Hemdat 7.77 103 Pn **Pn 13 32 53.4 0.0**
BR131 Keskin Array S 7.79 44 *e*Pn **Pn 13 32 54.9 +1.2**
11nm,0.7s
BRTR Keskin Array B 7.79 44 Pn **Pn 13 32 55.1 +1.5**
0.6nm,0.3s,baz=220,slow=12,SNR=25
BRTR Sn **Sn 13 34 20.0 -0.8**
0.4nm,0.3s,baz=206,slow=26,SNR=4.4
BRTR Keskin Array B 7.79 44 P **Pn 13 32 55.2 +1.5**
BRTR 13 34 20.0
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BIA Bitola 7.86 330 *e*Pn **Pn 13 32 56.9 +2.3**
DRGI Dragot 7.89 108 Pn **Pn 13 32 54.5 -0.5**
DRGI Dragot 7.89 108 P **Pn 13 32 54.8 -0.2**
DSI Dead Sea 7.89 108 Pn **Pn 13 32 54.8 -0.2**
PLD Plovdiv 7.89 350 P **Pn 13 32 57.7 +2.6**
MZDA Masada 7.98 110 Pn **Pn 13 32 56.5 +0.3**
MZDA Sn **Sn 13 34 17.7 -2.7**
MZDA Masada 7.98 110 P **Pn 13 32 55.8 -0.5**
MZDA Masada 7.98 110 Pn **Pn 13 32 56.6 +0.3**
KKB Krupnik 8.01 341 P **Pn 13 33 07.4 +11**
GRB Gharib 8.05 137 P **Pn 13 32 56.3 -0.8**
KMTI Karmit 8.09 119 Pn **Pn 13 32 58.2 +0.5**
STIP Stip 8.12 336 *e*Pn **Pn 13 32 59.9 +1.8**
ASUT 8.13 147 P **Pn 13 32 58.3 -0.1**
PRNI Paran 8.16 117 Pn **Pn 13 32 58.8 +0.1**
PRNI Sn **Sn 13 34 27.7 -2.0**
PRNI Paran 8.16 117 P **Pn 13 32 58.7 0.0**
OHR Ohrid 8.16 328 *e*Pn **Pn 13 33 01.1 +2.3**
OHR *e*Sg **Sn 13 34 20.3 -10**
OHR Ohrid 8.16 328 *e*Pn **Pn 13 33 01.0 +2.2**
OHR *e*Sg **Sn 13 34 20.2 -10**
CDAG Cicekdag 8.17 47 *i* P **Pn 13 32 55.4 -3.4**
KRUS Krusevo 8.19 331 *e*Pn **Pn 13 33 01.0 +2.0**
COBT Iskenderun 8.19 72 *i* P **Pn 13 32 57.8 -1.4**
HRFI Mount Harif 8.35 119 Pn **Pn 13 33 01.4 +0.1**
HRFI Sn **Sn 13 34 32.2 -2.3**
MBH Mount Berech 8.40 120 Pn **Pn 13 33 03.1 +1.1**
EIL Elat 8.49 121 Pn **Pn 13 33 03.6 +0.3**
EIL Sn **Sn 13 34 35.4 -2.6**
EIL Elat 8.49 121 *e*Pn **Pn 13 33 03.1 -0.2**
comp=Z,592nm,0.6s
EIL *e*Sn **Sn 13 34 27.8 -10**
EIL Elat 8.49 121 *e*Pn **Pn 13 33 03.1 -0.2**
comp=Z,592nm,0.6s
TR2 8.51 132 P **Pn 13 33 02.3 -1.2**
AQBJ Aqaba 8.53 120 Pn **Pn 13 33 04.1 +0.3**
HBST Basata 8.61 124 P **Pn 13 33 03.4 -1.6**
SKO Skopje 8.63 334 *e*Pn **Pn 13 33 06.5 +1.4**
SKO Skopje 8.63 334 *e*Pn **Pn 13 33 06.4 +1.3**
VTS Vitosha 8.65 343 ⇓*i*P **Pn 13 33 08.0 +2.5**
VTS Vitosha 8.65 343 ⇓P **Pn 13 33 08.0 +2.6**
CORM Corum 8.67 45 *e*P **Pn 13 33 01.1 -4.5**
HDHB Dhahab 8.85 127 P **Pn 13 33 07.1 -1.0**
ASF Jabal al Asfar 8.91 101 Pn **Pn 13 33 09.0 +0.1**
comp=Z,1.7nm,0.3s,baz=161,slow=6.7,SNR=11
ASF Sn **Sn 13 34 44.4 -3.7**
comp=Z,1.1nm,0.3s,baz=34,slow=22,SNR=6.7
ASF Jabal al Asfar 8.91 101 P **Pn 13 33 09.0 +0.1**
ASF 13 34 44.4
ASF pmax pmax
comp=Z,2.0nm,0.3s
ASF smax
comp=N,1.0nm,0.3s
TIP Timpagrande 9.24 304 *e*Pn **Pn 13 33 12.5 -1.0**
TIP *e*Sn **Sn 13 34 49.5 -6.8**
TIP Timpagrande 9.24 304 *e*Pn **Pn 13 33 12.5 -1.0**
HHRG Al Ghardaqah 9.30 138 P **Pn 13 33 13.3 -1.0**
GZT Gaziantep 9.41 68 *i* P **Pn 13 33 21.9 +6.0**
ULC Ulcinj 9.55 325 ⇑*i*Pn **Pn 13 33 16.0 -1.7**
ULC *e*Sn **Sn 13 34 54.8 -9.1**
PVY Plav 9.73 330 ⇓*i*Pn **Pn 13 33 20.9 +0.6**
PVY *e*Sn **Sn 13 35 03.7 -4.7**
TTG Podgorica 9.91 327 ⇓*i*Pn **Pn 13 33 21.4 -1.3**
TTG *e*Sn **Sn 13 35 05.1 -7.6**
BUM Brajici-Budva 9.98 325 ⇓*i*Pn **Pn 13 33 21.6 -2.0**
BUM *e*Sn **Sn 13 35 05.4 -8.9**
IVA Berane 9.99 330 ⇑*i*Pn **Pn 13 33 25.3 +1.4**
IVA *e*Sn **Sn 13 35 10.1 -4.7**
HSFG 10.01 139 P **Pn 13 33 22.9 -1.1**
HVZN Vizzini 10.05 290 Pn **Pn 13 33 24.7 +0.1**
CUC Castrocucco 10.28 306 Pn **Pn 13 33 28.8 +1.1**
HCY Herceg Novi 10.28 324 ⇓*i*Pn **Pn 13 33 25.8 -2.0**
HCY *e*Sn **Sn 13 35 11.3 -11**

NKY Niksic 10.33 327 ⇑*i*Pn **Pn 13 33 27.9 -0.5**
NKY *e*Sn **Sn 13 35 14.7 -8.4**
RAFF Raffo Rosso 10.33 290 Pn **Pn 13 33 31.8 +3.3**
MALT Malatya 10.35 64 ⇑*i*P **Pn 13 33 30.1 +1.4**
MALT Malatya 10.35 64 *e*Pn **Pn 13 33 29.4 +0.8**
comp=N,7.4nm,0.6s
MALT Malatya 10.35 64 P **Pn 13 33 30.2 +1.5**
VAE Valguarnera 10.35 291 Pn **Pn 13 33 29.1 +0.3**
comp=N,6.6nm,0.3s,baz=289,slow=5.5,SNR=9.1
VAE Sn **Sn 13 35 14.7 -9.0**
comp=N,6.7nm,0.3s,baz=6.6,slow=1.9,SNR=2.0
PLE Pljevlja 10.58 330 ⇓*i*Pn **Pn 13 33 32.2 +0.4**
PLE *e*Sn **Sn 13 35 23.4 -5.8**
BRY Bratogost 10.61 326 ⇓*i*Pn **Pn 13 33 30.5 -1.7**
BRY *e*Sn **Sn 13 35 21.0 -8.8**
UPM Unac-Piva 10.68 328 *e*Pn **Pn 13 33 32.9 -0.4**
UPM *e*Sn **Sn 13 35 24.2 -7.4**
UPM Unac-Piva 10.68 328 *e*Pn **Pn 13 33 32.8 -0.4**
UPM *e*Sn **Sn 13 35 24.2 -7.5**
GIB Gibilmanna 10.78 293 P **Pn 13 33 36.2 +1.6**
STON Ston 10.99 323 *i* Pn **Pn 13 33 34.1 -3.3**
STON *i* Sn **Sn 13 35 26.9 -12**
DIVS Divcibare 11.00 334 *i* Pn **Pn 13 33 36.9 -0.7**
FGMS Monte Sant'Ang 11.15 314 Pn **Pn 13 33 35.8 -3.8**
comp=N,34nm,1.2s
VOIR 11.15 354 ⇓*i*P **Pn 13 33 39.2 -0.4**
VOIR 11.15 354 ⇓P **Pn 13 33 39.2 -0.5**
MLR Muntele Rosu 11.15 358 Pn **Pn 13 33 38.9 -0.8**
comp=N,0.3nm,0.3s,baz=201,slow=18,SNR=3.4
MLR LR LR 13 38 44.2
comp=N,2μm,19.3s,baz=183,slow=42
MLR Muntele Rosu 11.15 358 ⇑*i*P 13 33 49.5
MLR Muntele Rosu 11.15 358 ⇑P 13 33 49.5
GZR Gura Zlata 11.42 346 ⇑*i*P **Pn 13 33 44.5 +1.1**
GZR Gura Zlata 11.42 346 ⇑P **Pn 13 33 44.5 +1.1**
VRI Vrincioaia 11.52 1 ⇓*i*P 13 33 54.3
ASHG Umm Shaghir 11.89 157 P **Pn 13 33 49.0 -0.8**
ASHG Umm Shaghir 11.89 157 P **Pn 13 33 49.0 -0.8**
SIM Simferopol' 12.08 26 P **Pn 13 33 51.0 -1.3**
SIM S **Sn 13 36 10.0 +4.1**
SIM pmax pmax
comp=Z,6.0nm,0.4s
SIM MLR MLR
comp=Z,1μm,18.5s
HMSM Jabal Masmas 12.33 156 P **Pn 13 33 55.5 -0.3**
HKFR Khafra 12.42 159 P **Pn 13 33 56.7 -0.3**
KIS Kishinev 12.76 7 *e*P **Pn 13 34 03.0 +1.3**
KIS *e*S **Sn 13 36 18.0 -4.5**
KIS MLR MLR
comp=Z,1μm,12.0s
KIS MLR MLR
comp=Z,900nm,12.0s
KIS Kishinev 12.76 7 *e*P **Pn 13 34 03.0 +1.3**
KIS *e*S **Sn 13 36 18.0 -4.5**
KIS *e*LQ 13 37 34.0
KIS *e*LR LR 13 38 28.0
comp=Z,900nm,12.0s
KIS Kishinev 12.76 7 *i* PcP PcP 13 39 20.0 -17
AQU L'Aquila 13.07 312 *e*P **Pn 13 34 07.1 +1.2**
AQU pmax pmax
comp=Z,32nm,0.9s
AQU L'Aquila 13.07 312 *e*Pn **Pn 13 34 07.1 +1.2**
comp=Z,32nm,0.9s
AQU L'Aquila 13.07 312 *e*P **Pn 13 34 07.1 +1.2**
comp=Z,32nm,0.9s
BURAR Bucovina Array 13.30 356 ⇑*i*P 13 34 21.4
PKSM Moragy 13.31 335 ⇑*i*P **Pn 13 34 08.8 -0.4**
PKSM Moragy 13.31 335 ⇑P **Pn 13 34 08.8 -0.3**
ANN Anapa 13.38 35 *e*P **Pn 13 34 06.9 -3.2**
ANN *e*S **Sn 13 36 34.8 -2.8**
ANN pmax pmax
comp=Z,80nm,1.2s
ANN MLR MLR
comp=E,554nm,20.0s
ANN MLR MLR
comp=Z,576nm,20.0s
KEST Kesra 14.19 281 Pn **Pn 13 34 21.6 +0.4**
comp=Z,0.1nm,0.3s,baz=45,slow=5.2,SNR=6.1
PSZ Piszkesteto 14.46 342 ⇑*e*P **Pn 13 34 26.2 +1.3**
PSZ Piszkesteto 14.46 342 ⇓*i*P **Pn 13 34 24.4 -0.5**
PSZ Piszkesteto 14.46 342 *e*P **Pn 13 34 23.8 -1.1**
PSZ pmax pmax
comp=Z,12nm,0.8s
PSZ Piszkesteto 14.46 342 *e*Pn **Pn 13 34 23.8 -1.1**
comp=Z,12nm,0.8s
PSZ Piszkesteto 14.46 342 *e*P **Pn 13 34 23.8 -1.1**
comp=Z,12nm,0.8s
UZH Uzhgorod 14.63 349 *e*P **Pn 13 34 29.0 +1.8**
UZH *e*S **Sn 13 37 13.0 +4.7**
UZH pmax pmax
comp=Z,34nm,1.0s
UZH MLR MLR
comp=Z,1μm,13.6s
UZH Uzhgorod 14.63 349 *e*P **Pn 13 34 29.0 +1.8**
comp=Z,1μm,13.6s
VSL Villasalto 14.69 296 *e*P **Pn 13 34 31.0 +3.0**
comp=Z,12nm,0.9s
KECS Kecovo 14.85 344 *e*P **Pn 13 34 39.8 +10**
KOLS Kolonicke sedl 14.93 349 *e*P **Pn 13 34 33.3 +2.1**
CRVS Cervenica-Dubn 15.04 347 *e*P **Pn 13 34 38.4 +5.7**
VOY Vojsko 15.16 324 *e*(Pn) **Pn 13 34 32.7 -1.5**
VOY *e* 13 34 39.2
VOY *e* 13 34 55.2
OBKA Obir 15.20 327 ⇓*i*Pn **Pn 13 34 42.0 +7.2**
comp=Z,19nm,1.3s
OBKA Obir 15.20 327 ⇓*i*Pn **Pn 13 34 34.8 0.0**
comp=Z,19nm,1.3s
VYHS Vyhne 15.28 340 *e*P **Pn 13 34 34.2 -1.6**
VYHS *e* 13 38 23.5
ARSA Arzberg 15.36 330 ⇑*i*Pn **Pn 13 34 34.9 -2.0**
comp=Z,18nm,1.1s,SNR=6.2
ARSA Arzberg 15.36 330 ⇑*i*Pn **Pn 13 34 34.8 -2.0**
comp=Z,18nm,1.1s
GNI Garni 15.58 63 Pn **Pn 13 34 40.8 +1.1**
comp=Z,0.8nm,0.3s,baz=146,slow=23,SNR=3.2
GNI LR LR 13 42 18.2
comp=Z,974nm,19.0s,baz=265,slow=43
GNI Garni 15.58 63 ⇑*e*P **Pn 13 34 42.2 +2.5**
GNI pmax pmax
comp=Z,18nm,1.1s
GNI MLR MLR
comp=Z,900nm,19.0s
STHS Stebnicka Huta 15.58 347 *i* P **Pn 13 34 43.3 +3.6**
KIV Kislovodsk 15.74 48 *e*P **Pn 13 34 43.0 +1.3**
KIV *e*S **Sn 13 37 39.4 +4.3**
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,517nm,13.0s
KIV Kislovodsk 15.74 48 *e*P **Pn 13 34 43.6 +1.9**
comp=Z,54nm,1.0s
KIV Kislovodsk 15.74 48 *e*P **Pn 13 34 43.0 +1.3**
comp=Z,64nm,1.1s
NIE Niedzica 15.77 345 *e*P **Pn 13 34 44.8 +2.7**
CONA Conrad Observa 15.77 333 ⇑*i*Pn **Pn 13 34 40.4 -1.8**
comp=Z,12nm,1.1s
ZEI Tsey 15.93 53 *e*P **Pn 13 34 46.9 +2.7**
PGF Pioggiola 16.01 306 *e*P **Pn 13 34 43.7 -1.5**
comp=Z,62nm,1.1s
PGF Pioggiola 16.01 306 *e*P **Pn 13 34 43.7 -1.5**
PGF pmax pmax
comp=Z,31nm,1.1s
PGF Pioggiola 16.01 306 *e*P **Pn 13 34 43.7 -1.5**
comp=Z,31nm,1.1s
KBA Koelnbreinsper 16.18 326 ⇑*i*Pn **Pn 13 34 51.1 +3.7**
comp=Z,38nm,1.4s,SNR=6.8
KBA Koelnbreinsper 16.18 326 ⇑*i*P **Pn 13 34 51.1 +3.7**
KBA pmax pmax
comp=Z,38nm,1.4s
MOA Molln 16.35 329 ⇓*i*Pn **Pn 13 34 52.8 +3.1**
comp=Z,9.3nm,0.9s
MOA Molln 16.35 329 ⇑*i*Pn **Pn 13 34 48.8 -0.8**
comp=Z,9.3nm,0.9s
AKASG Malin Array Be 16.47 6 Pn **Pn 13 34 49.7 -1.4**
comp=Z,4.9nm,0.3s,baz=194,slow=11,SNR=25
AKASG Sn **Sn 13 37 55.0 +2.2**
baz=192,slow=22,SNR=15
AKASG Malin Array Be 16.47 6 P **Pn 13 34 49.7 -1.4**
AKASG 13 37 55.0
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 16.47 6 Pn **Pn 13 34 49.7 -1.4**
AKASG Sn **Sn 13 37 55.0 +2.2**
AKASG Malin Array Be 16.47 6 P **Pn 13 34 49.7 -1.4**
comp=Z,5.0nm,0.3s

AKASG S **Sn 13 37 55.0 +2.2**
AKBB Malin Array Si 16.47 6 *e*P **Pn 13 34 49.4 -1.7**
AKBB *e*S **Sn 13 37 58.7 +5.9**
GOF Gofitskoye 16.55 45 ⇑*i*P **Pn 13 34 55.6 +3.5**
OJC Ojcow 16.63 345 *e*P **Pn 13 34 51.4 -1.8**
VRAC Vranov 16.68 337 Pn **Pn 13 34 51.6 -2.2**
comp=Z,1.0nm,0.3s,baz=182,slow=11,SNR=5.7
VRAC LR LR 13 42 06.1
comp=Z,324nm,18.5s,baz=349,slow=40
VRAC Vranov 16.68 337 ⇓*i*P **Pn 13 34 57.7 +3.9**
VRAC Vranov 16.68 337 P **Pn 13 34 51.6 -2.2**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,324nm,18.5s
OKC Ostrava-Krasne 16.69 341 *e*P **Pn 13 34 52.7 -1.2**
OKC AMS AMS 13 42 50.0
comp=Z,1μm,10.1s
MORC Moravsky Berou 16.80 339 ⇓*i*P **Pn 13 34 54.2 -1.1**
MORC Moravsky Berou 16.80 339 *e*P **Pn 13 34 53.7 -1.6**
MORC pmax pmax
comp=Z,27nm,1.1s
MORC Moravsky Berou 16.80 339 *e*P **Pn 13 34 53.7 -1.6**
comp=Z,27nm,1.1s
MORC Moravsky Berou 16.80 339 *e*P **Pn 13 34 53.7 -1.6**
comp=Z,27nm,1.1s
TREC Trest 17.05 335 *e*P **Pn 13 34 54.7 -3.7**
WTTA Wattenberg 17.13 323 ⇓*i*Pn **Pn 13 34 59.8 +0.4**
comp=Z,39nm,1.2s,SNR=5.9
WTTA Wattenberg 17.13 323 ⇓*i*P **Pn 13 34 59.8 +0.4**
WTTA pmax pmax
comp=Z,39nm,1.2s
GEC2 GERESS Array S 17.37 330 *e*P **Pn 13 35 00.4 -2.0**
comp=Z,16nm,0.9s
GEC2 GERESS Array S 17.37 330 *e*P **Pn 13 35 00.4 -2.0**
GEC2 pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 17.37 330 P **Pn 13 34 59.6 -2.7**
comp=Z,0.9nm,0.3s,baz=144,slow=12,SNR=22
GERES GERESS Array B 17.37 330 P **Pn 13 34 59.6 -2.8**
GERES pmax pmax
comp=Z,1.0nm,0.3s
SBF Sospel 17.61 308 *e*P **Pn 13 35 04.8 -0.6**
comp=Z,75nm,0.9s
SBF Sospel 17.61 308 *e*P **Pn 13 35 04.8 -0.6**
SBF pmax pmax
comp=Z,37nm,0.9s
SBF Sospel 17.61 308 *e*P **Pn 13 35 04.8 -0.6**
comp=Z,37nm,0.9s
KHC Kasperske Hory 17.64 331 *e*P **Pn 13 35 04.1 -1.7**
KHC *e*pP pP 13 35 07.0 -8.0
KHC AMS AMS 13 44 20.0
comp=Z,800nm,11.9s
KHC Kasperske Hory 17.64 331 *e*P **Pn 13 35 04.1 -1.7**
KHC *e* 13 35 07.0
DPC Dobruska-Polom 17.68 338 *e*P **Pn 13 35 04.7 -1.5**
DPC AMS AMS 13 42 40.0
comp=Z,600nm,13.6s
DAVOX Davos/Dischmat 17.72 320 P **Pn 13 35 06.5 -0.1**
baz=139,slow=12,SNR=5.3
DAVOX LR LR 13 42 54.3
comp=Z,587nm,19.5s,baz=272,slow=41
TOUF Mont Tournerai 17.80 309 *e*P **Pn 13 35 07.4 -0.3**
MVIF Mont Vial 17.81 308 *e*P **Pn 13 35 06.5 -1.3**
TUE Tuetta 17.82 318 P **Pn 13 35 07.8 -0.1**
UPC Upice 17.91 338 *e*P **Pn 13 35 07.1 -2.0**
WET Wettzell 17.94 330 *e*P **Pn 13 35 08.5 -0.9**
comp=Z,12nm,0.9s
WET Wettzell 17.94 330 *e*P **Pn 13 35 08.5 -0.9**
WET pmax pmax
comp=Z,12nm,0.9s
PRU Pruhonice 17.97 334 *e*P **Pn 13 35 07.6 -2.2**
PRU AMS AMS 13 43 20.0
comp=Z,800nm,13.4s
FRF La Foret Royal 18.00 307 *e*P **Pn 13 35 09.2 -0.9**
comp=Z,44nm,0.9s
FRF La Foret Royal 18.00 307 *e*P **Pn 13 35 09.2 -0.9**
FRF pmax pmax
comp=Z,22nm,0.9s
FRF La Foret Royal 18.00 307 *e*P **Pn 13 35 09.2 -0.9**
comp=Z,22nm,0.9s
LMR La Mourre 18.00 306 *e*P **Pn 13 35 09.1 -1.1**
comp=Z,34nm,0.9s
LMR La Mourre 18.00 306 *e*P **Pn 13 35 09.1 -1.1**
LMR pmax pmax
comp=Z,17nm,0.9s
LMR La Mourre 18.00 306 *e*P **Pn 13 35 09.1 -1.1**
comp=Z,17nm,0.9s
DAVA Damuels 18.04 321 ⇑*i*Pn **Pn 13 35 12.2 +1.6**
comp=Z,26nm,1.1s,SNR=5.8
MIB Mutribah 18.16 99 *e*P **Pn 13 35 12.0 -0.1**
MIB AMb AMB 13 35 15.4
comp=Z,36nm,0.7s
LLS Linth-Limmern 18.23 319 ⇓P **Pn 13 35 14.7 +1.7**
NAY Al-Naaiem 18.27 100 *e*P **Pn 13 35 13.5 -0.1**
NAY AMb AMB 13 35 16.9
comp=Z,35nm,0.8s
PVCC Panska Ves 18.41 335 *e*P **Pn 13 35 13.0 -2.2**
PVCC AMS AMS 13 43 20.0
comp=Z,800nm,11.0s
MBDF Montbardon 18.42 310 *e*P **Pn 13 35 15.6 +0.3**
comp=Z,74nm,0.8s
MBDF Montbardon 18.42 310 *e*P **Pn 13 35 15.6 +0.3**
MBDF pmax pmax
comp=Z,37nm,0.8s
MBDF Montbardon 18.42 310 *e*P **Pn 13 35 15.6 +0.3**
comp=Z,37nm,0.8s
MAK Makhachkala 18.44 56 *e*P **Pn 13 35 18.2 +2.7**
MAK *i* S **Sn 13 38 46.5 +6.0**
MAK pmax pmax
comp=Z,178nm,1.2s
MAK MLR MLR
comp=Z,770nm,24.0s
MUO Muotathal 18.51 318 ⇓P **Pn 13 35 17.2 +0.8**
UMR Umm Al-Rimmam 18.55 99 *e*P **Pn 13 35 16.7 -0.2**
UMR AMb AMB 13 35 20.2
comp=Z,52nm,0.7s
BNI Bardonecchia 18.63 311 *e*P **Pn 13 35 18.2 +0.3**
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 18.63 311 *e*P **Pn 13 35 18.2 +0.3**
comp=Z,14nm,0.8s
BNI Bardonecchia 18.63 311 *e*P **Pn 13 35 18.2 +0.3**
comp=Z,14nm,0.8s
ROTZ Rotzenmuhle 18.70 330 *e*P **Pn 13 35 16.3 -2.4**
comp=Z,6.0nm,0.9s
DIX Grande Dixence 18.70 315 ⇑P **Pn 13 35 18.1 -0.7**
OG25 Le Caire 18.71 308 *e*P **Pn 13 35 17.8 -1.0**
LKBD Leukerbad 18.74 316 ⇓P **Pn 13 35 18.9 -0.3**
ZUR Degenried 18.78 319 ⇓P **Pn 13 35 19.0 -0.7**
LPG La Plagne 18.80 312 *e*P **Pn 13 35 20.2 +0.2**
comp=Z,38nm,0.8s
LPG La Plagne 18.80 312 *e*P **Pn 13 35 20.2 +0.2**
LPG pmax pmax
comp=Z,19nm,0.8s
LPG La Plagne 18.80 312 *e*P **Pn 13 35 20.2 +0.2**
comp=Z,19nm,0.8s
LPL La Plagne 18.82 312 *e*P **Pn 13 35 20.4 +0.2**
comp=Z,23nm,0.7s
LPL La Plagne 18.82 312 *e*P **Pn 13 35 20.4 +0.2**
LPL pmax pmax
comp=Z,12nm,0.7s
LPL La Plagne 18.82 312 *e*P **Pn 13 35 20.4 +0.2**
comp=Z,12nm,0.7s
SMRF Simiane la Rot 18.88 307 *e*P **Pn 13 35 21.6 +0.8**
comp=Z,100nm,1.3s
SMRF Simiane la Rot 18.88 307 *e*P **Pn 13 35 21.6 +0.8**
comp=Z,50nm,1.3s
MANZ Manzenberg 18.91 330 *e*P **Pn 13 35 18.7 -2.5**
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 18.92 335 *e*P **Pn 13 35 19.4 -1.9**
comp=Z,14nm,0.8s
BRG Berggiesshubel 18.92 335 *e*P **Pn 13 35 18.9 -2.4**
comp=Z,14nm,1.2s
BRG
comp=N,263nm,14.6s
BRG
comp=E,332nm,10.4s
BRG
comp=Z,429nm,15.7s
BRG Berggiesshubel 18.92 335 *e*P **Pn 13 35 18.9 -2.4**
BRG pmax pmax
comp=Z,14nm,1.2s
BRG MLR MLR
comp=N,263nm,14.6s
BRG MLR MLR

comp=E,332nm,10.4s
BRG MLR MLR
comp=Z,429nm,15.7s
RSL Roselend 18.98 313 *e*P **Pn 13 35 21.5 -0.5**
EMV Vieux Emosson 19.00 314 ||P **Pn 13 35 21.9 -0.4**
VORD Divnogorie 19.02 25 *e*P **Pn 13 35 21.6 -1.0**
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,70nm,1.3s
VORD pmax pmax
comp=E,70nm,1.7s
VORD Divnogorie 19.02 25 *e*P **Pn 13 35 21.6 -1.0**
comp=E,70nm,1.3s
WERN Wernitzgruen 19.03 331 *e*P **Pn 13 35 19.9 -2.8**
comp=Z,16nm,1.0s
GRA1 Grafenberg Arr 19.06 328 *e*P **Pn 13 35 20.7 -2.4**
comp=Z,40nm,0.9s
GRF Grafenberg Arr 19.06 328 *e*P **Pn 13 35 20.7 -2.4**
comp=Z,40nm,0.9s
GRF *e*L 13 43 02.7
comp=Z,365nm,20.6s
GRF Grafenberg Arr 19.06 328 *e*P **Pn 13 35 20.7 -2.4**
GRF pmax pmax
comp=Z,40nm,0.9s
GRF MLR MLR
comp=Z,400nm,20.6s
ORIF Oris-en-Rattie 19.08 310 *e*P **Pn 13 35 22.5 -0.7**
comp=Z,30nm,0.7s
ORIF *e*MLR MLR
comp=Z,699nm,21.0s
ORIF Oris-en-Rattie 19.08 310 *e*P **Pn 13 35 22.5 -0.7**
ORIF pmax pmax
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 19.08 310 *e*P **Pn 13 35 22.5 -0.7**
comp=Z,15nm,0.7s
TANN Tannenbergstha 19.10 332 *e*P **Pn 13 35 21.0 -2.5**
comp=Z,30nm,0.9s
GUNZ Gunzen 19.11 331 *e*P **Pn 13 35 21.2 -2.5**
comp=Z,24nm,0.9s
FBE Freiberg 19.17 334 *e*P **Pn 13 35 22.7 -1.6**
comp=Z,29nm,1.0s
WERD Werda 19.19 331 *e*P **Pn 13 35 23.2 -1.4**
comp=Z,23nm,1.0s
VRSR Storozhevoye 19.19 25 *e*P **Pn 13 35 23.8 -0.8**
VRSR pmax pmax
comp=Z,20nm,0.8s
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,360nm,19.0s
VRSR MLR MLR
comp=N,250nm,13.0s
VRSR MLR MLR
comp=E,270nm,16.0s
VRSR Storozhevoye 19.19 25 *e*P **Pn 13 35 23.8 -0.8**
comp=E,250nm,13.0s
STU Stuttgart 19.36 323 *e*P **Pn 13 35 21.7 -4.9**
STU pmax pmax
comp=Z,22nm,0.8s
STU Stuttgart 19.36 323 *e*P **Pn 13 35 21.7 -4.9**
comp=Z,22nm,0.8s
EMHD Djebel Mahouad 19.38 282 P **Pn 13 35 31.5 +4.7**
BBS Basel-Blauen 19.42 318 *e*P **Pn 13 35 26.1 -1.3**
BFO Black Forest 19.51 321 *e*P **Pn 13 35 26.1 -2.3**
comp=Z,22nm,1.0s
BFO Black Forest 19.51 321 *e*P **Pn 13 35 26.1 -2.3**
BFO pmax pmax
comp=Z,22nm,1.0s
CLL Collm 19.61 334 *e*P **Pn 13 35 27.1 -2.5**
comp=Z,18nm,0.7s
CLL Collm 19.61 334 *e*P **Pn 13 35 28.0 -1.6**
CLL *e*S **Sn 13 39 05.0 -3.9**
CLL pmax pmax
comp=Z,18nm,0.7s
CLL MLR MLR
comp=Z,900nm,15.2s
CLL Collm 19.61 334 *e*P **Pn 13 35 28.0 -1.6**
comp=Z,18nm,0.7s
CLL *e*S **Sn 13 39 05.0 -3.9**
CLL Collm 19.61 334 *e*P **Pn 13 35 28.0 -1.6**
comp=Z,18nm,0.7s
CLL *e*(pP) pP 13 35 30.0 -6.7
CLL *e*S **Sn 13 39 05.0 -3.9**
MOX Moxa 19.62 331 *e*P **Pn 13 35 28.4 -1.3**
comp=Z,15nm,0.9s
MOX Moxa 19.62 331 *e*P **Pn 13 35 28.8 -0.9**
comp=Z,34nm,1.1s
MOX
comp=Z,700nm,17.0s
VOR Voronezh 19.63 24 *e*P **Pn 13 35 29.5 -0.4**
VOR pmax pmax
comp=N,60nm,1.3s
VOR pmax pmax
comp=E,70nm,1.3s
VOR pmax pmax
comp=Z,70nm,1.3s
CABF La Chapelle 19.76 314 *e*P **Pn 13 35 28.2 -3.2**
comp=Z,55nm,0.9s
CABF La Chapelle 19.76 314 *e*P **Pn 13 35 28.2 -3.2**
CABF pmax pmax
comp=Z,27nm,0.9s
CABF La Chapelle 19.76 314 *e*P **Pn 13 35 28.2 -3.2**
comp=Z,27nm,0.9s
SUW Suwalki 19.82 354 *e*P **Pn 13 35 28.6 -3.5**
SUW *e* 13 35 30.5
VIVF Saint-Julien-l 19.82 309 *e*P **Pn 13 35 31.3 -0.9**
comp=Z,33nm,0.9s
VIVF Saint-Julien-l 19.82 309 *e*P **Pn 13 35 31.3 -0.9**
VIVF pmax pmax
comp=Z,16nm,0.9s
VIVF Saint-Julien-l 19.82 309 *e*P **Pn 13 35 31.3 -0.9**
comp=Z,16nm,0.9s
MOF Molkenrain 19.85 319 *e*P **Pn 13 35 30.7 -1.8**
OG05 Jujurieux 19.86 312 *e*P **Pn 13 35 30.0 -2.6**
HINF Hinteralfeld 19.99 318 *e*P **Pn 13 35 30.7 -3.4**
comp=Z,36nm,0.7s
HINF Hinteralfeld 19.99 318 *e*P **Pn 13 35 30.7 -3.4**
HINF pmax pmax
comp=Z,18nm,0.7s
HINF Hinteralfeld 19.99 318 *e*P **Pn 13 35 30.7 -3.4**
comp=Z,18nm,0.7s
VRHR Novokhopersk 20.00 29 *e*P **Pn 13 35 32.1 -2.1**
VRHR pmax pmax
comp=Z,60nm,0.6s
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.6s
VRHR Novokhopersk 20.00 29 *e*P **Pn 13 35 32.1 -2.1**
comp=E,40nm,0.7s
ECH Echery 20.05 320 *e*P **P 13 35 33.0 +0.1**
LASF Ste Croix 20.06 306 *e*P **P 13 35 34.7 +1.7**
comp=E,42nm,1.0s
LASF Ste Croix 20.06 306 *e*P **P 13 35 34.7 +1.7**
comp=E,21nm,1.0s
WLS Welschbruch 20.07 320 *e*P **P 13 35 33.9 +0.8**
CDF Champ du Feu 20.11 320 *e*P **P 13 35 32.8 -0.8**
comp=E,55nm,0.8s
CDF Champ du Feu 20.11 320 *e*P **P 13 35 32.8 -0.8**
CDF pmax pmax
comp=Z,28nm,0.8s
CDF Champ du Feu 20.11 320 *e*P **P 13 35 32.8 -0.8**
comp=Z,28nm,0.8s
RUE Ruedersdorf 20.32 337 *e*P **P 13 35 33.8 -2.1**
comp=Z,63nm,1.1s
HAU Haudompre 20.37 318 *e*P **P 13 35 34.9 -1.5**
comp=Z,64nm,0.8s
HAU *e*MLR MLR
comp=Z,762nm,19.8s
HAU Haudompre 20.37 318 *e*P **P 13 35 34.9 -1.5**
HAU pmax pmax
comp=Z,32nm,0.8s
HAU MLR MLR
comp=Z,760nm,19.8s,MS4.1
HAU Haudompre 20.37 318 *e*P **P 13 35 34.9 -1.5**
comp=Z,32nm,0.8s
HAU LR LR
comp=Z,760nm,19.8s,MS4.1
EBNR Beni Rached 20.52 283 P **P 13 35 33.0 -5.0**
NE53 Naroch' 20.57 0 *e*S **S 13 39 21.5 -5.2**
TNS Taunus Mts 20.70 326 *e*P **P 13 35 39.0 -0.9**
THEF They Montfort 20.70 318 *e*P **P 13 35 39.3 -0.6**
COLF Collangettes 20.73 309 *e*P **P 13 35 40.0 -0.3**
ETRT Tiaret 20.76 280 P **P 13 35 42.0 +1.4**

EANR 'Ain N'Sour 20.88 282 P **P 13 35 41.0 -0.9**
LBL Lubilhac 20.90 308 *e*P **P 13 35 43.3 +1.2**
MTLF Montolieu 20.94 303 *e*P **P 13 35 42.4 -0.1**
comp=Z,42nm,1.0s
MTLF Montolieu 20.94 303 *e*P **P 13 35 42.4 -0.1**
MTLF pmax pmax
comp=Z,21nm,1.0s
MTLF Montolieu 20.94 303 *e*P **P 13 35 42.4 -0.1**
comp=Z,21nm,1.0s
PLDF La Plantade 20.97 311 *e*P **P 13 35 42.5 -0.3**
GTTG Gvttingen 20.98 330 *e*P **P 13 35 41.3 -1.7**
CLZ Clausthal 21.04 331 *e*P **P 13 35 41.7 -1.9**
EMIR Miracle 21.06 298 P **P 13 35 44.1 +0.3**
comp=Z,34nm,0.8s,mb4.7
EMIR Miracle 21.06 298 P **P 13 35 44.1 +0.2**
comp=Z,34nm,0.8s,mb4.7
SMF Signal de Mont 21.13 312 *e*P **P 13 35 42.6 -2.0**
comp=Z,44nm,0.8s,mb4.6
SMF Signal de Mont 21.13 312 *e*P **P 13 35 42.6 -2.0**
SMF pmax pmax
comp=Z,22nm,0.8s,mb4.5
SMF Signal de Mont 21.13 312 *e*P **P 13 35 42.6 -2.0**
comp=Z,22nm,0.8s,mb4.6
PYM Petit Puy Mans 21.26 309 *e*P **P 13 35 45.4 -0.6**
EPOB Poblet 21.28 297 P **P 13 35 45.6 -0.6**
comp=Z,31nm,0.7s,mb4.8
EPOB Poblet 21.28 297 P **P 13 35 45.6 -0.6**
comp=Z,31nm,0.7s,mb4.8
AGO Saint Agoulin 21.31 310 *e*P **P 13 35 45.8 -0.7**
MEZF Maizieres J'vi 21.37 318 *e*P **P 13 35 47.5 +0.3**
comp=Z,133nm,1.0s,mb4.9
MEZF Maizieres J'vi 21.37 318 *e*P **P 13 35 47.5 +0.3**
comp=Z,67nm,1.0s,mb4.9
FRNF Fournols 21.41 308 *e*P **P 13 35 47.9 +0.3**
LOR Lormes 21.41 314 *e*P **P 13 35 46.4 -1.3**
comp=Z,44nm,0.8s,mb4.5
LOR *e*MLR MLR
comp=Z,424nm,22.2s
LOR Lormes 21.41 314 *e*P **P 13 35 46.4 -1.3**
LOR pmax pmax
comp=Z,22nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,420nm,22.3s,MS3.8
LOR Lormes 21.41 314 *e*P **P 13 35 46.4 -1.3**
comp=Z,22nm,0.8s,mb4.5
LOR LR LR
comp=Z,420nm,22.3s,MS3.8
WLF Walferdange 21.46 322 P **P 13 35 47.9 -0.2**
WLF Walferdange 21.46 322 *e*P **P 13 35 46.2 -1.9**
WLF pmax pmax
comp=Z,41nm,0.8s,mb4.8
WLF Walferdange 21.46 322 *e*P **P 13 35 46.2 -2.0**
comp=Z,41nm,0.8s,mb4.8
WLF Walferdange 21.46 322 *e*P **P 13 35 46.2 -1.9**
comp=Z,41nm,0.8s,mb4.8
AVF Avril sur Loir 21.50 312 *e*P **P 13 35 46.7 -1.8**
comp=Z,48nm,0.9s,mb4.5
AVF Avril sur Loir 21.50 312 *e*P **P 13 35 46.7 -1.8**
AVF pmax pmax
comp=Z,24nm,0.9s,mb4.5
AVF Avril sur Loir 21.50 312 *e*P **P 13 35 46.7 -1.8**
comp=Z,24nm,0.9s,mb4.5
SSF Saint Saulge 21.53 313 *e*P **P 13 35 47.7 -1.2**
comp=Z,85nm,0.9s,mb4.9
SSF Saint Saulge 21.53 313 *e*P **P 13 35 47.7 -1.2**
SSF pmax pmax
comp=Z,43nm,0.9s,mb4.9
SSF Saint Saulge 21.53 313 *e*P **P 13 35 47.7 -1.2**
comp=Z,42nm,0.9s,mb4.9
VERF Verneugheol 21.60 309 *e*P **P 13 35 50.0 +0.4**
NRDL Niedersach Rie 21.65 332 *e*P **P 13 35 49.8 -0.3**
comp=Z,25nm,1.4s,mb4.5
BGF Bois d'Agland 21.71 311 *e*P **P 13 35 53.0 +2.2**
comp=Z,69nm,0.8s,mb4.9
BGF Bois d'Agland 21.71 311 *e*P **P 13 35 53.0 +2.2**
BGF pmax pmax
comp=Z,34nm,0.8s,mb4.8
BGF Bois d'Agland 21.71 311 *e*P **P 13 35 53.0 +2.2**
comp=Z,34nm,0.8s,mb4.9
ERTA Horta de San J 21.76 295 P **P 13 35 53.3 +1.9**
comp=Z,61nm,1.1s,mb4.9
ERTA Horta de San J 21.76 295 P **P 13 35 53.3 +1.9**
comp=Z,61nm,1.1s,mb4.9
OBN Obninsk 21.91 15 *e*P **P 13 35 51.4 -1.6**
OBN *e*S **S 13 39 51.2 -1.9**
OBN pmax pmax
comp=Z,42nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,500nm,15.0s,MS4.0
OBN Obninsk 21.91 15 *e*P **P 13 35 51.0 -2.0**
comp=Z,39nm,0.4s,mb5.2
OBN Obninsk 21.91 15 *e*P **P 13 35 51.4 -1.6**
comp=Z,42nm,0.8s,mb4.9
EBEN Beniarda 21.95 289 P **P 13 35 56.8 +3.4**
comp=Z,157nm,2.3s,mb5.0
TCF Toulx Ste Croi 21.99 310 *e*P **P 13 35 52.9 -0.9**
comp=Z,36nm,0.9s,mb4.5
TCF Toulx Ste Croi 21.99 310 *e*P **P 13 35 52.9 -0.9**
TCF pmax pmax
comp=Z,18nm,0.9s,mb4.5
TCF Toulx Ste Croi 21.99 310 *e*P **P 13 35 52.9 -0.9**
comp=Z,18nm,0.9s,mb4.5
RJF Les Rejaudoux 22.06 307 *e*P **P 13 35 53.8 -0.8**
comp=Z,58nm,0.9s,mb4.7
RJF *e*MLR MLR
comp=Z,632nm,19.8s
RJF Les Rejaudoux 22.06 307 *e*P **P 13 35 53.8 -0.8**
RJF pmax pmax
comp=Z,29nm,0.9s,mb4.7
RJF MLR MLR
comp=Z,630nm,19.8s,MS4.0
RJF Les Rejaudoux 22.06 307 *e*P **P 13 35 53.8 -0.8**
comp=Z,29nm,0.9s,mb4.7
RJF LR LR
comp=Z,630nm,19.8s,MS4.0
MEM Membach 22.12 324 P **P 13 35 55.1 -0.2**
EBIE Bielsa 22.24 300 P **P 13 35 57.8 +1.4**
comp=Z,97nm,1.8s,mb4.9
EBIE Bielsa 22.24 300 P **P 13 35 57.8 +1.4**
comp=Z,97nm,1.8s,mb4.9
HGN Heinansgroeve 22.26 324 *e*P **P 13 35 57.1 +0.4**
comp=Z,36nm,1.2s,mb4.7
BCLA Clavier 22.36 322 P **P 13 35 57.6 -0.2**
GIVF Givet 22.41 321 *e*P **P 13 35 58.5 +0.2**
comp=Z,66nm,0.9s,mb4.8
GIVF Givet 22.41 321 *e*P **P 13 35 58.5 +0.2**
GIVF pmax pmax
comp=Z,33nm,0.9s,mb4.8
GIVF Givet 22.41 321 *e*P **P 13 35 58.5 +0.2**
comp=Z,33nm,0.9s,mb4.8
LFF La Frestale 22.45 306 *e*P **P 13 35 58.1 -0.6**
comp=Z,56nm,0.9s,mb4.7
LFF La Frestale 22.45 306 *e*P **P 13 35 58.1 -0.6**
LFF pmax pmax
comp=Z,28nm,0.9s,mb4.7
LFF La Frestale 22.45 306 *e*P **P 13 35 58.1 -0.6**
comp=Z,28nm,0.9s,mb4.7
DOU Dourbes 22.52 321 P **P 13 35 59.1 -0.4**
WTSB Winterswijk 22.65 327 *e*P **P 13 36 00.4 -0.4**
BAIF Baives 22.71 321 *e*P **P 13 36 00.9 -0.5**
comp=Z,139nm,0.8s,mb5.1
BAIF Baives 22.71 321 *e*P **P 13 36 00.9 -0.5**
BAIF pmax pmax
comp=Z,70nm,0.8s,mb5.1
BAIF Baives 22.71 321 *e*P **P 13 36 00.9 -0.5**
comp=Z,70nm,0.8s,mb5.1
EMUR La Murta 22.72 287 P **P 13 36 05.3 +3.8**
comp=Z,156nm,2.7s,mb5.0
MOS Moscow 22.72 16 *e*P **P 13 35 57.2 -4.4**
MOS *e* 13 36 36.4
MOS *e*S **S 13 40 03.0 -5.3**
MOS pmax pmax
comp=Z,98nm,1.0s,mb5.2
MOS MLR MLR
comp=Z,700nm,17.0s,MS4.2
SNF Seneffe 22.93 322 P **P 13 36 04.4 +0.6**
ETOB Tobarra 22.98 289 P **P 13 36 06.6 +2.3**
comp=Z,172nm,3.1s
SJPF Ste Jean 23.31 300 *e*P **P 13 36 08.4 +0.6**
comp=Z,26nm,0.8s,mb4.4
SJPF Ste Jean 23.31 300 *e*P **P 13 36 08.4 +0.6**
SJPF pmax pmax
comp=Z,13nm,0.8s,mb4.4
SJPF Ste Jean 23.31 300 *e*P **P 13 36 08.4 +0.6**
comp=Z,13nm,0.8s,mb4.4
ENIJ Nijar 23.50 285 P **P 13 36 11.5 +1.8**

ENIJ pmax pmax
comp=Z,21nm,0.8s,mb4.6
ENIJ Nijar 23.50 285 P **P 13 36 11.5 +1.8**
comp=Z,20nm,0.8s,mb4.6
ETOR Torete 23.54 294 P **P 13 36 09.0 -1.0**
ETOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
ETOR Torete 23.54 294 P **P 13 36 09.0 -0.9**
comp=Z,6.6nm,0.8s,mb4.1
ETOR Torete 23.54 294 P **P 13 36 09.0 -1.0**
comp=Z,6.6nm,0.8s,mb4.1
MFF Saint Martin d 23.61 309 *e*P **P 13 36 10.4 -0.3**
comp=Z,95nm,1.1s,mb4.8
MFF Saint Martin d 23.61 309 *e*P **P 13 36 10.4 -0.3**
MFF pmax pmax
comp=Z,47nm,1.1s,mb4.8
MFF Saint Martin d 23.61 309 *e*P **P 13 36 10.4 -0.3**
comp=Z,47nm,1.1s,mb4.8
EVIA Vianos 23.72 289 P **P 13 36 11.4 -0.3**
EVIA pmax pmax
comp=Z,24nm,1.1s,mb4.5
EVIA Vianos 23.72 289 P **P 13 36 11.4 -0.3**
comp=Z,24nm,1.1s,mb4.5
EVIA Vianos 23.72 289 P **P 13 36 11.4 -0.3**
comp=Z,24nm,1.1s,mb4.5
EBER Berja 24.05 285 P **P 13 36 17.2 +2.5**
comp=Z,34nm,0.7s,mb4.9
EQES Quesada 24.17 287 P **P 13 36 16.6 +0.9**
comp=Z,24nm,1.1s,mb4.5
EQES Quesada 24.17 287 P **P 13 36 16.6 +0.8**
comp=Z,24nm,1.1s,mb4.5
LDF La Druitiere 24.40 314 *e*P **P 13 36 16.5 -1.4**
comp=Z,39nm,0.9s,mb4.5
LDF La Druitiere 24.40 314 *e*P **P 13 36 16.5 -1.4**
LDF pmax pmax
comp=Z,19nm,0.9s,mb4.5
LDF La Druitiere 24.40 314 *e*P **P 13 36 16.5 -1.4**
comp=Z,20nm,0.9s,mb4.5
ECOG Cogollos-Vega 24.58 286 P **P 13 36 20.7 +1.2**
ECOG pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 24.58 286 P **P 13 36 20.7 +1.2**
comp=Z,9.3nm,0.6s,mb4.5
ECOG Cogollos-Vega 24.58 286 P **P 13 36 20.7 +1.2**
comp=Z,9.3nm,0.6s,mb4.5
FLN La Foliniere 24.69 314 *e*P **P 13 36 19.8 -0.7**
comp=Z,72nm,0.8s,mb5.0
FLN *e*MLR MLR
comp=Z,596nm,17.5s
FLN La Foliniere 24.69 314 *e*P **P 13 36 19.8 -0.7**
FLN pmax pmax
comp=Z,36nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,600nm,17.5s,MS4.2
FLN La Foliniere 24.69 314 *e*P **P 13 36 19.8 -0.7**
comp=Z,36nm,0.8s,mb5.0
FLN LR LR
comp=Z,600nm,17.5s,MS4.2
EBAN Banos Encina 24.73 288 P **P 13 36 21.2 +0.3**
EBAN pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
EBAN Banos Encina 24.73 288 P **P 13 36 21.2 +0.3**
comp=Z,10nm,0.6s,mb4.5
EBAN Banos Encina 24.73 288 P **P 13 36 21.2 +0.3**
comp=Z,10nm,0.6s,mb4.5
ERON Agron 24.78 285 P **P 13 36 21.8 +0.5**
comp=Z,4.9nm,0.4s,mb4.4
ERON Agron 24.78 285 P **P 13 36 21.8 +0.5**
comp=Z,4.9nm,0.4s,mb4.4
ESDC Sonseca Array 24.90 291 P **P 13 36 22.0 -0.4**
comp=Z,8.8nm,0.7s,mb4.4,baz=80,slow=9.5,SNR=47
ESDC Sonseca Array 24.90 291 P **P 13 36 22.8 +0.4**
comp=Z,5.2nm,0.6s,mb4.2
ESDC Sonseca Array 24.90 291 P **P 13 36 22.8 +0.4**
comp=Z,5.2nm,0.6s,mb4.2
ESLA Sonseca Array 24.90 291 *e*P **P 13 36 22.8 +0.4**
comp=Z,2.0nm,0.7s,mb3.8
ESLA Sonseca Array 24.90 291 *e*P **P 13 36 22.8 +0.4**
comp=Z,2.0nm,0.7s,mb3.8
ELAN Lanestosa 24.92 300 P **P 13 36 21.9 -0.7**
comp=Z,94nm,1.4s,mb5.1
ELAN Lanestosa 24.92 300 P **P 13 36 21.9 -0.7**
comp=Z,94nm,1.4s,mb5.1
ELOJ Sierra Loja 25.05 285 P **P 13 36 22.3 -1.5**
GUD Guadarrama 25.11 294 P **P 13 36 24.3 0.0**
GUD pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
GUD Guadarrama 25.11 294 P **P 13 36 24.3 0.0**
comp=Z,6.3nm,0.6s,mb4.3
GUD Guadarrama 25.11 294 P **P 13 36 24.3 0.0**
comp=Z,6.3nm,0.6s,mb4.3
ELUQ Luque 25.12 286 P **P 13 36 23.0 -1.4**
ELUQ pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
ELUQ Luque 25.12 286 P **P 13 36 23.0 -1.5**
comp=Z,4.5nm,0.6s,mb4.2
ELUQ Luque 25.12 286 P **P 13 36 23.0 -1.4**
comp=Z,4.5nm,0.6s,mb4.2
EADA Adamuz 25.35 288 P **P 13 36 27.3 +0.7**
comp=Z,23nm,1.0s,mb4.7
EADA Adamuz 25.35 288 P **P 13 36 27.3 +0.8**
comp=Z,23nm,1.0s,mb4.7
PUL Pulkovo 25.56 4 *e*P **P 13 36 27.8 -0.6**
PUL *e*S **S 13 40 53.8 -0.2**
PUL pmax pmax
comp=Z,332nm,1.2s,mb5.7
PUL pmax pmax
comp=N,401nm,1.0s
PUL pmax pmax
comp=E,45nm,0.6s
PUL smax
comp=N,83nm,8.6s
PUL smax
comp=Z,89nm,9.3s
PUL smax
comp=E,53nm,9.1s
PUL MLR MLR
comp=Z,773nm,18.0s,MS4.3
PUL MLR MLR
comp=N,615nm,17.0s
PUL MLR MLR
comp=E,194nm,11.0s
PUL Pulkovo 25.56 4 *e*P **P 13 36 27.8 -0.6**
comp=E,401nm,1.0s
EMIJ Mijas 25.58 284 P **P 13 36 28.7 +0.1**
comp=E,25nm,0.6s,mb4.9
EMIJ Mijas 25.58 284 P **P 13 36 28.7 +0.1**
comp=E,25nm,0.6s,mb4.9
SGMF Saint Gilles 25.75 311 *e*P **P 13 36 30.1 0.0**
comp=E,36nm,0.9s,mb4.6
SGMF Saint Gilles 25.75 311 *e*P **P 13 36 30.1 0.0**
SGMF pmax pmax
comp=Z,18nm,0.9s,mb4.6
SGMF Saint Gilles 25.75 311 *e*P **P 13 36 30.1 0.0**
comp=Z,18nm,0.9s,mb4.6
ZFT Errachidia 25.94 274 *i* P **P 13 36 33.0 +1.1**
MDT Midelt 25.98 275 P **P 13 36 33.9 +1.6**
comp=Z,3.2nm,0.5s,mb4.1,baz=88,slow=12,SNR=17
QUIF Quistinic 26.01 310 *e*P **P 13 36 31.4 -1.1**
comp=Z,49nm,0.8s,mb4.8
QUIF Quistinic 26.01 310 *e*P **P 13 36 31.4 -1.1**
QUIF pmax pmax
comp=Z,24nm,0.8s,mb4.8
QUIF Quistinic 26.01 310 *e*P **P 13 36 31.4 -1.1**
comp=Z,24nm,0.8s,mb4.8
EJIF Jimena Fronter 26.15 284 P **P 13 36 33.3 -0.5**
ROSF Rostrenen 26.22 311 *e*P **P 13 36 34.2 -0.2**
comp=Z,44nm,0.8s,mb4.8
ROSF Rostrenen 26.22 311 *e*P **P 13 36 34.2 -0.2**
ROSF pmax pmax
comp=Z,22nm,0.8s,mb4.7
ROSF Rostrenen 26.22 311 *e*P **P 13 36 34.2 -0.2**
comp=Z,22nm,0.8s,mb4.8
CZD Cel de Zad 26.29 276 *i* P **P 13 36 35.0 -0.1**
ESPR Espera 26.43 285 P **P 13 36 37.1 +0.9**
comp=Z,8.0nm,0.5s,mb4.5
ESPR Espera 26.43 285 P **P 13 36 37.1 +0.8**
comp=Z,8.0nm,0.5s,mb4.5
RSA Sarsar 26.62 280 *i* P **P 13 36 39.5 +1.5**
ORR Orenburg 26.65 41 *e*P **P 13 36 38.0 -0.3**
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.0
ORR Orenburg 26.65 41 *e*P **P 13 36 38.0 -0.3**
comp=Z,40nm,0.9s,mb5.0
TSY Tnine Yamani 26.67 282 *i* P **P 13 36 40.5 +2.0**
EMIN Mina Concepcio 27.02 287 P **P 13 36 41.7 +0.1**
comp=Z,5.6nm,0.6s,mb4.3

ATD Arta Tunnel 27.12 143 LR LR 13 47 46.6
comp=Z,257nm,19.1s,MS3.8,baz=352,slow=37
FINES FINESS Array B 27.13 359 P **P** **13 36 40.3 -2.3**
comp=Z,5.8nm,0.5s,mb4.4,baz=154,slow=11,SNR=48
FINES PcP PcP 13 40 03.3 +0.6
comp=Z,1.3nm,0.4s,baz=77,slow=3.3,SNR=4.8
FINES LR LR 13 47 52.0
comp=Z,376nm,21.2s,MS3.9,baz=358,slow=38
FINES FINESS Array B 27.13 359 P **P** **13 36 40.3 -2.3**
FINES 13 40 03.3
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,376nm,21.2s
FIA1 FINESS Array S 27.13 359 *e*P **P** **13 36 40.8 -1.8**
FIA1 FINESS Array S 27.13 359 *e*P **P** **13 36 40.8 -1.8**
PBRG Braganca 27.15 296 *e*P **P** **13 36 42.2 -0.6**
comp=Z,23nm,1.7s,mb4.4
HFS Hagfors 27.15 346 P **P** **13 36 39.9 -2.9**
comp=Z,6.9nm,0.5s,mb4.5,baz=146,slow=11,SNR=15
HFS LR LR 13 49 17.9
comp=Z,509nm,18.1s,MS4.1,baz=158,slow=41
HFS Hagfors 27.15 346 P **P** **13 36 39.9 -2.9**
HFS pmax pmax
comp=Z,7.0nm,0.5s
HFS MLR MLR
comp=Z,509nm,18.1s
EBAD Badajoz 27.25 289 P **P** **13 36 44.0 +0.3**
comp=Z,17nm,0.9s,mb4.6
EBAD Badajoz 27.25 289 P **P** **13 36 44.0 +0.3**
comp=Z,17nm,0.9s,mb4.6
PCBR Castelo Branco 27.61 292 *e*P **P** **13 36 48.0 +1.1**
comp=Z,20nm,2.0s,mb4.4
EGRO El Granado 27.68 287 P **P** **13 36 47.2 -0.3**
comp=Z,18nm,0.6s,mb4.9
EGRO El Granado 27.68 287 P **P** **13 36 47.2 -0.3**
comp=Z,18nm,0.6s,mb4.9
TZC Tazercounte 27.68 275 *i* P **P** **13 36 47.5 0.0**
PESTR Estremoz 27.70 289 *e*P **P** **13 36 46.1 -1.6**
comp=Z,28nm,0.9s,mb4.9
KAF Kangasniemi 27.80 360 *e*p **P** **13 36 46.4 -2.2**
comp=Z,7.4nm,0.4s,mb4.7,baz=177,slow=9.0
KAF Kangasniemi 27.80 360 *e*P **P** **13 36 46.4 -2.2**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
PBEJ Beja 27.95 288 *e*P **P** **13 36 51.7 +1.8**
AKTK Aktyubinsk 27.97 45 P **P** **13 36 50.1 -0.1**
AKTO Aktyubinsk 27.97 45 P **P** **13 36 50.1 -0.1**
comp=Z,3.9nm,0.6s,mb4.2,baz=251,slow=9.6,SNR=19
AKTO Aktyubinsk 27.97 45 P **P** **13 36 50.1 -0.1**
AKTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
EVO Evora 28.04 289 *e*P **P** **13 36 52.5 +1.7**
comp=Z,18nm,0.9s,mb4.4
EVO *e*MLR MLR
comp=Z,175nm,22.5s
NAO01 NORSAR Array S 28.40 344 *e*P **P** **13 36 52.1 -1.8**
comp=Z,11nm,0.7s,mb4.6
NAO01 NORSAR Array S 28.40 344 *e*P **P** **13 36 52.1 -1.8**
comp=Z,11nm,0.7s,mb4.6
NB2 NORSAR Subarra 28.50 344 P **P** **13 36 52.5 -2.3**
comp=Z,1.9nm,0.6s,mb3.9,baz=156,slow=9.3
NB2 NORSAR Subarra 28.50 344 P **P** **13 36 52.5 -2.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
NOA NORSAR Array B 28.50 344 P **P** **13 36 52.2 -2.6**
comp=Z,3.3nm,0.7s,mb4.1,baz=166,slow=9.1,SNR=8.9
NOA NORSAR Array B 28.50 344 P **P** **13 36 52.2 -2.6**
NOA pmax pmax
comp=Z,3.0nm,0.7s
PTEO Sao Teotonio 28.66 287 *e*P **P** **13 36 55.2 -1.1**
JOF Joensuu 28.76 5 *e*p **P** **13 36 55.3 -1.8**
comp=Z,5.3nm,0.4s,mb4.6
JOF Joensuu 28.76 5 *e*P **P** **13 36 55.3 -1.8**
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
ESK Eskdalemuir 29.40 325 *e*P **P** **13 37 00.8 -2.0**
ESK pmax pmax
comp=Z,25nm,1.0s,mb4.9
ESK Eskdalemuir 29.40 325 *e*P **P** **13 37 00.8 -2.0**
comp=Z,25nm,1.0s,mb4.9
ESK Eskdalemuir 29.40 325 *e*P **P** **13 37 00.8 -2.0**
comp=Z,25nm,1.0s,mb4.9
WSAR Wadi Sarin 30.07 103 P **P** **13 37 10.2 +1.4**
comp=Z,2.2nm,0.5s,mb4.1,baz=276,slow=11,SNR=4.8
WSAR Wadi Sarin 30.07 103 P **P** **13 37 10.1 +1.3**
TOA0 Torodi Ar. Sit 30.89 233 *e*P **P** **13 37 16.8 +0.8**
TOA0 *e*pP pP 13 37 26.7 +1.2
TORD Torodi Ar. Bea 30.89 233 P **P** **13 37 17.1 +1.0**
comp=Z,6.4nm,0.6s,mb4.6,baz=41,slow=8.1,SNR=53
TORD PcP PcP 13 40 13.3 +1.2
comp=Z,0.5nm,0.6s,baz=13,slow=1.5,SNR=4.0
TORD ScP ScP 13 43 55.0 +2.5
comp=Z,0.6nm,0.7s,baz=26,slow=1.8,SNR=3.8
TORD Torodi Ar. Bea 30.89 233 P **P** **13 37 17.1 +1.0**
TORD PcP PcP 13 40 13.3 +1.2
TORD ScP ScP 13 43 55.0 +2.5
ARU Arti 31.04 35 ⇓ *i* P **P** **13 37 17.0 -0.4**
ARU *e* 13 38 17.0
ARU *e*PPP 13 38 28.7
ARU *e* 13 40 11.0
ARU *e*S **S** **13 42 21.9 +1.6**
ARU *e*SS SS 13 44 06.1 -27
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ARU Arti 31.04 35 *i* P **P** **13 37 17.0 -0.4**
comp=Z,8.0nm,0.9s,mb4.5
ARU Arti 31.04 35 *e*PcP PcP 13 40 11.0 -1.6
ZRNK Zerenda 35.25 45 *e*P **P** **13 37 55.1 +1.0**
ZRNK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ZRNK Zerenda 35.25 45 *e*P **P** **13 37 55.1 +1.1**
comp=Z,8.7nm,0.6s,mb4.9
ZRNK Zerenda 35.25 45 *e*P **P** **13 37 55.1 +1.0**
comp=Z,8.7nm,0.6s,mb4.9
ARCES ARCESS Array B 35.26 359 P **P** **13 37 52.1 -2.0**
comp=Z,10.0nm,0.6s,mb4.9,baz=177,slow=9.1,SNR=67
ARCES PcP PcP 13 40 24.3 0.0
comp=Z,2.5nm,0.7s,baz=186,slow=2.2,SNR=5.1
ARCES LR LR 13 52 43.1
comp=Z,363nm,20.0s,MS4.1,baz=176,slow=37
ARCES ARCESS Array B 35.26 359 P **P** **13 37 52.1 -2.0**
ARCES 13 40 24.3
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,363nm,20.0s
ARE0 ARCESS Array S 35.26 359 *e*P **P** **13 37 52.8 -1.3**
ARE0 ARCESS Array S 35.26 359 *e*P **P** **13 37 52.8 -1.3**
KEV Kevo 35.47 0 *e*p **P** **13 37 53.0 -3.0**
comp=Z,5.3nm,0.7s,mb4.6
KEV Kevo 35.47 0 *e*P **P** **13 37 53.0 -3.0**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 36.03 45 *e*P **P** **13 38 01.6 +0.9**
BRVK pmax pmax
comp=Z,28nm,1.5s,mb5.0
BRVK Borovoye 36.03 45 *e*P **P** **13 38 01.6 +0.9**
comp=Z,28nm,1.5s,mb5.0
BRVK Borovoye 36.03 45 *e*P **P** **13 38 01.6 +0.9**
comp=Z,28nm,1.5s,mb5.0
BVAR Borovoye Array 36.08 45 P **P** **13 38 02.0 +0.9**
comp=Z,4.5nm,0.7s,mb4.5,baz=244,slow=6.4,SNR=23
BVAR LR LR 13 57 40.8
comp=Z,252nm,20.0s,MS4.0,baz=319,slow=44
CHKZ Chkalovo 36.37 44 *e*P **P** **13 38 04.5 +0.9**
CHKZ pmax pmax
comp=Z,18nm,0.9s,mb5.0
CHKZ Chkalovo 36.37 44 *e*P **P** **13 38 04.5 +0.9**
comp=Z,18nm,0.9s,mb5.0
CHKZ Chkalovo 36.37 44 *e*P **P** **13 38 04.5 +0.9**
comp=Z,18nm,0.9s,mb5.0
KMBO Kilima Mbogo 36.67 162 P **P** **13 38 11.1 +4.9**
comp=Z,2.1nm,0.7s,mb4.1,baz=1.0,slow=4.8,SNR=4.8
KMBO LR LR 13 53 14.8
comp=Z,435nm,18.2s,MS4.3,baz=282,slow=36
KMBO Kilima Mbogo 36.67 162 ⇑ *e*P **P** **13 38 12.8 +6.6**
AAK Ala-Archa 37.98 63 ⇑ *i* P **P** **13 38 19.1 +1.8**
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
AAK MLR MLR
comp=Z,200nm,19.0s,MS3.9

AAK Ala-Archa 37.98 63 *e*P **P** **13 38 18.3 +1.0**
comp=Z,7.7nm,0.8s,mb4.5
AAK Ala-Archa 37.98 63 *e*P **P** **13 38 18.3 +1.0**
comp=Z,7.7nm,0.8s,mb4.5
DBIC Dimbokro 39.99 234 LR LR 13 59 02.2
comp=Z,333nm,18.5s,MS4.2,baz=206,slow=42
DBIC Dimbokro 39.99 234 *e*P **P** **13 38 35.1 +0.9**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 39.99 234 *e*P **P** **13 38 35.0 +0.9**
comp=Z,10nm,0.8s,mb4.6
DBIC Dimbokro 39.99 234 *e*P **P** **13 38 35.0 +0.8**
comp=Z,10nm,0.8s,mb4.6
MKAR Makanchi Array 43.26 56 P **P** **13 39 02.4 +1.5**
comp=Z,9.2nm,0.6s,mb4.7,baz=270,slow=7.4,SNR=100
MKAR Makanchi Array 43.26 56 P **P** **13 39 02.4 +1.5**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
NVS Novosibirsk 43.85 44 *e*P **P** **13 39 06.2 +0.5**
NVS *e*S **S** **13 45 34.4 -0.2**
NVS pmax pmax
comp=Z,30nm,1.0s,mb5.0
NVS pmax pmax
comp=E,17nm,0.9s
NVS pmax pmax
comp=Z,30nm,1.9s,mb4.7
NVS pmax pmax
comp=E,21nm,1.6s
NVS smax
comp=E,30nm,1.9s
NVS Novosibirsk 43.85 44 *e*P **P** **13 39 06.2 +0.5**
comp=E,30nm,1.9s,mb4.7
SPB4 Spitsbergen Ar 44.17 357 *e*P **P** **13 39 07.0 -1.2**
SPB4 *e*pP pP 13 39 18.6 +0.7
SPB4 Spitsbergen Ar 44.17 357 *e*P **P** **13 39 07.0 -1.2**
SPB4 *e*pP pP 13 39 18.6 +0.8
ZAL Zalesovo 44.73 46 P **P** **13 39 13.2 +0.5**
comp=E,7.5nm,0.4s,mb4.8,baz=207,slow=8.3,SNR=33
ZAL Zalesovo 44.73 46 P **P** **13 39 13.2 +0.6**
ZAL pmax pmax
comp=Z,8.0nm,0.4s
DAG Danmarks Havn 47.11 347 *i* P **P** **13 39 30.0 -1.5**
comp=Z,1.4nm,0.5s,mb4.2
DAG Danmarks Havn 47.11 347 *e*P **P** **13 39 30.0 -1.5**
DAG pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
DAG Danmarks Havn 47.11 347 *e*P **P** **13 39 30.0 -1.5**
comp=Z,1.4nm,0.5s,mb4.2
WMQ Urumqi 47.41 59 *e*P **P** **13 39 36.0 +2.2**
WMQ AP pP 13 39 46.0 +2.5
WMQ XP sP 13 39 50.0 +2.6
WMQ PCP PcP 13 41 07.0 +3.0
WMQ S **S** **13 46 27.0 +1.2**
WMQ XS sS 13 46 43.0 +1.2
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,124nm,4.5s
WMQ LR LR
comp=N,616nm,16.0s,MS4.8
WMQ LR LR
comp=E,350nm,12.5s,MS4.8
WMQ LR LR
comp=Z,479nm,21.2s
KOLN Koldanda 48.75 81 *e*P **P** **13 39 46.0 +1.9**
comp=Z,19nm,0.6s,mb5.3
LSZ Lusaka 49.36 178 *e*P **P** **13 39 48.5 -0.3**
LSZ pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
LSZ Lusaka 49.36 178 *e*P **P** **13 39 48.5 -0.3**
comp=Z,4.6nm,1.1s,mb4.4
LSZ Lusaka 49.36 178 *e*P **P** **13 39 48.5 -0.3**
comp=Z,4.6nm,1.1s,mb4.4
GKN Gorkha 49.51 81 *e*P **P** **13 39 51.6 +1.7**
comp=Z,33nm,0.6s,mb5.5
DMN Daman 50.04 81 *e*P **P** **13 39 56.1 +2.1**
comp=Z,34nm,0.6s,mb5.6
KKN Kakani 50.11 81 *e*P **P** **13 39 56.2 +1.6**
comp=Z,33nm,0.6s,mb5.6
SUMG Summit 50.16 339 *e*P **P** **13 39 54.4 -0.6**
comp=Z,18nm,0.9s,mb5.1
SUMG Summit 50.16 339 *e*P **P** **13 39 54.3 -0.6**
comp=Z,18nm,0.9s,mb5.1
PKI Pulchoki 50.30 81 *e*P **P** **13 39 57.8 +1.8**
comp=Z,29nm,0.6s,mb5.5
GUN Gumba 50.56 80 *e*P **P** **13 39 59.7 +1.8**
comp=Z,47nm,0.7s,mb5.5
JIRN Jiri 50.91 80 *e*P **P** **13 40 02.9 +2.4**
LSA Lhasa 54.13 76 P **P** **13 40 26.8 +2.4**
LSA Lhasa 54.13 76 *e*P **P** **13 40 26.7 +2.3**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 54.13 76 *e*P **P** **13 40 26.7 +2.3**
comp=Z,5.6nm,0.6s,mb4.7
LSA Lhasa 54.13 76 *e*P **P** **13 40 26.7 +2.3**
comp=Z,5.6nm,0.6s,mb4.7
TLY Talaya 56.31 47 *e*P **P** **13 40 41.6 +1.5**
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,209nm,23.0s,MS4.2
TLY Talaya 56.31 47 *e*P **P** **13 40 41.1 +1.0**
comp=Z,6.3nm,0.7s,mb4.8
TLY Talaya 56.31 47 *e*P **P** **13 40 41.1 +1.0**
comp=Z,6.3nm,0.7s,mb4.8
ZAK Zakamensk 56.41 48 *e*P **P** **13 40 42.8 +1.9**
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ZAK Zakamensk 56.41 48 *e*P **P** **13 40 42.8 +1.9**
comp=Z,9.0nm,0.9s,mb4.8
IRK Irkutsk 56.55 46 *e*P **P** **13 40 43.0 +1.2**
IRK pmax pmax
comp=Z,24nm,1.0s,mb5.2
IRK Irkutsk 56.55 46 *e*P **P** **13 40 43.0 +1.2**
comp=Z,24nm,1.0s,mb5.2
GTA Gaotai 57.32 62 *e*P **P** **13 40 49.8 +2.5**
GTA AP pP 13 41 00.6 +3.4
GTA XP sP 13 41 04.0 +3.0
GTA AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
SONM Songino Array 59.10 51 P **P** **13 41 01.6 +1.8**
comp=Z,11nm,0.6s,mb5.0,baz=285,slow=7.5,SNR=67
SONM LR LR 14 11 36.7
comp=Z,239nm,21.0s,MS4.3,baz=288,slow=41
SONM Songino Array 59.10 51 P **P** **13 41 01.6 +1.8**
SONM pmax pmax
comp=Z,11nm,0.6s
SONM MLR MLR
comp=Z,239nm,21.0s
BOD Bodaibo 60.38 38 *e*P **P** **13 41 08.8 +0.2**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOD Bodaibo 60.38 38 *e*P **P** **13 41 08.8 +0.2**
comp=Z,5.0nm,0.8s,mb4.6
LZH Lanzhou 61.51 64 *e*P **P** **13 41 11.0 -5.2**
LZH pmax pmax
comp=Z,13nm,1.0s,mb5.0
LZH Lanzhou 61.51 64 *e*P **P** **13 41 11.0 -5.2**
comp=Z,13nm,1.0s,mb5.0
LZH pP pP 13 41 26.0 -0.2
LZH sP sP 13 41 30.5 +0.5
BOSA Boshof 62.62 181 P **P** **13 41 25.8 +2.1**
comp=Z,3.6nm,0.4s,mb4.9,baz=349,slow=7.7,SNR=24
BOSA LR LR 14 12 16.6
comp=Z,265nm,18.9s,MS4.4,baz=6.2,slow=39
BOSA Boshof 62.62 181 *e*P **P** **13 41 25.6 +1.9**
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
BOSA Boshof 62.62 181 *e*P **P** **13 41 25.6 +1.9**
comp=Z,7.4nm,0.9s,mb4.8
BOSA *e*pP pP 13 41 40.4 +6.7
CD2 Chengdu 63.59 69 P **P** **13 41 30.6 +0.5**
CD2 AP pP 13 41 42.0 +1.9
CD2 XP sP 13 41 47.0 +3.1
CD2 PP PP 13 43 52.1 +2.0
CD2 S **S** **13 49 59.7 -1.9**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,50nm,5.8s
CD2 LR LR
comp=E,100nm,12.8s
CD2 LR LR
comp=Z,80nm,13.8s,MS4.1
SCHQ Schefferville 64.57 320 P **P** **13 41 36.7 +0.2**
comp=Z,7.6nm,0.5s,mb5.0,baz=80,slow=4.4,SNR=22

SCHQ Schefferville 64.57 320 *e*P **P** **13 41 35.9 -0.6**
comp=Z,11nm,0.6s,mb5.0
SCHQ Schefferville 64.57 320 *e*P **P** **13 41 35.9 -0.6**
comp=Z,11nm,0.6s,mb5.0
HHC Hu-ho-hao-te 65.12 56 *e*P **P** **13 41 41.8 +1.7**
HHC AP pP 13 41 49.1 -1.1
HHC XP sP 13 41 52.8 -1.2
HHC PP PP 13 44 03.8 +0.3
HHC S S 13 50 19.4 -1.2
HHC PS 13 50 43.7
HHC SCS ScS 13 51 31.9 -0.9
HHC AMB AMB
comp=Z,21nm,0.6s,mb5.3
HHC AMB AMB
comp=Z,112nm,3.6s
HHC LR LR
comp=N,166nm,5.7s
HHC LR LR
comp=E,96nm,3.3s
HHC LR LR
comp=Z,135nm,6.7s
CHTO Chiang Mai 65.33 83 *e*P **P** **13 41 42.9 +1.5**
CHTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
CHTO Chiang Mai 65.33 83 *e*P **P** **13 41 42.9 +1.4**
comp=Z,4.0nm,0.5s,mb4.7
CHTO *e*pP pP 13 41 57.9 +6.4
CHTO Chiang Mai 65.33 83 *e*P **P** **13 41 42.9 +1.5**
comp=Z,4.0nm,0.5s,mb4.7
KMI Kunming 65.39 75 P **P** **13 41 44.5 +2.7**
KMI AP pP 13 41 55.4 +3.5
KMI XP sP 13 41 59.8 +4.1
KMI PP PP 13 44 08.8 +3.0
KMI S S 13 50 21.4 -2.4
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,103nm,4.4s
KMI LR LR
comp=N,133nm,21.6s,MS4.2
KMI LR LR
comp=E,130nm,25.4s,MS4.2
KMI LR LR
comp=Z,126nm,20.3s
KMI Kunming 65.39 75 P **P** **13 41 44.5 +2.7**
KMI 13 44 08.8
KMI S S 13 50 21.4 -2.4
KMI SS SS 13 54 38.1 +0.8
KMI SSS 13 57 31.0
KMI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,130nm,20.3s,MS4.1
KMI Kunming 65.39 75 P **P** **13 41 44.5 +2.7**
comp=Z,8.0nm,1.1s,mb4.7
KMI pP pP 13 41 55.4 +3.5
KMI sP sP 13 41 59.8 +4.1
KMI PP PP 13 44 08.8 +3.0
KMI S S 13 50 21.4 -2.4
KMI sS sS 13 50 37.3 -3.1
KMI SS SS 13 54 38.1 +0.8
KMI SSS 13 57 31.0
KMI LR LR
comp=Z,130nm,20.3s,MS4.1
YAK Yakutsk 66.00 30 ⇑ *e*P **P** **13 41 46.4 +0.6**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK Yakutsk 66.00 30 *e*P **P** **13 41 44.4 -1.4**
comp=Z,7.0nm,0.6s,mb4.9
YAK Yakutsk 66.00 30 *e*P **P** **13 41 46.4 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
XAN Xi'an 66.15 64 P **P** **13 41 48.8 +2.1**
XAN AMB AMB
comp=Z,7.0nm,0.7s,mb4.8
HIA Hailar 66.78 45 *e*P **P** **13 41 52.2 +1.4**
HIA pmax pmax
comp=Z,29nm,1.0s
HIA Hailar 66.78 45 *e*P **P** **13 41 52.2 +1.4**
comp=Z,28nm,1.0s,mb5.2
HIA Hailar 66.78 45 *e*P **P** **13 41 52.2 +1.4**
comp=Z,28nm,1.0s,mb5.2
BJI Beijing 68.64 56 P **P** **13 42 04.1 +1.6**
BJI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
BJI Beijing 68.64 56 P **P** **13 42 04.1 +1.6**
comp=Z,8.0nm,1.3s,mb4.5
CN2 Changchun 72.85 48 *e*P **P** **13 42 29.8 +1.7**
KLR Kul'dur 73.62 41 *e*P **P** **13 42 30.4 -2.2**
PSI Prapat 73.86 98 P **P** **13 42 36.0 +1.9**
comp=Z,7.8nm,0.5s,mb4.9,baz=297,slow=3.1,SNR=12
PSI Prapat 73.86 98 P **P** **13 42 36.0 +1.9**
PSI pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
NJ2 Nanjing 74.42 62 *e*P **P** **13 42 37.4 +0.1**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
MDJ Mudanjiang 74.93 46 P **P** **13 42 40.2 -0.1**
MDJ AMB AMB
comp=Z,92nm,3.9s
INK Inuvik 76.59 353 *e*P **P** **13 42 47.8 -2.0**
INK pmax pmax
comp=Z,87nm,0.6s
INK Inuvik 76.59 353 *e*P **P** **13 42 47.8 -2.0**
comp=Z,86nm,0.6s
INK Inuvik 76.59 353 *e*P **P** **13 42 47.8 -2.0**
comp=Z,86nm,0.6s
YKA Yellowknife Ar 78.58 343 LR LR 14 17 04.1
comp=Z,140nm,18.6s,MS4.3,baz=65,slow=35
IMA2 Indian Mountai 79.92 0 *e*P **P** **13 43 08.1 0.0**
IMA2 Indian Mountai 79.92 0 *e*P **P** **13 43 08.1 -0.1**
DAWY Dawson 81.30 354 *e*P **P** **13 43 15.4 -0.2**
DAWY Dawson 81.30 354 *e*P **P** **13 43 15.4 -0.2**
ULM Lac du Bonnet 81.64 327 P **P** **13 43 18.3 +0.9**
comp=Z,7.1nm,1.1s,mb4.5,baz=68,slow=5.4,SNR=3.2
ULM LR LR 14 22 16.6
comp=Z,100nm,18.4s,MS4.2,baz=31,slow=38
MAT Matsushiro 85.00 49 P **P** **13 43 34.1 -0.6**
MJAR Matsushiro Arr 85.00 49 P **P** **13 43 36.4 +1.7**
comp=Z,2.9nm,0.5s,mb4.7,baz=300,slow=12,SNR=14
MJAR Matsushiro Arr 85.00 49 P **P** **13 43 36.4 +1.7**
MJAR pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 86.48 249 P **P** **13 43 44.5 +2.5**
comp=Z,2.3nm,0.6s,mb4.6,baz=137,slow=2.8,SNR=4.1
BDFB LR LR 14 24 47.9
comp=Z,231nm,18.6s,MS4.6,baz=60,slow=37
BDFB Brasilia 86.48 249 P **P** **13 43 44.5 +2.5**
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB MLR MLR
comp=Z,231nm,18.6s
WVT Waverly 86.98 312 *e*P **P** **13 43 44.3 -0.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
WVT Waverly 86.98 312 *e*P **P** **13 43 44.3 -0.1**
comp=Z,5.2nm,0.8s,mb4.8
WVT Waverly 86.98 312 *e*P **P** **13 43 44.3 -0.2**
comp=Z,5.2nm,0.8s,mb4.8
NEW Newport 91.60 337 *e*P **P** **13 44 07.1 +0.9**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 91.60 337 *e*P **P** **13 44 07.1 +0.9**
comp=Z,2.8nm,0.7s,mb4.7
PDAR Pinedale Array 93.41 329 P **P** **13 44 13.7 -0.9**
comp=Z,0.3nm,0.5s,mb4.0,baz=12,slow=4.7,SNR=3.0
PDAR LR LR 14 25 58.0
comp=Z,128nm,19.0s,MS4.4,baz=38,slow=35
CPUP Villa Florida 99.72 245 LR LR 14 33 18.1
comp=Z,159nm,18.3s,MS4.6,baz=45,slow=37
WRA Warramunga Arr 115.33 98 PKP PKPdf 13 49 41.6 +0.9
comp=Z,0.6nm,0.6s,baz=312,slow=1.9,SNR=19
WRA Warramunga Arr 115.33 98 PKIKP PKPdf 13 49 41.6 +0.8
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB2 Warramunga Arr 115.34 98 *e*P PKiKP 13 49 41.8 +1.0
ASPA Alice Springs 116.74 101 *e*P PKPdf 13 49 44.5 +1.0
ASAR Alice Springs 116.75 101 PKP PKPdf 13 49 44.5 +1.0
comp=Z,0.5nm,0.4s,baz=301,slow=1.6,SNR=32
ASAR PKKPbc PKKPbc 14 00 11.8 +1.8
comp=Z,0.2nm,0.4s,baz=119,slow=4.0,SNR=16
AS31 Alice Springs 116.75 101 *e*P PKPdf 13 49 44.5 +1.0
QSPA South Pole Qui 124.19 180 *e*P PKPdf 13 49 57.7 -0.1
STKA Stephens Creek 126.35 107 PKP PKPdf 13 50 03.0 +1.0
comp=Z,2.0nm,0.8s,baz=83,slow=9.0,SNR=4.7

*ISCJB **12** 13:52:17.5±0.2,4475N±002×1087E±002,h54km±3km, Error ellipse: s-maj=3.1km s-min=2.4km az=139.2*
*ROM **12** 13:52:17.7±0.1,4467N×1084E,h38km,Md2.9/29, Ml2.9/17,Error ellipse: s-maj=1.6km s-min=1.1km az=103.0*
*GEN **12** 13:52:17.1,4476N×1101E,h18km,ML3.0*
*NEIC **12** 13:52:17.7,4467N×1084E,h38km,MD2.9(ROM),After ROM.*
*CSEM **12** 13:52:18.2±0.1,4469N×1082E,h40km,ML3.4/23,Error ellipse: s-maj=1.3km s-min=1.0km az=42.0*
*STR **12** 13:52:19.3±0.5,4529N×1026E,h10km±1km,Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **12** 13:52:19.7±0.2,4464N×1064E,h10km,Ml3.3/18,Error ellipse: s-maj=4.7km s-min=3.3km az=38.0*

ISC 12 13:52:18.6±0.2,4473N±002×1087E±002,h46km±4km, n115,σ1§09/205,7C-5D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	**Novellara**	**0.13**	**303**	Pg	**Pn**	**13 52 24.8**	**-1.3**
NOVE				Sg	**Sn**	**13 52 31.1**	**-0.2**
RAVA	**Ravarino**	**0.18**	**82**	⇑*i*Pg	**Pn**	**13 52 25.7**	**-0.7**
RAVA				Sg	**Sn**	**13 52 32.1**	**+0.2**
	5µm,0.2s						
SBPO	**S.Benedetto Po**	**0.32**	**7**	Pg	**Pn**	**13 52 27.5**	**-0.1**
SBPO				Sg	**Sn**	**13 52 36.0**	**+2.0**
	852nm,0.4s						
ZCCA	**Zocca**	**0.39**	**168**	Pg	**Pn**	**13 52 27.8**	**-0.5**
ZCCA				Sg	**Sn**	**13 52 34.8**	**-0.4**
	19nm,0.5s						
GSCL	**Gusciola**	**0.43**	**208**	Pg	**Pn**	**13 52 27.8**	**-1.0**
GSCL				Sg	**Sn**	**13 52 34.9**	**-1.1**
	174nm,0.4s						
ERBM	**Eremo**	**0.45**	**226**	Pg	**Pn**	**13 52 28.6**	**-0.4**
	296nm,0.6s						
FIU	**Minerbio Fiu**	**0.46**	**101**	Pg	**Pn**	**13 52 29.1**	**0.0**
FIU				Sg	**Sn**	**13 52 37.8**	**+1.3**
	3µm,0.6s						
VALM		**0.58**	**229**	P	**Pn**	**13 52 30.1**	**-0.6**
VALM				S	**Sn**	**13 52 38.7**	**-0.6**
FNVD	**Fontana Vidola**	**0.59**	**162**	Pg	**Pn**	**13 52 29.5**	**-1.3**
FNVD				Sg	**Sn**	**13 52 39.1**	**-0.4**
	747nm,0.2s						
PZZT	**Monte Pizzetto**	**0.60**	**180**	Pg	**Pn**	**13 52 29.6**	**-1.3**
PZZT				Sg	**Sn**	**13 52 39.6**	**-0.1**
	292nm,0.4s						
GRAM		**0.62**	**248**	P	**Pn**	**13 52 30.7**	**-0.4**
GRAM				S	**Sn**	**13 52 40.0**	**-0.1**
SARO	**Sassorosso**	**0.64**	**211**	P	**Pn**	**13 52 30.6**	**-0.8**
SARO				S	**Sn**	**13 52 39.8**	**-0.8**
VLC	**Villacollemand**	**0.67**	**211**	Pg	**Pn**	**13 52 31.1**	**-0.6**
VLC				Sg	**Sn**	**13 52 41.6**	**+0.4**
	225nm,0.7s						
VLC	**Villacollemand**	**0.67**	**211**	*e*Pg	**Pn**	**13 52 31.1**	**-0.7**
VLC				Sg	**Sn**	**13 52 41.6**	**+0.4**
BDI	**Bagni Di Lucca**	**0.69**	**196**	Pg	**Pn**	**13 52 31.5**	**-0.6**
BDI				Sg	**Sn**	**13 52 41.9**	**0.0**
	302nm,0.3s						
BACM		**0.73**	**232**	P	**Pn**	**13 52 32.4**	**-0.1**
BACM				S	**Sn**	**13 52 42.7**	**+0.1**
SEI	**Scarperia**	**0.76**	**152**	Pg	**Pn**	**13 52 33.1**	**+0.1**
SEI				Sg	**Sn**	**13 52 44.6**	**+1.1**
	565nm,0.3s						
VINC	**Vinca**	**0.78**	**221**	P	**Pn**	**13 52 33.2**	**0.0**
VINC				S	**Sn**	**13 52 44.2**	**+0.3**
CODM		**0.80**	**245**	P	**Pn**	**13 52 33.9**	**+0.4**
CODM				S	**Sn**	**13 52 45.2**	**+0.8**
MAIM		**0.86**	**198**	P	**Pn**	**13 52 34.1**	**-0.2**
MAIM		**0.86**	**198**	Pg	**Pn**	**13 52 34.3**	**0.0**
MAIM				S	**Sn**	**13 52 45.6**	**-0.2**
MAIM				Sg	**Sn**	**13 52 46.8**	**+1.0**
	414nm,0.6s						
VMG	**Vicchio**	**0.91**	**147**	Pg	**Pn**	**13 52 35.2**	**+0.2**
VMG				Sg	**Sn**	**13 52 48.3**	**+1.3**
	527nm,0.6s						
SALO	**Salr**	**0.92**	**345**	Pg	**Pn**	**13 52 36.4**	**+1.3**
SALO				Sg	**Sn**	**13 52 51.2**	**+4.0**
	2µm,0.2s						
SC2M	**Scurtabr**	**1.01**	**252**	P	**Pn**	**13 52 36.9**	**+0.6**
SC2M				S	**Sn**	**13 52 50.1**	**+0.8**
PII	**Pisa**	**1.04**	**194**	Pg	**Pn**	**13 52 36.5**	**-0.2**
PII				Sg	**Sn**	**13 52 50.7**	**+0.6**
	167nm,0.2s						
SFI	**Santa Sofia**	**1.08**	**139**	Pg	**Pn**	**13 52 37.8**	**+0.4**
SFI				Sg	**Sn**	**13 52 53.5**	**+2.2**
	121nm,0.5s						
CSNT	**Castellina Chi**	**1.29**	**166**	Pg	**Pn**	**13 52 39.7**	**-0.5**
CSNT				Sg	**Sn**	**13 52 56.8**	**+0.4**
	108nm,0.8s						
MDI	**Monti di Nese**	**1.33**	**323**	Pg	**Pn**	**13 52 40.9**	**+0.2**
	237nm,0.2s						
MABI	**Malga Bissina**	**1.35**	**350**	Pg	**Pn**	**13 52 41.2**	**+0.3**
	43nm,0.2s						
CRE	**Caprese Michel**	**1.36**	**144**	Pg	**Pn**	**13 52 41.3**	**+0.2**
CRE				Sg	**Sn**	**13 52 58.4**	**+0.5**
	33nm,0.2s						
RSM	**Repubblica di**	**1.39**	**125**	Pg	**Pn**	**13 52 42.0**	**+0.5**
	20nm,0.3s						
GENL	**Genova Univers**	**1.39**	**257**	P	**Pn**	**13 52 40.9**	**-0.7**
GENL				S	**Sn**	**13 52 57.4**	**-1.4**
GROG	**Isola di Gorgo**	**1.48**	**209**	Pg	**Pn**	**13 52 42.2**	**-0.6**
	72nm,0.4s						
MUGIO	**Muggio**	**1.75**	**313**	Pg	**Pn**	**13 52 46.4**	**-0.1**
APPI	**Appiano**	**1.77**	**8**	Pg	**Pn**	**13 52 47.7**	**+1.0**
	300nm,0.4s						
FIN	**Finale Ligure**	**1.97**	**256**	Pg	**Pn**	**13 52 49.9**	**+0.4**
FIN				Sg	**Sn**	**13 53 14.4**	**+1.4**
	94nm,0.4s						
FIN	**Finale Ligure**	**1.97**	**256**	P	**Pn**	**13 52 51.1**	**+1.6**
TUE	**Stuetta**	**2.04**	**329**	Pg	**Pn**	**13 52 51.9**	**+1.4**
	72nm,0.5s						
BRES	**Bressanone**	**2.06**	**17**	Pg	**Pn**	**13 52 51.9**	**+1.2**
RORO		**2.10**	**254**	P	**Pn**	**13 52 50.9**	**-0.3**
ROB	**Roburent**	**2.19**	**260**	P	**Pn**	**13 52 52.7**	**+0.3**
ORO	**Oropa**	**2.23**	**295**	Pg	**Pn**	**13 52 54.2**	**+1.2**
	109nm,0.3s						
ORX	**Oropa**	**2.23**	**295**	P	**Pn**	**13 52 53.5**	**+0.5**
IMI	**Imperia**	**2.29**	**250**	Pg	**Pn**	**13 52 54.3**	**+0.5**
IMI				Sg	**Sn**	**13 53 21.6**	**+0.8**
	94nm,0.5s						
MONE	**Monesi**	**2.32**	**255**	P	**Pn**	**13 52 54.6**	**+0.3**
NEGI	**Negi**	**2.44**	**250**	P	**Pn**	**13 52 55.7**	**-0.2**
SAOF	**Saorge**	**2.49**	**254**	P	**Pn**	**13 52 57.2**	**+0.6**
SAOF				S	**Sn**	**13 53 28.4**	**+2.7**
VOY	**Vojsko**	**2.50**	**58**	⇓*i*Pn	**Pn**	**13 52 55.6**	**-1.1**
VOY				*e*Sn	**Sn**	**13 53 24.5**	**-1.5**
VOY				*e*		13 53 37.0	
VOY	**Vojsko**	**2.50**	**58**	⇓*i*Pn	**Pn**	**13 52 55.6**	**-1.1**
VOY				*e*Sn	**Sn**	**13 53 24.5**	**-1.5**
ENR	**Entracque**	**2.52**	**260**	P	**Pn**	**13 52 57.6**	**+0.6**
JAVS	**Javornik**	**2.54**	**62**	*i* Pn	**Pn**	**13 52 56.1**	**-1.1**
JAVS				*i* Sn	**Sn**	**13 53 25.0**	**-2.0**
PGF	**Pioggiola**	**2.57**	**212**	*e*Pn	**Pn**	**13 52 56.9**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**13 53 24.9**	**-2.8**
	13nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.57**	**212**	*e*Pn	**Pn**	**13 52 56.9**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**13 53 24.9**	**-2.8**
	6.3nm,0.2s,SNR=1.0						
AUTN	**L'Aution**	**2.57**	**255**	P	**Pn**	**13 52 59.0**	**+1.3**
AUTN				S	**Sn**	**13 53 30.6**	**+2.8**
STV	**Sta Anna Valdi**	**2.58**	**260**	P	**Pn**	**13 52 58.1**	**+0.3**
WTTA	**Wattenberg**	**2.59**	**12**	⇓*i*Pn	**Pn**	**13 52 59.6**	**+1.7**
WTTA				⇑*i*Sn	**Sn**	**13 53 32.0**	**+3.8**
WTTA	**Wattenberg**	**2.59**	**12**	⇓*i*Pn	**Pn**	**13 52 59.6**	**+1.6**
WTTA				*i* Sn	**Sn**	**13 53 32.0**	**+3.8**
RSP	**Reno Superiore**	**2.60**	**281**	P	**Pn**	**13 52 58.3**	**+0.2**
SBF	**Sospel**	**2.61**	**252**	*e*Pg	**Pn**	**13 53 04.4**	**+6.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**13 53 25.2**	**-3.5**
	99nm,0.5s						
SBF	**Sospel**	**2.61**	**252**	*e*Pn	**Pn**	**13 52 57.5**	**-0.8**
SBF				*e*Pg	**Pn**	**13 53 04.4**	**+6.1**
SBF				*e*Sn	**Sn**	**13 53 25.2**	**-3.5**
SBF	**Sospel**	**2.61**	**252**	*e*Pn	**Pn**	**13 52 57.5**	**-0.8**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**13 53 25.2**	**-3.5**
	49nm,0.5s						
KNDS	**Knezji Dol**	**2.61**	**71**	*i* Pn	**Pn**	**13 52 57.0**	**-1.2**
KNDS	**Knezji Dol**	**2.61**	**71**	*i* Pn	**Pn**	**13 52 57.0**	**-1.3**
DAVA	**Damuels**	**2.65**	**345**	⇑*i*Pn	**Pn**	**13 53 01.2**	**+2.4**
DAVA				⇑*i*Sn	**Sn**	**13 53 34.3**	**+4.7**
LUCF	**Luceram**	**2.66**	**253**	P	**Pn**	**13 53 00.4**	**+1.4**
LUCF				S	**Sn**	**13 53 33.6**	**+3.6**
TOUF	**Mont Tournerai**	**2.69**	**256**	P	**Pn**	**13 52 59.6**	**+0.2**
PZZ	**Prazzo**	**2.70**	**267**	P	**Pn**	**13 53 00.3**	**+0.9**
LSD	**Ceresole Reale**	**2.73**	**287**	P	**Pn**	**13 53 02.5**	**+2.7**
MVIF	**Mont Vial**	**2.79**	**254**	P	**Pn**	**13 53 01.8**	**+1.0**
NVLJ	**Novalja**	**2.86**	**92**	*i* Pn	**Pn**	**13 53 00.7**	**-1.1**
NVLJ				*i* Sn	**Sn**	**13 53 32.0**	**-3.0**
NVLJ	**Novalja**	**2.86**	**92**	*i* Pn	**Pn**	**13 53 00.6**	**-1.1**
NVLJ				*i* Sn	**Sn**	**13 53 32.0**	**-3.0**
RRL	**Cesana Torines**	**2.91**	**275**	P	**Pn**	**13 53 04.6**	**+2.2**
KBA	**Koelnbreinsper**	**2.92**	**36**	⇑*i*Pn	**Pn**	**13 53 02.8**	**+0.3**
KBA				⇑*i*Sn	**Sn**	**13 53 37.7**	**+1.4**
MBDF	**Montbardon**	**2.92**	**271**	*e*Pn	**Pn**	**13 53 02.1**	**-0.4**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**13 53 33.5**	**-2.8**
	38nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.92**	**271**	*e*Pn	**Pn**	**13 53 02.1**	**-0.4**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**13 53 33.5**	**-2.8**
	19nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**3.01**	**286**	*e*Pg	**Pn**	**13 53 13.4**	**+10**
LPG				*e*Sn	**Sn**	**13 53 37.5**	**-1.1**
	30nm,0.6s						
LPG	**La Plagne**	**3.01**	**286**	*e*Pn	**Pn**	**13 53 03.8**	**0.0**
LPG				*e*Pg	**Pn**	**13 53 13.4**	**+10**
LPG				*e*Sn	**Sn**	**13 53 37.5**	**-1.1**
LPG	**La Plagne**	**3.01**	**286**	*e*Pn	**Pn**	**13 53 03.8**	**0.0**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**13 53 37.5**	**-1.1**
	15nm,0.6s						
LPL	**La Plagne**	**3.03**	**286**	*e*Pg	**Pn**	**13 53 13.9**	**+10**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**13 53 36.6**	**-2.4**
	40nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**3.03**	**286**	*e*Pn	**Pn**	**13 53 04.3**	**+0.3**
LPL				*e*Pg	**Pn**	**13 53 13.9**	**+10**
LPL				*e*Sn	**Sn**	**13 53 36.6**	**-2.4**
LPL	**La Plagne**	**3.03**	**286**	*e*Pn	**Pn**	**13 53 04.3**	**+0.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**13 53 36.6**	**-2.4**
	20nm,0.4s,SNR=1.0						
OBKA	**Obir**	**3.14**	**54**	⇑*i*Pn	**Pn**	**13 53 05.1**	**-0.4**
OBKA				⇓*i*Sn	**Sn**	**13 53 42.0**	**+0.4**
OBKA	**Obir**	**3.14**	**54**	Pn	**Pn**	**13 53 05.1**	**-0.4**
OBKA				Sn	**Sn**	**13 53 42.0**	**+0.3**
BOJS	**Bojanci**	**3.20**	**74**	*e*Pn	**Pn**	**13 53 05.4**	**-0.9**
BOJS				*i* Sn	**Sn**	**13 53 41.3**	**-1.9**
FRF	**La Foret Royal**	**3.25**	**250**	*e*P	**Pn**	**13 53 09.1**	**+2.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**13 53 40.7**	**-3.9**
	49nm,0.4s						
FRF	**La Foret Royal**	**3.25**	**250**	*e*Pn	**Pn**	**13 53 06.5**	**-0.6**
FRF				*e*P		13 53 09.1	
FRF				*e*Sn	**Sn**	**13 53 40.7**	**-3.9**
FRF	**La Foret Royal**	**3.25**	**250**	*e*P	**Pn**	**13 53 09.1**	**+2.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**13 53 40.7**	**-3.9**
	24nm,0.4s						
LMR	**La Mourre**	**3.44**	**248**	*e*P	**Pn**	**13 53 11.8**	**+2.2**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**13 53 45.0**	**-4.1**
	24nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**3.44**	**248**	*e*Pn	**Pn**	**13 53 08.8**	**-0.8**
LMR				*e*P		13 53 11.8	
LMR				*e*Sn	**Sn**	**13 53 45.0**	**-4.1**
LMR	**La Mourre**	**3.44**	**248**	*e*P	**Pn**	**13 53 11.8**	**+2.2**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**13 53 45.0**	**-4.1**
	12nm,0.3s,SNR=1.0						
PERS	**Pernice**	**3.54**	**56**	*i* Pn	**Pn**	**13 53 11.0**	**0.0**
ORIF	**Oris-en-Rattie**	**3.55**	**275**	*e*Pn	**Pn**	**13 53 10.9**	**-0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**13 53 48.9**	**-3.0**
	26nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.55**	**275**	*e*Pn	**Pn**	**13 53 10.9**	**-0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**13 53 48.9**	**-3.0**
	13nm,0.5s						
CABF	**La Chapelle**	**3.84**	**301**	*e*Pn	**Pn**	**13 53 16.4**	**+1.3**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**13 53 57.6**	**-1.4**
	5.7nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**3.87**	**261**	*e*Pn	**Pn**	**13 53 14.8**	**-0.7**
SMRF				*e*Sn	**Sn**	**13 53 55.9**	**-3.8**
	23nm,0.7s						
SMRF	**Simiane la Rot**	**3.87**	**261**	*e*Pn	**Pn**	**13 53 14.8**	**-0.7**
SMRF				*e*Sn	**Sn**	**13 53 55.9**	**-3.8**
	11nm,0.7s						
HINF	**Hinteralfeld**	**4.16**	**319**	*e*Pn	**Pn**	**13 53 20.9**	**+1.4**
HINF				*e*Sn	**Sn**	**13 54 05.6**	**-1.1**
	5.7nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**4.16**	**319**	*e*Pn	**Pn**	**13 53 20.9**	**+1.4**
HINF				*e*Sn	**Sn**	**13 54 05.6**	**-1.1**
	2.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.41**	**274**	*e*Pn	**Pn**	**13 53 23.0**	**0.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**13 54 08.9**	**-4.1**
	4.0nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.41**	**274**	*e*Pn	**Pn**	**13 53 23.0**	**0.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**13 54 08.9**	**-4.1**
	2.0nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**4.44**	**327**	*e*Pg	**Pn**	**13 53 41.5**	**+18**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**13 54 13.1**	**-0.6**
	3.0nm,0.2s						
CDF	**Champ du Feu**	**4.44**	**327**	*e*Pn	**Pn**	**13 53 23.4**	**+0.1**
CDF				*e*Pg	**Pn**	**13 53 41.5**	**+18**
CDF				*e*Sn	**Sn**	**13 54 13.1**	**-0.6**
CDF	**Champ du Feu**	**4.44**	**327**	*e*Pn	**Pn**	**13 53 23.4**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**13 54 13.1**	**-0.6**
	1.5nm,0.2s						
HAU	**Haudompre**	**4.53**	**318**	*e*Pn	**Pn**	**13 53 24.4**	**-0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**13 54 14.7**	**-1.2**
	26nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**4.53**	**318**	*e*Pn	**Pn**	**13 53 24.4**	**-0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**13 54 14.7**	**-1.2**
	13nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**5.28**	**294**	*e*Pn	**Pn**	**13 53 35.1**	**+0.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 54 30.7**	**-3.8**
	6.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**5.28**	**294**	*e*Pn	**Pn**	**13 53 35.1**	**+0.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 54 30.7**	**-3.8**
	3.2nm,0.2s,SNR=1.0						
LOR	**Lormes**	**5.50**	**300**	*e*Pn	**Pn**	**13 53 37.7**	**-0.2**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**13 54 37.4**	**-2.5**
	12nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.50**	**300**	*e*Pn	**Pn**	**13 53 37.7**	**-0.2**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**13 54 37.4**	**-2.5**
	6.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**5.64**	**297**	*e*Pn	**Pn**	**13 53 39.9**	**+0.1**
SSF				*e*Sn	**Sn**	**13 54 40.0**	**-3.3**
	5.1nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**5.64**	**297**	*e*Pn	**Pn**	**13 53 39.9**	**+0.1**
SSF				*e*Sn	**Sn**	**13 54 40.0**	**-3.3**
	2.5nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**5.65**	**294**	*e*Pn	**Pn**	**13 53 40.0**	**+0.1**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**6.28**	**287**	*e*Pn	**Pn**	**13 53 48.6**	**0.0**
TCF				*e*Sn	**Sn**	**13 54 54.6**	**-4.4**
	4.0nm,0.3s						
TCF	**Toulx Ste Croi**	**6.28**	**287**	*e*Pn	**Pn**	**13 53 48.6**	**0.0**
TCF				*e*Sn	**Sn**	**13 54 54.6**	**-4.4**
	2.0nm,0.3s						
MTLF	**Montolieu**	**6.39**	**260**	*e*Pn	**Pn**	**13 53 48.9**	**-1.2**

IDC 12 13:55:36.2±68.0,1632S×17753W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/13,mbtmp3.9/3,MS3.8/1,Ms1 3.8/1, ms1mx2.5/20,Error ellipse: s-maj=1261.0km s-min=173.5km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.14**	**240**	P	P	14 03 13.8	0.0
	2.1nm,0.9s,baz=98,slow=7.1,SNR=3.3						
STKA				LR	LR	14 16 26.5	
	comp=Z,130nm,18.5s,baz=206,slow=31						
WB2	**Warramunga Arr**	**45.75**	**258**	*e*P	P	14 03 59.7	+0.4
WRA	**Warramunga Arr**	**45.76**	**258**	P	P	14 04 00.0	+0.6
	0.2nm,0.4s,baz=91,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**46.04**	**253**	P	P	14 04 01.9	+0.3
	2.0nm,0.6s,baz=88,slow=8.5,SNR=51						
ASPA	**Alice Springs**	**46.05**	**253**	*e*P	P	14 04 01.7	+0.1

*ISCJB **12** 14:15:29.0±1.0,2981N±005×3629E±005,h0km,Error ellipse: s-maj=8.3km s-min=5.4km az=99.2*
*HLW **12** 14:15:29.7,2993N×3658E,h20km,Mb3.5*
*CSEM **12** 14:15:30.3±0.2,2977N×3622E,h2km,ML2.3,Error ellipse: s-maj=4.8km s-min=2.6km az=133.0,Mining explosion.*
*GII **12** 14:15:30.4±1.2,2986N×3619E,h0km,ML2.3/7*

ISC 12 14:15:29.2±1.0,2981N±005×3633E±006,h0km,n24, σ0§70/31,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.11**	**266**	Pg	**Pg**	**14 15 50.4**	**-0.1**
HRFI	**Mount Harif**	**1.14**	**282**	Pg	**Pg**	**14 15 50.2**	**-0.9**
HRFI				Sg	**Sg**	**14 16 06.8**	**+0.9**
EIL	**Elat**	**1.20**	**264**	Pg	**Pg**	**14 15 52.4**	**+0.1**
EIL				Sg	**Sg**	**14 16 08.2**	**+0.3**
MBH	**Mount Berech**	**1.23**	**270**	Pg	**Pg**	**14 15 52.4**	**-0.3**
MBH				Sg	**Sg**	**14 16 09.5**	**+0.9**
ZFRI	**Zfri**	**1.24**	**307**	Pg	**Pg**	**14 15 51.5**	**-1.5**
PRNI	**Paran**	**1.27**	**296**	Pg	**Pg**	**14 15 52.2**	**-1.3**
PRNI				Sg	**Sg**	**14 16 10.1**	**+0.2**
KMTI	**Karmit**	**1.42**	**283**	Pg	**Pg**	**14 15 55.6**	**-0.9**
HBST	**Basata**	**1.51**	**248**	P	**Pg**	**14 15 58.1**	**+0.7**
RMNI	**Mount Ramon**	**1.57**	**301**	Pn	**Pn**	**14 15 57.5**	**-0.8**
MZDA	**Masada**	**1.71**	**331**	Pn	**Pn**	**14 15 59.9**	**-0.3**
MZDA				Sn	**Sn**	**14 16 22.6**	**-0.3**
MASH	**Mash'abbe Sade**	**1.78**	**312**	Pn	**Pn**	**14 16 00.9**	**-0.4**
SVTA	**Shivta**	**1.85**	**308**	Pn	**Pn**	**14 16 02.1**	**-0.1**
YTIR	**Yattir**	**1.87**	**326**	Pn	**Pn**	**14 16 02.1**	**-0.3**
RTMI	**Retamim**	**1.88**	**312**	Pn	**Pn**	**14 16 02.5**	**-0.1**
DRGI	**Dragot**	**1.96**	**336**	Pn	**Pn**	**14 16 03.5**	**-0.1**
KZIT	**Kziot**	**2.00**	**304**	Pn	**Pn**	**14 16 04.6**	**+0.4**
KZIT				Sn	**Sn**	**14 16 29.7**	**-0.1**
HNKL	**Nakhl**	**2.04**	**274**	P	**Pn**	**14 16 05.2**	**+0.4**
AMAZ	**Amatzia**	**2.11**	**325**	Pn	**Pn**	**14 16 05.8**	**+0.1**
HMDT	**Nahal Hemdat**	**2.54**	**344**	Pn	**Pn**	**14 16 13.0**	**+1.4**
SLTI	**Sal'it**	**2.67**	**336**	Pn	**Pn**	**14 16 13.0**	**-0.4**
SLTI				Sn	**Sn**	**14 16 47.6**	**+1.2**
TR2		**2.68**	**239**	P	**Pn**	**14 16 13.9**	**+0.3**
MMLI	**Mount Malkishu**	**2.74**	**344**	Pn	**Pn**	**14 16 15.8**	**+1.5**
AMAG	**Maghara**	**2.83**	**288**	P	**Pn**	**14 16 14.8**	**-0.8**
SUZ		**3.04**	**272**	P	**Pn**	**14 16 18.7**	**+0.3**

*ISCJB **12** 14:36:52.4±0.6,5031N±004×1872E±004,h0km,Error ellipse: s-maj=6.7km s-min=2.8km az=38.5*
*WAR **12** 14:36:53.9,5024N×1883E,ML2.6,Mining Induced*
*PRU **12** 14:36:54.6,5027N×1870E,h0km*

ISC 12 14:36:53.7±0.5,5027N±004×1873E±003,h0km,n16, σ1§25/26,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.39**	**242**	*e*Pg	**Pg**	**14 37 02.8**	**+1.6**
RAC				*e*Sg	**Sg**	**14 37 09.7**	**+3.5**
OKC	**Ostrava-Krasne**	**0.57**	**221**	*e*PG	**Pg**	**14 37 05.2**	**+0.6**
OKC				*e*SG	**Sg**	**14 37 12.5**	**+0.5**
	28nm,0.3s						
OJC	**Ojcow**	**0.69**	**93**	*e*Pg	**Pg**	**14 37 05.7**	**-1.2**
OJC				*e*Sg	**Sg**	**14 37 14.7**	**-1.1**
NIE	**Niedzica**	**1.33**	**129**	*e*Pg	**Pg**	**14 37 17.8**	**-1.4**
NIE				*e*Sg	**Sg**	**14 37 35.9**	**-0.5**
NIE				e		14 37 36.5	
DPC	**Dobruska-Polom**	**1.55**	**274**	*e*PG	**Pg**	**14 37 22.3**	**-1.0**
DPC				*e*SG	**Sg**	**14 37 42.6**	**-0.8**
	19nm,0.3s						
KSP	**Ksiaz**	**1.66**	**291**	*e*Pn	**Pn**	**14 37 23.4**	**-0.6**
KSP				*e*Pg	**Pg**	**14 37 25.3**	**-0.2**
KSP				*e*Sg	**Sg**	**14 37 48.9**	**+1.9**
UPC	**Upice**	**1.76**	**279**	*e*SG	**Sg**	**14 37 49.4**	**-0.7**
VYHS	**Vyhne**	**1.77**	**178**	*e*PN	**Pn**	**14 37 24.2**	**-1.4**
VYHS				*e*SN	**Sn**	**14 37 48.6**	**-0.3**
STHS	**Stebnicka Huta**	**1.84**	**117**	*i* PN	**Pn**	**14 37 27.1**	**+0.6**
STHS				*e*SN	**Sn**	**14 37 52

comp=Z,4.6nm,0.5s
CLL Collm 3.79 289 *e*Sg Sg 14 47 53.0 -1.4

NIED **12** *14:46:00,24.10N×12260E,h44km,Mw5.8 Best double couple: M0=5.00000×10^17 NP1:φs=61.00000°,δ72.00000°,λ51.00000°. NP2:φs=311.00000°,δ42.00000°,λ153.00000°.*
ISCJB **12** *14:46:28.1±0.5,2405N±002×12254E±001,h30km±3km,mb5.6/230,MS5.5/100,Error ellipse: s-maj=2.7km s-min=2.0km az=162.8*
MOS **12** *14:46:28.5±0.9,2424N×12267E,h33km,mb5.9/100,MS5.7/52,Error ellipse: s-maj=7.6km s-min=3.6km az=120.9*
BJI **12** *14:46:28.3,2406N×12269E,h44km,mB5.9,mb5.3,ML6.1,Ms5.9,Msz5.9*
NEIC **12** *14:46:29.9±0.1,2415N×12263E,h35km,mb5.7/147,ME5.3,MS5.4/57,MW5.7,Error ellipse: s-maj=3.5km s-min=3.2km az=33.0,Moment Tensor Solution. s31 Moment tensor: Scale 10^17Nm; Mrr2.03; Mθθ-2.75; Mφφ0.72; Mrθ2.45; Mθφ-1.03; Mφr2.14; Best double couple: M0=4.20000×10^17 NP1:φs=52.00000°,δ73.00000°,λ70.00000°. NP2:φs=283.00000°,δ26.00000°,λ138.00000°. Principal axes: T 3.9400, Plg57.0000°, Azm296.0000°; N 0.5000, Plg19.0000°, Azm58.0000°; P -4.4400, Plg25.0000°, Azm158.0000°; Broadband fault plane solution: P waves. NP1:φs=269.00000°,δ18.00000°,λ123.00000°. NP2:φs=55.00000°,δ75.00000°,λ80.00000°. Principal axes: T Plg59.0000°, Azm311.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm153.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Taipei. Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien, Nan-t'ou, and T'ai-pei; [1 TAP] in Chang-hua, Miao-li and T'ai-chung Counties. Recorded [2 JMA] on Iriomote-jima, Ishigaki-jima and Yonaguni-jima; [1 JMA] on Tarama-shima, Ryukyu Islands.
JMA **12** *14:46:29.7±0.2,2409N×12258E,h46km,M6.2*
JMA Felt II J1.
GCMT **12** *14:46:30.9±0.1,2388N×12254E,h35km,MW5.8/104, Moment Tensor Solution. s101,c218; s104,c274; Duration: 1!8 Moment tensor: Scale 10^17Nm; Mrr2.37±.05; Mθθ-4.08±.04; Mφφ1.71±.04; Mrθ2.84±.07; Mθφ-0.71±.03; Mφr2.70±.07; Best double couple: M0=5.32000×10^17 NP1:φs=297.00000°,δ33.00000°,λ150.00000°. NP2:φs=53.00000°,δ74.00000°,λ61.00000°. Principal axes: T 5.0950, Plg52.0000°, Azm289.0000°; N 0.4520, Plg28.0000°, Azm62.0000°; P -5.5460, Plg23.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF **12** *14:46:30.9,2422N×12270E,h33km,mb5.9,MS5.9, Taiwan region*
IDC **12** *14:46:30.5±1.3,2409N×12263E,h38km±10km,mb5.0/28, mb1 5.0/32,mb1mx5.0/33,mbtmp5.2/32,ML4.6/3,MS5.4/28, Ms1 5.4/28,ms1mx5.4/30,Error ellipse: s-maj=15.1km s-min=7.7km az=65.0*
ISC 12 14:46:30.9±0.2,2409N±002×12259E±001,h39km±2km, h45km±2.2km:pP-P,n1052,σ1!04/1053,mb5.6/230, MS5.5/100,322C-109D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**46**	⇓P			**Pn**	**14 46 41.3**	**-0.8**
YOJ				S			**Sn**	**14 46 49.4**	**-0.6**
NACB	**Ninganchiao**	**0.91**	**276**	⇑*i*Pn			**Pn**	**14 46 46.4**	**-0.7**
IRIF	**Iriomote-Funau**	**1.07**	**76**	⇑P			**Pn**	**14 46 48.4**	**-1.0**
IRIF				*e*S			**Sn**	**14 47 03.5**	**+0.4**
HATJ	**Hateruma jima**	**1.11**	**91**	⇓P			**Pn**	**14 46 49.1**	**-0.9**
HATJ				*e*S			**Sn**	**14 47 04.5**	**+0.4**
YHNB	**Yeheng**	**1.25**	**298**	⇑*i*Pn			**Pn**	**14 46 52.8**	**+1.0**
JKRS	**Kuro-shima**	**1.31**	**83**	P			**Pn**	**14 46 52.3**	**-0.3**
JKRS				*e*S			**Sn**	**14 47 09.8**	**+0.9**
TATO	**Taipei**	**1.33**	**312**	⇑*i*Pn			**Pn**	**14 46 54.2**	**+1.2**
TATO				*e*Sn			**Sn**	**14 47 12.1**	**+2.6**
JIJ	**Ishigaki jima**	**1.45**	**79**	⇓P			**Pn**	**14 46 53.8**	**-0.8**
JIJ				S			**Sn**	**14 47 12.7**	**+0.4**
JTJ	**Tarama**	**2.01**	**74**	⇓P			**Pn**	**14 47 01.9**	**-0.3**
JTJ				*e*S			**Sn**	**14 47 27.1**	**+1.0**
JMJ	**Miyako jima 2**	**2.57**	**73**	P			**Pn**	**14 47 10.6**	**+0.6**
JMJ				*e*S			**Sn**	**14 47 42.1**	**+2.1**
JOGS	**Gusukube**	**2.66**	**75**	P			**Pn**	**14 47 12.0**	**+0.8**
JOGS				*e*S			**Sn**	**14 47 43.7**	**+1.6**
QZH	**Quanzhou**	**3.74**	**284**	⇑*i*P			**Pn**	**14 47 25.7**	**-0.3**
QZH				S			**Sn**	**14 48 07.6**	**-1.1**
QZH				Smax					
	comp=N,28μm,1.2s								
QZH				Smax					
	comp=E,15μm,1.1s								
QZH				LR			LR		
	comp=E,242μm,14.0s								
QZH				LR			LR		
	comp=Z,233μm,12.2s								
JKE	**Kume jima 2**	**4.41**	**59**	P			**Pn**	**14 47 35.0**	**-0.3**
JKE				*e*S			**Sn**	**14 48 27.5**	**+2.1**
JAGN	**Aguni-jima**	**4.89**	**58**	P			**Pn**	**14 47 42.2**	**+0.3**
NAH1	**Naha**	**5.08**	**64**	P			**Pn**	**14 47 44.3**	**-0.2**
JJT2	**Tamagusuku 2**	**5.11**	**65**	P			**Pn**	**14 47 45.0**	**+0.2**
JIH	**Iheya**	**5.68**	**58**	P			**Pn**	**14 47 52.4**	**-0.3**
JIH				*e*S			**Sn**	**14 48 57.4**	**+0.8**
JOW	**Kunigami**	**5.82**	**61**	Pn			**Pn**	**14 47 53.8**	**-0.9**
	comp=Z,71nm,0.3s,baz=199,slow=7.4,SNR=173								
JOW				Sn			**Sn**	**14 49 00.9**	**+0.8**
	comp=Z,34nm,0.3s,baz=118,slow=19,SNR=2.6								
JOW				LR			LR	14 50 33.3	
	comp=Z,19μm,18.1s,baz=69,slow=42								
JOW	**Kunigami**	**5.82**	**61**	P			**Pn**	**14 47 53.7**	**-1.0**
CVP	**Callao Caves**	**6.39**	**187**	⇑*e*P			**Pn**	**14 47 59.5**	**-3.0**
JTK	**Tokunoshima**	**6.81**	**56**	⇑P			**Pn**	**14 48 06.4**	**-1.8**
JTK				*e*S			**Sn**	**14 49 23.0**	**-1.5**
PALP	**Palanan**	**6.99**	**181**	⇑*e*P			**Pn**	**14 48 09.2**	**-1.5**
PALP				*i* S			**Sn**	**14 49 28.6**	**-0.3**
SSE	**Sheshan**	**7.09**	**350**	P			**Pn**	**14 48 13.1**	**+1.0**
SSE				S			**Sn**	**14 49 33.4**	**+2.0**
SSE				Smax					
	comp=N,2μm,1.2s								
SSE				Smax					
	comp=E,1μm,1.1s								
SSE				LR			LR		
	comp=N,23μm,20.6s								
SSE				LR			LR		
	comp=E,12μm,20.5s								
SSE				LR			LR		
	comp=Z,32μm,21.0s								
JAM	**Amami Oshima**	**7.63**	**54**	P			**Pn**	**14 48 17.7**	**-1.8**
JZK	**Kikaishima**	**7.86**	**56**	P			**Pn**	**14 48 21.8**	**-0.8**
BCPH	**Baguio City Da**	**7.89**	**194**	⇓*e*P			**Pn**	**14 48 22.1**	**-1.0**
HKC	**Hong Kong**	**7.94**	**259**	⇑*e*P			**Pn**	**14 48 25.0**	**+1.3**
HKC				S			**Sn**	**14 49 56.0**	**+3.7**
JMZ	**Minamidaito 2**	**8.02**	**76**	P			**Pn**	**14 48 21.2**	**-3.7**
JMZ				*e*S			**Sn**	**14 49 44.8**	**-10**
NJ2	**Nanjing**	**8.59**	**338**	*e*P			**Pn**	**14 48 32.3**	**-0.4**
NJ2				AP				14 48 40.2	
NJ2				XP				14 48 44.0	
NJ2				S			**Sn**	**14 50 07.6**	**-0.7**
NJ2				Smax					
	comp=N,8μm,1.2s								
NJ2				Smax					
	comp=E,11μm,1.2s								
NJ2				LR			LR		
	comp=N,92μm,13.8s								
NJ2				LR			LR		
	comp=E,54μm,11.2s								
NJ2				LR			LR		
	comp=Z,103μm,12.0s								
PCPH	**Palayan**	**8.60**	**190**	⇑*e*P			**Pn**	**14 48 32.1**	**-0.6**
JNN	**Nakanoshima**	**8.67**	**47**	P			**Pn**	**14 48 34.6**	**+0.9**
POLP	**Polilio Island**	**9.33**	**184**	*e*P			**Pn**	**14 48 41.9**	**-0.9**
WHN	**Wuhan**	**9.74**	**313**	P			**Pn**	**14 48 48.2**	**-0.2**
WHN				AP				14 48 52.3	
WHN				S			**Sn**	**14 50 37.6**	**+1.1**
WHN				LR			LR		
	comp=Z,131μm,12.4s								
TGY	**Tagaytay City**	**10.05**	**189**	*e*P			**Pn**	**14 48 57.0**	**+4.4**
TGY	**Tagaytay City**	**10.05**	**189**	Pn			**Pn**	**14 48 54.6**	**+1.9**
	comp=Z,105nm,0.3s,baz=311,slow=6.5,SNR=9.1								
TGY				LR			LR	14 52 52.2	
	comp=Z,53nm,19.7s,baz=52,slow=38								
PVCP	**Virac**	**10.54**	**172**	⇑*e*P			**Pn**	**14 48 56.8**	**-2.6**
PVCP	**Virac**	**10.54**	**172**	*e*P			**Pn**	**14 48 56.8**	**-2.5**
BOAC	**Boac**	**10.60**	**184**	*e*P			**Pn**	**14 48 58.6**	**-1.5**
AUQP	**San Andres**	**10.71**	**180**	*e*P			**Pn**	**14 49 05.7**	**+4.0**
OTRP	**Odiongan**	**11.67**	**183**	*e*P			**Pn**	**14 49 14.8**	**-0.1**
BUSP	**Coron**	**12.23**	**191**	*e*P			**Pn**	**14 49 21.1**	**-1.4**
QIZ	**Qiongzhong**	**12.88**	**249**	⇓P			**Pn**	**14 49 31.7**	**+0.4**
QIZ				AP				14 49 40.0	
QIZ				PP				14 49 44.4	
QIZ				S			**Sn**	**14 51 55.1**	**+1.9**
QIZ				AMB			AMB		
	comp=Z,48nm,1.9s								
QIZ				AMB			AMB		
	comp=Z,1μm,10.7s								
QIZ				LR			LR		
	comp=N,14μm,16.2s								
QIZ				LR			LR		
	comp=Z,12μm,18.5s								
QIZ	**Qiongzhong**	**12.88**	**249**	⇑*i*Pn			**Pn**	**14 49 31.8**	**+0.5**
	comp=Z,246nm,1.4s								
TIA	**Tai'an**	**12.97**	**340**	*e*P			**Pn**	**14 49 32.4**	**-0.2**
TIA				AMB			AMB		
	comp=Z,3μm,5.0s								
TIA				LR			LR		
	comp=N,23μm,10.0s								
TIA				LR			LR		
	comp=E,18μm,10.0s								
OCLP	**Ormoc**	**13.11**	**171**	*e*P			**Pn**	**14 49 34.6**	**+0.1**
ENPP	**El Nido**	**13.16**	**194**	*e*P			**Pn**	**14 49 31.8**	**-3.3**
CUYO	**Cuyo Island**	**13.25**	**187**	*e*P			**Pn**	**14 49 35.2**	**-1.2**
GUIM	**Jordan**	**13.39**	**180**	*e*P			**Pn**	**14 49 39.0**	**+0.8**
INCN	**Inchon**	**13.80**	**14**	⇑*e*Pn			**Pn**	**14 49 46.2**	**+2.4**
	comp=E,1μm,1.0s								
MSLP	**Maasin**	**14.04**	**171**	*e*P			**Pn**	**14 49 47.2**	**0.0**
SCPH	**Surigao**	**14.49**	**168**	⇑*e*P			**Pn**	**14 49 52.3**	**-1.0**
GYA	**Guiyang**	**14.60**	**283**	⇑*i*P			**Pn**	**14 49 54.0**	**-0.8**
GYA				AP			pP	14 50 02.7	-7.4
GYA				XP			sP	14 50 07.3	-7.8
GYA				S			**Sn**	**14 52 34.3**	**-0.9**
GYA				AMB			AMB		
	comp=Z,120nm,1.0s								
GYA				AMB			AMB		
	comp=Z,2μm,7.8s								
GYA				LR			LR		
	comp=N,28μm,11.2s								
GYA				LR			LR		
	comp=E,42μm,14.2s								
GYA				LR			LR		
	comp=Z,43μm,14.2s								
DL2	**Dalian**	**14.80**	**357**	⇑*i*P			**Pn**	**14 50 00.3**	**+2.9**
DL2				AP			pP	14 50 09.4	-3.0
DL2				S			**Sn**	**14 52 47.2**	**+7.2**
DL2				LG1				14 54 16.5	
DL2				LG2				14 54 40.6	
DL2				SCS			ScS	15 02 14.1	-1.2
DL2				AMB			AMB		
	comp=Z,180nm,1.2s								
DL2				AMB			AMB		
	comp=Z,2μm,4.7s								
DL2				LR			LR		
	comp=N,10μm,14.8s								
DL2				LR			LR		
	comp=E,7μm,14.8s								
DL2				LR			LR		
	comp=Z,15μm,13.2s								
BUTP	**Butuan**	**15.31**	**169**	*e*P			**Pn**	**14 50 03.2**	**-1.0**
XAN	**Xi'an**	**15.51**	**313**	P			**Pn**	**14 50 07.5**	**+0.8**
XAN				S			**Sn**	**14 53 00.2**	**-12**
XAN				AMB			AMB		
	comp=Z,184nm,1.4s								
XAN				AMB			AMB		
	comp=Z,3μm,6.4s								
XAN				LR			LR		
	comp=N,7μm,14.4s								
XAN				LR			LR		
	comp=E,25μm,14.9s								
XAN				LR			LR		
	comp=Z,42μm,15.1s								
BATP	**Bataraza**	**15.88**	**198**	*e*P			**Pn**	**14 50 15.6**	**+4.2**
PAGZ	**Pagadian**	**16.16**	**177**	*e*P			**Pn**	**14 50 14.1**	**-1.0**
IPIL	**Ipil**	**16.21**	**180**	⇓*i*P			**Pn**	**14 50 17.2**	**+1.5**
IPIL	**Ipil**	**16.21**	**180**	*e*P			**Pn**	**14 50 17.3**	**+1.6**
BJT	**Baijiatuau**	**16.78**	**343**	⇑*e*P			**Pn**	**14 50 24.7**	**+1.8**
BJT				pmax			pmax		
	comp=Z,285nm,1.0s								
BJT	**Baijiatuau**	**16.78**	**343**	⇑*e*Pn			**Pn**	**14 50 24.7**	**+1.8**
	comp=Z,285nm,1.0s								
BJI	**Beijing**	**16.80**	**343**	P			**Pn**	**14 50 24.8**	**+1.7**
BJI				S			**S**	**14 53 32.6**	**-5.6**
BJI				AMB			AMB		
	comp=Z,184nm,1.7s								
BJI				AMB			AMB		
	comp=Z,6μm,7.5s								
BJI				LR			LR		
	comp=N,16μm,22.0s								
BJI				LR			LR		
	comp=E,13μm,17.5s								
BJI				LR			LR		
	comp=Z,19μm,22.6s								
BJI	**Beijing**	**16.80**	**343**	P			**Pn**	**14 50 24.8**	**+1.7**
	comp=Z,184nm,1.7s								
BJI				S			**S**	**14 53 32.6**	**-5.6**
DAV	**Davao City (W)**	**17.16**	**170**	*e*Pn			**Pn**	**14 50 26.6**	**-1.1**
JHJ	**Hachijo jima 2**	**17.56**	**55**	P			**Pn**	**14 50 36.8**	**+4.2**
	comp=Z,55nm,0.3s,baz=214,slow=17,SNR=10								
JHJ				S			**S**	**14 53 58.3**	**+4.6**
	comp=Z,2.9nm,0.3s,baz=88,slow=23,SNR=2.1								
JHJ				LR			LR	14 56 54.3	
	comp=Z,8μm,21.4s,baz=71,slow=36								
SNY	**Shenyang**	**17.71**	**2**	⇑P			**Pn**	**14 50 36.2**	**+1.7**
SNY				AP			pP	14 50 46.3	+1.6
SNY				XP			sP	14 50 51.9	+2.3
SNY				S			**S**	**14 53 53.5**	**-3.3**
SNY				AMB			AMB		
	comp=Z,66nm,0.7s								
SNY				AMB			AMB		
	comp=Z,9μm,9.6s								
SNY				LR			LR		
	comp=E,26μm,18.3s								
SNY				LR			LR		
	comp=Z,22μm,17.4s								
CBIJ	**Chichi jima**	**17.93**	**76**	P			**Pn**	**14 50 35.5**	**-1.7**
	comp=Z,4.6nm,0.3s,baz=274,slow=19,SNR=3.1								
CBIJ				LR			LR	14 56 50.2	
	comp=Z,11μm,21.0s,baz=269,slow=35								
CD2	**Chengdu**	**18.02**	**296**	P			**Pn**	**14 50 38.6**	**+0.3**
CD2				AP			pP	14 50 51.7	+3.6
CD2				PP				14 50 54.1	
CD2				XP			sP	14 50 57.4	+4.4
CD2				S			**S**	**14 53 56.9**	**-6.1**
CD2				XS			sS	14 54 13.3	-5.1
CD2				SS				14 54 18.7	
CD2				AMB			AMB		
	comp=Z,290nm,0.9s								
CD2				LR			LR		
	comp=N,5μm,12.0s								
CD2				LR			LR		
	comp=Z,47μm,15.6s								
KMI	**Kunming**	**18.08**	**277**	P			**Pn**	**14 50 40.5**	**+1.5**
KMI				AP			pP	14 50 52.2	+3.5
KMI				PP				14 50 57.2	
KMI				XP			sP	14 50 59.4	+5.8
KMI				PPP				14 51 03.7	
KMI				S			**S**	**14 53 57.4**	**-6.8**
KMI				SS				14 54 21.1	
KMI				SSS				14 54 35.9	
KMI				AMB			AMB		
	comp=Z,100nm,1.9s								
KMI				AMB			AMB		
	comp=Z,4μm,6.5s								
KMI				LR			LR		
	comp=N,11μm,13.3s								
KMI				LR			LR		
	comp=E,38μm,14.3s								
KMI				LR			LR		
	comp=Z,43μm,14.3s								
KMI	**Kunming**	**18.08**	**277**	P			**Pn**	**14 50 40.5**	**+1.5**
	comp=Z,100nm,1.9s								
KMI				pP			pP	14 50 52.2	+3.5
KMI				PP				14 50 57.2	
KMI				sP			sP	14 50 59.4	+5.8
KMI				PPP				14 51 03.7	
KMI				S			**S**	**14 53 57.4**	**-6.8**
KMI				SS				14 54 21.1	
KMI				SSS				14 54 35.9	
MAJO	**Matsushiro**	**18.30**	**44**	⇑*e*P			**Pn**	**14 50 39.0**	**-2.7**
MAJO				pmax			pmax		
	comp=Z,41nm,0.8s								
MAJO	**Matsushiro**	**18.30**	**44**	⇑*e*Pn			**Pn**	**14 50 39.0**	**-2.6**
	comp=Z,42nm,0.8s								
MAT	**Matsushiro**	**18.30**	**44**	P			**Pn**	**14 50 40.1**	**-1.6**
MAT				S			**S**	**14 54 05.0**	**-3.7**
MJAR	**Matsushiro Arr**	**18.30**	**44**	P			**Pn**	**14 50 40.2**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=230,slow=10,SNR=41								
MJAR				S			**S**	**14 54 16.6**	**+7.9**
	baz=232,slow=13,SNR=4.0								
MJAR				ScP			ScP	14 58 44.5	+0.1
	comp=Z,0.0nm,0.3s,baz=224,slow=3.1,SNR=9.3								
MJAR				LR			LR	14 58 45.5	
	comp=Z,7μm,19.6s,baz=230,slow=40								
KKM	**Kota Kinabalu**	**18.96**	**200**	P			**Pn**	**14 50 53.3**	**+3.7**
KKM	**Kota Kinabalu**	**18.96**	**200**	⇓*e*P			**Pn**	**14 50 48.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**19.10**	**334**	*e*P			**Pn**	**14 50 52.7**	**+1.4**
HHC				AP			pP	14 51 02.7	+2.7
HHC				XP			sP	14 51 09.8	+4.9
HHC				S			**S**	**14 54 27.3**	**+2.5**
HHC				PCP			PcP	14 55 10.1	-3.4
HHC				AMB			AMB		
	comp=Z,193nm,1.7s								
HHC				AMB			AMB		
	comp=Z,8μm,11.6s								
HHC				LR			LR		
	comp=N,31μm,14.5s								
HHC				LR			LR		
	comp=E,22μm,15.7s								
HHC				LR			LR		
	comp=Z,37μm,15.7s								
BTO	**Baotou**	**19.56**	**330**	*e*P			**Pn**	**14 50 56.7**	**-0.1**
BTO				S			**S**	**14 54 36.3**	**+2.3**
BTO				LR			LR		
	comp=N,18μm,14.3s								
BTO				LR			LR		
	comp=E,7μm,12.9s								
CN2	**Changchun**	**19.80**	**6**	⇑P			**Pn**	**14 50 58.0**	**-1.7**
CN2				*e*XP			sP	14 51 14.7	+2.1
CN2				*e*S			**S**	**14 54 33.3**	**-5.7**
CN2				AMB			AMB		
	comp=Z,60nm,1.2s								
CN2				AMB			AMB		
	comp=Z,2μm,9.0s								
CN2				LR			LR		
	comp=N,30μm,17.0s								
CN2				LR			LR		
	comp=E,18μm,17.0s								
CN2				LR			LR		
	comp=Z,30μm,18.0s								
KKTK	**Khon Kaen**	**20.07**	**251**	P			**P**	**14 51 02.0**	**+1.2**
	comp=Z,741nm,0.6s								
LZH	**Lanzhou**	**20.11**	**311**	⇑P			**P**	**14 51 03.9**	**+2.6**
LZH				AP				14 51 15.0	
LZH				XP			sP	14 51 18.4	+2.5
LZH				*e*S			**S**	**14 54 49.0**	**+4.0**
LZH				PCP			PcP	14 55 17.1	+1.8
LZH				AMB			AMB		
	comp=Z,369nm,1.1s								
LZH				AMB			AMB		
	comp=Z,4μm,6.2s								
LZH				LR			LR		
	comp=N,31μm,14.6s								
LZH				LR			LR		
	comp=Z,48μm,15.0s,MS6.0								
LZH	**Lanzhou**	**20.11**	**311**	⇑P			**P**	**14 51 03.9**	**+2.6**
LZH				*PP				14 51 15.0	
LZH				*SP			sP	14 51 18.4	+2.5
LZH								14 51 28.2	
LZH				*e*S			**S**	**14 54 49.0**	**+4.0**
LZH				*SS			sS	14 55 05.2	+4.6
LZH								14 55 17.1	
LZH				SS				14 55 18.1	
LZH				pmax			pmax		
	comp=Z,369nm,1.1s								
LZH				MLR			MLR		
	comp=Z,48μm,15.0s,MS6.0								
LZH	**Lanzhou**	**20.11**	**311**	⇑P			**P**	**14 51 03.9**	**+2.6**
	comp=Z,369nm,1.1s								
LZH				pP				14 51 15.0	
LZH				sP			sP	14 51 18.4	+2.5
LZH				PP				14 51 28.2	
LZH				*e*S			**S**	**14 54 49.0**	**+4.0**
LZH				sS			sS	14 55 05.2	+4.6
LZH				PcP			PcP	14 55 17.1	+1.8
LZH				SS				14 55 18.1	
LZH				LR			LR		
	comp=Z,48μm,15.0s,MS6.0								
TSM	**Tawau**	**20.20**	**194**	P			**P**	**14 51 03.2**	**+1.0**
VLA	**Vladivostok**	**20.48**	**20**	⇑*e*P			**P**	**14 51 03.9**	**-1.4**
VLA				pmax			pmax		
	comp=Z,124nm,2.1s								
VLA				MLR			MLR		
	comp=Z,16μm,19.0s,MS5.4								
VLA	**Vladivostok**	**20.48**	**20**	⇑*e*P			**P**	**14 51 03.0**	**-2.3**
MDJ	**Mudanjiang**	**21.26**	**14**	P			**P**	**14 51 12.6**	**-1.2**
MDJ				AP				14 51 22.6	
MDJ				XP			sP	14 51 28.4	-0.1
MDJ				S			**S**	**14 55 07.3**	**-0.5**
MDJ				AMB			AMB		
	comp=Z,25nm,0.9s								
MDJ				AMB			AMB		
	comp=Z,547nm,7.3s								
MDJ				LR			LR		
	comp=N,13μm,17.6s,MS5.6								
MDJ				LR			LR		
	comp=E,19μm,16.3s,MS5.6								
MDJ				LR			LR		
	comp=Z,25μm,14.1s,MS5.8								
MDJ	**Mudanjiang**	**21.26**	**14**	*e*P			**P**	**14 51 12.4**	**-1.4**
	comp=Z,260nm,1.3s,mb5.4								
MDJ				LR			LR		
	comp=Z,16μm,20.0s,MS5.4								
CHAT	**Chantaburi**	**22.51**	**243**	P			**P**	**14 51 19.0**	**-8.1**
CHG	**Chiang Mai**	**22.61**	**261**	⇑P			**P**	**14 51 28.7**	**+0.6**
	comp=Z,150nm,1.4s,mb5.2								
CHTO	**Chiang Mai**	**22.61**	**261**	P			**P**	**14 51 29.9**	**+1.8**
	SNR=108								
CHTO	**Chiang Mai**	**22.61**	**261**	⇑*i*P			**P**	**14 51 29.4**	**+1.3**
CHTO				pmax			pmax		
	comp=Z,710nm,2.0s,mb5.8								
CHTO	**Chiang Mai**	**22.61**	**261**	⇑*i*P			**P**	**14 51 29.4**	**+1.3**
	comp=Z,722nm,2.0s,mb5.8								
NST	**Nakhon Sawan**	**22.69**	**253**	P			**P**	**14 51 31.1**	**+2.1**
CM31	**Chiang Mai Arr**	**22.72**	**260**	⇑*i*P			**P**	**14 51 30.7**	**+1.4**
CM31				LR			LR		
	comp=Z,9μm,19.0s,MS5.2								
GUMO	**Guam**	**23.50**	**112**	P			**P**	**14 51 35.9**	**-1.4**
	comp=Z,286nm,1.1s,mb5.6,baz=238,slow=4.9,SNR=9.7								
GUMO				LR			LR	15 00 25.3	
	comp=Z,9μm,18.5s,MS5.3,baz=120,slow=36								
GUMO	**Guam**	**23.50**	**112**	⇓*i*P			**P**	**14 51 36.3**	**-1.0**
GUMO				*e*PP				14 51 48.4	
GUMO	**Guam**	**23.50**	**112**	⇓*i*P			**P**	**14 51 36.3**	**-1.0**
GUMO				*e*pP				14 51 48.4	
GUMO				LR			LR	15 00 25.3	
NNT	**Nongplab**	**24.48**	**246**	P			**P**	**14 51 48.0**	**+1.8**
GTA	**Gaotai**	**24.57**	**314**	⇑P			**P**	**14 51 47.5**	**+0.5**
GTA				AP				14 52 01.1	
GTA				XP			sP	14 52 05.6	+3.2
GTA				PP				14 52 24.9	
GTA				PCP			PcP	14 55 25.5

HIA	**Hailar**	**25.23**	**356⇑**	*eP*	**P**	**14 51 50.0**	**-3.1**
HIA				pmax	pmax		
	comp=Z,185nm,1.2s						
HIA				MLR	MLR		
	comp=Z,12μm,19.0s						
HIA	**Hailar**	**25.23**	**356⇑**	*eP*	**P**	**14 51 50.0**	**-3.1**
	comp=Z,185nm,1.2s,mb5.5						
HIA				LR	LR		
	comp=Z,12μm,19.0s,MS5.4						
KSM	**Kuching**	**25.43**	**210⇓**	*eP*	**P**	**14 51 54.4**	**-0.4**
KSM				*e*pP	pP	14 52 07.7	+2.2
ASAJ	**Asahikawa**	**25.83**	**34**	P	**P**	**14 51 56.6**	**-1.9**
	comp=Z,30nm,0.6s,mb5.0,baz=213,slow=9.7,SNR=33						
ASAJ				LR	LR	15 01 57.4	
	comp=Z,8μm,21.9s,MS5.2,baz=240,slow=36						
IMP	**Imphal**	**26.08**	**277**	*eP*	**P**	**14 52 02.0**	**+1.2**
KLR	**Kul'dur**	**26.11**	**14**	*eP*	**P**	**14 51 55.0**	**-6.0**
KLR				pmax	pmax		
	comp=Z,130μm,1.4s						
KLR				pmax	pmax		
	comp=E,67nm,1.4s						
KLR				pmax	pmax		
	comp=N,1μm,10.0s						
KLR				pmax	pmax		
	comp=Z,2μm,10.0s						
KLR				MLR	MLR		
	comp=Z,96μm,12.5s,MS6.5						
SNG	**Songkhla**	**26.95**	**235**	P	**P**	**14 52 10.0**	**+1.4**
SONM	**Songino Array**	**26.97**	**336**	P	**P**	**14 52 08.1**	**-0.7**
	comp=Z,49nm,0.8s,mb5.1,baz=143,slow=9.2,SNR=298						
SONM				PcP	PcP	14 55 29.8	0.0
	comp=Z,3.9nm,0.6s,baz=176,slow=4.0,SNR=10						
SONM				ScP	ScP	14 59 07.5	+0.6
	comp=Z,13nm,1.1s,baz=152,slow=3.5,SNR=11						
SONM				LR	LR	15 04 03.8	
	comp=Z,25μm,20.5s,MS5.8,baz=196,slow=39						
SONM	**Songino Array**	**26.97**	**336**	P	**P**	**14 52 08.1**	**-0.7**
SONM						14 55 29.8	
SHL	**Shillong**	**27.88**	**279**	*i* P	**P**	**14 52 18.2**	**+1.3**
SHL				AMb	AMB	14 52 30.8	
	comp=Z,1μm,0.9s,mb6.4						
SHL				*e*S	**S**	**14 57 02.0**	**+4.3**
YSS	**Yuzh-Sakhalins**	**27.95**	**30**	*αe*P	**P**	**14 52 16.0**	**-1.6**
YSS				*e*	pP	14 52 26.5	-1.8
YSS				*e*		14 53 11.0	
YSS				*e*		14 55 32.0	
YSS				*e*S	**S**	**14 56 55.0**	**-3.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.1						
YSS				MLR	MLR		
	comp=N,7μm,16.0s						
YSS				MLR	MLR		
	comp=Z,7μm,16.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**27.95**	**30⇑**	*eP*	**P**	**14 52 16.4**	**-1.1**
	comp=Z,166nm,1.1s,mb5.6						
YSS				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
KULM	**Kulim**	**28.19**	**232⇑**	*i*P	**P**	**14 52 20.4**	**+0.7**
KULM				*e*pP	pP	14 52 31.4	+1.0
KULM				*es*P	sP	14 52 36.0	+0.9
IPM	**Ipoh**	**28.49**	**230**	P	**P**	**14 52 22.3**	**-0.1**
LSA	**Lhasa**	**28.53**	**288**	P	**P**	**14 52 24.2**	**+1.4**
LSA				AP	pP	14 52 32.9	-0.6
LSA				XP	sP	14 52 36.6	-1.6
LSA				SCS	ScS	15 02 59.9	-5.0
LSA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
LSA				LR	LR		
	comp=N,4μm,18.5s,MS5.7						
LSA				LR	LR		
	comp=E,18μm,17.0s,MS5.7						
LSA				LR	LR		
	comp=Z,24μm,17.8s,MS5.8						
LSA	**Lhasa**	**28.53**	**288⇑**	*i*P	**P**	**14 52 25.1**	**+2.3**
LSA				pmax	pmax		
	comp=Z,88nm,0.8s,mb5.5						
LSA				MLR	MLR		
	comp=Z,21μm,20.0s,MS5.7						
LSA	**Lhasa**	**28.53**	**288⇑**	*i*P	**P**	**14 52 25.1**	**+2.3**
	comp=Z,88nm,0.8s,mb5.5						
LSA				LR	LR		
	comp=Z,21μm,20.0s,MS5.7						
AGT	**Agartala**	**28.60**	**276**	*i* P	**P**	**14 52 26.0**	**+2.6**
AGT				*i x*	x	14 53 34.0	
CIT	**Chita**	**28.74**	**348**	*eP*	**P**	**14 52 15.0**	**-10**
CIT				*e*		14 53 18.5	
CIT				*e*		14 53 34.2	
CIT				pmax	pmax		
	comp=Z,177nm,1.9s,mb5.5						
KGM	**Kluang**	**28.79**	**223**	P	**P**	**14 52 27.1**	**+2.0**
ZAK	**Zakamensk**	**30.23**	**335⇓**	*i*P	**P**	**14 52 35.9**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
PBA	**Port Blair**	**30.90**	**252**	*ex*	x	14 52 01.5	
PBA				*ex*	x	14 58 37.7	
TLY	**Talaya**	**31.15**	**337**	P	**P**	**14 52 45.8**	**-0.1**
	comp=Z,269nm,0.7s,mb6.2,SNR=17						
TLY	**Talaya**	**31.15**	**337**	*c i*P	**P**	**14 52 44.4**	**-1.5**
TLY				*e*		14 52 59.3	
TLY				*e*		14 53 44.1	
TLY				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.3						
TLY				MLR	MLR		
	comp=Z,17μm,15.0s,MS5.8						
TLY	**Talaya**	**31.15**	**337⇑**	*i*P	**P**	**14 52 44.8**	**-1.1**
	comp=Z,199nm,1.4s,mb5.8						
TLY				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
IRK	**Irkutsk**	**31.40**	**338**	*eP*	**P**	**14 52 46.6**	**-1.5**
IRK				pmax	pmax		
	comp=Z,192nm,1.8s,mb5.6						
CAL	**Calcutta**	**31.45**	**274**	*eP*	**P**	**14 52 50.7**	**+2.1**
CAL				*e*S	S	14 58 16.6	+23
MOY	**Mondy**	**32.14**	**334**	*eP*	**P**	**14 52 53.3**	**-1.3**
MOY				pmax	pmax		
	comp=Z,154nm,2.6s,mb5.4						
CLNS	**Chul'man**	**32.76**	**2**	*eP*	**P**	**14 52 59.1**	**-1.0**
CLNS				*e*		14 54 27.3	
CLNS				*e*SS	SS	15 00 09.6	-26
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
CLNS				pmax	pmax		
	comp=E,20nm,1.3s						
CLNS				MLR	MLR		
	comp=N,10μm,14.0s,MS5.8						
CLNS				MLR	MLR		
	comp=Z,20μm,14.0s,MS6.0						
CLNS				MLR	MLR		
	comp=E,6μm,13.0s,MS5.8						
JIRN	**Jiri**	**32.87**	**284⇑**	*i*P	**P**	**14 53 02.8**	**+1.8**
GUN	**Gumba**	**33.13**	**285⇑**	*i*P	**P**	**14 53 04.5**	**+1.2**
	comp=E,254nm,0.9s,mb6.2						
BOK	**Bokaro**	**33.48**	**277**	*eP*	**P**	**14 53 05.8**	**-0.6**
BOK				AMb	AMB	14 53 12.2	
	comp=Z,195nm,0.9s,mb6.0						
PKI	**Pulchoki**	**33.56**	**284⇑**	*i*P	**P**	**14 53 08.2**	**+1.1**
	comp=Z,228nm,1.0s,mb6.1						
KKN	**Kakani**	**33.67**	**284⇑**	*i*P	**P**	**14 53 09.0**	**+1.0**
	comp=Z,300nm,1.0s,mb6.2						
DMN	**Daman**	**33.83**	**284⇑**	*i*P	**P**	**14 53 10.5**	**+1.1**
	comp=Z,260nm,0.9s,mb6.2						
GKN	**Gorkha**	**34.23**	**285⇑**	*i*P	**P**	**14 53 13.5**	**+0.7**
	comp=Z,178nm,0.8s,mb6.1						
BOD	**Bodaibo**	**34.26**	**352**	*eP*	**P**	**14 53 10.4**	**-2.7**
BOD				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6						
WMQ	**Urumqi**	**34.65**	**313⇑**	*i*P	**P**	**14 53 17.2**	**+0.7**
WMQ				AP	pP	14 53 30.0	+2.7
WMQ				XP	sP	14 53 37.0	+5.0
WMQ				PP	PP	14 54 36.0	+0.6
WMQ				PCP	PcP	14 55 51.0	+0.9
WMQ				S	**S**	**14 58 43.0**	**-0.5**
WMQ				XS	sS	14 59 03.0	+1.6
WMQ				PCS	PcS	14 59 35.0	-1.6
WMQ				SS	SS	15 00 57.0	-18
WMQ				AMB	AMB		
	comp=Z,78nm,1.6s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,810nm,5.1s						
WMQ				LR	LR		
	comp=N,8μm,11.0s,MS5.9						
WMQ				LR	LR		
	comp=E,9μm,12.4s,MS5.9						
WMQ				LR	LR		
	comp=Z,7μm,14.7s,MS5.5						
KOLN	**Koldanda**	**35.16**	**284⇑**	*i*P	**P**	**14 53 21.8**	**+0.9**
	comp=Z,197nm,0.9s,mb6.0						
SKR	**Severo-Kuril's**	**37.08**	**36**	*eP*	**P**	**14 53 29.5**	**-7.8**
SKR				*e*		14 53 47.0	
SKR				*e*PPP		14 55 17.0	
SKR				*e*S	**S**	**14 59 26.0**	**+5.3**
SKR				*e*SSS		15 01 53.0	
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,290nm,1.0s,mb6.1						
SKR				smax			
	comp=E,4μm,24.0s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=E,6μm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=Z,5μm,16.0s,MS5.4						
VIS	**Vishakhapatnam**	**37.13**	**268**	*eP*	**P**	**14 53 39.5**	**+1.8**
VIS				AMb	AMB	14 53 48.7	
	comp=Z,133nm,1.1s,mb5.7						
KAKA	**Kakadu**	**37.82**	**164**	*eP*	**P**	**14 53 41.2**	**-2.4**
	comp=Z,42nm,0.9s,mb5.2						
LGTI	**Lohaghat**	**38.02**	**288**	*eP*	**P**	**14 53 47.0**	**+1.7**
YAK	**Yakutsk**	**38.23**	**5**	*c i*P	**P**	**14 53 44.4**	**-2.7**
YAK				*i* *PP	pP	14 53 53.5	-4.5
YAK				*e*		14 55 11.1	
YAK				*e*		14 55 59.5	
YAK				*e*S	**S**	**14 59 34.3**	**-3.9**
YAK				*e**SS	sS	14 59 51.5	-4.8
YAK				*e*SS	SS	15 02 09.9	-17
YAK				*e*SSS		15 02 40.4	
YAK				*i*		15 03 50.5	
YAK				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.4						
YAK				pmax	pmax		
	comp=N,53nm,1.3s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK				pmax	pmax		
	comp=Z,375nm,5.3s						
YAK				pmax	pmax		
	comp=N,540nm,5.2s						
YAK				pmax	pmax		
	comp=E,180nm,2.8s						
YAK				smax			
	comp=N,739nm,5.7s						
YAK				smax			
	comp=Z,242nm,4.6s						
YAK				smax			
	comp=E,357nm,4.5s						
YAK				MLR	MLR		
	comp=Z,6μm,12.0s,MS5.7						
YAK				MLR	MLR		
	comp=N,4μm,11.0s,MS5.6						
YAK				MLR	MLR		
	comp=E,4μm,12.0s,MS5.6						
YAK	**Yakutsk**	**38.23**	**5⇑**	*i*P	**P**	**14 53 43.9**	**-3.2**
	comp=E,110nm,0.8s,mb5.6						
YAK				*e*pP	pP	14 53 53.0	-5.0
YAK				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
JBP	**Jabalpur**	**38.93**	**278⇑**	*eP*	**P**	**14 53 55.4**	**+2.4**
JBP				*i* S	PP	14 55 23.1	+0.5
MK31	**Makanchi Array**	**39.30**	**315**	*i* P	**P**	**14 53 55.5**	**-0.5**
MK31				pmax	pmax		
	comp=Z,108nm,0.8s,mb5.6						
MKAR	**Makanchi Array**	**39.30**	**315**	P	**P**	**14 53 55.9**	**-0.1**
	comp=Z,55nm,0.8s,mb5.3,baz=104,slow=10,SNR=340						
MKAR				PcP	PcP	14 56 04.0	-0.2
	comp=Z,21nm,0.7s,baz=92,slow=4.9,SNR=7.2						
MKAR				ScP	ScP	14 59 50.2	+0.6
	comp=Z,4.1nm,1.0s,baz=115,slow=5.5,SNR=5.8						
MKAR				ScS	ScS	15 04 00.1	-1.3
	comp=Z,0.3nm,0.5s,baz=101,slow=9.0,SNR=3.9						
MKAR				LR	LR	15 11 34.3	
	comp=Z,11μm,18.4s,MS5.7,baz=106,slow=38						
MKAR	**Makanchi Array**	**39.30**	**315**	P	**P**	**14 53 55.9**	**-0.1**
MKAR						14 56 04.0	
MKAR						14 59 50.2	
MKAR						15 04 00.1	
MKAR	**Makanchi Array**	**39.30**	**315**	P	**P**	**14 53 55.9**	**-0.1**
MKAR				PcP	PcP	14 56 04.0	-0.2
MKAR				ScP	ScP	14 59 50.2	+0.6
MKAR				ScS	ScS	15 04 00.1	-1.3
MKAR				LR	LR	15 11 34.3	
PET	**Petropavlovsk**	**39.67**	**34**	*eP*	**P**	**14 53 56.4**	**-2.7**
PET				*e*S	**S**	**14 59 57.1**	**-2.7**
PET				*e*SS	SS	15 02 44.9	-11
PET				*e*SSS		15 03 17.8	
PET				pmax	pmax		
	comp=Z,75nm,0.8s,mb5.5						
PET				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.3						
PET	**Petropavlovsk**	**39.67**	**34**	*eP*	**P**	**14 53 55.5**	**-3.6**
	comp=Z,29nm,0.5s,mb5.3						
PET				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
NGP	**Nagpur**	**40.18**	**275⇑**	*eP*	**P**	**14 54 03.2**	**0.0**
NGP				*ex*	x	14 54 07.2	
	comp=Z,160nm,1.8s						
NGP				*e*S	**S**	**15 00 08.8**	**+1.4**
MA2	**Magadan**	**40.59**	**22**	PFAKE		14 54 20.0	+13
MA2				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
NDI	**New Delhi**	**40.72**	**287**	*eP*	**P**	**14 54 08.2**	**+0.4**
NDI				AMb	AMB	14 54 11.4	
	comp=Z,342nm,2.1s,mb5.6						
SDNR	**Sundarnagar**	**40.79**	**291**	*eP*	**P**	**14 54 10.0**	**+1.6**
ZAL	**Zalesovo**	**41.03**	**327**	P	**P**	**14 54 08.7**	**-1.6**
	comp=Z,21nm,0.9s,mb4.8,baz=359,slow=8.5,SNR=91						
ZAL				PcP	PcP	14 56 08.7	-1.1
	comp=Z,7.2nm,0.6s,baz=305,slow=4.1,SNR=5.7						
ZAL				ScP	ScP	14 59 55.9	-0.5
	comp=Z,3.1nm,1.0s,baz=335,slow=11,SNR=3.4						
ZAL				ScS	ScS	15 04 07.0	-4.7
	comp=Z,1.0nm,0.3s,baz=85,slow=24,SNR=13						
ZAL				LR	LR	15 13 14.0	
	comp=Z,23μm,18.6s,MS6.1,baz=343,slow=39						
ZAL	**Zalesovo**	**41.03**	**327**	P	**P**	**14 54 08.7**	**-1.6**
ZAL						14 56 08.7	
ZAL						15 04 07.1	
PMG	**Port Moresby**	**41.04**	**141**	P	**P**	**14 54 09.7**	**-0.7**
	comp=Z,82nm,1.0s,mb5.3,baz=341,slow=8.3,SNR=14						
PMG	**Port Moresby**	**41.04**	**141⇓**	*i*P	**P**	**14 54 10.0**	**-0.4**
	comp=Z,178nm,1.3s,mb5.5						
PMG				*e*pP	pP	14 54 22.3	+0.9
PMG				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
BHPL	**Bhopal**	**41.24**	**278**	*eP*	**P**	**14 54 12.7**	**+0.7**
BHK	**Bhakra**	**41.27**	**291**	*eP*	**P**	**14 54 13.2**	**+0.9**
MDRS	**Chennai**	**41.46**	**262⇑**	*i*P	**P**	**14 54 13.7**	**-0.1**
MDRS				*eP*		14 54 14.1	
MDRS				AMb	AMB	14 54 19.2	
	comp=Z,104nm,1.5s,mb5.2						
MDRS				*ex*	x	15 06 55.7	
HYB	**Hyderabad**	**41.58**	**269⇑**	*i*P	**P**	**14 54 16.0**	**+1.2**
HYB				*e*S	**S**	**15 00 32.0**	**+3.8**
HYB	**Hyderabad**	**41.58**	**269⇑**	*eP*	**P**	**14 54 16.0**	**+1.2**
HYB				*e*S	**S**	**15 00 32.0**	**+3.8**
THN	**Thein Dam**	**41.84**	**292**	*eP*	**P**	**14 54 16.8**	**-0.2**
AAA	**Alma-Ata**	**41.93**	**309**	*i* P	**P**	**14 54 19.4**	**+1.7**
AAA				*e*S	**S**	**15 00 32.9**	**-0.6**
AAA				pmax	pmax		
	comp=Z,2μm,5.2s						
AAA				smax			
	comp=E,1μm,19.2s						
AAA				MLR	MLR		
	comp=Z,7μm,13.4s,MS5.7						
KSH	**Kashi**	**42.03**	**303**	⇑P	**P**	**14 54 21.2**	**+2.7**
KSH				*e*AP	pP	14 54 33.0	+3.5
KSH				*e*XP	sP	14 54 39.5	+5.4
KSH				*e*PP	PP	14 56 02.0	+5.8
KSH				*e*PCP	PcP	14 56 16.4	+3.4
KSH				*e*PPP		14 56 34.1	
KSH				*e*SCP	ScP	15 00 02.1	+1.8
KSH				*e*S	**S**	**15 00 36.0**	**+1.2**
KSH				*e*PS		15 00 46.3	
KSH				*e*XS	sS	15 00 57.5	+4.4
KSH				*e*SS	SS	15 03 38.6	-4.2
KSH				*e*SCS	ScS	15 04 17.2	-0.6
KSH				AMB	AMB		
	comp=Z,3μm,2.7s,mb6.5						
KSH				LR	LR		
	comp=N,11μm,14.8s,MS6.1						
KSH				LR	LR		
	comp=E,18μm,15.6s,MS6.1						
KSH				LR	LR		
	comp=Z,11μm,12.3s,MS5.9						
FITZ	**Fitzroy Crossi**	**42.04**	**176⇓**	*i*P	**P**	**14 54 16.8**	**-1.8**
	comp=Z,81nm,1.4s,mb5.2						
FITZ				*e*pP	pP	14 54 30.0	+0.4
FITZ				*e*S	**S**	**15 00 30.6**	**-4.4**
FITZ	**Fitzroy Crossi**	**42.04**	**176**	P	**P**	**14 54 17.0**	**-1.5**
	comp=Z,79nm,1.3s,mb5.2,baz=5.0,slow=8.8,SNR=40						
AKL	**Akola**	**42.13**	**275**	*i* P	**P**	**14 54 21.4**	**+2.1**
AKL				*i* S	**S**	**15 00 39.5**	**+3.1**
ULHL	**Ulahol**	**42.24**	**307**	P	**P**	**14 54 22.2**	**+2.0**
	SNR=10						
NVS	**Novosibirsk**	**42.28**	**327⇑**	*i*P	**P**	**14 54 17.9**	**-2.7**
NVS				pmax	pmax		
	comp=N,112nm,1.8s						
NVS				pmax	pmax		
	comp=E,109nm,1.8s						
NVS				pmax	pmax		
	comp=Z,145nm,1.8s,mb5.3						
TKM2	**Tokmak 2**	**42.83**	**308**	P	**P**	**14 54 26.7**	**+1.6**
	SNR=123						
TKM2	**Tokmak 2**	**42.83**	**308**	*i* P	**P**	**14 54 25.9**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,315nm,1.6s,mb5.8						
TKM2	**Tokmak 2**	**42.83**	**308**	*i* P	**P**	**14 54 25.0**	**-0.1**
KZA	**Kyzart**	**42.94**	**307**	P	**P**	**14 54 28.6**	**+2.7**
	SNR=16						
KURK	**Kurchatov**	**42.99**	**320**	P	**P**	**14 54 25.9**	**-0.4**
	comp=Z,487nm,1.0s,mb6.2,SNR=88						
LATR	**Latur**	**43.12**	**272**	*eP*	**P**	**14 54 27.1**	**-0.3**
AJM	**Ajmer**	**43.22**	**284**	*eP*	**P**	**14 54 28.8**	**+0.7**
AJM				AMb	AMB	14 54 33.0	
	comp=Z,289nm,1.0s,mb6.0						
KBK	**Karagaybulak**	**43.26**	**307**	P	**P**	**14 54 30.2**	**+1.7**
	SNR=62						
PALK	**Pallekele**	**43.44**	**254⇑**	*i*P	**P**	**14 54 31.9**	**+1.9**
	comp=Z,122nm,2.0s,mb5.3						
PALK				*e*pP	pP	14 54 42.8	+1.8
PALK				LR	LR		
	comp=Z,759nm,20.0s,MS4.6						
CHMS	**Chumysh**	**43.46**	**308**	P	**P**	**14 54 31.2**	**+1.1**
	SNR=52						
UCH	**Uchtor**	**43.50**	**307**	P	**P**	**14 54 32.8**	**+2.3**
	SNR=236						
FRU	**Bishkek**	**43.53**	**307⇑**	*i*P	**P**	**14 54 31.0**	**+0.3**
FRU				*e*		14 56 16.0	
FRU				*e*		15 04 22.0	
FRU				pmax	pmax		
	comp=Z,440nm,1.8s,mb5.9						
FRU				pmax	pmax		
	comp=Z,2μm,4.0s						
FRU				MLR	MLR		
	comp=Z,10μm,16.0s,MS5.8						
AAK	**Ala-Archa**	**43.58**	**307**	P	**P**	**14 54 32.5**	**+1.4**
	SNR=41						
AAK	**Ala-Archa**	**43.58**	**307**	P	**P**	**14 54 31.1**	**0.0**
	comp=Z,303nm,1.0s,mb6.0,SNR=42						
AAK	**Ala-Archa**	**43.58**	**307⇑**	*i*P	**P**	**14 54 31.3**	**+0.2**
AAK				*e*		14 56 17.3	
AAK				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.2						
AAK				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3						
AAK	**Ala-Archa**	**43.58**	**307⇑**	*i*P	**P**	**14 54 31.3**	**+0.2**
	comp=Z,48nm,0.9s,mb5.2						
AAK				*e*PcP	PcP	14 56 17.3	-0.9
AAK				*e*ScP	ScP	15 00 06.5	-0.1
AAK				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
SEY	**Seymchan**	**43.64**	**19⇑**	*eP*	**P**	**14 54 30.2**	**-1.4**
USP	**Ospenovka**	**43.69**	**308**	P	**P**	**14 54 32.9**	**+1.0**
	SNR=28						
NIL	**Nilore**	**43.89**	**294**	P	**P**	**14 54 35.6**	**+2.0**
	comp=Z,142nm,0.7s,mb5.8,SNR=8.8						
AML	**Almayashu**	**44.09**	**306**	P	**P**	**14 54 37.4**	**+2.2**
	SNR=108						
EKS2	**Erkin-Say**	**44.11**	**307**	P	**P**	**14 54 36.7**	**+1.3**
	SNR=53						
MBWA	**Marble Bar**	**45.06**	**184**	*eP*	**P**	**14 54 41.3**	**-1.6**
	comp=Z,255nm,1.8s,mb5.8						
MBWA				*e*pP	pP	14 54 53.2	-0.8
MBWA				*e*PP	PP	14 56 32.4	+3.8
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
WRAB	**Tennant Creek**	**45.23**	**164**	P	**P**	**14 54 43.0**	**-1.3**
	comp=Z,452nm,1.5s,mb6.1,SNR=26						
WRA	**Warramunga Arr**	**45.24**	**164**	P	**P**	**14 54 43.6**	**-0.8**
	comp=Z,55nm,1.1s,mb5.3,baz=347,slow=8.9,SNR=137						
WRA				ScP	ScP	15 00 12.5	-0.9
	comp=Z,9.0nm,1.3s,baz=344,slow=4.7,SNR=4.9						
WRA				S	**S**	**15 01 18.5**	**-3.2**
	comp=Z,5.9nm,1.1s,baz=346,slow=13,SNR=4.2						
WRA				LR	LR	15 13 33.1	
	comp=Z,2μm,21.2s,MS5.1,baz=15,slow=36						
WRA	**Warramunga Arr**	**45.24**	**164**	P	**P**	**14 54 43.6**	**-0.7**
WRA				S	**S**	**15 01 18.5**	**-3.2**
WB2	**Warramunga Arr**	**45.24**	**164⇓**	*i*P	**P**	**14 54 43.5**	**-0.8**
WB2				*e*pP	pP	14 54 56.5	+1.1
POO	**Poona**	**45.56**	**273⇑**	*i*P	**P**	**14 54 45.0**	**-1.9**
	comp=Z,90nm,1.0s,mb5.7						
KAD	**Karad**	**45.60**	**271**	*eP*	**P**	**14 54 48.0**	**+0.7**
TRD	**Trivandrum**	**46.22**	**258**	*eP*	**P**	**14 54 53.8**	**+1.7**
BHV	**Bhavnagar**	**46.32**	**278**	*ex*	x	14 53 59.0	
BOM	**Bombay**	**46.41**	**274**	*ex*	x	14 54 41.3	
BOM				*ex*	x	14 54 49.1	
	comp=Z,123nm,0.9s						
BOM				*ex*	x	15 00 37.0	
MNGI	**Mangalore**	**46.43**	**265**	*i* P	**P**	**14 54 55.1**	**+1.3**
MNGI				AMb	AMB	14 54 56.7	
	comp=Z,71nm,1.4s,mb5.4						
MNGI				*i* S	**S**	**15 01 40.8**	**+2.0**
CHKZ	**Chkalovo**	**48.61**	**321⇑**	*eP*	**P**	**14 55 09.0**	**-1.7**
CHKZ				*e*		14 56 34.8	
CHKZ				*e*		14 57 01.0	
CHKZ				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
CHKZ	**Chkalovo**	**48.61**	**321⇑**	*eP*	**P**	**14 55 08.9**	**-1.7**
	comp=Z,72nm,1.0s,mb5.7						
CHKZ				*e*PcP	PcP	14 56 34.8	-1.0
CHKZ				*e*PP	PP	14 57 01.0	-2.7
CHKZ				*e*ScP	ScP	15 00 24.2	-3.3
BRVK	**Borovoye**	**48.63**	**320**	P	**P**	**14 55 09.6**	**-1.2**
	comp=Z,242nm,0.9s,mb6.2,SNR=34						
BRVK	**Borovoye**	**48.63**	**320⇑**	*eP*	**P**	**14 55 09.8**	**-1.0**
BRVK				*e*		14 56 35.2	
BRVK				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.5						
BRVK				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9						
BRVK	**Borovoye**	**48.63**	**320⇑**	*eP*	**P**	**14 55 09.8**	**-1.0**
	comp=Z,45nm,0.9s,mb5.5						
BRVK				*e*PcP	PcP	14 56 35.1	-0.7
BRVK

ZRNK e 14 56 37.3
ZRNK eS **S** **15 02 19.5 -0.8**
ZRNK pmax pmax
comp=Z,59nm,1.0s,mb5.6
ZRNK Zerenda 49.35 320⇑ iP **P** **14 55 15.4 -1.0**
comp=Z,59nm,1.0s,mb5.6
ZRNK ePcP PcP 14 56 37.3 -1.2
ZRNK eScP ScP 15 00 29.7 -1.0
ZRNK eS **S** **15 02 19.5 -0.8**
HNR Honiara 49.41 128 P **P** **14 55 16.9 +0.2**
comp=Z,8.6nm,0.3s,mb5.2,baz=268,slow=4.5,SNR=3.8
HNR LR LR 15 14 30.6
comp=Z,3μm,20.1s,MS5.2,baz=359,slow=34
CTA Charters Tower 49.59 150⇓ iP **P** **14 55 18.2 0.0**
comp=Z,46nm,1.4s,mb5.3
CTA epP pP 14 55 31.8 +2.4
CTA eS **S** **15 02 26.1 +2.4**
CTA Charters Tower 49.59 150 P **P** **14 55 18.6 +0.4**
comp=Z,89nm,1.3s,mb5.7,baz=329,slow=8.6,SNR=12
CTA Charters Tower 49.59 150⇓ iP **P** **14 55 18.2 0.0**
CTA e*PP pP 14 55 31.8 +2.4
CTA eS **S** **15 02 26.1 +2.4**
CTA pmax pmax
comp=Z,46nm,1.4s
CTAO Charters Tower 49.59 150 eP **P** **14 55 17.9 -0.3**
CTAO e*PP pP 14 55 31.0 +1.6
CTAO pmax pmax
comp=Z,202nm,1.5s,mb5.9
CTAO MLR MLR
comp=Z,5μm,22.0s,MS5.5
CTAO Charters Tower 49.59 150 eP **P** **14 55 17.9 -0.3**
comp=Z,202nm,1.5s,mb5.9
CTAO epP pP 14 55 31.0 +1.6
CTAO LR LR
comp=Z,5μm,22.0s,MS5.5
BILL Bilibino 51.34 19⇑ iP **P** **14 55 30.9 -0.5**
BILL i 14 56 43.3
BILL i S **S** **15 02 42.7 -5.3**
BILL pmax pmax
comp=Z,24nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,5μm,18.0s,MS5.6
BILL Bilibino 51.34 19 eP **P** **14 55 29.6 -1.8**
comp=Z,19nm,0.9s,mb5.0
BILL LR LR
comp=Z,5μm,19.0s,MS5.6
SVE Sverdlovsk 54.88 324⇑ iP **P** **14 55 57.0 -0.4**
SVE e 14 56 58.0
SVE ePS 15 03 38.0
SVE pmax pmax
comp=Z,130nm,1.8s,mb5.7
SVE MLR MLR
comp=E,2μm,14.0s
SVE MLR MLR
comp=Z,4μm,14.0s,MS5.6
AKTO Aktyubinsk 55.74 316 LR LR 15 21 27.7
comp=Z,5μm,19.4s,MS5.6,baz=122,slow=38
ABKT Ailbek 55.95 301 P **P** **14 56 07.2 +2.1**
comp=Z,1μm,0.8s,SNR=42
ARU Arti 55.95 323 P **P** **14 56 03.7 -1.5**
comp=Z,211nm,1.4s,mb6.0,SNR=13
ARU Arti 55.95 323⇓ iP **P** **14 56 03.7 -1.5**
ARU e 14 57 01.2
ARU e 14 58 07.0
ARU eS **S** **15 03 50.1 -0.3**
ARU eSS SS 15 07 35.0 -1.6
ARU eSSS 15 09 46.9
ARU pmax pmax
comp=Z,57nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.5
ARU MLR MLR
comp=N,2μm,16.0s,MS5.5
ARU MLR MLR
comp=E,3μm,20.0s,MS5.5
ARU Arti 55.95 323⇑ iP **P** **14 56 03.4 -1.7**
comp=E,36nm,0.8s,mb5.5
ARU LR LR
comp=Z,1μm,20.0s,MS4.9
NWAO Narrogin (SRO) 56.92 185 P **P** **14 56 12.9 +0.9**
comp=Z,14nm,1.0s,mb4.9,baz=4.1,slow=9.1,SNR=3.1
NWAO Narrogin (SRO) 56.92 185 P **P** **14 56 12.9 +0.9**
NWAO LR LR
comp=Z,2μm,19.0s,MS5.2
ORR Orenburg 57.84 317 eP **P** **14 56 18.1 -0.4**
ORR i 14 56 35.0
ORR pmax pmax
comp=Z,50nm,0.8s,mb5.6
ORR MLR MLR
comp=Z,5μm,21.0s,MS5.6
WBK Wadi Bani Khal 57.97 282 P **P** **14 56 21.2 +1.8**
SNR=20
BIDO Bidbid 58.48 284 P **P** **14 56 24.6 +1.6**
SNR=26
STKA Stephens Creek 58.54 161 P **P** **14 56 23.2 -0.2**
comp=Z,30nm,1.1s,mb5.3,baz=336,slow=7.2,SNR=24
STKA LR LR 15 22 20.3
comp=Z,3μm,20.4s,MS5.4,baz=338,slow=37
STKA Stephens Creek 58.54 161⇓ iP **P** **14 56 23.0 -0.4**
comp=Z,94nm,1.0s,mb5.8
SMDO Samad 58.67 283 P **P** **14 56 26.1 +1.8**
SNR=18
JMDO Jabal Madar 58.80 282 P **P** **14 56 26.5 +1.3**
SNR=17
HOQ Hoqain 59.19 284 P **P** **14 56 29.4 +1.5**
SNR=44
BSY Bisya 59.51 283 P **P** **14 56 31.3 +1.2**
SNR=29
HATD Hatta, Dubai 59.92 286 P **P** **14 56 34.8 +1.9**
SNR=18
ARQ Araqi 59.95 284 P **P** **14 56 34.5 +1.3**
SNR=16
ASHO Ashiyiah 60.02 286 P **P** **14 56 35.3 +1.7**
SNR=16
ADE Adelaide 60.69 165⇑ iP **P** **14 56 39.3 +1.1**
DZM Mont Dzumac 62.63 134 P **P** **14 56 51.1 -0.2**
comp=Z,20nm,1.2s,mb5.2,baz=17,slow=10,SNR=4.2
MAK Makhachkala 63.37 307 c iP **P** **14 56 56.6 +0.4**
MAK i 14 57 29.8
MAK i 14 59 13.2
MAK pmax pmax
comp=Z,220nm,1.2s,mb6.2
RBK Rabkut 63.73 278 P **P** **14 56 59.3 +0.8**
SNR=38
WHFO Wadi Hawf 63.99 279 P **P** **14 57 00.5 +0.3**
SNR=27
CNB Canberra Magne 64.29 156 eP **P** **14 57 02.8 +0.5**
comp=Z,27nm,0.8s,mb5.3
CNB e pP 14 57 16.5 +2.7
ABTO Aybut 64.60 279 P **P** **14 57 05.3 +1.1**
SNR=30
DGRG David-gareji 65.18 306 P **P** **14 57 10.8 +2.7**
SVW2 Sparrevohn 65.31 32 eP **P** **14 57 09.0 +0.1**
MTA Mtatsminda 65.56 306 P **P** **14 57 10.8 +0.3**
TBLG Delisi 65.60 307 eP **P** **14 57 11.6 +0.8**
TBLG Delisi 65.60 307 P **P** **14 57 11.6 +0.9**
IMA2 Indian Mountai 65.72 26 eP **P** **14 57 11.6 0.0**
GNI Garni 65.91 305 eP **P** **14 57 12.7 -0.1**
GNI Garni 65.91 305 LR LR 15 30 08.4
comp=Z,2μm,18.2s,MS5.4,baz=106,slow=40
GNI Garni 65.91 305 P **P** **14 57 14.9 +2.1**
SNR=14
GNI Garni 65.91 305⇑ eP **P** **14 57 14.2 +1.4**
GNI pmax pmax
comp=Z,168nm,1.5s
GNI MLR MLR
comp=Z,3μm,19.0s
GNI Garni 65.91 305⇑ eP **P** **14 57 14.0 +1.2**
comp=Z,166nm,1.4s,mb5.9
GNI LR LR
comp=Z,2μm,21.0s,MS5.3
ZEI Tsey 66.01 308 eP **P** **14 57 12.4 -1.0**
ZEI e*PP pP 14 57 23.3 -1.7
ZEI pmax pmax
comp=Z,45nm,1.1s,mb5.4
TMCR Tamitsa 66.25 332 eP **P** **14 57 12.9 -2.0**
TMCR e*PP pP 14 57 21.4 -5.1
TMCR e*SP sP 14 57 26.9 -4.0
TMCR pmax pmax
comp=Z,93nm,1.2s,mb5.7
ONI Oni 66.37 308 P **P** **14 57 15.5 -0.2**
KIV Kislovodsk 66.64 309 P **P** **14 57 18.2 +0.7**
comp=Z,579nm,1.7s,mb6.3,SNR=18
KIV Kislovodsk 66.64 309 P **P** **14 57 18.6 +1.2**
SNR=18
KIV Kislovodsk 66.64 309 c iP **P** **14 57 18.3 +0.8**

KIV e 14 57 47.6
KIV e 14 59 44.6
KIV eS S 15 06 08.2 +2.1
KIV eSS SS 15 10 25.5 +1.6
KIV pmax pmax
comp=Z,150nm,1.1s,mb5.9
KIV pmax pmax
comp=Z,196nm,1.4s,mb6.0
KIV MLR MLR
comp=Z,4μm,20.0s,MS5.6
KIV Kislovodsk 66.64 309⇑ iP **P** **14 57 18.1 +0.6**
comp=Z,130nm,1.2s,mb5.8
KIV LR LR
comp=Z,1μm,19.0s,MS5.1
SEMD Semdilli 66.69 302 eP **P** **14 57 18.8 +1.0**
CLDR Caldiran 66.75 304 eP **P** **14 57 19.7 +1.6**
LVZ Lovozero 67.16 336 eP **P** **14 57 18.3 -2.5**
LVZ e 14 59 50.8
LVZ ePPP 15 01 27.2
LVZ eS S 15 06 03.8 -8.6
LVZ eSS SS 15 10 32.9 +0.9
LVZ pmax pmax
comp=Z,60nm,1.3s,mb5.5
LVZ pmax pmax
comp=N,30nm,1.4s
LVZ pmax pmax
comp=E,27nm,1.3s
LVZ pmax pmax
comp=Z,885nm,4.2s
LVZ pmax pmax
comp=N,419nm,3.0s
LVZ pmax pmax
comp=E,206nm,2.7s
LVZ smax
comp=N,392nm,13.8s
LVZ smax
comp=Z,35nm,5.9s
LVZ smax
comp=E,598nm,17.6s
LVZ MLR MLR
comp=Z,5μm,16.0s,MS5.8
LVZ MLR MLR
comp=N,3μm,18.0s,MS5.8
LVZ MLR MLR
comp=E,4μm,17.0s,MS5.8
LVZ Lovozero 67.16 336 i P **P** **14 57 19.7 -1.1**
HKR Hakkari 67.24 302 eP **P** **14 57 22.1 +0.9**
KDAK Kodiak Island 67.25 35 P **P** **14 57 20.0 -1.3**
comp=E,292nm,1.2s,mb6.2,SNR=5.7
KDAK Kodiak Island 67.25 35⇑ eP **P** **14 57 19.8 -1.5**
comp=E,54nm,1.0s,mb5.5
CUKT Cukurca 67.42 302 eP **P** **14 57 23.0 +0.6**
VOR Voronezh 67.46 318 eP **P** **14 57 22.0 -0.7**
VOR pmax pmax
comp=E,100nm,1.6s
VOR pmax pmax
comp=Z,150nm,1.6s,mb5.8
VORD Divnogorie 67.55 317 eP **P** **14 57 20.2 -3.0**
VORD pmax pmax
comp=Z,30nm,1.3s,mb5.2
VORD pmax pmax
comp=N,40nm,2.5s
VORD pmax pmax
comp=E,20nm,0.9s
VORD MLR MLR
comp=Z,3μm,18.0s,MS5.5
VORD MLR MLR
comp=N,310nm,11.0s
VORD MLR MLR
comp=E,2μm,15.0s
VRSR Storozhevoye 67.57 317 eP **P** **14 57 22.3 -1.0**
VRSR pmax pmax
comp=Z,40nm,1.1s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,40nm,1.1s
MOS Moscow 67.66 322 eP **P** **14 57 19.1 -4.8**
MOS e 14 57 49.0
MOS eS S 15 06 14.6 -3.8
MOS e 15 07 14.7
MOS pmax pmax
comp=Z,137nm,1.4s,mb5.8
MOS MLR MLR
comp=Z,6μm,15.0s,MS5.9
MOS MLR MLR
comp=N,2μm,14.0s,MS5.7
MOS MLR MLR
comp=E,2μm,16.0s,MS5.7
APA Apatity 67.68 335⇓ iP **P** **14 57 23.3 -0.7**
APA i 14 57 31.4
APA i 14 57 52.0
APA eS S 15 06 19.0 +0.4
APA i PS 15 06 34.0
APA i 15 06 56.0
APA pmax pmax
comp=Z,60nm,1.0s,mb5.6
APA MLR MLR
comp=Z,11μm,17.0s,MS6.2
BHD Baghdad 67.78 298 i x x 14 57 21.0
BHD ex x 15 06 17.0
BHD ex x 15 06 35.0
BCA Borcka 67.94 307 eP **P** **14 57 26.1 +0.4**
MSL Mosul 68.05 301 i x x 14 57 27.5
MSL i x x 14 57 38.0
MSL i x x 14 57 49.0
MSL ex x 14 59 49.5
MSL ex x 15 06 25.5
MSL ex x 15 06 43.5
SIRT Sirnak 68.26 302 eP **P** **14 57 28.2 +0.5**
COLA College 68.29 27⇑ iP **P** **14 57 26.9 -0.9**
COLA College 68.29 27 eP **P** **14 57 25.7 -2.1**
comp=Z,17nm,0.8s,mb5.1
COLA LR LR
comp=Z,1μm,20.0s,MS5.1
PMR Palmer 68.31 31⇑ iP **P** **14 57 26.0 -2.0**
PMR pmax pmax
comp=Z,43nm,1.2s,mb5.3
PMR MLR MLR
comp=Z,1μm,20.0s,MS5.2
PMR Palmer 68.31 31⇑ iP **P** **14 57 26.0 -2.0**
comp=Z,43nm,1.2s,mb5.4
PMR LR LR
comp=Z,1μm,20.0s,MS5.2
OBN Obninsk 68.37 322 c iP **P** **14 57 27.2 -1.2**
OBN i 14 57 52.6
OBN e 14 59 56.3
OBN i S S 15 06 24.7 -2.1
OBN pmax pmax
comp=Z,76nm,1.4s,mb5.5
OBN MLR MLR
comp=Z,5μm,17.0s,MS5.8
OBN Obninsk 68.37 322⇑ eP **P** **14 57 26.3 -2.0**
comp=Z,82nm,1.4s,mb5.6
OBN LR LR
comp=Z,1μm,19.0s,MS5.2
ERZM Erzurum 68.49 305 i P **P** **14 57 30.4 +1.2**
EZM Erzurum 68.50 305 eP **P** **14 57 30.4 +1.2**
BNGL BINGOL 68.89 304 i P **P** **14 57 32.5 +0.9**
BEST Besiri 69.06 303 i P **P** **14 57 33.9 +1.2**
BINT Bingol 69.41 304 eP **P** **14 57 36.4 +1.6**
KTUT Trabzon 69.41 307 eP **P** **14 57 35.1 +0.2**
JOF Joensuu 69.42 331 ep **P** **14 57 33.2 -1.7**
comp=Z,26nm,0.7s,mb5.3
JOF Joensuu 69.42 331 eP **P** **14 57 33.2 -1.7**
JOF pmax pmax
comp=Z,26nm,0.7s,mb5.3
KEV Kevo 69.54 338 ep **P** **14 57 33.4 -2.2**
comp=Z,26nm,0.7s,mb5.3
KEV Kevo 69.54 338 eP **P** **14 57 33.4 -2.2**
KEV pmax pmax
comp=Z,26nm,0.7s,mb5.3
MARD Mardin 69.59 303 i P **P** **14 57 33.4 -2.6**
EZC Erzincan 69.69 305 eP **P** **14 57 39.6 +3.1**
SPB4 Spitsbergen Ar 69.85 348 eP **P** **14 57 35.4 -2.1**
DIY Diyarbakir 69.86 303 eP **P** **14 57 38.9 +1.3**
KELT Kelkit 70.00 306 i P **P** **14 57 37.2 -1.3**
ARCES ARCESS Array B 70.11 338 P **P** **14 57 37.8 -1.4**
comp=Z,19nm,0.8s,mb5.0,baz=73,slow=6.3,SNR=28
ARCES LR LR 15 32 04.3
comp=Z,4μm,18.6s,MS5.7,baz=73,slow=39
ANN Anapa 70.12 311 eP **P** **14 57 36.7 -2.5**
ANN eS S 15 06 45.2 -2.4
ANN pmax pmax
comp=Z,148nm,1.4s,mb5.7

EYAK Cordova Ski Ar 70.14 32⇑ eP **P** **14 57 38.3 -1.1**
comp=Z,67nm,1.4s,mb5.4
PTK Pertek 70.23 305 eP **P** **14 57 41.0 +1.1**
KBS Kingsbay 70.37 349 eP **P** **14 57 39.8 -1.0**
KBS eS S 15 06 48.9 -1.6
KBS AMS AMS 15 32 33.3
comp=Z,3μm,19.0s,MS5.6
TAU Tasmania Unive 70.45 161 PFAKE 14 57 50.0 +8.8
TAU LR LR
comp=Z,697nm,20.0s,MS4.9
BJO Bjornoya 70.49 344 eS S 15 06 53.0 +1.2
BJO AMS AMS 15 35 27.4
comp=Z,4μm,16.6s,MS5.8
ELZG Elazig 70.64 304 i P **P** **14 57 43.6 +1.3**
EGAK Eagle 71.09 27⇑ eP **P** **14 57 43.6 -1.6**
comp=Z,23nm,0.9s,mb5.1
MYA Malataya 71.11 304 eP **P** **14 57 47.2 +2.0**
MALT Malatya 71.11 304⇑ iP **P** **14 57 46.8 +1.6**
MALT Malatya 71.11 304⇑ iP **P** **14 57 46.3 +1.0**
comp=Z,213nm,1.3s,mb5.9
SVSK Karacayir 71.73 306 eP **P** **14 57 48.0 -0.9**
KAF Kangasniemi 71.87 331 ep **P** **14 57 48.5 -1.3**
comp=Z,10nm,0.5s,mb5.0,baz=72,slow=5.6
KAF Kangasniemi 71.87 331 eP **P** **14 57 48.5 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
DAWY Dawson 72.04 27⇑ eP **P** **14 57 49.7 -1.1**
GZT Gaziantep 72.04 303 i P **P** **14 57 51.6 +0.8**
KVT Kavak 72.10 308 eP **P** **14 57 51.6 +0.5**
FIA1 FINESS Array S 72.17 330⇑ eP **P** **14 57 49.8 -1.8**
FINES FINESS Array B 72.17 330 P **P** **14 57 50.8 -0.8**
comp=Z,16nm,0.8s,mb5.0,baz=60,slow=6.3,SNR=48
FINES LR LR 15 33 04.6
comp=Z,11μm,18.7s,MS6.2,baz=74,slow=39
TRO Tromso 72.27 339 eP **P** **14 57 51.6 -0.6**
TRO eS S 15 07 08.4 -4.0
TRO AMS AMS 15 33 29.4
comp=Z,3μm,19.4s,MS5.5
TRO Tromso 72.27 339 eP **P** **14 57 47.9 -4.3**
TRO i 15 02 31.8
TRO e 15 07 08.0
TRO LR LR
comp=Z,3μm,19.4s,MS5.5
SIM Simferopol' 72.36 312 c iP **P** **14 57 52.0 -0.7**
SIM eS S 15 07 14.0 +0.6
SIM pmax pmax
comp=Z,43nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,3μm,21.0s,MS5.5
GAZ Gaziantep 72.36 303 eP **P** **14 57 54.0 +1.2**
KMRS Kahramanmaras 72.50 304 eP **P** **14 57 54.5 +0.9**
DIKM Dikmen 72.50 308 eP **P** **14 57 52.5 -1.1**
BOYT Boyabat 72.83 308 i P **P** **14 57 55.4 -0.1**
INK Inuvik 72.83 22⇑ iP **P** **14 57 53.3 -2.3**
INK pmax pmax
comp=Z,743nm,0.7s
INK Inuvik 72.83 22⇑ iP **P** **14 57 53.3 -2.3**
comp=Z,742nm,0.7s,mb6.7
CTKT Corum 73.14 307 i P **P** **14 57 56.8 -0.6**
KOZT Kozan 73.32 304 eP **P** **14 57 58.9 +0.5**
CORM Corum 73.39 307 eP **P** **14 57 59.6 +0.7**
MNK Minsk 73.41 323⇓ eP **P** **14 57 54.0 -5.0**
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.2
MNK MLR MLR
comp=Z,4μm,12.0s,MS5.9
CEYT Ceyhan 73.53 304 eP **P** **14 58 00.6 +0.9**
CDAG Cicekdag 73.75 306 i P **P** **14 58 00.4 -0.6**
AKASG Malin Array Be 73.79 319 P **P** **14 57 59.8 -1.4**
comp=Z,15nm,0.7s,mb5.0,baz=59,slow=5.8,SNR=71
AKASG LR LR 15 33 39.4
comp=Z,2μm,18.5s,MS5.4,baz=65,slow=38
AKBB Malin Array Si 73.79 319⇑ iP **P** **14 57 59.6 -1.6**
FKH Fakeheh 73.88 301 eP **P** **14 58 02.9 +1.2**
BALT Daday 73.88 309 i P **P** **14 58 02.0 +0.3**
KRTS Karatas 73.94 303 eP **P** **14 58 03.4 +1.3**
KARA Karaisali 73.97 304 eP **P** **14 58 02.9 +0.6**
ELDT Eldivan 74.17 308 i P **P** **14 58 03.8 +0.4**
BR131 Keskin Array S 74.26 307⇑ iP **P** **14 58 04.0 0.0**
comp=Z,20nm,0.8s,mb5.1
BR131 ePP PP 15 00 53.6 +3.6
BR131 LR LR
comp=Z,1μm,19.0s,MS5.2
BRTR Keskin Array B 74.26 307 P **P** **14 58 04.2 +0.2**
comp=Z,31nm,0.9s,mb5.2,baz=102,slow=5.7,SNR=125
BRTR LR LR 15 35 58.9
comp=Z,2μm,18.5s,MS5.3,baz=189,slow=40
MERS Mersin 74.50 304 eP **P** **14 58 04.8 -0.5**
BHL Bhannes 74.57 301 eP **P** **14 58 06.4 +0.7**
ANTO Ankara 74.83 307 eP **P** **14 58 06.7 -0.6**
ANTO Ankara 74.83 307 P **P** **14 58 08.1 +0.9**
SNR=16
ANTO Ankara 74.83 307⇑ iP **P** **14 58 07.5 +0.2**
ANTO Ankara 74.83 307 P **P** **14 58 08.0 +0.8**
ANTO Ankara 74.83 307⇑ iP **P** **14 58 07.4 +0.1**
comp=Z,138nm,1.3s,mb5.7
ANTO LR LR
comp=Z,2μm,20.0s,MS5.3
MEST Erdemli 74.88 304 i P **P** **14 58 06.9 -0.6**
POHA Pohakuloa 75.05 75 PFAKE 14 58 20.0 +11
POHA LR LR
comp=Z,3μm,22.0s,MS5.5
SGKT Sivrigoynuk 75.14 308 i P **P** **14 58 05.8 -3.3**
MOR8 Moi Rana 75.22 336 eP **P** **14 58 07.0 -2.5**
KIS Kishinev 75.24 315 c iP **P** **14 58 07.0 -2.6**
KIS e 14 58 26.0
KIS e 15 00 58.0
KIS eS S 15 07 38.0 -7.9
KIS pmax pmax
comp=Z,1μm,4.0s
KIS MLR MLR
comp=Z,4μm,17.0s,MS5.8
KIS MLR MLR
comp=Z,4μm,18.0s
KIS Kishinev 75.24 315⇑ iP **P** **14 58 07.0 -2.6**
comp=Z,1μm,4.0s
KIS eS S 15 07 38.0 -7.9
SKAG Skagway 75.45 31⇑ iP **P** **14 58 10.8 0.0**
comp=Z,39nm,0.8s,mb5.4
KDHN Kadinhani 75.77 306 i P **P** **14 58 08.8 -3.8**
KONT Konya--Tatoy 75.78 305 eP **P** **14 58 11.5 -1.2**
ERMK Ermenek 75.80 304 i P **P** **14 58 12.4 -0.4**
CSS Prodhromos 76.04 302 eP **P** **14 58 14.3 +0.1**
SUW Suwalki 76.14 323 eP **P** **14 58 13.9 -0.9**
SUW epP pP 14 58 23.3 -3.2
SUW eS S 15 07 53.6 -2.3
SUW L 15 34 55.0
comp=Z,7.6nm,17.1s
SUW Suwalki 76.14 323 eP **P** **14 58 13.9 -0.9**
SUW epP pP 14 58 23.3 -3.2
SUW eS S 15 07 53.6 -2.3
ESKT Eskisehir 76.36 307 eP **P** **14 58 15.4 -0.6**
ESKT Eskisehir 76.36 307 i P **P** **14 58 15.3 -0.7**
TIRR Tirgusor 76.37 313 eP **P** **14 58 15.1 -1.0**
TIRR pmax pmax
comp=Z,183nm,1.8s,mb5.7
TIRR Tirgusor 76.37 313 eP **P** **14 58 15.1 -1.0**
comp=Z,183nm,1.8s,mb5.7
SIT Sitka 76.39 33⇑ iP **P** **14 58 16.3 +0.1**
SIT pmax pmax
comp=Z,102nm,1.0s,mb5.7
SIT MLR MLR
comp=Z,2μm,19.0s,MS5.4
SIT Sitka 76.39 33⇑ iP **P** **14 58 16.3 +0.1**
comp=Z,102nm,1.0s,mb5.7
SIT LR LR
comp=Z,2μm,19.0s,MS5.4
EIL Elat 76.54 297⇑ iP **P** **14 58 17.7 +0.6**
comp=Z,4μm,1.6s
DAG Danmarks Havn 76.66 351⇓ iP **P** **14 58 16.0 -1.7**
comp=Z,12nm,1.2s,mb4.7
DAG Danmarks Havn 76.66 351⇓ eP **P** **14 58 16.0 -1.7**
DAG pmax pmax
comp=Z,13nm,1.2s,mb4.7
DAG Danmarks Havn 76.66 351⇓ eP **P** **14 58 16.0 -1.7**
comp=Z,12nm,1.2s,mb4.7
ADVT Abdulvahap 76.85 308 eP **P** **14 58 16.9 -1.8**
NSS Namsos 76.89 335 eP **P** **14 58 16.3 -2.7**
NSS AMb AMB 14 58 17.9
comp=Z,43nm,1.1s,mb5.3
NSS AMS AMS 15 37 11.5
comp=Z,5μm,18.6s,MS5.8
VRI Vrincioaia 76.99 314⇑ iP **P** **14 58 20.0 +0.4**
VRI Vrincioaia 76.99 314 P **P** **14 58 20.3 +0.7**

ISK Istanbul-Kandi 77.11 309 *eP* **P 14 58 20.9 +0.6**
ISP Isparta 77.19 306 *eP* **P 14 58 19.6 -1.1**
ISP Isparta 77.19 306 P **P 14 58 20.7 0.0**
LVV L'vov 77.22 319 *eP* **P 14 58 20.4 -0.5**
LVV *eS* S 15 08 05.0 -2.7
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.4
GEMT Gemlik 77.24 309 *eP* **P 14 58 19.6 -1.3**
TKTP Tekketepe 77.26 306 *i P* **P 14 58 19.2 -1.8**
BURAR Bucovina Array 77.32 317⇑*iP* **P 14 58 21.1 -0.3**
BURAR Bucovina Array 77.32 317 P **P 14 58 21.6 +0.2**
ULDT Uludag 77.38 308 *i P* **P 14 58 20.9 -0.9**
GDZ Gediz 77.51 307 *i P* **P 14 58 20.3 -2.1**
MLR Muntele Rosu 77.64 314⇑*iP* **P 14 58 23.1 -0.1**
MLR Muntele Rosu 77.64 314 P **P 14 58 23.6 +0.4**
ELL Elmali 78.03 305 *eP* **P 14 58 25.1 -0.3**
WAR Warsaw 78.03 322 *eP* **P 14 58 25.9 +0.5**
WAR *eS* S 15 08 12.1 -4.3
WAR L 15 36 48.4
comp=Z,4.3nm,20.6s
KWP Kalwaria 78.09 319 *eP* **P 14 58 25.7 0.0**
KWP L 15 34 36.3
comp=Z,2.8nm,23.5s
WRAK Wrangell Islan 78.15 33⇑*eP* **P 14 58 26.0 -0.1**
comp=Z,73nm,1.2s,mb5.5
CRAG Craig 78.16 34⇑*iP* **P 14 58 26.3 +0.2**
comp=Z,225nm,1.7s,mb5.8
DENT Denizli 78.31 306 *eP* **P 14 58 26.9 -0.1**
DNZL Cakiroluk 78.33 306 *i P* **P 14 58 33.6 +6.5**
KOLS Kolonicke sedl 78.63 319 *eP* **P 14 58 28.1 -0.6**
KOLS *ePP* PP 15 01 23.3 -3.5
KOLS *eS* S 15 08 19.5 -3.3
KOLS Kolonicke sedl 78.63 319 *eP* **P 14 58 28.1 -0.6**
KOLS *ePP* PP 15 01 23.4 -3.4
KOLS *eS* S 15 08 19.5 -3.3
UZH Uzhgorod 78.74 318 *eP* **P 14 58 28.0 -1.3**
UZH *e* pP 14 58 38.0 -3.1
UZH *e* 15 01 25.0
UZH *eS* S 15 08 20.0 -3.9
UZH pmax pmax
comp=Z,52nm,1.3s,mb5.3
UZH MLR MLR
comp=Z,2μm,16.0s,MS5.6
NB2 NORSAR Subarra 78.91 332 P **P 14 58 28.7 -1.5**
comp=Z,37nm,0.8s,mb5.4,baz=58,slow=5.3
NB2 NORSAR Subarra 78.91 332 P **P 14 58 28.7 -1.5**
NB2 pmax pmax
comp=Z,37nm,0.8s,mb5.4
NOA NORSAR Array B 78.91 332 P **P 14 58 28.6 -1.5**
comp=Z,19nm,0.7s,mb5.2,baz=56,slow=5.5,SNR=78
NOA LR LR 15 37 00.2
comp=Z,6μm,19.6s,MS6.0,baz=60,slow=38
STHS Stebnicka Huta 79.05 319 *i P* **P 14 58 30.8 -0.2**
STHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
STHS Stebnicka Huta 79.05 319 *i P* **P 14 58 30.8 -0.2**
comp=Z,15nm,1.0s,mb4.9
CRVS Cervenica-Dubn 79.13 319 *eP* **P 14 58 31.5 +0.1**
NAO01 NORSAR Array S 79.14 332 *eP* **P 14 58 28.0 -3.5**
comp=Z,7.7nm,0.6s,mb4.8
DESE Dese 79.17 277 *eP* **P 14 58 33.5 +1.8**
AYDN Tasoluk 79.20 306 *i P* **P 14 58 32.1 +0.3**
JMIC Jan Mayen 79.25 345 AMS AMS 15 37 47.8
comp=Z,3μm,19.2s,MS5.7
DOMB Dombas 79.28 334 *eP* **P 14 58 31.3 -0.9**
KDAG Bornova 79.37 307 *i P* **P 14 58 32.4 -0.3**
IZM Izmir 79.37 307 *eP* **P 14 58 29.9 -2.9**
MLSB Milas 79.41 306 *eP* **P 14 58 33.0 +0.1**
BLCB Balcova 79.54 307 *eP* **P 14 58 33.6 -0.1**
BLCB Balcova 79.54 307 *eP* **P 14 58 33.2 -0.5**
OJC Ojcow 79.57 320 *eP* **P 14 58 32.6 -1.2**
OJC *ePcP* PcP 14 58 40.8 -0.8
OJC *eS* S 15 08 32.9 +0.1
OJC L 15 37 00.8
comp=Z,20nm,16.1s
MOL Molde 79.60 335 *eP* **P 14 58 32.0 -2.0**
MOL AMb AMB 14 58 36.4
comp=Z,110nm,1.8s,mb5.5
NIE Niedzica 79.60 320 *eP* **P 14 58 34.3 +0.3**
GKP Gorka Klasztor 79.68 324 *eP* **P 14 58 34.1 -0.3**
GKP *epP* pP 14 58 41.1 -5.1
GKP *eS* S 15 08 36.7 +2.7
GKP L 15 37 54.8
comp=Z,8.4nm,18.8s
BOZC Bozcaada 79.69 309 *i P* **P 14 58 34.2 -0.2**
GZR Gura Zlata 79.73 315⇑*iP* **P 14 58 35.3 +0.6**
GZR Gura Zlata 79.73 315 P **P 14 58 35.4 +0.7**
BDRM Kayabasi 79.74 306 *i P* **P 14 58 33.3 -1.5**
PLD Plovdiv 79.76 311 *eP* **P 14 58 34.1 -0.7**
BODT Bodrum 79.84 306 *eP* **P 14 58 34.3 -1.0**
KECS Kecovo 79.89 319 *i P* **P 14 58 35.4 -0.2**
KECS pmax pmax
comp=Z,39nm,1.7s,mb5.1
KECS Kecovo 79.89 319 *i P* **P 14 58 35.4 -0.2**
comp=Z,39nm,1.7s,mb5.1
KECS *e* 14 58 57.1
BSD Bornholm Skovb 80.05 326 *i P* **P 14 58 36.1 -0.3**
comp=Z,71nm,1.0s,mb5.5
BSD *i S* S 15 08 36.6 -1.3
BSD
comp=Z,9μm,19.0s
BSD Bornholm Skovb 80.05 326 *eP* **P 14 58 36.1 -0.3**
BSD *i S* S 15 08 36.6 -1.3
BSD pmax pmax
comp=Z,71nm,1.0s,mb5.5
BSD Bornholm Skovb 80.05 326 *eP* **P 14 58 36.1 -0.3**
comp=Z,71nm,1.0s,mb5.5
BSD *i S* S 15 08 36.6 -1.3
KONO Kongsberg 80.31 332 *eP* **P 14 58 36.2 -1.6**
KONO *eS* S 15 08 42.9 +2.3
KONO Kongsberg 80.31 332 PFAKE 14 58 50.0 +12
KONO LR LR
comp=Z,13μm,19.0s,MS6.3
BZS Buzias 80.39 316⇑*iP* **P 14 58 37.4 -0.8**
BZS Buzias 80.39 316 P **P 14 58 38.1 -0.1**
PSZ Piszkesteto 80.49 318⇑*eP* **P 14 58 38.8 0.0**
PSZ Piszkesteto 80.49 318⇑*iP* **P 14 58 38.9 +0.1**
PSZ Piszkesteto 80.49 318⇑*eP* **P 14 58 38.5 -0.3**
comp=Z,104nm,1.6s,mb5.5
VTS Vitosha 80.58 312 *eP* **P 14 58 39.3 0.0**
VTS Vitosha 80.58 312⇑*iP* **P 14 58 39.6 +0.3**
MMB Musomiste 80.63 311 *eP* **P 14 58 38.6 -0.9**
OKC Ostrava-Krasne 80.69 321 *eP* **P 14 58 39.7 -0.2**
OKC *esP* sP 14 58 59.5 +3.4
OKC *eS* S 15 08 41.4 -3.2
OKC AMS AMS 15 40 20.0
comp=Z,3μm,16.1s
OKC Ostrava-Krasne 80.69 321 *eP* **P 14 58 39.7 -0.2**
OKC *epP* pP 14 58 59.5 +7.8
OKC *eS* S 15 08 41.4 -3.2
RPZ Rata Peaks 80.80 147 P **P 14 58 40.6 +0.2**
comp=Z,10nm,0.4s,mb5.1,baz=189,slow=3.2,SNR=6.1
VYHS Vyhne 80.88 319 *i P* **P 14 58 41.0 +0.1**
VYHS *esP* sP 14 59 01.4 +4.3
VYHS *eS* S 15 08 43.3 -3.3
VYHS Vyhne 80.88 319 *i P* **P 14 58 41.0 +0.1**
VYHS *eS* S 15 08 43.3 -3.3
VYHS pmax pmax
comp=Z,60nm,1.5s,mb5.3
VYHS MLR MLR
comp=Z,2μm,19.7s,MS5.5
VYHS Vyhne 80.88 319 *i P* **P 14 58 41.0 +0.1**
comp=Z,60nm,1.5s,mb5.3
VYHS *e* 14 59 01.4
VYHS *eS* S 15 08 43.3 -3.3
VYHS LR LR
comp=Z,2μm,19.7s,MS5.5
SRS Serrai 80.92 311 *eP* **P 14 58 39.8 -1.2**
COP Copenhagen 81.02 327⇑*iP* **P 14 58 40.3 -1.3**
comp=Z,27nm,0.9s,mb5.2
COP *i* 15 00 02.8
COP *i* 15 18 31.0
COP
comp=Z,4μm,20.0s
COP Copenhagen 81.02 327⇑*iP* **P 14 58 40.3 -1.3**
COP pmax pmax
comp=Z,27nm,0.9s,mb5.2
COP MLR MLR
comp=Z,4μm,20.0s,MS5.8
MORC Moravsky Berou 81.07 321⇓*iP* **P 14 58 41.8 -0.1**
MORC Moravsky Berou 81.07 321⇑*iP* **P 14 58 41.6 -0.3**
MORC pmax pmax
comp=Z,40nm,1.4s,mb5.2
MORC Moravsky Berou 81.07 321⇑*iP* **P 14 58 41.6 -0.3**
comp=Z,40nm,1.4s,mb5.2
APE Apeiranthos 81.15 307 P pP 14 58 54.4 +0.2
SOH Sokhos 81.20 311 *eP* **P 14 58 40.2 -2.4**
BUD Budapest 81.21 318⇑*eP* **P 14 58 42.7 +0.1**
KSP Ksiaz 81.30 322 *eP* **P 14 58 43.3 +0.2**
KSP *ePcP* PcP 14 58 46.4 -2.8
KSP L 15 38 21.6
comp=Z,8.3nm,20.1s
KSP Ksiaz 81.30 322⇑*eP* **P 14 58 43.0 -0.1**
KSP *eS* S 15 08 49.5 -1.4
KSP LR LR
comp=Z,10μm,20.1s,MS6.2
PLG Polygyros 81.32 310 *eP* **P 14 58 42.4 -0.8**
KNT Kendrikon 81.38 311 *eP* **P 14 58 42.7 -0.8**
ZKR Zakros 81.42 305 *eP* **P 14 58 43.4 -0.3**
HORT Hortiatis 81.47 311 *eP* **P 14 58 42.5 -1.5**
DPC Dobruska-Polom 81.51 322 *eP* **P 14 58 44.2 0.0**
DPC *eS* S 15 08 53.0 -0.1
DPC AMS AMS 15 38 10.0
comp=Z,4μm,18.0s
VAY Valandovo 81.53 311 *eP* **P 14 58 41.6 -2.8**
VAY Valandovo 81.53 311 *i P* **P 14 58 42.3 -2.0**
THE Thessaloniki 81.55 311 *eP* **P 14 58 42.5 -1.9**
UPC Upice 81.61 322 *eP* **P 14 58 44.5 -0.3**
UPC *esP* sP 14 59 01.2 +0.2
STIP Stip 81.64 312 *i P* **P 14 58 42.9 -2.0**
BER Bergen 81.70 333 *e* **P 14 58 38.4 -6.9**
BER *e* 15 10 03.0
GRG Griva 81.80 311 *eP* **P 14 58 44.6 -1.1**
VRAC Vranov 81.83 321⇑*iP* **P 14 58 46.1 +0.2**
VRAC Vranov 81.83 321 P **P 14 58 46.2 +0.3**
RUE Ruedersdorf 81.90 324 *eP* **P 14 58 45.8 -0.5**
comp=Z,47nm,0.9s,mb5.4
LAST Lasithi 81.95 305 *eP* **P 14 58 46.7 +0.2**
PKSM Moragy 82.00 317⇑*iP* **P 14 58 46.4 -0.4**
PKSM Moragy 82.00 317 P **P 14 58 46.7 -0.2**
SKO Skopje 82.03 312 *eP* **P 14 58 47.1 +0.1**
ZST Bratislava 82.05 319 *eP* **P 14 58 47.2 +0.1**
ZST pmax pmax
comp=Z,239nm,2.4s,mb5.7
ZST MLR MLR
comp=Z,2μm,18.1s,MS5.5
ZST Bratislava 82.05 319 *eP* **P 14 58 47.2 +0.1**
comp=Z,239nm,2.4s,mb5.7
ZST LR LR
comp=Z,2μm,18.1s,MS5.5
DIVS Divcibare 82.08 315 *i P* **P 14 58 47.3 +0.1**
DIVS Divcibare 82.08 315 *eP* **P 14 58 46.4 -0.8**
LIT Litokhoron 82.10 310 *eP* **P 14 58 45.9 -1.5**
MUD Monsted U'grnd 82.19 329 *i P* **P 14 58 47.6 -0.2**
comp=Z,47nm,1.1s,mb5.3
MUD *i* 15 01 56.8
MUD *i S* S 15 09 06.3 +6.2
MUD *i* 15 10 08.1
MUD *i* 15 18 56.4
MUD
comp=Z,12μm,18.0s
MUD Monsted U'grnd 82.19 329 *i P* **P 14 58 47.6 -0.2**
MUD *i* 15 01 56.8
MUD *i S* S 15 09 06.3 +6.2
MUD *i* 15 10 08.1
MUD pmax pmax
comp=Z,47nm,1.1s,mb5.3
MUD Monsted U'grnd 82.19 329 *i P* **P 14 58 47.6 -0.2**
comp=Z,47nm,1.1s,mb5.3
MUD *i* 15 01 56.8
MUD *i S* S 15 09 06.3 +6.2
MUD *i* 15 10 08.1
MUD *i* 15 18 56.4
PVCC Panska Ves 82.42 322 *eP* **P 14 58 48.7 -0.3**
PVCC *esP* sP 14 59 07.6 +2.4
PVCC AMS AMS 15 39 50.0
comp=Z,6μm,18.9s
TREC Trest 82.48 321 *eP* **P 14 58 47.3 -2.0**
TREC *eS* S 15 08 59.7 -3.4
TREC AMS AMS 15 39 10.0
comp=Z,4μm,15.6s
KZN Kozani 82.51 311 *eP* **P 14 58 48.4 -1.1**
SIVA Sivas 82.51 305 *eP* **P 14 58 47.6 -1.9**
BIA Bitola 82.52 312 *eP* **P 14 58 47.4 -2.1**
YKA Yellowknife Ar 82.56 23 P **P 14 58 48.7 -1.0**
comp=Z,24nm,0.7s,mb5.3,baz=312,slow=5.0,SNR=32
YKA LR LR 15 39 28.2
comp=Z,1μm,19.8s,MS5.2,baz=215,slow=38
YKA Yellowknife Ar 82.56 23 P **P 14 58 48.7 -1.0**
YKA LR LR 15 39 28.2
FNA Florina 82.58 311 *eP* **P 14 58 47.9 -2.0**
BRG Berggiesshubel 82.60 323 *eP* **P 14 58 49.4 -0.5**
comp=Z,90nm,1.7s,mb5.5
BRG Berggiesshubel 82.60 323 *eP* **P 14 58 49.5 -0.4**
comp=Z,54nm,1.7s,mb5.3
BRG *e* 14 59 09.5
comp=Z,26nm,1.6s
BRG PP PP 15 01 59.0 -0.7
BRG *e* 15 04 16.6
comp=Z,12nm,1.7s
BRG S S 15 09 04.0 -0.3
BRG SS SS 15 14 40.0 +14
BRG
comp=N,2μm,17.6s
BRG
comp=E,2μm,18.2s
BRG
comp=Z,4μm,16.9s
BRG Berggiesshubel 82.60 323 *eP* **P 14 58 49.5 -0.4**
BRG 15 01 59.0
BRG S S 15 09 04.0 -0.3
BRG pmax pmax
comp=Z,54nm,1.7s,mb5.3
BRG pmax pmax
comp=Z,26nm,1.6s,mb5.0
BRG pmax pmax
comp=Z,12nm,1.7s,mb4.7
BRG MLR MLR
comp=N,2μm,17.6s,MS5.7
BRG MLR MLR
comp=E,2μm,18.2s,MS5.7
BRG MLR MLR
comp=Z,4μm,16.9s,MS5.8
BRG Berggiesshubel 82.60 323 *eP* **P 14 58 49.5 -0.4**
comp=Z,54nm,1.7s,mb5.3
BRG *e* 14 59 09.5
BRG PP PP 15 01 59.0 -0.7
BRG *e* 15 04 16.6
BRG S S 15 09 04.0 -0.3
BRG SS SS 15 14 40.0 +14
BRG LR LR
comp=Z,4μm,16.9s,MS5.8
AGG Agios Georgios 82.66 309 *eP* **P 14 58 48.8 -1.5**
PRU Pruhonice 82.69 322 *eP* **P 14 58 50.3 -0.1**
PRU *esP* sP 14 59 08.6 +1.9
PRU *eS* S 15 09 04.4 -0.8
PRU AMS AMS 15 39 10.0
comp=Z,4μm,20.6s
PRA Prague 82.71 322 P **P 14 58 50.0 -0.5**
SUMG Summit 82.73 354 *eP* **P 14 58 49.2 -1.4**
comp=Z,25nm,0.6s,mb5.4
OHR Ohrid 82.83 312 *eP* **P 14 58 47.7 -3.5**
OHR Ohrid 82.83 312 *i P* **P 14 58 49.0 -2.1**
FBE Freiberg 82.90 323 *eP* **P 14 58 51.0 -0.5**
comp=Z,128nm,1.5s,mb5.7
CLL Collm 82.90 323 *eP* **P 14 58 50.5 -1.0**
comp=Z,58nm,1.3s,mb5.5
CLL Collm 82.90 323 *eP* **P 14 58 51.0 -0.5**
CLL *eS* S 15 09 07.0 -0.3
CLL pmax pmax
comp=Z,58nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,8μm,18.8s,MS6.1
CLL Collm 82.90 323 *eP* **P 14 58 51.0 -0.5**
comp=Z,58nm,1.3s,mb5.5
CLL *eS* S 15 09 07.0 -0.3
CLL LR LR
comp=Z,8μm,18.8s,MS6.1
CLL Collm 82.90 323 *i P* **P 14 58 50.6 -0.9**
comp=Z,58nm,1.3s,mb5.5
CLL *esP* sP 14 59 13.0 +5.2
CLL *ePP* PP 15 02 00.0 -2.2
CLL *eS* S 15 09 07.0 -0.3
CLL *eSS* SS 15 14 42.0 +11
CONA Conrad Observa 82.91 320 *i P* **P 14 58 51.8 +0.2**
comp=Z,56nm,1.5s,mb5.4,SNR=27
BSEG Bad Segeberg 82.96 327 *eP* **P 14 58 51.4 -0.4**
comp=Z,139nm,1.6s,mb5.7
BSEG Bad Segeberg 82.96 327 *eP* **P 14 58 51.4 -0.4**
BSEG pmax pmax
comp=Z,139nm,1.6s,mb5.7
EVR Evrytania 83.08 309 *eP* **P 14 58 50.0 -2.4**
GVD Gavdhos 83.13 305 *eP* **P 14 58 51.9 -0.8**
TIR Tirane 83.36 312 *eP* **P 14 58 52.9 -1.0**
ARSA Arzberg 83.43 319⇓*iP* **P 14 58 53.9 -0.3**
comp=Z,358nm,2.6s,mb5.9,SNR=11
TANN Tannenbergstha 83.64 323 *eP* **P 14 58 54.8 -0.5**
comp=Z,96nm,1.9s,mb5.6
KHC Kasperske Hory 83.66 321 *eP* **P 14 58 55.1 -0.3**
KHC *ex* x 14 59 03.0
KHC *ex* x 14 59 33.0
KHC *eS* S 15 09 14.6 -0.4
KHC AMS AMS 15 39 30.0
comp=Z,4μm,18.4s
KHC Kasperske Hory 83.66 321 *eP* **P 14 58 55.1 -0.3**
KHC *e* 14 59 03.0
KHC *eS* S 15 09 14.6 -0.4
KHC MLR MLR
comp=Z,4μm,18.4s,MS5.8
WERD Werda 83.71 323 *eP* **P 14 58 55.1 -0.6**
comp=Z,90nm,1.8s,mb5.6
GEC2 GERESS Array S 83.73 321 *eP* **P 14 58 55.2 -0.6**
comp=Z,98nm,1.6s,mb5.7
GEC2 GERESS Array S 83.73 321 *eP* **P 14 58 55.2 -0.6**
GEC2 pmax pmax
comp=Z,98nm,1.6s,mb5.7
GERES GERESS Array B 83.73 321 P **P 14 58 55.7 -0.1**
comp=Z,7.7nm,0.6s,mb5.0,baz=57,slow=4.9,SNR=40
GERES LR LR 15 40 25.3
comp=Z,4μm,18.6s,MS5.8,baz=60,slow=39
ITM Ithomi 83.73 308 *eP* **P 14 58 55.6 -0.2**
GUNZ Gunzen 83.74 323 *eP* **P 14 58 55.4 -0.4**
comp=Z,129nm,1.8s,mb5.8
WERN Wernitzgruen 83.75 323 *eP* **P 14 58 55.4 -0.5**
comp=Z,107nm,1.9s,mb5.7
SISC Sisak 83.75 317 P **P 14 58 56.4 +0.5**
NRDL Niedersach Rie 83.83 325 *eP* **P 14 58 55.9 -0.4**
comp=Z,201nm,1.8s,mb6.0
IGT Igoumenitsa 83.84 311 *eP* **P 14 58 54.4 -2.0**
MOA Molln 83.89 320⇑*iP* **P 14 58 56.5 -0.1**
comp=Z,467nm,2.3s,mb6.2,SNR=29
PERS Pernice 83.97 319 *i P* **P 14 58 56.7 -0.3**
LKD Levkas 83.98 310 *eP* **P 14 58 55.9 -1.1**
MOX Moxa 83.99 323 *eP* **P 14 58 56.5 -0.6**
MOX *e* 15 02 14.0
MOX *eS* S 15 09 21.0 +2.6
MOX pmax pmax
comp=Z,164nm,2.3s,mb5.8
MOX MLR MLR
comp=Z,6μm,17.0s,MS6.0
MOX Moxa 83.99 323 *eP* **P 14 58 56.5 -0.6**
comp=Z,164nm,2.3s,mb5.8
MOX *ePP* PP 15 02 14.0 +2.9
MOX *eS* S 15 09 21.0 +2.6
MOX LR LR
comp=Z,6μm,17.0s,MS6.0
CLZ Clausthal 84.03 325 *eP* **P 14 58 57.2 -0.1**
comp=Z,359nm,2.3s,mb6.1
CLZ Clausthal 84.03 325 *eP* **P 14 58 57.2 -0.1**
CLZ pmax pmax
comp=Z,359nm,2.3s,mb6.1
WET Wettzell 84.05 322 *eP* **P 14 58 57.2 -0.2**
comp=Z,170nm,2.0s,mb5.8
WET Wettzell 84.05 322 *eP* **P 14 58 57.2 -0.2**
WET pmax pmax
comp=Z,170nm,2.0s,mb5.8
MANZ Manzenberg 84.06 323 *eP* **P 14 58 57.3 -0.1**
comp=Z,156nm,2.2s,mb5.8
ROTZ Rotzenmuhle 84.11 322 *eP* **P 14 58 57.7 0.0**
comp=Z,189nm,1.9s,mb5.9
KEK Kerkira 84.13 311 *eP* **P 14 58 57.0 -0.8**
VLS Valsamata 84.26 309 *eP* **P 14 58 57.0 -1.5**
OBKA Obir 84.37 319 *i P* **P 14 58 58.9 -0.2**
comp=Z,588nm,3.6s,SNR=11
GTTG Gvttingen 84.41 325 *eP* **P 14 58 58.8 -0.4**
comp=Z,150nm,1.6s,mb5.9
BOJS Bojanci 84.43 318 *i P* **P 14 58 59.3 0.0**
LJU Ljubljana 84.61 318 *eP* **P 14 59 00.0 -0.3**
GRA1 Grafenberg Arr 84.70 323 *eP* **P 14 59 00.6 -0.1**
comp=Z,338nm,2.0s,mb6.1
GRA1 *ePP* PP 15 02 13.7 -3.2
GRA1 LR LR
comp=Z,5μm,18.4s,MS5.9
GRF Grafenberg Arr 84.70 323 *eP* **P 14 59 00.6 -0.1**
comp=Z,338nm,2.0s,mb6.1
GRF *ePP* PP 15 02 13.7 -3.2
GRF *eL* 15 41 20.6
comp=Z,5μm,18.4s
GRF Grafenberg Arr 84.70 323 *eP* **P 14 59 00.6 -0.1**
GRF *e* 15 02 13.7
GRF pmax pmax
comp=Z,338nm,2.0s,mb6.1
GRF MLR MLR
comp=Z,5μm,18.4s,MS5.9
UBBA Unterbreizbach 84.77 324 *eP* **P 14 59 00.5 -0.6**
comp=Z,214nm,2.0s,mb5.9
GORS Gorjuse 84.80 319 *i P* **P 14 59 00.4 -0.8**
KBA Koelnbreinsper 84.81 320⇑*iP* **P 14 59 00.6 -0.7**
comp=Z,413nm,3.3s,SNR=8.0
KBA Koelnbreinsper 84.81 320⇑*iP* **P 14 59 00.6 -0.7**
KBA pmax pmax
comp=Z,413nm,3.3s
VOY Vojsko 85.00 319 *eP* **P 14 59 01.3 -0.9**
VOY *e* 14 59 08.8
VOY *e* 14 59 17.4
VOY Vojsko 85.00 319 *eP* **P 14 59 01.3 -0.9**
VOY *e* 14 59 08.8
ROBS Robic 85.13 319 *i P* **P 14 59 01.5 -1.4**
IBBN Ibbenburen 85.14 326 *eP* **P 14 59 02.7 -0.2**
comp=Z,191nm,1.5s,mb6.0
GMNA Gemona 85.28 319 P **P 14 59 03.1 -0.5**
comp=Z,165nm,1.1s,mb6.1
FUR Furstenfeldbru 85.46 321 *eP* **P 14 59 04.6 +0.1**
comp=Z,116nm,1.1s,mb5.9
FUR Furstenfeldbru 85.46 321 *eP* **P 14 59 04.6 +0.1**
FUR pmax pmax
comp=Z,116nm,1.1s,mb5.9
WTTA Wattenberg 85.72 320⇑*iP* **P 14 59 05.2 -0.6**
comp=Z,386nm,2.4s,mb6.2,SNR=14
WTTA Wattenberg 85.72 320⇑*iP* **P 14 59 05.2 -0.6**
WTTA pmax pmax
comp=Z,386nm,2.4s,mb6.2
WTSB Winterswijk 85.82 326⇑*eP* **P 14 59 05.8 -0.5**
comp=Z,132nm,2.2s,mb5.8
BUG Bochum--Univer 85.88 325 *eP* **P 14 59 05.9 -0.7**
comp=Z,271nm,1.8s,mb6.2
TNS Taunus Mts 85.93 324 *eP* **P 14 59 06.5 -0.3**
comp=Z,174nm,1.9s,mb6.0
TNS Taunus Mts 85.93 324 *eP* **P 14 59 06.5 -0.3**
TNS pmax pmax
comp=Z,174nm,1.9s,mb6.0
MOTA Moosalm 85.99 321⇓*iP* **P 14 59 06.2 -1.0**
comp=Z,68nm,1.7s,mb5.6
MOTA Moosalm 85.99 321⇓*iP* **P 14 59 06.2 -0.9**
MOTA pmax pmax
comp=Z,68nm,1.7s,mb5.6
SQTA Sankt Quirin 85.99 320⇓*iP* **P 14 59 06.7 -0.5**
comp=Z,120nm,1.7s,mb5.8
SQTA Sankt Quirin 85.99 320⇓*iP* **P 14 59 06.7 -0.5**
SQTA pmax pmax
comp=Z,120nm,1.7s,mb5.8
RGNG Rignano Grg 86.06 314 P **P 14 59 07.1 -0.4**
TOD Tromm 86.08 323 *eP* **P 14 59 07.2 -0.4**
KMBO Kilima Mbogo 86.19 267 PcP PcP 14 59 10.4 -0.3
KMBO pSKSac 15 09 47.4
KMBO Kilima Mbogo 86.19 267 P **P 14 59 10.5 +2.3**
comp=Z,33nm,1.0s,mb5.5,baz=46,slow=6.1,SNR=50
KMBO LR LR 15 39 44.7
comp=Z,1μm,18.2s,MS5.2,baz=277,slow=37
KMBO Kilima Mbogo 86.19 267⇑*eP* **P 14 59 10.5 +2.4**
KMBO Kilima Mbogo 86.19 267⇑*iP* **P 14 59 10.3 +2.2**
comp=Z,106nm,1.3s,mb5.9
STU Stuttgart 86.31 323 *eP* **P 14 59 08.2 -0.5**
comp=Z,156nm,2.0s,mb5.9
STU Stuttgart 86.31 323 *eP* **P 14 59 07.9 -0.8**
STU pmax pmax
comp=Z,158nm,1.8s,mb5.9
STU Stuttgart 86.31 323 *eP* **P 14 59 07.9 -0.8**
comp=Z,158nm,1.8s,mb5.9
CTI Castel Tesino 86.34 319 P **P 14 59 07.8 -1.1**
C03A Quillayute Air 86.45 38⇑P **P 14 59 10.6 +1.2**
baz=86

FG5 Orsara di Pugl 86.46 314 P P 14 59 10.1 +0.6
FG5 pmax pmax
comp=Z,164nm,1.2s,mb6.1
FG5 Orsara di Pugl 86.46 314 P P 14 59 10.1 +0.6
comp=Z,164nm,1.2s,mb6.1
TIP Timpagrande 86.47 311⇑eP P 14 59 09.2 -0.3
comp=Z,138nm,1.5s,mb6.0
PGC Sidney 86.70 37⇑iP P 14 59 10.8 +0.2
comp=Z,56nm,0.9s,mb5.8
CUC Castrocucco 86.72 313 P P 14 59 09.5 -1.2
DAVA Damuels 86.73 321⇑iP P 14 59 10.4 -0.4
comp=Z,411nm,2.7s,mb6.2,SNR=12
CING Cingoli 86.76 316 P P 14 59 11.0 +0.1
BRMO Bormio 86.87 320 P P 14 59 11.2 -0.3
comp=Z,141nm,2.0s,mb5.8
SPAK Spaichingen-Ko 86.91 322 eP P 14 59 10.9 -0.7
MIDA Miranda 86.95 315 P P 14 59 11.3 -0.5
HGN Heimansgroeve 86.96 325⇑eP P 14 59 11.4 -0.5
comp=Z,97nm,2.0s,mb5.7
HGN ePP PP 15 02 38.5 +3.3
HGN eS S 15 09 50.4 +2.8
HGN eSS SS 15 15 50.1 +20
LANF Langenberg 86.97 323 eP P 14 59 11.3 -0.6
RUP Ruppelstein 86.97 324 eP P 14 59 11.3 -0.6
B04A Port Angeles 86.99 38 ⇑P P 14 59 12.6 +0.5
baz=87,SNR=6.0
MEM Membach 87.01 325 P P 14 59 11.6 -0.5
OSD Olympics--Snow 87.01 38 P P 14 59 13.5 +1.3
BFO Black Forest 87.04 322 P P 14 59 11.1 -1.2
comp=Z,178nm,1.7s,mb6.0,SNR=5.7
BFO Black Forest 87.04 322 eP P 14 59 11.4 -0.9
comp=Z,160nm,1.7s,mb6.0
BFO Black Forest 87.04 322 eP P 14 59 11.4 -0.9
BFO pmax pmax
comp=Z,160nm,1.7s,mb6.0
BEBN Eben Emael 87.07 325 P P 14 59 12.0 -0.5
A04A Legoe Bay, Lum 87.07 37 ⇑P P 14 59 12.9 +0.5
baz=87,SNR=9.9
AQU L'Aquila 87.15 315⇑iP P 14 59 13.1 +0.3
AQU L'Aquila 87.15 315⇑iP P 14 59 12.9 +0.1
comp=Z,297nm,1.5s,mb6.3
VDB Vedder Mountai 87.23 37 P P 14 59 13.0 -0.2
MURB Monte Urbino 87.24 317 P P 14 59 13.9 +0.6
A05A Maple Falls 87.26 37 ⇑P P 14 59 13.3 0.0
baz=87,SNR=7.0
ASS Assisi 87.26 316 P P 14 59 13.8 +0.4
ASS pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
ASS Assisi 87.26 316 P P 14 59 13.8 +0.4
comp=Z,3.7nm,1.0s,mb4.6
D03A Wishkah Elem. 87.36 39 ⇑P P 14 59 15.1 +1.3
baz=87
FELD Feldberg im Sc 87.47 322 eP P 14 59 13.7 -0.7
WLF Walferdange 87.47 324 eP P 14 59 14.0 -0.4
comp=Z,434nm,2.0s,mb6.3
WLF Walferdange 87.47 324 P P 14 59 14.6 +0.2
WLF Walferdange 87.47 324⇑iP P 14 59 13.9 -0.5
WLF pmax pmax
comp=Z,288nm,1.8s,mb6.2
WLF Walferdange 87.47 324⇑iP P 14 59 13.9 -0.5
comp=Z,288nm,1.8s,mb6.2
TUE Stuetta 87.47 321 P P 14 59 14.3 -0.1
MBW Mount Baker 87.48 37 P P 14 59 14.7 +0.3
C04A Brinnon 87.48 38 ⇓P P 14 59 15.2 +0.7
baz=87
BCLA Clavier 87.48 325 P P 14 59 13.8 -0.7
CEL Celeste 87.50 311 P P 14 59 14.7 +0.2
WLS Welschbruch 87.53 323 eP P 14 59 14.1 -0.6
LIBD Limburg 87.54 323 eP P 14 59 14.1 -0.6
CDF Champ du Feu 87.58 323⇑iP P 14 59 14.5 -0.4
comp=Z,609nm,1.8s,mb6.2
CDF Champ du Feu 87.58 323⇑iP P 14 59 14.5 -0.4
CDF pmax pmax
comp=Z,304nm,1.8s,mb6.2
CDF Champ du Feu 87.58 323⇑iP P 14 59 14.5 -0.4
comp=Z,304nm,1.8s,mb6.2
MNS Montasola 87.59 316 P P 14 59 14.3 -0.6
FNVD Fontana Vidola 87.64 318 P P 14 59 16.1 +0.9
B05A Bryant 87.66 37 ⇓P P 14 59 15.7 +0.4
baz=87,SNR=8.9
MTCE Montecelio 87.74 315 P P 14 59 14.6 -1.0
UCC Uccle 87.75 326 P P 14 59 15.0 -0.7
ECH Echery 87.75 323 eP P 14 59 15.0 -0.7
E03A Lebam 87.79 39 ⇑P P 14 59 16.5 +0.6
baz=88
B06A Marblemount 87.86 37 ⇓P P 14 59 16.4 +0.2
baz=88
GSCL Gusciola 87.87 318 P P 14 59 17.0 +0.7
comp=Z,42nm,1.1s,mb5.6
CSNT Castellina Chi 87.90 317 P P 14 59 15.5 -0.9
comp=Z,51nm,1.1s,mb5.7
D04A Dobbs Creek Ra 87.91 38 ⇑P P 14 59 17.4 +1.0
baz=88
GIVF Givet 87.92 325⇑iP P 14 59 15.9 -0.6
comp=Z,190nm,1.5s,mb5.8
GIVF Givet 87.92 325⇑iP P 14 59 15.9 -0.6
GIVF pmax pmax
comp=Z,95nm,1.5s,mb5.8
GIVF Givet 87.92 325⇑iP P 14 59 15.9 -0.6
comp=Z,95nm,1.5s,mb5.8
SNF Seneffe 87.96 326 P P 14 59 15.8 -0.9
MOF Molkenrain 87.97 323 eP P 14 59 15.9 -0.8
BBS Basel-Blauen 87.98 322 eP P 14 59 15.9 -0.9
DOU Dourbes 88.04 325 P P 14 59 16.3 -0.8
F03A Seaside 88.13 40 ⇑P P 14 59 18.3 +0.8
baz=88
HINF Hinteralfeld 88.15 323⇑iP P 14 59 16.7 -0.9
comp=Z,160nm,1.5s,mb5.7
HINF Hinteralfeld 88.15 323⇑iP P 14 59 16.7 -0.9
HINF pmax pmax
comp=Z,80nm,1.5s,mb5.7
HINF Hinteralfeld 88.15 323⇑iP P 14 59 16.7 -0.9
comp=Z,80nm,1.5s,mb5.7
C05A Tolt Reservoir 88.21 38 ⇓P P 14 59 18.1 +0.2
baz=88,SNR=7.6
PII Pisa 88.25 318 P P 14 59 17.0 -1.1
PII pmax pmax
comp=Z,84nm,1.5s,mb5.8
PII Pisa 88.25 318 P P 14 59 17.0 -1.1
comp=Z,84nm,1.5s,mb5.8
E04A Onalaska 88.25 39 ⇓P P 14 59 18.9 +0.9
baz=88
BAIF Baives 88.26 325⇑iP P 14 59 17.5 -0.6
comp=Z,168nm,1.6s,mb5.7
BAIF Baives 88.26 325⇑iP P 14 59 17.5 -0.6
BAIF pmax pmax
comp=Z,84nm,1.6s,mb5.7
BAIF Baives 88.26 325⇑iP P 14 59 17.5 -0.6
comp=Z,84nm,1.6s,mb5.7
GRFL Gerfalco 88.27 317 P P 14 59 17.6 -0.6
comp=Z,30nm,1.1s,mb5.4
HAU Haudompre 88.32 323⇑iP P 14 59 17.6 -0.8
comp=Z,192nm,1.6s,mb5.8
HAU eMLR MLR
comp=Z,3µm,19.8s
HAU Haudompre 88.32 323⇑iP P 14 59 17.6 -0.8
HAU pmax pmax
comp=Z,96nm,1.6s,mb5.8
HAU MLR MLR
comp=Z,3µm,19.8s,MS5.7
HAU Haudompre 88.32 323⇑iP P 14 59 17.6 -0.8
comp=Z,96nm,1.6s,mb5.8
HAU LR LR
comp=Z,3µm,19.8s,MS5.7
D05A Enumclaw 88.33 38 ⇑P P 14 59 19.5 +1.1
baz=88,SNR=6.8
BOB Bobbio (Coli) 88.34 319 P P 14 59 16.2 -2.3
THEF They Montfort 88.39 323 eP P 14 59 17.8 -0.9
LOMF Lomont 88.42 322 eP P 14 59 18.2 -0.7
ESK Eskdalemuir 88.43 332 PFAKE 14 59 30.0 +11
ESK LR LR
comp=Z,989nm,20.0s,MS5.2
H02A Toledo 88.55 41 ⇓P P 14 59 20.5 +1.0
baz=88
G03A Yamhill 88.63 40 ⇑P P 14 59 20.7 +0.9
baz=88
B07A Winthrop 88.63 36 ⇓P P 14 59 20.3 +0.4
baz=88,SNR=8.5
FMW Mount Fremont 88.65 38 P P 14 59 20.6 +0.6
MEZF Maizieres J'vi 88.74 324⇑iP P 14 59 19.9 -0.5
comp=Z,612nm,1.9s,mb6.3
MEZF Maizieres J'vi 88.74 324⇑iP P 14 59 19.9 -0.5
comp=Z,612nm,1.9s,mb6.6
F04A Amboy 88.79 39 ⇓P P 14 59 21.0 +0.4
baz=88,SNR=7.7
D06A Cle Elum 88.97 38 ⇓P P 14 59 22.0 +0.5
baz=89
H03A Soap Creek Ran 88.98 41 ⇓P P 14 59 22.6 +1.2
baz=89,SNR=6.1
TWW Teanaway 88.99 38 P P 14 59 22.9 +1.4
MENF Mencas 89.01 327 eP P 14 59 20.6 -1.1
EDM Edmonton 89.06 30⇑iP P 14 59 21.9 0.0
C07A Waterville 89.11 37 ⇓P P 14 59 22.2 0.0
baz=89,SNR=18
A09A Danville 89.15 35 ⇑P P 14 59 23.0 +0.7
baz=89,SNR=15
G04A Mulino 89.16 40 ⇓P P 14 59 22.9 +0.5
baz=89
WTV Waterville 89.17 37 P P 14 59 22.6 +0.2
CABF La Chapelle 89.26 322⇑iP P 14 59 22.3 -0.5
comp=Z,240nm,1.9s,mb5.9
CABF La Chapelle 89.26 322⇑iP P 14 59 22.3 -0.5
CABF pmax pmax
comp=Z,120nm,1.9s,mb5.9
CABF La Chapelle 89.26 322⇑iP P 14 59 22.3 -0.5
comp=Z,120nm,1.9s,mb5.9
E06A Yakima 89.27 38 P P 14 59 23.8 +0.9
baz=89,SNR=28
EBG Ellensburg 89.29 38 P P 14 59 23.6 +0.6
F05A White Salmon 89.37 39 ⇓P P 14 59 24.1 +0.8
baz=89,SNR=10
I03A Eugene 89.37 41 ⇑P P 14 59 24.5 +1.1
baz=89
D07A Quincy 89.45 37 ⇑P P 14 59 24.2 +0.4
baz=89,SNR=12
RSL Roselend 89.48 321 eP P 14 59 23.4 -0.5
TDH Tom, Dick, Har 89.52 40 P P 14 59 24.7 +0.7
LPG La Plagne 89.52 321⇑iP P 14 59 24.2 +0.2
comp=Z,139nm,1.1s,mb5.9
LPG La Plagne 89.52 321⇑iP P 14 59 24.2 +0.2
LPG pmax pmax
comp=Z,70nm,1.1s,mb5.9
LPG La Plagne 89.52 321⇑iP P 14 59 24.2 +0.2
comp=Z,70nm,1.1s,mb5.9
LPL La Plagne 89.52 321⇑iP P 14 59 24.1 +0.1
comp=Z,138nm,1.2s,mb5.9
LPL La Plagne 89.52 321⇑iP P 14 59 24.1 +0.1
LPL pmax pmax
comp=Z,69nm,1.2s,mb5.9
LPL La Plagne 89.52 321⇑iP P 14 59 24.1 +0.1
comp=Z,69nm,1.2s,mb5.9
J02A Umpqua 89.53 42 ⇓P P 14 59 24.9 +0.8
baz=89
C08A Higginbotham F 89.61 36 P P 14 59 24.8 +0.3
baz=89,SNR=23
H04A Detroit Lake 89.63 40 P P 14 59 24.9 +0.3
baz=89,SNR=14
A10A Northport 89.68 35 P P 14 59 25.6 +0.8
baz=89,SNR=5.7
B09A Rice 89.71 36 ⇑P P 14 59 25.6 +0.7
baz=89,SNR=14
BNI Bardonecchia 89.82 320⇑iP P 14 59 25.1 -0.3
BNI e 15 02 56.9
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.6
BNI Bardonecchia 89.82 320⇑iP P 14 59 25.1 -0.4
comp=Z,26nm,0.9s,mb5.6
BNI ePP PP 15 02 56.9 -1.2
PGF Pioggiola 89.82 317⇑iP P 14 59 25.4 0.0
comp=Z,166nm,1.2s,mb6.0
PGF Pioggiola 89.82 317⇑iP P 14 59 25.4 0.0
PGF pmax pmax
comp=Z,83nm,1.2s,mb5.9
PGF Pioggiola 89.82 317⇑iP P 14 59 25.4 0.0
comp=Z,83nm,1.2s,mb5.9
G05A Wamic 89.82 39 P P 14 59 26.4 +0.9
baz=90,SNR=5.6
F06A Goldendale 89.83 39 ⇑P P 14 59 26.4 +0.9
baz=90,SNR=6.5
E07A Sunnyside 89.89 38 ⇑P P 14 59 26.8 +1.0
baz=90,SNR=16
J03A Ideyld Park 89.89 42 ⇓P P 14 59 27.0 +1.2
baz=90
SAOF Saorge 89.90 319 eP P 14 59 25.3 -0.5
K02A Glendale 89.91 42 ⇑P P 14 59 26.6 +0.7
baz=90
MBDF Montbardon 89.95 320 eP P 14 59 25.2 -0.8
comp=Z,42nm,1.0s,mb5.4
MBDF Montbardon 89.95 320 eP P 14 59 25.2 -0.8
MBDF pmax pmax
comp=Z,21nm,1.0s,mb5.4
MBDF Montbardon 89.95 320 eP P 14 59 25.2 -0.8
comp=Z,21nm,1.0s,mb5.4
OG05 Jujurieux 89.95 322 eP P 14 59 25.5 -0.6
AUTN L'Aution 89.97 319 eP P 14 59 25.8 -0.4
M01C Crescent City 90.02 43 ⇓P P 14 59 27.0 +0.7
baz=90
SBF Sospel 90.04 319⇑iP P 14 59 25.7 -0.8
comp=Z,135nm,1.1s,mb5.9
SBF Sospel 90.04 319⇑iP P 14 59 25.7 -0.8
SBF pmax pmax
comp=Z,68nm,1.0s,mb5.9
SBF Sospel 90.04 319⇑iP P 14 59 25.7 -0.8
comp=Z,68nm,1.0s,mb5.9
TOUF Mont Tournerai 90.07 319 eP P 14 59 26.1 -0.5
LUCF Luceram 90.08 319 eP P 14 59 26.1 -0.6
D08A Wollman Farm, 90.11 37 P P 14 59 27.4 +0.6
baz=90,SNR=18
LOR Lormes 90.11 323⇑iP P 14 59 25.9 -0.9
comp=Z,270nm,1.8s,mb6.0
LOR eMLR MLR
comp=Z,5µm,18.2s
LOR Lormes 90.11 323⇑iP P 14 59 25.9 -0.9
LOR pmax pmax
comp=Z,135nm,1.8s,mb6.0
LOR MLR MLR
comp=Z,5µm,18.3s,MS6.0
LOR Lormes 90.11 323⇑iP P 14 59 25.9 -0.9
comp=Z,135nm,1.8s,mb6.0
LOR LR LR
comp=Z,5µm,18.3s,MS6.0
HAWA Hanford 90.17 38⇑iP P 14 59 27.5 +0.5
comp=Z,99nm,1.3s,mb6.0
L02A Cave Junction 90.17 43 ⇑P P 14 59 28.0 +0.9
baz=90
MVIF Mont Vial 90.19 319 eP P 14 59 26.6 -0.6
H05A Madras 90.21 40 ⇑P P 14 59 28.0 +0.7
baz=90
G06A Carlson Farm, 90.22 39 P P 14 59 28.2 +0.9
baz=90,SNR=26
F07A Phinny Hill Vi 90.24 38 ⇑P P 14 59 28.4 +1.0
baz=90,SNR=6.1
B10A Chitwood Farm, 90.27 35 ⇑P P 14 59 28.1 +0.5
baz=90
NEW Newport 90.35 35⇑iP P 14 59 28.1 +0.2
NEW pmax pmax
comp=Z,48nm,0.9s
NEW Newport 90.35 35⇑iP P 14 59 28.1 +0.1
comp=Z,48nm,0.9s,mb5.8
ORIF Oris-en-Rattie 90.36 321⇑iP P 14 59 27.7 -0.3
comp=Z,200nm,1.5s,mb5.9
ORIF eMLR MLR
comp=Z,5µm,19.2s
ORIF Oris-en-Rattie 90.36 321⇑iP P 14 59 27.7 -0.3
ORIF pmax pmax
comp=Z,100nm,1.5s,mb5.9
ORIF Oris-en-Rattie 90.36 321⇑iP P 14 59 27.7 -0.3
comp=Z,100nm,1.5s,mb5.9
SSF Saint Saulge 90.43 323⇑iP P 14 59 27.5 -0.8
comp=Z,83nm,1.4s,mb5.6
SSF Saint Saulge 90.43 323⇑iP P 14 59 27.5 -0.8
SSF pmax pmax
comp=Z,42nm,1.4s,mb5.6
SSF Saint Saulge 90.43 323⇑iP P 14 59 27.5 -0.8
comp=Z,42nm,1.4s,mb5.6
D09A Jones Farm, Ri 90.44 37 P P 14 59 29.1 +0.7
baz=90,SNR=12
SMF Signal de Mont 90.50 323⇑iP P 14 59 27.9 -0.7
comp=Z,545nm,1.7s,mb6.3
SMF Signal de Mont 90.50 323⇑iP P 14 59 27.9 -0.7
SMF pmax pmax
comp=Z,272nm,1.7s,mb6.3
SMF Signal de Mont 90.50 323⇑iP P 14 59 27.9 -0.7
comp=Z,272nm,1.7s,mb6.3
C10A Spiker Farm, 90.53 36 ⇓P P 14 59 29.5 +0.7
baz=90
CASY Casey 90.55 185 eP P 14 59 27.0 -1.9
comp=Z,86nm,1.4s,mb5.9
OG25 Le Caire 90.56 320 eP P 14 59 24.8 -4.1
JCC Jacoby Creek 90.63 44 ⇓P P 14 59 30.1 +0.9
baz=90
VIPM Ingram Point 90.65 40 P P 14 59 30.2 +0.9
AVF Avril sur Loir 90.68 323⇑iP P 14 59 28.7 -0.7
comp=Z,314nm,1.6s,mb6.1
AVF Avril sur Loir 90.68 323⇑iP P 14 59 28.7 -0.7
AVF pmax pmax
comp=Z,157nm,1.6s,mb6.1
AVF Avril sur Loir 90.68 323⇑iP P 14 59 28.7 -0.7
comp=Z,157nm,1.6s,mb6.1
FRF La Foret Royal 90.68 319⇑iP P 14 59 28.8 -0.7
comp=Z,67nm,1.0s,mb5.6
FRF La Foret Royal 90.68 319⇑iP P 14 59 28.8 -0.7
FRF pmax pmax
comp=Z,33nm,1.0s,mb5.6
FRF La Foret Royal 90.68 319⇑iP P 14 59 28.8 -0.7
comp=Z,34nm,1.0s,mb5.6
A12A Yaak River Ran 90.70 34 ⇑P P 14 59 30.5 +0.9
baz=90,SNR=8.1
G07A Ruggs Ranch, H 90.75 39 P P 14 59 30.6 +0.8
baz=90,SNR=18
HYF Humbligny 90.78 324⇑iP P 14 59 29.7 -0.2
KHMM Horse Mountain 90.79 44 eP P 14 59 27.8 -2.2
E09A Wood Farm, Sta 90.86 37 P P 14 59 31.2 +0.9
baz=91,SNR=29
LMR La Mourre 90.90 319⇑iP P 14 59 30.0 -0.5
comp=Z,285nm,1.6s,mb6.0
LMR La Mourre 90.90 319⇑iP P 14 59 30.0 -0.5
LMR pmax pmax
comp=Z,143nm,1.6s,mb6.0
LMR La Mourre 90.90 319⇑iP P 14 59 30.0 -0.5
comp=Z,143nm,1.6s,mb6.0
F08A Pendleton 90.94 38 ⇓P P 14 59 31.7 +1.0
baz=91,SNR=19
YBH Yreka Blue Hor 90.96 43 ⇓P P 14 59 31.6 +0.9
baz=91,SNR=9.8
J05A Fort Rock 90.99 41 ⇓P P 14 59 32.0 +1.1
baz=91,SNR=16
TAVF Tavernes 91.00 319 eP P 14 59 30.6 -0.4
B12A Libby 91.02 34 ⇑P P 14 59 32.2 +1.1
baz=91
PLDF La Plantade 91.02 322 eP P 14 59 31.0 -0.1
M02C Callahan 91.06 43 ⇓P P 14 59 32.3 +1.1
baz=91,SNR=7.0
K04A Chilquin 91.07 42 ⇑P P 14 59 32.0 +0.8
baz=91
SMRF Simiane la Rot 91.08 320⇑iP P 14 59 31.2 -0.1
comp=Z,163nm,1.7s,mb5.8
SMRF Simiane la Rot 91.08 320⇑iP P 14 59 31.2 -0.1
comp=Z,163nm,1.7s,mb6.1
VIVF Saint-Julien-I 91.09 321⇑iP P 14 59 30.9 -0.5
comp=Z,166nm,1.4s,mb5.9
VIVF Saint-Julien-I 91.09 321⇑iP P 14 59 30.9 -0.5
VIVF pmax pmax
comp=Z,83nm,1.4s,mb5.9
VIVF Saint-Julien-I 91.09 321⇑iP P 14 59 30.9 -0.5
comp=Z,83nm,1.4s,mb5.9
N02C Big Bar 91.09 44 ⇓P P 14 59 32.3 +0.9
baz=91
BGF Bois d'Agland 91.10 323⇑iP P 14 59 30.8 -0.6
comp=Z,131nm,1.5s,mb5.7
BGF Bois d'Agland 91.10 323⇑iP P 14 59 30.8 -0.6
BGF pmax pmax
comp=Z,66nm,1.5s,mb5.7
BGF Bois d'Agland 91.10 323⇑iP P 14 59 30.8 -0.6
comp=Z,66nm,1.5s,mb5.7
O01C Eel River Cons 91.14 45 ⇑P P 14 59 32.5 +0.9
baz=91
G08A Pilot Rock 91.14 38 P P 14 59 32.5 +0.9
baz=91,SNR=13
H07A Lands Inn, Kim 91.21 39 P P 14 59 32.7 +0.8
baz=91,SNR=12
I06A Prineville 91.21 40 P P 14 59 33.2 +1.2
baz=91,SNR=19
L04A Klamath Falls 91.22 42 ⇑P P 14 59 32.9 +0.9
baz=91
DLF Lyons Farm 91.23 332 eP P 14 59 29.9 -2.1
VSL Villasalto 91.24 315⇑iP P 14 59 31.7 -0.3
comp=Z,73nm,1.2s,mb5.9
AGO Saint Agoulin 91.25 323 eP P 14 59 31.9 -0.2
COLF Collangettes 91.25 322 eP P 14 59 32.0 -0.1
PUYF Puyloubier 91.26 320 eP P 14 59 31.4 -0.8
BERF Bertagne 91.40 319 eP P 14 59 31.2 -1.6
LDF La Druitiere 91.40 326⇑iP P 14 59 31.5 -1.3
TREF Trevaresse 91.40 320 eP P 14 59 31.4 -1.4
PRAF Pradon 91.42 320 eP P 14 59 31.0 -1.9
DRV Dumont d'Urvil 91.42 173 SKS 15 09 58.0
DRV SP SP 15 11 36.0 -1.9
DRV SS SS 15 16 33.0 -2.5
FLN La Foliniere 91.47 326 eP P 14 59 32.3 -0.8
FLN eMLR MLR
comp=Z,9µm,21.2s
FLN La Foliniere 91.47 326 eP P 14 59 32.3 -0.8
FLN LR LR
comp=Z,9µm,21.3s,MS6.2
M04C Macdoel 91.47 42 ⇑P P 14 59 34.0 +0.9
baz=91,SNR=13
F09A S2 Ranch, Elgi 91.48 38 ⇑P P 14 59 34.0 +0.8
baz=91,SNR=6.4
PYM Petit Puy Mans 91.50 322 eP P 14 59 33.1 -0.2
WALA Waterton Lakes 91.50 33⇑eP P 14 59 33.4 +0.2
comp=Z,98nm,1.2s,mb6.0
K05A Summer Lake 91.51 41 ⇓P P 14 59 34.5 +1.2
baz=91,SNR=15
GELF Grande-Etoile 91.51 320 eP P 14 59 32.3 -1.0
DCN Croghan 91.52 333 eP P 14 59 31.3 -2.0
I07A Izee 91.55 40 P P 14 59 34.7 +1.3
baz=91,SNR=15
C12A Trout Creek 91.56 35 P P 14 59 34.5 +0.9
baz=91,SNR=16
M03C McCloud 91.58 43 ⇑P P 14 59 34.4 +0.8
baz=91
TCF Toulx Ste Croi 91.61 323⇑iP P 14 59 33.4 -0.4
comp=Z,327nm,1.7s,mb6.1
TCF Toulx Ste Croi 91.61 323⇑iP P 14 59 33.4 -0.4
TCF pmax pmax
comp=Z,163nm,1.7s,mb6.1
TCF Toulx Ste Croi 91.61 323⇑iP P 14 59 33.4 -0.4
comp=Z,163nm,1.7s,mb6.1
J06A Christmas Vall 91.65 41 P P 14 59 34.9 +1.0
baz=91,SNR=30
B13A Whitefish 91.66 34 ⇑P P 14 59 35.2 +1.2
baz=91,SNR=19
LBL Lubilhac 91.68 322 eP P 14 59 34.1 0.0
F10A Beach Ranch, E 91.70 37 ⇓P P 14 59 35.1 +0.9
baz=91
WDC Whiskeytown Da 91.71 44 ⇑P P 14 59 34.5 +0.3
baz=92
H08A Prairie City 91.77 39 P P 14 59 35.6 +1.1
baz=92,SNR=8.6
O02C Red Bluff 91.78 44 ⇓P P 14 59 35.6 +1.1
baz=92,SNR=8.2
P01C Double 8 Ranch 91.82 45 ⇓P P 14 59 35.4 +0.6
baz=92
BSMT Bassoo Peak 91.83 35 P P 14 59 35.9 +1.1
GRR Gorron 91.90 326⇑iP P 14 59 34.0 -1.1
L05A Lakeview 91.94 42 P P 14 59 36.5 +1.2
baz=92,SNR=10
FRNF Fournols 91.97 322 eP P 14 59 35.6 +0.2
LASF Ste Croix 92.02 321⇑iP P 14 59 35.6 -0.1
comp=Z,320nm,1.7s,mb6.1
C13A Hot Springs 92.05 35 P P 14 59 36.5 +0.7
baz=92,SNR=12
J07A Hines 92.08 40 ⇓P P 14 59 37.2 +1.3
baz=92,SNR=20
GASB Alder Springs 92.11 45 ⇓P P 14 59 37.2 +1.1
baz=92,SNR=12
M05C Lookout 92.14 42 ⇑P P 14 59 37.1 +0.9
baz=92
I08A Drewsey 92.19 39 ⇑P P 14 59 37.5 +1.1
baz=92
HOPS Hopland 92.25 45 ⇓P P 14 59 37.3 +0.6
baz=92
H09A Durkee 92.25 38 ⇑P P 14 59 37.8 +1.0
baz=92,SNR=18
HATC Hat Creek Radi 92.25 43 ⇓P P 14 59 37.1 +0.4
baz=92
O03C Acorn Hollow, 92.36 44 ⇓P P 14 59 37.3 +0.1
baz=92
K07A Rock Creek Ran 92.52 41 P P 14 59 39.1 +1.1
baz=92,SNR=30
CAF Calviac 92.53 322⇑iP P 14 59 38.2 +0.2
comp=Z,191nm,1.2s,mb6.1
CAF Calviac 92.53 322⇑iP P 14 59 38.2 +0.2
CAF pmax pmax
comp=Z,96nm,1.2s,mb6.1
CAF Calviac 92.53 322⇑iP P 14 59 38.2 +0.2
comp=Z,96nm,1.2s,mb6.1
J08A Circle Bar Ran 92.58 40 ⇑P P 14 59 39.2 +0.9
baz=92,SNR=6.3
RJF Les Rejaudoux 92.60 323⇑iP P 14 59 38.4 +0.1

comp=Z,492nm,1.5s,mb6.4
RJF *e*MLR MLR
comp=Z,4μm,17.8s
RJF Les Rejaudoux 92.60 323⇑*i*P P 14 59 38.4 +0.1
RJF pmax pmax
comp=Z,246nm,1.5s,mb6.4
RJF MLR MLR
comp=Z,4μm,17.8s,MS5.9
RJF Les Rejaudoux 92.60 323⇑*i*P P 14 59 38.4 +0.1
comp=Z,246nm,1.5s,mb6.4
RJF LR LR
comp=Z,4μm,17.8s,MS5.9
I09A Lost Marbles R 92.63 39 P P 14 59 39.4 +0.9
baz=92,SNR=17
M06C Likely Place G 92.64 42 ⇑P P 14 59 39.3 +0.7
baz=92,SNR=6.8
MFF Saint Martin d 92.68 325⇑*i*P P 14 59 38.0 -0.7
comp=Z,236nm,1.9s,mb6.0
MFF Saint Martin d 92.68 325⇑*i*P P 14 59 38.0 -0.7
MFF pmax pmax
comp=Z,118nm,1.9s,mb6.0
MFF Saint Martin d 92.68 325⇑*i*P P 14 59 38.0 -0.7
comp=Z,118nm,1.9s,mb6.0
FFC Flin Flon 92.70 24 P P 14 59 38.2 -0.6
comp=Z,220nm,0.9s,mb6.6,SNR=10.0
FFC Flin Flon 92.70 24⇑*e*P P 14 59 37.8 -1.0
comp=Z,218nm,1.6s,mb6.3
FFC LR LR
comp=Z,393nm,19.0s,MS4.9
MNRC McLaughlin Nat 92.72 45 ⇓P P 14 59 39.6 +0.7
baz=92
O04C Chester 92.77 43 ⇓P P 14 59 39.7 +0.6
baz=92
ELFS Eagle Lake Fie 92.83 43 ⇓P P 14 59 40.3 +0.9
baz=93
SGMF Saint Gilles 92.85 327⇑*i*P P 14 59 38.5 -1.0
comp=Z,104nm,1.4s,mb5.8
SGMF Saint Gilles 92.85 327⇑*i*P P 14 59 38.5 -1.0
SGMF pmax pmax
comp=Z,52nm,1.4s,mb5.8
SGMF Saint Gilles 92.85 327⇑*i*P P 14 59 38.5 -1.0
comp=Z,52nm,1.4s,mb5.8
L07A Adell 92.86 41 P P 14 59 41.0 +1.5
baz=93,SNR=26
MSO Missoula 92.93 35⇑*e*P P 14 59 39.8 -0.1
comp=Z,42nm,1.4s,mb5.7
K08A Mann Creek Ran 92.94 40 P P 14 59 41.0 +1.1
baz=93,SNR=7.1
ORV Oroville 92.95 44 ⇑P P 14 59 39.6 -0.4
baz=93
SUTB Sutter Butte 92.95 45 ⇑P P 14 59 39.6 -0.4
baz=93
J09A Fry Pan Ranch, 93.00 39 ⇓P P 14 59 41.3 +1.1
baz=93,SNR=24
WVOR Wild Horse Val 93.03 41⇑*e*P P 14 59 40.9 +0.6
WVOR pmax pmax
comp=Z,56nm,1.3s,mb5.8
WVOR Wild Horse Val 93.03 41⇑*e*P P 14 59 40.9 +0.5
comp=Z,56nm,1.3s,mb5.8
OHCM Honcut 93.08 44 *e*P P 14 59 40.5 -0.1
O05C Quincy 93.08 44 ⇑P P 14 59 40.7 +0.1
baz=93
MIR Mirnyy 93.08 191 *e*P P 14 59 41.0 +0.4
MIR pmax pmax
comp=Z,200nm,1.5s,mb6.3
Q03C Winters 93.14 45 ⇓P P 14 59 41.8 +1.0
baz=93
ROSF Rostrenen 93.15 327⇑*i*P P 14 59 39.2 -1.7
comp=Z,32nm,0.9s,mb5.4
ROSF Rostrenen 93.15 327⇑*i*P P 14 59 39.2 -1.7
ROSF pmax pmax
comp=Z,16nm,0.9s,mb5.5
ROSF Rostrenen 93.15 327⇑*i*P P 14 59 39.2 -1.7
comp=Z,16nm,0.9s,mb5.4
CHMT Chamberlain Mo 93.23 35 *e*P P 14 59 41.2 -0.1
LFF La Frestale 93.26 323⇑*i*P P 14 59 41.4 0.0
comp=Z,341nm,1.6s,mb6.2
LFF La Frestale 93.26 323⇑*i*P P 14 59 41.4 0.0
LFF pmax pmax
comp=Z,171nm,1.6s,mb6.2
LFF La Frestale 93.26 323⇑*i*P P 14 59 41.4 0.0
comp=Z,171nm,1.6s,mb6.2
KEST Kesra 93.29 312 P P 14 59 41.9 +0.3
comp=Z,12nm,0.9s,mb5.3,baz=320,slow=2.0,SNR=29
KEST S S 15 10 14.0 -32
comp=Z,0.3nm,0.5s,baz=295,slow=22,SNR=5.7
KEST LR LR 15 48 59.1
comp=Z,824nm,19.1s,MS5.2,baz=356,slow=40
N06A Buffalo Meadow 93.30 42 P P 14 59 42.3 +0.7
baz=93,SNR=9.7
M07A Soldier Meadow 93.33 42 ⇓P P 14 59 42.7 +0.9
baz=93,SNR=6.5
L08A Fields 93.35 41 ⇓P P 14 59 42.4 +0.6
baz=93,SNR=26
QUIF Quistinic 93.38 327⇑*i*P P 14 59 40.5 -1.4
comp=Z,52nm,1.2s,mb5.5
QUIF Quistinic 93.38 327⇑*i*P P 14 59 40.5 -1.4
QUIF pmax pmax
comp=Z,26nm,1.2s,mb5.5
QUIF Quistinic 93.38 327⇑*i*P P 14 59 40.5 -1.4
comp=Z,26nm,1.2s,mb5.5
K09A Rome 93.41 40 P P 14 59 43.0 +0.9
baz=93,SNR=18
MTLF Montolieu 93.42 321⇑*i*P P 14 59 42.0 -0.1
comp=Z,254nm,1.7s,mb6.1
MTLF Montolieu 93.42 321⇑*i*P P 14 59 42.0 -0.1
MTLF pmax pmax
comp=Z,127nm,1.7s,mb6.1
MTLF Montolieu 93.42 321⇑*i*P P 14 59 42.0 -0.1
comp=Z,127nm,1.7s,mb6.1
BEKR Beckwourth 93.49 43 ⇑P P 14 59 43.0 +0.5
baz=93,SNR=6.0
O06A Flanigan 93.65 43 ⇓P P 14 59 43.6 +0.4
baz=93,SNR=9.7
M08A Happy Creek Ra 93.78 41 ⇑P P 14 59 44.7 +1.0
baz=94,SNR=8.8
N07B Gerlach 93.81 42 P P 14 59 45.0 +1.1
baz=94,SNR=15
L09A Wilkinson Ranc 93.86 40 ⇑P P 14 59 45.2 +1.1
baz=94
WENL Wente Brothers 93.87 46 ⇓P P 14 59 44.1 -0.1
baz=94
BNLO Ben Lomond (Sa 93.87 46 ⇑P P 14 59 44.7 +0.5
baz=94
P06A Stead Airport, 93.89 43 ⇓P P 14 59 44.5 +0.2
baz=94
LAVA Lava Cap Winer 93.89 44 ⇑P P 14 59 44.1 -0.1
baz=94
R04C Big Horse Ranc 94.05 45 ⇓P P 14 59 44.6 -0.4
baz=94
PAHR Pah Rah Range 94.19 43⇑*e*P P 14 59 46.0 +0.3
comp=Z,15nm,0.9s,mb5.4
WCN Washoe City 94.20 44 ⇑P P 14 59 46.3 +0.6
baz=94
O07A Toulon 94.24 42 ⇑P P 14 59 46.5 +0.6
baz=94,SNR=8.2
EGMT Eagleton 94.25 32⇑*i*P P 14 59 45.8 -0.2
comp=Z,22nm,0.8s,mb5.7
EGMT Eagleton 94.25 32 ⇓P P 14 59 45.9 -0.1
baz=94,SNR=6.4
R05C Kirkwood Meado 94.34 44 ⇑P P 14 59 46.7 +0.3
baz=94
M09A Marrel Ranch, 94.35 41 ⇓P P 14 59 47.5 +1.1
baz=94
PACP Pacheco Peak 94.53 46 ⇑P P 14 59 47.7 +0.5
baz=94
CMB Columbia Colle 94.53 45 ⇑P P 14 59 47.2 -0.1
baz=94
DLMT Dillon 94.59 35⇑*e*P P 14 59 47.1 -0.4
comp=Z,30nm,0.9s,mb5.7
N09A Rock Creek Ran 94.65 41 ⇓P P 14 59 48.4 +0.6
baz=94,SNR=6.8
EPF Esparros 94.68 322⇑*i*P P 14 59 47.4 -0.5
comp=Z,141nm,1.7s,mb5.8
EPF Esparros 94.68 322⇑*i*P P 14 59 47.4 -0.5
EPF pmax pmax
comp=Z,70nm,1.7s,mb5.8
EPF Esparros 94.68 322⇑*i*P P 14 59 47.4 -0.5
comp=Z,70nm,1.7s,mb5.8
HAST UC Hastings Re 94.70 47 ⇓P P 14 59 48.2 +0.2
baz=94
HLID Hailey 94.77 38 *e*P P 14 59 49.1 +0.8
comp=Z,55nm,1.5s,mb5.8
HLID Hailey 94.77 38 P P 14 59 49.5 +1.2
baz=94,SNR=22
MCMT McKenzie Canyo 94.81 36 *e*P P 14 59 48.8 +0.3
RESF Ens 94.82 321 *e*P P 14 59 49.1 +0.5
M10A I.L. Ranch, Tu 94.83 40 ⇓P P 14 59 49.7 +1.1
baz=95
R06C Coleville 94.84 44 ⇑P P 14 59 49.5 +0.8
baz=95
VIEF Viey 94.96 322 *e*P P 14 59 49.6 +0.4
S05C Merced 94.96 45 ⇑P P 14 59 48.9 -0.3
baz=95
Q07A Schurz 95.01 43 ⇓P P 14 59 49.9 +0.5
baz=95
P08A Dixie Valley 95.01 42 ⇑P P 14 59 50.3 +0.9
baz=95
BMN Battle Mountai 95.09 41 *e*P P 14 59 50.3 +0.5
BMN pmax pmax
comp=Z,29nm,1.3s,mb5.5
BMN Battle Mountai 95.09 41 *e*P P 14 59 50.3 +0.5
comp=Z,29nm,1.3s,mb5.5
PPT Papeete 95.10 107 *e*SS SS 15 17 32.4 +4.4
comp=Z,499nm,25.5s
PPT *e*LR LR 15 30 28.9
comp=Z,5μm,23.5s,baz=289
PPT Papeete 95.10 107 LR LR 15 34 39.6
comp=Z,2μm,21.3s,MS5.5,baz=274,slow=30
V03C Hunter Liggett 95.12 47 ⇓P P 14 59 50.5 +0.6
baz=95
O09A Fish Creek Ran 95.27 42 ⇑P P 14 59 51.3 +0.7
baz=95
ETSF Etsaut 95.28 322⇑*i*P P 14 59 51.0 +0.4
comp=Z,121nm,1.6s,mb5.8
ETSF Etsaut 95.28 322⇑*i*P P 14 59 51.0 +0.4
ETSF pmax pmax
comp=Z,60nm,1.6s,mb5.8
ETSF Etsaut 95.28 322⇑*i*P P 14 59 51.0 +0.4
comp=Z,60nm,1.6s,mb5.8
M11A Holland Ranch, 95.33 40 ⇑P P 14 59 52.2 +1.4
baz=95
R07C Lee Vining 95.36 44 ⇓P P 14 59 51.4 +0.4
baz=95
SJPF Ste Jean 95.51 322 *e*P P 14 59 52.0 +0.3
comp=Z,56nm,1.2s,mb5.6
SJPF Ste Jean 95.51 322 *e*P P 14 59 52.0 +0.3
SJPF pmax pmax
comp=Z,28nm,1.2s,mb5.6
SJPF Ste Jean 95.51 322 *e*P P 14 59 52.0 +0.3
comp=Z,28nm,1.2s,mb5.6
QLMT Earthquake Lak 95.56 35 *e*P P 14 59 52.7 +0.8
V04C Ramage Ranch, 95.58 47 ⇓P P 14 59 52.0 0.0
baz=95
Q08A Gabbs 95.60 43 ⇑P P 14 59 52.4 +0.3
baz=95
O10A Cortez Mining, 95.61 41 ⇑P P 14 59 52.9 +0.7
baz=95
NVAR Mina Array Bea 95.62 44 P P 14 59 53.3 +1.1
comp=Z,2.9nm,0.7s,mb4.8,baz=302,slow=5.9,SNR=27
PKD Parkfield 95.63 47 ⇓P P 14 59 52.2 -0.1
baz=95
KCC Kaiser Creek 95.63 45 ⇑P P 14 59 51.8 -0.5
baz=95
M12A Wells 95.85 40 ⇓P P 14 59 53.9 +0.7
baz=96
YMR Madison River 95.92 35 *e*P P 14 59 54.0 +0.5
comp=Z,9.6nm,0.8s,mb5.3
PTRM Twissleman Ran 96.01 47 *e*P P 14 59 54.4 +0.4
P10A Eureka 96.04 42 ⇑P P 14 59 54.7 +0.6
baz=96
MTUM Tungsten Hills 96.10 45 *e*P P 14 59 54.6 +0.3
N12A Clover Valley, 96.13 40 ⇓P P 14 59 55.2 +0.7
baz=96
HELL Mitchell Peak, 96.20 45 ⇓P P 14 59 54.6 -0.2
baz=96
O11A Cowboy Ranch, 96.22 41 ⇑P P 14 59 55.2 +0.3
baz=96
S08C White Mtn Res 96.26 44 P P 14 59 56.1 +1.0
baz=96,SNR=8.0
SMMC Simmler 96.35 47 ⇓P P 14 59 56.0 +0.4
baz=96
IMW Indian Meadow 96.45 36 *e*P P 14 59 56.1 +0.2
comp=Z,22nm,1.3s,mb5.4
FLWY Flagg Ranch 96.45 36 *e*P P 14 59 57.8 +1.8
comp=Z,17nm,0.8s,mb5.5
RLMT Red Lodge 96.49 34 *e*P P 14 59 56.4 +0.2
comp=Z,15nm,1.1s,mb5.3
R09A Tonopah 96.51 43 P P 14 59 56.7 +0.4
baz=96,SNR=7.4
P11A Circle Ranch, 96.52 41 ⇑P P 14 59 57.0 +0.7
baz=96
TPH Tonopah 96.52 43 PFAKE 15 00 10.0 +14
TPH LR LR
comp=Z,720nm,21.0s,MS5.1
DGMT Dagmar 96.52 29 *e*P P 14 59 54.9 -1.4
comp=Z,28nm,0.9s,mb5.7
RRI2 Red Ridge 96.62 36 *e*P P 14 59 56.5 -0.2
comp=Z,19nm,1.4s,mb5.3
N13A Wendover, West 96.62 40 ⇑P P 14 59 57.4 +0.7
baz=96
VES Vestal, Richgr 96.66 46 ⇓P P 14 59 56.8 -0.1
baz=96
MOOW Moose Ponds 96.66 36 *e*P P 14 59 57.5 +0.6
comp=Z,3.8nm,0.8s,mb4.9
O12A Currie 96.67 40 ⇑P P 14 59 57.4 +0.4
baz=96
PKM Peak Mountain 96.71 47 ⇑P P 14 59 57.5 +0.3
baz=96
S09A Goldfield 96.73 44 ⇑P P 14 59 57.5 +0.2
baz=96
CWC Cottonwood Cre 96.95 45 ⇑P P 14 59 58.1 -0.1
baz=97
R10A Warm Springs 96.96 43 ⇓P P 14 59 58.9 +0.6
baz=97
Q11A Duckwater 97.02 42 ⇑P P 14 59 59.0 +0.4
baz=97
GRAC Grapevine Rang 97.07 44 ⇓P P 14 59 59.4 +0.6
baz=97
P12A McGill 97.08 41 ⇓P P 14 59 59.6 +0.8
baz=97
ISA Isabella 97.16 46 P P 14 59 59.1 -0.1
ISA Isabella 97.16 46 *e*P P 14 59 58.0 -1.2
comp=Z,3.9nm,0.8s,mb4.9
ISA LR LR
comp=Z,1μm,21.0s,MS5.3
ISA Isabella 97.16 46 ⇓P P 14 59 59.4 +0.3
baz=97
ARVC Arvin 97.24 47 ⇓P P 14 59 59.4 -0.1
baz=97
DAC Darwin (Calif) 97.36 45 P P 15 00 00.3 +0.2
DAC pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
DAC Darwin (Calif) 97.36 45 *e*P P 14 59 59.9 -0.2
comp=Z,6.4nm,0.9s,mb5.0
TBI Tubuai 97.47 112 *e*PP PP 15 03 58.4 +0.5
comp=Z,152nm,27.2s
TBI Tubuai 97.47 112 *e*PS PS 15 12 48.2 -1.1
comp=Z,614nm,32.0s
TBI Tubuai 97.47 112 *e*SKSac SKSac 15 10 35.4 +0.5
comp=Z,767nm,29.0s
TBI *e*SS SS 15 18 00.0 -1.5
comp=Z,436nm,26.2s
TBI *e*LR LR 15 31 36.4
comp=Z,2μm,24.8s,baz=295
MPMC Manual Prospec 97.56 45 ⇓P P 15 00 01.4 +0.4
baz=97
OSI Osito Adit 97.61 47 ⇓P P 15 00 00.6 -0.6
baz=97
HWUT Hardware Ranch 97.64 38 *e*P P 15 00 01.6 +0.2
comp=Z,37nm,1.7s,mb5.6
HWUT LR LR
comp=Z,1μm,19.0s,MS5.4
FURC Furnace Creek, 97.72 44 ⇓P P 15 00 01.9 +0.2
baz=98
LRMC Laurel Mountai 97.78 46 ⇑P P 15 00 01.7 -0.3
baz=98
DUG Dugway 97.86 40 ⇓P P 15 00 02.8 +0.5
baz=98
SNCC San Nicolas Is 97.86 48 ⇓P P 15 00 02.8 +0.4
baz=98
EDW2 Edwards Air Fo 97.94 46 ⇑P P 15 00 02.9 +0.2
baz=98
PDAR Pinedale Array 97.96 36 P P 15 00 02.2 -0.6
comp=Z,0.6nm,0.7s,baz=207,slow=1.3,SNR=5.0
PDAR PP PP 15 04 05.2 +3.5
comp=Z,1.8nm,1.0s,baz=306,slow=5.3,SNR=5.2
PDAR LR LR 15 47 16.8
comp=Z,748nm,20.5s,MS5.2,baz=347,slow=37
SHOC Shoshone 98.44 45 ⇓P P 15 00 04.6 -0.3
baz=98
GSC Goldstone 98.46 45 P P 15 00 05.9 +0.8
GSC Goldstone 98.46 45 *e*P P 15 00 05.2 +0.2
comp=Z,4.7nm,0.6s,mb5.2
GSC Goldstone 98.46 45 ⇓P P 15 00 05.1 +0.1
baz=98
ULM Lac du Bonnet 98.53 24 P P 15 00 02.8 -2.6
comp=Z,6.0nm,0.8s,mb5.2,baz=317,slow=4.5,SNR=3.0
ULM LR LR 15 52 26.1
comp=Z,1μm,18.1s,MS5.5,baz=349,slow=40
CIS Catalina Islan 98.53 48 ⇓P P 15 00 05.6 +0.2
baz=98
BFSC Mount Baldy St 98.54 47 ⇑P P 15 00 05.2 -0.2
baz=98
TUQ Turquoise Mtn. 98.95 45 ⇓P P 15 00 07.4 +0.2
baz=99
HEC Hector,Ludlow 99.06 46 ⇓P P 15 00 07.6 -0.1
baz=99
U12A Valley of Fire 99.22 43 ⇓P P 15 00 08.6 +0.1
baz=99
ESDC Sonseca Array 99.32 321 P P 15 00 06.9 -2.0
comp=Z,0.6nm,0.7s,baz=35,slow=5.4,SNR=5.4
ESDC PP PP 15 04 07.9 -4.3
comp=Z,1.1nm,0.8s,baz=52,slow=7.2,SNR=6.4
ESDC LR LR 15 50 28.0
comp=Z,2μm,18.9s,MS5.7,baz=25,slow=39
MSU Marysvale 99.33 40 *e*P P 15 00 11.1 +2.2
MSU Marysvale 99.33 40 *e*Pdif P 15 00 09.4 +0.5
PFO Pinyon Flat Ob 99.72 47 ⇑P Pdif 15 00 10.8 +0.2
baz=100
TAOE Nuku Hiva Isla 100.15 95 *e*SP SP 15 13 09.8 -3.6
comp=Z,1μm,27.5s
TAOE *e*LR LR 15 32 51.2
comp=Z,4μm,22.7s,baz=285
IRM Iron Mountain 100.24 45 ⇑P Pdif 15 00 13.3 +0.3
baz=100
BC3 Big Chuckw Mtn 100.35 46 ⇓P Pdif 15 00 13.8 +0.3
baz=100
W14A Seligman 100.90 44 ⇓P Pdif 15 00 16.5 +0.6
baz=101
SCHQ Schefferville 100.99 6 PFAKE 15 00 30.0 +14
SCHQ LR LR
comp=Z,4μm,19.0s,MS6.0
PV10 Paradox Valley 101.25 39 *e*Pdif Pdif 15 00 17.8 +0.4
MAW Mawson 101.43 200 PKKPbc PKKPbc 15 16 23.6 -2.7
comp=Z,1.2nm,0.8s,baz=90,slow=1.0,SNR=3.5
X15A Humboldt 101.90 44 ⇓P Pdif 15 00 21.2 +0.9
baz=102
SDCO Great Sand Dun 103.69 37 PFAKE 15 00 40.0 +12
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
VNDA Vanda 104.02 172 Pdiff Pdif 15 00 29.9 +0.1
comp=Z,0.4nm,0.6s,baz=270,slow=7.2,SNR=3.7
VNDA PP PP 15 04 43.7 -3.8
comp=Z,5.1nm,1.1s,baz=320,slow=12,SNR=5.6
VNDA PKKPbc PKKPbc 15 16 18.6 -0.2
comp=Z,0.6nm,0.8s,baz=283,slow=6.5,SNR=6.2
VNDA Vanda 104.02 172 P Pdif 15 00 29.9 +0.1
VNDA 15 04 43.7
VNDA Vanda 104.02 172 Pdif Pdif 15 00 29.9 +0.1
VNDA PP PP 15 04 43.7 -3.8
VNDA PKKPbc PKKPbc 15 16 18.6 -0.2
SBA Scott Base 104.94 171 PFAKE 15 00 40.0 +6.1
SBA LR LR
comp=Z,937nm,19.0s,MS5.3
ANMO Albuquerque 105.11 40 PFAKE 15 05 00.0 +11
ANMO LR LR
comp=Z,1μm,19.0s,MS5.4
RKT Rikitea 109.86 107 *e*SKSac SKSac 15 11 32.3 +0.1
comp=Z,471nm,29.2s
RKT *e*SP SP 15 14 56.2 +1.7
comp=Z,529nm,34.5s
RKT *e*SS SS 15 20 51.3 -0.7
comp=Z,554nm,28.0s
RKT *e*LR LR 15 37 19.2
comp=Z,3μm,25.2s,baz=293
TORD Torodi Ar. Bea 111.43 296 PKiKP PKiKP 15 05 00.6 -0.2
comp=Z,2.4nm,0.6s,baz=23,slow=2.6,SNR=12
TORD PKKPbc PKKPbc 15 15 56.0 +0.5
comp=Z,0.9nm,0.8s,baz=249,slow=2.2,SNR=4.3
JCT Junction City 112.21 39 *e*PKIKP PKiKP 15 05 02.3 0.0
PLAL Pickwick Lake 114.45 27 *e*PKPdf PKiKP 15 05 03.5 -3.1
DBIC Dimbokro 120.34 294 PKP PKPdf 15 05 18.0 +0.1
comp=Z,8.8nm,0.8s,baz=118,slow=2.2,SNR=9.1
DBIC PKKPbc PKKPbc 15 15 26.3 +1.9
comp=Z,6.0nm,0.9s,baz=219,slow=11,SNR=3.0
SNAA Sanae 123.55 198 PKKPbc PKKPbc 15 15 10.3 -1.8
comp=Z,1.0nm,1.1s,baz=308,slow=5.0,SNR=5.6
SNAA Sanae 123.55 198 *e*PKIKP PKPdf 15 05 19.7 -4.3
SDV Santo Domingo 144.78 23 PKP PKPdf 15 06 02.5 -1.0
comp=Z,50nm,0.7s,baz=302,slow=3.5,SNR=5.0
SDV Santo Domingo 144.78 23 *e*PKPdf PKPdf 15 06 02.5 -1.0
PCRV Puerto La Cruz 145.22 13 PKPbc PKPbc 15 06 03.3 -0.7
comp=Z,24nm,0.6s,baz=221,slow=3.1,SNR=12
ROSC El Rosal 146.84 32 PKPbc PKPbc 15 06 09.6 +0.7
comp=Z,26nm,0.8s,baz=99,slow=23,SNR=22
ROSC El Rosal 146.84 32 *e*PKPdf PKPdf 15 06 08.5 +1.5
USHA Ushuaia 148.22 168 PKPbc PKPbc 15 06 12.5 -0.2
comp=Z,28nm,0.8s,baz=203,slow=2.7,SNR=12
OTAV Otavalo 148.36 43 *e*PKPdf PKPdf 15 06 11.4 +1.8
ATAH Atahualpa 153.66 53 PKP PKPdf 15 06 19.5 +1.8
comp=Z,3.1nm,0.3s,baz=48,slow=12,SNR=8.4
ATAH PKPbc PKPbc 15 06 27.6 +2.1
comp=Z,13nm,0.8s,baz=267,slow=2.9,SNR=11
NNA Nana 157.99 60 PFAKE 15 06 30.0 +6.6
NNA LR LR
comp=Z,249nm,22.0s,MS5.0
PLCA Paso Flores 160.08 150 PKP PKPdf 15 06 26.3 +0.4
comp=Z,1.1nm,0.5s,baz=171,slow=7.9,SNR=2.5
PLCA PKPab PKPab 15 07 05.7 -0.2
comp=Z,10nm,1.2s,baz=223,slow=5.8,SNR=4.2
SAML Samuel 163.97 21 *e*PKPdf PKPdf 15 06 30.2 +0.4
SAML *e*PKPab PKPab 15 07 20.6 -2.3
SAML *e*PP PP 15 11 03.6 -4.9
LPAZ La Paz 167.30 54 PKP PKPdf 15 06 34.9 +2.4
comp=Z,8.7nm,1.0s,baz=15,slow=2.6,SNR=31
LPAZ La Paz 167.30 54 *e*PKPdf PKPdf 15 06 34.6 +2.0
LPAZ *e*PP PP 15 11 26.5 +0.7
BDFB Brasilia 167.81 312 PKP PKPdf 15 06 34.0 +1.1
comp=Z,7.0nm,0.9s,baz=43,slow=4.1,SNR=7.1
BDFB PKPab PKPab 15 07 39.8 0.0
comp=Z,9.2nm,0.8s,baz=39,slow=5.1,SNR=6.0
CFAA Coronel Fontan 167.85 130 PKP PKPdf 15 06 33.9 +0.9
comp=Z,0.3nm,0.6s,baz=315,slow=2.9,SNR=3.6
CFAA PKPab PKPab 15 07 41.7 +1.7
comp=Z,0.4nm,0.6s,baz=221,slow=4.9,SNR=2.1
CFAA Coronel Fontan 167.85 130 PKP PKPdf 15 06 33.9 +0.9
CFAA PKPab PKPab 15 07 41.7 +1.7
LVC Limon Verde 169.34 84 PKP PKPdf 15 06 36.3 +2.4
comp=Z,2.8nm,0.7s,baz=315,slow=1.2,SNR=6.3
LVC PKPab PKPab 15 07 49.0 +2.4
comp=Z,4.5nm,0.8s,baz=291,slow=8.6,SNR=2.7
LVC Limon Verde 169.34 84 PKP PKPdf 15 06 36.3 +2.4
LVC PKPab PKPab 15 07 49.0 +2.4
LVC LR LR
comp=Z,2μm,21.0s
SIV San Ignacio 171.24 24 PKP PKPdf 15 06 36.0 +1.0
comp=Z,12nm,0.8s,baz=148,slow=0.9,SNR=76
SIV PKPab PKPab 15 07 54.1 -1.0
comp=Z,6.2nm,0.8s,baz=348,slow=4.7,SNR=7.6
SIV PP PP 15 11 43.2 -2.5
comp=Z,3.6nm,0.9s,baz=324,slow=7.4,SNR=6.6
CPUP Villa Florida 177.76 182 PKP PKPdf 15 06 37.5 +0.4
comp=Z,0.4nm,0.3s,baz=209,slow=2.1,SNR=3.0
CPUP PKPab PKPab 15 08 23.3 -0.7
comp=Z,0.6nm,0.6s,baz=132,slow=14,SNR=2.4
CPUP PP PP 15 12 14.4 -2.8
comp=Z,0.2nm,0.3s,baz=181,slow=8.4,SNR=2.2
CPUP Villa Florida 177.76 182 *e*PKPdf PKPdf 15 06 37.0 -0.1
CPUP *e*PKPab PKPab 15 08 26.2 +2.1
CPUP *e*PP PP 15 12 13.3 -3.9

NIED **12** *15:40:00,2400N×12270E,h20km,Mw4.0 Best double couple: M0 1.16000×1015 NP1:φs46.00000°,δ74.00000°, λ63.00000°. NP2:φs288.00000°,δ31.00000°,λ148.00000°.*

JMA 12 15:40:45.3±0.2,2401N×12266E,h31km,M3.9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**35**	P	Pb	15 40 56.5	-0.1
YOJ				S	Sb	15 41 04.1	-0.2
IRIF	**Iriomote-Funau**	**1.03**	**71**	P	Pn	15 41 03.4	-0.2
IRIF				*e*S	Sn	15 41 17.6	+0.7
HATJ	**Hateruma jima**	**1.05**	**87**	P	Pn	15 41 03.9	+0.1
HATJ				*e*S	Sn	15 41 18.3	+0.9
JKRS	**Kuro-shima**	**1.25**	**79**	P	Pn	15 41 07.2	+0.5
JKRS				*e*S	Sn	15 41 25.1	+2.6
JIJ	**Ishigaki jima**	**1.40**	**75**	P	Pn	15 41 08.8	+0.1
JIJ				*e*S	Sn	15 41 26.4	+0.3
JTJ	**Tarama**	**1.97**	**71**	P	Pn	15 41 17.6	+1.1

JMJ	**Miyako jima 2**	**2.53**	**71**	P	Pn	15 41 26.1	+1.9
JMJ				eS	Sn	15 41 56.7	+2.7
JOGS	**Gusukube**	**2.61**	**73**	P	Pn	15 41 27.4	+2.0
JKE	**Kume jima 2**	**4.39**	**57**	P	Pn	15 41 50.3	+0.5
JKE				eS	Sn	15 42 40.4	+0.5

*ISCJB **12** 15:42:46.9±0.4,2639S±003×2752E±003,h2km,mb3.8/4, Error ellipse: s-maj=3.9km s-min=3.5km az=103.5*
*PRE **12** 15:42:47.4±1.6,2640S×2752E,h2km,ML3.1*
*IDC **12** 15:42:48.8±1.7,2636S×2740E,h0km,mb3.6/2,mb1 4.0/8, mb1mx3.7/28,mbtmp3.9/8,ML3.7/5,MS3.4/1,Ms1 3.3/1, ms1mx3.1/32,Error ellipse: s-maj=21.4km s-min=14.1km az=103.0*
*NEIC **12** 15:42:49.2±0.7,2634S×2749E,h5km,mb4.2/2,Error ellipse: s-maj=16.0km s-min=8.1km az=100.0*

ISC 12 15:42:48.0±0.3,2640S±002×2751E±003,h2km,n28, σ1º07/48,mb3.8/4,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**195**	eP	**Pg**	**15 42 58.1**	**-0.2**
PRYS				eS	**Sg**	**15 43 04.5**	**-0.8**
PRYS				AML	AML	15 43 12.9	
	comp=Z,2μm,0.7s						
ERPM	**east rand prop**	**0.67**	**77**	eP	**Pg**	**15 43 00.5**	**-0.5**
ERPM				eS	**Sg**	**15 43 08.5**	**-1.2**
ERPM				AML	AML	15 43 20.6	
	comp=Z,112nm,0.5s						
KSR	**Koster**	**0.78**	**315**	eP	**Pg**	**15 43 01.9**	**-1.0**
KSR				eS	**Sg**	**15 43 13.5**	**+0.5**
KSR				AML	AML	15 43 19.9	
	comp=Z,1μm,0.7s						
SLR	**Silverton**	**0.96**	**46**	eP	**Pg**	**15 43 05.7**	**-0.7**
SLR				eS	**Sg**	**15 43 18.2**	**-0.7**
SLR				AML	AML	15 43 25.3	
	comp=Z,280nm,0.3s						
SEK	**Senekal**	**1.92**	**177**	eP	**Pn**	**15 43 22.0**	**+0.4**
SEK				eS	**Sn**	**15 43 46.5**	**+0.1**
SEK				AML	AML	15 43 52.0	
	comp=Z,238nm,0.4s						
SWZ	**Schweizer**	**2.10**	**248**	eP	**Pn**	**15 43 24.8**	**+0.7**
SWZ				eS	**Sn**	**15 43 50.4**	**-0.4**
SWZ				AML	AML	15 43 54.7	
	comp=Z,192nm,0.5s						
LBTB	**Lobatse**	**2.21**	**308**	eP	**Pn**	**15 43 26.6**	**+0.9**
LBTB				eS	**Sn**	**15 43 53.8**	**+0.2**
LBTB				AML	AML	15 43 58.0	
	comp=Z,263nm,0.5s						
LBTB	**Lobatse**	**2.21**	**308**	Pn	**Pn**	**15 43 27.4**	**+1.6**
	comp=Z,34nm,0.3s,baz=140,slow=17,SNR=736						
LBTB				Lg		15 43 56.1	
	comp=Z,111nm,0.3s,baz=46,slow=15,SNR=34						
LBTB				Rg		15 44 03.9	
	comp=Z,537nm,1.0s,baz=195,slow=1.5,SNR=26						
LBTB	**Lobatse**	**2.21**	**308**	ePn	**Pn**	**15 43 27.1**	**+1.4**
LBTB				eSg	**Sg**	**15 43 55.5**	**-3.6**
LBTB				eLg		15 44 05.6	
BOSA	**Boshof**	**2.98**	**222**	eP	**Pn**	**15 43 36.0**	**-0.2**
BOSA				eS	**Sn**	**15 44 12.0**	**-0.5**
BOSA				AML	AML	15 44 20.7	
	comp=Z,59nm,0.3s						
BOSA	**Boshof**	**2.98**	**222**	Pn	**Pn**	**15 43 37.3**	**+1.1**
	comp=Z,5.8nm,0.3s,baz=46,slow=13,SNR=114						
BOSA				Sn	**Sn**	**15 44 12.0**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=15,slow=12,SNR=9.8						
BOSA				Lg		15 44 20.4	
	comp=Z,19nm,0.3s,baz=134,slow=21,SNR=16						
BOSA				LR	LR	15 44 41.8	
	comp=Z,664nm,20.8s,baz=79,slow=38						
BOSA	**Boshof**	**2.98**	**222**	ePn	**Pn**	**15 43 37.1**	**+0.9**
BOSA				eSn	**Sn**	**15 44 11.5**	**-1.0**
BOSA				eSg	**Sg**	**15 44 20.3**	**-3.4**
BOSA				eLg		15 44 45.1	
POGA	**Pongola**	**3.79**	**106**	eP	**Pn**	**15 43 48.9**	**+1.6**
POGA				eS	**Sn**	**15 44 33.3**	**+0.9**
POGA				AML	AML	15 44 53.2	
	comp=Z,52nm,0.4s						
KSD	**Kokstad**	**4.45**	**158**	eP	**Pn**	**15 43 56.9**	**+0.4**
KSD				eS	**Sn**	**15 44 46.6**	**-2.2**
KSD				AML	AML	15 45 12.4	
	comp=Z,27nm,0.4s						
UPI	**Upington**	**5.90**	**249**	eP	**Pn**	**15 44 16.9**	**+0.6**
UPI				eS	**Sn**	**15 45 21.9**	**-2.6**
UPI				AML	AML	15 45 25.3	
	comp=Z,8.4nm,0.7s						
MATP	**Matopo**	**6.02**	**9**	Pn	**Pn**	**15 44 19.0**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=189,slow=13,SNR=73						
MATP				Sn	**Sn**	**15 45 24.1**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=283,slow=18,SNR=6.4						
MATP				Lg		15 45 55.6	
	comp=Z,9.5nm,0.3s,baz=342,slow=3.2,SNR=11						
SUR	**Sutherland**	**8.34**	**223**	eP	**Pn**	**15 44 51.4**	**+1.4**
SUR				eS	**Sn**	**15 46 19.9**	**-4.9**
SUR	**Sutherland**	**8.34**	**223**	Pn	**Pn**	**15 44 51.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=36,slow=16,SNR=8.9						
SUR				Sn	**Sn**	**15 46 35.1**	**+10**
	comp=Z,1.2nm,0.3s,baz=142,slow=21,SNR=5.8						
SUR				Lg		15 47 05.8	
	comp=Z,1.9nm,0.3s,baz=134,slow=22,SNR=5.5						
LSZ	**Lusaka**	**11.09**	**3**	Pn	**Pn**	**15 45 26.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=179,slow=13,SNR=6.6						
LSZ				Sn	**Sn**	**15 47 26.6**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=70,slow=23,SNR=3.3						
LSZ				Lg		15 48 34.1	
	comp=Z,0.5nm,0.3s,baz=105,slow=13,SNR=2.8						
LSZ	**Lusaka**	**11.09**	**3**	ePn	**Pn**	**15 45 26.6**	**-1.0**
	comp=Z,3.2nm,0.6s						
TSUM	**Tsumeb**	**11.62**	**306**	Pn	**Pn**	**15 45 34.3**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=116,slow=10,SNR=24						
TSUM				Sn	**Sn**	**15 47 35.8**	**-9.4**
	comp=Z,0.4nm,0.3s,baz=156,slow=10,SNR=2.9						
TSUM				Lg		15 48 51.4	
	comp=Z,0.2nm,0.3s,baz=53,slow=21,SNR=3.0						
TSUM	**Tsumeb**	**11.62**	**306**	ePn	**Pn**	**15 45 34.6**	**-0.3**
	comp=Z,5.7nm,0.8s						
TOA0	**Torodi Ar. Sit**	**46.65**	**324**	eP	**P**	**15 51 18.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.65**	**324**	P	**P**	**15 51 18.2**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=124,slow=6.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**46.65**	**324**	P	**P**	**15 51 18.2**	**+0.4**
SNAA	**Sanae**	**48.36**	**192**	eP	**P**	**15 51 32.4**	**+1.2**
	comp=Z,1.3nm,0.8s,mb4.0						
ESDC	**Sonseca Array**	**71.99**	**335**	P	**P**	**15 54 14.5**	**+1.3**
	comp=Z,0.1nm,0.3s,mb3.2,baz=157,slow=4.2,SNR=4.0						
SBA	**Scott Base**	**73.24**	**172**	P	**P**	**15 54 21.2**	**+0.6**
	comp=Z,2.2nm,0.9s,mb4.1						

*ISCJB **12** 15:46:27.6±3.7,180S±008×1278E±02,h2km±23km, mb4.3/19,Error ellipse: s-maj=28.3km s-min=7.8km az=131.7*
*NEIC **12** 15:46:34.4±0.6,179S×12769E,h35km,mb4.5/11,Error ellipse: s-maj=26.5km s-min=8.7km az=68.0*
*BJI **12** 15:46:34.0,198S×12761E,h42km,mB5.3,mb4.8,Ms4.6, Msz4.3*
*IDC **12** 15:46:36.9±4.2,198S×12750E,h61km±36km,mb3.7/7, mb1 3.8/9,mb1mx3.7/19,mbtmp4.0/9,ML3.9/2,Error ellipse: s-maj=113.8km s-min=12.1km az=71.0*

ISC 12 15:46:34.7±2.3,184S±010×1279E±02,h41km±22km,n39, σ1º08/38,mb4.3/19,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.32**	**188**	eP	**Pn**	**15 50 23.1**	**+2.4**
	6.5nm,1.5s						
FITZ	**Fitzroy Crossi**	**16.32**	**188**	P	**Pn**	**15 50 20.0**	**-0.7**
	0.2nm,0.3s,baz=288,slow=4.2,SNR=5.8						
KSM	**Kuching**	**17.88**	**280**	Pn	**Pn**	**15 50 36.6**	**-3.7**
WRA	**Warramunga Arr**	**19.07**	**161**	P	**Pn**	**15 50 53.8**	**-0.9**
	0.7nm,0.3s,baz=343,slow=13,SNR=35						
WB2	**Warramunga Arr**	**19.07**	**161**	eP	**Pn**	**15 50 53.8**	**-0.9**
AS31	**Alice Springs**	**22.47**	**165**	eP	**P**	**15 51 30.1**	**-0.2**
ASAR	**Alice Springs**	**22.47**	**165**	P	**P**	**15 51 30.4**	**+0.2**
	2.5nm,0.5s,mb3.9,baz=346,slow=11,SNR=52						
ASAR				S	**S**	**15 55 32.8**	**-2.0**
	1.2nm,1.0s,baz=348,slow=24,SNR=6.4						
ASPA	**Alice Springs**	**22.47**	**165**	eP	**P**	**15 51 30.1**	**-0.2**
STKA	**Stephens Creek**	**32.56**	**158**	P	**P**	**15 53 05.5**	**+3.6**
KMI	**Kunming**	**36.22**	**319**	P	**P**	**15 53 36.9**	**+3.3**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
KMI	**Kunming**	**36.22**	**319**	P	**P**	**15 53 36.9**	**+3.3**
	comp=Z,6.0nm,1.1s,mb4.4						
CD2	**Chengdu**	**39.85**	**327**	eP	**P**	**15 54 05.4**	**+1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**43.89**	**332**	eP	**P**	**15 54 38.5**	**+1.4**
LZH				AP	pP	15 54 47.0	-1.7
LZH				XP	sP	15 54 51.5	-2.0
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
LZH	**Lanzhou**	**43.89**	**332**	eP	**P**	**15 54 38.5**	**+1.4**
	comp=Z,18nm,1.0s,mb4.8						
LZH				pP	pP	15 54 47.0	-1.7
LZH				sP	sP	15 54 51.5	-2.0
LSA	**Lhasa**	**47.06**	**315**	P	**P**	**15 55 03.8**	**+1.6**
LSA	**Lhasa**	**47.06**	**315**	eP	**P**	**15 55 03.6**	**+1.3**
	comp=Z,7.8nm,0.6s,mb4.8						
LSA				e		15 55 08.6	
GTA	**Gaotai**	**48.46**	**331**	eP	**P**	**15 55 13.6**	**+0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.3						
GUN	**Gumba**	**50.03**	**309**	eP	**P**	**15 55 24.8**	**-0.2**
KKN	**Kakani**	**50.43**	**309**	eP	**P**	**15 55 28.0**	**-0.1**
DMN	**Daman**	**50.48**	**309**	eP	**P**	**15 55 28.3**	**-0.2**
GKN	**Gorkha**	**51.03**	**309**	eP	**P**	**15 55 32.3**	**-0.4**
KOLN	**Koldanda**	**51.74**	**308**	eP	**P**	**15 55 37.7**	**-0.2**
	comp=Z,8.9nm,0.8s,mb4.8						
SONM	**Songino Array**	**52.91**	**342**	P	**P**	**15 55 46.8**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=168,slow=7.6,SNR=4.3						
WMQ	**Urumqi**	**57.95**	**327**	eP	**P**	**15 56 24.0**	**+1.2**
MKAR	**Makanchi Array**	**62.78**	**326**	P	**P**	**15 56 55.5**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.6,baz=122,slow=8.4,SNR=36						
YAK	**Yakutsk**	**63.71**	**1**	P	**P**	**15 57 02.1**	**+0.1**
	comp=Z,5.7nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**65.27**	**319**	eP	**P**	**15 57 11.2**	**-0.9**
	comp=Z,1.9nm,0.8s,mb4.2						
CASY	**Casey**	**65.48**	**188**	eP	**P**	**15 57 15.5**	**+1.9**
	comp=Z,3.4nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**66.05**	**334**	P	**P**	**15 57 15.8**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=282,slow=6.9,SNR=3.2						
BVAR	**Borovoye Array**	**72.60**	**328**	P	**P**	**15 57 56.7**	**-1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=120,slow=5.8,SNR=7.5						
BRVK	**Borovoye**	**72.67**	**328**	eP	**P**	**15 57 57.3**	**-0.8**
	comp=Z,3.1nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**73.31**	**327**	eP	**P**	**15 58 00.9**	**-1.1**
	comp=Z,5.4nm,1.2s,mb4.3						
VNDA	**Vanda**	**77.80**	**173**	P	**P**	**15 58 28.5**	**+0.9**
	comp=Z,0.8nm,0.9s,mb3.7,baz=329,slow=4.9,SNR=5.2						
VNDA	**Vanda**	**77.80**	**173**	eP	**P**	**15 58 28.7**	**+1.1**
	comp=Z,1.3nm,0.9s,mb3.9						
AKTK	**Aktyubinsk**	**78.73**	**322**	P	**P**	**15 58 31.9**	**-0.9**
AKTO	**Aktyubinsk**	**78.73**	**322**	P	**P**	**15 58 31.9**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=106,slow=7.8,SNR=5.9						
QSPA	**South Pole Qui**	**88.11**	**180**	eP	**P**	**15 59 22.7**	**+1.7**
	comp=Z,2.9nm,0.9s,mb4.5						
CFAA	**Coronel Fontan**	**143.39**	**157**	PKP	PKPdf	16 06 05.4	+0.8
	comp=Z,0.1nm,0.5s,baz=196,slow=7.4,SNR=3.1						
CPUP	**Villa Florida**	**151.55**	**170**	PKPbc	PKPbc	16 06 26.1	+1.8
	comp=Z,1.1nm,0.6s,baz=199,slow=6.3,SNR=4.7						

IDC 12 15:47:51.8±2.3,175S×12778E,h0km,mb3.7/2,mb1 3.9/3, mb1mx3.6/15,mbtmp3.7/3,ML3.7/1,Error ellipse: s-maj=189.3km s-min=27.1km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.18**	**161**	P	Pn	15 52 17.6	-0.2
	0.2nm,0.3s,baz=343,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**22.58**	**165**	P	P	15 52 53.8	+0.1
	1.2nm,0.6s,baz=347,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**62.66**	**327**	P	P	15 58 18.3	+0.2
	0.8nm,0.6s,baz=118,slow=8.7,SNR=4.6						

*ISCJB **12** 15:55:49.2±0.4,5141N±002×1607E±002,h0km,Error ellipse: s-maj=3.1km s-min=1.9km az=36.0*
*IPEC **12** 15:55:49.6±0.3,5154N×1621E,h0km,ML2.7/4,Error ellipse: s-maj=1.9km s-min=1.5km az=40.0*
*NEIC **12** 15:55:50.1±0.4,5153N×1611E,h5km,ML3.1(SZGRF), Error ellipse: s-maj=5.2km s-min=4.2km az=58.0*
*BGR **12** 15:55:50.5±0.6,5148N×1611E,h1km,ML3.1/13,Error ellipse: s-maj=7.8km s-min=4.4km az=158.0*
*WAR **12** 15:55:51,5147N×1611E,ML2.9,Mining Induced*
*CSEM **12** 15:55:51.5±0.2,5146N×1609E,h2km,ML3.4/11,Error ellipse: s-maj=2.9km s-min=1.7km az=18.0*
*PRU **12** 15:55:52.0,5143N×1604E,h0km*
*IDC **12** 15:55:53.3±2.0,5145N×1601E,h16km±17km,mb1 3.3/6, mb1mx3.2/22,mbtmp3.3/6,ML3.0/6,Error ellipse: s-maj=19.0km s-min=9.3km az=95.0*
*VIE **12** 15:55:53.1±0.5,5127N×1615E,h0km,mb2.6/6,ML2.9/6, Error ellipse: s-maj=3.6km s-min=3.3km az=126.0 63 km WNW of Breslau Suspected Mining induced.*

ISC 12 15:55:50.0±0.3,5149N±002×1607E±002,h0km,n66, σ1º01/127,4C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*i* Pg	**Pg**	**15 56 03.2**	**+0.4**
KSP				eSg	**Sg**	**15 56 11.7**	**+0.3**
KSP	**Ksiaz**	**0.67**	**168**	ePg	**Pg**	**15 56 03.2**	**+0.4**
KSP				eSg	**Sg**	**15 56 11.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**172**	ePG	**Pg**	**15 56 11.9**	**-0.3**
DPC				eSG	**Sg**	**15 56 26.5**	**-0.7**
	52nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**172**	ePg	**Pg**	**15 56 11.9**	**-0.3**
DPC				eSg	**Sg**	**15 56 26.6**	**-0.6**
PVCC	**Panska Ves**	**1.35**	**225**	ePG	**Pg**	**15 56 16.4**	**+0.4**
PVCC				eSG	**Sg**	**15 56 35.3**	**+1.8**
	184nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**225**	ePg	**Pg**	**15 56 16.4**	**+0.4**
PVCC				eSg	**Sg**	**15 56 34.9**	**+1.4**
BRG	**Berggiesshubel**	**1.48**	**246**	ePg	**Pg**	**15 56 18.0**	**-0.3**
BRG				eSg	**Sg**	**15 56 38.6**	**+1.2**
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**15 56 17.5**	**-0.3**
BRG				PG	**Pg**	**15 56 18.8**	**+0.5**
BRG				SG	**Sg**	**15 56 38.4**	**+0.9**
	50nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**246**	Pn	**Pn**	**15 56 17.5**	**-0.3**
BRG				Pg	**Pg**	**15 56 18.8**	**+0.5**
BRG				Sg	**Sg**	**15 56 38.4**	**+0.9**
RUE	**Ruedersdorf**	**1.73**	**306**	ePn	**Pn**	**15 56 20.8**	**-0.5**
RUE				eSg	**Sg**	**15 56 46.2**	**+0.7**
RUE	**Ruedersdorf**	**1.73**	**306**	ePn	**Pn**	**15 56 20.8**	**-0.5**
RUE				eSg	**Sg**	**15 56 46.2**	**+0.7**
PRA	**Prague**	**1.77**	**217**	PG	**Pg**	**15 56 21.0**	**-2.8**
PRU	**Pruhonice**	**1.79**	**213**	ePN	**Pn**	**15 56 21.9**	**-0.3**
PRU				ePG	**Pg**	**15 56 23.8**	**-0.6**
PRU				eSG	**Sg**	**15 56 47.2**	**-0.4**
	29nm,0.3s						
PRU	**Pruhonice**	**1.79**	**213**	ePn	**Pn**	**15 56 21.9**	**-0.3**
PRU				ePg	**Pg**	**15 56 23.8**	**-0.6**
PRU				eSg	**Sg**	**15 56 47.2**	**-0.4**
FBE	**Freiberg**	**1.80**	**253**	eSg	**Sg**	**15 56 48.7**	**+0.8**
CLL	**Collm**	**1.93**	**266**	ePn	**Pn**	**15 56 23.9**	**-0.2**
CLL	**Collm**	**1.93**	**266**	ePn	**Pn**	**15 56 24.0**	**-0.1**
CLL				ePg	**Pg**	**15 56 26.0**	**-1.0**
CLL				eSg	**Sg**	**15 56 56.0**	**+3.9**
CLL	**Collm**	**1.93**	**266**	ePn	**Pn**	**15 56 24.0**	**-0.1**
	comp=Z,7.0nm,0.4s						
CLL				ePg	**Pg**	**15 56 26.0**	**-1.0**
CLL				ex	x	15 56 31.0	
CLL				eSg	**Sg**	**15 56 56.0**	**+3.9**
	comp=Z,41nm,0.7s						
MORC	**Moravsky Berou**	**1.96**	**151**	ePn	**Pn**	**15 56 23.4**	**-1.0**
MORC	**Moravsky Berou**	**1.96**	**151**	ePn	**Pn**	**15 56 23.9**	**-0.5**
MORC				eSg	**Sg**	**15 56 51.0**	**-1.9**
	comp=Z,39nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	ePG	**Pg**	**15 56 29.7**	**-0.9**
OKC				eSG	**Sg**	**15 56 56.0**	**-2.1**
	comp=Z,55nm,0.6s						
VRAC	**Vranov**	**2.21**	**171**	Pn	**Pn**	**15 56 29.2**	**+1.3**
	comp=Z,2.8nm,0.3s,baz=337,slow=14,SNR=9.4						
VRAC				Lg		15 57 00.1	
	comp=Z,6.2nm,0.3s,baz=82,slow=22,SNR=10.0						
VRAC	**Vranov**	**2.21**	**171**	ePn	**Pn**	**15 56 28.2**	**+0.2**
VRAC				eSg	**Sg**	**15 57 00.0**	**-1.1**
	comp=Z,18nm,0.3s						
TREC	**Trest**	**2.23**	**190**	ePN	**Pn**	**15 56 26.8**	**-1.4**
TREC				ePG	**Pg**	**15 56 30.1**	**-2.7**
KRUC	**Moravsky**	**2.44**	**175**	ePn	**Pn**	**15 56 31.5**	**+0.4**
KRUC				eSg	**Sg**	**15 57 07.4**	**-1.1**
	comp=Z,38nm,0.7s						
TANN	**Tannenbergstha**	**2.53**	**246**	ePn	**Pn**	**15 56 32.9**	**+0.7**
TANN				eSg	**Sg**	**15 57 10.5**	**-0.7**
WERD	**Werda**	**2.60**	**248**	ePn	**Pn**	**15 56 33.8**	**+0.5**
WERD				eSg	**Sg**	**15 57 13.5**	**0.0**
GUNZ	**Gunzen**	**2.62**	**246**	ePn	**Pn**	**15 56 34.5**	**+0.9**
WERN	**Wernitzgruen**	**2.63**	**244**	ePn	**Pn**	**15 56 34.0**	**+0.3**
OJC	**Ojcow**	**2.68**	**117**	ePn	**Pn**	**15 56 34.0**	**-0.4**
OJC				ePg	**Pg**	**15 56 42.1**	**+0.6**
OJC				eSg	**Sg**	**15 57 16.9**	**+0.6**
JAVC	**Velka Javorina**	**2.83**	**158**	ePn	**Pn**	**15 56 38.2**	**+1.7**
JAVC				eSg	**Sg**	**15 57 20.9**	**-0.1**
	comp=Z,42nm,0.8s						
KHC	**Kasperske Hory**	**2.85**	**215**	ePN	**Pn**	**15 56 37.4**	**+0.6**
KHC				ePG	**Pg**	**15 56 43.2**	**-1.5**
KHC				eSG	**Sg**	**15 57 21.1**	**-0.6**
	comp=Z,20nm,0.7s						
KHC	**Kasperske Hory**	**2.85**	**215**	ePn	**Pn**	**15 56 37.4**	**+0.6**
KHC				ePg	**Pg**	**15 56 43.2**	**-1.5**
KHC				eSg	**Sg**	**15 57 21.1**	**-0.6**
MANZ	**Manzenberg**	**2.94**	**241**	ePn	**Pn**	**15 56 38.7**	**+0.8**
MOX	**Moxa**	**2.94**	**255**	ePn	**Pn**	**15 56 38.7**	**+0.8**
MOX				eSg	**Sg**	**15 57 24.2**	**-0.2**
MOX	**Moxa**	**2.94**	**255**	ePN	**Pn**	**15 56 38.7**	**+0.8**
MOX				ePG	**Pg**	**15 56 46.7**	**+0.4**
MOX				eSG	**Sg**	**15 57 26.6**	**+2.2**
MOX	**Moxa**	**2.94**	**255**	ePg	**Pg**	**15 56 46.7**	**+0.4**
MOX				Sg	**Sg**	**15 57 24.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.01**	**236**	ePn	**Pn**	**15 56 39.7**	**+0.8**
ROTZ				eSg	**Sg**	**15 57 25.6**	**-1.1**
GEC2	**GERESS Array S**	**3.06**	**211**	ePn	**Pn**	**15 56 39.9**	**+0.3**
GEC2				eSg	**Sg**	**15 57 27.7**	**-0.6**
GEC2	**GERESS Array S**	**3.06**	**211**	ePn	**Pn**	**15 56 39.9**	**+0.3**
GEC2				eSg	**Sg**	**15 57 27.7**	**-0.6**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**15 56 40.2**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=25,slow=12,SNR=26						
GERES				Pg	**Pg**	**15 56 48.7**	**0.0**
	comp=Z,6.8nm,0.3s,baz=30,slow=16,SNR=28						
GERES				Lg		15 57 28.1	
	comp=Z,5.9nm,0.3s,baz=30,slow=28,SNR=10						
GERES	**GERESS Array B**	**3.06**	**211**	Pg	**Pg**	**15 56 48.7**	**+0.1**
SMOL	**Smolenice**	**3.11**	**163**	ePG	**Pg**	**15 56 50.5**	**+0.9**
SMOL				eSG	**Sg**	**15 57 30.1**	**+0.2**
SMOL	**Smolenice**	**3.11**	**163**	ePg	**Pg**	**15 56 50.5**	**+0.9**
SMOL				eSg	**Sg**	**15 57 30.2**	**+0.3**
WET	**Wettzell**	**3.12**	**222**	ePn	**Pn**	**15 56 40.4**	**0.0**
ZST	**Bratislava**	**3.37**	**168**	ePG	**Pg**	**15 56 54.3**	**-0.3**
ZST				eSG	**Sg**	**15 57 37.3**	**-0.9**
NIE	**Niedzica**	**3.42**	**126**	eP	**Pg**	**15 56 54.5**	**-1.0**
NIE				eS	**Sg**	**15 57 40.5**	**+0.8**
VYHS	**Vyhne**	**3.49**	**148**	ePG	**Pg**	**15 56 55.4**	**-1.5**
VYHS				eSG	**Sg**	**15 57 43.9**	**+1.7**
CONA	**Conrad Observa**	**3.57**	**182**	⇓*i*Pn	**Pn**	**15 56 46.9**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**15 57 43.7**	**-1.1**
	comp=Z,15nm,0.4s						
GRA1	**Grafenberg Arr**	**3.58**	**242**	Sg	**Sg**	**15 57 45.2**	**+0.2**
GRF	**Grafenberg Arr**	**3.58**	**242**	eSg	**Sg**	**15 57 45.2**	**+0.2**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**15 56 47.3**	**-1.0**
BSD				*i* S	**Sn**	**15 57 27.8**	**-4.7**
BSD				*i* S	**Sn**	**15 57 33.0**	**+0.5**
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**15 56 51.0**	**+0.7**
MOA				⇓*i*Sg	**Sg**	**15 57 54.4**	**+1.3**
	comp=Z,13nm,0.5s						
MOA	**Molln**	**3.83**	**199**	Pn	**Pn**	**15 56 51.0**	**+0.8**
MOA				Sg	**Sg**	**15 57 54.4**	**+1.3**
	comp=Z,13nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**120**	ePN	**Pn**	**15 56 51.9**	**+0.7**
STHS				ePG	**Pg**	**15 57 06.8**	**+2.0**
STHS				eSG	**Sg**	**15 57 59.3**	**+3.8**
KECS	**Kecovo**	**4.15**	**135**	ePN	**Pn**	**15 56 53.6**	**-0.9**
KECS				ePG	**Pg**	**15 57 10.2**	**+0.7**
KECS				eSG	**Sg**	**15 58 06.0**	**+2.8**
ARSA	**Arzberg**	**4.26**	**185**	⇓*i*Pn	**Pn**	**15 56 56.9**	**+0.8**
ARSA				⇑*i*Sg	**Sg**	**15 58 06.9**	**-0.1**
	comp=Z,20nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	ePG	**Pg**	**15 57 12.9**	**0.0**
CRVS				eSG	**Sg**	**15 58 10.6**	**+1.6**
KOLS	**Kolonicke sedl**	**4.74**	**120**	ePN	**Pn**	**15 57 03.3**	**+0.7**
KOLS				*e*		15 57 23.5	
KOLS	**Kolonicke sedl**	**4.74**	**120**	ePn	**Pn**	**15 57 03.4**	**+0.8**
KOLS				*e*		15 57 23.5	
KBA	**Koelnbreinsper**	**4.77**	**203**	⇓*i*Pn	**Pn**

0.8nm,0.7s,baz=147,slow=5.0,SNR=4.8

FUNV **12** *16:00:01.9, 12.19N×6107W, h16km, MW3.4*
ISCJB **12** *16:00:04.0±0.6, 1226N±003×6128W±005, h103km±5km, Error ellipse: s-maj=8.4km s-min=3.9km az=27.8*
NEIC **12** *16:00:04.9, 12.19N×6095W, h22km, MD3.6(TRN), After TRN.*
TRN **12** *16:00:05.4, 12.19N×6099W, h27km, MD3.6, Md4.0(FDF)*
ISC 12 16:00:04.8±0.6, 1225N±003×6127W±005, h98km±5km, n27, σ1§00/49, 5C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRCU	**Cariacou**	**0.28**	**320**	⇑*i*P	**Pn**	**16 00 18.4**	**-0.6**
GRCU				*e*S	**Sn**	**16 00 27.5**	**-2.1**
GRCU	**Cariacou**	**0.28**	**320**	⇑*i*P	**Pn**	**16 00 18.4**	**-0.6**
GRCU				*e*S	**Sn**	**16 00 29.2**	**-0.4**
GRIC	**Isle de Caille**	**0.31**	**276**	*e*P	**Pn**	**16 00 17.9**	**-1.2**
GRIC				*e*S	**Sn**	**16 00 29.5**	**-0.4**
GRSS	**Sisters**	**0.34**	**278**	*e*P	**Pn**	**16 00 18.5**	**-0.8**
GRSS				*e*S	**Sn**	**16 00 30.1**	**0.0**
GRHS	**Sauteurs**	**0.37**	**266**	*e*P	**Pn**	**16 00 18.8**	**-0.7**
GRHS				*e*S	**Sn**	**16 00 29.8**	**-0.6**
GRW	**Mount Saint Ca**	**0.40**	**257**	*e*P	**Pn**	**16 00 20.1**	**+0.4**
GRW				*e*S	**Sn**	**16 00 30.0**	**-0.7**
GRW	**Mount Saint Ca**	**0.40**	**257**	*e*P	**Pn**	**16 00 20.1**	**+0.4**
GRW				*e*S	**Sn**	**16 00 33.7**	**+3.0**
FCV	**Fort Charlotte**	**0.90**	**1**	*e*P	**Pn**	**16 00 25.1**	**+1.2**
FCV	**Fort Charlotte**	**0.90**	**1**	*e*P	**Pn**	**16 00 23.5**	**-0.5**
SVB	**Belmont**	**1.01**	**1**	⇓*i*P	**Pn**	**16 00 26.5**	**+1.3**
SVB				*e*S	**Sn**	**16 00 41.4**	**+0.9**
SSV	**Crater Summit**	**1.07**	**4**	⇑*e*P	**Pn**	**16 00 27.4**	**+1.5**
SSV				*e*S	**Sn**	**16 00 43.4**	**+1.8**
TPR	**Prospect**	**1.16**	**156**	⇑*i*P	**Pn**	**16 00 25.8**	**-1.1**
TPR				*e*S	**Sn**	**16 00 39.5**	**-4.0**
TRN	**Trinidad (W)**	**1.60**	**185**	*e*P	**Pn**	**16 00 33.0**	**+0.8**
TRN				*e*S	**Sn**	**16 00 52.5**	**-0.4**
TCE	**Chacachacare**	**1.62**	**197**	*e*P	**Pn**	**16 00 32.8**	**+0.4**
TCE				*e*S	**Sn**	**16 00 53.5**	**+0.2**
TBH	**Brigand Hill**	**1.77**	**174**	⇓*e*P	**Pn**	**16 00 34.5**	**+0.2**
TBH				*e*S	**Sn**	**16 00 58.2**	**+1.5**
GUIV	**Guiria**	**1.85**	**211**	*e*P	**Pn**	**16 00 34.5**	**-0.8**
GUIV				*e*S	**Sn**	**16 00 58.7**	**+0.1**
TPP	**Pointe-a-Pierr**	**1.93**	**185**	⇑*i*P	**Pn**	**16 00 38.1**	**+1.7**
TPP				*e*S	**Sn**	**16 01 01.6**	**+1.2**
ITEV	**Isla Los Testi**	**2.03**	**244**	*e*P	**Pn**	**16 00 37.5**	**-0.1**
ITEV				*e*S	**Sn**	**16 01 04.1**	**+1.3**
BIM	**Bigot**	**2.26**	**5**	*e*P	**Pn**	**16 00 40.5**	**-0.2**
MVM	**Montagne Vaucl**	**2.32**	**9**	*e*P	**Pn**	**16 00 41.3**	**-0.1**
MVM				*e*S	**Sn**	**16 01 08.6**	**-0.8**
FDF	**Fort de France**	**2.47**	**3**	*e*P	**Pn**	**16 00 43.3**	**-0.1**
FDF				*e*S	**Sn**	**16 01 11.7**	**-1.3**
CRUV	**Carupano**	**2.49**	**231**	*e*P	**Pn**	**16 00 43.5**	**-0.1**
CRUV				*e*S	**Sn**	**16 01 14.5**	**+1.1**
IBAV	**Isla La Blanqu**	**3.27**	**263**	*e*P	**Pn**	**16 00 54.3**	**+0.3**
IBAV				*e*S	**Sn**	**16 01 32.8**	**+0.7**
ORIV	**Oritupano**	**3.80**	**214**	*e*P	**Pn**	**16 01 00.7**	**-0.5**
GURV	**El Guri**	**4.81**	**202**	*e*P	**Pn**	**16 01 14.1**	**-0.8**
GURV				*e*S	**Sn**	**16 02 07.2**	**-2.2**
CAOV	**Caicara del Or**	**6.98**	**226**	*e*P	**Pn**	**16 01 43.7**	**-0.8**
CAOV				*e*S	**Sn**	**16 02 59.2**	**-3.0**
MVL	**Millersville**	**30.68**	**337**	*e*P	**P**	**16 06 19.8**	**+10**

IDC **12** *16:06:35.2±1.2, 2070N×11987E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=44.9km s-min=23.5km az=75.0*
NEIC **12** *16:06:36.4±0.7, 2077N×11990E, h10km, Error ellipse: s-maj=24.9km s-min=9.4km az=95.0*
ISCJB **12** *16:06:38.1±0.8, 2086N±004×120.1E±0.1, h33km, mb3.7/4, Error ellipse: s-maj=17.1km s-min=5.7km az=176.5*
MAN **12** *16:06:41.2, 2090N×12047E, h49km, MS4.0*
ISC 12 16:06:40.3±0.8, 2085N±004×1201E±01, h35km, n11, σ0§80/14, mb3.7/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**3.18**	**144**	*e*P	**Pn**	**16 07 26.9**	**-0.8**
SGCP				*e*S	**Sn**	**16 08 03.8**	**-0.6**
CVP	**Callao Caves**	**3.53**	**152**	⇑*e*P	**Pn**	**16 07 34.0**	**+1.5**
NACB	**Ninganchiao**	**3.58**	**22**	*e*Pn	**Pn**	**16 07 33.7**	**+0.4**
NACB				*e*Sn	**Sn**	**16 08 14.5**	**+0.1**
YHNB	**Yeheng**	**3.98**	**17**	*e*Pn	**Pn**	**16 07 38.7**	**0.0**
YHNB				*e*Sn	**Sn**	**16 08 23.0**	**-1.1**
MJAR	**Matsushiro Arr**	**22.22**	**41**	P	**P**	**16 11 36.6**	**+2.9**
	1.5nm,0.8s,mb3.5,baz=236,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**40.11**	**319**	P	**P**	**16 14 12.2**	**-0.3**
	0.5nm,0.6s,mb3.4,baz=110,slow=9.7,SNR=6.8						
WRA	**Warramunga Arr**	**42.87**	**160**	P	**P**	**16 14 34.8**	**-0.3**
	1.6nm,0.5s,mb4.0,baz=342,slow=9.0,SNR=25						
WRA				PcP	PcP	16 16 25.9	+0.3
	0.4nm,0.5s,baz=346,slow=3.5,SNR=5.0						
WB2	**Warramunga Array**	**42.87**	**160**	*e*P	**P**	**16 14 34.8**	**-0.3**
AS31	**Alice Springs**	**46.24**	**162**	*e*P	**P**	**16 15 02.1**	**+0.1**
ASPA	**Alice Springs**	**46.24**	**162**	*e*P	**P**	**16 15 02.1**	**+0.1**
ASAR	**Alice Springs**	**46.25**	**162**	P	**P**	**16 15 01.9**	**-0.2**
	0.8nm,0.5s,mb3.9,baz=345,slow=7.0,SNR=45						

ISCJB **12** *16:17:40.3±0.4, 4167N±003×14208E±005, h77km±4km, mb3.8/5, Error ellipse: s-maj=6.5km s-min=4.2km az=78.2*
MOS **12** *16:17:40.3±0.7, 4168N×142.15E, h87km, mb4.0/4, Error ellipse: s-maj=30.4km s-min=11.6km az=73.7*
NEIC **12** *16:17:41.8±0.6, 4170N×142.17E, h80km±8km, MG3.9(JMA), Error ellipse: s-maj=16.8km s-min=8.3km az=113.0*
NEIC Recorded [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.
JMA **12** *16:17:41.0±0.2, 4168N×14204E, h74km±3km, M3.8*
JMA Felt I J1.
IDC **12** *16:17:42.0±1.9, 4168N×14209E, h81km±20km, mb3.5/5, mb1 3.7/7, mb1mx3.4/23, mbtmp3.8/7, Error ellipse: s-maj=29.5km s-min=14.8km az=98.0*
ISC 12 16:17:41.3±0.4, 4169N±003×14208E±004, h71km±5km, n35, σ0§83/50, mb3.8/5, 7C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.78**	**40**	⇑P	**Pn**	**16 17 56.8**	**-0.4**
JNBK				*e*S	**Sn**	**16 18 09.0**	**+0.1**
JKB	**Kayabe**	**0.81**	**285**	⇓P	**Pn**	**16 17 56.8**	**-0.7**
JKB				*e*S	**Sn**	**16 18 08.6**	**-0.9**
JOT	**Ohata**	**0.83**	**249**	⇓P	**Pn**	**16 17 57.6**	**-0.2**
JOT				*e*S	**Sn**	**16 18 09.5**	**-0.4**
ERM	**Erimo**	**0.87**	**67**	*e*Pn	**Pn**	**16 17 58.1**	**-0.1**
ERM				*e*Sn	**Sn**	**16 18 07.8**	**-3.0**
JEM	**Erimo**	**0.87**	**67**	P	**Pn**	**16 17 58.6**	**+0.3**
JEM				*e*S	**Sn**	**16 18 10.8**	**0.0**
JEW	**Eniwo**	**1.25**	**338**	P	**Pn**	**16 18 02.9**	**0.0**
JEW				*e*S	**Sn**	**16 18 18.9**	**-0.2**
JCH	**Churui**	**1.33**	**45**	⇑P	**Pn**	**16 18 04.5**	**+0.4**
JCH				*e*S	**Sn**	**16 18 21.6**	**+0.4**
JANG	**Nango**	**1.38**	**198**	⇑P	**Pn**	**16 18 04.7**	**0.0**
JANG				*e*S	**Sn**	**16 18 21.9**	**-0.3**
JFR	**Furan**	**1.53**	**14**	⇑P	**Pn**	**16 18 06.7**	**+0.1**
JOSM	**Okushiri--Mats**	**1.98**	**282**	⇓P	**Pn**	**16 18 12.3**	**-0.4**
JOSM				*e*S	**Sn**	**16 18 35.8**	**-0.8**
JAR	**Ashorobuto**	**2.04**	**37**	⇑P	**Pn**	**16 18 13.2**	**-0.3**
JAR				*e*S	**Sn**	**16 18 37.2**	**-0.8**
JSK	**Shakotan**	**2.04**	**325**	P	**Pn**	**16 18 13.6**	**0.0**
JHR	**Hokuryu**	**2.07**	**353**	⇑P	**Pn**	**16 18 14.9**	**+1.0**
JHR				*e*S	**Sn**	**16 18 40.4**	**+1.6**
JKK2	**Kamakawa 2**	**2.24**	**13**	⇑P	**Pn**	**16 18 16.7**	**+0.5**
JKK2				*e*S	**Sn**	**16 18 42.0**	**-0.9**
ASAJ	**Asahikawa**	**2.46**	**9**	P	**Pn**	**16 18 20.1**	**+0.9**
	35nm,0.3s,baz=222,slow=10,SNR=290						
ASAJ				S	**Sn**	**16 18 49.6**	**+1.5**
	18nm,0.3s,baz=136,slow=25,SNR=7.4						
ASAJ	**Asahikawa**	**2.46**	**9**	P	**Pn**	**16 18 20.1**	**+0.9**
ASAJ				S	**Sn**	**16 18 49.7**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,35nm,0.3s						
ASAJ				smax			
	comp=N,18nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.64**	**49**	*e*P	**Pn**	**16 18 35.4**	**+0.2**
YUK				*i*S	**Sn**	**16 19 13.6**	**-3.4**
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,3μm,2.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.29**	**5**	*e*P	**Pn**	**16 18 58.2**	**+0.4**
YSS				pmax	pmax		
	comp=Z,19nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.29**	**5**	*e*Pn	**Pn**	**16 18 58.2**	**+0.4**
	comp=Z,19nm,0.9s						
KUR	**Kuril'sk**	**5.51**	**48**	*e*S	**Sn**	**16 19 58.5**	**-4.2**
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
MAJO	**Matsushiro**	**5.95**	**212**	*e*P	**Pn**	**16 19 08.1**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,14nm,0.4s						
MAJO	**Matsushiro**	**5.95**	**212**	*e*Pn	**Pn**	**16 19 08.1**	**+1.3**
	comp=Z,14nm,0.4s						
MAT	**Matsushiro**	**5.95**	**212**	P	**Pn**	**16 19 08.5**	**+1.7**
MJAR	**Matsushiro Arr**	**5.95**	**212**	P	**Pn**	**16 19 08.3**	**+1.5**
	comp=Z,2.7nm,0.3s,baz=25,slow=16,SNR=13						
MJAR	**Matsushiro Arr**	**5.95**	**212**	P	**Pn**	**16 19 08.3**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.95**	**212**	P	**Pn**	**16 19 08.3**	**+1.5**
ZAL	**Zalesovo**	**39.31**	**308**	P	**P**	**16 25 02.7**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=5.7,slow=10,SNR=2.2						
ZAL	**Zalesovo**	**39.31**	**308**	P	**P**	**16 25 02.7**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**42.24**	**298**	P	**P**	**16 25 27.1**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=85,slow=9.8,SNR=8.5						
MKAR	**Makanchi Array**	**42.24**	**298**	P	**P**	**16 25 27.1**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**50.04**	**29**	P	**P**	**16 26 28.2**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=297,slow=6.8,SNR=4.9						
INK	**Inuvik**	**50.04**	**29**	P	**P**	**16 26 28.2**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**61.73**	**188**	P	**P**	**16 27 51.5**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.2,baz=6.2,slow=7.0,SNR=37						
WRA	**Warramunga Arr**	**61.73**	**188**	P	**P**	**16 27 51.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**65.46**	**188**	P	**P**	**16 28 16.2**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=2.5,slow=6.7,SNR=13						

ISCJB **12** *16:26:05.8±1.0, 524N±0.1×1698W±0.1, h33km, mb3.8/8, MS4.2/1, Error ellipse: s-maj=21.1km s-min=8.6km az=123.3*
IDC **12** *16:26:05.1±1.5, 5299N×16938W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML3.4/1, MS4.2/1, Ms1 4.3/1, ms1mx2.9/36, Error ellipse: s-maj=41.0km s-min=24.4km az=176.0*
NEIC **12** *16:26:12.2±1.8, 5276N×16939W, h58km±12km, mb4.1/1, ML3.8(AEIC), Error ellipse: s-maj=27.4km s-min=17.0km az=187.0*
ISC 12 16:26:08.2±2.6, 524N±02×1696W±02, h41km±18km, n19, σ1§10/21, mb3.8/8, MS4.2/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.72**	**40**	P	**Pn**	**16 26 20.6**	**-1.3**
NIKO				S	**Sn**	**16 26 30.4**	**-1.5**
OKCE	**Okmok Cone E**	**1.34**	**41**	P	**Pn**	**16 26 30.5**	**+0.1**
OKCE				S	**Sn**	**16 26 48.3**	**+1.4**
OKCD	**Okmok Cone D**	**1.36**	**42**	P	**Pn**	**16 26 31.0**	**+0.3**
AKLV	**Akutan Long Va**	**2.81**	**50**	P	**Pn**	**16 26 50.9**	**+0.3**
AKUT	**Akutan**	**2.88**	**52**	*e*Pn	**Pn**	**16 26 53.6**	**+2.1**
SPIA	**Saint Paul Isl**	**4.77**	**356**	P	**Pn**	**16 27 18.2**	**+0.6**
KDAK	**Kodiak Island**	**11.12**	**54**	Pn	**Pn**	**16 28 42.6**	**-2.0**
	0.3nm,0.3s,baz=274,slow=13,SNR=4.9						
SVW2	**Sparrevohn**	**11.59**	**36**	*e*Pn	**Pn**	**16 28 55.6**	**+4.6**
SKAG	**Skagway**	**20.27**	**56**	*e*Pn	**P**	**16 30 41.7**	**+1.4**
	5.5nm,0.6s						
PDAR	**Pinedale Array**	**40.55**	**79**	P	**P**	**16 33 43.2**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=265,slow=6.8,SNR=4.9						
SONM	**Songino Array**	**51.13**	**301**	P	**P**	**16 35 08.6**	**+1.7**
	0.7nm,0.6s,mb3.8,baz=51,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**63.56**	**324**	P	**P**	**16 36 34.1**	**-0.5**
	1.3nm,0.6s,mb4.1,baz=54,slow=6.8,SNR=10						
FINES	**FINESS Array B**	**65.79**	**352**	P	**P**	**16 36 48.0**	**-1.1**
	0.5nm,0.5s,mb3.8,baz=12,slow=12,SNR=5.3						
FINES	**FINESS Array B**	**65.79**	**352**	P	**P**	**16 36 48.0**	**-1.1**
NOA	**NORSAR Array B**	**66.88**	**360**	P	**P**	**16 36 54.9**	**-1.2**
	0.9nm,0.7s,mb3.9,baz=2.7,slow=6.5,SNR=2.9						
NOA				LR	LR	17 08 60.0	
	comp=Z,151nm,19.4s,MS4.2,baz=15,slow=39						
AKTK	**Aktyubinsk**	**69.88**	**330**	P	**P**	**16 37 14.7**	**-0.2**
AKTO	**Aktyubinsk**	**69.88**	**330**	P	**P**	**16 37 14.7**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=62,slow=8.9,SNR=3.7						
ESDC	**Sonseca Array**	**87.43**	**11**	P	**P**	**16 38 51.7**	**+0.4**
	1.4nm,1.0s,mb4.2,baz=2.2,slow=4.9,SNR=5.3						
ASAR	**Alice Springs**	**90.31**	**230**	P	**P**	**16 39 10.3**	**+5.4**
	0.3nm,0.7s,mb3.7,baz=25,slow=4.5,SNR=4.6						

BJI **12** *16:27:30.9, 5105N×17340W, h8km, mB5.2, mb4.9, Ms4.8, Msz4.4*
ISCJB **12** *16:27:31.1±0.2, 5071N±004×173.10W±003, h11km, mb5.1/239, MS4.5/24, Error ellipse: s-maj=5.3km s-min=1.9km az=29.1*
IDC **12** *16:27:32.5±4.0, 5073N×173.17W, h14km±25km, mb4.7/29, mb1 4.8/29, mb1mx4.8/31, mbtmp4.8/29, MS4.4/4, Ms1 4.3/4, ms1mx3.7/34, Error ellipse: s-maj=15.1km s-min=10.3km az=171.0*
SZGRF **12** *16:27:32.5, 5007N×17408W, h33km, mb5.3, MS4.8, Andreanof Islands, Aleutian Islands, United States*
NEIC **12** *16:27:33.5±0.2, 5072N×17307W, mb5.2/162, MS4.7/5, ML4.6(AEIC), Error ellipse: s-maj=5.4km s-min=2.6km az=190.0*
GCMT **12** *16:27:33.5±0.2, 5071N×17324W, h16km, MW5.2/90, Moment Tensor Solution. s40,c57; s90,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.70±.26; $M_{\theta\theta}$5.80±.18; $M_{\phi\phi}$-0.10±.15; $M_{r\theta}$-3.44±.47; $M_{\theta\phi}$1.10±.11; $M_{\phi r}$0.69±.56; Best double couple: $M_0$6.82500×10^{16} NP1:ϕ_s249.00000°, δ31.00000°, λ-109.00000°. NP2: ϕ_s91.00000°, δ61.00000°, λ-79.00000°. Principal axes: T 6.8620, Plg15.0000°, Azm173.0000°; N -0.0760, Plg10.0000°, Azm265.0000°; P -6.7880, Plg72.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **12** *16:27:34.4±1.0, 5064N×17309W, h33km, mb5.5/108, MS4.4/12 Error ellipse: s-maj=8.1km s-min=4.2km az=94.2*
ISC 12 16:27:32.6±1.3, 5080N±004×17313W±003, h10km±7km, h11km±3.1km: pP-P, n835, σ0§81/832, mb5.1/239, MS4.5/24, 143C-119D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.56**	**335**	P	**Pn**	**16 27 59.3**	**-1.0**
ATKA				S	**Sn**	**16 28 18.8**	**-1.7**
NIKO	**Nikolski**	**3.43**	**49**	P	**Pn**	**16 28 25.0**	**-1.0**
NIKO				S	**Sn**	**16 29 03.0**	**-3.6**
OKCE	**Okmok Cone E**	**4.03**	**47**	P	**Pn**	**16 28 34.9**	**+0.6**
OKCD	**Okmok Cone D**	**4.06**	**48**	P	**Pn**	**16 28 35.3**	**+0.6**
AMKA	**Amchitka**	**4.81**	**280**	*e*Pn	**Pn**	**16 28 43.9**	**-1.1**
AMKA				*e*Sn	**Sn**	**16 29 32.7**	**-8.1**
AKUT	**Akutan**	**5.60**	**51**	P	**Pn**	**16 28 56.0**	**+0.1**
SPIA	**Saint Paul Isl**	**6.61**	**14**	P	**Pn**	**16 29 09.4**	**-0.4**
SDPT	**Sand Point**	**8.87**	**54**	*e*Pn	**Pn**	**16 29 40.2**	**-0.6**
	163nm,0.4s						
KDAK	**Kodiak Island**	**13.85**	**52**	Pn	**Pn**	**16 30 44.0**	**-4.9**
	237nm,0.8s,SNR=26						
KDAK	**Kodiak Island**	**13.85**	**52**	Pn	**Pn**	**16 30 44.1**	**-4.7**
	4.6nm,0.3s,baz=244,slow=6.5,SNR=53						
KDAK	**Kodiak Island**	**13.85**	**52**	*e*Pn	**Pn**	**16 30 45.4**	**-3.4**
	29nm,0.7s						
SVW2	**Sparrevohn**	**14.20**	**37**	*e*P	**Pn**	**16 30 55.2**	**+1.6**
SLKM	**Skilak Lake**	**16.09**	**44**	*e*Pn	**Pn**	**16 31 15.3**	**-3.5**
SLKM				*e*Sn	**Sn**	**16 34 06.5**	**-11**
PMR	**Palmer**	**17.06**	**42**	*e*P	**Pn**	**16 31 29.0**	**-2.2**
PMR				pmax	pmax		
	comp=Z,19nm,0.7s						
PMR	**Palmer**	**17.06**	**42**	*e*Pn	**Pn**	**16 31 29.0**	**-2.2**
	comp=Z,19nm,0.7s						
MID	**Middleton Isla**	**17.48**	**50**	*e*P	**Pn**	**16 31 35.8**	**-0.6**
PET	**Petropavlovsk**	**17.51**	**288**	*e*P	**Pn**	**16 31 38.2**	**+1.5**
PET				*e*S	**Sn**	**16 34 48.5**	**-3.2**
PET				pmax	pmax		
	comp=Z,38nm,1.4s						
PET				MLR	MLR		
	comp=Z,800nm,17.0s						
PET	**Petropavlovsk**	**17.51**	**288**	*e*Pn	**Pn**	**16 31 36.8**	**+0.1**
	comp=Z,37nm,1.0s						
EYAK	**Cordova Ski Ar**	**18.13**	**47**	*e*Pn	**Pn**	**16 31 40.2**	**-4.2**
IMA2	**Indian Mountai**	**18.24**	**26**	*e*P	**Pn**	**16 31 46.4**	**+0.6**
	comp=Z,0.8nm,1.0s						
COLA	**College**	**19.29**	**33**	*i*P	**Pn**	**16 31 56.2**	**-2.3**
COLA	**College**	**19.29**	**33**	*e*Pn	**Pn**	**16 31 52.8**	**-5.7**
	comp=Z,64nm,0.9s						
MENT	**Mentasta**	**19.93**	**41**	*e*P	**Pn**	**16 32 04.1**	**-2.0**
BILL	**Bilibino**	**20.03**	**337**	*c*P	**P**	**16 32 05.4**	**-0.2**
BILL				*i*S		16 36 12.3	
BILL				pmax	pmax		
	comp=Z,95nm,1.1s						
BILL				MLR	MLR		
	comp=Z,400nm,15.0s,MS3.9						
BILL	**Bilibino**	**20.03**	**337**	*e*P	**P**	**16 32 05.5**	**-0.1**
	comp=Z,58nm,0.9s						
EGAK	**Eagle**	**21.72**	**38**	*e*P	**P**	**16 32 23.1**	**-0.8**
	comp=Z,97nm,0.8s,mb5.3						
EGAK				*e*S	**S**	**16 36 26.1**	**+1.9**
SEY	**Seymchan**	**22.10**	**316**	*d*P	**P**	**16 32 29.5**	**+1.6**
MA2	**Magadan**	**22.15**	**307**	*e*P	**P**	**16 32 29.9**	**+1.5**
MA2				S	**S**	**16 36 28.1**	**-4.4**
MA2				*e*SS		16 37 19.2	
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
MA2				MLR	MLR		
	comp=Z,400nm,17.6s,MS3.9						
MA2	**Magadan**	**22.15**	**307**	*e*P	**P**	**16 32 28.6**	**+0.2**
	comp=Z,37nm,0.7s,mb4.9						
DAWY	**Dawson**	**22.15**	**40**	*e*P	**P**	**16 32 27.5**	**-1.0**
SIT	**Sitka**	**22.89**	**59**	*e*P	**P**	**16 32 37.6**	**+1.3**
SIT				pmax	pmax		
	comp=Z,59nm,1.3s,mb4.9						
SIT	**Sitka**	**22.89**	**59**	*e*P	**P**	**16 32 37.6**	**+1.3**
	comp=Z,59nm,1.3s,mb4.9						
SKAG	**Skagway**	**22.99**	**53**	*e*P	**P**	**16 32 37.1**	**-0.3**
	comp=Z,84nm,1.0s,mb5.1						
CRAG	**Craig**	**24.20**	**63**	*e*P	**P**	**16 32 49.7**	**+0.5**
	comp=Z,55nm,1.0s,mb4.9						
WRAK	**Wrangell Islan**	**24.55**	**61**	*e*P	**P**	**16 32 53.6**	**+1.2**
	comp=Z,37nm,0.8s,mb5.0						
INK	**Inuvik**	**25.94**	**33**	P	**P**	**16 33 03.7**	**-1.4**
	comp=Z,54nm,0.7s,mb5.2,baz=238,slow=10,SNR=69						
INK				PcP	PcP	16 36 32.3	-1.2
	comp=Z,12nm,1.0s,baz=189,slow=4.6,SNR=4.3						
INK				S	**S**	**16 37 35.6**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=120,slow=20,SNR=4.6						
INK				LR	LR	16 45 09.5	
	comp=Z,722nm,18.6s,MS4.2,baz=62,slow=41						
INK	**Inuvik**	**25.94**	**33**	*e*P	**P**	**16 33 04.2**	**-0.8**
INK				*e*		16 36 32.2	
INK				*e*S	**S**	**16 37 31.8**	**-3.5**
INK				pmax	pmax		
	comp=Z,86nm,0.7s						
INK	**Inuvik**	**25.94**	**33**	*e*P	**P**	**16 33 04.2**	**-0.8**
	comp=Z,3μm,0.7s						
INK				*e*PcP	PcP	16 36 32.2	-1.4
INK				*e*S	**S**	**16 37 31.8**	**-3.5**
BBB	**Bella Bella**	**27.72**	**69**	P	**P**	**16 33 21.6**	**+0.5**
	comp=Z,10nm,1.0s,mb4.4,baz=143,slow=2.3,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**28.94**	**280**	*e*P	**P**	**16 33 32.0**	**+0.1**
YSS				*e*		16 33 44.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.2						
YSS	**Yuzh-Sakhalins**	**28.94**	**280**	*e*P	**P**	**16 33 32.2**	**+0.3**
	comp=Z,23nm,1.0s,mb4.9						
ASAJ	**Asahikawa**	**30.30**	**275**	P	**P**	**16 33 44.5**	**+0.5**
	comp=Z,6.0nm,0.6s,mb4.5,baz=57,slow=18,SNR=5.8						
ASAJ	**Asahikawa**	**30.30**	**275**	P	**P**	**16 33 44.5**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ERM	**Erimo**	**31.00**	**271**	P	**P**	**16 33 51.7**	**+1.5**
ERM				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.1						
ERM	**Erimo**	**31.00**	**271**	P	**P**	**16 33 51.7**	**+1.6**
	comp=Z,34nm,1.0s,mb5.1						
C03A	**Quillayute Air**	**31.30**	**76**	⇓P	**P**	**16 33 52.5**	**-0.3**
	baz=31						
B04A	**Port Angeles**	**31.91**	**75**	⇑P	**P**	**16 33 58.3**	**+0.2**
	baz=32						
A04A	**Legoe Bay, Lum**	**32.13**	**74**

J03A Ideyld Park 34.38 83 ⇓P P 16 34 20.2 +0.5
baz=34,SNR=12
D07A Quincy 34.44 75 ⇑P P 16 34 20.2 0.0
baz=34
G05A Wamic 34.50 79 ⇓P P 16 34 21.3 +0.5
baz=34,SNR=14
FRIS Frissel Point 34.51 81 P P 16 34 22.0 +1.2
IRO Indian Ridge 34.51 81 P P 16 34 21.9 +1.1
A09A Danville 34.52 71 ⇓P P 16 34 20.9 0.0
baz=34,SNR=10
HBO Huckleberry Mo 34.55 81 P P 16 34 22.4 +1.2
F06A Goldendale 34.58 78 ⇓P P 16 34 21.4 -0.1
baz=34,SNR=8.1
L02A Cave Junction 34.61 85 ⇓P P 16 34 22.4 +0.7
baz=34
C08A Higginbotham F 34.74 73 P P 16 34 22.6 -0.3
baz=34,SNR=9.6
KLR Kul'dur 34.77 289 *e*P **P 16 34 19.6 -3.5**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.2
E07A Sunnyside 34.79 76 ⇑P P 16 34 23.2 -0.1
baz=35
H05A Madras 34.84 80 ⇓P P 16 34 23.8 +0.1
baz=35,SNR=14
G06A Carlson Farm, 34.92 78 ⇑P P 16 34 24.7 +0.3
baz=35,SNR=17
B09A Rice 35.01 72 ⇓P P 16 34 24.9 -0.3
baz=35,SNR=9.6
F07A Phinny Hill Vi 35.05 77 ⇑P P 16 34 26.1 +0.6
baz=35
HAWA Hanford 35.07 76⇓*e*P **P 16 34 25.7 0.0**
comp=Z,36nm,0.9s,mb5.3
HAWA *e*PcP PcP 16 36 54.6 -2.8
A10A Northport 35.13 71 ⇓P P 16 34 26.0 -0.3
baz=35,SNR=5.4
D08A Wollman Farm, 35.14 74 ⇑P P 16 34 25.9 -0.3
baz=35,SNR=10.0
VIPM Ingram Point 35.29 79 P P 16 34 28.1 +0.6
YBH Yreka Blue Hor 35.40 85 P P 16 34 29.0 +0.5
comp=Z,7.2nm,0.8s,mb4.6,baz=297,slow=8.5,SNR=16
YBH Yreka Blue Hor 35.40 85 P P 16 34 29.0 +0.5
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 35.40 85 ⇓P P 16 34 29.5 +1.0
baz=35
M02C Callahan 35.49 85 ⇑P P 16 34 29.3 0.0
baz=35
G07A Ruggs Ranch, H 35.51 78 ⇑P P 16 34 29.4 0.0
baz=35,SNR=10
D09A Jones Farm, Ri 35.51 74 ⇑P P 16 34 28.9 -0.6
baz=35,SNR=11
J05A Fort Rock 35.51 82 ⇑P P 16 34 30.4 +0.9
baz=35,SNR=29
N02C Big Bar 35.51 87 ⇑P P 16 34 30.3 +0.8
baz=35,SNR=8.8
O01C Eel River Cons 35.57 88 ⇑P P 16 34 31.3 +1.3
baz=35
B10A Chitwood Farm, 35.62 72 ⇑P P 16 34 30.8 +0.3
baz=35
L04A Klamath Falls 35.68 84 ⇑P P 16 34 31.3 +0.4
baz=36
NEW Newport 35.70 72 P P 16 34 30.8 -0.4
comp=Z,29nm,0.9s,mb5.2,baz=296,slow=7.8,SNR=18
NEW Newport 35.70 72 *e*P **P 16 34 30.1 -1.0**
NEW pmax pmax
comp=Z,31nm,1.0s
NEW Newport 35.70 72 *e*P **P 16 34 30.1 -1.0**
comp=Z,30nm,0.9s,mb5.2
C10A Spilker Farm, 35.78 72 ⇑P P 16 34 31.7 -0.1
baz=36
F08A Pendleton 35.81 76 ⇑P P 16 34 32.1 +0.1
baz=36,SNR=10
I06A Prineville 35.82 80 ⇑P P 16 34 32.7 +0.6
baz=36,SNR=15
E09A Wood Farm, Sta 35.86 75 ⇓P P 16 34 31.8 -0.7
baz=36,SNR=23
H07A Lands Inn, Kim 35.90 79 ⇑P P 16 34 32.7 -0.1
baz=36,SNR=16
M04C Macdoel 35.92 84 ⇑P P 16 34 33.5 +0.5
baz=36,SNR=12
G08A Pilot Rock 35.94 77 P P 16 34 33.3 +0.2
baz=36,SNR=20
EDM Edmonton 35.94 62⇑*i*P **P 16 34 33.1 -0.1**
KIPM Iron Peak 35.97 88 *e*P **P 16 34 34.2 +0.8**
K05A Summer Lake 36.02 82 ⇑P P 16 34 35.1 +1.2
baz=36,SNR=48
WDC Whiskeytown Da 36.13 86 ⇑P P 16 34 35.0 +0.2
baz=36
I07A Izee 36.19 79 ⇑P P 16 34 35.6 +0.3
baz=36,SNR=80
O02C Red Bluff 36.20 87 ⇓P P 16 34 36.3 +0.9
baz=36,SNR=16
J06A Christmas Vall 36.21 81 ⇓P P 16 34 35.9 +0.4
baz=36,SNR=58
P01C Double 8 Ranch 36.25 88 ⇑P P 16 34 36.0 +0.2
baz=36
A12A Yaak River Ran 36.29 70 ⇑P P 16 34 36.1 -0.1
baz=36,SNR=5.5
F09A S2 Ranch, Elgi 36.38 76 ⇓P P 16 34 36.8 -0.2
baz=36,SNR=11
L05A Lakeview 36.41 83 ⇑P P 16 34 38.0 +0.8
baz=36,SNR=23
H08A Prairie City 36.49 78 ⇓P P 16 34 38.2 +0.3
baz=36,SNR=11
B12A Libby 36.53 71 ⇓P P 16 34 38.1 -0.1
baz=36
GASB Alder Springs 36.54 88 ⇑P P 16 34 38.9 +0.6
baz=36
M05C Lookout 36.59 84 ⇓P P 16 34 39.0 +0.3
baz=36,SNR=7.6
J07A Hines 36.67 80 ⇑P P 16 34 39.8 +0.4
baz=36,SNR=18
F10A Beach Ranch, E 36.68 75 P P 16 34 39.7 +0.2
baz=36,SNR=5.9
HATC Hat Creek Radi 36.68 85 ⇑P P 16 34 39.5 0.0
baz=36
HOPS Hopland 36.69 89 ⇓P P 16 34 39.5 -0.2
baz=36
I08A Drewsey 36.86 79 ⇓P P 16 34 41.3 +0.3
baz=37,SNR=18
C12A Trout Creek 36.94 72 ⇓P P 16 34 40.8 -0.8
baz=37
H09A Durkee 37.04 77 ⇓P P 16 34 42.2 -0.4
baz=37
K07A Rock Creek Ran 37.07 81 ⇑P P 16 34 43.4 +0.6
baz=37,SNR=54
M06C Likely Place G 37.09 84 ⇓P P 16 34 43.4 +0.4
baz=37
MNRC McLaughlin Nat 37.16 89 ⇓P P 16 34 43.6 0.0
baz=37
O04C Chester 37.20 86 ⇑P P 16 34 44.6 +0.7
baz=37
J08A Circle Bar Ran 37.20 80 ⇑P P 16 34 43.9 -0.1
baz=37,SNR=36
B13A Whitefish 37.24 70 ⇓P P 16 34 43.5 -0.8
baz=37
ELFS Eagle Lake Fie 37.26 85 ⇓P P 16 34 44.9 +0.5
baz=37,SNR=7.0
WALA Waterton Lakes 37.27 69 *e*P **P 16 34 44.1 -0.4**
comp=Z,21nm,1.0s,mb4.9
WALA *e*PcP PcP 16 37 03.8 -0.2
MAJO Matsushiro 37.28 267 *e*P **P 16 34 45.2 +0.6**
MAJO pmax pmax
comp=Z,11nm,0.6s,mb4.9
MAJO Matsushiro 37.28 267 *e*P **P 16 34 45.2 +0.6**
comp=Z,11nm,0.6s,mb4.9
MAT Matsushiro 37.28 267 P P 16 34 45.0 +0.4
MJAR Matsushiro Arr 37.28 267 P P 16 34 44.8 +0.2
comp=Z,1.9nm,0.8s,baz=52,slow=5.7,SNR=6.4
MJAR PcP PcP 16 37 03.4 -0.6
comp=Z,5.9nm,1.1s,baz=64,slow=1.3,SNR=9.7
MJAR Matsushiro Arr 37.28 267 P P 16 34 44.8 +0.2
MJAR 16 37 03.4
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR pmax pmax
comp=Z,6.0nm,1.1s
I09A Lost Marbles R 37.34 78 ⇑P P 16 34 45.0 -0.2
baz=37,SNR=12
L07A Adell 37.37 82 ⇓P P 16 34 46.0 +0.7
baz=37,SNR=33
CVS Carmenet Viney 37.46 89 ⇑P P 16 34 45.9 -0.3
baz=37
C13A Hot Springs 37.49 71 ⇓P P 16 34 45.6 -0.9
baz=37,SNR=16
OHCM Honcut 37.50 87 *e*P **P 16 34 46.5 0.0**
OHCM *e*PcP PcP 16 37 02.8 -1.8
O05C Quincy 37.51 86 ⇑P P 16 34 46.0 -0.5
baz=37
K08A Mann Creek Ran 37.52 81 ⇓P P 16 34 47.0 +0.4
baz=37,SNR=35
VLA Vladivostok 37.53 280 *i*P **P 16 34 48.7 +2.0**
WVOR Wild Horse Val 37.59 81⇓*e*P **P 16 34 47.3 +0.1**
WVOR *e* 16 37 04.0
WVOR pmax pmax
comp=Z,68nm,1.0s,mb5.3
WVOR Wild Horse Val 37.59 81⇓*e*P **P 16 34 47.3 +0.1**
comp=Z,63nm,1.0s,mb5.3
WVOR *e*PcP PcP 16 37 04.0 -0.9
J09A Fry Pan Ranch, 37.66 79 ⇑P P 16 34 47.7 -0.1
baz=38,SNR=34
N06A Buffalo Meadow 37.75 84 ⇓P P 16 34 49.0 +0.4
baz=38,SNR=18
M07A Soldier Meadow 37.81 83 ⇑P P 16 34 49.6 +0.5
baz=38,SNR=36
L08A Fields 37.90 81 P P 16 34 50.2 +0.4
baz=38,SNR=47
BEKR Beckwourth 37.91 86 ⇑P P 16 34 49.7 -0.2
baz=38
K09A Rome 38.02 80 ⇓P P 16 34 50.8 -0.1
baz=38,SNR=20
O06A Flanigan 38.08 85 ⇓P P 16 34 51.7 +0.3
baz=38
JRSC Jasper Ridge 38.16 90 ⇓P P 16 34 51.4 -0.7
baz=38
MDJ Mudanjiang 38.19 284 P P 16 34 51.0 -1.3
MDJ PP PP 16 36 18.8 -0.8
MDJ S **S** **16 40 45.2 -0.6**
MDJ SCS ScS 16 45 01.4 -2.8
MDJ AMB AMB
comp=Z,14nm,1.7s,mb4.4
MDJ AMB AMB
comp=Z,121nm,4.1s
MDJ LR LR
comp=N,55nm,18.3s,MS3.7
MDJ LR LR
comp=E,110nm,19.8s,MS3.7
MDJ LR LR
comp=Z,110nm,21.2s,MS3.6
MSO Missoula 38.27 72⇑*i*P **P 16 34 52.5 -0.5**
comp=Z,12nm,1.0s,mb4.6
MSO *e*PcP PcP 16 37 05.9 -1.1
N07B Gerlach 38.28 84 ⇑P P 16 34 53.4 +0.4
baz=38,SNR=30
M08A Happy Creek Ra 38.28 82 ⇓P P 16 34 53.3 +0.3
baz=38,SNR=31
LAVA Lava Cap Winer 38.31 88 ⇓P P 16 34 52.9 -0.4
baz=38
WENL Wente Brothers 38.34 90 ⇑P P 16 34 53.6 0.0
baz=38
BNLO Ben Lomond (Sa 38.37 91 ⇓P P 16 34 54.1 +0.3
baz=38
L09A Wilkinson Ranc 38.42 81 ⇑P P 16 34 54.5 +0.4
baz=38
WCN Washoe City 38.62 86 ⇑P P 16 34 55.9 0.0
baz=38
PAHR Pah Rah Range 38.62 85 *e*P **P 16 34 55.1 -0.8**
comp=Z,29nm,1.2s,mb4.9
PAHR *e*PcP PcP 16 37 07.5 -0.6
CHMT Chamberlain Mo 38.65 72 *e*P **P 16 34 55.0 -1.2**
CHMT *e*PcP PcP 16 37 07.0 -1.2
O07A Toulon 38.68 84 ⇓P P 16 34 56.9 +0.5
baz=38,SNR=25
R05C Kirkwood Meado 38.76 87 ⇓P P 16 34 57.5 +0.4
baz=39,SNR=6.4
M09A Marrel Ranch, 38.88 82 ⇓P P 16 34 58.5 +0.5
baz=39,SNR=8.4
CMB Columbia Colle 38.96 88 ⇓P P 16 34 59.1 +0.3
baz=39
PACP Pacheco Peak 39.01 90 ⇑P P 16 34 58.9 -0.3
baz=39
O08A Rochester Mine 39.06 84 ⇓P P 16 34 59.3 -0.4
baz=39
N09A Rock Creek Ran 39.15 83 ⇑P P 16 35 00.5 +0.1
baz=39
HAST UC Hastings Re 39.22 91 ⇓P P 16 35 00.9 0.0
baz=39
R06C Coleville 39.27 87 ⇓P P 16 35 01.9 +0.6
baz=39,SNR=8.5
M10A I.L. Ranch, Tu 39.39 81 ⇓P P 16 35 02.2 -0.2
baz=39,SNR=25
S05C Merced 39.41 89 ⇑P P 16 35 02.0 -0.5
baz=39
P08A Dixie Valley 39.45 84 ⇑P P 16 35 03.6 +0.7
baz=39
BMN Battle Mountai 39.57 83 *e*P **P 16 35 03.8 -0.1**
BMN pmax pmax
comp=Z,20nm,1.0s,mb4.8
BMN Battle Mountai 39.57 83 *e*P **P 16 35 03.8 -0.1**
comp=Z,20nm,1.0s,mb4.8
HLID Hailey 39.62 77⇓*e*P **P 16 35 04.0 -0.3**
comp=Z,27nm,1.0s,mb4.9
HLID *e*PcP PcP 16 37 11.4 +0.1
HLID Hailey 39.62 77 ⇓P P 16 35 04.0 -0.2
baz=39,SNR=36
V03C Hunter Liggett 39.65 91 ⇓P P 16 35 04.5 +0.1
baz=40,SNR=5.8
O09A Fish Creek Ran 39.74 83 ⇑P P 16 35 05.7 +0.5
baz=40,SNR=18
R07C Lee Vining 39.78 87 ⇑P P 16 35 06.0 +0.4
baz=40
DLMT Dillon 39.81 73 *e*P **P 16 35 05.2 -0.6**
comp=Z,5.3nm,0.5s,mb4.5
DLMT *e* 16 35 15.9
DLMT *e*PcP PcP 16 37 11.1 -0.8
N10A Dunphy 39.86 82 ⇓P P 16 35 06.5 +0.2
baz=40
M11A Holland Ranch, 39.91 81 ⇑P P 16 35 07.1 +0.4
baz=40,SNR=16
MCMT McKenzie Canyo 39.92 74 *e*P **P 16 35 06.0 -0.8**
MCMT *e*PcP PcP 16 37 11.8 -0.5
Q08A Gabbs 40.03 85 ⇓P P 16 35 07.8 +0.2
baz=40,SNR=6.0
NVAR Mina Array Bea 40.05 86 P P 16 35 08.0 +0.2
comp=Z,2.1nm,0.5s,mb4.1,baz=292,slow=9.2,SNR=25
NVAR PcP PcP 16 37 12.9 +0.3
comp=Z,21nm,1.2s,baz=294,slow=2.9,SNR=17
NVAR Mina Array Bea 40.05 86 P P 16 35 08.0 +0.1
NVAR PcP PcP 16 37 12.9 +0.3
KCC Kaiser Creek 40.06 88 ⇑P P 16 35 08.3 +0.3
baz=40,SNR=12
O10A Cortez Mining, 40.11 83 ⇓P P 16 35 08.6 +0.2
baz=40
V04C Ramage Ranch, 40.12 92 ⇓P P 16 35 08.8 +0.4
baz=40
P09A Austin 40.13 84 ⇓P P 16 35 09.1 +0.6
baz=40
PKD Parkfield 40.13 91 ⇓P P 16 35 08.2 -0.4
baz=40,SNR=5.3
EGMT Eagleton 40.20 68 *e*P **P 16 35 08.3 -0.8**
comp=Z,45nm,0.9s,mb5.2
EGMT *e*PcP PcP 16 37 10.6 -2.5
EGMT Eagleton 40.20 68 ⇑P P 16 35 08.3 -0.8
baz=40
R08A Mina 40.22 86 ⇓P P 16 35 09.3 +0.1
baz=40
N11A Elko Archery C 40.29 81 ⇑P P 16 35 10.0 +0.1
baz=40
M12A Wells 40.47 80 ⇑P P 16 35 11.5 +0.2
baz=40,SNR=31
P10A Eureka 40.51 83 ⇓P P 16 35 11.9 +0.2
baz=40,SNR=6.2
Q09A Carvers 40.52 85 ⇓P P 16 35 12.2 +0.5
baz=40
MTUM Tungsten Hills 40.52 88 *e*P **P 16 35 12.2 +0.4**
PTRM Twissleman Ran 40.52 91 *e*P **P 16 35 12.4 +0.7**
PTRM *e*PcP PcP 16 37 13.9 -0.3
HELL Mitchell Peak, 40.64 89 ⇓P P 16 35 12.5 -0.3
baz=40,SNR=20
S08C White Mtn Res 40.69 87 ⇓P P 16 35 13.9 +0.8
baz=40,SNR=12
N12A Clover Valley, 40.71 81 ⇑P P 16 35 13.6 +0.3
baz=40,SNR=23
O11A Cowboy Ranch, 40.73 82 ⇑P P 16 35 13.6 +0.1
baz=40,SNR=17
QLMT Earthquake Lak 40.79 74 *e*P **P 16 35 13.4 -0.5**
QLMT *e*PcP PcP 16 37 14.8 -0.2
SMMC Simmler 40.88 91 ⇓P P 16 35 14.9 +0.3
baz=41
TIN Tinemaha 40.92 88 ⇓P P 16 35 15.2 +0.2
baz=41
R09A Tonopah 40.94 86 ⇓P P 16 35 15.2 0.0
baz=41,SNR=23
P11A Circle Ranch, 41.00 83 ⇑P P 16 35 15.5 -0.2
baz=41,SNR=7.0
VES Vestal, Richgr 41.13 90 ⇓P P 16 35 16.4 -0.3
baz=41
S09A Goldfield 41.15 86 ⇑P P 16 35 16.9 0.0
baz=41,SNR=8.3
YMR Madison River 41.16 73 *e*P **P 16 35 16.5 -0.5**
comp=Z,40nm,1.4s,mb4.8
YMR *e*PcP PcP 16 37 16.8 +0.5
BOD Bodaibo 41.16 309 *e*P **P 16 35 15.6 -1.4**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
CN2 Changchun 41.16 285 *e*P **P 16 35 13.1 -4.0**
CN2 *e*S **S** **16 41 26.3 -4.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.3
CN2 LR LR
comp=E,300nm,16.0s,MS4.3
CN2 LR LR
comp=Z,400nm,17.0s,MS4.3
O12A Currie 41.22 81 ⇑P P 16 35 17.1 -0.4
baz=41,SNR=16
N13A Wendover, West 41.23 80 ⇑P P 16 35 17.2 -0.4
baz=41,SNR=11
PKM Peak Mountain 41.25 92 ⇓P P 16 35 18.2 +0.4
baz=41,SNR=5.4
CWC Cottonwood Cre 41.39 88 ⇑P P 16 35 18.7 -0.2
baz=41
R10A Warm Springs 41.40 85 ⇑P P 16 35 18.6 -0.4
baz=41
Q11A Duckwater 41.48 84 ⇑P P 16 35 19.7 0.0
baz=41,SNR=16
GRAC Grapevine Rang 41.50 87 ⇑P P 16 35 19.8 0.0
baz=41
LKWY Lake 41.55 73 *e*P **P 16 35 20.5 +0.2**
LKWY pmax pmax
comp=Z,24nm,0.8s,mb4.9
LKWY Lake 41.55 73 *e*P **P 16 35 20.5 +0.3**
comp=Z,18nm,0.8s,mb4.8
IMW Indian Meadow 41.58 74 *e*P **P 16 35 20.8 +0.3**
comp=Z,25nm,0.9s,mb4.8
IMW *e*PcP PcP 16 37 17.1 -0.5
P12A McGill 41.58 82 ⇓P P 16 35 20.4 -0.1
baz=41,SNR=30
HVU Hansel Valley 41.60 78 *e*P **P 16 35 20.8 +0.2**
HVU *e* 16 37 17.4
HVU pmax pmax
comp=Z,25nm,0.9s,mb4.8
HVU Hansel Valley 41.60 78 *e*P **P 16 35 20.8 +0.2**
comp=Z,25nm,0.9s,mb4.8
HVU *e*PcP PcP 16 37 17.4 -0.2
ISA Isabella 41.62 90 *e*P **P 16 35 20.3 -0.5**
ISA *e* 16 37 17.1
ISA Isabella 41.62 90 ⇑P P 16 35 20.4 -0.4
baz=42,SNR=14
FLWY Flagg Ranch 41.63 74 *e*P **P 16 35 20.9 0.0**
comp=Z,24nm,1.0s,mb4.8
FLWY *e*PcP PcP 16 37 17.1 -0.7
RRI2 Red Ridge 41.64 75 *e*P **P 16 35 26.5 +5.6**
comp=Z,43nm,0.9s,mb5.1
MOOW Moose Ponds 41.78 75 *e*P **P 16 35 22.0 -0.1**
comp=Z,7.6nm,1.0s,mb4.3
MOOW *e*PcP PcP 16 37 17.8 -0.4
TPAW Teton Pass 41.79 75 *e*P **P 16 35 22.2 0.0**
comp=Z,28nm,1.1s,mb4.8
TPAW *e*PcP PcP 16 37 18.6 +0.3
DAC Darwin (Calif) 41.80 88 *e*P **P 16 35 22.0 -0.3**
DAC *e* 16 37 16.7
DAC pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
DAC Darwin (Calif) 41.80 88 *e*P **P 16 35 22.0 -0.3**
comp=Z,8.9nm,1.0s,mb4.3
DAC *e*PcP PcP 16 37 16.7 -1.6
HIA Hailar 41.80 295 *e*P **P 16 35 22.1 -0.2**
HIA pmax pmax
comp=Z,36nm,1.0s
HIA Hailar 41.80 295 *e*P **P 16 35 22.1 -0.2**
comp=Z,36nm,1.0s,mb5.0
TRCR Troy Canyon 41.81 84 *e*P **P 16 35 22.5 +0.1**
TRCR *e*PcP PcP 16 37 17.4 -1.0
REDW Red Top Meadow 41.92 75 *e*P **P 16 35 23.2 -0.1**
comp=Z,28nm,1.1s,mb4.8
REDW *e*PcP PcP 16 37 18.0 -0.7
BGU Big Grassy Mou 41.92 79 *e*P **P 16 35 22.5 -0.8**
BGU *e*PcP PcP 16 37 18.0 -0.7
SNOW Snow King Moun 41.92 75 *e*P **P 16 35 23.9 +0.6**
comp=Z,16nm,0.9s,mb4.7
LOHW Long Hollow 41.94 75 *e*P **P 16 35 23.1 -0.3**
comp=Z,5.3nm,0.9s,mb4.2
RLMT Red Lodge 41.95 72 *e*P **P 16 35 22.8 -0.7**
comp=Z,36nm,0.9s,mb5.0
MPMC Manual Prospec 42.00 88 ⇓P P 16 35 24.0 +0.1
baz=42,SNR=9.0
SPUT South Promonto 42.07 79 *e*P **P 16 35 22.6 -1.8**
AHID Auburn Hatcher 42.09 76 *e*P **P 16 35 24.7 0.0**
comp=Z,25nm,1.1s,mb4.8
FURC Furnace Creek, 42.15 87 ⇓P P 16 35 24.8 -0.3
baz=42,SNR=6.0
LRMC Laurel Mountai 42.24 89 ⇓P P 16 35 25.6 -0.3
baz=42
EDW2 Edwards Air Fo 42.42 90 ⇑P P 16 35 26.9 -0.4
baz=42,SNR=7.5
HWUT Hardware Ranch 42.45 78 *e*P **P 16 35 27.5 -0.1**
comp=Z,24nm,1.0s,mb4.8
HWUT *e*PcP PcP 16 37 19.9 -0.5
DUG Dugway 42.48 80 *e*P **P 16 35 27.9 +0.1**
DUG *e* 16 37 19.5
DUG pmax pmax
comp=Z,48nm,1.0s,mb5.1
DUG Dugway 42.48 80 *e*P **P 16 35 27.9 +0.1**
comp=Z,48nm,1.0s,mb5.1
DUG *e*PcP PcP 16 37 19.5 -1.0
DUG Dugway 42.48 80 ⇓P P 16 35 27.2 -0.5
baz=42
SNCC San Nicolas Is 42.50 93 ⇓P P 16 35 27.4 -0.5
baz=42
TCUT Toone Canyon 42.82 78 *e*P **P 16 35 30.8 +0.2**
CTU Camp Tracy 42.85 79 *e*P **P 16 35 30.6 -0.3**
comp=Z,42nm,1.0s,mb5.1
SHOC Shoshone 42.87 88 ⇑P P 16 35 30.8 -0.2
baz=43,SNR=5.6
GSC Goldstone 42.91 89 *e*P **P 16 35 31.5 +0.2**
GSC *e* 16 37 21.0
GSC Goldstone 42.91 89 ⇑P P 16 35 31.0 -0.3
baz=43,SNR=12
PDAR Pinedale Array 43.04 75 P P 16 35 31.6 -0.7
comp=Z,35nm,0.8s,mb5.1,baz=306,slow=5.1,SNR=116
BFSC Mount Baldy St 43.04 91 ⇓P P 16 35 31.7 -0.7
baz=43,SNR=13
NLU North Lily Min 43.08 80 *e*P **P 16 35 32.8 +0.1**
CIS Catalina Islan 43.11 92 ⇑P P 16 35 31.9 -1.0
baz=43,SNR=7.3
U11A Corn Creek 43.11 86 ⇑P P 16 35 32.2 -0.8
baz=43
DGMT Dagmar 43.23 65 *e*P **P 16 35 33.0 -0.9**
comp=Z,21nm,0.8s,mb4.9
SCI San Clemente I 43.29 93 ⇓P P 16 35 34.0 -0.4
baz=43
MPU Maple Canyon 43.32 80 *e*P **P 16 35 34.7 +0.1**
comp=Z,33nm,1.0s,mb5.0
DAU Daniels Canyon 43.32 79 *e*P **P 16 35 35.6 +1.0**
DAU Daniels Canyon 43.32 79 *e*P **P 16 35 35.4 +0.8**
TUQ Turquoise Mtn. 43.38 88 ⇓P P 16 35 34.3 -0.8
baz=43
SNY Shenyang 43.40 284 ⇑P P 16 35 35.7 +0.4
SNY S **S** **16 42 02.7 -0.6**
SNY AMB AMB
comp=Z,22nm,1.2s,mb4.8
SNY AMB AMB
comp=Z,339nm,7.0s
ARUT Antelope Range 43.50 83 *e*P **P 16 35 36.1 0.0**
HEC Hector,Ludlow 43.51 89 ⇓P P 16 35 35.7 -0.4
baz=43,SNR=16
U12A Valley of Fire 43.64 86 ⇑P P 16 35 36.6 -0.6
baz=44
CCUT Cedar City 43.70 84 *e*P **P 16 35 37.6 0.0**
MURC Murrieta 43.74 91 ⇑P P 16 35 37.7 -0.4
baz=44
MSU Marysvale 43.86 82 *e*P **P 16 35 39.0 0.0**
MSU *e* 16 37 25.2
CIT Chita 43.93 301 *e*P **P 16 35 39.6 0.0**
CIT *e* 16 37 21.9

TMUT	**Trail Mountain**	**44.00**	**80**	*eP*	**P**	**16 35 40.5**	**+0.3**
INCN	**Inchon**	**44.04**	**277**	P	**P**	**16 35 41.4**	**+1.0**
W12A	**Cal Nev Ari**	**44.13**	**87**	⇓P	**P**	**16 35 40.8**	**-0.4**
	baz=44						
PFO	**Pinyon Flat Ob**	**44.21**	**90**	P	**P**	**16 35 41.0**	**-0.8**
	comp=Z,79nm,1.0s,mb5.4,SNR=6.2						
PFO	**Pinyon Flat Ob**	**44.21**	**90**	*eP*	**P**	**16 35 40.9**	**-0.9**
PFO				*e*		16 37 26.1	
PFO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
PFO	**Pinyon Flat Ob**	**44.21**	**90**	*eP*	**P**	**16 35 40.9**	**-0.9**
	comp=Z,14nm,1.0s,mb4.7						
PFO				*e*PcP	PcP	16 37 26.1	-0.3
PFO	**Pinyon Flat Ob**	**44.21**	**90**	⇓P	**P**	**16 35 41.2**	**-0.6**
	baz=44,SNR=8.5						
BELC	**Belle Mtn.**	**44.25**	**90**	⇓P	**P**	**16 35 41.3**	**-0.8**
	baz=44,SNR=12						
109C	**Camp Elliot, M**	**44.27**	**92**	⇓P	**P**	**16 35 41.5**	**-0.8**
	baz=44						
SRU	**San Rafael**	**44.54**	**80**	*eP*	**P**	**16 35 44.5**	**+0.1**
SRU				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.3						
SRU	**San Rafael**	**44.54**	**80**	*eP*	**P**	**16 35 44.5**	**+0.1**
	comp=Z,54nm,1.0s,mb5.3						
IRM	**Iron Mountain**	**44.68**	**89**	⇓P	**P**	**16 35 45.2**	**-0.4**
	baz=44,SNR=12						
MONP	**Monument Peak**	**44.70**	**91**	⇑P	**P**	**16 35 45.3**	**-0.4**
	baz=44,SNR=14						
BC3	**Big Chuckw Mtn**	**44.82**	**90**	⇑P	**P**	**16 35 46.1**	**-0.5**
	baz=45,SNR=7.7						
DVTC	**Desert V Tower**	**45.06**	**91**	⇑P	**P**	**16 35 48.3**	**-0.3**
	baz=45,SNR=7.5						
SWSC	**Sam W. Stewart**	**45.06**	**91**	⇑P	**P**	**16 35 47.6**	**-1.0**
	baz=45						
RWWY	**Rawlins**	**45.09**	**75**	*eP*	**P**	**16 35 47.5**	**-1.3**
	comp=Z,28nm,1.0s,mb5.0						
PDMCI	**Parker Dam,Lak**	**45.23**	**88**	⇑P	**P**	**16 35 49.1**	**-0.9**
	baz=45,SNR=9.2						
W14A	**Seligman**	**45.32**	**86**	⇑P	**P**	**16 35 50.6**	**0.0**
	baz=45,SNR=20						
Y12C	**Blythe**	**45.34**	**89**	⇑P	**P**	**16 35 50.2**	**-0.6**
	baz=45,SNR=9.1						
GLA	**Glamis**	**45.61**	**90**	*eP*	**P**	**16 35 52.8**	**-0.1**
GLA				*e*		16 37 30.5	
GLA	**Glamis**	**45.61**	**90**	⇓P	**P**	**16 35 52.3**	**-0.6**
	baz=45,SNR=8.9						
RSSD	**Black Hills**	**45.63**	**70**	*eP*	**P**	**16 35 51.3**	**-1.8**
RSSD				*e*		16 37 30.3	
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
RSSD	**Black Hills**	**45.63**	**70**	*eP*	**P**	**16 35 51.3**	**-1.8**
	comp=Z,8.5nm,0.9s,mb4.7						
RSSD				*e*PcP	PcP	16 37 30.3	-1.0
Y13A	**Salome**	**45.74**	**88**	⇓P	**P**	**16 35 53.3**	**-0.7**
	baz=46						
W15A	**Williams**	**45.86**	**86**	⇓P	**P**	**16 35 54.7**	**-0.3**
	baz=46,SNR=13						
PV10	**Paradox Valley**	**45.91**	**80**	*eP*	**P**	**16 35 55.2**	**-0.1**
PV10				*e*PcP	PcP	16 37 31.8	-0.5
X14A	**Yava**	**45.92**	**87**	⇓P	**P**	**16 35 55.0**	**-0.3**
	baz=46,SNR=32						
Y14A	**Wickenburg**	**46.19**	**87**	⇑P	**P**	**16 35 56.8**	**-0.7**
	baz=46,SNR=19						
WUAZ	**Wupatki**	**46.21**	**85**	⇓*eP*	**P**	**16 35 57.6**	**-0.1**
	comp=Z,39nm,1.0s,mb5.3						
WUAZ				*e*PcP	PcP	16 37 33.2	-0.1
WUAZ				*e*PP	PP	16 37 45.9	-0.1
WUAZ	**Wupatki**	**46.21**	**85**	⇑P	**P**	**16 35 57.2**	**-0.5**
	baz=46						
X15A	**Humboldt**	**46.32**	**86**	⇓P	**P**	**16 35 58.1**	**-0.5**
	baz=46,SNR=14						
PV01	**Paradox Valley**	**46.35**	**80**	*eP*	**P**	**16 35 58.2**	**-0.5**
PV01				*e*PcP	PcP	16 37 33.3	-0.5
Z14A	**Wintersburg**	**46.60**	**88**	⇑P	**P**	**16 35 59.8**	**-0.9**
	baz=46						
MVCO	**Mesa Verde**	**46.96**	**81**	*eP*	**P**	**16 36 03.0**	**-0.6**
	comp=Z,32nm,1.2s,mb5.1						
MVCO	**Mesa Verde**	**46.96**	**81**	⇓P	**P**	**16 36 02.4**	**-1.2**
	baz=47						
ULM	**Lac du Bonnet**	**46.96**	**59**	P	**P**	**16 36 02.4**	**-1.2**
	comp=Z,25nm,1.0s,mb5.1,baz=299,slow=10,SNR=11						
ULM	**Lac du Bonnet**	**46.96**	**59**	*eP*	**P**	**16 36 01.9**	**-1.7**
	comp=Z,28nm,0.9s,mb5.2						
ISCO	**Idaho Springs**	**47.18**	**76**	*eP*	**P**	**16 36 04.6**	**-0.7**
ISCO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
ISCO	**Idaho Springs**	**47.18**	**76**	*eP*	**P**	**16 36 04.6**	**-0.6**
	comp=Z,10nm,1.1s,mb4.7						
115A	**Sonoran Desert**	**47.49**	**88**	⇓P	**P**	**16 36 07.1**	**-0.5**
	baz=47						
116A	**Eloy**	**47.91**	**88**	⇓P	**P**	**16 36 10.4**	**-0.5**
	baz=48						
AGMN	**Agassiz Refuge**	**48.03**	**61**	⇑*eP*	**P**	**16 36 10.3**	**-1.6**
	comp=Z,77nm,0.9s,mb5.7						
SDCO	**Great Sand Dun**	**48.50**	**78**	*eP*	**P**	**16 36 15.5**	**0.0**
	comp=Z,21nm,1.0s,mb5.1						
SDCO				*e*PcP	PcP	16 37 40.9	-0.5
TUC	**Tucson**	**48.66**	**87**	*eP*	**P**	**16 36 16.5**	**-0.2**
TUC				*e*		16 37 41.8	
TUC				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
TUC	**Tucson**	**48.66**	**87**	*eP*	**P**	**16 36 16.5**	**-0.3**
	comp=Z,14nm,1.0s,mb4.9						
TUC				*e*PcP	PcP	16 37 41.8	-0.3
BJI	**Beijing**	**48.98**	**286**	P	**P**	**16 36 14.9**	**-4.3**
TLY	**Talaya**	**49.36**	**305**	P	**P**	**16 36 22.7**	**+0.6**
	comp=Z,90nm,1.0s,mb5.8,SNR=5.9						
TLY	**Talaya**	**49.36**	**305**	P	**P**	**16 36 22.6**	**+0.5**
	SNR=7.4						
TLY	**Talaya**	**49.36**	**305**	*eP*	**P**	**16 36 22.1**	**0.0**
TLY				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
TLY				MLR	MLR		
	comp=Z,227nm,17.0s,MS4.2						
TLY	**Talaya**	**49.36**	**305**	*eP*	**P**	**16 36 21.9**	**-0.2**
	comp=Z,16nm,1.0s,mb5.0						
LAZ	**Ladron**	**49.59**	**83**	*eP*	**P**	**16 36 24.2**	**+0.3**
ANMO	**Albuquerque**	**49.67**	**82**	P	**P**	**16 36 24.0**	**-0.5**
	comp=Z,11nm,1.1s,mb4.8,baz=310,slow=8.2,SNR=14						
ANMO				PcP	PcP	16 37 45.7	0.0
	comp=Z,5.3nm,1.0s,baz=259,slow=3.2,SNR=4.3						
ANMO	**Albuquerque**	**49.67**	**82**	*eP*	**P**	**16 36 23.9**	**-0.6**
ANMO				*e*		16 37 45.6	
ANMO				pmax	pmax		
	comp=Z,18nm,1.2s						
ANMO	**Albuquerque**	**49.67**	**82**	*eP*	**P**	**16 36 23.9**	**-0.5**
	comp=Z,18nm,1.2s,mb5.0						
ANMO				*e*PcP	PcP	16 37 45.6	-0.1
LENM	**Lemitar**	**49.85**	**83**	*eP*	**P**	**16 36 26.1**	**+0.3**
LPM	**Los Pinos Moun**	**49.97**	**82**	*eP*	**P**	**16 36 26.7**	**0.0**
SONM	**Songino Array**	**50.07**	**300**	P	**P**	**16 36 27.5**	**0.0**
	comp=Z,7.3nm,0.6s,mb4.9,baz=50,slow=9.3,SNR=16						
SONM				PcP	PcP	16 37 47.0	-0.1
	comp=Z,6.6nm,1.0s,baz=56,slow=3.9,SNR=6.0						
SONM	**Songino Array**	**50.07**	**300**	P	**P**	**16 36 27.5**	**0.0**
SONM						16 37 47.0	
SONM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ECSD	**EROS,Sioux Fal**	**50.23**	**67**	*eP*	**P**	**16 36 26.1**	**-2.6**
	comp=Z,22nm,1.0s,mb5.2						
ECSD				*e*PcP	PcP	16 37 46.2	-1.6
ZAK	**Zakamensk**	**50.28**	**304**	*eP*	**P**	**16 36 27.7**	**-1.4**
ZAK				*e*		16 37 47.8	
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
HHC	**Hu-ho-hao-te**	**51.27**	**290**	*eP*	**P**	**16 36 35.8**	**-0.8**
HHC				PCP	PcP	16 37 52.1	+0.5
HHC				PP	PP	16 38 34.7	+1.2
HHC				S	**S**	**16 43 54.0**	**-1.4**
HHC				PS		16 44 01.2	
HHC				SCS	ScS	16 46 25.0	-2.2
HHC				AMB	AMB		
	comp=Z,19nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,186nm,6.2s						
HHC				LR	LR		
	comp=N,330nm,20.0s						
HHC				LR	LR		
	comp=E,176nm,7.1s						
HHC				LR	LR		
	comp=Z,221nm,14.9s						
DAG	**Danmarks Havn**	**51.67**	**7**	⇑*iP*	**P**	**16 36 38.7**	**-0.9**
	comp=Z,8.2nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**51.67**	**7**	⇑*iP*	**P**	**16 36 38.7**	**-0.9**
DAG				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BTO	**Baotou**	**52.34**	**291**	*eP*	**P**	**16 36 44.9**	**+0.3**
NJ2	**Nanjing**	**52.42**	**276**	*eP*	**P**	**16 36 44.8**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
MNTX	**Cornudas Mount**	**52.48**	**84**	*eP*	**P**	**16 36 44.9**	**-0.7**
	comp=Z,20nm,1.1s,mb5.0						
MNTX				*e*PcP	PcP	16 37 54.3	-1.9
SCIA	**State Center**	**53.33**	**66**	*eP*	**P**	**16 36 49.6**	**-2.3**
	comp=Z,42nm,0.9s,mb5.4						
WMOK	**Wichita Mounta**	**54.59**	**77**	*eP*	**P**	**16 37 00.1**	**-1.0**
WMOK				*e*		16 38 03.5	
WMOK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
WMOK	**Wichita Mounta**	**54.59**	**77**	*eP*	**P**	**16 37 00.1**	**-1.0**
	comp=Z,19nm,1.0s,mb5.1						
WMOK				*e*PcP	PcP	16 38 03.5	-0.7
WHN	**Wuhan**	**56.27**	**278**	⇑P	**P**	**16 37 13.1**	**-0.1**
JCT	**Junction City**	**56.82**	**81**	*eP*	**P**	**16 37 15.2**	**-1.9**
JCT				*e*		16 38 12.0	
JCT				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
JCT	**Junction City**	**56.82**	**81**	*eP*	**P**	**16 37 15.2**	**-1.9**
	comp=Z,30nm,1.2s,mb5.2						
JCT				*e*PcP	PcP	16 38 11.9	-0.8
ZAL	**Zalesovo**	**56.99**	**316**	P	**P**	**16 37 16.2**	**-2.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=29,slow=10,SNR=8.9						
ZAL				PcP	PcP	16 38 13.1	-0.3
	comp=Z,2.9nm,0.9s,baz=56,slow=9.1,SNR=6.1						
ZAL				LR	LR	17 02 50.7	
	comp=Z,182nm,20.8s,MS4.2,baz=65,slow=37						
ZAL	**Zalesovo**	**56.99**	**316**	P	**P**	**16 37 16.2**	**-2.1**
ZAL						16 38 13.1	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,182nm,20.8s						
NVS	**Novosibirsk**	**57.05**	**318**	*eP*	**P**	**16 37 15.8**	**-2.9**
NVS				*e*		16 38 11.6	
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
XAN	**Xi'an**	**57.28**	**285**	P	**P**	**16 37 19.2**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
SCHQ	**Schefferville**	**58.17**	**41**	P	**P**	**16 37 25.3**	**-1.3**
	comp=Z,22nm,0.9s,mb5.2,baz=302,slow=7.7,SNR=13						
SCHQ				LR	LR	17 04 14.2	
	comp=Z,432nm,18.5s,MS4.6,baz=180,slow=38						
SCHQ	**Schefferville**	**58.17**	**41**	*eP*	**P**	**16 37 26.1**	**-0.5**
	comp=Z,34nm,1.0s,mb5.3						
KEV	**Kevo**	**58.86**	**352**	*ep*	**P**	**16 37 29.7**	**-1.7**
	comp=Z,28nm,0.9s,mb5.3						
KEV	**Kevo**	**58.86**	**352**	*eP*	**P**	**16 37 30.1**	**-1.3**
KEV				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
LZH	**Lanzhou**	**58.96**	**290**	*eP*	**P**	**16 37 33.0**	**+0.9**
LZH				AP	pP	16 37 35.0	-0.3
LZH				XP	sP	16 37 37.0	+0.5
LZH				PCP	PcP	16 38 21.8	+0.6
LZH				PP	PP	16 39 48.2	+5.8
LZH				SS	SS	16 49 29.0	-3.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,4.2s						
LZH				LR	LR		
	comp=N,604nm,16.7s						
LZH				LR	LR		
	comp=Z,2μm,18.5s,MS5.2						
LZH	**Lanzhou**	**58.96**	**290**	*eP*	**P**	**16 37 33.0**	**+0.9**
LZH						16 38 21.8	
LZH						16 39 48.2	
LZH				SS	SS	16 49 29.0	-3.1
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,18.5s,MS5.2						
LZH	**Lanzhou**	**58.96**	**290**	*eP*	**P**	**16 37 33.0**	**+0.9**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	16 37 35.0	-0.3
LZH				sP	sP	16 37 37.0	+0.5
LZH				PcP	PcP	16 38 21.8	+0.6
LZH				PP	PP	16 39 48.2	+5.8
LZH				SS	SS	16 49 29.0	-3.1
LZH				LR	LR		
	comp=Z,2μm,18.5s,MS5.2						
GTA	**Gaotai**	**59.08**	**296**	*eP*	**P**	**16 37 32.5**	**-0.4**
GTA				AP	pP	16 37 35.9	-0.2
GTA				XP	sP	16 37 37.8	+0.5
GTA				S	**S**	**16 45 40.2**	**+0.3**
GTA				XS	sS	16 45 46.7	+1.6
GTA				SS	SS	16 49 34.3	+0.5
GTA				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,115nm,3.8s						
GTA				LR	LR		
	comp=N,260nm,17.2s,MS4.5						
GTA				LR	LR		
	comp=E,190nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=Z,260nm,18.7s,MS4.4						
ARCES	**ARCESS Array B**	**59.20**	**352**	P	**P**	**16 37 31.9**	**-1.9**
	comp=Z,15nm,0.8s,mb5.1,baz=20,slow=6.5,SNR=35						
ARCES				LR	LR	17 03 23.5	
	comp=Z,312nm,20.1s,MS4.4,baz=304,slow=36						
ARCES	**ARCESS Array B**	**59.20**	**352**	P	**P**	**16 37 31.9**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,15nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,312nm,20.1s						
ARCES	**ARCESS Array B**	**59.20**	**352**	P	**P**	**16 37 31.9**	**-1.9**
ARCES				LR	LR	17 03 23.5	
ARE0	**ARCESS Array S**	**59.21**	**352**	*eP*	**P**	**16 37 32.3**	**-1.5**
LVZ	**Lovozero**	**59.81**	**348**	⇑*eP*	**P**	**16 37 36.6**	**-1.4**
LVZ				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.6						
WVT	**Waverly**	**60.28**	**68**	*eP*	**P**	**16 37 39.2**	**-2.0**
WVT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WVT	**Waverly**	**60.28**	**68**	*eP*	**P**	**16 37 39.2**	**-2.0**
	comp=Z,11nm,1.0s,mb4.8						
APA	**Apatity**	**60.28**	**349**	⇓*eP*	**P**	**16 37 40.0**	**-1.2**
APA				*i*		16 37 50.0	
APA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
APA				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9						
ALLY	**Alegheny Colle**	**60.86**	**59**	*eP*	**P**	**16 37 44.3**	**-0.9**
MSNY	**Massena**	**61.32**	**53**	*eP*	**P**	**16 37 47.0**	**-1.3**
KURK	**Kurchatov**	**61.95**	**317**	P	**P**	**16 37 51.5**	**-1.1**
	comp=Z,319nm,0.7s,SNR=35						
NCB	**Newcomb**	**62.37**	**54**	*eP*	**P**	**16 37 53.8**	**-1.5**
	comp=Z,18nm,0.9s,mb5.2						
MCWV	**Mont Chateau**	**62.41**	**60**	*eP*	**P**	**16 37 54.1**	**-1.4**
	comp=Z,88nm,1.0s,mb5.8						
CD2	**Chengdu**	**62.59**	**286**	P	**P**	**16 37 56.4**	**-0.4**
CD2				PP	PP	16 40 15.7	+1.3
CD2				S	**S**	**16 46 21.1**	**-3.6**
CD2				SS	SS	16 50 26.5	-2.4
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,170nm,16.8s						
CD2				LR	LR		
	comp=Z,160nm,14.4s,MS4.3						
WMQ	**Urumqi**	**62.62**	**306**	*eP*	**P**	**16 37 56.7**	**-0.3**
WMQ				AP	pP	16 38 01.0	+0.8
WMQ				XP	sP	16 38 03.0	+1.6
WMQ				PCP	PcP	16 38 35.0	-0.9
WMQ				PP	PP	16 40 16.0	+1.3
WMQ				S	**S**	**16 46 24.0**	**-1.1**
WMQ				SCS	ScS	16 47 46.0	-3.6
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,196nm,5.0s						
WMQ				LR	LR		
	comp=N,691nm,19.5s,MS5.0						
WMQ				LR	LR		
	comp=E,783nm,19.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,578nm,19.0s,MS4.8						
BINY	**Binghamton**	**62.70**	**56**	*eP*	**P**	**16 37 56.6**	**-1.0**
	comp=Z,74nm,1.0s,mb5.8						
CHKZ	**Chkalovo**	**62.99**	**323**	*eP*	**P**	**16 37 58.5**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**62.99**	**323**	*eP*	**P**	**16 37 58.5**	**-1.0**
	comp=Z,7.4nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**63.14**	**312**	P	**P**	**16 37 59.3**	**-1.2**
	comp=Z,12nm,0.7s,mb5.1,baz=53,slow=6.2,SNR=73						
MKAR	**Makanchi Array**	**63.14**	**312**	*i P*	**P**	**16 37 59.2**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
FWV	**Forest Hill**	**63.32**	**63**	*eP*	**P**	**16 38 00.8**	**-0.9**
BVA0	**Borovoye Array**	**63.58**	**323**	*i P*	**P**	**16 38 02.6**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**63.58**	**323**	P	**P**	**16 38 02.4**	**-1.0**
	comp=Z,14nm,0.6s,mb5.2,baz=53,slow=7.6,SNR=58						
BVAR	**Borovoye Array**	**63.58**	**323**	P	**P**	**16 38 02.4**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,14nm,0.6s						
VOSK	**Vostochnaya**	**63.59**	**322**	P	**P**	**16 38 03.2**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
BRVK	**Borovoye**	**63.59**	**323**	P	**P**	**16 38 03.0**	**-0.5**
	comp=Z,144nm,0.9s,mb6.0,SNR=12						
BRVK	**Borovoye**	**63.59**	**323**	*eP*	**P**	**16 38 02.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
BRVK	**Borovoye**	**63.59**	**323**	*eP*	**P**	**16 38 02.8**	**-0.7**
	comp=Z,25nm,1.0s,mb5.2						
ELN	**Prospectdale**	**63.60**	**63**	*eP*	**P**	**16 38 02.0**	**-1.6**
BLA	**Blacksburg**	**63.80**	**63**	*eP*	**P**	**16 38 03.9**	**-1.0**
BLA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BLA	**Blacksburg**	**63.80**	**63**	*eP*	**P**	**16 38 03.9**	**-1.0**
	comp=Z,51nm,1.0s,mb5.5						
MVL	**Millersville**	**64.07**	**58**	*eP*	**P**	**16 38 05.6**	**-1.0**
ZRNK	**Zerenda**	**64.16**	**324**	*eP*	**P**	**16 38 06.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.4						
ZRNK	**Zerenda**	**64.16**	**324**	*eP*	**P**	**16 38 06.5**	**-0.8**
	comp=Z,26nm,0.7s,mb5.4						
PAL	**Palisades**	**64.65**	**56**	*eP*	**P**	**16 38 09.6**	**-0.8**
PAL				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
PAL	**Palisades**	**64.65**	**56**	*eP*	**P**	**16 38 09.6**	**-0.9**
	comp=Z,60nm,1.1s,mb5.5						
ARU	**Arti**	**64.91**	**331**	P	**P**	**16 38 12.4**	**+0.3**
	comp=Z,83nm,0.8s,mb5.8,SNR=6.8						
ARU	**Arti**	**64.91**	**331**	⇓*iP*	**P**	**16 38 11.6**	**-0.5**
ARU				*e*		16 38 42.2	
ARU				*e*S	**S**	**16 46 51.8**	**-1.8**
ARU				*e*		16 48 02.5	
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ARU	**Arti**	**64.91**	**331**	*eP*	**P**	**16 38 11.3**	**-0.9**
	comp=Z,17nm,1.0s,mb5.0						
JOF	**Joensuu**	**65.00**	**348**	*ep*	**P**	**16 38 10.2**	**-2.5**
	comp=Z,26nm,0.9s,mb5.3						
JOF	**Joensuu**	**65.00**	**348**	*eP*	**P**	**16 38 10.2**	**-2.5**
JOF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
TAOE	**Nuku Hiva Isla**	**65.93**	**144**	*e*LR	LR	16 57 31.8	
	comp=Z,746nm,22.4s						
KAF	**Kangasniemi**	**66.38**	**350**	*ep*	**P**	**16 38 20.1**	**-1.5**
	comp=Z,31nm,0.9s,mb5.3,baz=9.9,slow=5.9						
KAF	**Kangasniemi**	**66.38**	**350**	*eP*	**P**	**16 38 20.1**	**-1.5**
KAF				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
FIA1	**FINESS Array S**	**67.06**	**350**	*eP*	**P**	**16 38 24.8**	**-1.1**
FINES	**FINESS Array B**	**67.06**	**350**	P	**P**	**16 38 24.9**	**-1.0**
	comp=Z,12nm,0.8s,mb4.9,baz=35,slow=7.0,SNR=32						
FINES	**FINESS Array B**	**67.06**	**350**	P	**P**	**16 38 25.0**	**-1.0**
FINES				pmax	pmax		
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**67.35**	**282**	P	**P**	**16 38 27.5**	**-0.3**
KMI				AP	pP	16 38 35.8	+4.8
KMI				XP	sP	16 38 39.6	+7.4
KMI				PP	PP	16 40 58.2	+2.0
KMI				PPP		16 42 38.4	
KMI				S	S	16 47 22.8	-0.5
KMI				SS	SS	16 51 42.2	-0.8
KMI				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.4						
KMI				AMB	AMB		
	comp=Z,78nm,4.1s						
KMI				LR	LR		
	comp=N,154nm,24.2s,MS4.3						
KMI				LR	LR		
	comp=E,137nm,24.2s,MS4.3						
KMI				LR	LR		
	comp=Z,141nm,15.8s						
KMI	**Kunming**	**67.35**	**282**	P	**P**	**16 38 27.5**	**-0.3**
KMI				*PP	pP	16 38 35.8	+4.8
KMI				*SP	sP	16 38 39.6	+7.4
KMI						16 40 58.2	
KMI				PPP		16 42 38.4	
KMI				S	S	16 47 22.8	-0.5
KMI				SS	SS	16 51 42.2	-0.8
KMI				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4						
KMI				MLR	MLR		
	comp=Z,140nm,15.8s,MS4.3						
KMI	**Kunming**	**67.35**	**282**	P	**P**	**16 38 27.5**	**-0.3**
	comp=Z,7.0nm,1.8s,mb4.4						
KMI				pP	pP	16 38 35.8	+4.8
KMI				sP	sP	16 38 39.6	+7.4
KMI				PP	PP	16 40 58.2	+2.0
KMI				PPP		16 42 38.4	
KMI				S	S	16 47 22.8	-0.5
KMI				SS	SS	16 51 42.2	-0.8
KMI				LR	LR		
	comp=Z,140nm,15.8s,MS4.3						
NB2	**NORSAR Subarra**	**68.46**	**358**

SNR=27
UCH Uchtor 70.23 313 P **P 16 38 46.8 +1.0**
SNR=22
AML Almayashu 70.69 314 P **P 16 38 49.8 +1.3**
SNR=14
LSA Lhasa 70.98 294 P **P 16 38 51.4 +1.1**
LSA Lhasa 70.98 294 *eP* **P 16 38 50.8 +0.5**
LSA pmax pmax
comp=Z,17nm,0.8s,mb5.0
LSA Lhasa 70.98 294 *eP* **P 16 38 50.8 +0.5**
comp=Z,17nm,0.8s,mb5.0
PPT Papeete 71.15 156 *e*LR LR 16 59 55.8
comp=Z,296nm,24.0s
OBN Obninsk 71.59 343⇑ *i*P **P 16 38 53.4 -0.6**
OBN *i* 16 39 08.1
OBN *e*S S 16 48 44.1 +31
OBN pmax pmax
comp=Z,18nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
KKTK Khon Kaen 73.79 276 ⇓P **P 16 39 08.0 +0.9**
CHG Chiang Mai 74.37 281 P **P 16 39 09.3 -1.2**
SUW Suwalki 74.67 350 *eP* **P 16 39 11.5 -0.7**
SUW *e* 16 39 26.3
SUW Suwalki 74.67 350 *eP* **P 16 39 11.1 -1.1**
SUW *e* 16 39 26.5
SUW pmax pmax
comp=Z,74nm,0.9s,mb5.6
SUW Suwalki 74.67 350 P **P 16 39 11.6 -0.6**
SUW pmax pmax
comp=Z,58nm,1.1s,mb5.4
VRSR Storozhevoye 74.72 340 *eP* **P 16 39 12.2 -0.3**
VRSR pmax pmax
comp=Z,40nm,0.8s,mb5.4
VRSR pmax pmax
comp=N,50nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
VORD Divnogorie 74.93 339 *eP* **P 16 39 11.8 -1.9**
VORD pmax pmax
comp=Z,30nm,0.7s,mb5.3
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,60nm,0.6s
GUN Gumba 75.36 296 *eP* **P 16 39 16.2 0.0**
comp=E,264nm,0.8s,mb6.2
JIRN Jiri 75.37 296 *eP* **P 16 39 16.5 +0.2**
comp=E,6.9nm,0.4s,mb4.9
BSEG Bad Segeberg 75.60 358 *eP* **P 16 39 18.4 +0.8**
comp=Z,22nm,1.0s,mb5.0
BSEG Bad Segeberg 75.60 358 *eP* **P 16 39 18.4 +0.8**
BSEG pmax pmax
comp=Z,22nm,1.0s,mb5.0
KKN Kakani 75.79 296 *eP* **P 16 39 18.5 -0.2**
comp=Z,55nm,0.6s,mb5.7
PKI Pulchoki 75.89 296 *eP* **P 16 39 18.9 -0.3**
comp=Z,134nm,1.1s,mb5.8
GKN Gorkha 75.99 297 *eP* **P 16 39 19.4 -0.4**
comp=Z,107nm,0.5s,mb6.0
DMN Daman 76.03 296 *eP* **P 16 39 19.9 -0.1**
comp=Z,112nm,1.1s,mb5.7
TGUH Tegucigalpa,Un 76.64 84 *eP* **P 16 39 23.3 -0.2**
comp=Z,54nm,1.0s,mb5.4
TBI Tubuai 76.72 158 *e*LR LR 17 02 30.9
comp=Z,342nm,32.8s
KOLN Koldanda 76.76 298 *eP* **P 16 39 23.7 -0.5**
comp=Z,92nm,0.9s,mb5.7
RUE Ruedersdorf 76.93 356 *eP* **P 16 39 25.8 +0.6**
comp=Z,54nm,1.1s,mb5.4
NRDL Niedersach Rie 77.05 358 *eP* **P 16 39 26.2 +0.4**
comp=Z,19nm,1.0s,mb5.0
AKASG Malin Array Be 77.10 346 P **P 16 39 24.6 -1.6**
comp=Z,13nm,0.8s,mb4.9,baz=14,slow=5.5,SNR=35
AKASG Malin Array Be 77.10 346 *i*P **P 16 39 25.2 -0.9**
AKASG pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 77.10 346 *eP* **P 16 39 24.6 -1.5**
IBBN Ibbenburen 77.27 359 *eP* **P 16 39 27.8 +0.8**
comp=Z,61nm,1.1s,mb5.4
WTSB Winterswijk 77.61 0 *eP* **P 16 39 29.4 +0.4**
CLZ Clausthal 77.69 358 *eP* **P 16 39 30.3 +0.9**
comp=Z,53nm,1.0s,mb5.4
CLZ Clausthal 77.69 358 *eP* **P 16 39 30.3 +0.9**
CLZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
GTTG Gvttingen 78.00 358 *eP* **P 16 39 31.8 +0.7**
comp=Z,63nm,1.1s,mb5.5
BUG Bochum--Univer 78.14 360 *eP* **P 16 39 32.3 +0.4**
comp=Z,58nm,1.5s,mb5.3
CLL Collm 78.14 356 *eP* **P 16 39 31.9 0.0**
comp=Z,25nm,0.8s,mb5.2
CLL Collm 78.14 356 *eP* **P 16 39 32.0 +0.1**
CLL pmax pmax
comp=Z,25nm,0.8s,mb5.2
CLL MLR MLR
comp=Z,1μm,17.6s,MS5.2
CLL Collm 78.14 356 *eP* **P 16 39 32.0 +0.1**
comp=Z,25nm,0.8s,mb5.2
CLL LR LR
comp=Z,1μm,17.6s,MS5.2
CLL Collm 78.14 356 *eP* **P 16 39 32.0 +0.1**
comp=Z,25nm,0.8s,mb5.2
CLL *e*SS SS 16 54 42.0 +14
KSP Ksiaz 78.42 354 *eP* **P 16 39 33.4 -0.1**
KSP Ksiaz 78.42 354 *eP* **P 16 39 33.0 -0.5**
BOK Bokaro 78.51 293 *eP* **P 16 39 34.0 +0.1**
BOK AMb AMB 16 39 36.3
comp=Z,32nm,1.0s,mb5.2
FBE Freiberg 78.51 356 *eP* **P 16 39 34.4 +0.5**
comp=Z,52nm,1.0s,mb5.4
BRG Berggiesshubel 78.53 355 *eP* **P 16 39 34.2 +0.1**
comp=Z,36nm,0.9s,mb5.3
BRG *e* 16 39 48.6
BRG Berggiesshubel 78.53 355 *i*P **P 16 39 34.3 +0.3**
comp=Z,22nm,0.9s,mb5.1
BRG *e* 16 39 48.9
comp=Z,9.7nm,0.8s
BRG *e* 16 39 56.1
comp=Z,3.5nm,0.8s
BRG Berggiesshubel 78.53 355 *i*P **P 16 39 34.3 +0.2**
BRG *e* 16 39 48.9
BRG pmax pmax
comp=Z,22nm,1.0s,mb5.0
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
UBBA Unterbreizbach 78.73 358 *eP* **P 16 39 35.3 +0.2**
comp=Z,95nm,2.3s,mb5.3
OJC Ojcow 78.76 352 *eP* **P 16 39 35.6 +0.3**
UPC Upice 78.77 354 *eP* **P 16 39 35.6 +0.2**
UPC *ex* x 16 39 49.4
BEBN Eben Emael 78.78 1 P **P 16 39 37.1 +1.6**
HGN Heimansgroeve 78.81 1 *eP* **P 16 39 36.3 +0.6**
comp=Z,45nm,1.1s,mb5.3
PVCC Panska Ves 78.84 355 *eP* **P 16 39 36.2 +0.4**
PVCC *ex* x 16 39 49.9
MOX Moxa 78.86 357 *eP* **P 16 39 36.4 +0.5**
comp=Z,27nm,0.9s,mb5.2
MOX Moxa 78.86 357 *eP* **P 16 39 35.8 -0.1**
comp=Z,43nm,1.2s,mb5.2
MOX Moxa 78.86 357 *eP* **P 16 39 35.8 -0.1**
MOX pmax pmax
comp=Z,43nm,1.2s,mb5.2
DPC Dobruska-Polom 78.91 354 *eP* **P 16 39 36.7 +0.6**
DPC *ex* x 16 39 48.0
MEM Membach 78.97 1 P **P 16 39 36.6 +0.1**
WERD Werda 79.03 356 *eP* **P 16 39 37.0 +0.2**
comp=Z,21nm,1.1s,mb5.0
KWP Kalwaria 79.04 350 *eP* **P 16 39 36.0 -0.9**
KWP pmax pmax
comp=Z,53nm,1.0s,mb5.4
SNF Seneffe 79.05 2 P **P 16 39 37.6 +0.7**
TANN Tannenbergstha 79.05 356 *eP* **P 16 39 37.3 +0.4**
comp=Z,17nm,1.1s,mb4.9
GUNZ Gunzen 79.11 356 *eP* **P 16 39 37.6 +0.3**
comp=Z,24nm,1.1s,mb5.0
BCLA Clavier 79.15 1 P **P 16 39 38.1 +0.6**
WERN Wernitzgruen 79.18 356 *eP* **P 16 39 38.1 +0.4**
comp=Z,46nm,1.1s,mb5.3
OKC Ostrava-Krasne 79.28 353 *eP* **P 16 39 38.7 +0.5**
TNS Taunus Mts 79.35 359 *eP* **P 16 39 38.8 +0.2**
comp=Z,44nm,1.0s,mb5.3
TNS Taunus Mts 79.35 359 *eP* **P 16 39 38.8 +0.2**
TNS pmax pmax
comp=Z,44nm,1.0s,mb5.3
PRU Pruhonice 79.38 355 *eP* **P 16 39 38.6 -0.1**
PRU *ex* x 16 39 52.1
MORC Moravsky Berou 79.39 353⇑ *i*P **P 16 39 38.8 0.0**
MORC Moravsky Berou 79.39 353 *eP* **P 16 39 38.3 -0.5**
comp=Z,11nm,1.0s,mb4.7
STHS Stebnicka Huta 79.41 351 *i*P **P 16 39 39.8 +0.9**
STHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
STHS Stebnicka Huta 79.41 351 *i*P **P 16 39 39.8 +0.9**
comp=Z,9.6nm,1.0s,mb4.7
GIVF Givet 79.46 1 *eP* **P 16 39 39.4 +0.2**
comp=Z,101nm,1.2s,mb5.3
GIVF Givet 79.46 1 *eP* **P 16 39 39.4 +0.2**
GIVF pmax pmax
comp=Z,51nm,1.2s,mb5.3
GIVF Givet 79.46 1 *eP* **P 16 39 39.4 +0.2**
comp=Z,51nm,1.2s,mb5.3
DOU Dourbes 79.47 1 P **P 16 39 39.8 +0.6**
MANZ Manzenberg 79.50 357 *eP* **P 16 39 39.6 +0.2**
comp=Z,18nm,1.2s,mb4.9
BAIF Baives 79.50 2 *eP* **P 16 39 39.8 +0.4**
comp=Z,73nm,1.0s,mb5.3
BAIF Baives 79.50 2 *eP* **P 16 39 39.8 +0.4**
BAIF pmax pmax
comp=Z,37nm,1.0s,mb5.3
BAIF Baives 79.50 2 *eP* **P 16 39 39.8 +0.4**
comp=Z,37nm,1.0s,mb5.3
NIE Niedzica 79.50 351 *eP* **P 16 39 39.9 +0.5**
ROTZ Rotzenmuhle 79.71 356 *eP* **P 16 39 41.0 +0.5**
comp=Z,17nm,1.0s,mb4.9
KOLS Kolonicke sedl 79.78 350 *eP* **P 16 39 40.9 0.0**
GRA1 Grafenberg Arr 79.82 357 *eP* **P 16 39 42.0 +0.9**
comp=Z,59nm,1.0s,mb5.5
GRA1 LR LR
comp=Z,400nm,20.0s,MS4.8
GRF Grafenberg Arr 79.82 357 *eP* **P 16 39 42.0 +0.9**
comp=Z,59nm,1.0s,mb5.5
GRF *e*L 17 29 22.9
comp=Z,447nm,20.0s
GRF Grafenberg Arr 79.82 357 *eP* **P 16 39 42.0 +0.9**
GRF pmax pmax
comp=Z,59nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,400nm,20.0s,MS4.8
GRF Grafenberg Arr 79.82 357 *eP* **P 16 39 42.0 +0.9**
GRF pmax pmax
comp=Z,59nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,400nm,20.0s,MS4.8
RUP Ruppelstein 79.88 360⇑ *eP* **P 16 39 42.3 +0.9**
CRVS Cervenica-Dubn 79.89 350 *eP* **P 16 39 41.9 +0.4**
WLF Walferdange 79.92 0 *eP* **P 16 39 42.3 +0.7**
comp=Z,42nm,1.0s,mb5.3
WLF Walferdange 79.92 0 P **P 16 39 42.9 +1.2**
WLF Walferdange 79.92 0 P **P 16 39 43.2 +1.6**
WLF pmax pmax
comp=Z,36nm,1.0s,mb5.3
WLF Walferdange 79.92 0 *eP* **P 16 39 42.6 +1.0**
comp=Z,36nm,1.0s,mb5.2
VRAC Vranov 79.93 354⇓ *i*P **P 16 39 42.1 +0.4**
VRAC Vranov 79.93 354 P **P 16 39 42.8 +1.1**
TOD Tromm 79.96 359⇑ *eP* **P 16 39 42.5 +0.6**
TREC Trest 80.01 354 *eP* **P 16 39 40.5 -1.7**
UZH Uzhgorod 80.07 350⇑ *i*P **P 16 39 40.8 -1.7**
KHC Kasperske Hory 80.28 356 *eP* **P 16 39 43.8 +0.2**
KHC *ex* x 16 39 57.0
WET Wettzell 80.31 356 *eP* **P 16 39 44.1 +0.4**
comp=Z,13nm,1.1s,mb4.8
WET Wettzell 80.31 356 *eP* **P 16 39 44.1 +0.4**
WET pmax pmax
comp=Z,13nm,1.1s,mb4.8
KECS Kecovo 80.41 351 *i*P **P 16 39 44.3 0.0**
KECS *e* 16 39 56.8
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KECS Kecovo 80.41 351 *i*P **P 16 39 44.3 0.0**
comp=Z,8.3nm,1.0s,mb4.6
KECS *e* 16 39 56.8
VYHS Vyhne 80.56 352 *i*P **P 16 39 45.5 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VYHS Vyhne 80.56 352 *i*P **P 16 39 45.5 +0.4**
comp=Z,8.4nm,1.1s,mb4.6
GEC2 GERESS Array S 80.56 355 *eP* **P 16 39 45.2 +0.1**
comp=Z,17nm,1.0s,mb4.9
GEC2 GERESS Array S 80.56 355 *eP* **P 16 39 45.4 +0.3**
GEC2 GERESS Array S 80.56 355 *eP* **P 16 39 45.0 -0.2**
GERES GERESS Array B 80.56 355 P **P 16 39 45.4 +0.3**
comp=Z,8.9nm,0.9s,mb4.7,baz=20,slow=4.3,SNR=29
GERES GERESS Array B 80.56 355 P **P 16 39 45.4 +0.3**
GERES pmax pmax
comp=Z,9.0nm,0.9s
LANF Langenberg 80.60 359⇑ *eP* **P 16 39 46.0 +0.7**
FLN La Foliniere 80.62 5 *eP* **P 16 39 45.3 -0.1**
comp=Z,154nm,1.2s,mb5.5
FLN *e*MLR MLR
comp=Z,137nm,17.5s
FLN La Foliniere 80.62 5 *eP* **P 16 39 45.3 -0.1**
FLN pmax pmax
comp=Z,77nm,1.2s,mb5.5
FLN MLR MLR
comp=Z,140nm,17.5s,MS4.4
FLN La Foliniere 80.62 5 *eP* **P 16 39 45.3 -0.1**
comp=Z,77nm,1.2s,mb5.5
FLN LR LR
comp=Z,140nm,17.5s,MS4.4
KIV Kislovodsk 80.63 335⇑ *eP* **P 16 39 45.6 +0.1**
KIV pmax pmax
comp=Z,30nm,1.1s,mb5.1
KIV Kislovodsk 80.63 335 *eP* **P 16 39 45.3 -0.2**
comp=Z,27nm,1.0s,mb5.1
SMOL Smolenice 80.65 353 *eP* **P 16 39 46.6 +1.0**
BURAR Bucovina Array 80.70 348⇑ *i*P **P 16 39 46.1 +0.2**
BURAR Bucovina Array 80.70 348 ⇑P **P 16 39 46.1 +0.2**
STU Stuttgart 80.79 358 *eP* **P 16 39 46.8 +0.5**
comp=Z,42nm,1.0s,mb5.3
LDF La Druitiere 80.81 5 *eP* **P 16 39 46.1 -0.3**
comp=Z,130nm,1.0s,mb5.5
LDF La Druitiere 80.81 5 *eP* **P 16 39 46.1 -0.3**
LDF pmax pmax
comp=Z,65nm,1.0s,mb5.5
LDF La Druitiere 80.81 5 *eP* **P 16 39 46.1 -0.3**
comp=Z,65nm,1.0s,mb5.5
ABKT Ailbek 80.86 321 P **P 16 39 47.1 +0.4**
comp=Z,128nm,0.9s,mb5.8,SNR=7.5
ROSF Rostrenen 80.86 7 *eP* **P 16 39 46.7 0.0**
comp=Z,106nm,1.3s,mb5.3
ROSF Rostrenen 80.86 7 *eP* **P 16 39 46.7 0.0**
ROSF pmax pmax
comp=Z,53nm,1.3s,mb5.3
ROSF Rostrenen 80.86 7 *eP* **P 16 39 46.7 0.0**
comp=Z,53nm,1.3s,mb5.3
RKT Rikitea 80.93 145 *e*LR LR 17 04 27.5
comp=Z,400nm,23.5s
GRR Gorron 80.97 5 *eP* **P 16 39 47.2 -0.1**
comp=Z,130nm,1.0s,mb5.5
GRR Gorron 80.97 5 *eP* **P 16 39 47.2 -0.1**
GRR pmax pmax
comp=Z,65nm,1.0s,mb5.5
GRR Gorron 80.97 5 *eP* **P 16 39 47.2 -0.1**
comp=Z,65nm,1.0s,mb5.5
ZST Bratislava 81.00 353 *eP* **P 16 39 48.3 +0.9**
ZST pmax pmax
comp=Z,21nm,1.0s,mb5.0
ZST MLR MLR
comp=Z,700nm,15.3s,MS5.1
ZST Bratislava 81.00 353 *eP* **P 16 39 48.3 +0.9**
comp=Z,21nm,1.0s,mb5.0
ZST LR LR
comp=Z,700nm,15.3s,MS5.1
SGMF Saint Gilles 81.00 6 *eP* **P 16 39 47.4 0.0**
comp=Z,149nm,1.2s,mb5.5
SGMF Saint Gilles 81.00 6 *eP* **P 16 39 47.4 0.0**
SGMF pmax pmax
comp=Z,75nm,1.2s,mb5.5
SGMF Saint Gilles 81.00 6 *eP* **P 16 39 47.4 0.0**
comp=Z,75nm,1.2s,mb5.5
PSZ Piszkesteto 81.03 351⇑ *i*P **P 16 39 48.3 +0.7**
PSZ Piszkesteto 81.03 351 *eP* **P 16 39 48.0 +0.4**
comp=Z,23nm,1.1s,mb5.0
MEZF Maizieres J'vi 81.07 1 *eP* **P 16 39 48.3 +0.5**
comp=Z,89nm,1.1s,mb5.3
MEZF Maizieres J'vi 81.07 1 *eP* **P 16 39 48.3 +0.5**
comp=Z,89nm,1.1s,mb5.6
WLS Welschbruch 81.17 360⇑ *eP* **P 16 39 49.0 +0.6**
CDF Champ du Feu 81.17 360 *eP* **P 16 39 48.6 +0.2**
comp=Z,76nm,1.1s,mb5.2
CDF Champ du Feu 81.17 360 *eP* **P 16 39 48.6 +0.2**
CDF pmax pmax
comp=Z,38nm,1.1s,mb5.2
CDF Champ du Feu 81.17 360 *eP* **P 16 39 48.6 +0.2**
comp=Z,38nm,1.1s,mb5.2
BFO Black Forest 81.24 359 P **P 16 39 49.0 +0.2**
comp=Z,133nm,1.1s,mb5.8,SNR=9.6
BFO Black Forest 81.24 359 *eP* **P 16 39 49.2 +0.4**
comp=Z,58nm,1.6s,mb5.3
BFO Black Forest 81.24 359 *eP* **P 16 39 49.2 +0.4**
BFO pmax pmax
comp=Z,58nm,1.6s,mb5.3
QUIF Quistinic 81.29 7 *eP* **P 16 39 49.1 +0.1**
comp=Z,146nm,1.4s,mb5.4
QUIF Quistinic 81.29 7 *eP* **P 16 39 49.1 +0.1**
QUIF pmax pmax
comp=Z,73nm,1.4s,mb5.4
QUIF Quistinic 81.29 7 *eP* **P 16 39 49.1 +0.1**
comp=Z,73nm,1.4s,mb5.4
CONA Conrad Observa 81.35 354 *i*P **P 16 39 50.2 +0.9**
comp=Z,17nm,1.1s,mb4.9,SNR=9.0
THEF They Montfort 81.35 1⇑ *eP* **P 16 39 49.9 +0.6**
ECH Echery 81.37 360⇑ *eP* **P 16 39 49.9 +0.5**
ZEI Tsey 81.38 333 *eP* **P 16 39 49.4 -0.1**
ZEI *e* 16 42 53.7
ZEI pmax pmax
comp=Z,23nm,1.3s,mb5.0
LIBD Limburg 81.43 360⇑ *eP* **P 16 39 50.6 +0.8**
SPAK Spaichingen-Ko 81.47 359⇑ *eP* **P 16 39 50.8 +0.9**
MOA Molln 81.53 355⇑ *i*P **P 16 39 50.6 +0.3**
comp=Z,10nm,1.3s,mb4.6
HAU Haudompre 81.58 0 *eP* **P 16 39 50.7 +0.2**
comp=Z,122nm,1.2s,mb5.4
HAU *e*MLR MLR
comp=Z,156nm,19.2s
HAU Haudompre 81.58 0 *eP* **P 16 39 50.7 +0.2**
HAU pmax pmax
comp=Z,61nm,1.2s,mb5.4
HAU MLR MLR
comp=Z,160nm,19.3s,MS4.4
HAU Haudompre 81.58 0 *eP* **P 16 39 50.7 +0.2**
comp=Z,61nm,1.2s,mb5.4
HAU LR LR
comp=Z,160nm,19.3s,MS4.4
FELD Feldberg im Sc 81.70 359⇑ *eP* **P 16 39 51.6 +0.4**
MOF Molkenrain 81.73 360⇑ *eP* **P 16 39 51.6 +0.3**
SIM Simferopol' 81.75 341 *eP* **P 16 39 52.0 +0.6**
SIM *e*S S 16 50 08.0 +3.6
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.0
HINF Hinteralfeld 81.77 0 *eP* **P 16 39 51.5 0.0**
comp=Z,41nm,1.0s,mb5.0
HINF Hinteralfeld 81.77 0 *eP* **P 16 39 51.5 0.0**
HINF pmax pmax
comp=Z,21nm,1.0s,mb5.0
HINF Hinteralfeld 81.77 0 *eP* **P 16 39 51.5 0.0**
comp=Z,21nm,1.0s,mb5.0
ARSA Arzberg 82.05 354 *i*P **P 16 39 54.1 +1.0**
comp=Z,18nm,0.9s,mb5.0,SNR=8.8
BBS Basel-Blauen 82.12 360⇑ *eP* **P 16 39 53.8 +0.4**
WATA Walderalm 82.16 357⇑ *i*P **P 16 39 54.5 +0.9**
comp=Z,21nm,1.1s,mb5.0
WATA Walderalm 82.16 357⇑ *i*P **P 16 39 54.5 +0.9**
WATA pmax pmax
comp=Z,21nm,1.1s,mb5.0
MOTA Moosalm 82.17 357⇑ *i*P **P 16 39 54.5 +0.9**
comp=Z,34nm,1.1s,mb5.2
MOTA Moosalm 82.17 357⇑ *i*P **P 16 39 54.5 +0.8**
MOTA pmax pmax
comp=Z,34nm,1.1s,mb5.2
LOMF Lomont 82.23 0⇑ *eP* **P 16 39 54.9 +0.9**
WTTA Wattenberg 82.23 357⇓ *i*P **P 16 39 54.5 +0.5**
comp=Z,30nm,1.1s,mb5.1
WTTA Wattenberg 82.23 357⇓ *i*P **P 16 39 54.5 +0.5**
WTTA pmax pmax
comp=Z,30nm,1.1s,mb5.1
HYF Humbligny 82.25 3 *eP* **P 16 39 54.4 +0.3**
DAVA Damuels 82.26 358⇑ *i*P **P 16 39 55.2 +1.1**
comp=Z,23nm,1.0s,mb5.1
LOR Lormes 82.28 2 *eP* **P 16 39 54.4 +0.2**
comp=Z,83nm,1.1s,mb5.3
LOR *e*MLR MLR
comp=Z,242nm,22.2s
LOR Lormes 82.28 2 *eP* **P 16 39 54.4 +0.2**
LOR pmax pmax
comp=Z,42nm,1.1s,mb5.3
LOR MLR MLR
comp=Z,240nm,22.3s,MS4.5
LOR Lormes 82.28 2 *eP* **P 16 39 54.4 +0.2**
comp=Z,42nm,1.1s,mb5.3
LOR LR LR
comp=Z,240nm,22.3s,MS4.5
SQTA Sankt Quirin 82.29 357⇓ *i*P **P 16 39 55.0 +0.7**
comp=Z,22nm,1.1s,mb5.0
SQTA Sankt Quirin 82.29 357⇓ *i*P **P 16 39 55.0 +0.7**
SQTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
KBA Koelnbreinsper 82.34 356⇓ *i*P **P 16 39 55.3 +0.7**
comp=Z,47nm,0.8s,mb5.5,SNR=12
KBA Koelnbreinsper 82.34 356⇓ *i*P **P 16 39 55.3 +0.7**
KBA pmax pmax
comp=Z,47nm,0.8s,mb5.5
SSF Saint Saulge 82.48 2 *eP* **P 16 39 55.4 +0.1**
comp=Z,80nm,1.0s,mb5.3
SSF Saint Saulge 82.48 2 *eP* **P 16 39 55.4 +0.1**
SSF pmax pmax
comp=Z,40nm,1.0s,mb5.3
SSF Saint Saulge 82.48 2 *eP* **P 16 39 55.4 +0.1**
comp=Z,40nm,1.0s,mb5.3
CFR Carcaliu 82.64 345⇓ *i*P **P 16 39 56.8 +0.7**
CFR Carcaliu 82.64 345 P **P 16 39 57.4 +1.3**
AJM Ajmer 82.67 303 *i*P **P 16 39 55.0 -1.3**
AJM *eP* 16 39 55.9
AJM AMb AMB 16 39 57.6
comp=Z,62nm,0.6s,mb5.8
MLR Muntele Rosu 82.68 347⇓ *i*P **P 16 39 58.3 +2.0**
MLR Muntele Rosu 82.68 347 P **P 16 39 58.2 +1.9**
PERS Pernice 82.69 354 *eP* **P 16 39 56.9 +0.6**
AVF Avril sur Loir 82.75 2 *eP* **P 16 39 56.7 0.0**
comp=Z,77nm,1.0s,mb5.4
AVF Avril sur Loir 82.75 2 *eP* **P 16 39 56.7 0.0**
AVF pmax pmax
comp=Z,39nm,1.0s,mb5.4
AVF Avril sur Loir 82.75 2 *eP* **P 16 39 56.7 0.0**
comp=Z,38nm,1.0s,mb5.4
MFF Saint Martin d 82.79 5 *eP* **P 16 39 57.1 +0.2**
comp=Z,102nm,1.0s,mb5.5
MFF Saint Martin d 82.79 5 *eP* **P 16 39 57.1 +0.2**
MFF pmax pmax
comp=Z,51nm,1.0s,mb5.5
MFF Saint Martin d 82.79 5 *eP* **P 16 39 57.1 +0.2**
comp=Z,51nm,1.0s,mb5.5
OBKA Obir 82.85 355 *i*P **P 16 39 57.8 +0.6**
comp=Z,16nm,0.9s,mb5.0,SNR=7.1
VOIR 82.86 347⇑ *i*P **P 16 39 59.3 +2.0**
VOIR 82.86 347 ⇑P **P 16 39 59.3 +2.0**
SMF Signal de Mont 82.90 2 *eP* **P 16 39 57.6 +0.1**
comp=Z,93nm,1.0s,mb5.5
SMF Signal de Mont 82.90 2 *eP* **P 16 39 57.6 +0.1**
SMF pmax pmax
comp=Z,47nm,1.0s,mb5.5
SMF Signal de Mont 82.90 2 *eP* **P 16 39 57.6 +0.1**
comp=Z,47nm,1.0s,mb5.5
BGF Bois d'Agland 82.96 3 *eP* **P 16 39 57.9 +0.1**
comp=Z,84nm,1.1s,mb5.4
BGF Bois d'Agland 82.96 3 *eP* **P 16 39 57.9 +0.1**
BGF pmax pmax
comp=Z,42nm,1.1s,mb5.4
BGF Bois d'Agland 82.96 3 *eP* **P 16 39 57.9 +0.1**
comp=Z,42nm,1.1s,mb5.4
CABF La Chapelle 82.97 1 *eP* **P 16 39 58.5 +0.7**
comp=Z,91nm,1.0s,mb5.5
CABF La Chapelle 82.97 1 *eP* **P 16 39 58.5 +0.7**
CABF pmax pmax
comp=Z,45nm,1.0s,mb5.5
CABF La Chapelle 82.97 1 *eP* **P 16 39 58.5 +0.7**
comp=Z,46nm,1.0s,mb5.5
PTCC Patocco-Chiusa 83.02 355 P **P 16 39 57.8 -0.3**
comp=Z,15nm,1.0s,mb5.0
TUE Stuetta 83.09 358 P **P 16 39 59.9 +1.5**
BZS Buzias 83.12 350⇓ *i*P **P 16 39 58.9 +0.3**
BZS Buzias 83.12 350 P **P 16 39 59.2 +0.6**
GMNA Gemona 83.15 356 P **P 16 39 58.3 -0.5**
comp=Z,94nm,0.7s,mb5.9

HARR	Harsova	83.15	345	P	P	16 40 00.1	+1.3
ROBS	Robic	83.17	355	*i* P	P	16 39 58.2	-0.7
TCF	Toulx Ste Croi	83.21	3	*e*P	P	16 39 59.1	0.0
	comp=Z,68nm,1.1s,mb5.3						
TCF	Toulx Ste Croi	83.21	3	*e*P	P	16 39 59.1	0.0
TCF				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
TCF	Toulx Ste Croi	83.21	3	*e*P	P	16 39 59.1	0.0
	comp=Z,34nm,1.1s,mb5.3						
TIRR	Tirgusor	83.30	345	*e*P	P	16 39 59.6	+0.1
TIRR				pmax	pmax		
	comp=Z,79nm,1.0s,mb5.7						
TIRR	Tirgusor	83.30	345	*e*P	P	16 39 59.6	0.0
	comp=Z,79nm,1.0s,mb5.7						
AGO	Saint Agoulin	83.48	3	*e*P	P	16 40 01.6	+1.2
OG05	Jujurieux	83.53	1⇑	*e*P	P	16 40 01.8	+1.1
GNI	Garni	83.55	332	*d i*P	P	16 40 01.6	+0.8
GNI				pmax	pmax		
	comp=Z,31nm,1.7s						
PLDF	La Plantade	83.57	2	*e*P	P	16 40 02.3	+1.4
BHPL	Bhopal	83.75	299	*e*P	P	16 40 01.9	0.0
BHPL				AMb	AMB	16 40 02.8	
	comp=Z,35nm,0.7s,mb5.6						
PYM	Petit Puy Mans	83.78	3	*e*P	P	16 40 02.9	+0.9
BOJS	Bojanci	83.81	354	*i* P	P	16 40 01.8	-0.3
BOJS				*e*		16 40 24.1	
RSL	Roselend	83.89	0⇑	*e*P	P	16 40 03.8	+1.2
ORO	Oropa	83.95	359	P	P	16 40 04.4	+1.5
ORO				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.3						
ORO	Oropa	83.95	359	P	P	16 40 04.4	+1.5
	comp=Z,18nm,0.7s,mb5.3						
COLF	Collangettes	84.03	2	*e*P	P	16 40 04.2	+0.9
LPL	La Plagne	84.07	0	*e*P	P	16 40 04.9	+1.4
	comp=Z,65nm,1.2s,mb5.3						
LPL	La Plagne	84.07	0	*e*P	P	16 40 04.9	+1.4
LPL				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.3						
LPL	La Plagne	84.07	0	*e*P	P	16 40 04.9	+1.4
	comp=Z,32nm,1.2s,mb5.3						
LPG	La Plagne	84.09	0	*e*P	P	16 40 05.3	+1.7
	comp=Z,93nm,1.1s,mb5.5						
LPG	La Plagne	84.09	0	*e*P	P	16 40 05.3	+1.7
LPG				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.5						
LPG	La Plagne	84.09	0	*e*P	P	16 40 05.3	+1.7
	comp=Z,47nm,1.1s,mb5.5						
FRNF	Fournols	84.12	3⇑	*e*P	P	16 40 04.4	+0.6
RJF	Les Rejaudoux	84.17	4	*e*P	P	16 40 03.8	-0.2
	comp=Z,114nm,1.2s,mb5.6						
RJF				*e*MLR	MLR		
	comp=Z,259nm,18.8s						
RJF	Les Rejaudoux	84.17	4	*e*P	P	16 40 03.8	-0.2
RJF				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.6						
RJF				MLR	MLR		
	comp=Z,260nm,18.8s,MS4.6						
RJF	Les Rejaudoux	84.17	4	*e*P	P	16 40 03.8	-0.2
	comp=Z,57nm,1.2s,mb5.6						
RJF				LR	LR		
	comp=Z,260nm,18.8s,MS4.6						
WRA	Warramunga Arr	84.20	229	P	P	16 40 01.3	-2.8
	comp=Z,3.1nm,1.1s,mb4.3,baz=35,slow=6.0,SNR=12						
WRA	Warramunga Arr	84.20	229	*i* P	P	16 40 01.7	-2.4
WRA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LBL	Lubilhac	84.30	3	*e*P	P	16 40 05.7	+1.1
RSP	Reno Superiore	84.43	360	P	P	16 40 06.4	+1.1
LFF	La Frestale	84.50	4	*e*P	P	16 40 05.8	+0.2
	comp=Z,110nm,0.9s,mb5.7						
LFF	La Frestale	84.50	4	*e*P	P	16 40 05.8	+0.2
LFF				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.7						
LFF	La Frestale	84.50	4	*e*P	P	16 40 05.8	+0.2
	comp=Z,55nm,0.9s,mb5.7						
BNI	Bardonecchia	84.53	0	*e*P	P	16 40 07.3	+1.5
BNI				pmax	pmax		
	comp=Z,140nm,1.0s,mb6.0						
BNI	Bardonecchia	84.53	0	*e*P	P	16 40 07.2	+1.4
	comp=Z,142nm,0.9s,mb6.1						
ZIMR		84.56	347	⇓ *i*P	P	16 40 07.0	+1.0
ZIMR		84.56	347	P	P	16 40 07.0	+1.0
CAF	Calviac	84.57	3	*e*P	P	16 40 06.3	+0.3
	comp=Z,67nm,1.0s,mb5.4						
CAF	Calviac	84.57	3	*e*P	P	16 40 06.3	+0.3
CAF				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.4						
CAF	Calviac	84.57	3	*e*P	P	16 40 06.3	+0.3
	comp=Z,33nm,1.0s,mb5.4						
GRSN	GIRESUNGRSN	84.62	337	*i* P	P	16 40 04.2	-2.1
ORIF	Oris-en-Rattie	84.66	1	*e*P	P	16 40 07.4	+0.9
	comp=Z,92nm,1.0s,mb5.5						
ORIF				*e*MLR	MLR		
	comp=Z,271nm,21.8s						
ORIF	Oris-en-Rattie	84.66	1	*e*P	P	16 40 07.4	+0.9
ORIF				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.6						
ORIF	Oris-en-Rattie	84.66	1	*e*P	P	16 40 07.4	+0.9
	comp=Z,46nm,1.0s,mb5.6						
VIVF	Saint-Julien-I	84.71	2	*e*P	P	16 40 07.2	+0.5
	comp=Z,107nm,1.1s,mb5.6						
VIVF	Saint-Julien-I	84.71	2	*e*P	P	16 40 07.2	+0.5
VIVF				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.6						
VIVF	Saint-Julien-I	84.71	2	*e*P	P	16 40 07.2	+0.5
	comp=Z,54nm,1.1s,mb5.6						
VIS	Vishakhapatnam	84.71	291	*e*P	P	16 40 06.4	-0.3
VIS				AMb	AMB	16 40 07.7	
	comp=Z,13nm,1.2s,mb4.9						
ERZM	Erzurum	84.75	334	*i* P	P	16 40 08.1	+1.1
OG22	Abries	84.76	360⇑	*e*P	P	16 40 08.7	+1.7
DIVS	Divcibare	84.80	351	*i* P	P	16 40 07.2	0.0
MBDF	Montbardon	84.86	0	*e*P	P	16 40 08.5	+1.0
	comp=Z,112nm,0.8s,mb5.7						
MBDF	Montbardon	84.86	0	*e*P	P	16 40 08.5	+1.0
MBDF				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.8						
MBDF	Montbardon	84.86	0	*e*P	P	16 40 08.5	+1.0
	comp=Z,56nm,0.8s,mb5.8						
BOYT	Boyabat	84.95	339	*i* P	P	16 40 05.8	-2.1
PVL	Pavlikeni	85.00	347	P	P	16 40 09.0	+0.8
KELT	Kelkit	85.09	336	*i* P	P	16 40 08.1	-0.6
BALT	Daday	85.17	340	*i* P	P	16 40 06.0	-3.0
GSCL	Gusciola	85.18	357	P	P	16 40 10.4	+1.3
	comp=Z,41nm,1.0s,mb5.5						
OG25	Le Caire	85.21	1⇑	*e*P	P	16 40 10.6	+1.4
FNVD	Fontana Vidola	85.34	357	P	P	16 40 11.4	+1.5
FIN	Finale Ligure	85.37	359	P	P	16 40 09.9	-0.1
FIN				pmax	pmax		
	comp=Z,78nm,1.0s,mb5.8						
FIN	Finale Ligure	85.37	359	P	P	16 40 09.9	-0.1
	comp=Z,78nm,1.0s,mb5.8						
BDI	Bagni Di Lucca	85.47	357	P	P	16 40 11.4	+0.9
LASF	Ste Croix	85.47	2	*e*P	P	16 40 11.9	+1.4
	comp=Z,50nm,1.1s,mb5.2						
VMG	Vicchio	85.53	357	P	P	16 40 12.2	+1.3
	comp=Z,70nm,1.0s,mb5.8						
TOUF	Mont Tournerai	85.57	360⇑	*e*P	P	16 40 12.0	+1.0
AUTN	L'Aution	85.59	360⇑	*e*P	P	16 40 12.0	+0.9
SAOF	Saorge	85.59	360⇑	*e*P	P	16 40 11.8	+0.6
SMRF	Simiane la Rot	85.60	1	*e*P	P	16 40 12.2	+1.0
	comp=Z,151nm,1.2s,mb5.8						
SMRF	Simiane la Rot	85.60	1	*e*P	P	16 40 12.2	+1.0
	comp=Z,151nm,1.2s,mb6.1						
MVIF	Mont Vial	85.69	360⇑	*e*P	P	16 40 12.5	+0.9
LUCF	Luceram	85.69	360⇑	*e*P	P	16 40 12.3	+0.7
BNGL	BINGOL	85.70	334	*i* P	P	16 40 07.1	-4.6
SBF	Sospel	85.72	360	*e*P	P	16 40 11.8	0.0
	comp=Z,201nm,0.9s,mb6.0						
SBF	Sospel	85.72	360	*e*P	P	16 40 11.8	0.0
SBF				pmax	pmax		
	comp=Z,101nm,0.9s,mb6.0						
SBF	Sospel	85.72	360	*e*P	P	16 40 11.8	0.0
	comp=Z,101nm,0.9s,mb6.0						
CTKT	Corum	85.73	339	*i* P	P	16 40 12.2	+0.4
PII	Pisa	85.81	357	P	P	16 40 11.9	-0.3
PII				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.8						
PII	Pisa	85.81	357	P	P	16 40 11.9	-0.3
	comp=Z,56nm,1.0s,mb5.8						
PGB	Panagyurishte	85.82	347	P	P	16 40 12.9	+0.6
REVF	Revere	85.84	360	*e*P	P	16 40 13.1	+0.7
CRE	Caprese Michel	85.86	356	P	P	16 40 13.1	+0.6
CRE				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.3						
CRE	Caprese Michel	85.86	356	P	P	16 40 13.1	+0.6
	comp=Z,22nm,1.0s,mb5.3						
VTS	Vitosha	85.91	348	P	P	16 40 12.6	-0.1
VTS	Vitosha	85.91	348	⇓ *i*P	P	16 40 12.2	-0.5
VTS	Vitosha	85.91	348	⇓P	P	16 40 12.2	-0.5
FRF	La Foret Royal	86.02	0	*e*P	P	16 40 13.3	0.0
	comp=Z,127nm,1.2s,mb5.7						
FRF	La Foret Royal	86.02	0	*e*P	P	16 40 13.3	0.0
FRF				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.7						
FRF	La Foret Royal	86.02	0	*e*P	P	16 40 13.3	0.0
	comp=Z,64nm,1.2s,mb5.7						
CSNT	Castellina Chi	86.03	357	P	P	16 40 12.9	-0.4
	comp=Z,72nm,1.2s,mb5.8						
DIM	Dimitrovgrad	86.11	346	P	P	16 40 14.3	+0.6
MTLF	Montolieu	86.15	3	*e*P	P	16 40 13.6	-0.3
	comp=Z,53nm,1.3s,mb5.3						
MTLF	Montolieu	86.15	3	*e*P	P	16 40 13.6	-0.3
MTLF				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.3						
MTLF	Montolieu	86.15	3	*e*P	P	16 40 13.6	-0.3
	comp=Z,26nm,1.3s,mb5.3						
SNTG	Esanatoglia	86.18	356	P	P	16 40 14.5	+0.5
	comp=Z,22nm,0.7s,mb5.5						
SJPF	Ste Jean	86.20	6	*e*P	P	16 40 15.9	+1.7
	comp=Z,6.9nm,0.6s,mb4.7						
SJPF	Ste Jean	86.20	6	*e*P	P	16 40 15.9	+1.7
SJPF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
SJPF	Ste Jean	86.20	6	*e*P	P	16 40 15.9	+1.7
	comp=Z,3.5nm,0.6s,mb4.8						
LMR	La Mourre	86.25	0	*e*P	P	16 40 14.6	+0.2
	comp=Z,95nm,1.2s,mb5.6						
LMR	La Mourre	86.25	0	*e*P	P	16 40 14.6	+0.2
LMR				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.6						
LMR	La Mourre	86.25	0	*e*P	P	16 40 14.6	+0.2
	comp=Z,48nm,1.2s,mb5.6						
GRFL	Gerfalco	86.37	357	P	P	16 40 15.2	+0.2
	comp=Z,42nm,1.0s,mb5.6						
EPF	Esparros	86.38	5	*e*P	P	16 40 14.8	-0.2
	comp=Z,17nm,0.8s,mb5.0						
EPF	Esparros	86.38	5	*e*P	P	16 40 14.8	-0.2
EPF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
EPF	Esparros	86.38	5	*e*P	P	16 40 14.8	-0.2
	comp=Z,8.6nm,0.8s,mb5.0						
ETSF	Etsaut	86.46	5	*e*P	P	16 40 16.1	+0.7
	comp=Z,18nm,0.8s,mb5.0						
ETSF	Etsaut	86.46	5	*e*P	P	16 40 16.1	+0.7
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
ETSF	Etsaut	86.46	5	*e*P	P	16 40 16.1	+0.7
	comp=Z,8.9nm,0.8s,mb5.0						
SKO	Skopje	86.74	349	*e*pP	pP	16 40 13.8	-6.3
MMB	Musomiste	86.82	347	P	P	16 40 18.0	+0.8
BR131	Keskin Array S	86.85	340	*e*P	P	16 40 17.2	-0.1
	comp=Z,5.4nm,0.8s,mb4.8						
BRTR	Keskin Array B	86.85	340	P	P	16 40 17.1	-0.2
	comp=Z,3.5nm,0.8s,mb4.7,baz=25,slow=3.3,SNR=13						
BRTR	Keskin Array B	86.85	340	*i* P	P	16 40 17.8	+0.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STIP	Stip	86.92	349	*i* P	P	16 40 14.9	-2.8
STIP				*e*pP	pP	16 40 18.0	-3.0
PCAB	Cabril	86.96	11	*e*P	P	16 40 15.6	-2.3
	comp=Z,23nm,1.5s,mb5.2						
PBRG	Braganca	87.01	10	*e*P	P	16 40 16.5	-1.6
	comp=Z,16nm,1.3s,mb5.1						
PGF	Pioggiola	87.02	358	*e*P	P	16 40 18.2	0.0
	comp=Z,12nm,1.1s,mb5.7						
PGF	Pioggiola	87.02	358	*e*P	P	16 40 18.2	0.0
PGF				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.7						
PGF	Pioggiola	87.02	358	*e*P	P	16 40 18.2	0.0
	comp=Z,56nm,1.1s,mb5.7						
MALT	Malatya	87.03	336⇑	*i*P	P	16 40 19.3	+1.1
MALT	Malatya	87.03	336	*e*P	P	16 40 18.8	+0.5
	comp=Z,16nm,1.2s,mb5.1						
VAY	Valandovo	87.24	348	*i* P	P	16 40 16.2	-3.0
VAY				*e*pP	pP	16 40 18.8	-3.8
ULDT	Uludag	87.36	343	*i* P	P	16 40 14.9	-5.0
ASAR	Alice Springs	87.60	227	P	P	16 40 18.7	-2.3
	comp=Z,2.1nm,1.0s,mb4.3,baz=24,slow=4.6,SNR=15						
ASAR	Alice Springs	87.60	227	P	P	16 40 18.7	-2.3
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OHR	Ohrid	87.66	350	*e*P	P	16 40 18.3	-3.0
OHR				*e*pP	pP	16 40 21.2	-3.4
HYB	Hyderabad	87.74	295	*i* P	P	16 40 22.0	+0.4
HYB	Hyderabad	87.74	295	*e*P	P	16 40 21.0	-0.6
GZT	Gaziantep	88.16	336	*i* P	P	16 40 21.9	-1.8
MTE	Manteigas	88.31	11	*e*P	P	16 40 22.0	-2.3
	comp=Z,29nm,5.0s						
MANT	Manisa	89.07	343	*i* P	pP	16 40 41.1	+10
ESDC	Sonseca Array	89.41	8	P	P	16 40 28.8	-0.7
	comp=Z,7.4nm,0.9s,mb5.0,baz=351,slow=4.5,SNR=32						
ESLA	Sonseca Array	89.41	8	*e*P	P	16 40 28.9	-0.6
	comp=Z,3.0nm,1.0s,mb4.6						
KAD	Karad	90.31	298	*e*P	P	16 40 33.4	-0.4
KAD				AMb	AMB	16 40 34.2	
	comp=Z,27nm,1.4s,mb5.4						
SDV	Santo Domingo	90.98	75	*e*P	P	16 40 35.8	-1.1
	comp=Z,2.5nm,0.6s,mb4.7						
STKA	Stephens Creek	91.50	217	P	P	16 40 38.0	-1.3
	comp=Z,2.7nm,0.8s,mb4.6,baz=21,slow=7.8,SNR=6.6						
OTAV	Otavalo	92.78	86	*e*P	P	16 40 45.3	+0.1
	comp=Z,8.0nm,1.0s,mb5.1						
KEST	Kesra	93.81	358	P	P	16 40 49.0	-1.0
	comp=Z,2.5nm,1.1s,mb4.6,baz=277,slow=4.4,SNR=4.6						
ARQ	Araqi	94.20	315	P	P	16 40 51.5	-0.3
SNR=7.8							
BSY	Bisya	94.41	315	P	P	16 40 52.5	-0.2
SNR=5.1							
MDT	Midelt	96.13	10	P	P	16 40 59.4	-1.1
	comp=Z,5.0nm,0.9s,mb4.9,baz=345,slow=6.3,SNR=8.4						
TORD	Torodi Ar. Bea	116.17	6	PKP	PKPdf	16 46 13.7	-2.3
	comp=Z,2.1nm,1.0s,baz=342,slow=2.8,SNR=6.2						
TORD				PKKPbc	PKKPbc	16 56 41.8	-3.8
	comp=Z,0.7nm,0.7s,baz=191,slow=5.6,SNR=3.9						
KMBO	Kilima Mbogo	124.23	322	PKP	PKPdf	16 46 31.1	-0.4
	comp=Z,2.7nm,0.9s,baz=207,slow=2.3,SNR=3.5						
KMBO	Kilima Mbogo	124.23	322	PKIKP	PKPdf	16 46 31.1	-0.4
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP	Villa Florida	126.07	88	PKP	PKPdf	16 46 33.5	-1.5
	comp=Z,0.6nm,0.4s,baz=329,slow=0.7,SNR=3.7						
CPUP	Villa Florida	126.07	88	PKIKP	PKPdf	16 46 33.5	-1.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PLCA	Paso Flores	127.40	111	PKP	PKPdf	16 46 35.5	-2.1
	comp=Z,4.5nm,1.0s,baz=7.7,slow=3.8,SNR=5.4						
PLCA	Paso Flores	127.40	111	PKIKP	PKPdf	16 46 35.5	-2.1
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
QSPA	South Pole Qui	140.56	180	*e*PKPpre		16 46 51.3	
QSPA				*e*PKPdf	PKPdf	16 47 01.2	-0.9
TSUM	Tsumeb	147.35	341	*e*PKPdf	PKPdf	16 47 15.7	+1.7
MAW	Mawson	148.19	217	PKPbc	PKPbc	16 47 16.1	-2.6
	comp=Z,24nm,1.0s,baz=96,slow=2.5,SNR=33						
MAW	Mawson	148.19	217	*e*PKPdf	PKPdf	16 47 13.6	-1.8
MAW				*e*PKPbc	PKPbc	16 47 16.1	-2.6
LBTB	Lobatse	150.49	324	*e*PKIKP	PKPdf	16 47 19.1	0.0
LBTB				*e*		16 47 23.5	
LBTB				*e*		16 47 31.6	
BOSA	Boshof	153.85	321	PKPbc	PKPbc	16 47 29.9	-2.1
	comp=Z,5.8nm,1.0s,baz=18,slow=6.4,SNR=3.2						
BOSA				PKPab	PKPab	16 47 45.2	+0.2
	comp=Z,13nm,1.0s,baz=26,slow=4.7,SNR=7.4						
SNAA	Sanae	158.60	172	PKPab	PKPab	16 48 01.3	-4.2
	comp=Z,1.0nm,0.8s,baz=188,slow=7.2,SNR=5.4						
SNAA	Sanae	158.60	172	PKP2	PKPab	16 48 01.3	-4.2
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

CSEM ***12*** *16:47:07.4±0.7, 3777N×2548W, h4km±1km, ML2.6, Error ellipse: s-maj=1.3km s-min=1.1km az=69.0, After PDA*
PDA ***12*** *16:47:07.4±0.7, 3777N×2548W, h4km±1km, MD2.5, ML2.6, Error ellipse: s-maj=1.3km s-min=1.1km az=69.0*
SVSA 12 16:47:07.4±0.7, 3777N×2548W, h4km±1km, MD2.5, ML2.6, Error ellipse: s-maj=1.3km s-min=1.1km az=69.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFA	Lagoa do Fogo	0.01	307	*i* P	Pg	16 47 08.6	+0.5
MESC	Monte Escuro	0.04	46	*i* P	Pg	16 47 08.8	+0.5
MESC				*i* S	Sg	16 47 10.2	+1.2
MESC	Monte Escuro	0.04	46	*i* S	Sg	16 47 10.2	+1.2
VIF	Vila Franca	0.04	129	*i* P	Pg	16 47 08.8	+0.4
VIF				*i* S	Sg	16 47 10.2	+1.1
VIF							
	3μm,0.2s						
VIF	Vila Franca	0.04	129	*i* S	Sg	16 47 10.2	+1.1
PRCH	Ribeira Ch	0.04	183	*i* P	Pg	16 47 08.8	+0.4
PRCH				*i* S	Sg	16 47 09.9	+0.7
PRCH							
	15μm,0.3s						
PRCH	Ribeira Ch	0.04	183	*i* S	Sg	16 47 09.9	+0.7
PVER	Pico Vermelho	0.04	314	*i* P	Pg	16 47 08.8	+0.4
PVER				*i* S	Sg	16 47 10.0	+0.8
PVER							
	7μm,0.2s						
PVER	Pico Vermelho	0.04	314	*i* S	Sg	16 47 10.0	+0.8
PMAT	Coroa da Mata	0.05	6	*i* P	Pg	16 47 09.0	+0.5
PMAT				*i* S	Sg	16 47 10.1	+0.8
PMAT							
	1μm,0.2s						
PMAT	Coroa da Mata	0.05	6	*i* S	Sg	16 47 10.1	+0.8
CML	Cha da Macela	0.06	272	*i* P	Pg	16 47 09.3	+0.7
PCNG	Congro	0.06	92	*i* P	Pg	16 47 09.3	+0.5
PCNG				*i* S	Sg	16 47 11.1	+1.3
PCNG							
	1μm,0.3s						
PCNG	Congro	0.06	92	*i* S	Sg	16 47 11.1	+1.3
FRA1	Furnas	0.10	105	*i* P	Pg	16 47 10.1	+0.7
FRA1				*i* S	Sg	16 47 12.3	+1.5
FRA1	Furnas	0.10	105	*i* S	Sg	16 47 12.3	+1.5
FAC	Faja de Cima	0.14	272	*e*P	Pg	16 47 11.0	+0.9
FAC				*e*S	Sg	16 47 13.5	+1.5
PFAD	Fenais da Ajud	0.14	60	*i* P	Pg	16 47 11.0	+0.8
PDA	Ponta Delgada	0.15	261	*i* P	Pg	16 47 11.0	+0.7
MIRA	Miradouro	0.16	84	*e*P	Pg	16 47 11.2	+0.7
PSET	Sete Cidades	0.20	286	*e*P	Pg	16 47 12.0	+0.7
PSET				*e*S	Sg	16 47 15.5	+1.6
PSET							
	657nm,0.3s						
PSET	Sete Cidades	0.20	286	*e*P	Pg	16 47 12.0	+0.7
PSET				*e*S	Sg	16 47 15.5	+1.6
PSAN	Santo Antonio	0.21	293	*e*P	Pg	16 47 12.4	+0.8
PSAN				*e*S	Sg	16 47 14.9	+0.5
PFET	Feteiras	0.25	281	*e*P	Pg	16 47 12.5	+0.2
PFET				*e*S	Sg	16 47 16.7	+1.1

IDC 12 16:49:11.4±3.8, 2075N×12063E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=313.2km s-min=26.4km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.51	319	P	P	16 56 52.0	0.0
	0.5nm,0.7s,baz=105,slow=7.6,SNR=6.0						
WRA	Warramunga Arr	42.61	161	P	P	16 57 09.8	+0.6
	1.1nm,0.6s,baz=342,slow=9.1,SNR=11						
ASAR	Alice Springs	46.00	163	P	P	16 57 36.2	-0.2
	0.4nm,0.9s,baz=350,slow=7.6,SNR=8.7						

BGS ***12*** *17:08:12.7, 39.18N×5564E, h43km, mb5.3*
CRAAG ***12*** *17:08:15.4, 3994N×5507E, Mb5.4*
MOS ***12*** *17:08:17.2±1.1, 3995N×5477E, h28km, mb5.7/123, MS4.5/52, Error ellipse: s-maj=4.4km s-min=2.5km az=37.4*
ISCJB ***12*** *17:08:18.8±0.1, 3983N±002×5473E±001, h43km, mb5.4/283, MS4.8/79, Error ellipse: s-maj=2.9km s-min=1.4km az=6.4*
CSEM ***12*** *17:08:18.9±0.0, 3987N×5468E, h42km, mb5.5/99, Ms4.7, Mw5.3, Error ellipse: s-maj=1.9km s-min=1.2km az=166.0*
BJI ***12*** *17:08:18.5, 4001N×5483E, h28km, mB5.5, mb5.4, Ms5.0, Msz4.8*
IDC ***12*** *17:08:20.3±0.4, 3979N×5472E, h42km±3km, mb4.9/24, mb1 5.1/30, mb1mx5.1/31, mbtmp5.2/30, ML4.7/4, MS4.6/19, Ms1 4.6/19, ms1mx4.4/33, Error ellipse: s-maj=10.4km s-min=7.7km az=3.0*
GCMT ***12*** *17:08:20.4±0.2, 3975N×5466E, h49km±1km, MW5.3/84, Moment Tensor Solution. s65,c106; s84,c160; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.73±.02; Mθθ-0.88±.02; Mφφ0.14±.02; Mrθ0.63±.02; Mφθ0.24±.01; Mφr-0.26±.01; Best double couple: M01.07700×1017 NP1:φ273.00000°, δ26.00000°, λ74.00000°. NP2:φ110.00000°, δ65.00000°, λ98.00000°. Principal axes: T 0.9850, Plg69.0000°, Azm36.0000°; N 0.1860, Plg7.0000°, Azm287.0000°; P -1.1700, Plg20.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SFS ***12*** *17:08:20.0, 3981N×5467E, h42km, ML5.5*
NEIC ***12*** *17:08:20.4±0.2, 3980N×5473E, mb5.5/173, MS5.2/36, Error ellipse: s-maj=4.1km s-min=2.4km az=177.0*
NEIC Felt at Balkanabat.
NNC ***12*** *17:08:27.0±8.2, 4048N×5579E, h8km±135km, mb5.0, Error ellipse: s-maj=130.8km s-min=23.8km az=45.0*
SZGRF ***12*** *17:08:32.4, 4034N×5321E, h47km, mb5.4, Turkmenistan*
**ISC 12 17:08:20.7±0.1, 3987N±002×5475E±001, h45km, h45km±.6km:pP-P, n1211, σ1§00/1255, mb

ONI Oni 8.93 291 P **Pn 17 10 29.1 +1.9**
ONI S **Sn 17 12 23.1 +17**
CUKT Cukurca 9.11 257 *e*P **Pn 17 10 30.6 +1.0**
MSL Mosul 9.86 252 *i* x x 17 10 40.0
MSL *ex* x 17 12 29.0
KIV Kislovodsk 9.87 298 Pn **Pn 17 10 38.9 -1.1**
comp=N,4μm,0.7s,SNR=71
KIV Kislovodsk 9.87 298 P **Pn 17 10 38.4 -1.6**
SNR=35
KIV Kislovodsk 9.87 298*c i*P **Pn 17 10 38.1 -1.9**
KIV *e*S **Sn 17 12 22.9 -6.5**
KIV pmax pmax
comp=Z,321nm,1.0s
KIV MLR MLR
comp=Z,332nm,8.0s
KIV Kislovodsk 9.87 298 *e*Pn **Pn 17 10 38.1 -1.9**
comp=Z,536nm,0.6s
KIV *e*Sn **Sn 17 12 22.6 -6.9**
KIV Kislovodsk 9.87 298 *e*Pn **Pn 17 10 38.1 -1.9**
comp=Z,536nm,0.6s
KIV *e*Sn **Sn 17 12 22.6 -6.8**
SIRT Sirnak 9.91 260 *e*P **Pn 17 10 40.8 +0.3**
BCA Borcka 10.10 283 *e*P **Pn 17 10 43.9 +0.9**
ERZM Erzurum 10.29 274 *i* P **Pn 17 10 48.0 +2.3**
EZM Erzurum 10.29 274 *e*P **Pn 17 10 48.2 +2.6**
BTMT Batman 10.45 265 *e*P **Pn 17 10 48.9 +1.0**
BNGL BINGOL 10.56 269 *i* P **Pn 17 10 50.9 +1.5**
BHD Baghdad 10.62 235 *ex* x 17 10 44.0
BHD *ex* x 17 12 40.0
BHD *ex* x 17 15 09.0
AKTK Aktyubinsk 10.81 11 P **Pn 17 10 51.7 -1.2**
AKTK S **Sn 17 12 47.1 -5.3**
AKTK LR LR 17 16 09.6
AKTK Aktyubinsk 10.81 11 P **Pn 17 10 52.4 -0.5**
comp=Z,47nm,0.6s
AKTK S **Sn 17 12 48.0 -4.5**
comp=Z,322nm,0.9s
AKTO Aktyubinsk 10.81 11 P **Pn 17 10 51.7 -1.2**
comp=Z,42nm,0.3s,baz=202,slow=12,SNR=368
AKTO S **Sn 17 12 47.1 -5.3**
comp=Z,67nm,0.3s,baz=42,slow=16,SNR=8.3
AKTO LR LR 17 16 09.6
comp=Z,7μm,19.8s,baz=201,slow=43
AKTO Aktyubinsk 10.81 11 P **Pn 17 10 52.4 -0.5**
AKTO 17 12 48.0
AKTO pmax pmax
comp=Z,47nm,0.6s
AKTO smax
comp=N,322nm,0.9s
AKTO Aktyubinsk 10.81 11 Pn **Pn 17 10 51.8 -1.1**
comp=N,11nm,0.8s
AKTO Sn **Sn 17 12 47.0 -5.5**
comp=N,40nm,0.8s
BINT Bingol 11.09 269 *e*P **Pn 17 10 57.4 +0.9**
TAS Tashkent 11.16 78 *e*P **Pn 17 10 56.5 -1.1**
MARD Mardin 11.23 261 *i* P **Pn 17 10 59.3 +0.8**
KTUT Trabzon 11.48 280 *e*P **Pn 17 11 03.4 +1.5**
EZC Erzincan 11.49 274 *e*P **Pn 17 11 08.1 +6.0**
MIB Mutribah 11.73 213 *e*P **Pn 17 11 03.8 -1.6**
ORR Orenburg 11.75 0 *e*P **Pn 17 11 03.1 -2.6**
ORR S **Sn 17 13 08.0 -7.4**
ORR pmax pmax
comp=Z,360nm,0.5s
KELT Kelkit 11.89 276 *i* P **Pn 17 11 08.2 +0.7**
PTK Pertek 11.93 270 *e*P **Pn 17 11 09.0 +0.9**
KBD Kabd 12.14 211 *e*P **Pn 17 11 09.5 -1.5**
RST Umm Al-Ruwaisa 12.14 214 *e*P **Pn 17 11 08.8 -2.2**
NAY Al-Naaiem 12.26 213 *e*P **Pn 17 11 10.7 -2.0**
ELZG Elazig 12.31 269 *i* P **Pn 17 11 08.9 -4.4**
RDF Al-Radifah 12.42 211 *e*P **Pn 17 11 12.5 -2.4**
QRN Al-Qurain 12.44 209 *e*P **Pn 17 11 13.0 -2.1**
GRSN GIRESUNGRSN 12.61 280 *i* P **Pn 17 11 17.3 -0.1**
URFA Urfa 12.69 264 *e*P **Pn 17 11 18.1 -0.3**
MALT Malatya 12.78 268⇑P **Pn 17 11 22.8 +3.1**
MALT Malatya 12.78 268 *e*P **Pn 17 11 20.3 +0.6**
MALT pmax pmax
comp=Z,50nm,1.0s
MALT Malatya 12.78 268 *e*Pn **Pn 17 11 20.3 +0.6**
comp=Z,50nm,1.0s
MALT Malatya 12.78 268 *e*Pn **Pn 17 11 20.3 +0.6**
comp=Z,50nm,1.0s
JHLN Al Jahlan 13.56 257 ⇑P **Pn 17 11 40.1 +10**
SVSK Karacayir 13.63 276 *e*P **Pn 17 11 31.4 +0.1**
GZT Gaziantep 13.67 265 *i* P **Pn 17 11 30.2 -1.7**
ANN Anapa 13.72 297 *e*P **Pn 17 11 34.2 +1.7**
ANN *e*S **Sn 17 14 10.7 +7.3**
ANN pmax pmax
comp=Z,140nm,0.9s
ANN MLR MLR
comp=Z,1μm,18.0s
SLMH Al Salmeh 13.75 260 ⇑P **Pn 17 11 42.0 +9.1**
GAZ Gaziantep 13.99 264 *e*P **Pn 17 11 42.9 +6.7**
KMRS Kahramanmaras 14.14 266 *e*P **Pn 17 11 35.0 -3.3**
KVT Kavak 14.29 281 *e*P **Pn 17 11 43.9 +3.6**
AML Almayashu 14.49 75 P **Pn 17 11 40.9 -2.0**
SNR=20
VRHR Novokhopersk 14.49 325 *e*P **Pn 17 11 40.1 -2.9**
VRHR *e*S **Sn 17 14 12.1 -10**
VRHR pmax pmax
comp=Z,200nm,0.7s
VRHR pmax pmax
comp=N,130nm,0.9s
VRHR pmax pmax
comp=E,90nm,0.6s
VRHR smax
comp=N,1μm,1.5s
VRHR smax
comp=Z,760nm,0.7s
VRHR smax
comp=E,2μm,0.9s
VRHR MLR MLR
comp=Z,1μm,11.0s
VRHR MLR MLR
comp=N,360nm,6.0s
VRHR MLR MLR
comp=E,370nm,9.0s
EKS2 Erkin-Say 14.58 73 P **Pn 17 11 41.8 -2.4**
SNR=338
BNN Bunyan 14.66 272 *e*P **Pn 17 11 45.8 +0.5**
DIKM Dikmen 14.88 283 *e*P **Pn 17 11 46.5 -1.6**
COBT Iskenderun 14.92 263 *i* P **Pn 17 11 47.1 -1.5**
YOZ Yozgat 14.95 275 *e*P **Pn 17 11 53.2 +4.2**
KOZT Kozan 14.97 267 *e*P **Pn 17 11 49.1 -0.2**
CEP Cherat 15.00 108 P **Pn 17 11 45.7 -3.9**
CEP S **Sn 17 14 43.0 +8.5**
SBDP Sheikh Budin 15.01 115 P **Pn 17 11 55.1 +5.3**
ROOS tl_alroos 15.05 253 ⇑P **Pn 17 11 48.6 -1.7**
UCH Uchtor 15.10 75 P **Pn 17 11 48.7 -2.3**
SNR=166
AAK Ala-Archa 15.11 73 P **Pn 17 11 48.9 -2.1**
SNR=222
AAK Ala-Archa 15.11 73 Pn **Pn 17 11 48.5 -2.6**
comp=E,1μm,0.6s
AAK Ala-Archa 15.11 73 P **Pn 17 11 48.4 -2.7**
SNR=156
AAK Ala-Archa 15.11 73 *e*P **Pn 17 11 47.8 -3.3**
AAK pmax pmax
comp=Z,150nm,0.7s
AAK Ala-Archa 15.11 73 *e*Pn **Pn 17 11 47.8 -3.3**
comp=Z,147nm,0.6s
AAK Ala-Archa 15.11 73 *e*Pn **Pn 17 11 47.8 -3.3**
comp=Z,147nm,0.6s
HTY Hatay 15.14 262 *e*P **Pn 17 11 55.2 +3.7**
BOYT Boyabat 15.15 282 *i* P **Pn 17 11 51.3 -0.3**
CEYT Ceyhan 15.16 265 *e*P **Pn 17 11 52.4 +0.7**
USP Ospenovka 15.17 71 P **Pn 17 11 49.0 -2.9**
SNR=90
ASHO Ashiyiah 15.18 175 P **Pn 17 11 53.0 +0.9**
SNR=15
FRU Bishkek 15.21 72 *e*P **Pn 17 11 50.0 -2.4**
FRU *e*S **S 17 14 42.0 -13**
FRU pmax pmax
comp=Z,450nm,1.0s
FRU MLR MLR
comp=Z,6μm,12.0s
BYBT Boyabat 15.25 282 *e*P **Pn 17 11 55.3 +2.4**
CTKT Corum 15.26 279 *i* P **Pn 17 11 55.0 +1.9**
CHMS Chumysh 15.32 72 P **Pn 17 11 51.5 -2.4**
SNR=174
THW Thamme Wali 15.40 112 ⇓P **Pn 17 11 53.6 -1.2**
CORM Corum 15.42 278 *e*P **Pn 17 11 54.2 -0.9**
KBK Karagaybulak 15.44 73 P **Pn 17 11 53.9 -1.6**
SNR=205
KRTS Karatas 15.58 264 *e*P **Pn 17 11 57.8 +0.6**

KARA Karaisali 15.62 267 *e*P **Pn 17 11 58.9 +1.2**
ZALF Zalf 15.63 249⇑P **Pn 17 11 58.0 +0.2**
KZA Kyzart 15.64 75 P **Pn 17 11 56.5 -1.5**
SNR=14
FKH Fakeheh 15.68 255 *e*P **Pn 17 12 02.4 +3.9**
VRSR Storozhevoye 15.70 321*c i*P **Pn 17 11 55.1 -3.6**
VRSR pmax pmax
comp=Z,340nm,1.2s
VRSR pmax pmax
comp=N,720nm,1.1s
VRSR pmax pmax
comp=E,640nm,0.8s
VRSR MLR MLR
comp=N,730nm,17.0s
VRSR MLR MLR
comp=Z,2μm,17.0s
VRSR MLR MLR
comp=E,1μm,19.0s
MARH Ras Al Marh 15.71 254⇑P **Pn 17 12 04.2 +5.2**
BZK Bozkurt 15.82 284 *e*P **Pn 17 11 58.5 -1.8**
TOS Tosya 15.82 281 *e*P **Pn 17 11 60.0 -0.3**
TKM2 Tokmak 2 15.94 72 P **Pn 17 11 59.7 -2.1**
SNR=79
TKM2 Tokmak 2 15.94 72⇓Pn **Pn 17 11 59.7 -2.1**
comp=E,40nm,0.9s
TKM2 ⇓Sn **Sn 17 14 47.1 -10**
comp=E,51nm,1.0s
VOR Voronezh 16.03 323 *e*P **Pn 17 11 59.0 -3.9**
VOR pmax pmax
comp=Z,1μm,1.0s
SIM Simferopol' 16.05 295 *e*P **Pn 17 12 03.0 -0.2**
SIM *e*S **S 17 14 59.0 -13**
SIM pmax pmax
comp=Z,236nm,0.8s
SIM MLR MLR
comp=Z,690nm,22.1s
NIL Nilore 16.07 107 Pn **Pn 17 12 02.1 -1.3**
comp=Z,285nm,0.9s,SNR=11
TOTH TOTAH 16.07 252⇑P **Pn 17 12 07.7 +4.3**
CHCP Chirah Chowk 16.07 107 P **Pn 17 12 01.8 -1.7**
QASN Qassioun 16.10 253⇑P **Pn 17 12 04.2 +0.4**
MERS Mersin 16.14 266 *e*P **Pn 17 12 00.9 -3.5**
CANT Cankiri 16.15 279 *e*P **Pn 17 12 06.9 +2.4**
SALA Sala 16.17 249⇑P **Pn 17 12 03.8 -1.0**
KAMT Kaman 16.22 275 *e*P **Pn 17 12 05.0 -0.4**
BR131 Keskin Array S 16.23 276 *e*Pn **Pn 17 12 04.7 -0.7**
comp=Z,39nm,0.7s
BRTR Keskin Array B 16.23 276 P **Pn 17 12 04.5 -1.0**
comp=Z,0.9nm,0.3s,baz=95,slow=10,SNR=41
BRTR ScP ScP 17 20 28.6 0.0
comp=Z,0.1nm,0.3s,baz=348,slow=2.1,SNR=4.1
BRTR Keskin Array B 16.23 276 *i* P **Pn 17 12 05.0 -0.4**
BRTR pmax pmax
comp=Z,26nm,1.0s
BRTR Keskin Array B 16.23 276 P **Pn 17 12 04.4 -1.0**
BALT Daday 16.28 283 *i* P **Pn 17 12 07.7 +1.5**
ELDT Eldivan 16.31 279 *i* P **Pn 17 12 06.5 +0.1**
ZRNK Zerenda 16.32 32⇑Pn **Pn 17 12 04.4 -2.3**
comp=Z,3.5nm,0.8s
ZRNK ⇑Sn **Sn 17 14 54.4 -12**
comp=Z,706nm,1.0s
ZRNK Zerenda 16.32 32 P **Pn 17 12 04.4 -2.3**
ZRNK 17 14 55.9
ZRNK pmax pmax
comp=Z,3.0nm,0.8s
ZRNK smax
comp=N,3μm,2.4s
ZRNK Zerenda 16.32 32 *e*Pn **Pn 17 12 03.8 -2.9**
comp=N,37nm,0.5s
ZRNK *e*Sn **Sn 17 14 56.8 -10**
ASF Jabal al Asfar 16.34 248 P **Pn 17 12 05.8 -1.1**
comp=N,1.1nm,0.3s,baz=292,slow=3.6,SNR=42
ASF S **S 17 15 14.1 -3.7**
comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=2.1
ASF LR LR 17 20 17.2
comp=N,978nm,20.8s,baz=101,slow=44
ASF Jabal al Asfar 16.34 248 P **Pn 17 12 05.8 -1.1**
ASF S **S 17 15 14.1 -3.8**
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,978nm,20.8s
KSH Kashi 16.34 84⇑P **Pn 17 12 04.7 -2.2**
KSH *e*AP pP 17 12 14.3 -5.5
KSH *e*XP sP 17 12 21.2 -4.4
KSH *e*PP 17 12 24.3
KSH *e*S **S 17 15 00.1 -18**
KSH *e*PS 17 15 08.5
KSH *e*XS sS 17 15 16.9 -18
KSH *e*SS 17 15 23.1
KSH *e*PPP 17 16 59.2
KSH *e*SCP ScP 17 20 29.0 +0.1
KSH *e*PCS PcS 17 20 37.6 +3.8
KSH *e*SCS ScS 17 24 06.8 -1.1
KSH AMB AMB
comp=Z,3μm,6.5s
KSH LR LR
comp=N,1μm,4.7s
KSH LR LR
comp=E,1μm,8.4s
KSH LR LR
comp=Z,11μm,12.3s
ULHL Ulahol 16.38 75 P **Pn 17 12 07.2 -0.2**
SNR=15
BHL Bhannes 16.39 255 *e*P **Pn 17 12 07.1 -0.4**
BRBR Barbar 16.39 253⇑P **Pn 17 12 08.0 +0.4**
RCY Rachaya 16.45 253 *e*P **Pn 17 12 07.9 -0.5**
MEST Erdemli 16.51 265 *i* P **Pn 17 12 06.7 -2.4**
KSDI Kefar Szold 16.71 252 P **Pn 17 12 10.5 -1.1**
ARU Arti 16.76 7⇓*i*P **Pn 17 12 08.1 -4.1**
ARU *e*S **S 17 15 08.2 -18**
ARU pmax pmax
comp=Z,378nm,0.8s
ARU MLR MLR
comp=Z,6μm,21.0s
ARU MLR MLR
comp=N,4μm,22.0s
ARU MLR MLR
comp=E,1μm,19.0s
ARU Arti 16.76 7 *e*Pn **Pn 17 12 08.3 -3.9**
comp=E,321nm,0.7s
ARU *e*Sn **Sn 17 15 05.9 -11**
ARU Arti 16.76 7 *e*Pn **Pn 17 12 08.3 -3.9**
comp=E,321nm,0.7s
ARU *e*Sn **Sn 17 15 05.9 -11**
SAFT Safranbolu 16.82 282 *e*P **Pn 17 12 12.3 -0.6**
ANTO Ankara 16.85 277⇓*i*P **Pn 17 12 14.3 +1.0**
ANTO Ankara 16.85 277 *e*Pn **Pn 17 12 12.8 -0.6**
comp=E,120nm,0.9s
ANTO Ankara 16.85 277 *e*Pn **Pn 17 12 12.8 -0.5**
comp=E,120nm,0.9s
ANTO Ankara 16.85 277 P **Pn 17 12 16.4 +3.1**
SNR=16
WSAR Wadi Sarin 16.90 168 P **Pn 17 12 11.2 -2.7**
comp=E,4.1nm,0.3s,baz=9.8,slow=13,SNR=45
WSAR S **S 17 15 26.2 -3.1**
comp=E,0.1nm,0.3s,baz=187,slow=17,SNR=2.2
WSAR LR LR 17 20 29.6
comp=E,1μm,19.1s,baz=24,slow=43
WSAR Wadi Sarin 16.90 168 P **Pn 17 12 11.2 -2.7**
WSAR S **S 17 15 26.2 -3.1**
BRVK Borovoye 16.94 34 P **Pn 17 12 12.5 -1.9**
SNR=108
BRVK Borovoye 16.94 34 *e*P **Pn 17 12 10.3 -4.1**
BRVK *e* 17 15 08.9
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 16.94 34 *e*Pn **Pn 17 12 10.3 -4.1**
comp=Z,4.5nm,0.9s
BRVK *e*Sn **Sn 17 15 08.9 -13**
BRVK Borovoye 16.94 34 *e*Pn **Pn 17 12 10.3 -4.1**
comp=Z,4.5nm,0.9s
BRVK Borovoye 16.94 34 P **Pn 17 12 12.5 -1.9**
SNR=108
BRVK *e*Sn **Sn 17 15 08.9 -13**
AAA Alma-Ata 16.95 71 *i* P **Pn 17 12 13.6 -0.9**
AAA *e*S **S 17 15 19.6 -11**
AAA pmax pmax
comp=Z,1μm,3.2s
AAA smax
comp=N,492nm,2.7s
AAA MLR MLR
comp=Z,5μm,5.0s
BVA0 Borovoye Array 16.96 34 Pn **Pn 17 12 12.3 -2.3**
comp=Z,118nm,0.9s,baz=211,slow=12,SNR=874

BVA0 ⇓Sn **Sn 17 15 10.5 -12**
comp=Z,114nm,1.0s
BVA0 Borovoye Array 16.96 34 *i* P **Pn 17 12 12.3 -2.3**
BVA0 *i* 17 15 09.8
BVA0 pmax pmax
comp=Z,177nm,1.1s
BVA0 smax
comp=N,79nm,0.8s
BVAR Borovoye Array 16.96 34 P **Pn 17 12 13.5 -1.1**
comp=N,11nm,0.3s,baz=220,slow=11,SNR=138
BVAR S **S 17 15 10.4 -20**
comp=N,23nm,0.3s,baz=227,slow=26,SNR=8.4
BVAR LR LR 17 19 58.0
comp=N,5μm,18.3s,baz=141,slow=41
BVAR Borovoye Array 16.96 34 P **Pn 17 12 13.5 -1.1**
BVAR S **S 17 15 10.4 -20**
BVAR pmax pmax
comp=Z,11nm,0.3s
BVAR smax
comp=N,23nm,0.3s
BVAR MLR MLR
comp=Z,5μm,18.3s
KNDC Almaty 16.96 71⇑Pn **Pn 17 12 13.9 -0.8**
comp=Z,261nm,1.2s
VOSK Vostochnaya 17.01 36⇓Pn **Pn 17 12 12.1 -3.1**
comp=Z,0.8nm,1.0s
VOSK ⇓Sn **Sn 17 15 10.8 -13**
comp=Z,454nm,1.1s
VOSK Vostochnaya 17.01 36 Pn **Pn 17 12 12.1 -3.2**
comp=Z,0.8nm,1.0s
VOSK Sn **Sn 17 15 10.8 -13**
comp=Z,454nm,1.1s
SGKT Sivrigoynuk 17.34 280 *i* P **Pn 17 12 19.1 -0.3**
SVE Sverdlovsk 17.41 11⇑*i*P **Pn 17 12 17.0 -3.2**
SVE *e*S **S 17 15 20.0 -20**
SVE pmax pmax
comp=Z,20nm,2.0s
SVE MLR MLR
comp=E,8μm,8.0s
SVE MLR MLR
comp=Z,1μm,8.0s
ERMK Ermenek 17.44 266 *i* P **Pn 17 12 20.8 +0.2**
CHKZ Chkalovo 17.52 33⇓Pn **Pn 17 12 19.1 -2.5**
comp=Z,365nm,0.9s
CHKZ ⇑Sn **Sn 17 15 25.3 -10**
comp=Z,370nm,0.8s
CHKZ Chkalovo 17.52 33 P **Pn 17 12 20.3 -1.3**
CHKZ 17 15 27.0
CHKZ pmax pmax
comp=Z,5.0nm,0.8s
CHKZ smax
comp=N,414nm,1.1s
CHKZ Chkalovo 17.52 33 *e*Pn **Pn 17 12 19.3 -2.3**
comp=N,12nm,0.5s
CHKZ *e*Sn **Sn 17 15 21.7 -14**
CHKZ Chkalovo 17.52 33 *e*Pn **Pn 17 12 19.3 -2.3**
comp=N,12nm,0.5s
CHKZ Sn **Sn 17 15 25.3 -10**
comp=N,370nm,0.8s
KONT Konya--Tatoy 17.53 271 *e*P **Pn 17 12 22.5 +0.8**
KDHN Kadinhani 17.59 273 *i* P **Pn 17 12 21.6 -0.9**
CSS Prodhromos 17.69 261 *e*P **Pn 17 12 22.2 -1.5**
KDZE Karadeniz Ereo 17.75 282 *e*P **Pn 17 12 32.6 +8.1**
PECR Pechory 17.90 340 *e*P **Pn 17 12 23.6 -2.6**
PECR MLR MLR
comp=E,2μm,10.0s
HENT Hendek 18.20 281 *i* P **Pn 17 12 29.9 +0.1**
ESKT Eskisehir 18.39 277 *e*P **Pn 17 12 32.1 -0.1**
THN Thein Dam 18.46 107 *e*P **Pn 17 12 33.0 -0.1**
THN *e*S **S 17 15 56.6 -4.4**
DLH Dalhousie 18.59 107 *e*P **Pn 17 12 32.0 -2.7**
ISP Isparta 18.97 272 *e*P **Pn 17 12 40.2 +0.9**
ISP Isparta 18.97 272 *e*P **Pn 17 12 39.7 +0.4**
ISP pmax pmax
comp=Z,120nm,0.9s
TKTP Tekketepe 19.07 272 *i* P **Pn 17 12 39.4 -1.1**
ADVT Abdulvahap 19.11 280 *e*P **Pn 17 12 40.1 -0.8**
OSMT Osmaniye 19.12 280 *e*P **Pn 17 12 34.2 -6.9**
HRT Hereke 19.13 281 *e*P **Pn 17 12 38.4 -2.7**
EIL Elat 19.14 244⇓*e*P **Pn 17 12 40.5 -0.9**
comp=Z,2μm,0.8s
EIL *e*pP pP 17 12 51.5 +0.7
EIL Elat 19.14 244⇓*e*P **Pn 17 12 40.5 -0.8**
comp=Z,2μm,0.8s
EIL *e*pP pP 17 12 51.5 +0.7
IZI Iznik 19.33 280 *e*P **Pn 17 12 43.1 -0.4**
YLV Yalova 19.38 280 *e*P **Pn 17 12 41.2 -2.9**
OBN Obninsk 19.49 328 P **Pn 17 12 43.3 -2.1**
comp=Z,3μm,0.5s,SNR=34
OBN Obninsk 19.49 328*d i*P **Pn 17 12 43.1 -2.3**
OBN *i* S **S 17 16 10.8 -11**
OBN pmax pmax
comp=Z,365nm,1.0s
OBN MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 19.49 328⇓*e*P **Pn 17 12 42.9 -2.5**
comp=Z,333nm,0.6s
OBN *e*pP pP 17 12 52.2 -2.4
OBN Obninsk 19.49 328⇓*e*P **Pn 17 12 42.9 -2.5**
comp=Z,333nm,0.6s
OBN *e*pP pP 17 12 52.2 -2.4
BHK Bhakra 19.49 109 *e*P **Pn 17 12 46.2 +0.7**
GDZ Gediz 19.51 276 *i* P **Pn 17 12 42.9 -2.7**
MOS Moscow 19.52 330 *e*P **Pn 17 12 44.4 -1.4**
MOS *i* S **S 17 16 11.1 -11**
MOS pmax pmax
comp=Z,466nm,0.9s
MOS pmax pmax
comp=Z,700nm,1.1s
GEMT Gemlik 19.53 280 *e*P **Pn 17 12 44.6 -1.3**
ULDT Uludag 19.61 279 *i* P **Pn 17 12 45.4 -1.5**
ELL Elmali 19.72 269 *e*P **Pn 17 12 48.2 0.0**
GOLH Golhisar 19.86 270 *i* P **Pn 17 12 49.5 -0.2**
KURK Kurchatov 19.90 49 Pn **Pn 17 12 50.7 +0.4**
comp=Z,1μm,1.0s,SNR=84
TIRR Tirgusor 20.02 292 *e*P **P 17 12 49.2 -0.4**
TIRR pmax pmax
comp=Z,183nm,0.8s
TIRR Tirgusor 20.02 292 *e*P **P 17 12 49.2 -0.4**
comp=Z,183nm,0.8s
TIRR Tirgusor 20.02 292 *e*P **P 17 12 49.2 -0.4**
comp=Z,183nm,0.8s
KIS Kishinev 20.07 299*c i*P **P 17 12 48.0 -2.3**
KIS *i* 17 13 06.0
KIS *i* S **S 17 16 28.0 -5.3**
KIS pmax pmax
comp=Z,2μm,1.0s
KIS smax
comp=E,2μm,4.0s
KIS MLR MLR
comp=Z,2μm,15.0s,MS4.5
KIS MLR MLR
comp=E,700nm,17.0s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS Kishinev 20.07 299⇑*i*P **P 17 12 48.0 -2.3**
comp=Z,2μm,1.0s
KIS *i* S **S 17 16 28.0 -5.3**
comp=Z,2μm,4.0s
KIS *e*LQ 17 18 44.0
KIS *e*LR LR 17 20 14.0
comp=Z,700nm,17.0s
DENT Denizli 20.13 272 *e*P **P 17 12 50.5 -0.3**
DNZL Cakiroluk 20.14 272 *i* P **P 17 12 57.5 +6.6**
PSN Preselentsi 20.14 290 P **P 17 13 00.4 +9.4**
CFR Carcaliu 20.27 294⇑*i*P **P 17 12 51.7 -0.7**
CFR Carcaliu 20.27 294 P **P 17 12 51.8 -0.6**
HARR Harsova 20.38 292⇑*i*P **P 17 12 53.3 -0.2**
DALT Dalyan (Mudla) 20.70 270 *e*P **P 17 12 54.9 -2.1**
PRD Provadia 20.70 288 P **P 17 12 58.7 +1.6**
AKASG Malin Array Be 20.87 310 P **P 17 12 58.1 -0.8**
comp=Z,119nm,0.5s,baz=107,slow=9.0,SNR=422
AKASG S **S 17 16 45.3 -3.7**
comp=Z,22nm,0.7s,baz=115,slow=20,SNR=5.5
AKASG LR LR 17 23 02.3
comp=Z,2μm,18.2s,MS4.5,baz=110,slow=42
AKASG Malin Array Be 20.87 310 *i* P **P 17 12 58.0 -0.8**
AKASG pmax pmax
comp=Z,119nm,0.5s
AKASG Malin Array Be 20.87 310 P **P 17 12 58.1 -0.7**
AKASG S **S 17 16 45.3 -3.7**
AKBB Malin Array Si 20.87 310⇑*i*P **P 17 12 58.1 -0.7**
AKBB Malin Array Si 20.87 310⇑*i*P **P 17 12 58.0 -0.8**
AYDN Tasoluk 21.04 273 *i* P **P 17 13 00.7 0.0**
MK31 Makanchi Array 21.13 62⇑Pn **P 17 13 03.3 +1.6**

comp=Z,272nm,1.1s,mb5.5,baz=250,slow=11,SNR=626
MK31 ⇑Sn **S** **17 16 51.0 -3.1**
comp=Z,155nm,0.9s
MK31 Makanchi Array 21.13 62 *e*P **P** **17 13 03.0 +1.4**
MK31 Makanchi Array 21.13 62 *e*P **P** **17 13 03.0 +1.4**
MK31 Sn **S** **17 16 51.0 -3.2**
comp=Z,155nm,0.9s
MKAR Makanchi Array 21.13 62 P **P** **17 13 03.1 +1.5**
comp=Z,25nm,0.4s,mb4.9,baz=249,slow=11,SNR=350
MKAR S **S** **17 16 50.9 -3.3**
comp=Z,34nm,1.0s,baz=272,slow=21,SNR=4.0
MKAR LR LR 17 22 04.3
comp=Z,3μm,19.2s,MS4.7,baz=258,slow=39
MKAR Makanchi Array 21.13 62 *i* P **P** **17 13 02.9 +1.3**
MKAR 17 16 51.7
MKAR pmax pmax
comp=Z,16nm,0.4s
MKAR smax
comp=N,102nm,1.1s
MKAR Makanchi Array 21.13 62 P **P** **17 13 03.1 +1.5**
MKAR S **S** **17 16 50.8 -3.4**
CANB Canakkale 21.20 279 *e*P **P** **17 13 03.0 +0.6**
MLSB Milas 21.21 272 *e*P **P** **17 13 01.1 -1.5**
DDI Dehra Dun 21.27 109 *e*P **P** **17 13 03.9 +0.8**
AJM Ajmer 21.28 123 *e*P **P** **17 13 02.8 -0.5**
AJM AMb AMB 17 13 20.0
comp=Z,126nm,1.0s,mb5.2
VRI Vrincioaia 21.33 296 P **P** **17 13 03.9 +0.1**
KDAG Bornova 21.34 275 *i* P **P** **17 13 02.5 -1.4**
IZM Izmir 21.34 275 *e*P **P** **17 13 03.3 -0.7**
PLOR Plostina 21.38 295⇓ *i* P **P** **17 13 04.9 +0.5**
BLCB Balcova 21.52 275 *e*P **P** **17 13 04.7 -1.1**
BLCB Balcova 21.52 275 *e*P **P** **17 13 05.6 -0.2**
DAT Datca 21.52 270 *e*P **P** **17 13 04.3 -1.6**
BDRM Kayabasi 21.53 271 *i* P **P** **17 13 03.3 -2.7**
AYVA Ayvalik 21.60 278 *i* P **P** **17 13 06.4 -0.3**
NDI New Delhi 21.60 114 *e*P **P** **17 13 06.3 -0.4**
NDI AMb AMB 17 13 09.5
comp=Z,155nm,2.0s,mb5.1
NDI *ex* x 17 21 00.0
BODT Bodrum 21.64 271 *e*P **P** **17 13 08.2 +1.1**
BUC1 Bucharest 21.72 291 P **P** **17 13 09.0 +1.0**
SZH Strazhica 21.78 288 *e*P sP 17 13 25.6 +0.5
SZH Strazhica 21.78 288 P **P** **17 13 10.6 +2.0**
EZN Ezine 21.79 279 *e*P **P** **17 13 06.9 -1.8**
ENEZ Enez 21.79 282 *e*P **P** **17 13 08.2 -0.6**
SMG Samos 21.83 273 *e*P **P** **17 13 08.9 -0.3**
MLR Muntele Rosu 21.84 294 P **P** **17 13 10.1 +0.8**
comp=Z,79nm,0.4s,mb5.5,baz=142,slow=3.5,SNR=91
MLR S **S** **17 17 07.6 -0.5**
comp=Z,19nm,0.8s,baz=125,slow=19,SNR=3.9
MLR LR LR 17 23 17.6
comp=Z,1μm,22.0s,MS4.3,baz=74,slow=41
MLR Muntele Rosu 21.84 294⇑ *i*P **P** **17 13 10.1 +0.8**
MLR Muntele Rosu 21.84 294 P **P** **17 13 10.1 +0.8**
MLR S **S** **17 17 07.6 -0.5**
MLR pmax pmax
comp=Z,79nm,0.4s
MLR smax
comp=N,19nm,0.9s
MLR MLR MLR
comp=Z,1μm,22.0s
MLR Muntele Rosu 21.84 294 P **P** **17 13 09.8 +0.5**
ALN Alexandroupoli 21.85 282 *e*P **P** **17 13 08.3 -1.1**
URLA Izmir 21.86 275 *i* P **P** **17 13 06.9 -2.6**
BOZC Bozcaada 21.99 279 *i* P **P** **17 13 09.9 -1.0**
DIM Dimitrovgrad 22.12 285 *e*P **P** **17 13 13.0 +0.7**
DIM Dimitrovgrad 22.12 285 P **P** **17 13 12.0 -0.3**
ZIMR 22.19 289 P **P** **17 13 13.4 +0.4**
KAP Karpathos 22.20 268 *e*P **P** **17 13 13.0 -0.1**
RDO Rodhopi 22.20 283 *e*P **P** **17 13 13.4 +0.2**
RDO Rodhopi 22.20 283 P **P** **17 13 11.9 -1.3**
PVL Pavlikeni 22.22 288 P **P** **17 13 16.1 +2.8**
PVL Pavlikeni 22.22 288 P **P** **17 13 15.9 +2.6**
KDZ Kurdzhali 22.25 284 *e*P pP 17 13 24.9 +0.4
KDZ Kurdzhali 22.25 284 P **P** **17 13 13.9 +0.3**
CHOS Chios island 22.27 275 *e*P **P** **17 13 14.1 +0.2**
MTUR Matau 22.44 294⇓ *i*P **P** **17 13 16.4 +0.7**
MTUR Matau 22.44 294⇓⇓P **P** **17 13 16.4 +0.7**
VOIR 22.47 294⇓ *i*P **P** **17 13 16.4 +0.5**
VOIR 22.47 294⇓⇓P **P** **17 13 16.4 +0.5**
BURAR Bucovina Array 22.60 300⇑ *i*P **P** **17 13 16.6 -0.7**
PLD Plovdiv 22.74 285 *e*P **P** **17 13 19.8 +1.0**
PLD Plovdiv 22.74 285 *e*P pP 17 13 28.4 -1.3
RZN Rozhen 22.76 284 P **P** **17 13 20.0 +0.9**
RZN Rozhen 22.76 284 P **P** **17 13 19.4 +0.3**
APE Apeiranthos 23.00 272 *e*P **P** **17 13 21.8 +0.2**
APE Apeiranthos 23.00 272 *e*P **P** **17 13 23.9 +2.3**
APE Apeiranthos 23.00 272⇑ *i*P **P** **17 13 21.8 +0.2**
ZKR Zakros 23.08 267 *e*P **P** **17 13 23.0 +0.5**
PGB Panagyurishte 23.10 287 P **P** **17 13 23.8 +1.1**
PGB Panagyurishte 23.10 287 P **P** **17 13 23.4 +0.7**
MNK Minsk 23.23 318⇑ *i*P **P** **17 13 18.0 -6.0**
MNK *e*PPP 17 14 04.0
MNK *e*S **S** **17 17 25.0 -7.5**
MNK *e*SS 17 18 10.0
MNK pmax pmax
comp=Z,280nm,1.0s,mb5.7
CRAR CRAIOVA 23.32 291 P **P** **17 13 25.7 +0.8**
LGTI Lohaghat 23.34 109 *e*P **P** **17 13 24.0 -1.0**
NVR Nevrokopi 23.44 284 *e*P **P** **17 13 26.2 +0.2**
OUR Ouranopolis 23.48 281 *e*P **P** **17 13 27.4 +1.0**
NPS Neapolis 23.50 268 *e*P **P** **17 13 26.6 +0.1**
MMB Musomiste 23.51 284 *e*P **P** **17 13 26.7 +0.1**
MMB Musomiste 23.51 284 P **P** **17 13 27.3 +0.6**
LAST Lasithi 23.63 268 *e*P **P** **17 13 28.2 +0.4**
SRS Serrai 23.67 283 *e*P **P** **17 13 29.1 +1.0**
LVV L'vov 23.79 305*c* *i*P **P** **17 13 27.6 -1.6**
LVV *e*S **S** **17 17 45.9 +4.3**
LVV MLR MLR
comp=Z,500nm,15.0s,MS4.1
VTS Vitosha 23.81 287 *e*P **P** **17 13 29.7 +0.4**
VTS Vitosha 23.81 287⇑ *i*P **P** **17 13 30.0 +0.7**
VTS Vitosha 23.81 287⇑P **P** **17 13 30.1 +0.8**
PLG Polygyros 23.88 281 *e*P **P** **17 13 30.8 +0.7**
PLG Polygyros 23.88 281 *e*P **P** **17 13 31.2 +1.1**
SOH Sokhos 23.89 282 *e*P **P** **17 13 30.8 +0.7**
KKB Krupnik 23.96 285 P **P** **17 13 31.2 +0.4**
IDI Anoyia 24.04 269 P **P** **17 13 33.7 +2.2**
GZR Gura Zlata 24.06 294⇑ *i*P **P** **17 13 31.8 +0.1**
GZR Gura Zlata 24.06 294 P **P** **17 13 33.3 +1.6**
GZR Gura Zlata 24.06 294 P **P** **17 13 33.3 +1.6**
HORT Hortiatis 24.11 282 *e*P **P** **17 13 32.8 +0.6**
ATH Athens Observa 24.16 275 *e*P **P** **17 13 33.3 +0.7**
IDID Didziasalis 24.17 319 *i* P **P** **17 13 32.6 -0.1**
IDID AMb AMB 17 13 35.5
comp=Z,40nm,0.9s,mb4.8
IDID Didziasalis 24.17 319 *i* P **P** **17 13 32.6 -0.1**
comp=Z,40nm,0.9s,mb4.8,SNR=50
KNT Kendrikon 24.18 283 *e*P **P** **17 13 33.3 +0.5**
SIVA Sivas 24.20 268 *e*P **P** **17 13 32.6 -0.3**
NVS Novosibirsk 24.20 42⇑ *i*P **P** **17 13 33.0 0.0**
NVS *e*S **S** **17 17 51.8 +3.6**
NVS pmax pmax
comp=Z,409nm,1.6s,mb5.6
NVS pmax pmax
comp=N,200nm,1.5s
NVS smax
comp=N,259nm,1.8s
THE Thessaloniki 24.20 282 *e*P **P** **17 13 32.9 -0.1**
DJES Djerdap 24.23 292 *i* P **P** **17 13 33.7 +0.5**
DJES Djerdap 24.23 292 P **P** **17 13 34.1 +0.9**
XOR Xorichti 24.25 279 *e*P **P** **17 13 32.9 -0.5**
VAY Valandovo 24.41 284 *e*P **P** **17 13 34.8 -0.1**
VAY Valandovo 24.41 284 *i* P **P** **17 13 34.9 +0.1**
IIGN Ignalina 24.45 319 *i* P **P** **17 13 35.6 +0.4**
IIGN AMb AMB 17 13 36.8
comp=Z,56nm,0.7s,mb5.1
IIGN Ignalina 24.45 319 *i* P **P** **17 13 35.6 +0.4**
comp=Z,56nm,0.7s,mb5.1,SNR=49
VAM Vamos 24.53 269 *e*P **P** **17 13 35.6 -0.4**
LKR Lokris 24.55 277 *e*P **P** **17 13 36.7 +0.6**
LKR Lokris 24.55 277 P **P** **17 13 38.8 +2.7**
GRG Griva 24.58 283 *e*P **P** **17 13 36.8 +0.4**
KWP Kalwaria 24.59 304 *e*P **P** **17 13 37.1 +0.6**
KWP *e*S **S** **17 17 59.3 +4.8**
KWP L 17 24 13.0
comp=Z,1.3nm,20.0s
KWP Kalwaria 24.59 304⇑ *i*P **P** **17 13 36.6 +0.1**
KWP *e**PP 17 13 45.5
KWP pmax pmax
comp=Z,330nm,1.0s,mb5.8
KWP Kalwaria 24.59 304 *e*P **P** **17 13 37.1 +0.6**
KWP *e*S **S** **17 17 59.3 +4.8**
IZAR Zarasai 24.63 320 *i* P **P** **17 13 37.1 +0.3**
IZAR AMb AMB 17 13 40.6
comp=Z,38nm,0.8s,mb5.0
IZAR *e*pP 17 13 49.0
IZAR Zarasai 24.63 320 *i* P **P** **17 13 37.1 +0.3**
comp=Z,38nm,0.8s,mb5.0,SNR=49
IZAR *e*pP 17 13 49.0
SNR=130
STIP Stip 24.65 285 *e*P **P** **17 13 37.4 +0.3**
STIP Stip 24.65 285 *i* P **P** **17 13 37.3 +0.3**
LIT Litokhoron 24.65 281 *e*P **P** **17 13 37.0 0.0**
ZAL Zalesovo 24.66 45 P **P** **17 13 37.9 +0.8**
comp=Z,72nm,0.7s,mb5.3,baz=211,slow=6.9,SNR=329
ZAL pP 17 13 48.7
comp=Z,95nm,0.6s,baz=218,slow=5.2,SNR=24
ZAL S **S** **17 18 07.5 +12**
comp=Z,11nm,1.0s,baz=167,slow=13,SNR=1.6
UZH Uzhgorod 24.69 302⇑ *i*P **P** **17 13 37.0 -0.4**
UZH *e* 17 13 51.0
UZH *i* 17 14 16.0
UZH *e*S **S** **17 17 55.0 -1.1**
UZH MLR MLR
comp=Z,700nm,17.0s,MS4.2
KOLS Kolonicke sedl 24.75 302 *i* P **P** **17 13 38.8 +0.9**
KOLS *e*S S 17 18 20.6 +24
KARN Karanos 24.75 269 *e*P **P** **17 13 38.9 +0.9**
WMQ Urumqi 24.77 70⇑ *i*P **P** **17 13 39.8 +1.7**
WMQ AP 17 13 51.0
WMQ XP sP 17 13 56.0 +0.7
WMQ PP 17 14 16.0
WMQ PPP 17 14 28.0
WMQ PCP PcP 17 17 16.0 +2.2
WMQ S **S** **17 17 57.0 -0.3**
WMQ SS 17 18 56.0
WMQ AMB AMB
comp=Z,117nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,713nm,3.7s
WMQ LR LR
comp=N,4μm,16.0s,MS5.2
WMQ LR LR
comp=E,4μm,12.7s,MS5.2
WMQ LR LR
comp=Z,4μm,19.6s
GVD Gavdhos 24.82 268 *e*P **P** **17 13 38.6 +0.1**
BZS Buzias 24.89 294⇑ *i*P **P** **17 13 40.0 +0.8**
BZS Buzias 24.89 294 P **P** **17 13 40.2 +1.0**
BZS Buzias 24.89 294 P **P** **17 13 40.2 +1.0**
AGG Agios Georgios 24.98 279 *e*P **P** **17 13 40.8 +0.8**
VLI Veliai 25.09 273 *e*P **P** **17 13 40.7 -0.4**
THL Klokotos Trika 25.11 280 *e*P **P** **17 13 40.1 -1.1**
PUL Pulkovo 25.14 330 *e*P **P** **17 13 41.2 -0.3**
PUL *e*S **S** **17 18 01.7 -1.5**
PUL pmax pmax
comp=Z,959nm,0.9s,mb6.3
PUL pmax pmax
comp=N,1μm,1.5s
PUL pmax pmax
comp=E,2μm,1.6s
PUL smax
comp=N,2μm,1.5s
PUL smax
comp=E,2μm,1.5s
PUL smax
comp=Z,636nm,1.1s
PUL smax
comp=N,792nm,14.6s
PUL smax
comp=Z,895nm,13.4s
PUL smax
comp=E,362nm,9.7s
PUL MLR MLR
comp=Z,1μm,17.0s,MS4.4
PUL MLR MLR
comp=N,596nm,16.0s,MS4.2
PUL MLR MLR
comp=E,360nm,18.0s,MS4.2
PUL Pulkovo 25.14 330⇑ *e*P **P** **17 13 42.2 +0.7**
KZN Kozani 25.16 282 *e*P **P** **17 13 41.5 -0.2**
SVIS Svilajnac 25.17 291 *i* P **P** **17 13 42.5 +0.7**
SKO Skopje 25.17 286 *e*P **P** **17 13 42.9 +1.1**
SKO Skopje 25.17 286 *i* P **P** **17 13 42.9 +1.1**
CRVS Cervenica-Dubn 25.27 302 *e*P **P** **17 13 43.1 +0.4**
CRVS *e*S **S** **17 18 19.6 +14**
BHPL Bhopal 25.35 124 *e*P **P** **17 13 43.9 +0.5**
BHPL AMb AMB 17 13 59.5
comp=Z,106nm,1.2s,mb5.3
FNA Florina 25.38 283 *e*P **P** **17 13 43.8 +0.1**
EVR Evrytania 25.40 279 *e*P **P** **17 13 44.3 +0.5**
STHS Stebnicka Huta 25.49 303 *e*P **P** **17 13 44.4 -0.3**
STHS *e* pP 17 13 55.8 -0.8
STHS pmax pmax
comp=Z,59nm,0.8s,mb5.2
STHS Stebnicka Huta 25.49 303 *e*P **P** **17 13 44.4 -0.3**
comp=Z,59nm,0.8s,mb5.2
STHS *e* pP 17 13 55.8 -0.8
STHS *e*S S 17 18 29.1 +20
SUW Suwalki 25.52 314 *e*P **P** **17 13 45.0 +0.1**
SUW *e*S **S** **17 18 08.4 -0.9**
SUW L 17 24 24.4
comp=Z,1.3nm,23.6s
SUW Suwalki 25.52 314 *e*P **P** **17 13 45.0 +0.1**
SUW *e*S **S** **17 18 08.4 -0.9**
GRUS Gruza 25.55 290 *i* P **P** **17 13 45.7 +0.5**
BEO Belgrade 25.70 292 *i* P **P** **17 13 47.1 +0.5**
ITM Ithomi 25.74 275 *e*P **P** **17 13 45.8 -1.1**
OHR Ohrid 25.76 284 *e*P **P** **17 13 45.3 -1.9**
OHR Ohrid 25.76 284 *i* P **P** **17 13 46.2 -0.9**
VSU Vasula 25.80 325 P **P** **17 13 46.2 -1.3**
KECS Kecovo 25.86 301 *i* P **P** **17 13 48.3 +0.3**
KECS pmax pmax
comp=Z,41nm,0.7s,mb5.1
KECS Kecovo 25.86 301 *i* P **P** **17 13 48.3 +0.3**
comp=Z,41nm,0.7s,mb5.1
RLS Riolos of Patr 25.86 277 *e*P **P** **17 13 48.8 +0.8**
PHP Peshkopia 25.95 285 *i* Pn **P** **17 13 48.3 -0.5**
PHP *i* Sn pP 17 14 07.2 +6.5
JAN Janina 25.97 281 *e*P **P** **17 13 49.9 +0.9**
DIVS Divcibare 26.06 291 *i* P **P** **17 13 50.7 +0.9**
LSK Leskovik 26.07 282 *i* Pn **P** **17 13 50.4 +0.5**
NIE Niedzica 26.09 303 *e*P **P** **17 13 51.4 +1.3**
BCI Bajram Curri 26.14 287 *i* Pn **P** **17 13 50.6 0.0**
PVY Plav 26.18 287⇑ *i*P **P** **17 13 51.6 +0.6**
PSZ Piszkesteto 26.20 299⇑ *e*P **P** **17 13 52.1 +1.0**
PSZ Piszkesteto 26.20 299⇑ *i*P **P** **17 13 52.2 +1.1**
PSZ Piszkesteto 26.20 299⇑ *i*P **P** **17 13 51.9 +0.8**
PSZ *e**PP pP 17 14 01.9 -1.0
PSZ pmax pmax
comp=Z,97nm,0.9s,mb5.3
PSZ Piszkesteto 26.20 299⇑ *i*P **P** **17 13 51.9 +0.8**
comp=Z,97nm,0.9s,mb5.3
PSZ *e*pP pP 17 14 01.9 -1.1
PSZ Piszkesteto 26.20 299⇑ *i*P **P** **17 13 51.9 +0.8**
comp=Z,97nm,0.9s,mb5.3
PSZ *e*pP pP 17 14 01.9 -1.0
IVA Berane 26.21 288⇑ *i*P **P** **17 13 51.9 +0.7**
WAR Warsaw 26.22 309 *e*P **P** **17 13 52.9 +1.6**
WAR *e*S **S** **17 18 19.3 -1.0**
WAR L 17 24 41.7
comp=Z,1.0nm,24.9s
WAR Warsaw 26.22 309 *e*P **P** **17 13 52.9 +1.6**
WAR *e*S **S** **17 18 19.3 -1.0**
TMCR Tamitsa 26.25 343 *e*P **P** **17 13 52.6 +1.1**
TMCR *e**PP pP 17 14 00.8 -2.6
TMCR *e* pP 17 14 05.0 +1.6
TMCR pmax pmax
comp=Z,295nm,1.0s,mb5.8
PUK Puka 26.31 286 *i* Pn **P** **17 13 51.2 -0.9**
LKD Levkas 26.33 279 *e*P **P** **17 13 51.9 -0.3**
IGT Igoumenitsa 26.39 280 *e*P **P** **17 13 53.2 +0.4**
TIR Tirane 26.42 285 *i* Pn **P** **17 13 50.8 -2.3**
TIR *i* Sn pP 17 14 07.6 +2.6
VLS Valsamata 26.50 277 *e*P **P** **17 13 52.7 -1.1**
PLE Pljevlja 26.54 289⇑ *i*P **P** **17 13 55.9 +1.7**
OJC Ojcow 26.55 305 *i* P **P** **17 13 54.5 +0.3**
OJC *e*PcP PcP 17 17 18.3 +0.4
OJC *e*S **S** **17 18 27.6 +2.1**
OJC L 17 25 30.0
comp=Z,4.3nm,19.2s
SRN Sarande 26.57 281 *i* Pn **P** **17 13 52.9 -1.5**
KOLN Koldanda 26.72 108 *e*P **P** **17 13 56.7 +0.9**
comp=Z,106nm,1.0s,mb5.3
TTG Podgorica 26.73 287⇑ *i*P **P** **17 13 55.6 -0.3**
BUD Budapest 26.75 298⇑ *e*P **P** **17 13 56.9 +0.8**
BUD Budapest 26.75 298 P **P** **17 13 58.7 +2.6**
KEK Kerkira 26.75 281 *e*P **P** **17 13 55.5 -0.6**
ULC Ulcinj 26.79 286⇑ *i*P **P** **17 13 56.0 -0.4**
LIKS Likavka 26.83 302 *i* P **P** **17 13 56.7 -0.1**
LIKS pmax pmax
comp=Z,70nm,0.9s,mb5.2
LIKS Likavka 26.83 302 *i* P **P** **17 13 56.7 -0.1**
comp=Z,70nm,0.9s,mb5.2
NKY Niksic 26.88 288⇑ *i*P **P** **17 13 56.5 -0.7**
UPM Unac-Piva 26.90 289⇑ *i*P **P** **17 13 58.0 +0.5**
POO Poona 26.91 137 *ex* x 17 14 01.0
VYHS Vyhne 26.95 301 *i* P **P** **17 13 58.7 +0.8**
VYHS *e* pP 17 14 10.1 +0.3
VYHS pmax pmax
comp=Z,47nm,1.0s,mb5.0
VYHS Vyhne 26.95 301 *i* P **P** **17 13 58.7 +0.8**
comp=Z,47nm,1.0s,mb5.0
VYHS *e* pP 17 14 10.1 +0.3
VYHS *e*S S 17 18 58.0 +26
PKSM Moragy 26.97 296⇑ *i*P **P** **17 13 58.9 +0.8**
PKSM Moragy 26.97 296 P **P** **17 13 58.9 +0.9**
BUM Brajici-Budva 27.01 287⇑ *i*P **P** **17 13 58.4 0.0**
JOF Joensuu 27.02 336 *ep* **P** **17 13 57.5 -1.0**
comp=Z,120nm,0.7s,mb5.5
JOF Joensuu 27.02 336 *e*P **P** **17 13 57.5 -1.0**
JOF pmax pmax
comp=Z,120nm,0.7s,mb5.5
JBP Jabalpur 27.07 120⇓ *i*P **P** **17 13 52.6 -6.4**
JBP *ex* x 17 14 14.3
comp=Z,48nm,0.7s
JBP *i* S **S** **17 18 33.7 0.0**
BRY Bratogost 27.20 288⇑ *i*P **P** **17 13 59.4 -0.7**
HOY Herceg Novi 27.29 287⇑ *i*P **P** **17 14 01.1 +0.2**
GKN Gorkha 27.35 106 *e*P **P** **17 14 02.5 +1.0**
OKC Ostrava-Krasne 27.55 303⇑ *i*P **P** **17 14 03.7 +0.5**
OKC *e*pP pP 17 14 17.3 +2.2
OKC *ex* x 17 18 59.9
OKC AMS AMS 17 27 00.0
comp=Z,800nm,16.6s
OKC Ostrava-Krasne 27.55 303⇑ *i*P **P** **17 14 03.7 +0.5**
OKC *e* pP 17 14 17.3 +2.2
OKC MLR MLR
comp=Z,800nm,16.6s,MS4.4
OKC Ostrava-Krasne 27.55 303⇑ *i*P **P** **17 14 03.7 +0.5**
OKC *e* pP 17 14 17.3 +2.2
OKC *e* 17 18 59.9
RAC Raciborz 27.55 304 *e*P **P** **17 14 01.4 -1.8**
JAVC Velka Javorina 27.75 301 P **P** **17 14 05.8 +0.7**
MEF Metsahovi 27.77 327 P **P** **17 14 04.3 -1.0**
FIA1 FINESS Array S 27.82 330⇑ *i*P **P** **17 14 05.7 0.0**
FIA1 *e*pP pP 17 14 16.1 -1.5
FIA1 FINESS Array S 27.82 330⇑ *i*P **P** **17 14 05.7 0.0**
FIA1 *e*pP pP 17 14 16.1 -1.5
FINES FINESS Array B 27.82 330 P **P** **17 14 05.8 +0.1**
comp=Z,24nm,0.6s,mb5.0,baz=132,slow=10,SNR=178
FINES LR LR 17 26 46.6
comp=Z,867nm,18.7s,MS4.4,baz=121,slow=40
FINES FINESS Array B 27.82 330 P **P** **17 14 05.8 +0.1**
FINES pmax pmax
comp=Z,24nm,0.6s
FINES MLR MLR
comp=Z,867nm,18.7s
STON Ston 27.82 288 *i* P **P** **17 14 04.7 -0.9**
SMOL Smolenice 27.89 300 *i* P **P** **17 14 06.8 +0.5**
LCI Lecce 27.90 283 P **P** **17 14 05.0 -1.4**
LCI pmax pmax
comp=Z,50nm,0.6s,mb5.3
LCI Lecce 27.90 283 P **P** **17 14 05.0 -1.4**
comp=Z,50nm,0.6s,mb5.3
DMN Daman 27.91 107 *e*P **P** **17 14 07.8 +1.3**
MORC Moravsky Berou 27.93 303⇑ *i*P **P** **17 14 07.3 +0.7**
MORC Moravsky Berou 27.93 303⇑ *i*P **P** **17 14 06.7 +0.1**
MORC pmax pmax
comp=Z,110nm,1.2s,mb5.4
MORC Moravsky Berou 27.93 303⇑ *i*P **P** **17 14 06.7 +0.1**
comp=Z,110nm,1.3s,mb5.3
MORC Moravsky Berou 27.93 303⇑ *i*P **P** **17 14 06.7 +0.1**
comp=Z,110nm,1.3s,mb5.3
KKN Kakani 27.94 106 *e*P **P** **17 14 07.6 +0.9**
comp=Z,69nm,0.9s,mb5.3
ZST Bratislava 28.09 300 *i* P **P** **17 14 08.2 +0.2**
ZST *e*pP pP 17 14 20.2 +0.3
ZST Bratislava 28.09 300 *i* P **P** **17 14 08.2 +0.2**
ZST *e* pP 17 14 20.2 +0.3
ZST pmax pmax
comp=Z,70nm,1.0s,mb5.2
ZST MLR MLR
comp=Z,700nm,15.3s,MS4.4
ZST Bratislava 28.09 300 *i* P **P** **17 14 08.2 +0.2**
comp=Z,70nm,1.0s,mb5.2
ZST *e* pP 17 14 20.2 +0.3
ZST LR LR
comp=Z,700nm,15.3s,MS4.4
KAD Karad 28.10 138 *e*P **P** **17 14 07.1 -1.0**
KAF Kangasniemi 28.15 332 *ep* **P** **17 14 08.2 -0.4**
comp=Z,7.9nm,0.4s,mb4.7,baz=127,slow=9.0
KAF Kangasniemi 28.15 332 *e*P **P** **17 14 08.2 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
PKI Pulchoki 28.16 106 *e*P **P** **17 14 09.5 +0.8**
comp=Z,165nm,1.0s,mb5.6
GUN Gumba 28.32 105 *e*P **P** **17 14 11.2 +1.1**
comp=Z,126nm,0.9s,mb5.5
VRAC Vranov 28.50 302 P **P** **17 14 11.9 +0.2**
comp=Z,14nm,0.6s,mb4.8,baz=88,slow=9.4,SNR=16
VRAC pP pP 17 14 23.4 -0.2
comp=Z,15nm,0.6s,baz=113,slow=9.6,SNR=6.2
VRAC LR LR 17 27 28.8
comp=Z,1μm,19.1s,MS4.5,baz=95,slow=40
VRAC Vranov 28.50 302⇓ *i*P **P** **17 14 12.8 +1.1**
VRAC Vranov 28.50 302 P **P** **17 14 11.9 +0.2**
VRAC *PP pP 17 14 23.4 -0.2
VRAC pmax pmax
comp=Z,14nm,0.6s
VRAC MLR MLR
comp=Z,1μm,19.1s
VRAC Vranov 28.50 302 P **P** **17 14 12.5 +0.8**
VRAC Vranov 28.50 302 P **P** **17 14 12.5 +0.8**
KRUC Moravsky 28.61 302 P **P** **17 14 12.5 -0.2**
JIRN Jiri 28.69 105 *e*P **P** **17 14 14.7 +1.3**
comp=Z,3.7nm,0.2s,mb4.8
GKP Gorka Klasztor 28.70 310 *e*P **P** **17 14 13.8 +0.3**
GKP *e*S **S** **17 18 59.5 +0.1**
GKP L 17 26 46.7
comp=Z,1.6nm,23.2s
GKP Gorka Klasztor 28.70 310 *e*P **P** **17 14 13.8 +0.3**
GKP *e*S **S** **17 18 59.5 +0.1**
DPC Dobruska-Polom 28.77 304⇑ *i*P **P** **17 14 15.0 +0.8**
DPC *e*pP pP 17 14 27.0 +0.9
DPC AMS AMS 17 27 50.0
comp=Z,800nm,11.2s
KSP Ksiaz 28.85 305 *e*P **P** **17 14 15.6 +0.8**
KSP *e*PcP PcP 17 17 24.0 +0.5
KSP L 17 28 02.8
comp=Z,1.8nm,17.7s
KSP Ksiaz 28.85 305⇑ *e*P **P** **17 14 15.3 +0.5**
KSP *e**PP pP 17 14 27.0 +0.2
KSP MLR MLR
comp=Z,2μm,17.7s,MS4.8
KSP Ksiaz 28.85 305⇑ *e*P **P** **17 14 15.3 +0.5**
KSP *e*pP pP 17 14 27.0 +0.2
KSP *e*S S 17 19 22.0 +20
KSP LR LR
comp=Z,2μm,17.7s,MS4.8
KSP Ksiaz 28.85 305⇑ *e*P **P** **17 14 15.3 +0.5**
KSP *e*pP pP 17 14 27.0 +0.2
CONA Conrad Observa 28.91 299 *i* P **P** **17 14 15.9 +0.6**
comp=Z,39nm,1.3s,mb5.0,SNR=16
UPC Upice 28.99 304⇑ *i*P **P** **17 14 16.8 +0.7**
UPC *e*pP pP 17 14 28.4 +0.4
ARSA Arzberg 29.12 298 *i* P **P** **17 14 17.8 +0.5**
comp=Z,68nm,1.1s,mb5.3,SNR=34
GROS Grobnik 29.14 296 *i* P **P** **17 14 18.0 +0.5**
TIP Timpagrande 29.17 281⇑ *i*P **P** **17 14 16.2 -1.4**
TIP *e*pP pP 17 14 27.8 -1.8
TIP Timpagrande 29.17 281⇑ *i*P **P** **17 14 16.2 -1.5**
TIP *e*pP pP 17 14 27.8 -1.8
DOBS Dobrina 29.18 295 *e*P **P** **17 14 18.1 +0.4**
DOBS *i* pP 17 14 29.6 -0.1
TREC Trest 29.22 302⇑ *i*P **P** **17 14 16.6 -1.5**
TREC AMS AMS 17 27 20.0

comp=Z,900nm,18.2s
FGMS Monte Sant'Ang 29.27 286 P **P** **17 14 18.1 -0.4**
comp=Z,44nm,0.7s,mb5.3
BOJS Bojanci 29.36 294 *e*P **P** **17 14 18.6 -0.7**
PERS Pernice 29.41 296 *i* P **P** **17 14 20.4 +0.6**
PERS *e* pP 17 14 31.8 +0.1
VISS Visnje 29.63 295 *i* P **P** **17 14 22.3 +0.6**
NVLJ Novalja 29.69 292 *i* P **P** **17 14 21.9 -0.4**
CUC Castrocucco 29.70 283 P **P** **17 14 22.1 -0.2**
OBKA Obir 29.80 296 *i* P **P** **17 14 23.9 +0.6**
comp=Z,31nm,1.3s,mb4.9,SNR=11
LJU Ljubljana 29.84 295 *e*P **P** **17 14 24.4 +0.8**
LJU *e* pP 17 14 36.0 +0.5
PRU Pruhonice 29.88 303⇑*i*P **P** **17 14 24.4 +0.4**
PRU *e*pP pP 17 14 35.8 -0.1
PRU AMS AMS 17 28 30.0
comp=Z,900nm,15.4s
PVCC Panska Ves 29.91 304⇑*i*P **P** **17 14 25.0 +0.8**
PVCC AMS AMS 17 28 30.0
comp=Z,800nm,15.7s
PRA Prague 29.96 303 ⇑P **P** **17 14 25.0 +0.4**
MOA Molln 29.98 299 *i* P **P** **17 14 25.0 +0.2**
comp=Z,49nm,1.3s,mb5.1,SNR=28
CEL Celeste 30.05 280 P **P** **17 14 24.7 -0.8**
ATD Arta Tunnel 30.13 204 P **P** **17 14 26.7 +0.5**
comp=Z,15nm,0.8s,mb4.8,baz=358,slow=9.9,SNR=5.4
ATD Arta Tunnel 30.13 204 P **P** **17 14 26.7 +0.5**
APA Apatity 30.15 344⇓*i*P **P** **17 14 27.0 +0.6**
APA *i* pP 17 14 39.0 +0.7
APA *e*S **S** **17 19 26.0 +3.8**
APA pmax pmax
comp=Z,81nm,1.4s,mb5.3
APA MLR MLR
comp=Z,2µm,14.0s,MS5.0
LVZ Lovozero 30.17 345 P **P** **17 14 27.7 +1.2**
comp=Z,476nm,0.6s,mb6.4,SNR=5.9
LVZ Lovozero 30.17 345 *e*P **P** **17 14 26.6 +0.1**
LVZ *e*S **S** **17 19 22.2 -0.3**
LVZ pmax pmax
comp=Z,94nm,1.0s,mb5.5
LVZ pmax pmax
comp=N,35nm,1.1s
LVZ pmax pmax
comp=E,28nm,1.3s
LVZ smax
comp=N,238nm,12.1s
LVZ smax
comp=Z,72nm,9.3s
LVZ smax
comp=E,238nm,11.9s
LVZ MLR MLR
comp=E,636nm,16.0s,MS4.5
LVZ MLR MLR
comp=Z,1µm,16.0s,MS4.7
LVZ MLR MLR
comp=N,536nm,15.0s,MS4.5
LVZ Lovozero 30.17 345⇑*e*P **P** **17 14 26.8 +0.3**
GORS Gorjuse 30.19 296 *i* P **P** **17 14 27.1 +0.4**
OUL Oulu 30.24 336 P **P** **17 14 24.6 -2.5**
VOY Vojsko 30.28 295 *e*P **P** **17 14 27.5 0.0**
VOY *e* pP 17 14 39.4 0.0
BRG Berggiesshubel 30.34 305 *e*P **P** **17 14 28.8 +0.8**
comp=Z,79nm,1.0s,mb5.4
BRG Berggiesshubel 30.34 305⇑*i*P **P** **17 14 29.1 +1.1**
comp=Z,47nm,1.0s,mb5.2
BRG *i* pP 17 14 40.7 +0.7
comp=Z,24nm,0.8s
BRG *i* 17 15 06.1
comp=Z,24nm,0.9s
BRG
comp=N,218nm,12.9s
BRG
comp=E,337nm,17.4s
BRG
comp=Z,542nm,18.6s
BRG Berggiesshubel 30.34 305⇑*i*P **P** **17 14 29.1 +1.1**
comp=Z,47nm,1.0s,mb5.2
BRG *i* pP 17 14 40.7 +0.7
BRG *i* 17 15 06.1
BRG LR LR
comp=Z,540nm,18.6s,MS4.2
GEC2 GERESS Array S 30.37 301 *e*P **P** **17 14 28.5 +0.2**
comp=Z,62nm,1.5s,mb5.1
GEC2 *e*pP pP 17 14 40.5 +0.2
GEC2 GERESS Array S 30.37 301 *e*P **P** **17 14 28.5 +0.2**
GEC2 *e**PP pP 17 14 40.5 +0.2
GEC2 pmax pmax
comp=Z,62nm,1.5s,mb5.1
GERES GERESS Array B 30.37 301 P **P** **17 14 28.6 +0.3**
comp=Z,20nm,0.6s,mb5.0,baz=90,slow=8.7,SNR=167
GERES pP pP 17 14 40.1 -0.1
comp=Z,17nm,0.6s,baz=90,slow=8.7,SNR=18
GERES LR LR 17 28 38.3
comp=Z,785nm,19.1s,MS4.4,baz=92,slow=40
GERES GERESS Array B 30.37 301 P **P** **17 14 28.6 +0.3**
GERES *PP pP 17 14 40.1 -0.2
GERES pmax pmax
comp=Z,20nm,0.6s
GERES MLR MLR
comp=Z,785nm,19.1s
GERES GERESS Array B 30.37 301 P **P** **17 14 28.6 +0.3**
GERES pP pP 17 14 40.1 -0.1
GERES LR LR 17 28 38.3
CADS Cadrg 30.38 296 *i* P **P** **17 14 28.5 +0.1**
HYB Hyderabad 30.43 130 *i* P pP 17 14 40.0 -0.8
HYB Hyderabad 30.43 130 *e*P pP 17 14 40.0 -0.8
BSD Bornholm Skovb 30.44 313⇑*i*P **P** **17 14 27.8 -1.1**
comp=Z,82nm,0.6s,mb5.6
BSD *e* 17 14 52.7
BSD *i* 17 17 00.8
BSD *e*S **S** **17 19 35.4 +8.6**
BSD
comp=Z,1µm,20.0s
BSD Bornholm Skovb 30.44 313⇑*i*P **P** **17 14 27.8 -1.1**
comp=Z,82nm,0.6s,mb5.6
BSD *e* 17 14 52.7
BSD *i* 17 17 00.8
BSD *e*S **S** **17 19 35.4 +8.6**
KHC Kasperske Hory 30.46 301⇑*i*P **P** **17 14 29.2 +0.1**
KHC *e*pP pP 17 14 40.9 -0.2
KHC AMS AMS 17 28 10.0
comp=Z,1µm,25.0s
MIDA Miranda 30.53 287 P **P** **17 14 30.6 +0.9**
KBA Koelnbreinsper 30.61 297 *i* P **P** **17 14 31.3 +0.9**
comp=Z,75nm,1.1s,mb5.4,SNR=21
KBA Koelnbreinsper 30.61 297 *i* P **P** **17 14 31.3 +0.9**
KBA pmax pmax
comp=Z,75nm,1.1s,mb5.4
RUE Ruedersdorf 30.62 308 *e*P **P** **17 14 30.7 +0.2**
comp=Z,103nm,1.1s,mb5.6
RUE Ruedersdorf 30.62 308⇑*e*P **P** **17 14 30.3 -0.2**
comp=Z,74nm,0.8s,mb5.6
RUE Ruedersdorf 30.62 308⇑*e*P **P** **17 14 30.3 -0.2**
comp=Z,74nm,0.8s,mb5.6
FBE Freiberg 30.71 305 *e*P **P** **17 14 32.3 +1.0**
comp=Z,91nm,1.5s,mb5.4
GMNA Gemona 30.72 296 P **P** **17 14 32.3 +0.9**
comp=Z,237nm,1.0s,mb6.0
BOK Bokaro 30.73 112 *e*P **P** **17 14 31.6 +0.2**
BOK AMb AMB 17 14 34.3
comp=Z,37nm,1.1s,mb5.1
WET Wettzell 30.92 301 *e*P **P** **17 14 32.8 -0.3**
comp=Z,46nm,2.1s,mb4.9
WET Wettzell 30.92 301 *e*P **P** **17 14 32.8 -0.3**
WET pmax pmax
comp=Z,46nm,2.1s,mb4.9
CLL Collm 30.96 306 *e*P **P** **17 14 33.7 +0.2**
comp=Z,38nm,1.0s,mb5.2
CLL Collm 30.96 306⇑*i*P **P** **17 14 34.0 +0.5**
CLL pmax pmax
comp=Z,38nm,1.0s,mb5.2
CLL Collm 30.96 306⇑*i*P **P** **17 14 34.0 +0.5**
comp=Z,38nm,1.0s,mb5.2
CLL *e*S **S** **17 19 40.0 +5.0**
CING Cingoli 31.03 290 P **P** **17 14 34.9 +0.8**
AQU L'Aquila 31.03 288⇑*i*P **P** **17 14 35.0 +0.9**
AQU L'Aquila 31.03 288⇑*i*P **P** **17 14 34.8 +0.7**
AQU pmax pmax
comp=Z,140nm,1.1s,mb5.7
AQU L'Aquila 31.03 288⇑*i*P **P** **17 14 34.8 +0.6**
comp=Z,144nm,1.1s,mb5.7
AQU L'Aquila 31.03 288⇑*i*P **P** **17 14 34.8 +0.7**
comp=Z,144nm,1.1s,mb5.7
RGN Rugen 31.23 312 *e*P **P** **17 14 36.6 +0.8**
comp=Z,204nm,0.8s,mb6.0
RGN Rugen 31.23 312⇑*i*P **P** **17 14 36.1 +0.3**
comp=Z,96nm,0.6s,mb5.8
RGN Rugen 31.23 312⇑*i*P **P** **17 14 36.1 +0.3**
comp=Z,96nm,0.6s,mb5.8
TANN Tannenbergstha 31.24 304 *e*P **P** **17 14 36.7 +0.7**
comp=Z,38nm,1.0s,mb5.2
TANN *e*pP pP 17 14 48.1 +0.1
HVZN Vizzini 31.26 278 P **P** **17 14 36.1 0.0**
WERN Wernitzgruen 31.29 304 *e*P **P** **17 14 37.1 +0.7**
comp=Z,85nm,1.6s,mb5.3
VENT Ventotene 31.31 285 P **P** **17 14 35.4 -1.2**
GUNZ Gunzen 31.32 304 *e*P **P** **17 14 37.4 +0.7**
comp=Z,35nm,0.9s,mb5.2
WERD Werda 31.34 304 *e*P **P** **17 14 37.4 +0.5**
comp=Z,47nm,1.0s,mb5.3
WERD *e*pP pP 17 14 49.4 +0.6
ROTZ Rotzenmuhle 31.38 303 *e*P **P** **17 14 37.7 +0.5**
comp=Z,18nm,1.0s,mb4.9
LSA Lhasa 31.38 97 *e*P **P** **17 14 39.3 +2.1**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.1
LSA MLR MLR
comp=Z,568nm,22.0s,MS4.2
LSA Lhasa 31.38 97 *e*P **P** **17 14 39.3 +2.0**
comp=Z,25nm,0.8s,mb5.1
LSA LR LR
comp=Z,568nm,22.0s,MS4.2
LSA Lhasa 31.38 97 *e*P **P** **17 14 39.3 +2.1**
comp=Z,25nm,0.8s,mb5.1
CERT Cerreto 31.41 288 P **P** **17 14 37.7 +0.2**
MANZ Manzenberg 31.45 303 *e*P **P** **17 14 39.5 +1.7**
comp=Z,30nm,1.1s,mb5.0
MANZ *e*pP pP 17 14 51.0 +1.2
GIB Gibilmanna 31.54 280 P **P** **17 14 38.2 -0.4**
DESE Dese 31.62 209 *e*P **P** **17 14 41.6 +2.3**
WTTA Wattenberg 31.77 298 *i* P **P** **17 14 40.6 0.0**
comp=Z,112nm,1.0s,mb5.7,SNR=43
WTTA Wattenberg 31.77 298 *i* P **P** **17 14 40.6 0.0**
WTTA pmax pmax
comp=Z,112nm,1.0s,mb5.7
MOX Moxa 31.79 304 *e*P **P** **17 14 41.7 +0.9**
comp=Z,102nm,1.0s,mb5.6
MOX Moxa 31.79 304 *e*P **P** **17 14 41.6 +0.8**
MOX *e**PP pP 17 14 53.5 +0.7
MOX pmax pmax
comp=Z,112nm,1.1s,mb5.6
MOX Moxa 31.79 304 *e*P **P** **17 14 41.6 +0.8**
comp=Z,112nm,1.1s,mb5.6
MOX *e*pP pP 17 14 53.5 +0.7
WATA Walderalm 31.81 298⇑*i*P **P** **17 14 40.4 -0.5**
comp=Z,93nm,1.3s,mb5.5,SNR=19
WATA Walderalm 31.81 298⇑*i*P **P** **17 14 40.4 -0.5**
WATA pmax pmax
comp=Z,93nm,1.3s,mb5.5
CTI Castel Tesino 31.84 296 P **P** **17 14 41.4 +0.2**
COP Copenhagen 31.95 314⇑*i*P **P** **17 14 43.1 +0.9**
comp=Z,53nm,0.6s,mb5.5
COP *i* 17 15 30.0
COP
comp=Z,450nm,18.0s
COP Copenhagen 31.95 314⇑*i*P **P** **17 14 43.1 +0.9**
COP pmax pmax
comp=Z,53nm,0.6s,mb5.5
COP MLR MLR
comp=Z,460nm,18.0s,MS4.2
FUR Furstenfeldbru 31.98 300 *e*P **P** **17 14 42.7 +0.2**
comp=Z,56nm,0.9s,mb5.4
FUR Furstenfeldbru 31.98 300 *e*P **P** **17 14 42.7 +0.2**
FUR pmax pmax
comp=Z,56nm,0.9s,mb5.4
USI Ustica 31.99 281 P **P** **17 14 42.7 +0.2**
GRA1 Grafenberg Arr 32.01 302 *e*P **P** **17 14 43.7 +0.9**
comp=Z,29nm,0.9s,mb5.1
GRA1 *e*S **S** **17 20 11.0 +20**
GRF Grafenberg Arr 32.01 302 *e*P **P** **17 14 43.7 +0.9**
comp=Z,29nm,0.9s,mb5.1
GRF *e*S **S** **17 20 11.0 +20**
GRF Grafenberg Arr 32.01 302 *e*P **P** **17 14 43.7 +0.9**
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.1
GRF Grafenberg Arr 32.01 302 *e*P **P** **17 14 43.7 +0.9**
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.1
SQTA Sankt Quirin 32.06 298⇑*i*P **P** **17 14 42.9 -0.3**
comp=Z,40nm,0.9s,mb5.2,SNR=25
SQTA Sankt Quirin 32.06 298⇑*i*P **P** **17 14 42.9 -0.3**
SQTA pmax pmax
comp=Z,40nm,0.9s,mb5.2
APPI Appiano 32.09 296 P **P** **17 14 42.7 -0.8**
TOLF Tolfa 32.11 288 P **P** **17 14 43.9 +0.3**
MOTA Moosalm 32.13 298⇓*i*P **P** **17 14 43.0 -0.7**
comp=Z,38nm,0.9s,mb5.2,SNR=33
MOTA Moosalm 32.13 298⇓*i*P **P** **17 14 43.0 -0.8**
MOTA pmax pmax
comp=Z,38nm,0.9s,mb5.2
CLTB Caltabellotta 32.28 279 P **P** **17 14 45.3 +0.2**
CSNT Castellina Chi 32.39 291 P **P** **17 14 46.1 +0.1**
FNVD Fontana Vidola 32.41 292 P **P** **17 14 47.7 +1.5**
MABI Malga Bissina 32.62 296 P **P** **17 14 48.5 +0.4**
CLZ Clausthal 32.64 306 *e*P **P** **17 14 49.0 +0.7**
comp=Z,40nm,0.8s,mb5.4
CLZ Clausthal 32.64 306 *e*P **P** **17 14 49.0 +0.7**
CLZ pmax pmax
comp=Z,40nm,0.8s,mb5.4
MAON Monte Argentar 32.68 289 P **P** **17 14 48.5 -0.1**
HDH Heidenheim-Cha 32.68 300 P **P** **17 14 48.9 +0.3**
FUORN Ofenpass-Fuorn 32.75 297⇑*i*P **P** **17 14 49.3 +0.1**
comp=Z,143nm,1.2s,mb5.8
UBR Ueberruh 32.78 299 P **P** **17 14 49.5 0.0**
UBBA Unterbreizbach 32.83 305 *e*P **P** **17 14 50.7 +0.8**
comp=Z,36nm,1.4s,mb5.1
NRDL Niedersach Rie 32.85 308 *e*P **P** **17 14 50.7 +0.6**
comp=Z,44nm,1.7s,mb5.1
BSEG Bad Segeberg 32.87 310 *e*P **P** **17 14 51.3 +1.0**
comp=Z,205nm,1.2s,mb5.9
BSEG Bad Segeberg 32.87 310 *e*P **P** **17 14 51.3 +1.0**
BSEG pmax pmax
comp=Z,205nm,1.2s,mb5.9
GTTG Gvttingen 32.88 306 *e*P **P** **17 14 51.0 +0.7**
comp=Z,70nm,1.1s,mb5.5
BERNI Berninapass 32.93 296⇑*i*P **P** **17 14 52.0 +1.2**
comp=Z,168nm,0.8s,mb6.0
BERNI Berninapass 32.93 296⇑*i*P **P** **17 14 51.1 +0.3**
VLC Villacollemand 32.93 292 *e*P **P** **17 14 51.1 +0.3**
comp=Z,85nm,1.5s,mb5.5
VLC Villacollemand 32.93 292 *e*P **P** **17 14 51.1 +0.3**
comp=Z,85nm,1.5s,mb5.5
DAVA Davos 32.96 298 *i* P **P** **17 14 50.6 -0.4**
comp=Z,83nm,1.0s,mb5.6,SNR=53
DAVOX Davos/Dischmat 33.00 297⇑*i*P **P** **17 14 51.2 -0.2**
comp=Z,84nm,0.7s,mb5.8
SIND Sindeldorf 33.07 302 P **P** **17 14 52.6 +0.6**
VIS Vishakhapatnam 33.14 123 *e*P **P** **17 14 52.7 +0.1**
VIS AMb AMB 17 15 07.7
comp=Z,38nm,0.7s,mb5.5
LIENZ Kamor/St.Gall 33.22 298⇑*i*P **P** **17 14 52.8 -0.6**
BUCH Bad Urach 33.26 300 P **P** **17 14 54.1 +0.5**
VDL Val di Lei 33.30 297⇑*i*P **P** **17 14 53.7 -0.4**
comp=Z,116nm,1.1s,mb5.7
VDL Val di Lei 33.30 297⇑*i*P **P** **17 14 54.0 -0.1**
KEV Kevo 33.32 343 *e*p **P** **17 14 54.0 -0.1**
comp=Z,32nm,0.6s,mb5.4
KEV Kevo 33.32 343 *e*P **P** **17 14 54.8 +0.7**
KEV *e**PP pP 17 15 05.2 -1.0
KEV pmax pmax
comp=Z,110nm,1.1s,mb5.7
PLONS Plons/SG 33.32 298⇑*i*P **P** **17 14 52.8 -1.4**
comp=Z,166nm,0.8s,mb6.0
PLONS Plons/SG 33.32 298⇑*i*P **P** **17 14 53.7 -0.5**
STU Stuttgart 33.35 301 *e*P **P** **17 14 54.7 +0.3**
comp=Z,205nm,1.0s,mb6.0
STU *e*pP pP 17 15 06.6 +0.1
STU Stuttgart 33.35 301 *e*P **P** **17 14 54.9 +0.5**
STU *e**PP pP 17 15 06.6 +0.1
STU pmax pmax
comp=Z,190nm,1.0s,mb6.0
STU Stuttgart 33.35 301 *e*P **P** **17 14 54.9 +0.5**
comp=Z,190nm,1.0s,mb6.0
STU *e*pP pP 17 15 06.6 +0.1
STU Stuttgart 33.35 301 *e*P **P** **17 14 54.9 +0.5**
comp=Z,190nm,1.0s,mb6.0
STU *e*pP pP 17 15 06.6 +0.1
TUE Stuetta 33.39 297 P **P** **17 14 54.4 -0.4**
GUT Gutenstein 33.43 300 P **P** **17 14 55.1 -0.1**
ARCES ARCESS Array B 33.50 342 P **P** **17 14 56.5 +0.8**
comp=Z,6.5nm,0.4s,mb4.9,baz=140,slow=9.8,SNR=121
ARCES LR LR 17 30 24.7
comp=Z,707nm,18.3s,MS4.4,baz=134,slow=39
ARCES ARCESS Array B 33.50 342 P **P** **17 14 56.6 +0.8**
ARCES pmax pmax
comp=Z,7.0nm,0.4s
ARCES MLR MLR
comp=Z,707nm,18.3s
ARCES ARCESS Array B 33.50 342 P **P** **17 14 56.5 +0.7**
ARE0 ARCESS Array S 33.50 342 *e*P **P** **17 14 52.3 -3.4**
ARE0 *e*pP pP 17 15 07.4 -0.4
ARE0 ARCESS Array S 33.50 342 *e*P **P** **17 14 52.3 -3.5**
ARE0 *e*pP pP 17 15 07.4 -0.4
BOB Bobbio (Coli) 33.52 294 P **P** **17 15 00.1 +4.2**
SISB Singen-Schiene 33.56 299 P **P** **17 14 56.1 -0.1**
TOD Tromm 33.59 302 *e*P **P** **17 14 57.0 +0.5**
LBG Lerchenberg 33.62 301 P **P** **17 14 57.2 +0.4**
SPAK Spaichingen-Ko 33.65 300 P **P** **17 14 57.5 +0.4**
SWS Schriesheim-Wi 33.66 302 P **P** **17 14 58.0 +0.9**
MUGIO Muggio 33.66 296⇑*i*P **P** **17 14 54.3 -2.8**
comp=Z,166nm,0.8s,mb6.0
MUGIO Muggio 33.66 296⇑*i*P **P** **17 14 56.3 -0.8**
KTK1 Kautokeino 33.70 340 *e*P **P** **17 14 59.0 +1.6**
KTK1 AMb AMB 17 15 01.1
comp=Z,105nm,1.8s,mb5.5
KTK1 *e*pP pP 17 15 09.2 -0.3
MOY Mondy 33.80 54 *e*P **P** **17 15 00.8 +2.5**
MOY pmax pmax
comp=Z,107nm,1.7s,mb5.5
TNS Taunus Mts 33.81 303 *e*P **P** **17 14 59.5 +1.1**
comp=Z,44nm,0.9s,mb5.4
TNS Taunus Mts 33.81 303 *e*P **P** **17 14 59.5 +1.1**
TNS pmax pmax
comp=Z,44nm,0.9s,mb5.4
MUO Muotathal 33.83 298⇑*i*P **P** **17 14 56.3 -2.3**
comp=Z,141nm,0.9s,mb5.9
MUO Muotathal 33.83 298⇑*i*P **P** **17 14 58.0 -0.6**
OSL Oslo 33.87 321 *e*P **P** **17 14 58.9 -0.1**
OSL AMb AMB 17 15 00.0
comp=Z,68nm,0.9s,mb5.6
OSL *e*pP pP 17 15 10.8 -0.3
OSL Oslo 33.87 321 *e*P **P** **17 14 58.9 -0.1**
comp=Z,68nm,0.9s,mb5.6,SNR=40
OSL *e*pP pP 17 15 10.8 -0.2
SNR=140
MUD Monsted U'grnd 33.89 315 *i* P **P** **17 15 00.0 +0.9**
comp=Z,41nm,0.6s,mb5.5
MUD
comp=Z,900nm,18.0s
BFO Black Forest 33.94 300 P **P** **17 14 59.0 -0.6**
comp=Z,108nm,0.6s,mb6.0,SNR=9.5
BFO Black Forest 33.94 300 *e*P **P** **17 14 59.4 -0.2**
comp=Z,98nm,1.9s,mb5.4
BFO *e*pP pP 17 15 11.0 -0.7
BFO Black Forest 33.94 300 *e*P **P** **17 14 59.4 -0.2**
BFO *e**PP pP 17 15 11.0 -0.7
BFO pmax pmax
comp=Z,98nm,1.9s,mb5.4
NB2 NORSAR Subarra 33.97 323 P **P** **17 14 59.6 -0.2**
comp=Z,210nm,1.2s,mb5.9,baz=111,slow=8.6
NB2 NORSAR Subarra 33.97 323 P **P** **17 14 59.6 -0.2**
NB2 pmax pmax
comp=Z,210nm,1.2s,mb5.9
NOA NORSAR Array B 33.97 323 P **P** **17 14 59.5 -0.4**
comp=Z,85nm,0.9s,mb5.7,baz=109,slow=8.6,SNR=179
NOA pP pP 17 15 11.4 -0.5
comp=Z,25nm,0.7s,baz=112,slow=8.4,SNR=8.2
NOA LR LR 17 30 19.5
comp=Z,1µm,18.4s,MS4.7,baz=105,slow=39
NOA NORSAR Array B 33.97 323 P **P** **17 14 59.5 -0.3**
NOA *PP pP 17 15 11.4 -0.5
NOA pmax pmax
comp=Z,85nm,0.9s
NOA MLR MLR
comp=Z,1µm,18.4s
NOA NORSAR Array B 33.97 323 P **P** **17 14 59.5 -0.4**
NOA pP pP 17 15 11.4 -0.5
NOA LR LR 17 30 19.5
KTD Kalmit 34.06 302 P **P** **17 15 02.1 +1.5**
NAO01 NORSAR Array S 34.06 323⇑*e*P **P** **17 14 59.5 -1.2**
comp=Z,34nm,1.3s,mb5.1
NAO01 *e*pP pP 17 15 12.4 -0.3
NAO01 NORSAR Array S 34.06 323⇑*e*P **P** **17 14 59.5 -1.1**
comp=Z,34nm,1.3s,mb5.1
NAO01 *e*pP pP 17 15 12.4 -0.3
SHL Shillong 34.09 103 *e*P **P** **17 14 59.6 -1.3**
SHL AMb AMB 17 15 01.4
comp=Z,882nm,1.5s,mb6.5
SHL *ex* x 17 19 42.2
HASLI Hasliberg/Brie 34.19 297⇑*i*P **P** **17 14 58.0 -3.7**
comp=Z,110nm,0.5s,mb6.0
HASLI Hasliberg/Brie 34.19 297⇑*i*P **P** **17 15 01.0 -0.7**
FELD Feldberg im Sc 34.19 299 *e*P **P** **17 15 01.2 -0.5**
PGF Pioggiola 34.20 290⇑*i*P **P** **17 15 02.0 +0.1**
comp=Z,98nm,0.9s,mb5.5
PGF *e*pP pP 17 15 13.9 0.0
PGF Pioggiola 34.20 290⇑*i*P **P** **17 15 02.0 +0.1**
PGF *e**PP pP 17 15 13.9 0.0
PGF pmax pmax
comp=Z,49nm,0.9s,mb5.4
PGF Pioggiola 34.20 290⇑*i*P **P** **17 15 02.0 +0.1**
comp=Z,49nm,0.9s,mb5.4
PGF *e*pP pP 17 15 13.9 0.0
KIZ Kirchzarten 34.24 299 P **P** **17 15 02.0 -0.2**
DGI Dorgali Grotta 34.25 286 P **P** **17 15 02.2 -0.1**
LANF Langenberg 34.26 301 *e*P **P** **17 15 02.7 +0.4**
IBBN Ibbenburen 34.28 307 *e*P **P** **17 15 03.2 +0.7**
comp=Z,124nm,1.1s,mb5.8
HLG Helgoland 34.33 310 *e*P **P** **17 15 03.5 +0.6**
comp=Z,86nm,0.7s,mb5.8
KONO Kongsberg 34.34 320⇑*e*P **P** **17 15 02.6 -0.5**
KONO *e**PP pP 17 15 14.4 -0.7
KONO pmax pmax
comp=Z,38nm,0.8s,mb5.4
KONO Kongsberg 34.34 320⇑*e*P **P** **17 15 02.5 -0.5**
comp=Z,38nm,0.8s,mb5.4
KONO *e*pP pP 17 15 14.4 -0.7
KONO Kongsberg 34.34 320⇑*e*P **P** **17 15 02.5 -0.6**
comp=Z,38nm,0.8s,mb5.4
KONO *e*pP pP 17 15 14.4 -0.7
MMK Mattmark 34.39 296⇑*i*P **P** **17 14 58.3 -5.2**
comp=Z,60nm,0.6s,mb5.7
MMK Mattmark 34.39 296⇑*i*P **P** **17 15 02.8 -0.7**
GTA Gaotai 34.43 76 ⇑P **P** **17 15 05.9 +2.1**
GTA AP pP 17 15 17.0 +1.1
GTA PP PP 17 16 22.2 -0.2
GTA S **S** **17 20 30.8 +2.0**
GTA SS SS 17 22 42.0 -17
GTA AMB AMB
comp=Z,68nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,483nm,3.8s
GTA LR LR
comp=N,682nm,13.4s,MS4.8
GTA LR LR
comp=E,993nm,14.5s,MS4.8
GTA LR LR
comp=Z,1µm,15.7s,MS4.7
LIBD Limburg 34.44 300 P **P** **17 15 04.5 +0.6**
FIN Finale Ligure 34.48 293 P **P** **17 15 03.2 -1.0**
BBS Basel-Blauen 34.56 299 *e*P **P** **17 15 04.2 -0.7**
BUG Bochum--Univer 34.56 306 *e*P **P** **17 15 06.0 +1.1**
comp=Z,26nm,0.8s,mb5.2
BUG *e*pP pP 17 15 19.2 +2.2
LKBD Leukerbad 34.58 297⇑*i*P **P** **17 15 02.8 -2.3**
comp=Z,192nm,0.9s,mb6.0
LKBD Leukerbad 34.58 297⇑*i*P **P** **17 15 04.7 -0.4**
WLS Welschbruch 34.59 300 *e*P **P** **17 15 04.8 -0.4**
VSL Villasalto 34.63 284⇑*i*P **P** **17 15 05.1 -0.4**
comp=Z,55nm,0.7s,mb5.6
VSL *e*pP pP 17 15 16.8 -0.8
VSL Villasalto 34.63 284⇑*i*P **P** **17 15 05.1 -0.5**
comp=Z,55nm,0.7s,mb5.6
VSL *e*pP pP 17 15 16.8 -0.8
CDF Champ du Feu 34.64 300⇑*i*P **P** **17 15 05.2 -0.4**
comp=Z,69nm,0.8s,mb5.3
CDF *e*pP pP 17 15 17.4 -0.3
CDF Champ du Feu 34.64 300⇑*i*P **P** **17 15 05.2 -0.4**
CDF *e**PP pP 17 15 17.4 -0.3
CDF pmax pmax
comp=Z,35nm,0.8s,mb5.3
CDF Champ du Feu 34.64 300⇑*i*P **P** **17 15 05.2 -0.4**
comp=Z,35nm,0.8s,mb5.3
CDF *e*pP pP 17 15 17.4 -0.3
RUP Ruppelstein 34.72 303 *e*P **P** **17 15 07.2 +0.9**

MOR8 **Moi Rana** 34.73 333 *eP* **P** 17 15 05.6 -0.8
MOR8 AMb AMB 17 15 07.7
comp=Z,95nm,1.3s,mb5.6
MOR8 *e*pP pP 17 15 17.8 -0.7
MOR8 Moi Rana 34.73 333 *eP* **P 17 15 05.6 -0.8**
comp=Z,95nm,1.3s,mb5.6,SNR=40
MOR8 *e*pP pP 17 15 17.8 -0.7
SNR=140
ECH Echery 34.73 300 *eP* **P 17 15 05.9 -0.5**
BOURR Bourrignon 34.75 298⇑*iP* **P 17 15 04.5 -2.1**
comp=Z,113nm,0.9s,mb5.8
BOURR Bourrignon 34.75 298⇑*iP* **P 17 15 05.8 -0.8**
MOF Molkenrain 34.78 299 *eP* **P 17 15 06.3 -0.5**
SENIN Lac Senin/Sane 34.81 297⇑*iP* **P 17 15 04.7 -2.4**
comp=Z,72nm,0.6s,mb5.8
SENIN Lac Senin/Sane 34.81 297⇑*iP* **P 17 15 06.6 -0.5**
WTSB Winterswijk 34.86 307 *eP* **P 17 15 08.1 +0.6**
comp=Z,44nm,1.5s,mb5.2
MDRS Chennai 34.88 133 *ex* x 17 14 32.2
MDRS AMb AMB 17 14 35.0
comp=Z,70nm,0.2s,mb6.2
HINF Hinteralfeld 34.97 299⇑*iP* **P 17 15 07.8 -0.7**
comp=Z,45nm,0.8s,mb5.2
HINF Hinteralfeld 34.97 299⇑*iP* **P 17 15 07.8 -0.7**
HINF pmax pmax
comp=Z,23nm,0.8s,mb5.2
HINF Hinteralfeld 34.97 299⇑*iP* **P 17 15 07.8 -0.7**
comp=Z,23nm,0.8s,mb5.2
SAOF Saorge 34.98 293 *eP* **P 17 15 08.9 +0.4**
LOMF Lomont 35.03 298 *eP* **P 17 15 08.3 -0.7**
AIGLE Aigle 35.05 297⇑*iP* **P 17 15 05.8 -3.4**
comp=Z,87nm,0.6s,mb5.9
AIGLE Aigle 35.05 297⇑*iP* **P 17 15 08.6 -0.6**
SALAN Lac Salanfe 35.06 296⇑*iP* **P 17 15 06.6 -2.7**
comp=Z,57nm,0.7s,mb5.6
SALAN Lac Salanfe 35.06 296⇑*iP* **P 17 15 08.8 -0.5**
AUTN L'Aution 35.07 293 *eP* **P 17 15 10.0 +0.7**
SBF Sospel 35.08 292⇑*iP* **P 17 15 09.7 +0.2**
comp=Z,142nm,0.8s,mb5.6
SBF Sospel 35.08 292⇑*iP* **P 17 15 09.7 +0.2**
SBF pmax pmax
comp=Z,71nm,0.8s,mb5.7
SBF Sospel 35.08 292⇑*iP* **P 17 15 09.7 +0.2**
comp=Z,71nm,0.8s,mb5.6
DOI San Damiano 35.11 293 P **P 17 15 08.3 -1.4**
LUCF Luceram 35.14 292 *eP* **P 17 15 10.4 +0.4**
TOUF Mont Tournerai 35.19 293 *eP* **P 17 15 11.3 +0.9**
OG01 Vacheresse 35.24 297 *eP* **P 17 15 10.4 -0.4**
ZAK Zakamensk 35.24 56⇓*iP* **P 17 15 12.7 +1.9**
ZAK *e* 17 16 31.7
ZAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
ZAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
TRO Tromso 35.26 339 *eP* **P 17 15 10.3 -0.6**
TRO AMb AMB 17 15 21.9
comp=Z,98nm,2.1s,mb5.4
TRO Tromso 35.26 339 *eP* **P 17 15 10.3 -0.7**
comp=Z,98nm,2.1s,mb5.4,SNR=40
DOMB Dombas 35.26 324 *eP* **P 17 15 10.4 -0.6**
DOMB AMb AMB 17 15 12.5
comp=Z,117nm,1.3s,mb5.6
DOMB Dombas 35.26 324 *eP* **P 17 15 10.4 -0.6**
comp=Z,117nm,1.3s,mb5.6,SNR=40
OG22 Abries 35.27 294 *eP* **P 17 15 10.6 -0.5**
HAU Haudompre 35.29 300⇑*iP* **P 17 15 10.9 -0.3**
comp=Z,305nm,0.9s,mb5.9
HAU *e*pP pP 17 15 23.0 -0.3
HAU *e*MLR MLR
comp=Z,626nm,22.0s
HAU Haudompre 35.29 300⇑*iP* **P 17 15 10.9 -0.3**
HAU *e**PP pP 17 15 23.0 -0.3
HAU pmax pmax
comp=Z,152nm,0.9s,mb5.9
HAU MLR MLR
comp=Z,630nm,22.0s,MS4.3
HAU Haudompre 35.29 300⇑*iP* **P 17 15 10.9 -0.3**
comp=Z,152nm,0.9s,mb5.9
HAU *e*pP pP 17 15 23.0 -0.3
HAU LR LR
comp=Z,630nm,22.0s,MS4.3
HAU Haudompre 35.29 300⇑*iP* **P 17 15 10.9 -0.3**
comp=Z,152nm,0.9s,mb5.9
HAU *e*pP pP 17 15 23.0 -0.3
LPG La Plagne 35.30 295⇑*iP* **P 17 15 11.5 +0.1**
comp=Z,68nm,0.8s,mb5.3
LPG La Plagne 35.30 295⇑*iP* **P 17 15 11.5 +0.1**
LPG pmax pmax
comp=Z,34nm,0.8s,mb5.3
LPG La Plagne 35.30 295⇑*iP* **P 17 15 11.5 +0.1**
comp=Z,34nm,0.8s,mb5.3
WLF Walferdange 35.31 303 *eP* **P 17 15 12.6 +1.2**
comp=Z,89nm,1.0s,mb5.7
WLF Walferdange 35.31 303 P **P 17 15 12.7 +1.3**
WLF AP pP 17 15 21.5 -1.9
WLF XP sP 17 15 30.2 +1.4
WLF Walferdange 35.31 303⇑*iP* **P 17 15 12.4 +1.0**
WLF *e**PP pP 17 15 24.5 +1.0
WLF *e* 17 16 43.1
WLF pmax pmax
comp=Z,70nm,1.0s,mb5.5
WLF Walferdange 35.31 303⇑*iP* **P 17 15 12.4 +1.1**
comp=Z,70nm,0.9s,mb5.6
WLF *e*pP pP 17 15 24.5 +1.0
WLF *e*PP PP 17 16 43.1 +11
WLF Walferdange 35.31 303⇑*iP* **P 17 15 12.4 +1.0**
comp=Z,70nm,0.9s,mb5.6
WLF *e*pP pP 17 15 24.5 +1.0
LPL La Plagne 35.31 295⇑*iP* **P 17 15 11.5 +0.1**
comp=Z,66nm,0.5s,mb5.5
LPL *e*pP pP 17 15 23.5 0.0
LPL La Plagne 35.31 295⇑*iP* **P 17 15 11.5 +0.1**
LPL *e**PP pP 17 15 23.5 0.0
LPL pmax pmax
comp=Z,33nm,0.5s,mb5.5
LPL La Plagne 35.31 295⇑*iP* **P 17 15 11.5 +0.1**
comp=Z,33nm,0.5s,mb5.5
LPL *e*pP pP 17 15 23.5 0.0
RSL Roselend 35.36 296 *eP* **P 17 15 11.5 -0.4**
MEM Membach 35.37 304 P **P 17 15 12.9 +1.0**
MBDF Montbardon 35.41 294⇑*iP* **P 17 15 12.2 0.0**
comp=Z,91nm,0.6s,mb5.6
MBDF *e*pP pP 17 15 24.3 0.0
MBDF Montbardon 35.41 294⇑*iP* **P 17 15 12.2 0.0**
MBDF *e**PP pP 17 15 24.3 0.0
MBDF pmax pmax
comp=Z,46nm,0.6s,mb5.6
MBDF Montbardon 35.41 294⇑*iP* **P 17 15 12.2 0.0**
comp=Z,46nm,0.6s,mb5.6
MBDF *e*pP pP 17 15 24.3 0.0
HGN Heimansgroeve 35.41 304 *eP* **P 17 15 11.5 -0.8**
BNI Bardonecchia 35.42 295⇑*iP* **P 17 15 12.2 -0.2**
BNI *e**PP pP 17 15 23.7 -0.7
BNI pmax pmax
comp=Z,81nm,0.9s,mb5.7
BNI Bardonecchia 35.42 295⇑*iP* **P 17 15 12.2 -0.2**
comp=Z,81nm,0.8s,mb5.7
BNI *e*pP pP 17 15 23.7 -0.8
BNI Bardonecchia 35.42 295⇑*iP* **P 17 15 12.2 -0.2**
comp=Z,81nm,0.8s,mb5.7
BNI *e*pP pP 17 15 23.7 -0.7
TLY Talaya 35.45 54 P **P 17 15 15.0 +2.4**
comp=Z,127nm,1.3s,mb5.7,SNR=6.3
TLY Talaya 35.45 54 *eP* **P 17 15 14.6 +2.0**
TLY *e* 17 16 51.1
TLY *e* 17 23 25.4
TLY MLR MLR
comp=Z,3μm,19.0s,MS5.0
TLY Talaya 35.45 54⇑*iP* **P 17 15 14.6 +2.0**
comp=Z,7.7nm,0.8s,mb4.7
TLY *e*pP pP 17 15 25.9 +1.2
TLY *e*PP PP 17 16 34.4 +0.8
TLY *e*PcP PcP 17 17 41.9 +0.4
TLY LR LR
comp=Z,681nm,20.0s,MS4.4
TLY Talaya 35.45 54⇑*iP* **P 17 15 14.6 +2.0**
comp=Z,7.7nm,0.8s,mb4.7
TLY *e*pP pP 17 15 25.9 +1.2
THEF They Montfort 35.51 300 *eP* **P 17 15 12.6 -0.5**
CABF La Chapelle 35.61 297⇑*iP* **P 17 15 14.0 0.0**
comp=Z,302nm,0.7s,mb6.0
CABF *e*pP pP 17 15 26.0 -0.1
CABF La Chapelle 35.61 297⇑*iP* **P 17 15 14.0 0.0**
CABF *e**PP pP 17 15 26.0 -0.1
CABF pmax pmax
comp=Z,151nm,0.7s,mb6.0
CABF La Chapelle 35.61 297⇑*iP* **P 17 15 14.0 0.0**
comp=Z,151nm,0.7s,mb6.0
CABF *e*pP pP 17 15 26.0 -0.1
FRF La Foret Royal 35.70 292⇑*iP* **P 17 15 14.7 -0.1**
comp=Z,257nm,0.8s,mb5.9
FRF *e*pP pP 17 15 26.8 -0.1
FRF La Foret Royal 35.70 292⇑*iP* **P 17 15 14.7 -0.1**
FRF *e**PP pP 17 15 26.8 -0.1
FRF pmax pmax
comp=Z,129nm,0.8s,mb5.9
FRF La Foret Royal 35.70 292⇑*iP* **P 17 15 14.7 -0.1**
comp=Z,128nm,0.8s,mb5.9
FRF *e*pP pP 17 15 26.8 -0.1
KEST Kesra 35.82 278 P **P 17 15 16.9 +1.2**
comp=Z,15nm,0.8s,mb5.0,baz=325,slow=1.4,SNR=65
KEST pP pP 17 15 28.6 +0.7
comp=Z,19nm,0.5s,baz=329,slow=7.0,SNR=17
BCLA Clavier 35.82 304 P **P 17 15 16.6 +0.8**
IRK Irkutsk 35.84 53 *eP* **P 17 15 16.9 +1.0**
IRK *e* pP 17 15 28.2 +0.2
IRK pmax pmax
comp=Z,246nm,1.3s,mb6.0
LMR La Mourre 35.84 292⇑*iP* **P 17 15 15.7 -0.3**
comp=Z,58nm,1.1s,mb5.1
LMR La Mourre 35.84 292⇑*iP* **P 17 15 15.7 -0.3**
LMR pmax pmax
comp=Z,29nm,1.1s,mb5.1
LMR La Mourre 35.84 292⇑*iP* **P 17 15 15.7 -0.3**
comp=Z,29nm,1.1s,mb5.1
OG25 Le Caire 35.96 293 *eP* **P 17 15 16.4 -0.6**
ORIF Oris-en-Rattie 36.00 294 *eP* **P 17 15 15.5 -1.8**
comp=Z,14nm,0.7s,mb4.7
ORIF *e*MLR MLR
comp=Z,832nm,22.2s
ORIF Oris-en-Rattie 36.00 294 *eP* **P 17 15 15.5 -1.8**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 36.00 294 *eP* **P 17 15 15.5 -1.8**
comp=Z,7.2nm,0.7s,mb4.7
LOF Lofoten 36.01 335 *eP* **P 17 15 18.4 +1.0**
LOF AMb AMB 17 15 31.9
comp=Z,66nm,1.2s,mb5.4
LOF Lofoten 36.01 335 *eP* **P 17 15 18.5 +1.1**
comp=Z,66nm,1.2s,mb5.4,SNR=39
IMP Imphal 36.06 103 *iP* **P 17 15 19.0 +1.2**
MEZF Maizieres J'vi 36.11 301⇑*iP* **P 17 15 18.5 +0.2**
comp=Z,87nm,0.6s,mb5.5
MEZF Maizieres J'vi 36.11 301⇑*iP* **P 17 15 18.5 +0.2**
comp=Z,43nm,0.6s,mb5.5
TAVF Tavernes 36.11 292 *eP* **P 17 15 17.8 -0.5**
OG05 Jujurieux 36.12 296 *eP* **P 17 15 18.7 +0.3**
GIVF Givet 36.14 303⇑*iP* **P 17 15 19.7 +1.2**
comp=Z,90nm,0.9s,mb5.4
GIVF Givet 36.14 303⇑*iP* **P 17 15 19.7 +1.2**
GIVF pmax pmax
comp=Z,45nm,0.9s,mb5.4
GIVF Givet 36.14 303⇑*iP* **P 17 15 19.7 +1.2**
comp=Z,45nm,0.9s,mb5.4
STOF St-Etienne Org 36.14 293 *eP* **P 17 15 17.0 -1.5**
DOU Dourbes 36.29 303 P **P 17 15 21.0 +1.2**
HYA Hoyanger 36.35 322 *eP* **P 17 15 21.9 +1.5**
HYA AMb AMB 17 15 23.1
comp=Z,150nm,1.6s,mb5.7
HYA Hoyanger 36.35 322 *eP* **P 17 15 21.9 +1.5**
comp=Z,150nm,1.6s,mb5.7,SNR=39
SMRF Simiane la Rot 36.38 293 *eP* **P 17 15 20.6 0.0**
comp=Z,66nm,1.1s,mb5.2
SMRF Simiane la Rot 36.38 293 *eP* **P 17 15 20.6 0.0**
comp=Z,33nm,1.1s,mb5.2
SNF Seneffe 36.47 304 P **P 17 15 22.5 +1.2**
BAIF Baives 36.54 303⇑*iP* **P 17 15 23.2 +1.3**
comp=Z,114nm,0.9s,mb5.4
BAIF *e*pP pP 17 15 35.3 +1.2
BAIF Baives 36.54 303⇑*iP* **P 17 15 23.2 +1.3**
BAIF *e**PP pP 17 15 35.3 +1.2
BAIF pmax pmax
comp=Z,57nm,0.9s,mb5.4
BAIF Baives 36.54 303⇑*iP* **P 17 15 23.2 +1.3**
comp=Z,57nm,0.9s,mb5.4
BAIF *e*pP pP 17 15 35.3 +1.2
RUND Rundenannen 36.59 321 *eP* **P 17 15 23.3 +0.9**
RUND *e*pP pP 17 15 34.3 -0.2
VIVF Saint-Julien-l 36.86 295⇑*iP* **P 17 15 24.4 -0.2**
CMAH Djebel Manchou 36.97 280 P **P 17 15 27.0 +1.4**
TRD Trivandrum 37.00 142⇓*ex* x 17 15 56.1
TRD *ex* x 17 21 02.1
LOR Lormes 37.04 299 *eP* **P 17 15 25.8 -0.4**
comp=Z,100nm,0.7s,mb5.4
LOR *e*MLR MLR
comp=Z,635nm,23.0s
LOR Lormes 37.04 299 *eP* **P 17 15 25.8 -0.4**
LOR pmax pmax
comp=Z,50nm,0.7s,mb5.5
LOR MLR MLR
comp=Z,640nm,23.0s,MS4.3
LOR Lormes 37.04 299 *eP* **P 17 15 25.8 -0.4**
comp=Z,50nm,0.7s,mb5.5
LOR LR LR
comp=Z,640nm,23.0s,MS4.3
ABSA Djebel Ababsia 37.05 280 P **P 17 15 28.0 +1.7**
SMF Signal de Mont 37.14 298⇑*iP* **P 17 15 27.0 -0.1**
comp=Z,140nm,0.7s,mb5.6
SMF Signal de Mont 37.14 298⇑*iP* **P 17 15 27.0 -0.1**
SMF pmax pmax
comp=Z,70nm,0.7s,mb5.6
SMF Signal de Mont 37.14 298⇑*iP* **P 17 15 27.0 -0.1**
comp=Z,70nm,0.7s,mb5.6
SSF Saint Saulge 37.31 298⇑*iP* **P 17 15 28.2 -0.3**
comp=Z,61nm,0.8s,mb5.2
SSF *e*pP pP 17 15 40.3 -0.3
SSF Saint Saulge 37.31 298⇑*iP* **P 17 15 28.2 -0.3**
SSF *e**PP pP 17 15 40.3 -0.3
SSF pmax pmax
comp=Z,30nm,0.8s,mb5.2
SSF Saint Saulge 37.31 298⇑*iP* **P 17 15 28.2 -0.3**
comp=Z,30nm,0.8s,mb5.2
SSF *e*pP pP 17 15 40.3 -0.3
CAEH 'Ain El Ouahch 37.35 281 P **P 17 15 30.0 +1.2**
PLDF La Plantade 37.40 297 *eP* **P 17 15 29.4 +0.2**
COLF Collangettes 37.42 296 *eP* **P 17 15 29.5 +0.1**
AVF Avril sur Loir 37.45 298⇑*iP* **P 17 15 29.8 +0.1**
comp=Z,427nm,0.9s,mb6.0
AVF Avril sur Loir 37.45 298⇑*iP* **P 17 15 29.8 +0.1**
AVF pmax pmax
comp=Z,213nm,0.9s,mb6.0
AVF Avril sur Loir 37.45 298⇑*iP* **P 17 15 29.8 +0.1**
comp=Z,213nm,0.9s,mb6.0
SONM Songino Array 37.48 60 P **P 17 15 31.5 +1.6**
comp=Z,16nm,0.8s,mb4.9,baz=278,slow=10,SNR=70
SONM pP pP 17 15 42.4 +0.3
comp=Z,22nm,0.8s,baz=274,slow=9.1,SNR=23
SONM PP PP 17 16 58.6 +2.6
comp=Z,19nm,1.2s,baz=278,slow=11,SNR=4.0
SONM PcP PcP 17 17 47.0 -0.5
comp=Z,13nm,0.9s,baz=276,slow=3.2,SNR=6.4
SONM pPcP 17 18 01.0
comp=Z,8.3nm,0.8s,baz=272,slow=3.2,SNR=4.2
SONM ScP ScP 17 21 30.6 -0.5
comp=Z,2.9nm,1.1s,baz=191,slow=4.5,SNR=4.1
SONM LR LR 17 32 00.3
comp=Z,1μm,19.0s,MS4.7,baz=276,slow=38
SONM Songino Array 37.48 60 P **P 17 15 31.5 +1.6**
SONM pP pP 17 15 42.4 +0.3
SONM PP PP 17 16 58.6 +2.6
SONM PcP PcP 17 17 47.0 -0.5
SONM pPcP 17 18 01.0
SONM ScP ScP 17 21 30.6 -0.5
SONM LR LR 17 32 00.3
CKFL Kef-Lekhel 37.58 280 P **P 17 15 31.5 +0.7**
LASF Ste Croix 37.58 294⇑*iP* **P 17 15 30.8 0.0**
comp=Z,77nm,1.0s,mb5.1
LASF *e*pP pP 17 15 43.0 +0.1
LASF Ste Croix 37.58 294⇑*iP* **P 17 15 30.8 0.0**
comp=Z,38nm,1.0s,mb5.1
LASF *e*pP pP 17 15 43.0 +0.1
AGO Saint Agoulin 37.72 297 *eP* **P 17 15 32.0 +0.1**
LBL Lubilhac 37.78 295 *eP* **P 17 15 32.9 +0.4**
CASM Ain Smara 37.80 280 P **P 17 15 33.0 +0.4**
MENF Mencas 37.82 304 *eP* **P 17 15 33.3 +0.5**
BGF Bois d'Agland 37.83 298⇑*iP* **P 17 15 32.9 0.0**
comp=Z,95nm,0.8s,mb5.3
BGF Bois d'Agland 37.83 298⇑*iP* **P 17 15 32.9 0.0**
BGF pmax pmax
comp=Z,48nm,0.8s,mb5.3
BGF Bois d'Agland 37.83 298⇑*iP* **P 17 15 32.9 0.0**
comp=Z,48nm,0.8s,mb5.3
PYM Petit Puy Mans 37.86 296 *eP* **P 17 15 33.6 +0.5**
HYF Humbligny 37.87 299⇑*iP* **P 17 15 33.7 +0.5**
CTEI Djebel Teioual 37.94 280 P **P 17 15 35.0 +1.2**
DFRA Djebel Bou Aff 38.17 281 P **P 17 15 36.0 +0.3**
VERF Verneugheol 38.22 296 *eP* **P 17 15 36.8 +0.7**
FRNF Fournols 38.23 296 *eP* **P 17 15 37.1 +0.9**
TCF Toulx Ste Croi 38.31 297⇑*iP* **P 17 15 37.5 +0.6**
comp=Z,314nm,1.0s,mb5.7
TCF *e*pP pP 17 15 49.6 +0.5
TCF Toulx Ste Croi 38.31 297⇑*iP* **P 17 15 37.5 +0.6**
TCF *e**PP pP 17 15 49.6 +0.5
TCF pmax pmax
comp=Z,157nm,1.0s,mb5.7
TCF Toulx Ste Croi 38.31 297⇑*iP* **P 17 15 37.5 +0.6**
comp=Z,157nm,1.0s,mb5.7
TCF *e*pP pP 17 15 49.6 +0.5
LZH Lanzhou 38.50 80 *eP* **P 17 15 40.0 +1.5**
LZH AP pP 17 15 52.0 +1.3
LZH XP sP 17 15 57.5 +1.5
LZH PP PP 17 17 12.0 +4.8
LZH PCP PcP 17 17 51.9 +1.2
LZH *e*S **S 17 21 32.2 +1.3**
LZH XS sS 17 21 51.0 -0.3
LZH SS SS 17 24 15.2 -6.4
LZH AMB AMB
comp=Z,125nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,493nm,4.5s
LZH LR LR
comp=E,2μm,15.4s
LZH LR LR
comp=Z,3μm,17.4s,MS5.2
LZH Lanzhou 38.50 80 *eP* **P 17 15 40.0 +1.5**
LZH ***PP pP 17 15 52.0 +1.3
LZH 17 17 12.0
LZH 17 17 51.9
LZH *e*S **S 17 21 32.2 +1.3**
LZH SS SS 17 24 15.2 -6.4
LZH pmax pmax
comp=Z,125nm,1.5s,mb5.4
LZH MLR MLR
comp=Z,3μm,17.4s,MS5.2
LZH Lanzhou 38.50 80 *eP* **P 17 15 40.0 +1.5**
comp=Z,125nm,1.5s,mb5.4
LZH pP pP 17 15 52.0 +1.3
LZH sP sP 17 15 57.5 +1.5
LZH PP PP 17 17 12.0 +4.8
LZH PcP PcP 17 17 51.9 +1.2
LZH *e*S **S 17 21 32.2 +1.3**
LZH sS sS 17 21 51.0 -0.3
LZH SS SS 17 24 15.2 -6.4
LZH LR LR
comp=Z,3μm,17.4s,MS5.2
SET Setif 38.65 281 P **P 17 15 42.0 +2.2**
CAF Calviac 38.66 295⇑*iP* **P 17 15 40.5 +0.6**
comp=Z,103nm,0.9s,mb5.3
CAF Calviac 38.66 295⇑*iP* **P 17 15 40.5 +0.6**
CAF pmax pmax
comp=Z,52nm,0.9s,mb5.3
CAF Calviac 38.66 295⇑*iP* **P 17 15 40.5 +0.6**
comp=Z,52nm,0.9s,mb5.3
MTLF Montolieu 38.90 293⇑*iP* **P 17 15 42.0 +0.1**
comp=Z,120nm,1.0s,mb5.3
MTLF *e*pP pP 17 15 54.1 0.0
MTLF Montolieu 38.90 293⇑*iP* **P 17 15 42.0 +0.1**
MTLF *e**PP pP 17 15 54.1 0.0
MTLF pmax pmax
comp=Z,60nm,1.0s,mb5.3
MTLF Montolieu 38.90 293⇑*iP* **P 17 15 42.0 +0.1**
comp=Z,60nm,1.0s,mb5.3
MTLF *e*pP pP 17 15 54.1 0.0
RJF Les Rejaudoux 38.97 296⇑*iP* **P 17 15 43.3 +0.9**
comp=Z,252nm,1.2s,mb5.5
RJF *e*MLR MLR
comp=Z,435nm,20.8s
RJF Les Rejaudoux 38.97 296⇑*iP* **P 17 15 43.3 +0.9**
RJF pmax pmax
comp=Z,126nm,1.2s,mb5.5
RJF MLR MLR
comp=Z,430nm,20.8s,MS4.3
RJF Les Rejaudoux 38.97 296⇑*iP* **P 17 15 43.3 +0.9**
comp=Z,126nm,1.2s,mb5.5
RJF LR LR
comp=Z,430nm,20.8s,MS4.3
LDF La Druitiere 39.51 301⇑*iP* **P 17 15 46.7 -0.3**
comp=Z,64nm,0.6s,mb5.3
LDF La Druitiere 39.51 301⇑*iP* **P 17 15 46.7 -0.3**
LDF pmax pmax
comp=Z,32nm,0.6s,mb5.2
LDF La Druitiere 39.51 301⇑*iP* **P 17 15 46.7 -0.3**
comp=Z,32nm,0.6s,mb5.3
LFF La Frestale 39.58 296⇑*iP* **P 17 15 48.1 +0.5**
comp=Z,249nm,0.8s,mb5.7
LFF La Frestale 39.58 296⇑*iP* **P 17 15 48.1 +0.5**
LFF pmax pmax
comp=Z,125nm,0.8s,mb5.7
LFF La Frestale 39.58 296⇑*iP* **P 17 15 48.1 +0.5**
comp=Z,125nm,0.8s,mb5.7
SKP1 Kophill 39.58 306⇑*eP* **P 17 15 47.6 0.0**
FLN La Foliniere 39.72 302⇑*iP* **P 17 15 48.5 -0.2**
comp=Z,114nm,0.7s,mb5.4
FLN *e*MLR MLR
comp=Z,436nm,22.7s
FLN La Foliniere 39.72 302⇑*iP* **P 17 15 48.5 -0.2**
FLN pmax pmax
comp=Z,57nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,440nm,22.7s,MS4.2
FLN La Foliniere 39.72 302⇑*iP* **P 17 15 48.5 -0.2**
comp=Z,57nm,0.7s,mb5.4
FLN LR LR
comp=Z,440nm,22.7s,MS4.2
EMIR Miracle 39.75 291 P **P 17 15 49.4 +0.5**
comp=Z,372nm,1.1s,mb6.0
SALF Salau 39.77 292 *eP* **P 17 15 48.1 -1.0**
LRW Lerwick 39.77 320 *eP* **P 17 15 49.1 -0.1**
LRW AMb AMB 17 15 49.9
comp=Z,87nm,1.5s,mb5.3
MLS Moulis 39.79 292 *eP* **P 17 15 48.7 -0.6**
MFF Saint Martin d 39.86 298⇑*iP* **P 17 15 49.5 -0.4**
comp=Z,153nm,0.8s,mb5.5
MFF *e*pP pP 17 16 01.7 -0.4
MFF Saint Martin d 39.86 298⇑*iP* **P 17 15 49.5 -0.4**
MFF *e**PP pP 17 16 01.7 -0.4
MFF pmax pmax
comp=Z,77nm,0.8s,mb5.5
MFF Saint Martin d 39.86 298⇑*iP* **P 17 15 49.5 -0.4**
comp=Z,77nm,0.8s,mb5.5
MFF *e*pP pP 17 16 01.7 -0.4
KBI1 Birley Grange 39.90 309⇑*iP* **P 17 15 50.1 -0.2**
PALK Pallekele 39.93 137 PFAKE 17 16 00.0 +10
PALK LR LR
comp=Z,151nm,21.0s,MS3.8
GRR Gorron 40.03 301⇑*iP* **P 17 15 51.0 -0.3**
comp=Z,89nm,0.8s,mb5.3
GRR Gorron 40.03 301⇑*iP* **P 17 15 51.0 -0.3**
GRR pmax pmax
comp=Z,44nm,0.8s,mb5.2
GRR Gorron 40.03 301⇑*iP* **P 17 15 51.0 -0.3**
comp=Z,44nm,0.8s,mb5.3
LHO Holmfirth 40.08 309⇑*eP* **P 17 15 51.3 -0.4**
KWE Weaver Farm 40.11 308⇑*iP* **P 17 15 51.6 -0.3**
ABA Alger-Bouzarea 40.22 283 P **P 17 15 48.0 -4.8**
SWN1 Swindon 40.22 306⇑*eP* **P 17 15 53.3 +0.4**
XSO Sourhope Farm 40.22 312⇑*iP* **P 17 15 52.7 -0.2**
XAL Allendale 40.22 311⇑*iP* **P 17 15 53.1 +0.2**
EPOB Poblet 40.23 290 ⇑P **P 17 15 52.3 -0.6**
comp=Z,342nm,1.5s,mb5.9
EPOB Poblet 40.23 290 ⇑P **P 17 15 52.3 -0.6**
comp=Z,342nm,1.5s,mb5.9
LCHF La Chataignera 40.25 299 *eP* **P 17 15 52.9 -0.2**
EPF Esparros 40.31 293⇑*iP* **P 17 15 52.4 -1.2**
comp=Z,19nm,0.7s,mb4.7
EPF Esparros 40.31 293⇑*iP* **P 17 15 52.4 -1.2**
EPF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
EPF Esparros 40.31 293⇑*iP* **P 17 15 52.4 -1.2**
comp=Z,9.6nm,0.7s,mb4.7
ESY Stoneypath 40.41 313⇑*eP* **P 17 15 54.1 -0.4**
EMHD Djebel Mahouad 40.49 282 P **P 17 15 52.0 -3.1**
CD2 Chengdu 40.51 87⇑*iP* **P 17 15 56.9 +1.6**
CD2 AP pP 17 16 10.3 +2.8
CD2 XP sP 17 16 14.2 +1.4

CD2 PP PP 17 17 33.1 +4.0
CD2 S **S** **17 22 04.3 +3.2**
CD2 XS sS 17 22 22.3 +0.7
CD2 AMB AMB
comp=Z,130nm,1.1s,mb5.5
CD2 AMB AMB
comp=Z,170nm,9.0s
CD2 LR LR
comp=N,1μm,18.0s
CD2 LR LR
comp=Z,1μm,19.2s,MS4.8
EBIE Bielsa 40.54 292 P **P** **17 15 55.7 +0.3**
comp=Z,164nm,2.1s,mb5.3
EBIE Bielsa 40.54 292 P **P** **17 15 55.7 +0.2**
comp=Z,164nm,2.1s,mb5.3
SWK Warminster 40.54 306⇑ *eP* **P** **17 15 55.6 +0.1**
MME1 Meikle Cairn 40.59 315⇑ *eP* **P** **17 15 55.7 -0.2**
EBL Broad Law 40.66 313 *eP* **P** **17 15 57.0 +0.5**
ECK Cauldkaine Hil 40.73 312⇑ *iP* **P** **17 15 56.8 -0.3**
EDI Edinburgh 40.74 313 *eP* **P** **17 15 57.1 0.0**
EDI AMb AMB 17 16 01.2
comp=Z,174nm,1.5s,mb5.5
MCD Coleburn Disti 40.75 316⇑ *eP* **P** **17 15 57.2 0.0**
CKE Keswick 40.75 311⇑ *eP* **P** **17 15 57.6 +0.3**
ESK Eskdalemuir 40.77 312 P **P** **17 15 57.6 +0.2**
comp=Z,736nm,0.6s,mb6.5,SNR=23
ESK Eskdalemuir 40.77 312 *eP* **P** **17 15 57.1 -0.3**
ESK AMb AMB 17 15 59.2
comp=Z,120nm,1.3s,mb5.4
ESK Eskdalemuir 40.77 312 *eP* **P** **17 15 57.0 -0.4**
comp=Z,60nm,0.6s,mb5.4
ESK Eskdalemuir 40.77 312 *eP* **P** **17 15 57.0 -0.4**
comp=Z,60nm,0.6s,mb5.4
HLM1 Long Mynd 40.78 308⇑ *eP* **P** **17 15 57.5 0.0**
BHH Howats Hill 40.79 312⇑ *eP* **P** **17 15 57.6 0.0**
OLEF Ile d'Oleron 40.81 298 *eP* **P** **17 15 58.0 +0.3**
MLA1 Latheron 40.81 317⇑ *eP* **P** **17 15 56.6 -1.1**
CDU1 Dunnerdale 40.82 311⇑ *eP* **P** **17 15 58.0 +0.2**
HGH Gray Hill 40.83 306⇑ *eP* **P** **17 15 57.6 -0.3**
ERTA Horta de San J 40.88 290 P **P** **17 15 57.4 -0.9**
comp=Z,186nm,1.5s,mb5.5
MCH1 Michaelchurch 40.91 307⇑ *eP* **P** **17 15 58.3 -0.3**
MCH1 ⇑*eP* 17 15 58.3
MCH1 AMb AMB 17 15 59.6
comp=Z,79nm,1.0s,mb5.3
SBD1 Bryn Du 40.97 308⇑ *eP* **P** **17 15 58.9 -0.2**
ETSF Etsaut 40.98 293⇑ *iP* **P** **17 15 59.1 0.0**
comp=Z,78nm,0.8s,mb5.1
ETSF Etsaut 40.98 293⇑ *iP* **P** **17 15 59.1 0.0**
ETSF pmax pmax
comp=Z,39nm,0.8s,mb5.1
ETSF Etsaut 40.98 293⇑ *iP* **P** **17 15 59.1 0.0**
comp=Z,39nm,0.8s,mb5.1
XDE Dent Fell 40.98 311⇑ *eP* **P** **17 15 59.2 +0.1**
ORE Reay 41.02 317⇑ *eP* **P** **17 15 59.2 -0.3**
ATE Arette 41.03 293 *eP* **P** **17 15 59.6 +0.1**
BWH Wardlaw 41.04 312⇑ *eP* **P** **17 15 59.4 -0.2**
HTR Trewern Hill 41.06 307⇑ *iP* **P** **17 15 59.6 -0.3**
SGMF Saint Gilles 41.17 301⇑ *iP* **P** **17 16 00.9 +0.2**
comp=Z,222nm,0.6s,mb5.7
SGMF Saint Gilles 41.17 301⇑ *iP* **P** **17 16 00.9 +0.2**
SGMF pmax pmax
comp=Z,111nm,0.6s,mb5.7
SGMF Saint Gilles 41.17 301⇑ *iP* **P** **17 16 00.9 +0.2**
comp=Z,111nm,0.6s,mb5.7
ESAC San Caprasio 41.24 291 ⇑P **P** **17 16 01.1 -0.1**
comp=Z,176nm,0.7s,mb5.8
ESAC San Caprasio 41.24 291 ⇑P **P** **17 16 01.1 -0.1**
comp=Z,176nm,0.7s,mb5.8
LARF Larrau 41.25 293 *eP* **P** **17 16 01.5 +0.2**
WPM1 Penmaenmawr 41.33 309⇑ *eP* **P** **17 16 02.0 0.0**
EAB Aberfoyle 41.37 313 *eP* **P** **17 16 02.6 +0.2**
SJPF Ste Jean 41.39 293 *eP* **P** **17 16 01.8 -0.7**
comp=Z,24nm,0.9s,mb4.5
SJPF Ste Jean 41.39 293 *eP* **P** **17 16 01.8 -0.7**
SJPF pmax pmax
comp=Z,12nm,0.9s,mb4.5
SJPF Ste Jean 41.39 293 *eP* **P** **17 16 01.8 -0.7**
comp=Z,12nm,0.9s,mb4.5
BOD Bodaibo 41.42 44⇓ *iP* **P** **17 16 02.7 0.0**
BOD pmax pmax
comp=Z,105nm,1.0s,mb5.4
PGBU Glenifferbraes 41.47 313⇑ *eP* **P** **17 16 03.2 0.0**
PGBU AMb AMB 17 16 04.9
comp=Z,68nm,1.2s,mb5.1
SPB4 Spitsbergen Ar 41.49 349⇑ *eP* **P** **17 16 04.2 +0.9**
SPB4 *ep*P pP 17 16 15.6 +0.1
SPB4 Spitsbergen Ar 41.49 349⇑ *eP* **P** **17 16 04.2 +0.9**
SPB4 *ep*P pP 17 16 15.6 +0.1
HEX Exmoor 41.52 306⇑ *iP* **P** **17 16 03.0 -0.6**
EBNR Beni Rached 41.53 283 P pP 17 16 18.0 +2.1
CIT Chita 41.55 53 *eP* **P** **17 16 05.4 +1.6**
CIT *e* pP 17 16 15.3 -0.8
CIT *e* 17 17 39.9
CIT pmax pmax
comp=Z,228nm,1.6s,mb5.5
EALK Alkurruntz 41.56 294 P **P** **17 16 03.2 -0.8**
comp=Z,199nm,2.2s,mb5.4
EALK Alkurruntz 41.56 294 P **P** **17 16 03.2 -0.7**
comp=Z,199nm,2.2s,mb5.4
GIM North Isle of 41.57 311⇑ *eP* **P** **17 16 04.1 +0.2**
ELIZ Elizondo 41.59 294 P **P** **17 16 04.2 0.0**
ELIZ pmax pmax
comp=Z,15nm,0.9s,mb4.6
ELIZ Elizondo 41.59 294 P **P** **17 16 04.2 +0.1**
comp=Z,15nm,0.9s,mb4.6
ELIZ Elizondo 41.59 294 P **P** **17 16 04.2 0.0**
comp=Z,15nm,0.9s,mb4.6
BTO Baotou 41.60 70 *eP* **P** **17 16 05.3 +1.1**
WLF1 Llynfaes 41.62 309⇑ *eP* **P** **17 16 04.3 0.0**
ROSF Rostrenen 41.62 302⇑ *iP* **P** **17 16 04.5 +0.1**
comp=Z,173nm,0.8s,mb5.4
ROSF *ep*P pP 17 16 16.9 +0.2
ROSF Rostrenen 41.62 302⇑ *iP* **P** **17 16 04.5 +0.1**
ROSF *e**PP pP 17 16 16.9 +0.2
ROSF pmax pmax
comp=Z,86nm,0.8s,mb5.4
ROSF Rostrenen 41.62 302⇑ *iP* **P** **17 16 04.5 +0.1**
comp=Z,86nm,0.8s,mb5.4
ROSF *ep*P pP 17 16 16.9 +0.2
QUIF Quistinic 41.63 301⇑ *iP* **P** **17 16 04.5 0.0**
comp=Z,216nm,0.7s,mb5.6
QUIF Quistinic 41.63 301⇑ *iP* **P** **17 16 04.5 0.0**
QUIF pmax pmax
comp=Z,108nm,0.7s,mb5.6
QUIF Quistinic 41.63 301⇑ *iP* **P** **17 16 04.5 0.0**
comp=Z,108nm,0.7s,mb5.6
EMOS Mosqueruela 41.64 289 ⇑P **P** **17 16 04.8 +0.2**
comp=Z,174nm,1.5s,mb5.5
EMOS Mosqueruela 41.64 289 ⇑P **P** **17 16 04.8 +0.3**
comp=Z,174nm,1.5s,mb5.5
GAL1 Galloway 41.66 311 *eP* **P** **17 16 04.8 +0.1**
GAL1 AMb AMB 17 16 06.1
comp=Z,144nm,1.4s,mb5.4
DYA Yadsworthy 41.69 305⇑ *iP* **P** **17 16 04.8 -0.2**
WIM Isle of Man 41.70 310⇑ *eP* **P** **17 16 04.9 -0.1**
ECHA Ech Chlef 41.71 282 P pP 17 16 17.0 -0.4
YRC Rhoscolyn 41.73 309⇑ *eP* **P** **17 16 05.2 0.0**
HTL Hartland 41.96 306⇑ *eP* **P** **17 16 06.7 -0.4**
HTL AMb AMB 17 16 13.2
comp=Z,44nm,1.8s,mb4.8
EANR 'Ain N'Sour 41.98 282 P **P** **17 16 07.0 -0.3**
EBEN Beniarda 41.99 287 P **P** **17 16 07.7 +0.3**
comp=Z,341nm,2.3s,mb5.6
EBEN Beniarda 41.99 287 P **P** **17 16 07.7 +0.3**
comp=Z,341nm,2.3s,mb5.6
ETRT Tiaret 42.04 281 P **P** **17 16 08.0 +0.2**
KPL Plockton 42.05 315⇑ *eP* **P** **17 16 07.3 -0.6**
KPL AMb AMB 17 16 08.6
comp=Z,167nm,1.9s,mb5.3
CMA1 Manaccan 42.51 304⇑ *eP* **P** **17 16 11.1 -0.5**
CRQ2 Rosemanowes 2 42.52 305 *eP* **P** **17 16 11.8 +0.1**
CGH1 Goonhilly 42.54 304⇑ *eP* **P** **17 16 11.7 -0.2**
CCA1 Carnmenellis 42.55 305⇑ *eP* **P** **17 16 11.8 -0.2**
KMI Kunming 42.57 95 P **P** **17 16 13.3 +1.2**
KMI AP pP 17 16 21.0 -3.4
KMI XP sP 17 16 26.3 -3.4
KMI PP PP 17 17 54.6 +3.3
KMI PPP 17 18 20.7
KMI S **S** **17 22 34.7 +3.2**
KMI XS sS 17 22 51.8 -0.3
KMI SS SS 17 25 41.1 -1.4
KMI SSS 17 26 26.9
KMI AMB AMB
comp=Z,127nm,1.1s,mb5.6
KMI AMB AMB
comp=Z,342nm,3.1s
KMI LR LR
comp=N,433nm,21.8s,MS4.3
KMI LR LR
comp=E,257nm,26.8s,MS4.3
KMI LR LR
comp=Z,588nm,26.8s,MS4.3
KMI Kunming 42.57 95 P **P** **17 16 13.3 +1.2**
comp=Z,127nm,1.1s,mb5.6
KMI pP pP 17 16 21.0 -3.4
KMI sP sP 17 16 26.3 -3.4
KMI PP PP 17 17 54.6 +3.3
KMI PPP 17 18 20.7
KMI S **S** **17 22 34.7 +3.2**
KMI sS sS 17 22 51.8 -0.3
KMI SS SS 17 25 41.1 -1.4
KMI SSS 17 26 26.9
KMI LR LR
comp=Z,590nm,26.8s,MS4.3
KMI Kunming 42.57 95 P **P** **17 16 13.3 +1.2**
comp=Z,127nm,1.1s,mb5.6
KMI pP pP 17 16 21.0 -3.4
KMI SS SS 17 25 41.1 -1.4
KBS Kingsbay 42.64 349⇑ *iP* **P** **17 16 13.4 +0.7**
KBS *e**PP pP 17 16 23.9 -1.1
KBS pmax pmax
comp=Z,106nm,1.3s,mb5.4
KBS Kingsbay 42.64 349⇑ *iP* **P** **17 16 13.4 +0.7**
comp=Z,106nm,1.3s,mb5.4
KBS *ep*P pP 17 16 23.9 -1.1
KBS Kingsbay 42.64 349⇑ *iP* **P** **17 16 13.4 +0.7**
comp=Z,106nm,1.3s,mb5.4
KBS *ep*P pP 17 16 23.9 -1.1
HHC Hu-ho-hao-te 42.65 70 *eP* **P** **17 16 14.9 +2.2**
HHC AP pP 17 16 27.9 +2.9
HHC XP sP 17 16 31.9 +1.6
HHC PP PP 17 17 57.9 +5.7
HHC PCP PcP 17 18 08.3 +4.2
HHC S **S** **17 22 35.6 +2.9**
HHC SS SS 17 25 40.7 -3.3
HHC SCS ScS 17 26 09.8 -0.3
HHC AMB AMB
comp=Z,61nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,179nm,4.3s
HHC LR LR
comp=N,774nm,11.0s,MS4.9
HHC LR LR
comp=E,501nm,11.8s,MS4.9
HHC LR LR
comp=Z,488nm,9.7s
DLF Lyons Farm 42.89 309 *eP* **P** **17 16 13.0 -1.7**
ELAN Lanestosa 42.92 294 P **P** **17 16 14.8 -0.1**
comp=Z,152nm,1.4s,mb5.5
ELAN Lanestosa 42.92 294 P **P** **17 16 14.8 -0.1**
comp=Z,152nm,1.4s,mb5.5
ETOB Tobarra 42.99 287 P **P** **17 16 15.3 -0.2**
comp=Z,189nm,1.1s,mb5.7
ETOB Tobarra 42.99 287 P **P** **17 16 15.3 -0.2**
comp=Z,189nm,1.1s,mb5.7
EMUR La Murta 43.04 286 P **P** **17 16 15.7 -0.3**
comp=Z,279nm,1.5s,mb5.8
EMUR La Murta 43.04 286 P **P** **17 16 15.6 -0.3**
comp=Z,279nm,1.5s,mb5.8
XAN Xi'an 43.13 80 P **P** **17 16 17.8 +1.2**
XAN AMB AMB
comp=Z,81nm,1.3s,mb5.3
XAN AMB AMB
comp=Z,162nm,6.9s
XAN LR LR
comp=N,308nm,20.1s,MS4.6
XAN LR LR
comp=E,625nm,19.5s,MS4.6
XAN LR LR
comp=Z,981nm,18.9s,MS4.7
DCN Croghan 43.33 309 *eP* **P** **17 16 16.8 -1.4**
CHG Chiang Mai 43.34 106 ⇓P **P** **17 16 18.6 +0.3**
comp=Z,20nm,0.8s,mb4.9
CHTO Chiang Mai 43.34 106⇑ *iP* **P** **17 16 18.3 0.0**
CHTO *e* 17 18 07.4
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CHTO Chiang Mai 43.34 106⇑ *iP* **P** **17 16 18.2 -0.1**
CHTO *e*PcP PcP 17 18 07.4 +1.0
CHTO Chiang Mai 43.34 106⇑ *iP* **P** **17 16 18.2 -0.1**
comp=Z,8.2nm,0.8s,mb4.5
CHTO Chiang Mai 43.34 106 *e*PcP PcP 17 18 07.4 +1.0
EVIA Vianos 43.69 288 ⇑P **P** **17 16 20.1 -1.1**
EVIA pmax pmax
comp=Z,103nm,0.6s,mb5.7
EVIA Vianos 43.69 288 ⇑P **P** **17 16 20.1 -1.0**
comp=Z,103nm,0.6s,mb5.7
EVIA Vianos 43.69 288 ⇑P **P** **17 16 20.1 -1.1**
comp=Z,103nm,0.6s,mb5.7
PBA Port Blair 43.75 119⇓ *ex* x 17 16 05.9
PBA *ex* x 17 16 12.4
PBA AMb AMB 17 16 14.3
comp=Z,142nm,1.2s,mb5.6
KMBO Kilima Mbogo 43.83 206 P **P** **17 16 22.6 +0.3**
comp=Z,6.5nm,1.1s,baz=16,slow=10,SNR=7.6
KMBO LR LR 17 35 57.1
comp=Z,356nm,21.7s,MS4.2,baz=95,slow=38
KMBO Kilima Mbogo 43.83 206⇓ *eP* **P** **17 16 22.9 +0.6**
KMBO *e**PP pP 17 16 32.5 -2.1
KMBO pmax pmax
comp=Z,18nm,1.3s
KMBO MLR MLR
comp=Z,428nm,21.0s
KMBO Kilima Mbogo 43.83 206⇓ *eP* **P** **17 16 22.9 +0.6**
comp=Z,18nm,1.3s,mb4.7
KMBO *ep*P pP 17 16 32.5 -2.1
KMBO LR LR
comp=Z,428nm,21.0s,MS4.3
KMBO Kilima Mbogo 43.83 206⇓ *eP* **P** **17 16 22.9 +0.6**
comp=Z,18nm,1.3s,mb4.6
KMBO *ep*P pP 17 16 32.5 -2.1
EHUE Huescar 44.05 286 P **P** **17 16 22.5 -1.5**
EHUE pmax pmax
comp=Z,225nm,1.1s,mb5.8
EHUE Huescar 44.05 286 P **P** **17 16 22.5 -1.5**
comp=Z,225nm,1.1s,mb5.8
ENIJ Nijar 44.07 285 ⇑P **P** **17 16 22.8 -1.4**
ENIJ pmax pmax
comp=Z,67nm,0.6s,mb5.5
ENIJ Nijar 44.07 285 ⇑P **P** **17 16 22.8 -1.4**
comp=Z,67nm,0.6s,mb5.5
ENIJ Nijar 44.07 285 ⇑P **P** **17 16 22.8 -1.4**
comp=Z,67nm,0.6s,mb5.5
EARI Arriondas 44.14 295 P **P** **17 16 24.9 +0.2**
comp=Z,169nm,1.3s,mb5.6
EARI Arriondas 44.14 295 P **P** **17 16 25.0 +0.2**
comp=Z,169nm,1.3s,mb5.6
GUD Guadarrama 44.21 291 P **P** **17 16 23.9 -1.5**
GUD pmax pmax
comp=Z,26nm,0.6s,mb5.1
GUD Guadarrama 44.21 291 P **P** **17 16 23.9 -1.5**
comp=Z,26nm,0.6s,mb5.1
GUD Guadarrama 44.21 291 P **P** **17 16 23.9 -1.5**
comp=Z,26nm,0.6s,mb5.1
ESDC Sonseca Array 44.40 289 P **P** **17 16 26.4 -0.4**
comp=Z,20nm,0.6s,mb5.0,baz=65,slow=8.2,SNR=148
ESDC pP pP 17 16 37.9 -1.3
comp=Z,34nm,0.7s,baz=63,slow=7.3,SNR=24
ESDC Sonseca Array 44.40 289 ⇑P **P** **17 16 26.2 -0.6**
comp=Z,57nm,0.6s,mb5.5
ESDC Sonseca Array 44.40 289 ⇑P **P** **17 16 26.2 -0.6**
comp=Z,57nm,0.6s,mb5.5
ESLA Sonseca Array 44.40 289⇑ *iP* **P** **17 16 26.3 -0.5**
comp=Z,24nm,1.0s,mb4.9
ESLA ⇓*ep*P pP 17 16 37.9 -1.3
ESLA LR LR
comp=Z,2μm,19.0s,MS5.0
ESLA Sonseca Array 44.40 289⇑ *iP* **P** **17 16 26.3 -0.5**
comp=Z,24nm,1.0s,mb4.9
ESLA ⇓*ep*P pP 17 16 37.9 -1.3
EQES Quesada 44.41 287 ⇑P **P** **17 16 26.9 0.0**
comp=Z,368nm,1.4s,mb5.9
EQES Quesada 44.41 287 ⇑P **P** **17 16 26.9 0.0**
comp=Z,368nm,1.4s,mb5.9
EBER Berja 44.61 285 P **P** **17 16 28.4 -0.1**
comp=Z,215nm,0.7s,mb6.1
EBER Berja 44.61 285 P **P** **17 16 28.4 -0.1**
comp=Z,215nm,0.7s,mb6.1
EBAN Banos Encina 44.80 287 ⇑P **P** **17 16 28.7 -1.3**
EBAN pmax pmax
comp=Z,120nm,0.6s,mb5.9
EBAN Banos Encina 44.80 287 ⇑P **P** **17 16 28.7 -1.4**
comp=Z,120nm,0.6s,mb5.9
EBAN Banos Encina 44.80 287 ⇑P **P** **17 16 28.7 -1.3**
comp=Z,120nm,0.6s,mb5.9
GYA Guiyang 44.89 91⇑ *iP* **P** **17 16 31.3 +0.6**
GYA AP pP 17 16 43.7 +0.6
GYA XP sP 17 16 49.0 +0.6
GYA PP PP 17 18 18.9 +2.8
GYA S **S** **17 23 09.8 +4.4**
GYA SS SS 17 26 25.6 -2.1
GYA LR LR
comp=N,470nm,20.4s,MS4.8
GYA LR LR
comp=E,960nm,21.2s,MS4.8
GYA LR LR
comp=Z,1μm,22.8s,MS4.7
ECOG Cogollos-Vega 44.97 286 ⇓P **P** **17 16 29.6 -1.8**
ECOG pmax pmax
comp=Z,34nm,0.6s,mb5.3
ECOG Cogollos-Vega 44.97 286 ⇓P **P** **17 16 29.6 -1.8**
comp=Z,34nm,0.6s,mb5.4
EALB Alboran 45.08 284 P **P** **17 16 30.6 -1.7**
comp=Z,128nm,1.1s,mb5.7
EALB Alboran 45.08 284 P **P** **17 16 30.6 -1.7**
comp=Z,128nm,1.1s,mb5.7
EGUA Guajares 45.13 286 ⇓P **P** **17 16 31.0 -1.7**
EGUA pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
EGUA Guajares 45.13 286 ⇓P **P** **17 16 31.0 -1.7**
comp=Z,7.9nm,0.7s,mb4.7
EGUA Guajares 45.13 286 ⇓P **P** **17 16 31.0 -1.7**
comp=Z,7.9nm,0.7s,mb4.7
ENH Enshi 45.20 85 PFAKE 17 16 50.0 +17
ENH LR LR
comp=Z,2.0nm,22.0s
ERON Agron 45.24 286 ⇑P **P** **17 16 31.5 -2.1**
comp=Z,71nm,0.6s,mb5.7
ERON Agron 45.24 286 ⇑P **P** **17 16 31.5 -2.0**
comp=Z,71nm,0.6s,mb5.7
ELUQ Luque 45.38 287 ⇑P **P** **17 16 32.9 -1.7**
ELUQ pmax pmax
comp=Z,90nm,0.6s,mb5.8
ELUQ Luque 45.38 287 ⇑P **P** **17 16 32.9 -1.8**
comp=Z,90nm,0.6s,mb5.8
ELUQ Luque 45.38 287 ⇑P **P** **17 16 32.9 -1.7**
comp=Z,90nm,0.6s,mb5.8
EADA Adamuz 45.38 288 ⇑P **P** **17 16 34.2 -0.4**
comp=Z,96nm,0.8s,mb5.7
ELOJ Sierra Loja 45.45 286 ⇑P **P** **17 16 32.7 -2.5**
ELOJ pmax pmax
comp=Z,23nm,0.6s,mb5.2
ELOJ Sierra Loja 45.45 286 ⇑P **P** **17 16 32.7 -2.5**
comp=Z,23nm,0.6s,mb5.2
ELOJ Sierra Loja 45.45 286 ⇑P **P** **17 16 32.7 -2.5**
comp=Z,23nm,0.6s,mb5.2
EPON Pontenova 45.48 295 P **P** **17 16 35.5 +0.1**
comp=Z,88nm,0.7s,mb5.7
EPON Pontenova 45.48 295 P **P** **17 16 35.5 0.0**
comp=Z,88nm,0.7s,mb5.7
ECAL Calabor 45.63 294 ⇑P **P** **17 16 36.6 0.0**
comp=Z,100nm,1.3s,mb5.6
ECAL Calabor 45.63 294 ⇑P **P** **17 16 36.6 0.0**
comp=Z,100nm,1.3s,mb5.6
PBRG Braganca 45.68 293 *eP* **P** **17 16 37.4 +0.4**
comp=Z,24nm,1.3s,mb5.0
PBRG *i* pP pP 17 16 49.5 +0.1
ERUA La Rua 45.77 294 ⇑P **P** **17 16 36.7 -1.0**
ERUA pmax pmax
comp=Z,40nm,0.6s,mb5.5
ERUA La Rua 45.77 294 ⇑P **P** **17 16 36.7 -1.0**
comp=Z,40nm,0.6s,mb5.5
HIA Hailar 45.93 56 *eP* **P** **17 16 40.4 +1.4**
HIA *e**PP pP 17 16 52.5 +1.1
HIA pmax pmax
comp=Z,68nm,1.3s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 45.93 56 *eP* **P** **17 16 40.4 +1.4**
comp=Z,68nm,1.3s,mb5.4
HIA *ep*P pP 17 16 52.5 +1.1
HIA *es*P sP 17 16 57.2 +0.5
HIA LR LR
comp=Z,3μm,19.0s,MS5.2
HIA Hailar 45.93 56 *eP* **P** **17 16 40.4 +1.4**
comp=Z,68nm,1.3s,mb5.4
HIA *ep*P pP 17 16 52.5 +1.1
EMIJ Mijas 46.13 286 P **P** **17 16 39.0 -1.6**
comp=Z,106nm,0.7s,mb5.9
EMIJ Mijas 46.13 286 P **P** **17 16 39.0 -1.6**
comp=Z,106nm,0.7s,mb5.9
NST Nakhon Sawan 46.20 108 P **P** **17 16 42.3 +1.2**
BJI Beijing 46.23 69 P **P** **17 16 42.6 +1.2**
BJI AMB AMB
comp=Z,36nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,192nm,5.4s
BJI LR LR
comp=N,473nm,16.9s,MS4.8
BJI LR LR
comp=E,831nm,15.9s,MS4.8
BJI LR LR
comp=Z,844nm,27.0s
BJI Beijing 46.23 69 P **P** **17 16 42.6 +1.2**
comp=Z,36nm,0.8s,mb5.3
BJI S S 17 23 55.7 +31
BJI SS SS 17 27 09.3 +19
BJI LR LR
comp=Z,830nm,24.6s,MS4.6
BJT Baijiatuau 46.24 69 *eP* **P** **17 16 42.9 +1.5**
BJT *e* 17 18 16.9
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT MLR MLR
comp=Z,1μm,21.0s
BJT Baijiatuau 46.24 69 *eP* **P** **17 16 42.9 +1.5**
comp=Z,10nm,0.6s,mb4.9
BJT *e*PcP PcP 17 18 16.9 +0.5
BJT LR LR
comp=Z,1μm,21.0s,MS4.8
BJT Baijiatuau 46.24 69 *eP* **P** **17 16 42.9 +1.5**
comp=Z,10nm,0.6s,mb4.9
BJT Baijiatuau 46.24 69 *e*PcP PcP 17 18 16.9 +0.5
LIJA Lijar 46.47 286 *i* P **P** **17 16 41.8 -1.4**
REAL Reales 46.48 286 *i* P **P** **17 16 42.0 -1.4**
PVRL Vila Real 46.55 293 *eP* **P** **17 16 44.0 +0.2**
comp=Z,50nm,1.1s,mb5.4
PVRL *i* pP pP 17 16 56.6 +0.3
STS Santiago 46.60 295 P **P** **17 16 43.4 -0.8**
STS pmax pmax
comp=Z,38nm,0.7s,mb5.4
STS Santiago 46.60 295 P **P** **17 16 43.4 -0.9**
comp=Z,38nm,0.7s,mb5.4
STS Santiago 46.60 295 P **P** **17 16 43.4 -0.8**
comp=Z,38nm,0.7s,mb5.4
PCAB Cabril 46.62 294 *eP* **P** **17 16 44.7 +0.3**
comp=Z,71nm,1.9s,mb5.3
PCAB *i* pP pP 17 16 56.8 0.0
EJIF Jimena Fronter 46.69 286 P **P** **17 16 42.2 -2.8**
EJIF pmax pmax
comp=Z,128nm,1.3s,mb5.7
EJIF Jimena Fronter 46.69 286 P **P** **17 16 42.2 -2.8**
comp=Z,128nm,1.3s,mb5.7
EJIF Jimena Fronter 46.69 286 P **P** **17 16 42.2 -2.8**
comp=Z,128nm,1.3s,mb5.7
MTE Manteigas 46.73 292 *eP* **P** **17 16 45.6 +0.4**
comp=Z,98nm,1.4s,mb5.5
MTE *i* pP pP 17 16 57.4 -0.3
MTE Manteigas 46.73 292⇑ *iP* **P** **17 16 45.5 +0.2**
comp=Z,128nm,1.1s,mb5.8
MTE *ep*P pP 17 16 57.0 -0.6
ESPR Espera 46.81 287 ⇑P **P** **17 16 44.8 -1.1**
comp=Z,126nm,0.7s,mb6.0
ESPR Espera 46.81 287 ⇑P **P** **17 16 44.8 -1.1**
comp=Z,126nm,0.7s,mb6.0
PVIS Viseu 46.87 292 *eP* **P** **17 16 46.9 +0.6**
comp=Z,53nm,2.0s,mb5.1
PVIS *i* pP pP 17 16 59.6 +0.8
EMAZ Mazaricos 46.87 296 P **P** **17 16 44.6 -1.8**
comp=Z,133nm,1.0s,mb5.8
EMAZ Mazaricos 46.87 296 P **P** **17 16 44.6 -1.8**
comp=Z,133nm,1.0s,mb5.8
PCBR Castelo Branco 46.88 291 *eP* **P** **17 16 46.7 +0.3**
comp=Z,62nm,1.7s,mb5.3

PCBR *i* pP pP 17 16 58.6 -0.3
EBAD Badajoz 46.94 289 ⇓P P 17 16 45.9 -1.0
comp=Z,148nm,1.4s,mb5.7
EBAD Badajoz 46.94 289 ⇓P P 17 16 45.9 -1.0
comp=Z,148nm,1.4s,mb5.7
EZAM Zamans 46.94 294 ⇑P P 17 16 46.4 -0.5
EZAM pmax pmax
comp=Z,61nm,1.0s,mb5.5
EZAM Zamans 46.94 294 ⇑P P 17 16 46.4 -0.5
comp=Z,61nm,1.0s,mb5.5
EZAM Zamans 46.94 294 ⇑P P 17 16 46.4 -0.5
comp=Z,61nm,1.0s,mb5.5
EMIN Mina Concepcio 47.06 288 P **P 17 16 47.4 -0.4**
comp=Z,101nm,1.0s,mb5.7
EMIN Mina Concepcio 47.06 288 P **P 17 16 47.4 -0.5**
comp=Z,101nm,1.0s,mb5.7
PESTR Estremoz 47.32 290 *e*P **P 17 16 49.7 -0.1**
comp=Z,80nm,1.0s,mb5.6
PESTR *i* pP pP 17 17 01.7 -0.6
CLNS Chul'man 47.39 45 *e*P **P 17 16 48.1 -2.3**
CLNS *e**PP pP 17 17 03.6 +0.8
CLNS *e*S **S 17 23 41.3 +0.1**
CLNS *e*SSS 17 28 14.4
CLNS pmax pmax
comp=Z,91nm,1.0s,mb5.7
CLNS pmax pmax
comp=N,29nm,0.8s
CLNS pmax pmax
comp=E,61nm,1.1s
CLNS smax
comp=E,119nm,12.0s
CLNS smax
comp=Z,100nm,10.2s
CLNS MLR MLR
comp=N,400nm,14.0s,MS5.0
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.1
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.0
EGRO El Granado 47.75 288 ⇑P **P 17 16 52.5 -0.7**
comp=E,118nm,1.4s,mb5.7
EGRO El Granado 47.75 288 ⇑P **P 17 16 52.5 -0.7**
comp=E,118nm,1.4s,mb5.7
EVO Evora 47.75 290 ⇑*i*P **P 17 16 53.8 +0.6**
comp=E,21nm,0.9s,mb4.9
EVO *e*pP pP 17 17 06.1 +0.4
EVO *e*MLR MLR
comp=Z,493nm,22.0s
KKTK Khon Kaen 47.76 105 ⇑P **P 17 16 54.0 +0.7**
comp=Z,617nm,0.6s
DAG Danmarks Havn 47.78 343 ⇓*i*P **P 17 16 54.1 +0.6**
comp=Z,58nm,1.0s,mb5.6
DAG Danmarks Havn 47.78 343 ⇓*i*P **P 17 16 54.1 +0.6**
DAG pmax pmax
comp=Z,58nm,1.0s,mb5.6
PBEJ Beja 47.84 289 *e*P **P 17 16 53.6 -0.3**
comp=Z,41nm,1.5s,mb5.2
PBEJ *i* pP pP 17 17 06.9 +0.6
MOE Montemor 48.00 290 *e*P **P 17 16 55.8 +0.7**
MOE *i* pP pP 17 17 05.6 -2.0
TIA Tai'an 48.38 73 ⇑P **P 17 16 59.6 +1.5**
TIA AMB AMB
comp=Z,37nm,0.9s,mb5.4
PTEO Sao Teotonio 48.65 289 *e*P **P 17 17 00.3 +0.2**
comp=Z,71nm,2.3s,mb5.3
PTEO *i* pP pP 17 17 10.7 -1.9
WHN Wuhan 48.79 82 ⇑P **P 17 17 02.7 +1.5**
WHN AP pP 17 17 15.2 +1.5
WHN XP sP 17 17 20.6 +1.6
WHN AMB AMB
comp=Z,510nm,5.9s
WHN LR LR
comp=Z,2μm,23.5s,MS5.0
YAK Yakutsk 48.90 37*c i*P **P 17 17 02.2 +0.1**
YAK *e**PP pP 17 17 14.1 -0.5
YAK *e* 17 18 24.2
YAK *e*S **S 17 24 07.6 +5.0**
YAK *i* *SS sS 17 24 24.2 +0.7
YAK pmax pmax
comp=Z,35nm,1.1s,mb5.3
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,27nm,1.3s
YAK smax
comp=E,265nm,5.6s
YAK smax
comp=Z,159nm,3.8s
YAK smax
comp=N,171nm,3.6s
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.0
YAK MLR MLR
comp=N,839nm,26.0s
YAK MLR MLR
comp=E,1μm,22.0s
YAK Yakutsk 48.90 37⇑*i*P **P 17 17 01.9 -0.2**
comp=E,101nm,1.2s,mb5.7
YAK *e*pP pP 17 17 13.8 -0.8
YAK *e*PcP PP 17 19 06.3 +11
YAK LR LR
comp=Z,2μm,20.0s,MS5.0
YAK Yakutsk 48.90 37⇑*i*P **P 17 17 01.9 -0.2**
comp=Z,101nm,1.2s,mb5.7
YAK *e*pP pP 17 17 13.8 -0.8
DGAR Diego Garcia 49.81 157 P **P 17 17 09.2 +0.2**
DL2 Dalian 50.57 68 ⇑P **P 17 17 16.2 +1.4**
DL2 AP pP 17 17 27.1 -0.2
DL2 XP sP 17 17 32.7 +0.2
DL2 *e*S **S 17 24 27.7 +1.8**
DL2 AMB AMB
comp=Z,70nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,110nm,5.1s
DL2 LR LR
comp=N,220nm,15.4s,MS4.4
DL2 LR LR
comp=E,210nm,15.4s,MS4.4
DL2 LR LR
comp=Z,270nm,16.4s,MS4.3
SNY Shenyang 50.81 64 ⇓P **P 17 17 17.5 +0.9**
SNY AP pP 17 17 30.1 +1.0
SNY PP PP 17 19 11.3 -1.7
SNY AMB AMB
comp=Z,36nm,0.6s,mb5.5
SNY AMB AMB
comp=Z,338nm,4.4s
SNY LR LR
comp=E,919nm,14.9s
SNY LR LR
comp=Z,1μm,17.4s,MS4.9
CN2 Changchun 51.35 61 ⇑P **P 17 17 21.8 +1.2**
CN2 *e*AP pP 17 17 35.6 +2.4
CN2 *e*S **S 17 24 35.1 -1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,900nm,16.0s,MS5.1
CN2 LR LR
comp=E,1μm,16.0s,MS5.1
CN2 LR LR
comp=Z,1μm,17.0s,MS5.1
QIZ Qiongzhong 51.42 97⇑*i*P **P 17 17 21.5 +0.3**
QIZ S **S 17 24 37.6 -0.1**
QIZ XS sS 17 24 54.5 -4.2
QIZ SCS ScS 17 27 12.9 +5.2
QIZ AMB AMB
comp=Z,34nm,1.6s,mb5.0
QIZ AMB AMB
comp=Z,222nm,2.8s,mb5.6
QIZ LR LR
comp=N,290nm,17.2s,MS4.5
QIZ LR LR
comp=E,269nm,19.6s,MS4.5
QIZ LR LR
comp=Z,373nm,24.9s
NJ2 Nanjing 51.49 77 *e*P **P 17 17 21.2 -0.5**
NJ2 AP pP 17 17 31.9 -2.4
NJ2 XP sP 17 17 35.1 -4.4
NJ2 PP PP 17 19 19.6 +0.4
NJ2 S **S 17 24 36.0 -2.7**
NJ2 XS sS 17 24 51.0 -8.7
NJ2 AMB AMB
comp=Z,150nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,410nm,4.0s
NJ2 LR LR
comp=N,1μm,18.1s,MS5.2
NJ2 LR LR
comp=E,2μm,15.1s,MS5.2
NJ2 LR LR
comp=Z,4μm,13.7s,MS5.6
GZH Guangzhou 51.81 90 P **P 17 17 24.2 +0.1**
GZH S **S 17 24 41.8 -1.3**
GZH LR LR
comp=N,500nm,22.7s,MS4.7
GZH LR LR
comp=E,535nm,22.7s,MS4.7
GZH LR LR
comp=Z,613nm,21.8s,MS4.6
SNG Songkhla 52.34 116 P **P 17 17 28.0 0.0**
SUMG Summit 53.43 338 *e*P **P 17 17 36.9 +0.9**
comp=Z,136nm,1.2s,mb5.8
SUMG *e*pP pP 17 17 48.1 -0.5
SUMG Summit 53.43 338 *e*P **P 17 17 36.9 +0.9**
comp=Z,136nm,1.2s,mb5.8
SUMG *e*pP pP 17 17 48.1 -0.5
KLR Kul'dur 53.44 53⇓*i*P **P 17 17 34.0 -2.1**
KLR *e*S **S 17 25 17.5 +12**
KLR pmax pmax
comp=E,68nm,1.2s
KLR pmax pmax
comp=Z,110nm,1.2s,mb5.7
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.2
TOA0 Torodi Ar. Sit 53.49 256 *e*P **P 17 17 35.6 -0.9**
TOA0 *e*pP pP 17 17 47.2 -2.0
TOA0 Torodi Ar. Sit 53.49 256 *e*P **P 17 17 35.6 -0.9**
TOA0 *e*pP pP 17 17 47.2 -1.9
TORD Torodi Ar. Bea 53.49 256 P **P 17 17 35.7 -0.8**
comp=Z,8.9nm,0.8s,mb4.7,baz=40,slow=5.7,SNR=54
TORD pP pP 17 17 47.6 -1.5
comp=Z,19nm,0.4s,baz=51,slow=7.0,SNR=18
TORD Torodi Ar. Bea 53.49 256 P **P 17 17 35.7 -0.8**
TORD pP pP 17 17 47.6 -1.5
MDJ Mudanjiang 53.80 59 P **P 17 17 37.5 -1.2**
MDJ AP pP 17 17 49.6 -1.8
MDJ XP sP 17 17 54.8 -1.8
MDJ PCP PcP 17 18 43.8 -0.3
MDJ PP PP 17 19 36.6 -3.5
MDJ SCP ScP 17 22 37.8 -0.6
MDJ PCS PcS 17 22 43.1 -0.3
MDJ S **S 17 25 08.3 -1.9**
MDJ SCS ScS 17 27 22.3 -2.0
MDJ SS SS 17 28 54.4 +3.0
MDJ AMB AMB
comp=Z,21nm,1.5s,mb4.8
MDJ AMB AMB
comp=Z,77nm,4.5s
MDJ LR LR
comp=N,825nm,19.8s,MS5.1
MDJ LR LR
comp=E,1μm,17.1s,MS5.1
MDJ LR LR
comp=Z,2μm,19.1s,MS5.2
MDJ Mudanjiang 53.80 59 PFAKE 17 17 50.0 +11
MDJ LR LR
comp=Z,2μm,19.0s,MS5.2
PSI Prapat 54.39 121 P **P 17 17 42.6 -0.4**
comp=Z,28nm,0.8s,mb5.2,baz=299,slow=7.4,SNR=23
PSI Prapat 54.39 121 P **P 17 17 42.6 -0.4**
PSI pmax pmax
comp=Z,28nm,0.8s,mb5.2
IPM Ipoh 54.56 118 P **P 17 17 44.0 -0.2**
INCN Inchon 54.74 68 *e*P **P 17 17 45.9 +0.3**
comp=Z,33nm,0.8s,mb5.4
INCN Inchon 54.74 68 *e*P **P 17 17 45.9 +0.3**
comp=Z,33nm,0.8s,mb5.4
VLA Vladivostok 55.93 60⇓*i*P **P 17 17 52.7 -1.4**
VLA pmax pmax
comp=Z,135nm,1.1s,mb5.9
VLA MLR MLR
comp=Z,10μm,20.0s
YHNB Yeheng 57.13 84 *e*P **P 17 18 02.8 +0.1**
YHNB Yeheng 57.13 84 *e*P **P 17 18 02.8 +0.1**
KGM Kluang 57.91 118 P **P 17 18 08.0 -0.2**
SEY Seymchan 58.60 32⇓*i*P **P 17 18 13.7 +0.7**
SEY Seymchan 58.60 32⇓*i*P **P 17 18 13.8 +0.8**
MA2 Magadan 59.44 36⇑*e*P **P 17 18 19.2 +0.4**
MA2 pmax pmax
comp=Z,165nm,1.5s,mb5.8
MA2 MLR MLR
comp=Z,800nm,17.0s,MS4.9
MA2 Magadan 59.44 36⇑*e*P **P 17 18 19.3 +0.5**
SFJD Kangerlussuaq 59.54 334 *i* P **P 17 18 19.1 -0.4**
comp=Z,18nm,0.6s,mb5.3
SFJD *i* pP 17 18 32.5 +0.2
SFJD Kangerlussuaq 59.54 334 *i* P **P 17 18 19.1 -0.4**
SFJD *i* pP 17 18 32.5 +0.2
SFJD pmax pmax
comp=Z,18nm,0.6s,mb5.3
LSZ Lusaka 60.18 210⇓*i*P **P 17 18 24.3 +0.4**
LSZ pmax pmax
comp=Z,32nm,0.9s,mb5.3
LSZ Lusaka 60.18 210⇓*i*P **P 17 18 24.3 +0.4**
comp=Z,32nm,0.9s,mb5.3
LSZ Lusaka 60.18 210⇓*i*P **P 17 18 24.3 +0.4**
comp=Z,32nm,0.9s,mb5.3
BILL Bilibino 60.96 24*c i*P **P 17 18 30.4 +1.2**
BILL pmax pmax
comp=Z,133nm,1.4s,mb5.9
BILL MLR MLR
comp=Z,1μm,16.0s,MS5.1
BILL Bilibino 60.96 24 *e*P **P 17 18 30.1 +0.9**
comp=Z,104nm,1.1s,mb5.9
BILL *e*pP pP 17 18 42.5 +0.5
BILL Bilibino 60.96 24 *e*P **P 17 18 30.1 +0.9**
comp=Z,104nm,1.1s,mb5.9
BILL *e*pP pP 17 18 42.5 +0.4
SCZP Santa Cruz 61.07 93 *e*P **P 17 18 30.7 +0.8**
YSS Yuzh-Sakhalins 61.09 51*c i*P **P 17 18 31.0 +0.9**
YSS pmax pmax
comp=Z,193nm,1.3s,mb6.1
YSS MLR MLR
comp=Z,400nm,15.0s,MS4.7
YSS Yuzh-Sakhalins 61.09 51⇑*i*P **P 17 18 30.8 +0.7**
comp=Z,145nm,1.0s,mb6.1
YSS *e*pP pP 17 18 42.8 -0.1
YSS LR LR
comp=Z,630nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 61.09 51⇑*i*P **P 17 18 30.8 +0.7**
comp=Z,145nm,1.0s,mb6.1
YSS *e*pP pP 17 18 42.8 -0.1
CAUP Cauayan 61.84 91 *e*P **P 17 18 36.6 +1.4**
PALP Palanan 62.24 90 *e*P **P 17 18 42.6 +4.8**
BALP Baler 62.37 92 *e*P **P 17 18 40.1 +1.5**
LUBP Lubang 62.56 95 *e*P **P 17 18 41.1 +1.1**
DBIC Dimbokro 62.58 255 P **P 17 18 39.5 -0.6**
comp=Z,8.0nm,0.5s,mb5.1,baz=32,slow=7.8,SNR=11
DBIC pP pP 17 18 52.1 -0.9
comp=Z,27nm,0.7s,baz=28,slow=8.5,SNR=12
DBIC LR LR 17 51 27.0
comp=Z,233nm,18.6s,MS4.4,baz=27,slow=41
DBIC Dimbokro 62.58 255 P **P 17 18 39.5 -0.6**
DBIC *PP pP 17 18 52.1 -0.9
DBIC pmax pmax
comp=Z,8.0nm,0.5s
DBIC MLR MLR
comp=Z,233nm,18.6s
MAJO Matsushiro 63.31 64⇑*i*P **P 17 18 44.7 -0.3**
MAJO pmax pmax
comp=Z,60nm,1.2s,mb5.6
MAJO MLR MLR
comp=Z,940nm,19.0s,MS5.0
MAJO Matsushiro 63.31 64⇑*i*P **P 17 18 44.7 -0.3**
comp=Z,60nm,1.2s,mb5.6
MAJO LR LR
comp=Z,940nm,19.0s,MS5.0
MAJO Matsushiro 63.31 64⇑*i*P **P 17 18 44.7 -0.3**
comp=Z,60nm,1.2s,mb5.6
MAT Matsushiro 63.31 64 P **P 17 18 44.9 -0.1**
MAT S **S 17 27 17.4 +3.5**
MJAR Matsushiro Arr 63.32 64 P **P 17 18 45.3 +0.3**
comp=Z,27nm,1.0s,mb5.3,baz=304,slow=8.8,SNR=61
MJAR pP pP 17 18 57.7 -0.2
comp=Z,9.7nm,0.7s,baz=298,slow=9.0,SNR=7.3
MJAR LR LR 17 48 10.6
comp=Z,716nm,18.7s,MS4.9,baz=310,slow=38
MJAR Matsushiro Arr 63.32 64 P **P 17 18 45.3 +0.3**
MJAR *PP pP 17 18 57.7 -0.2
MJAR pmax pmax
comp=Z,27nm,1.0s
MJAR MLR MLR
comp=Z,716nm,18.7s
ERM Erimo 63.79 56 *e*P **P 17 18 48.1 0.0**
ERM pmax pmax
comp=Z,150nm,1.2s,mb5.9
ERM Erimo 63.79 56 *e*P **P 17 18 48.1 0.0**
comp=Z,150nm,1.2s,mb5.9
KKM Kota Kinabalu 64.38 104⇑*i*P **P 17 18 52.9 +0.9**
KKM Kota Kinabalu 64.38 104⇑*i*P **P 17 18 52.9 +0.9**
TSM Tawau 66.77 105 P **P 17 19 08.4 +1.0**
TSUM Tsumeb 68.23 218⇓*e*P **P 17 19 16.6 -0.1**
comp=Z,34nm,0.9s,mb5.4
TSUM *e*pP pP 17 19 27.4 -2.3
TSUM Tsumeb 68.23 218⇓*e*P **P 17 19 16.6 0.0**
comp=Z,34nm,0.9s,mb5.4
TSUM *e*pP pP 17 19 27.4 -2.2
LBTB Lobatse 70.04 208 P **P 17 19 28.2 +0.4**
LBTB pmax pmax
comp=Z,46nm,0.9s,mb5.4
LBTB Lobatse 70.04 208⇓*i*P **P 17 19 28.2 +0.4**
comp=Z,46nm,0.9s,mb5.4
LBTB *e*pP pP 17 19 40.1 -0.8
LBTB Lobatse 70.04 208⇓*i*P **P 17 19 28.2 +0.4**
comp=Z,46nm,0.9s,mb5.4
LBTB *e*pP pP 17 19 40.1 -0.8
INK Inuvik 71.97 3⇑*e*P **P 17 19 39.4 -0.1**
INK pmax pmax
comp=Z,520nm,0.8s
INK Inuvik 71.97 3⇑*e*P **P 17 19 39.4 -0.1**
comp=Z,520nm,0.8s,mb6.5
INK Inuvik 71.97 3⇑*e*P **P 17 19 39.4 -0.1**
comp=Z,520nm,0.8s,mb6.5
IMA2 Indian Mountai 72.13 12 *e*P **P 17 19 41.2 +0.7**
SCHQ Schefferville 73.29 329 P **P 17 19 47.6 +0.2**
comp=Z,28nm,0.8s,mb5.3,baz=47,slow=6.9,SNR=21
SCHQ pP pP 17 20 00.4 -0.1
comp=Z,26nm,0.8s,baz=50,slow=4.1,SNR=7.9
SCHQ LR LR 17 51 43.9
comp=Z,408nm,20.5s,MS4.7,baz=54,slow=36
SCHQ Schefferville 73.29 329 *e*P **P 17 19 47.3 -0.1**
comp=Z,43nm,0.9s,mb5.4
SCHQ *e*pP pP 17 20 00.5 -0.1
SCHQ *e*PP PP 17 22 24.4 -6.6
SCHQ LR LR
comp=Z,884nm,22.0s,MS5.0
SCHQ Schefferville 73.29 329 *e*P **P 17 19 47.3 -0.1**
comp=Z,43nm,0.9s,mb5.4
SCHQ *e*pP pP 17 20 00.4 -0.1
BOSA Boshof 73.45 207 P **P 17 19 48.1 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=30,slow=7.8,SNR=18
BOSA pP pP 17 20 00.8 -0.7
comp=Z,13nm,0.7s,baz=33,slow=5.5,SNR=8.0
BOSA LR LR 17 55 08.1
comp=Z,404nm,18.2s,MS4.7,baz=34,slow=38
BOSA Boshof 73.45 207 P **P 17 19 48.2 -0.1**
BOSA *PP pP 17 20 00.8 -0.7
BOSA pmax pmax
comp=Z,15nm,0.8s,mb5.0
BOSA MLR MLR
comp=Z,404nm,18.2s,MS4.7
BOSA Boshof 73.45 207 *e*P **P 17 19 47.7 -0.7**
comp=Z,16nm,0.9s,mb5.0
BOSA *e*pP pP 17 19 59.2 -2.2
BOSA Boshof 73.45 207 *e*P **P 17 19 47.7 -0.6**
comp=Z,16nm,0.9s,mb5.0
BOSA *e*pP pP 17 19 59.2 -2.3
COLA College 74.10 10⇑*i*P **P 17 19 53.1 +1.0**
COLA *e**PP pP 17 20 05.3 0.0
COLA pmax pmax
comp=Z,82nm,1.0s,mb5.6
COLA MLR MLR
comp=Z,682nm,22.0s,MS4.9
COLA College 74.10 10⇑*i*P **P 17 19 53.0 +0.9**
comp=Z,82nm,1.0s,mb5.6
COLA *e*pP pP 17 20 05.3 0.0
COLA LR LR
comp=Z,682nm,22.0s,MS4.9
COLA College 74.10 10⇑*i*P **P 17 19 53.0 +0.9**
comp=Z,82nm,1.0s,mb5.6
COLA *e*pP pP 17 20 05.3 0.0
EGAK Eagle 74.95 7⇑*i*P **P 17 19 57.4 +0.3**
comp=Z,60nm,1.1s,mb5.4
EGAK *e*pP pP 17 20 10.1 -0.1
EGAK Eagle 74.95 7⇑*i*P **P 17 19 57.4 +0.4**
comp=Z,60nm,1.1s,mb5.4
EGAK *e*pP pP 17 20 10.1 -0.1
DAWY Dawson 75.80 6⇑*i*P **P 17 20 02.5 +0.5**
DAWY *e*pP pP 17 20 14.9 -0.3
DAWY Dawson 75.80 6⇑*i*P **P 17 20 02.5 +0.5**
DAWY *e*pP pP 17 20 14.9 -0.3
SVW2 Sparrevohn 76.39 15 *e*P **P 17 20 06.0 +0.7**
MENT Mentasta 76.47 9 *e*P **P 17 20 06.4 +0.6**
PMR Palmer 77.05 11 *e*P **P 17 20 09.5 +0.5**
PMR pmax pmax
comp=Z,53nm,0.7s,mb5.6
PMR Palmer 77.05 11 *e*P **P 17 20 09.5 +0.5**
comp=Z,53nm,0.7s,mb5.6
YKA Yellowknife Ar 77.63 355 P **P 17 20 12.0 -0.2**
comp=Z,18nm,0.9s,mb5.0,baz=3.7,slow=6.3,SNR=13
YKA pP pP 17 20 24.8 -0.6
comp=Z,6.2nm,0.6s,baz=4.7,slow=6.4,SNR=5.2
YKA LR LR 17 59 56.3
comp=Z,318nm,18.5s,MS4.7,baz=125,slow=40
YKA Yellowknife Ar 77.63 355 P **P 17 20 12.0 -0.2**
YKA *PP pP 17 20 24.8 -0.7
YKA pmax pmax
comp=Z,18nm,0.9s
YKA MLR MLR
comp=Z,318nm,18.5s
YKA Yellowknife Ar 77.63 355 P **P 17 20 12.1 -0.2**
YKA pP pP 17 20 24.8 -0.6
YKA LR LR 17 59 56.3
YKA Yellowknife Ar 77.63 355 P **P 17 20 12.1 -0.1**
YKA pP pP 17 20 24.8 -0.7
SLKM Skilak Lake 77.90 12⇑*i*P **P 17 20 13.8 0.0**
KDAK Kodiak Island 80.05 14 P **P 17 20 26.6 +1.1**
comp=Z,396nm,1.0s,mb6.3,SNR=7.9
KDAK Kodiak Island 80.05 14⇑*i*P **P 17 20 25.9 +0.3**
comp=Z,120nm,1.3s,mb5.7
KDAK *e*pP pP 17 20 38.3 -0.5
KDAK Kodiak Island 80.05 14⇑*i*P **P 17 20 25.9 +0.4**
comp=Z,120nm,1.3s,mb5.7
KDAK *e*pP pP 17 20 38.3 -0.5
SKAG Skagway 80.68 5 *e*P **P 17 20 29.8 +0.9**
comp=Z,25nm,0.9s,mb5.1
WRAK Wrangell Islan 83.89 4⇑*e*P **P 17 20 46.9 +1.2**
comp=Z,31nm,1.1s,mb5.3
LONY Lake Ozonia 84.34 326⇑*i*P **P 17 20 48.4 +0.4**
comp=Z,35nm,1.0s,mb5.5
LONY *e*pP pP 17 21 01.7 +0.3
LONY Lake Ozonia 84.34 326⇑*i*P **P 17 20 48.4 +0.4**
comp=Z,35nm,1.0s,mb5.5
LONY *e*pP pP 17 21 01.7 +0.3
ULM Lac du Bonnet 86.62 342 P **P 17 20 58.6 -0.8**
comp=Z,18nm,0.9s,mb5.3,baz=22,slow=6.3,SNR=7.7
EDM Edmonton 86.72 353⇑*i*P **P 17 21 00.2 +0.4**
EDM *e*pP pP 17 21 13.8 +0.6
FITZ Fitzroy Crossi 87.57 116 *e*P **P 17 21 03.8 -0.1**
comp=Z,41nm,0.9s,mb5.7
FITZ *e*pP pP 17 21 17.3 -0.1
AGMN Agassiz Refuge 88.42 341 *e*P **P 17 21 07.2 -0.8**
comp=Z,65nm,1.2s,mb5.7
AGMN Agassiz Refuge 88.42 341 *e*P **P 17 21 07.2 -0.8**
comp=Z,65nm,1.2s,mb5.7
KAKA Kakadu 88.83 108 *e*P **P 17 21 10.5 +0.6**
comp=Z,58nm,1.2s,mb5.8
KAKA *e*pP pP 17 21 24.0 +0.7
DGMT Dagmar 90.08 346⇑*i*P **P 17 21 15.7 -0.1**
comp=Z,128nm,1.2s,mb6.1
DGMT *e*pP pP 17 21 29.2 -0.1
DGMT Dagmar 90.08 346⇑*i*P **P 17 21 15.7 -0.1**
comp=Z,128nm,1.2s,mb6.1
DGMT *e*pP pP 17 21 29.2 0.0
MCWV Mont Chateau 90.65 327 PFAKE 17 21 30.0 +12
MCWV LR LR
comp=Z,4μm,20.0s,MS5.8
ACSO Alum Creek Sta 91.45 329 PFAKE 17 21 30.0 +7.9
ACSO LR LR
comp=Z,3μm,20.0s,MS5.7
NEW Newport 91.95 355 PFAKE 17 21 40.0 +16
NEW LR LR
comp=Z,2μm,22.0s,MS5.5

ECSD	EROS,Sioux Fal	92.86	340⇑	eP	P	17 21 28.4	-0.2
	comp=Z,40nm,1.1s,mb5.8						
BLA	Blacksburg	92.94	326	PFAKE		17 21 40.0	+11
BLA				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
MSO	Missoula	93.10	352	eP	P	17 21 29.9	+0.2
	comp=Z,33nm,1.7s,mb5.5						
GCMT	Greycliff	93.59	349	eP	P	17 21 32.9	+0.9
RSSD	Black Hills	94.23	345	PFAKE		17 21 50.0	+15
RSSD				LR	LR		
	comp=Z,121nm,19.0s,MS4.4						
DLMT	Dillon	94.39	351	eP	P	17 21 35.6	-0.1
	comp=Z,16nm,0.9s,mb5.5						
WRA	Warramunga Arr	94.91	112	P	P	17 21 37.5	-0.6
	comp=Z,12nm,0.7s,mb5.4,baz=316,slow=4.3,SNR=138						
WRA				pP	pP	17 21 50.6	-0.9
	comp=Z,9.9nm,0.9s,baz=321,slow=4.0,SNR=11						
WRA				PP	PP	17 25 24.6	-2.8
	comp=Z,3.1nm,1.1s,baz=326,slow=6.5,SNR=3.7						
WRA				PKKPbc	PKKPbc	17 38 33.7	+0.2
	comp=Z,0.9nm,0.7s,baz=127,slow=2.4,SNR=7.7						
WRA	Warramunga Arr	94.91	112	P	P	17 21 37.5	-0.6
WRA				*PP	pP	17 21 50.6	-1.0
WRA						17 25 24.6	
WRA				pmax	pmax		
	comp=Z,12nm,0.7s						
WRA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WRAB	Tennant Creek	94.92	112	P	P	17 21 37.6	-0.5
	comp=Z,125nm,0.6s,mb6.5,SNR=13						
WB2	Warramunga Arr	94.92	112	eP	P	17 21 37.5	-0.6
WB2				epP	pP	17 21 50.6	-1.0
MCMT	McKenzie Canyo	94.95	351	eP	P	17 21 38.9	+0.6
MOOW	Moose Ponds	95.74	349	eP	P	17 21 43.0	+1.1
	comp=Z,2.4nm,0.8s,mb4.7						
HLID	Hailey	96.38	352	PFAKE		17 22 00.0	+15
HLID				LR	LR		
	comp=Z,3μm,22.0s,MS5.7						
WVT	Waverly	96.89	330	PFAKE		17 22 00.0	+13
WVT				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ASAR	Alice Springs	97.01	115	P	P	17 21 47.0	-0.7
	comp=Z,4.5nm,1.0s,mb4.9,baz=314,slow=4.9,SNR=30						
ASAR				pP	pP	17 21 59.8	-1.4
	comp=Z,2.1nm,0.8s,baz=306,slow=3.9,SNR=7.2						
ASAR				PKiKP	PKiKP	17 26 22.2	-1.3
	comp=Z,0.8nm,0.9s,baz=305,slow=1.0,SNR=7.0						
ASAR				PKKPbc	PKKPbc	17 38 28.6	+0.7
	comp=Z,1.4nm,0.8s,baz=121,slow=3.1,SNR=12						
ASAR	Alice Springs	97.01	115	P	P	17 21 47.0	-0.6
ASAR				*PP	pP	17 21 59.8	-1.3
ASAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ASAR	Alice Springs	97.01	115	P	P	17 21 47.0	-0.7
ASAR				pP	pP	17 21 59.8	-1.4
PMG	Port Moresby	97.80	96	PFAKE		17 22 00.0	+8.8
PMG				LR	LR		
	comp=Z,206nm,19.0s,MS4.6						
WVOR	Wild Horse Val	97.86	355	eP	P	17 21 52.4	+0.9
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.2						
WVOR	Wild Horse Val	97.86	355	eP	P	17 21 52.4	+0.9
	comp=Z,8.9nm,1.1s,mb5.2						
HWUT	Hardware Ranch	97.96	350	PFAKE		17 22 00.0	+8.1
HWUT				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
CBKS	Cedar Bluff	98.28	340	PFAKE		17 22 00.0	+6.6
CBKS				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
OXF	Oxford	98.92	331	PFAKE		17 22 10.0	+14
OXF				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
SDCO	Great Sand Dun	100.66	344	PFAKE		17 22 20.0	+16
SDCO				LR	LR		
	comp=Z,4μm,20.0s						
DWPF	Disney	101.03	321	PFAKE		17 22 20.0	+14
DWPF				LR	LR		
	comp=Z,872nm,22.0s,MS5.2						
NVAR	Mina Array Bea	101.82	354	P	Pdif	17 22 07.6	-1.5
	comp=Z,0.9nm,0.8s,baz=339,slow=16,SNR=5.5						
WMOK	Wichita Mounta	101.84	338	PFAKE		17 22 20.0	+11
WMOK				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
TPH	Tonopah	102.08	354	PFAKE		17 22 20.0	+10
TPH				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
ANMO	Albuquerque	103.56	344	PFAKE		17 22 30.0	+13
ANMO				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ISA	Isabella	104.58	354	PFAKE		17 22 30.0	+8.6
ISA				LR	LR		
	comp=Z,419nm,22.0s,MS4.9						
JCT	Junction City	106.12	337	PFAKE		17 26 50.0	+10
JCT				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
MAW	Mawson	107.32	177	PKKPbc	PKKPbc	17 37 58.0	+0.3
	comp=Z,2.2nm,0.9s,baz=147,slow=5.4,SNR=6.3						
STKA	Stephens Creek	107.43	117	PKiKP	PKiKP	17 26 42.2	-0.1
	comp=Z,1.1nm,0.6s,baz=14,slow=4.2,SNR=3.7						
TAU	Tasmania Unive	117.29	124	PFAKE		17 27 10.0	+8.9
TAU				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
SNAA	Sanae	118.37	198	ePKPdf	PKPdf	17 26 59.6	-3.5
SNAA				epPKPdf	pPKPdf	17 27 13.6	-3.5
CPUP	Villa Florida	122.77	262	PKP	PKPdf	17 27 10.5	-1.1
	comp=Z,4.2nm,0.7s,baz=65,slow=1.8,SNR=18						
CPUP				pPKP	pPKPdf	17 27 23.8	-1.7
	comp=Z,4.6nm,0.7s,baz=63,slow=1.7,SNR=5.2						
CPUP	Villa Florida	122.77	262	PKIKP	PKPdf	17 27 10.5	-1.1
CPUP						17 27 23.8	
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CPUP	Villa Florida	122.77	262	ePKPdf	PKPdf	17 27 10.0	-1.6
LPAZ	La Paz	125.39	278	PKP	PKPdf	17 27 17.4	+0.8
	comp=Z,3.0nm,0.8s,baz=64,slow=3.9,SNR=18						
LPAZ				pPKP	pPKPdf	17 27 30.2	-0.4
	comp=Z,2.6nm,0.7s,baz=218,slow=12,SNR=6.5						
LPAZ	La Paz	125.39	278	PKIKP	PKPdf	17 27 17.5	+0.9
LPAZ						17 27 30.2	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	125.39	278	PKP	PKPdf	17 27 17.4	+0.8
LPAZ				pPKP	pPKPdf	17 27 30.2	-0.4
QSPA	South Pole Qui	129.68	180	eP	PKPdf	17 27 22.6	-2.2
VNDA	Vanda	132.25	164	PKP	PKPdf	17 27 26.9	-2.7
	comp=Z,0.8nm,0.8s,baz=321,slow=4.2,SNR=4.7						
VNDA				SKPbc	SKPbc	17 30 49.8	-2.7
	comp=Z,1.4nm,1.0s,baz=311,slow=5.8,SNR=3.1						
PLCA	Paso Flores	138.85	250	PKP	PKPdf	17 27 42.9	+0.9
	comp=Z,4.0nm,0.9s,baz=82,slow=4.6,SNR=6.8						
PLCA	Paso Flores	138.85	250	PKIKP	PKPdf	17 27 42.9	+0.9
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PMOR	Pomariorio Ree	148.28	45	ePKiKP	PKiKP	17 28 04.0	+0.5
	comp=Z,106nm,1.1s						
VAH	Vaihoa	148.62	45	ePKiKP	PKiKP	17 28 04.6	+0.4
	comp=Z,118nm,1.3s						
PPT	Papeete	149.38	50	ePKiKP	PKiKP	17 28 06.9	+1.1
	comp=Z,104nm,1.3s						
PPT	Papeete	149.38	50	PKPbc	PKPbc	17 28 06.8	+2.1
	comp=Z,24nm,0.4s,baz=360,slow=0.8,SNR=7.5						
PPT	Papeete	149.38	50	PKP2	PKPab	17 28 06.8	-2.7
PPT				pmax	pmax		
	comp=Z,25nm,0.4s						
PAE	Paea	149.45	51	ePKiKP	PKiKP	17 28 06.7	+0.8
	comp=Z,187nm,1.2s						
TVO	Taravao	149.74	50	ePKiKP	PKiKP	17 28 07.8	+1.3
	comp=Z,158nm,1.0s						

*IDC **12** 17:23:56.4±2.9, 847N×12659E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=245.8km s-min=26.3km az=65.0*
*ISCJB **12** 17:24:00.9±0.9, 833N±009×12683E±008, h33km, mb3.4/4, Error ellipse: s-maj=15.5km s-min=8.1km az=80.9*
*MAN **12** 17:24:03.1, 845N×12675E, h33km, mb3.5, ML4.6, MS5.3*
ISC 12 17:24:02.9±0.8, 837N±009×12677E±008, h35km, n10, σ1§02/13, mb3.4/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.28	298	eP	Pn	17 24 23.8	-0.5
BUTP				eS	Sn	17 24 38.5	-1.7
SCPH	Surigao	1.89	318⇑	eP	Pn	17 24 32.8	+0.2
SCPH				eS	Sn	17 24 47.5	-7.7
CGP	Cagayan de Oro	2.06	272	eP	Pn	17 24 35.4	+0.5
CGP				i S	Sn	17 24 59.9	+0.6
MSLP	Maasin	2.57	313	eP	Pn	17 24 43.4	+1.4
OCLP	Ormoc	3.41	322	eP	Pn	17 24 55.0	+1.5
PVCP	Virac	5.79	334	eP	Pn	17 25 26.4	+0.1
WRA	Warramunga Arr	29.11	165	P	P	17 30 00.3	0.0
	0.2nm,0.7s,mb2.9,baz=344,slow=9.0,SNR=3.7						
ASAR	Alice Springs	32.60	168	P	P	17 30 31.4	+0.3
	0.2nm,0.3s,mb3.5,baz=345,slow=7.4,SNR=14						
STKA	Stephens Creek	42.46	161	P	P	17 31 53.9	-0.5
	0.6nm,0.4s,mb3.6,baz=342,slow=6.4,SNR=4.3						
MKAR	Makanchi Array	53.83	323	P	P	17 33 19.8	-2.4
	0.4nm,0.4s,mb3.7,baz=128,slow=5.6,SNR=5.1						

JMA 12 18:03:29.1±0.6, 4551N×14991E, h30km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.67	236	P	Pn	18 04 22.5	-1.4
NEM2				eS	Sn	18 05 02.2	-3.9
JRA	Rausu	3.76	247	P	Pn	18 04 26.7	+1.7
JNK	Nakash	4.18	244	P	Pn	18 04 31.9	+1.1
JNK				eS	Sn	18 05 18.7	+0.1
JAK	Akkeshi	4.51	238	P	Pn	18 04 34.6	-0.7
JTKR	Abashiri--Toko	4.54	252	P	Pn	18 04 37.4	+1.6
JMP	Maruseppu	4.90	254	P	Pn	18 04 42.6	+1.9
JAR	Ashorobuto	4.92	245	P	Pn	18 04 42.8	+1.8
JAR				eS	Sn	18 05 38.3	+1.3
JOB	Onbets	5.08	241	P	Pn	18 04 43.6	+0.4
JOB				eS	Sn	18 05 39.1	-1.8
JKK2	Kamakawa 2	5.36	255	P	Pn	18 04 50.2	+3.2
ASAJ	Asahikawa	5.39	258	P	Pn	18 04 50.8	+3.4
JCH	Churui	5.54	241	P	Pn	18 04 49.0	-0.4
JCH				eS	Sn	18 05 48.4	-3.6
JEM	Erimo	6.01	237	P	Pn	18 04 56.6	+0.7
JBT2	Biratori 2	6.08	246	P	Pn	18 04 57.2	+0.3
JNBK	Urakawa-nobuka	6.10	241	P	Pn	18 04 56.1	-1.0
JNBK				eS	Sn	18 06 02.4	-3.4
JNB	Noboribetsu	7.08	248	P	Pn	18 05 10.8	+0.1
JNB				eS	Sn	18 06 28.1	-2.0
JKB	Kayabe	7.38	244	P	Pn	18 05 13.9	-0.9
JKB				eS	Sn	18 06 31.3	-6.2
JYM2	Yakumo 2	7.69	247	P	Pn	18 05 18.7	-0.3
JSR	Shiriuchi	7.96	243	P	Pn	18 05 21.8	-0.9
JANG	Nango	8.02	233	P	Pn	18 05 20.2	-3.3
JANG				eS	Sn	18 06 43.0	-10
JTH	Tanohata	8.13	230	eS	Sn	18 06 44.1	-12
JOSM	Okushiri--Mats	8.29	249	P	Pn	18 05 27.1	-0.1
OFUJ	Ofunato	8.86	226	eS	Sn	18 07 02.7	-11
JIO	Ouri	9.50	225	P	Pn	18 05 40.7	-3.1
JIO				eS	Sn	18 07 17.8	-12

*KISR **12** 18:03:28.1±1.4, 3162N×4954E, h34km, ML2.6*
*CSEM **12** 18:03:29.5, 3151N×4974E, h38km, ML3.4, After THR*
*THR **12** 18:03:29.5±1.2, 3151N×4974E, h38km±14km, ML3.4*
*ISCJB **12** 18:03:30.1±0.8, 3151N±004×4976E±008, h33km, Error ellipse: s-maj=10.3km s-min=5.1km az=47.8*
ISC 12 18:03:31.5±0.8, 3153N±004×4974E±008, h35km, n12, σ0§84/22, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.98	306	ePG	Pn	18 03 48.0	-0.8
SHGR				eSG	Sn	18 04 02.4	+0.9
SHGR				AML	AML	18 04 06.8	
	comp=E,936nm,0.4s						
SHGR	Shooshtar-Gavs	0.98	306	ePg	Pn	18 03 48.0	-0.8
	SNR=105						
SHGR				eSg	Sn	18 04 02.4	+0.9
	comp=E,936nm,0.4s,SNR=105						
UMR	Umm Al-Rimmam	2.64	222	eP	Pn	18 04 10.7	-0.8
UMR				eS	Sn	18 04 41.9	-0.4
UMR				AML	AML	18 04 44.6	
	comp=Z,25nm,0.5s						
MIB	Mutribah	2.69	231	eP	Pn	18 04 11.6	-0.7
MIB				eS	Sn	18 04 44.2	+0.5
MIB				AML	AML	18 04 46.7	
	comp=Z,30nm,0.5s						
NASN	Na'in	2.89	63	ePN	Pn	18 04 15.4	+0.4
ASAO	Ashtian	3.02	4	ePN	Pn	18 04 17.8	+1.0
ASAO				eSG	Sn	18 05 02.1	+10
ASAO				AML	AML	18 05 10.1	
	comp=E,117nm,0.6s						
ASAO				AML	AML	18 05 12.9	
	comp=N,94nm,0.6s						
ASAO	Ashtian	3.02	4	ePn	Pn	18 04 17.8	+1.0
	SNR=54						
ASAO				eSg	Sn	18 05 02.1	+10
	comp=N,94nm,0.6s,SNR=94						
RST	Umm Al-Ruwaisa	3.12	230	eP	Pn	18 04 16.9	-1.2
RST				eS	Sn	18 04 53.2	-0.8
RST				AML	AML	18 04 55.7	
	comp=Z,32nm,0.6s						
NAY	Al-Naaiem	3.14	224	eP	Pn	18 04 18.2	-0.2
NAY				eS	Sn	18 04 55.3	+0.7
NAY				AML	AML	18 04 58.2	
	comp=Z,14nm,0.6s						
QRN	Al-Qurain	3.20	210	eP	Pn	18 04 18.6	-0.7
QRN				eS	Sn	18 04 58.1	+2.0
QRN				AML	AML	18 05 01.6	
	comp=Z,9.2nm,0.2s						
RDF	Al-Radifah	3.22	217	eP	Pn	18 04 19.3	-0.2
RDF				eS	Sn	18 04 57.6	+1.0
RDF				AML	AML	18 05 01.7	
	comp=Z,20nm,0.3s						
SNGE	Sanandaj	4.08	331	ePn	Pn	18 04 31.0	-0.3

*IDC **12** 18:04:41.2±0.6, 5176N×17699W, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/27, mbtmp4.2/20, ML4.8/1, Error ellipse: s-maj=20.2km s-min=12.6km az=168.0*
*BJI **12** 18:04:45.1, 5195N×176.19W, h64km, mB5.1, mb4.8, Ms4.9, Msz4.6*
*ISCJB **12** 18:04:47.9±0.8, 5178N±006×17689W±004, h58km±6km, mb4.6/59, MS4.7/2, Error ellipse: s-maj=9.7km s-min=4.3km az=0.8*
*NEIC **12** 18:04:49.7±0.7, 5170N×17680W, h64km±5km, mb4.7/34, ML4.8(AEIC), Error ellipse: s-maj=9.2km s-min=4.6km az=178.0*
NEIC Felt on Adak.
ISC 12 18:04:49.6±0.8, 5183N±007×17688W±004, h59km±6km, h61km±4.4km: pP-P, n221, σ0§77/220, mb4.6/59, MS4.7/2, 51C-43D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.70	76	P	Pn	18 05 14.9	-2.1
ATKA				S	Sn	18 05 36.5	-1.0
AMKA	Amchitka	2.43	261	eP	Pn	18 05 26.8	-0.1
NIKO	Nikolski	5.04	74	P	Pn	18 06 01.9	-0.8
OKCE	Okmok Cone E	5.54	70	P	Pn	18 06 08.9	-0.6
OKCD	Okmok Cone D	5.57	70	P	Pn	18 06 09.5	-0.4
SPIA	Saint Paul Isl	6.60	33	P	Pn	18 06 26.9	+2.9
SPIA				S	Sn	18 07 42.5	+4.7
AKUT	Akutan	7.09	67	eP	Pn	18 06 33.1	+2.4
	183nm,0.7s						
SDPT	Sand Point	10.36	64	eP	Pn	18 07 15.2	-0.2
	38nm,0.4s						
CHGN	Chignik	11.72	60	eP	Pn	18 07 34.0	0.0
SVW2	Sparrevohn	14.92	43	eP	Pn	18 08 20.0	+3.1
KDAK	Kodiak Island	15.17	57	Pn	Pn	18 08 17.2	-3.0
	3.6nm,0.3s,baz=269,slow=5.2,SNR=28						
KDAK				Sn	Sn	18 11 07.8	+0.7
	0.5nm,0.3s,baz=127,slow=20,SNR=6.9						
KDAK	Kodiak Island	15.17	57	eP	Pn	18 08 15.9	-4.3
	60nm,0.4s						
SLKM	Skilak Lake	17.09	49	eP	Pn	18 08 42.6	-1.7
BILL	Bilibino	18.20	340	eP	Pn	18 08 59.7	+1.7
	17nm,0.6s						
IMA2	Indian Mountai	18.44	31	eP	Pn	18 09 02.2	+1.3
COLA	College	19.82	38	eP	Pn	18 09 15.9	-1.4
	26nm,0.8s						
EGAK	Eagle	22.42	41	eP	P	18 09 42.0	-1.2
	18nm,0.6s,mb4.7						
DAWY	Dawson	22.95	43	eP	P	18 09 48.4	-0.5
INK	Inuvik	26.40	35	P	P	18 10 19.9	-0.6
	3.0nm,0.5s,mb4.1,baz=253,slow=6.2,SNR=28						
INK				PcP	PcP	18 13 42.5	-2.2
	2.7nm,0.6s,baz=219,slow=3.1,SNR=4.7						
INK	Inuvik	26.40	35	P	P	18 10 19.9	-0.6
INK				PcP	PcP	18 13 42.5	-2.2
BBB	Bella Bella	29.57	70	P	P	18 10 49.1	+0.4
	11nm,0.8s,mb4.6,baz=284,slow=3.8,SNR=10						
OOW	Octopus West	33.65	76	P	P	18 11 29.9	+5.3
PGC	Sidney	33.68	74	eP	P	18 11 28.7	+3.9
	15nm,0.6s,mb5.1						
B04A	Port Angeles	33.91	75	⇓P	P	18 11 27.8	+0.9
	baz=34						
YKA	Yellowknife Ar	34.05	47	P	P	18 11 26.7	-1.3
	1.5nm,0.4s,mb4.2,baz=282,slow=8.0,SNR=7.1						
YKA				PcP	PcP	18 14 04.0	-0.6
	5.6nm,0.8s,baz=280,slow=3.2,SNR=5.8						
YKA	Yellowknife Ar	34.05	47	P	P	18 11 26.8	-1.3
YKA				PcP	PcP	18 14 04.0	-0.6
A04A	Legoe Bay, Lum	34.09	73	⇓P	P	18 11 29.6	+1.2
	baz=34,SNR=6.3						
A05A	Maple Falls	34.34	73	⇑P	P	18 11 30.4	-0.1
	baz=34						
C04A	Brinnon	34.39	75	⇓P	P	18 11 31.4	+0.4
	baz=34						
E03A	Lebam	34.58	77	⇓P	P	18 11 32.8	+0.2
	baz=34						
B05A	Bryant	34.66	74	⇑P	P	18 11 33.8	+0.5
	baz=34,SNR=7.2						
B06A	Marblemount	34.91	73	⇓P	P	18 11 35.5	0.0
	baz=35						
MJAR	Matsushiro Arr	35.04	262	P	P	18 11 36.4	-0.2
	1.1nm,0.5s,mb4.0,baz=50,slow=6.7,SNR=5.7						
C05A	Tolt Reservoir	35.16	74	⇑P	P	18 11 38.1	+0.4
	baz=35,SNR=5.9						
D05A	Enumclaw	35.22	75	⇑P	P	18 11 38.6	+0.4
	baz=35						
FMW	Mount Fremont	35.54	76	P	P	18 11 41.7	+0.9
F04A	Amboy	35.57	77	⇑P	P	18 11 41.8	+0.6
	baz=35						
MDJ	Mudanjiang	35.68	280	P	P	18 11 41.5	-0.6
MDJ				AP	pP	18 11 56.4	-0.5
MDJ				XP	sP	18 12 04.2	+0.4
MDJ				PP	PP	18 13 05.3	+1.3
MDJ				PCP	PcP	18 14 08.4	-0.9
MDJ				S	S	18 17 13.9	-0.5
MDJ				SCP	ScP	18 17 49.1	-1.1
MDJ				PCS	PcS	18 17 56.5	-0.1
MDJ				SCS	ScS	18 21 54.6	-0.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,78nm,4.7s						
MDJ				LR	LR		
	comp=N,192nm,16.5s						
MDJ				LR	LR		
	comp=E,275nm,23.1s						
MDJ				LR	LR		
	comp=Z,997nm,19.8s,MS4.6						
B07A	Winthrop	35.74	72	⇑P	P	18 11 43.3	+0.6
	baz=36						
D06A	Cle Elum	35.91	75	⇑P	P	18 11 45.1	+1.1
	baz=36						
C07A	Waterville	36.14	73	⇓P	P	18 11 46.3	+0.3
	baz=36,SNR=8.2						
E06A	Yakima	36.14	76	⇑P	P	18 11 46.7	+0.7
	baz=36						
F05A	White Salmon	36.18	77	⇑P	P	18 11 46.9	+0.5
	baz=36						
J02A	Umpqua	36.20	82	⇑P	P	18 11 47.0	+0.5
	baz=36						
EBG	Ellensburg	36.21	75	P	P	18 11 47.0	+0.4
H04A	Detroit Lake	36.35	79	⇓P	P	18 11 48.2	+0.4
	baz=36						
A09A	Danville	36.41	71	⇑P	P	18 11 48.5	+0.2
	baz=36						
D07A	Quincy	36.43	74	⇑P	P	18 11 49.0	+0.6
	baz=36,SNR=7.3						
J03A	Ideyld Park	36.57	82	⇑P	P	18 11 50.7	+1.0
	baz=36						
EPH	Ephrata	36.58	74	P	P	18 11 49.3	-0.4
G05A	Wamic	36.59	78	⇑P	P	18 11 50.7	+0.8
	baz=36						
C08A	Higginbotham F	36.70	73	⇓P	P	18 11 51.2	+0.4
	baz=36						
E07A	Sunnyside	36.81	75	⇓P	P	18 11 51.9	+0.2
	baz=37						
B09A	Rice	36.92	71	⇑P	P	18 11 53.2	+0.5
	baz=37						
H05A	Madras	36.95	79	⇓P	P	18 11 53.5	+0.6
	baz=37						
G06A	Carlson Farm,	37.01	77	⇓P	P	18 11 53.9	+0.5
	baz=37						
A10A	Northport	37.01	70	P	P	18 11 53.4	0.0
	baz=37,SNR=5.0						
HAWA	Hanford	37.08	75	eP	P	18 11 53.6	-0.5
	comp=Z,32nm,0.7s,mb5.3						
F07A	Phinny Hill Vi	37.10	76	⇓P	P	18 11 54.8	+0.7
	baz=37						
D08A	Wollman Farm,	37.12	74	⇓P	P	18 11 54.6	+0.2
	baz=37,SNR=6.2						
VIPM	Ingram Point	37.40	78	P	P	18 11 56.9	+0.2
D09A	Jones Farm, Ri	37.48	73	⇓P	P	18 11 57.7	+0.2
	baz=37						
B10A	Chitwood Farm,	37.52	71	⇓P	P	18 11 58.3	+0.5
	baz=37						
EDM	Edmonton	37.54	62	eP	P	18 11 56.7	-1.2
G07A	Ruggs Ranch, H	37.58	77	⇓P	P	18 11 58.5	+0.3
	baz=37						
NEW	Newport	37.60	71	P	P	18 11 58.0	-0.4
	comp=Z,12nm,0.4s,mb5.0,baz=301,slow=8.3,SNR=20						
YBH	Yreka Blue Hor	37.63	84	P	P	18 11 60.0	+1.3
	comp=Z,3.4nm,0.8s,mb4.1,baz=290,slow=3.3,SNR=7.4						
YBH	Yreka Blue Hor	37.63	84	⇓P	P	18 11 59.3	+0.6
	baz=38						
J05A	Fort Rock	37.68	81	⇓P	P	18 11 59.6	+0.5
	baz=38						
C10A	Spilker Farm,	37.71	72	⇑P	P	18 11 59.6	+0.3
	baz=38						
N02C	Big Bar	37.79	85	⇑P	P	18 11 59.9	-0.1
	baz=38						
F08A	Pendleton	37.84	76	⇓P	P	18 12 00.9	+0.5
	baz=38,SNR=8.4						
E09A	Wood Farm, Sta	37.85	74	⇓P	P	18 12 00.3	-0.3
	baz=38						
L04A	Klamath Falls	37.89	82	⇓P	P	18 12 00.5	-0.4
	baz=38						
I06A	Prineville	37.95	79	⇑P	P	18 12 01.7	+0.4
	baz=38						
G08A	Pilot Rock	37.99	76	⇓P	P	18 12 01.2	-0.5
	baz=38						
H07A	Lands Inn, Kim	37.99	78	⇓P	P	18 12 02.3	+0.6
	baz=38,SNR=6.7						
A12A	Yaak River Ran	38.14	69	⇓P	P	18 12 02.8	-0.2
	baz=38						
M

	comp=Z,8.8nm,0.6s,mb4.7						
B13A	Whitefish	39.10	70	⇑P	P	18 12 11.0	0.0
	baz=39						
H09A	Durkee	39.10	76	⇑P	P	18 12 10.8	-0.2
	baz=39						
K07A	Rock Creek Ran	39.22	80	P	P	18 12 12.5	+0.4
	baz=39,SNR=14						
M06C	Likely Place G	39.31	83	⇑P	P	18 12 13.4	+0.6
	baz=39						
J08A	Circle Bar Ran	39.32	79	P	P	18 12 13.1	+0.2
	baz=39,SNR=9.4						
C13A	Hot Springs	39.38	71	P	P	18 12 13.1	-0.2
	baz=39,SNR=11						
I09A	Lost Marbles R	39.43	77	⇑P	P	18 12 14.4	+0.6
	baz=39						
L07A	Adell	39.54	81	⇑P	P	18 12 15.4	+0.7
	baz=39						
K08A	Mann Creek Ran	39.66	79	P	P	18 12 16.3	+0.6
	baz=40,SNR=8.0						
WVOR	Wild Horse Val	39.74	80	eP	P	18 12 16.3	-0.1
	comp=Z,11nm,0.8s,mb4.7						
J09A	Fry Pan Ranch,	39.76	78	⇑P	P	18 12 16.8	+0.2
	baz=40						
N06A	Buffalo Meadow	39.97	83	⇑P	P	18 12 18.2	-0.1
	baz=40						
M07A	Soldier Meadow	40.01	82	⇑P	P	18 12 19.0	+0.5
	baz=40,SNR=17						
L08A	Fields	40.05	80	⇓P	P	18 12 19.1	+0.2
	baz=40,SNR=7.8						
K09A	Rome	40.14	79	⇑P	P	18 12 19.7	0.0
	baz=40						
BEKR	Beckwourth	40.17	84	⇑P	P	18 12 19.8	-0.1
	baz=40						
MSO	Missoula	40.18	71	eP	P	18 12 19.3	-0.8
	comp=Z,6.5nm,0.5s,mb4.6						
O06A	Flanigan	40.32	84	⇑P	P	18 12 21.2	+0.1
	baz=40						
M08A	Happy Creek Ra	40.46	81	⇑P	P	18 12 22.8	+0.5
	baz=40						
CHMT	Chamberlain Mo	40.55	71	eP	P	18 12 22.1	-0.9
LAVA	Lava Cap Winer	40.60	86	⇓P	P	18 12 23.4	-0.1
	baz=40						
PAHR	Pah Rah Range	40.87	84	eP	P	18 12 27.8	+2.1
	comp=Z,5.9nm,0.8s,mb4.3						
R05C	Kirkwood Meado	41.05	86	⇓P	P	18 12 27.2	0.0
	baz=41						
HLID	Hailey	41.66	76	eP	P	18 12 32.0	-0.2
	comp=Z,8.0nm,0.8s,mb4.4						
HLID	Hailey	41.66	76	P	P	18 12 32.5	+0.2
	baz=42,SNR=14						
S05C	Merced	41.73	87	⇑P	P	18 12 31.8	-1.0
	baz=42						
MCMT	McKenzie Canyo	41.90	73	P	P	18 12 33.6	-0.5
O09A	Fish Creek Ran	41.94	82	⇑P	P	18 12 34.4	0.0
	baz=42						
EGMT	Eagleton	42.00	68	eP	P	18 12 33.9	-1.0
	comp=Z,14nm,0.6s,mb4.8						
EGMT	Eagleton	42.00	68	⇑P	P	18 12 34.4	-0.5
	baz=42						
M11A	Holland Ranch,	42.05	79	⇑P	P	18 12 36.2	+0.8
	baz=42						
NVAR	Mina Array Bea	42.31	85	P	P	18 12 37.2	-0.3
	comp=Z,1.3nm,0.6s,mb3.7,baz=299,slow=9.2,SNR=9.2						
NVAR	Mina Array Bea	42.31	85	P	P	18 12 37.2	-0.3
KCC	Kaiser Creek	42.37	87	⇓P	P	18 12 38.3	+0.4
	baz=42						
M12A	Wells	42.59	79	⇑P	P	18 12 40.1	+0.4
	baz=42						
QLMT	Earthquake Lak	42.74	72	eP	P	18 12 41.1	+0.2
MTUM	Tungsten Hills	42.82	86	P	P	18 12 41.8	+0.2
S08C	White Mtn Res	42.97	86	⇑P	P	18 12 42.9	0.0
	baz=43						
YMR	Madison River	43.10	72	eP	P	18 12 43.3	-0.6
	comp=Z,7.4nm,0.6s,mb4.6						
R09A	Tonopah	43.19	84	P	P	18 12 44.4	-0.2
	baz=43,SNR=15						
O12A	Currie	43.38	80	⇑P	P	18 12 46.1	0.0
	baz=43						
IMW	Indian Meadow	43.55	73	eP	P	18 12 47.6	0.0
	comp=Z,7.1nm,0.8s,mb4.5						
RRI2	Red Ridge	43.64	74	eP	P	18 12 46.8	-1.4
	comp=Z,10nm,0.7s,mb4.7						
HVU	Hansel Valley	43.68	77	eP	P	18 12 47.8	-0.7
	comp=Z,13nm,0.7s,mb4.8						
Q11A	Duckwater	43.69	82	⇑P	P	18 12 48.2	-0.4
	baz=44						
RLMT	Red Lodge	43.85	71	eP	P	18 12 49.4	-0.5
	comp=Z,10nm,0.5s,mb4.8						
LOHW	Long Hollow	43.91	73	eP	P	18 12 49.9	-0.5
	comp=Z,1.9nm,0.7s,mb3.9						
BGU	Big Grassy Mou	44.03	78	eP	P	18 12 51.0	-0.3
MPMC	Manual Prospec	44.31	87	⇓P	P	18 12 53.5	-0.1
	baz=44						
HWUT	Hardware Ranch	44.51	76	eP	P	18 12 54.8	-0.4
	comp=Z,3.9nm,0.7s,mb4.3						
LRMC	Laurel Mountai	44.56	87	⇓P	P	18 12 55.8	+0.2
	baz=44						
DUG	Dugway	44.60	79	eP	P	18 12 55.8	-0.1
	comp=Z,11nm,0.8s,mb4.8						
DUG	Dugway	44.60	79	⇑P	P	18 12 55.8	-0.1
	baz=44						
PDAR	Pinedale Array	45.03	74	P	P	18 12 58.9	-0.5
	comp=Z,17nm,0.6s,mb5.0,baz=321,slow=3.0,SNR=82						
GSC	Goldstone	45.22	87	eP	P	18 13 00.1	-0.7
GSC	Goldstone	45.22	87	⇓P	P	18 13 00.9	0.0
	baz=45						
DAU	Daniels Canyon	45.41	78	eP	P	18 13 02.6	+0.2
CCUT	Cedar City	45.90	82	eP	P	18 13 09.1	+2.9
MSU	Marysvale	46.03	80	eP	P	18 13 06.8	-0.4
BJI	Beijing	46.45	283	P	P	18 13 11.0	+0.5
IRM	Iron Mountain	47.00	87	⇓P	P	18 13 14.6	-0.2
	baz=47						
BC3	Big Chuckw Mtn	47.15	88	⇑P	P	18 13 16.7	+0.7
	baz=47						
SONM	Sonqino Array	47.51	297	PcP	PcP	18 14 47.5	-0.6
	comp=Z,3.0nm,0.5s,baz=65,slow=3.5,SNR=8.8						
W14A	Seligman	47.58	84	⇓P	P	18 13 19.1	-0.2
	baz=47						
GLA	Glamis	47.94	88	⇓P	P	18 13 21.7	-0.4
	baz=48						
X14A	Yava	48.19	85	⇓P	P	18 13 24.2	+0.1
	baz=48						
WUAZ	Wupatki	48.44	83	eP	P	18 13 25.7	-0.2
	comp=Z,6.6nm,0.7s,mb4.8						
WUAZ	Wupatki	48.44	83	⇓P	P	18 13 26.1	+0.1
	baz=48						
PV01	Paradox Valley	48.46	78	eP	P	18 13 24.5	-1.7
Y14A	Wickenburg	48.47	86	⇑P	P	18 13 26.5	+0.3
	baz=48						
X15A	Humboldt	48.58	84	⇑P	P	18 13 26.7	-0.4
	baz=48						
MVCO	Mesa Verde	49.10	79	⇑P	P	18 13 31.4	+0.4
	baz=49						
NJ2	Nanjing	49.99	273	eP	P	18 13 40.4	+2.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
SDCO	Great Sand Dun	50.57	77	eP	P	18 13 41.8	-0.4
	comp=Z,3.3nm,0.7s,mb4.4						
LAZ	Ladron	51.78	81	eP	P	18 13 51.3	+0.1
ZAL	Zalesovo	54.60	314	PcP	PcP	18 15 14.2	-0.2
	comp=Z,14nm,0.4s,baz=39,slow=1.8,SNR=5.3						
MNTX	Cornudas Mount	54.70	82	eP	P	18 14 11.1	-1.5
	comp=Z,4.4nm,0.8s,mb4.5						
XAN	Xi'an	54.75	282	P	P	18 14 12.6	-0.4
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
LZH	Lanzhou	56.40	287	eP	P	18 14 27.5	+2.6
LZH				AP	pP	18 14 41.5	+0.9
LZH				XP	sP	18 14 47.5	+0.2
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH	Lanzhou	56.40	287	eP	P	18 14 27.5	+2.6
	comp=Z,15nm,1.0s,mb5.0						
LZH				pP	pP	18 14 41.5	+0.9
LZH				sP	sP	18 14 47.5	+0.2
WMOK	Wichita Mounta	56.62	75	eP	P	18 14 25.5	-1.0
	comp=Z,74nm,0.7s						
ARCES	ARCESS Array B	57.84	351	P	P	18 14 34.5	-0.6
	comp=Z,2.2nm,0.7s,mb4.3,baz=25,slow=7.7,SNR=5.0						
ARCES	ARCESS Array B	57.84	351	P	P	18 14 34.5	-0.6
CCM	Cathedral Cave	58.76	67	eP	P	18 14 37.5	-3.9
	comp=Z,6.7nm,0.6s,mb4.8						
SCHQ	Schefferville	58.90	39	P	P	18 14 41.8	-0.7
	comp=Z,3.2nm,0.6s,mb4.5,baz=325,slow=13,SNR=3.9						
FVM	French Village	59.27	67	eP	P	18 14 43.2	-1.8
	comp=Z,17nm,0.6s,mb5.2						
CD2	Chengdu	60.05	283	eP	P	18 14 51.0	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MKAR	Makanchi Array	60.68	309	P	P	18 14 53.0	-1.7
	comp=Z,0.5nm,0.5s,mb3.9,baz=46,slow=5.7,SNR=9.9						
BVAR	Borovoye Array	61.31	321	P	P	18 14 59.0	+0.1
	comp=Z,2.8nm,0.5s,mb4.7,baz=51,slow=6.9,SNR=23						
GYA	Guiyang	61.46	277	P	P	18 14 59.8	-0.2
GYA				AP	pP	18 15 15.9	0.0
GYA				XP	sP	18 15 23.0	+0.5
GYA				S	S	18 23 12.0	-4.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,6.4s						
GYA				LR	LR		
	comp=N,460nm,18.7s,MS4.8						
GYA				LR	LR		
	comp=E,450nm,17.9s,MS4.8						
GYA				LR	LR		
	comp=Z,470nm,18.0s,MS4.7						
ZRNK	Zerenda	61.91	321	eP	P	18 15 02.8	-0.2
	comp=Z,3.3nm,0.6s,mb4.6						
WVT	Waverly	62.05	66	eP	P	18 15 01.9	-2.0
	comp=Z,3.6nm,0.5s,mb4.8						
PLAL	Pickwick Lake	62.73	67	eP	P	18 15 06.7	-1.8
	comp=Z,10nm,0.8s,mb5.0						
ARU	Arti	62.84	329	eP	P	18 15 09.3	+0.1
	comp=Z,4.3nm,0.6s,mb4.8						
KMI	Kunming	64.85	279	P	P	18 15 22.3	-0.1
KMI				AP	pP	18 15 40.3	+1.9
KMI				XP	sP	18 15 47.2	+2.2
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,124nm,5.5s						
KMI	Kunming	64.85	279	P	P	18 15 22.3	-0.1
	comp=Z,12nm,1.0s,mb4.9						
KMI				pP	pP	18 15 40.3	+1.9
KMI				sP	sP	18 15 47.2	+2.2
BLA	Blacksburg	65.39	61	eP	P	18 15 25.1	-0.7
	comp=Z,18nm,0.7s,mb5.2						
FINES	FINESS Array B	65.60	348	P	P	18 15 26.3	-0.9
	comp=Z,1.2nm,0.7s,mb4.0,baz=13,slow=13,SNR=3.3						
NB2	NORSAR Subarra	67.29	356	P	P	18 15 38.1	0.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=5.4,slow=6.5						
NOA	NORSAR Array B	67.29	356	P	P	18 15 38.0	-0.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=4.7,slow=6.3,SNR=4.4						
PLIG	Platanillo	67.99	88	iP	P	18 15 37.7	-4.8
AKTK	Aktyubinsk	68.00	326	P	P	18 15 42.8	+0.3
AKTO	Aktyubinsk	68.00	326	P	P	18 15 42.8	+0.3
	comp=Z,4.0nm,0.6s,mb4.7,baz=52,slow=6.0,SNR=20						
HFS	Hagfors	68.06	354	P	P	18 15 42.2	-0.7
	comp=Z,1.9nm,0.5s,mb4.4,baz=39,slow=5.5,SNR=6.9						
LSA	Lhasa	68.41	291	P	P	18 15 46.8	+1.7
LSA	Lhasa	68.41	291	eP	P	18 15 47.0	+1.9
	comp=Z,4.7nm,0.5s,mb4.8						
GUN	Gumba	72.79	293	eP	P	18 16 12.4	+0.7
	comp=Z,14nm,0.4s,mb5.3						
JIRN	Jiri	72.80	293	eP	P	18 16 11.9	+0.1
KKN	Kakani	73.22	294	eP	P	18 16 14.7	+0.4
	comp=Z,9.0nm,0.5s,mb5.0						
PKI	Pulchoki	73.32	293	eP	P	18 16 14.8	0.0
GKN	Gorkha	73.42	294	eP	P	18 16 15.3	-0.2
	comp=Z,7.3nm,0.5s,mb4.9						
DMN	Daman	73.46	294	eP	P	18 16 16.1	+0.4
KOLN	Koldanda	74.19	295	eP	P	18 16 19.3	-0.7
AKASG	Malin Array Be	75.47	343	P	P	18 16 26.6	-0.8
	comp=Z,1.2nm,0.5s,mb4.1,baz=20,slow=6.5,SNR=2.7						
WB2	Warramunga Arr	83.17	225	eP	P	18 17 07.7	-1.6
WRA	Warramunga Arr	83.18	225	P	P	18 17 07.6	-1.8
	comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=6.0,SNR=11						
BRTR	Keskin Array B	85.02	337	P	P	18 17 18.4	-0.2
	comp=Z,2.0nm,0.6s,mb4.4,baz=39,slow=2.7,SNR=7.3						
FITZ	Fitzroy Crossi	85.69	234	eP	P	18 17 21.7	-0.3
	comp=Z,9.9nm,1.5s,mb4.8						
FITZ	Fitzroy Crossi	85.69	234	P	P	18 17 21.1	-0.9
	comp=Z,1.3nm,0.5s,mb4.4,baz=20,slow=4.5,SNR=13						
ASAR	Alice Springs	86.64	224	P	P	18 17 26.4	-0.3
	comp=Z,0.7nm,0.8s,mb4.0,baz=22,slow=5.1,SNR=14						
DBIC	Dimbokro	121.33	9	PKP	PKPdf	18 23 35.1	-0.9
	comp=Z,3.8nm,0.5s,baz=36,slow=8.7,SNR=5.2						
TSUM	Tsumeb	145.51	335	PKPbc	PKPbc	18 24 21.0	-0.1
	comp=Z,1.6nm,0.5s,baz=90,slow=3.0,SNR=2.8						
LBTB	Lobatse	148.21	319	PKPbc	PKPbc	18 24 28.7	-0.1
	comp=Z,12nm,0.5s,baz=64,slow=2.2,SNR=26						
BOSA	Boshof	151.52	316	PKPbc	PKPbc	18 24 36.0	-0.9
	comp=Z,9.2nm,0.7s,baz=53,slow=2.6,SNR=12						

SZGRF ***12*** *18:05:54.6, 3225S×7150W, h33km, mb6.2, Near coast of central Chile*

ISCJB ***12*** *18:05:56.9±0.4, 3125S±002×7138W±004, h44km±3km, mb5.8/135, MS6.1/180, Error ellipse: s-maj=5.5km s-min=3.3km az=154.6*

MOS ***12*** *18:05:56.1±1.2, 31.15S×7132W, h33km, mb6.1/50, MS6.3/42, Error ellipse: s-maj=9.6km s-min=5.8km az=87.5*

GUC ***12*** *18:05:56.1±0.7, 3134S×7170W, h37km±2km, ML6.2*

NEIC ***12*** *18:05:56.6±0.1, 3126S×7137W, h31km, mb5.9/128, ME5.9, MS6.1/155, MW6.3, Error ellipse: s-maj=4.8km s-min=2.8km az=77.0, Moment Tensor Solution. s63 Moment tensor: Scale 1018Nm; Mrr2.79; Mθθ0.08; Mφφ-2.87; Mrθ-0.20; Mrφ0.33; Mθφ-1.33; Best double couple: M03.20000×1018 NP1:φs180.00000°, δ58.00000°, λ97.00000°. NP2:φs347.00000°, δ33.00000°, λ79.00000°. Principal axes: T 3.1100, Plg76.0000°, Azm112.0000°; N 0.0800, Plg6.0000°, Azm356.0000°; P -3.1900, Plg12.0000°, Azm265.0000°; Broadband fault plane solution: P waves. NP1:φs355.00000°, δ25.00000°, λ90.00000°. NP2:φs175.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at La Ligua, Petorca, Quillota, Santiago, Valparaiso and Vina del Mar; [III] at Coquimbo, Huasco, La Serena, Rancagua and Talca; [II] at Copiapo. Felt [IV] at San Juan, [III] at Mendoza and [II] at Cordoba, Argentina.

BJI ***12*** *18:05:57.3, 3061S×7221W, h45km, mB6.1, Ms6.4, Msz6.4*

CRAAG ***12*** *18:05:57.5, 3128S×7135W, Mw6.4*

GCMT ***12*** *18:05:58.2±0.1, 3148S×7203W, h37km, MW6.4/109, Moment Tensor Solution. s109, c245; s101, c403; Duration: 3s7 Moment tensor: Scale 1018Nm; Mrr3.22±.02; Mθθ0.22±.02; Mφφ-3.44±.02; Mrθ0.28±.02; Mrφ0.07±.01; Mθφ-2.68±.03; Best double couple: M04.28500×1018 NP1:φs3.00000°, δ26.00000°, λ96.00000°. NP2:φs176.00000°, δ65.00000°, λ87.00000°. Principal axes: T 4.1790, Plg70.0000°, Azm79.0000°; N 0.2110, Plg3.0000°, Azm177.0000°; P -4.3900, Plg19.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***12*** *18:06:00.2±1.0, 3126S×7150W, h63km±8km, mb5.2/28, mb1 5.2/32, mb1mx5.2/32, mbtmp5.5/32, MS6.3/25, Ms1 6.3/25, ms1mx6.2/30 Error ellipse: s-maj=10.5km s-min=7.3km az=68.0*

ISC 12 18:05:58.2±0.3, 3130S±002×7144W±004, h44km±3km, h52km±6.9km:pP-P, n1098, σ0§93/627, mb5.8/134, MS6.1/180, 259C-235D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.39	72	⇑iP	Pn	18 06 07.3	-0.5
CHNG	Los Chungos	0.59	185	⇑iP	Pn	18 06 07.6	-2.6
CHNG				i S	Sn	18 06 16.2	-2.6
PTCH	Petorca	1.06	156	eP	Pn	18 06 15.8	-0.8
PTCH				i S	Sn	18 06 31.3	+1.2
PACH	Papudo	1.24	180	⇓eP	Pn	18 06 17.6	-1.4
TLL	Tololo Astrono	1.25	26	⇓iP	Pn	18 06 20.1	+0.9
TLL				i S	Sn	18 06 39.6	+4.8
TLL				AML	AML	18 06 53.9	
	comp=N,491μm,0.7s						
TLL	Tololo Astrono	1.25	26	P	Pn	18 06 20.1	+0.9
TLL				i S	Sn	18 06 39.6	+4.8
LSCH	La Serena	1.39	7	eP	Pn	18 06 21.1	-0.1
LSCH				i S	Sn	18 06 41.0	+2.7
JACH	Jahuel	1.56	153	⇑iP	Pn	18 06 23.8	+0.4
ROCH	El Roble	1.71	168	⇓iP	Pn	18 06 25.2	-0.3
IHA	Instituto Hidr	1.73	186	eP	Pn	18 06 23.9	-2.0
PEL	Peldehue	1.95	161	⇓iP	Pn	18 06 29.0	+0.3
PEL				i S	Sn	18 06 53.4	+1.3
PEL				AML	AML	18 07 00.8	
	comp=E,560μm,0.3s						
PEL	Peldehue	1.95	161	⇓iP	Pn	18 06 29.0	+0.3
PEL				i S	Sn	18 06 53.4	+1.3
LCCH	Las Cruces	2.18	183	⇑iP	Pn	18 06 30.2	-1.7
CLCH	Cerro Calan	2.23	160	⇑iP	Pn	18 06 32.9	+0.2
CLCH				i S	Sn	18 07 03.4	+4.5
CLCH				AML	AML	18 07 12.8	
	comp=E,360μm,0.8s						
STL	Santa Lucia	2.24	163	eP	Pn	18 06 32.5	-0.3
STL				i S	Sn	18 07 00.1	+1.0
FCH	Farellones	2.25	155	⇑iP	Pn	18 06 33.9	+1.0
FCH				i S	Sn	18 07 02.2	+2.9
FCH				AML	AML	18 07 25.9	
	comp=N,81μm,0.7s						
RCDM	Rinconada Maip	2.25	166	⇑iP	Pn	18 06 32.6	-0.4
RCDM				i S	Sn	18 07 01.0	+1.6
RCDM				AML	AML	18 07 11.2	
	comp=E,157μm,0.6s						
RCDM	Rinconada Maip	2.25	166	⇑iP	Pn	18 06 32.6	-0.4
RCDM				S	Sn	18 07 01.0	+1.6
LACH	Colegio Las Am	2.28	161	⇓iP	Pn	18 06 33.2	-0.1
LACH				AML	AML	18 07 17.1	
	comp=N,143μm,1.2s						
ANTU	Antumapu	2.37	164	eP	Pn	18 06 34.6	+0.1
ANTU				i S	Sn	18 07 03.2	+0.9
ANTU				AML	AML	18 07 18.1	
	comp=N,193μm,0.4s						
ANTU	Antumapu	2.37	164	eP	Pn	18 06 34.6	+0.1
ANTU				i S	Sn	18 07 03.2	+0.9
ZON	Zonda	2.37	97	⇓iP	Pn	18 06 39.1	+4.5
TACH	Talagante	2.39	170	⇓iP	Pn	18 06 34.3	-0.6
PCH	Pirque	2.45	162	⇓iP	Pn	18 06 35.7	+0.1
SJCH	San Jose de Ma	2.51	159	eP	Pn	18 06 37.2	+0.7
SJCH				i S	Sn	18 07 09.9	+4.0
SJCH				AML	AML	18 07 19.9	
	comp=E,113μm,0.7s						
SJCH	San Jose de Ma	2.51	159	P	Pn	18 06 37.2	+0.7
SJCH				S	Sn	18 07 09.9	+4.0
MDZ	Mendoza	2.71	126	eP	Pn	18 06 43.4	+4.2
MDZ				i S	Sn	18 07 17.4	+6.7
CHCH	Chadas Angostu	2.71	166	⇓iP	Pn	18 06 39.1	-0.1
CFAA	Coronel Fontan	2.75	97	P	Pn	18 06 43.8	+4.0
	comp=E,53nm,0.3s,baz=272,slow=11,SNR=1400						
CFAA				LR	LR	18 08 12.8	
	comp=E,82μm,20.1s,baz=355,slow=47						
VACH	Vallenar	2.77	12	eP	Pn	18 06 42.5	+2.4
CACH	El Canelo	2.90	166	⇑iP	Pn	18 06 42.3	+0.4
SFDO	San Fernando	3.33	174	⇓iP	Pn	18 06 46.8	-0.9
NICH	Los Niches	3.70	177	eP	Pn	18 06 51.4	-1.4
CPCH	Copiapo	4.04	14	eP	Pn	18 06 57.4	0.0
LVC	Limon Verde	8.94	15	P	Pn	18 08 01.9	-2.8
	comp=E,6.5nm,0.3s,baz=188,slow=9.1,SNR=30						
LVC	Limon Verde	8.94	15	ePn	Pn	18 08 00.7	-3.9
LVC				eS	Sn	18 09 55.8	+12
PLCA	Paso Flores	9.45	176	P	Pn	18 08 10.5	-1.1
	comp=E,7.3nm,0.3s,baz=338,slow=12,SNR=57						
PLCA				LR	LR	18 11 49.6	
	comp=E,168μm,20.1s,baz=348,slow=37						
PLCA	Paso Flores	9.45	176	ePn	Pn	18 08 10.2	-1.4
TRQA	Tornquist	10.30	133	ePn	Pn	18 08 23.8	+0.5
LPA	La Plata	11.88	111	deP	Pn	18 08 45.0	0.0
LPA				epP		18 08 48.3	
LPA				esP		18 08 55.0	
CPUP	Villa Florida	13.32	72	P	Pn	18 09 02.7	-1.8
	comp=E,5.2nm,0.3s,baz=230,slow=12,SNR=20						
CPUP				LR	LR	18 14 50.8	
	comp=E,187μm,19.0s,baz=230,slow=40						
CPUP	Villa Florida	13.32	72	ePn	Pn	18 09 02.9	-1.6
ARE	Arequipa	14.77	360	eP	Pn	18 09 25.0	+0.9
ARE				i		18 13 22.5	
LPAZ	La Paz	15.24	12	P	Pn	18 09 31.3	+1.0
	comp=E,3.1nm,0.3s,baz=190,slow=9.4,SNR=86						
LPAZ	La Paz	15.24	12	ePn	Pn	18 09 29.8	-0.5
SIV	San Ignacio	17.93	34	P	Pn	18 10 03.7	-0.5
	comp=E,4.5nm,0.3s,baz=225,slow=12,SNR=97						
NNA	Nana	19.85	344	Pn	Pn	18 10 29.9	+2.6
	comp=E,1μm,0.8s,SNR=6.6						
NNA	Nana	19.85	344	P	Pn	18 10 27.1	-0.1
	comp=E,3.7nm,0.3s,baz=202,slow=13,SNR=16						
NNA				S	S	18 14 05.4	-1.2
	comp=E,1.0nm,0.3s,baz=358,slow=17,SNR=1.7						
NNA				LR	LR	18 16 34.4	
	comp=E,45μm,19.4s,baz=172,slow=32						
NNA	Nana	19.85	344	ePn	Pn	18 10 28.1	+0.9
EFI	East Falkland	22.62	158	P	P	18 10 55.9	+0.7
	comp=E,3μm,1.1s,mb6.6,SNR=12						
EFI	East Falkland	22.62	158	eP	P	18 10 54.4	-0.8
EFI				pmax	pmax		
	comp=Z,294nm,0.7s,mb5.8						
EFI				MLR	MLR		
	comp=Z,19μm,19.0s,MS5.5						
EFI	East Falkland	22.62	158	eP	P	18 10 54.4	-0.8
	comp=Z,294nm,0.7s,mb5.8						
EFI				LR	LR		
	comp=Z,19μm,19.0s,MS5.5						
SAML	Samuel	23.52	21	eP	P	18 11 03.2	-1.2
SAML				LR	LR		
	comp=Z,66μm,21.0s,MS6.1						
USHA	Ushuaia	23.62	176	P	P	18 11 05.1	-0.2
	comp=Z,167nm,0.9s,mb5.5,baz=333,slow=5.5,SNR=36						
USHA				S	S	18 15 11.5	-5.1
	comp=Z,18nm,1.0s,baz=227,slow=12,SNR=1.6						
USHA				LR	LR	18 21 03.8	
	comp=Z,116μm,18.7s,MS6.4,baz=339,slow=38						
ATAH	Atahualpa	25.03	343	P	P	18 11 18.4	+0.3
	comp=Z,68nm,1.1s,mb5.1,baz=164,slow=7.2,SNR=14						
ATAH				S	S	18 15 38.8	-0.4
	comp=Z,5.2nm,0.6s,baz=73,slow=20,SNR=1.7						
ATAH				LR	LR	18 19 59.6	
	comp=Z,37μm,18.8s,MS

FDF Fort de France 46.82 14 *eP* **P 18 14 22.0 -1.6**
TGUH Tegucigalpa,Un 47.59 339 PFAKE 18 14 40.0 +10
TGUH LR LR
comp=Z,9μm,20.0s,MS5.8
TRIS Tristan da Cun 48.58 114 PFAKE 18 14 50.0 +13
TRIS LR LR
comp=Z,29μm,22.0s,MS6.2
SJG San Juan 49.38 7 *eP* **P 18 14 42.1 -1.2**
SJG LR LR
comp=Z,14μm,22.0s,MS5,9
MPR Mayaguez 49.39 5 *eP* **P 18 14 42.5 -0.9**
HUMP Col San Antoni 49.44 7 *eP* **P 18 14 43.0 -0.8**
RCC Rio Carpintero 51.16 355 *eP* pP 18 15 10.5 +1.4
MASC Masc 51.24 357 *eP* **P 18 15 01.4 +4.0**
MASC *eS* **S 18 22 20.3 +7.4**
comp=N,6μm,16.4s
MASC *e*
comp=E,5μm,13.9s
CCIG Comitan 51.31 334 *i* P **P 18 14 57.5 -0.5**
LMGC Las Mercedes 51.34 353 *eP* **P 18 14 59.7 +1.5**
MOAC Moa 51.77 356 *eP* **P 18 15 02.9 +1.6**
VNA1 Neumayer--Stat 51.97 158 *eP* **P 18 15 03.2 +0.4**
VNA1 *e* pP 18 15 15.0 -0.2
VNA1 *e* 18 15 21.4
HLGC Holguin 52.08 355 *eP* **P 18 15 04.2 +0.6**
TUIG Tuzandepetl 53.79 333 *i* P **P 18 15 19.7 +3.5**
VHO Vista Hermosa 53.88 330 *i* P **P 18 15 20.3 +3.4**
OXX Oaxaca 53.88 330 *eP* **P 18 15 18.0 +1.0**
SNAA Sanae 53.90 159 *eP* **P 18 15 16.3 -0.8**
SNAA *e* 18 15 19.6
SNAA *e* pP 18 15 29.0 -0.5
SNAA *e* 18 15 35.0
SNAA *e* 18 15 42.6
SNAA Sanae 53.90 159 *eP* **P 18 15 16.3 -0.8**
SOR Soroa 54.91 347 *eP* **P 18 15 24.4 0.0**
CAIG El Cayaco 55.47 326 *i* P **P 18 15 30.8 +2.4**
LVIG Laguna Verde 56.11 331 *i* P **P 18 15 33.4 +0.3**
RKT Rikitea 56.43 262 *eP* **P 18 15 39.4 +4.1**
comp=E,68nm,1.2s,mb5.5
RKT Rikitea 56.43 262 *e*LR LR 18 32 07.6
comp=E,30μm,26.5s,baz=123
RKT Rikitea 56.43 262 *eP* **P 18 15 39.4 +4.1**
RKT pmax pmax
comp=Z,68nm,1.2s,mb5.5
MOIG Morelia 58.17 327 *i* P **P 18 15 51.7 +4.1**
MAIT Maitri 58.57 157 *eP* **P 18 15 50.1 -0.3**
MAIT *eS* **S 18 23 52.5 +1.3**
NVL N'lazarevskaya 58.61 157 *c i*P **P 18 15 50.9 +0.3**
NVL *e* 18 18 02.6
NVL *i* S **S 18 23 52.0 +0.4**
NVL *i* *SS sS 18 24 09.5 -3.0
NVL *i* SS SS 18 27 47.8 +3.0
NVL *i* SSS 18 30 07.1
NVL pmax pmax
comp=Z,363nm,1.9s,mb6.1
QSPA South Pole Qui 58.94 180 P **P 18 15 52.6 -0.3**
QSPA South Pole Qui 58.94 180 *eP* **P 18 15 52.1 -0.8**
comp=Z,272nm,1.2s,mb6.2
QSPA LR LR
comp=Z,15μm,21.0s,MS6.1
SFJM Santa Fe 59.75 325 *i* P **P 18 15 59.0 +0.4**
DWPF Disney 59.84 350 *eP* **P 18 15 59.2 0.0**
comp=Z,161nm,1.0s,mb6.0
DWPF LR LR
comp=Z,7μm,22.0s,MS5.8
CJM Chamela 59.93 323 *i* P **P 18 15 56.2 -3.5**
ZAIG Zacatecas 61.48 327 *i* P **P 18 16 14.5 +4.1**
BBSR BB Station 63.64 6 *eP* **P 18 16 25.5 +0.7**
comp=Z,102nm,1.0s,mb5.8
BBSR LR LR
comp=Z,6μm,19.0s,MS5.8
KVTX Kingsville 63.72 334 P **P 18 16 28.3 +3.0**
comp=Z,521nm,1.2s,mb6.4
KVTX LR LR
comp=Z,7μm,21.0s,MS5.8
HKT Hockley 65.17 337 PFAKE 18 16 40.0 +5.3
HKT LR LR
comp=Z,10μm,20.0s,MS6.0
SBA Scott Base 65.82 191 *eP* **P 18 16 39.1 +0.2**
SBA LR LR
comp=Z,6μm,19.0s,MS5.8
JSC Jenkinsville 65.88 351 P **P 18 16 41.4 +2.1**
LHS Liberty Hill 66.01 352 *eP* pP 18 16 54.5 +1.6
CNNC Cliffs of the 66.46 354 *eP* **P 18 16 42.9 -0.2**
comp=Z,113nm,0.8s,mb6.0
CNNC LR LR
comp=Z,2μm,21.0s,MS5.4
NATX Nacogdoches 66.46 339 *eP* **P 18 16 42.4 -0.6**
NATX LR LR
comp=Z,5μm,22.0s,MS5.7
LPIG La Paz 66.47 321 *i* P **P 18 16 46.0 +2.9**
VNDA Vanda 66.85 191 P **P 18 16 45.2 -0.3**
comp=Z,15nm,1.0s,mb5.0,baz=156,slow=5.6,SNR=46
VNDA S S 18 25 34.6 -0.3
comp=Z,1.7nm,1.1s,baz=90,slow=8.1,SNR=2.3
VNDA PKPPKP 18 45 04.8
comp=Z,1.7nm,1.0s,baz=290,slow=3.7,SNR=7.3
VNDA LR LR 18 46 03.3
comp=Z,10μm,18.6s,MS6.1,baz=137,slow=36
VNDA Vanda 66.85 191 *eP* **P 18 16 45.6 +0.1**
comp=Z,126nm,1.5s,mb5.7
VNDA LR LR
comp=Z,10μm,19.0s,MS6.0
JCT Junction City 67.08 334 *eP* **P 18 16 46.8 -0.2**
TAOE Nuku Hiva Isla 67.28 273 *eS* S 18 25 44.8 +4.6
comp=Z,70μm,28.5s
TAOE *e*LR LR 18 37 25.3
comp=Z,73μm,27.2s,baz=133
TAOE Nuku Hiva Isla 67.28 273 *eP* **P 18 16 52.3 +4.0**
TAOE *eS* S 18 25 44.8 +4.6
CPCT Cooper Cave 67.52 348 *eP* **P 18 16 48.4 -1.3**
SWET Sewanee 67.55 347 *eP* **P 18 16 49.3 -0.6**
TKL Tuckaleechee C 67.60 349 S S 18 25 38.9 -5.1
comp=Z,1.3nm,0.4s,baz=313,slow=18,SNR=2.2
OXF Oxford 67.61 344 *eP* **P 18 16 49.4 -0.9**
OXF LR LR
comp=Z,4μm,19.0s,MS5.6
PLAL Pickwick Lake 67.76 345 *eP* **P 18 16 49.8 -1.5**
PLAL LR LR
comp=Z,4μm,21.0s,MS5.6
SYO Syowa Base 68.19 159⇑ *eP* **P 18 16 52.0 -2.0**
SYO Syowa Base 68.19 159 *e*SH 18 25 53.0
TBI Tubuai 68.47 255 *eP* **P 18 16 58.9 +3.2**
comp=Z,81nm,1.1s,mb5.7
TBI Tubuai 68.47 255 *e*LR LR 18 37 45.1
comp=Z,45μm,26.5s,baz=108
UALR University of 68.60 342 *eP* **P 18 16 55.7 -0.9**
comp=Z,91nm,1.2s,mb5.6
BLA Blacksburg 68.67 352 PFAKE 18 17 10.0 +13
BLA LR LR
comp=Z,8μm,21.0s,MS5.9
WVT Waverly 68.81 346 *eP* **P 18 16 56.4 -1.5**
WVT pmax pmax
comp=Z,448nm,1.4s,mb6.2
WVT MLR MLR
comp=Z,4μm,20.0s,MS5.6
WVT Waverly 68.81 346 *eP* **P 18 16 56.4 -1.4**
comp=Z,448nm,1.4s,mb6.2
WVT LR LR
comp=Z,4μm,20.0s,MS5.6
FWV Forest Hill 69.08 352 *eP* **P 18 17 00.5 +1.0**
UTMT University of 69.24 345 *eP* **P 18 16 59.6 -0.9**
GLAT Glass 69.26 345 *eP* **P 18 16 59.5 -1.1**
CBN Corbin 69.36 355 PFAKE 18 17 10.0 +8.7
CBN LR LR
comp=Z,6μm,21.0s,MS5.8
PARMO Parma 69.75 344 *eP* **P 18 17 04.5 +0.8**
GDL2 Guadalupe Moun 70.42 331 *eP* **P 18 17 07.9 +0.1**
MNTX Cornudas Mount 70.42 330 *eP* **P 18 17 06.3 -1.5**
comp=Z,108nm,1.1s,mb5.7
MNTX LR LR
comp=Z,26μm,20.0s,MS6.5
WCI Wyandotte Cave 70.54 348 *eP* **P 18 17 06.5 -2.0**
WCI pmax pmax
comp=Z,52nm,0.8s,mb5.5
WCI MLR MLR
comp=Z,7μm,22.0s,MS5.9
WCI Wyandotte Cave 70.54 348 *eP* **P 18 17 06.5 -2.0**
comp=Z,52nm,0.8s,mb5.5
WCI LR LR
comp=Z,7μm,22.0s,MS5.9
WMOK Wichita Mounta 70.55 336 *eP* **P 18 17 08.1 -0.4**
comp=Z,130nm,1.4s,mb5.7
WMOK LR LR
comp=Z,4μm,19.0s,MS5.7

USIN University of 70.55 346 *eP* **P 18 17 07.9 -0.7**
VAH Vaihoa 70.60 264 *eP* **P 18 17 12.1 +3.3**
comp=Z,85nm,1.2s,mb5.5
SIUC Southern Illin 70.63 345 *eP* **P 18 17 08.0 -1.1**
comp=Z,117nm,0.8s,mb5.9
TVO Taravao 70.79 260 *eP* **P 18 17 13.5 +3.5**
comp=Z,63nm,1.0s,mb5.5
TVO Taravao 70.79 260 *eP* **P 18 17 13.5 +3.5**
TVO pmax pmax
comp=Z,63nm,1.0s,mb5.5
PMOR Pomariorio Ree 70.93 264 *eP* **P 18 17 14.0 +3.1**
comp=Z,13nm,0.9s,mb4.9
MCWV Mont Chateau 71.02 353 *eP* **P 18 17 11.5 +0.1**
comp=Z,119nm,1.0s,mb5.8
MCWV LR LR
comp=Z,5μm,20.0s,MS5.8
MVL Millersville 71.08 356 *eP* **P 18 17 12.3 +0.5**
PAE Paea 71.12 260 *eP* **P 18 17 15.3 +3.3**
comp=Z,70nm,1.0s,mb5.5
PAE Paea 71.12 260 *eP* **P 18 17 15.3 +3.3**
PAE pmax pmax
comp=Z,70nm,1.0s,mb5.5
PPT Papeete 71.16 261 *eP* **P 18 17 16.0 +3.7**
comp=Z,48nm,1.3s,mb5.3
PPT Papeete 71.16 261 *e*LR LR 18 38 49.7
comp=Z,23μm,24.2s,baz=118
PPT Papeete 71.16 261 P **P 18 17 12.7 +0.4**
comp=Z,31nm,0.6s,mb5.4,baz=188,slow=8.8,SNR=4.6
PPT LR LR 18 39 52.1
comp=Z,12μm,21.4s,MS6.1,baz=156,slow=29
PPT Papeete 71.16 261 P **P 18 17 12.7 +0.4**
PPT *eP* 18 17 16.0
PPT LR LR 18 39 52.1
FVM French Village 71.16 344 *eP* **P 18 17 11.1 -1.2**
FVM pmax pmax
comp=Z,230nm,1.2s,mb6.0
FVM French Village 71.16 344 *eP* **P 18 17 11.1 -1.2**
comp=Z,256nm,1.3s,mb6.0
CCM Cathedral Cave 71.43 344 *eP* **P 18 17 11.9 -2.0**
CCM pmax pmax
comp=Z,189nm,1.1s,mb5.9
CCM MLR MLR
comp=Z,3μm,20.0s,MS5.6
CCM Cathedral Cave 71.43 344 *eP* **P 18 17 11.9 -2.0**
comp=Z,188nm,1.1s,mb5.9
CCM LR LR
comp=Z,3μm,20.0s,MS5.6
BLO Bloomington 71.50 348 *eP* **P 18 17 12.1 -2.2**
BLO pmax pmax
comp=Z,232nm,1.4s,mb5.9
BLO Bloomington 71.50 348 *eP* **P 18 17 12.1 -2.2**
comp=Z,232nm,1.4s,mb5.9
BRNJ Basking Ridge 71.67 357 *eP* **P 18 17 15.8 +0.5**
SLM Saint Louis 71.74 345 *eP* **P 18 17 15.0 -0.8**
SLM pmax pmax
comp=Z,117nm,0.8s,mb5.9
SLM Saint Louis 71.74 345 *eP* **P 18 17 15.0 -0.8**
comp=Z,117nm,0.8s,mb5.9
CPNY Central Park 71.76 358 *eP* **P 18 17 16.6 +0.7**
SSPA Standing Stone 71.82 355 *eP* **P 18 17 15.4 -0.8**
comp=Z,253nm,1.4s,mb6.0
SSPA LR LR
comp=Z,7μm,22.0s,MS5.9
ACSO Alum Creek Sta 71.97 351 *eP* **P 18 17 16.0 -1.1**
comp=Z,193nm,1.0s,mb6.0
ACSO LR LR
comp=Z,7μm,22.0s,MS5.9
PAL Palisades 71.97 358 *eP* **P 18 17 17.4 +0.2**
PAL pmax pmax
comp=Z,57nm,1.2s,mb5.4
PAL Palisades 71.97 358 *eP* **P 18 17 17.4 +0.2**
comp=Z,67nm,1.2s,mb5.5
Y22C IRIS PASSCAL I 73.12 330⇑P **P 18 17 24.3 +0.3**
Y22C baz=73 ⇑S S 18 26 54.7 +6.4
baz=73
LPM Los Pinos Moun 73.20 330 *eP* **P 18 17 24.8 +0.3**
QUA2 Belchertown 73.22 359 *eP* **P 18 17 24.8 +0.3**
comp=Z,241nm,1.2s,mb6.0
LENM Lemitar 73.22 330 *eP* **P 18 17 25.7 +1.1**
BINY Binghamton 73.25 356 *eP* **P 18 17 23.9 -0.8**
BINY LR LR
comp=Z,7μm,21.0s,MS5.9
WES Weston 73.32 0 PFAKE 18 17 30.0 +4.9
WES LR LR
comp=Z,4μm,19.0s,MS5.7
HDIL Hopedale 73.38 346 PFAKE 18 17 40.0 +15
HDIL LR LR
comp=Z,5μm,20.0s,MS5.8
TUC Tucson 73.40 326 *eP* **P 18 17 25.7 +0.1**
TUC LR LR
comp=Z,12μm,20.0s,MS6.2
HRV Harvard--Oak R 73.44 360 *eP* **P 18 17 27.4 +1.5**
HRV pmax pmax
comp=Z,210nm,1.4s,mb5.9
HRV Harvard--Oak R 73.44 360 *eP* **P 18 17 25.0 -0.9**
comp=Z,213nm,1.4s,mb5.9
HRV LR LR
comp=Z,5μm,20.0s,MS5.8
LAZ Ladron 73.49 330 *eP* **P 18 17 26.7 +0.5**
ANMO Albuquerque 73.67 331 S S 18 26 50.1 -4.5
comp=Z,0.4nm,0.3s,baz=48,slow=13,SNR=2.0
ANMO Albuquerque 73.67 331⇑ *eP* **P 18 17 27.1 -0.1**
ANMO Albuquerque 73.67 331 *eP* **P 18 17 27.8 +0.6**
ANMO LR LR
comp=Z,21μm,20.0s,MS6.4
DBIC Dimbokro 73.84 72 P **P 18 17 28.6 +0.4**
comp=Z,308nm,0.9s,mb6.2,baz=203,slow=5.8,SNR=50
DBIC S S 18 26 56.0 -0.4
comp=Z,2.5nm,0.7s,baz=229,slow=16,SNR=2.0
DBIC LR LR 18 46 48.2
comp=Z,30μm,21.5s,MS6.5,baz=210,slow=33
DBIC Dimbokro 73.84 72 *eP* **P 18 17 28.6 +0.4**
DBIC LR LR
comp=Z,30μm,21.0s,MS6.5
KSU1 Kansas State U 73.85 340 *eP* **P 18 17 27.2 -1.1**
comp=Z,110nm,1.2s,mb5.7
KSU1 LR LR
comp=Z,5μm,21.0s,MS5.8
116A Eloy 74.05 325⇓P **P 18 17 30.1 +0.6**
baz=74
116A ⇓S S 18 27 02.8 +3.9
baz=74
ACCN Adirondack Com 74.34 358 *eP* **P 18 17 31.2 +0.1**
FFD Franklin Falls 74.40 360 *eP* **P 18 17 32.5 +1.0**
comp=Z,93nm,0.7s,mb5.8
115A Sonoran Desert 74.42 325⇓P **P 18 17 32.6 +1.0**
baz=75,SNR=23
115A ⇓S S 18 27 08.1 +5.1
baz=75
CBKS Cedar Bluff 74.56 337 *eP* **P 18 17 32.8 +0.3**
comp=Z,226nm,1.2s,mb6.0
CBKS LR LR
comp=Z,4μm,19.0s,MS5.8
HNH Hanover 74.64 359 *eP* **P 18 17 34.6 +1.8**
NCB Newcomb 74.94 358 *eP* **P 18 17 34.5 -0.1**
NCB LR LR
comp=Z,6μm,22.0s,MS5.8
LBNH Lisbon 75.17 360 *eP* **P 18 17 37.4 +1.4**
comp=Z,79nm,0.8s,mb5.7
LBNH LR LR
comp=Z,6μm,20.0s,MS5.9
Z14A Wintersburg 75.31 325⇑P **P 18 17 37.4 +0.7**
baz=76
Z14A ⇑S S 18 27 17.8 +4.8
baz=76
WVL Waterville 75.51 1 *eP* **P 18 17 39.5 +1.6**
comp=Z,314nm,1.9s,mb5.9
SCIA State Center 75.56 343 *eP* **P 18 17 37.2 -1.0**
comp=Z,139nm,1.1s,mb5.8
SCIA LR LR
comp=Z,2μm,22.0s,MS5.3
LONY Lake Ozonia 75.60 358 *eP* **P 18 17 37.8 -0.7**
LONY LR LR
comp=Z,8μm,22.0s,MS6.0
MAW Mawson 75.62 164 P **P 18 17 37.8 -0.7**
comp=Z,102nm,1.0s,mb5.7,baz=206,slow=6.3,SNR=99
MAW S S 18 27 14.3 -2.1
comp=Z,2.0nm,1.0s,baz=156,slow=19,SNR=2.2
MAW PKPPKP 18 44 50.6
comp=Z,2.3nm,0.9s,baz=31,slow=5.9,SNR=3.8
MAW LR LR 18 54 19.2
comp=Z,32μm,18.6s,MS6.7,baz=226,slow=38
MAW Mawson 75.62 164 *eP* **P 18 17 37.7 -0.8**
MAW pmax pmax
comp=Z,152nm,0.9s
MAW MLR MLR

comp=Z,54μm,22.0s
MAW Mawson 75.62 164 *eP* **P 18 17 37.7 -0.8**
comp=Z,152nm,0.9s,mb5.9
MAW LR LR
comp=Z,54μm,22.0s,MS6.8
SDCO Great Sand Dun 75.69 333 *eP* **P 18 17 39.2 +0.3**
comp=Z,140nm,1.5s,mb5.7
SDCO LR LR
comp=Z,14μm,19.0s,MS6.3
SUR Sutherland 75.70 119 P **P 18 17 41.7 +2.8**
comp=Z,1μm,0.8s,mb6.8,SNR=10
SUR Sutherland 75.70 119 P **P 18 17 39.8 +0.9**
comp=Z,86nm,0.9s,mb5.7,baz=252,slow=3.5,SNR=23
SUR S S 18 27 25.1 +7.9
comp=Z,4.7nm,0.9s,baz=18,slow=9.1,SNR=2.1
SUR Sutherland 75.70 119 *eP* **P 18 17 40.5 +1.6**
comp=Z,140nm,0.8s,mb5.9
SUR LR LR
comp=Z,6μm,21.0s,MS5.9
FRNY Flat Rock 75.79 358 *eP* **P 18 17 39.3 -0.2**
Y14A Wickenburg 75.80 325⇑P **P 18 17 39.9 +0.4**
baz=76
Y14A ⇑S S 18 27 22.9 +4.5
baz=76
JFWS Jewell Farm 75.84 346 *eP* **P 18 17 38.9 -0.9**
JFWS Jewell Farm 75.84 346 *eP* **P 18 17 38.5 -1.2**
X15A Humboldt 75.88 326⇑P **P 18 17 40.5 +0.5**
baz=76,SNR=24
X15A ⇑S S 18 27 24.6 +5.4
baz=76
MSNY Massena 75.99 357 *eP* **P 18 17 40.5 -0.1**
GLA Glamis 76.00 324 P **P 18 17 42.4 +1.7**
GLA *e*PP pP 18 18 00.7 +7.1
GLA Glamis 76.00 324 *eP* **P 18 17 41.0 +0.3**
comp=Z,67nm,1.2s,mb5.5
GLA Glamis 76.00 324⇓P **P 18 17 41.2 +0.5**
baz=76,SNR=5.3
GLA ⇓S S 18 27 26.2 +5.6
baz=76
Y13A Salome 76.11 325⇑P **P 18 17 41.6 +0.3**
baz=76,SNR=9.9
Y13A ⇑S S 18 27 25.0 +3.3
baz=76
X14A Yava 76.18 326 P **P 18 17 42.1 +0.4**
baz=76,SNR=15
X14A ⇓S S 18 27 26.3 +3.8
baz=76
PKME Peaks-Kenny Pk 76.22 2 *eP* **P 18 17 43.0 +1.1**
comp=Z,479nm,1.8s,mb6.1
PKME LR LR
comp=Z,6μm,21.0s,MS5.9
WUAZ Wupatki 76.32 327 *eP* **P 18 17 43.8 +1.3**
comp=Z,168nm,1.2s,mb5.8
WUAZ LR LR
comp=Z,10μm,22.0s,MS6.1
WUAZ Wupatki 76.32 327⇓P **P 18 17 43.8 +1.3**
baz=77
WUAZ ⇑S S 18 27 29.9 +5.8
baz=77
DVTC Desert V Tower 76.35 322⇑P **P 18 17 43.9 +1.2**
baz=77
Y12C Blythe 76.40 324⇑P **P 18 17 44.2 +1.3**
baz=77
Y12C ⇓S S 18 27 30.3 +5.3
baz=77
SWSC Sam W. Stewart 76.41 323⇑P **P 18 17 43.2 +0.2**
baz=77,SNR=6.2
SWSC ⇓S S 18 27 31.2 +6.1
baz=77
W15A Williams 76.46 327⇑P **P 18 17 44.0 +0.7**
baz=77
W15A ⇓S S 18 27 32.0 +6.4
baz=77
MVCO Mesa Verde 76.46 330 *eP* **P 18 17 43.2 -0.1**
comp=Z,106nm,0.9s,mb5.8
MVCO LR LR
comp=Z,16μm,19.0s,MS6.4
MVCO Mesa Verde 76.46 330⇑P **P 18 17 43.4 +0.1**
baz=77
MVCO ⇓S S 18 27 30.3 +4.7
baz=77
PDMCI Parker Dam,Lak 76.65 325⇑P **P 18 17 44.5 +0.2**
baz=77
PDMCI ⇓S S 18 27 32.6 +4.9
baz=77
BAR Barrett 76.67 322 *eP* **P 18 17 45.4 +0.9**
MONP Monument Peak 76.70 322⇑P **P 18 17 44.3 -0.3**
baz=77,SNR=17
MONP ⇓S S 18 27 31.5 +3.3
baz=77
GLMI Grayling 76.70 350 PFAKE 18 17 50.0 +5.3
GLMI LR LR
comp=Z,10μm,21.0s,MS6.1
BC3 Big Chuckw Mtn 76.80 323⇓P **P 18 17 45.2 0.0**
baz=77,SNR=30
BC3 ⇑S S 18 27 33.9 +4.6
baz=77
W14A Seligman 76.87 326⇑P **P 18 17 45.6 -0.1**
baz=77
W14A ⇓S S 18 27 35.2 +5.1
baz=77
IRM Iron Mountain 77.04 324⇓P **P 18 17 46.3 -0.3**
baz=77,SNR=19
IRM ⇑S S 18 27 36.6 +4.6
baz=77
109C Camp Elliot, M 77.06 322⇑P **P 18 17 47.0 +0.4**
baz=77
109C ⇓S S 18 27 36.2 +4.1
baz=77
PV01 Paradox Valley 77.27 331 *eP* **P 18 17 47.9 0.0**
PFO Pinyon Flat Ob 77.28 323 P **P 18 17 48.3 +0.4**
comp=Z,212nm,1.1s,mb6.0,SNR=13
PFO Pinyon Flat Ob 77.28 323 *eP* **P 18 17 48.7 +0.8**
comp=Z,92nm,1.1s,mb5.6
PFO LR LR
comp=Z,4μm,20.0s,MS5.7
PFO Pinyon Flat Ob 77.28 323⇑P **P 18 17 48.1 +0.2**
baz=78,SNR=14
PFO ⇑S S 18 27 40.2 +5.7
baz=78
BELC Belle Mtn. 77.35 323⇓P **P 18 17 48.8 +0.5**
baz=78
BELC ⇓S S 18 27 41.0 +5.7
baz=78
ISCO Idaho Springs 77.52 334 *eP* **P 18 17 49.5 +0.3**
comp=Z,129nm,1.4s,mb5.7
ISCO LR LR
comp=Z,9μm,20.0s,MS6.1
MURC Murrieta 77.66 322⇓P **P 18 17 50.4 +0.4**
baz=78
MURC ⇑S S 18 27 44.0 +5.4
baz=78
PV10 Paradox Valley 77.67 331 *eP* **P 18 17 49.8 -0.3**
CHIE El Hierro 77.73 47 P **P 18 17 49.7 -0.8**
comp=Z,100nm,1.0s,mb5.7
W12A Cal Nev Ari 77.81 325⇑P **P 18 17 51.4 +0.5**
baz=78
W12A ⇓S S 18 27 44.1 +3.8
baz=78
SCI San Clemente I 77.90 321⇑P **P 18 17 52.5 +1.2**
baz=78
SCI ⇑S S 18 27 45.8 +4.6
baz=78
BBRC Big Bear Sol-O 78.03 323⇑P **P 18 17 53.2 +1.1**
baz=78
BBRC ⇑S S 18 27 47.5 +4.9
baz=78
ECSD EROS,Sioux Fal 78.14 342 *eP* **P 18 17 51.2 -1.5**
comp=Z,179nm,1.1s,mb5.9
ECSD LR LR
comp=Z,7μm,22.0s,MS6.0
CIS Catalina Islan 78.15 321⇑P **P 18 17 53.8 +1.1**
baz=78
CIS ⇓S S 18 27 49.5 +5.6
baz=78
HEC Hector,Ludlow 78.17 324⇑P **P 18 17 54.2 +1.3**
baz=78
HEC ⇓S S 18 27 49.2 +5.0
baz=78
FMP Fort Macarthur 78.32 322⇓P **P 18 17 54.2 +0.5**
baz=79
FMP ⇓S S 18 27 50.4 +4.7
baz=79
BFSC Mount Baldy St 78.39 322⇓P **P 18 17 54.8 +0.7**
baz=79,SNR=15
BFSC ⇓S S 18 27 52.2 +5.6
baz=79
TUQ Turquoise Mtn. 78.44 324⇓P **P 18 17 54.7 +0.3**

baz=79,SNR=24
TUQ ⇑S S 18 27 50.7 +3.6
baz=79
EGOM La Gomera 78.51 47 P **P 18 17 52.1 -2.6**
comp=Z,979nm,2.7s,mb6.3
RRX Edison Barstow 78.55 323 ⇓P **P 18 17 55.5 +0.5**
baz=79
RRX ⇑S S 18 27 51.2 +3.0
baz=79
U12A Valley of Fire 78.55 326 ⇓P **P 18 17 55.9 +0.9**
baz=79
U12A ⇑S S 18 27 51.8 +3.5
baz=79
MWC Mount Wilson 78.59 322 *e*P **P 18 17 57.0 +1.8**
SNCC San Nicolas Is 78.63 320 PFAKE 18 18 10.0 +15
SNCC LR LR
comp=Z,7μm,20.0s,MS6.0
SNCC San Nicolas Is 78.63 320 ⇑P **P 18 17 56.2 +0.8**
baz=79
SNCC ⇓S S 18 27 54.4 +5.3
baz=79
DECC Green Verdugo 78.75 322 ⇓P **P 18 17 56.9 +0.8**
baz=79
DECC ⇑S S 18 27 55.1 +4.7
baz=79
PHWY Pilot Hill 78.77 335 *e*P **P 18 17 55.9 -0.3**
GSC Goldstone 78.78 324 *e*P **P 18 17 56.5 +0.3**
GSC Goldstone 78.78 324 ⇓P **P 18 17 55.8 -0.5**
baz=79,SNR=20
GSC ⇓S S 18 27 56.6 +5.9
baz=79
CCUT Cedar City 78.90 327 *e*P **P 18 17 57.6 +0.7**
SHPR Sheep Range 78.91 325 *e*P **P 18 17 57.5 +0.5**
SRU San Rafael 78.92 330 *e*P **P 18 17 56.8 -0.2**
CCAN Las Canadas 78.93 47 P **P 18 17 55.6 -1.5**
comp=Z,106nm,1.1s,mb5.7
U11A Corn Creek 78.96 325 ⇑S S 18 27 57.1 +4.6
baz=79
SHOC Shoshone 78.98 324 ⇑P **P 18 17 57.3 -0.1**
baz=79
SHOC ⇓S S 18 27 58.6 +5.7
baz=79
EDW2 Edwards Air Fo 79.06 323 ⇓P **P 18 17 58.0 +0.3**
baz=79,SNR=19
EDW2 ⇑S S 18 27 56.3 +2.6
baz=79
ARUT Antelope Range 79.13 327 P **P 18 18 03.6 +5.5**
ARUT *e* 18 18 10.5
ARUT Antelope Range 79.13 327 *e*P **P 18 17 58.7 +0.6**
MSU Marysvale 79.14 329 *e*P **P 18 17 58.9 +0.7**
MSU Marysvale 79.14 329 *e*P **P 18 17 58.4 +0.1**
MVU Marysvale 79.15 329 PFAKE 18 18 10.0 +12
MVU LR LR
comp=Z,18μm,20.0s,MS6.4
OSI Osito Adit 79.24 322 ⇓P **P 18 17 59.5 +0.7**
baz=80
OSI ⇑S S 18 27 59.5 +3.9
baz=80
BSC Santa Cruz Isl 79.25 321 ⇓P **P 18 17 59.0 +0.2**
baz=80
BSC ⇑S S 18 28 00.5 +4.8
baz=80
EBAJ Bajamar 79.32 47 P **P 18 17 59.1 0.0**
comp=Z,1μm,2.8s,mb6.3
TMUT Trail Mountain 79.37 330 *e*P **P 18 17 59.4 0.0**
LRMC Laurel Mountai 79.37 323 ⇓P **P 18 18 00.3 +0.9**
baz=80,SNR=5.6
LRMC ⇑S S 18 28 01.1 +4.2
baz=80
DRV Dumont d'Urvil 79.45 192 P **P 18 17 58.0 -1.9**
DRV Dumont d'Urvil 79.45 192 PP PP 18 21 02.0 +1.6
DRV S S 18 27 56.0 -1.8
DRV SS SS 18 33 05.0 -0.7
DRV L 18 39 00.0
TSUM Tsumeb 79.47 106 P **P 18 18 01.2 +1.2**
comp=Z,60nm,0.9s,mb5.5,baz=222,slow=5.6,SNR=43
TSUM S S 18 27 56.8 -1.2
comp=Z,1.0nm,0.8s,baz=22,slow=19,SNR=2.1
TSUM LR LR 18 49 42.0
comp=Z,24μm,19.3s,MS6.5,baz=228,slow=33
TSUM Tsumeb 79.47 106 *e*P **P 18 18 00.8 +0.8**
comp=Z,79nm,0.8s,mb5.7
TSUM LR LR
comp=Z,23μm,20.0s,MS6.5
EOSO Osorio 79.50 48 P **P 18 17 59.7 -0.5**
comp=Z,1μm,2.0s,mb6.4
SBC Santa Barbara 79.64 321 ⇓P **P 18 18 01.3 +0.4**
baz=80
SBC ⇑S S 18 28 03.9 +4.1
baz=80
ARVC Arvin 79.69 322 ⇓P **P 18 18 01.8 +0.6**
baz=80
ARVC ⇓S S 18 28 03.8 +3.4
baz=80
MPMC Manual Prospec 79.72 324 ⇑P **P 18 18 02.2 +0.8**
baz=80,SNR=19
MPMC ⇑S S 18 28 06.2 +5.5
baz=80
FURC Furnace Creek, 79.72 324 ⇓P **P 18 18 02.2 +0.9**
baz=80
FURC ⇑S S 18 28 04.4 +3.7
baz=80
RWWY Rawlins 79.76 334 *e*P **P 18 18 01.3 -0.3**
comp=Z,231nm,1.3s,mb6.0
ISA Isabella 79.92 323 *e*P **P 18 18 02.0 -0.4**
ISA MLR MLR
comp=Z,2μm,22.0s,MS5.5
ISA Isabella 79.92 323 ⇓P **P 18 18 03.5 +1.0**
baz=80,SNR=17
ISA ⇑S S 18 28 08.6 +5.9
baz=80
DAC Darwin (Calif) 79.94 324 *e*P **P 18 18 02.8 +0.2**
comp=Z,117nm,1.2s,mb5.7
DAC LR LR
comp=Z,14μm,22.0s,MS6.2
PKM Peak Mountain 80.04 321 ⇓P **P 18 18 03.9 +0.9**
baz=80,SNR=34
PKM ⇓S S 18 28 08.3 +4.3
baz=80
MPU Maple Canyon 80.15 330 *e*P **P 18 18 03.3 -0.4**
MPU LR LR
comp=Z,29μm,19.0s,MS6.6
NLU North Lily Min 80.29 329 *e*P **P 18 18 03.8 -0.7**
DAU Daniels Canyon 80.31 330 *e*P **P 18 18 05.2 +0.6**
CWC Cottonwood Cre 80.31 324 ⇑P **P 18 18 05.8 +1.3**
baz=81
CWC ⇑S S 18 28 10.8 +3.8
baz=81
VES Vestal, Richgr 80.37 322 ⇑P **P 18 18 05.2 +0.3**
baz=81,SNR=15
VES ⇓S S 18 28 11.0 +3.6
baz=81
GRAC Grapevine Rang 80.39 324 ⇑P **P 18 18 05.6 +0.6**
baz=81,SNR=18
GRAC ⇑S S 18 28 12.5 +4.8
baz=81
SMMC Simmler 80.45 322 ⇓P **P 18 18 06.3 +1.0**
baz=81,SNR=5.5
SMMC ⇓S S 18 28 13.7 +5.4
baz=81
CFTV Fuerteventura 80.67 49 P **P 18 18 05.4 -1.1**
comp=Z,65nm,0.9s,mb5.6
RSSD Black Hills 80.75 337 *e*P **P 18 18 06.7 -0.2**
RSSD LR LR
comp=Z,4μm,20.0s,MS5.8
CTU Camp Tracy 80.76 330 *e*P **P 18 18 06.4 -0.5**
DUG Dugway 80.81 329 *e*P **P 18 18 06.8 -0.4**
DUG pmax pmax
comp=Z,134nm,1.3s,mb5.7
DUG MLR MLR
comp=Z,20μm,21.0s,MS6.4
DUG Dugway 80.81 329 *e*P **P 18 18 06.8 -0.4**
comp=Z,134nm,1.3s,mb5.7
DUG LR LR
comp=Z,20μm,21.0s,MS6.4
DUG Dugway 80.81 329 ⇑P **P 18 18 07.7 +0.5**
baz=81
DUG ⇓S S 18 28 15.3 +3.2
baz=81
RCTC Rector, Farmer 80.81 323 ⇓S S 18 28 15.2 +3.1
baz=81
V05C Boulder Hill, 80.82 322 ⇓P **P 18 18 08.1 +0.8**
baz=81
ADH Angra Heroismo 80.85 34 *e*P pP 18 18 17.5 -3.0
ADH Angra Heroismo 80.85 34 *e*SS SS 18 33 52.5 +26
ADH Angra Heroismo 80.85 34 *i*LR LR 18 44 25.0
TIN Tinemaha 80.86 324 ⇓P **P 18 18 08.3 +0.8**
baz=81
TIN ⇓S S 18 28 16.4 +3.7
baz=81
BOSA Boshof 80.88 118 P **P 18 18 07.8 +0.2**
comp=Z,103nm,0.8s,mb5.8,baz=248,slow=5.1,SNR=47
BOSA S S 18 28 12.7 -0.1
comp=Z,2.5nm,1.0s,baz=225,slow=20,SNR=1.8
BOSA LR LR 18 51 53.7
comp=Z,21μm,18.7s,MS6.5,baz=241,slow=34
BOSA Boshof 80.88 118 *e*P **P 18 18 07.9 +0.3**
comp=Z,128nm,0.8s,mb5.9
BOSA LR LR
comp=Z,22μm,19.0s,MS6.5
R10A Warm Springs 80.88 326 ⇓P **P 18 18 08.9 +1.3**
baz=81
R10A ⇑S S 18 28 16.1 +3.2
baz=81
S09A Goldfield 80.89 325 ⇑P **P 18 18 07.7 +0.1**
baz=81,SNR=26
S09A ⇑S S 18 28 17.0 +4.1
baz=81
PDA Ponta Delgada 80.89 35 *i*P **P 18 18 10.0 +2.3**
PDA Ponta Delgada 80.89 35 *e*PP PP 18 21 19.0 +6.5
PDA *e*S sS 18 28 34.0 -0.7
PDA *e*P 18 34 30.0
PDA Ponta Delgada 80.89 35 *e*LR LR 18 44 48.0
EYMN Ely 80.91 346 *e*P **P 18 18 06.2 -1.6**
HELL Mitchell Peak, 80.98 323 ⇓P **P 18 18 08.4 +0.3**
baz=81
HELL ⇑S S 18 28 16.1 +2.2
baz=81
Q11A Duckwater 81.01 327 ⇑P **P 18 18 08.6 +0.4**
baz=81,SNR=15
Q11A ⇑S S 18 28 17.2 +3.0
baz=81
TPH Tonopah 81.16 325 *e*P **P 18 18 10.0 +0.9**
TPH pmax pmax
comp=Z,126nm,1.3s,mb5.7
TPH MLR MLR
comp=Z,8μm,21.0s,MS6.1
TPH Tonopah 81.16 325 *e*P **P 18 18 09.9 +0.9**
comp=Z,126nm,1.3s,mb5.7
TPH LR LR
comp=Z,8μm,21.0s,MS6.1
V04C Ramage Ranch, 81.16 321 ⇑P **P 18 18 10.0 +0.9**
baz=81
V04C ⇑S S 18 28 19.7 +4.0
baz=81
P12A McGill 81.17 327 ⇓P **P 18 18 10.0 +0.9**
baz=82,SNR=7.3
P12A ⇓S S 18 28 19.4 +3.6
baz=82
S08C White Mtn Res 81.18 324 P **P 18 18 10.6 +1.4**
baz=82,SNR=28
S08C ⇑S S 18 28 21.7 +5.7
baz=82
R09A Tonopah 81.21 325 ⇓P **P 18 18 10.0 +0.6**
baz=82,SNR=30
R09A ⇑S S 18 28 21.0 +4.7
baz=82
PKD Parkfield 81.22 322 ⇑P **P 18 18 10.5 +1.1**
baz=82,SNR=5.0
PKD ⇓S S 18 28 19.6 +3.3
baz=82
MTUM Tungsten Hills 81.27 324 *e*P **P 18 18 09.0 -0.6**
U05C Westside ANR, 81.29 322 ⇓P **P 18 18 11.0 +1.2**
baz=82
U05C ⇓S S 18 28 20.9 +3.8
baz=82
HWUT Hardware Ranch 81.44 331 *e*P **P 18 18 09.8 -0.7**
comp=Z,137nm,1.2s,mb5.8
HWUT LR LR
comp=Z,20μm,19.0s,MS6.5
BGU Big Grassy Mou 81.50 329 *e*P **P 18 18 10.5 -0.4**
EFAM Famara 81.51 49 P **P 18 18 10.3 -0.6**
comp=Z,2μm,2.9s,mb6.5
SPUT South Promonto 81.56 330 *e*P **P 18 18 08.8 -2.4**
BW06 Boulder Array 81.59 333 PFAKE 18 18 20.0 +8.6
BW06 LR LR
comp=Z,13μm,20.0s,MS6.3
PDAR Pinedale Array 81.59 333 P **P 18 18 10.6 -0.8**
comp=Z,11nm,1.2s,mb4.7,baz=144,slow=5.3,SNR=26
PDAR S S 18 28 16.0 -4.2
comp=Z,1.3nm,1.2s,baz=56,slow=18,SNR=2.5
PDAR PKKPbc PKKPbc 18 36 43.1 -0.6
comp=Z,2.0nm,0.9s,baz=11,slow=2.1,SNR=4.9
PDAR PKPPKP 18 44 40.8
comp=Z,0.7nm,0.8s,baz=336,slow=3.3,SNR=4.2
PDAR LR LR 18 51 09.6
comp=Z,11μm,20.1s,MS6.2,baz=146,slow=33
MLAC Mammoth Lakes 81.62 324 ⇑P **P 18 18 12.5 +1.0**
baz=82
MLAC ⇑S S 18 28 24.0 +3.5
baz=82
P11A Circle Ranch, 81.62 327 ⇓P **P 18 18 12.6 +1.1**
baz=82
P11A ⇑S S 18 28 23.6 +3.1
baz=82
KCC Kaiser Creek 81.63 323 ⇑P **P 18 18 11.8 +0.3**
baz=82
KCC ⇑S S 18 28 22.7 +2.1
baz=82
V03C Hunter Liggett 81.64 321 ⇑P **P 18 18 12.4 +0.8**
baz=82,SNR=13
V03C ⇑S S 18 28 25.0 +4.2
baz=82
O12A Currie 81.73 328 ⇑P **P 18 18 12.5 +0.5**
baz=82,SNR=25
O12A ⇑S S 18 28 25.1 +3.5
baz=82
Q09A Carvers 81.73 326 ⇑P **P 18 18 12.7 +0.6**
baz=82
Q09A ⇑S S 18 28 25.1 +3.4
baz=82
MIR Mirnyy 81.74 174*c i*P **P 18 18 12.5 +0.3**
MIR *e*PPP 18 23 14.0
MIR *e*S S 18 28 20.0 -1.8
MIR *e*SSS 18 37 12.0
MIR pmax pmax
comp=Z,650nm,2.0s,mb6.2
MIR pmax pmax
comp=Z,3μm,14.0s
MIR MLR MLR
comp=N,8μm,22.0s,MS6.1
MIR MLR MLR
comp=Z,14μm,22.0s,MS6.3
MIR MLR MLR
comp=E,4μm,20.0s,MS6.1
R08A Mina 81.81 325 ⇓P **P 18 18 13.1 +0.6**
baz=82
R08A ⇑S S 18 28 25.0 +2.6
baz=82
LRV Little Rabbit 81.83 322 *e*P **P 18 18 13.7 +1.1**
N13A Wendover, West 81.96 329 ⇑P **P 18 18 13.8 +0.5**
baz=82
N13A ⇓S S 18 28 26.3 +2.3
baz=82
NVAR Mina Array Bea 81.97 325 P **P 18 18 13.7 +0.4**
comp=E,20nm,1.0s,mb5.0,baz=163,slow=4.6,SNR=24
NVAR S S 18 28 20.7 -3.4
comp=E,0.2nm,0.6s,baz=51,slow=2.9,SNR=2.4
NVAR PKKPbc PKKPbc 18 36 44.4 +1.5
comp=E,2.4nm,0.8s,baz=285,slow=4.0,SNR=8.1
T05C Eagle Field, D 82.00 322 ⇓P **P 18 18 14.0 +0.5**
baz=82
T05C ⇑S S 18 28 30.5 +6.0
baz=82
P10A Eureka 82.01 327 ⇑P **P 18 18 14.5 +0.9**
baz=82,SNR=14
P10A ⇓S S 18 28 27.4 +2.9
baz=82
O11A Cowboy Ranch, 82.04 327 P **P 18 18 14.2 +0.4**
baz=82,SNR=64
O11A ⇑S S 18 28 28.0 +3.2
baz=82
R07C Lee Vining 82.08 324 ⇓P **P 18 18 14.9 +1.0**
baz=82,SNR=16
R07C ⇑S S 18 28 30.0 +4.8
baz=82
HAST UC Hastings Re 82.09 321 ⇓P **P 18 18 14.6 +0.6**
baz=82
HAST ⇑S S 18 28 29.6 +4.2
baz=82
HVU Hansel Valley 82.09 330 *e*P **P 18 18 13.1 -0.9**
Q08A Gabbs 82.12 325 ⇓P **P 18 18 14.1 0.0**
baz=82
Q08A ⇑S S 18 28 28.0 +2.3
baz=82
S05C Merced 82.17 323 ⇓P **P 18 18 14.3 -0.1**
baz=82
S05C ⇓S S 18 28 29.1 +3.0
baz=82
AGMN Agassiz Refuge 82.20 344 *e*P **P 18 18 14.3 -0.2**
comp=E,111nm,1.1s,mb5.7
AGMN LR LR
comp=Z,2μm,20.0s,MS5.5
AHID Auburn Hatcher 82.21 332 *e*P **P 18 18 13.7 -0.9**
comp=Z,157nm,1.5s,mb5.7
AHID LR LR
comp=Z,13μm,20.0s,MS6.3
P09A Austin 82.28 326 ⇓S S 18 28 27.9 +0.7
baz=83
N12A Clover Valley, 82.33 328 ⇓P **P 18 18 15.7 +0.4**
baz=83,SNR=20
N12A ⇑S S 18 28 30.0 +2.2
baz=83
PACP Pacheco Peak 82.41 322 ⇑P **P 18 18 16.4 +0.7**
baz=83,SNR=10
PACP ⇓S S 18 28 32.2 +3.5
baz=83
O10A Cortez Mining, 82.56 327 ⇑P **P 18 18 16.5 +0.1**
baz=83
O10A ⇓S S 18 28 32.1 +2.0
baz=83
WAKR Walker 82.59 324 *e*P **P 18 18 17.7 +1.1**
REDW Red Top Meadow 82.61 332 *e*P **P 18 18 16.9 +0.2**
comp=Z,134nm,1.4s,mb5.8
Q07A Schurz 82.61 325 ⇑P **P 18 18 17.5 +0.8**
baz=83
Q07A ⇓S S 18 28 34.6 +3.9
baz=83
R06C Coleville 82.61 324 ⇑P **P 18 18 17.2 +0.5**
baz=83
R06C ⇑S S 18 28 35.5 +4.8
baz=83
N11A Elko Archery C 82.62 328 ⇓P **P 18 18 17.4 +0.6**
baz=83
N11A ⇓S S 18 28 33.8 +3.0
baz=83
SNOW Snow King Moun 82.65 332 *e*P **P 18 18 16.4 -0.5**
LOHW Long Hollow 82.72 332 *e*P **P 18 18 15.8 -1.4**
CMB Columbia Colle 82.72 323 ⇑P **P 18 18 17.8 +0.5**
baz=83
CMB ⇓S S 18 28 34.2 +2.5
baz=83
CASY Casey 82.73 181 *e*P **P 18 18 16.6 -0.7**
comp=Z,182nm,0.8s,mb6.2
CASY LR LR
comp=Z,17μm,20.0s,MS6.4
M12A Wells 82.73 329 P **P 18 18 17.5 +0.2**
baz=83,SNR=13
M12A ⇑S S 18 28 34.3 +2.5
baz=83
TPAW Teton Pass 82.75 332 *e*P **P 18 18 16.9 -0.5**
comp=Z,107nm,1.4s,mb5.7
RRI2 Red Ridge 82.78 332 *e*P **P 18 18 21.4 +3.8**
O09A Fish Creek Ran 82.78 326 ⇓P **P 18 18 18.1 +0.5**
baz=83,SNR=16
O09A ⇑S S 18 28 34.2 +1.7
baz=83
TOA0 Torodi Ar. Sit 82.81 70 *e*P **P 18 18 17.9 +0.1**
TORD Torodi Ar. Bea 82.81 70 P **P 18 18 17.9 +0.1**
comp=Z,363nm,0.9s,mb6.4,baz=253,slow=3.7,SNR=143
TORD S S 18 28 33.5 +0.8
comp=Z,1.5nm,1.2s,baz=223,slow=9.9,SNR=2.7
TORD LR LR 18 53 06.5
comp=Z,27μm,20.4s,MS6.6,baz=230,slow=34
TORD Torodi Ar. Bea 82.81 70 P **P 18 18 17.9 +0.1**
TORD S S 18 28 33.5 +0.8
TORD LR LR 18 53 06.5
P08A Dixie Valley 82.84 326 ⇑P **P 18 18 18.4 +0.5**
baz=83
MOOW Moose Ponds 82.89 332 *e*P **P 18 18 18.2 0.0**
N10A Dunphy 82.90 327 ⇑P **P 18 18 18.5 +0.3**
baz=83
N10A ⇓S S 18 28 36.1 +2.5
baz=83
DCID1 Drake Creek 82.93 332 *e*P **P 18 18 18.8 +0.5**
BNLO Ben Lomond (Sa 82.97 321 ⇓P **P 18 18 19.5 +0.9**
baz=83
BNLO ⇑S S 18 28 39.1 +4.8
baz=83
LBTB Lobatse 82.98 115 P **P 18 18 18.6 0.0**
comp=Z,95nm,0.9s,mb5.8,baz=256,slow=6.0,SNR=46
LBTB S S 18 28 35.0 +0.6
comp=Z,2.9nm,1.0s,baz=218,slow=17,SNR=2.2
LBTB LR LR 18 51 22.5
comp=Z,40μm,20.1s,MS6.8,baz=248,slow=33
LBTB Lobatse 82.98 115 *e*P **P 18 18 18.5 -0.1**
comp=Z,106nm,0.8s,mb5.9
LBTB LR LR
comp=Z,40μm,20.0s,MS6.8
BMN Battle Mountai 83.00 327 *e*P **P 18 18 19.7 +0.9**
BMN MLR MLR
comp=Z,12μm,19.0s,MS6.3
R05C Kirkwood Meado 83.06 324 ⇑P **P 18 18 19.3 +0.2**
baz=83,SNR=14
R05C ⇓S S 18 28 38.7 +3.4
baz=83
IMW Indian Meadow 83.09 332 *e*P **P 18 18 18.9 -0.3**
comp=Z,85nm,1.3s,mb5.6
WENL Wente Brothers 83.12 322 ⇑P **P 18 18 19.5 +0.2**
baz=83
WENL ⇑S S 18 28 41.7 +5.8
baz=83
M11A Holland Ranch, 83.13 328 ⇑P **P 18 18 19.1 -0.3**
baz=83,SNR=34
M11A ⇓S S 18 28 39.1 +3.1
baz=83
FLWY Flagg Ranch 83.15 333 *e*P **P 18 18 19.2 -0.2**
comp=Z,106nm,1.2s,mb5.8
R04C Big Horse Ranc 83.17 323 ⇓P **P 18 18 19.6 0.0**
baz=83
R04C ⇑S S 18 28 39.2 +2.9
baz=83
JRSC Jasper Ridge 83.21 322 ⇑P **P 18 18 19.7 -0.1**
baz=84
JRSC ⇓S S 18 28 39.4 +2.7
baz=84
O08A Rochester Mine 83.34 326 ⇓P **P 18 18 20.8 +0.4**
baz=84
O08A ⇑S S 18 28 41.5 +3.5
baz=84
WCN Washoe City 83.36 324 ⇓P **P 18 18 21.2 +0.6**
baz=84
WCN ⇑S S 18 28 43.0 +4.7
baz=84
BDM Black Diamond 83.42 322 ⇑P **P 18 18 21.1 +0.2**
baz=84
BDM ⇑S S 18 28 43.2 +4.3
baz=84
LKWY Lake 83.44 333 PFAKE 18 18 30.0 +9.0
LKWY LR LR
comp=Z,11μm,19.0s,MS6.2
LAVA Lava Cap Winer 83.44 323 ⇑P **P 18 18 20.4 -0.6**
baz=84
LAVA ⇑S S 18 28 42.9 +3.8
baz=84
RLMT Red Lodge 83.47 334 *e*P **P 18 18 20.5 -0.7**
comp=Z,26nm,0.8s,mb5.3
RLMT LR LR
comp=Z,8μm,19.0s,MS6.1
N09A Rock Creek Ran 83.48 327 ⇓P **P 18 18 20.8 -0.4**
baz=84
N09A ⇓S S 18 28 41.3 +1.9
baz=84
PAHR Pah Rah Range 83.49 325 *e*P **P 18 18 21.3 +0.1**
comp=Z,149nm,1.2s,mb5.9
YFT Old Faithful 83.51 333 *e*P **P 18 18 22.3 +0.9**
M10A I.L. Ranch, Tu 83.55 328 ⇓P **P 18 18 21.2 -0.3**
baz=84,SNR=15
M10A ⇑S S 18 28 43.1 +2.9
baz=84
O07A Toulon 83.59 325 ⇓P **P 18 18 21.9 +0.1**
baz=84,SNR=15
O07A ⇑S S 18 28 44.1 +3.6
baz=84
P06A Stead Airport, 83.72 324 ⇓P **P 18 18 22.7 +0.2**
baz=84
P06A ⇓S S 18 28 44.8 +2.9
baz=84
LAO LASA Array 83.74 337 PFAKE 18 18 30.0 +7.5
LAO LR LR
comp=Z,8μm,22.0s,MS6.0
YMR Madison River 83.74 333 *e*P **P 18 18 22.9 +0.4**
comp=Z,377nm,1.7s,mb6.2

YMR LR LR
comp=Z,13µm,21.0s,MS6.3
Q04C Lincoln 83.83 323 ⇑P P 18 18 23.0 0.0
baz=84
Q04C ⇑S S 18 28 46.7 +3.7
baz=84
FARB Farallon Islan 83.84 321 ⇑P P 18 18 23.1 +0.1
baz=84
FARB ⇓S S 18 28 45.3 +2.3
baz=84
M09A Marrel Ranch, 83.89 327 ⇑P P 18 18 23.3 0.0
baz=84
M09A ⇓S S 18 28 47.5 +3.9
baz=84
CVS Carmenet Viney 84.03 322 ⇓P P 18 18 23.4 -0.6
baz=84,SNR=5.9
CVS ⇓S S 18 28 49.0 +4.0
baz=84
ULM Lac du Bonnet 84.03 345 P P 18 18 21.5 -2.5
comp=Z,46nm,1.0s,mb5.6,baz=162,slow=4.6,SNR=18
ULM S S 18 28 37.6 -7.4
comp=Z,4.4nm,1.0s,baz=300,slow=11,SNR=1.9
ULM Lac du Bonnet 84.03 345 eP P 18 18 21.7 -2.3
comp=Z,114nm,1.2s,mb5.9
ULM LR LR
comp=Z,7µm,22.0s,MS6.0
O06A Flanigan 84.06 325 ⇑P P 18 18 24.9 +0.7
baz=84,SNR=5.9
O06A ⇓S S 18 28 50.1 +4.8
baz=84
QLMT Earthquake Lak 84.06 333 eP P 18 18 25.3 +1.1
BEKR Beckwourth 84.09 324 ⇑P P 18 18 24.2 -0.1
baz=84,SNR=26
BEKR ⇑S S 18 28 48.5 +2.8
baz=84
MCCM Marconi Confer 84.10 322 ⇓P P 18 18 24.0 -0.4
baz=84
MCCM ⇑S S 18 28 49.4 +3.7
baz=84
N07B Gerlach 84.11 326 ⇑P P 18 18 24.4 0.0
baz=84,SNR=27
N07B ⇓S S 18 28 49.0 +3.2
baz=84
HLID Hailey 84.24 330 eP P 18 18 25.2 +0.2
comp=Z,100nm,1.4s,mb5.8
HLID LR LR
comp=Z,11µm,21.0s,MS6.2
HLID Hailey 84.24 330 ⇑P P 18 18 24.9 -0.1
baz=84
HLID ⇑S S 18 28 51.6 +4.4
baz=84
OHCM Honcut 84.26 323 eP P 18 18 24.5 -0.7
SUTB Sutter Butte 84.33 323 ⇓P P 18 18 25.0 -0.5
baz=85
SUTB ⇓S S 18 28 51.0 +3.0
baz=85
M08A Happy Creek Ra 84.35 326 ⇑P P 18 18 25.5 -0.1
baz=85,SNR=24
M08A ⇓S S 18 28 51.6 +3.4
baz=85
MNRC McLaughlin Nat 84.41 322 ⇓P P 18 18 25.7 -0.3
baz=85
MNRC ⇓S S 18 28 54.1 +5.3
baz=85
ORV Oroville 84.43 323 ⇑P P 18 18 25.7 -0.3
baz=85,SNR=24
ORV ⇑S S 18 28 51.5 +2.5
baz=85
O05C Quincy 84.44 324 ⇓P P 18 18 26.6 +0.5
baz=85
O05C ⇑S S 18 28 51.6 +2.4
baz=85
L09A Wilkinson Ranc 84.46 327 ⇑P P 18 18 26.3 +0.1
baz=85
L09A ⇑S S 18 28 52.6 +3.3
baz=85
N06A Buffalo Meadow 84.51 325 ⇑P P 18 18 25.8 -0.6
baz=85,SNR=49
N06A ⇑S S 18 28 53.7 +4.0
baz=85
MCMT McKenzie Canyo 84.62 332 eP P 18 18 26.9 -0.1
DGMT Dagmar 84.65 339 eP P 18 18 26.6 -0.5
DGMT LR LR
comp=Z,5µm,22.0s,MS5.9
M07A Soldier Meadow 84.68 326 P P 18 18 27.1 -0.2
baz=85,SNR=19
M07A ⇑S S 18 28 53.2 +1.8
baz=85
O04C Chester 84.80 324 ⇑P P 18 18 27.8 -0.1
baz=85
O04C ⇑S S 18 28 53.8 +1.1
baz=85
HOPS Hopland 84.83 322 eP P 18 18 32.9 +4.9
HOPS Hopland 84.83 322 ⇓P P 18 18 28.1 0.0
baz=85
HOPS ⇑S S 18 28 55.3 +2.3
baz=85
ELFS Eagle Lake Fie 84.85 325 ⇓P P 18 18 27.8 -0.3
baz=85,SNR=18
ELFS ⇓S S 18 28 56.8 +3.6
baz=85
L08A Fields 84.91 327 P P 18 18 28.3 -0.1
baz=85,SNR=15
L08A ⇑S S 18 28 57.1 +3.4
baz=85
DLMT Dillon 84.96 332 eP P 18 18 29.1 +0.4
comp=Z,85nm,1.2s,mb5.8
K09A Rome 85.02 328 ⇓P P 18 18 28.9 -0.1
baz=85
K09A ⇑S S 18 28 57.7 +2.8
baz=85
O03C Acorn Hollow, 85.03 323 ⇑P P 18 18 28.4 -0.7
baz=85
O03C ⇑S S 18 28 56.8 +1.8
baz=85
GASB Alder Springs 85.13 323 ⇓P P 18 18 29.7 +0.1
baz=85,SNR=24
GASB ⇓S S 18 28 60.0 +4.0
baz=85
M06C Likely Place G 85.17 325 ⇓P P 18 18 29.6 -0.1
baz=85,SNR=17
M06C ⇓S S 18 28 58.8 +2.5
baz=85
WVOR Wild Horse Val 85.23 327 eP P 18 18 28.9 -1.2
WVOR pmax pmax
comp=Z,60nm,1.1s,mb5.6
WVOR MLR MLR
comp=Z,9µm,19.0s,MS6.2
WVOR Wild Horse Val 85.23 327 eP P 18 18 28.9 -1.2
comp=Z,60nm,1.1s,mb5.6
WVOR LR LR
comp=Z,9µm,19.0s,MS6.2
L07A Adell 85.24 326 ⇓P P 18 18 30.3 +0.2
baz=86
L07A ⇑S S 18 29 01.0 +4.0
baz=86
LRM Limekiln Ridge 85.28 333 eP P 18 18 30.2 -0.1
P01C Double 8 Ranch 85.32 322 ⇑P P 18 18 30.9 +0.4
baz=86,SNR=7.1
P01C ⇑S S 18 28 59.5 +1.7
baz=86
HATC Hat Creek Radi 85.36 324 ⇓P P 18 18 31.1 +0.4
baz=86,SNR=6.3
HATC ⇑S S 18 29 00.2 +2.0
baz=86
K08A Mann Creek Ran 85.39 327 ⇓P P 18 18 31.1 +0.2
baz=86
K08A ⇑S S 18 29 00.4 +1.9
baz=86
SNZO South Karori 85.47 224 PFAKE 18 18 40.0 +8.8
SNZO LR LR
comp=Z,8µm,19.0s,MS6.1
J09A Fry Pan Ranch, 85.54 328 ⇓P P 18 18 31.5 -0.1
baz=86,SNR=18
J09A ⇓S S 18 29 02.5 +2.5
baz=86
O02C Red Bluff 85.56 323 ⇓P P 18 18 31.4 -0.3
baz=86,SNR=8.5
O02C ⇓S S 18 29 02.5 +2.4
baz=86
M05C Lookout 85.61 325 ⇓P P 18 18 31.3 -0.7
baz=86,SNR=14
M05C ⇓S S 18 29 02.4 +1.7
baz=86
MOD Modoc 85.61 326 PFAKE 18 18 40.0 +8.0
MOD LR LR
comp=Z,9µm,20.0s,MS6.1
KIPM Iron Peak 85.64 322 eP P 18 18 33.2 +1.0

K07A Rock Creek Ran 85.72 327 ⇓P P 18 18 32.3 -0.2
baz=86,SNR=40
K07A ⇓S S 18 29 03.4 +1.6
baz=86
WDC Whiskeytown Da 85.73 324 eP P 18 18 31.2 -1.3
WDC Whiskeytown Da 85.73 324 ⇓P P 18 18 32.1 -0.5
baz=86
WDC ⇓S S 18 29 02.0 +0.2
baz=86
URZ Urewera 85.86 227 P P 18 18 33.6 +0.5
comp=Z,6.2nm,0.7s,mb4.9,baz=276,slow=19,SNR=2.8
URZ LR LR 18 47 27.6
comp=Z,18µm,21.3s,MS6.4,baz=119,slow=29
URZ Urewera 85.86 227 P P 18 18 33.6 +0.4
URZ LR LR 18 47 27.6
SCHQ Schefferville 85.86 3 P P 18 18 32.6 -0.6
comp=Z,69nm,1.1s,mb5.8,baz=158,slow=3.4,SNR=11
SCHQ S SKSac 18 28 51.5 -3.8
comp=Z,2.9nm,0.8s,baz=108,slow=13,SNR=2.5
SCHQ LR LR 18 56 28.9
comp=Z,4µm,21.6s,MS5.8,baz=184,slow=35
SCHQ Schefferville 85.86 3 eP P 18 18 32.5 -0.7
comp=Z,172nm,1.3s,mb6.1
SCHQ LR LR
comp=Z,6µm,20.0s,MS6.0
J08A Circle Bar Ran 85.88 328 ⇑P P 18 18 32.8 -0.4
baz=86,SNR=47
J08A ⇑S S 18 29 06.0 +2.7
baz=86
L05A Lakeview 85.98 325 ⇓P P 18 18 33.5 -0.3
baz=86,SNR=40
L05A ⇓S S 18 29 09.2 +4.8
baz=86
I09A Lost Marbles R 86.02 328 ⇑P P 18 18 33.2 -0.8
baz=86
I09A ⇑S S 18 29 07.2 +2.4
baz=86
RPZ Rata Peaks 86.03 220 P P 18 18 35.5 +1.5
comp=Z,18nm,0.7s,mb5.4,baz=18,slow=19,SNR=4.3
RPZ LR LR 18 50 02.1
comp=Z,11µm,18.9s,MS6.3,baz=58,slow=31
M03C McCloud 86.03 324 ⇓P P 18 18 33.1 -1.0
baz=86
M03C ⇓S S 18 29 06.7 +1.9
baz=86
O01C Eel River Cons 86.06 323 ⇓P P 18 18 33.5 -0.7
baz=86
O01C ⇑S S 18 29 10.0 +4.9
baz=86
EGMT Eagleton 86.11 335 eP P 18 18 33.6 -0.9
EGMT LR LR
comp=Z,6µm,20.0s,MS6.0
EGMT Eagleton 86.11 335 ⇓P P 18 18 33.8 -0.7
baz=86
EGMT ⇑S S 18 29 05.9 +0.2
baz=86
J07A Hines 86.27 327 ⇓P P 18 18 34.8 -0.5
baz=87
J07A ⇑S S 18 29 11.1 +3.9
baz=87
M04C Macdoel 86.28 325 P P 18 18 34.8 -0.5
baz=86,SNR=38
M04C ⇓S S 18 29 09.7 +2.5
baz=86
N02C Big Bar 86.30 323 P P 18 18 35.7 +0.3
baz=87,SNR=8.5
N02C ⇓S S 18 29 10.3 +2.8
baz=87
I08A Drewsey 86.35 328 ⇓S S 18 29 11.5 +3.5
baz=87
M02C Callahan 86.49 324 ⇑P P 18 18 36.1 -0.2
baz=87,SNR=18
M02C ⇓S S 18 29 10.3 +1.0
baz=87
CHMT Chamberlain Mo 86.50 333 eP P 18 18 35.3 -1.0
K05A Summer Lake 86.53 326 ⇓P P 18 18 36.3 -0.2
baz=87
K05A ⇑S S 18 29 14.1 +4.5
baz=87
H09A Durkee 86.53 329 ⇓P P 18 18 36.3 -0.2
baz=87,SNR=5.5
H09A ⇓S S 18 29 11.5 +1.8
baz=87
KHMM Horse Mountain 86.56 323 eP P 18 18 37.8 +1.2
J06A Christmas Vall 86.57 327 ⇑P P 18 18 36.2 -0.5
baz=87
J06A ⇑S S 18 29 12.5 +2.4
baz=87
L04A Klamath Falls 86.59 325 ⇑P P 18 18 36.3 -0.5
baz=87,SNR=11
L04A ⇑S S 18 29 13.1 +2.8
baz=87
JCC Jacoby Creek 86.67 323 ⇓P P 18 18 37.1 -0.1
baz=87
JCC ⇓S S 18 29 15.7 +4.6
baz=87
YBH Yreka Blue Hor 86.67 324 P P 18 18 35.8 -1.4
comp=Z,14nm,0.8s,mb5.2,baz=92,slow=3.9,SNR=19
YBH S SKSac 18 28 59.9 -0.5
comp=Z,0.4nm,0.3s,baz=53,slow=12,SNR=1.9
YBH Yreka Blue Hor 86.67 324 ⇓P P 18 18 35.4 -1.8
baz=87
YBH ⇓S S 18 29 12.1 +1.0
baz=87
MSO Missoula 86.70 332 eP P 18 18 37.8 +0.4
MSO LR LR
comp=Z,9µm,19.0s,MS6.2
K04A Chilquin 86.84 325 ⇑P P 18 18 37.7 -0.3
baz=87
K04A ⇑S S 18 29 15.6 +2.9
baz=87
H08A Prairie City 86.87 328 ⇑P P 18 18 38.0 -0.2
baz=87,SNR=13
H08A ⇓S S 18 29 17.1 +4.2
baz=87
I07A Izee 86.91 328 ⇓P P 18 18 38.2 -0.2
baz=87
I07A ⇓S S 18 29 16.9 +3.5
baz=87
J05A Fort Rock 87.11 326 ⇑P P 18 18 38.8 -0.5
baz=87
J05A ⇑S S 18 29 19.6 +4.3
baz=87
KRMB Red Mountain 87.12 323 eP P 18 18 39.2 -0.2
I06A Prineville 87.13 327 ⇓P P 18 18 39.0 -0.4
baz=87
I06A ⇓S S 18 29 19.7 +4.3
baz=87
KTRM Thompson Ridge 87.14 324 P P 18 18 40.3 +0.8
H07A Lands Inn, Kim 87.33 328 ⇓P P 18 18 40.1 -0.3
baz=88
H07A ⇓S S 18 29 20.2 +2.9
baz=88
F10A Beach Ranch, E 87.37 330 ⇑P P 18 18 39.8 -0.8
baz=88
F10A ⇑S S 18 29 20.9 +3.1
baz=88
L02A Cave Junction 87.43 324 ⇓P P 18 18 40.7 -0.2
baz=88,SNR=14
L02A ⇓S S 18 29 21.6 +3.2
baz=88
F09A S2 Ranch, Elgi 87.46 329 ⇓P P 18 18 40.5 -0.5
baz=88
F09A ⇑S S 18 29 20.9 +2.2
baz=88
M01C Crescent City 87.47 324 ⇓P P 18 18 40.8 -0.3
baz=88
M01C ⇓S S 18 29 22.2 +3.5
baz=88
G08A Pilot Rock 87.59 329 ⇓P P 18 18 42.0 +0.3
baz=88
G08A ⇑S S 18 29 21.1 +1.1
baz=88
C13A Hot Springs 87.64 332 ⇓P P 18 18 41.6 -0.3
baz=88,SNR=18
C13A ⇑S S 18 29 22.2 +1.8
baz=88
MATP Matopo 87.66 112 P P 18 18 42.5 +0.6
comp=Z,48nm,0.9s,mb5.8,baz=233,slow=4.4,SNR=33
MATP S S 18 29 19.9 -0.7
comp=Z,1.7nm,1.0s,baz=114,slow=10.0,SNR=2.0
MATP PKKPbc PKKPbc 18 36 29.6 +0.1
comp=Z,3.0nm,0.9s,baz=27,slow=2.9,SNR=5.6
VIPM Ingram Point 87.75 327 P P 18 18 42.6 +0.2
RAO Raoul Island 87.76 237 LR LR 18 52 44.1
comp=Z,5µm,18.2s,MS6.0,baz=193,slow=32
RAO Raoul Island 87.76 237 PFAKE 18 18 50.0 +7.5
RAO LR LR

comp=Z,9µm,21.0s,MS6.2
KBO Bosley Butte 87.79 324 eP P 18 18 44.5 +1.9
K02A Glendale 87.83 324 ⇑P P 18 18 42.2 -0.6
baz=88,SNR=23
K02A ⇑S S 18 29 24.4 +2.2
baz=88
BSMT Bassoo Peak 87.87 332 eP P 18 18 42.9 0.0
G07A Ruggs Ranch, H 87.89 328 ⇑P P 18 18 42.3 -0.8
baz=88
G07A ⇑S S 18 29 26.1 +3.3
baz=88
F08A Pendleton 87.91 329 ⇑P P 18 18 41.9 -1.3
baz=88
F08A ⇓S S 18 29 23.9 +1.0
baz=88
J03A Ideyld Park 88.01 325 ⇓P P 18 18 42.7 -1.0
baz=88
C12A Trout Creek 88.03 332 P P 18 18 43.1 -0.6
baz=88,SNR=11
C12A ⇑S S 18 29 24.9 +0.9
baz=88
H05A Madras 88.14 327 ⇓P P 18 18 43.0 -1.3
baz=88
H05A ⇓S S 18 29 25.9 +0.7
baz=88
B13A Whitefish 88.17 333 P P 18 18 43.7 -0.7
baz=88,SNR=8.1
B13A ⇑S S 18 29 27.4 +2.0
baz=88
E09A Wood Farm, Sta 88.19 330 ⇑P P 18 18 43.2 -1.3
baz=88
E09A ⇑S S 18 29 25.7 +0.1
baz=88
J02A Umpqua 88.31 325 ⇑P P 18 18 44.4 -0.7
baz=89
J02A ⇓S S 18 29 29.4 +2.6
baz=89
G06A Carlson Farm, 88.31 328 ⇑P P 18 18 45.1 +0.1
baz=89
G06A ⇑S S 18 29 29.4 +2.6
baz=89
KEBM Edson Butte 88.32 324 eP P 18 18 45.9 +0.8
K01A Sixes 88.35 324 ⇓P P 18 18 45.9 +0.6
baz=89
F07A Phinny Hill Vi 88.49 328 ⇓P P 18 18 46.0 +0.1
baz=89
F07A ⇓S S 18 29 33.0 +4.5
baz=89
WALA Waterton Lakes 88.51 334 eP P 18 18 45.3 -0.7
I03A Eugene 88.61 325 ⇓P P 18 18 45.7 -0.8
baz=89
I03A ⇓S S 18 29 33.5 +3.9
baz=89
H04A Detroit Lake 88.62 326 P P 18 18 45.8 -0.7
baz=89,SNR=17
H04A ⇑S S 18 29 33.1 +3.4
baz=89
G05A Wamic 88.63 327 ⇑P P 18 18 46.6 0.0
baz=89
G05A ⇓S S 18 29 34.5 +4.7
baz=89
PRW Prosser 88.63 329 P P 18 18 47.8 +1.2
B12A Libby 88.68 332 P P 18 18 46.8 0.0
baz=89,SNR=10
B12A ⇓S S 18 29 32.1 +1.8
baz=89
D09A Jones Farm, Ri 88.69 330 ⇑P P 18 18 46.2 -0.7
baz=89,SNR=9.5
D09A ⇑S S 18 29 31.2 +0.9
baz=89
HAWA Hanford 88.70 329 eP P 18 18 46.9 0.0
HAWA LR LR
comp=Z,16µm,20.0s,MS6.4
RSW Rattlesnake Hi 88.73 329 P P 18 18 47.5 +0.4
F06A Goldendale 88.78 328 ⇓P P 18 18 46.6 -0.7
baz=89
F06A ⇓S S 18 29 35.2 +4.0
baz=89
HOOD Mount Hood Mea 88.84 327 eP P 18 18 48.4 +0.8
C10A Spilker Farm, 88.86 331 ⇑P P 18 18 46.9 -0.8
baz=89
C10A ⇑S S 18 29 32.5 +0.5
baz=89
I02A Mapleton 88.90 325 ⇓S S 18 29 35.3 +3.0
baz=89
D08A Wollman Farm, 88.95 330 ⇓P P 18 18 47.4 -0.7
baz=89
D08A ⇓S S 18 29 35.6 +2.8
baz=89
E07A Sunnyside 88.97 329 ⇓P P 18 18 47.2 -1.0
baz=89
E07A ⇑S S 18 29 37.5 +4.5
baz=89
COR Corvallis 89.08 326 eP P 18 18 48.2 -0.5
COR pmax pmax
comp=Z,80nm,1.3s,mb5.9
COR MLR MLR
comp=Z,5µm,19.0s,MS6.0
COR Corvallis 89.08 326 eP P 18 18 48.2 -0.4
comp=Z,80nm,1.3s,mb5.9
COR LR LR
comp=Z,5µm,19.0s,MS6.0
A12A Yaak River Ran 89.08 333 ⇓P P 18 18 48.3 -0.4
baz=89
A12A ⇑S S 18 29 34.4 +0.4
baz=89
OD2 Odessa Site #2 89.12 330 P P 18 18 48.0 -0.9
H03A Soap Creek Ran 89.14 326 ⇑P P 18 18 48.4 -0.6
baz=89
H03A ⇓S S 18 29 38.7 +4.1
baz=89
NEW Newport 89.14 331 P P 18 18 47.5 -1.5
comp=Z,14nm,1.0s,mb5.2,baz=177,slow=2.5,SNR=13
NEW S SKSac 18 29 13.6 -1.7
comp=Z,1.6nm,0.4s,baz=354,slow=18,SNR=2.0
NEW Newport 89.14 331 eP P 18 18 48.5 -0.5
NEW Newport 89.14 331 eP P 18 18 47.0 -1.9
NEW LR LR
comp=Z,14µm,19.0s,MS6.4
G04A Mulino 89.14 327 ⇑P P 18 18 48.6 -0.4
baz=89
G04A ⇑S S 18 29 37.4 +2.7
baz=89
F05A White Salmon 89.18 328 ⇑P P 18 18 48.7 -0.5
baz=90
F05A ⇑S S 18 29 38.0 +3.0
baz=90
B10A Chitwood Farm, 89.21 331 ⇓S S 18 29 35.0 -0.2
baz=90
E06A Yakima 89.46 328 ⇓P P 18 18 49.5 -1.0
baz=90
E06A ⇓S S 18 29 39.3 +1.7
baz=90
H02A Toledo 89.48 325 ⇓S S 18 29 39.4 +1.6
baz=90
D07A Quincy 89.51 329 ⇓P P 18 18 50.0 -0.7
baz=90
D07A ⇓S S 18 29 40.0 +2.0
baz=90
EBG Ellensburg 89.56 329 P P 18 18 50.8 -0.1
C08A Higginbotham F 89.57 330 ⇓P P 18 18 50.4 -0.6
baz=90
C08A ⇓S S 18 29 40.3 +1.7
baz=90
G03A Yamhill 89.61 326 ⇓P P 18 18 50.4 -0.7
baz=90
G03A ⇑S S 18 29 40.9 +1.9
baz=90
FFC Flin Flon 89.62 343 PFAKE 18 19 00.0 +8.8
FFC LR LR
comp=Z,1µm,20.0s,MS5.4
F04A Amboy 89.66 327 ⇑P P 18 18 50.9 -0.5
baz=90
F04A ⇓S S 18 29 41.1 +1.7
baz=90
B09A Rice 89.69 331 ⇑P P 18 18 50.1 -1.4
baz=90
B09A ⇑S S 18 29 39.9 +0.3
baz=90
MDT Midelt 89.72 51 P P 18 18 53.2 +1.5
comp=Z,26nm,1.0s,mb5.5,baz=244,slow=4.8,SNR=25
MDT S S 18 29 31.6 -8.4
comp=Z,0.9nm,0.9s,baz=11,slow=5.2,SNR=1.8
A10A Northport 89.88 332 ⇑P P 18 18 50.8 -1.6
baz=90
A10A ⇑S S 18 29 41.3 -0.2
baz=90
WTV Waterville 89.89 330 P P 18 18 52.0 -0.5

D06A	**Cle Elum**	89.89	329	⇓P		P	18 18 51.2 -1.3
	baz=90						
D06A				⇑S		S	18 29 42.7 +1.1
	baz=90						
C07A	**Waterville**	89.93	330	⇓P		P	18 18 51.5 -1.2
	baz=90,SNR=12						
C07A				⇑S		S	18 29 43.8 +1.8
	baz=90						
MORF	**Marmelete**	89.99	45	*e*P		P	18 18 54.9 +2.0
	comp=Z,46nm,1.3s,mb5.7						
PTEO	**Sao Teotonio**	90.10	45	*e*P		P	18 18 54.5 +1.1
	comp=Z,86nm,0.9s,mb6.1						
LSZ	**Lusaka**	90.16	108	P		P	18 18 55.7 +2.0
	comp=Z,78nm,0.9s,mb6.0,baz=224,slow=3.4,SNR=60						
LSZ				S		S	18 29 37.1 -7.0
	comp=Z,1.0nm,0.6s,baz=310,slow=9.2,SNR=1.9						
LSZ				LR		LR	18 57 15.1
	comp=Z,20µm,18.8s,MS6.6,baz=240,slow=34						
LSZ	**Lusaka**	90.16	108	*e*P		P	18 18 55.0 +1.2
LSZ				LR		LR	
	comp=Z,19µm,19.0s,MS6.5						
F03A	**Seaside**	90.19	327	⇑P		P	18 18 52.8 -1.0
	baz=90						
F03A				⇑S		S	18 29 46.7 +2.4
	baz=90						
A09A	**Danville**	90.30	331	⇑P		P	18 18 53.4 -1.0
	baz=91						
A09A				⇓S		S	18 29 45.0 -0.3
	baz=91						
D05A	**Enumclaw**	90.40	328	⇑P		P	18 18 53.5 -1.3
	baz=91						
D05A				⇑S		S	18 29 45.9 -0.4
	baz=91						
B07A	**Winthrop**	90.55	330	⇓P		P	18 18 54.3 -1.2
	baz=91						
B07A				⇑S		S	18 29 48.0 +0.4
	baz=91						
LIS	**Lisbon**	90.60	44	*e*P		P	18 18 57.8 +2.0
LIS				*e*S		S	18 29 46.2 -1.9
LIS				*e*S		S	18 29 46.7 -1.5
E03A	**Lebam**	90.65	327	⇓P		P	18 18 55.5 -0.5
	baz=91						
E03A				⇑S		S	18 29 49.3 +0.8
	baz=91						
C05A	**Tolt Reservoir**	90.65	329	⇓P		P	18 18 54.9 -1.1
	baz=91						
C05A				⇑S		S	18 29 48.9 +0.3
	baz=91						
PMAFR	**Mafra**	90.68	44	*e*P		P	18 18 57.9 +1.7
PMAFR	**Mafra**	90.68	44	*e*PP		PP	18 22 35.5 +3.8
PMAFR				*e*S		S	18 29 42.2 -6.6
PMAFR	**Mafra**	90.68	44	*i* LQ			18 43 08.9
PMAFR				*e*LR		LR	18 49 33.1
	comp=Z,17µm,24.5s						
D04A	**Dobbs Creek Ra**	90.71	328	⇓P		P	18 18 56.2 -0.1
	baz=91						
EGRO	**El Granado**	90.84	46	P		P	18 18 55.1 -1.9
	comp=Z,240nm,2.1s,mb6.2						
PBEJ	**Beja**	90.93	45	*e*P		P	18 18 58.1 +0.8
	comp=Z,50nm,1.4s,mb5.7						
GNW	**Green Mountain**	91.06	328	*e*P		P	18 18 57.9 0.0
EVO	**Evora**	91.16	45	⇑*i*P		P	18 18 58.8 +0.4
EVO	comp=Z,66nm,1.1s,mb5.6			*e*MLR		MLR	
	comp=Z,31µm,23.0s						
D03A	**Wishkah Elem.**	91.16	327	⇑P		P	18 18 57.8 -0.6
	baz=91						
D03A				⇓S		S	18 29 53.1 -0.2
	baz=91						
B06A	**Marblemount**	91.18	329	⇓P		P	18 18 57.4 -1.0
	baz=92						
B06A				⇑S		S	18 29 53.2 -0.2
	baz=92						
C04A	**Brinnon**	91.24	328	⇑P		P	18 18 58.0 -0.7
	baz=92						
C04A				⇓S		S	18 29 53.9 -0.1
	baz=92						
B05A	**Bryant**	91.26	329	⇑P		P	18 18 58.4 -0.4
	baz=92						
B05A				⇓S		S	18 29 54.9 +0.8
	baz=92						
NLWA	**Neilton Lookou**	91.41	327	PFAKE			18 19 10.0 +10
NLWA				LR		LR	
	comp=Z,6µm,22.0s,MS6.0						
EJIF	**Jimena Fronter**	91.41	47	P		P	18 18 58.8 -0.8
EJIF				pmax		pmax	
	comp=Z,41nm,1.3s,mb5.6						
EJIF	**Jimena Fronter**	91.41	47	P		P	18 18 58.8 -0.8
	comp=Z,41nm,1.3s,mb5.6						
ESPR	**Espera**	91.43	47	P		P	18 18 59.0 -0.6
	comp=Z,553nm,3.4s						
AFI	**Afiamalu**	91.47	253	LR		LR	18 52 13.6
	comp=Z,17µm,18.2s,MS6.5,baz=145,slow=30						
AFI	**Afiamalu**	91.47	253	PFAKE			18 19 10.0 +10
AFI				LR		LR	
	comp=Z,17µm,19.0s,MS6.5						
EMIN	**Mina Concepcio**	91.49	46	P		P	18 18 59.1 -0.8
	comp=Z,280nm,2.7s,mb6.1						
PESTR	**Estremoz**	91.63	45	*e*P		P	18 19 01.1 +0.5
	comp=Z,37nm,1.0s,mb5.7						
PESTR	**Estremoz**	91.63	45	*e*PP		PP	18 22 35.8 -3.4
PESTR				*e*S		S	18 29 55.2 -2.3
PESTR	**Estremoz**	91.63	45	*e*LQ			18 43 14.9
PESTR				*e*LR		LR	18 50 15.4
	comp=Z,15µm,37.2s						
EDM	**Edmonton**	91.72	336	*e*P		P	18 18 59.1 -1.9
B04A	**Port Angeles**	91.73	328	⇑P		P	18 19 00.3 -0.7
	baz=92						
B04A				⇑S		S	18 29 59.8 +1.3
	baz=92						
A05A	**Maple Falls**	91.80	329	⇓P		P	18 19 00.8 -0.5
	baz=92						
A05A				⇑S		S	18 30 01.0 +2.0
	baz=92						
A04A	**Legoe Bay, Lum**	91.87	329	⇑P		P	18 19 01.0 -0.6
	baz=92						
EBAD	**Badajoz**	91.91	45	P		P	18 19 01.4 -0.5
	comp=Z,185nm,2.5s,mb6.0						
EMIJ	**Mijas**	91.92	48	P		P	18 19 00.9 -1.0
	comp=Z,374nm,3.4s						
C03A	**Quillayute Air**	92.14	327	⇓P		P	18 19 02.7 -0.2
	baz=92						
PGC	**Sidney**	92.15	328	*e*P		P	18 19 02.4 -0.5
PCBR	**Castelo Branco**	92.32	44	*e*P		P	18 19 04.3 +0.5
	comp=Z,34nm,1.3s,mb5.5						
PVIS	**Viseu**	92.63	43	*e*P		P	18 19 06.4 +1.2
	comp=Z,31nm,1.2s,mb5.6						
MTE	**Manteigas**	92.64	43	*e*P		P	18 19 05.3 +0.1
	comp=Z,45nm,1.1s,mb5.8						
MTE	**Manteigas**	92.64	43	*e*PP		PP	18 22 33.5 -14
MTE				*e*S		S	18 29 50.9 -16
MTE	**Manteigas**	92.64	43	*e*LR		LR	18 50 02.7
	comp=Z,23µm,22.0s						
MTE	**Manteigas**	92.64	43	*e*P		P	18 19 04.8 -0.4
ELOJ	**Sierra Loja**	92.67	48	P		P	18 19 04.0 -1.4
ELOJ				pmax		pmax	
	comp=Z,39nm,1.4s,mb5.6						
ELOJ	**Sierra Loja**	92.67	48	P		P	18 19 04.0 -1.4
	comp=Z,39nm,1.4s,mb5.6						
ERON	**Agron**	92.81	48	P		P	18 19 04.0 -2.0
	comp=Z,4.9nm,0.8s,mb5.0						
ELUQ	**Luque**	92.85	47	P		P	18 19 04.7 -1.5
ELUQ				pmax		pmax	
	comp=Z,84nm,1.3s,mb6.0						
ELUQ	**Luque**	92.85	47	P		P	18 19 04.7 -1.5
	comp=Z,84nm,1.3s,mb6.0						
EADA	**Adamuz**	93.03	47	P		P	18 19 05.9 -1.2
	comp=Z,181nm,2.7s,mb6.0						
PVRL	**Vila Real**	93.09	43	*e*P		P	18 19 07.7 +0.4
	comp=Z,54nm,1.5s,mb5.8						
ECOG	**Cogollos-Vega**	93.12	48	P		P	18 19 04.8 -2.7
ECOG				pmax		pmax	
	comp=Z,28nm,1.5s,mb5.5						
ECOG	**Cogollos-Vega**	93.12	48	P		P	18 19 04.8 -2.7
	comp=Z,28nm,1.5s,mb5.5						
PCAB	**Cabril**	93.19	42	*e*P		P	18 19 09.3 +1.5
	comp=Z,52nm,1.9s,mb5.6						
EMAZ	**Mazaricos**	93.46	41	P		P	18 19 09.3 +0.3
	comp=Z,105nm,1.5s,mb6.0						
EBAN	**Banos Encina**	93.52	47	P		P	18 19 07.8 -1.5
EBAN				pmax		pmax	
	comp=Z,63nm,0.9s,mb6.0						
EBAN	**Banos Encina**	93.52	47	P		P	18 19 07.8 -1.6
	comp=Z,63nm,0.9s,mb6.0						
EQES	**Quesada**	93.75	48	P		P	18 19 08.9 -1.5
	comp=Z,102nm,1.3s,mb6.1						
ENIJ	**Nijar**	93.81	49	P		P	18 19 07.8 -2.8
ENIJ				pmax		pmax	
	comp=Z,54nm,1.5s,mb5.8						
ENIJ	**Nijar**	93.81	49	P		P	18 19 07.8 -2.8
	comp=Z,54nm,1.5s,mb5.8						
PBRG	**Braganca**	94.00	43	*e*P		P	18 19 12.6 +1.1
	comp=Z,44nm,1.3s,mb5.7						
ECAL	**Calabor**	94.08	43	P		P	18 19 12.5 +0.6
	comp=Z,251nm,2.6s,mb6.2						
ERUA	**La Rua**	94.14	42	P		P	18 19 11.6 -0.5
ERUA				pmax		pmax	
	comp=Z,21nm,1.1s,mb5.5						
ERUA	**La Rua**	94.14	42	P		P	18 19 11.6 -0.5
	comp=Z,21nm,1.1s,mb5.5						
ESDC	**Sonseca Array**	94.33	46	P		P	18 19 12.9 -0.1
	comp=Z,13nm,0.9s,mb5.4,baz=246,slow=4.1,SNR=27						
ESDC				LR		LR	19 01 27.1
	comp=Z,13µm,18.8s,MS6.4,baz=225,slow=35						
ESDC	**Sonseca Array**	94.33	46	P		P	18 19 12.6 -0.4
	comp=Z,37nm,1.3s,mb5.7						
ESLA	**Sonseca Array**	94.33	46	*e*P		P	18 19 13.7 +0.7
ESLA				LR		LR	
	comp=Z,88µm,20.0s,MS7.2						
EVIA	**Vianos**	94.61	47	P		P	18 19 13.2 -1.1
EVIA				pmax		pmax	
	comp=Z,44nm,1.3s,mb5.7						
EVIA	**Vianos**	94.61	47	P		P	18 19 13.2 -1.1
	comp=Z,44nm,1.3s,mb5.7						
EPON	**Pontenova**	94.72	41	P		P	18 19 13.9 -0.9
	comp=Z,377nm,2.9s,mb6.3						
GUD	**Guadarrama**	94.81	45	P		P	18 19 13.8 -1.4
GUD				pmax		pmax	
	comp=Z,17nm,1.3s,mb5.3						
GUD	**Guadarrama**	94.81	45	P		P	18 19 13.8 -1.4
	comp=Z,17nm,1.3s,mb5.3						
ETRT	**Tiaret**	95.19	52	P		P	18 19 19.0 +2.1
POHA	**Pohakuloa**	95.21	290	PFAKE			18 19 30.0 +13
POHA				LR		LR	
	comp=Z,9µm,20.0s,MS6.2						
ETOB	**Tobarra**	95.22	48	P		P	18 19 16.4 -0.7
	comp=Z,374nm,3.0s						
EANR	**'Ain N'Sour**	95.37	51	P		P	18 19 20.0 +2.2
ECHA	**Ech Chlef**	95.67	51	P		P	18 19 24.0 +4.9
EBNR	**Beni Rached**	95.85	51	P		P	18 19 22.8 +2.8
EMHD	**Djebel Mahouad**	96.75	52	P		P	18 19 26.0 +1.9
BBB	**Bella Bella**	96.76	329	P		P	18 19 22.8 -1.3
	comp=Z,9.0nm,1.0s,mb5.2,baz=169,slow=7.2,SNR=3.9						
ELAN	**Lanestosa**	96.80	43	P		P	18 19 24.5 +0.2
	comp=Z,118nm,1.3s,mb6.2						
ERTA	**Horta de San J**	97.74	47	P		P	18 19 28.4 -0.1
	comp=Z,577nm,3.0s						
SJPF	**Ste Jean**	98.03	44	*e*P		P	18 19 29.5 -0.3
	comp=Z,75nm,1.0s,mb5.9						
SJPF	**Ste Jean**	98.03	44	*e*P		P	18 19 29.5 -0.3
SJPF				pmax		pmax	
	comp=Z,37nm,1.0s,mb5.9						
SJPF	**Ste Jean**	98.03	44	*e*P		P	18 19 29.5 -0.3
	comp=Z,37nm,1.0s,mb5.9						
TAU	**Tasmania Unive**	98.04	208	PFAKE			18 19 40.0 +10
TAU				LR		LR	
	comp=Z,3µm,20.0s,MS5.7						
KIP	**Kipapa**	98.05	290	PFAKE			18 19 40.0 +10
KIP				LR		LR	
	comp=Z,10µm,21.0s,MS6.3						
ETSF	**Etsaut**	98.31	45	*e*P		P	18 19 30.7 -0.4
	comp=Z,62nm,0.9s,mb5.9						
ETSF	**Etsaut**	98.31	45	*e*P		P	18 19 30.7 -0.4
ETSF				pmax		pmax	
	comp=Z,31nm,0.9s,mb5.8						
ETSF	**Etsaut**	98.31	45	*e*P		P	18 19 30.7 -0.4
	comp=Z,31nm,0.9s,mb5.8						
REYF	**Montagne du Re**	98.51	44	*e*P		P	18 19 31.8 -0.2
EBIE	**Bielsa**	98.61	45	P		P	18 19 34.2 +1.8
	comp=Z,390nm,3.7s						
EPF	**Esparros**	98.92	45	*e*P		P	18 19 33.3 -0.5
	comp=Z,32nm,1.0s,mb5.5						
EPF	**Esparros**	98.92	45	*e*P		P	18 19 33.3 -0.5
EPF				pmax		pmax	
	comp=Z,16nm,1.0s,mb5.5						
EPF	**Esparros**	98.92	45	*e*P		P	18 19 33.3 -0.5
	comp=Z,16nm,1.0s,mb5.5						
SFJD	**Kangerlussuaq**	99.25	8	PFAKE			18 19 40.0 +4.7
SFJD				LR		LR	
	comp=Z,7µm,20.0s,MS6.2						
SALF	**Salau**	99.29	45	*e*P		P	18 19 36.8 +1.4
MLS	**Moulis**	99.34	45	*e*P		P	18 19 36.7 +1.0
YKA	**Yellowknife Ar**	99.67	341	P		Pdif	18 19 35.9 -1.2
	comp=Z,2.3nm,0.6s,baz=145,slow=4.9,SNR=4.4						
YKA	**Yellowknife Ar**	99.67	341	P		Pdif	18 19 35.9 -1.2
QUIF	**Quistinic**	99.74	39	*e*P		Pdif	18 19 35.6 -1.9
	comp=Z,145nm,1.5s						
QUIF	**Quistinic**	99.74	39	*e*P		Pdif	18 19 35.6 -1.9
QUIF				pmax		pmax	
	comp=Z,73nm,1.5s,mb5.9						
QUIF	**Quistinic**	99.74	39	*e*P		Pdif	18 19 35.6 -1.9
	comp=Z,73nm,1.5s						
ROSF	**Rostrenen**	99.93	39	*e*P		Pdif	18 19 36.7 -1.6
	comp=Z,190nm,1.6s						
ROSF	**Rostrenen**	99.93	39	*e*P		Pdif	18 19 36.7 -1.6
ROSF				pmax		pmax	
	comp=Z,95nm,1.6s,mb6.0						
ROSF	**Rostrenen**	99.93	39	*e*P		Pdif	18 19 36.7 -1.6
	comp=Z,95nm,1.6s						
MTLF	**Montolieu**	100.24	45	*e*P		Pdif	18 19 38.6 -1.1
	comp=Z,75nm,1.5s						
MTLF	**Montolieu**	100.24	45	*e*P		Pdif	18 19 38.6 -1.1
MTLF				pmax		pmax	
	comp=Z,38nm,1.5s						
MTLF	**Montolieu**	100.24	45	*e*P		Pdif	18 19 38.6 -1.1
	comp=Z,38nm,1.5s						
LFF	**La Frestale**	100.24	43	*e*P		Pdif	18 19 38.8 -0.9
	comp=Z,84nm,1.2s						
LFF	**La Frestale**	100.24	43	*e*P		Pdif	18 19 38.8 -0.9
LFF				pmax		pmax	
	comp=Z,42nm,1.2s						
LFF	**La Frestale**	100.24	43	*e*P		Pdif	18 19 38.8 -0.9
	comp=Z,42nm,1.2s						
MFF	**Saint Martin d**	100.66	42	*e*P		Pdif	18 19 40.6 -1.0
	comp=Z,81nm,1.2s						
MFF	**Saint Martin d**	100.66	42	*e*P		Pdif	18 19 40.6 -1.0
MFF				pmax		pmax	
	comp=Z,41nm,1.2s						
MFF	**Saint Martin d**	100.66	42	*e*P		Pdif	18 19 40.6 -1.0
	comp=Z,40nm,1.2s						
KEST	**Kesra**	100.89	55	P		Pdif	18 19 42.9 +0.3
	comp=Z,2.3nm,0.9s,baz=311,slow=9.3,SNR=3.9						
RJF	**Les Rejaudoux**	100.90	43	*e*P		Pdif	18 19 41.5 -1.1
	comp=Z,49nm,1.2s						
RJF				*e*MLR		MLR	
	comp=Z,44µm,22.5s						
RJF	**Les Rejaudoux**	100.90	43	*e*P		Pdif	18 19 41.5 -1.1
RJF				pmax		pmax	
	comp=Z,25nm,1.2s						
RJF				MLR		MLR	
	comp=Z,44µm,22.5s,MS6.9						
RJF	**Les Rejaudoux**	100.90	43	*e*P		Pdif	18 19 41.5 -1.1
	comp=Z,24nm,1.2s						
RJF				LR		LR	
	comp=Z,44µm,22.5s,MS6.9						
CAF	**Calviac**	101.02	44	*e*P		Pdif	18 19 42.4 -0.7
	comp=Z,48nm,1.4s						
CAF	**Calviac**	101.02	44	*e*P		Pdif	18 19 42.4 -0.7
CAF				pmax		pmax	
	comp=Z,24nm,1.4s						
CAF	**Calviac**	101.02	44	*e*P		Pdif	18 19 42.4 -0.7
	comp=Z,24nm,1.4s						
GRR	**Gorron**	101.28	40	*e*P		Pdif	18 19 42.6 -1.7
	comp=Z,44nm,1.0s						
GRR	**Gorron**	101.28	40	*e*P		Pdif	18 19 42.6 -1.7
GRR				pmax		pmax	
	comp=Z,22nm,1.0s						
GRR	**Gorron**	101.28	40	*e*P		Pdif	18 19 42.6 -1.7
	comp=Z,22nm,1.0s						
FLN	**La Foliniere**	101.69	40	*e*P		Pdif	18 19 44.7 -1.4
	comp=Z,48nm,1.0s						
FLN				*e*MLR		MLR	
	comp=Z,16µm,22.0s						
FLN	**La Foliniere**	101.69	40	*e*P		Pdif	18 19 44.7 -1.4
FLN				pmax		pmax	
	comp=Z,24nm,1.0s						
FLN				MLR		MLR	
	comp=Z,16µm,22.0s,MS6.5						
FLN	**La Foliniere**	101.69	40	*e*P		Pdif	18 19 44.7 -1.4
	comp=Z,24nm,1.0s						
FLN				LR		LR	
	comp=Z,16µm,22.0s,MS6.5						
LDF	**La Druitiere**	101.80	40	*e*P		Pdif	18 19 45.1 -1.5
	comp=Z,64nm,1.2s						
LDF	**La Druitiere**	101.80	40	*e*P		Pdif	18 19 45.1 -1.5
LDF				pmax		pmax	
	comp=Z,32nm,1.2s						
LDF	**La Druitiere**	101.80	40	*e*P		Pdif	18 19 45.1 -1.5
	comp=Z,32nm,1.2s						
FUNA	**Funafuti**	101.81	252	PFAKE			18 20 00.0 +13
FUNA				LR		LR	
	comp=Z,11µm,20.0s,MS6.4						
TCF	**Toulx Ste Croi**	101.84	43	*e*P		Pdif	18 19 45.6 -1.2
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	101.84	43	*e*P		Pdif	18 19 45.6 -1.2
TCF				pmax		pmax	
	comp=Z,10.0nm,1.0s						
TCF	**Toulx Ste Croi**	101.84	43	*e*P		Pdif	18 19 45.6 -1.2
	comp=Z,10nm,1.0s						
LBL	**Lubilhac**	101.89	44	*e*P		Pdif	18 19 49.3 +2.3
AGO	**Saint Agoulin**	102.26	43	*e*P		Pdif	18 19 49.3 +0.7
BGF	**Bois d'Agland**	102.36	43	*e*P		Pdif	18 19 48.1 -1.0
	comp=Z,34nm,1.0s						
BGF	**Bois d'Agland**	102.36	43	*e*P		Pdif	18 19 48.1 -1.0
BGF				pmax		pmax	
	comp=Z,17nm,1.0s						
BGF	**Bois d'Agland**	102.36	43	*e*P		Pdif	18 19 48.1 -1.0
	comp=Z,17nm,1.0s						
PLDF	**La Plantade**	102.50	44	*e*P		Pdif	18 19 51.2 +1.5
VIVF	**Saint-Julien-l**	102.54	45	*e*P		Pdif	18 19 49.6 -0.3
	comp=Z,51nm,1.4s						
VIVF	**Saint-Julien-l**	102.54	45	*e*P		Pdif	18 19 49.6 -0.3
VIVF				pmax		pmax	
	comp=Z,25nm,1.4s						
VIVF	**Saint-Julien-l**	102.54	45	*e*P		Pdif	18 19 49.6 -0.3
	comp=Z,26nm,1.4s						
HYF	**Humbligny**	102.62	42	*e*P		Pdif	18 19 49.3 -1.0
AVF	**Avril sur Loir**	102.78	43	*e*P		Pdif	18 19 49.9 -1.1
	comp=Z,37nm,1.3s						
AVF	**Avril sur Loir**	102.78	43	*e*P		Pdif	18 19 49.9 -1.1
AVF				pmax		pmax	
	comp=Z,19nm,1.3s						
AVF	**Avril sur Loir**	102.78	43	*e*P		Pdif	18 19 49.9 -1.1
	comp=Z,19nm,1.3s						
LMR	**La Mourre**	102.89	47	*e*P		Pdif	18 19 51.1 -0.3
	comp=Z,46nm,1.0s						
LMR	**La Mourre**	102.89	47	*e*P		Pdif	18 19 51.1 -0.3
LMR				pmax		pmax	
	comp=Z,23nm,1.0s						
LMR	**La Mourre**	102.89	47	*e*P		Pdif	18 19 51.1 -0.3
	comp=Z,23nm,1.0s						
SMF	**Signal de Mont**	102.99	43	*e*P		Pdif	18 19 51.1 -0.8
	comp=Z,52nm,1.0s						
SMF	**Signal de Mont**	102.99	43	*e*P		Pdif	18 19 51.1 -0.8
SMF				pmax		pmax	
	comp=Z,26nm,1.0s						
SMF	**Signal de Mont**	102.99	43	*e*P		Pdif	18 19 51.1 -0.8
	comp=Z,26nm,1.0s						
SSF	**Saint Saulge**	103.01	43	*e*P		Pdif	18 19 50.6 -1.4
	comp=Z,38nm,1.3s						
SSF	**Saint Saulge**	103.01	43	*e*P		Pdif	18 19 50.6 -1.4
SSF				pmax		pmax	
	comp=Z,19nm,1.3s						
SSF	**Saint Saulge**	103.01	43	*e*P		Pdif	18 19 50.6 -1.4
	comp=Z,19nm,1.3s						
SIT	**Sitka**	103.12	330	PFAKE			18 20 00.0 +7.5
SIT				LR		LR	
	comp=Z,6µm,19.0s,MS6.2						
ORIF	**Oris-en-Rattie**	103.31	45	*e*P		Pdif	18 19 53.4 +0.1
	comp=Z,43nm,0.9s						
ORIF				*e*MLR		MLR	
	comp=Z,34µm,23.0s						
ORIF	**Oris-en-Rattie**	103.31	45	*e*P		Pdif	18 19 53.4 +0.1
ORIF				pmax		pmax	
	comp=Z,21nm,0.9s						
ORIF	**Oris-en-Rattie**	103.31	45	*e*P		Pdif	18 19 53.4 +0.1
	comp=Z,21nm,0.9s						
LOR	**Lormes**	103.33	43	*e*P		Pdif	18 19 52.1 -1.3
	comp=Z,30nm,1.1s						
LOR				*e*MLR		MLR	
	comp=Z,17µm,21.8s						
LOR	**Lormes**	103.33	43	*e*P		Pdif	18 19 52.1 -1.3
LOR				pmax		pmax	
	comp=Z,15nm,1.1s						
LOR				MLR		MLR	
	comp=Z,17µm,21.8s,MS6.5						
LOR	**Lormes**	103.33	43	*e*P		Pdif	18 19 52.1 -1.3
	comp=Z,15nm,1.1s						
LOR				LR		LR	
	comp=Z,17µm,21.8s,MS6.5						
BORG	**Borgarnes**	103.38	20	PFAKE			18 20 00.0 +6.4
BORG				LR		LR	
	comp=Z,2µm,20.0s,MS5.6						
SBF	**Sospel**	103.73	47	*e*P		Pdif	18 19 55.0 -0.2
ESK	**Eskdalemuir**	104.04	33	PFAKE			18 20 10.0 +13
ESK				LR		LR	
	comp=Z,2µm,20.0s,MS5.7						
EKA	**Eskdalemuir Ar**	104.07	33	Pdiff		Pdif	18 19 57.2 +0.5
	comp=Z,2.9nm,1.0s,baz=164,slow=3.3,SNR=3.8						
LPL	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.3 +0.3
	comp=Z,25nm,0.9s						
LPL	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.3 +0.3
LPL				pmax		pmax	
	comp=Z,12nm,0.9s						
LPL	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.3 +0.3
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.4 +0.4
	comp=Z,25nm,0.9s						
LPG	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.4 +0.4
LPG				pmax		pmax	
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	104.13	45	*e*P		Pdif	18 19 57.4 +0.4
	comp=Z,12nm,0.9s						
CABF	**La Chapelle**	104.30	44	*e*P		Pdif	18 19 57.2 -0.5
	comp=Z,39nm,1.2s						
CABF	**La Chapelle**	104.30	44	*e*P		Pdif	18 19 57.2 -0.5
CABF				pmax		pmax	
	comp=Z,20nm,1.2s						
CABF	**La Chapelle**	104.30	44	*e*P		Pdif	18 19 57.2 -0.5
	comp=Z,20nm,1.2s						
MEZF	**Maizieres J'vi**	104.65	42	*e*P		Pdif	18 19 58.2 -1.1
HAU	**Haudompre**	105.15	43	*e*P		Pdif	18 20 00.3 -1.2
	comp=Z,22nm,1.0s						
HAU				*e*MLR		MLR	
	comp=Z,12µm,20.0s						
HAU	**Haudompre**	105.15	43	*e*P		Pdif	18 20 00.3 -1.2
HAU				pmax		pmax	
	comp=Z,11nm,

BUG				*e*SP	SP	18 34 11.2	+16
BUG				*e*SS	SS	18 40 04.1	+20
TNS	**Taunus Mts**	**107.43**	**42**	*e*Pdiff	Pdif	18 20 18.3	+6.7
TNS				*e*PP	PP	18 24 40.8	+1.4
TNS				*e*SKSac		18 31 11.8	
TNS				*e*SS	SS	18 40 04.7	+19
TNS	**Taunus Mts**	**107.43**	**42**	*e*P	Pdif	18 20 18.3	+6.7
TNS				*e*		18 24 40.8	
TNS				*e*SS	SS	18 40 04.7	+19
IBBN	**Ibbenburen**	**108.02**	**39**	*e*PP	PP	18 24 43.9	+0.1
IBBN				*e*SKSac		18 31 10.1	
IBBN				*e*SS	SS	18 40 14.5	+21
FUR	**Furstenfeldbru**	**108.14**	**44**	*e*Pdiff	Pdif	18 20 22.2	+7.4
FUR				*e*PP	PP	18 24 44.1	-0.5
UBBA	**Unterbreizbach**	**108.59**	**41**	*e*Pdiff	Pdif	18 20 24.9	+8.1
UBBA				*e*PP	PP	18 24 48.1	+0.2
UBBA				*e*SKSac		18 31 16.0	
UBBA				*e*SS	SS	18 40 18.4	+17
ROBS	**Robic**	**108.65**	**47**	*i* PP	PP	18 24 32.6	-16
GRA1	**Grafenberg Arr**	**108.78**	**43**	*e*PKPdf	PKiKP	18 24 22.7	+0.2
GRA1				*e*PP	PP	18 24 50.2	+0.9
GRA1				*e*SKSac		18 31 18.8	
GRA1				*e*Sdif	Sdif	18 32 30.3	+7.2
GRA1				*e*PS	PS	18 34 13.7	-1.6
GRA1				*e*SS	SS	18 40 21.6	+18
GRA1				LR	LR		
	comp=Z,6μm,19.1s,MS6.2						
GRF	**Grafenberg Arr**	**108.78**	**43**	*e*Pdiff	Pdif	18 20 24.9	+7.2
GRF				*e*PKiKP	PKiKP	18 24 22.7	+0.2
GRF				*e*PP	PP	18 24 50.2	+0.9
GRF				*e*SKSac		18 31 18.8	
GRF				*e*Sdiff	Sdif	18 32 30.3	+7.2
GRF				*e*PS	PS	18 34 13.7	-1.6
GRF				*e*SS	SS	18 40 21.6	+18
GRF				*e*L		19 12 53.1	
	comp=Z,6μm,19.1s						
GRF	**Grafenberg Arr**	**108.78**	**43**	PKPdf	PKiKP	18 24 22.7	+0.2
GRF				*e*PP	PP	18 24 50.2	+0.9
GRF				*e*SKS		18 31 18.8	
GRF				Sdif	Sdif	18 32 30.3	+7.2
GRF				*e*PS	PS	18 34 13.7	-1.6
GRF				*e*SS	SS	18 40 21.6	+18
GRF				LR	LR		
	comp=Z,6μm,19.1s,MS6.2						
GTTG	**Gvttingen**	**108.89**	**41**	*e*Pdiff	Pdif	18 20 28.8	+11
GTTG				*e*PP	PP	18 24 51.5	+1.4
GTTG				*e*SKSac		18 31 15.4	
GTTG				*e*SP	SP	18 34 26.0	+15
HLG	**Helgoland**	**108.96**	**38**	*e*SKSac		18 31 16.3	
HLG				*e*SP	SP	18 34 25.2	+14
CLZ	**Clausthal**	**109.25**	**41**	*e*Pdiff	Pdif	18 20 24.9	+5.2
CLZ				*e*PP	PP	18 24 55.2	+2.5
CLZ				*e*SKSac		18 31 18.2	
CLZ				*e*SP	SP	18 34 28.1	+14
CLZ				*e*SS	SS	18 40 30.2	+20
CLZ	**Clausthal**	**109.25**	**41**	*e*P	Pdif	18 20 24.9	+5.2
CLZ				*e*		18 24 55.2	
CLZ				*e*SS	SS	18 40 30.2	+20
VISS	**Visnje**	**109.30**	**48**	*i* PP	PKiKP	18 24 27.5	+4.1
ROTZ	**Rotzenmuhle**	**109.39**	**43**	*e*Pdiff	Pdif	18 20 30.1	+10
ROTZ				*e*PP	PP	18 24 55.6	+1.9
ROTZ				*e*SKSac		18 31 19.6	
ROTZ				*e*SP	SP	18 34 28.7	+13
ROTZ				*e*SS	SS	18 40 31.7	+20
NRDL	**Niedersach Rie**	**109.39**	**40**	*e*PP	PP	18 24 52.7	-1.0
NRDL				*e*SKSac		18 31 19.9	
NRDL				*e*SP	SP	18 34 29.1	+13
MANZ	**Manzenberg**	**109.43**	**43**	*e*Pdiff	Pdif	18 20 27.5	+7.0
MANZ				*e*PP	PP	18 24 55.9	+1.9
MANZ				*e*SKSac		18 31 18.1	
MANZ				*e*SS	SS	18 40 33.0	+20
MOX	**Moxa**	**109.43**	**42**	*e*Pdiff	Pdif	18 20 24.9	+4.4
MOX				*e*PP	PP	18 24 55.9	+1.9
MOX				*e*SKSac		18 31 18.8	
MOX				*e*SP	SP	18 34 27.2	+11
MOX				*e*SS	SS	18 40 34.3	+22
MOX	**Moxa**	**109.43**	**42**	*e*PKP	PKiKP	18 24 18.5	-5.2
MOX				*e*PP	PP	18 24 57.0	+3.0
MOX				*e*SKS		18 31 22.0	
MOX				*e*SP	SP	18 34 20.0	+3.6
MOX				*e*SS	SS	18 40 22.0	+9.5
MOX				LR	LR		
	comp=Z,11μm,20.0s,MS6.4						
BOJS	**Bojanci**	**109.43**	**48**	*e*PP	PKiKP	18 24 27.2	+3.5
WET	**Wettzell**	**109.52**	**44**	*e*Pdiff	Pdif	18 20 27.5	+6.6
WET				*e*PP	PP	18 24 56.9	+2.2
WET				*e*SKSac		18 31 18.3	
WET	**Wettzell**	**109.52**	**44**	*e*P	Pdif	18 20 27.5	+6.6
WET				*e*		18 24 56.9	
STKA	**Stephens Creek**	**109.81**	**210**	PKiKP	PKiKP	18 24 25.1	+0.7
	comp=Z,1.6nm,0.8s,baz=135,slow=4.3,SNR=3.5						
TANN	**Tannenbergstha**	**109.82**	**43**	*e*PP	PP	18 24 58.4	+1.6
TANN				*e*SKSac		18 31 21.8	
TANN				*e*SS	SS	18 40 36.8	+19
GEC2	**GERESS Array S**	**109.88**	**44**	*e*Pdiff	Pdif	18 20 31.5	+8.9
GEC2				*e*PP	PP	18 24 57.8	+0.5
GEC2				*e*SKSac		18 31 19.0	
GEC2				*e*SP	SP	18 34 33.7	+13
GEC2				*e*SS	SS	18 40 35.0	+16
GEC2	**GERESS Array S**	**109.88**	**44**	*e*P	Pdif	18 20 31.5	+8.9
GEC2				*e*		18 24 57.8	
GEC2				*e*SS	SS	18 40 35.0	+16
GEC2	**GERESS Array S**	**109.88**	**44**	*e*PKiKP	PKiKP	18 24 22.9	-1.7
GERES	**GERESS Array B**	**109.88**	**44**	Pdiff	Pdif	18 20 25.1	+2.6
	comp=Z,0.3nm,0.6s,baz=197,slow=3.0,SNR=3.1						
GERES				PKiKP	PKiKP	18 24 24.0	-0.6
	comp=Z,5.4nm,0.8s,baz=212,slow=1.3,SNR=16						
GERES				PKKP	PKKPdf	18 35 47.1	+3.7
	comp=Z,1.0nm,0.9s,baz=33,slow=3.2,SNR=3.7						
KHC	**Kasperske Hory**	**109.93**	**44**	*e*PKP	PKiKP	18 24 24.8	+0.2
KHC				*e*x	x	18 31 21.2	
KHC				*e*x	x	18 32 47.8	
KHC				AMS	AMS	19 10 20.0	
	comp=Z,7μm,19.8s						
BSEG	**Bad Segeberg**	**110.14**	**39**	*e*PP	PP	18 25 00.6	+1.5
BSEG				*e*SKSac		18 31 21.6	
CLL	**Collm**	**110.51**	**42**	*e*Pdiff	Pdif	18 20 25.6	+0.3
CLL				*e*PKiKP	PKiKP	18 24 25.7	0.0
CLL				*e*PP	PP	18 25 03.3	+1.5
CLL				*e*PPP		18 27 23.5	
CLL				*e*SKSac		18 31 12.5	
CLL				*e*Sdiff		18 32 59.2	
CLL				*e*PS	PS	18 34 38.6	+6.5
CLL				*e*PPS		18 35 40.2	
CLL				*e*SS	SS	18 40 43.3	+16
CLL				*e*SSS		18 44 40.1	
CLL				*e*L		19 08 31.2	
	comp=Z,15μm,20.0s						
CLL	**Collm**	**110.51**	**42**	*e*Pdif	Pdif	18 20 26.0	+0.7
CLL				*e*PS	PS	18 34 38.0	+5.9
CLL				LR	LR		
	comp=Z,13μm,21.5s,MS6.5						
CLL	**Collm**	**110.51**	**42**	*e*Pdif	Pdif	18 20 26.0	+0.7
CLL				LmV		18 08 00.0	
	comp=Z,13μm,21.5s						
CLL				*es*Pdif		18 20 38.0	
CLL				*i* PKiKP	PKiKP	18 24 25.6	-0.1
	comp=Z,13nm,1.1s						
CLL				*e*PP	PP	18 25 02.0	+0.2
CLL				*e*PPlp		18 25 05.0	
	comp=N,300nm,26.1s						
CLL				*e*PPlp		18 25 05.0	
	comp=E,700nm,23.9s						
CLL				*e*PPlp		18 25 05.0	
	comp=Z,1μm,23.6s						
CLL				*e*PPP		18 27 26.0	
CLL				*e*SKSac		18 31 30.0	
CLL				*es*Sdif		18 32 54.0	
CLL				*e*PS	PS	18 34 34.0	+1.9
CLL				*es*PPS		18 35 48.0	
CLL				*e*SS	SS	18 40 42.0	+15
CLL				*e*SKKSdf	SKKSdf	18 42 50.0	0.0
CLL				*e*SSS		18 44 48.0	
BER	**Bergen**	**110.57**	**31**	*e*PP	PP	18 25 01.4	-0.8
BER				*i*		18 34 31.1	
MUD	**Monsted U'grnd**	**110.63**	**36**	*i* P	Pdif	18 20 28.1	+2.2
MUD				*i*		18 24 59.2	
MUD				*i*		18 32 26.7	
MUD				*i*		18 34 38.2	
MUD				*i*		18 35 55.0	
MUD							
	comp=Z,9μm,18.0s						
MUD	**Monsted U'grnd**	**110.63**	**36**	*i* P	Pdif	18 20 28.1	+2.2
MUD				*i*		18 24 59.2	
MUD	**Monsted U'grnd**	**110.63**	**36**	*i* P	Pdif	18 20 28.1	+2.2
MUD				*i*		18 24 59.2	
MUD				*i*		18 32 26.7	
MUD				*i*		18 34 38.2	
MUD				*i*		18 35 55.0	
PRU	**Pruhonice**	**110.86**	**44**	*e*PKP	PKiKP	18 24 21.7	-4.7
PRU				*ex*	x	18 31 23.1	
PRU				*ex*	x	18 32 58.9	
PRU				AMS	AMS	19 12 50.0	
	comp=Z,7μm,19.1s						
BRG	**Berggiesshubel**	**110.87**	**43**	*e*Pdiff	Pdif	18 20 32.8	+5.9
BRG				*e*PP	PP	18 25 06.0	+1.6
BRG				*e*SKSac		18 31 24.7	
BRG				*e*SP	SP	18 34 43.5	+13
BRG				*e*SS	SS	18 40 49.7	+18
BRG	**Berggiesshubel**	**110.87**	**43**	*e*PKP	PKiKP	18 24 23.6	-2.8
	comp=Z,2.4nm,1.0s						
BRG				*i*		18 24 26.7	
	comp=Z,2.6nm,0.9s						
BRG				*i* PP	PKiKP	18 24 29.2	+2.8
	comp=Z,7.9nm,1.0s						
BRG				SKS		18 31 21.0	
BRG				SDIF		18 32 57.0	
BRG				PS	PS	18 34 28.0	-7.4
BRG				*e*PKKP	PKKPdf	18 35 44.0	+2.5
BRG				*e*		18 39 26.4	
	comp=Z,12nm,1.7s						
BRG				SS	SS	18 40 31.0	-0.8
BRG				*e*PKPPKP		18 43 39.3	
	comp=Z,29nm,1.7s						
BRG							
	comp=N,2μm,20.0s						
BRG							
	comp=E,4μm,21.9s						
BRG							
	comp=Z,7μm,21.4s						
BRG	**Berggiesshubel**	**110.87**	**43**	*e*PKIKP	PKiKP	18 24 23.6	-2.8
BRG				*i*		18 24 29.2	
BRG				PS	PS	18 34 28.0	-7.4
BRG				*e*		18 35 44.0	
BRG				SS	SS	18 40 31.0	-0.8
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,12nm,1.7s						
BRG				pmax	pmax		
	comp=Z,29nm,1.7s						
BRG				MLR	MLR		
	comp=N,2μm,20.0s,MS6.0						
BRG				MLR	MLR		
	comp=E,4μm,21.9s,MS6.0						
BRG				MLR	MLR		
	comp=Z,7μm,21.4s,MS6.2						
BRG	**Berggiesshubel**	**110.87**	**43**	Pdif	Pdif	18 20 30.0	+3.1
BRG				*e*PKP	PKiKP	18 24 23.6	-2.8
BRG				*i*		18 24 26.7	
BRG				*i* PP	PKiKP	18 24 29.2	+2.8
BRG				SKS		18 31 21.0	
BRG				Sdif		18 32 57.0	
BRG				PS	PS	18 34 28.0	-7.4
BRG				*e*PKKP	PKKPdf	18 35 44.0	+2.5
BRG				*e*		18 39 26.4	
BRG				SS	SS	18 40 31.0	-0.8
BRG				*e*P'P'		18 43 39.3	
BRG				LR	LR		
	comp=Z,7μm,21.4s,MS6.2						
PVCC	**Panska Ves**	**111.09**	**43**	*e*PKP	PKiKP	18 24 27.2	+0.4
PVCC				*ex*	x	18 31 24.3	
PVCC				*ex*	x	18 33 02.9	
PVCC				AMS	AMS	19 10 10.0	
	comp=Z,11μm,20.8s						
JMIC	**Jan Mayen**	**111.14**	**18**	AMS	AMS	19 09 32.0	
	comp=Z,4μm,20.2s,MS6.0						
TREC	**Trest**	**111.14**	**44**	*e*PKP	PKiKP	18 24 28.1	+1.2
TREC				*ex*	x	18 31 21.1	
TREC				AMS	AMS	19 11 10.0	
	comp=Z,9μm,19.1s						
RUE	**Ruedersdorf**	**111.42**	**41**	*e*Pdiff	Pdif	18 20 36.7	+7.3
RUE				*e*PP	PP	18 25 10.2	+1.8
RUE				*e*SKSac		18 31 23.7	
RUE				*e*SP	SP	18 34 48.1	+13
KDAK	**Kodiak Island**	**111.46**	**325**	PFAKE		18 24 40.0	+12
KDAK				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
PMR	**Palmer**	**111.51**	**330**	PFAKE		18 24 40.0	+12
PMR				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
ZST	**Bratislava**	**111.69**	**46**	*e*	PP	18 25 09.0	-1.3
VRAC	**Vranov**	**111.81**	**45**	PKiKP	PKiKP	18 24 27.8	-0.4
	comp=Z,4.0nm,0.7s,baz=259,slow=2.2,SNR=4.4						
PKSM	**Moragy**	**111.89**	**48**	⇑*i*P	PKiKP	18 24 28.8	+0.5
PKSM	**Moragy**	**111.89**	**48**	⇑P	PKiKP	18 24 28.8	+0.5
UPC	**Upice**	**111.93**	**43**	*e*PKP	PKiKP	18 24 29.5	+1.1
DIVS	**Divcibare**	**111.95**	**51**	*i* P	PKiKP	18 24 29.7	+1.3
COP	**Copenhagen**	**111.98**	**37**	*i* P	Pdif	18 20 37.6	+5.7
COP				*i*		18 25 11.7	
COP				*i* S		18 33 13.1	
COP				*i*		18 34 47.8	
COP							
	comp=Z,3μm,21.0s						
COP	**Copenhagen**	**111.98**	**37**	*i* P	Pdif	18 20 37.6	+5.7
COP				*i*		18 25 11.7	
COP				*i*		18 34 47.8	
COP				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.9						
RGN	**Rugen**	**112.00**	**39**	*e*PP	PP	18 25 14.3	+1.8
RGN				*e*SP	SP	18 34 55.5	+15
DPC	**Dobruska-Polom**	**112.05**	**44**	*e*PKP	PKiKP	18 24 28.6	-0.1
DPC				*e*PP	PP	18 25 12.9	0.0
DPC				*ex*	x	18 33 12.8	
DPC				AMS	AMS	19 09 50.0	
	comp=Z,6μm,20.6s						
DPC	**Dobruska-Polom**	**112.05**	**44**	*e*PKIKP	PKiKP	18 24 28.6	-0.1
DPC				*e*		18 25 12.9	
DPC				MLR	MLR		
	comp=Z,6μm,20.6s,MS6.2						
KONO	**Kongsberg**	**112.18**	**33**	*e*	Pdif	18 20 34.5	+1.7
KONO				*e*PP	PP	18 25 11.6	-2.2
KONO				*i*		18 34 44.5	
KONO	**Kongsberg**	**112.18**	**33**	*e*P	Pdif	18 20 31.0	-1.8
KONO				*e*		18 25 19.8	
KONO				*i*		18 34 44.5	
KONO				LR	LR		
	comp=Z,77μm,19.6s						
KSP	**Ksiaz**	**112.22**	**43**	*e*P	Pdif	18 20 32.0	-1.0
KSP				*e*		18 25 13.0	
KSP				*e*		18 31 30.0	
KSP				*e*PS	PS	18 34 48.0	+0.1
KSP				MLR	MLR		
	comp=Z,14μm,21.6s,MS6.5						
KSP	**Ksiaz**	**112.22**	**43**	*e*Pdif	Pdif	18 20 32.0	-1.0
KSP				*e*PP	PP	18 25 13.0	-1.1
KSP				*e*SKS	SKSdf	18 31 30.0	-7.5
KSP				*e*PS	PS	18 34 48.0	+0.1
KSP				*e*SSS		18 45 10.0	
KSP				LR	LR		
	comp=Z,14μm,21.6s,MS6.5						
COLA	**College**	**112.43**	**333**	PFAKE		18 24 40.0	+11
COLA				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
MORC	**Moravsky Berou**	**112.56**	**45**	⇑*i*P	PKiKP	18 24 28.7	-0.9
MORC	**Moravsky Berou**	**112.56**	**45**	*e*PKiKP	PKiKP	18 24 27.2	-2.4
BUD	**Budapest**	**112.61**	**47**	⇑*e*PP	PP	18 25 17.9	+1.0
VYHS	**Vyhne**	**112.87**	**46**	*e*	PKiKP	18 24 29.5	-0.7
VYHS				*e*		18 25 18.4	
OKC	**Ostrava-Krasne**	**112.95**	**45**	*e*PKP	PKiKP	18 24 30.7	+0.3
OKC				*ex*	x	18 33 22.2	
OKC				AMS	AMS	19 09 20.0	
	comp=Z,7μm,22.9s						
OKC	**Ostrava-Krasne**	**112.95**	**45**	*e*PKP	PKiKP	18 24 30.7	+0.3
OKC				*e*		18 33 22.2	
BSD	**Bornholm Skovb**	**113.06**	**39**	*i* P	Pdif	18 20 47.2	+11
BSD				*i*		18 25 17.3	
BSD				*i* S	PS	18 35 03.3	+7.7
BSD				*i*		18 41 04.2	
BSD							
	comp=Z,8μm,19.0s						
BSD	**Bornholm Skovb**	**113.06**	**39**	*i* P	Pdif	18 20 47.2	+11
BSD				*i*		18 25 17.3	
BSD				*i*		18 41 04.2	
BSD				MLR	MLR		
	comp=Z,8μm,19.0s,MS6.3						
NAO01	**NORSAR Array S**	**113.25**	**32**	PFAKE		18 24 40.0	+9.1
NAO01				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
PSZ	**Piszkesteto**	**113.32**	**47**	⇑*e*PP	PP	18 25 20.1	-1.8
NB2	**NORSAR Subarra**	**113.47**	**32**	PKiK	PKiKP	18 24 31.1	-0.3
	comp=Z,11nm,1.0s,baz=248,slow=1.9						
NB2	**NORSAR Subarra**	**113.47**	**32**	PKiK	PKiKP	18 24 31.1	-0.3
	baz=248,slow=1.9						
NOA	**NORSAR Array B**	**113.47**	**32**	PKiKP	PKiKP	18 24 30.6	-0.7
	comp=Z,5.6nm,0.9s,baz=250,slow=1.7,SNR=9.2						
NOA				PKKPbc	PKKPbc	18 35 20.0	+4.6
	comp=Z,1.0nm,0.9s,baz=96,slow=3.6,SNR=2.9						
BZS	**Buzias**	**113.59**	**50**	⇓*i*P	PKiKP	18 24 30.6	-1.0
BZS	**Buzias**	**113.59**	**50**	⇓P	PKiKP	18 24 30.6	-0.9
GKP	**Gorka Klasztor**	**113.66**	**41**	*e*PKP	PKiKP	18 24 32.4	+0.7
GKP				L		19 11 44.0	
	comp=Z,15nm,20.5s						
KECS	**Kecovo**	**113.89**	**47**	*e*P	PKiKP	18 24 32.3	+0.1
KECS				*e*		18 25 20.7	
OJC	**Ojcow**	**114.08**	**45**	*e*PKiKP	PKiKP	18 24 33.1	+0.6
OJC				*e*PP	PP	18 25 27.2	-0.1
OJC				*e*PS	PS	18 35 12.2	+7.3
OJC				L		19 15 01.7	
	comp=Z,33nm,20.5s						
OJC	**Ojcow**	**114.08**	**45**	*e*PKIKP	PKiKP	18 24 33.1	+0.6
OJC				*e*		18 25 27.2	
OJC				MLR	MLR		
	comp=Z,33μm,20.5s,MS6.9						
GZR	**Gura Zlata**	**114.27**	**50**	⇑*i*P	PKiKP	18 24 33.9	+1.0
GZR	**Gura Zlata**	**114.27**	**50**	⇑P	PKiKP	18 24 33.9	+1.0
HFS	**Hagfors**	**114.28**	**33**	PKP	PKiKP	18 24 31.8	-1.1
	comp=Z,4.6nm,0.9s,baz=253,slow=8.9,SNR=4.5						
CRVS	**Cervenica-Dubn**	**114.64**	**46**	*e*pP	PKiKP	18 24 33.3	-0.3
CRVS				*e*		18 25 28.7	
STHS	**Stebnicka Huta**	**114.68**	**46**	*e*	PKiKP	18 24 34.5	+0.8
NSS	**Namsos**	**115.06**	**28**	*e*		18 24 48.7	
NSS				*i*		18 34 31.9	
NSS				AMS	AMS	19 13 20.9	
	comp=Z,5μm,20.6s,MS6.1						
UZH	**Uzhgorod**	**115.07**	**47**	*e*P	Pdif	18 20 42.0	-3.6
UZH				*i*		18 24 33.0	
UZH				*i*		18 24 41.6	
UZH				*i*		18 25 30.0	
UZH				*i* PS	PS	18 35 16.0	+2.0
UZH				*i*		18 36 32.0	
UZH				pmax	pmax		
	comp=Z,52nm,0.7s						
UZH				MLR	MLR		
	comp=Z,7μm,21.0s,MS6.2						
IMA2	**Indian Mountai**	**115.14**	**333**	*e*PKiKP	PKiKP	18 24 33.9	-0.7
KOLS	**Kolonicke sedl**	**115.16**	**47**	*es*P	PKiKP	18 24 35.4	+0.8
NWAO	**Narrogin (SRO)**	**115.60**	**188**	PFAKE		18 24 50.0	+15
NWAO				LR	LR		
	comp=Z,7μm,22.0s,MS6.2						
KWP	**Kalwaria**	**115.65**	**46**	*e*PKP	PKPdf	18 24 35.5	0.0
KWP				L		19 11 07.0	
	comp=Z,17nm,23.5s						
VOIR		**115.79**	**51**	⇓*i*P	PKPdf	18 24 40.4	+4.6
VOIR		**115.79**	**51**	⇓P	PKPdf	18 24 40.4	+4.6
DNZL	**Cakiroluk**	**115.99**	**60**	*i* P	PKPdf	18 24 45.0	+8.8
HNR	**Honiara**	**116.30**	**239**	PFAKE		18 24 50.0	+13
HNR				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
MLR	**Muntele Rosu**	**116.41**	**51**	PKP	PKPdf	18 24 36.0	-1.0
	comp=Z,12nm,0.9s,baz=16,slow=5.6,SNR=9.2						
MLR	**Muntele Rosu**	**116.41**	**51**	⇓*i*P	PKPdf	18 24 37.3	+0.3
MLR	**Muntele Rosu**	**116.41**	**51**	⇓P	PKPdf	18 24 37.3	+0.3
BURAR	**Bucovina Array**	**116.60**	**49**	⇑*i*P	PKPdf	18 24 37.8	+0.4
BURAR	**Bucovina Array**	**116.60**	**49**	⇑P	PKPdf	18 24 37.8	+0.4
MUN	**Mundaring**	**116.66**	**187**	*e*P	PKPdf	18 24 43.8	+6.3
MIDW	**Midway**	**116.78**	**288**	PFAKE		18 24 50.0	+12
MIDW				LR	LR		
	comp=Z,8μm,22.0s,MS6.3						
KLBR	**Kellerberrin**	**116.85**	**189**	*e*P	PKPdf	18 24 36.4	-1.5
	comp=Z,91nm,1.9s						
ULDT	**Uludag**	**116.89**	**58**	*i* P	PKPdf	18 24 35.8	-2.1
PLOR	**Plostina**	**116.99**	**51**	⇓*i*P	PKPdf	18 24 39.1	+1.0
VRI	**Vrincioaia**	**117.05**	**51**	⇓*i*P	PKPdf	18 24 35.0	-3.2
VRI	**Vrincioaia**	**117.05**	**51**	⇓P	PKPdf	18 24 35.0	-3.2
SUW	**Suwalki**	**117.25**	**41**	*e*PKP	PKPdf	18 24 37.1	-1.5
SUW				L		19 13 00.3	
	comp=Z,11nm,21.4s						
CTAO	**Charters Tower**	**117.40**	**220**	PFAKE		18 24 50.0	+11
CTAO				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
HARR	**Harsova**	**117.49**	**53**	⇓*i*P	PKPdf	18 24 40.3	+1.2
HARR	**Harsova**	**117.49**	**53**	⇓P	PKPdf	18 24 40.2	+1.2
EIL	**Elat**	**117.69**	**71**	*e*PKPdf	PKPdf	18 24 40.6	+1.1
CFR	**Carcaliu**	**117.78**	**52**	⇑*i*P	PKPdf	18 24 38.7	-0.9
CFR	**Carcaliu**	**117.78**	**52**	⇑P	PKPdf	18 24 38.7	-0.9
MSEY	**Mahe Island**	**118.08**	**115**	PFAKE		18 24 50.0	+10
MSEY				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
CSS	**Prodhromos**	**118.30**	**64**	*e*PKPdf	PKPdf	18 24 41.8	+1.2
ERMK	**Ermenek**	**118.54**	**62**	*i* P	PKPdf	18 24 41.6	+0.5
KIS	**Kishinev**	**118.76**	**50**	*e*PKIKP	PKPdf	18 24 38.0	-3.5
KIS				*e*		18 25 56.0	
KIS				*e*		18 31 43.0	
KIS				*e*PPS		18 35 50.0	
KIS				MLR	MLR		
	comp=N,8μm,22.0s						
KIS				MLR	MLR		
	comp=Z,10μm,22.0s,MS6.4						
KIS				MLR	MLR		
	comp=Z,13μm,22.0s						
KIS	**Kishinev**	**118.76**	**50**	*e*PP	PP	18 25 56.0	-4.0
KIS				*e*SKKS	SKSdf	18 31 43.0	-7.0
TRO	**Tromso**	**119.08**	**24**	*e*PP	PP	18 26 01.2	-1.1
TRO				*i*		18 34 24.8	
TRO				AMS	AMS	19 14 05.9	
	comp=Z,3μm,19.0s,MS5.9						
KBS	**Kingsbay**	**119.21**	**13**	*e*PP	PP	18 26 00.1	-3.1
KBS				*i*		18 35 34.7	
KBS				*e*SS	SS	18 42 21.8	+0.5
KBS				AMS	AMS	19 13 48.5	
	comp=Z,2μm,20.5s,MS5.7				

BALT	**Daday**	**120.39**	**57**	*i* P	PKPdf	18 24 43.5	-1.2
FINES	**FINESS Array B**	**120.47**	**34**	PKP	PKPdf	18 24 43.3	-1.5
	comp=Z,11nm,0.9s,baz=54,slow=3.3,SNR=14						
FINES				PKKPbc	PKKPbc	18 34 53.1	+2.5
	comp=Z,0.8nm,0.8s,baz=204,slow=8.4,SNR=3.9						
FIA1	**FINESS Array S**	**120.47**	**34**	*e*PKPdf	PKPdf	18 24 43.2	-1.6
CDAG	**Cicekdag**	**120.56**	**60**	*i* P	PKPdf	18 24 43.8	-1.2
KAF	**Kangasniemi**	**120.69**	**33**	*e*pkp	PKPdf	18 24 42.8	-2.4
CTKT	**Corum**	**121.15**	**59**	*i* P	PKPdf	18 24 44.6	-1.6
ARCES	**ARCESS Array B**	**121.35**	**24**	PKP	PKPdf	18 24 44.5	-2.1
	comp=Z,8.5nm,0.9s,baz=274,slow=3.3,SNR=10						
ARCES				PKKPbc	PKKPbc	18 34 47.4	+0.1
	comp=Z,2.6nm,0.8s,baz=78,slow=4.3,SNR=6.6						
SIM	**Simferopol'**	**121.80**	**54**	*i* PKIKP	PKPdf	18 24 47.0	-0.4
SIM				*i*		18 26 21.0	
SIM				*e*PPP		18 29 04.0	
SIM				pmax	pmax		
	comp=Z,24nm,0.9s						
SIM				pmax	pmax		
	comp=Z,2μm,20.9s						
SIM				MLR	MLR		
	comp=Z,7μm,19.2s,MS6.3						
KEV	**Kevo**	**121.89**	**24**	PFAKE		18 25 00.0	+12
KEV				LR	LR		
	comp=Z,5μm,22.0s,MS6.1						
PUL	**Pulkovo**	**122.28**	**36**	*i* PKIKP	PKPdf	18 24 48.2	-0.1
PUL				*e*		18 26 22.6	
PUL				pmax	pmax		
	comp=Z,181nm,1.1s						
PUL				pmax	pmax		
	comp=N,71nm,0.9s						
PUL				pmax	pmax		
	comp=E,84nm,0.9s						
PUL				MLR	MLR		
	comp=Z,10μm,24.0s,MS6.4						
PUL				MLR	MLR		
	comp=N,4μm,23.0s,MS6.4						
PUL				MLR	MLR		
	comp=E,10μm,25.0s,MS6.4						
PUL	**Pulkovo**	**122.28**	**36⇑**	*e*PKP	PKPdf	18 24 49.1	+0.8
GZT	**Gaziantep**	**122.30**	**63**	*i* P	PKPdf	18 24 49.2	+0.9
JOF	**Joensuu**	**123.09**	**32**	*e*pkp	PKPdf	18 24 47.4	-2.5
MALT	**Malatya**	**123.23**	**62**	‖ *i* P	PKPdf	18 24 50.4	+0.3
MALT	**Malatya**	**123.23**	**62**	*e*PKPdf	PKPdf	18 24 50.0	-0.1
WB2	**Warramunga Arr**	**123.36**	**209**	*e*P	PKPdf	18 24 49.4	-1.0
WRA	**Warramunga Arr**	**123.36**	**209**	PKP	PKPdf	18 24 49.5	-0.9
	comp=E,19nm,0.8s,baz=153,slow=1.8,SNR=76						
WRA				PKKPbc	PKKPbc	18 34 40.7	+1.1
	comp=E,2.7nm,1.0s,baz=346,slow=4.2,SNR=5.0						
WRA				SKKPbc		18 38 13.2	
	comp=E,2.4nm,0.9s,baz=348,slow=5.5,SNR=4.7						
WRAB	**Tennant Creek**	**123.37**	**209**	*i* PKIKP	PKPdf	18 24 49.4	-1.0
ELZG	**Elazig**	**123.70**	**62**	*i* P	PKPdf	18 24 51.5	+0.5
ANN	**Anapa**	**124.06**	**54**	*i* PKIKP	PKPdf	18 24 51.2	-0.5
ANN				*e*		18 31 50.9	
ANN				pmax	pmax		
	comp=Z,195nm,2.0s						
ANN				MLR	MLR		
	comp=Z,8μm,24.0s,MS6.3						
APA	**Apatity**	**124.16**	**27⇑**	*i* PKIKP	PKPdf	18 24 51.4	-0.5
APA				*i*		18 26 36.0	
APA				*e*PS	PS	18 36 29.0	-6.4
APA				*e*PPS		18 38 08.0	
APA				*e*SS	SS	18 43 37.0	+13
APA				pmax	pmax		
	comp=Z,47nm,1.0s						
APA				MLR	MLR		
	comp=Z,5μm,20.0s,MS6.2						
KELT	**Kelkit**	**124.32**	**60**	*i* P	PKPdf	18 24 49.5	-2.7
LVZ	**Lovozero**	**124.63**	**26**	*i* PKIKP	PKPdf	18 24 49.0	-3.8
LVZ				*e*		18 26 39.1	
LVZ				*e*SS	SS	18 43 29.5	-0.9
LVZ				pmax	pmax		
	comp=Z,88nm,1.1s						
LVZ				pmax	pmax		
	comp=N,14nm,1.4s						
LVZ				pmax	pmax		
	comp=E,15nm,1.4s						
LVZ				MLR	MLR		
	comp=Z,6μm,23.0s,MS6.2						
LVZ				MLR	MLR		
	comp=N,695nm,19.0s,MS6.2						
LVZ				MLR	MLR		
	comp=E,5μm,24.0s,MS6.2						
LVZ	**Lovozero**	**124.63**	**26⇑**	*e*PKP	PKPdf	18 24 52.5	-0.3
MARD	**Mardin**	**124.75**	**64**	*i* P	PKPdf	18 24 53.2	+0.2
OBN	**Obninsk**	**125.11**	**42⇑**	*i*PKIKP	PKPdf	18 24 53.3	-0.4
OBN				*e*		18 26 41.9	
OBN				*e*SS	SS	18 43 43.3	+6.9
OBN				pmax	pmax		
	comp=Z,81nm,1.0s						
OBN				MLR	MLR		
	comp=Z,14μm,22.0s,MS6.6						
OBN	**Obninsk**	**125.11**	**42**	*e*PKPdf	PKPdf	18 24 52.5	-1.2
OBN				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
PMG	**Port Moresby**	**125.19**	**229**	PFAKE		18 25 00.0	+6.1
PMG				LR	LR		
	comp=Z,16μm,22.0s,MS6.6						
BNGL	**BINGOL**	**125.45**	**62**	*i* P	PKPdf	18 24 56.0	+1.7
MOS	**Moscow**	**125.76**	**41**	*e*PKIKP	PKPdf	18 24 54.0	-1.0
MOS				*e*		18 25 05.0	
MOS				*e*		18 26 44.1	
MOS				*e*PS	PS	18 36 40.9	-8.6
MOS				pmax	pmax		
	comp=Z,110nm,1.0s						
MOS				pmax	pmax		
	comp=Z,400nm,2.4s						
MOS				MLR	MLR		
	comp=N,5μm,21.0s,MS6.2						
MOS				MLR	MLR		
	comp=E,4μm,21.0s,MS6.2						
MOS				MLR	MLR		
	comp=Z,9μm,21.0s,MS6.4						
ERZM	**Erzurum**	**125.84**	**61**	*i* P	PKPdf	18 24 55.9	+0.8
TMCR	**Tamitsa**	**126.13**	**31**	*e*PKIKP	PKPdf	18 24 55.1	-0.6
TMCR				*e*		18 25 05.9	
MSL	**Mosul**	**126.28**	**66**	*ex*	x	18 24 58.6	
VOR	**Voronezh**	**126.33**	**46**	PKIKP	PKPdf	18 24 59.0	+3.0
VOR						18 26 53.0	
VOR				pmax	pmax		
	comp=Z,110nm,2.0s						
VOR				pmax	pmax		
	comp=Z,120nm,2.4s						
BHD	**Baghdad**	**126.48**	**70**	*ex*	x	18 24 53.0	
BHD				*ex*	x	18 28 14.5	
BHD				*ex*	x	18 31 53.0	
MBWA	**Marble Bar**	**126.76**	**193**	*e*PKPdf	PKPdf	18 24 56.0	-0.8
MBWA				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
RST	**Umm Al-Ruwaisa**	**127.49**	**75**	*e*P	PKPdf	18 24 58.0	-0.2
RST				AMb	AMB	18 25 00.8	
	comp=Z,65nm,0.9s						
KIV	**Kislovodsk**	**127.60**	**56**	*e*P	Pdif	18 21 42.3	+1.0
KIV				*i*		18 24 59.3	
KIV				*e*		18 26 59.0	
KIV				*e*SP	SP	18 37 02.0	+1.5
KIV				*e*SS	SS	18 44 12.4	+4.8
KIV				pmax	pmax		
	comp=Z,53nm,0.9s						
KIV	**Kislovodsk**	**127.60**	**56**	*e*PKPdf	PKPdf	18 24 57.6	-0.9
KIV				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
NAY	**Al-Naaiem**	**127.61**	**75**	*e*P	PKPdf	18 24 57.8	-0.7
NAY				AMb	AMB	18 25 01.0	
	comp=Z,20nm,1.1s						
RDF	**Al-Radifah**	**127.76**	**76**	*e*P	PKPdf	18 24 58.4	-0.4
RDF				AMb	AMB	18 25 01.4	
	comp=Z,25nm,0.9s						
MIB	**Mutribah**	**127.86**	**75**	*e*P	PKPdf	18 24 58.9	-0.1
MIB				AMb	AMB	18 25 01.6	
	comp=Z,42nm,1.1s						
QRN	**Al-Qurain**	**128.01**	**76**	*e*P	PKPdf	18 24 58.2	-1.0
QRN				AMb	AMB	18 25 02.0	
	comp=Z,49nm,1.0s						
UMR	**Umm Al-Rimmam**	**128.10**	**75**	*e*P	PKPdf	18 24 59.4	0.0
UMR				AMb	AMB	18 25 02.1	
	comp=Z,69nm,0.9s						
FITZ	**Fitzroy Crossi**	**128.22**	**201**	*e*P	PKPdf	18 24 59.7	0.0
	comp=Z,29nm,0.8s						
FITZ	**Fitzroy Crossi**	**128.22**	**201**	PKP	PKPdf	18 24 58.7	-0.9
	comp=Z,17nm,0.9s,baz=202,slow=3.5						
ZEI	**Tsey**	**128.28**	**58**	*e*PKIKP	PKPdf	18 24 59.8	0.0
ZEI				*i*		18 25 09.2	
DGAR	**Diego Garcia**	**128.29**	**132**	PFAKE		18 25 10.0	+10
DGAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
GNI	**Garni**	**128.42**	**61**	PKP	PKPdf	18 25 00.5	+0.5
	comp=Z,17nm,0.9s,baz=320,slow=3.3,SNR=9.5						
GNI	**Garni**	**128.42**	**61⇑**	*e*PKIKP	PKPdf	18 25 01.2	+1.2
GNI	**Garni**	**128.42**	**61**	*e*PKPdf	PKPdf	18 25 00.6	+0.5
GNI				LR	LR		
	comp=Z,7μm,20.0s,MS6.4						
SMY	**Shemya**	**128.75**	**315**	PFAKE		18 25 10.0	+9.3
SMY				LR	LR		
	comp=Z,9μm,20.0s,MS6.4						
BILL	**Bilibino**	**130.61**	**335**	*i* PKIKP	PKPdf	18 25 04.3	+0.1
BILL				*e*		18 27 23.7	
BILL				*e*		18 32 16.2	
BILL				pmax	pmax		
	comp=Z,41nm,1.0s						
BILL	**Bilibino**	**130.61**	**335**	*e*PKPdf	PKPdf	18 25 04.3	+0.1
BILL				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
MAK	**Makhachkala**	**130.93**	**58**	*de*P	Pdif	18 21 59.7	+3.6
MAK				*i*		18 25 05.6	
MAK				*i*		18 27 23.2	
MAK				*e*		18 32 12.0	
MAK				*i* SS	SS	18 45 15.5	+27
MAK				pmax	pmax		
	comp=Z,355nm,2.2s						
WSAR	**Wadi Sarin**	**135.21**	**88**	PKP	PKPdf	18 25 13.7	+0.8
	comp=Z,32nm,0.8s,baz=248,slow=3.3,SNR=14						
COCO	**West Island**	**135.32**	**164**	PFAKE		18 25 20.0	+6.9
COCO				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
ORR	**Orenburg**	**135.99**	**46**	*e*PKIKP	PKPdf	18 25 14.0	-0.3
ORR				pmax	pmax		
	comp=Z,50nm,0.8s						
ARU	**Arti**	**137.35**	**39**	*i* PKIKP	PKPdf	18 25 17.2	+0.4
ARU				*e*		18 27 59.6	
ARU				*e*SS	SS	18 46 09.6	+3.6
ARU				MLR	MLR		
	comp=Z,14μm,22.0s,MS6.7						
ARU				MLR	MLR		
	comp=N,4μm,21.0s,MS6.5						
ARU				MLR	MLR		
	comp=E,10μm,22.0s,MS6.5						
ARU	**Arti**	**137.35**	**39**	*e*PKPpre		18 25 10.9	
ARU				⇑ *i* PKP	PKPdf	18 25 17.2	+0.4
ARU				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
SEY	**Seymchan**	**137.92**	**332⇑**	*i*PKIKP	PKPdf	18 25 18.7	+0.8
SEY	**Seymchan**	**137.92**	**332⇑**	*e*PKP	PKPdf	18 25 18.8	+0.9
PET	**Petropavlovsk**	**138.05**	**316**	*e*PKHKP		18 25 08.2	
PET				*e*SPP		18 40 16.7	
PET				*e*SS	SS	18 46 15.8	+1.5
PET				*e*SSS		18 51 22.8	
PET				pmax	pmax		
	comp=Z,900nm,12.0s						
PET				pmax	pmax		
	comp=Z,36nm,0.9s						
PET				pmax	pmax		
	comp=Z,1μm,17.0s						
PET				pmax	pmax		
	comp=Z,2μm,19.9s						
PET				pmax	pmax		
	comp=Z,1μm,19.2s						
PET	**Petropavlovsk**	**138.05**	**316⇑**	*e*PKP	PKPdf	18 25 19.3	+1.2
PET				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
TIXI	**Tiksi**	**138.12**	**351**	PFAKE		18 25 30.0	+12
TIXI				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
AKTK	**Aktyubinsk**	**138.18**	**48**	PKP	PKPdf	18 25 18.1	-0.2
AKTO	**Aktyubinsk**	**138.18**	**48**	PKhKP		18 25 09.9	
	comp=Z,3.3nm,0.7s,baz=233,slow=4.4,SNR=7.6						
AKTO				PKP	PKPdf	18 25 18.1	-0.2
	comp=Z,19nm,0.9s,baz=278,slow=3.6,SNR=23						
AKTO	**Aktyubinsk**	**138.18**	**48**	PKIKP	PKPdf	18 25 18.2	-0.2
SVE	**Sverdlovsk**	**138.34**	**38⇑**	*e*PKIKP	PKPdf	18 25 19.5	+0.8
SVE				pmax	pmax		
	comp=Z,25nm,2.5s						
SKR	**Severo-Kuril's**	**140.03**	**313**	*i* PKHKP		18 25 16.0	
SKR				*e*PPS		18 40 38.0	
SKR				pmax	pmax		
	comp=Z,3μm,10.0s						
MA2	**Magadan**	**140.15**	**328**	PFAKE		18 25 30.0	+8.0
MA2				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
GUMO	**Guam**	**142.32**	**250**	PFAKE		18 25 40.0	+14
GUMO				LR	LR		
	comp=Z,8μm,20.0s,MS6.5						
TRD	**Trivandrum**	**142.86**	**121**	*e*P	PKPdf	18 25 27.3	+0.4
MNGI	**Mangalore**	**144.00**	**113**	*i* P	PKPdf	18 25 28.2	-0.6
MNGI				*i* x	x	18 35 53.6	
ZRNK	**Zerenda**	**144.18**	**41**	*e*PKIKP	PKPdf	18 25 27.1	-2.0
PALK	**Pallekele**	**144.67**	**127**	*e*PKPdf	PKPdf	18 25 29.4	-0.6
PALK				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
CHKZ	**Chkalovo**	**144.79**	**39**	PKIKP	PKPdf	18 25 27.9	-2.3
CHKZ				pmax	pmax		
	comp=Z,908nm,1.8s						
CHKZ	**Chkalovo**	**144.79**	**39**	*e*PKPdf	PKPdf	18 25 28.8	-1.4
BRVK	**Borovoye**	**144.86**	**41**	*e*PKIKP	PKPdf	18 25 29.1	-1.2
BRVK				MLR	MLR		
	comp=Z,3μm,20.0s,MS6.0						
BVA0	**Borovoye Array**	**144.93**	**41**	*i* PKIKP	PKPdf	18 25 29.6	-0.8
BVAR	**Borovoye Array**	**144.93**	**41**	PKP	PKPdf	18 25 29.5	-0.9
	comp=Z,53nm,0.5s,baz=290,slow=2.1,SNR=136						
VOSK	**Vostochnaya**	**145.38**	**41**	PKIKP	PKPdf	18 25 30.8	-0.4
VOSK				pmax	pmax		
	comp=Z,2μm,2.2s						
BOM	**Bombay**	**145.50**	**102**	*e*P	PKPdf	18 25 28.9	-2.6
BOM				*ex*	x	18 28 31.2	
KAD	**Karad**	**145.87**	**106**	*e*P	PKPdf	18 25 32.8	+0.7
BHV	**Bhavnagar**	**146.18**	**97**	*ex*	x	18 25 22.0	
POO	**Poona**	**146.19**	**104⇑**	*i*P	PKPdf	18 25 31.5	-1.1
POO				*ex*	x	18 26 08.4	
YAK	**Yakutsk**	**146.34**	**342**	*d*PKP2	PKPab	18 25 32.3	-2.7
YAK				*e*		18 28 55.5	
YAK				*i* SS	SS	18 47 48.4	-2.0
YAK				pmax	pmax		
	comp=Z,466nm,1.0s						
YAK				pmax	pmax		
	comp=N,23nm,1.1s						
YAK				pmax	pmax		
	comp=E,66nm,1.0s						
YAK				pmax	pmax		
	comp=Z,863nm,4.4s						
YAK				pmax	pmax		
	comp=N,392nm,2.8s						
YAK				pmax	pmax		
	comp=E,173nm,2.8s						
YAK	**Yakutsk**	**146.34**	**342**	*e*PKPdf	PKPdf	18 25 31.4	-1.4
YAK				LR	LR		
	comp=Z,5μm,22.0s,MS6.2						
YUK	**Yuzh-Kuril'sk**	**148.12**	**304**	*e*PKP2	PKPab	18 25 38.0	-4.0
YUK				pmax	pmax		
	comp=E,2μm,3.0s						
YUK				pmax	pmax		
	comp=Z,2μm,3.0s						
MDRS	**Chennai**	**148.26**	**119**	*e*P	PKPdf	18 25 35.5	-0.5
HYB	**Hyderabad**	**149.49**	**110⇑**	*i*PKP	PKPdf	18 25 38.0	0.0
	comp=Z,700nm,1.0s						
HYB				*e*		18 25 42.0	
HYB	**Hyderabad**	**149.49**	**110⇑**	*e*PKIKP	PKPdf	18 25 38.0	0.0
HYB				*e*		18 25 43.0	
HYB	**Hyderabad**	**149.49**	**110⇑**	*e*P	PKPdf	18 25 38.0	0.0
HYB				*e*		18 25 42.0	
HYB				*e*		18 25 43.0	
HYB				*e*LR	LR	19 00 08.0	
YSS	**Yuzh-Sakhalins**	**149.50**	**311**	*i* PKHKP	PKPdf	18 25 39.0	+0.9
YSS				*e*		18 29 23.0	
YSS				*e*SS		18 49 06.0	
YSS				pmax	pmax		
	comp=Z,220nm,1.0s						
YSS				pmax	pmax		
	comp=Z,400nm,1.6s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s,MS6.3						
YSS				MLR	MLR		
	comp=E,4μm,18.0s,MS6.3						
YSS				MLR	MLR		
	comp=Z,4μm,18.0s,MS6.3						
YSS	**Yuzh-Sakhalins**	**149.50**	**311**	*e*PKPbc	PKPbc	18 25 40.9	-1.7
YSS				LR	LR		
	comp=Z,5μm,22.0s,MS6.3						
AKL	**Akola**	**149.84**	**103**	*i* x	PKPbc	18 25 43.7	+0.3
AKL				*i* x	x	18 35 53.7	
AJM	**Ajmer**	**149.99**	**91**	*e*P	PKPdf	18 25 40.2	+1.4
EKS2	**Erkin-Say**	**150.18**	**58**	P	PKPdf	18 25 39.3	+0.2
	SNR=38						
AML	**Almayashu**	**150.22**	**59**	P	PKPbc	18 25 46.4	+2.1
	SNR=27						
PSI	**Prapat**	**150.23**	**160**	PKPbc	PKPbc	18 25 42.6	-1.8
	comp=Z,84nm,0.9s,baz=205,slow=5.0,SNR=32						
KSM	**Kuching**	**150.29**	**184**	*e*PKPdf	PKPdf	18 25 39.4	+0.1
NVS	**Novosibirsk**	**150.37**	**30**	*e*PKIKP	PKPdf	18 25 38.5	-0.9
NVS				pmax	pmax		
	comp=Z,1μm,1.7s						
NVS				pmax	pmax		
	comp=E,228nm,1.6s						
ASAJ	**Asahikawa**	**150.41**	**305**	PKPbc	PKPbc	18 25 43.9	-0.9
	comp=E,150nm,1.1s,baz=261,slow=5.8,SNR=26						
ERM	**Erimo**	**150.44**	**301**	PKIKP	PKPbc	18 25 45.2	+0.3
ERM	**Erimo**	**150.44**	**301**	*e*PKPbc	PKPbc	18 25 44.6	-0.3
ERM				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
KGM	**Kluang**	**150.46**	**169**	P	PKPdf	18 25 41.7	+2.1
USP	**Ospenovka**	**150.58**	**56**	P	PKPbc	18 25 46.8	+1.6
	SNR=32						
MATI	**Mati**	**150.66**	**218**	*e*P	PKPbc	18 25 46.2	+0.8
AAK	**Ala-Archa**	**150.71**	**58**	P	PKPdf	18 25 41.9	+1.9
	SNR=18						
AAK	**Ala-Archa**	**150.71**	**58**	*i* PKIKP	PKPdf	18 25 42.6	+2.7
AAK	**Ala-Archa**	**150.71**	**58**	*e*PKPdf	PKPdf	18 25 40.4	+0.4
AAK				LR	LR		
	comp=Z,3μm,22.0s,MS6.1						
FRU	**Bishkek**	**150.75**	**57**	*e*PKIKP	PKPdf	18 25 43.0	+3.0
FRU				*i*		18 29 24.0	
FRU				pmax	pmax		
	comp=Z,880nm,2.0s						
FRU				MLR	MLR		
	comp=Z,9μm,22.0s,MS6.5						
UCH	**Uchtor**	**150.80**	**58**	P	PKPdf	18 25 42.5	+2.4
	SNR=27						
CHMS	**Chumysh**	**150.82**	**57**	P	PKPbc	18 25 47.4	+1.6
	SNR=35						
KBK	**Karagaybulak**	**151.03**	**57**	P	PKPdf	18 25 41.0	+0.5
	SNR=19						
DAV	**Davao City (W)**	**151.12**	**217**	PFAKE		18 25 50.0	+9.4
DAV				LR	LR		
	comp=Z,6μm,20.0s,MS6.4						
BHPL	**Bhopal**	**151.25**	**98**	*e*P	PKPdf	18 25 42.2	+1.5
BHPL				*i* x	x	18 25 56.1	
KZA	**Kyzart**	**151.36**	**59**	P	PKPbc	18 25 49.1	+2.1
	SNR=8.6						
TKM2	**Tokmak 2**	**151.44**	**57**	P	PKPdf	18 25 42.5	+1.4
	SNR=13						
ZAL	**Zalesovo**	**151.65**	**30**	PKP	PKPdf	18 25 40.4	-1.0
	comp=Z,22nm,0.9s,baz=199,slow=1.8,SNR=29						
ZAL				PKPbc	PKPbc	18 25 47.0	-0.7
	comp=Z,205nm,0.8s,baz=191,slow=2.5,SNR=78						
ZAL	**Zalesovo**	**151.65**	**30**	PKP	PKPdf	18 25 40.4	-1.0
ZAL				PKPbc	PKPbc	18 25 47.0	-0.7
NGP	**Nagpur**	**151.74**	**104⇑**	*i*P	PKPdf	18 25 43.4	+1.9
TSM	**Tawau**	**151.75**	**200**	P	PKPdf	18 25 43.7	+2.1
CLNS	**Chul'man**	**152.05**	**341**	*e*PKIKP	PKPdf	18 25 41.6	-0.4
CLNS				pmax	pmax		
	comp=N,20nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,157nm,0.7s						
CLNS				pmax	pmax		
	comp=E,27nm,0.8s						
CLNS				pmax	pmax		
	comp=E,638nm,14.3s						
CLNS				pmax	pmax		
	comp=Z,251nm,14.6s						
CLNS				pmax	pmax		
	comp=N,180nm,13.4s						
ULHL	**Ulahol**	**152.05**	**58**	P	PKPdf	18 25 42.8	+0.8
	SNR=11						
BUKP	**Musuan**	**152.07**	**217**	*e*P	PKPdf	18 25 43.5	+1.5
THN	**Thein Dam**	**152.14**	**79**	*e*P	PKPdf	18 25 42.1	0.0
THN				*ex*	x	18 29 42.4	
KSH	**Kashi**	**152.31**	**64**	*e*PKP	PKPdf	18 25 44.5	+2.1
KSH				*e*XPKP		18 25 58.2	
KSH				*e*PKS		18 29 19.6	
KSH				*e*SKKS	SKKSac	18 36 22.2	+3.8
KSH				PP	PP		
	comp=Z,1μm,9.4s						
KSH				LR	LR		
	comp=N,2μm,14.9s,MS6.3						
KSH				LR	LR		
	comp=E,2μm,10.6s,MS6.3						
DLH	**Dalhousie**	**152.36**	**79**	*ex*	PKPdf	18 25 47.0	+4.5
DLH				*ex*	x	18 26 00.0	
IPM	**Ipoh**	**152.40**	**164**	P	PKPdf	18 25 39.1	-3.4
BHK	**Bhakra**	**152.60**	**81**	*ex*	x	18 25 53.4	
CGP	**Cagayan de Oro**	**152.75**	**217**	‖ *i*P	PKPdf	18 25 41.7	-1.3
NDI	**New Delhi**	**152.77**	**87**	*e*P	PKPdf	18 25 42.0	-1.1
NDI				AMS	AMS	18 50 34.6	
	comp=E,2μm,16.0s						
NDI				AMS	AMS	19 00 15.2	
	comp=Z,1μm,18.1s,MS5.7						
PAGZ	**Pagadian**	**152.88**	**214**	*e*P	PKPdf	18 25 46.4	+3.1
SDNR	**Sundarnagar**	**153.08**	**81**	*e*P	PKPdf	18 25 45.0	+1.5
KULM	**Kulim**	**153.09**	**162**	*e*PKPbc	PKPbc	18 25 49.1	-1.7
BOD	**Bodaibo**	**153.22**	**354**	*e*PKIKP	PKPdf	18 25 42.0	-1.7
BOD				*e*		18 26 01.1	
BOD				pmax	pmax		
	comp=Z,62nm,1.9s						
BOD				pmax	pmax		
	comp=Z,95nm,1.1s						
JBP	**Jabalpur**	**153.38**	**101⇑**	*e*P	PKPdf	18 25 43.5	-0.5
JBP				*ex*	x	18 25 57.1	
	comp=Z,177nm,1.2s						
JBP				*i* x	x	18 28 45.3	
VIS	**Vishakhapatnam**	**153.44**	**115**	*e*P	PKPdf	18 25 44.4	+0.4
DDI	**Dehra Dun**	**153.82**	**84**	*ex*	x	18 25 53.5	
KKM	**Kota Kinabalu**	**153.88**	**198**	*e*PKPdf	PKPdf	18 25 45.2	+0.5
MKAR	**Makanchi Array**	**154.55**	**45**	PKP	PKPdf	18 25 44.6	-1.0
	comp=Z,13nm,0.8s,baz=344,slow=1.2,SNR=26						
MKAR				PKPbc	PKPbc	18 25 54.5	+0.4
	comp=Z,62nm,0.8s,baz=304,slow=1.7,SNR=28						
MKAR	**Makanchi Array**	**154.55**	**45**	*i* PKIKP	PKPdf	18 25 44.6	-1.0
MKAR				pmax	pmax		
	comp=Z,35nm,0.7s						
SNG	**Songkhla**	**154.88**	**161**	P	PKPdf	18 25 48.0	+1.9
	comp=Z,366nm,1.0s						
MJAR	**Matsushiro Arr**	**154.90**	**290**	PKP	PKPdf	18 25 44.4	-1.7
	comp=Z,11nm,0.9s,baz=277,slow=0.1,SNR=27						
MJAR				PKPab	PKPab	18 26 10.7	+0.5
	comp=Z,19nm,0.9s,baz=91,slow=2.1,SNR=7.6						
MJAR				PP	PP	18 29 55.4	+9.3
	comp=Z,1.9nm,0.9s,baz

CIT	**Chita**	**158.97**	**351**	*e*PKIKP	PKPdf	18 25 51.0	-0.3
CIT				*e*		18 26 28.0	
CIT				*e*		18 30 05.3	
CIT				pmax	pmax		
comp=Z,261nm,2.6s							
DMN	**Daman**	**159.25**	**94**	*e*PKIKP	PKPdf	18 25 52.3	+0.7
TLY	**Talaya**	**159.31**	**9**	*e*PKIKP	PKPdf	18 25 49.9	-1.8
TLY				*e*		18 30 11.6	
TLY				*e*PPS		18 43 24.7	
TLY				*e*SS	SS	18 50 17.6	+5.0
TLY				pmax	pmax		
comp=Z,80nm,1.9s							
TLY				MLR	MLR		
comp=Z,5μm,20.0s,MS6.4							
TLY	**Talaya**	**159.31**	**9**	*e*PKPdf	PKPdf	18 25 52.2	+0.6
TLY				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
WMQ	**Urumqi**	**159.33**	**47**	PKP	PKPdf	18 25 52.3	+0.6
WMQ				APKP		18 26 04.0	
WMQ				XPKP		18 26 09.0	
WMQ				PKP2	PKPab	18 26 32.0	+2.7
WMQ				PKS		18 29 24.0	
WMQ				PP	PP	18 30 14.0	+3.6
WMQ				SKS	SKSdf	18 32 52.0	-1.6
WMQ				SKKS	SKKSac	18 36 56.0	+0.2
WMQ				SS	SS	18 50 13.0	+0.2
WMQ				PP	PP		
comp=Z,2μm,7.9s							
WMQ				LR	LR		
comp=N,7μm,21.0s,MS6.6							
WMQ				LR	LR		
comp=E,5μm,20.6s,MS6.6							
WMQ				LR	LR		
comp=Z,8μm,24.4s,MS6.5							
KKN	**Kakani**	**159.45**	**94**	*e*PKIKP	PKPdf	18 25 52.1	+0.3
PKI	**Pulchoki**	**159.50**	**95**	*e*PKIKP	PKPdf	18 25 52.2	+0.3
NNT	**Nongplab**	**159.68**	**154**	P	pPKPdf	18 26 06.5	+0.7
CAL	**Calcutta**	**159.99**	**111**	*e*P	PKPdf	18 25 51.8	-0.7
CAL				*i* x	x	18 25 54.4	
comp=Z,4μm,0.4s							
CAL				*e*x	x	18 30 22.0	
GUN	**Gumba**	**160.00**	**94**	*e*PKIKP	PKPdf	18 25 52.9	+0.4
HIA	**Hailar**	**160.16**	**338**	PFAKE		18 26 00.0	+7.4
HIA				LR	LR		
comp=Z,7μm,19.0s							
JIRN	**Jiri**	**160.19**	**95**	*e*PKIKP	PKPdf	18 25 53.4	+0.7
ZAK	**Zakamensk**	**160.53**	**10**	*e*PKIKP	PKPdf	18 25 52.6	-0.4
ZAK				pmax	pmax		
comp=Z,16nm,2.0s							
CN2	**Changchun**	**161.74**	**318**	*e*PKP	PKPdf	18 25 53.0	-1.3
CN2				*e*XPKP		18 26 11.0	
CN2				PP	PP	18 30 25.8	+2.4
CN2				PP	PP		
comp=Z,2μm,10.0s							
CN2				LR	LR		
comp=N,2μm,21.0s							
CN2				LR	LR		
comp=E,3μm,21.0s							
CN2				LR	LR		
comp=Z,4μm,21.0s							
NST	**Nakhon Sawan**	**162.65**	**152**	P	PKPdf	18 25 55.1	-0.1
AGT	**Agartala**	**162.98**	**111**	*i* x	x	18 26 01.0	
AGT				*i* x	x	18 26 52.0	
SONM	**Songino Array**	**163.40**	**5**	PKP	PKPdf	18 25 55.5	-0.5
comp=Z,13nm,0.9s,baz=248,slow=0.2,SNR=20							
SONM				PKPab	PKPab	18 26 45.8	-1.3
comp=Z,11nm,1.1s,baz=316,slow=2.0,SNR=3.2							
SONM				PP	PP	18 30 33.1	+0.9
comp=Z,6.8nm,1.0s,baz=349,slow=6.0,SNR=3.7							
INCN	**Inchon**	**163.87**	**297**	PFAKE		18 26 10.0	+14
INCN				LR	LR		
comp=Z,6μm,20.0s							
SNY	**Shenyang**	**164.02**	**315**	⇑PKP	PKPdf	18 25 56.1	-0.4
SNY				APKP		18 26 07.7	
SNY				PP	PP	18 30 37.3	+1.8
SNY				PP	PP		
comp=Z,2μm,12.0s							
SNY				LR	LR		
comp=E,4μm,24.3s							
SNY				LR	LR		
comp=Z,6μm,25.1s							
SHL	**Shillong**	**164.26**	**107**	*e*P	PKPdf	18 25 57.0	+0.2
SHL				*e*x	x	18 30 41.0	
CM31	**Chiang Mai Arr**	**164.53**	**143**	PFAKE		18 26 10.0	+13
CM31				LR	LR		
comp=Z,8μm,20.0s							
CHG	**Chiang Mai**	**164.83**	**143**	⇑P	PKPdf	18 25 57.0	-0.3
comp=Z,46nm,1.2s							
CHTO	**Chiang Mai**	**164.83**	**143**	PKIKP	PKPdf	18 25 56.7	-0.6
CHTO	**Chiang Mai**	**164.83**	**143**	*e*PKPab	PKPab	18 26 52.8	-0.7
CHTO				LR	LR		
comp=Z,6μm,20.0s							
LSA	**Lhasa**	**164.90**	**92**	PKP	PKPdf	18 25 56.4	-0.9
LSA				PKP2	PKPab	18 26 55.0	+1.3
LSA				LR	LR		
comp=N,4μm,26.0s							
LSA				LR	LR		
comp=E,6μm,27.2s							
LSA				LR	LR		
comp=Z,11μm,23.6s							
LSA	**Lhasa**	**164.90**	**92**	PFAKE		18 26 10.0	+13
LSA				LR	LR		
comp=Z,8μm,20.0s							
IMP	**Imphal**	**165.55**	**113**	*e*P	PKPdf	18 26 00.0	+2.1
IMP				*e*x	x	18 30 46.0	
DL2	**Dalian**	**166.89**	**309**	*i* PKP	PKPdf	18 25 58.6	-0.3
DL2				APKP		18 26 10.6	
DL2				PP	PP	18 30 49.2	-1.2
DL2				PP	PP		
comp=Z,920nm,8.5s							
DL2				LR	LR		
comp=N,2μm,20.2s							
DL2				LR	LR		
comp=E,1μm,20.2s							
DL2				LR	LR		
comp=Z,4μm,20.4s							
TATO	**Taipei**	**166.98**	**244**	PFAKE		18 26 10.0	+11
TATO				LR	LR		
comp=Z,4μm,19.0s							
QIZ	**Qiongzhong**	**167.73**	**186**	PKP	PKPdf	18 26 00.2	+0.7
QIZ				PKP2	PKPab	18 27 06.3	+0.1
QIZ				PP	PP	18 30 53.8	-0.9
QIZ				SKKS	SKKSac	18 37 40.2	+1.7
QIZ				LR	LR		
comp=N,2μm,21.2s							
QIZ				LR	LR		
comp=E,2μm,23.1s							
QIZ				LR	LR		
comp=Z,6μm,21.8s							
QIZ	**Qiongzhong**	**167.73**	**186**	PFAKE		18 26 10.0	+10
QIZ				LR	LR		
comp=Z,7μm,21.0s							
QZH	**Quanzhou**	**169.12**	**237**	*i* PKP	PKPdf	18 26 00.8	+0.3
QZH				PKP2	PKPab	18 27 13.0	+0.6
QZH				PP	PP	18 31 06.0	+4.2
QZH				PP	PP		
comp=Z,3μm,13.1s							
QZH				LR	LR		
comp=N,4μm,21.3s							
QZH				LR	LR		
comp=E,6μm,21.3s							
QZH				LR	LR		
comp=Z,14μm,26.3s							
SSE	**Sheshan**	**169.19**	**272**	PKP	PKPdf	18 26 01.5	+1.0
SSE				PP	PP		
comp=Z,1μm,12.0s							
SSE				LR	LR		
comp=N,2μm,25.0s							
SSE				LR	LR		
comp=E,4μm,25.0s							
SSE				LR	LR		
comp=Z,5μm,24.3s							
GTA	**Gaotai**	**169.21**	**39**	PKP	PKPdf	18 26 00.7	+0.2
GTA				APKP		18 26 12.1	
GTA				XPKP		18 26 16.4	
GTA				PKP2	PKPab	18 27 16.1	+3.4
GTA				PKS		18 29 34.9	
GTA				PP	PP	18 31 04.3	+2.1
GTA				SKS	SKSdf	18 32 59.0	-1.5
GTA				SKKS	SKKSac	18 37 43.3	-2.4
GTA				SS	SS	18 51 50.7	-3.6
GTA				PP	PP		
comp=Z,2μm,13.5s							
GTA				LR	LR		
comp=N,7μm,21.0s							
GTA				LR	LR		
comp=E,5μm,20.2s							
GTA				LR	LR		
comp=Z,10μm,25.2s							
BJI	**Beijing**	**169.31**	**327**	PKP	PKPdf	18 25 59.9	-0.7
BJI				LR	LR		
comp=N,2μm,22.2s							
BJI				LR	LR		
comp=E,4μm,25.9s							
BJI				LR	LR		
comp=Z,7μm,27.9s							
BJT	**Baijiatuau**	**169.33**	**327**	*e*PKIKP	PKPdf	18 25 59.9	-0.7
BJT				MLR	MLR		
comp=Z,9μm,20.0s							
HKC	**Hong Kong**	**169.74**	**211**	PKPdf	PKPdf	18 26 06.0	+5.2
BTO	**Baotou**	**170.63**	**353**	*e*PKP	PKPdf	18 26 03.1	+1.8
GZH	**Guangzhou**	**170.78**	**209**	PKP	PKPdf	18 26 01.6	+0.2
GZH				PP	PP	18 31 11.1	+1.0
GZH				LR	LR		
comp=N,990nm,19.0s							
GZH				LR	LR		
comp=E,5μm,19.3s							
GZH				LR	LR		
comp=Z,8μm,20.6s							
NJ2	**Nanjing**	**171.20**	**278**	*e*PKP	PKPdf	18 26 00.3	-1.3
NJ2				APKP		18 26 10.5	
NJ2				XPKP		18 26 14.1	
NJ2				PKS		18 29 31.1	
NJ2				PP	PP	18 31 14.0	+1.8
NJ2				SKKS	SKKSac	18 37 55.0	-0.4
NJ2				PP	PP		
comp=Z,6μm,11.5s							
NJ2				LR	LR		
comp=N,4μm,19.9s							
NJ2				LR	LR		
comp=E,8μm,24.0s							
NJ2				LR	LR		
comp=Z,3μm,21.4s							
TIA	**Tai'an**	**171.35**	**307**	⇑PKP	PKPdf	18 26 00.6	-1.1
KMI	**Kunming**	**171.99**	**139**	PKP	PKPdf	18 26 03.1	+1.1
KMI				APKP		18 26 15.5	
KMI				XPKP		18 26 21.6	
KMI				PKP2	PKPab	18 27 28.2	+3.1
KMI				SKKS	SKKSac	18 38 02.0	+2.7
KMI				LR	LR		
comp=N,5μm,19.2s							
KMI				LR	LR		
comp=E,2μm,17.9s							
KMI				LR	LR		
comp=Z,8μm,22.3s							
LZH	**Lanzhou**	**173.81**	**38**	⇑PKP	PKPdf	18 26 04.3	+1.5
LZH				APKP		18 26 17.1	
LZH				XPKP		18 26 21.0	
LZH				PKP2	PKPab	18 27 37.1	+3.9
LZH				PKS		18 29 35.0	
LZH				PP	PP	18 31 27.0	+1.9
LZH				SKS	SKSdf	18 32 53.0	-9.3
LZH				PP	PP		
comp=Z,2μm,4.2s							
LZH				LR	LR		
comp=N,7μm,18.8s							
LZH				LR	LR		
comp=Z,11μm,20.1s							
GYA	**Guiyang**	**174.90**	**160**	*i* PKP	PKPdf	18 26 02.3	-0.8
GYA				APKP		18 26 12.8	
GYA				XPKP		18 26 16.7	
GYA				LR	LR		
comp=N,3μm,26.7s							
GYA				LR	LR		
comp=E,4μm,26.4s							
GYA				LR	LR		
comp=Z,5μm,24.5s							
WHN	**Wuhan**	**174.97**	**263**	PKP	PKPdf	18 26 03.7	+0.6
WHN				APKP		18 26 14.5	
WHN				PP	PP	18 31 32.0	+1.3
WHN				LR	LR		
comp=Z,15μm,22.0s							
CD2	**Chengdu**	**175.86**	**94**	PKP	PKPdf	18 26 03.5	+0.1
CD2				PKP2	PKPab	18 27 43.7	+1.4
CD2				PKS		18 29 36.9	
CD2				PP	PP	18 31 35.8	+0.9
CD2				SKKS	SKKSac	18 38 21.5	+3.8
CD2				SS	SS	18 52 59.4	+0.3
CD2				LR	LR		
comp=N,5μm,20.1s							
CD2				LR	LR		
comp=Z,8μm,22.8s							
XAN	**Xi'an**	**177.25**	**354**	PKP	PKPdf	18 26 03.8	+0.2
XAN				PKP2	PKPab	18 27 45.4	-3.0
XAN				PP	PP	18 31 35.8	-5.7
XAN				LR	LR		
comp=N,2μm,23.5s							
XAN				LR	LR		
comp=E,3μm,23.5s							
XAN				LR	LR		
comp=Z,8μm,22.1s							

*ISCJB **12** 18:12:31.8±0.3, 4042N±002×2834E±002, h7km±3km, Error ellipse: s-maj=2.9km s-min=2.7km az=135.7*
*CSEM **12** 18:12:32.0±0.0, 4043N×2836E, h10km, MD3.5, Error ellipse: s-maj=1.2km s-min=0.9km az=2.0*
*ISK **12** 18:12:32.2, 4042N×2834E, h13km, MD3.5*
*THE **12** 18:12:33.1, 4049N×2838E, h10km, ML3.6*
*ATH **12** 18:12:44.2, 4028N×2692E, h7km±3km, MD3.7/3*
*NEIC **12** 18:12:44.2, 4028N×2692E, h7km, MD3.3(ISK), MD3.7(ATH), After ATH.*

ISC 12 18:12:32.8±0.3, 4042N±002×2834E±002, h7km±3km, n78, σ0§82/98, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCT	**Karacabey**	**0.16**	**174**	*i* PG	**Pg**	**18 12 36.2**	**+0.1**
EDC	**Edincik**	**0.37**	**258**	*i* PG	**Pg**	**18 12 40.3**	**+0.3**
MRMT	**Marmara Adasi**	**0.59**	**288**	PG	**Pg**	**18 12 44.4**	**+0.2**
GEMT	**Gemlik**	**0.65**	**89**	PG	**Pg**	**18 12 45.2**	**-0.2**
GEMT				SG	**Sg**	**18 12 55.1**	**+1.2**
ULDT	**Uludag**	**0.67**	**114**	*i* P	**Pg**	**18 12 44.8**	**-1.0**
ULDT				*i* S	**Sg**	**18 12 53.5**	**-1.1**
BTOK	**Tokmak**	**0.70**	**200**	*i* P	**Pg**	**18 12 45.5**	**-0.8**
BTOK				*i* S	**Sg**	**18 12 54.1**	**-1.3**
CTT	**Catalca**	**0.73**	**6**	PG	**Pg**	**18 12 47.5**	**+0.7**
ELBA	**Catalca**	**0.73**	**6**	*i* P	**Pg**	**18 12 47.4**	**+0.6**
ELBA				*i* S	**Sg**	**18 12 57.3**	**+1.1**
YLV	**Yalova**	**0.81**	**79**	PG	**Pg**	**18 12 47.3**	**-1.0**
ISK	**Istanbul-Kandi**	**0.85**	**40**	PG	**Pg**	**18 12 49.3**	**+0.2**
ISK	**Istanbul-Kandi**	**0.85**	**40**	*e*Pg	**Pg**	**18 12 49.2**	**+0.2**
ISK				*e*Sg	**Sg**	**18 13 00.9**	**+0.9**
IZI	**Iznik**	**0.87**	**95**	PG	**Pg**	**18 12 48.9**	**-0.7**
SART	**Tekirdag**	**0.92**	**287**	*i* P	**Pg**	**18 12 50.9**	**+0.4**
SART				*i* S	**Sg**	**18 13 03.5**	**+1.1**
RKY	**Sarkoy-Tekirda**	**0.92**	**287**	PG	**Pg**	**18 12 50.4**	**-0.1**
KLYT	**Kilyos**	**0.99**	**33**	PG	**Pg**	**18 12 51.9**	**+0.1**
CANB	**Canakkale**	**1.05**	**248**	PG	**Pg**	**18 12 52.6**	**-0.5**
ADVT	**Abdulvahap**	**1.07**	**89**	PG	**Pg**	**18 12 52.8**	**-0.6**
HRT	**Hereke**	**1.09**	**68**	PN	**Pn**	**18 12 53.1**	**-1.4**
GPA	**Golpazari**	**1.52**	**94**	PN	**Pn**	**18 12 59.5**	**-0.8**
GDZ	**Gediz**	**1.60**	**146**	*i* P	**Pn**	**18 13 00.2**	**-1.3**
EZN	**Ezine**	**1.65**	**249**	PN	**Pn**	**18 13 02.1**	**-0.1**
AYVA	**Ayvalik**	**1.69**	**229**	*i* P	**Pn**	**18 13 03.5**	**+0.9**
AYVA				*i* S	**Sg**	**18 13 27.4**	**+0.4**
ENEZ	**Enez**	**1.69**	**281**	PN	**Pn**	**18 13 02.0**	**-0.7**
ALN	**Alexandroupoli**	**1.81**	**286**	*e*Pb	**Pn**	**18 13 03.5**	**-0.8**
ALN				*e*Sb	**Sn**	**18 13 27.0**	**-0.4**
BOZC	**Bozcaada**	**1.84**	**252**	*i* P	**Pn**	**18 13 06.3**	**+1.5**
EDRB	**Edirne**	**1.86**	**320**	*e*PN	**Pn**	**18 13 04.7**	**-0.4**
PRK	**Paraskevi**	**1.98**	**234**	*e*PB	**Pn**	**18 13 06.0**	**-0.7**
PRK				*e*SB	**Sn**	**18 13 21.4**	**-10**
HENT	**Hendek**	**1.99**	**78**	*i* P	**Pn**	**18 13 06.9**	**0.0**
HENT				*i* S	**Sn**	**18 13 35.1**	**+3.0**
ESKT	**Eskisehir**	**2.13**	**114**	*e*PN	**Pn**	**18 13 08.6**	**-0.2**
KDAG	**Bornova**	**2.18**	**203**	*i* P	**Pn**	**18 13 12.0**	**+2.5**
IZM	**Izmir**	**2.19**	**203**	*e*PN	**Pn**	**18 13 09.8**	**+0.2**
RDO	**Rodhopi**	**2.24**	**290**	*e*PB	**Pn**	**18 13 09.9**	**-0.4**
BLCB	**Balcova**	**2.27**	**207**	*e*PN	**Pn**	**18 13 11.1**	**+0.4**
BLCB	**Balcova**	**2.27**	**207**	*e*Pn	**Pn**	**18 13 10.8**	**+0.1**
BLCB				*e*Sn	**Sn**	**18 13 40.4**	**+1.5**
URLA	**Izmir**	**2.46**	**214**	*i* P	**Pb**	**18 13 16.5**	**-0.9**
URLA				*i* S	**Sg**	**18 13 52.8**	**+0.9**
KDZE	**Karadeniz Ereo**	**2.52**	**68**	*e*PN	**Pn**	**18 13 14.2**	**+0.1**
LOS	**Limnos**	**2.54**	**260**	*e*Pn	**Pn**	**18 13 15.2**	**+0.8**
LOS				*e*Sn	**Sn**	**18 13 46.3**	**+0.8**
CHOS	**Chios island**	**2.69**	**222**	*e*Pn	**Pn**	**18 13 16.3**	**-0.2**
DENT	**Denizli**	**2.72**	**168**	*e*PN	**Pn**	**18 13 17.4**	**+0.5**
DNZL	**Cakiroluk**	**2.79**	**168**	*i* P	**Pg**	**18 13 30.3**	**+4.1**
DNZL				*i* S	**Sg**	**18 14 07.9**	**+5.6**
TKTP	**Tekketepe**	**2.84**	**146**	*i* P	**Pg**	**18 13 26.9**	**-0.3**
TKTP				*i* S	**Sg**	**18 14 04.4**	**+0.5**
SGKT	**Sivrigoynuk**	**2.84**	**86**	*i* P	**Pn**	**18 13 18.3**	**-0.2**
SGKT				*i* S	**Sg**	**18 14 04.1**	**0.0**
SMG	**Samos**	**2.95**	**204**	*e*PN	**Pg**	**18 13 28.3**	**-1.1**
SMG				*e*SN	**Sb**	**18 14 00.8**	**-1.2**
RZN	**Rozhen**	**3.01**	**296**	P	**Pn**	**18 13 20.3**	**-0.6**
MLSB	**Milas**	**3.15**	**188**	*e*PN	**Pn**	**18 13 23.3**	**+0.4**
PLD	**Plovdiv**	**3.21**	**303**	*e*Pn	**Pn**	**18 13 23.3**	**-0.4**
OUR	**Ouranopolis**	**3.33**	**270**	*e*Pn	**Pn**	**18 13 24.2**	**-1.0**
OUR	**Ouranopolis**	**3.33**	**270**	*e*Pn	**Pn**	**18 13 24.2**	**-1.0**
SZH	**Strazhica**	**3.36**	**329**	P	**Pn**	**18 13 25.6**	**-0.1**
SZH				S	**Sn**	**18 14 04.0**	**-1.8**
SAFT	**Safranbolu**	**3.40**	**75**	*e*PN	**Pn**	**18 13 26.5**	**+0.2**
BODT	**Bodrum**	**3.45**	**194**	*e*PN	**Pn**	**18 13 27.8**	**+0.9**
ANTO	**Ankara**	**3.46**	**98**	⇓*i*P	**Pg**	**18 13 38.8**	**-0.3**
KDHN	**Kadinhani**	**3.49**	**122**	*i* P	**Pn**	**18 13 27.0**	**-0.4**
PVL	**Pavlikeni**	**3.58**	**322**	*e*P	**Pn**	**18 13 29.4**	**+0.7**
DALT	**Dalyan (Mudla)**	**3.66**	**176**	*e*PN	**Pn**	**18 13 30.6**	**+0.8**
SRS	**Serrai**	**3.67**	**282**	*e*Pn	**Pn**	**18 13 29.3**	**-0.6**
SRS				*e*Sn	**Sn**	**18 14 12.7**	**-0.7**
MMB	**Musomiste**	**3.67**	**290**	*e*Pn	**Pn**	**18 13 29.7**	**-0.4**
MMB	**Musomiste**	**3.67**	**290**	P	**Pn**	**18 13 29.0**	**-1.0**
MMB	**Musomiste**	**3.67**	**290**	*e*Pn	**Pn**	**18 13 29.7**	**-0.3**
PLG	**Polygyros**	**3.73**	**271**	*e*Pn	**Pn**	**18 13 31.2**	**+0.4**
PLG				*e*Sn	**Sn**	**18 14 14.6**	**-0.4**
DAT	**Datca**	**3.74**	**189**	*e*PN	**Pn**	**18 13 31.7**	**+0.8**
SOH	**Sokhos**	**3.81**	**278**	*e*Pn	**Pn**	**18 13 31.4**	**-0.5**
ELL	**Elmali**	**3.87**	**161**	*e*PN	**Pn**	**18 13 33.5**	**+0.8**
KONT	**Konya--Tatoy**	**3.99**	**127**	*e*PN	**Pn**	**18 13 35.0**	**+0.7**
HORT	**Hortiatis**	**4.00**	**274**	*e*Pn	**Pn**	**18 13 34.7**	**+0.3**
APE	**Apeiranthos**	**4.00**	**214**	*e*Pn	**Pn**	**18 13 36.1**	**+1.6**
KNT	**Kendrikon**	**4.19**	**282**	*e*Pn	**Pn**	**18 13 36.5**	**-0.6**
KNT	**Kendrikon**	**4.19**	**282**	*e*Pn	**Pn**	**18 13 36.5**	**-0.6**
KAMT	**Kaman**	**4.27**	**103**	*e*PN	**Pn**	**18 13 38.5**	**+0.3**
VTS	**Vitosha**	**4.42**	**301**	*e*Pn	**Pn**	**18 13 40.6**	**+0.4**
VTS	**Vitosha**	**4.42**	**301**	⇑*i*P	**Pn**	**18 13 40.5**	**+0.3**
VTS	**Vitosha**	**4.42**	**301**	⇑P	**Pn**	**18 13 40.5**	**+0.3**
GRG	**Griva**	**4.54**	**279**	*e*Pn	**Pn**	**18 13 42.2**	**+0.2**
MLR	**Muntele Rosu**	**5.36**	**342**	⇑*i*P	**Pn**	**18 13 54.3**	**+1.1**
GZR	**Gura Zlata**	**6.43**	**322**	⇓*i*P	**Pn**	**18 14 06.6**	**-1.2**
BZS	**Buzias**	**7.15**	**319**	⇑*i*P	**Pn**	**18 14 16.7**	**-1.1**
BZS	**Buzias**	**7.15**	**319**	⇑P	**Pn**	**18 14 16.7**	**-1.1**
BURAR	**Bucovina Array**	**7.53**	**344**	⇑*i*P	**Pn**	**18 14 23.8**	**+0.8**

CASC 12 18:12:52.6±4.0, 1286N×8878W, h53km±428km, MD3.7, ML3.1, 1C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.75**	**41**	*e*P	x	18 13 18.4	+11
SNVI	**San Vicente**	**0.75**	**355**	*e*P	x	18 13 17.8	+11
SNVI				*e*S	x	18 13 28.2	+11
BLLM	**Bellamira**	**0.78**	**42**	⇑*e*P	x	18 13 18.8	+11
BLLM				*e*S	x	18 13 29.7	+11
LFRS	**El Faro**	**0.81**	**340**	⇓*e*P	x	18 13 18.6	+11
LFRS				*e*S	x	18 13 29.3	+10
LCBS	**La Ceiba**	**0.81**	**346**	⇓*e*P	x	18 13 18.6	+11
LCBS				*e*S	x	18 13 28.9	+10
LBRS	**Las Brisas**	**0.91**	**344**	⇓*e*P	x	18 13 20.8	+12
BOQS	**Boqueron**	**1.00**	**331**	⇓*e*P	x	18 13 21.6	+11
BOQS				*e*S	x	18 13 34.4	+11
CNCH	**Conchagua**	**1.01**	**66**	⇓*e*P	x	18 13 21.9	+11
SBLS	**San Blas**	**1.27**	**320**	⇓*e*P	x	18 13 25.6	+11
SBLS				*e*S	x	18 13 41.8	+12
SNJE	**San Jose**	**1.29**	**321**	*e*P	x	18 13 25.7	+11
SNJE				*e*S	x	18 13 41.7	+11
RTR	**El Retiro**	**1.33**	**321**	*e*P	x	18 13 25.6	+11
RTR				*e*S	x	18 13 43.1	+12
RBDL	**Robledal**	**1.53**	**325**	*e*P	x	18 13 28.7	+11
LEON	**Leon**	**1.89**	**103**	⇓*e*P	Pn	18 13 22.7	+0.2
MIRN	**Miramar**	**2.06**	**101**	*e*P	Pn	18 13 25.2	+0.5
MOMJ	**Momotombo**	**2.23**	**101**	*e*P	Pn	18 13 26.8	-0.2
COPN	**Copaltepe**	**2.24**	**107**	⇓*e*P	Pn	18 13 28.5	+1.3
COPN				*e*S	Sn	18 13 53.1	-0.5
comp=Z,150nm,0.2s							

*IDC **12** 18:17:17.3±1.1, 8594N×2795E, h0km, mb4.1/11, mb1 4.1/12, mb1mx4.0/24, mbtmp4.1/12, MS4.1/1, Ms1 4.1/1, ms1mx3.3/37, Error ellipse: s-maj=24.4km s-min=21.0km az=130.0*

NEIC 12 18:17:19.2±0.7, 8584N×2734E, h10km, mb4.7/3, Error ellipse: s-maj=14.8km s-min=10.5km az=134.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**7.20**	**204**	*e*P	Pn	18 19 04.6	+0.1
27nm,0.6s							
JMIC	**Jan Mayen**	**15.92**	**224**	LR	LR	18 25 42.4	
comp=Z,764nm,21.4s,baz=303,slow=32							
ARCES	**ARCESS Array B**	**16.41**	**182**	Pn	Pn	18 21 07.7	-1.9
0.1nm,0.3s,baz=357,slow=11,SNR=12							
FINES	**FINESS Array B**	**24.54**	**181**	P	P	18 22 37.7	-1.2
5.0nm,1.1s,baz=20,slow=6.1,SNR=6.2							
NOA	**NORSAR Array B**	**25.13**	**199**	P	P	18 22 44.4	+0.1
1.1nm,0.8s,baz=353,slow=7.6,SNR=3.3							
NOA	**NORSAR Array B**	**25.13**	**199**	P	P	18 22 44.4	+0.1
INK	**Inuvik**	**25.82**	**344**	P	P	18 22 49.3	-1.2
6.8nm,1.0s,baz=16,slow=11,SNR=4.7							
HFS	**Hagfors**	**25.98**	**196**	P	P	18 22 53.1	+1.0
3.3nm,0.9s,baz=51,slow=11,SNR=3.2							
CHKZ	**Chkalovo**	**33.57**	**132**	*e*P	P	18 23 58.8	-0.5
16nm,1.2s							
ZAL	**Zalesovo**	**34.15**	**117**	P	P	18 24 04.1	-0.3
1.7nm,0.4s,baz=85,slow=6.4,SNR=7.2							
BRVK	**Borovoye**	**34.17**	**133**	*e*P	P	18 24 04.8	+0.2
4.1nm,0.8s							
BVAR	**Borovoye Array**	**34.20**	**133**	P	P	18 24 04.7	-0.2
2.7nm,0.6s,baz=338,slow=7.7,SNR=19							
ZRNK	**Zerenda**	**34.21**	**134**	*e*P	P	18 24 04.8	-0.1
15nm,1.3s							
AKASG	**Malin Array Be**	**35.31**	**178**	P	P	18 24 14.2	-0.2
3.5nm,0.8s,baz=357,slow=8.8,SNR=16							
MK31	**Makanchi Array**	**41.11**	**121**	*e*P	P	18 25 01.9	-1.4
MKAR	**Makanchi Array**	**41.

RCDM	**Rinconada Maip**	**2.21**	**162**	*e*P	Pn	18 24 44.0 +1.5
RCDM				*i* S	Sn	18 25 11.4 +2.7
RCDM				AML	AML	18 25 22.3
	comp=N,263nm,0.8s					
RCDM	**Rinconada Maip**	**2.21**	**162**	*e*P	Pn	18 24 44.0 +1.5
RCDM				*i* S	Sn	18 25 11.4 +2.7
TACH	**Talagante**	**2.34**	**165**	*e*P	Pn	18 24 46.0 +1.7
PCH	**Pirque**	**2.42**	**157**	*e*P	Pn	18 24 47.1 +1.6

*ISCJB **12** 18:26:10.8±0.7,3946N±003×2037E±005,h5km±6km, Error ellipse: s-maj=7.0km s-min=5.2km az=46.9*
*THE **12** 18:26:10.6,3938N×2012E,h10km,ML2.4*
*NEIC **12** 18:26:11.2,3947N×2044E,h19km,MD3.3(ATH),After ATH.*
*ATH **12** 18:26:11.2,3947N×2044E,h19km±1km,MD3.3/4*
*CSEM **12** 18:26:12.1±0.1,3939N×2038E,h2km,ML2.4,Error ellipse: s-maj=3.0km s-min=2.0km az=86.0*

ISC 12 18:26:11.4±0.6,3946N±003×2041E±005,h4km±6km,n21, σ1§33/34,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.09**	**319**	*e*Pg	**Pg**	**18 26 13.4**	**0.0**
JAN	**Janina**	**0.39**	**60**	*e*PB	**Pg**	**18 26 18.5**	**-0.5**
JAN				*e*SB	**Sg**	**18 26 24.2**	**+0.2**
SRN	**Sarande**	**0.53**	**323**	*i* Pg	**Pg**	**18 26 22.0**	**+0.5**
SRN				*i* Sg	**Sg**	**18 26 33.6**	**+5.3**
KEK	**Kerkira**	**0.54**	**298**	*e*PN	**Pg**	**18 26 22.1**	**+0.4**
LKD	**Levkas**	**0.78**	**166**	*e*Pg	**Pg**	**18 26 25.5**	**-0.8**
LKD				*e*Sg	**Sg**	**18 26 40.0**	**+3.6**
KBN	**Korca**	**1.20**	**14**	*i* Pg	**Pg**	**18 26 36.5**	**+2.1**
KBN				*i* Sg	**Sg**	**18 26 56.7**	**+6.8**
KBN	**Korca**	**1.20**	**14**	*e*Pg	**Pg**	**18 26 36.5**	**+2.1**
KBN				*i* Sg	**Sg**	**18 26 56.7**	**+6.8**
EVR	**Evrytania**	**1.21**	**116**	*e*PN	**Pn**	**18 26 33.6**	**-1.5**
VLO	**Vlora**	**1.23**	**325**	*i* Pg	**Pg**	**18 26 32.0**	**-3.0**
THL	**Klokotos Trika**	**1.24**	**85**	*e*PN	**Pn**	**18 26 34.4**	**-1.1**
VLS	**Valsamata**	**1.29**	**174**	*e*PN	**Pn**	**18 26 36.1**	**0.0**
VLS				*e*SN	**Sn**	**18 26 54.3**	**+0.5**
KZN	**Kozani**	**1.34**	**51**	*e*PN	**Pn**	**18 26 36.3**	**-0.6**
FNA	**Florina**	**1.51**	**29**	*e*Pb	**Pb**	**18 26 40.6**	**+0.6**
FNA				*e*Sb	**Sb**	**18 27 01.7**	**+2.2**
AGG	**Agios Georgios**	**1.55**	**106**	*e*Pb	**Pb**	**18 26 41.2**	**+0.5**
AGG				*e*Sb	**Sb**	**18 27 03.2**	**+2.6**
LIT	**Litokhoron**	**1.72**	**68**	*e*Pb	**Pb**	**18 26 43.3**	**-0.3**
LIT				*e*Sb	**Sb**	**18 27 08.0**	**+2.4**
GRG	**Griva**	**2.13**	**45**	*e*Pn	**Pb**	**18 26 49.0**	**-1.5**
GRG				*e*Sn	**Sb**	**18 27 17.7**	**+0.4**
GRG	**Griva**	**2.13**	**45**	*e*Pn	**Pb**	**18 26 49.0**	**-1.6**
GRG				*e*Sn	**Sb**	**18 27 17.7**	**+0.3**
HORT	**Hortiatis**	**2.35**	**60**	*e*Pn	**Pn**	**18 26 51.8**	**+1.0**
PLG	**Polygyros**	**2.50**	**68**	*e*Pn	**Pb**	**18 26 54.4**	**-2.5**
PLG				*e*Sn	**Sb**	**18 27 26.9**	**-1.1**
KNT	**Kendrikon**	**2.55**	**47**	*e*Pn	**Pb**	**18 26 55.3**	**-2.4**
KNT				*e*Sn	**Sb**	**18 27 28.1**	**-1.2**
SOH	**Sokhos**	**2.63**	**58**	*e*Pn	**Pn**	**18 26 55.7**	**+1.1**

*ISCJB **12** 18:27:40.1±1.5,725S±0.10×1229E±0.1,h494km±22km, mb4.0/9,Error ellipse: s-maj=20.1km s-min=11.0km az=106.6*
*IDC **12** 18:27:41.0±2.8,727S×12295E,h495km±40km,mb3.6/8, mb1 3.6/11,mb1mx3.4/21,mbtmp4.4/11,Error ellipse: s-maj=21.5km s-min=15.4km az=63.0*
*NEIC **12** 18:27:41.6±0.8,728S×12296E,h503km±13km,mb4.7/3, Error ellipse: s-maj=14.7km s-min=7.8km az=47.0*

ISC 12 18:27:41.6±1.1,732S±009×1230E±01,h501km±16km,n20, σ0§77/22,mb4.0/9,2C,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.77**	**121**	⇑*i*P	**P**	**18 30 07.5**	**+0.5**
	51nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.04**	**167**	*e*P	**P**	**18 30 10.7**	**+0.9**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.04**	**167**	P	**P**	**18 30 10.3**	**+0.5**
	1.6nm,0.3s,baz=0.3,slow=7.3,SNR=30						
FITZ				S	**S**	**18 32 09.2**	**-2.7**
	0.6nm,0.3s,baz=280,slow=17,SNR=6.6						
MBWA	**Marble Bar**	**14.11**	**192**	*e*P	**P**	**18 30 42.0**	**-0.4**
KSM	**Kuching**	**15.35**	**304**	*e*P	**P**	**18 30 55.5**	**+0.2**
WRA	**Warramunga Arr**	**16.72**	**140**	P	**P**	**18 31 09.3**	**-0.3**
	1.9nm,0.3s,baz=319,slow=11,SNR=121						
WRA				S	**S**	**18 34 00.3**	**-0.1**
	0.1nm,0.3s,baz=318,slow=17,SNR=3.9						
WB2	**Warramunga Arr**	**16.72**	**140**	⇑*i*P	**P**	**18 31 09.4**	**-0.2**
AS31	**Alice Springs**	**19.36**	**148**	*e*P	**P**	**18 31 35.2**	**+1.0**
ASAR	**Alice Springs**	**19.36**	**148**	P	**P**	**18 31 34.9**	**+0.6**
	0.6nm,0.3s,baz=324,slow=8.5,SNR=36						
PSI	**Prapat**	**26.00**	**292**	P	**P**	**18 32 33.5**	**-0.3**
	11nm,0.8s,mb4.3,baz=135,slow=2.9,SNR=6.5						
PSI	**Prapat**	**26.00**	**292**	P	**P**	**18 32 33.5**	**-0.3**
STKA	**Stephens Creek**	**29.98**	**147**	P	**P**	**18 33 08.9**	**+0.3**
	1.6nm,0.6s,mb3.7,baz=308,slow=6.5,SNR=6.5						
MJAR	**Matsushiro Arr**	**45.91**	**17**	P	**P**	**18 35 18.0**	**-0.6**
	6.8nm,0.8s,mb4.1,baz=192,slow=7.6,SNR=16						
LSA	**Lhasa**	**47.85**	**322**	*e*P	**P**	**18 35 34.4**	**+1.2**
	10nm,0.7s,mb4.3						
ASAJ	**Asahikawa**	**54.19**	**17**	P	**P**	**18 36 19.4**	**0.0**
	12nm,0.9s,mb4.2,baz=245,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**64.84**	**330**	P	**P**	**18 37 30.5**	**-0.1**
	3.0nm,0.5s,mb4.2,baz=134,slow=7.6,SNR=48						
ZAL	**Zalesovo**	**68.95**	**337**	P	**P**	**18 37 54.6**	**-1.4**
	0.8nm,0.3s,mb3.7,baz=304,slow=2.8,SNR=4.1						
OPO	**Ambohidratompo**	**74.25**	**253**	P	**P**	**18 38 28.2**	**+1.2**
	1.7nm,0.7s,mb3.7,baz=65,slow=4.4,SNR=5.0						
AKTK	**Aktyubinsk**	**80.13**	**324**	P	**P**	**18 38 58.5**	**-0.5**
AKTO	**Aktyubinsk**	**80.13**	**324**	P	**P**	**18 38 58.5**	**-0.5**
	2.6nm,0.9s,mb3.8,baz=133,slow=7.4,SNR=4.5						

*NEIC **12** 18:28:19.5,3149S×7188W,h20km,ML3.5(GUC),After GUC.*

GUC 12 18:28:19.5±0.8,3149S×7188W,h20km±5km,ML3.5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**1.12**	**134**	*i* P	Pn	18 28 38.6	-1.4
PTCH				*i* S	Sb	18 28 53.8	-0.5
PTCH				AML	AML	18 28 57.0	
	comp=N,2μm,0.4s						
PTCH	**Petorca**	**1.12**	**134**	*i* P	Pn	18 28 38.6	-1.4
PTCH				*i* S	Sb	18 28 53.8	-0.5
JACH	**Jahuel**	**1.62**	**138**	*i* P	Pn	18 28 47.1	+0.3
JACH				*i* S	Sn	18 29 08.6	+1.5
ROCH	**El Roble**	**1.65**	**154**	*i* S	Sn	18 29 09.9	+1.9
PEL	**Peldehue**	**1.94**	**149**	*e*P	Pn	18 28 52.2	+1.0
PEL				*i* S	Sn	18 29 16.9	+1.9
PEL				AML	AML	18 29 21.1	
	comp=E,900nm,0.2s						
PEL	**Peldehue**	**1.94**	**149**	*e*P	Pn	18 28 52.2	+1.0
PEL				*i* S	Sn	18 29 16.9	+1.9
RCDM	**Rinconada Maip**	**2.19**	**156**	*i* S	Sn	18 29 23.3	+2.0
RCDM				AML	AML	18 29 32.8	
	comp=E,292nm,0.1s						
CLCH	**Cerro Calan**	**2.22**	**150**	*e*P	Pn	18 28 57.2	+2.1
CLCH				*i* S	Sn	18 29 24.6	+2.7
CLCH				AML	AML	18 29 32.4	
	comp=N,311nm,0.5s						
TACH	**Talagante**	**2.30**	**160**	*e*P	Pn	18 28 57.8	+1.6
TACH				*i* S	Sn	18 29 25.8	+1.8
PCH	**Pirque**	**2.42**	**152**	*e*P	Pn	18 28 59.2	+1.3
PCH				*i* S	Sn	18 29 30.0	+3.1

*CSEM **12** 18:30:01.1±0.1,4300N×1328E,h15km,ML3.2/8,Error ellipse: s-maj=1.9km s-min=1.1km az=72.0*
*NEIC **12** 18:30:01.3,4301N×1326E,h20km,ML3.1(LDG), ML3.2(ROM),After ROM.*
*ROM **12** 18:30:01.3±0.1,4301N×1326E,h20km±1km,Md3.0/14, Ml3.2/28,Error ellipse: s-maj=1.5km s-min=1.3km az=171.0*
*ISCJB **12** 18:30:02.1±0.3,4305N±002×1325E±003,h30km±2km, Error ellipse: s-maj=3.6km s-min=2.5km az=147.1*
*LDG **12** 18:30:03.2±0.1,4303N×1330E,h10km,Ml3.1/12,Error ellipse: s-maj=4.4km s-min=3.0km az=56.0*
*PRU **12** 18:30:06.2,4339N×1331E,h0km*

ISC 12 18:30:02.6±0.3,4303N±002×1327E±003,h21km±3km,n91, σ1§02/143,9C-9D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.32**	**107**	Pg	**Pb**	**18 30 09.5**	**-0.2**
	4μm,0.3s						
SNTG	**Esanatoglia**	**0.33**	**313**	Pg	**Pb**	**18 30 09.3**	**-0.5**
SNTG				Sg	**Sb**	**18 30 14.9**	**+0.2**
CING	**Cingoli**	**0.35**	**351**	Pg	**Pb**	**18 30 09.6**	**-0.5**
CING				Sg	**Sb**	**18 30 16.1**	**+0.9**
	4μm,0.5s						
ASS	**Assisi**	**0.45**	**274**	Pg	**Pb**	**18 30 11.0**	**-0.9**
ASS				Sg	**Sb**	**18 30 17.8**	**-0.4**
	89nm,0.3s						
LNSS	**Leonessa**	**0.46**	**201**	Pg	**Pb**	**18 30 10.9**	**-1.1**
LNSS				Sg	**Sb**	**18 30 18.3**	**-0.1**
	9μm,0.4s						
TERO	**Teramo**	**0.48**	**149**	Pg	**Pb**	**18 30 10.9**	**-1.4**
TERO				Sg	**Sb**	**18 30 18.7**	**-0.2**
	3μm,0.1s						
AOI	**Ancona**	**0.57**	**25**	Pg	**Pb**	**18 30 13.6**	**-0.3**
	701nm,0.4s						
MURB	**Monte Urbino**	**0.59**	**293**	Pg	**Pb**	**18 30 13.6**	**-0.6**
MURB				Sg	**Sb**	**18 30 23.5**	**+1.3**
	5μm,0.3s						
AQU	**L'Aquila**	**0.68**	**172**	Pg	**Pb**	**18 30 14.5**	**-1.3**
AQU				Sg	**Sb**	**18 30 25.5**	**+0.7**
	829nm,0.4s						
AQU	**L'Aquila**	**0.68**	**172**	*e*P	**Pb**	**18 30 13.8**	**-2.0**
AQU				Pg	**Pb**	**18 30 14.5**	**-1.3**
AQU				Sg	**Sb**	**18 30 25.5**	**+0.7**
AQU	**L'Aquila**	**0.68**	**172**	*e*P	**Pb**	**18 30 13.8**	**-2.0**
AQU	**L'Aquila**	**0.68**	**172**	Pg	**Pb**	**18 30 14.5**	**-1.3**
AQU				Sg	**Sb**	**18 30 25.5**	**+0.7**
	829nm,0.4s						
FSSB	**Fossombrone**	**0.75**	**332**	Pg	**Pb**	**18 30 16.6**	**-0.4**
FSSB				Sg	**Sb**	**18 30 28.8**	**+2.0**
	2μm,0.4s						
VCEL	**Villa Celiera**	**0.76**	**146**	Pg	**Pb**	**18 30 15.9**	**-1.3**
VCEL				Sg	**Sb**	**18 30 28.3**	**+1.2**
	2μm,0.7s						
FIAM	**Fiamignano**	**0.77**	**188**	Pg	**Pb**	**18 30 15.7**	**-1.6**
FIAM				Sg	**Sb**	**18 30 27.4**	**+0.1**
	980nm,0.3s						
MNS	**Montasola**	**0.78**	**214**	Pg	**Pb**	**18 30 16.3**	**-1.1**
MNS				Sg	**Sb**	**18 30 27.8**	**+0.3**
	1μm,0.3s						
FAGN	**Fagnano**	**0.80**	**163**	Pg	**Pb**	**18 30 16.1**	**-1.7**
FAGN				Sg	**Sb**	**18 30 29.5**	**+1.3**
	2μm,0.4s						
CDCA	**Citt' di Caste**	**0.87**	**300**	Pg	**Pb**	**18 30 18.9**	**-0.1**
	803nm,0.5s						
BADI	**Badiali**	**0.89**	**303**	Pg	**Pb**	**18 30 18.8**	**-0.5**
BADI				Sg	**Sb**	**18 30 33.3**	**+2.6**
	541nm,0.4s						
SACS	**San Casciano d**	**1.01**	**260**	Pg	**Pb**	**18 30 20.9**	**-0.5**
RSM	**Repubblica di**	**1.08**	**327**	Pg	**Pn**	**18 30 23.2**	**+0.8**
	223nm,0.6s						
MTCE	**Montecelio**	**1.08**	**201**	Pg	**Pn**	**18 30 21.2**	**-1.3**
	372nm,0.4s						
CERT	**Cerreto**	**1.10**	**191**	Pg	**Pn**	**18 30 22.5**	**-0.3**
CERT				Sg	**Sb**	**18 30 39.5**	**+2.6**
	758nm,0.5s						
CRE	**Caprese Michel**	**1.13**	**302**	Pg	**Pn**	**18 30 23.3**	**+0.2**
	94nm,0.4s						
VVLD	**Villa Vallelon**	**1.19**	**167**	Pg	**Pn**	**18 30 24.8**	**+0.8**
	712nm,0.6s						
ARCI	**Arcidosso**	**1.33**	**263**	Pg	**Pn**	**18 30 26.8**	**+0.9**
	84nm,0.7s						
RDP	**Rocca di Papa**	**1.34**	**198**	Pg	**Pn**	**18 30 27.2**	**+1.2**
RDP				Sg	**Sn**	**18 30 46.9**	**+3.8**
	980nm,0.6s						
SFI	**Santa Sofia**	**1.35**	**311**	Pg	**Pn**	**18 30 27.6**	**+1.4**
	371nm,1.0s						
GIUL	**Giuliano Di Ro**	**1.47**	**180**	Pg	**Pn**	**18 30 28.1**	**+0.3**
	180nm,0.5s						
FRES	**Fresagrandinar**	**1.48**	**135**	Pg	**Pn**	**18 30 28.8**	**+0.8**
	493nm,0.6s						
CSNT	**Castellina Chi**	**1.51**	**288**	Pg	**Pn**	**18 30 28.6**	**+0.2**
	119nm,0.8s						
CERA	**Filignano**	**1.54**	**159**	Pg	**Pn**	**18 30 30.3**	**+1.6**
	365nm,0.8s						
VMG	**Vicchio**	**1.56**	**307**	Pg	**Pn**	**18 30 30.5**	**+1.4**
	168nm,0.7s						
MIDA	**Miranda**	**1.57**	**152**	Pg	**Pn**	**18 30 29.3**	**+0.1**
	193nm,0.8s						
MAON	**Monte Argentar**	**1.69**	**250**	Pg	**Pn**	**18 30 30.8**	**0.0**
	170nm,1.3s						
NVLJ	**Novalja**	**1.92**	**37**	*i* Pn	**Pn**	**18 30 33.3**	**-0.8**
NVLJ				*i* Sn	**Sn**	**18 30 57.1**	**-0.5**
NVLJ	**Novalja**	**1.92**	**37**	*i* Pn	**Pn**	**18 30 33.2**	**-0.8**
NVLJ				*i* Sn	**Sn**	**18 30 57.1**	**-0.5**
PZZT	**Monte Pizzetto**	**2.07**	**303**	Pg	**Pn**	**18 30 36.6**	**+0.6**
	83nm,0.7s						
BDI	**Bagni Di Lucca**	**2.20**	**299**	Pg	**Pn**	**18 30 38.2**	**+0.3**
	103nm,0.9s						
MAIM		**2.21**	**295**	Pg	**Pn**	**18 30 38.9**	**+1.0**
	53nm,0.7s						
FG5	**Orsara di Pugl**	**2.29**	**139**	Pg	**Pn**	**18 30 39.5**	**+0.3**
	51nm,0.5s						
GSCL	**Gusciola**	**2.35**	**305**	Pg	**Pn**	**18 30 41.5**	**+1.6**
	49nm,1.0s						
VOY	**Vojsko**	**3.03**	**8**	*e*Pn	**Pn**	**18 30 48.4**	**-0.9**
VOY				*e*		18 31 00.2	
VOY				*e*Sn	Sn	18 31 47.4	+22
LJU	**Ljubljana**	**3.14**	**16**	*e*Pn	**Pn**	**18 30 45.0**	**-5.9**
LJU				*e*		18 31 28.2	
PGF	**Pioggiola**	**3.18**	**263**	*e*Pn	**Pn**	**18 30 51.2**	**-0.1**
PGF				*e*Sn	**Sn**	**18 31 28.7**	**+0.1**
	18nm,0.7s						
PGF	**Pioggiola**	**3.18**	**263**	*e*Pn	**Pn**	**18 30 51.2**	**-0.1**
PGF				*e*Sn	**Sn**	**18 31 28.7**	**+0.1**
	9.1nm,0.7s						
CADS	**Cadrg**	**3.21**	**6**	*i* Pn	**Pn**	**18 30 51.0**	**-0.8**
OBKA	**Obir**	**3.60**	**14**	⇑*i*Pn	**Pn**	**18 30 56.7**	**-0.3**
OBKA				⇑*i*Sn	**Sn**	**18 31 39.6**	**+0.8**
MABI	**Malga Bissina**	**3.61**	**328**	Pg	**Pn**	**18 30 57.9**	**+0.7**
	6.0nm,0.5s						
FIN	**Finale Ligure**	**3.86**	**290**	Pg	**Pn**	**18 31 00.8**	**+0.1**
	8.0nm,0.4s						
FIN	**Finale Ligure**	**3.86**	**290**	P	**Pn**	**18 31 00.4**	**-0.3**
KBA	**Koelnbreinsper**	**4.05**	**1**	⇓*i*Pn	**Pn**	**18 31 02.7**	**-0.6**
KBA				⇓*i*Sn	**Sn**	**18 31 49.3**	**-0.7**
ROB	**Roburent**	**4.12**	**290**	P	**Pn**	**18 31 04.5**	**+0.3**
SBF	**Sospel**	**4.33**	**283**	*e*Pn	**Pn**	**18 31 06.7**	**-0.4**
SBF				*e*Sn	**Sn**	**18 31 55.4**	**-1.5**
	3.3nm,0.3s						
SBF	**Sospel**	**4.33**	**283**	*e*Pn	**Pn**	**18 31 06.7**	**-0.4**
SBF				*e*Sn	**Sn**	**18 31 55.4**	**-1.5**
	1.6nm,0.3s						
WTTA	**Wattenberg**	**4.39**	**345**	⇓*i*Pn	**Pn**	**18 31 07.8**	**-0.1**
WTTA				⇓*i*Sn	**Sn**	**18 31 59.2**	**+0.8**
SQTA	**Sankt Quirin**	**4.44**	**342**	⇓*i*Pn	**Pn**	**18 31 08.2**	**-0.4**
SQTA				⇑*i*Sn	**Sn**	**18 32 00.2**	**+0.6**
WATA	**Walderalm**	**4.47**	**345**	⇓*i*Pn	**Pn**	**18 31 08.5**	**-0.6**
WATA				⇑*i*Sn	**Sn**	**18 32 01.5**	**+1.1**
STV	**Sta Anna Valdi**	**4.48**	**288**	P	**Pn**	**18 31 10.3**	**+1.1**
MOTA	**Moosalm**	**4.58**	**341**	⇓*i*Pn	**Pn**	**18 31 10.1**	**-0.4**
MOTA				⇑*i*Sn	**Sn**	**18 32 04.0**	**+0.9**
DOI	**San Damiano**	**4.60**	**291**	Pg	**Pn**	**18 31 12.0**	**+1.1**
	11nm,0.4s						
PZZ	**Prazzo**	**4.70**	**290**	P	**Pn**	**18 31 12.7**	**+0.4**
FRF	**La Foret Royal**	**4.86**	**279**	*e*Pn	**Pn**	**18 31 14.0**	**-0.5**
FRF				*e*Sn	**Sn**	**18 32 08.3**	**-1.8**
	4.0nm,0.5s						
FRF	**La Foret Royal**	**4.86**	**279**	*e*Pn	**Pn**	**18 31 14.0**	**-0.5**
FRF				*e*Sn	**Sn**	**18 32 08.3**	**-1.8**
	2.0nm,0.5s						
MOA	**Molln**	**4.87**	**8**	⇑*i*Pn	**Pn**	**18 31 14.5**	**-0.1**
MOA				⇑*i*Sn	**Sn**	**18 32 09.2**	**-1.1**
DAVA	**Damuels**	**4.88**	**332**	⇑*i*Pn	**Pn**	**18 31 14.7**	**0.0**
DAVA				⇓*i*Sn	**Sn**	**18 32 12.1**	**+1.5**
DAVA	**Damuels**	**4.88**	**332**	⇑*i*Pn	**Pn**	**18 31 14.7**	**-0.1**
DAVA				Sn	**Sn**	**18 32 12.1**	**+1.5**
LMR	**La Mourre**	**4.95**	**276**	*e*Pn	**Pn**	**18 31 14.8**	**-0.9**
MBDF	**Montbardon**	**4.99**	**292**	*e*Pn	**Pn**	**18 31 16.8**	**+0.5**
MBDF				*e*Sn	**Sn**	**18 32 11.1**	**-2.2**
	5.4nm,0.6s						
MBDF	**Montbardon**	**4.99**	**292**	*e*Pn	**Pn**	**18 31 16.8**	**+0.5**
MBDF				*e*Sn	**Sn**	**18 32 11.1**	**-2.2**
	2.7nm,0.6s						
CONA	**Conrad Observa**	**5.23**	**20**	⇓*i*Pn	**Pn**	**18 31 18.9**	**-0.5**
CONA	**Conrad Observa**	**5.23**	**20**	Pn	**Pn**	**18 31 18.9**	**-0.6**
LPG	**La Plagne**	**5.29**	**300**	*e*Pn	**Pn**	**18 31 22.1**	**+1.8**
LPG				*e*Sn	**Sn**	**18 32 18.9**	**-1.7**
	12nm,0.7s						
LPG	**La Plagne**	**5.29**	**300**	*e*Pn	**Pn**	**18 31 22.1**	**+1.8**
LPG				*e*Sn	**Sn**	**18 32 18.9**	**-1.7**
	6.0nm,0.7s						
LPL	**La Plagne**	**5.31**	**300**	*e*Pn	**Pn**	**18 31 21.6**	**+1.0**
LPL				*e*Sn	**Sn**	**18 32 19.3**	**-1.8**
	4.3nm,0.4s						
LPL	**La Plagne**	**5.31**	**300**	*e*Pn	**Pn**	**18 31 21.6**	**+1.0**
LPL				*e*Sn	**Sn**	**18 32 19.3**	**-1.8**
	2.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.66**	**292**	*e*Pn	**Pn**	**18 31 26.4**	**+1.0**
ORIF				*e*Sn	**Sn**	**18 32 26.9**	**-2.8**
	5.1nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.66**	**292**	*e*Pn	**Pn**	**18 31 26.4**	**+1.0**
ORIF				*e*Sn	**Sn**	**18 32 26.9**	**-2.8**
	2.5nm,0.6s						
SMRF	**Simiane la Rot**	**5.67**	**282**	*e*Pn	**Pn**	**18 31 26.4**	**+0.8**
KHC	**Kasperske Hory**	**6.11**	**2**	*e*PN	**Pn**	**18 31 30.5**	**-1.0**
KHC				*e*SN	**Sn**	**18 32 36.7**	**-4.0**
CABF	**La Chapelle**	**6.24**	**308**	*e*Pn	**Pn**	**18 31 33.1**	**-0.2**
CABF				*e*Sn	**Sn**	**18 32 40.8**	**-3.1**
	6.1nm,0.6s						
CABF	**La Chapelle**	**6.24**	**308**	*e*Pn	**Pn**	**18 31 33.1**	**-0.2**
CABF				*e*Sn	**Sn**	**18 32 40.8**	**-3.1**
	3.0nm,0.6s						
VIVF	**Saint-Julien-l**	**6.47**	**289**	*e*Pn	**Pn**	**18 31 37.1**	**+0.6**
HINF	**Hinteralfeld**	**6.58**	**319**	*e*Pn	**Pn**	**18 31 37.9**	**-0.1**
HINF				*e*Sn	**Sn**	**18 32 49.1**	**-3.3**
	8.5nm,0.5s						
HINF	**Hinteralfeld**	**6.58**	**319**	*e*Pn	**Pn**	**18 31 37.9**	**-0.1**
HINF				*e*Sn	**Sn**	**18 32 49.1**	**-3.3**
	4.2nm,0.5s						
CDF	**Champ du Feu**	**6.82**	**324**	*e*Pn	**Pn**	**18 31 40.8**	**-0.6**
CDF				*e*Sn	**Sn**	**18 32 55.2**	**-3.2**
	4.1nm,0.5s						
CDF	**Champ du Feu**	**6.82**	**324**	*e*Pn	**Pn**	**18 31 40.8**	**-0.6**
CDF				*e*Sn	**Sn**	**18 32 55.2**	**-3.2**
	2.0nm,0.5s						
LASF	**Ste Croix**	**6.92**	**282**	*e*Pn	**Pn**	**18 31 43.0**	**+0.3**
HAU	**Haudompre**	**6.95**	**318**	*e*Pn	**Pn**	**18 31 43.5**	**+0.3**
HAU				*e*Sn	**Sn**	**18 32 56.9**	**-4.7**
	11nm,0.5s						
HAU	**Haudompre**	**6.95**	**318**	*e*Pn	**Pn**	**18 31 43.5**	**+0.3**
HAU				*e*Sn	**Sn**	**18 32 56.9**	**-4.7**
	5.7nm,0.5s						
MTLF	**Montolieu**	**8.08**	**276**	*e*Pn	**Pn**	**18 31 59.6**	**+0.9**

*NEIC **12** 18:42:13.0,3146S×7165W,h15km,ML3.3(GUC),After GUC.*

GUC 12 18:42:13.0±0.9,3146S×7165W,h15km±8km,MD3.9, ML3.3,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.62**	**63**	⇓*i*P	Pg	18 42 24.4	-0.7
CMCH				*i* S	Sg	18 42 33.8	+0.5
OVCH	**Ovalle**	**0.93**	**24**	⇓*i*P	Pb	18 42 29.9	-0.9
OVCH				*i* S	Sb	18 42 42.1	-0.9
OVCH				AML	AML	18 42 45.0	
	comp=E,1μm,0.8s						
OVCH	**Ovalle**	**0.93**	**24**	⇓*i*P	Pb	18 42 29.9	-0.9
OVCH				*i* S	Sb	18 42 42.1	-0.9
PTCH	**Petorca**	**1.01**	**143**	⇑*i*P	Pb	18 42 30.5	-1.7
PTCH				*i* S	Sb	18 42 44.0	-0.8
PTCH				AML	AML	18 42 47.6	
	comp=E,3μm,0.2s						
PTCH	**Petorca**	**1.01**	**143**	⇑*i*P	Pb	18 42 30.5	-1.7
PTCH				*i* S	Sb	18 42 44.4	-0.8
JACH	**Jahuel**	**1.51**	**144**	⇑*i*P	Pn	18 42 39.2	-0.3
PEL	**Peldehue**	**1.87**	**154**	*i* S	Sn	18 43 08.1	+0.3
PEL				AML	AML	18 43 13.3	
	comp=E,708nm,0.5s						
CLCH	**Cerro Calan**	**2.15**	**154**	*i* S	Sn	18 43 16.6	+1.9
CLCH				AML	AML	18 43 22.0	
	comp=E,393nm,0.6s						
FCH	**Farellones**	**2.19**	**149**	*i* S	Sn	18 43 18.7	+3.0
FCH				AML	AML	18 43 21.9	
	comp=E,219nm,0.2s						

*IDC **12** 18:50:10.2±0.7,3346S×17884W,h0km,mb4.7/5, mb1 4.8/8,mb1mx4.6/15,mbtmp4.7/8,ML4.9/2,Error ellipse: s-maj=25.7km s-min=19.5km az=105.0*
*ISCJB **12** 18:50:11.9±0.8,3368S±005×179.1W±01,h10km,mb4.8/7, Error ellipse: s-maj=13.9km s-min=6.8km az=5.0*
*NEIC **12** 18:50:11.5±0.4,3362S×17872W,h10km,mb5.0/4,Error ellipse: s-maj=12.8km s-min=9.2km

BVAR	**Borovoye Array**	**128.09 314**	PKP	PKPdf	19 09 17.7	-1.5
	3.4nm,1.0s,baz=102,slow=2.1,SNR=16					
BRVK	**Borovoye**	**128.15 314**	*e*PKPdf	PKPdf	19 09 17.5	-1.9
ZRNK	**Zerenda**	**128.91 314**	*e*PKPdf	PKPdf	19 09 19.5	-1.2
KMBO	**Kilima Mbogo**	**131.42 232**	PKP	PKPdf	19 09 24.9	-0.7
	0.5nm,0.3s,baz=53,slow=23,SNR=4.4					
ARU	**Arti**	**135.00 318**	*e*PKPdf	PKPdf	19 09 31.2	-1.1
AKTK	**Aktyubinsk**	**135.59 310**	PKP	PKPdf	19 09 32.2	-1.2
AKTO	**Aktyubinsk**	**135.59 310**	PKP	PKPdf	19 09 32.2	-1.2
	2.5nm,0.9s,baz=145,slow=3.5,SNR=7.5					
ARCES	**ARCESS Array B**	**141.56 346**	PKP	PKPdf	19 09 41.4	-2.9
	4.0nm,1.0s,baz=75,slow=1.9,SNR=4.7					
JOF	**Joensuu**	**145.08 336**	*e*pkp	PKPdf	19 09 47.0	-3.5
OBN	**Obninsk**	**147.27 322**	*e*PKPbc	PKPbc	19 09 54.6	-1.9
KAF	**Kangasniemi**	**147.28 338**	*e*pkp	PKPdf	19 09 53.7	-0.5
FIA1	**FINESS Array S**	**147.86 337**	*e*PKPbc	PKPbc	19 09 55.7	-2.5
FINES	**FINESS Array B**	**147.86 337**	PKPbc	PKPbc	19 09 55.9	-2.3
	4.9nm,0.4s,baz=47,slow=4.5,SNR=79					
MALT	**Malatya**	**149.49 290**	*e*P	PKPbc	19 10 01.5	-0.8
ASF	**Jabal al Asfar**	**149.90 277**	PKPbc	PKPbc	19 10 03.2	-0.1
	3.7nm,0.5s,baz=9.8,slow=1.2,SNR=8.3					
EIL	**Elat**	**150.89 271**	*e*P	PKPbc	19 10 05.0	-0.7
NB2	**NORSAR Subarra**	**151.81 349**	PKP	PKPbc	19 10 05.9	-1.9
	comp=Z,3.6nm,1.0s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**151.81 349**	PKPbc	PKPbc	19 10 05.2	-2.7
	comp=Z,4.3nm,0.9s,baz=19,slow=4.7,SNR=11					
HFS	**Hagfors**	**152.23 346**	PKPbc	PKPbc	19 10 06.7	-2.1
	comp=Z,4.9nm,0.8s,baz=46,slow=4.3,SNR=8.5					
BR131	**Keskin Array S**	**153.22 293**	*e*P	PKPbc	19 10 09.2	-1.8
BRTR	**Keskin Array B**	**153.22 293**	PKPbc	PKPbc	19 10 09.0	-2.0
	comp=Z,7.9nm,1.1s,baz=128,slow=2.0,SNR=20					
AKASG	**Malin Array Be**	**153.25 318**	PKPbc	PKPbc	19 10 09.7	-1.4
	comp=Z,3.2nm,0.7s,baz=61,slow=2.1,SNR=19					
TORD	**Torodi Ar. Bea**	**159.57 182**	PKPab	PKPab	19 10 51.4	+1.3
	comp=Z,2.6nm,1.0s,baz=176,slow=3.7,SNR=5.9					
CLL	**Collm**	**160.31 337**	*e*PKPab	PKPab	19 10 51.0	-2.2

*THR **12** 18:51:23.4±0.5,4004N×5486E,h15km,ML4.0*
*ISCJB **12** 18:51:28.7±0.4,3988N±004×5477E±005,h43km, mb3.9/20,Error ellipse: s-maj=7.1km s-min=4.4km az=103.5*
*MOS **12** 18:51:29.0±1.0,4003N×5470E,h33km,mb4.2/15,Error ellipse: s-maj=9.0km s-min=6.3km az=118.6*
*CSEM **12** 18:51:29.5±0.1,3987N×5465E,h44km,mb4.2/6,Error ellipse: s-maj=3.0km s-min=1.8km az=132.0*
*IDC **12** 18:51:31.1±1.1,3990N×5474E,h40km±6km,mb3.6/13, mb1 3.8/18,mb1mx3.7/28,mbtmp3.9/18,ML3.8/3,Error ellipse: s-maj=21.9km s-min=13.6km az=162.0*
*NEIC **12** 18:51:31.2±0.6,3993N×5478E,mb4.1/12,Error ellipse: s-maj=12.7km s-min=5.3km az=158.0*
*NNC **12** 18:51:37.7±3.1,4051N×5592E,h0km,mb3.9,Error ellipse: s-maj=31.8km s-min=19.5km az=67.0*

ISC 12 18:51:30.7±0.4,3990N±004×5479E±005,h45km, h45km±1.5km:pP-P,n125,σ1§10/140,mb3.9/20,14C-9D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**4.81**	**208**	*e*Pn	**Pn**	**18 52 40.1**	**-0.4**
DAMV				AML	AML	18 53 36.9	
	comp=N,133nm,0.6s						
CHTH	**Charan**	**4.93**	**217**	*e*Pn	**Pn**	**18 52 40.8**	**-1.3**
CHTH				AML	AML	18 52 43.7	
	comp=E,50nm,0.5s						
THKV	**Tehran--Karaj**	**5.04**	**219**	*e*PN	**Pn**	**18 52 42.9**	**-0.8**
THKV				AML	AML	18 52 47.9	
	comp=N,134nm,0.4s						
GRMI	**Germi**	**5.45**	**261**	*e*Pn	**Pn**	**18 52 47.6**	**-1.8**
ASAO	**Ashtian**	**6.56**	**217**	*e*Pn	**Pn**	**18 53 03.6**	**-0.9**
NASN	**Na'in**	**7.27**	**193**	*e*Pn	**Pn**	**18 53 13.4**	**-0.8**
SNGE	**Sanandaj**	**7.62**	**233**	*e*Pn	**Pn**	**18 53 18.1**	**-1.0**
SNGE	**Sanandaj**	**7.62**	**233**	*e*Pn	**Pn**	**18 53 18.0**	**-1.0**
	SNR=52						
GNI	**Garni**	**7.71**	**275**	P	**Pn**	**18 53 21.6**	**+1.2**
	comp=N,0.7nm,0.3s,baz=30,slow=8.1,SNR=2.7						
GNI	**Garni**	**7.71**	**275**	*i* P	**Pn**	**18 53 28.6**	**+8.2**
MAKU	**Maku**	**7.82**	**269**	*e*Pn	**Pn**	**18 53 20.0**	**-1.8**
ZEI	**Tsey**	**8.68**	**293**	*e*P	**Pn**	**18 53 32.4**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.1s						
ZEI	**Tsey**	**8.68**	**293**	*e*P	**Pn**	**18 53 32.4**	**-1.2**
	comp=Z,6.0nm,0.1s						
AKTK	**Aktyubinsk**	**10.77**	**11**	P	**Pn**	**18 54 02.5**	**+0.2**
AKTK				S	**Sn**	**18 55 59.2**	**-2.3**
AKTK	**Aktyubinsk**	**10.77**	**11**	P	**Pn**	**18 54 02.5**	**+0.2**
AKTK				S	**Sn**	**18 55 59.2**	**-2.2**
AKTO	**Aktyubinsk**	**10.77**	**11**	⇑Pn	**Pn**	**18 54 02.3**	**0.0**
	comp=Z,0.2nm,0.6s						
AKTO				⇓Sn	**Sn**	**18 55 58.1**	**-3.4**
	comp=Z,1.0nm,0.8s						
AKTO	**Aktyubinsk**	**10.77**	**11**	P	**Pn**	**18 54 02.5**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=197,slow=13,SNR=45						
AKTO				S	**Sn**	**18 55 59.2**	**-2.3**
	comp=Z,5.5nm,0.3s,baz=92,slow=23,SNR=11						
AKTO	**Aktyubinsk**	**10.77**	**11**	P	**Pn**	**18 54 02.5**	**+0.2**
AKTO				S	**Sn**	**18 55 59.2**	**-2.2**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				smax			
	comp=N,6.0nm,0.3s						
ORR	**Orenburg**	**11.72**	**360**	*e*P	**Pn**	**18 54 15.9**	**+0.7**
ORR				S	**Sn**	**18 56 18.8**	**-5.7**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ORR	**Orenburg**	**11.72**	**360**	*e*P	**Pn**	**18 54 15.9**	**+0.7**
	comp=Z,10.0nm,0.3s						
AAK	**Ala-Archa**	**15.07**	**73**	*e*P	**Pn**	**18 54 58.3**	**-2.2**
	comp=Z,3.5nm,0.5s						
AAK	**Ala-Archa**	**15.07**	**73**	*e*P	**Pn**	**18 54 58.3**	**-2.2**
	comp=Z,3.5nm,0.5s						
VRSR	**Storozhevoye**	**15.69**	**321**	*e*P	**Pn**	**18 55 06.2**	**-2.3**
VRSR				*e*S	S	18 57 50.4	-24
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR				smax			
	comp=N,20nm,0.8s						
VRSR				smax			
	comp=Z,5.0nm,1.0s						
VRSR				smax			
	comp=E,3.0nm,0.5s						
VRSR	**Storozhevoye**	**15.69**	**321**	*e*P	**Pn**	**18 55 06.2**	**-2.3**
	comp=E,4.0nm,0.6s						
TKM2	**Tokmak 2**	**15.90**	**72**	⇓Pn	**Pn**	**18 55 11.3**	**+0.1**
	comp=E,0.6nm,0.8s						
TKM2				⇓Sn	**Sn**	**18 57 59.0**	**-7.4**
	comp=E,3.4nm,1.4s						
BRTR	**Keskin Array B**	**16.25**	**276**	P	**Pn**	**18 55 17.8**	**+2.1**
	comp=E,0.1nm,0.3s,baz=112,slow=11,SNR=3.0						
ZRNK	**Zerenda**	**16.28**	**32**	⇑Pn	**Pn**	**18 55 14.9**	**-1.1**
	comp=E,6.6nm,0.6s						
ZRNK				⇓Sn	**Sn**	**18 58 05.1**	**-11**
	comp=E,18nm,0.9s						
ZRNK	**Zerenda**	**16.28**	**32**	*e*P	**Pn**	**18 55 14.4**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.6s						
ZRNK	**Zerenda**	**16.28**	**32**	*e*P	**Pn**	**18 55 14.4**	**-1.7**
	comp=Z,11nm,0.6s						
ZRNK	**Zerenda**	**16.28**	**32**	Pn	**Pn**	**18 55 14.9**	**-1.2**
	comp=Z,6.6nm,0.6s						
ASF	**Jabal al Asfar**	**16.38**	**247**	P	**Pn**	**18 55 18.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=78,slow=1.0,SNR=4.7						
ARU	**Arti**	**16.73**	**7**	*e*P	**Pn**	**18 55 18.4**	**-3.3**
ARU				*e*S	**S**	**18 58 17.8**	**-18**
ARU	**Arti**	**16.73**	**7**	*e*P	**Pn**	**18 55 18.5**	**-3.2**
	comp=Z,8.5nm,0.5s						
ARU	**Arti**	**16.73**	**7**	*e*P	**Pn**	**18 55 18.5**	**-3.2**
	comp=Z,8.5nm,0.5s						
BRVK	**Borovoye**	**16.89**	**34**	*e*P	**Pn**	**18 55 23.6**	**-0.1**
BRVK				*e*S	**S**	**18 58 19.9**	**-19**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**16.89**	**34**	*e*P	**Pn**	**18 55 23.6**	**-0.2**
	comp=Z,12nm,0.8s						
BRVK				*e*S	**S**	**18 58 19.9**	**-19**
BRVK	**Borovoye**	**16.89**	**34**	*e*P	**Pn**	**18 55 23.6**	**-0.1**
	comp=Z,12nm,0.8s						
BRVK				*e*S	**S**	**18 58 19.9**	**-19**
BVA0	**Borovoye Array**	**16.91**	**34**	Pn	**Pn**	**18 55 24.0**	**0.0**
	comp=Z,2.8nm,0.9s,baz=221,slow=11,SNR=32						
BVA0				⇑Sn	**Sn**	**18 58 21.1**	**-10**
	comp=Z,2.2nm,0.7s						
BVAR	**Borovoye Array**	**16.91**	**34**	P	**Pn**	**18 55 24.3**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=228,slow=13,SNR=30						
BVAR				S	**S**	**18 58 22.5**	**-17**
	comp=Z,2.0nm,0.3s,baz=228,slow=30,SNR=8.2						
BVAR	**Borovoye Array**	**16.91**	**34**	P	**Pn**	**18 55 24.3**	**+0.3**
BVAR				S	**S**	**18 58 22.5**	**-17**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,2.0nm,0.3s						
BVAR	**Borovoye Array**	**16.91**	**34**	Pn	**Pn**	**18 55 24.0**	**0.0**
	comp=N,2.8nm,0.9s,SNR=32						
BVAR	**Borovoye Array**	**16.91**	**34**	P	**Pn**	**18 55 24.3**	**+0.3**
BVAR				S	**S**	**18 58 22.5**	**-17**
VOSK	**Vostochnaya**	**16.96**	**36**	⇑Pn	**Pn**	**18 55 25.6**	**+1.0**
	comp=N,12nm,1.1s						
VOSK				⇑Sn	**Sn**	**18 58 20.7**	**-11**
	comp=N,12nm,1.4s						
CHKZ	**Chkalovo**	**17.47**	**33**	⇑Pn	**Pn**	**18 55 33.2**	**+2.2**
	comp=N,9.0nm,1.1s						
CHKZ				⇓Sn	**Sn**	**18 58 34.2**	**-10**
	comp=N,9.2nm,0.7s						
CHKZ	**Chkalovo**	**17.47**	**33**	*e*P	**Pn**	**18 55 32.3**	**+1.4**
CHKZ				*e*S	**S**	**18 58 35.2**	**-16**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHKZ	**Chkalovo**	**17.47**	**33**	*e*P	**Pn**	**18 55 32.3**	**+1.3**
	comp=Z,8.2nm,0.7s						
CHKZ				*e*S	**S**	**18 58 35.2**	**-16**
CHKZ	**Chkalovo**	**17.47**	**33**	*e*P	**Pn**	**18 55 32.3**	**+1.4**
	comp=Z,8.1nm,0.7s						
CHKZ	**Chkalovo**	**17.47**	**33**	Pn	**Pn**	**18 55 33.2**	**+2.3**
	comp=Z,9.0nm,1.1s						
CHKZ				*e*S	**S**	**18 58 35.2**	**-16**
CFR	**Carcaliu**	**20.29**	**294**	⇓*i*P	**P**	**18 56 03.3**	**+0.8**
CFR	**Carcaliu**	**20.29**	**294**	⇓P	**P**	**18 56 03.3**	**+0.7**
AKASG	**Malin Array Be**	**20.87**	**310**	P	**P**	**18 56 08.5**	**-0.3**
	comp=Z,3.3nm,0.5s,baz=104,slow=8.3,SNR=14						
AKASG				pP		18 56 20.1	
	comp=Z,3.1nm,0.4s,baz=106,slow=9.1,SNR=9.5						
AKASG	**Malin Array Be**	**20.87**	**310**	P	**P**	**18 56 08.5**	**-0.3**
AKASG				*PP		18 56 20.1	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	**Malin Array Be**	**20.87**	**310**	P	**P**	**18 56 08.5**	**-0.3**
AKASG				pP		18 56 20.1	
AKBB	**Malin Array Si**	**20.87**	**310**	*e*P	**P**	**18 56 07.1**	**-1.7**
MK31	**Makanchi Array**	**21.09**	**62**	⇑Pn	**P**	**18 56 12.6**	**+1.5**
	comp=Z,1.3nm,0.5s,mb3.6,baz=249,slow=11,SNR=31						
MKAR	**Makanchi Array**	**21.09**	**62**	P	**P**	**18 56 13.1**	**+1.9**
	comp=Z,1.2nm,0.4s,mb3.6,baz=249,slow=11,SNR=32						
MKAR	**Makanchi Array**	**21.09**	**62**	P	**P**	**18 56 13.1**	**+2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VRI	**Vrincioaia**	**21.34**	**295**	⇑*i*P	pP	18 56 26.4	+1.7
PLOR	**Plostina**	**21.40**	**295**	⇑*i*P	pP	18 56 24.7	-0.6
MLR	**Muntele Rosu**	**21.86**	**294**	P	**P**	**18 56 21.8**	**+2.4**
	comp=Z,1.1nm,0.5s,mb3.6,baz=22,slow=16,SNR=2.7						
MLR	**Muntele Rosu**	**21.86**	**294**	⇑*i*P	pP	18 56 28.1	-2.1
MLR	**Muntele Rosu**	**21.86**	**294**	P	**P**	**18 56 21.8**	**+2.4**
MLR				⇑P		18 56 28.1	
BURAR	**Bucovina Array**	**22.61**	**300**	⇑*i*P	**P**	**18 56 29.0**	**+1.6**
BURAR	**Bucovina Array**	**22.61**	**300**	⇑P	**P**	**18 56 29.0**	**+1.6**
GZR	**Gura Zlata**	**24.08**	**294**	⇓*i*P	**P**	**18 56 42.6**	**+0.8**
GZR	**Gura Zlata**	**24.08**	**294**	⇓P	**P**	**18 56 42.6**	**+0.9**
NVS	**Novosibirsk**	**24.16**	**42**	*e*P	**P**	**18 56 42.8**	**+0.3**
ZAL	**Zalesovo**	**24.61**	**45**	P	**P**	**18 56 48.3**	**+1.6**
	comp=Z,2.6nm,0.7s,mb3.9,baz=222,slow=8.3,SNR=10.0						
ZAL				pP		18 56 59.8	
	comp=Z,5.6nm,0.5s,baz=221,slow=7.3,SNR=11						
ZAL	**Zalesovo**	**24.61**	**45**	P	**P**	**18 56 48.3**	**+1.6**
ZAL				*PP		18 56 59.8	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BZS	**Buzias**	**24.90**	**294**	⇑*i*P	sP	18 57 05.0	-1.5
JOF	**Joensuu**	**27.00**	**336**	*e*p	**P**	**18 57 08.3**	**+0.1**
	comp=Z,2.8nm,0.7s,mb3.9						
JOF	**Joensuu**	**27.00**	**336**	*e*P	**P**	**18 57 08.3**	**+0.1**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
FIA1	**FINESS Array S**	**27.80**	**330**	*e*P	**P**	**18 57 20.8**	**+5.4**
FIA1	**FINESS Array S**	**27.80**	**330**	*e*P	**P**	**18 57 20.8**	**+5.3**
FINES	**FINESS Array B**	**27.80**	**330**	P	**P**	**18 57 16.5**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=122,slow=14,SNR=6.6						
FINES	**FINESS Array B**	**27.80**	**330**	P	**P**	**18 57 16.5**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**28.14**	**332**	*e*p	sP	18 57 34.9	-0.8
GERES	**GERESS Array B**	**30.38**	**301**	P	**P**	**18 57 39.0**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=58,slow=10,SNR=9.3						
GERES	**GERESS Array B**	**30.38**	**301**	P	**P**	**18 57 39.0**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**32.51**	**322**	P	**P**	**18 57 57.4**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=119,slow=12,SNR=3.2						
HFS				pP	pP	18 58 08.7	-0.3
	comp=Z,1.8nm,0.6s,baz=115,slow=10.0,SNR=2.5						
HFS	**Hagfors**	**32.51**	**322**	P	**P**	**18 57 57.4**	**+0.3**
HFS				*PP	pP	18 58 08.7	-0.3
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**33.48**	**342**	P	**P**	**18 58 06.3**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.2,baz=134,slow=8.7,SNR=5.5						
ARCES	**ARCESS Array B**	**33.48**	**342**	P	**P**	**18 58 06.4**	**+0.9**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**33.48**	**342**	P	**P**	**18 58 06.3**	**+0.8**
NB2	**NORSAR Subarra**	**33.96**	**323**	P	**P**	**18 58 10.1**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=107,slow=9.3						
NB2	**NORSAR Subarra**	**33.96**	**323**	P	**P**	**18 58 10.1**	**+0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NB2	**NORSAR Subarra**	**33.96**	**323**	P	**P**	**18 58 10.1**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**33.96**	**323**	P	**P**	**18 58 09.4**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=130,slow=7.3,SNR=3.2						
NOA				pP	pP	18 58 20.8	-0.9
	comp=Z,0.6nm,0.5s,baz=115,slow=8.3,SNR=3.1						
NOA	**NORSAR Array B**	**33.96**	**323**	P	**P**	**18 58 09.4**	**-0.3**
NOA				*PP	pP	18 58 20.8	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HINF	**Hinteralfeld**	**34.98**	**299**	*e*P	**P**	**18 58 18.0**	**-0.5**
LPL	**La Plagne**	**35.33**	**295**	*e*P	**P**	**18 58 21.6**	**+0.1**
LPL				*e*pP	pP	18 58 33.7	+0.1
MBDF	**Montbardon**	**35.42**	**294**	*e*P	**P**	**18 58 22.5**	**+0.2**
	comp=Z,4.3nm,0.7s,mb4.2						
MBDF	**Montbardon**	**35.42**	**294**	*e*P	**P**	**18 58 22.5**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MBDF	**Montbardon**	**35.42**	**294**	*e*P	**P**	**18 58 22.5**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2						
CABF	**La Chapelle**	**35.62**	**297**	*e*P	**P**	**18 58 24.3**	**+0.2**
	comp=Z,12nm,1.1s,mb4.4						
CABF				*e*pP	pP	18 58 36.7	+0.6
CABF	**La Chapelle**	**35.62**	**297**	*e*P	**P**	**18 58 24.3**	**+0.2**
CABF				*e*PP	pP	18 58 36.7	+0.6
CABF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CABF	**La Chapelle**	**35.62**	**297**	*e*P	**P**	**18 58 24.3**	**+0.2**
	comp=Z,5.8nm,1.1s,mb4.4						
CABF				*e*pP	pP	18 58 36.7	+0.6
FRF	**La Foret Royal**	**35.72**	**292**	*e*P	**P**	**18 58 24.9**	**0.0**
KEST	**Kesra**	**35.84**	**278**	pP	pP	18 58 39.2	+1.2
	comp=Z,0.5nm,0.5s,baz=253,slow=7.1,SNR=2.6						
LOR	**Lormes**	**37.05**	**299**	*e*P	**P**	**18 58 36.0**	**-0.3**
SMF	**Signal de Mont**	**37.15**	**298**	*e*P	**P**	**18 58 37.2**	**+0.1**
SMF				*e*pP	pP	18 58 50.1	+0.9
SSF	**Saint Saulge**	**37.32**	**298**	*e*P	**P**	**18 58 38.7**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.1						
SSF	**Saint Saulge**	**37.32**	**298**	*e*P	**P**	**18 58 38.7**	**+0.2**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
SSF	**Saint Saulge**	**37.32**	**298**	*e*P	**P**	**18 58 38.7**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.1						
AVF	**Avril sur Loir**	**37.46**	**298**	*e*P	**P**	**18 58 40.1**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.0						
AVF				*e*pP	pP	18 58 51.9	0.0
AVF	**Avril sur Loir**	**37.46**	**298**	*e*P	**P**	**18 58 40.1**	**+0.4**
AVF				*e*PP	pP	18 58 51.9	0.0
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
AVF	**Avril sur Loir**	**37.46**	**298**	*e*P	**P**	**18 58 40.1**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.0						
AVF				*e*pP	pP	18 58 51.9	0.0
BGF	**Bois d'Agland**	**37.84**	**298**	*e*P	**P**	**18 58 43.2**	**+0.2**
TCF	**Toulx Ste Croi**	**38.32**	**297**	*e*P	**P**	**18 58 47.7**	**+0.7**
TCF				*e*pP	pP	18 58 59.5	+0.4
LDF	**La Druitiere**	**39.52**	**301**	*e*P	**P**	**18 58 57.1**	**+0.1**
LFF	**La Frestale**	**39.59**	**296**	*e*P	**P**	**18 58 58.3**	**+0.7**
	comp=Z,7.5nm,0.6s,mb4.3						
LFF	**La Frestale**	**39.59**	**296**	*e*P	**P**	**18 58 58.3**	**+0.7**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LFF	**La Frestale**	**39.59**	**296**	*e*P	**P**	**18 58 58.3**	**+0.7**
	comp=Z,3.8nm,0.6s,mb4.3						
FLN	**La Foliniere**	**39.73**	**302**	*e*P	**P**	**18 58 58.8**	**0.0**
MFF	**Saint Martin d**	**39.87**	**298**	*e*P	**P**	**18 58 59.8**	**-0.1**
	comp=Z,2.7nm,0.6s,mb3.8						
MFF	**Saint Martin d**	**39.87**	**298**	*e*P	**P**	**18 58 59.8**	**-0.1**
MFF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
MFF	**Saint Martin d**	**39.87**	**298**	*e*P	**P**	**18 58 59.8**	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.9						
GRR	**Gorron**	**40.03**	**301**	*e*P	**P**	**18 59 01.2**	**-0.1**
EKA	**Eskdalemuir Ar**	**40.74**	**312**	P	**P**	**18 59 07.1**	**0.0**
	comp=Z,1.0nm,0.4s,mb3.8,baz=98,slow=8.9,SNR=11						
EKA				pP	pP	18 59 19.2	-0.2
	comp=Z,1.7nm,0.5s,baz=102,slow=9.1,SNR=5.0						
EKA	**Eskdalemuir Ar**	**40.74**	**312**	P	**P**	**18 59 07.1**	**0.0**
EKA				*PP	pP	18 59 19.2	-0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SGMF	**Saint Gilles**	**41.17**	**301**	*e*P	**P**	**18 59 11.0**	**+0.3**
QUIF	**Quistinic**	**41.64**	**301**	*e*P	**P**	**18 59 14.8**	**+0.3**
ESDC	**Sonseca Array**	**44.42**	**289**	P	**P**	**18 59 36.0**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=59,slow=7.8,SNR=3.0						
ESDC				pP	pP	18 59 48.4	-0.9
	comp=Z,1.2nm,0.7s,baz=54,slow=8.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**53.53**	**256**	P	**P**	**19 00 48.6**	**+1.9**
	comp=Z,1.5nm,1.2s,mb3.8,baz=44,slow=7.2,SNR=4.3						
TORD				pP	pP	19 00 58.4	-1.0
	comp=Z,0.6nm,0.4s,baz=40,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**94.90**	**112**	P	**P**	**19 04 47.3**	**-0.7**
	comp=Z,0.4nm,0.6s,mb4.0,baz=319,slow=4.3,SNR=4.9						

OTT 12 18:53:04.1±0.2,6466N×11067W,h1km,MN2.7/1,Blast, Ekati Mine, Nt Mining explosion.,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCKN	**MacKay Lake No**	**0.50**	**157**	PG	Pg	18 53 13.1	-0.6
MCKN				SG	Sg	18 53 21.3	+1.1
GLWN	**Glow Worm Lake**	**0.58**	**82**	PG	Pg	18 53 14.5	-0.7
GLWN				SG	Sg	18 53 23.7	+1.0
COWN	**Contwyoto Lake**	**0.66**	**340**	PG	Pg	18 53 15.7	-1.0
COWN				SG	Sg	18 53 25.3	+0.2
COWN				Trac		18 53 27.4	
	comp=Z,38nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	18 53 18.0	-0.8
MLON				SG	Sg	18 53 29.3	+0.6
MLON				Trac		18 53 31.1	
	comp=Z,12nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	18 53 20.5	-0.9
BOXN				SG	Sg	18 53 30.2	-3.0
GBLN	**Grizzly Bear L**	**1.11**	**247**	PG	Pg	18 53 25.2	-0.1
GBLN				SG	Sg	18 53 39.9	+0.2
GBLN				Trac		18 53 45.1	

WUAZ Wupatki 21.14 335 *eP* **P 18 59 38.1 +0.8**
24nm,1.0s,mb4.5
PLAL Pickwick Lake 21.30 29 *eP* **P 18 59 37.2 -1.9**
8.7nm,0.9s,mb4.1
MVCO Mesa Verde 21.65 342 *eP* **P 18 59 46.0 +3.3**
9.1nm,1.0s,mb4.2
PV01 Paradox Valley 22.53 343 *eP* **P 18 59 53.7 +1.6**
TMUT Trail Mountain 24.41 339 *eP* **P 19 00 11.5 +0.8**
DAU Daniels Canyon 25.43 340 *eP* **P 19 00 21.0 +1.0**
DUG Dugway 25.77 338 *eP* **P 19 00 24.4 +1.4**
2.7nm,0.7s,mb3.9
HWUT Hardware Ranch 26.62 341 *eP* **P 19 00 31.3 +0.6**
7.9nm,0.9s,mb4.2
LOHW Long Hollow 28.19 344 *eP* **P 19 00 45.5 +0.6**
3.8nm,0.9s,mb4.0
HLID Hailey 29.30 339 *eP* **P 19 00 55.8 +1.0**
1.9nm,0.8s,mb3.9
MCMT McKenzie Canyo 29.94 342 *eP* **P 19 01 01.6 +1.2**
CHMT Chamberlain Mo 31.96 343 *eP* **P 19 01 18.3 +0.1**

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*IDC **12** 19:07:39.3±3.7, 2103N×12057E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=296.8km s-min=28.0km az=60.0*
*ISCJB **12** 19:07:45.9±3.3, 208N±03×1200E±04, h58km±26km, mb3.7/3, Error ellipse: s-maj=77.9km s-min=18.9km az=95.3*
ISC 12 19:07:47.0±3.2, 208N±03×1201E±04, h52km±26km, n8, σ0§99/8, mb3.7/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**3.17**	**143**	*eP*	**Sn**	**19 09 09.9**	**-1.1**
ABRA	**Dolores**	**3.21**	**169**	*eP*	**Pn**	**19 08 34.3**	**-0.5**
CAUP	**Cauayan**	**4.20**	**156**	*eP*	**Pn**	**19 08 49.0**	**+0.6**
PALP	**Palanan**	**4.35**	**149**	*eP*	**Sn**	**19 09 41.3**	**+1.3**
BALP	**Baler**	**5.25**	**164**	*eP*	**Pn**	**19 09 02.5**	**-0.3**
MKAR	**Makanchi Array**	**40.11**	**319**	P	**P**	**19 15 17.8**	**+0.2**
0.3nm,0.6s,mb3.2,baz=117,slow=9.4,SNR=3.5							
WRA	**Warramunga Arr**	**42.85**	**160**	P	**P**	**19 15 39.4**	**-0.5**
1.4nm,0.5s,mb4.0,baz=342,slow=9.1,SNR=25							
ASAR	**Alice Springs**	**46.22**	**162**	P	**P**	**19 16 07.1**	**+0.2**
0.8nm,0.6s,mb3.9,baz=346,slow=7.0,SNR=18							

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*IDC **12** 19:14:11.2±1.0, 489N×12640E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, Error ellipse: s-maj=106.7km s-min=14.0km az=70.0*
*ISCJB **12** 19:14:18.7±1.0, 497N±008×1266E±02, h76km±9km, mb4.2/15, Error ellipse: s-maj=31.5km s-min=9.5km az=144.2*
*MAN **12** 19:14:18.5, 512N×12663E, h9km, mb4.5, ML5.3, MS8.1*
*NEIC **12** 19:14:19.7±1.5, 489N×12631E, h66km±14km, mb4.5/5, Error ellipse: s-maj=39.1km s-min=7.6km az=72.0*
ISC 12 19:14:20.1±1.0, 498N±008×1267E±02, h72km±9km, n30, σ1§04/30, mb4.2/15, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.00**	**348**	*eP*	**Pn**	**19 14 49.9**	**-1.8**
DAV	**Davao City (W)**	**2.34**	**333**	*eP*	**Pn**	**19 14 55.5**	**-0.8**
DAV	**Davao City (W)**	**2.34**	**333**	*eP*	**Pn**	**19 14 54.8**	**-1.5**
BUKP	**Musuan**	**3.29**	**331**	*eP*	**Pn**	**19 15 09.4**	**+0.2**
CGP	**Cagayan de Oro**	**3.97**	**331**	*eP*	**Pn**	**19 15 19.7**	**+1.3**
BUTP	**Butuan**	**4.10**	**345**	*eP*	**Pn**	**19 15 21.2**	**+1.0**
SCPH	**Surigao**	**4.91**	**346**	*eP*	**Pn**	**19 15 30.5**	**-0.9**
IPIL	**Ipil**	**4.93**	**305**	*eP*	**Pn**	**19 15 32.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**22.95**	**182**	*eP*	**P**	**19 19 19.1**	**+0.8**
10nm,0.9s,mb4.2							
FITZ	**Fitzroy Crossi**	**22.95**	**182**	P	**P**	**19 19 17.3**	**-1.0**
3.2nm,0.6s,mb3.8,baz=340,slow=5.6,SNR=4.3							
WRA	**Warramunga Arr**	**25.89**	**163**	P	**P**	**19 19 44.6**	**-0.5**
18nm,1.0s,mb4.4,baz=343,slow=10,SNR=49							
WB2	**Warramunga Arr**	**25.89**	**163**	*eP*	**P**	**19 19 47.2**	**+2.0**
MBWA	**Marble Bar**	**26.85**	**194**	P	**P**	**19 19 52.1**	**-1.7**
AS31	**Alice Springs**	**29.33**	**166**	*eP*	**P**	**19 20 16.1**	**+0.2**
ASAR	**Alice Springs**	**29.33**	**166**	P	**P**	**19 20 16.2**	**+0.3**
0.7nm,0.5s,mb3.6,baz=349,slow=8.2,SNR=13							
BJT	**Baijiatuan**	**36.15**	**346**	*eP*	**P**	**19 21 16.3**	**+1.0**
8.4nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**39.31**	**160**	P	**P**	**19 21 43.0**	**+1.0**
6.8nm,0.7s,mb4.6,baz=340,slow=10.0,SNR=13							
STKA	**Stephens Creek**	**39.31**	**160**	*eP*	**P**	**19 21 42.5**	**+0.5**
LSA	**Lhasa**	**41.58**	**310**	P	**P**	**19 22 00.3**	**-0.4**
SONM	**Songino Array**	**46.10**	**341**	P	**P**	**19 22 38.4**	**+1.5**
1.4nm,0.8s,mb3.7,baz=154,slow=7.8,SNR=4.5							
MK31	**Makanchi Array**	**56.50**	**325**	*eP*	**P**	**19 23 54.5**	**-0.2**
MKAR	**Makanchi Array**	**56.50**	**325**	P	**P**	**19 23 55.1**	**+0.4**
1.0nm,0.6s,mb4.0,baz=121,slow=6.6,SNR=12							
ZAL	**Zalesovo**	**59.45**	**333**	P	**P**	**19 24 15.9**	**+0.5**
1.3nm,0.5s,mb4.2,baz=271,slow=4.4,SNR=4.2							
BVAR	**Borovoye Array**	**66.25**	**327**	P	**P**	**19 25 00.0**	**-0.4**
1.7nm,0.6s,mb4.0,baz=130,slow=8.9,SNR=14							
BRVK	**Borovoye**	**66.32**	**327**	*eP*	**P**	**19 24 59.2**	**-1.7**
14nm,1.3s,mb4.6							
CHKZ	**Chkalovo**	**66.40**	**327**	*eP*	**P**	**19 24 58.1**	**-3.4**
7.7nm,1.5s,mb4.3							
ZRNK	**Zerenda**	**66.98**	**326**	*eP*	**P**	**19 25 04.7**	**-0.4**
3.9nm,0.6s,mb4.4							
VNDA	**Vanda**	**84.66**	**173**	P	**P**	**19 26 44.6**	**-1.2**
0.5nm,1.1s,mb3.4,baz=0.0,slow=0.0,SNR=2.5							
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**19 27 08.2**	**0.0**
3.0nm,0.8s,mb4.4,baz=50,slow=6.5,SNR=7.3							
FINES	**FINESS Array B**	**90.71**	**332**	P	**P**	**19 27 15.4**	**+0.6**
2.5nm,1.0s,mb4.3,baz=67,slow=6.4,SNR=5.4							

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*IDC **12** 19:14:30.0±0.7, 1416N×14675E, h0km, mb4.6/14, mb1 4.6/14, mb1mx4.5/21, mbtmp4.6/14, Error ellipse: s-maj=19.3km s-min=16.6km az=101.0*
*BJI **12** 19:14:31.5, 1426N×14725E, h37km, mb4.6, Ms5.8, Msz5.7*
*ISCJB **12** 19:14:32.0±0.5, 1417N±008×14674E±007, h24km, mb4.7/29, Error ellipse: s-maj=11.8km s-min=8.0km az=119.4*
*NEIC **12** 19:14:36.5±2.3, 1408N×14668E, h48km±20km, mb4.8/8, Error ellipse: s-maj=17.2km s-min=12.4km az=72.0*
ISC 12 19:14:35.3±5.4, 1413N±008×14674E±008, h33km±37km, h26km±5.9km: pP-P, n53, σ1§01/50, mb4.7/29, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.90**	**254**	Pn	**Pn**	**19 15 04.7**	**-0.5**
241nm,0.3s,baz=100,slow=5.5,SNR=104							
GUMO				Sn	**Sn**	**19 15 28.0**	**+0.1**
179nm,0.3s,baz=357,slow=23,SNR=12							
JOW	**Kunigami**	**21.39**	**309**	P	**P**	**19 19 20.9**	**+0.9**
25nm,0.4s,mb4.9,baz=127,slow=14,SNR=27							
MJAR	**Matsushiro Arr**	**23.59**	**343**	P	**P**	**19 19 40.1**	**-2.9**
7.1nm,0.9s,mb4.1,baz=166,slow=9.4,SNR=15							
MAJO	**Matsushiro**	**23.59**	**343**	*eP*	**P**	**19 19 36.2**	**-6.9**
33nm,1.4s,mb4.6							
MAT	**Matsushiro**	**23.59**	**343**	P	**P**	**19 19 40.2**	**-2.9**
WRA	**Warramunga Arr**	**35.99**	**200**	P	**P**	**19 21 32.4**	**-0.6**
12nm,1.0s,mb4.8,baz=22,slow=9.3,SNR=16							
GYA	**Guiyang**	**39.38**	**295**	P	**P**	**19 22 02.3**	**+0.7**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.7							
ASAR	**Alice Springs**	**39.60**	**199**	P	**P**	**19 22 03.7**	**+0.2**
comp=Z,4.3nm,1.1s,mb4.1,baz=18,slow=7.2,SNR=7.9							
HHC	**Hu-ho-hao-te**	**40.57**	**318**	*eP*	**P**	**19 22 12.1**	**+0.6**
HHC				AP	pP	19 22 23.7	+2.4
HHC				AMB	AMB		
comp=Z,11nm,1.1s,mb4.4							
BTO	**Baotou**	**41.47**	**317**	*eP*	**P**	**19 22 19.0**	**+0.1**
LZH	**Lanzhou**	**44.12**	**308**	*eP*	**P**	**19 22 41.5**	**+1.1**
LZH				AP	pP	19 22 47.5	-2.7
LZH				XP	sP	19 22 52.0	-2.2
LZH				AMB	AMB		
comp=Z,21nm,1.5s,mb4.7							
LZH	**Lanzhou**	**44.12**	**308**	*eP*	**P**	**19 22 41.5**	**+1.1**
comp=Z,21nm,1.5s,mb4.7							
LZH				pP	pP	19 22 47.5	-2.7
LZH				sP	sP	19 22 52.0	-2.2
STKA	**Stephens Creek**	**46.01**	**186**	*eP*	**P**	**19 22 54.6**	**-0.8**
SONM	**Songino Array**	**47.36**	**324**	P	**P**	**19 23 06.3**	**+0.4**
comp=Z,3.1nm,0.7s,mb4.4,baz=123,slow=5.5,SNR=8.9							
GTA	**Gaotai**	**48.19**	**311**	*eP*	**P**	**19 23 13.4**	**+1.0**
GTA				AP	pP	19 23 19.6	-2.8
GTA				XP	sP	19 23 22.8	-3.5
GTA				AMB	AMB		
comp=Z,4.0nm,1.2s,mb4.3							
LSA	**Lhasa**	**53.38**	**297**	P	**P**	**19 23 53.6**	**+2.1**
LSA	**Lhasa**	**53.38**	**297**	*eP*	**P**	**19 23 53.1**	**+1.7**
comp=Z,7.6nm,0.5s,mb4.9							
JIRN	**Jiri**	**57.65**	**294**	*eP*	**P**	**19 24 22.8**	**+0.6**
GUN	**Gumba**	**57.93**	**294**	*eP*	**P**	**19 24 24.4**	**+0.3**
WMQ	**Urumqi**	**58.09**	**313**	↑*iP*	**P**	**19 24 25.4**	**+0.1**
WMQ				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.8							
PKI	**Pulchoki**	**58.34**	**294**	*eP*	**P**	**19 24 27.0**	**0.0**
comp=Z,5.6nm,0.5s,mb4.8							
KKN	**Kakani**	**58.46**	**294**	*eP*	**P**	**19 24 28.1**	**+0.3**
DMN	**Daman**	**58.61**	**294**	*eP*	**P**	**19 24 28.9**	**0.0**
GKN	**Gorkha**	**59.02**	**294**	*eP*	**P**	**19 24 31.7**	**-0.1**
comp=Z,12nm,0.4s,mb5.3							
KOLN	**Koldanda**	**59.95**	**294**	*eP*	**P**	**19 24 38.2**	**+0.1**
ZAL	**Zalesovo**	**62.26**	**324**	P	**P**	**19 24 53.2**	**-0.6**
comp=Z,2.9nm,0.6s,mb4.6,baz=355,slow=5.3,SNR=9.8							
MK31	**Makanchi Array**	**62.37**	**316**	*eP*	**P**	**19 24 54.9**	**+0.4**
MKAR	**Makanchi Array**	**62.37**	**316**	P	**P**	**19 24 55.1**	**+0.5**
comp=Z,3.4nm,0.5s,mb4.7,baz=92,slow=8.4,SNR=35							
KDAK	**Kodiak Island**	**62.66**	**32**	P	**P**	**19 24 56.9**	**+0.4**
comp=Z,2.9nm,0.4s,mb4.7,baz=117,slow=23,SNR=11							
KDAK	**Kodiak Island**	**62.66**	**32**	P	**P**	**19 24 56.9**	**+0.4**
DAWY	**Dawson**	**70.34**	**27**	*eP*	**P**	**19 25 46.5**	**+0.9**
CHKZ	**Chkalovo**	**70.53**	**322**	*eP*	**P**	**19 25 45.5**	**-1.2**
comp=Z,11nm,1.2s,mb4.7							
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**19 25 47.1**	**-0.3**
comp=Z,5.8nm,0.4s,mb4.9,baz=102,slow=8.1,SNR=42							
BRVK	**Borovoye**	**70.70**	**322**	*eP*	**P**	**19 25 47.4**	**-0.3**
ZRNK	**Zerenda**	**71.47**	**321**	*eP*	**P**	**19 25 51.8**	**-0.7**
comp=Z,15nm,1.2s,mb4.8							
YKA	**Yellowknife Ar**	**81.54**	**28**	P	**P**	**19 26 49.5**	**+0.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=283,slow=5.6,SNR=4.2							
YKA	**Yellowknife Ar**	**81.54**	**28**	P	**P**	**19 26 49.5**	**+0.1**
WSAR	**Wadi Sarin**	**82.84**	**292**	P	**P**	**19 26 57.5**	**+1.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=150,slow=4.5,SNR=4.9							
DAC	**Darwin (Calif)**	**86.25**	**54**	*eP*	**P**	**19 27 14.9**	**+1.5**
comp=Z,5.4nm,1.2s,mb4.7							
KEV	**Kevo**	**86.56**	**342**	*ep*	**P**	**19 27 13.3**	**-1.7**
comp=Z,4.0nm,0.5s,mb4.9							
ARCES	**ARCESS Array B**	**87.12**	**342**	P	**P**	**19 27 16.9**	**-0.9**
comp=Z,7.7nm,1.0s,mb4.9,baz=67,slow=7.0,SNR=14							
ARCES	**ARCESS Array B**	**87.12**	**342**	P	**P**	**19 27 16.9**	**-0.9**
MCMT	**McKenzie Canyo**	**87.38**	**44**	*eP*	**P**	**19 27 20.1**	**+1.1**
QLMT	**Earthquake Lak**	**88.34**	**44**	*eP*	**P**	**19 27 24.0**	**+0.4**
JOF	**Joensuu**	**88.57**	**336**	*ep*	**P**	**19 27 21.5**	**-3.1**
comp=Z,5.1nm,0.5s,mb5.1							
MSU	**Marysvale**	**89.77**	**50**	*eP*	**P**	**19 27 31.6**	**+1.3**
KAF	**Kangasniemi**	**90.97**	**336**	*ep*	**P**	**19 27 32.4**	**-3.5**
comp=Z,3.8nm,0.6s,mb4.9,baz=54,slow=4.5							
FINES	**FINESS Array B**	**91.43**	**336**	P	**P**	**19 27 36.3**	**-1.7**
comp=Z,3.1nm,0.5s,mb4.9,baz=65,slow=5.6,SNR=32							
NOA	**NORSAR Array B**	**97.18**	**340**	P	**P**	**19 28 02.5**	**-1.9**
comp=Z,0.6nm,0.9s,mb4.0,baz=47,slow=5.5,SNR=2.8							
TORD	**Torodi Ar. Bea**	**136.03**	**306**	PKP	PKPdf	19 33 54.6	+1.8
comp=Z,0.5nm,0.7s,baz=32,slow=3.2,SNR=5.2							
DBIC	**Dimbokro**	**145.05**	**304**	PKPbc	PKPbc	19 34 10.2	+1.6
comp=Z,10nm,0.5s,baz=19,slow=5.3,SNR=22							
LPAZ	**La Paz**	**146.31**	**98**	PKPbc	PKPbc	19 34 14.9	+2.5
comp=Z,1.2nm,0.6s,baz=333,slow=6.8,SNR=5.2							
SIV	**San Ignacio**	**153.09**	**98**	PKPbc	PKPbc	19 34 28.9	-0.4
comp=Z,0.4nm,0.6s,baz=149,slow=5.9,SNR=3.0							
SIV				PKPab	PKPab	19 34 42.1	+1.2
comp=Z,1.4nm,0.9s,baz=285,slow=5.2,SNR=5.3							

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*ISCJB **12** 19:19:06.6±1.9, 3367S±004×179.1W±0.1, h5km±12km, mb4.8/15, MS4.4/1, Error ellipse: s-maj=17.4km s-min=6.9km az=14.8*
*IDC **12** 19:19:06.4±0.8, 3344S×17879W, h0km, mb4.6/9, mb1 4.7/11, mb1mx4.5/17, mbtmp4.6/11, ML4.8/1, MS4.7/2, Ms1 4.7/2, ms1mx3.9/32, Error ellipse: s-maj=23.4km s-min=20.2km az=96.0*
*NEIC **12** 19:19:06.7±4.9, 3344S×17869W, h6km±29km, mb5.0/8, Error ellipse: s-maj=13.5km s-min=10.6km az=99.0*
*BJI **12** 19:19:06.2, 34.11S×17906W, h12km, mb5.4*
*MOS **12** 19:19:11.9±1.4, 3374S×179.15W, h33km, mb5.1/4, Error ellipse: s-maj=20.6km s-min=17.5km az=30.8*
ISC 12 19:19:07.6±2.4, 3364S±004×1789W±01, h6km±15km, n83, σ1§03/55, mb4.8/15, MS4.4/1, 3C-4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.46**	**11**	Pn	**Pn**	**19 20 11.0**	**-4.7**
49nm,0.3s,baz=285,slow=20,SNR=2.7							
RAO				Sn	**Sn**	**19 21 03.7**	**-4.1**
126nm,0.3s,baz=278,slow=23,SNR=3.6							
MXZ	**Matakaoa Point**	**4.52**	**209**	*eP*	**Pn**	**19 20 15.8**	**-0.8**
MXZ	**Matakaoa Point**	**4.52**	**209**	*e*PN	**Pn**	**19 20 16.2**	**-0.4**
MXZ				*e*SN	**Sn**	**19 21 10.4**	**+0.9**
PUZ	**Puketiti**	**4.99**	**207**	*eP*	**Pn**	**19 20 21.5**	**-1.4**
PUZ	**Puketiti**	**4.99**	**207**	*e*PN	**Pn**	**19 20 21.4**	**-1.6**
PUZ				*e*SN	**Sn**	**19 21 20.1**	**-0.7**
MWZ	**Matawai**	**5.50**	**211**	P	**Pn**	**19 20 28.8**	**-1.2**
MWZ	**Matawai**	**5.50**	**211**	PN	**Pn**	**19 20 28.8**	**-1.2**
MWZ				*e*SN	**Sn**	**19 21 34.0**	**+0.4**
URZ	**Urewera**	**5.63**	**214**	Pn	**Pn**	**19 20 31.7**	**-0.1**
44nm,0.3s,baz=20,slow=4.3,SNR=134							
URZ				Sn	**Sn**	**19 21 37.3**	**+0.6**
31nm,0.3s,baz=155,slow=21,SNR=8.8							
URZ	**Urewera**	**5.63**	**214**	*eP*	**Pn**	**19 20 31.4**	**-0.3**
URZ	**Urewera**	**5.63**	**214**	*e*PN	**Pn**	**19 20 31.4**	**-0.4**
URZ				*e*SN	**Sn**	**19 21 36.7**	**0.0**
BKZ	**Black Stump Fm**	**6.64**	**213**	*eP*	**Pn**	**19 20 44.8**	**-0.9**
BKZ	**Black Stump Fm**	**6.64**	**213**	*e*PN	**Pn**	**19 20 45.0**	**-0.8**
BKZ				*e*SN	**Sn**	**19 22 01.3**	**-0.4**
RPZ	**Rata Peaks**	**12.74**	**215**	Pn	**Pn**	**19 22 04.3**	**-5.0**
1.9nm,0.3s,baz=210,slow=20,SNR=2.9							
RPZ				Sn	**Sn**	**19 24 17.8**	**-14**
1.7nm,0.3s,baz=253,slow=20,SNR=4.1							
RPZ	**Rata Peaks**	**12.74**	**215**	Pn	**Pn**	**19 22 04.3**	**-5.0**
RPZ				Sn	**Sn**	**19 24 17.8**	**-14**
DZM	**Mont Dzumac**	**17.31**	**308**	P	**Pn**	**19 23 09.7**	**-0.1**
baz=97,slow=18,SNR=2.4							
DZM				LR	LR	19 28 08.3	
comp=Z,3μm,20.8s,baz=190,slow=31							
RAR	**Rarotonga**	**20.98**	**59**	LR	LR	19 29 28.6	
comp=Z,1μm,18.4s,MS4.4,baz=348,slow=30							
TBI	**Tubuai**	**27.76**	**76**	*e*LR	LR	19 31 49.4	
1μm,32.8s							
PPT	**Papeete**	**30.78**	**66**	*e*LR	LR	19 33 13.4	
2μm,25.2s							
STKA	**Stephens Creek**	**33.12**	**262**	P	**P**	**19 25 46.1**	**+1.7**
6.0nm,1.0s,mb4.5,baz=122,slow=10,SNR=4.6							
CTA	**Charters Tower**	**33.71**	**285**	↓*iP*	**P**	**19 25 52.6**	**+3.1**
19nm,1.0s,mb5.0							
CTA	**Charters Tower**	**33.71**	**285**	P	**P**	**19 25 51.7**	**+2.2**
29nm,1.0s,mb5.2,baz=97,slow=9.4,SNR=8.5							
CTA	**Charters Tower**	**33.71**	**285**	↓*iP*	**P**	**19 25 52.6**	**+3.1**
CTA				pmax	pmax		
comp=Z,19nm,1.0s							
CTAO	**Charters Tower**	**33.71**	**285**	*eP*	**P**	**19 25 52.0**	**+2.5**
CTAO				pmax	pmax		
comp=Z,66nm,1.4s,mb5.4							
CTAO	**Charters Tower**	**33.71**	**285**	*eP*	**P**	**19 25 52.0**	**+2.5**
comp=Z,66nm,1.4s,mb5.4							
RKT	**Rikitea**	**39.80**	**86**	*e*LR	LR	19 37 26.5	
comp=Z,1μm,28.0s							
AS31	**Alice Springs**	**42.27**	**271**	↓*iP*	**P**	**19 27 02.2**	**+0.5**
ASAR	**Alice Springs**	**42.27**	**271**	P	**P**	**19 27 02.1**	**+0.4**
comp=Z,9.9nm,0.8s,mb4.5,baz=114,slow=7.4,SNR=61							
ASAR				S	**S**	**19 33 20.2**	**-2.4**
comp=Z,1.5nm,1.0s,baz=112,slow=16,SNR=5.3							
ASPA	**Alice Springs**	**42.27**	**271**	↓*iP*	**P**	**19 27 02.2**	**+0.4**
TAOE	**Nuku Hiva Isla**	**43.35**	**64**	*e*LR	LR	19 39 05.1	
comp=Z,3μm,24.8s							
WB2	**Warramunga Arr**	**43.54**	**276**	*eP*	**P**	**19 27 12.3**	**+0.2**
WRAB	**Tennant Creek**	**43.55**	**276**	P	**P**	**19 27 12.0**	**-0.1**
comp=Z,140nm,1.0s,mb5.7,SNR=24							
WRAB	**Tennant Creek**	**43.55**	**276**	*iP*	**P**	**19 27 12.1**	**0.0**
WRA	**Warramunga Arr**	**43.55**	**276**	P	**P**	**19 27 12.7**	**+0.6**
comp=Z,8.5nm,0.4s,mb4.9,baz=116,slow=7.9,SNR=198							
WRA				S	**S**	**19 33 38.0**	**-3.6**
comp=Z,2.3nm,0.9s,baz=118,slow=14,SNR=6.8							
SBA	**Scott Base**	**44.76**	**184**	*eP*	**P**	**19 27 22.8**	**+1.0**
SBA				pmax	pmax		
comp=Z,24nm,1.5s,mb4.8							
SBA	**Scott Base**	**44.76**	**184**	*eP*	**P**	**19 27 22.8**	**+1.0**
comp=Z,24nm,1.5s,mb4.8							
VNDA	**Vanda**	**44.80**	**186**	P	**P**	**19 27 24.2**	**+2.0**
comp=Z,0.8nm,0.9s,baz=10,0,slow=7.4,SNR=2.4							
FITZ	**Fitzroy Crossi**	**51.66**	**273**	*eP*	**P**	**19 28 15.4**	**+0.3**
comp=Z,16nm,0.9s,mb5.0							
FITZ	**Fitzroy Crossi**	**51.66**	**273**	P	**P**	**19 28 15.4**	**+0.3**
comp=Z,11nm,1.0s,mb4.7,baz=131,slow=8.5,SNR=13							
CASY	**Casey**	**51.93**	**209**	*eP*	**P**	**19 28 17.0**	**-0.1**
comp=Z,13nm,0.9s,mb4.8							
NWAO	**Narrogin (SRO)**	**52.59**	**252**	P	**P**	**19 28 21.4**	**-0.7**
comp=Z,9.3nm,0.9s,mb4.7,baz=76,slow=7.4,SNR=3.5							
KLBR	**Kellerberrin**	**52.63**	**254**	*eP*	**P**	**19 28 21.8**	**-0.5**
comp=Z,20nm,0.9s,mb5.0							
QSPA	**South Pole Qui**	**56.48**	**180**	*eP*	**P**	**19 28 50.8**	**+0.5**
comp=Z,16nm,1.0s,mb5.0							
MAW	**Mawson**	**69.02**	**201**	P	**P**	**19 30 14.3**	**+0.4**
comp=Z,5.0nm,0.9s,mb4.4,baz=121,slow=8.2,SNR=11							
SNAA	**Sanae**	**74.95**	**179**	*eP*	**P**	**19 30 48.0**	**-1.5**
SNAA				*e*		19 30 58.2	
SNAA				*e*		19 31 00.1	
SNAA	**Sanae**	**74.95**	**179**	*eP*	**P**	**19 30 48.5**	**-1.0**
SNAA				pmax	pmax		
comp=Z,13nm,1.2s							
SNAA	**Sanae**	**74.95**	**179**	*eP*	**P**	**19 30 48.5**	**-1.0**
comp=Z,13nm,1.2s,mb4.7							
VNA1	**Neumayer--Stat**	**75.79**	**177**	*eP*	**P**	**19 30 48.2**	**-6.2**
VNA1				*e*		19 30 58.2	
VNA1				*e*		19 31 01.7	
MJAR	**Matsushiro Arr**	**80.47**	**326**	P	**P**	**19 31 19.4**	**-0.9**
comp=Z,2.2nm,0.9s,mb4.1,baz=164,slow=5.6,SNR=3.9							
NJ2	**Nanjing**	**87.77**	**311**	*eP*	**P**	**19 31 58.5**	**+1.0**
NJ2				AP	pP	19 32 10.0	+10
NJ2				XP	sP	19 32 13.1	+13
NJ2				PP	PP	19 35 26.8	+3.8
NJ2				SKS		19 42 21.0	
NJ2				S	S	19 42 36.0	-4.4
NJ2				AMB	AMB		
comp=Z,20nm,0.7s,mb5.5							
MK31	**Makanchi Array**	**119.23**	**309**	*e*PKIKP	PKPdf	19 37 56.1	-1.5
MKAR	**Makanchi Array**	**119.23**	**309**	PKP	PKPdf	19 37 56.6	-1.0
comp=Z,1.9nm,0.8s,baz=90,slow=1.9,SNR=18							
ZAL	**Zalesovo**	**119.91**	**317**	PKP	PKPdf	19 37 57.5	-1.4
comp=Z,0.5nm,0.5s,baz=162,slow=8.5,SNR=3.8							
ZAL	**Zalesovo**	**119.91**	**317**	↑*i*PKIKP	PKPdf	19 37 58.0	-0.9
AAK	**Ala-Archa**	**123.22**	**302**	↑*i*PKIKP	PKPdf	19 38 03.5	-1.8
ARU	**Arti**	**135.04**	**318**	*i*PKIKP	PKPdf	19 38 27.6	-0.1
ARU				*e*		19 41 04.4	
ARCES	**ARCESS Array B**	**141.56**	**346**	PKhKP		19 38 34.8	
comp=Z,4.4nm,1.0s,baz=39,slow=3.5,SNR=6.4							
GNI	**Garni**	**144.76**	**293**	↑*i*PKIKP	PKPdf	19 38 44.5	-0.8
JOF	**Joensuu**	**145.10**	**336**	*e*pkp	PKPdf	19 38 42.7	-3.2
VRHR	**Novokhopersk**	**145.87**	**313**	*e*PKIKP	PKPdf	19 38 46.4	-0.8
VRHR				pmax	pmax		
comp=Z,80nm,1.3s							
VRHR				pmax	pmax		
comp=N,8.0nm,0.5s							
VRHR				pmax	pmax		
comp=E,20nm,0.8s							
KIV	**Kislovodsk**	**146.30**	**300**	*e*PKP2	PKPab	19 38 50.5	+0.6
KIV				pmax	pmax		
comp=Z,12nm,1.2s							
MOS	**Moscow**	**146.49**	**322**	*e*PKIKP	PKPdf	19 38 48.5	+0.2
MOS				pmax	pmax		
comp=Z,200nm,1.5s							
MOS				pmax	pmax		
comp=Z,82nm,1.3s							
KAF	**Kangasniemi**	**147.30**	**338**	*e*pkp	PKPdf	19 38 49.0	-0.6
VRSR	**Storozhevoye**	**147.30**	**314**	*e*PKP2	PKPbc	19 38 51.0	-1.0
VRSR				pmax	pmax		
comp=Z,50nm,1.2s							
VRSR				pmax	p

DZM Sn **Sn** **19 36 59.0 -0.2**
25nm,0.3s,baz=85,slow=19,SNR=5.9
STKA Stephens Creek 25.96 244 P **P** **19 41 16.1 +0.8**
4.4nm,0.7s,mb4.1,baz=82,slow=12,SNR=9.3
ASAR Alice Springs 32.35 262 P **P** **19 42 12.5 +0.4**
1.5nm,0.8s,mb3.9,baz=93,slow=9.7,SNR=11
ASAR PcP PcP 19 44 59.8 0.0
0.7nm,0.7s,baz=92,slow=2.5,SNR=4.4
WRA Warramunga Arr 32.52 269 P **P** **19 42 13.4 -0.2**
0.8nm,0.5s,mb3.9,baz=97,slow=8.4,SNR=12
WRA PcP PcP 19 45 00.1 -0.2
0.8nm,0.7s,baz=96,slow=2.7,SNR=8.4
FITZ Fitzroy Crossi 40.95 269 P **P** **19 43 25.5 +0.1**
3.2nm,0.8s,mb4.0,baz=116,slow=11,SNR=5.7
MBWA Marble Bar 45.68 262 *e*P **P** **19 44 03.8 +0.1**
4.3nm,0.4s,mb4.7
VNDA Vanda 54.65 182 P **P** **19 45 10.6 -1.0**
1.1nm,0.9s,mb3.9,baz=351,slow=7.2,SNR=6.2
NVAR Mina Array Bea 91.35 49 P **P** **19 48 48.6 -0.1**
1.3nm,0.7s,mb4.4,baz=233,slow=8.1,SNR=8.1
BRG Berggiesshubel 146.21 331 *e*PKP PKPdf 19 55 23.5 +1.3
2.4nm,0.8s
CLL Collm 146.30 333 *e*PKPbc PKPbc 19 55 24.0 +0.5
comp=Z,8.0nm,1.2s
GERES GERESS Array B 147.76 329 PKPbc PKPbc 19 55 28.7 +1.0
comp=Z,0.9nm,0.6s,baz=54,slow=3.4,SNR=8.7

*IDC **12** 19:36:29.0±6.7, 5361N×16436W, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML3.5/1, Error ellipse: s-maj=162.5km s-min=28.8km az=163.0*
*ISCJB **12** 19:36:31.9±1.5, 534N±02×164.16W±0.10, h42km±9km, mb4.0/11, Error ellipse: s-maj=25.4km s-min=9.2km az=164.6*
*NEIC **12** 19:36:33.0, 5342N×16428W, h10km, ML3.4(AEIC), ML3.6(PMR), After AEIC.*

ISC 12 19:36:33.4±1.4, 534N±02×16425W±010, h41km±8km, n21, σ0°75/24, mb4.0/11, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.14**	**308**	P	**Pn**	**19 36 52.9**	**+0.1**
AKUT				S	**Sn**	**19 37 07.5**	**+0.2**
AKLV	**Akutan Long Va**	**1.24**	**306**	P	**Pn**	**19 36 53.8**	**-0.4**
OKCD	**Okmok Cone D**	**2.31**	**271**	P	**Pn**	**19 37 09.2**	**+0.2**
OKCE	**Okmok Cone E**	**2.34**	**271**	P	**Pn**	**19 37 09.1**	**-0.2**
SDPT	**Sand Point**	**2.92**	**48**	*e*P	**Pn**	**19 37 17.2**	**-0.1**
CHGN	**Chignik**	**4.42**	**47**	*e*P	**Pn**	**19 37 38.2**	**+0.3**
KDAK	**Kodiak Island**	**7.91**	**52**	P	**Pn**	**19 38 25.1**	**-0.6**
	0.6nm,0.3s,baz=92,slow=18,SNR=7.6						
KDAK				Sn	**Sn**	**19 39 46.7**	**-7.1**
	0.5nm,0.3s,baz=291,slow=23,SNR=8.0						
KDAK	**Kodiak Island**	**7.91**	**52**	**Pn**	**Pn**	**19 38 25.1**	**-0.6**
KDAK				Sn	**Sn**	**19 39 46.7**	**-7.1**
DAWY	**Dawson**	**16.59**	**40**	*e*P	**Pn**	**19 40 25.0**	**+2.1**
INK	**Inuvik**	**20.76**	**32**	P	**P**	**19 41 09.4**	**-1.3**
	3.8nm,0.5s,baz=195,slow=9.4,SNR=3.8						
SONM	**Songino Array**	**53.37**	**303**	P	**P**	**19 45 49.0**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=67,slow=5.2,SNR=4.0						
ARCES	**ARCESS Array B**	**57.13**	**356**	P	**P**	**19 46 15.6**	**-0.2**
	2.2nm,0.8s,mb4.3,baz=14,slow=7.4,SNR=7.4						
JOF	**Joensuu**	**63.34**	**352**	*e*p	**P**	**19 46 57.7**	**-0.6**
	1.2nm,0.4s,mb4.4						
KAF	**Kangasniemi**	**64.49**	**355**	*e*p	**P**	**19 47 04.8**	**-1.0**
	0.8nm,0.4s,mb4.1						
BVAR	**Borovoye Array**	**64.57**	**327**	P	**P**	**19 47 07.3**	**+0.9**
	1.6nm,0.7s,mb4.1,baz=49,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**65.17**	**355**	P	**P**	**19 47 09.9**	**-0.3**
	0.9nm,0.6s,mb4.0,baz=15,slow=7.9,SNR=7.8						
MKAR	**Makanchi Array**	**65.25**	**316**	P	**P**	**19 47 10.0**	**-0.8**
	0.3nm,0.3s,mb3.8,baz=34,slow=6.7,SNR=5.1						
AKTO	**Aktyubinsk**	**70.55**	**333**	P	**P**	**19 47 44.3**	**+0.1**
	2.6nm,0.6s,mb4.3,baz=56,slow=8.5,SNR=11						
AKASG	**Malin Array Be**	**75.61**	**351**	P	**P**	**19 48 13.7**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=15,slow=5.5,SNR=5.7						
GERES	**GERESS Array B**	**78.08**	**1**	P	**P**	**19 48 28.6**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=357,slow=5.9,SNR=3.7						
BRTR	**Keskin Array B**	**85.93**	**346**	P	**P**	**19 49 10.4**	**+1.3**
	1.4nm,0.8s,mb4.2,baz=80,slow=1.7,SNR=6.8						

GUC 12 19:38:10.1±0.6, 3148S×7172W, h29km±4km, MD3.6, ML2.4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**155**	*e*P	Pb	19 38 19.5	0.0
CHNG				*i* S	Sb	19 38 25.7	-0.2
TLL	**Tololo Astrono**	**1.53**	**31**	*e*P	Pn	19 38 37.0	+1.6
TLL				*i* S	Sn	19 38 57.0	+2.7
TLL				AML	AML	19 39 00.4	
	comp=N,98nm,0.3s						
JACH	**Jahuel**	**1.53**	**142**	*e*P	Pn	19 38 36.5	+1.1
JACH				*i* S	Sn	19 38 56.8	+2.4
LCO	**Las Campanas**	**2.62**	**20**	*e*P	Pn	19 38 52.2	+1.8
LCO				*i* S	Sn	19 39 24.4	+3.3

*ISCJB **12** 19:47:54.2±0.3, 2696S±003×2670E±003, h2km, mb4.2/14, Error ellipse: s-maj=4.6km s-min=3.1km az=87.8*
*PRE **12** 19:47:54.4±1.0, 2695S×2673E, h2km, ML4.3*
*IDC **12** 19:47:57.1±0.7, 2687S×2668E, h0km, mb4.1/12, mb1 4.2/18, mb1mx4.1/28, mbtmp4.2/18, ML4.3/5, Error ellipse: s-maj=18.9km s-min=10.7km az=93.0*
*NEIC **12** 19:47:57.5±0.4, 2686S×2673E, h5km, mb4.8/2, Error ellipse: s-maj=12.6km s-min=6.8km az=97.0*

ISC 12 19:47:55.8±0.3, 2696S±003×2673E±003, h2km, n40, σ1°26/56, mb4.2/14, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**87**	*e*P	**Pg**	**19 48 05.2**	**-1.3**
PRYS				*e*S	**Sg**	**19 48 13.3**	**-0.5**
PRYS				AML	AML	19 48 18.8	
	comp=Z,6μm,0.7s						
KSR	**Koster**	**1.11**	**8**	*e*P	**Pg**	**19 48 15.5**	**-1.6**
KSR				*e*S	**Sg**	**19 48 31.4**	**-0.1**
KSR				AML	AML	19 48 37.2	
	comp=Z,2μm,0.7s						
ERPM	**east rand prop**	**1.53**	**63**	*e*P	**Pn**	**19 48 23.3**	**-0.7**
ERPM				*e*S	**Sn**	**19 48 43.5**	**-1.0**
ERPM				AML	AML	19 48 47.2	
	comp=Z,798nm,0.4s						
SLR	**Silverton**	**1.85**	**49**	*e*P	**Pn**	**19 48 28.2**	**-0.3**
SLR				*e*S	**Sn**	**19 48 52.3**	**-0.1**
SLR				AML	AML	19 48 54.3	
	comp=Z,3μm,0.4s						
BOSA	**Boshof**	**2.10**	**218**	*e*P	**Pn**	**19 48 31.2**	**-0.8**
BOSA				*e*S	**Sn**	**19 48 57.9**	**-0.8**
BOSA				AML	AML	19 49 06.2	
	comp=Z,674nm,0.5s						
BOSA	**Boshof**	**2.10**	**218**	Pn	**Pg**	**19 48 34.6**	**-1.5**
	comp=Z,96nm,0.3s,baz=43,slow=13,SNR=1044						
BOSA				Lg		19 49 04.9	
	comp=Z,207nm,0.3s,baz=313,slow=19,SNR=26						
LBTB	**Lobatse**	**2.19**	**332**	*e*P	**Pn**	**19 48 32.8**	**-0.4**
LBTB				*e*S	**Sn**	**19 48 59.0**	**-1.8**
LBTB				AML	AML	19 49 05.3	
	comp=Z,2μm,0.6s						
LBTB	**Lobatse**	**2.19**	**332**	Pn	**Pn**	**19 48 34.8**	**+1.6**
	comp=Z,67nm,0.3s,baz=168,slow=14,SNR=609						
LBTB				Lg		19 49 02.9	
	comp=Z,456nm,0.3s,baz=253,slow=15,SNR=79						
LBTB				Rg		19 49 10.8	
	comp=Z,2μm,1.0s,baz=249,slow=20,SNR=27						
HVD	**Hendrik Verwoe**	**3.79**	**196**	*e*P	**Pn**	**19 48 54.4**	**-0.8**
HVD				*e*S	**Sn**	**19 49 38.8**	**-1.6**
HVD				AML	AML	19 50 10.1	
	comp=Z,309nm,0.5s						
POGA	**Pongola**	**4.37**	**96**	*e*P	**Pn**	**19 49 03.5**	**+0.4**
POGA				*e*S	**Sn**	**19 49 54.5**	**0.0**
POGA				AML	AML	19 50 21.4	
	comp=Z,323nm,0.9s						
UPI	**Upington**	**5.06**	**253**	*e*P	**Pn**	**19 49 11.9**	**-0.7**
UPI				*e*S	**Sn**	**19 50 08.8**	**-2.7**
UPI				AML	AML	19 50 37.4	
	comp=Z,345nm,0.4s						
MSNA	**Messina**	**5.48**	**34**	*e*P	**Pn**	**19 49 17.0**	**-1.4**
MSNA				*e*S	**Sn**	**19 50 17.1**	**-4.9**
MSNA				AML	AML	19 50 50.4	
	comp=Z,150nm,0.6s						
GRM	**Grahamstown**	**6.34**	**182**	*e*P	**Pn**	**19 49 30.0**	**-0.2**
GRM				*e*S	**Sn**	**19 50 40.0**	**-3.2**
GRM				AML	AML	19 51 18.9	
	comp=Z,101nm,0.7s						
MATP	**Matopo**	**6.70**	**14**	Pn	**Pn**	**19 49 35.3**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=196,slow=13,SNR=80						
MATP				Sn	**Sn**	**19 50 46.9**	**-5.2**
	comp=Z,6.3nm,0.3s,baz=157,slow=4.0,SNR=10.0						
MATP				Lg		19 51 18.1	
	comp=Z,12nm,0.3s,baz=286,slow=23,SNR=8.6						
SUR	**Sutherland**	**7.46**	**222**	*e*P	**Pn**	**19 49 44.9**	**-0.7**
SUR				*e*S	**Sn**	**19 51 06.4**	**-4.4**
SUR	**Sutherland**	**7.46**	**222**	Pn	**Pn**	**19 49 48.0**	**+2.4**
	comp=Z,6.5nm,0.3s,baz=57,slow=16,SNR=43						
SUR				Sn	**Sn**	**19 51 10.5**	**-0.4**
	comp=Z,11nm,0.3s,baz=325,slow=21,SNR=9.2						
SUR				Lg		19 51 47.1	
	comp=Z,31nm,0.3s,baz=146,slow=23,SNR=11						
SUR	**Sutherland**	**7.46**	**222**	Pn	**Pn**	**19 49 48.0**	**+2.4**
SUR				Sn	**Sn**	**19 51 10.5**	**-0.4**
SUR				Lg		19 51 47.1	
CVNA	**Calvinia**	**7.58**	**232**	*e*P	**Pn**	**19 49 47.1**	**-0.1**
CVNA				*e*S	**Sn**	**19 51 08.9**	**-4.7**
CVNA				AML	AML	19 51 31.2	
	comp=Z,62nm,0.4s						
KOMG	**Komaggas**	**8.62**	**249**	*e*S	**Sn**	**19 51 34.3**	**-5.0**
KOMG				AML	AML	19 52 38.2	
	comp=Z,145nm,0.4s						
CER	**Ceres**	**9.06**	**223**	*e*S	**Sn**	**19 51 44.6**	**-5.6**
CER				AML	AML	19 52 40.7	
	comp=Z,61nm,0.7s						
TSUM	**Tsumeb**	**11.42**	**311**	Pn	**Pn**	**19 50 39.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=133,slow=11,SNR=34						
TSUM				Sn	**Sn**	**19 52 40.8**	**-7.2**
	comp=Z,0.6nm,0.3s,baz=215,slow=18,SNR=3.0						
TSUM				Lg		19 53 47.1	
	comp=Z,1.0nm,0.3s,baz=64,slow=12,SNR=3.5						
LSZ	**Lusaka**	**11.70**	**7**	Pn	**Pn**	**19 50 42.4**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=186,slow=12,SNR=36						
LSZ				Sn	**Sn**	**19 52 45.8**	**-9.1**
	comp=Z,2.5nm,0.3s,baz=112,slow=6.4,SNR=8.2						
LSZ				Lg		19 53 57.0	
	comp=Z,3.4nm,0.3s,baz=262,slow=18,SNR=7.8						
DBIC	**Dimbokro**	**45.31**	**313**	P	**P**	**19 56 15.9**	**+0.9**
	comp=Z,8.5nm,1.1s,mb4.5,baz=113,slow=7.7,SNR=3.1						
MAW	**Mawson**	**46.16**	**162**	P	**P**	**19 56 22.8**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=304,slow=3.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P	**P**	**19 56 26.4**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=138,slow=5.9,SNR=38						
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P	**P**	**19 56 26.4**	**+0.5**
SNAA	**Sanae**	**47.67**	**192**	*e*P	**P**	**19 56 35.6**	**+2.0**
	comp=Z,5.6nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**63.23**	**180**	*e*P	**P**	**19 58 26.9**	**+1.3**
	comp=Z,10nm,1.3s,mb4.8						
BDFB	**Brasilia**	**69.69**	**262**	P	**P**	**19 59 08.9**	**+2.0**
	comp=Z,5.5nm,0.8s,mb4.5,baz=118,slow=2.4,SNR=8.0						
ESDC	**Sonseca Array**	**72.20**	**336**	P	**P**	**19 59 23.5**	**+1.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=154,slow=5.7,SNR=12						
VNDA	**Vanda**	**72.39**	**171**	P	**P**	**19 59 25.1**	**+1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=255,slow=11,SNR=5.3						
CPUP	**Villa Florida**	**73.63**	**248**	P	**P**	**19 59 32.3**	**+1.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=108,slow=3.2,SNR=2.8						
GERES	**GERESS Array B**	**76.35**	**351**	P	**P**	**19 59 48.1**	**+1.7**
	comp=Z,1.0nm,1.1s,mb3.7,baz=182,slow=9.1,SNR=4.8						
AKASG	**Malin Array Be**	**77.34**	**2**	P	**P**	**19 59 52.1**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.8,baz=183,slow=5.1,SNR=8.0						
LPAZ	**La Paz**	**86.96**	**253**	P	**P**	**20 00 45.0**	**+2.6**
	comp=Z,2.5nm,0.8s,mb4.5,baz=81,slow=7.2,SNR=12						
FINES	**FINESS Array B**	**88.08**	**360**	P	**P**	**20 00 49.0**	**+1.2**
	comp=Z,2.4nm,0.9s,mb4.4,baz=121,slow=9.2,SNR=5.1						
FINES	**FINESS Array B**	**88.08**	**360**	P	**P**	**20 00 49.0**	**+1.1**
ASAR	**Alice Springs**	**93.53**	**119**	P	**P**	**20 01 15.3**	**+2.1**
	comp=Z,0.2nm,0.5s,mb3.8,baz=229,slow=4.5,SNR=6.9						
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc	PKPbc	20 07 47.9	+3.6
	comp=Z,2.2nm,0.6s,baz=48,slow=4.0,SNR=17						
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc	PKPbc	20 07 47.9	+3.6

*ISCJB **12** 19:48:19.9±2.6, 731S±009×15175E±009, h57km±22km, mb4.6/22, Error ellipse: s-maj=16.0km s-min=13.4km az=111.5*
*IDC **12** 19:48:21.5±4.0, 728S×15176E, h57km±34km, mb4.1/13, mb1 4.3/15, mb1mx4.2/18, mbtmp4.4/15, ML3.4/2, Error ellipse: s-maj=23.2km s-min=17.8km az=60.0*
*NEIC **12** 19:48:21.3±1.5, 732S×15172E, h56km±13km, mb4.7/6, Error ellipse: s-maj=10.7km s-min=9.4km az=63.0*
*BJI **12** 19:48:26.2, 623S×151.18E, h56km, mb4.7*

ISC 12 19:48:21.5±2.1, 733S±009×15179E±009, h57km±18km, n43, σ1°00/41, mb4.6/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**245**	P	**Pn**	**19 49 34.1**	**-0.2**
	3.5nm,0.3s,baz=39,slow=12,SNR=10						
PMG				S	**Sn**	**19 50 33.1**	**+2.1**
	4.5nm,0.3s,baz=44,slow=23,SNR=20						
CTA	**Charters Tower**	**13.78**	**202**	P	**Pn**	**19 51 32.9**	**-1.0**
	0.3nm,0.3s,baz=52,slow=13,SNR=3.5						
KAKA	**Kakadu**	**19.78**	**253**	*e*P	**Pn**	**19 52 46.6**	**-2.3**
	14nm,0.6s						
DZM	**Mont Dzumac**	**20.36**	**138**	P	**P**	**19 52 53.4**	**+0.1**
	1.7nm,0.7s,baz=67,slow=6.8,SNR=2.7						
WB2	**Warramunga Arr**	**21.05**	**232**	*e*P	**P**	**19 53 00.4**	**-0.3**
WRA	**Warramunga Arr**	**21.06**	**232**	P	**P**	**19 53 00.5**	**-0.3**
	14nm,0.9s,mb4.3,baz=56,slow=10,SNR=46						
AS31	**Alice Springs**	**23.63**	**225**	*e*P	**P**	**19 53 27.5**	**+0.1**
ASAR	**Alice Springs**	**23.64**	**225**	P	**P**	**19 53 27.3**	**-0.2**
	4.8nm,0.7s,mb4.1,baz=57,slow=8.7,SNR=55						
ASAR				S	**S**	**19 57 45.1**	**+7.3**
	1.0nm,1.0s,baz=32,slow=26,SNR=4.0						
ASPA	**Alice Springs**	**23.64**	**225**	*e*P	**P**	**19 53 27.5**	**0.0**
STKA	**Stephens Creek**	**26.21**	**200**	P	**P**	**19 53 52.1**	**+1.3**
	17nm,0.9s,mb4.6,baz=357,slow=8.3,SNR=26						
STKA	**Stephens Creek**	**26.21**	**200**	*e*P	**P**	**19 53 51.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.62**	**245**	*e*P	**P**	**19 54 03.4**	**-0.1**
	16nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.62**	**245**	P	**P**	**19 54 03.8**	**+0.2**
	6.0nm,0.6s,mb4.4,baz=65,slow=8.1,SNR=30						
CHTO	**Chiang Mai**	**58.20**	**297**	*e*P	**P**	**19 58 10.3**	**+0.6**
	14nm,1.3s,mb4.8						
GTA	**Gaotai**	**66.84**	**318**	*e*P	**P**	**19 59 08.5**	**+1.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**67.93**	**329**	P	**P**	**19 59 14.9**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.7,baz=131,slow=5.5,SNR=21						
LSA	**Lhasa**	**68.85**	**306**	P	**P**	**19 59 21.4**	**+1.4**
LSA	**Lhasa**	**68.85**	**306**	*e*P	**P**	**19 59 21.3**	**+1.3**
	comp=Z,9.6nm,0.8s,mb4.8						
VNDA	**Vanda**	**70.36**	**178**	P	**P**	**19 59 29.8**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=346,slow=9.4,SNR=5.1						
VNDA	**Vanda**	**70.36**	**178**	P	**P**	**19 59 29.8**	**+0.5**
GUN	**Gumba**	**72.58**	**302**	*e*P	**P**	**19 59 43.3**	**+0.7**
	comp=Z,26nm,0.7s,mb5.3						
PKI	**Pulchoki**	**72.87**	**302**	*e*P	**P**	**19 59 44.6**	**+0.3**
KKN	**Kakani**	**73.05**	**302**	*e*P	**P**	**19 59 45.6**	**+0.2**
	comp=Z,9.0nm,0.6s,mb4.9						
DMN	**Daman**	**73.14**	**302**	*e*P	**P**	**19 59 46.2**	**+0.3**
	comp=Z,14nm,0.6s,mb5.1						
GKN	**Gorkha**	**73.65**	**302**	*e*P	**P**	**19 59 48.4**	**-0.6**
	comp=Z,17nm,0.8s,mb5.1						
KOLN	**Koldanda**	**74.46**	**301**	*e*P	**P**	**19 59 51.3**	**-2.4**
	comp=Z,18nm,0.7s,mb5.1						
WMQ	**Urumqi**	**76.92**	**318**	*e*P	**P**	**20 00 08.0**	**+0.3**
SVW2	**Sparrevohn**	**79.53**	**23**	*e*P	**P**	**20 00 22.5**	**+0.4**
MK31	**Makanchi Array**	**81.56**	**319**	*e*P	**P**	**20 00 33.0**	**0.0**
MKAR	**Makanchi Array**	**81.56**	**319**	P	**P**	**20 00 33.0**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=102,slow=7.2,SNR=14						
QSPA	**South Pole Qui**	**82.65**	**180**	*e*P	**P**	**20 00 39.4**	**+0.7**
	comp=Z,3.0nm,0.4s,mb4.7						
ZAL	**Zalesovo**	**82.70**	**327**	P	**P**	**20 00 37.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=354,slow=6.6,SNR=12						
MAW	**Mawson**	**82.87**	**203**	P	**P**	**20 00 38.6**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=111,slow=13,SNR=4.2						
EGAK	**Eagle**	**87.06**	**23**	*e*P	**P**	**20 01 00.9**	**0.0**
DAWY	**Dawson**	**87.49**	**24**	*e*P	**P**	**20 01 04.0**	**+1.0**
CHKZ	**Chkalovo**	**90.64**	**324**	*e*P	**P**	**20 01 15.7**	**-2.1**
	comp=Z,1.4nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**90.65**	**323**	P	**P**	**20 01 16.5**	**-1.3**
	comp=Z,0.7nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=4.3						
INK	**Inuvik**	**91.16**	**21**	P	**P**	**20 01 18.9**	**-1.3**
	comp=Z,5.5nm,0.9s,mb4.9,baz=214,slow=3.6,SNR=4.4						
NVAR	**Mina Array Bea**	**94.43**	**52**	P	**P**	**20 01 37.1**	**+1.9**
	comp=Z,1.8nm,0.8s,mb4.6,baz=258,slow=6.5,SNR=12						
GERES	**GERESS Array B**	**125.64**	**327**	PKP	PKPdf	20 07 15.9	-0.5
	comp=Z,0.2nm,0.3s,baz=45,slow=0.8,SNR=4.4						
CPUP	**Villa Florida**	**136.21**	**141**	PKP	PKPdf	20 07 37.5	+1.1
	comp=Z,0.3nm,0.3s,baz=305,slow=2.7,SNR=4.1						
BDFB	**Brasilia**	**149.91**	**139**	PKPbc	PKPbc	20 08 07.0	+1.8
	comp=Z,7.6nm,0.8s,baz=79,slow=0.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**150.02**	**284**	PKPbc	PKPbc	20 08 06.3	+0.7
	comp=Z,8.6nm,0.7s,baz=65,slow=2.5,SNR=52						

*IDC **12** 19:57:07.9±1.1, 5197N×17337E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/25, mbtmp4.0/13, Error ellipse: s-maj=32.1km s-min=21.2km az=2.0*
*NEIC **12** 19:57:09.4±2.6, 5192N×17336E, h11km±13km, mb4.8/1, Error ellipse: s-maj=18.7km s-min=12.2km az=182.0*
*ISCJB **12** 19:57:11.9±3.0, 521N±02×1734E±02, h39km±22km, mb4.1/14, Error ellipse: s-maj=32.1km s-min=19.0km az=12.9*

ISC 12 19:57:11.5±3.5, 521N±02×1733E±02, h23km±21km, n21, σ0°63/20, mb4.1/14, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.83**	**34**	*e*P	**Pb**	**19 57 27.3**	**+0.1**
KDAK	**Kodiak Island**	**20.26**	**60**	P	**P**	**20 01 44.6**	**-0.6**
	5.1nm,0.3s,baz=284,slow=3.1,SNR=16						
IMA2	**Indian Mountai**	**21.65**	**37**	*e*P	**P**	**20 02 01.2**	**+0.9**
NVAR	**Mina Array Bea**	**48.26**	**78**	P	**P**	**20 05 50.5**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=305,slow=11,SNR=2.2						
PDAR	**Pinedale Array**	**50.69**	**68**	P	**P**	**20 06 08.8**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=327,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**55.69**	**304**	P	**P**	**20 06 45.4**	**-0.5**
	0.5nm,0.4s,mb3.9,baz=52,slow=7.5,SNR=6.2						
ARCES	**ARCESS Array B**	**56.47**	**347**	P	**P**	**20 06 50.7**	**-0.8**
	4.6nm,1.0s,mb4.5,baz=30,slow=7.2,SNR=6.9						
BVAR	**Borovoye Array**	**57.10**	**315**	P	**P**	**20 06 55.9**	**-0.1**
	1.3nm,0.5s,mb4.2,baz=60,slow=7.0,SNR=8.9						
JOF	**Joensuu**	**61.54**	**341**	*e*p	**P**	**20 07 25.6**	**-1.1**
	4.9nm,0.5s,mb4.9						
SCHQ	**Schefferville**	**62.37**	**35**	P	**P**	**20 07 32.7**	**+0.4**
	5.5nm,0.7s,mb4.8,baz=295,slow=2.1,SNR=5.6						
SCHQ	**Schefferville**	**62.37**	**35**	P	**P**	**20 07 32.7**	**+0.4**
KAF	**Kangasniemi**	**63.22**	**343**	*e*p	**P**	**20 07 37.3**	**-0.7**
	2.7nm,0.4s,mb4.7,baz=18,slow=5.8						
FINES	**FINESS Array B**	**63.89**	**343**	P	**P**	**20 07 42.5**	**+0.2**
	2.6nm,0.8s,mb4.3,baz=24,slow=10,SNR=9.4						
AKTK	**Aktyubinsk**	**64.17**	**320**	P	**P**	**20 07 44.5**	**+0.3**
AKTO	**Aktyubinsk**	**64.17**	**320**	P	**P**	**20 07 44.5**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=33,slow=7.5,SNR=5.9						
NB2	**NORSAR Subarra**	**66.36**	**351**	P	**P**	**20 07 58.0**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=12,slow=6.9						
NOA	**NORSAR Array B**	**66.36**	**351**	P	**P**	**20 07 58.3**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=12,slow=6.4,SNR=4.7						
GERES	**GERESS Array B**	**78.00**	**346**	P	**P**	**20 09 08.9**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=52,slow=5.4,SNR=5.0						
WRA	**Warramunga Arr**	**79.35**	**217**	P	**P**	**20 09 15.5**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=29,slow=6.3,SNR=3.8						
BRTR	**Keskin Array B**	**82.10**	**330**	P	**P**	**20 09 31.6**	**+1.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=26,slow=9.1,SNR=3.1						
MAW	**Mawson**	**144.02**	**218**	PKP	PKPdf	20 16 41.7	-3.4
	comp=Z,2.5nm,0.6s,baz=74,slow=3.4,SNR=8.2						

*NEIC **12** 19:59:12.9, 3136S×7176W, h32km, ML3.4(GUC), After GUC.*

GUC 12 19:59:12.9±0.8, 3136S×7176W, h32km±2km, MD4.1, ML3.4, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.57**	**157**	*e*P	Pb	19 59 24.4	-0.1
CHNG				*i* S	Sb	19 59 31.8	-0.6
PTCH	**Petorca**	**1.15**	**142**	*e*P	Pn	19 59 33.6	+0.9
PTCH				*i* S	Sn	19 59 48.2	+1.0
PTCH				AML	AML	19 59 49.6	
	comp=E,4μm,0.5

CHNG	**Los Chungos**	**0.57 135**	*e*P	Pb	20 15 46.0	-0.9
CHNG			*i* S	Sb	20 15 54.8	+0.2
PACH	**Papudo**	**1.15 157**	*i* P	Pn	20 15 55.5	-1.0
PACH			*i* S	Sb	20 16 11.3	0.0
PTCH	**Petorca**	**1.19 132**	*e*P	Pn	20 15 56.2	-0.8
PTCH			*i* S	Sb	20 16 11.4	-0.9
PTCH			AML	AML	20 16 14.7	
	comp=N,4μm,0.2s					
PTCH	**Petorca**	**1.19 132**	*e*P	Pn	20 15 56.2	-0.8
PTCH			*i* S	Sb	20 16 11.4	-0.9
TLL	**Tololo Astrono**	**1.65 38**	*e*P	Pn	20 16 04.2	+0.9
TLL			*i* S	Sn	20 16 24.0	0.0
JACH	**Jahuel**	**1.68 136**⇓	*i*P	Pn	20 16 04.3	+0.4
JACH			*i* S	Sn	20 16 26.2	+1.4
LSCH	**La Serena**	**1.69 22**	*e*P	Pn	20 16 04.0	+0.1
LSCH			*i* S	Sn	20 16 25.4	+0.5
PEL	**Peldehue**	**1.99 147**⇑	*i*P	Pn	20 16 08.7	+0.6
PEL			*i* S	Sn	20 16 34.4	+1.9
PEL			AML	AML	20 16 40.6	
	comp=N,1μm,0.4s					
PEL	**Peldehue**	**1.99 147**⇑	*i*P	Pn	20 16 08.7	+0.6
PEL			*i* S	Sn	20 16 34.4	+1.9
CLCH	**Cerro Calan**	**2.27 148**	*i* S	Sn	20 16 41.6	+2.3
CLCH			AML	AML	20 16 52.7	
	comp=E,662nm,0.5s					
FCH	**Farellones**	**2.33 143**	*e*P	Pn	20 16 14.3	+1.5
FCH			*i* S	Sn	20 16 44.6	+3.7
FCH			AML	AML	20 16 49.7	
	comp=E,370nm,0.1s					
TACH	**Talagante**	**2.34 158**	*e*P	Pn	20 16 14.5	+1.6

NEIC ***12*** *20:27:48.0, 1652N×95.13W, h85km, MD3.7(MEX), After MEX.*

MEX 12 20:27:48.3±0.7, 1651N×9512W, h82km±12km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.63**	**21**	*i* P	Pn	20 28 02.2	-1.1
CMIG				*i* S	Sn	20 28 12.8	-1.7
HUIG	**Huatulco**	**1.20**	**232**	*i* P	Pn	20 28 08.1	-1.8
HUIG				*i* S	Sn	20 28 25.0	-1.0
OXX	**Oaxaca**	**1.64**	**291**	*e*P	Pn	20 28 15.0	-0.4
OXX				*i* S	Sn	20 28 35.0	-1.0
VHO	**Vista Hermosa**	**1.64**	**290**	*i* P	Pn	20 28 14.4	-1.0
VHO				*i* S	Sn	20 28 34.2	-1.9
UTMO	**Huajuapan**	**2.88**	**298**	*i* P	Pn	20 28 31.0	-1.0
UTMO				*i* S	Sn	20 29 03.5	-2.2

JMA ***12*** *20:57:18.7±0.5, 3338N×13844E, h316km±5km, M4.1*
BJI ***12*** *20:57:18.4, 3332N×13831E, h309km, mB4.8, mb4.4*
ISCJB ***12*** *20:57:19.7±0.4, 3338N±005×13835E±006, h306km±2km, mb4.0/22, Error ellipse: s-maj=7.9km s-min=7.3km az=86.9*
IDC ***12*** *20:57:21.0±0.6, 3332N×138.16E, h295km±6km, mb3.6/14, mb1 3.8/15, mb1mx3.7/24, mbtmp4.3/15, Error ellipse: s-maj=16.8km s-min=9.1km az=69.0*
NEIC ***12*** *20:57:20.1±0.6, 3331N×138.14E, h289km±6km, mb4.3/9, Error ellipse: s-maj=10.3km s-min=6.9km az=69.0*

ISC 12 20:57:20.7±0.4, 3341N±005×13834E±006, h300km±2km, h296km±4km: pP-P, n58, σ0=83/67, mb4.0/22, 7C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**300**	P	Pn	**20 57 59.6**	**-0.3**
TK02	**Tokai 2**	**0.72**	**318**	⇑P	Pn	**20 58 00.2**	**+0.2**
TK03	**Tokai 3**	**0.82**	**338**	P	Pn	**20 58 01.0**	**+0.7**
TK03				S	S	**20 58 33.5**	**+1.7**
TK04	**Tokai 4**	**1.05**	**339**	⇑P	Pn	**20 58 01.9**	**+0.6**
JHJ	**Hachijo jima 2**	**1.24**	**103**	P	Pn	**20 58 01.7**	**-0.6**
	55nm,0.3s,baz=49,slow=0.8,SNR=13						
JHJ				S	S	**20 58 37.1**	**+1.7**
	60nm,0.3s,baz=68,slow=23,SNR=7.3						
JHJ2	**Mitsune**	**1.27**	**103**	P	Pn	**20 58 02.3**	**-0.2**
JIE	**Ise**	**1.68**	**306**	⇑P	Pn	**20 58 05.0**	**0.0**
JOD2	**Odawara 2**	**1.95**	**18**	⇓P	Pn	**20 58 07.0**	**-0.1**
JYN	**Shimob**	**2.09**	**5**	⇓P	Pn	**20 58 08.6**	**+0.4**
JWZ	**Kozaga**	**2.20**	**274**	⇑P	Pn	**20 58 08.4**	**-0.7**
JWY	**Kouya**	**2.42**	**290**	⇑P	Pn	**20 58 11.4**	**+0.4**
JWY				S	S	**20 58 50.9**	**-0.3**
BSO1	**Boso 1**	**2.52**	**60**	P	Pn	**20 58 10.1**	**-1.8**
BSO1				S	S	**20 58 51.0**	**-1.7**
JRY	**Ryogami san**	**2.64**	**10**	⇓P	Pn	**20 58 13.4**	**+0.4**
JRY				S	S	**20 58 54.4**	**-0.4**
JGM	**Miyama**	**2.65**	**330**	⇑P	Pn	**20 58 13.6**	**+0.5**
JGM				S	S	**20 58 55.9**	**+1.1**
JWT	**Wachi**	**3.07**	**308**	S	S	**20 59 01.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.13**	**358**	P	Pn	**20 58 17.6**	**-0.1**
	46nm,0.3s,baz=171,slow=11,SNR=440						
MJAR				S	S	**20 59 03.6**	**+0.3**
	baz=166,slow=15,SNR=2.4						
MAJO	**Matsushiro**	**3.13**	**358**	*e*P	Pn	**20 58 17.6**	**-0.1**
MAT	**Matsushiro**	**3.13**	**358**	P	Pn	**20 58 17.9**	**+0.2**
MAT				S	S	**20 59 03.1**	**-0.2**
MAT	**Matsushiro**	**3.13**	**358**	P	Pn	**20 58 17.8**	**+0.1**
MAT				S	S	**20 59 02.5**	**-0.8**
JAG	**Ashikaga**	**3.15**	**17**	⇓P	Pn	**20 58 16.6**	**-1.3**
JAI	**Aioi**	**3.27**	**278**	⇑P	Pn	**20 58 18.6**	**-0.5**
JKG	**Kaga**	**3.31**	**331**	P	Pn	**20 58 19.8**	**+0.3**
JHS	**Saijyo**	**4.61**	**292**	P	Pn	**20 58 34.1**	**+0.4**
JTO	**Tosashimizu**	**4.68**	**265**	P	Pn	**20 58 34.0**	**-0.5**
CBIJ	**Chichi jima**	**7.12**	**151**	P	Pn	**20 58 58.5**	**-4.9**
	37nm,0.3s,baz=301,slow=22,SNR=9.4						
CBIJ				S	S	**21 00 15.9**	**-11**
	81nm,0.3s,baz=292,slow=22,SNR=14						
ASAJ	**Asahikawa**	**11.20**	**16**	P	Pn	**20 59 52.4**	**-1.0**
	5.1nm,0.3s,baz=214,slow=6.2,SNR=24						
MDJ	**Mudanjiang**	**13.09**	**331**	*e*P	Pn	**21 00 15.2**	**-1.1**
	15nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.94**	**13**	*e*P	Pn	**21 00 26.5**	**0.0**
	50nm,0.4s						
CN2	**Changchun**	**14.45**	**320**	*e*P	P	**21 00 31.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
BJT	**Baijiatuan**	**18.94**	**297**	*e*P	P	**21 01 18.6**	**-1.6**
HIA	**Hailar**	**21.03**	**324**	*e*P	P	**21 01 40.8**	**-1.0**
	comp=Z,13nm,0.8s,mb4.3						
SONM	**Songino Array**	**27.97**	**311**	P	P	**21 02 45.3**	**+1.1**
	comp=Z,4.0nm,0.6s,mb4.0,baz=126,slow=10,SNR=19						
SONM				pP		21 03 43.3	
	comp=Z,1.2nm,0.7s,baz=114,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**44.02**	**305**	P	P	**21 04 59.1**	**0.0**
	comp=Z,1.7nm,0.4s,mb3.6,baz=86,slow=9.6,SNR=43						
MKAR				ScP	ScP	21 10 02.4	+1.0
	comp=Z,0.5nm,0.7s,baz=86,slow=5.6,SNR=3.0						
CHKZ	**Chkalovo**	**51.02**	**315**	*e*P	P	**21 05 52.2**	**-0.4**
	comp=Z,6.5nm,0.7s,mb4.1						
CHKZ				*e*pP	pP	21 06 54.9	-1.0
BVAR	**Borovoye Array**	**51.21**	**314**	P	P	**21 05 54.0**	**0.0**
	comp=Z,2.4nm,0.3s,mb4.0,baz=95,slow=7.4,SNR=26						
BVAR				pP	pP	21 06 57.1	-0.4
	comp=Z,1.1nm,0.8s,baz=100,slow=7.9,SNR=2.5						
BRVK	**Borovoye**	**51.27**	**314**	*e*P	P	**21 05 54.4**	**-0.1**
	comp=Z,1.9nm,0.4s,mb3.8						
KDAK	**Kodiak Island**	**51.48**	**40**	P	P	**21 05 57.3**	**+1.3**
	comp=Z,3.0nm,0.5s,mb3.9,baz=300,slow=21,SNR=5.6						
ZRNK	**Zerenda**	**52.05**	**314**	*e*P	P	**21 06 00.3**	**0.0**
	comp=Z,6.5nm,1.0s,mb3.9						
ZRNK				*e*pP	pP	21 07 03.4	-0.4
WB2	**Warramunga Arr**	**53.19**	**185**	*e*P	P	**21 06 07.7**	**-0.8**
WRA	**Warramunga Arr**	**53.19**	**185**	P	P	**21 06 07.7**	**-0.8**
	comp=Z,2.4nm,0.4s,mb3.9,baz=0.4,slow=7.7,SNR=82						
AS31	**Alice Springs**	**56.91**	**185**	*e*P	P	**21 06 34.3**	**-0.7**
ASAR	**Alice Springs**	**56.91**	**185**	P	P	**21 06 35.5**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.4,baz=18,slow=11,SNR=19						
ARU	**Arti**	**57.44**	**320**	*e*P	P	**21 06 38.7**	**0.0**
	comp=Z,8.3nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**59.26**	**313**	P	P	**21 06 52.0**	**+0.9**
AKTO	**Aktyubinsk**	**59.26**	**313**	P	P	**21 06 52.0**	**+0.9**
	comp=Z,2.8nm,0.6s,mb3.9,baz=76,slow=14,SNR=12						
STKA	**Stephens Creek**	**65.01**	**177**	P	P	**21 07 28.8**	**-0.2**
	comp=Z,1.6nm,0.6s,mb3.8,baz=23,slow=7.7,SNR=4.7						
KEV	**Kevo**	**65.93**	**339**	*ep*	P	**21 07 34.2**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**66.50**	**339**	P	P	**21 07 38.9**	**+0.4**
	comp=Z,1.4nm,0.5s,mb3.9,baz=66,slow=7.5,SNR=16						
JOF	**Joensuu**	**67.97**	**332**	*ep*	P	**21 07 47.2**	**-0.5**
	comp=Z,4.0nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**70.36**	**332**	*ep*	P	**21 08 01.7**	**-0.6**
	comp=Z,6.0nm,0.4s,mb4.7,baz=53,slow=5.6						
FINES	**FINESS Array B**	**70.83**	**332**	P	P	**21 08 05.3**	**+0.2**
	comp=Z,3.9nm,0.4s,mb4.4,baz=59,slow=6.6,SNR=70						
FINES	**FINESS Array B**	**70.83**	**332**	P	P	**21 08 05.3**	**+0.2**
NB2	**NORSAR Subarra**	**76.53**	**336**	P	P	**21 08 38.2**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**76.53**	**336**	P	P	**21 08 38.5**	**+0.4**
	comp=Z,3.0nm,0.7s,mb4.1,baz=43,slow=5.5,SNR=11						
NVAR	**Mina Array Bea**	**79.20**	**51**	P	P	**21 08 55.2**	**+2.6**
	comp=Z,1.2nm,0.7s,mb3.8,baz=298,slow=6.4,SNR=4.0						
BRTR	**Keskin Array B**	**79.33**	**311**	P	P	**21 08 54.5**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=135,slow=6.8,SNR=5.2						
PDAR	**Pinedale Array**	**82.01**	**44**	P	P	**21 09 10.0**	**+2.5**
	comp=Z,0.4nm,0.6s,mb3.4,baz=300,slow=1.8,SNR=3.7						
LPAZ	**La Paz**	**150.68**	**61**	PKPbc	PKPbc	21 16 39.8	+2.5
	comp=Z,1.3nm,0.7s,baz=14,slow=2.1,SNR=8.7						

NEIC ***12*** *21:02:54.4, 3137S×7172W, h34km, ML4.1(GUC), After GUC.*

GUC 12 21:02:54.4±0.7, 3137S×7172W, h34km±2km, MD4.2, ML4.1, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**160**	*e*P	Pb	21 03 05.3	-0.4
CHNG				*i* S	Sb	21 03 13.2	-0.3
PTCH	**Petorca**	**1.12**	**143**⇓	*i*P	Pn	21 03 14.6	+0.9
PTCH				*i* S	Sn	21 03 29.0	+1.2
PTCH				AML	AML	21 03 30.9	
	comp=E,10μm,0.1s						
PTCH	**Petorca**	**1.12**	**143**⇓	*i*P	Pn	21 03 14.6	+0.9
PTCH				*i* S	Sn	21 03 29.0	+1.2
PACH	**Papudo**	**1.19**	**168**	*e*P	Pn	21 03 15.7	+1.1
PACH				*i* S	Sn	21 03 31.2	+1.7
LSCH	**La Serena**	**1.52**	**16**⇓	*e*P	Pn	21 03 20.1	+1.0
LSCH				*i* S	Sn	21 03 40.1	+2.4
JACH	**Jahuel**	**1.62**	**144**	*e*P	Pn	21 03 22.6	+2.0
JACH				*i* S	Sn	21 03 43.1	+2.9
ROCH	**El Roble**	**1.71**	**159**	*e*P	Pn	21 03 23.5	+1.7
ROCH				*i* S	Sn	21 03 45.6	+3.2
PEL	**Peldehue**	**1.97**	**154**	*e*P	Pn	21 03 27.0	+1.6
PEL				*i* S	Sn	21 03 52.1	+3.1
PEL				AML	AML	21 03 57.0	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**1.97**	**154**	*e*P	Pn	21 03 27.0	+1.6
PEL				*i* S	Sn	21 03 52.1	+3.1
LCCH	**Las Cruces**	**2.10**	**177**⇓	*i*P	Pn	21 03 28.4	+1.2
RCDM	**Rinconada Maip**	**2.25**	**160**	*e*P	Pn	21 03 30.7	+1.5
RCDM				*i* S	Sn	21 03 58.7	+2.9
RCDM				AML	AML	21 04 02.3	
	comp=E,891nm,0.4s						
RCDM	**Rinconada Maip**	**2.25**	**160**	*e*P	Pn	21 03 30.7	+1.5
RCDM				*i* S	Sn	21 03 58.7	+2.9
CLCH	**Cerro Calan**	**2.25**	**154**	*e*P	Pn	21 03 31.0	+1.8
CLCH				AML	AML	21 04 08.6	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**2.30**	**149**⇑	*e*P	Pn	21 03 32.1	+2.3
FCH				*i* S	Sn	21 04 00.4	+3.5
FCH				AML	AML	21 04 11.1	
	comp=E,919nm,0.3s						
TACH	**Talagante**	**2.37**	**164**	*e*P	Pn	21 03 32.5	+1.7
PCH	**Pirque**	**2.46**	**156**	*e*P	Pn	21 03 34.0	+1.9
PCH				*i* S	Sn	21 04 03.5	+2.4
CHCH	**Chadas Angostu**	**2.71**	**161**	*e*P	Pn	21 03 37.1	+1.6
CACH	**El Canelo**	**2.90**	**161**	*e*P	Pn	21 03 40.6	+2.5
SFDO	**San Fernando**	**3.29**	**170**⇑	*i*P	Pn	21 03 44.7	+1.2

IDC 12 21:05:15.7±2.7, 434S×15321E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/12, mbtmp3.9/3, Error ellipse: s-maj=96.5km s-min=43.9km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.04**	**228**	*e*P	P	21 10 33.0	+0.6
WRA	**Warramunga Arr**	**24.05**	**228**	P	P	21 10 33.4	+0.9
	2.2nm,0.5s,baz=53,slow=9.9,SNR=34						
ASAR	**Alice Springs**	**26.76**	**222**	P	P	21 10 57.2	+0.2
	0.5nm,0.8s,baz=59,slow=9.0,SNR=3.9						
STKA	**Stephens Creek**	**29.48**	**200**	P	P	21 11 21.4	+0.1
	1.5nm,0.7s,baz=51,slow=13,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.54**	**289**	PKPbc	PKPbc	21 25 10.1	+0.7
	0.9nm,1.0s,baz=79,slow=2.1,SNR=8.3						

NAO ***12*** *21:16:46.1, 4232N×4165E, h33km, mb4.4*
BJI ***12*** *21:16:47.8, 4366N×4489E, h164km, mB5.0, mb5.1*
MOS ***12*** *21:16:50.5±1.1, 4365N×4562E, h154km, mb4.7/75, Error ellipse: s-maj=4.2km s-min=2.9km az=29.4*
SZGRF ***12*** *21:16:50.5, 4243N×4551E, h180km, mb4.5, Eastern Caucasus*
ISCJB ***12*** *21:16:51.0±0.1, 4367N±002×4558E±002, h154km±1km, mb4.6/158, Error ellipse: s-maj=3.0km s-min=2.0km az=13.5*
CSEM ***12*** *21:16:51.2±0.0, 4365N×4550E, h164km, mb4.6/99, Error ellipse: s-maj=1.5km s-min=1.2km az=153.0*
NEIC ***12*** *21:16:53.0±0.2, 4353N×4557E, mb4.6/97, Error ellipse: s-maj=4.2km s-min=3.5km az=167.0*
IDC ***12*** *21:16:53.4±0.7, 4357N×4554E, h169km±6km, mb4.3/26, mb1 4.3/30, mb1mx4.3/34, mbtmp4.8/30, MS3.1/1, Ms1 3.1/1, ms1mx2.5/41, Error ellipse: s-maj=7.3km s-min=6.5km az=167.0*
NNC ***12*** *21:16:58.2±1.9, 4374N×4664E, h127km±14km, mb4.1, Error ellipse: s-maj=35.9km s-min=12.6km az=117.0*

ISC 12 21:16:52.1±0.1, 4370N±002×4556E±002, h149km±1km, h156km±4.5km: pP-P, n699, σ1=12/761, mb4.6/158, 80C-31D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.60**	**273**	*i* P	Pn	**21 17 15.3**	**+1.5**
TRKR				*i* S	Sn	**21 17 33.2**	**+2.8**
BTKR	**Batakoyurt**	**0.81**	**247**	*i* P	Pn	**21 17 16.1**	**+0.9**
BTKR				*i* S	Sn	**21 17 34.4**	**+1.6**
SNJR	**Sundja**	**0.83**	**221**	*i* P	Pn	**21 17 16.0**	**+0.6**
SNJR				*i* S	Sn	**21 17 34.3**	**+1.1**
VLKR	**Vladikavkaz**	**0.91**	**225**	*i* P	Pn	**21 17 16.5**	**+0.5**
VLKR				*i* S	Sn	**21 17 35.2**	**+0.9**
PRTR	**Priterechnaya**	**0.93**	**274**	*i* P	Pn	**21 17 17.2**	**+1.1**
PRTR				*i* S	Sn	**21 17 36.6**	**+2.1**
KMSR	**Komsomolskaya**	**0.97**	**251**	*i* P	Pn	**21 17 17.2**	**+0.7**
KMSR				*i* S	Sn	**21 17 36.3**	**+1.1**
DLMR	**Dylym**	**1.00**	**128**⇓	*i*P	Pn	**21 17 12.5**	**-4.3**
DLMR				*i* S	Sn	**21 17 30.8**	**-4.8**
DLMR				pmax	pmax		
	comp=Z,9μm,0.6s						
ARNR	**Ardon**	**1.06**	**242**	*i* P	Pn	**21 17 17.6**	**+0.3**
ARNR				*i* S	Sn	**21 17 37.2**	**+0.7**
BTLR	**Botlikh**	**1.14**	**155**	*i* P	Pn	**21 17 14.9**	**-3.1**
BTLR				*e*S	Sn	**21 17 34.0**	**-3.8**
DBC	**Dubki**	**1.15**	**126**⇓	*i*P	Pn	**21 17 14.5**	**-3.6**
DBC				*i* S	Sn	**21 17 33.5**	**-4.4**
LACR	**Lac**	**1.27**	**227**	*i* P	Pn	**21 17 19.0**	**-0.2**
LACR				*i* S	Sn	**21 17 38.3**	**-1.6**
UNCR	**Uncukul**	**1.34**	**137**	*i* P	Pn	**21 17 17.0**	**-2.9**
UNCR				*i* S	Sn	**21 17 37.0**	**-4.1**
XNZR	**Khunzakh**	**1.43**	**144**	*i* P	Pn	**21 17 21.0**	**+0.2**
XNZR				*e*S	Sn	**21 17 42.5**	**-0.3**
BUJR	**Buynaksk**	**1.43**	**127**	*i* P	Pn	**21 17 20.0**	**-0.8**
BUJR				*i* S	Sn	**21 17 41.0**	**-1.8**
ZEI	**Tsey**	**1.52**	**233**	*i* P	Pn	**21 17 21.3**	**-0.5**
ZEI				*i* S	Sn	**21 17 42.6**	**-2.0**
KUBR	**Kubataba**	**1.56**	**274**	*c* iP	Pn	**21 17 22.9**	**+0.7**
KUBR	**Kubataba**	**1.56**	**274**	*i* P	Pn	**21 17 22.9**	**+0.7**
MAK	**Makhachkala**	**1.60**	**117**⇑	*i*P	Pn	**21 17 23.7**	**+1.1**
MAK				*i*		21 17 47.1	
MAK				pmax	pmax		
	comp=Z,6μm,0.9s						
MAK				smax			
	comp=N,30μm,0.7s						
MAK				smax			
	comp=E,29μm,0.7s						
MAK	**Makhachkala**	**1.60**	**117**	*i* P	Pn	**21 17 23.7**	**+1.1**
	comp=E,6μm,0.9s						
MAK				*i* S	Sn	**21 17 47.1**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.65**	**242**	*i* P	Pn	**21 17 22.7**	**-0.4**
DIGR				*i* S	Sn	**21 17 45.1**	**-1.8**
GNBR	**Gunib**	**1.67**	**141**⇑	*i*P	Pn	**21 17 20.8**	**-2.5**
GNBR				*e*S	Sn	**21 17 43.2**	**-4.1**
GNBR				pmax	pmax		
	comp=Z,1μm,0.3s						
GNBR	**Gunib**	**1.67**	**141**	*i* P	Pn	**21 17 20.8**	**-2.5**
	comp=Z,1μm,0.3s						
ONI	**Oni**	**1.90**	**235**	P	Pn	**21 17 26.7**	**+0.7**
ONI				S	Sn	**21 17 51.6**	**-0.4**
KMKR	**Kumukh**	**1.93**	**144**⇑	*i*P	Pn	**21 17 24.0**	**-2.3**
KMKR				*i* S	Sn	**21 17 48.0**	**-4.7**
KMKR				pmax	pmax		
	comp=Z,1μm,0.3s						
KMKR	**Kumukh**	**1.93**	**144**	*i* P	Pn	**21 17 24.0**	**-2.3**
	comp=Z,1μm,0.3s						
BEYR	**Belyy Ugol+**	**2.01**	**280**	*i* P	Pn	**21 17 27.5**	**+0.3**
BEYR				*i* S	Sn	**21 17 53.2**	**-1.0**
TBLG	**Delisi**	**2.06**	**197**	P	Pn	**21 17 28.3**	**+0.5**
TBLG				S	Sn	**21 17 55.2**	**0.0**
MTA	**Mtatsminda**	**2.08**	**196**	P	Pn	**21 17 27.8**	**-0.2**
MTA				S	Sn	**21 17 54.7**	**-1.1**
MTA	**Mtatsminda**	**2.08**	**196**	P	Pn	**21 17 27.8**	**-0.3**
MTA				S	Sn	**21 17 54.7**	**-1.0**
KIV0	**Kislovodsk Arr**	**2.09**	**278**	*i* P	Pn	**21 17 28.5**	**+0.4**
KIV0				*e*S	Sn	**21 17 54.9**	**-0.9**
KIV	**Kislovodsk**	**2.09**	**278**	*i* P	Pn	**21 17 28.6**	**+0.4**
KIV				*i* S	Sn	**21 17 55.1**	**-0.9**
KIV	**Kislovodsk**	**2.09**	**278**	P	Pn	**21 17 27.2**	**-1.0**
KIV				*i* S	Sn	**21 17 55.0**	**-1.0**
SHAR	**Shatzhatmas**	**2.09**	**272**	*c i* P	Pn	**21 17 28.5**	**+0.3**
URKR	**Urkarakh**	**2.16**	**134**	*i* P	Pn	**21 17 25.0**	**-4.0**
URKR				*e*S	Sn	**21 17 53.0**	**-4.5**
DGRG	**David-gareji**	**2.25**	**183**	P	Pn	**21 17 30.5**	**+0.4**
DGRG				S	Sn	**21 17 58.7**	**-0.6**
KSMR	**Kasumkent**	**2.83**	**137**	*e*P	Pn	**21 17 33.0**	**-4.2**
KSMR				*e*S	Sn	**21 18 06.0**	**-6.0**
AMBZ	**Amberd**	**3.44**	**197**⇓	*i*P	Pn	**21 17 42.0**	**-3.1**
ARUZ	**Aruch**	**3.58**	**198**⇓	*i*P	Pn	**21 17 43.3**	**-3.5**
GNI	**Garni**	**3.60**	**190**	P	Pn	**21 17 47.4**	**+0.4**
	comp=Z,46nm,0.3s,baz=327,slow=3.2,SNR=394						
GNI				LR	LR	21 18 49.9	
	comp=Z,282nm,21.8s,baz=338,slow=34						
GNI	**Garni**	**3.60**	**190**	*e*P	Pn	**21 17 47.4**	**+0.4**
PAAR	**P'arak'ar**	**3.65**	**194**⇓	*i*P	Pn	**21 17 43.8**	**-3.9**
BCA	**Borcka**	**3.67**	**234**	*e*P	Pn	**21 17 48.0**	**-0.1**
BCA	**Borcka**	**3.67**	**234**	P	Pn	**21 17 47.9**	**-0.1**
AKSZ	**Araks**	**3.72**	**200**⇓	*i*P	Pn	**21 17 45.2**	**-3.4**
VRNZ	**Vardanashen**	**3.79**	**196**⇓	*i*P	Pn	**21 17 46.2**	**-3.3**
VNNZ	**Vanand**	**3.82**	**200**⇓	*i*P	Pn	**21 17 46.6**	**-3.3**
CLDR	**Caldiran**	**4.71**	**196**	*e*P	Pn	**21 18 03.1**	**+1.4**
CLDR	**Caldiran**	**4.71**	**196**	P	Pn	**21 18 03.3**	**+1.6**
ERZM	**Erzurum**	**4.92**	**221**	*i* P	Pn	**21 18 05.5**	**+1.2**
EZM	**Erzurum**	**4.92**	**221**	*e*P	Pn	**21 18 05.5**	**+1.2**
EZM	**Erzurum**	**4.92**	**221**	P	Pn	**21 18 04.1**	**-0.2**
KTUT	**Trabzon**	**5.07**	**240**	*e*P	Pn	**21 18 05.3**	**-1.1**
MACK	**Trabzon**	**5.10**	**239**	*i* P	Pn	**21 18 05.8**	**-0.9**
VANB	**Van**	**5.35**	**199**	*e*P	Pn	**21 18 11.5**	**+1.4**
TVAN	**Van**	**5.41**	**198**	*i* P	Pn	**21 18 12.3**	**+1.4**
BNGL	**BINGOL**	**5.79**	**216**	*i* P	Pn	**21 18 16.2**	**+0.3**
EZC	**Erzincan**	**5.83**	**229**	*e*P	Pn	**21 18 20.8**	**+4.4**
EZC	**Erzincan**	**5.83**	**229**	P	Pn	**21 18 20.1**	**+3.6**
KELT	**Kelkit**	**5.89**	**235**	*i* P	Pn	**21 18 15.6**	**-1.6**
ANN	**Anapa**	**5.94**	**283**	*e*P	Pn	**21 18 16.9**	**-1.0**
ANN				*e*S	Sn	**21 19 28.4**	**+3.4**
ANN				pmax	pmax		
	comp=Z,67nm,1.1s						
ANN	**Anapa**	**5.94**	**283**	*e*P	Pn	**21 18 16.9**	**-1.0**
	comp=Z,67nm,1.1s						
GRSN	**GIRESUNGRSN**	**6.07**	**245**	*i* P	Pn	**21 18 17.1**	**-2.5**
BINT	**Bingol**	**6.14**	**220**	*e*P	Pn	**21 18 21.6**	**+0.9**
HKR	**Hakkari**	**6.27**	**193**	*e*P	Pn	**21 18 24.6**	**+2.4**
BTMT	**Batman**	**6.30**	**211**	*e*P	Pn	**21 18 24.3**	**+1.6**
SEMD	**Semdilli**	**6.39**	**187**	*e*P	Pn	**21 18 24.7**	**+0.7**
CUKT	**Cukurca**	**6.61**	**194**	*e*P	Pn	**21 18 27.7**	**+0.8**
SIRT	**Sirnak**	**6.63**	**202**	*e*P	Pn	**21 18 28.5**	**+1.4**
BEST	**Besiri**	**6.65**	**211**	*i* P	Pn	**21 18 28.4**	**+1.0**
PTK	**Pertek**	**6.68**	**226**	*e*P	Pn	**21 18 27.4**	**-0.3**
ELZG	**Elazig**	**7.18**	**226**	*i* P	Pn	**21 18 35.6**	**+1.1**
MARD	**Mardin**	**7.34**	**211**	*i* P

ORR pmax pmax
comp=Z,70nm,0.5s
ORR Orenburg 10.06 35 *eP* **Pn 21 19 12.1 -0.7**
comp=Z,70nm,0.5s
ANTO Ankara 10.27 252 *eP* **Pn 21 19 16.4 +0.8**
ANTO pmax pmax
comp=Z,27nm,1.2s
ANTO Ankara 10.27 252 *eP* **Pn 21 19 16.4 +0.8**
comp=Z,27nm,1.2s
ANTO Ankara 10.27 252 *eP* **Pn 21 19 16.4 +0.8**
comp=Z,27nm,1.2s
SGKT Sivrigoynuk 10.50 257 *i* P **Pn 21 19 19.4 +0.8**
AKTK Aktyubinsk 10.84 47 P **Pn 21 19 21.7 -1.4**
AKTK S **Sn 21 21 14.6 -8.3**
AKTK Aktyubinsk 10.84 47 P **Pn 21 19 21.7 -1.4**
AKTO Aktyubinsk 10.84 47 ⇑P **Pn 21 19 21.6 -1.5**
comp=Z,0.4nm,0.5s
AKTO ⇑S **Sn 21 21 14.6 -8.3**
comp=Z,1.8nm,0.6s
AKTO Aktyubinsk 10.84 47 P **Pn 21 19 21.7 -1.4**
comp=Z,11nm,0.3s,baz=230,slow=11,SNR=247
AKTO S **Sn 21 21 14.6 -8.3**
comp=Z,5.3nm,0.3s,baz=76,slow=21,SNR=11
AKTO Aktyubinsk 10.84 47 P **Pn 21 19 21.7 -1.4**
AKTO S **Sn 21 21 14.6 -8.3**
AKTO pmax pmax
comp=Z,11nm,0.3s
AKTO smax
comp=N,5.0nm,0.3s
HENT Hendek 11.24 260 *i* P **Pn 21 19 27.8 -0.5**
MEST Erdemli 11.25 235 *i* P **Pn 21 19 27.8 -0.7**
BHL Bhannes 12.45 222 *eP* **Pn 21 19 49.4 +5.3**
ISK Istanbul-Kandi 12.48 263 *eP* **Pn 21 19 51.6 +7.1**
CFR Carcaliu 12.54 283⇑*iP* **Pn 21 19 44.3 -1.0**
CFR Carcaliu 12.54 283 ⇑P **Pn 21 19 44.3 -1.0**
HARR Harsova 12.69 281⇓*iP* **Pn 21 19 47.1 -0.1**
HARR Harsova 12.69 281 ⇓P **Pn 21 19 47.1 -0.2**
RCY Rachaya 12.72 220 *eP* **Pn 21 19 53.1 +5.6**
ULDT Uludag 12.73 259 *i* P **Pn 21 19 48.4 +0.6**
ULDT Uludag 12.73 259 *i* P **Pn 21 19 48.3 +0.5**
OBN Obninsk 12.82 336⇑*iP* **Pn 21 19 46.4 -2.5**
OBN pmax pmax
comp=Z,31nm,1.2s
OBN Obninsk 12.82 336 P **Pn 21 19 46.6 -2.3**
TKTP Tekketepe 12.84 249 *i* P **Pn 21 19 50.0 +0.8**
ELBA Catalca 12.91 264 *i* P **Pn 21 19 53.8 +3.8**
MOS Moscow 13.09 340 *eP* **Pn 21 19 48.9 -3.4**
MOS *eS* **Sn 21 22 09.8 -7.2**
MOS pmax pmax
comp=Z,42nm,0.8s
AKASG Malin Array Be 13.11 308 P **Pn 21 19 51.3 -1.4**
comp=Z,3.1nm,0.3s,baz=115,slow=14,SNR=54
AKASG Malin Array Be 13.11 308 *i* P **Pn 21 19 51.2 -1.5**
AKASG pmax pmax
comp=Z,27nm,0.9s
AKASG Malin Array Be 13.11 308 *i* P **Pn 21 19 51.2 -1.5**
comp=Z,27nm,0.9s
AKBB Malin Array Si 13.11 308 *eP* **Pn 21 19 51.0 -1.7**
ASF Jabal al Asfar 13.37 214 P **Pn 21 19 58.8 +2.8**
comp=Z,0.6nm,0.3s,baz=254,slow=3.7,SNR=38
ASF Jabal al Asfar 13.37 214 P **Pn 21 19 58.8 +2.9**
ASF pmax pmax
comp=Z,1.0nm,0.3s
VRI Vrincioaia 13.55 286⇑*iP* **Pn 21 19 58.5 +0.3**
VRI Vrincioaia 13.55 286 ⇑P **Pn 21 19 58.5 +0.3**
MLR Muntele Rosu 14.09 284 P **Pn 21 20 05.7 +0.6**
comp=Z,1.2nm,0.3s,baz=109,slow=7.5,SNR=24
MLR Muntele Rosu 14.09 284 ⇑P **Pn 21 20 05.5 +0.4**
MLR Muntele Rosu 14.09 284⇑*iP* **Pn 21 20 05.5 +0.5**
UMR Umm Al-Rimmam 14.22 172 *eP* **Pn 21 20 07.5 +0.7**
UMR AMb AMB 21 20 09.1
comp=Z,54nm,0.6s
NAY Al-Naaiem 14.48 174 *eP* **Pn 21 20 10.8 +0.8**
NAY AMb AMB 21 20 11.9
comp=Z,9.4nm,0.8s
PVL Pavlikeni 14.70 275 P **Pn 21 20 15.1 +2.4**
ALN Alexandroupoli 14.71 266 *eP* **Pn 21 20 15.3 +2.5**
MTUR Matau 14.71 283⇑*iP* **Pn 21 20 14.3 +1.4**
MTUR Matau 14.71 283 ⇑P **Pn 21 20 14.3 +1.4**
VOIR 14.72 284⇓*iP* **Pn 21 20 14.0 +1.1**
VOIR 14.72 284 ⇓P **Pn 21 20 14.0 +1.1**
BURAR Bucovina Array 14.74 292⇑*iP* **Pn 21 20 12.4 -0.9**
BURAR Bucovina Array 14.74 292 ⇑P **Pn 21 20 12.4 -0.9**
KDAG Bornova 14.77 255 *i* P **Pn 21 20 12.7 -0.9**
RDF Al-Radifah 14.83 173 *eP* **Pn 21 20 14.3 0.0**
RDF AMb AMB 21 20 16.7
comp=Z,43nm,0.7s
BLCB Balcova 14.94 256 *eP* **Pn 21 20 15.8 +0.2**
KDZ Kurdzhali 14.96 269 P **Pn 21 20 17.5 +1.6**
RDO Rodhopi 15.00 267 P **Pn 21 20 16.5 0.0**
QRN Al-Qurain 15.04 172 *eP* **Pn 21 20 16.8 -0.2**
QRN AMb AMB 21 20 19.5
comp=Z,40nm,0.4s
ARU Arti 15.20 28⇓*iP* **Pn 21 20 16.5 -2.4**
ARU *eS* **S 21 23 06.0 -7.3**
ARU pmax pmax
comp=Z,65nm,0.8s
ARU Arti 15.20 28 P **Pn 21 20 15.8 -3.1**
PLD Plovdiv 15.36 271 *eP* **Pn 21 20 20.8 -0.2**
PLD Plovdiv 15.36 271 P **Pn 21 20 21.0 +0.1**
RZN Rozhen 15.45 270 P **Pn 21 20 20.3 -1.7**
KZIT Kziot 15.53 218 P **Pn 21 20 24.0 +1.0**
CHOS Chios island 15.63 257 *eP* **Pn 21 20 24.6 +0.3**
PGB Panagyurishte 15.66 273 P **Pn 21 20 25.9 +1.3**
LOS Limnos 15.72 263 P **Pn 21 20 26.6 +1.3**
MNK Minsk 15.81 319⇑*eP* **Pn 21 20 20.0 -6.4**
MNK *e* 21 23 17.0
MNK pmax pmax
comp=Z,140nm,1.0s
MNK Minsk 15.81 319 *eS* **S 21 23 17.0 -5.6**
LVV L'vov 15.94 300 *eP* **Pn 21 20 26.8 -1.3**
MMB Musomiste 16.20 270 *eP* **Pn 21 20 32.1 +1.0**
MMB Musomiste 16.20 270 P **Pn 21 20 32.5 +1.4**
SVE Sverdlovsk 16.25 31 *eP* **Pn 21 20 32.0 +0.2**
SVE pmax pmax
comp=Z,23nm,2.0s
SVE Sverdlovsk 16.25 31 *eP* **Pn 21 20 32.0 +0.2**
comp=Z,23nm,2.0s
GZR Gura Zlata 16.32 284⇑*iP* **Pn 21 20 33.7 +1.0**
GZR Gura Zlata 16.32 284 P **Pn 21 20 34.1 +1.4**
VTS Vitosha 16.34 274 *eP* **Pn 21 20 34.0 +1.0**
VTS Vitosha 16.34 274 P **Pn 21 20 34.3 +1.3**
VTS Vitosha 16.34 274⇓*iP* **Pn 21 20 33.8 +0.8**
EIL Elat 16.36 215 P **Pn 21 20 31.1 -2.0**
SRS Serrai 16.42 269 *eP* **Pn 21 20 34.2 +0.4**
KKB Krupnik 16.59 271 P **Pn 21 20 36.7 +0.7**
APE Apeiranthos 16.61 253 *eP* **Pn 21 20 34.8 -1.4**
SOH Sokhos 16.68 268 *eP* **Pn 21 20 37.4 +0.3**
SOH Sokhos 16.68 268 *eP* **Pn 21 20 37.3 +0.3**
KWP Kalwaria 16.74 299 *eP* **Pn 21 20 37.9 +0.2**
KWP *e* 21 20 39.9
PLG Polygyros 16.75 266 *eP* **Pn 21 20 38.9 +1.0**
IDID Didziasalis 16.80 320 *eP* **Pn 21 20 36.5 -2.0**
IDID AMb AMB 21 20 37.8
comp=Z,1μm,0.6s
IDID Didziasalis 16.80 320 *eP* **Pn 21 20 36.5 -2.0**
comp=Z,1μm,0.6s,SNR=40
UZH Uzhgorod 16.83 295⇑*iP* **Pn 21 20 38.0 -0.8**
UZH *eS* **S 21 23 44.0 -1.9**
UZH pmax pmax
comp=Z,40nm,0.9s
UZH Uzhgorod 16.83 295 *i* P **Pn 21 20 38.0 -0.8**
comp=Z,40nm,0.9s
AOS Alonnisos 16.86 262 *eP* **Pn 21 20 40.3 +1.1**
KOLS Kolonicke sedl 16.89 296 *eP* **Pn 21 20 39.8 +0.3**
KOLS *eS* **S 21 23 45.7 -1.5**
KNT Kendrikon 16.91 269 *eP* **Pn 21 20 40.5 +0.7**
HORT Hortiatis 16.93 267 *eP* **Pn 21 20 40.6 +0.6**
THE Thessaloniki 17.02 267 *eP* **Pn 21 20 41.8 +0.8**
IIGN Ignalina 17.06 320 *eP* **Pn 21 20 39.6 -2.0**
IIGN AMb AMB 21 20 41.7
comp=Z,2μm,0.4s
IIGN Ignalina 17.06 320 *eP* **Pn 21 20 39.6 -2.0**
comp=Z,2μm,0.4s,SNR=40
VAY Valandovo 17.11 270 *eP* **Pn 21 20 42.4 +0.2**
VAY Valandovo 17.11 270 *eP* **Pn 21 20 41.2 -0.9**
VAY Valandovo 17.11 270 *eP* **Pn 21 20 42.3 +0.2**
BZS Buzias 17.13 285⇓*iP* **Pn 21 20 42.6 +0.2**
BZS Buzias 17.13 285 P **Pn 21 20 43.2 +0.8**
ZKR Zakros 17.20 247 *eP* **Pn 21 20 42.9 -0.4**
XOR Xorichti 17.28 263 *eP* **Pn 21 20 46.0 +1.7**
IZAR Zarasai 17.28 321 *eP* **Pn 21 20 42.0 -2.3**
IZAR AMb AMB 21 20 43.2
comp=Z,1μm,0.6s
IZAR Zarasai 17.28 321 *eP* **Pn 21 20 42.0 -2.3**
comp=Z,1μm,0.6s,SNR=35
GRG Griva 17.33 269 *eP* **Pn 21 20 45.5 +0.6**
CRVS Cervenica-Dubn 17.41 296 *eP* **Pn 21 20 45.9 +0.1**
CRVS *eS* **S 21 23 58.5 +0.3**
LIT Litokhoron 17.53 266 *eP* **Pn 21 20 44.7 -2.5**
STHS Stebnicka Huta 17.63 297 *eP* **Pn 21 20 47.3 -1.2**
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 17.63 297 *eP* **Pn 21 20 47.3 -1.2**
comp=Z,11nm,0.8s
LAST Lasithi 17.67 248 *eP* **Pn 21 20 47.5 -1.4**
SUW Suwalki 17.90 313 *eP* **Pn 21 20 50.1 -1.6**
GRUS Gruza 17.92 279 *i* P **Pn 21 20 55.4 +3.5**
KZN Kozani 17.98 267 *eP* **Pn 21 20 52.0 -0.6**
KECS Kecovo 18.00 294 *i* P **P 21 20 52.3 +1.0**
KECS *eS* **S 21 24 09.4 -0.6**
KECS Kecovo 18.00 294 *i* P **P 21 20 52.3 +1.0**
KECS *eS* **S 21 24 09.5 -0.5**
KECS pmax pmax
comp=Z,30nm,0.7s
KECS Kecovo 18.00 294 *i* P **P 21 20 52.3 +1.0**
comp=Z,30nm,0.7s
KECS *eS* **S 21 24 09.5 -0.5**
AGG Agios Georgios 18.03 263 *eP* **P 21 20 53.1 +1.5**
KRUS Krusevo 18.05 271 *eP* **P 21 20 53.4 +1.6**
ZRNK Zerenda 18.06 51⇑P **P 21 20 52.5 +0.6**
comp=Z,56nm,0.9s
ZRNK Zerenda 18.06 51 *eP* **P 21 20 51.9 -0.1**
ZRNK *eS* **S 21 24 05.0 -6.2**
ZRNK pmax pmax
comp=Z,63nm,0.7s
ZRNK Zerenda 18.06 51 *eP* **P 21 20 51.9 -0.1**
comp=Z,63nm,0.7s
ZRNK *eS* **S 21 24 05.0 -6.2**
ZRNK Zerenda 18.06 51 *eP* **P 21 20 51.9 -0.1**
comp=Z,63nm,0.7s
ZRNK *eS* **S 21 24 05.0 -6.2**
FNA Florina 18.12 269 *eP* **P 21 20 53.6 +1.0**
SIVA Sivas 18.20 249 *eP* **P 21 20 53.2 -0.2**
NIE Niedzica 18.23 297 *eP* **P 21 20 54.7 +0.9**
PSZ Piszkesteto 18.35 292⇑*eP* **P 21 20 56.4 +1.3**
PSZ Piszkesteto 18.35 292 P **P 21 20 57.3 +2.2**
PSZ Piszkesteto 18.35 292⇑*iP* **P 21 20 56.5 +1.4**
DIVS Divcibare 18.41 280 *i* P **P 21 20 57.1 +1.4**
DIVS Divcibare 18.41 280 *eP* **P 21 20 55.9 +0.1**
EVR Evrytania 18.45 263 *eP* **P 21 20 56.8 +0.6**
OHR Ohrid 18.45 270 *eP* **P 21 20 58.0 +1.9**
OHR Ohrid 18.45 270 *eP* **P 21 20 55.0 -1.2**
PKS6 Bocsa 18.53 288 *eP* **P 21 20 59.2 +2.1**
KARN Karanos 18.59 251 *eP* **P 21 20 56.0 -1.8**
OJC Ojcow 18.70 299 *eP* **P 21 20 58.3 -0.6**
GVD Gavdhos 18.79 249 *eP* **P 21 20 58.9 -1.0**
BRVK Borovoye 18.82 51 P **P 21 21 00.4 +0.2**
VSU Vasula 18.82 328 P **P 21 20 59.3 -1.0**
JAN Janina 18.87 266 *eP* **P 21 21 02.3 +1.6**
BVA0 Borovoye Array 18.87 52 P **P 21 21 01.7 +1.0**
comp=Z,11nm,0.9s,baz=250,slow=10.0,SNR=319
BVA0 S **S 21 24 24.3 -3.0**
comp=Z,2.7nm,0.9s,baz=246,slow=14,SNR=12
BVAR Borovoye Array 18.87 52 P **P 21 21 01.8 +1.0**
comp=Z,5.1nm,0.3s,baz=240,slow=7.8,SNR=244
BVAR S **S 21 24 24.3 -3.0**
comp=Z,1.3nm,0.3s,baz=242,slow=23,SNR=8.4
BVAR Borovoye Array 18.87 52 P **P 21 21 01.8 +1.0**
BVAR S **S 21 24 24.3 -3.1**
BVAR pmax pmax
comp=Z,5.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BVAR Borovoye Array 18.87 52 P **P 21 21 01.7 +0.9**
comp=N,11nm,0.9s,SNR=319
BVAR S **S 21 24 24.3 -3.1**
comp=N,2.7nm,0.9s,SNR=12
BUD Budapest 18.91 291⇑*eP* **P 21 21 02.9 +1.7**
TIR Tirane 19.06 272 *eP* **P 21 21 07.4 +4.6**
ITM Ithomi 19.09 258 *eP* **P 21 21 02.9 -0.3**
ITM Ithomi 19.09 258 P **P 21 21 02.8 -0.4**
VYHS Vyhne 19.09 294 *i* P **P 21 21 04.2 +1.0**
VYHS pmax pmax
comp=Z,11nm,0.8s
VYHS Vyhne 19.09 294 *i* P **P 21 21 04.2 +1.0**
comp=Z,11nm,0.8s
VOSK Vostochnaya 19.11 53⇓P **P 21 21 04.2 +0.8**
comp=Z,72nm,0.9s
PKSM Moragy 19.18 287⇑*iP* **P 21 21 05.3 +1.2**
PKSM Moragy 19.18 287 P **P 21 21 05.7 +1.6**
CHKZ Chkalovo 19.23 50⇓P **P 21 21 05.7 +1.1**
comp=Z,60nm,0.7s
CHKZ Chkalovo 19.23 50 *eP* **P 21 21 05.5 +0.9**
CHKZ *eS* **S 21 24 30.1 -4.3**
CHKZ pmax pmax
comp=Z,82nm,0.7s
CHKZ Chkalovo 19.23 50 *eP* **P 21 21 05.5 +0.8**
comp=Z,82nm,0.7s
CHKZ *eS* **S 21 24 30.1 -4.3**
CHKZ Chkalovo 19.23 50 *eP* **P 21 21 05.5 +0.9**
comp=Z,82nm,0.7s
CHKZ *eS* **S 21 24 30.1 -4.3**
IGT Igoumenitsa 19.29 266 *eP* **P 21 21 04.9 -0.4**
PKSG 19.34 291⇓*iP* **P 21 21 07.9 +2.0**
LKD Levkas 19.36 264 *eP* **P 21 21 05.2 -0.8**
KEK Kerkira 19.61 267 *eP* **P 21 21 08.6 -0.2**
KEK Kerkira 19.61 267 P **P 21 21 10.5 +1.7**
VLS Valsamata 19.62 262 *eP* **P 21 21 08.0 -0.8**
OKC Ostrava-Krasne 19.69 298 *eP* **P 21 21 10.0 +0.4**
JAVC Velka Javorina 19.89 295 P **P 21 21 13.2 +1.4**
SMOL Smolenice 20.03 294 *eP* **P 21 21 14.5 +1.2**
MORC Moravsky Berou 20.07 297⇑*iP* **P 21 21 14.3 +0.6**
MORC Moravsky Berou 20.07 297 P **P 21 21 14.8 +1.1**
ZST Bratislava 20.23 293 *i* P **P 21 21 17.1 +1.6**
ZST pmax pmax
comp=Z,34nm,0.8s
ZST Bratislava 20.23 293 *i* P **P 21 21 17.1 +1.6**
comp=Z,34nm,0.8s
EKS2 Erkin-Say 20.57 83 P **P 21 21 19.6 +0.5**
SNR=49
AML Almayashu 20.63 85 P **P 21 21 21.1 +1.4**
SNR=26
VRAC Vranov 20.64 296 P **P 21 21 20.5 +0.7**
comp=Z,16nm,0.8s,baz=86,slow=10,SNR=22
VRAC Vranov 20.64 296 P **P 21 21 20.5 +0.7**
VRAC pmax pmax
comp=Z,16nm,0.8s
VRAC Vranov 20.64 296⇓*iP* **P 21 21 20.1 +0.3**
SISC Sisak 20.82 285 P **P 21 21 23.7 +2.0**
KOGS Kog 20.83 288 *i* P **P 21 21 23.9 +2.1**
MEF Metsahovi 20.90 330 P **P 21 21 23.0 +0.4**
DPC Dobruska-Polom 20.92 299 *eP* **P 21 21 23.1 +0.3**
DPC *ex* x 21 21 28.4
GKP Gorka Klasztor 20.95 307 *eP* **P 21 21 27.4 +4.3**
TMCR Tamitsa 20.95 351 *eP* **P 21 21 23.1 0.0**
TMCR *e*PP 21 21 49.7
TMCR *eS* **S 21 25 04.9 -3.2**
TMCR pmax pmax
comp=Z,135nm,1.1s
TMCR Tamitsa 20.95 351 *eP* **P 21 21 23.1 0.0**
comp=Z,135nm,1.1s
JOF Joensuu 20.96 342 *ep* **P 21 21 22.8 -0.4**
comp=Z,25nm,0.3s
JOF Joensuu 20.96 342 *eP* **P 21 21 22.8 -0.4**
JOF pmax pmax
comp=Z,25nm,0.3s
USP Ospenovka 20.97 81 P **P 21 21 22.9 -0.4**
SNR=48
CONA Conrad Observa 21.06 292 *i* P **P 21 21 25.3 +1.0**
comp=Z,24nm,1.0s,mb4.5,SNR=20
AAK Ala-Archa 21.09 83 P **P 21 21 25.1 +0.4**
SNR=44
AAK Ala-Archa 21.09 83⇓*iP* **P 21 21 23.9 -0.8**
AAK *i* *PP 21 21 52.6
AAK pmax pmax
comp=Z,41nm,0.9s,mb4.8
AAK Ala-Archa 21.09 83⇓*iP* **P 21 21 23.0 -1.7**
UPC Upice 21.14 299 *eP* **P 21 21 25.8 +0.7**
UPC *ex* x 21 21 30.7
FRU Bishkek 21.14 82 *eP* **P 21 21 26.0 +0.9**
FRU *e* 21 21 55.0
FRU *e* 21 25 18.0
FRU pmax pmax
comp=Z,120nm,1.0s,mb5.2
FRU Bishkek 21.14 82 *eP* **P 21 21 26.0 +0.9**
comp=Z,120nm,1.0s,mb5.2
CHMS Chumysh 21.20 82 P **P 21 21 27.6 +1.9**
SNR=14
UCH Uchtor 21.20 84 P **P 21 21 24.7 -1.1**
SNR=26
FIA1 FINESS Array S 21.20 334 *eP* **P 21 21 25.6 -0.2**
FIA1 FINESS Array S 21.20 334 *eP* **P 21 21 25.6 -0.2**
FINES FINESS Array B 21.20 334 P **P 21 21 25.5 -0.3**
comp=Z,37nm,0.5s,mb5.0,baz=139,slow=11,SNR=141
FINES S **S 21 25 13.8 +0.9**
comp=Z,7.7nm,0.7s,baz=132,slow=18,SNR=8.4
FINES FINESS Array B 21.20 334 P **P 21 21 25.5 -0.3**
FINES S **S 21 25 13.9 +0.9**
FINES pmax pmax
comp=Z,37nm,0.5s
FINES smax
comp=N,8.0nm,0.7s
TREC Trest 21.36 296 *eP* **P 21 21 26.7 -0.7**
KBK Karagaybulak 21.41 83 P **P 21 21 28.8 +0.7**
SNR=70
BOJS Bojanci 21.59 285 *i* P **P 21 21 30.0 0.0**
BOJS *i* 21 21 32.3
PERS Pernice 21.60 288 *i* P **P 21 21 31.3 +1.3**
PERS *i* 21 21 33.5
KAF Kangasniemi 21.64 335 *ep* **P 21 21 29.8 -0.6**
comp=N,18nm,0.3s,mb5.0,baz=138,slow=11
KAF Kangasniemi 21.64 335 *eP* **P 21 21 29.8 -0.6**
KAF pmax pmax
comp=Z,18nm,0.3s,mb5.0
TKM2 Tokmak 2 21.82 82 P **P 21 21 32.4 +0.1**
SNR=60
TKM2 Tokmak 2 21.82 82⇑P **P 21 21 32.3 -0.1**
comp=Z,7.4nm,0.9s,mb4.1
OBKA Obir 22.00 288⇑*iP* **P 21 21 34.8 +0.7**
comp=Z,7.6nm,0.8s,mb4.2,SNR=6.3
TIP Timpagrande 22.00 268 *eP* **P 21 21 32.7 -1.5**
PRU Pruhonice 22.02 298 *eP* **P 21 21 34.5 +0.1**
PVCC Panska Ves 22.05 299 *eP* **P 21 21 35.4 +0.6**
MOA Molln 22.13 292⇓*iP* **P 21 21 35.6 0.0**
comp=Z,7.6nm,0.6s,mb4.3,SNR=12
GRI Girifalco 22.38 267 P **P 21 21 36.7 -1.4**
CUC Castrocucco 22.40 271 P **P 21 21 37.9 -0.4**
FG5 Orsara di Pugl 22.41 274 P **P 21 21 39.0 +0.7**
SLCN Sala Consilina 22.41 272 P **P 21 21 38.0 -0.4**
ULHL Ulahol 22.44 83 P **P 21 21 39.9 +1.2**
SNR=47
BRG Berggiesshubel 22.49 300 *eP* **P 21 21 39.4 +0.3**
comp=Z,10.0nm,1.0s,mb4.2
BRG *ep*P 21 22 12.8
BRG Berggiesshubel 22.49 300 *eP* **P 21 21 39.5 +0.4**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
BRG Berggiesshubel 22.49 300 *eP* **P 21 21 39.5 +0.4**
comp=Z,6.0nm,1.0s,mb4.0
VOJS Vojsko 22.50 287 *i* P **P 21 21 39.0 -0.1**
GEC2 GERESS Array S 22.51 294 *eP* **P 21 21 39.1 -0.2**
comp=Z,11nm,0.5s,mb4.5
GEC2 GERESS Array S 22.51 294 *eP* **P 21 21 39.1 -0.2**
GEC2 pmax pmax
comp=Z,11nm,0.5s,mb4.5
GERES GERESS Array B 22.51 294 P **P 21 21 39.1 -0.2**
comp=Z,7.6nm,0.5s,mb4.4,baz=91,slow=9.5,SNR=75
GERES GERESS Array B 22.51 294 P **P 21 21 39.1 -0.2**
GERES pmax pmax
comp=Z,8.0nm,0.5s
KHC Kasperske Hory 22.60 295 *eP* **P 21 21 40.0 -0.1**
KHC *ex* x 21 21 54.0
ROBS Robic 22.73 288 *i* P **P 21 21 41.1 -0.2**
BSD Bornholm Skovb 22.78 311 *i* P **P 21 21 40.7 -1.1**
comp=Z,7.7nm,0.5s,mb4.4
BSD Bornholm Skovb 22.78 311 *i* P **P 21 21 40.7 -1.1**
BSD pmax pmax
comp=Z,8.0nm,0.5s,mb4.4
KBA Koelnbreinsper 22.79 290 *i* P **P 21 21 42.2 +0.4**
comp=Z,39nm,1.1s,mb4.8,SNR=20
KBA Koelnbreinsper 22.79 290 *i* P **P 21 21 42.2 +0.4**
KBA pmax pmax
comp=Z,39nm,1.0s,mb4.8
FBE Freiberg 22.86 300 *eP* **P 21 21 43.7 +1.2**
comp=Z,17nm,0.8s,mb4.5
FBE *ep*P 21 22 16.8
SOI Samo 22.93 266 P **P 21 21 42.2 -0.9**
CEL Celeste 22.97 267 P **P 21 21 41.9 -1.6**
SGG Gregorio Mates 23.02 275 P **P 21 21 44.5 +0.5**
MIDA Miranda 23.04 276 P **P 21 21 44.9 +0.8**
WET Wettzell 23.06 295 *eP* **P 21 21 44.3 0.0**
comp=Z,4.0nm,0.8s,mb3.9
WET *ep*P 21 22 17.8
WET Wettzell 23.06 295 *eP* **P 21 21 44.3 0.0**
WET *e*PP 21 22 17.8
WET pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
AOI Ancona 23.06 281 P **P 21 21 44.5 +0.2**
WSAR Wadi Sarin 23.08 148 P **P 21 21 44.2 -0.3**
comp=Z,4.6nm,0.5s,mb4.1,baz=13,slow=6.7,SNR=7.6
WSAR Wadi Sarin 23.08 148 P **P 21 21 44.2 -0.3**
RNI2 Rionero Sannit 23.10 276 P **P 21 21 45.7 +1.0**
SCLL Scilla 23.11 267 P **P 21 21 44.1 -0.6**
CLL Collm 23.12 301 *eP* **P 21 21 46.5 +1.6**
comp=Z,14nm,0.9s,mb4.4
CLL *ep*P 21 22 18.9
CLL Collm 23.12 301 *eP* **P 21 21 47.0 +2.1**
CLL pmax pmax
comp=Z,14nm,0.9s,mb4.4
CLL Collm 23.12 301 *eP* **P 21 21 47.0 +2.1**
comp=Z,14nm,0.9s,mb4.4
CLL *ep*P 21 22 19.0
CLL *e*(sP) sP 21 22 34.0 +2.3
MTTG Motta San Giov 23.22 266 P **P 21 21 44.8 -1.0**
TERO Teramo 23.26 278 P **P 21 21 46.7 +0.6**
TANN Tannenbergstha 23.39 298 *eP* **P 21 21 47.8 +0.5**
comp=Z,16nm,1.0s,mb4.4
WERN Wernitzgruen 23.43 298 *eP* **P 21 21 49.2 +1.5**
comp=Z,24nm,0.9s,mb4.6
VVLD Villa Vallelon 23.43 277 P **P 21 21 48.4 +0.7**
GUNZ Gunzen 23.47 298 *eP* **P 21 21 48.6 +0.6**
comp=Z,10.0nm,0.9s,mb4.2
GUNZ *ep*P 21 22 23.3
AQU L'Aquila 23.47 278⇑*iP* **P 21 21 48.9 +0.8**
AQU L'Aquila 23.47 278 P **P 21 21 49.5 +1.4**
WERD Werda 23.49 298 *eP* **P 21 21 48.3 +0.1**
comp=Z,13nm,0.8s,mb4.4
ROTZ Rotzenmuhle 23.52 297 *eP* **P 21 21 49.1 +0.6**
comp=Z,7.0nm,1.1s,mb4.1
SEST Monte Rota 23.58 289 P **P 21 21 50.2 +1.1**
MANZ Manzenberg 23.59 297 *eP* **P 21 21 50.8 +1.7**
comp=Z,8.0nm,0.9s,mb4.2
SNTG Esanatoglia 23.59 280 P **P 21 21 49.9 +0.7**
FSSB Fossombrone 23.62 281 P **P 21 21 50.0 +0.6**
SLNA Salina 23.62 268 P **P 21 21 49.1 -0.4**
FIAM Fiamignano 23.70 278 P **P 21 21 51.5 +1.4**
RSM Repubblica di 23.81 282 P **P 21 21 52.0 +0.9**
ASS Assisi 23.84 280 P **P 21 21 53.4 +2.0**
CERT Cerreto 23.88 277 P **P 21 21 52.0 +0.3**
MURB Monte Urbino 23.89 280 P **P 21 21 54.1 +2.2**
WTTA Wattenberg 23.94 290 *i* P **P 21 21 52.0 -0.3**
comp=Z,66nm,1.0s,mb5.1,SNR=27
WTTA Wattenberg 23.94 290 *i* P **P 21 21 52.0 -0.3**
WTTA pmax pmax
comp=Z,66nm,1.0s,mb5.1
MOX Moxa 23.94 299 *eP* **P 21 21 53.2 +0.9**
comp=Z,16nm,0.9s,mb4.5
MOX Moxa 23.94 299 *eP* **P 21 21 52.3 0.0**
MOX pmax pmax
comp=Z,21nm,0.9s,mb4.7
MOX Moxa 23.94 299 *eP* **P 21 21 52.3 0.0**
comp=Z,21nm,0.9s,mb4.7
MNS Montasola 23.98 278 P **P 21 21 52.9 +0.2**
BADI Badiali 24.04 281 P **P 21 21 55.1 +1.9**
RDP Rocca di Papa 24.12 277 P **P 21 21 54.5 +0.6**
FUR Furstenfeldbru 24.13 293 *eP* **P 21 21 55.0 +0.9**
comp=Z,40nm,1.4s,mb4.8
FUR Furstenfeldbru 24.13 293 *eP* **P 21 21 55.0 +0.9**
FUR pmax pmax
comp=Z,40nm,1.4s,mb4.8
LAV9 Lanuvio 24.15 277 P **P 21 21 55.2 +0.9**
GRA1 Grafenberg Arr 24.15 296 *eP* **P 21 21 56.2 +1.9**
comp=Z,11nm,0.6s,mb4.6
GRF Grafenberg Arr 24.15 296 *eP* **P 21 21 56.2 +1.9**
comp=Z,11nm,0.6s,mb4.6
GRF Grafenberg Arr 24.15 296 *eP* **P 21 21 56.2 +1.9**
comp=Z,11nm,0.6s,mb4.6
GRF Grafenberg Arr 24.15 296 *eP* **P 21 21 56.2 +1.9**
GRF pmax pmax
comp=Z,11nm,0.6s,mb4.6

CRE Caprese Michel 24.22 282 P **P** **21 21 56.1 +1.2**
SQTA Sankt Quirin 24.23 290⇑ *iP* **P** **21 21 54.1 -0.8**
comp=Z,23nm,0.9s,mb4.7,SNR=47
SQTA Sankt Quirin 24.23 290⇑ *iP* **P** **21 21 54.1 -0.9**
SQTA pmax pmax
comp=Z,23nm,0.9s,mb4.7
SFI Santa Sofia 24.24 282 P **P** **21 21 56.3 +1.3**
APPI Appiano 24.28 289 P **P** **21 21 57.2 +1.7**
MOTA Moosalm 24.29 291 *i* P **P** **21 21 54.6 -0.9**
comp=Z,18nm,0.9s,mb4.6,SNR=36
MOTA Moosalm 24.29 291 *i* P **P** **21 21 54.6 -0.9**
MOTA pmax pmax
comp=Z,18nm,0.9s,mb4.6
VAE Valguarnera 24.36 266 P **P** **21 21 56.8 +0.6**
comp=Z,16nm,0.8s,mb4.6,baz=63,slow=5.7,SNR=12
VMG Vicchio 24.44 283 P **P** **21 21 58.6 +1.7**
TOLF Tolfa 24.55 278 P **P** **21 21 58.8 +0.9**
CSNT Castellina Chi 24.72 281 P **P** **21 21 59.7 +0.3**
ZCCA Zocca 24.77 284 P **P** **21 22 02.0 +2.1**
APA Apatity 24.79 349⇑ *iP* **P** **21 22 03.0 +2.9**
APA pmax pmax
comp=Z,20nm,0.8s,mb4.7
CLZ Clausthal 24.81 302 *eP* **P** **21 22 02.5 +2.3**
comp=Z,13nm,1.2s,mb4.3
CLZ Clausthal 24.81 302 *eP* **P** **21 22 02.5 +2.3**
CLZ pmax pmax
comp=Z,13nm,1.2s,mb4.3
GRFL Gerfalco 25.02 281 P **P** **21 22 02.3 +0.2**
GTTG Gyttingen 25.04 301 *eP* **P** **21 22 05.4 +3.1**
comp=Z,13nm,1.0s,mb4.4
BDI Bagni Di Lucca 25.09 283 P **P** **21 22 03.4 +0.6**
DAVA Damuels 25.13 291⇑ *iP* **P** **21 22 02.3 -0.8**
comp=Z,14nm,0.5s,mb4.7
DAVOX Davos/Dischmat 25.18 290 P **P** **21 22 03.1 -0.4**
comp=Z,10nm,0.5s,mb4.7,baz=64,slow=9.0,SNR=29
CLTB Caltabellotta 25.19 267 P **P** **21 22 03.0 -0.6**
HFS Hagfors 25.27 322 P **P** **21 22 04.3 -0.1**
comp=Z,25nm,0.6s,mb4.9,baz=124,slow=9.6,SNR=90
HFS S **S** **21 26 17.4 -1.6**
comp=Z,4.5nm,0.8s,baz=127,slow=24,SNR=3.7
HFS Hagfors 25.27 322 P **P** **21 22 04.3 -0.1**
HFS S **S** **21 26 17.4 -1.6**
HFS pmax pmax
comp=Z,25nm,0.6s
HFS smax
comp=N,5.0nm,0.8s
MK31 Makanchi Array 25.90 70⇓ *iP* **P** **21 22 11.0 +0.9**
comp=N,17nm,0.4s,mb5.0,baz=268,slow=8.5,SNR=637
MKAR Makanchi Array 25.90 70 P **P** **21 22 10.9 +0.8**
comp=N,25nm,0.4s,mb5.2,baz=267,slow=9.3,SNR=724
MKAR pP pP 21 22 44.5 +3.3
comp=N,30nm,0.9s,baz=278,slow=8.3,SNR=10.0
MKAR Makanchi Array 25.90 70 P **P** **21 22 10.9 +0.8**
MKAR *PP pP 21 22 44.5 +3.3
MKAR pmax pmax
comp=Z,25nm,0.4s
BFO Black Forest 26.09 293 *ep*P pP 21 22 46.6 +3.7
JASL Jaisalmer 26.45 121 *eP* **P** **21 22 14.4 -0.7**
JASL AMb AMB 21 22 16.9
comp=Z,44nm,0.2s
PGF Pioggiola 26.57 280 *eP* **P** **21 22 16.2 +0.1**
comp=Z,25nm,0.9s,mb4.5
PGF Pioggiola 26.57 280 *eP* **P** **21 22 16.2 +0.1**
PGF pmax pmax
comp=Z,12nm,0.9s,mb4.5
PGF Pioggiola 26.57 280 *eP* **P** **21 22 16.2 +0.1**
comp=Z,12nm,0.9s,mb4.5
NVS Novosibirsk 26.67 52⇓ *iP* **P** **21 22 17.0 0.0**
NVS *i* *PP pP 21 22 50.1 +1.9
NVS pmax pmax
comp=Z,73nm,1.2s,mb5.2
NVS pmax pmax
comp=E,28nm,0.9s
NVS Novosibirsk 26.67 52 *i* P **P** **21 22 17.0 0.0**
comp=E,73nm,1.2s,mb5.2
NB2 NORSAR Subarra 26.77 322 P **P** **21 22 17.3 -0.5**
comp=Z,3.8nm,0.5s,mb4.3,baz=122,slow=9.3
NB2 NORSAR Subarra 26.77 322 P **P** **21 22 17.3 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
NOA NORSAR Array B 26.77 322 P **P** **21 22 17.2 -0.6**
comp=Z,7.3nm,0.7s,mb4.4,baz=119,slow=8.5,SNR=28
NOA S **S** **21 26 44.5 +1.9**
comp=Z,4.0nm,0.9s,baz=118,slow=16,SNR=3.4
NOA NORSAR Array B 26.77 322 P **P** **21 22 17.2 -0.6**
NOA S **S** **21 26 44.6 +2.0**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA smax
comp=N,4.0nm,0.9s
CDF Champ du Feu 26.78 294 *eP* **P** **21 22 17.3 -0.7**
NAO01 NORSAR Array S 26.83 322 *eP* **P** **21 22 17.9 -0.5**
HINF Hinteralfeld 27.12 292 *eP* **P** **21 22 19.7 -1.3**
comp=N,4.2nm,0.7s,mb3.9
HINF Hinteralfeld 27.12 292 *eP* **P** **21 22 19.7 -1.3**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
HINF Hinteralfeld 27.12 292 *eP* **P** **21 22 19.7 -1.3**
comp=Z,2.1nm,0.7s,mb3.9
SBF Sospel 27.36 284 *eP* **P** **21 22 23.3 +0.1**
comp=Z,28nm,0.7s,mb4.7
SBF Sospel 27.36 284 *eP* **P** **21 22 23.3 +0.1**
SBF pmax pmax
comp=Z,14nm,0.7s,mb4.7
SBF Sospel 27.36 284 *eP* **P** **21 22 23.3 +0.1**
comp=Z,14nm,0.7s,mb4.7
HAU Haudompre 27.44 293⇑ *iP* **P** **21 22 23.0 -0.8**
comp=Z,14nm,0.6s,mb4.4
HAU Haudompre 27.44 293⇑ *iP* **P** **21 22 23.0 -0.8**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
HAU Haudompre 27.44 293⇑ *iP* **P** **21 22 23.0 -0.8**
comp=Z,6.8nm,0.6s,mb4.4
LPG La Plagne 27.51 287 *eP* **P** **21 22 24.0 -0.5**
comp=Z,14nm,0.7s,mb4.5
LPG La Plagne 27.51 287 *eP* **P** **21 22 24.0 -0.5**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LPG La Plagne 27.51 287 *eP* **P** **21 22 24.0 -0.5**
comp=Z,6.8nm,0.7s,mb4.5
LPL La Plagne 27.52 287⇑ *iP* **P** **21 22 24.0 -0.6**
comp=Z,12nm,0.5s,mb4.5
LPL La Plagne 27.52 287⇑ *iP* **P** **21 22 24.0 -0.6**
LPL pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
LPL La Plagne 27.52 287⇑ *iP* **P** **21 22 24.0 -0.6**
comp=Z,5.8nm,0.5s,mb4.5
MBDF Montbardon 27.64 286⇑ *iP* **P** **21 22 25.7 0.0**
comp=Z,34nm,0.8s,mb4.8
MBDF Montbardon 27.64 286⇑ *iP* **P** **21 22 25.7 0.0**
MBDF pmax pmax
comp=Z,17nm,0.8s,mb4.8
MBDF Montbardon 27.64 286⇑ *iP* **P** **21 22 25.7 0.0**
comp=Z,17nm,0.8s,mb4.8
KEV Kevo 27.78 346 *ep* **P** **21 22 27.1 +0.2**
CABF La Chapelle 27.79 290⇑ *iP* **P** **21 22 26.2 -0.7**
comp=Z,9.1nm,0.7s,mb4.3
CABF La Chapelle 27.79 290⇑ *iP* **P** **21 22 26.2 -0.7**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
CABF La Chapelle 27.79 290⇑ *iP* **P** **21 22 26.2 -0.7**
comp=Z,4.6nm,0.7s,mb4.3
ARCES ARCESS Array B 27.86 345 P **P** **21 22 28.2 +0.6**
comp=Z,1.8nm,0.3s,mb4.3,baz=151,slow=10,SNR=125
ARCES pP pP 21 23 03.5 +4.5
comp=Z,3.7nm,0.5s,baz=138,slow=11,SNR=4.4
ARCES ARCESS Array B 27.86 345 P **P** **21 22 28.2 +0.6**
ARCES *PP pP 21 23 03.6 +4.6
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 27.86 345 P **P** **21 22 28.2 +0.6**
ARCES pP pP 21 23 03.5 +4.5
KTK1 Kautokeino 27.88 343 *eP* **P** **21 22 29.1 +1.3**
KTK1 AMb AMB 21 22 34.0
comp=Z,31nm,1.8s,mb4.7
KTK1 Kautokeino 27.88 343 *eP* **P** **21 22 29.1 +1.3**
comp=Z,31nm,1.8s,mb4.7,SNR=42
FRF La Foret Royal 27.99 283⇑ *iP* **P** **21 22 28.2 -0.6**
comp=Z,24nm,0.8s,mb4.7
FRF La Foret Royal 27.99 283⇑ *iP* **P** **21 22 28.2 -0.6**
FRF pmax pmax
comp=Z,12nm,0.8s,mb4.7
FRF La Foret Royal 27.99 283⇑ *iP* **P** **21 22 28.2 -0.6**
comp=Z,12nm,0.8s,mb4.7
NSS Namsos 28.12 329 *eP* **P** **21 22 28.7 -1.2**
LMR La Mourre 28.14 283 *eP* **P** **21 22 29.9 -0.2**
comp=Z,81nm,1.5s,mb4.9
LMR La Mourre 28.14 283 *eP* **P** **21 22 29.9 -0.2**
LMR pmax pmax
comp=Z,40nm,1.5s,mb4.9
LMR La Mourre 28.14 283 *eP* **P** **21 22 29.9 -0.2**
comp=Z,40nm,1.5s,mb4.9
MOR8 Moi Rana 28.20 334 *eP* **P** **21 22 30.4 -0.2**
ORIF Oris-en-Rattie 28.23 286 *eP* **P** **21 22 30.3 -0.6**
MEZF Maizieres J'vi 28.25 294 *eP* **P** **21 22 29.9 -1.2**
KLP Kalpa 28.42 104 *eP* **P** **21 22 32.3 -0.3**
KLP AMb AMB 21 22 34.0
comp=Z,12nm,0.6s,mb4.8
SMRF Simiane la Rot 28.65 285 *eP* **P** **21 22 34.3 -0.3**
comp=Z,14nm,0.7s,mb4.5
SMRF Simiane la Rot 28.65 285 *eP* **P** **21 22 34.3 -0.3**
comp=Z,7.2nm,0.7s,mb4.5
KEST Kesra 28.79 266 P **P** **21 22 36.5 +0.7**
comp=Z,13nm,0.9s,mb4.7,baz=348,slow=1.1,SNR=60
STOK1 Konsvik 28.82 334 *eP* **P** **21 22 36.3 +0.2**
KHET Khetri 28.84 113 *eP* **P** **21 22 34.4 -1.9**
KHET AMb AMB 21 22 34.7
comp=Z,8.6nm,1.2s,mb4.3
VIVF Saint-Julien-I 29.08 287⇑ *iP* **P** **21 22 38.0 -0.4**
comp=Z,22nm,0.8s,mb4.6
VIVF Saint-Julien-I 29.08 287⇑ *iP* **P** **21 22 38.0 -0.4**
VIVF pmax pmax
comp=Z,11nm,0.8s,mb4.6
VIVF Saint-Julien-I 29.08 287⇑ *iP* **P** **21 22 38.0 -0.4**
comp=Z,11nm,0.8s,mb4.6
AJM Ajmer 29.14 117 *eP* **P** **21 22 38.2 -0.7**
AJM AMb AMB 21 22 40.2
comp=Z,20nm,0.6s,mb5.0
LOR Lormes 29.20 292 *eP* **P** **21 22 38.3 -1.2**
comp=Z,2.8nm,0.5s,mb4.0
LOR Lormes 29.20 292 *eP* **P** **21 22 38.3 -1.2**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
LOR Lormes 29.20 292 *eP* **P** **21 22 38.3 -1.2**
comp=Z,1.4nm,0.5s,mb4.0
SMF Signal de Mont 29.31 291⇑ *iP* **P** **21 22 39.5 -0.9**
comp=Z,7.8nm,0.6s,mb4.3
SMF Signal de Mont 29.31 291⇑ *iP* **P** **21 22 39.5 -0.9**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
SMF Signal de Mont 29.31 291⇑ *iP* **P** **21 22 39.5 -0.9**
comp=Z,3.9nm,0.6s,mb4.3
NDI New Delhi 29.41 110 *eP* **P** **21 22 41.4 0.0**
NDI AMb AMB 21 22 44.4
comp=Z,27nm,0.3s,mb5.5
SSF Saint Saulge 29.47 291 *eP* **P** **21 22 41.0 -0.8**
comp=Z,3.3nm,0.8s,mb3.8
SSF Saint Saulge 29.47 291 *eP* **P** **21 22 41.0 -0.8**
SSF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
SSF Saint Saulge 29.47 291 *eP* **P** **21 22 41.0 -0.8**
comp=Z,1.6nm,0.8s,mb3.8
AYAN Aya Nagar 29.47 110 *eP* **P** **21 22 39.9 -2.0**
AYAN AMb AMB 21 22 43.7
comp=Z,17nm,1.1s,mb4.7
SONA Sohna 29.59 111 *eP* **P** **21 22 43.0 +0.1**
SONA AMb AMB 21 22 44.8
comp=Z,10nm,0.8s,mb4.6
AVF Avril sur Loir 29.62 291⇑ *iP* **P** **21 22 42.4 -0.8**
comp=Z,4.7nm,0.5s,mb4.1
AVF Avril sur Loir 29.62 291⇑ *iP* **P** **21 22 42.4 -0.8**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
AVF Avril sur Loir 29.62 291⇑ *iP* **P** **21 22 42.4 -0.8**
comp=Z,2.3nm,0.5s,mb4.1
LOF Lofoten 29.69 336 *eP* **P** **21 22 45.0 +1.1**
LASF Ste Croix 29.83 285 *eP* **P** **21 22 44.9 -0.1**
comp=Z,17nm,0.9s,mb4.5
LASF Ste Croix 29.83 285 *eP* **P** **21 22 44.9 -0.1**
comp=Z,8.7nm,0.9s,mb4.5
JOSI Joshimath 29.90 105 *ex* x 21 22 19.8
BGF Bois d'Agland 30.00 291 *eP* **P** **21 22 45.9 -0.6**
comp=Z,10nm,0.7s,mb4.4
BGF Bois d'Agland 30.00 291 *eP* **P** **21 22 45.9 -0.6**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BGF Bois d'Agland 30.00 291 *eP* **P** **21 22 45.9 -0.6**
comp=Z,5.1nm,0.7s,mb4.4
WMQ Urumqi 30.20 75⇓ *iP* **P** **21 22 49.6 +1.3**
WMQ AMB AMB
comp=Z,53nm,0.7s,mb5.4
WMQ AMB AMB
comp=Z,176nm,4.4s
TCF Toulx Ste Croi 30.48 290⇑ *iP* **P** **21 22 50.9 +0.1**
comp=Z,23nm,1.1s,mb4.5
TCF Toulx Ste Croi 30.48 290⇑ *iP* **P** **21 22 50.9 +0.1**
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.5
TCF Toulx Ste Croi 30.48 290⇑ *iP* **P** **21 22 50.9 +0.1**
comp=Z,12nm,1.1s,mb4.5
CAF Calviac 30.87 288⇑ *iP* **P** **21 22 54.3 +0.1**
comp=Z,9.6nm,0.9s,mb4.2
CAF Calviac 30.87 288⇑ *iP* **P** **21 22 54.3 +0.1**
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CAF Calviac 30.87 288⇑ *iP* **P** **21 22 54.3 +0.1**
comp=Z,4.8nm,0.9s,mb4.2
RJF Les Rejaudoux 31.16 289⇑ *iP* **P** **21 22 57.1 +0.3**
comp=Z,8.9nm,0.7s,mb4.3
RJF Les Rejaudoux 31.16 289⇑ *iP* **P** **21 22 57.1 +0.3**
RJF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
RJF Les Rejaudoux 31.16 289⇑ *iP* **P** **21 22 57.1 +0.3**
comp=Z,4.4nm,0.7s,mb4.3
MTLF Montolieu 31.16 285 *eP* **P** **21 22 56.6 -0.2**
comp=Z,7.2nm,0.8s,mb4.2
MTLF Montolieu 31.16 285 *eP* **P** **21 22 56.6 -0.2**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MTLF Montolieu 31.16 285 *eP* **P** **21 22 56.6 -0.2**
comp=Z,3.6nm,0.8s,mb4.2
LDF La Druitiere 31.65 295 *eP* **P** **21 23 00.2 -0.8**
comp=Z,3.4nm,0.4s,mb4.1
LDF La Druitiere 31.65 295 *eP* **P** **21 23 00.2 -0.8**
comp=Z,1.7nm,0.4s,mb4.1
LFF La Frestale 31.78 288⇑ *iP* **P** **21 23 02.1 -0.1**
comp=Z,22nm,0.8s,mb4.6
LFF La Frestale 31.78 288⇑ *iP* **P** **21 23 02.1 -0.1**
LFF pmax pmax
comp=Z,11nm,0.8s,mb4.6
LFF La Frestale 31.78 288⇑ *iP* **P** **21 23 02.1 -0.1**
comp=Z,11nm,0.8s,mb4.6
FLN La Foliniere 31.86 296 *eP* **P** **21 23 02.9 0.0**
comp=Z,6.3nm,0.5s,mb4.3
FLN La Foliniere 31.86 296 *eP* **P** **21 23 02.9 0.0**
FLN pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
FLN La Foliniere 31.86 296 *eP* **P** **21 23 02.9 0.0**
comp=Z,3.2nm,0.5s,mb4.3
MFF Saint Martin d 32.02 291⇑ *iP* **P** **21 23 03.2 -1.1**
comp=Z,4.0nm,0.5s,mb4.1
MFF Saint Martin d 32.02 291⇑ *iP* **P** **21 23 03.2 -1.1**
MFF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MFF Saint Martin d 32.02 291⇑ *iP* **P** **21 23 03.2 -1.1**
comp=Z,2.0nm,0.5s,mb4.1
EMIR Miracle 32.07 282 P **P** **21 23 04.4 -0.4**
comp=Z,12nm,1.2s,mb4.5
EMIR Miracle 32.07 282 P **P** **21 23 04.4 -0.3**
comp=Z,12nm,1.2s,mb4.5
GRR Gorron 32.17 295 *eP* **P** **21 23 04.5 -1.1**
comp=Z,11nm,0.7s,mb4.4
GRR Gorron 32.17 295 *eP* **P** **21 23 04.5 -1.1**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
GRR Gorron 32.17 295 *eP* **P** **21 23 04.5 -1.1**
comp=Z,5.3nm,0.7s,mb4.4
EPF Esparros 32.57 285 *eP* **P** **21 23 08.6 -0.5**
EPOB Poblet 32.57 282 P **P** **21 23 08.2 -0.8**
comp=Z,20nm,0.9s,mb4.8
EPOB Poblet 32.57 282 P **P** **21 23 08.2 -0.9**
comp=Z,20nm,0.9s,mb4.8
EBIE Bielsa 32.81 284 P **P** **21 23 10.9 -0.3**
comp=Z,8.9nm,1.1s,mb4.4
EBIE Bielsa 32.81 284 P **P** **21 23 10.9 -0.3**
comp=Z,8.9nm,1.1s,mb4.4
BHPL Bhopal 33.21 118 *eP* **P** **21 23 13.2 -1.4**
BHPL AMb AMB 21 23 17.3
comp=Z,22nm,0.9s,mb4.9
ERTA Horta de San J 33.23 281 P **P** **21 23 13.9 -1.0**
comp=Z,6.8nm,0.8s,mb4.4
ERTA Horta de San J 33.23 281 P **P** **21 23 13.9 -0.9**
comp=Z,6.8nm,0.8s,mb4.4
ETSF Etsaut 33.24 285 *eP* **P** **21 23 14.6 -0.3**
comp=Z,18nm,1.0s,mb4.5
ETSF Etsaut 33.24 285 *eP* **P** **21 23 14.6 -0.3**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ETSF Etsaut 33.24 285 *eP* **P** **21 23 14.6 -0.3**
comp=Z,9.1nm,1.0s,mb4.5
SGMF Saint Gilles 33.31 295 *eP* **P** **21 23 15.0 -0.5**
comp=Z,9.9nm,0.8s,mb4.3
SGMF Saint Gilles 33.31 295 *eP* **P** **21 23 15.0 -0.5**
SGMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
SGMF Saint Gilles 33.31 295 *eP* **P** **21 23 15.0 -0.5**
comp=Z,4.9nm,0.8s,mb4.3
ESAC San Caprasio 33.55 283 P **P** **21 23 16.7 -0.9**
comp=Z,13nm,1.1s,mb4.6
ROSF Rostrenen 33.76 295 *eP* **P** **21 23 18.9 -0.5**
comp=Z,11nm,0.7s,mb4.4
ROSF Rostrenen 33.76 295 *eP* **P** **21 23 18.9 -0.5**
ROSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ROSF Rostrenen 33.76 295 *eP* **P** **21 23 18.9 -0.5**
comp=Z,5.7nm,0.7s,mb4.4
QUIF Quistinic 33.77 295 *eP* **P** **21 23 18.7 -0.8**
comp=Z,16nm,0.7s,mb4.5
QUIF Quistinic 33.77 295 *eP* **P** **21 23 18.7 -0.8**
QUIF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
QUIF Quistinic 33.77 295 *eP* **P** **21 23 18.7 -0.8**
comp=Z,7.8nm,0.7s,mb4.5
EMOS Mosqueruela 34.02 281 P **P** **21 23 21.4 -0.2**
comp=Z,12nm,1.4s,mb4.4
KOLN Koldanda 34.39 105 *eP* **P** **21 23 25.5 +0.7**
comp=Z,33nm,0.3s,mb5.5
EBEN Beniarda 34.46 278 P **P** **21 23 25.4 -0.1**
comp=Z,7.5nm,0.7s,mb4.5
EBEN Beniarda 34.46 278 P **P** **21 23 25.4 -0.1**
comp=Z,7.5nm,0.7s,mb4.5
ETOR Torete 34.98 282 P **P** **21 23 29.0 -0.9**
ETOR pmax pmax
comp=Z,15nm,0.3s,mb5.1
ETOR Torete 34.98 282 P **P** **21 23 29.0 -0.9**
comp=Z,15nm,0.3s,mb5.1
ETOR Torete 34.98 282 P **P** **21 23 29.0 -0.9**
comp=Z,15nm,0.3s,mb5.1
GKN Gorkha 34.98 103 *eP* **P** **21 23 30.3 +0.4**
comp=Z,47nm,0.4s,mb5.5
ELAN Lanestosa 35.14 287 P **P** **21 23 30.7 -0.6**
comp=Z,19nm,1.0s,mb4.7
ETOB Tobarra 35.44 278 P **P** **21 23 33.5 -0.3**
comp=Z,15nm,0.7s,mb4.7
ETOB Tobarra 35.44 278 P **P** **21 23 33.5 -0.3**
comp=Z,15nm,0.7s,mb4.7
EMUR La Murta 35.54 277 P **P** **21 23 33.8 -0.9**
comp=Z,16nm,0.9s,mb4.7
DMN Daman 35.55 104 *eP* **P** **21 23 35.5 +0.8**
comp=Z,69nm,0.5s,mb5.5
KKN Kakani 35.56 103 *eP* **P** **21 23 35.2 +0.3**
comp=Z,42nm,0.4s,mb5.4
PKI Pulchoki 35.78 103 *eP* **P** **21 23 37.3 +0.5**
comp=Z,82nm,0.6s,mb5.5
GUN Gumba 35.91 102 *eP* **P** **21 23 38.5 +0.6**
comp=Z,47nm,0.6s,mb5.3
EVIA Vianos 36.12 279 P **P** **21 23 38.9 -0.8**
EVIA pmax pmax
comp=Z,12nm,0.6s,mb4.7
EVIA Vianos 36.12 279 P **P** **21 23 38.9 -0.8**
comp=Z,12nm,0.6s,mb4.7
EVIA Vianos 36.12 279 P **P** **21 23 38.9 -0.8**
comp=Z,12nm,0.6s,mb4.7
JIRN Jiri 36.28 103 *eP* **P** **21 23 42.0 +1.0**
comp=Z,18nm,0.3s,mb5.2
EARI Arriondas 36.35 287 P **P** **21 23 41.2 -0.4**
comp=Z,7.1nm,1.0s,mb4.2
EARI Arriondas 36.35 287 P **P** **21 23 41.2 -0.4**
comp=Z,7.1nm,1.0s,mb4.2
SPB4 Spitsbergen Ar 36.47 350 *eP* **P** **21 23 44.1 +1.5**
SPB4 Spitsbergen Ar 36.47 350 *eP* **P** **21 23 44.1 +1.5**
GUD Guadarrama 36.53 283 P **P** **21 23 41.3 -1.8**
GUD pmax pmax
comp=Z,16nm,1.0s,mb4.6
GUD Guadarrama 36.53 283 P **P** **21 23 41.3 -1.8**
comp=Z,16nm,1.0s,mb4.6
GUD Guadarrama 36.53 283 P **P** **21 23 41.3 -1.8**
comp=Z,16nm,1.0s,mb4.6
ENIJ Nijar 36.61 276 P **P** **21 23 42.5 -1.3**
ENIJ pmax pmax
comp=Z,10.0nm,0.4s,mb4.8
ENIJ Nijar 36.61 276 P **P** **21 23 42.5 -1.2**
comp=Z,9.8nm,0.4s,mb4.8
ENIJ Nijar 36.61 276 P **P** **21 23 42.5 -1.3**
comp=Z,9.8nm,0.4s,mb4.8
ESDC Sonseca Array 36.76 281 P **P** **21 23 44.1 -1.0**
comp=Z,5.9nm,0.9s,mb4.2,baz=64,slow=8.4,SNR=30
ESDC Sonseca Array 36.76 281 P **P** **21 23 43.7 -1.3**
comp=Z,10.0nm,0.9s,mb4.5
ESDC Sonseca Array 36.76 281 P **P** **21 23 43.7 -1.3**
comp=Z,10.0nm,0.9s,mb4.5
EQES Quesada 36.88 278 P **P** **21 23 44.9 -1.1**
comp=Z,26nm,0.8s,mb4.9
EBER Berja 37.13 276 P **P** **21 23 48.0 -0.3**
comp=Z,13nm,0.8s,mb4.6
EBER Berja 37.13 276 P **P** **21 23 48.0 -0.2**
comp=Z,13nm,0.8s,mb4.6
EBAN Banos Encina 37.24 279 P **P** **21 23 47.8 -1.3**
EBAN pmax pmax
comp=Z,23nm,0.8s,mb4.9
EBAN Banos Encina 37.24 279 P **P** **21 23 47.8 -1.3**
comp=Z,23nm,0.8s,mb4.9
EBAN Banos Encina 37.24 279 P **P** **21 23 47.8 -1.3**
comp=Z,23nm,0.8s,mb4.9
MOY Mondy 37.36 58 *eP* **P** **21 23 52.1 +2.0**
ECOG Cogollos-Vega 37.46 277 P **P** **21 23 48.9 -2.0**
ECOG pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
ECOG Cogollos-Vega 37.46 277 P **P** **21 23 48.9 -2.1**
comp=Z,8.4nm,0.7s,mb4.5
ECOG Cogollos-Vega 37.46 277 P **P** **21 23 48.9 -2.0**
comp=Z,8.4nm,0.7s,mb4.5
EALB Alboran 37.66 275 P **P** **21 23 49.7 -3.0**
comp=Z,22nm,0.6s,mb5.0
EALB Alboran 37.66 275 P **P** **21 23 49.7 -3.0**
comp=Z,22nm,0.6s,mb5.0
EPON Pontenova 37.68 288 P **P** **21 23 52.0 -0.8**
comp=Z,9.4nm,0.7s,mb4.5
EPON Pontenova 37.68 288 P **P** **21 23 52.0 -0.8**
comp=Z,9.4nm,0.7s,mb4.5
ERON Agron 37.74 277 P **P** **21 23 51.0 -2.3**
comp=Z,8.0nm,0.7s,mb4.5
ERON Agron 37.74 277 P **P** **21 23 51.0 -2.3**
comp=Z,8.0nm,0.7s,mb4.5
EADA Adamuz 37.80 279 P **P** **21 23 52.8 -1.0**
comp=Z,19nm,0.9s,mb4.7
ELUQ Luque 37.84 278 P **P** **21 23 52.4 -1.7**
ELUQ pmax pmax
comp=Z,2.0nm,0.2s,mb4.4
ELUQ Luque 37.84 278 P **P** **21 23 52.4 -1.8**
comp=Z,1.7nm,0.2s,mb4.3
ELUQ Luque 37.84 278 P **P** **21 23 52.4 -1.7**
comp=Z,1.7nm,0.2s,mb4.3
ECAL Calabor 37.87 286 P **P** **21 23 53.3 -1.1**
comp=Z,8.3nm,0.7s,mb4.5
ECAL Calabor 37.87 286 P **P** **21 23 53.3 -1.1**
comp=Z,8.3nm,0.7s,mb4.5
ELOJ Sierra Loja 37.93 278 P **P** **21 23 52.3 -2.6**
comp=Z,0.3nm,0.2s,mb3.6
ELOJ Sierra Loja 37.93 278 P **P** **21 23 52.3 -2.6**
comp=Z,0.3nm,0.2s,mb3.6
BOK Bokaro 38.49 108 *eP* **P** **21 23 59.4 -0.2**
BOK AMb AMB 21 24 00.8
comp=Z,56nm,0.4s,mb5.5
EMIJ Mijas 38.64 277 P **P** **21 23 58.5 -2.3**
comp=Z,6.6nm,0.5s,mb4.5
EMIJ Mijas 38.64 277 P **P** **21 23 58.5 -2.3**
comp=Z,6.6nm,0.5s,mb4.5
LSA Lhasa 38.66 96 P **P** **21 24 02.4 +1.4**
LSA Lhasa 38.66 96 *eP* **P** **21 24 02.2 +1.2**
LSA pmax pmax
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 38.66 96 *eP* **P** **21 24 02.2 +1.2**
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 38.66 96 *eP* **P** **21 24 02.2 +1.2**
comp=Z,22nm,0.8s,mb4.8
ZAK Zakamensk 39.03 59 *eP* **P** **21 24 05.5 +1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
ZAK Zakamensk 39.03 59 *eP* **P** **21 24 05.5 +1.4**

comp=Z,4.0nm,1.1s,mb4.0
PCBR Castelo Branco 39.19 283 *e*P **P 21 24 05.2 -0.2**
comp=Z,10nm,0.8s,mb4.5
ESPR Espera 39.28 278 P **P 21 24 04.1 -2.1**
comp=Z,15nm,0.7s,mb4.7
ESPR Espera 39.28 278 P **P 21 24 04.1 -2.1**
comp=Z,15nm,0.7s,mb4.7
EMIN Mina Concepcio 39.47 280 P **P 21 24 06.4 -1.3**
comp=Z,7.7nm,0.8s,mb4.4
EMIN Mina Concepcio 39.47 280 P **P 21 24 06.4 -1.4**
comp=Z,7.7nm,0.8s,mb4.4
PESTR Estremoz 39.66 282 *e*P **P 21 24 09.2 -0.1**
comp=Z,31nm,1.0s,mb4.9
EVO Evora 40.10 282⇑ *i*P **P 21 24 12.9 -0.1**
comp=Z,11nm,0.9s,mb4.2
EGRO El Granado 40.15 280 P **P 21 24 11.7 -1.6**
comp=Z,7.6nm,0.9s,mb4.3
EGRO El Granado 40.15 280 P **P 21 24 11.7 -1.7**
comp=Z,7.6nm,0.9s,mb4.3
PBEJ Beja 40.21 281 *e*P **P 21 24 13.7 -0.2**
comp=Z,15nm,1.2s,mb4.5
GTA Gaotai 40.23 77⇓P **P 21 24 15.1 +1.1**
GTA AP pP 21 24 49.4 +2.7
GTA XP sP 21 25 08.0 +4.4
GTA PCP PcP 21 26 15.4 +0.4
GTA SCP ScP 21 29 49.4 -0.7
GTA SCS ScS 21 34 03.9 -0.3
GTA AMB AMB
comp=Z,24nm,0.8s,mb4.9
VIS Vishakhapatnam 41.00 117 *e*P **P 21 24 20.0 -0.4**
VIS AMb AMB 21 24 20.9
comp=Z,8.7nm,0.7s,mb4.5
PTEO Sao Teotonio 41.03 281 *e*P **P 21 24 20.5 -0.1**
SONM Songino Array 41.68 62 P **P 21 24 26.5 +0.6**
comp=Z,4.6nm,0.4s,mb4.4,baz=284,slow=9.2,SNR=48
SONM pP pP 21 25 01.2 +2.4
comp=Z,2.4nm,0.7s,baz=278,slow=9.3,SNR=4.2
SONM PcP PcP 21 26 19.2 -0.6
comp=Z,3.8nm,0.7s,baz=260,slow=2.6,SNR=9.9
SONM ScP ScP 21 29 55.3 -0.5
comp=Z,0.9nm,0.9s,baz=266,slow=3.0,SNR=4.5
IMP Imphal 43.54 99 *e*P **P 21 24 42.0 +1.1**
BOD Bodaibo 43.60 46 *e*P **P 21 24 40.9 -0.5**
BOD *e* pP 21 25 15.8 +1.2
BOD *e* 21 26 23.2
BOD pmax pmax
comp=Z,38nm,0.8s,mb5.1
BOD Bodaibo 43.60 46 *e*P **P 21 24 40.9 -0.5**
comp=Z,38nm,0.8s,mb5.1
BOD Bodaibo 43.60 46 *e*PcP PcP 21 26 23.2 -3.0
LZH Lanzhou 44.56 79 *e*P **P 21 24 50.5 +1.5**
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,295nm,5.4s
LZH Lanzhou 44.56 79 *e*P **P 21 24 50.5 +1.5**
comp=Z,83nm,1.5s,mb5.1
LZH pP pP 21 25 04.0 -18
LZH sP sP 21 25 12.0 -27
CIT Chita 44.83 54 *e*P **P 21 24 51.2 0.0**
CIT *e* pP 21 25 22.0 -2.5
CIT *e* 21 26 27.1
CIT Chita 44.83 54 *e*PcP PcP 21 26 27.1 -3.3
KMBO Kilima Mbogo 45.24 192 P **P 21 24 54.8 +0.4**
comp=Z,3.7nm,0.6s,mb4.2,baz=28,slow=13,SNR=10
KMBO Kilima Mbogo 45.24 192 *i* P **P 21 24 55.4 +1.0**
KMBO pmax pmax
comp=Z,4.0nm,0.6s
CD2 Chengdu 47.13 85 P **P 21 25 09.8 +0.7**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
TOA0 Torodi Ar. Sit 48.31 245 *e*P **P 21 25 16.6 -1.6**
TOA0 Torodi Ar. Sit 48.31 245 *e*P **P 21 25 16.6 -1.7**
TORD Torodi Ar. Bea 48.31 245 P **P 21 25 16.4 -1.9**
comp=Z,11nm,0.5s,mb4.8,baz=40,slow=7.4,SNR=219
TORD ScP ScP 21 30 19.1 -4.1
comp=Z,0.8nm,0.9s,baz=22,slow=4.7,SNR=3.3
TORD S **S 21 32 01.0 -5.8**
comp=Z,1.6nm,1.1s,baz=50,slow=13,SNR=4.4
TORD Torodi Ar. Bea 48.31 245 P **P 21 25 16.4 -1.9**
TORD ScP ScP 21 30 19.1 -4.1
TORD S **S 21 32 01.0 -5.8**
XAN Xi'an 49.19 79 P **P 21 25 25.1 +0.2**
XAN AMB AMB
comp=Z,44nm,0.9s,mb5.1
HIA Hailar 49.49 56 *e*P **P 21 25 28.3 +1.1**
HIA *e**PP pP 21 26 04.5 +3.4
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 49.49 56 *e*P **P 21 25 28.3 +1.1**
comp=Z,16nm,0.8s,mb4.7
HIA *e*pP pP 21 26 04.5 +3.4
HIA Hailar 49.49 56 *e*P **P 21 25 28.3 +1.1**
comp=Z,16nm,0.8s,mb4.7
KMI Kunming 49.69 92 P **P 21 25 29.1 +0.4**
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.3
KMI Kunming 49.69 92 P **P 21 25 29.1 +0.4**
comp=Z,11nm,1.3s,mb4.3
YAK Yakutsk 50.05 38⇑ *e*P **P 21 25 30.6 -0.8**
YAK *i* *PP pP 21 26 02.6 -2.8
YAK *i* 21 27 27.1
YAK pmax pmax
comp=Z,38nm,0.7s,mb5.1
YAK Yakutsk 50.05 38⇑ *e*P **P 21 25 30.7 -0.7**
YAK Yakutsk 50.05 38 *e*P **P 21 25 30.6 -0.8**
comp=Z,38nm,0.7s,mb5.1
CHG Chiang Mai 50.92 102⇓P **P 21 25 37.5 -0.5**
comp=Z,27nm,0.7s,mb5.0
CHTO Chiang Mai 50.92 102 *e*P **P 21 25 37.5 -0.5**
CHTO pmax pmax
comp=Z,26nm,0.9s,mb4.9
CHTO Chiang Mai 50.92 102 *e*P **P 21 25 37.5 -0.5**
comp=Z,26nm,0.9s,mb4.9
CHTO Chiang Mai 50.92 102 *e*P **P 21 25 37.5 -0.5**
comp=Z,26nm,0.9s,mb4.9
CM31 Chiang Mai Arr 51.15 102 *e*P **P 21 25 39.7 0.0**
comp=Z,22nm,0.8s,mb4.8
CM31 Chiang Mai Arr 51.15 102 *e*P **P 21 25 39.7 0.0**
comp=Z,22nm,0.8s,mb4.8
BJT Baijiatuau 51.26 68 *e*P **P 21 25 41.3 +0.8**
BJT pmax pmax
comp=Z,20nm,0.6s
BJT Baijiatuau 51.26 68 *e*P **P 21 25 41.3 +0.9**
comp=Z,20nm,0.6s,mb4.9
BJT Baijiatuau 51.26 68 *e*P **P 21 25 41.3 +0.8**
comp=Z,20nm,0.6s,mb4.9
GYA Guiyang 51.74 88⇑ *i*P **P 21 25 43.6 -0.5**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
WHN Wuhan 54.94 79 P **P 21 26 08.1 +0.7**
KKTK Khon Kaen 55.32 101⇓P **P 21 26 10.0 -0.1**
DL2 Dalian 55.47 67 P **P 21 26 11.8 +0.6**
DL2 AMB AMB
comp=Z,50nm,0.6s,mb5.4
KLR Kul'dur 56.54 52 *e*P **P 21 26 16.0 -2.8**
NJ2 Nanjing 57.28 75 *e*P **P 21 26 23.9 -0.1**
NJ2 AMB AMB
comp=Z,70nm,0.5s
DBIC Dimbokro 57.41 245 P **P 21 26 23.4 -1.5**
comp=Z,10nm,0.4s,mb5.0,baz=26,slow=7.1,SNR=53
DBIC Dimbokro 57.41 245 P **P 21 26 23.4 -1.6**
DBIC pmax pmax
comp=Z,10.0nm,0.4s
DBIC Dimbokro 57.41 245 P **P 21 26 23.4 -1.5**
SEY Seymchan 58.93 31⇑ *i*P **P 21 26 36.5 +1.0**
SEY *i* 21 28 46.6
SEY Seymchan 58.93 31⇑ *i*P **P 21 26 36.6 +1.1**
BILL Bilibino 60.10 22 *e*P **P 21 26 44.1 +0.6**
BILL *e* 21 27 29.3
BILL pmax pmax
comp=Z,12nm,0.9s,mb4.7
BILL Bilibino 60.10 22 *e*P **P 21 26 44.1 +0.6**
comp=Z,12nm,0.9s,mb4.7
LSZ Lusaka 60.80 199 P **P 21 26 46.5 -1.8**
comp=Z,7.1nm,0.7s,mb4.6,baz=29,slow=7.2,SNR=19
LSZ Lusaka 60.80 199 P **P 21 26 46.5 -1.8**
LSZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
OPO Ambohidratompo 61.98 178 P **P 21 26 54.5 -1.6**
comp=Z,4.7nm,1.0s,mb4.3,baz=12,slow=7.0,SNR=6.6
PSI Prapat 62.25 115 P **P 21 26 56.1 -1.8**
comp=Z,10nm,0.5s,mb4.9,baz=305,slow=6.9,SNR=11
PSI Prapat 62.25 115 P **P 21 26 56.2 -1.8**
PSI pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
ASAJ Asahikawa 65.58 52 P **P 21 27 19.7 0.0**
comp=Z,15nm,0.9s,mb4.8,baz=327,slow=9.2,SNR=5.8
ASAJ Asahikawa 65.58 52 P **P 21 27 19.7 0.0**
ASAJ pmax pmax
comp=Z,15nm,0.9s
JOW Kunigami 66.97 74 P **P 21 27 28.4 -0.2**
comp=Z,21nm,0.5s,mb5.2,baz=319,slow=7.8,SNR=10
MAJO Matsushiro 67.60 60 *e*P **P 21 27 31.5 -1.0**
MAJO pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MAJO Matsushiro 67.60 60 *e*P **P 21 27 31.5 -1.0**
comp=Z,6.8nm,0.8s,mb4.4
MAJO Matsushiro 67.60 60 *e*P **P 21 27 31.5 -1.0**
comp=Z,7.0nm,0.8s,mb4.4
MJAR Matsushiro Arr 67.60 60 P **P 21 27 32.3 -0.2**
comp=Z,6.1nm,1.0s,mb4.3,baz=306,slow=9.0,SNR=16
MJAR Matsushiro Arr 67.60 60 P **P 21 27 32.3 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 68.32 360 P **P 21 27 35.5 -1.6**
comp=Z,2.1nm,0.5s,mb4.1,baz=346,slow=5.1,SNR=7.0
INK Inuvik 68.32 360 *e*P **P 21 27 36.6 -0.4**
INK pmax pmax
comp=Z,47nm,0.4s
INK Inuvik 68.32 360 *e*P **P 21 27 36.6 -0.5**
comp=Z,47nm,0.4s,mb5.6
INK Inuvik 68.32 360 *e*P **P 21 27 36.6 -0.4**
comp=Z,47nm,0.4s,mb5.6
COLA College 71.26 6 *e*P **P 21 27 55.9 +0.9**
COLA *PP pP 21 28 32.1 +0.8
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
COLA College 71.26 6 *e*P **P 21 27 55.9 +0.9**
comp=Z,8.2nm,0.7s,mb4.6
COLA pP pP 21 28 32.1 +0.8
COLA College 71.26 6 *e*P **P 21 27 55.9 +0.9**
comp=Z,8.0nm,0.7s,mb4.6
YKA Yellowknife Ar 72.97 351 P **P 21 28 05.2 0.0**
comp=Z,3.7nm,0.5s,mb4.3,baz=9.0,slow=5.7,SNR=10
YKA Yellowknife Ar 72.97 351 P **P 21 28 05.2 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.5s
BOSA Boshof 74.33 198 P **P 21 28 11.7 -1.4**
comp=Z,7.7nm,0.8s,mb4.5,baz=38,slow=5.5,SNR=12
BOSA Boshof 74.33 198 P **P 21 28 11.7 -1.4**
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KDAK Kodiak Island 77.76 10 P **P 21 28 33.2 +0.7**
comp=Z,6.1nm,0.5s,mb4.5,baz=285,slow=3.6,SNR=11
NEW Newport 87.16 349 *e*P **P 21 29 21.0 -0.2**
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW Newport 87.16 349 *e*P **P 21 29 21.0 -0.2**
comp=Z,3.5nm,0.6s,mb4.4
NEW Newport 87.16 349 *e*P **P 21 29 21.0 -0.2**
comp=Z,3.0nm,0.6s,mb4.3
CHMT Chamberlain Mo 87.85 346 *e*P **P 21 29 24.9 +0.4**
WRA Warramunga Arr 102.65 105 P Pdif 21 30 30.7 -1.2
comp=Z,0.4nm,0.7s,baz=316,slow=4.2,SNR=4.5
WRA PKiKP PKiKP 21 34 50.8 -1.3
comp=Z,0.2nm,0.5s,baz=316,slow=1.5,SNR=4.5
WRA Warramunga Arr 102.65 105 P Pdif 21 30 30.7 -1.2
WRA *i* 21 34 50.8
ASAR Alice Springs 104.81 109 PKiKP PKiKP 21 34 54.6 -1.4
comp=Z,0.3nm,0.5s,baz=318,slow=1.1,SNR=6.7
STKA Stephens Creek 115.26 111 PKP PKPdf 21 35 14.2 -1.5
comp=Z,0.7nm,0.4s,baz=45,slow=1.4,SNR=5.0

*NEIC **12** 21:32:07.3, 3149S×7178W, h38km, MD4.0(GUC), After GUC.*
GUC 12 21:32:07.3±0.7, 3149S×7178W, h38km±2km, MD4.0, ML3.6, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**149**	⇓*i*P	Pn	21 32 17.4	0.0
CHNG				*i* S	Sn	21 32 24.4	0.0
CHNG				AML	AML	21 32 25.2	
	comp=E,5μm,0.5s						
PTCH	**Petorca**	**1.05**	**137**	*e*P	Pn	21 32 26.0	+0.5
PTCH				*i* S	Sn	21 32 40.4	+1.4
PTCH				AML	AML	21 32 43.2	
	comp=E,3μm,0.5s						
PTCH	**Petorca**	**1.05**	**137**	*e*P	Pn	21 32 26.0	+0.5
PTCH				*i* S	Sn	21 32 40.4	+1.4
PACH	**Papudo**	**1.08**	**164**	*e*P	Pn	21 32 27.0	+1.1
PACH				*i* S	Sn	21 32 41.7	+2.0
JACH	**Jahuel**	**1.55**	**140**	*e*P	Pn	21 32 34.5	+2.0
JACH				*i* S	Sn	21 32 53.9	+2.5
ROCH	**El Roble**	**1.61**	**156**	*e*P	Pn	21 32 35.1	+1.9
PEL	**Peldehue**	**1.89**	**151**	*e*P	Pn	21 32 38.2	+1.2
PEL				*i* S	Sn	21 33 01.9	+2.4
PEL				AML	AML	21 33 08.8	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.89**	**151**	*e*P	Pn	21 32 38.2	+1.2
PEL				*i* S	Sn	21 33 01.9	+2.4
LCCH	**Las Cruces**	**1.98**	**175**	*e*P	Pn	21 32 39.1	+0.8
RCDM	**Rinconada Maip**	**2.15**	**158**	⇓*i*P	Pn	21 32 41.9	+1.2
RCDM				*i* S	Sn	21 33 08.7	+2.6
RCDM				AML	AML	21 33 19.1	
	comp=E,443nm,0.6s						
RCDM	**Rinconada Maip**	**2.15**	**158**	⇓*i*P	Pn	21 32 41.9	+1.2
RCDM				*i* S	Sn	21 33 08.7	+2.6
CLCH	**Cerro Calan**	**2.17**	**151**	*e*P	Pn	21 32 42.4	+1.5
CLCH				AML	AML	21 33 23.8	
	comp=N,597nm,0.5s						
FCH	**Farellones**	**2.22**	**146**	*e*P	Pn	21 32 43.4	+1.8
FCH				*i* S	Sn	21 33 11.2	+3.4
FCH				AML	AML	21 33 21.9	
	comp=E,354nm,0.5s						
PCH	**Pirque**	**2.38**	**154**	*e*P	Pn	21 32 45.0	+1.3
CHCH	**Chadas Angostu**	**2.61**	**159**	*e*P	Pn	21 32 48.3	+1.4
SFDO	**San Fernando**	**3.18**	**169**	*e*P	Pn	21 32 56.1	+1.4

*ISCJB **12** 21:33:58.8±0.5, 679N±005×7292W±006, h165km±5km, mb3.8/3, Error ellipse: s-maj=11.9km s-min=5.3km az=82.2*
*FUNV **12** 21:33:58.0, 661N×73.16W, h152km, MW4.0*
*IDC **12** 21:33:59.2±0.7, 680N×73.00W, h152km±9km, mb3.6/3, mb1 3.9/7, mb1mx3.4/24, mbtmp4.3/7, Error ellipse: s-maj=24.2km s-min=7.1km az=133.0*
*NEIC **12** 21:34:00.0±0.7, 680N×72.99W, h164km±8km, mb3.9/2, Error ellipse: s-maj=13.2km s-min=8.2km az=120.0*
ISC 12 21:33:60.0±0.5, 681N±005×7294W±006, h158km±5km, n25, σ0°91/36, mb3.8/3, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**30**	⇓*i*P	Pn	21 34 28.2	+0.8
CAPV				*e*S	Sn	21 34 48.3	-0.1
ROSC	**El Rosal**	**2.38**	**216**	P	Pn	21 34 40.0	-0.1
	31nm,0.3s,baz=79,slow=12,SNR=46						
ROSC				S	Sn	21 35 09.9	-1.1
	81nm,0.3s,baz=85,slow=22,SNR=19						
SOCV	**Socops**	**2.53**	**54**	*e*P	Pn	21 34 43.0	+1.2
SOCV				*e*S	Sn	21 35 14.7	+0.5
VIGV	**El Vigia**	**2.55**	**38**	⇓*i*P	Pn	21 34 42.8	+0.7
VIGV				*e*S	Sn	21 35 15.4	+0.9
SDV	**Santo Domingo**	**3.08**	**48**	P	Pn	21 34 49.7	+1.1
	40nm,0.3s,baz=270,slow=4.8,SNR=199						
SDV				S	Sn	21 35 26.6	+0.3
	48nm,0.3s,baz=92,slow=19,SNR=16						
VIRV	**Villa del Rosa**	**3.71**	**8**	*e*P	Pn	21 34 55.2	-1.4
QARV	**Quebrada Arrib**	**4.14**	**35**	⇓*i*P	Pn	21 35 02.8	+0.6
QARV				*e*S	Sn	21 35 50.5	-0.1
SANV	**Sanarito**	**4.30**	**51**	*e*P	Pn	21 35 04.5	+0.2
SANV				*e*S	Sn	21 35 54.2	-0.3
CURV	**Curarigua**	**4.34**	**43**	*e*P	Pn	21 35 05.1	+0.3
CURV				*e*S	Sn	21 35 54.4	-0.9
DABV	**Dabajuro**	**4.68**	**29**	*e*P	Pn	21 35 09.4	+0.1
SIQV	**Siquisique**	**4.91**	**39**	*e*P	Pn	21 35 12.3	0.0
SIQV				*e*S	Sn	21 36 07.7	-1.1
BAUV	**El Baul**	**5.29**	**66**	*e*P	Pn	21 35 16.5	-0.8
BAUV				*e*S	Sn	21 36 15.3	-2.6
CAOV	**Caicara del Or**	**6.59**	**85**	*e*P	Pn	21 35 32.7	-1.8
CAOV				*e*S	Sn	21 36 44.4	-4.2
BIRV	**Birongo**	**7.53**	**61**	*e*P	Pn	21 35 46.6	-0.4
CUPV	**Cœpira**	**7.77**	**65**	*e*P	Pn	21 35 49.7	-0.5
OTAV	**Otavalo**	**8.54**	**220**	P	Pn	21 36 01.1	+0.7
	4.7nm,0.6s						
PCRV	**Puerto La Cruz**	**8.87**	**67**	P	Pn	21 36 06.7	+1.9
	1.2nm,0.3s,baz=141,slow=14,SNR=6.2						
PCRV				S	Sn	21 37 44.8	+1.4
	1.9nm,0.3s,baz=162,slow=19,SNR=3.8						
SJG	**San Juan**	**13.04**	**30**	P	Pn	21 36 58.6	-0.7
	9.4nm,0.3s,baz=317,slow=18,SNR=5.6						
SAML	**Samuel**	**18.43**	**148**	*e*P	P	21 38 03.0	-0.2
	1.5nm,0.5s						
LPAZ	**La Paz**	**23.43**	**168**	*e*P	P	21 38 54.0	-0.8
LVC	**Limon Verde**	**29.50**	**172**	P	P	21 39 50.1	+1.0
BDFB	**Brasilia**	**33.27**	**132**	P	P	21 40 23.0	+0.8
	1.4nm,0.6s,mb3.9,baz=288,slow=9.6,SNR=3.3						
PDAR	**Pinedale Array**	**48.20**	**324**	P	P	21 42 24.5	+0.2
	0.6nm,0.6s,mb3.4,baz=125,slow=7.8,SNR=3.9						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	P	21 44 11.6	-0.5
	1.7nm,0.6s,mb4.0,baz=134,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	PKPbc	21 53 32.9	+0.1
	0.4nm,0.6s,baz=107,slow=2.7,SNR=16						

*NIED **12** 21:48:00, 4380N×14740E, h41km, Mw3.8 Best double couple: M0:5.98000×10^14 NP1:φ±24.00000°, δ70.00000°, λ74.00000°. NP2:φ±244.00000°, δ26.00000°, λ127.00000°.*
*MOS **12** 21:48:57.8±1.4, 4412N×14765E, h57km, mb4.2/7, Error ellipse: s-maj=19.5km s-min=12.4km az=109.6*
*ISCJB **12** 21:48:58.6±0.9, 4405N±006×14751E±009, h59km±7km, mb3.8/13, Error ellipse: s-maj=13.1km s-min=7.3km az=90.2*
*SKHL **12** 21:48:59.0±0.7, 4420N×14740E, h57km±7km, mb4.6/3*
*JMA **12** 21:48:59.4±0.2, 4380N×14738E, h18km, M4.4*
*IDC **12** 21:49:04.3±3.5, 4409N×14730E, h91km±31km, mb3.5/13, mb1 3.7/14, mb1mx3.6/23, mbtmp3.9/14, Error ellipse: s-maj=24.5km s-min=19.0km az=93.0*
ISC 12 21:48:59.4±0.9, 4412N±006×14753E±009, h50km±7km, n48, σ1°33/59, mb3.8/13, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.14**	**12**	*e*P	Pn	21 49 17.5	-1.5
KUR				AMB	AMB	21 49 21.5	
	140nm,0.6s						
KUR				AMB	AMB	21 49 21.5	
	80nm,0.6s						
KUR				AMB	AMB	21 49 21.5	
	150nm,0.6s						
KUR				*i* S	Sn	21 49 31.8	-1.7
KUR				A		21 49 34.0	
	5μm,1.0s						
KUR				A		21 49 34.0	
	2μm,1.0s						
KUR				A		21 49 34.0	
	3μm,0.4s						
KUR				A		21 49 34.0	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.21**	**267**	⇓*i*P	Pn	21 49 19.2	-0.7
YUK				AMB	AMB	21 49 20.0	
	770nm,0.5s						
YUK				AMB	AMB	21 49 20.0	
	510nm,0.3s						
YUK				AMB	AMB	21 49 20.0	
	320nm,0.3s						
YUK				*i* S	Sn	21 49 33.7	-1.4
YUK				A		21 49 35.2	
	6μm,0.2s						
YUK				A		21 49 35.2	
	3μm,0.2s						
YUK				A		21 49 37.0	
	7μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.21**	**267**	⇓*i*PN	Pn	21 49 19.2	-0.7
YUK				*i* S	Sn	21 49 33.7	-1.4
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=Z,770nm,0.5s						
YUK				pmax	pmax		
	comp=N,510nm,0.2s						
YUK				pmax	pmax		
	comp=E,320nm,0.3s						
YUK				smax			
	comp=N,6μm,0.2s						
YUK				smax			
	comp=E,3μm,0.2s						
YUK				smax			
	comp=E,7μm,0.8s						
NEM2	**Nemuro 2**	**1.50**	**241**	P	Pn	21 49 22.3	-1.6
NEM2				*e*S	Sn	21 49 38.6	-3.7
JRA	**Rausu**	**1.75**	**265**	P	Pn	21 49 27.8	+0.6
JRA				*e*S	Sn	21 49 49.1	+0.8
JNK	**Nakash**	**2.10**	**256**	P	Pn	21 49 32.2	+0.1
JNK				*e*S	Sn	21 49 55.9	-1.2
JAK	**Akkeshi**	**2.35**	**242**	P	Pn	21 49 34.4	-1.0
JAK				*e*S	Sn	21 50 00.0	-3.0
JTKR	**Abashiri--Toko**	**2.62**	**268**	P	Pn	21 49 40.3	+1.1
JTKR				*e*S	Sn	21 50 11.2	+1.5
JAR	**Ashorobuto**	**2.85**	**255**	P	Pn	21 49 42.9	+0.6
JAR				*e*S	Sn	21 50 14.7	-0.7
JOB	**Onbets**	**2.95**	**247**	P	Pn	21 49 43.5	-0.2
JOB				*e*S	Sn	21 50 16.2	-1.7
JMP	**Maruseppu**	**3.01**	**269**	P	Pn	21 49 45.9	+1.4
JCH	**Churui**	**3.39**	**245**	P	Pn	21 49 49.1	-0.7
JCH				*e*S	Sn	21 50 25.4	-3.3
JKK2	**Kamakawa 2**	**3.46**	**268**	P	Pn	21 49 53.2	+2.5
ASAJ	**Asahikawa**	**3.56**	**272**	P	Pn	21 49 54.9	+2.9
	comp=E,6.2nm,0.3s,baz=72,slow=16,SNR=30						
ASAJ				S	Sn	21 50 41.0	+8.3
	comp=E,4.6nm,0.3s,baz=84,slow=29,SNR=2.0						
ASAJ	**Asahikawa**	**3.56**	**272**	P	Pn	21 49 54.8	+2.8
ASAJ	**Asahikawa**	**3.56**	**272**	PN	Pn	21 49 54.9	+2.9
ASAJ				S	Sn	21 50 41.1	+8.4
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
JSE	**Soyaes**	**3.64**	**285**	P	Pn	21 49 54.8	+1.7
JFR	**Furan**	**3.71**	**257**	P	Pn	21 49 56.0	+1.9
JEM	**Erimo**	**3.83**	**238**	P	Pn	21 49 57.8	+2.0
JNBK	**Urakawa-nobuka**	**3.95**	**244**	P	Pn	21 49 57.2	-0.2
YSS	**Yuzh-Sakhalins**	**4.39**	**312**	*e*P	Pn	21 50 05.8	+2.3
YSS				AMB	AMB	21 50 06.2	
	comp=N,50nm,0.4s						
EKMR	**Ekimchan**	**13.14**	**318**	*e*P	Pn	21 52 03.2	-0.1
MKAR	**Makanchi Array**	**44.66**	**297**	P	P	21 57 07.4	+0.3
	comp=N,0.4nm,0.4s,mb3.6,baz=81,slow=9.3,SNR=4.3						
INK	**Inuvik**	**45.95**	**31**	P	P	21 57 18.2	+1.0
	comp=N,1.5nm,0.7s,mb4.0,baz=280,slow=6.1,SNR=6.5						
INK	**Inuvik**	**45.95**	**31**	P	P	21 57 18.2	+1.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**49.48**	**309**	PcP	PcP	21 59 06.0	-0.1
	comp=Z,0.5nm,0.5s,baz=73,slow=5.4,SNR=3.9						
ARCES	**ARCESS Array B**	**59.00**	**340**	P	P	21 58 53.3	-0.6
	comp=Z,3.6nm,1.0s,mb4.3,baz=52,slow=7.9,SNR=5.1						
ARCES	**ARCESS Array B**	**59.00**	**340**	P	P	21 58 53.3	-0.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
JOF	**Joensuu**	**61.89**	**332**	*ep*	P	21 59 11.1	-2.5
KAF	**Kangasniemi**	**64.11**	**333**	*ep*	P	21 59 26.2	-2.1
	baz=42,slow=6.2						
FINES	**FINESS Array B**	**64.67**	**333**	P	P	21 59 31.0	-1.0
	comp=Z,1.0nm,0.7s,mb4.0,baz=41,slow=6.1,SNR=5.5						
FINES	**FINESS Array B**	**64.67**	**333**	P	P	21 59 31.0	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**64.88**	**194**	P	P	21 59 32.7	-0.7
	comp=Z,0.8nm,0.7s,mb3.9,baz=8.9,slow=6.7,SNR=7.1						
WRA	**Warramunga Arr**	**64.88**	**194**	P	P	21 59 32.7	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**67.15**	**58**	P	P	21 59 50.7	+2.8
	comp=Z,0.4nm,0.5s,mb3.7,baz=312,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**68.60**	**193**	P	P	21 59 57.5	+0.4
	comp=Z,0.3nm,0.8s,mb3.3,baz=21,slow=6.1,SNR=4.1						
NB2	**NORSAR Subarra**	**69.36**	**339**	P	P	22 00 00.8	-0.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.36**	**339**	P	P	22 00 00.8	-0.9
	comp=Z,0.8nm,0.5s,mb3.9,baz=31,slow=6.4,SNR=4.1						
NOA	**NORSAR Array B**	**69.36**	**339**	P	P	22 00 00.9	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**69.46**	**337**	P	P	22 00 01.4	-0.9
	comp=Z,1.4nm,0.5s,mb4.2,baz=54,slow=7.5,SNR=11						
HFS	**Hagfors**	**69.46**	**337**	P	P	22 00 01.4	-0.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						

PDAR	**Pinedale Array**	**69.46**	**50**	P	**P**	**22 00 03.7**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=129,slow=2.1,SNR=3.7						
AKASG	**Malin Array Be**	**71.45**	**324**	P	**P**	**22 00 14.2**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=39,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**77.49**	**314**	P	**P**	**22 00 50.8**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=168,slow=6.3,SNR=3.9						
KHC	**Kasperske Hory**	**78.77**	**331**	*e*P	**P**	**22 00 57.0**	**+0.4**
GERES	**GERESS Array B**	**78.97**	**331**	P	**P**	**22 00 57.9**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=34,slow=4.8,SNR=6.2						
GERES	**GERESS Array B**	**78.97**	**331**	P	**P**	**22 00 57.9**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**115.07**	**323**	PKP	PKiKP	22 07 34.5	-0.4
	comp=Z,0.2nm,0.7s,baz=14,slow=1.2,SNR=4.2						

*NEIC **12** 21:59:05.1, 3140S×7164W, h31km, ML3.2(GUC), After GUC.*

GUC 12 21:59:05.1±0.7, 3140S×7164W, h31km±2km, MD3.9, ML3.2, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**166**	⇓*i*P		Pb	21 59 15.3	-0.2
CHNG				*i* S		Sb	21 59 22.5	-0.1
CHNG				AML		AML	21 59 22.9	
	comp=N,2μm,0.3s							
PTCH	**Petorca**	**1.05**	**145**	*e*P		Pn	21 59 24.0	+0.3
PTCH				*i* S		Sn	21 59 37.8	+0.5
PTCH				AML		AML	21 59 39.0	
	comp=E,2μm,0.1s							
PTCH	**Petorca**	**1.05**	**145**	*e*P		Pn	21 59 24.0	+0.3
PTCH				*i* S		Sn	21 59 37.8	+0.5
PACH	**Papudo**	**1.14**	**171**	⇓*i*P		Pn	21 59 25.4	+0.4
PACH				*i* S		Sn	21 59 40.6	+1.1
TLL	**Tololo Astrono**	**1.43**	**31**	*e*P		Pn	21 59 30.6	+1.8
TLL				*i* S		Sn	21 59 49.0	+2.4
TLL				AML		AML	21 59 53.7	
	comp=E,607nm,0.5s							
TLL	**Tololo Astrono**	**1.43**	**31**	*e*P		Pn	21 59 30.6	+1.8
TLL				*i* S		Sn	21 59 49.0	+2.4
JACH	**Jahuel**	**1.56**	**145**	⇓*i*P		Pn	21 59 32.4	+1.8
JACH				*i* S		Sn	21 59 52.4	+2.7
ROCH	**El Roble**	**1.65**	**161**	⇑*i*P		Pn	21 59 33.4	+1.5
LCCH	**Las Cruces**	**2.07**	**178**	⇓*i*P		Pn	21 59 39.0	+1.3
CLCH	**Cerro Calan**	**2.20**	**155**	*e*P		Pn	21 59 41.1	+1.6
CLCH				*i* S		Sn	22 00 07.9	+2.4
CLCH				AML		AML	22 00 20.5	
	comp=E,224nm,0.6s							
RCDM	**Rinconada Maip**	**2.20**	**161**	⇓*i*P		Pn	21 59 40.9	+1.4
RCDM				*i* S		Sn	22 00 08.3	+2.7
RCDM				AML		AML	22 00 18.0	
	comp=E,242nm,0.1s							
RCDM	**Rinconada Maip**	**2.20**	**161**	⇓*i*P		Pn	21 59 40.9	+1.4
RCDM				*i* S		Sn	22 00 08.3	+2.7
FCH	**Farellones**	**2.23**	**150**	*e*P		Pn	21 59 42.1	+2.1
FCH				*i* S		Sn	22 00 10.4	+4.0
FCH				AML		AML	22 00 14.6	
	comp=E,136nm,0.3s							
TACH	**Talagante**	**2.32**	**165**	*e*P		Pn	21 59 42.4	+1.3
PCH	**Pirque**	**2.41**	**157**	⇑*i*P		Pn	21 59 44.1	+1.8
ZON	**Zonda**	**2.54**	**94**	*e*P		Pn	21 59 48.7	+4.5
SFDO	**San Fernando**	**3.25**	**171**	*e*P		Pn	21 59 55.4	+1.6

*NEIC **12** 22:06:48.4, 3145S×7171W, h25km, ML3.2(GUC), After GUC.*

GUC 12 22:06:48.4±0.8, 3145S×7171W, h25km±4km, MD3.9, ML3.2, 8C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**158**	⇑*i*P		Pb	22 06 57.7	-0.3
CHNG				*i* S		Sb	22 07 04.8	+0.3
CMCH	**Combarbala**	**0.67**	**65**	⇑*i*P		Pb	22 07 00.8	-0.6
CMCH				*i* S		Sb	22 07 10.7	+0.5
CMCH				AML		AML	22 07 12.1	
	comp=E,4μm,0.5s							
CMCH	**Combarbala**	**0.67**	**65**	⇑*i*P		Pb	22 07 00.8	-0.6
CMCH				*i* S		Sb	22 07 10.7	+0.5
OVCH	**Ovalle**	**0.95**	**27**	⇑*i*P		Pb	22 07 05.5	-0.7
OVCH				*i* S		Sb	22 07 18.4	+0.1
OVCH				AML		AML	22 07 18.7	
	comp=E,988nm,0.3s							
PTCH	**Petorca**	**1.04**	**141**	⇑*i*P		Pn	22 07 07.0	-0.5
PTCH				*i* S		Sb	22 07 20.7	-0.4
PTCH				AML		AML	22 07 24.1	
	comp=N,2μm,0.2s							
PTCH	**Petorca**	**1.04**	**141**	⇑*i*P		Pn	22 07 07.0	-0.5
PTCH				*i* S		Sb	22 07 20.7	-0.4
TLL	**Tololo Astrono**	**1.50**	**31**	⇑*i*P		Pn	22 07 14.8	+1.1
TLL				*i* S		Sn	22 07 34.5	+2.1
TLL				AML		AML	22 07 36.1	
	comp=N,697nm,1.0s							
TLL	**Tololo Astrono**	**1.50**	**31**	⇑*i*P		Pn	22 07 14.8	+1.1
TLL				*i* S		Sn	22 07 34.5	+2.1
JACH	**Jahuel**	**1.55**	**143**	*e*P		Pn	22 07 15.4	+1.0
JACH				*e*S		Sn	22 07 36.1	+2.4
ROCH	**El Roble**	**1.63**	**159**	*e*P		Pn	22 07 16.9	+1.5
PEL	**Peldehue**	**1.90**	**153**	*e*P		Pn	22 07 19.8	+0.6
PEL				*i* S		Sn	22 07 44.8	+2.6
PEL				AML		AML	22 07 49.6	
	comp=E,406nm,0.5s							
PEL	**Peldehue**	**1.90**	**153**	*e*P		Pn	22 07 19.8	+0.6
PEL				*i* S		Sn	22 07 44.8	+2.6
CLCH	**Cerro Calan**	**2.18**	**153**	*e*P		Pn	22 07 24.0	+1.0
CLCH				*e*S		Sn	22 07 52.4	+3.2
CLCH				AML		AML	22 08 09.3	
	comp=E,263nm,0.5s							
FCH	**Farellones**	**2.22**	**148**	*e*P		Pn	22 07 25.3	+1.6
FCH				*i* S		Sn	22 07 54.0	+3.7
FCH				AML		AML	22 08 03.5	
	comp=E,121nm,0.9s							

*CSEM **12** 22:15:24.6±0.1, 6724N×2062E, h2km, ML2.6, Error ellipse: s-maj=4.4km s-min=3.3km az=88.0, Mining explosion.*
*UPP **12** 22:15:25.6, 6720N×2067E, h3km, ML2.6, Mining explosion.*

HEL 12 22:15:26.1±0.1, 6718N×2066E, h0km, ML1.8, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P		Pg	22 15 36.4	-0.9
KUA	**Kurravaara**	**0.79**	**351**	*i* P		Pg	22 15 39.9	-1.2
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P		Pg	22 15 42.2	-0.6
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		Pg	22 15 42.7	-1.2
PAJU	**Pajala**	**0.97**	**98**	*e*P		Pg	22 15 43.2	-1.5
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	22 15 43.9	-1.5
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	22 15 44.3	-1.6
KALU	**Kalix**	**1.71**	**140**	*e*P		Pn	22 15 56.1	-1.0
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		Pn	22 15 56.5	-0.8
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		Pn	22 15 59.2	+0.4
KIF				*e*S		Sn	22 16 23.5	+0.8
KIF				MSG			22 16 26.4	
	comp=Z,6.4nm,0.2s							
KIF	**Kilpisjarvi**	**1.83**	**2**	P		Pn	22 15 59.2	+0.4
KIF				S		Sn	22 16 23.4	+0.7
	comp=Z,6.4nm,0.2s							
LILU	**Lilltraesk**	**1.93**	**190**	*e*P		Pn	22 16 00.0	-0.2
SGF	**Sodankyl**	**2.29**	**81**	*e*P		Pn	22 16 05.5	+0.5
SGF				*e*S		Sn	22 16 33.6	-0.3
SGF				MSG			22 16 37.0	
	comp=Z,8.6nm,0.2s							
SGF	**Sodankyl**	**2.29**	**81**	P		Pn	22 16 05.5	+0.4
SGF				S		Sn	22 16 33.6	-0.4
	comp=Z,8.6nm,0.2s							
BURU	**Burvik**	**2.63**	**173**	*e*P		Pn	22 16 09.8	+0.1
SVAU	**Svanoeiden**	**2.74**	**190**	*e*P		Pn	22 16 11.4	+0.2
OUL	**Oulu**	**2.99**	**132**	*e*PG		Pb	22 16 18.9	-1.3
OUL				*e*SG		Sb	22 16 57.0	-0.4
OUL				MSG			22 16 59.7	
	comp=Z,1.7nm,0.2s							
OUL	**Oulu**	**2.99**	**132**	Pg		Pb	22 16 18.9	-1.4
OUL				Sg		Sb	22 16 56.9	-0.5
UMAU	**Umeaa**	**3.31**	**180**	*e*P		Pn	22 16 19.1	-0.1
KEV	**Kevo**	**3.48**	**39**	*e*P		Pn	22 16 22.1	+0.6
KEV				*e*S		Sn	22 17 03.0	-0.5
KEV				MSG			22 17 13.7	
	comp=Z,1.5nm,0.3s							
KEV	**Kevo**	**3.48**	**39**	P		Pn	22 16 22.1	+0.6
KEV				S		Sn	22 17 02.9	-0.6
	comp=Z,1.5nm,0.3s							
MSF	**Maaselka**	**3.58**	**107**	*e*PG		Pb	22 16 30.1	-0.3
MSF	**Maaselka**	**3.58**	**107**	Pg		Pb	22 16 30.0	-0.4
KU4	**Liikasenvaara**	**3.63**	**99**	*e*P		Pn	22 16 23.1	-0.4
KU4				*e*S		Sn	22 17 05.9	-1.1
KU4				MSG			22 17 21.9	
	comp=Z,1.0nm,0.2s							
KU6	**Riekki**	**3.86**	**103**	*e*P		Pn	22 16 26.2	-0.5
KU6				*e*SG		Sg	22 17 24.9	-5.3

*SKO **12** 22:16:25.0, 41.18N×2260E, h2km, M3.4, ML2.2*

THE 12 22:16:23.3, 4117N×2262E, h1km, ML2.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.15**	**346**	*e*Pg		Pg	22 16 26.9	+0.7
VAY				*e*Sg		Sg	22 16 30.0	+1.8
VAY	**Valandovo**	**0.15**	**346**	*e*Pg		Pg	22 16 27.4	+1.2
VAY				*i* Sg		Sg	22 16 30.1	+2.0
VAY				*e*Lg			22 16 30.2	
	comp=E,2μm,0.2s							
VAY				*e*Lg			22 16 30.2	
	comp=N,428nm,0.3s							
KNT	**Kendrikon**	**0.21**	**93**	*e*Pg		Pg	22 16 29.3	+1.9
KNT				*e*Sg		Sg	22 16 32.5	+2.4
GRG	**Griva**	**0.27**	**217**	*e*Pg		Pg	22 16 29.8	+1.3
GRG				*e*Sg		Sg	22 16 34.2	+2.1
THE	**Thessaloniki**	**0.60**	**154**	*e*Pg		Pg	22 16 35.6	+0.8
THE				*e*Sg		Sg	22 16 44.8	+2.2
SOH	**Sokhos**	**0.66**	**122**	*e*Pg		Pg	22 16 37.2	+1.3
SOH				*e*Sg		Sg	22 16 46.0	+1.5
HORT	**Hortiatis**	**0.68**	**147**	*e*Pg		Pg	22 16 37.3	+0.9
HORT				*e*Sg		Sg	22 16 47.5	+2.3
SRS	**Serrai**	**0.74**	**94**	*e*Pg		Pg	22 16 38.5	+1.1
SRS				*e*Sg		Sg	22 16 48.9	+1.9
MMB	**Musomiste**	**0.93**	**63**	*e*Pg		Pg	22 16 41.8	+0.6
MMB				*e*Sg		Sg	22 16 54.9	+1.6
PLG	**Polygyros**	**1.02**	**142**	*e*Pg		Pg	22 16 43.4	+0.6
PLG				*e*Sg		Sg	22 16 57.4	+1.5
FNA	**Florina**	**1.02**	**248**	*e*Pg		Pg	22 16 43.2	+0.4
FNA				*e*Sg		Sg	22 16 57.2	+1.2
LIT	**Litokhoron**	**1.08**	**185**	*e*Pg		Pg	22 16 44.0	+0.1
LIT				*e*Sg		Sg	22 16 59.2	+1.4

*ISCJB **12** 22:41:16.7±0.4, 3241N±002×115.10W±002, h12km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=95.7*
*NEIC **12** 22:41:18.7, 3239N×115.15W, h4km, ML3.3(PAS), ML3.5(ECX), After ECX.*
*ECX **12** 22:41:18.7±0.6, 32.39N×115.15W, h4km, MD3.5, ML3.6*

ISC 12 22:41:17.7±0.3, 3241N±002×11518W±002, h16km±2km, n37, σ1°18/70, 12C-17D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.11**	**276**	⇑*e*P		**Pg**	**22 41 21.2**	**+0.1**
CPBX				*e*S		**Sg**	**22 41 23.2**	**-0.2**
EMX	**El Mayor**	**0.42**	**188**	⇓*e*P		**Pg**	**22 41 26.2**	**0.0**
EMX				*e*S		**Sg**	**22 41 31.7**	**-0.1**
EMX				*e*			22 41 34.4	
	comp=E,3μm,0.4s							
COA	**Coachella**	**0.46**	**5**	⇓*i*P		**Pg**	**22 41 27.4**	**+0.5**
YMD	**Yuma Desert**	**0.55**	**74**	⇓*i*P		**Pg**	**22 41 28.2**	**-0.4**
GLA	**Glamis**	**0.71**	**24**	*e*P		**Pg**	**22 41 30.9**	**-0.6**
GLA				*e*S		**Sg**	**22 41 41.1**	**+0.2**
GLA	**Glamis**	**0.71**	**24**	⇓P		**Pg**	**22 41 30.8**	**-0.7**
	baz=0.8							
GLA				⇓S		**Sg**	**22 41 40.7**	**-0.2**
	baz=0.8							
SWSC	**Sam W. Stewart**	**0.75**	**316**	⇓P		**Pg**	**22 41 31.1**	**-1.2**
	baz=0.8,SNR=97							
SWSC				⇑S		**Sg**	**22 41 41.8**	**-0.3**
	baz=0.8							
RMX	**La Rumorosa**	**0.79**	**285**	⇑*e*P		**Pg**	**22 41 32.6**	**-0.5**
RDX	**Rancho Dowling**	**0.81**	**234**	*e*P		**Pg**	**22 41 33.2**	**-0.2**
RDX				*e*S		**Sg**	**22 41 44.3**	**+0.2**
RDX				⇓*e*			22 41 48.4	
	comp=N,2μm,1.0s							
DVTC	**Desert V Tower**	**0.82**	**288**	⇑P		**Pb**	**22 41 33.0**	**-0.6**
	baz=0.9,SNR=185							
DVTC				⇓S		**Sg**	**22 41 44.1**	**-0.4**
	baz=0.9							
MONP	**Monument Peak**	**1.16**	**295**	⇑P		**Pn**	**22 41 37.8**	**-1.4**
	baz=1.2,SNR=99							
MONP				⇓S		**Sb**	**22 41 52.2**	**-1.8**
	baz=1.2							
CBX	**Cerro Bola**	**1.26**	**266**	⇑*e*P		**Pn**	**22 41 40.5**	**-0.2**
CBX				*e*S		**Sb**	**22 41 58.9**	**+1.7**
BC3	**Big Chuckw Mtn**	**1.27**	**349**	P		**Pn**	**22 41 39.3**	**-1.5**
	baz=1.4,SNR=143							
BC3				⇑S		**Sb**	**22 41 55.4**	**-1.9**
	baz=1.4							
ENX	**Ensenada**	**1.37**	**248**	*e*P		**Pn**	**22 41 42.3**	**+0.2**
ENX				*e*S		**Sn**	**22 42 01.3**	**+1.3**
SPX	**San Pedro Mart**	**1.38**	**190**	*e*P		**Pn**	**22 41 42.6**	**+0.3**
SPX				*e*S		**Sn**	**22 42 01.4**	**+1.2**
ECNX	**Esteban Cantu**	**1.42**	**239**	⇓*e*P		**Pn**	**22 41 42.4**	**-0.5**
ECNX				*e*S		**Sn**	**22 42 01.4**	**+0.1**
Y12C	**Blythe**	**1.45**	**22**	⇑P		**Pn**	**22 41 43.5**	**+0.3**
	baz=1.5,SNR=25							
Y12C				⇓S		**Sn**	**22 42 02.5**	**+0.6**
	baz=1.5							
PBX	**Punta Banda**	**1.47**	**244**	⇑*e*P		**Pn**	**22 41 43.9**	**+0.3**
PFO	**Pinyon Flat Ob**	**1.61**	**318**	*e*Pn		**Pn**	**22 41 43.7**	**-1.8**
PFO				*e*Pg		**Pg**	**22 41 51.1**	**+2.4**
PFO				*e*Sg		**Sg**	**22 42 04.7**	**-5.0**
PFO	**Pinyon Flat Ob**	**1.61**	**318**	⇑P		**Pn**	**22 41 43.8**	**-1.7**
	baz=1.7							
109C	**Camp Elliot, M**	**1.70**	**287**	⇓P		**Pn**	**22 41 45.5**	**-1.2**
	baz=1.7							
IRM	**Iron Mountain**	**1.75**	**1**	⇓P		**Pn**	**22 41 46.2**	**-1.2**
	baz=1.8							
Y13A	**Salome**	**1.80**	**38**	⇓P		**Pn**	**22 41 47.5**	**-0.6**
	baz=1.9,SNR=17							
PDMCI	**Parker Dam,Lak**	**2.08**	**24**	⇓P		**Pn**	**22 41 51.4**	**-0.5**
	baz=2.2							
Z14A	**Wintersburg**	**2.10**	**62**	⇑P		**Pn**	**22 41 52.2**	**-0.1**
	baz=2.1							
Y14A	**Wickenburg**	**2.38**	**49**	⇓P		**Pn**	**22 41 55.4**	**-0.6**
	baz=2.4							
X13A	**Yucca**	**2.45**	**27**	⇓P		**Pn**	**22 41 56.1**	**-0.9**
	baz=2.5							
115A	**Sonoran Desert**	**2.51**	**82**	⇑P		**Pn**	**22 41 57.3**	**-0.5**
	baz=2.5							
GSC	**Goldstone**	**3.19**	**335**	Pn		**Pn**	**22 42 09.7**	**+2.5**
GSC				*e*Pg		**Pg**	**22 42 19.9**	**+1.0**
TUC	**Tucson**	**3.72**	**90**	*e*Pn		**Pn**	**22 42 14.8**	**+0.4**
TUC				*e*Pg		**Pg**	**22 42 27.3**	**-1.6**
TUC				*e*Sn		**Sn**	**22 42 55.3**	**-2.6**
TUC				*e*Sg		**Sg**	**22 43 17.7**	**+0.6**
ISA	**Isabella**	**4.25**	**321**	Pn		**Pn**	**22 42 26.8**	**+5.0**
ISA				*e*Pg		**Pg**	**22 42 38.1**	**-1.0**
ISA				*e*Sg		**Sg**	**22 43 41.2**	**+7.1**
DAC	**Darwin (Calif)**	**4.35**	**333**	*e*Pn		**Pb**	**22 42 36.3**	**+2.5**
DAC				*e*Pg		**Pg**	**22 42 44.0**	**+3.0**
DAC				*e*Sg		**Sg**	**22 43 43.2**	**+5.9**
WUAZ	**Wupatki**	**4.43**	**44**	*e*Pn		**Pn**	**22 42 26.1**	**+1.9**
WUAZ				*e*Pg		**Pg**	**22 42 42.4**	**-0.1**
WUAZ				Sn		**Sn**	**22 43 23.2**	**+7.7**
WUAZ				*e*Sn		**Sg**	**22 43 40.4**	**+0.6**
CCUT	**Cedar City**	**5.34**	**16**	*e*Pn		**Pn**	**22 42 41.3**	**+4.4**
CCUT				*e*Pg		**Pg**	**22 43 01.9**	**+1.8**
CCUT				*e*Sg		**Sg**	**22 44 14.6**	**+5.3**
ARUT	**Antelope Range**	**5.55**	**14**	Pn		**Pn**	**22 42 41.3**	**+1.6**
ARUT				*e*Pg		**Pg**	**22 42 59.4**	**-4.7**
ARUT				*e*Sg		**Sg**	**22 44 18.1**	**+2.1**
TRCR	**Troy Canyon**	**5.94**	**357**	*e*Pg		**Pg**	**22 43 10.9**	**-0.5**
TRCR				*e*Sg		**Sg**	**22 44 34.5**	**+6.2**
MSU	**Marysvale**	**6.56**	**21**	Pn		**Pn**	**22 42 56.3**	**+2.7**
MSU				*e*Pg		**Pg**	**22 43 20.4**	**-3.0**

*IDC **12** 22:54:26.9±1.4, 1646S×17286W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, ML1.7/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/29, Error ellipse: s-maj=53.1km s-min=22.1km az=129.0*
*ISCJB **12** 22:54:29.5±0.6, 1645S±009×1728W±0.1, h33km, mb4.2/8, MS3.7/7, Error ellipse: s-maj=22.8km s-min=7.8km az=55.1*
*NEIC **12** 22:54:31.6±0.5, 1652S×172.76W, h35km, mb4.4/3, Error ellipse: s-maj=20.0km s-min=10.5km az=121.0*

ISC 12 22:54:31.3±0.6, 1649S±009×1727W±02, h35km, n22, σ0°90/16, mb4.2/8, MS3.7/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**19**	Pn		**Pn**	**22 55 11.2**	**-1.1**
	7.8nm,0.3s,baz=332,slow=5.3,SNR=11							
AFI				LR		LR	22 55 37.0	
	comp=Z,726nm,19.2s,baz=320,slow=26							
AFI				Sn		**Sn**	**22 55 43.0**	**-0.9**
	44nm,0.3s,baz=181,slow=22,SNR=13							
AFI	**Afiamalu**	**2.71**	**19**	*e*Pn		**Pn**	**22 55 12.0**	**-0.3**
AFI				*e*Sn		**Sn**	**22 55 43.4**	**-0.5**
RAR	**Rarotonga**	**13.10**	**113**	LR		LR	23 01 27.4	
	comp=Z,25nm,18.1s,baz=283,slow=32							
DZM	**Mont Dzumac**	**20.45**	**251**	LR		LR	23 04 23.5	
	comp=Z,125nm,18.6s,MS3.3,baz=256,slow=29							
PPT	**Papeete**	**22.13**	**96**	*e*LR		LR	23 04 10.4	
	271nm,27.8s							
PPT	**Papeete**	**22.13**	**96**	LR		LR	23 05 56.4	
	comp=Z,69nm,19.0s,MS3.1,baz=185,slow=31							
TBI	**Tubuai**	**22.87**	**111**	*e*LR		LR	23 04 32.3	
	233nm,28.5s,baz=292							
URZ	**Urewera**	**23.47**	**200**	P		**P**	**22 59 37.5**	**-0.3**
	5.2nm,0.3s,mb4.4,baz=327,slow=8.3,SNR=7.3							
SNZO	**South Karori**	**27.02**	**201**	*e*P		**P**	**23 00 09.8**	**-0.3**
	140nm,1.4s,mb5.3							
HNR	**Honiara**	**27.55**	**281**	LR		LR	23 09 34.3	
	comp=Z,361nm,18.7s,MS4.0,baz=180,slow=33							
STKA	**Stephens Creek**	**44.10**	**241**	P		**P**	**23 02 37.0**	**+0.9**
	1.3nm,0.6s,mb3.9,baz=35,slow=9.2,SNR=3.2							
STKA				LR		LR	23 19 34.2	
	comp=Z,140nm,18.6s,MS3.9,baz=25,slow=34							
WB2	**Warramunga Arr**	**50.26**	**258**	*e*P		**P**	**23 03 24.5**	**+0.4**
WRA	**Warramunga Arr**	**50.27**	**258**	P		**P**	**23 03 23.8**	**-0.3**
	1.1nm,0.7s,mb4.0,baz=96,slow=7.4,SNR=11							
WRA				LR		LR	23 23 08.9	
	comp=Z,106nm,21.7s,MS3.8,baz=130,slow=34							
AS31	**Alice Springs**	**50.43**	**253**	*e*P		**P**	**23 03 25.8**	**+0.4**
ASAR	**Alice Springs**	**50.43**	**253**	P		**P**	**23 03 24.8**	**-0.5**
	3.6nm,0.8s,mb4.5,baz=88,slow=8.4,SNR=30							
VNDA	**Vanda**	**62.37**	**186**	*e*P		**P**	**23 04 49.9**	**-0.5**
	1.2nm,0.9s,mb4.0							
QSPA	**South Pole Qui**	**73.57**	**180**	*e*P		**P**	**23 05 59.9**	**-0.8**
	3.3nm,0.9s,mb4.3							
YBH	**Yreka Blue Hor**	**74.05**	**37**	LR		LR	23 33 08.0	
	comp=Z,85nm,18.4s,MS4.1,baz=222,slow=31							
PDAR	**Pinedale Array**	**82.62**	**41**	P		**P**	**23 06 52.7**	**+1.8**
	0.6nm,0.9s,mb3.6,baz=242,slow=3.2,SNR=4.2							
PDAR				LR		LR	23 41 24.6	
	comp=Z,61nm,18.1s,MS4.0,baz=158,slow=34							
MAW	**Mawson**	**86.99**	**198**	P		**P**	**23 07 11.9**	**-1.0**
USIN	**University of**	**96.14**	**52**	P		**P**	**23 07 57.4**	**+2.0**
	56nm,0.9s							
BRTR	**Keskin Array B**	**147.42**	**321**	PKPbc		PKPbc	23 14 13.7	+2.3
	2.1nm,1.0s,baz=5.4,slow=2.6,SNR=6.1							

*NEIC **12** 23:01:12.9, 3137S×7165W, h24km, ML3.3(GUC), After GUC.*

GUC 12 23:01:12.9±0.8, 3137S×7165W, h24km±2km, MD3.8, ML3.3, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**166**	⇑*i*P		Pb	23 01 23.4	-0.1
CHNG				*i* S		Sb	23 01 30.6	0.0
CHNG				AML		AML	23 01 31.5	
	comp=E,3μm,0.4s							
PTCH	**Petorca**	**1.08**	**146**	⇑*i*P		Pn	23 01 31.9	-0.6
PTCH				*i* S		Sb	23 01 46.2	-0.4
PTCH				AML		AML	23 01 48.1	
	comp=N,2μm,0.4s							
PTCH	**Petorca**	**1.08**	**146**	⇑*i*P		Pn	23 01 31.9	-0.6
PTCH				*i* S		Sb	23 01 46.2	-0.4
PACH	**Papudo**	**1.18**	**171**	⇓*i*P		Pn	23 01 33.4	-0.4
PACH				*i* S		Sn	23 01 49.0	-0.1
TLL	**Tololo Astrono**	**1.41**	**31**	⇑*i*P		Pn	23 01 37.8	+0.8
TLL				*i* S		Sn	23 01 56.1	+1.4
TLL				AML		AML	23 01 59.7	
	comp=N,809nm,0.3s							
TLL	**Tololo Astrono**	**1.41**	**31**	⇑*i*P		Pn	23 01 37.8	+0.8
TLL				*i* S		Sn	23 01 56.1	+1.4
JACH	**Jahuel**	**1.59**	**146**	⇑*i*P		Pn	23 01 40.4	+0.9
JACH				*i* S		Sn	23 02 01.1	+1.8
ROCH	**El Roble**	**1.69**	**161**	*e*P		Pn	23 01 41.8	+0.9
PEL	**Peldehue**	**1.95**	**155**	⇑*i*P		Pn	23 01 45.8	+1.3
PEL				*i* S		Sn	23 02 10.7	+2.6
PEL				AML		A

ASAJ	**Asahikawa**	**1.84**	**349**	PN	**Pn**	**23 12 11.0**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,46nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.68**	**49**	*e*PN	**Pn**	**23 12 23.2**	**+1.0**
YUK				*i* S	**Sn**	**23 12 54.0**	**+0.5**
YUK				pmax	pmax		
	comp=Z,280nm,0.2s						
YUK				pmax	pmax		
	comp=N,250nm,0.5s						
YUK				pmax	pmax		
	comp=E,110nm,0.3s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.65**	**357**	PN	**Pn**	**23 12 51.0**	**+1.8**
MAJO	**Matsushiro**	**6.87**	**215**	*e*PN	**Pn**	**23 13 20.5**	**+0.9**
MJAR	**Matsushiro Arr**	**6.87**	**215**	P	**Pn**	**23 13 19.8**	**+0.2**
	comp=E,0.5nm,0.3s,baz=32,slow=11,SNR=5.6						
MJAR	**Matsushiro Arr**	**6.87**	**215**	PN	**Pn**	**23 13 19.8**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**10.06**	**288**	Pn	**Pn**	**23 14 03.7**	**+0.5**
TATO	**Taipei**	**24.82**	**233**	*e*P	**P**	**23 16 59.2**	**+1.5**
	comp=Z,15nm,0.4s,mb4.9						
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**23 17 11.5**	**+0.2**
	comp=Z,2.3nm,0.9s,mb3.7,baz=80,slow=9.2,SNR=8.7						
SONM	**Songino Array**	**26.30**	**295**	P	**P**	**23 17 11.5**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**42.60**	**298**	P	**P**	**23 19 31.4**	**0.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=80,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**42.60**	**298**	P	**P**	**23 19 31.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**42.60**	**298**	P	**P**	**23 19 31.4**	**0.0**
CHKZ	**Chkalovo**	**47.77**	**310**	*e*P	**P**	**23 20 12.0**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**47.77**	**310**	*e*P	**P**	**23 20 12.0**	**-0.4**
	comp=Z,4.6nm,0.9s,mb4.5						
BRVK	**Borovoye**	**48.15**	**309**	*e*P	**P**	**23 20 15.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**48.15**	**309**	*e*P	**P**	**23 20 15.6**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**48.91**	**309**	*e*P	**P**	**23 20 21.5**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**48.91**	**309**	*e*P	**P**	**23 20 21.5**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.4						
INK	**Inuvik**	**49.14**	**29**	*e*P	**P**	**23 20 23.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,133nm,1.0s						
INK	**Inuvik**	**49.14**	**29**	*e*P	**P**	**23 20 23.2**	**+0.3**
	comp=Z,133nm,1.0s						
ARU	**Arti**	**53.34**	**316**	*e*P	**P**	**23 20 53.9**	**-0.4**
JOF	**Joensuu**	**61.94**	**331**	*e*p	**P**	**23 21 53.0**	**-1.7**
KAF	**Kangasniemi**	**64.22**	**332**	*e*p	**P**	**23 22 08.5**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=46,slow=6.3						
KAF	**Kangasniemi**	**64.22**	**332**	*e*P	**P**	**23 22 08.5**	**-1.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**23 22 12.5**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.2,baz=52,slow=8.1,SNR=22						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**23 22 12.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**23 22 12.5**	**-0.9**
NB2	**NORSAR Subarra**	**69.82**	**337**	P	**P**	**23 22 45.3**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=36,slow=6.2						
NB2	**NORSAR Subarra**	**69.82**	**337**	P	**P**	**23 22 45.3**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**69.82**	**337**	P	**P**	**23 22 44.4**	**-1.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=36,slow=6.0,SNR=4.2						
NOA	**NORSAR Array B**	**69.82**	**337**	P	**P**	**23 22 44.4**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.92**	**322**	P	**P**	**23 22 51.4**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=36,slow=6.0,SNR=5.0						

*NEIC **12** 23:12:16.6, 3145S×7167W, h25km, ML3.0(GUC), After GUC.*

GUC 12 23:12:16.6±0.8, 3145S×7167W, h25km±3km, MD3.5, ML3.0, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**162**	⇓*i*P	Pb	23 12 25.7	-0.4
CHNG				*i* S	Sb	23 12 32.5	0.0
PTCH	**Petorca**	**1.03**	**143**	⇓*i*P	Pn	23 12 34.4	-1.0
PTCH				*i* S	Sb	23 12 48.7	0.0
PTCH				AML	AML	23 12 52.3	
	comp=N,1μm,0.2s						
PTCH	**Petorca**	**1.03**	**143**	⇓*i*P	Pn	23 12 34.4	-1.0
PTCH				*i* S	Sb	23 12 48.7	0.0
TLL	**Tololo Astrono**	**1.48**	**30**	*e*P	Pn	23 12 42.4	+0.8
TLL				*i* S	Sn	23 13 02.0	+1.9
TLL				AML	AML	23 13 08.8	
	comp=E,363nm,0.8s						
TLL	**Tololo Astrono**	**1.48**	**30**	*e*P	Pn	23 12 42.4	+0.8
TLL				*i* S	Sn	23 13 02.0	+1.9
JACH	**Jahuel**	**1.53**	**144**	*e*P	Pn	23 12 43.4	+1.0
JACH				*e*S	Sn	23 13 03.7	+2.2
ROCH	**El Roble**	**1.62**	**160**	*e*P	Pn	23 12 44.6	+1.0
PEL	**Peldehue**	**1.89**	**154**	*e*P	Pn	23 12 48.5	+1.3
PEL				*i* S	Sn	23 13 12.7	+2.5
PEL				AML	AML	23 13 21.8	
	comp=E,335nm,0.8s						
PEL	**Peldehue**	**1.89**	**154**	*e*P	Pn	23 12 48.5	+1.3
PEL				*i* S	Sn	23 13 12.7	+2.5
RCDM	**Rinconada Maip**	**2.16**	**161**	*e*P	Pn	23 12 52.1	+1.1
RCDM				*i* S	Sn	23 13 19.9	+2.9
CLCH	**Cerro Calan**	**2.17**	**154**	*e*P	Pn	23 12 52.9	+1.8
CLCH				*i* S	Sn	23 13 19.2	+2.1
CLCH				AML	AML	23 13 28.8	
	comp=E,199nm,0.5s						
FCH	**Farellones**	**2.21**	**149**	*e*P	Pn	23 12 53.9	+2.2
FCH				*i* S	Sn	23 13 21.8	+3.7
FCH				AML	AML	23 13 31.1	
	comp=E,84nm,0.4s						
TACH	**Talagante**	**2.28**	**165**	*e*P	Pn	23 12 54.2	+1.5
PCH	**Pirque**	**2.38**	**156**	*e*P	Pn	23 12 56.3	+2.3

*CSEM **12** 23:31:30.7, 6784N×2019E, h0km, ML2.6, Mining explosion. After UPP*

*UPP **12** 23:31:30.7, 6784N×2019E, h0km, ML2.6, Mining explosion.*

HEL 12 23:31:31.4±0.1, 6785N×2020E, h0km, ML1.7, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**27**	*i* P	Pg	23 31 33.4	-0.3
KUA				*i* S	Sg	23 31 35.3	+0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	23 31 39.1	-0.8
NIKU				*i* S	Sg	23 31 45.2	-0.4
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	23 31 44.0	-0.9
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 31 45.5	-1.1
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 31 45.5	-1.1
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PN	Pn	23 31 55.4	+0.2
KIF				*e*SB	Sb	23 32 10.7	+0.2
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	23 31 56.1	-2.1
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	23 31 59.0	-0.7
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	23 31 59.0	-0.8
HARU	**Harads**	**1.72**	**169**	*e*P	Pn	23 32 01.7	-1.0
KALU	**Kalix**	**2.36**	**147**	*e*P	Pn	23 32 11.4	0.0
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	23 32 12.5	+0.3
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pb	23 32 13.4	-3.0
SGF				*e*SG	Sg	23 32 47.6	-2.7

*NEIC **12** 23:34:07.8, 3140S×7171W, h26km, ML3.3(GUC), After GUC.*

GUC 12 23:34:07.8±0.9, 3140S×7171W, h26km±3km, MD3.7, ML3.3, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**160**	*e*P	Pb	23 34 18.1	-0.2
CHNG				*i* S	Sb	23 34 25.5	+0.1
CHNG				AML	AML	23 34 26.2	
	comp=E,3μm,0.3s						
PTCH	**Petorca**	**1.09**	**143**	⇓*i*P	Pn	23 34 27.3	-0.1
PTCH				*i* S	Sn	23 34 41.4	-0.3
PTCH				AML	AML	23 34 44.4	
	comp=N,2μm,0.2s						
PTCH	**Petorca**	**1.09**	**143**	⇓*i*P	Pn	23 34 27.3	-0.1
PTCH				*i* S	Sn	23 34 41.4	-0.3
PACH	**Papudo**	**1.16**	**169**	⇓*i*P	Pn	23 34 28.4	+0.1
PACH				*i* S	Sn	23 34 43.2	-0.3
TLL	**Tololo Astrono**	**1.45**	**33**	⇑*i*P	Pn	23 34 33.6	+1.3
TLL				*i* S	Sn	23 34 52.1	+1.6
TLL				AML	AML	23 34 55.5	
	comp=N,534nm,0.4s						
TLL	**Tololo Astrono**	**1.45**	**33**	⇑*i*P	Pn	23 34 33.6	+1.3
TLL				*i* S	Sn	23 34 52.1	+1.6
JACH	**Jahuel**	**1.60**	**144**	*e*P	Pn	23 34 35.7	+1.4
JACH				*i* S	Sn	23 34 56.1	+2.0
ROCH	**El Roble**	**1.68**	**160**	⇑*i*P	Pn	23 34 36.5	+1.0
ROCH				*i* S	Sn	23 34 59.3	+3.1
RCDM	**Rinconada Maip**	**2.22**	**160**	*e*P	Pn	23 34 43.9	+0.9
RCDM				*i* S	Sn	23 35 12.5	+2.9
RCDM				AML	AML	23 35 22.1	
	comp=E,208nm,0.3s						
RCDM	**Rinconada Maip**	**2.22**	**160**	*e*P	Pn	23 34 43.9	+0.9
RCDM				*i* S	Sn	23 35 12.5	+2.9
CLCH	**Cerro Calan**	**2.23**	**154**	*e*P	Pn	23 34 44.5	+1.5
CLCH				*i* S	Sn	23 35 12.5	+2.8
CLCH				AML	AML	23 35 22.8	
	comp=E,388nm,0.5s						
FCH	**Farellones**	**2.27**	**148**	*e*P	Pn	23 34 45.3	+1.6
FCH				*i* S	Sn	23 35 14.1	+3.4
TACH	**Talagante**	**2.34**	**164**	*e*P	Pn	23 34 45.6	+0.9
TACH				*e*S	Sn	23 35 15.4	+2.8
PCH	**Pirque**	**2.44**	**156**	*i* P	Pn	23 34 47.4	+1.5
PCH				*i* S	Sn	23 35 17.8	+2.8
CHCH	**Chadas Angostu**	**2.68**	**161**	*e*P	Pn	23 34 50.7	+1.3

*NEIC **12** 23:48:12.2, 3151S×7164W, h32km, ML3.4(GUC), After GUC.*

GUC 12 23:48:12.2±0.8, 3151S×7164W, h32km±2km, MD3.9, ML3.4, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.39**	**162**	⇑*i*P	Pb	23 48 20.9	-0.3
CHNG				*i* S	Sb	23 48 27.2	0.0
CHNG				AML	AML	23 48 27.8	
	comp=E,3μm,0.5s						
PTCH	**Petorca**	**0.97**	**141**	⇓*i*P	Pn	23 48 29.7	+0.2
PTCH				*i* S	Sn	23 48 42.8	+0.6
PTCH				AML	AML	23 48 46.9	
	comp=E,3μm,0.2s						
PTCH	**Petorca**	**0.97**	**141**	⇓*i*P	Pn	23 48 29.7	+0.2
PTCH				*i* S	Sn	23 48 42.8	+0.6
PACH	**Papudo**	**1.04**	**170**	⇑*i*P	Pn	23 48 30.7	+0.2
PACH				*i* S	Sn	23 48 44.7	+0.8
JACH	**Jahuel**	**1.47**	**143**	*e*P	Pn	23 48 38.5	+2.0
JACH				*i* S	Sn	23 48 57.3	+2.8
TLL	**Tololo Astrono**	**1.52**	**29**	*e*P	Pn	23 48 38.5	+1.4
TLL				*i* S	Sn	23 48 58.9	+3.1
TLL				AML	AML	23 49 02.2	
	comp=E,865nm,0.4s						
TLL	**Tololo Astrono**	**1.52**	**29**	*e*P	Pn	23 48 38.5	+1.4
TLL				*i* S	Sn	23 48 58.9	+3.1
ROCH	**El Roble**	**1.55**	**160**	⇑*i*P	Pn	23 48 39.2	+1.6
ROCH				*i* S	Sn	23 48 59.9	+3.2
PEL	**Peldehue**	**1.82**	**154**	*e*P	Pn	23 48 43.0	+1.7
PEL				*i* S	Sn	23 49 06.0	+2.8
PEL				AML	AML	23 49 10.1	
	comp=E,728nm,0.3s						
PEL	**Peldehue**	**1.82**	**154**	*e*P	Pn	23 48 43.0	+1.7
PEL				*i* S	Sn	23 49 06.0	+2.8
RCDM	**Rinconada Maip**	**2.10**	**161**	*e*P	Pn	23 48 46.6	+1.6
RCDM				*i* S	Sn	23 49 12.6	+2.6
RCDM				AML	AML	23 49 25.6	
	comp=E,320nm,0.1s						
RCDM	**Rinconada Maip**	**2.10**	**161**	*e*P	Pn	23 48 46.6	+1.6
RCDM				*i* S	Sn	23 49 12.6	+2.6
CLCH	**Cerro Calan**	**2.10**	**154**	*e*P	Pn	23 48 47.5	+2.4
CLCH				*i* S	Sn	23 49 13.2	+3.1
CLCH				AML	AML	23 49 23.4	
	comp=E,437nm,0.6s						
FCH	**Farellones**	**2.14**	**148**	*e*P	Pn	23 48 47.8	+2.1
FCH				*i* S	Sn	23 49 14.7	+3.5
FCH				AML	AML	23 49 23.6	
	comp=E,297nm,0.2s						
TACH	**Talagante**	**2.22**	**165**	*e*P	Pn	23 48 48.2	+1.5
PCH	**Pirque**	**2.31**	**156**	*e*P	Pn	23 48 49.6	+1.6
CHCH	**Chadas Angostu**	**2.56**	**161**	*i* P	Pn	23 48 53.1	+1.7
CICH	**Cipreses**	**2.99**	**160**	*e*P	Pn	23 48 59.1	+1.8

*ISCJB **13** 00:07:19.5±0.5, 5607S×007×122.1W±02, h10km, mb4.5/20, MS4.4/18, Error ellipse: s-maj=17.6km s-min=9.6km az=28.9*

*IDC **13** 00:07:19.0±0.6, 5600S×12240W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.5/15, mbtmp4.3/9, MS4.3/16, Ms1 4.3/16, ms1mx4.1/25, Error ellipse: s-maj=25.5km s-min=17.5km az=141.0*

*NEIC **13** 00:07:20.8±0.3, 5601S×12221W, h10km, mb4.7/10, Error ellipse: s-maj=15.6km s-min=9.6km az=113.0*

*BJI **13** 00:07:20.8, 5600S×12220W, h10km, mB5.3, Ms5.7, Msz4.9*

ISC 13 00:07:20.5±0.5, 5603S±007×1223W±02, h10km, n80, σ0s87/36, mb4.5/20, MS4.4/18, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.05**	**131**	LR	LR	00 21 58.7	
	comp=Z,450nm,19.4s,MS4.1,baz=82,slow=30						
USHA	**Ushuaia**	**29.96**	**111**	LR	LR	00 22 04.2	
	comp=Z,666nm,20.2s,MS4.3,baz=216,slow=30						
RPN	**Rapa Nui**	**30.36**	**23**	LR	LR	00 22 35.9	
	comp=Z,343nm,19.5s,MS4.0,baz=28,slow=30						
SBA	**Scott Base**	**32.05**	**202**	*e*P	**P**	**00 13 45.8**	**-1.5**
	5.6nm,1.1s,mb4.3						
VNDA	**Vanda**	**33.11**	**203**	P	**P**	**00 13 58.0**	**+1.4**
	3.4nm,0.8s,mb4.3,baz=100,slow=7.3,SNR=21						
VNDA				PcP	PcP	00 16 38.7	-1.0
	3.8nm,0.9s,baz=340,slow=0.5,SNR=11						
VNDA				LR	LR	00 24 12.4	
	comp=Z,431nm,21.5s,MS4.1,baz=90,slow=31						
VNDA	**Vanda**	**33.11**	**203**	*e*P	**P**	**00 13 58.6**	**+2.0**
	2.7nm,0.7s,mb4.3						
VNDA				*e*		00 14 10.2	
VNDA				*e*PcP	PcP	00 16 38.8	-0.9
QSPA	**South Pole Qui**	**34.16**	**180**	*e*P	**P**	**00 14 07.0**	**+1.3**
	22nm,1.2s,mb5.0						
RKT	**Rikitea**	**34.17**	**339**	*e*S	**S**	**00 19 25.6**	**-6.4**
	97nm,29.2s						
RKT				*e*LR	LR	00 23 07.8	
	1μm,27.8s						
PLCA	**Paso Flores**	**36.69**	**88**	P	**P**	**00 14 28.4**	**+0.9**
	3.1nm,0.9s,mb4.1,baz=221,slow=11,SNR=5.8						
PLCA				LR	LR	00 25 21.6	
	comp=Z,348nm,21.4s,MS4.1,baz=225,slow=30						
TBI	**Tubuai**	**38.25**	**317**	*e*LR	LR	00 24 50.8	
	790nm,30.2s						
RPZ	**Rata Peaks**	**42.99**	**257**	LR	LR	00 29 26.4	
	comp=Z,346nm,21.9s,MS4.2,baz=272,slow=31						
PPT	**Papeete**	**43.58**	**321**	*e*S	**S**	**00 21 48.9**	**-5.0**
	113nm,24.8s						
PPT				*e*LQ		00 25 16.6	
	667nm,29.0s						
PPT				*e*LR	LR	00 27 33.6	
	916nm,26.5s						
PPT	**Papeete**	**43.58**	**321**	LR	LR	00 30 00.7	
	comp=Z,320nm,18.4s,MS4.3,baz=163,slow=31						
CFAA	**Coronel Fontan**	**44.56**	**80**	P	**P**	**00 15 32.2**	**-0.4**
	0.2nm,0.3s,mb3.4,baz=186,slow=6.0,SNR=4.1						
CFAA	**Coronel Fontan**	**44.56**	**80**	P	**P**	**00 15 32.2**	**-0.4**
VNA1	**Neumayer--Stat**	**45.26**	**155**	*e*	**P**	**00 15 38.6**	**+0.5**
VNA1				*e*	pP	00 15 42.2	+1.0
VNA1				*e*		00 15 47.7	
VNA1				*e*		01 38 25.5	
VNA1				*e*		01 38 29.4	
VNA1				*e*		01 38 47.4	
SNAA	**Sanae**	**45.77**	**157**	P	**P**	**00 15 41.6**	**-0.6**
	1.4nm,0.8s,mb4.0,baz=237,slow=5.9,SNR=17						
SNAA	**Sanae**	**45.77**	**157**	*e*	**P**	**00 15 41.5**	**-0.6**
SNAA				*e*	pP	00 15 45.9	+0.6
SNAA				*e*		00 15 51.3	
TAOE	**Nuku Hiva Isla**	**49.10**	**336**	*e*S	**S**	**00 23 05.4**	**-7.6**
	494nm,28.8s						
TAOE				*e*LR	LR	00 30 02.3	
	2μm,27.8s						
MAIT	**Maitri**	**49.35**	**162**	*e*P	**P**	**00 16 10.1**	**+0.2**
CASY	**Casey**	**51.71**	**204**	*e*P	**P**	**00 16 28.2**	**+0.4**
	9.4nm,1.0s,mb4.7						
SYO	**Syowa Base**	**54.58**	**172**	⇑*e*P	**P**	**00 16 47.6**	**-1.3**
SYO	**Syowa Base**	**54.58**	**172**	⇑*e*sP	sP	00 16 53.2	-0.1
CPUP	**Villa Florida**	**54.69**	**85**	P	**P**	**00 16 49.3**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=207,slow=12,SNR=4.4						
CPUP				LR	LR	00 37 20.9	
	comp=Z,200nm,18.8s,MS4.2,baz=208,slow=33						
MAW	**Mawson**	**56.63**	**182**	P	**P**	**00 17 02.9**	**-0.7**
	11nm,1.0s,mb4.9,baz=186,slow=8.1,SNR=10.0						
MAW				LR	LR	00 40 26.9	
	comp=Z,522nm,18.6s,MS4.7,baz=166,slow=35						
MAW	**Mawson**	**56.63**	**182**	*e*	**P**	**00 17 03.0**	**-0.6**
LPAZ	**La Paz**	**56.90**	**68**	P	**P**	**00 17 06.5**	**+0.9**
	4.8nm,0.5s,mb4.8,baz=188,slow=4.6,SNR=32						
LPAZ				LR	LR	00 35 56.8	
	comp=Z,83nm,19.7s,MS3.8,baz=68,slow=30						
SAML	**Samuel**	**65.65**	**69**	*e*P	**P**	**00 18 03.8**	**-1.1**
	8.7nm,0.8s,mb4.8						
OTAV	**Otavalo**	**66.34**	**49**	*e*P	**P**	**00 18 09.6**	**+0.3**
	9.0nm,1.1s,mb4.7						
BDFB	**Brasilia**	**68.41**	**86**	LR	LR	00 45 48.2	
	comp=Z,303nm,18.3s,MS4.6,baz=214,slow=34						
ROSC	**El Rosal**	**72.26**	**51**	P	**P**	**00 18 47.7**	**+1.7**
	4.0nm,0.4s,mb4.7,baz=271,slow=20,SNR=5.3						
ROSC				LR	LR	00 45 59.5	
	comp=Z,58nm,18.8s,MS3.9,baz=176,slow=32						
HNR	**Honiara**	**75.37**	**275**	LR	LR	00 44 54.7	
	comp=Z,505nm,20.1s,MS4.8,baz=353,slow=30						
SDV	**Santo Domingo**	**77.47**	**53**	*e*P	**P**	**00 19 13.8**	**-2.4**
	2.2nm,0.7s,mb4.2						
NWAO	**Narrogin (SRO)**	**77.97**	**228**	P	**P**	**00 19 24.4**	**+5.6**
	27nm,0.6s,mb5.4,baz=143,slow=3.1,SNR=4.1						
WRA	**Warramunga Arr**	**80.86**	**248**	LR	LR	00 52 27.4	
	comp=Z,166nm,18.4s,MS4.4,baz=275,slow=34						
SUR	**Sutherland**	**86.51**	**149**	P	**P**	**00 20 03.5**	**-0.1**
TUC	**Tucson**	**88.53**	**10**	*e*P	**P**	**00 20 13.3**	**0.0**
	3.6nm,1.0s,mb4.7						
GLA	**Glamis**	**88.95**	**6**	*e*P	**P**	**00 20 15.6**	**+0.2**
GSC	**Goldstone**	**91.09**	**5**	*e*P	**P**	**00 20 25.3**	**0.0**
BOSA	**Boshof**	**91.29**	**152**	LR	LR	00 56 00.9	
	comp=Z,180nm,18.7s,MS4.5,baz=160,slow=32						
ANMO	**Albuquerque**	**91.62**	**13**	*e*P	**P**	**00 20 27.3**	**-0.5**
	4.5nm,1.0s,mb4.8						
DAC	**Darwin (Calif)**	**92.03**	**4**	*e*P	**P**	**00 20 29.3**	**-0.3**
	3.6nm,1.0s,mb4.7						
CCUT	**Cedar City**	**93.52**	**7**	*e*P	**P**	**00 20 36.7**	**+0.2**
NVAR	**Mina Array Bea**	**94.15**	**3**	P	**P**	**00 20 39.2**	**-0.2**
	1.3nm,0.8s,mb4.4,baz=207,slow=5.7,SNR=11						
NVAR	**Mina Array Bea**	**94.15**	**3**	P	**P**	**00 20 39.2**	**-0.2**
MSU	**Marysvale**	**94.57**	**8**	*e*P	**P**	**00 20 41.6**	**+0.3**
PDAR	**Pinedale Array**	**99.01**	**9**	P	**P**	**00 21 01.8**	**+0.3**
	0.2nm,0.5s,mb3.9,baz=186,slow=5.4,SNR=2.2						
PDAR				LR	LR	00 58 01.5	
	comp=Z,162nm,18.1s,MS4.6,baz=237,slow=31						
TORD	**Torodi Ar. Bea**	**119.54**	**112**	PKP	PKPdf	00 26 08.9	-1.5
	0.7nm,0.6s,baz=222,slow=2.1,SNR=7.4						
MDJ	**Mudanjiang**	**134.72**	**287**	PKP	PKPdf	00 26 40.0	+0.7
MDJ				PP	PP	00 29 19.2	+6.5
MDJ				LR	LR		
	comp=N,368nm,15.7s,MS5.5						
MDJ				LR	LR		
	comp=E,571nm,16.6s,MS5.5						
MDJ				LR	LR		
	comp=Z,882nm,16.6s,MS5.6						
ESDC	**Sonseca Array**	**137.06**	**85**	PKP	PKPdf	00 26 43.7	0.0
	comp=Z,0.4nm,0.6s,baz=282,slow=2.1,SNR=4.7						
PKI	**Pulchoki**	**145.29**	**227**	*e*P	PKPbc	00 26 56.8	-1.4
	comp=Z,57nm,1.0s						
GUN	**Gumba**	**145.40**	**227**	*e*P	PKPbc	00 26 57.0	-1.6
	comp=Z,73nm,0.9s						
DMN	**Daman**	**145.45**	**226**	*e*P	PKPdf	00 26 57.5	-1.2
	comp=Z,90nm,0.9s						
KKN	**Kakani**	**145.54**	**227**	*e*P	PKPdf	00 26 57.7	-1.2
	comp=Z,74nm,1.1s						
GKN	**Gorkha**	**145.99**	**226**	*e*P	PKPdf	00 26 58.4	-1.3
	comp=Z,46nm,1.0s						
KOLN	**Koldanda**	**146.19**	**224**	*e*P	PKPdf	00 26 58.0	-2.0
	comp=Z,55nm,1.0s						
EKA	**Eskdalemuir Ar**	**146.67**	**65**	PKPbc	PKPbc	00 27 02.2	-0.2
	comp=Z,8.9nm,1.0s,baz=260,slow=3.3,SNR=9.0						
GTA	**Gaotai**	**147.75**	**257**	*e*PKP	PKPbc	00 27 05.7	+0.3
SONM	**Songino Array**	**149.43**	**275**	PKPbc	PKPbc	00 27 08.5	-1.3
	comp=Z,4.0nm,1.1s,baz=126,slow=3.8,SNR=7.9						
SQTA	**Sankt Quirin**	**150.35**	**87**	⇑*i*	PKPbc	00 27 12.3	+0.3
	comp=Z,12nm,1.1s						
SQTA	**Sankt Quirin**	**150.35**	**87**	*i*	PKPbc	00 27 12.3	+0.3
WTTA	**Wattenberg**	**150.62**	**88**	⇑*i*	PKPbc	00 27 11.6	-1.1
	comp=Z,35nm,1.4s

ISC 13 00:08:39.6±0.2,756S±003×12803E±004,h137km, h137km±2.5km:pP-P,n412,σ1°17/258,mb5.2/97,34C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.85**	**2**	P	**Pn**	**00 09 41.3**	**+3.7**
	5μm,0.7s						
KAKA	**Kakadu**	**6.71**	**140**	*e*P	**Pn**	**00 10 16.9**	**+1.2**
	1μm,0.4s						
KAKA				*e*S	**Sn**	**00 11 26.3**	**-4.5**
SWI	**Sorong**	**7.40**	**26**	P	**Pn**	**00 10 26.2**	**+1.3**
	1μm,0.7s						
WSI	**Waingapu**	**7.92**	**254**	P	**Pn**	**00 10 32.9**	**+0.9**
	3μm,0.5s						
KAPI	**Kappang**	**8.61**	**287**	Pn	**Pn**	**00 10 43.8**	**+2.7**
	402nm,1.1s,SNR=7.7						
PCI	**Palu**	**10.51**	**309**	P	**Pn**	**00 11 13.4**	**+6.9**
	86nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.73**	**192**	⇓*i*P	**Pn**	**00 11 07.5**	**-1.9**
	1μm,0.9s						
FITZ				*e*S	**Sn**	**00 13 01.6**	**-6.3**
FITZ	**Fitzroy Crossi**	**10.73**	**192**	P	**Pn**	**00 11 07.9**	**-1.5**
	68nm,0.3s,baz=26,slow=11,SNR=1301						
FITZ				S	**Sn**	**00 12 59.3**	**-8.6**
	102nm,0.3s,baz=101,slow=16,SNR=9.7						
FITZ				LR	LR	00 15 52.3	
	comp=Z,410nm,21.3s,baz=13,slow=40						
WRAB	**Tennant Creek**	**13.74**	**154**	Pn	**Pn**	**00 11 46.2**	**-2.5**
	3μm,0.7s						
WRAB	**Tennant Creek**	**13.74**	**154**	⇑*i*P	**Pn**	**00 11 46.4**	**-2.3**
WRA	**Warramunga Arr**	**13.74**	**154**	P	**Pn**	**00 11 46.7**	**-2.0**
	23nm,0.3s,baz=319,slow=14,SNR=246						
WRA				S	**Sn**	**00 14 09.5**	**-11**
	123nm,0.3s,baz=325,slow=24,SNR=15						
WB2	**Warramunga Arr**	**13.75**	**154**	⇓*i*P	**Pn**	**00 11 46.1**	**-2.7**
WB2				*e*S	**Sn**	**00 14 09.9**	**-11**
DAV	**Davao City (W)**	**14.74**	**350**	P	**Pn**	**00 12 07.7**	**+6.4**
	SNR=11						
DAV	**Davao City (W)**	**14.74**	**350**	*e*P	**Pn**	**00 12 06.9**	**+5.6**
TARAI	**Tarakan**	**15.03**	**316**	P	**Pn**	**00 12 10.7**	**+5.8**
	392nm,0.8s						
KRKI	**Karangkates**	**15.44**	**267**	P	**Pn**	**00 12 14.0**	**+4.0**
	286nm,0.4s						
TSM	**Tawau**	**15.54**	**319**	P	**Pn**	**00 12 15.5**	**+4.3**
MBWA	**Marble Bar**	**15.71**	**210**	*e*Pn	**Pn**	**00 12 12.8**	**-0.6**
	90nm,0.4s						
PAGZ	**Pagadian**	**15.99**	**343**	*e*P	**Pn**	**00 12 22.0**	**+5.2**
CGP	**Cagayan de Oro**	**16.25**	**348**	⇑*i*P	**Pn**	**00 12 24.1**	**+4.0**
BUTP	**Butuan**	**16.60**	**352**	*e*P	**Pn**	**00 12 28.3**	**+4.1**
AS31	**Alice Springs**	**16.98**	**161**	*e*P	**Pn**	**00 12 29.1**	**+0.3**
AS31				*e*S	**S**	**00 15 31.6**	**-6.1**
ASPA	**Alice Springs**	**16.98**	**161**	*e*P	**Pn**	**00 12 28.4**	**-0.4**
ASPA				*e*S	**S**	**00 15 28.7**	**-9.0**
ASAR	**Alice Springs**	**16.98**	**161**	P	**Pn**	**00 12 28.5**	**-0.3**
	68nm,0.3s,baz=335,slow=11,SNR=815						
ASAR				S	**S**	**00 15 26.1**	**-12**
	21nm,0.3s,baz=330,slow=16,SNR=5.0						
SCPH	**Surigao**	**17.41**	**352**	⇑*e*P	**Pn**	**00 12 37.5**	**+3.4**
MSLP	**Maasin**	**17.86**	**350**	*e*P	**Pn**	**00 12 41.5**	**+2.1**
KKM	**Kota Kinabalu**	**17.93**	**319**	P	**Pn**	**00 12 42.7**	**+2.4**
BJII	**Banjamegara**	**18.16**	**270**	P	**P**	**00 12 43.2**	**+1.7**
	80nm,1.3s						
PLP	**Palo**	**18.85**	**351**	*e*P	**P**	**00 12 54.4**	**+5.4**
GUIM	**Jordan**	**18.86**	**343**	*e*P	**P**	**00 12 50.7**	**+1.6**
PMG	**Port Moresby**	**19.01**	**97**	P	**P**	**00 12 57.1**	**+6.4**
	7.0nm,0.3s,baz=282,slow=5.5,SNR=38						
PMG				S	**S**	**00 16 19.1**	**-0.2**
	3.0nm,0.3s,baz=166,slow=22,SNR=7.3						
PMG				LR	LR	00 21 10.8	
	comp=Z,164nm,20.0s,baz=37,slow=39						
PMG	**Port Moresby**	**19.01**	**97**	*e*Pn	**Pn**	**00 12 57.1**	**+4.1**
BATP	**Bataraza**	**19.18**	**328**	*e*P	**P**	**00 12 54.7**	**+2.1**
CUYO	**Cuyo Island**	**19.58**	**339**	*e*P	**P**	**00 12 60.0**	**+3.1**
LEM	**Lembang**	**20.26**	**271**	P	**P**	**00 13 03.1**	**-1.1**
	152nm,1.2s						
ENPP	**El Nido**	**20.52**	**335**	*e*P	**P**	**00 13 09.3**	**+2.3**
OTRP	**Odiongan**	**20.68**	**343**	*e*P	**P**	**00 13 11.0**	**+2.4**
BUSP	**Coron**	**20.94**	**338**	*e*P	**P**	**00 13 14.9**	**+3.4**
CBJI	**Citeko**	**21.05**	**272**	P	**P**	**00 13 09.0**	**-3.7**
	484nm,0.9s,mb5.8						
PVCP	**Virac**	**21.37**	**350**	⇓*e*P	**P**	**00 13 16.9**	**+0.8**
PVCP	**Virac**	**21.37**	**350**	*e*P	**P**	**00 13 16.9**	**+0.9**
CTA	**Charters Tower**	**21.61**	**127**	*e*P	**P**	**00 13 21.0**	**+2.4**
	14nm,0.6s,mb4.6						
CTA				*e*S	**S**	**00 17 23.2**	**+13**
CTA	**Charters Tower**	**21.61**	**127**	P	**P**	**00 13 21.1**	**+2.5**
	5.4nm,0.4s,mb4.3,baz=302,slow=13,SNR=13						
CTA				LR	LR	00 22 46.7	
	comp=Z,315nm,18.7s,baz=53,slow=39						
CTA	**Charters Tower**	**21.61**	**127**	*e*P	**P**	**00 13 21.0**	**+2.4**
CTA				*e*S	**S**	**00 17 23.2**	**+13**
CTA				pmax	pmax		
	comp=Z,14nm,0.6s						
CTAO	**Charters Tower**	**21.61**	**127**	*e*P	**P**	**00 13 21.4**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,37nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**21.61**	**127**	*e*P	**P**	**00 13 21.4**	**+2.8**
	comp=Z,37nm,0.8s,mb4.9						
BOAC	**Boac**	**21.77**	**344**	*e*P	**P**	**00 13 21.3**	**+1.0**
LUBP	**Lubang**	**22.52**	**340**	*e*P	**P**	**00 13 29.1**	**+1.0**
TGY	**Tagaytay City**	**22.65**	**342**	P	**P**	**00 13 30.6**	**+1.4**
	comp=Z,2μm,0.7s,baz=182,slow=3.1,SNR=56						
FORT	**Forrest**	**23.10**	**180**	*e*P	**P**	**00 13 34.4**	**+1.1**
	comp=Z,153nm,0.5s,mb5.7						
FORT				*e*S	**S**	**00 17 50.5**	**+17**
BALP	**Baler**	**24.02**	**345**	*e*P	**P**	**00 13 41.4**	**-0.3**
SCZP	**Santa Cruz**	**24.54**	**341**	*e*P	**P**	**00 13 45.3**	**-1.2**
BOLP	**Bolinao**	**25.11**	**341**	*e*P	**P**	**00 13 50.6**	**-1.0**
CAUP	**Cauayan**	**25.11**	**346**	*e*P	**P**	**00 13 52.1**	**+0.5**
KLBR	**Kellerberrin**	**25.76**	**200**	*e*P	**P**	**00 13 58.5**	**+1.0**
	comp=Z,27nm,1.0s,mb4.8						
KLBR				*e*		00 14 01.2	
KLBR				*e*	pP	00 14 24.9	-1.4
KGM	**Kluang**	**26.42**	**290**	P	**P**	**00 14 04.5**	**+1.0**
MUN	**Mundaring**	**26.67**	**203**	*e*P	**P**	**00 14 15.2**	**+10**
MUN				*e*		00 14 17.9	
MUN				*e*		00 14 33.8	
NWAO	**Narrogin (SRO)**	**27.15**	**200**	P	**P**	**00 14 11.1**	**+1.1**
	comp=Z,14nm,0.4s,mb4.9,baz=38,slow=6.7,SNR=15						
NWAO				LR	LR	00 25 53.5	
	comp=Z,242nm,18.3s,baz=255,slow=38						
NWAO	**Narrogin (SRO)**	**27.15**	**200**	*e*P	**P**	**00 14 11.2**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,46nm,0.6s						
NWAO	**Narrogin (SRO)**	**27.15**	**200**	*e*P	**P**	**00 14 11.2**	**+1.2**
	comp=Z,46nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**27.30**	**154**	*e*P	**P**	**00 14 12.7**	**+1.4**
	comp=Z,11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**27.30**	**154**	P	**P**	**00 14 12.8**	**+1.5**
	comp=Z,14nm,0.3s,mb5.0,baz=327,slow=8.8,SNR=35						
PPI	**Padang Panjang**	**28.43**	**283**	P	**P**	**00 14 20.2**	**-1.2**
	comp=Z,117nm,1.0s,mb5.6						
IPM	**Ipoh**	**29.48**	**293**	P	**P**	**00 14 31.3**	**+0.6**
KULM	**Kulim**	**30.15**	**294**	*e*P	**P**	**00 14 36.5**	**0.0**
KULM				*e*pP	pP	00 15 04.7	-1.1
KULM				*e*PcP	PcP	00 17 35.8	+1.3
PSI	**Prapat**	**30.81**	**288**	P	**P**	**00 14 41.8**	**-0.5**
	comp=Z,318nm,0.8s,mb6.1,baz=142,slow=6.6,SNR=161						
SNG	**Songkhla**	**31.01**	**298**	P	**P**	**00 14 45.0**	**+0.9**
TSI	**Tuntungan**	**31.39**	**289**	P	**P**	**00 14 47.3**	**-0.1**
	comp=Z,319nm,1.0s,mb6.0						
HNR	**Honiara**	**31.62**	**96**	LR	LR	00 27 13.3	
	comp=Z,163nm,18.1s,baz=359,slow=35						
HNR	**Honiara**	**31.62**	**96**	P	**P**	**00 14 52.7**	**+3.2**
QIZ	**Qiongzhong**	**31.93**	**326**	⇑*i*P	**P**	**00 14 52.8**	**+0.6**
QIZ				AP	pP	00 15 20.5	-1.1
QIZ				PP	PP	00 16 05.6	-1.4
QIZ				S	**S**	**00 19 55.2**	**+2.0**
QIZ				SCP	ScP	00 21 05.6	-4.3
QIZ				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.0						
NACB	**Ninganchiao**	**32.16**	**349**	*e*P	**P**	**00 14 53.6**	**-0.6**
YHNB	**Yeheng**	**32.69**	**349**	*e*P	**P**	**00 14 58.0**	**-0.8**
QZH	**Quanzhou**	**33.59**	**344**	P	**P**	**00 15 06.4**	**-0.3**
QZH				AMB	AMB		
	comp=Z,140nm,0.8s,mb5.7						
CNB	**Canberra Magne**	**33.85**	**148**	*e*P	**P**	**00 15 11.6**	**+2.7**
	comp=Z,35nm,1.6s,mb4.8						
CNB				*e*		00 15 47.3	
JOW	**Kunigami**	**34.19**	**0**	P	**P**	**00 15 12.5**	**+0.7**
	comp=Z,63nm,0.5s,mb5.6,baz=172,slow=8.0,SNR=19						
BSI	**Banda Aceh**	**35.14**	**291**	P	**P**	**00 15 17.4**	**-2.6**
	comp=Z,102nm,1.0s,mb5.4						
NST	**Nakhon Sawan**	**36.01**	**310**	P	**P**	**00 15 28.3**	**+0.9**
	comp=Z,38nm,0.6s,mb5.2						
CM31	**Chiang Mai Arr**	**38.62**	**312**	*e*P	**P**	**00 15 52.8**	**+3.3**
CHG	**Chiang Mai**	**38.85**	**313**	⇑P	**P**	**00 15 51.8**	**+0.5**
	comp=Z,49nm,0.6s,mb5.3						
CHTO	**Chiang Mai**	**38.85**	**313**	*e*P	**P**	**00 15 51.5**	**+0.2**
CHTO				*e*		00 17 59.2	
CHTO				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**38.85**	**313**	*e*P	**P**	**00 15 51.5**	**+0.2**
	comp=Z,36nm,0.8s,mb5.1						
CHTO				*e*PcP	PcP	00 17 59.2	-0.4
GYA	**Guiyang**	**39.67**	**329**	⇑*i*P	**P**	**00 15 58.9**	**+0.8**
GYA				AP	pP	00 16 29.0	+0.7
GYA				XP	sP	00 16 40.7	-3.1
GYA				PCP	PcP	00 18 03.2	+1.0
GYA				S	**S**	**00 21 51.1**	**-0.2**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,220nm,4.2s						
GYA				LR	LR		
	comp=N,280nm,10.2s						
GYA				LR	LR		
	comp=E,480nm,9.0s						
GYA				LR	LR		
	comp=Z,450nm,9.8s						
DZM	**Mont Dzumac**	**39.70**	**116**	P	**P**	**00 16 00.5**	**+2.1**
	comp=Z,9.0nm,0.6s,mb4.6,baz=345,slow=22,SNR=10						
WHN	**Wuhan**	**40.10**	**342**	P	**P**	**00 16 02.5**	**+0.8**
NJ2	**Nanjing**	**40.35**	**348**	*e*P	**P**	**00 16 04.1**	**+0.3**
NJ2				AP	pP	00 16 27.8	-6.3
NJ2				XP	sP	00 16 50.6	+1.1
NJ2				PP	PP	00 17 42.2	+2.8
NJ2				S	**S**	**00 22 06.0**	**+4.5**
NJ2				AMB	AMB		
	comp=Z,220nm,0.8s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,300nm,4.2s						
KMI	**Kunming**	**40.77**	**324**	⇑P	**P**	**00 16 09.1**	**+1.9**
KMI				AP	pP	00 16 40.3	+2.8
KMI				XP	sP	00 16 55.9	+2.9
KMI				PP	PP	00 17 49.8	+6.0
KMI				PCP	PcP	00 18 08.7	+2.9
KMI				S	**S**	**00 22 09.0**	**+1.4**
KMI				XS	sS	00 23 03.7	+3.4
KMI				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.3						
KMI				AMB	AMB		
	comp=Z,153nm,3.1s						
KMI				LR	LR		
	comp=N,133nm,11.2s						
KMI				LR	LR		
	comp=E,116nm,12.1s						
KMI				LR	LR		
	comp=Z,155nm,17.2s						
KMI	**Kunming**	**40.77**	**324**	⇑P	**P**	**00 16 09.1**	**+1.9**
	comp=Z,59nm,0.8s,mb5.3						
KMI				pP	pP	00 16 40.3	+2.8
KMI				sP	sP	00 16 55.9	+2.9
KMI				PP	PP	00 17 49.8	+6.0
KMI				PcP	PcP	00 18 08.7	+2.9
KMI				ScP	ScP	00 21 45.6	+3.1
KMI				PcS	PcS	00 21 58.7	+2.0
KMI				S	**S**	**00 22 09.0**	**+1.4**
KMI				sS	sS	00 23 03.7	+3.4
KMI				SS	SS	00 25 07.9	-6.0
KMI				LR	LR		
	comp=Z,160nm,17.2s						
CD2	**Chengdu**	**44.77**	**330**	P	**P**	**00 16 39.4**	**0.0**
CD2				AP	pP	00 17 11.0	+0.8
CD2				XP	sP	00 17 27.1	+1.5
CD2				PP	PP	00 18 26.9	+0.3
CD2				S	**S**	**00 23 05.2**	**-0.9**
CD2				XS	sS	00 24 00.7	+1.2
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
MAJO	**Matsushiro**	**44.90**	**12**	*e*P	**P**	**00 16 39.8**	**-0.7**
MJAR	**Matsushiro Arr**	**44.90**	**12**	P	**P**	**00 16 39.2**	**-1.3**
	comp=Z,9.4nm,0.7s,mb4.5,baz=186,slow=7.7,SNR=18						
MJAR				PcP	PcP	00 18 19.0	-0.7
	comp=Z,5.7nm,0.8s,baz=179,slow=4.6,SNR=5.4						
XAN	**Xi'an**	**45.16**	**337**	P	**P**	**00 16 41.2**	**-1.4**
XAN				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.3						
DL2	**Dalian**	**46.61**	**353**	P	**P**	**00 16 53.6**	**-0.3**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
SHL	**Shillong**	**48.16**	**314**	*e*P	**P**	**00 17 04.1**	**-1.8**
BJT	**Baijiatuau**	**48.59**	**348**	*e*P	**P**	**00 17 08.7**	**-0.5**
BJT				*e*		00 18 32.6	
BJT				pmax	pmax		
	comp=Z,44nm,0.8s						
BJT	**Baijiatuau**	**48.59**	**348**	*e*P	**P**	**00 17 08.7**	**-0.5**
	comp=Z,44nm,0.8s,mb5.1						
BJT				*e*PcP	PcP	00 18 32.6	-0.1
BJI	**Beijing**	**48.62**	**348**	P	**P**	**00 17 08.4**	**-1.0**
BJI				AMB	AMB		
	comp=Z,57nm,1.2s,mb5.1						
BJI	**Beijing**	**48.62**	**348**	P	**P**	**00 17 08.4**	**-1.0**
	comp=Z,57nm,1.2s,mb5.1						
LZH	**Lanzhou**	**49.01**	**334**	*e*P	**P**	**00 17 12.5**	**+0.1**
LZH				AP	pP	00 17 41.5	-2.2
LZH				XP	sP	00 17 57.5	-1.4
LZH				PCP	PcP	00 18 35.0	+0.8
LZH				PP	PP	00 19 07.0	-0.1
LZH				*e*S	**S**	**00 24 05.1**	**-1.3**
LZH				XS	sS	00 25 02.0	+1.5
LZH				AMB	AMB		
	comp=Z,51nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,126nm,4.8s						
LZH	**Lanzhou**	**49.01**	**334**	*e*P	**P**	**00 17 12.5**	**+0.1**
LZH				*PP	pP	00 17 41.5	-2.2
LZH						00 18 35.0	
LZH						00 19 07.0	
LZH				*e*S	**S**	**00 24 05.1**	**-1.3**
LZH				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.0						
LZH	**Lanzhou**	**49.01**	**334**	*e*P	**P**	**00 17 12.5**	**+0.1**
	comp=Z,51nm,1.4s,mb5.0						
LZH				pP	pP	00 17 41.5	-2.2
LZH				sP	sP	00 17 57.5	-1.4
LZH				PcP	PcP	00 18 35.0	+0.8
LZH				PP	PP	00 19 07.0	-0.1
LZH				*e*S	**S**	**00 24 05.1**	**-1.3**
LZH				sS	sS	00 25 02.0	+1.5
LZH				SS		00 28 42.1	
PALK	**Pallekele**	**49.44**	**286**	*e*P	**P**	**00 17 15.2**	**-0.4**
	comp=Z,9.1nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**50.50**	**344**	*e*P	**P**	**00 17 24.5**	**+0.9**
HHC				AP	pP	00 17 57.0	+1.9
HHC				XP	sP	00 18 14.8	+4.5
HHC				PCP	PcP	00 18 39.5	-0.2
HHC				SCP	ScP	00 22 19.1	-3.8
HHC				S	**S**	**00 24 25.8**	**-1.3**
HHC				XS	sS	00 25 23.6	+2.1
HHC				SS	SS	00 28 02.9	+0.2
HHC				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,87nm,6.0s						
HHC				LR	LR		
	comp=N,91nm,4.2s						
HHC				LR	LR		
	comp=E,177nm,7.7s						
HHC				LR	LR		
	comp=Z,74nm,6.2s						
VIS	**Vishakhapatnam**	**50.79**	**300**	*e*P	**P**	**00 17 25.1**	**-0.8**
VIS				AMb	AMB	00 17 28.1	
	comp=Z,45nm,1.1s,mb5.0						
CN2	**Changchun**	**51.17**	**358**	*e*P	**P**	**00 17 28.3**	**-0.4**
CN2				PCP	PcP	00 18 41.0	-1.2
CN2				*e*S	**S**	**00 24 34.1**	**-2.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s						
CN2				LR	LR		
	comp=E,300nm,21.0s						
CN2				LR	LR		
	comp=Z,500nm,23.0s						
LSA	**Lhasa**	**51.28**	**318**	P	**P**	**00 17 30.2**	**+0.8**
LSA				AMB	AMB		
	comp=Z,120nm,0.6s,mb5.7						
LSA	**Lhasa**	**51.28**	**318**	*e*P	**P**	**00 17 30.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,88nm,0.6s,mb5.6						
LSA	**Lhasa**	**51.28**	**318**	*e*P	**P**	**00 17 30.7**	**+1.3**
	comp=Z,88nm,0.6s,mb5.6						
BOK	**Bokaro**	**51.62**	**308**	*e*P	**P**	**00 17 30.5**	**-1.5**
BOK				AMb	AMB	00 17 35.8	
	comp=Z,32nm,0.6s,mb5.1						
MDRS	**Chennai**	**51.70**	**293**	*ex*	x	00 17 15.1	
MDRS				AMb	AMB	00 17 16.2	
	comp=Z,86nm,0.3s,mb5.9						
MDJ	**Mudanjiang**	**51.96**	**1**	P	**P**	**00 17 34.9**	**+0.4**
MDJ				AP	pP	00 18 05.2	-0.9
MDJ				XP	sP	00 18 19.8	-1.4
MDJ				PCP	PcP	00 18 45.6	+0.5
MDJ				PP	PP	00 19 34.0	+0.2
MDJ				SCP	ScP	00 22 30.1	+0.9
MDJ				S	**S**	**00 24 52.3**	**+5.2**
MDJ				XS	sS	00 25 40.8	-0.9
MDJ				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,47nm,4.3s						
MDJ				LR	LR		
	comp=N,38nm,32.5s						
MDJ				LR	LR		
	comp=E,42nm,33.4s						
MDJ				LR	LR		
	comp=Z,24nm,24.1s						
MDJ	**Mudanjiang**	**51.96**	**1**	*e*P	**P**	**00 17 34.0**	**-0.5**
	comp=Z,11nm,0.5s,mb4.7						
RPZ	**Rata Peaks**	**52.01**	**141**	P	**P**	**00 17 36.7**	**+1.9**
	comp=Z,14nm,0.4s,mb4.9,baz=13,slow=10,SNR=7.1						
ASAJ	**Asahikawa**	**53.10**	**13**	P	**P**	**00 17 42.9**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.7,baz=111,slow=33,SNR=3.7						
JIRN	**Jiri**	**53.50**	**313**	*e*P	**P**	**00 17 46.5**	**+0.7**
	comp=Z,12nm,0.3s,mb5.1						
GTA	**Gaotai**	**53.55**	**333**	⇑P	**P**	**00 17 46.5**	**+0.3**
GTA				AP	pP	00 18 20.7	+2.7
GTA				XP	sP	00 18 34.6	+1.5
GTA				PCP	PcP	00 18 51.7	+0.6
GTA				PP	PP	00 19 50.8	+2.7
GTA				SCP	ScP	00 22 30.8	-5.3
GTA				S	**S**	**00 25 06.3**	**-2.4**
GTA				XS	sS	00 26 03.7	+0.1
GTA				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.2						
GTA				AMB	AMB		
	comp=Z,116nm,3.8s						
GTA				LR	LR		
	comp=E,132nm,17.5s						
GTA				LR	LR		
	comp=N,187nm,17.9s						
GTA				LR	LR		
	comp=Z,119nm,15.6s						
URZ	**Urewera**	**53.72**	**132**	P	**P**	**00 17 48.2**	**+0.8**
	comp=Z,4.7nm,0.3s,mb4.7,baz=206,slow=5.7,SNR=11						
GUN	**Gumba**	**53.87**	**313**	*e*P	**P**	**00 17 48.7**	**+0.2**
	comp=Z,259nm,0.6s,mb6.1						
PKI	**Pulchoki**	**54.02**	**312**	*e*P	**P**	**00 17 49.6**	**0.0**
	comp=Z,136nm,0.5s,mb5.9						
KKN	**Kakani**	**54.24**	**312**	*e*P	**P**	**00 17 51.1**	**-0.1**
	comp=Z,128nm,0.6s,mb5.9						
DMN	**Daman**	**54.27**	**312**	*e*P	**P**	**00 17 51.6**	**+0.2**
	comp=Z,113nm,0.7s,mb5.7						
HYB	**Hyderabad**	**54.82**	**297**	*i* P	**P**	**00 17 55.0**	**-0.4**
	comp=Z,120nm,1.0s,mb5.6						
HYB	**Hyderabad**	**54.82**	**297**	*e*P	**P**	**00 17 55.0**	**-0.4**
HYB				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.6						
HYB	**Hyderabad**	**54.82**	**297**	*e*P	**P**	**00 17 55.0**	**-0.4**
	comp=Z,120nm,1.0s,mb5.6						
GKN	**Gorkha**	**54.83**	**312**	*e*P	**P**	**00 17 55.4**	**-0.1**
	comp=Z,226nm,0.5s,mb6.2						
KOLN	**Koldanda**	**55.47**	**311**	*e*P	**P**	**00 18 00.2**	**+0.1**
	comp=Z,234nm,0.8s,mb6.0						
YSS	**Yuzh-Sakhalins**	**55.84**	**12**	*e*P	**P**	**00 18 01.9**	**-0.8**
MNGI	**Mangalore**	**56.64**	**291**	*e*P	**P**	**00 18 08.6**	**+0.2**
MNGI				AMb	AMB	00 18 10.3	
	comp=Z,67nm,0.0s						
KLR	**Kul'dur**	**56.65**	**3**	*e*P	**P**	**00 18 04.7**	**-3.7**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.2						
BHPL	**Bhopal**	**58.16**	**303**	*e*P	**P**	**00 18 18.1**	**-1.0**
BHPL				AMb	AMB	00 18 19.0	
	comp=Z,53nm,0.9s,mb5.4						
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**00 18 20.7**	**+0.2**
	comp=Z,25nm,0.9s,mb5.1,baz=164,slow=6.0,SNR=82						
SONM				PcP	PcP	00 19 09.4	-0.5
	comp=Z,8.3nm,0.7s,baz=155,slow=4.5,SNR=5.6						
KAD	**Karad**	**58.66**	**295**	*e*P	**P**	**00 18 20.9**	**-1.6**
KAD				AMb	AMB	00 18 22.0	
	comp=Z,24nm,0.6s,mb5.2						
POO	**Poona**	**59.39**	**297**	*ex*	**P**	**00 18 24.0**	**-3.5**
CASY	**Casey**	**59.86**	**188**	*e*P	**P**	**00 18 31.5**	**+0.8**
CASY	**Casey**	**59.86**	**188**	*e*P	**P**	**00 18 31.8**	**+1.1**
	comp=Z,3.1nm,0.7s,mb4.2						
CIT	**Chita**	**60.63**	**350**	*e*P	**P**	**00 18 36.4**	**+0.4**
CIT				*e*		00 27 03.3	
NDI	**New Delhi**	**60.79**	**309**	*e*P	**P**	**00 18 34.0**	**-3.1**
	comp=Z,9.0nm,0.8s,mb4.7						
NDI				*e*P		00 18 35.1	
NDI				AMb	AMB	00 18 36.2	
	comp=Z,92nm,0.7s,mb5.7						
ZAK	**Zakamensk**	**61.58**	**342**	*e*P	**P**	**00 18 42.2**	**-0.2**
ZAK				*e*		00 19 20.6	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.3						
ZAK

MK31 *e* 00 19 47.1
MKAR Makanchi Array 67.64 328 P **P 00 19 21.4 -0.3**
comp=Z,8.9nm,0.5s,mb4.8,baz=122,slow=7.7,SNR=229
MKAR Makanchi Array 67.64 328⇑ *eP* **P 00 19 21.3 -0.4**
TKM2 Tokmak 2 69.19 321 P **P 00 19 31.7 +0.3**
SNR=23
MA2 Magadan 69.34 12 *eP* **P 00 19 31.0 -1.3**
MA2 pmax pmax
comp=Z,17nm,0.7s,mb4.9
MA2 Magadan 69.34 12 *eP* **P 00 19 31.0 -1.2**
comp=Z,17nm,0.7s,mb4.9
YAK Yakutsk 69.40 1 *c iP* **P 00 19 31.5 -1.1**
YAK *eS* S 00 28 27.3 -1.3
YAK pmax pmax
comp=Z,50nm,0.8s,mb5.3
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.7s
YAK pmax pmax
comp=Z,217nm,4.7s
YAK pmax pmax
comp=N,187nm,4.1s
YAK pmax pmax
comp=E,87nm,2.9s
YAK smax
comp=E,158nm,3.3s
YAK smax
comp=N,69nm,2.6s
YAK smax
comp=Z,96nm,2.6s
YAK Yakutsk 69.40 1 *eP* **P 00 19 31.9 -0.7**
KBK Karagaybulak 69.45 321 P **P 00 19 33.9 +0.9**
SNR=20
UCH Uchtor 69.49 320 P **P 00 19 34.6 +1.4**
SNR=28
AAK Ala-Archa 69.72 321 P **P 00 19 35.1 +0.5**
SNR=34
AAK Ala-Archa 69.72 321 P **P 00 19 33.9 -0.7**
comp=Z,213nm,0.8s,mb5.9,SNR=28
AAK Ala-Archa 69.72 321 P **P 00 19 34.3 -0.3**
SNR=16
AAK Ala-Archa 69.72 321⇑ *iP* **P 00 19 33.1 -1.5**
AAK pmax pmax
comp=Z,34nm,0.9s,mb5.1
AAK Ala-Archa 69.72 321 *eP* **P 00 19 34.0 -0.6**
CHMS Chumysh 69.75 321 P **P 00 19 34.6 -0.2**
SNR=7.9
AML Almayashu 69.96 320 P **P 00 19 36.9 +0.8**
SNR=16
USP Ospenovka 70.05 321 P **P 00 19 36.6 0.0**
SNR=27
EKS2 Erkin-Say 70.19 320 P **P 00 19 38.0 +0.6**
SNR=36
ZAL Zalesovo 71.24 335 P **P 00 19 42.4 -1.5**
comp=Z,29nm,0.6s,mb5.2,baz=343,slow=4.8,SNR=56
KURK Kurchatov 71.99 329 P **P 00 19 47.8 -0.5**
comp=Z,357nm,0.7s,mb6.2,SNR=49
VNDA Vanda 72.13 173 P **P 00 19 49.5 +0.4**
comp=Z,2.1nm,0.4s,mb4.2,baz=324,slow=7.0,SNR=32
VNDA Vanda 72.13 173 *eP* **P 00 19 49.5 +0.4**
NVS Novosibirsk 72.52 335 *eP* **P 00 19 49.2 -2.3**
NVS pmax pmax
comp=Z,87nm,1.0s,mb5.4
NVS pmax pmax
comp=N,62nm,1.4s
NVS pmax pmax
comp=E,59nm,1.4s
SEY Seymchan 72.73 11⇑ *eP* **P 00 19 51.7 -1.0**
SBA Scott Base 73.05 172 *eP* **P 00 19 56.2 +1.6**
MAW Mawson 73.72 201 *eP* **P 00 19 59.5 +1.0**
comp=E,7.5nm,0.4s,mb4.8
MAW Mawson 73.72 201 P **P 00 19 59.6 +1.1**
comp=E,12nm,0.6s,mb4.8,baz=73,slow=6.2,SNR=36
MAW Mawson 73.72 201 *eP* **P 00 19 59.5 +1.0**
MAW pmax pmax
comp=Z,8.0nm,0.4s
WBK Wadi Bani Khal 73.89 296 P **P 00 19 59.9 +0.4**
SNR=5.9
SMDO Samad 74.83 296 P **P 00 20 05.2 +0.2**
SNR=7.8
BIDO Bidbid 74.88 297 P **P 00 20 05.7 +0.5**
SNR=22
BSY Bisya 75.50 296 P **P 00 20 08.9 +0.1**
SNR=8.8
HOQ Hoqain 75.62 297 P **P 00 20 09.8 +0.3**
SNR=19
HATD Hatta, Dubai 76.98 298 P **P 00 20 17.5 +0.4**
SNR=6.5
VOSK Vostochnaya 77.04 328 P **P 00 20 15.9 -1.6**
VOSK pmax pmax
comp=Z,18nm,0.8s,mb4.8
BVA0 Borovoye Array 77.50 328 *i P* **P 00 20 18.5 -1.6**
BVA0 pmax pmax
comp=Z,17nm,1.3s,mb4.5
BVAR Borovoye Array 77.50 328 P **P 00 20 19.2 -0.9**
comp=Z,32nm,0.8s,mb5.0,baz=134,slow=6.4,SNR=97
BRVK Borovoye 77.58 328 P **P 00 20 20.3 -0.2**
comp=Z,290nm,1.1s,mb5.8,SNR=12
BRVK Borovoye 77.58 328 P **P 00 20 20.1 -0.3**
SNR=11
BRVK Borovoye 77.58 328 *eP* **P 00 20 19.7 -0.8**
BRVK pmax pmax
comp=Z,54nm,1.0s,mb5.1
BRVK Borovoye 77.58 328 *eP* **P 00 20 19.7 -0.7**
comp=Z,54nm,1.0s,mb5.1
CHKZ Chkalovo 77.73 329 *eP* **P 00 20 20.5 -0.8**
CHKZ pmax pmax
comp=Z,44nm,0.9s,mb5.1
CHKZ Chkalovo 77.73 329 *eP* **P 00 20 20.5 -0.8**
comp=Z,44nm,0.9s,mb5.1
ZRNK Zerenda 78.19 328 *eP* **P 00 20 23.1 -0.8**
ZRNK *e* 00 20 31.6
ZRNK pmax pmax
comp=Z,54nm,0.9s,mb5.2
ZRNK Zerenda 78.19 328 *eP* **P 00 20 23.1 -0.8**
comp=Z,54nm,0.9s,mb5.2
ZRNK *e*PcP PcP 00 20 31.6 -1.2
OPO Ambohidratompo 78.98 253 P **P 00 20 28.8 +0.6**
comp=Z,7.3nm,0.7s,mb4.4,baz=91,slow=4.7,SNR=21
ABKT Ailbek 79.09 311 P **P 00 20 21.1 -7.7**
comp=Z,140nm,0.7s,mb5.7,SNR=8.3
BILL Bilibino 80.11 14 *eP* **P 00 20 32.6 -1.7**
BILL *e* 00 23 36.5
BILL *eS* S 00 30 24.7 -2.9
BILL pmax pmax
comp=Z,2.0nm,0.7s
QSPA South Pole Qui 82.42 180 *eP* **P 00 20 46.7 +0.2**
comp=Z,11nm,0.8s,mb4.5
SYO Syowa Base 82.43 201⇓ *eP* **P 00 20 46.8 +0.3**
AKTO Aktyubinsk 83.33 323 P **P 00 20 50.3 -0.9**
AKTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SVE Sverdlovsk 84.24 329⇑ *eP* **P 00 20 55.0 -0.8**
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.3
QRN Al-Qurain 85.01 300 *eP* **P 00 20 58.7 -1.0**
QRN AMb AMB 00 20 59.6
comp=Z,74nm,0.7s,mb5.5
ARU Arti 85.15 329 P **P 00 20 59.3 -1.1**
comp=Z,342nm,0.7s,mb6.2,SNR=19
ARU Arti 85.15 329⇑ *eP* **P 00 20 58.8 -1.6**
ARU pmax pmax
comp=Z,73nm,1.2s,mb5.3
ARU Arti 85.15 329 *eP* **P 00 20 59.0 -1.4**
RDF Al-Radifah 85.36 300 *eP* **P 00 21 00.5 -0.9**
RDF AMb AMB 00 21 01.4
comp=Z,55nm,0.7s,mb5.4
ORR Orenburg 85.66 323 P **P 00 21 02.6 -0.3**
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.2
NAY Al-Naaiem 85.69 300 *eP* **P 00 21 02.0 -1.0**
NAY AMb AMB 00 21 03.6
comp=Z,57nm,0.8s,mb5.4
MIB Mutribah 85.71 301 *eP* **P 00 21 02.2 -0.9**
MIB AMb AMB 00 21 03.9
comp=Z,71nm,0.9s,mb5.4
RST Umm Al-Ruwaisa 85.94 300 *eP* **P 00 21 03.0 -1.3**
RST AMb AMB 00 21 04.7
comp=Z,114nm,0.7s,mb5.7
GNI Garni 89.72 310 *c iP* **P 00 21 22.1 -0.2**
GNI pmax pmax
comp=Z,9.0nm,1.1s
GNI Garni 89.72 310 *eP* **P 00 21 21.9 -0.3**
comp=Z,10.0nm,0.8s,mb4.8
KMBO Kilima Mbogo 90.62 269 P **P 00 21 27.6 +1.1**
comp=Z,2.1nm,0.6s,mb4.3,baz=64,slow=9.6,SNR=10.0
KMBO Kilima Mbogo 90.62 269 *i P* **P 00 21 28.6 +2.1**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 90.62 269 *eP* **P 00 21 27.2 +0.8**
comp=Z,1.8nm,0.6s,mb4.3
ZEI Tsey 90.79 313 *eP* **P 00 21 27.1 -0.1**
ZEI pmax pmax
comp=Z,17nm,0.9s,mb5.1
MAIT Maitri 91.27 197 *eP* **P 00 21 31.0 +1.5**
VRHR Novokhopersk 93.57 321 *eP* **P 00 21 38.0 -2.1**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=E,5.0nm,0.5s
MALT Malatya 94.32 308⇓ *iP* **P 00 21 43.5 0.0**
MALT Malatya 94.32 308 *eP* **P 00 21 42.7 -0.8**
MALT pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MALT Malatya 94.32 308 *eP* **P 00 21 42.6 -0.9**
comp=Z,9.7nm,0.9s,mb4.9
SNAA Sanae 94.66 194 P **P 00 21 46.0 +0.9**
comp=Z,4.3nm,0.7s,mb4.8,baz=153,slow=4.5,SNR=68
SNAA Sanae 94.66 194⇑ *iP* **P 00 21 45.8 +0.7**
SNAA *e* 00 21 49.1
SNAA *e* 00 22 01.1
SNAA *e* 00 22 08.8
SNAA *e* pP 00 22 19.5 -0.5
SNAA *e* 00 22 27.5
SNAA *e* 01 38 23.3
SNAA *e* 01 38 26.7
SNAA *e* 01 38 43.8
SNAA Sanae 94.66 194 *eP* **P 00 21 45.9 +0.8**
SNAA pmax pmax
comp=Z,11nm,0.8s
SNAA Sanae 94.66 194 *eP* **P 00 21 45.9 +0.9**
comp=Z,11nm,0.8s,mb5.1
EIL Elat 96.36 299 *eP* **P 00 21 52.3 -0.5**
comp=Z,33nm,0.7s,mb5.8
OBN Obninsk 96.98 325⇑ *eP* **P 00 21 53.3 -2.3**
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.4
OBN Obninsk 96.98 325 *eP* **P 00 21 53.7 -2.0**
LSZ Lusaka 97.43 254 *eP* **P 00 21 58.2 +0.6**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
LSZ Lusaka 97.43 254 *eP* **P 00 21 58.2 +0.5**
comp=Z,4.7nm,0.7s,mb4.9
BOSA Boshof 97.49 240 P **P 00 21 58.7 +0.8**
comp=Z,4.4nm,0.7s,mb4.9,baz=67,slow=3.7,SNR=12
BOSA PKKPbc PKKPbc 00 38 34.3 0.0
comp=Z,1.7nm,0.9s,baz=329,slow=5.9,SNR=3.7
BOSA Boshof 97.49 240 *eP* **P 00 21 58.7 +0.8**
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
BOSA Boshof 97.49 240 *eP* **P 00 21 58.7 +0.7**
comp=Z,3.7nm,0.6s,mb4.9
BR131 Keskin Array S 98.15 309 *eP* **P 00 21 59.8 -1.1**
BRTR Keskin Array B 98.15 309 P **P 00 21 59.0 -1.9**
comp=Z,2.9nm,0.9s,mb4.7,baz=111,slow=4.8,SNR=12
JOF Joensuu 99.75 333 *ep* Pdif 00 22 04.6 -3.4
comp=Z,3.7nm,0.4s
KEV Kevo 100.87 340 *ep* Pdif 00 22 10.7 -2.3
AKASG Malin Array Be 101.38 320 P Pdif 00 22 12.7 -2.6
comp=Z,1.6nm,0.6s,baz=72,slow=4.4,SNR=9.3
ARCES ARCESS Array B 101.42 339 P Pdif 00 22 13.4 -2.1
comp=Z,6.9nm,0.7s,baz=76,slow=5.8,SNR=30
ARCES PKiKP PKiKP 00 26 38.0 -1.0
comp=Z,0.8nm,0.4s,baz=112,slow=1.2,SNR=18
ARCES PKKPbc PKKPbc 00 38 23.0 -0.2
comp=Z,1.9nm,0.8s,baz=254,slow=2.6,SNR=11
SPB4 Spitsbergen Ar 101.74 349 *e*Pdif Pdif 00 22 15.4 -1.4
KAF Kangasniemi 102.13 332 *ep* Pdif 00 22 15.2 -3.4
comp=Z,3.9nm,0.7s,baz=79,slow=4.1
KAF Kangasniemi 102.13 332 *ep* PKiKP 00 26 39.5 -0.7
KAF Kangasniemi 102.13 332 *eP* Pdif 00 22 15.2 -3.4
KAF pmax pmax
comp=Z,4.0nm,0.7s
CFR Carcaliu 102.29 315⇓ *iP* Pdif 00 22 18.0 -1.3
FINES FINESS Array B 102.32 331 P Pdif 00 22 16.8 -2.7
comp=Z,2.1nm,0.7s,baz=55,slow=7.2,SNR=8.7
FINES PKiKP PKiKP 00 26 40.0 -0.6
comp=Z,1.9nm,0.7s,baz=94,slow=2.1,SNR=9.2
VRI Vrincioaia 103.25 315⇓ *iP* Pdif 00 22 23.0 -0.6
PLOR Plostina 103.31 315⇑ *iP* PKiKP 00 26 43.0 +0.6
MLR Muntele Rosu 103.82 315⇓ *iP* Pdif 00 22 25.3 -0.8
MLR Muntele Rosu 103.82 315⇓ *iP* PKiKP 00 26 47.4 +4.1
BURAR Bucovina Array 104.18 317⇓ *iP* Pdif 00 22 27.7 0.0
BURAR Bucovina Array 104.18 317⇑ *iP* PKiKP 00 26 46.0 +2.0
SANT Santorini 104.56 306 *e*Pdif Pdif 00 22 36.7 +7.3
BZS Buzias 106.84 315⇓ *iP* Pdif 00 22 38.4 -1.1
HFS Hagfors 108.52 331 Pdiff Pdif 00 22 44.4 -2.7
comp=Z,1.6nm,0.6s,baz=104,slow=6.3,SNR=9.2
HFS PKiKP PKiKP 00 26 50.3 -1.7
comp=Z,1.6nm,0.8s,baz=101,slow=4.7,SNR=4.4
HFS Hagfors 108.52 331 Pdif Pdif 00 22 44.4 -2.7
HFS PKPdf PKiKP 00 26 50.3 -1.7
PKSM Moragy 108.82 316⇑ *iP* PKiKP 00 26 52.1 -0.5
YKA Yellowknife Ar 109.11 26 PKiKP PKiKP 00 26 52.1 -1.0
comp=Z,4.2nm,0.6s,baz=292,slow=2.1,SNR=18
YKA PKKPbc PKKPbc 00 37 59.7 -0.2
comp=Z,0.8nm,0.5s,baz=112,slow=3.6,SNR=5.6
YKA Yellowknife Ar 109.11 26 PKPdf PKiKP 00 26 52.1 -1.0
YKA PKKPbc PKKPbc 00 37 59.7 -0.2
NB2 NORSAR Subarra 109.38 333 Pdif Pdif 00 22 48.3 -2.5
comp=Z,1.7nm,0.8s,baz=70,slow=4.4
NOA NORSAR Array B 109.38 333 Pdiff Pdif 00 22 48.8 -2.1
comp=Z,1.2nm,0.7s,baz=69,slow=4.6,SNR=6.5
NOA PKiKP PKiKP 00 26 52.6 -1.0
comp=Z,1.7nm,0.7s,baz=264,slow=3.1,SNR=5.4
DPC Dobruska-Polom 109.59 321 *e*PKP PKiKP 00 26 53.4 -0.6
UPC Upice 109.75 321 *e*PKP PKiKP 00 26 54.1 -0.2
PRU Pruhonice 110.79 321 *e*PKP PKiKP 00 26 55.8 -0.5
GOLS Golise 110.92 316 *i* PKiKP 00 26 56.2 -0.3
PERS Pernice 111.14 317 *i* PKiKP PKiKP 00 26 56.1 -0.8
PERS *e* 00 27 13.9
TIP Timpagrande 111.21 309 *e*PKiKP PKiKP 00 26 55.8 -1.2
BOJS Bojanci 111.28 316 *e*PKiKP PKiKP 00 26 56.6 -0.6
PDKS Podkum 111.34 317 *e*PKiKP PKiKP 00 26 56.9 -0.4
PDKS *e* 00 27 14.3
GEC2 GERESS Array S 111.59 320 *e*PKiKP PKiKP 00 26 57.3 -0.5
GERES GERESS Array B 111.59 320 *e*PKiKP PKiKP 00 26 57.3 -0.5
comp=Z,3.4nm,0.6s,baz=65,slow=1.9,SNR=45
KHC Kasperske Hory 111.60 320 *e*PKiKP PKiKP 00 26 55.9 -1.9
PAHR Pah Rah Range 112.15 50 *e*PKiKP PKiKP 00 26 59.4 +0.5
WVOR Wild Horse Val 112.25 47 *e*PKiKP PKiKP 00 27 00.1 +1.1
GRA1 Grafenberg Arr 112.94 321 *e*PKPdf PKiKP 00 26 59.5 -0.9
NVAR Mina Array Bea 113.18 51 PKiKP PKiKP 00 27 02.2 +1.4
comp=Z,1.2nm,0.5s,baz=273,slow=3.5,SNR=12
WTTA Wattenberg 113.32 318⇑ *iP* PKiKP 00 27 00.6 -0.5
comp=Z,20nm,0.6s
WTTA Wattenberg 113.32 318⇑ *iP* PKiKP 00 27 00.6 -0.5
WATA Walderalm 113.34 318⇑ *iP* PKiKP 00 27 00.3 -0.8
comp=Z,5.0nm,0.5s
SQTA Sankt Quirin 113.61 318⇑ *iP* PKiKP 00 27 00.1 -1.5
comp=Z,8.8nm,1.4s
SQTA Sankt Quirin 113.61 318⇑ *iP* PKiKP 00 27 00.1 -1.5
MOTA Moosalm 113.65 319⇑ *iP* PKiKP 00 27 00.8 -0.9
comp=Z,2.3nm,0.7s
BSMT Bassoo Peak 113.69 41 *e*PKiKP PKiKP 00 27 01.8 0.0
DAC Darwin (Calif) 114.06 54 *e*PKiKP PKiKP 00 27 04.1 +1.6
DAVA Damuels 114.47 319⇑ *iP* PKiKP 00 27 02.4 -0.9
comp=Z,9.4nm,0.5s
DAVOX Davos/Dischmat 114.61 318 PKP PKiKP 00 27 03.3 -0.2
comp=Z,5.0nm,0.6s,baz=238,slow=11,SNR=13
CHMT Chamberlain Mo 114.95 42 *e*PKiKP PKiKP 00 27 04.3 +0.1
HLID Hailey 115.04 45 *e*PKPdf PKiKP 00 27 05.8 +1.4
PFO Pinyon Flat Ob 115.37 56 *e*PKiKP PKPdf 00 27 06.5 +1.5
CDF Champ du Feu 115.80 321 *e*PKiKP PKPdf 00 27 04.6 -1.2
comp=Z,3.8nm,0.7s
MCMT McKenzie Canyo 115.80 44 *e*PKPdf PKPdf 00 27 06.8 +1.0
SHPR Sheep Range 115.96 53 *e*PKiKP PKiKP 00 27 08.2 +2.1
HINF Hinteralfeld 116.26 320 *e*PKiKP PKPdf 00 27 05.6 -1.1
comp=Z,18nm,0.6s
PGF Pioggiola 116.33 314 *e*PKiKP PKPdf 00 27 06.3 -0.6
comp=Z,32nm,1.0s
HAU Haudompre 116.52 320 *e*PKiKP PKPdf 00 27 06.4 -0.8
comp=Z,12nm,0.7s
HVU Hansel Valley 116.65 47 *e*PKiKP PKPdf 00 27 08.3 +0.8
GIVF Givet 116.72 323 *e*PKiKP PKPdf 00 27 07.2 -0.4
comp=Z,34nm,0.9s
GLA Glamis 116.80 57 *e*PKiKP PKPdf 00 27 09.5 +1.7
EGMT Eagleton 116.86 40 *e*PKPdf PKPdf 00 27 07.8 -0.1
SPUT South Promonto 117.00 47 *e*PKPdf PKPdf 00 27 07.5 -0.6
DUG Dugway 117.01 49 *e*PKIKP PKPdf 00 27 09.1 +0.9
LPG La Plagne 117.06 318 *e*PKIKP PKPdf 00 27 08.1 -0.2
comp=Z,24nm,0.9s
LPL La Plagne 117.07 318 *e*PKIKP PKPdf 00 27 07.9 -0.4
comp=Z,16nm,0.6s
SBF Sospel 117.08 316 *e*PKIKP PKPdf 00 27 07.6 -0.7
comp=Z,11nm,0.6s
BAIF Baives 117.11 323 *e*PKIKP PKPdf 00 27 07.9 -0.4
comp=Z,12nm,0.8s
CABF La Chapelle 117.15 319 *e*PKIKP PKPdf 00 27 08.1 -0.3
comp=Z,31nm,0.6s
MEZF Maizieres J'vi 117.16 321 *e*PKIKP PKPdf 00 27 07.7 -0.8
comp=Z,10nm,0.7s
RRI2 Red Ridge 117.27 45 *e*PKPdf PKPdf 00 27 15.1 +6.4
MBDF Montbardon 117.28 317 *e*PKIKP PKPdf 00 27 09.7 +1.0
comp=Z,17nm,0.8s
YFT Old Faithful 117.29 44 *e*PKPdf PKPdf 00 27 11.5 +2.8
IMW Indian Meadow 117.38 44 *e*PKPdf PKPdf 00 27 10.3 +1.4
TPAW Teton Pass 117.49 45 *e*PKPdf PKPdf 00 27 10.7 +1.6
FLWY Flagg Ranch 117.49 44 *e*PKPdf PKPdf 00 27 10.5 +1.4
HWUT Hardware Ranch 117.57 47 *e*PKPdf PKPdf 00 27 09.8 +0.6
KEST Kesra 117.59 306 PKP PKPdf 00 27 09.8 +0.5
comp=Z,2.4nm,0.8s,baz=302,slow=7.7,SNR=11
REDW Red Top Meadow 117.59 45 *e*PKPdf PKPdf 00 27 10.6 +1.3
SNOW Snow King Moun 117.63 45 *e*PKPdf PKPdf 00 27 10.8 +1.5
FRF La Foret Royal 117.72 315 *e*PKIKP PKPdf 00 27 08.9 -0.6
comp=Z,36nm,1.1s
TCUT Toone Canyon 117.81 47 *e*PKPdf PKPdf 00 27 11.2 +1.5
ORIF Oris-en-Rattie 117.83 317 *e*PKIKP PKPdf 00 27 09.3 -0.4
comp=Z,9.5nm,0.5s
MSU Marysvale 117.88 50 *e*PKIKP PKPdf 00 27 11.6 +1.8
MPU Maple Canyon 117.93 49 *e*PKPdf PKPdf 00 27 11.4 +1.4
RLMT Red Lodge 118.14 42 *e*PKPdf PKPdf 00 27 11.2 +0.9
SMRF Simiane la Rot 118.33 316 *e*PKIKP PKPdf 00 27 10.6 -0.1
comp=Z,9.2nm,0.7s
LOR Lormes 118.36 320 *e*PKIKP PKPdf 00 27 10.0 -0.8
comp=Z,11nm,0.8s
TMUT Trail Mountain 118.42 49 *e*PKPdf PKPdf 00 27 12.6 +1.7
SMF Signal de Mont 118.59 320⇑ *iPKIKP* PKPbc 00 27 10.4 -0.8
comp=Z,5.1nm,0.6s
SSF Saint Saulge 118.66 320⇑ *iPKIKP* PKPdf 00 27 10.8 -0.5
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 118.66 317 *e*PKIKP PKPdf 00 27 10.8 -0.5
PDAR Pinedale Array 118.67 45 PKP PKPdf 00 27 11.7 +0.3
comp=Z,6.1nm,0.7s,baz=312,slow=0.6,SNR=55
PDAR PKKPab PKKPab 00 37 28.6 -2.0
comp=Z,1.2nm,0.5s,baz=124,slow=5.7,SNR=10
EKA Eskdalemuir Ar 118.71 331 PKP PKPdf 00 27 10.8 -0.7
comp=Z,12nm,1.2s,baz=143,slow=0.4,SNR=5.3
EKA Eskdalemuir Ar 118.71 331 PKP PKPdf 00 27 10.8 -0.7
AVF Avril sur Loir 118.85 320⇑ *iPKIKP* PKPdf 00 27 10.8 -0.9
comp=Z,8.9nm,0.6s
SRU San Rafael 118.99 49 *e*PKIKP PKPdf 00 27 12.8 +0.8
HYF Humbligny 119.13 321 *e*PKIKP PKPdf 00 27 12.0 -0.2
WUAZ Wupatki 119.17 54 *e*PKPdf PKPdf 00 27 13.8 +1.5
BGF Bois d'Agland 119.26 320⇑ *iPKIKP* PKPdf 00 27 12.2 -0.3
comp=Z,31nm,0.6s
LASF Ste Croix 119.47 317 *e*PKIKP PKPdf 00 27 12.4 -0.5
TCF Toulx Ste Croi 119.77 320 *e*PKIKP PKPdf 00 27 13.1 -0.4
comp=Z,8.0nm,0.4s
TUC Tucson 120.29 57 *e*PKIKP PKPdf 00 27 16.0 +1.5
LDF La Druitiere 120.29 323 *e*PKIKP PKPdf 00 27 13.7 -0.8
comp=Z,6.1nm,0.7s
PV10 Paradox Valley 120.30 50 *e*PKPdf PKPdf 00 27 15.9 +1.5
CAF Calviac 120.37 318 *e*PKIKP PKPdf 00 27 14.7 +0.1
comp=Z,13nm,0.6s
FLN La Foliniere 120.43 323 *e*PKIKP PKPdf 00 27 14.0 -0.7
comp=Z,9.2nm,0.7s
RJF Les Rejaudoux 120.59 319 *e*PKIKP PKPdf 00 27 14.8 -0.3
RWWY Rawlins 120.67 46 *e*PKPdf PKPdf 00 27 16.0 +0.8
PV01 Paradox Valley 120.72 50 *e*PKPdf PKPdf 00 27 16.7 +1.4
GRR Gorron 120.82 323 *e*PKIKP PKPdf 00 27 14.8 -0.7
comp=Z,4.0nm,0.5s
MTLF Montolieu 120.84 316 *e*PKIKP PKPdf 00 27 15.0 -0.5
comp=Z,15nm,0.7s
MVCO Mesa Verde 121.02 51 *e*PKPdf PKPdf 00 27 17.1 +1.3
MFF Saint Martin d 121.14 321 *e*PKIKP PKPdf 00 27 15.5 -0.6
comp=Z,25nm,0.7s
LFF La Frestale 121.24 319 *e*PKIKP PKPdf 00 27 16.2 -0.1
comp=Z,21nm,0.8s
SMCO Snowmass 121.62 48 *e*PKPdf PKPdf 00 27 18.8 +1.7
EMIR Miracle 121.81 315 PKP PKPdf 00 27 18.0 +0.6
SGMF Saint Gilles 121.89 323 *e*PKIKP PKPdf 00 27 16.7 -0.8
comp=Z,15nm,0.7s
RSSD Black Hills 121.99 42 *e*PKIKP PKPdf 00 27 17.9 +0.2
EPF Esparros 122.23 317 *e*PKIKP PKPdf 00 27 18.0 -0.2
comp=Z,11nm,0.6s
ROSF Rostrenen 122.28 324 *e*PKIKP PKPdf 00 27 17.5 -0.8
comp=Z,7.2nm,0.7s
EPOB Poblet 122.32 315 PKP PKPdf 00 27 18.4 0.0
QUIF Quistinic 122.41 323 *e*PKIKP PKPdf 00 27 17.7 -0.8
comp=Z,14nm,0.7s
ISCO Idaho Springs 122.42 47 *e*PKIKP PKPdf 00 27 19.6 +1.0
LAZ Ladron 122.81 54 *e*PKPdf PKPdf 00 27 21.0 +1.7
ETSF Etsaut 122.89 317 *e*PKIKP PKPdf 00 27 19.9 +0.4
comp=Z,33nm,1.1s
ERTA Horta de San J 122.99 314 PKP PKPdf 00 27 19.9 +0.3
SDCO Great Sand Dun 123.15 50 *e*PKPdf PKPdf 00 27 21.5 +1.5
ANMO Albuquerque 123.21 53⇑ *iPKIKP* PKPdf 00 27 21.7 +1.6
ANMO Albuquerque 123.21 53 *e*PKPdf PKPdf 00 27 21.8 +1.7
LPM Los Pinos Moun 123.23 54 *e*PKPdf PKPdf 00 27 21.8 +1.6
SJPF Ste Jean 123.26 317 *e*PKIKP PKPdf 00 27 20.6 +0.4
comp=Z,8.3nm,0.7s
EMOS Mosqueruela 123.77 314 PKP PKPdf 00 27 22.1 +1.0
ULM Lac du Bonnet 123.98 32 PKP PKPdf 00 27 20.8 -0.8
comp=Z,8.8nm,0.7s,baz=296,slow=1.2,SNR=9.3
MNTX Cornudas Mount 124.90 57 *e*PKPdf PKPdf 00 27 24.5 +1.1
GDL2 Guadalupe Moun 125.61 56 *e*PKPdf PKPdf 00 27 26.1 +1.5
EVIA Vianos 125.86 313 PKIKP PKPdf 00 27 24.5 -0.7
GUD Guadarrama 126.26 316 PKIKP PKPdf 00 27 26.0 +0.1
ESDC Sonseca Array 126.52 314 PKP PKPdf 00 27 26.2 -0.2
comp=Z,2.2nm,0.8s,baz=18,slow=3.5,SNR=10
ESDC PP PP 00 29 13.5 -10
comp=Z,0.4nm,0.7s,baz=62,slow=10,SNR=4.6
ESDC Sonseca Array 126.52 314 PKP PKPdf 00 27 25.6 -0.8
EQES Quesada 126.59 312 PKP PKPdf 00 27 28.6 +2.0
EBER Berja 126.78 311 PKP PKPdf 00 27 27.7 +0.8
ECSD ERÓS,Sioux Fal 126.97 40 *e*PKPdf PKPdf 00 27 27.5 +0.2
TOA0 Torodi Ar. Sit 126.99 281 *e*PKPdf PKPdf 00 27 27.7 +0.4
TORD Torodi Ar. Bea 126.99 281 PKP PKPdf 00 27 27.8 +0.5
comp=Z,9.3nm,0.7s,baz=52,slow=1.9,SNR=42
ECOG Cogollos-Vega 127.14 312 PKIKP PKPdf 00 27 25.8 -1.8
EGUA Guajares 127.31 311 PKIKP PKPdf 00 27 26.7 -1.2
ERON Agron 127.42 311 PKP PKPdf 00 27 27.0 -1.1
EADA Adamuz 127.55 313 PKP PKPdf 00 27 29.4 +1.0
ELOJ Sierra Loja 127.63 312 PKIKP PKPdf 00 27 27.1 -1.4
PLCA Paso Flores 128.99 162 PKP PKPdf 00 27 32.8 +1.7
comp=Z,3.4nm,0.7s,baz=213,slow=3.5,SNR=11
PLCA SKPbc 00 30 37.6
comp=Z,6.1nm,1.1s,baz=270,slow=3.0,SNR=5.2
EMIN Mina Concepcio 129.23 313 PKP PKPdf 00 27 30.9 -0.7
WMOK Wichita Mounta 129.27 51 *e*PKIKP PKPdf 00 27 32.6 +0.9
MDT Midelt 129.50 307 PKP PKPdf 00 27 32.5 +0.4
comp=Z,5.3nm,0.9s,baz=108,slow=3.2,SNR=10
JCT Junction City 129.84 56 *e*PKIKP PKPdf 00 27 33.6 +0.9
EVO Evora 129.85 315 *e*PKIKP PKPdf 00 27 31.0 -1.8
comp=Z,7.6nm,0.8s
SCHQ Schefferville 131.38 11 PKP PKPdf 00 27 36.3 +0.6
comp=Z,8.0nm,0.5s,baz=21,slow=3.4,SNR=18
DBIC Dimbokro 133.25 272 PKP PKPdf 00 27 40.9 +1.7
comp=Z,5.1nm,0.5s,baz=72,slow=3.7,SNR=8.5
DBIC Dimbokro 133.25 272 PKP PKPdf 00 27 40.9 +1.7
CCM Cathedral Cave 133.33 43 *e*PKIKP PKPdf 00 27 38.3 -1.0
FVM French Village 133.92 43 *e*PKIKP PKPdf 00 27 41.4 +1.0
BLO Bloomington 135.81 39 *e*PKIKP PKPdf 00 27 45.4 +1.4
WVT Waverly 136.66 44 *e*PKHKP 00 27 35.4
WVT *e* PKPdf 00 27 46.6 +1.0
PLAL Pickwick Lake 137.09 45 *e*PKPdf PKPdf 00 27 45.6 -0.7
TGUH Tegucigalpa,Un 144.76 76 *e*PKP PKPdf 00 28 01.4 +1.2
DWPF Disney 145.47 50 *e*PKPdf PKPdf 00 28 02.3 +0.9
LVC Limon Verde 145.73 151 *e*PKP PKPdf 00 28 04.9 +3.2
LVC *e*PP PP 00 31 28.7 +4.5
CPUP Villa Florida 145.91 171 PKPbc PKPbc 00 28 04.3 +1.3
comp=Z,17nm,0.5s,baz=175,slow=1.8,SNR=82
NNA Nana 148.56 128 *e*PKPdf PKPbc 00 28 11.0 +0.7
ARE Arequipa 149.29 141 *e*PKP2 PKPab 00 28 15.0 -2.2
LPAZ La Paz 151.41 146 PKP PKPdf 00 28 14.0 +3.0
comp=Z,4.6nm,1.2s,baz=216,slow=2.7,SNR=9.7
LPAZ PKPbc PKPbc 00 28 19.8 +2.6
comp=Z,12nm,0.4s,baz=105,slow=2.6,SNR=95
LPAZ PKPab PKPab 00 28 29.4 +3.5
comp=Z,20nm,0.5s,baz=267,slow=2.0,SNR=19
LPAZ La Paz 151.41 146 *e*PKPdf PKPdf 00 28 13.7 +2.7

LPAZ *e*PKPbc PKPbc 00 28 19.8 +2.6
LPAZ *e*PKPab PKPab 00 28 29.3 +3.4
BDFB Brasilia 156.61 190 PKP PKPdf 00 28 23.0 +4.7
comp=Z,1.9nm,0.5s,baz=222,slow=0.5,SNR=3.3
BDFB PKPab PKPab 00 28 49.8 +1.7
comp=Z,3.9nm,0.5s,baz=142,slow=2.5,SNR=8.3
ROSC El Rosal 157.62 96 PKPab PKPab 00 28 56.9 +4.5
comp=Z,6.9nm,0.6s,baz=287,slow=23,SNR=4.2
SAML Samuel 160.16 146 *e*PKPdf PKPdf 00 28 24.3 +1.7
SAML *e*PKPab PKPab 00 29 04.6 +1.2
SDV Santo Domingo 161.49 85 *e*PKPdf PKPdf 00 28 24.9 +1.0
SDV *e*PKPab PKPab 00 29 09.2 -0.1
SJG San Juan 162.67 51 *e*PKIKP PKPdf 00 28 25.4 +0.2

BJI ***13*** *00:32:02.4, 598S×10270E, h26km, mB5.1, mb5.0, Ms4.7, Msz4.4*
ISCJB ***13*** *00:32:10.5±0.2, 526S±004×10259E±004, h45km, mb4.8/61, MS4.2/16, Error ellipse: s-maj=7.5km s-min=4.3km az=95.1*
IDC ***13*** *00:32:12.2±0.7, 521S×10269E, h45km±6km, mb4.4/24, mb1 4.5/25, mb1mx4.4/28, mbtmp4.6/25, ML4.0/1, MS4.1/11, Ms1 4.1/11, ms1mx3.7/29, Error ellipse: s-maj=18.4km s-min=8.7km az=48.0*
NEIC ***13*** *00:32:12.2±0.2, 528S×10259E, mb4.8/24, Error ellipse: s-maj=7.8km s-min=5.4km az=65.0*
ISC 13 00:32:12.6±0.2, 529S±004×10256E±004, h47km, h47km±1.5km: pP-P, n133, σ1°09/128, mb4.8/61, MS4.2/16, 4C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLI	**Kotabumi**	**2.32**	**80**	P	**Pn**	**00 32 50.7**	**+2.4**
	932nm,1.2s						
SBJI	**Serang**	**3.64**	**103**	P	**Pn**	**00 33 07.0**	**+0.6**
	337nm,1.1s						
CBJI	**Citeko**	**4.41**	**105**	P	**Pn**	**00 33 18.9**	**+2.0**
	1um,1.0s						
LEM	**Lembang**	**5.25**	**107**	P	**Pn**	**00 33 29.2**	**+0.7**
	325nm,0.7s						
PPI	**Padang Panjang**	**5.26**	**336**	P	**Pn**	**00 33 27.9**	**-0.7**
	160nm,0.8s						
BJII	**Banjamegara**	**7.39**	**106**	P	**Pn**	**00 33 54.8**	**-3.0**
	77nm,0.8s						
PSI	**Prapat**	**8.82**	**336**	P	**Pn**	**00 34 13.8**	**-3.6**
	1.5nm,0.3s,baz=121,slow=6.7,SNR=4.4						
PSI				LR	LR	00 38 05.3	
	comp=Z,2μm,21.5s,baz=144,slow=40						
COCO	**West Island**	**8.89**	**219**	*e*Pn	**Pn**	**00 34 15.9**	**-2.5**
	166nm,0.7s						
COCO				*e*Sn	**Sn**	**00 35 47.1**	**-10**
KRKI	**Karangkates**	**10.23**	**107**	P	**Pn**	**00 34 39.9**	**+3.3**
	202nm,0.8s						
KSM	**Kuching**	**10.24**	**49**	*e*Pn	**Pn**	**00 34 35.9**	**-0.9**
KSM				*e*Sn	**Sn**	**00 36 40.7**	**+10**
KULM	**Kulim**	**10.68**	**350**	*e*Pn	**Pn**	**00 34 45.3**	**+2.4**
KKM	**Kota Kinabalu**	**17.68**	**51**	*e*Pn	**Pn**	**00 36 16.0**	**+0.8**
PCI	**Palu**	**17.78**	**76**	P	**Pn**	**00 36 23.5**	**+6.9**
	106nm,0.8s						
NST	**Nakhon Sawan**	**20.96**	**353**	P	**P**	**00 36 50.5**	**-1.1**
	33nm,0.5s						
MBWA	**Marble Bar**	**22.94**	**135**	*e*P	**P**	**00 37 11.9**	**-0.7**
	8.1nm,0.5s,mb4.4						
CM31	**Chiang Mai Arr**	**23.86**	**351**	*e*P	**P**	**00 37 21.2**	**-0.4**
	6.2nm,0.3s,mb4.5						
CM31				*e*		00 37 33.3	
CHG	**Chiang Mai**	**24.21**	**352**	⇑P	**P**	**00 37 23.4**	**-1.3**
	34nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**24.21**	**352**	*e*P	**P**	**00 37 23.4**	**-1.4**
	23nm,0.8s,mb4.7						
CHTO				*e*		00 37 35.2	
PALK	**Pallekele**	**25.13**	**300**	P	**P**	**00 37 32.2**	**-0.9**
QIZ	**Qiongzhong**	**25.20**	**16**	P	**P**	**00 37 34.4**	**+0.6**
QIZ				AP	pP	00 37 43.6	-2.3
QIZ				PP		00 38 17.2	
QIZ				*e*S	**S**	**00 42 03.4**	**+7.6**
QIZ				LR	LR		
	comp=N,167nm,17.5s,MS3.8						
QIZ				LR	LR		
	comp=E,219nm,21.1s,MS3.8						
QIZ				LR	LR		
	comp=Z,286nm,22.7s,MS3.7						
QIZ	**Qiongzhong**	**25.20**	**16**	*e*P	**P**	**00 37 34.4**	**+0.6**
	comp=Z,7.4nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.89**	**121**	*e*P	**P**	**00 37 39.6**	**-0.4**
	comp=Z,19nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**25.89**	**121**	P	**P**	**00 37 39.3**	**-0.7**
	comp=Z,8.8nm,0.7s,mb4.4,baz=286,slow=5.5,SNR=22						
MUN	**Mundaring**	**29.47**	**156**	*e*P	**P**	**00 38 20.1**	**+8.1**
KLBR	**Kellerberrin**	**29.80**	**153**	*e*P	**P**	**00 38 13.7**	**-1.2**
	comp=Z,14nm,0.9s,mb4.7						
DGAR	**Diego Garcia**	**30.00**	**264**	P	**P**	**00 38 16.1**	**-0.6**
KMI	**Kunming**	**30.23**	**0**	P	**P**	**00 38 22.4**	**+3.7**
KMI				AP	pP	00 38 29.4	-1.6
KMI				SP	sP	00 38 32.2	-4.3
KMI				PP	PP	00 39 21.5	-6.0
KMI				S	**S**	**00 43 20.8**	**+5.9**
KMI				SS	SS	00 45 00.2	-25
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,48nm,4.3s						
KMI				LR	LR		
	comp=N,519nm,15.2s,MS4.3						
KMI				LR	LR		
	comp=E,299nm,17.4s,MS4.3						
KMI				LR	LR		
	comp=Z,500nm,15.2s,MS4.3						
KMI	**Kunming**	**30.23**	**0**	P	**P**	**00 38 22.4**	**+3.7**
	comp=Z,10.0nm,0.8s,mb4.6						
KMI				pP	pP	00 38 29.4	-1.6
KMI				sP	sP	00 38 32.2	-4.3
KMI				PP	PP	00 39 21.5	-6.0
KMI				S	**S**	**00 43 20.8**	**+5.9**
KMI				sS	sS	00 43 30.4	-5.2
KMI				SS	SS	00 45 00.2	-25
KMI				LR	LR		
	comp=Z,500nm,15.2s,MS4.3						
NWAO	**Narrogin (SRO)**	**30.72**	**155**	P	**P**	**00 38 21.9**	**-1.1**
	comp=Z,18nm,0.9s,mb4.9,baz=329,slow=5.3,SNR=4.5						
NWAO				LR	LR	00 48 30.5	
	comp=Z,696nm,21.3s,MS4.3,baz=300,slow=32						
NWAO	**Narrogin (SRO)**	**30.72**	**155**	*e*P	**P**	**00 38 23.2**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.3						
GYA	**Guiyang**	**31.80**	**7**	P	**P**	**00 38 32.4**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**34.16**	**118**	P	**P**	**00 38 52.4**	**-0.8**
	comp=Z,7.9nm,0.8s,mb4.7,baz=294,slow=10.0,SNR=38						
WRA				S	**S**	**00 44 16.9**	**+0.7**
	comp=Z,5.1nm,0.9s,baz=294,slow=16,SNR=7.5						
WB2	**Warramunga Arr**	**34.17**	**118**	*e*P	**P**	**00 38 52.2**	**-1.1**
WB2				*e*S	**S**	**00 44 16.3**	**-0.1**
WB2	**Warramunga Arr**	**34.17**	**118**	*e*P	**P**	**00 38 52.7**	**-0.6**
WB2				*e*pP	pP	00 39 05.6	-0.1
WB2				*e*sP	sP	00 39 10.8	-0.4
FORT	**Forrest**	**34.90**	**140**	*e*P	**P**	**00 38 59.4**	**-0.1**
	comp=Z,20nm,0.7s,mb5.2						
ASPA	**Alice Springs**	**35.28**	**124**	*e*P	**P**	**00 39 02.9**	**+0.1**
ASPA				*e*S	**S**	**00 44 38.7**	**+5.3**
AS31	**Alice Springs**	**35.28**	**124**	*e*P	**P**	**00 39 02.9**	**+0.1**
AS31				*e*S	**S**	**00 44 38.7**	**+5.3**
ASAR	**Alice Springs**	**35.28**	**124**	P	**P**	**00 39 02.6**	**-0.2**
	comp=Z,10nm,0.9s,mb4.8,baz=300,slow=7.9,SNR=69						
ASAR				pP	pP	00 39 14.8	-0.4
	comp=Z,9.6nm,0.7s,baz=302,slow=7.9,SNR=15						
ASAR				S	**S**	**00 44 31.1**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=292,slow=17,SNR=5.3						
ASAR				LR	LR	00 53 41.0	
	comp=Z,297nm,21.1s,MS4.0,baz=277,slow=37						
CD2	**Chengdu**	**36.01**	**2**	P	**P**	**00 39 08.0**	**-1.1**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
JIRN	**Jiri**	**36.37**	**335**	*e*P	**P**	**00 39 13.3**	**+1.1**
LSA	**Lhasa**	**36.47**	**343**	P	**P**	**00 39 13.8**	**+0.8**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
LSA	**Lhasa**	**36.47**	**343**	*e*P	**P**	**00 39 14.0**	**+1.0**
	comp=Z,30nm,0.8s,mb5.3						
LSA				*e*	pP	00 39 26.7	+1.2
PKI	**Pulchoki**	**36.63**	**334**	*e*P	**P**	**00 39 14.9**	**+0.5**
	comp=Z,23nm,0.9s,mb5.0						
GUN	**Gumba**	**36.72**	**335**	*e*P	**P**	**00 39 16.2**	**+1.0**
	comp=Z,131nm,0.7s,mb5.8						
DMN	**Daman**	**36.79**	**334**	*e*P	**P**	**00 39 16.4**	**+0.6**
	comp=Z,63nm,1.0s,mb5.4						
KKN	**Kakani**	**36.87**	**334**	*e*P	**P**	**00 39 17.1**	**+0.6**
	comp=Z,84nm,1.0s,mb5.5						
GKN	**Gorkha**	**37.34**	**333**	*e*P	**P**	**00 39 21.1**	**+0.7**
	comp=Z,121nm,1.1s,mb5.6						
KOLN	**Koldanda**	**37.62**	**332**	*e*P	**P**	**00 39 23.7**	**+0.9**
	comp=Z,37nm,0.7s,mb5.2						
XAN	**Xi'an**	**39.57**	**8**	P	**P**	**00 39 37.4**	**-1.7**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
JOW	**Kunigami**	**40.48**	**37**	LR	LR	00 54 09.9	
	comp=Z,156nm,21.9s,MS3.8,baz=201,slow=33						
LZH	**Lanzhou**	**41.17**	**2**	*e*P	**P**	**00 39 52.5**	**+0.1**
LZH				AP	pP	00 39 56.0	-9.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,70nm,4.6s						
LZH				LR	LR		
	comp=N,490nm,12.2s						
LZH				LR	LR		
	comp=Z,456nm,17.7s						
LZH	**Lanzhou**	**41.17**	**2**	*e*P	**P**	**00 39 52.5**	**+0.1**
	comp=Z,13nm,1.0s,mb4.5						
LZH				pP	pP	00 39 56.0	-9.0
LZH				sP	sP	00 39 58.0	-12
LZH				LR	LR		
	comp=Z,460nm,17.7s,MS4.4						
PMG	**Port Moresby**	**44.39**	**98**	P	**P**	**00 40 18.5**	**0.0**
	comp=Z,9.7nm,0.7s,mb4.7,baz=201,slow=8.6,SNR=3.4						
GTA	**Gaotai**	**44.55**	**357**	⇓P	**P**	**00 40 20.4**	**+0.7**
GTA				AP	pP	00 40 26.8	-5.6
GTA				XP	sP	00 40 30.1	-7.7
GTA				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
CTA	**Charters Tower**	**44.92**	**113**	P	**P**	**00 40 27.1**	**+4.4**
	comp=Z,9.7nm,1.0s,mb4.6,baz=276,slow=9.2,SNR=3.4						
CTA				LR	LR	01 00 30.0	
	comp=Z,243nm,21.6s,MS4.1,baz=231,slow=38						
STKA	**Stephens Creek**	**45.07**	**131**	*e*P	**P**	**00 40 24.1**	**+0.2**
	comp=Z,25nm,0.5s,mb5.3						
STKA	**Stephens Creek**	**45.07**	**131**	P	**P**	**00 40 24.3**	**+0.4**
	comp=Z,35nm,0.6s,mb5.4,baz=305,slow=7.9,SNR=81						
STKA				LR	LR	01 01 04.8	
	comp=Z,252nm,19.0s,MS4.2,baz=116,slow=38						
STKA	**Stephens Creek**	**45.07**	**131**	*e*P	**P**	**00 40 24.2**	**+0.3**
STKA				pP	pP	00 40 37.0	+0.4
STKA				*e*sP	sP	00 40 40.8	-1.3
BJT	**Baijiatuau**	**46.79**	**14**	*e*P	**P**	**00 40 37.0**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1						
BJT				*e*pP	pP	00 40 49.1	-1.0
BJI	**Beijing**	**46.81**	**14**	P	**P**	**00 40 33.4**	**-4.2**
BJI				S	**S**	**00 47 33.7**	**+9.1**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=N,223nm,17.1s,MS4.4						
BJI				LR	LR		
	comp=E,278nm,18.9s,MS4.4						
BJI				LR	LR		
	comp=Z,245nm,23.8s,MS4.1						
WMQ	**Urumqi**	**50.69**	**346**	⇑*i*P	**P**	**00 41 08.0**	**+0.7**
WMQ				AP	pP	00 41 14.0	-6.2
WMQ				XP	sP	00 41 17.0	-8.7
WMQ				PCP	PcP	00 42 26.0	+1.9
WMQ				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,137nm,3.8s						
WMQ				LR	LR		
	comp=N,320nm,21.9s,MS4.4						
WMQ				LR	LR		
	comp=E,318nm,23.6s,MS4.4						
WMQ				LR	LR		
	comp=Z,256nm,19.3s,MS4.2						
SONM	**Songino Array**	**53.00**	**3**	P	**P**	**00 41 25.0**	**+0.4**
	comp=Z,20nm,0.8s,mb5.1,baz=181,slow=9.0,SNR=102						
CN2	**Changchun**	**53.05**	**21**	*e*P	**P**	**00 41 23.6**	**-1.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**53.31**	**36**	P	**P**	**00 41 25.4**	**-1.4**
MJAR	**Matsushiro Arr**	**53.31**	**36**	P	**P**	**00 41 24.8**	**-2.0**
	comp=Z,5.8nm,0.7s,mb4.6,baz=219,slow=6.8,SNR=15						
AAK	**Ala-Archa**	**54.08**	**335**	*e*P	**P**	**00 41 31.6**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.3						
AAK				*e*pP	pP	00 41 45.5	+0.1
AAK				*e*sP	sP	00 41 50.6	-0.3
TAU	**Tasmania Unive**	**54.44**	**141**	*e*P	**P**	**00 41 36.5**	**+1.4**
MK31	**Makanchi Array**	**54.88**	**343**	*e*P	**P**	**00 41 37.8**	**-0.4**
MK31				*e*pP	pP	00 41 50.8	-0.5
MKAR	**Makanchi Array**	**54.88**	**343**	P	**P**	**00 41 37.7**	**-0.5**
	comp=Z,10.0nm,0.4s,mb5.2,baz=151,slow=9.0,SNR=176						
MKAR				pP	pP	00 41 50.5	-0.8
	comp=Z,22nm,0.7s,baz=146,slow=8.5,SNR=18						
MKAR				LR	LR	01 10 30.9	
	comp=Z,71nm,18.4s,MS3.8,baz=152,slow=42						
MKAR	**Makanchi Array**	**54.88**	**343**	P	**P**	**00 41 37.7**	**-0.5**
MKAR				pP	pP	00 41 50.5	-0.8
MKAR				LR	LR	01 10 30.9	
MDJ	**Mudanjiang**	**55.29**	**23**	P	**P**	**00 41 40.7**	**-0.5**
MDJ				AP	pP	00 41 46.3	-7.9
MDJ				PP	PP	00 43 44.3	-0.8
MDJ				PCS	PcS	00 46 41.9	+0.4
MDJ				AMB	AMB		
	comp=Z,11nm,1.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,90nm,5.6s						
MDJ				LR	LR		
	comp=N,100nm,21.9s,MS4.1						
MDJ				LR	LR		
	comp=E,147nm,17.9s,MS4.1						
MDJ				LR	LR		
	comp=Z,153nm,16.6s,MS4.2						
MDJ	**Mudanjiang**	**55.29**	**23**	P	**P**	**00 41 40.9**	**-0.3**
HIA	**Hailar**	**56.35**	**13**	P	**P**	**00 41 47.9**	**-1.0**
TLY	**Talaya**	**56.75**	**1**	*e*P	**P**	**00 41 52.5**	**+0.8**
	comp=Z,9.1nm,0.7s,mb4.9						
TLY				*e*pP	pP	00 42 05.5	+0.7
HNR	**Honiara**	**57.01**	**98**	P	**P**	**00 41 54.1**	**+0.6**
ZAL	**Zalesovo**	**60.86**	**348**	P	**P**	**00 42 18.7**	**-1.5**
	comp=Z,14nm,0.5s,mb5.3,baz=330,slow=4.4,SNR=78						
ZAL				LR	LR	01 12 30.7	
	comp=Z,294nm,20.1s,MS4.4,baz=319,slow=40						
YSS	**Yuzh-Sakhalins**	**62.97**	**30**	*e*P	**P**	**00 42 33.8**	**-0.6**
BVAR	**Borovoye Array**	**64.14**	**339**	P	**P**	**00 42 41.1**	**-1.0**
	comp=Z,12nm,0.6s,mb5.1,baz=144,slow=8.8,SNR=59						
BRVK	**Borovoye**	**64.20**	**339**	*e*P	**P**	**00 42 41.2**	**-1.2**
	comp=Z,6.8nm,0.5s,mb4.9						
BRVK				*e*pP	pP	00 42 55.0	-0.8
ZRNK	**Zerenda**	**64.58**	**338**	*e*P	**P**	**00 42 43.8**	**-1.1**
	comp=Z,7.3nm,0.6s,mb4.9						
ZRNK				*e*pP	pP	00 42 57.7	-0.6
CHKZ	**Chkalovo**	**64.59**	**340**	*e*P	**P**	**00 42 44.3**	**-0.7**
	comp=Z,14nm,0.6s,mb5.2						
CHKZ				*e*pP	pP	00 42 58.2	-0.1
AKTK	**Aktyubinsk**	**67.45**	**331**	P	**P**	**00 43 02.7**	**-0.7**
AKTO	**Aktyubinsk**	**67.45**	**331**	P	**P**	**00 43 02.7**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.4,baz=136,slow=11,SNR=11						
MAW	**Mawson**	**67.78**	**195**	P	**P**	**00 43 05.6**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.4,baz=33,slow=8.4,SNR=8.7						
MAW				LR	LR	01 05 52.4	
	comp=Z,240nm,18.4s,MS4.5,baz=65,slow=30						
MAW	**Mawson**	**67.78**	**195**	*e*P	**P**	**00 43 05.5**	**+0.1**
GNI	**Garni**	**69.65**	**316**	P	**P**	**00 43 19.6**	**+2.5**
	comp=Z,3.3nm,0.6s,mb4.5,baz=185,slow=12,SNR=3.5						
GNI	**Garni**	**69.65**	**316**	*e*P	**P**	**00 43 19.7**	**+2.6**
YAK	**Yakutsk**	**70.30**	**13**	*e*P	**P**	**00 43 19.0**	**-2.1**
	comp=Z,38nm,0.4s,mb5.7						
ARU	**Arti**	**71.23**	**336**	*e*P	**P**	**00 43 26.0**	**-0.7**
	comp=Z,8.2nm,0.6s,mb4.8						
ARU				*e*pP	pP	00 43 38.9	-1.3
ASF	**Jabal al Asfar**	**72.57**	**306**	P	**P**	**00 43 36.6**	**+1.8**
	comp=Z,1.5nm,0.7s,mb4.0,baz=36,slow=6.0,SNR=6.1						
KIV	**Kislovodsk**	**72.69**	**319**	*e*P	**P**	**00 43 33.8**	**-1.6**
MALT	**Malatya**	**73.43**	**312**	*e*P	**P**	**00 43 40.5**	**+0.7**
	comp=Z,12nm,1.8s,mb4.5						
MALT				*e*pP	pP	00 43 53.7	+0.3
EIL	**Elat**	**73.44**	**303**	*e*P	**P**	**00 43 41.5**	**+1.6**
	comp=Z,52nm,0.8s,mb5.5						
EIL				*e*pP	pP	00 43 52.8	-0.7
BOSA	**Boshof**	**76.35**	**242**	P	**P**	**00 43 57.6**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=70,slow=14,SNR=5.8						
BOSA				LR	LR	01 11 38.5	
	comp=Z,106nm,18.6s,MS4.2,baz=268,slow=31						
BOSA	**Boshof**	**76.35**	**242**	*e*P	**P**	**00 43 57.8**	**+1.1**
BOSA				*e*	pP	00 44 10.3	0.0
BR131	**Keskin Array S**	**77.41**	**312**	*e*P	**P**	**00 44 02.6**	**-0.1**
	comp=Z,3.5nm,0.8s,mb4.3						
BR131				*e*pP	pP	00 44 17.0	+0.7
BRTR	**Keskin Array B**	**77.41**	**312**	P	**P**	**00 44 02.7**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=134,slow=6.1,SNR=14						
BRTR				pP	pP	00 44 17.1	+0.7
	comp=Z,3.7nm,0.7s,baz=128,slow=6.0,SNR=11						
VNDA	**Vanda**	**78.47**	**169**	P	**P**	**00 44 08.0**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=300,slow=5.9,SNR=21						
VNDA				LR	LR	01 15 18.0	
	comp=Z,132nm,20.3s,MS4.3,baz=318,slow=33						
VNDA	**Vanda**	**78.47**	**169**	P	**P**	**00 44 08.0**	**-0.5**
VNDA				LR	LR	01 15 18.0	
AKASG	**Malin Array Be**	**83.63**	**322**	P	**P**	**00 44 35.2**	**-0.8**
	comp=Z,0.7nm,0.4s,mb4.1,baz=88,slow=4.8,SNR=9.1						
AKASG	**Malin Array Be**	**83.63**	**322**	P	**P**	**00 44 35.2**	**-0.8**
VRI	**Vrincioaia**	**83.98**	**317**	⇓*i*P	**P**	**00 44 39.1**	**+1.3**
MLR	**Muntele Rosu**	**84.43**	**317**	P	**P**	**00 44 41.2**	**+1.1**
	comp=Z,5.8nm,1.0s,mb4.7,baz=156,slow=7.6,SNR=4.6						
MLR	**Muntele Rosu**	**84.43**	**317**	⇑*i*P	**P**	**00 44 41.7**	**+1.6**
QSPA	**South Pole Qui**	**84.69**	**180**	P	**P**	**00 44 41.0**	**-0.4**
BURAR	**Bucovina Array**	**85.40**	**319**	⇓*i*P	**P**	**00 44 46.5**	**+1.5**
JOF	**Joensuu**	**86.27**	**334**	*e*p	**P**	**00 44 48.5**	**-0.7**
	comp=Z,4.2nm,0.7s,mb4.8						
BZS	**Buzias**	**87.43**	**316**	⇓*i*P	**P**	**00 44 55.7**	**+0.8**
KOLS	**Kolonicke sedl**	**87.60**	**319**	*e*P	**P**	**00 44 57.1**	**+1.4**
FINES	**FINESS Array B**	**88.19**	**332**	P	**P**	**00 44 58.6**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.4,baz=107,slow=4.6,SNR=9.3						
KAF	**Kangasniemi**	**88.25**	**333**	*e*p	**P**	**00 44 58.3**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.8						
STHS	**Stebnicka Huta**	**88.35**	**320**	*i* P	**P**	**00 45 00.8**	**+1.5**
	comp=Z,3.4nm,0.8s,mb4.6						
PKSM	**Moragy**	**89.58**	**316**	⇑*i*P	**P**	**00 45 05.0**	**-0.1**
VYHS	**Vyhne**	**89.77**	**319**	*e*P	**P**	**00 45 06.7**	**+0.8**
VYHS				*e*pP	pP	00 45 20.2	+0.4
SNAA	**Sanae**	**89.82**	**198**	*e*P	**P**	**00 45 07.2**	**+1.0**
SNAA				*e*pP	pP	00 45 19.2	-0.9
ARCES	**ARCESS Array B**	**90.41**	**340**	P	**P**	**00 45 09.0**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.4,baz=93,slow=6.2,SNR=7.6						
GERES	**GERESS Array B**	**93.19**	**319**	P	**P**	**00 45 22.3**	**+0.5**
	comp=Z,0.5nm,0.7s,mb4.1,baz=72,slow=4.3,SNR=5.7						
HFS	**Hagfors**	**93.98**	**330**	P	**P**	**00 45 26.9**	**+1.5**
	comp=Z,4.9nm,1.0s,mb4.9,baz=156,slow=7.8,SNR=4.5						
PDAR	**Pinedale Array**	**133.08**	**32**	SKPbc	SKPbc	00 54 49.4	+2.6
	comp=Z,0.5nm,0.7s,baz=306,slow=6.2,SNR=5.0						
ISCO	**Idaho Springs**	**137.27**	**32**	*e*PKPdf	PKPdf	00 51 31.8	+1.1
CPUP	**Villa Florida**	**143.02**	**211**	PKP	PKPdf	00 51 42.1	+1.0
	comp=Z,0.3nm,0.4s,baz=146,slow=3.6,SNR=3.3						
BDFB	**Brasilia**	**144.21**	**234**	PKP	PKPdf	00 51 42.7	-0.5
	comp=Z,2.4nm,0.6s,baz=122,slow=2.4,SNR=4.6						
WMOK	**Wichita Mounta**	**144.66**	**31**	*e*PKPdf	PKPdf	00 51 42.7	-1.3
CCM	**Cathedral Cave**	**145.04**	**19**	*e*PKP	PKPdf	00 51 42.2	-2.4
FVM	**French Village**	**145.37**	**18**	*e*PKP	PKPdf	00 51 44.7	-0.5
SIUC	**Southern Illin**	**145.98**	**17**	*e*PKP	PKPdf	00 51 47.7	+1.4
SIUC				*ep*PKPdf	pPKPdf	00 52 01.5	+0.9
WCI	**Wyandotte Cave**	**146.23**	**13**	*e*PKPdf	PKPdf	00 51 47.5	+0.8
WCI				*ep*PKPdf	pPKPdf	00 52 01.6	+0.6
JCT	**Junction City**	**147.27**	**37**	*e*PKP	PKPdf	00 51 51.7	+3.3
WVT	**Waverly**	**147.85**	**16**	*e*PKPdf	PKPdf	00 51 49.6	+0.2
WVT				*e*PKPbc	PKPbc	00 51 52.3	-0.1
PLAL	**Pickwick Lake**	**148.86**	**17**	*e*PKPbc	PKPbc	00 51 54.5	-0.4
SWET	**Sewanee**	**149.20**	**14**	*e*PKPdf	PKPdf	00 51 52.3	+0.7
SWET				*e*PKPbc	PKPbc	00 51 55.5	-0.3
CPCT	**Cooper Cave**	**149.28**	**11**	*e*PKPbc	PKPbc	00 51 56.3	+0.2
CPCT				*e*PKPab	PKPab	00 52 00.3	-0.4
LVC	**Limon Verde**	**151.05**	**196**	*e*PKPbc	PKPbc	00 52 02.6	+2.3

NEIC ***13*** *00:36:35.1, 38.19S×17686E, h83km, ML3.9(WEL), After WEL.*
WEL 13 00:36:35.1±0.2, 3818S×17686E, h84km±1km, ML3.8/6, 2C, Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	**Edgecumbe**	**0.12**	**306**	P	Pn	00 36 46.9	-0.1
EDRZ	**Edgecumbe**	**0.12**	**306**	⇑P*	Pn	00 36 46.8	-0.2
URZ	**Urewera**	**0.22**	**113**	P	Pn	00 36 47.0	-0.3
URZ	**Urewera**	**0.22**	**113**	⇑P*	Pn	00 36 47.0	-0.3
URZ				S*	Sn	00 36 56.7	+0.3
MARZ	**Manawahe**	**0.24**	**323**	P	Pn	00 36 47.1	-0.3
MARZ				S

Ms1 3.6/5,ms1mx3.2/37, Error ellipse: s-maj=14.0km s-min=10.6km az=178.0
*NNC **13** 00:41:49.0±1.5, 43.28N×79.76E, h0km, mb4.7, mpv4.9, Error ellipse: s-maj=18.0km s-min=6.0km az=145.0*
ISC 13 00:41:46.7±0.1, 4285N±002×7993E±003, h16km, h16km±.9km: pP-P, n312, σ1°11/321, mb4.6/85, MS3.9/17, 20C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.21**	**281**	⇑Pn	**Pn**	**00 42 25.1**	**+2.5**
KNDC	4μm,0.9s			⇑Lg		00 42 54.1	
	24μm,0.7s						
ULHL	**Ulahol**	**2.79**	**259**	P	**Pn**	**00 42 32.4**	**+1.7**
	SNR=176						
TKM2	**Tokmak 2**	**3.19**	**273**	P	**Pn**	**00 42 39.3**	**+3.2**
	SNR=125						
TKM2	**Tokmak 2**	**3.19**	**273**	⇑Pn	**Pn**	**00 42 39.3**	**+3.2**
	94nm,0.6s						
TKM2				⇑Lg		00 43 22.7	
	188nm,0.4s						
TKM2	**Tokmak 2**	**3.19**	**273**	PN	**Pn**	**00 42 39.5**	**+3.4**
TKM2						00 43 22.3	
TKM2				pmax	pmax		
	comp=Z,593nm,0.6s						
TKM2				smax			
	comp=N,1μm,0.4s						
KZA	**Kyzart**	**3.55**	**259**	P	**Pn**	**00 42 44.0**	**+2.9**
	SNR=46						
KBK	**Karagaybulak**	**3.67**	**269**	P	**Pn**	**00 42 45.4**	**+2.6**
	SNR=136						
CHMS	**Chumysh**	**3.81**	**274**	P	**Pn**	**00 42 47.6**	**+3.0**
	SNR=20						
FRU	**Bishkek**	**3.91**	**272**	*e*PN	**Pn**	**00 42 48.0**	**+2.0**
FRU				*i*		00 42 55.0	
FRU				*i* S	**Sn**	**00 43 45.0**	**+13**
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
FRU				smax			
	comp=E,5μm,2.0s						
USP	**Ospenovka**	**4.00**	**278**	P	**Pn**	**00 42 48.9**	**+1.6**
	SNR=80						
AAK	**Ala-Archa**	**4.01**	**269**	P	**Pn**	**00 42 49.6**	**+2.2**
	SNR=46						
AAK	**Ala-Archa**	**4.01**	**269**	*e*Pn	**Pn**	**00 42 48.6**	**+1.2**
AAK				*e*S	**Sn**	**00 43 46.0**	**+12**
UCH	**Uchtor**	**4.05**	**263**	P	**Pn**	**00 42 51.2**	**+3.2**
	SNR=296						
MK31	**Makanchi Array**	**4.29**	**22**	Pn	**Pn**	**00 42 53.8**	**+2.6**
	comp=E,72nm,0.5s,baz=204,slow=13,SNR=734						
MK31				⇓Sn	**Sn**	**00 43 43.6**	**+2.7**
	comp=E,156nm,0.5s,baz=197,slow=29,SNR=7.0						
MK31				⇓Lg		00 43 56.6	
	comp=E,894nm,0.8s						
MK31	**Makanchi Array**	**4.29**	**22**	*i* PN	**Pn**	**00 42 53.7**	**+2.5**
MK31				pmax	pmax		
	comp=Z,55nm,0.2s						
MKAR	**Makanchi Array**	**4.29**	**22**	Pn	**Pn**	**00 42 53.5**	**+2.4**
	comp=Z,13nm,0.3s,baz=201,slow=13,SNR=144						
MKAR				Sn	**Sn**	**00 43 40.0**	**-0.8**
	comp=Z,35nm,0.3s,baz=197,slow=24,SNR=5.7						
MKAR				Lg		00 44 00.4	
	comp=Z,106nm,0.3s,baz=214,slow=28,SNR=8.5						
MKAR	**Makanchi Array**	**4.29**	**22**	PN	**Pn**	**00 42 53.6**	**+2.4**
MKAR						00 43 40.0	
MKAR				pmax	pmax		
	comp=Z,13nm,0.3s						
MKAR				smax			
	comp=N,35nm,0.3s						
KSH	**Kashi**	**4.47**	**223**	*e*P	**Pn**	**00 42 58.6**	**+4.8**
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,2μm,1.0s						
EKS2	**Erkin-Say**	**4.54**	**270**	P	**Pn**	**00 42 56.6**	**+1.9**
	SNR=11						
AML	**Almayashu**	**4.67**	**263**	P	**Pn**	**00 42 59.5**	**+3.1**
	SNR=15						
WMQ	**Urumqi**	**5.75**	**78**	*e*P	**Pn**	**00 43 14.7**	**+3.5**
WMQ				S	**Sn**	**00 44 19.0**	**+2.2**
WMQ				Smax			
	comp=N,413nm,0.6s						
WMQ				Smax			
	comp=E,459nm,0.5s						
WMQ				LR	LR		
	comp=N,2μm,5.8s						
WMQ				LR	LR		
	comp=E,2μm,4.2s						
CHCP	**Chirah Chowk**	**10.56**	**212**	P	**Pn**	**00 44 21.0**	**+3.7**
DLH	**Dalhousie**	**10.76**	**198**	*e*P	**Pn**	**00 44 17.0**	**-3.0**
DLH				*ex*	x	00 46 14.0	
THN	**Thein Dam**	**10.92**	**199**	*e*P	**Pn**	**00 44 22.6**	**+0.4**
THN				*ex*	x	00 46 21.1	
CEP	**Cherat**	**10.99**	**218**	P	**Pn**	**00 44 24.8**	**+1.6**
CEP				S	**Sn**	**00 46 46.0**	**+20**
ZAL	**Zalesovo**	**11.55**	**15**	Pn	**Pn**	**00 44 32.6**	**+1.8**
	comp=E,2.4nm,0.3s,baz=275,slow=12,SNR=16						
ZAL				Sn	**Sn**	**00 46 36.9**	**-2.7**
	comp=E,4.7nm,0.3s,baz=106,slow=22,SNR=8.1						
ZAL				Lg		00 47 51.6	
	comp=E,0.2nm,0.3s,baz=152,slow=22,SNR=3.4						
ZAL	**Zalesovo**	**11.55**	**15**	P	**Pn**	**00 44 32.6**	**+1.7**
ZAL						00 46 36.9	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				smax			
	comp=N,5.0nm,0.3s						
VOSK	**Vostochnaya**	**11.56**	**332**	⇑Pn	**Pn**	**00 44 29.9**	**-1.0**
	comp=N,11nm,0.9s						
VOSK				⇑Sn	**Sn**	**00 46 39.6**	**0.0**
	comp=N,29nm,0.8s						
VOSK				⇑Lg		00 47 43.4	
	comp=N,358nm,1.2s						
SDNR	**Sundarnagar**	**11.57**	**193**	*e*P	**Pn**	**00 44 34.6**	**+3.5**
SDNR				*e*S	**Sn**	**00 46 33.6**	**-6.4**
THW	**Thamme Wali**	**11.94**	**215**	P	**Pn**	**00 44 35.7**	**-0.4**
BVA0	**Borovoye Array**	**12.01**	**331**	⇓Pn	**Pn**	**00 44 37.5**	**+0.4**
	comp=N,1.5nm,0.6s,baz=145,slow=14,SNR=34						
BVA0				⇑Sn	**Sn**	**00 46 50.5**	**-0.3**
	comp=N,3.4nm,0.6s,baz=144,slow=22,SNR=4.2						
BVA0				⇑Lg		00 47 57.3	
	comp=N,40nm,0.9s,baz=136,slow=29,SNR=4.5						
BVAR	**Borovoye Array**	**12.01**	**331**	Pn	**Pn**	**00 44 37.3**	**+0.2**
	comp=N,1.2nm,0.3s,baz=147,slow=12,SNR=10						
BVAR				Lg		00 48 00.0	
	comp=N,5.2nm,0.3s,baz=122,slow=21,SNR=9.5						
BVAR				LR	LR	00 48 58.4	
	comp=N,114nm,19.2s,baz=49,slow=36						
BRVK	**Borovoye**	**12.08**	**331**	*e*Pn	**Pn**	**00 44 44.6**	**+6.5**
BRVK				*e*Sn	**Sn**	**00 46 48.6**	**-3.7**
NVS	**Novosibirsk**	**12.19**	**9**	*e*P	**Pn**	**00 44 41.0**	**+1.4**
NVS				*e*		00 46 46.9	
ZRNK	**Zerenda**	**12.47**	**328**	⇓Pn	**Pn**	**00 44 41.6**	**-1.8**
	comp=N,24nm,1.2s						
ZRNK				⇓Sn	**Sn**	**00 46 55.4**	**-6.5**
	comp=N,38nm,0.8s						
ZRNK				⇑Lg		00 48 12.2	
	comp=N,265nm,1.2s						
ZRNK	**Zerenda**	**12.47**	**328**	*e*P	**Pn**	**00 44 41.9**	**-1.5**
ZRNK				*e*		00 46 56.4	
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZRNK	**Zerenda**	**12.47**	**328**	*e*Pn	**Pn**	**00 44 41.9**	**-1.5**
	comp=Z,10nm,0.7s						
ZRNK				*e*Sn	**Sn**	**00 46 56.4**	**-5.5**
CHKZ	**Chkalovo**	**12.47**	**334**	⇑Pn	**Pn**	**00 44 41.7**	**-1.7**
	comp=Z,9.3nm,0.5s						
CHKZ				⇓Lg		00 48 07.5	
	comp=Z,273nm,1.0s						
CHKZ	**Chkalovo**	**12.47**	**334**	*e*Pn	**Pn**	**00 44 41.9**	**-1.5**
CHKZ				*e*Sn	**Sn**	**00 46 42.6**	**-19**
SBDP	**Sheikh Budin**	**12.77**	**217**	⇓P	**Pn**	**00 44 47.6**	**+0.1**
NDI	**New Delhi**	**14.31**	**190**	*e*P	**Pn**	**00 45 06.2**	**-2.3**
NDI				AMb	AMB	00 45 16.2	
	comp=Z,75nm,1.4s						
NDI				*ex*	x	00 47 37.5	
GKN	**Gorkha**	**15.30**	**164**	*e*P	**Pn**	**00 45 20.8**	**-1.1**
	comp=Z,64nm,1.0s						
KOLN	**Koldanda**	**15.34**	**168**	*e*P	**Pn**	**00 45 19.5**	**-2.9**
	comp=Z,34nm,0.8s						
GTA	**Gaotai**	**15.37**	**96**	*e*P	**Pn**	**00 45 20.8**	**-2.0**
GTA				AP	pP	00 45 28.8	-3.1
GTA				PP		00 45 32.3	
GTA				XP	sP	00 45 33.2	-0.8
GTA				S	**Sn**	**00 48 04.1**	**-8.6**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,128nm,4.6s						
GTA				LR	LR		
	comp=N,429nm,6.5s						
GTA				LR	LR		
	comp=E,384nm,6.5s						
GTA				LR	LR		
	comp=Z,385nm,8.0s						
KKN	**Kakani**	**15.64**	**162**	*e*P	**Pn**	**00 45 25.0**	**-1.3**
	comp=Z,14nm,0.6s						
GUN	**Gumba**	**15.67**	**160**	*e*P	**Pn**	**00 45 25.7**	**-1.0**
	comp=Z,32nm,0.4s						
DMN	**Daman**	**15.78**	**163**	*e*P	**Pn**	**00 45 25.7**	**-2.4**
	comp=Z,26nm,0.9s						
PKI	**Pulchoki**	**15.88**	**162**	*e*P	**Pn**	**00 45 26.4**	**-3.1**
LSA	**Lhasa**	**15.92**	**142**	*e*P	**Pn**	**00 45 31.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.5s						
LSA	**Lhasa**	**15.92**	**142**	*e*Pn	**Pn**	**00 45 31.3**	**+1.4**
	comp=Z,13nm,0.5s						
MOY	**Mondy**	**16.75**	**51**	*e*P	**Pn**	**00 45 44.0**	**+3.5**
MOY				pmax	pmax		
	comp=Z,36nm,2.0s						
AKTK	**Aktyubinsk**	**16.81**	**304**	Pn	**Pn**	**00 45 40.1**	**-1.3**
AKTK				Sn	**Sn**	**00 48 43.1**	**-4.7**
AKTK				Lg		00 50 34.1	
AKTK				LR	LR	00 52 24.1	
AKTO	**Aktyubinsk**	**16.81**	**304**	⇓Pn	**Pn**	**00 45 39.4**	**-2.0**
	comp=Z,0.3nm,0.7s						
AKTO				⇓Sn	**Sn**	**00 48 42.9**	**-4.9**
	comp=Z,0.4nm,1.0s						
AKTO				⇓Lg		00 50 29.5	
	comp=Z,3.5nm,1.2s						
AKTO	**Aktyubinsk**	**16.81**	**304**	Pn	**Pn**	**00 45 40.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=103,slow=11,SNR=13						
AKTO				Sn	**Sn**	**00 48 43.1**	**-4.7**
	comp=Z,0.8nm,0.3s,baz=333,slow=14,SNR=3.7						
AKTO				Lg		00 50 34.1	
	comp=Z,0.8nm,0.3s,baz=79,slow=7.0,SNR=5.1						
AKTO				LR	LR	00 52 24.1	
	comp=Z,200nm,18.8s,baz=286,slow=38						
AKTO	**Aktyubinsk**	**16.81**	**304**	P	**Pn**	**00 45 40.1**	**-1.2**
AKTO						00 48 43.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,200nm,18.8s						
AJM	**Ajmer**	**16.89**	**197**	*e*P	**Pn**	**00 45 42.3**	**-0.1**
AJM				AMb	AMB	00 45 45.3	
	comp=Z,23nm,1.1s						
AJM				*ex*	x	00 48 42.7	
ZAK	**Zakamensk**	**17.67**	**57**	*e*P	**Pn**	**00 45 50.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TLY	**Talaya**	**18.29**	**53**	*i* P	**Pn**	**00 46 01.7**	**+2.0**
SVE	**Sverdlovsk**	**18.63**	**325**	*e*P	**Pn**	**00 46 04.0**	**+0.2**
ORR	**Orenburg**	**19.14**	**306**	*e*P	**Pn**	**00 46 10.1**	**+0.2**
ORR				pmax	pmax		
	comp=Z,80nm,1.2s						
ORR				MLR	MLR		
	comp=Z,140nm,10.0s						
SONM	**Songino Array**	**19.21**	**66**	P	**Pn**	**00 46 10.4**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=264,slow=11,SNR=41						
SONM				PcP	PcP	00 50 32.8	-0.1
	comp=Z,0.2nm,0.3s,baz=234,slow=3.3,SNR=3.7						
SONM				Lg		00 51 47.0	
	comp=Z,0.1nm,0.3s,baz=263,slow=25,SNR=3.7						
ARU	**Arti**	**19.28**	**322**	⇑*i*P	**Pn**	**00 46 11.0**	**-0.7**
ARU				*e*S	**Sn**	**00 49 49.5**	**+2.0**
ARU				pmax	pmax		
	comp=Z,44nm,1.0s						
ARU				MLR	MLR		
	comp=Z,100nm,13.0s						
ARU				MLR	MLR		
	comp=N,80nm,18.5s						
ARU				MLR	MLR		
	comp=E,100nm,14.0s						
ARU	**Arti**	**19.28**	**322**	*e*P	**Pn**	**00 46 11.2**	**-0.5**
	comp=E,72nm,1.2s						
ARU				*e*S	**Sn**	**00 49 53.4**	**+5.9**
LZH	**Lanzhou**	**19.62**	**102**	*e*P	**Pn**	**00 46 15.0**	**-0.8**
LZH				AP	pP	00 46 21.0	+2.1
LZH				XP	sP	00 46 24.0	+3.0
LZH				AMB	AMB		
	comp=Z,38nm,1.0s						
LZH				AMB	AMB		
	comp=Z,76nm,4.0s						
LZH	**Lanzhou**	**19.62**	**102**	*e*P	**Pn**	**00 46 15.0**	**-0.8**
	comp=Z,38nm,1.0s						
LZH				pP	pP	00 46 21.0	+2.1
LZH				sP	sP	00 46 24.0	+3.0
BOK	**Bokaro**	**19.64**	**164**	*e*P	**Pn**	**00 46 15.0**	**-0.9**
BOK				AMb	AMB	00 46 23.6	
	comp=Z,35nm,1.0s						
BOK				*ex*	x	00 49 53.0	
BHPL	**Bhopal**	**19.67**	**187**	*e*P	**Pn**	**00 46 15.3**	**-1.0**
BHPL				AMb	AMB	00 46 17.4	
	comp=Z,23nm,1.1s						
BHPL				*ex*	x	00 49 43.5	
CD2	**Chengdu**	**22.40**	**114**	P	**P**	**00 46 46.4**	**+2.1**
CD2				AP		00 46 50.6	
CD2				XP	sP	00 46 53.5	+2.5
CD2				PP		00 47 13.8	
CD2				PCP	PcP	00 50 42.2	+3.3
CD2				S	**S**	**00 50 47.1**	**-2.9**
CD2				XS	sS	00 50 53.9	-3.5
CD2				SS		00 51 27.9	
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,150nm,5.2s						
CD2				LR	LR		
	comp=N,560nm,18.0s,MS4.3						
CD2				LR	LR		
	comp=E,620nm,13.2s,MS4.3						
CD2				LR	LR		
	comp=Z,620nm,19.2s						
BTO	**Baotou**	**22.52**	**85**	*e*P	**P**	**00 46 45.8**	**+0.2**
BTO				S	**S**	**00 50 50.5**	**-1.8**
BTO				LR	LR		
	comp=N,154nm,15.2s,MS3.7						
BTO				LR	LR		
	comp=E,97nm,10.8s,MS3.7						
HHC	**Hu-ho-hao-te**	**23.58**	**84**	*e*P	**P**	**00 46 58.4**	**+1.7**
HHC				AP		00 47 03.5	
HHC				XP	sP	00 47 06.9	+3.4
HHC				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,172nm,5.3s						
HHC				LR	LR		
	comp=N,281nm,9.0s						
HHC				LR	LR		
	comp=E,212nm,8.8s						
HHC				LR	LR		
	comp=Z,214nm,11.8s,MS3.8						
XAN	**Xi'an**	**24.26**	**102**	P	**P**	**00 47 03.2**	**+0.3**
XAN				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.7						
XAN				LR	LR		
	comp=N,192nm,13.9s,MS4.0						
XAN				LR	LR		
	comp=E,233nm,11.3s,MS4.0						
XAN				LR	LR		
	comp=Z,517nm,16.6s						
CIT	**Chita**	**24.33**	**56**	*e*P	**P**	**00 47 03.8**	**+0.2**
POO	**Poona**	**24.79**	**194**	*e*P	**P**	**00 47 06.0**	**-1.7**
VIS	**Vishakhapatnam**	**25.21**	**172**	*e*P	**P**	**00 47 12.1**	**+0.5**
VIS				AMb	AMB	00 47 13.7	
	comp=Z,19nm,0.5s,mb4.9						
HYB	**Hyderabad**	**25.38**	**183**	*i* P	**P**	**00 47 16.0**	**+2.9**
HYB	**Hyderabad**	**25.38**	**183**	*e*P	**P**	**00 47 14.0**	**+0.9**
KMI	**Kunming**	**25.76**	**126**	P	**P**	**00 47 16.7**	**+0.1**
KMI				AP	pP	00 47 21.5	+0.1
KMI				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
KMI				LR	LR		
	comp=N,128nm,16.0s						
KMI				LR	LR		
	comp=E,169nm,10.8s						
KMI				LR	LR		
	comp=Z,163nm,12.0s,MS3.8						
KMI	**Kunming**	**25.76**	**126**	P	**P**	**00 47 16.7**	**+0.1**
	comp=Z,20nm,0.8s,mb4.7						
KMI				pP	pP	00 47 21.5	+0.1
KMI				LR	LR		
	comp=Z,160nm,12.0s,MS3.8						
KAD	**Karad**	**25.93**	**193**	*e*P	**P**	**00 47 16.6**	**-1.4**
KAD				AMb	AMB	00 47 25.5	
	comp=Z,38nm,0.9s,mb4.9						
BOD	**Bodaibo**	**26.05**	**43**	*e*P	**P**	**00 47 21.0**	**+1.8**
BOD				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.4						
ZEI	**Tsey**	**26.31**	**282**	*e*P	**P**	**00 47 23.0**	**+1.4**
ZEI				*e**PP	pP	00 47 28.9	+2.5
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
WSAR	**Wadi Sarin**	**26.35**	**229**	P	**P**	**00 47 21.6**	**-0.3**
	comp=Z,8.2nm,1.1s,mb4.2,baz=22,slow=5.4,SNR=3.0						
GNI	**Garni**	**26.38**	**276**	P	**P**	**00 47 24.9**	**+2.7**
	comp=Z,3.5nm,0.6s,mb4.1,baz=338,slow=5.4,SNR=4.4						
GNI	**Garni**	**26.38**	**276**	P	**P**	**00 47 24.9**	**+2.7**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GNI	**Garni**	**26.38**	**276**	*e*P	**P**	**00 47 22.5**	**+0.3**
	comp=Z,13nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**26.94**	**285**	*e*P	**P**	**00 47 30.3**	**+3.1**
GYA	**Guiyang**	**27.24**	**118**	⇑*i*P	**P**	**00 47 31.4**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GYA				AMB	AMB		
	comp=Z,170nm,5.4s						
GOA	**Goa**	**27.76**	**193**	*ex*	x	00 48 10.6	
HIA	**Hailar**	**28.11**	**63**	*i* P	**P**	**00 47 38.6**	**+0.9**
UMR	**Umm Al-Rimmam**	**29.00**	**253**	*e*P	**P**	**00 47 46.1**	**+0.6**
UMR				AMb	AMB	00 47 47.5	
	comp=Z,31nm,0.7s,mb5.1						
MIB	**Mutribah**	**29.12**	**254**	*e*P	**P**	**00 47 47.1**	**+0.4**
MIB				AMb	AMB	00 47 48.3	
	comp=Z,24nm,0.6s,mb5.1						
CM31	**Chiang Mai Arr**	**29.17**	**141**	*e*P	**P**	**00 47 47.1**	**0.0**
RDF	**Al-Radifah**	**29.48**	**253**	*e*P	**P**	**00 47 50.6**	**+0.7**
RDF				AMb	AMB	00 47 51.1	
	comp=Z,30nm,0.7s,mb5.1						
NAY	**Al-Naaiem**	**29.51**	**253**	*e*P	**P**	**00 47 50.6**	**+0.5**
NAY				AMb	AMB	00 47 51.9	
	comp=Z,28nm,0.7s,mb5.1						
RST	**Umm Al-Ruwaisa**	**29.54**	**254**	*e*P	**P**	**00 47 50.4**	**+0.1**
RST				AMb	AMB	00 47 51.6	
	comp=Z,44nm,0.6s,mb5.3						
MOS	**Moscow**	**29.95**	**310**	*e*P	**P**	**00 47 52.1**	**-2.0**
MOS				*i*		00 48 00.1	
MOS				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
MOS				MLR	MLR		
	comp=Z,400nm,10.0s,MS4.3						
MOS				MLR	MLR		
	comp=E,300nm,11.0s						
WHN	**Wuhan**	**30.00**	**103**	*e*P	**P**	**00 47 55.5**	**+1.0**
MNGI	**Mangalore**	**30.13**	**190**	*ex*	x	00 47 45.2	
OBN	**Obninsk**	**30.48**	**309**	*e*P	**P**	**00 47 58.0**	**-0.7**
OBN				*e*		00 50 57.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,11.0s,MS3.7						
MALT	**Malatya**	**31.61**	**276**	⇓*i*P	**P**	**00 48 10.7**	**+2.0**
MALT	**Malatya**	**31.61**	**276**	*e*P	**P**	**00 48 10.5**	**+1.8**
NJ2	**Nanjing**	**32.47**	**96**	*e*P	**P**	**00 48 17.3**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
JOF	**Joensuu**	**34.41**	**323**	*ep*	**P**	**00 48 32.2**	**-1.0**
BR131	**Keskin Array S**	**34.59**	**281**	*e*P	**P**	**00 48 34.9**	**+0.2**
	comp=Z,1.2nm,0.4s,mb4.2						
BRTR	**Keskin Array B**	**34.59**	**281**	P	**P**	**00 48 34.9**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.3,baz=100,slow=9.1,SNR=14						
BRTR	**Keskin Array B**	**34.59**	**281**	P	**P**	**00 48 34.9**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
QIZ	**Qiongzhong**	**34.65**	**124**	P	**P**	**00 48 36.6**	**+1.4**
YAK	**Yakutsk**	**34.75**	**39**	*i* P	**P**	**00 48 39.7**	**+3.6**
YAK				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
YAK	**Yakutsk**	**34.75**	**39**	P	**P**	**00 48 36.3**	**+0.1**
AKASG	**Malin Array Be**	**35.00**	**301**	P	**P**	**00 48 38.2**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=67,slow=9.0,SNR=3.9						
AKASG				PcP	PcP	00 51 09.2	-1.1
	comp=Z,1.9nm,0.8s,baz=69,slow=2.7,SNR=5.0						
AKASG	**Malin Array Be**	**35.00**	**301**	P	**P**	**00 48 38.2**	**-0.1**
AKASG						00 51 09.2	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASF	**Jabal al Asfar**	**35.42**	**267**	P	**P**	**00 48 43.2**	**+1.4**
	comp=Z,4.9nm,0.8s,mb4.5,baz=305,slow=7.5,SNR=12						
ASF	**Jabal al Asfar**	**35.42**	**267**	P	**P**	**00 48 43.2**	**+1.3**
ASF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDJ	**Mudanjiang**	**35.48**	**70**	P	**P**	**00 48 42.1**	**-0.3**
MDJ				PP	PP	00 50 02.3	-0.7
MDJ				PCP	PcP	00 51 11.5	-0.2
MDJ				S	**S**	**00 54 17.8**	**+0.8**
MDJ				SCP	ScP	00 54 56.1	-0.8
MDJ				PCS	PcS	00 54 58.4	-0.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,87nm,4.9s						
MDJ				LR	LR		
	comp=N,100nm,24.0s,MS3.6						
MDJ				LR	LR		
	comp=E,66nm,24.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,51nm,24.4s,MS3.2						
KLR	**Kul'dur**	**35.93**	**61**	*e*P	**P**	**00 48 43.3**	**-3.0**
KLR				MLR	MLR		
	comp=N,500nm,12.0s,MS4.7						
KLR				MLR	MLR		
	comp=E,500nm,12.0s,MS4.7						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.0						
KAF	**Kangasniemi**	**36.57**	**321**	*ep*	**P**	**00 48 50.9**	**-0.8**
FINES	**FINESS Array B**	**36.61**	**319**	P	**P**	**00 48 52.0**	**0.0**
	comp=Z,3.3nm,0.8s,mb4.2,baz=88,slow=9.1,SNR=15						
FINES				PcP	PcP	00 51 14.2	-0.8
	comp=Z,1.9nm,0.7s,baz=101,slow=3.9,SNR=3.9						
FINES	**FINESS Array B**	**36.61**	**319**	P	**P**	**00 48 52.1**	**0.0**
FINES						00 51 14.2	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KEV	**Kevo**	**37.85**	**333**	*ep*	**P**	**00 49 01.7**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.1						
KEV	**Kevo**	**37.85**	**333**	*e*P	**P**	**00 49 02.8**	**+0.1**
EIL	**Elat**	**38.15**	**265**	*e*P	**P**	**00 49 05.2**	**+0.1**
BURAR	**Bucovina Array**	**38.15**	**297**	⇓*i*P	**P**	**00 49 08.5**	**+3.4**
MLR	**Muntele Rosu**	**38.21**

NIE Niedzica 40.88 301 *e*P **P 00 49 28.8 +0.9**
OJC Ojcow 41.01 302 *e*P **P 00 49 28.9 -0.1**
BZS Buzias 41.08 295 ‖*i*P **P 00 49 30.4 +0.9**
SANT Santorini 41.84 280 *e*P **P 00 49 34.3 -1.4**
VYHS Vyhne 42.06 300 *e*P **P 00 49 33.5 -4.1**
OKC Ostrava-Krasne 42.14 302 *e*P **P 00 49 37.3 -0.9**
MORC Moravsky Berou 42.53 302 ‖*i*P **P 00 49 40.8 -0.6**
HFS Hagfors 42.70 318 P **P 00 49 42.4 -0.4**
comp=Z,5.8nm,0.6s,mb4.5,baz=103,slow=12,SNR=18
HFS Hagfors 42.70 318 P **P 00 49 42.4 -0.3**
HFS pmax pmax
comp=Z,6.0nm,0.6s
PKSM Moragy 42.87 296 ‖*i*P **P 00 49 44.0 -0.1**
DPC Dobruska-Polom 43.14 303 *e*P **P 00 49 46.8 +0.5**
UPC Upice 43.29 303 *e*P **P 00 49 47.4 -0.1**
NB2 NORSAR Subarra 43.79 319 P **P 00 49 50.8 -0.8**
comp=Z,5.5nm,0.7s,mb4.4,baz=83,slow=7.9
NB2 NORSAR Subarra 43.79 319 P **P 00 49 50.8 -0.8**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
NOA NORSAR Array B 43.79 319 P **P 00 49 51.1 -0.5**
comp=Z,5.8nm,0.7s,mb4.4,baz=83,slow=7.9,SNR=14
NOA LR LR 01 08 34.9
comp=Z,136nm,18.5s,MS3.9,baz=55,slow=37
NOA NORSAR Array B 43.79 319 P **P 00 49 51.1 -0.5**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,136nm,18.5s
NAO01 NORSAR Array S 43.98 319 *e*P **P 00 49 51.8 -1.2**
PVCC Panska Ves 44.17 304 *e*P **P 00 49 55.0 +0.4**
PRU Pruhonice 44.34 303 *e*P **P 00 49 56.3 +0.3**
comp=Z,6.1nm,0.7s,mb4.4
BRG Berggiesshubel 44.45 304 *e*P **P 00 49 56.5 -0.4**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
BRG Berggiesshubel 44.45 304 *e*P **P 00 49 56.5 -0.3**
comp=Z,2.2nm,1.0s,mb3.8
MJAR Matsushiro Arr 44.51 78 P **P 00 49 55.8 -1.5**
comp=Z,1.6nm,0.6s,mb4.0,baz=301,slow=10,SNR=4.2
MJAR Matsushiro Arr 44.51 78 P **P 00 49 55.8 -1.5**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 44.90 305 *e*P **P 00 50 00.0 -0.4**
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
CLL Collm 44.90 305 *e*P **P 00 50 00.0 -0.4**
comp=Z,9.0nm,1.1s,mb4.5
CLL *es*P sP 00 50 06.0 -1.4
CLL *e*PP PP 00 51 53.0 +7.7
KHC Kasperske Hory 45.20 302 *e*P **P 00 49 58.7 -4.1**
GERES GERESS Array B 45.21 302 P **P 00 50 02.6 -0.3**
comp=Z,1.2nm,0.7s,mb3.8,baz=61,slow=8.4,SNR=12
GERES PcP PcP 00 51 44.3 +1.4
comp=Z,0.8nm,0.9s,baz=80,slow=5.5,SNR=2.5
GERES GERESS Array B 45.21 302 P **P 00 50 02.6 -0.3**
GERES 00 51 44.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
SEY Seymchan 45.25 38 *i* P **P 00 50 03.8 +0.6**
MOX Moxa 45.93 305 *e*P **P 00 50 07.5 -1.1**
MOX *ep*P pP 00 50 15.0 +1.3
GRA1 Grafenberg Arr 46.47 303 *e*P **P 00 50 13.5 +0.6**
comp=Z,7.0nm,0.9s,mb4.6
GRA1 *ep*P pP 00 50 18.2 +0.3
GRF Grafenberg Arr 46.47 303 *e*P **P 00 50 13.5 +0.6**
comp=Z,7.0nm,0.9s,mb4.6
GRF *ep*P pP 00 50 18.2 +0.3
GRF Grafenberg Arr 46.47 303 *e*P **P 00 50 13.5 +0.6**
GRF *e**PP pP 00 50 18.2 +0.3
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 46.47 303 *e*P **P 00 50 13.5 +0.6**
GRF *e**PP pP 00 50 18.2 +0.3
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TIP Timpagrande 46.82 288 *e*P **P 00 50 15.1 -0.5**
WTTA Wattenberg 47.05 300⇑*i*P **P 00 50 17.1 -0.3**
comp=Z,11nm,1.0s,mb4.7
WTTA Wattenberg 47.05 300⇑*i*P **P 00 50 17.1 -0.3**
WTTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOTA Moosalm 47.36 300⇑*i*P **P 00 50 19.6 -0.2**
comp=Z,7.3nm,1.0s,mb4.6
MOTA Moosalm 47.36 300⇑*i*P **P 00 50 19.6 -0.2**
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
STU Stuttgart 48.04 303 P **P 00 50 22.9 -2.2**
DAVA Damuels 48.15 301⇑*i*P **P 00 50 26.5 +0.5**
comp=Z,7.1nm,1.1s,mb4.6
DAVOX Davos/Dischmat 48.34 300 P **P 00 50 27.1 -0.3**
comp=Z,3.2nm,0.7s,mb4.5,baz=92,slow=9.1,SNR=5.8
CDF Champ du Feu 49.35 303 *e*P **P 00 50 34.8 -0.4**
comp=Z,8.0nm,1.0s,mb4.4
CDF Champ du Feu 49.35 303 *e*P **P 00 50 34.8 -0.4**
CDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CDF Champ du Feu 49.35 303 *e*P **P 00 50 34.8 -0.4**
comp=Z,4.0nm,1.0s,mb4.4
BILL Bilibino 49.80 29 *e*P **P 00 50 38.5 -0.1**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
HINF Hinteralfeld 49.84 302 *e*P **P 00 50 38.5 -0.4**
comp=Z,6.8nm,0.7s,mb4.5
HINF Hinteralfeld 49.84 302 *e*P **P 00 50 38.5 -0.4**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
HINF Hinteralfeld 49.84 302 *e*P **P 00 50 38.5 -0.4**
comp=Z,3.4nm,0.7s,mb4.5
HAU Haudompre 50.08 303 *e*P **P 00 50 40.3 -0.5**
HAU *e*MLR MLR
comp=Z,56nm,19.2s
HAU Haudompre 50.08 303 *e*P **P 00 50 40.3 -0.5**
HAU LR LR
comp=Z,60nm,19.3s,MS3.6
GIVF Givet 50.20 306 *e*P **P 00 50 41.5 -0.1**
BAIF Baives 50.58 306 *e*P **P 00 50 44.5 0.0**
DAG Danmarks Havn 50.65 343⇑*i*P **P 00 50 44.6 -0.4**
comp=Z,2.5nm,0.9s,mb4.1
DAG Danmarks Havn 50.65 343⇑*i*P **P 00 50 44.6 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
PGF Pioggiola 50.65 295 *e*P **P 00 50 44.6 -0.4**
MEZF Maizieres J'vi 50.68 304 *e*P **P 00 50 45.4 +0.1**
comp=Z,28nm,0.9s,mb4.9
MEZF Maizieres J'vi 50.68 304 *e*P **P 00 50 45.4 +0.1**
comp=Z,28nm,0.9s,mb5.2
CABF La Chapelle 50.81 301 *e*P **P 00 50 46.6 +0.4**
LPG La Plagne 50.85 300 *e*P **P 00 50 46.9 +0.4**
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 50.85 300 *e*P **P 00 50 46.9 +0.4**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LPG La Plagne 50.85 300 *e*P **P 00 50 46.9 +0.4**
comp=Z,7.8nm,0.7s,mb4.8
LPL La Plagne 50.85 300 *e*P **P 00 50 46.8 +0.2**
comp=Z,18nm,0.7s,mb4.8
LPL La Plagne 50.85 300 *e*P **P 00 50 46.8 +0.2**
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LPL La Plagne 50.85 300 *e*P **P 00 50 46.8 +0.2**
comp=Z,8.9nm,0.7s,mb4.8
BNI Bardonecchia 51.08 299 *e*P **P 00 50 48.3 0.0**
BNI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BNI Bardonecchia 51.08 299 *e*P **P 00 50 48.3 -0.1**
comp=Z,4.3nm,0.6s,mb4.6
SBF Sospel 51.10 298 *e*P **P 00 50 48.2 -0.3**
MBDF Montbardon 51.16 299 *e*P **P 00 50 48.2 -0.7**
comp=Z,21nm,1.1s,mb4.7
MBDF Montbardon 51.16 299 *e*P **P 00 50 48.2 -0.7**
MBDF pmax pmax
comp=Z,11nm,1.1s,mb4.7
MBDF Montbardon 51.16 299 *e*P **P 00 50 48.2 -0.7**
comp=Z,10nm,1.1s,mb4.7
ORIF Oris-en-Rattie 51.65 299 *e*P **P 00 50 51.9 -0.7**
comp=Z,13nm,0.7s,mb4.6
ORIF *e*MLR MLR
comp=Z,88nm,23.0s
ORIF Oris-en-Rattie 51.65 299 *e*P **P 00 50 51.9 -0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 51.65 299 *e*P **P 00 50 51.9 -0.7**
comp=Z,6.3nm,0.7s,mb4.7
LOR Lormes 51.92 303 *e*P **P 00 50 53.3 -1.3**
comp=Z,6.4nm,0.8s,mb4.3
LOR *e*MLR MLR
comp=Z,71nm,18.0s
LOR Lormes 51.92 303 *e*P **P 00 50 53.3 -1.3**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR MLR MLR
comp=Z,70nm,18.0s,MS3.7
LOR Lormes 51.92 303 *e*P **P 00 50 53.3 -1.3**
comp=Z,3.2nm,0.8s,mb4.3
LOR LR LR
comp=Z,70nm,18.0s,MS3.7
LMR La Mourre 51.94 297 *e*P **P 00 50 54.9 +0.2**
SMF Signal de Mont 52.20 302 *e*P **P 00 50 55.8 -0.8**
SSF Saint Saulge 52.23 303 *e*P **P 00 50 56.8 -0.1**
MSEY Mahe Island 52.24 211 P **P 00 50 56.6 -0.3**
AVF Avril sur Loir 52.44 303 *e*P **P 00 50 57.7 -0.7**
comp=Z,13nm,0.7s,mb4.7
AVF Avril sur Loir 52.44 303 *e*P **P 00 50 57.7 -0.7**
AVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
AVF Avril sur Loir 52.44 303 *e*P **P 00 50 57.7 -0.7**
comp=Z,6.7nm,0.7s,mb4.7
VIVF Saint-Julien-l 52.45 300 *e*P **P 00 50 58.0 -0.5**
comp=Z,13nm,0.9s,mb4.6
VIVF Saint-Julien-l 52.45 300 *e*P **P 00 50 58.0 -0.5**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VIVF Saint-Julien-l 52.45 300 *e*P **P 00 50 58.0 -0.5**
comp=Z,6.7nm,0.9s,mb4.6
EKA Eskdalemuir Ar 52.65 314 P **P 00 50 59.9 -0.2**
comp=Z,5.6nm,0.7s,mb4.6,baz=85,slow=9.4,SNR=13
EKA Eskdalemuir Ar 52.65 314 P **P 00 50 59.9 -0.1**
EKA pmax pmax
comp=Z,6.0nm,0.7s
BGF Bois d'Agland 52.85 302 *e*P **P 00 51 00.9 -0.6**
comp=Z,14nm,0.9s,mb4.6
BGF Bois d'Agland 52.85 302 *e*P **P 00 51 00.9 -0.6**
BGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BGF Bois d'Agland 52.85 302 *e*P **P 00 51 00.9 -0.6**
comp=Z,6.8nm,0.9s,mb4.6
LASF Ste Croix 53.33 299 *e*P **P 00 51 04.9 -0.1**
comp=Z,81nm,1.4s,mb5.2
TCF Toulx Ste Croi 53.37 302 *e*P **P 00 51 04.8 -0.5**
comp=Z,18nm,1.0s,mb4.6
TCF Toulx Ste Croi 53.37 302 *e*P **P 00 51 04.8 -0.5**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TCF Toulx Ste Croi 53.37 302 *e*P **P 00 51 04.8 -0.5**
comp=Z,8.9nm,1.0s,mb4.7
LDF La Druitiere 53.77 306 *e*P **P 00 51 07.4 -0.8**
comp=Z,8.0nm,0.6s,mb4.5
LDF La Druitiere 53.77 306 *e*P **P 00 51 07.4 -0.8**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LDF La Druitiere 53.77 306 *e*P **P 00 51 07.4 -0.8**
comp=Z,4.0nm,0.6s,mb4.5
FLN La Foliniere 53.91 306 *e*P **P 00 51 08.1 -1.1**
comp=Z,5.1nm,0.6s,mb4.4
FLN *e*MLR MLR
comp=Z,88nm,21.0s
FLN La Foliniere 53.91 306 *e*P **P 00 51 08.1 -1.1**
FLN pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FLN MLR MLR
comp=Z,90nm,21.0s,MS3.8
FLN La Foliniere 53.91 306 *e*P **P 00 51 08.1 -1.1**
comp=Z,2.5nm,0.6s,mb4.3
FLN LR LR
comp=Z,90nm,21.0s,MS3.8
CAF Calviac 54.08 301 *e*P **P 00 51 10.3 -0.2**
RJF Les Rejaudoux 54.25 302 *e*P **P 00 51 11.7 0.0**
RJF *e*MLR MLR
comp=Z,95nm,17.0s
RJF Les Rejaudoux 54.25 302 *e*P **P 00 51 11.7 0.0**
RJF LR LR
comp=Z,100nm,17.0s,MS4.0
GRR Gorron 54.30 306 *e*P **P 00 51 11.2 -0.9**
comp=Z,9.9nm,0.6s,mb4.6
GRR Gorron 54.30 306 *e*P **P 00 51 11.2 -0.9**
GRR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GRR Gorron 54.30 306 *e*P **P 00 51 11.2 -0.9**
comp=Z,4.9nm,0.6s,mb4.6
MFF Saint Martin d 54.68 304 *e*P **P 00 51 13.9 -1.0**
comp=Z,3.1nm,0.6s,mb4.2
MFF Saint Martin d 54.68 304 *e*P **P 00 51 13.9 -1.0**
MFF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MFF Saint Martin d 54.68 304 *e*P **P 00 51 13.9 -1.0**
comp=Z,1.5nm,0.6s,mb4.2
MTLF Montolieu 54.72 299 *e*P **P 00 51 14.8 -0.3**
LFF La Frestale 54.90 301 *e*P **P 00 51 16.4 -0.1**
comp=Z,11nm,0.8s,mb4.7
LFF La Frestale 54.90 301 *e*P **P 00 51 16.4 -0.1**
LFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LFF La Frestale 54.90 301 *e*P **P 00 51 16.4 -0.1**
comp=Z,5.6nm,0.8s,mb4.7
SGMF Saint Gilles 55.37 306 *e*P **P 00 51 18.7 -1.1**
comp=Z,14nm,0.8s,mb4.8
SGMF Saint Gilles 55.37 306 *e*P **P 00 51 18.7 -1.1**
SGMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SGMF Saint Gilles 55.37 306 *e*P **P 00 51 18.7 -1.1**
comp=Z,6.9nm,0.8s,mb4.7
ROSF Rostrenen 55.75 307 *e*P **P 00 51 21.8 -0.8**
comp=Z,6.5nm,0.6s,mb4.5
ROSF Rostrenen 55.75 307 *e*P **P 00 51 21.8 -0.8**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ROSF Rostrenen 55.75 307 *e*P **P 00 51 21.8 -0.8**
comp=Z,3.3nm,0.6s,mb4.5
QUIF Quistinic 55.89 306 *e*P **P 00 51 22.9 -0.7**
comp=Z,39nm,1.1s,mb5.0
QUIF Quistinic 55.89 306 *e*P **P 00 51 22.9 -0.7**
QUIF pmax pmax
comp=Z,20nm,1.1s,mb5.1
QUIF Quistinic 55.89 306 *e*P **P 00 51 22.9 -0.7**
comp=Z,20nm,1.1s,mb5.0
EPF Esparros 56.07 300 *e*P **P 00 51 23.7 -1.2**
ETSF Etsaut 56.71 300 *e*P **P 00 51 28.8 -0.6**
comp=Z,9.2nm,0.8s,mb4.5
ETSF Etsaut 56.71 300 *e*P **P 00 51 28.8 -0.6**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ETSF Etsaut 56.71 300 *e*P **P 00 51 28.8 -0.6**
comp=Z,4.6nm,0.8s,mb4.6
SJPF Ste Jean 57.03 300 *e*P **P 00 51 31.1 -0.6**
SUMG Summit 57.26 342 *e*P **P 00 51 33.2 -0.1**
comp=Z,21nm,1.0s,mb5.1
ESDC Sonseca Array 60.58 298 P **P 00 51 55.9 -0.5**
comp=Z,2.1nm,0.7s,mb4.4,baz=53,slow=6.7,SNR=16
MDT Midelt 64.89 292 P **P 00 52 24.9 -0.2**
comp=Z,1.5nm,0.9s,mb4.0,baz=37,slow=5.1,SNR=3.1
COLA College 66.31 20 *e*P **P 00 52 34.6 +0.3**
COLA *e* pP 00 52 39.0 -0.5
COLA pmax pmax
comp=Z,22nm,0.8s,mb5.2
COLA College 66.31 20 *e*P **P 00 52 34.6 +0.3**
comp=Z,22nm,0.8s,mb5.2
COLA *e* pP 00 52 39.0 -0.5
INK Inuvik 66.36 13 *e*P **P 00 52 34.9 +0.3**
INK *e* pP 00 52 38.7 -1.2
INK pmax pmax
comp=Z,643nm,0.9s
INK Inuvik 66.36 13 *e*P **P 00 52 34.9 +0.3**
comp=Z,643nm,0.9s
INK *e* pP 00 52 38.7 -1.2
DAWY Dawson 69.00 17 *e*P **P 00 52 51.2 -0.1**
DAWY *e* 00 52 58.2
TOA0 Torodi Ar. Sit 72.59 272 *e*P **P 00 53 12.6 -0.5**
TOA0 *e* pP 00 53 16.7 -1.7
TORD Torodi Ar. Bea 72.59 272 P **P 00 53 12.4 -0.7**
comp=Z,14nm,0.8s,mb5.0,baz=45,slow=5.2,SNR=168
KAKA Kakadu 73.22 126 *e*P **P 00 53 17.0 +0.1**
comp=Z,21nm,1.4s,mb4.9
KAKA *e* pP 00 53 21.5 -0.6
MBWA Marble Bar 73.49 141 *e*P **P 00 53 17.9 -0.6**
MBWA *e*pP pP 00 53 22.5 -1.2
FITZ Fitzroy Crossi 73.79 135 *e*P **P 00 53 20.4 +0.2**
comp=Z,10nm,0.9s,mb4.8
FITZ *e* pP 00 53 25.1 -0.4
FITZ Fitzroy Crossi 73.79 135 P **P 00 53 20.4 +0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=353,slow=4.6,SNR=11
SKAG Skagway 73.98 18 *e*P **P 00 53 22.2 +0.9**
comp=Z,25nm,0.8s,mb5.2
YKA Yellowknife Ar 74.36 7 P **P 00 53 23.1 -0.4**
comp=Z,7.0nm,0.7s,mb4.7,baz=342,slow=5.8,SNR=11
LSZ Lusaka 74.81 232 *e*P **P 00 53 26.4 +0.3**
LSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LSZ Lusaka 74.81 232 *e*P **P 00 53 26.4 +0.2**
comp=Z,8.9nm,0.9s,mb4.7
WRAB Tennant Creek 80.04 129 *i* P **P 00 53 59.2 +3.8**
WRA Warramunga Arr 80.04 129 P **P 00 53 55.8 +0.3**
comp=Z,8.3nm,0.8s,mb4.7,baz=334,slow=5.4,SNR=30
WRA Warramunga Arr 80.04 129 P **P 00 53 55.8 +0.4**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WB2 Warramunga Arr 80.05 129 *e*P **P 00 53 55.5 0.0**
WB2 *e* pP 00 54 00.2 -0.6
DBIC Dimbokro 81.69 271 P **P 00 54 03.9 -0.4**
comp=Z,7.7nm,0.7s,mb4.7,baz=11,slow=9.8,SNR=8.6
DBIC Dimbokro 81.69 271 P **P 00 54 03.9 -0.3**
DBIC pmax pmax
comp=Z,8.0nm,0.7s
ASAR Alice Springs 82.75 132 P **P 00 54 09.4 -0.4**
comp=Z,2.6nm,0.7s,mb4.4,baz=322,slow=4.8,SNR=22
ASAR Alice Springs 82.75 132 P **P 00 54 09.4 -0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 82.79 1 *e*P **P 00 54 09.4 -0.6**
FFC *e* 00 54 16.5
EDM Edmonton 83.62 8 *e*P **P 00 54 14.1 -0.2**
EDM *e* pP 00 54 18.5 -1.1
TSUM Tsumeb 84.20 237 LR LR 01 36 04.1
comp=Z,55nm,18.4s,MS4.0,baz=321,slow=39
TSUM Tsumeb 84.20 237 *e*P **P 00 54 17.7 +0.4**
comp=Z,9.1nm,1.0s,mb4.9
TSUM *e*PcP PcP 00 54 21.7 +0.7
BOSA Boshof 87.07 226 P **P 00 54 30.6 -0.9**
comp=Z,5.1nm,1.0s,mb4.7,baz=274,slow=5.9,SNR=4.6
BOSA Boshof 87.07 226 P **P 00 54 30.6 -0.9**
BOSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
CTAO Charters Tower 87.35 120 *e*P **P 00 54 33.4 +0.5**
BSMT Bassoo Peak 88.75 10 *e*P **P 00 54 40.2 +0.7**
CHMT Chamberlain Mo 89.86 9 *e*P **P 00 54 44.5 -0.2**
FLWY Flagg Ranch 92.93 8 *e*P **P 00 55 08.2 +9.2**
IMW Indian Meadow 93.09 8 *e*P **P 00 55 06.1 +6.4**
comp=Z,3.6nm,0.7s,mb4.9
RSSD Black Hills 93.34 3 *e*P **P 00 55 01.6 +0.7**
RSSD *e**SP sP 00 55 09.0 +0.9
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
RSSD Black Hills 93.34 3 *e*P **P 00 55 01.6 +0.7**
comp=Z,7.3nm,0.8s,mb5.2
RSSD *ep*P pP 00 55 05.7 -0.6
RSSD *es*P sP 00 55 09.0 +0.9
MOD Modoc 93.68 15 *e*P **P 00 55 03.7 +1.3**
PDAR Pinedale Array 94.34 7 P **P 00 55 04.8 -0.6**
comp=Z,1.3nm,0.8s,mb4.4,baz=343,slow=4.6,SNR=4.9
HWUT Hardware Ranch 95.29 9 *e*P **P 00 55 10.9 +1.1**
comp=Z,6.2nm,0.8s,mb5.1
HWUT *ep*P pP 00 55 15.2 0.0
HWUT *es*P sP 00 55 17.9 +0.8
SDV Santo Domingo 121.93 325 *e*PKPdf PKPdf 01 00 39.7 -0.5
MAIT Maitri 123.29 202 *e*PKPdf PKPdf 01 00 41.7 -1.1
VNDA Vanda 129.71 164 PKP PKPdf 01 00 53.8 -1.2
comp=Z,0.6nm,0.8s,baz=288,slow=3.2,SNR=2.8
VNDA Vanda 129.71 164 PKIKP PKPdf 01 00 53.8 -1.2
VNDA pmax pmax
comp=Z,1.0nm,0.8s
SAML Samuel 133.30 305 *e*PKPdf PKPdf 01 01 02.7 +0.8
CPUP Villa Florida 141.60 281 PKhKP 01 01 10.2
comp=Z,0.8nm,0.5s,baz=27,slow=6.8,SNR=3.8
CPUP PKP PKPdf 01 01 16.2 -0.9
comp=Z,1.0nm,0.5s,baz=35,slow=6.1,SNR=5.2
CPUP Villa Florida 141.60 281 PKHKP 01 01 10.2
CPUP 01 01 16.2
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 142.02 304 PKP PKPdf 01 01 19.7 +1.8
comp=Z,1.8nm,1.0s,baz=63,slow=4.5,SNR=3.9
LPAZ La Paz 142.02 304 PKIKP PKPdf 01 01 19.7 +1.8
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LVC Limon Verde 147.20 298 *e*PKPdf PKPdf 01 01 30.4 +3.6
TRQA Tornquist 150.80 266 *e*PKPdf PKPdf 01 01 37.8 +5.1

INMG ***13*** *00:48:16.7±1.4, 4281N×725W, h2km±5km, ML1.8, Error ellipse: s-maj=3.6km s-min=2.0km az=96.0*

MDD 13 00:48:16.7±0.3, 4280N×724W, h1km±8km, mbLg1.8/11, Error ellipse: s-maj=4.0km s-min=2.2km az=91.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.41**	**170**	Pg	Pg	00 48 23.9	-0.8
	18nm,0.1s,SNR=7.9						
ERUA				Lg		00 48 29.8	
	24nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**0.53**	**7**	Pg	Pg	00 48 26.5	-0.4
	1.7nm,0.2s,SNR=30						
EPON				Lg		00 48 33.4	
	1.2nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**0.94**	**156**	Pg	Pg	00 48 34.7	0.0
	4.1nm,0.1s,SNR=16						
ECAL				Lg		00 48 47.2	
	11nm,0.1s,SNR=12						
STS	**Santiago**	**0.96**	**276**	Pg	Pg	00 48 33.9	-1.3
	3.1nm,0.1s,SNR=7.9						
STS				Lg		00 48 46.9	
	20nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**1.06**	**159**	*e*P	Pg	00 48 36.4	-0.7
PBRG				*e*S	Sg	00 48 50.7	-0.2
PBRG							
	9.9nm,0.1s						
PCAB	**Cabril**	**1.23**	**208**	*e*P	Pg	00 48 40.0	-0.4
PCAB				*e*S	Sg	00 48 55.8	-0.6
PCAB							
	21nm,0.1s						
EZAM	**Zamans**	**1.26**	**239**	Pg	Pg	00 48 39.4	-1.4
	1.9nm,0.1s,SNR=7.9						
EZAM				Lg		00 48 55.8	
	6.6nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**1.28**	**277**	Pg	Pg	00 48 41.1	-0.2
	2.1nm,0.1s,SNR=8.6						
EMAZ				Lg		00 48 58.2	
	14nm,0.2s,SNR=22						
PVRL	**Vila Real**	**1.56**	**193**	*e*Pn	Pn	00 48 44.3	-1.3
PVRL				*e*Sn	Sn	00 49 05.2	-1.3
PVRL							
	20nm,0.1s						
EARI	**Arriondas**	**1.57**	**71**	Pg	Pg	00 48 45.6	-1.3
	2.2nm,0.3s,SNR=18						
EARI				Lg		00 49 06.9	
	2.6nm,0.2s,SNR=5.8						
PVIS	**Viseu**	**2.14**	**193**	*e*Sg	Sg	00 49 24.5	-1.0
MTE	**Manteigas**	**2.41**	**185**	*e*Pg	Pg	00 49 01.5	-1.4
MTE				*e*Sn	Sn	00 49 25.1	-2.3
MTE				*e*Sg	Sg	00 49 31.9	-2.3
MTE							
	2.8nm,0.3s						
MTE	**Manteigas**	**2.41**	**185**	Pg	Pg	00 49 01.5	-1.4
MTE				Sn	Sn	00 49 25.1	-2.3
MTE				Lg		00 49 31.9	
	1.4nm,0.3s						
ELAN	**Lanestosa**	**2.83**	**80**	Pn	Pn	00 49 01.1	-1.9
	0.2nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	00 49 07.8	-3.1
	0.8nm,0.4s,SNR=7.9						
ELAN				Lg		00 49 45.8	
	1.0nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.96**	**183**	*e*Sn	Sn	00 49 38.5	-2.6
PCBR				*e*Sg	Sg	00 49 51.1	-0.8

NEIC 13 01:04:58.4, 5725N×15554W, h59km, ML3.5(AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.68**	**70**	P	Pn	01 05 24.6	-1.0

CHGN	Chignik	1.85	240	P	Pn	01 05 26.7 -1.1
SDPT	Sand Point	3.35	237	P	Pn	01 05 47.6 -0.7
SVW2	Sparrevohn	3.86	360	P	Pn	01 05 53.8 -1.4
SLKM	Skilak Lake	4.27	38	*e*Pn	Pn	01 05 59.1 -1.8
RC01	Rabbit Creek A	4.87	35	P	Pn	01 06 07.5 -1.6
PMR	Palmer	5.44	34	*e*P	Pn	01 06 15.4 -1.6
GHO	Glory Hole Cre	5.65	34	P	Pn	01 06 18.3 -1.4
EYAK	Cordova Ski Ar	6.05	53	P	Pn	01 06 22.7 -2.6
DIV	Divide	6.34	48	P	Pn	01 06 27.4 -1.9
RAGM	Ragged Mountai	6.46	56	P	Pn	01 06 29.1 -1.7
KTH	Kantishna Hill	6.72	18	P	Pn	01 06 32.4 -2.0
TRF	Thorofare Moun	6.74	21	P	Pn	01 06 32.7 -2.1
BMRM	Bremner River	6.75	52	P	Pn	01 06 32.6 -2.2
MCK	McKinley	7.27	24	P	Pn	01 06 39.3 -2.7
PNL	Peninsula	8.80	67	P	Pn	01 07 01.0 -1.9
EGAK	Eagle	10.25	37	*e*Pn	Pn	01 07 20.7 -2.1
INK	Inuvik	14.86	33	*e*Pn	Pn	01 08 23.0 -1.9

NEIC ***13*** *01:18:16.4, 3888S×17525E, h167km, MG3.9(WEL), After WEL.*

WEL 13 01:18:15.8±0.4, 3885S×17523E, h173km±3km, ML3.8/16, 8C-3D, Error ellipse: s-maj=4.1km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.28	144	P	Pn	01 18 39.1	+0.2
TWVZ	Taurewa	0.28	144	↑PN	Pn	01 18 39.1	+0.2
TWVZ				SN	Sn	01 18 56.4	-0.2
WPVZ	Whakapapa	0.43	145	↑PN	Pn	01 18 39.8	+0.4
VRZ	Vera Road	0.46	233	P	Pn	01 18 39.4	-0.1
VRZ	Vera Road	0.46	233	PN	Pn	01 18 39.2	-0.3
FWVZ	Far West T-bar	0.48	148	P	Pn	01 18 40.0	+0.4
FWVZ				S	Sn	01 18 57.3	-0.6
FWVZ	Far West T-bar	0.48	148	↓PN	Pn	01 18 40.0	+0.4
FWVZ				SN	Sn	01 18 57.3	-0.6
WNVZ	Wahianoa	0.56	149	P	Pn	01 18 40.0	+0.1
MOVZ	Moawhango	0.69	144	P	Pn	01 18 40.5	-0.1
MOVZ				S	Sn	01 18 57.7	-2.0
MOVZ	Moawhango	0.69	144	↑PN	Pn	01 18 40.5	-0.1
WAZ	Wanganui	0.92	192	↑PN	Pn	01 18 42.0	-0.2
NEZ	North Egmont	0.98	244	P	Pn	01 18 42.6	+0.1
NEZ	North Egmont	0.98	244	PN	Pn	01 18 42.5	0.0
BKZ	Black Stump Fm	1.03	108	P	Pn	01 18 43.1	+0.1
BKZ				S	Sn	01 18 58.4	-5.5
BKZ	Black Stump Fm	1.03	108	PN	Pn	01 18 43.1	+0.1
NRZ	Ngariki Road	1.12	244	P	Pn	01 18 43.2	-0.5
NRZ	Ngariki Road	1.12	244	PN	Pn	01 18 43.2	-0.4
TSZ	Takapari Road	1.33	155	PN	Pn	01 18 45.2	-0.3
URZ	Urewera	1.59	69	P	Pn	01 18 47.9	-0.1
URZ	Urewera	1.59	69	↓PN	Pn	01 18 47.9	-0.1
MWZ	Matawai	1.87	75	P	Pn	01 18 51.1	+0.2
MWZ	Matawai	1.87	75	PN	Pn	01 18 51.0	+0.1
KIW	Kapiti Island	2.02	187	P	Pn	01 18 50.9	-1.7
KIW	Kapiti Island	2.02	187	↑PN	Pn	01 18 50.9	-1.7
DUWZ	D'Urville Isla	2.19	207	PN	Pn	01 18 52.4	-2.1
DUWZ				SN	Sn	01 19 20.1	-4.4
CAW	Cannon Point	2.26	183	P	Pn	01 18 53.5	-1.7
CAW	Cannon Point	2.26	183	PN	Pn	01 18 53.4	-1.8
MTW	Mount Morrison	2.31	175	P	Pn	01 18 53.8	-2.1
MTW	Mount Morrison	2.31	175	↑PN	Pn	01 18 53.8	-2.0
MRW	Makara Radio	2.41	190	P	Pn	01 18 54.9	-2.1
MRW	Makara Radio	2.41	190	↑PN	Pn	01 18 54.9	-2.0
TCW	Tory Channel	2.47	197	P	Pn	01 18 55.7	-2.0
TCW				S	Sn	01 19 25.0	-5.1
TCW	Tory Channel	2.47	197	↑PN	Pn	01 18 55.6	-2.1
TCW				SN	Sn	01 19 25.0	-5.1
SNZO	South Karori	2.49	189	P	Pn	01 18 55.6	-2.3
SNZO	South Karori	2.49	189	PN	Pn	01 18 55.6	-2.2
PUZ	Puketiti	2.50	73	P	Pn	01 18 57.9	-0.1
PUZ	Puketiti	2.50	73	↓PN	Pn	01 18 57.9	-0.2
PAWZ	Paruwai Farm	2.53	177	P	Pn	01 18 56.2	-2.2
PAWZ	Paruwai Farm	2.53	177	PN	Pn	01 18 56.2	-2.2
MSWZ	Moikau Station	2.56	180	P	Pn	01 18 56.5	-2.2
MSWZ	Moikau Station	2.56	180	PN	Pn	01 18 56.5	-2.3
TRWZ	Traveller	2.57	172	PN	Pn	01 18 56.7	-2.1
MXZ	Matakaoa Point	2.74	63	P	Pn	01 19 01.2	+0.3
MXZ	Matakaoa Point	2.74	63	PN	Pn	01 19 01.2	+0.2
NNZ	Nelson	2.76	210	P	Pn	01 18 58.5	-2.6
NNZ	Nelson	2.76	210	PN	Pn	01 18 58.5	-2.6
TUWZ	Tuamarina	2.76	201	PN	Pn	01 18 58.7	-2.4
QRZ	Quartz Range	2.87	226	P	Pn	01 18 59.2	-3.2
QRZ	Quartz Range	2.87	226	PN	Pn	01 18 59.2	-3.2
BSWZ	Blackbirch Sta	3.04	199	P	Pn	01 19 02.3	-2.3
BSWZ	Blackbirch Sta	3.04	199	PN	Pn	01 19 02.3	-2.3
THZ	Tophouse	3.41	211	*e*P	Pn	01 19 05.9	-3.2
THZ	Tophouse	3.41	211	PN	Pn	01 19 05.9	-3.2
KHZ	Kahutara	3.79	199	P	Pn	01 19 11.2	-2.7
KHZ	Kahutara	3.79	199	PN	Pn	01 19 11.2	-2.7
DSZ	Denniston Nort	3.90	221	*e*P	Pn	01 19 11.5	-3.9
DSZ	Denniston Nort	3.90	221	PN	Pn	01 19 11.5	-3.9
LTZ	Lake Taylor	4.52	209	*e*P	Pn	01 19 19.9	-3.4
MQZ	McQueen's Vall	5.23	201	*e*P	Pn	01 19 27.5	-5.0
MQZ	McQueen's Vall	5.23	201	PN	Pn	01 19 27.5	-5.0

NIED ***13*** *01:18:00, 3730N×14300E, h20km, Mw4.8 Best double couple: M0=1.68000×10^16 NP1:φs=11.00000°, δ66.00000°, λ74.00000°. NP2:φs=227.00000°, δ29.00000°, λ122.00000°.*

GCMT ***13*** *01:18:46.7±0.6, 3739N×14303E, h18km±2km, MW4.9/52, Moment Tensor Solution. s8,c10; s52,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.51±.21; Mθθ=-0.41±.12; Mφφ=-1.09±.12; Mrθ=0.61±.21; Mrφ=-0.65±.05; Mθφ=2.47±.46; Best double couple: M0=2.95100×10^16 NP1:φs=223.00000°, δ17.00000°, λ116.00000°. NP2: φs=17.00000°, δ75.00000°, λ83.00000°. Principal axes: T 3.0110, Plg59.0000°, Azm276.0000°; N -0.1150, Plg7.0000°, Azm18.0000°; P -2.8900, Plg30.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *01:18:46.7±0.2, 3735N×14283E, h10km, mb4.8/49, MS4.5/2, MW4.8(NIED) Error ellipse: s-maj=4.5km s-min=3.7km az=152.0*

NEIC Recorded [1 JMA] in Miyagi Prefecture.

JMA ***13*** *01:18:46.3±0.2, 3731N×14303E, h59km, M5.0*

JMA Felt I J1.

BJI ***13*** *01:18:46.6, 3738N×14267E, h20km, mB5.0, mb5.0, Ms4.8, Msz4.7*

ISCJB ***13*** *01:18:48.5±0.2, 3736N±002×14282E±002, h32km, mb4.9/94, MS4.5/49, Error ellipse: s-maj=3.6km s-min=2.5km az=123.1*

MOS ***13*** *01:18:49.8±0.9, 3756N×14269E, h33km, mb5.1/58, MS4.5/16, Error ellipse: s-maj=8.6km s-min=4.6km az=114.3*

SZGRF ***13*** *01:18:49.7, 37.15N×143.37E, h35km, mb5.0, MS4.6, Off east coast of Honshu, Japan*

IDC ***13*** *01:18:49.5±0.4, 3727N×14295E, h32km±2km, mb4.5/19, mb1 4.5/22, mb1mx4.5/26, mbtmp4.7/22, ML4.5/3, MS4.2/24, Ms1 4.2/24, ms1mx4.0/46, Error ellipse: s-maj=13.9km s-min=10.0km az=84.0*

ISC 13 01:18:50.3±0.2, 3737N±002×14281E±002, h34km, h34km±3km: pP-P, n400, σ1301/395, mb4.9/94, MS4.5/49, 79C-22D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.54	270	↑P	Pn	01 19 14.6	-0.8
JFK				S	Sn	01 19 34.9	+0.7
JIO	Ouri	1.58	314	↑P	Pn	01 19 15.0	-0.9
JIO				*e*S	Sn	01 19 36.0	+0.8
ONAJ	Iwakimizuishiy	1.63	261	↑P	Pn	01 19 15.4	-1.2
ONAJ				*e*S	Sn	01 19 36.7	+0.4
JMM	Marumori	1.68	288	↑P	Pn	01 19 16.2	-1.0
OFUJ	Ofunato	1.93	333	↑P	Pn	01 19 18.9	-1.8
JHO	Hitachi	1.95	248	↑P	Pn	01 19 18.9	-2.1
JFT	Otama	1.97	275	↑P	Pn	01 19 21.6	+0.3
JMK	Ichinoseki	2.02	322	↑P	Pn	01 19 20.9	-1.0
JMK				*e*S	Sn	01 19 46.2	+0.3
JOM	Ohasama	2.41	331	↑P	Pn	01 19 26.2	-1.2
JYK	Kaneyama	2.47	309	↑P	Pn	01 19 28.0	-0.2
JNS	Sasagawa	2.81	280	*e*S	Sn	01 20 06.5	+1.0
JAG	Ashikaga	2.85	252	↑P	Pn	01 19 32.6	-0.8
JAG				*e*S	Sn	01 20 07.3	+0.8
JAW	Awa shima	3.02	292	P	Pn	01 19 36.7	+1.0
JHK	Hiroka	3.03	269	↑P	Pn	01 19 36.2	+0.4
BSO1	Boso 1	3.09	209	↓P	Pn	01 19 34.1	-2.6
BSO1				*e*S	Sn	01 20 09.9	-2.6
JANG	Nango	3.16	342	P	Pn	01 19 35.6	-2.1
JANG				*e*S	Sn	01 20 12.9	-1.3
JIZZ	Izumozaki	3.27	274	P	Pn	01 19 47.3	+8.2
JRY	Ryogami san	3.42	248	P	Pn	01 19 40.6	-0.6
JRY				*e*S	Sn	01 20 19.3	-1.2
JGK	Kuni	3.44	258	↑P	Pn	01 19 42.3	+0.9
JOD2	Odawara 2	3.67	236	P	Pn	01 19 43.5	-1.1
JOD2				*e*S	Sn	01 20 26.2	-0.5
JSD	Sado	3.67	282	P	Pn	01 19 44.5	-0.1
MJAR	Matsushiro Arr	3.78	259	Pn	Pn	01 19 46.6	+0.5
MJAR	35nm,0.3s,baz=86,slow=16,SNR=190						
MJAR				Sn	Sn	01 20 25.4	-4.0
MJAR	11nm,0.3s,baz=77,slow=18,SNR=4.9						
MJAR	Matsushiro Arr	3.78	259	P	Pn	01 19 46.6	+0.5
MJAR						01 20 25.4	
MJAR				pmax	pmax		
MJAR	comp=Z,35nm,0.3s						
MJAR				smax			
MJAR	comp=N,11nm,0.3s						
MAJO	Matsushiro	3.78	259	*e*P	Pn	01 19 47.1	+1.0
MAT	Matsushiro	3.78	259	P	Pn	01 19 46.9	+0.8
MAT				*e*S	Sn	01 20 31.4	+2.0
MAT	Matsushiro	3.78	259	P	Pn	01 19 47.0	+0.9
JNG	Nsakai	3.90	257	↑P	Pn	01 19 48.6	+0.8
JYN	Shimob	3.91	243	P	Pn	01 19 48.0	0.0
JNT	Takato	4.04	250	P	Pn	01 19 50.5	+0.7
JIZS	Izushimoda	4.14	231	P	Pn	01 19 49.2	-1.9
JSZ	Suzu	4.34	273	P	Pn	01 19 54.9	+1.1
SHZ3	Shizuoka 3	4.37	240	P	Pn	01 19 54.5	+0.2
JNY	Yasuok	4.47	245	↑P	Pn	01 19 56.6	+1.0
JGN	Niukaw	4.56	257	P	Pn	01 19 58.6	+1.8
ERM	Erimo	4.64	3	*e*Pn	Pn	01 19 55.6	-2.5
ERM				*e*Sn	Sn	01 20 50.3	-0.5
JHG	Hegura jima	4.70	278	P	Pn	01 19 59.9	+1.1
JHJ	Hachijo jima 2	4.91	211	Pn	Pn	01 19 59.0	-2.8
JHJ	comp=N,33nm,0.3s,baz=247,slow=22,SNR=12						
JHJ				Sn	Sn	01 20 51.4	-6.0
JHJ	comp=N,168nm,0.3s,baz=248,slow=23,SNR=9.1						
JHJ				LR	LR	01 21 43.1	
JHJ	comp=N,608nm,18.5s,baz=41,slow=36						
JAO	Obara	4.95	247	↑P	Pn	01 20 02.9	+0.7
JGM	Miyama	5.18	253	P	Pn	01 20 07.1	+1.7
JFM	Mihama	5.80	254	↓P	Pn	01 20 15.7	+1.8
JKN2	Miekihoku	6.16	241	↓P	Pn	01 20 18.6	-0.3
ASAJ	Asahikawa	6.74	359	Pn	Pn	01 20 26.2	-0.6
ASAJ	comp=N,10nm,0.3s,baz=218,slow=11,SNR=24						
ASAJ				Sn	Sn	01 21 40.2	-2.1
ASAJ	comp=N,6.9nm,0.3s,baz=46,slow=28,SNR=5.7						
ASAJ				LR	LR	01 23 52.1	
ASAJ	comp=N,2μm,18.2s,baz=177,slow=44						
ASAJ	Asahikawa	6.74	359	P	Pn	01 20 26.3	-0.5
ASAJ						01 21 40.3	
ASAJ				pmax	pmax		
ASAJ	comp=Z,10.0nm,0.3s						
ASAJ				smax			
ASAJ	comp=N,7.0nm,0.3s						
ASAJ				MLR	MLR		
ASAJ	comp=Z,2μm,18.3s						
YUK	Yuzh-Kuril'sk	7.05	18	*e*P	Pn	01 20 25.5	-5.6
YUK				*i* S	Sn	01 21 40.8	-9.2
YUK				pmax	pmax		
YUK	comp=Z,220nm,0.3s						
YUK				smax			
YUK	comp=N,4μm,0.8s						
YUK				smax			
YUK	comp=E,8μm,0.6s						
YUK				smax			
YUK	comp=N,2μm,0.5s						
YUK				smax			
YUK	comp=E,4μm,0.6s						
YUK				MLR	MLR		
YUK	comp=Z,3μm,12.0s						
YUK				MLR	MLR		
YUK	comp=E,2μm,14.0s						
YSS	Yuzh-Sakhalins	9.58	360	↑*e*P	Pn	01 21 04.3	-1.4
YSS				*e*S	Sn	01 22 48.0	-4.1
YSS				pmax	pmax		
YSS	comp=N,50nm,0.9s						
YSS				pmax	pmax		
YSS	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
YSS	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
YSS	comp=N,1μm,14.0s						
YSS				MLR	MLR		
YSS	comp=E,2μm,16.0s						
YSS	Yuzh-Sakhalins	9.58	360	*e*Pn	Pn	01 21 05.2	-0.5
CBIJ	Chichi jima	10.26	183	Pn	Pn	01 21 10.0	-5.1
CBIJ	comp=E,14nm,0.3s,baz=274,slow=19,SNR=3.0						
CBIJ				Sn	Sn	01 22 55.1	-14
CBIJ	comp=E,19nm,0.3s,baz=285,slow=20,SNR=3.8						
CBIJ				LR	LR	01 24 56.4	
CBIJ	comp=E,707nm,19.9s,baz=23,slow=36						
KS15	Wonju Array Si	11.87	275	*e*Pn	Pn	01 21 39.8	+2.6
MDJ	Mudanjiang	12.32	310	P	Pn	01 21 44.2	+0.9
MDJ				AP		01 21 51.0	
MDJ				XP		01 21 55.3	
MDJ				S	Sn	01 24 01.8	+2.4
MDJ				SCP	ScP	01 30 54.6	+0.6
MDJ				PCS	PcS	01 30 58.0	+0.2
MDJ				AMB	AMB		
MDJ	comp=Z,8.0nm,1.0s						
MDJ				AMB	AMB		
MDJ	comp=Z,292nm,10.3s						
MDJ				LR	LR		
MDJ	comp=N,1μm,15.1s						
MDJ				LR	LR		
MDJ	comp=E,1μm,14.0s						
MDJ				LR	LR		
MDJ	comp=Z,2μm,15.1s						
MDJ	Mudanjiang	12.32	310	*e*Pn	Pn	01 21 45.3	+2.0
MDJ	comp=Z,20nm,0.8s						
KLR	Kul'dur	14.31	329	*e*P	Pn	01 22 03.8	-6.6
KLR				MLR	MLR		
KLR	comp=N,1μm,13.0s						
KLR				MLR	MLR		
KLR	comp=E,11μm,13.0s						
CN2	Changchun	14.66	301	*e*P	Pn	01 22 14.9	-0.3
CN2				AMB	AMB		
CN2	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
CN2	comp=N,2μm,13.0s						
CN2				LR	LR		
CN2	comp=E,900nm,13.0s						
CN2				LR	LR		
CN2	comp=Z,900nm,16.0s						
SNY	Shenyang	15.47	293	↑P	Pn	01 22 26.2	+0.3
SNY				AMB	AMB		
SNY	comp=Z,13nm,0.9s						
SNY				AMB	AMB		
SNY	comp=Z,270nm,6.4s						
SNY				LR	LR		
SNY	comp=E,2μm,14.3s						
SNY				LR	LR		
SNY	comp=Z,3μm,14.0s						
DL2	Dalian	16.73	282	↑P	Pn	01 22 40.6	-1.5
DL2				PP		01 22 58.6	
DL2				*e*S	Sn	01 25 45.1	-1.8
DL2				SS		01 26 01.5	
DL2				AMB	AMB		
DL2	comp=Z,40nm,0.8s						
DL2				AMB	AMB		
DL2	comp=Z,160nm,6.9s						
DL2				LR	LR		
DL2	comp=N,330nm,11.4s						
DL2				LR	LR		
DL2	comp=E,370nm,14.9s						
DL2				LR	LR		
DL2	comp=Z,690nm,13.0s						
SSE	Sheshan	18.93	257	P	Pn	01 23 05.4	-3.6
SSE				S	Sn	01 26 38.9	-0.9
SSE				AMB	AMB		
SSE	comp=Z,26nm,0.7s						
SSE				AMB	AMB		
SSE	comp=Z,182nm,8.0s						
SSE				LR	LR		
SSE	comp=N,783nm,20.7s						
SSE				LR	LR		
SSE	comp=E,372nm,20.7s						
SSE				LR	LR		
SSE	comp=Z,506nm,18.5s						
SSE	Sheshan	18.93	257	P	Pn	01 23 05.4	-3.6
SSE	comp=Z,26nm,0.7s						
SSE				S	Sn	01 26 38.9	-0.9
PET	Petropavlovsk	19.16	30	*e*P	pP	01 23 21.2	+1.6
PET				pmax	pmax		
PET	comp=Z,12nm,0.7s						
PET				MLR	MLR		
PET	comp=Z,800nm,13.0s						
NJ2	Nanjing	20.37	262	*e*P	P	01 23 24.1	+0.1
NJ2				AP		01 23 33.5	
NJ2				XP	sP	01 23 35.9	-1.4
NJ2				PP		01 23 41.4	
NJ2				S	S	01 27 06.0	-4.4
NJ2				XS	sS	01 27 21.0	-3.7
NJ2				AMB	AMB		
NJ2	comp=Z,70nm,0.7s						
NJ2				AMB	AMB		
NJ2	comp=Z,270nm,7.2s						
NJ2				LR	LR		
NJ2	comp=N,2μm,12.0s,MS4.7						
NJ2				LR	LR		
NJ2	comp=E,1μm,14.0s,MS4.7						
NJ2				LR	LR		
NJ2	comp=Z,9μm,14.4s,MS5.3						
HIA	Hailar	20.48	313	↓*i*P	P	01 23 21.9	-3.2
HIA	Hailar	20.48	313	*e*P	P	01 23 24.7	-0.4
HIA	comp=Z,33nm,1.1s						
TIA	Tai'an	20.59	275	*e*P	P	01 23 24.3	-2.0
BJI	Beijing	20.93	286	P	P	01 23 28.3	-1.7
BJI				AMB	AMB		
BJI	comp=Z,34nm,0.9s						
BJI				AMB	AMB		
BJI	comp=Z,164nm,3.5s						
BJI				LR	LR		
BJI	comp=N,541nm,14.7s,MS4.3						
BJI				LR	LR		
BJI	comp=E,823nm,13.6s,MS4.3						
BJI				LR	LR		
BJI	comp=Z,309nm,16.7s,MS3.8						
BJI	Beijing	20.93	286	P	P	01 23 28.3	-1.7
BJI	comp=Z,34nm,0.9s						
BJI				S	S	01 27 31.0	+10
BJI				LR	LR		
BJI	comp=Z,310nm,16.7s,MS3.8						
BJT	Baijiatuau	20.94	285	*e*P	P	01 23 28.7	-1.4
BJT				pmax	pmax		
BJT	comp=Z,49nm,1.1s						
BJT	Baijiatuau	20.94	285	*e*P	P	01 23 28.7	-1.4
BJT	comp=Z,49nm,1.1s						
YHNB	Yeheng	22.25	241	P	P	01 23 45.0	+0.9
NACB	Ninganchiao	22.41	240	P	P	01 23 46.3	+0.4
MA2	Magadan	22.80	10	*e*P	P	01 23 51.1	+1.0
MA2				*e*PS		01 28 55.5	
MA2				pmax	pmax		
MA2	comp=Z,20nm,0.9s,mb4.5						
MA2				MLR	MLR		
MA2	comp=Z,500nm,14.9s,MS4.1						
CLNS	Chul'man	22.84	334	*e*P	P	01 23 48.6	-1.9
CLNS				pmax	pmax		
CLNS	comp=Z,24nm,0.9s,mb4.6						
CLNS				pmax	pmax		
CLNS	comp=N,19nm,1.1s						
CLNS				pmax	pmax		
CLNS	comp=E,18nm,0.9s						
CLNS				MLR	MLR		
CLNS	comp=N,700nm,14.0s,MS4.6						
CLNS				MLR	MLR		
CLNS	comp=Z,2μm,14.0s,MS4.6						
CLNS				MLR	MLR		
CLNS	comp=E,1μm,15.0s,MS4.6						
GUMO	Guam	23.75	175	P	P	01 24 00.4	+0.8
HHC	Hu-ho-hao-te	24.43	288	*e*P	P	01 24 04.7	-1.0
HHC				AP		01 24 10.5	
HHC				XP	sP	01 24 12.8	-6.7
HHC				AMB	AMB		
HHC	comp=Z,31nm,0.8s,mb4.8						
HHC				AMB	AMB		
HHC	comp=Z,81nm,3.1s						
HHC				LR	LR		
HHC	comp=N,392nm,10.7s,MS4.7						
HHC				LR	LR		
HHC	comp=E,1μm,12.5s,MS4.7						
HHC				LR	LR		
HHC	comp=Z,1μm,13.3s,MS4.6						
WHN	Wuhan	24.51	262	↑P	P	01 24 06.4	-0.1
WHN				AP		01 24 16.4	
WHN				LR	LR		
WHN	comp=Z,3μm,13.9s,MS5.0						
CIT	Chita	25.22	315	*e*P	P	01 24 11.6	-1.3
CIT				*e*	pP	01 24 22.6	0.0
CIT				pmax	pmax		
CIT	comp=Z,309nm,2.1s,mb5.5						
BTO	Baotou	25.61	287	*e*P	P	01 24 15.7	-0.7
BTO				LR	LR		
BTO	comp=N,235nm,13.0s,MS4.2						
BTO				LR	LR		
BTO	comp=E,422nm,13.3s,MS4.2						
YAK	Yakutsk	26.00	346	*c i*P	P	01 24 18.8	-1.2
YAK				*e*PP	pP	01 24 28.6	-1.1
YAK				*e*		01 24 53.2	
YAK				*e*S	S	01 28 42.2	-6.2
YAK				pmax	pmax		
YAK	comp=Z,56nm,0.9s,mb5.1						
YAK				pmax	pmax		
YAK	comp=N,21nm,1.0s						
YAK				pmax	pmax		
YAK	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
YAK	comp=Z,35nm,0.9s,mb4.9						
YAK				pmax	pmax		
YAK	comp=N,58nm,1.7s						
YAK				pmax	pmax		
YAK	comp=E,64nm,1.6s						
YAK				smax			
YAK	comp=E,63nm,2.6s						
YAK				smax			
YAK	comp=Z,24nm,1.1s						
YAK				smax			
YAK	comp=N,76nm,2.2s						
YAK				MLR	MLR		
YAK	comp=Z,1μm,17.0s,MS4.5						
YAK				MLR	MLR		
YAK	comp=N,798nm,18.0s,MS4.4						
YAK				MLR	MLR		
YAK	comp=E,580nm,18.0s,MS4.4						
YAK	Yakutsk	26.00	346	*e*P	P	01 24 19.4	-0.5
SEY	Seymchan	26.26	10	↑*e*P	P	01 24 22.3	0.0
XAN	Xi'an	27.63	273	P	P	01 24 34.2	-0.5
XAN				PP		01 25 23.2	
XAN				S	S	01 29 16.3	+2.1
XAN				AMB	AMB		
XAN	comp=Z,23nm,1.7s,mb4.5						
XAN				LR	LR		
XAN	comp=N,116nm,14.5s,MS4.3						
XAN				LR	LR		
XAN	comp=E,597nm,14.5s,MS4.3						
XAN				LR	LR		
XAN	comp=Z,882nm,14.4s,MS4.5						
BOD	Bodaibo	27.85	326	↑*i*P	P	01 24 36.3	-0.3
BOD				pmax	pmax		
BOD	comp=Z,40nm,1.1s,mb5.0						
SONM	Songino Array	28.53	303	P	P	01 24 43.9	+1.2
SONM	comp=Z,56nm,1.0s,mb5.2,baz=101,slow=9.1,SNR=167						
SONM				LR	LR	01 36 26.0	
SONM	comp=Z,476nm,18.3s,MS4.1,baz=306,slow=37						
SONM	Songino Array	28.53	303	P	P	01 24 43.9	+1.2
SONM				pmax	pmax		
SONM	comp=Z,56nm,1.0s						
SONM				MLR	MLR		
SONM	comp=Z,476nm,18.3s						
ZAK	Zakamensk	30.94	308	↓*i*P	P	01 25 04.3	+0.3
ZAK				pmax	pmax		
ZAK	comp=Z,11nm,1.2s,mb4.6						
TLY	Talaya	30.96	310	P	P	01 25 05.3	+1.1
TLY	SNR=5.7						
TLY	Talaya	30.96	310	*e*P	P

LZH eS S 01 30 12.0 +3.2
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,167nm,4.2s
LZH LR LR
comp=N,1μm,14.1s
LZH LR LR
comp=Z,2μm,15.4s,MS4.9
LZH Lanzhou 31.11 280 ⇓P P **01 25 06.0 +0.5**
LZH *PP pP 01 25 16.0 +0.7
LZH *SP sP 01 25 20.5 +1.1
LZH 01 26 13.5
LZH 01 28 00.4
LZH eS S **01 30 12.0 +3.2**
LZH *SS sS 01 30 27.0 +2.1
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.4s,MS4.9
LZH Lanzhou 31.11 280 ⇓P P **01 25 06.0 +0.5**
comp=Z,69nm,1.5s,mb5.3
LZH pP pP 01 25 16.0 +0.7
LZH sP sP 01 25 20.5 +1.1
LZH PP PP 01 26 13.5 -2.5
LZH PcP PcP 01 28 00.4 +0.1
LZH eS S **01 30 12.0 +3.2**
LZH sS sS 01 30 27.0 +2.1
LZH SS SS 01 32 00.1 -22
LZH LR LR
comp=Z,2μm,15.4s,MS4.9
GYA Guiyang 32.38 261 P P **01 25 15.7 -0.9**
GYA S S **01 30 33.4 +4.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,130nm,9.0s
GYA LR LR
comp=N,380nm,15.5s,MS4.6
GYA LR LR
comp=E,830nm,13.8s,MS4.6
GYA LR LR
comp=Z,690nm,16.1s,MS4.4
CD2 Chengdu 32.79 270 P P **01 25 19.7 -0.5**
CD2 AP pP 01 25 29.2 -0.8
CD2 XP sP 01 25 33.0 -1.1
CD2 PP PP 01 26 29.3 -5.3
CD2 S S **01 30 33.0 -1.9**
CD2 XS sS 01 30 49.6 -1.5
CD2 SS SS 01 32 32.3 -24
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
CD2 AMB AMB
comp=Z,160nm,8.3s
CD2 LR LR
comp=N,1μm,13.8s
CD2 LR LR
comp=Z,1μm,14.4s,MS4.8
BILL Bilibino 33.39 16 P P **01 25 24.5 -1.0**
BILL e pP 01 25 34.3 -1.0
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BILL Biiibino 33.39 16 P P **01 25 24.5 -1.0**
comp=Z,9.7nm,0.8s,mb4.8
BILL e pP 01 25 34.3 -1.0
GTA Gaotai 33.53 287 ⇑P P **01 25 27.2 +0.5**
GTA AP pP 01 25 33.8 -2.7
GTA XP sP 01 25 36.6 -4.0
GTA PCP PcP 01 28 07.7 +0.8
GTA S S **01 30 51.2 +4.7**
GTA XS sS 01 31 04.1 +1.4
GTA AMB AMB
comp=Z,37nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,129nm,8.4s
GTA LR LR
comp=N,378nm,16.3s,MS4.5
GTA LR LR
comp=E,617nm,16.7s,MS4.5
GTA LR LR
comp=Z,859nm,16.0s,MS4.6
QIZ Qiongzhong 34.08 247 P P **01 25 32.0 +0.5**
QIZ S S **01 30 58.7 +3.6**
QIZ LR LR
comp=N,369nm,17.9s,MS4.3
QIZ LR LR
comp=E,332nm,17.9s,MS4.3
QIZ LR LR
comp=Z,399nm,18.8s,MS4.2
QIZ Qiongzhong 34.08 247 P P **01 25 31.9 +0.4**
KMI Kunming 36.11 262 P P **01 25 48.9 -0.1**
KMI AP pP 01 25 57.3 -1.6
KMI XP sP 01 26 01.2 -1.8
KMI PP PP 01 27 11.1 -0.3
KMI S S **01 31 28.0 +1.8**
KMI XS sS 01 31 42.4 -0.1
KMI AMB AMB
comp=Z,17nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,103nm,3.6s
KMI LR LR
comp=N,598nm,14.3s,MS4.6
KMI LR LR
comp=E,665nm,17.3s,MS4.6
KMI LR LR
comp=Z,755nm,15.6s,MS4.6
KMI Kunming 36.11 262 P P **01 25 48.9 -0.1**
KMI *PP pP 01 25 57.3 -1.6
KMI *SP sP 01 26 01.2 -1.8
KMI 01 27 11.1
KMI S S **01 31 28.0 +1.8**
KMI *SS sS 01 31 42.4 -0.1
KMI SSS 01 36 01.2
KMI pmax pmax
comp=Z,17nm,1.5s,mb4.8
KMI MLR MLR
comp=Z,760nm,15.6s,MS4.6
KMI Kunming 36.11 262 P P **01 25 48.9 -0.1**
comp=Z,17nm,1.5s,mb4.8
KMI pP pP 01 25 57.3 -1.6
KMI sP sP 01 26 01.2 -1.8
KMI PP PP 01 27 11.1 -0.3
KMI S S **01 31 28.0 +1.8**
KMI sS sS 01 31 42.4 -0.1
KMI SS SS 01 33 59.6 -4.9
KMI SSS 01 36 01.2
KMI LR LR
comp=Z,760nm,15.6s,MS4.6
WMQ Urumqi 41.68 297⇑ i P P **01 26 36.9 +1.3**
WMQ AP pP 01 26 46.5 +0.9
WMQ XP sP 01 26 50.5 +0.8
WMQ PP PP 01 28 16.0 +3.7
WMQ PCP PcP 01 28 34.0 +2.1
WMQ PCS PcS 01 32 24.0 +0.7
WMQ S S **01 32 51.0 +0.9**
WMQ XS sS 01 33 08.0 +1.5
WMQ SS SS 01 35 52.0 -4.2
WMQ AMB AMB
comp=Z,37nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,175nm,4.0s
WMQ LR LR
comp=N,978nm,13.6s,MS5.0
WMQ LR LR
comp=E,881nm,12.4s,MS5.0
WMQ LR LR
comp=Z,936nm,21.0s
CHTO Chiang Mai 42.45 257 eP P **01 26 42.1 +0.2**
CHTO e*PP pP 01 26 51.6 -0.3
CHTO pmax pmax
comp=Z,13nm,1.3s,mb4.4
CHTO Chiang Mai 42.45 257 eP P **01 26 42.1 +0.2**
comp=Z,13nm,1.3s,mb4.4
CHTO epP pP 01 26 51.6 -0.4
ZAL Zalesovo 42.53 312 P P **01 26 43.1 +0.6**
comp=Z,14nm,0.8s,mb4.8,baz=25,slow=8.2,SNR=69
ZAL pP pP 01 26 53.0 +0.4
comp=Z,14nm,0.8s,baz=24,slow=7.6,SNR=14
ZAL LR LR 01 45 25.8
comp=Z,266nm,19.1s,MS4.2,baz=15,slow=37
ZAL Zalesovo 42.53 312 P P **01 26 43.1 +0.6**
ZAL *PP pP 01 26 53.0 +0.5
ZAL pmax pmax
comp=Z,14nm,0.8s
ZAL pmax pmax
comp=Z,14nm,0.8s
ZAL MLR MLR
comp=Z,266nm,19.1s
ZAL Zalesovo 42.53 312 P P **01 26 43.1 +0.6**
ZAL pP pP 01 26 53.0 +0.4
ZAL LR LR 01 45 25.8
LSA Lhasa 43.29 276 eP P **01 26 50.5 +1.8**
LSA e pP 01 27 02.4 +3.7
LSA pmax pmax
comp=Z,12nm,0.8s,mb4.7
LSA Lhasa 43.29 276 eP P **01 26 50.5 +1.8**
comp=Z,12nm,0.8s,mb4.7
LSA e pP 01 27 02.4 +3.7
NVS Novosibirsk 43.41 313 eP P **01 26 48.6 -1.1**
SVW2 Sparrevohn 44.58 38 eP P **01 26 57.4 -1.6**
SVW2 epP pP 01 27 07.8 -1.2
MK31 Makanchi Array 44.88 302 i P P **01 27 01.6 +0.1**
MKAR Makanchi Array 44.88 302 P P **01 27 01.9 +0.4**
comp=Z,21nm,0.8s,mb5.0,baz=86,slow=9.6,SNR=124
MKAR LR LR 01 46 25.5
comp=Z,179nm,18.4s,MS4.0,baz=72,slow=37
MKAR Makanchi Array 44.88 302 i P P **01 27 01.5 0.0**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 44.88 302 P P **01 27 01.9 +0.4**
MKAR LR LR 01 46 25.5
KDAK Kodiak Island 46.10 42 P P **01 27 09.9 -1.2**
comp=Z,5.5nm,0.6s,mb4.7,baz=25,slow=6.4,SNR=6.4
KDAK pP pP 01 27 18.9 -2.3
comp=Z,4.6nm,0.5s,baz=334,slow=8.8,SNR=3.4
KSM Kuching 46.60 228 P P **01 27 15.7 +0.7**
KSM e 01 27 29.3
PMG Port Moresby 46.71 174 P P **01 27 15.9 0.0**
PMR Palmer 47.69 37 eP pP 01 27 35.0 +1.4
PMR Palmer 47.69 37 epP pP 01 27 35.0 +1.4
GUN Gumba 48.23 276 eP P **01 27 28.6 +0.9**
comp=Z,50nm,0.8s,mb5.6
PKI Pulchoki 48.75 276 eP P **01 27 32.0 +0.3**
comp=Z,13nm,0.7s,mb5.1
KKN Kakani 48.76 276 eP P **01 27 32.5 +0.7**
comp=Z,38nm,0.7s,mb5.5
DMN Daman 48.98 276 eP P **01 27 33.8 +0.4**
comp=Z,9.3nm,0.5s,mb5.1
GKN Gorkha 49.17 277 eP P **01 27 35.4 +0.5**
comp=Z,71nm,0.9s,mb5.7
HNR Honiara 49.25 157 LR LR 01 46 50.9
comp=Z,303nm,18.9s,MS4.3,baz=7.6,slow=34
KOLN Koldanda 50.10 277 eP P **01 27 42.5 +0.5**
comp=Z,78nm,1.3s,mb5.6
TKM2 Tokmak 2 50.45 299 P P **01 27 46.0 +1.3**
SNR=22
VOSK Vostochnaya 50.89 312 P P **01 27 47.3 -0.6**
VOSK pmax pmax
comp=Z,22nm,0.9s,mb5.1
CHKZ Chkalovo 50.90 313 eP P **01 27 47.8 -0.2**
CHKZ e*PP pP 01 27 57.7 -0.5
KBK Karagaybulak 50.98 298 P P **01 27 49.9 +1.2**
SNR=18
USP Ospenovka 51.11 299 P P **01 27 50.3 +0.7**
SNR=9.2
FRU Bishkek 51.16 299 eP P **01 27 51.0 +1.0**
FRU pmax pmax
comp=Z,126nm,2.5s,mb5.4
BVA0 Borovoye Array 51.17 312 i P P **01 27 49.3 -0.8**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BVAR Borovoye Array 51.17 312 P P **01 27 50.2 +0.1**
comp=Z,15nm,0.9s,mb5.0,baz=78,slow=7.7,SNR=50
BVAR pP pP 01 28 00.2 -0.1
comp=Z,8.6nm,0.5s,baz=73,slow=7.8,SNR=12
BVAR Borovoye Array 51.17 312 P P **01 27 50.2 +0.1**
BVAR *PP pP 01 28 00.2 0.0
BVAR pmax pmax
comp=Z,15nm,0.9s
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BRVK Borovoye 51.23 312 P P **01 27 50.9 +0.5**
SNR=11
BRVK Borovoye 51.23 312 eP P **01 27 50.6 +0.1**
BRVK e*PP pP 01 28 00.8 +0.1
BRVK pmax pmax
comp=Z,24nm,0.8s,mb5.2
BRVK Borovoye 51.23 312 eP P **01 27 50.6 +0.1**
comp=Z,24nm,0.8s,mb5.2
BRVK epP pP 01 28 00.8 +0.1
AAK Ala-Archa 51.31 299 P P **01 27 51.9 +0.7**
SNR=9.1
AAK Ala-Archa 51.31 299 P P **01 27 51.2 +0.1**
SNR=8.0
AAK Ala-Archa 51.31 299⇑ eP P **01 27 50.8 -0.3**
AAK pmax pmax
comp=Z,17nm,2.4s,mb4.5
AAK MLR MLR
comp=Z,600nm,18.0s,MS4.7
AAK Ala-Archa 51.31 299 eP P **01 27 50.8 -0.4**
EKS2 Erkin-Say 51.80 299 P P **01 27 55.6 +0.8**
SNR=7.3
ZRNK Zerenda 52.00 312 eP P **01 27 56.6 +0.3**
ZRNK e*PP pP 01 28 06.2 -0.3
ZRNK pmax pmax
comp=Z,32nm,0.9s,mb5.2
ZRNK Zerenda 52.00 312 eP P **01 27 56.5 +0.3**
comp=Z,32nm,0.9s,mb5.3
ZRNK epP pP 01 28 06.2 -0.3
AML Almayashu 52.03 298 P P **01 27 58.6 +2.1**
SNR=8.7
PSI Prapat 52.92 240 LR LR 01 55 00.8
comp=Z,200nm,18.3s,MS4.2,baz=72,slow=41
INK Inuvik 53.58 27 P P **01 28 07.0 -0.9**
comp=Z,1.5nm,0.6s,mb4.1,baz=302,slow=12,SNR=6.2
INK pP pP 01 28 18.1 -0.1
comp=Z,5.3nm,0.6s,baz=289,slow=8.7,SNR=7.4
INK Inuvik 53.58 27 P P **01 28 07.0 -0.9**
INK *PP pP 01 28 18.1 -0.1
INK pmax pmax
comp=Z,2.0nm,0.6s
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 53.58 27 P P **01 28 07.0 -0.9**
INK eP 01 28 07.7
INK epP pP 01 28 17.4 -0.7
INK epP pP 01 28 17.9 -0.2
INK pP pP 01 28 18.1 -0.1
INK esP sP 01 28 22.2 +0.1
SVE Sverdlovsk 55.63 319⇑ eP P **01 28 24.0 +1.2**
ARU Arti 56.84 319⇓ iP P **01 28 30.7 -0.8**
ARU e pP 01 28 41.0 -0.8
ARU e 01 30 36.9
ARU eS S **01 36 24.7 +2.1**
ARU eSS SS 01 40 10.7 -0.3
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
ARU MLR MLR
comp=N,100nm,16.0s,MS4.7
ARU MLR MLR
comp=E,500nm,16.0s,MS4.7
ARU MLR MLR
comp=Z,600nm,16.0s,MS4.8
ARU Arti 56.84 319 eP P **01 28 31.4 -0.1**
ARU epP pP 01 28 41.7 0.0
FITZ Fitzroy Crossi 57.50 199 eP P **01 28 35.5 -0.6**
comp=Z,6.9nm,1.0s,mb4.6
FITZ e pP 01 28 45.2 -1.2
FITZ Fitzroy Crossi 57.50 199 P P **01 28 35.6 -0.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=14,slow=11,SNR=7.7
FITZ pP pP 01 28 45.5 -0.9
comp=Z,3.3nm,0.7s,baz=35,slow=8.6,SNR=4.5
WRAB Tennant Creek 57.55 189⇓ iP P **01 28 34.7 -1.8**
WB2 Warramunga Arr 57.56 189 eP P **01 28 34.7 -1.8**
WB2 e pP 01 28 44.8 -2.0
WRA Warramunga Arr 57.56 189 P P **01 28 34.8 -1.8**
comp=Z,12nm,0.8s,mb5.0,baz=9.9,slow=7.4,SNR=89
WRA pP pP 01 28 44.8 -2.0
comp=Z,16nm,0.8s,baz=10,slow=7.4,SNR=17
WRA Warramunga Arr 57.56 189 P P **01 28 34.8 -1.7**
WRA *PP pP 01 28 44.8 -2.0
WRA pmax pmax
comp=Z,12nm,0.8s
WRA pmax pmax
comp=Z,16nm,0.8s
AKTK Aktyubinsk 59.28 312 P P **01 28 48.6 +0.1**
AKTO Aktyubinsk 59.28 312 P P **01 28 48.6 +0.1**
comp=Z,15nm,0.8s,mb5.1,baz=70,slow=11,SNR=28
AKTO Aktyubinsk 59.28 312 P P **01 28 48.6 +0.1**
AKTO pmax pmax
comp=Z,15nm,0.8s,mb5.1
HYB Hyderabad 59.33 269 i P P **01 28 50.5 +1.7**
HYB Hyderabad 59.33 269 eP P **01 28 49.0 +0.2**
AS31 Alice Springs 61.28 189 eP P **01 29 00.7 -1.5**
AS31 e pP 01 29 11.4 -1.2
ASAR Alice Springs 61.29 189 P P **01 29 00.8 -1.4**
comp=Z,3.4nm,0.8s,mb4.6,baz=13,slow=7.1,SNR=35
ASAR pP pP 01 29 11.0 -1.6
comp=Z,5.0nm,0.7s,baz=17,slow=7.8,SNR=15
ASAR Alice Springs 61.29 189 P P **01 29 00.9 -1.4**
ASAR *PP pP 01 29 11.0 -1.6
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASPA Alice Springs 61.29 189 eP P **01 29 00.7 -1.6**
ASPA e pP 01 29 11.4 -1.2
RES Resolute Bay 61.99 15 P P **01 29 06.7 -0.3**
RES e*PP pP 01 29 16.6 -0.8
MBWA Marble Bar 62.15 204 eP P **01 29 07.0 -1.0**
MBWA epP pP 01 29 17.3 -1.1
POO Poona 62.47 273 ex P **01 29 08.0 -2.2**
APA Apatity 62.84 336⇑ iP P **01 29 12.0 -0.7**
APA i pP 01 29 21.3 -1.7
APA pmax pmax
comp=Z,18nm,1.0s,mb5.2
APA MLR MLR
comp=Z,1μm,17.0s,MS5.2
YKA Yellowknife Ar 62.95 31 pP pP 01 29 22.6 -1.2
comp=Z,2.2nm,0.6s,baz=302,slow=6.4,SNR=6.8
DZM Mont Dzumac 63.18 155 LR LR 01 53 05.4
comp=Z,260nm,19.2s,MS4.4,baz=319,slow=33
KEV Kevo 63.52 340 ep pP 01 29 25.9 -1.7
comp=Z,15nm,0.9s
KEV Kevo 63.52 340 eP P **01 29 14.8 -2.4**
KEV eP pP 01 29 25.9 -1.7
PALK Pallekele 63.53 258 eP P **01 29 17.9 +0.7**
comp=Z,11nm,0.9s,mb4.9
PALK epP pP 01 29 28.3 +0.7
ARCES ARCESS Array B 64.07 340 P P **01 29 20.5 -0.3**
comp=Z,6.6nm,0.8s,mb4.7,baz=56,slow=7.5,SNR=17
ARCES pP pP 01 29 30.5 -0.7
comp=Z,7.4nm,0.8s,baz=51,slow=9.6,SNR=5.1
ARCES LR LR 01 58 43.9
comp=Z,147nm,19.8s,MS4.2,baz=48,slow=37
ARCES ARCESS Array B 64.07 340 P P **01 29 20.5 -0.3**
ARCES *PP pP 01 29 30.5 -0.7
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,147nm,19.8s
ARCES ARCESS Array B 64.07 340 P P **01 29 20.5 -0.3**
ARCES pP pP 01 29 30.5 -0.7
ARCES LR LR 01 58 43.9
ARE0 ARCESS Array S 64.07 340 eP P **01 29 20.7 -0.1**
ARE0 epP pP 01 29 30.1 -1.1
JOF Joensuu 66.19 332 ep P **01 29 33.1 -1.4**
comp=Z,5.6nm,0.5s,mb4.8
JOF Joensuu 66.19 332 ep pP 01 29 42.9 -2.1
JOF Joensuu 66.19 332 eP P **01 29 33.1 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
JOF Joensuu 66.19 332 eP P **01 29 33.1 -1.4**
JOF eP pP 01 29 42.9 -2.1
AFI Afiamalu 66.50 131 LR LR 01 55 56.0
comp=Z,115nm,18.8s,MS4.1,baz=56,slow=34
MOS Moscow 67.64 324 eP P **01 29 42.2 -1.6**
MOS i pP 01 29 53.8 -0.5
MOS pmax pmax
comp=Z,48nm,1.3s,mb5.4
HOOD Mount Hood Mea 68.03 49 epP pP 01 29 57.3 +0.5
OBN Obninsk 68.49 324⇓ iP P **01 29 48.5 -0.6**
OBN e pP 01 29 58.8 -0.8
OBN pmax pmax
comp=Z,23nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
OBN Obninsk 68.49 324 epP pP 01 29 58.2 -1.4
OBN epP pP 01 29 59.2 -0.4
KAF Kangasniemi 68.52 333 ep P **01 29 47.7 -1.6**
comp=Z,11nm,0.5s,mb5.1,baz=48,slow=5.9
KAF Kangasniemi 68.52 333 ep pP 01 29 57.7 -2.1
comp=Z,6.7nm,0.5s,baz=48,slow=5.9
KAF Kangasniemi 68.52 333 eP P **01 29 47.7 -1.6**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.0
KAF Kangasniemi 68.52 333 eP P **01 29 47.7 -1.6**
comp=Z,11nm,0.5s,mb5.1
KAF eP pP 01 29 57.7 -2.1
STKA Stephens Creek 68.90 181 P P **01 29 50.6 -1.1**
comp=Z,1.1nm,0.5s,mb4.0,baz=18,slow=3.8,SNR=2.8
STKA Stephens Creek 68.90 181 P P **01 29 51.0 -0.7**
FIA1 FINESS Array S 69.03 333 eP P **01 29 52.5 0.0**
FIA1 epP pP 01 30 02.3 -0.7
FINES FINESS Array B 69.03 333 P P **01 29 52.0 -0.5**
comp=Z,9.4nm,0.6s,mb4.9,baz=49,slow=8.6,SNR=42
FINES pP pP 01 30 02.4 -0.6
comp=Z,16nm,0.8s,baz=54,slow=13,SNR=21
FINES LR LR 02 01 01.6
comp=Z,128nm,21.5s,MS4.1,baz=171,slow=37
FINES FINESS Array B 69.03 333 P P **01 29 52.0 -0.5**
FINES *PP pP 01 30 02.4 -0.6
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES pmax pmax
comp=Z,16nm,0.8s
FINES MLR MLR
comp=Z,128nm,21.5s
FINES FINESS Array B 69.03 333 P P **01 29 52.0 -0.5**
FINES pP pP 01 30 02.4 -0.6
FINES LR LR 02 01 01.6
FORT Forrest 69.19 194 eP P **01 29 53.3 -0.2**
comp=Z,12nm,0.8s,mb4.9
FORT e pP 01 30 03.0 -1.0
YBH Yreka Blue Hor 69.25 53 eP pP 01 30 04.3 -0.1
YBH Yreka Blue Hor 69.25 53 epP pP 01 30 04.3 -0.1
VRSR Storozhevoye 69.40 319 eP P **01 29 54.6 -0.2**
VRSR e*PP pP 01 30 04.5 -0.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR MLR MLR
comp=E,880nm,16.0s
VRSR MLR MLR
comp=Z,820nm,16.0s,MS5.1
JMIC Jan Mayen 70.00 350 LR LR 02 00 42.5
comp=Z,129nm,21.2s,MS4.2,baz=79,slow=36
SUMG Summit 70.35 0 eP P **01 30 00.7 +0.2**
comp=Z,13nm,0.6s,mb5.0
SUMG epP pP 01 30 10.9 -0.2
WALA Waterton Lakes 70.44 43 P P **01 30 02.4 +1.2**
MOD Modoc 70.68 52 eP P **01 30 02.9 +0.3**
OHCM Honcut 71.33 55 epP pP 01 30 16.2 -0.9
WVOR Wild Horse Val 71.42 51 eP P **01 30 07.3 +0.2**
WVOR e*PP pP 01 30 15.6 -2.1
WVOR pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
WVOR Wild Horse Val 71.42 51 eP P **01 30 07.3 +0.2**
comp=Z,5.5nm,1.3s,mb4.3
WVOR epP pP 01 30 15.6 -2.1
ZEI Tsey 71.45 310 eP P **01 30 07.5 +0.2**
ZEI e*PP pP 01 30 16.8 -1.1
ZEI e 01 32 46.0
ZEI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KIV Kislovodsk 71.52 311 P P **01 30 09.4 +1.7**
SNR=8.7
KIV Kislovodsk 71.52 311c iP P **01 30 08.4 +0.7**
KIV e pP 01 30 19.8 +1.5
KIV pmax pmax
comp=Z,67nm,1.1s,mb5.5
KIV Kislovodsk 71.52 311 eP P **01 30 08.7 +1.0**
GNI Garni 72.39 307 LR LR 02 04 21.5
comp=Z,107nm,19.6s,MS4.1,baz=160,slow=38
GNI Garni 72.39 307c iP P **01 30 14.1 +1.1**
GNI pmax pmax
comp=Z,20nm,1.7s
GNI MLR MLR
comp=Z,200nm,14.0s

GNI Garni 72.39 307 *e*P **P 01 30 14.1 +1.1**
comp=Z,19nm,0.9s,mb5.0
PAHR Pah Rah Range 72.48 53 *e*P **P 01 30 14.5 +1.1**
comp=Z,8.3nm,0.9s,mb4.7
PAHR *e*pP pP 01 30 23.7 -0.3
WAKR Walker 73.12 54 *e*P **P 01 30 17.7 +0.4**
WAKR *e*pP pP 01 30 27.9 +0.1
LRM Limekiln Ridge 73.12 45 *e*P **P 01 30 17.6 +0.3**
DLMT Dillon 73.31 45 P **P 01 30 18.4 0.0**
comp=Z,2.3nm,0.6s,mb4.3
HLID Hailey 73.32 48 *e*P **P 01 30 19.3 +0.8**
NVAR Mina Array Bea 73.89 54 pP pP 01 30 32.1 -0.3
baz=298,slow=6.0
ANN Anapa 74.10 314 *e*P **P 01 30 22.8 -0.2**
ANN *i* *PP pP 01 30 33.1 -0.5
ANN *i* 01 30 36.9
ANN *e* 01 33 09.4
ANN *e*S S 01 39 57.4 +3.9
ANN *e*SS SS 01 44 45.6 +6.8
ANN pmax pmax
comp=Z,77nm,1.4s,mb5.4
ANN MLR MLR
comp=Z,319nm,20.0s,MS4.6
HFS Hagfors 74.24 336 LR LR 02 05 47.5
comp=Z,325nm,18.8s,MS4.6,baz=301,slow=38
NB2 NORSAR Subarra 74.30 338 P **P 01 30 23.5 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=39,slow=6.2
NB2 NORSAR Subarra 74.30 338 P **P 01 30 23.5 -0.7**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
NOA NORSAR Array B 74.30 338 P **P 01 30 23.8 -0.4**
comp=Z,11nm,0.8s,mb4.8,baz=38,slow=5.8,SNR=40
NOA pP pP 01 30 33.7 -1.1
comp=Z,12nm,0.7s,baz=38,slow=5.8,SNR=16
NOA LR LR 02 07 39.6
comp=Z,253nm,18.9s,MS4.5,baz=40,slow=39
NOA NORSAR Array B 74.30 338 P **P 01 30 23.8 -0.4**
NOA *PP pP 01 30 33.7 -1.1
NOA pmax pmax
comp=Z,11nm,0.8s
NOA pmax pmax
comp=Z,12nm,0.7s
NOA MLR MLR
comp=Z,253nm,18.9s
AKASG Malin Array Be 74.71 323 P **P 01 30 26.1 -0.4**
comp=Z,13nm,0.7s,mb5.0,baz=45,slow=5.7,SNR=39
AKASG pP pP 01 30 36.2 -0.9
comp=Z,20nm,0.8s,baz=44,slow=5.7,SNR=13
AKASG LR LR 02 09 09.7
comp=Z,120nm,19.7s,MS4.2,baz=55,slow=40
AKASG Malin Array Be 74.71 323 P **P 01 30 26.2 -0.4**
AKASG *PP pP 01 30 36.2 -0.9
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG pmax pmax
comp=Z,21nm,0.8s
AKASG Malin Array Be 74.71 323 P **P 01 30 26.1 -0.4**
AKASG pP pP 01 30 36.2 -0.9
AKASG LR LR 02 09 09.7
IMW Indian Meadow 75.14 46 *e*P **P 01 30 30.9 +1.8**
comp=Z,7.8nm,0.7s,mb4.8
SUW Suwalki 75.20 328 *e*P **P 01 30 30.0 +0.6**
SUW *e* pP 01 30 39.5 -0.5
RRI2 Red Ridge 75.26 47 *e*pP pP 01 30 45.8 +5.5
TPAW Teton Pass 75.39 46 *e*P **P 01 30 32.0 +1.6**
SFJD Kangerlussuaq 75.45 5 LR LR 02 07 08.1
comp=Z,338nm,18.5s,MS4.7,baz=329,slow=38
REDW Red Top Meadow 75.52 46 *e*P **P 01 30 32.6 +1.4**
DAC Darwin (Calif) 75.60 55 *e*P **P 01 30 31.7 0.0**
BGU Big Grassy Mou 75.72 49 P **P 01 30 32.8 +0.5**
BGU *e*pP pP 01 30 42.8 -0.2
SIM Simferopol' 75.86 316 *e*P **P 01 30 32.6 -0.6**
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,300nm,16.0s,MS4.7
HWUT Hardware Ranch 76.18 48 *e*P **P 01 30 36.7 +1.7**
comp=Z,11nm,1.3s,mb4.6
DUG Dugway 76.29 50 *e*P **P 01 30 37.7 +2.1**
BW06 Boulder Array 76.63 46 *e*P **P 01 30 38.1 +0.6**
comp=Z,5.5nm,1.1s,mb4.4
BW06 *e*pP pP 01 30 47.4 -0.8
PDAR Pinedale Array 76.63 46 P **P 01 30 37.5 -0.1**
comp=Z,1.5nm,0.9s,mb3.9,baz=304,slow=3.4,SNR=9.2
PDAR pP pP 01 30 47.4 -0.8
comp=Z,1.8nm,0.6s,baz=317,slow=1.7,SNR=9.0
GSC Goldstone 76.69 56 *e*P **P 01 30 38.4 +0.5**
DAU Daniels Canyon 77.10 49 *e*P **P 01 30 41.5 +1.3**
DAU *e**PP pP 01 30 51.0 +0.2
MPU Maple Canyon 77.12 49 *e*P **P 01 30 41.2 +0.9**
MPU *e*pP pP 01 30 51.2 +0.3
KIS Kishinev 77.36 320 *e*P **P 01 30 46.0 +4.4**
KIS MLR MLR
comp=Z,600nm,15.0s,MS5.0
KIS MLR MLR
comp=Z,1μm,16.0s
ARUT Antelope Range 77.36 52 *e*P **P 01 30 42.7 +1.0**
ARUT *e**PP pP 01 30 52.5 +0.2
MALT Malatya 77.44 309⇓*i*P **P 01 30 44.3 +2.2**
MALT Malatya 77.44 309 *e*P **P 01 30 43.5 +1.4**
comp=Z,21nm,1.1s,mb5.0
CCUT Cedar City 77.56 52 *e*P **P 01 30 42.9 +0.2**
CCUT *e*pP pP 01 30 53.5 +0.1
MSU Marysvale 77.71 51 *e*P **P 01 30 44.6 +1.0**
MSU *e**PP pP 01 30 54.7 +0.5
LVV L'vov 77.76 324 *e*P **P 01 30 44.6 +0.7**
LVV MLR MLR
comp=E,300nm,14.0s,MS4.9
LVV MLR MLR
comp=Z,400nm,14.0s,MS4.9
LVV MLR MLR
comp=N,300nm,13.0s,MS4.9
BAR Barrett 78.34 58 *e*P **P 01 30 51.5 +4.4**
SRU San Rafael 78.35 50 *e*P **P 01 30 48.4 +1.2**
KWP Kalwaria 78.50 325 *e*P **P 01 30 48.9 +0.9**
KWP *e* pP 01 30 58.8 +0.2
BURAR Bucovina Array 78.73 322⇑*i*P **P 01 30 49.6 +0.3**
BURAR Bucovina Array 78.73 322⇑P **P 01 30 49.6 +0.3**
RSSD Black Hills 78.83 42 P **P 01 30 50.7 +0.9**
CFR Carcaliu 78.93 319⇓*i*P **P 01 30 50.4 +0.1**
CFR Carcaliu 78.93 319⇓P **P 01 30 50.4 0.0**
VRI Vrincioaia 79.19 320⇓*i*P **P 01 30 52.6 +0.8**
VRI Vrincioaia 79.19 320⇓P **P 01 30 52.6 +0.8**
KOLS Kolonicke sedl 79.20 325 *e*P **P 01 30 51.0 -0.8**
PLOR Plostina 79.24 320⇑*i*P **P 01 30 53.2 +1.2**
STHS Stebnicka Huta 79.32 326 *e*P **P 01 30 53.1 +0.6**
STHS *e* pP 01 31 03.3 +0.2
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 79.32 326 *e*P **P 01 30 53.1 +0.6**
comp=Z,6.1nm,1.0s,mb4.5
STHS *e* pP 01 31 03.3 +0.2
GLA Glamis 79.35 57 *e*P pP 01 31 03.0 -0.3
GLA Glamis 79.35 57 *e*pP pP 01 31 03.0 -0.3
OJC Ojcow 79.38 327 *e*P **P 01 30 53.1 +0.3**
UZH Uzhgorod 79.41 324 *e*P pP 01 31 02.2 -1.4
UZH *e* 01 31 14.0
UZH pmax pmax
comp=Z,19nm,1.1s,mb4.9
BR131 Keskin Array S 79.46 312 *e*P **P 01 30 54.1 +0.8**
comp=Z,2.2nm,0.9s,mb4.1
BR131 *e*pP pP 01 31 04.2 +0.3
BRTR Keskin Array B 79.46 312 P **P 01 30 54.0 +0.7**
comp=Z,4.0nm,1.0s,mb4.3,baz=100,slow=5.1,SNR=12
BRTR pP pP 01 31 04.7 +0.8
comp=Z,6.8nm,1.1s,baz=104,slow=5.2,SNR=10
BRTR Keskin Array B 79.46 312 P **P 01 30 54.0 +0.8**
BRTR *PP pP 01 31 04.7 +0.8
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR pmax pmax
comp=Z,7.0nm,1.1s
RAR Rarotonga 79.46 127 LR LR 02 00 08.6
comp=Z,138nm,19.6s,MS4.3,baz=155,slow=31
CRVS Cervenica-Dubn 79.59 325 *e*P **P 01 30 54.0 0.0**
NIE Niedzica 79.73 326 *e*P **P 01 30 55.2 +0.5**
MLR Muntele Rosu 79.84 320⇑*i*P **P 01 30 56.8 +1.5**
MLR Muntele Rosu 79.84 320⇑P **P 01 30 56.8 +1.4**
WUAZ Wupatki 80.07 53 *e*P **P 01 30 57.7 +1.2**
comp=Z,6.8nm,0.9s,mb4.6
WUAZ *e*pP pP 01 31 07.3 +0.1
PV01 Paradox Valley 80.15 49 *e*P **P 01 30 57.9 +0.9**
PV01 *e*pP pP 01 31 07.7 +0.1
OKC Ostrava-Krasne 80.38 327 *e*P **P 01 30 56.9 -1.3**
OKC *e*pP pP 01 31 08.0 -0.9
OKC AMS AMS 02 09 40.0
comp=Z,400nm,15.7s
OKC Ostrava-Krasne 80.38 327 *e*P **P 01 30 56.9 -1.3**
OKC *e*pP pP 01 31 08.0 -0.9
KSP Ksiaz 80.40 329 *e*P **P 01 30 58.7 +0.4**
KSP *e* pP 01 31 08.8 -0.2
KSP Ksiaz 80.40 329 *e*P **P 01 30 58.4 +0.1**
KSP *e*pP pP 01 31 07.9 -1.1
MORC Moravsky Berou 80.68 328⇑*i*P **P 01 31 00.0 +0.2**
MORC Moravsky Berou 80.68 328 *e*P **P 01 31 00.5 +0.7**
comp=Z,9.0nm,1.1s,mb4.6
DPC Dobruska-Polom 80.76 329 *e*P **P 01 31 00.8 +0.5**
DPC *e*pP pP 01 31 11.0 +0.1
DPC AMS AMS 02 12 20.0
comp=Z,400nm,12.1s
DPC Dobruska-Polom 80.76 329 *e*P **P 01 31 00.8 +0.5**
DPC *e*pP pP 01 31 11.0 +0.1
DPC LR LR
comp=Z,400nm,12.1s,MS5.0
UPC Upice 80.77 329 *e*P **P 01 31 00.9 +0.6**
UPC *e*pP pP 01 31 10.0 -1.0
MVCO Mesa Verde 80.79 50 *e*P **P 01 31 02.0 +1.6**
comp=Z,4.2nm,0.8s,mb4.4
MVCO *e*pP pP 01 31 10.5 -0.6
PSZ Piszkesteto 81.03 325⇓*i*P **P 01 31 02.6 +0.9**
PSZ Piszkesteto 81.03 325⇓P **P 01 31 02.6 +0.9**
VYHS Vyhne 81.08 326 *i* P **P 01 31 02.2 +0.3**
VYHS *e*PCP PcP 01 31 12.1 +3.8
VYHS Vyhne 81.08 326 *i* P **P 01 31 02.2 +0.3**
VYHS *e* pP 01 31 12.2 -0.4
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 81.08 326 *i* P **P 01 31 02.2 +0.3**
comp=Z,3.9nm,1.1s,mb4.2
VYHS *e* pP 01 31 12.2 -0.4
BRG Berggiesshubel 81.32 330 *e*P **P 01 31 03.1 -0.2**
BRG *e* pP 01 31 13.6 -0.3
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG Berggiesshubel 81.32 330 *e*P **P 01 31 03.1 -0.1**
comp=Z,4.8nm,1.3s,mb4.3
BRG *e* pP 01 31 13.6 -0.3
PVCC Panska Ves 81.34 330 *e*P **P 01 31 03.8 +0.4**
PVCC *e*pP pP 01 31 13.7 -0.3
CLL Collm 81.35 331⇑*i*P **P 01 31 03.0 -0.4**
CLL *e**PP pP 01 31 13.0 -1.1
CLL pmax pmax
comp=Z,16nm,1.3s,mb4.8
CLL Collm 81.35 331⇑*i*P **P 01 31 03.0 -0.4**
comp=Z,16nm,1.3s,mb4.8
CLL *e*pP pP 01 31 13.0 -1.1
CLL Collm 81.35 331⇑*i*P **P 01 31 03.0 -0.4**
comp=Z,16nm,1.3s,mb4.8
CLL *e*pP pP 01 31 13.0 -1.1
CLL *e*sP sP 01 31 18.0 0.0
CLL LmH 02 05 00.0
comp=N,200nm,19.8s
CLL LmH 02 05 00.0
comp=E,400nm,19.4s
VRAC Vranov 81.44 328 LR LR 02 09 57.4
comp=E,261nm,20.0s,MS4.6,baz=18,slow=38
VRAC Vranov 81.44 328⇑*i*P **P 01 31 04.3 +0.4**
VRAC Vranov 81.44 328⇑P **P 01 31 04.3 +0.4**
GZR Gura Zlata 81.50 322⇑*i*P **P 01 31 04.1 -0.1**
GZR Gura Zlata 81.50 322⇑P **P 01 31 04.1 -0.1**
PRU Pruhonice 81.77 329 *e*P **P 01 31 05.6 0.0**
PRU *e*pP pP 01 31 15.7 -0.6
PRU AMS AMS 02 12 20.0
comp=E,500nm,13.5s
BZS Buzias 81.90 323⇓*i*P **P 01 31 05.6 -0.7**
BZS Buzias 81.90 323⇓P **P 01 31 05.6 -0.7**
TREC Trest 81.92 328 *e*P **P 01 31 04.7 -1.7**
TREC *e*pP pP 01 31 14.7 -2.4
TREC AMS AMS 02 12 10.0
comp=E,500nm,15.1s
MOX Moxa 82.42 331 *e*P **P 01 31 08.0 -1.0**
KHC Kasperske Hory 82.83 329 *e*P **P 01 31 11.2 0.0**
KHC *e*pP pP 01 31 21.4 -0.5
KHC AMS AMS 02 13 20.0
comp=E,400nm,13.1s
GEC2 GERESS Array S 83.01 329 *e*P **P 01 31 11.8 -0.3**
GEC2 *e**PP pP 01 31 22.1 -0.7
GERES GERESS Array B 83.01 329 P **P 01 31 12.0 -0.1**
comp=E,1.8nm,0.8s,mb4.2,baz=60,slow=6.3,SNR=17
GERES pP pP 01 31 21.9 -0.8
comp=E,2.5nm,0.7s,baz=38,slow=5.5,SNR=11
GERES LR LR 02 13 28.0
comp=E,236nm,18.6s,MS4.6,baz=12,slow=39
GERES GERESS Array B 83.01 329 P **P 01 31 12.0 -0.1**
GERES *PP pP 01 31 21.9 -0.9
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 83.28 320⇓*i*P **P 01 31 14.1 +0.6**
VTS Vitosha 83.28 320⇓P **P 01 31 14.1 +0.5**
PMOR Pomariorio Ree 83.30 114 *e*T 03 02 41.9
comp=Z,2.0nm,0.2s
GRA1 Grafenberg Arr 83.33 331 *e*P **P 01 31 13.9 +0.2**
comp=Z,12nm,1.2s,mb4.8
GRA1 *e*pP pP 01 31 24.0 -0.5
GRA1 LR LR
comp=Z,200nm,18.4s,MS4.5
GRF Grafenberg Arr 83.33 331 *e*P **P 01 31 13.9 +0.2**
comp=Z,12nm,1.2s,mb4.8
GRF *e*pP pP 01 31 24.0 -0.5
GRF *e*L 02 13 55.0
comp=Z,236nm,18.4s
GRF Grafenberg Arr 83.33 331 *e*P **P 01 31 13.9 +0.2**
GRF *e**PP pP 01 31 24.0 -0.5
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.8
GRF MLR MLR
comp=Z,200nm,18.4s,MS4.5
LAZ Ladron 83.45 51 P **P 01 31 15.9 +1.5**
LAZ *e*pP pP 01 31 25.1 0.0
ANMO Albuquerque 83.51 51⇑*e*P **P 01 31 17.1 +2.4**
ANMO Albuquerque 83.51 51 *e*pP pP 01 31 27.5 +2.1
PPT Papeete 83.79 117 *e*LR LR 01 57 35.4
comp=Z,95nm,21.0s,baz=320
PPT Papeete 83.79 117 LR LR 02 05 00.7
comp=Z,139nm,20.4s,MS4.3,baz=296,slow=33
GROS Grobnik 84.09 326 *e*P **P 01 31 17.2 -0.5**
PERS Pernice 84.13 327 *e*P **P 01 31 17.5 -0.3**
PERS *e*pP pP 01 31 27.7 -0.8
MEM Membach 84.50 334 P **P 01 31 19.8 +0.1**
MEM AP pP 01 31 30.4 -0.1
CRES Cresnjev 84.60 326 *e*P **P 01 31 19.2 -1.0**
PDKS Podkum 84.62 326 *e*P **P 01 31 19.9 -0.5**
BCLA Clavier 84.91 334 P **P 01 31 21.3 -0.4**
BCLA AP pP 01 31 31.6 -0.9
UCC Uccle 84.91 335 AP pP 01 31 32.2 -0.3
GIVF Givet 85.34 334 *e*P **P 01 31 23.4 -0.5**
DOU Dourbes 85.42 334 P **P 01 31 24.4 0.0**
DOU AP pP 01 31 34.4 -0.7
BAIF Baives 85.59 335 *e*P **P 01 31 24.5 -0.7**
comp=Z,34nm,1.3s,mb5.1
BAIF Baives 85.59 335 *e*P **P 01 31 24.5 -0.7**
BAIF pmax pmax
comp=Z,17nm,1.3s,mb5.1
BAIF Baives 85.59 335 *e*P **P 01 31 24.5 -0.7**
comp=Z,17nm,1.3s,mb5.1
CDF Champ du Feu 85.88 332⇑*i*P **P 01 31 26.3 -0.3**
comp=Z,28nm,1.1s,mb5.1
CDF Champ du Feu 85.88 332⇑*i*P **P 01 31 26.3 -0.3**
CDF pmax pmax
comp=Z,14nm,1.1s,mb5.1
CDF Champ du Feu 85.88 332⇑*i*P **P 01 31 26.3 -0.3**
comp=Z,14nm,1.1s,mb5.1
MNTX Cornudas Mount 86.35 52 *e*pP pP 01 31 39.4 -0.3
HINF Hinteralfeld 86.53 332⇑*i*P **P 01 31 29.0 -0.8**
comp=Z,7.9nm,1.0s,mb4.6
HINF Hinteralfeld 86.53 332⇑*i*P **P 01 31 29.0 -0.8**
HINF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
HINF Hinteralfeld 86.53 332⇑*i*P **P 01 31 29.0 -0.8**
comp=Z,4.0nm,1.0s,mb4.6
HAU Haudompre 86.56 332 *e*P **P 01 31 29.2 -0.8**
MEZF Maizieres J'vi 86.61 333⇑*i*P **P 01 31 30.1 -0.1**
comp=Z,27nm,1.1s,mb5.1
MEZF Maizieres J'vi 86.61 333⇑*i*P **P 01 31 30.1 -0.1**
comp=Z,27nm,1.1s,mb5.4
TBI Tubuai 87.75 122 *e*LR LR 01 59 02.2
comp=Z,112nm,41.8s
TBI Tubuai 87.75 122 *e*T 03 08 12.8
comp=Z,7.0nm,0.3s
LOR Lormes 88.09 333⇑*i*P **P 01 31 36.9 -0.4**
comp=Z,37nm,1.3s,mb5.1
LOR Lormes 88.09 333⇑*i*P **P 01 31 36.9 -0.4**
LOR pmax pmax
comp=Z,19nm,1.3s,mb5.2
LOR Lormes 88.09 333⇑*i*P **P 01 31 36.9 -0.4**
comp=Z,19nm,1.3s,mb5.2
WMOK Wichita Mounta 88.24 46 *e*P **P 01 31 37.1 -1.0**
WMOK *e**PP pP 01 31 53.9 +5.0
FLN La Foliniere 88.25 337 *e*P **P 01 31 37.5 -0.6**
LDF La Druitiere 88.28 336⇑*i*P **P 01 31 37.8 -0.5**
comp=Z,12nm,0.9s,mb4.8
LDF La Druitiere 88.28 336⇑*i*P **P 01 31 37.8 -0.5**
LDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LDF La Druitiere 88.28 336⇑*i*P **P 01 31 37.8 -0.5**
comp=Z,5.9nm,0.9s,mb4.8
SSF Saint Saulge 88.39 334⇑*i*P **P 01 31 38.3 -0.5**
comp=Z,8.9nm,1.1s,mb4.6
SSF Saint Saulge 88.39 334⇑*i*P **P 01 31 38.3 -0.5**
SSF pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
SSF Saint Saulge 88.39 334⇑*i*P **P 01 31 38.3 -0.5**
comp=Z,4.4nm,1.1s,mb4.6
LPL La Plagne 88.49 331 *e*P **P 01 31 39.4 +0.1**
LPG La Plagne 88.50 331 *e*P **P 01 31 39.0 -0.3**
AVF Avril sur Loir 88.67 333⇑*i*P **P 01 31 39.7 -0.4**
comp=Z,7.1nm,0.8s,mb4.8
AVF Avril sur Loir 88.67 333⇑*i*P **P 01 31 39.7 -0.4**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
AVF Avril sur Loir 88.67 333⇑*i*P **P 01 31 39.7 -0.4**
comp=Z,3.5nm,0.8s,mb4.7
GRR Gorron 88.70 337⇑*i*P **P 01 31 39.9 -0.3**
comp=Z,13nm,0.8s,mb5.0
GRR Gorron 88.70 337⇑*i*P **P 01 31 39.9 -0.3**
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
GRR Gorron 88.70 337⇑*i*P **P 01 31 39.9 -0.3**
comp=Z,6.4nm,0.8s,mb5.0
MBDF Montbardon 89.14 330 *e*P **P 01 31 43.0 +0.7**
SGMF Saint Gilles 89.34 338⇑*i*P **P 01 31 43.0 -0.2**
comp=Z,12nm,0.9s,mb4.9
SGMF Saint Gilles 89.34 338⇑*i*P **P 01 31 43.0 -0.2**
SGMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
SGMF Saint Gilles 89.34 338⇑*i*P **P 01 31 43.0 -0.2**
comp=Z,6.2nm,0.9s,mb4.9
ROSF Rostrenen 89.48 338⇑*i*P **P 01 31 43.8 -0.1**
comp=Z,28nm,1.1s,mb5.2
ROSF Rostrenen 89.48 338⇑*i*P **P 01 31 43.8 -0.1**
ROSF pmax pmax
comp=Z,14nm,1.1s,mb5.2
ROSF Rostrenen 89.48 338⇑*i*P **P 01 31 43.8 -0.1**
comp=Z,14nm,1.1s,mb5.2
TCF Toulx Ste Croi 89.51 334 *e*P **P 01 31 43.8 -0.2**
SBF Sospel 89.59 329 *e*P **P 01 31 43.6 -0.8**
comp=Z,24nm,0.9s,mb5.2
SBF Sospel 89.59 329 *e*P **P 01 31 43.6 -0.8**
SBF pmax pmax
comp=Z,12nm,0.9s,mb5.2
SBF Sospel 89.59 329 *e*P **P 01 31 43.6 -0.8**
comp=Z,12nm,0.9s,mb5.2
PGF Pioggiola 90.02 328⇑*i*P **P 01 31 46.4 0.0**
MFF Saint Martin d 90.04 335⇑*i*P **P 01 31 46.5 0.0**
comp=Z,17nm,1.1s,mb5.0
MFF Saint Martin d 90.04 335⇑*i*P **P 01 31 46.5 0.0**
MFF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
MFF Saint Martin d 90.04 335⇑*i*P **P 01 31 46.5 0.0**
comp=Z,8.5nm,1.1s,mb5.0
RJF Les Rejaudoux 90.61 334 *e*P **P 01 31 49.1 0.0**
CAF Calviac 90.74 333⇑*i*P **P 01 31 50.0 +0.2**
comp=Z,6.1nm,0.7s,mb4.8
CAF Calviac 90.74 333⇑*i*P **P 01 31 50.0 +0.2**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
CAF Calviac 90.74 333⇑*i*P **P 01 31 50.0 +0.2**
comp=Z,3.0nm,0.7s,mb4.7
LFF La Frestale 91.19 334 *e*P **P 01 31 52.0 +0.1**
KEST Kesra 95.42 324 LR LR 02 20 28.2
comp=Z,97nm,18.9s,MS4.3,baz=182,slow=39
ESDC Sonseca Array 97.47 335 P **P 01 32 19.8 -0.8**
comp=Z,1.0nm,1.1s,mb4.2,baz=21,slow=4.3,SNR=4.5
ESDC pP pP 01 32 30.5 -1.0
comp=Z,1.1nm,0.9s,baz=14,slow=4.4,SNR=4.8
ESDC LR LR 02 18 14.8
comp=Z,160nm,18.9s,MS4.5,baz=75,slow=36
RKT Rikitea 97.85 113 *e*LR LR 02 03 58.2
comp=Z,176nm,26.0s
QSPA South Pole Qui 127.11 180 PKPdf PKPdf 01 37 50.3 -0.7
SNAA Sanae 141.39 197 PKhKP 01 38 08.3
comp=Z,0.2nm,0.8s,baz=129,slow=14,SNR=2.6
SNAA PKP PKPdf 01 38 13.4 -4.2
comp=Z,0.3nm,0.8s,baz=213,slow=4.1,SNR=3.5
LPAZ La Paz 145.56 61 PKPbc PKPbc 01 38 25.6 +0.5
comp=Z,0.7nm,0.5s,baz=3.7,slow=7.7,SNR=6.1
LPAZ pPKPbc pPKPbc 01 38 35.6 -0.5
comp=Z,4.1nm,0.7s,baz=297,slow=5.5,SNR=12
LPAZ La Paz 145.56 61 PKP2 PKPab 01 38 25.7 +0.3
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=Z,4.0nm,0.7s
LVC Limon Verde 149.01 71 *e*PKPdf PKPdf 01 38 30.9 +0.3
CFAA Coronel Fontan 153.84 87 PKPbc PKPbc 01 38 47.2 +1.3
comp=Z,0.1nm,0.4s,baz=347,slow=2.5,SNR=2.1
CFAA PKPab PKPab 01 38 55.5 -3.5
comp=Z,0.2nm,0.6s,baz=270,slow=7.1,SNR=4.1
CFAA pPKPab pPKPab 01 39 08.3 -1.6
comp=Z,0.4nm,0.6s,baz=261,slow=5.3,SNR=4.8

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*NEIC **13** 01:27:49.9, 3144S×7150W, h4km, ML2.7(GUC), After GUC.*

GUC 13 01:27:49.9±0.7, 3144S×7150W, h4km±5km, MD3.9, ML2.7, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**180**	⇓*i*P	Pg	01 27 58.9	+0.5
CHNG				*i* S	Sg	01 28 05.8	+1.6
PTCH	**Petorca**	**0.95**	**150**	⇓*i*P	Pg	01 28 07.8	-0.4
PTCH				*i* S	Sg	01 28 21.9	+1.3
PTCH				AML	AML	01 28 25.1	
comp=N,599nm,0.3s							
PTCH	**Petorca**	**0.95**	**150**	⇓*i*P	Pg	01 28 07.8	-0.4
PTCH				*i* S	Sg	01 28 21.9	+1.3
PACH	**Papudo**	**1.10**	**177**	*e*P	Pg	01 28 08.3	-2.6
PACH				*i* S	Sg	01 28 26.2	+1.1
TLL	**Tololo Astrono**	**1.40**	**26**	*i* P	Pn	01 28 15.8	-0.5
TLL				*i* S	Sb	01 28 35.4	+0.6
TLL				AML	AML	01 28 37.2	
comp=N,220nm,0.3s							
TLL	**Tololo Astrono**	**1.40**	**26**	*i* P	Pn	01 28 15.8	-0.5
TLL				*i* S	Sb	01 28 35.4	+0.6
JACH	**Jahuel**	**1.46**	**148**	*i* P	Pn	01 28 16.6	-0.4
JACH				*i* S	Sb	01 28 36.9	+0.4
PEL	**Peldehue**	**1.83**	**158**	*e*P	Pn	01 28 21.0	-1.2
PEL				*i* S	Sn	01 28 47.8	+1.9
FCH	**Farellones**	**2.14**	**152**	*e*P	Pn	01 28 27.6	+1.2
FCH				*i* S	Sn	01 28 56.0	+2.5

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*ISCJB **13** 01:35:32.1±0.6, 3401N±003×14029E±006, h88km±5km, mb3.4/5, Error ellipse: s-maj=7.8km s-min=5.4km az=173.2*

*NEIC **13** 01:35:32.8, 3401N×14028E, h78km, MG3.6(JMA), After JMA.*

*JMA **13** 01:35:32.8±0.1, 3401N×14028E, h78km±2km, M3.6*

*IDC **13** 01:35:33.6±3.1, 3397N×14024E, h87km±15km, mb3.2/5, mb1 3.4/6, mb1mx3.3/21, mbtmp3.6/6, Error ellipse: s-maj=70.5km s-min=8.3km az=75.0*

ISC 13 01:35:33.1±0.5, 3401N±003×14029E±006, h81km±5km, n23, σ0961/36, mb3.4/5, Near east coast of eastern Honshu

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

BSO3	**Boso 3**	**0.81**	**13**	P	**Pn**	**01 35 49.8**	**-0.3**
BSO3				S	**Sn**	**01 36 03.0**	**+0.3**
BSO1	**Boso 1**	**0.86**	**41**	P	**Pn**	**01 35 50.1**	**-0.5**
BSO1				S	**Sn**	**01 36 03.9**	**+0.3**
NJJJ	**Nii jima 2**	**0.92**	**296**	P	**Pn**	**01 35 51.2**	**-0.1**
JKO	**Kozu shima**	**0.97**	**281**	P	**Pn**	**01 35 51.6**	**-0.3**
JKO				S	**Sn**	**01 36 06.0**	**+0.1**
JHJ2	**Mitsune**	**0.98**	**204**	P	**Pn**	**01 35 51.7**	**-0.2**
JHJ2				S	**Sn**	**01 36 06.3**	**+0.4**
JHJ	**Hachijo jima 2**	**0.98**	**206**	P	**Pn**	**01 35 51.8**	**-0.2**
	364nm,0.3s,baz=80,slow=21,SNR=86						
JHJ				S	**Sn**	**01 36 06.6**	**+0.6**
	517nm,0.3s,baz=77,slow=24,SNR=26						
BSO4	**Boso 4**	**0.98**	**2**	P	**Pn**	**01 35 52.1**	**+0.1**
BSO4				S	**Sn**	**01 36 05.7**	**-0.4**
JIM2	**Oshima 3**	**1.00**	**315**	P	**Pn**	**01 35 51.8**	**-0.4**
JIM2				S	**Sn**	**01 36 05.7**	**-0.8**
JIZS	**Izushimoda**	**1.36**	**302**	P	**Pn**	**01 35 56.6**	**-0.1**
JIZS				S	**Sn**	**01 36 14.3**	**-0.2**
KTJJ	**Kamata 2**	**1.36**	**313**	P	**Pn**	**01 35 56.3**	**-0.4**
KTJJ				S	**Sn**	**01 36 13.9**	**-0.6**
JOD2	**Odawara 2**	**1.60**	**322**	P	**Pn**	**01 35 59.5**	**-0.2**
JOD2				S	**Sn**	**01 36 19.1**	**-0.7**
SHZ3	**Shizuoka 3**	**2.02**	**302**	P	**Pn**	**01 36 05.8**	**+0.6**
TK04	**Tokai 4**	**2.04**	**281**	P	**Pn**	**01 36 06.4**	**+0.9**
JYN	**Shimob**	**2.07**	**316**	P	**Pn**	**01 36 06.7**	**+0.8**
MJAR	**Matsushiro Arr**	**3.05**	**327**	P	**Pn**	**01 36 19.6**	**+0.5**
	11nm,0.3s,baz=160,slow=13,SNR=38						
MJAR				S	**Sn**	**01 36 54.9**	**+0.3**
	10nm,0.3s,baz=223,slow=18,SNR=10.0						
MAJO	**Matsushiro**	**3.05**	**327**	*e*Pn	**Pn**	**01 36 20.3**	**+1.2**
MAJO				*e*Sn	**Sn**	**01 36 53.9**	**-0.7**
MAT	**Matsushiro**	**3.05**	**327**	P	**Pn**	**01 36 19.8**	**+0.7**
MAT				S	**Sn**	**01 36 55.2**	**+0.6**
SONM	**Songino Array**	**28.84**	**309**	P	**P**	**01 41 23.8**	**0.0**
	0.5nm,0.6s,mb3.3,baz=108,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**45.01**	**305**	P	**P**	**01 43 40.0**	**-0.6**
	0.6nm,0.5s,mb3.6,baz=91,slow=9.5,SNR=7.4						
MKAR	**Makanchi Array**	**45.01**	**305**	P	**P**	**01 43 40.0**	**-0.6**
WRA	**Warramunga Arr**	**53.95**	**187**	P	**P**	**01 44 47.2**	**-1.3**
	0.4nm,0.5s,mb3.7,baz=4.7,slow=7.6,SNR=8.0						
ASAR	**Alice Springs**	**57.67**	**187**	P	**P**	**01 45 14.3**	**-0.8**
	0.3nm,0.7s,mb3.4,baz=12,slow=14,SNR=3.8						
GERES	**GERESS Array B**	**84.79**	**328**	P	**P**	**01 48 00.2**	**+1.6**
	0.1nm,0.3s,mb3.2,baz=31,slow=2.5,SNR=3.6						

IDC 13 01:45:20.2±3.8, 605S×15149E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.5/11, mbtmp3.6/2, Error ellipse: s-maj=141.7km s-min=51.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.64**	**229**	P	P	01 50 11.9	-0.2
	0.6nm,0.3s,baz=54,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.35**	**222**	P	P	01 50 40.5	+0.8
	1.5nm,0.7s,baz=60,slow=8.7,SNR=13						
TORD	**Torodi Ar. Bea**	**149.41**	**286**	PKPbc	PKPbc	02 05 11.8	+0.7
	0.2nm,0.6s,baz=56,slow=2.2,SNR=4.3						

*NEIC **13** 01:47:36.4, 3134S×7174W, h24km, ML3.5(GUC), After GUC.*

GUC 13 01:47:36.4±0.6, 3134S×7174W, h24km±3km, MD3.5, ML3.5, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.58**	**160**	⇓*i*P	Pb	01 47 47.8	-0.1
CHNG				*i* S	Sb	01 47 55.7	0.0
CHNG				AML	AML	01 47 56.6	
	comp=E,4μm,0.4s						
PTCH	**Petorca**	**1.15**	**144**	*i* P	Pn	01 47 56.3	-0.7
PTCH				*i* S	Sn	01 48 11.8	-0.1
PTCH				AML	AML	01 48 13.1	
	comp=N,4μm,0.1s						
PTCH	**Petorca**	**1.15**	**144**	*i* P	Pn	01 47 56.3	-0.7
PTCH				*i* S	Sn	01 48 11.8	-0.1
PACH	**Papudo**	**1.22**	**168**	*i* P	Pn	01 47 57.8	-0.2
PACH				*i* S	Sn	01 48 13.9	+0.2
TLL	**Tololo Astrono**	**1.42**	**35**	⇑*i*P	Pn	01 48 01.4	+0.7
TLL				*i* S	Sn	01 48 20.1	+1.5
TLL				AML	AML	01 48 22.2	
	comp=E,690nm,0.5s						
TLL	**Tololo Astrono**	**1.42**	**35**	⇑*i*P	Pn	01 48 01.4	+0.7
TLL				*i* S	Sn	01 48 20.1	+1.5
JACH	**Jahuel**	**1.66**	**144**	*i* P	Pn	01 48 04.8	+0.8
JACH				*i* S	Sn	01 48 26.1	+1.7
ROCH	**El Roble**	**1.74**	**160**	⇑*i*P	Pn	01 48 05.8	+0.7
ROCH				*i* S	Sn	01 48 29.1	+2.5
PEL	**Peldehue**	**2.01**	**154**	*e*P	Pn	01 48 09.8	+1.0
PEL				*i* S	Sn	01 48 36.1	+2.9
PEL				AML	AML	01 48 38.7	
	comp=E,985nm,0.6s						
PEL	**Peldehue**	**2.01**	**154**	*e*P	Pn	01 48 09.8	+1.0
PEL				*i* S	Sn	01 48 36.1	+2.9
ANTU	**Antumapu**	**2.41**	**158**	AML	AML	01 48 52.0	
	comp=E,303nm,0.3s						

*ISCJB **13** 01:51:19.8±1.4, 2074N±003×11995E±004, h2km±8km, mb4.6/55, MS4.1/21, Error ellipse: s-maj=6.4km s-min=4.6km az=166.1*

*IDC **13** 01:51:20.8±0.5, 2083N×12008E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.4/24, mbtmp4.4/19, MS3.9/13, Ms1 3.9/13, ms1mx3.7/26, Error ellipse: s-maj=29.5km s-min=11.8km az=66.0*

*BJI **13** 01:51:21.7, 2076N×12008E, h14km, mB4.9, mb4.5, ML4.3, Ms4.5, Msz4.3*

*NEIC **13** 01:51:22.6±0.2, 2077N×11999E, h10km, mb4.8/30, MS4.3/1, Error ellipse: s-maj=6.3km s-min=4.5km az=71.0*

*MOS **13** 01:51:24.4±1.0, 2083N×120.12E, h33km, mb5.0/27, MS4.3/6, Error ellipse: s-maj=13.3km s-min=5.4km az=120.8*

*MAN **13** 01:51:25.1, 2056N×11988E, h82km, MS5.6*

*SZGRF **13** 01:51:30.1, 2272N×12176E, h33km, mb5.0, Taiwan region*

ISC 13 01:51:23.8±1.5, 2075N±003×12002E±004, h17km±9km, h17km±5.9km: pP-P, n186, σ0.99/197, mb4.6/55, MS4.1/21, 6C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**3.14**	**142**	*e*P	**Pn**	**01 52 10.8**	**-1.7**
ABRA	**Dolores**	**3.15**	**168**	*e*P	**Pn**	**01 52 11.2**	**-1.3**
ABRA				*e*S	**Sn**	**01 52 46.6**	**-3.1**
NACB	**Ninganchiao**	**3.71**	**23**	*e*Pn	**Pn**	**01 52 20.2**	**0.0**
NACB				*e*Sn	**Sn**	**01 53 01.3**	**-2.2**
YHNB	**Yeheng**	**4.10**	**18**	*e*Pn	**Pn**	**01 52 24.5**	**-1.1**
YHNB				*e*Sn	**Sn**	**01 53 14.6**	**+1.4**
CAUP	**Cauayan**	**4.15**	**155**	*e*P	**Pn**	**01 52 27.9**	**+1.6**
PALP	**Palanan**	**4.32**	**148**	*e*P	**Pn**	**01 52 28.8**	**+0.2**
BOLP	**Bolinao**	**4.34**	**181**	*e*P	**Pn**	**01 52 27.3**	**-1.7**
QZH	**Quanzhou**	**4.38**	**343**	P	**Pn**	**01 52 24.9**	**-4.5**
QZH				Smax			
	comp=N,220nm,0.8s						
QZH				Smax			
	comp=E,300nm,1.0s						
TATO	**Taipei**	**4.42**	**18**	*e*Pn	**Pn**	**01 52 29.8**	**-0.2**
TATO				Sn	**Sn**	**01 53 20.3**	**-0.7**
SCZP	**Santa Cruz**	**4.95**	**181**	*e*P	**Pn**	**01 52 36.6**	**-0.6**
BALP	**Baler**	**5.20**	**163**	*e*P	**Pn**	**01 52 40.7**	**0.0**
GZH	**Guangzhou**	**6.62**	**292**	P	**Pn**	**01 52 56.9**	**-3.3**
GZH				Smax			
	comp=N,166nm,0.5s						
GZH				Smax			
	comp=E,205nm,1.1s						
JOW	**Kunigami**	**9.69**	**50**	LR	LR	01 58 09.3	
	comp=E,386nm,18.9s,baz=356,slow=42						
QIZ	**Qiongzhong**	**9.72**	**262**	P	**Pn**	**01 53 40.8**	**-2.0**
QIZ				PP		01 53 52.9	
QIZ				S	**Sn**	**01 55 32.0**	**+0.5**
QIZ				SS		01 55 46.0	
QIZ				AMB	AMB		
	comp=Z,15nm,1.4s						
QIZ				LR	LR		
	comp=N,2μm,12.1s						
QIZ				LR	LR		
	comp=E,1μm,12.5s						
QIZ				LR	LR		
	comp=Z,1μm,10.8s						
QIZ	**Qiongzhong**	**9.72**	**262**	Pn	**Pn**	**01 53 42.0**	**-0.8**
	comp=Z,35nm,1.4s						
NJ2	**Nanjing**	**11.30**	**355**	*e*P	**Pn**	**01 54 04.5**	**0.0**
NJ2				AP		01 54 11.9	
NJ2				PP		01 54 13.3	
NJ2				XP		01 54 16.6	
NJ2				S	**Sn**	**01 56 09.6**	**-0.8**
NJ2				XS		01 56 20.6	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,11.1s						
NJ2				LR	LR		
	comp=E,2μm,14.8s						
NJ2				LR	LR		
	comp=Z,10μm,11.3s						
XAN	**Xi'an**	**16.48**	**326**	P	**Pn**	**01 55 16.9**	**+2.8**
XAN				AMB	AMB		
	comp=Z,19nm,1.5s						
XAN				LR	LR		
	comp=N,485nm,9.2s						
XAN				LR	LR		
	comp=E,678nm,9.8s						
XAN				LR	LR		
	comp=Z,1μm,9.2s						
KMI	**Kunming**	**16.50**	**289**	P	**Pn**	**01 55 18.2**	**+3.9**
KMI				S	**Sn**	**01 58 13.1**	**-3.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s						
KMI				LR	LR		
	comp=N,681nm,10.7s						
KMI				LR	LR		
	comp=E,747nm,11.0s						
KMI				LR	LR		
	comp=Z,643nm,9.1s						
KMI	**Kunming**	**16.50**	**289**	P	**Pn**	**01 55 18.2**	**+3.9**
	comp=Z,9.0nm,0.7s						
KMI				S	**Sn**	**01 58 13.1**	**-3.8**
CD2	**Chengdu**	**17.77**	**308**	P	**Pn**	**01 55 31.0**	**+0.8**
CD2				AP	pP	01 55 34.0	-1.8
CD2				XP	sP	01 55 38.0	-0.1
CD2				PP		01 55 45.0	
CD2				S	**Sn**	**01 58 47.0**	**-0.9**
CD2				XS	sS	01 58 52.7	-10
CD2				SS		01 59 09.5	
CD2				AMB	AMB		
	comp=Z,20nm,1.6s						
CD2				AMB	AMB		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=N,1μm,12.0s						
CD2				LR	LR		
	comp=E,1μm,10.8s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
DL2	**Dalian**	**18.15**	**4**	⇑P	**Pn**	**01 55 37.1**	**+2.2**
DL2				*e*S	**Sn**	**01 59 03.5**	**+6.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
DL2				AMB	AMB		
	comp=Z,170nm,7.6s						
DL2				LR	LR		
	comp=N,420nm,12.4s						
DL2				LR	LR		
	comp=E,390nm,12.3s						
DL2				LR	LR		
	comp=Z,360nm,12.0s						
BJT	**Baijiatuau**	**19.49**	**351**	*e*P	**Pn**	**01 55 50.9**	**-0.2**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**19.49**	**351**	*e*P	**Pn**	**01 55 50.9**	**-0.2**
	comp=Z,12nm,0.6s						
BJI	**Beijing**	**19.51**	**351**	P	**Pn**	**01 55 49.8**	**-1.5**
BJI				AMB	AMB		
	comp=Z,28nm,1.1s						
BJI				AMB	AMB		
	comp=Z,204nm,3.6s						
BJI				LR	LR		
	comp=N,616nm,11.8s						
BJI				LR	LR		
	comp=E,529nm,11.8s						
BJI				LR	LR		
	comp=Z,279nm,17.9s						
BJI	**Beijing**	**19.51**	**351**	P	**Pn**	**01 55 49.8**	**-1.5**
	comp=Z,28nm,1.1s						
BJI				S	**Sn**	**01 59 35.7**	**+5.9**
LZH	**Lanzhou**	**20.83**	**321**	*e*P	**P**	**01 56 05.5**	**+1.1**
LZH				AP		01 56 14.5	
LZH				XP	sP	01 56 19.5	+7.9
LZH				PP		01 56 25.0	
LZH				*e*S	**S**	**01 59 49.0**	**-7.1**
LZH				XS	sS	02 00 05.0	+1.0
LZH				SS		02 00 25.0	
LZH				AMB	AMB		
	comp=Z,42nm,1.5s						
LZH				AMB	AMB		
	comp=Z,71nm,4.4s						
LZH				LR	LR		
	comp=N,2μm,12.5s						
LZH				LR	LR		
	comp=Z,3μm,15.6s,MS4.7						
LZH	**Lanzhou**	**20.83**	**321**	*e*P	**P**	**01 56 05.5**	**+1.1**
LZH				*SP	sP	01 56 19.5	+7.9
LZH						01 56 25.0	
LZH				*e*S	**S**	**01 59 49.0**	**-7.1**
LZH						02 00 00.1	
LZH				SS		02 00 25.0	
LZH				pmax	pmax		
	comp=Z,42nm,1.5s						
LZH				MLR	MLR		
	comp=Z,3μm,15.6s,MS4.7						
LZH	**Lanzhou**	**20.83**	**321**	*e*P	**P**	**01 56 05.5**	**+1.1**
	comp=Z,42nm,1.5s						
LZH				pP		01 56 14.5	
LZH				sP	sP	01 56 19.5	+7.9
LZH				PP		01 56 25.0	
LZH				*e*S	**S**	**01 59 49.0**	**-7.1**
LZH				PcP	PcP	02 00 00.1	-13
LZH				sS	sS	02 00 05.0	+1.0
LZH				SS		02 00 25.0	
LZH				LR	LR		
	comp=Z,3μm,15.6s,MS4.7						
HHC	**Hu-ho-hao-te**	**21.29**	**342**	*e*P	**P**	**01 56 10.3**	**+0.9**
HHC				AP		01 56 16.1	
HHC				XP	sP	01 56 19.0	+2.5
HHC				PP		01 56 37.5	
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,233nm,3.6s						
HHC				LR	LR		
	comp=N,583nm,11.8s,MS4.3						
HHC				LR	LR		
	comp=E,403nm,11.8s,MS4.3						
HHC				LR	LR		
	comp=Z,558nm,11.9s,MS4.2						
BTO	**Baotou**	**21.55**	**339**	*e*P	**P**	**01 56 12.8**	**+0.6**
BTO				S	**S**	**02 00 15.0**	**+4.7**
BTO				LR	LR		
	comp=N,142nm,8.3s						
BTO				LR	LR		
	comp=E,162nm,12.0s						
MAJO	**Matsushiro**	**22.36**	**41**	*e*P	**P**	**01 56 20.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.5						
MAJO	**Matsushiro**	**22.36**	**41**	*e*P	**P**	**01 56 20.6**	**-0.2**
	comp=Z,20nm,1.1s,mb4.5						
MAT	**Matsushiro**	**22.36**	**41**	P	**P**	**01 56 22.8**	**+2.0**
MJAR	**Matsushiro Arr**	**22.36**	**41**	P	**P**	**01 56 20.9**	**+0.1**
	comp=Z,20nm,1.2s,mb4.4,baz=235,slow=10,SNR=25						
MJAR				LR	LR	02 05 46.6	
	comp=Z,225nm,19.7s,MS3.6,baz=260,slow=39						
GUMO	**Guam**	**24.77**	**103**	LR	LR	02 06 33.2	
	comp=Z,172nm,18.1s,MS3.6,baz=11,slow=37						
GUMO	**Guam**	**24.77**	**103**	P	**P**	**01 56 45.9**	**+1.4**
MDJ	**Mudanjiang**	**25.09**	**16**	P	**P**	**01 56 48.1**	**+0.7**
MDJ				AP	pP	01 56 51.3	-1.3
MDJ				XP	sP	01 56 52.7	-2.1
MDJ				S	**S**	**02 01 14.9**	**+3.7**
MDJ				XS	sS	02 01 19.1	-0.7
MDJ				SCP	ScP	02 04 00.9	+1.1
MDJ				PCS	PcS	02 04 02.2	+0.4
MDJ				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,75nm,9.8s						
MDJ				LR	LR		
	comp=N,47nm,24.2s						
MDJ				LR	LR		
	comp=E,186nm,17.7s						
MDJ				LR	LR		
	comp=Z,169nm,16.1s						
MDJ	**Mudanjiang**	**25.09**	**16**	*e*P	**P**	**01 56 47.9**	**+0.5**
	comp=Z,50nm,1.1s,mb5.0						
GTA	**Gaotai**	**25.42**	**321**	*e*P	**P**	**01 56 50.5**	**+0.1**
GTA				AP	pP	01 57 00.4	+4.7
GTA				XP	sP	01 57 05.4	+7.6
GTA				PP		01 57 31.6	
GTA				S	**S**	**02 01 14.4**	**-2.0**
GTA				XS	sS	02 01 30.0	+4.9
GTA				SS		02 02 18.7	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
GTA				AMB	AMB		
	comp=Z,129nm,6.5s						
GTA				LR	LR		
	comp=N,393nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=E,355nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=Z,444nm,12.9s,MS4.2						
PSI	**Prapat**	**27.21**	**232**	LR	LR	02 07 58.5	
	comp=Z,184nm,18.7s,MS3.7,baz=230,slow=36						
LSA	**Lhasa**	**27.53**	**295**	*e*P	**P**	**01 57 09.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.5						
LSA	**Lhasa**	**27.53**	**295**	*e*P	**P**	**01 57 09.9**	**+0.4**
	comp=Z,5.8nm,0.5s,mb4.5						
HIA	**Hailar**	**28.46**	**360**	*i* P	**P**	**01 57 16.2**	**-1.5**
HIA	**Hailar**	**28.46**	**360**	P	**P**	**01 57 16.7**	**-1.0**
SONM	**Songino Array**	**29.18**	**341**	P	**P**	**01 57 23.8**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.2,baz=161,slow=9.5,SNR=16						
SONM				PcP	PcP	02 00 31.4	+0.1
	comp=Z,0.3nm,0.6s,baz=142,slow=2.2,SNR=3.6						
SONM				LR	LR	02 09 50.0	
	comp=Z,269nm,19.6s,MS3.9,baz=32,slow=38						
SONM	**Songino Array**	**29.18**	**341**	P	**P**	**01 57 23.8**	**-0.3**
SONM						02 00 31.4	
ASAJ	**Asahikawa**	**29.92**	**34**	LR	LR	02 10 13.1	
	comp=Z,182nm,19.7s,MS3.7,baz=188,slow=38						
GUN	**Gumba**	**31.84**	**290**	*e*P	**P**	**01 57 47.5**	**-0.1**
	comp=Z,27nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**32.02**	**30**	*i* P	**P**	**01 57 45.8**	**-3.4**
YSS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
PKI	**Pulchoki**	**32.22**	**289**	*e*P	**P**	**01 57 51.0**	**0.0**
	comp=Z,6.0nm,0.6s,mb4.6						
KKN	**Kakani**	**32.35**	**289**	*e*P	**P**	**01 57 51.5**	**-0.6**
	comp=Z,4.0nm,0.2s,mb4.9						
DMN	**Daman**	**32.49**	**289**	*e*P	**P**	**01 57 53.8**	**+0.4**
GKN	**Gorkha**	**32.94**	**290**	*e*P	**P**	**01 57 56.1**	**-1.2**
	comp=Z,12nm,0.7s,mb5.0						
TLY	**Talaya**	**33.42**	**341**	*e*P	**P**	**01 58 01.1**	**-0.3**
KOLN	**Koldanda**	**33.84**	**289**	*e*P	**P**	**01 58 05.2**	**+0.1**
	comp=Z,25nm,1.2s,mb5.0						
WMQ	**Urumqi**	**35.36**	**318**	*e*P	**P**	**01 58 18.0**	**-0.3**
WMQ				AP	pP	01 58 22.0	-1.6
WMQ				XP	sP	01 58 25.0	-0.8
WMQ				PP	PP	01 59 38.0	-0.6
WMQ				PCP	PcP	02 00 47.0	-1.2
WMQ				*e*S	**S**	**02 03 51.0**	**-0.9**
WMQ				PCS	PcS	02 04 37.0	+1.8
WMQ				SS	SS	02 06 10.0	-16
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,205nm,7.2s						
WMQ				LR	LR		
	comp=N,677nm,13.2s,MS4.8						
WMQ				LR	LR		
	comp=E,759nm,13.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,937nm,15.4s,MS4.7						
FITZ	**Fitzroy Crossi**	**39.00**	**171**	*e*P	**P**	**01 58 52.4**	**+3.2**
	comp=Z,6.4nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**39.00**	**171**	P	**P**	**01 58 51.0**	**+1.9**
	comp=Z,2.7nm,0.6s,mb4.2,baz=11,slow=10.0,SNR=11						
PMG	**Port Moresby**	**40.13**	**136**	P	**P**	**01 58 59.6**	**+1.0**
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**01 58 59.0**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.9,baz=110,slow=10,SNR=13						
MKAR				PcP	PcP	02 01 02.8	-0.1
	comp=Z,1.3nm,0.7s,baz=90,slow=3.8,SNR=5.7						
MKAR				LR	LR	02 16 35.2	
	comp=Z,116nm,19.4s,MS3.7,baz=118,slow=38						
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**01 58 59.0**	**+0.4**
MKAR						02 01 02.8	
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**01 58 59.0**	**+0.3**
MKAR				PcP	PcP	02 01 02.8	-0.1
MKAR				LR	LR	02 16 35.2	
MBWA	**Marble Bar**	**41.65**	**180**	P	**P**	**01 59 11.4**	**+0.2**
YAK	**Yakutsk**	**41.79**	**7**	*i* P	**P**	**01 59 11.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**42.60**	**330**	P	**P**	**01 59 18.0**	**-0.9**
	comp=Z,1.9nm,0.7s,mb3.9,baz=350,slow=7.5,SNR=14						
WRAB	**Tennant Creek**	**42.80**	**160**	⇑*i*P	**P**	**01 59 20.3**	**-0.2**
WRA	**Warramunga Arr**	**42.80**	**160**	P	**P**	**01 59 19.3**	**-1.2**
	comp=Z,7.6nm,0.6s,mb4.6,baz=343,slow=8.9,SNR=42						
WB2	**Warramunga Arr**	**42.80**	**160**	*e*P	**P**	**01 59 19.5**	**-1.0**
AAK	**Ala-Archa**	**43.81**	**310**	*e*P	**P**	**01 59 29.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
AAK	**Ala-Archa**	**43.81**	**310**	*e*P	**P**	**01 59 29.1**	**+0.4**
	comp=Z,1.3nm,0.4s,mb4.0						
NVS	**Novosibirsk**	**43.87**	**330**	*e*P	**P**	**01 59 27.6**	**-1.5**
AS31	**Alice Springs**	**46.17**	**162**	*e*P	**P**	**01 59 47.4**	**-0.1**
ASAR	**Alice Springs**	**46.17**	**162**	P	**P**	**01 59 47.0**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=348,slow=7.1,SNR=24						
CTA	**Charters Tower**	**48.03**	**146**	P	**P**	**02 00 02.9**	**+1.0**
	comp=Z,18nm,0.8s,mb5.2,baz=337,slow=9.3,SNR=14						
CTA				LR	LR	02 19 05.3	
	comp=Z,133nm,18.4s,MS4.0,baz=232,slow=35						
CTAO	**Charters Tower**	**48.03**	**146**	*e*P	**P**	**02 00 01.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
CTAO	**Charters Tower**	**48.03**	**146**	*e*P	**P**	**02 00 01.7**	**-0.2**
	comp=Z,50nm,1.2s,mb5.4						
HNR	**Honiara**	**49.40**	**123**	LR	LR	02 17 23.2	
	comp=Z,128nm,20.1s,MS3.9,baz=360,slow=32						
BVAR	**Borovoye Array**	**49.69**	**323**	P	**P**	**02 00 15.1**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.2,baz=110,slow=8.7,SNR=11						
BVAR				PcP	PcP	02 01 35.4	-0.4
	comp=Z,2.2nm,0.7s,baz=116,slow=4.1,SNR=8.0						
BRVK	**Borovoye**	**49.76**	**323**	*e*P	**P**	**02 00 15.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**49.76**	**323**	*e*P	**P**	**02 00 15.5**	**+0.3**
	comp=Z,6.6nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**49.80**	**324**	*e*P	**P**	**02 00 15.6**	**+0.1**
CHKZ				*e*		02 01 35.1	
CHKZ				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
CHKZ	**Chkalovo**	**49.80**	**324**	*e*P	**P**	**02 00 15.6**	**+0.1**
	comp=Z,13nm,1.3s,mb4.8						
CHKZ				*e*PcP	PcP	02 01 35.1	-1.1
ZRNK	**Zerenda**	**50.45**	**322**	*e*P	**P**	**02 00 20.4**	**-0.1**

KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 69.54 322 *eP* **P 02 02 30.6 -0.9**
OBN *e* 02 02 52.2
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
OBN Obninsk 69.54 322 P **P 02 02 31.2 -0.3**
JOF Joensuu 71.17 331 *ep* **P 02 02 39.4 -2.1**
comp=Z,3.0nm,0.4s,mb4.6
KEV Kevo 71.76 339 *ep* **P 02 02 43.8 -1.2**
comp=Z,6.7nm,0.8s,mb4.6
KEV Kevo 71.76 339 *eP* **P 02 02 43.8 -1.2**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ARCES ARCESS Array B 72.31 338 P **P 02 02 47.6 -0.7**
comp=Z,2.1nm,0.6s,mb4.2,baz=72,slow=9.1,SNR=9.6
ARCES LR LR 02 38 16.7
comp=Z,64nm,20.2s,MS3.9,baz=239,slow=39
KAF Kangasniemi 73.60 331 *ep* **P 02 02 54.8 -1.2**
comp=Z,3.1nm,0.5s,mb4.5,baz=74,slow=5.5
KAF Kangasniemi 73.60 331 *eP* **P 02 02 54.8 -1.2**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
FINES FINESS Array B 73.86 330 P **P 02 02 57.1 -0.4**
comp=Z,4.9nm,0.8s,mb4.5,baz=47,slow=7.3,SNR=21
FINES LR LR 02 38 42.3
comp=Z,79nm,18.6s,MS4.0,baz=168,slow=38
AKASG Malin Array Be 74.72 319 P **P 02 03 01.5 -1.0**
comp=Z,1.2nm,0.6s,mb4.0,baz=64,slow=5.2,SNR=13
AKASG Malin Array Be 74.72 319 P **P 02 03 01.5 -1.0**
INK Inuvik 76.80 21 P **P 02 03 14.9 +0.5**
SUW Suwalki 77.38 323 *eP* **P 02 03 17.4 -0.3**
VRI Vrincioaia 77.62 314 ⇓ *iP* **P 02 03 20.2 +1.2**
BURAR Bucovina Array 78.09 316 ⇓ *iP* **P 02 03 23.1 +1.5**
MLR Muntele Rosu 78.25 314 ⇓ *iP* **P 02 03 24.4 +1.9**
KWP Kalwaria 79.04 319 *eP* **P 02 03 27.5 +0.6**
KOLS Kolonicke sedl 79.54 318 *eP* **P 02 03 29.3 -0.3**
STHS Stebnicka Huta 80.01 319 *eP* **P 02 03 31.4 -0.7**
STHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
STHS Stebnicka Huta 80.01 319 *eP* **P 02 03 31.4 -0.7**
comp=Z,3.7nm,1.4s,mb4.1
HFS Hagfors 80.02 331 P **P 02 03 30.2 -2.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=108,slow=4.8,SNR=10
CRVS Cervenica-Dubn 80.05 319 *eP* **P 02 03 32.9 +0.5**
NIE Niedzica 80.58 319 *eP* **P 02 03 35.8 +0.6**
OJC Ojcow 80.60 320 *eP* **P 02 03 36.1 +0.7**
NB2 NORSAR Subarra 80.74 332 P **P 02 03 34.9 -1.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=62,slow=5.3
NB2 NORSAR Subarra 80.74 332 P **P 02 03 34.9 -1.2**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 80.74 332 P **P 02 03 35.2 -0.9**
comp=Z,2.1nm,0.6s,mb4.2,baz=63,slow=5.2,SNR=6.8
NOA LR LR 02 42 39.7
comp=Z,108nm,19.7s,MS4.2,baz=85,slow=38
KECS Kecovo 80.80 318 *eP* **P 02 03 37.0 +0.6**
KECS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KECS Kecovo 80.80 318 *eP* **P 02 03 37.0 +0.6**
comp=Z,4.5nm,1.3s,mb4.2
VTS Vitosha 81.05 312 ⇓ *iP* **P 02 03 38.7 +1.0**
OKC Ostrava-Krasne 81.73 320 *eP* **P 02 03 42.7 +1.3**
VYHS Vyhne 81.82 319 *i* P **P 02 03 42.5 +0.7**
MORC Moravsky Berou 82.12 320 ⇑ *iP* **P 02 03 45.0 +1.6**
KSP Ksiaz 82.44 322 *eP* **P 02 03 45.9 +0.8**
KSP Ksiaz 82.44 322 *eP* **P 02 03 45.5 +0.4**
DPC Dobruska-Polom 82.62 321 *eP* **P 02 03 47.1 +1.1**
UPC Upice 82.74 321 *eP* **P 02 03 47.3 +0.7**
PKSM Moragy 82.81 317 ⇑ *iP* **P 02 03 47.2 +0.2**
VRAC Vranov 82.87 320 P **P 02 03 48.0 +0.6**
comp=Z,5.7nm,1.0s,mb4.6,baz=85,slow=3.9,SNR=7.0
TREC Trest 83.54 320 *eP* **P 02 03 49.9 -0.9**
PVCC Panska Ves 83.57 322 *eP* **P 02 03 51.6 +0.7**
KMBO Kilima Mbogo 83.63 266 P **P 02 03 53.5 +2.3**
comp=Z,2.0nm,0.6s,mb4.4,baz=55,slow=24,SNR=4.2
BRG Berggiesshubel 83.78 322 *eP* **P 02 03 52.6 +0.6**
BRG pmax pmax
comp=Z,41nm,1.2s,mb5.4
BRG Berggiesshubel 83.78 322 *eP* **P 02 03 52.6 +0.6**
comp=Z,41nm,1.2s,mb5.4
PRU Pruhonice 83.81 321 *eP* **P 02 03 53.0 +0.8**
CLL Collm 84.13 323 ⇑ *iP* **P 02 03 54.0 +0.2**
CLL pmax pmax
comp=Z,16nm,1.0s,mb5.1
CLL Collm 84.13 323 ⇑ *iP* **P 02 03 54.0 +0.2**
comp=Z,16nm,1.0s,mb5.1
KHC Kasperske Hory 84.74 321 *eP* **P 02 03 57.5 +0.6**
KHC Kasperske Hory 84.74 321 ⇑ *eP* **P 02 03 57.9 +1.0**
GERES GERESS Array B 84.80 320 P **P 02 03 57.5 +0.3**
comp=Z,2.2nm,0.8s,mb4.4,baz=70,slow=4.7,SNR=21
PDKS Podkum 85.19 318 *eP* **P 02 04 00.1 +1.0**
MOX Moxa 85.21 323 *eP* **P 02 03 59.4 +0.2**
VISS Visnje 85.40 317 *eP* **P 02 04 01.1 +0.9**
LJU Ljubljana 85.49 318 *eP* **P 02 04 01.6 +0.9**
CEY Cerknica 85.68 317 *eP* **P 02 04 02.5 +0.9**
GRA1 Grafenberg Arr 85.87 322 *eP* **P 02 04 03.1 +0.6**
comp=Z,12nm,1.2s,mb5.0
GRF Grafenberg Arr 85.87 322 *eP* **P 02 04 03.1 +0.6**
comp=Z,12nm,1.2s,mb5.0
GRF Grafenberg Arr 85.87 322 *eP* **P 02 04 03.1 +0.6**
GRF pmax pmax
comp=Z,12nm,1.2s,mb5.0
GRF Grafenberg Arr 85.87 322 *eP* **P 02 04 03.1 +0.6**
GRF pmax pmax
comp=Z,12nm,1.2s,mb5.0
YKA Yellowknife Ar 86.54 22 P **P 02 04 05.9 +0.1**
comp=Z,3.9nm,0.9s,mb4.6,baz=319,slow=4.4,SNR=6.9
CDF Champ du Feu 88.76 322 *eP* **P 02 04 16.0 -0.5**
HINF Hinteralfeld 89.31 322 *eP* **P 02 04 18.1 -0.9**
HAU Haudompre 89.50 322 *eP* **P 02 04 18.8 -1.2**
HAU *e*MLR MLR
comp=Z,153nm,17.0s
HAU Haudompre 89.50 322 *eP* **P 02 04 18.8 -1.2**
HAU LR LR
comp=Z,150nm,17.0s,MS4.5
CABF La Chapelle 90.38 321 *eP* **P 02 04 23.8 -0.2**
LPG La Plagne 90.55 320 *eP* **P 02 04 25.3 +0.4**
comp=Z,14nm,0.8s,mb5.0
LPG La Plagne 90.55 320 *eP* **P 02 04 25.3 +0.4**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LPG La Plagne 90.55 320 *eP* **P 02 04 25.3 +0.4**
comp=Z,6.9nm,0.8s,mb5.0
LPL La Plagne 90.56 320 *eP* **P 02 04 25.2 +0.3**
comp=Z,18nm,0.9s,mb5.1
LPL La Plagne 90.56 320 *eP* **P 02 04 25.2 +0.3**
LPL pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPL La Plagne 90.56 320 *eP* **P 02 04 25.2 +0.3**
comp=Z,8.8nm,0.9s,mb5.1
PGF Pioggiola 90.62 316 *eP* **P 02 04 25.2 0.0**
comp=Z,15nm,0.8s,mb5.1
PGF Pioggiola 90.62 316 *eP* **P 02 04 25.2 0.0**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
PGF Pioggiola 90.62 316 *eP* **P 02 04 25.2 0.0**
comp=Z,7.5nm,0.8s,mb5.1
MBDF Montbardon 90.93 319 *eP* **P 02 04 26.2 -0.4**
comp=Z,9.6nm,0.8s,mb4.8
MBDF Montbardon 90.93 319 *eP* **P 02 04 26.2 -0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MBDF Montbardon 90.93 319 *eP* **P 02 04 26.2 -0.4**
comp=Z,4.8nm,0.8s,mb4.9
LOR Lormes 91.32 322 *eP* **P 02 04 27.9 -0.5**
LOR *e*MLR MLR
comp=Z,107nm,19.0s
LOR Lormes 91.32 322 *eP* **P 02 04 27.9 -0.5**
LOR LR LR
comp=Z,110nm,19.0s,MS4.3
ORIF Oris-en-Rattie 91.38 320 *eP* **P 02 04 28.6 -0.1**
ORIF *e*MLR MLR
comp=Z,129nm,21.0s
FRF La Foret Royal 91.61 318 *eP* **P 02 04 29.3 -0.4**
comp=Z,20nm,1.0s,mb5.1
FRF La Foret Royal 91.61 318 *eP* **P 02 04 29.3 -0.4**
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
FRF La Foret Royal 91.61 318 *eP* **P 02 04 29.3 -0.4**
comp=Z,9.8nm,1.0s,mb5.1
SSF Saint Saulge 91.64 322 *eP* **P 02 04 29.3 -0.6**
AVF Avril sur Loir 91.87 322 *eP* **P 02 04 30.2 -0.8**
comp=Z,26nm,1.5s,mb5.0
AVF Avril sur Loir 91.87 322 *e*P **P 02 04 30.2 -0.8**
AVF pmax pmax
comp=Z,13nm,1.5s,mb5.0
AVF Avril sur Loir 91.87 322 *eP* **P 02 04 30.2 -0.8**
comp=Z,13nm,1.5s,mb5.0
VIVF Saint-Julien-l 92.14 320 *eP* **P 02 04 31.7 -0.5**
PPT Papeete 96.43 106 LR LR 02 43 21.7
comp=Z,110nm,20.8s,MS4.3,baz=258,slow=32
SJPF Ste Jean 96.64 321 *eP* **P 02 04 52.5 -0.3**
comp=Z,14nm,1.0s,mb5.0
SJPF Ste Jean 96.64 321 *eP* **P 02 04 52.5 -0.3**
SJPF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SJPF Ste Jean 96.64 321 *eP* **P 02 04 52.5 -0.3**
comp=Z,6.8nm,1.0s,mb5.0
HLID Hailey 98.86 37 P **P 02 05 03.7 +0.9**
SDV Santo Domingo 148.75 21 PKPbc PKPbc 02 11 08.2 -1.9
comp=Z,4.6nm,0.7s,baz=354,slow=3.5,SNR=11
SIV San Ignacio 175.16 12 PKP PKPdf 02 11 34.4 +1.7
comp=Z,1.6nm,1.0s,baz=207,slow=2.3,SNR=5.3

*ISCJB **13** 01:55:23.4±0.7, 2046S×004×6873W±008, h117km±8km, mb3.7/1, Error ellipse: s-maj=12.0km s-min=6.9km az=164.9*
*IDC **13** 01:55:24.3±1.7, 2049S×6880W, h112km±14km, mb3.6/3, mb1 3.5/7, mb1mx3.4/20, mbtmp3.9/7, Error ellipse: s-maj=33.4km s-min=13.9km az=108.0*
*NEIC **13** 01:55:24.5±0.7, 2047S×6881W, h116km±8km, mb4.0/3, Error ellipse: s-maj=11.6km s-min=7.6km az=82.0*
ISC 13 01:55:24.6±0.7, 2047S±004×6874W±008, h109km±8km, n21, σ1°01/23, mb3.7/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.14**	**184**	P	**Pn**	**01 55 59.0**	**-0.3**
LVC	24nm,0.3s,baz=7.4,slow=11,SNR=191			S	**Sn**	**01 56 26.2**	**+0.3**
	83nm,0.3s,baz=102,slow=21,SNR=37						
LPAZ	**La Paz**	**4.20**	**8**	P	**Pn**	**01 56 28.1**	**+1.6**
LPAZ	1.7nm,0.3s,baz=205,slow=6.1,SNR=53			S	**Sn**	**01 57 13.2**	**-1.4**
	0.7nm,0.3s,baz=180,slow=13,SNR=5.6						
ARE	**Arequipa**	**4.76**	**326**	*e*P	**Pn**	**01 56 28.0**	**-6.2**
ARE				*e*S	**Sn**	**01 57 19.0**	**-9.3**
SIV	**San Ignacio**	**8.54**	**60**	P	**Pn**	**01 57 24.8**	**-0.5**
	1.2nm,0.3s,baz=252,slow=12,SNR=23						
NNA	**Nana**	**11.47**	**315**	Pn	**Pn**	**01 58 04.6**	**-0.4**
CPUP	**Villa Florida**	**11.99**	**121**	P	**Pn**	**01 58 10.8**	**-1.0**
	0.4nm,0.3s,baz=279,slow=12,SNR=4.6						
CPUP	**Villa Florida**	**11.99**	**121**	*e*Pn	**Pn**	**01 58 12.3**	**+0.5**
CPUP				Sn	**Sn**	**02 00 22.6**	**-1.0**
SAML	**Samuel**	**12.65**	**26**	*e*Pn	**Pn**	**01 58 22.0**	**+1.5**
TRQA	**Tornquist**	**18.48**	**163**	*e*P	**P**	**01 59 32.4**	**+0.4**
	2.4nm,0.5s						
PLCA	**Paso Flores**	**20.26**	**184**	P	**P**	**01 59 51.1**	**-0.1**
	6.0nm,0.9s,baz=5.8,slow=12,SNR=11						
PLCA	**Paso Flores**	**20.26**	**184**	*e*P	**P**	**01 59 51.0**	**-0.2**
	6.0nm,0.9s						
BDFB	**Brasilia**	**20.27**	**80**	P	**P**	**01 59 52.8**	**+1.4**
	2.3nm,0.5s,baz=255,slow=9.7,SNR=7.2						
BDFB	**Brasilia**	**20.27**	**80**	*e*P	**P**	**01 59 52.7**	**+1.3**
	3.6nm,0.3s						
OTAV	**Otavalo**	**22.67**	**334**	P	**P**	**02 00 17.6**	**+0.7**
SDV	**Santo Domingo**	**29.23**	**356**	P	**P**	**02 01 15.3**	**-0.7**
AGMN	**Agassiz Refuge**	**72.63**	**341**	*e*P	**P**	**02 06 37.3**	**-2.8**
MCMT	**McKenzie Canyo**	**76.42**	**329**	P	**P**	**02 06 57.4**	**-4.6**
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**02 07 05.3**	**+0.8**
	0.6nm,0.4s,mb3.7,baz=254,slow=5.4,SNR=28						
CASY	**Casey**	**93.52**	**180**	P	**P**	**02 08 27.9**	**-0.2**
MKAR	**Makanchi Array**	**144.71**	**35**	PKP	PKPdf	02 14 46.0	-2.3
	0.4nm,0.5s,baz=303,slow=5.5,SNR=5.5						
SONM	**Songino Array**	**152.42**	**7**	PKPbc	PKPbc	02 15 06.9	-0.9
	0.6nm,0.4s,baz=267,slow=2.1,SNR=5.4						

*LDG **13** 01:56:11.4±0.4, 1488S×16703E, h10km, Mb4.7/2, Error ellipse: s-maj=64.8km s-min=9.0km az=88.0*
*BJI **13** 01:56:15.6, 1599S×16827E, h102km, mB5.1, mb4.5*
*IDC **13** 01:56:17.1±2.6, 1537S×16741E, h66km±21km, mb4.1/10, mb1 4.3/11, mb1mx4.2/15, mbtmp4.4/11, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=22.7km s-min=18.9km az=85.0*
*ISCJB **13** 01:56:20.1±1.7, 1557S×007×16731E±009, h102km±15km, mb4.3/16, Error ellipse: s-maj=15.5km s-min=9.8km az=124.3*
*NEIC **13** 01:56:21.3±1.3, 1552S×16741E, h103km±11km, mb4.7/8, Error ellipse: s-maj=12.2km s-min=8.7km az=56.0*
ISC 13 01:56:21.4±1.4, 1555S±007×16741E±009, h101km±12km, n72, σ0°87/37, mb4.3/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.55**	**188**	*e*P	**Pn**	**01 57 55.4**	**+0.2**
DZM				*e*S	**Sn**	**01 59 06.4**	**-2.0**
DZM	**Mont Dzumac**	**6.55**	**188**	P	**Pn**	**01 57 55.3**	**+0.1**
	19nm,0.3s,baz=330,slow=7.2,SNR=75						
DZM				S	**Sn**	**01 59 09.3**	**+0.9**
	19nm,0.3s,baz=143,slow=24,SNR=8.5						
HNR	**Honiara**	**9.48**	**309**	LR	LR	02 01 20.8	
	comp=Z,163nm,21.9s,baz=178,slow=32						
HNR	**Honiara**	**9.48**	**309**	Pn	**Pn**	**01 58 34.9**	**0.0**
RAO	**Raoul Island**	**19.21**	**138**	Pn	**Pn**	**02 00 39.2**	**-0.1**
AFI	**Afiamalu**	**20.20**	**88**	LR	LR	02 07 08.7	
	comp=Z,72nm,20.8s,baz=279,slow=32						
CTAO	**Charters Tower**	**20.63**	**254**	*e*P	**P**	**02 00 54.7**	**+2.1**
	8.0nm,0.8s						
URZ	**Urewera**	**24.19**	**161**	P	**P**	**02 01 27.9**	**-0.4**
	4.8nm,0.8s,mb3.9,baz=249,slow=8.6,SNR=3.5						
SNZO	**South Karori**	**26.44**	**168**	P	**P**	**02 01 49.6**	**+0.9**
STKA	**Stephens Creek**	**28.57**	**231**	P	**P**	**02 02 08.2**	**+0.5**
	3.9nm,0.7s,mb4.2,baz=43,slow=6.3,SNR=3.6						
STKA	**Stephens Creek**	**28.57**	**231**	*e*P	**P**	**02 02 08.6**	**+0.8**
RAR	**Rarotonga**	**31.61**	**105**	LR	LR	02 12 46.2	
	comp=Z,90nm,18.3s,baz=22,slow=31						
WB2	**Warramunga Arr**	**31.75**	**257**	*e*P	**P**	**02 02 34.5**	**-1.3**
WRA	**Warramunga Arr**	**31.76**	**257**	P	**P**	**02 02 34.6**	**-1.3**
	3.9nm,0.9s,mb4.1,baz=86,slow=8.8,SNR=9.7						
WRA				ScP	ScP	02 09 02.9	+4.0
	1.3nm,0.9s,baz=87,slow=3.8,SNR=5.2						
AS31	**Alice Springs**	**32.51**	**250**	*e*P	**P**	**02 02 42.1**	**-0.3**
ASAR	**Alice Springs**	**32.51**	**250**	P	**P**	**02 02 42.0**	**-0.5**
	10nm,0.7s,mb4.8,baz=80,slow=9.0,SNR=52						
ASAR				PcP	PcP	02 05 27.8	+0.8
	0.4nm,0.9s,baz=85,slow=3.8,SNR=4.6						
ASAR				ScP	ScP	02 09 06.2	+4.8
	2.1nm,1.0s,baz=79,slow=3.0,SNR=8.9						
ASPA	**Alice Springs**	**32.52**	**250**	*e*P	**P**	**02 02 42.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.00**	**260**	*e*P	**P**	**02 03 45.9**	**-0.2**
	13nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.00**	**260**	P	**P**	**02 03 46.2**	**+0.1**
	8.3nm,0.7s,mb4.7,baz=107,slow=7.1,SNR=35						
MBWA	**Marble Bar**	**45.46**	**255**	*e*P	**P**	**02 04 30.3**	**+0.1**
	7.8nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**48.45**	**240**	P	**P**	**02 04 54.7**	**+1.3**
	22nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**58.69**	**333**	*e*P	**P**	**02 06 07.7**	**-0.5**
VNDA	**Vanda**	**62.05**	**181**	P	**P**	**02 06 31.4**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=322,slow=4.3,SNR=9.1						
CASY	**Casey**	**62.83**	**202**	P	**P**	**02 06 35.9**	**-0.4**
MDJ	**Mudanjiang**	**69.06**	**332**	P	**P**	**02 07 18.1**	**+1.9**
MDJ				AP	pP	02 07 40.6	-1.1
MDJ				XP	sP	02 07 50.8	-1.9
MDJ				PP	PP	02 09 51.9	+2.0
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,147nm,15.3s						
MDJ	**Mudanjiang**	**69.06**	**332**	*e*P	**P**	**02 07 15.7**	**-0.5**
	comp=Z,2.6nm,0.4s,mb4.4						
BJT	**Baijiatuau**	**72.97**	**321**	P	**P**	**02 07 39.2**	**-0.6**
QSPA	**South Pole Qui**	**74.49**	**180**	*e*P	**P**	**02 07 48.8**	**+0.1**
	comp=Z,7.5nm,0.4s,mb4.8						
KMI	**Kunming**	**74.84**	**302**	P	**P**	**02 07 53.9**	**+3.1**
KMI				AP	pP	02 08 15.3	-1.3
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
KMI	**Kunming**	**74.84**	**302**	P	**P**	**02 07 53.9**	**+3.1**
	comp=Z,8.0nm,1.0s,mb4.4						
KMI				pP	pP	02 08 15.3	-1.3
MAW	**Mawson**	**81.18**	**202**	P	**P**	**02 08 26.6**	**+0.8**
	comp=Z,1.3nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=3.8						
SONM	**Songino Array**	**83.23**	**324**	P	**P**	**02 08 36.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.1,baz=154,slow=8.5,SNR=12						
NVAR	**Mina Array Bea**	**87.70**	**49**	P	**P**	**02 08 58.6**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=236,slow=7.0,SNR=4.6						
NEW	**Newport**	**92.10**	**40**	*e*P	**P**	**02 09 19.5**	**+0.3**
SNAA	**Sanae**	**92.75**	**183**	P	**P**	**02 09 21.0**	**-1.2**
	comp=Z,3.6nm,1.0s,mb4.7						
WMQ	**Urumqi**	**93.39**	**314**	*e*P	**P**	**02 09 26.0**	**+0.8**
MKAR	**Makanchi Array**	**97.88**	**316**	P	**P**	**02 09 44.7**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.6,baz=90,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**97.88**	**316**	P	**P**	**02 09 44.7**	**-0.9**
ARCES	**ARCESS Array B**	**121.07**	**345**	PKP	PKPdf	02 15 00.3	-1.7
	comp=Z,1.4nm,0.5s,baz=60,slow=2.2,SNR=20						
KAF	**Kangasniemi**	**126.00**	**339**	*e*p	PKPdf	02 15 10.3	-1.2
FINES	**FINESS Array B**	**126.52**	**338**	PKP	PKPdf	02 15 11.7	-0.8
	comp=Z,1.0nm,0.8s,baz=101,slow=6.0,SNR=6.2						
NB2	**NORSAR Subarra**	**131.44**	**345**	PKPdf	PKPdf	02 15 21.4	-0.5
	comp=Z,2.9nm,1.2s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.44**	**345**	PKP	PKPdf	02 15 21.4	-0.5
	comp=Z,0.7nm,0.8s,baz=0.2,slow=3.0,SNR=4.1						
CDF	**Champ du Feu**	**143.38**	**338**	*e*PKP1	PKPdf	02 15 41.0	-2.8
HINF	**Hinteralfeld**	**144.03**	**338**	*e*PKP1	PKPdf	02 15 42.3	-2.7
HAU	**Haudompre**	**144.05**	**338**	*e*PKP1	PKPdf	02 15 42.2	-2.8
	comp=Z,5.7nm,0.8s						
CABF	**La Chapelle**	**145.33**	**337**	*e*PKP1	PKPbc	02 15 47.2	-0.1
	comp=Z,30nm,0.8s						
FLN	**La Foliniere**	**145.41**	**346**	*e*PKP1	PKPbc	02 15 46.6	-0.9
	comp=Z,11nm,0.4s						
LDF	**La Druitiere**	**145.49**	**345**	*e*PKP1	PKPbc	02 15 46.7	-1.1
	comp=Z,35nm,1.0s						
LOR	**Lormes**	**145.54**	**340**	*e*PKP1	PKPbc	02 15 47.5	-0.4
	comp=Z,33nm,1.2s						
SSF	**Saint Saulge**	**145.84**	**340**	*e*PKP1	PKPbc	02 15 48.5	-0.4
	comp=Z,5.8nm,0.5s						
GRR	**Gorron**	**145.85**	**346**	*e*PKP1	PKPbc	02 15 48.2	-0.7
	comp=Z,16nm,0.4s						
LPL	**La Plagne**	**145.99**	**335**	*e*PKP1	PKPbc	02 15 49.8	+0.5
	comp=Z,7.3nm,0.7s						
LPG	**La Plagne**	**145.99**	**335**	*e*PKP1	PKPbc	02 15 49.9	+0.6
	comp=Z,10nm,0.7s						
SMF	**Signal de Mont**	**146.09**	**340**	*e*PKP1	PKPbc	02 15 49.7	+0.1
	comp=Z,3.2nm,0.5s						
AVF	**Avril sur Loir**	**146.13**	**340**	*e*PKP1	PKPbc	02 15 49.8	+0.1
	comp=Z,6.9nm,0.5s						
SGMF	**Saint Gilles**	**146.35**	**348**	*e*PKP1	PKPbc	02 15 49.5	-0.9
	comp=Z,12nm,0.5s						
BNI	**Bardonecchia**	**146.39**	**335**	*e*PKP	PKPbc	02 15 51.7	+1.2
ROSF	**Rostrenen**	**146.41**	**349**	*e*PKP1	PKPbc	02 15 49.6	-0.9
BGF	**Bois d'Agland**	**146.50**	**341**	*e*PKP1	PKPbc	02 15 50.2	-0.6
	comp=Z,6.5nm,0.5s						
MBDF	**Montbardon**	**146.62**	**335**	*e*PKP1	PKPbc	02 15 50.7	-0.4
	comp=Z,9.6nm,0.6s						
QUIF	**Quistinic**	**146.79**	**348**	*e*PKP1	PKPbc	02 15 51.8	+0.2
	comp=Z,5.1nm,0.5s						
ORIF	**Oris-en-Rattie**	**146.82**	**336**	*e*PKP1	PKPbc	02 15 51.3	-0.4
	comp=Z,24nm,1.0s						
TCF	**Toulx Ste Croi**	**146.94**	**341**	*e*PKP1	PKPbc	02 15 51.4	-0.7
SBF	**Sospel**	**147.03**	**333**	*e*PKP1	PKPbc	02 15 51.5	-0.8
MFF	**Saint Martin d**	**147.34**	**344**	*e*PKP1	PKPbc	02 15 52.5	-0.7
	comp=Z,12nm,0.5s						
VIVF	**Saint-Julien-l**	**147.34**	**337**	*e*PKP1	PKPbc	02 15 52.4	-0.8
FRF	**La Foret Royal**	**147.61**	**333**	*e*PKP1	PKPbc	02 15 52.6	-1.3
LMR	**La Mourre**	**147.85**	**333**	*e*PKP1	PKPbc	02 15 53.8	-0.8
RJF	**Les Rejaudoux**	**148.04**	**341**	*e*PKP1	PKPbc	02 15 56.0	+1.0
KEST	**Kesra**	**151.92**	**320**	PKPbc	PKPbc	02 16 05.0	+0.5
	comp=Z,0.9nm,0.7s,baz=151,slow=15,SNR=7.0						
TORD	**Torodi Ar. Bea**	**165.95**	**262**	PKP	PKPdf	02 16 14.2	-0.1
	comp=Z,0.4nm,0.6s,baz=132,slow=0.6,SNR=5.1						
TORD				PKPab	PKPab	02 17 16.6	+1.8
	comp=Z,1.1nm,1.1s,baz=91,slow=4.8,SNR=2.8						

IDC 13 01:59:16.8±6.3, 2059S×17798E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=318.1km s-min=49.5km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.83**	**257**	P	P	02 07 00.0	0.0
	0.3nm,0.3s,baz=91,slow=7.7,SNR=3.6						
WRA	**Warramunga Arr**	**40.85**	**263**	P	P	02 07 01.7	+1.5
	0.5nm,0.3s,baz=96,slow=8.1,SNR=11						
FITZ	**Fitzroy Crossi**	**49.27**	**263**	P	P	02 08 06.6	-0.7
	0.5nm,0.4s,baz=101,slow=16,SNR=3.1						
GERES	**GERESS Array B**	**149.12**	**340**	PKPbc	PKPbc	02 19 06.8	-0.3
	0.9nm,0.8s,baz=48,slow=2.0,SNR=6.2						

*ISCJB **13** 02:00:19.3±2.4, 322S±03×1796E±06, h508km±41km, mb3.5/3, Error ellipse: s-maj=76.9km s-min=39.7km az=41.7*
*IDC **13** 02:00:19.4±7.4, 3202S×17951E, h479km±95km, mb3.1/3, mb1 3.3/3, mb1mx3.0/12, mbtmp3.9/3, Error ellipse: s-maj=111.8km s-min=37.0km az=7.0*
*NEIC **13** 02:00:20.6±3.0, 3216S×17955E, h503km±39km, Error ellipse: s-maj=65.8km s-min=28.4km az=185.0*
ISC 13 02:00:21.9±2.3, 3215S±04×1791E±07, h473km±63km, n24, σ0°62/24, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.48**	**187**	P	**P**	**02 01 52.0**	**+0.2**
MXZ	**Matakaoa Point**	**5.48**	**187**	PN	**P**	**02 01 52.0**	**+0.2**
PUZ	**Puketiti**	**5.99**	**186**	P	**P**	**02 01 57.3**	**+0.5**
PUZ				S	**S**	**02 03 14.2**	**-0.3**
PUZ	**Puketiti**	**5.99**	**186**	PN	**P**	**02 01 55.4**	**-1.4**
PUZ				SN	**S**	**02 03 13.4**	**-1.0**
MWZ	**Matawai**	**6.34**	**191**	P	**P**	**02 02 01.5**	**+1.1**
MWZ	**Matawai**	**6.34**	**191**	PN	**P**	**02 02 01.4**	**+1.1**
URZ	**Urewera**	**6.35**	**194**	P	**P**	**02 02 00.9**	**+0.5**
	99nm,0.3s,baz=338,slow=2.0,SNR=129						
URZ				S	**S**	**02 03 21.6**	**+0.5**
	14nm,0.3s,baz=118,slow=22,SNR=10

PLOU	**Loures**	**6.22**	**47**	*e*Sn	Sn	02 23 50.1	-14
MOE	**Montemor**	**6.50**	**53**	*e*Pn	Pn	02 22 51.0	-5.5
MOE				*e*Sn	Sn	02 23 57.6	-13
EGRO	**El Granado**	**6.65**	**63**	P	Pn	02 22 52.9	-5.5
	0.2nm,0.3s,SNR=7.9						
EGRO				S	Sn	02 23 59.2	-15
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.65**	**63**	P	Pn	02 22 52.9	-5.6
	0.2nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**7.19**	**53**	*e*Sn	Sn	02 24 14.4	-13
EMIN	**Mina Concepcio**	**7.33**	**63**	P	Pn	02 23 01.5	-6.4
	1.2nm,0.5s,SNR=9.9						
EMIN				S	Sn	02 24 15.2	-16
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.33**	**63**	P	Pn	02 23 01.5	-6.4
	1.2nm,0.5s,SNR=9.9						
ESPR	**Espera**	**7.68**	**71**	P	Pn	02 23 06.4	-6.3
	1.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	02 24 24.6	-15
	3.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.68**	**71**	P	Pn	02 23 06.4	-6.3
	1.3nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**7.83**	**47**	*e*Pn	Pn	02 23 08.6	-6.1
PCBR				*e*Sn	Sn	02 24 28.9	-14
MTE	**Manteigas**	**8.15**	**44**	*e*Sn	Sn	02 24 37.2	-14
MTE							
	1.7nm,0.4s						
MTE	**Manteigas**	**8.15**	**44**	Sn	Sn	02 24 37.2	-14
	0.9nm,0.4s						
PVIS	**Viseu**	**8.17**	**41**	*e*Sn	Sn	02 24 37.5	-14
EADA	**Adamuz**	**9.02**	**65**	P	Pn	02 23 24.7	-6.4
	0.3nm,0.3s,SNR=9.1						
EADA				S	Sn	02 24 56.8	-16
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.02**	**65**	P	Pn	02 23 24.7	-6.4
	0.3nm,0.3s,SNR=9.1						
EQES	**Quesada**	**10.06**	**69**	P	Pn	02 23 39.2	-6.1
	0.0nm,0.3s,SNR=7.9						
EQES				S	Sn	02 25 21.5	-17
	0.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**11.43**	**66**	P	Pn	02 23 56.0	-8.1
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	02 25 54.0	-18
	0.1nm,0.1s,SNR=7.9						
ETOR	**Torete**	**11.86**	**55**	P	Pn	02 24 03.3	-6.6
	1.1nm,0.2s,SNR=7.9						

*CSEM **13** 02:37:46.1±1.1, 3693N×2442W, h5km, ML2.7, Error ellipse: s-maj=6.9km s-min=4.6km az=70.0, After PDA*
*PDA **13** 02:37:46.1±1.1, 3693N×2442W, h5km, MD2.8, ML2.7, Error ellipse: s-maj=6.9km s-min=4.6km az=70.0*

SVSA 13 02:37:46.1±1.1, 3693N×2442W, h5km, MD2.8, ML2.7, Error ellipse: s-maj=6.9km s-min=4.6km az=70.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**279**	*e*P	Pg	02 37 54.9	-1.2
PSMN				*e*S	Sg	02 38 01.4	-1.5
MIRA	**Miradouro**	**1.10**	**322**	*e*P	Pg	02 38 02.9	-4.2
MIRA				*e*S	Sg	02 38 16.2	-5.1
FRA1	**Furnas**	**1.10**	**318**	*e*S	Sg	02 38 16.2	-5.4
PCNG	**Congro**	**1.14**	**318**	*e*S	Sg	02 38 16.9	-5.9
PCNG							
	23nm,0.2s						
VIF	**Vila Franca**	**1.15**	**316**	*e*S	Sg	02 38 17.9	-5.2
VIF							
	56nm,0.2s						
PFAD	**Fenais da Ajud**	**1.16**	**322**	*e*P	Pg	02 38 03.9	-4.4
PFAD				*e*S	Sg	02 38 17.6	-5.8
PRCH	**Ribeira Ch**	**1.16**	**314**	*e*S	Sg	02 38 17.9	-5.6
PRCH							
	114nm,0.2s						
MESC	**Monte Escuro**	**1.19**	**317**	*e*P	Pg	02 38 04.4	-4.5
MESC				*e*S	Sg	02 38 18.2	-6.1
LFA	**Lagoa do Fogo**	**1.20**	**315**	*e*P	Pg	02 38 04.6	-4.4
PMAT	**Coroa da Mata**	**1.22**	**317**	*e*S	Sg	02 38 19.4	-5.9
PMAT							
	46nm,0.2s						
PVER	**Pico Vermelho**	**1.23**	**315**	*e*S	Sg	02 38 19.6	-6.0
PVER							
	23nm,0.2s						
CML	**Cha da Macela**	**1.23**	**314**	*e*P	Pg	02 38 05.1	-4.6
CML				*e*S	Sg	02 38 19.1	-6.5
FAC	**Faja de Cima**	**1.29**	**311**	*e*P	Pn	02 38 06.3	-4.5
FAC				*e*S	Sg	02 38 20.0	-7.7
PSET	**Sete Cidades**	**1.37**	**311**	*e*P	Pn	02 38 06.7	-5.1
PSET				*e*S	Sb	02 38 23.0	-6.9
PSET							
	68nm,0.2s						
PSET	**Sete Cidades**	**1.37**	**311**	*e*P	Pn	02 38 06.7	-5.1
PSET				*e*S	Sb	02 38 23.0	-6.9
PSAN	**Santo Antonio**	**1.39**	**312**	*e*S	Sb	02 38 23.8	-6.8
PFET	**Feteiras**	**1.41**	**310**	*e*S	Sb	02 38 23.2	-7.8
SET2	**Ginetes**	**1.43**	**310**	*e*P	Pn	02 38 08.0	-4.7
SET4	**Mosteiros**	**1.45**	**311**	*e*P	Pn	02 38 08.3	-4.6
PFAV	**Pico das Favas**	**2.76**	**311**	*e*P	Sn	02 38 58.3	-6.4
RIB2	**Ribeirinha**	**2.79**	**309**	*e*P	Sn	02 38 59.7	-5.7
PVNV	**Vila Nova**	**2.83**	**311**	*e*P	Sn	02 38 59.8	-6.7
PSBA	**Serra de Santa**	**2.94**	**310**	*e*P	Pn	02 38 28.3	-5.2
PSBA				*e*S	Sn	02 39 01.5	-7.7
PSBA							
	46nm,0.3s						
PSBA	**Serra de Santa**	**2.94**	**310**	*e*P	Pn	02 38 28.3	-5.2
PSBA				*e*S	Sn	02 39 01.5	-7.7
PID	**Ribeirinha**	**3.30**	**298**	*e*P	Pn	02 38 34.5	-3.9
PID				*e*S	Sn	02 39 09.9	-8.1
PMAN	**Manadas**	**3.37**	**302**	*e*P	Pn	02 38 35.2	-4.1
ROSA	**Rosais**	**3.51**	**302**	*e*P	Pn	02 38 37.3	-4.0
PICO	**Pico**	**3.54**	**298**	*e*P	Pn	02 38 38.1	-3.6
PICO				*e*S	Sn	02 39 15.8	-8.2
SRBC	**Serra Branca**	**3.55**	**307**	*e*P	Pn	02 38 37.2	-4.7
CALA	**Caldeira**	**3.77**	**297**	*e*P	Pn	02 38 41.0	-3.9
PCED	**Cedros**	**3.79**	**298**	*e*P	Pn	02 38 41.0	-4.2

IDC 13 02:54:54.4±1.4, 269S×12628E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=128.5km s-min=22.8km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**156**	P	Pn	02 59 17.8	+1.2
	0.1nm,0.3s,baz=335,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**22.11**	**161**	P	P	02 59 51.5	+0.1
	0.6nm,0.7s,baz=341,slow=11,SNR=11						
SONM	**Songino Array**	**53.24**	**343**	P	P	03 04 15.7	+0.9
	0.6nm,0.7s,baz=145,slow=5.4,SNR=4.0						
MKAR	**Makanchi Array**	**62.62**	**327**	P	P	03 05 19.7	-0.9
	0.6nm,0.7s,baz=121,slow=9.0,SNR=5.6						

IDC 13 03:02:52.8±1.6, 540S×15117E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/13, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=85.4km s-min=25.4km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**225**	Pn	Pn	03 04 19.6	+1.9
	4.4nm,0.3s,baz=63,slow=9.8,SNR=8.2						
PMG				Sn	Sn	03 05 24.6	+1.6
	8.5nm,0.3s,baz=51,slow=20,SNR=9.2						
WRA	**Warramunga Arr**	**21.84**	**227**	P	P	03 07 46.4	-0.4
	1.5nm,0.3s,baz=52,slow=10,SNR=26						
ASAR	**Alice Springs**	**24.63**	**221**	P	P	03 08 14.8	0.0
	0.6nm,0.4s,baz=56,slow=8.4,SNR=13						
FITZ	**Fitzroy Crossi**	**27.95**	**241**	P	P	03 08 44.9	0.0
	1.1nm,0.5s,baz=70,slow=10,SNR=2.9						
NVAR	**Mina Array Bea**	**93.73**	**52**	P	P	03 16 11.4	0.0
	0.7nm,0.8s,baz=261,slow=7.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.94**	**287**	PKPbc	PKPbc	03 22 44.1	+1.6
	1.0nm,0.6s,baz=97,slow=3.0,SNR=10						

*NEIC **13** 03:05:55.5, 3146S×7171W, h30km, ML3.9(GUC), After GUC.*

GUC 13 03:05:55.5±0.6, 3146S×7171W, h30km±1km, MD4.0, ML3.9, 10C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**157**	⇓*i*P	Pb	03 06 05.0	-0.3
CHNG				*i* S	Sb	03 06 11.9	0.0
CMCH	**Combarbala**	**0.67**	**65**	⇑*i*P	Pb	03 06 08.2	-0.5
CMCH				*i* S	Sb	03 06 18.0	+0.3
CMCH				AML	AML	03 06 19.6	
	comp=E,17μm,0.5s						
CMCH	**Combarbala**	**0.67**	**65**	⇑*i*P	Pb	03 06 08.2	-0.5
CMCH				*i* S	Sb	03 06 18.0	+0.3
OVCH	**Ovalle**	**0.95**	**28**	⇓*i*P	Pn	03 06 12.7	-0.2
OVCH				*i* S	Sn	03 06 25.6	+0.1
PTCH	**Petorca**	**1.04**	**141**	⇓*i*P	Pn	03 06 14.1	0.0
PTCH				*i* S	Sn	03 06 28.2	+0.6
PTCH				AML	AML	03 06 31.1	
	comp=N,7μm,0.3s						
PTCH	**Petorca**	**1.04**	**141**	⇓*i*P	Pn	03 06 14.1	0.0
PTCH				*i* S	Sn	03 06 28.2	+0.6
PACH	**Papudo**	**1.10**	**168**	⇑*i*P	Pn	03 06 15.0	+0.1
PACH				*i* S	Sn	03 06 29.9	+0.9
TLL	**Tololo Astrono**	**1.50**	**32**	⇑*i*P	Pn	03 06 21.9	+1.4
TLL				*i* S	Sn	03 06 41.8	+2.8
TLL				AML	AML	03 06 43.7	
	comp=N,3μm,0.5s						
TLL	**Tololo Astrono**	**1.50**	**32**	⇑*i*P	Pn	03 06 21.9	+1.4
TLL				*i* S	Sn	03 06 41.8	+2.8
JACH	**Jahuel**	**1.55**	**142**	*i* P	Pn	03 06 22.5	+1.5
LSCH	**La Serena**	**1.60**	**15**	*i* P	Pn	03 06 22.9	+1.2
LSCH				*i* S	Sn	03 06 43.6	+2.3
ROCH	**El Roble**	**1.62**	**159**	⇑*i*P	Pn	03 06 23.2	+1.2
ROCH				*i* S	Sn	03 06 44.9	+3.0
PEL	**Peldehue**	**1.89**	**153**	⇓*i*P	Pn	03 06 27.1	+1.4
PEL				*i* S	Sn	03 06 51.6	+3.0
PEL				AML	AML	03 06 56.6	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.89**	**153**	⇓*i*P	Pn	03 06 27.1	+1.4
PEL				*i* S	Sn	03 06 51.6	+3.0
RCDM	**Rinconada Maip**	**2.17**	**160**	⇑*i*P	Pn	03 06 30.6	+1.1
RCDM				*i* S	Sn	03 06 57.8	+2.5
RCDM				AML	AML	03 07 06.3	
	comp=E,894nm,0.7s						
RCDM	**Rinconada Maip**	**2.17**	**160**	⇑*i*P	Pn	03 06 30.6	+1.1
RCDM				*i* S	Sn	03 06 57.8	+2.5
CLCH	**Cerro Calan**	**2.17**	**153**	⇑*i*P	Pn	03 06 31.0	+1.3
CLCH				*i* S	Sn	03 06 58.2	+2.7
CLCH				AML	AML	03 07 03.7	
	comp=N,853nm,0.6s						
FCH	**Farellones**	**2.22**	**148**	*i* P	Pn	03 06 32.3	+2.1
FCH				*i* S	Sn	03 06 60.0	+3.4
FCH				AML	AML	03 07 09.1	
	comp=E,571nm,0.6s						
TACH	**Talagante**	**2.29**	**164**	⇓*i*P	Pn	03 06 32.4	+1.2
TACH				*i* S	Sn	03 07 00.5	+2.2
ANTU	**Antumapu**	**2.29**	**157**	AML	AML	03 07 15.3	
	comp=N,638nm,0.6s						
PCH	**Pirque**	**2.38**	**155**	⇑*i*P	Pn	03 06 33.9	+1.4
PCH				*i* S	Sn	03 07 03.5	+2.8
CACH	**El Canelo**	**2.81**	**161**	*i* P	Pn	03 06 40.5	+2.1
CACH				*i* S	Sn	03 07 15.2	+3.9
CICH	**Cipreses**	**3.05**	**159**	*e*P	Pn	03 06 43.4	+1.7
CICH				*i* S	Sn	03 07 19.9	+2.6

*ISCJB **13** 03:08:48.6±0.3, 4508N×002×660E±003, h3km±6km, Error ellipse: s-maj=3.7km s-min=2.6km az=145.8*
*ROM **13** 03:08:49.0±0.1, 4506N×672E, h5km, Md2.2/3, Ml1.8/2, Error ellipse: s-maj=2.0km s-min=1.1km az=172.0*
*STR **13** 03:08:49.8±0.2, 4512N×679E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 03:08:49.8±0.1, 4509N×668E, h4km, Md2.4/3, Ml2.4/9, Error ellipse: s-maj=3.5km s-min=1.9km az=78.0*

ISC 13 03:08:49.5±0.3, 4508N±002×664E±003, h6km±4km, n29, σ0°79/46, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.04**	**132**	Pg	**Pg**	**03 08 50.3**	**-0.4**
BNI				Sg	**Sg**	**03 08 51.0**	**-0.6**
	1μm,0.5s						
OG22	**Abries**	**0.34**	**139**	Pg	**Pg**	**03 08 56.0**	**0.0**
OG22				Sg	**Sg**	**03 09 00.7**	**+0.3**
MBDF	**Montbardon**	**0.36**	**165**	*e*Pg	**Pg**	**03 08 56.5**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**03 09 02.1**	**+0.8**
	50nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.43**	**11**	*e*Pg	**Pg**	**03 08 57.6**	**-0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**03 09 03.0**	**-0.3**
	54nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.44**	**9**	*e*Pg	**Pg**	**03 08 58.0**	**0.0**
LPL				*e*Sg	**Sg**	**03 09 03.9**	**+0.1**
	46nm,0.2s						
RSP	**Reno Superiore**	**0.45**	**80**	Pg	**Pg**	**03 08 58.1**	**0.0**
RSP				Sg	**Sg**	**03 09 04.2**	**+0.3**
	63nm,0.6s						
ORIF	**Oris-en-Rattie**	**0.56**	**254**	*e*Pg	**Pg**	**03 09 00.2**	**-0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**03 09 07.8**	**+0.2**
	54nm,0.4s,SNR=1.0						
RSL	**Roselend**	**0.61**	**359**	Pg	**Pg**	**03 09 00.8**	**-0.4**
DOI	**San Damiano**	**0.72**	**143**	Pg	**Pg**	**03 09 02.9**	**-0.4**
DOI				Sg	**Sg**	**03 09 12.5**	**-0.2**
	25nm,0.2s						
OG05	**Jujurieux**	**1.27**	**320**	Pg	**Pg**	**03 09 15.0**	**+1.2**
OG05				Sg	**Sg**	**03 09 32.6**	**+2.3**
SMRF	**Simiane la Rot**	**1.34**	**215**	*e*Pg	**Pg**	**03 09 15.9**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**03 09 33.0**	**+0.5**
	8.0nm,0.4s						
SBF	**Sospel**	**1.34**	**155**	*e*Pn	**Pn**	**03 09 14.4**	**-0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**03 09 33.9**	**+1.3**
	63nm,0.7s						
VIVF	**Saint-Julien-l**	**1.41**	**262**	*e*Pn	**Pn**	**03 09 14.9**	**-0.9**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.41**	**262**	*e*Pg	**Pg**	**03 09 17.2**	**+0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**03 09 34.0**	**-0.9**
	6.7nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.52**	**180**	*e*Pg	**Pg**	**03 09 18.4**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**03 09 37.9**	**-0.4**
	4.7nm,0.2s						
CABF	**La Chapelle**	**1.58**	**346**	*e*Pn	**Pn**	**03 09 17.6**	**-0.5**
CABF	**La Chapelle**	**1.58**	**346**	*e*P	**Pn**	**03 09 19.2**	**+1.1**
CABF	**La Chapelle**	**1.58**	**346**	*e*Pg	**Pg**	**03 09 20.4**	**+0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**03 09 40.3**	**0.0**
	9.1nm,0.5s						
LMR	**La Mourre**	**1.75**	**183**	*e*Pg	**Pg**	**03 09 21.9**	**-1.1**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**03 09 45.1**	**-0.5**
	3.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.50**	**310**	*e*Pn	**Pn**	**03 09 30.0**	**-0.8**
SMF	**Signal de Mont**	**2.50**	**310**	*e*P	**Pn**	**03 09 31.7**	**+0.9**
	SNR=1.0						
SMF	**Signal de Mont**	**2.50**	**310**	*e*Pg	**Pg**	**03 09 36.5**	**-1.0**
	SNR=1.0						
HINF	**Hinteralfeld**	**2.74**	**3**	*e*Sg	**Sg**	**03 10 17.5**	**-0.1**
	2.4nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.86**	**308**	*e*Pn	**Pn**	**03 09 35.0**	**-0.7**
AVF	**Avril sur Loir**	**2.86**	**308**	*e*P	**Pn**	**03 09 37.2**	**+1.5**
AVF	**Avril sur Loir**	**2.86**	**308**	*e*Pg	**Pg**	**03 09 44.5**	**+0.2**
	SNR=1.0						
LOR	**Lormes**	**2.92**	**320**	*e*Pn	**Pn**	**03 09 34.0**	**-2.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**03 10 21.7**	**-1.6**
	3.3nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.04**	**301**	*e*P	**Pn**	**03 09 39.3**	**+1.2**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.04**	**301**	*e*Pg	**Pg**	**03 09 48.6**	**+0.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**03 10 26.8**	**-0.2**
	5.8nm,0.4s,SNR=1.0						

*LDG **13** 03:10:35.3±1.1, 1333S×16883E, h10km, Error ellipse: s-maj=250.4km s-min=17.7km az=100.0*
*NEIC **13** 03:10:56.0±2.2, 1431S×16725E, h185km±18km, mb4.3/7, Error ellipse: s-maj=16.4km s-min=13.7km az=192.0*
*IDC **13** 03:10:56.4±4.3, 1436S×16727E, h187km±35km, mb3.8/10, mb1 3.9/11, mb1mx3.8/16, mbtmp4.3/11, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=27.6km s-min=21.0km az=40.0*
*ISCJB **13** 03:10:58.3±2.7, 145S±0.1×167.1E±0.2, h212km±23km, mb4.1/15, Error ellipse: s-maj=25.2km s-min=18.8km az=136.2*
*BJI **13** 03:11:04.0, 1402S×16738E, h251km, mB4.7, mb4.4*

ISC 13 03:10:58.9±2.5, 145S±01×1673E±02, h207km±21km, n56, σ0°79/27, mb4.1/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.59**	**186**	P	**Pn**	**03 12 46.1**	**-0.6**
	1.3nm,0.3s,baz=61,slow=17,SNR=11						
DZM				S	**Sn**	**03 14 13.2**	**+0.4**
	2.9nm,0.3s,baz=122,slow=21,SNR=4.2						
RAO	**Raoul Island**	**20.11**	**139**	LR	LR	03 20 57.5	
	comp=Z,78nm,19.8s,baz=298,slow=30						
STKA	**Stephens Creek**	**29.14**	**229**	*e*P	**P**	**03 16 42.1**	**+1.6**
	8.9nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**29.14**	**229**	P	**P**	**03 16 42.2**	**+1.7**
	11nm,0.4s,mb4.8,baz=47,slow=8.1,SNR=43						
WB2	**Warramunga Arr**	**31.86**	**255**	*e*P	**P**	**03 17 04.0**	**-0.4**
WRA	**Warramunga Arr**	**31.87**	**255**	P	**P**	**03 17 04.2**	**-0.3**
	1.6nm,0.5s,mb3.8,baz=87,slow=9.3,SNR=26						
AS31	**Alice Springs**	**32.74**	**249**	*e*P	**P**	**03 17 11.5**	**-0.6**
ASAR	**Alice Springs**	**32.74**	**249**	P	**P**	**03 17 11.7**	**-0.4**
	1.2nm,0.3s,mb4.0,baz=78,slow=8.9,SNR=24						
ASPA	**Alice Springs**	**32.75**	**249**	*e*P	**P**	**03 17 11.5**	**-0.6**
FORT	**Forrest**	**39.41**	**239**	*e*P	**P**	**03 18 08.8**	**+0.3**
	13nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.04**	**259**	*e*P	**P**	**03 18 14.7**	**+1.0**
	6.1nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**40.04**	**259**	P	**P**	**03 18 14.6**	**+0.8**
	4.4nm,0.9s,mb3.9,baz=116,slow=5.8,SNR=7.2						
MBWA	**Marble Bar**	**45.59**	**254**	*e*P	**P**	**03 18 58.4**	**+0.2**
	4.6nm,0.7s,mb3.9						
NWAO	**Narrogin (SRO)**	**48.86**	**239**	P	**P**	**03 19 22.6**	**-0.9**
	13nm,0.9s,mb4.3,baz=84,slow=10,SNR=3.4						
VNDA	**Vanda**	**63.11**	**181**	P	**P**	**03 21 04.2**	**-0.2**
	1.0nm,0.8s,mb3.5,baz=350,slow=9.1,SNR=7.8						
VNDA	**Vanda**	**63.11**	**181**	*e*P	**P**	**03 21 04.9**	**+0.5**
	0.9nm,0.6s,mb3.6						
CASY	**Casey**	**63.75**	**202**	*e*P	**P**	**03 21 08.6**	**+0.1**
NJ2	**Nanjing**	**65.48**	**316**	*e*P	**P**	**03 21 19.8**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
MDJ	**Mudanjiang**	**68.05**	**332**	P	**P**	**03 21 37.5**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,73nm,5.1s						
KMI	**Kunming**	**74.16**	**302**	P	**P**	**03 22 16.3**	**+3.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
MAW	**Mawson**	**82.11**	**202**	*e*P	**P**	**03 22 56.4**	**+0.2**
	comp=Z,3.4nm,0.9s,mb4.0						
MAW	**Mawson**	**82.11**	**202**	P	**P**	**03 22 56.6**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.1,baz=95,slow=5.5,SNR=12						
SONM	**Songino Array**	**82.28**	**324**	P	**P**	**03 22 55.6**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.3,baz=102,slow=5.0,SNR=4.2						
WMQ	**Urumqi**	**92.54**	**315**	*e*P	**P**	**03 23 47.0**	**+0.5**
SNAA	**Sanae**	**93.80**	**183**	P	**P**	**03 23 51.0**	**-1.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=158,slow=5.0,SNR=6.6						
SNAA	**Sanae**	**93.80**	**183**	*e*P	**P**	**03 23 52.2**	**-0.1**
	comp=Z,3.9nm,1.1s,mb4.3						
MKAR	**Makanchi Array**	**97.01**	**316**	P	**P**	**03 24 06.5**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.9,baz=131,slow=3.4,SNR=4.7						
ARCES	**ARCESS Array B**	**120.00**	**345**	PKP	PKPdf	03 29 23.6	-1.1
	comp=Z,1.2nm,0.3s,baz=79,slow=2.2,SNR=67						
JOF	**Joensuu**	**122.65**	**338**	*e*p	PKPdf	03 29 28.4	-1.3
KAF	**Kangasniemi**	**124.95**	**339**	*e*p	PKPdf	03 29 32.6	-1.6
FINES	**FINESS Array B**	**125.48**	**338**	PKP	PKPdf	03 29 34.5	-0.6
	comp=Z,0.4nm,0.3s,baz=91,slow=2.3,SNR=7.6						
CDF	**Champ du Feu**	**142.34**	**338**	*e*PKP1	PKPdf	03 30 03.2	-3.4
HINF	**Hinteralfeld**	**142.99**	**338**	*e*PKP1	PKPdf	03 30 04.7	-3.0
CABF	**La Chapelle**	**144.29**	**338**	*e*PKP1	PKPdf	03 30 09.7	-0.3
LDF	**La Druitiere**	**144.42**	**346**	*e*PKP1	PKPdf	03 30 08.8	-1.4
LOR	**Lormes**	**144.50**	**340**	*e*PKP1	PKPdf	03 30 09.6	-0.8
	comp=Z,5.2nm,0.6s						
GRR	**Gorron**	**144.79**	**346**	*e*PKP1	PKPdf	03 30 10.3	-0.6
	comp=Z,5.4nm,0.6s						
SSF	**Saint Saulge**	**144.79**	**341**	*e*PKP1	PKPdf	03 30 10.8	-0.1
	comp=Z,11nm,0.8s						
LPL	**La Plagne**	**144.96**	**336**	*e*PKP1	PKPdf	03 30 11.8	+0.6
	comp=Z,4.0nm,0.6s						
LPG	**La Plagne**	**144.97**	**336**	*e*PKP1	PKPdf	03 30 11.9	+0.7
	comp=Z,3.5nm,0.5s						
SMF	**Signal de Mont**	**145.05**	**340**	*e*PKP1	PKPbc	03 30 11.4	+0.2
	comp=Z,2.9nm,0.5s						
AVF	**Avril sur Loir**	**145.08**	**341**	*e*PKP1	PKPbc	03 30 11.5	+0.2
	comp=Z,6.1nm,0.9s						
SGMF	**Saint Gilles**	**145.28**	**348**	*e*PKP1	PKPbc	03 30 11.8	-0.1
	comp=Z,4.2nm,0.4s						
ROSF	**Rostrenen**	**145.34**	**349**	*e*PKP1	PKPbc	03 30 12.0	-0.1
	comp=Z,32nm,1.2s						
BNI	**Bardonecchia**	**145.36**	**335**	*e*PKPbc	PKPbc	03 30 13.1	+0.9
BGF	**Bois d'Agland**	**145.45**	**341**	*e*PKP1	PKPbc	03 30 12.6	+0.1

IDC 13 03:37:24.8±2.5, 1597S×17321W, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/16, mbtmp4.0/5, ML2.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/25, Error ellipse: s-maj=133.4km s-min=22.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.47**	**34**	Pn	Pn	03 38 06.4	+0.2
	52nm,0.3s,baz=193,slow=2.5,SNR=77						
AFI				Sn	Sn	03 38 30.9	-6.2
	201nm,0.3s,baz=59,slow=21,SNR=22						
STKA	**Stephens Creek**	**43.92**	**240**	P	P	03 45 33.8	+0.5
	2.3nm,0.8s,baz=62,slow=6.6,SNR=4.3						
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	03 46 20.2	+0.2
	1.2nm,0.6s,baz=92,slow=6.7,SNR=15						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	03 46 21.6	0.0
	1.8nm,0.6s,baz=88,slow=7.7,SNR=18						
ASAR				LR	LR	04 06 28.1	
	comp=Z,92nm,19.6s,baz=28,slow=35						
PDAR	**Pinedale Array**	**82.56**	**42**	P	P	03 49 49.5	-0.2
	0.8nm,1.0s,baz=198,slow=4.2,SNR=4.8						
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc	PKPbc	03 57 09.8	+1.2
	1.0nm,0.8s,baz=51,slow=4.1,SNR=5.6						

*NEIC **13** 03:39:24.0, 3136S×7173W, h28km, ML3.3(GUC), After GUC.*

GUC 13 03:39:24.0±0.6, 3136S×7173W, h28km±2km, MD3.6, ML3.3, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.65**	**73**	⇑*i* P	Pb	03 39 36.3	-0.6
CMCH				*i* S	Sb	03 39 46.1	+0.5
CMCH				AML	AML	03 39 46.9	
	comp=N,4μm,0.4s						
OVCH	**Ovalle**	**0.88**	**31**	*i* P	Pn	03 39 40.0	-0.5
OVCH				*i* S	Sb	03 39 52.0	-0.1
OVCH				AML	AML	03 39 55.4	
	comp=E,1μm,0.3s						
OVCH	**Ovalle**	**0.88**	**31**	*i* P	Pn	03 39 40.0	-0.5
OVCH				*i* S	Sb	03 39 52.0	-0.1
PTCH	**Petorca**	**1.13**	**143**	⇑*i* P	Pn	03 39 43.7	-0.1
PTCH				*i* S	Sn	03 39 58.6	+0.2
PTCH				AML	AML	03 40 00.5	
	comp=E,2μm,0.2s						
PTCH	**Petorca**	**1.13**	**143**	⇑*i* P	Pn	03 39 43.7	-0.1
PTCH				*i* S	Sn	03 39 58.6	+0.2
PACH	**Papudo**	**1.20**	**168**	⇑*i* P	Pn	03 39 44.8	0.0
PACH				*i* S	Sn	03 40 01.0	+0.9
TLL	**Tololo Astrono**	**1.44**	**34**	⇓*i* P	Pn	03 39 49.3	+1.2
TLL				*i* S	Sn	03 40 08.4	+2.4
TLL				AML	AML	03 40 10.7	
	comp=N,554nm,0.5s						
TLL	**Tololo Astrono**	**1.44**	**34**	⇓*i* P	Pn	03 39 49.3	+1.2
TLL				*i* S	Sn	03 40 08.4	+2.4
LSCH	**La Serena**	**1.51**	**16**	*i* P	Pn	03 39 49.9	+0.8
LSCH				*i* S	Sn	03 40 09.7	+1.8
JACH	**Jahuel**	**1.63**	**144**	*e* P	Pn	03 39 52.3	+1.5
JACH				*i* S	Sn	03 40 13.6	+2.7
PEL	**Peldehue**	**1.98**	**154**	⇑*i* P	Pn	03 39 56.9	+1.3
PEL				*i* S	Sn	03 40 22.4	+2.9
PEL				AML	AML	03 40 26.5	
	comp=E,472nm,0.2s						
PEL	**Peldehue**	**1.98**	**154**	⇑*i* P	Pn	03 39 56.9	+1.3
PEL				*i* S	Sn	03 40 22.4	+2.9
CLCH	**Cerro Calan**	**2.27**	**154**	*e* P	Pn	03 40 01.1	+1.6
CLCH				*i* S	Sn	03 40 29.4	+2.9
CLCH				AML	AML	03 40 37.9	
	comp=E,290nm,0.4s						
FCH	**Farellones**	**2.31**	**148**	*e* P	Pn	03 40 01.9	+1.9
FCH				*e* S	Sn	03 40 31.0	+3.5
FCH				AML	AML	03 40 34.4	
	comp=E,152nm,0.2s						

*BJI **13** 04:12:53.8, 1353N×14509E, h160km, mB4.8, mb4.4*
*ISCJB **13** 04:12:57.5±0.6, 1387N±007×1446E±02, h156km±6km, mb4.0/18, Error ellipse: s-maj=25.3km s-min=10.5km az=163.5*
*IDC **13** 04:12:58.4±0.5, 1391N×14464E, h148km±4km, mb3.6/10, mb1 3.8/10, mb1mx3.7/20, mbtmp4.0/10, Error ellipse: s-maj=26.0km s-min=12.7km az=86.0*
*NEIC **13** 04:12:58.5±0.8, 1392N×14459E, h153km±7km, mb4.0/5, Error ellipse: s-maj=16.0km s-min=8.6km az=88.0*

ISC 13 04:12:58.9±0.6, 1388N±007×1447E±02, h153km±5km, n29, n0 9 96/27, mb4.0/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.34**	**150**	P	**Pn**	**04 13 20.2**	**+0.3**
	1μm,0.3s,baz=283,slow=1.1,SNR=249						
GUMO				S	**Sn**	**04 13 36.0**	**+0.1**
	277nm,0.3s,baz=256,slow=22,SNR=13						
GUMO	**Guam**	**0.34**	**150**	*e*Pn	**Pn**	**04 13 19.9**	**0.0**
GUMO				*e*Sn	**Sn**	**04 13 35.5**	**-0.4**
MJAR	**Matsushiro Arr**	**23.30**	**347**	P	**P**	**04 17 51.0**	**-2.0**
	0.8nm,0.4s,mb3.5,baz=166,slow=8.9,SNR=4.0						
NJ2	**Nanjing**	**29.76**	**312**	*e*P	**P**	**04 18 52.3**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
MDJ	**Mudanjiang**	**33.23**	**340**	P	**P**	**04 19 21.9**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,30nm,4.1s						
WB2	**Warramunga Arr**	**35.12**	**197**	*e*P	**P**	**04 19 37.3**	**-0.3**
WRA	**Warramunga Arr**	**35.12**	**197**	P	**P**	**04 19 37.6**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.1,baz=13,slow=8.7,SNR=54						
WRA				PcP	PcP	04 22 06.5	+0.8
	comp=Z,0.7nm,0.7s,baz=16,slow=3.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	**36.92**	**211**	*e*P	**P**	**04 19 52.8**	**-0.1**
	comp=Z,1.8nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**36.92**	**211**	P	**P**	**04 19 53.3**	**+0.3**
	comp=Z,1.0nm,0.3s,mb3.9,baz=3.3,slow=11,SNR=15						
FITZ				PcP	PcP	04 22 12.0	+0.9
	comp=Z,2.7nm,1.1s,baz=353,slow=1.7,SNR=5.5						
XAN	**Xi'an**	**38.08**	**308**	P	**P**	**04 20 03.1**	**+0.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
AS31	**Alice Springs**	**38.78**	**196**	*e*P	**P**	**04 20 08.5**	**0.0**
ASAR	**Alice Springs**	**38.78**	**196**	P	**P**	**04 20 08.5**	**0.0**
	comp=Z,0.9nm,0.4s,mb3.8,baz=17,slow=13,SNR=17						
ASAR				PcP	PcP	04 22 17.8	+1.0
	comp=Z,0.3nm,0.6s,baz=16,slow=4.3,SNR=4.8						
ASPA	**Alice Springs**	**38.78**	**196**	*e*P	**P**	**04 20 08.5**	**0.0**
DZM	**Mont Dzumac**	**41.61**	**149**	P	**P**	**04 20 33.7**	**+1.8**
	comp=Z,4.7nm,0.6s,mb4.3,baz=285,slow=20,SNR=4.9						
MBWA	**Marble Bar**	**42.59**	**216**	*e*P	**P**	**04 20 39.3**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**45.59**	**184**	P	**P**	**04 21 02.4**	**-1.3**
	comp=Z,1.5nm,0.6s,mb3.8,baz=339,slow=17,SNR=2.4						
SONM	**Songino Array**	**46.39**	**325**	P	**P**	**04 21 09.5**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.6,baz=145,slow=8.1,SNR=6.0						
GTA	**Gaotai**	**46.85**	**311**	*e*P	**P**	**04 21 14.5**	**+1.0**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.2						
WMQ	**Urumqi**	**56.81**	**314**	*e*P	**P**	**04 22 28.0**	**+0.8**
MKAR	**Makanchi Array**	**61.16**	**316**	P	**P**	**04 22 57.8**	**+0.6**
	comp=Z,1.7nm,0.4s,mb4.2,baz=94,slow=8.5,SNR=15						
CHKZ	**Chkalovo**	**69.50**	**322**	*e*P	**P**	**04 23 49.7**	**-1.1**
	comp=Z,1.5nm,0.7s,mb3.8						
BRVK	**Borovoye**	**69.66**	**322**	*e*P	**P**	**04 23 51.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**70.42**	**322**	*e*P	**P**	**04 23 55.7**	**-0.7**
	comp=Z,1.2nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**82.68**	**27**	P	**P**	**04 25 03.3**	**-2.0**
	comp=Z,0.2nm,0.4s,mb3.2,baz=286,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**86.87**	**51**	P	**P**	**04 25 28.1**	**+1.8**
	comp=Z,0.9nm,0.6s,mb3.8,baz=295,slow=7.5,SNR=5.2						
TRQA	**Tornquist**	**146.25**	**140**	*e*PKPbc	PKPbc	04 32 21.9	+0.5
LVC	**Limon Verde**	**146.99**	**110**	*e*PKPbc	PKPbc	04 32 24.8	+1.3
LPAZ	**La Paz**	**148.24**	**99**	*e*PKPbc	PKPbc	04 32 29.0	+2.1
SAML	**Samuel**	**152.25**	**83**	*e*PKPbc	PKPbc	04 32 36.7	+0.3

*CSEM **13** 04:17:56.5, 3700N×366E, h0km, ML3.0, After ALG*
*CRAAG **13** 04:17:56.5, 3700N×366E, Ml3.0*

MDD 13 04:17:57.4±1.9, 3699N×369E, h13km±20km, mb3.5/5, Error ellipse: s-maj=19.8km s-min=16.0km az=48.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.29**	**215**	P	Pg	04 18 02.9	-0.6
ABA	**Alger-Bouzarea**	**0.56**	**250**	P	Pg	04 18 08.0	-0.3
ADJB	**Djebel Djouab**	**0.86**	**194**	P	Pg	04 18 13.3	-0.7
AKET	**Djebel Ketaf**	**0.96**	**171**	P	Pb	04 18 19.5	+3.7
EMHD	**Djebel Mahouad**	**0.99**	**217**	P	Pb	04 18 15.0	-1.3
EIBI	**Ibiza**	**2.75**	**318**	Pn	Pn	04 18 40.6	-0.6
	1.0nm,0.1s,SNR=4.0						
EIBI				Sn	Sn	04 19 10.2	-3.9
	SNR=7.9						
ETOS	**Mallorca**	**2.85**	**346**	Pn	Pn	04 18 41.5	-1.1
	1.1nm,0.1s,SNR=4.0						
ETOS				Sn	Sn	04 19 11.2	-5.5
	SNR=7.9						
EBEN	**Beniarda**	**3.54**	**300**	Pn	Pn	04 18 53.6	+1.6
	0.2nm,0.2s,SNR=4.0						
EBEN				Sn	Sn	04 19 29.4	-4.2
	SNR=4.0						
ETOB	**Tobarra**	**4.46**	**293**	Pn	Pn	04 19 05.6	+1.0
	1.2nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	04 19 53.3	-3.1
	SNR=7.9						
EMOS	**Mosqueruela**	**4.68**	**317**	Pn	Pn	04 19 09.7	+2.0
	0.4nm,0.1s,SNR=4.0						
EMOS				Sn	Sn	04 19 57.5	-4.4
	SNR=7.9						
ERTA	**Horta de San J**	**4.74**	**328**	Sn	Sn	04 19 58.1	-5.3
	SNR=4.0						
EPOB	**Poblet**	**4.80**	**336**	Pn	Pn	04 19 08.2	-1.2
	0.4nm,0.2s,SNR=4.0						
EPOB				Sn	Sn	04 19 58.0	-6.8
	SNR=4.0						

*CSEM **13** 04:23:37.8±0.3, 3844N×2842W, h6km±2km, ML1.2, Error ellipse: s-maj=1.6km s-min=1.4km az=29.0, After PDA*
*PDA **13** 04:23:37.8±0.3, 3844N×2842W, h6km±2km, MD2.8, ML1.2, Error ellipse: s-maj=1.6km s-min=1.4km az=29.0*

SVSA 13 04:23:37.8±0.3, 3844N×2842W, h6km±2km, MD2.8, ML1.2, Error ellipse: s-maj=1.6km s-min=1.4km az=29.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBOI	**Pico dos Bois**	**0.03**	**90**	*e*P	Pg	04 23 39.1	+0.1
PBOI				*e*S	Sg	04 23 40.0	+0.1
PBOI							
	61nm,0.1s						
PCND	**Candelaria**	**0.05**	**312**	*i* P	Pg	04 23 39.3	0.0
PCND				*e*S	Sg	04 23 40.4	+0.1
PCND							
	50nm,0.1s						
PICO	**Pico**	**0.07**	**353**	*i* P	Pg	04 23 38.7	-0.8
PICO				*i* S	Sg	04 23 40.0	-0.6
PICO	**Pico**	**0.07**	**353**	*i* S	Sg	04 23 40.0	-0.6
PTEI	**Pico do Teixo**	**0.07**	**38**	*i* P	Pg	04 23 39.6	0.0
PTEI				*e*S	Sg	04 23 41.0	+0.1
PTEI							
	57nm,0.1s						

*NEIC **13** 04:41:30.6, 3144S×7164W, h30km, ML3.9(GUC), After GUC.*

GUC 13 04:41:30.6±0.5, 3144S×7164W, h30km±1km, MD4.0, ML3.9, 11C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**165**	⇑*i* P	Pb	04 41 40.1	-0.3
CHNG				*i* S	Sb	04 41 47.0	0.0
CMCH	**Combarbala**	**0.61**	**64**	⇑*i* P	Pb	04 41 42.4	-0.4
CMCH				*i* S	Sb	04 41 51.5	+0.3
CMCH				AML	AML	04 41 58.2	
	comp=N,8μm,0.5s						
CMCH				AML	AML	04 41 58.2	
	comp=N,8μm,0.5s						
CMCH	**Combarbala**	**0.61**	**64**	⇑*i* P	Pb	04 41 42.4	-0.4
CMCH				*i* S	Sb	04 41 51.5	+0.3
OVCH	**Ovalle**	**0.91**	**25**	⇑*i* P	Pn	04 41 47.3	-0.1
OVCH				*i* S	Sn	04 41 59.5	+0.1
OVCH				AML	AML	04 42 02.6	
	comp=E,5μm,0.5s						
OVCH	**Ovalle**	**0.91**	**25**	⇑*i* P	Pn	04 41 47.3	-0.1
OVCH				*i* S	Sn	04 41 59.5	+0.1
PTCH	**Petorca**	**1.02**	**144**	⇓*i* P	Pn	04 41 48.9	+0.1
PTCH				*i* S	Sn	04 42 02.6	+0.5
PTCH				AML	AML	04 42 06.3	
	comp=N,9μm,0.3s						
PTCH	**Petorca**	**1.02**	**144**	⇓*i* P	Pn	04 41 48.9	+0.1
PTCH				*i* S	Sn	04 42 02.6	+0.5
PACH	**Papudo**	**1.11**	**171**	⇓*i* P	Pn	04 41 49.9	-0.1
PACH				*i* S	Sn	04 42 05.0	+0.7
TLL	**Tololo Astrono**	**1.46**	**30**	⇑*i* P	Pn	04 41 56.2	+1.3
TLL				*i* S	Sn	04 42 15.4	+2.5
TLL				AML	AML	04 42 19.0	
	comp=E,3μm,0.3s						
TLL	**Tololo Astrono**	**1.46**	**30**	⇑*i* P	Pn	04 41 56.2	+1.3
TLL				*i* S	Sn	04 42 15.4	+2.5
JACH	**Jahuel**	**1.53**	**145**	*i* P	Pn	04 41 57.2	+1.5
JACH				*i* S	Sn	04 42 17.0	+2.4
LSCH	**La Serena**	**1.56**	**13**	*i* P	Pn	04 41 57.5	+1.1
LSCH				*i* S	Sn	04 42 17.6	+2.0
IHA	**Instituto Hidr**	**1.58**	**180**	⇑*i* P	Pn	04 41 57.5	+1.0
IHA				*i* S	Sn	04 42 18.1	+2.2
ROCH	**El Roble**	**1.62**	**161**	⇓*i* P	Pn	04 41 58.2	+1.1
ROCH				*i* S	Sn	04 42 19.6	+2.7
PEL	**Peldehue**	**1.88**	**155**	⇓*i* P	Pn	04 42 02.2	+1.5
PEL				*i* S	Sn	04 42 26.4	+3.0
PEL				AML	AML	04 42 30.9	
	comp=E,4μm,0.4s						
PEL	**Peldehue**	**1.88**	**155**	⇓*i* P	Pn	04 42 02.2	+1.5
PEL				*i* S	Sn	04 42 26.4	+3.0
LCCH	**Las Cruces**	**2.03**	**178**	⇑*i* P	Pn	04 42 02.9	+0.1
LCCH				*i* S	Sn	04 42 28.3	+1.2
RCDM	**Rinconada Maip**	**2.16**	**161**	*i* P	Pn	04 42 05.7	+1.2
RCDM				*i* S	Sn	04 42 32.8	+2.5
RCDM				AML	AML	04 42 41.0	
	comp=N,1μm,0.1s						
RCDM	**Rinconada Maip**	**2.16**	**161**	*i* P	Pn	04 42 05.7	+1.2
RCDM				*i* S	Sn	04 42 32.8	+2.5
CLCH	**Cerro Calan**	**2.16**	**155**	⇑*i* P	Pn	04 42 06.1	+1.6
CLCH				*i* S	Sn	04 42 32.8	+2.5
CLCH				AML	AML	04 42 42.7	
	comp=E,1μm,0.7s						
STL	**Santa Lucia**	**2.16**	**157**	*e*P	Pn	04 42 06.2	+1.6
STL				*i* S	Sn	04 42 32.7	+2.4
FCH	**Farellones**	**2.20**	**149**	⇓*i* P	Pn	04 42 07.4	+2.3
FCH				*i* S	Sn	04 42 35.0	+3.7
LACH	**Colegio Las Am**	**2.21**	**155**	*e*P	Pn	04 42 06.8	+1.5
LACH				*i* S	Sn	04 42 34.2	+2.6
TACH	**Talagante**	**2.29**	**165**	⇑*i* P	Pn	04 42 07.4	+1.1
TACH				*i* S	Sn	04 42 35.7	+2.4
ANTU	**Antumapu**	**2.29**	**158**	*e*P	Pn	04 42 07.9	+1.7
ANTU				*i* S	Sn	04 42 36.1	+2.7
ANTU				AML	AML	04 42 46.7	
	comp=N,765nm,0.2s						
ANTU	**Antumapu**	**2.29**	**158**	*e*P	Pn	04 42 07.9	+1.7
ANTU				*i* S	Sn	04 42 36.1	+2.7
PCH	**Pirque**	**2.37**	**157**	*e*P	Pn	04 42 09.1	+1.6
PCH				*i* S	Sn	04 42 38.1	+2.5
ZON	**Zonda**	**2.54**	**93**	AML	AML	04 43 03.2	
	comp=E,540nm,0.4s						
CACH	**El Canelo**	**2.81**	**162**	*i* P	Pn	04 42 15.5	+2.1
CACH				*i* S	Sn	04 42 50.0	+3.7
VACH	**Vallenar**	**2.96**	**15**	*i* P	Pn	04 42 20.6	+5.1
VACH				*i* S	Sn	04 42 56.0	+6.1

CASC 13 04:45:08.3±3.0, 1307N×9089W, h8km±36km, MD4.1, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**1.56**	**48**	⇑*e*P	x	04 45 37.4	+1.1
RBDL				*e*S	x	04 45 58.9	+2.2
BOQS	**Boqueron**	**1.70**	**67**	*e*P	x	04 45 38.4	+0.2
TP2	**Tecpan 2**	**1.71**	**356**	⇑*e*P	Pn	04 45 38.6	+0.3
TP2				*e*S	Sn	04 46 02.6	+2.3
LFRS	**El Faro**	**1.86**	**73**	⇓*e*P	x	04 45 39.5	-0.9
LBRS	**Las Brisas**	**1.92**	**69**	*e*P	x	04 45 41.1	0.0
LCBS	**La Ceiba**	**1.95**	**72**	⇓*e*P	x	04 45 40.7	-0.9

GUC 13 04:50:45.9±0.6, 3142S×7185W, h19km±3km, MD3.6, ML2.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**147**	*e*P	Pg	04 50 56.5	-0.4
CHNG				*i* S	Sg	04 51 04.2	-0.3
CHNG				AML	AML	04 51 07.8	
	comp=E,335nm,0.5s						
TLL	**Tololo Astrono**	**1.54**	**36**	*e*P	Pn	04 51 13.0	+0.7
TLL				*i* S	Sn	04 51 32.8	+1.0
TLL				AML	AML	04 51 35.1	
	comp=E,493nm,0.6s						
PEL	**Peldehue**	**1.98**	**150**	*i* P	Pn	04 51 19.2	+0.7
PEL				*i* S	Sn	04 51 45.0	+2.1
PEL				AML	AML	04 51 50.3	
	comp=E,377nm,0.4s						
CLCH	**Cerro Calan**	**2.27**	**151**	*e*P	Pn	04 51 23.5	+1.1
CLCH				*e*S	Sn	04 51 52.4	+2.6
CLCH				AML	AML	04 51 58.9	
	comp=N,150nm,0.5s						
FCH	**Farellones**	**2.32**	**146**	*i* P	Pn	04 51 24.8	+1.7
FCH				*i* S	Sn	04 51 54.7	+3.6
FCH				AML	AML	04 52 07.8	
	comp=N,66nm,0.2s						
LCO	**Las Campanas**	**2.59**	**23**	*e*P	Pn	04 51 27.9	+1.0
LCO				*i* S	Sn	04 52 00.3	+2.4

OTT 13 05:00:58.4±1.2, 6136N×6099W, h18km, ML2.5/3, LAlbertaRADOR Sea Seismic Zone. 210km east from Resolution Island, Nu, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.24**	**308**	PN	Pn	05 02 01.7	-0.4
FRB				SN	Sn	05 02 48.2	-2.9
FRB				Trac		05 02 51.1	
	comp=Z,2.8nm,0.2s						
KUQ	**Kuujjuuaa**	**4.97**	**232**	PN	Pn	05 02 11.1	-1.1
KUQ				SN	Sn	05 03 04.8	-4.4
KUQ				Trac		05 03 08.4	
	comp=Z,0.8nm,0.1s						
AKVQ	**Akulik**	**8.36**	**274**	PN	Pn	05 02 58.8	+0.1
AKVQ				SN	Sn	05 04 32.2	-0.2
INUQ	**Inukjuak**	**9.08**	**259**	SN	Sn	05 04 46.3	-4.0
LG4Q	**La Grande 4**	**10.46**	**228**	PN	Pn	05 03 25.3	-2.2
LG4Q				SN	Sn	05 05 17.7	-6.5
LG4Q				Trac		05 05 24.9	
	comp=Z,0.3nm,0.1s						

*NEIC **13** 05:05:53.5, 3137S×7167W, h14km, ML3.1(GUC), After GUC.*

GUC 13 05:05:53.5±0.5, 3137S×7167W, h14km±3km, MD3.6, ML3.1, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**165**	⇑*i* P	Pg	05 06 03.9	-0.2
CHNG				*i* S	Sg	05 06 11.4	+0.3
CMCH	**Combarbala**	**0.60**	**71**	⇑*i* P	Pg	05 06 04.8	-0.5
CMCH				*i* S	Sg	05 06 13.8	+0.5
CMCH				AML	AML	05 06 15.0	
	comp=N,3μm,0.7s						
CMCH	**Combarbala**	**0.60**	**71**	⇑*i* P	Pg	05 06 04.8	-0.5
CMCH				*i* S	Sg	05 06 13.8	+0.5
OVCH	**Ovalle**	**0.86**	**28**	*i* P	Pb	05 06 09.0	-1.1
OVCH				*i* S	Sg	05 06 20.7	-0.6
OVCH				AML	AML	05 06 23.9	
	comp=E,919nm,0.2s						
OVCH	**Ovalle**	**0.86**	**28**	*i* P	Pb	05 06 09.0	-1.1
OVCH				*i* S	Sg	05 06 20.7	-0.6
PTCH	**Petorca**	**1.09**	**145**	⇑*i* P	Pb	05 06 12.7	-1.4
PTCH				*i* S	Sb	05 06 27.2	-1.0
PTCH				AML	AML	05 06 29.2	
	comp=E,2μm,0.2s						
PTCH	**Petorca**	**1.09**	**145**	⇑*i* P	Pb	05 06 12.7	-1.4
PTCH				*i* S	Sb	05 06 27.2	-1.0
PACH	**Papudo**	**1.18**	**171**	*i* P	Pn	05 06 13.8	-1.7
PACH				*i* S	Sb	05 06 30.1	-0.7
TLL	**Tololo Astrono**	**1.41**	**32**	*i* P	Pn	05 06 18.3	-0.3
TLL				*i* S	Sn	05 06 37.0	+0.1
TLL				AML	AML	05 06 40.0	
	comp=E,445nm,0.4s						
TLL	**Tololo Astrono**	**1.41**	**32**	*i* P	Pn	05 06 18.3	-0.3
TLL				*i* S	Sn	05 06 37.0	+0.1
JACH	**Jahuel**	**1.60**	**145**	*e*P	Pn	05 06 21.1	-0.1
JACH				*i* S	Sn	05 06 41.8	+0.1
ROCH	**El Roble**	**1.69**	**161**	*i* P	Pn	05 06 22.8	+0.2
ROCH				*i* S	Sn	05 06 45.0	+0.9
PEL	**Peldehue**	**1.96**	**155**	*i* P	Pn	05 06 26.4	+0.2
PEL				*i* S	Sn	05 06 51.5	+1.0
PEL				AML	AML	05 06 55.3	
	comp=E,422nm,0.3s						
PEL	**Peldehue**	**1.96**	**155**	*i* P	Pn	05 06 26.4	+0.2
PEL				*i* S	Sn	05 06 51.5	+1.0
CLCH	**Cerro Calan**	**2.24**	**155**	AML	AML	05 07 06.4	
	comp=E,236nm,0.6s						
RCDM	**Rinconada Maip**	**2.24**	**161**	AML	AML	05 07 00.2	
	comp=E,123nm,0.4s						
FCH	**Farellones**	**2.28**	**150**	AML	AML	05 07 09.1	
	comp=E,109nm,0.2s						

*NEIC **13** 05:12:40.6, 3139S×7164W, h34km, ML3.0(GUC), After GUC.*

GUC 13 05:12:40.6±0.5, 3139S×7164W, h34km±5km, MD3.6, ML3.0, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**166**	*i* P	Pb	05 12 49.7	-1.6
CHNG				*i* S	Sb	05 12 57.5	-1.2
CMCH	**Combarbala**	**0.59**	**69**	⇑*i* P	Pn	05 12 52.2	-0.3
CMCH				*i* S	Sb	05 13 01.3	+0.4
CMCH				AML	AML	05 13 03.4	
	comp=E,2μm,0.6s						
CMCH	**Combarbala**	**0.59**	**69**	⇑*i* P	Pn	05 12 52.2	-0.3
CMCH				*i* S	Sb	05 13 01.3	+0.4
PTCH	**Petorca**	**1.06**	**145**	⇓*i* P	Pn	05 12 59.2	+0.1
PTCH				*i* S	Sn	05 13 13.8	+1.1
PTCH				AML	AML	05 13 17.1	
	comp=E,901nm,0.2s						

SPA0	**Spitsbergen Ar**	**1.71**	**85**	Pg	Pg	05 13 24.7	-2.3
	baz=270,slow=12						
SPA0				Lg		05 13 46.8	
	baz=266,slow=22						
HOPEN	**Hopen**	**4.06**	**105**	*e*P	Pn	05 13 56.8	-0.9
HOPEN				*e*S	Sn	05 14 41.9	-4.1
HOPEN				AML	AML	05 14 42.8	
	comp=N,71nm,0.2s						
ARA0	**ARCESS Array S**	**9.85**	**142**	Pn	Pn	05 15 15.1	-2.0
	baz=327,slow=11						
ARA0				Sn	Sn	05 16 59.4	-9.0

KRSC ***13*** *05:15:23,5148N×154.17E,h492km,ML5.0*
ISCJB ***13*** *05:15:25.5±0.3,5202N±004×15288E±006,h423km±3km, mb4.2/92,Error ellipse: s-maj=7.7km s-min=4.3km az=103.9*
BJI ***13*** *05:15:25.8,5209N×15274E,h419km,mB4.6,mb4.5*
MOS ***13*** *05:15:26.3±0.8,5204N×15292E,h435km,mb4.2/62,Error ellipse: s-maj=9.8km s-min=5.7km az=96.5*
IDC ***13*** *05:15:27.0±1.8,5204N×15274E,h424km±20km,mb3.7/20, mb1 3.8/22,mb1mx3.7/26,mbtmp4.5/22,Error ellipse: s-maj=11.8km s-min=9.0km az=141.0*
NEIC ***13*** *05:15:26.9±0.5,5204N×15277E,h425km±5km,mb4.3/55, Error ellipse: s-maj=6.7km s-min=4.2km az=151.0*

ISC 13 05:15:26.0±0.3,5209N±004×15287E±006,h415km±3km, h423km±3.8km:pP-P,n264,σ1906/282,mb4.2/92,9C-5D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.48**	**123**	*e*PN	**P**	**05 16 22.0**	**-4.5**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,460nm,0.5s						
GRL	**Gorelyy**	**3.23**	**80**	*e*P	**P**	**05 16 33.7**	**+1.5**
GRL				*e*S	**S**	**05 17 24.4**	**-1.5**
GNL	**Ganaly**	**3.47**	**60**	*e*P	**P**	**05 16 36.6**	**+2.4**
GNL				*i* S	**S**	**05 17 29.3**	**-0.3**
RUS	**Russkaya**	**3.49**	**82**	*i* P	**P**	**05 16 35.1**	**+0.7**
RUS				*i* S	**S**	**05 17 27.2**	**-2.7**
PET	**Petropavlovsk**	**3.65**	**73**	*e*PN	**P**	**05 16 37.3**	**+1.4**
PET				*e*S	**S**	**05 17 31.3**	**-1.2**
PET				pmax	pmax		
	comp=Z,172nm,0.5s						
PET				smax			
	comp=E,302nm,0.7s						
PET				smax			
	comp=N,114nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET				MLR	MLR		
	comp=Z,700nm,4.0s						
PET	**Petropavlovsk**	**3.65**	**73**	*e*Pn	**P**	**05 16 37.1**	**+1.3**
PET	**Petropavlovsk**	**3.65**	**73**	*i* P	**P**	**05 16 37.6**	**+1.7**
PET				*i* S	**S**	**05 17 31.0**	**-1.5**
AVH	**Avacha**	**3.76**	**69**	*e*P	**P**	**05 16 39.3**	**+2.5**
AVH				*i* S	**S**	**05 17 34.1**	**-0.2**
NLC	**Nalytchevo**	**4.09**	**72**	*e*P	**P**	**05 16 40.2**	**+0.3**
NLC				*i* S	**S**	**05 17 36.8**	**-3.1**
SPN	**Mys Shipunski**	**4.48**	**74**	*e*P	**P**	**05 16 43.2**	**-0.3**
SPN				*i* S	**S**	**05 17 41.3**	**-5.3**
TUMR	**Tumrok**	**5.38**	**51**	*i* P	**P**	**05 16 55.9**	**+3.3**
TUMR				*i* S	**S**	**05 18 03.0**	**-0.1**
KMNR	**Kamenistaya**	**5.69**	**47**	*e*P	**P**	**05 16 59.3**	**+3.4**
KMNR				*i* S	**S**	**05 18 07.8**	**-1.4**
KOZ	**Kozyrevsk**	**5.73**	**43**	*e*P	**P**	**05 16 59.5**	**+3.3**
KOZR	**Kozyr**	**5.74**	**43**	PN	**P**	**05 16 59.5**	**+3.1**
KPT	**Kopyto**	**5.82**	**45**	*e*P	**P**	**05 17 00.0**	**+2.8**
KPT				*e*S	**S**	**05 18 09.6**	**-1.9**
SRDR	**Sredinnyy**	**5.84**	**41**	*i* P	**P**	**05 17 01.0**	**+3.6**
SRDR				*e*S	**S**	**05 18 11.8**	**-0.1**
MKZ	**Mys Kozlova**	**5.86**	**62**	*i* P	**P**	**05 16 57.6**	**0.0**
MKZ				*i* S	**S**	**05 18 05.2**	**-7.1**
ZLN	**Zelenaya**	**6.11**	**47**	*i* P	**P**	**05 17 03.3**	**+3.0**
ZLN				*i* S	**S**	**05 18 15.3**	**-1.9**
KRSR	**Krestovskiy**	**6.12**	**45**	*e*P	**P**	**05 17 03.3**	**+2.8**
KRSR				*i* S	**S**	**05 18 14.8**	**-2.8**
KLY	**Klyuchi**	**6.22**	**44**	*e*P	**P**	**05 17 05.4**	**+3.9**
KLY				*i* S	**S**	**05 18 19.2**	**-0.3**
SRKR	**Sorokina**	**6.66**	**43**	*e*P	**P**	**05 17 09.1**	**+2.8**
SRKR				*i* S	**S**	**05 18 25.8**	**-2.4**
KBTR	**Krutoberegovo**	**7.15**	**51**	*e*P	**P**	**05 17 11.5**	**-0.2**
KBTR				*i* S	**S**	**05 18 29.3**	**-8.8**
MA2	**Magadan**	**7.59**	**352**	*c i* PN	**P**	**05 17 19.1**	**+2.5**
MA2				pmax	pmax		
	comp=Z,60nm,0.6s						
MA2				pmax	pmax		
	comp=N,40nm,0.7s						
MA2	**Magadan**	**7.59**	**352**	*e*Pn	**P**	**05 17 19.1**	**+2.6**
	comp=N,113nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.35**	**236**	⇑ *i*PN	**P**	**05 17 26.8**	**+1.9**
YSS				*e*S	**S**	**05 19 06.1**	**+3.6**
YSS				pmax	pmax		
	comp=N,140nm,0.6s						
YSS				pmax	pmax		
	comp=E,110nm,0.6s						
YSS				pmax	pmax		
	comp=Z,270nm,0.6s						
YSS				smax			
	comp=E,50nm,1.1s						
YSS	**Yuzh-Sakhalins**	**8.35**	**236**	*e*Pn	**P**	**05 17 25.0**	**+0.1**
	comp=E,205nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**9.32**	**213**	*e*PN	**P**	**05 17 34.0**	**-1.7**
YUK				pmax	pmax		
	comp=N,110nm,0.4s						
YUK				pmax	pmax		
	comp=E,140nm,0.4s						
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
ASAJ	**Asahikawa**	**10.52**	**225**	P	**P**	**05 17 48.8**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=32,slow=10,SNR=9.0						
ASAJ	**Asahikawa**	**10.52**	**225**	PN	**P**	**05 17 48.8**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SEY	**Seymchan**	**10.87**	**359**	⇓ *i*PN	**P**	**05 17 55.5**	**+2.6**
ERM	**Erimo**	**12.05**	**217**	*e*PN	**P**	**05 18 03.7**	**-2.1**
ERM				pmax	pmax		
	comp=Z,119nm,0.4s						
ERM	**Erimo**	**12.05**	**217**	*e*Pn	**P**	**05 18 03.7**	**-2.1**
	comp=Z,119nm,0.4s						
KLR	**Kul'dur**	**13.69**	**266**	*e*P	**P**	**05 18 22.8**	**-0.9**
KLR				pmax	pmax		
	comp=E,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s						
YAK	**Yakutsk**	**15.97**	**318**	*e*P	**P**	**05 18 49.1**	**+0.8**
YAK				*e*S	**S**	**05 21 36.3**	**+0.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				pmax	pmax		
	comp=Z,25nm,0.6s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.5s						
YAK				smax			
	comp=N,172nm,1.5s						
YAK				smax			
	comp=Z,34nm,0.8s						
YAK				smax			
	comp=E,158nm,2.2s						
CLNS	**Chul'man**	**16.88**	**297**	*e*P	**P**	**05 18 59.1**	**+1.1**
CLNS				pmax	pmax		
	comp=Z,45nm,0.8s						
CLNS				pmax	pmax		
	comp=N,25nm,0.9s						
CLNS				pmax	pmax		
	comp=E,30nm,0.8s						
MDJ	**Mudanjiang**	**17.13**	**253**	P	**P**	**05 18 59.6**	**-1.1**
MDJ				S	**S**	**05 21 56.8**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,54nm,5.1s						
BILL	**Bilibino**	**17.27**	**17**	⇑ *i*P	**P**	**05 19 03.3**	**+1.2**
BILL				*e*S	**S**	**05 22 01.1**	**+0.3**
BILL				pmax	pmax		
	comp=Z,23nm,0.7s						
BILL	**Bilibino**	**17.27**	**17**	*e*P	**P**	**05 19 02.3**	**+0.2**
	comp=Z,17nm,0.5s						
MAJO	**Matsushiro**	**18.70**	**219**	*e*P	**P**	**05 19 16.0**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**18.70**	**219**	*e*P	**P**	**05 19 16.0**	**-1.1**
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**18.70**	**219**	P	**P**	**05 19 16.1**	**-1.0**
MJAR	**Matsushiro Arr**	**18.70**	**219**	P	**P**	**05 19 15.7**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=18,slow=10,SNR=15						
MJAR	**Matsushiro Arr**	**18.70**	**219**	P	**P**	**05 19 15.7**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HIA	**Hailar**	**21.08**	**275**	*e*P	**P**	**05 19 39.2**	**0.0**
HIA				pmax	pmax		
	comp=Z,43nm,0.7s						
HIA	**Hailar**	**21.08**	**275**	*e*P	**P**	**05 19 39.2**	**0.0**
	comp=Z,43nm,0.7s,mb5.0						
BOD	**Bodaibo**	**22.80**	**300**	*e*P	**P**	**05 19 54.7**	**-0.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
SONM	**Songino Array**	**29.79**	**281**	P	**P**	**05 20 57.4**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.4,baz=65,slow=8.2,SNR=7.9						
SONM				PcP	PcP	05 23 47.4	-0.8
	comp=Z,1.5nm,0.6s,baz=80,slow=1.5,SNR=9.1						
SONM				ScP	ScP	05 26 47.3	-2.7
	comp=Z,0.2nm,0.4s,baz=101,slow=1.5,SNR=4.5						
SONM	**Songino Array**	**29.79**	**281**	P	**P**	**05 20 57.4**	**+0.6**
SONM						05 23 47.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TLY	**Talaya**	**29.92**	**289**	*e*P	**P**	**05 20 58.9**	**+1.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
TLY	**Talaya**	**29.92**	**289**	*e*P	**P**	**05 20 58.9**	**+1.0**
	comp=Z,5.9nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**30.61**	**287**	*e*P	**P**	**05 21 04.9**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
KDAK	**Kodiak Island**	**31.10**	**58**	P	**P**	**05 21 07.3**	**-0.9**
	comp=Z,5.2nm,0.4s,mb4.2,baz=272,slow=4.7,SNR=15						
KDAK	**Kodiak Island**	**31.10**	**58**	*e*P	**P**	**05 21 08.1**	**-0.1**
	comp=Z,6.7nm,0.5s,mb4.2						
JOW	**Kunigami**	**31.28**	**226**	P	**P**	**05 21 08.6**	**-1.2**
	comp=Z,27nm,1.0s,mb4.5,baz=300,slow=20,SNR=3.7						
MOY	**Mondy**	**31.47**	**290**	*e*P	**P**	**05 21 12.7**	**+1.4**
PMR	**Palmer**	**32.06**	**50**	*e*P	**P**	**05 21 17.0**	**+0.6**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
PMR	**Palmer**	**32.06**	**50**	*e*P	**P**	**05 21 17.0**	**+0.6**
	comp=Z,3.6nm,0.5s,mb4.0						
COLA	**College**	**32.20**	**44**	*e*P	**P**	**05 21 18.4**	**+0.8**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.3						
COLA	**College**	**32.20**	**44**	*e*P	**P**	**05 21 18.4**	**+0.8**
	comp=Z,8.9nm,0.6s,mb4.3						
EGAK	**Eagle**	**35.04**	**43**	*e*P	**P**	**05 21 41.8**	**0.0**
	comp=Z,8.7nm,0.6s,mb4.3						
DAWY	**Dawson**	**35.95**	**44**	*e*P	**P**	**05 21 49.8**	**+0.3**
INK	**Inuvik**	**37.32**	**36**	P	**P**	**05 22 01.6**	**+0.8**
	comp=Z,6.1nm,0.3s,mb4.4,baz=301,slow=7.7,SNR=123						
INK	**Inuvik**	**37.32**	**36**	*e*P	**P**	**05 22 01.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,264nm,0.4s						
INK	**Inuvik**	**37.32**	**36**	*e*P	**P**	**05 22 01.2**	**+0.4**
	comp=Z,264nm,0.4s						
LZH	**Lanzhou**	**37.89**	**265**	*e*P	**P**	**05 22 07.0**	**+1.5**
LZH				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,74nm,4.0s						
LZH	**Lanzhou**	**37.89**	**265**	*e*P	**P**	**05 22 07.0**	**+1.5**
	comp=Z,32nm,1.1s,mb4.6						
LZH				pP	pP	05 23 12.5	-11
LZH				sP	sP	05 23 42.5	-28
GYA	**Guiyang**	**42.98**	**252**	P	**P**	**05 22 46.8**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
WMQ	**Urumqi**	**43.07**	**286**	*e*P	**P**	**05 22 49.0**	**+1.7**
MKAR	**Makanchi Array**	**44.54**	**293**	P	**P**	**05 22 58.9**	**+0.1**
	comp=Z,4.7nm,0.4s,mb4.2,baz=59,slow=6.9,SNR=86						
MKAR	**Makanchi Array**	**44.54**	**293**	*i* P	**P**	**05 22 59.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KMI	**Kunming**	**46.30**	**254**	P	**P**	**05 23 14.6**	**+2.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.2						
KMI	**Kunming**	**46.30**	**254**	P	**P**	**05 23 14.6**	**+2.2**
	comp=Z,9.0nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**46.81**	**40**	P	**P**	**05 23 16.8**	**+0.5**
	comp=Z,4.6nm,0.5s,mb4.0,baz=303,slow=6.9,SNR=28						
YKA				PcP	PcP	05 24 41.1	-0.5
	comp=Z,0.4nm,0.4s,baz=313,slow=3.7,SNR=4.7						
YKA	**Yellowknife Ar**	**46.81**	**40**	P	**P**	**05 23 16.8**	**+0.5**
YKA					pP	05 24 41.1	+3.1
YKA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHKZ	**Chkalovo**	**47.00**	**306**	P	**P**	**05 23 17.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**47.00**	**306**	*e*P	**P**	**05 23 17.2**	**-0.5**
	comp=Z,24nm,0.5s,mb4.8						
VOSK	**Vostochnaya**	**47.34**	**305**	P	**P**	**05 23 20.3**	**-0.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
BVA0	**Borovoye Array**	**47.47**	**306**	*i* P	**P**	**05 23 21.3**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
BVAR	**Borovoye Array**	**47.47**	**306**	P	**P**	**05 23 21.3**	**0.0**
	comp=Z,10nm,0.5s,mb4.4,baz=61,slow=8.0,SNR=60						
BVAR				PcP	PcP	05 24 42.7	-1.2
	comp=Z,1.0nm,0.3s,baz=88,slow=4.3,SNR=6.5						
BVAR	**Borovoye Array**	**47.47**	**306**	P	**P**	**05 23 21.3**	**0.0**
BVAR					pP	05 24 42.7	-0.6
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**47.51**	**306**	*e*P	**P**	**05 23 21.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**47.51**	**306**	*e*P	**P**	**05 23 21.6**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**48.20**	**306**	P	**P**	**05 23 27.0**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ZRNK	**Zerenda**	**48.20**	**306**	*e*P	**P**	**05 23 26.9**	**0.0**
	comp=Z,13nm,0.6s,mb4.4						
LSA	**Lhasa**	**50.04**	**268**	*e*P	**P**	**05 23 42.8**	**+2.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.5						
LSA	**Lhasa**	**50.04**	**268**	*e*P	**P**	**05 23 42.8**	**+2.2**
	comp=Z,9.8nm,0.4s,mb4.5						
ARU	**Arti**	**51.05**	**315**	⇑ *i*P	**P**	**05 23 47.5**	**-0.5**
ARU				*e*	pP	05 25 12.4	+1.0
ARU				*e*		05 25 46.1	
ARU				*e*S	**S**	**05 30 32.3**	**-0.8**
ARU				*e*SS	SS	05 34 11.9	-2.6
ARU				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
ARU	**Arti**	**51.05**	**315**	*e*P	**P**	**05 23 46.8**	**-1.2**
	comp=Z,5.1nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**51.48**	**292**	*i* P	**P**	**05 23 50.4**	**-0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**51.48**	**292**	*e*P	**P**	**05 23 50.7**	**-0.4**
	comp=Z,4.3nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**52.77**	**339**	P	**P**	**05 23 59.8**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.2,baz=38,slow=8.0,SNR=8.7						
ARCES	**ARCESS Array B**	**52.77**	**339**	P	**P**	**05 23 59.8**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EDM	**Edmonton**	**52.82**	**49**	*e*P	**P**	**05 24 01.5**	**+0.6**
CHTO	**Chiang Mai**	**53.39**	**253**	*e*P	**P**	**05 24 05.3**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.0						
CHTO	**Chiang Mai**	**53.39**	**253**	*e*P	**P**	**05 24 05.3**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.0						
JIRN	**Jiri**	**54.54**	**271**	*e*P	**P**	**05 24 14.4**	**+1.2**
	comp=Z,6.2nm,0.2s,mb4.5						
GUN	**Gumba**	**54.56**	**271**	*e*P	**P**	**05 24 14.2**	**+0.9**
	comp=Z,48nm,0.4s,mb5.0						
KKN	**Kakani**	**55.01**	**271**	*e*P	**P**	**05 24 17.6**	**+1.1**
	comp=Z,73nm,0.5s,mb5.2						
PKI	**Pulchoki**	**55.09**	**271**	*e*P	**P**	**05 24 18.2**	**+1.1**
	comp=Z,31nm,0.5s,mb4.8						
AKTK	**Aktyubinsk**	**55.13**	**309**	P	**P**	**05 24 17.1**	**-0.2**
AKTO	**Aktyubinsk**	**55.13**	**309**	P	**P**	**05 24 17.1**	**-0.2**
	comp=Z,2.3nm,0.3s,mb3.9,baz=63,slow=8.1,SNR=12						
AKTO	**Aktyubinsk**	**55.13**	**309**	P	**P**	**05 24 17.1**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.8						
DMN	**Daman**	**55.25**	**271**	*e*P	**P**	**05 24 19.6**	**+1.4**
	comp=Z,61nm,0.5s,mb5.1						
GKN	**Gorkha**	**55.26**	**272**	*e*P	**P**	**05 24 19.2**	**+1.0**
	comp=Z,36nm,0.4s,mb5.0						
KOLN	**Koldanda**	**56.06**	**273**	*e*P	**P**	**05 24 24.5**	**+0.6**
	comp=Z,32nm,0.4s,mb5.0						
JOF	**Joensuu**	**56.50**	**332**	*e*p	**P**	**05 24 25.9**	**-1.0**
	comp=Z,2.6nm,0.4s,mb3.9						
JOF	**Joensuu**	**56.50**	**332**	*e*P	**P**	**05 24 25.9**	**-1.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
CHMT	**Chamberlain Mo**	**57.02**	**55**	*e*P	**P**	**05 24 30.9**	**+0.4**
BOK	**Bokaro**	**57.54**	**268**	*e*P	**P**	**05 24 33.3**	**-0.8**
BOK				AMb	AMB	05 24 37.5	
	comp=Z,5.1nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**58.55**	**334**	*e*p	**P**	**05 24 39.9**	**-1.1**
	baz=36,slow=6.0						
FIA1	**FINESS Array S**	**59.16**	**333**	*e*P	**P**	**05 24 44.7**	**-0.5**
FINES	**FINESS Array B**	**59.16**	**333**	P	**P**	**05 24 44.4**	**-0.7**
	comp=Z,2.0nm,0.3s,mb3.9,baz=33,slow=7.0,SNR=26						
FINES	**FINESS Array B**	**59.16**	**333**	P	**P**	**05 24 44.4**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**59.16**	**333**	P	**P**	**05 24 44.4**	**-0.7**
GCMT	**Greycliff**	**59.59**	**54**	*e*P	**P**	**05 24 49.5**	**+1.4**
NVAR	**Mina Array Bea**	**60.20**	**65**	P	**P**	**05 24 53.8**	**+1.7**
	comp=Z,0.6nm,0.6s,mb3.2,baz=299,slow=7.1,SNR=7.5						
TPAW	**Teton Pass**	**60.57**	**56**	*e*P	**P**	**05 24 56.9**	**+2.3**
	comp=Z,3.1nm,0.8s,mb3.8						
LOHW	**Long Hollow**	**60.66**	**56**	*e*P	**P**	**05 24 56.5**	**+1.3**
OBN	**Obninsk**	**60.85**	**324**	*e*P	**P**	**05 24 56.0**	**-0.5**
OBN				*e*PP	pP	05 26 26.0	+2.5
OBN				*e*SP	sP	05 27 14.4	+5.9
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BW06	**Boulder Array**	**61.80**	**56**	*e*P	**P**	**05 25 03.5**	**+0.8**
	comp=Z,2.1nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**61.80**	**56**	P	**P**	**05 25 03.9**	**+1.2**
	comp=Z,1.8nm,0.6s,mb3.8,baz=341,slow=2.6,SNR=19						
DUG	**Dugway**	**61.95**	**60**	*e*P	**P**	**05 25 04.9**	**+1.2**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
DUG	**Dugway**	**61.95**	**60**	*e*P	**P**	**05 25 04.9**	**+1.2**
	comp=Z,1.2nm,0.8s,mb3.5						
AJM	**Ajmer**	**62.49**	**278**	*e*P	**P**	**05 25 07.6**	**+0.3**
AJM				AMb	AMB	05 25 08.5	
	comp=Z,10nm,1.0s,mb4.3						
NB2	**NORSAR Subarra**	**63.13**	**340**	P	**P**	**05 25 10.5**	**-0.9**
	comp=Z,2.7nm,0.9s,mb3.8,baz=26,slow=6.5						
NB2	**NORSAR Subarra**	**63.13**	**340**	P	**P**	**05 25 10.5**	**-0.9**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
NOA	**NORSAR Array B**	**63.13**	**340**	P	**P**	**05 25 11.1**	**-0.3**
	comp=Z,2.5nm,0.8s,mb3.8,baz=25,slow=6.5,SNR=9.3						
NOA	**NORSAR Array B**	**63.13**	**340**	P	**P**	**05 25 11.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**63.13**	**340**	P	**P**	**05 25 11.1**	**-0.3**
BHPL	**Bhopal**	**63.16**	**274**	*e*P	**P**	**05 25 11.2**	**-0.5**
BHPL				AMb	AMB	05 25 11.8	
	comp=Z,19nm,0.6s,mb4.8						
VIS	**Vishakhapatnam**	**63.66**	**265**	*e*P	**P**	**05 25 15.0**	**+0.2**
VIS				AMb	AMB	05 25 15.8	
	comp=Z,13nm,0.6s,mb4.7						
SRU	**San Rafael**	**63.95**	**59**	*e*P	**P**	**05 25 17.4**	**+0.7**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
SRU	**San Rafael**	**63.95**	**59**	*e*P	**P**	**05 25 17.4**	**+0.7**
	comp=Z,2.5nm,0.8s,mb3.8						
SMCO	**Snowmass**	**65.76**	**57**	*e*P	**P**	**05 25 29.4**	**+1.2**
	comp=Z,1.4nm,0.8s,mb3.6						
PSI	**Prapat**	**66.36**	**242**	P	**P**	**05 25 32.2**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.3,baz=7,3,slow=8.7,SNR=4.1						
PSI	**Prapat**	**66.36**	**242**	P	**P**	**05 25 32.2**	**+0.2**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
PSI	**Prapat**	**66.36**	**242**	P	**P**	**05 25 32.2**	**+0.2**
KIV	**Kislovodsk**	**67.01**	**313**	*e*P	**P**	**05 25 34.6**	**-1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
AKASG	**Malin Array Be**	**67.05**	**325**	P	**P**	**05 25 34.8**	**-1.5**
	comp=Z,1.3nm,0.4s,mb4.0,baz=34,slow=6.3,SNR=7.7						
AKASG	**Malin Array Be**	**67.05**	**325**	*i* P	**P**	**05 25 35.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**69.00**	**309**	⇑ *e*P	**P**	**05 25 48.7**	**+0.4**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KAD	**Karad**	**69.61**	**272**	*e*P	**P**	**05 25 51.6**	**-0.4**
KAD				AMb	AMB	05 25 53.4	
	comp=Z,17nm,0.9s,mb4.6						
STHS	**Stebnicka Huta**	**70.83**	**329**	*e*P	**P**	**05 25 59.8**	**+0.5**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
STHS	**Stebnicka Huta**	**70.83**	**329**	*e*P	**P**	**05 25 59.8**	**+0.5**
	comp=Z,4.4nm,0.8s,mb4.0						
BURAR	**Bucovina Array**	**71.06**	**326**	⇑ *i*P	**P**	**05 26 00.5**	**-0.1**
CRVS	**Cervenica-Dubn**

UMR Umm Al-Rimmam 75.78 300 *e*P **P 05 26 27.4 -0.3**
UMR AMb AMB 05 26 28.3
comp=Z,32nm,0.5s,mb5.2
MIB Mutribah 75.78 300 *e*P **P 05 26 27.6 -0.2**
MIB AMb AMB 05 26 28.4
comp=Z,55nm,0.5s
KBD Kabd 76.09 300 *e*P **P 05 26 29.3 -0.1**
KBD AMb AMB 05 26 30.1
comp=Z,104nm,0.4s
VTS Vitosha 76.12 324 ‖*i*P **P 05 26 29.2 -0.5**
HAU Haudompre 76.26 338 *e*P **P 05 26 29.1 -1.3**
NAY Al-Naaiem 76.27 300 *e*P **P 05 26 30.0 -0.5**
NAY AMb AMB 05 26 32.0
comp=Z,15nm,0.6s,mb4.8
QRN Al-Qurain 76.31 299 *e*P **P 05 26 30.5 -0.2**
QRN AMb AMB 05 26 30.9
comp=Z,27nm,0.4s,mb5.2
RDF Al-Radifah 76.36 300 *e*P **P 05 26 30.9 -0.1**
RDF AMb AMB 05 26 31.8
comp=Z,45nm,0.5s
FLN La Foliniere 76.99 342 *e*P **P 05 26 33.3 -1.1**
comp=Z,4.8nm,0.4s,mb4.2
FLN La Foliniere 76.99 342 *e*P **P 05 26 33.3 -1.1**
FLN pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
FLN La Foliniere 76.99 342 *e*P **P 05 26 33.3 -1.1**
comp=Z,2.4nm,0.4s,mb4.2
LDF La Druitiere 77.08 342 *e*P **P 05 26 33.7 -1.3**
comp=Z,5.2nm,0.5s,mb4.2
LDF La Druitiere 77.08 342 *e*P **P 05 26 33.7 -1.3**
LDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
LDF La Druitiere 77.08 342 *e*P **P 05 26 33.7 -1.3**
comp=Z,2.6nm,0.5s,mb4.1
ASAR Alice Springs 77.24 198 P **P 05 26 36.0 +0.2**
comp=Z,2.0nm,0.5s,mb4.0,baz=11,slow=5.3,SNR=31
ASAR Alice Springs 77.24 198 P **P 05 26 36.0 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
GRR Gorron 77.42 342 *e*P **P 05 26 35.9 -0.9**
comp=Z,7.6nm,0.4s,mb4.4
GRR Gorron 77.42 342 *e*P **P 05 26 35.9 -0.9**
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
GRR Gorron 77.42 342 *e*P **P 05 26 35.9 -0.9**
comp=Z,3.8nm,0.4s,mb4.4
LOR Lormes 77.52 339 *e*P **P 05 26 36.4 -1.0**
comp=Z,10nm,0.7s,mb4.3
LOR Lormes 77.52 339 *e*P **P 05 26 36.4 -1.0**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
LOR Lormes 77.52 339 *e*P **P 05 26 36.4 -1.0**
comp=Z,5.2nm,0.7s,mb4.3
CABF La Chapelle 77.63 337 *e*P **P 05 26 37.2 -0.8**
SSF Saint Saulge 77.80 339 *e*P **P 05 26 37.8 -1.1**
comp=Z,5.2nm,0.7s,mb4.0
SSF Saint Saulge 77.80 339 *e*P **P 05 26 37.8 -1.1**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
SSF Saint Saulge 77.80 339 *e*P **P 05 26 37.8 -1.1**
comp=Z,2.6nm,0.7s,mb4.0
SGMF Saint Gilles 77.85 343 *e*P **P 05 26 38.4 -0.8**
comp=Z,29nm,0.9s,mb4.6
SGMF Saint Gilles 77.85 343 *e*P **P 05 26 38.4 -0.8**
SGMF pmax pmax
comp=Z,15nm,0.9s,mb4.6
SGMF Saint Gilles 77.85 343 *e*P **P 05 26 38.4 -0.8**
comp=Z,14nm,0.9s,mb4.6
ROSF Rostrenen 77.90 344 *e*P **P 05 26 38.6 -0.8**
comp=Z,11nm,0.6s,mb4.4
ROSF Rostrenen 77.90 344 *e*P **P 05 26 38.6 -0.8**
ROSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ROSF Rostrenen 77.90 344 *e*P **P 05 26 38.6 -0.8**
comp=Z,5.4nm,0.6s,mb4.3
AVF Avril sur Loir 78.08 339 *e*P **P 05 26 39.6 -0.9**
comp=Z,15nm,0.8s,mb4.4
AVF Avril sur Loir 78.08 339 *e*P **P 05 26 39.6 -0.9**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
AVF Avril sur Loir 78.08 339 *e*P **P 05 26 39.6 -0.9**
comp=Z,7.5nm,0.8s,mb4.4
SMF Signal de Mont 78.11 339 *e*P **P 05 26 39.7 -0.9**
comp=Z,7.6nm,0.7s,mb4.1
SMF Signal de Mont 78.11 339 *e*P **P 05 26 39.7 -0.9**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
SMF Signal de Mont 78.11 339 *e*P **P 05 26 39.7 -0.9**
comp=Z,3.8nm,0.7s,mb4.1
QUIF Quistinic 78.28 344 *e*P **P 05 26 40.5 -1.0**
comp=Z,7.0nm,0.5s,mb4.2
QUIF Quistinic 78.28 344 *e*P **P 05 26 40.5 -1.0**
QUIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
QUIF Quistinic 78.28 344 *e*P **P 05 26 40.5 -1.0**
comp=Z,3.5nm,0.5s,mb4.2
BGF Bois d'Agland 78.42 339 *e*P **P 05 26 42.4 +0.2**
LPL La Plagne 78.50 336 *e*P **P 05 26 42.8 +0.1**
comp=Z,16nm,0.6s,mb4.5
LPL La Plagne 78.50 336 *e*P **P 05 26 42.8 +0.1**
LPL pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
LPL La Plagne 78.50 336 *e*P **P 05 26 42.8 +0.1**
comp=Z,7.9nm,0.6s,mb4.5
LPG La Plagne 78.51 336 *e*P **P 05 26 43.0 +0.2**
comp=Z,16nm,0.6s,mb4.5
LPG La Plagne 78.51 336 *e*P **P 05 26 43.0 +0.2**
LPG pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
LPG La Plagne 78.51 336 *e*P **P 05 26 43.0 +0.2**
comp=Z,8.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 78.81 340 *e*P **P 05 26 43.6 -0.8**
comp=Z,15nm,0.9s,mb4.3
TCF Toulx Ste Croi 78.81 340 *e*P **P 05 26 43.6 -0.8**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 78.81 340 *e*P **P 05 26 43.6 -0.8**
comp=Z,7.3nm,0.9s,mb4.3
MFF Saint Martin d 78.99 341 *e*P **P 05 26 44.7 -0.6**
comp=Z,10nm,0.8s,mb4.2
MFF Saint Martin d 78.99 341 *e*P **P 05 26 44.7 -0.6**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
MFF Saint Martin d 78.99 341 *e*P **P 05 26 44.7 -0.6**
comp=Z,5.2nm,0.8s,mb4.2
MBDF Montbardon 79.23 336 *e*P **P 05 26 46.5 -0.1**
comp=Z,7.3nm,0.6s,mb4.2
MBDF Montbardon 79.23 336 *e*P **P 05 26 46.5 -0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
MBDF Montbardon 79.23 336 *e*P **P 05 26 46.5 -0.1**
comp=Z,3.7nm,0.6s,mb4.2
ORIF Oris-en-Rattie 79.27 337 *e*P **P 05 26 46.7 -0.1**
comp=Z,8.2nm,0.5s,mb4.3
ORIF Oris-en-Rattie 79.27 337 *e*P **P 05 26 46.7 -0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
ORIF Oris-en-Rattie 79.27 337 *e*P **P 05 26 46.7 -0.1**
comp=Z,4.1nm,0.5s,mb4.3
VIVF Saint-Julien-l 79.61 338 *e*P **P 05 26 48.2 -0.5**
comp=Z,12nm,0.9s,mb4.3
VIVF Saint-Julien-l 79.61 338 *e*P **P 05 26 48.2 -0.5**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
VIVF Saint-Julien-l 79.61 338 *e*P **P 05 26 48.2 -0.5**
comp=Z,6.3nm,0.9s,mb4.2
SBF Sospel 79.87 335 *e*P **P 05 26 48.9 -1.1**
comp=Z,31nm,0.8s,mb4.7
SBF Sospel 79.87 335 *e*P **P 05 26 48.9 -1.1**
SBF pmax pmax
comp=Z,16nm,0.8s,mb4.7
SBF Sospel 79.87 335 *e*P **P 05 26 48.9 -1.1**
comp=Z,16nm,0.8s,mb4.7
RJF Les Rejaudoux 79.89 340 *e*P **P 05 26 49.8 -0.3**
CAF Calviac 80.14 339 *e*P **P 05 26 51.3 -0.1**
comp=Z,5.0nm,0.6s,mb4.0
CAF Calviac 80.14 339 *e*P **P 05 26 51.3 -0.1**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
CAF Calviac 80.14 339 *e*P **P 05 26 51.3 -0.1**
comp=Z,2.5nm,0.6s,mb4.0
FRF La Foret Royal 80.35 336 *e*P **P 05 26 52.1 -0.4**
LFF La Frestale 80.41 340 *e*P **P 05 26 52.4 -0.4**
comp=Z,9.8nm,0.5s,mb4.4
LFF La Frestale 80.41 340 *e*P **P 05 26 52.4 -0.4**
LFF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
LFF La Frestale 80.41 340 *e*P **P 05 26 52.4 -0.4**
comp=Z,4.9nm,0.5s,mb4.4
LMR La Mourre 80.60 336 *e*P **P 05 26 53.0 -0.8**
PGF Pioggiola 80.68 334 *e*P **P 05 26 53.2 -1.1**
comp=Z,17nm,0.9s,mb4.5
PGF Pioggiola 80.68 334 *e*P **P 05 26 53.2 -1.1**
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PGF Pioggiola 80.68 334 *e*P **P 05 26 53.2 -1.1**
comp=Z,8.6nm,0.9s,mb4.5
MTLF Montolieu 81.61 339 *e*P **P 05 26 58.8 -0.3**
EPF Esparros 82.32 340 *e*P **P 05 27 01.6 -1.1**
comp=Z,7.7nm,0.6s,mb4.3
EPF Esparros 82.32 340 *e*P **P 05 27 01.6 -1.1**
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
EPF Esparros 82.32 340 *e*P **P 05 27 01.6 -1.1**
comp=Z,3.8nm,0.6s,mb4.3
ETSF Etsaut 82.63 341 *e*P **P 05 27 04.1 -0.2**
comp=Z,8.5nm,0.8s,mb4.2
ETSF Etsaut 82.63 341 *e*P **P 05 27 04.1 -0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ETSF Etsaut 82.63 341 *e*P **P 05 27 04.1 -0.2**
comp=Z,4.3nm,0.8s,mb4.2
KEST Kesra 86.91 331 P **P 05 27 25.6 +0.2**
comp=Z,1.4nm,0.5s,mb3.9,baz=287,slow=2.8,SNR=11
TORD Torodi Ar. Bea 110.41 330 PKIKP PKiKP 05 33 08.4 -1.4
comp=Z,0.1nm,0.3s,baz=8.8,slow=2.4,SNR=4.5
SYO Syowa Base 145.28 216‖*e*PKPdf PKPdf 05 34 13.0 -2.2
SYO Syowa Base 145.28 216‖*e*PKPbc PKPbc 05 34 15.0 -0.9
CPUP Villa Florida 145.66 53 PKPbc PKPbc 05 34 16.5 -0.5
comp=Z,0.8nm,0.5s,baz=311,slow=3.6,SNR=4.6
CPUP Villa Florida 145.66 53 PKP2 PKPbc 05 34 16.5 -0.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s

NIED ***13*** *05:20:00, 46.30N×153.80E, h8km, Mw4.9 Best double couple: M0:2.23000×10^16 NP1:φs12.00000°, δ53.00000°, λ74.00000°. NP2:φs217.00000°, δ40.00000°, λ109.00000°.*
IDC ***13*** *05:20:56.9±0.4, 46.49N×153.18E, h0km, mb4.8/20, mb1 5.0/21, mb1mx4.9/24, mbtmp4.8/21, ML4.1/1, MS4.4/17, Ms1 4.4/17, ms1mx4.0/41, Error ellipse: s-maj=15.1km s-min=13.8km az=103.0*
ISCJB ***13*** *05:20:57.4±0.9, 46.44N±0.03×153.31E±0.02, h11km±5km, mb5.2/187, MS4.5/44, Error ellipse: s-maj=5.2km s-min=2.2km az=152.1*
JMA ***13*** *05:20:58.3±1.0, 46.34N×153.79E, h30km, M5.4*
BJI ***13*** *05:20:58.7, 46.62N×153.31E, h20km, mB5.1, mb5.1, Ms4.8, Msz4.6*
SKHL ***13*** *05:20:59.9±2.8, 46.50N×153.60E, h69km±39km, mb5.5/9, mbh5.6/7, mbv5.6/6, ms4.8/9, msh5.3/3*
NEIC ***13*** *05:21:02.0±2.3, 46.45N×153.09E, h28km±15km, mb5.2/96, Error ellipse: s-maj=6.4km s-min=4.6km az=168.0*
MOS ***13*** *05:21:02.5±1.0, 46.64N×153.05E, h38km, mb5.4/99, MS4.6/33, Error ellipse: s-maj=7.4km s-min=4.2km az=106.9*
GCMT ***13*** *05:21:02.0±0.3, 46.57N×153.57E, h20km, MW5.0/64, Moment Tensor Solution. s35,c46; s64,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.79±.16; Mθθ0.06±.11; Mφφ-2.85±.11; Mrθ-0.44±.21; Mθφ-1.52±.07; Mφr1.89±.19; Best double couple: M0:3.73700×10^16 NP1:φs225.00000°, δ36.00000°, λ125.00000°. NP2: φs3.00000°, δ62.00000°, λ67.00000°. Principal axes: T 3.5910, Plg66.0000°, Azm232.0000°; N 0.2880, Plg20.0000°, Azm15.0000°; P -3.8840, Plg14.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***13*** *05:21:10.8, 48.05N×152.19E, h33km, mb5.1, MS4.5, Kuril Islands, Russia*
ISC 13 05:21:01.7±0.8, 46.55N±0.03×153.24E±0.02, h25km±6km, h16km±2.2km:pP-P, n750, σ1.9:00/758, mb5.2/187, MS4.5/44, 187C-82D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**253**	*e*P	**Pn**	**05 22 00.5**	**-0.5**
KUR				AMB	AMB	05 22 02.0	
	460nm,0.6s						
KUR				AMB	AMB	05 22 02.0	
	300nm,0.6s						
KUR				AMB	AMB	05 22 02.0	
	1μm,0.6s						
KUR				AMB	AMB	05 22 03.0	
	5μm,1.0s						
KUR				AMB	AMB	05 22 03.0	
	6μm,1.0s						
KUR				AMB	AMB	05 22 06.5	
	12μm,2.0s						
KUR				AMB	AMB	05 22 06.5	
	4μm,2.0s						
KUR				*e*S	**Sn**	**05 22 48.0**	**+1.2**
KUR				A		05 23 07.0	
	2μm,0.7s						
KUR				A		05 23 07.0	
	1μm,0.7s						
KUR				AMS	AMS	05 23 43.0	
	8μm,15.0s						
KUR				AMS	AMS	05 23 43.0	
	8μm,15.0s						
KUR				AMS	AMS	05 23 43.0	
	14μm,15.0s						
KUR	**Kuril'sk**	**3.98**	**253**	PN	**Pn**	**05 22 00.5**	**-0.5**
KUR				*e*S	**Sn**	**05 22 48.0**	**+1.2**
KUR				pmax	pmax		
	comp=N,300nm,0.6s						
KUR				pmax	pmax		
	comp=E,100nm,0.6s						
KUR				pmax	pmax		
	comp=Z,990nm,0.6s						
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				smax			
	comp=N,12μm,2.0s						
KUR				smax			
	comp=E,4μm,2.0s						
KUR				smax			
	comp=N,2μm,0.7s						
KUR				smax			
	comp=E,790nm,0.7s						
KUR				MLR	MLR		
	comp=N,8μm,15.0s						
KUR				MLR	MLR		
	comp=E,8μm,15.0s						
KUR				MLR	MLR		
	comp=Z,14μm,15.0s						
SKR	**Severo-Kuril's**	**4.55**	**24**	*e*P	**Pn**	**05 22 04.9**	**-4.1**
SKR				AMB	AMB	05 22 10.0	
	comp=Z,2μm,4.0s						
SKR				AMB	AMB	05 22 10.0	
	comp=Z,2μm,4.0s						
SKR				AMB	AMB	05 22 10.0	
	comp=Z,2μm,4.0s						
SKR				AMB	AMB	05 22 11.0	
	comp=Z,450nm,1.0s						
SKR				AMB	AMB	05 22 11.0	
	comp=Z,490nm,1.0s						
SKR				AMB	AMB	05 22 11.0	
	comp=Z,960nm,1.0s						
SKR				*e*S	**Sn**	**05 22 51.5**	**-10**
SKR				A		05 22 57.0	
	comp=Z,950nm,0.5s						
SKR				A		05 22 57.0	
	comp=Z,620nm,0.5s						
SKR				A		05 22 57.0	
	comp=Z,230nm,0.5s						
SKR				A		05 23 04.0	
	comp=Z,8μm,8.0s						
SKR				A		05 23 04.0	
	comp=Z,3μm,8.0s						
SKR				A		05 23 04.0	
	comp=Z,3μm,8.0s						
SKR				A		05 23 04.0	
	comp=Z,8μm,8.0s						
SKR				A		05 23 04.0	
	comp=Z,4μm,8.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,2μm,13.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,8μm,13.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,5μm,13.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,3μm,13.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,8μm,13.0s						
SKR				AMS	AMS	05 24 06.0	
	comp=Z,5μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**247**	*e*P	**Pn**	**05 22 27.0**	**+1.2**
YUK				AMB	AMB	05 22 30.5	
	comp=Z,350nm,0.4s						
YUK				AMB	AMB	05 22 30.5	
	comp=Z,250nm,0.4s						
YUK				AMB	AMB	05 22 30.5	
	comp=Z,710nm,0.4s						
YUK				AMB	AMB	05 22 31.0	
	comp=Z,4μm,1.0s						
YUK				*e*S	**Sn**	**05 23 34.9**	**+3.6**
YUK				A		05 24 05.0	
	comp=Z,5μm,1.0s						
YUK				A		05 24 05.0	
	comp=Z,6μm,1.0s						
YUK				A		05 24 06.0	
	comp=Z,4μm,1.1s						
YUK				A		05 24 06.0	
	comp=Z,10μm,1.1s						
YUK				AMS	AMS	05 24 44.0	
	comp=Z,3μm,16.0s						
YUK				AMS	AMS	05 24 44.0	
	comp=Z,3μm,16.0s						
YUK				AMS	AMS	05 24 44.0	
	comp=Z,4μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**247**	*e*PN	**Pn**	**05 22 27.0**	**+1.2**
YUK				*e*S	**Sn**	**05 23 34.9**	**+3.6**
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=E,250nm,0.4s						
YUK				pmax	pmax		
	comp=Z,710nm,0.4s						
YUK				pmax	pmax		
	comp=Z,4μm,1.0s						
YUK				smax			
	comp=E,6μm,1.0s						
YUK				smax			
	comp=N,5μm,0.9s						
YUK				smax			
	comp=N,4μm,1.2s						
YUK				smax			
	comp=E,10μm,1.0s						
YUK				MLR	MLR		
	comp=Z,4μm,18.0s						
YUK				MLR	MLR		
	comp=N,3μm,15.0s						
YUK				MLR	MLR		
	comp=E,3μm,16.0s						
NEM2	**Nemuro 2**	**6.20**	**242**	P	**Pn**	**05 22 30.3**	**-1.3**
NEM2				*e*S	**Sn**	**05 23 38.6**	**-3.0**
JRA	**Rausu**	**6.30**	**248**	P	**Pn**	**05 22 34.8**	**+1.9**
JNK	**Nakash**	**6.72**	**247**	P	**Pn**	**05 22 40.0**	**+1.2**
JAK	**Akkeshi**	**7.04**	**243**	P	**Pn**	**05 22 42.1**	**-1.0**
JAK				*e*S	**Sn**	**05 23 58.5**	**-3.9**
JTKR	**Abashiri--Toko**	**7.07**	**252**	P	**Pn**	**05 22 45.6**	**+2.0**
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	*i* P	**Pn**	**05 22 50.9**	**+5.4**
YSS				⇑*i*P		05 22 50.9	
YSS				AMB	AMB	05 22 52.2	
	comp=E,140nm,1.1s						
YSS				AMB	AMB	05 22 52.2	
	comp=E,100nm,1.1s						
YSS				AMB	AMB	05 22 55.0	
	comp=E,1μm,6.0s						
YSS				AMB	AMB	05 22 55.0	
	comp=E,500nm,6.0s						
YSS				*e*S	**Sn**	**05 24 10.0**	**+3.4**
YSS				AMS	AMS	05 25 29.0	
	comp=E,4μm,16.0s						
YSS				AMS	AMS	05 25 29.0	
	comp=E,5μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**277**	α*i*PN	**Pn**	**05 22 50.9**	**+5.4**
YSS				*e*S	**Sn**	**05 24 10.0**	**+3.4**
YSS				pmax	pmax		
	comp=E,140nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,1.1s						
YSS				pmax	pmax		
	comp=E,1μm,6.0s						
YSS				pmax	pmax		
	comp=Z,500nm,6.0s						
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				MLR	MLR		
	comp=E,4μm,16.0s						
YSS				MLR	MLR		
	comp=Z,5μm,16.0s						
PET	**Petropavlovsk**	**7.36**	**26**	*e*P	**Pn**	**05 22 45.3**	**-2.3**
PET				AMB	AMB	05 22 58.8	
	comp=Z,200nm,1.1s						
PET				*e*S	**Sn**	**05 24 04.8**	**-5.5**
PET				A		05 24 28.5	
	comp=Z,2μm,6.0s						
PET				A		05 24 42.5	
	comp=Z,580nm,1.2s						
PET				A		05 24 46.5	
	comp=Z,680nm,1.2s						
PET				AMS	AMS	05 25 37.4	
	comp=Z,2μm,20.0s						
PET				AMS	AMS	05 25 40.5	
	comp=Z,1μm,20.0s						
PET				AMS	AMS	05 25 44.1	
	comp=Z,1μm,14.0s						
PET				AMS	AMS	05 25 44.8	
	comp=Z,4μm,18.0s						
PET				AMS	AMS	05 25 47.5	
	comp=Z,4μm,16.0s						
PET	**Petropavlovsk**	**7.36**	**26**	*e*Pn	**Pn**	**05 22 49.2**	**+1.7**
JMP	**Maruseppu**	**7.42**	**254**	P	**Pn**	**05 22 50.8**	**+2.5**
JAR	**Ashorobuto**	**7.47**	**248**	P	**Pn**	**05 22 49.8**	**+0.8**
JAR				*e*S	**Sn**	**05 24 13.9**	**+1.1**
JSE	**Soyaes**	**7.62**	**262**	P	**Pn**	**05 22 55.3**	**+4.2**
JOB	**Onbets**	**7.62**	**245**	P	**Pn**	**05 22 50.2**	**-1.0**
JKK2	**Kamakawa 2**	**7.88**	**254**	P	**Pn**	**05 22 57.2**	**+2.6**
ASAJ	**Asahikawa**	**7.88**	**256**	Pn	**Pn**	**05 22 58.0**	**+3.2**
	comp=Z,5.6nm,0.3s,baz=87,slow=13,SNR=45						
ASAJ				Sn	**Sn**	**05 24 32.9**	**+10**
	baz=292,slow=19,SNR=1.9						
ASAJ				LR	LR	05 25 50.8	
	comp=Z,2μm,18.3s,baz=72,slow=38						
ASAJ	**Asahikawa**	**7.88**	**256**	P	**Pn**	**05 22 57.7**	**+3.0**
ASAJ	**Asahikawa**	**7.88**	**256**	PN	**Pn**	**05 22 58.0**	**+3.3**
ASAJ						05 24 32.9	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.3s						
UGL	**Uglegorsk**	**7.94**	**293**	*e*P	**Pn**	**05 23 00.5**	**+5.1**
UGL				AMB	AMB	05 23 03.0	
	comp=Z,1μm,1.3s						
UGL				AMB	AMB	05 23 03.0	
	comp=Z,1μm,1.3s						
UGL				A		05 24 39.0	
	comp=Z,90nm,0.6s						
UGL				A		05 24 46.0	
	comp=Z,500nm,4.0s						
UGL				A		05 24 46.0	
	comp=Z,1μm,4.0s						
UGL				AMS	AMS	05 26 14.0	
	comp=Z,6μm,16.0s						
UGL				AMS	AMS	05 26 14.0	
	comp=Z,3μm,16.0s						
UGL				AMS	AMS	05 26 14.0	
	comp=Z,2μm,13.0s						
UGL	**Uglegorsk**	**7.94**	**293**	*e*PN	**Pn**	**05 23 00.5**	**+5.1**
UGL				S	**Sn**	**05 24 33.0**	**+8.7**
UGL				pmax	pmax		
	comp=Z,1μm,1.3s						
UGL				pmax	pmax		
	comp=Z,1μm,1.3s						
UGL				smax			
	comp=N,87nm,0.6s						
UGL				smax			
	comp=E,72nm,0.6s						
UGL				MLR	MLR		
	comp=E,6μm,16.0s						
UGL				MLR	MLR		
	comp=Z,3μm,16.0s						
UGL				MLR	MLR		
	comp=N,2μm,13.0s						
JWK2	**Keihoku**	**8.00**	**265**	P	**Pn**	**05 23 02.5**	**+6.1**

JCH	**Churui**	**8.07 244**	P	**Pn**	**05 22 56.5**	**-0.8**
JCH			*e*S	**Sn**	**05 24 23.5**	**-4.3**
TYV	**Tymovskoe**	**8.22 306**	*e*P	**Pn**	**05 23 03.2**	**+3.9**
TYV			AMB	AMB	05 23 10.5	
	comp=N,119nm,1.0s					
TYV			AMB	AMB	05 23 12.0	
	comp=N,700nm,6.0s					
TYV			AMB	AMB	05 23 12.0	
	comp=N,800nm,9.0s					
TYV			AMB	AMB	05 23 12.0	
	comp=N,1μm,9.0s					
TYV			AMS	AMS	05 26 46.0	
	comp=N,3μm,15.0s					
TYV			AMS	AMS	05 26 46.0	
	comp=N,5μm,15.0s					
TYV			AMS	AMS	05 26 46.0	
	comp=N,7μm,15.0s					
ERM	**Erimo**	**8.54 242**	Pn	**Pn**	**05 23 04.1**	**+0.5**
	comp=N,1μm,0.6s,SNR=16					
ERM	**Erimo**	**8.54 242**	*e*PN	**Pn**	**05 23 04.8**	**+1.2**
ERM	**Erimo**	**8.54 242**	Pn	**Pn**	**05 23 04.8**	**+1.2**
JBT2	**Biratori 2**	**8.62 248**	P	**Pn**	**05 23 05.3**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.63 244**	P	**Pn**	**05 23 04.0**	**-1.0**
JNBK			*e*S	**Sn**	**05 24 38.1**	**-3.4**
JNB	**Noboribetsu**	**9.62 249**	P	**Pn**	**05 23 18.6**	**0.0**
OKH	**Okha**	**9.64 320**	AMS	AMS	05 27 47.6	
	comp=N,6μm,16.0s					
OKH			AMS	AMS	05 27 47.6	
	comp=N,5μm,16.0s					
JKB	**Kayabe**	**9.92 246**	P	**Pn**	**05 23 21.6**	**-1.1**
JKB			*e*S	**Sn**	**05 25 07.5**	**-5.7**
JSH	**Shimam**	**10.19 252**	P	**Pn**	**05 23 28.3**	**+2.0**
JYM2	**Yakumo 2**	**10.23 249**	P	**Pn**	**05 23 26.9**	**+0.1**
NKL	**Nikolayevsk**	**10.45 314**	⇓*i*P	**Pn**	**05 23 32.0**	**+2.1**
NKL			AMB	AMB	05 23 33.0	
	comp=N,70nm,1.1s					
NKL			AMB	AMB	05 23 33.0	
	comp=N,160nm,1.1s					
NKL			AMB	AMB	05 23 37.0	
	comp=N,1μm,5.5s					
NKL			AMB	AMB	05 23 37.0	
	comp=N,1μm,5.5s					
NKL			AMS	AMS	05 28 50.0	
	comp=N,5μm,14.0s					
NKL			AMS	AMS	05 28 50.0	
	comp=N,6μm,14.0s					
JANG	**Nango**	**10.52 238**	P	**Pn**	**05 23 26.9**	**-3.9**
JANG			*e*S	**Sn**	**05 25 17.7**	**-10**
JTM	**Tenmabayashi**	**10.53 241**	P	**Pn**	**05 23 29.1**	**-1.8**
JTH	**Tanohata**	**10.60 236**	P	**Pn**	**05 23 27.7**	**-4.3**
JTH			*e*S	**Sn**	**05 25 18.4**	**-11**
JOSM	**Okushiri--Mats**	**10.82 251**	P	**Pn**	**05 23 34.8**	**-0.2**
OFUJ	**Ofunato**	**11.30 233**	P	**Pn**	**05 23 37.3**	**-4.3**
OFUJ			*e*S	**Sn**	**05 25 35.6**	**-11**
JRG	**Rokugo**	**11.67 237**	P	**Pn**	**05 23 43.7**	**-2.9**
TEY	**Ternei**	**11.72 269**	*e*P	**Pn**	**05 23 48.0**	**+0.8**
TEY			AMS	AMS	05 28 29.0	
	comp=N,1μm,15.0s					
TEY			AMS	AMS	05 28 29.0	
	comp=N,2μm,15.0s					
GRNR	**Gornyy**	**11.89 297**	*e*P	**Pn**	**05 23 46.8**	**-2.8**
GRNR			AMB	AMB	05 23 48.0	
	comp=N,60nm,0.8s					
GRNR			AMB	AMB	05 23 48.0	
	comp=N,30nm,0.8s					
JIO	**Ouri**	**11.93 232**	P	**Pn**	**05 23 46.4**	**-3.7**
JIO			*e*S	**Sn**	**05 25 50.5**	**-12**
JYA	**Atsumi**	**12.74 236**	P	**Pn**	**05 23 58.0**	**-3.2**
MA2	**Magadan**	**13.13 354**	*e*PN	**Pn**	**05 24 07.3**	**+0.8**
MA2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
MA2			MLR	MLR		
	comp=Z,700nm,14.3s					
MA2	**Magadan**	**13.13 354**	*e*Pn	**Pn**	**05 24 08.6**	**+2.1**
JFY	**Yanaizu**	**13.58 233**	P	**Pn**	**05 24 09.8**	**-2.9**
EKMR	**Ekimchan**	**14.61 304**	*e*P	**Pn**	**05 24 28.5**	**+1.8**
EKMR			AMB	AMB	05 24 37.0	
	comp=Z,31nm,0.8s					
KLR	**Kul'dur**	**14.66 288**	*e*P	**Pn**	**05 24 27.0**	**-0.4**
KLR			*e*P		05 24 27.5	
KLR			AMB	AMB	05 24 34.3	
	comp=Z,130nm,1.4s					
KLR			AMB	AMB	05 24 34.3	
	comp=Z,100nm,1.4s					
KLR			AMB	AMB	05 24 40.0	
	comp=Z,1μm,12.0s					
KLR			AMB	AMB	05 24 40.0	
	comp=Z,2μm,12.0s					
KLR			AMS	AMS	05 31 22.5	
	comp=Z,8μm,13.0s					
MAJO	**Matsushiro**	**15.03 234**	*e*P	**Pn**	**05 24 29.3**	**-3.1**
MAT	**Matsushiro**	**15.03 234**	P	**Pn**	**05 24 29.3**	**-3.1**
MAT			*e*S	**Sn**	**05 27 27.0**	**+8.9**
MJAR	**Matsushiro Arr**	**15.03 234**	Pn	**Pn**	**05 24 28.8**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=33,slow=12,SNR=24					
MJAR	**Matsushiro Arr**	**15.03 234**	P	**Pn**	**05 24 28.8**	**-3.6**
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
MJAR	**Matsushiro Arr**	**15.03 234**	Pn	**Pn**	**05 24 28.8**	**-3.6**
VLA	**Vladivostok**	**15.52 265**	*i* P	**Pn**	**05 24 41.5**	**+2.7**
SEY	**Seymchan**	**16.42 359**	*i* P	**Pn**	**05 24 51.5**	**+1.1**
MDJ	**Mudanjiang**	**16.66 272**	P	**Pn**	**05 24 53.5**	**+0.1**
MDJ			AP	pP	05 24 58.8	-3.6
MDJ			XP	sP	05 25 00.3	-5.3
MDJ			S	**Sn**	**05 27 54.1**	**-3.4**
MDJ			PCP	PcP	05 29 42.5	+0.3
MDJ			SCP	ScP	05 33 16.8	+1.6
MDJ			PCS	PcS	05 33 18.1	0.0
MDJ			AMB	AMB		
	comp=Z,54nm,1.4s					
MDJ			AMB	AMB		
	comp=Z,305nm,8.5s					
MDJ			LR	LR		
	comp=N,687nm,16.0s					
MDJ			LR	LR		
	comp=E,1μm,17.2s					
MDJ			LR	LR		
	comp=Z,2μm,16.6s					
MDJ	**Mudanjiang**	**16.66 272**	*e*Pn	**Pn**	**05 24 53.8**	**+0.4**
BMKR	**Bomnak**	**17.43 307**	*e*P	**Pn**	**05 25 02.5**	**-0.5**
BMKR			AMB	AMB	05 25 05.8	
	comp=Z,15nm,0.5s					
YASR	**Yasnyy**	**17.55 302**	*e*P	**Pn**	**05 25 03.3**	**-1.2**
YASR			AMB	AMB	05 25 11.1	
	comp=Z,3.0nm,0.8s					
YASR			AMB	AMB	05 25 11.1	
	comp=Z,18nm,0.8s					
YASR			AMB	AMB	05 25 11.1	
	comp=Z,28nm,0.8s					
ZEA	**Zeya**	**18.07 303**	*e*P	**Pn**	**05 25 08.0**	**-3.0**
ZEA			AMB	AMB	05 25 15.0	
	comp=Z,500nm,7.0s					
ZEA			AMB	AMB	05 25 15.0	
	comp=Z,800nm,7.0s					
ZEA			AMS	AMS	05 32 47.0	
	comp=Z,500nm,14.0s					
ZEA			AMS	AMS	05 32 47.0	
	comp=Z,2μm,14.0s					
ZEA			AMS	AMS	05 32 47.0	
	comp=Z,2μm,14.0s					
KROS	**Kirovskiy**	**18.40 305**	*e*P	**Pn**	**05 25 12.5**	**-2.4**
KROS			AMB	AMB	05 25 17.4	
	comp=Z,53nm,1.0s					
CLNS	**Chul'man**	**20.21 311**	*e*P	**P**	**05 25 36.7**	**+2.0**
CLNS			*e*		05 25 47.7	
CLNS			*e*S	**S**	**05 29 09.3**	**-11**
CLNS			*e*SS		05 29 39.9	
CLNS			*e*		05 29 53.6	
CLNS			pmax	pmax		
	comp=Z,35nm,1.0s					
CLNS			pmax	pmax		
	comp=N,21nm,0.9s					
CLNS			pmax	pmax		
	comp=E,21nm,1.1s					
CLNS			smax			
	comp=N,9.0nm,0.9s					
CLNS			smax			
	comp=E,13nm,0.9s					
CLNS			smax			
	comp=Z,8.0nm,0.7s					
CLNS			MLR	MLR		
	comp=N,1μm,15.0s,MS4.5					
CLNS			MLR	MLR		
	comp=Z,3μm,15.0s,MS4.8					
CLNS			MLR	MLR		
	comp=E,1μm,17.0s,MS4.5					
YAK	**Yakutsk**	**20.54 328**	*e*P	**P**	**05 25 38.4**	**+0.2**
YAK			*e**PP		05 25 56.8	
YAK			*e*S	**S**	**05 29 22.8**	**-3.8**
YAK			*e*SS		05 29 53.3	
YAK			pmax	pmax		
	comp=Z,61nm,0.8s					
YAK			pmax	pmax		
	comp=N,23nm,1.0s					
YAK			pmax	pmax		
	comp=E,37nm,1.3s					
YAK			pmax	pmax		
	comp=Z,160nm,3.9s					
YAK			pmax	pmax		
	comp=N,137nm,2.8s					
YAK			pmax	pmax		
	comp=E,120nm,2.8s					
YAK			smax			
	comp=N,137nm,1.5s					
YAK			smax			
	comp=Z,90nm,2.7s					
YAK			smax			
	comp=E,315nm,3.8s					
YAK			MLR	MLR		
	comp=Z,1μm,17.0s,MS4.3					
YAK			MLR	MLR		
	comp=N,1μm,15.0s,MS4.5					
YAK			MLR	MLR		
	comp=E,906nm,15.0s,MS4.5					
KS15	**Wonju Array Si**	**20.85 253**	*e*P	**P**	**05 25 43.6**	**+2.0**
INCN	**Inchon**	**21.66 255**	P	**P**	**05 25 52.3**	**+2.0**
	SNR=6.7					
SNY	**Shenyang**	**21.72 268**	⇑P	**P**	**05 25 50.8**	**-0.1**
SNY			S	**S**	**05 29 44.8**	**-5.1**
SNY			SS		05 30 20.6	
SNY			AMB	AMB		
	comp=Z,59nm,1.0s,mb5.0					
SNY			AMB	AMB		
	comp=Z,530nm,3.5s					
SNY			LR	LR		
	comp=E,1μm,16.2s					
SNY			LR	LR		
	comp=Z,1μm,17.1s,MS4.4					
HIA	**Hailar**	**22.51 289**	*e*P	**P**	**05 25 57.1**	**-2.3**
HIA			pmax	pmax		
	comp=Z,20nm,0.8s					
HIA	**Hailar**	**22.51 289**	*e*P	**P**	**05 25 57.1**	**-2.3**
	comp=Z,20nm,0.8s,mb4.6					
BILL	**Bilibino**	**22.57 13**	⇓*i*P	**P**	**05 26 00.5**	**+0.6**
BILL			*e*		05 26 22.8	
BILL			*e*S	**S**	**05 30 07.9**	**+1.5**
BILL			*e*SS		05 30 38.5	
BILL			pmax	pmax		
	comp=Z,75nm,2.2s,mb4.7					
BILL			MLR	MLR		
	comp=Z,3μm,18.0s,MS4.8					
BILL	**Bilibino**	**22.57 13**	*e*P	**P**	**05 25 59.7**	**-0.2**
	comp=Z,23nm,0.3s,mb5.1					
DL2	**Dalian**	**24.32 263**	⇑*i*P	**P**	**05 26 17.1**	**-0.2**
DL2			S	**S**	**05 30 36.9**	**+1.9**
DL2			AMB	AMB		
	comp=Z,50nm,1.2s,mb4.8					
DL2			AMB	AMB		
	comp=Z,350nm,5.8s					
DL2			LR	LR		
	comp=N,220nm,12.4s,MS4.1					
DL2			LR	LR		
	comp=E,300nm,13.4s,MS4.1					
DL2			LR	LR		
	comp=Z,240nm,15.3s,MS3.8					
BOD	**Bodaibo**	**26.18 310**	*e*P	**P**	**05 26 32.6**	**-1.5**
BOD			pmax	pmax		
	comp=Z,22nm,1.4s,mb4.5					
CIT	**Chita**	**26.21 297**	*e*P	**P**	**05 26 33.7**	**-0.7**
BJI	**Beijing**	**27.56 270**	P	**P**	**05 26 47.1**	**+0.5**
BJI			S	**S**	**05 31 29.4**	**+3.1**
BJI			AMB	AMB		
	comp=Z,28nm,1.2s,mb4.8					
BJI			AMB	AMB		
	comp=Z,396nm,5.2s					
BJI			LR	LR		
	comp=N,762nm,15.6s,MS4.7					
BJI			LR	LR		
	comp=E,1μm,17.1s,MS4.7					
BJI			LR	LR		
	comp=Z,1μm,18.2s,MS4.4					
BJI	**Beijing**	**27.56 270**	P	**P**	**05 26 47.1**	**+0.5**
	comp=Z,28nm,1.2s,mb4.8					
BJI			S	**S**	**05 31 29.4**	**+3.1**
BJI			LR	LR		
	comp=Z,1μm,18.2s,MS4.4					
BJT	**Baijiatuau**	**27.58 270**	*e*P	**P**	**05 26 45.6**	**-1.1**
BJT			pmax	pmax		
	comp=Z,30nm,0.9s					
BJT	**Baijiatuau**	**27.58 270**	*e*P	**P**	**05 26 45.6**	**-1.1**
	comp=Z,30nm,0.9s,mb4.9					
TIA	**Tai'an**	**28.77 262**	*e*P	**P**	**05 26 57.8**	**+0.4**
SSE	**Sheshan**	**29.11 249**	P	**P**	**05 26 57.3**	**-3.0**
SSE			S	**S**	**05 31 50.3**	**-0.4**
SSE			AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1					
SSE			AMB	AMB		
	comp=Z,163nm,7.5s					
SSE			LR	LR		
	comp=N,292nm,27.5s,MS3.9					
SSE			LR	LR		
	comp=E,220nm,27.5s,MS3.9					
SSE			LR	LR		
	comp=Z,395nm,24.8s,MS3.9					
SSE	**Sheshan**	**29.11 249**	P	**P**	**05 26 57.3**	**-3.0**
	comp=Z,27nm,0.7s,mb5.1					
SSE			S	**S**	**05 31 50.3**	**-0.4**
SSE			LR	LR		
	comp=Z,400nm,24.8s,MS3.9					
NJ2	**Nanjing**	**30.02 253**	*e*P	**P**	**05 27 09.3**	**+0.9**
NJ2			AP	pP	05 27 19.3	+3.4
NJ2			XP	sP	05 27 22.3	+3.3
NJ2			AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3					
NJ2			AMB	AMB		
	comp=Z,72nm,4.2s					
NJ2			LR	LR		
	comp=N,2μm,14.1s,MS4.8					
NJ2			LR	LR		
	comp=E,900nm,14.4s,MS4.8					
NJ2			LR	LR		
	comp=Z,4μm,14.2s,MS5.2					
HHC	**Hu-ho-hao-te**	**30.39 274**	*e*P	**P**	**05 27 12.4**	**+0.7**
HHC			AP	pP	05 27 17.0	-2.2
HHC			PP	PP	05 28 11.1	-9.4
HHC			PCP	PcP	05 30 11.3	+0.2
HHC			S	**S**	**05 32 16.8**	**+5.9**
HHC			XS	sS	05 32 19.6	-3.6
HHC			SS	SS	05 33 47.6	-33
HHC			PCS	PcS	05 33 54.5	-0.2
HHC			AMB	AMB		
	comp=Z,78nm,1.0s,mb5.4					
HHC			AMB	AMB		
	comp=Z,320nm,4.3s					
HHC			LR	LR		
	comp=N,551nm,15.2s,MS4.6					
HHC			LR	LR		
	comp=E,995nm,16.6s,MS4.6					
HHC			LR	LR		
	comp=Z,1μm,17.1s,MS4.6					
SONM	**Songino Array**	**31.48 290**	P	**P**	**05 27 19.2**	**-2.1**
	comp=Z,2.8nm,0.7s,mb4.2,baz=62,slow=9.1,SNR=16					
SONM			PcP	PcP	05 30 13.5	-0.4
	comp=Z,5.0nm,1.1s,baz=218,slow=2.7,SNR=6.5					
SONM			LR	LR	05 41 06.1	
	comp=Z,2μm,18.8s,MS4.7,baz=34,slow=38					
SONM	**Songino Array**	**31.48 290**	P	**P**	**05 27 19.2**	**-2.1**
SONM					05 30 13.5	
SONM			pmax	pmax		
	comp=Z,3.0nm,0.7s					
SONM			MLR	MLR		
	comp=Z,2μm,18.8s					
TLY	**Talaya**	**32.35 298**	P	**P**	**05 27 28.0**	**-0.9**
	comp=Z,76nm,1.5s,mb5.3,SNR=6.0					
TLY	**Talaya**	**32.35 298**	*e*P	**P**	**05 27 28.4**	**-0.5**
TLY			pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8					
TLY	**Talaya**	**32.35 298**	*e*P	**P**	**05 27 28.4**	**-0.5**
	comp=Z,16nm,1.1s,mb4.8					
SVW2	**Sparrevohn**	**32.57 45**	*e*P	**P**	**05 27 31.4**	**+0.5**
ZAK	**Zakamensk**	**32.84 295**	*e*P	**P**	**05 27 32.1**	**-1.1**
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6					
KDAK	**Kodiak Island**	**34.16 51**	P	**P**	**05 27 42.5**	**-2.2**
	comp=Z,17nm,0.7s,mb5.0,baz=280,slow=4.4,SNR=8.0					
QZH	**Quanzhou**	**35.02 244**	P	**P**	**05 27 52.5**	**+0.3**
QZH			*e*S	**S**	**05 33 21.0**	**-1.8**
QZH			LR	LR		
	comp=N,650nm,9.7s					
QZH			LR	LR		
	comp=E,890nm,14.3s					
QZH			LR	LR		
	comp=Z,770nm,20.2s					
XAN	**Xi'an**	**35.59 266**	P	**P**	**05 27 57.6**	**+0.6**
XAN			S	**S**	**05 33 38.3**	**+6.8**
XAN			AMB	AMB		
	comp=Z,24nm,1.5s,mb4.9					
XAN			AMB	AMB		
	comp=Z,225nm,7.6s					
XAN			LR	LR		
	comp=N,259nm,15.2s,MS4.4					
XAN			LR	LR		
	comp=E,443nm,15.9s,MS4.4					
XAN			LR	LR		
	comp=Z,712nm,16.8s,MS4.5					
COLA	**College**	**36.24 38**	*e*P	**P**	**05 28 03.2**	**+0.6**
COLA			pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0					
COLA	**College**	**36.24 38**	*e*P	**P**	**05 28 03.2**	**+0.5**
	comp=Z,18nm,0.9s,mb5.0					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**05 28 19.0**	**+1.6**
LZH			AP	pP	05 28 22.5	-2.5
LZH			PP	PP	05 29 45.0	+0.6
LZH			PCP	PcP	05 30 35.1	+2.3
LZH			*e*S	**S**	**05 34 03.3**	**-4.7**
LZH			XS	sS	05 34 18.0	-2.4
LZH			AMB	AMB		
	comp=Z,83nm,1.2s,mb5.3					
LZH			AMB	AMB		
	comp=Z,334nm,4.4s					
LZH			LR	LR		
	comp=N,1μm,14.7s					
LZH			LR	LR		
	comp=Z,2μm,16.6s,MS5.0					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**05 28 19.0**	**+1.6**
LZH			*SP	sP	05 28 25.0	-3.1
LZH					05 29 45.0	
LZH					05 30 35.1	
LZH			*e*S	**S**	**05 34 03.2**	**-4.8**
LZH			*SS	sS	05 34 18.0	-2.4
LZH			SS	SS	05 36 38.2	-17
LZH			pmax	pmax		
	comp=Z,83nm,1.2s,mb5.3					
LZH			MLR	MLR		
	comp=Z,2μm,16.6s,MS5.0					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**05 28 19.0**	**+1.6**
	comp=Z,83nm,1.2s,mb5.3					
LZH			pP	pP	05 28 22.5	-2.5
LZH			sP	sP	05 28 25.0	-3.1
LZH			PP	PP	05 29 45.0	+0.6
LZH			PcP	PcP	05 30 35.1	+2.3
LZH			*e*S	**S**	**05 34 03.2**	**-4.8**
LZH			sS	sS	05 34 18.0	-2.4
LZH			SS	SS	05 36 38.2	-17
LZH			LR	LR		
	comp=Z,2μm,16.6s,MS5.0					
GTA	**Gaotai**	**39.09 279**	⇑P	**P**	**05 28 27.8**	**+1.1**
GTA			AP	pP	05 28 32.8	-1.5
GTA			XP	sP	05 28 35.9	-1.5
GTA			PP	PP	05 30 02.3	+5.8
GTA			PCP	PcP	05 30 37.3	+1.1
GTA			S	**S**	**05 34 28.4**	**+3.7**
GTA			XS	sS	05 34 41.0	+3.8
GTA			AMB	AMB		
	comp=Z,38nm,1.3s,mb5.0					
GTA			AMB	AMB		
	comp=Z,207nm,6.8s					
GTA			LR	LR		
	comp=N,472nm,15.6s,MS4.7					
GTA			LR	LR		
	comp=E,602nm,13.7s,MS4.7					
GTA			LR	LR		
	comp=Z,723nm,13.3s,MS4.7					
EGAK	**Eagle**	**39.10 38**	*e*P	**P**	**05 28 26.7**	**-0.2**
	comp=Z,20nm,0.9s,mb4.8					
CD2	**Chengdu**	**40.95 266**	P	**P**	**05 28 42.8**	**+0.6**
CD2			AP	pP	05 28 47.3	-2.5
CD2			PP	PP	05 30 20.4	+3.6
CD2			PCP	PcP	05 30 44.4	+2.2
CD2			S	**S**	**05 34 53.1**	**+0.6**
CD2			SS	SS	05 37 49.1	-5.6
CD2			SCS	ScS	05 38 45.5	+0.1
CD2			AMB	AMB		
	comp=Z,60nm,0.9s,mb5.2					
CD2			AMB	AMB		
	comp=Z,390nm,7.3s					
CD2			LR	LR		
	comp=N,600nm,16.2s					
CD2			LR	LR		
	comp=Z,610nm,15.0s,MS4.6					
GYA	**Guiyang**	**41.76 258**	⇑*i*P	**P**	**05 28 49.9**	**+1.1**
GYA			AP	pP	05 28 54.3	-2.1
GYA			PP	PP	05 30 29.0	+3.5
GYA			S	**S**	**05 35 05.1**	**+0.6**
GYA			SS	SS	05 38 05.3	-5.4
GYA			AMB	AMB		
	comp=Z,90nm,1.3s,mb5.2					
GYA			AMB	AMB		
	comp=Z,380nm,8.2s					
GYA			LR	LR		
	comp=N,650nm,15.2s,MS4.8					
GYA			LR	LR		
	comp=E,560nm,14.6s,MS4.8					
GYA			LR	LR		
	comp=Z,790nm,14.3s,MS4.7					
INK	**Inuvik**	**41.77 32**	P	**P**	**05 28 49.0**	**+0.1**
	comp=Z,9.8nm,0.9s,mb4.5,baz=286,slow=8.2,SNR=10					
INK	**Inuvik**	**41.77 32**	P	**P**	**05 28 49.0**	**+0.1**
INK			pmax	pmax		
	comp=Z,10.0nm,0.9s					
NVS	**Novosibirsk**	**43.38 308**	*e*P	**P**	**05 28 59.6**	**-2.4**
NVS			pmax	pmax		
	comp=Z,36nm,1.8s,mb4.8					
NVS			pmax	pmax		
	comp=E,38nm,1.9s					
QIZ	**Qiongzhong**	**44.85 247**	⇑P	**P**	**05 29 14.4**	**+0.6**
QIZ			SCS	ScS	05 39 05.5	-4.1
QIZ			AMB	AMB		
	comp=Z,11nm,1.6s,mb4.4					
QIZ			AMB	AMB		
	comp=Z,182nm,3.9s					
QIZ			LR	LR		
	comp=N,241nm,18.4s,MS4.3					
QIZ			LR	LR		
	comp=E,266nm,19.1s,MS4.3					
QIZ			LR	LR		
	comp=Z,331nm,20.1s,MS4.3					
WMQ	**Urumqi**	**45.08 291**	⇑*i*P	**P**	**05 29 16.0**	**+0.4**
WMQ			PP	PP	05 30 59.0	-2.1
WMQ			PPP		05 31 42.0	
WMQ			PCS	PcS	05 34 50.0	+0.2
WMQ			S	**S**	**05 35 53.0**	**-0.1**
WMQ			AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7					
WMQ			AMB	AMB		
	comp=Z,157nm,4.7s					
WMQ			LR	LR		
	comp=N,2μm,15.4s,MS5.3					
WMQ			LR	LR		
	comp=E,2μm,15.9s,MS5.3					
WMQ			LR	LR		
	comp=Z,3μm,17.6s,MS5.2					
WRAK	**Wrangell Islan**	**45.20 49**	*e*P	**P**	**05 29 18.0**	**+1.5**
	comp=Z,30nm,1.4s,mb4.9					
KMI	**Kunming**	**45.29 260**	⇑P	**P**	**05 29 18.8**	**+1.5**
KMI			PP	PP	05 31 04.8	+1.4
KMI			PPP		05 31 44.0	
KMI			S	**S**	**05 35 56.5**	**+0.3**
KMI			SS	SS	05 39 10.1	-10
KMI			SSS		05 40 08.4	
KMI			AMB	AMB		
	comp=Z,44nm,1.0s,mb5.2					
KMI			AMB	AMB		
	comp=Z,282nm,3.4s					
KMI			LR	LR		
	comp=N,366nm,16.8s,MS4.4					

KMI LR LR
comp=E,252nm,19.7s,MS4.4
KMI LR LR
comp=Z,352nm,17.0s,MS4.4
KMI Kunming 45.29 260 ⇑P **P 05 29 18.7 +1.4**
KMI 05 31 04.8
KMI PPP 05 31 44.0
KMI S **S 05 35 56.5 +0.3**
KMI *SS sS 05 36 02.3 -6.5
KMI SS SS 05 39 10.1 -10
KMI SSS 05 40 08.4
KMI pmax pmax
comp=Z,44nm,1.0s,mb5.2
KMI MLR MLR
comp=Z,350nm,17.0s,MS4.4
KMI Kunming 45.29 260 ⇑P **P 05 29 18.7 +1.4**
comp=Z,44nm,1.0s,mb5.2
KMI pP pP 05 29 21.5 -3.5
KMI sP sP 05 29 23.4 -4.6
KMI PP PP 05 31 04.8 +1.4
KMI PPP 05 31 44.0
KMI S **S 05 35 56.5 +0.3**
KMI sS sS 05 36 02.3 -6.5
KMI SS SS 05 39 10.1 -10
KMI SSS 05 40 08.4
KMI LR LR
comp=Z,350nm,17.0s,MS4.4
MK31 Makanchi Array 47.11 298 *i* P **P 05 29 30.6 -1.0**
MK31 pmax pmax
comp=Z,51nm,0.9s,mb5.5
MKAR Makanchi Array 47.11 298 P **P 05 29 30.7 -0.9**
comp=Z,31nm,0.9s,mb5.2,baz=65,slow=7.5,SNR=122
MKAR LR LR 05 50 21.8
comp=Z,1μm,19.2s,MS4.9,baz=78,slow=38
MKAR Makanchi Array 47.11 298 *i* P **P 05 29 30.6 -1.0**
MKAR pmax pmax
comp=Z,46nm,0.9s
LSA Lhasa 50.37 273 *e*P **P 05 29 57.3 +0.7**
LSA pmax pmax
comp=Z,47nm,0.9s,mb5.5
LSA Lhasa 50.37 273 *e*P **P 05 29 57.3 +0.7**
comp=Z,47nm,0.9s,mb5.5
CHKZ Chkalovo 50.62 310 *i* P **P 05 29 56.9 -1.7**
CHKZ pmax pmax
comp=Z,45nm,0.7s,mb5.5
VOSK Vostochnaya 50.88 309 P **P 05 29 59.1 -1.4**
VOSK pmax pmax
comp=Z,34nm,1.0s,mb5.2
YKW3 Yellowknife Ar 51.00 37 *e*P **P 05 30 01.5 +0.2**
YKA Yellowknife Ar 51.03 37 P **P 05 30 00.8 -0.8**
comp=Z,5.7nm,0.7s,mb4.6,baz=296,slow=6.9,SNR=14
YKA LR LR 05 51 50.8
comp=Z,124nm,18.5s,MS4.0,baz=235,slow=36
YKA Yellowknife Ar 51.03 37 *i* P **P 05 30 01.0 -0.6**
YKA pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 51.05 310 *i* P **P 05 30 00.5 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 51.05 310 P **P 05 30 00.6 -1.2**
comp=Z,7.0nm,0.3s,mb5.0,baz=60,slow=8.8,SNR=54
BVAR PcP PcP 05 31 16.9 -0.5
comp=Z,4.4nm,0.7s,baz=72,slow=4.8,SNR=3.9
BVAR Borovoye Array 51.05 310 P **P 05 30 00.6 -1.2**
BVAR 05 31 16.9
BVAR pmax pmax
comp=Z,7.0nm,0.4s
BRVK Borovoye 51.09 310 P **P 05 30 01.5 -0.6**
comp=Z,203nm,0.9s,mb6.0,SNR=14
BRVK Borovoye 51.09 310 P **P 05 30 01.3 -0.7**
SNR=10
BRVK Borovoye 51.09 310 *e*P **P 05 30 00.1 -2.0**
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.0
KKTK Khon Kaen 51.35 251 P **P 05 30 05.5 +1.5**
ZRNK Zerenda 51.82 310 *i* P **P 05 30 06.6 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,0.3s,mb5.1
ZRNK Zerenda 51.82 310 *e*P **P 05 30 06.3 -1.2**
comp=Z,22nm,0.7s,mb5.2
CHG Chiang Mai 52.16 257 ⇑P **P 05 30 11.6 +1.6**
comp=Z,74nm,0.9s,mb5.6
CHTO Chiang Mai 52.16 257 P **P 05 30 11.6 +1.6**
SNR=32
CHTO Chiang Mai 52.16 257 *e*P **P 05 30 11.1 +1.1**
CHTO pmax pmax
comp=Z,73nm,1.0s,mb5.6
CHTO Chiang Mai 52.16 257 *e*P **P 05 30 11.1 +1.1**
comp=Z,73nm,1.0s,mb5.6
SHL Shillong 52.45 269 *e*P **P 05 30 10.9 -1.4**
ULHL Ulahol 53.13 295 P **P 05 30 17.3 +0.1**
SNR=31
TKM2 Tokmak 2 53.16 296 P **P 05 30 18.3 +0.8**
SNR=18
CHMS Chumysh 53.64 297 P **P 05 30 21.4 +0.4**
SNR=8.8
USP Ospenovka 53.65 297 P **P 05 30 21.3 +0.3**
SNR=45
KBK Karagaybulak 53.71 296 P **P 05 30 21.9 +0.5**
SNR=12
FRU Bishkek 53.82 297 *e*P **P 05 30 22.5 +0.2**
FRU pmax pmax
comp=Z,44nm,1.4s,mb5.2
AAK Ala-Archa 54.00 297 P **P 05 30 23.8 +0.2**
SNR=26
AAK Ala-Archa 54.00 297 P **P 05 30 22.5 -1.1**
comp=Z,170nm,0.8s,mb6.0,SNR=19
AAK Ala-Archa 54.00 297 P **P 05 30 23.0 -0.6**
SNR=9.9
AAK Ala-Archa 54.00 297*c i*P **P 05 30 22.6 -1.0**
AAK pmax pmax
comp=Z,33nm,1.1s,mb5.2
SVE Sverdlovsk 54.03 317 *e*P **P 05 30 28.0 +4.1**
UCH Uchtor 54.21 296 P **P 05 30 26.3 +1.1**
SNR=5.4
EKS2 Erkin-Say 54.43 297 P **P 05 30 27.1 +0.4**
SNR=23
B05A Bryant 54.46 55 ⇑P **P 05 30 26.9 -0.1**
baz=54
C05A Tolt Reservoir 55.00 55 ⇓P **P 05 30 31.0 +0.2**
baz=55
JIRN Jiri 55.05 275 *e*P **P 05 30 33.2 +2.0**
comp=Z,6.9nm,0.2s,mb5.3
GUN Gumba 55.10 275 *e*P **P 05 30 33.3 +1.7**
comp=Z,170nm,1.0s,mb6.0
ARU Arti 55.22 318 ⇓*i*P **P 05 30 31.0 -1.4**
ARU *e* 05 30 45.2
ARU *e* 05 31 29.9
ARU *e* 05 32 33.7
ARU *e*S **S 05 38 10.3 -4.0**
ARU *e*SS SS 05 41 48.0 -11
ARU pmax pmax
comp=Z,23nm,0.8s,mb5.3
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.6
ARU MLR MLR
comp=N,100nm,16.0s,MS4.5
ARU MLR MLR
comp=E,300nm,18.0s,MS4.5
B07A Winthrop 55.46 54 ⇑P **P 05 30 33.8 -0.4**
baz=55
F04A Amboy 55.54 57 ⇓P **P 05 30 34.1 -0.7**
baz=56
KKN Kakani 55.59 276 *e*P **P 05 30 36.7 +1.6**
comp=E,94nm,0.7s,mb5.9
PKI Pulchoki 55.64 275 *e*P **P 05 30 37.0 +1.5**
comp=E,50nm,0.8s,mb5.6
D06A Cle Elum 55.75 55 ⇓P **P 05 30 36.4 +0.2**
baz=56
DMN Daman 55.83 275 *e*P **P 05 30 38.7 +1.9**
comp=E,184nm,0.9s,mb6.1
GKN Gorkha 55.90 276 *e*P **P 05 30 38.9 +1.6**
comp=E,245nm,1.0s,mb6.2
C07A Waterville 55.92 55 ⇑P **P 05 30 36.9 -0.6**
baz=56
A09A Danville 56.02 53 ⇑P **P 05 30 38.1 -0.2**
baz=56,SNR=5.5
E06A Yakima 56.04 56 ⇓P **P 05 30 37.8 -0.5**
baz=56
I03A Eugene 56.13 60 ⇑P **P 05 30 40.8 +1.7**
baz=56
D07A Quincy 56.24 55 ⇓P **P 05 30 40.5 +0.7**
baz=56
J02A Umpqua 56.30 61 ⇑P **P 05 30 40.2 0.0**
baz=56
HOOD Mount Hood Mea 56.33 58 *e*P **P 05 30 44.3 +3.8**

H04A Detroit Lake 56.38 59 ⇑P **P 05 30 41.1 +0.3**
baz=56
EDM Edmonton 56.39 46 *e*P **P 05 30 40.8 0.0**
C08A Higginbotham F 56.43 54 ⇑P **P 05 30 40.3 -0.9**
baz=56
G05A Wamic 56.57 58 ⇑P **P 05 30 42.8 +0.6**
baz=56
B09A Rice 56.57 53 ⇓P **P 05 30 42.0 -0.2**
baz=56
A10A Northport 56.58 52 ⇑P **P 05 30 43.3 +1.1**
baz=56
J03A Ideyld Park 56.66 60 ⇓P **P 05 30 41.7 -1.1**
baz=57
E07A Sunnyside 56.67 56 ⇑P **P 05 30 41.8 -1.0**
baz=57
K02A Glendale 56.69 61 ⇑P **P 05 30 42.1 -0.9**
baz=57
KOLN Koldanda 56.76 277 *e*P **P 05 30 45.2 +1.7**
comp=E,161nm,1.0s,mb6.0
C09A Chrisman Ranch 56.85 54 ⇓P **P 05 30 44.0 -0.1**
baz=57
D08A Wollman Farm, 56.91 55 ⇑P **P 05 30 44.5 -0.1**
baz=57
H05A Madras 56.96 58 ⇓P **P 05 30 45.2 +0.2**
baz=57
G06A Carlson Farm, 56.97 57 ⇑P **P 05 30 44.2 -0.7**
baz=57
L02A Cave Junction 56.97 62 ⇑P **P 05 30 45.4 +0.4**
baz=57
F07A Phinny Hill Vi 57.00 56 ⇑P **P 05 30 45.6 +0.4**
baz=57
NEW Newport 57.23 53 *e*P **P 05 30 49.3 +2.5**
NEW pmax pmax
comp=Z,37nm,1.8s
NEW Newport 57.23 53 *e*P **P 05 30 49.3 +2.5**
comp=Z,37nm,1.8s,mb5.1
D09A Jones Farm, Ri 57.26 54 ⇑P **P 05 30 46.9 -0.1**
baz=57
C10A Spilker Farm, 57.38 53 ⇑P **P 05 30 47.2 -0.6**
baz=57
G07A Ruggs Ranch, H 57.51 57 ⇓P **P 05 30 48.3 -0.5**
baz=57
APA Apatity 57.55 337 ⇓*e*P **P 05 30 49.0 -0.1**
KEV Kevo 57.56 341 *e*p **P 05 30 47.2 -1.9**
A12A Yaak River Ran 57.64 51 ⇓P **P 05 30 50.0 +0.3**
baz=58
E09A Wood Farm, Sta 57.66 55 ⇓P **P 05 30 50.0 +0.1**
baz=58
F08A Pendleton 57.72 56 ⇑P **P 05 30 51.1 +0.9**
baz=58
BOK Bokaro 57.74 271 *e*P **P 05 30 50.3 -0.1**
BOK AMb AMB 05 30 52.7
comp=Z,32nm,0.8s,mb5.4
J05A Fort Rock 57.74 59 ⇓P **P 05 30 51.2 +0.8**
baz=58,SNR=6.3
YBH Yreka Blue Hor 57.76 62 *e*P **P 05 30 51.0 +0.5**
YBH Yreka Blue Hor 57.76 62 ⇓P **P 05 30 51.4 +0.8**
baz=58
M02C Callahan 57.87 62 ⇑P **P 05 30 51.9 +0.6**
baz=58
G08A Pilot Rock 57.91 56 ⇑P **P 05 30 51.8 +0.2**
baz=58
N02C Big Bar 57.93 63 ⇑P **P 05 30 52.1 +0.4**
baz=58
B12A Libby 57.94 52 ⇑P **P 05 30 52.1 +0.3**
baz=58
H07A Lands Inn, Kim 57.97 57 ⇑P **P 05 30 53.4 +1.4**
baz=58
I06A Prineville 57.97 58 ⇑P **P 05 30 52.7 +0.7**
baz=58
LGTI Lohaghat 57.99 280 *i* P **P 05 30 53.7 +1.5**
ARCES ARCESS Array B 58.07 341 P **P 05 30 51.8 -1.0**
comp=Z,9.1nm,0.8s,mb4.8,baz=26,slow=7.2,SNR=13
ARCES LR LR 05 59 22.8
comp=Z,341nm,18.9s,MS4.5,baz=31,slow=40
ARCES ARCESS Array B 58.07 341 P **P 05 30 51.8 -0.9**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES MLR MLR
comp=Z,341nm,18.9s
M04C Macdoel 58.26 61 ⇑P **P 05 30 54.1 +0.1**
baz=58
F09A S2 Ranch, Elgi 58.27 55 ⇑P **P 05 30 54.2 +0.2**
baz=58
K05A Summer Lake 58.27 60 ⇑P **P 05 30 54.9 +0.8**
baz=58
I07A Izee 58.30 58 ⇑P **P 05 30 54.8 +0.5**
baz=58
M03C McCloud 58.39 62 ⇑P **P 05 30 54.6 -0.4**
baz=58
J06A Christmas Vall 58.40 59 P **P 05 30 55.3 +0.2**
baz=58,SNR=5.2
C12A Trout Creek 58.45 52 ⇓P **P 05 30 55.4 +0.1**
baz=58
F10A Beach Ranch, E 58.50 55 ⇑P **P 05 30 56.3 +0.6**
baz=58
H08A Prairie City 58.53 57 ⇑P **P 05 30 55.9 0.0**
baz=58
WDC Whiskeytown Da 58.54 63 ⇑P **P 05 30 56.2 +0.2**
baz=58
TMCR Tamitsa 58.55 332 P **P 05 30 54.5 -1.6**
TMCR pmax pmax
comp=Z,32nm,1.3s,mb5.2
B13A Whitefish 58.61 51 ⇓P **P 05 30 56.5 0.0**
baz=58,SNR=6.8
K06A Valley Falls 58.61 59 ⇑P **P 05 30 56.3 -0.2**
baz=58,SNR=5.8
O02C Red Bluff 58.63 63 ⇑P **P 05 30 57.3 +0.6**
baz=59
L05A Lakeview 58.71 60 ⇑P **P 05 30 57.7 +0.6**
baz=59
BSMT Bassoo Peak 58.74 52 *e*P **P 05 31 00.7 +3.3**
J07A Hines 58.83 58 ⇑P **P 05 30 59.0 +1.0**
baz=59
AKTK Aktyubinsk 58.92 312 P **P 05 30 56.5 -2.2**
AKTO Aktyubinsk 58.92 312 P **P 05 30 56.5 -2.2**
comp=Z,7.1nm,0.9s,mb4.7,baz=51,slow=6.0,SNR=13
AKTO Aktyubinsk 58.92 312 *i* P **P 05 30 57.4 -1.3**
AKTO pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
M05C Lookout 58.93 61 ⇑P **P 05 30 58.6 -0.1**
baz=59
I08A Drewsey 58.94 57 ⇓P **P 05 30 59.0 +0.2**
baz=59
C13A Hot Springs 58.96 52 ⇑P **P 05 30 59.7 +0.8**
baz=59
GASB Alder Springs 58.99 64 ⇓P **P 05 30 59.3 +0.2**
baz=59
KTK1 Kautokeino 58.99 341 *e*P **P 05 30 59.6 +0.5**
KTK1 AMb AMB 05 31 00.2
comp=Z,30nm,1.0s,mb5.3
H09A Durkee 59.02 56 ⇓P **P 05 30 59.3 -0.1**
baz=59
HATC Hat Creek Radi 59.06 62 ⇓P **P 05 30 59.5 -0.1**
baz=59
MOD Modoc 59.11 60 *e*P **P 05 31 00.0 0.0**
MOD Modoc 59.11 60 P **P 05 31 00.1 +0.2**
baz=59,SNR=6.3
THN Thein Dam 59.18 286 *e*P **P 05 31 00.0 -0.4**
K07A Rock Creek Ran 59.27 59 ⇓P **P 05 31 01.1 0.0**
baz=59
J08A Circle Bar Ran 59.33 58 ⇑P **P 05 31 01.7 +0.2**
baz=59,SNR=6.5
I09A Lost Marbles R 59.39 57 ⇑P **P 05 31 02.3 +0.4**
baz=59
TRO Tromso 59.40 343 *e*P **P 05 31 00.3 -1.6**
TRO AMb AMB 05 31 01.7
comp=Z,38nm,1.2s,mb5.3
TRO Tromso 59.40 343 *e*P **P 05 31 00.3 -1.6**
comp=Z,38nm,1.2s,mb5.3
M06C Likely Place G 59.43 61 ⇑P **P 05 31 02.5 +0.3**
baz=59
O04C Chester 59.59 62 ⇓P **P 05 31 03.4 +0.1**
baz=60
L07A Adell 59.62 60 ⇑P **P 05 31 03.3 -0.2**
baz=60,SNR=6.8
MNRC McLaughlin Nat 59.62 64 ⇑P **P 05 31 03.7 +0.2**
baz=60
ELFS Eagle Lake Fie 59.63 62 ⇓P **P 05 31 03.9 +0.4**
baz=60
K08A Mann Creek Ran 59.70 59 P **P 05 31 04.3 +0.3**
baz=60,SNR=7.4
J09A Fry Pan Ranch, 59.76 58 ⇓P **P 05 31 03.4 -1.0**
baz=60,SNR=6.5
WVOR Wild Horse Val 59.79 59 *e*P **P 05 31 04.2 -0.4**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.9

WVOR Wild Horse Val 59.79 59 *e*P **P 05 31 04.2 -0.4**
comp=Z,12nm,1.0s,mb4.9
ORV Oroville 59.80 63 ⇓P **P 05 31 03.9 -0.8**
baz=60,SNR=6.2
SUTB Sutter Butte 59.82 64 ⇑P **P 05 31 04.8 -0.1**
baz=60
O05C Quincy 59.91 62 ⇑P **P 05 31 05.4 -0.1**
baz=60
OHCM Honcut 59.94 63 *e*P **P 05 31 04.9 -0.8**
NIL Nilore 60.05 289 P **P 05 31 08.6 +2.2**
comp=Z,165nm,0.8s,mb6.1,SNR=6.5
N06A Buffalo Meadow 60.09 61 ⇓P **P 05 31 06.6 -0.1**
baz=60
M07A Soldier Meadow 60.10 60 ⇓P **P 05 31 06.6 -0.2**
baz=60,SNR=18
L08A Fields 60.11 59 ⇑P **P 05 31 07.1 +0.3**
baz=60,SNR=7.2
K09A Rome 60.16 58 ⇓P **P 05 31 05.8 -1.4**
baz=60
BEKR Beckwourth 60.31 62 ⇓P **P 05 31 07.6 -0.6**
baz=60,SNR=5.5
O06A Flanigan 60.45 62 ⇑P **P 05 31 08.3 -0.8**
baz=60,SNR=5.4
NDI New Delhi 60.53 282 ⇑*i*P **P 05 31 09.0 -0.7**
comp=Z,6.0nm,0.8s,mb4.8
NDI *e*P 05 31 09.6
NDI AMb AMB 05 31 11.8
comp=Z,93nm,0.9s,mb5.9
M08A Happy Creek Ra 60.54 60 ⇓P **P 05 31 08.6 -1.1**
baz=60
L09A Wilkinson Ranc 60.61 59 ⇓P **P 05 31 10.1 -0.2**
baz=60,SNR=6.0
LAVA Lava Cap Winer 60.75 63 ⇓P **P 05 31 10.9 -0.3**
baz=61
PAHR Pah Rah Range 61.00 62 *e*P **P 05 31 15.9 +3.0**
WCN Washoe City 61.02 62 ⇑P **P 05 31 13.7 +0.6**
baz=61
O07A Toulon 61.02 61 ⇓P **P 05 31 13.4 +0.3**
baz=61
N08A GE Springer Mi 61.09 60 ⇑P **P 05 31 13.4 -0.2**
baz=61
M09A Marrel Ranch, 61.10 59 ⇓P **P 05 31 13.9 +0.3**
baz=61,SNR=5.2
R05C Kirkwood Meado 61.19 63 ⇓P **P 05 31 13.7 -0.5**
baz=61
LRM Limekiln Ridge 61.25 53 *e*P **P 05 31 15.2 +0.6**
EGMT Eagleton 61.32 49 ⇓P **P 05 31 15.6 +0.4**
baz=61
N09A Rock Creek Ran 61.41 60 ⇓P **P 05 31 16.0 +0.3**
baz=61
CMB Columbia Colle 61.41 64 *e*P **P 05 31 18.7 +3.0**
CMB Columbia Colle 61.41 64 ⇑P **P 05 31 15.2 -0.5**
baz=61
HLID Hailey 61.55 56 ⇓P **P 05 31 16.6 -0.1**
baz=62,SNR=7.4
JOF Joensuu 61.55 334 *e*p **P 05 31 15.1 -1.5**
M10A i.L. Ranch, Tu 61.58 59 ⇑P **P 05 31 16.6 -0.2**
baz=62,SNR=8.4
MCMT McKenzie Canyo 61.65 54 *e*P **P 05 31 17.6 +0.4**
R06C Coleville 61.69 63 P **P 05 31 17.8 +0.2**
baz=62,SNR=6.2
HAST UC Hastings Re 61.71 66 ⇑P **P 05 31 18.0 +0.3**
baz=62
WAKR Walker 61.71 63 *e*P **P 05 31 17.9 +0.2**
LOF Lofoten 61.72 344 *e*P **P 05 31 18.5 +0.7**
LOF AMb AMB 05 31 19.6
comp=Z,116nm,1.2s,mb5.9
BMN Battle Mountai 61.85 60 *e*P **P 05 31 22.1 +3.4**
BMN pmax pmax
comp=Z,14nm,1.0s,mb5.0
S05C Merced 61.88 64 ⇑P **P 05 31 18.6 -0.2**
baz=62
O09A Fish Creek Ran 62.03 60 ⇑P **P 05 31 20.0 +0.1**
baz=62
M11A Holland Ranch, 62.08 58 ⇓P **P 05 31 20.5 +0.3**
baz=62,SNR=6.0
V03C Hunter Liggett 62.14 66 ⇓P **P 05 31 21.1 +0.5**
baz=62
R07C Lee Vining 62.21 63 ⇓P **P 05 31 20.5 -0.5**
baz=62
O10A Cortez Mining, 62.37 60 ⇓P **P 05 31 22.0 -0.2**
baz=62
Q08A Gabbs 62.41 62 ⇑P **P 05 31 22.3 -0.1**
baz=62,SNR=7.2
NVAR Mina Array Bea 62.45 62 P **P 05 31 22.4 -0.3**
comp=Z,4.5nm,0.9s,mb4.6,baz=297,slow=8.2,SNR=16
KCC Kaiser Creek 62.52 64 ⇑P **P 05 31 22.4 -0.7**
baz=62
M12A Wells 62.60 58 ⇑P **P 05 31 23.7 0.0**
baz=62,SNR=8.7
R08A Mina 62.62 62 ⇑P **P 05 31 24.0 +0.2**
baz=63
PKD Parkfield 62.62 66 ⇑P **P 05 31 23.2 -0.7**
baz=63
MLAC Mammoth Lakes 62.62 63 ⇑P **P 05 31 23.6 -0.3**
baz=63
GCMT Greycliff 62.78 51 *e*P **P 05 31 28.4 +3.5**
P10A Eureka 62.81 60 ⇓P **P 05 31 25.0 -0.1**
baz=63
N12A Clover Valley, 62.88 58 ⇑P **P 05 31 25.6 0.0**
baz=63
O11A Cowboy Ranch, 62.97 59 ⇑P **P 05 31 26.0 -0.2**
baz=63
HELL Mitchell Peak, 63.11 64 ⇓P **P 05 31 26.4 -0.7**
baz=63,SNR=7.9
S08C White Mtn Res 63.12 63 ⇑P **P 05 31 26.6 -0.5**
baz=63,SNR=6.0
LKWY Lake 63.16 53 P **P 05 31 23.4 -4.0**
MOR8 Moi Rana 63.24 343 *e*P **P 05 31 25.6 -2.3**
MOR8 AMb AMB 05 31 27.0
comp=Z,78nm,1.3s,mb5.7
P11A Circle Ranch, 63.28 60 ⇓P **P 05 31 28.1 -0.1**
baz=63
R09A Tonopah 63.32 62 P **P 05 31 28.0 -0.5**
baz=63,SNR=22
TPH Tonopah 63.33 62 *e*P **P 05 31 32.3 +3.7**
TPH pmax pmax
comp=Z,14nm,1.0s,mb5.0
SMMC Simmler 63.37 66 ⇓P **P 05 31 29.1 +0.3**
baz=63
N13A Wendover, West 63.37 58 ⇑P **P 05 31 28.4 -0.5**
baz=63,SNR=8.0
RLMT Red Lodge 63.42 52 *e*P **P 05 31 29.2 0.0**
comp=Z,49nm,1.7s,mb5.4
MOOW Moose Ponds 63.50 54 *e*P **P 05 31 30.4 +0.8**
comp=Z,39nm,1.6s,mb5.3
S09A Goldfield 63.55 62 ⇓P **P 05 31 30.2 +0.2**
baz=64,SNR=5.3
VIS Vishakhapatnam 63.58 268 *e*P **P 05 31 30.3 0.0**
VIS AMb AMB 05 31 33.8
comp=Z,43nm,1.3s,mb5.3
VES Vestal, Richgr 63.61 65 ⇓P **P 05 31 30.4 0.0**
baz=64
KAF Kangasniemi 63.66 335 *e*p **P 05 31 28.7 -2.0**
comp=Z,31nm,0.8s,mb5.4,baz=37,slow=6.2
KAF Kangasniemi 63.66 335 *e*P **P 05 31 28.7 -2.0**
KAF pmax pmax
comp=Z,31nm,0.8s,mb5.4
AJM Ajmer 63.69 281 *i* P **P 05 31 31.0 +0.1**
AJM *e*P 05 31 31.9
AJM AMb AMB 05 31 34.5
comp=Z,77nm,1.3s,mb5.6
PKM Peak Mountain 63.74 66 ⇓P **P 05 31 30.9 -0.3**
baz=64
R10A Warm Springs 63.76 61 ⇓P **P 05 31 31.5 +0.1**
baz=64
Q11A Duckwater 63.79 60 ⇓P **P 05 31 31.5 -0.1**
baz=64
P12A McGill 63.84 60 ⇑P **P 05 31 32.0 +0.1**
baz=64
CWC Cottonwood Cre 63.85 64 ⇑P **P 05 31 31.7 -0.2**
baz=64
DGMT Dagmar 63.88 46 *e*P **P 05 31 34.3 +2.1**
comp=Z,32nm,1.2s,mb5.2
GRAC Grapevine Rang 63.93 63 ⇓P **P 05 31 32.7 +0.2**
baz=64,SNR=8.2
BHPL Bhopal 63.93 277 *e*P **P 05 31 33.0 +0.5**
BHPL AMb AMB 05 31 35.0
comp=Z,68nm,0.9s,mb5.7
ISA Isabella 64.10 65 *e*P **P 05 31 31.9 -1.7**
ISA Isabella 64.10 65 ⇓P **P 05 31 31.7 -1.9**
baz=64
DAC Darwin (Calif) 64.25 64 *e*P **P 05 31 34.1 -0.5**
DAC pmax pmax
comp=Z,26nm,1.8s,mb5.0
DAC Darwin (Calif) 64.25 64 *e*P **P 05 31 34.1 -0.5**
comp=Z,26nm,1.9s,mb4.9

FIA1 **FINESS Array S** 64.25 335 *eP* P 05 31 33.4 -1.2
FINES **FINESS Array B** 64.26 335 P P 05 31 33.2 -1.4
comp=Z,20nm,0.7s,mb5.2,baz=44,slow=8.5,SNR=74
FINES LR LR 06 02 24.5
comp=Z,347nm,18.6s,MS4.6,baz=176,slow=39
FINES **FINESS Array B** 64.26 335 P P 05 31 33.3 -1.3
FINES pmax pmax
comp=Z,20nm,0.7s
FINES MLR MLR
comp=Z,347nm,18.6s
MPMC **Manual Prospec** 64.45 64 P P 05 31 35.4 -0.6
baz=64,SNR=7.6
FURC **Furnace Creek,** 64.58 63 P P 05 31 36.5 -0.2
baz=64,SNR=20
DUG **Dugway** 64.61 58 *eP* P 05 31 37.0 +0.1
DUG pmax pmax
comp=Z,13nm,1.0s,mb4.9
DUG **Dugway** 64.61 58 ⇑P P 05 31 36.5 -0.5
baz=64,SNR=12
OSI **Osito Adit** 64.61 66 ⇑P P 05 31 36.8 -0.2
baz=65
LRMC **Laurel Mountai** 64.71 65 ⇑P P 05 31 36.9 -0.7
baz=65
PDAR **Pinedale Array** 64.79 54 P P 05 31 37.9 -0.2
comp=Z,6.5nm,0.8s,mb4.7,baz=303,slow=2.5,SNR=38
PDAR LR LR 05 59 03.8
comp=Z,113nm,18.4s,MS4.1,baz=332,slow=35
TCUT **Toone Canyon** 64.82 56 *eP* P 05 31 42.4 +4.1
EDW2 **Edwards Air Fo** 64.90 65 ⇑P P 05 31 38.4 -0.4
baz=65,SNR=6.4
MWC **Mount Wilson** 65.29 66 *eP* P 05 31 45.8 +4.4
SHOC **Shoshone** 65.31 63 ⇑P P 05 31 42.2 +0.7
baz=65
GSC **Goldstone** 65.37 64 *eP* P 05 31 41.4 -0.5
GSC **Goldstone** 65.37 64 ⇑P P 05 31 41.0 -0.9
baz=65,SNR=6.2
DAU **Daniels Canyon** 65.37 57 *eP* P 05 31 45.6 +3.7
OBN **Obninsk** 65.52 326⇓*eP* P 05 31 41.9 -1.0
OBN *e* 05 31 54.9
OBN *e* 05 34 05.5
OBN pmax pmax
comp=Z,53nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,400nm,14.0s,MS4.8
BFSC **Mount Baldy St** 65.53 66 ⇓P P 05 31 42.3 -0.6
baz=66
CIS **Catalina Islan** 65.60 67 ⇑P P 05 31 43.2 -0.1
baz=66
SHPR **Sheep Range** 65.60 62 *eP* P 05 31 43.6 +0.2
ARUT **Antelope Range** 65.80 60 P P 05 31 48.0 +3.3
TUQ **Turquoise Mtn.** 65.83 64 ⇑P P 05 31 44.4 -0.5
baz=66,SNR=6.6
V11A **Goodsprings** 65.87 63 ⇓P P 05 31 45.1 0.0
baz=66
HEC **Hector,Ludlow** 65.97 64 ⇓P P 05 31 46.0 +0.3
baz=66
U12A **Valley of Fire** 66.03 62 ⇑P P 05 31 45.1 -1.0
baz=66
MSU **Marysvale** 66.08 59 *eP* P 05 31 50.0 +3.5
TMUT **Trail Mountain** 66.13 58 *eP* P 05 31 50.6 +3.8
MURC **Murrieta** 66.23 66 ⇓P P 05 31 47.3 -0.1
baz=66
W12A **Cal Nev Ari** 66.57 63 ⇓P P 05 31 49.1 -0.5
baz=66
SRU **San Rafael** 66.65 57 *eP* P 05 31 50.4 +0.3
PFO **Pinyon Flat Ob** 66.69 65 *eP* P 05 31 51.9 +1.5
PFO **Pinyon Flat Ob** 66.69 65 ⇑P P 05 31 50.5 0.0
baz=67
BELC **Belle Mtn.** 66.72 65 ⇑P P 05 31 49.5 -1.1
baz=67
109C **Camp Elliot, M** 66.76 66 ⇓P P 05 31 49.8 -1.1
baz=67
RSSD **Black Hills** 66.89 50 *eP* P 05 31 53.8 +2.2
HYB **Hyderabad** 67.09 271 *i P* P 05 31 53.0 +0.1
HYB **Hyderabad** 67.09 271 *eP* P 05 31 53.0 +0.1
IRM **Iron Mountain** 67.15 64 ⇑P P 05 31 52.2 -1.1
baz=67,SNR=8.5
BAR **Barrett** 67.17 66 *eP* P 05 31 55.4 +1.9
BC3 **Big Chuckw Mtn** 67.29 65 ⇓P P 05 31 53.8 -0.4
baz=67
W13A **Hualapai Mount** 67.30 63 ⇑P P 05 31 53.3 -1.0
baz=67
VRSR **Storozhevoye** 67.31 321 *eP* P 05 31 53.6 -0.7
VRSR pmax pmax
comp=Z,40nm,2.2s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.8s
DVTC **Desert V Tower** 67.55 66 ⇓P P 05 31 54.5 -1.3
baz=68
SWSC **Sam W. Stewart** 67.55 65 ⇑P P 05 31 55.5 -0.4
baz=68
X13A **Yucca** 67.67 63 ⇑P P 05 31 56.4 -0.2
baz=68,SNR=7.8
PDMCI **Parker Dam,Lak** 67.68 63 ⇓P P 05 31 55.9 -0.7
baz=68
W14A **Seligman** 67.72 62 ⇑P P 05 31 57.3 +0.4
baz=68,SNR=10
Y12C **Blythe** 67.81 64 ⇑P P 05 31 58.0 +0.5
baz=68,SNR=5.5
GLA **Glamis** 68.08 65 *eP* P 05 31 58.8 -0.4
GLA **Glamis** 68.08 65 ⇓P P 05 31 59.0 -0.2
baz=68,SNR=6.1
Y13A **Salome** 68.19 64 ⇓P P 05 32 00.6 +0.7
baz=68
W15A **Williams** 68.24 62 ⇑P P 05 32 01.6 +1.4
baz=68,SNR=5.0
X14A **Yava** 68.33 62 ⇑P P 05 32 01.0 +0.2
baz=68,SNR=8.6
WRAB **Tennant Creek** 68.34 199 P P 05 31 59.0 -1.8
comp=E,141nm,1.0s,mb6.0,SNR=7.6
WRAB **Tennant Creek** 68.34 199⇓*iP* P 05 31 59.0 -1.8
WB2 **Warramunga Arr** 68.35 199 *eP* P 05 31 59.6 -1.3
WB2 **Warramunga Arr** 68.35 199 *eP* P 05 31 59.4 -1.5
WRA **Warramunga Arr** 68.35 199 P P 05 31 59.2 -1.7
comp=E,18nm,0.9s,mb5.1,baz=16,slow=6.7,SNR=65
WRA LR LR 06 00 41.7
comp=E,125nm,18.9s,MS4.2,baz=290,slow=35
NB2 **NORSAR Subarra** 68.44 341 P P 05 32 00.7 -0.8
comp=Z,45nm,0.8s,mb5.5,baz=28,slow=6.5
NB2 **NORSAR Subarra** 68.44 341 P P 05 32 00.7 -0.8
NB2 pmax pmax
comp=Z,45nm,0.8s,mb5.5
NOA **NORSAR Array B** 68.44 341 P P 05 32 00.8 -0.7
comp=Z,23nm,0.7s,mb5.3,baz=28,slow=6.3,SNR=94
NOA LR LR 06 06 37.3
comp=Z,276nm,18.1s,MS4.5,baz=35,slow=40
NOA **NORSAR Array B** 68.44 341 P P 05 32 00.8 -0.7
NOA pmax pmax
comp=Z,23nm,0.7s
NOA MLR MLR
comp=Z,276nm,18.1s
WUAZ **Wupatki** 68.55 61 ⇓P P 05 32 01.8 -0.3
baz=68
Y14A **Wickenburg** 68.62 63 ⇑P P 05 32 02.3 -0.2
baz=69
NAO01 **NORSAR Array S** 68.69 341 *eP* P 05 32 02.4 -0.6
comp=Z,36nm,1.0s,mb5.3
X15A **Humboldt** 68.72 62 ⇓P P 05 32 03.9 +0.7
baz=69,SNR=10
ISCO **Idaho Springs** 68.99 54 *eP* P 05 32 06.0 +1.2
FITZ **Fitzroy Crossi** 69.01 208 *eP* P 05 32 03.5 -1.5
comp=Z,23nm,0.9s,mb5.1
FITZ **Fitzroy Crossi** 69.01 208 LR LR 06 01 58.4
comp=Z,84nm,20.2s,MS4.0,baz=350,slow=36
Z14A **Wintersburg** 69.04 63 ⇓P P 05 32 05.9 +0.7
baz=69
MVCO **Mesa Verde** 69.11 58 ⇑P P 05 32 06.1 +0.5
baz=69,SNR=7.1
MNK **Minsk** 69.23 329 *eP* P 05 32 02.0 -4.4
POO **Poona** 69.56 276⇑*iP* P 05 32 07.0 -1.4
comp=Z,60nm,1.0s,mb5.5
115A **Sonoran Desert** 69.93 63 ⇓P P 05 32 11.0 +0.3
baz=70
KONO **Kongsberg** 70.05 341 *eP* P 05 32 12.3 +0.9
KONO pmax pmax
comp=Z,38nm,1.0s,mb5.3
KAD **Karad** 70.17 274 *eP* P 05 32 13.0 +0.8
KAD AMb AMB 05 32 13.8
comp=Z,41nm,0.8s,mb5.4
116A **Eloy** 70.35 63 ⇑P P 05 32 14.2 +1.0
baz=70
SDCO **Great Sand Dun** 70.47 56 *eP* P 05 32 16.4 +2.4
comp=Z,27nm,1.7s,mb4.9
ECSD **EROS,Sioux Fal** 70.96 46 *eP* P 05 32 15.8 -1.2
comp=Z,43nm,1.6s,mb5.1

KIV **Kislovodsk** 71.00 314 *i P* P 05 32 18.1 +0.9
KIV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KIV **Kislovodsk** 71.00 314 *eP* P 05 32 18.5 +1.3
comp=Z,17nm,0.7s,mb5.1
TUC **Tucson** 71.09 63 *eP* P 05 32 20.3 +2.6
TUC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TUC **Tucson** 71.09 63 *eP* P 05 32 20.3 +2.6
comp=Z,6.8nm,1.2s,mb4.5
SUW **Suwalki** 71.21 332 *eP* P 05 32 17.5 -1.0
ZEI **Tsey** 71.26 313 *eP* P 05 32 18.8 0.0
ZEI pmax pmax
comp=Z,15nm,1.0s,mb4.9
GOA **Goa** 71.68 273 *ex* x 05 31 56.5
GOA AMb AMB 05 31 58.8
comp=Z,65nm,0.2s,mb6.2
AKASG **Malin Array Be** 71.76 326 P P 05 32 20.7 -1.1
comp=Z,10nm,0.4s,mb5.1,baz=34,slow=6.1,SNR=134
AKASG LR LR 06 05 42.9
comp=Z,220nm,19.3s,MS4.4,baz=35,slow=37
AKASG **Malin Array Be** 71.76 326 P P 05 32 20.7 -1.1
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKASG MLR MLR
comp=Z,220nm,19.3s
AKBB **Malin Array Si** 71.76 326 *eP* P 05 32 20.8 -1.0
LAZ **Ladron** 71.84 59 *eP* P 05 32 23.5 +1.2
ANMO **Albuquerque** 71.86 58 *eP* P 05 32 22.9 +0.5
AS31 **Alice Springs** 72.05 199 *eP* P 05 32 22.8 -0.7
ASAR **Alice Springs** 72.05 199 P P 05 32 23.2 -0.3
comp=Z,21nm,1.0s,mb5.0,baz=11,slow=5.6,SNR=109
ASAR LR LR 06 02 10.9
comp=Z,142nm,20.3s,MS4.2,baz=253,slow=34
ASPA **Alice Springs** 72.05 199 *eP* P 05 32 23.2 -0.3
GNI **Garni** 72.73 310*c i P* P 05 32 29.5 +1.9
GNI pmax pmax
comp=Z,57nm,1.7s
GNI **Garni** 72.73 310 *eP* P 05 32 29.6 +2.1
ANN **Anapa** 72.88 318 *eP* P 05 32 36.5 +8.0
ANN *e* 05 32 49.5
ANN *i* *PP pP 05 32 53.3 +17
ANN pmax pmax
comp=Z,71nm,1.4s,mb5.4
CBKS **Cedar Bluff** 72.91 51 *eP* P 05 32 30.5 +1.9
CBKS pmax pmax
comp=Z,48nm,1.5s,mb5.2
CBKS **Cedar Bluff** 72.91 51 *eP* P 05 32 30.5 +1.8
comp=Z,48nm,1.5s,mb5.2
SCHQ **Schefferville** 73.46 23 LR LR 06 06 25.2
comp=Z,217nm,20.6s,MS4.4,baz=264,slow=37
SCHQ **Schefferville** 73.46 23 *eP* P 05 32 33.9 +2.0
comp=Z,5.1nm,0.5s,mb4.7
SCIA **State Center** 73.99 45 *eP* P 05 32 36.8 +1.8
comp=Z,30nm,1.0s,mb5.2
SIM **Simferopol'** 74.28 320 *eP* P 05 32 37.4 +0.7
SIM pmax pmax
comp=Z,38nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,500nm,20.0s,MS4.8
KSU1 **Kansas State U** 74.36 49 *eP* P 05 32 38.1 +0.9
comp=Z,9.2nm,0.8s,mb4.8
LVV **L'vov** 74.41 329 *eP* P 05 32 37.0 -0.5
SEMD **Semdilli** 74.89 309 *eP* P 05 32 42.4 +2.1
KIS **Kishinev** 74.90 324 *eP* P 05 32 38.0 -2.3
KIS LRM 06 08 40.0
comp=Z,500nm,16.0s
KWP **Kalwaria** 75.04 329 *eP* P 05 32 41.6 +0.5
KWP **Kalwaria** 75.04 329 *eP* P 05 32 40.2 -0.9
KWP pmax pmax
comp=Z,120nm,1.1s,mb5.7
GDL2 **Guadalupe Moun** 75.04 59 *eP* P 05 32 44.2 +3.1
BSEG **Bad Segeberg** 75.05 338 *eP* P 05 32 40.3 -0.8
comp=Z,23nm,1.0s,mb5.1
BSEG **Bad Segeberg** 75.05 338 *eP* P 05 32 40.3 -0.8
BSEG pmax pmax
comp=Z,23nm,1.0s,mb5.1
CUKT **Cukurca** 75.46 309 *eP* P 05 32 44.5 +1.0
OJC **Ojcow** 75.54 331 *eP* P 05 32 43.9 -0.1
EZC **Erzincan** 75.56 313 *eP* P 05 32 47.1 +3.0
STHS **Stebnicka Huta** 75.73 330 *eP* P 05 32 45.3 +0.2
STHS *e* 05 32 58.8
STHS pmax pmax
comp=Z,16nm,0.8s,mb5.0
STHS **Stebnicka Huta** 75.73 330 *eP* P 05 32 45.3 +0.2
comp=Z,16nm,0.8s,mb5.0
STHS *e* 05 32 58.8
KOLS **Kolonicke sedl** 75.78 329 *eP* P 05 32 45.2 -0.2
KOLS *es*P sP 05 32 57.9 +1.5
BURAR **Bucovina Array** 75.80 327⇑*iP* P 05 32 45.4 -0.1
BURAR **Bucovina Array** 75.80 327 ⇑P P 05 32 45.4 -0.1
UZH **Uzhgorod** 76.03 329 *eP* P 05 32 46.2 -0.6
UZH pmax pmax
comp=Z,24nm,1.0s,mb5.1
NIE **Niedzica** 76.05 330 *eP* P 05 32 47.6 +0.7
CRVS **Cervenica-Dubn** 76.09 330 *eP* P 05 32 46.8 -0.3
KSP **Ksiaz** 76.12 334 *eP* P 05 32 47.4 +0.1
KSP **Ksiaz** 76.12 334 *eP* P 05 32 47.1 -0.2
NRDL **Niedersach Rie** 76.40 338 *eP* P 05 32 47.9 -1.0
comp=Z,16nm,0.9s,mb5.0
WMOK **Wichita Mounta** 76.41 54 *eP* P 05 32 48.6 -0.3
OKC **Ostrava-Krasne** 76.41 332 *eP* P 05 32 49.2 +0.3
OKC AMS AMS 06 12 00.0
comp=Z,400nm,18.3s
PTK **Pertek** 76.42 313 *eP* P 05 32 50.0 +1.0
UPC **Upice** 76.50 334 *eP* P 05 32 49.2 -0.2
DPC **Dobruska-Polom** 76.54 333 *eP* P 05 32 50.0 +0.3
CFR **Carcaliu** 76.65 324⇑*iP* P 05 32 51.2 +0.9
CFR **Carcaliu** 76.65 324 P P 05 32 51.6 +1.3
MORC **Moravsky Berou** 76.66 332⇑*iP* P 05 32 50.4 +0.1
MORC **Moravsky Berou** 76.66 332 P P 05 32 50.4 +0.1
MORC pmax pmax
comp=Z,28nm,1.0s,mb5.2
MORC **Moravsky Berou** 76.66 332 *eP* P 05 32 50.4 +0.1
comp=Z,28nm,1.0s,mb5.1
VRI **Vrincioaia** 76.66 325⇓*iP* P 05 32 51.7 +1.4
VRI **Vrincioaia** 76.66 325 P P 05 32 51.8 +1.4
CLL **Collm** 76.68 336 *eP* P 05 32 49.0 -1.5
comp=Z,40nm,0.9s,mb5.3
CLL **Collm** 76.68 336⇑*iP* P 05 32 49.9 -0.6
comp=Z,40nm,0.9s,mb5.3
CLL LmH 06 06 00.0
comp=N,200nm,20.9s
CLL LmH 06 06 00.0
comp=E,300nm,19.2s
CLL LmV 06 13 00.0
comp=Z,300nm,18.8s
KECS **Kecovo** 76.79 330 *eP* P 05 32 50.6 -0.5
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KECS **Kecovo** 76.79 330 *eP* P 05 32 50.6 -0.5
comp=Z,7.8nm,1.0s,mb4.6
BRG **Berggiesshubel** 76.80 335 *eP* P 05 32 49.8 -1.3
comp=Z,9.0nm,1.0s,mb4.7
BRG **Berggiesshubel** 76.80 335 *eP* P 05 32 50.8 -0.3
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRG MLR MLR
comp=N,196nm,14.9s,MS5.2
BRG MLR MLR
comp=E,1μm,19.1s,MS5.2
BRG MLR MLR
comp=Z,270nm,15.4s,MS4.7
BRG **Berggiesshubel** 76.80 335 *eP* P 05 32 50.8 -0.3
comp=Z,5.4nm,1.0s,mb4.4
BRG LR LR
comp=Z,270nm,15.4s,MS4.7
SVSK **Karacayir** 76.83 315 *eP* P 05 32 52.8 +1.5
PVCC **Panska Ves** 76.92 334 *eP* P 05 32 51.9 +0.1
PVCC AMS AMS 06 12 40.0
comp=Z,300nm,13.3s
CLZ **Clausthal** 76.92 337 *eP* P 05 32 51.3 -0.6
comp=Z,32nm,0.9s,mb5.2
CLZ **Clausthal** 76.92 337 *eP* P 05 32 51.3 -0.6
CLZ pmax pmax
comp=Z,32nm,0.9s,mb5.2
FBE **Freiberg** 76.93 335 *eP* P 05 32 50.8 -1.1
comp=Z,22nm,0.9s,mb5.1
HATD **Hatta, Dubai** 77.02 292 P P 05 32 53.5 +1.1
SNR=11
HARR **Harsova** 77.13 323⇓*iP* P 05 32 54.2 +1.2
HARR **Harsova** 77.13 323 P P 05 32 54.6 +1.6
MLR **Muntele Rosu** 77.28 325⇓*iP* P 05 32 54.6 +0.8
MLR **Muntele Rosu** 77.28 325 P P 05 32 55.0 +1.2
GTTG **Gvttingen** 77.30 337 *eP* P 05 32 53.1 -0.9

comp=Z,35nm,1.4s,mb5.1
VYHS **Vyhne** 77.34 331 *eP* P 05 32 54.2 0.0
VYHS pmax pmax
comp=Z,11nm,1.0s,mb4.7
VYHS **Vyhne** 77.34 331 *eP* P 05 32 54.2 0.0
comp=Z,11nm,1.0s,mb4.7
MALT **Malatya** 77.35 313⇑*iP* P 05 32 56.0 +1.8
MALT **Malatya** 77.35 313 P P 05 32 55.9 +1.7
MALT pmax pmax
comp=Z,49nm,1.2s,mb5.3
VRAC **Vranov** 77.37 333⇑*iP* P 05 32 54.6 +0.3
VRAC **Vranov** 77.37 333 P P 05 32 54.8 +0.4
PRU **Pruhonice** 77.40 334 *eP* P 05 32 54.4 -0.1
PRU AMS AMS 06 10 40.0
comp=Z,300nm,16.5s
PSZ **Piszkesteto** 77.48 330⇑*eP* P 05 32 55.3 +0.3
PSZ **Piszkesteto** 77.48 330⇑*iP* P 05 32 55.1 +0.1
PSZ **Piszkesteto** 77.48 330 P P 05 32 54.6 -0.4
PSZ pmax pmax
comp=Z,23nm,1.0s,mb5.1
PSZ **Piszkesteto** 77.48 330 *eP* P 05 32 54.6 -0.4
comp=Z,23nm,1.0s,mb5.1
TANN **Tannenbergstha** 77.64 336 *eP* P 05 32 55.0 -0.8
comp=Z,5.0nm,1.0s,mb4.4
WERD **Werda** 77.65 336 *eP* P 05 32 55.1 -0.8
comp=Z,11nm,1.0s,mb4.7
MOX **Moxa** 77.67 336 *eP* P 05 32 55.1 -0.9
comp=Z,19nm,1.0s,mb5.0
MOX **Moxa** 77.67 336 *eP* P 05 32 55.7 -0.3
comp=Z,35nm,1.5s,mb5.1
MOX pmax pmax
comp=Z,200nm,20.0s
MOX **Moxa** 77.67 336 *eP* P 05 32 55.7 -0.3
MOX pmax pmax
comp=Z,35nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.4
VOIR 77.67 325⇓*iP* P 05 32 56.6 +0.5
VOIR 77.67 325 ⇓P P 05 32 56.6 +0.5
WTSB **Winterswijk** 77.72 340 *eP* P 05 32 55.9 -0.4
comp=Z,30nm,1.1s,mb5.2
GUNZ **Gunzen** 77.72 336 *eP* P 05 32 55.6 -0.7
comp=Z,14nm,0.9s,mb4.9
TREC **Trest** 77.73 333 *eP* P 05 32 54.6 -1.7
TREC AMS AMS 06 11 20.0
comp=Z,600nm,17.8s
WERN **Wernitzgruen** 77.77 336 *eP* P 05 32 55.9 -0.7
comp=Z,18nm,1.0s,mb5.0
URFA **Urfa** 77.82 312 *eP* P 05 32 58.3 +1.4
CCM **Cathedral Cave** 77.90 47 *eP* P 05 32 55.2 -2.1
CCM pmax pmax
comp=Z,38nm,1.7s,mb5.0
CCM **Cathedral Cave** 77.90 47 *eP* P 05 32 55.2 -2.1
comp=Z,38nm,1.7s,mb5.0
UBBA **Unterbreizbach** 77.95 337 *eP* P 05 32 56.6 -1.0
comp=Z,9.0nm,1.0s,mb4.7
BUG **Bochum--Univer** 78.09 339 *eP* P 05 32 57.4 -0.9
comp=Z,32nm,1.1s,mb5.2
MANZ **Manzenberg** 78.12 336 *eP* P 05 32 57.9 -0.6
comp=Z,13nm,1.1s,mb4.8
BUD **Budapest** 78.15 330⇓*eP* P 05 32 59.6 +0.9
ZST **Bratislava** 78.17 332 *eP* P 05 32 59.4 +0.6
ZST pmax pmax
comp=Z,16nm,0.9s,mb5.0
ZST MLR MLR
comp=Z,300nm,19.0s,MS4.6
ZST **Bratislava** 78.17 332 *eP* P 05 32 59.4 +0.6
comp=Z,16nm,0.9s,mb5.0
ZST LR LR
comp=Z,300nm,19.0s,MS4.6
ROTZ **Rotzenmuhle** 78.29 335 *eP* P 05 32 59.1 -0.4
comp=Z,16nm,1.0s,mb4.9
KHC **Kasperske Hory** 78.45 334 *eP* P 05 33 00.5 +0.1
KHC AMS AMS 06 10 50.0
comp=Z,400nm,18.1s
GZR **Gura Zlata** 78.58 327⇓*iP* P 05 33 01.1 0.0
GZR **Gura Zlata** 78.58 327 P P 05 33 01.2 +0.1
BR131 **Keskin Array S** 78.59 317 *eP* P 05 33 02.1 +0.9
BRTR **Keskin Array B** 78.59 317 P P 05 33 01.8 +0.6
comp=Z,16nm,1.0s,mb4.9,baz=58,slow=3.1,SNR=38
BRTR **Keskin Array B** 78.59 317 P P 05 33 01.8 +0.6
BRTR pmax pmax
comp=Z,16nm,1.0s
GRA1 **Grafenberg Arr** 78.64 336 *eP* P 05 33 01.1 -0.3
comp=Z,35nm,0.9s,mb5.3
GRA1 LR LR
comp=Z,200nm,18.6s,MS4.5
GRF **Grafenberg Arr** 78.64 336 *eP* P 05 33 01.1 -0.3
comp=Z,35nm,0.9s,mb5.3
GRF *e*L 06 10 16.0
comp=Z,209nm,18.6s
GRF **Grafenberg Arr** 78.64 336 *eP* P 05 33 01.1 -0.3
GRF pmax pmax
comp=Z,35nm,0.9s,mb5.3
GRF MLR MLR
comp=Z,200nm,18.6s,MS4.5
GRF **Grafenberg Arr** 78.64 336 *eP* P 05 33 01.1 -0.3
GRF pmax pmax
comp=Z,35nm,0.9s,mb5.3
GRF MLR MLR
comp=Z,200nm,18.6s,MS4.5
WET **Wettzell** 78.65 335 *eP* P 05 33 01.1 -0.4
comp=Z,20nm,1.0s,mb5.0
WET **Wettzell** 78.65 335 *eP* P 05 33 01.1 -0.4
WET pmax pmax
comp=Z,20nm,1.0s,mb5.0
GEC2 **GERESS Array S** 78.67 334 *eP* P 05 33 00.7 -0.9
comp=Z,7.0nm,0.8s,mb4.6
GEC2 **GERESS Array S** 78.67 334 *eP* P 05 33 00.7 -0.9
GEC2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GERES **GERESS Array B** 78.67 334 *eP* P 05 33 01.2 -0.4
comp=Z,6.2nm,0.8s,mb4.6,baz=34,slow=5.0,SNR=37
GERES LR LR 06 11 17.7
comp=Z,273nm,18.1s,MS4.6,baz=184,slow=38
GERES **GERESS Array B** 78.67 334 P P 05 33 01.2 -0.4
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,273nm,18.1s
KMRS **Kahramanmaras** 78.74 313 *eP* P 05 33 03.4 +1.5
STKA **Stephens Creek** 78.77 190 *eP* P 05 33 01.0 -1.1
comp=Z,5.3nm,0.9s,mb4.5
STKA **Stephens Creek** 78.77 190 P P 05 33 00.6 -1.6
comp=Z,5.9nm,0.9s,mb4.5,baz=11,slow=6.2,SNR=9.3
UMR **Umm Al-Rimmam** 78.80 301 *eP* P 05 33 03.1 +0.8
UMR AMb AMB 05 33 05.1
comp=Z,132nm,0.7s,mb6.0
CONA **Conrad Observa** 78.81 332⇑*iP* P 05 33 01.2 -1.1
comp=Z,11nm,0.7s,mb4.9,SNR=6.6
BZS **Buzias** 78.83 328⇓*iP* P 05 33 02.0 -0.4
BZS **Buzias** 78.83 328 P P 05 33 02.5 0.0
MIB **Mutribah** 78.84 302 *eP* P 05 33 03.4 +0.9
MIB AMb AMB 05 33 05.3
comp=Z,156nm,0.7s,mb6.1
ANTO **Ankara** 78.88 317⇑*iP* P 05 33 03.8 +1.1
ANTO **Ankara** 78.88 317 P P 05 33 03.6 +0.9
ANTO pmax pmax
comp=Z,58nm,1.2s,mb5.4
ANTO **Ankara** 78.88 317 P P 05 33 04.6 +1.9
TNS **Taunus Mts** 78.91 338 *eP* P 05 33 02.2 -0.7
comp=Z,22nm,0.9s,mb5.1
TNS **Taunus Mts** 78.91 338 *eP* P 05 33 02.2 -0.7
TNS pmax pmax
comp=Z,22nm,0.9s,mb5.1
JCT **Junction City** 78.96 57 *eP* P 05 33 03.1 -0.1
HGN **Heimansgroeve** 79.04 340 *eP* P 05 33 03.2 -0.4
comp=Z,33nm,1.1s,mb5.2
BEBN **Eben Emael** 79.07 340 P P 05 33 04.9 +1.2
MEM **Membach** 79.16 339 P P 05 33 04.4 +0.1
SIUC **Southern Illin** 79.18 46 *eP* P 05 33 04.1 -0.3
comp=Z,19nm,0.9s,mb5.0
QRN **Al-Qurain** 79.28 300 *eP* P 05 33 06.0 +1.1
QRN AMb AMB 05 33 07.7
comp=Z,105nm,0.5s,mb6.0
NAY **Al-Naaiem** 79.31 301 *eP* P 05 33 05.8 +0.7
NAY AMb AMB 05 33 07.9
comp=Z,59nm,1.2s,mb5.4
RDF **Al-Radifah** 79.36 301 *eP* P 05 33 06.3 +0.9
RDF AMb AMB 05 33 06.9
comp=Z,91nm,1.0s,mb5.7
TOD **Tromm** 79.38 337 *eP* P 05 33 05.3 -0.1
PKSM **Moragy** 79.38 330⇑*iP* P 05 33 04.6 -0.9
PKSM **Moragy** 79.38 330 P P 05 33 04.7 -0.7
MOA **Molln** 79.39 333⇑*iP* P 05 33 05.5 0.0
comp=Z,15nm,0.9s,mb4.9,SNR=6.7

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BCLA Clavier          79.51 340  P          P     05 33 05.8 -0.4
ARSA Arzberg          79.52 332⇑iP         P     05 33 05.9 -0.3
     comp=Z,8.0nm,0.8s,mb4.7
SNF  Seneffe          79.67 340  P          P     05 33 08.2 +1.2
GIVF Givet            79.92 340  eP         P     05 33 07.9 -0.5
DOU  Dourbes          79.98 340  P          P     05 33 08.4 -0.3
BAIF Baives           80.10 340  eP         P     05 33 08.3 -1.1
     comp=Z,29nm,1.1s,mb4.8
BAIF Baives           80.10 340  eP         P     05 33 08.3 -1.1
BAIF                                  pmax  pmax
     comp=Z,14nm,1.1s,mb4.8
BAIF Baives           80.10 340  eP         P     05 33 08.3 -1.1
     comp=Z,14nm,1.1s,mb4.8
PERS Pernice          80.19 332  eP         P     05 33 09.8 -0.1
WCI  Wyandotte Cave   80.19  44  eP         P     05 33 08.6 -1.3
WCI                                   pmax  pmax
     comp=Z,15nm,0.9s,mb4.9
WCI  Wyandotte Cave   80.19  44  eP         P     05 33 08.6 -1.3
     comp=Z,15nm,0.9s,mb4.9
LANF Langenberg       80.21 338  eP         P     05 33 09.8 -0.2
GROS Grobnik          80.22 332  eP         P     05 33 09.8 -0.3
FORT Forrest          80.27 202  eP         P     05 33 09.6 -0.7
     comp=Z,26nm,0.9s,mb5.2
KBA  Koelnbreinsper   80.36 333  i P        P     05 33 11.4 +0.6
     comp=Z,47nm,0.8s,mb5.5,SNR=24
KBA  Koelnbreinsper   80.36 333  i P        P     05 33 11.4 +0.7
KBA                                   pmax  pmax
     comp=Z,47nm,0.8s,mb5.5
WATA Walderalm        80.66 335⇑iP         P     05 33 12.8 +0.4
     comp=Z,36nm,1.1s,mb5.2
WATA Walderalm        80.66 335⇑iP         P     05 33 12.8 +0.4
WATA                                  pmax  pmax
     comp=Z,36nm,1.1s,mb5.2
BFO  Black Forest     80.67 337  P          P     05 33 11.3 -1.1
     comp=Z,142nm,1.0s,mb5.8,SNR=7.4
BFO  Black Forest     80.67 337  eP         P     05 33 11.7 -0.7
     comp=Z,30nm,1.1s,mb5.1
GCIS Gornji Cirnik    80.70 331  eP         P     05 33 12.1 -0.5
WTTA Wattenberg       80.71 335⇑iP         P     05 33 13.3 +0.6
     comp=Z,46nm,0.9s,mb5.4,SNR=16
DIVS Divcibare        80.72 328  i P        P     05 33 12.2 -0.5
PDKS Podkum           80.74 332  eP         P     05 33 13.1 +0.3
VTS  Vitosha          80.78 325⇑iP         P     05 33 13.2 +0.2
VTS  Vitosha          80.78 325  P          P     05 33 13.3 +0.3
MOTA Moosalm          80.79 335⇑iP         P     05 33 13.4 +0.3
     comp=Z,40nm,1.1s,mb5.3,SNR=18
MOTA Moosalm          80.79 335⇑iP         P     05 33 13.4 +0.3
MOTA                                  pmax  pmax
     comp=Z,40nm,1.1s,mb5.3
TAOE Nuku Hiva Isla   80.79 113  eLR        LR    05 57 21.0
     comp=Z,722nm,21.8s
CRES Cresnjev         80.80 332  i P        P     05 33 12.6 -0.5
WLS  Welschbruch      80.85 338  eP         P     05 33 13.3 -0.1
SQTA Sankt Quirin     80.87 335⇑iP         P     05 33 14.0 +0.5
     comp=Z,25nm,1.0s,mb5.1,SNR=9.6
SQTA Sankt Quirin     80.87 335⇑iP         P     05 33 14.0 +0.5
SQTA                                  pmax  pmax
     comp=Z,25nm,1.0s,mb5.1
CDF  Champ du Feu     80.87 338⇑iP         P     05 33 13.2 -0.3
     comp=Z,60nm,1.1s,mb5.1
CDF  Champ du Feu     80.87 338⇑iP         P     05 33 13.2 -0.3
CDF                                   pmax  pmax
     comp=Z,30nm,1.1s,mb5.1
CDF  Champ du Feu     80.87 338⇑iP         P     05 33 13.2 -0.3
     comp=Z,30nm,1.1s,mb5.1
NATX Nacogdoches      80.92  53  eP         P     05 33 16.1 +2.3
PTCC Patocco-Chiusa   80.95 333  P          P     05 33 13.2 -0.8
ECH  Echery           81.08 338  eP         P     05 33 14.3 -0.3
WVT  Waverly          81.11  46  P          P     05 33 14.0 -0.8
WVT                                   pmax  pmax
     comp=Z,26nm,1.5s,mb4.9
WVT  Waverly          81.11  46  eP         P     05 33 13.4 -1.3
     comp=Z,26nm,1.5s,mb4.9
BBLS Bajina Basta -   81.14 328  i P        P     05 33 15.6 +0.7
FELD Feldberg im Sc   81.17 337  eP         P     05 33 14.8 -0.3
DAVA Damuels          81.19 336⇑iP         P     05 33 15.5 +0.3
     comp=Z,19nm,0.8s,mb5.0
MEZF Maizieres J'vi   81.35 339  eP         P     05 33 15.9 -0.2
     comp=Z,98nm,1.1s,mb5.3
MEZF Maizieres J'vi   81.35 339  eP         P     05 33 15.9 -0.2
     comp=Z,98nm,1.1s,mb5.7
THEF They Montfort    81.38 339  eP         P     05 33 15.9 -0.3
MOF  Molkenrain       81.43 338  eP         P     05 33 16.1 -0.4
HAU  Haudompre        81.49 338⇑iP         P     05 33 16.3 -0.5
     comp=Z,42nm,1.0s,mb5.0
HAU                                   eMLR  MLR
     comp=Z,301nm,17.0s
HAU  Haudompre        81.49 338⇑iP         P     05 33 16.3 -0.5
HAU                                   pmax  pmax
     comp=Z,21nm,1.0s,mb5.0
HAU                                   MLR   MLR
     comp=Z,300nm,17.0s,MS4.7
HAU  Haudompre        81.49 338⇑iP         P     05 33 16.3 -0.5
     comp=Z,21nm,1.0s,mb5.0
HAU                                   LR    LR
     comp=Z,300nm,17.0s,MS4.7
HINF Hinteralfeld     81.53 338⇑iP         P     05 33 16.4 -0.6
     comp=Z,30nm,1.1s,mb4.8
HINF Hinteralfeld     81.53 338⇑iP         P     05 33 16.4 -0.6
HINF                                  pmax  pmax
     comp=Z,15nm,1.1s,mb4.8
HINF Hinteralfeld     81.53 338⇑iP         P     05 33 16.4 -0.6
     comp=Z,15nm,1.1s,mb4.8
BBS  Basel-Blauen     81.68 337  eP         P     05 33 17.6 -0.2
BRMO Bormio           81.79 335  P          P     05 33 19.4 +1.0
STIP Stip             81.95 325  eP         P     05 33 15.9 -3.3
LOMF Lomont           81.97 338  eP         P     05 33 19.5 +0.2
PPT  Papeete          81.97 126  eLR        LR    05 57 48.9
     comp=Z,402nm,24.2s,baz=325
PPT  Papeete          81.97 126  LR         LR    06 01 13.1
     comp=Z,261nm,20.7s,MS4.6,baz=287,slow=30
SKO  Skopje           82.00 326  eP         P     05 33 16.1 -3.4
VAY  Valandovo        82.11 325  eP         P     05 33 16.4 -3.7
FLN  La Foliniere     82.35 343⇑iP         P     05 33 20.7 -0.6
     comp=Z,53nm,1.0s,mb5.1
FLN                                   eMLR  MLR
     comp=Z,325nm,18.5s
FLN  La Foliniere     82.35 343⇑iP         P     05 33 20.7 -0.6
FLN                                   pmax  pmax
     comp=Z,27nm,1.0s,mb5.1
FLN                                   MLR   MLR
     comp=Z,330nm,18.5s,MS4.7
FLN  La Foliniere     82.35 343⇑iP         P     05 33 20.7 -0.6
     comp=Z,27nm,1.0s,mb5.1
FLN                                   LR    LR
     comp=Z,330nm,18.5s,MS4.7
LDF  La Druitiere     82.44 343⇑iP         P     05 33 21.1 -0.7
     comp=Z,25nm,1.0s,mb4.8
LDF  La Druitiere     82.44 343⇑iP         P     05 33 21.1 -0.7
LDF                                   pmax  pmax
     comp=Z,12nm,1.0s,mb4.8
LDF  La Druitiere     82.44 343⇑iP         P     05 33 21.1 -0.7
     comp=Z,12nm,1.0s,mb4.8
GRR  Gorron           82.78 343⇑iP         P     05 33 23.1 -0.5
     comp=Z,64nm,1.0s,mb5.3
GRR  Gorron           82.78 343⇑iP         P     05 33 23.1 -0.5
GRR                                   pmax  pmax
     comp=Z,32nm,1.0s,mb5.3
GRR  Gorron           82.78 343⇑iP         P     05 33 23.1 -0.5
     comp=Z,32nm,1.0s,mb5.3
LOR  Lormes           82.79 340⇑iP         P     05 33 23.2 -0.4
     comp=Z,40nm,1.0s,mb5.1
LOR                                   eMLR  MLR
     comp=Z,282nm,18.5s
LOR  Lormes           82.79 340⇑iP         P     05 33 23.2 -0.4
LOR                                   pmax  pmax
     comp=Z,20nm,1.0s,mb5.1
LOR                                   MLR   MLR
     comp=Z,280nm,18.5s,MS4.7
LOR  Lormes           82.79 340⇑iP         P     05 33 23.2 -0.4
     comp=Z,20nm,1.0s,mb5.1
LOR                                   LR    LR
     comp=Z,280nm,18.5s,MS4.7
CABF La Chapelle      82.85 338⇑iP         P     05 33 23.9  0.0
OHR  Ohrid            82.99 326  eP         P     05 33 21.0 -3.6
SSF  Saint Saulge     83.07 340⇑iP         P     05 33 24.7 -0.4
     comp=Z,25nm,0.9s,mb4.9
SSF  Saint Saulge     83.07 340⇑iP         P     05 33 24.7 -0.4
SSF                                   pmax  pmax
     comp=Z,12nm,0.9s,mb4.9
SSF  Saint Saulge     83.07 340⇑iP         P     05 33 24.7 -0.4
     comp=Z,12nm,0.9s,mb4.9
HYF  Humbligny        83.08 340  eP         P     05 33 25.2 +0.1
SGMF Saint Gilles     83.24 344⇑iP         P     05 33 25.6 -0.4
     comp=Z,51nm,0.9s,mb5.2
SGMF Saint Gilles     83.24 344⇑iP         P     05 33 25.6 -0.4
SGMF                                  pmax  pmax
     comp=Z,26nm,0.9s,mb5.3
SGMF Saint Gilles     83.24 344⇑iP         P     05 33 25.6 -0.4
     comp=Z,26nm,0.9s,mb5.2
ROSF Rostrenen        83.30 344⇑iP         P     05 33 25.9 -0.3
     comp=Z,65nm,1.0s,mb5.3
ROSF Rostrenen        83.30 344⇑iP         P     05 33 25.9 -0.3
ROSF                                  pmax  pmax
     comp=Z,32nm,1.0s,mb5.3
ROSF Rostrenen        83.30 344⇑iP         P     05 33 25.9 -0.3
     comp=Z,32nm,1.0s,mb5.3
AVF  Avril sur Loir   83.36 340⇑iP         P     05 33 26.4 -0.2
     comp=Z,80nm,1.1s,mb5.4
AVF  Avril sur Loir   83.36 340⇑iP         P     05 33 26.4 -0.2
AVF                                   pmax  pmax
     comp=Z,40nm,1.1s,mb5.4
AVF  Avril sur Loir   83.36 340⇑iP         P     05 33 26.4 -0.2
     comp=Z,40nm,1.1s,mb5.4
SMF  Signal de Mont   83.38 339⇑iP         P     05 33 26.5 -0.2
     comp=Z,165nm,1.1s,mb5.7
SMF  Signal de Mont   83.38 339⇑iP         P     05 33 26.5 -0.2
SMF                                   pmax  pmax
     comp=Z,82nm,1.1s,mb5.7
SMF  Signal de Mont   83.38 339⇑iP         P     05 33 26.5 -0.2
     comp=Z,82nm,1.1s,mb5.7
TKL  Tuckaleechee C   83.45  43  LR         LR    06 09 04.7
     comp=Z,300nm,19.4s,MS4.7,baz=168,slow=35
WHFO Wadi Hawf        83.50 289  P          P     05 33 27.8 +0.6
     SNR=9.2
FSSB Fossombrone      83.56 332  P          P     05 33 28.0 +0.4
     comp=Z,4.4nm,0.6s,mb4.8
SFI  Santa Sofia      83.67 333  P          P     05 33 29.2 +1.1
QUIF Quistinic        83.68 344  eP         P     05 33 27.7 -0.5
LPL  La Plagne        83.69 337⇑iP         P     05 33 28.9 +0.7
     comp=Z,38nm,1.1s,mb5.1
LPL  La Plagne        83.69 337⇑iP         P     05 33 28.9 +0.7
LPL                                   pmax  pmax
     comp=Z,19nm,1.1s,mb5.1
LPL  La Plagne        83.69 337⇑iP         P     05 33 28.9 +0.7
     comp=Z,19nm,1.1s,mb5.1
LPG  La Plagne        83.70 337⇑iP         P     05 33 29.1 +0.8
     comp=Z,32nm,0.9s,mb5.1
LPG  La Plagne        83.70 337⇑iP         P     05 33 29.1 +0.8
LPG                                   pmax  pmax
     comp=Z,16nm,0.9s,mb5.2
LPG  La Plagne        83.70 337⇑iP         P     05 33 29.1 +0.8
     comp=Z,16nm,0.9s,mb5.1
BGF  Bois d'Agland    83.70 340  eP         P     05 33 28.1 -0.2
     comp=Z,45nm,1.2s,mb5.2
BGF  Bois d'Agland    83.70 340  eP         P     05 33 28.1 -0.2
BGF                                   pmax  pmax
     comp=Z,22nm,1.2s,mb5.2
BGF  Bois d'Agland    83.70 340  eP         P     05 33 28.1 -0.2
     comp=Z,22nm,1.2s,mb5.2
VMG  Vicchio          83.71 333  P          P     05 33 29.8 +1.4
SNTG Esanatoglia      83.90 332  P          P     05 33 29.7 +0.4
     comp=Z,1.8nm,0.2s,mb4.8
MURB Monte Urbino     84.03 332  P          P     05 33 31.6 +1.6
     comp=Z,36nm,0.8s,mb5.6
PLDF La Plantade      84.07 339  eP         P     05 33 30.3 +0.1
TCF  Toulx Ste Croi   84.11 340⇑iP         P     05 33 30.2 -0.2
     comp=Z,39nm,1.1s,mb5.2
TCF  Toulx Ste Croi   84.11 340⇑iP         P     05 33 30.2 -0.2
TCF                                   pmax  pmax
     comp=Z,20nm,1.1s,mb5.2
TCF  Toulx Ste Croi   84.11 340⇑iP         P     05 33 30.2 -0.2
     comp=Z,20nm,1.1s,mb5.2
AGO  Saint Agoulin    84.11 340  eP         P     05 33 31.1 +0.7
BNI  Bardonecchia     84.13 337  P          P     05 33 31.6 +1.1
BNI                                   pmax  pmax
     comp=Z,17nm,1.1s,mb5.1
BNI  Bardonecchia     84.13 337  eP         P     05 33 31.6 +1.1
     comp=Z,17nm,1.1s,mb5.1
ABTO Aybut            84.22 289  P          P     05 33 32.1 +1.2
     SNR=5.6
MFF  Saint Martin d   84.33 342⇑iP         P     05 33 31.4 -0.1
     comp=Z,8.8nm,0.8s,mb4.7
MFF  Saint Martin d   84.33 342⇑iP         P     05 33 31.4 -0.1
MFF                                   pmax  pmax
     comp=Z,4.0nm,0.8s,mb4.6
MFF  Saint Martin d   84.33 342⇑iP         P     05 33 31.4 -0.1
     comp=Z,4.4nm,0.8s,mb4.6
MBDF Montbardon       84.41 337⇑iP         P     05 33 31.8 -0.1
ORIF Oris-en-Rattie   84.47 337⇑iP         P     05 33 32.7 +0.5
     comp=Z,52nm,1.0s,mb5.3
ORIF                                  eMLR  MLR
     comp=Z,258nm,17.5s
ORIF Oris-en-Rattie   84.47 337⇑iP         P     05 33 32.7 +0.5
ORIF                                  pmax  pmax
     comp=Z,26nm,1.0s,mb5.3
ORIF Oris-en-Rattie   84.47 337⇑iP         P     05 33 32.7 +0.5
     comp=Z,26nm,1.0s,mb5.3
AQU  L'Aquila         84.56 331  P          P     05 33 33.7 +1.0
AQU                                   pmax  pmax
     comp=Z,26nm,0.9s,mb5.4
AQU  L'Aquila         84.56 331  eP         P     05 33 33.7 +1.0
VIVF Saint-Julien-l   84.84 338  eP         P     05 33 34.4 +0.3
     comp=Z,79nm,1.3s,mb5.4
VIVF Saint-Julien-l   84.84 338  eP         P     05 33 34.4 +0.3
VIVF                                  pmax  pmax
     comp=Z,40nm,1.3s,mb5.4
VIVF Saint-Julien-l   84.84 338  eP         P     05 33 34.4 +0.3
     comp=Z,40nm,1.3s,mb5.4
SBF  Sospel           85.02 336  eP         P     05 33 34.4 -0.6
     comp=Z,87nm,1.1s,mb5.5
SBF  Sospel           85.02 336  eP         P     05 33 34.4 -0.6
SBF                                   pmax  pmax
     comp=Z,44nm,1.1s,mb5.5
SBF  Sospel           85.02 336  eP         P     05 33 34.4 -0.6
     comp=Z,44nm,1.1s,mb5.5
RJF  Les Rejaudoux    85.19 340  eP         P     05 33 35.1 -0.8
     comp=Z,36nm,1.3s,mb5.0
RJF                                   eMLR  MLR
     comp=Z,332nm,20.5s
RJF  Les Rejaudoux    85.19 340  eP         P     05 33 35.1 -0.8
RJF                                   pmax  pmax
     comp=Z,18nm,1.3s,mb5.0
RJF                                   MLR   MLR
     comp=Z,330nm,20.5s,MS4.7
RJF  Les Rejaudoux    85.19 340  eP         P     05 33 35.1 -0.8
     comp=Z,18nm,1.3s,mb5.0
RJF                                   LR    LR
     comp=Z,330nm,20.5s,MS4.7
CAF  Calviac          85.42 340  eP         P     05 33 36.8 -0.2
     comp=Z,22nm,1.1s,mb4.9
CAF  Calviac          85.42 340  eP         P     05 33 36.8 -0.2
CAF                                   pmax  pmax
     comp=Z,11nm,1.1s,mb4.9
CAF  Calviac          85.42 340  eP         P     05 33 36.8 -0.2
     comp=Z,11nm,1.1s,mb4.9
SMRF Simiane la Rot   85.43 337  eP         P     05 33 36.3 -0.7
     comp=Z,44nm,1.1s,mb5.2
SMRF Simiane la Rot   85.43 337  eP         P     05 33 36.3 -0.7
     comp=Z,44nm,1.1s,mb5.5
FRF  La Foret Royal   85.52 336  eP         P     05 33 37.1 -0.4
LFF  La Frestale      85.72 341  eP         P     05 33 37.6 -0.9
     comp=Z,26nm,0.9s,mb5.2
LFF  La Frestale      85.72 341  eP         P     05 33 37.6 -0.9
LFF                                   pmax  pmax
     comp=Z,13nm,0.9s,mb5.2
LFF  La Frestale      85.72 341  eP         P     05 33 37.6 -0.9
     comp=Z,13nm,0.9s,mb5.2
LMR  La Mourre        85.77 336⇑iP         P     05 33 38.6 -0.1
     comp=Z,69nm,1.0s,mb5.5
LMR  La Mourre        85.77 336⇑iP         P     05 33 38.6 -0.1
LMR                                   pmax  pmax
     comp=Z,35nm,1.0s,mb5.5
LMR  La Mourre        85.77 336⇑iP         P     05 33 38.6 -0.1
     comp=Z,34nm,1.0s,mb5.5
PGF  Pioggiola        85.77 334  eP         P     05 33 38.3 -0.4
     comp=Z,27nm,1.1s,mb5.1
PGF  Pioggiola        85.77 334  eP         P     05 33 38.3 -0.4
PGF                                   pmax  pmax
     comp=Z,13nm,1.1s,mb5.1
PGF  Pioggiola        85.77 334  eP         P     05 33 38.3 -0.4
     comp=Z,13nm,1.1s,mb5.1
TBI  Tubuai           86.70 129  eLR        LR    05 59 58.7
     comp=Z,265nm,25.8s,baz=322
MTLF Montolieu        86.88 339  eP         P     05 33 43.4 -0.8
     comp=Z,16nm,0.9s,mb4.9
MTLF Montolieu        86.88 339  eP         P     05 33 43.4 -0.8
MTLF                                  pmax  pmax
     comp=Z,8.0nm,0.9s,mb5.0
MTLF Montolieu        86.88 339  eP         P     05 33 43.4 -0.8
     comp=Z,8.2nm,0.9s,mb5.0
EPF  Esparros         87.62 340  eP         P     05 33 47.3 -0.5
ESDC Sonseca Array    91.77 343  P          P     05 34 05.6 -1.6
     comp=Z,3.7nm,0.9s,mb4.7,baz=8.7,slow=3.9,SNR=13
KEST Kesra            91.89 331  P          P     05 34 06.3 -1.4
     comp=Z,2.8nm,1.0s,mb4.6,baz=96,slow=1.8,SNR=7.2
KEST                                  LR    LR    06 19 58.5
     comp=Z,87nm,19.2s,MS4.2,baz=289,slow=38
RKT  Rikitea          94.82 119  eLR        LR    06 03 48.1
     comp=Z,232nm,28.2s
TORD Torodi Ar. Bea  115.31 329  PKP        PKPdf 05 39 40.2 -0.8
     comp=Z,1.2nm,0.7s,baz=26,slow=2.1,SNR=6.2
TORD                                  PP    PP    05 40 40.3 -1.5
     comp=Z,1.6nm,0.9s,baz=0.4,slow=6.0,SNR=4.5
DBIC Dimbokro        123.54 334  PKP        PKPdf 05 39 55.9 -1.0
     comp=Z,7.5nm,0.9s,baz=297,slow=2.4,SNR=3.5
DBIC Dimbokro        123.54 334  PKIKP      PKPdf 05 39 55.9 -0.9
DBIC                                  pmax  pmax
     comp=Z,8.0nm,0.9s
VNDA Vanda           123.91 178  PKP        PKPdf 05 39 54.5 -3.0
     comp=Z,0.9nm,0.8s,baz=308,slow=5.3,SNR=7.5
VNDA Vanda           123.91 178  PKIKP      PKPdf 05 39 54.5 -3.0
VNDA                                  pmax  pmax
     comp=Z,1.0nm,0.8s
VNDA Vanda           123.91 178  PKP        PKPdf 05 39 54.5 -3.1
LSZ  Lusaka          124.89 286  ePKIKP     PKPdf 05 40 00.2 +0.8
MAW  Mawson          132.08 211  PKP        PKPdf 05 40 10.3 -2.8
     comp=Z,2.7nm,1.0s,baz=326,slow=2.2,SNR=5.8
MAW  Mawson          132.08 211  PKIKP      PKPdf 05 40 10.3 -2.8
MAW                                   pmax  pmax
     comp=Z,3.0nm,1.0s
LPAZ La Paz          134.35  63  PKP        PKPdf 05 40 18.1 +0.8
     comp=Z,0.8nm,0.8s,baz=292,slow=9.3,SNR=3.9
LPAZ La Paz          134.35  63  PKIKP      PKPdf 05 40 18.2 +0.8
LPAZ                                  pmax  pmax
     comp=Z,1.0nm,0.8s
QSPA South Pole Qui  136.29 180  eP         PKPdf 05 40 19.5 -1.5
SIV  San Ignacio     138.28  55  PKP        PKPdf 05 40 24.1 -0.6
     comp=Z,2.6nm,1.0s,baz=308,slow=2.5,SNR=7.7
BDFB Brasilia        144.45  37  PKP        PKPdf 05 40 34.6 -1.1
     comp=Z,3.0nm,0.9s,baz=137,slow=8.5,SNR=3.7
BDFB Brasilia        144.45  37  ePKPdf     PKPdf 05 40 29.5 -6.2
BDFB                                  PKP   PKPdf 05 40 34.6 -1.1
CFAA Coronel Fontan  144.94  80  PKP        PKPdf 05 40 33.8 -2.8
     comp=Z,0.7nm,0.7s,baz=262,slow=2.4,SNR=12
PLCA Paso Flores     148.10  96  PKPbc      PKPbc 05 40 44.0 -1.1
     comp=Z,8.1nm,0.9s,baz=273,slow=3.6,SNR=14
PLCA Paso Flores     148.10  96  PKP2       PKPab 05 40 44.1 -3.9
PLCA                                  pmax  pmax
     comp=Z,8.0nm,0.9s
CPUP Villa Florida   148.49  61  PKPbc      PKPbc 05 40 45.1 -1.0
     comp=Z,7.3nm,0.9s,baz=330,slow=3.1,SNR=16
CPUP Villa Florida   148.49  61  PKP2       PKPab 05 40 45.1 -4.4
CPUP                                  pmax  pmax
     comp=Z,7.0nm,0.9s
CPUP Villa Florida   148.49  61  ePKPbc     PKPbc 05 40 45.1 -1.0
NVL  N'lazarevskaya  149.49 204⇑iPKHKP     05 40 42.4
NVL                                   pmax  pmax
     comp=Z,20nm,1.1s
SNAA Sanae           152.39 196  PKPbc      PKPbc 05 40 52.5 -3.0
     comp=Z,2.8nm,1.0s,baz=173,slow=3.1,SNR=20
SNAA                                  PKPab PKPab 05 41 03.0 -2.6
     comp=Z,1.6nm,0.8s,baz=140,slow=5.3,SNR=6.6
SNAA Sanae           152.39 196  ePKPdf     PKPdf 05 40 52.2 +3.6
SNAA                                  e           05 41 04.3
SNAA                                  e           05 41 10.9
SNAA                                  e           05 41 16.2
SNAA                                  e           05 41 22.5
SNAA Sanae           152.39 196  PKIKP      PKPdf 05 40 52.5 +3.9
SNAA                                              05 41 03.0
SNAA                                  pmax  pmax
     comp=Z,3.0nm,1.0s
SNAA Sanae           152.39 196  ePKPbc     PKPbc 05 40 52.1 -3.4
VNA1 Neumayer--Stat  154.22 194  ePKPdf     PKPbc 05 41 01.0 +1.6
VNA1                                  e           05 41 11.3
VNA1                                  e           05 41 18.9
VNA1                                  e           05 41 25.3
VNA1                                  e           05 41 31.1
```

IDC 13 05:34:30.2±50.0, 1843S×16858E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/12, mbtmp4.0/4, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=838.0km s-min=59.5km az=78.0, Vanuatu Islands

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
DZM  Mont Dzumac      4.14 209  eP    Pn          05 35 33.5 -1.3
DZM                             eS    Sn          05 36 11.7 -12
DZM  Mont Dzumac      4.14 209  Pn    Pn          05 35 33.3 -1.5
     4.9nm,0.3s,baz=147,slow=17,SNR=34
DZM                             Sn    Sn          05 36 12.2 -12
     5.1nm,0.3s,baz=89,slow=23,SNR=6.7
RAO  Raoul Island     16.38 134  LR    LR          05 43 30.3
     comp=Z,84nm,18.5s,baz=315,slow=33
STKA Stephens Creek   27.77 236  P     P           05 40 22.3 +1.7
     1.2nm,0.6s,baz=90,slow=8.1,SNR=3.1
WRA  Warramunga Arr   32.34 262  P     P           05 41 00.8 -0.4
     0.3nm,0.7s,baz=90,slow=8.4,SNR=9.5
ASAR Alice Springs    32.73 255  P     P           05 41 05.1 +0.5
     3.7nm,0.7s,baz=83,slow=8.9,SNR=37
```

*NEIC **13** 05:59:00.6, 1471N×9285W, h26km, MD4.4(MEX), After MEX.*

MEX 13 05:59:00.5±0.7, 1469N×9284W, h33km±999km, MD4.4, Near coast of Chiapas

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
CCIG Comitan           1.72  23  i P   Pn          05 59 26.4 -1.7
CCIG                            i S   Sn          05 59 46.7 -2.2
SCX  San Cristobal     2.04   5  i P   Pn          05 59 32.0 -0.5
SCX                             i S   Sn          05 59 54.5 -2.3
CMIG Matias Romero     3.09 321  i P   Pn          05 59 45.0 -2.0
CMIG                            i S   Sn          06 00 21.3 -1.4
OXX  Oaxaca            4.43 303  eP    Pn          06 00 05.0 -0.3
VHO  Vista Hermosa     4.43 303  i P   Pn          06 00 03.8 -1.6
VHO                             i S   Sn          06 00 54.2 -1.6
UTMO Huajuapan         5.70 304  i S   Sn          06 01 25.6 -1.4
```

IDC 13 06:05:26.5±2.3, 763S×11812E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/16, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=161.4km s-min=21.3km az=56.0, Flores Sea

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
FITZ Fitzroy Crossi   12.73 146  Pn    Pn          06 08 30.2 +1.5
     0.1nm,0.3s,baz=319,slow=20,SNR=3.9
FITZ                            Sn    Sn          06 10 43.5 -7.7
     0.1nm,0.3s,baz=204,slow=20,SNR=4.9
WRA  Warramunga Arr   19.92 130  P     Pn          06 09 59.5 -1.9
     0.1nm,0.3s,baz=302,slow=12,SNR=10
ASAR Alice Springs    21.99 138  P     P           06 10 22.4 +0.3
     1.5nm,0.7s,baz=320,slow=10,SNR=12
SONM Songino Array    56.19 351  P     P           06 15 08.9 +0.8
     0.4nm,0.6s,baz=168,slow=8.8,SNR=3.7
MKAR Makanchi Array   62.85 333  P     P           06 15 53.8 -0.3
     1.0nm,0.7s,baz=149,slow=7.6,SNR=6.7
```

MEX 13 06:16:16.8±1.1, 1595N×9994W, h8km±408km, MD3.6, Off coast of Guerrero

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
ACX  Acapulco          0.91   1  i P   Pg          06 16 31.5 -2.8
ACX                             i S   Sg          06 16 44.0 -2.2
CAIG El Cayaco         1.14 344  i P   Pg          06 16 35.8 -2.8
CAIG                            i S   Sg          06 16 48.8 -4.6
MEIG Mezcala           1.99   9  i P   Pn          06 16 46.9 -3.7
MEIG                            eS    Sn          06 17 11.6 -4.1
```

*NEIC **13** 06:20:58.1, 3137S×7164W, h26km, ML3.4(GUC), After GUC.*

GUC 13 06:20:58.1±0.6, 3137S×7164W, h26km±2km, MD3.7, ML3.4, 2C-1D, Near coast of central Chile

```
Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
CHNG Los Chungos      0.53 167  ⇓iP   Pb          06 21 08.4 -0.4
CHNG                            i S   Sb          06 21 16.0  0.0
CMCH Combarbala       0.58  71  ⇑iP   Pb          06 21 09.7  0.0
CMCH                            i S   Sb          06 21 18.1 +0.5
CMCH                                  AML         06 21 19.0
     comp=E,9μm,0.6s
```

CMCH	**Combarbala**	**0.58**	**71**⇑	*i* P	Pb	06 21 09.7 0.0
CMCH				*i* S	Sb	06 21 18.1 +0.5
OVCH	**Ovalle**	**0.85**	**27**	*i* P	Pb	06 21 13.7 -0.5
OVCH				*i* S	Sb	06 21 25.2 +0.1
PTCH	**Petorca**	**1.08**	**146**	*i* P	Pn	06 21 17.0 -0.5
PTCH				*i* S	Sn	06 21 31.4 -0.2
PTCH				AML	AML	06 21 33.4
	comp=E,1μm,0.4s					
PTCH	**Petorca**	**1.08**	**146**	*i* P	Pn	06 21 17.0 -0.5
PTCH				*i* S	Sn	06 21 31.4 -0.2
TLL	**Tololo Astrono**	**1.40**	**31**	*i* P	Pn	06 21 22.8 +0.9
TLL				*i* S	Sn	06 21 41.0 +1.5
PEL	**Peldehue**	**1.95**	**156**	*i* P	Pn	06 21 30.6 +1.1
PEL				*i* S	Sn	06 21 56.0 +2.9
PEL				AML	AML	06 21 58.9
	comp=E,457nm,0.6s					
PEL	**Peldehue**	**1.95**	**156**	*i* P	Pn	06 21 30.6 +1.1
PEL				*i* S	Sn	06 21 56.0 +2.9
CLCH	**Cerro Calan**	**2.23**	**155**	*e*P	Pn	06 21 34.6 +1.3
CLCH				*i* S	Sn	06 22 02.7 +2.7
CLCH				AML	AML	06 22 12.5
	comp=E,147nm,0.6s					

*NEIC **13** 06:27:51.4, 1674N×9495W, h99km, MD4.0(MEX), After MEX.*

MEX 13 06:27:51.4±1.2, 1674N×9495W, h99km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.35**	**10**	*i* P	Pn	06 28 04.6	-1.4
CMIG				*i* S	Sn	06 28 15.3	-1.7
HUIG	**Huatulco**	**1.48**	**229**	*i* P	Pn	06 28 15.1	-2.2
HUIG				*i* S	Sn	06 28 36.2	-0.7
OXX	**Oaxaca**	**1.73**	**281**	*i* P	Pn	06 28 20.0	-0.5
OXX				*i* S	Sn	06 28 42.0	-0.6
VHO	**Vista Hermosa**	**1.74**	**281**	*i* P	Pn	06 28 19.9	-0.7
VHO				*i* S	Sn	06 28 41.7	-1.1
SCX	**San Cristobal**	**2.21**	**90**	*e*P	Pn	06 28 26.0	-0.7
CCIG	**Comitan**	**2.73**	**99**	*i* P	Pn	06 28 33.6	+0.1
CCIG				*i* S	Sn	06 29 03.9	-2.0
TPIG	**Tehuac#an**	**2.84**	**306**	*i* P	Pn	06 28 33.7	-1.3
TPIG				*i* S	Sn	06 29 06.3	-2.3
UTMO	**Huajuapan**	**2.94**	**292**	*i* P	Pn	06 28 35.4	-0.8
UTMO				*i* S	Sn	06 29 08.9	-1.8
PPM	**Popocatepetl**	**4.20**	**304**	*i* P	Pn	06 28 54.2	+1.1
PPM				*i* S	Sn	06 29 40.2	-0.9
IIO	**Organos**	**4.57**	**309**	*i* P	Pn	06 28 58.8	+0.6
IIO				*i* S	Sn	06 29 51.6	+1.4

GUC 13 06:42:10.0±0.7, 3137S×7171W, h19km±3km, MD3.6, ML3.1, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**160**	*e*P	Pb	06 42 20.3	-0.5
CHNG				*i* S	Sg	06 42 27.9	-0.2
CMCH	**Combarbala**	**0.64**	**72**⇑	*i* P	Pb	06 42 22.0	-0.5
CMCH				*i* S	Sb	06 42 31.3	+0.2
CMCH				AML	AML	06 42 32.8	
	comp=N,3μm,0.8s						
OVCH	**Ovalle**	**0.88**	**30**⇑	*i* P	Pb	06 42 25.9	-0.8
OVCH				*i* S	Sb	06 42 37.7	-0.3
OVCH				AML	AML	06 42 40.6	
	comp=E,773nm,0.4s						
PTCH	**Petorca**	**1.11**	**143**	*i* P	Pn	06 42 29.2	-1.3
PTCH				*i* S	Sb	06 42 43.9	-0.8
PTCH				AML	AML	06 42 47.1	
	comp=E,1μm,0.3s						
PACH	**Papudo**	**1.19**	**169**⇓	*i* P	Pn	06 42 30.3	-1.2
PACH				*i* S	Sb	06 42 46.9	+0.1
TLL	**Tololo Astrono**	**1.43**	**33**⇑	*i* P	Pn	06 42 35.3	+0.4
TLL				*i* S	Sn	06 42 54.3	+1.0
TLL				AML	AML	06 42 56.6	
	comp=N,502nm,0.6s						
LSCH	**La Serena**	**1.51**	**16**	*i* P	Pn	06 42 36.0	-0.1
LSCH				*i* S	Sn	06 42 55.4	+0.2
JACH	**Jahuel**	**1.62**	**144**	*i* P	Pn	06 42 38.0	+0.6
JACH				*i* S	Sn	06 42 59.3	+1.5
ROCH	**El Roble**	**1.70**	**160**	*i* P	Pn	06 42 39.2	+0.6
ROCH				*i* S	Sn	06 43 01.7	+1.8
PEL	**Peldehue**	**1.97**	**154**	AML	AML	06 43 11.9	
	comp=E,362nm,0.3s						
CLCH	**Cerro Calan**	**2.25**	**154**⇑	*i* P	Pn	06 42 47.2	+1.0
CLCH				*i* S	Sn	06 43 16.1	+2.8
CLCH				AML	AML	06 43 24.6	
	comp=N,197nm,0.5s						
FCH	**Farellones**	**2.29**	**149**	AML	AML	06 43 19.9	
	comp=E,101nm,0.2s						
TACH	**Talagante**	**2.37**	**164**	*i* P	Pn	06 42 48.9	+1.1
TACH				*i* S	Sn	06 43 18.7	+2.5
ANTU	**Antumapu**	**2.37**	**158**	*i* P	Pn	06 42 49.4	+1.5
ANTU				*i* S	Sn	06 43 18.6	+2.1
ANTU				AML	AML	06 43 26.6	
	comp=N,115nm,0.3s						

*ISCJB **13** 06:59:58.2±0.7, 3140S×7196W, h33km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=3.3km az=171.9*
*IDC **13** 06:59:59.3±6.6, 3133S×7186W, h29km±41km, mb4.3/3, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML4.1/5, Error ellipse: s-maj=36.9km s-min=25.8km az=95.0*
*GUC **13** 06:59:59.3±0.5, 3144S×7175W, h29km±1km, MD4.1, ML4.3*
*NEIC **13** 07:00:03.0±1.6, 3160S×7171W, h98km±16km, mb4.2/3, Error ellipse: s-maj=23.7km s-min=12.6km az=90.0*

ISC 13 06:59:58.2±1.0, 3141S±002×7183W±006, h15km±5km, n36, σ0.88/56, mb4.4/5, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**149**⇓	*i* P	**Pg**	**07 00 09.2**	**+0.2**
CHNG				*i* S	**Sg**	**07 00 16.5**	**+0.1**
CMCH	**Combarbala**	**0.75**	**72**⇑	*i* P	**Pg**	**07 00 12.4**	**-0.4**
CMCH				*i* S	**Sg**	**07 00 22.1**	**-0.5**
CMCH				AML	AML	07 00 23.6	
	comp=E,34μm,0.4s						
PTCH	**Petorca**	**1.15**	**138**⇓	*i* P	**Pb**	**07 00 18.4**	**-1.3**
PTCH				*i* S	**Sb**	**07 00 32.7**	**-1.7**
PTCH				AML	AML	07 00 35.4	
	comp=N,16μm,0.2s						
PACH	**Papudo**	**1.17**	**164**⇓	*i* P	**Pn**	**07 00 19.1**	**-1.0**
PACH				*i* S	**Sb**	**07 00 34.1**	**-1.1**
TLL	**Tololo Astrono**	**1.52**	**36**⇑	*i* P	**Pn**	**07 00 25.6**	**+0.8**
TLL				*i* S	**Sn**	**07 00 45.8**	**+1.4**
TLL				AML	AML	07 00 52.5	
	comp=N,9μm,0.5s						
LSCH	**La Serena**	**1.58**	**19**	*e*P	**Pn**	**07 00 26.2**	**+0.5**
LSCH				*i* S	**Sn**	**07 00 47.1**	**+1.2**
JACH	**Jahuel**	**1.65**	**141**⇑	*i* P	**Pn**	**07 00 26.6**	**0.0**
JACH				*i* S	**Sn**	**07 00 47.0**	**-0.6**
PEL	**Peldehue**	**1.98**	**151**⇓	*i* P	**Pn**	**07 00 31.4**	**+0.2**
PEL				*i* S	**Sn**	**07 00 56.0**	**+0.2**
PEL				AML	AML	07 00 59.9	
	comp=E,4μm,0.4s						
RCDM	**Rinconada Maip**	**2.25**	**158**	*e*P	**Pn**	**07 00 34.7**	**-0.2**
RCDM				*i* S	**Sn**	**07 01 02.3**	**-0.1**
RCDM				AML	AML	07 01 10.9	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**2.26**	**151**⇑	*i* P	**Pn**	**07 00 35.3**	**+0.3**
CLCH				*i* S	**Sn**	**07 01 02.9**	**+0.2**
CLCH				AML	AML	07 01 07.7	
	comp=E,4μm,0.5s						
SAN	**Santiago**	**2.27**	**154**⇓	*i* P	**Pn**	**07 00 35.2**	**+0.1**
SAN				*e*S	**Sn**	**07 01 02.9**	**+0.1**
SAN				AML	AML	07 01 10.9	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**2.31**	**146**⇓	*i* P	**Pn**	**07 00 36.5**	**+0.7**
FCH				*i* S	**Sn**	**07 01 04.8**	**+0.8**
FCH				AML	AML	07 01 13.5	
	comp=E,2μm,0.3s						
TACH	**Talagante**	**2.36**	**162**	*e*P	**Pn**	**07 00 36.6**	**+0.2**
TACH				*i* S	**Sn**	**07 01 05.1**	**0.0**
ANTU	**Antumapu**	**2.38**	**155**⇑	*i* P	**Pn**	**07 00 36.7**	**+0.1**
ANTU				*i* S	**Sn**	**07 01 05.8**	**+0.2**
ANTU				AML	AML	07 01 14.9	
	comp=E,3μm,0.5s						
PCH	**Pirque**	**2.47**	**154**⇑	*i* P	**Pn**	**07 00 38.1**	**+0.2**
PCH				*i* S	**Sn**	**07 01 07.9**	**+0.1**
ZON	**Zonda**	**2.70**	**94**	AML	AML	07 01 29.4	
	comp=E,1μm,0.4s						
CACH	**El Canelo**	**2.89**	**159**⇓	*i* P	**Pn**	**07 00 44.8**	**+1.1**
CACH				*i* S	**Sn**	**07 01 19.6**	**+1.4**
MDZ	**Mendoza**	**2.92**	**121**	*e*P	**Pg**	**07 00 49.0**	**-5.2**
MDZ				*e*		07 00 57.9	
MDZ				S	**Sg**	**07 01 33.9**	**+1.8**
CFAA	**Coronel Fontan**	**3.08**	**95**	Pn	**Pn**	**07 00 48.4**	**+2.1**
	comp=E,4.5nm,0.3s,baz=271,slow=10,SNR=120						
CFAA				Sn	**Sn**	**07 01 30.8**	**+8.0**
	comp=E,7.4nm,0.3s,baz=172,slow=23,SNR=11						
CFAA				Lg		07 01 38.4	
	comp=E,20nm,0.3s,baz=37,slow=22,SNR=5.6						
CICH	**Cipreses**	**3.13**	**158**	*e*P	**Pn**	**07 00 47.6**	**+0.5**
CICH				*i* S	**Sn**	**07 01 24.4**	**+0.1**
LVC	**Limon Verde**	**9.14**	**17**	Pn	**Pn**	**07 02 06.7**	**-2.8**
	comp=E,0.4nm,0.3s,baz=153,slow=6.8,SNR=4.0						
LVC				Sn	**Sn**	**07 03 51.7**	**-0.4**
	comp=E,0.6nm,0.3s,baz=90,slow=18,SNR=1.8						
LVC	**Limon Verde**	**9.14**	**17**	*e*Pn	**Pn**	**07 02 16.1**	**+6.5**
	comp=E,4.7nm,0.4s						
LVC				*e*Sn	**Sn**	**07 04 04.5**	**+12**
PLCA	**Paso Flores**	**9.36**	**174**	Pn	**Pn**	**07 02 12.4**	**-0.2**
	comp=E,0.8nm,0.3s,baz=340,slow=12,SNR=11						
TRQA	**Tornquist**	**10.47**	**132**	Pn	**Pn**	**07 02 27.1**	**-0.6**
	comp=E,5.1nm,0.5s						
CPUP	**Villa Florida**	**13.67**	**72**	Pn	**Pn**	**07 03 10.6**	**-1.0**
	comp=E,0.3nm,0.3s,baz=238,slow=10,SNR=5.2						
CPUP				Sn	**Sn**	**07 05 40.8**	**-2.4**
	comp=E,0.4nm,0.3s,baz=218,slow=17,SNR=2.4						
CPUP	**Villa Florida**	**13.67**	**72**	*e*Pn	**Pn**	**07 03 10.6**	**-0.9**
	comp=E,12nm,0.3s						
CPUP				*e*Sn	**Sn**	**07 05 39.7**	**-3.4**
LPAZ	**La Paz**	**15.43**	**13**	Pn	**Pn**	**07 03 35.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=184,slow=7.4,SNR=5.8						
LPAZ	**La Paz**	**15.43**	**13**	*e*Pn	**Pn**	**07 03 36.0**	**+0.8**
	comp=E,7.1nm,1.4s						
SIV	**San Ignacio**	**18.22**	**35**	P	**Pn**	**07 04 09.7**	**-0.8**
	comp=E,0.2nm,0.3s,baz=250,slow=12,SNR=6.4						
BDFB	**Brasilia**	**26.80**	**60**	P	**P**	**07 05 36.2**	**-1.5**
	comp=E,2.0nm,0.8s,mb3.7,baz=261,slow=9.8,SNR=4.0						
DBIC	**Dimbokro**	**74.19**	**72**	P	**P**	**07 11 33.3**	**-1.0**
	comp=E,3.0nm,0.5s,mb4.5,baz=73,slow=8.6,SNR=6.3						
SUR	**Sutherland**	**75.93**	**119**	P	**P**	**07 11 38.7**	**-5.6**
	comp=E,16nm,1.1s,mb4.9						
SRU	**San Rafael**	**78.85**	**330**	*e*P	**P**	**07 11 56.1**	**-4.6**
	comp=E,2.3nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**83.17**	**70**	P	**P**	**07 12 22.6**	**-1.1**
	comp=E,3.5nm,0.7s,mb4.5,baz=262,slow=4.1,SNR=19						
BVAR	**Borovoye Array**	**145.23**	**40**	PKPbc	PKPbc	07 19 33.9	-1.0
	comp=E,1.8nm,0.4s,baz=268,slow=1.5,SNR=9.8						
MKAR	**Makanchi Array**	**154.87**	**45**	PKPbc	PKPbc	07 19 57.2	-1.8
	comp=E,0.8nm,0.7s,baz=302,slow=2.3,SNR=5.8						

*IDC **13** 07:06:51.2±1.7, 3124S×7221W, h0km, mb4.1/3, mb1 3.7/9, mb1mx3.7/20, mbtmp3.6/9, ML3.6/6, Error ellipse: s-maj=37.1km s-min=22.8km az=101.0*
*NEIC **13** 07:06:54.5±1.3, 3118S×7234W, h30km, Error ellipse: s-maj=23.5km s-min=12.4km az=89.0*
*ISCJB **13** 07:06:56.6±0.9, 3143S±002×7184W±007, h26km±5km, mb3.8/3, Error ellipse: s-maj=10.2km s-min=3.6km az=7.4*
*GUC **13** 07:06:57.3±0.6, 3145S×7175W, h30km±1km, MD4.1, ML4.2*

ISC 13 07:06:56.1±1.0, 3143S±002×7184W±006, h14km±4km, n34, σ0.81/54, mb3.8/3, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**147**⇓	*i* P	**Pg**	**07 07 07.2**	**+0.5**
CHNG				*i* S	**Sg**	**07 07 14.3**	**+0.4**
CMCH	**Combarbala**	**0.77**	**71**⇑	*i* P	**Pg**	**07 07 10.5**	**-0.5**
CMCH				*i* S	**Sg**	**07 07 20.7**	**-0.3**
CMCH				AML	AML	07 07 21.8	
	comp=E,21μm,0.6s						
OVCH	**Ovalle**	**0.99**	**34**⇓	*i* P	**Pb**	**07 07 14.7**	**-0.2**
OVCH				*i* S	**Sb**	**07 07 27.6**	**-0.3**
PTCH	**Petorca**	**1.14**	**137**	*i* P	**Pb**	**07 07 16.4**	**-1.2**
PTCH				*i* S	**Sb**	**07 07 30.3**	**-1.9**
PTCH				AML	AML	07 07 33.5	
	comp=N,14μm,0.4s						
PACH	**Papudo**	**1.16**	**163**	*i* P	**Pn**	**07 07 17.1**	**-0.8**
PACH				*i* S	**Sb**	**07 07 31.4**	**-1.3**
TLL	**Tololo Astrono**	**1.54**	**36**⇑	*i* P	**Pn**	**07 07 23.6**	**+0.4**
TLL				*i* S	**Sn**	**07 07 43.6**	**+0.6**
TLL				AML	AML	07 07 50.5	
	comp=N,3μm,0.2s						
LSCH	**La Serena**	**1.60**	**19**	*i* P	**Pn**	**07 07 24.5**	**+0.5**
LSCH				*i* S	**Sn**	**07 07 45.1**	**+0.6**
JACH	**Jahuel**	**1.64**	**140**	*e*P	**Pn**	**07 07 24.5**	**0.0**
JACH				*i* S	**Sn**	**07 07 45.1**	**-0.2**
ROCH	**El Roble**	**1.69**	**156**⇑	*i* P	**Pn**	**07 07 25.4**	**+0.2**
ROCH				*i* S	**Sn**	**07 07 47.3**	**+0.6**
PEL	**Peldehue**	**1.97**	**150**⇓	*i* P	**Pn**	**07 07 29.4**	**+0.3**
PEL				*i* S	**Sn**	**07 07 53.3**	**-0.3**
PEL				AML	AML	07 08 02.8	
	comp=E,4μm,0.2s						
RCDM	**Rinconada Maip**	**2.23**	**157**⇓	*i* P	**Pn**	**07 07 32.6**	**-0.1**
RCDM				AML	AML	07 08 09.4	
	comp=E,2μm,0.6s						
STL	**Santa Lucia**	**2.24**	**153**	*i* P	**Pn**	**07 07 33.1**	**+0.3**
STL				*i* S	**Sn**	**07 08 00.2**	**-0.1**
CLCH	**Cerro Calan**	**2.25**	**151**⇑	*i* P	**Pn**	**07 07 33.2**	**+0.3**
CLCH				*i* S	**Sn**	**07 08 00.5**	**0.0**
CLCH				AML	AML	07 08 05.6	
	comp=E,3μm,0.7s						
FCH	**Farellones**	**2.30**	**146**⇑	*i* P	**Pn**	**07 07 34.4**	**+0.7**
FCH				*i* S	**Sn**	**07 08 02.8**	**+1.0**
FCH				AML	AML	07 08 11.4	
	comp=E,1μm,0.4s						
TACH	**Talagante**	**2.35**	**161**	*i* P	**Pn**	**07 07 34.7**	**+0.4**
TACH				*i* S	**Sn**	**07 08 03.2**	**+0.4**
PCH	**Pirque**	**2.46**	**153**⇑	*i* P	**Pn**	**07 07 36.2**	**+0.5**
PCH				*i* S	**Sn**	**07 08 05.5**	**-0.1**
SJCH	**San Jose de Ma**	**2.54**	**151**	AML	AML	07 08 19.0	
	comp=N,1μm,0.3s						
CHCH	**Chadas Angostu**	**2.69**	**158**	*i* P	**Pn**	**07 07 39.4**	**+0.4**
CHCH				*i* S	**Sn**	**07 08 11.1**	**-0.2**
CACH	**El Canelo**	**2.88**	**159**⇓	*e*P	**Pn**	**07 07 42.7**	**+1.2**
MDZ	**Mendoza**	**2.92**	**121**	*e*P	**Pn**	**07 07 47.1**	**+4.9**
MDZ				*e*		07 08 31.1	
CFAA	**Coronel Fontan**	**3.08**	**94**	Pn	**Pn**	**07 07 47.1**	**+2.7**
	comp=N,1.9nm,0.3s,baz=270,slow=13,SNR=73						
CFAA				Sn	**Sn**	**07 08 28.4**	**+7.4**
	comp=N,7.5nm,0.3s,baz=2.0,slow=23,SNR=12						
CFAA	**Coronel Fontan**	**3.08**	**94**	Pn	**Pn**	**07 07 47.1**	**+2.7**
CFAA				Sn	**Sn**	**07 08 28.4**	**+7.4**
CICH	**Cipreses**	**3.12**	**158**	*e*P	**Pn**	**07 07 45.5**	**+0.6**
CICH				*i* S	**Sn**	**07 08 22.0**	**+0.1**
SFDO	**San Fernando**	**3.25**	**168**	*i* P	**Pn**	**07 07 47.4**	**+0.8**
SFDO				*i* S	**Sn**	**07 08 25.2**	**0.0**
LVC	**Limon Verde**	**9.16**	**17**	Pn	**Pn**	**07 09 02.8**	**-5.0**
	comp=N,0.2nm,0.3s,baz=325,slow=16,SNR=2.6						
PLCA	**Paso Flores**	**9.34**	**174**	Pn	**Pn**	**07 09 09.4**	**-0.9**
	comp=N,0.2nm,0.3s,baz=333,slow=14,SNR=3.0						
CPUP	**Villa Florida**	**13.69**	**72**	Pn	**Pn**	**07 10 10.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=246,slow=13,SNR=2.7						
CPUP				Sn	**Sn**	**07 12 42.0**	**+0.4**
	comp=N,0.4nm,0.3s,baz=277,slow=16,SNR=2.5						
CPUP	**Villa Florida**	**13.69**	**72**	Pn	**Pn**	**07 10 10.8**	**+1.0**
CPUP				Sn	**Sn**	**07 12 42.0**	**+0.4**
LPAZ	**La Paz**	**15.45**	**14**	Pn	**Pn**	**07 10 27.9**	**-5.7**
	comp=N,0.0nm,0.3s,baz=282,slow=20,SNR=1.8						
SIV	**San Ignacio**	**18.24**	**35**	P	**Pn**	**07 11 07.1**	**-1.7**
	comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=3.9						
BDFB	**Brasilia**	**26.82**	**60**	P	**P**	**07 12 33.9**	**-2.0**
	comp=N,0.8nm,0.5s,mb3.5,baz=238,slow=7.4,SNR=4.3						
SNAA	**Sanae**	**53.90**	**159**	P	**P**	**07 16 17.8**	**-1.2**
	comp=N,0.7nm,0.8s,mb3.6,baz=256,slow=6.4,SNR=8.4						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**07 19 20.5**	**-1.3**
	comp=N,2.5nm,0.7s,mb4.3,baz=250,slow=4.1,SNR=14						
BVAR	**Borovoye Array**	**145.26**	**40**	PKPbc	PKPbc	07 26 31.8	-1.3
	comp=N,1.0nm,0.5s,baz=243,slow=2.7,SNR=4.8						

*NEIC **13** 07:18:26.6±0.6, 3466N×8020E, h10km, mb4.4/10, Error ellipse: s-maj=11.0km s-min=9.7km az=204.0*
*MOS **13** 07:18:27.8±1.3, 3468N×8026E, h34km, mb4.4/16, Error ellipse: s-maj=17.5km s-min=6.6km az=111.4*
*BJI **13** 07:18:29.1, 3470N×8010E, h13km, mB4.7, mb4.3, ML4.1, Ms4.2, Msz3.9*
*ISCJB **13** 07:18:30.0±0.8, 3459N±003×8001E±007, h50km±7km, mb4.2/24, Error ellipse: s-maj=9.0km s-min=4.8km az=178.1*
*NDI **13** 07:18:31.0±3.1, 3462N×8030E, h10km, mb4.7, mb4.4(NEIC)*
*IDC **13** 07:18:32.3±4.2, 3472N×8020E, h55km±39km, mb3.8/15, mb1 4.0/17, mb1mx3.9/23, mbtmp4.1/17, ML4.4/2, Error ellipse: s-maj=20.2km s-min=15.5km az=26.0*

ISC 13 07:18:32.2±0.5, 3463N±003×8010E±006, h56km±6km, n99, σ1.38/109, mb4.2/24, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**4.08**	**221**	*e*P	**Pn**	**07 19 37.5**	**+5.5**
THN	**Thein Dam**	**4.26**	**240**	*e*P	**Pn**	**07 19 35.7**	**+1.1**
THN				*e*S	**Sn**	**07 20 27.2**	**+4.2**
BHK	**Bhakra**	**4.45**	**225**	*e*x	x	07 19 56.6	
CHCP	**Chirah Chowk**	**5.75**	**262**	P	**Pn**	**07 19 53.1**	**-1.8**
KSH	**Kashi**	**5.89**	**327**⇑	*i* P	**Pn**	**07 19 59.6**	**+2.7**
KSH				S	**Sn**	**07 21 06.1**	**+3.1**
KSH				Smax			
	comp=N,202nm,0.8s						
KSH				Smax			
	comp=E,221nm,0.7s						
NDI	**New Delhi**	**6.41**	**203**	*e*P	**Pn**	**07 20 06.4**	**+2.3**
NDI				*e*S	**Sn**	**07 21 14.0**	**-1.8**
AYAN	**Aya Nagar**	**6.63**	**203**	*e*P	**Pn**	**07 20 09.8**	**+2.8**
AYAN				*e*S	**Sn**	**07 21 20.9**	**-0.2**
CEP	**Cherat**	**6.83**	**266**	P	**Pn**	**07 20 06.6**	**-3.2**
SONA	**Sohna**	**6.86**	**203**	*e*P	**Pn**	**07 20 12.4**	**+2.3**
THW	**Thamne Wali**	**7.20**	**258**	P	**Pn**	**07 20 13.0**	**-1.8**
KHET	**Khetri**	**7.49**	**210**	*e*P	**Pn**	**07 20 16.6**	**-2.3**
KHET				*e*S	**Sn**	**07 21 36.6**	**-5.7**
KHET				*e*S	**Sn**	**07 21 38.5**	**-3.8**
AGRA	**Agra**	**7.60**	**195**	*e*P	**Pn**	**07 20 20.9**	**+0.5**
SBDP	**Sheikh Budin**	**8.10**	**256**	P	**Pn**	**07 20 24.4**	**-2.8**
ULHL	**Ulahol**	**8.19**	**339**	P	**Pn**	**07 20 29.2**	**+0.9**
	SNR=40						
UCH	**Uchtor**	**8.76**	**332**	P	**Pn**	**07 20 36.6**	**+0.4**
	SNR=16						
DRP	**Derazinda**	**8.78**	**254**	P	**Pn**	**07 20 34.5**	**-1.9**
TKM2	**Tokmak 2**	**9.00**	**338**	P	**Pn**	**07 20 40.5**	**+1.1**
	SNR=6.2						
TKM2	**Tokmak 2**	**9.00**	**338**	P	**Pn**	**07 20 40.1**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AML	**Almayashu**	**9.02**	**328**	P	**Pn**	**07 20 39.8**	**+0.1**
	SNR=8.1						
AAK	**Ala-Archa**	**9.12**	**333**	*e*P	**Pn**	**07 20 40.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,24nm,0.8s						
AAK	**Ala-Archa**	**9.12**	**333**	*e*Pn	**Pn**	**07 20 40.3**	**-0.7**
	comp=Z,24nm,0.8s						
FRU	**Bishkek**	**9.24**	**334**	*e*P	**Pn**	**07 20 45.0**	**+2.2**
FRU				pmax	pmax		
	comp=Z,45nm,2.0s						
AJM	**Ajmer**	**9.38**	**212**	*e*P	**Pn**	**07 20 45.3**	**+0.6**
AJM				AMb	AMB	07 20 45.8	
	comp=Z,11nm,0.7s						
AJM				*e*S	**Sn**	**07 22 25.3**	**-3.4**
EKS2	**Erkin-Say**	**9.42**	**330**	P	**Pn**	**07 20 46.4**	**+1.2**
	SNR=7.6						
LSA	**Lhasa**	**10.57**	**115**	*e*P	**Pn**	**07 20 57.2**	**-3.8**
WMQ	**Urumqi**	**10.90**	**30**	*e*P	**Pn**	**07 21 05.5**	**0.0**
WMQ				AP		07 21 12.3	
WMQ				XP		07 21 16.0	
WMQ				PPP		07 21 23.0	
WMQ				*e*S	**Sn**	**07 23 15.0**	**+9.0**
WMQ				AMB	AMB		
	comp=Z,17nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,90nm,5.0s						
WMQ				LR	LR		
	comp=N,852nm,12.9s						
WMQ				LR	LR		
	comp=E,1μm,16.3s						
WMQ				LR	LR		
	comp=Z,728nm,13.0s						
JASL	**Jaisalmer**	**11.01**	**228**	*e*P	**Pn**	**07 21 10.4**	**+3.4**
BHPL	**Bhopal**	**11.58**	**192**	*e*P	**Pn**	**07 21 14.2**	**-0.5**
BHPL				AMb	AMB	07 21 15.8	
	comp=Z,4.7nm,0.3s						
BHPL				*e*S	**Sn**	**07 23 16.7**	**-5.8**
BOK	**Bokaro**	**11.91**	**153**	*e*P	**Pn**	**07 21 19.1**	**-0.2**
MKAR	**Makanchi Array**	**12.27**	**7**	P	**Pn**	**07 21 20.9**	**-3.3**
	comp=Z,2.4nm,0.3s,baz=187,slow=12,SNR=71						
MKAR				S	**Sn**	**07 23 36.2**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=199,slow=21,SNR=3.7						
MKAR	**Makanchi Array**	**12.27**	**7**	P	**Pn**	**07 21 20.9**	**-3.2**
MKAR				S	**Sn**	**07 23 36.3**	**-3.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GTA	**Gaotai**	**16.45**	**67**	*e*P	**Pn**	**07 22 24.4**	**+5.1**
GTA				XP	sP	07 22 33.1	-7.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s						
VOSK	**Vostochnaya**	**19.23**	**343**	P	**Pn**	**07 22 50.0**	**-3.2**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s

JOF Joensuu 41.27 329 *ep* **P 07 26 11.6 -0.4**
comp=Z,1.9nm,0.4s,mb4.1
JOF Joensuu 41.27 329 *eP* **P 07 26 11.6 -0.4**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
FINES FINESS Array B 43.21 325 P **P 07 26 27.2 -0.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=107,slow=10,SNR=10.0
FINES FINESS Array B 43.21 325 P **P 07 26 27.2 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 45.77 336 P **P 07 26 47.9 -0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=97,slow=8.6,SNR=15
ARCES ARCESS Array B 45.77 336 P **P 07 26 47.9 -0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 49.55 310 *eP* **P 07 27 23.5 +6.1**
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
GERES GERESS Array B 50.00 308 P **P 07 27 21.6 +0.7**
comp=Z,1.5nm,0.9s,mb4.0,baz=60,slow=7.9,SNR=4.6
GERES GERESS Array B 50.00 308 P **P 07 27 21.6 +0.7**
GERES pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 50.30 324 P **P 07 27 22.3 -0.9**
comp=Z,3.2nm,0.7s,mb4.5,baz=88,slow=7.9
NB2 NORSAR Subarra 50.30 324 P **P 07 27 22.3 -0.9**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
NOA NORSAR Array B 50.30 324 P **P 07 27 22.4 -0.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=88,slow=7.5,SNR=11
NOA NORSAR Array B 50.30 324 P **P 07 27 22.4 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 50.30 324 P **P 07 27 22.4 -0.8**
SBF Sospel 55.37 303 *eP* **P 07 28 00.7 +0.2**
comp=Z,28nm,0.8s,mb5.0
SBF Sospel 55.37 303 *eP* **P 07 28 00.7 +0.2**
SBF pmax pmax
comp=Z,14nm,0.8s,mb5.0
SBF Sospel 55.37 303 *eP* **P 07 28 00.7 +0.2**
comp=Z,14nm,0.8s,mb5.0
LPG La Plagne 55.37 305 *eP* **P 07 28 01.3 +0.8**
comp=Z,8.8nm,0.7s,mb4.6
LPG La Plagne 55.37 305 *eP* **P 07 28 01.3 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LPG La Plagne 55.37 305 *eP* **P 07 28 01.3 +0.8**
comp=Z,4.4nm,0.7s,mb4.6
LPL La Plagne 55.38 305 *eP* **P 07 28 01.2 +0.6**
comp=Z,14nm,0.7s,mb4.8
LPL La Plagne 55.38 305 *eP* **P 07 28 01.2 +0.6**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LPL La Plagne 55.38 305 *eP* **P 07 28 01.2 +0.6**
comp=Z,6.8nm,0.7s,mb4.8
GIVF Givet 55.41 311 *eP* **P 07 28 01.2 +0.4**
comp=Z,15nm,0.4s,mb5.1
LOR Lormes 56.78 308 *eP* **P 07 28 10.3 -0.3**
TOA0 Torodi Ar. Sit 73.18 275 *eP* **P 07 29 57.1 +0.1**
TORD Torodi Ar. Bea 73.18 275 P **P 07 29 57.5 +0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=44,slow=5.7,SNR=29
COLA College 74.00 19 *eP* **P 07 30 02.3 +0.4**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 74.00 19 *eP* **P 07 30 02.3 +0.5**
comp=Z,7.7nm,0.8s,mb4.7
INK Inuvik 74.35 12 *eP* **P 07 30 03.4 -0.5**
INK pmax pmax
comp=Z,99nm,0.8s
INK Inuvik 74.35 12 *eP* **P 07 30 03.4 -0.5**
comp=Z,99nm,0.8s
WRA Warramunga Arr 74.83 128 P **P 07 30 06.9 +0.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=322,slow=5.9,SNR=31
WRA Warramunga Arr 74.83 128 P **P 07 30 06.9 +0.2**
WRA pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 77.25 131 P **P 07 30 20.9 +0.5**
comp=Z,1.2nm,0.5s,mb4.0,baz=322,slow=6.2,SNR=11
ASAR Alice Springs 77.25 131 P **P 07 30 21.0 +0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 81.48 227 P **P 07 30 44.3 +0.8**
comp=Z,1.9nm,0.6s,mb4.2,baz=126,slow=21,SNR=4.4
BOSA Boshof 81.48 227 P **P 07 30 44.3 +0.8**
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
YKA Yellowknife Ar 82.50 7 P **P 07 30 48.0 -0.8**
comp=Z,2.2nm,0.7s,mb4.2,baz=339,slow=5.2,SNR=7.3
YKA Yellowknife Ar 82.50 7 P **P 07 30 48.0 -0.8**
YKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 87.85 132 P **P 07 31 14.6 -1.0**
comp=Z,1.8nm,0.6s,mb4.5,baz=335,slow=12,SNR=3.7

IDC 13 07:38:36.0±1.9, 246N×12692E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, Error ellipse: s-maj=113.6km s-min=23.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.47**	**183**	P	P	07 43 16.6	+1.4
	0.6nm,0.4s,baz=357,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**23.42**	**162**	P	P	07 43 46.7	-0.1
	0.9nm,0.5s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.84**	**166**	P	P	07 44 18.3	+0.2
	0.5nm,0.7s,baz=344,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**58.70**	**326**	P	P	07 48 35.3	0.0
	0.1nm,0.3s,baz=128,slow=7.2,SNR=2.9						

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*ISCJB **13** 07:47:27.0±1.4, 8.1S±04×1177E±05, h10km, mb4.0/5, MS4.2/1, Error ellipse: s-maj=96.7km s-min=11.7km az=108.1*
*IDC **13** 07:47:27.2±1.9, 8.18S×11753E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.1/1, MS4.3/1, Ms1 4.3/1, ms1mx2.8/35, Error ellipse: s-maj=98.1km s-min=12.7km az=48.0*

ISC 13 07:47:28.2±5.7, 82S±05×1175E±06, h4km±42km, n9, σ0°63/10, mb4.0/5, MS4.2/1, 2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.65**	**142**	Pn	**Pn**	**07 50 28.7**	**-0.2**
	0.1nm,0.3s,baz=329,slow=15,SNR=3.5						
FITZ				Sn	**Sn**	**07 52 45.3**	**-4.9**
	0.3nm,0.3s,baz=184,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**20.07**	**127**	P	**P**	**07 52 02.4**	**-0.1**
	0.9nm,0.5s,baz=302,slow=12,SNR=21						
WRA				S	**S**	**07 55 48.8**	**+0.4**
	0.6nm,0.9s,baz=296,slow=23,SNR=3.4						
WB2	**Warramunga Arr**	**20.08**	**127**	*eP*	**P**	**07 52 02.6**	**0.0**
ASAR	**Alice Springs**	**22.01**	**136**	P	**P**	**07 52 24.1**	**+0.7**
	1.6nm,0.6s,mb3.6,baz=317,slow=10,SNR=25						
JHJ	**Hachijo jima 2**	**46.23**	**26**	LR	LR	08 16 33.9	
	comp=Z,285nm,18.4s,MS4.2,baz=188,slow=38						
SONM	**Songino Array**	**56.63**	**351**	P	**P**	**07 57 11.8**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=167,slow=5.3,SNR=4.5						
MK31	**Makanchi Array**	**63.06**	**334**	⇓Pn	**P**	**07 57 57.0**	**+0.5**
	1.6nm,0.8s,mb4.2,baz=178,slow=16,SNR=10						
MK31				⇓Sn	PcP	07 58 35.3	+1.0
	2.4nm,0.7s,baz=189,slow=30,SNR=7.4						
MKAR	**Makanchi Array**	**63.06**	**334**	P	**P**	**07 57 56.4**	**-0.1**
	1.4nm,0.6s,mb4.3,baz=150,slow=6.6,SNR=11						
ZAL	**Zalesovo**	**67.75**	**340**	P	**P**	**07 58 26.6**	**-0.3**
	1.0nm,0.6s,mb4.0,baz=198,slow=3.9						

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*ISCJB **13** 08:02:21.8±0.8, 2374S±007×1793W±0.1, h538km±14km, mb4.4/10, Error ellipse: s-maj=17.8km s-min=9.4km az=43.1*
*IDC **13** 08:02:22.0±1.5, 2371S×17932W, h520km±21km, mb3.7/6, mb1 3.9/9, mb1mx3.5/17, mbtmp4.8/9, Error ellipse: s-maj=25.5km s-min=18.0km az=69.0*
*NEIC **13** 08:02:22.7±0.7, 2377S×17934W, h532km±12km, mb4.2/6, Error ellipse: s-maj=14.3km s-min=10.5km az=88.0*

ISC 13 08:02:22.3±0.7, 2381S±007×1791W±01, h543km±12km, n22, σ0°89/25, mb4.4/10, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.53**	**169**	P	**P**	**08 03 56.5**	**+0.2**
	83nm,0.3s,baz=109,slow=23,SNR=5.8						
RAO				S	**S**	**08 05 12.8**	**-0.3**
	46nm,0.3s,baz=73,slow=19,SNR=3.0						
AFI	**Afiamalu**	**12.04**	**36**	P	**P**	**08 05 02.8**	**+1.6**
	3.0nm,0.3s,baz=30,slow=23,SNR=4.9						
AFI				S	**S**	**08 07 10.8**	**-1.2**
	3.9nm,0.3s,baz=29,slow=23,SNR=6.0						
URZ	**Urewera**	**14.76**	**192**	P	**P**	**08 05 30.3**	**+0.9**
	8.6nm,0.3s,baz=329,slow=5.9,SNR=47						
URZ				S	**S**	**08 08 00.9**	**-2.6**
	2.1nm,0.3s,baz=105,slow=22,SNR=12						
SNZO	**South Karori**	**18.20**	**195**	*eP*	**P**	**08 06 02.1**	**-0.2**
RPZ	**Rata Peaks**	**21.44**	**200**	P	**P**	**08 06 32.5**	**+0.8**
	9.3nm,0.6s,mb4.6,baz=358,slow=13,SNR=3.6						
ARMA	**Armidale**	**26.81**	**249**	*eP*	**P**	**08 07 19.6**	**+0.3**
CTA	**Charters Tower**	**32.29**	**270**	⇓*iP*	**P**	**08 08 06.8**	**+0.2**
	9.5nm,0.3s,mb4.8						
CTA	**Charters Tower**	**32.29**	**270**	P	**P**	**08 08 06.8**	**+0.2**
	18nm,0.5s,mb4.9,baz=101,slow=11,SNR=24						
TAU	**Tasmania Unive**	**33.59**	**227**	*eP*	**P**	**08 08 16.4**	**-1.2**
	2.4nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**35.51**	**248**	*eP*	**P**	**08 08 33.6**	**-0.1**
	6.3nm,1.5s,mb3.9						
STKA	**Stephens Creek**	**35.51**	**248**	P	**P**	**08 08 33.8**	**+0.1**
	2.2nm,0.4s,mb4.0,baz=81,slow=6.6,SNR=5.4						
AS31	**Alice Springs**	**42.85**	**260**	⇓*iP*	**P**	**08 09 32.7**	**-0.1**
ASAR	**Alice Springs**	**42.85**	**260**	P	**P**	**08 09 32.9**	**0.0**
	8.2nm,0.8s,mb4.3,baz=96,slow=7.2,SNR=102						
ASPA	**Alice Springs**	**42.85**	**260**	⇓*iP*	**P**	**08 09 32.7**	**-0.1**
WB2	**Warramunga Arr**	**43.21**	**266**	⇓*iP*	**P**	**08 09 35.1**	**-0.5**
WRA	**Warramunga Arr**	**43.22**	**266**	P	**P**	**08 09 35.3**	**-0.4**
	8.6nm,0.3s,mb4.7,baz=96,slow=8.4,SNR=404						
KAKA	**Kakadu**	**47.11**	**275**	*eP*	**P**	**08 10 05.0**	**-0.4**
	7.3nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.65**	**265**	*eP*	**P**	**08 10 39.7**	**+0.9**
	8.6nm,0.7s,mb4.2						
VNDA	**Vanda**	**54.54**	**185**	P	**P**	**08 11 00.9**	**+1.5**
	0.8nm,0.6s,baz=9.1,slow=5.2,SNR=9.7						
NWAO	**Narrogin (SRO)**	**56.01**	**245**	*eP*	**P**	**08 11 09.6**	**0.0**
QSPA	**South Pole Qui**	**66.28**	**180**	*eP*	**P**	**08 12 18.0**	**+1.1**
	4.9nm,0.8s,mb4.1						
PAYG	**Puerto Ayora**	**88.66**	**90**	*eP*	**P**	**08 14 16.5**	**-1.3**
	66nm,1.1s,mb5.4						

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*BJI **13** 08:09:59.8, 2509N×12578E, h123km, mB4.7, mb4.3*
*NIED **13** 08:10:00, 2600N×12520E, h122km, Mw4.2 Best double couple: M0=2.28000×10^15 NP1:φs=197.00000°, δ88.00000°, λ-11.00000°. NP2:φs=287.00000°, δ79.00000°, λ-178.00000°.*
*IDC **13** 08:10:07.7±2.7, 2594N×12526E, h105km±27km, mb3.7/11, mb1 3.9/13, mb1mx3.7/25, mbtmp4.1/13, Error ellipse: s-maj=24.3km s-min=14.8km az=64.0*
*ISCJB **13** 08:10:07.8±0.3, 2587N±006×12526E±005, h125km±5km, mb4.0/13, Error ellipse: s-maj=11.9km s-min=3.6km az=116.3*
*JMA **13** 08:10:09.1±0.1, 2596N×125.16E, h107km, M4.3*
*NEIC **13** 08:10:09.5±0.6, 2596N×12523E, mb4.4/2, Error ellipse: s-maj=13.3km s-min=8.7km az=153.0*

ISC 13 08:10:08.9±0.3, 2587N±006×12526E±005, h119km±5km, n42, σ0°86/57, mb4.0/13, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.05**	**178**	P	**Pn**	**08 10 32.0**	**+0.7**
JMJ				S	**Sn**	**08 10 48.4**	**+0.1**
JOGS	**Gusukube**	**1.11**	**173**	P	**Pn**	**08 10 32.8**	**+0.9**
JOGS				S	**Sn**	**08 10 49.8**	**+0.4**
JTJ	**Tarama**	**1.32**	**203**	P	**Pn**	**08 10 34.6**	**+0.4**
JTJ				S	**Sn**	**08 10 52.8**	**-0.7**
JKE	**Kume jima 2**	**1.44**	**71**	P	**Pn**	**08 10 36.2**	**+0.6**
JKE				*eS*	**Sn**	**08 10 56.2**	**+0.3**
JIJ	**Ishigaki jima**	**1.81**	**214**	P	**Pn**	**08 10 39.8**	**-0.1**
JIJ				S	**Sn**	**08 11 01.7**	**-1.9**
JAGN	**Aguni-jima**	**1.92**	**68**	P	**Pn**	**08 10 41.8**	**+0.6**
JAGN				*eS*	**Sn**	**08 11 05.9**	**-0.1**
JKRS	**Kuro-shima**	**1.98**	**215**	P	**Pn**	**08 10 42.0**	**0.0**
JKRS				*eS*	**Sn**	**08 11 06.9**	**-0.5**
IRIF	**Iriomote-Funau**	**2.06**	**223**	P	**Pn**	**08 10 42.7**	**-0.4**
IRIF				*eS*	**Sn**	**08 11 08.3**	**-1.0**
NAH1	**Naha**	**2.21**	**81**	P	**Pn**	**08 10 45.8**	**+0.9**
NAH1				*eS*	**Sn**	**08 11 12.2**	**-0.3**
HATJ	**Hateruma jima**	**2.24**	**217**	P	**Pn**	**08 10 45.2**	**0.0**
HATJ				*eS*	**Sn**	**08 11 12.8**	**-0.3**
JJT2	**Tamagusuku 2**	**2.25**	**83**	P	**Pn**	**08 10 46.4**	**+1.0**
JJT2				*eS*	**Sn**	**08 11 13.8**	**+0.3**
YOJ	**Yonaguni jima**	**2.48**	**236**	P	**Pn**	**08 10 49.0**	**+0.7**
YOJ				*eS*	**Sn**	**08 11 18.5**	**-0.1**
JIH	**Iheya**	**2.69**	**64**	P	**Pn**	**08 10 51.4**	**+0.4**
JOW	**Kunigami**	**2.87**	**70**	P	**Pn**	**08 10 53.2**	**-0.1**
	76nm,0.3s,baz=237,slow=8.2,SNR=290						
JOW				S	**Sn**	**08 11 25.6**	**-2.1**
	117nm,0.3s,baz=110,slow=25,SNR=14						
JOW	**Kunigami**	**2.87**	**70**	P	**Pn**	**08 10 53.2**	**-0.2**
JOW				*eS*	**Sn**	**08 11 25.7**	**-1.9**
TATO	**Taipei**	**3.53**	**256**	*ePn*	**Pn**	**08 11 03.6**	**+1.6**
YHNB	**Yeheng**	**3.72**	**252**	*ePn*	**Pn**	**08 11 06.8**	**+2.3**
NACB	**Ninganchiao**	**3.73**	**244**	*ePn*	**Pn**	**08 11 04.5**	**-0.2**
JTK	**Tokunoshima**	**3.81**	**59**	P	**Pn**	**08 11 05.3**	**-0.5**
JAM	**Amami Oshima**	**4.62**	**56**	P	**Pn**	**08 11 15.8**	**-0.9**
JMZ	**Minamidaito 2**	**5.37**	**89**	P	**Pn**	**08 11 24.5**	**-2.2**
JMZ				*eS*	**Sn**	**08 12 18.6**	**-8.8**
MAJO	**Matsushiro**	**15.34**	**43**	*ePn*	**Pn**	**08 13 38.9**	**0.0**
MJAR	**Matsushiro Arr**	**15.34**	**43**	P	**Pn**	**08 13 39.6**	**+0.8**
	0.1nm,0.3s,baz=234,slow=11,SNR=5.0						
CD2	**Chengdu**	**19.57**	**290**	P	**P**	**08 14 28.6**	**+1.3**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**20.96**	**304**	*eP*	**P**	**08 14 39.1**	**-3.1**
	comp=Z,18nm,1.2s						
LZH				pP		08 14 45.2	
LZH				sP		08 14 48.1	
GTA	**Gaotai**	**25.23**	**309**	*eP*	**P**	**08 15 23.4**	**-0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.7						
SONM	**Songino Array**	**26.48**	**331**	P	**P**	**08 15 34.7**	**-0.2**
	comp=Z,2.6nm,0.7s,mb3.8,baz=145,slow=11,SNR=13						
MKAR	**Makanchi Array**	**39.81**	**313**	P	**P**	**08 17 29.9**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.9,baz=85,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**39.81**	**313**	P	**P**	**08 17 29.9**	**-0.3**
ZAL	**Zalesovo**	**40.95**	**324**	P	**P**	**08 17 39.3**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=0.8,slow=5.6,SNR=5.5						
WRA	**Warramunga Arr**	**46.38**	**168**	P	**P**	**08 18 23.2**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=349,slow=8.7,SNR=9.1						
WRA				pP	pP	08 18 51.9	+1.2
	comp=Z,1.8nm,1.0s,baz=351,slow=8.6,SNR=6.1						
BVAR	**Borovoye Array**	**48.78**	**319**	P	**P**	**08 18 41.6**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=112,slow=8.9,SNR=7.1						
ZRNK	**Zerenda**	**49.59**	**319**	*eP*	**P**	**08 18 47.4**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5						
ZRNK				*ePcP*	PcP	08 20 07.5	-0.1
ASAR	**Alice Springs**	**49.95**	**170**	P	**P**	**08 18 52.4**	**+1.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=355,slow=12,SNR=12						
ASAR				pP	pP	08 19 20.8	+2.4
	comp=Z,0.3nm,0.6s,baz=357,slow=14,SNR=2.5						
AKTK	**Aktyubinsk**	**56.19**	**315**	P	**P**	**08 19 36.1**	**-0.1**
AKTO	**Aktyubinsk**	**56.19**	**315**	P	**P**	**08 19 36.1**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=108,slow=13,SNR=9.4						
INK	**Inuvik**	**70.27**	**23**	P	**P**	**08 21 09.3**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.1,baz=310,slow=9.0,SNR=4.7						
INK	**Inuvik**	**70.27**	**23**	P	**P**	**08 21 09.3**	**+0.2**
FINES	**FINESS Array B**	**71.85**	**330**	P	**P**	**08 21 17.9**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.8,baz=114,slow=9.2,SNR=4.2						
NB2	**NORSAR Subarra**	**78.44**	**333**	P	**P**	**08 21 55.1**	**-1.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**78.44**	**333**	P	**P**	**08 21 55.6**	**-0.8**
	comp=Z,1.7nm,0.7s,mb3.9,baz=54,slow=5.6,SNR=8.1						
YKA	**Yellowknife Ar**	**79.96**	**24**	P	**P**	**08 22 05.0**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.4,baz=303,slow=5.4,SNR=11						

GUC 13 08:17:53.9±0.5, 3143S×7169W, h24km±2km, MD3.8, ML3.7, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.65**	**67**	⇑*iP*	Pb	08 18 06.2	-0.3
CMCH				*i* S	Sb	08 18 15.3	+0.3
CMCH				AML	AML	08 18 22.3	
	comp=E,5μm,0.6s						
OVCH	**Ovalle**	**0.92**	**27**	*i* P	Pb	08 18 10.4	-0.8
OVCH				*i* S	Sb	08 18 23.3	+0.2
OVCH				AML	AML	08 18 26.3	
	comp=E,4μm,0.6s						
PACH	**Papudo**	**1.12**	**169**	*i* P	Pn	08 18 13.6	-0.4
PACH				*i* S	Sn	08 18 28.9	+0.2
TLL	**Tololo Astrono**	**1.47**	**31**	⇓*iP*	Pn	08 18 19.7	+0.8
TLL				*e*S	Sn	08 18 39.4	+2.0
TLL				AML	AML	08 18 48.1	
	comp=N,2μm,0.7s						
LSCH	**La Serena**	**1.57**	**14**	*e*P	Pn	08 18 20.4	+0.2
LSCH				*e*S	Sn	08 18 40.7	+1.0
ROCH	**El Roble**	**1.64**	**160**	⇑*iP*	Pn	08 18 22.0	+0.8
PEL	**Peldehue**	**1.91**	**154**	⇓*iP*	Pn	08 18 26.0	+1.2
PEL				*e*S	Sn	08 18 50.5	+2.5
PEL				AML	AML	08 18 57.6	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**2.19**	**154**	*eP*	Pn	08 18 30.0	+1.3
CLCH				*e*S	Sn	08 18 57.7	+2.7
CLCH				AML	AML	08 19 08.7	
	comp=N,736nm,0.8s						
PCH	**Pirque**	**2.40**	**156**	⇓*iP*	Pn	08 18 33.0	+1.4
PCH				*i* S	Sn	08 19 02.6	+2.4
CACH	**El Canelo**	**2.83**	**161**	⇓*iP*	Pn	08 18 39.5	+1.9
CACH				*e*S	Sn	08 19 14.7	+3.8

JMA 13 08:25:26.3, 3422N×13599E, h53km±1km, M0.8, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.24**	**85**	P	Pn	08 25 35.1	-0.1
JKN2				S	Sn	08 25 41.6	+0.1
JWY	**Kouya**	**0.33**	**270**	P	Pn	08 25 36.0	0.0
JWY				S	Sn	08 25 42.9	0.0
JHE	**Heguri**	**0.50**	**330**	*e*S	Sn	08 25 45.9	-0.1
TSUJ	**Tsu 2**	**0.60**	**36**	S	Sn	08 25 47.9	-0.2
JIE	**Ise**	**0.62**	**74**	P	Pn	08 25 39.2	+0.1
JIE				S	Sn	08 25 48.5	+0.1
JWM	**Minabe**	**0.64**	**235**	P	Pn	08 25 39.0	-0.5
JWM				S	Sn	08 25 48.1	-0.9
JWZ	**Kozaga**	**0.72**	**198**	P	Pn	08 25 40.2	-0.3
JWZ				S	Sn	08 25 50.6	-0.2

IDC 13 08:26:19.0±5.1, 2532N×12214E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, MS4.2/3, Ms1 4.1/3, ms1mx3.1/30, Error ellipse: s-maj=334.7km s-min=27.4km az=59.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.14**	**315**	P	P	08 33 39.9	-0.1
	0.5nm,0.5s,baz=117,slow=6.6,SNR=5.9						
WRA	**Warramunga Arr**	**46.53**	**164**	P	P	08 34 47.3	-0.9
	0.2nm,0.4s,baz=346,slow=8.6,SNR=8.1						
WRA				LR	LR	08 53 40.4	
	comp=Z,268nm,18.7s,baz=180,slow=35						
ASAR	**Alice Springs**	**50.02**	**166**	P	P	08 35 16.5	+1.3
	0.3nm,0.7s,baz=350,slow=12,SNR=5.7						
ASAR				LR	LR	08 56 35.5	
	comp=Z,207nm,21.0s,baz=355,slow=36						
STKA	**Stephens Creek**	**59.84**	**161**	LR	LR	09 03 05.0	
	comp=Z,182nm,19.6s,baz=23,slow=37						

IDC 13 08:29:08.8±3.0, 2986S×17703W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, Error ellipse: s-maj=73.3km s-min=30.6km az=50.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**308**	Pn	Pn	08 29 30.5	+0.7
	178nm,0.3s,baz=262,slow=18,SNR=12						
RAO				Sn	Sn	08 29 43.7	-0.6
	951nm,0.3s,baz=82,slow=21,SNR=16						
URZ	**Urewera**	**9.68**	**209**	Sn	Sn	08 33 21.8	+3.0
	0.8nm,0.3s,baz=204,slow=21,SNR=5.4						
ASAR	**Alice Springs**	**43.98**	**266**	P	P	08 37 17.1	-0.6
	0.7nm,0.9s,baz=111,slow=7.9,SNR=4.3						
WRA	**Warramunga Arr**	**44.92**	**271**	P	P	08 37 26.0	+0.8
	1.0nm,0.8s,baz=110,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**144.92**	**341**	PKP	PKPdf	08 48 46.0	-1.8
	0.9nm,0.7s,baz=114,slow=4.6,SNR=4.6						

GUC 13 08:32:13.5±0.5, 3147S×7169W, h21km±2km, MD3.8, ML3.7, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**158**	⇓*iP*	Pb	08 32 22.8	+0.2
CHNG				*i* S	Sb	08 32 29.6	+0.9
CMCH	**Combarbala**	**0.66**	**63**	⇑*iP*	Pb	08 32 25.9	-0.4
CMCH				*i* S	Sb	08 32 35.2	+0.1
CMCH				AML	AML	08 32 43.5	
	comp=E,5μm,0.5s						
OVCH	**Ovalle**	**0.96**	**26**	⇑*iP*	Pb	08 32 30.8	-0.6
OVCH				*i* S	Sb	08 32 43.5	-0.1
OVCH				AML	AML	08 32 46.8	
	comp=E,3μm,0.6s						
PTCH	**Petorca**	**1.02**	**141**	⇓*iP*	Pb	08 32 31.7	-0.8
PTCH				*i* S	Sb	08 32 44.8	-0.7
PTCH				AML	AML	08 32 47.6	
	comp=E,5μm,0.2s						
PACH	**Papudo**	**1.08**	**169**	*i* P	Pn	08 32 32.4	-1.0
PACH				*i* S	Sb	08 32 47.1	-0.1
TLL	**Tololo Astrono**	**1.51**	**31**	⇑*iP*	Pn	08 32 39.7	+0.5
TLL				*i* S	Sn	08 32 59.8	+1.6
TLL				AML	AML	08 33 04.2	
	comp=E,2μm,0.4s						
JACH	**Jahuel**	**1.52**	**143**	*e*P	Pn	08 32 40.0	+0.5
JACH				*i* S	Sn	08 32 59.8	+1.1
ROCH	**El Roble**	**1.60**	**159**	⇑*e*P	Pn	08 32 41.0	+0.4
ROCH				*i* S	Sn	08 33 02.5	+1.9
LSCH	**La Serena**	**1.60**	**14**	*i* P	Pn	08 32 40.6	0.0
LSCH				*i* S	Sn	08 33 01.4	+0.8
PEL	**Peldehue**	**1.87**	**153**	⇓*e*P	Pn	08 32 44.9	+0.6
PEL				*e*S	Sn	08 33 09.4	+2.2
PEL				AML	AML	08 33 12.7	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.15**	**160**	*e*P	Pn	08 32 49.4	+1.3

ellipse: s-maj=13.9km s-min=6.3km az=110.2
*ISCJB **13** 08:36:45.3±0.2,236N±003×12672E±005,h78km, mb4.9/77, Error ellipse: s-maj=7.3km s-min=3.6km az=133.8*
*BJI **13** 08:36:45.3,2.18N×12668E,h94km,mB5.0,mb4.8*
*NEIC **13** 08:36:47.5±0.2,235N×12675E,mb4.9/37, Error ellipse: s-maj=7.6km s-min=4.2km az=71.0*
ISC 13 08:36:47.3±0.2,236N±003×12673E±005,h80km, h80km±3.1km:pP-P,n188,σ1§12/182,mb4.9/77,7C-5D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.81**	**346**	*e*P		**Pn**		**08 38 00.0**	**+2.7**
SWI	**Sorong**	**5.55**	**125**	P		**Pn**		**08 38 05.9**	**-1.3**
	147nm,0.7s								
BUKP	**Musuan**	**5.73**	**343**	*e*P		**Pn**		**08 38 07.7**	**-2.0**
AAI	**Ambon**	**6.18**	**166**	P		**Pn**		**08 38 18.0**	**+2.1**
	159nm,0.9s								
PAGZ	**Pagadian**	**6.39**	**329**	*e*P		**Pn**		**08 38 15.9**	**-2.8**
TSM	**Tawau**	**9.05**	**282**	P		**Pn**		**08 38 54.5**	**-0.6**
KKM	**Kota Kinabalu**	**11.11**	**290**	P		**Pn**		**08 39 24.8**	**+1.7**
KKM	**Kota Kinabalu**	**11.11**	**290**	*e*Pn		**Pn**		**08 39 23.7**	**+0.6**
LUBP	**Lubang**	**12.99**	**331**	*e*P		**Pn**		**08 39 47.5**	**-1.1**
JAY	**Jayapura**	**14.78**	**109**	P		**Pn**		**08 40 15.2**	**+3.2**
	123nm,0.9s								
KMMI	**Kalianget**	**15.80**	**234**	P		**Pn**		**08 40 30.0**	**+5.0**
	145nm,1.1s								
KAKA	**Kakadu**	**16.01**	**159**	*e*P		**Pn**		**08 40 22.8**	**-4.8**
	90nm,0.6s								
KSM	**Kuching**	**16.44**	**267**	*e*Pn		**Pn**		**08 40 35.2**	**+2.3**
BJII	**Banjamegara**	**19.53**	**240**	P		**Pn**		**08 41 14.4**	**+4.2**
	46nm,1.1s								
FITZ	**Fitzroy Crossi**	**20.36**	**183**	*e*P		**P**		**08 41 16.3**	**-1.0**
	80nm,0.6s								
FITZ	**Fitzroy Crossi**	**20.36**	**183**	P		**P**		**08 41 16.8**	**-0.5**
	24nm,0.4s,baz=20,slow=9.9,SNR=88								
GUMO	**Guam**	**21.12**	**57**	*e*P		**P**		**08 41 26.0**	**+0.6**
GUMO					pmax	pmax			
	comp=Z,136nm,1.0s,mb5.2								
GUMO	**Guam**	**21.12**	**57**	*e*P		**P**		**08 41 26.0**	**+0.6**
	comp=Z,136nm,1.0s,mb5.2								
LEM	**Lembang**	**21.15**	**244**	P		**P**		**08 41 31.7**	**+5.9**
	comp=Z,69nm,1.0s,mb4.9								
NACB	**Ninganchiao**	**22.24**	**348**	*e*P		**P**		**08 41 38.0**	**+0.6**
YHNB	**Yeheng**	**22.77**	**347**	*e*P		**P**		**08 41 41.5**	**-1.4**
WRAB	**Tennant Creek**	**23.39**	**162**	*c i*P		**P**		**08 41 47.1**	**-1.7**
WRA	**Warramunga Arr**	**23.39**	**162**	P		**P**		**08 41 47.2**	**-1.7**
	comp=Z,43nm,0.5s,mb5.0,baz=339,slow=11,SNR=134								
WRA					PcP	PcP		08 45 34.6	+1.5
	comp=Z,3.9nm,0.5s,baz=335,slow=2.2,SNR=6.1								
WRA					S		**S**	**08 45 59.4**	**+3.6**
	comp=Z,6.5nm,1.1s,baz=341,slow=15,SNR=5.2								
WB2	**Warramunga Arr**	**23.39**	**162**	⇑*i*P			**P**	**08 41 47.2**	**-1.7**
WB2				*e*S			**S**	**08 45 55.3**	**-0.5**
KGM	**Kluang**	**23.40**	**270**	P			**P**	**08 41 52.4**	**+3.4**
QIZ	**Qiongzhong**	**23.40**	**316**	P			**P**	**08 41 47.6**	**-1.4**
QIZ				AP				08 42 04.3	
QIZ				S			**S**	**08 45 56.1**	**+0.1**
QIZ				XS			sS	08 46 25.3	-2.1
QIZ				AMB			AMB		
	comp=Z,14nm,0.9s,mb4.3								
QIZ				LR			LR		
	comp=N,176nm,22.1s								
QIZ				LR			LR		
	comp=Z,349nm,20.8s								
QIZ	**Qiongzhong**	**23.40**	**316**	*e*P			**P**	**08 41 47.7**	**-1.3**
	comp=Z,11nm,0.8s,mb4.2								
GZH	**Guangzhou**	**24.35**	**329**	P			**P**	**08 41 58.6**	**+1.0**
MBWA	**Marble Bar**	**24.36**	**196**	*e*P			**P**	**08 41 57.8**	**+0.1**
	comp=Z,17nm,0.6s,mb4.5								
JOW	**Kunigami**	**24.38**	**3**	P			**P**	**08 41 58.7**	**+0.9**
	comp=Z,36nm,0.8s,mb4.7,baz=200,slow=16,SNR=4.3								
AS31	**Alice Springs**	**26.80**	**165**	*e*P			**P**	**08 42 18.7**	**-1.1**
ASAR	**Alice Springs**	**26.80**	**165**	P			**P**	**08 42 18.8**	**-1.0**
	comp=Z,6.1nm,0.6s,mb4.3,baz=336,slow=6.1,SNR=100								
ASAR					PcP		PcP	08 45 42.3	+1.6
	comp=Z,9.3nm,0.7s,baz=345,slow=2.1,SNR=9.3								
ASAR					S		**S**	**08 46 58.0**	**+8.0**
	comp=Z,1.8nm,0.9s,baz=352,slow=19,SNR=4.5								
ASPA	**Alice Springs**	**26.80**	**165**	*e*P			**P**	**08 42 18.7**	**-1.1**
KKTK	**Khon Kaen**	**27.32**	**302**	P			**P**	**08 42 22.5**	**-2.0**
NST	**Nakhon Sawan**	**29.35**	**298**	P			**P**	**08 42 42.0**	**-0.5**
CTA	**Charters Tower**	**29.41**	**140**	*e*P			**P**	**08 42 42.8**	**-0.2**
	comp=Z,8.5nm,0.6s,mb4.5								
CTA	**Charters Tower**	**29.41**	**140**	P			**P**	**08 42 42.6**	**-0.3**
	comp=Z,11nm,0.7s,mb4.6,baz=328,slow=10,SNR=11								
CTA	**Charters Tower**	**29.41**	**140**	*e*P			**P**	**08 42 42.8**	**-0.2**
CTA					pmax		pmax		
	comp=Z,9.0nm,0.6s								
CTAO	**Charters Tower**	**29.41**	**140**	*e*P			**P**	**08 42 42.9**	**-0.1**
CTAO					pmax		pmax		
	comp=Z,31nm,1.1s,mb4.8								
CTAO	**Charters Tower**	**29.41**	**140**	*e*P			**P**	**08 42 42.9**	**-0.1**
	comp=Z,31nm,1.1s,mb4.8								
WHN	**Wuhan**	**30.38**	**339**	*e*P			**P**	**08 42 51.3**	**-0.3**
NJ2	**Nanjing**	**30.45**	**347**	*e*P			**P**	**08 42 54.1**	**+1.9**
NJ2				AP			pP	08 43 11.4	+0.6
NJ2				XP			sP	08 43 21.3	+1.1
NJ2				PP			PP	08 43 57.3	-4.9
NJ2				S			**S**	**08 47 47.0**	**-0.4**
NJ2				AMB			AMB		
	comp=Z,40nm,0.7s,mb5.2								
NJ2				AMB			AMB		
	comp=Z,1μm,5.2s								
NJ2				LR			LR		
	comp=N,390nm,15.1s								
NJ2				LR			LR		
	comp=E,460nm,13.7s								
NJ2				LR			LR		
	comp=Z,7μm,10.0s								
GYA	**Guiyang**	**30.74**	**323**	P			**P**	**08 42 54.3**	**-0.5**
GYA				AP			pP	08 43 12.5	-0.9
GYA				S			**S**	**08 47 49.4**	**-2.6**
GYA				AMB			AMB		
	comp=Z,10.0nm,0.8s,mb4.6								
GYA				AMB			AMB		
	comp=Z,100nm,6.6s								
GYA				LR			LR		
	comp=N,230nm,15.6s								
GYA				LR			LR		
	comp=E,350nm,17.6s								
GYA				LR			LR		
	comp=Z,390nm,17.1s								
CM31	**Chiang Mai Arr**	**31.58**	**302**	*e*P			**P**	**08 43 02.5**	**+0.3**
	comp=Z,4.5nm,0.3s,mb4.7								
CHG	**Chiang Mai**	**31.74**	**303**	⇓P			**P**	**08 43 02.9**	**-0.7**
	comp=Z,20nm,0.7s,mb5.0								
CHTO	**Chiang Mai**	**31.74**	**303**	*e*P			**P**	**08 43 03.1**	**-0.5**
CHTO					pmax		pmax		
	comp=Z,13nm,0.6s,mb4.8								
CHTO	**Chiang Mai**	**31.74**	**303**	*e*P			**P**	**08 43 03.1**	**-0.5**
	comp=Z,13nm,0.6s,mb4.8								
KMI	**Kunming**	**32.35**	**316**	P			**P**	**08 43 10.8**	**+1.9**
KMI				AP			pP	08 43 30.0	+2.4
KMI				XP			sP	08 43 40.1	+3.2
KMI				PP			PP	08 44 22.0	-1.4
KMI				PPP				08 44 39.1	
KMI				PCP			PcP	08 45 56.8	+1.8
KMI				S			**S**	**08 48 17.4**	**+0.3**
KMI				XS			sS	08 48 48.9	-0.4
KMI				SCP			ScP	08 49 31.9	+0.4
KMI				PCS			PcS	08 49 38.5	-1.5
KMI				SS			SS	08 50 16.5	-23
KMI				SSS				08 50 42.1	
KMI				SCS			ScS	08 53 29.8	-1.0
KMI				AMB			AMB		
	comp=Z,9.0nm,0.5s,mb4.8								
KMI				AMB			AMB		
	comp=Z,69nm,6.0s								
KMI				LR			LR		
	comp=N,144nm,16.3s								
KMI				LR			LR		
	comp=E,159nm,18.9s								
KMI				LR			LR		
	comp=Z,202nm,19.7s								
KMI	**Kunming**	**32.35**	**316**	P			**P**	**08 43 10.8**	**+1.9**
KMI								08 44 22.0	
KMI				PPP				08 44 39.1	
KMI								08 44 56.7	
KMI				S			**S**	**08 47 47.0**	**-0.4**
KMI				XS			sS	08 48 48.9	-0.4
KMI				SS			SS	08 50 16.5	-23
KMI				SSS				08 50 42.1	
KMI								08 53 29.7	
KMI					pmax		pmax		
	comp=Z,9.0nm,0.5s,mb4.8								
KMI				MLR			MLR		
	comp=Z,200nm,19.7s								
KMI	**Kunming**	**32.35**	**316**	P			**P**	**08 43 10.8**	**+1.9**
	comp=Z,9.0nm,0.5s,mb4.8								
KMI				pP			pP	08 43 30.0	+2.4
KMI				sP			sP	08 43 40.1	+3.2
KMI				PP			PP	08 44 22.0	-1.4
KMI				PPP				08 44 39.1	
KMI				PcP			PcP	08 45 56.7	+1.7
KMI				S			**S**	**08 48 17.4**	**+0.3**
KMI				sS			sS	08 48 48.9	-0.4
KMI				ScP			ScP	08 49 31.9	+0.4
KMI				PcS			PcS	08 49 38.5	-1.5
KMI				SS			SS	08 50 16.5	-23
KMI				SSS				08 50 42.1	
KMI				ScS			ScS	08 53 29.7	-1.1
KMI				LR			LR		
	comp=Z,200nm,19.7s								
FORT	**Forrest**	**32.98**	**178**	⇑*i*P			**P**	**08 43 14.1**	**-0.3**
	comp=Z,156nm,0.7s,mb6.0								
KLBR	**Kellerberrin**	**34.83**	**193**	*e*P			**P**	**08 43 30.9**	**+0.5**
	comp=Z,30nm,0.6s,mb5.3								
KS15	**Wonju Array Si**	**34.92**	**2**	*e*P			**P**	**08 43 32.2**	**+0.9**
HNR	**Honiara**	**35.10**	**110**	LR			LR	08 57 46.8	
	comp=Z,211nm,19.6s,baz=0.2,slow=36								
MUN	**Mundaring**	**35.58**	**195**	*e*P			**P**	**08 43 45.5**	**+8.6**
MJAR	**Matsushiro Arr**	**35.62**	**16**	P			**P**	**08 43 36.0**	**-1.2**
	comp=Z,5.3nm,0.5s,mb4.7,baz=174,slow=8.0,SNR=18								
MJAR					PcP		PcP	08 46 06.1	+1.8
	comp=Z,2.9nm,0.6s,baz=183,slow=2.7,SNR=6.0								
MAJO	**Matsushiro**	**35.62**	**16**	*e*P			**P**	**08 43 35.8**	**-1.5**
MAJO				*e*				08 46 04.6	
MAJO					pmax		pmax		
	comp=Z,9.0nm,0.4s,mb5.0								
MAJO	**Matsushiro**	**35.62**	**16**	*e*P			**P**	**08 43 35.8**	**-1.5**
	comp=Z,8.9nm,0.4s,mb5.0								
MAJO				*e*PcP			PcP	08 46 04.6	+0.3
MAT	**Matsushiro**	**35.62**	**16**	P			**P**	**08 43 35.5**	**-1.8**
XAN	**Xi'an**	**35.63**	**334**	P			**P**	**08 43 35.8**	**-1.6**
XAN				AMB			AMB		
	comp=Z,16nm,1.0s,mb4.9								
CD2	**Chengdu**	**35.75**	**325**	P			**P**	**08 43 37.1**	**-1.2**
CD2				AP			pP	08 43 59.9	+2.7
CD2				XP			sP	08 44 07.6	+1.1
CD2				PP			PP	08 45 01.1	+0.2
CD2				S			**S**	**08 49 08.6**	**-0.9**
CD2				XS			sS	08 49 43.8	+1.8
CD2				SS			SS	08 51 35.8	-12
CD2				AMB			AMB		
	comp=Z,20nm,0.6s,mb5.2								
CD2				AMB			AMB		
	comp=Z,50nm,5.8s								
NWAO	**Narrogin (SRO)**	**36.23**	**194**	*e*P			**P**	**08 43 42.8**	**+0.4**
NWAO				pmax			pmax		
	comp=Z,23nm,0.9s								
NWAO	**Narrogin (SRO)**	**36.23**	**194**	*e*P			**P**	**08 43 42.8**	**+0.3**
	comp=Z,23nm,0.9s,mb5.1								
DL2	**Dalian**	**36.67**	**353**	P			**P**	**08 43 48.3**	**+2.1**
DL2				AMB			AMB		
	comp=Z,30nm,0.9s,mb5.2								
STKA	**Stephens Creek**	**36.86**	**159**	P			**P**	**08 43 47.4**	**-0.5**
	comp=Z,61nm,0.7s,mb5.7,baz=335,slow=8.4,SNR=114								
STKA					PcP		PcP	08 46 09.4	+1.4
	comp=Z,10nm,0.6s,baz=320,slow=7.0,SNR=4.1								
STKA	**Stephens Creek**	**36.86**	**159**	⇑*i*P			**P**	**08 43 47.3**	**-0.5**
	comp=Z,59nm,0.8s,mb5.6								
STKA				*e*PP			PP	08 45 09.3	-3.8
STKA				*e*PcP			PcP	08 46 08.9	+0.9
BJT	**Baijiatuau**	**38.69**	**347**	*e*P			**P**	**08 44 04.3**	**+1.1**
BJI	**Beijing**	**38.71**	**347**	P			**P**	**08 44 02.8**	**-0.6**
BJI				S			**S**	**08 50 02.6**	**+8.2**
BJI				AMB			AMB		
	comp=Z,25nm,1.6s,mb4.8								
BJI				LR			LR		
	comp=N,157nm,19.7s								
BJI				LR			LR		
	comp=E,189nm,18.3s								
BJI				LR			LR		
	comp=Z,174nm,25.8s								
BJI	**Beijing**	**38.71**	**347**	P			**P**	**08 44 02.7**	**-0.7**
BJI				S			**S**	**08 50 02.6**	**+8.2**
BJI					pmax		pmax		
	comp=Z,25nm,1.6s,mb4.8								
BJI				MLR			MLR		
	comp=Z,170nm,25.8s								
BJI	**Beijing**	**38.71**	**347**	P			**P**	**08 44 02.7**	**-0.7**
	comp=Z,25nm,1.6s,mb4.8								
BJI				S			**S**	**08 50 02.6**	**+8.2**
BJI				LR			LR		
	comp=Z,170nm,25.8s								
LZH	**Lanzhou**	**39.68**	**330**	*e*P			**P**	**08 44 11.5**	**0.0**
LZH				AP			pP	08 44 32.0	+1.4
LZH				XP			sP	08 44 41.5	+1.7
LZH				PP			PP	08 45 47.0	+3.0
LZH				PCP			PcP	08 46 17.8	+1.0
LZH				*e*S			**S**	**08 50 10.0**	**+1.0**
LZH				SS			SS	08 53 03.0	-4.3
LZH				AMB			AMB		
	comp=Z,28nm,1.5s,mb4.9								
LZH				AMB			AMB		
	comp=Z,59nm,4.0s								
LZH				LR			LR		
	comp=N,433nm,14.1s								
LZH				LR			LR		
	comp=Z,695nm,15.4s								
LZH	**Lanzhou**	**39.68**	**330**	*e*P			**P**	**08 44 11.5**	**0.0**
LZH								08 45 47.0	
LZH								08 46 17.7	
LZH				*e*S			**S**	**08 50 10.0**	**+1.0**
LZH				SS			SS	08 53 03.0	-4.3
LZH					pmax		pmax		
	comp=Z,28nm,1.5s,mb4.9								
LZH				MLR			MLR		
	comp=Z,700nm,15.4s								
LZH	**Lanzhou**	**39.68**	**330**	*e*P			**P**	**08 44 11.5**	**0.0**
	comp=Z,28nm,1.5s,mb4.9								
LZH				pP			pP	08 44 32.0	+1.4
LZH				sP			sP	08 44 41.5	+1.7
LZH				PP			PP	08 45 47.0	+3.0
LZH				PcP			PcP	08 46 17.7	+0.9
LZH				*e*S			**S**	**08 50 10.0**	**+1.0**
LZH				sS			sS	08 50 39.3	-2.5
LZH				SS			SS	08 53 03.0	-4.3
LZH				LR			LR		
	comp=Z,700nm,15.4s								
ARMA	**Armidale**	**40.34**	**146**	*e*P			**P**	**08 44 17.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**40.69**	**342**	*e*P			**P**	**08 44 21.4**	**+1.6**
HHC				AP			pP	08 44 40.6	+1.6
HHC				XP			sP	08 44 48.8	+0.6
HHC				S			**S**	**08 50 25.3**	**+1.2**
HHC				AMB			AMB		
	comp=Z,12nm,0.7s,mb4.8								
HHC				AMB			AMB		
	comp=Z,91nm,4.9s								
HHC				LR			LR		
	comp=N,195nm,27.4s								
HHC				LR			LR		
	comp=E,141nm,24.2s								
HHC				LR			LR		
	comp=Z,412nm,28.5s								
MDJ	**Mudanjiang**	**42.15**	**3**	P			**P**	**08 44 32.8**	**+1.0**
MDJ				AP			pP	08 44 50.8	-0.3
MDJ				XP			sP	08 45 00.9	+0.7
MDJ				PP			PP	08 46 11.8	+1.1
MDJ				S			**S**	**08 50 47.6**	**+1.9**
MDJ				XS			sS	08 51 21.8	+3.1
MDJ				AMB			AMB		
	comp=Z,16nm,0.9s,mb4.8								
MDJ				AMB			AMB		
	comp=Z,49nm,4.1s								
MDJ				LR			LR		
	comp=N,138nm,30.0s								
MDJ				LR			LR		
	comp=E,54nm,33.4s								
MDJ				LR			LR		
	comp=Z,164nm,30.0s								
MDJ	**Mudanjiang**	**42.15**	**3**	P			**P**	**08 44 33.2**	**+1.5**
	comp=Z,14nm,0.8s,mb4.8								
CNB	**Canberra Magne**	**43.06**	**153**	*e*P			**P**	**08 44 39.3**	**+0.2**
	comp=Z,30nm,1.1s,mb4.9								
TOO	**Toolangi**	**43.38**	**158**	*e*P			**P**	**08 44 43.1**	**+1.4**
	comp=Z,11nm,0.8s,mb4.6								
TOO	**Toolangi**	**43.38**	**158**	*e*P			**P**	**08 44 43.1**	**+1.4**
TOO					pmax		pmax		
	comp=Z,11nm,0.8s,mb4.6								
ASAJ	**Asahikawa**	**43.89**	**16**	P			**P**	**08 44 46.2**	**+0.4**
	comp=Z,14nm,0.8s,mb4.8,baz=229,slow=19,SNR=5.1								
GTA	**Gaotai**	**44.27**	**330**	*e*P			**P**	**08 44 48.5**	**-0.3**
GTA				AP			pP	08 45 11.4	+3.2
GTA				XP			sP	08 45 19.3	+1.9
GTA				PP			PP	08 46 35.1	+1.7
GTA				S			**S**	**08 51 18.3**	**+1.7**
GTA				XS			sS	08 51 52.3	+2.5
GTA				SS			SS	08 54 32.3	-5.1
GTA				AMB			AMB		
	comp=Z,4.0nm,0.8s,mb4.2								
GTA				AMB			AMB		
	comp=Z,65nm,4.6s								
GTA				LR			LR		
	comp=N,152nm,25.2s								
GTA				LR			LR		
	comp=E,183nm,26.7s								
GTA				LR			LR		
	comp=Z,403nm,27.5s								
DZM	**Mont Dzumac**	**45.76**	**124**	P			**P**	**08 45 01.5**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.4,baz=103,slow=22,SNR=6.4								
DZM				LR			LR	09 00 32.2	
	comp=Z,333nm,21.0s,baz=358,slow=31								
JIRN	**Jiri**	**46.18**	**307**	*e*P			**P**	**08 45 03.8**	**-0.1**
	comp=Z,4.5nm,0.4s,mb4.6								
GUN	**Gumba**	**46.54**	**307**	*e*P			**P**	**08 45 06.3**	**-0.4**
	comp=Z,36nm,0.5s,mb5.4								
YSS	**Yuzh-Sakhalins**	**46.55**	**15**	*e*P			**P**	**08 45 06.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**46.55**	**15**	*e*P			**P**	**08 45 06.0**	**-0.8**
	comp=Z,8.0nm,0.4s,mb4.8								
PKI	**Pulchoki**	**46.77**	**306**	*e*P			**P**	**08 45 07.2**	**-1.3**
	comp=Z,10nm,0.5s,mb4.8								
KLR	**Kul'dur**	**46.89**	**5**	*e*P			**P**	**08 45 06.2**	**-3.3**
KLR					pmax		pmax		
	comp=Z,40nm,1.6s,mb4.9								
KKN	**Kakani**	**46.96**	**307**	*e*P			**P**	**08 45 08.6**	**-1.5**
	comp=Z,17nm,0.4s,mb5.1								
DMN	**Daman**	**47.03**	**306**	*e*P			**P**	**08 45 09.9**	**-0.7**
HIA	**Hailar**	**47.11**	**354**	*e*P			**P**	**08 45 13.1**	**+1.9**
HIA					pmax		pmax		
	comp=Z,13nm,0.8s								
HIA	**Hailar**	**47.11**	**354**	*e*P			**P**	**08 45 13.1**	**+1.9**
	comp=Z,14nm,0.8s,mb4.7								
GKN	**Gorkha**	**47.57**	**307**	*e*P			**P**	**08 45 13.8**	**-1.0**
	comp=Z,11nm,0.5s,mb4.9								
KOLN	**Koldanda**	**48.31**	**306**	*e*P			**P**	**08 45 20.2**	**-0.3**
	comp=Z,51nm,0.7s,mb5.5								
SONM	**Songino Array**	**48.59**	**342**	P			**P**	**08 45 22.5**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.7,baz=155,slow=8.9,SNR=26								
SONM				LR			LR	09 08 48.5	
	comp=Z,113nm,19.9s,baz=157,slow=40								
HYB	**Hyderabad**	**49.59**	**291**	*i* P			**P**	**08 45 31.5**	**+1.2**
HYB	**Hyderabad**	**49.59**	**291**	*e*P			**P**	**08 45 30.0**	**-0.3**
CIT	**Chita**	**50.70**	**350**	*e*P			**P**	**08 45 38.7**	**0.0**
CIT				*e*			pP	08 45 56.5	-2.0
CIT					pmax		pmax		
	comp=Z,48nm,3.0s								
ZAK	**Zakamensk**	**51.81**	**341**	*e*P			**P**	**08 45 47.9**	**+1.0**
ZAK				*e*				08 46 59.9	
ZAK					pmax		pmax		
	comp=Z,3.0nm,1.4s,mb4.1								
ZAK					pmax		pmax		
	comp=Z,3.0nm,1.4s,mb4.1								
WMQ	**Urumqi**	**53.84**	**326**	*e*P			**P**	**08 46 02.8**	**+0.9**
WMQ				AP			pP	08 46 23.0	+1.1
WMQ				XP			sP	08 46 33.0	+2.1
WMQ				PCP			PcP	08 47 07.0	+0.3
WMQ				S			**S**	**08 53 30.0**	**-0.8**
WMQ				PS				08 53 53.0	
WMQ				AMB			AMB		
	comp=Z,13nm,0.9s,mb5.0								
WMQ				AMB			AMB		
	comp=Z,141nm,4.6s								
WMQ				LR			LR		
	comp=N,600nm,22.8s								
WMQ				LR			LR		
	comp=E,398nm,21.4s								
WMQ				LR			LR		
	comp=Z,474nm,22.5s								
BOD	**Bodaibo**	**56.21**	**352**	*e*P			**P**	**08 46 19.4**	**+0.4**
BOD					pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.7								
MKAR	**Makanchi Array**	**58.67**	**326**	P			**P**	**08 46 35.8**	**-0.5**
	comp=Z,4.8nm,0.4s,mb4.8,baz=118,slow=7.3,SNR=58								
MKAR				LR			LR	09 13 40.1	
	comp=Z,86nm,21.4s,baz=106,slow=38								
MKAR	**Makanchi Array**	**58.67**	**326**	*e*P			**P**	**08 46 35.9**	**-0.4**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.4s								
YAK	**Yakutsk**	**59.56**	**2**	*e*P			**P**	**08 46 42.2**	**-0.3**
YAK					pmax		pmax		
	comp=Z,40nm,0.6s,mb5.6								
YAK	**Yakutsk**	**59.56**	**2**	*e*P			**P**	**08 46 42.2**	**-0.2**
	comp=Z,40nm,0.6s,mb5.6								
MA2	**Magadan**	**60.02**	**14**	*e*P			**P**	**08 46 45.4**	**-0.2**
MA2				*e*				08 47 29.1	
MA2					pmax		pmax		
	comp=Z,10.0nm,0.6s,mb5.0								
MA2	**Magadan**	**60.02**	**14**	*e*P			**P**	**08 46 45.4**	**-0.2**
	comp=Z,10nm,0.6s,mb5.0								
MA2				*e*PcP			PcP	08 47 29.1	-1.7
RPZ	**Rata Peaks**	**60.65**	**144**	P			**P**	**08 46 50.0**	**+0.1**
	comp=Z,18nm,0.6s,mb5.3,baz=332,slow=6.8,SNR=4.1								
AAK	**Ala-Archa**	**61.37**	**318**	*e*P			**P**	**08 46 54.3**	**-0.4**
AAK					pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4								
AAK	**Ala-Archa**	**61.37**	**318**	*e*P			**P**	**08 46 54.3**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.5								
URZ	**Urewera**	**61.55**	**136**	P			**P**	**08 46 55.9**	**-0.1**
	comp=Z,4.1nm,0.4s,mb4.8,baz=338,slow=5.4,SNR=6.8								
ZAL	**Zalesovo**	**61.80**

comp=Z,11nm,0.7s,mb4.8
GNI Garni 82.36 310 *e*P **P 08 49 01.5 +1.2**
GNI pmax pmax
comp=Z,17nm,1.6s
GNI Garni 82.36 310 *e*P **P 08 49 01.5 +1.2**
comp=Z,17nm,1.6s,mb4.6
GNI *e*PcP PcP 08 49 06.3 +1.0
MAW Mawson 82.48 200 ⇑*i*P **P 08 49 01.9 +0.9**
comp=Z,7.6nm,0.6s,mb4.7
MAW Mawson 82.48 200 P **P 08 49 02.1 +1.2**
comp=Z,11nm,0.6s,mb4.8,baz=66,slow=5.3,SNR=37
MAW LR LR 09 19 53.5
comp=Z,51nm,21.8s,baz=239,slow=32
MAW Mawson 82.48 200 ⇑*i*P **P 08 49 01.9 +0.9**
MAW pmax pmax
comp=Z,8.0nm,0.6s
SBA Scott Base 82.99 172 *e*P **P 08 49 04.2 +0.6**
SBA pmax pmax
comp=Z,14nm,1.1s,mb4.7
SBA Scott Base 82.99 172 *e*P **P 08 49 04.2 +0.6**
comp=Z,14nm,1.1s,mb4.7
ZEI Tsey 83.14 313 *e*P **P 08 49 05.6 +1.2**
ZEI *e**PP PcP 08 49 12.7 +3.9
ZEI pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
SLKM Skilak Lake 84.52 30 *e*P **P 08 49 11.4 0.0**
PPT Papeete 84.69 108 *e*LR LR 09 16 02.1
comp=Z,133nm,28.0s
PPT Papeete 84.69 108 LR LR 09 22 24.2
comp=Z,12nm,19.2s,baz=270,slow=32
VRHR Novokhopersk 85.09 321 *e*P **P 08 49 14.7 +0.4**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
PMR Palmer 85.14 29 *e*P **P 08 49 14.7 +0.2**
PMR *e* 08 49 23.5
PMR pmax pmax
comp=Z,12nm,0.9s,mb4.8
PMR Palmer 85.14 29 *e*P **P 08 49 14.7 +0.2**
comp=Z,12nm,0.9s,mb4.8
PMR *e* 08 49 23.5
VRSR Storozhevoye 86.63 321 *e*P **P 08 49 23.0 +1.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
MALT Malatya 87.22 308 *e*P **P 08 49 25.4 +0.7**
MALT *e*PcP PcP 08 49 27.4 +0.7
ANN Anapa 87.85 315 *e*P **P 08 49 28.3 +0.5**
ANN *i **PP pP 08 49 38.6 -11
ANN *e* 08 52 53.9
ANN *e*S S 08 59 53.0 -11
ANN *e*SS SS 09 05 56.7 +4.0
ANN pmax pmax
comp=Z,133nm,1.6s,mb5.7
OBN Obninsk 88.17 325 *e*P **P 08 49 30.3 +1.0**
OBN *e* pP 08 49 47.4 -3.5
OBN pmax pmax
comp=Z,15nm,0.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s
KMBO Kilima Mbogo 89.53 269 P **P 08 49 39.6 +4.0**
comp=Z,1.7nm,0.8s,mb4.2,baz=62,slow=21,SNR=4.1
KMBO Kilima Mbogo 89.53 269 *e*P **P 08 49 36.0 +0.4**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 89.53 269 *e*P **P 08 49 36.0 +0.3**
comp=Z,5.5nm,1.1s,mb4.6
JOF Joensuu 90.39 333 *e*p **P 08 49 39.4 -0.3**
comp=Z,2.1nm,0.5s,mb4.5
EIL Elat 90.39 300 *e*P **P 08 49 39.4 -0.3**
comp=Z,54nm,0.6s,mb5.8
BR131 Keskin Array S 90.89 310 *e*P **P 08 49 42.0 0.0**
comp=Z,0.8nm,0.4s,mb4.2
BRTR Keskin Array B 90.89 310 P **P 08 49 43.1 +1.2**
comp=Z,2.0nm,0.7s,mb4.3,baz=110,slow=5.7,SNR=5.9
SYO Syowa Base 91.16 201⇓*e*P **P 08 49 43.8 +0.6**
KEV Kevo 91.17 340 *e*p **P 08 49 41.1 -2.2**
ARCES ARCESS Array B 91.72 340 P **P 08 49 44.5 -1.3**
comp=Z,5.5nm,0.7s,mb4.9,baz=77,slow=5.1,SNR=19
ARCES PKKP PKKPbc 09 07 04.8 +0.8
comp=Z,1.5nm,0.8s,baz=298,slow=2.6,SNR=6.9
ARCES LR LR 09 32 45.3
comp=Z,86nm,20.3s,baz=274,slow=37
ARCES ARCESS Array B 91.72 340 P **P 08 49 44.6 -1.2**
ARCES 09 07 04.9
QSPA South Pole Qui 92.28 180 *e*P **P 08 49 49.2 +0.8**
comp=Z,9.0nm,1.0s,mb5.0
KAF Kangasniemi 92.80 332 *e*p **P 08 49 51.4 +0.6**
AKASG Malin Array Be 92.95 321 LR LR 09 34 01.2
comp=Z,32nm,19.3s,baz=270,slow=37
FINES FINESS Array B 93.03 332 P **P 08 49 52.8 +0.9**
comp=Z,1.7nm,0.8s,mb4.4,baz=54,slow=7.1,SNR=4.1
FINES LR LR 09 37 02.6
comp=Z,51nm,19.4s,baz=175,slow=39
TAOE Nuku Hiva Isla 93.44 99 *e*LR LR 09 20 04.9
comp=Z,288nm,25.3s
MLR Muntele Rosu 95.88 316⇓*i*P **P 08 49 57.8 -7.1**
BURAR Bucovina Array 96.02 318⇓*i*P **P 08 50 07.3 +1.7**
NB2 NORSAR Subarra100.00 334 Pdif Pdif 08 50 22.3 -1.2
comp=Z,0.8nm,0.7s,baz=66,slow=4.4
NB2 NORSAR Subarra100.00 334 P Pdif 08 50 22.3 -1.2
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 100.00 334 P Pdif 08 50 22.4 -1.1
comp=Z,0.9nm,0.8s,baz=67,slow=4.5,SNR=3.3
CLL Collm 102.74 324 *e*P Pdif 08 50 39.0 +3.4
CLL Collm 102.74 324 *e*(Pdif) 08 50 39.0
CLL LmV 09 38 00.0
comp=Z,100nm,19.8s
PDAR Pinedale Array 112.37 41 PKKPbc PKKPbc 09 06 05.7 +1.9
comp=Z,0.3nm,0.5s,baz=120,slow=5.3,SNR=3.1
PDAR PKKPab PKKPab 09 06 14.0 +1.4
comp=Z,0.7nm,0.9s,baz=93,slow=3.3,SNR=4.3
SCHQ Schefferville 121.91 9 PKP PKPdf 08 55 33.1 +0.9
comp=Z,7.0nm,1.0s,baz=30,slow=4.0,SNR=9.3
KSU1 Kansas State U 122.66 39 *e*PKPdf PKPdf 08 55 34.1 +0.5
TORD Torodi Ar. Bea 123.33 287 PKP PKPdf 08 55 36.9 +1.9
comp=Z,1.4nm,0.7s,baz=72,slow=1.5,SNR=10
TORD PKKPbc PKKPbc 09 05 26.6 +2.2
comp=Z,1.0nm,0.5s,baz=280,slow=3.5,SNR=9.9
PARMO Parma 128.43 38 *e*PKPdf PKPdf 08 55 44.7 0.0
PARMO *e* 08 56 01.2
NCB Newcomb 130.19 20 *e*PKPdf PKPdf 08 55 48.1 +0.1
PLCA Paso Flores 138.73 160 PKP PKPdf 08 56 07.0 +3.0
comp=Z,4.2nm,0.6s,baz=352,slow=2.3,SNR=8.9
CFAA Coronel Fontan 147.67 156 PKPbc PKPbc 08 56 24.3 +1.8
comp=Z,3.0nm,0.7s,baz=235,slow=2.4,SNR=6.1
CPUP Villa Florida 155.85 171 PKPab PKPab 08 57 01.1 +2.1
comp=Z,4.5nm,0.7s,baz=164,slow=1.8,SNR=8.2
CPUP Villa Florida 155.85 171 *e*PKPdf PKPdf 08 56 32.8 +0.9
CPUP *e* 08 57 01.1
MTP Monte Pirata 156.34 30 *e*PKPdf PKPdf 08 56 33.8 +1.2
MTP *e*PKPab PKPab 08 57 00.2 -1.0
SDV Santo Domingo 159.40 57 PKPab PKPab 08 57 17.1 +2.7
comp=Z,3.9nm,0.6s,baz=242,slow=5.3,SNR=5.2
SIV San Ignacio 164.43 151 PKPab PKPab 08 57 38.9 +2.4
comp=Z,5.8nm,0.7s,baz=204,slow=3.7,SNR=7.7
BDFB Brasilia 165.83 201 PKPab PKPab 08 57 44.9 +2.3
comp=Z,2.3nm,0.6s,baz=164,slow=4.3,SNR=3.7

IDC 13 08:42:57.1±12.0,2373S×17726W,h397km±119km, mb3.3/4,mb1 3.5/4,mb1mx3.3/12,mbtmp4.0/4,Error ellipse: s-maj=51.9km s-min=38.8km az=94.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.54**	**260**	P	P	08 50 32.6	+1.4
	2.6nm,0.9s,baz=95,slow=8.0,SNR=8.7						
WRA	**Warramunga Arr**	**44.92**	**265**	P	P	08 50 33.8	-0.5
	2.3nm,0.9s,baz=96,slow=8.4,SNR=14						
MAW	**Mawson**	**78.77**	**200**	P	P	08 54 16.2	-0.8
	1.8nm,0.8s,baz=96,slow=6.9,SNR=5.0						
PDAR	**Pinedale Array**	**90.84**	**43**	P	P	08 55 17.4	+0.9
	0.4nm,0.6s,baz=101,slow=1.6,SNR=4.7						
AKASG	**Malin Array Be**	**146.14**	**329**	PKPbc	PKPbc	09 01 50.1	-1.3
	3.3nm,0.8s,baz=38,slow=3.7,SNR=12						
BRTR	**Keskin Array B**	**149.45**	**309**	PKPbc	PKPbc	09 02 01.4	+1.4
	1.1nm,0.8s,baz=108,slow=4.0,SNR=4.8						
GERES	**GERESS Array B**	**153.48**	**344**	PKPbc	PKPbc	09 02 08.7	-0.4
	0.2nm,0.4s,baz=297,slow=5.4,SNR=3.4						
GERES				PKPab	PKPab	09 02 21.8	-1.5
	0.2nm,0.3s,baz=315,slow=0.8,SNR=3.7						

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*ISCJB **13** 08:51:05.4±0.6,2105S×0.05×6831W×0.07,h115km±6km, mb3.9/9,Error ellipse: s-maj=11.6km s-min=7.1km az=35.7*
*IDC **13** 08:51:05.8±0.8,2101S×6846W,h106km±8km,mb3.7/8, mb1 3.8/12,mb1mx3.7/20,mbtmp4.1/12,MS3.7/2, Ms1 3.6/2,ms1mx2.7/27,Error ellipse: s-maj=17.8km s-min=8.6km az=103.0*
*NEIC **13** 08:51:06.7±0.9,2106S×6826W,h109km±11km,mb4.2/3, Error ellipse: s-maj=14.0km s-min=10.8km az=90.0*
ISC 13 08:51:06.7±0.6,2106S×0.05×6833W×0.07,h111km±6km, n27,σ1§08/29,mb3.9/9,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.64**	**199**	P	**Pn**	**08 51 35.0**	**-0.2**
	411nm,0.3s,baz=8.7,slow=9.1,SNR=4298						
LVC				S	**Sn**	**08 51 56.2**	**-0.7**
	171nm,0.3s,baz=167,slow=22,SNR=21						
LVC	**Limon Verde**	**1.64**	**199**	*e*P	**Pn**	**08 51 35.0**	**-0.2**
LVC				*e*Sn	**Sn**	**08 51 56.8**	**-0.1**
LPAZ	**La Paz**	**4.75**	**2**	P	**Pn**	**08 52 16.7**	**+0.7**
	12nm,0.3s,baz=190,slow=8.0,SNR=326						
LPAZ				S	**Sn**	**08 53 10.7**	**+0.7**
	baz=246,slow=18,SNR=1.2						
LPAZ	**La Paz**	**4.75**	**2**	*e*P	**Pn**	**08 52 17.4**	**+1.3**
ARE	**Arequipa**	**5.46**	**326**	*e*P	**Pn**	**08 52 20.0**	**-5.7**
ARE				*e*S	**Sn**	**08 53 18.0**	**-9.3**
SIV	**San Ignacio**	**8.53**	**55**	P	**Pn**	**08 53 06.9**	**-0.5**
	15nm,0.3s,baz=241,slow=12,SNR=503						
SIV				S	**Sn**	**08 54 41.6**	**-0.2**
	baz=337,slow=21,SNR=4.0						
CFAA	**Coronel Fontan**	**10.51**	**180**	P	**Pn**	**08 53 30.1**	**-4.0**
	0.1nm,0.3s,baz=353,slow=13,SNR=9.5						
CPUP	**Villa Florida**	**11.36**	**120**	P	**Pn**	**08 53 45.3**	**-0.2**
	0.2nm,0.3s,baz=284,slow=12,SNR=4.2						
NNA	**Nana**	**12.16**	**317**	*e*Pn	**Pn**	**08 53 58.8**	**+2.8**
NNA				*e*Sn	Sn	08 56 32.3	+23
SAML	**Samuel**	**13.02**	**23**	*e*P	**Pn**	**08 54 05.1**	**-2.3**
	11nm,1.1s						
PLCA	**Paso Flores**	**19.70**	**185**	P	**P**	**08 55 26.9**	**-0.3**
	0.2nm,0.3s,baz=0.3,slow=16,SNR=5.7						
PLCA	**Paso Flores**	**19.70**	**185**	P	**P**	**08 55 26.9**	**-0.3**
BDFB	**Brasilia**	**20.02**	**78**	P	**P**	**08 55 31.9**	**+1.3**
	1.5nm,0.4s,baz=265,slow=9.5,SNR=4.0						
BDFB				LR	LR	09 04 59.3	
	comp=Z,61nm,20.9s,baz=207,slow=41						
PMSA	**Palmer Station**	**43.79**	**177**	LR	LR	09 19 34.6	
	comp=Z,283nm,18.6s,baz=336,slow=39						
SNAA	**Sanae**	**62.52**	**161**	P	**P**	**09 01 19.2**	**+0.7**
	0.2nm,0.6s,mb3.2,baz=279,slow=10,SNR=15						
QSPA	**South Pole Qui**	**69.13**	**180**	*e*P	**P**	**09 02 02.3**	**+1.4**
	0.8nm,0.4s,mb3.9						
ARUT	**Antelope Range**	**72.28**	**324**	*e*P	**P**	**09 02 20.6**	**+0.6**
PDAR	**Pinedale Array**	**74.00**	**330**	P	**P**	**09 02 29.3**	**-0.8**
	0.7nm,0.8s,mb3.4,baz=103,slow=4.4,SNR=4.5						
HWUT	**Hardware Ranch**	**74.09**	**328**	*e*P	**P**	**09 02 29.9**	**-0.8**
	2.4nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**75.06**	**342**	P	**P**	**09 02 34.3**	**-1.9**
	2.3nm,0.4s,mb4.3,baz=170,slow=6.3,SNR=5.4						
NVAR	**Mina Array Bea**	**75.48**	**322**	P	**P**	**09 02 38.2**	**-0.5**
	0.6nm,0.7s,mb3.4,baz=165,slow=8.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**76.70**	**70**	P	**P**	**09 02 46.6**	**+1.1**
	1.8nm,0.5s,mb4.1,baz=253,slow=5.4,SNR=34						
MCMT	**McKenzie Canyo**	**77.12**	**329**	*e*P	**P**	**09 02 48.4**	**+0.5**
MAW	**Mawson**	**84.60**	**163**	P	**P**	**09 03 28.3**	**+0.7**
	1.3nm,0.6s,mb4.1,baz=212,slow=4.9,SNR=7.9						
YKA	**Yellowknife Ar**	**90.95**	**340**	P	**P**	**09 03 56.3**	**-1.7**
	1.1nm,0.7s,mb4.1,baz=134,slow=4.6,SNR=6.6						
MKAR	**Makanchi Array**	**144.96**	**36**	PKP	PKPdf	09 10 30.8	+0.1
	1.3nm,0.5s,baz=320,slow=2.6,SNR=28						
SONM	**Songino Array**	**152.95**	**8**	PKPbc	PKPbc	09 10 50.1	-0.7
	0.7nm,0.6s,baz=4.3,slow=0.9,SNR=5.3						
SONM				PKPab	PKPab	09 11 01.0	-1.5
	0.4nm,0.6s,baz=356,slow=4.5,SNR=2.6						

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*NEIC **13** 09:13:35.2,6284N×14373W,h10km,ML2.8(AEIC),After AEIC.*
PGC 13 09:13:34.0,6286N×14374W,h1km,ML3.0/3,236km northeast of Valdez, Ak Eastern Alaska.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.07**	**8**	P	Pg	09 13 38.2	+2.7
MENT				S	Sg	09 13 40.5	+4.1
DOT	**Dot Lake**	**0.80**	**350**	P	Pg	09 13 51.0	+1.6
DOT				S	Sg	09 14 01.9	+2.1
BMRM	**Bremner River**	**1.95**	**192**	P	Pn	09 14 08.2	0.0
DIV	**Divide**	**1.99**	**210**	P	Pn	09 14 09.6	+0.9
EGAK	**Eagle**	**2.24**	**30**	*e*Pn	Pn	09 14 12.1	-0.1
EGAK				*e*Sn	Sn	09 14 44.0	+3.5
DAWY	**Dawson**	**2.29**	**56**	Pn	Pn	09 14 12.0	-1.0
DAWY				Pg	Pg	09 14 18.2	+0.1
DAWY				Sn	Sn	09 14 42.2	+0.3
DAWY				Sg	Sg	09 14 45.8	-2.0
DAWY				Trac		09 14 48.4	
	comp=Z,42nm,0.1s						
DAWY	**Dawson**	**2.29**	**56**	*e*Pn	Pn	09 14 12.0	-1.0
DAWY				*e*Sg	Sg	09 14 45.0	-2.8
EYAK	**Cordova Ski Ar**	**2.51**	**203**	*e*Pn	Pn	09 14 17.5	+1.5
EYAK				*e*Sn	Sn	09 14 43.9	-3.3
PMR	**Palmer**	**2.83**	**246**	*e*Pn	Pn	09 14 22.6	+2.2
PMR				*e*Sn	Sn	09 14 55.2	+0.1
HYT	**Haines Junctio**	**3.59**	**122**	Pn	Pn	09 14 29.2	-1.7
HYT				Pg	Pg	09 14 38.1	-4.9
HYT				Sg	Sg	09 15 26.1	-3.4
HYT				Trac		09 15 32.8	
	comp=Z,20nm,0.5s						
WHY	**Whitehorse**	**4.75**	**114**	Pn	Pn	09 14 46.2	-0.6
WHY				Pg	Pg	09 15 01.3	-3.9
WHY				Sn	Sn	09 15 39.6	-3.0
WHY				Sg	Sg	09 16 00.9	-5.9
WHY				Trac		09 16 06.5	
	comp=Z,7.0nm,0.3s						
PLBC	**Pleasant Camp**	**4.94**	**130**	Pn	Pn	09 14 48.5	-0.9
PLBC				Pg	Pg	09 15 04.3	-4.4
INK	**Inuvik**	**6.91**	**33**	Pn	Pn	09 15 15.6	-0.8
INK				Sn	Sn	09 16 28.9	-6.7
INK				Trac		09 17 15.6	
	comp=Z,3.0nm,0.6s						
DLBC	**Dease Lake**	**8.06**	**117**	Pn	Pn	09 15 33.2	+1.0
DLBC				Sg	Sg	09 17 45.9	-7.0
DLBC				Trac		09 17 59.8	
	comp=Z,6.0nm,1.0s						
FNBB	**Fort Nelson**	**10.84**	**102**	Pn	Pn	09 16 08.2	-2.1

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*IDC **13** 09:44:36.1±4.0,1907S×168.10E,h0km,mb4.0/4, mb1 4.1/5,mb1mx4.0/12,mbtmp4.0/5,MS3.5/2,Ms1 3.5/2, ms1mx2.9/28,Error ellipse: s-maj=89.2km s-min=31.6km az=105.0*
*ISCJB **13** 09:44:38.1±6.7,190S±0.1×1679E±0.2,h18km±45km, mb4.0/5,MS3.6/1,Error ellipse: s-maj=34.5km s-min=17.4km az=9.9*
*NEIC **13** 09:44:42.1±1.1,1908S×16789E,mb4.4/1,Error ellipse: s-maj=22.2km s-min=17.1km az=79.0*
ISC 13 09:44:39.0±6.7,190S±0.1×1680E±0.2,h15km±41km, h36km±2.2km:pP-P,n11,σ0§53/12,mb4.0/5,MS3.6/1, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.36**	**206**	*e*P	**Pn**	**09 45 30.7**	**-0.2**
DZM				*e*S	**Sn**	**09 46 09.9**	**-0.6**
DZM	**Mont Dzumac**	**3.36**	**206**	Pn	**Pn**	**09 45 30.7**	**-0.2**
	4.7nm,0.3s,baz=34,slow=19,SNR=50						
DZM				Sn	**Sn**	**09 46 11.0**	**+0.5**
	30nm,0.3s,baz=134,slow=19,SNR=15						
HNR	**Honiara**	**12.33**	**320**	LR	LR	09 51 09.3	
	comp=Z,152nm,18.0s,baz=179,slow=32						
STKA	**Stephens Creek**	**26.98**	**237**	P	**P**	**09 50 21.9**	**+1.9**
	1.6nm,0.7s,mb3.7,baz=54,slow=8.8,SNR=5.2						
STKA	**Stephens Creek**	**26.98**	**237**	*e*P	**P**	**09 50 20.1**	**+0.1**
STKA				*e*pP	pP	09 50 29.3	+4.7
WRA	**Warramunga Arr**	**31.72**	**263**	P	**P**	**09 51 01.6**	**-0.5**
	0.7nm,1.1s,mb3.4,baz=101,slow=8.2,SNR=3.4						
AS31	**Alice Springs**	**32.05**	**256**	*e*P	**P**	**09 51 04.9**	**-0.1**
AS31				*e*pP	pP	09 51 14.0	+4.3
ASAR	**Alice Springs**	**32.05**	**256**	P	**P**	**09 51 05.0**	**+0.1**
	4.4nm,0.7s,mb4.4,baz=83,slow=8.5,SNR=47						
ASAR				LR	LR	10 04 54.8	
	comp=Z,116nm,20.1s,MS3.6,baz=336,slow=38						
QSPA	**South Pole Qui**	**71.02**	**180**	*e*P	**P**	**09 55 56.5**	**+0.3**
QSPA				*e*pP	pP	09 56 08.5	+7.4
SONM	**Songino Array**	**86.36**	**324**	P	**P**	**09 57 20.4**	**0.0**
	0.7nm,0.8s,mb3.9,baz=108,slow=4.7,SNR=4.5						
SNAA	**Sanae**	**89.32**	**183**	*e*P	**P**	**09 57 34.2**	**-0.4**
	2.4nm,1.3s,mb4.4						

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*ISCJB **13** 10:00:10.9±0.7,6469N±0.03×308E±0.1,h0km,Error ellipse: s-maj=8.1km s-min=3.6km az=5.3*
*HEL **13** 10:00:12.4±0.2,6469N×3083E,h0km,ML1.8,ML2.2(UPP), Explosion*
*IDC **13** 10:00:14.8±2.3,6471N×3026E,h0km,mb1 2.9/4, mb1mx2.9/22,mbtmp2.9/4,ML2.7/3,Error ellipse: s-maj=34.6km s-min=7.5km az=99.0*
ISC 13 10:00:11.6±0.7,6471N±0.02×308E±0.1,h0km,n26, σ1§13/39,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**344**	*e*P	**Pg**	**10 00 37.6**	**-0.4**
KU6				*e*S	**Sg**	**10 00 55.1**	**-0.9**
MSF	**Maaselka**	**1.42**	**329**	*e*P	**Pn**	**10 00 37.2**	**-1.5**
MSF				*e*S	**Sg**	**10 00 56.2**	**-1.1**
KJN	**Kajaani**	**1.49**	**247**	*e*P	**Pn**	**10 00 37.9**	**-1.8**
KJN				*e*S	**Sg**	**10 00 59.0**	**-0.6**
KU4	**Liikasenvaara**	**1.74**	**343**	*e*P	**Pn**	**10 00 43.5**	**+0.4**
KU4				*e*S	**Sn**	**10 01 06.1**	**0.0**
JOF	**Joensuu**	**1.81**	**173**	*e*P	**Pn**	**10 00 44.3**	**+0.2**
JOF				*e*S	**Sn**	**10 01 06.7**	**-1.0**
OUL	**Oulu**	**2.13**	**282**	*e*P	**Pn**	**10 00 49.2**	**+0.6**
OUL				*e*S	**Sn**	**10 01 16.6**	**+0.9**
SUF	**Sumiainen**	**2.88**	**228**	*e*P	**Pn**	**10 00 59.5**	**+0.7**
SUF				*e*S	**Sn**	**10 01 33.5**	**-0.7**
SUF				MSG		10 01 42.8	
	comp=Z,2.1nm,0.3s						
KAF	**Kangasniemi**	**3.30**	**220**	*e*P	**Pn**	**10 01 05.8**	**+1.2**
KAF				*e*S	**Sn**	**10 01 43.9**	**-0.7**
KAF				MSG		10 01 50.9	
	comp=Z,1.8nm,0.3s						
KALU	**Kalix**	**3.34**	**294**	*e*P	**Pn**	**10 01 06.2**	**+1.0**
KEF	**Keuruu**	**3.69**	**229**	*e*P	**Pn**	**10 01 10.6**	**+0.6**
KEF				*e*SG	**Sg**	**10 02 05.1**	**-5.3**
FINES	**FINESS Array B**	**3.92**	**216**	Pn	**Pn**	**10 01 13.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=4.4						
FINES				Pg	**Pg**	**10 01 21.8**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=15,SNR=5.3						
FINES				Sn	**Sn**	**10 02 00.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=31,slow=23,SNR=8.4						
FINES				Lg		10 02 11.4	
	comp=Z,0.5nm,0.3s,baz=32,slow=27,SNR=7.1						
PAJU	**Pajala**	**3.93**	**310**	*e*P	**Pn**	**10 01 16.6**	**+3.4**
VAF	**Ylistaro**	**3.97**	**249**	*e*P	**Pn**	**10 01 14.5**	**+0.7**
VAF				*e*SG	**Sg**	**10 02 14.8**	**-4.6**
VAF				MSG		10 02 17.8	
	comp=Z,1.8nm,0.3s						
SJUU	**Sjulsmark**	**3.98**	**286**	*e*P	**Pn**	**10 01 14.8**	**+0.9**
ERTU	**Ertsjaerv**	**4.03**	**301**	*e*P	**Pn**	**10 01 17.0**	**+2.4**
BURU	**Burvik**	**4.07**	**272**	*e*P	**Pn**	**10 01 14.2**	**-0.8**
HARU	**Harads**	**4.36**	**294**	*e*P	**Pn**	**10 01 20.4**	**+1.2**
UMAU	**Umeaa**	**4.50**	**264**	*e*P	**Pn**	**10 01 19.6**	**-1.4**
MASU	**Masugnsbyn**	**4.53**	**311**	*e*P	**Pn**	**10 01 23.5**	**+2.0**
LILU	**Lilltraesk**	**4.69**	**282**	*e*P	**Pn**	**10 01 24.2**	**+0.5**
DUNU	**Dundret**	**4.85**	**305**	*e*P	**Pn**	**10 01 27.8**	**+2.0**
SVAU	**Svanoeiden**	**4.85**	**273**	*e*P	**Pn**	**10 01 25.0**	**-0.9**
ARCES	**ARCESS Array B**	**5.27**	**339**	Pn	**Pn**	**10 01 31.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=25						
ARCES				Sn	**Sn**	**10 02 31.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=154,slow=25,SNR=3.9						
ARCES				Lg		10 02 53.9	
	comp=Z,0.8nm,0.3s,baz=148,slow=35,SNR=5.8						
BREU	**Bredtraesk**	**5.39**	**267**	*e*P	**Pn**	**10 01 32.9**	**-0.4**
HFS	**Hagfors**	**9.16**	**248**	Pn	**Pn**	**10 02 22.1**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=74,slow=15,SNR=3.9						
NOA	**NORSAR Array B**	**9.66**	**257**	Pn	**Pn**	**10 02 27.8**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=68,slow=18,SNR=1.5						

IDC 13 10:03:52.8±1.1,2497N×14293E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.7/20,mbtmp3.7/8,ML4.0/1,Error ellipse: s-maj=42.9km s-min=18.0km az=78.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.23**	**343**	Pn	Pn	10 04 32.3	+1.4
	34nm,0.3s,baz=289,slow=22,SNR=5.0						
CBIJ				Sn	Sn	10 04 59.9	+0.8
	70nm,0.3s,baz=97,slow=23,SNR=10						
SONM	**Songino Array**	**36.73**	**318**	P	P	10 10 59.7	-1.9
	0.2nm,0.4s,baz=116,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**45.41**	**191**	P	P	10 12 13.5	+0.4
	0.6nm,0.5s,baz=9.2,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**49.13**	**191**	P	P	10 12 42.0	-0.1
	0.3nm,0.7s,baz=8.9,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**52.36**	**311**	P	P	10 13 05.8	-0.7
	0.2nm,0.4s,baz=106,slow=4.7,SNR=2.8						
BVAR	**Borovoye Array**	**60.07**	**318**	P	P	10 14 03.0	+1.5
	1.2nm,0.5s,baz=90,slow=7.4,SNR=4.9						
FINES	**FINESS Array B**	**80.15**	**334**	P	P	10 16 05.5	+0.8
	0.8nm,0.7s,baz=81,slow=6.2,SNR=4.9						
NVAR	**Mina Array Bea**	**81.30**	**52**	P	P	10 16 10.8	-0.1
	0.4nm,0.6s,baz=304,slow=6.4,SNR=4.7						

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*BJI **13** 10:19:52.7,2760N×5440E,h18km,mB5.0,mb4.9,Ms4.2, Msz4.3*
*ISCJB **13** 10:19:52.6±0.2,2776N±0.02×5429E±0.03,h10km, mb4.5/59,MS3.6/10,Error ellipse: s-maj=3.7km s-min=3.2km az=52.0*
*CSEM **13** 10:19:53.3±0.1,2773N×5418E,h16km,mb4.5/41,ML4.9/2, Ms3.7,Error ellipse: s-maj=1.6km s-min=1.5km az=112.0*
*NEIC **13** 10:19:54.7,2762N×5436E,h18km,mb4.6/21, ML4.3(THR),MN4.1(TEH),After THR.*
*THR **13** 10:19:54.9±0.5,2764N×5436E,h18km±5km,ML4.3*
*MOS **13** 10:19:55.3±0.9,2771N×5426E,h33km±30km,mb4.7/37,Error ellipse: s-maj=8.5km s-min=5.7km az=110.2*
*IDC **13** 10:19:58.0±3.3,2778N×5430E,h39km±30km,mb4.1/21, mb1 4.3/24,mb1mx4.2/31,mbtmp4.4/24,ML3.8/2,MS3.5/10, Ms1 3.6/10,ms1mx3.3/31,Error ellipse: s-maj=14.2km s-min=12.3km az=61.0*
*TEH **13** 10:19:58.4,2775N×5417E,h26km,Mn

ISRV Sarvestan 1.92 328 Pn **Pn 10 20 29.5 +2.3**
KRBR Kerman 3.10 44 *e*PN **Pn 10 20 45.8 +2.3**
KRBR *e*SG **Sg 10 21 33.3 -0.9**
KRBR AML AML 10 21 35.8
comp=N,912nm,0.7s
KRBR AML AML 10 21 39.9
comp=E,984nm,0.9s
KRBR Kerman 3.10 44 *e*Pn **Pn 10 20 45.0 +1.5**
KRBR *e*Sg **Sg 10 21 33.0 -1.2**
KRBR Kerman 3.10 44 *e*Pn **Pn 10 20 45.8 +2.3**
SNR=52
KRBR *e*Sg **Sg 10 21 33.3 -0.9**
comp=E,984nm,0.9s,SNR=91
ASHO Ashiyiah 3.45 152 P **Pn 10 20 50.5 +2.2**
SNR=81
IMEH Mehriz 3.63 4 *e*Pn **Pn 10 20 51.7 +0.9**
IMEH *e*Pn **Pn 10 20 53.1 +2.3**
IMEH *e*Sn **Sn 10 21 33.2 -0.4**
IMEH Mehriz 3.63 4 Pn **Pn 10 20 53.1 +2.3**
IBAF Bafgh 3.98 16 *e*Pn **Pn 10 20 56.7 +1.2**
IBAF *e*Pn **Pn 10 20 56.9 +1.4**
IBAF *e*Pn **Pn 10 20 59.0 +3.5**
IBAF *e*Sn **Sn 10 21 41.7 -0.5**
ISAD Sadrabad 4.17 353 *e*Pn **Pn 10 21 00.2 +2.0**
ISAD *e*Pn **Pn 10 21 02.1 +3.9**
ISAD *e*Sn **Sn 10 21 45.9 -1.1**
ISAD Sadrabad 4.17 353 Pn **Pn 10 21 00.1 +1.9**
ICHK Chekchek 4.47 1 *e*Pn **Pn 10 21 03.1 +0.8**
ICHK *e*Pn **Pn 10 21 04.9 +2.6**
ICHK *e*Sn **Sn 10 21 53.0 -1.4**
ICHK Chekchek 4.47 1 Pn **Pn 10 21 04.9 +2.6**
IGAR Garneh 4.82 338 *e*Pn **Pn 10 21 11.0 +3.9**
IGAR *e*Pn **Pn 10 21 11.5 +4.4**
IGAR *e*Pn **Pn 10 21 13.6 +6.5**
IGAR *e*Sn **Sn 10 22 05.4 +2.4**
IZEF Zefreh 5.39 342 *e*Pn **Pn 10 21 14.6 -0.4**
IZEF *e*Pn **Pn 10 21 15.4 +0.4**
IZEF Zefreh 5.39 342 Pn **Pn 10 21 15.4 +0.4**
QRN Al-Qurain 5.70 281 *e*P **Pn 10 21 20.0 +0.8**
QRN AML AML 10 22 24.6
comp=Z,46nm,0.3s
IPIR Pirpir 5.72 330 *e*Pn **Pn 10 21 20.1 +0.6**
IPIR *e*Sn **Sn 10 22 22.3 -2.8**
WSAR Wadi Sarin 5.97 138 Pn **Pn 10 21 24.0 +1.0**
comp=Z,3.4nm,0.3s,baz=347,slow=11,SNR=57
WSAR Sn **Sn 10 22 29.4 -2.0**
comp=Z,7.2nm,0.3s,baz=146,slow=19,SNR=9.1
WSAR LR LR 10 24 23.5
comp=Z,572nm,20.0s,baz=352,slow=44
WSAR Wadi Sarin 5.97 138 Pn **Pn 10 21 24.0 +1.0**
WSAR Sn **Sn 10 22 29.5 -2.0**
ZHSF Zahedan 5.99 71 *e*PN **Pn 10 21 24.6 +1.4**
ZHSF Zahedan 5.99 71 *e*Pn **Pn 10 21 24.6 +1.3**
SNR=52
IKLH Kalahroud 6.01 338 *e*Pn **Pn 10 21 24.1 +0.6**
IKLH *e*Pn **Pn 10 21 25.0 +1.5**
IKLH *e*Sn **Sn 10 22 28.4 -4.0**
UMR Umm Al-Rimmam 6.04 289 *e*P **Pn 10 21 24.3 +0.4**
UMR AML AML 10 22 32.5
comp=Z,31nm,0.3s
RDF Al-Radifah 6.05 283 *e*P **Pn 10 21 23.9 0.0**
RDF AML AML 10 22 32.8
comp=Z,37nm,0.4s
IKOO 6.19 40 *e*Pn **Pn 10 21 28.2 +2.2**
IKOO *e*Sn **Sn 10 22 35.7 -1.1**
NAY Al-Naaiem 6.37 285 *e*P **Pn 10 21 28.7 +0.3**
NAY AML AML 10 22 43.1
comp=Z,28nm,0.5s
JMDO Jabal Madar 6.39 146 P **Pn 10 21 31.2 +2.5**
SNR=5.4
ITEG 6.41 36 *e*Pn **Pn 10 21 31.2 +2.2**
MIB Mutribah 6.42 290 *e*P **Pn 10 21 29.4 +0.2**
MIB AML AML 10 22 43.2
comp=Z,57nm,0.5s
WBK Wadi Bani Khal 6.66 139 P **Pn 10 21 34.0 +1.6**
SNR=11
IDAH 6.92 43 *e*Pn **Pn 10 21 38.5 +2.5**
IDAH *e*Sn **Sn 10 22 52.1 -2.8**
IMON 7.13 39 *e*Pn **Pn 10 21 41.4 +2.5**
IVRN Varamin 7.54 344 *e*Pn **Pn 10 21 43.6 -0.8**
IVRN *e*Pn **Pn 10 21 44.8 +0.4**
IVRN *e*Pn **Pn 10 21 45.9 +1.5**
IVRN *e*Sn **Sn 10 23 05.4 -4.5**
IVRN Varamin 7.54 344 *e*Pn **Pn 10 21 44.8 +0.4**
IVRN *e*Sn **Sn 10 23 05.4 -4.5**
ILAS Lasjerd 7.68 352 *e*Pn **Pn 10 21 45.9 -0.5**
ILAS Lasjerd 7.68 352 Pn **Pn 10 21 45.5 -0.9**
IANJ Anjiloo 7.69 358 *e*Pn **Pn 10 21 45.9 -0.7**
IANJ *e*Pn **Pn 10 21 47.2 +0.6**
IANJ *e*Sn **Sn 10 23 08.7 -5.0**
IANJ Anjiloo 7.69 358 Pn **Pn 10 21 46.8 +0.2**
IANJ Anjiloo 7.69 358 *e*Pn **Pn 10 21 47.2 +0.6**
IANJ *e*Sn **Sn 10 23 08.7 -5.0**
IFIR Firoozkooh 7.96 351 *e*Pn **Pn 10 21 51.9 +1.6**
IFIR *e*Pn **Pn 10 21 53.2 +2.9**
IFIR *e*Pn **Pn 10 21 53.2 +2.9**
ISHM Shahmirzad 8.07 354 *e*Pn **Pn 10 21 52.7 +1.0**
ISHM *e*Pn **Pn 10 21 53.2 +1.5**
ISHM *e*Pn **Pn 10 21 53.2 +1.5**
ISHM Shahmirzad 8.07 354 Pn **Pn 10 21 52.6 +0.9**
IRAZ Razeghan 8.48 335 *e*Pn **Pn 10 21 57.2 -0.1**
IRAZ *e*Pn **Pn 10 21 58.4 +1.1**
IRAZ *e*Sn **Sn 10 23 27.1 -5.9**
IPRN Paran-Amol 8.63 349 *e*Pn **Pn 10 22 00.5 +1.0**
IPRN *e*Pn **Pn 10 22 00.8 +1.3**
IPRN *e*Pn **Pn 10 22 01.5 +2.0**
IPRN *e*Sn **Sn 10 23 31.6 -5.3**
IPRN Paran-Amol 8.63 349 Pn **Pn 10 22 00.7 +1.2**
IGZV Gazvin 9.26 339 *e*Pn **Pn 10 22 07.9 -0.2**
IVIS Veys 9.27 318 *e*Sn **Sn 10 23 44.8 -7.8**
IPAY Payeh 9.54 24 *e*Pn **Pn 10 22 13.1 +1.2**
IPAY Payeh 9.54 24 Pn **Pn 10 22 12.3 +0.4**
IKRD Kardeh 9.67 21 *e*Pn **Pn 10 22 21.3 +7.6**
IKRD Kardeh 9.67 21 Pn **Pn 10 22 21.8 +8.1**
IMYA Miamay 9.88 29 *e*Pn **Pn 10 22 18.7 +2.2**
IMYA Miamay 9.88 29 Pn **Pn 10 22 19.1 +2.6**
BHD Baghdad 10.15 305 *ex* x 10 22 22.0
BHD *ex* x 10 24 18.0
GNI Garni 14.66 330 Pn **Pn 10 23 23.9 +1.9**
comp=Z,1.1nm,0.3s,baz=187,slow=19,SNR=2.7
GNI LR LR 10 29 47.6
comp=Z,147nm,18.9s,baz=144,slow=40
GNI Garni 14.66 330 *e*P **Pn 10 23 29.1 +7.1**
GNI pmax pmax
comp=Z,14nm,1.0s
GNI MLR MLR
comp=Z,300nm,17.0s
ASF Jabal al Asfar 15.69 290 Pn **Pn 10 23 37.3 +1.6**
comp=Z,0.2nm,0.3s,baz=132,slow=1.2,SNR=3.3
ASF LR LR 10 31 07.7
comp=Z,118nm,20.2s,baz=163,slow=43
MALT Malatya 16.93 312 *e*P **Pn 10 23 50.8 -0.7**
MALT pmax pmax
comp=Z,18nm,0.8s
MALT Malatya 16.93 312 *e*P **Pn 10 23 50.8 -0.7**
comp=Z,18nm,0.8s
MALT Malatya 16.93 312 *e*P **Pn 10 23 50.8 -0.7**
comp=Z,18nm,0.8s
EIL Elat 17.07 281 *e*P **Pn 10 23 53.5 +0.3**
comp=Z,121nm,0.8s
EIL Elat 17.07 281 *e*P **Pn 10 23 53.5 +0.3**
comp=Z,121nm,0.8s
ZEI Tsey 17.19 333 *e*P **Pn 10 24 00.2 +5.5**
KIV Kislovodsk 18.66 333 *e*P **Pn 10 24 18.2 +5.3**
KIV pmax pmax
comp=Z,52nm,1.4s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 18.66 333 *e*P **Pn 10 24 12.7 -0.2**
comp=Z,38nm,1.1s
KIV Kislovodsk 18.66 333 *e*P **Pn 10 24 12.7 -0.2**
comp=Z,38nm,1.1s
CTKT Corum 20.55 314 *i* P **P 10 24 35.0 +1.8**
BR131 Keskin Array S 20.85 310 *e*P **P 10 24 36.9 +0.4**
comp=Z,16nm,0.9s
BR131 Keskin Array S 20.85 310 *e*P **P 10 24 36.9 +0.4**
comp=Z,16nm,0.9s
BRTR Keskin Array B 20.85 310 P **P 10 24 36.9 +0.4**
comp=Z,4.3nm,0.6s,baz=129,slow=13,SNR=23
BRTR Keskin Array B 20.85 310 P **P 10 24 36.9 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BOYT Boyabat 20.92 316 *i* P **P 10 24 43.4 +6.2**

ELDT Eldivan 21.37 312 *i* P **P 10 24 42.8 +0.8**
ANTO Ankara 21.49 310 *e*P **P 10 24 44.3 +0.9**
ANTO pmax pmax
comp=Z,38nm,1.1s,mb4.6
ANTO Ankara 21.49 310 *e*P **P 10 24 44.3 +0.9**
comp=Z,38nm,1.1s,mb4.6
ANTO Ankara 21.49 310 *e*P **P 10 24 44.3 +0.9**
comp=Z,38nm,1.1s,mb4.6
ANN Anapa 21.69 326 *i* *PP **P 10 24 39.0 -6.5**
ANN *e*SS 10 28 50.6
AB31 Akbulak array 21.90 10 P **P 10 24 47.3 -0.5**
AB31 pmax pmax
comp=Z,23nm,1.0s,mb4.6
AB31 Akbulak array 21.90 10 P **P 10 24 47.3 -0.5**
comp=Z,23nm,1.0s,mb4.6
AAK Ala-Archa 22.12 43 *d* *i*P **P 10 24 50.1 0.0**
AAK pmax pmax
comp=Z,24nm,1.7s,mb4.3
AAK MLR MLR
comp=Z,100nm,14.0s,MS3.4
AAK Ala-Archa 22.12 43 *e*P **P 10 24 49.6 -0.5**
comp=Z,11nm,1.0s,mb4.2
FRU Bishkek 22.31 42 *e*P **P 10 24 54.0 +1.8**
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.5
FRU Bishkek 22.31 42 *e*P **P 10 24 54.0 +1.8**
comp=Z,40nm,2.0s,mb4.5
SGKT Sivrigoynuk 22.32 311 *i* P **P 10 24 52.5 +0.3**
TKTP Tekketepe 22.52 303 *i* P **P 10 25 01.4 +7.0**
AKTK Aktyubinsk 22.82 6 P **P 10 24 57.8 +0.2**
AKTK LR LR 10 34 46.2
AKTK Aktyubinsk 22.82 6 P **P 10 24 57.8 +0.2**
comp=Z,45nm,18.2s
AKTO Aktyubinsk 22.82 6 P **P 10 24 57.8 +0.2**
comp=Z,11nm,1.1s,mb4.2,baz=188,slow=11,SNR=19
AKTO LR LR 10 34 46.2
comp=Z,45nm,18.2s,MS3.0,baz=29,slow=39
AKTO Aktyubinsk 22.82 6 P **P 10 24 57.8 +0.2**
AKTO pmax pmax
comp=Z,11nm,1.1s,mb4.2
AKTO MLR MLR
comp=Z,45nm,18.2s,MS3.0
ORR Orenburg 23.83 1 *e*P **P 10 25 08.5 +0.7**
ORR pmax pmax
comp=Z,60nm,1.9s,mb4.7
ORR Orenburg 23.83 1 *e*P **P 10 25 08.5 +0.7**
comp=Z,60nm,1.9s,mb4.7
ULDT Uludag 24.15 307 *i* P **P 10 25 11.4 +0.7**
ULDT Uludag 24.15 307 *i* P **P 10 25 11.4 +0.7**
VORD Divnogorie 25.81 338 *e*P **P 10 25 26.9 +1.1**
VORD pmax pmax
comp=Z,20nm,1.1s,mb4.6
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,50nm,0.8s
VORD Divnogorie 25.81 338 *e*P **P 10 25 26.9 +1.1**
comp=E,20nm,1.1s,mb4.6
KOLN Koldanda 25.92 83 *e*P **P 10 25 27.0 +0.2**
comp=E,24nm,1.0s,mb4.7
GKN Gorkha 26.80 82 *e*P **P 10 25 35.0 +0.2**
comp=E,12nm,0.6s,mb4.6
DMN Daman 27.26 83 *e*P **P 10 25 39.3 +0.4**
comp=E,22nm,0.9s,mb4.7
KKN Kakani 27.39 83 *e*P **P 10 25 40.5 +0.4**
comp=E,21nm,0.6s,mb4.8
ZRNK Zerenda 27.44 19 *e*P **P 10 25 40.0 -0.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
ZRNK Zerenda 27.44 19 *e*P **P 10 25 40.0 -0.5**
comp=Z,4.3nm,0.8s,mb4.0
ZRNK Zerenda 27.44 19 *e*P **P 10 25 40.0 -0.5**
comp=Z,4.0nm,0.8s,mb4.0
PKI Pulchoki 27.53 83 *e*P **P 10 25 41.7 +0.4**
comp=Z,18nm,0.6s,mb4.9
VOSK Vostochnaya 27.86 22 P **P 10 25 43.4 -0.9**
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
VOSK Vostochnaya 27.86 22 P **P 10 25 43.4 -0.9**
comp=Z,6.0nm,0.9s,mb4.2
GUN Gumba 27.90 82 *e*P **P 10 25 45.3 +0.6**
comp=Z,26nm,0.9s,mb4.9
BVA0 Borovoye Array 27.93 21 *i* P **P 10 25 44.5 -0.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
BVA0 Borovoye Array 27.93 21 *i* P **P 10 25 44.5 -0.4**
comp=Z,2.0nm,0.9s,mb3.8
BVAR Borovoye Array 27.93 21 P **P 10 25 44.4 -0.5**
comp=Z,6.9nm,0.6s,mb4.4,baz=203,slow=7.2,SNR=12
BVAR LR LR 10 38 51.0
comp=Z,129nm,21.1s,MS3.5,baz=138,slow=41
BVAR Borovoye Array 27.93 21 P **P 10 25 44.4 -0.5**
BVAR pmax pmax
comp=Z,7.0nm,0.6s
BVAR MLR MLR
comp=Z,129nm,21.1s
CHKZ Chkalovo 28.55 20 *e*P **P 10 25 50.5 0.0**
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
CHKZ Chkalovo 28.55 20 *e*P **P 10 25 50.5 0.0**
comp=Z,2.3nm,0.7s,mb4.0
CHKZ Chkalovo 28.55 20 *e*P **P 10 25 50.5 0.0**
comp=Z,2.0nm,0.7s,mb4.0
MLR Muntele Rosu 28.60 316 P **P 10 25 52.6 +1.7**
comp=Z,1.1nm,0.4s,mb4.0,baz=125,slow=4.7,SNR=3.1
MLR Muntele Rosu 28.60 316 P **P 10 25 52.6 +1.7**
MLR pmax pmax
comp=Z,1.0nm,0.4s
ARU Arti 28.81 5 ⇑ *i*P **P 10 25 53.8 +1.0**
ARU *e* 10 26 47.2
ARU *e*SS SS 10 32 20.8 -24
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
ARU Arti 28.81 5 *i* P **P 10 25 53.8 +1.0**
comp=Z,6.0nm,0.9s,mb4.3
MKAR Makanchi Array 29.05 42 P **P 10 25 54.5 -0.3**
comp=Z,5.2nm,0.8s,mb4.3,baz=232,slow=7.7,SNR=23
MKAR LR LR 10 37 35.5
comp=Z,81nm,19.5s,MS3.3,baz=248,slow=36
MKAR Makanchi Array 29.05 42 *i* P **P 10 25 54.8 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 29.05 42 P **P 10 25 54.5 -0.3**
AKASG Malin Array Be 29.77 327 P **P 10 25 59.0 -2.1**
comp=Z,0.4nm,0.3s,mb3.7,baz=134,slow=8.2,SNR=6.9
AKASG Malin Array Be 29.77 327 P **P 10 25 59.0 -2.2**
OBN Obninsk 30.20 340 *e*P **P 10 26 05.3 +0.2**
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
OBN Obninsk 30.20 340 *e*P **P 10 26 05.3 +0.2**
comp=Z,5.0nm,0.6s,mb4.4
KMBO Kilima Mbogo 33.06 212 LR LR 10 39 58.5
comp=Z,74nm,19.1s,MS3.4,baz=96,slow=36
ZAL Zalesovo 34.41 32 P **P 10 26 41.3 -0.6**
comp=Z,6.1nm,0.6s,mb4.7,baz=212,slow=6.5,SNR=8.7
ZAL LR LR 10 43 18.6
comp=Z,209nm,18.7s,MS3.9,baz=233,slow=41
ZAL Zalesovo 34.41 32 P **P 10 26 41.3 -0.6**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL MLR MLR
comp=Z,209nm,18.7s
KHC Kasperske Hory 37.76 316 *e*P **P 10 27 09.9 -0.7**
JOF Joensuu 38.24 343 *e*p **P 10 27 14.7 0.0**
comp=Z,3.9nm,0.5s,mb4.4
JOF Joensuu 38.24 343 *e*P **P 10 27 14.7 0.0**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
FINES FINESS Array B 38.59 339 P **P 10 27 16.6 -1.0**
comp=Z,3.8nm,0.5s,mb4.3,baz=138,slow=9.4,SNR=14
FINES FINESS Array B 38.59 339 P **P 10 27 16.7 -1.0**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 38.59 339 P **P 10 27 16.6 -1.1**
CLL Collm 38.86 319 *e*P **P 10 27 19.0 -0.9**
CLL *i* pP pP 10 27 25.0 +2.0
KAF Kangasniemi 39.02 339 *e*p **P 10 27 19.9 -1.4**
baz=138,slow=8.6
GTA Gaotai 39.30 61 ⇑P **P 10 27 24.3 +0.8**
GTA AP pP 10 27 29.3 +2.7
GTA XP sP 10 27 33.0 +5.1
GTA PP PP 10 28 55.8 +2.2
GTA S **S 10 33 17.8 -6.5**
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,99nm,4.2s
GTA LR LR
comp=N,141nm,13.8s,MS4.1
GTA LR LR
comp=E,118nm,13.4s,MS4.1
GTA LR LR
comp=Z,128nm,11.5s,MS4.0
PGF Pioggiola 39.38 304 *e*P **P 10 27 22.4 -1.9**
comp=Z,88nm,1.6s,mb5.0
PGF Pioggiola 39.38 304 *e*P **P 10 27 22.4 -1.9**
PGF pmax pmax
comp=Z,44nm,1.6s,mb4.9
PGF Pioggiola 39.38 304 *e*P **P 10 27 22.4 -1.9**
comp=Z,44nm,1.6s,mb5.0
MBDF Montbardon 41.27 307 *e*P **P 10 27 39.2 -0.7**
LPG La Plagne 41.39 308 *e*P **P 10 27 40.4 -0.5**
LPL La Plagne 41.41 308 *e*P **P 10 27 40.5 -0.5**
comp=Z,21nm,1.1s,mb4.4
LPL La Plagne 41.41 308 *e*P **P 10 27 40.5 -0.5**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
LPL La Plagne 41.41 308 *e*P **P 10 27 40.5 -0.5**
comp=Z,10nm,1.1s,mb4.4
CHTO Chiang Mai 41.79 92 *e*P **P 10 27 44.7 +0.5**
CHTO pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
CHTO Chiang Mai 41.79 92 *e*P **P 10 27 44.7 +0.6**
comp=Z,7.6nm,0.9s,mb4.3
CHTO Chiang Mai 41.79 92 *e*P **P 10 27 44.7 +0.5**
comp=Z,8.0nm,0.9s,mb4.3
ORIF Oris-en-Rattie 41.92 307 *e*P **P 10 27 44.8 -0.4**
CABF La Chapelle 42.02 310 *e*P **P 10 27 45.6 -0.5**
LZH Lanzhou 42.50 66 *e*P **P 10 27 50.0 +0.1**
LZH AP pP 10 27 55.0 +1.9
LZH XP sP 10 27 57.5 +3.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,87nm,4.4s
LZH Lanzhou 42.50 66 *e*P **P 10 27 50.0 +0.1**
comp=Z,25nm,1.0s,mb4.8
LZH pP pP 10 27 55.0 +1.9
LZH sP sP 10 27 57.5 +3.2
LZH Lanzhou 42.50 66 *e*P **P 10 27 50.0 +0.1**
comp=Z,25nm,1.0s,mb4.8
LZH pP pP 10 27 55.0 +1.9
MEZF Maizieres J'vi 43.04 312 *e*P **P 10 27 52.8 -1.5**
ZAK Zakamensk 43.27 45 *e*P **P 10 27 56.4 +0.2**
ZAK *e* 10 29 43.5
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
ZAK Zakamensk 43.27 45 *e*P **P 10 27 56.4 +0.2**
comp=Z,3.0nm,1.7s,mb3.8
ZAK Zakamensk 43.27 45 *e*PcP PcP 10 29 43.5 -1.7
comp=Z,2.0nm,1.0s
SMF Signal de Mont 43.56 310 *e*P **P 10 27 57.6 -0.9**
LOR Lormes 43.63 310 *e*P **P 10 27 58.4 -0.7**
SSF Saint Saulge 43.84 310 *e*P **P 10 27 59.2 -1.6**
comp=Z,13nm,1.1s,mb4.3
SSF Saint Saulge 43.84 310 *e*P **P 10 27 59.2 -1.6**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
SSF Saint Saulge 43.84 310 *e*P **P 10 27 59.2 -1.6**
comp=Z,6.6nm,1.1s,mb4.3
BAIF Baives 43.88 315 *e*P **P 10 28 00.6 -0.5**
comp=Z,30nm,1.2s,mb4.6
BAIF Baives 43.88 315 *e*P **P 10 28 00.6 -0.5**
BAIF pmax pmax
comp=Z,15nm,1.2s,mb4.6
BAIF Baives 43.88 315 *e*P **P 10 28 00.6 -0.5**
comp=Z,15nm,1.2s,mb4.6
NB2 NORSAR Subarra 43.96 331 P **P 10 27 59.6 -2.1**
comp=Z,1.1nm,0.5s,mb3.8,baz=121,slow=8.6
NB2 NORSAR Subarra 43.96 331 P **P 10 27 59.6 -2.1**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 43.96 331 P **P 10 27 59.9 -1.9**
comp=Z,1.3nm,0.5s,mb3.9,baz=118,slow=7.9,SNR=8.2
NOA LR LR 10 48 17.2
comp=Z,55nm,18.0s,MS3.5,baz=135,slow=39
NOA NORSAR Array B 43.96 331 P **P 10 27 59.9 -1.9**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA MLR MLR
comp=Z,55nm,18.0s
CAF Calviac 44.62 307 *e*P **P 10 28 05.8 -1.2**
comp=Z,31nm,1.2s,mb4.7
CAF Calviac 44.62 307 *e*P **P 10 28 05.8 -1.2**
CAF pmax pmax
comp=Z,16nm,1.2s,mb4.7
CAF Calviac 44.62 307 *e*P **P 10 28 05.8 -1.2**
comp=Z,16nm,1.2s,mb4.7
SONM Songino Array 44.84 49 P **P 10 28 08.6 -0.2**
comp=Z,3.7nm,0.8s,mb4.3,baz=257,slow=9.0,SNR=20
SONM LR LR 10 47 45.5
comp=Z,135nm,19.4s,MS3.9,baz=263,slow=37
SONM Songino Array 44.84 49 P **P 10 28 08.6 -0.2**
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,135nm,19.4s
KEV Kevo 44.89 347 *ep* **P 10 28 07.6 -1.6**
comp=Z,6.9nm,0.7s,mb4.6
KEV Kevo 44.89 347 *e*P **P 10 28 07.6 -1.6**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ARCES ARCESS Array B 45.02 346 P **P 10 28 08.9 -1.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=148,slow=7.1,SNR=12
ARCES ARCESS Array B 45.02 346 P **P 10 28 08.9 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
RJF Les Rejaudoux 45.04 307 *e*P **P 10 28 09.5 -0.9**
ETSF Etsaut 46.43 304 *e*P **P 10 28 20.7 -0.7**
comp=Z,63nm,1.6s,mb5.0
ETSF Etsaut 46.43 304 *e*P **P 10 28 20.7 -0.7**
ETSF pmax pmax
comp=Z,32nm,1.6s,mb5.0
ETSF Etsaut 46.43 304 *e*P **P 10 28 20.7 -0.7**
comp=Z,32nm,1.6s,mb5.0
OPO Ambohidratompo 46.56 189 P **P 10 28 23.4 +1.0**
comp=Z,5.7nm,0.8s,mb4.6,baz=24,slow=6.8,SNR=9.3
FLN La Foliniere 46.71 312 *e*P **P 10 28 22.9 -0.7**
XAN Xi'an 46.84 68 P **P 10 28 23.8 -0.8**
XAN AMB AMB
comp=Z,11nm,1.1s,mb4.7
SJPF Ste Jean 46.92 304 *e*P **P 10 28 24.7 -0.5**
comp=Z,18nm,0.8s,mb4.8
SJPF Ste Jean 46.92 304 *e*P **P 10 28 24.7 -0.5**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SJPF Ste Jean 46.92 304 *e*P **P 10 28 24.7 -0.5**
comp=Z,8.9nm,0.8s,mb4.8
GRR Gorron 46.92 312 *e*P **P 10 28 24.4 -0.8**
ESDC Sonseca Array 49.11 300 P **P 10 28 41.6 -0.6**
comp=Z,0.4nm,0.3s,mb3.9,baz=80,slow=7.4,SNR=4.8
PSI Prapat 49.29 112 P **P 10 28 42.7 -0.8**
comp=Z,3.7nm,0.6s,mb4.6,baz=123,slow=14,SNR=3.4
PSI Prapat 49.29 112 P **P 10 28 42.7 -0.8**
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
PSI Prapat 49.29 112 P **P 10 28 42.7 -0.8**
CIT Chita 49.90 44 *e*P **P 10 28 48.1 -0.1**
BOD Bodaibo 50.91 37 *e*P **P 10 28 54.5 -1.4**
BOD pmax pmax
comp=Z,20nm,1.4s,mb4.8
BOD Bodaibo 50.91 37 *e*P **P 10 28 54.5 -1.4**
comp=Z,20nm,1.4s,mb4.8
TOA0 Torodi Ar. Sit 51.01 265 *e*P **P 10 28 55.8 -0.8**
TOA0 Torodi Ar. Sit 51.01 265 *e*P **P 10 28 55.8 -0.8**
TORD Torodi Ar. Bea 51.01 265 P **P 10 28 56.4 -0.2**
comp=Z,7.1nm,0.8s,mb4.7,baz=63,slow=7.9,SNR=30
NJ2 Nanjing 55.40 69 *e*P **P 10 29 24.9 -4.0**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
YAK Yakutsk 59.08 32 *e*P **P 10 29 52.7 -2.2**
YAK pmax pmax
comp=Z,13nm,1.3s,mb4.8
YAK MLR MLR
comp=Z,100nm,17.0s,MS4.0
DBIC Dimbokro 59.67 261 P **P 10 29 58.8 -0.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=63,slow=7.4,SNR=3.8
DBIC Dimbokro 59.67 261 P **P 10 29 58.8 -0.2**
DBIC pmax pmax
comp=Z,5.0nm,0.9s

KLR Kul'dur 61.58 47 *eP* **P 10 30 07.4 -4.6**
BOSA Boshof 62.58 209 P **P 10 30 18.5 -0.2**
comp=Z,5.3nm,0.7s,mb4.8,baz=36,slow=4.5,SNR=10
BOSA Boshof 62.58 209 P **P 10 30 18.5 -0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SEY Seymchan 69.22 29 *eP* **P 10 30 59.6 -1.9**
YSS Yuzh-Sakhalins 69.29 47 *eP* **P 10 30 58.4 -3.5**
YSS pmax pmax
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 72.27 21 *eP* **P 10 31 18.6 -1.5**
BILL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BILL Bilibino 72.27 21 *eP* **P 10 31 18.6 -1.5**
comp=Z,9.0nm,1.1s,mb4.6
PET Petropavlovsk 76.33 37 *eP* **P 10 31 39.8 -3.9**
PET pmax pmax
comp=Z,23nm,1.0s,mb5.1
FITZ Fitzroy Crossi 82.74 115 P **P 10 32 18.2 -0.4**
comp=Z,3.9nm,0.7s,mb4.5,baz=248,slow=3.8,SNR=6.0
FITZ Fitzroy Crossi 82.74 115 *eP* **P 10 32 18.1 -0.5**
comp=Z,5.8nm,0.6s,mb4.8
KAKA Kakadu 85.63 107 *eP* **P 10 32 32.8 -0.5**
comp=Z,12nm,0.6s,mb5.3
YKA Yellowknife Ar 89.62 355 P **P 10 32 51.7 -0.8**
comp=Z,2.6nm,0.7s,mb4.7,baz=3.8,slow=4.9,SNR=5.8
YKA Yellowknife Ar 89.62 355 P **P 10 32 51.7 -0.8**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 89.62 355 P **P 10 32 51.7 -0.8**
WRA Warramunga Arr 90.75 112 P **P 10 32 56.7 -1.1**
comp=Z,1.5nm,0.5s,mb4.5,baz=315,slow=4.1,SNR=12
WRA Warramunga Arr 90.75 112 P **P 10 32 56.7 -1.1**
WRA pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 92.21 116 P **P 10 33 03.7 -0.8**
comp=Z,1.8nm,0.8s,mb4.5,baz=307,slow=4.8,SNR=16
ASAR Alice Springs 92.21 116 P **P 10 33 03.7 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.8s

MOS ***13*** *10:28:41.3±0.9, 1806S×6933W, h108km, mb5.2/46, MS4.4/5, Error ellipse: s-maj=9.9km s-min=7.9km az=105.8*
BJI ***13*** *10:28:42.7, 1859S×6850W, h120km, mB5.3*
ISCJB ***13*** *10:28:43.1±0.2, 1799S±004×6931W±003, h125km, mb5.0/104, Error ellipse: s-maj=5.7km s-min=3.9km az=49.7*
IDC ***13*** *10:28:43.7±0.4, 1800S×6931W, h122km±3km, mb4.6/27, mb1 4.6/30, mb1mx4.6/32, mbtmp5.0/30, MS4.1/9, Ms1 4.1/9, ms1mx3.8/29, Error ellipse: s-maj=12.5km s-min=8.4km az=74.0*
LDG ***13*** *10:28:44.3±0.3, 1777S×69.18W, h120km, Mb5.0/27, Ms4.0/7, Error ellipse: s-maj=19.1km s-min=10.9km az=52.0*
NEIC ***13*** *10:28:44.2±0.2, 1803S×6934W, mb5.1/77, Error ellipse: s-maj=5.8km s-min=4.4km az=49.0*
NEIC Felt [III] at Arica and Putre. Felt [III] at Locumba, Peru.
GCMT ***13*** *10:28:44.2±0.2, 1822S×6957W, h142km±1km, MW5.3/83, Moment Tensor Solution. s69,c94; s83,c141: Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr~0.67±.02; Mθθ~0.02±.02; Mφφ0.69±.03; Mrθ0.21±.01; Mφφ0.12±.02; Mθr~0.65±.02; Best double couple: M0.97100×10^17 NP1:φs351.00000°, δ68.00000°, λ-105.00000°. Principal axes: T 0.9520, Plg21.0000°, Azm92.0000°; N 0.0370, Plg14.0000°, Azm357.0000°; P -0.9890, Plg64.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 10:28:44.9±0.2, 1803S±004×6925W±003, h127km, h127km±1.5km; pP-P, n574, σ0s77/510, mb5.0/103, 143C-68D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.03**	**32**	P	**Pn**	**10 29 22.1**	**+3.1**
	440nm,0.3s,baz=227,slow=7.9						
LPAZ				S	**Sn**	**10 29 48.6**	**+3.5**
	110nm,0.3s,baz=42,slow=19,SNR=5.0						
LPAZ	**La Paz**	**2.03**	**32**	*e*Pn	**Pn**	**10 29 22.4**	**+3.4**
LPAZ				*e*Sn	**Sn**	**10 29 44.7**	**-0.4**
ARE	**Arequipa**	**2.65**	**306**	⇑*i*P	**Pn**	**10 29 23.6**	**-3.2**
ARE				*i* S	**Sn**	**10 29 54.1**	**-4.9**
LVC	**Limon Verde**	**4.58**	**176**	P	**Pn**	**10 29 50.0**	**-2.2**
	72nm,0.3s,baz=345,slow=9.1,SNR=202						
LVC				S	**Sn**	**10 30 38.5**	**-6.0**
	200nm,0.3s,baz=231,slow=23,SNR=9.2						
LVC				LR	LR	10 31 40.8	
	comp=Z,968nm,20.4s,baz=348,slow=38						
LVC	**Limon Verde**	**4.58**	**176**	*e*Pn	**Pn**	**10 29 49.9**	**-2.3**
SIV	**San Ignacio**	**8.08**	**77**	P	**Pn**	**10 30 39.2**	**-0.2**
	91nm,0.3s,baz=266,slow=11,SNR=545						
SIV				S	**Sn**	**10 32 08.0**	**-1.0**
	5.9nm,0.3s,baz=350,slow=23,SNR=2.7						
NNA	**Nana**	**9.48**	**308**	Pn	**Pn**	**10 30 52.9**	**-5.3**
	621nm,0.5s,SNR=16						
NNA	**Nana**	**9.48**	**308**	P	**Pn**	**10 30 51.9**	**-6.2**
	15nm,0.3s,baz=138,slow=12,SNR=34						
NNA				S	**Sn**	**10 32 35.7**	**-7.2**
	12nm,0.3s,baz=57,slow=19,SNR=4.4						
NNA	**Nana**	**9.48**	**308**	*e*Pn	**Pn**	**10 30 51.2**	**-7.0**
	69nm,0.6s						
CFAA	**Coronel Fontan**	**13.55**	**176**	P	**Pn**	**10 31 45.7**	**-6.2**
	0.4nm,0.3s,baz=352,slow=13,SNR=16						
CFAA				LR	LR	10 37 53.2	
	comp=Z,51nm,20.0s,baz=338,slow=40						
CFAA	**Coronel Fontan**	**13.55**	**176**	P	**Pn**	**10 31 45.7**	**-6.2**
CFAA				LR	LR	10 37 53.2	
CPUP	**Villa Florida**	**13.78**	**129**	P	**Pn**	**10 31 51.8**	**-3.1**
	11nm,0.3s,baz=288,slow=11,SNR=56						
CPUP				LR	LR	10 38 04.4	
	comp=Z,342nm,21.8s,baz=135,slow=40						
CPUP	**Villa Florida**	**13.78**	**129**	*e*Pn	**Pn**	**10 31 52.3**	**-2.6**
ATAH	**Atahualpa**	**14.13**	**320**	P	**Pn**	**10 31 56.3**	**-3.0**
	1.7nm,0.3s,baz=172,slow=9.4,SNR=8.8						
BDFB	**Brasilia**	**20.46**	**87**	P	**P**	**10 33 12.5**	**+0.1**
	82nm,0.4s,baz=261,slow=10,SNR=44						
BDFB	**Brasilia**	**20.46**	**87**	*e*P	**P**	**10 33 12.2**	**-0.1**
BDFB				*ep*P		10 33 36.9	
TRQA	**Tornquist**	**20.95**	**164**	*e*P	**P**	**10 33 15.9**	**-1.6**
	108nm,1.0s						
PLCA	**Paso Flores**	**22.66**	**183**	P	**P**	**10 33 33.1**	**-2.4**
	46nm,1.0s,mb4.8,baz=3.5,slow=12,SNR=42						
PLCA	**Paso Flores**	**22.66**	**183**	*e*P	**P**	**10 33 32.8**	**-2.7**
PLCA				pmax	pmax		
	comp=Z,161nm,1.4s						
PLCA	**Paso Flores**	**22.66**	**183**	*e*P	**P**	**10 33 32.8**	**-2.6**
	comp=Z,161nm,1.4s,mb5.2						
ROSC	**El Rosal**	**23.28**	**347**	P	**P**	**10 33 40.9**	**-0.3**
	comp=Z,5.0nm,0.4s,mb4.2,baz=288,slow=20,SNR=2.6						
ROSC	**El Rosal**	**23.28**	**347**	P	**P**	**10 33 40.7**	**-0.5**
ROSC				P		10 33 40.9	
SDV	**Santo Domingo**	**26.77**	**357**	P	**P**	**10 34 11.7**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.3,baz=180,slow=7.9,SNR=5.9						
SDV	**Santo Domingo**	**26.77**	**357**	*e*P	**P**	**10 34 11.7**	**-1.1**
PCRV	**Puerto La Cruz**	**28.39**	**10**	P	**P**	**10 34 27.4**	**+0.3**
	comp=Z,5.9nm,0.3s,mb4.5,baz=328,slow=21,SNR=7.9						
PCRV				LR	LR	10 46 39.8	
	comp=Z,522nm,18.5s,baz=270,slow=38						
CPD	**Cerro la Pandu**	**35.98**	**5**	*e*P	**P**	**10 35 30.6**	**-2.8**
CPD				*ep*P	pP	10 36 01.6	+0.4
SJG	**San Juan**	**36.04**	**5**	P	**P**	**10 35 31.8**	**-2.1**
	comp=Z,9.8nm,0.3s,mb5.2,baz=176,slow=7.1,SNR=7.5						
SJG	**San Juan**	**36.04**	**5**	*e*P	**P**	**10 35 31.6**	**-2.3**
SJG				pmax	pmax		
	comp=Z,42nm,1.1s						
SJG	**San Juan**	**36.04**	**5**	*e*P	**P**	**10 35 31.6**	**-2.3**
	comp=Z,42nm,1.1s,mb5.3						
SJG				*ep*P	pP	10 36 02.0	+0.3
MPR	**Mayaguez**	**36.07**	**3**	*e*P	**P**	**10 35 32.5**	**-1.6**
MPR				*ep*P	pP	10 36 02.6	+0.6
MTP	**Monte Pirata**	**36.08**	**6**	*e*P	**P**	**10 35 31.6**	**-2.6**
CBYP	**Canovanas**	**36.22**	**5**	*e*P	**P**	**10 35 33.1**	**-2.4**
TGUH	**Tegucigalpa,Un**	**36.50**	**330**	*e*P	**P**	**10 35 37.5**	**-0.3**
USHA	**Ushuaia**	**36.74**	**179**	P	**P**	**10 35 39.2**	**-0.7**
	comp=Z,9.5nm,0.5s,mb5.0,baz=329,slow=6.7,SNR=14						
SOR	**Soroa**	**42.74**	**341**	*e*P	**P**	**10 36 28.1**	**-1.3**
CMIG	**Matias Romero**	**43.06**	**323**	P	**P**	**10 36 31.8**	**-0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=112,slow=7.3,SNR=23						
CMIG	**Matias Romero**	**43.06**	**323**	P	**P**	**10 36 31.8**	**-0.3**
PMSA	**Palmer Station**	**46.84**	**177**	P	**P**	**10 37 01.8**	**-0.2**
	comp=Z,6.4nm,0.5s,mb4.7,baz=338,slow=11,SNR=8.5						
CPCT	**Cooper Cave**	**55.12**	**345**	*e*P	**P**	**10 38 02.4**	**-1.4**
NATX	**Nacogdoches**	**55.18**	**334**	*e*P	**P**	**10 38 04.7**	**+0.4**
SWET	**Sewanee**	**55.27**	**343**	*e*P	**P**	**10 38 03.3**	**-1.6**
OXF	**Oxford**	**55.66**	**340**	*e*P	**P**	**10 38 05.7**	**-2.0**
PLAL	**Pickwick Lake**	**55.67**	**341**	*e*P	**P**	**10 38 05.4**	**-2.3**
	comp=Z,40nm,1.0s,mb5.4						
TZTN	**Tazewell**	**55.93**	**346**	*e*P	**P**	**10 38 08.3**	**-1.4**
ELN	**Prospectdale**	**56.02**	**349**	*e*P	**P**	**10 38 08.2**	**-2.1**
FWV	**Forest Hill**	**56.37**	**349**	*e*P	**P**	**10 38 11.7**	**-1.1**
WVT	**Waverly**	**56.66**	**342**	*e*P	**P**	**10 38 12.1**	**-2.7**
WVT				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.5						
WVT	**Waverly**	**56.66**	**342**	*e*P	**P**	**10 38 12.1**	**-2.7**
	comp=Z,41nm,0.8s,mb5.5						
UALR	**University of**	**56.91**	**337**	*e*P	**P**	**10 38 15.1**	**-1.5**
UALR				*ep*P	pP	10 38 48.8	+2.1
UTMT	**University of**	**57.17**	**341**	*e*P	**P**	**10 38 17.0**	**-1.4**
GLAT	**Glass**	**57.23**	**341**	*e*P	**P**	**10 38 17.2**	**-1.6**
WCI	**Wyandotte Cave**	**58.20**	**344**	*e*P	**P**	**10 38 23.0**	**-2.6**
WCI				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
WCI	**Wyandotte Cave**	**58.20**	**344**	*e*P	**P**	**10 38 23.0**	**-2.6**
	comp=Z,30nm,0.8s,mb5.4						
USIN	**University of**	**58.32**	**343**	*e*P	**P**	**10 38 24.2**	**-2.2**
SIUC	**Southern Illin**	**58.54**	**341**	*e*P	**P**	**10 38 26.8**	**-1.2**
BLO	**Bloomington**	**59.15**	**344**	*e*P	**P**	**10 38 30.3**	**-1.9**
FVM	**French Village**	**59.16**	**341**	*e*P	**P**	**10 38 30.8**	**-1.5**
CCM	**Cathedral Cave**	**59.49**	**340**	*e*P	**P**	**10 38 31.4**	**-3.1**
CCM				*e*PP	pP	10 39 00.6	-4.2
CCM				*e*		10 39 15.0	
CCM				pmax	pmax		
	comp=Z,98nm,1.1s,mb5.8						
CCM	**Cathedral Cave**	**59.49**	**340**	*e*P	**P**	**10 38 31.4**	**-3.1**
	comp=Z,98nm,1.1s,mb5.8						
CCM				*ep*P	pP	10 39 00.6	-4.2
CCM				*e*		10 39 15.0	
WMOK	**Wichita Mounta**	**59.51**	**332**	*e*P	**P**	**10 38 33.3**	**-1.4**
WMOK				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.1						
WMOK	**Wichita Mounta**	**59.51**	**332**	*e*P	**P**	**10 38 33.3**	**-1.4**
	comp=Z,28nm,1.3s,mb5.1						
BINY	**Binghamton**	**60.24**	**354**	*e*P	**P**	**10 38 39.5**	**-0.2**
MNTX	**Cornudas Mount**	**60.38**	**325**	*e*P	**P**	**10 38 38.8**	**-1.8**
	comp=Z,22nm,1.2s,mb5.1						
RKT	**Rikitea**	**61.30**	**253**	*e*S	**S**	**10 46 57.8**	**+0.7**
	comp=Z,387nm,27.0s						
KSU1	**Kansas State U**	**62.33**	**336**	*e*P	**P**	**10 38 51.9**	**-1.9**
Y22C	**IRIS PASSCAL I**	**63.02**	**325**	⇑P	**P**	**10 38 58.0**	**-0.3**
	baz=63						
CBKS	**Cedar Bluff**	**63.35**	**334**	*e*P	**P**	**10 38 59.7**	**-0.7**
CBKS				*e*PP	pP	10 39 30.6	-0.5
ANMO	**Albuquerque**	**63.44**	**326**	P	**P**	**10 39 00.0**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.4,baz=138,slow=6.7,SNR=6.3						
ANMO	**Albuquerque**	**63.44**	**326**	*e*P	**P**	**10 39 00.7**	**-0.4**
ANMO				*ep*P	pP	10 39 31.3	-0.4
TUC	**Tucson**	**63.92**	**321**	*e*P	**P**	**10 39 06.3**	**+2.1**
116A	**Eloy**	**64.65**	**321**	⇓P	**P**	**10 39 08.8**	**-0.2**
	baz=65,SNR=7.1						
115A	**Sonoran Desert**	**65.06**	**321**	⇑P	**P**	**10 39 11.9**	**+0.3**
	baz=65						
SDCO	**Great Sand Dun**	**65.11**	**329**	*e*P	**P**	**10 39 11.9**	**-0.1**
	comp=Z,56nm,1.2s,mb5.3						
SNAA	**Sanae**	**65.66**	**161**	P	**P**	**10 39 14.5**	**-0.9**
	comp=Z,9.3nm,1.1s,mb4.5,baz=291,slow=6.2,SNR=69						
SNAA	**Sanae**	**65.66**	**161**	*e*P	**P**	**10 39 14.1**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,62nm,1.4s						
SNAA	**Sanae**	**65.66**	**161**	*e*P	**P**	**10 39 14.1**	**-1.3**
	comp=Z,62nm,1.4s,mb5.2						
Z14A	**Wintersburg**	**65.96**	**321**	⇑P	**P**	**10 39 17.4**	**0.0**
	baz=66						
X15A	**Humboldt**	**66.32**	**322**	P	**P**	**10 39 20.0**	**+0.3**
	baz=67,SNR=13						
Y14A	**Wickenburg**	**66.39**	**321**	⇓P	**P**	**10 39 20.1**	**-0.1**
	baz=67,SNR=13						
X14A	**Yava**	**66.69**	**322**	P	**P**	**10 39 22.4**	**+0.4**
	baz=67,SNR=12						
Y13A	**Salome**	**66.80**	**321**	⇓P	**P**	**10 39 22.7**	**0.0**
	baz=67						
W15A	**Williams**	**66.83**	**323**	⇑P	**P**	**10 39 23.5**	**+0.5**
	baz=67						
GLA	**Glamis**	**66.90**	**319**	*e*P	**P**	**10 39 23.3**	**-0.1**
GLA				*e*PP	pP	10 39 50.6	-3.7
GLA	**Glamis**	**66.90**	**319**	⇓P	**P**	**10 39 23.3**	**-0.1**
	baz=67						
SMCO	**Snowmass**	**66.95**	**329**	*e*P	**P**	**10 39 24.0**	**+0.2**
	comp=Z,16nm,0.8s,mb4.9						
PV01	**Paradox Valley**	**66.96**	**327**	*e*P	**P**	**10 39 23.7**	**0.0**
PV01				*ep*P	pP	10 39 53.7	-1.0
Y12C	**Blythe**	**67.18**	**320**	P	**P**	**10 39 25.5**	**+0.3**
	baz=67,SNR=7.7						
PDMCI	**Parker Dam,Lak**	**67.32**	**321**	⇓P	**P**	**10 39 25.8**	**-0.3**
	baz=68						
W14A	**Seligman**	**67.33**	**322**	⇓P	**P**	**10 39 26.6**	**+0.5**
	baz=68,SNR=15						
X13A	**Yucca**	**67.34**	**321**	⇑P	**P**	**10 39 26.3**	**+0.2**
	baz=68,SNR=13						
CHIE	**El Hierro**	**67.34**	**49**	P	**P**	**10 39 26.9**	**+0.8**
	comp=Z,13nm,0.6s,mb4.9						
PV10	**Paradox Valley**	**67.39**	**327**	*e*P	**P**	**10 39 26.0**	**-0.4**
SWSC	**Sam W. Stewart**	**67.43**	**319**	⇓P	**P**	**10 39 26.9**	**+0.2**
	baz=68						
DVTC	**Desert V Tower**	**67.43**	**318**	⇓P	**P**	**10 39 27.2**	**+0.5**
	baz=68						
BC3	**Big Chuckw Mtn**	**67.69**	**319**	⇓P	**P**	**10 39 28.6**	**+0.2**
	baz=68,SNR=6.4						
W13A	**Hualapai Mount**	**67.72**	**321**	P	**P**	**10 39 29.3**	**+0.7**
	baz=68,SNR=8.3						
MONP	**Monument Peak**	**67.79**	**318**	⇑P	**P**	**10 39 29.6**	**+0.6**
	baz=68						
BAR	**Barrett**	**67.81**	**318**	*e*P	**P**	**10 39 29.3**	**+0.2**
IRM	**Iron Mountain**	**67.84**	**320**	P	**P**	**10 39 29.7**	**+0.4**
	baz=68,SNR=14						
PHWY	**Pilot Hill**	**67.90**	**331**	*e*P	**P**	**10 39 29.6**	**0.0**
DBIC	**Dimbokro**	**68.10**	**75**	P	**P**	**10 39 31.1**	**+0.2**
	comp=Z,47nm,0.5s,mb5.6,baz=218,slow=6.2,SNR=74						
DBIC				LR	LR	11 08 19.5	
	comp=Z,201nm,19.3s,baz=181,slow=35						
DBIC	**Dimbokro**	**68.10**	**75**	*e*P	**P**	**10 39 31.1**	**+0.1**
EGOM	**La Gomera**	**68.14**	**49**	P	**P**	**10 39 32.1**	**+1.0**
	comp=Z,51nm,0.6s,mb5.5						
109C	**Camp Elliot, M**	**68.22**	**318**	⇓P	**P**	**10 39 31.6**	**-0.1**
	baz=68						
BELC	**Belle Mtn.**	**68.26**	**319**	P	**P**	**10 39 32.4**	**+0.5**
	baz=68,SNR=7.8						
PFO	**Pinyon Flat Ob**	**68.28**	**319**	*e*P	**P**	**10 39 32.5**	**+0.4**
PFO				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.1						
PFO	**Pinyon Flat Ob**	**68.28**	**319**	*e*P	**P**	**10 39 32.5**	**+0.5**
	comp=Z,42nm,1.4s,mb5.1						
PFO	**Pinyon Flat Ob**	**68.28**	**319**	P	**P**	**10 39 32.7**	**+0.6**
	baz=68,SNR=8.4						
W12A	**Cal Nev Ari**	**68.44**	**321**	⇑P	**P**	**10 39 33.4**	**+0.3**
	baz=69						
CCAN	**Las Canadas**	**68.60**	**49**	P	**P**	**10 39 35.1**	**+1.1**
	comp=Z,20nm,0.8s,mb5.0						
SRU	**San Rafael**	**68.71**	**327**	*e*P	**P**	**10 39 34.6**	**-0.1**
MURC	**Murrieta**	**68.75**	**318**	⇑P	**P**	**10 39 35.2**	**+0.2**
	baz=69						
BBRC	**Big Bear Sol-O**	**69.00**	**319**	⇓P	**P**	**10 39 37.3**	**+0.8**
	baz=69						
HEC	**Hector,Ludlow**	**69.01**	**320**	P	**P**	**10 39 37.4**	**+0.8**
	baz=69,SNR=21						
RWWY	**Rawlins**	**69.02**	**330**	*e*P	**P**	**10 39 36.9**	**+0.3**
	comp=Z,65nm,1.4s,mb5.3						
U12A	**Valley of Fire**	**69.02**	**322**	⇑P	**P**	**10 39 37.0**	**+0.4**
	baz=69,SNR=17						
CCUT	**Cedar City**	**69.13**	**324**	*e*P	**P**	**10 39 38.0**	**+0.7**
MSU	**Marysvale**	**69.15**	**325**	*e*P	**P**	**10 39 37.9**	**+0.4**
TUQ	**Turquoise Mtn.**	**69.17**	**321**	P	**P**	**10 39 38.1**	**+0.5**
	baz=69,SNR=8.6						
TMUT	**Trail Mountain**	**69.20**	**326**	*e*P	**P**	**10 39 38.0**	**+0.3**
CIS	**Catalina Islan**	**69.39**	**317**	⇑P	**P**	**10 39 39.1**	**+0.2**
	baz=70						
SHPR	**Sheep Range**	**69.44**	**322**	*e*P	**P**	**10 39 39.7**	**+0.5**
BFSC	**Mount Baldy St**	**69.45**	**319**	⇑P	**P**	**10 39 39.3**	**0.0**
	baz=70,SNR=8.3						
RRX	**Edison Barstow**	**69.46**	**319**	⇑P	**P**	**10 39 39.8**	**+0.5**
	baz=70						
FMP	**Fort Macarthur**	**69.51**	**318**	⇓P	**P**	**10 39 40.0**	**+0.3**
	baz=70						
U11A	**Corn Creek**	**69.51**	**322**	⇓P	**P**	**10 39 40.2**	**+0.6**
	baz=70						
RSSD	**Black Hills**	**69.55**	**334**	*e*P	**P**	**10 39 39.7**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.9						
RSSD	**Black Hills**	**69.55**	**334**	*e*P	**P**	**10 39 39.7**	**-0.2**
	comp=Z,26nm,1.2s,mb4.9						
GSC	**Goldstone**	**69.62**	**320**	*e*P	**P**	**10 39 40.9**	**+0.6**
GSC				*e*PP	pP	10 40 19.3	+7.9
GSC	**Goldstone**	**69.62**	**320**	⇑P	**P**	**10 39 40.6**	**+0.3**
	baz=70,SNR=12						
MWC	**Mount Wilson**	**69.69**	**318**	*e*P	**P**	**10 39 41.3**	**+0.5**
MWC				*e*PP	pP	10 40 11.6	-0.3
SHOC	**Shoshone**	**69.69**	**321**	⇑P	**P**	**10 39 40.9**	**+0.1**
	baz=70,SNR=12						
DECC	**Green Verdugo**	**69.88**	**318**	⇓P	**P**	**10 39 42.2**	**+0.2**
	baz=70						
MPU	**Maple Canyon**	**69.95**	**327**	*e*P	**P**	**10 39 42.3**	**-0.1**
MPU				*ep*P	pP	10 40 14.6	+1.1
SNCC	**San Nicolas Is**	**70.02**	**317**	⇓P	**P**	**10 39 42.8**	**0.0**
	baz=70						
DAU	**Daniels Canyon**	**70.05**	**327**	*e*P	**P**	**10 39 43.3**	**+0.3**
EDW2	**Edwards Air Fo**	**70.07**	**319**	P	**P**	**10 39 43.2**	**+0.1**
	baz=70,SNR=13						
NLU	**North Lily Min**	**70.14**	**326**	*e*P	**P**	**10 39 43.7**	**+0.2**
MAIT	**Maitri**	**70.15**	**160**	*e*P	**P**	**10 39 43.7**	**+0.1**
NVL	**N'lazarevskaya**	**70.18**	**160**	*d i*P	**P**	**10 39 43.1**	**-0.7**
NVL				*i*	pP	10 40 14.6	-0.3
NVL				pmax	pmax		
	comp=N,13nm,1.2s						
NVL				pmax	pmax		
	comp=E,22nm,1.2s						
NVL				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.2						
LRMC	**Laurel Mountai**	**70.28**	**320**	⇑P	**P**	**10 39 44.6**	**+0.3**
	baz=70,SNR=5.6						
FURC	**Furnace Creek,**	**70.42**	**321**	⇓P	**P**	**10 39 45.6**	**+0.4**
	baz=71,SNR=33						
MPMC	**Manual Prospec**	**70.53**	**320**	P	**P**	**10 39 46.2**	**+0.2**
	baz=71,SNR=17						
BSC	**Santa Cruz Isl**	**70.55**	**317**	⇑P	**P**	**10 39 46.0**	**0.0**
	baz=71						
TCUT	**Toone Canyon**	**70.64**	**327**	*e*P	**P**	**10 39 47.0**	**+0.4**
DUG	**Dugway**	**70.71**	**326**	*e*P	**P**	**10 39 47.2**	**+0.2**
DUG				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.2						
DUG	**Dugway**	**70.71**	**326**	*e*P	**P**	**10 39 47.2**	**+0.2**
	comp=Z,47nm,1.3s,mb5.2						
DUG	**Dugway**	**70.71**	**326**	P	**P**	**10 39 47.3**	**+0.3**
	baz=71,SNR=19						
DAC	**Darwin (Calif)**	**70.74**	**320**	*e*P	**P**	**10 39 47.4**	**+0.2**
DAC				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
DAC	**Darwin (Calif)**	**70.74**	**320**	*e*P	**P**	**10 39 47.4**	**+0.3**
	comp=Z,23nm,1.1s,mb4.9						
ARVC	**Arvin**	**70.76**	**319**	⇓P	**P**	**10 39 47.1**	**-0.1**
	baz=71						
ISA	**Isabella**	**70.88**	**319**	P	**P**	**10 39 48.7**	**+0.7**
	baz=71,SNR=13						
SBC	**Santa Barbara**	**70.89**	**318**	⇑P	**P**	**10 39 47.7**	**-0.4**
	baz=71						
TRCR	**Troy Canyon**	**70.94**	**323**	*e*P	**P**	**10 39 48.9**	**+0.5**
BW06	**Boulder Array**	**70.96**	**330**	*e*P	**P**	**10 39 48.1**	**-0.4**
PDAR	**Pinedale Array**	**70.96**	**330**	P	**P**	**10 39 47.5**	**-1.0**
	comp=Z,4.0nm,0.8s,mb4.3,baz=127,slow=6.3,SNR=22						
PDAR				LR	LR	11 10 05.8	
	comp=Z,90nm,21.6s,baz=331,slow=35						
GRAC	**Grapevine Rang**	**71.08**	**321**	⇑P	**P**	**10 39 49.4**	**+0.2**
	baz=71						
HWUT	**Hardware Ranch**	**71.08**	**328**	*e*P	**P**	**10 39 48.7**	**-0.6**
CWC	**Cottonwood Cre**	**71.14**	**320**	⇓P	**P**	**10 39 50.3**	**+0.7**
	baz=71						
PKM	**Peak Mountain**	**71.24**	**318**	P	**P**	**10 39 50.8**	**+0.6**
	baz=72,SNR=19						
R10A	**Warm Springs**	**71.31**	**323**	P	**P**	**10 39 51.8**	**+1.2**
	baz=72,SNR=33						
SPUT	**South Promonto**	**71.32**	**327**	*e*P	**P**	**10 39 48.8**	**-1.9**
Q11A	**Duckwater**	**71.32**	**323**	P	**P**	**10 39 51.3**	**+0.6**
	baz=72,SNR=26						
P12A	**McGill**	**71.33**	**324**	P	**P**	**10 39 51.5**	**+0.7**
	baz=72,SNR=14						
BGU	**Big Grassy Mou**	**71.34**	**326**	*e*P	**P**	**10 39 50.3**	**-0.5**
BGU				*ep*P	pP	10 40 20.4	-1.7
VES	**Vestal, Richgr**	**71.37**	**319**	P	**P**	**10 39 51.4**	**+0.4**
	baz=72,SNR=16						
S09A	**Goldfield**	**71.47**	**322**	⇑P	**P**	**10 39 51.9**	**+0.3**
	baz=72,SNR=17						
SMMC	**Simmler**	**71.61**	**318**	⇑P	**P**	**10 39 53.0**	**+0.6**
	baz=72,SNR=7.6						
TIN	**Tinemaha**	**71.63**	**321**	⇓P	**P**	**10 39 53.0**	**+0.5**
	baz=72						
AHID	**Auburn Hatcher**	**71.71**	**329**	*e*P	**P**	**10 39 52.9**	**-0.1**
	com

baz=73,SNR=12
LKWY Lake 72.72 330 *e*P **P 10 40 00.3 +1.3**
LKWY pmax pmax
comp=Z,19nm,0.9s,mb4.9
LKWY Lake 72.72 330 *e*P **P 10 40 00.2 +1.2**
comp=Z,19nm,0.9s,mb4.9
N11A Elko Archery C 72.72 325 ⇑P **P 10 39 58.9 -0.1**
baz=73
O10A Cortez Mining, 72.79 324 P **P 10 40 00.0 +0.6**
baz=73,SNR=8.8
R07C Lee Vining 72.80 321 P **P 10 40 00.3 +0.9**
baz=73,SNR=11
YFT Old Faithful 72.84 330 *e*P **P 10 40 01.5 +1.8**
V03C Hunter Liggett 72.84 318 ⇑P **P 10 40 00.2 +0.4**
baz=73,SNR=6.1
LRV Little Rabbit 72.96 318 *e*P **P 10 40 01.3 +0.9**
LRV *e*pP pP 10 40 29.0 -2.8
T05C Eagle Field, D 73.03 319 ⇓P **P 10 40 01.4 +0.5**
baz=73
YMR Madison River 73.06 330 *e*P **P 10 40 01.4 +0.4**
comp=Z,66nm,1.3s,mb5.3
YMR *e*pP pP 10 40 29.8 -2.7
YMR *e*sP sP 10 40 46.5 +0.5
N10A Dunphy 73.08 324 ⇑P **P 10 40 01.0 -0.1**
baz=73
O09A Fish Creek Ran 73.09 324 ⇓P **P 10 40 01.4 +0.2**
baz=73,SNR=11
S05C Merced 73.11 320 ⇑P **P 10 40 01.7 +0.4**
baz=73,SNR=11
M11A Holland Ranch, 73.18 325 P **P 10 40 02.1 +0.4**
baz=74,SNR=16
Q07A Schurz 73.21 322 ⇓P **P 10 40 02.4 +0.5**
baz=74
HAST UC Hastings Re 73.27 318 ⇑P **P 10 40 02.4 +0.1**
baz=74,SNR=8.1
P08A Dixie Valley 73.28 323 ⇓P **P 10 40 02.8 +0.5**
baz=74,SNR=9.9
WAKR Walker 73.30 321 *e*P **P 10 40 03.2 +0.8**
GCMT Greycliff 73.31 332 *e*P **P 10 40 02.0 -0.5**
R06C Coleville 73.32 321 ⇑P **P 10 40 03.1 +0.5**
baz=74,SNR=14
QLMT Earthquake Lak 73.40 330 *e*P **P 10 40 03.7 +0.7**
PACP Pacheco Peak 73.49 319 ⇓P **P 10 40 03.5 -0.1**
baz=74
CMB Columbia Colle 73.58 320 *e*P **P 10 40 04.0 0.0**
CMB Columbia Colle 73.58 320 P **P 10 40 04.0 -0.1**
baz=74,SNR=6.6
M10A I.L. Ranch, Tu 73.65 325 ⇓P **P 10 40 04.7 +0.2**
baz=74,SNR=8.4
P07A Fallon 73.65 322 ⇓P **P 10 40 05.0 +0.5**
baz=74
N09A Rock Creek Ran 73.74 324 ⇑P **P 10 40 04.5 -0.5**
baz=74,SNR=6.6
R05C Kirkwood Meado 73.81 321 P **P 10 40 06.0 +0.6**
baz=74,SNR=14
WCN Washoe City 74.01 321 P **P 10 40 07.3 +0.8**
baz=74,SNR=9.6
N08A GE Springer Mi 74.04 323 ⇑P **P 10 40 06.0 -0.8**
baz=74
PAHR Pah Rah Range 74.05 322 *e*P **P 10 40 07.6 +0.8**
O07A Toulon 74.05 323 ⇓P **P 10 40 06.7 -0.1**
baz=74,SNR=10
R04C Big Horse Ranc 74.05 320 ⇑P **P 10 40 07.2 +0.4**
baz=74,SNR=9.0
MCMT McKenzie Canyo 74.08 329 *e*P **P 10 40 07.2 +0.2**
MCMT *e*pP pP 10 40 38.5 0.0
MCMT *e*sP sP 10 40 52.2 +0.1
M09A Marrel Ranch, 74.08 324 P **P 10 40 07.3 +0.3**
baz=74,SNR=11
BNLO Ben Lomond (Sa 74.12 318 ⇑P **P 10 40 07.5 +0.3**
baz=74
WENL Wente Brothers 74.16 319 ⇓P **P 10 40 08.2 +0.8**
baz=74
LAVA Lava Cap Winer 74.25 321 P **P 10 40 08.1 +0.1**
baz=74,SNR=6.9
P06A Stead Airport, 74.33 322 ⇑P **P 10 40 09.1 +0.7**
baz=75
BDM Black Diamond 74.44 319 ⇓P **P 10 40 09.9 +0.8**
baz=75
L09A Wilkinson Ranc 74.61 325 ⇓P **P 10 40 10.1 +0.1**
baz=75,SNR=16
O06A Flanigan 74.61 322 ⇓P **P 10 40 10.3 +0.2**
baz=75
VAH Vaihoa 74.61 259 *e*P **P 10 40 10.8 +0.7**
comp=Z,98nm,1.1s,mb5.4
M08A Happy Creek Ra 74.62 324 ⇑P **P 10 40 10.1 +0.1**
baz=75,SNR=6.1
LRM Limekiln Ridge 74.62 330 *e*P **P 10 40 09.8 -0.3**
Q04C Lincoln 74.69 320 ⇑P **P 10 40 11.0 +0.5**
baz=75,SNR=5.8
BEKR Beckwourth 74.73 322 ⇑P **P 10 40 10.9 +0.2**
baz=75,SNR=23
PMOR Pomariorio Ree 74.92 259 *e*P **P 10 40 12.6 +0.8**
comp=Z,70nm,1.0s,mb5.3
PMOR *e*pP pP 10 40 42.8 -0.6
comp=Z,47nm,1.2s
N06A Buffalo Meadow 74.99 323 P **P 10 40 12.6 +0.3**
baz=75,SNR=37
M07A Soldier Meadow 75.03 323 P **P 10 40 12.5 0.0**
baz=75,SNR=21
CVS Carmenet Viney 75.04 319 ⇑P **P 10 40 12.5 -0.1**
baz=75
OHCM Honcut 75.06 321 *e*P **P 10 40 13.2 +0.6**
L08A Fields 75.09 324 P **P 10 40 12.8 0.0**
baz=75,SNR=16
K09A Rome 75.10 325 P **P 10 40 13.0 +0.2**
baz=75,SNR=25
O05C Quincy 75.12 321 ⇓P **P 10 40 13.5 +0.5**
baz=75,SNR=8.4
SUTB Sutter Butte 75.18 320 ⇑P **P 10 40 13.1 -0.2**
baz=75,SNR=6.4
MCCM Marconi Confer 75.18 319 ⇑P **P 10 40 13.1 -0.2**
baz=75
ORV Oroville 75.21 321 P **P 10 40 13.9 +0.4**
baz=76,SNR=58
MNRC McLaughlin Nat 75.36 320 ⇓P **P 10 40 13.4 -0.9**
baz=76
ELFS Eagle Lake Fie 75.42 322 ⇑P **P 10 40 15.1 +0.4**
baz=76,SNR=34
O04C Chester 75.44 322 ⇑P **P 10 40 14.7 -0.1**
baz=76,SNR=6.1
K08A Mann Creek Ran 75.53 325 ⇓P **P 10 40 15.2 -0.2**
baz=76,SNR=8.3
L07A Adell 75.53 324 P **P 10 40 15.7 +0.4**
baz=76,SNR=12
J09A Fry Pan Ranch, 75.55 326 P **P 10 40 15.2 -0.3**
baz=76,SNR=8.7
M06C Likely Place G 75.65 323 ⇑P **P 10 40 16.5 +0.4**
baz=76,SNR=20
O03C Acorn Hollow, 75.81 321 ⇑P **P 10 40 16.0 -0.9**
baz=76
PAE Paea 75.81 256 *e*P **P 10 40 17.6 +0.7**
comp=Z,47nm,1.0s,mb5.2
PAE Paea 75.81 256 *e*P **P 10 40 17.6 +0.7**
PAE pmax pmax
comp=Z,47nm,1.0s,mb5.2
HOPS Hopland 75.82 320 ⇓P **P 10 40 17.0 0.0**
baz=76
PPT Papeete 75.83 256 *e*S S 10 49 51.4 +2.5
comp=Z,199nm,28.0s
PPT Papeete 75.83 256 LR LR 11 05 40.0
comp=Z,96nm,19.3s,baz=175,slow=29
K07A Rock Creek Ran 75.92 324 P **P 10 40 17.7 +0.2**
baz=76,SNR=9.7
J08A Circle Bar Ran 75.94 325 P **P 10 40 17.9 +0.2**
baz=76,SNR=13
I09A Lost Marbles R 75.97 326 ⇑P **P 10 40 17.7 -0.1**
baz=76,SNR=12
HATC Hat Creek Radi 75.98 322 ⇑P **P 10 40 17.8 -0.1**
baz=76,SNR=8.0
MOD Modoc 76.00 323 ⇓P **P 10 40 17.8 -0.2**
baz=76,SNR=36
GASB Alder Springs 76.01 320 ⇑P **P 10 40 18.6 +0.6**
baz=76,SNR=6.7
M05C Lookout 76.14 322 P **P 10 40 19.0 +0.2**
baz=76,SNR=27
P01C Double 8 Ranch 76.27 320 ⇓P **P 10 40 20.2 +0.6**
baz=76
I08A Drewsey 76.37 326 ⇓P **P 10 40 20.2 +0.2**
baz=77,SNR=15
O02C Red Bluff 76.37 321 ⇓P **P 10 40 19.2 -0.9**
baz=77,SNR=7.4
H09A Durkee 76.40 327 ⇑P **P 10 40 20.2 0.0**
baz=77
L05A Lakeview 76.40 323 ⇓P **P 10 40 20.5 +0.3**
baz=77,SNR=16
J07A Hines 76.41 325 P **P 10 40 20.6 +0.3**
baz=77,SNR=20

WDC Whiskeytown Da 76.47 321 ⇑P **P 10 40 18.9 -1.8**
baz=77,SNR=14
TOA0 Torodi Ar. Sit 76.52 71 *e*P **P 10 40 20.5 -0.5**
TOA0 *e*pP pP 10 40 53.5 +0.9
TORD Torodi Ar. Bea 76.52 71 P **P 10 40 20.6 -0.3**
comp=Z,34nm,0.6s,mb5.3,baz=250,slow=5.5,SNR=352
TORD LR LR 11 13 51.2
comp=Z,346nm,18.2s,baz=260,slow=35
K06A Valley Falls 76.56 324 ⇑P **P 10 40 21.5 +0.4**
baz=77,SNR=29
M03C McCloud 76.66 322 ⇓P **P 10 40 20.8 -0.9**
baz=77,SNR=6.7
J06A Christmas Vall 76.79 324 P **P 10 40 22.8 +0.3**
baz=77,SNR=27
M04C Macdoel 76.81 322 P **P 10 40 22.8 +0.2**
baz=77,SNR=20
H08A Prairie City 76.83 326 P **P 10 40 23.2 +0.5**
baz=77,SNR=20
K05A Summer Lake 76.87 324 ⇑P **P 10 40 23.5 +0.6**
baz=77,SNR=27
C13A Hot Springs 76.97 330 P **P 10 40 23.7 +0.2**
baz=77,SNR=9.0
O01C Eel River Cons 76.97 320 ⇑P **P 10 40 24.1 +0.6**
baz=77
F10A Beach Ranch, E 77.07 328 P **P 10 40 24.2 +0.2**
baz=77,SNR=13
N02C Big Bar 77.08 321 P **P 10 40 24.4 +0.4**
baz=77,SNR=18
L04A Klamath Falls 77.09 323 ⇑P **P 10 40 24.0 -0.1**
baz=77,SNR=10
M02C Callahan 77.16 322 P **P 10 40 24.1 -0.5**
baz=77,SNR=8.4
BSMT Bassoo Peak 77.20 330 *e*P **P 10 40 25.3 +0.6**
F09A S2 Ranch, Elgi 77.23 327 P **P 10 40 24.8 -0.1**
baz=78,SNR=23
K04A Chilquin 77.27 323 ⇑P **P 10 40 25.3 +0.1**
baz=78
I06A Prineville 77.28 325 P **P 10 40 26.0 +0.8**
baz=78,SNR=33
YBH Yreka Blue Hor 77.29 322 P **P 10 40 23.9 -1.4**
comp=Z,6.7nm,0.9s,mb4.4,baz=112,slow=3.6,SNR=15
YBH Yreka Blue Hor 77.29 322 P **P 10 40 24.2 -1.1**
baz=78,SNR=8.4
H07A Lands Inn, Kim 77.35 326 P **P 10 40 25.7 +0.1**
baz=78,SNR=9.1
KHMM Horse Mountain 77.37 321 *e*P **P 10 40 25.8 +0.1**
J05A Fort Rock 77.42 324 ⇓P **P 10 40 26.4 +0.4**
baz=78
C12A Trout Creek 77.42 330 ⇑P **P 10 40 25.7 -0.3**
baz=78,SNR=8.8
B13A Whitefish 77.43 331 ⇑P **P 10 40 25.8 -0.2**
baz=78,SNR=6.6
G08A Pilot Rock 77.50 327 P **P 10 40 26.7 +0.3**
baz=78,SNR=15
JCC Jacoby Creek 77.51 321 ⇑P **P 10 40 26.8 +0.3**
baz=78
WALA Waterton Lakes 77.67 332 *e*P **P 10 40 26.8 -0.6**
comp=Z,23nm,1.1s,mb4.8
F08A Pendleton 77.74 327 ⇑P **P 10 40 27.2 -0.6**
baz=78
G07A Ruggs Ranch, H 77.86 326 P **P 10 40 29.1 +0.7**
baz=78,SNR=25
KRMB Red Mountain 77.87 321 *e*P **P 10 40 29.1 +0.7**
E09A Wood Farm, Sta 77.90 328 P **P 10 40 28.3 -0.3**
baz=78,SNR=18
B12A Libby 78.02 331 ⇑P **P 10 40 29.4 +0.1**
baz=78
L02A Cave Junction 78.07 322 ⇓P **P 10 40 29.7 +0.1**
baz=78,SNR=6.5
M01C Crescent City 78.19 321 ⇓P **P 10 40 30.6 +0.4**
baz=78
H05A Madras 78.29 325 ⇑P **P 10 40 31.1 +0.4**
baz=79,SNR=7.6
G06A Carlson Farm, 78.35 326 ⇑P **P 10 40 31.7 +0.6**
baz=79,SNR=13
D09A Jones Farm, Ri 78.36 328 ⇑P **P 10 40 30.9 -0.3**
baz=79,SNR=6.6
A12A Yaak River Ran 78.38 331 ⇑P **P 10 40 31.3 0.0**
baz=79,SNR=10
C10A Spilker Farm, 78.38 329 ⇓P **P 10 40 31.0 -0.3**
baz=79,SNR=5.4
K02A Glendale 78.38 322 ⇑P **P 10 40 31.3 0.0**
baz=79,SNR=10
F07A Phinny Hill Vi 78.41 327 ⇓P **P 10 40 32.0 +0.6**
baz=79,SNR=12
J03A Ideyld Park 78.45 323 ⇑P **P 10 40 31.2 -0.5**
baz=79
NEW Newport 78.60 330 P **P 10 40 32.0 -0.4**
comp=Z,1.7nm,0.6s,mb4.0,baz=153,slow=11,SNR=6.8
D08A Wollman Farm, 78.66 328 P **P 10 40 33.0 +0.1**
baz=79,SNR=9.8
B10A Chitwood Farm, 78.67 330 ⇑P **P 10 40 32.2 -0.7**
baz=79
G05A Wamic 78.72 325 P **P 10 40 34.0 +0.9**
baz=79,SNR=17
F06A Goldendale 78.77 326 P **P 10 40 34.0 +0.6**
baz=79,SNR=14
J02A Umpqua 78.80 323 ⇑P **P 10 40 33.6 0.0**
baz=79,SNR=32
E07A Sunnyside 78.81 327 ⇑P **P 10 40 34.0 +0.4**
baz=79,SNR=10
H04A Detroit Lake 78.84 325 ⇑P **P 10 40 33.3 -0.5**
baz=79,SNR=16
C09A Chrisman Ranch 78.84 329 P **P 10 40 34.0 +0.2**
baz=79,SNR=14
KEBM Edson Butte 78.94 322 *e*P **P 10 40 28.6 -5.8**
HOOD Mount Hood Mea 78.95 325 *e*P **P 10 40 35.0 +0.5**
I03A Eugene 79.00 323 P **P 10 40 34.9 +0.2**
baz=79,SNR=50
SBA Scott Base 79.17 190 *e*P **P 10 40 35.4 -0.2**
SBA pmax pmax
comp=Z,28nm,1.3s,mb4.9
SBA Scott Base 79.17 190 *e*P **P 10 40 35.4 -0.2**
comp=Z,28nm,1.3s,mb4.9
F05A White Salmon 79.21 326 ⇓P **P 10 40 36.1 +0.3**
baz=80,SNR=8.1
C08A Higginbotham F 79.21 328 ⇓P **P 10 40 35.4 -0.5**
baz=80,SNR=5.2
RNO Roman Nose 79.23 323 P **P 10 40 35.6 -0.3**
D07A Quincy 79.29 328 ⇑P **P 10 40 36.1 -0.1**
baz=80,SNR=13
A10A Northport 79.31 330 P **P 10 40 35.7 -0.7**
baz=80,SNR=10
PTEO Sao Teotonio 79.31 45 *e*P **P 10 40 36.7 +0.3**
comp=Z,41nm,1.0s,mb5.2
G04A Mulino 79.33 325 ⇑P **P 10 40 36.2 -0.3**
baz=80,SNR=5.7
E06A Yakima 79.38 327 P **P 10 40 37.2 +0.4**
baz=80,SNR=13
H03A Soap Creek Ran 79.45 324 ⇓P **P 10 40 37.4 +0.3**
baz=80,SNR=8.1
C07A Waterville 79.66 328 P **P 10 40 38.3 0.0**
baz=80,SNR=46
D06A Cle Elum 79.74 327 ⇑P **P 10 40 38.7 +0.1**
baz=80,SNR=9.0
F04A Amboy 79.76 325 P **P 10 40 38.7 -0.1**
baz=80,SNR=23
A09A Danville 79.79 329 P **P 10 40 38.4 -0.6**
baz=80,SNR=12
G03A Yamhill 79.84 325 P **P 10 40 39.9 +0.7**
baz=80,SNR=5.4
SYO Syowa Base 79.85 160 ⇑*e*P **P 10 40 35.2 -4.1**
SYO Syowa Base 79.85 160 ⇓*e*X
10 40 40.0
HEBO Mount Hebo 80.04 324 P **P 10 40 44.2 +3.9**
EGRO El Granado 80.14 45 P **P 10 40 42.2 +1.4**
comp=Z,34nm,2.1s,mb4.8
PBEJ Beja 80.14 45 *e*P **P 10 40 42.2 +1.4**
comp=Z,20nm,1.7s,mb4.7
VNDA Vanda 80.20 190 P **P 10 40 40.8 -0.4**
comp=Z,6.4nm,0.9s,mb4.5,baz=131,slow=5.1,SNR=30
B07A Winthrop 80.20 328 P **P 10 40 40.9 -0.3**
baz=80,SNR=22
EVO Evora 80.31 44 *e*P **P 10 40 42.6 +0.8**
comp=Z,21nm,0.9s,mb4.7
EVO *e*MLR MLR
comp=Z,119nm,17.0s
D05A Enumclaw 80.33 327 ⇑P **P 10 40 41.5 -0.4**
baz=81,SNR=18
E04A Onalaska 80.34 326 ⇓P **P 10 40 41.4 -0.5**
baz=81
F03A Seaside 80.38 325 ⇓P **P 10 40 42.5 +0.4**
baz=81
EDM Edmonton 80.50 335 *e*P **P 10 40 41.3 -1.4**
C05A Tolt Reservoir 80.50 327 ⇓P **P 10 40 41.6 -1.2**
baz=81,SNR=8.8
D04A Dobbs Creek Ra 80.71 326 ⇓P **P 10 40 44.3 +0.4**
baz=81
E03A Lebam 80.76 325 P **P 10 40 44.4 +0.3**

baz=81,SNR=9.1
PESTR Estremoz 80.77 44 *e*P **P 10 40 42.6 -1.6**
comp=Z,16nm,1.7s,mb4.6
EMIN Mina Concepcio 80.81 45 P **P 10 40 45.6 +1.2**
comp=Z,40nm,1.3s,mb5.1
ESPR Espera 80.91 47 P **P 10 40 46.9 +2.0**
comp=Z,8.6nm,0.6s,mb4.8
B06A Marblemount 80.92 328 ⇓P **P 10 40 44.1 -1.0**
baz=81,SNR=16
EJIF Jimena Fronter 80.97 47 P **P 10 40 46.0 +0.8**
EJIF pmax pmax
comp=Z,18nm,0.8s,mb5.0
EJIF Jimena Fronter 80.97 47 P **P 10 40 46.0 +0.7**
comp=Z,18nm,0.8s,mb5.0
GNW Green Mountain 81.01 327 *e*P **P 10 40 45.3 -0.1**
B05A Bryant 81.07 327 P **P 10 40 45.0 -0.8**
baz=81,SNR=26
EBAD Badajoz 81.09 44 P **P 10 40 46.5 +0.6**
comp=Z,23nm,1.3s,mb4.8
C04A Brinnon 81.18 327 ⇓P **P 10 40 46.3 -0.1**
baz=81,SNR=17
D03A Wishkah Elem. 81.23 326 ⇑P **P 10 40 47.0 +0.3**
baz=82
PCBR Castelo Branco 81.36 43 *e*P **P 10 40 48.0 +0.7**
comp=Z,15nm,1.0s,mb4.8
TSUM Tsumeb 81.36 107 *e*P **P 10 40 47.9 +0.5**
A05A Maple Falls 81.54 328 ⇓P **P 10 40 47.7 -0.6**
baz=82,SNR=20
MTE Manteigas 81.61 43 *e*P **P 10 40 49.5 +0.9**
comp=Z,23nm,1.1s,mb4.9
MTE Manteigas 81.61 43 *e*P **P 10 40 49.7 +1.0**
comp=Z,19nm,0.9s,mb4.9
B04A Port Angeles 81.67 327 ⇓P **P 10 40 49.0 0.0**
baz=82
A04A Legoe Bay, Lum 81.68 327 ⇑P **P 10 40 48.7 -0.3**
baz=82,SNR=22
PGC Sidney 82.02 327 *e*P **P 10 40 50.3 -0.5**
PGC *e*pP pP 10 41 23.0 +0.2
ELUQ Luque 82.35 47 P **P 10 40 53.3 +0.8**
ELUQ pmax pmax
comp=Z,41nm,1.3s,mb5.1
ELUQ Luque 82.35 47 P **P 10 40 53.3 +0.8**
comp=Z,41nm,1.3s,mb5.1
PBRG Braganca 82.87 42 *e*P **P 10 40 55.0 -0.2**
comp=Z,17nm,1.8s,mb4.6
EBAN Banos Encina 82.98 46 P **P 10 40 56.9 +1.1**
EBAN pmax pmax
comp=Z,21nm,0.9s,mb5.0
EBAN Banos Encina 82.98 46 P **P 10 40 56.9 +1.1**
comp=Z,21nm,0.9s,mb5.0
EQES Quesada 83.30 47 P **P 10 40 58.2 +0.8**
comp=Z,52nm,1.0s,mb5.3
ESDC Sonseca Array 83.60 45 P **P 10 40 59.9 +1.0**
comp=Z,15nm,0.9s,mb4.8,baz=245,slow=5.4,SNR=47
ESDC Sonseca Array 83.60 45 P **P 10 41 00.5 +1.5**
comp=Z,18nm,0.6s,mb5.1
ESLA Sonseca Array 83.60 45 *e*P **P 10 41 00.2 +1.3**
GUD Guadarrama 83.95 44 P **P 10 41 00.4 -0.3**
GUD pmax pmax
comp=Z,22nm,1.2s,mb4.9
GUD Guadarrama 83.95 44 P **P 10 41 00.4 -0.3**
comp=Z,22nm,1.2s,mb4.9
EVIA Vianos 84.09 46 P **P 10 41 01.1 -0.3**
EVIA pmax pmax
comp=Z,17nm,0.9s,mb4.9
EVIA Vianos 84.09 46 P **P 10 41 01.1 -0.4**
comp=Z,17nm,0.9s,mb4.9
ETOB Tobarra 84.75 47 P **P 10 41 06.0 +1.2**
comp=Z,107nm,1.7s,mb5.5
BOSA Boshof 85.36 118 P **P 10 41 08.2 +0.4**
comp=Z,18nm,1.1s,mb4.9,baz=208,slow=4.6,SNR=7.1
BOSA LR LR 11 16 08.9
comp=Z,165nm,18.0s,baz=291,slow=33
BOSA Boshof 85.36 118 *e*P **P 10 41 08.4 +0.5**
ETOR Torete 85.43 45 P **P 10 41 09.8 +1.6**
ETOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ETOR Torete 85.43 45 P **P 10 41 09.8 +1.6**
comp=Z,7.1nm,0.8s,mb4.7
BBB Bella Bella 86.53 328 P **P 10 41 11.6 -2.0**
comp=Z,14nm,0.9s,mb4.9,baz=157,slow=2.3,SNR=7.6
BBB Bella Bella 86.53 328 P **P 10 41 11.6 -2.0**
LBTB Lobatse 86.77 115 *e*P **P 10 41 15.7 +1.0**
SJPF Ste Jean 87.06 43⇑*i*P **P 10 41 17.2 +1.1**
comp=Z,37nm,1.2s,mb4.9
SJPF *e*pP pP 10 41 49.0 +0.5
SJPF Ste Jean 87.06 43⇑*i*P **P 10 41 17.2 +1.1**
SJPF *e**PP pP 10 41 49.0 +0.5
SJPF pmax pmax
comp=Z,18nm,1.2s,mb4.9
SJPF Ste Jean 87.06 43⇑*i*P **P 10 41 17.2 +1.1**
comp=Z,18nm,1.2s,mb4.9
SJPF *e*pP pP 10 41 49.0 +0.5
ETSF Etsaut 87.39 43⇑*i*P **P 10 41 18.8 +1.1**
comp=Z,14nm,1.0s,mb4.6
ETSF Etsaut 87.39 43⇑*i*P **P 10 41 18.8 +1.1**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ETSF Etsaut 87.39 43⇑*i*P **P 10 41 18.8 +1.1**
comp=Z,7.3nm,1.0s,mb4.6
MAW Mawson 87.73 163⇓*i*P **P 10 41 18.5 -0.9**
comp=Z,12nm,1.4s,mb4.7
MAW Mawson 87.73 163 P **P 10 41 18.6 -0.8**
comp=Z,6.6nm,0.4s,mb5.0,baz=218,slow=6.3,SNR=57
MAW Mawson 87.73 163⇓*i*P **P 10 41 18.5 -0.9**
MAW pmax pmax
comp=Z,12nm,1.4s
YKA Yellowknife Ar 87.82 341 P **P 10 41 18.6 -1.1**
comp=Z,13nm,0.5s,mb5.3,baz=135,slow=4.8,SNR=213
YKA pP pP 10 41 49.4 -2.8
comp=Z,30nm,0.9s,baz=134,slow=4.8,SNR=8.1
YKW3 Yellowknife Ar 87.87 341 *e*P **P 10 41 19.0 -1.0**
YKW3 *e*pP pP 10 41 53.0 +0.6
EPF Esparros 88.04 43⇑*i*P **P 10 41 21.6 +0.8**
comp=Z,18nm,1.0s,mb4.7
EPF Esparros 88.04 43⇑*i*P **P 10 41 21.6 +0.8**
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
EPF Esparros 88.04 43⇑*i*P **P 10 41 21.6 +0.8**
comp=Z,8.8nm,1.0s,mb4.7
QUIF Quistinic 88.17 38⇑*i*P **P 10 41 21.8 +0.4**
comp=Z,97nm,1.3s,mb5.4
QUIF Quistinic 88.17 38⇑*i*P **P 10 41 21.8 +0.4**
QUIF pmax pmax
comp=Z,49nm,1.3s,mb5.4
QUIF Quistinic 88.17 38⇑*i*P **P 10 41 21.8 +0.4**
comp=Z,49nm,1.3s,mb5.4
ROSF Rostrenen 88.31 38⇑*i*P **P 10 41 21.9 -0.2**
comp=Z,64nm,1.3s,mb5.2
ROSF Rostrenen 88.31 38⇑*i*P **P 10 41 21.9 -0.2**
ROSF pmax pmax
comp=Z,32nm,1.3s,mb5.2
ROSF Rostrenen 88.31 38⇑*i*P **P 10 41 21.9 -0.2**
comp=Z,32nm,1.3s,mb5.2
SGMF Saint Gilles 88.69 38 *e*P **P 10 41 23.3 -0.6**
LFF La Frestale 89.15 42⇑*i*P **P 10 41 26.4 +0.4**
comp=Z,78nm,1.1s,mb5.3
LFF *e*pP pP 10 41 57.9 -0.6
LFF La Frestale 89.15 42⇑*i*P **P 10 41 26.4 +0.4**
LFF *e**PP pP 10 41 57.9 -0.6
LFF pmax pmax
comp=Z,39nm,1.1s,mb5.3
LFF La Frestale 89.15 42⇑*i*P **P 10 41 26.4 +0.4**
comp=Z,39nm,1.1s,mb5.3
LFF *e*pP pP 10 41 57.9 -0.6
MFF Saint Martin d 89.36 40⇑*i*P **P 10 41 27.1 +0.1**
comp=Z,27nm,1.2s,mb4.9
MFF Saint Martin d 89.36 40⇑*i*P **P 10 41 27.1 +0.1**
MFF pmax pmax
comp=Z,14nm,1.2s,mb4.9
MFF Saint Martin d 89.36 40⇑*i*P **P 10 41 27.1 +0.1**
comp=Z,14nm,1.2s,mb4.8
MTLF Montolieu 89.41 44⇑*i*P **P 10 41 27.4 +0.2**
comp=Z,33nm,1.2s,mb5.0
MTLF Montolieu 89.41 44⇑*i*P **P 10 41 27.4 +0.2**
MTLF pmax pmax
comp=Z,17nm,1.2s,mb5.0
MTLF Montolieu 89.41 44⇑*i*P **P 10 41 27.4 +0.2**
comp=Z,17nm,1.2s,mb4.9
GRR Gorron 89.75 38⇑*i*P **P 10 41 28.2 -0.6**
comp=Z,37nm,1.1s,mb5.1
GRR Gorron 89.75 38⇑*i*P **P 10 41 28.2 -0.6**
GRR pmax pmax
comp=Z,18nm,1.1s,mb5.1
GRR Gorron 89.75 38⇑*i*P **P 10 41 28.2 -0.6**
comp=Z,18nm,1.1s,mb5.1
RJF Les Rejaudoux 89.81 42⇑*i*P **P 10 41 29.1 0.0**

comp=Z,56nm,1.3s,mb5.2
RJF eMLR MLR
RJF Les Rejaudoux 89.81 42⇑iP P 10 41 29.1 0.0
RJF pmax pmax
comp=Z,28nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,90nm,17.3s
RJF Les Rejaudoux 89.81 42⇑iP P 10 41 29.1 0.0
comp=Z,28nm,1.3s,mb5.2
RJF LR LR
comp=Z,90nm,17.3s
CAF Calviac 89.99 42⇑iP P 10 41 30.3 +0.3
comp=Z,41nm,1.2s,mb5.1
CAF Calviac 89.99 42⇑iP P 10 41 30.3 +0.3
CAF pmax pmax
comp=Z,21nm,1.2s,mb5.1
CAF Calviac 89.99 42⇑iP P 10 41 30.3 +0.3
comp=Z,20nm,1.2s,mb5.1
FLN La Foliniere 90.15 38⇑iP P 10 41 30.5 -0.2
comp=Z,31nm,1.1s,mb5.1
FLN eMLR MLR
comp=Z,128nm,19.8s
FLN La Foliniere 90.15 38⇑iP P 10 41 30.5 -0.2
FLN pmax pmax
comp=Z,15nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,130nm,19.8s
FLN La Foliniere 90.15 38⇑iP P 10 41 30.5 -0.2
comp=Z,15nm,1.1s,mb5.0
FLN LR LR
comp=Z,130nm,19.8s
LDF La Druitiere 90.28 38⇑iP P 10 41 31.0 -0.3
comp=Z,29nm,1.0s,mb5.1
LDF epP pP 10 42 02.5 -1.3
LDF La Druitiere 90.28 38⇑iP P 10 41 31.0 -0.3
LDF e*PP pP 10 42 02.5 -1.3
LDF pmax pmax
comp=Z,15nm,1.0s,mb5.1
LDF La Druitiere 90.28 38⇑iP P 10 41 31.0 -0.3
comp=Z,15nm,1.0s,mb5.1
LDF epP pP 10 42 02.5 -1.3
TCF Toulx Ste Croi 90.67 41 eP P 10 41 33.0 -0.1
comp=Z,11nm,1.1s,mb4.6
TCF epP pP 10 42 04.7 -0.9
TCF Toulx Ste Croi 90.67 41 eP P 10 41 33.0 -0.1
TCF e*PP pP 10 42 04.7 -0.9
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
TCF Toulx Ste Croi 90.67 41 eP P 10 41 33.0 -0.1
comp=Z,5.5nm,1.0s,mb4.6
TCF epP pP 10 42 04.7 -0.9
LASF Ste Croix 90.80 44 eP P 10 41 34.2 +0.5
BGF Bois d'Agland 91.19 41⇑iP P 10 41 35.5 0.0
comp=Z,26nm,1.0s,mb5.0
BGF epP pP 10 42 07.0 -1.0
BGF Bois d'Agland 91.19 41⇑iP P 10 41 35.5 0.0
BGF e*PP pP 10 42 07.0 -1.0
BGF pmax pmax
comp=Z,13nm,1.0s,mb5.0
BGF Bois d'Agland 91.19 41⇑iP P 10 41 35.5 0.0
comp=Z,13nm,1.0s,mb5.0
BGF epP pP 10 42 07.0 -1.0
KEST Kesra 91.47 53 P P 10 41 37.1 +0.3
comp=Z,2.2nm,0.8s,mb4.4,baz=267,slow=7.1,SNR=5.9
AVF Avril sur Loir 91.60 41 eP P 10 41 37.2 -0.2
VIVF Saint-Julien-I 91.65 43⇑iP P 10 41 38.4 +0.8
comp=Z,44nm,1.2s,mb5.3
VIVF Saint-Julien-I 91.65 43⇑iP P 10 41 38.4 +0.8
VIVF pmax pmax
comp=Z,22nm,1.2s,mb5.3
VIVF Saint-Julien-I 91.65 43⇑iP P 10 41 38.4 +0.8
comp=Z,22nm,1.2s,mb5.3
SMF Signal de Mont 91.85 41⇑iP P 10 41 38.7 +0.1
comp=Z,23nm,1.1s,mb5.0
SMF epP pP 10 42 10.2 -0.9
SMF Signal de Mont 91.85 41⇑iP P 10 41 38.7 +0.1
SMF e*PP pP 10 42 10.2 -0.9
SMF pmax pmax
comp=Z,11nm,1.1s,mb5.0
SMF Signal de Mont 91.85 41⇑iP P 10 41 38.7 +0.1
comp=Z,11nm,1.1s,mb5.0
SMF epP pP 10 42 10.2 -0.9
LOR Lormes 92.11 41 eP P 10 41 39.6 -0.2
comp=Z,8.8nm,0.9s,mb4.7
LOR eMLR MLR
comp=Z,126nm,20.0s
LOR Lormes 92.11 41 eP P 10 41 39.6 -0.2
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,130nm,20.0s
LOR Lormes 92.11 41 eP P 10 41 39.6 -0.2
comp=Z,4.4nm,0.9s,mb4.7
LOR LR LR
comp=Z,130nm,20.0s
ORIF Oris-en-Rattie 92.46 43⇑iP P 10 41 42.5 +1.1
comp=Z,18nm,0.9s,mb5.0
ORIF eMLR MLR
comp=Z,129nm,20.0s
ORIF Oris-en-Rattie 92.46 43⇑iP P 10 41 42.5 +1.1
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 92.46 43⇑iP P 10 41 42.5 +1.1
comp=Z,8.9nm,0.9s,mb5.0
SUMG Summit 92.69 9 eP P 10 41 42.6 +0.1
comp=Z,30nm,1.3s,mb5.5
SUMG epP pP 10 42 17.5 +2.5
MBDF Montbardon 92.97 44 eP P 10 41 43.3 -0.4
comp=Z,26nm,1.2s,mb5.1
MBDF Montbardon 92.97 44 eP P 10 41 43.3 -0.4
MBDF pmax pmax
comp=Z,13nm,1.2s,mb5.1
MBDF Montbardon 92.97 44 eP P 10 41 43.3 -0.4
comp=Z,13nm,1.2s,mb5.1
LPL La Plagne 93.25 43⇑iP P 10 41 46.2 +1.2
comp=Z,21nm,1.0s,mb5.1
LPL La Plagne 93.25 43⇑iP P 10 41 46.2 +1.2
LPL pmax pmax
comp=Z,11nm,1.0s,mb5.1
LPL La Plagne 93.25 43⇑iP P 10 41 46.2 +1.2
comp=Z,11nm,1.0s,mb5.1
LPG La Plagne 93.25 43⇑iP P 10 41 46.4 +1.4
comp=Z,32nm,1.1s,mb5.2
LPG epP pP 10 42 18.1 +0.5
LPG La Plagne 93.25 43⇑iP P 10 41 46.4 +1.4
LPG e*PP pP 10 42 18.1 +0.5
LPG pmax pmax
comp=Z,16nm,1.1s,mb5.3
LPG La Plagne 93.25 43⇑iP P 10 41 46.4 +1.4
comp=Z,16nm,1.1s,mb5.3
LPG epP pP 10 42 18.1 +0.5
PGF Pioggiola 93.67 46 eP P 10 41 46.7 -0.3
comp=Z,18nm,1.0s,mb5.0
PGF Pioggiola 93.67 46 eP P 10 41 46.7 -0.3
PGF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
PGF Pioggiola 93.67 46 eP P 10 41 46.7 -0.3
comp=Z,8.8nm,1.0s,mb5.0
GIVF Givet 93.85 38 eP P 10 41 47.7 -0.1
HAU Haudompre 93.95 41 eP P 10 41 48.0 -0.3
HAU eMLR MLR
comp=Z,125nm,22.5s
HAU Haudompre 93.95 41 eP P 10 41 48.0 -0.3
HAU LR LR
comp=Z,120nm,22.5s
CDF Champ du Feu 94.68 41⇑iP P 10 41 51.5 -0.1
comp=Z,16nm,1.1s,mb5.1
CDF epP pP 10 42 23.1 -1.1
CDF Champ du Feu 94.68 41⇑iP P 10 41 51.5 -0.1
CDF e*PP pP 10 42 23.1 -1.1
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
CDF Champ du Feu 94.68 41⇑iP P 10 41 51.5 -0.1
comp=Z,7.9nm,1.0s,mb5.1
CDF epP pP 10 42 23.1 -1.1
RAO Raoul Island 96.70 236 LR LR 11 14 59.3
comp=Z,120nm,18.4s,baz=108,slow=29
INK Inuvik 97.58 340 P P 10 42 03.2 -1.6
comp=Z,1.0nm,0.8s,mb4.4,baz=102,slow=3.5,SNR=4.2
INK Inuvik 97.58 340 P P 10 42 03.2 -1.6
FINES FINESS Array B 108.19 30 PKKPbc PKKPbc 10 58 08.7 -0.6
comp=Z,0.9nm,0.5s,baz=101,slow=3.9,SNR=6.1
ARCES ARCESS Array B 108.40 22 PKKPbc PKKPbc 10 58 07.2 -1.4
comp=Z,1.3nm,0.4s,baz=85,slow=3.3,SNR=29
STKA Stephens Creek 122.24 211 ePKP PKPdf 10 47 24.2 -0.5
comp=Z,2.1nm,0.5s
STKA Stephens Creek 122.24 211 PKP PKPdf 10 47 24.6 0.0
comp=Z,1.9nm,0.5s,baz=118,slow=4.6,SNR=4.7
STKA PKKP PKKPbc 10 57 55.4 +35
comp=Z,1.8nm,0.8s,baz=278,slow=5.5,SNR=3.6
ARU Arti 125.44 33 *i* PKIKP PKPdf 10 47 30.3 -0.5
SEY Seymchan 126.79 338 *i* PKIKP PKPdf 10 47 33.0 -0.4
AKTK Aktyubinsk 127.22 40 PKP PKPdf 10 47 34.5 +0.3
AKTK pPKP pPKPdf 10 48 07.0 -1.2
AKTO Aktyubinsk 127.22 40 PKP PKPdf 10 47 34.5 +0.3
comp=Z,4.8nm,1.1s,baz=56,slow=2.6,SNR=5.9
AKTO pPKP pPKPdf 10 48 07.0 -1.2
comp=Z,1.5nm,0.7s,baz=215,slow=5.1,SNR=3.1
ZRNK Zerenda 132.41 33 ePKIKP PKPdf 10 47 44.4 +0.3
AS31 Alice Springs 132.80 209 eP PKPdf 10 47 43.8 -1.0
ASAR Alice Springs 132.80 209 PKhKP 10 47 26.9
comp=Z,0.4nm,0.7s,baz=141,slow=2.5,SNR=7.2
ASAR PKP PKPdf 10 47 44.5 -0.3
comp=Z,3.2nm,0.7s,baz=134,slow=1.9,SNR=32
ASAR pPKP pPKPdf 10 48 17.2 -1.6
comp=Z,4.4nm,1.1s,baz=172,slow=2.2,SNR=4.1
ASAR PP PP 10 50 07.0 -4.0
comp=Z,1.6nm,1.1s,baz=166,slow=5.8,SNR=4.4
ASAR SKPbc SKPbc 10 51 00.5 -0.1
comp=Z,4.7nm,1.1s,baz=141,slow=3.6,SNR=6.5
ASAR Alice Springs 132.80 209 PKIKP PKPdf 10 47 44.5 -0.3
ASAR 10 48 17.3
ASAR 10 50 07.0
ASAR Alice Springs 132.80 209 PKP PKPdf 10 47 44.5 -0.3
ASAR pPKP pPKPdf 10 48 17.2 -1.6
ASAR PP PP 10 50 07.0 -4.0
ASAR SKPbc SKPbc 10 51 00.5 -0.1
CHKZ Chkalovo 132.84 32 *i* PKIKP PKPdf 10 47 45.2 +0.3
BRVK Borovoye 133.01 32 eP Pdif 10 44 39.9 -2.4
BVAR Borovoye Array 133.08 32 PKP PKPdf 10 47 44.5 -0.9
comp=Z,2.2nm,0.6s,baz=275,slow=2.4,SNR=8.5
BVAR SKPbc SKPbc 10 51 01.4 -0.2
comp=Z,2.7nm,0.5s,baz=276,slow=2.8,SNR=12
YAK Yakutsk 134.07 348 *i* PKIKP PKPdf 10 47 46.3 -0.9
WB2 Warramunga Arr 135.73 213 ePKP 10 47 36.1
WB2 ePKS 10 51 21.0
WRA Warramunga Arr 135.73 213 PKhKP 10 47 35.3
comp=Z,0.3nm,0.3s,baz=174,slow=1.9,SNR=20
WRA PKP PKPdf 10 47 50.1 -0.3
comp=Z,3.5nm,0.4s,baz=153,slow=1.6,SNR=26
WRA pPKP pPKPdf 10 48 22.8 -1.5
comp=Z,2.5nm,0.8s,baz=146,slow=1.5,SNR=3.4
WRA SKPbc SKPbc 10 51 09.8 -0.3
comp=Z,2.6nm,0.8s,baz=149,slow=2.5,SNR=52
WRA Warramunga Arr 135.73 213 PKIKP PKPdf 10 47 50.1 -0.2
WRA 10 48 22.8
WRA Warramunga Arr 135.73 213 PKP PKPdf 10 47 50.1 -0.3
WRA pPKP pPKPdf 10 48 22.8 -1.5
WRA SKPbc SKPbc 10 51 09.8 -0.3
WRAB Tennant Creek 135.74 213 *i* PKIKP PKPdf 10 47 49.6 -0.7
NVS Novosibirsk 137.65 23 *i* PKIKP PKPdf 10 47 52.3 -1.6
NVS *i* 10 48 26.5
NVS *e* 10 54 51.9
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.3s
ZAL Zalesovo 138.93 23 PKP PKPdf 10 47 55.3 -0.9
comp=E,7.0nm,0.8s,baz=159,slow=2.2,SNR=11
ZAL pPKP pPKPdf 10 48 29.3 -0.9
comp=E,10.0nm,1.0s,baz=167,slow=2.4,SNR=5.4
BOD Bodaibo 140.19 357 ePKHKP 10 47 49.0
AAK Ala-Archa 140.69 44 *i* PKIKP PKPdf 10 47 59.9 +0.5
AAK Ala-Archa 140.69 44 ePKPdf PKPdf 10 47 60.0 +0.5
YSS Yuzh-Sakhalins 140.97 325 *i* PKIKP PKPdf 10 48 00.5 +0.6
FITZ Fitzroy Crossi 141.23 203 ePKP PKPdf 10 47 52.9 -7.5
comp=E,6.6nm,0.4s
FITZ Fitzroy Crossi 141.23 203 PKhKP 10 47 53.0
comp=E,2.5nm,0.4s,baz=166,slow=5.6,SNR=23
FITZ PKP PKPdf 10 48 02.3 +1.9
comp=E,5.1nm,0.6s,baz=208,slow=2.6,SNR=9.3
FITZ Fitzroy Crossi 141.23 203 PKP PKPdf 10 48 02.3 +1.9
KAKA Kakadu 142.71 217 ePKP PKPdf 10 47 57.7 -5.3
comp=E,8.2nm,0.4s
MKAR Makanchi Array 142.96 33 PKP PKPdf 10 48 00.7 -2.7
comp=E,2.3nm,0.8s,baz=336,slow=3.2,SNR=11
MKAR SKPbc SKPbc 10 51 29.2 -0.7
comp=E,1.9nm,0.7s,baz=344,slow=3.1,SNR=6.7
KSH Kashi 143.08 47 ePKP PKPdf 10 48 00.3 -3.4
KSH ePKS 10 51 32.6
KSH LR LR
comp=N,297nm,4.7s
KSH LR LR
comp=E,271nm,6.2s
KSH LR LR
comp=Z,22μm,14.2s
KLR Kul'dur 144.55 336 ePKHKP 10 48 00.0
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,96nm,1.6s
POO Poona 144.99 83 eP PKPdf 10 48 05.0 -2.0
KAD Karad 145.18 85 eP PKPbc 10 48 07.2 0.0
KAD AMb AMB 10 48 09.5
comp=Z,50nm,1.2s
MOY Mondy 145.56 11 ePKP2 PKPab 10 48 08.6 -0.2
MOY pmax pmax
comp=Z,74nm,1.4s
AJM Ajmer 145.63 69 eP PKPdf 10 48 07.0 -1.2
TRD Trivandrum 145.83 102 eP PKPdf 10 48 09.2 +0.8
CIT Chita 146.01 357 ePKP2 PKPab 10 48 10.2 -0.3
CIT pmax pmax
comp=Z,161nm,2.3s
GUMO Guam 146.91 267 PKPbc PKPbc 10 48 11.9 -0.5
comp=Z,88nm,0.8s,baz=176,slow=9.8,SNR=5.6
ZAK Zakamensk 147.17 9 ePKP2 PKPab 10 48 11.5 -3.5
ZAK pmax pmax
comp=Z,12nm,1.7s
ZAK pmax pmax
comp=Z,29nm,1.4s
NDI New Delhi 147.54 65 eP PKPdf 10 48 11.0 -0.3
WMQ Urumqi 147.77 32 PKP PKPdf 10 48 11.8 +0.1
WMQ PKP2 PKPab 10 48 19.5 +2.1
WMQ PP PP 10 51 46.0 +3.4
WMQ SKS SKSdf 10 55 08.5 0.0
WMQ SKKS SKKSac 10 58 22.0 -0.1
WMQ PP PP
comp=Z,206nm,4.4s
WMQ LR LR
comp=N,148nm,16.9s
WMQ LR LR
comp=E,157nm,20.0s
WMQ LR LR
comp=Z,127nm,18.5s
MDJ Mudanjiang 149.14 333 PKP PKPdf 10 48 13.8 -0.1
MDJ APKP 10 48 47.8
MDJ XPKP 10 49 01.4
HYB Hyderabad 149.34 86 *i* P PKPdf 10 48 16.0 +1.7
HYB Hyderabad 149.34 86 eP PKPdf 10 48 16.0 +1.7
MAJO Matsushiro 149.58 313 ePKP2 PKPab 10 48 18.8 -6.0
MJAR Matsushiro Arr 149.58 313 PKPbc PKPbc 10 48 19.0 -0.3
comp=Z,11nm,0.6s,baz=84,slow=1.0,SNR=31
MJAR pPKPbc pPKPbc 10 48 52.1 -1.0
comp=Z,14nm,1.1s,baz=342,slow=0.9,SNR=6.1
MAT Matsushiro 149.58 313 PKP2 PKPab 10 48 19.0 -5.8
SONM Songino Array 150.06 6 PKP PKPdf 10 48 14.8 -0.5
comp=Z,2.5nm,1.0s,baz=129,slow=2.0,SNR=6.7
SONM PKPbc PKPbc 10 48 20.5 0.0
comp=Z,14nm,0.5s,baz=281,slow=0.6,SNR=58
SONM pPKPbc pPKPbc 10 48 52.2 -2.0
comp=Z,17nm,0.9s,baz=327,slow=1.4,SNR=6.8
CN2 Changchun 151.47 337 ePKP PKPdf 10 48 21.9 +4.3
CN2 LR LR
comp=N,400nm,23.0s
CN2 LR LR
comp=E,200nm,23.0s
VIS Vishakhapatnam 153.91 86 eP PKPdf 10 48 18.1 -3.0
BOK Bokaro 156.09 72 eP PKPdf 10 48 24.1 0.0
BOK AMb AMB 10 48 30.6
comp=Z,152nm,0.6s
GTA Gaotai 156.67 22 PKP PKPdf 10 48 25.9 +1.0
GTA PKP2 PKPab 10 48 55.5 +0.8
GTA SKS SKSdf 10 55 20.1 +0.9
GTA PP PP
comp=Z,106nm,6.5s
GTA LR LR
comp=N,65nm,17.2s
GTA LR LR
comp=E,92nm,18.0s
GTA LR LR
comp=Z,77nm,16.1s
HHC Hu-ho-hao-te 157.24 358 ePKP PKPdf 10 48 28.3 +2.7
HHC PP PP 10 52 41.6 +5.3
HHC SS SS 11 12 20.8 +0.1
HHC LR LR
comp=Z,87nm,6.3s
PSI Prapat 160.94 141 PKPab PKPab 10 49 13.8 +0.6
comp=Z,1.9nm,0.4s,baz=227,slow=5.8,SNR=4.1
LZH Lanzhou 161.00 17 ePKP PKPdf 10 48 28.5 -1.5
LZH APKP 10 49 01.5
LZH XPKP 10 49 15.0
LZH LR LR
comp=N,128nm,19.5s
LZH LR LR
comp=Z,254nm,20.4s
LZH Lanzhou 161.00 17 ePKP PKPdf 10 48 28.5 -1.5
LZH pPKP pPKPdf 10 49 01.5 -2.6
LZH sPKP 10 49 15.0
LZH LR LR
comp=Z,250nm,20.4s
XAN Xi'an 163.97 6 PKP PKPdf 10 48 33.3 +0.4
NJ2 Nanjing 164.23 334 ePKP PKPdf 10 48 28.5 -4.6
CD2 Chengdu 165.69 25 ePKP PKPdf 10 48 31.5 -2.9
CD2 APKP 10 49 06.4
CD2 XPKP 10 49 20.0
CD2 PP PP 10 53 21.0 -0.3
CD2 SKS SKSdf 10 55 21.0 -5.8
CD2 SKKS SKKSac 10 59 55.0 -1.9
CD2 SS SS 11 13 45.0 -3.7
CD2 PP PP
comp=Z,120nm,10.4s
KMI Kunming 169.74 45 PKP PKPdf 10 48 37.8 +0.6
KMI Kunming 169.74 45 P PKPdf 10 48 37.7 +0.5
GYA Guiyang 170.79 24 PKP PKPdf 10 48 38.3 +0.5
GYA PP PP
comp=Z,180nm,7.8s

ISCJB ***13*** *10:39:57.8±0.7,4328N±002×12669W±006,h9km±6km, mb4.2/3,MS3.7/2,Error ellipse: s-maj=7.3km s-min=3.3km az=155.6*
IDC ***13*** *10:40:00.3±2.1,4339N×12639W,h0km,mb4.1/3, mb1 4.1/9,mb1mx3.9/27,mbtmp3.9/9,ML3.6/6,MS3.6/5, Ms1 3.6/5,ms1mx3.1/43,Error ellipse: s-maj=32.4km s-min=11.8km az=62.0*
NEIC ***13*** *10:40:01.6±0.9,4343N×12663W,h10km,mb4.0/2,Error ellipse: s-maj=11.5km s-min=6.3km az=71.0*
ISC 13 10:40:00.2±0.9,4326N±002×12665W±006,h12km±8km, n110,σ0°93/134,mb4.2/3,MS3.7/2,40C-45D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.66**	**105**	⇑P	**Pn**	**10 40 27.0**	**-2.1**
K01A	baz=1.6,SNR=8.6			⇓S	**Sn**	**10 40 48.7**	**-1.7**
KBO	**Bosley Butte**	**2.07**	**120**	*e*Pn	**Pn**	**10 40 38.1**	**+3.3**
I02A	**Mapleton**	**2.18**	**69**	⇑P	**Pn**	**10 40 34.8**	**-1.5**
I02A	baz=2.1,SNR=21			⇑S	**Sn**	**10 41 01.6**	**-1.5**
J02A	**Umpqua**	**2.25**	**86**	⇓P	**Pn**	**10 40 35.7**	**-1.4**
J02A	baz=2.1			⇓S	**Sn**	**10 41 04.3**	**-0.5**
M01C	**Crescent City**	**2.34**	**126**	⇑P	**Pn**	**10 40 36.6**	**-1.8**
M01C	baz=2.2			⇓S	**Sn**	**10 41 05.6**	**-1.5**
K02A	**Glendale**	**2.37**	**101**	⇓P	**Pn**	**10 40 37.3**	**-1.6**
K02A	baz=2.3			⇓S	**Sn**	**10 41 07.0**	**-0.8**
H02A	**Toledo**	**2.38**	**53**	P	**Pn**	**10 40 37.6**	**-1.4**
H02A	baz=2.3,SNR=9.9			⇑S	**Sn**	**10 41 07.7**	**-0.5**
L02A	**Cave Junction**	**2.50**	**115**	⇓P	**Pn**	**10 40 39.5**	**-1.2**
L02A	baz=2.4			⇓S	**Sn**	**10 41 10.8**	**-0.3**
I03A	**Eugene**	**2.55**	**73**	⇑P	**Pn**	**10 40 40.2**	**-1.1**
I03A	baz=2.5			⇑S	**Sn**	**10 41 11.7**	**-0.6**
J03A	**Ideyld Park**	**2.69**	**86**	⇓P	**Pn**	**10 40 42.2**	**-1.1**
J03A	baz=2.6,SNR=17			⇑S	**Sn**	**10 41 16.0**	**+0.2**
COR	**Corvallis**	**2.76**	**60**	*e*P	**Pn**	**10 40 43.3**	**-0.9**
H03A	**Soap Creek Ran**	**2.81**	**59**	⇓P	**Pn**	**10 40 43.9**	**-1.0**
H03A	baz=2.7			⇑S	**Sn**	**10 41 18.6**	**-0.1**
BBOR	**Butler Butte**	**2.93**	**96**	P	**Pn**	**10 40 46.1**	**-0.5**
G03A	**Yamhill**	**3.17**	**48**	⇓P	**Pn**	**10 40 49.0**	**-0.9**
G03A	baz=3.1			⇑S	**Sn**	**10 41 27.8**	**+0.1**
HBO	**Huckleberry Mo**	**3.20**	**78**	P	**Pn**	**10 40 50.3**	**0.0**
YBH	**Yreka Blue Hor**	**3.29**	**116**	Pn	**Pn**	**10 40 52.0**	**+0.6**
YBH	5.8nm,0.3s,baz=296,slow=12,SNR=74			Sn	**Sn**	**10 41 31.4**	**+0.9**
YBH	**Yreka Blue Hor**	**3.29**	**116**	⇑P	**Pn**	**10 40 51.5**	**+0.1**
YBH	baz=3.2			⇓S	**Sn**	**10 41 31.2**	**+0.7**
M02C	**Callahan**	**3.38**	**122**	⇓P	**Pn**	**10 40 52.2**	**-0.5**
M02C	baz=3.3			⇑S	**Sn**	**10 41 32.7**	**0.0**
SSOR	**Sweet Springs**	**3.42**	**61**	P	**Pn**	**10 40 53.3**	**+0.1**
F03A	**Seaside**	**3.46**	**38**	P	**Pn**	**10 40 52.7**	**-1.2**
F03A	baz=3.4,SNR=13			⇑S	**Sn**	**10 41 35.4**	**+0.6**
N02C	**Big Bar**	**3.48**	**133**	⇓P	**Pn**	**10 40 52.8**	**-1.4**
H04A	**Detroit Lake**	**3.52**	**65**	⇓P	**Pn**	**10 40 54.6**	**-0.1**
G04A	**Mulino**	**3.57**	**56**	⇑P	**Pn**	**10 40 55.5**	**+0.1**
G04A	baz=3.5,SNR=408			⇓S	**Sn**	**10 41 38.7**	**+1.1**
HUOR	**Husband**	**3.58**	**74**	P	**Pn**	**10 40 56.1**	**+0.5**
WIFE	**Three Sisters-**	**3.60**	**75**	P	**Pn**	**10 40 56.0**	**+0.3**
L04A	**Klamath Falls**	**3.67**	**106**	⇑S	**Sn**	**10 41 39.9**	**0.0**
BKCOR	**Black Crater**	**3.73**	**72**	P	**Pn**	**10 40 57.7**	**+0.1**
E03A	**Lebam**	**3.95**	**33**	⇑P	**Pn**	**10 40 59.5**	**-1.1**
E03A	baz=3.9,SNR=63			⇓S	**Sn**	**10 41 46.5**	**-0.4**
F04A	**Amboy**	**4.03**	**47**	⇑P	**Pn**	**10 41 01.5**	**-0.3**
F04A	baz=4.0			⇑S	**Sn**	**10 41 50.6**	**+1.7**
H05A	**Madras**	**4.15**	**69**	P	**Pn**	**10 41 03.3**	**-0.1**
VLL	**Laurance Lake**	**4.19**	**57**	P	**Pn**	**10 41 04.7**	**+0.8**
FL2	**Flat Top 2**	**4.24**	**45**	P	**Pn**	**10 41 05.0**	**+0.3**
SHW	**Mount Saint He**	**4.30**	**45**	P	**Pn**	**10 41 05.9**	**+0.5**
G05A	**Wamic**	**4.31**	**61**	⇓P	**Pn**	**10 41 05.4**	**-0.2**
E04A	**Onalaska**	**4.35**	**39**	⇓P	**Pn**	**10 41 05.5**	**-0.6**
D03A	**Wishkah Elem.**	**4.36**	**27**	P	**Pn**	**10 41 05.3**	**-1.0**
F05A	**White Salmon**	**4.54**	**53**	P	**Pn**	**10 41 09.2**	**+0.5**
F05A	baz=4.5,SNR=86			⇑S	**Sn**	**10 42 02.9**	**+1.4**
D04A	**Dobbs Creek Ra**	**4.71**	**34**	⇓P	**Pn**	**10 41 10.7**	**-0.4**
G06A	**Carlson Farm,**	**4.75**	**63**	⇑P	**Pn**	**10 41 11.1**	**-0.5**
F06A	**Goldendale**	**4.89**	**57**	P	**Pn**	**10 41 13.7**	**+0.2**
F06A	baz=4.8,SNR=88			⇑S	**Sn**	**10 42 11.0**	**+1.1**
C03A	**Quillayute Air**	**4.91**	**17**	⇓P	**Pn**	**10 41 12.8**	**-1.0**

baz=4.9
C03A ⇑S **Sn** **10 42 09.6 -0.9**
baz=4.9
D05A **Enumclaw** **5.12 38** ⇓P **Pn** **10 41 16.9 +0.1**
baz=5.1,SNR=14
D05A ⇑S **Sn** **10 42 18.1 +2.2**
baz=5.1
C04A **Brinnon** **5.15 29** ⇓P **Pn** **10 41 16.8 -0.3**
baz=5.1
C04A ⇑S **Sn** **10 42 17.0 +0.5**
baz=5.1
E06A **Yakima** **5.20 49** ⇓P **Pn** **10 41 18.1 +0.3**
baz=5.1,SNR=106
B04A **Port Angeles** **5.28 24** P **Pn** **10 41 18.1 -0.8**
baz=5.3,SNR=28
B04A ⇓S **Sn** **10 42 18.9 -0.8**
baz=5.3
H07A **Lands Inn, Kim** **5.29 73** ⇓P **Pn** **10 41 19.2 +0.2**
baz=5.2,SNR=54
G07A **Ruggs Ranch, H** **5.40 66** ⇑P **Pn** **10 41 20.6 +0.1**
baz=5.3,SNR=46
K07A **Rock Creek Ran** **5.46 93** ⇓P **Pn** **10 41 20.9 -0.4**
baz=5.3
F07A **Phinny Hill Vi** **5.48 59** P **Pn** **10 41 21.8 +0.2**
baz=5.4,SNR=13
L07A **Adell** **5.53 100** ⇓P **Pn** **10 41 22.3 0.0**
baz=5.4
C05A **Tolt Reservoir** **5.64 36** ⇓P **Pn** **10 41 23.6 -0.3**
baz=5.6,SNR=20
D06A **Cle Elum** **5.68 44** ⇑P **Pn** **10 41 25.3 +0.9**
baz=5.6,SNR=10
E07A **Sunnyside** **5.84 53** ⇑P **Pn** **10 41 27.0 +0.3**
baz=5.8,SNR=14
MCCM **Marconi Confer** **5.86 149** ⇑P **Pn** **10 41 27.5 +0.7**
baz=5.8
G08A **Pilot Rock** **5.88 67** ⇓P **Pn** **10 41 27.1 0.0**
baz=5.8,SNR=29
B05A **Bryant** **5.93 31** P **Pn** **10 41 27.7 -0.1**
baz=5.9,SNR=16
B05A ⇑S **Sn** **10 42 36.0 +0.2**
baz=5.9
HAWA **Hanford** **5.95 56** *e*Pn **Pn** **10 41 28.3 +0.2**
HAWA *e*pPn 10 41 35.1
A04A **Legoe Bay, Lum** **6.11 25** ⇓P **Pn** **10 41 30.2 -0.1**
baz=6.1
D07A **Quincy** **6.14 48** ⇑P **Pn** **10 41 31.1 +0.4**
baz=6.1,SNR=6.3
F08A **Pendleton** **6.17 63** ⇓P **Pn** **10 41 30.7 -0.4**
baz=6.1,SNR=8.1
B06A **Marblemount** **6.38 33** ⇓P **Pn** **10 41 33.7 -0.3**
baz=6.3
C07A **Waterville** **6.41 44** ⇑P **Pn** **10 41 34.7 +0.4**
baz=6.3,SNR=35
WCN **Washoe City** **6.52 125** ⇓P **Pn** **10 41 37.7 +1.7**
baz=6.4
A05A **Maple Falls** **6.56 27** ⇑P **Pn** **10 41 37.0 +0.6**
baz=6.5
H09A **Durkee** **6.63 75** ⇑P **Pn** **10 41 37.3 -0.2**
baz=6.5
D08A **Wollman Farm,** **6.65 53** ⇓P **Pn** **10 41 37.8 +0.1**
baz=6.6
F09A **S2 Ranch, Elgi** **6.71 66** ⇑P **Pn** **10 41 38.0 -0.5**
baz=6.6
WENL **Wente Brothers** **6.75 145** ⇓P **Pn** **10 41 39.8 +0.7**
baz=6.7
E09A **Wood Farm, Sta** **6.86 59** ⇑P **Pn** **10 41 39.4 -1.2**
baz=6.8
C08A **Higginbotham F** **7.00 47** P **Pn** **10 41 42.8 +0.3**
baz=6.9,SNR=22
BNLO **Ben Lomond (Sa** **7.01 149** ⇑P **Pn** **10 41 42.6 -0.1**
baz=6.9
CMB **Columbia Colle** **7.06 136** *e*Pn **Pn** **10 41 47.9 +4.6**
F10A **Beach Ranch, E** **7.25 65** ⇑P **Pn** **10 41 45.5 -0.4**
baz=7.2
C09A **Chrisman Ranch** **7.43 49** ⇑P **Pn** **10 41 48.6 +0.2**
baz=7.4,SNR=11
HAST **UC Hastings Re** **7.90 149** ⇓P **Pn** **10 41 54.9 0.0**
baz=7.8
NVAR **Mina Array Bea** **7.95 125** Pn **Pn** **10 41 58.5 +2.9**
0.4nm,0.3s,baz=299,slow=14,SNR=6.6
C10A **Spilker Farm,** **7.98 52** ⇓P **Pn** **10 41 56.0 0.0**
baz=7.9
B10A **Chitwood Farm,** **8.29 49** ⇓P **Pn** **10 42 00.6 +0.4**
baz=8.2
NEW **Newport** **8.33 50** Pn **Pn** **10 42 01.1 +0.3**
1.5nm,0.3s,baz=220,slow=12,SNR=15
NEW LR LR 10 45 18.8
comp=Z,312nm,20.3s,baz=207,slow=39
V03C **Hunter Liggett** **8.34 148** ⇓P **Pn** **10 42 01.7 +0.8**
baz=8.3
Q09A **Carvers** **8.41 119** ⇓P **Pn** **10 42 00.2 -1.6**
baz=8.3
A10A **Northport** **8.52 45** ⇓P **Pn** **10 42 03.6 +0.2**
baz=8.5
PKD **Parkfield** **8.69 145** ⇓P **Pn** **10 42 07.0 +1.3**
baz=8.6
BBB **Bella Bella** **8.99 354** Pn **Pn** **10 42 11.3 +1.5**
0.8nm,0.3s,baz=205,slow=12,SNR=9.8
BBB Sn **Sn** **10 43 46.4 -4.5**
0.1nm,0.3s,baz=346,slow=7.9,SNR=2.8
BBB LR LR 10 44 57.3
comp=Z,176nm,18.4s,baz=241,slow=34
C12A **Trout Creek** **9.01 57** ⇓P **Pn** **10 42 10.3 +0.1**
baz=8.9
BSMT **Bassoo Peak** **9.50 57** *e*Pn **Pn** **10 42 17.9 +1.1**
A12A **Yaak River Ran** **9.51 50** ⇑P **Pn** **10 42 17.5 +0.6**
baz=9.4
C13A **Hot Springs** **9.56 58** ⇑P **Pn** **10 42 17.7 +0.1**
baz=9.5
MSO **Missoula** **9.68 64** *e*Pn **Pn** **10 42 19.6 +0.4**
ISA **Isabella** **9.87 138** *e*Pn **Pn** **10 42 25.3 +3.5**
B13A **Whitefish** **9.92 55** ⇓P **Pn** **10 42 23.1 +0.5**
baz=9.8
CHMT **Chamberlain Mo** **10.15 64** *e*Pn **Pn** **10 42 25.7 0.0**
DLMT **Dillon** **10.29 73** *e*Pn **Pn** **10 42 28.4 +0.8**
LRM **Limekiln Ridge** **10.46 71** *e*Pn **Pn** **10 42 31.1 +1.2**
WALA **Waterton Lakes** **10.56 52** *e*Pn **Pn** **10 42 32.0 +0.6**
MWC **Mount Wilson** **11.23 141** *e*Pn **Pn** **10 42 44.1 +3.5**
CTU **Camp Tracy** **11.38 98** *e*Pn **Pn** **10 42 46.2 +3.6**
LOHW **Long Hollow** **11.67 83** *e*Pn **Pn** **10 42 49.9 +3.3**
PDAR **Pinedale Array** **12.52 86** Pn **Pn** **10 43 00.1 +2.0**
0.0nm,0.3s,baz=279,slow=12,SNR=5.4
SDCO **Great Sand Dun** **16.98 102** *e*Pn **Pn** **10 43 59.8 +2.2**
9.7nm,1.4s
ANMO **Albuquerque** **17.70 111** P **Pn** **10 44 08.8 +2.3**
0.1nm,0.3s,baz=316,slow=14,SNR=3.8
ANMO LR LR 10 51 43.0
comp=Z,169nm,18.9s,baz=5.8,slow=40
YKA **Yellowknife Ar** **20.53 16** P **P** **10 44 37.9 -0.4**
6.9nm,0.7s,baz=200,slow=9.6,SNR=16
YKW3 **Yellowknife Ar** **20.59 16** *e*Pn **P** **10 44 38.4 -0.5**
DAWY **Dawson** **22.09 345** *e*P **P** **10 44 53.9 -1.2**
ULM **Lac du Bonnet** **22.10 61** P **P** **10 44 56.0 +0.8**
15nm,1.1s,mb4.3,baz=263,slow=11,SNR=7.4
WMOK **Wichita Mounta** **23.19 102** *e*P **P** **10 45 08.5 +1.7**
10nm,1.2s,mb4.1
LPIG **La Paz** **23.37 140** LR LR 10 53 26.7
comp=Z,133nm,20.1s,MS3.4,baz=7.0,slow=34
FINES **FINESS Array B** **73.33 13** P **P** **10 51 30.9 -0.8**
1.8nm,0.9s,mb4.0,baz=335,slow=8.6,SNR=3.7
LVC **Limon Verde** **84.30 128** LR LR 11 32 21.2
comp=Z,62nm,20.1s,MS4.0,baz=101,slow=37
MALT **Malatya** **97.69 12** *e*P **P** **10 53 34.8 -0.1**
MALT *e* 10 53 43.4

IDC 13 11:07:11.4±3.1,3388S×17887W,h0km,mb4.0/2,
mb1 4.2/3,mb1mx3.8/13,mbtmp4.0/3,ML4.0/1,Error
ellipse: s-maj=71.8km s-min=36.1km az=119.0,South
of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.34**	**211**	PN	Pn	11 08 18.7	+0.1
PUZ	**Puketiti**	**4.79**	**208**	PN	Pn	11 08 24.2	-0.7
PUZ				SN	Sn	11 09 19.1	-2.0
MWZ	**Matawai**	**5.32**	**212**	PN	Pn	11 08 33.0	+0.9
URZ	**Urewera**	**5.45**	**216**	Pn	Pn	11 08 34.5	+0.5
	5.3nm,0.3s,baz=78,slow=2.0,SNR=30						
URZ				Sn	Sn	11 09 36.1	-1.3
	3.2nm,0.3s,baz=143,slow=20,SNR=7.7						
URZ	**Urewera**	**5.45**	**216**	PN	Pn	11 08 34.3	+0.4
URZ				SN	Sn	11 09 36.0	-1.4
ASAR	**Alice Springs**	**42.31**	**271**	P	P	11 15 07.2	+0.4
	1.3nm,0.7s,baz=115,slow=7.1,SNR=9.8						
WRA	**Warramunga Arr**	**43.62**	**276**	P	P	11 15 17.5	0.0
	1.8nm,0.7s,baz=116,slow=7.4,SNR=8.0						
FINES	**FINESS Array B**	**148.11**	**337**	PKPbc	PKPbc	11 26 57.5	-1.5
	1.4nm,0.6s,baz=42,slow=4.3,SNR=6.1						

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*ISCJB **13** 11:26:36.2±0.6, 1785S±005×69.12W±005, h126km±7km,*
mb4.3/14, Error ellipse: s-maj=9.2km s-min=7.0km
az=82.3
*IDC **13** 11:26:38.0±1.4, 1791S×69.12W, h129km±12km, mb4.0/10,*
mb1 4.1/13, mb1mx4.0/21, mbtmp4.4/13, Error ellipse:
s-maj=15.0km s-min=12.6km az=96.0
*NEIC **13** 11:26:38.8±0.6, 1794S×69.15W, h137km±6km, mb4.5/5,*
Error ellipse: s-maj=10.1km s-min=7.4km az=56.0
ISC 13 11:26:37.5±0.6,1788S±005×6914W±005,h121km±6km,
n33,σ0§91/34,mb4.3/14,1C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.85**	**32**	P	**Pn**	**11 27 15.0**	**+5.9**
	39nm,0.3s,baz=229,slow=4.6,SNR=1201						
LPAZ				S	**Sn**	**11 27 38.1**	**+4.8**
	18nm,0.3s,baz=221,slow=8.3,SNR=6.2						
LPAZ	**La Paz**	**1.85**	**32**	P	**Pn**	**11 27 15.0**	**+5.9**
LPAZ				S	**Sn**	**11 27 38.1**	**+4.8**
ARE	**Arequipa**	**2.65**	**302**	⇑*i*P	**Pn**	**11 27 20.2**	**+0.9**
ARE				*i* S	**Sn**	**11 27 51.0**	**-0.4**
LVC	**Limon Verde**	**4.72**	**177**	P	**Pn**	**11 27 47.9**	**+1.3**
	5.6nm,0.3s,baz=333,slow=11,SNR=99						
LVC				S	**Sn**	**11 28 39.8**	**-0.6**
	13nm,0.3s,baz=143,slow=20,SNR=4.3						
SIV	**San Ignacio**	**7.94**	**78**	P	**Pn**	**11 28 31.3**	**+1.0**
	10.0nm,0.3s,baz=278,slow=12,SNR=76						
SIV				S	**Sn**	**11 29 57.8**	**-0.5**
	baz=358,slow=22,SNR=6.0						
NNA	**Nana**	**9.47**	**307**	P	**Pn**	**11 28 48.0**	**-2.9**
	2.4nm,0.3s,baz=123,slow=14,SNR=6.4						
NNA				S	**Sn**	**11 30 26.8**	**-8.6**
	3.3nm,0.3s,baz=206,slow=21,SNR=3.1						
SAML	**Samuel**	**10.59**	**34**	*e*P	**Pn**	**11 29 04.9**	**-1.0**
CPUP	**Villa Florida**	**13.80**	**130**	P	**Pn**	**11 29 47.1**	**-0.8**
	0.3nm,0.3s,baz=290,slow=12,SNR=5.9						
BDFB	**Brasília**	**20.35**	**87**	P	**P**	**11 31 05.3**	**+1.0**
	18nm,0.5s,baz=269,slow=7.8,SNR=22						
TRQA	**Tornquist**	**21.06**	**164**	*e*P	**P**	**11 31 11.3**	**-0.6**
	5.4nm,0.7s,mb4.0						
PLCA	**Paso Flores**	**22.81**	**183**	P	**P**	**11 31 29.9**	**-0.1**
	3.3nm,1.1s,mb3.6,baz=356,slow=14,SNR=3.6						
CMIG	**Matias Romero**	**43.01**	**322**	P	**P**	**11 34 25.4**	**+0.5**
	3.4nm,0.6s,mb4.3,baz=124,slow=5.0,SNR=8.2						
FVM	**French Village**	**59.05**	**340**	*e*P	**P**	**11 36 23.9**	**-1.0**
	18nm,0.6s,mb5.3						
SDCO	**Great Sand Dun**	**65.04**	**329**	*e*P	**P**	**11 37 05.1**	**+0.3**
	6.6nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**66.70**	**330**	*e*P	**P**	**11 37 15.1**	**-0.4**
SMCO	**Snowmass**	**66.88**	**329**	*e*P	**P**	**11 37 17.2**	**+0.7**
	3.3nm,0.6s,mb4.3						
DBIC	**Dimbokro**	**67.96**	**75**	P	**P**	**11 37 23.7**	**+0.4**
	25nm,0.8s,mb5.1,baz=227,slow=6.6,SNR=24						
ARUT	**Antelope Range**	**69.28**	**324**	*e*P	**P**	**11 37 32.9**	**+1.4**
PDAR	**Pinedale Array**	**70.88**	**330**	P	**P**	**11 37 41.0**	**-0.3**
	0.6nm,0.5s,mb3.6,baz=127,slow=8.4,SNR=9.4						
ULM	**Lac du Bonnet**	**71.81**	**342**	P	**P**	**11 37 45.5**	**-1.4**
	3.8nm,0.6s,mb4.4,baz=169,slow=6.7,SNR=7.8						
NVAR	**Mina Array Bea**	**72.53**	**321**	P	**P**	**11 37 51.7**	**+0.5**
	1.2nm,0.7s,mb3.8,baz=149,slow=5.3,SNR=11						
NVAR	**Mina Array Bea**	**72.53**	**321**	P	**P**	**11 37 51.7**	**+0.5**
PAHR	**Pah Rah Range**	**74.00**	**322**	*e*P	**P**	**11 38 01.2**	**+1.4**
	9.3nm,0.9s,mb4.5						
TOA0	**Torodi Ar. Sit**	**76.37**	**71**	*e*P	**P**	**11 38 13.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.37**	**71**	P	**P**	**11 38 13.4**	**0.0**
	3.6nm,0.3s,mb4.5,baz=260,slow=5.4,SNR=32						
VNDA	**Vanda**	**80.37**	**190**	P	**P**	**11 38 35.5**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=354,slow=2.2,SNR=6.0						
YKA	**Yellowknife Ar**	**87.71**	**341**	P	**P**	**11 39 11.7**	**-0.9**
	5.0nm,0.6s,mb4.7,baz=133,slow=4.8,SNR=48						
YKA	**Yellowknife Ar**	**87.71**	**341**	P	**P**	**11 39 11.7**	**-0.9**
ASAR	**Alice Springs**	**132.98**	**209**	PKP	PKPdf	11 45 38.5	0.0
	0.4nm,0.7s,baz=135,slow=1.7,SNR=9.7						
ASAR				SKPbc	SKPbc	11 48 52.9	-2.3
	0.7nm,0.9s,baz=141,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**135.92**	**213**	PKP	PKPdf	11 45 44.0	-0.1
	0.4nm,0.3s,baz=139,slow=1.6,SNR=22						
WRA				SKPbc	SKPbc	11 49 03.0	-1.6
	0.6nm,0.8s,baz=144,slow=3.2,SNR=5.2						
ZAL	**Zalesovo**	**138.75**	**23**	SKPbc	SKPbc	11 49 11.7	-1.3
	1.2nm,0.2s,baz=22,slow=2.2,SNR=5.2						
MJAR	**Matsushiro Arr**	**149.55**	**313**	PKPbc	PKPbc	11 46 13.0	+0.4
	1.2nm,0.5s,baz=86,slow=1.5,SNR=4.0						
SONM	**Songino Array**	**149.90**	**6**	PKPbc	PKPbc	11 46 13.8	+0.3
	1.4nm,0.5s,baz=320,slow=1.9,SNR=15						

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*NEIC **13** 11:34:35.1, 3140S×7163W, h12km, ML3.5(GUC), After*
GUC.
GUC 13 11:34:35.1±0.4,3140S×7163W,h12km±2km,MD3.7,
ML3.5,3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**167**	⇓*i*P	Pg	11 34 45.1	+0.4
CHNG				*i* S	Sg	11 34 52.6	+1.2
PACH	**Papudo**	**1.15**	**172**	*i* P	Pb	11 34 55.4	-1.5
PACH				*i* S	Sb	11 35 10.9	-0.7
TLL	**Tololo Astrono**	**1.42**	**30**	⇓*i*P	Pn	11 35 00.3	-0.4
TLL				*i* S	Sn	11 35 19.4	0.0
TLL				AML	AML	11 35 21.0	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**1.42**	**30**	⇓*i*P	Pn	11 35 00.3	-0.4
TLL				*i* S	Sn	11 35 19.4	0.0
LSCH	**La Serena**	**1.52**	**13**	*e*P	Pn	11 35 01.2	-1.0
LSCH				*i* S	Sn	11 35 21.4	-0.5
JACH	**Jahuel**	**1.55**	**146**	*e*P	Pn	11 35 02.2	-0.3
JACH				*i* S	Sn	11 35 22.6	0.0
PEL	**Peldehue**	**1.91**	**155**	*e*P	Pn	11 35 07.8	+0.3
PEL				*i* S	Sn	11 35 32.4	+0.9
PEL				AML	AML	11 35 37.0	
	comp=E,952nm,0.8s						
PEL	**Peldehue**	**1.91**	**155**	*e*P	Pn	11 35 07.8	+0.3
PEL				*i* S	Sn	11 35 32.4	+0.9
CLCH	**Cerro Calan**	**2.19**	**155**	AML	AML	11 35 49.0	
	comp=N,705nm,0.5s						
RCDM	**Rinconada Maip**	**2.20**	**162**	*i* P	Pn	11 35 12.1	+0.7
RCDM				*i* S	Sn	11 35 40.5	+2.0
RCDM				AML	AML	11 35 48.6	
	comp=N,234nm,0.7s						
RCDM	**Rinconada Maip**	**2.20**	**162**	*i* P	Pn	11 35 12.1	+0.7
RCDM				*i* S	Sn	11 35 40.5	+2.0
TACH	**Talagante**	**2.32**	**166**	*i* P	Pn	11 35 14.0	+0.9
TACH				*i* S	Sn	11 35 43.8	+2.2

IDC 13 11:38:13.5±2.8,5914S×14837E,h0km,mb3.6/3,
mb1 3.8/4,mb1mx3.7/13,mbtmp3.6/4,ML3.3/1,MS3.6/3,
Ms1 3.5/3,ms1mx3.1/20,Error ellipse: s-maj=189.7km
s-min=22.3km az=81.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.02**	**171**	P	Pn	11 42 36.4	-1.1
	0.1nm,0.3s,baz=344,slow=11,SNR=8.6						
VNDA				LR	LR	11 49 16.9	
	comp=Z,99nm,20.2s,baz=88,slow=35						
MAW	**Mawson**	**36.20**	**220**	LR	LR	12 00 32.9	
	comp=Z,83nm,18.4s,baz=233,slow=37						
ASAR	**Alice Springs**	**36.90**	**338**	P	P	11 45 23.2	-0.6
	1.6nm,1.0s,baz=164,slow=9.2,SNR=6.7						
WRA	**Warramunga Arr**	**40.44**	**339**	P	P	11 45 53.8	+0.2
	1.6nm,1.0s,baz=168,slow=7.7,SNR=5.1						
SNAA	**Sanae**	**47.94**	**192**	P	P	11 46 52.9	-0.8
	1.2nm,1.0s,baz=157,slow=10,SNR=9.9						
BOSA	**Boshof**	**80.76**	**228**	LR	LR	12 24 11.1	
	comp=Z,47nm,19.0s,baz=224,slow=34						

PGC 13 12:02:06.4,5834N×13350W,h1km,ML2.9/6,53km
northeast of Juneau, Ak Near Mt. Ogden, British
Columbia - Alaska border.,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.83**	**85**	Pn	Pn	12 02 37.5	-1.5
DLBC				Pg	Pg	12 02 39.2	-2.3
DLBC				Sn	Sn	12 03 02.6	-0.2
DLBC				Sg	Sg	12 03 04.5	-0.8
DLBC				Trac		12 03 05.0	
	comp=Z,115nm,0.5s						
PLBC	**Pleasant Camp**	**1.86**	**308**	Pn	Pn	12 02 39.6	+0.2
PLBC				Sn	Sn	12 03 03.6	0.0
PLBC				Sg	Sg	12 03 05.0	-1.2
WHY	**Whitehorse**	**2.44**	**344**	Pn	Pn	12 02 46.2	-1.0
WHY				Pg	Pg	12 02 49.8	-3.2
WHY				Sn	Sn	12 03 17.8	+0.1
WHY				Sg	Sg	12 03 20.7	-3.9
WHY				Trac		12 03 29.5	
	comp=Z,74nm,0.7s						
HYT	**Haines Junctio**	**3.22**	**323**	Pn	Pn	12 02 58.2	+0.2
HYT				Pg	Pg	12 03 04.5	-3.6
HYT				Sg	Sg	12 03 45.5	-4.3
HYT				Trac		12 03 50.6	
	comp=Z,18nm,0.3s						
NDB	**Naden**	**4.40**	**176**	Trac		12 04 46.9	
	comp=Z,9.8nm,0.7s						
RUBB	**Prince Rupert**	**4.41**	**154**	Pn	Pn	12 03 13.3	-1.0
RUBB				Pg	Pg	12 03 24.6	-6.2
RUBB				Sg	Sg	12 04 23.9	-4.1
RUBB				Trac		12 04 33.9	
	comp=Z,54nm,1.1s						
BNAB	**Bonilla**	**5.11**	**160**	Pn	Pn	12 03 23.3	-0.8
BNAB				Pg	Pg	12 03 38.2	-6.2
BNAB				Sg	Sg	12 04 45.2	-5.5
BNAB				Trac		12 05 00.2	
	comp=Z,3.0nm,0.7s						
DIB	**Dawson Inlet,**	**5.18**	**173**	Pn	Pn	12 03 24.4	-0.6
MOBC	**Moresby Island**	**5.23**	**169**	Pn	Pn	12 03 25.3	-0.4
MOBC				Sg	Sg	12 04 52.3	-2.0
MOBC				Trac		12 05 12.4	
	comp=Z,6.0nm,1.0s						
FNBB	**Fort Nelson**	**5.51**	**80**	Trac		12 05 12.3	
	comp=Z,15nm,0.8s						
FNBB	**Fort Nelson**	**5.51**	**80**	Sg	Sg	12 05 00.6	-2.9
BNB	**Barry Inlet**	**5.86**	**169**	Pn	Pn	12 03 33.9	-0.4
DAWY	**Dawson**	**6.41**	**336**	Pn	Pn	12 03 41.8	-0.1
DAWY				Pg	Pg	12 04 02.7	-6.5
DAWY				Sn	Sn	12 04 50.6	-5.2
DAWY				Sg	Sg	12 05 23.4	-8.9
DAWY				Trac		12 05 30.6	
	comp=Z,22nm,0.7s						
INK	**Inuvik**	**10.01**	**360**	Pn	Pn	12 04 30.6	-0.7

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*ISCJB **13** 12:09:23.1±1.1, 4064N±004×13923E±007, h33km±7km,*
mb3.4/1, Error ellipse: s-maj=8.9km s-min=5.5km az=46.9
*JMA **13** 12:09:23.6±0.1, 4062N×13924E, h27km±1km, M3.5*
*IDC **13** 12:10:01.4±1.5, 3747N×13848E, h160km±13km, mb3.1/2,*
mb1 3.5/2, mb1mx2.9/21, mbtmp3.6/2, Error ellipse:
s-maj=41.6km s-min=30.6km az=113.0
ISC 13 12:09:23.5±1.2,4067N±004×13927E±007,h25km±8km,
n13,σ0§69/20,mb3.4/1,2C-3D,Near west coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.56**	**97**	⇓P	**Pb**	**12 09 35.0**	**+0.2**
JIW				S	**Sb**	**12 09 42.9**	**+0.4**
JOG2	**Oga 2**	**0.85**	**152**	⇑P	**Pb**	**12 09 38.8**	**-0.8**
JOG2				S	**Sb**	**12 09 49.8**	**-0.8**
JSI2	**Shiura 2**	**0.95**	**65**	⇓P	**Pn**	**12 09 41.3**	**0.0**
JSI2				*e*S	**Sb**	**12 09 53.5**	**0.0**
JAH	**Hinai**	**1.15**	**114**	⇓P	**Pn**	**12 09 43.8**	**-0.2**
JAH				*e*S	**Sn**	**12 09 57.9**	**-1.0**
JSR	**Shiriuchi**	**1.22**	**45**	⇑P	**Pn**	**12 09 45.7**	**+0.6**
JSR				*e*S	**Sn**	**12 10 00.8**	**0.0**
JTM	**Tenmabayashi**	**1.37**	**84**	*e*S	**Sn**	**12 10 04.1**	**-0.3**
JOSM	**Okushiri--Mats**	**1.43**	**6**	P	**Pn**	**12 09 47.5**	**-0.3**
JOSM				*e*S	**Sn**	**12 10 03.9**	**-1.9**
JOT	**Ohata**	**1.52**	**61**	P	**Pn**	**12 09 50.0**	**+0.8**
JOT				*e*S	**Sn**	**12 10 08.7**	**+0.5**
JANG	**Nango**	**1.73**	**99**	P	**Pn**	**12 09 52.9**	**+0.8**
MAT	**Matsushiro**	**4.20**	**192**	P	**Pn**	**12 10 26.2**	**+0.2**
MAT				S	**Sn**	**12 11 13.8**	**-0.4**
MJAR	**Matsushiro Arr**	**4.20**	**192**	P	**Pn**	**12 10 27.0**	**+1.0**
	1.6nm,0.3s,baz=9.1,slow=15,SNR=38						
WRA	**Warramunga Arr**	**60.47**	**185**	P	**P**	**12 19 31.9**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=2.7,slow=7.0,SNR=5.2						
YKA	**Yellowknife Ar**	**61.52**	**30**	P	PcP	12 20 21.1	+1.0
	1.3nm,0.8s,baz=286,slow=8.7,SNR=3.7						

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*IDC **13** 12:09:24.4±2.3, 4905N×13002E, h0km, mb3.9/1, mb1 4.1/4,*
mb1mx3.8/14, mbtmp3.9/4, ML3.9/3, Error ellipse:
s-maj=97.9km s-min=28.7km az=75.0
*ISCJB **13** 12:09:33.7±1.6, 5.1S±02×1299E±03, h100km, mb3.7/1,*
Error ellipse: s-maj=47.0km s-min=17.6km az=139.7
ISC 13 12:09:36.1±1.5,52S±02×1299E±03,h100km,n8,σ0§78/8,
mb3.7/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.90**	**161**	*e*P	**Pn**	**12 11 29.6**	**+1.4**
	4.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.50**	**198**	*e*P	**Pn**	**12 12 43.9**	**+0.5**
	7.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.50**	**198**	Pn	**Pn**	**12 12 42.9**	**-0.4**
	0.4nm,0.3s,baz=32,slow=8.5,SNR=19						
WRA	**Warramunga Arr**	**15.31**	**164**	Pn	**Pn**	**12 13 05.3**	**-1.3**
	0.3nm,0.3s,baz=346,slow=13,SNR=28						
WB2	**Warramunga Arr**	**15.31**	**164**	*e*P	**Pn**	**12 13 06.0**	**-0.6**
ASAR	**Alice Springs**	**18.79**	**168**	P	**P**	**12 13 47.5**	**0.0**
	1.1nm,0.3s,baz=347,slow=11,SNR=91						
ASPA	**Alice Springs**	**18.79**	**168**	*e*P	**P**	**12 13 47.9**	**+0.4**
MKAR	**Makanchi Array**	**66.64**	**326**	P	**P**	**12 20 15.9**	**0.0**
	1.1nm,0.9s,mb3.7,baz=122,slow=6.3,SNR=4.0						

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*KRSC **13** 12:55:51, 5169N×15461E, h483km, ML4.8*
*MOS **13** 12:55:53.5±0.8, 5197N×15409E, h469km, mb3.8/14, Error*
ellipse: s-maj=16.4km s-min=13.6km az=89.5
*ISCJB **13** 12:55:54.5±0.4, 5226N±007×1534E±01, h421km±6km,*
mb3.7/22, Error ellipse: s-maj=13.0km s-min=8.1km
az=85.5
*BJI **13** 12:55:54.6, 5228N×15338E, h419km, mB4.8, mb4.4*
*NEIC **13** 12:55:55.1±0.7, 5227N×15326E, h413km±9km, mb4.0/5,*
Error ellipse: s-maj=11.5km s-min=7.7km az=157.0
*IDC **13** 12:55:57.6±2.7, 5229N×15323E, h442km±33km, mb3.4/12,*
mb1 3.5/14, mb1mx3.3/25, mbtmp4.2/14, Error ellipse:
s-maj=14.2km s-min=10.5km az=137.0
ISC 13 12:55:55.3±0.4,5234N±007×1534E±01,h414km±6km,n66,
σ1§27/79,mb3.7/22,1D,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.39**	**133**	*e*PN	**P**	**12 56 49.0**

MKZ	**Mys Kozlova**	**5.47**	**63**	*eP*	**P**	**12 57 22.0**	**-0.8**
MKZ				*eS*	**S**	**12 58 27.2**	**-6.9**
ZLN	**Zelenaya**	**5.72**	**47**	*eP*	**P**	**12 57 28.4**	**+3.1**
ZLN				*eS*	**S**	**12 58 38.4**	**-0.4**
KRSR	**Krestovskiy**	**5.74**	**44**	P	**P**	**12 57 28.0**	**+2.5**
KRSR				S	**S**	**12 58 37.9**	**-1.2**
CIRR	**Tsirk**	**5.75**	**46**	*eP*	**P**	**12 57 28.6**	**+2.9**
CIRR				*eS*	**S**	**12 58 38.3**	**-1.1**
KLY	**Klyuchi**	**5.84**	**44**	*eP*	**P**	**12 57 29.6**	**+3.0**
KLY				S	**S**	**12 58 41.2**	**+0.1**
SRKR	**Sorokina**	**6.28**	**43**	*eP*	**P**	**12 57 33.1**	**+1.8**
SRKR				*eS*	**S**	**12 58 46.4**	**-3.3**
KBTR	**Krutoberegovo**	**6.76**	**51**	P	**P**	**12 57 36.0**	**-0.6**
KBTR				*eS*	**S**	**12 58 52.2**	**-7.2**
ASAJ	**Asahikawa**	**10.91**	**225**	P	**P**	**12 58 24.4**	**+1.9**
	comp=N,0.5nm,0.3s,baz=162,slow=20,SNR=8.2						
ASAJ	**Asahikawa**	**10.91**	**225**	PN	**P**	**12 58 24.4**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**19.08**	**220**	P	**P**	**12 59 49.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=6.5,slow=11,SNR=5.2						
HIA	**Hailar**	**21.36**	**275**	*eP*	**P**	**13 00 10.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,18nm,0.8s						
HIA	**Hailar**	**21.36**	**275**	*eP*	**P**	**13 00 10.8**	**-0.3**
	comp=Z,18nm,0.8s,mb4.6						
BOD	**Bodaibo**	**22.94**	**299**	*eP*	**P**	**13 00 25.4**	**0.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
KDAK	**Kodiak Island**	**30.72**	**58**	P	**P**	**13 01 34.2**	**+0.1**
	comp=Z,16nm,1.1s,mb4.2,baz=252,slow=12,SNR=6.5						
KDAK	**Kodiak Island**	**30.72**	**58**	P	**P**	**13 01 34.2**	**+0.1**
ZAK	**Zakamensk**	**30.83**	**287**	*eP*	**P**	**13 01 33.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.3						
COLA	**College**	**31.81**	**44**	*eP*	**P**	**13 01 44.3**	**+0.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
COLA	**College**	**31.81**	**44**	*eP*	**P**	**13 01 44.3**	**+0.7**
	comp=Z,4.6nm,0.7s,mb3.9						
COLA				*eP*		13 02 13.1	
INK	**Inuvik**	**36.94**	**36**	P	**P**	**13 02 27.0**	**0.0**
	comp=Z,3.3nm,0.4s,mb4.0,baz=310,slow=7.5,SNR=36						
INK	**Inuvik**	**36.94**	**36**	P	**P**	**13 02 27.0**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**36.94**	**36**	P	**P**	**13 02 27.0**	**0.0**
GTA	**Gaotai**	**38.58**	**272**	*eP*	**P**	**13 02 41.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.7						
MKAR	**Makanchi Array**	**44.73**	**293**	P	**P**	**13 03 29.6**	**+0.1**
	comp=Z,1.9nm,0.6s,mb3.6,baz=60,slow=7.1,SNR=20						
MKAR	**Makanchi Array**	**44.73**	**293**	P	**P**	**13 03 29.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**46.43**	**40**	P	**P**	**13 03 43.2**	**+0.5**
	comp=Z,2.8nm,0.6s,mb3.8,baz=302,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**46.43**	**40**	P	**P**	**13 03 43.2**	**+0.5**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**46.43**	**40**	P	**P**	**13 03 43.2**	**+0.5**
CHKZ	**Chkalovo**	**47.10**	**306**	*eP*	**P**	**13 03 47.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**47.10**	**306**	*eP*	**P**	**13 03 47.3**	**-0.5**
	comp=Z,11nm,0.6s,mb4.4						
BVAO	**Borovoye Array**	**47.58**	**306**	*iP*	**P**	**13 03 51.3**	**-0.1**
BVAR	**Borovoye Array**	**47.58**	**306**	P	**P**	**13 03 51.5**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.0,baz=60,slow=7.6,SNR=32						
BVAR	**Borovoye Array**	**47.58**	**306**	P	**P**	**13 03 51.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**47.61**	**306**	*eP*	**P**	**13 03 51.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**47.61**	**306**	*eP*	**P**	**13 03 51.6**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**48.30**	**306**	P	**P**	**13 03 56.9**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
AAK	**Ala-Archa**	**51.66**	**293**	*eP*	**P**	**13 04 21.2**	**-0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.6						
AAK	**Ala-Archa**	**51.66**	**293**	*eP*	**P**	**13 04 21.2**	**-0.6**
	comp=Z,4.4nm,0.9s,mb3.7						
ARCES	**ARCESS Array B**	**52.65**	**340**	*eP*	**P**	**13 04 28.1**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.2,baz=30,slow=7.7,SNR=9.4						
ARCES	**ARCESS Array B**	**52.65**	**340**	P	**P**	**13 04 28.2**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AB31	**Akbulak array**	**55.07**	**307**	P	**P**	**13 04 45.9**	**-0.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
FINES	**FINESS Array B**	**59.08**	**334**	P	**P**	**13 05 11.6**	**-2.3**
	comp=Z,1.1nm,0.7s,mb3.3,baz=44,slow=8.5,SNR=6.5						
FINES	**FINESS Array B**	**59.08**	**334**	P	**P**	**13 05 11.6**	**-2.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**59.82**	**65**	P	**P**	**13 05 20.3**	**+1.4**
	comp=Z,1.0nm,0.6s,mb3.4,baz=304,slow=7.6,SNR=11						
PDAR	**Pinedale Array**	**61.41**	**56**	P	**P**	**13 05 30.3**	**+0.8**
	comp=Z,2.7nm,0.7s,mb3.8,baz=338,slow=2.5,SNR=24						
NOA	**NORSAR Array B**	**63.00**	**340**	P	**P**	**13 05 39.4**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.0,baz=24,slow=2.6,SNR=2.6						
WRA	**Warramunga Arr**	**73.86**	**199**	P	**P**	**13 06 45.0**	**-1.2**
	comp=Z,1.4nm,0.5s,mb3.8,baz=13,slow=6.1,SNR=24						
WRA	**Warramunga Arr**	**73.86**	**199**	P	**P**	**13 06 45.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**77.57**	**198**	P	**P**	**13 07 06.4**	**-0.5**
	comp=Z,1.5nm,0.7s,mb3.7,baz=13,slow=5.0,SNR=29						
ASAR	**Alice Springs**	**77.57**	**198**	P	**P**	**13 07 06.4**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	**Paso Flores**	**148.12**	**86**	PKPbc	PKPbc	13 14 52.0	-1.0
	comp=Z,0.7nm,0.7s,baz=272,slow=11,SNR=2.9						
PLCA	**Paso Flores**	**148.12**	**86**	PKP2	PKPbc	13 14 52.1	-1.0
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 13 13:06:08.5±1.3, 1808N×12104E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=54.8km s-min=22.4km az=79.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.82**	**36**	P	P	13 11 23.5	+0.3
	2.1nm,0.9s,baz=284,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**39.98**	**160**	P	P	13 13 44.9	+0.2
	0.7nm,0.8s,baz=342,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**43.35**	**163**	P	P	13 14 12.7	+0.2
	0.4nm,0.4s,baz=344,slow=7.0,SNR=24						
ZAL	**Zalesovo**	**45.38**	**331**	P	P	13 14 28.4	-0.3
	0.6nm,0.5s,baz=70,slow=6.9,SNR=2.4						

CASC 13 13:35:23.3±4.0, 1482N×8997W, h1km±20km, MD3.5, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.76**	**159**	*eP*	x	13 35 52.3	+15
RBDL				*eS*	x	13 36 07.7	+20
RTR	**El Retiro**	**0.97**	**161**	*eP*	x	13 35 52.8	+11
RTR				*eS*	x	13 36 07.9	+13
SNJE	**San Jose**	**1.01**	**160**	*eP*	x	13 35 52.9	+10
SNJE				*eS*	x	13 36 09.5	+14
TP2	**Tecpan 2**	**1.02**	**268**	⇓*eP*	Pg	13 35 43.7	+0.8
TP2				*eS*	Sg	13 35 59.7	+3.5
SBLS	**San Blas**	**1.03**	**161**	*eP*	x	13 35 52.9	+10
SBLS				*eS*	x	13 36 09.0	+12
BOQS	**Boqueron**	**1.27**	**148**	*eP*	x	13 35 57.4	+10
BOQS				*eS*	x	13 36 15.9	+12
LFRS	**El Faro**	**1.48**	**144**	*eP*	x	13 35 59.7	+8.6
LFRS				*eS*	x	13 36 20.6	+10
LCBS	**La Ceiba**	**1.50**	**140**	*eP*	x	13 36 00.4	+9.0

*ATH **13** 13:35:51.7, 3873N×2622E, h32km±4km, MD3.2/4*
*CSEM **13** 13:35:51.6±0.1, 3883N×2680E, h20km, MD3.2, Error ellipse: s-maj=6.2km s-min=1.9km az=65.0*
*NEIC **13** 13:35:51.7, 3872N×2621E, h31km, MD3.2(ATH), After ATH.*

*ISCJB **13** 13:35:52.3±0.5, 3882N±003×2666E±006, h24km±5km, Error ellipse: s-maj=8.2km s-min=3.4km az=141.5*
*ISK **13** 13:35:52.1, 3883N×2687E, h29km, MD3.0*

ISC 13 13:35:52.4±0.5, 3882N±002×2671E±006, h17km±3km, n19, σ0:98/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.47**	**191**	*iP*	**Pg**	**13 36 01.8**	**0.0**
URLA				*iS*	**Sg**	**13 36 09.8**	**+1.7**
AYVA	**Ayvalik**	**0.49**	**359**	*iP*	**Pg**	**13 36 02.0**	**-0.2**
AYVA				*iS*	**Sg**	**13 36 08.9**	**0.0**
PRK	**Paraskevi**	**0.54**	**322**	*e*PN	**Pg**	**13 36 03.1**	**-0.2**
PRK				*e*SN	**Sg**	**13 36 10.9**	**+0.3**
KDAG	**Bornova**	**0.60**	**133**	*iP*	**Pg**	**13 36 03.9**	**-0.5**
KDAG				*iS*	**Sg**	**13 36 12.8**	**+0.3**
IZM	**Izmir**	**0.61**	**134**	PG	**Pg**	**13 36 03.9**	**-0.5**
IZM				SG	**Sg**	**13 36 11.6**	**-0.9**
EZN	**Ezine**	**1.05**	**344**	PN	**Pn**	**13 36 11.7**	**-0.6**
EZN				SN	**Sn**	**13 36 25.3**	**-1.1**
SMG	**Samos**	**1.11**	**175**	*e*PN	**Pn**	**13 36 13.0**	**-0.1**
SMG				*e*SN	**Sn**	**13 36 28.0**	**0.0**
BOZC	**Bozcaada**	**1.14**	**334**	*iP*	**Pn**	**13 36 14.7**	**+1.1**
BOZC				*iS*	**Sb**	**13 36 28.9**	**+0.8**
BTOK	**Tokmak**	**1.40**	**47**	*iP*	**Pn**	**13 36 19.3**	**+2.3**
BTOK				*iS*	**Sn**	**13 36 35.6**	**+0.6**
AYDN	**Tasoluk**	**1.48**	**141**	*iP*	**Pn**	**13 36 21.2**	**+3.0**
AYDN				*iS*	**Sn**	**13 36 37.2**	**+0.1**
LIA	**Limnos Island**	**1.60**	**313**	*e*PN	**Pn**	**13 36 17.2**	**-2.6**
MLSB	**Milas**	**1.74**	**151**	*e*PN	**Pn**	**13 36 21.2**	**-0.6**
BODT	**Bodrum**	**1.82**	**165**	*e*PN	**Pn**	**13 36 21.6**	**-1.2**
BDRM	**Kayabasi**	**1.84**	**161**	*iP*	**Pn**	**13 36 21.6**	**-1.6**
BDRM				*iS*	**Sn**	**13 36 47.5**	**+1.3**
MRMT	**Marmara Adasi**	**1.91**	**21**	*e*PN	**Pn**	**13 36 23.7**	**-0.4**
ENEZ	**Enez**	**1.96**	**348**	*e*PN	**Pn**	**13 36 25.0**	**+0.2**
DAT	**Datca**	**2.20**	**161**	*e*PN	**Pn**	**13 36 27.7**	**-0.4**
RDO	**Rodhopi**	**2.49**	**339**	*e*PN	**Pn**	**13 36 32.4**	**+0.3**
RDO	**Rodhopi**	**2.49**	**339**	*e*Pn	**Pn**	**13 36 32.7**	**+0.6**

GUC 13 13:45:50.4±0.6, 3149S×7166W, h19km±18km, MD3.6, ML3.8, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.42**	**161**	*eP*	Pg	13 45 59.1	+0.1
CHNG				*iS*	Sg	13 46 05.0	+0.2
CMCH	**Combarbala**	**0.65**	**61**	⇑*iP*	Pb	13 46 02.5	-0.6
CMCH				*iS*	Sb	13 46 11.9	+0.2
CMCH				AML	AML	13 46 18.0	
	comp=N,6μm,0.5s						
OVCH	**Ovalle**	**0.96**	**24**	⇑*iP*	Pb	13 46 07.5	-1.0
OVCH				*iS*	Sb	13 46 20.6	-0.3
OVCH				AML	AML	13 46 23.4	
	comp=E,3μm,0.5s						
PTCH	**Petorca**	**0.99**	**141**	*iP*	Pb	13 46 08.0	-1.0
PTCH				*iS*	Sb	13 46 21.1	-0.6
PTCH				AML	AML	13 46 24.9	
	comp=N,8μm,0.1s						
JACH	**Jahuel**	**1.50**	**143**	*eP*	Pn	13 46 16.4	+0.1
JACH				*iS*	Sn	13 46 35.9	+0.6
TLL	**Tololo Astrono**	**1.51**	**29**	⇑*iP*	Pn	13 46 16.9	+0.4
TLL				*iS*	Sn	13 46 36.7	+1.1
TLL				AML	AML	13 46 40.4	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**1.58**	**160**	⇑*iP*	Pn	13 46 17.4	0.0
ROCH				*iS*	Sn	13 46 38.6	+1.3
PEL	**Peldehue**	**1.84**	**154**	⇓*iP*	Pn	13 46 21.3	+0.2
PEL				*iS*	Sn	13 46 45.4	+1.5
PEL				AML	AML	13 46 48.5	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.12**	**160**	AML	AML	13 47 01.5	
	comp=E,883nm,0.2s						
CLCH	**Cerro Calan**	**2.13**	**154**	⇑*iP*	Pn	13 46 26.2	+1.3
CLCH				*iS*	Sn	13 46 53.4	+2.5
CLCH				AML	AML	13 47 01.4	
	comp=E,1μm,0.6s						
ANTU	**Antumapu**	**2.25**	**158**	AML	AML	13 47 04.1	
	comp=E,647nm,0.6s						

MAN 13 13:46:16.9, 1688N×12034E, h1km, mb2.5, ML4.0, MS1.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.55**	**155**	⇑*iP*	Pg	13 46 27.1	-0.3
BCPH				*iS*	Sg	13 46 37.2	+2.7
BOLP	**Bolinao**	**0.64**	**220**	*eP*	Pg	13 46 29.8	+0.5
ABRA	**Dolores**	**0.84**	**25**	*eP*	Pg	13 46 33.8	+0.7
SCZP	**Santa Cruz**	**1.17**	**201**	*eP*	Pg	13 46 39.5	0.0
CAUP	**Cauayan**	**1.42**	**87**	*eP*	Pn	13 46 43.4	-0.4
BALP	**Baler**	**1.64**	**134**	*eP*	Pn	13 46 47.2	+0.3

*ISCJB **13** 13:47:34.6±1.4, 533S±009×147.1E±0.1, h192km±12km, mb4.2/5, Error ellipse: s-maj=19.9km s-min=12.2km az=73.1*
*NEIC **13** 13:47:36.4±1.7, 532S×14709E, h206km±17km, mb4.5/3, Error ellipse: s-maj=18.5km s-min=13.6km az=151.0*
*IDC **13** 13:47:38.2±1.6, 556S×14707E, h211km±14km, mb3.9/4, mb1 4.0/8, mb1mx3.8/16, mbtmp4.5/8, Error ellipse: s-maj=23.9km s-min=12.7km az=115.0*

ISC 13 13:47:38.7±1.3, 558S±010×1471E±01, h214km±10km, n18, σ0:72/22, mb4.2/5, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**179**	P	**Pn**	**13 48 38.7**	**+0.2**
	39nm,0.3s,baz=350,slow=4.9,SNR=156						
PMG				S	**S**	**13 49 24.9**	**-0.7**
	47nm,0.3s,baz=358,slow=10,SNR=11						
HNR	**Honiara**	**13.28**	**108**	P	**Pn**	**13 50 38.6**	**-0.5**
	2.1nm,0.3s,baz=268,slow=13,SNR=2.3						
CTA	**Charters Tower**	**14.45**	**183**	P	**Pn**	**13 50 54.7**	**+1.2**
	0.7nm,0.3s,baz=21,slow=11,SNR=4.5						
CTA	**Charters Tower**	**14.45**	**183**	P	**Pn**	**13 50 54.7**	**+1.2**
CTAO	**Charters Tower**	**14.45**	**183**	P	**Pn**	**13 50 56.1**	**+2.6**
KAKA	**Kakadu**	**16.12**	**243**	*eP*	**P**	**13 51 12.8**	**-0.2**
	11nm,0.5s						
WB2	**Warramunga Arr**	**18.92**	**220**	*eP*	**P**	**13 51 43.2**	**-0.3**
WB2				*eS*	**S**	**13 55 05.8**	**-1.1**
WRA	**Warramunga Arr**	**18.93**	**220**	P	**P**	**13 51 43.4**	**-0.1**
	2.1nm,0.3s,baz=38,slow=11,SNR=152						
WRA				S	**S**	**13 55 06.7**	**-0.4**
	0.1nm,0.3s,baz=39,slow=20,SNR=8.1						
WRA				PcP	PcP	13 55 59.1	-0.5
	0.1nm,0.3s,baz=30,slow=1.8,SNR=4.8						
AS31	**Alice Springs**	**22.03**	**214**	*eP*	**P**	**13 52 16.8**	**+0.9**
AS31				*eS*	**S**	**13 56 03.1**	**-0.1**
ASAR	**Alice Springs**	**22.03**	**214**	P	**P**	**13 52 16.9**	**+1.0**
	4.6nm,0.6s,mb4.2,baz=47,slow=7.8,SNR=113						
ASAR				S	**S**	**13 56 04.0**	**+0.8**
	3.2nm,0.9s,baz=30,slow=17,SNR=11						
ASPA	**Alice Springs**	**22.03**	**214**	*eP*	**P**	**13 52 16.8**	**+0.9**
ASPA				*eS*	**S**	**13 56 03.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.39**	**237**	⇓*iP*	**P**	**13 52 37.2**	**-0.2**
	20nm,0.3s,mb5.2						
FITZ	**Fitzroy Crossi**	**24.39**	**237**	P	**P**	**13 52 37.8**	**+0.4**
	12nm,0.4s,mb4.9,baz=52,slow=11,SNR=91						
SONM	**Songino Array**	**64.10**	**331**	P	**P**	**13 57 49.3**	**-0.6**
	2.2nm,0.7s,mb3.9,baz=144,slow=4.9,SNR=4.4						
VNDA	**Vanda**	**72.32**	**177**	P	**P**	**13 58 40.9**	**-0.1**
	1.3nm,0.5s,mb3.8,baz=340,slow=5.8,SNR=24						
QSPA	**South Pole Qui**	**84.39**	**180**	*eP*	**P**	**13 59 46.1**	**-0.8**
	2.9nm,1.0s,mb4.0						
TORD	**Torodi Ar. Bea**	**145.10**	**285**	PKPbc	PKPbc	14 06 49.7	-0.7
	1.8nm,0.5s,baz=67,slow=3.7,SNR=16						
TORD	**Torodi Ar. Bea**	**145.10**	**285**	PKPbc	PKPbc	14 06 49.7	-0.7

*NIED **13** 13:47:00, 4630N×15360E, h11km, Mw5.8 Best double couple: M0:5.02000×10^17 NP1:φs228.00000°, δ73.00000°, λ127.00000°. NP2:φs338.00000°, δ40.00000°, λ26.00000°.*
*ISCJB **13** 13:47:37.1±0.1, 4608N±002×15326E±002, h4km, mb5.3/217, MS5.9/213, Error ellipse: s-maj=3.5km s-min=1.3km az=150.7*
*JMA **13** 13:47:37.8±0.7, 4632N×15364E, h30km, M6.3*
*IDC **13** 13:47:38.1±0.4, 4619N×15325E, h0km, mb4.8/35, mb1 4.9/37, mb1mx4.9/38, mbtmp4.8/37, ML4.2/2, MS5.9/30, Ms1 5.9/30, ms1mx5.7/40, Error ellipse: s-maj=12.4km s-min=11.0km az=104.0*

*SKHL **13** 13:47:38.6±1.3, 4610N×15377E, h50km±41km, mb6.7/8, mbh6.7/9, Ms6.3/7, msh6.2/8*
*BJI **13** 13:47:38.1, 4633N×153.14E, h7km, mB6.2, mb5.3, Ms6.3, Msz6.2*
*NEIC **13** 13:47:39.2±0.2, 4624N×15328E, h4km, mb5.5/107, ME5.8, MS5.8/136, MW5.9, MW6.3(MOS), Error ellipse: s-maj=5.1km s-min=3.3km az=170.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17Nm; Mrr8.34; Mθθ-3.24; Mφφ-5.10; Mrθ2.02; Mφφ-5.56; Mφr2.78; Best double couple: M0:9.70000×10^17 NP1:φs38.00000°, δ55.00000°, λ88.00000°. NP2:φs222.00000°, δ35.00000°, λ93.00000°. Principal axes: T 9.0000, Plg79.0000°, Azm300.0000°; N 1.5000, Plg2.0000°, Azm40.0000°; P -10.4000, Plg10.0000°, Azm130.0000°; Broadband fault plane solution: P waves. NP1:φs220.00000°, δ5.00000°, λ90.00000°. NP2:φs40.00000°, δ85.00000°, λ90.00000°. Principal axes: T Plg50.0000°, Azm310.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*GCMT **13** 13:47:39.9±0.1, 4614N×15373E, h12km, MW5.8/111, Moment Tensor Solution. s97,c201; s111,c357; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr5.52±.04; Mθθ-2.39±.04; Mφφ-3.13±.03; Mrθ2.18±.11; Mφφ-3.05±.03; Mφr3.73±.11; Best double couple: M0:7.13600×10^17 NP1:φs229.00000°, δ27.00000°, λ103.00000°. NP2:φs35.00000°, δ64.00000°, λ84.00000°. Principal axes: T 7.0230, Plg71.0000°, Azm291.0000°; N 0.2270, Plg6.0000°, Azm37.0000°; P -7.2490, Plg18.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **13** 13:47:40.0, 4528N×15192E, h33km, mb5.5, MS6.2, Kuril Islands, Russia*
*BGS **13** 13:47:41.9, 4668N×15486E, h10km, mb5.3*
*MOS **13** 13:47:42.5±1.2, 4623N×153.18E, h37km, mb5.6/101, MS6.1/54, Error ellipse: s-maj=6.8km s-min=3.6km az=110.3 Broadband fault plane solution: P waves. M0:4.10000×10^18 NP1:φs38.00000°, δ84.00000°, λ81.00000°. NP2:φs274.00000°, δ11.00000°, λ146.00000°. Principal axes: T Plg50.0000°, Azm297.0000°; N Plg9.0000°, Azm39.0000°; P Plg38.0000°, Azm136.0000°;*

ISC 13 13:47:39.2±0.4, 4629N±002×15323E±002, h3km±2km, h13km±2.2km: pP-P, n1271, σ1:900/1383, mb5.3/217, MS5.9/213, 361C-212D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**256**	⇓*iP*	**Pn**	**13 48 38.2**	**-1.7**
KUR				*iP*		13 48 38.2	
KUR				AMB	AMB	13 48 39.4	
	930nm,0.6s						
KUR				AMB	AMB	13 48 39.4	
	300nm,0.6s						
KUR				AMB	AMB	13 48 39.4	
	3μm,0.6s						
KUR				AMB	AMB	13 48 41.0	
	26μm,7.0s						
KUR				AMB	AMB	13 48 41.0	
	78μm,7.0s						
KUR				AMB	AMB	13 48 41.0	
	59μm,7.0s						
KUR				AMB	AMB	13 48 43.0	
	30μm,5.0s						
KUR				*e*S	**Sn**	**13 49 24.0**	**-2.2**
KUR				A		13 49 38.0	
	129μm,8.0s						
KUR				A		13 49 38.0	
	47μm,8.0s						
KUR				A		13 49 40.0	
	246μm,8.0s						
KUR				A		13 49 40.0	
	97μm,8.0s						
KUR				A		13 49 43.5	
	4μm,0.9s						
KUR				A		13 49 43.5	
	2μm,0.9s						
KUR				AMS	AMS	13 51 45.0	
	167μm,15.0s						
KUR	**Kuril'sk**	**3.90**	**256**	⇑*iP*N	**Pn**	**13 48 38.2**	**-1.7**
KUR				pmax	pmax		
	comp=N,930nm,0.5s						
KUR				pmax	pmax		
	comp=E,300nm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
SKR	**Severo-Kuril's**	**4.80**	**23**	*eP*	**Pn**	**13 48 44.0**	**-8.4**
SKR				AMB	AMB	13 48 53.4	
	comp=Z,150nm,0.7s						
SKR				AMB	AMB	13 48 53.4	
	comp=Z,450nm,0.7s						
SKR				AMB	AMB	13 48 53.4	
	comp=Z,1μm,0.7s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,12μm,10.0s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,10μm,10.0s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,10μm,10.0s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,12μm,10.0s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,10μm,10.0s						
SKR				AMB	AMB	13 48 54.0	
	comp=Z,10μm,10.0s						
SKR				*i*S	**Sn**	**13 49 38.0**	**-10**
SKR				A		13 49 51.0	
	comp=Z,36μm,10.0s						
SKR				A		13 49 51.0	
	comp=Z,121μm,10.0s						
SKR				A		13 49 51.0	
	comp=Z,74μm,10.0s						
SKR				A		13 49 51.0	
	comp=Z,36μm,10.0s						
SKR				A		13 49 51.0	
	comp=Z,136μm,10.0s						
SKR				A		13 49 51.0	
	comp=Z,70μm,10.0s						
SKR				A		13 49 51.5	
	comp=Z,640nm,0.6s						
SKR				A		13 49 51.5	
	comp=Z,950nm,0.6s						
SKR				A		13 49 51.5	
	comp=Z,410nm,0.6s						
SKR				AMS	AMS	13 51 08.0	
	comp=Z,128μm,14.0s						
SKR				AMS	AMS	13 51 08.0	
	comp=Z,370μm,14.0s						
SKR				AMS	AMS	13 51 08.0	
	comp=Z,182μm,14.0s						
SKR				AMS	AMS

comp=Z,172μm,20.0s
YUK Yuzh-Kuril'sk 5.67 249⇓ *i*PN Pn 13 49 05.0 +0.6
YUK pmax pmax
comp=E,34μm,5.0s
YUK pmax pmax
comp=Z,23μm,5.0s
YUK pmax pmax
comp=Z,600nm,0.4s
YUK pmax pmax
comp=N,250nm,0.5s
YUK pmax pmax
comp=E,470nm,0.5s
YUK MLR MLR
comp=Z,161μm,17.0s
YUK MLR MLR
comp=N,91μm,15.0s
YUK MLR MLR
comp=E,172μm,20.0s
NEM2 Nemuro 2 6.07 244 P Pn 13 49 08.4 -1.4
NEM2 *e*S **Sn 13 50 15.4 -4.4**
JRA Rausu 6.20 251 P Pn 13 49 13.0 +1.4
JNK Nakash 6.61 249 P Pn 13 49 17.4 +0.1
JNK *e*S **Sn 13 50 31.0 -2.2**
JAK Akkeshi 6.92 245 P Pn 13 49 19.9 -1.5
JAK *e*S **Sn 13 50 36.8 -3.8**
JTKR Abashiri--Toko 6.99 254 P Pn 13 49 23.5 +1.1
JTKR *e*S **Sn 13 50 43.3 +1.0**
YSS Yuzh-Sakhalins 7.24 279 *i*P Pn 13 49 30.0 +4.1
YSS ⇑*e*P 13 49 30.0
YSS AMB AMB 13 49 33.8
comp=E,450nm,1.2s
YSS AMB AMB 13 49 33.8
comp=E,370nm,1.2s
YSS AMB AMB 13 49 39.0
comp=E,21μm,10.0s
YSS AMB AMB 13 49 39.0
comp=E,22μm,10.0s
YSS AMB AMB 13 49 39.0
comp=E,3μm,10.0s
YSS AMB AMB 13 49 39.0
comp=E,23μm,10.0s
YSS AMB AMB 13 49 39.0
comp=E,18μm,10.0s
YSS *e*S **Sn 13 50 53.0 +4.4**
YSS AMS AMS 13 52 41.0
comp=E,72μm,15.0s
YSS AMS AMS 13 52 41.0
comp=E,105μm,15.0s
YSS AMS AMS 13 52 41.0
comp=E,94μm,15.0s
YSS Yuzh-Sakhalins 7.24 279 *oe*PN **Pn 13 49 30.0 +4.1**
YSS *e*S **Sn 13 50 53.0 +4.4**
YSS pmax pmax
comp=E,450nm,1.2s
YSS pmax pmax
comp=Z,370nm,1.2s
YSS pmax pmax
comp=Z,18μm,9.0s
YSS pmax pmax
comp=N,3μm,10.0s
YSS pmax pmax
comp=E,23μm,10.0s
YSS MLR MLR
comp=E,72μm,15.0s
YSS MLR MLR
comp=Z,105μm,15.0s
YSS Yuzh-Sakhalins 7.24 279 *e*Pn **Pn 13 49 29.9 +3.9**
YSS *e*P 13 53 24.0
JMP Maruseppu 7.34 255 P Pn 13 49 29.5 +2.3
JAR Ashorobuto 7.36 249 P Pn 13 49 27.7 +0.1
JAR *e*S **Sn 13 50 49.7 -1.9**
JOB Onbets 7.51 247 *e*S **Sn 13 50 52.3 -2.9**
JSE Soyaes 7.58 264 P Pn 13 49 34.6 +4.1
PET Petropavlovsk 7.60 26 *e*P **Pn 13 49 28.6 -2.3**
PET AMB AMB 13 49 47.2
comp=Z,310nm,1.4s
PET AMB AMB 13 49 51.4
comp=Z,6μm,9.1s
PET *e*S **Sn 13 50 51.6 -5.9**
PET A 13 50 53.3
comp=Z,11μm,9.9s
PET A 13 50 56.1
comp=Z,10μm,11.0s
PET A 13 50 58.6
comp=Z,9μm,8.2s
PET A 13 51 00.6
comp=Z,10μm,14.0s
PET A 13 51 35.5
comp=Z,490nm,1.4s
PET A 13 51 35.8
comp=Z,740nm,1.8s
PET AMS AMS 13 54 13.5
comp=Z,70μm,14.0s
PET Petropavlovsk 7.60 26 *e*Pn **Pn 13 49 29.3 -1.6**
JKK2 Kamakawa 2 7.80 256 P Pn 13 49 35.5 +1.9
ASAJ Asahikawa 7.81 258 Pn **Pn 13 49 34.6 +0.9**
comp=Z,5.3nm,0.3s,baz=97,slow=11,SNR=33
ASAJ Asahikawa 7.81 258 P Pn 13 49 36.5 +2.7
ASAJ Asahikawa 7.81 258 PN **Pn 13 49 34.7 +0.9**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
JCH Churui 7.95 246 P Pn 13 49 35.4 -0.3
JCH *e*S **Sn 13 51 01.8 -4.4**
JWK2 Keihoku 7.98 267 P Pn 13 49 41.6 +5.6
UGL Uglegorsk 8.03 294 *i*P **Pn 13 49 43.0 +6.3**
UGL *e*P 13 49 43.0
UGL AMB AMB 13 49 50.0
comp=Z,430nm,0.9s
UGL AMB AMB 13 49 54.0
comp=Z,16μm,9.0s
UGL AMB AMB 13 49 54.0
comp=Z,28μm,9.0s
UGL AMB AMB 13 49 54.0
comp=Z,34μm,9.0s
UGL A 13 51 37.0
comp=Z,32μm,8.0s
UGL A 13 51 37.0
comp=Z,38μm,8.0s
UGL Uglegorsk 8.03 294⇑*i*PN **Pn 13 49 43.0 +6.3**
UGL S **Sn 13 51 19.0 +11**
UGL pmax pmax
comp=Z,430nm,0.9s
UGL pmax pmax
comp=N,16μm,9.0s
UGL pmax pmax
comp=E,28μm,9.0s
UGL pmax pmax
comp=Z,34μm,9.0s
UGL smax
comp=N,32μm,8.0s
UGL smax
comp=E,38μm,8.0s
UGL smax
comp=Z,32μm,8.0s
JFR Furan 8.19 251 P Pn 13 49 41.0 +2.1
JSS Shosan 8.23 261 P Pn 13 49 48.3 +8.8
JAB Ashibetsu 8.29 254 P Pn 13 49 43.1 +2.8
TYV Tymovskoe 8.37 307 *e*P **Pn 13 49 47.0 +5.6**
TYV AMB AMB 13 49 56.0
comp=Z,110nm,1.0s
JEM Erimo 8.40 243 P Pn 13 49 42.2 +0.3
JEM *e*S **Sn 13 51 13.1 -4.1**
ERM Erimo 8.40 243 Pn **Pn 13 49 43.1 +1.2**
comp=Z,1μm,0.5s,SNR=14
ERM Erimo 8.40 243 *i*PN **Pn 13 49 43.6 +1.7**
ERM Erimo 8.40 243 *e*P **Pn 13 49 41.7 -0.2**
comp=Z,410nm,1.1s
JNBK Urakawa-nobuka 8.51 246 P Pn 13 49 42.4 -1.0
JNBK *e*S **Sn 13 51 14.5 -5.4**
JBT2 Biratori 2 8.52 250 P Pn 13 49 43.8 +0.4
JBT2 *e*S **Sn 13 51 19.7 -0.2**
JEW Eniwo 9.09 252 P Pn 13 49 52.4 +1.2
JEW *e*S **Sn 13 51 33.3 -0.7**
JNB Noboribetsu 9.52 251 P Pn 13 49 57.9 +0.7
JNB *e*S **Sn 13 51 40.9 -3.8**
JSK Shakotan 9.52 257 P Pn 13 49 59.7 +2.5
JKB Kayabe 9.81 248 P Pn 13 50 00.4 -0.8
JKB *e*S **Sn 13 51 43.9 -7.9**
OKH Okha 9.83 321 *e*P **Pn 13 50 03.8 +2.3**
OKH ⇑*i*P 13 50 03.8
OKH AMB AMB 13 50 09.0
comp=Z,700nm,1.1s
OKH AMB AMB 13 50 18.2
comp=Z,24μm,9.0s
OKH AMB AMB 13 50 18.2
comp=Z,21μm,10.0s
OKH AMB AMB 13 50 18.2
comp=Z,41μm,8.0s
OKH A 13 52 10.0
comp=Z,12μm,10.0s
OKH A 13 52 10.0
comp=Z,22μm,10.0s
OKH AMS AMS 13 55 14.0
comp=Z,159μm,14.0s
OKH AMS AMS 13 55 14.0
comp=Z,216μm,14.0s
OKH Okha 9.83 321 *i*PN **Pn 13 50 03.8 +2.3**
OKH *e*S **Sn 13 52 03.8 +11**
OKH pmax pmax
comp=Z,41μm,8.0s
OKH smax
comp=N,12μm,10.0s
OKH smax
comp=E,22μm,10.0s
OKH smax
comp=Z,216μm,14.0s
JSH Shimam 10.10 254 P Pn 13 50 07.0 +1.9
JYM2 Yakumo 2 10.13 250 P Pn 13 50 05.2 -0.3
JANG Nango 10.37 239 P Pn 13 50 05.2 -3.7
JANG *e*S **Sn 13 51 54.0 -12**
JSR Shiriuchi 10.39 247 P Pn 13 50 08.0 -1.1
JSR *e*S **Sn 13 51 57.8 -8.2**
JTM Tenmabayashi 10.39 242 P Pn 13 50 07.1 -2.0
JTM *e*S **Sn 13 51 57.2 -8.9**
JTH Tanohata 10.45 237 P Pn 13 50 05.4 -4.5
JTH *e*S **Sn 13 51 55.5 -12**
NKL Nikolayevsk 10.62 315 *i*P **Pn 13 50 14.0 +1.7**
NKL AMB AMB 13 50 27.0
comp=Z,12μm,11.0s
NKL AMB AMB 13 50 27.0
comp=Z,26μm,11.0s
NKL AMB AMB 13 50 31.3
comp=Z,130nm,1.1s
NKL AMB AMB 13 50 31.3
comp=Z,290nm,1.1s
NKL A 13 53 58.0
comp=Z,35μm,18.0s
NKL A 13 53 58.0
comp=Z,26μm,18.0s
NKL AMS AMS 13 54 50.0
comp=Z,130μm,14.0s
NKL AMS AMS 13 54 50.0
comp=Z,80μm,14.0s
JOSM Okushiri--Mats 10.73 252 P Pn 13 50 12.9 -0.8
OFUJ Ofunato 11.14 234 P Pn 13 50 15.5 -3.8
OFUJ *e*S **Sn 13 52 11.0 -13**
JRG Rokugo 11.52 238 P Pn 13 50 21.5 -3.0
JRG *e*S **Sn 13 52 24.4 -9.3**
TEY Ternei 11.70 270 *e*P **Pn 13 50 28.0 +1.0**
TEY AMB AMB 13 50 32.0
comp=Z,510nm,1.5s
TEY AMB AMB 13 50 41.0
comp=Z,2μm,4.5s
TEY AMB AMB 13 50 41.0
comp=Z,26μm,10.0s
TEY AMS AMS 13 57 36.0
comp=Z,67μm,12.0s
TEY AMS AMS 13 57 36.0
comp=Z,46μm,12.0s
JIO Ouri 11.76 232 P Pn 13 50 23.8 -4.0
JIO *e*S **Sn 13 52 27.8 -12**
GRNR Gornyy 12.00 298 *e*P **Pn 13 50 32.0 +0.9**
GRNR AMB AMB 13 50 35.2
comp=Z,8μm,4.0s
JYA Atsumi 12.59 237 P Pn 13 50 36.2 -3.0
JYA *e*S **Sn 13 52 51.6 -8.2**
JFK Kawauchi 12.80 230 P Pn 13 50 38.5 -3.6
MA2 Magadan 13.39 355*c i*PN **Pn 13 50 48.9 -1.2**
MA2 pmax pmax
comp=Z,30nm,0.5s
MA2 MLR MLR
comp=Z,39μm,13.6s
MA2 Magadan 13.39 355 *e*Pn **Pn 13 50 50.3 +0.2**
JFY Yanaizu 13.41 233 P Pn 13 50 48.1 -2.3
JSD Sado 13.81 239 P Pn 13 50 52.6 -3.3
KLR Kul'dur 14.73 289⇓*i*P **Pn 13 51 08.2 -0.2**
KLR *i*P 13 51 08.5
KLR AMB AMB 13 51 11.6
comp=Z,170nm,1.4s
KLR AMB AMB 13 51 11.6
comp=Z,140nm,1.4s
EKMR Ekimchan 14.75 305 *e*P **Pn 13 51 09.0 +0.4**
EKMR AMB AMB 13 51 22.1
comp=Z,20nm,0.8s
EKMR AMB AMB 13 51 22.1
comp=Z,37nm,0.8s
EKMR AMB AMB 13 51 22.1
comp=Z,60nm,0.8s
MJAR Matsushiro Arr 14.87 234 Pn **Pn 13 51 06.8 -3.4**
comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=18
MJAR Matsushiro Arr 14.87 234 P **Pn 13 51 06.8 -3.5**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 14.87 234 *e*P **Pn 13 51 07.4 -2.9**
MAT Matsushiro 14.87 234 P **Pn 13 51 05.6 -4.7**
MAT S **Sn 13 53 54.0 -1.5**
VLA Vladivostok 15.49 266 *e*P **Pn 13 51 18.4 -0.1**
VLA pmax pmax
comp=Z,130nm,1.3s
VLA MLR MLR
comp=Z,74μm,18.0s
VLA Vladivostok 15.49 266 *e*P **Pn 13 51 18.5 0.0**
MDJ Mudanjiang 16.66 273 P **Pn 13 51 34.6 +1.0**
MDJ PP 13 51 48.9
MDJ PPP 13 51 57.3
MDJ S **Sn 13 54 44.8 +5.8**
MDJ SS 13 55 00.9
MDJ AMB AMB
comp=Z,191nm,1.3s
MDJ AMB AMB
comp=Z,12μm,8.9s
MDJ LR LR
comp=N,23μm,16.9s
MDJ LR LR
comp=E,34μm,16.9s
MDJ LR LR
comp=Z,62μm,14.9s
SEY Seymchan 16.69 359 *e*P **Pn 13 51 32.7 -1.3**
BMKR Bomnak 17.58 308 *e*P **Pn 13 51 43.9 -1.3**
YASR Yasnyy 17.68 303 *e*P **Pn 13 51 44.6 -1.8**
YASR AMB AMB 13 51 48.0
comp=Z,6.0nm,0.8s
YASR AMB AMB 13 51 48.0
comp=Z,40nm,0.8s
YASR AMB AMB 13 51 48.0
comp=Z,80nm,0.8s
ZEA Zeya 18.21 304 *e*P **Pn 13 51 50.5 -2.4**
ZEA AMB AMB 13 51 52.3
comp=Z,85nm,1.6s
ZEA AMB AMB 13 52 05.0
comp=Z,5μm,11.0s
ZEA AMB AMB 13 52 05.0
comp=Z,17μm,11.0s
ZEA AMB AMB 13 52 05.0
comp=Z,25μm,11.0s
ZEA A 13 55 37.0
comp=Z,8μm,13.0s
ZEA A 13 55 37.0
comp=Z,6μm,10.0s
ZEA AMS AMS 14 00 01.0
comp=Z,21μm,14.0s
ZEA AMS AMS 14 00 01.0
comp=Z,64μm,14.0s
ZEA AMS AMS 14 00 01.0
comp=Z,88μm,14.0s
KROS Kirovskiy 18.54 306 *e*P **Pn 13 51 54.0 -3.0**
KROS AMB AMB 13 51 58.9
comp=Z,410nm,1.7s
CN2 Changchun 19.75 273 *e*P **Pn 13 52 07.5 -4.0**
CN2 *e*XP sP 13 52 14.3 +2.9
CN2 PP 13 52 25.8
CN2 *e*S **Sn 13 55 44.8 -8.9**
CN2 AMB AMB
comp=Z,70nm,1.0s
CN2 AMB AMB
comp=Z,6μm,10.0s
CN2 LR LR
comp=N,33μm,13.0s
CN2 LR LR
comp=E,40μm,13.0s
CN2 LR LR
comp=Z,74μm,14.0s
CLNS Chul'man 20.38 311 *i*P **P 13 52 17.1 +0.1**
CLNS Chul'man 20.38 311⇑*i*P **P 13 52 17.1 +0.1**
CLNS *e* 13 52 34.6
CLNS *e*SS 13 56 46.9
CLNS pmax pmax
comp=Z,129nm,1.0s
CLNS pmax pmax
comp=N,143nm,1.1s
CLNS pmax pmax
comp=E,96nm,1.2s
CLNS pmax pmax
comp=Z,62nm,1.0s
CLNS pmax pmax
comp=N,79nm,0.8s
CLNS pmax pmax
comp=E,65nm,0.9s
CLNS MLR MLR
comp=N,42μm,14.0s,MS6.3
CLNS MLR MLR
comp=E,96μm,15.0s,MS6.3
CLNS MLR MLR
comp=Z,137μm,15.0s,MS6.4
NRGR Nerungri 20.41 311 *e*P **P 13 52 15.7 -1.6**
YAK Yakutsk 20.75 328*a i*P **P 13 52 19.3 -1.7**
YAK *e* 13 52 34.3
YAK *e*S **S 13 56 12.1 -1.1**
YAK *e*SS 13 56 30.7
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,24nm,1.1s
YAK smax
comp=N,8μm,5.9s
YAK smax
comp=Z,2μm,3.9s
YAK smax
comp=E,8μm,5.7s
YAK MLR MLR
comp=N,31μm,15.0s,MS6.0
YAK MLR MLR
comp=Z,41μm,15.0s,MS5.9
YAK MLR MLR
comp=E,40μm,18.0s,MS6.0
YAK Yakutsk 20.75 328 *e*P **P 13 52 19.1 -2.0**
comp=E,115nm,0.7s
KS15 Wonju Array Si 20.77 254 *e*Pn **P 13 52 23.3 +2.1**
INCN Inchon 21.59 255 P **P 13 52 32.0 +2.0**
SNR=14
INCN Inchon 21.59 255 *e*P **P 13 52 30.6 +0.6**
comp=E,189nm,1.1s,mb5.4
INCN LR LR
comp=Z,28μm,20.0s,MS5.7
SNY Shenyang 21.70 269⇑P **P 13 52 31.4 +0.1**
SNY AP 13 52 35.3
SNY XP sP 13 52 38.3 +5.7
SNY PP 13 52 57.3
SNY PPP 13 53 11.0
SNY AMB AMB
comp=Z,73nm,1.4s,mb4.9
SNY AMB AMB
comp=Z,17μm,9.6s
SNY LR LR
comp=E,47μm,15.9s
SNY LR LR
comp=Z,62μm,16.1s,MS6.1
HIA Hailar 22.59 290 PFAKE 13 52 50.0 +9.2
HIA LR LR
comp=Z,19μm,20.0s,MS5.5
BILL Bilibino 22.82 13⇑*e*P **P 13 52 41.7 -1.5**
BILL *e*S **S 13 56 49.4 -4.0**
BILL pmax pmax
comp=Z,178nm,1.6s,mb5.2
BILL MLR MLR
comp=Z,18μm,14.0s,MS5.7
BILL Bilibino 22.82 13 *e*P **P 13 52 40.6 -2.7**
comp=Z,64nm,0.8s,mb5.1
BILL LR LR
comp=Z,21μm,20.0s,MS5.6
DL2 Dalian 24.29 264⇑*i*P **P 13 52 57.0 -0.7**
DL2 S **S 13 57 17.8 +0.6**
DL2 AMB AMB
comp=Z,110nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,7μm,5.7s
DL2 LR LR
comp=N,8μm,12.1s,MS5.5
DL2 LR LR
comp=E,8μm,13.9s,MS5.5
DL2 LR LR
comp=Z,12μm,14.5s,MS5.5
CIT Chita 26.32 297 *e*P **P 13 53 14.2 -2.0**
CIT pmax pmax
comp=Z,168nm,5.0s
BOD Bodaibo 26.34 310 *e*P **P 13 53 14.2 -2.2**
BOD pmax pmax
comp=Z,60nm,1.5s,mb4.9
BJI Beijing 27.55 270 P **P 13 53 26.6 -0.6**
BJI S **S 13 58 12.6 +3.5**
BJI AMB AMB
comp=Z,63nm,1.5s,mb5.0
BJI AMB AMB
comp=Z,13μm,3.8s
BJI LR LR
comp=N,25μm,19.4s,MS6.1
BJI LR LR
comp=E,49μm,19.6s,MS6.1
BJI LR LR
comp=Z,39μm,17.1s,MS6.0
BJI Beijing 27.55 270 P **P 13 53 26.6 -0.6**
comp=Z,63nm,1.5s,mb5.0
BJI S **S 13 58 12.6 +3.5**
BJI LR LR
comp=Z,39μm,17.1s,MS6.0
BJT Baijiatuau 27.57 270 PFAKE 13 53 40.0 +13
BJT LR LR
comp=Z,25μm,21.0s,MS5.8
TIA Tai'an 28.73 262 P **P 13 53 38.3 +0.6**
TIA S **S 13 58 29.0 +1.4**
TIA LR LR
comp=N,6μm,13.8s,MS5.5
TIA LR LR
comp=E,7μm,16.7s,MS5.5
SSE Sheshan 29.01 250 P **P 13 53 41.3 +1.1**
SSE AP pP 13 53 44.1 +2.9
SSE S **S 13 58 34.3 +2.3**
SSE XS sS 13 58 39.4 +5.8
SSE AMB AMB
comp=Z,51nm,1.4s,mb5.1
SSE AMB AMB
comp=Z,3μm,5.7s
SSE LR LR
comp=N,7μm,17.3s,MS5.5
SSE LR LR
comp=E,7μm,17.3s,MS5.5
SSE LR LR
comp=Z,14μm,17.0s,MS5.6
SSE Sheshan 29.01 250 P **P 13 53 41.2 +1.0**
comp=Z,51nm,1.4s,mb5.1
SSE pP pP 13 53 44.1 +2.9
SSE S **S 13 58 34.3 +2.3**
SSE sS sS 13 58 39.4 +5.8
SSE LR LR
comp=Z,14μm,17.0s,MS5.6
MIDW Midway 29.31 118 PFAKE 13 53 50.0 +7.1
MIDW LR LR
comp=Z,24μm,19.0s,MS5.8
NJ2 Nanjing 29.94 254 *e*P **P 13 53 47.9 -0.6**
NJ2 AP pP 13 53 51.6 +2.1
NJ2 XP sP 13 53 54.3 +4.4
NJ2 PP PP 13 54 44.8 -11
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,7μm,6.0s
NJ2 LR LR
comp=N,60μm,15.4s,MS6.5
NJ2 LR LR
comp=E,79μm,17.7s,MS6.5
NJ2 LR LR
comp=Z,320μm,15.2s
HHC Hu-ho-hao-te 30.41 275 *e*P **P 13 53 53.3 +0.7**
HHC AP pP 13 53 58.1 +4.5

HHC			XP	sP	13 54 00.4	+6.4
HHC			PP	PP	13 54 52.0	-9.1
HHC			PCP	PcP	13 56 51.3	-1.0
HHC			AMB	AMB		
	comp=Z,106nm,1.2s,mb5.5					
HHC			AMB	AMB		
	comp=Z,6μm,11.2s					
HHC			LR	LR		
	comp=N,21μm,13.9s,MS6.2					
HHC			LR	LR		
	comp=E,31μm,14.7s,MS6.2					
HHC			LR	LR		
	comp=Z,41μm,12.6s,MS6.3					
SONM	**Songino Array**	**31.56 290**	P	**P**	**13 54 02.8**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.5,baz=68,slow=8.0,SNR=37					
SONM			PcP	PcP	13 56 54.9	-0.5
	comp=Z,4.2nm,0.9s,baz=74,slow=2.9,SNR=4.0					
SONM			ScP	ScP	14 00 44.1	+4.7
	comp=Z,2.0nm,0.9s,baz=87,slow=3.2,SNR=3.7					
SONM			LR	LR	14 07 44.3	
	comp=Z,16μm,18.0s,MS5.8,baz=80,slow=38					
BTO	**Baotou**	**31.57 275**	*e*P	**P**	**13 54 03.3**	**+0.4**
BTO			LR	LR		
	comp=N,12μm,13.8s,MS5.8					
BTO			LR	LR		
	comp=E,7μm,14.5s,MS5.8					
IRK	**Irkutsk**	**31.98 299**	*e*P	**P**	**13 54 04.6**	**-1.9**
IRK			*e*		13 56 55.7	
IRK			pmax	pmax		
	comp=Z,66nm,4.3s					
SVW2	**Sparrevohn**	**32.77 44**	*e*P	**P**	**13 54 13.8**	**+0.4**
ZAK	**Zakamensk**	**32.95 296**	*e*P	**P**	**13 54 14.2**	**-0.7**
ZAK			*e*		13 56 53.8	
ZAK			pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9					
TATO	**Taipei**	**33.09 241**	PFAKE		13 54 30.0	+14
TATO			LR	LR		
	comp=Z,29μm,19.0s,MS6.0					
GUMO	**Guam**	**33.35 195**	LR	LR	14 07 42.3	
	comp=Z,23μm,18.6s,MS5.9,baz=12,slow=36					
GUMO	**Guam**	**33.35 195**	PFAKE		13 54 30.0	+12
GUMO			LR	LR		
	comp=Z,24μm,20.0s,MS5.9					
WHN	**Wuhan**	**33.89 256**	⇑P	**P**	**13 54 22.3**	**-0.9**
WHN			S	**S**	**13 59 48.3**	**0.0**
WHN			AMB	AMB		
	comp=Z,8μm,7.6s					
WHN			LR	LR		
	comp=Z,74μm,17.8s,MS6.5					
MOY	**Mondy**	**34.08 299**	*e*P	**P**	**13 54 24.5**	**-0.4**
MOY			*e*		13 55 36.7	
KDAK	**Kodiak Island**	**34.34 50**	P	**P**	**13 54 27.9**	**+0.8**
	comp=Z,12nm,0.9s,mb4.8,baz=284,slow=11,SNR=4.4					
KDAK			LR	LR	14 07 48.0	
	comp=Z,21μm,18.9s,MS5.9,baz=281,slow=35					
QZH	**Quanzhou**	**34.90 244**	⇑*i*P	**P**	**13 54 32.3**	**+0.4**
QZH			S	**S**	**14 00 05.4**	**+1.5**
QZH			AMB	AMB		
	comp=Z,7μm,7.0s					
QZH			LR	LR		
	comp=N,21μm,14.6s,MS6.2					
QZH			LR	LR		
	comp=E,20μm,12.2s,MS6.2					
QZH			LR	LR		
	comp=Z,42μm,16.0s,MS6.3					
XAN	**Xi'an**	**35.56 266**	P	**P**	**13 54 36.4**	**-1.2**
XAN			S	**S**	**14 00 15.1**	**+1.2**
XAN			SS	SS	14 02 29.9	-18
XAN			AMB	AMB		
	comp=Z,60nm,1.6s,mb5.3					
XAN			AMB	AMB		
	comp=Z,4μm,10.7s					
XAN			LR	LR		
	comp=N,5μm,18.9s,MS5.9					
XAN			LR	LR		
	comp=E,18μm,15.2s,MS5.9					
XAN			LR	LR		
	comp=Z,24μm,16.1s,MS6.1					
PMR	**Palmer**	**35.88 44**	P	**P**	**13 54 39.9**	**-0.5**
PMR			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9					
PMR	**Palmer**	**35.88 44**	*e*P	**P**	**13 54 43.6**	**+3.2**
	comp=Z,63nm,1.7s,mb5.3					
PMR			LR	LR		
	comp=Z,14μm,19.0s,MS5.8					
COLA	**College**	**36.45 38***c*	*i*P	**P**	**13 54 42.2**	**-3.1**
COLA	**College**	**36.45 38**	*e*P	**P**	**13 54 44.0**	**-1.3**
	comp=Z,31nm,0.8s,mb5.3					
COLA			LR	LR		
	comp=Z,9μm,19.0s,MS5.6					
EYAK	**Cordova Ski Ar**	**37.59 45**	*e*P	**P**	**13 54 53.5**	**-1.5**
	comp=Z,149nm,1.8s,mb5.4					
KRAR	**Krasnoyarsk**	**37.93 307**	*e*P	**P**	**13 54 56.8**	**-1.0**
KRAR			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0					
KRAR			MLR	MLR		
	comp=Z,49μm,14.0s,MS6.5					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**13 54 59.0**	**+0.7**
LZH			AP	pP	13 55 02.0	+2.7
LZH			XP	sP	13 55 05.5	+5.8
LZH			PP	PP	13 56 31.1	+6.2
LZH			PCP	PcP	13 57 14.5	+0.5
LZH			AMB	AMB		
	comp=Z,4μm,6.1s					
LZH			LR	LR		
	comp=N,23μm,13.5s					
LZH			LR	LR		
	comp=Z,26μm,15.8s,MS6.1					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**13 54 59.0**	**+0.7**
LZH			*SP	sP	13 55 05.5	+5.8
LZH					13 56 31.1	
LZH					13 57 14.5	
LZH			*e*S	**S**	**14 00 50.2**	**-0.7**
LZH			SS	SS	14 03 19.0	-19
LZH			pmax	pmax		
	comp=Z,1μm,1.5s,mb6.4					
LZH			MLR	MLR		
	comp=Z,26μm,15.8s,MS6.1					
LZH	**Lanzhou**	**37.98 272**	⇑P	**P**	**13 54 59.0**	**+0.7**
	comp=Z,1μm,1.5s,mb6.4					
LZH			pP	pP	13 55 02.0	+2.7
LZH			sP	sP	13 55 05.5	+5.8
LZH			PP	PP	13 56 31.1	+6.2
LZH			PcP	PcP	13 57 14.5	+0.5
LZH			*e*S	**S**	**14 00 50.2**	**-0.7**
LZH			sS	sS	14 00 59.0	+6.4
LZH			SS	SS	14 03 19.0	-19
LZH			LR	LR		
	comp=Z,26μm,15.8s,MS6.1					
GTA	**Gaotai**	**39.12 280**	⇑P	**P**	**13 55 08.9**	**+1.1**
GTA			AP	pP	13 55 14.6	+5.8
GTA			XP	sP	13 55 19.4	+10
GTA			PP	PP	13 56 43.8	+6.4
GTA			PCP	PcP	13 57 18.0	+0.5
GTA			AMB	AMB		
	comp=Z,93nm,1.3s,mb5.3					
GTA			AMB	AMB		
	comp=Z,5μm,9.6s					
GTA			LR	LR		
	comp=N,20μm,14.1s,MS6.4					
GTA			LR	LR		
	comp=E,29μm,13.3s,MS6.4					
GTA			LR	LR		
	comp=Z,42μm,13.0s,MS6.5					
EGAK	**Eagle**	**39.31 38**	*e*P	**P**	**13 55 08.3**	**-1.1**
	comp=Z,29nm,0.8s,mb5.1					
EGAK			LR	LR		
	comp=Z,9μm,21.0s,MS5.6					
GZH	**Guangzhou**	**39.56 248**	P	**P**	**13 55 06.9**	**-4.6**
GZH			PP	PP	13 56 42.6	+0.4
GZH			S	**S**	**14 01 07.9**	**-6.9**
GZH			LR	LR		
	comp=N,17μm,15.9s,MS6.2					
GZH			LR	LR		
	comp=E,19μm,15.5s,MS6.2					
GZH			LR	LR		
	comp=Z,31μm,17.7s,MS6.2					
HKC	**Hong Kong**	**39.59 246**	⇑*i*P	**P**	**13 55 14.0**	**+2.2**
HKC			*i*S	**S**	**14 01 08.0**	**-7.3**
DAWY	**Dawson**	**40.15 39**	*e*P	**P**	**13 55 15.7**	**-0.7**
CD2	**Chengdu**	**40.92 266**	P	**P**	**13 55 23.4**	**+0.6**
CD2			PP	PP	13 57 02.6	+5.6
CD2			PCP	PcP	13 57 25.0	+1.7
CD2			AMB	AMB		
	comp=Z,150nm,1.3s,mb5.5					
CD2			AMB	AMB		
	comp=Z,8μm,8.6s					
CD2			LR	LR		
	comp=N,21μm,16.2s					
CD2			LR	LR		
	comp=Z,23μm,15.6s,MS6.1					
GYA	**Guiyang**	**41.69 258**	⇑*i*P	**P**	**13 55 28.8**	**-0.3**
GYA			AP	pP	13 55 33.3	+3.2
GYA			XP	sP	13 55 40.4	+10
GYA			PP	PP	13 57 04.8	-0.6
GYA			AMB	AMB		
	comp=Z,310nm,1.1s,mb5.8					
GYA			AMB	AMB		
	comp=Z,3μm,5.6s					
GYA			LR	LR		
	comp=N,13μm,18.2s,MS6.0					
GYA			LR	LR		
	comp=E,9μm,13.2s,MS6.0					
GYA			LR	LR		
	comp=Z,16μm,17.0s,MS6.0					
INK	**Inuvik**	**42.00 32**	P	**P**	**13 55 32.3**	**+0.7**
	comp=Z,27nm,0.9s,mb4.9,baz=286,slow=7.5,SNR=31					
INK	**Inuvik**	**42.00 32**	P	**P**	**13 55 32.2**	**+0.6**
INK			pmax	pmax		
	comp=Z,31nm,0.9s					
INK	**Inuvik**	**42.00 32**	*e*P	**P**	**13 55 31.4**	**-0.2**
SKAG	**Skagway**	**42.93 45**	*e*P	**P**	**13 55 41.0**	**+1.8**
	comp=Z,264nm,2.3s,mb5.6					
ZAL	**Zalesovo**	**42.96 306**	P	**P**	**13 55 38.1**	**-1.3**
	comp=Z,6.2nm,0.9s,mb4.3,baz=43,slow=8.0,SNR=27					
ZAL			PcP	PcP	13 57 30.2	+0.3
	comp=Z,7.6nm,0.9s,baz=34,slow=6.3,SNR=5.6					
ZAL			ScP	ScP	14 01 21.9	0.0
	comp=Z,3.2nm,0.9s,baz=34,slow=11,SNR=4.1					
ZAL			LR	LR	14 15 29.7	
	comp=Z,34μm,18.9s,MS6.3,baz=37,slow=39					
NVS	**Novosibirsk**	**43.53 308**	*i* P	**P**	**13 55 41.2**	**-2.9**
NVS			*i*		13 57 28.5	
NVS			*i* PPP		13 57 59.7	
NVS			*e*S	**S**	**14 02 03.8**	**-10**
NVS			*e*		14 05 37.6	
NVS			pmax	pmax		
	comp=N,32nm,1.6s					
NVS			pmax	pmax		
	comp=Z,58nm,1.6s,mb5.1					
NVS			pmax	pmax		
	comp=E,45nm,1.8s					
NVS			pmax	pmax		
	comp=Z,128nm,2.5s,mb5.2					
NVS			pmax	pmax		
	comp=N,98nm,3.3s					
NVS			pmax	pmax		
	comp=E,98nm,2.6s					
NVS			smax			
	comp=N,134nm,3.0s					
NVS			smax			
	comp=E,70nm,3.0s					
SIT	**Sitka**	**43.62 49**	*e*P	**P**	**13 55 46.4**	**+1.7**
	comp=E,105nm,1.5s,mb5.3					
SIT			LR	LR		
	comp=Z,14μm,20.0s,MS5.9					
QIZ	**Qiongzhong**	**44.74 247**	P	**P**	**13 55 55.0**	**+1.2**
QIZ			PP	PP	13 57 43.1	+5.0
QIZ			S	**S**	**14 02 34.5**	**+3.3**
QIZ			XS	sS	14 02 41.6	+8.7
QIZ			AMB	AMB		
	comp=Z,3μm,10.0s					
QIZ			LR	LR		
	comp=N,9μm,17.2s,MS6.0					
QIZ			LR	LR		
	comp=E,14μm,16.9s,MS6.0					
QIZ			LR	LR		
	comp=Z,16μm,18.4s,MS6.0					
QIZ	**Qiongzhong**	**44.74 247**	PFAKE		13 56 00.0	+6.2
QIZ			LR	LR		
	comp=Z,17μm,19.0s,MS6.0					
CGP	**Cagayan de Oro**	**44.93 222**	⇑*i*P	**P**	**13 55 54.8**	**-0.5**
WMQ	**Urumqi**	**45.17 292**	⇑*i*P	**P**	**13 55 57.5**	**+0.3**
WMQ			AP	pP	13 56 01.5	+3.3
WMQ			XP	sP	13 56 04.5	+5.9
WMQ			PCP	PcP	13 57 39.0	+1.5
WMQ			PPP		13 58 25.0	
WMQ			PCS	PcS	14 01 30.5	-0.8
WMQ			S	**S**	**14 02 36.0**	**-1.4**
WMQ			XS	sS	14 02 44.0	+4.9
WMQ			SCS	ScS	14 05 51.4	-3.8
WMQ			AMB	AMB		
	comp=Z,42nm,0.8s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,3μm,5.2s					
WMQ			LR	LR		
	comp=N,28μm,14.5s,MS6.5					
WMQ			LR	LR		
	comp=E,30μm,15.0s,MS6.5					
WMQ			LR	LR		
	comp=Z,35μm,15.8s,MS6.4					
KMI	**Kunming**	**45.24 260**	⇑P	**P**	**13 55 58.6**	**+0.9**
KMI			AP	pP	13 56 01.4	+2.7
KMI			XP	sP	13 56 02.8	+3.7
KMI			PCP	PcP	13 57 39.6	+1.9
KMI			PP	PP	13 57 45.6	+2.2
KMI			PPP		13 58 26.5	
KMI			SCP	ScP	14 01 31.3	+0.1
KMI			S	**S**	**14 02 36.4**	**-2.0**
KMI			XS	sS	14 02 42.3	+2.2
KMI			SS	SS	14 05 50.3	-11
KMI			SSS		14 06 49.3	
KMI			AMB	AMB		
	comp=Z,50nm,1.7s,mb5.1					
KMI			AMB	AMB		
	comp=Z,5μm,7.3s					
KMI			LR	LR		
	comp=N,18μm,16.3s,MS6.3					
KMI			LR	LR		
	comp=E,20μm,16.3s,MS6.3					
KMI			LR	LR		
	comp=Z,25μm,15.9s,MS6.2					
KMI	**Kunming**	**45.24 260**	⇑P	**P**	**13 55 58.6**	**+0.9**
KMI					13 57 39.6	
KMI					13 57 45.6	
KMI			PPP		13 58 26.5	
KMI			S	**S**	**14 02 36.4**	**-2.0**
KMI			*SS	sS	14 02 42.2	+2.1
KMI			SS	SS	14 05 50.2	-11
KMI			SSS		14 06 49.3	
KMI			pmax	pmax		
	comp=Z,50nm,1.7s,mb5.1					
KMI			MLR	MLR		
	comp=Z,25μm,15.9s,MS6.2					
KMI	**Kunming**	**45.24 260**	⇑P	**P**	**13 55 58.6**	**+0.9**
	comp=Z,50nm,1.7s,mb5.1					
KMI			pP	pP	13 56 01.4	+2.7
KMI			sP	sP	13 56 02.7	+3.6
KMI			PcP	PcP	13 57 39.6	+1.9
KMI			PP	PP	13 57 45.6	+2.2
KMI			PPP		13 58 26.5	
KMI			ScP	ScP	14 01 31.2	0.0
KMI			S	**S**	**14 02 36.4**	**-2.0**
KMI			sS	sS	14 02 42.2	+2.1
KMI			SS	SS	14 05 50.2	-11
KMI			SSS		14 06 49.3	
KMI			LR	LR		
	comp=Z,25μm,15.9s,MS6.2					
CRAG	**Craig**	**45.30 50**	P	**P**	**13 55 58.9**	**+0.7**
DAV	**Davao City (W)**	**45.75 220**	PFAKE		13 56 10.0	+8.2
DAV			LR	LR		
	comp=Z,8μm,19.0s,MS5.7					
KIP	**Kipapa**	**46.56 105**	*e*P	**P**	**13 56 06.3**	**-1.9**
KIP	**Kipapa**	**46.56 105**	PFAKE		13 56 20.0	+12
KIP			LR	LR		
	comp=Z,11μm,20.0s,MS5.8					
MK31	**Makanchi Array**	**47.22 298**	*e*P	**P**	**13 56 12.5**	**-0.8**
MKAR	**Makanchi Array**	**47.22 298**	P	**P**	**13 56 12.7**	**-0.7**
	comp=Z,25nm,0.8s,mb5.2,baz=66,slow=8.1,SNR=125					
MKAR			ScP	ScP	14 01 36.1	-3.4
	comp=Z,2.9nm,0.7s,baz=79,slow=3.9,SNR=3.7					
MKAR			LR	LR	14 17 20.2	
	comp=Z,32μm,18.4s,MS6.3,baz=67,slow=38					
MKAR	**Makanchi Array**	**47.22 298**	*i* P	**P**	**13 56 12.4**	**-0.9**
MKAR			pmax	pmax		
	comp=Z,35nm,0.8s					
KURK	**Kurchatov**	**47.69 304**	P	**P**	**13 56 15.9**	**-1.0**
	comp=Z,328nm,0.8s,mb6.4,SNR=36					
POHA	**Pohakuloa**	**49.38 105**	PFAKE		13 56 40.0	+10
POHA			LR	LR		
	comp=Z,12μm,20.0s,MS5.9					
LSA	**Lhasa**	**50.38 274**	P	**P**	**13 56 38.8**	**+1.2**
LSA			AP	pP	13 56 48.1	+9.5
LSA			PCP	PcP	13 57 55.1	-1.0
LSA			PP	PP	13 58 36.9	+3.9
LSA			SCP	ScP	14 01 48.1	-4.8
LSA			PCS	PcS	14 01 52.6	-0.7
LSA			S	**S**	**14 03 49.8**	**-1.6**
LSA			SCS	ScS	14 06 27.8	-1.9
LSA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4					
LSA			AMB	AMB		
	comp=Z,5μm,8.5s					
LSA			LR	LR		
	comp=N,6μm,15.6s,MS6.0					
LSA			LR	LR		
	comp=E,9μm,14.9s,MS6.0					
LSA			LR	LR		
	comp=Z,15μm,15.6s,MS6.1					
LSA	**Lhasa**	**50.38 274**	*e*P	**P**	**13 56 39.6**	**+2.0**
LSA			pmax	pmax		
	comp=Z,57nm,0.9s,mb5.6					
LSA			MLR	MLR		
	comp=Z,10μm,21.0s,MS5.8					
LSA	**Lhasa**	**50.38 274**	*e*P	**P**	**13 56 39.6**	**+2.0**
	comp=Z,57nm,0.9s,mb5.6					
LSA			LR	LR		
	comp=Z,10μm,21.0s,MS5.8					
CHKZ	**Chkalovo**	**50.79 310**	P	**P**	**13 56 39.2**	**-1.5**
CHKZ			pmax	pmax		
	comp=Z,66nm,1.2s,mb5.4					
CHKZ	**Chkalovo**	**50.79 310**	*e*P	**P**	**13 56 38.8**	**-1.9**
	comp=Z,62nm,0.9s,mb5.5					
BVA0	**Borovoye Array**	**51.21 310**	*i* P	**P**	**13 56 42.9**	**-1.0**
BVA0			pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8					
BVAR	**Borovoye Array**	**51.21 310**	P	**P**	**13 56 43.5**	**-0.4**
	comp=Z,6.4nm,0.5s,mb4.8,baz=52,slow=8.2,SNR=24					
BVAR			LR	LR	14 20 13.4	
	comp=Z,15μm,19.0s,MS6.0,baz=319,slow=38					
BVAR	**Borovoye Array**	**51.21 310**	P	**P**	**13 56 43.5**	**-0.4**
BVAR			pmax	pmax		
	comp=Z,6.0nm,0.5s					
BVAR			MLR	MLR		
	comp=Z,15μm,19.0s					
YKW3	**Yellowknife Ar**	**51.21 36**	*e*P	**P**	**13 56 43.1**	**-0.7**
KKM	**Kota Kinabalu**	**51.24 230**	*e*P	**P**	**13 56 43.6**	**-0.4**
YKA	**Yellowknife Ar**	**51.25 37**	P	**P**	**13 56 43.8**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9,baz=298,slow=7.4,SNR=20					
YKA			LR	LR	14 20 37.3	
	comp=Z,6μm,18.6s,MS5.7,baz=220,slow=39					
YKA	**Yellowknife Ar**	**51.25 37**	P	**P**	**13 56 43.8**	**-0.4**
YKA			pmax	pmax		
	comp=Z,13nm,0.8s					
YKA			MLR	MLR		
	comp=Z,6μm,18.6s					
YKA	**Yellowknife Ar**	**51.25 37**	P	**P**	**13 56 43.8**	**-0.4**
YKA			LR	LR	14 20 37.4	
BRVK	**Borovoye**	**51.25 310**	P	**P**	**13 56 43.0**	**-1.2**
	comp=Z,200nm,1.3s,mb5.9,SNR=10					
BRVK	**Borovoye**	**51.25 310**	P	**P**	**13 56 43.6**	**-0.6**
BRVK			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0					
BRVK	**Borovoye**	**51.25 310**	*e*P	**P**	**13 56 42.7**	**-1.5**
BRVK			LR	LR		
	comp=Z,6μm,21.0s,MS5.6					
KKTK	**Khon Kaen**	**51.26 252**	P	**P**	**13 56 45.5**	**+1.3**
ZRNK	**Zerenda**	**51.98 310**	P	**P**	**13 56 48.7**	**-0.9**
ZRNK			pmax	pmax		
	comp=Z,65nm,1.5s,mb5.3					
ZRNK	**Zerenda**	**51.98 310**	*e*P	**P**	**13 56 48.2**	**-1.5**
	comp=Z,19nm,0.7s,mb5.1					
CHG	**Chiang Mai**	**52.09 257**	⇑P	**P**	**13 56 51.6**	**+1.2**
	comp=Z,48nm,0.9s,mb5.4					
CHTO	**Chiang Mai**	**52.09 257**	P	**P**	**13 56 51.3**	**+0.8**
	SNR=26					
CHTO	**Chiang Mai**	**52.09 257**	*e*P	**P**	**13 56 50.7**	**+0.3**
	comp=Z,49nm,1.0s,mb5.4					
CHTO			LR	LR		
	comp=Z,15μm,20.0s,MS6.0					
CM31	**Chiang Mai Arr**	**52.34 257**	PFAKE		13 57 00.0	+7.7
CM31			LR	LR		
	comp=Z,14μm,19.0s,MS6.0					
SHL	**Shillong**	**52.44 269**	*e*P	**P**	**13 56 52.0**	**-1.0**
SHL			*ex*	x	14 00 42.5	
KBS	**Kingsbay**	**52.96 351**	*e*P	**P**	**13 56 53.1**	**-3.8**
KBS			AMb	AMB	13 57 16.5	
	comp=Z,48nm,1.7s,mb5.2					
KBS			*e*		14 00 12.1	
KBS			*e*S	**S**	**14 04 27.0**	**0.0**
KBS			AMS	AMS	14 24 51.9	
	comp=Z,4μm,16.5s,MS5.6					
KBS	**Kingsbay**	**52.96 351**	*e*P	**P**	**13 56 55.3**	**-1.6**
KBS	**Kingsbay**	**52.96 351**	*e*P	**P**	**13 56 55.8**	**-1.2**
KBS			LR	LR		
	comp=Z,7μm,19.0s,MS5.7					
TKM2	**Tokmak 2**	**53.27 296**	P	**P**	**13 57 00.1**	**+0.9**
	SNR=23					
C03A	**Quillayute Air**	**53.38 56**	⇓P	**P**	**13 57 00.3**	**+0.4**
	baz=53					
C03A			⇓S	**S**	**14 04 32.0**	**-0.7**
	baz=53					
NST	**Nakhon Sawan**	**53.52 253**	P	**P**	**13 57 02.0**	**+1.0**
CHMS	**Chumysh**	**53.75 297**	P	**P**	**13 57 03.7**	**+0.9**
	SNR=12					
USP	**Ospenovka**	**53.76 297**	P	**P**	**13 57 02.6**	**-0.2**
	SNR=49					
KBK	**Karagaybulak**	**53.82 297**	P	**P**	**13 57 03.4**	**+0.2**
	SNR=19					
FRU	**Bishkek**	**53.93 297**	*e*P	**P**	**13 57 03.8**	**-0.2**
FRU			*e*S	**S**	**14 04 45.0**	**+4.9**
FRU			pmax	pmax		
	comp=Z,4μm,10.0s					
FRU			pmax	pmax		
	comp=Z,3μm,5.0s					
FRU			MLR	MLR		
	comp=Z,39μm,16.0s,MS6.6					
B04A	**Port Angeles**	**53.93 56**	⇑P	**P**	**13 57 03.4**	**-0.6**
	baz=54					
B04A			⇑S	**S**	**14 04 40.0**	**-0.1**
	baz=54					
AGT	**Agartala**	**53.96 268**	*i* P	**P**	**13 57 06.0**	**+1.7**
AGT			*i* x	x	13 58 08.0	
A04A	**Legoe Bay, Lum**	**54.03 54**	⇓P	**P**	**13 57 04.4**	**-0.4**
	baz=54					
A04A			⇑S	**S**	**14 04 41.2**	**-0.4**
	baz=54					
NLWA	**Neilton Lookou**	**54.07 56**	PFAKE		13 57 10.0	+5.0
NLWA			LR	LR		
	comp=Z,5μm,20.0s,MS5.6					
AAK	**Ala-Archa**	**54.11 297**	P	**P**	**13 57 06.1**	**+0.8**
	SNR=16					
AAK	**Ala-Archa**	**54.11 297**	P	**P**	**13 57 04.7**	**-0.6**
	comp=Z,226nm,0.8s,mb6.2,SNR=17					
AAK	**Ala-Archa**	**54.11 297**	P	**P**	**13 57 05.3**	**0.0**
	SNR=17					
AAK	**Ala-Archa**	**54.11 297***c*	*i*P	**P**	**13 57 04.9**	**-0.4**
AAK			pmax	pmax		
	comp=Z,51nm,1.2s,mb5.3					
AAK			MLR	MLR		
	comp=Z,22μm,15.0s,MS6.3					
AAK	**Ala-Archa**	**54.11 297**	*e*P	**P**	**13 57 04.1**	**-1.2**
AAK			LR	LR		
	comp=Z,4μm,19.0s,MS5.5					
SVE	**Sverdlovsk**	**54.22 317**	⇑*i*P	**P**	**13 57 05.0**	**-1.1**
SVE			*e*		13 59 08.0	
SVE			*e*	**S**	**14 04 48.0**	**+3.9**
SVE			*e*S	ScS	14 06 56.0	-0.5
SVE			pmax	pmax		
	comp=Z,960nm,4.5s					
SVE			MLR	MLR		
	comp=N,15μm,14.0s,MS6.2					
SVE			MLR	MLR		
	comp=E,4μm,14.0s,MS6.2					
A05A	**Maple Falls**	**54.24 54**	⇑P	**P**	**13 57 05.6**	**-0.6**
	baz=54					
A05A			⇑S	**S**	**14 04 42.2**	**-2.1**
	baz=54					
D03A	**Wishkah Elem.**	**54.27 57**	⇑P	**P**	**13 57 07.5**	**+1.0**
	baz=54					
D03A			⇓S	**S**	**14 04 46.0**	**+1.3**
	baz=54					
C04A	**Brinnon**	**54.41 56**	⇓P	**P**	**13 57 08.3**	**+0.7**
	baz=54					
C04A			⇓S	**S**	**14 04 46.6**	**-0.1**
	baz=54					

EKS2	Erkin-Say	54.54	297	P	P	13 57 09.4 +0.9
	SNR=21					
GNW	Green Mountain	54.58	56	eP	P	13 57 12.6 +3.9
B05A	Bryant	54.62	55	⇑P	P	13 57 09.1 +0.1
	baz=54					
B05A				⇑S	S	14 04 48.5 -0.9
	baz=54					
E03A	Lebam	54.70	57	⇑P	P	13 57 09.5 -0.1
	baz=54					
E03A				⇑S	S	14 04 49.1 -1.3
	baz=54					
B06A	Marblemount	54.83	54	⇓P	P	13 57 09.9 -0.6
	baz=55					
B06A				⇑S	S	14 04 50.9 -1.4
	baz=55					
D04A	Dobbs Creek Ra	54.83	56	⇑P	P	13 57 11.7 +1.1
	baz=55					
D04A				⇑S	S	14 04 52.7 +0.4
	baz=55					
KSH	Kashi	54.90	293	eP	P	13 57 11.8 +0.7
KSH				eAP	pP	13 57 20.0 +7.9
KSH				eXP	sP	13 57 22.0 +9.5
KSH				ePCP	PcP	13 58 17.4 +4.3
KSH				ePP	PP	13 59 15.3 +1.4
KSH				ePPP		14 00 24.4
KSH				eS	S	14 04 50.0 -3.2
KSH				eXS	sS	14 04 59.3 +4.4
KSH				ePS		14 05 07.4
KSH				eSCS	ScS	14 06 57.0 -4.3
KSH				eSS	SS	14 08 33.8 -2.7
KSH				AMB	AMB	
	comp=Z,7μm,7.1s					
KSH				LR	LR	
	comp=N,24μm,12.7s,MS7.0					
KSH				LR	LR	
	comp=E,86μm,15.1s,MS7.0					
KSH				LR	LR	
	comp=Z,34μm,14.6s,MS6.5					
F03A	Seaside	55.03	58	⇑P	P	13 57 11.9 -0.1
	baz=55					
F03A				⇓S	S	14 04 54.2 -0.8
	baz=55					
JIRN	Jiri	55.06	275	eP	P	13 57 13.8 +1.6
	comp=Z,5.7nm,0.2s,mb5.2					
GUN	Gumba	55.12	275	eP	P	13 57 14.2 +1.5
	comp=Z,236nm,1.2s,mb6.1					
C05A	Tolt Reservoir	55.16	55	⇑P	P	13 57 12.9 0.0
	baz=55					
C05A				⇓S	S	14 04 54.6 -2.0
	baz=55					
E04A	Onalaska	55.16	57	⇓P	P	13 57 14.3 +1.4
	baz=55					
E04A				⇓S	S	14 04 55.5 -1.1
	baz=55					
D05A	Enumclaw	55.26	56	⇑P	P	13 57 15.0 +1.3
	baz=55					
D05A				⇓S	S	14 04 56.7 -1.3
	baz=55					
ARU	Arti	55.40	318	P	P	13 57 13.8 -0.9
	comp=Z,260nm,1.0s,mb6.2,SNR=9.9					
ARU	Arti	55.40	318	⇑iP	P	13 57 13.2 -1.5
ARU				e		13 58 14.2
ARU				ePPP		14 00 32.4
ARU				eS	S	14 04 59.1 -0.9
ARU				e		14 06 54.8
ARU				eSS	SS	14 08 36.0 -8.4
ARU				pmax	pmax	
	comp=Z,39nm,1.0s,mb5.4					
ARU				MLR	MLR	
	comp=N,13μm,16.0s,MS6.2					
ARU				MLR	MLR	
	comp=E,10μm,16.0s,MS6.2					
ARU				MLR	MLR	
	comp=Z,24μm,16.0s,MS6.4					
ARU	Arti	55.40	318	eP	P	13 57 13.0 -1.7
	comp=Z,60nm,1.1s,mb5.5					
ARU				LR	LR	
	comp=Z,3μm,19.0s,MS5.3					
H02A	Toledo	55.45	59	⇑P	P	13 57 15.4 +0.3
	baz=55					
H02A				⇓S	S	14 05 00.8 +0.2
	baz=55					
G03A	Yamhill	55.53	58	⇑P	P	13 57 15.7 +0.1
	baz=55					
G03A				⇑S	S	14 05 00.9 -0.7
	baz=55					
KKN	Kakani	55.61	276	eP	P	13 57 17.6 +1.4
	comp=Z,214nm,1.1s,mb6.1					
B07A	Winthrop	55.62	54	⇓P	P	13 57 16.5 +0.2
	baz=55					
B07A				⇑S	S	14 05 02.4 -0.5
	baz=55					
BJO	Bjornoya	55.64	346	eP	P	13 57 11.7 -4.7
BJO				e		14 00 32.0
BJO				AMS	AMS	14 27 23.0
	comp=Z,10μm,16.2s,MS6.0					
PKI	Pulchoki	55.66	275	eP	P	13 57 17.6 +1.1
	comp=Z,310nm,1.5s,mb6.1					
BJO1	Bjornoya	55.67	347	eP	P	13 57 11.7 -5.0
BJO1				e		14 00 32.0
BJO1				LR	LR	
	comp=Z,10μm,16.2s,MS6.0					
F04A	Amboy	55.70	57	⇓P	P	13 57 16.6 -0.2
	baz=55					
F04A				⇓S	S	14 05 03.8 0.0
	baz=55					
PMG	Port Moresby	55.71	187	LR	LR	14 17 39.6
	comp=Z,8μm,20.1s,MS5.8,baz=252,slow=32					
PMG	Port Moresby	55.71	187	PFAKE		13 57 30.0 +13
PMG				LR	LR	
	comp=Z,8μm,20.0s,MS5.8					
HNR	Honiara	55.79	172	PFAKE		13 57 30.0 +12
HNR				LR	LR	
	comp=Z,8μm,19.0s,MS5.8					
DMN	Daman	55.84	276	eP	P	13 57 19.7 +1.8
	comp=Z,325nm,1.2s,mb6.2					
H03A	Soap Creek Ran	55.87	59	⇓P	P	13 57 18.5 +0.4
	baz=56					
H03A				⇑S	S	14 05 07.4 +1.1
	baz=56					
D06A	Cle Elum	55.91	55	⇓P	P	13 57 18.7 +0.4
	baz=56					
D06A				⇑S	S	14 05 04.4 -2.3
	baz=56					
COR	Corvallis	55.92	59	PFAKE		13 57 30.0 +12
COR				LR	LR	
	comp=Z,7μm,19.0s,MS5.8					
GKN	Gorkha	55.92	276	eP	P	13 57 19.4 +1.0
	comp=Z,305nm,1.1s,mb6.2					
I02A	Mapleton	55.93	60	⇑P	P	13 57 19.2 +0.7
	baz=56					
I02A				⇑S	S	14 05 07.3 +0.4
	baz=56					
NNT	Nongplab	56.03	251	P	P	13 57 21.5 +2.3
G04A	Mulino	56.06	58	⇑P	P	13 57 19.4 -0.1
	baz=56					
G04A				⇓S	S	14 05 08.7 -0.1
	baz=56					
C07A	Waterville	56.08	54	⇑P	P	13 57 19.7 +0.1
	baz=56					
C07A				⇑S	S	14 05 07.8 -1.1
	baz=56					
E06A	Yakima	56.19	56	⇑P	P	13 57 21.0 +0.6
	baz=56,SNR=8.0					
E06A				⇓S	S	14 05 10.9 +0.4
	baz=56					
A09A	Danville	56.19	52	⇓P	P	13 57 20.7 +0.3
	baz=56					
A09A				⇑S	S	14 05 09.9 -0.5
	baz=56					
K01A	Sixes	56.21	61	⇓P	P	13 57 20.8 +0.3
	baz=56					
I03A	Eugene	56.27	60	⇓P	P	13 57 21.7 +0.7
	baz=56					
I03A				⇓S	S	14 05 11.1 -0.4
	baz=56					
F05A	White Salmon	56.28	57	⇓P	P	13 57 21.9 +0.9
	baz=56					
F05A				⇑S	S	14 05 11.5 -0.1
	baz=56					
D07A	Quincy	56.40	55	⇓P	P	13 57 22.1 +0.2
	baz=56					
D07A				⇓S	S	14 05 11.1 -2.2
	baz=56					
J02A	Umpqua	56.44	60	P	P	13 57 22.7 +0.6
	baz=56,SNR=6.8					
J02A				⇑S	S	14 05 14.1 +0.3
	baz=56					
HOOD	Mount Hood Mea	56.48	57	eP	P	13 57 23.1 +0.7
H04A	Detroit Lake	56.52	58	P	P	13 57 22.8 +0.1
	baz=56,SNR=14					
H04A				⇓S	S	14 05 13.3 -1.6
	baz=56					
EDM	Edmonton	56.58	46	eP	P	13 57 22.8 -0.3
C08A	Higginbotham F	56.60	54	⇓P	P	13 57 22.6 -0.6
	baz=56					
C08A				⇑S	S	14 05 12.9 -3.0
	baz=56					
G05A	Wamic	56.72	57	⇓P	P	13 57 24.6 +0.4
	baz=56					
G05A				⇑S	S	14 05 15.6 -1.9
	baz=56					
F06A	Goldendale	56.74	57	⇑P	P	13 57 24.8 +0.5
	baz=56					
F06A				⇓S	S	14 05 16.6 -1.1
	baz=56					
A10A	Northport	56.75	52	⇑P	P	13 57 24.5 +0.2
	baz=56					
A10A				⇓S	S	14 05 16.1 -1.8
	baz=56					
KOLN	Koldanda	56.78	277	eP	P	13 57 24.7 +0.1
	comp=Z,195nm,0.9s,mb6.1					
J03A	Ideyld Park	56.80	60	⇑P	P	13 57 25.9 +1.2
	baz=57					
J03A				⇓S	S	14 05 19.3 +0.8
	baz=57					
E07A	Sunnyside	56.83	55	⇑P	P	13 57 25.5 +0.6
	baz=57					
E07A				⇓S	S	14 05 17.6 -1.3
	baz=57					
K02A	Glendale	56.83	61	⇑P	P	13 57 25.4 +0.5
	baz=57					
K02A				⇓S	S	14 05 19.1 +0.2
	baz=57					
CAL	Calcutta	56.87	269	iP	P	13 57 26.8 +1.6
CAL				eS	S	14 05 20.8 +1.4
CAL				AMP		14 06 08.4
	comp=Z,1μm,13.0s					
M01C	Crescent City	56.97	62	⇓P	P	13 57 26.4 +0.5
	baz=57					
M01C				⇓S	S	14 05 21.9 +1.1
	baz=57					
C09A	Chrisman Ranch	57.02	53	⇓P	P	13 57 26.0 -0.3
	baz=57					
C09A				⇑S	S	14 05 18.5 -2.9
	baz=57					
D08A	Wollman Farm,	57.08	54	⇓P	P	13 57 26.0 -0.6
	baz=57					
D08A				⇑S	S	14 05 18.5 -3.7
	baz=57					
HAWA	Hanford	57.10	55	eP	P	13 57 26.6 -0.3
HAWA				LR	LR	
	comp=Z,6μm,19.0s,MS5.7					
L02A	Cave Junction	57.11	62	⇓P	P	13 57 27.3 +0.4
	baz=57					
L02A				⇑S	S	14 05 23.3 +0.7
	baz=57					
DAG	Danmarks Havn	57.11	358α	iP	P	13 57 26.2 -0.7
	comp=Z,106nm,1.6s,mb5.6					
DAG	Danmarks Havn	57.11	358	⇑iP	P	13 57 26.2 -0.7
DAG				pmax	pmax	
	comp=Z,107nm,1.6s,mb5.6					
DAG	Danmarks Havn	57.11	358	iP	P	13 57 26.2 -0.7
	comp=Z,107nm,1.6s,mb5.6					
H05A	Madras	57.11	58	⇓P	P	13 57 27.5 +0.6
	baz=57					
H05A				⇓S	S	14 05 22.3 -0.3
	baz=57					
G06A	Carlson Farm,	57.12	57	⇓P	P	13 57 27.4 +0.4
	baz=57,SNR=7.9					
G06A				⇑S	S	14 05 21.1 -1.7
	baz=57					
F07A	Phinny Hill Vi	57.16	56	⇑P	P	13 57 27.5 +0.3
	baz=57					
F07A				⇓S	S	14 05 24.4 +1.1
	baz=57					
LVZ	Lovozero	57.22	337c	iP	P	13 57 26.7 -1.0
LVZ				iS	S	14 05 22.2 -1.9
LVZ				eSS	SS	14 09 12.8 -0.2
LVZ				pmax	pmax	
	comp=N,750nm,5.8s					
LVZ				pmax	pmax	
	comp=Z,2μm,5.8s					
LVZ				pmax	pmax	
	comp=E,817nm,6.3s					
LVZ				pmax	pmax	
	comp=N,24nm,1.5s					
LVZ				pmax	pmax	
	comp=Z,52nm,1.5s,mb5.3					
LVZ				pmax	pmax	
	comp=E,16nm,1.3s					
LVZ				smax		
	comp=N,2μm,11.6s					
LVZ				smax		
	comp=Z,929nm,10.2s					
LVZ				smax		
	comp=E,2μm,12.4s					
LVZ				MLR	MLR	
	comp=N,15μm,19.0s,MS6.2					
LVZ				MLR	MLR	
	comp=Z,16μm,19.0s,MS6.1					
LVZ				MLR	MLR	
	comp=E,11μm,21.0s,MS6.2					
LVZ	Lovozero	57.22	337	eP	P	13 57 27.2 -0.5
B10A	Chitwood Farm,	57.32	52	⇓P	P	13 57 27.8 -0.5
	baz=57					
B10A				⇑S	S	14 05 22.8 -2.6
	baz=57					
NEW	Newport	57.39	52	P	P	13 57 28.1 -0.8
	comp=E,3.1nm,0.5s,mb4.6,baz=332,slow=4.4,SNR=11					
NEW				LR	LR	14 19 30.0
	comp=E,6μm,21.1s,MS5.7,baz=311,slow=33					
D09A	Jones Farm, Ri	57.42	54	⇑P	P	13 57 29.3 +0.2
	baz=57					
D09A				⇓S	S	14 05 23.5 -3.1
	baz=57					
C10A	Spilker Farm,	57.55	53	⇑P	P	13 57 29.3 -0.6
	baz=57					
C10A				⇑S	S	14 05 27.5 -0.9
	baz=57					
JCC	Jacoby Creek	57.62	63	⇓P	P	13 57 31.0 +0.6
	baz=57					
JCC				⇓S	S	14 05 31.3 +2.0
	baz=57					
G07A	Ruggs Ranch, H	57.67	57	⇑P	P	13 57 31.2 +0.4
	baz=57					
G07A				⇓S	S	14 05 30.2 +0.3
	baz=57					
BOK	Bokaro	57.74	272	eP	P	13 57 31.6 +0.2
BOK				AMb	AMB	13 57 37.2
	comp=Z,113nm,1.6s,mb5.6					
APA	Apatity	57.79	337	⇓iP	P	13 57 30.0 -1.7
APA				i		13 58 32.0
APA				iS	S	14 05 30.0 -1.6
APA				pmax	pmax	
	comp=Z,22nm,0.8s,mb5.2					
APA				pmax	pmax	
	comp=Z,4μm,11.0s					
APA				MLR	MLR	
	comp=Z,23μm,18.0s,MS6.3					
KEV	Kevo	57.80	341	eP	P	13 57 30.1 -1.7
	comp=Z,7.1nm,0.6s,mb4.9					
KEV				LR	LR	
	comp=Z,9μm,19.0s,MS5.9					
A12A	Yaak River Ran	57.81	51	⇑P	P	13 57 32.5 +0.6
	baz=58					
A12A				⇓S	S	14 05 31.1 -0.8
	baz=58					
E09A	Wood Farm, Sta	57.82	55	P	P	13 57 31.6 -0.3
	baz=58,SNR=9.3					
E09A				⇓S	S	14 05 29.9 -2.1
	baz=58					
F08A	Pendleton	57.88	56	⇑P	P	13 57 32.3 0.0
	baz=58					
F08A				⇓S	S	14 05 33.0 +0.3
	baz=58					
J05A	Fort Rock	57.89	59	P	P	13 57 33.1 +0.7
	baz=58,SNR=13					
J05A				⇓S	S	14 05 33.1 +0.3
	baz=58					
YBH	Yreka Blue Hor	57.90	62	LR	LR	14 20 09.7
	comp=Z,6μm,18.3s,MS5.8,baz=312,slow=34					
YBH	Yreka Blue Hor	57.90	62	⇓P	P	13 57 32.7 +0.3
	baz=58,SNR=7.5					
YBH				⇓S	S	14 05 33.7 +0.7
	baz=58					
K04A	Chilquin	57.98	60	⇓P	P	13 57 33.0 0.0
	baz=58					
K04A				⇓S	S	14 05 35.1 +1.1
	baz=58					
M02C	Callahan	58.01	62	⇑P	P	13 57 33.9 +0.7
	baz=58					
M02C				⇓S	S	14 05 36.2 +1.9
	baz=58					
LGTI	Lohaghat	58.03	281	eP	P	13 57 36.0 +2.6
TAS	Tashkent	58.05	298	eP	P	13 57 36.0 +2.5
N02C	Big Bar	58.06	63	⇑P	P	13 57 33.8 +0.2
	baz=58					
N02C				⇑S	S	14 05 38.4 +3.3
	baz=58					
G08A	Pilot Rock	58.06	56	⇓P	P	13 57 34.0 +0.4
	baz=58					
G08A				⇑S	S	14 05 33.9 -1.3
	baz=58					
I06A	Prineville	58.11	58	P	P	13 57 34.2 +0.2
	baz=58,SNR=12					
I06A				⇓S	S	14 05 36.9 +1.1
	baz=58					
B12A	Libby	58.12	52	⇑P	P	13 57 34.8 +0.8
	baz=58					
B12A				⇓S	S	14 05 35.4 -0.4
	baz=58					
H07A	Lands Inn, Kim	58.12	57	⇑P	P	13 57 33.9 -0.1
	baz=58					
H07A				⇑S	S	14 05 36.0 +0.2
	baz=58					
L04A	Klamath Falls	58.13	61	⇓P	P	13 57 34.5 +0.4
	baz=58					
L04A				⇓S	S	14 05 37.6 +1.5
	baz=58					
O01C	Eel River Cons	58.14	64	⇓P	P	13 57 35.1 +0.9
	baz=58					
O01C				⇑S	S	14 05 38.1 +2.0
	baz=58					
KSM	Kuching	58.26	233	eP	P	13 57 34.7 -0.3
ARCES	ARCESS Array B	58.31	341	P	P	13 57 34.7 -0.7
	comp=Z,7.8nm,0.7s,mb4.8,baz=30,slow=5.5,SNR=19					
ARCES				LR	LR	14 25 44.1
	comp=Z,8μm,19.1s,MS5.8,baz=27,slow=39					
ARCES	ARCESS Array B	58.31	341	P	P	13 57 34.7 -0.7
ARCES				pmax	pmax	
	comp=Z,8.0nm,0.7s					
ARCES				MLR	MLR	
	comp=Z,8μm,19.1s					
ARE0	ARCESS Array S	58.31	341	eP	P	13 57 34.4 -1.0
M04C	Macdoel	58.40	61	⇑P	P	13 57 36.2 +0.3
	baz=58					
M04C				⇓S	S	14 05 40.3 +0.8
	baz=58					
K05A	Summer Lake	58.41	60	P	P	13 57 36.8 +0.8
	baz=58,SNR=9.5					
K05A				⇓S	S	14 05 41.7 +2.0
	baz=58					
F09A	S2 Ranch, Elgi	58.42	55	⇑P	P	13 57 36.5 +0.4
	baz=58					
F09A				⇓S	S	14 05 40.3 +0.5
	baz=58					
M03C	McCloud	58.52	62	⇑P	P	13 57 37.1 +0.3
	baz=58					
M03C				⇓S	S	14 05 42.1 +0.9
	baz=58					
J06A	Christmas Vall	58.55	59	P	P	13 57 37.3 +0.3
	baz=58,SNR=8.3					
J06A				⇑S	S	14 05 42.2 +0.7
	baz=58					
C12A	Trout Creek	58.62	52	⇑P	P	13 57 37.6 +0.1
	baz=58					
C12A				⇓S	S	14 05 39.4 -3.0
	baz=58					
F10A	Beach Ranch, E	58.66	55	⇓P	P	13 57 37.8 0.0
	baz=58,SNR=5.6					
F10A				⇑S	S	14 05 41.1 -1.8
	baz=58					
WDC	Whiskeytown Da	58.67	63	eP	P	13 57 38.2 +0.3
WDC	Whiskeytown Da	58.67	63	⇑P	P	13 57 37.8 0.0
	baz=58					
WDC				⇓S	S	14 05 44.0 +0.9
	baz=58					
WALA	Waterton Lakes	58.67	50	eP	P	13 57 37.6 -0.3
	comp=Z,73nm,1.5s,mb5.5					
H08A	Prairie City	58.68	57	⇓P	P	13 57 38.2 +0.3
	baz=58					
H08A				⇑S	S	14 05 41.7 -1.5
	baz=58					
K06A	Valley Falls	58.76	59	P	P	13 57 39.0 +0.5
	baz=58,SNR=9.3					
K06A				⇓S	S	14 05 44.9 +0.8
	baz=58					
O02C	Red Bluff	58.76	63	⇓P	P	13 57 38.0 -0.5
	baz=58					
O02C				⇓S	S	14 05 44.6 +0.4
	baz=58					
B13A	Whitefish	58.78	51	P	P	13 57 38.7 +0.1
	baz=58,SNR=18					
B13A				⇓S	S	14 05 42.7 -1.8
	baz=58					
TMCR	Tamitsa	58.78	332	P	P	13 57 38.0 -0.6
TMCR				pmax	pmax	
	comp=Z,62nm,1.1s,mb5.5					
AB31	Akbulak array	58.78	310	P	P	13 57 37.9 -0.7
AB31				pmax	pmax	
	comp=Z,4.0nm,0.4s,mb4.8					
P01C	Double 8 Ranch	58.84	64	⇑P	P	13 57 39.1 +0.1
	baz=59					
P01C				⇑S	S	14 05 47.8 +2.6
	baz=59					
L05A	Lakeview	58.85	60	P	P	13 57 39.9 +0.8
	baz=59,SNR=11					
L05A				⇓S	S	14 05 47.4 +2.0
	baz=59					
BSMT	Bassoo Peak	58.91	52	eP	P	13 57 39.7 +0.1
J07A	Hines	58.98	58	⇓P	P	13 57 40.4 +0.5
	baz=59					
J07A				⇑S	S	14 05 47.8 +0.8
	baz=59					
DLH	Dalhousie	59.01	286	eP	P	13 57 39.0 -1.2
M05C	Lookout	59.06	61	⇑P	P	13 57 40.4 -0.2
	baz=59					
M05C				⇓S	S	14 05 48.0 -0.2
	baz=59					
AKTK	Aktyubinsk	59.09	312	P	P	13 57 39.9 -0.9
AKTO	Aktyubinsk	59.09	312	P	P	13 57 39.9 -0.9
	comp=Z,23nm,1.1s,mb5.1,baz=63,slow=5.0,SNR=19					
AKTO	Aktyubinsk	59.09	312	P	P	13 57 39.9 -0.9
AKTO				pmax	pmax	
	comp=Z,23nm,1.1s,mb5.1					
I08A	Drewsey	59.09	57	⇑P	P	13 57 40.9 +0.1
	baz=59					
I08A				⇑S	S	14 05 49.0 +0.5
	baz=59					
GASB	Alder Springs	59.11	63	⇓P	P	13 57 42.0 +1.1
	baz=59					
GASB				⇑S	S	14 05 50.6 +1.8
	baz=59					
C13A	Hot Springs	59.13	52	⇑P	P	13 57 41.8 +0.8
	baz=59					
C13A				⇑S	S	14 05 47.8 -1.2
	baz=59					
H09A	Durkee	59.17	56	⇑P	P	13 57 41.5 +0.2
	baz=59					
H09A				⇓S	S	14 05 50.4 +0.8
	baz=59					
HATC	Hat Creek Radi	59.20	62	⇑P	P	13 57 41.6 +0.1
	baz=59					
HATC				⇑S	S	14 05 51.2 +1.3
	baz=59					
THN	Thein Dam	59.24	286	eP	P	13 57 43.2 +1.4
MOD	Modoc	59.25	60	⇓P	P	13 57 41.8 -0.1
	baz=59					
MOD				⇓S	S	14 05 52.8 +2.2
	baz=59					
HOPS	Hopland	59.28	64	⇑P	P	13 57 41.9 -0.2
	baz=59					
HOPS				⇑S	S	14 05 53.2 +2.1
	baz=59					
FUNA	Funafuti	59.30	150	PFAKE		13 57 50.0 +7.7
FUNA				LR	LR	
	comp=Z,13μm,19.0s,MS6.1					
O03C	Acorn Hollow,	59.33	63	⇑P	P	13 57 42.5 +0.1
	baz=59					
O03C				⇑S	S	14 05 52.6 +0.9
	baz=59					
BHK	Bhakra	59.40	285	ex	x	13 57 47.0

K07A	**Rock Creek Ran**	**59.42**	**59**	P	**P**	**13 57 43.4**	**+0.3**
	baz=59,SNR=11						
K07A				⇑S	**S**	**14 05 53.1**	**+0.3**
	baz=59						
J08A	**Circle Bar Ran**	**59.48**	**58**	⇑P	**P**	**13 57 44.3**	**+0.8**
	baz=59,SNR=7.6						
J08A				⇓S	**S**	**14 05 53.0**	**-0.5**
	baz=59						
I09A	**Lost Marbles R**	**59.54**	**57**	⇑P	**P**	**13 57 43.9**	**+0.1**
	baz=59						
I09A				⇑S	**S**	**14 05 56.1**	**+1.7**
	baz=59						
M06C	**Likely Place G**	**59.56**	**61**	⇑P	**P**	**13 57 44.3**	**+0.3**
	baz=59						
M06C				⇑S	**S**	**14 05 54.6**	**-0.1**
	baz=59						
TRO	**Tromso**	**59.65**	**343**	*e*P	**P**	**13 57 41.7**	**-2.9**
TRO				*e*		14 01 23.8	
TRO				*e*S	**S**	**14 05 57.8**	**+2.1**
TRO				AMS	AMS	14 30 48.5	
	comp=Z,8μm,16.3s,MS5.9						
TRO	**Tromso**	**59.65**	**343**	*e*P	**P**	**13 57 41.7**	**-2.9**
TRO				*e*		14 01 23.8	
TRO				*i*		14 06 03.4	
TRO				LR	LR		
	comp=Z,8μm,16.3s,MS5.9						
O04C	**Chester**	**59.72**	**62**	⇑P	**P**	**13 57 45.1**	**0.0**
	baz=60						
O04C				⇑S	**S**	**14 05 55.7**	**-1.0**
	baz=60						
MNRC	**McLaughlin Nat**	**59.74**	**64**	⇑P	**P**	**13 57 45.6**	**+0.3**
	baz=60						
MNRC				⇑S	**S**	**14 05 58.1**	**+1.1**
	baz=60						
ELFS	**Eagle Lake Fie**	**59.76**	**62**	⇑P	**P**	**13 57 45.7**	**+0.3**
	baz=60						
ELFS				⇑S	**S**	**14 05 58.2**	**+1.0**
	baz=60						
L07A	**Adell**	**59.76**	**60**	⇓P	**P**	**13 57 45.7**	**+0.3**
	baz=60						
L07A				⇓S	**S**	**14 05 56.8**	**-0.4**
	baz=60						
K08A	**Mann Creek Ran**	**59.84**	**58**	⇑P	**P**	**13 57 45.8**	**-0.1**
	baz=60						
K08A				⇓S	**S**	**14 05 59.1**	**+0.8**
	baz=60						
J09A	**Fry Pan Ranch,**	**59.90**	**57**	P	**P**	**13 57 46.7**	**+0.3**
	baz=60,SNR=14						
J09A				⇑S	**S**	**14 05 58.6**	**-0.4**
	baz=60						
MCCM	**Marconi Confer**	**59.91**	**65**	⇑P	**P**	**13 57 45.8**	**-0.7**
	baz=60						
MCCM				⇓S	**S**	**14 05 59.7**	**+0.6**
	baz=60						
ORV	**Oroville**	**59.92**	**63**	⇓P	**P**	**13 57 46.0**	**-0.5**
	baz=60						
ORV				⇓S	**S**	**14 05 58.4**	**-0.9**
	baz=60						
SUTB	**Sutter Butte**	**59.94**	**63**	⇓P	**P**	**13 57 46.1**	**-0.6**
	baz=60						
SUTB				⇑S	**S**	**14 05 58.6**	**-1.0**
	baz=60						
MSO	**Missoula**	**59.98**	**52**	*e*P	**P**	**13 57 45.8**	**-1.1**
	comp=Z,31nm,1.2s,mb5.2						
MSO				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
ORR	**Orenburg**	**60.02**	**315**	*i* P	**P**	**13 57 46.2**	**-1.0**
ORR				PPP		14 01 28.7	
ORR				S	**S**	**14 06 10.8**	**+10**
ORR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
ORR				MLR	MLR		
	comp=Z,56μm,12.0s,MS6.9						
O05C	**Quincy**	**60.04**	**62**	⇓P	**P**	**13 57 47.9**	**+0.6**
	baz=60						
O05C				⇓S	**S**	**14 06 00.5**	**-0.2**
	baz=60						
CVS	**Carmenet Viney**	**60.06**	**65**	⇓P	**P**	**13 57 46.5**	**-0.9**
	baz=60						
CVS				⇑S	**S**	**14 06 01.6**	**+0.6**
	baz=60						
OHCM	**Honcut**	**60.07**	**63**	*e*P	**P**	**13 57 46.7**	**-0.8**
FARB	**Farallon Islan**	**60.11**	**65**	⇑P	**P**	**13 57 48.2**	**+0.4**
	baz=60						
FARB				⇓S	**S**	**14 06 01.1**	**-0.6**
	baz=60						
NIL	**Nilore**	**60.13**	**289**	P	**P**	**13 57 50.6**	**+2.7**
	comp=Z,356nm,0.9s,mb6.4,SNR=11						
N06A	**Buffalo Meadow**	**60.23**	**61**	P	**P**	**13 57 48.6**	**0.0**
	baz=60,SNR=13						
N06A				⇓S	**S**	**14 06 03.5**	**+0.4**
	baz=60						
M07A	**Soldier Meadow**	**60.24**	**60**	P	**P**	**13 57 49.2**	**+0.5**
	baz=60,SNR=11						
M07A				⇑S	**S**	**14 06 04.1**	**+0.7**
	baz=60						
L08A	**Fields**	**60.25**	**59**	P	**P**	**13 57 49.0**	**+0.2**
	baz=60,SNR=12						
L08A				⇑S	**S**	**14 06 04.1**	**+0.6**
	baz=60						
CHMT	**Chamberlain Mo**	**60.31**	**52**	*e*P	**P**	**13 57 46.1**	**-3.1**
K09A	**Rome**	**60.31**	**58**	⇑P	**P**	**13 57 49.6**	**+0.5**
	baz=60						
K09A				⇓S	**S**	**14 06 04.0**	**-0.2**
	baz=60						
Q04C	**Lincoln**	**60.43**	**64**	⇑P	**P**	**13 57 49.4**	**-0.6**
	baz=60						
Q04C				⇓S	**S**	**14 06 07.7**	**+1.9**
	baz=60						
BEKR	**Beckwourth**	**60.44**	**62**	P	**P**	**13 57 49.8**	**-0.3**
	baz=60,SNR=9.7						
BEKR				⇓S	**S**	**14 06 05.5**	**-0.4**
	baz=60						
NDI	**New Delhi**	**60.57**	**282**	*e*P	**P**	**13 57 48.5**	**-2.4**
NDI				AMb	AMB	13 57 56.2	
	comp=Z,99nm,1.2s,mb5.8						
NDI				*i* x	x	14 06 12.0	
O06A	**Flanigan**	**60.58**	**61**	⇓P	**P**	**13 57 50.4**	**-0.6**
	baz=60,SNR=11						
O06A				⇑S	**S**	**14 06 08.6**	**+0.9**
	baz=60						
BDM	**Black Diamond**	**60.66**	**65**	⇑P	**P**	**13 57 51.5**	**-0.1**
	baz=60						
BDM				⇑S	**S**	**14 06 11.1**	**+2.3**
	baz=60						
M08A	**Happy Creek Ra**	**60.68**	**60**	⇓P	**P**	**13 57 51.7**	**0.0**
	baz=60,SNR=11						
M08A				⇓S	**S**	**14 06 10.1**	**+1.2**
	baz=60						
L09A	**Wilkinson Ranc**	**60.76**	**59**	⇑P	**P**	**13 57 52.4**	**+0.1**
	baz=60						
L09A				⇑S	**S**	**14 06 10.6**	**+0.7**
	baz=60						
JRSC	**Jasper Ridge**	**60.77**	**65**	⇑P	**P**	**13 57 51.5**	**-0.8**
	baz=60						
JRSC				⇓S	**S**	**14 06 11.3**	**+1.2**
	baz=60						
P06A	**Stead Airport,**	**60.83**	**62**	⇓P	**P**	**13 57 52.5**	**-0.3**
	baz=61						
P06A				⇑S	**S**	**14 06 09.9**	**-1.0**
	baz=61						
LAVA	**Lava Cap Winer**	**60.88**	**63**	⇑P	**P**	**13 57 52.5**	**-0.6**
	baz=61						
LAVA				⇓S	**S**	**14 06 11.2**	**-0.4**
	baz=61						
WENL	**Wente Brothers**	**60.94**	**65**	⇓P	**P**	**13 57 52.6**	**-0.9**
	baz=61						
WENL				⇑S	**S**	**14 06 12.5**	**+0.2**
	baz=61						
KULM	**Kulim**	**60.95**	**245**	P	**P**	**13 57 56.3**	**+2.8**
BNLO	**Ben Lomond (Sa**	**60.98**	**65**	⇑P	**P**	**13 57 53.0**	**-0.8**
	baz=61						
BNLO				⇓S	**S**	**14 06 12.3**	**-0.4**
	baz=61						
FFC	**Flin Flon**	**61.04**	**40**	*e*P	**P**	**13 57 53.4**	**-0.8**
	comp=Z,41nm,1.0s,mb5.5						
FFC				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
R04C	**Big Horse Ranc**	**61.06**	**64**	⇓P	**P**	**13 57 53.6**	**-0.7**
	baz=61						
R04C				⇑S	**S**	**14 06 13.7**	**-0.1**
	baz=61						
PAHR	**Pah Rah Range**	**61.13**	**62**	*e*P	**P**	**13 57 55.1**	**+0.3**
WCN	**Washoe City**	**61.15**	**62**	⇑P	**P**	**13 57 54.8**	**-0.1**
	baz=61						
WCN				⇓S	**S**	**14 06 14.8**	**-0.2**
	baz=61						
SUMG	**Summit**	**61.16**	**4**	*e*P	**P**	**13 57 55.3**	**+0.4**
O07A	**Toulon**	**61.16**	**61**	P	**P**	**13 57 55.2**	**+0.2**
	baz=61,SNR=19						
O07A				⇓S	**S**	**14 06 14.8**	**-0.3**
	baz=61						
HRY	**Holter Researc**	**61.20**	**51**	*e*P	**P**	**13 57 54.9**	**-0.4**
N08A	**GE Springer Mi**	**61.23**	**60**	⇓P	**P**	**13 57 55.9**	**+0.4**
	baz=61						
N08A				⇓S	**S**	**14 06 16.1**	**+0.1**
	baz=61						
M09A	**Marrel Ranch,**	**61.25**	**59**	⇑P	**P**	**13 57 55.8**	**+0.3**
	baz=61						
M09A				⇓S	**S**	**14 06 16.2**	**0.0**
	baz=61						
R05C	**Kirkwood Meado**	**61.32**	**63**	⇓P	**P**	**13 57 56.2**	**+0.1**
	baz=61						
R05C				⇓S	**S**	**14 06 16.8**	**-0.4**
	baz=61						
PBA	**Port Blair**	**61.36**	**256**	*ex*	x	13 57 42.8	
PBA				*ex*	x	13 57 54.1	
	comp=Z,57nm,0.9s						
PBA				*ex*	x	14 03 13.1	
LRM	**Limekiln Ridge**	**61.41**	**53**	*e*P	**P**	**13 57 56.7**	**0.0**
EGMT	**Eagleton**	**61.50**	**49**	PFAKE		13 58 10.0	+13
EGMT				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
EGMT	**Eagleton**	**61.50**	**49**	⇑P	**P**	**13 57 57.3**	**0.0**
	baz=61						
EGMT				⇓S	**S**	**14 06 19.0**	**-0.4**
	baz=61						
O08A	**Rochester Mine**	**61.52**	**60**	⇑P	**P**	**13 57 57.4**	**-0.1**
	baz=61						
O08A				⇓S	**S**	**14 06 19.4**	**-0.3**
	baz=61						
P07A	**Fallon**	**61.53**	**62**	⇓P	**P**	**13 57 57.7**	**+0.2**
	baz=61						
P07A				⇓S	**S**	**14 06 20.9**	**+1.0**
	baz=61						
CMB	**Columbia Colle**	**61.54**	**64**	P	**P**	**13 57 57.3**	**-0.2**
	baz=61,SNR=7.8						
CMB				⇑S	**S**	**14 06 19.6**	**-0.3**
	baz=61						
N09A	**Rock Creek Ran**	**61.55**	**60**	P	**P**	**13 57 57.8**	**+0.1**
	baz=61,SNR=10						
N09A				⇓S	**S**	**14 06 20.9**	**+0.8**
	baz=61						
PACP	**Pacheco Peak**	**61.61**	**65**	⇑P	**P**	**13 57 57.5**	**-0.5**
	baz=61						
PACP				⇑S	**S**	**14 06 19.7**	**-1.1**
	baz=61						
DLMT	**Dillon**	**61.62**	**53**	*e*P	**P**	**13 57 58.1**	**0.0**
KAKA	**Kakadu**	**61.63**	**203**	*e*P	**P**	**13 58 02.1**	**+3.9**
	comp=Z,19nm,0.7s,mb5.3						
OUL	**Oulu**	**61.67**	**338**	P	**P**	**13 57 56.8**	**-1.6**
HLID	**Hailey**	**61.71**	**56**	PFAKE		13 58 10.0	+11
HLID				LR	LR		
	comp=Z,6μm,19.0s,MS5.8						
HLID	**Hailey**	**61.71**	**56**	⇑P	**P**	**13 57 58.6**	**-0.1**
	baz=61						
HLID				⇓S	**S**	**14 06 20.1**	**-1.9**
	baz=61						
M10A	**I.L. Ranch, Tu**	**61.73**	**58**	⇑P	**P**	**13 57 58.8**	**0.0**
	baz=62,SNR=15						
M10A				⇑S	**S**	**14 06 20.3**	**-2.0**
	baz=62						
JOF	**Joensuu**	**61.78**	**334**	*e*p	**P**	**13 57 57.5**	**-1.7**
	comp=Z,8.9nm,0.6s,mb5.1						
JOF	**Joensuu**	**61.78**	**334**	*e*P	**P**	**13 57 57.5**	**-1.7**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
MCMT	**McKenzie Canyo**	**61.81**	**54**	*e*P	**P**	**13 57 58.1**	**-1.3**
R06C	**Coleville**	**61.82**	**63**	⇓P	**P**	**13 57 59.4**	**0.0**
	baz=62,SNR=9.8						
R06C				⇓S	**S**	**14 06 22.4**	**-1.1**
	baz=62						
HAST	**UC Hastings Re**	**61.83**	**66**	⇑P	**P**	**13 57 59.8**	**+0.3**
	baz=62						
HAST				⇓S	**S**	**14 06 24.3**	**+0.7**
	baz=62						
WAKR	**Walker**	**61.84**	**63**	*e*P	**P**	**13 57 59.8**	**+0.2**
PECR	**Pechory**	**61.86**	**323**	*e*P	**P**	**13 57 58.6**	**-1.1**
PECR				*e*		13 58 39.0	
PECR				*e*S	**S**	**14 06 18.0**	**-6.0**
PECR				*e*PS		14 06 36.0	
PECR				pmax	pmax		
	comp=E,1μm,10.0s						
PECR				pmax	pmax		
	comp=Z,2μm,10.0s						
PECR				pmax	pmax		
	comp=N,1μm,11.0s						
PECR				smax			
	comp=N,1μm,10.0s						
PECR				smax			
	comp=E,1μm,10.0s						
PECR				MLR	MLR		
	comp=N,16μm,16.0s,MS6.4						
PECR				MLR	MLR		
	comp=Z,17μm,16.0s,MS6.3						
PECR				MLR	MLR		
	comp=E,12μm,15.0s,MS6.4						
P08A	**Dixie Valley**	**61.93**	**61**	⇑P	**P**	**13 58 00.4**	**+0.2**
	baz=62						
P08A				⇑S	**S**	**14 06 25.7**	**+0.8**
	baz=62						
Q07A	**Schurz**	**61.95**	**62**	⇓S	**S**	**14 06 24.2**	**-1.0**
	baz=62						
LOF	**Lofoten**	**61.97**	**344**	*e*P	**P**	**13 58 02.4**	**+1.9**
BMN	**Battle Mountai**	**61.99**	**60**	*e*P	**P**	**13 58 00.5**	**-0.1**
BMN				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.4						
BMN				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.8						
BMN	**Battle Mountai**	**61.99**	**60**	*e*P	**P**	**13 58 00.5**	**-0.2**
	comp=Z,41nm,1.4s,mb5.4						
BMN				LR	LR		
	comp=Z,6μm,19.0s,MS5.8						
S05C	**Merced**	**62.00**	**64**	⇑P	**P**	**13 58 00.6**	**-0.1**
	baz=62						
S05C				⇓S	**S**	**14 06 25.9**	**+0.1**
	baz=62						
T05C	**Eagle Field, D**	**62.06**	**65**	⇑P	**P**	**13 58 01.3**	**+0.2**
	baz=62						
T05C				⇑S	**S**	**14 06 27.2**	**+0.6**
	baz=62						
O09A	**Fish Creek Ran**	**62.17**	**60**	P	**P**	**13 58 02.2**	**+0.4**
	baz=62,SNR=11						
O09A				⇑S	**S**	**14 06 28.2**	**+0.3**
	baz=62						
M11A	**Holland Ranch,**	**62.23**	**58**	⇓P	**P**	**13 58 02.5**	**+0.4**
	baz=62						
M11A				⇓S	**S**	**14 06 29.0**	**+0.3**
	baz=62						
JBP	**Jabalpur**	**62.23**	**275**	⇑*i*P	**P**	**13 58 03.7**	**+1.4**
JBP				*ex*	x	13 58 08.7	
	comp=Z,121nm,1.7s						
JBP				*e*S	**S**	**14 06 30.4**	**+1.7**
N10A	**Dunphy**	**62.24**	**59**	⇓P	**P**	**13 58 02.6**	**+0.3**
	baz=62						
N10A				⇑S	**S**	**14 06 30.4**	**+1.6**
	baz=62						
V03C	**Hunter Liggett**	**62.25**	**66**	⇑P	**P**	**13 58 02.3**	**0.0**
	baz=62						
V03C				⇓S	**S**	**14 06 28.0**	**-0.9**
	baz=62						
JMIC	**Jan Mayen**	**62.30**	**353**	*e*P	**P**	**13 58 01.5**	**-1.1**
JMIC				*i*		13 59 59.8	
JMIC				*e*S	**S**	**14 06 31.0**	**+1.5**
JMIC				AMS	AMS	14 28 51.9	
	comp=Z,3μm,17.3s,MS5.5						
R07C	**Lee Vining**	**62.34**	**63**	P	**P**	**13 58 03.3**	**+0.4**
	baz=62,SNR=10						
R07C				⇑S	**S**	**14 06 29.8**	**-0.2**
	baz=62						
O10A	**Cortez Mining,**	**62.51**	**60**	⇓P	**P**	**13 58 04.3**	**+0.2**
	baz=62						
O10A				⇑S	**S**	**14 06 32.7**	**+0.5**
	baz=62						
Q08A	**Gabbs**	**62.54**	**62**	⇓P	**P**	**13 58 04.4**	**+0.1**
	baz=62						
Q08A				⇑S	**S**	**14 06 31.6**	**-1.0**
	baz=62						
NVAR	**Mina Array Bea**	**62.58**	**62**	P	**P**	**13 58 04.5**	**0.0**
	comp=Z,5.8nm,0.7s,mb4.8,baz=291,slow=7.8,SNR=32						
P09A	**Austin**	**62.59**	**61**	⇑P	**P**	**13 58 05.2**	**+0.6**
	baz=62						
P09A				⇓S	**S**	**14 06 33.7**	**+0.5**
	baz=62						
QLMT	**Earthquake Lak**	**62.59**	**53**	*e*P	**P**	**13 58 04.9**	**+0.3**
N11A	**Elko Archery C**	**62.64**	**59**	⇑P	**P**	**13 58 06.0**	**+1.1**
	baz=62						
N11A				⇑S	**S**	**14 06 34.0**	**+0.1**
	baz=62						
KCC	**Kaiser Creek**	**62.64**	**64**	⇓P	**P**	**13 58 04.2**	**-0.8**
	baz=62						
KCC				⇑S	**S**	**14 06 34.6**	**+0.7**
	baz=62						
V04C	**Ramage Ranch,**	**62.73**	**66**	⇓P	**P**	**13 58 05.6**	**+0.1**
	baz=62						
V04C				⇓S	**S**	**14 06 36.1**	**+1.2**
	baz=62						
PKD	**Parkfield**	**62.74**	**66**	⇓P	**P**	**13 58 04.5**	**-1.1**
	baz=62						
PKD				⇑S	**S**	**14 06 34.8**	**-0.3**
	baz=62						
M12A	**Wells**	**62.75**	**58**	P	**P**	**13 58 06.2**	**+0.5**
	baz=62,SNR=17						
M12A				⇑S	**S**	**14 06 36.0**	**+0.8**
	baz=62						
MLAC	**Mammoth Lakes**	**62.75**	**63**	⇓P	**P**	**13 58 06.1**	**+0.4**
	baz=62						
MLAC				⇑S	**S**	**14 06 36.6**	**+1.4**
	baz=62						
R08A	**Mina**	**62.75**	**62**	⇑P	**P**	**13 58 05.8**	**+0.1**
	baz=62						
R08A				⇓S	**S**	**14 06 35.2**	**0.0**
	baz=62						
U05C	**Westside ANR,**	**62.76**	**65**	⇓P	**P**	**13 58 06.6**	**+0.8**
	baz=62						
U05C				⇓S	**S**	**14 06 36.7**	**+1.4**
	baz=62						
GCMT	**Greycliff**	**62.95**	**51**	*e*P	**P**	**13 58 07.0**	**-0.1**
YMR	**Madison River**	**62.95**	**53**	*e*P	**P**	**13 58 06.6**	**-0.4**
	comp=Z,71nm,1.4s,mb5.6						
Q09A	**Carvers**	**63.01**	**61**	⇑P	**P**	**13 58 08.1**	**+0.7**
	baz=63						
Q09A				⇑S	**S**	**14 06 38.7**	**+0.2**
	baz=63						
N12A	**Clover Valley,**	**63.03**	**58**	⇑P	**P**	**13 58 07.8**	**+0.3**
	baz=63						
N12A				⇑S	**S**	**14 06 39.6**	**+0.9**
	baz=63						
MTUM	**Tungsten Hills**	**63.09**	**63**	*e*P	**P**	**13 58 08.5**	**+0.6**
O11A	**Cowboy Ranch,**	**63.12**	**59**	⇑P	**P**	**13 58 08.4**	**+0.3**
	baz=63						
O11A				⇑S	**S**	**14 06 41.1**	**+1.3**
	baz=63						
YFT	**Old Faithful**	**63.16**	**53**	*e*P	**P**	**13 58 08.6**	**+0.2**
V05C	**Boulder Hill,**	**63.19**	**65**	⇓P	**P**	**13 58 08.8**	**+0.2**
	baz=63						
V05C				⇑S	**S**	**14 06 42.2**	**+1.5**
	baz=63						
HELL	**Mitchell Peak,**	**63.23**	**64**	P	**P**	**13 58 08.1**	**-0.8**
	baz=63,SNR=11						
HELL				⇓S	**S**	**14 06 40.3**	**-1.0**
	baz=63						
S08C	**White Mtn Res**	**63.24**	**63**	P	**P**	**13 58 09.2**	**+0.3**
	baz=63,SNR=9.9						
S08C				⇑S	**S**	**14 06 42.5**	**+1.1**
	baz=63						
RCTC	**Rector, Farmer**	**63.33**	**65**	⇓P	**P**	**13 58 08.7**	**-0.9**
	baz=63						
LKWY	**Lake**	**63.33**	**53**	PFAKE		13 58 20.0	+10
LKWY				LR	LR		
	comp=Z,6μm,20.0s,MS5.8						
P11A	**Circle Ranch,**	**63.42**	**60**	⇑P	**P**	**13 58 10.5**	**+0.3**
	baz=63						
P11A				⇑S	**S**	**14 06 43.6**	**0.0**
	baz=63						
R09A	**Tonopah**	**63.45**	**62**	P	**P**	**13 58 10.2**	**-0.1**
	baz=63,SNR=21						
R09A				⇓S	**S**	**14 06 43.9**	**-0.1**
	baz=63						
IMW	**Indian Meadow**	**63.46**	**54**	*e*P	**P**	**13 58 11.1**	**+0.7**
	comp=Z,51nm,1.4s,mb5.5						
TPH	**Tonopah**	**63.47**	**62**	*e*P	**P**	**13 58 10.4**	**0.0**
TPH				*e*		13 58 23.5	
TPH				pmax	pmax		
	comp=Z,62nm,1.5s,mb5.5						
TPH	**Tonopah**	**63.47**	**62**	*e*P	**P**	**13 58 10.4**	**0.0**
	comp=Z,31nm,1.1s,mb5.3						
FLWY	**Flagg Ranch**	**63.47**	**53**	*e*P	**P**	**13 58 11.5**	**+1.0**
SMMC	**Simmler**	**63.48**	**66**	⇑P	**P**	**13 58 10.4**	**-0.1**
	baz=63						
SMMC				⇑S	**S**	**14 06 45.1**	**+0.7**
	baz=63						
MOR8	**Moi Rana**	**63.48**	**343**	*e*P	**P**	**13 58 08.7**	**-1.9**
MOR8				AMb	AMB	13 58 10.1	
	comp=Z,103nm,1.4s,mb5.8						
MOR8	**Moi Rana**	**63.48**	**343**	*e*P	**P**	**13 58 08.7**	**-1.9**
	comp=Z,103nm,1.4s,mb5.8						
SCO	**Scoresbysund**	**63.49**	**358**	*i* P	**P**	**13 58 14.1**	**+3.5**
	comp=Z,26nm,0.9s,mb5.3						
SCO				*i* S	**S**	**14 06 50.3**	**+5.8**
SCO	**Scoresbysund**	**63.49**	**358**	*i* P	**P**	**13 58 14.1**	**+3.5**
SCO				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.4						
TIN	**Tinemaha**	**63.49**	**63**	⇑P	**P**	**13 58 10.6**	**+0.1**
	baz=63						
TIN				⇓S	**S**	**14 06 45.0**	**+0.6**
	baz=63						
N13A	**Wendover, West**	**63.52**	**58**	⇓P	**P**	**13 58 10.7**	**-0.1**
	baz=63						
N13A				⇑S	**S**	**14 06 44.6**	**-0.2**
	baz=63						
VIS	**Vishakhapatnam**	**63.57**	**268**	*e*P	**P**	**13 58 11.0**	**-0.1**
VIS				AMb	AMB	13 58 15.2	
	comp=Z,77nm,1.6s,mb5.5						
VIS				*i* x	x	14 06 42.5	
RRI2	**Red Ridge**	**63.59**	**54**	*e*P	**P**	**13 58 17.1**	**+5.8**
RLMT	**Red Lodge**	**63.60**	**52**	*e*P	**P**	**13 58 11.4**	**+0.1**
	comp=Z,53nm,1.4s,mb5.4						
RLMT				LR	LR		
	comp=Z,8μm,19.0s,MS5.9						
MOOW	**Moose Ponds**	**63.66**	**54**	*e*P	**P**	**13 58 12.3**	**+0.6**
	comp=Z,75nm,1.6s,mb5.5						
S09A	**Goldfield**	**63.69**	**62**	P	**P**	**13 58 11.7**	**-0.2**
	baz=63,SNR=12						
S09A				⇓S	**S**	**14 06 46.8**	**-0.2**
	baz=63						
TPAW	**Teton Pass**	**63.71**	**54**	*e*P	**P**	**13 58 13.0**	**+0.9**
VES	**Vestal, Richgr**	**63.73**	**65**	⇑P	**P**	**13 58 11.4**	**-0.7**
	baz=64						
VES				⇓S	**S**	**14 06 46.2**	**-1.2**
	baz=64						
AJM	**Ajmer**	**63.73**	**282**	*e*P	**P**	**13 58 12.6**	**+0.4**
AJM				AMb	AMB	13 58 46.4	
	comp=Z,147nm,1.5s,mb5.8						
HVU	**Hansel Valley**	**63.76**	**56**	*e*P	**P**	**13 58 13.0**	**+0.6**
LOHW	**Long Hollow**	**63.83**	**54**	*e*P	**P**	**13 58 13.4**	**+0.6**
SNOW	**Snow King Moun**	**63.84**	**54**	*e*P	**P**	**13 58 13.3**	**+0.4**
REDW	**Red Top Meadow**	**63.85**	**54**	*e*P	**P**	**13 58 13.5**	**+0.5**
PKM	**Peak Mountain**	**63.86**	**66**	⇑P	**P**	**13 58 12.7**	**-0.3**
	baz=64						
PKM				⇓S	**S**	**14 06 48.5**	**-0.6**
	baz=64						
R10A	**Warm Springs**	**63.89**	**61**	⇑P	**P**	**13 58 13.5**	**+0.2**
	baz=64						
R10A				⇑S	**S**	**14 06 47.6**	**-1.8**
	baz=64						
KAF	**Kangasniemi**	**63.89**	**335**	*e*p	**P**	**13 58 10.9**	**-2.3**
	baz=37,slow=6.2						
Q11A	**Duckwater**	**63.93**	**60**	⇑P	**P**	**13 58 13.3**	**-0.1**
	baz=64						
Q11A				⇑S	**S**	**14 06 49.2**	**-0.8**
	baz=64						
BHPL	**Bhopal**	**63.95**	**277**	*e*P	**P**	**13 58 13.7**	**0.0**
BHPL				AMb	AMB	13 58 18.7	
	comp=Z,276nm,1.4s,mb6.1						
PSI	**Prapat**	**63.95**	**245**	P	**P**	**13 58 14.3**	**+0.7**
	comp=Z,3.8nm,0.4s,mb4.8,baz=164,slow=2.2,SNR=5.6						
PSI	**Prapat**	**63.95**	**245**	P	**P**	**13 58 14.3**	**+0.7**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
**

baz=64
DGMT Dagmar 64.07 46 PFAKE 13 58 20.0 +5.6
DGMT LR LR
comp=Z,8μm,20.0s,MS5.9
AHID Auburn Hatcher 64.09 55 PFAKE 13 58 20.0 +5.5
AHID LR LR
comp=Z,5μm,20.0s,MS5.7
BGU Big Grassy Mou 64.16 57 *e*P **P 13 58 14.6 -0.4**
LAO LASA Array 64.20 49 PFAKE 13 58 30.0 +15
LAO LR LR
comp=Z,9μm,20.0s,MS5.9
SBC Santa Barbara 64.21 66 ⇑P **P 13 58 14.7 -0.7**
baz=64
SBC ⇑S **S 14 06 53.9 +0.4**
baz=64
NGP Nagpur 64.22 274⇑*e*P **P 13 58 14.2 -1.1**
NGP *e*S **S 14 06 53.5 0.0**
NGP *e*x x 14 30 34.0
comp=Z,7μm,17.4s
ISA Isabella 64.22 65 P **P 13 58 14.5 -0.9**
ISA Isabella 64.22 65 *e*P **P 13 58 14.6 -0.8**
ISA LR LR
comp=Z,3μm,19.0s,MS5.5
ISA Isabella 64.22 65 P **P 13 58 15.0 -0.4**
baz=64
ISA ⇑S **S 14 06 51.7 -1.9**
baz=64
SPUT South Promonto 64.25 57 *e*P **P 13 58 13.4 -2.2**
TRCR Troy Canyon 64.29 61 *e*P **P 13 58 15.4 -0.4**
ARVC Arvin 64.34 65 ⇑P **P 13 58 16.1 -0.1**
baz=64
ARVC ⇓S **S 14 06 54.2 -0.8**
baz=64
DAC Darwin (Calif) 64.38 64 *e*P **P 13 58 16.0 -0.5**
comp=Z,41nm,1.6s,mb5.2
DAC LR LR
comp=Z,4μm,20.0s,MS5.6
PUL Pulkovo 64.48 332 *e*P **P 13 58 15.6 -1.5**
PUL *e* 14 00 35.5
PUL *e*PPP 14 02 09.5
PUL *e*S **S 14 06 53.8 -3.0**
PUL *e* 14 08 09.6
PUL *e*SS SS 14 11 06.5 -0.3
PUL pmax pmax
comp=E,127nm,0.9s
PUL pmax pmax
comp=Z,120nm,0.9s,mb5.9
PUL pmax pmax
comp=N,158nm,1.0s
PUL smax
comp=N,1μm,13.1s
PUL smax
comp=Z,2μm,12.1s
PUL smax
comp=E,3μm,13.4s
PUL MLR MLR
comp=N,10μm,18.0s,MS6.1
PUL MLR MLR
comp=E,6μm,17.0s,MS6.1
PUL MLR MLR
comp=Z,14μm,17.0s,MS6.2
FIA1 FINESS Array S 64.49 335 *e*P **P 13 58 15.6 -1.6**
FINES FINESS Array B 64.49 335 P **P 13 58 16.1 -1.0**
comp=Z,21nm,0.6s,mb5.3,baz=46,slow=8.2,SNR=90
FINES LR LR 14 30 33.5
comp=Z,11μm,18.1s,MS6.1,baz=34,slow=40
FINES FINESS Array B 64.49 335 P **P 13 58 16.1 -1.1**
FINES pmax pmax
comp=Z,21nm,0.6s
FINES MLR MLR
comp=Z,11μm,18.1s
BSC Santa Cruz Isl 64.55 67 ⇑P **P 13 58 16.8 -0.8**
baz=64
BSC ⇑S **S 14 06 56.1 -1.5**
baz=64
HWUT Hardware Ranch 64.57 56 *e*P **P 13 58 16.6 -1.1**
comp=Z,108nm,1.8s,mb5.6
HWUT LR LR
comp=Z,6μm,20.0s,MS5.8
MPMC Manual Prospec 64.58 64 P **P 13 58 17.4 -0.3**
baz=64,SNR=17
MPMC ⇑S **S 14 06 57.6 -0.4**
baz=64
FURC Furnace Creek, 64.71 63 P **P 13 58 18.1 -0.5**
baz=64,SNR=13
FURC ⇓S **S 14 06 59.7 +0.1**
baz=64
OSI Osito Adit 64.73 66 ⇓P **P 13 58 17.8 -0.9**
baz=64
OSI ⇑S **S 14 06 59.0 -0.8**
baz=64
DUG Dugway 64.76 58 *e*P **P 13 58 19.1 +0.2**
comp=Z,28nm,1.1s,mb5.2
DUG LR LR
comp=Z,5μm,20.0s,MS5.7
DUG Dugway 64.76 58 ⇑P **P 13 58 18.7 -0.2**
baz=64,SNR=16
DUG ⇓S **S 14 07 01.0 +0.8**
baz=64
LRMC Laurel Mountai 64.83 64 ⇑P **P 13 58 18.7 -0.7**
baz=65
LRMC ⇑S **S 14 07 00.5 -0.5**
baz=65
MOS Moscow 64.86 326α *i*P **P 13 58 19.4 -0.2**
MOS *e* 13 58 54.2
MOS *e* 14 00 42.5
MOS *e*S **S 14 06 59.5 -2.0**
MOS *e*PS 14 07 27.0
MOS *e* 14 08 12.2
MOS pmax pmax
comp=Z,69nm,0.8s,mb5.7
MOS pmax pmax
comp=Z,2μm,5.0s
MOS pmax pmax
comp=N,1μm,4.4s
MOS MLR MLR
comp=N,17μm,17.0s
MOS MLR MLR
comp=Z,13μm,17.0s,MS6.2
BW06 Boulder Array 64.96 54 *e*P **P 13 58 20.1 -0.2**
BW06 LR LR
comp=Z,5μm,19.0s,MS5.7
PDAR Pinedale Array 64.96 54 P **P 13 58 19.9 -0.3**
comp=Z,4.9nm,0.9s,mb4.5,baz=313,slow=3.1,SNR=33
TCUT Toone Canyon 64.98 56 *e*P **P 13 58 21.2 +0.9**
EDW2 Edwards Air Fo 65.02 65 P **P 13 58 20.3 -0.3**
baz=65,SNR=9.2
EDW2 ⇓S S 14 07 02.2 -1.2
baz=65
CTU Camp Tracy 65.05 57 *e*P **P 13 58 20.3 -0.5**
SNCC San Nicolas Is 65.10 67 PFAKE 13 58 30.0 +8.9
SNCC LR LR
comp=Z,5μm,20.0s,MS5.7
SNCC San Nicolas Is 65.10 67 ⇓P **P 13 58 20.8 -0.4**
baz=65
SNCC ⇓S S 14 07 04.1 -0.3
baz=65
DECC Green Verdugo 65.22 66 ⇑P **P 13 58 21.2 -0.7**
baz=65
DECC ⇑S S 14 07 05.2 -0.6
baz=65
NLU North Lily Min 65.34 57 *e*P **P 13 58 22.2 -0.5**
MWC Mount Wilson 65.40 66 *e*P **P 13 58 23.0 -0.1**
NSS Namsos 65.43 343 *e*P **P 13 58 21.4 -1.9**
NSS AMb AMB 13 58 29.0
comp=Z,64nm,1.6s,mb5.4
NSS *e*S S 14 07 07.9 -0.6
NSS AMS AMS 14 32 46.5
comp=Z,9μm,17.0s,MS6.0
NSS Namsos 65.43 343 *e*P **P 13 58 21.4 -1.9**
NSS *i* 14 07 05.6
NSS LR LR
comp=Z,9μm,17.0s,MS6.0
SHOC Shoshone 65.43 63 ⇓P **P 13 58 22.9 -0.4**
baz=65
SHOC ⇑S S 14 07 08.0 -0.5
baz=65
GSC Goldstone 65.49 64 *e*P **P 13 58 23.2 -0.5**
GSC Goldstone 65.49 64 ⇑P **P 13 58 23.0 -0.7**
baz=65
GSC ⇓S S 14 07 08.8 -0.4
baz=65
DAU Daniels Canyon 65.52 57 *e*P **P 13 58 23.8 -0.1**
MPU Maple Canyon 65.56 57 *e*P **P 13 58 23.7 -0.4**
comp=Z,35nm,1.3s,mb5.2
MPU LR LR
comp=Z,8μm,21.0s,MS5.9
FMP Fort Macarthur 65.59 66 ⇑P **P 13 58 23.6 -0.7**
baz=65
FMP ⇑S S 14 07 08.6 -1.8
baz=65
SFJD Kangerlussuaq 65.59 10 *i*P **P 13 58 17.3 -7.0**
comp=Z,25nm,1.1s,mb5.2
SFJD *i*S S 14 07 13.5 +3.1
SFJD
comp=Z,7μm,18.0s
SFJD Kangerlussuaq 65.59 10 *i*P **P 13 58 17.3 -7.0**
SFJD *i*S S 14 07 13.5 +3.1
SFJD pmax pmax
comp=Z,25nm,1.1s,mb5.2
SFJD MLR MLR
comp=Z,7μm,18.0s,MS5.9
SFJD Kangerlussuaq 65.59 10 PFAKE 13 58 30.0 +5.7
SFJD LR LR
comp=Z,8μm,19.0s,MS5.9
RRX Edison Barstow 65.64 64 ⇑P **P 13 58 24.2 -0.4**
baz=65
RRX ⇑S S 14 07 10.7 -0.4
baz=65
BFSC Mount Baldy St 65.65 65 ⇑P **P 13 58 23.8 -0.9**
baz=65
BFSC ⇓S S 14 07 09.8 -1.3
baz=65
U11A Corn Creek 65.65 62 ⇓P **P 13 58 24.6 0.0**
baz=65
U11A ⇓S S 14 07 11.1 -0.1
baz=65
CIS Catalina Islan 65.71 67 ⇑P **P 13 58 24.7 -0.4**
baz=66
CIS ⇓S S 14 07 10.7 -1.2
baz=66
SHPR Sheep Range 65.73 62 *e*P **P 13 58 25.3 0.0**
OBN Obninsk 65.73 326c *i*P **P 13 58 24.2 -1.0**
OBN *e* 13 58 54.7
OBN *e* 14 00 48.0
OBN *e*S S 14 07 10.6 -1.6
OBN pmax pmax
comp=Z,2μm,5.3s
OBN pmax pmax
comp=Z,131nm,1.8s,mb5.7
OBN MLR MLR
comp=Z,13μm,17.0s,MS6.2
OBN Obninsk 65.73 326 *e*P **P 13 58 25.0 -0.3**
comp=Z,36nm,0.8s,mb5.5
OBN LR LR
comp=Z,2μm,19.0s,MS5.4
SCI San Clemente I 65.90 67 ⇑P **P 13 58 26.0 -0.3**
baz=66
SCI ⇓S S 14 07 14.2 0.0
baz=66
AKL Akola 65.92 275 *i*P **P 13 58 27.8 +1.3**
AKL *i*S S 14 07 14.9 +0.4
ARUT Antelope Range 65.94 60 *e*P **P 13 58 26.1 -0.5**
TUQ Turquoise Mtn. 65.95 63 ⇑P **P 13 58 26.2 -0.5**
baz=66
TUQ ⇑S S 14 07 14.4 -0.5
baz=66
MEF Metsahovi 65.97 335 P **P 13 58 25.4 -1.4**
BBRC Big Bear Sol-O 66.09 65 ⇓P **P 13 58 27.3 -0.3**
baz=66
BBRC ⇓S S 14 07 15.4 -1.2
baz=66
HEC Hector,Ludlow 66.10 64 P **P 13 58 27.2 -0.3**
baz=66,SNR=13
HEC ⇓S S 14 07 16.2 -0.4
baz=66
CCUT Cedar City 66.14 60 *e*P **P 13 58 26.9 -0.9**
U12A Valley of Fire 66.16 62 ⇑P **P 13 58 27.8 -0.2**
baz=66
U12A ⇑S S 14 07 17.0 -0.4
baz=66
MVU Marysvale 66.21 59 PFAKE 13 58 40.0 +12
MVU LR LR
comp=Z,7μm,19.0s,MS5.9
MSU Marysvale 66.22 59 *e*P **P 13 58 28.8 +0.4**
TMUT Trail Mountain 66.28 58 *e*P **P 13 59 29.4 +0.6**
MURC Murrieta 66.35 66 ⇓P **P 13 58 28.6 -0.6**
baz=66
MURC ⇓S S 14 07 19.7 0.0
baz=66
CTA Charters Tower 66.36 187 P **P 13 58 29.1 -0.2**
comp=Z,1.5nm,0.4s,mb4.4,baz=26,slow=17,SNR=2.2
CTA LR LR 14 25 20.5
comp=Z,7μm,19.0s,MS5.9,baz=36,slow=34
CTAO Charters Tower 66.36 187 PFAKE 13 58 40.0 +11
CTAO LR LR
comp=Z,7μm,20.0s,MS5.9
VRHR Novokhopersk 66.53 320 *e*P **P 13 58 29.6 -0.8**
VRHR *e*S S 14 07 23.6 +1.7
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR smax
comp=N,2μm,11.7s
VRHR smax
comp=Z,6μm,16.6s
VRHR smax
comp=E,1μm,10.9s
VRHR MLR MLR
comp=Z,4μm,12.0s,MS5.8
VRHR MLR MLR
comp=N,8μm,18.0s
VRHR MLR MLR
comp=E,8μm,17.0s
VSU Vasula 66.66 333 P **P 13 58 30.0 -1.2**
W12A Cal Nev Ari 66.69 63 ⇑P **P 13 58 30.7 -0.7**
baz=66
W12A ⇑S S 14 07 24.4 +0.6
baz=66
SRU San Rafael 66.80 57 *e*P **P 13 58 32.0 -0.1**
PFO Pinyon Flat Ob 66.81 65 PFAKE 13 58 40.0 +7.8
PFO LR LR
comp=Z,1μm,19.0s,MS5.1
PFO Pinyon Flat Ob 66.81 65 ⇓P **P 13 58 31.5 -0.7**
baz=67
PFO ⇓S S 14 07 23.9 -1.4
baz=67
ULM Lac du Bonnet 66.82 41 P **P 13 58 31.3 -0.9**
comp=Z,6.6nm,0.7s,mb4.8,baz=283,slow=11,SNR=4.6
ULM LR LR 14 30 39.9
comp=Z,6μm,18.6s,MS5.8,baz=320,slow=39
BELC Belle Mtn. 66.84 65 ⇑P **P 13 58 31.8 -0.6**
baz=67
BELC ⇓S S 14 07 21.9 -3.7
baz=67
109C Camp Elliot, M 66.88 66 ⇑P **P 13 58 32.2 -0.4**
baz=67
109C ⇑S S 14 07 24.4 -1.7
baz=67
VAN Vannovskaya 66.90 301 *e*P **P 13 58 33.4 +0.7**
VAN *e*S S 14 07 30.6 +4.2
ABKT Ailbek 66.91 301 P **P 13 58 33.0 +0.2**
comp=Z,270nm,1.2s,mb6.2,SNR=17
RWWY Rawlins 66.98 53 *e*P **P 13 58 33.4 +0.2**
comp=Z,39nm,1.3s,mb5.3
RSSD Black Hills 67.06 50 *e*P **P 13 58 33.3 -0.5**
comp=Z,38nm,1.3s,mb5.3
RSSD LR LR
comp=Z,7μm,21.0s,MS5.8
HYB Hyderabad 67.08 272 *i*P **P 13 58 36.0 +2.1**
HYB *e*S S 14 07 32.0 +3.4
HYB Hyderabad 67.08 272 *e*P **P 13 58 32.0 -1.9**
HYB *e*S S 14 07 28.0 -0.6
VOR Voronezh 67.13 322 P **P 13 58 33.0 -1.2**
VOR pmax pmax
comp=Z,200nm,2.0s,mb5.8
IRM Iron Mountain 67.27 64 P **P 13 58 34.6 -0.5**
baz=67,SNR=15
IRM ⇓S S 14 07 29.1 -1.7
baz=67
MONP Monument Peak 67.31 66 ⇓P **P 13 58 34.8 -0.5**
baz=67
MONP ⇑S S 14 07 30.2 -1.1
baz=67
BC3 Big Chuckw Mtn 67.41 65 ⇑P **P 13 58 35.4 -0.5**
baz=67
BC3 ⇑S S 14 07 31.3 -1.2
baz=67
W13A Hualapai Mount 67.43 62 ⇓P **P 13 58 35.9 -0.2**
baz=67
W13A ⇑S S 14 07 33.1 +0.3
baz=67
VRSR Storozhevoye 67.51 322c *i*P **P 13 58 35.2 -1.4**
VRSR *e* 13 59 03.4
VRSR *e*S S 14 07 30.7 -3.0
VRSR *e* 14 08 27.6
VRSR pmax pmax
comp=Z,2μm,5.6s
VRSR pmax pmax
comp=N,740nm,5.5s
VRSR pmax pmax
comp=E,660nm,4.6s
VRSR smax
comp=N,760nm,7.1s
VRSR smax
comp=Z,890nm,9.6s
VRSR smax
comp=E,520nm,5.3s
VRSR MLR MLR
comp=Z,14μm,17.0s,MS6.2
VRSR MLR MLR
comp=E,10μm,16.0s
VORD Divnogorie 67.65 321 *e*P **P 13 58 35.9 -1.6**
VORD pmax pmax
comp=Z,30nm,1.1s,mb5.2
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,30nm,0.8s
VORD MLR MLR
comp=Z,13μm,17.0s,MS6.2
VORD MLR MLR
comp=N,6μm,13.0s,MS6.3
VORD MLR MLR
comp=E,11μm,16.0s,MS6.3
DVTC Desert V Tower 67.66 66 ⇑P **P 13 58 37.9 +0.3**
baz=67
DVTC ⇓S S 14 07 34.2 -1.3
baz=67
SWSC Sam W. Stewart 67.67 65 ⇑P **P 13 58 37.1 -0.5**
baz=67
SWSC ⇑S S 14 07 35.6 0.0
baz=67
AFI Afiamalu 67.70 143 PFAKE 13 58 50.0 +12
AFI LR LR
comp=Z,8μm,20.0s,MS6.0
X13A Yucca 67.80 63 P **P 13 58 38.0 -0.4**
baz=68,SNR=10
X13A ⇓S S 14 07 35.5 -1.7
baz=68
PDMCI Parker Dam,Lak 67.81 63 ⇑P **P 13 58 37.9 -0.6**
baz=68
PDMCI ⇑S S 14 07 36.8 -0.4
baz=68
W14A Seligman 67.85 62 ⇓P **P 13 58 38.6 -0.1**
baz=68,SNR=19
W14A ⇑S S 14 07 38.8 +1.0
baz=68
Y12C Blythe 67.93 64 ⇓P **P 13 58 39.1 -0.2**
baz=68
Y12C ⇑S S 14 07 38.1 -0.7
baz=68
MOL Molde 68.08 344 *e*P **P 13 58 40.3 +0.2**
MOL *e*S S 14 07 43.4 +2.9
MOL AMS AMS 14 35 53.8
comp=Z,7μm,17.0s,MS6.0
MOL Molde 68.08 344 *e*P **P 13 58 40.3 +0.2**
MOL *i* 14 07 45.9
MOL LR LR
comp=Z,7μm,17.0s,MS6.0
WRAB Tennant Creek 68.09 199 *e*P **P 13 58 39.6 -0.6**
WB2 Warramunga Arr 68.10 199 *e*P **P 13 58 37.9 -2.4**
WB2 *e*S S 14 07 34.8 -5.9
WRA Warramunga Arr 68.10 199 P **P 13 58 38.4 -1.9**
comp=Z,5.3nm,0.8s,mb4.6,baz=18,slow=6.7,SNR=14
WRA LR LR 14 27 57.8
comp=Z,5μm,19.8s,MS5.8,baz=30,slow=36
PV10 Paradox Valley 68.16 57 *e*P **P 13 58 40.8 +0.1**
GLA Glamis 68.20 65 *e*P **P 13 58 40.7 -0.3**
GLA Glamis 68.20 65 ⇓P **P 13 58 40.3 -0.6**
baz=68
GLA ⇓S S 14 07 42.0 0.0
baz=68
PHWY Pilot Hill 68.21 53 *e*P **P 13 58 40.1 -0.9**
AGMN Agassiz Refuge 68.22 42 PFAKE 13 58 50.0 +8.9
AGMN LR LR
comp=Z,5μm,20.0s,MS5.8
Y13A Salome 68.32 63 ⇓P **P 13 58 41.1 -0.6**
baz=68
Y13A ⇑S S 14 07 44.5 +1.1
baz=68
W15A Williams 68.37 61 ⇓P **P 13 58 42.0 0.0**
baz=68
W15A ⇓S S 14 07 46.1 +2.1
baz=68
X14A Yava 68.46 62 P **P 13 58 42.9 +0.3**
baz=68,SNR=12
X14A ⇑S S 14 07 47.1 +2.0
baz=68
PV01 Paradox Valley 68.59 57 *e*P **P 13 58 43.1 -0.2**
WUAZ Wupatki 68.69 61 ⇑P **P 13 58 43.7 -0.3**
baz=68
WUAZ ⇑S S 14 07 49.3 +1.6
baz=68
NB2 NORSAR Subarra 68.69 341 P **P 13 58 43.2 -0.8**
comp=Z,12nm,0.6s,mb5.0,baz=27,slow=6.5
NB2 NORSAR Subarra 68.69 341 P **P 13 58 43.2 -0.8**
NB2 pmax pmax
comp=Z,12nm,0.6s,mb5.0
NOA NORSAR Array B 68.69 341 P **P 13 58 43.5 -0.5**
comp=Z,21nm,0.8s,mb5.1,baz=27,slow=6.3,SNR=70
NOA LR LR 14 33 24.8
comp=Z,8μm,18.7s,MS6.0,baz=5.0,slow=40
NOA NORSAR Array B 68.69 341 P **P 13 58 43.5 -0.5**
NOA pmax pmax
comp=Z,21nm,0.8s
NOA MLR MLR
comp=Z,8μm,18.7s
NOA NORSAR Array B 68.69 341 P **P 13 58 43.5 -0.5**
NOA LR LR 14 33 24.8
Y14A Wickenburg 68.75 63 ⇓P **P 13 58 44.0 -0.3**
baz=68
Y14A ⇑S S 14 07 48.0 -0.4
baz=68
FITZ Fitzroy Crossi 68.77 208 *e*P **P 13 58 43.1 -1.4**
comp=Z,14nm,0.7s,mb5.0
FITZ *e*S S 14 07 45.0 -3.8
FITZ Fitzroy Crossi 68.77 208 P **P 13 58 43.5 -1.1**
comp=Z,4.5nm,1.0s,mb4.3,baz=16,slow=11,SNR=3.8
FITZ PP PP 14 01 16.2 0.0
comp=Z,2.1nm,0.9s,baz=25,slow=6.6,SNR=3.1
SMCO Snowmass 68.80 55 *e*P **P 13 58 43.8 -0.9**
comp=Z,39nm,1.3s,mb5.2
X15A Humboldt 68.85 62 ⇑P **P 13 58 45.0 0.0**
baz=69,SNR=13
X15A ⇓S S 14 07 50.4 +0.7
baz=69
HFS Hagfors 68.92 340 P **P 13 58 44.7 -0.7**
comp=Z,39nm,0.8s,mb5.4,baz=63,slow=6.8,SNR=38
HFS Hagfors 68.92 340 P **P 13 58 44.7 -0.7**
HFS pmax pmax
comp=Z,39nm,0.8s
MDRS Chennai 68.92 267⇑*e*P **P 13 58 45.7 +0.3**
MDRS *e*x x 14 01 21.7
NAO01 NORSAR Array S 68.94 341 *e*P **P 13 58 44.6 -0.9**
comp=Z,57nm,1.1s,mb5.4
NAO01 LR LR
comp=Z,10μm,19.0s,MS6.1
DZM Mont Dzumac 69.08 167 P **P 13 58 45.7 -0.8**
comp=Z,15nm,1.1s,mb4.8,baz=270,slow=20,SNR=2.6
DZM LR LR 14 25 50.3
comp=Z,12μm,18.8s,MS6.2,baz=355,slow=33
ISCO Idaho Springs 69.15 54 PFAKE 13 59 00.0 +13
ISCO LR LR
comp=Z,6μm,20.0s,MS5.8
Z14A Wintersburg 69.17 63 ⇑P **P 13 58 46.8 -0.2**
baz=69
Z14A ⇓S S 14 07 53.3 -0.2
baz=69
BORG Borgarnes 69.22 358 PFAKE 13 59 00.0 +13
BORG LR LR
comp=Z,2μm,19.0s,MS5.3
MVCO Mesa Verde 69.26 58 PFAKE 13 59 00.0 +12
MVCO LR LR
comp=Z,4μm,19.0s,MS5.6
MVCO Mesa Verde 69.26 58 ⇑P **P 13 58 47.2 -0.4**
baz=69

MVCO ⇑S S 14 07 55.0 +0.5
baz=69
MAK Makhachkala 69.43 311 *i* P **P 13 58 51.6 +3.0**
MAK *i* 14 01 27.8
MAK *e* 14 08 35.7
MAK pmax pmax
comp=Z,132nm,1.0s,mb5.8
MAK pmax pmax
comp=Z,1μm,2.6s,mb6.3
MAK MLR MLR
comp=Z,62μm,16.0s,MS6.9
MAK MLR MLR
comp=N,51μm,17.0s,MS7.0
MAK MLR MLR
comp=E,57μm,14.0s,MS7.0
MNK Minsk 69.45 329⇓*e*P **P 13 58 45.0 -3.7**
MNK *e* 14 01 19.0
MNK *e*PPP 14 03 05.0
MNK *e*S S 14 07 54.0 -2.8
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MNK MLR MLR
comp=Z,19μm,14.0s,MS6.5
POO Poona 69.58 276⇓*i*P **P 13 58 49.0 -0.5**
comp=Z,100nm,1.0s,mb5.7
POO *e*PCP PcP 13 59 11.0 -1.6
POO AMb AMB 13 59 29.1
comp=Z,113nm,1.2s,mb5.7
POO *i* S S 14 07 58.0 -0.3
POO *ex* x 14 08 25.0
115A Sonoran Desert 70.06 63 ⇓P **P 13 58 52.3 -0.2**
baz=70
115A ⇓S S 14 08 03.7 -0.3
baz=70
KAD Karad 70.19 275 *e*P **P 13 58 53.2 -0.1**
KAD AMb AMB 13 58 56.9
comp=Z,79nm,1.8s,mb5.3
KONO Kongsberg 70.30 341 *e*P **P 13 58 52.5 -1.4**
KONO *e*S S 14 08 03.9 -2.8
KONO Kongsberg 70.30 341 *c i*P **P 13 58 52.6 -1.3**
KONO Kongsberg 70.30 341 *e*P **P 13 58 54.2 +0.3**
comp=Z,75nm,1.3s,mb5.5
KONO LR LR
comp=Z,7μm,19.0s,MS5.9
116A Eloy 70.48 63 ⇑P **P 13 58 54.8 -0.3**
baz=70
116A ⇓S S 14 08 09.3 +0.5
baz=70
BER Bergen 70.51 344 *e*P **P 13 58 51.4 -3.9**
BER AMb AMB 13 59 11.2
comp=Z,118nm,1.6s,mb5.5
BER *e*S S 14 08 12.6 +3.3
BER AMS AMS 14 37 16.0
comp=Z,10μm,16.0s,MS6.2
SDCO Great Sand Dun 70.63 55 *e*P **P 13 58 55.9 0.0**
comp=Z,49nm,1.6s,mb5.2
SDCO LR LR
comp=Z,7μm,20.0s,MS5.9
ECSD EROS,Sioux Fal 71.15 46 PFAKE 13 59 10.0 +11
ECSD LR LR
comp=Z,10μm,19.0s,MS6.1
KIV Kislovodsk 71.18 314 P **P 13 59 00.2 +0.9**
comp=Z,366nm,0.8s,mb6.4,SNR=12
KIV Kislovodsk 71.18 314 P **P 13 59 01.3 +2.0**
SNR=7.8
KIV Kislovodsk 71.18 314 *c i*P **P 13 58 59.7 +0.4**
KIV *e* 13 59 16.2
KIV *e* 14 01 36.9
KIV *e*S S 14 08 16.7 -0.3
KIV pmax pmax
comp=Z,122nm,1.6s,mb5.6
KIV pmax pmax
comp=Z,3μm,4.8s
KIV Kislovodsk 71.18 314 *e*P **P 13 59 00.8 +1.5**
KIV LR LR
comp=Z,3μm,19.0s,MS5.6
TUC Tucson 71.22 63 *e*P **P 13 58 59.3 -0.2**
ZEI Tsey 71.43 313 *e*P **P 13 59 00.9 +0.1**
ZEI pmax pmax
comp=Z,36nm,0.9s,mb5.3
SUW Suwalki 71.44 332 *e*P **P 13 58 59.8 -1.1**
SUW *e*PcP PcP 13 59 16.4 -4.1
SUW *e*S S 14 08 19.9 -0.1
SUW *e*SKS 14 09 06.4
SUW L 14 35 17.1
comp=Z,14nm,16.8s
SUW Suwalki 71.44 332 *e*P **P 13 58 59.8 -1.1**
SUW *e*PcP PcP 13 59 16.4 -4.1
SUW *e*S S 14 08 19.9 -0.1
SUW *e*SKS 14 09 06.4
AS31 Alice Springs 71.79 199 *e*P **P 13 59 04.3 +1.3**
AS31 *e*S S 14 08 18.5 -5.6
ASAR Alice Springs 71.80 199 P **P 13 59 01.9 -1.1**
comp=Z,13nm,1.1s,mb4.8,baz=11,slow=3.3,SNR=18
ASAR LR LR 14 30 15.4
comp=Z,7μm,20.0s,MS5.9,baz=19,slow=36
ASAR Alice Springs 71.80 199 P **P 13 59 01.9 -1.1**
ASAR pmax pmax
comp=Z,13nm,1.1s
ASAR MLR MLR
comp=Z,7μm,20.0s
ASPA Alice Springs 71.80 199 *e*P **P 13 59 04.3 +1.3**
ASPA *e*S S 14 08 18.5 -5.6
AKASG Malin Array Be 71.97 326 P **P 13 59 02.9 -1.2**
comp=Z,25nm,0.7s,mb5.2,baz=34,slow=6.0,SNR=77
AKASG LR LR 14 33 07.4
comp=Z,7μm,19.0s,MS6.0,baz=25,slow=38
AKASG Malin Array Be 71.97 326 P **P 13 59 02.9 -1.2**
AKASG pmax pmax
comp=Z,25nm,0.7s
AKASG MLR MLR
comp=Z,7μm,19.0s
AKBB Malin Array Si 71.97 326 *e*P **P 13 59 03.0 -1.1**
ANMO Albuquerque 72.01 58 *e*P **P 13 59 03.0 -1.3**
ANMO Albuquerque 72.01 58 *e*P **P 13 59 04.3 0.0**
ANMO LR LR
comp=Z,5μm,19.0s,MS5.8
Y22C IRIS PASSCAL I 72.34 59 ⇓P **P 13 59 06.5 +0.2**
baz=72
Y22C ⇑S S 14 08 32.4 +2.0
baz=72
PALK Pallekele 72.71 262 *e*P **P 13 59 09.6 +1.1**
comp=Z,24nm,1.3s,mb5.0
PALK LR LR
comp=Z,2μm,19.0s,MS5.4
MNGI Mangalore 72.77 271 *i* P **P 13 59 07.7 -1.1**
MNGI AMb AMB 13 59 17.9
comp=Z,42nm,1.3s,mb5.2
MNGI *i* S S 14 08 36.4 +1.2
MNGI *ex* x 14 40 34.7
comp=Z,5μm,15.6s
GNI Garni 72.89 310 P **P 13 59 11.2 +1.7**
comp=Z,21nm,0.7s,mb5.2,baz=56,slow=1.6,SNR=18
GNI Garni 72.89 310 *e*P **P 13 59 11.1 +1.5**
GNI LR LR
comp=Z,10μm,20.0s,MS6.1
BSD Bornholm Skovb 73.01 336⇑*i*P **P 13 59 09.4 -0.9**
comp=Z,63nm,1.1s,mb5.5
BSD *i* S S 14 08 42.6 +4.6
BSD
comp=Z,11μm,17.0s
BSD Bornholm Skovb 73.01 336⇑*e*P **P 13 59 09.4 -0.9**
BSD *i* S S 14 08 42.6 +4.6
BSD pmax pmax
comp=Z,63nm,1.1s,mb5.5
BSD Bornholm Skovb 73.01 336⇑*e*P **P 13 59 09.4 -0.9**
comp=Z,63nm,1.1s,mb5.5
BSD *i* S S 14 08 42.6 +4.6
ANN Anapa 73.07 318 *c i*P **P 13 59 10.4 -0.2**
ANN *e* 13 59 26.2
ANN *e* 14 01 52.0
ANN *e*PPP 14 03 39.8
ANN *e*S S 14 08 40.7 +2.0
ANN *e*SS SS 14 13 23.5 +4.0
ANN pmax pmax
comp=Z,91nm,1.4s,mb5.5
ANN pmax pmax
comp=N,61nm,1.5s
ANN pmax pmax
comp=E,55nm,1.5s
ANN pmax pmax
comp=Z,4μm,8.6s
ANN pmax pmax
comp=N,1μm,9.7s
ANN pmax pmax
comp=E,719nm,7.4s
ANN Anapa 73.07 318 *i* P **P 13 59 09.5 -1.1**
CBKS Cedar Bluff 73.08 51 *e*P **P 13 59 09.1 -1.6**
comp=E,52nm,1.3s,mb5.3
CBKS LR LR
comp=Z,5μm,20.0s,MS5.8
COP Copenhagen 73.17 338⇑*i*P **P 13 59 10.8 -0.4**
comp=Z,38nm,1.1s,mb5.2
COP *i* S S 14 08 40.0 +0.1
COP *e* 14 09 05.9
COP
comp=Z,3μm,17.0s
COP Copenhagen 73.17 338⇑*i*P **P 13 59 10.8 -0.4**
COP *i* S S 14 08 40.0 +0.1
COP *e* 14 09 05.9
COP pmax pmax
comp=Z,38nm,1.1s,mb5.2
COP MLR MLR
comp=Z,3μm,17.0s,MS5.6
MUD Monsted U'grnd 73.28 340⇑*i*P **P 13 59 11.6 -0.3**
comp=Z,18nm,0.9s,mb5.0
MUD *i* S S 14 08 50.4 +9.2
MUD
comp=Z,6μm,17.0s
MUD Monsted U'grnd 73.28 340⇑*i*P **P 13 59 11.6 -0.3**
comp=Z,18nm,0.9s,mb5.0
MUD *i* S S 14 08 50.4 +9.2
BCA Borcka 73.55 313 *e*P **P 13 59 12.8 -0.7**
WAR Warsaw 73.64 332 *e*P **P 13 59 14.3 +0.3**
WAR *e*PcP PcP 13 59 31.4 +1.6
WAR *e*S S 14 08 36.7 -8.4
WAR *e*sS sS 14 08 52.7 +5.8
WAR *e*SS SS 14 13 19.9 -8.2
WAR L 14 36 44.9
comp=Z,11nm,16.4s
WAR Warsaw 73.64 332 *e*P **P 13 59 14.3 +0.3**
WAR *e* 13 59 31.4
WAR *e*S S 14 08 36.7 -8.4
WAR *e*SS SS 14 13 19.9 -8.2
WAR MLR MLR
comp=Z,11μm,16.4s,MS6.2
OBR Brabster 73.66 347 *e*P **P 13 59 13.8 -0.2**
MBWA Marble Bar 73.67 212 PFAKE 13 59 20.0 +5.8
MBWA LR LR
comp=Z,3μm,19.0s,MS5.5
SCHQ Schefferville 73.70 23 P **P 13 59 12.9 -1.5**
comp=Z,7.0nm,0.9s,mb4.6,baz=329,slow=14,SNR=3.5
SCHQ LR LR 14 32 41.6
comp=Z,4μm,19.7s,MS5.7,baz=344,slow=37
ORE Reay 73.81 348 *e*P **P 13 59 15.2 +0.2**
RGN Rugen 73.95 337 *e*S S 14 08 50.3 +1.7
GKP Gorka Klasztor 73.95 334 *e*P **P 13 59 15.5 -0.3**
GKP *e*S S 14 08 53.3 +4.7
GKP L 14 36 39.8
comp=Z,26nm,17.2s
CLDR Caldiran 74.06 310 *e*P **P 13 59 16.6 +0.1**
SCIA State Center 74.19 45 PFAKE 13 59 30.0 +13
SCIA LR LR
comp=Z,9μm,19.0s,MS6.1
TRD Trivandrum 74.41 266 *e*P **P 13 59 17.8 -0.7**
TRD AMb AMB 13 59 35.6
comp=Z,98nm,1.0s,mb5.7
SIM Simferopol' 74.47 320 *c e*P **P 13 59 19.0 +0.2**
SIM *e*PPP 14 03 49.0
SIM *e*S S 14 08 55.0 +0.5
SIM pmax pmax
comp=Z,2μm,10.0s
SIM MLR MLR
comp=Z,12μm,18.0s,MS6.2
SIM Simferopol' 74.47 320 *e*P **P 13 59 19.2 +0.4**
KSU1 Kansas State U 74.54 49 PFAKE 13 59 30.0 +11
KSU1 LR LR
comp=Z,8μm,19.0s,MS6.0
LVV L'vov 74.63 329 *e*P **P 13 59 18.8 -1.0**
LVV *e* 13 59 33.0
LVV *e* 14 02 08.2
LVV *e*PPP 14 03 52.8
LVV *i* S S 14 08 56.0 -0.3
LVV *e*PS 14 09 34.8
LVV MLR MLR
comp=E,8μm,15.0s,MS6.2
LVV MLR MLR
comp=N,5μm,14.0s,MS6.2
LVV MLR MLR
comp=Z,6μm,14.0s,MS6.0
LVV L'vov 74.63 329 *i* P **P 13 59 19.0 -0.8**
MCD Coleburn Disti 74.66 347 *e*P **P 13 59 19.8 -0.2**
TVAN Van 74.78 310 *i* P **P 13 59 24.2 +3.6**
ERZM Erzurum 74.82 312 *i* P **P 13 59 23.7 +2.8**
KTUT Trabzon 74.82 314 *e*P **P 13 59 20.8 -0.1**
EZM Erzurum 74.83 312 *e*P **P 13 59 22.8 +1.9**
JFWS Jewell Farm 74.85 43 PFAKE 13 59 30.0 +8.9
JFWS LR LR
comp=Z,9μm,21.0s,MS6.0
MACK Trabzon 74.86 314 *i* P **P 13 59 22.3 +1.2**
MME1 Meikle Cairn 74.87 347 *e*P **P 13 59 21.0 -0.2**
MNTX Cornudas Mount 74.93 60 *e*P **P 13 59 21.1 -0.5**
comp=Z,49nm,1.5s,mb5.2
MNTX LR LR
comp=Z,3μm,19.0s,MS5.6
KAC Achnashellach 75.04 348 *e*P **P 13 59 22.4 +0.2**
SEMD Semdilli 75.05 309 *e*P **P 13 59 22.5 +0.3**
KIS Kishinev 75.10 324⇑*i*P **P 13 59 18.0 -4.5**
KIS *i* 13 59 30.0
KIS *i* S S 14 08 58.0 -3.6
KIS *i* PS 14 09 36.0
KIS pmax pmax
comp=Z,4μm,6.0s
KIS pmax pmax
comp=N,2μm,8.0s
KIS pmax pmax
comp=E,900nm,5.0s
KIS pmax pmax
comp=Z,3μm,10.0s
KIS smax
comp=N,7μm,9.0s
KIS smax
comp=E,5μm,8.0s
KIS MLR MLR
comp=E,15μm,15.0s,MS6.6
KIS MLR MLR
comp=Z,24μm,15.0s,MS6.6
KIS MLR MLR
comp=N,16μm,16.0s,MS6.6
KIS MLR MLR
comp=Z,27μm,16.0s
KIS Kishinev 75.10 324⇑*i*P **P 13 59 18.0 -4.5**
comp=Z,2μm,8.0s
KIS Kishinev 75.10 324 *i* PcP PcP 13 59 30.0 -6.1
KIS Kishinev 75.10 324 *e*PP PP 14 02 04.0 -6.5
KPL Plockton 75.25 348 *e*P **P 13 59 22.9 -0.5**
KPL AMb AMB 13 59 25.0
comp=Z,104nm,2.3s,mb5.4
KWP Kalwaria 75.26 329 *e*P **P 13 59 23.5 +0.1**
KWP *e*PcP PcP 13 59 30.2 -6.6
KWP Kalwaria 75.26 329 P **P 13 59 24.0 +0.6**
KWP pmax pmax
comp=Z,180nm,1.1s,mb5.9
KWP Kalwaria 75.26 329 *e*S SKSac 14 09 38.9 +5.2
BSEG Bad Segeberg 75.29 338 *e*P **P 13 59 23.1 -0.5**
comp=Z,58nm,1.7s,mb5.2
BSEG *e*S S 14 09 05.2 +1.6
BSEG Bad Segeberg 75.29 338 *e*P **P 13 59 23.1 -0.5**
BSEG *e*S S 14 09 05.2 +1.6
BSEG pmax pmax
comp=Z,58nm,1.7s,mb5.2
KSB Sheil Bridge 75.34 348 *e*P **P 13 59 23.1 -0.7**
CUKT Cukurca 75.61 309 *e*P **P 13 59 25.9 +0.4**
GRSN GIRESUNGRSN 75.61 315 *i* P **P 13 59 26.4 +1.0**
BNGL BINGOL 75.65 312 *i* P **P 13 59 29.4 +3.7**
RUE Ruedersdorf 75.65 336 *e*P **P 13 59 24.9 -0.8**
comp=Z,73nm,1.1s,mb5.5
HLG Helgoland 75.66 340 *e*S S 14 09 12.2 +4.4
KELT Kelkit 75.71 314 *i* P **P 13 59 28.5 +2.5**
EZC Erzincan 75.73 313 *e*P **P 13 59 29.0 +2.9**
OJC Ojcow 75.76 331 *i* P **P 13 59 25.8 -0.5**
OJC *e*PcP PcP 13 59 39.5 +0.5
OJC *i* S S 14 09 07.9 -1.0
OJC L 14 38 25.4
comp=Z,74nm,16.5s
OJC Ojcow 75.76 331⇑*i*P **P 13 59 25.8 -0.5**
OJC *e* 13 59 39.5
OJC *i* S S 14 09 07.9 -1.0
GLMI Grayling 75.91 38 PFAKE 13 59 40.0 +13
GLMI LR LR
comp=Z,3μm,19.0s,MS5.6
STHS Stebnicka Huta 75.95 330 *e*P **P 13 59 28.1 +0.7**
comp=Z,44nm,1.1s,mb5.3
STHS *e* 13 59 41.0
KOLS Kolonicke sedl 76.00 329 *e*P **P 13 59 28.1 +0.4**
KOLS *e*S S 14 09 08.7 -2.8
BURAR Bucovina Array 76.02 327⇓*i*P **P 13 59 28.1 +0.3**
BURAR Bucovina Array 76.02 327⇓P **P 13 59 28.1 +0.4**
SIRT Sirnak 76.05 310 *e*P **P 13 59 27.6 -0.4**
UZH Uzhgorod 76.25 329 *e*P **P 13 59 28.0 -1.1**
UZH *i* 13 59 42.6
UZH *e* 14 02 20.0
UZH *i* S S 14 09 12.0 -2.2
UZH *e* 14 09 43.0
UZH *i* PS 14 10 03.0
UZH Uzhgorod 76.25 329 *i* P **P 13 59 28.0 -1.1**
NIE Niedzica 76.27 331 *e*P **P 13 59 29.8 +0.6**
NIE *e*PcP PcP 13 59 43.7 +2.5
CRVS Cervenica-Dubn 76.31 330 *e*P **P 13 59 29.6 +0.2**
CRVS *e*S S 14 09 12.0 -3.0
KSP Ksiaz 76.35 334 *e*P **P 13 59 29.6 0.0**
KSP *e*PcP PcP 13 59 37.5 -4.0
KSP *e*S S 14 09 20.1 +4.8
KSP L 14 38 08.8
comp=Z,35nm,18.3s
KSP Ksiaz 76.35 334⇑*e*P **P 13 59 29.5 -0.1**
KSP *e*S S 14 09 14.0 -1.3
KSP LR LR
comp=Z,44μm,17.7s,MS6.8
ARMA Armidale 76.36 181 *e*P **P 13 59 31.6 +1.9**
ARMA *e*S S 14 09 14.4 -1.1
BEST Besiri 76.38 311 *i* P **P 13 59 32.5 +2.7**
XSO Sourhope Farm 76.50 346 *e*P **P 13 59 31.1 +0.6**
DIKM Dikmen 76.51 317 *e*P **P 13 59 30.1 -0.4**
PGBU Glenifferbraes 76.55 347 *e*P **P 13 59 31.1 +0.3**
PGBU AMb AMB 13 59 38.1
comp=Z,35nm,2.3s,mb4.9
WMOK Wichita Mounta 76.57 54 *e*P **P 13 59 30.1 -0.8**
KVT Kavak 76.57 316 *e*P **P 13 59 31.2 +0.2**
PTK Pertek 76.59 313 *e*P **P 13 59 32.9 +1.9**
OKC Ostrava-Krasne 76.64 332 *e*P **P 13 59 31.4 +0.1**
OKC *e*pP pP 13 59 36.2 +3.9
OKC *e*S S 14 09 20.3 +1.8
OKC AMS AMS 14 38 00.0
comp=Z,12μm,15.7s
OKC Ostrava-Krasne 76.64 332 *e*P **P 13 59 31.4 +0.1**
OKC *e* 13 59 36.2
OKC *e*S S 14 09 20.3 +1.8
NRDL Niedersach Rie 76.64 338 *e*P **P 13 59 30.7 -0.6**
comp=Z,59nm,1.8s,mb5.2
UPC Upice 76.73 334 *e*P **P 13 59 32.0 +0.2**
UPC *e*pP pP 13 59 36.1 +3.2
DPC Dobruska-Polom 76.77 333 *e*P **P 13 59 32.2 +0.2**
DPC *e*pP pP 13 59 37.4 +4.3
DPC *e*PCP PcP 13 59 47.0 +3.7
DPC *e*S S 14 09 20.4 +0.4
DPC AMS AMS 14 37 40.0
comp=Z,19μm,17.3s
EKA Eskdalemuir Ar 76.81 346 P **P 13 59 31.1 -1.1**
comp=Z,4.6nm,0.6s,mb4.6,baz=21,slow=4.4,SNR=15
EKA Eskdalemuir Ar 76.81 346 P **P 13 59 31.1 -1.1**
EKA pmax pmax
comp=Z,5.0nm,0.6s
ESK Eskdalemuir 76.83 346 *e*P **P 13 59 31.9 -0.4**
ESK AMb AMB 13 59 36.8
comp=Z,62nm,1.6s,mb5.3
ESK Eskdalemuir 76.83 346 *e*P **P 13 59 33.9 +1.5**
ESK pmax pmax
comp=Z,54nm,1.3s,mb5.3
ESK MLR MLR
comp=Z,992nm,20.0s,MS5.1
ESK Eskdalemuir 76.83 346 *e*P **P 13 59 33.9 +1.5**
comp=Z,54nm,1.3s,mb5.3
ESK LR LR
comp=Z,992nm,20.0s,MS5.1
BOYT Boyabat 76.85 317 *i* P **P 13 59 33.7 +1.2**
BZK Bozkurt 76.85 318 *e*P **P 13 59 32.0 -0.5**
CFR Carcaliu 76.86 324⇑*i*P **P 13 59 34.9 +2.4**
CFR Carcaliu 76.86 324⇑P **P 13 59 34.9 +2.4**
VRI Vrincioaia 76.87 325⇑*i*P **P 13 59 34.3 +1.7**
VRI Vrincioaia 76.87 325 P **P 13 59 33.9 +1.4**
MORC Moravsky Berou 76.88 332⇑*i*P **P 13 59 32.9 +0.2**
MORC Moravsky Berou 76.88 332 *e*P **P 13 59 33.0 +0.4**
CLL Collm 76.92 336 *e*P **P 13 59 31.8 -1.1**
comp=Z,53nm,1.1s,mb5.4
CLL Collm 76.92 336⇑*i*P **P 13 59 32.5 -0.4**
CLL *e*S S 14 09 21.0 -0.6
CLL pmax pmax
comp=Z,37nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,10μm,18.7s,MS6.2
CLL Collm 76.92 336⇑*i*P **P 13 59 32.5 -0.4**
comp=Z,37nm,0.9s,mb5.3
CLL *e*S S 14 09 21.0 -0.6
CLL LR LR
comp=Z,10μm,18.7s,MS6.2
CLL Collm 76.92 336⇑*i*P **P 13 59 32.5 -0.4**
comp=Z,37nm,0.9s,mb5.3
CLL *e*Plp pP 13 59 33.0 -0.9
comp=N,1μm,10.8s
CLL *e*Plp pP 13 59 33.0 -0.9
comp=E,500nm,12.2s
CLL *e*Plp pP 13 59 33.0 -0.9
comp=Z,3μm,12.5s
CLL *ex* x 13 59 38.0
CLL *ex* x 13 59 47.0
CLL *e*S S 14 09 21.0 -0.6
CLL *e*S S 14 09 21.0 -0.6
comp=E,2μm,12.2s
CLL *e*S S 14 09 21.0 -0.6
CLL *e*SS SS 14 14 24.0 +6.1
ECK Cauldkaine Hil 76.95 346 *e*P **P 13 59 34.0 +0.9**
SVSK Karacayir 77.01 315 *e*P **P 13 59 32.6 -0.7**
KECS Kecovo 77.01 330 *e*P **P 13 59 33.5 +0.1**
KECS *e*PCP PcP 13 59 50.6 +6.2
KECS Kecovo 77.01 330 *e*P **P 13 59 33.5 +0.1**
KECS *e* 13 59 50.7
KECS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 77.01 330 *e*P **P 13 59 33.5 +0.1**
comp=Z,13nm,1.0s,mb4.8
KECS *e* 13 59 50.7
BRG Berggiesshubel 77.03 335 *e*P **P 13 59 32.6 -0.9**
comp=Z,47nm,1.5s,mb5.2
BRG Berggiesshubel 77.03 335 *e*P **P 13 59 33.3 -0.2**
BRG *e* 13 59 45.7
BRG pmax pmax
comp=Z,11nm,1.2s,mb4.7
BRG Berggiesshubel 77.03 335 *e*P **P 13 59 33.3 -0.2**
comp=Z,11nm,1.2s,mb4.7
BRG *e* 13 59 45.7
COCO West Island 77.05 237 PFAKE 13 59 40.0 +6.4
COCO LR LR
comp=Z,789nm,19.0s,MS5.0
MARD Mardin 77.07 311 *i* P **P 13 59 28.4 -5.3**
MARD Mardin 77.07 311 *i* P **P 13 59 34.1 +0.4**
ELZG Elazig 77.10 313 *i* P **P 13 59 36.3 +2.4**
HATD Hatta, Dubai 77.11 292 P **P 13 59 35.0 +1.0**
SNR=26
HDIL Hopedale 77.12 44 PFAKE 13 59 40.0 +6.0
HDIL LR LR
comp=Z,6μm,20.0s,MS5.9
PVCC Panska Ves 77.15 334 *e*P **P 13 59 34.7 +0.5**
PVCC *e*S S 14 09 25.6 +1.5
PVCC AMS AMS 14 37 40.0
comp=Z,17μm,15.8s
FBE Freiberg 77.16 335 *e*P **P 13 59 33.6 -0.6**
comp=Z,46nm,1.1s,mb5.3
CLZ Clausthal 77.16 337 *e*P **P 13 59 34.1 -0.1**
comp=Z,71nm,1.3s,mb5.4
CLZ *e*S S 14 09 24.5 +0.2
CLZ Clausthal 77.16 337 *e*P **P 13 59 34.1 -0.1**
CLZ *e*S S 14 09 24.5 +0.2
CLZ pmax pmax
comp=Z,71nm,1.3s,mb5.4
LPIG La Paz 77.22 69 LR LR 14 32 01.2
comp=Z,2μm,18.0s,MS5.5,baz=330,slow=34
HOQ Hoqain 77.23 291 P **P 13 59 36.1 +1.5**
SNR=20
ASHO Ashiyiah 77.26 292 P **P 13 59 35.9 +1.1**
SNR=24
LWH Whinny Nab 77.33 345 *e*P **P 13 59 36.6 +1.4**
HARR Harsova 77.34 323⇑*i*P **P 13 59 36.1 +0.9**

HARR Harsova 77.34 323 ⇑P **P 13 59 36.1 +0.9**
BBO1 Bothel 77.39 346 *e*P **P 13 59 37.2 +1.7**
IBBN Ibbenburen 77.41 339 *e*P **P 13 59 35.1 -0.5**
comp=Z,32nm,0.7s,mb5.4
BALT Daday 77.47 318 *i* P **P 13 59 37.9 +1.9**
MLR Muntele Rosu 77.49 325 P **P 13 59 36.4 +0.3**
comp=Z,15nm,0.9s,mb4.9,baz=146,slow=5.6,SNR=15
MLR Muntele Rosu 77.49 325⇑*i*P **P 13 59 37.0 +0.9**
MLR Muntele Rosu 77.49 325 P **P 13 59 36.4 +0.3**
MLR pmax pmax
comp=Z,15nm,0.9s
MLR Muntele Rosu 77.49 325 P **P 13 59 37.4 +1.3**
CKE Keswick 77.51 346 *e*P **P 13 59 36.6 +0.4**
MALT Malatya 77.52 313⇑*i*P **P 13 59 38.6 +2.3**
MALT Malatya 77.52 313 *e*P **P 13 59 37.4 +1.1**
CTKT Corum 77.53 317 *i* P **P 13 59 37.9 +1.6**
GTTG Gvttingen 77.54 338 *e*P **P 13 59 35.9 -0.5**
comp=Z,40nm,1.2s,mb5.2
VYHS Vyhne 77.57 331 *e*P **P 13 59 36.9 +0.4**
VYHS *e* 14 02 22.6
VYHS *e*S S 14 09 26.0 -2.6
VYHS *e*SS SS 14 14 44.1 +16
VYHS Vyhne 77.57 331 *e*P **P 13 59 36.9 +0.4**
comp=Z,31nm,1.3s,mb5.1
VYHS *e*PP PP 14 02 22.6 -8.7
VYHS *e*S S 14 09 26.0 -2.6
VYHS *e*SS SS 14 14 44.1 +16
VYHS LR LR
comp=Z,8µm,16.5s,MS6.1
VRAC Vranov 77.60 333 P **P 13 59 37.1 +0.4**
comp=Z,17nm,0.8s,mb5.0,baz=39,slow=6.7,SNR=18
VRAC Vranov 77.60 333⇑*i*P **P 13 59 37.5 +0.8**
VRAC Vranov 77.60 333 P **P 13 59 37.1 +0.4**
VRAC pmax pmax
comp=Z,17nm,0.8s
VRAC Vranov 77.60 333 P **P 13 59 37.3 +0.6**
PRU Pruhonice 77.64 334 *e*P **P 13 59 36.6 -0.3**
PRU *e*PCP PcP 13 59 51.7 +4.6
PRU *e*S S 14 09 31.1 +1.7
PRU AMS AMS 14 38 00.0
comp=Z,13µm,15.7s
JAVC Velka Javorina 77.64 332 P **P 13 59 38.5 +1.6**
XDE Dent Fell 77.66 346 *e*P **P 13 59 37.3 +0.3**
PSZ Piszkesteto 77.70 330⇑*i*P **P 13 59 38.0 +0.8**
PSZ Piszkesteto 77.70 330 *e*P **P 13 59 37.4 +0.2**
PSZ pmax pmax
comp=Z,97nm,1.5s,mb5.5
PSZ Piszkesteto 77.70 330 *e*P **P 13 59 37.4 +0.2**
comp=Z,97nm,1.5s,mb5.5
SNX Sinaia 77.77 325⇑*i*P **P 13 59 39.0 +1.4**
SNX Sinaia 77.77 325⇑P **P 13 59 39.0 +1.4**
TANN Tannenbergstha 77.87 336 *e*P **P 13 59 37.8 -0.4**
comp=Z,55nm,1.6s,mb5.2
TANN *e*S S 14 09 31.6 -0.3
KRUC Moravsky 77.88 333 P **P 13 59 39.0 +0.8**
VOIR 77.89 326⇑*i*P **P 13 59 39.4 +1.1**
WERD Werda 77.89 336 *e*P **P 13 59 37.8 -0.5**
comp=Z,30nm,1.3s,mb5.1
MOX Moxa 77.90 336 *e*P **P 13 59 37.9 -0.5**
comp=Z,39nm,1.3s,mb5.2
MOX Moxa 77.90 336 *e*P **P 13 59 38.2 -0.2**
MOX pmax pmax
comp=Z,31nm,1.1s,mb5.2
MOX MLR MLR
comp=Z,7µm,17.0s,MS6.1
MOX Moxa 77.90 336⇑*e*P **P 13 59 38.2 -0.2**
comp=Z,31nm,1.1s,mb5.2
MOX *e*S S 14 09 33.0 +0.7
MOX LR LR
comp=Z,7µm,17.0s,MS6.1
ARQ Araqi 77.91 291 P **P 13 59 40.0 +1.6**
SNR=21
CORM Corum 77.95 317 *e*P **P 13 59 38.5 -0.1**
GUNZ Gunzen 77.95 336 *e*P **P 13 59 38.3 -0.4**
comp=Z,463nm,3.3s
TREC Trest 77.96 333 *e*P **P 13 59 36.8 -1.9**
TREC *e*S S 14 09 34.1 +1.2
TREC AMS AMS 14 38 20.0
comp=Z,16µm,17.5s
WTSB Winterswijk 77.96 340⇑*e*P **P 13 59 38.3 -0.4**
WTSB ⇑*e*P 14 03 29.0
WERN Wernitzgruen 78.01 336 *e*P **P 13 59 38.6 -0.4**
comp=Z,30nm,1.0s,mb5.2
PSN Preselentsi 78.05 323 *i* P **P 13 59 40.1 +0.9**
CCM Cathedral Cave 78.09 47 P **P 13 59 36.9 -2.5**
CCM pmax pmax
comp=Z,75nm,1.5s,mb5.4
CCM Cathedral Cave 78.09 47 *e*P **P 13 59 36.3 -3.1**
comp=Z,75nm,1.5s,mb5.4
CCM LR LR
comp=Z,6µm,20.0s,MS5.9
BHD Baghdad 78.13 306 *ex* x 13 59 38.0
BHD *ex* x 14 09 30.5
UBBA Unterbreizbach 78.19 337 *e*P **P 13 59 39.4 -0.6**
comp=Z,240nm,2.6s,mb5.7
ATAB Bozova 78.23 313 *i* P **P 13 59 41.8 +1.5**
LHO Holmfirth 78.30 345 *e*P **P 13 59 39.9 -0.6**
BUG Bochum--Univer 78.33 339 *e*P **P 13 59 40.2 -0.5**
comp=Z,45nm,0.9s,mb5.4
MANZ Manzenberg 78.36 336 *e*P **P 13 59 40.6 -0.3**
comp=Z,39nm,1.4s,mb5.1
MANZ *e*S S 14 09 36.9 -0.2
ZST Bratislava 78.40 332 *e*S S 14 09 46.6 +9.0
ZST Bratislava 78.40 332 *e*P **P 13 59 42.2 +1.1**
comp=Z,31nm,1.2s,mb5.1
ZST *e*S S 14 09 46.6 +9.0
ZST LR LR
comp=Z,18µm,15.5s,MS6.5
CDAG Cicekdag 78.51 316 *i* P **P 13 59 42.5 +0.8**
STKA Stephens Creek 78.51 190 *e*P **P 13 59 38.5 -3.2**
comp=Z,8.0nm,1.0s,mb4.6
STKA *e*S S 14 09 36.8 -2.0
STKA Stephens Creek 78.51 190 P **P 13 59 41.1 -0.7**
comp=Z,8.4nm,1.2s,mb4.6,baz=12,slow=13,SNR=4.3
STKA LR LR 14 34 11.0
comp=Z,5µm,19.7s,MS5.8,baz=9.0,slow=36
KBI1 Birley Grange 78.52 345 *e*P **P 13 59 41.5 -0.2**
ROTZ Rotzenmuhle 78.52 335 *e*P **P 13 59 41.8 0.0**
comp=Z,40nm,1.3s,mb5.2
FVM French Village 78.56 46 P **P 13 59 40.7 -1.3**
FVM pmax pmax
comp=Z,15nm,0.8s,mb5.0
FVM French Village 78.56 46 *e*P **P 13 59 40.9 -1.1**
KHC Kasperske Hory 78.69 334 *e*P **P 13 59 42.6 -0.1**
KHC *e*PCP PcP 13 59 56.2 +4.6
KHC *e*S S 14 09 43.1 +2.4
KHC AMS AMS 14 38 50.0
comp=Z,18µm,16.7s
KHC Kasperske Hory 78.69 334 *c i*P **P 13 59 42.2 -0.5**
GZT Gaziantep 78.69 313 *i* P **P 13 59 44.0 +1.2**
PRD Provadia 78.78 323 *i* P **P 13 59 43.6 +0.4**
BR131 Keskin Array S 78.78 317 *e*P **P 13 59 43.8 +0.6**
comp=Z,5.6nm,0.3s,mb5.0
BR131 LR LR
comp=Z,6µm,20.0s,MS5.9
BRTR Keskin Array B 78.78 317 P **P 13 59 43.0 -0.2**
comp=Z,8.9nm,1.0s,mb4.7,baz=62,slow=2.9,SNR=15
BRTR LR LR 14 41 32.5
comp=Z,7µm,18.3s,MS6.0,baz=216,slow=41
GZR Gura Zlata 78.80 327⇑*i*P **P 13 59 43.8 +0.5**
GZR Gura Zlata 78.80 327 P **P 13 59 43.9 +0.5**
KWE Weaver Farm 78.80 345 *e*P **P 13 59 43.1 -0.3**
GRA1 Grafenberg Arr 78.87 336 *e*P **P 13 59 43.8 +0.1**
comp=Z,65nm,0.9s,mb5.6
GRA1 *e*S S 14 09 42.1 -0.6
GRA1 LR LR
comp=Z,9µm,18.5s,MS6.2
GRF Grafenberg Arr 78.87 336 *e*P **P 13 59 43.8 +0.1**
comp=Z,65nm,0.9s,mb5.6
GRF *e*S S 14 09 42.1 -0.6
GRF *e*L 14 37 17.2
comp=Z,9µm,18.5s
GRF Grafenberg Arr 78.87 336 *e*P **P 13 59 43.8 +0.1**
GRF *e*S S 14 09 42.1 -0.6
GRF pmax pmax
comp=Z,65nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,9µm,18.5s,MS6.2
GRF Grafenberg Arr 78.87 336 *e*P **P 13 59 43.8 +0.1**
comp=Z,65nm,0.9s,mb5.6
GRF *e*S S 14 09 42.1 -0.6
GRF pmax pmax
comp=Z,65nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,9µm,18.5s,MS6.2

WET Wettzell 78.89 335 *e*P **P 13 59 43.9 +0.1**
comp=Z,35nm,1.0s,mb5.2
WET Wettzell 78.89 335 *e*P **P 13 59 43.9 +0.1**
WET pmax pmax
comp=Z,35nm,1.0s,mb5.2
GEC2 GERESS Array S 78.90 334 *e*P **P 13 59 43.5 -0.4**
comp=Z,43nm,1.8s,mb5.1
GEC2 GERESS Array S 78.90 334 *e*P **P 13 59 43.5 -0.4**
GEC2 pmax pmax
comp=Z,43nm,1.8s,mb5.1
GEC2 GERESS Array S 78.90 334 P **P 13 59 44.1 +0.2**
GERES GERESS Array B 78.90 334 P **P 13 59 44.0 +0.1**
comp=Z,6.8nm,0.7s,mb4.7,baz=40,slow=5.2,SNR=25
GERES LR LR 14 38 54.8
comp=Z,9µm,18.1s,MS6.2,baz=22,slow=39
GERES GERESS Array B 78.90 334 P **P 13 59 44.0 +0.1**
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES MLR MLR
comp=Z,9µm,18.1s
KMRS Kahramanmaras 78.92 313 *e*P **P 13 59 45.6 +1.6**
UMR Umm Al-Rimmam 78.93 301 *e*P **P 13 59 45.0 +0.9**
UMR AMb AMB 13 59 51.5
comp=Z,90nm,0.7s,mb5.8
MIB Mutribah 78.97 302 *e*P **P 13 59 45.0 +0.7**
MIB AMb AMB 13 59 51.8
comp=Z,113nm,0.9s,mb5.8
KAMT Kaman 79.02 317 *e*P **P 13 59 46.6 +2.0**
CONA Conrad Observa 79.04 332⇑*i*P **P 13 59 45.1 +0.4**
comp=Z,1µm,5.2s,SNR=12
BZS Buzias 79.05 328⇑*i*P **P 13 59 45.0 +0.3**
BZS Buzias 79.05 328 P **P 13 59 44.9 +0.2**
ANTO Ankara 79.06 317 PFAKE 13 59 50.0 +5.2
ANTO LR LR
comp=Z,6µm,19.0s,MS6.0
TNS Taunus Mts 79.14 338 *e*P **P 13 59 45.0 -0.2**
comp=Z,46nm,1.0s,mb5.4
TNS *e*S S 14 09 46.9 +1.3
TNS Taunus Mts 79.14 338 *e*P **P 13 59 45.0 -0.2**
TNS *e*S S 14 09 46.9 +1.3
TNS pmax pmax
comp=Z,46nm,1.0s,mb5.4
SBD1 Bryn Du 79.16 346 *e*P **P 13 59 45.3 0.0**
HGN Heimansgroeve 79.28 340 *e*P **P 13 59 45.9 -0.1**
HGN ⇑*e*P 14 03 32.9
HGN *e*PPP 14 04 12.9
HGN *e*S S 14 09 48.3 +1.2
DLF Lyons Farm 79.30 348 *e*P **P 13 59 47.9 +1.8**
BEBN Eben Emael 79.31 340 P **P 13 59 46.2 0.0**
DCN Croghan 79.36 348 *e*P **P 13 59 48.1 +1.7**
RST Umm Al-Ruwaisa 79.39 302 *e*P **P 13 59 46.8 +0.2**
RST AMb AMB 13 59 53.9
comp=Z,153nm,1.1s,mb5.8
QRN Al-Qurain 79.40 300 *e*P **P 13 59 47.6 +1.0**
QRN AMb AMB 13 59 54.2
comp=Z,104nm,0.8s,mb5.8
MEM Membach 79.41 339 P **P 13 59 46.6 -0.1**
NAY Al-Naaiem 79.43 301 *e*P **P 13 59 47.3 +0.5**
NAY AMb AMB 13 59 50.8
comp=Z,49nm,1.2s,mb5.3
HLM1 Long Mynd 79.46 345 *e*P **P 13 59 48.2 +1.2**
KOZT Kozan 79.47 314 *e*P **P 13 59 46.1 -0.9**
RDF Al-Radifah 79.49 301 *e*P **P 13 59 47.9 +0.8**
RDF AMb AMB 13 59 51.4
comp=Z,170nm,1.2s,mb5.8
RAR Rarotonga 79.51 136 LR LR 14 28 08.5
comp=Z,6µm,20.0s,MS5.9,baz=336,slow=31
RAO Raoul Island 79.60 155 LR LR 14 30 14.1
comp=Z,10µm,19.7s,MS6.2,baz=15,slow=32
RAO Raoul Island 79.60 155 PFAKE 14 00 00.0 +12
RAO LR LR
comp=Z,11µm,20.0s,MS6.2
PKSM Moragy 79.61 330⇑*i*P **P 13 59 47.0 -0.7**
PKSM Moragy 79.61 330 P **P 13 59 47.9 +0.2**
MOA Molln 79.61 333⇓*i*P **P 13 59 48.0 +0.2**
comp=Z,2µm,6.1s
TOD Tromm 79.61 337 *e*P **P 13 59 48.8 +1.0**
PVL Pavlikeni 79.62 324 *i* P **P 13 59 47.7 -0.1**
UCC Uccle 79.62 341 P **P 13 59 47.4 -0.5**
KLYT Kilyos 79.66 321 *e*P **P 13 59 47.9 -0.1**
ARSA Arzberg 79.75 332⇑*i*P **P 13 59 48.6 +0.1**
comp=Z,2µm,6.6s,SNR=12
BCLA Clavier 79.75 340 P **P 13 59 48.8 +0.3**
ISK Istanbul-Kandi 79.80 321 *e*P **P 13 59 47.0 -1.8**
ISK Istanbul-Kandi 79.80 321 *e*P **P 13 59 47.5 -1.3**
SKP1 Kophill 79.84 344 *e*P **P 13 59 50.4 +1.3**
CEYT Ceyhan 79.88 314 *e*P **P 13 59 49.5 +0.3**
SNF Seneffe 79.91 340 P **P 13 59 49.8 +0.4**
HTR Trewern Hill 79.95 346 *e*P **P 13 59 50.7 +1.0**
MCH1 Michaelchurch 79.98 345 *e*P **P 13 59 49.8 0.0**
MCH1 *e*P pP 13 59 49.8 -1.0
MCH1 AMb AMB 13 59 50.5
comp=Z,33nm,1.5s,mb5.0
COBT Iskenderun 80.00 313 *i* P **P 13 59 51.2 +1.3**
ADVT Abdulvahap 80.01 320 *e*P **P 13 59 49.5 -0.5**
KARA Karaisali 80.03 314 *e*P **P 13 59 50.6 +0.6**
LONY Lake Ozonia 80.11 32 PFAKE 14 00 00.0 +10
LONY LR LR
comp=Z,3µm,19.0s,MS5.7
GIVF Givet 80.16 340 *e*P **P 13 59 50.5 -0.3**
EDRB Edirne 80.16 322 *e*P **P 13 59 49.6 -1.2**
KOGS Kog 80.21 331⇑*e*P **P 13 59 50.4 -0.6**
DOU Dourbes 80.22 340 P **P 13 59 51.0 -0.1**
SWN1 Swindon 80.23 344 P **P 13 59 52.2 +1.0**
SWN1 AMb AMB 13 59 55.2
comp=Z,118nm,1.4s,mb5.6
SWN1 Swindon 80.23 344 *e*P **P 13 59 51.0 -0.1**
SWN1 *e*P pP 13 59 52.2 0.0
SWN1 AMb AMB 13 59 55.2
comp=Z,118nm,1.4s,mb5.6
FUR Furstenfeldbru 80.23 335 *e*P **P 13 59 51.1 0.0**
comp=Z,80nm,1.2s,mb5.5
FUR Furstenfeldbru 80.23 335 *e*P **P 13 59 51.1 0.0**
FUR pmax pmax
comp=Z,80nm,1.2s,mb5.5
ESKT Eskisehir 80.24 318 *e*P **P 13 59 51.5 +0.2**
WLF Walferdange 80.24 339 *e*P **P 13 59 51.8 +0.6**
comp=Z,168nm,2.0s,mb5.6
WLF Walferdange 80.24 339 P **P 13 59 52.2 +1.0**
WLF Walferdange 80.24 339 *e*P **P 13 59 50.9 -0.3**
WLF pmax pmax
comp=Z,64nm,1.4s,mb5.4
WLF Walferdange 80.24 339 *e*P **P 13 59 50.9 -0.3**
comp=Z,64nm,1.4s,mb5.4
GEMT Gemlik 80.26 320 *e*P **P 13 59 49.9 -1.4**
STU Stuttgart 80.27 337 *e*P **P 13 59 51.1 -0.2**
comp=Z,47nm,1.0s,mb5.4
HGH Gray Hill 80.29 345 *e*P **P 13 59 51.5 +0.1**
ACSO Alum Creek Sta 80.31 40 PFAKE 14 00 00.0 +8.4
ACSO LR LR
comp=Z,6µm,20.0s,MS5.9
MENF Mencas 80.34 342 *e*P **P 13 59 54.2 +2.5**
BAIF Baives 80.35 340 *e*P **P 13 59 51.7 -0.1**
KRTS Karatas 80.41 314 *e*P **P 13 59 52.8 +0.7**
PERS Pernice 80.42 332⇑*e*P **P 13 59 51.9 -0.3**
PERS *e* 14 00 34.3
GROS Grobnik 80.45 332 *e*P **P 13 59 51.6 -0.7**
LANF Langenberg 80.45 338 *e*P **P 13 59 54.5 +2.2**
KBA Koelnbreinsper 80.59 333⇑*i*P **P 13 59 53.4 +0.4**
comp=Z,2µm,5.6s,SNR=16
KBA Koelnbreinsper 80.59 333⇑*i*P **P 13 59 53.4 +0.3**
KBA pmax pmax
comp=Z,2µm,5.6s
MERS Mersin 80.60 315 *e*P **P 13 59 52.0 -1.1**
PGB Panagyurishte 80.64 324 *i* P **P 13 59 54.1 +0.7**
SWK Warminster 80.66 345 *e*P **P 13 59 52.9 -0.6**
TAOE Nuku Hiva Isla 80.70 113 *e*S S 14 09 47.9 -14
comp=Z,2µm,26.7s
TAOE *e*LR LR 14 24 29.6
comp=Z,23µm,20.4s,baz=325
OBKA Obir 80.71 332⇑*i*P **P 13 59 53.4 -0.4**
comp=Z,2µm,5.9s
KONT Konya--Tatoy 80.80 317 *e*P **P 13 59 52.9 -1.3**
PLD Plovdiv 80.80 324 *e*P **P 13 59 53.1 -1.1**
PLD Plovdiv 80.80 324 *i* P **P 13 59 55.2 +1.0**
NCB Newcomb 80.80 33 PFAKE 14 00 00.0 +5.8
NCB LR LR
comp=Z,4µm,19.0s,MS5.8
MFT Murefte 80.81 321 *e*P **P 13 59 54.4 +0.1**
KDZ Kurdzhali 80.88 323 *i* P **P 13 59 54.7 +0.1**
WATA Walderalm 80.89 335⇑*i*P **P 13 59 54.9 +0.2**
comp=Z,36nm,0.9s,mb5.3
WATA Walderalm 80.89 335⇑*i*P **P 13 59 54.9 +0.2**
WATA pmax pmax
comp=Z,36nm,0.9s,mb5.3
BFO Black Forest 80.91 337 P **P 13 59 55.6 +0.8**
comp=Z,167nm,1.2s,mb5.8,SNR=11
BFO Black Forest 80.91 337 *e*P **P 13 59 54.5 -0.3**
comp=Z,53nm,1.2s,mb5.3
BFO Black Forest 80.91 337 *e*P **P 13 59 54.5 -0.3**
BFO pmax pmax
comp=Z,53nm,1.2s,mb5.3
RKY Sarkoy-Tekirda 80.93 321 *e*P **P 13 59 54.4 -0.5**
WTTA Wattenberg 80.94 335⇑*i*P **P 13 59 55.4 +0.5**
comp=Z,3µm,5.8s,SNR=24
WTTA Wattenberg 80.94 335⇑*i*P **P 13 59 55.4 +0.5**
WTTA pmax pmax
comp=Z,3µm,5.8s
DIVS Divcibare 80.94 328 *i* P **P 13 59 54.7 -0.3**
DIVS Divcibare 80.94 328 *e*P **P 13 59 53.1 -1.8**
VTS Vitosha 80.99 325 *e*P **P 13 59 55.1 -0.1**
VTS Vitosha 80.99 325 *i* P **P 13 59 55.2 0.0**
VTS Vitosha 80.99 325⇑*i*P **P 13 59 55.7 +0.5**
HEX Exmoor 81.02 346 *e*P **P 13 59 55.8 +0.4**
CRES Cresnjev 81.02 332⇓*e*P **P 13 59 54.7 -0.6**
CRES *e* 14 00 38.8
CRES *e*PP PP 14 03 00.8 +0.8
MOTA Moosalm 81.02 335⇑*i*P **P 13 59 55.7 +0.4**
comp=Z,67nm,1.1s,mb5.5,SNR=20
MOTA Moosalm 81.02 335⇑*i*P **P 13 59 55.7 +0.3**
MOTA pmax pmax
comp=Z,67nm,1.1s,mb5.5
NATX Nacogdoches 81.08 53 *e*P **P 13 59 54.9 -0.8**
NATX LR LR
comp=Z,5µm,19.0s,MS5.9
WLS Welschbruch 81.09 338 *e*P **P 13 59 58.1 +2.4**
SQTA Sankt Quirin 81.11 335⇑*i*P **P 13 59 56.5 +0.6**
comp=Z,64nm,1.1s,mb5.5,SNR=12
SQTA Sankt Quirin 81.11 335⇑*i*P **P 13 59 56.5 +0.7**
SQTA pmax pmax
comp=Z,64nm,1.1s,mb5.5
CDF Champ du Feu 81.11 338⇑*i*P **P 13 59 55.9 0.0**
comp=Z,178nm,1.2s,mb5.6
CDF Champ du Feu 81.11 338⇑*i*P **P 13 59 55.9 0.0**
CDF pmax pmax
comp=Z,89nm,1.2s,mb5.6
CDF Champ du Feu 81.11 338⇑*i*P **P 13 59 55.9 0.0**
comp=Z,89nm,1.2s,mb5.6
LJU Ljubljana 81.13 332⇑*e*P **P 13 59 55.2 -0.8**
LJU *e* 14 06 22.4
LJU *e*S S 14 10 06.7 +0.1
RZN Rozhen 81.14 324 *i* P **P 13 59 56.7 +0.7**
PTCC Patocco-Chiusa 81.19 333 P **P 13 59 55.6 -0.6**
HTL Hartland 81.20 346 *e*P **P 13 59 56.7 +0.4**
HTL AMb AMB 14 00 01.3
comp=Z,56nm,2.0s,mb5.2
CADS Cadrg 81.22 333⇑*e*P **P 13 59 55.2 -1.2**
CADS *e*S S 14 10 06.3 -1.2
SEST Monte Rota 81.23 334 P **P 13 59 58.2 +1.7**
ALN Alexandroupoli 81.24 322 *e*P **P 13 59 55.2 -1.3**
LIBD Limburg 81.27 338 *e*P **P 13 59 59.2 +2.5**
WVT Waverly 81.30 46 *e*P **P 13 59 54.5 -2.4**
WVT pmax pmax
comp=Z,19nm,1.0s,mb5.0
WVT Waverly 81.30 46 *e*P **P 13 59 54.5 -2.3**
comp=Z,19nm,1.0s,mb5.0
ECH Echery 81.32 338 *e*P **P 13 59 57.0 0.0**
ENEZ Enez 81.33 322 *e*P **P 13 59 55.6 -1.4**
GMNA Gemona 81.34 333 P **P 13 59 59.7 +2.6**
VOY Vojsko 81.35 333 *e*P **P 13 59 57.4 +0.3**
VOY *e* 14 00 10.2
BBLS Bajina Basta - 81.35 328 *i* P **P 13 59 58.8 +1.6**
BBLS Bajina Basta - 81.35 328 P **P 13 59 58.8 +1.7**
BOJS Bojanci 81.37 332⇑*e*P **P 13 59 56.9 -0.4**
BOJS *e* 14 00 39.3
BOJS *e*PP PP 14 03 04.5 +1.5
BOJS *e* 14 06 23.9
LBNH Lisbon 81.41 31 PFAKE 14 00 10.0 +13
LBNH LR LR
comp=Z,4µm,19.0s,MS5.8
FELD Feldberg im Sc 81.41 337 *e*P **P 13 59 58.1 +0.7**
PKME Peaks-Kenny Pk 81.42 29 PFAKE 14 00 10.0 +12
PKME LR LR
comp=Z,8µm,20.0s,MS6.0
DAVA Damuels 81.43 336⇑*i*P **P 13 59 57.7 +0.1**
comp=Z,2µm,5.5s,SNR=7.6
CANB Canakkale 81.53 321 *e*P **P 13 59 56.3 -1.8**
MEZF Maizieres J'vi 81.59 339⇑*i*P **P 13 59 58.6 +0.2**
comp=Z,211nm,1.3s,mb5.6
MEZF Maizieres J'vi 81.59 339⇑*i*P **P 13 59 58.6 +0.2**
comp=Z,211nm,1.3s,mb5.9
THEF They Montfort 81.62 339 *e*P **P 13 59 59.2 +0.7**
MMB Musomiste 81.63 324 *e*P **P 13 59 58.8 +0.2**
BINY Binghamton 81.63 35 PFAKE 14 00 10.0 +11
BINY LR LR
comp=Z,5µm,20.0s,MS5.9
KNDS Knezji Dol 81.64 332⇑*e*P **P 13 59 58.2 -0.4**
KKB Krupnik 81.65 325 *i* P **P 13 59 58.7 0.0**
MOF Molkenrain 81.67 338 *e*P **P 14 00 00.7 +1.9**
SULZ Cheisacher 81.70 337 ⇑P **P 13 59 59.1 +0.1**
ZUR Degenried 81.72 337 ⇓P **P 14 00 01.3 +2.2**
HAU Haudompre 81.73 338⇑*i*P **P 13 59 58.9 -0.2**
comp=Z,116nm,1.3s,mb5.4
HAU *e*MLR MLR
comp=Z,11µm,19.5s
HAU Haudompre 81.73 338⇑*i*P **P 13 59 58.9 -0.2**
HAU pmax pmax
comp=Z,58nm,1.3s,mb5.3
HAU MLR MLR
comp=Z,11µm,19.5s,MS6.2
HAU Haudompre 81.73 338⇑*i*P **P 13 59 58.9 -0.2**
comp=Z,58nm,1.3s,mb5.3
HAU LR LR
comp=Z,11µm,19.5s,MS6.2
ISP Isparta 81.75 318 *e*P **P 13 59 58.6 -0.7**
ISP Isparta 81.75 318 *e*P **P 13 59 58.7 -0.5**
OXF Oxford 81.77 48 *e*P **P 13 59 58.9 -0.4**
comp=Z,59nm,1.1s,mb5.4
OXF LR LR
comp=Z,5µm,19.0s,MS5.9
HINF Hinteralfeld 81.77 338 *e*P **P 13 59 59.0 -0.4**
HKT Hockley 81.79 55 PFAKE 14 00 10.0 +11
HKT LR LR
comp=Z,6µm,20.0s,MS6.0
PLE Pljevlja 81.82 328⇓*i*P **P 14 00 00.6 +0.9**
PPT Papeete 81.83 126 *e*S S 14 10 03.6 -10
comp=Z,5µm,31.5s
PPT *e*LR LR 14 25 06.7
comp=Z,9µm,20.8s,baz=329
PPT Papeete 81.83 126 LR LR 14 30 39.3
comp=Z,9µm,19.3s,MS6.1,baz=274,slow=32
DAVOX Davos/Dischmat 81.89 336 P **P 14 00 00.3 +0.3**
comp=Z,29nm,0.8s,mb5.3,baz=21,slow=4.9,SNR=17
CSA1 St Austell 81.89 346 *e*P **P 14 00 00.6 +0.6**
BBS Basel-Blauen 81.92 337 *e*P **P 14 00 00.9 +0.8**
EZN Ezine 82.01 322 *e*P **P 13 59 58.8 -1.8**
BRMO Bormio 82.02 335 P **P 14 00 01.7 +1.0**
CTI Castel Tesino 82.03 334 P **P 14 00 04.0 +3.3**
CTI pmax pmax
comp=Z,25nm,0.9s,mb5.1
CTI Castel Tesino 82.03 334 P **P 14 00 04.0 +3.3**
comp=Z,25nm,0.9s,mb5.2
IVA Berane 82.03 327⇓*i*P **P 14 00 01.4 +0.7**
MUO Muotathal 82.07 336⇑P **P 14 00 01.2 +0.3**
LLS Linth-Limmern 82.08 336⇑P **P 14 00 01.1 +0.1**
SRS Serrai 82.08 324 *e*P **P 14 00 00.4 -0.6**
PLAL Pickwick Lake 82.08 47 *e*P **P 13 59 59.6 -1.4**
PLAL LR LR
comp=Z,6µm,20.0s,MS5.9
UPM Unac-Piva 82.11 328⇓*i*P **P 14 00 00.5 -0.6**
STIP Stip 82.16 325 *e*P **P 14 00 00.6 -0.8**
MCWV Mont Chateau 82.16 39 PFAKE 14 00 10.0 +8.6
MCWV LR LR
comp=Z,8µm,20.0s,MS6.1
SSPA Standing Stone 82.18 37 PFAKE 14 00 10.0 +8.5
SSPA LR LR
comp=Z,4µm,20.0s,MS5.8
LOMF Lomont 82.21 338 *e*P **P 14 00 02.5 +0.9**
SKO Skopje 82.21 326 *e*P **P 14 00 01.6 0.0**
SKO Skopje 82.21 326 *e*P **P 14 00 00.6 -1.1**
PVY Plav 82.24 327⇓*i*P **P 14 00 02.0 +0.2**
VDL Val di Lei 82.28 336⇑P **P 14 00 02.6 +0.6**
VAY Valandovo 82.32 325 *e*P **P 14 00 00.9 -1.4**
VAY Valandovo 82.32 325 *e*P **P 14 00 01.4 -0.8**
KNT Kendrikon 82.32 324 *e*P **P 14 00 01.5 -0.8**
TUE Stuetta 82.32 336 P **P 14 00 03.0 +0.8**
BHL Bhannes 82.35 312 *e*P **P 14 00 01.9 -0.4**
KVTX Kingsville 82.41 58 PFAKE 14 00 10.0 +7.3

KVTX LR LR
comp=Z,4µm,19.0s,MS5.8
NKY Niksic 82.42 328 ⇓*i*P **P 14 00 01.5 -1.1**
SOH Sokhos 82.43 324 *e*P **P 14 00 01.6 -1.1**
LOS Limnos 82.45 322 *e*P **P 14 00 03.8 +0.9**
BRY Bratogost 82.51 328 ⇓*i*P **P 14 00 01.4 -1.8**
OUR Ouranopolis 82.58 323 *e*P **P 14 00 05.5 +1.9**
FLN La Foliniere 82.60 343 *e*P **P 14 00 03.4 -0.3**
comp=Z,194nm,1.5s,mb5.6
FLN *e*MLR MLR
comp=Z,7µm,20.2s
FLN La Foliniere 82.60 343 *e*P **P 14 00 03.4 -0.3**
FLN pmax pmax
comp=Z,97nm,1.5s,mb5.6
FLN MLR MLR
comp=Z,7µm,20.3s,MS6.0
FLN La Foliniere 82.60 343 *e*P **P 14 00 03.4 -0.3**
comp=Z,97nm,1.5s,mb5.6
FLN LR LR
comp=Z,7µm,20.3s,MS6.0
TTG Podgorica 82.65 327 ⇓*i*P **P 14 00 03.8 -0.2**
LDF La Druitiere 82.68 343 *e*P **P 14 00 03.8 -0.3**
comp=Z,72nm,1.2s,mb5.3
LDF La Druitiere 82.68 343 *e*P **P 14 00 03.8 -0.3**
LDF pmax pmax
comp=Z,36nm,1.2s,mb5.3
LDF La Druitiere 82.68 343 *e*P **P 14 00 03.8 -0.3**
comp=Z,36nm,1.2s,mb5.3
CSS Prodhromos 82.69 314 *e*P **P 14 00 03.3 -0.9**
GRG Griva 82.70 325 *e*P **P 14 00 05.3 +1.1**
HORT Hortiatis 82.72 324 *e*P **P 14 00 02.5 -1.8**
THE Thessaloniki 82.74 324 *e*P **P 14 00 03.1 -1.3**
PLG Polygyros 82.77 324 *e*P **P 14 00 02.9 -1.6**
PLG Polygyros 82.77 324 *e*P **P 14 00 05.0 +0.4**
STON Ston 82.84 329 *i*P **P 14 00 02.3 -2.7**
BLCB Balcova 82.89 320 *e*P **P 14 00 03.8 -1.4**
BLCB Balcova 82.89 320 *e*P **P 14 00 04.1 -1.1**
BUM Brajici-Budva 82.90 328 ⇓*i*P **P 14 00 04.5 -0.7**
HCY Herceg Novi 82.92 328 ⇓*i*P **P 14 00 05.5 +0.2**
ELL Elmali 82.92 317 *e*P **P 14 00 03.8 -1.5**
SWET Sewanee 82.96 45 *e*P **P 14 00 04.5 -1.0**
GRR Gorron 83.03 343 ⇑*i*P **P 14 00 05.8 -0.1**
comp=Z,105nm,1.1s,mb5.5
GRR Gorron 83.03 343 ⇑*i*P **P 14 00 05.8 -0.1**
GRR pmax pmax
comp=Z,53nm,1.1s,mb5.5
GRR Gorron 83.03 343 ⇑*i*P **P 14 00 05.8 -0.1**
comp=Z,53nm,1.1s,mb5.5
LOR Lormes 83.04 340 ⇑*i*P **P 14 00 06.0 0.0**
comp=Z,122nm,1.1s,mb5.6
LOR *e*MLR MLR
comp=Z,9µm,17.0s
LOR Lormes 83.04 340 ⇑*i*P **P 14 00 06.0 0.0**
LOR pmax pmax
comp=Z,61nm,1.1s,mb5.5
LOR MLR MLR
comp=Z,9µm,17.0s,MS6.2
LOR Lormes 83.04 340 ⇑*i*P **P 14 00 06.0 0.0**
comp=Z,61nm,1.1s,mb5.5
LOR LR LR
comp=Z,9µm,17.0s,MS6.2
HRV Harvard--Oak R 83.05 32 PFAKE 14 00 20.0 +14
HRV LR LR
comp=Z,3µm,19.0s,MS5.7
ASF Jabal al Asfar 83.05 310 P **P 14 00 06.6 +0.6**
comp=Z,7.9nm,0.9s,mb4.7,baz=192,slow=1.0,SNR=16
ASF Jabal al Asfar 83.05 310 P **P 14 00 06.6 +0.6**
ASF pmax pmax
comp=Z,8.0nm,1.0s
ULC Ulcinj 83.06 327 ⇓*i*P **P 14 00 05.6 -0.4**
BIA Bitola 83.07 325 *e*P **P 14 00 05.1 -1.0**
CABF La Chapelle 83.09 338 *e*P **P 14 00 06.4 +0.2**
comp=Z,58nm,1.1s,mb5.2
CABF La Chapelle 83.09 338 *e*P **P 14 00 06.4 +0.2**
CABF pmax pmax
comp=Z,29nm,1.1s,mb5.2
CABF La Chapelle 83.09 338 *e*P **P 14 00 06.4 +0.2**
comp=Z,29nm,1.1s,mb5.2
MMK Mattmark 83.10 336 ⇑P **P 14 00 07.2 +0.9**
OG01 Vacheresse 83.19 337 *e*P **P 14 00 11.2 +4.5**
OHR Ohrid 83.20 326 *e*P **P 14 00 05.4 -1.4**
OHR Ohrid 83.20 326 *e*P **P 14 00 05.3 -1.4**
DIX Grande Dixence 83.22 337 ⇑P **P 14 00 07.6 +0.7**
FNA Florina 83.25 325 *e*P **P 14 00 04.8 -2.3**
SSF Saint Saulge 83.31 340 ⇑*i*P **P 14 00 07.5 +0.1**
comp=Z,62nm,1.0s,mb5.3
SSF Saint Saulge 83.31 340 ⇑*i*P **P 14 00 07.5 +0.1**
SSF pmax pmax
comp=Z,31nm,1.0s,mb5.3
SSF Saint Saulge 83.31 340 ⇑*i*P **P 14 00 07.5 +0.1**
comp=Z,31nm,1.0s,mb5.3
HYF Humbligny 83.33 340 *e*P **P 14 00 08.0 +0.5**
TIR Tirane 83.36 327 *e*P **P 14 00 06.6 -1.0**
EMV Vieux Emosson 83.38 337 ⇑P **P 14 00 08.4 +0.7**
LIT Litokhoron 83.39 324 *e*P **P 14 00 04.9 -2.9**
MLSB Milas 83.45 319 *e*P **P 14 00 07.7 -0.4**
ORO Oropa 83.48 336 P **P 14 00 09.4 +1.1**
DALT Dalyan (Mudla) 83.49 318 *e*P **P 14 00 07.3 -1.0**
SGMF Saint Gilles 83.49 344 *e*P **P 14 00 08.2 -0.1**
comp=Z,59nm,1.1s,mb5.2
SGMF Saint Gilles 83.49 344 *e*P **P 14 00 08.2 -0.1**
SGMF pmax pmax
comp=Z,30nm,1.1s,mb5.2
SGMF Saint Gilles 83.49 344 *e*P **P 14 00 08.2 -0.1**
comp=Z,30nm,1.1s,mb5.2
ROSF Rostrenen 83.55 344 *e*P **P 14 00 08.5 -0.1**
comp=Z,97nm,1.1s,mb5.5
ROSF Rostrenen 83.55 344 *e*P **P 14 00 08.5 -0.1**
ROSF pmax pmax
comp=Z,48nm,1.1s,mb5.5
ROSF Rostrenen 83.55 344 *e*P **P 14 00 08.5 -0.1**
comp=Z,48nm,1.1s,mb5.5
WHFO Wadi Hawf 83.58 289 P **P 14 00 09.7 +0.9**
SNR=8.5
AVF Avril sur Loir 83.61 340 ⇑*i*P **P 14 00 09.0 +0.1**
comp=Z,276nm,1.4s,mb5.9
AVF Avril sur Loir 83.61 340 ⇑*i*P **P 14 00 09.0 +0.1**
AVF pmax pmax
comp=Z,138nm,1.4s,mb5.9
AVF Avril sur Loir 83.61 340 ⇑*i*P **P 14 00 09.0 +0.1**
comp=Z,138nm,1.4s,mb5.9
SMF Signal de Mont 83.62 339 ⇑*i*P **P 14 00 09.1 +0.1**
comp=Z,251nm,1.1s,mb6.0
SMF Signal de Mont 83.62 339 ⇑*i*P **P 14 00 09.1 +0.1**
SMF pmax pmax
comp=Z,125nm,1.1s,mb6.0
SMF Signal de Mont 83.62 339 ⇑*i*P **P 14 00 09.1 +0.1**
comp=Z,125nm,1.1s,mb6.0
RSM Repubblica di 83.69 333 P **P 14 00 11.2 +1.9**
FSSB Fossombrone 83.79 332 P **P 14 00 10.7 +0.8**
RSL Roselend 83.80 337 *e*P **P 14 00 12.9 +3.0**
BODT Bodrum 83.86 319 *e*P **P 14 00 09.6 -0.5**
ERBM Eremo 83.88 334 P **P 14 00 11.3 +1.0**
GSCL Gusciola 83.89 334 P **P 14 00 12.7 +2.4**
SFI Santa Sofia 83.90 333 P **P 14 00 12.1 +1.7**
SEI Scarperia 83.92 333 P **P 14 00 14.4 +3.9**
comp=Z,139nm,0.8s,mb6.1
LPL La Plagne 83.93 337 ⇑*i*P **P 14 00 11.6 +1.1**
comp=Z,117nm,1.2s,mb5.6
LPL La Plagne 83.93 337 ⇑*i*P **P 14 00 11.6 +1.1**
LPL pmax pmax
comp=Z,59nm,1.2s,mb5.6
LPL La Plagne 83.93 337 ⇑*i*P **P 14 00 11.6 +1.1**
comp=Z,59nm,1.2s,mb5.6
BLA Blacksburg 83.93 40 PFAKE 14 00 20.0 +9.4
BLA LR LR
comp=Z,8µm,19.0s,MS6.1
QUIF Quistinic 83.93 344 *e*P **P 14 00 10.4 -0.2**
comp=Z,54nm,1.1s,mb5.3
QUIF Quistinic 83.93 344 *e*P **P 14 00 10.4 -0.2**
QUIF pmax pmax
comp=Z,27nm,1.1s,mb5.3
QUIF Quistinic 83.93 344 *e*P **P 14 00 10.4 -0.2**
comp=Z,27nm,1.1s,mb5.3
LPG La Plagne 83.94 337 ⇑*i*P **P 14 00 11.8 +1.2**
comp=Z,159nm,1.2s,mb5.7
LPG La Plagne 83.94 337 ⇑*i*P **P 14 00 11.8 +1.2**
LPG pmax pmax
comp=Z,80nm,1.2s,mb5.7
LPG La Plagne 83.94 337 ⇑*i*P **P 14 00 11.8 +1.2**
comp=Z,80nm,1.2s,mb5.7
VMG Vicchio 83.94 333 P **P 14 00 12.3 +1.7**
BGF Bois d'Agland 83.94 340 *e*P **P 14 00 11.0 +0.4**
MYNC Murphy 83.95 44 PFAKE 14 00 20.0 +9.3
MYNC LR LR
comp=Z,8µm,19.0s,MS6.1
DAT Datca 84.01 319 *e*P **P 14 00 08.9 -2.1**
VLC Villacollemand 84.12 334 P **P 14 00 13.0 +1.5**
CRE Caprese Michel 84.12 333 P **P 14 00 13.5 +2.0**
BADI Badiali 84.13 333 P **P 14 00 12.5 +0.9**
SNTG Esanatoglia 84.13 332 P **P 14 00 12.1 +0.5**
ABTO Aybut 84.30 289 P **P 14 00 13.6 +1.2**
SNR=11
PLDF La Plantade 84.31 339 *e*P **P 14 00 15.9 +3.4**
TCF Toulx Ste Croi 84.35 340 *e*P **P 14 00 12.9 +0.2**
comp=Z,62nm,1.0s,mb5.4
TCF Toulx Ste Croi 84.35 340 *e*P **P 14 00 12.9 +0.2**
TCF pmax pmax
comp=Z,31nm,1.0s,mb5.4
TCF Toulx Ste Croi 84.35 340 *e*P **P 14 00 12.9 +0.2**
comp=Z,31nm,1.0s,mb5.4
AGO Saint Agoulin 84.35 340 *e*P **P 14 00 13.7 +1.0**
AGG Agios Georgios 84.37 324 *e*P **P 14 00 11.6 -1.2**
BNI Bardonecchia 84.37 337 *e*P **P 14 00 14.0 +1.2**
ASS Assisi 84.40 332 P **P 14 00 14.4 +1.5**
JAN Janina 84.42 325 *e*P **P 14 00 13.5 +0.4**
CBN Corbin 84.44 38 PFAKE 14 00 20.0 +6.9
CBN LR LR
comp=Z,7µm,20.0s,MS6.1
CSNT Castellina Chi 84.46 333 P **P 14 00 12.9 -0.4**
PII Pisa 84.47 334 P **P 14 00 13.6 +0.3**
FGMS Monte Sant'Ang 84.48 329 P **P 14 00 15.2 +1.8**
MFF Saint Martin d 84.58 342 *e*P **P 14 00 14.0 +0.1**
comp=Z,75nm,1.1s,mb5.4
MFF Saint Martin d 84.58 342 *e*P **P 14 00 14.0 +0.1**
MFF pmax pmax
comp=Z,37nm,1.1s,mb5.4
MFF Saint Martin d 84.58 342 *e*P **P 14 00 14.0 +0.1**
comp=Z,37nm,1.1s,mb5.4
MBDF Montbardon 84.64 337 *e*P **P 14 00 14.7 +0.5**
EVR Evrytania 84.67 324 *e*P **P 14 00 15.5 +1.2**
ORIF Oris-en-Rattie 84.71 337 ⇑*i*P **P 14 00 15.3 +0.8**
comp=Z,209nm,1.4s,mb5.8
ORIF *e*MLR MLR
comp=Z,7µm,18.0s
ORIF Oris-en-Rattie 84.71 337 ⇑*i*P **P 14 00 15.3 +0.8**
ORIF pmax pmax
comp=Z,105nm,1.4s,mb5.8
ORIF Oris-en-Rattie 84.71 337 ⇑*i*P **P 14 00 15.3 +0.8**
comp=Z,105nm,1.4s,mb5.8
AQU L'Aquila 84.78 331 *e*P **P 14 00 14.8 -0.1**
GRFL Gerfalco 84.86 333 P **P 14 00 14.9 -0.3**
CIGN Sant'Elia a Pi 84.90 330 P **P 14 00 16.5 +1.0**
VIVF Saint-Julien-l 85.08 338 *e*P **P 14 00 17.1 +0.7**
FG5 Orsara di Pugl 85.10 330 P **P 14 00 17.4 +0.9**
SAOF Saorge 85.11 336 *e*P **P 14 00 18.9 +2.4**
AUTN L'Aution 85.14 336 *e*P **P 14 00 17.2 +0.5**
VVLD Villa Vallelon 85.14 331 P **P 14 00 15.9 -0.8**
FG4 Candela 85.14 329 P **P 14 00 16.9 +0.2**
OG25 Le Caire 85.17 337 *e*P **P 14 00 20.0 +3.2**
SBF Sospel 85.25 336 *e*P **P 14 00 17.0 -0.3**
comp=Z,78nm,0.9s,mb5.5
SBF Sospel 85.25 336 *e*P **P 14 00 17.0 -0.3**
SBF pmax pmax
comp=Z,39nm,0.9s,mb5.5
SBF Sospel 85.25 336 *e*P **P 14 00 17.0 -0.3**
comp=Z,39nm,0.9s,mb5.5
NWAO Narrogin (SRO) 85.29 210 PFAKE 14 00 30.0 +13
NWAO LR LR
comp=Z,4µm,20.0s,MS5.8
MTCE Montecelio 85.30 332 P **P 14 00 16.8 -0.7**
MVIF Mont Vial 85.31 336 *e*P **P 14 00 17.4 -0.1**
LKD Levkas 85.32 325 *e*P **P 14 00 16.3 -1.3**
LKD Levkas 85.32 325 P **P 14 00 20.0 +2.4**
SGG Gregorio Mates 85.32 330 P **P 14 00 17.3 -0.3**
RJF Les Rejaudoux 85.44 340 *e*P **P 14 00 17.9 -0.3**
comp=Z,58nm,1.1s,mb5.3
RJF *e*MLR MLR
comp=Z,9µm,17.0s
RJF Les Rejaudoux 85.44 340 *e*P **P 14 00 17.9 -0.3**
RJF pmax pmax
comp=Z,29nm,1.1s,mb5.3
RJF MLR MLR
comp=Z,9µm,17.0s,MS6.2
RJF Les Rejaudoux 85.44 340 *e*P **P 14 00 17.9 -0.3**
comp=Z,29nm,1.1s,mb5.3
RJF LR LR
comp=Z,9µm,17.0s,MS6.2
SMRF Simiane la Rot 85.66 337 *e*P **P 14 00 18.9 -0.4**
comp=Z,172nm,1.5s,mb5.8
SMRF Simiane la Rot 85.66 337 *e*P **P 14 00 18.9 -0.4**
comp=Z,172nm,1.5s,mb6.1
ORI Oriolo Calabro 85.75 328 P **P 14 00 20.3 +0.6**
FRF La Foret Royal 85.76 336 *e*P **P 14 00 19.8 +0.1**
comp=Z,184nm,1.5s,mb5.8
FRF La Foret Royal 85.76 336 *e*P **P 14 00 19.8 +0.1**
FRF pmax pmax
comp=Z,92nm,1.5s,mb5.8
FRF La Foret Royal 85.76 336 *e*P **P 14 00 19.8 +0.1**
comp=Z,92nm,1.5s,mb5.8
SLCN Sala Consilina 85.76 329 P **P 14 00 19.7 -0.1**
VLS Valsamata 85.80 324 *e*P **P 14 00 22.0 +2.1**
ZKR Zakros 85.96 319 *e*P **P 14 00 19.9 -0.9**
LMR La Mourre 86.00 336 *e*P **P 14 00 21.2 +0.2**
comp=Z,169nm,1.3s,mb5.8
LMR La Mourre 86.00 336 *e*P **P 14 00 21.2 +0.2**
LMR pmax pmax
comp=Z,85nm,1.3s,mb5.8
LMR La Mourre 86.00 336 *e*P **P 14 00 21.2 +0.2**
comp=Z,85nm,1.3s,mb5.8
PGF Pioggiola 86.00 334 *e*P **P 14 00 21.0 0.0**
comp=Z,42nm,1.0s,mb5.3
PGF Pioggiola 86.00 334 *e*P **P 14 00 21.0 0.0**
PGF pmax pmax
comp=Z,21nm,1.0s,mb5.3
PGF Pioggiola 86.00 334 *e*P **P 14 00 21.0 0.0**
comp=Z,21nm,1.0s,mb5.3
LASF Ste Croix 86.02 338 *e*P **P 14 00 21.1 0.0**
comp=Z,108nm,1.4s,mb5.6
CUC Castrocucco 86.04 329 P **P 14 00 20.2 -1.0**
EIL Elat 86.05 310 *e*P **P 14 00 21.0 -0.1**
comp=Z,2µm,1.4s
VLI Velíai 86.06 322 *e*P **P 14 00 23.5 +2.2**
ITM Ithomi 86.10 323 *e*P **P 14 00 24.0 +2.5**
LAST Lasithi 86.26 320 *e*P **P 14 00 20.1 -2.2**
XRY Khrisi 86.40 319 *e*P **P 14 00 25.0 +2.1**
TIP Timpagrande 86.41 328 *e*P **P 14 00 23.2 +0.2**
comp=Z,51nm,1.3s,mb5.6
TBI Tubuai 86.55 129 *e*S S 14 10 52.2 -8.8
comp=Z,2µm,26.5s
TBI *e*LR LR 14 26 47.2
comp=Z,5µm,21.2s,baz=319
VAM Vamos 86.62 321 *e*P **P 14 00 26.5 +2.5**
SIVA Sivas 86.68 320 *e*P **P 14 00 23.6 -0.7**
CNNC Cliffs of the 86.70 40 PFAKE 14 00 30.0 +5.6
CNNC LR LR
comp=Z,7µm,19.0s,MS6.1
KARN Karanos 86.75 321 *e*P **P 14 00 23.6 -1.1**
GRI Girifalco 86.85 328 P **P 14 00 25.6 +0.5**
URZ Urquera 86.86 161 LR LR 14 37 31.7
comp=Z,6µm,19.0s,MS6.0,baz=138,slow=34
GVD Gavdhos 87.15 320 *e*P **P 14 00 24.6 -2.0**
CEL Celeste 87.54 328 P **P 14 00 27.4 -1.1**
SOI Samo 87.65 328 P **P 14 00 29.2 +0.2**
SJPF Ste Jean 88.14 342 *e*P **P 14 00 31.0 -0.3**
comp=Z,41nm,1.4s,mb5.2
SJPF Ste Jean 88.14 342 *e*P **P 14 00 31.0 -0.3**
SJPF pmax pmax
comp=Z,21nm,1.4s,mb5.2
SJPF Ste Jean 88.14 342 *e*P **P 14 00 31.0 -0.3**
comp=Z,21nm,1.4s,mb5.2
ETSF Etsaut 88.19 341 *e*P **P 14 00 31.3 -0.3**
comp=Z,32nm,1.1s,mb5.2
ETSF Etsaut 88.19 341 *e*P **P 14 00 31.3 -0.3**
ETSF pmax pmax
comp=Z,16nm,1.1s,mb5.2
ETSF Etsaut 88.19 341 *e*P **P 14 00 31.3 -0.3**
comp=Z,16nm,1.1s,mb5.2
AGST Augusta-Monte 88.67 328 P **P 14 00 33.7 -0.2**
TAU Tasmania Unive 88.97 184 PFAKE 14 00 40.0 +4.7
TAU LR LR
comp=Z,1µm,19.0s,MS5.4
DGAR Diego Garcia 88.97 258 PFAKE 14 00 50.0 +15
DGAR LR LR
comp=Z,885nm,19.0s,MS5.2
SNZO South Karori 89.30 164 PFAKE 14 00 50.0 +13
SNZO LR LR
comp=Z,6µm,19.0s,MS6.1
DWPF Disney 90.95 46 PFAKE 14 00 50.0 +5.5
DWPF LR LR
comp=Z,6µm,19.0s,MS6.0
MTE Manteigas 92.00 345 *e*P **P 14 00 49.2 -0.2**
MTE Manteigas 92.00 345 *e*SKS SKSac 14 11 20.7 -2.6
ESDC Sonseca Array 92.02 343 P **P 14 00 48.6 -0.8**
comp=Z,0.2nm,0.2s,baz=10,slow=3.2,SNR=8.9
ESDC LR LR 14 48 16.0
comp=Z,4µm,19.1s,MS5.9,baz=10.0,slow=40
ESLA Sonseca Array 92.02 343 PFAKE 14 01 00.0 +11
ESLA LR LR
comp=Z,29µm,19.0s,MS6.8
KEST Kesra 92.11 331 P **P 14 00 49.9 0.0**
comp=Z,5.2nm,0.8s,mb4.9,baz=359,slow=3.9,SNR=11
KEST LR LR 14 46 33.2
comp=Z,3µm,18.4s,MS5.8,baz=110,slow=38
PESTR Estremoz 93.50 345 *e*P **P 14 00 58.1 +1.8**
PESTR Estremoz 93.50 345 *e*SKS SKSac 14 11 27.6 -4.0
PMAFR Mafra 93.70 346 *e*P **P 14 01 00.4 +3.2**
SOR Soroa 94.48 50 *e*P **P 14 00 58.3 -2.5**
BBSR BB Station 94.53 31 PFAKE 14 01 10.0 +9.0
BBSR LR LR
comp=Z,3µm,20.0s,MS5.8
RKT Rikitea 94.70 119 *e*SKSac SKSac 14 11 29.7 -8.4
comp=Z,1µm,28.0s
RKT *e*SP SP 14 13 24.7 -6.7
comp=Z,1µm,28.5s
RKT *e*SS SS 14 18 33.1 -6.0
comp=Z,1µm,24.5s
RKT *e*LR LR 14 30 44.1
comp=Z,5µm,33.0s,baz=325
ADH Angra Heroismo 95.44 0 *e*LR LR 14 36 00.0
MSEY Mahe Island 98.71 272 PFAKE 14 01 30.0 +10
MSEY LR LR
comp=Z,898nm,19.0s,MS5.3
TGUH Tegucigalpa,Un 99.06 59 PFAKE 14 01 30.0 +8.4
TGUH LR LR
comp=Z,2µm,20.0s,MS5.7
MOAC Moa 100.39 45 *e*P Pdif 14 01 25.1 -2.3
RCC Rio Carpintero 100.58 46 *e*P PP 14 05 35.8 +0.7
SJG San Juan 106.69 39 PFAKE 14 06 20.0 +14
SJG LR LR
comp=Z,3µm,19.0s,MS5.9
KMBO Kilima Mbogo 108.52 289 PFAKE 14 06 20.0 +11
KMBO LR LR
comp=Z,4µm,19.0s,MS6.0
PAYG Puerto Ayora 108.52 71 PFAKE 14 06 20.0 +11
PAYG LR LR
comp=Z,3µm,19.0s,MS5.8
SDV Santo Domingo 112.55 48 PFAKE 14 06 30.0 +13
SDV LR LR
comp=Z,2µm,19.0s,MS5.6
DRV Dumont d'Urvil 113.08 186 Pdif Pdif 14 02 21.0 -2.9
DRV Dumont d'Urvil 113.08 186 PP PP 14 07 06.0 -1.0
DRV SP SP 14 16 40.0 -1.7
DRV SS SS 14 22 47.0 -4.7
BBGH Gun Hill 113.90 35 PFAKE 14 06 30.0 +11
BBGH LR LR
comp=Z,4µm,19.0s,MS6.0
RPN Rapa Nui 114.00 105 PFAKE 14 06 30.0 +10
RPN LR LR
comp=Z,930nm,19.0s,MS5.4
TOA0 Torodi Ar. Sit 115.53 329 *e*P PKPdf 14 06 21.3 -1.3
TORD Torodi Ar. Bea 115.53 329 PKiKP PKiKP 14 06 21.6 -1.1
comp=Z,1.2nm,0.6s,baz=19,slow=2.1,SNR=6.8
CASY Casey 116.92 198 PFAKE 14 06 30.0 +4.7
CASY LR LR
comp=Z,2µm,20.0s,MS5.7
VNDA Vanda 123.65 178 PKP PKPdf 14 06 34.2 -4.0
comp=Z,1.1nm,0.9s,baz=320,slow=4.8,SNR=6.1
VNDA Vanda 123.65 178 PKIKP PKPdf 14 06 34.2 -4.0
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 123.65 178 PKP PKPdf 14 06 34.2 -4.0
DBIC Dimbokro 123.77 334 PKP PKPdf 14 06 37.9 -0.6
comp=Z,7.1nm,0.8s,baz=333,slow=7.8,SNR=7.0
DBIC Dimbokro 123.77 334 PKP PKPdf 14 06 37.9 -0.6
DBIC LR LR
comp=Z,4µm,20.0s,MS6.0
SBA Scott Base 124.15 177 PFAKE 14 06 50.0 +11
SBA LR LR
comp=Z,3µm,20.0s,MS5.9
LSZ Lusaka 124.95 285 PFAKE 14 06 50.0 +9.3
LSZ LR LR
comp=Z,4µm,20.0s,MS6.1
NNA Nana 125.75 68 PFAKE 14 06 50.0 +7.8
NNA LR LR
comp=Z,485nm,19.0s,MS5.2
SAML Samuel 131.51 52 *e*P PKPdf 14 06 52.1 -1.1
SAML LR LR
comp=Z,2µm,19.0s,MS5.9
MAW Mawson 131.85 211 PKP PKPdf 14 06 51.3 -2.6
comp=Z,1.8nm,0.8s,baz=103,slow=0.6,SNR=6.8
MAW Mawson 131.85 211 PKP PKPdf 14 06 51.3 -2.6
MAW LR LR
comp=Z,2µm,19.0s,MS5.9
LPAZ La Paz 134.48 63 PKP PKPdf 14 07 00.5 +1.6
comp=Z,1.9nm,0.7s,baz=331,slow=2.9,SNR=6.9
LPAZ La Paz 134.48 63 PKIKP PKPdf 14 07 00.5 +1.7
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 134.48 63 *e*P PKPdf 14 07 01.2 +2.4
LPAZ LR LR
comp=Z,2µm,20.0s,MS5.9
BOSA Boshof 135.92 275 PKP PKPdf 14 07 03.0 +1.5
comp=Z,3.3nm,1.0s,baz=34,slow=7.3,SNR=3.0
BOSA Boshof 135.92 275 PKP PKPdf 14 07 03.0 +1.5
BOSA LR LR
comp=Z,3µm,19.0s,MS6.1
QSPA South Pole Qui 136.03 180 *e*P PKPdf 14 07 02.0 +0.3
QSPA LR LR
comp=Z,3µm,19.0s,MS6.0
LVC Limon Verde 138.64 70 PFAKE 14 07 20.0 +13
LVC LR LR
comp=Z,3µm,20.0s,MS6.0
RCBR Riachuelo 138.93 14 PFAKE 14 07 20.0 +13
RCBR LR LR
comp=Z,2µm,19.0s,MS5.8
SUR Sutherland 141.24 274 PFAKE 14 07 20.0 +8.8
SUR LR LR
comp=Z,964nm,19.0s,MS5.6
BDFB Brasilia 144.66 37 PKP PKPdf 14 07 14.6 -2.7
comp=Z,14nm,0.9s,baz=324,slow=4.1,SNR=12
BDFB Brasilia 144.66 37 PKP PKPdf 14 07 14.6 -2.7
BDFB LR LR
comp=Z,4µm,21.0s,MS6.2
PLCA Paso Flores 148.09 96 PKPbc PKPbc 14 07 24.1 -2.1
comp=Z,27nm,1.2s,baz=269,slow=3.3,SNR=11
PLCA Paso Flores 148.09 96 PKP2 PKPbc 14 07 24.2 -2.0
PLCA pmax pmax
comp=Z,27nm,1.2s
PLCA Paso Flores 148.09 96 PFAKE 14 07 30.0 +6.9
PLCA LR LR
comp=Z,3µm,21.0s,MS6.1
CPUP Villa Florida 148.62 61 PKPbc PKPbc 14 07 26.1 -1.5
comp=Z,6.5nm,0.7s,baz=310,slow=3.6,SNR=14
CPUP Villa Florida 148.62 61 *e*P PKPdf 14 07 22.6 -1.4
CPUP LR LR
comp=Z,412nm,20.0s,MS5.2
NVL N'lazarevskaya 149.25 204 *d i*PKIKP PKPdf 14 07 23.2 -1.8
NVL *i* 14 30 13.9
NVL pmax pmax
comp=Z,62nm,1.7s
NVL pmax pmax
comp=N,29nm,1.6s
NVL pmax pmax
comp=E,13nm,1.3s
MAIT Maitri 149.27 204 *e*PKPdf PKPdf 14 07 26.5 +1.5
SNAA Sanae 152.13 196 PKPbc PKPbc 14 07 31.6 -4.5
comp=E,1.2nm,0.5s,baz=149,slow=1.6,SNR=20
SNAA Sanae 152.13 196 *e*PKPdf PKPdf 14 07 27.8 -1.6
SNAA *e* 14 07 32.2
SNAA *e* 14 07 38.1
SNAA *e* 14 07 44.6
SNAA *e* 14 07 51.4
SNAA *e* 14 07 59.0
SNAA *e* 14 08 05.3
SNAA Sanae 152.13 196 *e*P PKPdf 14 07 29.8 +0.4
PMSA Palmer Station 152.56 146 PFAKE 14 07 40.0 +10
PMSA LR LR
comp=Z,5µm,20.0s,MS6.3
TRQA Tornquist 152.82 85 PFAKE 14 07 40.0 +10
TRQA LR LR
comp=Z,5µm,19.0s,MS6.3
CAM4 Nova Friburgo 152.90 34 (P) PKPab 14 07 45.1 -3.7
VNA1 Neumayer--Stat 153.96 194 *e*PKPdf PKPdf 14 07 31.3 -0.8
VNA1 *e* 14 07 38.0

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VNA1                                  e                          14 07 52.2
VNA1                                  e                          14 07 56.6
VNA1                                  e                          14 08 04.8
EFI   East Falkland      158.87 116   PFAKE                      14 07 50.0 +12
EFI                                   LR     LR
        comp=Z,1µm,20.0s,MS5.7
```

IDC 13 13:51:04.9±22.0, 4561N×15419E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/20, mbtmp4.2/4, Error ellipse: s-maj=504.4km s-min=72.3km az=160.0, East of Kuril Islands

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Code  Station Name       Δ°    AZ°   Phase ID                  Time    Res
                                     Op     ISC                h m  s  ISC
ZAL   Zalesovo           43.90 307   P      P                  13 59 12.7 -0.6
        1.6nm,0.7s,baz=345,slow=11,SNR=2.0
MKAR  Makanchi Array     48.14 299   P      P                  13 59 46.4 -0.3
        2.0nm,0.8s,baz=64,slow=8.4,SNR=3.9
FINES FINESS Array B     65.39 335   P      P                  14 01 49.3 +0.1
        3.3nm,0.6s,baz=32,slow=9.0,SNR=4.4
NOA   NORSAR Array B     69.55 342   P      P                  14 02 14.8 -0.7
        1.7nm,0.8s,baz=28,slow=6.3,SNR=5.2
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*BJI **13** 13:51:29.9, 4647N×15364E, h19km, mB5.9, mb5.0, Ms6.2, Msz5.9*
*IDC **13** 13:51:29.8±0.6, 4622N×15331E, h0km, mb4.6/24, mb1 4.7/25, mb1mx4.6/32, mbtmp4.6/25, Error ellipse: s-maj=18.1km s-min=17.2km az=131.0*
*NEIC **13** 13:51:31.5±0.3, 4622N×15341E, h10km, mb5.1/33, Error ellipse: s-maj=9.1km s-min=5.2km az=167.0*
*SKHL **13** 13:51:32.9±2.7, 4610N×15360E, h70km±36km, mb5.3/2*
*ISCJB **13** 13:51:33.2±0.3, 4611N±005×15327E±005, h33km, mb5.0/77, MS6.1/3, Error ellipse: s-maj=8.8km s-min=3.2km az=118.1*
*MOS **13** 13:51:35.5±1.2, 4630N×15311E, h43km, mb5.2/48, Error ellipse: s-maj=9.9km s-min=5.0km az=102.1*
*SZGRF **13** 13:51:37.3, 4682N×15495E, h33km, mb5.0, East of Kuril Islands, Russia*

ISC 13 13:51:35.4±0.3, 4623N±005×15323E±005, h35km, n281, σ1§20/281, mb5.0/77, MS6.1/3, 11C-4D, Kuril Islands

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Code  Station Name       Δ°    AZ°   Phase ID                  Time    Res
                                     Op     ISC                h m  s  ISC
KUR   Kuril'sk           3.88 257    eP     Pn                 13 52 30.5 -2.1
SKR   Severo-Kuril's     4.86  22    eP     Pn                 13 52 40.4 -5.5
SKR                                  eS     Sn                 13 53 29.0  -12
YUK   Yuzh-Kuril'sk      5.65 250    eP     Pn                 13 52 57.5 +0.6
YUK                                  AMB    AMB                13 52 58.2
        210nm,0.2s
YUK                                  eS     Sn                 13 54 03.0 +2.4
YUK                                  A                         13 54 07.0
        420nm,0.5s
YUK                                  A                         13 54 07.0
        380nm,0.5s
YUK   Yuzh-Kuril'sk      5.65 250    ePN    Pn                 13 52 57.5 +0.6
YUK                                  eS     Sn                 13 54 03.0 +2.4
YUK                                  pmax   pmax
        comp=Z,210nm,0.2s
YUK                                  smax
        comp=N,420nm,0.5s
YUK                                  smax
        comp=E,380nm,0.5s
NEM2  Nemuro 2           6.04 244    P      Pn                 13 53 01.3 -1.0
NEM2                                 eS     Sn                 13 54 07.7 -2.5
JRA   Rausu              6.18 251    P      Pn                 13 53 05.7 +1.6
JNK   Nakash             6.59 249    P      Pn                 13 53 10.4 +0.6
JAK   Akkeshi            6.89 245    P      Pn                 13 53 12.7 -1.2
JAK                                  eS     Sn                 13 54 28.5 -2.6
YSS   Yuzh-Sakhalins     7.25 280||  eP     Pn                 13 53 23.7 +4.8
YSS                                  AMB    AMB                13 53 25.0
        comp=E,90nm,1.0s
JAR   Ashorobuto         7.34 250    P      Pn                 13 53 20.6 +0.5
JAR                                  eS     Sn                 13 54 41.1 -1.0
JOB   Onbets             7.49 247    P      Pn                 13 53 21.7 -0.4
JOB                                  eS     Sn                 13 54 43.7 -2.0
PET   Petropavlovsk      7.66  25    eP     Pn                 13 53 27.7 +3.3
PET                                  eS     Sn                 13 54 42.4 -7.5
PET                                  A                         13 54 45.3
        comp=E,190nm,2.3s
PET                                  A                         13 54 47.9
        comp=E,130nm,0.6s
PET                                  AMS    AMS                13 56 11.1
        comp=E,31µm,10.0s
ASAJ  Asahikawa          7.80 258    Pn     Pn                 13 53 28.4 +2.0
        comp=E,1.4nm,0.3s,baz=31,slow=7.3,SNR=7.6
ASAJ  Asahikawa          7.80 258    PN     Pn                 13 53 28.4 +2.0
ASAJ                                 pmax   pmax
        comp=Z,1.0nm,0.3s
JCH   Churui             7.93 246    P      Pn                 13 53 27.5 -0.7
JCH                                  eS     Sn                 13 54 53.1 -3.5
JEM   Erimo              8.38 243    eS     Sn                 13 55 02.6 -5.0
JNBK  Urakawa-nobuka     8.49 246    eS     Sn                 13 55 04.8 -5.6
JNB   Noboribetsu        9.51 251    P      Pn                 13 53 50.2 +0.4
JNB                                  eS     Sn                 13 55 32.2 -3.1
JKB   Kayabe             9.79 248    P      Pn                 13 53 52.4 -1.3
JKB                                  eS     Sn                 13 55 36.3 -6.0
JYM2  Yakumo 2          10.11 251    P      Pn                 13 53 58.0  0.0
JANG  Nango             10.34 240    eS     Sn                 13 55 46.0  -10
JTM   Tenmabayashi      10.37 243    eS     Sn                 13 55 48.7 -7.8
JTH   Tanohata          10.41 237    eS     Sn                 13 55 47.4  -10
JOSM  Okushiri--Mats    10.71 252    P      Pn                 13 54 05.7 -0.6
OFUJ  Ofunato           11.10 234    eS     Sn                 13 56 03.4  -11
JRG   Rokugo            11.49 238    eS     Sn                 13 56 15.8 -8.1
JIO   Ouri              11.72 233    eS     Sn                 13 56 16.2  -13
MA2   Magadan           13.45 355    PN     Pn                 13 54 43.9 +0.2
MA2                                  pmax   pmax
        comp=Z,10.0nm,0.7s
MAJO  Matsushiro        14.83 235    eP     Pn                 13 54 57.4 -5.2
MJAR  Matsushiro Arr    14.83 235    Pn     Pn                 13 55 01.3 -1.3
        baz=35,slow=11,SNR=4.8
MDJ   Mudanjiang        16.66 273    P      Pn                 13 55 27.1 +1.0
MDJ                                  AMB    AMB
        comp=Z,71nm,1.3s
MDJ                                  AMB    AMB
        comp=Z,5µm,7.8s
MDJ   Mudanjiang        16.66 273    eP     Pn                 13 55 25.7 -0.4
SEY   Seymchan          16.75 359    eP     Pn                 13 55 27.2  0.0
NRGR  Nerungri          20.45 311    eP     P                  13 56 07.0 -2.8
YAK   Yakutsk           20.80 328    eP     P                  13 56 12.2 -1.4
YAK                                  pmax   pmax
        comp=Z,137nm,1.6s
YAK   Yakutsk           20.80 328    eP     P                  13 56 11.5 -2.1
INCN  Inchon            21.57 256    eP     P                  13 56 21.9  0.0
        comp=Z,49nm,1.0s,mb4.9
HIA   Hailar            22.61 290    eP     P                  13 56 31.8 -1.2
BILL  Bilibino          22.88  13    eP     P                  13 56 35.5 -0.3
BILL                                 e                         13 57 02.8
BILL                                 pmax   pmax
        comp=Z,82nm,1.5s,mb4.9
BILL  Bilibino          22.88  13    eP     P                  13 56 33.5 -2.3
BOD   Bodaibo           26.38 310    eP     P                  13 57 06.5 -1.9
BOD                                  pmax   pmax
        comp=Z,22nm,1.3s,mb4.5
BJT   Baijiatuau        27.57 270    eP     P                  13 57 21.0 +1.9
NJ2   Nanjing           29.92 254    eP     P                  13 57 42.1 +2.1
NJ2                                  AMB    AMB
        comp=Z,20nm,0.8s,mb4.9
HHC   Hu-ho-hao-te      30.41 275    eP     P                  13 57 46.1 +1.8
HHC                                  AP     pP                 13 57 50.0 -4.4
HHC                                  XP     sP                 13 57 54.0 -4.6
HHC                                  AMB    AMB
        comp=Z,63nm,0.8s,mb5.4
HHC                                  AMB    AMB
        comp=Z,1µm,7.4s
ZAK   Zakamensk         32.97 296    eP     P                  13 58 05.9 -0.9
ZAK                                  pmax   pmax
        comp=Z,10.0nm,1.2s,mb4.6
COLA  College           36.50  38    eP     P                  13 58 36.1 -1.2
COLA  College           36.50  38    eP     P                  13 58 36.3 -1.0
LZH   Lanzhou           37.99 273    eP     P                  13 58 51.5 +1.6
LZH                                  AP     pP                 13 59 01.0 +0.9
LZH                                  XP     sP                 13 59 06.5 +2.2
LZH                                  AMB    AMB
        comp=Z,153nm,1.5s,mb5.5
LZH                                  AMB    AMB
        comp=Z,1µm,7.2s
LZH   Lanzhou           37.99 273    eP     P                  13 58 51.5 +1.6
LZH                                  *PP    pP                 13 59 01.0 +0.9
LZH                                  *SP    sP                 13 59 06.5 +2.2
LZH                                  pmax   pmax
        comp=Z,153nm,1.5s,mb5.5
LZH   Lanzhou           37.99 273    eP     P                  13 58 51.5 +1.6
        comp=Z,153nm,1.5s,mb5.5
LZH                                  pP     pP                 13 59 01.0 +0.9
LZH                                  sP     sP                 13 59 06.5 +2.2
GTA   Gaotai            39.13 280    ⇑P     P                  13 59 01.5 +2.0
GTA                                  AMB    AMB
        comp=Z,33nm,1.3s,mb4.9
EGAK  Eagle             39.36  38    eP     P                  13 58 59.6 -1.8
CD2   Chengdu           40.92 266    P      P                  13 59 17.1 +2.8
CD2                                  AMB    AMB
        comp=Z,60nm,1.1s,mb5.1
GYA   Guiyang           41.68 258    ⇑iP    P                  13 59 21.4 +0.8
GYA                                  AMB    AMB
        comp=Z,100nm,0.8s,mb5.5
GYA                                  AMB    AMB
        comp=Z,750nm,7.4s
GYA                                  LR     LR
        comp=N,9µm,15.0s,MS6.0
GYA                                  LR     LR
        comp=E,13µm,14.1s,MS6.0
GYA                                  LR     LR
        comp=Z,13µm,15.0s,MS5.9
INK   Inuvik            42.05  32    P      P                  13 59 22.5 -1.1
        comp=Z,9.4nm,0.8s,mb4.5,baz=285,slow=5.6,SNR=4.7
INK   Inuvik            42.05  32    P      P                  13 59 22.5 -1.1
INK                                  pmax   pmax
        comp=Z,9.0nm,0.8s
ZAL   Zalesovo          43.00 306    P      P                  13 59 29.9 -1.4
        comp=Z,2.6nm,0.8s,mb4.0,baz=40,slow=9.7,SNR=4.0
ZAL   Zalesovo          43.00 306    P      P                  13 59 29.9 -1.4
ZAL                                  pmax   pmax
        comp=Z,3.0nm,0.8s
MK31  Makanchi Array    47.25 298    eP     P                  14 00 04.6 -0.5
MKAR  Makanchi Array    47.25 298    P      P                  14 00 04.9 -0.1
        comp=Z,19nm,0.9s,mb5.0,baz=64,slow=7.9,SNR=11
MKAR  Makanchi Array    47.25 298    P      P                  14 00 04.9 -0.2
MKAR                                 pmax   pmax
        comp=Z,19nm,0.9s
LSA   Lhasa             50.38 274    eP     P                  14 00 32.1 +3.0
BVAR  Borovoye Array    51.25 310    P      P                  14 00 34.4 -1.3
        comp=Z,1.5nm,0.3s,mb4.4,baz=51,slow=8.3,SNR=4.2
BVAR  Borovoye Array    51.25 310    P      P                  14 00 34.4 -1.2
BVAR                                 pmax   pmax
        comp=Z,2.0nm,0.3s
YKA   Yellowknife Ar    51.30  36    P      P                  14 00 35.2 -0.8
        comp=Z,8.6nm,0.9s,mb4.7,baz=298,slow=7.2,SNR=5.8
YKA   Yellowknife Ar    51.30  36    P      P                  14 00 35.2 -0.8
YKA                                  pmax   pmax
        comp=Z,9.0nm,0.9s
YKA   Yellowknife Ar    51.30  36    P      P                  14 00 35.2 -0.8
CHTO  Chiang Mai        52.08 257    eP     P                  14 00 43.2 +1.4
KBS   Kingsbay          53.02 351    eP     P                  14 00 47.7 -1.1
AAK   Ala-Archa         54.14 297    eP     P                  14 00 55.5 -1.5
AAK                                  pmax   pmax
        comp=Z,17nm,1.2s,mb4.8
AAK   Ala-Archa         54.14 297    eP     P                  14 00 54.8 -2.2
JIRN  Jiri              55.07 275    eP     P                  14 01 06.1 +2.4
GUN   Gumba             55.13 275    eP     P                  14 01 05.9 +1.8
        comp=Z,105nm,1.1s,mb5.8
ARU   Arti              55.45 318    ⇑iP    P                  14 01 04.4 -2.1
ARU                                  e                         14 02 07.4
ARU                                  eS     S                  14 08 40.2 -8.7
ARU                                  eSS    SS                 14 12 24.2  -10
ARU                                  eSSS                      14 14 34.1
ARU                                  pmax   pmax
        comp=Z,19nm,1.1s,mb5.0
ARU   Arti              55.45 318    eP     P                  14 01 05.2 -1.2
KKN   Kakani            55.62 276    eP     P                  14 01 09.4 +1.7
        comp=Z,106nm,1.0s,mb5.8
PKI   Pulchoki          55.66 275    eP     P                  14 01 09.8 +1.8
        comp=Z,88nm,1.2s,mb5.7
DMN   Daman             55.85 276    eP     P                  14 01 11.3 +2.0
        comp=Z,127nm,1.1s,mb5.9
GKN   Gorkha            55.93 276    eP     P                  14 01 11.7 +1.8
        comp=Z,160nm,1.0s,mb6.0
EDM   Edmonton          56.62  46    eP     P                  14 01 13.9 -0.9
KOLN  Koldanda          56.79 277    eP     P                  14 01 18.0 +2.0
        comp=Z,104nm,0.9s,mb5.8
KEV   Kevo              57.86 341    ep     P                  14 01 21.6 -2.0
ARCES ARCESS Array B    58.37 341    P      P                  14 01 25.2 -1.9
        comp=Z,6.0nm,0.8s,mb4.7,baz=20,slow=6.8,SNR=9.6
ARCES ARCESS Array B    58.37 341    P      P                  14 01 25.3 -1.9
ARCES                                pmax   pmax
        comp=Z,6.0nm,0.8s
TMCR  Tamitsa           58.83 332    eP     P                  14 01 28.6 -1.8
TMCR                                 pmax   pmax
        comp=Z,30nm,1.4s,mb5.1
AKTK  Aktyubinsk        59.13 312    P      P                  14 01 32.8 +0.3
AKTO  Aktyubinsk        59.13 312    P      P                  14 01 32.8 +0.3
        comp=Z,5.9nm,0.8s,mb4.6,baz=48,slow=6.6,SNR=4.1
AKTO  Aktyubinsk        59.13 312    P      P                  14 01 32.8 +0.3
AKTO                                 pmax   pmax
        comp=Z,6.0nm,0.9s,mb4.6
MSO   Missoula          60.02  52    eP     P                  14 01 34.8 -3.8
CHMT  Chamberlain Mo    60.34  52    eP     P                  14 01 41.8 +1.0
SUMG  Summit            61.22   4    eP     P                  14 01 46.7  0.0
JOF   Joensuu           61.84 334    ep     P                  14 01 49.2 -1.7
NVAR  Mina Array Bea    62.61  62    P      P                  14 01 57.0 +1.0
        comp=Z,4.1nm,0.8s,mb4.6,baz=288,slow=7.5,SNR=10
GCMT  Greycliff         62.99  51    eP     P                  14 01 57.5 -1.1
IMW   Indian Meadow     63.49  53    eP     P                  14 02 00.2 -1.7
RRI2  Red Ridge         63.63  54    eP     P                  14 02 03.8 +0.9
MOOW  Moose Ponds       63.70  54    eP     P                  14 02 03.0 -0.2
TPAW  Teton Pass        63.75  54    eP     P                  14 02 04.0 +0.3
LOHW  Long Hollow       63.86  54    eP     P                  14 02 04.2 -0.2
REDW  Red Top Meadow    63.88  54    eP     P                  14 02 02.8 -1.7
PSI   Prapat            63.93 245    P      P                  14 02 06.2 +1.5
        comp=Z,2.3nm,0.7s,mb4.3,baz=288,slow=9.6,SNR=3.4
PSI   Prapat            63.93 245    P      P                  14 02 06.3 +1.5
PSI                                  pmax   pmax
        comp=Z,2.0nm,0.7s,mb4.3
KAF   Kangasniemi       63.95 335    ep     P                  14 02 03.2 -1.8
        comp=Z,24nm,0.9s,mb5.2,baz=37,slow=6.2
KAF   Kangasniemi       63.95 335    eP     P                  14 02 03.2 -1.8
KAF                                  pmax   pmax
        comp=Z,25nm,0.9s,mb5.2
BGU   Big Grassy Mou    64.19  57    eP     P                  14 02 05.5 -1.1
FIA1  FINESS Array S    64.55 335    eP     P                  14 02 07.7 -1.1
FINES FINESS Array B    64.55 335    P      P                  14 02 08.0 -0.9
        comp=Z,16nm,0.8s,mb5.1,baz=38,slow=9.6,SNR=14
HWUT  Hardware Ranch    64.60  56    eP     P                  14 02 07.1 -2.2
        comp=Z,5.6nm,0.9s,mb4.6
DUG   Dugway            64.79  58    eP     P                  14 02 09.8 -0.6
PDAR  Pinedale Array    64.99  54    P      P                  14 02 10.9 -0.9
        comp=Z,3.3nm,0.9s,mb4.4,baz=323,slow=3.2,SNR=6.3
OBN   Obninsk           65.78 326    eP     P                  14 02 16.0 -0.9
OBN                                  pmax   pmax
        comp=Z,64nm,2.6s,mb5.2
SRU   San Rafael        66.83  57    eP     P                  14 02 25.6 +2.0
RSSD  Black Hills       67.10  50    eP     P                  14 02 23.0 -2.3
WRA   Warramunga Arr    68.04 199    P      P                  14 02 32.1 +0.8
        comp=Z,1.7nm,0.9s,mb4.1,baz=14,slow=6.1,SNR=6.3
WRA   Warramunga Arr    68.04 199    P      P                  14 02 32.1 +0.8
WRA                                  pmax   pmax
        comp=Z,2.0nm,0.9s
PV10  Paradox Valley    68.19  57    eP     P                  14 02 32.3 +0.2
NB2   NORSAR Subarra    68.75 341    P      P                  14 02 35.1 -0.6
        comp=Z,13nm,0.8s,mb4.9,baz=28,slow=6.5
NB2   NORSAR Subarra    68.75 341    P      P                  14 02 35.1 -0.6
NB2                                  pmax   pmax
        comp=Z,13nm,0.8s,mb4.9
NOA   NORSAR Array B    68.75 341    P      P                  14 02 35.1 -0.5
        comp=Z,11nm,0.8s,mb4.8,baz=27,slow=6.3,SNR=12
SMCO  Snowmass          68.84  55    eP     P                  14 02 33.2 -3.0
HFS   Hagfors           68.97 340    P      P                  14 02 36.4 -0.7
        comp=Z,9.9nm,0.7s,mb4.9,baz=53,slow=5.9,SNR=12
HFS   Hagfors           68.97 340    P      P                  14 02 36.4 -0.7
HFS                                  pmax   pmax
        comp=Z,10.0nm,0.7s
ISCO  Idaho Springs     69.18  54    eP     P                  14 02 37.8 -0.6
KONO  Kongsberg         70.36 341    eP     P                  14 02 44.6 -1.0
SDCO  Great Sand Dun    70.66  55    eP     P                  14 02 46.9 -0.6
ECSD  EROS,Sioux Fal    71.19  46    eP     P                  14 02 48.7 -2.0
KIV   Kislovodsk        71.22 314    eP     P                  14 02 50.3 -0.5
KIV                                  e                         14 03 09.5
KIV                                  e                         14 05 24.6
KIV                                  pmax   pmax
        comp=Z,54nm,1.1s,mb5.4
KIV                                  MLR    MLR
        comp=Z,10µm,13.0s,MS6.3
KIV   Kislovodsk        71.22 314    eP     P                  14 02 53.2 +2.3
ZEI   Tsey              71.47 313    eP     P                  14 02 51.6 -0.8
ZEI                                  pmax   pmax
        comp=Z,19nm,0.8s,mb5.1
ASAR  Alice Springs     71.74 199    P      P                  14 02 53.3 -0.7
        comp=Z,0.8nm,0.6s,baz=11,slow=5.2,SNR=4.4
AKASG Malin Array Be    72.03 326    P      P                  14 02 55.1 -0.5
        comp=Z,15nm,0.7s,mb5.0,baz=34,slow=6.2,SNR=9.6
AKASG Malin Array Be    72.03 326    P      P                  14 02 55.2 -0.5
AKASG                                pmax   pmax
        comp=Z,15nm,0.7s
AKBB  Malin Array Si    72.03 326    eP     P                  14 02 55.1 -0.6
ANMO  Albuquerque       72.04  58    eP     P                  14 02 57.7 +1.9
GNI   Garni             72.93 310    P      P                  14 03 02.7 +1.6
        comp=Z,7.3nm,0.6s,mb4.8,baz=353,slow=17,SNR=3.5
GNI   Garni             72.93 310    eP     P                  14 03 00.6 -0.5
GNI                                  pmax   pmax
        comp=Z,53nm,1.7s
ANN   Anapa             73.12 318    eP     P                  14 03 02.6 +0.4
ANN                                  pmax   pmax
        comp=Z,50nm,1.1s,mb5.4
MNTX  Cornudas Mount    74.96  60    eP     P                  14 03 11.9 -1.0
        comp=Z,10nm,1.3s,mb4.6
KWP   Kalwaria          75.31 329    eP     P                  14 03 15.8 +0.8
OJC   Ojcow             75.82 331    eP     P                  14 03 18.2 +0.3
STHS  Stebnicka Huta    76.01 330    eP     P                  14 03 19.5 +0.6
STHS                                 pmax   pmax
        comp=Z,19nm,1.3s,mb4.9
STHS  Stebnicka Huta    76.01 330    eP     P                  14 03 19.5 +0.6
        comp=Z,19nm,1.3s,mb4.9
NIE   Niedzica          76.33 331    eP     P                  14 03 21.9 +1.1
OKC   Ostrava-Krasne    76.69 332    eP     P                  14 03 23.1 +0.3
OKC                                  ePCP   PcP                14 03 37.8 +3.7
UPC   Upice             76.78 334    eP     P                  14 03 23.8 +0.4
UPC                                  ePCP   PcP                14 03 36.5 +2.0
DPC   Dobruska-Polom    76.83 333    eP     P                  14 03 24.0 +0.4
DPC                                  ePCP   PcP                14 03 36.8 +2.1
EKA   Eskdalemuir Ar    76.87 346    P      P                  14 03 22.8 -1.1
        comp=Z,1.4nm,0.5s,mb4.1,baz=18,slow=4.5,SNR=7.4
EKA   Eskdalemuir Ar    76.87 346    P      P                  14 03 22.8 -1.0
EKA                                  pmax   pmax
        comp=Z,1.0nm,0.5s
MORC  Moravsky Berou    76.94 332||  iP     P                  14 03 24.6 +0.4
MORC  Moravsky Berou    76.94 332    eP     P                  14 03 22.4 -1.8
CLL   Collm             76.97 336    ⇑iP    P                  14 03 23.9 -0.5
CLL                                  pmax   pmax
        comp=Z,21nm,1.0s,mb5.0
CLL   Collm             76.97 336    ⇑iP    P                  14 03 23.9 -0.5
        comp=Z,21nm,1.0s,mb5.0
CLL                                  ePcP   PcP                14 03 37.0 +1.7
CLL                                  e(sP)  sP                 14 03 39.0 -0.4
KECS  Kecovo            77.06 330    eP     P                  14 03 24.9  0.0
KECS                                 pmax   pmax
        comp=Z,6.0nm,1.2s,mb4.4
KECS  Kecovo            77.06 330    eP     P                  14 03 24.9  0.0
        comp=Z,5.5nm,1.2s,mb4.4
BRG   Berggiesshubel    77.09 335    eP     P                  14 03 25.9 +0.8
BRG                                  pmax   pmax
        comp=Z,7.0nm,1.3s,mb4.4
BRG                                  MLR    MLR
        comp=N,6µm,15.6s,MS6.1
BRG                                  MLR    MLR
        comp=E,4µm,14.2s,MS6.1
BRG                                  MLR    MLR
        comp=Z,10µm,17.0s,MS6.2
PVCC  Panska Ves        77.21 334    eP     P                  14 03 25.9 +0.2
MLR   Muntele Rosu      77.54 325    P      P                  14 03 28.1 +0.5
        comp=Z,4.6nm,0.5s,mb4.6,baz=154,slow=2.9,SNR=5.1
MLR   Muntele Rosu      77.54 325    ⇑iP    P                  14 03 28.6 +1.0
MLR   Muntele Rosu      77.54 325    P      P                  14 03 28.1 +0.5
MLR                                  pmax   pmax
        comp=Z,5.0nm,0.5s
MALT  Malatya           77.57 313    eP     P                  14 03 29.7 +2.0
MALT                                 pmax   pmax
        comp=Z,29nm,1.3s,mb5.0
MALT  Malatya           77.57 313    eP     P                  14 03 29.7 +1.9
        comp=Z,29nm,1.3s,mb5.0
VYHS  Vyhne             77.62 331    eP     P                  14 03 28.6 +0.6
VYHS                                 pmax   pmax
        comp=Z,11nm,1.4s,mb4.6
VYHS  Vyhne             77.62 331    eP     P                  14 03 28.6 +0.6
        comp=Z,11nm,1.4s,mb4.6
VYHS                                 eSS    SS                 14 18 03.3  -14
VRAC  Vranov            77.65 333    P      P                  14 03 28.2  0.0
        comp=Z,12nm,1.0s,mb4.8,baz=27,slow=6.1,SNR=3.6
VRAC  Vranov            77.65 333    ⇑iP    P                  14 03 29.6 +1.4
VRAC  Vranov            77.65 333    P      P                  14 03 28.2  0.0
VRAC                                 pmax   pmax
        comp=Z,12nm,1.0s
PRU   Pruhonice         77.69 334    eP     P                  14 03 29.1 +0.7
PSZ   Piszkesteto       77.75 330    eP     P                  14 03 29.5 +0.7
VOIR  Voiron            77.94 326    ⇑iP    P                  14 03 31.2 +1.4
MOX   Moxa              77.96 336    eP     P                  14 03 29.9  0.0
        comp=Z,29nm,1.5s,mb5.0
MOX   Moxa              77.96 336    eP     P                  14 03 29.9  0.0
MOX                                  pmax   pmax
        comp=Z,29nm,1.5s,mb5.0
TREC  Trest             78.01 333    eP     P                  14 03 28.9 -1.3
ZST   Bratislava        78.46 332    eSS    SS                 14 18 14.2  -15
KHC   Kasperske Hory    78.74 334    eP     P                  14 03 34.5 +0.2
KHC                                  ex     x                  14 03 48.1
KHC   Kasperske Hory    78.74 334    eP     P                  14 03 33.2 -1.1
BR131 Keskin Array S    78.83 317    eP     P                  14 03 35.7 +1.0
        comp=Z,6.3nm,1.0s,mb4.5
BRTR  Keskin Array B    78.83 317    P      P                  14 03 36.1 +1.4
        comp=Z,4.4nm,0.9s,mb4.4,baz=69,slow=4.5,SNR=4.2
BRTR  Keskin Array B    78.83 317    P      P                  14 03 36.1 +1.4
BRTR                                 pmax   pmax
        comp=Z,4.0nm,0.9s
GZR   Gura Zlata        78.85 327    ⇑iP    P                  14 03 34.2 -0.7
GRA1  Grafenberg Arr    78.93 336    eP     P                  14 03 35.7 +0.4
        comp=Z,17nm,1.0s,mb4.9
GRF   Grafenberg Arr    78.93 336    eP     P                  14 03 35.7 +0.4
        comp=Z,17nm,1.0s,mb4.9
GRF   Grafenberg Arr    78.93 336    eP     P                  14 03 35.7 +0.4
GRF                                  pmax   pmax
        comp=Z,17nm,1.0s,mb4.9
GRF   Grafenberg Arr    78.93 336    eP     P                  14 03 35.7 +0.4
GRF                                  pmax   pmax
        comp=Z,17nm,1.0s,mb4.9
GERES GERESS Array B    78.96 334    P      P                  14 03 35.8 +0.4
        comp=Z,2.8nm,0.7s,mb4.3,baz=24,slow=4.7,SNR=6.3
GERES GERESS Array B    78.96 334    P      P                  14 03 35.8 +0.3
GERES                                pmax   pmax
        comp=Z,3.0nm,0.7s
BZS   Buzias            79.10 328||  iP     P                  14 03 37.0 +0.8
HGN   Heimansgroeve     79.34 340    eSS    SKSac              14 13 59.5 +8.4
MEM   Membach           79.46 339    P      P                  14 03 38.4 +0.2
PKSM  Moragy            79.66 330||  iP     P                  14 03 36.8 -2.5
TOD   Tromm             79.67 337    eP     P                  14 03 40.4 +1.1
GIVF  Givet             80.22 340    eP     P                  14 03 41.9 -0.4
DOU   Dourbes           80.28 340    P      P                  14 03 43.7 +1.1
MENF  Mencas            80.40 342    eP     P                  14 03 45.9 +2.6
BAIF  Baives            80.40 340    eP     P                  14 03 43.4 +0.1
BFO   Black Forest      80.97 337    P      P                  14 03 46.1 -0.2
        comp=Z,80nm,1.0s,mb5.6,SNR=5.0
VTS   Vitosha           81.04 325    ⇑iP    P                  14 03 48.8 +2.1
VTS   Vitosha           81.04 325    ⇑P     P                  14 03 48.8 +2.1
WLS   Welschbruch       81.15 338    eP     P                  14 03 48.4 +1.1
CDF   Champ du Feu      81.17 338    eP     P                  14 03 47.7 +0.3
        comp=Z,56nm,1.2s,mb5.0
CDF   Champ du Feu      81.17 338    eP     P                  14 03 47.7 +0.3
CDF                                  pmax   pmax
        comp=Z,28nm,1.2s,mb5.1
CDF   Champ du Feu      81.17 338    eP     P                  14 03 47.7 +0.3
        comp=Z,28nm,1.2s,mb5.1
WVT   Waverly           81.34  46    eP     P                  14 03 47.4 -0.9
WVT                                  pmax   pmax
        comp=Z,16nm,1.2s,mb4.8
WVT   Waverly           81.34  46    eP     P                  14 03 47.4 -0.9
        comp=Z,16nm,1.2s,mb4.8
ECH   Echery            81.38 338    eP     P                  14 03 49.3 +0.8
FELD  Feldberg im Sc    81.47 337    eP     P                  14 03 49.5 +0.5
MEZF  Maizieres J'vi    81.65 339    eP     P                  14 03 50.3 +0.4
THEF  They Montfort     81.67 339    eP     P                  14 03 48.8 -1.2
MOF   Molkenrain        81.72 338    eP     P                  14 03 50.1 -0.2
HAU   Haudompre         81.79 338    eP     P                  14 03 50.8 +0.2
HINF  Hinteralfeld      81.83 338    eP     P                  14 03 50.8 -0.1
DAVOX Davos/Dischmat    81.95 336    P      P                  14 03 52.1 +0.6
        comp=Z,8.7nm,0.7s,mb4.8,baz=9.3,slow=5.5,SNR=6.1
FLN   La Foliniere      82.66 343    eP     P                  14 03 55.1 -0.1
        comp=Z,33nm,1.0s,mb5.0
FLN   La Foliniere      82.66 343    eP     P                  14 03 55.1 -0.1
FLN                                  pmax   pmax
        comp=Z,16nm,1.0s,mb5.0
FLN   La Foliniere      82.66 343    eP     P                  14 03 55.1 -0.1
        comp=Z,16nm,1.0s,mb5.0
LDF   La Druitiere      82.74 343    eP     P                  14 03 55.6  0.0
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GRR	**Gorron**	**83.09 343**	*e*P		**P**	**14 03 57.3**	**-0.1**
	comp=Z,64nm,1.1s,mb5.3						
GRR	**Gorron**	**83.09 343**	*e*P		**P**	**14 03 57.3**	**-0.1**
GRR			pmax	pmax			
	comp=Z,32nm,1.1s,mb5.3						
GRR	**Gorron**	**83.09 343**	*e*P		**P**	**14 03 57.3**	**-0.1**
	comp=Z,32nm,1.1s,mb5.3						
ASF	**Jabal al Asfar**	**83.09 310**	P		**P**	**14 03 58.7**	**+1.2**
	comp=Z,4.5nm,1.1s,mb4.4,baz=27,slow=6.8,SNR=2.9						
ASF	**Jabal al Asfar**	**83.09 310**	P		**P**	**14 03 58.7**	**+1.2**
ASF			pmax	pmax			
	comp=Z,5.0nm,1.1s						
LOR	**Lormes**	**83.09 340**	*e*P		**P**	**14 03 57.6**	**+0.1**
	comp=Z,42nm,1.0s,mb5.1						
LOR	**Lormes**	**83.09 340**	*e*P		**P**	**14 03 57.6**	**+0.1**
LOR			pmax	pmax			
	comp=Z,21nm,1.0s,mb5.1						
LOR	**Lormes**	**83.09 340**	*e*P		**P**	**14 03 57.6**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1						
CABF	**La Chapelle**	**83.14 338**	*e*P		**P**	**14 03 58.4**	**+0.7**
	comp=Z,28nm,1.0s,mb4.9						
CABF	**La Chapelle**	**83.14 338**	*e*P		**P**	**14 03 58.4**	**+0.7**
CABF			pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0						
CABF	**La Chapelle**	**83.14 338**	*e*P		**P**	**14 03 58.4**	**+0.7**
	comp=Z,14nm,1.0s,mb4.9						
SSF	**Saint Saulge**	**83.37 340**	*e*P		**P**	**14 03 59.2**	**+0.3**
	comp=Z,25nm,1.0s,mb4.9						
SSF	**Saint Saulge**	**83.37 340**	*e*P		**P**	**14 03 59.2**	**+0.3**
SSF			pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9						
SSF	**Saint Saulge**	**83.37 340**	*e*P		**P**	**14 03 59.2**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	**83.55 344**	*e*P		**P**	**14 03 59.7**	**-0.1**
ROSF	**Rostrenen**	**83.61 344**	*e*P		**P**	**14 04 00.2**	**+0.1**
	comp=Z,37nm,1.1s,mb5.1						
ROSF	**Rostrenen**	**83.61 344**	*e*P		**P**	**14 04 00.2**	**+0.1**
ROSF			pmax	pmax			
	comp=Z,19nm,1.1s,mb5.1						
ROSF	**Rostrenen**	**83.61 344**	*e*P		**P**	**14 04 00.2**	**+0.1**
	comp=Z,19nm,1.1s,mb5.1						
AVF	**Avril sur Loir**	**83.66 340**	*e*P		**P**	**14 04 00.7**	**+0.3**
	comp=Z,2.2nm,1.2s,mb5.4						
AVF	**Avril sur Loir**	**83.66 340**	*e*P		**P**	**14 04 00.7**	**+0.3**
AVF			pmax	pmax			
	comp=Z,36nm,1.2s,mb5.4						
AVF	**Avril sur Loir**	**83.66 340**	*e*P		**P**	**14 04 00.7**	**+0.3**
	comp=Z,36nm,1.2s,mb5.4						
SMF	**Signal de Mont**	**83.68 339**	*e*P		**P**	**14 04 00.8**	**+0.3**
	comp=Z,151nm,1.4s,mb5.6						
SMF	**Signal de Mont**	**83.68 339**	*e*P		**P**	**14 04 00.8**	**+0.3**
SMF			pmax	pmax			
	comp=Z,76nm,1.4s,mb5.6						
SMF	**Signal de Mont**	**83.68 339**	*e*P		**P**	**14 04 00.8**	**+0.3**
	comp=Z,76nm,1.4s,mb5.6						
LPL	**La Plagne**	**83.98 337**	*e*P		**P**	**14 04 03.4**	**+1.4**
	comp=Z,42nm,1.2s,mb5.1						
LPL	**La Plagne**	**83.98 337**	*e*P		**P**	**14 04 03.4**	**+1.4**
LPL			pmax	pmax			
	comp=Z,21nm,1.3s,mb5.1						
LPL	**La Plagne**	**83.98 337**	*e*P		**P**	**14 04 03.4**	**+1.4**
	comp=Z,21nm,1.3s,mb5.1						
QUIF	**Quistinic**	**83.99 344**	*e*P		**P**	**14 04 02.3**	**+0.2**
	comp=Z,72nm,1.4s,mb5.3						
QUIF	**Quistinic**	**83.99 344**	*e*P		**P**	**14 04 02.3**	**+0.2**
QUIF			pmax	pmax			
	comp=Z,36nm,1.4s,mb5.3						
QUIF	**Quistinic**	**83.99 344**	*e*P		**P**	**14 04 02.3**	**+0.2**
	comp=Z,36nm,1.4s,mb5.3						
LPG	**La Plagne**	**84.00 337**	*e*P		**P**	**14 04 03.4**	**+1.3**
	comp=Z,67nm,1.4s,mb5.3						
LPG	**La Plagne**	**84.00 337**	*e*P		**P**	**14 04 03.4**	**+1.3**
LPG			pmax	pmax			
	comp=Z,34nm,1.4s,mb5.3						
LPG	**La Plagne**	**84.00 337**	*e*P		**P**	**14 04 03.4**	**+1.3**
	comp=Z,34nm,1.4s,mb5.3						
TCF	**Toulx Ste Croi**	**84.41 340**	*e*P		**P**	**14 04 04.6**	**+0.4**
	comp=Z,27nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**84.41 340**	*e*P		**P**	**14 04 04.6**	**+0.4**
TCF			pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**84.41 340**	*e*P		**P**	**14 04 04.6**	**+0.4**
	comp=Z,14nm,1.0s,mb5.0						
AGO	**Saint Agoulin**	**84.41 340**	*e*P		**P**	**14 04 05.1**	**+0.9**
MFF	**Saint Martin d**	**84.64 342**	*e*P		**P**	**14 04 05.8**	**+0.4**
	comp=Z,12nm,0.7s,mb4.8						
MFF	**Saint Martin d**	**84.64 342**	*e*P		**P**	**14 04 05.8**	**+0.4**
MFF			pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.8						
MFF	**Saint Martin d**	**84.64 342**	*e*P		**P**	**14 04 05.8**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.77 337**	*e*P		**P**	**14 04 07.2**	**+1.2**
VIVF	**Saint-Julien-l**	**85.14 338**	*e*P		**P**	**14 04 08.7**	**+0.8**
	comp=Z,17nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**85.14 338**	*e*P		**P**	**14 04 08.7**	**+0.8**
VIVF			pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**85.14 338**	*e*P		**P**	**14 04 08.7**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.9						
SBF	**Sospel**	**85.31 336**	*e*P		**P**	**14 04 09.0**	**+0.3**
RJF	**Les Rejaudoux**	**85.50 340**	*e*P		**P**	**14 04 09.9**	**+0.3**
FRF	**La Foret Royal**	**85.81 336**	*e*P		**P**	**14 04 11.6**	**+0.4**
LMR	**La Mourre**	**86.06 336**	*e*P		**P**	**14 04 12.8**	**+0.4**
	comp=Z,74nm,1.3s,mb5.5						
LMR	**La Mourre**	**86.06 336**	*e*P		**P**	**14 04 12.8**	**+0.4**
LMR			pmax	pmax			
	comp=Z,37nm,1.3s,mb5.5						
LMR	**La Mourre**	**86.06 336**	*e*P		**P**	**14 04 12.8**	**+0.4**
	comp=Z,37nm,1.3s,mb5.5						
PGF	**Pioggiola**	**86.06 334**	*e*P		**P**	**14 04 12.7**	**+0.3**
	comp=Z,37nm,1.2s,mb5.2						
PGF	**Pioggiola**	**86.06 334**	*e*P		**P**	**14 04 12.7**	**+0.3**
PGF			pmax	pmax			
	comp=Z,19nm,1.2s,mb5.2						
PGF	**Pioggiola**	**86.06 334**	*e*P		**P**	**14 04 12.7**	**+0.3**
	comp=Z,18nm,1.2s,mb5.2						
LASF	**Ste Croix**	**86.08 338**	*e*P		**P**	**14 04 13.9**	**+1.4**
	comp=Z,42nm,1.1s,mb5.3						
EIL	**Elat**	**86.09 310**	*e*P		**P**	**14 04 16.4**	**+3.8**
TIP	**Timpagrande**	**86.47 328**	*e*P		**P**	**14 04 14.3**	**-0.2**
BDFB	**Brasilia**	**144.71 37**	PKIP	PKPdf		14 11 06.5	-1.9
	comp=Z,3.2nm,0.7s,baz=25,slow=6.8,SNR=3.6						
BDFB	**Brasilia**	**144.71 37**	PKIKP	PKPdf		14 11 06.5	-1.9
BDFB			pmax	pmax			
	comp=Z,3.0nm,0.7s						
PLCA	**Paso Flores**	**148.08 96**	PKPbc	PKPbc		14 11 15.2	-2.1
	comp=Z,3.4nm,0.9s,baz=225,slow=4.9,SNR=3.8						
PLCA	**Paso Flores**	**148.08 96**	PKIKP	PKPdf		14 11 15.2	+1.1
PLCA			pmax	pmax			
	comp=Z,3.0nm,0.9s						
CPUP	**Villa Florida**	**148.65 61**	PKPbc	PKPbc		14 11 17.4	-1.4
	comp=Z,1.1nm,0.6s,baz=323,slow=4.7,SNR=2.4						
CPUP	**Villa Florida**	**148.65 61**	PKP2	PKPbc		14 11 17.4	-1.4
CPUP			pmax	pmax			
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**152.07 196**	PKPbc	PKPdf		14 11 23.5	+3.1
	comp=Z,1.0nm,0.9s,baz=265,slow=3.9,SNR=4.5						
SNAA	**Sanae**	**152.07 196**	*e*PKPdf	PKPdf		14 11 20.7	+0.4
SNAA			*e*			14 11 42.6	
SNAA	**Sanae**	**152.07 196**	PKIKP	PKPdf		14 11 23.5	+3.2
SNAA			pmax	pmax			
	comp=Z,1.0nm,0.9s						
VNA1	**Neumayer--Stat**	**153.90 194**	*e*PKPdf	PKPdf		14 11 24.1	+1.1
VNA1			*e*			14 11 29.3	
VNA1			*e*			14 11 44.1	
VNA1			*e*			14 11 48.9	

*IDC **13** 13:59:54.9±1.1,50.12N×178.78W,h0km,mb3.7/6, mb1 4.1/7,mb1mx3.8/24,mbtmp3.8/7,ML3.7/1,Error ellipse: s-maj=50.6km s-min=19.3km az=143.0*
*ISCJB **13** 13:59:56.0±3.7,50.1N±0.1×178.84W±0.10,h17km±27km, mb3.7/6,Error ellipse: s-maj=16.9km s-min=10.6km az=6.5*
*NEIC **13** 13:59:59.2,50.13N×178.93W,h31km,mb4.1/1, ML3.6(AEIC),After AEIC.*
ISC 13 13:59:58.1±4.5,502N±01×17885W±010,h22km±32km,n13, σ1§00/15,mb3.7/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.68**	**316**	P	**Pn**	**14 00 26.1**	**+0.1**
AMKA				S	**Sn**	**14 00 46.8**	**-0.1**
ATKA	**Atka Island**	**3.55**	**54**	P	**Pn**	**14 00 52.7**	**+0.8**
KDAK	**Kodiak Island**	**17.13**	**54**	P	**Pn**	**14 03 54.8**	**-1.2**
	0.3nm,0.3s,baz=251,slow=10,SNR=6.9						
KDAK				S	**Sn**	**14 07 05.7**	**-0.2**
	0.2nm,0.3s,baz=197,slow=19,SNR=2.8						
YKA	**Yellowknife Ar**	**36.08**	**45**	P	**P**	**14 06 56.2**	**-1.9**
	0.7nm,0.7s,mb3.7,baz=283,slow=7.2,SNR=2.9						
NEW	**Newport**	**39.34**	**68**	P	**P**	**14 07 26.3**	**+0.7**
	1.1nm,0.4s,mb4.0,baz=94,slow=12,SNR=2.8						
PDAR	**Pinedale Array**	**46.71**	**71**	P	**P**	**14 08 26.4**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=307,slow=7.5,SNR=2.6						
KBS	**Kingsbay**	**50.99**	**357**	*i* P	**P**	**14 08 54.2**	**-3.9**
KBS				LR	LR		
	comp=Z,4μm,16.5s						
KBS	**Kingsbay**	**50.99**	**357**	*i*	**P**	**14 08 54.2**	**-3.9**
NB2	**NORSAR Subarra**	**68.83**	**355**	P	**P**	**14 11 02.1**	**+1.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=5.9,slow=6.5						
NOA	**NORSAR Array B**	**68.83**	**355**	P	**P**	**14 11 02.4**	**+1.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=6.9,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**68.83**	**355**	P	**P**	**14 11 02.4**	**+1.7**
WRA	**Warrramunga Arr**	**81.13**	**224**	P	**P**	**14 12 11.0**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=33,slow=6.1,SNR=4.9						
ASAR	**Alice Springs**	**84.59**	**223**	P	**P**	**14 12 29.6**	**-0.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=25,slow=5.3,SNR=4.5						

*ISCJB **13** 14:00:41.8±1.3,46.1N±02×153.1E±02,h33km,mb4.1/12, Error ellipse: s-maj=29.7km s-min=5.7km az=101.9*
*IDC **13** 14:00:43.5±3.1,46.94N×152.75E,h0km,mb4.1/9, mb1 4.1/11,mb1mx3.9/26,mbtmp4.1/11,ML3.3/2,Error ellipse: s-maj=74.0km s-min=26.2km az=149.0*
*MOS **13** 14:00:44.7±1.1,46.86N×152.82E,h26km,mb4.4/12,Error ellipse: s-maj=16.0km s-min=15.1km az=102.0*
*NEIC **13** 14:00:45.2±1.1,46.96N×152.66E,h10km,mb4.1/3,Error ellipse: s-maj=24.8km s-min=9.3km az=126.0*
ISC 13 14:00:43.5±1.3,462N±02×1532E±02,h35km,n47, σ1§17/52,mb4.1/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.97**	**245**	P	**Pn**	**14 02 08.7**	**-0.7**
NEM2				*e*S	**Sn**	**14 03 15.0**	**-1.5**
JRA	**Rausu**	**6.11**	**252**	P	**Pn**	**14 02 13.2**	**+1.9**
JNK	**Nakash**	**6.53**	**250**	P	**Pn**	**14 02 17.9**	**+0.9**
JAK	**Akkeshi**	**6.82**	**245**	P	**Pn**	**14 02 20.3**	**-0.7**
JAK				*e*S	**Sn**	**14 03 36.9**	**-0.5**
JTKR	**Abashiri--Toko**	**6.91**	**255**	P	**Pn**	**14 02 23.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.22**	**280**	PN	**Pn**	**14 02 29.0**	**+2.5**
JAR	**Ashorobuto**	**7.28**	**250**	P	**Pn**	**14 02 28.3**	**+1.1**
JAR				*e*S	**Sn**	**14 03 49.5**	**+0.9**
JKK2	**Kamakawa 2**	**7.73**	**257**	P	**Pn**	**14 02 35.6**	**+2.2**
ASAJ	**Asahikawa**	**7.75**	**259**	Pn	**Pn**	**14 02 36.1**	**+2.4**
	0.4nm,0.3s,baz=78,slow=20,SNR=4.2						
JCH	**Churui**	**7.86**	**247**	P	**Pn**	**14 02 35.3**	**0.0**
JCH				*e*S	**Sn**	**14 03 59.5**	**-3.5**
JNBK	**Urakawa-nobuka**	**8.42**	**246**	P	**Pn**	**14 02 41.6**	**-1.3**
JNBK				*e*S	**Sn**	**14 04 10.5**	**-6.2**
JNB	**Noboribetsu**	**9.44**	**251**	*e*S	**Sn**	**14 04 40.9**	**-0.9**
JKB	**Kayabe**	**9.72**	**248**	*e*S	**Sn**	**14 04 43.5**	**-5.2**
JANG	**Nango**	**10.27**	**240**	*e*S	**Sn**	**14 04 53.2**	**-8.9**
JTH	**Tanohata**	**10.34**	**237**	*e*S	**Sn**	**14 04 55.6**	**-8.2**
JOSM	**Okushiri--Mats**	**10.65**	**252**	P	**Pn**	**14 03 13.2**	**-0.3**
JRG	**Rokugo**	**11.41**	**238**	*e*S	**Sn**	**14 05 23.9**	**-6.2**
MAJO	**Matsushiro**	**14.76**	**235**	P	**Pn**	**14 04 16.7**	**+7.1**
MJAR	**Matsushiro Arr**	**14.76**	**235**	Pn	**Pn**	**14 04 16.9**	**+7.4**
	0.2nm,0.3s,baz=39,slow=9.3,SNR=5.9						
MJAR	**Matsushiro Arr**	**14.76**	**235**	Pn	**Pn**	**14 04 16.9**	**+7.4**
INK	**Inuvik**	**42.14**	**32**	P	**P**	**14 08 32.3**	**0.0**
	4.3nm,1.1s,mb4.0,baz=0.0,slow=3.0,SNR=3.1						
INK	**Inuvik**	**42.14**	**32**	P	**P**	**14 08 32.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAL	**Zalesovo**	**43.01**	**306**	P	**P**	**14 08 37.9**	**-1.5**
	comp=Z,1.3nm,0.3s,mb4.2,baz=40,slow=1.5,SNR=3.2						
ZAL	**Zalesovo**	**43.01**	**306**	P	**P**	**14 08 37.9**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**47.25**	**298**	*e*P	**P**	**14 09 12.1**	**-1.0**
MKAR	**Makanchi Array**	**47.25**	**298**	P	**P**	**14 09 13.3**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.1,baz=71,slow=7.8,SNR=9.7						
MKAR	**Makanchi Array**	**47.25**	**298**	P	**P**	**14 09 13.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**51.27**	**310**	P	**P**	**14 09 43.2**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=64,slow=6.8,SNR=5.7						
BVAR	**Borovoye Array**	**51.27**	**310**	P	**P**	**14 09 43.2**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.31**	**310**	P	**P**	**14 09 44.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.31**	**310**	P	**P**	**14 09 44.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**52.04**	**310**	*e*P	**P**	**14 09 47.8**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**52.04**	**310**	*e*P	**P**	**14 09 47.8**	**-1.7**
	comp=Z,1.6nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**54.13**	**297**	*e*P	**P**	**14 10 05.4**	**+0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**54.13**	**297**	*e*P	**P**	**14 10 05.3**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**64.60**	**335**	P	**P**	**14 11 16.8**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=46,slow=9.3,SNR=9.7						
FINES	**FINESS Array B**	**64.60**	**335**	P	**P**	**14 11 16.8**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.60**	**335**	P	**P**	**14 11 16.8**	**-0.5**
NB2	**NORSAR Subarra**	**68.81**	**341**	P	**P**	**14 11 43.9**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.81**	**341**	P	**P**	**14 11 44.0**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=28,slow=6.2,SNR=4.4						
NOA	**NORSAR Array B**	**68.81**	**341**	P	**P**	**14 11 44.1**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**69.03**	**340**	P	**P**	**14 11 45.5**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.3,baz=60,slow=5.8,SNR=5.8						
HFS	**Hagfors**	**69.03**	**340**	P	**P**	**14 11 45.5**	**0.0**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**72.06**	**326**	P	**P**	**14 12 03.7**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=34,slow=6.5,SNR=6.9						
AKASG	**Malin Array Be**	**72.06**	**326**	P	**P**	**14 12 03.7**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**76.93**	**346**	P	**P**	**14 12 33.2**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=34,slow=6.1,SNR=4.0						
EKA	**Eskdalemuir Ar**	**76.93**	**346**	P	**P**	**14 12 33.2**	**+1.0**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 13 14:18:24.5±7.5,610S×14649E,h75km±92km,mb3.2/4, mb1 3.5/7,mb1mx3.4/15,mbtmp3.6/7,ML3.5/2,Error ellipse: s-maj=76.4km s-min=31.7km az=122.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.35**	**169**	P	Pn	14 19 14.7	+0.2
	12nm,0.3s,baz=30,slow=4.8,SNR=44						
PMG				S	Sn	14 19 53.8	+0.6
	10nm,0.3s,baz=182,slow=20,SNR=12						
CTA	**Charters Tower**	**13.91**	**181**	P	Pn	14 21 39.5	+1.4
	0.4nm,0.3s,baz=357,slow=15,SNR=6.3						
WRA	**Warramunga Arr**	**18.14**	**220**	P	Pn	14 22 31.2	0.0
	0.1nm,0.3s,baz=46,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.26**	**213**	P	P	14 23 04.6	+0.1
	0.3nm,0.3s,baz=49,slow=9.1,SNR=9.9						
FITZ	**Fitzroy Crossi**	**23.59**	**238**	P	P	14 23 28.6	+0.3
	0.7nm,0.4s,baz=48,slow=9.1,SNR=5.5						
SONM	**Songino Array**	**64.24**	**331**	P	P	14 28 52.4	+0.8
	0.2nm,0.5s,baz=94,slow=2.2,SNR=2.8						
ZAL	**Zalesovo**	**78.83**	**328**	P	P	14 30 18.6	-0.7
	0.6nm,0.4s,baz=105,slow=5.2,SNR=2.8						

GUC 13 14:19:41.4±0.5,3141S×7173W,h6km±2km,MD3.5,ML3.0, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**158**	‖*i*P	Pg	14 19 52.0	+0.8
CHNG				*i* S	Sg	14 19 59.6	+1.6
CMCH	**Combarbala**	**0.66**	**70**	‖*i*P	Pg	14 19 54.8	+0.7
CMCH				*i* S	Sg	14 20 05.4	+2.6
CMCH				AML	AML	14 20 06.2	
	comp=N,1μm,0.5s						
OVCH	**Ovalle**	**0.91**	**30**	*i* P	Pg	14 19 58.8	-0.1
OVCH				*i* S	Sg	14 20 12.2	+1.4
OVCH				AML	AML	14 20 13.3	
	comp=E,623nm,0.4s						
TLL	**Tololo Astrono**	**1.47**	**33**	*e*P	Pn	14 20 08.0	-0.4
TLL				*i* S	Sn	14 20 28.3	+0.3
TLL				AML	AML	14 20 35.7	
	comp=N,450nm,0.8s						
JACH	**Jahuel**	**1.59**	**143**	*i* P	Pn	14 20 10.0	-0.2
JACH				*i* S	Sn	14 20 31.3	+0.2
PEL	**Peldehue**	**1.94**	**153**	AML	AML	14 20 45.9	
	comp=E,428nm,0.3s						

WEL 13 14:34:32.5±0.2,3722S×17655E,h266km±3km,ML3.5/3, Error ellipse: s-maj=7.9km s-min=5.0km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.13**	**157**	PN	Pn	14 35 10.0	+0.1
URZ				SN	S	14 35 39.2	-0.2
MWZ	**Matawai**	**1.36**	**146**	PN	Pn	14 35 11.4	+0.2
MWZ				SN	S	14 35 41.7	-0.2
BKZ	**Black Stump Fm**	**1.95**	**181**	PN	Pn	14 35 16.0	+0.2
BKZ				SN	S	14 35 49.6	-0.5

*BJI **13** 14:45:57.3,2223S×17768W,h125km,mB5.1,mb4.8*
*ISCJB **13** 14:45:59.4±1.3,2308S±006×17726W±007,h180km±12km, mb4.8/22,Error ellipse: s-maj=11.4km s-min=10.2km az=49.3*
*IDC **13** 14:46:00.7±1.6,2296S×17726W,h177km±13km,mb4.1/11, mb1 4.2/13,mb1mx4.2/16,mbtmp4.6/13,Error ellipse: s-maj=14.0km s-min=12.3km az=162.0*
*NEIC **13** 14:46:01.2±1.5,2296S×177.19W,h186km±14km,mb4.8/18, Error ellipse: s-maj=12.0km s-min=8.7km az=185.0*
ISC 13 14:46:00.0±1.5,2331S±007×17723W±008,h169km±14km, n109,σ1§26/67,mb4.8/22,11C-8D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.95**	**186**	P	**Pn**	**14 47 31.1**	**+4.9**
	57nm,0.3s,baz=90,slow=19,SNR=3.9						
RAO				S	**Sn**	**14 48 40.2**	**+6.3**
	219nm,0.3s,baz=28,slow=23,SNR=9.5						
RAO	**Raoul Island**	**5.95**	**186**	P	**Pn**	**14 47 31.1**	**+4.9**
RAO				S	**Sn**	**14 48 40.1**	**+6.3**
AFI	**Afiamalu**	**10.68**	**30**	P	**Pn**	**14 48 15.8**	**-13**
	4.8nm,0.3s,baz=260,slow=15,SNR=17						
AFI				S	Sn	14 50 01.4	-26
	8.6nm,0.3s,baz=27,slow=23,SNR=5.3						
AFI	**Afiamalu**	**10.68**	**30**	*e*Pn	**Pn**	**14 48 15.5**	**-13**
AFI				*e*Sn	Sn	14 49 58.4	-29
DZM	**Mont Dzumac**	**15.12**	**271**	P	**Pn**	**14 49 29.5**	**+4.5**
	1.1nm,0.3s,baz=87,slow=19,SNR=11						
PUZ	**Puketiti**	**15.22**	**194**	PN	**Pn**	**14 49 25.2**	**-1.0**
MWZ	**Matawai**	**15.64**	**195**	PN	**Pn**	**14 49 30.0**	**-1.3**
URZ	**Urewera**	**15.67**	**197**	P	**Pn**	**14 49 32.0**	**+0.2**
	5.0nm,0.3s,baz=32,slow=1.5,SNR=24						
URZ				S	**S**	**14 52 17.9**	**-8.1**
	4.6nm,0.3s,baz=81,slow=19,SNR=9.8						
URZ	**Urewera**	**15.67**	**197**	PN	**Pn**	**14 49 28.6**	**-3.2**
URZ				SN	**Sn**	**14 52 16.7**	**-10**
RAR	**Rarotonga**	**16.29**	**86**	P	**Pn**	**14 49 39.8**	**+0.6**
	2.0nm,0.3s,baz=301,slow=14,SNR=11						
BKZ	**Black Stump Fm**	**16.69**	**197**	*e*PN	**Pn**	**14 49 39.7**	**-4.3**
TCW	**Tory Channel**	**19.23**	**200**	SN	**S**	**14 53 33.6**	**-6.2**
NNZ	**Nelson**	**19.52**	**202**	*e*PN	**P**	**14 50 12.8**	**-1.5**
THZ	**Tophouse**	**20.17**	**202**	*e*PN	**P**	**14 50 20.0**	**-1.3**
DSZ	**Denniston Nort**	**20.55**	**204**	*e*PN	**P**	**14 50 26.7**	**+1.3**
KHZ	**Kahutara**	**20.55**	**200**	*e*PN	**P**	**14 50 24.6**	**-0.8**
MQZ	**McQueen's Vall**	**21.99**	**200**	SN	**S**	**14 54 30.0**	**-1.2**
HNR	**Honiara**	**25.83**	**299**	P	**P**	**14 51 14.8**	**-0.8**
	54nm,0.7s,mb5.3,baz=80,slow=2.0,SNR=6.0						
HNR	**Honiara**	**25.83**	**299**	*e*P	**P**	**14 51 14.8**	**-0.8**
	56nm,0.7s,mb5.3						
CTA	**Charters Tower**	**34.03**	**268**	*e*P	**P**	**14 52 29.6**	**+1.8**
	37nm,0.4s,mb5.5			

CD2				AP	pP	14 59 25.0	-11
CD2				XP	sP	14 59 38.4	-15
CD2				PP	PP	15 02 39.3	+0.9
CD2				SKS		15 09 12.9	
CD2				S	S	15 09 44.8	+0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
LZH	**Lanzhou**	**95.03**	**307**	*e*P	**P**	**14 59 01.0**	**-2.5**
LZH				AP	pP	14 59 32.5	-13
LZH				XP	sP	14 59 48.0	-16
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.2						
LZH	**Lanzhou**	**95.03**	**307**	*e*P	**P**	**14 59 01.0**	**-2.5**
	comp=Z,15nm,1.0s,mb5.2						
LZH				pP	pP	14 59 32.5	-13
LZH				sP	sP	14 59 48.0	-16
WMQ	**Urumqi**	**109.29**	**310**	*e*PKP	PKiKP	15 04 12.0	+2.1
ARCES	**ARCESS Array B**	**131.80**	**349**	PKP	PKPdf	15 04 49.8	-3.2
	comp=Z,1.9nm,0.4s,baz=36,slow=1.4,SNR=30						
KAF	**Kangasniemi**	**138.04**	**344**	*e*pkp	PKPdf	15 05 02.7	-1.9
FINES	**FINESS Array B**	**138.66**	**343**	PKhKP		15 04 55.7	
	comp=Z,1.0nm,0.7s,baz=108,slow=6.2,SNR=5.8						
FINES				PKP	PKPdf	15 05 03.5	-2.2
	comp=Z,1.9nm,0.7s,baz=42,slow=3.2,SNR=8.8						
FINES	**FINESS Array B**	**138.66**	**343**	PKP		15 04 55.7	
FINES				PKP	PKPdf	15 05 03.5	-2.2
NB2	**NORSAR Subarra**	**141.84**	**353**	PKP		15 05 04.3	
	comp=Z,0.8nm,0.6s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**141.84**	**353**	PKhKP		15 05 03.6	
	comp=Z,0.9nm,0.7s,baz=345,slow=3.7,SNR=4.0						
NOA				PKP	PKPdf	15 05 11.9	+0.4
	comp=Z,0.6nm,0.5s,baz=14,slow=4.0,SNR=3.6						
SUW	**Suwalki**	**145.71**	**339**	*e*PKPdf	PKPdf	15 05 16.8	-1.5
AKASG	**Malin Array Be**	**145.80**	**330**	PKPbc	PKPbc	15 05 16.5	-2.7
	comp=Z,3.4nm,0.3s,baz=40,slow=4.2,SNR=43						
AKBB	**Malin Array Si**	**145.80**	**330**	*e*PKPdf	PKPdf	15 05 16.3	-2.1
MALT	**Malatya**	**146.16**	**305**	⇑*i*P	PKPdf	15 05 19.2	+0.2
MALT	**Malatya**	**146.16**	**305**	*e*PKPdf	PKPdf	15 05 18.9	-0.1
BR131	**Keskin Array S**	**149.21**	**309**	*e*PKPbc	PKPbc	15 05 27.3	-1.1
BRTR	**Keskin Array B**	**149.21**	**309**	PKPbc	PKPbc	15 05 27.3	-1.2
	comp=Z,4.3nm,0.7s,baz=137,slow=4.9,SNR=24						
BURAR	**Bucovina Array**	**149.84**	**329**	⇓*i*P	PKPbc	15 05 30.0	0.0
BURAR	**Bucovina Array**	**149.84**	**329**	⇓P	PKPbc	15 05 29.9	-0.1
VRI	**Vrincioaia**	**150.29**	**325**	⇑*i*P	PKPbc	15 05 29.5	-1.6
VRI	**Vrincioaia**	**150.29**	**325**	⇑P	PKPbc	15 05 29.6	-1.5
EIL	**Elat**	**150.57**	**289**	*e*PKPbc	PKPbc	15 05 31.7	-0.1
MLR	**Muntele Rosu**	**150.95**	**325**	⇓*i*P	PKPbc	15 05 31.5	-1.1
MLR	**Muntele Rosu**	**150.95**	**325**	⇓P	PKPbc	15 05 31.5	-1.1
CLL	**Collm**	**150.95**	**347**	*e*PKPdf	PKPdf	15 05 26.0	-0.8
	comp=Z,4.0nm,0.6s						
CLL				*i* PKPbc	PKPbc	15 05 30.7	-1.9
	comp=Z,13nm,0.9s						
CLL				*i* PKPab	PKPab	15 05 37.8	-2.8
	comp=Z,14nm,0.7s						
CLL				*e*PP	PP	15 09 08.0	-3.4
BRG	**Berggiesshubel**	**151.15**	**345**	*i* PKP	PKPbc	15 05 31.8	-1.3
SNX	**Sinaia**	**151.26**	**325**	⇑*i*P	PKPbc	15 05 33.2	-0.2
SNX	**Sinaia**	**151.26**	**325**	⇑P	PKPbc	15 05 33.1	-0.2
VOIR		**151.45**	**326**	⇑*i*P	PKPbc	15 05 30.7	-3.1
VOIR		**151.45**	**326**	⇑P	PKPbc	15 05 30.7	-3.0
GZR	**Gura Zlata**	**152.61**	**328**	⇓*i*P	PKPbc	15 05 32.5	-3.9
GZR	**Gura Zlata**	**152.61**	**328**	⇓P	PKPbc	15 05 32.5	-3.9
GRA1	**Grafenberg Arr**	**152.84**	**348**	*e*PKP	PKPab	15 05 46.0	-2.6
GRF	**Grafenberg Arr**	**152.84**	**348**	*e*PKP	PKPab	15 05 46.0	-2.6
BZS	**Buzias**	**152.99**	**330**	⇓*i*P	PKPbc	15 05 40.6	+3.4
GERES	**GERESS Array B**	**153.09**	**344**	PKPbc	PKPbc	15 05 35.8	-1.7
	comp=Z,0.8nm,0.4s,baz=45,slow=2.5,SNR=8.1						
GERES				PKPab	PKPab	15 05 47.2	-2.4
	comp=Z,1.0nm,0.6s,baz=8.5,slow=2.7,SNR=4.8						
GIVF	**Givet**	**153.21**	**357**	*e*PKIKP	PKPbc	15 05 35.7	-2.0
	comp=Z,15nm,0.6s						
BAIF	**Baives**	**153.28**	**358**	*e*PKIKP	PKPbc	15 05 36.0	-1.9
	comp=Z,9.3nm,0.7s						
PKSM	**Moragy**	**153.79**	**335**	⇑*i*P	PKPbc	15 05 41.8	+2.8
PKSM	**Moragy**	**153.79**	**335**	⇑P	PKPbc	15 05 41.8	+2.8
FLN	**La Foliniere**	**154.47**	**5**	*e*PKIKP	PKPbc	15 05 37.5	-2.9
	comp=Z,6.7nm,0.5s						
ROSF	**Rostrenen**	**154.56**	**9**	*e*PKIKP	PKPbc	15 05 38.1	-2.5
LDF	**La Druitiere**	**154.66**	**4**	*e*PKIKP	PKPbc	15 05 37.8	-3.0
	comp=Z,1.9nm,0.4s						
CDF	**Champ du Feu**	**154.69**	**353**	*e*PKIKP	PKPbc	15 05 38.9	-2.0
SGMF	**Saint Gilles**	**154.75**	**8**	*e*PKIKP	PKPbc	15 05 38.4	-2.6
	comp=Z,4.9nm,0.5s						
GRR	**Gorron**	**154.81**	**6**	*e*PKIKP	PKPbc	15 05 37.8	-3.3
HINF	**Hinteralfeld**	**155.33**	**353**	*e*PKIKP	PKPdf	15 05 39.4	+6.3
	comp=Z,4.2nm,0.5s						
LOR	**Lormes**	**156.08**	**358**	*e*PKIKP	PKPdf	15 05 40.2	+6.1
	comp=Z,3.3nm,0.5s						
SSF	**Saint Saulge**	**156.29**	**359**	*e*PKIKP	PKPdf	15 05 40.5	+6.1
TORD	**Torodi Ar. Bea**	**169.84**	**174**	PKP	PKPdf	15 05 46.5	-0.8
	comp=Z,0.5nm,0.7s,baz=326,slow=2.5,SNR=3.4						
TORD				PKPab	PKPab	15 07 04.0	+1.3
	comp=Z,2.9nm,0.8s,baz=188,slow=4.0,SNR=11						
TORD	**Torodi Ar. Bea**	**169.84**	**174**	PKP	PKPdf	15 05 46.5	-0.8
TORD				PKPab	PKPab	15 07 04.0	+1.3

IDC 13 15:16:59.2±7.4, 4781N×15140E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=159.7km s-min=38.9km az=135.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.16**	**242**	Pn	Pn	15 18 45.5	+0.3
	0.4nm,0.3s,baz=92,slow=19,SNR=3.7						
SONM	**Songino Array**	**29.89**	**287**	P	P	15 23 06.9	-1.6
	0.3nm,0.4s,baz=325,slow=18,SNR=3.3						
MKAR	**Makanchi Array**	**45.42**	**296**	P	P	15 25 21.2	+1.5
	0.3nm,0.3s,baz=70,slow=7.9,SNR=4.1						
FINES	**FINESS Array B**	**62.58**	**334**	P	P	15 27 25.1	+0.1
	0.7nm,0.6s,baz=36,slow=10,SNR=6.7						
NOA	**NORSAR Array B**	**66.84**	**340**	P	P	15 27 51.4	-1.4
	0.9nm,0.8s,baz=28,slow=6.2,SNR=3.7						

GUC 13 15:19:08.5±0.7, 3148S×7164W, h11km±6km, MD3.8, ML3.2, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.62**	**61**	⇑*i*P	Pg	15 19 20.9	+0.3
CMCH				*i* S	Sg	15 19 30.2	+1.4
CMCH				AML	AML	15 19 38.8	
	comp=N,2μm,0.6s						
OVCH	**Ovalle**	**0.94**	**24**	*e*P	Pg	15 19 25.7	-1.0
OVCH				*i* S	Sg	15 19 39.0	+0.1
OVCH				AML	AML	15 19 44.9	
	comp=E,2μm,0.4s						
PTCH	**Petorca**	**0.99**	**143**	⇓*e*P	Pg	15 19 26.4	-1.1
PTCH				*i* S	Sg	15 19 39.8	-0.7
PTCH				AML	AML	15 19 44.8	
	comp=E,1μm,0.2s						
TLL	**Tololo Astrono**	**1.49**	**29**	*e*P	Pn	15 19 34.6	-0.6
TLL				*i* S	Sn	15 19 55.4	+0.7
TLL				AML	AML	15 20 01.5	
	comp=E,802nm,0.6s						
JACH	**Jahuel**	**1.50**	**144**	⇓*i*P	Pn	15 19 35.1	-0.2
JACH				*i* S	Sn	15 19 54.6	-0.2
ROCH	**El Roble**	**1.58**	**161**	*i* P	Pn	15 19 35.5	-1.0
ROCH				*i* S	Sn	15 19 57.2	+0.3
PEL	**Peldehue**	**1.85**	**154**	*e*P	Pn	15 19 40.4	+0.2
PEL				*e*S	Sn	15 20 04.6	+1.0
PEL				AML	AML	15 20 11.8	
	comp=N,426nm,0.6s						
CLCH	**Cerro Calan**	**2.13**	**154**	*e*P	Pn	15 19 43.2	-0.8

IDC 13 15:19:11.8±1.5, 1572N×12264E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=275.2km s-min=24.8km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**34.73**	**341**	P	P	15 26 03.6	+0.1
	0.2nm,0.4s,baz=165,slow=6.0,SNR=2.8						
WRA	**Warramunga Arr**	**37.26**	**162**	P	P	15 26 25.9	+0.8
	0.6nm,0.8s,baz=342,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**40.66**	**164**	P	P	15 26 53.4	-0.3
	0.2nm,0.5s,baz=344,slow=7.0,SNR=11						

BJI ***13*** *15:33:46.7, 684S×10623E, h134km, mB5.3, mb4.5*
IDC ***13*** *15:33:50.0±6.8, 6705S×10653E, h145km±62km, mb4.0/20, mb1 4.0/20, mb1mx4.0/25, mbtmp4.4/20, Error ellipse: s-maj=22.9km s-min=11.9km az=62.0*
NEIC ***13*** *15:33:50.9±3.2, 6775S×10645E, h154km±28km, mb4.4/14, Error ellipse: s-maj=19.6km s-min=7.7km az=57.0*
ISCJB ***13*** *15:33:52.6±3.5, 6745S±009×1065E±01, h187km±32km, mb4.3/36, Error ellipse: s-maj=22.6km s-min=8.7km az=110.5*
ISC 13 15:33:53.8±3.6, 676S±009×1065E±01, h182km±33km, n62, σ0991/57, mb4.3/36, 3C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**16.00**	**38**	*e*Pn	**Pn**	**15 37 29.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.82**	**123**	*e*P	**P**	**15 38 30.8**	**-0.8**
	6.2nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**21.82**	**123**	P	**P**	**15 38 30.8**	**-0.8**
	2.6nm,0.8s,mb3.7,baz=220,slow=4.7,SNR=8.1						
WRA	**Warramunga Arr**	**30.04**	**119**	P	**P**	**15 39 45.8**	**+0.2**
	2.9nm,0.5s,mb4.2,baz=286,slow=11,SNR=52						
WRA				PcP	PcP	15 42 44.6	+1.6
	0.6nm,0.5s,baz=298,slow=2.1,SNR=6.8						
WB2	**Warramunga Arr**	**30.05**	**119**	⇑*i*P	**P**	**15 39 45.9**	**+0.2**
AS31	**Alice Springs**	**31.25**	**126**	*e*PKPdf	**P**	**15 39 55.9**	**-0.3**
ASAR	**Alice Springs**	**31.25**	**126**	P	**P**	**15 39 56.5**	**+0.2**
	2.0nm,0.8s,mb3.9,baz=302,slow=8.5,SNR=24						
CD2	**Chengdu**	**37.54**	**356**	*e*P	**P**	**15 40 52.3**	**+2.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.1						
LSA	**Lhasa**	**39.13**	**339**	P	**P**	**15 41 04.0**	**+0.5**
	comp=Z,4.1nm,0.6s,mb4.2						
JIRN	**Jiri**	**39.44**	**331**	*e*P	**P**	**15 41 06.5**	**+0.4**
GUN	**Gumba**	**39.80**	**331**	*e*P	**P**	**15 41 08.5**	**-0.6**
	comp=Z,22nm,0.7s,mb4.9						
KKN	**Kakani**	**39.99**	**330**	*e*P	**P**	**15 41 09.0**	**-1.6**
PMG	**Port Moresby**	**40.34**	**97**	P	**P**	**15 41 13.2**	**-0.3**
	comp=Z,11nm,0.8s,mb4.5,baz=262,slow=7.4,SNR=5.4						
PMG	**Port Moresby**	**40.34**	**97**	P	**P**	**15 41 14.1**	**+0.6**
	comp=Z,15nm,0.8s,mb4.7						
GKN	**Gorkha**	**40.49**	**330**	*e*P	**P**	**15 41 13.5**	**-1.2**
	comp=Z,9.4nm,0.3s,mb4.9						
XAN	**Xi'an**	**40.64**	**3**	P	**P**	**15 41 14.9**	**-1.0**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
KOLN	**Koldanda**	**40.83**	**328**	*e*P	**P**	**15 41 16.5**	**-1.0**
	comp=Z,10nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**41.19**	**132**	*e*P	**P**	**15 41 21.0**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**41.19**	**132**	P	**P**	**15 41 21.3**	**+0.9**
	comp=Z,5.7nm,0.5s,mb4.5,baz=306,slow=7.4,SNR=23						
LZH	**Lanzhou**	**42.69**	**357**	*e*P	**P**	**15 41 31.5**	**-1.1**
LZH				AP	pP	15 41 59.0	-13
LZH				XP	sP	15 42 16.0	-16
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
LZH	**Lanzhou**	**42.69**	**357**	*e*P	**P**	**15 41 31.5**	**-1.1**
	comp=Z,16nm,1.0s,mb4.6						
LZH				pP	pP	15 41 59.0	-13
LZH				sP	sP	15 42 16.0	-16
GTA	**Gaotai**	**46.34**	**353**	*e*P	**P**	**15 42 02.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**52.34**	**32**	P	**P**	**15 42 46.6**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.0,baz=207,slow=8.2,SNR=5.8						
WMQ	**Urumqi**	**53.13**	**343**	*e*P	**P**	**15 42 54.0**	**+1.3**
SONM	**Songino Array**	**54.35**	**360**	P	**P**	**15 43 02.5**	**+1.0**
	comp=Z,1.1nm,0.4s,mb4.0,baz=181,slow=9.6,SNR=11						
SONM				PcP	PcP	15 44 04.7	+1.6
	comp=Z,6.6nm,0.5s,baz=176,slow=3.8,SNR=36						
MDJ	**Mudanjiang**	**55.21**	**20**	P	**P**	**15 43 10.6**	**+2.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,1μm,8.5s						
MDJ				LR	LR		
	comp=N,433nm,13.9s						
MDJ				LR	LR		
	comp=E,454nm,13.3s						
MDJ				LR	LR		
	comp=Z,695nm,11.9s						
WSAR	**Wadi Sarin**	**55.45**	**304**	P	**P**	**15 43 10.8**	**+1.4**
	comp=Z,3.7nm,0.8s,mb4.2,baz=47,slow=10,SNR=4.8						
WSAR	**Wadi Sarin**	**55.45**	**304**	P	**P**	**15 43 10.8**	**+1.4**
AAK	**Ala-Archa**	**57.13**	**332**	*e*P	**P**	**15 43 20.3**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**57.48**	**340**	P	**P**	**15 43 23.5**	**-0.3**
	comp=Z,3.4nm,0.4s,mb4.5,baz=146,slow=8.0,SNR=33						
MKAR	**Makanchi Array**	**57.48**	**340**	P	**P**	**15 43 23.5**	**-0.3**
DZM	**Mont Dzumac**	**59.68**	**112**	P	**P**	**15 43 37.8**	**-1.2**
	comp=Z,14nm,1.1s,mb4.7,baz=121,slow=18,SNR=3.6						
ASAJ	**Asahikawa**	**60.21**	**29**	P	**P**	**15 43 41.2**	**-1.3**
	comp=Z,13nm,1.0s,mb4.7,baz=72,slow=28,SNR=6.5						
ZAL	**Zalesovo**	**63.16**	**346**	P	**P**	**15 44 01.4**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.3,baz=314,slow=3.2,SNR=7.0						
BVAR	**Borovoye Array**	**66.94**	**337**	P	**P**	**15 44 26.6**	**0.0**
	comp=Z,8.0nm,0.4s,mb4.9,baz=143,slow=9.1,SNR=66						
BRVK	**Borovoye**	**67.01**	**337**	*e*P	**P**	**15 44 26.4**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**67.36**	**338**	*e*P	**P**	**15 44 28.9**	**-0.4**
	comp=Z,15nm,0.7s,mb4.9						
CHKZ				*e*		15 44 55.9	
ZRNK	**Zerenda**	**67.43**	**337**	*e*P	**P**	**15 44 29.4**	**-0.3**
	comp=Z,10nm,0.6s,mb4.8						
MAW	**Mawson**	**67.45**	**197**	P	**P**	**15 44 29.5**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=52,slow=8.9,SNR=6.1						
MAW	**Mawson**	**67.45**	**197**	*e*P	**P**	**15 44 29.4**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.8						
AKTK	**Aktyubinsk**	**70.65**	**330**	P	**P**	**15 44 49.6**	**+0.1**
AKTO	**Aktyubinsk**	**70.65**	**330**	P	**P**	**15 44 49.6**	**+0.1**
	comp=Z,3.5nm,0.5s,mb4.3,baz=113,slow=6.7,SNR=18						
ARU	**Arti**	**74.18**	**335**	*e*P	**P**	**15 45 10.1**	**-0.3**
	comp=Z,19nm,1.0s,mb4.8						
VNDA	**Vanda**	**76.30**	**169**	P	**P**	**15 45 22.9**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.2,baz=276,slow=5.9,SNR=3.7						
VNDA	**Vanda**	**76.30**	**169**	*e*P	**P**	**15 45 23.0**	**+0.5**
	comp=Z,1.3nm,1.0s,mb3.5						
BR131	**Keskin Array S**	**81.28**	**312**	*e*P	**P**	**15 45 49.6**	**-0.1**
	comp=Z,1.9nm,0.7s,mb3.8						
BRTR	**Keskin Array B**	**81.28**	**312**	P	**P**	**15 45 50.3**	**+0.7**
	comp=Z,2.2nm,0.7s,mb3.9,baz=138,slow=7.4,SNR=16						
AKASG	**Malin Array Be**	**87.18**	**322**	P	**P**	**15 46 19.5**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=88,slow=4.5,SNR=6.9						
VRI	**Vrincioaia**	**87.72**	**317**	⇓*i*P	**P**	**15 46 24.3**	**+2.4**
VRI	**Vrincioaia**	**87.72**	**317**	⇓P	**P**	**15 46 24.3**	**+2.4**
MLR	**Muntele Rosu**	**88.18**	**316**	⇑*i*P	**P**	**15 46 25.4**	**+1.4**
MLR	**Muntele Rosu**	**88.18**	**316**	⇑P	**P**	**15 46 25.4**	**+1.4**
JOF	**Joensuu**	**89.29**	**334**	*e*p	**P**	**15 46 29.1**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**91.31**	**332**	P	**P**	**15 46 38.8**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=186,slow=6.7,SNR=9.4						
KAF	**Kangasniemi**	**91.34**	**332**	*e*p	**P**	**15 46 39.7**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**93.13**	**340**	P	**P**	**15 46 46.3**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.3,baz=97,slow=6.2,SNR=11						
CLL	**Collm**	**97.40**	**321**	*e*Pdif	P	**15 47 06.0**	**-0.5**
WMOK	**Wichita Mounta**	**143.71**	**36**	*e*PKPdf	PKPdf	15 53 06.5	-0.5
JCT	**Junction City**	**145.87**	**43**	*e*PKPdf	PKPdf	15 53 14.2	+3.5
SSPA	**Standing Stone**	**146.04**	**6**	*e*PKPdf	PKPdf	15 53 13.4	+2.4
WCI	**Wyandotte Cave**	**146.60**	**18**	*e*PKPbc	PKPbc	15 53 15.8	+2.0
MCWV	**Mont Chateau**	**146.75**	**9**	*e*PKPbc	PKPbc	15 53 17.2	+3.0

BJI ***13*** *15:41:14.9, 6070N×16590E, h10km, mB4.9, mb4.4, Ms4.4, Msz4.2*
KRSC ***13*** *15:41:14, 6084N×16567E, h10km, ML4.4*
ISCJB ***13*** *15:41:15.8±1.9, 6071N±004×1657E±01, h7km±12km, mb4.1/24, Error ellipse: s-maj=9.3km s-min=5.5km az=53.4*
MOS ***13*** *15:41:16.7±1.4, 6072N×16574E, h13km, mb4.3/12, Error ellipse: s-maj=19.4km s-min=8.4km az=84.6*
IDC ***13*** *15:41:16.3±0.7, 6068N×16574E, h0km, mb3.9/15, mb1 4.1/15, mb1mx4.0/25, mbtmp3.9/15, MS4.5/1, Ms1 4.4/1, ms1mx3.2/37, Error ellipse: s-maj=21.7km s-min=17.5km az=165.0*
NEIC ***13*** *15:41:17.9±0.6, 6069N×16589E, h10km, mb4.4/7, Error ellipse: s-maj=15.3km s-min=9.4km az=166.0*
ISC 13 15:41:18.0±2.3, 6073N±004×1658E±01, h12km±14km, n66, σ1909/68, mb4.1/24, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRKR	**Sorokina**	**4.76**	**213**	P	**Pn**	**15 42 29.7**	**+0.2**
KBTR	**Krutoberegovo**	**4.80**	**201**	*i* P	**Pn**	**15 42 31.1**	**+1.0**
KBTR				*i* S	**Sn**	**15 43 26.8**	**+1.1**
KLY	**Klyuchi**	**5.20**	**214**	P	**Pn**	**15 42 34.6**	**-0.9**
KRSR	**Krestovskiy**	**5.30**	**214**	P	**Pn**	**15 42 35.9**	**-1.1**
ZLN	**Zelenaya**	**5.42**	**211**	P	**Pn**	**15 42 38.5**	**-0.1**
SRDR	**Sredinnyy**	**5.46**	**219**	P	**Pn**	**15 42 39.4**	**+0.2**
KPT	**Kopyto**	**5.62**	**214**	P	**Pn**	**15 42 40.6**	**-0.7**
ESO	**Esso**	**6.11**	**221**	P	**Pn**	**15 42 46.0**	**-2.1**
MKZ	**Mys Kozlova**	**6.57**	**201**	*e*P	**Pn**	**15 42 55.2**	**+0.8**
MKZ				*e*S	**Sn**	**15 44 09.6**	**+0.3**
BILL	**Bilibino**	**7.34**	**1**	*e*PN	**Pn**	**15 43 05.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL				pmax	pmax		
	comp=N,119nm,1.0s						
BILL	**Bilibino**	**7.34**	**1**	*e*Pn	**Pn**	**15 43 05.8**	**+0.8**
	comp=N,20nm,0.6s						
MA2	**Magadan**	**7.61**	**268**	*c i*PN	**Pn**	**15 43 09.0**	**+0.4**
MA2	**Magadan**	**7.61**	**268**	*e*Pn	**Pn**	**15 43 08.8**	**+0.1**
	comp=N,21nm,0.4s						
MA2				*e*Sn	**Sn**	**15 44 35.5**	**+0.7**
MA2	**Magadan**	**7.61**	**268**	*e*P	**Pn**	**15 43 08.9**	**+0.3**
MA2				*i* S	**Sn**	**15 44 34.1**	**-0.7**
GNL	**Ganaly**	**8.25**	**215**	P	**Pn**	**15 43 17.6**	**+0.2**
RUS	**Russkaya**	**9.24**	**209**	P	**Pn**	**15 43 32.0**	**+1.0**
YAK	**Yakutsk**	**17.23**	**290**	*e*P	**Pn**	**15 45 20.5**	**+2.1**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
YAK	**Yakutsk**	**17.23**	**290**	*e*P	**Pn**	**15 45 20.5**	**+2.0**
	comp=Z,17nm,0.8s						
EGAK	**Eagle**	**23.99**	**57**	*e*P	**P**	**15 46 30.8**	**-1.6**
	comp=Z,5.9nm,0.7s,mb4.1						
DAWY	**Dawson**	**24.93**	**58**	*e*P	**P**	**15 46 40.7**	**-0.2**
BOD	**Bodaibo**	**26.07**	**287**	*e*P	**P**	**15 46 51.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
INK	**Inuvik**	**26.10**	**47**	P	**P**	**15 46 53.6**	**+2.1**
	comp=Z,4.1nm,0.8s,mb4.0,baz=317,slow=10,SNR=4.7						
INK	**Inuvik**	**26.10**	**47**	*e*P	**P**	**15 46 52.9**	**+1.3**
INK				pmax	pmax		
	comp=Z,260nm,1.0s						
INK	**Inuvik**	**26.10**	**47**	*e*P	**P**	**15 46 52.9**	**+1.3**
	comp=Z,260nm,1.0s,mb5.7						
MDJ	**Mudanjiang**	**26.79**	**250**	P	**P**	**15 46 56.3**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,693nm,10.4s						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**15 48 16.5**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=303,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**15 48 16.5**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**35.72**	**276**	P	**P**	**15 48 17.7**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=52,slow=9.6,SNR=3.7						
SONM				PcP	PcP	15 50 43.6	-0.8
	comp=Z,0.5nm,0.8s,baz=139,slow=3.4,SNR=3.2						
SONM	**Songino Array**	**35.72**	**276**	P	**P**	**15 48 17.7**	**+1.3**
SONM						15 50 43.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NJ2	**Nanjing**	**41.87**	**248**	*e*P	**P**	**15 49 07.1**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
LZH	**Lanzhou**	**45.76**	**267**	*e*P	**P**	**15 49 43.0**	**+3.7**
LZH				AP	pP	15 49 47.0	+4.0
LZH				XP	sP	15 49 49.5	+5.1
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
LZH	**Lanzhou**	**45.

OVCH	Ovalle	1.07	30	*i* P	Pb	15 54 12.1	-1.2
OVCH				*i* S	Sb	15 54 26.3	-0.8
JACH	Jahuel	1.54	138	⇓*i*P	Pn	15 54 19.6	-0.5
JACH				*i* S	Sn	15 54 40.3	+0.4
ROCH	El Roble	1.58	155	⇑*i*P	Pn	15 54 19.4	-1.2
ROCH				*i* S	Sn	15 54 40.2	-0.7
TLL	Tololo Astrono	1.62	33	*e*P	Pn	15 54 21.3	+0.2
TLL				*i* S	Sn	15 54 42.9	+1.0
TLL				AML	AML	15 54 46.7	
	comp=E,665nm,0.4s						
PEL	Peldehue	1.86	149	*e*P	Pn	15 54 24.8	+0.3
PEL				*i* S	Sn	15 54 48.8	+1.0
PEL				AML	AML	15 54 54.0	
	comp=E,735nm,0.4s						
CLCH	Cerro Calan	2.14	150	*i* P	Pn	15 54 29.2	+0.9
CLCH				*i* S	Sn	15 54 56.3	+1.6
CLCH				AML	AML	15 55 02.6	
	comp=E,458nm,0.5s						
TACH	Talagante	2.23	161	*i* P	Pn	15 54 30.6	+1.0
TACH				*i* S	Sn	15 54 59.0	+2.1
ANTU	Antumapu	2.25	154	AML	AML	15 55 07.0	
	comp=E,219nm,0.2s						
SFDO	San Fernando	3.14	168	⇑*i*P	Pn	15 54 43.0	+1.0
SFDO				*i* S	Sn	15 55 21.2	+1.9

ISCJB ***13*** *15:55:19.3±0.4,5143N±002×16.11E±002,h0km,Error ellipse: s-maj=3.4km s-min=2.0km az=39.9*
IPEC ***13*** *15:55:20.1±0.3,5155N×1622E,h0km,ML2.8/4,Error ellipse: s-maj=2.0km s-min=1.3km az=24.0*
NEIC ***13*** *15:55:20.1±0.4,5153N×16.16E,h5km,ML3.1(SZGRF), Error ellipse: s-maj=5.1km s-min=3.4km az=78.0*
BGR ***13*** *15:55:20.3±0.5,5150N×16.16E,h1km,ML3.1/10,Error ellipse: s-maj=5.6km s-min=3.3km az=18.0*
CSEM ***13*** *15:55:21.2±0.1,5149N×16.12E,h1km,ML3.5/9,Error ellipse: s-maj=2.6km s-min=1.4km az=21.0*
IDC ***13*** *15:55:21.1±0.7,5146N×1595E,h0km,mb1 3.4/8, mb1mx3.3/24,mbtmp3.3/8,ML3.1/8,Error ellipse: s-maj=12.8km s-min=6.7km az=105.0*
WAR ***13*** *15:55:22,5147N×16.11E,ML3.0,Mining Induced*
PRU ***13*** *15:55:22.6,5142N×1603E,h0km*
VIE ***13*** *15:55:22.6±0.4,5131N×1620E,h0km,mb2.7/4,ML3.1/4, Error ellipse: s-maj=2.5km s-min=2.4km az=171.0 61 km WNW of Breslau Suspected Mining induced.*

ISC 13 15:55:19.6±0.3,5152N±002×1612E±003,h0km,n69, σ1§08/117,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	171	*e*Pg	Pg	15 55 33.6	+0.8
KSP				*e*Sg	Sg	15 55 42.2	+0.5
KSP				*e*L		15 55 45.6	
KSP	Ksiaz	0.69	171	*e*Pn	Pg	15 55 33.5	+0.8
KSP	Ksiaz	0.69	171	*e*Pg	Pg	15 55 33.6	+0.8
KSP				*e*Sg	Sg	15 55 42.2	+0.5
UPC	Upice	1.02	184	*e*PG	Pg	15 55 39.6	+0.5
DPC	Dobruska-Polom	1.18	174	*e*Pn	Pn	15 55 42.3	-1.0
DPC				*e*Sg	Sg	15 55 56.9	-0.5
DPC	Dobruska-Polom	1.18	174	*e*PG	Pg	15 55 42.4	+0.2
DPC				*e*SG	Sg	15 55 57.1	-0.4
	72nm,0.5s						
DPC	Dobruska-Polom	1.18	174	Pn	Pn	15 55 42.3	-1.0
DPC	Dobruska-Polom	1.18	174	*e*Pg	Pg	15 55 42.4	+0.2
DPC				*e*Sg	Sg	15 55 57.4	-0.1
PVCC	Panska Ves	1.40	225	*e*Pg	Pg	15 55 46.7	+0.3
PVCC				*e*Sg	Sg	15 56 05.0	+0.5
	202nm,0.7s						
BRG	Berggiesshubel	1.52	246	Pn	Pn	15 55 47.7	-0.3
BRG				Pg	Pg	15 55 49.3	+0.6
BRG				Sg	Sg	15 56 09.3	+0.9
BRG	Berggiesshubel	1.52	246	Pg	Pg	15 55 49.3	+0.6
RUE	Ruedersdorf	1.74	304	*e*Pn	Pn	15 55 51.2	+0.2
RUE				*e*Sn	Sn	15 56 17.9	+4.0
RUE	Ruedersdorf	1.74	304	*e*Pn	Pn	15 55 51.2	+0.2
RUE				*e*Sn	Sn	15 56 17.9	+4.0
PRU	Pruhonice	1.83	214	*e*PN	Pn	15 55 52.3	0.0
PRU				*e*PG	Pg	15 55 54.2	-0.5
PRU				*e*SG	Sg	15 56 17.1	-1.4
	46nm,0.7s						
FBE	Freiberg	1.84	252	*e*Pn	Pn	15 55 52.8	+0.3
FBE				*e*Sg	Sg	15 56 18.7	0.0
FBE	Freiberg	1.84	252	Pn	Pn	15 55 52.8	+0.3
FBE				Sg	Sg	15 56 18.7	-0.1
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	15 55 54.3	+0.1
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	15 55 54.1	0.0
MORC				*e*Sn	Sn	15 56 19.3	-0.2
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	15 55 54.1	0.0
MORC				*e*Sn	Sn	15 56 19.3	-0.2
MORC				*e*Sg	Sg	15 56 21.0	-1.7
	69nm,0.6s						
CLL	Collm	1.97	265	*e*Pn	Pn	15 55 54.2	+0.1
CLL				*e*Sg	Sg	15 56 23.3	+0.5
CLL	Collm	1.97	265	*e*Pn	Pn	15 55 54.0	-0.2
CLL				*e*Pg	Pg	15 55 58.0	+0.7
CLL				*e*Sg	Sg	15 56 24.0	+1.2
CLL	Collm	1.97	265	*e*Pn	Pn	15 55 54.0	-0.2
	comp=Z,9.0nm,0.5s						
CLL				*e*Pg	Pg	15 55 58.0	+0.7
CLL				*e*x	x	15 56 02.0	
CLL				*e*x	x	15 56 12.0	
CLL				*e*Sg	Sg	15 56 24.0	+1.2
	comp=Z,46nm,0.7s						
CLL	Collm	1.97	265	*e*Pg	Pg	15 55 58.0	+0.7
CLL				Sg	Sg	15 56 23.3	+0.5
OKC	Ostrava-Krasne	2.12	142	*e*Pn	Pn	15 55 55.5	-0.7
OKC	Ostrava-Krasne	2.12	142	*e*PG	Pg	15 56 00.1	-0.1
OKC				*e*SG	Sg	15 56 26.4	-1.3
	comp=Z,97nm,0.8s						
OKC	Ostrava-Krasne	2.12	142	*e*Pg	Pg	15 56 00.1	-0.1
OKC				*e*Sg	Sg	15 56 26.6	-1.1
VRAC	Vranov	2.23	172	Pn	Pn	15 55 58.6	+0.7
	comp=Z,4.5nm,0.3s,baz=352,slow=16,SNR=11						
VRAC				Lg		15 56 28.2	
	comp=Z,4.8nm,0.3s,baz=37,slow=22,SNR=4.7						
VRAC	Vranov	2.23	172	Pn	Pn	15 55 58.6	+0.7
VRAC				*e*Sg	Sg	15 56 30.2	-1.2
	comp=Z,27nm,0.4s						
TREC	Trest	2.27	191	*e*PN	Pn	15 55 57.4	-0.9
TREC				*e*PG	Pg	15 56 00.6	-2.4
KRUC	Moravsky	2.47	176	*e*Pn	Pn	15 56 02.2	+1.2
KRUC				*e*Sg	Sg	15 56 38.6	-0.3
	comp=Z,56nm,0.7s						
TANN	Tannenbergstha	2.57	246	*e*Pn	Pn	15 56 03.3	+0.9
TANN				*e*Sg	Sg	15 56 42.0	-0.1
WERD	Werda	2.64	248	*e*Pn	Pn	15 56 04.2	+0.8
OJC	Ojcow	2.67	118	*e*Pg	Pg	15 56 11.2	+0.5
OJC				*e*Sg	Sg	15 56 46.5	+1.2
JAVC	Velka Javorina	2.84	159	*e*Pn	Pn	15 56 09.1	+2.9
JAVC				*e*Sg	Sg	15 56 51.7	+0.7
	comp=Z,53nm,0.9s						
KHC	Kasperske Hory	2.90	215	*e*PN	Pn	15 56 07.0	+0.1
KHC				*e*PG	Pg	15 56 13.4	-1.7
KHC				*e*SN	Sn	15 56 42.0	-0.4
KHC				*e*SG	Sg	15 56 51.9	-0.7
	comp=Z,29nm,0.5s						
MOX	Moxa	2.98	255	*e*Pn	Pn	15 56 08.9	+0.9
MOX	Moxa	2.98	255	*e*PN	Pn	15 56 08.9	+0.9
MOX				*e*PG	Pg	15 56 17.0	+0.4
MOX				*e*SG	Sg	15 56 56.4	+1.2
MANZ	Manzenberg	2.98	241	*e*Pn	Pn	15 56 09.1	+1.0
MANZ				*e*Sg	Sg	15 56 56.0	+0.8
ROTZ	Rotzenmuhle	3.05	236	*e*Pn	Pn	15 56 09.8	+0.7
GEC2	GERESS Array S	3.10	211	*e*Pn	Pn	15 56 10.3	+0.6
GEC2	GERESS Array S	3.10	211	*e*Pn	Pn	15 56 10.3	+0.6
GERES	GERESS Array B	3.10	211	Pn	Pn	15 56 10.2	+0.5
	comp=Z,1.8nm,0.3s,baz=28,slow=12,SNR=41						
GERES				Pg	Pg	15 56 16.6	-2.4
	comp=Z,6.1nm,0.3s,baz=31,slow=17,SNR=41						
GERES				Sn	Sn	15 56 44.7	-2.7
	comp=Z,2.8nm,0.3s,baz=50,slow=25,SNR=5.5						
GERES				Lg		15 56 55.4	
	comp=Z,4.0nm,0.3s,baz=36,slow=27,SNR=5.3						
GERES	GERESS Array B	3.10	211	Pg	Pg	15 56 16.6	-2.4
SMOL	Smolenice	3.12	164	*e*PG	Pg	15 56 20.8	+1.3
SMOL				*e*SG	Sg	15 57 00.0	0.0
WET	Wettzell	3.16	222	*e*Pn	Pn	15 56 11.0	+0.4
WET	Wettzell	3.16	222	*e*Pn	Pn	15 56 11.0	+0.4
ZST	Bratislava	3.39	169	*e*SG	Sg	15 57 07.2	-1.2
ZST	Bratislava	3.39	169	*e*Sg	Sg	15 57 07.3	-1.1
NIE	Niedzica	3.40	127	*e*P	Pg	15 56 24.9	+0.1
NIE				*e*S	Sg	15 57 09.2	+0.2
VYHS	Vyhne	3.50	149	*e*PG	Pg	15 56 25.0	-1.6
VYHS				*e*SG	Sg	15 57 15.5	+3.5
CLZ	Clausthal	3.59	277	*e*Pn	Pn	15 56 18.0	+1.5
CLZ	Clausthal	3.59	277	*e*Pn	Pn	15 56 18.0	+1.4
CONA	Conrad Observa	3.60	183	⇑*i*Pn	Pn	15 56 16.7	+0.1
CONA				⇓*i*Sg	Sg	15 57 15.0	-0.3
	comp=Z,28nm,0.6s						
GRA1	Grafenberg Arr	3.62	242	Sg	Sg	15 57 14.5	-1.4
GRF	Grafenberg Arr	3.62	242	*e*Sg	Sg	15 57 14.5	-1.4
BSD	Bornholm Skovb	3.67	349	*i* P	Pn	15 56 17.6	0.0
BSD				*i* S	Sn	15 57 00.6	-1.0
MOA	Molln	3.87	199	⇑*i*Pn	Pn	15 56 21.3	+1.0
MOA				⇑*i*Sg	Sg	15 57 24.6	+0.7
	comp=Z,26nm,0.6s						
MOA	Molln	3.87	199	Pn	Pn	15 56 21.3	+1.0
MOA				Sg	Sg	15 57 24.6	+0.7
	comp=Z,26nm,0.6s						
STHS	Stebnicka Huta	3.89	121	*e*PG	Pg	15 56 37.2	+3.0
STHS				*e*SG	Sg	15 57 29.8	+5.2
KECS	Kecovo	4.14	136	*e*PG	Pg	15 56 39.4	+0.4
KECS				*e*SG	Sg	15 57 36.1	+3.4
CRVS	Cervenica-Dubn	4.31	125	*e*PG	Pg	15 56 45.0	+2.7
KOLS	Kolonicke sedl	4.72	121	*e*PG	Pg	15 56 51.2	+1.1
DAVOX	Davos/Dischmat	6.27	223	Pn	Pn	15 56 52.6	-0.6
	baz=2.0,slow=18,SNR=2.7						
DAVOX				Lg		15 58 36.2	
AKASG	Malin Array Be	8.29	91	Pn	Pn	15 57 20.5	-0.5
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=5.4						
HFS	Hagfors	8.74	352	Pn	Pn	15 57 27.4	+0.1
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=3.5						
NOA	NORSAR Array B	9.92	346	Pn	Pn	15 57 41.8	-1.7
	comp=Z,0.2nm,0.3s,baz=95,slow=16,SNR=2.8						
FINES	FINESS Array B	11.35	25	Pn	Pn	15 58 01.0	-2.0
	comp=Z,0.1nm,0.3s,baz=212,slow=9,SNR=7.3						
EKA	Eskdalemuir Ar	12.11	296	Pn	Pn	15 58 11.2	-2.1
	comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=3.4						
ARCES	ARCESS Array B	18.61	10	Pn	Pn	15 59 35.9	-2.7
	comp=Z,0.4nm,0.3s,baz=192,slow=13,SNR=12						

IDC ***13*** *16:12:50.0±0.5,3146S×7157W,h0km,mb4.7/16, mb1 4.7/22,mb1mx4.7/24,mbtmp4.7/22,ML4.7/6,MS4.8/21, Ms1 4.8/21,ms1mx4.6/30,Error ellipse: s-maj=20.0km s-min=12.7km az=81.0*
BJI ***13*** *16:12:52.8,3125S×7254W,h29km,mB5.5,Ms5.6,Msz5.1*
ISCJB ***13*** *16:12:53.1±0.9,3142S±003×7181W±006,h29km±6km, mb4.9/50,MS4.8/23,Error ellipse: s-maj=8.5km s-min=4.1km az=150.3*
MOS ***13*** *16:12:53.9±1.2,3150S×7187W,h33km,mb5.3/20, MS4.9/5,Error ellipse: s-maj=18.9km s-min=7.9km az=98.0*
GUC ***13*** *16:12:53.6±0.9,3149S×7183W,h25km±3km,ML5.5*
GCMT ***13*** *16:12:54.6±0.2,3155S×7202W,h39km,MW5.3/70, Moment Tensor Solution. s61,c95; s70,c104; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.78±.03; $M_{\theta\theta}$0.10±.02; $M_{\phi\phi}$-0.87±.02; $M_{r\theta}$0.09±.02; $M_{\theta\phi}$0.06±.01; $M_{\phi r}$-0.66±.03; Best double couple: $M_0$1.06500×10^{17} NP1:ϕ_S360.00000°,δ26.00000°,λ95.00000°. NP2: ϕ_S174.00000°,δ64.00000°,λ88.00000°. Principal axes: T 1.0150, Plg70.0000°, Azm79.0000°; N 0.1000, Plg2.0000°, Azm175.0000°; P -1.1150, Plg19.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *16:12:54.6±0.2,3142S×7161W,mb5.0/39,ML5.5(GUC) Error ellipse: s-maj=8.2km s-min=3.1km az=79.0*
NEIC Felt [IV] at Canela; [III] at Illapel, Los Vilos, Ovalle and Petorca; [II] at Coquimbo, La Ligua, La Serena, Los Andes, Maintencillo, Papudo, Quintero, Rancagua, San Felipe, Santiago, Valparaiso, Vina del Mar and Zapallar.

ISC 13 16:12:52.8±1.0,3145S±002×7186W±005,h15km±6km, h29km±3.1km:pP-P,n216,σ1§06/150,mb4.9/50,MS4.8/23, 15C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.53	145	⇓*i*P	Pg	16 13 03.6	+0.3
CHNG				*i* S	Sg	16 13 10.2	-0.2
PACH	Papudo	1.14	162	*e*P	Pn	16 13 13.7	-0.5
TLL	Tololo Astrono	1.57	36	⇑*i*P	Pn	16 13 20.8	+0.8
TLL				*i* S	Sn	16 13 41.9	+1.9
TLL				AML	AML	16 13 46.4	
	comp=E,114μm,0.6s						
TLL	Tololo Astrono	1.57	36	⇑*i*P	Pn	16 13 20.8	+0.8
TLL				*i* S	Sn	16 13 41.9	+1.9
IHA	Instituto Hidr	1.58	173	*e*P	Pn	16 13 19.9	-0.3
LSCH	La Serena	1.62	19	⇓*i*P	Pn	16 13 22.0	+1.2
LSCH				*i* S	Sn	16 13 43.5	+2.1
JACH	Jahuel	1.64	139	⇑*i*P	Pn	16 13 20.8	-0.1
ROCH	El Roble	1.68	155	*e*P	Pn	16 13 21.4	-0.1
PEL	Peldehue	1.96	150	⇓*i*P	Pn	16 13 25.8	+0.3
PEL				*i* S	Sn	16 13 50.4	+0.6
PEL				AML	AML	16 13 54.9	
	comp=E,90μm,0.7s						
PEL	Peldehue	1.96	150	⇓*i*P	Pn	16 13 25.8	+0.3
PEL				*i* S	Sn	16 13 50.4	+0.6
LCCH	Las Cruces	2.04	173	⇓*i*P	Pn	16 13 26.4	-0.1
CLCH	Cerro Calan	2.24	150	⇑*i*P	Pn	16 13 29.6	+0.4
CLCH				*i* S	Sn	16 13 57.2	+0.6
CLCH				AML	AML	16 14 03.1	
	comp=E,60μm,0.8s						
CLCH				AML	AML	16 14 03.8	
	comp=E,70μm,0.7s						
LACH	Colegio Las Am	2.29	151	*e*	Pn	16 13 30.6	+0.6
LACH				*e*P		16 13 30.6	
LACH				*i* S	Sn	16 13 59.0	+1.1
LACH				AML	AML	16 14 06.0	
	comp=E,13μm,0.8s						
TACH	Talagante	2.33	161	⇑*i*P	Pn	16 13 30.9	+0.4
ANTU	Antumapu	2.36	154	*i* P	Pn	16 13 31.4	+0.5
ANTU				*i* S	Sn	16 14 00.3	+0.8
ANTU				AML	AML	16 14 09.1	
	comp=N,32μm,0.6s						
ANTU	Antumapu	2.36	154	*i* P	Pn	16 13 31.4	+0.5
ANTU				*i* S	Sn	16 14 00.3	+0.8
PCH	Pirque	2.45	153	*e*P	Pn	16 13 32.4	+0.3
LNV	Longovilo	2.53	172	*e*P	Pn	16 13 33.2	-0.1
CHCH	Chadas Angostu	2.68	158	*e*P	Pn	16 13 35.9	+0.6
CACH	El Canelo	2.87	159	⇑*i*P	Pn	16 13 39.0	+1.1
VACH	Vallenar	3.02	19	*e*P	Pn	16 13 45.3	+5.3
VACH				*i* S	Sn	16 14 21.4	+5.6
CFAA	Coronel Fontan	3.10	94	Pn	Pn	16 13 43.0	+1.9
	comp=N,20nm,0.3s,baz=265,slow=11,SNR=811						
CFAA				LR	LR	16 14 16.5	
	comp=N,784nm,20.4s,baz=1.9,slow=30						
CFAA				Lg		16 14 21.6	
	comp=N,129nm,0.3s,baz=128,slow=7.2,SNR=10						
CFAA	Coronel Fontan	3.10	94	Pn	Pn	16 13 43.0	+1.9
CFAA				LR	LR	16 14 16.5	
CFAA				Lg		16 14 21.6	
CICH	Cipreses	3.11	157	*e*P	Pn	16 13 42.2	+1.0
SFDO	San Fernando	3.24	168	*e*P	Pn	16 13 43.4	+0.5
LVC	Limon Verde	9.18	17	Pn	Pn	16 15 01.8	-2.8
	comp=N,1.4nm,0.3s,baz=155,slow=9.4,SNR=14						
LVC				Sn	Sn	16 16 57.6	+10
	comp=N,13nm,0.3s,baz=219,slow=8.3,SNR=5.4						
LVC	Limon Verde	9.18	17	*e*Pn	Pn	16 15 01.6	-3.0
	comp=N,156nm,0.7s						
LVC				*e*Sn	Sn	16 16 52.0	+4.3
PLCA	Paso Flores	9.33	174	Pn	Pn	16 15 07.0	+0.5
	comp=N,1.6nm,0.3s,baz=336,slow=13,SNR=25						
PLCA				LR	LR	16 18 40.9	
	comp=N,4μm,19.0s,baz=350,slow=38						
PLCA	Paso Flores	9.33	174	*e*P	Pn	16 15 06.8	+0.2
PLCA				pmax	pmax		
	comp=Z,56nm,1.0s						
PLCA	Paso Flores	9.33	174	*e*Pn	Pn	16 15 06.8	+0.2
	comp=Z,56nm,1.0s						
TRQA	Tornquist	10.46	132	*e*Pn	Pn	16 15 21.5	-0.6
	comp=Z,312nm,1.2s						
LPA	La Plata	12.17	110	*ce*P	Pn	16 15 43.0	-2.5
LPA				*es*P		16 15 54.0	
LPA				*es*	Sn	16 17 56.0	-4.8
CPUP	Villa Florida	13.71	72	Pn	Pn	16 16 03.5	-3.0
	comp=Z,2.2nm,0.3s,baz=226,slow=13,SNR=27						
CPUP				Sn	Sn	16 18 38.7	+0.2
	comp=Z,2.1nm,0.3s,baz=170,slow=8.8,SNR=4.0						
CPUP				LR	LR	16 21 46.8	
	comp=Z,8μm,18.4s,baz=227,slow=40						
CPUP	Villa Florida	13.71	72	*e*P	Pn	16 15 59.1	-7.4
CPUP						16 18 38.7	
CPUP				pmax	pmax		
	comp=Z,26nm,1.1s						
CPUP	Villa Florida	13.71	72	*e*Pn	Pn	16 15 59.1	-7.4
	comp=Z,26nm,1.1s						
CPUP				Sn	Sn	16 18 38.7	+0.2
CPUP				LR	LR	16 21 46.8	
ARE	Arequipa	14.92	1	*e*P	pP	16 16 33.0	+0.1
LPAZ	La Paz	15.47	14	Pn	Pn	16 16 31.0	+0.7
	comp=Z,0.8nm,0.3s,baz=192,slow=8.2,SNR=40						
LPAZ	La Paz	15.47	14	⇑*e*P	Pn	16 16 31.1	+0.8
LPAZ				pmax	pmax		
	comp=Z,34nm,0.8s						
LPAZ	La Paz	15.47	14	⇑*e*P	Pn	16 16 31.1	+0.8
	comp=Z,34nm,0.8s						
SIV	San Ignacio	18.26	35	P	Pn	16 17 02.1	-3.4
	comp=Z,1.5nm,0.3s,baz=225,slow=12,SNR=65						
NNA	Nana	19.91	346	P	Pn	16 17 25.2	-0.1
	comp=Z,0.6nm,0.3s,baz=208,slow=12,SNR=5.0						
NNA				LR	LR	16 23 30.7	
	comp=Z,1μm,19.3s,baz=172,slow=32						
NNA	Nana	19.91	346	*e*P	Pn	16 17 24.8	-0.5
	comp=Z,14nm,0.7s						
EFI	East Falkland	22.62	157	*e*P	P	16 17 52.7	-0.2
EFI				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.1						
EFI	East Falkland	22.62	157	*e*P	P	16 17 52.7	-0.2
	comp=Z,58nm,0.7s,mb5.1						
USHA	Ushuaia	23.50	175	P	P	16 18 01.7	-0.5
	comp=Z,21nm,0.9s,mb4.6,baz=349,slow=10,SNR=5.0						
USHA				LR	LR	16 27 46.4	
	comp=Z,3μm,18.9s,MS4.8,baz=339,slow=38						
SAML	Samuel	23.80	22	*e*P	P	16 18 03.8	-1.1
	comp=Z,25nm,0.8s,mb4.7						
ATAH	Atahualpa	25.08	345	P	P	16 18 17.9	+1.4
	comp=Z,9.5nm,0.7s,mb4.4,baz=150,slow=7.3,SNR=5.8						
ATAH				LR	LR	16 26 56.6	
	comp=Z,995nm,18.7s,MS4.3,baz=325,slow=34						
BDFB	Brasilia	26.84	60	P	P	16 18 30.1	-2.5
	comp=Z,96nm,0.9s,mb5.3,baz=236,slow=7.0,SNR=75						
BDFB				LR	LR	16 30 18.2	
	comp=Z,9μm,19.0s,MS5.4,baz=232,slow=39						
CAM4	Nova Friburgo	27.58	78	⇑*i*P	P	16 18 37.7	-1.5
CAM4				*i*	pP	16 18 42.6	-1.2
CAM4				*i*		16 18 50.4	
CAM4				*i*		16 19 13.5	
CAM4				*i*		16 25 15.6	
CAM4				*i*		16 26 07.1	
CAM4				*i*		16 26 18.6	
RPN	Rapa Nui	32.86	268	LR	LR	16 29 08.3	
	comp=Z,995nm,21.9s,MS4.5,baz=303,slow=30						
PMSA	Palmer Station	33.70	174	LR	LR	16 33 31.9	
	comp=Z,2μm,18.9s,MS4.9,baz=348,slow=37						
PMSA	Palmer Station	33.70	174	*e*P	P	16 19 32.6	-0.6
	comp=Z,40nm,1.1s,mb5.3						
ROSC	El Rosal	36.18	356	P	P	16 19 55.8	+1.2
	comp=Z,4.1nm,0.4s,mb4.7,baz=254,slow=21,SNR=4.6						
SDV	Santo Domingo	40.12	2	LR	LR	16 38 07.6	
	comp=Z,960nm,20.6s,MS4.6,baz=288,slow=38						
SDV	Santo Domingo	40.12	2	*e*P	P	16 20 27.9	+0.1
	comp=Z,13nm,0.8s,mb4.7						
PCRV	Puerto La Cruz	41.96	11	LR	LR	16 40 03.9	
	comp=Z,1μm,20.1s,MS4.9,baz=44,slow=39						
SJG	San Juan	49.58	7	LR	LR	16 44 43.6	
	comp=Z,451nm,18.4s,MS4.5,baz=90,slow=39						
SJG	San Juan	49.58	7	*e*P	P	16 21 40.2	-2.9
SJG				pmax	pmax		
	comp=Z,27nm,0.8s						
SJG	San Juan	49.58	7	*e*P	P	16 21 40.2	-2.9
	comp=Z,27nm,0.8s,mb5.3						
VNA1	Neumayer--Stat	51.97	158	*e*P	P	16 22 01.4	+0.3
VNA1				*e*		16 22 12.1	
VNA1				*e*		16 22 15.5	
CMIG	Matias Romero	53.08	332	P	P	16 22 09.0	-0.4
	comp=Z,2.9nm,0.9s,mb4.2,baz=314,slow=4.9,SNR=3.6						
CMIG				LR	LR	16 41 06.1	
	comp=Z,503nm,18.1s,MS4.6,baz=351,slow=32						
SNAA	Sanae	53.89	159	LR	LR	16 42 54.0	
	comp=Z,234nm,20.6s,MS4.2,baz=115,slow=34						
SNAA	Sanae	53.89	159	*e*P	P	16 22 14.1	-1.2
SNAA				*e*		16 22 20.9	
SNAA				*e*		16 22 27.4	
SNAA				*e*		16 22 29.6	
SNAA				*e*		16 23 17.5	
SNAA	Sanae	53.89	159	*e*P	P	16 22 13.8	-1.5
SNAA				pmax	pmax		
	comp=Z,89nm,1.3s						
SNAA	Sanae	53.89	159	*e*P	P	16 22 13.8	-1.5
	comp=Z,89nm,1.3s,mb5.5						
SOR	Soroa	54.98	347	*e*P	P	16 22 22.9	-0.3
RKT	Rikitea	56.05	262	*e*S	S	16 30 27.6	+8.7
	comp=Z,630nm,33.2s						
RKT				*e*LR	LR	16 39 02.7	
	comp=Z,729nm,26.5s,baz=127						
MAIT	Maitri	58.57	157	*e*P	P	16 22 49.7	+0.9
NVL	N'lazarevskaya	58.60	157	*c i*P	P	16 22 47.0	-2.0
NVL				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.4						
NVL				pmax	pmax		
	comp=N,12nm,1.4s						
NVL				pmax	pmax		
	comp=

FVM pmax pmax
comp=Z,33nm,1.1s,mb5.2
FVM French Village 71.21 345 *eP* **P 16 24 10.2 -0.8**
comp=Z,33nm,1.1s,mb5.2
FVM *e*pP pP 16 24 19.5 +3.4
CCM Cathedral Cave 71.47 344 *eP* **P 16 24 10.6 -2.0**
CCM pmax pmax
comp=Z,14nm,0.9s,mb4.9
CCM Cathedral Cave 71.47 344 *eP* **P 16 24 10.6 -2.1**
comp=Z,14nm,0.9s,mb4.9
ACSO Alum Creek Sta 72.06 351 *eP* **P 16 24 15.8 -0.4**
comp=Z,40nm,0.8s,mb5.4
ANMO Albuquerque 73.63 331 P **P 16 24 26.8 +1.3**
comp=Z,0.7nm,0.4s,mb3.9,baz=199,slow=7.7,SNR=6.1
ANMO Albuquerque 73.63 331 *eP* **P 16 24 26.8 +1.3**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 73.63 331 *eP* **P 16 24 26.8 +1.3**
comp=Z,7.7nm,1.3s,mb4.5
DBIC Dimbokro 74.23 72 P **P 16 24 27.9 -1.0**
comp=Z,69nm,0.9s,mb5.6,baz=212,slow=6.2,SNR=51
DBIC LR LR 16 53 54.3
comp=Z,1μm,20.8s,MS5.1,baz=207,slow=33
DBIC Dimbokro 74.23 72 *eP* **P 16 24 27.6 -1.4**
DBIC pmax pmax
comp=Z,75nm,0.9s
DBIC Dimbokro 74.23 72 *eP* **P 16 24 27.6 -1.4**
comp=Z,75nm,0.9s,mb5.6
CBKS Cedar Bluff 74.56 338 *eP* **P 16 24 31.2 +0.3**
CBKS *e**PP pP 16 24 41.9 +5.9
CBKS pmax pmax
comp=Z,11nm,0.9s,mb4.8
CBKS Cedar Bluff 74.56 338 *eP* **P 16 24 31.2 +0.3**
comp=Z,11nm,0.9s,mb4.8
CBKS *e*pP pP 16 24 41.9 +5.9
MAW Mawson 75.58 164 ⇑*iP* **P 16 24 35.6 -1.2**
comp=Z,18nm,0.9s,mb5.0
MAW Mawson 75.58 164 P **P 16 24 35.8 -0.9**
comp=Z,26nm,1.0s,mb5.1,baz=214,slow=6.9,SNR=46
MAW LR LR 17 01 01.9
comp=Z,709nm,18.7s,MS5.0,baz=229,slow=38
MAW Mawson 75.58 164 ⇑*iP* **P 16 24 35.6 -1.2**
MAW pmax pmax
comp=Z,18nm,0.9s
SDCO Great Sand Dun 75.67 333 *eP* **P 16 24 38.6 +1.3**
comp=Z,8.6nm,1.0s,mb4.6
FRNY Flat Rock 75.93 359 *eP* **P 16 24 38.9 0.0**
SUR Sutherland 75.94 119 *eP* **P 16 24 39.1 +0.3**
comp=Z,32nm,0.9s,mb5.2
WUAZ Wupatki 76.25 328 *eP* **P 16 24 42.9 +2.3**
comp=Z,12nm,1.1s,mb4.7
PV01 Paradox Valley 77.23 331 P **P 16 24 48.0 +1.8**
SMCO Snowmass 77.48 333 *eP* **P 16 24 48.9 +1.4**
comp=Z,28nm,1.1s,mb5.1
ISCO Idaho Springs 77.50 334 *eP* **P 16 24 48.6 +1.0**
ISCO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ISCO Idaho Springs 77.50 334 *eP* **P 16 24 48.6 +0.9**
comp=Z,3.2nm,0.6s,mb4.4
ECSD EROS,Sioux Fal 78.17 342 *eP* **P 16 24 50.6 -0.8**
comp=Z,20nm,0.9s,mb5.0
SRU San Rafael 78.87 330 *eP* **P 16 24 55.8 +0.6**
SRU pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SRU San Rafael 78.87 330 *eP* **P 16 24 55.8 +0.6**
comp=Z,8.0nm,1.1s,mb4.6
MSU Marysvale 79.09 329 P **P 16 24 57.7 +1.3**
TSUM Tsumeb 79.77 106 *eP* **P 16 24 59.8 -0.4**
comp=Z,26nm,1.0s,mb5.1
ISA Isabella 79.82 323 *eP* **P 16 25 01.5 +1.1**
BOSA Boshof 81.13 118 P **P 16 25 07.0 -0.5**
comp=Z,28nm,0.9s,mb5.2,baz=250,slow=5.5,SNR=22
BOSA LR LR 16 58 47.4
comp=Z,597nm,18.1s,MS5.0,baz=234,slow=34
BOSA Boshof 81.13 118 *eP* **P 16 25 06.7 -0.8**
BOSA pmax pmax
comp=Z,23nm,0.9s,mb5.1
BOSA Boshof 81.13 118 *eP* **P 16 25 06.7 -0.8**
comp=Z,23nm,0.9s,mb5.1
HWUT Hardware Ranch 81.39 331 *eP* **P 16 25 07.8 -1.0**
comp=Z,40nm,1.7s,mb5.1
PDAR Pinedale Array 81.56 333 P **P 16 25 10.2 +0.4**
comp=Z,0.6nm,0.7s,mb3.6,baz=132,slow=6.2,SNR=4.3
PDAR LR LR 16 56 10.8
comp=Z,290nm,18.4s,MS4.7,baz=135,slow=32
NVAR Mina Array Bea 81.88 325 P **P 16 25 12.4 +1.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=159,slow=5.8,SNR=7.2
CASY Casey 82.57 181 ⇑*iP* **P 16 25 15.0 -0.1**
TOA0 Torodi Ar. Sit 83.20 70 *eP* **P 16 25 16.4 -2.0**
TORD Torodi Ar. Bea 83.20 70 P **P 16 25 17.0 -1.3**
comp=Z,63nm,0.8s,mb5.7,baz=255,slow=4.0,SNR=251
TORD LR LR 16 59 10.5
comp=Z,945nm,20.4s,MS5.2,baz=225,slow=34
TORD Torodi Ar. Bea 83.20 70 P **P 16 25 17.0 -1.3**
TORD LR LR 16 59 10.5
LBTB Lobatse 83.24 115 *eP* **P 16 25 17.4 -1.1**
LBTB pmax pmax
comp=Z,32nm,0.9s,mb5.3
LBTB Lobatse 83.24 115 *eP* **P 16 25 17.4 -1.1**
comp=Z,32nm,0.9s,mb5.3
ULM Lac du Bonnet 84.08 345 P **P 16 25 21.6 -1.2**
comp=Z,5.6nm,0.8s,mb4.7,baz=177,slow=5.2,SNR=3.7
HLID Hailey 84.19 330 *eP* **P 16 25 23.9 +0.5**
comp=Z,3.8nm,0.9s,mb4.5
MCMT McKenzie Canyo 84.59 332 *eP* **P 16 25 27.2 +1.8**
SCHQ Schefferville 86.03 3 P **P 16 25 32.4 -0.3**
comp=Z,10nm,1.1s,mb5.0,baz=131,slow=9.3,SNR=3.3
SCHQ Schefferville 86.03 3 P **P 16 25 31.6 -1.0**
comp=Z,37nm,1.3s,mb5.5
YBH Yreka Blue Hor 86.58 324 P **P 16 25 35.7 +0.3**
comp=Z,1.4nm,0.8s,mb4.3,baz=149,slow=7.8,SNR=4.7
WALA Waterton Lakes 88.48 334 *eP* **P 16 25 45.0 +0.5**
comp=Z,6.4nm,0.9s,mb4.8
LSZ Lusaka 90.46 108 *eP* **P 16 25 54.7 +1.0**
LSZ pmax pmax
comp=Z,20nm,1.0s,mb5.4
LSZ Lusaka 90.46 108 *eP* **P 16 25 54.7 +0.9**
comp=Z,20nm,1.0s,mb5.4
AFI Afiamalu 91.08 253 LR LR 16 58 47.1
comp=Z,320nm,18.2s,MS4.8,baz=28,slow=30
ESDC Sonseca Array 94.70 46 P **P 16 26 12.2 -1.1**
comp=Z,0.9nm,0.7s,mb4.3,baz=202,slow=3.5,SNR=6.0
ESDC LR LR 17 07 26.2
comp=Z,552nm,18.4s,MS5.1,baz=230,slow=35
GERES GERESS Array B 110.25 45 PKiKP PKiKP 16 31 23.5 -0.5
comp=Z,1.1nm,0.8s,baz=242,slow=2.9,SNR=7.1
KONO Kongsberg 112.50 33 *i* PKIKP PKiKP 16 31 25.2 -3.1
ASAR Alice Springs 119.90 207 PKP PKPdf 16 31 41.5 -1.0
comp=Z,1.3nm,0.9s,baz=133,slow=1.7,SNR=12
ASAR PKKPbc PKKPbc 16 41 50.2 -1.2
comp=Z,0.4nm,0.7s,baz=328,slow=2.3,SNR=6.6
AKASG Malin Array Be 120.34 46 PKP PKPdf 16 31 41.5 -1.8
comp=Z,3.9nm,0.7s,baz=263,slow=3.0,SNR=14
AKASG Malin Array Be 120.34 46 PKP PKPdf 16 31 41.5 -1.8
BRTR Keskin Array B 120.44 60 PKP PKPdf 16 31 42.6 -0.8
comp=Z,2.1nm,0.8s,baz=213,slow=1.0,SNR=9.9
FINES FINESS Array B 120.80 34 PKP PKPdf 16 31 43.1 -1.1
comp=Z,1.4nm,0.8s,baz=127,slow=1.0,SNR=6.8
KAF Kangasniemi 121.02 33 *e*pkp PKPdf 16 31 42.3 -2.3
ARCES ARCESS Array B 121.64 24 PKP PKPdf 16 31 44.0 -1.8
comp=Z,2.8nm,0.7s,baz=270,slow=1.2,SNR=8.3
WB2 Warramunga Arr 123.05 210 *eP* PKPdf 16 31 47.8 -0.7
WRA Warramunga Arr 123.05 210 PKP PKPdf 16 31 47.7 -0.9
comp=Z,1.1nm,0.6s,baz=158,slow=1.8,SNR=35
WRA PKKPbc PKKPbc 16 41 39.3 -0.1
comp=Z,0.6nm,1.0s,baz=338,slow=4.5,SNR=4.3
JOF Joensuu 123.42 32 *e*pkp PKPdf 16 31 46.9 -2.3
OBN Obninsk 125.46 42 *i* PKIKP PKPdf 16 31 50.9 -2.2
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,400nm,19.0s,MS5.1
KIV Kislovodsk 127.99 56 *e*PKIKP PKPdf 16 31 57.8 -0.2
KIV pmax pmax
comp=Z,14nm,1.2s
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.8
BILL Bilibino 130.60 335 *e*PKIKP PKPdf 16 31 58.7 -4.2
BILL pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 137.69 39 *i* PKIKP PKPdf 16 32 15.1 -1.1
ARU *e*SS SS 16 53 04.2 -7.0
ARU MLR MLR
comp=Z,400nm,20.0s,MS5.2
ARU MLR MLR
comp=N,100nm,20.5s,MS5.0
ARU MLR MLR
comp=E,300nm,20.0s,MS5.0
ARU Arti 137.69 39 *e*P PKPdf 16 32 15.4 -0.8
SEY Seymchan 137.88 332 *i* PKIKP PKPdf 16 32 16.0 -0.6
AKTO Aktyubinsk 138.55 48 PKIKP PKPdf 16 32 16.6 -1.2
AKTO pmax pmax
comp=Z,18nm,2.6s
AB31 Akbulak array 139.95 49 PKIKP PKPdf 16 32 19.9 -0.4
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ZRNK Zerenda 144.53 41 PKIKP PKPdf 16 32 26.8 -1.7
ZRNK pmax pmax
comp=Z,33nm,1.0s
CHKZ Chkalovo 145.14 39 PKIKP PKPdf 16 32 28.3 -1.3
CHKZ pmax pmax
comp=Z,99nm,1.2s
BRVK Borovoye 145.21 40 *e*PKIKP PKPdf 16 32 28.2 -1.5
BVA0 Borovoye Array 145.28 40 PKIKP PKPdf 16 32 28.9 -0.9
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 145.73 41 PKP2 PKPab 16 32 30.3 -1.0
KAD Karad 146.17 107 *eP* PKPdf 16 32 30.8 -0.5
YAK Yakutsk 146.37 342 *e*PKP2 PKPab 16 32 30.9 -2.9
POO Poona 146.51 104 *eP* PKPdf 16 32 31.0 -0.9
YSS Yuzh-Sakhalins 149.32 310 *e*PKP2 PKPbc 16 32 40.3 -0.6
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 149.32 310 *e*PKPbc PKPbc 16 32 40.2 -0.7
AJM Ajmer 150.35 91 *eP* PKPdf 16 32 37.8 -0.3
AJM AMb AMB 16 32 44.7
comp=Z,32nm,1.1s
EKS2 Erkin-Say 150.57 58 P PKPbc 16 32 44.3 +0.4
SNR=22
AML Almayashu 150.60 59 P PKPbc 16 32 44.6 +0.6
SNR=10
NVS Novosibirsk 150.68 30 *e*PKIKP PKPdf 16 32 37.3 -1.4
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=Z,114nm,1.0s
NVS pmax pmax
comp=E,40nm,1.3s
USP Ospenovka 150.97 56 P PKPdf 16 32 44.9 +5.8
SNR=22
AAK Ala-Archa 151.09 58 P PKPdf 16 32 45.1 +5.9
SNR=24
AAK Ala-Archa 151.09 58 *e*PKPdf PKPdf 16 32 38.9 -0.4
AAK *e*PKPbc PKPbc 16 32 43.9 -1.3
FRU Bishkek 151.14 57 ⇓*i* PKIKP PKPbc 16 32 45.5 +0.3
FRU pmax pmax
comp=Z,135nm,2.0s
UCH Uchtor 151.19 59 P PKPbc 16 32 46.4 +1.0
SNR=19
CHMS Chumysh 151.20 57 P PKPbc 16 32 45.4 0.0
SNR=10
KBK Karagaybulak 151.42 58 P PKPbc 16 32 46.3 +0.4
SNR=7.4
BHPL Bhopal 151.59 99 *eP* PKPdf 16 32 38.5 -1.6
BHPL AMb AMB 16 32 47.0
comp=Z,29nm,1.1s
TKM2 Tokmak 2 151.82 57 P PKPbc 16 32 46.9 +0.1
SNR=11
ZAL Zalesovo 151.97 30 PKP PKPdf 16 32 39.4 -1.2
comp=Z,2.4nm,0.8s,baz=215,slow=2.1,SNR=12
ZAL PKPbc PKPbc 16 32 46.3 -0.9
comp=Z,56nm,0.7s,baz=146,slow=1.7,SNR=150
NDI New Delhi 153.14 88 *ex* PKPbc 16 32 49.0 -0.8
BOD Bodaibo 153.32 353 *e*PKIKP PKPdf 16 32 40.5 -2.1
BOD pmax pmax
comp=Z,11nm,1.4s
VIS Vishakhapatnam 153.70 115 *eP* PKPdf 16 32 43.9 +0.7
VIS AMb AMB 16 32 53.6
comp=Z,17nm,1.6s
MK31 Makanchi Array 154.92 45 *e*PKIKP PKPdf 16 32 43.9 -1.0
MK31 *e* 16 32 52.6
MK31 *e* 16 33 08.5
MKAR Makanchi Array 154.92 45 PKP PKPdf 16 32 44.0 -0.9
comp=Z,1.8nm,0.7s,baz=319,slow=1.7,SNR=12
MKAR PKPbc PKPbc 16 32 52.9 -0.7
comp=Z,7.7nm,0.7s,baz=322,slow=1.6,SNR=36
MKAR PKPab PKPab 16 33 08.0 -0.9
comp=Z,10nm,0.9s,baz=316,slow=3.3,SNR=14
MKAR Makanchi Array 154.92 45 PKP PKPdf 16 32 44.0 -0.9
MKAR PKPbc PKPbc 16 32 52.9 -0.7
MKAR PKPab PKPab 16 33 08.0 -0.9
KOLN Koldanda 158.36 93 *eP* PKPab 16 33 22.1 -1.6
comp=Z,13nm,0.9s
MDJ Mudanjiang 158.67 314 PKP PKPdf 16 32 48.9 -0.8
MDJ APKP 16 32 58.9
MDJ XPKP 16 33 02.5
MDJ PP PP 16 37 06.4 +1.0
MDJ LR LR
comp=E,112nm,26.6s
MDJ LR LR
comp=Z,112nm,26.6s,MS4.6
GKN Gorkha 159.31 94 *eP* PKPab 16 33 26.0 -1.8
comp=Z,34nm,1.2s
DMN Daman 159.60 95 *eP* PKPab 16 33 27.8 -1.3
comp=Z,38nm,1.3s
WMQ Urumqi 159.70 47 *e*PKP PKPdf 16 32 48.5 -2.4
WMQ XPKP 16 32 59.5
WMQ APKP 16 33 03.0
WMQ PKP2 PKPab 16 33 29.0 -0.5
WMQ PKS 16 36 20.0
WMQ PP PP 16 37 11.0 0.0
WMQ SKS SKSdf 16 39 50.0 -5.7
WMQ SKKS SKKSac 16 43 54.0 -5.3
WMQ PP PP
comp=Z,132nm,5.8s
WMQ LR LR
comp=N,338nm,20.5s,MS5.5
WMQ LR LR
comp=E,667nm,25.2s,MS5.5
WMQ LR LR
comp=Z,626nm,25.4s,MS5.3
KKN Kakani 159.80 95 *eP* PKPab 16 33 28.5 -1.5
comp=Z,35nm,1.3s
PKI Pulchoki 159.85 95 *eP* PKPab 16 33 29.4 -0.8
comp=Z,9.2nm,0.7s
GUN Gumba 160.35 95 *eP* PKPab 16 33 31.2 -1.1
comp=Z,30nm,1.1s
ZAK Zakamensk 160.74 9 *e* PKPab 16 33 33.1 -1.0
ZAK pmax pmax
comp=Z,3.0nm,1.5s
ZAK pmax pmax
comp=Z,2.0nm,1.9s
CN2 Changchun 161.60 317 *e*PKP PKPdf 16 32 50.8 -2.2
CN2 PP PP 16 37 23.6 +2.4
CN2 PP PP
comp=Z,400nm,10.0s
CN2 LR LR
comp=N,1μm,23.0s
CN2 LR LR
comp=E,600nm,23.0s
CN2 LR LR
comp=Z,200nm,25.0s
SONM Songino Array 163.58 4 PKP PKPdf 16 32 54.3 -0.6
comp=Z,0.9nm,0.8s,baz=129,slow=2.1,SNR=6.0
SONM PKPab PKPab 16 33 47.2 +0.7
comp=Z,1.4nm,0.7s,baz=340,slow=4.1,SNR=6.4
GTA Gaotai 169.55 38 PKP PKPdf 16 32 59.5 0.0
GTA APKP 16 33 09.8
GTA XPKP 16 33 14.1
GTA PKP2 PKPab 16 34 12.3 -0.6
GTA PKS 16 36 30.5
GTA PP PP 16 38 04.0 +1.5
GTA SKS SKSdf 16 39 58.8 -3.7
GTA SKKS SKKSac 16 44 44.0 -5.1
GTA PP PP
comp=Z,342nm,13.4s
GTA LR LR
comp=N,288nm,20.6s
GTA LR LR
comp=E,242nm,20.6s
GTA LR LR
comp=Z,312nm,20.6s
HHC Hu-ho-hao-te 170.22 345 *e*PKP PKPdf 16 32 56.8 -3.1
KMI Kunming 172.10 142 PKP PKPdf 16 32 59.6 -1.2
LZH Lanzhou 174.15 37 *e*PKP PKPdf 16 33 02.0 +0.3
LZH APKP 16 33 09.5
LZH XPKP 16 33 15.5
LZH LR LR
comp=N,145nm,19.5s
LZH LR LR
comp=Z,210nm,20.4s
LZH Lanzhou 174.15 37 *e*PKP PKPdf 16 33 02.0 +0.3
LZH pPKP pPKPdf 16 33 09.5 +2.6
LZH sPKP 16 33 15.5
LZH LR LR
comp=Z,210nm,20.4s
WHN Wuhan 174.59 262 PKP PKPdf 16 33 02.8 +1.0
CD2 Chengdu 176.21 97 *e*PKP PKPdf 16 32 59.3 -2.9
CD2 APKP 16 33 10.1
CD2 XPKP 16 33 13.8
CD2 PP PP 16 38 34.0 -1.2
CD2 SKS SKSdf 16 39 57.0 -7.6
CD2 SKKS SKKSac 16 45 14.9 -6.1
CD2 PP PP
comp=Z,80nm,9.8s
XAN Xi'an 177.33 346 PKP PKPdf 16 33 01.8 -0.6

GUC 13 16:26:09.1±0.7, 3141S×7176W, h15km±5km, MD3.9, ML3.9, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**155**	⇓*iP*	Pg	16 26 19.2	-0.1
CHNG				*i* S	Sg	16 26 26.4	+0.1
CMCH	**Combarbala**	**0.69**	**70**	⇑*iP*	Pg	16 26 21.8	-0.7
CMCH				*i* S	Sg	16 26 31.6	0.0
CMCH				AML	AML	16 26 43.9	
comp=E,9μm,0.3s							
OVCH	**Ovalle**	**0.93**	**31**	⇓*iP*	Pb	16 26 25.8	-1.1
OVCH				*i* S	Sb	16 26 38.2	-0.9
PTCH	**Petorca**	**1.10**	**141**	*i* P	Pb	16 26 28.3	-1.5
PTCH				*i* S	Sb	16 26 43.0	-1.1
PTCH				AML	AML	16 26 56.2	
comp=E,7μm,0.1s							
PACH	**Papudo**	**1.16**	**167**	*i* P	Pn	16 26 29.1	-1.6
PACH				*i* S	Sb	16 26 44.9	-0.7
TLL	**Tololo Astrono**	**1.48**	**34**	⇓*iP*	Pn	16 26 35.1	-0.1
TLL				*i* S	Sn	16 26 54.9	+0.5
TLL				AML	AML	16 27 02.3	
comp=N,4μm,0.7s							
JACH	**Jahuel**	**1.61**	**142**	⇑*iP*	Pn	16 26 36.9	0.0
JACH				*i* S	Sn	16 26 58.0	+0.6
PEL	**Peldehue**	**1.95**	**153**	⇑*iP*	Pn	16 26 41.8	+0.1
PEL				*i* S	Sn	16 27 06.8	+0.9
PEL				AML	AML	16 27 28.2	
comp=E,2μm,0.6s							
RCDM	**Rinconada Maip**	**2.22**	**159**	AML	AML	16 27 29.1	
comp=E,505nm,0.0s							
CLCH	**Cerro Calan**	**2.23**	**153**	AML	AML	16 27 33.8	
comp=E,2μm,0.5s							
ANTU	**Antumapu**	**2.35**	**157**	AML	AML	16 27 36.6	
comp=E,793nm,0.5s							

IDC 13 17:15:01.0±3.3, 487S×10332E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=151.5km s-min=19.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.70**	**119**	P	P	17 21 43.2	-0.6
0.5nm,0.4s,baz=305,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**34.90**	**125**	P	P	17 21 54.9	+0.7
0.6nm,0.5s,baz=298,slow=7.9,SNR=27							
STKA	**Stephens Creek**	**44.78**	**132**	P	P	17 23 17.2	+0.9
1.3nm,0.6s,baz=313,slow=11,SNR=5.6							
SONM	**Songino Array**	**52.55**	**3**	P	P	17 24 16.9	+0.9
0.7nm,0.6s,baz=178,slow=9.3,SNR=6.1							
MKAR	**Makanchi Array**	**54.70**	**342**	P	P	17 24 31.7	-0.2
0.7nm,0.6s,baz=144,slow=8.2,SNR=7.5							
ZAL	**Zalesovo**	**60.61**	**348**	P	P	17 25 12.8	-0.6
1.3nm,0.4s,baz=170,slow=1.4,SNR=4.2							

*MOS **13** 17:31:18.5±1.0, 784S×10909E, h33km, mb5.0/26, Error ellipse: s-maj=12.5km s-min=7.8km az=122.7*
*IDC **13** 17:31:22.2±3.0, 789S×10907E, h51km±26km, mb4.4/21, mb1 4.4/22, mb1mx4.4/24, mbtmp4.6/22, ML4.1/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/25, Error ellipse: s-maj=15.6km s-min=11.0km az=56.0*
*ISCJB **13** 17:31:24.7±0.7, 788S±005×109.13E±005, h88km±6km, mb4.7/72, Error ellipse: s-maj=9.6km s-min=5.8km az=83.5*
*NEIC **13** 17:31:29.6±1.2, 790S×109.17E, h118km±11km, mb4.6/37, Error ellipse: s-maj=8.3km s-min=4.9km az=49.0*
NEIC Felt [IV] at Cilacap and [III] at Pangandaran.
*BJI **13** 17:31:29.6, 790S×10920E, h118km, mB5.0, mb4.6*
ISC 13 17:31:25.9±0.7, 788S±005×10913E±005, h82km±6km, n155, σ1°06/139, mb4.7/72, 3C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.79**	**46**	P	**Pn**	**17 31 41.4**	**-1.3**
6μm,0.8s							
JCJI	**Jatiwangi**	**1.63**	**328**	P	**Pn**	**17 31 52.5**	**-0.4**
11μm,0.6s							
LEM	**Lembang**	**1.83**	**305**	P	**Pn**	**17 31 57.3**	**+1.7**
2μm,1.1s							
CBJI	**Citeko**	**2.69**	**303**	P	**Pn**	**17 32 05.2**	**-1.8**
3μm,0.5s							
KRKI	**Karangkates**	**3.30**	**95**	P	**Pn**	**17 32 17.1**	**+1.8**
2μm,0.7s							
KSM	**Kuching**	**9.37**	**7**	*e*Pn	**Pn**	**17 33 42.8**	**+4.9**
PCI	**Palu**	**12.72**	**58**	P	**Pn**	**17 34 30.3**	**+6.7**
51nm,0.9s							
PSI	**Prapat**	**14.71**	**316**	P	**Pn**	**17 34 45.9**	**-3.7**
0.8nm,0.3s,baz=146,slow=7.3,SNR=3.1							
KKM	**Kota Kinabalu**	**15.54**	**27**	*e*Pn	**Pn**	**17 35 05.0**	**+5.0**
KULM	**Kulim**	**15.58**	**327**	*e*Pn	**Pn**	**17 35 02.0**	**+1.3**
MBWA	**Marble Bar**	**16.70**	**143**	*e*Pn	**Pn**	**17 35 08.3**	**-6.3**
10nm,0.5s							
MBWA				*e*Sn	Sn	17 37 54.9	-25
FITZ	**Fitzroy Crossi**	**19.00**	**124**	*e*P	**Pn**	**17 35 40.6**	**-1.9**
14nm,0.5s							
AAI	**Ambon**	**19.42**	**79**	P	**Pn**	**17 35 47.0**	**-0.4**
176nm,0.7s							
SWI	**Sorong**	**23.13**	**74**	P	**P**	**17 36 31.7**	**+6.8**
30nm,0.9s,mb4.6							
KAKA	**Kakadu**	**23.42**	**104**	*e*P	**P**	**17 36 27.4**	**-0.2**
15nm,0.5s,mb4.6							
NWAO	**Narrogin (SRO)**	**26.03**	**164**	LR	LR	17 46 34.6	
comp=Z,395nm,21.5s,baz=292,slow=35							
WRA	**Warramunga Arr**	**27.20**	**119**	P	**P**	**17 37 02.1**	**+0.3**
13nm,0.8s,mb4.5,baz=291,slow=11,SNR=120							
WRA				PcP	PcP	17 40 20.4	+0.4
2.4nm,0.5s,baz=306,slow=1.9,SNR=11							
WRA				LR	LR	17 48 09.3	
comp=Z,105nm,20.0s,baz=160,slow=37							
WRA	**Warramunga Arr**	**27.20**	**119**	P	**P**	**17 37 02.1**	**+0.4**
WRA						17 40 20.4	
WRAB	**Tennant Creek**	**27.20**	**119**	*e*P	**P**	**17 37 02.2**	**+0.4**
WB2	**Warramunga Arr**	**27.21**	**119**	*e*P	**P**	**17 37 01.7**	**-0.1**
ASPA	**Alice Springs**	**28.46**	**126**	*e*P	**P**	**17 37 12.9**	**-0.1**
ASAR	**Alice Springs**	**28.46**	**126**	P	**P**	**17 37 12.8**	**-0.2**
5.4nm,0.6s,mb4.3,baz=307,slow=8.7,SNR=138							
ASAR				PcP	PcP	17 40 23.6	+0.6
2.9nm,0.4s,baz=307,slow=2.0,SNR=15							
ASAR				LR	LR	17 47 50.4	
comp=Z,197nm,20.5s,baz=307,slow=35							
ASAR	**Alice Springs**	**28.46**	**126**	P	**P**	**17 37 12.8**	**-0.2**
ASAR						17 40 23.7	
AS31	**Alice Springs**	**28.46**	**126**	*e*P	**P**	**17 37 12.9**	**-0.1**
PALK	**Pallekele**	**32.10**	**297**	*e*P	**P**	**17 37 47.4**	**+2.3**
46nm,1.4s,mb5.0							
KMI	**Kunming**	**33.39**	**349**	P	**P**	**17 37 59.3**	**+2.9**
KMI				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.2							
KMI	**Kunming**	**33.39**	**349**	P	**P**	**17 37 59.3**	**+2.9**
comp=Z,4.0nm,0.9s,mb4.2							
GYA	**Guiyang**	**34.22**	**356**	P	**P**	**17 38 06.0**	**+2.4**
GYA				PCP	PcP	17 40 41.4	+2.9
GYA				S	**S**	**17 43 24.9**	**+0.6**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.7							
GYA				AMB	AMB		
comp=Z,80nm,5.3s							
GYA				LR	LR		
comp=N,100nm,9.6s							
GYA				LR	LR		
comp=E,430nm,6.9s							
GYA				LR	LR		
comp=Z,420nm,7.8s							
PMG	**Port Moresby**	**37.62**	**95**	*e*P	**P**	**17 38 34.1**	**+1.5**
PMG				pmax	pmax		

comp=Z,21nm,1.0s
PMG Port Moresby 37.62 95 *e*P P **17 38 34.1 +1.5**
comp=Z,21nm,1.0s,mb4.9
CTA Charters Tower 37.91 113 *e*P P **17 38 36.3 +1.2**
comp=Z,11nm,1.0s,mb4.7
CTA Charters Tower 37.91 113 P P **17 38 35.6 +0.5**
comp=Z,8.8nm,0.7s,mb4.7,baz=295,slow=14,SNR=4.5
CTA PcP PcP 17 40 49.8 +0.3
comp=Z,2.5nm,0.4s,baz=50,slow=11,SNR=5.5
CTA LR LR 17 55 10.4
comp=Z,177nm,19.4s,baz=257,slow=38
CTA Charters Tower 37.91 113 *e*P P **17 38 36.3 +1.2**
CTA pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 37.91 113 *e*P P **17 38 36.1 +1.0**
CTAO pmax pmax
comp=Z,44nm,1.3s,mb5.1
CTAO Charters Tower 37.91 113 *e*P P **17 38 36.0 +1.0**
comp=Z,44nm,1.3s,mb5.1
STKA Stephens Creek 38.49 133⇑ *i*P P **17 38 39.9 0.0**
comp=Z,12nm,0.6s,mb4.9
STKA Stephens Creek 38.49 133 P P **17 38 40.2 +0.3**
comp=Z,12nm,0.7s,mb4.9,baz=304,slow=8.2,SNR=46
STKA PcP PcP 17 40 52.0 +0.7
comp=Z,6.2nm,0.5s,baz=348,slow=1.8,SNR=5.4
STKA LR LR 17 53 43.9
comp=Z,389nm,18.7s,baz=305,slow=35
CD2 Chengdu 38.91 353 *e*P P **17 38 45.5 +2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
LSA Lhasa 41.18 336 P P **17 39 04.6 +2.4**
LSA Lhasa 41.18 336 *e*P P **17 39 03.3 +1.1**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LSA Lhasa 41.18 336 *e*P P **17 39 03.3 +1.1**
comp=Z,4.5nm,0.6s,mb4.5
GUMO Guam 41.40 59 P P **17 39 04.6 +0.5**
comp=Z,32nm,0.4s,mb5.5,baz=27,slow=15,SNR=5.4
GUMO LR LR 17 57 29.5
comp=Z,74nm,19.9s,baz=115,slow=38
GUMO Guam 41.40 59 *e*P P **17 39 04.1 +0.1**
GUMO pmax pmax
comp=Z,52nm,0.7s,mb5.5
GUMO Guam 41.40 59 *e*P P **17 39 04.1 +0.1**
comp=Z,52nm,0.7s,mb5.5
JIRN Jiri 41.73 329 *e*P P **17 39 06.9 +0.2**
comp=Z,3.8nm,0.2s,mb4.7
GUN Gumba 42.09 329 *e*P P **17 39 07.7 -2.0**
comp=Z,16nm,0.5s,mb5.0
DMN Daman 42.26 328 *e*P P **17 39 12.0 +1.0**
comp=Z,5.7nm,0.4s,mb4.7
KKN Kakani 42.31 328 *e*P P **17 39 10.3 -1.1**
GKN Gorkha 42.82 327 *e*P P **17 39 14.1 -1.5**
comp=Z,6.7nm,0.4s,mb4.7
KOLN Koldanda 43.20 326 *e*P P **17 39 17.5 -1.1**
comp=Z,7.5nm,0.4s,mb4.7
LZH Lanzhou 44.02 354 *e*P P **17 39 28.0 +2.8**
LZH AP pP 17 39 57.0 +12
LZH XP sP 17 40 10.0 +16
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.7
LZH Lanzhou 44.02 354 *e*P P **17 39 28.0 +2.8**
comp=Z,15nm,1.0s,mb4.7
LZH pP pP 17 39 57.0 +12
LZH sP sP 17 40 10.0 +16
GTA Gaotai 47.84 350 *e*P P **17 39 57.1 +1.9**
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.0
GTA LR LR
comp=N,288nm,18.7s
GTA LR LR
comp=E,242nm,20.2s
GTA LR LR
comp=Z,312nm,20.3s
MAJO Matsushiro 51.94 30 *e*P P **17 40 25.9 -0.4**
MAJO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MAJO Matsushiro 51.94 30 *e*P P **17 40 25.9 -0.4**
comp=Z,6.0nm,0.6s,mb4.8
MAT Matsushiro 51.94 30 P P **17 40 25.7 -0.6**
MJAR Matsushiro Arr 51.94 30 P P **17 40 25.8 -0.5**
comp=Z,4.0nm,0.5s,mb4.7,baz=207,slow=8.0,SNR=22
WMQ Urumqi 55.01 341 *e*P P **17 40 50.0 +1.3**
WMQ AMB AMB
comp=Z,5.0nm,0.7s,mb4.7
MDJ Mudanjiang 55.42 18 P P **17 40 52.8 +1.1**
MDJ AP pP 17 41 20.5 +8.2
MDJ XP sP 17 41 34.6 +13
MDJ PP PP 17 42 57.8 +1.5
MDJ AMB AMB
comp=Z,8.0nm,2.4s,mb4.3
MDJ AMB AMB
comp=Z,123nm,7.1s
SONM Songino Array 55.53 358 P P **17 40 53.0 +0.5**
comp=Z,1.8nm,0.5s,mb4.4,baz=178,slow=8.3,SNR=13
SONM PcP PcP 17 41 51.4 -0.1
comp=Z,1.6nm,0.4s,baz=172,slow=3.9,SNR=6.6
SONM ScP ScP 17 45 46.3 +3.3
comp=Z,0.9nm,0.8s,baz=186,slow=3.6,SNR=4.3
SONM LR LR 18 05 32.4
comp=Z,230nm,21.1s,baz=226,slow=37
SONM Songino Array 55.53 358 P P **17 40 53.0 +0.5**
SONM 17 41 51.4
WSAR Wadi Sarin 58.25 303 P P **17 41 12.4 +0.7**
comp=Z,5.8nm,0.7s,mb4.7,baz=115,slow=8.9,SNR=11
CASY Casey 58.31 179 *e*P P **17 41 06.2 -6.0**
comp=Z,6.8nm,1.0s,mb4.6
AAK Ala-Archa 59.37 331 *e*P P **17 41 18.8 -0.6**
AAK *e* 17 42 07.1
AAK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AAK Ala-Archa 59.37 331 *e*P P **17 41 18.8 -0.6**
comp=Z,1.4nm,0.6s,mb4.2
AAK *e*PcP PcP 17 42 07.1 +0.5
MK31 Makanchi Array 59.45 339 *e*P P **17 41 19.5 -0.5**
MKAR Makanchi Array 59.45 339 P P **17 41 19.6 -0.4**
comp=Z,4.6nm,0.4s,mb4.8,baz=150,slow=7.8,SNR=53
MKAR PcP PcP 17 42 06.6 -0.3
comp=Z,3.3nm,0.6s,baz=138,slow=7.0,SNR=5.3
MKAR Makanchi Array 59.45 339 P P **17 41 19.6 -0.4**
MKAR PcP PcP 17 42 06.6 -0.3
KLR Kul'dur 60.23 17 *e*P P **17 41 21.2 -4.2**
OPO Ambohidratompo 60.98 253 P P **17 41 31.2 +0.7**
comp=Z,1.9nm,0.8s,mb4.2,baz=110,slow=7.6,SNR=6.3
YSS Yuzh-Sakhalins 62.24 25 *e*P P **17 41 39.1 +0.2**
YSS Yuzh-Sakhalins 62.24 25 *e*P P **17 41 38.6 -0.3**
comp=Z,10nm,0.4s,mb5.2
ZAL Zalesovo 64.92 344 P P **17 41 55.9 -0.7**
comp=Z,3.7nm,0.4s,mb4.6,baz=312,slow=4.9,SNR=14
KRAR Krasnoyarsk 65.08 350 *e*P P **17 41 57.6 0.0**
KRAR pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
BOD Bodaibo 65.60 3 *e*P P **17 41 59.1 -1.9**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.1
MAW Mawson 67.15 197 *e*P P **17 42 09.9 -1.0**
comp=Z,3.3nm,0.7s,mb4.3
MAW Mawson 67.15 197 P P **17 42 09.7 -1.2**
comp=Z,3.5nm,0.6s,mb4.3,baz=56,slow=9.0,SNR=16
MAW LR LR 18 04 22.0
comp=Z,66nm,18.9s,baz=231,slow=30
MAW Mawson 67.15 197 *e*P P **17 42 09.9 -1.0**
MAW pmax pmax
comp=Z,3.0nm,0.7s
URZ Urewera 67.89 128 P P **17 42 16.3 +0.8**
comp=Z,4.7nm,0.7s,mb4.4,baz=264,slow=9.2,SNR=3.5
BVAR Borovoye Array 69.01 336 P P **17 42 21.3 -1.2**
comp=Z,3.7nm,0.6s,mb4.4,baz=142,slow=7.7,SNR=3.3
BRVK Borovoye 69.08 336 P P **17 42 21.2 -1.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BRVK Borovoye 69.08 336 P P **17 42 21.2 -1.8**
comp=Z,3.2nm,0.6s,mb4.3
QRN Al-Qurain 69.28 305 *e*P P **17 42 23.3 -0.9**
QRN AMb AMB 17 42 25.2
comp=Z,35nm,0.5s,mb5.5
CHKZ Chkalovo 69.41 337 *e*P P **17 42 23.8 -1.2**
CHKZ *e* pP 17 42 47.9 +1.6
CHKZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
CHKZ Chkalovo 69.41 337 *e*P P **17 42 23.8 -1.2**
comp=Z,5.5nm,0.6s,mb4.6
CHKZ *e*PcP PcP 17 42 47.9 +0.1
ZRNK Zerenda 69.52 335 *e*P P **17 42 24.7 -1.0**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
ZRNK Zerenda 69.52 335 *e*P P **17 42 24.7 -1.0**
comp=Z,4.7nm,0.5s,mb4.6
RDF Al-Radifah 69.65 305 *e*P P **17 42 25.8 -0.6**
RDF AMb AMB 17 42 28.2
comp=Z,38nm,0.9s,mb5.2
NAY Al-Naaiem 70.02 305 *e*P P **17 42 27.7 -1.1**
NAY AMb AMB 17 42 29.6
comp=Z,11nm,0.5s,mb4.9
MIB Mutribah 70.15 305 *e*P P **17 42 28.7 -0.8**
MIB AMb AMB 17 42 32.9
comp=Z,16nm,0.6s,mb5.0
RST Umm Al-Ruwaisa 70.31 305 *e*P P **17 42 29.7 -0.9**
RST AMb AMB 17 42 31.9
comp=Z,48nm,0.7s,mb5.4
YAK Yakutsk 71.51 10 *e*P P **17 42 37.1 -0.7**
YAK pmax pmax
comp=Z,22nm,0.5s,mb5.2
YAK Yakutsk 71.51 10 *e*P P **17 42 36.9 -0.8**
comp=Z,32nm,0.6s,mb5.3
KMBO Kilima Mbogo 71.90 271 P P **17 42 41.0 +0.9**
comp=Z,1.2nm,0.5s,mb4.0,baz=46,slow=19,SNR=3.8
KMBO LR LR 18 08 21.6
comp=Z,80nm,18.3s,baz=92,slow=31
KMBO Kilima Mbogo 71.90 271 *e*P P **17 42 41.3 +1.2**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 71.90 271 *e*P P **17 42 41.3 +1.2**
comp=Z,9.0nm,1.2s,mb4.5
VNDA Vanda 74.72 170 P P **17 42 55.7 -1.0**
comp=Z,2.9nm,0.9s,mb4.0,baz=300,slow=5.6,SNR=16
VNDA LR LR 18 10 39.8
comp=Z,69nm,19.6s,baz=330,slow=32
VNDA Vanda 74.72 170 *e*P P **17 42 55.3 -1.4**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 74.72 170 *e*P P **17 42 55.3 -1.4**
comp=Z,5.8nm,1.0s,mb4.3
SYO Syowa Base 75.41 200‖ *e*P P **17 43 00.3 -0.4**
SYO Syowa Base 75.41 200‖ *e*PcP PcP 17 43 13.6 +0.1
SBA Scott Base 75.79 169 *e*P P **17 43 02.8 0.0**
SBA pmax pmax
comp=Z,12nm,1.4s,mb4.4
SBA Scott Base 75.79 169 *e*P P **17 43 02.8 0.0**
comp=Z,12nm,1.4s,mb4.4
GNI Garni 76.07 315 *e*P P **17 43 05.0 +0.6**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 76.07 315 *e*P P **17 43 05.0 +0.6**
comp=Z,8.7nm,0.8s,mb4.5
ARU Arti 76.33 334⇑ *i*P P **17 43 07.3 +1.4**
ARU *e* 17 45 59.1
ARU *e*PPP 17 47 39.0
ARU *e*S S 17 52 51.1 +6.8
ARU *e*SS SS 17 57 47.8 +8.0
ARU pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ARU Arti 76.33 334 *e*P P **17 43 05.0 -0.9**
comp=Z,5.6nm,1.0s,mb4.2
KIV Kislovodsk 78.95 318 *e*P P **17 43 22.1 +1.6**
KIV *e* 17 43 30.2
KIV pmax pmax
comp=Z,18nm,1.1s,mb4.8
KIV Kislovodsk 78.95 318 *e*P P **17 43 20.2 -0.2**
comp=Z,12nm,0.8s,mb4.8
LSZ Lusaka 79.27 256 *e*P P **17 43 23.2 +1.0**
LSZ pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
LSZ Lusaka 79.27 256 *e*P P **17 43 23.2 +1.0**
comp=Z,4.3nm,0.4s,mb4.6
MALT Malatya 80.01 311 *e*P P **17 43 27.4 +1.2**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
MALT Malatya 80.01 311 *e*P P **17 43 27.4 +1.2**
comp=Z,6.1nm,1.1s,mb4.3
EIL Elat 80.33 302 *e*P P **17 43 28.6 +0.6**
comp=Z,131nm,0.8s,mb5.8
LBTB Lobatse 80.88 246 *e*P P **17 43 31.2 +0.3**
LBTB pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
LBTB Lobatse 80.88 246 *e*P P **17 43 31.2 +0.3**
comp=Z,7.8nm,1.1s,mb4.5
BOSA Boshof 80.92 242 P P **17 43 31.1 +0.1**
comp=Z,3.4nm,0.5s,mb4.5,baz=95,slow=4.2,SNR=13
BOSA LR LR 18 14 17.5
comp=Z,77nm,19.4s,baz=43,slow=32
BOSA Boshof 80.92 242 *e*P P **17 43 31.3 +0.2**
BOSA pmax pmax
comp=Z,17nm,1.1s,mb4.8
BOSA Boshof 80.92 242 *e*P P **17 43 31.3 +0.2**
comp=Z,17nm,1.1s,mb4.8
QSPA South Pole Qui 82.11 180 *e*P P **17 43 36.6 -0.8**
comp=Z,14nm,1.2s,mb4.7
VRHR Novokhopersk 82.34 324 *e*P P **17 43 38.9 +0.3**
VRHR pmax pmax
comp=Z,3.0nm,0.2s,mb4.8
VRHR pmax pmax
comp=N,1.0nm,0.3s
VRHR pmax pmax
comp=E,1.0nm,0.5s
ANN Anapa 82.77 317 *e*P P **17 43 39.9 -0.9**
ANN *i* *PP pP 17 43 50.8 -12
ANN *i* 17 43 54.1
ANN *e* 17 46 50.8
ANN *e*S S 17 53 56.8 +4.6
ANN pmax pmax
comp=Z,71nm,1.5s,mb5.3
VRSR Storozhevoye 83.81 324 *e*P P **17 43 46.1 -0.1**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,1.0s
BR131 Keskin Array S 83.99 311 *e*P P **17 43 47.2 +0.1**
comp=E,5.7nm,0.6s,mb4.6
BRTR Keskin Array B 83.99 311 P P **17 43 46.9 -0.2**
comp=E,6.9nm,0.6s,mb4.7,baz=139,slow=7.3,SNR=35
SUR Sutherland 84.42 238 *e*P P **17 43 50.9 +1.6**
comp=E,28nm,1.3s,mb4.9
BILL Bilibino 85.65 18 *e*P P **17 43 54.8 -0.6**
BILL *e* 17 44 04.7
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
OBN Obninsk 86.61 327 *e*P P **17 44 00.3 +0.2**
OBN *e**PP pP 17 44 11.1 -11
OBN pmax pmax
comp=Z,29nm,1.6s,mb5.0
OBN Obninsk 86.61 327 *e*P P **17 43 59.9 -0.2**
TSUM Tsumeb 88.89 251 *e*P P **17 44 12.1 +1.1**
comp=Z,5.7nm,1.0s,mb4.6
SNAA Sanae 89.31 197 *e*P P **17 44 12.4 -0.6**
SNAA *e* 17 44 13.9
SNAA *e* 17 44 21.2
SNAA *e* 17 44 26.3
SNAA Sanae 89.31 197 *e*P P **17 44 12.8 -0.2**
SNAA pmax pmax
comp=Z,11nm,1.1s
SNAA Sanae 89.31 197 *e*P P **17 44 12.8 -0.1**
comp=Z,11nm,1.1s,mb4.8
AKASG Malin Array Be 89.70 321 P P **17 44 14.1 -0.7**
comp=Z,0.9nm,0.4s,mb4.2,baz=86,slow=4.2,SNR=12
VNA1 Neumayer--Stat 91.34 197 *e*P P **17 44 23.4 +1.0**
VNA1 *e* 17 44 24.5
JOF Joensuu 91.46 333 *e*p P **17 44 22.7 -0.3**
comp=Z,4.6nm,0.5s,mb4.9
FINES FINESS Array B 93.55 331 P P **17 44 32.1 -0.6**
comp=Z,1.9nm,0.7s,mb4.6,baz=50,slow=3.0,SNR=9.9
KAF Kangasniemi 93.56 332 *e*p P **17 44 32.3 -0.4**
comp=Z,2.8nm,0.5s,mb4.8
KAF Kangasniemi 93.56 332 *e*P P **17 44 32.3 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
ARCES ARCESS Array B 95.10 339 P P **17 44 38.8 -0.9**
comp=Z,1.5nm,0.7s,mb4.5,baz=32,slow=7.1,SNR=12
ARCES LR LR 18 30 18.7
comp=Z,62nm,21.1s,baz=239,slow=37
PPT Papeete 98.29 109 LR LR 18 28 30.9
comp=Z,78nm,18.9s,baz=278,slow=35
YKA Yellowknife Ar 116.94 21 PKP PKPdf 17 50 00.2 -0.7
comp=Z,0.7nm,0.4s,baz=325,slow=1.0,SNR=14
NVAR Mina Array Bea 127.64 47 PKP PKPdf 17 50 24.1 +2.5
comp=Z,0.4nm,0.5s,baz=162,slow=1.4,SNR=3.8
PDAR Pinedale Array 131.43 38 PKP PKPdf 17 50 29.7 +1.0
comp=Z,0.5nm,0.5s,baz=166,slow=2.9,SNR=7.6
WMOK Wichita Mounta 142.97 40 *e*PKIKP PKPdf 17 50 47.5 -2.5
CPUP Villa Florida 143.54 201 PKP PKPdf 17 50 49.3 -1.7
comp=Z,1.2nm,0.5s,baz=90,slow=3.3,SNR=5.9
CCM Cathedral Cave 144.76 28 *e*PKIKP PKPdf 17 50 51.9 -1.2
JCT Junction City 144.81 46 *e*PKIKP PKPdf 17 50 54.4 +1.2
FVM French Village 145.20 28 *e*PKIKP PKPdf 17 50 54.7 +0.8
SSPA Standing Stone 146.79 10 *e*PKPbc PKPbc 17 50 59.3 +0.9
BDFB Brasilia 147.46 224 PKPbc PKPbc 17 51 00.9 +0.6
comp=Z,6.9nm,0.6s,baz=142,slow=3.7,SNR=8.4
TZTN Tazewell 149.22 20 *e*PKPbc PKPbc 17 51 05.9 +1.0
CPCT Cooper Cave 149.85 23 *e*PKPbc PKPbc 17 51 07.0 +0.6
SIV San Ignacio 154.37 202 PKP PKPdf 17 51 09.1 +0.9
comp=Z,0.6nm,0.5s,baz=13,slow=24,SNR=5.1
SIV PKPbc PKPbc 17 51 18.1 +1.4
comp=Z,1.4nm,0.7s,baz=249,slow=0.7,SNR=5.8
SIV PKPab PKPab 17 51 32.6 +1.5
comp=Z,2.2nm,0.8s,baz=169,slow=2.4,SNR=5.9
LPAZ La Paz 155.83 186 PKPab PKPab 17 51 39.1 +1.8
comp=Z,1.3nm,0.7s,baz=58,slow=3.1,SNR=7.4

BJI ***13*** *17:39:54.3, 13.16N×9253E, h30km, mB5.0, mb4.4, Ms4.4, Msz4.1*
IDC ***13*** *17:39:55.3±0.6, 1359N×9273E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.1/25, mbtmp4.1/19, ML3.9/1, Error ellipse: s-maj=27.8km s-min=12.5km az=58.0*
ISCJB ***13*** *17:39:58.4±0.9, 1348N±004×9267E±006, h36km±9km, mb4.2/29, Error ellipse: s-maj=9.7km s-min=6.2km az=149.4*
NEIC ***13*** *17:39:59.5±0.3, 1360N×9271E, h30km, mb4.3/8, Error ellipse: s-maj=10.1km s-min=6.4km az=55.0*
ISC 13 17:40:01.2±0.8, 1350N±004×9262E±006, h42km±8km, n62, σ1§21/65, mb4.2/29, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**176**	*e*P	**Pn**	**17 40 25.2**	**-4.9**
PBA				*e*S	**Sn**	**17 40 49.8**	**-2.3**
PBA				*e*x	x	17 41 06.2	
PBA	comp=N,4μm,1.0s			*e*x	x	17 41 07.0	
CM31	**Chiang Mai Arr**	**7.83**	**50**	Pn	**Pn**	**17 41 49.8**	**-2.7**
CM31				*e*Sn	**Sn**	**17 43 08.7**	**-11**
CHTO	**Chiang Mai**	**8.05**	**48**	*e*Pn	**Pn**	**17 41 56.0**	**+0.5**
CHTO	comp=E,4.5nm,0.6s			*e*Sn	**Sn**	**17 43 15.9**	**-9.3**
VIS	**Vishakhapatnam**	**9.89**	**296**	*e*P	**Pn**	**17 42 15.9**	**-4.8**
VIS				*e*S	**Sn**	**17 44 00.4**	**-10**
VIS	comp=N,166nm,0.5s			AML	AML	17 44 04.8	
VIS	comp=E,145nm,0.6s			AML	AML	17 44 05.0	
KULM	**Kulim**	**11.37**	**135**	*e*Pn	**Pn**	**17 42 41.1**	**+0.3**
BOK	**Bokaro**	**12.06**	**329**	*e*P	**Pn**	**17 42 43.9**	**-6.6**
BOK				AMb	AMB	17 42 52.4	
BOK	comp=Z,4.0nm,0.4s			*e*S	**Sn**	**17 44 49.0**	**-15**
PSI	**Prapat**	**12.32**	**149**	Pn	**Pn**	**17 42 55.5**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=285,slow=18,SNR=4.4						
PALK	**Pallekele**	**13.25**	**243**	*e*Pn	**Pn**	**17 43 07.4**	**+0.8**
PALK				*e*Sn	**Sn**	**17 45 23.4**	**-9.2**
KMI	**Kunming**	**14.99**	**38**	P	**Pn**	**17 43 34.5**	**+4.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s						
KMI	**Kunming**	**14.99**	**38**	P	**Pn**	**17 43 34.5**	**+4.4**
	comp=Z,6.0nm,1.3s						
JIRN	**Jiri**	**15.32**	**338**	*e*P	**Pn**	**17 43 35.8**	**+1.4**
	comp=Z,4.2nm,0.2s						
JBP	**Jabalpur**	**15.37**	**311**	*e*x	pP	17 43 45.7	-3.5
	comp=Z,12nm,1.8s						
JBP				*i* S	**Sn**	**17 46 19.9**	**-4.1**
PKI	**Pulchoki**	**15.54**	**335**	*e*P	**Pn**	**17 43 39.5**	**+2.3**
	comp=Z,20nm,0.6s						
DMN	**Daman**	**15.70**	**335**	*e*P	**Pn**	**17 43 40.9**	**+1.6**
KKN	**Kakani**	**15.79**	**335**	*e*P	**Pn**	**17 43 40.8**	**+0.4**
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**16.18**	**355**	P	**Pn**	**17 43 48.0**	**+2.5**
LSA	**Lhasa**	**16.18**	**355**	*e*Pn	**Pn**	**17 43 48.0**	**+2.5**
	comp=Z,6.4nm,0.8s						
LATR	**Latur**	**16.20**	**290**	*e*x	x	17 46 31.2	
GKN	**Gorkha**	**16.24**	**334**	*e*P	**Pn**	**17 43 44.3**	**-1.9**
	comp=Z,15nm,0.3s						
KOLN	**Koldanda**	**16.51**	**331**	*e*P	**Pn**	**17 43 47.9**	**-1.7**
	comp=Z,22nm,0.7s						
BHPL	**Bhopal**	**17.36**	**306**	*e*x	x	17 47 01.0	
GYA	**Guiyang**	**18.43**	**43**	P	**Pn**	**17 44 14.1**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
POO	**Poona**	**18.72**	**288**	*e*x	x	17 47 31.0	
CD2	**Chengdu**	**20.14**	**29**	*e*P	**P**	**17 44 31.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSM	**Kuching**	**21.19**	**123**	Pn	**P**	**17 44 41.0**	**-2.0**
NJ2	**Nanjing**	**30.30**	**48**	*e*P	**P**	**17 46 09.6**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
WMQ	**Urumqi**	**30.51**	**353**	*e*P	**P**	**17 46 10.5**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**32.99**	**335**	P	**P**	**17 46 32.4**	**+0.4**
	comp=Z,5.1nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**34.31**	**347**	P	**P**	**17 46 43.6**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=166,slow=8.8,SNR=9.0						
SONM	**Songino Array**	**36.11**	**16**	P	**P**	**17 46 59.5**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=206,slow=13,SNR=3.4						
ZAL	**Zalesovo**	**40.81**	**353**	P	**P**	**17 47 37.6**	**-0.9**
	comp=Z,1.8nm,0.6s,mb3.9,baz=309,slow=9.8,SNR=8.5						
BVAR	**Borovoye Array**	**43.22**	**341**	P	**P**	**17 47 57.5**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.6,baz=151,slow=6.8,SNR=4.8						
BRVK	**Borovoye**	**43.28**	**340**	P	**P**	**17 47 57.3**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**43.62**	**339**	*e*P	**P**	**17 47 60.0**	**-1.4**
	comp=Z,2.7nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**43.70**	**341**	*e*P	**P**	**17 48 01.6**	**-0.3**
MDJ	**Mudanjiang**	**44.16**	**38**	P	**P**	**17 48 05.4**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,136nm,14.4s						
AKTK	**Aktyubinsk**	**46.34**	**330**	P	**P**	**17 48 23.1**	**+0.1**
AKTO	**Aktyubinsk**	**46.34**	**330**	P	**P**	**17 48 23.1**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=114,slow=8.1,SNR=3.6						
ARU	**Arti**	**50.17**	**336**	P	**P**	**17 48 52.0**	**-0.5**
	comp=Z,5.0nm,1.1s,mb4.5						
NWAO	**Narrogin (SRO)**	**51.81**	**154**	P	**P**	**17 49 05.6**	**+0.8**
	comp=Z,6.2nm,0.7s,mb4.7,baz=270,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**52.81**	**128**	P	**P**	**17 49 12.1**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.7,baz=307,slow=8.0,SNR=72						
WRA				PcP	PcP	17 50 22.1	+1.0
	comp=Z,0.4nm,0.6s,baz=324,slow=3.2,SNR=5.6						
WB2	**Warramunga Arr**	**52.82**	**128**	*e*P	**P**	**17 49 12.1**	**-0.2**
ASAR	**Alice Springs**	**54.72**	**132**	P	**P**	**17 49 26.2**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=309,slow=6.7,SNR=24						
EIL	**Elat**	**55.46**	**297**	*e*P	**P**	**17 49 30.2**	**-1.3**
BRTR	**Keskin Array B**	**57.71**	**309**	P	**P**	**17 49 48.0**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=126,slow=9.4,SNR=6.9						
AKASG	**Malin Array Be**	**62.87**	**320**	P	**P**	**17 50 21.9**	**-0.9**
	comp=Z,0.1nm,0.2s,mb3.5,baz=86,slow=4.8,SNR=4.1						
STKA	**Stephens Creek**	**65.08**	**135**	P	**P**	**17 50 37.2**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=322,slow=9.0,SNR=4.2						
STKA	**Stephens Creek**	**65.08**	**135**	*e*P	**P**	**17 50 37.2**	**-0.1**
JOF	**Joensuu**	**65.17**	**334**	*e*p	**P**	**17 50 34.4**	**-3.5**
	comp=Z,4.1nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**67.08**	**331**	P	**P**	**17 50 49.5**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=97,slow=6.0,SNR=7.6						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**17 51 04.7**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=89,slow=6.6,SNR=6.2						
LSZ	**Lusaka**	**69.85**	**248**	*e*P	**P**	**17 51 07.0**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.2						
GERES	**GERESS Array B**	**72.69**	**317**	P	**P**	**17 51 25.6**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.1,baz=87,slow=5.6,SNR=15						
CLL	**Collm**	**73.11**	**320**	*e*P	**P**	**17 51 27.0**	**-0.1**
NB2	**NORSAR Subarra**	**74.14**	**330**	P	**P**	**17 51 32.3**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**74.14**	**330**	P	**P**	**17 51 32.4**	**-0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=5.8,SNR=5.7						
LBTB	**Lobatse**	**75.70**	**240**	*e*P	**P**	**17 51 45.1**	**+3.0**
	comp=Z,7.3nm,1.1s,mb4.5						
BOSA	**Boshof**	**77.37**	**236**	P	**P**	**17 51 54.5**	**+2.9**
	comp=Z,4.7nm,0.8s,mb4.5,baz=72,slow=4.0,SNR=10.0						
BOSA	**Boshof**	**77.37**	**236**	*e*P	**P**	**17 51 54.5**	**+2.9**
	comp=Z,6.1nm,0.8s,mb4.6						
LPG	**La Plagne**	**77.64**	**314**⇑ *i*P		**P**	**17 51 54.3**	**+1.2**
	comp=Z,9.0nm,0.7s,mb4.5						

ESDC	**Sonseca Array**	**86.48**	**310**	P	**P**	**17 52 39.9**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.9,baz=52,slow=4.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**87.87**	**283**	P	**P**	**17 52 48.3**	**+2.1**
	comp=Z,1.6nm,0.9s,mb4.3,baz=83,slow=4.3,SNR=8.2						

CSEM ***13*** *18:00:49.6±0.1, 4343N×1101E, h10km, ML2.4/4, Error ellipse: s-maj=1.6km s-min=1.2km az=53.0*
ISCJB ***13*** *18:00:50.8±0.3, 4340N±003×1095E±004, h26km±5km, Error ellipse: s-maj=5.3km s-min=4.1km az=145.5*
ROM ***13*** *18:00:50.1±0.1, 4343N×1101E, h2km, Md2.7/20, ML2.4/12, Error ellipse: s-maj=1.2km s-min=0.9km az=118.0*
LDG ***13*** *18:00:51.4±0.4, 4342N×1100E, h10km, Ml2.4/3, Error ellipse: s-maj=8.3km s-min=3.9km az=108.0*

ISC 13 18:00:50.7±0.3, 4341N±002×1100E±004, h19km±3km, n42, σ0§73/54, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSNT	**Castellina Chi**	**0.22**	**73**	Pg	**Pg**	**18 00 55.1**	**-1.0**
CSNT				Sg	**Sg**	**18 00 58.1**	**-1.6**
	2μm,0.5s						
GRFL	**Gerfalco**	**0.26**	**184**	Pg	**Pg**	**18 00 56.7**	**0.0**
GRFL				Sg	**Sg**	**18 01 00.6**	**-0.2**
	273nm,0.2s						
PII	**Pisa**	**0.47**	**312**	Pg	**Pg**	**18 01 00.0**	**-0.2**
PII				Sg	**Sg**	**18 01 07.5**	**+0.8**
	102nm,0.2s						
MAIM		**0.63**	**324**	Pg	**Pg**	**18 01 02.9**	**-0.2**
	131nm,0.5s						
ARCI	**Arcidosso**	**0.66**	**148**	Pg	**Pg**	**18 01 04.2**	**+0.5**
ARCI				Sg	**Sg**	**18 01 14.5**	**+2.0**
	138nm,0.3s						
VMG	**Vicchio**	**0.68**	**35**	Pg	**Pg**	**18 01 03.9**	**-0.2**
	85nm,0.3s						
SEI	**Scarperia**	**0.69**	**22**	Pg	**Pg**	**18 01 03.8**	**-0.6**
SEI				Sg	**Sg**	**18 01 15.0**	**+1.3**
	441nm,0.4s						
BDI	**Bagni Di Lucca**	**0.72**	**336**	Pg	**Pg**	**18 01 04.5**	**-0.3**
	282nm,0.7s						
CRE	**Caprese Michel**	**0.72**	**73**	Pg	**Pg**	**18 01 04.7**	**-0.2**
	53nm,0.3s						
PZZT	**Monte Pizzetto**	**0.73**	**352**	Pg	**Pg**	**18 01 04.8**	**-0.2**
PZZT				Sg	**Sg**	**18 01 16.0**	**+1.2**
	266nm,0.7s						
FNVD	**Fontana Vidola**	**0.76**	**7**	Pg	**Pg**	**18 01 05.1**	**-0.6**
	299nm,0.9s						
SFI	**Santa Sofia**	**0.79**	**51**	Pg	**Pg**	**18 01 05.6**	**-0.6**
	72nm,0.4s						
GROG	**Isola di Gorgo**	**0.81**	**272**	Pg	**Pg**	**18 01 06.8**	**+0.2**
	41nm,0.4s						
SACS	**San Casciano d**	**0.87**	**130**	Pg	**Pg**	**18 01 07.6**	**-0.1**
	47nm,0.4s						
VLC	**Villacollemand**	**0.87**	**329**	Pg	**Pg**	**18 01 07.4**	**-0.3**
	81nm,0.7s						
SARO	**Sassorosso**	**0.89**	**331**	P	**Pb**	**18 01 07.6**	**+0.1**
BADI	**Badiali**	**0.91**	**83**	Pg	**Pg**	**18 01 08.1**	**-0.4**
	96nm,0.9s						
ZCCA	**Zocca**	**0.94**	**359**	Pg	**Pg**	**18 01 09.8**	**+0.8**
VINC	**Vinca**	**0.96**	**320**	P	**Pb**	**18 01 09.0**	**+0.4**
MAON	**Monte Argentar**	**0.98**	**174**	Pg	**Pg**	**18 01 10.3**	**+0.4**
	72nm,0.4s						
GSCL	**Gusciola**	**0.99**	**342**	Pg	**Pg**	**18 01 09.6**	**-0.3**
	23nm,0.4s						
VALM		**1.09**	**330**	P	**Pn**	**18 01 11.4**	**+0.6**
BACM		**1.10**	**323**	P	**Pn**	**18 01 11.2**	**+0.2**
MURB	**Monte Urbino**	**1.12**	**97**	Pg	**Pg**	**18 01 12.3**	**-0.1**
	152nm,0.7s						
GRAM		**1.28**	**328**	P	**Pn**	**18 01 14.3**	**+0.9**
SC2M	**Scurtabr**	**1.45**	**314**	P	**Pn**	**18 01 16.5**	**+0.6**
PGF	**Pioggiola**	**1.70**	**240**	*e*Pn	**Pn**	**18 01 19.5**	**+0.2**
PGF				*e*Sn	**Sn**	**18 01 41.2**	**+0.7**
	13nm,0.4s						
PGF	**Pioggiola**	**1.70**	**240**	*e*Pn	**Pn**	**18 01 19.5**	**+0.2**
PGF				*e*Sn	**Sn**	**18 01 41.2**	**+0.7**
	6.6nm,0.4s						
SBF	**Sospel**	**2.63**	**281**	*e*Pn	**Pn**	**18 01 31.9**	**-0.1**
FRF	**La Foret Royal**	**3.17**	**274**	*e*Pn	**Pn**	**18 01 39.3**	**-0.2**
FRF				*e*Sn	**Sn**	**18 02 14.9**	**-1.9**
	1.8nm,0.4s						
FRF	**La Foret Royal**	**3.17**	**274**	*e*Pn	**Pn**	**18 01 39.3**	**-0.2**
FRF				*e*Sn	**Sn**	**18 02 14.9**	**-1.9**
	0.9nm,0.4s						
LMR	**La Mourre**	**3.28**	**270**	*e*Pn	**Pn**	**18 01 40.7**	**-0.3**
LMR				*e*Sn	**Sn**	**18 02 17.2**	**-2.2**
	0.7nm,0.2s						
LMR	**La Mourre**	**3.28**	**270**	*e*Pn	**Pn**	**18 01 40.7**	**-0.3**
LMR				*e*Sn	**Sn**	**18 02 17.2**	**-2.2**
	0.3nm,0.2s						
MBDF	**Montbardon**	**3.32**	**295**	*e*Pn	**Pn**	**18 01 41.9**	**+0.3**
LPG	**La Plagne**	**3.69**	**306**	*e*Pn	**Pn**	**18 01 46.9**	**+0.3**
LPG	**La Plagne**	**3.69**	**306**	*e*P	**Pb**	**18 01 50.1**	**-5.1**
LPG	**La Plagne**	**3.69**	**306**	*e*P	**Pb**	**18 01 50.1**	**-5.1**
LPL	**La Plagne**	**3.71**	**306**	*e*Pn	**Pn**	**18 01 47.0**	**+0.1**
LPL	**La Plagne**	**3.71**	**306**	*e*P	**Pb**	**18 01 50.3**	**-5.3**
LPL	**La Plagne**	**3.71**	**306**	*e*P	**Pb**	**18 01 50.3**	**-5.3**
SMRF	**Simiane la Rot**	**3.98**	**280**	*e*Pn	**Pn**	**18 01 50.6**	**0.0**
ORIF	**Oris-en-Rattie**	**3.98**	**294**	*e*Pn	**Pn**	**18 01 50.6**	**0.0**

IDC ***13*** *18:10:31.5±2.7, 6791N×1016E, h0km, mb1 3.2/3, mb1mx3.0/20, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=28.8km s-min=14.2km az=116.0*
NEIC ***13*** *18:10:33.4±3.1, 6790N×1032E, h10km, Error ellipse: s-maj=44.0km s-min=10.8km az=119.0*
BER ***13*** *18:10:34.3±1.8, 6791N×970E, h20km±16km, MD2.7, ML2.3*
CSEM ***13*** *18:10:34.5±0.8, 6781N×1092E, h1km, ML2.3, Error ellipse: s-maj=19.8km s-min=6.3km az=130.0, Suspected Mining explosion.*
HEL ***13*** *18:10:36.8±0.4, 6792N×1101E, h10km, ML2.9, ML2.7(UPP), ML2.3(BER)*
UPP ***13*** *18:10:37.1, 6793N×1111E, h0km, ML2.7, Suspected Mining explosion.*
ISCJB ***13*** *18:10:40.6±0.9, 6769N±004×124E±0.1, h0km, Error ellipse: s-maj=8.1km s-min=5.3km az=28.0*

ISC 13 18:10:40.2±0.9, 6777N±004×120E±01, h0km, n44, σ1§13/73, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**0.68**	**57**	*e*P	**Pg**	**18 10 57.1**	**+3.8**
LOF				*e*Pg	**Pg**	**18 10 59.9**	**+6.6**
LOF				*e*S	**Sg**	**18 11 16.3**	**+14**
LOF				AML	AML	18 11 18.6	
	comp=Z,183nm,0.2s						
LOF	**Lofoten**	**0.68**	**57**	*e*P	**Pg**	**18 10 57.1**	**+3.8**
LOF				*e*Pg	**Pg**	**18 10 59.9**	**+6.6**
LOF				*e*S	**Sg**	**18 11 16.3**	**+14**
STOK1	**Konsvik**	**1.35**	**161**	*e*P	**Pg**	**18 11 04.0**	**-2.1**
STOK1				*e*S	**Sg**	**18 11 26.5**	**+2.9**
MOR8	**Moi Rana**	**1.87**	**148**	*e*P	**Pn**	**18 11 13.2**	**-0.2**
MOR8				*e*S	**Sn**	**18 11 42.0**	**+4.2**
MOR8				AML	AML	18 11 43.6	
	comp=Z,39nm,0.3s						
MOR8	**Moi Rana**	**1.87**	**148**	*e*P	**Pn**	**18 11 13.2**	**-0.2**
MOR8				*e*S	**Sn**	**18 11 42.0**	**+4.2**
MOR8	**Moi Rana**	**1.87**	**148**	*e*P	**Pn**	**18 11 13.2**	**-0.3**
	SNR=55						
SALU	**Saltoluokta**	**2.52**	**96**	*e*P	**Pn**	**18 11 24.2**	**+1.7**
NIKU	**Nikkaluokta**	**2.67**	**85**	*e*P	**Pn**	**18 11 25.7**	**+1.3**
KUA	**Kurravaara**	**3.16**	**83**	*e*P	**Pn**	**18 11 32.6**	**+1.4**
NSS	**Namsos**	**3.26**	**180**	*e*P	**Pn**	**18 11 27.1**	**-5.4**
NSS				*e*S	**Sn**	**18 12 05.1**	**-6.9**
NSS				AML	AML	18 12 12.1	
	comp=Z,5.1nm,0.2s						
NSS	**Namsos**	**3.26**	**180**	*e*P	**Pn**	**18 11 27.1**	**-5.4**
NSS				*e*S	**Sn**	**18 12 05.1**	**-6.9**
DUNU	**Dundret**	**3.36**	**97**	*e*P	**Pn**	**18 11 35.2**	**+1.2**
KIF	**Kilpisjarvi**	**3.48**	**65**	*e*P	**Pn**	**18 11 34.2**	**-1.4**
KIF				*e*S	**Sn**	**18 12 18.4**	**+0.9**
LANU	**Lannavaara**	**3.78**	**81**	*e*P	**Pn**	**18 11 40.2**	**+0.5**
MASU	**Masugnsbyn**	**3.83**	**90**	*e*P	**Pn**	**18 11 41.5**	**+1.0**
HARU	**Harads**	**3.87**	**110**	*e*P	**Pn**	**18 11 42.1**	**+1.1**
LILU	**Lilltraesk**	**4.01**	**125**	*e*P	**Pn**	**18 11 44.1**	**+1.3**
ERTU	**Ertsjaerv**	**4.15**	**102**	*e*P	**Pn**	**18 11 47.2**	**+2.4**
ERTU	**Ertsjaerv**	**4.15**	**102**	P	**Pn**	**18 11 47.2**	**+2.4**
KTK1	**Kautokeino**	**4.33**	**68**	*e*P	**Pn**	**18 11 47.6**	**+0.3**
PAJU	**Pajala**	**4.35**	**95**	*e*P	**Pn**	**18 11 48.4**	**+0.8**
SJUU	**Sjulsmark**	**4.44**	**116**	*e*P	**Pn**	**18 11 49.9**	**+1.0**
SVAU	**Svanaeiden**	**4.50**	**133**	*e*P	**Pn**	**18 11 50.3**	**+0.7**
KALU	**Kalix**	**4.88**	**108**	*e*P	**Pn**	**18 11 55.6**	**+0.8**
BURU	**Burvik**	**4.96**	**126**	*e*P	**Pn**	**18 11 57.5**	**+1.5**
ARCES	**ARCESS Array B**	**5.24**	**64**	Pn	**Pn**	**18 11 58.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=253,slow=12,SNR=8.0						
ARCES				Sn	**Sn**	**18 13 00.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=252,slow=21,SNR=2.8						
ARCES				Lg		18 13 37.6	
	comp=Z,0.7nm,0.3s,baz=262,slow=28,SNR=6.4						
ARCES	**ARCESS Array B**	**5.24**	**64**	Pn	**Pn**	**18 11 58.0**	**-1.8**
ARCES				Sn	**Sn**	**18 13 00.1**	**-0.7**
ARCES				Lg		18 13 37.6	
UMAU	**Umeaa**	**5.28**	**134**	*e*P	**Pn**	**18 12 00.8**	**+0.5**
SGF	**Sodankyl**	**5.56**	**87**	*e*P	**Pn**	**18 12 03.5**	**-0.7**
SGF				*e*S	**Sn**	**18 13 09.1**	**+0.4**
KEV	**Kevo**	**5.80**	**63**	*e*P	**Pn**	**18 12 06.7**	**-0.7**
KEV				*e*S	**Sn**	**18 13 13.0**	**-1.6**
OUL	**Oulu**	**6.18**	**109**	*e*P	**Pn**	**18 12 13.9**	**+1.1**
OUL				*e*S	**Sn**	**18 13 24.1**	**0.0**
VAF	**Ylistaro**	**6.50**	**132**	*e*P	**Pn**	**18 12 18.1**	**+1.0**
VAF				*e*S	**Sn**	**18 13 34.5**	**+2.5**
NOA	**NORSAR Array B**	**6.77**	**183**	Pn	**Pn**	**18 12 14.7**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=355,slow=14,SNR=2.9						
NOA				Sn	**Sn**	**18 13 29.9**	**-8.7**
	comp=Z,0.2nm,0.3s,baz=331,slow=15,SNR=2.5						
NOA	**NORSAR Array B**	**6.77**	**183**	Pn	**Pn**	**18 12 14.7**	**-6.1**
NOA				Sn	**Sn**	**18 13 29.9**	**-8.7**
MSF	**Maaselka**	**6.96**	**98**	*e*P	**Pn**	**18 12 22.3**	**-1.2**
MSF				*e*S	**Sn**	**18 13 42.5**	**-0.9**
KU4	**Liikasenvaara**	**7.00**	**93**	*e*P	**Pn**	**18 12 23.4**	**-0.6**
KU4				MPN		18 12 25.4	
	comp=Z,0.4nm,0.2s						
KU4				*e*S	**Sn**	**18 13 44.3**	**0.0**
KU6	**Riekki**	**7.24**	**96**	*e*P	**Pn**	**18 12 26.5**	**-0.8**
KU6				MPN		18 12 27.5	
	comp=Z,1.1nm,0.2s						
KU6				*e*S	**Sn**	**18 13 49.8**	**-0.4**
KU6				*e*S	**Sn**	**18 13 50.9**	**+0.7**
KJN	**Kajaani**	**7.40**	**113**	*e*P	**Pn**	**18 12 28.2**	**-1.3**
KJN				*e*S	**Sn**	**18 13 53.6**	**-0.5**
SUF	**Sumiainen**	**7.79**	**124**	*e*P	**Pn**	**18 12 34.9**	**+0.1**
SUF				*e*S	**Sn**	**18 14 04.4**	**+0.6**
KEF	**Keuruu**	**7.82**	**130**	*e*P	**Pn**	**18 12 34.0**	**-1.2**
KEF				*e*S	**Sn**	**18 14 03.7**	**-0.7**
RAF	**Rauma**	**7.97**	**144**	*e*P	**Pn**	**18 12 35.3**	**-2.0**
RAF				*e*S	**Sn**	**18 14 07.2**	**-1.0**
KAF	**Kangasniemi**	**8.29**	**126**	*e*P	**Pn**	**18 12 41.2**	**-0.5**
KAF				*e*S	**Sn**	**18 14 16.0**	**-0.1**
FINES	**FINESS Array B**	**8.74**	**130**	Pn	**Pn**	**18 12 46.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=10						
FINES				Sn	**Sn**	**18 14 26.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=325,slow=24,SNR=2.5						
JOF	**Joensuu**	**9.39**	**112**	*e*P	**Pn**	**18 12 55.5**	**-1.3**
JOF				*e*S	**Sn**	**18 14 42.5**	**-0.6**

IDC 13 18:28:36.0±16.0, 4615N×15335E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=387.1km s-min=68.7km az=159.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**43.12**	**306**	P	P	18 36 36.6	-1.3
	0.9nm,0.3s,baz=172,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**47.37**	**298**	P	P	18 37 11.4	-0.3
	0.7nm,0.6s,baz=69,slow=7.8,SNR=6.4						
BVAR	**Borovoye Array**	**51.37**	**310**	P	P	18 37 42.6	+0.3
	0.6nm,0.5s,baz=52,slow=9.3,SNR=4.1						
FINES	**FINESS Array B**	**64.66**	**335**	P	P	18 39 15.4	-0.1
	1.0nm,0.6s,baz=47,slow=8.4,SNR=8.4						
NOA	**NORSAR Array B**	**68.85**	**341**	P	P	18 39 41.3	-1.0
	0.8nm,0.9s,baz=25,slow=6.9,SNR=3.5						
AKASG	**Malin Array Be**	**72.14**	**326**	P	P	18 40 01.9	-0.4
	0.8nm,0.5s,baz=34,slow=6.1,SNR=6.1						

IDC 13 18:59:10.4±2.0, 671S×12945E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=87.8km s-min=26.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.91**	**198**	Pn	Pn	19 02 03.3	+1.8
	0.4nm,0.3s,baz=20,slow=13,SNR=26						
FITZ				Sn	Sn	19 04 04.2	-11
	0.6nm,0.3s,baz=162,slow=19,SNR=5.9						
WRA	**Warramunga Arr**	**13.98**	**161**	Pn	Pn	19 02 28.2	-1.6
	0.3nm,0.3s,baz=340,slow=14,SNR=20						
WRA				Sn	Sn	19 04 50.3	-15
	0.5nm,0.3s,baz=332,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**17.39**	**166**	P	Pn	19 03 14.6	+0.2
	0.2nm,0.3s,baz=352,slow=12,SNR=19						
ASAR				S	Sn	19 06 14.0	-15
	0.1nm,0.3s,baz=356,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	19 10 09.6	+0.1
	0.4nm,0.4s,baz=122,slow=8.2,SNR=14						

MDD ***13*** *19:37:00.3±0.4, 3826N×832W, h0km, mbLg1.4/6, Error ellipse: s-maj=4.1km s-min=2.4km az=67.0, PRXIMO*

INMG 13 19:37:00.4±1.2, 3826N×832W, h0km, ML1.2, Error ellipse: s-maj=2.2km s-min=1.4km az=72.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.27**	**355**	*e*Pg	Pg	19 37 05.4	-0.1
MOE				*e*Sg	Sg	19 37 08.9	0.0
PBEJ	**Beja**	**0.43**	**123**	*e*Pg	Pg	19 37 07.9	-0.7
PBEJ				*e*Sg	Sg	19 37 13.8	-0.3
PBEJ							
	5.4nm,0.1s						
PTEO	**Sao Teotonio**	**0.78**	**204**	*e*Pg	Pg	19 37 14.8	-0.6
PTEO				*e*Sg	Sg	19 37 24.9	-0.6
PTEO							
	3.6nm,0.2s						
PESTR	**Estremoz**	**0.83**	**43**	*e*P	Pg	19 37 15.7	-0.7
PESTR				*e*S	Sg	19 37 26.4	-0.8
PESTR							
	2.5nm,0.3s						
PLOU	**Loures**	**0.90**	**314**	*e*P	Pg	19 37 17.2	-0.5
PLOU				*e*S	Sg	19 37 29.1	-0.3
PLOU							
	12nm,0.7s						
EGRO	**El Granado**	**0.98**	**137**	Pg	Pg	19 37 18.2	-1.0
	1.3nm,0.1s,SNR=12						
EGRO				Lg		19 37 31.7	
	1.1nm,0.1s,SNR=16						
MORF	**Marmelete**	**0.99**	**196**	*e*P	Pg	19 37 19.0	-0.3
MORF				*e*S	Sg	19 37 31.7	-0.4
MORF							
	6.5nm,0.1s						
PMAFR	**Mafra**	**1.03**	**313**	*e*P	Pg	19 37 19.1	-1.0
PMAFR				*e*S	Sg	19 37 32.8	-0.6
EBAD	**Badajoz**	**1.14**	**64**	Pg	Pg	19 37 21.5	-0.7
	0.8nm,0.1s,SNR=7.9						
EBAD				Lg		19 37 36.9	
	2.9nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**1.39**	**110**	Pg	Pg	19 37 25.7	-1.3
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		19 37 45.1	
	0.9nm,0.1s,SNR=8.5						
PCBR	**Castelo Branco**	**1.71**	**22**	*e*Sn	Sn	19 37 52.9	-1.1
PCBR							
	3.6nm,0.3s						
PCBR	**Castelo Branco**	**1.71**	**22**	Sn	Sn	19 37 52.9	-1.1
	1.8nm,0.3s						

ISCJB ***13*** *19:50:41.5±0.5, 5034N±002×733E±004, h5km, Error ellipse: s-maj=3.8km s-min=3.5km az=109.3*
BGR ***13*** *19:50:42.9±0.4, 5038N×736E, h5km, ML1.5/3, Error ellipse: s-maj=5.6km s-min=5.6km az=135.0*
BNS ***13*** *19:50:43.6±0.3, 5038N×735E, h3km, ML1.5*
LDG ***13*** *19:50:43.6±0.1, 5038N×734E, h3km, Md2.4/1, Ml2.1/7, Error ellipse: s-maj=2.2km s-min=1.0km az=53.0*

ISC 13 19:50:42.5±0.5, 5037N±003×735E±004, h15km±4km, n16, σ0§58/27, 1C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.16**	**184**	*e*Pg	**Pg**	**19 50 47.1**	**+0.5**
BGG				*e*Sg	**Sg**	**19 50 49.6**	**+0.2**
	145nm,0.1s						
STB	**Steinbach**	**0.40**	**305**	*e*Pg	**Pg**	**19 50 51.1**	**+0.4**
STB				*e*Sg	**Sg**	**19 50 55.8**	**-0.3**
HILG	**Hillesheim**	**0.44**	**261**	*e*Sg	**Sg**	**19 50 57.2**	**-0.1**
TNS	**Taunus Mts**	**0.72**	**101**	*e*Pg	**Pg**	**19 50 56.8**	**+0.3**
	SNR=1.7						
TNS				*e*Sg	**Sg**	**19 51 05.6**	**-0.4**
	SNR=4.5						
DREG	**Dreilaegerbach**	**0.78**	**293**	*e*Pg	**Pg**	**19 50 58.1**	**+0.4**
DREG				*e*Sg	**Sg**	**19 51 09.0**	**+1.1**
WLF	**Walferdange**	**1.04**	**228**	*e*Pg	**Pg**	**19 51 02.0**	**-0.7**
	SNR=1.1						
WLF				*e*Sg	**Sg**	**19 51 17.1**	**+0.7**
	SNR=2.1						
BUG	**Bochum--Univer**	**1.08**	**357**	*e*Pg	**Pg**	**19 51 02.6**	**-0.8**
	SNR=1.7						
BUG				*e*Sg	**Sg**	**19 51 17.1**	**-0.4**
	SNR=2.6						
GIVF	**Givet**	**1.65**	**262**	*e*Pg	**Pg**	**19 51 14.2**	**0.0**
GIVF				*e*Sn	**Sn**	**19 51 31.9**	**+0.2**
GIVF				*e*Sg	**Sg**	**19 51 35.4**	**-0.2**
	5.0nm,0.2s						
CDF	**Champ du Feu**	**1.96**	**182**	*e*Pg	**Pg**	**19 51 20.3**	**+0.2**
CDF				*e*Sg	**Sg**	**19 51 45.7**	**+0.2**
	0.7nm,0.3s						
BAIF	**Baives**	**2.04**	**263**	*e*Pn	**Pn**	**19 51 17.1**	**+0.8**
BAIF	**Baives**	**2.04**	**263**	*e*Pg	**Pg**	**19 51 21.1**	**-0.7**
BAIF				*e*Sg	**Sg**	**19 51 47.3**	**-1.0**
	1.5nm,0.2s						
MEZF	**Maizieres J'vi**	**2.40**	**220**	*e*Sg	**Sg**	**19 51 59.2**	**-0.4**
	3.3nm,0.5s						
HAU	**Haudompre**	**2.45**	**196**	*e*Sg	**Sg**	**19 52 00.9**	**-0.5**
	1.3nm,0.3s						
LOR	**Lormes**	**3.87**	**218**	*e*Pn	**Pn**	**19 51 42.2**	**+0.8**
LOR				*e*Sn	**Sn**	**19 52 25.3**	**-1.2**
FLN	**La Foliniere**	**5.34**	**256**	*e*Pn	**Pn**	**19 52 02.0**	**+0.3**
GRR	**Gorron**	**5.72**	**253**	*e*Pn	**Pn**	**19 52 07.3**	**+0.5**

SKHL 13 20:04:06.0±2.1, 5180N×14258E, h10km, mb4.0/4, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.94**	**177**	*e*Pg	Pg	20 04 25.4	+1.3
TYV				*e*Sg	Sg	20 04 39.0	+2.7
TYV				A		20 04 43.0	
	1μm,6.0s						
TYV				A		20 04 43.0	
	800nm,2.0s						
TYV				AMS	AMS	20 05 07.0	
	1μm,4.0s						
OKH	**Okha**	**1.77**	**7**	*e*Pg	Pg	20 04 42.8	+2.9
OKH				*e*S	Sn	20 05 00.0	+0.9
OKH				A		20 05 02.9	
	2μm,1.8s						
NKL	**Nikolayevsk**	**1.78**	**320**	*i* Pb	Pb	20 04 40.0	+1.2
NKL				*i* Pg	Pg	20 04 41.2	+1.0
NKL				AMB	AMB	20 04 41.8	
	120nm,0.3s						
NKL				AMB	AMB	20 04 41.8	
	80nm,0.3s						
NKL				AMB	AMB	20 04 41.8	
	110nm,0.3s						
NKL				*i* Sg	Sg	20 05 07.7	+4.4
NKL				A		20 05 09.8	
	280nm,0.4s						
NKL				A		20 05 09.8	
	250nm,0.4s						
UGL	**Uglegorsk**	**2.75**	**187**	*e*Pg	Pg	20 05 02.2	+3.6
UGL				AMB	AMB	20 05 12.0	
	62nm,0.5s						
UGL				*e*Sg	Sg	20 05 37.0	+2.8
GRNR	**Gornyy**	**4.00**	**257**	*e*P	Pn	20 05 09.2	+1.9
GRNR				AMB	AMB	20 05 11.0	
	13nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.85**	**179**	*e*rx	rx	20 05 39.1	
EKMR	**Ekimchan**	**6.03**	**286**	*e*rx	rx	20 05 41.0	
EKMR				*e*Pg	Pg	20 06 05.2	+3.8
EKMR				AMB	AMB	20 06 06.6	
	2.0nm,0.4s						
EKMR				AMB	AMB	20 06 06.6	
	4.0nm,0.4s						
EKMR				*e*S	Sn	20 06 47.3	+3.1
EKMR				*e*Sg	Sg	20 07 28.0	+8.5
EKMR				A		20 07 28.9	
	23nm,0.6s						
EKMR				A		20 07 28.9	
	12nm,0.6s						
EKMR				A		20 07 28.9	
	19nm,0.6s						

IDC 13 20:05:49.1±12.0, 4683N×15275E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=286.8km s-min=43.5km az=140.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.63**	**253**	Pn	Pn	20 07 41.0	-0.6
	0.2nm,0.3s,baz=75,slow=20,SNR=2.2						
MKAR	**Makanchi Array**	**46.68**	**297**	P	P	20 14 19.2	-0.3
	0.2nm,0.3s,baz=66,slow=7.6,SNR=6.0						
FINES	**FINESS Array B**	**63.86**	**335**	P	P	20 16 22.3	-1.1
	1.1nm,0.8s,baz=18,slow=5.3,SNR=7.8						
NB2	**NORSAR Subarra**	**68.07**	**341**	P	P	20 16 49.1	-1.5
	comp=Z,2.2nm,0.8s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.07**	**341**	P	P	20 16 49.6	-1.0
	comp=Z,1.1nm,0.8s,baz=27,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**71.34**	**326**	P	P	20 17 11.9	+1.2
	comp=Z,0.7nm,0.5s,baz=33,slow=5.7,SNR=4.2						

NEIC ***13*** *20:13:00.7±1.4, 1848S×17774W, h600km, mb4.2/1, Error ellipse: s-maj=33.8km s-min=22.1km az

ellipse: s-maj=17.3km s-min=7.5km az=89.0
*CSEM **13** 20:20:29.6±1.2, 76.88N×17.49E, h1km±7km, ML2.6, Error ellipse: s-maj=45.7km s-min=8.2km az=69.0*
*NAO **13** 20:20:30.0±1.6, 76.92N×18.20E, h14km±12km, ML2.1*
*BER **13** 20:20:32.2±7.5, 76.94N×17.99E, h15km±90km, MD2.9, ML2.6, ML2.1(NAO)*

ISC 13 20:20:28.1±2.0, 7687N±009×175E±05, h10km±17km, n7, σ1§03/13, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.34**	**350**	Pn	**Pn**	**20 20 53.2**	**+0.3**
	baz=154,slow=18						
SPA0				Pg	**Pg**	**20 20 54.7**	**+0.9**
	baz=165,slow=18						
SPA0				Lg		20 21 12.2	
	baz=157,slow=28						
SPA0	**Spitsbergen Ar**	**1.34**	**350**	Pg	**Pg**	**20 20 54.7**	**+0.9**
	SNR=92						
HOPEN	**Hopen**	**1.77**	**98**	*e*P	**Pn**	**20 20 59.6**	**+0.7**
HOPEN				*e*S	**Sn**	**20 21 20.6**	**-0.8**
HOPEN				AML	AML	20 21 27.8	
	comp=N,188nm,0.4s						
KBS	**Kingsbay**	**2.38**	**333**	Pn	**Pn**	**20 21 08.2**	**+1.0**
KBS				Pg	**Pg**	**20 21 13.6**	**-0.1**
KBS				Lg		20 21 42.3	
KBS	**Kingsbay**	**2.38**	**333**	*e*P	**Pn**	**20 21 08.1**	**+0.9**
KBS				*e*Sg	**Sg**	**20 21 42.8**	**-1.8**
KBS				AML	AML	20 21 51.2	
	comp=Z,50nm,0.4s						
KBS	**Kingsbay**	**2.38**	**333**	Pg	**Pg**	**20 21 13.6**	**-0.1**
KBS				*e*Sg	**Sg**	**20 21 42.8**	**-1.7**
	SNR=91						
ARA0	**ARCESS Array S**	**7.72**	**159**	Pn	**Pn**	**20 22 20.8**	**+0.2**
	baz=30,slow=18						
ARA0				Sn	**Sn**	**20 23 43.9**	**-4.2**
	baz=4.4,slow=28						

JMA 13 20:24:55.0±0.1, 4278N×14388E, h107km±1km, M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.13**	**345**	P	Pn	20 25 10.4	+0.6
JOB				*e*S	Sn	20 25 21.5	+0.6
JCH	**Churui**	**0.42**	**247**	P	Pn	20 25 11.0	0.0
JCH				S	Sn	20 25 22.3	-0.7
JAR	**Ashorobuto**	**0.52**	**351**	P	Pn	20 25 11.8	+0.1
JAR				*e*S	Sn	20 25 24.4	+0.2
JAK	**Akkeshi**	**0.64**	**70**	P	Pn	20 25 12.4	-0.1
JAK				*e*S	Sn	20 25 25.3	-0.4
JEM	**Erimo**	**0.93**	**215**	P	Pn	20 25 15.4	+0.2
JNBK	**Urakawa-nobuka**	**0.97**	**239**	P	Pn	20 25 15.8	+0.2
JNBK				*e*S	Sn	20 25 30.9	-0.3
JNK	**Nakash**	**1.01**	**37**	P	Pn	20 25 15.7	-0.4
JNK				*e*S	Sn	20 25 30.9	-1.0
JFR	**Furan**	**1.02**	**293**	P	Pn	20 25 16.0	-0.1
JFR				*e*S	Sn	20 25 32.3	+0.2
JBT2	**Biratori 2**	**1.12**	**270**	P	Pn	20 25 17.3	+0.1
JBT2				*e*S	Sn	20 25 33.7	-0.2
JTKR	**Abashiri--Toko**	**1.19**	**1**	P	Pn	20 25 18.4	+0.4
JTKR				*e*S	Sn	20 25 35.7	+0.3
JMP	**Maruseppu**	**1.28**	**343**	P	Pn	20 25 19.3	+0.2
JMP				S	Sn	20 25 37.1	-0.2
JKK2	**Kamakawa 2**	**1.37**	**323**	P	Pn	20 25 20.5	+0.4
JKK2				*e*S	Sn	20 25 39.7	+0.6
JRA	**Rausu**	**1.47**	**38**	P	Pn	20 25 21.4	+0.2
JRA				*e*S	Sn	20 25 41.7	+0.5
NEM2	**Nemuro 2**	**1.48**	**66**	P	Pn	20 25 20.4	-1.0
NEM2				*e*S	Sn	20 25 38.9	-2.6
JEW	**Eniwo**	**1.79**	**273**	P	Pn	20 25 26.0	+0.8
JEW				*e*S	Sn	20 25 48.4	+0.2
JHR	**Hokuryu**	**1.84**	**302**	P	Pn	20 25 26.4	+0.5
JHR				*e*S	Sn	20 25 50.9	+1.5

MAN 13 20:28:44.7, 1686N×12031E, h0km, mb2.5, ML4.0, MS3.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.55**	**151⇓**	*e*P	Pg	20 28 54.9	-0.3
BCPH				*e*S	Sg	20 29 02.2	0.0
BOLP	**Bolinao**	**0.61**	**218**	*e*P	Pg	20 28 57.5	+1.2
BOLP				*e*S	Sg	20 29 07.4	+3.2
ABRA	**Dolores**	**0.87**	**26**	*e*P	Pg	20 29 01.2	-0.2
SCZP	**Santa Cruz**	**1.14**	**199**	*e*P	Pg	20 29 06.0	-0.6
CAUP	**Cauayan**	**1.46**	**87**	*e*P	Pn	20 29 12.8	+0.6

*NIED **13** 20:40:00, 46.70N×153.20E, h44km, Mw4.1 Best double couple: M0=1.52000×10^15 NP1:φ=68.00000°, δ=82.00000°, λ=-89.00000°. NP2:φ=242.00000°, δ=8.00000°, λ=-95.00000°.*

IDC 13 20:40:14.7±40.0, 4691N×15271E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.8/3, Error ellipse: s-maj=904.4km s-min=84.0km az=152.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.62**	**297**	P	P	20 48 44.3	-0.3
	0.2nm,0.3s,baz=66,slow=6.7,SNR=4.5						
FINES	**FINESS Array B**	**63.78**	**335**	P	P	20 50 47.9	-0.6
	1.5nm,0.7s,baz=35,slow=8.1,SNR=13						
NB2	**NORSAR Subarra**	**67.99**	**341**	P	P	20 51 15.3	-0.3
	comp=Z,0.4nm,0.5s,baz=28,slow=6.9						
NOA	**NORSAR Array B**	**67.99**	**341**	P	P	20 51 15.4	-0.2
	comp=Z,0.6nm,0.6s,baz=27,slow=6.3,SNR=3.5						

IDC 13 20:59:20.4±1.3, 1162S×6617E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, MS3.4/1, Ms1 3.3/1, ms1mx2.7/35, Error ellipse: s-maj=62.8km s-min=26.9km az=22.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.53**	**288**	P	P	21 05 35.7	+0.3
	4.8nm,1.0s,baz=112,slow=19,SNR=7.0						
BOSA	**Boshof**	**41.72**	**240**	LR	LR	21 25 36.3	
	comp=Z,41nm,18.2s,baz=307,slow=38						
ASAR	**Alice Springs**	**65.15**	**111**	P	P	21 10 03.8	+0.6
	0.4nm,0.7s,baz=280,slow=6.0,SNR=4.6						
WRA	**Warramunga Arr**	**65.76**	**107**	P	P	21 10 07.6	+0.5
	0.8nm,0.9s,baz=274,slow=5.6,SNR=8.3						
SONM	**Songino Array**	**69.14**	**28**	P	P	21 10 28.5	-0.1
	0.2nm,0.5s,baz=206,slow=6.3,SNR=3.9						
PDAR	**Pinedale Array**	**148.75**	**354**	PKPbc	PKPbc	21 19 10.9	+1.3
	0.5nm,0.7s,baz=101,slow=3.2,SNR=4.4						

KRSC 13 21:00:09, 5171N×15973E, h5km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.04**	**314**	*e*P	Pg	21 00 29.3	+0.3
RUS				*i* S	Sg	21 00 44.6	+2.0
GRL	**Gorelyy**	**1.32**	**310**	*e*P	Pn	21 00 34.8	+0.7
GRL				*i* S	Sg	21 00 53.9	+2.3
SPN	**Mys Shipunski**	**1.40**	**7**	P	Pn	21 00 37.3	+2.1
SPN				*i* S	Sb	21 00 57.8	+4.0
PET	**Petropavlovsk**	**1.47**	**334**	P	Pn	21 00 37.2	+1.0
PET				*i* S	Sn	21 00 57.6	+1.8
NLC	**Nalytchevo**	**1.48**	**351**	*e*P	Pn	21 00 37.0	+0.7
NLC				*i* S	Sn	21 00 57.6	+1.5
SDLR	**Sedlovina**	**1.65**	**342**	P	Pn	21 00 39.9	+1.2
SDLR				*i* S	Sn	21 01 02.4	+2.1
GNL	**Ganaly**	**2.27**	**332**	*e*P	Pn	21 00 49.6	+2.5
GNL				*e*S	Sn	21 01 19.3	+3.9
MKZ	**Mys Kozlova**	**3.10**	**22**	P	Pn	21 00 58.2	-0.3
KBTR	**Krutoberegovo**	**4.86**	**21**	P	Pn	21 01 23.7	+0.9

*ISCJB **13** 21:09:04.1±0.5, 50.11N±003×18.40E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.6km az=32.8*
*WAR **13** 21:09:05.8, 5004N×1846E, ML2.4, Mining Induced*
*CSEM **13** 21:09:05.7±0.1, 5008N×1844E, h1km, ML2.9/4, Error ellipse: s-maj=3.4km s-min=1.7km az=178.0*
*IPEC **13** 21:09:05.6±0.2, 5005N×1850E, h6km±1km, ML2.1/4, Error ellipse: s-maj=2.0km s-min=1.1km az=163.0*
*PRU **13** 21:09:06.7, 5009N×1837E, h0km*

ISC 13 21:09:05.3±0.5, 5008N±003×1842E±003, h0km, n25, σ1§18/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**273**	*e*Pg	**Pg**	**21 09 09.9**	**+1.8**
RAC				*e*Sg	**Sg**	**21 09 13.6**	**+3.7**
OKC	**Ostrava-Krasne**	**0.30**	**216**	*e*PG	**Pg**	**21 09 11.7**	**+0.7**
OKC				*e*SG	**Sg**	**21 09 16.0**	**+1.2**
	102nm,0.5s						
MORC	**Moravsky Berou**	**0.64**	**242**	*e*Pg	**Pg**	**21 09 18.1**	**+0.5**
MORC				*e*Sg	**Sg**	**21 09 27.3**	**+1.4**
	28nm,0.4s						
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	**Pg**	**21 09 22.1**	**-0.5**
OJC				*e*Sg	**Sg**	**21 09 34.5**	**+0.3**
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	**Pg**	**21 09 22.0**	**-0.6**
OJC				*e*Sg	**Sg**	**21 09 34.5**	**+0.3**
JAVC	**Velka Javorina**	**1.31**	**202**	*e*Pn	**Pn**	**21 09 30.9**	**0.0**
DPC	**Dobruska-Polom**	**1.37**	**282**	*e*PG	**Pg**	**21 09 31.7**	**+0.1**
DPC				*e*SG	**Sg**	**21 09 50.5**	**+1.1**
	20nm,0.6s						
DPC	**Dobruska-Polom**	**1.37**	**282**	*e*Pg	**Pg**	**21 09 31.7**	**+0.1**
DPC				*e*Sg	**Sg**	**21 09 50.7**	**+1.3**
NIE	**Niedzica**	**1.40**	**117**	*e*Pg	**Pg**	**21 09 31.1**	**-1.0**
NIE				*e*Sg	**Sg**	**21 09 50.4**	**+0.3**
VRAC	**Vranov**	**1.41**	**238**	*e*Pg	**Pg**	**21 09 32.1**	**-0.3**
VRAC				*e*Sg	**Sg**	**21 09 51.1**	**+0.4**
	18nm,0.4s						
KSP	**Ksiaz**	**1.56**	**300**	*e*Pg	**Pg**	**21 09 34.6**	**-0.6**
KSP				*e*Sg	**Sg**	**21 09 55.6**	**+0.2**
UPC	**Upice**	**1.60**	**287**	*e*PG	**Pg**	**21 09 35.9**	**-0.1**
UPC				*e*SG	**Sg**	**21 09 56.7**	**-0.1**
VYHS	**Vyhne**	**1.61**	**170**	*e*PN	**Pn**	**21 09 34.7**	**-0.2**
VYHS				*e*SN	**Sn**	**21 09 55.7**	**-0.7**
KRUC	**Moravsky**	**1.66**	**233**	*e*Pn	**Pn**	**21 09 35.6**	**-0.1**
KRUC				*e*Sg	**Sg**	**21 09 58.0**	**-0.7**
	13nm,0.3s						
SMOL	**Smolenice**	**1.69**	**203**	*e*SN	**Sn**	**21 09 58.6**	**+0.1**
STHS	**Stebnicka Huta**	**1.95**	**109**	*e*PN	**Pn**	**21 09 42.4**	**+2.8**
STHS				*e*SN	**Sn**	**21 10 10.3**	**+5.5**
ZST	**Bratislava**	**2.07**	**205**	*e*SN	**Sn**	**21 10 06.2**	**-1.6**
KECS	**Kecovo**	**2.09**	**139**	*e*PN	**Pn**	**21 09 46.3**	**+4.7**
KECS				*e*SN	**Sn**	**21 10 09.9**	**+1.6**
CRVS	**Cervenica-Dubn**	**2.31**	**119**	*e*PN	**Pn**	**21 09 47.6**	**+3.0**
PRU	**Pruhonice**	**2.50**	**269**	*e*PG	**Pg**	**21 09 51.1**	**-2.1**
PRU				*e*SG	**Sg**	**21 10 24.6**	**-1.1**
	14nm,1.1s						
PVCC	**Panska Ves**	**2.51**	**282**	*e*PG	**Pg**	**21 09 51.1**	**-2.3**
PVCC				*e*SG	**Sg**	**21 10 26.2**	**+0.3**
KOLS	**Kolonicke sedl**	**2.76**	**113**	*e*PG	**Pg**	**21 09 56.7**	**-1.6**
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	**Pg**	**21 10 06.5**	**-1.8**
KHC				*e*SN	**Sn**	**21 10 33.5**	**-4.3**
KHC				*e*SG	**Sg**	**21 10 49.6**	**-1.3**
	6.1nm,0.4s						
CLL	**Collm**	**3.66**	**292**	*e*Sg	**Sg**	**21 11 07.0**	**+4.2**
MOX	**Moxa**	**4.39**	**280**	*e*SG	**Sg**	**21 11 28.4**	**+2.0**

*ISCJB **13** 21:27:17.5±0.9, 2830N±006×5548E±005, h12km±8km, Error ellipse: s-maj=11.3km s-min=6.7km az=142.5*
*KISR **13** 21:27:17.6±1.0, 2883N×5556E, h34km, ML3.2*
*CSEM **13** 21:27:19.8, 2821N×5557E, h14km, ML3.3, After THR*
*THR **13** 21:27:19.8±0.6, 2821N×5557E, h14km±5km, ML3.3*

ISC 13 21:27:19.2±1.0, 2826N±006×5551E±005, h6km±9km, n11, σ1§13/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.04**	**145**	*e*PG	**Pg**	**21 27 38.1**	**-1.1**
BNDS				AML	AML	21 27 58.6	
	comp=E,1μm,0.4s						
BNDS				AML	AML	21 28 01.6	
	comp=N,858nm,0.6s						
KRBR	**Kerman**	**2.04**	**32**	*e*PG	**Pg**	**21 27 56.9**	**-1.4**
KRBR				*e*SG	**Sg**	**21 28 24.6**	**-0.1**
KRBR				AML	AML	21 28 29.2	
	comp=E,256nm,0.5s						
KRBR				AML	AML	21 28 34.5	
	comp=N,175nm,0.5s						
KRBR	**Kerman**	**2.04**	**32**	*e*Pg	**Pg**	**21 27 56.9**	**-1.4**
KRBR	SNR=90						
KRBR				*e*Sg	**Sg**	**21 28 24.6**	**-0.1**
	comp=N,175nm,0.5s,SNR=90						
GHIR	**Ghir-Karzin**	**2.22**	**271**	*e*Pn	**Pn**	**21 27 59.2**	**+2.6**
GHIR				*e*SG	**Sg**	**21 28 31.4**	**+0.7**
GHIR				AML	AML	21 28 45.9	
	comp=N,113nm,0.4s						
GHIR	**Ghir-Karzin**	**2.22**	**271**	*e*Pn	**Pn**	**21 27 59.2**	**+2.5**
GHIR	SNR=52						
GHIR				*e*Sg	**Sg**	**21 28 31.4**	**+0.7**
	comp=N,113nm,0.4s,SNR=90						
ZHSF	**Zahedan**	**4.81**	**72**	*e*Pn	**Pn**	**21 28 33.4**	**+1.2**
NASN	**Na'in**	**5.09**	**333**	*e*PN	**Pn**	**21 28 39.2**	**+3.2**
QRN	**Al-Quran**	**6.70**	**276**	*e*P	**Pn**	**21 28 58.9**	**+0.8**
QRN				*e*S	**Sn**	**21 30 14.9**	**+0.1**
QRN				AML	AML	21 30 16.1	
	comp=Z,7.0nm,0.2s						
RDF	**Al-Radifah**	**7.03**	**277**	*e*P	**Pn**	**21 29 02.6**	**-0.1**
RDF				*e*S	**Sn**	**21 30 21.7**	**-1.2**
RDF				AML	AML	21 30 24.8	
	comp=Z,6.3nm,0.4s						
NAY	**Al-Naaiem**	**7.32**	**280**	*e*P	**Pn**	**21 29 07.2**	**+0.5**
NAY				*e*S	**Sn**	**21 30 29.2**	**-1.0**
NAY				AML	AML	21 30 30.5	
	comp=Z,2.1nm,0.6s						
RST	**Umm Al-Ruwaisa**	**7.56**	**281**	*e*P	**Pn**	**21 29 10.1**	**+0.1**
RST				AML	AML	21 30 34.6	
	comp=Z,3.1nm,0.4s						
RST				*e*S	**Sn**	**21 30 34.6**	**-1.4**

*ISCJB **13** 21:30:56.1±0.5, 1425N±004×92.78W±003, h33km±4km, mb4.6/58, MS4.0/10, Error ellipse: s-maj=7.8km s-min=3.2km az=64.9*
*CASC **13** 21:30:57.3±1.5, 1438N×9275W, h84km±39km, MD4.5, ML3.8, mb4.6(NEIC)*
*MEX **13** 21:30:57.7±0.4, 1417N×9301W, h68km±33km, MD4.8*
*NEIC **13** 21:31:02.9±0.8, 1449N×9234W, h86km±6km, mb4.6/45, MD4.8(MEX), Error ellipse: s-maj=9.5km s-min=4.0km az=225.0*
*IDC **13** 21:31:02.0±4.2, 1457N×9222W, h72km±38km, mb4.0/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.4/17, ML5.4/1, MS3.9/8, Ms1 3.9/8, ms1mx3.6/27, Error ellipse: s-maj=27.5km s-min=11.0km az=60.0*
*BJI **13** 21:31:04.0, 1450N×9230W, h86km, mB5.2, Ms4.9, Msz4.6*

ISC 13 21:30:59.9±0.5, 1439N±004×9264W±003, h47km±4km, h34km±2.5km: pP-P, n271, σ1§02/273, mb4.6/58, MS4.0/10, 47C-54D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.97**	**94⇑**	*e*P	**Pn**	**21 31 18.0**	**+0.8**
TP2	**Tecpan 2**	**1.62**	**76⇓**	*e*P	**Pn**	**21 31 26.6**	**+0.7**
TP2				*e*S	**Sn**	**21 31 49.9**	**+4.3**
FUG	**Fuego 3**	**1.74**	**88**	*e*P	**Pn**	**21 31 27.7**	**0.0**
TER	**Terranova**	**1.90**	**92⇓**	*e*P	**Pn**	**21 31 29.6**	**-0.2**
CCIG	**Comitan**	**1.95**	**14**	*i* P	**Pn**	**21 31 31.7**	**+1.3**
CCIG				*i* S	**Sn**	**21 31 58.6**	**+5.0**
PCG	**Pacaya**	**1.97**	**90**	*e*P	**Pn**	**21 31 31.5**	**+0.7**
RTR	**El Retiro**	**2.94**	**99⇓**	*e*P	x	21 31 55.4	
RTR				*e*S	x	21 32 31.5	
RTR				*e*		21 32 31.5	
SBLS	**San Blas**	**2.98**	**100⇓**	*e*P	x	21 31 55.5	
SBLS				*e*S	x	21 32 33.1	
SNJE	**San Jose**	**2.99**	**100⇓**	*e*P	x	21 31 55.9	
SNJE				*e*S	x	21 32 33.5	
CMIG	**Matias Romero**	**3.45**	**322**	P	**Pn**	**21 31 47.6**	**-3.4**
	34nm,0.3s,baz=139,slow=12,SNR=427						
CMIG				S	**Sn**	**21 32 28.2**	**-2.4**
	96nm,0.3s,baz=112,slow=11,SNR=4.8						
CMIG				LR	LR	21 33 31.5	
	comp=Z,1μm,19.9s,baz=148,slow=42						
CMIG	**Matias Romero**	**3.45**	**322**	*e*P	**Pn**	**21 31 47.5**	**-3.6**
CMIG				*i* S	**Sn**	**21 32 26.6**	**-4.0**
HUIG	**Huatulco**	**3.62**	**293**	*e*P	**Pn**	**21 31 47.6**	**-5.8**
HUIG				*i* S	**Sn**	**21 32 25.2**	**-10**
TUIG	**Tuzandepetl**	**4.01**	**335**	*e*P	**Pn**	**21 31 56.2**	**-2.6**
TUIG				*i* S	**Sn**	**21 32 42.1**	**-2.3**
OXX	**Oaxaca**	**4.76**	**305**	*e*P	**Pn**	**21 32 07.0**	**-2.0**
VHO	**Vista Hermosa**	**4.76**	**305**	*e*P	**Pn**	**21 32 04.7**	**-4.4**
VHO				*i* S	**Sn**	**21 32 56.6**	**-6.3**
VHO	**Vista Hermosa**	**4.76**	**305**	*e*P	**Pn**	**21 32 07.0**	**-2.0**
VHO				*i* S	**Sn**	**21 32 56.6**	**-6.3**
SCIG	**Sabancuy**	**4.76**	**17**	*i* P	**Pn**	**21 32 09.6**	**+0.5**
SCIG				*i* S	**Sn**	**21 33 08.4**	**+5.4**
TGUH	**Tegucigalpa,Un**	**5.21**	**93**	*e*Pn	**Pn**	**21 32 15.7**	**+0.5**
PNIG	**Pinotepa**	**5.66**	**291**	*i* S	**Sn**	**21 33 15.8**	**-9.2**
TELN	**Telica**	**5.92**	**107**	*e*P	**Pn**	**21 32 25.5**	**+0.5**
TELN				*i*		21 33 59.7	
	comp=Z,53nm,0.6s						
LEON	**Leon**	**5.93**	**109**	*e*P	**Pn**	**21 32 25.3**	**+0.2**
UTMO	**Huajuapan**	**6.03**	**305**	*e*P	**Pn**	**21 32 23.1**	**-3.4**
UTMO				*i* S	**Sn**	**21 33 25.9**	**-8.2**
TPIG	**Tehuac#an**	**6.05**	**312**	*i* P	**Pn**	**21 32 23.5**	**-3.2**
TPIG				*i* S	**Sn**	**21 33 31.3**	**-3.4**
CNGN	**Cerro Negro**	**6.08**	**107**	*e*P	**Pn**	**21 32 27.0**	**-0.1**
CNGN				*i*		21 34 14.3	
	comp=Z,72nm,0.8s						
MIRN	**Miramar**	**6.08**	**108**	*e*P	**Pn**	**21 32 28.1**	**+0.9**
MOMJ	**Momotombo**	**6.25**	**108**	*e*P	**Pn**	**21 32 29.3**	**-0.3**
MOMJ				*e*S	**Sn**	**21 33 41.7**	**+2.1**
COPN	**Copaltepe**	**6.28**	**110**	*e*P	**Pn**	**21 32 30.0**	**0.0**
COPN				*i*		21 34 00.7	
	comp=Z,124nm,0.7s						
LVIG	**Laguna Verde**	**6.42**	**326**	*i* P	**Pn**	**21 32 27.1**	**-4.8**
TISN	**Laguna Tiscapa**	**6.59**	**109**	*e*P	**Pn**	**21 32 33.9**	**-0.2**
MGAN	**Managua**	**6.61**	**109**	*i*	**Pn**	**21 32 44.0**	**+10**
	comp=N,408nm,0.0s						
MGAN				*e*S	**Sn**	**21 33 50.3**	**+1.9**
TICN	**Ticuantepe**	**6.66**	**110**	*e*P	**Pn**	**21 32 35.3**	**+0.1**
PPM	**Popocatepetl**	**7.38**	**310**	*i* P	**Pn**	**21 32 44.7**	**-0.4**
PPM				*e*P		21 32 45.0	
PPM				*i* S	**Sn**	**21 34 02.9**	**-4.6**
CONN	**Concepcion**	**7.39**	**111**	*e*P	**Pn**	**21 32 45.6**	**+0.5**
ACX	**Acapulco**	**7.43**	**290**	*i* P	**Pn**	**21 32 42.0**	**-3.7**
MEIG	**Mezcala**	**7.57**	**299**	*i* P	**Pn**	**21 32 42.8**	**-4.8**
MEIG				*i* S	**Sn**	**21 34 05.9**	**-6.2**
YAIG	**Yautepec**	**7.60**	**307**	*i* S	**Sn**	**21 34 06.8**	**-6.0**
PLIG	**Platanillo**	**7.70**	**302**	*e*P	**Pn**	**21 32 44.8**	**-4.5**
PLIG				*i* S	**Sn**	**21 34 05.4**	**-10**
PLIG	**Platanillo**	**7.70**	**302**	*e*P	**Pn**	**21 32 48.8**	**-0.5**
PLIG				*i* S	**Sn**	**21 34 14.2**	**-0.9**
IIO	**Organos**	**7.79**	**312**	*i* P	**Pn**	**21 32 50.4**	**-0.2**
IIO				*i* S	**Sn**	**21 34 12.2**	**-5.1**
CAIG	**El Cayaco**	**7.81**	**291**	*i* P	**Pn**	**21 32 46.0**	**-4.9**
CAIG				*i* S	**Sn**	**21 34 09.0**	**-8.8**
CAIG	**El Cayaco**	**7.81**	**291**	*i* P	**Pn**	**21 32 47.6**	**-3.3**
UNM	**Universidad Na**	**7.96**	**309**	*e*P	**Pn**	**21 32 58.0**	**+5.1**
SZVM	**Salazar**	**8.11**	**308**	*e*P	**Pn**	**21 32 50.6**	**-4.3**
SZVM				*i* S	**Sn**	**21 34 21.0**	**-4.2**
MOIG	**Morelia**	**9.72**	**304**	*i* P	**Pn**	**21 33 17.7**	**+0.7**
MOIG	**Morelia**	**9.72**	**304**	*i* P	**Pn**	**21 33 18.2**	**+1.2**
SFJM	**Santa Fe**	**11.63**	**303**	*e*P	**Pn**	**21 33 43.0**	**-0.1**
SOR	**Soroa**	**12.38**	**46**	*e*PG	**Pn**	**21 33 53.6**	**+0.3**
	baz=242						
SOR				*e*SG	**Sn**	**21 36 08.4**	**-1.3**
	comp=N,1.2nm,0.7s						
SOR				*e*			
	comp=E,1.2nm,1.0s						
ZAIG	**Zacatecas**	**12.57**	**313**	*i* P	**Pn**	**21 33 55.1**	**-0.8**
KVTX	**Kingsville**	**13.98**	**340**	*e*P	**Pn**	**21 34 25.1**	**+10**
	comp=E,165nm,0.4s						
HKT	**Hockley**	**15.77**	**350**	*e*Pn	**Pn**	**21 34 37.5**	**-1.2**
	comp=E,50nm,1.5s						
DWPF	**Disney**	**17.18**	**36**	*e*Pn	**Pn**	**21 34 56.9**	**+0.5**
	comp=E,96nm,1.1s						
DWPF				*e*		21 35 06.4	
JCT	**Junction City**	**17.32**	**339**	*e*Pn	**Pn**	**21 34 59.3**	**+1.1**
	comp=E,25nm,0.9s						
LPIG	**La Paz**	**19.26**	**303**	P	**Pn**	**21 35 23.4**	**+1.7**
	comp=E,11nm,0.3s,baz=34,slow=5.2,SNR=4.6						
OTAV	**Otavalo**	**19.87**	**134**	*e*Pn	**Pn**	**21 35 26.3**	**-2.6**
UALR	**University of**	**20.30**	**1**	*e*Pn	**P**	**21 35 31.8**	**+0.1**
	comp=E,26nm,0.9s						
ROSC	**El Rosal**	**20.37**	**116**	P	**P**	**21 35 35.1**	**+2.7**
	comp=E,17nm,0.7s,baz=97,slow=22,SNR=12						
ROSC	**El Rosal**	**20.37**	**116**	*e*Pn	**P**	**21 35 34.9**	**+2.5**
MNTX	**Cornudas Mount**	**20.81**	**328**	*e*Pn	**P**	**21 35 36.4**	**-0.8**
	comp=E,14nm,0.7s						
WMOK	**Wichita Mounta**	**21.01**	**346**	*e*Pn	**P**	**21 35 39.1**	**-0.3**
	comp=E,11nm,0.9s,mb4.2						
SWET	**Sewanee**	**21.60**	**15**	P	**P**	**21 35 43.8**	**-2.0**
SDV	**Santo Domingo**	**22.23**	**102**	P	**P**	**21 35 52.6**	**+0.2**
	comp=E,7.3nm,0.6s,mb4.3,baz=329,slow=7.4,SNR=16						
SDV	**Santo Domingo**	**22.23**	**102**	*e*P	**P**	**21 35 51.8**	**-0.6**
	comp=E,9.1nm,0.8s,mb4.3						
TKL	**Tuckaleechee C**	**22.63**	**19**	P	**P**	**21 35 55.0**	**-1.7**
	comp=E,6.0nm,0.6s,mb4.2,baz=165,slow=11,SNR=3.8						
LPM	**Los Pinos Moun**	**23.53**	**330**	*e*P	**P**	**21 36 06.1**	**+0.4**
LENM	**Lemitar**	**23.58**	**329**	*e*P	**P**	**21 36 06.4**	**+0.2**
LAZ	**Ladron**	**23.85**	**329**	*e*P	**P**	**21 36 08.9**	**+0.2**
ANMO	**Albuquerque**	**23.97**	**331**	P	**P**	**21 36 10.2**	**+0.4**
	comp=E,4.9nm,0.8s,mb4.0,baz=149,slow=9.8,SNR=10						
TUC	**Tucson**	**24.34**	**320**	*e*P	**P**	**21 36 13.2**	**0.0**
	comp=E,21nm,1.0s,mb4.5

comp=E,5.6nm,0.8s,mb4.5
Q11A Duckwater 31.71 324 ⇑P **P 21 37 20.0 +0.9**
baz=32
P12A McGill 31.74 326 ⇓P **P 21 37 20.2 +0.9**
baz=32
PDAR Pinedale Array 31.82 336 P **P 21 37 19.6 -0.4**
comp=E,2.2nm,0.9s,mb4.0,baz=130,slow=9.2,SNR=15
PDAR PcP PcP 21 40 09.4 -0.6
comp=E,0.5nm,0.3s,baz=163,slow=4.7,SNR=6.6
S09A Goldfield 31.88 321 ⇓P **P 21 37 21.7 +1.2**
baz=32,SNR=5.3
S08C White Mtn Res 32.32 320 ⇑P **P 21 37 25.0 +0.6**
baz=32,SNR=6.6
HELL Mitchell Peak, 32.36 318 ⇓P **P 21 37 25.3 +0.5**
baz=32,SNR=11
HVU Hansel Valley 32.40 331 *e*P **P 21 37 25.2 +0.1**
comp=E,11nm,1.0s,mb4.6
AHID Auburn Hatcher 32.44 334 *e*P **P 21 37 25.4 0.0**
comp=E,8.2nm,0.7s,mb4.7
O11A Cowboy Ranch, 32.61 326 ⇓P **P 21 37 27.5 +0.6**
baz=33,SNR=7.7
N12A Clover Valley, 32.81 328 ⇓P **P 21 37 29.4 +0.8**
baz=33
REDW Red Top Meadow 32.83 335 *e*P **P 21 37 29.0 +0.1**
comp=E,87nm,1.3s,mb5.5
SNOW Snow King Moun 32.88 335 *e*P **P 21 37 30.1 +0.8**
comp=E,62nm,0.8s,mb5.6
KCC Kaiser Creek 32.93 319 ⇑P **P 21 37 30.6 +0.9**
baz=33,SNR=5.2
LOHW Long Hollow 32.94 336 *e*P **P 21 37 29.7 -0.1**
comp=E,20nm,0.8s,mb5.1
PKD Parkfield 32.94 316 ⇓P **P 21 37 30.2 +0.3**
baz=33
TPAW Teton Pass 32.98 335 *e*P **P 21 37 30.7 +0.6**
comp=E,36nm,1.2s,mb5.2
NVAR Mina Array Bea 32.98 321 P **P 21 37 31.9 +1.7**
comp=E,9.1nm,0.7s,mb4.8,baz=142,slow=7.4,SNR=53
NVAR PcP PcP 21 40 13.7 +0.4
comp=E,2.2nm,0.7s,baz=154,slow=2.3,SNR=7.1
RRI2 Red Ridge 33.01 335 *e*P **P 21 37 35.2 +4.7**
comp=E,62nm,1.4s,mb5.3
Q08A Gabbs 33.04 322 ⇓P **P 21 37 31.4 +0.7**
baz=33,SNR=7.4
MOOW Moose Ponds 33.11 336 *e*P **P 21 37 31.0 -0.3**
comp=E,6.6nm,0.8s,mb4.6
O10A Cortez Mining, 33.18 326 ⇑P **P 21 37 32.3 +0.4**
baz=33
R07C Lee Vining 33.23 320 ⇓P **P 21 37 32.9 +0.6**
baz=33
IMW Indian Meadow 33.31 336 *e*P **P 21 37 33.1 0.0**
comp=E,13nm,0.8s,mb4.9
FLWY Flagg Ranch 33.37 336 *e*P **P 21 37 33.4 -0.2**
comp=E,17nm,0.8s,mb5.0
O09A Fish Creek Ran 33.48 325 ⇑P **P 21 37 35.2 +0.6**
baz=34,SNR=6.8
M11A Holland Ranch, 33.62 328 ⇓P **P 21 37 36.0 +0.3**
baz=34
RLMT Red Lodge 33.72 339 *e*P **P 21 37 36.0 -0.6**
comp=E,4.2nm,0.8s,mb4.4
R06C Coleville 33.74 320 ⇑P **P 21 37 37.3 +0.5**
baz=34
HAST UC Hastings Re 33.87 316 ⇑P **P 21 37 38.1 +0.2**
baz=34
YMR Madison River 33.97 336 *e*P **P 21 37 39.8 +1.1**
comp=E,14nm,0.8s,mb4.9
CMB Columbia Colle 34.03 319 ⇑P **P 21 37 39.8 +0.4**
baz=34
M10A I.L. Ranch, Tu 34.07 327 ⇓P **P 21 37 40.3 +0.6**
baz=34,SNR=6.5
N09A Rock Creek Ran 34.13 325 ⇓P **P 21 37 41.0 +0.8**
baz=34
R05C Kirkwood Meado 34.24 320 ⇓P **P 21 37 42.1 +1.0**
baz=34
QLMT Earthquake Lak 34.28 336 *e*P **P 21 37 42.9 +1.4**
WCN Washoe City 34.41 321 ⇓P **P 21 37 43.3 +0.7**
baz=34
O07A Toulon 34.44 323 ⇓P **P 21 37 43.2 +0.3**
baz=35
GCMT Greycliff 34.44 339 *e*P **P 21 37 42.4 -0.4**
M09A Marrel Ranch, 34.49 326 ⇓P **P 21 37 44.1 +0.8**
baz=35
R04C Big Horse Ranc 34.52 319 ⇓P **P 21 37 44.3 +0.8**
baz=35
HLID Hailey 34.54 332 *e*P **P 21 37 43.9 +0.1**
comp=E,6.5nm,0.8s,mb4.6
LAVA Lava Cap Winer 34.69 320 ⇓P **P 21 37 45.4 +0.4**
baz=35
MCMT McKenzie Canyo 34.86 335 *e*P **P 21 37 47.1 +0.7**
M08A Happy Creek Ra 35.01 325 ⇓P **P 21 37 48.3 +0.5**
baz=35
L09A Wilkinson Ranc 35.02 327 ⇓P **P 21 37 48.4 +0.5**
baz=35
BEKR Beckwourth 35.13 322 ⇓P **P 21 37 49.4 +0.6**
baz=35
DLMT Dillon 35.19 335 *e*P **P 21 37 49.9 +0.6**
comp=E,82nm,1.7s,mb5.4
N06A Buffalo Meadow 35.38 323 P **P 21 37 51.4 +0.5**
baz=36,SNR=14
L08A Fields 35.50 326 ⇓P **P 21 37 52.2 +0.2**
baz=36,SNR=5.9
O05C Quincy 35.52 321 ⇑P **P 21 37 52.8 +0.6**
baz=36
K09A Rome 35.53 327 ⇑P **P 21 37 52.8 +0.6**
baz=36,SNR=10.0
ORV Oroville 35.64 320 ⇑P **P 21 37 53.9 +0.7**
baz=36
ELFS Eagle Lake Fie 35.82 322 ⇑P **P 21 37 55.5 +0.8**
baz=36
WVOR Wild Horse Val 35.83 326 *e*P **P 21 37 54.1 -0.7**
comp=E,6.8nm,0.9s,mb4.6
ULM Lac du Bonnet 35.86 356 P **P 21 37 52.8 -2.4**
comp=E,5.9nm,0.8s,mb4.6,baz=181,slow=10.0,SNR=5.1
ULM LR LR 21 54 58.8
comp=E,144nm,18.2s,MS3.8,baz=215,slow=40
L07A Adell 35.93 325 P **P 21 37 56.2 +0.6**
baz=36,SNR=10
K08A Mann Creek Ran 35.95 327 ⇑P **P 21 37 56.1 +0.3**
baz=36,SNR=6.6
J09A Fry Pan Ranch, 36.01 328 ⇓P **P 21 37 56.6 +0.3**
baz=36,SNR=11
M06C Likely Place G 36.04 323 ⇑P **P 21 37 57.2 +0.5**
baz=36
K07A Rock Creek Ran 36.33 326 P **P 21 37 59.7 +0.6**
baz=36,SNR=10
J08A Circle Bar Ran 36.38 328 P **P 21 37 60.0 +0.4**
baz=36,SNR=14
MOD Modoc 36.39 324 *e*P **P 21 37 59.6 0.0**
comp=E,3.7nm,1.0s,mb4.3
MOD Modoc 36.39 324 ⇑P **P 21 37 59.7 +0.1**
baz=36
I09A Lost Marbles R 36.45 329 ⇑P **P 21 38 00.0 -0.1**
baz=37,SNR=8.2
GASB Alder Springs 36.45 319 ⇑P **P 21 38 00.6 +0.4**
baz=37
CHMT Chamberlain Mo 36.72 336 *e*P **P 21 38 01.8 -0.7**
L05A Lakeview 36.78 324 ⇑P **P 21 38 03.0 0.0**
baz=37
J07A Hines 36.83 327 ⇑P **P 21 38 03.0 -0.4**
baz=37
H09A Durkee 36.91 330 ⇓P **P 21 38 04.0 -0.1**
baz=37
MSO Missoula 36.93 335 *e*P **P 21 38 03.6 -0.5**
comp=E,3.0nm,0.6s,mb4.3
K06A Valley Falls 36.95 325 ⇑P **P 21 38 03.8 -0.6**
baz=37
M04C Macdoel 37.20 323 ⇓P **P 21 38 06.3 -0.1**
baz=37
J06A Christmas Vall 37.20 326 ⇑P **P 21 38 06.6 +0.1**
baz=37
K05A Summer Lake 37.26 325 ⇓P **P 21 38 06.7 -0.3**
baz=37
SAML Samuel 37.30 127 *e*P **P 21 38 04.8 -2.6**
comp=E,4.2nm,0.8s,mb4.3
H08A Prairie City 37.30 329 ⇓P **P 21 38 07.8 +0.4**
baz=37
O01C Eel River Cons 37.43 319 ⇓P **P 21 38 08.7 +0.3**
baz=38
F10A Beach Ranch, E 37.67 332 P **P 21 38 10.2 -0.4**
baz=38,SNR=26
YBH Yreka Blue Hor 37.68 322 P **P 21 38 08.7 -1.9**
comp=E,2.2nm,0.7s,mb4.0,baz=73,slow=9.4,SNR=4.8
YBH Yreka Blue Hor 37.68 322 ⇑P **P 21 38 10.1 -0.5**
baz=38
I06A Prineville 37.70 327 ⇑P **P 21 38 10.4 -0.3**
baz=38
F09A S2 Ranch, Elgi 37.80 331 ⇑P **P 21 38 11.1 -0.4**
baz=38
H07A Lands Inn, Kim 37.81 328 P **P 21 38 11.5 -0.1**
baz=38,SNR=8.0
J05A Fort Rock 37.81 325 ⇓P **P 21 38 11.6 -0.1**
baz=38
C13A Hot Springs 37.87 336 P **P 21 38 12.1 0.0**
baz=38,SNR=5.6
C12A Trout Creek 38.25 335 P **P 21 38 15.4 0.0**
baz=38,SNR=5.5
G07A Ruggs Ranch, H 38.34 329 ⇑P **P 21 38 15.7 -0.4**
baz=38
B13A Whitefish 38.39 336 P **P 21 38 16.9 +0.4**
baz=38,SNR=7.5
E09A Wood Farm, Sta 38.50 331 ⇓P **P 21 38 17.7 +0.2**
baz=39
B12A Libby 38.91 336 ⇓P **P 21 38 21.0 +0.1**
baz=39
LPAZ La Paz 38.92 141 P **P 21 38 20.4 -0.7**
comp=E,1.1nm,0.7s,mb3.7,baz=310,slow=12,SNR=6.4
LPAZ LR LR 21 53 55.4
comp=E,145nm,20.1s,MS3.8,baz=64,slow=35
D09A Jones Farm, Ri 38.98 332 ⇑P **P 21 38 21.2 -0.3**
baz=39
C10A Spilker Farm, 39.11 334 ⇓P **P 21 38 22.4 -0.2**
baz=39
G05A Wamic 39.16 328 ⇑P **P 21 38 22.9 -0.1**
baz=39
J02A Umpqua 39.18 324 ⇑P **P 21 38 22.6 -0.6**
baz=39
H04A Detroit Lake 39.25 326 P **P 21 38 23.5 -0.2**
baz=39,SNR=6.6
A12A Yaak River Ran 39.30 336 ⇑P **P 21 38 24.3 +0.1**
baz=39
E07A Sunnyside 39.34 330 ⇑P **P 21 38 24.8 +0.3**
baz=40
K01A Sixes 39.37 322 ⇑P **P 21 38 24.6 -0.2**
baz=40
I03A Eugene 39.39 325 ⇓P **P 21 38 24.1 -0.8**
baz=40
D07A Quincy 39.86 331 ⇓P **P 21 38 28.3 -0.5**
baz=40
C08A Higginbotham F 39.86 332 ⇑P **P 21 38 28.3 -0.5**
baz=40,SNR=5.4
E06A Yakima 39.88 329 ⇑P **P 21 38 28.9 -0.1**
baz=40,SNR=5.8
C07A Waterville 40.26 331 ⇑P **P 21 38 32.0 -0.1**
baz=40
A09A Danville 40.55 334 ⇓P **P 21 38 33.9 -0.6**
baz=41
C05A Tolt Reservoir 41.03 330 ⇑P **P 21 38 38.4 -0.1**
baz=41
B05A Bryant 41.63 330 ⇓P **P 21 38 42.6 -0.8**
baz=42
A04A Legoe Bay, Lum 42.23 330 ⇑P **P 21 38 47.8 -0.5**
baz=42
SIV San Ignacio 43.41 133 P **P 21 38 56.4 -1.4**
comp=E,5.9nm,0.9s,mb4.3,baz=309,slow=7.6,SNR=27
SCHQ Schefferville 45.08 21 LR LR 21 59 41.1
comp=E,219nm,18.7s,MS4.1,baz=218,slow=38
BBB Bella Bella 47.12 331 P **P 21 39 29.8 +2.5**
comp=E,4.7nm,1.0s,mb4.4,baz=135,slow=7.5,SNR=5.2
YKA Yellowknife Ar 50.51 347 P **P 21 39 52.0 -1.3**
comp=E,19nm,0.7s,mb5.1,baz=151,slow=7.3,SNR=80
YKA PcP PcP 21 41 08.5 -2.2
comp=E,1.1nm,0.7s,baz=153,slow=4.5,SNR=3.0
YKA Yellowknife Ar 50.51 347 P **P 21 39 52.0 -1.3**
YKA PcP PcP 21 41 08.6 -2.2
CFAA Coronel Fontan 51.38 153 P **P 21 39 58.6 -1.1**
comp=E,0.3nm,0.6s,baz=341,slow=6.8,SNR=7.0
CPUP Villa Florida 53.08 140 P **P 21 40 09.7 -2.7**
comp=E,0.2nm,0.3s,mb3.5,baz=319,slow=8.9,SNR=3.4
CPUP LR LR 22 04 29.3
comp=E,116nm,19.6s,MS3.9,baz=323,slow=38
BDFB Brasilia 53.25 122 P **P 21 40 12.6 -1.1**
comp=E,4.4nm,0.9s,mb4.4,baz=287,slow=11,SNR=6.2
RKT Rikitea 55.73 229 *e*S **S 21 48 14.0 -0.8**
comp=E,87nm,31.8s
RKT *e*LR LR 21 56 24.0
comp=E,221nm,25.8s
PLCA Paso Flores 58.54 160 P **P 21 40 48.4 -3.2**
comp=E,2.6nm,0.8s,mb4.3,baz=194,slow=0.9,SNR=3.3
DAWY Dawson 59.09 338 *e*P **P 21 40 53.6 -1.8**
DAWY *e* pP 21 41 04.5 -4.0
INK Inuvik 59.89 344 *e*P **P 21 40 59.5 -1.4**
comp=E,776nm,0.8s
INK *e* pP 21 41 09.7 -4.5
EGAK Eagle 60.12 338 *e*P **P 21 41 01.0 -1.4**
comp=E,8.5nm,0.9s,mb4.8
EGAK *e* pP 21 41 09.8 -5.9
SLKM Skilak Lake 61.86 332 *e*P **P 21 41 13.2 -1.0**
KDAK Kodiak Island 62.06 328 LR LR 22 07 38.1
comp=E,150nm,21.2s,MS4.1,baz=273,slow=35
COLA College 62.66 337 *e*P **P 21 41 18.1 -1.4**
comp=E,10nm,0.9s,mb5.0
PPT Papeete 64.52 242 *e*LR LR 22 00 30.2
comp=E,166nm,25.5s
SVW2 Sparrevohn 64.53 331 *e*P **P 21 41 30.1 -1.8**
TBI Tubuai 67.04 237 *e*LR LR 22 01 39.6
comp=E,166nm,30.8s
EKA Eskdalemuir Ar 78.02 36 P **P 21 42 49.6 -3.7**
comp=E,3.6nm,0.8s,mb4.4,baz=278,slow=4.6,SNR=7.9
ESDC Sonseca Array 79.96 52 P **P 21 43 00.9 -3.1**
comp=E,0.8nm,0.6s,mb3.8,baz=289,slow=5.4,SNR=7.8
GRR Gorron 80.56 42 *e*P **P 21 43 03.5 -3.7**
comp=E,33nm,1.1s,mb4.9
GRR Gorron 80.56 42 *e*P **P 21 43 03.5 -3.7**
comp=E,16nm,1.1s,mb4.9
SJPF Ste Jean 81.34 48 *e*P **P 21 43 08.4 -2.9**
comp=E,30nm,1.2s,mb4.8
SJPF Ste Jean 81.34 48 *e*P **P 21 43 08.4 -2.9**
comp=E,15nm,1.2s,mb4.8
TCF Toulx Ste Croi 83.05 44 *e*P **P 21 43 16.5 -3.8**
comp=E,10nm,1.1s,mb4.5
TCF Toulx Ste Croi 83.05 44 *e*P **P 21 43 16.5 -3.8**
comp=E,5.1nm,1.1s,mb4.5
AVF Avril sur Loir 83.69 43 *e*P **P 21 43 20.0 -3.6**
SSF Saint Saulge 83.73 43 *e*P **P 21 43 20.5 -3.3**
comp=E,10nm,1.0s,mb4.6
SSF Saint Saulge 83.73 43 *e*P **P 21 43 20.5 -3.3**
comp=E,5.2nm,1.0s,mb4.6
LOR Lormes 83.91 43 *e*P **P 21 43 20.8 -3.9**
comp=E,8.1nm,0.8s,mb4.6
LOR *e*MLR MLR
comp=Z,156nm,21.8s
LOR Lormes 83.91 43 *e*P **P 21 43 20.8 -3.9**
comp=Z,4.1nm,0.8s,mb4.6
LOR LR LR
comp=Z,160nm,21.8s,MS4.4
SMF Signal de Mont 84.05 43 *e*P **P 21 43 21.9 -3.6**
NB2 NORSAR Subarra 84.10 28 P **P 21 43 23.8 -1.9**
comp=Z,0.9nm,0.8s,mb4.0,baz=289,slow=5.3
NOA NORSAR Array B 84.10 28 P **P 21 43 23.5 -2.2**
comp=Z,1.0nm,0.8s,mb4.0,baz=291,slow=5.1,SNR=4.5
VIVF Saint-Julien-l 85.08 45 *e*P **P 21 43 26.9 -3.7**
comp=Z,8.6nm,1.0s,mb4.5
VIVF Saint-Julien-l 85.08 45 *e*P **P 21 43 26.9 -3.7**
comp=Z,4.3nm,1.0s,mb4.5
HAU Haudompre 85.34 42 *e*P **P 21 43 28.1 -3.8**
HAU *e*MLR MLR
comp=Z,91nm,17.8s
HAU Haudompre 85.34 42 *e*P **P 21 43 28.1 -3.8**
HAU LR LR
comp=Z,90nm,17.8s,MS4.2
ORIF Oris-en-Rattie 85.89 45 *e*P **P 21 43 31.3 -3.3**
comp=Z,10nm,1.0s,mb4.7
ORIF *e*MLR MLR
comp=Z,106nm,20.5s
ORIF Oris-en-Rattie 85.89 45 *e*P **P 21 43 31.3 -3.3**
comp=Z,5.1nm,1.0s,mb4.7
ARCES ARCESS Array B 85.97 18 P **P 21 43 33.0 -2.0**
comp=Z,2.1nm,0.8s,mb4.4,baz=289,slow=3.7,SNR=6.3
DBIC Dimbokro 86.23 84 P **P 21 43 34.8 -1.6**
comp=Z,3.6nm,0.8s,mb4.7,baz=217,slow=5.2,SNR=5.0
MBDF Montbardon 86.55 45 *e*P **P 21 43 34.5 -3.4**
comp=Z,9.5nm,0.9s,mb4.7
MBDF Montbardon 86.55 45 *e*P **P 21 43 34.5 -3.4**
comp=Z,4.8nm,0.9s,mb4.7
FRF La Foret Royal 86.80 46 *e*P **P 21 43 36.3 -2.8**
comp=Z,12nm,0.9s,mb4.8
FRF La Foret Royal 86.80 46 *e*P **P 21 43 36.3 -2.8**
comp=Z,5.9nm,0.9s,mb4.8
CN2 Changchun 112.45 331 PDIF Pdif 21 45 36.9 +1.6
HHC Hu-ho-hao-te 120.64 339 *e*PKP PKPdf 21 49 48.0 +1.6
HHC PP PP 21 51 18.3 +4.0
HHC SS SS 22 07 42.9 +2.1
HHC PP PP
comp=Z,186nm,7.5s
HHC LR LR
comp=N,98nm,7.3s
HHC LR LR
comp=E,140nm,5.5s
HHC LR LR
comp=Z,97nm,9.0s
BOSA Boshof 121.08 115 PKP PKPdf 21 49 47.2 0.0
comp=Z,2.9nm,0.8s,baz=267,slow=3.8,SNR=5.4
WMQ Urumqi 122.08 360 *e*PKP PKPdf 21 49 51.0 +1.8
MATP Matopo 123.75 105 PKP PKPdf 21 49 52.6 +0.2
comp=Z,2.1nm,0.7s,baz=256,slow=4.0,SNR=4.7
MAW Mawson 124.47 169 *e*P PP 21 51 48.6 +8.4
comp=Z,1.1nm,0.7s
MAW Mawson 124.47 169 PKP PKPdf 21 49 51.6 -2.2
comp=Z,1.0nm,0.5s,baz=180,slow=1.0,SNR=5.6
LZH Lanzhou 127.44 343 *e*PKP PKPdf 21 50 01.0 +1.5
LZH LR LR
comp=N,124nm,19.4s
LZH LR LR
comp=Z,254nm,20.3s,MS4.9
CD2 Chengdu 132.28 341 *e*PKP PKPdf 21 50 05.4 -3.3
KMI Kunming 137.96 339 PKP PKPdf 21 50 19.3 0.0
CM31 Chiang Mai Arr 145.43 340 *e*PKPdf PKPdf 21 50 32.3 -0.3

IDC ***13*** *21:31:01.1±0.6, 1230S×4361E, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.2/28, mbtmp4.2/21, ML4.1/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/35, Error ellipse: s-maj=20.2km s-min=15.3km az=74.0*
NEIC ***13*** *21:31:02.5±0.3, 1236S×4352E, h10km, mb4.6/8, Error ellipse: s-maj=11.0km s-min=8.2km az=88.0*
ISCJB ***13*** *21:31:05.2±3.8, 1231S±005×4332E±0.10, h39km±33km, mb4.2/31, MS3.6/8, Error ellipse: s-maj=16.3km s-min=9.1km az=6.9*
ISC 13 21:31:03.8±4.6, 1240S±006×4337E±006, h17km±28km, n56, σ1°16/56, mb4.2/31, MS3.6/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**7.16**	**150**	Pn	**Pn**	**21 32 44.9**	**-2.8**
OPO	21nm,0.3s,baz=310,slow=12,SNR=74			Sn	**Sn**	**21 33 59.0**	**-10**
KMBO	**Kilima Mbogo**	**12.73**	**331**	Pn	**Pn**	**21 34 00.7**	**-3.4**
KMBO	16nm,0.3s,baz=237,slow=23,SNR=7.9 0.7nm,0.3s,baz=149,slow=13,SNR=20			Sn	**Sn**	**21 36 25.4**	**0.0**
KMBO	1.0nm,0.3s,baz=50,slow=24,SNR=4.5			LR	LR	21 38 54.4	
LSZ	**Lusaka**	**15.02**	**257**	Pn	**Pn**	**21 34 34.7**	**-0.4**
LSZ	comp=Z,206nm,18.4s,baz=104,slow=37 1.6nm,0.3s,baz=68,slow=13,SNR=13			Sn	**Sn**	**21 37 15.5**	**-5.6**
LSZ	0.6nm,0.3s,baz=23,slow=13,SNR=2.8			LR	LR	21 40 12.4	
MATP	**Matopo**	**16.34**	**239**	Pn	**Pn**	**21 34 55.5**	**+3.2**
MATP	comp=Z,260nm,19.8s,baz=150,slow=36 0.6nm,0.3s,baz=50,slow=12,SNR=14			Sn	**Sn**	**21 37 51.1**	**-2.1**
MATP	0.2nm,0.3s,baz=156,slow=22,SNR=3.9			LR	LR	21 41 04.7	
LBTB	**Lobatse**	**20.96**	**231**	P	**P**	**21 35 47.6**	**+1.6**
LBTB	comp=Z,209nm,19.7s,baz=204,slow=36 12nm,0.8s,baz=67,slow=8.2,SNR=16			LR	LR	21 44 31.8	
BOSA	**Boshof**	**23.36**	**224**	P	**P**	**21 36 10.8**	**-0.7**
BOSA	comp=Z,168nm,18.7s,MS3.5,baz=76,slow=38 15nm,1.0s,mb4.4,baz=54,slow=9.9,SNR=15			LR	LR	21 45 02.1	
ATD	**Arta Tunnel**	**23.78**	**359**	LR	LR	21 45 01.9	
TSUM	**Tsumeb**	**25.70**	**251**	P	**P**	**21 36 35.1**	**+2.1**
TSUM	comp=Z,51nm,21.9s,MS3.0,baz=222,slow=36 3.6nm,0.9s,mb3.9,baz=3.5,slow=7.1,SNR=3.5			LR	LR	21 46 26.9	
SUR	**Sutherland**	**28.70**	**223**	LR	LR	21 49 08.2	
TORD	**Torodi Ar. Bea**	**48.50**	**300**	P	**P**	**21 39 47.8**	**+2.2**
TORD	comp=Z,112nm,18.1s,MS3.5,baz=61,slow=38 3.8nm,0.8s,mb4.5,baz=119,slow=7.9,SNR=24			PP	PP	21 41 44.0	+5.6
TORD	1.0nm,1.0s,baz=130,slow=7.8,SNR=3.6			LR	LR	22 00 13.7	
DBIC	**Dimbokro**	**51.54**	**289**	P	**P**	**21 40 10.8**	**+2.1**
GNI	**Garni**	**52.29**	**1**	P	**P**	**21 40 19.2**	**+4.9**
BRTR	**Keskin Array B**	**52.64**	**351**	P	**P**	**21 40 17.6**	**+0.8**
MAW	**Mawson**	**56.64**	**171**	P	**P**	**21 40 47.2**	**+1.3**
MLR	**Muntele Rosu**	**59.73**	**346**	P	**P**	**21 41 08.4**	**+0.9**
AAK	**Ala-Archa**	**61.75**	**26**	*e*P	**P**	**21 41 22.9**	**+1.5**
PGF	**Pioggiola**	**63.11**	**332**	*e*P	**P**	**21 41 31.3**	**+0.9**
PGF	**Pioggiola**	**63.11**	**332**	*e*P	**P**	**21 41 31.3**	**+0.9**
AKTK	**Aktyubinsk**	**63.86**	**10**	P	**P**	**21 41 34.5**	**-0.9**
AKTO	**Aktyubinsk**	**63.86**	**10**	P	**P**	**21 41 34.5**	**-0.9**
AKASG	**Malin Array Be**	**64.03**	**350**	P	**P**	**21 41 35.5**	**-1.0**
LMR	**La Mourre**	**64.88**	**331**	*e*P	**P**	**21 41 41.9**	**-0.1**
VRAC	**Vranov**	**65.82**	**341**	P	**P**	**21 41 47.5**	**-0.7**
MBDF	**Montbardon**	**65.82**	**332**	*e*P	**P**	**21 41 47.4**	**-0.8**
MBDF	**Montbardon**	**65.82**	**332**	*e*P	**P**	**21 41 47.4**	**-0.8**
GERES	**GERESS Array B**	**66.38**	**339**	P	**P**	**21 41 51.6**	**-0.1**
LPG	**La Plagne**	**66.43**	**333**	*e*P	**P**	**21 41 51.4**	**-0.6**
LPG	**La Plagne**	**66.43**	**333**	*e*P	**P**	**21 41 51.4**	**-0.6**
LPL	**La Plagne**	**66.45**	**333**	*e*P	**P**	**21 41 51.6**	**-0.6**
LPL	**La Plagne**	**66.45**	**333**	*e*P	**P**	**21 41 51.6**	**-0.6**
LASF	**Ste Croix**	**66.71**	**330**	*e*P	**P**	**21 41 53.6**	**-0.2**
VIVF	**Saint-Julien-l**	**66.90**	**331**	*e*P	**P**	**21 41 54.5**	**-0.5**
MTLF	**Montolieu**	**66.99**	**329**	*e*P	**P**	**21 41 56.5**	**+0.9**
MTLF	**Montolieu**	**66.99**	**329**	*e*P	**P**	**21 41 56.5**	**+0.9**
CABF	**La Chapelle**	**67.58**	**333**	*e*P	**P**	**21 41 58.4**	**-1.0**
CABF	**La Chapelle**	**67.58**	**333**	*e*P	**P**	**21 41 58.4**	**-1.0**
ESDC	**Sonseca Array**	**67.95**	**322**	P	**P**	**21 42 02.9**	**+1.2**
HINF	**Hinteralfeld**	**68.18**	**334**	*e*P	**P**	**21 42 02.6**	**-0.5**
MKAR	**Makanchi Array**	**68.45**	**28**	P	**P**	**21 42 03.9**	**-0.9**
MKAR	**Makanchi Array**	**68.45**	**28**	P	**P**	**21 42 03.9**	**-0.9**
CDF	**Champ du Feu**	**68.47**	**335**	*e*P	**P**	**21 42 03.9**	**-1.1**
CDF	**Champ du Feu**	**68.47**	**335**	*e*P	**P**	**21 42 03.9**	**-1.1**
HAU	**Haudompre**	**68.54**	**334**	*e*P	**P**	**21 42 04.6**	**-0.8**
LOR	**Lormes**	**69.08**	**332**	*e*P	**P**	**21 42 08.6**	**-0.1**
TCF	**Toulx Ste Croi**	**69.12**	**331**	*e*P	**P**	**21 42 09.7**	**+0.7**
BVAR	**Borovoye Array**	**69.16**	**17**	P	**P**	**21 42 12.6**	**+3.3**
FINES	**FINESS Array B**	**74.86**	**351**	P	**P**	**21 42 41.6**	**-1.8**
ZAL	**Zalesovo**	**74.86**	**24**	P	**P**	**21 42 45.1**	**+1.7**
HFS	**Hagfors**	**76.10**	**345**	P	**P**	**21 42 50.2**	**-0.3**
NOA	**NORSAR Array B**	**77.51**	**345**	P	**P**	**21 42 58.4**	**-0.1**
VNDA	**Vanda**	**83.87**	**169**	P	**P**	**21 43 33.5**	**+1.0**
ASAR	**Alice Springs**	**85.60**	**113**	P	**P**	**21 43 41.5**	**+0.3**
AS31	**Alice Springs**	**85.60**	**113**	*e*P	**P**	**21 43 41.4**	**+0.1**
WRA	**Warramunga Arr**	**86.75**	**110**	P	**P**	**21 43 46.2**	**-0.7**
BDFB	**Brasilia**	**88.03**	**255**	LR	LR	22 20 00.1	
CPUP	**Villa Florida**	**93.94**	**242**	LR	LR	22 24 51.9	

comp=Z,105nm,18.3s,MS4.3,baz=290,slow=33
comp=Z,70nm,18.3s,MS4.2,baz=240,slow=34

*SKO **13** 21:32:27.8, 3838N×2139E, h0km*
*ATH **13** 21:32:28.6, 3856N±2135E, h6km±2km, MD3.6/16, ML3.4*
*THE **13** 21:32:28.9, 3835N×2130E, h1km, ML3.5*
*NEIC **13** 21:32:28.6, 3855N±2135E, h6km, ML3.4(ATH), After ATH.*
*ISCJB **13** 21:32:29.2±0.3, 3852N±002×2136E±002, h10km, mb3.6/8, Error ellipse: s-maj=2.8km s-min=2.6km az=127.9*
*CSEM **13** 21:32:29.5±0.1, 3855N×2130E, h2km, ML3.4, Error ellipse: s-maj=1.9km s-min=1.7km az=161.0*
*IDC **13** 21:32:33.5±3.7, 3864N×2126E, h42km±38km, mb3.4/8, mb1 3.5/10, mb1mx3.4/23, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=25.0km s-min=24.1km az=171.0*
ISC 13 21:32:30.1±0.3,**3851N**±002×**2138E**±003,**h10**km,**n84,**
σ**1**§**44**/110,**mb3.6/8,4C-1D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.46**	**171**	*e*PB	**Pg**	**21 32 38.4**	**-0.6**
RLS				*e*SB	**Sg**	**21 32 45.8**	**+0.7**
EVR	**Evrytania**	**0.53**	**40**	*e*PB		21 32 37.8	
EVR				*e*SB	**Sg**	**21 32 45.9**	**-1.4**
EVR	**Evrytania**	**0.53**	**40**	*e*Pb		21 32 37.9	
EVR				*e*Sb	**Sg**	**21 32 46.1**	**-1.2**
LKD	**Levkas**	**0.60**	**289**	*e*Pg	**Pg**	**21 32 39.5**	**-2.3**
LKD				*e*Sg	**Sg**	**21 32 50.5**	**+0.9**
VLS	**Valsamata**	**0.70**	**242**	*e*PG	**Pg**	**21 32 41.8**	**-1.9**
VLS				*e*SB	**Sb**	**21 32 52.6**	**-1.5**
VLS	**Valsamata**	**0.70**	**242**	*e*Pg	**Pg**	**21 32 41.8**	**-1.9**
VLS				*e*Sb	**Sb**	**21 32 52.8**	**-1.3**
THL	**Klokotos Trika**	**1.17**	**25**	*e*PN	**Pn**	**21 32 49.8**	**-2.6**
THL				*e*SB	**Sb**	**21 33 06.0**	**-1.5**
THL	**Klokotos Trika**	**1.17**	**25**	*e*Pg	**Pn**	**21 32 49.8**	**-2.6**
THL				*e*Sb	**Sb**	**21 33 06.1**	**-1.4**
JAN	**Janina**	**1.22**	**341**	*e*PB	**Pb**	**21 32 50.6**	**-2.6**
JAN				*e*SB	**Sb**	**21 33 06.1**	**-2.8**
JAN	**Janina**	**1.22**	**341**	*e*Pb	**Pb**	**21 32 50.9**	**-2.3**
JAN				*e*Sb	**Sb**	**21 33 06.1**	**-2.8**
LKR	**Lokris**	**1.28**	**83**	*e*PB	**Pb**	**21 32 53.2**	**-1.1**
IGT	**Igoumenitsa**	**1.31**	**322**	*e*Pg	**Pg**	**21 32 53.5**	**-1.6**
IGT				*e*Sg	**Sg**	**21 33 12.9**	**+0.8**
IGT	**Igoumenitsa**	**1.31**	**322**	*e*Pg	**Pg**	**21 32 53.5**	**-1.7**
IGT				*e*Sg	**Sg**	**21 33 12.9**	**+0.8**
ITM	**Ithomi**	**1.40**	**162**	*e*PB	**Pb**	**21 32 55.8**	**-0.5**
ITM				*e*SB	**Sb**	**21 33 15.6**	**+1.4**
MGER	**Gerania Oros**	**1.57**	**109**	*e*PG	**Pg**	**21 32 58.5**	**-1.8**
XOR	**Xorichti**	**1.65**	**58**	*e*Pb	**Pb**	**21 32 59.4**	**-1.2**
KEK	**Kerkira**	**1.72**	**315**	*e*PG	**Pg**	**21 32 59.7**	**-3.4**
KEK				*e*SB	**Sb**	**21 33 23.0**	**-0.4**
SRN	**Sarande**	**1.74**	**322**	*i* Pn	**Pg**	**21 33 04.0**	**+0.6**
SRN				*i* Sn	**Sg**	**21 33 27.6**	**+1.7**
SRN	**Sarande**	**1.74**	**322**	*e*Pn	**Pg**	**21 33 04.0**	**+0.6**
SRN				*i* Sn	**Sg**	**21 33 27.6**	**+1.7**
LIT	**Litokhoron**	**1.81**	**28**	*e*Pn	**Pn**	**21 33 00.9**	**-0.4**
LIT				*e*Sn	**Sn**	**21 33 26.2**	**+1.9**
KZN	**Kozani**	**1.82**	**10**	*e*PG	**Pg**	**21 33 01.7**	**-3.3**
KZN				*e*SN	**Sg**	**21 33 26.7**	**-1.9**
KZN	**Kozani**	**1.82**	**10**	*e*Pg	**Pg**	**21 33 01.7**	**-3.3**
KZN				*e*Sn	**Sg**	**21 33 26.9**	**-1.7**
NAIG	**Nisos Aigina**	**1.83**	**114**	*e*PN	**Pn**	**21 33 03.0**	**+1.5**
ATH	**Athens Observa**	**1.92**	**106**	*e*PG	**Pg**	**21 33 05.0**	**-1.9**
PTL	**Penteli**	**2.01**	**102**	*e*PN	**Pn**	**21 33 05.0**	**+0.9**
AOS	**Alonnisos**	**2.06**	**71**	*e*Pn	**Pn**	**21 33 04.6**	**-0.2**
KBN	**Korca**	**2.16**	**348**	*i* Pn	**Pg**	**21 33 09.6**	**-1.9**
KBN				*i* Sn	**Sg**	**21 33 39.0**	**-0.5**
KBN	**Korca**	**2.16**	**348**	*e*Pn	**Pg**	**21 33 09.6**	**-1.9**
VLI	**Veliai**	**2.18**	**145**	*e*PN	**Pn**	**21 33 08.5**	**+2.2**
FNA	**Florina**	**2.27**	**360**	*e*Pn	**Pn**	**21 33 08.6**	**+0.9**
THE	**Thessaloniki**	**2.45**	**30**	*e*Pn	**Pn**	**21 33 09.8**	**-0.3**
PLG	**Polygyros**	**2.46**	**40**	*e*Pn	**Pn**	**21 33 09.3**	**-0.9**
PLG				*e*Sn	**Sn**	**21 33 41.5**	**+1.2**
PLG	**Polygyros**	**2.46**	**40**	*e*PN	**Pn**	**21 33 10.5**	**+0.3**
HORT	**Hortiatis**	**2.47**	**32**	*e*Pn	**Pn**	**21 33 10.2**	**-0.3**
GRG	**Griva**	**2.57**	**18**	*e*Pn	**Pn**	**21 33 12.8**	**+1.0**
OHR	**Ohrid**	**2.64**	**350**	*e*Pn	**Pn**	**21 33 13.3**	**+0.6**
OHR	**Ohrid**	**2.64**	**350**	*e*Pn	**Pn**	**21 33 13.5**	**+0.8**
OHR				*e*Sg	**Sg**	**21 33 55.5**	**+0.7**
OHR	**Ohrid**	**2.64**	**350**	*e*Pn	**Pn**	**21 33 13.4**	**+0.7**
OHR				*e*Sg	**Sg**	**21 33 55.5**	**+0.7**
OUR	**Ouranopolis**	**2.72**	**47**	*e*Pn	**Pn**	**21 33 13.6**	**-0.2**
SOH	**Sokhos**	**2.77**	**33**	*e*Pn	**Pn**	**21 33 15.5**	**+1.1**
SOH				*e*Sn	**Sn**	**21 33 49.3**	**+1.3**
KNT	**Kendrikon**	**2.90**	**23**	*e*Pn	**Pn**	**21 33 16.4**	**+0.1**
VAY	**Valandovo**	**2.95**	**18**	*e*Pn	**Pn**	**21 33 17.7**	**+0.6**
VAY				*e*Sn	**Sn**	**21 33 53.7**	**+1.2**
VAY	**Valandovo**	**2.95**	**18**	*e*Pn	**Pn**	**21 33 17.3**	**+0.2**
TIR	**Tirane**	**3.06**	**338**	*e*Pn	**Pn**	**21 33 19.1**	**+0.5**
SRS	**Serrai**	**3.11**	**33**	*e*Pn	**Pn**	**21 33 19.6**	**+0.4**
STIP	**Stip**	**3.24**	**11**	*e*Pn	**Pn**	**21 33 21.7**	**+0.7**
STIP	**Stip**	**3.24**	**11**	*e*Pn	**Pn**	**21 33 21.6**	**+0.6**
PHP	**Peshkopia**	**3.25**	**348**	*i* Pn	**Pn**	**21 33 23.0**	**+1.9**
PHP				*i* Sn	**Sn**	**21 34 05.5**	**+5.6**
PHP	**Peshkopia**	**3.25**	**348**	*e*Pn	**Pn**	**21 33 23.0**	**+1.9**
NVR	**Nevrokopi**	**3.42**	**33**	*e*PN	**Pn**	**21 33 24.6**	**+1.1**
MMB	**Musomiste**	**3.57**	**30**	*e*Pn	**Pn**	**21 33 25.9**	**+0.4**
TIP	**Timpagrande**	**3.67**	**282**	Pn	**Pn**	**21 33 26.5**	**-0.4**
BCI	**Bajram Curri**	**3.98**	**346**	*i* Pn	**Pn**	**21 33 31.9**	**+0.7**
BCI				*i* Sn	**Sn**	**21 34 20.5**	**+2.6**
BCI	**Bajram Curri**	**3.98**	**346**	*e*Pn	**Pn**	**21 33 31.9**	**+0.7**
BCI				*i* Sn	**Sn**	**21 34 20.5**	**+2.6**
VTS	**Vitosha**	**4.31**	**18**	*e*Pn	**Pn**	**21 33 36.9**	**+1.2**
CEL	**Celeste**	**4.32**	**268**	P	**Pn**	**21 33 37.9**	**+2.1**
ALN	**Alexandroupoli**	**4.32**	**55**	*e*Pn	**Pn**	**21 33 36.5**	**+0.7**
CUC	**Castrocucco**	**4.56**	**291**	P	**Pn**	**21 33 42.6**	**+3.4**
SLCN	**Sala Consilina**	**4.83**	**295**	Pn	**Pn**	**21 33 43.5**	**+0.7**
SLNA	**Salina**	**5.13**	**273**	Pn	**Pn**	**21 33 47.2**	**+0.2**
	28nm,0.4s						
FG5	**Orsara di Pugl**	**5.45**	**302**	Pn	**Pn**	**21 33 51.5**	**+0.1**
	9.3nm,0.3s						
SGG	**Gregorio Mates**	**6.10**	**300**	Pn	**Pn**	**21 34 01.5**	**+1.3**
	17nm,0.5s						
MIDA	**Miranda**	**6.29**	**302**	Pn	**Pn**	**21 34 05.3**	**+2.3**
	126nm,2.7s						
VVLD	**Villa Vallelon**	**6.82**	**302**	Pn	**Pn**	**21 34 12.0**	**+1.8**
BZS	**Buzias**	**7.10**	**1**	⇑*i*P	**Pn**	**21 34 24.0**	**+10**
VOIR		**7.44**	**20**	⇑*i*P	**Pn**	**21 34 20.4**	**+1.7**
MLR	**Muntele Rosu**	**7.76**	**25**	P	**Pn**	**21 34 26.6**	**+3.6**
	0.4nm,0.3s,baz=200,slow=15,SNR=4.4						
MLR	**Muntele Rosu**	**7.76**	**25**	⇑*i*P	**Pn**	**21 34 28.7**	**+5.6**
FSSB	**Fossombrone**	**8.30**	**311**	Pn	**Pn**	**21 34 24.7**	**-5.8**
PLOR	**Plostina**	**8.31**	**26**	⇑*i*P	**Pn**	**21 34 34.4**	**+3.7**
VRI	**Vrincioaia**	**8.35**	**27**	⇑*i*P	**Pn**	**21 34 33.9**	**+2.7**
BRTR	**Keskin Array B**	**9.61**	**79**	P	**Pn**	**21 34 50.7**	**+2.3**
	0.1nm,0.3s,baz=262,slow=12,SNR=5.5						
GERES	**GERESS Array B**	**11.72**	**334**	P	**Pn**	**21 35 15.7**	**-1.7**
	0.1nm,0.3s,baz=156,slow=13,SNR=4.4						
HFS	**Hagfors**	**22.19**	**350**	P	**P**	**21 37 23.8**	**-2.6**
	1.1nm,0.6s,mb3.5,baz=169,slow=8.9,SNR=6.6						
FINES	**FINESS Array B**	**23.14**	**6**	P	**P**	**21 37 34.2**	**-2.3**
	3.6nm,1.0s,mb3.8,baz=175,slow=9.6,SNR=4.7						
NOA	**NORSAR Array B**	**23.43**	**348**	P	**P**	**21 37 36.3**	**-3.2**
	1.1nm,1.0s,mb3.2,baz=164,slow=9.8,SNR=3.2						
EKA	**Eskdalemuir Ar**	**23.55**	**324**	P	**P**	**21 37 38.8**	**-2.0**
	3.5nm,1.1s,mb3.7,baz=138,slow=8.9,SNR=4.2						
KAF	**Kangasniemi**	**23.83**	**6**	*ep*	**P**	**21 37 40.8**	**-2.5**
JOF	**Joensuu**	**25.18**	**11**	*ep*	**P**	**21 37 51.8**	**-3.8**
TORD	**Torodi Ar. Bea**	**30.71**	**220**	P	**P**	**21 38 44.8**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=30,slow=8.3,SNR=4.2						
ARCES	**ARCESS Array B**	**31.17**	**3**	P	**P**	**21 38 47.9**	**-1.2**
	1.7nm,1.0s,mb3.8,baz=194,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**44.55**	**59**	P	**P**	**21 40 40.7**	**-1.4**
	0.6nm,0.5s,mb3.7,baz=273,slow=7.3,SNR=8.2						
MKAR	**Makanchi Array**	**44.55**	**59**	P	**P**	**21 40 40.7**	**-1.4**
ZAL	**Zalesovo**	**44.96**	**48**	P	**P**	**21 40 43.6**	**-1.7**
	1.0nm,0.4s,mb4.0,baz=205,slow=4.1,SNR=4.5						

*BJI **13** 21:37:53.2, 3480N×14056E, h20km, mB5.0, mb4.8, Ms4.4, Msz4.1*
*MOS **13** 21:37:57.6±0.8, 3478N×140.17E, h33km, mb5.2/84, MS4.1/14, Error ellipse: s-maj=8.4km s-min=4.6km az=109.2*
*NIED **13** 21:38:00, 3490N×14030E, h53km, Mw4.9 Best double couple: M0:2.62000×10¹⁶ NP1:φs233.00000°, δ63.00000°, λ-136.00000°. NP2:φs119.00000°, δ52.00000°, λ-35.00000°.*
*ISCJB **13** 21:38:01.9±0.2, 3485N±002×14023E±002, h66km±1km, mb4.9/170, Error ellipse: s-maj=3.5km s-min=2.6km az=160.8*
*JMA **13** 21:38:01.6±0.2, 3489N×14030E, h64km±2km, M5.1 Broadband fault plane solution: P waves. NP1: φs134.00000°, δ31.00000°, λ14.00000°. NP2:φs31.00000°, δ83.00000°, λ120.00000°. Principal axes: T Plg44.0000°, Azm331.0000°; N Plg30.0000°, Azm207.0000°; P Plg31.0000°, Azm97.0000°;*
JMA Felt IV J1.
*SZGRF **13** 21:38:01.4, 3585N×14173E, h33km, mb5.0, Near east coast of eastern Honshu, Japan*
*GCMT **13** 21:38:02.6±0.4, 3491N×14042E, h75km±3km, MW4.9/56, Moment Tensor Solution. s20,c28; s56,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.42±.15; Mθθ2.53±.12; Mφφ-2.11±.12; Mrθ0.17±.09; Mθφ0.55±.13; Mφr2.01±.07; Best double couple: M0:3.06800×10¹⁶ NP1:φs122.00000°, δ59.00000°, λ-18.00000°. NP2: φs222.00000°, δ75.00000°, λ-148.00000°. Principal axes: T 2.6670, Plg10.0000°, Azm349.0000°; N 0.7980, Plg55.0000°, Azm245.0000°; P -3.4700, Plg33.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **13** 21:38:02.5±0.9, 3482N×14029E, h63km±8km, mb4.5/30, mb1 4.7/32, mb1mx4.6/34, mbtmp4.8/32, MS4.0/21, Ms1 4.0/21, ms1mx3.8/36 Error ellipse: s-maj=11.9km s-min=5.3km az=77.0*
*NEIC **13** 21:38:02.6±0.7, 3481N×140.13E, h64km±6km, mb5.1/107, MW4.9(NIED), Error ellipse: s-maj=3.9km s-min=3.4km az=165.0*
NEIC Felt [IV] at Yokohama and Zushi; [III] at Ome, Tokyo and Yokosuka. Felt at Atsugi, Ayase, Chiba, Cofu, Ebina, Funabashi, Kamakura, Kawasaki, Moriya, Musashino, Narita, Niiza, Ohara, Oyama, Tachikawa, Tsukuba, Utsunomiya, Yamato and Zama. Recorded [4 JMA] in Chiba; [3 JMA] in Kanagawa, Shizuoka and Tokyo; [2 JMA] in Fukushima, Gumma, Ibaraki, Miyagi, Nagano, Saitama, Tochigi and Yamanashi; [1 JMA] in Niigata Prefectures. Also recorded [2 JMA] on Kozu-shima, Mikura-jima, Miyake-jima, Nii-jima and O-shima; [1 JMA] on Hachijo-jima.
ISC 13 21:38:03.0±0.2,**3486N**±002×**14021E**±002,**h62**km±1km,
h25km±4.8km:**pP-P,n724,**σ0**82**/735,**mb5.0**/170,
125C-117D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.16**	**39**	⇓P	**Pn**	**21 38 11.5**	**-1.0**
BSO3	**Boso 3**	**0.25**	**104**	⇓P	**Pn**	**21 38 11.6**	**-1.4**
KTR	**Katsuura**	**0.30**	**16**	⇓P	**Pn**	**21 38 12.0**	**-1.3**
KTR				S	**Sn**	**21 38 19.2**	**-1.6**
TATJ	**Tateyama 2**	**0.32**	**303**	⇓P	**Pn**	**21 38 13.5**	**0.0**
BSO2	**Boso 2**	**0.46**	**104**	*e*S	**Sn**	**21 38 22.1**	**-1.1**
JIM2	**Oshima 3**	**0.66**	**258**	⇓P	**Pn**	**21 38 16.5**	**-0.4**
JIM2				S	**Sn**	**21 38 26.9**	**-0.2**
BSO1	**Boso 1**	**0.66**	**108**	P	**Pn**	**21 38 14.8**	**-2.1**
NJJJ	**Nii jima 2**	**0.89**	**239**	⇓P	**Pn**	**21 38 20.0**	**+0.2**
NJJJ				S	**Sn**	**21 38 33.3**	**+1.1**
TOK	**Tokyo**	**0.90**	**336**	⇓P	**Pn**	**21 38 19.4**	**-0.5**
TOK				S	**Sn**	**21 38 31.2**	**-1.2**
KTJJ	**Kamata 2**	**0.95**	**274**	⇓P	**Pn**	**21 38 19.9**	**-0.6**
JOD2	**Odawara 2**	**1.01**	**294**	⇓P	**Pn**	**21 38 20.6**	**-0.6**
JOD2				S	**Sn**	**21 38 34.5**	**-0.2**
JIZS	**Izushimoda**	**1.11**	**263**	⇓P	**Pn**	**21 38 22.4**	**-0.1**
JIZS				S	**Sn**	**21 38 37.5**	**+0.4**
JKO	**Kozu shima**	**1.12**	**233**	⇓P	**Pn**	**21 38 22.9**	**+0.3**
JYN	**Shimob**	**1.51**	**295**	⇓P	**Pn**	**21 38 27.8**	**0.0**
JRY	**Ryogami san**	**1.57**	**317**	⇓P	**Pn**	**21 38 28.2**	**-0.5**
SHZ3	**Shizuoka 3**	**1.66**	**278**	⇓P	**Pn**	**21 38 30.6**	**+0.7**
JAG	**Ashikaga**	**1.68**	**339**	⇓P	**Pn**	**21 38 28.9**	**-1.2**
JSG	**Sagara**	**1.68**	**264**	⇓P	**Pn**	**21 38 31.3**	**+1.1**
JHO	**Hitachi**	**1.77**	**9**	P	**Pn**	**21 38 29.0**	**-2.4**
JHJ	**Hachijo jima 2**	**1.77**	**192**	P	**Pn**	**21 38 31.3**	**-0.1**
	6μm,0.3s,baz=341,slow=1.8,SNR=357						
JHJ				S	**Sn**	**21 38 52.1**	**-0.8**
	3μm,0.3s,baz=90,slow=20,SNR=14						
JHJ2	**Mitsune**	**1.78**	**191**	⇑P	**Pn**	**21 38 31.2**	**-0.3**
JNT	**Takato**	**1.98**	**301**	⇓P	**Pn**	**21 38 34.6**	**+0.5**
TK03	**Tokai 3**	**1.98**	**250**	P	**Pn**	**21 38 35.0**	**+0.7**
TK04	**Tokai 4**	**1.99**	**257**	⇓P	**Pn**	**21 38 35.0**	**+0.7**
JNY	**Yasuok**	**1.99**	**285**	⇓P	**Pn**	**21 38 35.8**	**+1.4**
JYZW	**Yoshizawa**	**2.04**	**274**	P	**Pn**	**21 38 35.9**	**+0.8**
HMMJ	**Hamamatsu 2**	**2.05**	**271**	⇓P	**Pn**	**21 38 35.8**	**+0.6**
JKT	**Katashina**	**2.06**	**338**	⇑P	**Pn**	**21 38 34.0**	**-1.3**
JSB	**Shiboa**	**2.12**	**354**	P	**Pn**	**21 38 34.7**	**-1.4**
JGK	**Kuni**	**2.13**	**323**	P	**Pn**	**21 38 35.9**	**-0.3**
TK02	**Tokai 2**	**2.23**	**246**	⇓P	**Pn**	**21 38 38.2**	**+0.6**
JNG	**Nsakai**	**2.31**	**312**	⇓P	**Pn**	**21 38 39.3**	**+0.6**
MJAR	**Matsushiro Arr**	**2.34**	**316**	P	**Pn**	**21 38 39.1**	**+0.1**
	390nm,0.3s,baz=196,slow=18,SNR=1167						
MJAR				S	**Sn**	**21 39 08.1**	**+1.4**
	896nm,0.3s,baz=195,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**2.34**	**316**	P	**Pn**	**21 38 39.2**	**+0.1**
MJAR				S	**Sn**	**21 39 08.1**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,390nm,0.3s						
MJAR				smax			
	comp=N,897nm,0.3s						
MAJO	**Matsushiro**	**2.34**	**316**	*e*P	**Pn**	**21 38 39.5**	**+0.4**
MAT	**Matsushiro**	**2.34**	**316**	P	**Pn**	**21 38 39.4**	**+0.3**
MAT				S	**Sn**	**21 39 08.8**	**+2.0**
JGF	**Kuroka**	**2.45**	**288**	⇓P	**Pn**	**21 38 42.1**	**+1.5**
JAO	**Obara**	**2.46**	**280**	⇓P	**Pn**	**21 38 42.0**	**+1.3**
JAA	**Atsumi**	**2.54**	**266**	⇓P	**Pn**	**21 38 42.5**	**+0.7**
JHK	**Hiroka**	**2.57**	**338**	⇑P	**Pn**	**21 38 41.3**	**-1.0**
JGN	**Niukaw**	**2.73**	**301**	⇓P	**Pn**	**21 38 45.7**	**+1.3**
JJN	**Nakama**	**2.79**	**324**	P	**Pn**	**21 38 45.3**	**+0.1**
JTT	**Ttatey**	**2.92**	**307**	P	**Pn**	**21 38 48.3**	**+1.3**
JGM	**Miyama**	**2.98**	**287**	⇓P	**Pn**	**21 38 49.3**	**+1.5**
JMM	**Marumori**	**3.03**	**9**	⇑P	**Pn**	**21 38 46.9**	**-1.7**
JKG	**Kaga**	**3.46**	**295**	P	**Pn**	**21 38 56.1**	**+1.6**
JFM	**Mihama**	**3.53**	**282**	⇓P	**Pn**	**21 38 56.5**	**+1.2**
JSD	**Sado**	**3.54**	**334**	P	**Pn**	**21 38 54.5**	**-1.0**
JHE	**Heguri**	**3.73**	**268**	⇓P	**Pn**	**21 38 59.0**	**+0.8**
JWZ	**Kozaga**	**3.96**	**252**	P	**Pn**	**21 39 02.1**	**+0.9**
JHG	**Hegura jima**	**3.99**	**319**	P	**Pn**	**21 39 01.4**	**-0.3**
JYK	**Kaneyama**	**4.05**	**2**	⇑P	**Pn**	**21 39 01.7**	**-0.8**
JAD	**Aida**	**4.97**	**273**	P	**Pn**	**21 39 16.0**	**+0.9**
JJS	**Sakaide**	**5.20**	**266**	P	**Pn**	**21 39 19.1**	**+0.8**
JKD	**Kudamatsu**	**6.94**	**266**	P	**Pn**	**21 39 44.3**	**+2.3**
JUS	**Usuki**	**7.26**	**258**	P	**Pn**	**21 39 48.5**	**+2.1**
ERM	**Erimo**	**7.50**	**17**	Pn	**Pn**	**21 39 45.4**	**-4.4**
	comp=N,2μm,0.5s,SNR=68						
ERM	**Erimo**	**7.50**	**17**	*e*P	**Pn**	**21 39 45.0**	**-4.8**
ERM				pmax	pmax		
	comp=Z,179nm,0.4s						
ERM	**Erimo**	**7.50**	**17**	*e*Pn	**Pn**	**21 39 45.0**	**-4.8**
	comp=Z,179nm,0.4s						
ERM				*e*Sn	**Sn**	**21 40 58.1**	**-15**
CBIJ	**Chichi jima**	**7.92**	**167**	P	**Pn**	**21 39 53.1**	**-2.3**
	comp=Z,464nm,0.3s,baz=5.1,slow=7.1,SNR=58						
CBIJ				S	**Sn**	**21 41 17.6**	**-6.0**
	comp=Z,90nm,0.3s,baz=46,slow=20,SNR=4.3						
JZO	**Okuchi**	**8.48**	**254**	P	**Pn**	**21 40 05.6**	**+2.6**
ASAJ	**Asahikawa**	**9.42**	**11**	P	**Pn**	**21 40 11.2**	**-4.7**
	comp=Z,24nm,0.3s,baz=224,slow=14,SNR=77						
ASAJ				S	**Sn**	**21 41 52.9**	**-7.5**
	comp=Z,18nm,0.3s,baz=277,slow=33,SNR=4.8						
ASAJ	**Asahikawa**	**9.42**	**11**	P	**Pn**	**21 40 11.3**	**-4.7**
ASAJ				S	**Sn**	**21 41 52.9**	**-7.5**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.3s						
ASAJ				smax			
	comp=N,18nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**10.14**	**24**	*e*P	**Pn**	**21 40 20.3**	**-5.5**
YUK				pmax	pmax		
	comp=Z,460nm,0.5s						
YUK				pmax	pmax		
	comp=N,400nm,0.5s						
YUK				pmax	pmax		
	comp=E,250nm,0.5s						
VLA	**Vladivostok**	**10.48**	**324**	*e*P	**Pn**	**21 40 28.5**	**-1.9**
VLA				pmax	pmax		
	comp=Z,171nm,1.0s						
INCN	**Inchon**	**11.29**	**287**	P	**Pn**	**21 40 44.3**	**+2.9**
JMZ	**Minamidaito 2**	**11.89**	**223**	P	**Pn**	**21 40 52.6**	**+2.9**
YSS	**Yuzh-Sakhalins**	**12.23**	**8**	⇑*e*P	**Pn**	**21 40 50.5**	**-3.8**
YSS				*e*S	**Sn**	**21 43 02.0**	**-6.9**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=N,50nm,0.5s						
YSS				MLR	MLR		
	comp=N,900nm,20.0s						
YSS				MLR	MLR		
	comp=Z,600nm,20.0s						
YSS				MLR	MLR		
	comp=E,500nm,19.0s						
YSS	**Yuzh-Sakhalins**	**12.23**	**8**	*e*Pn	**Pn**	**21 40 49.3**	**-5.0**
	comp=E,90nm,0.6s						
MDJ	**Mudanjiang**	**12.71**	**323**	P	**Pn**	**21 41 00.6**	**-0.2**
MDJ				AP		21 41 06.4	
MDJ				XP		21 41 08.9	
MDJ				S	**Sn**	**21 43 23.8**	**+3.3**
MDJ				SCP	ScP	21 50 05.3	+4.3
MDJ				PCS	PcS	21 50 07.9	+0.3
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,90nm,3.1s						
MDJ				LR	LR		
	comp=N,641nm,18.8s						
MDJ				LR	LR		
	comp=E,614nm,18.8s						
MDJ				LR	LR		
	comp=Z,1μm,15.6s						
MDJ	**Mudanjiang**	**12.71**	**323**	*e*P	**Pn**	**21 40 59.1**	**-1.7**
	comp=Z,157nm,1.1s						
JOW	**Kunigami**	**13.00**	**235**	P	**Pn**	**21 41 10.0**	**+5.2**
	comp=Z,2.2nm,0.3s,baz=18,slow=30,SNR=3.0						
JOW				LR	LR	21 45 43.5	
	comp=Z,245nm,18.9s,baz=80,slow=35						
JKE	**Kume jima 2**	**14.35**	**237**	P	**Pn**	**21 41 26.3**	**+3.5**
CN2	**Changchun**	**14.48**	**312**	*e*P	**Pn**	**21 41 24.9**	**+0.3**
CN2				*e*AP		21 41 30.8	
CN2				PP		21 41 36.8	
CN2				AMB	AMB		
	comp=Z,40nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,16.0s						
CN2				LR	LR		
	comp=E,500nm,16.0s						
KLR	**Kul'dur**	**15.66**	**339**	*e*P	**Pn**	**21 41 34.2**	**-5.5**
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
JIJ	**Ishigaki jima**	**17.43**	**237**	P	**Pn**	**21 42 03.7**	**+1.8**
IRIF	**Iriomote-Funau**	**17.74**	**238**	P	**Pn**	**21 42 06.9**	**+1.3**
NJ2	**Nanjing**	**18.04**	**267**	*e*P	**Pn**	**21 42 09.3**	**0.0**
NJ2				AP	pP	21 42 17.6	-4.6
NJ2				XP	sP	21 42 21.3	-8.8
NJ2				PP		21 42 23.0	
NJ2				S	**S**	**21 45 28.0**	**-4.6**
NJ2				XS	sS	21 45 40.0	-14
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,270nm,4.0s						
NJ2				LR	LR		
	comp=N,720nm,12.2s						
NJ2				LR	LR		
	comp=E,400nm,14.0s						
NJ2				LR	LR		
	comp=Z,5μm,13.5s						
BJI	**Beijing**	**19.75**	**292**	P	**Pn**	**21 42 31.8**	**+2.1**
BJI				S	**S**	**21 46 06.6**	**-0.3**
BJI				AMB	AMB		
	comp=Z,18nm,1.1s						
BJI				LR	LR		
	comp=N,374nm,22.4s						
BJI				LR	LR		
	comp=E,268nm,19.8s						
BJI				LR	LR		
	comp=Z,519nm,34.5s						
BJI	**Beijing**	**19.75**	**292**	P	**Pn**	**21 42 31.8**	**+2.1**
	comp=Z,18nm,1.1s						
BJI				S	**S**	**21 46 06.6**	**-0.3**
BJT	**Baijiatuau**	**19.75**	**292**	*e*P	**Pn**	**21 42 28.4**	**-1.4**
BJT				pmax	pmax		
	comp=Z,85nm,1.3s						
BJT	**Baijiatuau**	**19.75**	**292**	*e*P	**Pn**	**21 42 28.4**	**-1.3**

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YAK                                MLR   MLR
     comp=Z,291nm,16.0s
YAK                                MLR   MLR
     comp=N,179nm,15.0s
YAK                                MLR   MLR
     comp=E,333nm,21.0s
YAK  Yakutsk          28.00 349 eP        P          21 43 46.4 -1.6
     comp=E,66nm,0.6s,mb5.4
SONM Songino Array    28.26 308 P         P          21 43 50.4 +0.1
     comp=E,12nm,0.8s,mb4.5,baz=108,slow=8.0,SNR=51
SONM                               ScP   ScP        21 50 38.1 +0.3
     comp=E,0.4nm,0.4s,baz=46,slow=4.2,SNR=4.2
SONM                               LR    LR         21 55 40.6
     comp=E,462nm,18.1s,baz=93,slow=37
BOD  Bodaibo          28.89 331⇑iP        P          21 43 55.1 -0.8
BOD                                pmax  pmax
     comp=Z,43nm,0.9s,mb5.2
SEY  Seymchan         29.11  11⇑eP        P          21 43 56.4 -1.4
LZH  Lanzhou          29.54 283 eP        P          21 44 01.5 -0.1
LZH                                AP    pP         21 44 08.5 -8.3
LZH                                XP    sP         21 44 12.0 -12
LZH                                PCP   PcP        21 47 06.9 +1.5
LZH                                eS    S          21 48 55.0 +3.0
LZH                                XS    sS         21 49 05.3 -13
LZH                                AMB   AMB
     comp=Z,23nm,1.0s,mb4.9
LZH                                AMB   AMB
     comp=Z,141nm,4.9s
LZH                                LR    LR
     comp=E,2μm,13.8s
LZH                                LR    LR
     comp=Z,2μm,14.7s
LZH  Lanzhou          29.54 283 eP        P          21 44 01.5 -0.1
LZH                                *SP   sP         21 44 12.0 -12
LZH                                      sP         21 45 06.6
LZH                                      sP         21 47 06.9
LZH                                eS    S          21 48 55.0 +3.0
LZH                                SS    SS         21 50 23.0 -36
LZH                                pmax  pmax
     comp=Z,23nm,1.0s,mb4.9
LZH  Lanzhou          29.54 283 eP        P          21 44 01.5 -0.1
     comp=Z,23nm,1.0s,mb4.9
LZH                                pP    pP         21 44 08.5 -8.3
LZH                                sP    sP         21 44 12.0 -12
LZH                                PP    PP         21 45 06.6 -2.6
LZH                                PcP   PcP        21 47 06.9 +1.5
LZH                                eS    S          21 48 55.0 +3.0
LZH                                sS    sS         21 49 05.2 -13
LZH                                SS    SS         21 50 23.0 -36
GYA  Guiyang          29.94 263 P         P          21 44 03.4 -1.8
GYA                                AP    pP         21 44 10.3 -10
GYA                                XP    sP         21 44 13.6 -14
GYA                                S     S          21 48 55.3 -3.0
GYA                                AMB   AMB
     comp=Z,20nm,0.6s,mb5.0
GYA                                AMB   AMB
     comp=Z,250nm,4.5s
GYA                                LR    LR
     comp=N,980nm,12.3s
GYA                                LR    LR
     comp=E,2μm,13.4s
GYA                                LR    LR
     comp=Z,2μm,13.2s
CD2  Chengdu          30.76 273 P         P          21 44 11.5 -0.9
CD2                                AP    pP         21 44 18.8 -8.8
CD2                                XP    sP         21 44 22.1 -13
CD2                                AMB   AMB
     comp=Z,30nm,0.8s,mb5.2
CD2                                AMB   AMB
     comp=Z,120nm,4.8s
CD2                                LR    LR
     comp=N,560nm,12.6s
CD2                                LR    LR
     comp=Z,480nm,11.8s
ZAK  Zakamensk        30.91 312 eP        P          21 44 13.9 +0.1
ZAK                                pmax  pmax
     comp=Z,4.0nm,0.9s,mb4.2
QIZ  Qiongzhong       31.17 248 P         P          21 44 15.1 -0.9
QIZ                                AMB   AMB
     comp=Z,8.0nm,1.5s,mb4.3
QIZ                                LR    LR
     comp=N,173nm,16.9s
QIZ                                LR    LR
     comp=Z,243nm,28.8s
GTA  Gaotai           32.33 290 eP        P          21 44 26.8 +0.6
GTA                                AP    pP         21 44 33.8 -7.7
GTA                                XP    sP         21 44 37.8 -11
GTA                                PP    PP         21 45 34.8 -5.4
GTA                                PCP   PcP        21 47 13.6 +0.8
GTA                                S     S          21 49 40.3 +4.7
GTA                                XS    sS         21 49 52.4 -9.3
GTA                                SCP   ScP        21 50 51.4 +0.3
GTA                                SS    SS         21 51 37.3 -19
GTA                                SCS   ScS        21 54 49.3 -1.0
GTA                                AMB   AMB
     comp=Z,13nm,0.8s,mb4.8
GTA                                AMB   AMB
     comp=Z,82nm,3.8s
GTA                                LR    LR
     comp=N,129nm,16.8s
GTA                                LR    LR
     comp=E,187nm,18.0s
GTA                                LR    LR
     comp=Z,268nm,22.9s
KMI  Kunming          33.71 264 P         P          21 44 37.3 -0.9
KMI                                AP    pP         21 44 43.8 -10
KMI                                XP    sP         21 44 46.6 -14
KMI                                PP    PP         21 45 51.6 -3.9
KMI                                PPP              21 46 08.8
KMI                                PCP   PcP        21 47 18.8 +2.1
KMI                                S     S          21 49 58.6 +1.6
KMI                                XS    sS         21 50 10.3 -13
KMI                                AMB   AMB
     comp=Z,6.0nm,0.8s,mb4.6
KMI                                AMB   AMB
     comp=Z,145nm,5.6s
KMI                                LR    LR
     comp=N,198nm,14.4s
KMI                                LR    LR
     comp=E,260nm,15.4s
KMI                                LR    LR
     comp=Z,209nm,32.4s
KMI  Kunming          33.71 264 P         P          21 44 37.3 -0.9
KMI                                *SP   sP         21 44 46.6 -14
KMI                                      sP         21 45 51.6
KMI                                PPP              21 46 08.8
KMI                                      sP         21 47 18.8
KMI                                S     S          21 49 58.6 +1.6
KMI                                *SS   sS         21 50 10.3 -13
KMI                                SS    SS         21 52 02.6 -22
KMI                                SSS              21 52 29.3
KMI                                                 21 55 00.6
KMI                                pmax  pmax
     comp=Z,6.0nm,0.8s,mb4.6
KMI  Kunming          33.71 264 P         P          21 44 37.3 -0.9
     comp=Z,6.0nm,0.8s,mb4.6
KMI                                pP    pP         21 44 43.8 -10
KMI                                sP    sP         21 44 46.6 -14
KMI                                PP    PP         21 45 51.6 -3.9
KMI                                PPP              21 46 08.8
KMI                                PcP   PcP        21 47 18.8 +2.1
KMI                                S     S          21 49 58.6 +1.6
KMI                                sS    sS         21 50 10.3 -13
KMI                                PcS   PcS        21 51 03.7 +1.1
KMI                                SS    SS         21 52 02.6 -22
KMI                                SSS              21 52 29.3
KMI                                ScS   ScS        21 55 00.6 +3.2
BILL Bilibino         36.38  16 eP        P          21 45 00.8 -0.4
BILL                               e                21 46 22.8
BILL                               e                21 47 24.1
BILL                               eS    S          21 50 38.6 +0.6
BILL                               eSS   SS         21 53 08.6 -10
BILL                               pmax  pmax
     comp=Z,11nm,1.0s,mb4.7
BILL                               MLR   MLR
     comp=Z,100nm,18.0s
KRAR Krasnoyarsk      38.40 318 eP        P          21 45 18.4 +0.2
KRAR                               pmax  pmax
     comp=Z,18nm,1.3s,mb4.6
CM31 Chiang Mai Arr   40.03 257 eP        P          21 45 29.8 -2.1
     comp=Z,5.0nm,0.7s,mb4.3
WMQ  Urumqi           40.99 299 P         P          21 45 40.8 +1.0
WMQ                                AP    pP         21 45 48.0 -7.5
WMQ                                XP    sP         21 45 51.5 -11
WMQ                                PP    PP         21 47 19.0 +3.7
WMQ                                PPP              21 47 46.0
WMQ                                AMB   AMB
     comp=Z,52nm,0.9s,mb5.2
WMQ                                AMB   AMB
     comp=Z,205nm,4.5s
WMQ                                LR    LR
     comp=N,602nm,23.8s
WMQ                                LR    LR
     comp=E,258nm,21.8s
WMQ                                LR    LR
     comp=Z,354nm,20.2s
LSA  Lhasa            41.47 277 P         P          21 45 45.0 +1.3
LSA  Lhasa            41.47 277 eP        P          21 45 44.2 +0.5
LSA                                pmax  pmax
     comp=Z,20nm,1.2s,mb4.6
LSA  Lhasa            41.47 277 eP        P          21 45 44.2 +0.4
     comp=Z,20nm,1.2s,mb4.6
ZAL  Zalesovo         42.70 314 P         P          21 45 54.2 +0.4
     comp=Z,7.9nm,0.6s,mb4.6,baz=16,slow=6.6,SNR=33
ZAL                                ScP   ScP        21 51 29.4 -0.6
     comp=Z,0.7nm,0.7s,baz=17,slow=4.2,SNR=3.3
ZAL                                LR    LR         22 05 15.8
     comp=Z,146nm,18.6s,baz=20,slow=38
ZAL  Zalesovo         42.70 314 P         P          21 45 54.2 +0.4
ZAL                                pmax  pmax
     comp=Z,8.0nm,0.6s
ZAL                                pmax  pmax
     comp=N,1.0nm,0.7s
ZAL                                MLR   MLR
     comp=Z,146nm,18.6s
NVS  Novosibirsk      43.67 315 iP        P          21 46 00.6 -0.9
NVS                                e                21 47 46.4
NVS                                ePPP             21 48 24.0
NVS                                iS    S          21 52 26.6 -0.2
NVS                                pmax  pmax
     comp=Z,25nm,1.3s,mb4.8
NVS                                pmax  pmax
     comp=N,4.0nm,1.0s
NVS                                pmax  pmax
     comp=E,22nm,1.4s
NVS                                pmax  pmax
     comp=N,10.0nm,1.4s
NVS                                pmax  pmax
     comp=E,16nm,1.4s
NVS                                pmax  pmax
     comp=Z,15nm,1.4s,mb4.5
NVS                                smax
     comp=N,17nm,1.8s
NVS                                smax
     comp=E,11nm,2.0s
MKAR Makanchi Array   44.48 304 P         P          21 46 08.1  0.0
     comp=E,22nm,0.8s,mb5.0,baz=87,slow=9.5,SNR=56
MKAR                               ScP   ScP        21 51 36.8 -0.5
     comp=E,1.5nm,0.7s,baz=76,slow=5.1,SNR=4.4
MKAR                               LR    LR         22 05 33.9
     comp=E,139nm,18.9s,baz=85,slow=37
MKAR Makanchi Array   44.48 304 P         P          21 46 08.1  0.0
MKAR                               pmax  pmax
     comp=Z,22nm,0.8s
MKAR                               pmax  pmax
     comp=N,2.0nm,0.7s
MKAR                               MLR   MLR
     comp=Z,139nm,18.9s
MKAR Makanchi Array   44.48 304 P         P          21 46 08.1  0.0
MKAR                               ScP   ScP        21 51 36.8 -0.5
PMG  Port Moresby     44.51 170 LR        LR         22 00 03.4
     comp=Z,68nm,21.8s,baz=174,slow=30
JIRN Jiri             46.27 277 eP        P          21 46 22.1 -0.1
     comp=Z,13nm,0.3s,mb5.3
GUN  Gumba            46.43 277 eP        P          21 46 23.5  0.0
     comp=Z,39nm,0.7s,mb5.5
KURK Kurchatov        46.53 310 P         P          21 46 23.8 -0.5
     comp=Z,337nm,0.7s,SNR=36
PKI  Pulchoki         46.94 277 eP        P          21 46 26.8 -0.7
     comp=Z,24nm,0.7s,mb5.2
KKN  Kakani           46.96 277 eP        P          21 46 27.2 -0.4
     comp=Z,29nm,0.7s,mb5.3
DMN  Daman            47.18 277 eP        P          21 46 28.6 -0.7
     comp=Z,7.6nm,0.4s,mb5.0
GKN  Gorkha           47.41 278 eP        P          21 46 30.6 -0.5
     comp=Z,37nm,0.8s,mb5.4
SVW2 Sparrevohn       47.84  36 eP        P          21 46 34.7 +0.3
HNR  Honiara          47.85 153 LR        LR         22 05 08.6
     comp=Z,219nm,18.3s,baz=358,slow=34
KAKA Kakadu           47.88 190 eP        P          21 46 32.4 -2.4
     comp=Z,28nm,0.7s,mb5.4
KOLN Kołdanda         48.34 278 eP        P          21 46 38.0 -0.3
     comp=Z,21nm,0.6s,mb5.3
IMA2 Indian Mountai   49.05  30 eP        P          21 46 43.8 +0.1
KDAK Kodiak Island    49.37  41 P         P          21 46 44.7 -1.5
     comp=Z,42nm,0.9s,mb5.5,baz=19,slow=1.6,SNR=12
KDAK Kodiak Island    49.37  41 P         P          21 46 44.7 -1.5
TKM2 Tokmak 2         49.83 300 P         P          21 46 50.5 +0.8
     SNR=16
PSI  Prapat           49.85 240 P         P          21 46 47.9 -2.0
     comp=Z,2.8nm,0.6s,mb4.5,baz=70,slow=5.6,SNR=4.6
PSI  Prapat           49.85 240 P         P          21 46 47.9 -1.9
PSI                                pmax  pmax
     comp=Z,3.0nm,0.6s,mb4.5
KBK  Karagaybulak     50.36 300 P         P          21 46 53.8 +0.1
     SNR=21
CHMS Chumysh          50.42 300 P         P          21 46 55.6 +1.5
     SNR=5.9
KSH  Kashi            50.43 295 eP        P          21 46 55.6 +1.4
KSH                                eAP   pP         21 47 03.4 -6.9
KSH                                eXP   sP         21 47 07.4 -10
KSH                                ePCP  PcP        21 48 13.8 +2.1
KSH                                ePP   PP         21 48 52.3 +2.1
KSH                                ePPP             21 49 50.4
KSH                                eSCP  ScP        21 52 07.3 +5.0
KSH                                eS    S          21 54 04.4 +1.3
KSH                                ePS              21 54 15.3
KSH                                eXS   sS         21 54 23.3 -7.0
KSH                                eSCS  ScS        21 56 42.3 +2.8
KSH                                eSS   SS         21 57 37.1 -0.4
KSH                                LR    LR
     comp=N,255nm,4.8s
KSH                                LR    LR
     comp=E,329nm,5.9s
USP  Ospenovka        50.53 300 P         P          21 46 55.0 +0.1
     SNR=16
AAK  Ala-Archa        50.69 300 P         P          21 46 56.6 +0.5
     SNR=10
AAK  Ala-Archa        50.69 300 P         P          21 46 55.1 -1.1
     comp=E,60nm,0.8s,mb5.6,SNR=8.4
AAK  Ala-Archa        50.69 300 eP        P          21 46 55.4 -0.8
AAK                                pmax  pmax
     comp=Z,8.0nm,0.8s,mb4.7
AAK  Ala-Archa        50.69 300 eP        P          21 46 55.2 -0.9
     comp=Z,13nm,0.9s,mb4.8
UCH  Uchtor           50.78 299 P         P          21 46 58.4 +1.5
     SNR=8.4
PMR  Palmer           50.95  36 eP        P          21 46 54.4 -3.7
PMR                                pmax  pmax
     comp=Z,17nm,0.6s,mb5.2
PMR  Palmer           50.95  36 eP        P          21 46 54.4 -3.7
     comp=Z,17nm,0.6s,mb5.2
PMR                                eP               21 46 55.0
MCK  McKinley         50.98  33 eP        P          21 46 57.5 -0.9
MCK                                pmax  pmax
     comp=Z,17nm,1.0s,mb4.9
MCK  McKinley         50.98  33 eP        P          21 46 57.5 -0.9
     comp=Z,16nm,1.0s,mb4.9
CHKZ Chkalovo         51.10 314 P         P          21 46 58.3 -1.0
CHKZ Chkalovo         51.10 314 eP        P          21 46 58.2 -1.1
     comp=Z,26nm,0.9s,mb5.2
EKS2 Erkin-Say        51.20 300 P         P          21 47 01.5 +1.5
     SNR=6.4
BVA0 Borovoye Array   51.33 313 iP        P          21 47 00.5 -0.5
BVA0                               pmax  pmax
     comp=Z,1.0nm,0.7s
BVAR Borovoye Array   51.33 313 P         P          21 47 00.5 -0.6
     comp=Z,3.5nm,0.4s,mb4.6,baz=80,slow=6.8,SNR=16
BVAR Borovoye Array   51.33 313 P         P          21 47 00.5 -0.5
BVAR                               pmax  pmax
     comp=Z,4.0nm,0.4s
AML  Almayashu        51.39 299 P         P          21 47 03.0 +1.6
     SNR=15
BRVK Borovoye         51.39 313 P         P          21 47 02.3 +0.9
     comp=Z,89nm,0.4s,mb6.0,SNR=7.3
BRVK Borovoye         51.39 313 eP        P          21 47 01.7 +0.3
BRVK                               pmax  pmax
     comp=Z,23nm,0.8s,mb5.2
BRVK Borovoye         51.39 313 eP        P          21 47 01.6 +0.2
     comp=Z,22nm,0.8s,mb5.2
COLA College          51.43  31 eP        P          21 47 02.0 +0.2
COLA                               pmax  pmax
     comp=Z,21nm,0.7s,mb5.2
COLA College          51.43  31 eP        P          21 47 01.9 +0.2
     comp=Z,21nm,0.7s,mb5.2
ZRNK Zerenda          52.17 314 P         P          21 47 06.8 -0.5
ZRNK                               pmax  pmax
     comp=Z,28nm,1.2s,mb5.1
ZRNK Zerenda          52.17 314 eP        P          21 47 06.6 -0.6
     comp=Z,17nm,0.8s,mb5.0
DIV  Divide           52.60  36 eP        P          21 47 10.6 +0.2
     comp=Z,204nm,1.2s,mb5.9
MENT Mentasta         53.38  34 eP        P          21 47 16.3 +0.2
EGAK Eagle            54.30  31 eP        P          21 47 21.8 -1.0
     comp=Z,12nm,0.6s,mb5.0
FITZ Fitzroy Crossi   54.46 197 eP        P          21 47 23.1 -1.0
     comp=Z,16nm,0.5s,mb5.2
WRAB Tennant Creek    54.77 187 P         P          21 47 25.9 -0.4
     comp=Z,353nm,0.6s,SNR=74
WRAB Tennant Creek    54.77 187 eP        P          21 47 24.4 -1.9
WB2  Warramunga Arr   54.78 187 eP        P          21 47 24.6 -1.8
WB2                               eS    S          21 54 59.5 -3.0
WRA  Warramunga Arr   54.78 187 P         P          21 47 25.0 -1.4
     comp=Z,18nm,0.4s,mb5.5,baz=22,slow=7.1,SNR=373
WRA                                S     S          21 55 02.0 -0.5
     comp=Z,2.9nm,1.2s,baz=6.9,slow=13,SNR=5.6
WRA                                LR    LR         22 09 52.5
     comp=Z,111nm,21.7s,baz=290,slow=35
WRA  Warramunga Arr   54.78 187 P         P          21 47 25.0 -1.4
WRA                                S     S          21 55 02.0 -0.5
WRA                                pmax  pmax
     comp=Z,18nm,0.4s
WRA                                smax
     comp=N,3.0nm,1.2s
WRA                                MLR   MLR
     comp=Z,111nm,21.7s
WRA  Warramunga Arr   54.78 187 P         P          21 47 25.0 -1.4
WRA                                S     S          21 55 02.0 -0.5
CTA  Charters Tower   54.95 173 eP        P          21 47 26.9 -0.7
     comp=Z,13nm,0.7s,mb5.1
CTA  Charters Tower   54.95 173 LR        LR         22 08 54.4
     comp=Z,114nm,21.0s,baz=50,slow=34
CTA  Charters Tower   54.95 173 eP        P          21 47 26.9 -0.7
CTA                                pmax  pmax
     comp=Z,13nm,0.7s
CTAO Charters Tower   54.95 173 P         P          21 47 26.5 -1.1
CTAO                               pmax  pmax
     comp=Z,52nm,1.2s,mb5.4
CTAO Charters Tower   54.95 173 P         P          21 47 26.4 -1.1
     comp=Z,52nm,1.2s,mb5.4
DAWY Dawson           55.15  32 eP        P          21 47 28.7 -0.4
SVE  Sverdlovsk       56.15 319 eP        P          21 47 32.0 -4.2
INK  Inuvik           56.76  26 P         P          21 47 40.1 -0.4
     comp=Z,14nm,0.6s,mb5.2,baz=300,slow=6.6,SNR=18
INK  Inuvik           56.76  26 eP        P          21 47 39.8 -0.7
INK                                pmax  pmax
     comp=Z,220nm,0.6s
INK  Inuvik           56.76  26 eP        P          21 47 39.8 -0.7
     comp=Z,220nm,0.6s
ARU  Arti             57.35 319 P         P          21 47 44.3 -0.4
     comp=Z,102nm,0.8s,mb5.9,SNR=6.3
ARU  Arti             57.35 319⇓iP        P          21 47 44.8 +0.1
ARU                                e                21 48 39.2
ARU                                e                21 49 48.5
ARU                                ePPP             21 51 08.8
ARU                                eS    S          21 55 41.6 +5.0
ARU                                eSS   SS         21 59 31.2 +4.4
ARU                                pmax  pmax
     comp=Z,11nm,0.7s,mb5.0
ARU                                MLR   MLR
     comp=Z,200nm,17.0s
ARU                                MLR   MLR
     comp=N,100nm,19.0s
ARU                                MLR   MLR
     comp=E,200nm,16.5s
SKAG Skagway          58.01  37 eP        P          21 47 50.2 +0.9
     comp=E,30nm,1.2s,mb5.2
AS31 Alice Springs    58.51 187 eP        P          21 47 52.0 -0.8
AS31                               eS    S          21 55 49.2 -2.5
ASAR Alice Springs    58.51 187 P         P          21 47 51.6 -1.2
     comp=E,9.9nm,0.7s,mb4.9,baz=4.6,slow=6.6,SNR=66
ASAR                               LR    LR         22 09 47.7
     comp=E,136nm,19.7s,baz=354,slow=33
ASAR                               PKP2bc           22 17 41.4
     comp=E,2.2nm,0.9s,baz=189,slow=3.0,SNR=12
ASAR Alice Springs    58.51 187 P         P          21 47 51.6 -1.2
ASAR                               ⇑e               22 17 41.4
ASPA Alice Springs    58.51 187 eP        P          21 47 52.0 -0.8
ASPA                               eS    S          21 55 49.2 -2.6
AB31 Akbulak array    58.61 311 P         P          21 47 53.0 -0.5
AB31                               pmax  pmax
     comp=Z,3.0nm,0.4s,mb4.7
MBWA Marble Bar       59.01 202 eP        P          21 47 54.9 -1.4
     comp=Z,13nm,0.5s,mb5.2
AKTK Aktyubinsk       59.41 313 P         P          21 48 00.1 +1.0
AKTO Aktyubinsk       59.41 313 P         P          21 48 00.1 +1.0
     comp=Z,5.6nm,0.5s,mb4.8,baz=73,slow=8.3,SNR=24
AKTO Aktyubinsk       59.41 313 P         P          21 48 00.1 +1.0
AKTO                               pmax  pmax
     comp=Z,6.0nm,0.5s,mb4.9
POO  Poona            60.49 273 ex        x          21 48 04.0
ALE  Alert            62.33   3 P         P          21 48 18.9  0.0
     comp=Z,75nm,0.7s,mb5.9,SNR=6.0
KBS  Kingsbay         62.63 350 eP        P          21 48 20.8  0.0
TMCR Tamitsa          64.19 332 P         P          21 48 27.1 -4.0
TMCR                               pmax  pmax
     comp=Z,37nm,1.4s,mb5.2
APA  Apatity          64.27 336⇑eP        P          21 48 36.4 +4.7
APA                               i                 21 49 04.0
APA                                pmax  pmax
     comp=Z,43nm,1.4s,mb5.3
APA                                MLR   MLR
     comp=Z,500nm,18.0s
BBB  Bella Bella      64.31  43 LR        LR         22 13 00.5
     comp=Z,71nm,19.7s,baz=35,slow=33
RES  Resolute Bay     64.94  14 eP        P          21 48 34.1 -2.0
RES                                pmax  pmax
     comp=Z,925nm,0.9s
RES  Resolute Bay     64.94  14 eP        P          21 48 34.0 -2.0
     comp=Z,925nm,0.9s
KEV  Kevo             65.13 339 ep        P          21 48 35.3 -2.0
     comp=Z,1.5nm,0.3s,mb4.5
KEV  Kevo             65.13 339 eP        P          21 48 35.3 -2.0
KEV                                pmax  pmax
     comp=Z,2.0nm,0.3s,mb4.6
ARCES ARCESS Array B  65.69 339 P         P          21 48 40.0 -0.9
     comp=Z,3.7nm,0.7s,mb4.6,baz=55,slow=7.2,SNR=23
ARCES ARCESS Array B  65.69 339 P         P          21 48 40.0 -0.9
ARCES                              pmax  pmax
     comp=Z,4.0nm,0.7s
ARCES ARCESS Array B  65.69 339 P         P          21 48 40.0 -0.9
YKA  Yellowknife Ar   66.17  29 P         P          21 48 42.9 -1.1
     comp=Z,10.0nm,0.8s,mb4.9,baz=299,slow=6.4,SNR=27
YKA  Yellowknife Ar   66.17  29 P         P          21 48 42.9 -1.1
YKA                                pmax  pmax
     comp=Z,10.0nm,0.8s
YKA  Yellowknife Ar   66.17  29 P         P          21 48 42.9 -1.1
FORT Forrest          66.29 191 eP        P          21 48 43.7 -1.0
     comp=Z,91nm,0.6s,mb6.0
STKA Stephens Creek   66.40 179 eP        P          21 48 44.4 -1.0
     comp=Z,17nm,1.2s,mb4.9
STKA Stephens Creek   66.40 179 P         P          21 48 44.5 -0.9
     comp=Z,8.3nm,0.7s,mb4.9,baz=341,slow=6.6,SNR=14
JOF  Joensuu          67.42 332 ep        P          21 48 50.2 -1.7
     comp=Z,6.9nm,0.4s,mb5.0
JOF  Joensuu          67.42 332 eP        P          21 48 50.2 -1.7
JOF                                pmax  pmax
     comp=Z,7.0nm,0.4s,mb5.0
DAG  Danmarks Havn    67.85 355⇑iP        P          21 48 53.7 -0.9
     comp=Z,5.2nm,0.8s,mb4.6
DAG  Danmarks Havn    67.85 355⇑iP        P          21 48 53.7 -0.9
DAG                                pmax  pmax
     comp=Z,5.0nm,0.8s,mb4.6
C03A Quillayute Air   68.23  46 ⇓P        P          21 48 57.5 +0.5
     baz=68
MOS  Moscow           68.41 324 eP        P          21 48 57.5 -0.7
MOS                               e     pP         21 49 14.9 -0.1
PGC  Sidney           68.55  45 eP        P          21 48 58.8 -0.2
     comp=Z,52nm,1.0s,mb5.4
B04A Port Angeles     68.80  46 ⇓P        P          21 49 00.8 +0.2
     baz=69
A04A Legoe Bay, Lum   68.95  45 ⇑P        P          21 49 01.3 -0.2
     baz=69
D03A Wishkah Elem.    69.10  47 ⇓P        P          21 49 02.1 -0.3
     baz=69
A05A Maple Falls      69.17  44 ⇑P        P          21 49 02.6 -0.2
```

baz=69
OBN Obninsk 69.25 323 eP P 21 49 02.6 -0.8
OBN e 21 49 24.4
OBN e 21 51 35.9
OBN pmax pmax
comp=Z,40nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s
C04A Brinnon 69.28 46 ⇑P P 21 49 03.4 -0.1
baz=69
MBW Mount Baker 69.38 44 P P 21 49 04.3 +0.2
KLBR Kellerberrin 69.40 200 eP P 21 49 03.1 -1.2
comp=Z,20nm,0.8s,mb5.1
E03A Lebam 69.50 47 ⇓P P 21 49 05.4 +0.5
baz=69,SNR=5.2
B05A Bryant 69.53 45 ⇑P P 21 49 05.1 +0.1
baz=69,SNR=9.7
JCW Jim Creek 69.66 45 P P 21 49 06.3 +0.4
D04A Dobbs Creek Ra 69.68 46 ⇑P P 21 49 05.1 -0.9
baz=70
B06A Marblemount 69.75 45 ⇓P P 21 49 06.1 -0.4
baz=70
KAF Kangasniemi 69.79 333 *ep* **P 21 49 04.5 -2.2**
comp=Z,7.5nm,0.5s,mb4.9,baz=51,slow=5.8
KAF Kangasniemi 69.79 333 *eP* **P 21 49 04.5 -2.2**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
F03A Seaside 69.80 48 ⇑P P 21 49 06.5 -0.3
baz=70
VRSR Storozhevoye 69.91 319 *eP* **P 21 49 06.8 -0.6**
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=E,10.0nm,0.8s
C05A Tolt Reservoir 70.05 45 ⇓P P 21 49 08.2 0.0
baz=70,SNR=11
D05A Enumclaw 70.12 46 ⇓P P 21 49 09.0 +0.3
baz=70
H02A Toledo 70.15 49 ⇑P P 21 49 08.6 -0.3
baz=70
G03A Yamhill 70.28 48 ⇑P P 21 49 09.6 -0.1
baz=70
FINES FINESS Array B 70.28 332 P P 21 49 08.5 -1.2
comp=E,2.8nm,0.4s,mb4.5,baz=77,slow=6.0,SNR=56
FINES FINESS Array B 70.28 332 P P 21 49 08.5 -1.2
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 70.28 332 P P 21 49 08.5 -1.2
CNB Canberra Magne 70.33 172 *eP* **P 21 49 09.7 -0.3**
comp=Z,22nm,1.3s,mb4.9
WSAR Wadi Sarin 70.49 285 P P 21 49 11.4 +0.4
F04A Amboy 70.49 47 ⇓P P 21 49 11.2 +0.2
baz=70,SNR=5.5
B07A Winthrop 70.57 44 ⇓P P 21 49 11.3 -0.1
baz=70,SNR=15
I02A Mapleton 70.59 50 ⇓P P 21 49 11.3 -0.3
baz=70
COR Corvallis 70.63 49 *eP* **P 21 49 12.9 +1.1**
COR pmax pmax
comp=Z,34nm,1.0s,mb5.2
COR Corvallis 70.63 49 *eP* **P 21 49 12.9 +1.1**
comp=Z,34nm,1.0s,mb5.2
K01A Sixes 70.78 51 ⇑P P 21 49 12.9 +0.2
baz=71
D06A Cle Elum 70.79 46 ⇑P P 21 49 12.8 0.0
baz=71
TWW Teanaway 70.81 46 P P 21 49 13.8 +0.9
G04A Mulino 70.82 48 ⇓P P 21 49 13.2 +0.2
baz=71
I03A Eugene 70.95 49 ⇑P P 21 49 14.1 +0.3
baz=71
TBM Table Mountain 70.95 45 P P 21 49 14.2 +0.4
C07A Waterville 71.00 45 ⇑P P 21 49 13.6 -0.5
baz=71,SNR=13
E06A Yakima 71.05 46 ⇓P P 21 49 14.5 +0.2
baz=71,SNR=12
J02A Umpqua 71.07 50 ⇓P P 21 49 14.5 0.0
baz=71
F05A White Salmon 71.10 47 ⇓P P 21 49 14.9 +0.2
baz=71
EBG Ellensburg 71.10 46 P P 21 49 15.2 +0.5
A09A Danville 71.17 43 P P 21 49 15.3 +0.2
baz=71,SNR=10
H04A Detroit Lake 71.27 48 P P 21 49 15.9 +0.2
baz=71,SNR=16
D07A Quincy 71.30 45 P P 21 49 16.2 +0.3
baz=71,SNR=5.2
VFP Flag Point 71.38 47 P P 21 49 16.9 +0.5
K02A Glendale 71.42 51 ⇓P P 21 49 17.0 +0.4
baz=71,SNR=6.1
ZEI Tsey 71.44 309 *eP* **P 21 49 15.3 -1.4**
ZEI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
J03A Ideyld Park 71.45 50 ⇑P P 21 49 17.2 +0.4
baz=71
M01C Crescent City 71.48 52 ⇓P P 21 49 17.4 +0.4
baz=71
G05A Wamic 71.51 47 ⇓P P 21 49 17.5 +0.3
baz=71
C08A Higginbotham F 71.53 44 P P 21 49 17.1 -0.2
baz=71,SNR=21
KIV Kislovodsk 71.59 311 *eP* **P 21 49 18.1 +0.4**
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,18.0s
EDM Edmonton 71.66 37 *eP* **P 21 49 17.3 -0.7**
L02A Cave Junction 71.66 51 ⇑P P 21 49 18.0 -0.1
baz=72
E07A Sunnyside 71.70 46 ⇓P P 21 49 18.3 0.0
baz=72,SNR=9.0
A10A Northport 71.74 43 ⇑P P 21 49 18.5 0.0
baz=72
VSU Vasula 71.83 330 *eP* **P 21 49 18.1 -1.0**
H05A Madras 71.87 48 ⇑P P 21 49 19.5 +0.1
baz=72
G06A Carlson Farm, 71.93 47 P P 21 49 19.9 +0.3
baz=72,SNR=13
OD2 Odessa Site #2 71.93 45 P P 21 49 19.6 -0.1
HAWA Hanford 71.98 46 *eP* **P 21 49 20.0 0.0**
comp=Z,22nm,1.0s,mb5.0
D08A Wollman Farm, 71.99 45 ⇑P P 21 49 19.6 -0.5
baz=72
F07A Phinny Hill Vi 72.01 46 ⇑P P 21 49 20.3 +0.2
baz=72
JCC Jacoby Creek 72.07 53 ⇑P P 21 49 20.6 +0.1
baz=72
GNI Garni 72.22 307 P P 21 49 22.6 +1.1
comp=Z,9.3nm,1.1s,mb4.7,baz=172,slow=21,SNR=4.9
GNI Garni 72.22 307 *eP* **P 21 49 22.0 +0.6**
GNI pmax pmax
comp=Z,15nm,1.2s
TOO Toolangi 72.23 176 *eP* **P 21 49 21.8 +0.3**
comp=Z,6.4nm,0.9s,mb4.5
TOO Toolangi 72.23 176 *eP* **P 21 49 21.8 +0.3**
TOO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
B10A Chitwood Farm, 72.29 43 ⇓P P 21 49 22.1 +0.2
baz=72
D09A Jones Farm, Ri 72.34 45 ⇓P P 21 49 21.8 -0.3
baz=72
NEW Newport 72.37 43 *eP* **P 21 49 22.1 -0.2**
NEW pmax pmax
comp=Z,38nm,1.1s
NEW Newport 72.37 43 *eP* **P 21 49 22.1 -0.2**
comp=Z,38nm,1.1s,mb5.2
YBH Yreka Blue Hor 72.45 51 LR LR 22 19 51.2
comp=Z,57nm,18.1s,baz=291,slow=35
YBH Yreka Blue Hor 72.45 51 *eP* **P 21 49 21.2 -1.6**
YBH pmax pmax
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 72.45 51 *eP* **P 21 49 21.2 -1.6**
comp=Z,18nm,1.4s,mb4.8
YBH Yreka Blue Hor 72.45 51 ⇑P P 21 49 23.6 +0.8
baz=72,SNR=6.5
BUOR Burton Butte 72.47 50 P P 21 49 23.5 +0.7
G07A Ruggs Ranch, H 72.49 47 P P 21 49 23.2 +0.1
baz=72,SNR=8.3
C10A Spilker Farm, 72.50 44 ⇑P P 21 49 23.2 +0.1
baz=72
M02C Callahan 72.53 52 ⇑P P 21 49 23.8 +0.5
baz=72
N02C Big Bar 72.54 52 ⇓P P 21 49 23.5 +0.2
baz=72
O01C Eel River Cons 72.55 53 ⇑P P 21 49 23.8 +0.4
baz=72
J05A Fort Rock 72.58 49 P P 21 49 24.5 +1.0
baz=72,SNR=16
K04A Chilquin 72.62 50 ⇑P P 21 49 23.8 0.0
baz=72
E09A Wood Farm, Sta 72.73 45 ⇑P P 21 49 24.4 0.0
baz=73,SNR=26
A12A Yaak River Ran 72.82 42 ⇓P P 21 49 25.4 +0.4
baz=73,SNR=9.5
SUMG Summit 72.85 360 *eP* **P 21 49 24.9 -0.2**
comp=Z,27nm,1.1s,mb5.1
I06A Prineville 72.86 48 ⇑P P 21 49 25.7 +0.4
baz=73,SNR=5.2
G08A Pilot Rock 72.90 47 P P 21 49 25.7 +0.3
baz=73,SNR=10.0
H07A Lands Inn, Kim 72.91 47 ⇑P P 21 49 25.3 -0.2
baz=73
M04C Macdoel 72.98 51 ⇓P P 21 49 26.4 +0.5
baz=73,SNR=8.5
K05A Summer Lake 73.08 50 ⇑P P 21 49 27.3 +0.7
baz=73,SNR=23
B12A Libby 73.11 42 ⇓P P 21 49 27.0 +0.2
baz=73
WDC Whiskeytown Da 73.16 52 *eP* **P 21 49 27.5 +0.5**
WDC pmax pmax
comp=Z,16nm,1.3s,mb4.8
WDC Whiskeytown Da 73.16 52 *eP* **P 21 49 27.5 +0.5**
comp=Z,16nm,1.3s,mb4.8
WDC Whiskeytown Da 73.16 52 P P 21 49 27.3 +0.3
baz=73,SNR=5.4
O02C Red Bluff 73.21 53 ⇓P P 21 49 28.0 +0.7
baz=73,SNR=6.9
P01C Double 8 Ranch 73.22 53 ⇑P P 21 49 27.7 +0.3
baz=73
J06A Christmas Vall 73.27 49 P P 21 49 28.1 +0.4
baz=73,SNR=14
F09A S2 Ranch, Elgi 73.30 46 ⇓P P 21 49 27.9 +0.1
baz=73
K06A Valley Falls 73.44 49 P P 21 49 29.3 +0.7
baz=73,SNR=13
L05A Lakeview 73.48 50 P P 21 49 29.7 +0.8
baz=73,SNR=9.8
H08A Prairie City 73.49 47 P P 21 49 29.4 +0.5
baz=73,SNR=7.7
GASB Alder Springs 73.53 53 ⇓P P 21 49 30.1 +1.0
baz=73,SNR=6.3
F10A Beach Ranch, E 73.56 45 ⇓P P 21 49 29.5 +0.2
baz=73
C12A Trout Creek 73.60 43 ⇓P P 21 49 29.6 +0.1
baz=73,SNR=9.4
HOPS Hopland 73.64 54 ⇑P P 21 49 30.1 +0.3
baz=74
WALA Waterton Lakes 73.70 41 *eP* **P 21 49 29.8 -0.4**
comp=Z,41nm,1.1s,mb5.3
J07A Hines 73.72 48 ⇓P P 21 49 31.0 +0.7
baz=74,SNR=13
HATC Hat Creek Radi 73.73 51 ⇑P P 21 49 30.7 +0.3
baz=74
MNK Minsk 73.77 326 *eP* **P 21 49 26.0 -4.6**
B13A Whitefish 73.79 42 ⇓P P 21 49 31.0 +0.3
baz=74,SNR=28
O03C Acorn Hollow, 73.80 52 ⇓P P 21 49 31.3 +0.6
baz=74
I08A Drewsey 73.88 48 ⇑P P 21 49 31.7 +0.4
baz=74
MOD Modoc 73.89 50 *eP* **P 21 49 31.5 +0.3**
comp=Z,6.0nm,1.0s,mb4.5
MOD Modoc 73.89 50 ⇑P P 21 49 31.5 +0.2
baz=74,SNR=9.9
H09A Durkee 74.01 47 ⇑P P 21 49 32.4 +0.4
baz=74
MNRC McLaughlin Nat 74.12 54 ⇑P P 21 49 33.3 +0.7
baz=74
C13A Hot Springs 74.12 43 ⇑P P 21 49 32.9 +0.3
baz=74,SNR=26
K07A Rock Creek Ran 74.13 49 ⇓P P 21 49 32.9 +0.3
baz=74,SNR=23
M06C Likely Place G 74.16 51 ⇓P P 21 49 33.1 +0.3
baz=74
MCCM Marconi Confer 74.22 54 ⇑P P 21 49 33.0 -0.2
baz=74
O04C Chester 74.24 52 ⇓P P 21 49 33.9 +0.6
baz=74,SNR=14
J08A Circle Bar Ran 74.24 48 ⇓P P 21 49 33.9 +0.5
baz=74,SNR=17
ELFS Eagle Lake Fie 74.31 51 ⇑P P 21 49 34.4 +0.7
baz=74
ANN Anapa 74.33 314 *eP* **P 21 49 32.3 -1.5**
ANN *i* *PP pP 21 49 42.7 -8.2
ANN *e* pP 21 49 46.0 -4.9
ANN *e* 21 52 18.0
ANN *e*SS S 21 59 06.1 +2.9
ANN *e*SS SS 22 03 53.7 +3.6
ANN pmax pmax
comp=Z,73nm,1.6s,mb5.4
I09A Lost Marbles R 74.35 47 ⇓P P 21 49 34.2 +0.2
baz=74,SNR=7.7
SUTB Sutter Butte 74.36 53 ⇓P P 21 49 34.2 +0.2
baz=74
FARB Farallon Islan 74.37 55 ⇑P P 21 49 34.0 -0.1
baz=74
ORV Oroville 74.38 53 P P 21 49 33.9 -0.2
baz=74,SNR=6.7
CVS Carmenet Viney 74.39 54 ⇓P P 21 49 34.1 -0.1
baz=74
L07A Adell 74.43 50 ⇑P P 21 49 35.5 +1.0
baz=74,SNR=44
OHCM Honcut 74.51 53 *eP* **P 21 49 34.7 -0.2**
O05C Quincy 74.54 52 ⇓P P 21 49 35.2 +0.2
baz=74
K08A Mann Creek Ran 74.58 49 P P 21 49 35.8 +0.5
baz=74,SNR=12
WVOR Wild Horse Val 74.64 49 *eP* **P 21 49 36.0 +0.3**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb4.9
WVOR Wild Horse Val 74.64 49 *eP* **P 21 49 36.0 +0.3**
comp=Z,13nm,0.9s,mb4.9
J09A Fry Pan Ranch, 74.69 48 ⇓P P 21 49 36.2 +0.3
baz=74,SNR=25
N06A Buffalo Meadow 74.81 51 P P 21 49 37.1 +0.5
baz=75,SNR=17
Q04C Lincoln 74.84 53 ⇓P P 21 49 37.1 +0.3
baz=75
M07A Soldier Meadow 74.88 50 P P 21 49 38.0 +1.0
baz=75,SNR=11
BEKR Beckwourth 74.95 52 ⇑P P 21 49 37.6 +0.2
baz=75,SNR=22
MSO Missoula 74.96 43 *eP* **P 21 49 36.9 -0.6**
comp=Z,14nm,1.0s,mb4.8
L08A Fields 74.96 49 P P 21 49 38.3 +0.8
baz=75,SNR=21
BDM Black Diamond 75.00 54 ⇓P P 21 49 37.9 +0.2
baz=75
JRSC Jasper Ridge 75.04 55 ⇑P P 21 49 38.0 0.0
baz=75
K09A Rome 75.06 48 P P 21 49 38.6 +0.5
baz=75,SNR=9.6
O06A Flanigan 75.13 51 ⇓P P 21 49 38.6 +0.2
baz=75
BNLO Ben Lomond (Sa 75.23 55 ⇑P P 21 49 39.0 0.0
baz=75
WENL Wente Brothers 75.25 54 ⇑P P 21 49 39.5 +0.4
baz=75
CHMT Chamberlain Mo 75.30 43 *eP* **P 21 49 38.0 -1.4**
LAVA Lava Cap Winer 75.31 53 P P 21 49 39.8 +0.3
baz=75,SNR=10.0
M08A Happy Creek Ra 75.35 50 ⇓P P 21 49 40.3 +0.6
baz=75,SNR=10
P06A Stead Airport, 75.35 52 ⇓P P 21 49 40.3 +0.5
baz=75
AKASG Malin Array Be 75.42 322 P P 21 49 39.1 -1.0
comp=Z,4.2nm,0.4s,mb4.7,baz=48,slow=6.1,SNR=37
AKASG LR LR 22 25 55.7
comp=Z,187nm,18.2s,baz=250,slow=38
AKASG Malin Array Be 75.42 322 P P 21 49 39.1 -1.0
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG MLR MLR
comp=Z,187nm,18.3s
AKBB Malin Array Si 75.42 322 *eP* **P 21 49 38.8 -1.3**
R04C Big Horse Ranc 75.45 53 ⇓P P 21 49 40.6 +0.3
baz=75
L09A Wilkinson Ranc 75.47 49 ⇓P P 21 49 40.7 +0.3
baz=75
WCN Washoe City 75.65 52 P P 21 49 42.2 +0.7
baz=76,SNR=6.1
HFS Hagfors 75.66 335 P P 21 49 40.2 -1.3
comp=Z,3.1nm,0.5s,mb4.5,baz=83,slow=3.6,SNR=25
HFS Hagfors 75.66 335 P P 21 49 40.2 -1.3
HFS pmax pmax
comp=Z,3.0nm,0.5s
PAHR Pah Rah Range 75.67 52 *eP* **P 21 49 42.0 +0.5**
comp=Z,31nm,1.1s,mb5.2
O07A Toulon 75.74 51 ⇑P P 21 49 42.3 +0.3
baz=76,SNR=23
R05C Kirkwood Meado 75.77 53 ⇑P P 21 49 42.5 +0.4
baz=76
NB2 NORSAR Subarra 75.81 337 P P 21 49 41.3 -1.0
comp=Z,15nm,1.2s,mb4.8,baz=42,slow=5.9
NB2 NORSAR Subarra 75.81 337 P P 21 49 41.3 -1.0
NB2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
NOA NORSAR Array B 75.81 337 P P 21 49 41.4 -1.0
comp=Z,5.9nm,0.8s,mb4.5,baz=41,slow=5.8,SNR=20
NOA PP PP 21 52 31.4 -1.5
comp=Z,2.2nm,0.8s,baz=46,slow=8.8,SNR=3.8
NOA LR LR 22 26 16.1
comp=Z,132nm,19.7s,baz=50,slow=38
NOA NORSAR Array B 75.81 337 P P 21 49 41.4 -0.9
NOA 21 52 31.4
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,132nm,19.7s
NOA NORSAR Array B 75.81 337 P P 21 49 41.4 -1.0
NOA PP PP 21 52 31.4 -1.5
N08A GE Springer Mi 75.87 50 ⇓P P 21 49 43.3 +0.6
baz=76,SNR=8.5
SAO San Andreas Ge 75.92 55 *eP* **P 21 49 43.0 0.0**
SAO pmax pmax
comp=Z,11nm,0.9s,mb4.8
SAO San Andreas Ge 75.92 55 *eP* **P 21 49 43.0 0.0**
comp=Z,11nm,0.9s,mb4.8
QRN Al-Qurain 75.92 295 *eP* **P 21 49 42.5 -0.4**
QRN AMb AMB 21 49 45.0
comp=Z,27nm,0.7s,mb5.3
CMB Columbia Colle 75.93 53 *eP* **P 21 49 43.3 +0.2**
CMB pmax pmax
comp=Z,44nm,1.1s,mb5.3
CMB Columbia Colle 75.93 53 *eP* **P 21 49 43.3 +0.3**
comp=Z,44nm,1.1s,mb5.3
CMB Columbia Colle 75.93 53 ⇓P P 21 49 43.3 +0.2
baz=76,SNR=24
M09A Marrel Ranch, 75.94 49 ⇓P P 21 49 43.6 +0.5
baz=76
HAST UC Hastings Re 76.05 55 ⇓P P 21 49 44.0 +0.3
baz=76,SNR=17
P07A Fallon 76.08 51 ⇑P P 21 49 44.3 +0.5
baz=76
RDF Al-Radifah 76.10 296 *eP* **P 21 49 43.6 -0.4**
RDF AMb AMB 21 49 44.6
comp=Z,31nm,0.6s,mb5.4
O08A Rochester Mine 76.13 51 ⇑P P 21 49 44.4 +0.2
baz=76
NAY Al-Naaiem 76.15 296 *eP* **P 21 49 43.5 -0.8**
NAY AMb AMB 21 49 46.2
comp=Z,25nm,1.1s,mb5.1
RST Umm Al-Ruwaisa 76.20 296 *eP* **P 21 49 43.6 -1.0**
RST AMb AMB 21 49 46.1
comp=Z,24nm,1.0s,mb5.1
HRY Holter Researc 76.21 42 *eP* **P 21 49 44.7 +0.1**
N09A Rock Creek Ran 76.22 50 ⇓P P 21 49 45.1 +0.4
baz=76
R06C Coleville 76.28 53 ⇓P P 21 49 45.6 +0.6
baz=76,SNR=28
S05C Merced 76.35 54 ⇑P P 21 49 45.4 0.0
baz=76,SNR=5.8
T05C Eagle Field, D 76.37 55 ⇑P P 21 49 45.7 +0.1
baz=76
M10A I.L. Ranch, Tu 76.45 49 ⇑P P 21 49 46.8 +0.8
baz=76,SNR=19
V03C Hunter Liggett 76.47 56 ⇓P P 21 49 46.6 +0.5
baz=76,SNR=7.7
P08A Dixie Valley 76.51 51 ⇑P P 21 49 47.5 +1.2
baz=76
EGMT Eagleton 76.55 40 *eP* **P 21 49 46.7 +0.2**
comp=Z,62nm,1.0s,mb5.5
HLID Hailey 76.57 46 *eP* **P 21 49 46.8 +0.1**
comp=Z,14nm,1.2s,mb4.8
BMN Battle Mountai 76.64 50 *eP* **P 21 49 47.8 +0.7**
BMN pmax pmax
comp=Z,40nm,1.3s,mb5.2
BMN Battle Mountai 76.64 50 *eP* **P 21 49 47.8 +0.7**
comp=Z,40nm,1.3s,mb5.2
MCMT McKenzie Canyo 76.74 44 P P 21 49 46.7 -0.9
R07C Lee Vining 76.78 53 ⇑P P 21 49 48.8 +0.9
baz=77,SNR=19
O09A Fish Creek Ran 76.81 50 ⇓P P 21 49 48.7 +0.7
baz=77,SNR=26
V04C Ramage Ranch, 76.92 56 P P 21 49 49.6 +0.9
baz=77,SNR=11
N10A Dunphy 76.93 49 ⇑P P 21 49 49.3 +0.6
baz=77
M11A Holland Ranch, 76.97 48 ⇓P P 21 49 49.8 +1.0
baz=77,SNR=11
PKD Parkfield 76.98 55 ⇓P P 21 49 49.2 +0.3
baz=77,SNR=19
KCC Kaiser Creek 77.03 54 ⇑P P 21 49 49.4 +0.1
baz=77,SNR=17
Q08A Gabbs 77.08 52 ⇓P P 21 49 50.1 +0.6
baz=77
NVAR Mina Array Bea 77.08 52 P P 21 49 50.4 +0.9
comp=Z,20nm,0.7s,mb5.2,baz=292,slow=6.3,SNR=83
O10A Cortez Mining, 77.18 50 ⇓P P 21 49 51.1 +1.0
baz=77,SNR=8.4
MLAC Mammoth Lakes 77.18 53 ⇑P P 21 49 50.7 +0.6
baz=77
P09A Austin 77.19 51 ⇑P P 21 49 50.7 +0.5
baz=77
R08A Mina 77.25 52 ⇓P P 21 49 51.0 +0.5
baz=77,SNR=6.8
MALT Malatya 77.34 308 ⇑*eP* **P 21 49 52.4 +1.4**
MALT Malatya 77.34 308 *eP* **P 21 49 51.1 +0.1**
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MALT Malatya 77.34 308 *eP* **P 21 49 51.1 +0.1**
comp=Z,9.5nm,1.0s,mb4.7
N11A Elko Archery C 77.35 49 ⇓P P 21 49 51.8 +0.7
baz=77
V05C Boulder Hill, 77.45 55 ⇑P P 21 49 52.3 +0.7
baz=77
M12A Wells 77.51 48 ⇓P P 21 49 52.8 +0.9
baz=77,SNR=32
MTUM Tungsten Hills 77.51 53 *eP* **P 21 49 52.6 +0.6**
QLMT Earthquake Lak 77.55 44 *eP* **P 21 49 52.7 +0.5**
Q09A Carvers 77.57 51 ⇑P P 21 49 52.7 +0.4
baz=77
HELL Mitchell Peak, 77.59 54 P P 21 49 52.4 0.0
baz=77,SNR=20
S08C White Mtn Res 77.69 53 ⇑P P 21 49 53.4 +0.5
baz=78,SNR=36
SMMC Simmler 77.70 56 ⇓P P 21 49 53.4 +0.5
baz=78
N12A Clover Valley, 77.76 49 ⇓P P 21 49 54.1 +0.8
baz=78,SNR=13
O11A Cowboy Ranch, 77.80 50 ⇑P P 21 49 53.9 +0.3
baz=78
TIN Tinemaha 77.90 53 ⇑P P 21 49 54.5 +0.4
baz=78
YMR Madison River 77.92 44 *eP* **P 21 49 54.5 +0.3**
comp=Z,15nm,0.7s,mb5.0
TPH Tonopah 77.98 52 *eP* **P 21 49 55.1 +0.6**
TPH pmax pmax
comp=Z,46nm,1.0s,mb5.4
TPH Tonopah 77.98 52 *eP* **P 21 49 55.1 +0.6**
comp=Z,46nm,1.0s,mb5.4
R09A Tonopah 77.98 52 ⇑P P 21 49 54.8 +0.2
baz=78,SNR=10.0
VES Vestal, Richgr 78.02 55 ⇓P P 21 49 54.3 -0.5
baz=78,SNR=7.9
PKM Peak Mountain 78.05 56 ⇑P P 21 49 55.7 +0.8
baz=78,SNR=14
P11A Circle Ranch, 78.07 50 ⇓P P 21 49 55.6 +0.5
baz=78,SNR=6.9
YFT Old Faithful 78.12 44 *eP* **P 21 49 57.7 +2.4**
SFJD Kangerlussuaq 78.12 4 P P 21 49 55.1 -0.3
comp=Z,5.4nm,0.6s,mb4.7,baz=320,slow=9.8,SNR=2.9
SFJD Kangerlussuaq 78.12 4 P P 21 49 55.1 -0.3
SFJD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
S09A Goldfield 78.18 52 ⇑P P 21 49 56.0 +0.3
baz=78,SNR=19
N13A Wendover, West 78.27 48 ⇑P P 21 49 56.8 +0.6

baz=78
LKWY **Lake** 78.30 44 eP P 21 49 59.1 +2.8
LKWY pmax pmax
comp=Z,12nm,0.9s,mb4.8
LKWY **Lake** 78.30 44 eP P 21 49 59.1 +2.8
comp=Z,12nm,0.9s,mb4.8
CWC **Cottonwood Cre** 78.35 54 ⇑P P 21 49 56.8 +0.3
baz=78
IMW **Indian Meadow** 78.40 44 eP P 21 49 57.7 +0.9
comp=Z,35nm,1.0s,mb5.2
FLWY **Flagg Ranch** 78.42 44 eP P 21 49 58.4 +1.3
comp=Z,26nm,1.0s,mb5.1
R10A **Warm Springs** 78.45 51 ⇑P P 21 49 57.9 +0.8
baz=78,SNR=5.4
GRAC **Grapevine Rang** 78.50 53 ⇑P P 21 49 57.8 +0.4
baz=78,SNR=16
RRI2 **Red Ridge** 78.51 45 eP P 21 50 03.8 +6.3
comp=Z,34nm,1.1s,mb5.2
ISA **Isabella** 78.53 55 eP P 21 49 57.2 -0.4
ISA **Isabella** 78.53 55 ⇓P P 21 49 56.6 -1.0
baz=78,SNR=9.1
Q11A **Duckwater** 78.54 51 P P 21 49 58.1 +0.4
baz=78,SNR=14
ARVC **Arvin** 78.59 55 ⇓P P 21 49 57.6 -0.4
baz=78
HVU **Hansel Valley** 78.59 47 eP P 21 49 58.2 +0.3
HVU pmax pmax
comp=Z,24nm,1.0s,mb5.1
HVU **Hansel Valley** 78.59 47 eP P 21 49 58.2 +0.3
comp=Z,24nm,1.0s,mb5.1
MOOW **Moose Ponds** 78.60 44 eP P 21 49 58.7 +0.8
comp=Z,22nm,1.3s,mb4.9
TPAW **Teton Pass** 78.64 45 eP P 21 49 59.1 +0.9
comp=Z,33nm,1.1s,mb5.2
P12A **McGill** 78.65 50 ⇑P P 21 49 58.9 +0.6
baz=78
BSC **Santa Cruz Isl** 78.68 57 ⇑P P 21 49 58.6 +0.1
baz=78
DAC **Darwin (Calif)** 78.76 54 eP P 21 49 59.1 +0.2
DAC pmax pmax
comp=Z,27nm,1.0s,mb5.1
DAC **Darwin (Calif)** 78.76 54 eP P 21 49 59.1 +0.2
comp=Z,27nm,1.0s,mb5.1
REDW **Red Top Meadow** 78.77 45 eP P 21 49 59.7 +0.7
comp=Z,34nm,1.2s,mb5.2
TRCR **Troy Canyon** 78.87 51 eP P 21 49 59.9 +0.4
BGU **Big Grassy Mou** 78.95 48 eP P 21 50 00.3 +0.4
OSI **Osito Adit** 78.95 56 ⇑P P 21 50 00.1 +0.2
baz=79
MPMC **Manual Prospec** 78.96 54 ⇑P P 21 50 00.1 +0.2
baz=79
SPUT **South Promonto** 79.07 47 eP P 21 49 59.6 -0.9
FRB **Frobisher Bay** 79.10 13 P P 21 50 00.1 -0.7
comp=Z,15nm,0.5s,mb5.2,baz=323,slow=9.6,SNR=10
FRB LR LR 22 27 30.3
comp=Z,254nm,18.3s,baz=131,slow=38
FRB **Frobisher Bay** 79.10 13 P P 21 50 00.1 -0.6
FRB pmax pmax
comp=Z,15nm,0.5s
FRB MLR MLR
comp=Z,254nm,18.3s
FURC **Furnace Creek,** 79.14 53 P P 21 50 01.5 +0.6
baz=79,SNR=15
LRMC **Laurel Mountai** 79.16 54 ⇑P P 21 50 01.5 +0.5
baz=79,SNR=8.9
SNCC **San Nicolas Is** 79.18 57 ⇑P P 21 50 01.5 +0.3
baz=79
EDW2 **Edwards Air Fo** 79.30 55 ⇑P P 21 50 02.0 +0.2
baz=79,SNR=27
KWP **Kalwaria** 79.32 324 eP P 21 50 01.6 -0.3
KWP pmax pmax
comp=Z,38nm,0.9s,mb5.3
KWP **Kalwaria** 79.32 324 eP P 21 50 01.6 -0.3
comp=Z,38nm,0.9s,mb5.3
BURAR **Bucovina Array** 79.40 321 ⇑iP P 21 50 02.3 -0.1
BURAR **Bucovina Array** 79.40 321 ⇑P P 21 50 02.4 0.0
HWUT **Hardware Ranch** 79.42 46 eP P 21 50 02.8 +0.3
comp=Z,49nm,1.1s,mb5.3
DECC **Green Verdugo** 79.43 56 ⇓P P 21 50 02.1 -0.5
baz=79
DUG **Dugway** 79.52 48 eP P 21 50 03.1 +0.1
DUG pmax pmax
comp=Z,24nm,0.9s,mb5.1
DUG **Dugway** 79.52 48 eP P 21 50 03.1 +0.1
comp=Z,24nm,0.9s,mb5.1
BR131 **Keskin Array S** 79.56 311 eP P 21 50 03.0 -0.2
comp=Z,3.7nm,0.6s,mb4.5
BRTR **Keskin Array B** 79.56 311 P P 21 50 03.1 -0.1
comp=Z,4.2nm,0.8s,mb4.4,baz=108,slow=4.1,SNR=18
BRTR **Keskin Array B** 79.56 311 P P 21 50 03.2 0.0
BRTR pmax pmax
comp=Z,4.0nm,0.8s
VRI **Vrincioaia** 79.74 319 ⇑iP P 21 50 04.9 +0.7
VRI **Vrincioaia** 79.74 319 ⇑P P 21 50 04.9 +0.7
PLOR **Plostina** 79.80 319 ⇑iP P 21 50 06.3 +1.8
TCUT **Toone Canyon** 79.81 47 eP P 21 50 04.5 -0.1
GSC **Goldstone** 79.85 54 eP P 21 50 04.7 -0.1
GSC **Goldstone** 79.85 54 ⇓P P 21 50 04.7 -0.1
baz=80
SHOC **Shoshone** 79.85 53 ⇓P P 21 50 05.0 +0.2
baz=80,SNR=5.0
CIS **Catalina Islan** 79.86 56 ⇑P P 21 50 04.8 -0.1
baz=80
CTU **Camp Tracy** 79.87 47 eP P 21 50 05.6 +0.7
comp=Z,23nm,1.0s,mb5.1
PDAR **Pinedale Array** 79.89 45 P P 21 50 04.9 -0.1
comp=Z,11nm,0.6s,mb5.0,baz=268,slow=2.0,SNR=47
BFSC **Mount Baldy St** 79.89 55 ⇑P P 21 50 04.8 -0.2
baz=80,SNR=7.9
ANTO **Ankara** 79.99 312 ⇑iP P 21 50 06.0 +0.5
KOLS **Kolonicke sedl** 80.00 324 eP P 21 50 05.8 +0.2
NLU **North Lily Min** 80.12 48 eP P 21 50 06.8 +0.6
STHS **Stebnicka Huta** 80.17 325 eP P 21 50 06.5 0.0
STHS pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
STHS **Stebnicka Huta** 80.17 325 eP P 21 50 06.5 0.0
comp=Z,8.6nm,1.2s,mb4.6
UZH **Uzhgorod** 80.19 323 eP PcP 21 50 17.2 +3.5
UZH e pP 21 50 24.2 +0.3
OJC **Ojcow** 80.29 326 eP P 21 50 06.8 -0.4
OAU **Daniels Canyon** 80.33 47 eP P 21 50 08.3 +0.9
MPU **Maple Canyon** 80.35 48 eP P 21 50 08.2 +0.7
comp=Z,36nm,1.0s,mb5.3
TUQ **Turquoise Mtn.** 80.36 54 ⇑P P 21 50 07.8 +0.3
baz=80
BBRC **Big Bear Sol-O** 80.37 55 ⇑P P 21 50 07.9 +0.3
baz=80
MLR **Muntele Rosu** 80.41 319 ⇓iP P 21 50 04.8 -3.0
MLR **Muntele Rosu** 80.41 319 ⇓P P 21 50 04.8 -2.9
CRVS **Cervenica-Dubn** 80.41 324 eP P 21 50 07.8 0.0
CRVS **Cervenica-Dubn** 80.41 324 eP P 21 50 07.9 +0.1
HEC **Hector,Ludlow** 80.44 54 ⇓P P 21 50 08.1 +0.1
baz=80,SNR=5.9
MURC **Murrieta** 80.57 56 ⇑P P 21 50 08.8 +0.2
baz=80
NIE **Niedzica** 80.61 325 eP P 21 50 09.4 +0.5
U12A **Valley of Fire** 80.67 52 ⇑P P 21 50 09.8 +0.5
baz=80
CCUT **Cedar City** 80.76 51 eP P 21 50 10.4 +0.7
VOIR 80.92 320 ⇑iP P 21 50 16.8 +6.3
MSU **Marysvale** 80.93 49 eP P 21 50 11.4 +0.8
109C **Camp Elliot, M** 81.05 56 ⇑P P 21 50 11.2 0.0
baz=81
TMUT **Trail Mountain** 81.05 48 eP P 21 50 11.4 +0.2
PFO **Pinyon Flat Ob** 81.07 55 P P 21 50 11.0 -0.3
comp=Z,250nm,1.0s,mb6.1,SNR=15
PFO **Pinyon Flat Ob** 81.07 55 eP P 21 50 11.2 -0.1
PFO pmax pmax
comp=Z,46nm,1.0s,mb5.4
PFO **Pinyon Flat Ob** 81.07 55 eP P 21 50 11.2 -0.2
comp=Z,46nm,1.0s,mb5.4
PFO **Pinyon Flat Ob** 81.07 55 P P 21 50 11.6 +0.2
baz=81,SNR=19
W12A **Cal Nev Ari** 81.13 53 ⇑P P 21 50 11.5 -0.2
baz=81
BELC **Belle Mtn.** 81.15 55 ⇑P P 21 50 11.7 -0.1
baz=81
KECS **Kecovo** 81.17 324 eP P 21 50 11.6 -0.3
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS **Kecovo** 81.17 324 eP P 21 50 11.6 -0.3
comp=Z,2.8nm,0.8s,mb4.2
MONP **Monument Peak** 81.51 56 ⇓P P 21 50 13.7 0.0
baz=81,SNR=6.6
SRU **San Rafael** 81.58 48 eP P 21 50 14.3 +0.3
SRU pmax pmax
comp=Z,41nm,0.8s,mb5.4
SRU **San Rafael** 81.58 48 eP P 21 50 14.3 +0.3
comp=Z,41nm,0.8s,mb5.4
IRM **Iron Mountain** 81.62 54 P P 21 50 14.7 +0.4
baz=82,SNR=16
MORC **Moravsky Berou** 81.64 327 ⇓iP P 21 50 14.2 -0.1
MORC **Moravsky Berou** 81.64 327 ⇓P P 21 50 14.2 -0.2
BC3 **Big Chuckw Mtn** 81.72 55 ⇑P P 21 50 14.9 +0.1
baz=82
DPC **Dobruska-Polom** 81.77 327 eP P 21 50 15.2 +0.2
DPC ex x 21 50 25.6
UPC **Upice** 81.79 328 eP P 21 50 11.0 -4.2
PSZ **Piszkesteto** 81.85 324 ⇓iP P 21 50 15.8 +0.4
PSZ **Piszkesteto** 81.85 324 ⇓P P 21 50 15.8 +0.3
ULM **Lac du Bonnet** 81.85 33 P P 21 50 14.3 -1.2
comp=Z,3.0nm,0.5s,mb4.5,baz=292,slow=3.9,SNR=8.0
DVTC **Desert V Tower** 81.87 56 ⇑P P 21 50 15.9 +0.3
baz=82
W13A **Hualapai Mount** 81.90 53 ⇑P P 21 50 15.9 +0.2
baz=82
ASF **Jabal al Asfar** 81.90 304 P P 21 50 16.6 +0.9
comp=Z,2.0nm,0.5s,mb4.3,baz=297,slow=3.9,SNR=5.4
ASF **Jabal al Asfar** 81.90 304 P P 21 50 16.6 +0.9
ASF pmax pmax
comp=Z,2.0nm,0.5s
SWSC **Sam W. Stewart** 81.91 56 ⇓P P 21 50 15.7 0.0
baz=82
RWWY **Rawlins** 81.92 44 eP P 21 50 16.0 +0.2
comp=Z,56nm,1.0s,mb5.5
VYHS **Vyhne** 81.95 325 eP P 21 50 16.2 +0.2
VYHS e pP 21 50 33.0 -0.2
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS **Vyhne** 81.95 325 eP P 21 50 16.2 +0.2
comp=Z,3.7nm,0.9s,mb4.3
VYHS e pP 21 50 33.0 -0.2
RSSD **Black Hills** 82.10 41 eP P 21 50 16.4 -0.4
RSSD pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
RSSD **Black Hills** 82.10 41 eP P 21 50 16.4 -0.4
comp=Z,4.7nm,0.5s,mb4.7
PDMCI **Parker Dam,Lak** 82.21 54 ⇑P P 21 50 17.2 -0.2
baz=82
X13A **Yucca** 82.24 53 ⇑P P 21 50 17.5 0.0
baz=82
Y12C **Blythe** 82.28 54 ⇑P P 21 50 17.7 -0.1
baz=82
W14A **Seligman** 82.35 52 ⇑P P 21 50 18.4 +0.3
baz=82,SNR=30
VRAC **Vranov** 82.40 327 ⇓iP P 21 50 18.9 +0.5
VRAC **Vranov** 82.40 327 ⇓P P 21 50 18.9 +0.5
PVCC **Panska Ves** 82.41 328 eP P 21 50 17.7 -0.7
BRG **Berggiesshubel** 82.42 329 eP P 21 50 18.0 -0.4
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG **Berggiesshubel** 82.42 329 eP P 21 50 18.0 -0.4
comp=Z,2.4nm,0.9s,mb4.1
CLL **Collm** 82.49 330 iP P 21 50 17.9 -0.9
comp=Z,5.0nm,0.9s,mb4.4
CLL i (sP) sP 21 50 39.6 -3.3
comp=Z,19nm,1.0s
GLA **Glamis** 82.50 55 eP P 21 50 19.3 +0.5
GLA **Glamis** 82.50 55 ⇑P P 21 50 19.0 +0.1
baz=82
ISP **Isparta** 82.64 311 eP P 21 50 19.3 -0.3
Y13A **Salome** 82.71 54 ⇑P P 21 50 20.2 +0.3
baz=83,SNR=9.0
PRU **Pruhonice** 82.82 328 eP P 21 50 20.2 -0.3
PRU ex x 21 50 30.0
PRU **Pruhonice** 82.82 328 eP P 21 50 20.2 -0.3
PRU e 21 50 30.0
W15A **Williams** 82.90 52 ⇑P P 21 50 21.7 +0.7
baz=83,SNR=6.8
TREC **Trest** 82.91 327 eP P 21 50 18.4 -2.6
TREC ex x 21 50 29.2
X14A **Yava** 82.93 53 ⇑P P 21 50 21.6 +0.5
baz=83,SNR=15
PV10 **Paradox Valley** 82.94 48 eP P 21 50 22.0 +0.8
Y14A **Wickenburg** 83.18 53 ⇓P P 21 50 22.5 +0.1
baz=83
WUAZ **Wupatki** 83.27 51 eP P 21 50 23.3 +0.5
comp=Z,32nm,1.2s,mb5.2
X15A **Humboldt** 83.34 52 ⇑P P 21 50 23.9 +0.7
baz=83
PV01 **Paradox Valley** 83.38 48 eP P 21 50 23.8 +0.4
MOX **Moxa** 83.56 330 eP P 21 50 23.7 -0.6
MOX ePP PP 21 53 52.0 +15
Z14A **Wintersburg** 83.57 54 ⇓P P 21 50 24.5 +0.1
baz=83
SMCO **Snowmass** 83.67 46 eP P 21 50 25.7 +0.7
comp=Z,44nm,1.1s,mb5.5
CONA **Conrad Observa** 83.74 326 ⇑iP P 21 50 25.9 +0.6
comp=Z,4.7nm,0.9s,mb4.6
VTS **Vitosha** 83.80 319 ⇑iP P 21 50 26.0 +0.4
VTS **Vitosha** 83.80 319 ⇑P P 21 50 26.1 +0.5
KHC **Kasperske Hory** 83.87 328 eP P 21 50 25.0 -0.9
KHC ex x 21 50 35.2
KHC **Kasperske Hory** 83.87 328 eP P 21 50 25.0 -0.9
KHC e 21 50 35.2
MVCO **Mesa Verde** 84.02 48 eP P 21 50 27.3 +0.7
comp=Z,29nm,1.0s,mb5.4
GERES **GERESS Array B** 84.03 328 P P 21 50 26.3 -0.4
comp=Z,3.1nm,0.8s,mb4.5,baz=38,slow=5.0,SNR=20
GERES PP PP 21 53 39.9 -1.3
comp=Z,1.3nm,0.8s,baz=37,slow=9.2,SNR=4.3
GERES LR LR 22 32 56.7
comp=Z,121nm,18.6s,baz=291,slow=39
GERES **GERESS Array B** 84.03 328 P P 21 50 26.3 -0.4
GERES 21 53 39.9
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,121nm,18.7s
GERES **GERESS Array B** 84.03 328 P P 21 50 26.3 -0.4
GERES PP PP 21 53 39.9 -1.3
ISCO **Idaho Springs** 84.07 45 eP P 21 50 27.4 +0.5
ISCO pmax pmax
comp=Z,15nm,1.0s,mb5.1
ISCO **Idaho Springs** 84.07 45 eP P 21 50 27.4 +0.5
comp=Z,15nm,1.0s,mb5.1
ARSA **Arzberg** 84.39 326 ⇑iP P 21 50 28.7 +0.1
comp=Z,6.3nm,1.4s,mb4.5
115A **Sonoran Desert** 84.45 54 ⇑P P 21 50 29.0 +0.1
baz=84
GRA1 **Grafenberg Arr** 84.45 330 eP P 21 50 28.5 -0.4
comp=Z,10.0nm,0.9s,mb5.0
GRF **Grafenberg Arr** 84.45 330 eP P 21 50 28.5 -0.4
comp=Z,10.0nm,0.9s,mb5.0
GRF **Grafenberg Arr** 84.45 330 eP P 21 50 28.5 -0.4
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GRF **Grafenberg Arr** 84.45 330 eP P 21 50 28.5 -0.4
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
DIVS **Divcibare** 84.47 321 iP P 21 50 28.6 -0.3
MOA **Molln** 84.53 327 ⇑iP P 21 50 29.2 0.0
comp=Z,7.3nm,1.4s,mb4.6
PPT **Papeete** 84.55 116 eLR LR 22 16 21.3
comp=Z,330nm,33.8s,baz=317
PPT **Papeete** 84.55 116 LR LR 22 24 46.9
comp=Z,166nm,19.6s,baz=303,slow=33
EIL **Elat** 84.73 303 eP P 21 50 30.1 -0.2
comp=Z,260nm,0.9s
EKA **Eskdalemuir Ar** 84.84 340 P P 21 50 30.3 -0.5
comp=Z,1.2nm,0.6s,mb4.2,baz=46,slow=4.8,SNR=7.3
EKA **Eskdalemuir Ar** 84.84 340 P P 21 50 30.3 -0.5
EKA pmax pmax
comp=Z,1.0nm,0.6s
116A **Eloy** 84.88 54 ⇓P P 21 50 30.8 -0.2
baz=85
PERS **Pernice** 85.03 326 eP P 21 50 31.0 -0.8
GOLS **Golise** 85.26 325 iP P 21 50 31.9 -1.0
LEGS **Legarje** 85.45 325 eP P 21 50 32.7 -1.2
SDCO **Great Sand Dun** 85.48 46 eP P 21 50 34.5 +0.5
comp=Z,26nm,1.1s,mb5.3
KBA **Koelnbreinsper** 85.52 327 ⇑iP P 21 50 33.1 -1.1
comp=Z,7.3nm,0.8s,mb4.9
KBA **Koelnbreinsper** 85.52 327 ⇑iP P 21 50 33.1 -1.1
KBA pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
ECSD **EROS,Sioux Fal** 86.23 37 eP P 21 50 36.1 -1.6
comp=Z,18nm,1.0s,mb5.2
ANMO **Albuquerque** 86.73 49 P P 21 50 40.9 +0.7
comp=Z,4.1nm,0.8s,mb4.7,baz=312,slow=3.3,SNR=8.0
ANMO **Albuquerque** 86.73 49 P P 21 50 40.9 +0.7
ANMO pmax pmax
comp=Z,4.0nm,0.8s
BAIF **Baives** 86.92 333 eP P 21 50 39.8 -1.3
comp=Z,9.0nm,0.9s,mb4.7
BAIF **Baives** 86.92 333 eP P 21 50 39.8 -1.3
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
BAIF **Baives** 86.92 333 eP P 21 50 39.8 -1.3
comp=Z,4.5nm,0.9s,mb4.7
LPM **Los Pinos Moun** 87.04 50 eP P 21 50 41.2 -0.5
CDF **Champ du Feu** 87.07 331 eP P 21 50 40.8 -1.0
comp=Z,16nm,1.1s,mb4.9
CDF **Champ du Feu** 87.07 331 eP P 21 50 40.8 -1.0
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
CDF **Champ du Feu** 87.07 331 eP P 21 50 40.8 -1.0
comp=Z,8.1nm,1.1s,mb4.9
SCHQ **Schefferville** 87.69 15 P P 21 50 43.6 -1.2
comp=Z,12nm,1.0s,mb5.1,baz=31,slow=7.0,SNR=5.2
SCHQ LR LR 22 31 38.6
comp=Z,116nm,18.6s,baz=350,slow=37
MEZF **Maizieres J'vi** 87.88 332 eP P 21 50 44.6 -1.1
CBKS **Cedar Bluff** 88.08 43 eP P 21 50 45.1 -1.6
CBKS pmax pmax
comp=Z,35nm,1.1s,mb5.5
CBKS **Cedar Bluff** 88.08 43 eP P 21 50 45.1 -1.6
comp=Z,35nm,1.1s,mb5.5
TBI **Tubuai** 88.27 120 eLR LR 22 18 03.7
comp=Z,141nm,33.5s
AQU **L'Aquila** 89.04 324 P P 21 50 50.7 -0.5
AQU pmax pmax
comp=Z,16nm,0.8s,mb5.4
AQU **L'Aquila** 89.04 324 P P 21 50 50.7 -0.5
comp=Z,16nm,0.8s,mb5.4
LOR **Lormes** 89.35 332 eP P 21 50 51.4 -1.2
LOR eMLR MLR
comp=Z,156nm,21.8s
LPL **La Plagne** 89.61 329 eP P 21 50 53.2 -0.7
comp=Z,5.2nm,0.8s,mb4.6
LPL **La Plagne** 89.61 329 eP P 21 50 53.2 -0.7
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
LPL **La Plagne** 89.61 329 eP P 21 50 53.2 -0.7
comp=Z,2.1nm,0.6s,mb4.6
LPG **La Plagne** 89.62 329 eP P 21 50 53.3 -0.6
comp=Z,12nm,0.9s,mb4.9
LPG **La Plagne** 89.62 329 eP P 21 50 53.3 -0.6
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LPG **La Plagne** 89.62 329 eP P 21 50 53.3 -0.6
comp=Z,5.8nm,0.9s,mb4.9
SSF **Saint Saulge** 89.65 332 eP P 21 50 53.3 -0.8
comp=Z,4.0nm,0.6s,mb4.6
SSF **Saint Saulge** 89.65 332 eP P 21 50 53.3 -0.8
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
SSF **Saint Saulge** 89.65 332 eP P 21 50 53.3 -0.8
comp=Z,2.0nm,0.6s,mb4.6
FLN **La Foliniere** 89.68 335 eP P 21 50 53.1 -1.1
FLN eMLR MLR
comp=Z,172nm,19.5s
LDF **La Druitiere** 89.70 335 eP P 21 50 52.8 -1.5
SMF **Signal de Mont** 89.87 332 eP P 21 50 54.1 -1.0
AVF **Avril sur Loir** 89.94 332 eP P 21 50 54.3 -1.1
comp=Z,15nm,1.1s,mb4.9
AVF **Avril sur Loir** 89.94 332 eP P 21 50 54.3 -1.1
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
AVF **Avril sur Loir** 89.94 332 eP P 21 50 54.3 -1.1
comp=Z,7.6nm,1.1s,mb4.9
GRR **Gorron** 90.13 335 eP P 21 50 55.4 -0.9
comp=Z,52nm,1.4s,mb5.4
GRR **Gorron** 90.13 335 eP P 21 50 55.4 -0.9
GRR pmax pmax
comp=Z,26nm,1.4s,mb5.4
GRR **Gorron** 90.13 335 eP P 21 50 55.4 -0.9
comp=Z,26nm,1.4s,mb5.4
MBDF **Montbardon** 90.23 329 eP P 21 50 56.2 -0.6
ORIF **Oris-en-Rattie** 90.45 329 eP P 21 50 56.8 -1.0
comp=Z,5.4nm,0.8s,mb4.6
ORIF eMLR MLR
comp=Z,145nm,20.5s
ORIF **Oris-en-Rattie** 90.45 329 eP P 21 50 56.8 -1.0
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
ORIF **Oris-en-Rattie** 90.45 329 eP P 21 50 56.8 -1.0
comp=Z,2.7nm,0.8s,mb4.6
SBF **Sospel** 90.64 328 eP P 21 50 57.0 -1.6
comp=Z,27nm,0.8s,mb5.3
SBF **Sospel** 90.64 328 eP P 21 50 57.0 -1.6
SBF pmax pmax
comp=Z,13nm,0.8s,mb5.3
SBF **Sospel** 90.64 328 eP P 21 50 57.0 -1.6
comp=Z,13nm,0.8s,mb5.3
SGMF **Saint Gilles** 90.82 336 eP P 21 50 58.7 -0.8
ROSF **Rostrenen** 90.99 337 eP P 21 50 59.6 -0.7
comp=Z,47nm,1.1s,mb5.4
ROSF **Rostrenen** 90.99 337 eP P 21 50 59.6 -0.7
ROSF pmax pmax
comp=Z,24nm,1.1s,mb5.4
ROSF **Rostrenen** 90.99 337 eP P 21 50 59.6 -0.7
comp=Z,24nm,1.1s,mb5.4
VIVF **Saint-Julien-l** 91.00 330 eP P 21 50 59.3 -1.0
comp=Z,9.2nm,0.9s,mb4.8
LPIG **La Paz** 91.12 60 LR LR 22 32 58.8
comp=Z,50nm,18.3s,baz=274,slow=36
QUIF **Quistinic** 91.32 336 eP P 21 51 00.7 -1.1
SMRF **Simiane la Rot** 91.34 329 eP P 21 51 01.0 -0.9
comp=Z,13nm,1.1s,mb4.9
SMRF **Simiane la Rot** 91.34 329 eP P 21 51 01.0 -0.9
comp=Z,13nm,1.1s,mb5.2
MFF **Saint Martin d** 91.40 334 eP P 21 51 01.5 -0.7
comp=Z,27nm,1.1s,mb5.2
MFF **Saint Martin d** 91.40 334 eP P 21 51 01.5 -0.7
MFF pmax pmax
comp=Z,13nm,1.1s,mb5.2
MFF **Saint Martin d** 91.40 334 eP P 21 51 01.5 -0.7
comp=Z,13nm,1.1s,mb5.2
LMR **La Mourre** 91.46 328 eP P 21 51 01.1 -1.4
comp=Z,16nm,1.0s,mb5.0
WMOK **Wichita Mounta** 91.50 45 eP P 21 51 02.4 -0.2
WMOK pmax pmax
comp=Z,20nm,1.1s,mb5.4
WMOK **Wichita Mounta** 91.50 45 eP P 21 51 02.4 -0.2
comp=Z,20nm,1.1s,mb5.4
RJF **Les Rejaudoux** 91.88 332 eP P 21 51 03.8 -0.6
comp=Z,42nm,1.3s,mb5.3
RJF eMLR MLR
comp=Z,163nm,19.0s
RJF **Les Rejaudoux** 91.88 332 eP P 21 51 03.8 -0.6
RJF pmax pmax
comp=Z,21nm,1.3s,mb5.3
RJF **Les Rejaudoux** 91.88 332 eP P 21 51 03.8 -0.6
comp=Z,21nm,1.3s,mb5.3
LASF **Ste Croix** 91.98 330 eP P 21 51 04.3 -0.6
CAF **Calviac** 91.99 332 eP P 21 51 04.7 -0.2
comp=Z,17nm,1.1s,mb5.0
CAF **Calviac** 91.99 332 eP P 21 51 04.7 -0.2
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
CAF **Calviac** 91.99 332 eP P 21 51 04.7 -0.2
comp=Z,8.4nm,1.1s,mb5.0
LFF **La Frestale** 92.49 332 eP P 21 51 06.9 -0.3
comp=Z,9.5nm,0.8s,mb4.9
LFF **La Frestale** 92.49 332 eP P 21 51 06.9 -0.3
LFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LFF **La Frestale** 92.49 332 eP P 21 51 06.9 -0.3
comp=Z,4.8nm,0.8s,mb4.9
MTLF **Montolieu** 93.25 331 eP P 21 51 10.2 -0.5
JCT **Junction City** 93.88 49 eP P 21 51 12.8 -0.8
JCT pmax pmax
comp=Z,11nm,0.7s,mb5.4
JCT **Junction City** 93.88 49 eP P 21 51 12.8 -0.8
comp=Z,11nm,0.7s,mb5.4
KEST **Kesra** 96.14 322 P P 21 51 23.4 -0.5
comp=Z,1.4nm,0.9s,mb4.4,baz=45,slow=1.4,SNR=2.9
KEST LR LR 22 39 22.7
comp=Z,50nm,20.8s,baz=209,slow=38
TKL **Tuckaleechee C** 98.72 35 P P 21 51 34.8 -0.8
comp=Z,3.2nm,0.7s,mb5.0,baz=93,slow=20,SNR=3.2
TKL **Tuckaleechee C** 98.72 35 P P 21 51 34.8 -0.8
TKL pmax pmax
comp=Z,3.0nm,0.7s,mb4.9
ESDC **Sonseca Array** 98.79 333 LR LR 22 35 48.8
comp=Z,67nm,18.6s,baz=310,slow=35

TORD	**Torodi Ar. Bea**	**118.13**	**313**	PKP	PKPdf	21 56 41.9	-1.0
	comp=Z,1.1nm,0.5s,baz=34,slow=1.5,SNR=22						
TORD				PKKPbc	PKKPbc	22 07 01.9	+0.1
	comp=Z,1.1nm,0.8s,baz=214,slow=3.2,SNR=9.0						
QSPA	**South Pole Qui**	**124.61**	**180**	*e*P	PKPdf	21 56 53.0	-2.3
SYO	**Syowa Base**	**125.83**	**206**‖	*e*PKPdf	PKPdf	21 56 55.7	-2.0
TSUM	**Tsumeb**	**127.23**	**272**	PKP	PKPdf	21 57 00.2	-0.1
	comp=Z,1.7nm,0.7s,baz=211,slow=5.9,SNR=3.7						
SDV	**Santo Domingo**	**127.61**	**40**	*e*PKPdf	PKPdf	21 57 01.1	0.0
OTAV	**Otavalo**	**129.77**	**54**	*e*PKPdf	PKPdf	21 57 06.5	+1.3
MAIT	**Maitri**	**134.94**	**201**	*e*PKPdf	PKPdf	21 57 13.1	-1.8
ARE	**Arequipa**	**146.26**	**65**	*e*PKP2	PKPab	21 57 37.0	-0.3
SAML	**Samuel**	**146.47**	**45**	*e*PKPdf	PKPdf	21 57 35.6	0.0
LPAZ	**La Paz**	**148.61**	**61**	PKPbc	PKPbc	21 57 44.3	+1.4
	comp=Z,33nm,0.7s,baz=327,slow=2.6,SNR=114						
LPAZ	**La Paz**	**148.61**	**61**	*e*PKPdf	PKPdf	21 57 40.8	+1.6
LPAZ				*e*PKPbc	PKPbc	21 57 44.1	+1.2
LVC	**Limon Verde**	**151.80**	**72**	*e*PKPdf	PKPdf	21 57 45.4	+1.3
LVC				*e*PKPbc	PKPbc	21 57 51.6	+1.0
LVC				*e*PKPab	PKPab	21 58 01.4	+1.7
PLCA	**Paso Flores**	**155.07**	**113**	PKPbc	PKPdf	21 57 58.2	+9.3
	comp=Z,2.8nm,0.8s,baz=294,slow=5.0,SNR=3.7						
PLCA				PKPab	PKPab	21 58 13.5	-0.1
	comp=Z,6.3nm,1.0s,baz=244,slow=4.6,SNR=5.7						
PLCA	**Paso Flores**	**155.07**	**113**	PKIKP	PKPdf	21 57 58.2	+9.3
PLCA						21 58 13.5	
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BDFB	**Brasilia**	**159.48**	**23**	PKPab	PKPab	21 58 32.8	+0.2
	comp=Z,3.3nm,0.8s,baz=266,slow=2.8,SNR=4.8						
BDFB	**Brasilia**	**159.48**	**23**	PKP2	PKPab	21 58 32.8	+0.2
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	**Villa Florida**	**162.69**	**65**	PKPab	PKPab	21 58 45.6	-1.1
	comp=Z,0.5nm,0.5s,baz=139,slow=2.3,SNR=3.5						
CPUP	**Villa Florida**	**162.69**	**65**	PKP2	PKPab	21 58 45.6	-1.0
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 13 22:03:08.3±2.3, 117S×12733E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=200.6km s-min=26.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**160**	P	Pn	22 07 41.5	-1.1
	0.1nm,0.3s,baz=342,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**23.25**	**165**	P	P	22 08 17.4	+0.2
	0.3nm,0.4s,baz=345,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**61.92**	**327**	P	P	22 13 29.8	+0.1
	0.3nm,0.4s,baz=108,slow=8.5,SNR=5.5						

IDC 13 22:05:58.8±10.0, 186N×12703E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=163.1km s-min=101.9km az=149.0

NEIC 13 22:05:59.4±1.5, 206N×12721E, h15km, Error ellipse: s-maj=83.3km s-min=21.9km az=86.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.09**	**184**	P	P	22 10 32.4	-0.1
	0.1nm,0.3s,baz=18,slow=9.8,SNR=4.4						
WRA	**Warramunga Arr**	**22.96**	**163**	P	P	22 11 03.4	+0.3
	3.8nm,0.5s,baz=340,slow=11,SNR=25						
WB2	**Warramunga Arr**	**22.96**	**163**	*e*P	P	22 11 03.4	+0.2
ASAR	**Alice Springs**	**26.39**	**166**	P	P	22 11 36.1	+0.9
	0.8nm,0.2s,baz=340,slow=10,SNR=18						
STKA	**Stephens Creek**	**36.41**	**159**	P	P	22 13 03.6	+0.3
	1.7nm,0.8s,baz=330,slow=11,SNR=4.3						
LAZ	**Ladron**	**117.49**	**49**	*e*PKPdf	PKPdf	22 24 43.7	-0.9
AAM	**Ann Arbor**	**127.77**	**29**	*e*PKPdf	PKPdf	22 25 06.5	+2.2

IDC 13 22:33:09.2±73.0, 1709S×17895W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=1329.0km s-min=168.0km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.58**	**240**	P	P	22 40 34.2	+0.5
	1.3nm,0.8s,baz=84,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**44.28**	**259**	P	P	22 41 20.5	-0.1
	0.3nm,0.5s,baz=94,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**44.52**	**253**	P	P	22 41 23.0	+0.5
	2.6nm,0.5s,baz=88,slow=8.1,SNR=33						

GUC 13 22:43:04.4±0.6, 3140S×7173W, h30km±2km, MD3.6, ML3.5, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**158**	*e*P	Pb	22 43 14.8	-0.3
CHNG				*i* S	Sb	22 43 22.0	-0.4
CMCH	**Combarbala**	**0.67**	**70**↑	*i*P	Pb	22 43 17.1	-0.4
CMCH				*i* S	Sb	22 43 26.9	+0.4
CMCH				AML	AML	22 43 28.3	
	comp=N,7μm,0.8s						
OVCH	**Ovalle**	**0.91**	**30**↓	*i*P	Pn	22 43 21.0	-0.1
OVCH				*i* S	Sn	22 43 33.4	+0.2
OVCH				AML	AML	22 43 36.3	
	comp=E,2μm,0.4s						
PTCH	**Petorca**	**1.10**	**142**↓	*i*P	Pn	22 43 23.9	+0.2
PTCH				*i* S	Sn	22 43 38.6	+0.9
PTCH				AML	AML	22 43 41.0	
	comp=E,3μm,0.2s						
TLL	**Tololo Astrono**	**1.47**	**33**↓	*i*P	Pn	22 43 30.3	+1.6
TLL				*i* S	Sn	22 43 49.5	+2.6
TLL				AML	AML	22 43 52.3	
	comp=N,1μm,0.3s						
LSCH	**La Serena**	**1.55**	**16**↓	*i*P	Pn	22 43 31.0	+1.1
LSCH				*i* S	Sn	22 43 50.9	+2.0
JACH	**Jahuel**	**1.60**	**143**	*i* P	Pn	22 43 32.0	+1.4
JACH				*i* S	Sn	22 43 53.2	+3.0
CLCH	**Cerro Calan**	**2.23**	**153**	AML	AML	22 44 19.9	
	comp=E,731nm,0.6s						
SAN	**Santiago**	**2.23**	**156**	AML	AML	22 44 18.0	
	comp=E,339nm,0.3s						
TACH	**Talagante**	**2.34**	**164**	*i* P	Pn	22 43 42.2	+1.4
TACH				*i* S	Sn	22 44 10.8	+2.3
ANTU	**Antumapu**	**2.35**	**157**	*i* S	Sn	22 44 11.1	+2.4
ANTU				AML	AML	22 44 19.3	
	comp=E,283nm,0.5s						
ZON	**Zonda**	**2.61**	**94**	AML	AML	22 44 37.6	
	comp=N,208nm,0.5s						
CHCH	**Chadas Angostu**	**2.68**	**160**	*i* P	Pn	22 43 46.9	+1.5
CHCH				*i* S	Sn	22 44 19.3	+2.4

IDC 13 22:52:02.4±25.0, 1342S×16815E, h0km, mb4.0/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=787.6km s-min=49.9km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.98**	**254**	LR	LR	23 10 44.8	
	comp=Z,58nm,19.0s,baz=180,slow=34						
ASAR	**Alice Springs**	**33.94**	**248**	P	P	22 58 47.7	+0.4
	0.2nm,0.4s,baz=68,slow=10,SNR=3.3						
SONM	**Songino Array**	**81.96**	**323**	P	P	23 04 24.5	+0.5
	0.5nm,0.6s,baz=110,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**96.85**	**316**	P	P	23 05 35.1	-0.2
	1.3nm,0.6s,baz=97,slow=4.6,SNR=17						

CSEM 13 23:20:35.5, 6786N×2019E, h0km, ML2.6, Mining explosion. After UPP
UPP 13 23:20:35.5, 6786N×2019E, h0km, ML2.6, Mining explosion.

HEL 13 23:20:36.2±0.1, 6786N×2019E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**31**	*i* P	Pg	23 20 37.7	-0.6
KUA				*i* S	Sg	23 20 39.9	+0.2
NIKU	**Nikkaluokta**	**0.44**	**271**	*i* P	Pg	23 20 44.0	-0.6
LANU	**Lannavaara**	**0.71**	**74**	*i* P	Pg	23 20 49.0	-0.7
DUNU	**Dundret**	**0.76**	**169**	*i* P	Pg	23 20 49.7	-1.0
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	23 20 50.8	-0.8
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pg	23 20 57.6	-1.0
KIF				*e*S	Sg	23 21 13.8	-0.1
PAJU	**Pajala**	**1.41**	**125**	*e*P	Pn	23 21 01.3	-1.8
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	23 21 07.0	-0.6
KEV	**Kevo**	**3.12**	**49**	*e*S	Sn	23 22 06.3	+1.6

ISCJB 13 23:20:50.0±0.9, 2056N±006×1214E±03, h10km, mb3.6/6, MS3.6/1, Error ellipse: s-maj=38.7km s-min=8.5km az=175.8
NEIC 13 23:20:55.1±0.9, 2058N×12143E, h35km, Error ellipse: s-maj=45.8km s-min=13.2km az=80.0
IDC 13 23:21:04.3±9.4, 2033N×12091E, h122km±93km, mb3.3/6, mb1 3.6/6, mb1mx3.4/19, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.7/20, Error ellipse: s-maj=39.2km s-min=17.2km az=73.0

ISC 13 23:20:52.5±5.0, 2056N±007×1214E±03, h15km±32km, n11, σ0°89/11, mb3.6/6, MS3.6/1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.60**	**3**	*e*Pn	**Pn**	**23 21 48.2**	**+0.5**
NACB				*e*Sn	**Sn**	**23 22 30.9**	**+0.9**
YHNB	**Yeheng**	**4.09**	**0**	*e*Pn	**Pn**	**23 21 53.6**	**-0.8**
YHNB				*e*Sn	**Sn**	**23 22 40.7**	**-1.3**
JOW	**Kunigami**	**8.88**	**44**	LR	LR	23 27 11.9	
	comp=Z,111nm,18.7s,baz=69,slow=39						
MJAR	**Matsushiro Arr**	**21.68**	**39**	P	**P**	**23 25 50.1**	**+7.5**
	3.4nm,0.8s,mb3.8,baz=245,slow=10,SNR=7.9						
SONM	**Songino Array**	**29.78**	**339**	P	**P**	**23 27 00.3**	**+1.8**
	0.4nm,0.7s,mb3.3,baz=150,slow=9.9,SNR=3.2						
PMG	**Port Moresby**	**39.12**	**137**	LR	LR	23 43 53.7	
	comp=Z,95nm,18.4s,MS3.6,baz=212,slow=35						
MKAR	**Makanchi Array**	**41.11**	**319**	P	**P**	**23 28 35.0**	**-0.7**
	0.2nm,0.3s,mb3.2,baz=77,slow=5.4,SNR=5.3						
WRA	**Warramunga Arr**	**42.21**	**162**	P	**P**	**23 28 44.5**	**-0.2**
	3.8nm,0.9s,mb4.0,baz=343,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**45.62**	**164**	P	**P**	**23 29 11.9**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=335,slow=7.3,SNR=5.5						
YKA	**Yellowknife Ar**	**86.23**	**23**	P	**P**	**23 33 33.7**	**+0.3**
	0.5nm,0.6s,mb3.9,baz=311,slow=4.6,SNR=5.9						
YKA	**Yellowknife Ar**	**86.23**	**23**	P	**P**	**23 33 33.7**	**+0.3**

BJI 13 23:30:42.7, 143S×134.14E, h30km, mB4.9, mb4.7, Ms4.8, Msz4.2
IDC 13 23:30:47.0±0.7, 073S×13347E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.3/19, mbtmp4.3/14, ML4.7/2, MS3.8/3, Ms1 3.9/3, ms1mx3.1/27, Error ellipse: s-maj=42.6km s-min=11.3km az=76.0
ISCJB 13 23:30:49.2±2.3, 080S±005×1337E±0.1, h33km±20km, mb4.6/35, MS3.8/3, Error ellipse: s-maj=20.9km s-min=6.8km az=147.3
NEIC 13 23:30:51.1±0.3, 074S×13370E, h30km, mb4.6/19, Error ellipse: s-maj=14.2km s-min=6.1km az=75.0

ISC 13 23:30:51.8±2.0, 079S±007×1338E±01, h39km±18km, h31km±7.9km; pP-P, n64, σ0°84/67, mb4.6/35, MS3.8/3, 2C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.92**	**186**	*e*P	**Pn**	**23 33 39.1**	**-0.1**
	44nm,0.4s						
KAKA				*e*S	**Sn**	**23 35 44.1**	**-6.8**
KKM	**Kota Kinabalu**	**18.82**	**291**	*e*P	**Pn**	**23 35 08.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.98**	**205**	*e*P	**Pn**	**23 35 09.1**	**-1.8**
	16nm,0.4s						
FITZ				*e*S	**S**	**23 38 28.5**	**-15**
FITZ	**Fitzroy Crossi**	**18.98**	**205**	P	**Pn**	**23 35 09.0**	**-2.0**
	0.9nm,0.3s,baz=35,slow=14,SNR=42						
FITZ				S	**S**	**23 38 29.1**	**-14**
	0.4nm,0.3s,baz=163,slow=12,SNR=10.0						
WRA	**Warramunga Arr**	**19.04**	**178**	P	**Pn**	**23 35 11.2**	**-0.5**
	3.4nm,0.3s,baz=356,slow=12,SNR=55						
WRA				S	**S**	**23 38 39.0**	**-5.6**
	0.6nm,0.3s,baz=359,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**19.05**	**178**	*e*P	**Pn**	**23 35 10.3**	**-1.3**
WB2				*e*S	**S**	**23 38 32.3**	**-12**
WB2	**Warramunga Arr**	**19.05**	**178**	*e*P	**Pn**	**23 35 10.5**	**-1.1**
WB2				*e*S	**S**	**23 38 36.1**	**-8.6**
CTA	**Charters Tower**	**22.72**	**148**	*e*P	**P**	**23 35 54.0**	**+3.7**
	8.0nm,0.9s,mb4.2						
CTA	**Charters Tower**	**22.72**	**148**	P	**P**	**23 35 53.5**	**+3.2**
	2.8nm,0.5s,mb4.0,baz=348,slow=10,SNR=3.3						
CTAO	**Charters Tower**	**22.72**	**148**	*e*P	**P**	**23 35 55.7**	**+5.4**
	30nm,1.3s,mb4.6						
AS31	**Alice Springs**	**22.74**	**180**	*e*P	**P**	**23 35 51.1**	**+0.6**
ASAR	**Alice Springs**	**22.74**	**180**	P	**P**	**23 35 51.1**	**+0.6**
	5.6nm,0.6s,mb4.2,baz=358,slow=11,SNR=44						
ASAR				S	**S**	**23 40 05.0**	**+8.2**
	0.9nm,0.7s,baz=0.7,slow=24,SNR=4.1						
ASAR				LR	LR	23 43 14.6	
	comp=Z,111nm,21.6s,MS3.3,baz=82,slow=33						
ASPA	**Alice Springs**	**22.74**	**180**	*e*P	**P**	**23 35 51.3**	**+0.8**
ASPA				*e*S	**S**	**23 40 04.3**	**+7.5**
KSM	**Kuching**	**23.60**	**275**	P	**P**	**23 36 00.4**	**+1.2**
MBWA	**Marble Bar**	**24.47**	**213**	*e*P	**P**	**23 36 08.4**	**+1.3**
	46nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**31.79**	**167**	*e*P	**P**	**23 37 12.7**	**+0.2**
	7.2nm,1.9s,mb4.2						
STKA	**Stephens Creek**	**31.79**	**167**	P	**P**	**23 37 12.8**	**+0.3**
	1.1nm,0.3s,mb4.2,baz=332,slow=9.8,SNR=6.4						
STKA				LR	LR	23 51 20.8	
	comp=Z,308nm,18.3s,MS4.0,baz=22,slow=39						
KULM	**Kulim**	**33.66**	**281**	*e*P	**P**	**23 37 27.7**	**-1.2**
MAJO	**Matsushiro**	**37.37**	**6**	*e*P	**P**	**23 38 04.4**	**+3.7**
	35nm,2.0s,mb4.8						
KMI	**Kunming**	**39.59**	**313**	P	**P**	**23 38 21.0**	**+1.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
KMI	**Kunming**	**39.59**	**313**	P	**P**	**23 38 21.0**	**+1.6**
	comp=Z,6.0nm,0.8s,mb4.4						
CD2	**Chengdu**	**42.53**	**320**	*e*P	**P**	**23 38 43.8**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
BJT	**Baijiatuau**	**43.69**	**340**	*e*P	**P**	**23 38 52.5**	**-0.5**
	comp=Z,8.0nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**45.36**	**356**	P	**P**	**23 39 05.9**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,63nm,4.8s						
MDJ	**Mudanjiang**	**45.36**	**356**	*e*P	**P**	**23 39 05.2**	**-1.0**
	comp=Z,5.4nm,0.6s,mb4.5						
LZH	**Lanzhou**	**46.08**	**326**	*e*P	**P**	**23 39 12.1**	**+0.2**
LZH				AP	pP	23 39 22.3	-0.7
LZH				XP	sP	23 39 25.4	-2.2
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
LZH	**Lanzhou**	**46.08**	**326**	*e*P	**P**	**23 39 12.1**	**+0.2**
	comp=Z,19nm,1.2s,mb4.9						
LZH				pP	pP	23 39 22.2	-0.8
LZH				sP	sP	23 39 25.4	-2.2
HHC	**Hu-ho-hao-te**	**46.12**	**337**	*e*P	**P**	**23 39 13.0**	**+0.8**
HHC				AP	pP	23 39 22.8	-0.5
HHC				XP	sP	23 39 26.4	-1.5
HHC				PCP	PcP	23 40 48.8	+0.9
HHC				PP	PP	23 41 00.1	-0.7
HHC				PCS	PcS	23 44 43.0	+0.6
HHC				S	**S**	**23 45 55.4**	**+0.1**
HHC				XS	sS	23 46 13.0	-0.7
HHC				SCS	ScS	23 49 05.3	+0.7
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,114nm,5.5s						
HHC				LR	LR		
	comp=N,123nm,6.7s						
HHC				LR	LR		
	comp=E,124nm,5.3s						
HHC				LR	LR		
	comp=Z,96nm,6.7s						
GTA	**Gaotai**	**50.68**	**326**	*e*P	**P**	**23 39 48.0**	**+0.6**
GTA				AP	pP	23 39 52.1	-6.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
LSA	**Lhasa**	**50.72**	**310**	*e*P	**P**	**23 39 48.6**	**+0.9**
	comp=Z,4.8nm,0.6s,mb4.6						
JIRN	**Jiri**	**53.73**	**306**	*e*P	**P**	**23 40 10.5**	**+0.5**
	comp=Z,1.9nm,0.2s,mb4.7						
SONM	**Songino Array**	**53.99**	**337**	P	**P**	**23 40 12.2**	**+0.3**
	comp=Z,1.8nm,0.9s,mb4.0,baz=149,slow=8.0,SNR=11						
SONM				PcP	PcP	23 41 17.2	+0.5
	comp=Z,1.6nm,0.6s,baz=148,slow=4.0,SNR=9.0						
GUN	**Gumba**	**54.08**	**306**	*e*P	**P**	**23 40 12.9**	**+0.3**
	comp=Z,52nm,0.7s,mb5.6						
PKI	**Pulchoki**	**54.33**	**305**	*e*P	**P**	**23 40 14.3**	**-0.1**
KKN	**Kakani**	**54.52**	**305**	*e*P	**P**	**23 40 15.8**	**0.0**
	comp=Z,22nm,0.6s,mb5.4						
DMN	**Daman**	**54.59**	**305**	*e*P	**P**	**23 40 16.4**	**+0.1**
	comp=Z,33nm,0.6s,mb5.5						
GKN	**Gorkha**	**55.13**	**305**	*e*P	**P**	**23 40 20.1**	**-0.1**
	comp=Z,34nm,0.7s,mb5.5						
KOLN	**Koldanda**	**55.89**	**305**	*e*P	**P**	**23 40 26.1**	**+0.4**
	comp=Z,62nm,0.8s,mb5.7						
WMQ	**Urumqi**	**60.50**	**323**↑	*i*P	**P**	**23 40 58.6**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,120nm,4.6s						
MKAR	**Makanchi Array**	**65.31**	**324**	P	**P**	**23 41 30.2**	**+0.3**
	comp=Z,4.9nm,0.5s,mb4.8,baz=113,slow=8.2,SNR=90						
CASY	**Casey**	**67.41**	**190**	*e*P	**P**	**23 41 43.2**	**-0.2**
ZAL	**Zalesovo**	**67.86**	**331**	P	**P**	**23 41 45.5**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=50,slow=4.6,SNR=8.3						
AAK	**Ala-Archa**	**68.44**	**317**	*e*P	**P**	**23 41 49.8**	**0.0**
BVAR	**Borovoye Array**	**74.96**	**326**	P	**P**	**23 42 28.8**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.4,baz=116,slow=6.8,SNR=20						
BRVK	**Borovoye**	**75.03**	**326**↑	*e*P	**P**	**23 42 28.8**	**-0.6**
	comp=Z,3.8nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**75.09**	**327**	*e*P	**P**	**23 42 28.0**	**-1.7**
	comp=Z,2.6nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**75.71**	**326**	*e*P	**P**	**23 42 32.9**	**-0.4**
	comp=Z,7.7nm,1.1s,mb4.5						
VNDA	**Vanda**	**78.15**	**174**	P	**P**	**23 42 47.5**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=299,slow=4.7,SNR=8.1						
VNDA				LR	LR	00 13 52.8	
	comp=Z,82nm,18.6s,MS4.1,baz=320,slow=33						
VNDA	**Vanda**	**78.15**	**174**	*e*P	**P**	**23 42 47.4**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.0						
VNDA				P		23 42 47.5	
AKTK	**Aktyubinsk**	**81.58**	**321**	P	**P**	**23 43 05.0**	**-0.5**
AKTO	**Aktyubinsk**	**81.58**	**321**	P	**P**	**23 43 05.0**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=122,slow=4.9,SNR=4.9						
MAW	**Mawson**	**82.08**	**201**	P	**P**	**23 43 08.5**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=331,slow=6.5,SNR=3.3						
MAW	**Mawson**	**82.08**	**201**	*e*P	**P**	**23 43 08.1**	**-0.1**
	comp=Z,3.6nm,1.1s,mb4.2						
MAW				P		23 43 08.5	
ARU	**Arti**	**82.52**	**327**	*e*P	**P**	**23 43 09.4**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.4						
MCK	**McKinley**	**85.07**	**26**	*e*P	**P**	**23 43 23.3**	**-0.2**
	comp=Z,9.7nm,1.5s,mb4.7						
QSPA	**South Pole Qui**	**89.15**	**180**	*e*P	**P**	**23 43 43.6**	**+0.3**
	comp=Z,8.4nm,1.3s,mb4.9						
ARCES	**ARCESS Array B**	**97.08**	**340**	P	**P**	**23 44 18.8**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.6,baz=69,slow=6.6,SNR=6.9						
BRTR	**Keskin Array B**	**98.32**	**310**	P	**P**	**23 44 24.3**	**-1.1**
	comp=Z,0.3nm,0.4s,mb4.2,baz=72,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**131.01**	**287**	PKP	PKPdf	23 50 00.8	+1.5
	comp=Z,0.6nm,0.8s,baz=50,slow=1.3,SNR=4.2						
PLCA	**Paso Flores**	**133.11**	**155**	PKP	PKPdf	23 50 06.0	+2.8
	comp=Z,1.6nm,0.8s,baz=180,slow=3.0,SNR=3.6						
LVC	**Limon Verde**	**147.90**	**138**	PKPbc	PKPbc	23 50 36.8	+4.1
	comp=Z,1.7nm,0.7s,baz=340,slow=2.1,SNR=3.6						
CPUP	**Villa Florida**	**150.98**	**159**	PKPbc	PKPbc	23 50 42.5	+2.1
	comp=Z,5.2nm,0.8s,baz=195,slow=3.1,SNR=2.9						
LPAZ	**La Paz**	**152.50**	**129**	PKPbc	PKPbc	23 50 47.9	+4.0
	comp=Z,2.3nm,0.8s,baz=257,slow=1.6,SNR=11						
LPAZ	**La Paz**	**152.50**	**129**	*e*PKPbc	PKPbc	23 50 47.3	+3.4

NEIC 13 23:32:52.7, 1929N×10450W, h20km, mb4.2/1, MD4.2(MEX), After MEX.

MEX 13 23:32:52.4±0.5, 1927N×10449W, h20km±34km, MD4.2, 2C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.57**	**293**↑	*i*P	Pb	23 33 01.6	-2.2
CJM				*i* S	Sb	23 33 09.6	-1.8
ANIG	**Ahuacatlan**	**1.77**	**359**↑	*i*P	Pn	23 33 19.2	-2.7
ANIG				*i* S	Sn	23 33 40.0	-3.9
SFJM	**Santa Fe**	**1.82**	**48**	*i* P	Pn	23 33 20.0	-2.5
MOIG	**Morelia**	**3.14**	**82**	*e*P	Pn	23 33 39.0	-1.6
MOIG				*i* S	Sn	23 34 12.8	-4.7
MOIG	**Morelia**	**3.14**	**82**	*e*P	Pn	23 33 41.2	+0.6
MOIG				*i* S	Sn	23 34 12.8	-4.7
ZAIG	**Zacatecas**	**3.91**	**27**	*e*P	Pn	23 33 49.5	-1.8
ZAIG				*i* S	Sn	23 34 34.3	-2.3
CAIG	**El Cayaco**	**4.58**	**118**	*e*P	Pn	23 33 59.2	-1.3
CAIG				*i* S	Sn	23 34 50.2	-2.9
CAIG	**El Cayaco**	**4.58**	**118**	*e*P	Pn	23 34 01.2	+0.7
CAIG				*i* S	Sn	23 34 50.2	-2.9
PLIG	**Platanillo**	**4.80**	**100**	*e*P	Pb	23 34 12.1	-3.7
PLIG				*i* S	Sn	23 34 56.8

LIT	Litokhoron	1.82	29	ePn	Pn	23 51 12.7	-0.8
LIT				eSn	Sn	23 51 38.6	+1.5
KZN	Kozani	1.82	10	ePN	Pn	23 51 13.8	+0.2
KZN				eSN	Sn	23 51 37.9	+0.6
KZN	Kozani	1.82	10	ePn	Pn	23 51 13.8	+0.2
KZN				eSn	Sn	23 51 37.8	+0.5
NAIG	Nisos Aigina	1.85	113	ePN	Pn	23 51 15.0	+1.1
ATH	Athens Observa	1.94	105	ePN	Pn	23 51 16.4	+1.2
ATH				eSN	Sn	23 51 42.7	+2.5
PTL	Penteli	2.04	102	ePN	Pn	23 51 17.0	+0.5
AOS	Alonnisos	2.09	71	ePn	Pn	23 51 16.2	-1.0
KBN	Korca	2.15	349	*i* Pn	Pn	23 51 19.7	+1.6
KBN				*i* Sn	Sg	23 51 51.8	+1.3
KBN	Korca	2.15	349	ePn	Pn	23 51 19.7	+1.6
VLI	Veliai	2.19	144	ePN	Pn	23 51 20.5	+1.9
VLI				eSN	Sg	23 51 50.3	-1.3
VLI	Veliai	2.19	144	ePn	Pn	23 51 20.5	+1.9
VLI				eSn	Sg	23 51 50.5	-1.1
FNA	Florina	2.27	1	ePn	Pn	23 51 19.4	-0.4
FNA				eSn	Sn	23 51 49.6	+1.3
THE	Thessaloniki	2.46	30	ePn	Pn	23 51 21.1	-1.3
PLG	Polygyros	2.47	41	ePn	Pn	23 51 21.2	-1.3
PLG				eSn	Sn	23 51 53.8	+0.5
PLG	Polygyros	2.47	41	ePn	Pn	23 51 22.7	+0.2
PLG				eSn	Sn	23 51 53.7	+0.4
HORT	Hortiatis	2.49	33	ePn	Pn	23 51 22.1	-0.6
GRG	Griva	2.58	18	ePn	Pn	23 51 24.4	+0.4
OHR	Ohrid	2.63	351	ePn	Pn	23 51 23.3	-1.4
OHR				eSn	Sn	23 51 57.8	+0.6
OHR	Ohrid	2.63	351	ePn	Pn	23 51 25.1	+0.4
OHR				eSn	Sn	23 51 58.3	+1.1
OUR	Ouranopolis	2.74	47	ePn	Pn	23 51 25.0	-1.2
SOH	Sokhos	2.78	33	ePn	Pn	23 51 26.8	+0.1
SOH				eSn	Sn	23 52 02.2	+1.4
SOH	Sokhos	2.78	33	ePn	Pn	23 51 26.8	0.0
SOH				eSn	Sn	23 52 02.2	+1.3
KNT	Kendrikon	2.91	24	ePn	Pn	23 51 28.2	-0.3
KNT				eSn	Sn	23 52 05.4	+1.5
VAY	Valandovo	2.96	18	ePn	Pn	23 51 29.4	+0.2
VAY	Valandovo	2.96	18	ePn	Pn	23 51 29.6	+0.3
VAY	Valandovo	2.96	18	ePn	Pn	23 51 29.5	+0.3
TIR	Tirane	3.05	339	ePn	Pn	23 51 29.2	-1.3
SRS	Serrai	3.13	33	ePn	Pn	23 51 30.6	-0.9
STIP	Stip	3.25	11	ePn	Pn	23 51 33.6	+0.5
STIP	Stip	3.25	11	ePn	Pn	23 51 33.5	+0.4
STIP				eSn	Sn	23 52 14.7	+2.4
STIP	Stip	3.25	11	ePn	Pn	23 51 33.6	+0.5
STIP				eSn	Sn	23 52 14.7	+2.4
NVR	Nevrokopi	3.44	34	ePN	Pn	23 51 36.3	+0.6
NVR				eSN	Sn	23 52 17.7	+0.7
NVR	Nevrokopi	3.44	34	ePn	Pn	23 51 36.2	+0.5
NVR				eSn	Sn	23 52 17.7	+0.7
SKO	Skopje	3.46	1	ePn	Pn	23 51 36.7	+0.6
SKO	Skopje	3.46	1	ePn	Pn	23 51 36.6	+0.5
MMB	Musomiste	3.58	30	ePn	Pn	23 51 37.0	-0.7
MMB				eSn	Sn	23 52 20.9	+0.3
MMB	Musomiste	3.58	30	*i* P	Pn	23 51 34.8	-2.9
MMB				S	Sn	23 52 23.0	+2.4
KKB	Krupnik	3.61	21	*i* P	Pn	23 51 39.4	+1.3
KKB				S	Sn	23 52 24.4	+3.1
APE	Apeiranthos	3.62	112	⇑*i*P	Sn	23 52 24.9	+3.4
TIP	Timpagrande	3.64	282	ePn	Pn	23 51 38.4	-0.2
TIP				eS	Sn	23 52 25.0	+2.9
TIP	Timpagrande	3.64	282	ePn	Pn	23 51 38.4	-0.2
TIP				eS	Sn	23 52 25.0	+2.9
PUK	Puka	3.70	343	*i* Pn	Pb	23 51 46.5	-0.8
PUK				*i* Sn	Sg	23 52 48.2	+8.1
CHOS	Chios island	3.70	90	ePn	Pn	23 51 37.5	-1.9
ULC	Ulcinj	3.80	336	⇑*i*Pn	Pn	23 51 41.6	+0.8
ULC				eSn	Sn	23 52 26.4	+0.3
RZN	Rozhen	4.09	38	*i* P	Pn	23 51 40.5	-4.3
ORI	Oriolo Calabro	4.10	294	Pn	Pn	23 51 45.4	+0.5
PVY	Plav	4.21	346	⇑*i*Pn	Pn	23 51 46.2	-0.2
PVY				eSn	Sn	23 52 36.7	+0.5
BUM	Brajici-Budva	4.22	335	⇑*i*Pn	Pn	23 51 45.5	-1.0
BUM				eSn	Sn	23 52 36.1	-0.3
TTG	Podgorica	4.23	339	⇑*i*Pn	Pn	23 51 46.5	-0.1
TTG				eSn	Sn	23 52 36.9	+0.4
CEL	Celeste	4.29	268	P	Pn	23 51 50.2	+2.7
VTS	Vitosha	4.32	19	S	Sn	23 52 39.8	+1.0
VTS				*i* P		23 51 49.0	
ALN	Alexandroupoli	4.34	55	ePn	Pn	23 51 47.5	-0.7
PLD	Plovdiv	4.42	35	ePn	Pn	23 51 49.8	+0.6
MTTG	Motta San Giov	4.47	265	Pn	Pn	23 51 50.9	+0.9
HCY	Herceg Novi	4.49	332	⇑*i*Pn	Pn	23 51 50.0	-0.2
HCY				eSn	Sn	23 52 46.7	-0.4
IVA	Berane	4.49	346	⇓*i*Pn	Pn	23 51 51.0	+0.7
IVA				eSn	Sn	23 52 43.2	+0.1
NKY	Niksic	4.65	338	⇓*i*Pn	Pn	23 51 53.0	+0.5
NKY				eSn	Sn	23 52 47.1	0.0
BRY	Bratogost	4.88	335	⇓*i*Pn	Pn	23 51 55.9	+0.4
BRY				eSn	Sn	23 52 52.1	-0.4
PLE	Pljevlja	5.04	344	⇓*i*Pn	Pn	23 51 58.4	+0.7
PLE				eSn	Sn	23 52 56.2	-0.3
UPM	Unac-Piva	5.04	339	⇑*i*Pn	Pn	23 51 58.1	+0.3
UPM				eSn	Sn	23 52 55.7	-0.8
SLNA	Salina	5.11	273	Pn	Pn	23 51 59.2	+0.5
	31nm,0.4s						
STON	Ston	5.16	329	*i* Pn	Pn	23 51 56.5	-3.0
STON				*i* Sn	Sn	23 52 54.7	-4.9
STON	Ston	5.16	329	*i* Pn	Pn	23 51 56.5	-3.0
STON				*i* Sn	Sn	23 52 54.6	-5.0
GRUS	Gruza	5.39	355	*i* Pn	Pn	23 52 02.5	-0.1
GRUS	Gruza	5.39	355	Pn	Pn	23 52 02.5	-0.2
RGNG	Rignano Grg	5.43	307	Pn	Pn	23 52 02.2	-0.9
FG5	Orsara di Pugl	5.43	303	P	Pn	23 52 03.5	+0.3
FG5				pmax	pmax		
	comp=Z,13nm,0.3s						
FG5	Orsara di Pugl	5.43	303	P	Pn	23 52 03.5	+0.3
	comp=Z,13nm,0.3s						
VAE	Valguarnera	5.57	261	P	Pb	23 52 14.9	-4.3
	comp=Z,1.2nm,0.3s,baz=83,slow=19,SNR=4.7						
VAE				S	Sn	23 53 15.3	+5.6
	comp=Z,0.8nm,0.3s,baz=91,slow=9.6,SNR=2.6						
JMB	Yambol	5.62	44	ePn	Pn	23 52 05.2	-0.6
DIVS	Divcibare	5.68	350	*i* Pn	Pn	23 52 05.6	-1.0
DIVS				Sn	Sn	23 53 00.2	-12
DIVS	Divcibare	5.68	350	ePn	Pn	23 52 05.4	-1.1
DIVS				eSn	Sn	23 53 11.0	-1.3
FG2	Serracapriola	5.77	307	Pn	Pn	23 52 03.8	-4.0
	comp=Z,102nm,0.8s						
CIGN	Sant'Elia a Pi	5.85	304	Pn	Pn	23 52 09.0	+0.1
SGG	Gregorio Mates	6.07	300	Pn	Pn	23 52 12.6	+0.6
	comp=Z,27nm,0.7s						
VVLD	Villa Vallelon	6.80	302	Pn	Pn	23 52 23.1	+1.2
	comp=Z,47nm,1.0s						
GZR	Gura Zlata	6.96	8	⇑*i*P	Pn	23 52 26.2	+2.0
GZR	Gura Zlata	6.96	8	⇑P	Pn	23 52 26.2	+2.0
BZS	Buzias	7.11	2	⇑*i*P	Pn	23 52 27.7	+1.5
BZS	Buzias	7.11	2	⇑P	Pn	23 52 27.7	+1.5
AQU	L'Aquila	7.17	305	⇑*i*P	Pn	23 52 30.9	+3.8
AQU	L'Aquila	7.17	305	eP	Pn	23 52 27.9	+0.9
AQU	L'Aquila	7.17	305	eP	Pn	23 52 27.9	+0.8
TERO	Teramo	7.18	307	Pn	Pn	23 52 29.3	+2.1
	comp=Z,15nm,0.7s						
VOIR		7.45	21	⇑*i*P	Pn	23 52 32.5	+1.6
VOIR		7.45	21	⇑P	Pn	23 52 32.5	+1.6
MLR	Muntele Rosu	7.77	25	P	Pn	23 52 38.0	+2.7
	comp=Z,0.9nm,0.3s,baz=188,slow=14,SNR=16						
MLR	Muntele Rosu	7.77	25	⇑*i*P	Pn	23 52 38.0	+2.7
MLR	Muntele Rosu	7.77	25	⇑P	Pn	23 52 38.0	+2.7
PKSM	Moragy	7.95	346	⇑*i*P	Pn	23 52 35.0	-2.8
PKSM	Moragy	7.95	346	⇑P	Pn	23 52 35.0	-2.8
FSSB	Fossombrone	8.28	311	Pn	Pn	23 52 41.3	-1.0
PLOR	Plostina	8.32	27	⇓*i*P	Pn	23 52 46.3	+3.4
VRI	Vrincioaia	8.37	27	⇑*i*P	Pn	23 52 46.3	+2.8
VRI	Vrincioaia	8.37	27	⇑P	Pn	23 52 46.3	+2.8
PSZ	Piszkesteto	9.46	354	eP	Pn	23 52 57.3	-1.2
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PSZ	Piszkesteto	9.46	354	ePn	Pn	23 52 57.3	-1.2
	comp=Z,8.3nm,0.8s						
PSZ	Piszkesteto	9.46	354	ePn	Pn	23 52 57.3	-1.2
	comp=Z,8.3nm,0.8s						
BURAR	Bucovina Array	9.53	16	⇑*i*P	Pn	23 52 59.2	-0.2
BR131	Keskin Array S	9.63	79	ePn	Pn	23 53 03.0	+2.1
	comp=Z,1.7nm,0.6s						
BRTR	Keskin Array B	9.63	79	P	Pn	23 53 03.0	+2.1
	comp=Z,0.3nm,0.3s,baz=259,slow=14,SNR=9.8						
SWA2		9.85	159	⇑P	Pn	23 53 03.9	0.0
SWA2				S	Sn	23 54 38.9	-16
SWA1		9.91	157	⇓P	Pn	23 53 04.4	-0.2
CSS	Prodhromos	10.25	107	ePn	Pn	23 53 11.3	+2.0
	comp=Z,58nm,1.9s						
CSS	Prodhromos	10.25	107	ePn	Pn	23 53 11.3	+2.0
	comp=Z,58nm,1.9s						
VRAC	Vranov	11.32	344	P	Pn	23 53 23.9	-0.1
	comp=Z,0.1nm,0.3s,baz=179,slow=16,SNR=3.5						
GERES	GERESS Array B	11.71	334	P	Pn	23 53 27.7	-1.6
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=4.1						
HFRF	Wahat Farafira	12.75	151	P	Pn	23 53 38.2	-5.3
HFRF	Wahat Farafira	12.75	151	P	Pn	23 53 38.2	-5.3
	comp=Z,359nm,1.1s						
MALT	Malatya	13.40	86	ePn	Pn	23 54 00.7	+8.3
AKASG	Malin Array Be	13.41	22	P	Pn	23 53 54.2	+1.7
	comp=Z,0.3nm,0.3s,baz=211,slow=13,SNR=3.4						
CLL	Collm	14.08	338	e(PP)	Pn	23 54 11.0	+9.3
ASF	Jabal al Asfar	14.18	112	P	Pn	23 54 13.0	+10
	comp=Z,0.1nm,0.3s,baz=180,slow=9.2,SNR=5.6						
SUW	Suwalki	15.56	4	eP	Pn	23 54 22.2	+0.6
SUW				pmax	pmax		
	comp=Z,22nm,0.9s						
SUW	Suwalki	15.56	4	eP	Pn	23 54 22.2	+0.6
	comp=Z,22nm,0.9s						
SUW	Suwalki	15.56	4	eP	Pn	23 54 22.2	+0.6
	comp=Z,22nm,0.9s						
GNI	Garni	18.17	77	P	Pn	23 54 57.5	+2.9
	comp=Z,0.2nm,0.3s,baz=197,slow=14,SNR=3.8						
ESDC	Sonseca Array	19.66	281	P	Pn	23 55 10.9	-1.8
	comp=Z,0.6nm,0.3s,baz=86,slow=12,SNR=4.8						
MDT	Midelt	21.81	263	LR	LR	00 04 34.0	
	comp=Z,35nm,18.9s,MS2.8,baz=125,slow=38						
HFS	Hagfors	22.18	350	P	P	23 55 35.9	-2.7
	comp=Z,1.7nm,0.6s,mb3.7,baz=160,slow=9.5,SNR=8.5						
HFS				LR	LR	00 04 43.6	
	comp=Z,94nm,18.1s,MS3.2,baz=195,slow=38						
HFS	Hagfors	22.18	350	P	P	23 55 35.9	-2.7
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,94nm,18.1s						
HFS	Hagfors	22.18	350	P	P	23 55 35.9	-2.7
HFS				LR	LR	00 04 43.6	
FINES	FINESS Array B	23.15	6	P	P	23 55 44.8	-4.0
	comp=Z,4.6nm,0.7s,mb4.0,baz=186,slow=9.8,SNR=12						
FINES				LR	LR	00 05 58.5	
	comp=Z,66nm,20.0s,MS3.1,baz=312,slow=40						
FINES	FINESS Array B	23.15	6	P	P	23 55 44.8	-4.0
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,66nm,20.0s						
NAO01	NORSAR Array S	23.30	347	eP	P	23 55 47.9	-2.5
	comp=Z,5.1nm,0.8s,mb4.0						
NAO01	NORSAR Array S	23.30	347	eP	P	23 55 47.9	-2.5
	comp=Z,5.1nm,0.8s,mb4.0						
NB2	NORSAR Subarra	23.43	348	P	P	23 55 49.6	-2.2
	comp=Z,5.0nm,0.9s,mb3.9,baz=152,slow=10						
NOA	NORSAR Array B	23.43	348	P	P	23 55 48.4	-3.4
	comp=Z,2.1nm,0.8s,mb3.6,baz=167,slow=10,SNR=9.9						
NOA				LR	LR	00 05 18.8	
	comp=Z,44nm,21.8s,MS2.9,baz=175,slow=38						
NOA	NORSAR Array B	23.43	348	P	P	23 55 48.4	-3.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,44nm,21.8s						
EKA	Eskdalemuir Ar	23.54	324	P	P	23 55 50.5	-2.5
	comp=Z,3.8nm,0.9s,mb3.8,baz=117,slow=10,SNR=7.3						
EKA	Eskdalemuir Ar	23.54	324	P	P	23 55 50.5	-2.4
EKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KAF	Kangasniemi	23.83	6	ep	P	23 55 52.0	-3.6
	comp=Z,2.4nm,0.7s,mb3.7						
KAF	Kangasniemi	23.83	6	eP	P	23 55 52.0	-3.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
JOF	Joensuu	25.18	11	ep	P	23 56 03.3	-4.7
	comp=Z,3.1nm,0.5s,mb4.1						
JOF	Joensuu	25.18	11	eP	P	23 56 03.3	-4.7
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
AKTO	Aktyubinsk	28.46	53	LR	LR	00 09 30.6	
	comp=Z,40nm,18.2s,MS3.0,baz=8.5,slow=40						
ARU	Arti	30.38	42	eP	P	23 56 53.1	-1.5
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
ARU	Arti	30.38	42	eP	P	23 56 53.1	-1.5
	comp=Z,3.8nm,1.0s,mb4.1						
ARU	Arti	30.38	42	eP	P	23 56 53.1	-1.5
	comp=Z,3.8nm,1.0s,mb4.1						
TORD	Torodi Ar. Bea	30.70	220	P	P	23 56 56.8	-0.6
	comp=Z,1.6nm,0.7s,mb4.0,baz=33,slow=9.0,SNR=14						
ARCES	ARCESS Array B	31.17	3	P	P	23 56 59.6	-1.9
	comp=Z,2.6nm,0.9s,mb4.1,baz=195,slow=10,SNR=4.1						
ARCES				LR	LR	00 10 39.9	
	comp=Z,80nm,18.7s,MS3.4,baz=209,slow=38						
ARCES	ARCESS Array B	31.17	3	P	P	23 56 59.6	-1.9
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,80nm,18.7s						
CHKZ	Chkalovo	36.59	49	eP	P	23 57 46.7	-1.9
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.2						
CHKZ	Chkalovo	36.59	49	eP	P	23 57 46.7	-1.9
	comp=Z,6.8nm,1.6s,mb4.2						
CHKZ	Chkalovo	36.59	49	eP	P	23 57 46.7	-1.9
	comp=Z,6.8nm,1.6s,mb4.2						
AAK	Ala-Archa	40.03	67	eP	P	23 58 15.2	-2.4
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
AAK	Ala-Archa	40.03	67	eP	P	23 58 15.2	-2.4
	comp=Z,4.1nm,1.1s,mb4.1						
FRU	Bishkek	40.08	66	eP	P	23 58 17.8	-0.2
FRU				pmax	pmax		
	comp=Z,35nm,1.6s,mb4.8						
MKAR	Makanchi Array	44.58	59	P	P	23 58 52.7	-2.0
	comp=Z,1.2nm,0.6s,mb3.9,baz=278,slow=6.7,SNR=16						
MKAR	Makanchi Array	44.58	59	P	P	23 58 52.7	-1.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.58	59	P	P	23 58 52.7	-2.0
ZAL	Zalesovo	44.98	48	P	P	23 58 55.7	-2.2
	comp=Z,2.0nm,0.3s,mb4.4,baz=210,slow=7.7,SNR=10						
ZAL	Zalesovo	44.98	48	P	P	23 58 55.7	-2.1
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	44.98	48	P	P	23 58 55.7	-2.2
SONM	Songino Array	59.75	51	P	P	00 00 45.8	-1.7
	comp=Z,0.7nm,0.8s,mb3.7,baz=297,slow=8.0,SNR=4.5						
SONM	Songino Array	59.75	51	P	P	00 00 45.8	-1.7
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOSA	Boshof	66.87	176	P	P	00 01 35.0	+0.3
	comp=Z,2.4nm,0.9s,mb4.2,baz=349,slow=7.2,SNR=3.9						
BOSA	Boshof	66.87	176	eP	P	00 36 24.8	
	comp=Z,49nm,18.2s,MS3.8,baz=143,slow=41						
BOSA	Boshof	66.87	176	eP	P	00 01 34.9	+0.2
	comp=Z,1.4nm,0.7s,mb4.1						
FLWY	Flagg Ranch	87.06	328	eP	P	00 03 24.9	-3.4
	comp=Z,14nm,1.7s,mb4.9						

GUC 13 23:51:36.4±0.6,3136S×7168W,h16km±4km,MD3.7, ML3.6,5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.55	164	⇓*i*P	Pg	23 51 46.9	-0.3
CHNG				*i* S	Sg	23 51 54.5	-0.1
CHNG				AML	AML	23 51 55.5	
	comp=E,4μm,0.3s						
CMCH	Combarbala	0.61	73	⇑*i*P	Pg	23 51 48.0	-0.4
CMCH				*i* S	Sg	23 51 56.9	+0.4
CMCH				AML	AML	23 51 57.7	
	comp=N,8μm,0.4s						
OVCH	Ovalle	0.85	29	⇑*i*P	Pb	23 51 51.6	-1.1
OVCH				*i* S	Sb	23 52 03.2	-0.7
OVCH				AML	AML	23 52 06.0	
	comp=E,3μm,0.6s						
PTCH	Petorca	1.11	145	⇑*i*P	Pb	23 51 55.9	-1.3
PTCH				*i* S	Sb	23 52 10.6	-0.7
PTCH				AML	AML	23 52 13.3	
	comp=N,5μm,0.2s						
TLL	Tololo Astrono	1.41	33	⇑*i*P	Pn	23 52 01.0	-0.3
TLL				*i* S	Sn	23 52 19.5	+0.1
TLL				AML	AML	23 52 23.6	
	comp=E,1μm,0.4s						
LSCH	La Serena	1.49	15	⇑*i*P	Pn	23 52 01.9	-0.6
LSCH				*i* S	Sn	23 52 21.5	-0.1
JACH	Jahuel	1.61	145	eP	Pn	23 52 04.1	0.0
JACH				*i* S	Sn	23 52 25.0	+0.5
ROCH	El Roble	1.71	161	*i* P	Pn	23 52 05.7	+0.2
ROCH				*i* S	Sn	23 52 27.8	+0.9
PEL	Peldehue	1.97	155	AML	AML	23 52 38.3	
	comp=E,1μm,0.5s						
RCDM	Rinconada Maip	2.25	161	AML	AML	23 52 51.0	
	comp=E,455nm,0.4s						
CLCH	Cerro Calan	2.25	155	eP	Pn	23 52 14.1	+1.1
CLCH				*i* S	Sn	23 52 42.8	+2.4
CLCH				AML	AML	23 52 53.2	
	comp=E,821nm,0.7s						
ANTU	Antumapu	2.38	158	AML	AML	23 52 58.4	
	comp=E,422nm,0.3s						
ZON	Zonda	2.57	95	AML	AML	23 53 02.3	
	comp=E,263nm,0.3s						

MEX 13 23:52:05.0±0.4,1705N×9964W,h40km±11km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.32	236	*i* P	Pn	23 52 12.0	-1.5
ACX				*i* S	Sn	23 52 18.5	-0.9
CAIG	El Cayaco	0.60	270	*i* P	Pn	23 52 15.5	-1.5
CAIG				*i* S	Sn	23 52 23.7	-2.0
MEIG	Mezcala	0.87	1	*i* P	Pn	23 52 19.4	-1.4
MEIG				*i* S	Sn	23 52 30.2	-2.1

IDC 14 00:11:19.3±8.0,3785N×7406E,h100km±73km,mb3.3/4, mb1 3.6/7,mb1mx3.2/24,mbtmp3.8/7,ML3.7/3,Error ellipse: s-maj=54.9km s-min=26.0km az=33.0
NEIC 14 00:11:22.9±3.2,3795N×74.10E,h132km±26km,mb3.5/2, Error ellipse: s-maj=30.8km s-min=20.6km az=202.0
ISCJB 14 00:11:24.7±0.7,3806N±005×742E±0.1,h165km±9km, mb3.4/4,Error ellipse: s-maj=17.5km s-min=5.6km az=142.0

ISC 14 00:11:25.8±0.7,3807N±005×742E±01,h161km±9km,n32, σ1°05/35,mb3.4/4,2C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.08	354	P	Pn	00 12 27.9	+0.7
	SNR=5.6						
UCH	Uchtor	4.16	3	P	Sn	00 13 17.4	+0.4
	SNR=5.8						
ULHL	Ulahol	4.45	20	P	Pn	00 12 32.9	+0.8
	SNR=13						
AAK	Ala-Archa	4.56	2	ePn	Pn	00 12 33.1	-0.4
AAK				Sn	Sn	00 13 18.8	-7.7
EKS2	Erkin-Say	4.60	356	P	Pn	00 12 35.6	+1.5
	SNR=6.3						
KBK	Karagaybulak	4.62	7	P	Pn	00 12 35.2	+1.0
	SNR=13						
CHMS	Chumysh	4.94	4	P	Pn	00 12 39.1	+0.6
	SNR=12						
TKM2	Tokmak 2	4.96	12	P	Pn	00 12 39.3	+0.5
	SNR=19						
TKM2	Tokmak 2	4.96	12	⇓Pn	Pn	00 12 38.5	-0.2
	0.9nm,0.5s						
TKM2				⇑Sn	Sn	00 13 33.0	-2.8
	2.0nm,0.9s						
TKM2				⇑Lg		00 13 51.1	
	3.0nm,1.2s						
USP	Ospenovka	5.20	2	P	Pn	00 12 42.2	+0.4
	SNR=5.7						
DLH	Dalhousie	5.69	165	eP	Sn	00 13 48.0	-5.2
THN	Thein Dam	5.75	167	eP	Sn	00 13 54.6	0.0
MK31	Makanchi Array	10.55	32	ePn	Pn	00 13 53.0	+0.2
MKAR	Makanchi Array	10.55	32	P	Pn	00 13 51.3	-1.5
	0.1nm,0.3s,baz=216,slow=14,SNR=13						
KOLN	Koldanda	12.93	140	eP	Pn	00 14 21.9	-1.6
	4.2nm,0.4s						
GKN	Gorkha	13.29	136	eP	Pn	00 14 28.2	0.0
KKN	Kakani	13.81	135	eP	Pn	00 14 34.7	-0.1
	6.1nm,0.5s						
DMN	Daman	13.86	136	eP	Pn	00 14 34.6	-0.7
PKI	Pulchoki	14.05	135	eP	Pn	00 14 37.7	-0.1
GUN	Gumba	14.06	133	eP	Pn	00 14 38.1	+0.2
JIRN	Jiri	14.43	132	eP	Pn	00 14 43.6	+1.1
BVAR	Borovoye Array	15.19	351	P	Pn	00 14 49.6	-2.4
	0.2nm,0.3s,baz=160,slow=13,SNR=5.7						
AB31	Akbulak array	15.20	322	⇓Pn	Pn	00 14 49.6	-2.4
	0.5nm,0.7s,baz=129,slow=13,SNR=5.9						
AB31				⇓Sn	Sn	00 17 28.2	-13
	0.7nm,0.6s,baz=133,slow=28,SNR=2.6						
BRVK	Borovoye	15.24	351	ePn	Pn	00 14 48.5	-4.0
	2.5nm,0.8s						
CHKZ	Chkalovo	15.81	352	eP	Pn	00 15 00.2	+0.7
	1.6nm,0.8s						
ZAL	Z

*IDC **14** 00:59:27.7±1.4, 3852N×2122E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.7/3, Error ellipse: s-maj=24.0km s-min=20.6km az=118.0*
*ATH **14** 00:59:28.9, 3857N×2134E, h5km±2km, MD3.6/16, ML3.4*
*ISCJB **14** 00:59:29.5±0.5, 3853N±002×2135E±003, h5km±4km, mb3.6/6, Error ellipse: s-maj=4.1km s-min=3.2km az=135.7*
*CSEM **14** 00:59:29.7±0.1, 3853N×2129E, h2km, ML3.4, Error ellipse: s-maj=1.7km s-min=1.4km az=52.0*
*THE **14** 00:59:29.4, 3831N×2130E, h4km, ML3.4*
*NEIC **14** 00:59:31.0, 3854N×2134E, h10km, ML3.0(ATH), ML3.9(THE), After ATH.*
*NAO **14** 00:59:52.2, 4046N×2088E, h33km, mb3.3*

ISC 14 00:59:29.9±0.5, 3855N±002×2135E±003, h1km±4km, n76, σ1§11/107, mb3.7/6, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.50**	**169**	*e*PB	**Pg**	**00 59 39.0**	**-0.4**
RLS				*e*SB	**Sg**	**00 59 46.8**	**+1.0**
RLS	**Riolos of Patr**	**0.50**	**169**	P	**Pg**	**00 59 39.5**	**+0.1**
RLS				*e*SB	**Sg**	**00 59 46.8**	**+1.0**
EVR	**Evrytania**	**0.52**	**44**	*e*PG	**Pg**	**00 59 38.4**	**-1.4**
EVR				*e*SB	**Sg**	**00 59 46.1**	**-0.4**
EVR	**Evrytania**	**0.52**	**44**	P	**Pg**	**00 59 38.7**	**-1.1**
EVR				*e*Sb	**Sg**	**00 59 46.1**	**-0.4**
LKD	**Levkas**	**0.57**	**287**	*e*Pg	**Pg**	**00 59 40.0**	**-0.7**
LKD				*e*Sg	**Sg**	**00 59 51.6**	**+3.5**
VLS	**Valsamata**	**0.70**	**238**	*e*PG	**Pg**	**00 59 42.5**	**-0.8**
VLS				*e*SB	**Sg**	**00 59 53.5**	**+1.2**
VLS	**Valsamata**	**0.70**	**238**	*e*Pg	**Pg**	**00 59 42.6**	**-0.7**
VLS	**Valsamata**	**0.70**	**238**	P	**Pg**	**00 59 42.8**	**-0.5**
VLS				*e*Sb	**Sg**	**00 59 53.5**	**+1.2**
THL	**Klokotos Trika**	**1.14**	**27**	*e*PG	**Pg**	**00 59 49.9**	**-1.9**
THL				*e*SB	**Sg**	**01 00 06.4**	**-0.2**
JAN	**Janina**	**1.18**	**341**	*e*PB	**Pg**	**00 59 51.1**	**-1.3**
JAN				*e*SB	**Sg**	**01 00 07.2**	**-0.4**
JAN	**Janina**	**1.18**	**341**	*e*Pb	**Pg**	**00 59 51.5**	**-0.9**
JAN	**Janina**	**1.18**	**341**	P	**Pg**	**00 59 53.2**	**+0.8**
IGT	**Igoumenitsa**	**1.26**	**322**	*e*Pg	**Pg**	**00 59 54.5**	**+0.4**
IGT				*e*Sg	**Sg**	**01 00 12.1**	**+1.6**
LKR	**Lokris**	**1.30**	**85**	*e*PB	**Pg**	**00 59 53.9**	**-0.9**
LKR	**Lokris**	**1.30**	**85**	P	**Pg**	**00 59 55.0**	**+0.2**
ITM	**Ithomi**	**1.44**	**161**	*e*PB	**Pn**	**00 59 56.4**	**-0.7**
ITM				*e*SB	**Sg**	**01 00 17.2**	**+1.1**
ITM	**Ithomi**	**1.44**	**161**	P	**Pn**	**00 59 57.0**	**-0.1**
MGER	**Gerania Oros**	**1.61**	**110**	*e*PB	**Pn**	**00 59 59.8**	**+0.4**
MGER	**Gerania Oros**	**1.61**	**110**	*e*Pb	**Pn**	**01 00 00.0**	**+0.6**
XOR	**Xorichti**	**1.66**	**60**	*e*Pb	**Pn**	**01 00 00.2**	**+0.1**
KEK	**Kerkira**	**1.68**	**315**	*e*PB	**Pn**	**01 00 00.2**	**-0.1**
KEK				*e*SB	**Sb**	**01 00 23.4**	**+0.3**
KEK	**Kerkira**	**1.68**	**315**	P	**Pb**	**01 00 02.2**	**+0.7**
LIT	**Litokhoron**	**1.79**	**29**	*e*Pn	**Pn**	**01 00 01.3**	**-0.7**
LIT				*e*Sn	**Sb**	**01 00 26.6**	**+0.2**
KZN	**Kozani**	**1.79**	**10**	*e*PN	**Pn**	**01 00 02.2**	**+0.3**
KZN				*e*SN	**Sb**	**01 00 26.8**	**+0.4**
KZN	**Kozani**	**1.79**	**10**	*e*Pg	**Pn**	**01 00 02.2**	**+0.3**
KZN				*e*Sn	**Sb**	**01 00 27.1**	**+0.7**
NAIG	**Nisos Aigina**	**1.86**	**114**	*e*PN	**Pb**	**01 00 04.5**	**-0.2**
ATH	**Athens Observa**	**1.95**	**106**	*e*PN	**Pb**	**01 00 05.7**	**-0.5**
ATH	**Athens Observa**	**1.95**	**106**	*e*Pg	**Pb**	**01 00 06.2**	**0.0**
PTL	**Penteli**	**2.04**	**103**	*e*PN	**Pn**	**01 00 06.2**	**+0.8**
PTL	**Penteli**	**2.04**	**103**	*e*Pn	**Pn**	**01 00 06.0**	**+0.6**
AOS	**Alonnisos**	**2.08**	**72**	*e*Pn	**Pn**	**01 00 04.8**	**-1.1**
VLI	**Veliai**	**2.22**	**145**	*e*PG	**Pb**	**01 00 10.2**	**-0.6**
VLI	**Veliai**	**2.22**	**145**	P	**Pb**	**01 00 11.1**	**+0.3**
VLI	**Veliai**	**2.22**	**145**	*e*Pg	**Pb**	**01 00 10.1**	**-0.7**
FNA	**Florina**	**2.24**	**1**	*e*Pn	**Pn**	**01 00 09.1**	**+1.0**
FNA				*e*Sn	**Sn**	**01 00 38.4**	**+2.1**
PLG	**Polygyros**	**2.44**	**41**	*e*Pn	**Pn**	**01 00 10.2**	**-0.8**
PLG				*e*Sn	**Sn**	**01 00 42.2**	**+0.7**
PLG	**Polygyros**	**2.44**	**41**	*e*PN	**Pn**	**01 00 11.5**	**+0.6**
PLG	**Polygyros**	**2.44**	**41**	*e*Pn	**Pn**	**01 00 11.1**	**+0.2**
PLG				*e*Sn	**Sn**	**01 00 42.2**	**+0.7**
HORT	**Hortiatis**	**2.46**	**33**	*e*Pn	**Pn**	**01 00 12.1**	**+1.0**
HORT				*e*Sn	**Sn**	**01 00 42.6**	**+0.8**
GRG	**Griva**	**2.54**	**18**	*e*Pn	**Pn**	**01 00 12.9**	**+0.6**
OHR	**Ohrid**	**2.60**	**351**	*e*Pn	**Pn**	**01 00 14.0**	**+1.0**
OHR				*e*Sn	**Sn**	**01 00 46.3**	**+1.0**
OHR	**Ohrid**	**2.60**	**351**	*e*Pn	**Pn**	**01 00 13.5**	**+0.5**
OHR				*e*Sn	**Sn**	**01 00 45.9**	**+0.7**
OHR	**Ohrid**	**2.60**	**351**	*e*Pn	**Pn**	**01 00 14.0**	**+1.0**
OHR				*e*Sn	**Sn**	**01 00 45.8**	**+0.6**
OUR	**Ouranopolis**	**2.71**	**48**	*e*Pn	**Pn**	**01 00 13.6**	**-1.0**
SOH	**Sokhos**	**2.75**	**34**	*e*Pn	**Pn**	**01 00 15.0**	**-0.2**
SOH				*e*Sn	**Sn**	**01 00 49.3**	**+0.2**
KNT	**Kendrikon**	**2.87**	**24**	*e*Pn	**Pn**	**01 00 16.6**	**-0.2**
VAY	**Valandovo**	**2.93**	**18**	*e*Pn	**Pn**	**01 00 17.8**	**+0.3**
VAY	**Valandovo**	**2.93**	**18**	*e*Pn	**Pn**	**01 00 17.7**	**+0.1**
VAY				*e*Sn	**Sn**	**01 00 53.1**	**-0.3**
VAY	**Valandovo**	**2.93**	**18**	*e*Pn	**Pn**	**01 00 17.8**	**+0.2**
VAY				*e*Sn	**Sn**	**01 00 53.1**	**-0.3**
TIR	**Tirane**	**3.02**	**338**	*e*Pn	**Pn**	**01 00 18.6**	**-0.2**
TIR	**Tirane**	**3.02**	**338**	*e*Pn	**Pn**	**01 00 18.6**	**-0.3**
SRS	**Serrai**	**3.10**	**33**	*e*Pn	**Pn**	**01 00 19.8**	**-0.1**
SRS				*e*Sn	**Sn**	**01 00 57.1**	**-0.5**
STIP	**Stip**	**3.21**	**11**	*e*Pn	**Pn**	**01 00 22.7**	**+1.3**
STIP	**Stip**	**3.21**	**11**	*e*Pn	**Pn**	**01 00 22.4**	**+0.9**
STIP				*e*Sn	**Sn**	**01 00 59.4**	**-1.0**
STIP	**Stip**	**3.21**	**11**	*e*Pn	**Pn**	**01 00 22.7**	**+1.2**
STIP				*e*Sn	**Sn**	**01 00 59.3**	**-1.1**
NVR	**Nevrokopi**	**3.40**	**34**	*e*PN	**Pn**	**01 00 25.3**	**+1.2**
NVR	**Nevrokopi**	**3.40**	**34**	P	**Pn**	**01 00 25.9**	**+1.8**
MMB	**Musomiste**	**3.55**	**30**	*e*Pn	**Pn**	**01 00 26.1**	**0.0**
MMB				*e*Sn	**Sn**	**01 01 09.8**	**+1.1**
TIP	**Timpagrande**	**3.64**	**281**	P	**Pn**	**01 00 27.4**	**+0.1**
VTS	**Vitosha**	**4.28**	**19**	⇓*i*P	**Pn**	**01 00 38.0**	**+1.8**
SMG	**Samos**	**4.41**	**99**	P	**Pn**	**01 00 38.8**	**+0.8**
STON	**Ston**	**5.13**	**329**	*i* Pn	**Pn**	**01 00 45.1**	**-2.7**
STON				*i* Sn	**Sn**	**01 01 43.3**	**-4.5**
DIVS	**Divcibare**	**5.64**	**350**	*i* Pn	**Pn**	**01 00 53.8**	**-1.1**
DIVS				Sn	**Sn**	**01 01 44.3**	**-16**
MLR	**Muntele Rosu**	**7.74**	**25**	Pn	**Pn**	**01 01 25.7**	**+2.0**
	0.8nm,0.3s,baz=187,slow=9.7,SNR=12						
MLR	**Muntele Rosu**	**7.74**	**25**	⇓*i*P	**Pn**	**01 01 28.8**	**+5.1**
PLOR	**Plostina**	**8.29**	**27**	⇑*i*P	**Pn**	**01 01 34.6**	**+3.3**
BRTR	**Keskin Array B**	**9.63**	**79**	Pn	**Pn**	**01 01 50.8**	**+1.2**
	0.2nm,0.3s,baz=265,slow=13,SNR=9.5						
GERES	**GERESS Array B**	**11.68**	**334**	Pn	**Pn**	**01 02 17.1**	**-0.6**
	0.1nm,0.3s,baz=155,slow=14,SNR=2.9						
HFS	**Hagfors**	**22.15**	**350**	P	**P**	**01 04 24.0**	**-3.0**
	2.8nm,0.8s,mb3.7,baz=187,slow=12,SNR=6.0						
FINES	**FINESS Array B**	**23.11**	**6**	P	**P**	**01 04 34.2**	**-3.1**
	2.4nm,0.8s,mb3.8,baz=146,slow=12,SNR=5.6						
NB2	**NORSAR Subarra**	**23.39**	**348**	P	**P**	**01 04 37.2**	**-3.1**
	comp=Z,1.1nm,0.7s,mb3.5,baz=160,slow=11						
NOA	**NORSAR Array B**	**23.39**	**348**	P	**P**	**01 04 37.4**	**-2.9**
	comp=Z,0.7nm,0.7s,mb3.3,baz=146,slow=10,SNR=3.8						
EKA	**Eskdalemuir Ar**	**23.51**	**324**	P	**P**	**01 04 39.0**	**-2.5**
	comp=Z,1.7nm,0.8s,mb3.6,baz=124,slow=10,SNR=4.5						
JOF	**Joensuu**	**25.14**	**11**	*ep*	**P**	**01 04 51.6**	**-4.9**
TORD	**Torodi Ar. Bea**	**30.72**	**220**	P	**P**	**01 05 44.4**	**-2.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=34,slow=9.6,SNR=7.4						
MKAR	**Makanchi Array**	**44.56**	**59**	P	**P**	**01 07 40.4**	**-2.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=288,slow=6.3,SNR=8.4						

*ISCJB **14** 01:18:54.9±1.1, 2731N±004×92.17E±008, h10km±7km, mb3.8/8, Error ellipse: s-maj=12.8km s-min=5.8km az=139.7*
*IDC **14** 01:18:55.2±0.9, 2730N×9213E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, Error ellipse: s-maj=30.4km s-min=18.7km az=45.0*
*NEIC **14** 01:18:59.5±2.5, 27.17N×92.18E, h35km, mb3.7/1, Error ellipse: s-maj=49.9km s-min=19.4km az=196.0*
*BJI **14** 01:19:02.0, 2757N×9212E, h30km, mB4.7, mb4.4, ML4.0, Ms3.7, Msz3.3*

ISC 14 01:18:57.0±1.2, 2728N±004×9214E±008, h11km±8km, n20, σ1§04/26, mb3.8/9, 2C-2D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.72**	**188**	*e*P	**Pn**	**01 19 25.8**	**-1.0**
SHL				*e*S	**Sn**	**01 19 48.1**	**-0.6**
SHL				AML	AML	01 19 50.9	
	comp=N,11μm,0.2s						
SHL				AML	AML	01 19 51.5	
	comp=E,27μm,0.3s						
LSA	**Lhasa**	**2.57**	**340**	PG	**Pg**	**01 19 44.4**	**-1.8**
LSA				SG	**Sg**	**01 20 20.0**	**+0.5**
LSA				Smax			
	comp=N,620nm,0.6s						
LSA				Smax			
	comp=E,1μm,0.7s						
IMP	**Imphal**	**2.96**	**147**	*e*PN	**Pn**	**01 19 46.0**	**+2.0**
IMP				*e*PG	**Pg**	**01 19 54.0**	**+0.2**
IMP				*e*SN	**Sn**	**01 20 19.0**	**-0.5**
GTK	**Gangtok**	**3.13**	**272**	*e*P	**Pn**	**01 19 48.0**	**+1.7**
AGT	**Agartala**	**3.47**	**194**	*i* PB	**Pb**	**01 20 05.0**	**+6.5**
AGT				*i* S	**Sn**	**01 20 40.0**	**+8.0**
GTA	**Gaotai**	**13.69**	**26**	⇓P	**Pn**	**01 22 10.8**	**-0.2**
GTA				S	**Sn**	**01 24 36.6**	**-6.5**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s						
GTA				AMB	AMB		
	comp=Z,73nm,3.7s						
GTA				LR	LR		
	comp=N,154nm,12.2s						
GTA				LR	LR		
	comp=E,176nm,11.4s						
GTA				LR	LR		
	comp=Z,149nm,13.3s						
MK31	**Makanchi Array**	**20.97**	**341**	⇓*i*P	**P**	**01 23 41.2**	**+1.1**
MKAR	**Makanchi Array**	**20.97**	**341**	P	**P**	**01 23 40.9**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=146,slow=13,SNR=24						
AAK	**Ala-Archa**	**21.00**	**321**	*e*P	**P**	**01 23 41.8**	**+1.4**
	comp=Z,3.0nm,0.9s,mb3.6						
SONM	**Songino Array**	**23.36**	**25**	P	**P**	**01 24 05.0**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.6,baz=210,slow=9.5,SNR=14						
MJAR	**Matsushiro Arr**	**39.87**	**65**	P	**P**	**01 26 30.7**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=271,slow=9.5,SNR=5.5						
AKASG	**Malin Array Be**	**52.44**	**314**	P	**P**	**01 28 08.7**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=79,slow=6.4,SNR=5.0						
VRI	**Vrincioaia**	**54.20**	**308**	⇑*i*P	**P**	**01 28 21.7**	**-0.8**
MLR	**Muntele Rosu**	**54.78**	**308**	⇑*i*P	**P**	**01 28 24.3**	**-2.4**
NB2	**NORSAR Subarra**	**62.19**	**327**	P	**P**	**01 29 17.7**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.2,baz=84,slow=6.9						
NOA	**NORSAR Array B**	**62.19**	**327**	P	**P**	**01 29 17.6**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=82,slow=6.9,SNR=4.1						
WRA	**Warramunga Arr**	**62.24**	**134**	P	**P**	**01 29 18.9**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.6,baz=324,slow=7.0,SNR=7.0						
GERES	**GERESS Array B**	**62.61**	**313**	P	**P**	**01 29 21.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=74,slow=5.3,SNR=8.2						
ASAR	**Alice Springs**	**64.74**	**138**	P	**P**	**01 29 36.1**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.8,baz=316,slow=6.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**84.47**	**282**	P	**P**	**01 31 30.7**	**+0.9**
	comp=Z,0.2nm,0.4s,mb3.6,baz=56,slow=5.2,SNR=2.7						

*MOS **14** 01:46:59.0±1.2, 3628N×7077E, h181km, mb3.9/7, Error ellipse: s-maj=26.6km s-min=10.5km az=93.4*
*NEIC **14** 01:46:59.0±2.9, 3623N×7082E, h165km±25km, mb3.7/5, Error ellipse: s-maj=23.1km s-min=13.2km az=210.0*
*IDC **14** 01:47:00.4±6.2, 3627N×7088E, h175km±56km, mb3.4/8, mb1 3.5/10, mb1mx3.3/23, mbtmp3.9/10, Error ellipse: s-maj=30.5km s-min=18.4km az=26.0*
*ISCJB **14** 01:47:03.1±0.5, 3653N±003×7103E±007, h208km±6km, mb3.5/9, Error ellipse: s-maj=9.1km s-min=4.6km az=145.4*
*NNC **14** 01:47:05.7±4.5, 3734N×7017E, h6km±20km, mb3.5, mpv3.3, Error ellipse: s-maj=41.3km s-min=17.1km az=157.0*

ISC 14 01:47:03.6±0.5, 3653N±003×7098E±007, h197km±6km, n54, σ1§26/62, mb3.5/9, 3C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**164**	⇓P	**Pn**	**01 47 52.2**	**+1.4**
CEP				S	**Sn**	**01 48 28.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.43**	**146**	P	**Pn**	**01 47 59.9**	**+1.8**
THW	**Thamme Wali**	**3.78**	**170**	⇑P	**Pn**	**01 48 03.3**	**+0.8**
THW				S	**Sn**	**01 48 45.0**	**-3.7**
SBDP	**Sheikh Budin**	**4.22**	**182**	⇓P	**Pn**	**01 48 08.2**	**+0.2**
THN	**Thein Dam**	**5.66**	**135**	*e*P	**Pn**	**01 48 26.7**	**+0.4**
THN				*e*S	**Sn**	**01 49 30.1**	**-1.6**
DLH	**Dalhousie**	**5.73**	**133**	*e*S	**Sn**	**01 49 30.0**	**-3.3**
AML	**Almayashu**	**5.97**	**20**	P	**Pn**	**01 48 31.3**	**+0.9**
SNR=33							
UCH	**Uchtor**	**6.31**	**25**	P	**Pn**	**01 48 35.8**	**+1.0**
SNR=18							
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**01 48 37.8**	**+0.6**
SNR=14							
AAK	**Ala-Archa**	**6.67**	**23**	⇓*e*PN	**Pn**	**01 48 39.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AAK	**Ala-Archa**	**6.67**	**23**	⇓*e*Pn	**Pn**	**01 48 39.1**	**-0.3**
	comp=Z,4.8nm,0.3s						
AAK				*e*Sn	**Sn**	**01 49 52.9**	**-2.5**
KBK	**Karagaybulak**	**6.84**	**25**	P	**Pn**	**01 48 42.8**	**+1.1**
SNR=6.4							
USP	**Ospenovka**	**7.25**	**21**	P	**Pn**	**01 48 47.1**	**+0.1**
SNR=7.6							
TKM2	**Tokmak 2**	**7.30**	**28**	P	**Pn**	**01 48 48.5**	**+0.7**
SNR=22							
TKM2	**Tokmak 2**	**7.30**	**28**	⇑Pn	**Pn**	**01 48 48.4**	**+0.7**
	comp=Z,1.2nm,0.6s						
TKM2				⇓Sn	**Sn**	**01 50 08.8**	**-1.6**
	comp=Z,0.7nm,0.8s						
TKM2				⇓Lg		01 50 46.8	
	comp=Z,1.3nm,1.0s						
KLP	**Kalpa**	**7.83**	**127**	*e*P	**Pn**	**01 48 54.9**	**+0.4**
KLP				*e*S	**Sn**	**01 50 19.2**	**-3.6**
KLP				AML	AML	01 50 22.1	
	comp=N,101nm,0.7s						
KLP				AML	AML	01 50 23.6	
	comp=E,124nm,0.6s						
JOSI	**Joshimath**	**9.31**	**127**	*ex*	x	01 50 15.9	
KHET	**Khetri**	**9.37**	**153**	*e*S	**Sn**	**01 50 50.1**	**-9.3**
KHET				AML	AML	01 50 52.9	
	comp=N,23nm,0.6s						
KHET				AML	AML	01 50 53.3	
	comp=E,20nm,0.2s						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**01 50 05.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=202,slow=10,SNR=3.0						
KOLN	**Koldanda**	**13.80**	**126**	*e*P	**Pn**	**01 50 11.5**	**+0.5**
	comp=E,6.4nm,0.3s						
KOLN				*e*S	**Sn**	**01 52 35.6**	**-9.4**
GKN	**Gorkha**	**14.34**	**123**	*e*P	**Pn**	**01 50 17.6**	**-0.1**
	comp=E,14nm,0.5s						
KKN	**Kakani**	**14.91**	**122**	*e*P	**Pn**	**01 50 25.6**	**+0.9**
	comp=E,20nm,0.5s						
KKN				*e*S	**Sn**	**01 53 02.7**	**-8.8**
AB31	**Akbulak array**	**15.05**	**331**	⇑Pn	**Pn**	**01 50 24.9**	**-1.5**
	comp=E,3.6nm,0.7s,baz=148,slow=12,SNR=3.7						
AB31				⇓Sn	**Sn**	**01 53 03.4**	**-11**
	comp=E,0.4nm,0.5s,baz=155,slow=22,SNR=5.8						
PKI	**Pulchoki**	**15.14**	**122**	*e*P	**Pn**	**01 50 29.3**	**+1.8**
GUN	**Gumba**	**15.25**	**120**	*e*P	**Pn**	**01 50 30.8**	**+1.9**
	comp=E,8.0nm,0.4s						
JIRN	**Jiri**	**15.62**	**120**	*e*P	**Pn**	**01 50 35.8**	**+2.4**
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**01 50 44.3**	**+0.4**
	comp=E,0.4nm,0.3s,baz=169,slow=10,SNR=8.7						
BRVK	**Borovoye**	**16.53**	**359**	P	**Pn**	**01 50 44.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**16.53**	**359**	P	**Pn**	**01 50 44.6**	**+0.3**
	comp=Z,0.9nm,0.5s						
AKTK	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**01 50 46.7**	**-0.1**
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P	**Pn**	**01 50 47.1**	**+0.3**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**01 50 46.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=155,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**01 50 46.7**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**17.15**	**359**	*e*P	**Pn**	**01 50 49.9**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**17.15**	**359**	*e*P	**Pn**	**01 50 49.9**	**-1.8**
	comp=Z,1.5nm,0.8s						
ZAL	**Zalesovo**	**19.88**	**25**	P	**P**	**01 51 19.8**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=339,slow=6.9,SNR=5.6						
ZAL	**Zalesovo**	**19.88**	**25**	P	**P**	**01 51 19.8**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
JOF	**Joensuu**	**35.83**	**330**	*ep*	**P**	**01 53 44.3**	**+0.1**
	comp=Z,1.6nm,0.4s,mb3.9						
JOF	**Joensuu**	**35.83**	**330**	*e*P	**P**	**01 53 44.3**	**+0.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**01 53 58.4**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.6,baz=120,slow=9.6,SNR=6.6						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**01 53 58.4**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PSZ	**Piszkesteto**	**38.84**	**303**	*e*P	**P**	**01 54 06.3**	**-3.1**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
PSZ	**Piszkesteto**	**38.84**	**303**	*e*P	**P**	**01 54 06.3**	**-3.1**
	comp=Z,2.1nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**41.11**	**338**	P	**P**	**01 54 28.6**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.6,baz=112,slow=7.7,SNR=8.7						
ARCES	**ARCESS Array B**	**41.11**	**338**	P	**P**	**01 54 28.6**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**01 54 53.6**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.5,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**01 54 53.6**	**-0.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**01 54 54.0**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.4,baz=96,slow=7.8,SNR=5.3						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**01 54 54.0**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.70**	**269**	P	**P**	**01 57 25.4**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=48,slow=4.4,SNR=13						
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**01 58 57.2**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=350,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**01 58 57.2**	**-0.1**
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**01 59 00.8**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.1,baz=324,slow=4.9,SNR=10.0						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**01 59 12.7**	**-0.4**
	comp=Z,0.3nm,1.0s,mb3.0,baz=320,slow=4.9,SNR=8.6						

*ISCJB **14** 02:05:43.9±0.7, 1133N±004×8767W±005, h42km±6km, mb4.1/25, MS3.1/4, Error ellipse: s-maj=9.6km s-min=4.0km az=92.6*
*CASC **14** 02:05:43.9±2.3, 1135N×8771W, h35km±11km, MD4.1, ML4.5, mb4.2(NEIC)*
*IDC **14** 02:05:45.3±0.7, 1149N×8754W, h31km±5km, mb4.0/12, mb1 4.2/14, mb1mx3.9/25, mbtmp4.2/14, ML3.8/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=22.6km s-min=12.3km az=60.0*
*NEIC **14** 02:05:45.2±0.4, 1139N×8763W, mb4.2/19, Error ellipse: s-maj=10.8km s-min=5.6km az=48.0*

ISC 14 02:05:45.0±1.3, 1141N±004×8766W±003, h32km±10km, h35km±1.8km: pP-P, n78, σ0§97/90, mb4.1/25, MS3.1/4, 13C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.25**	**37**	⇑*e*P	**Pn**	**02 06 06.1**	**-0.2**
COPN	**Copaltepe**	**1.29**	**53**	⇓*e*P	**Pn**	**02 06 06.6**	**-0.2**
MIRN	**Miramar**	**1.38**	**42**	⇓*e*P	**Pn**	**02 06 07.7**	**-0.3**
CRIN	**San Cristobal**	**1.42**	**25**	⇑*e*P	**Pn**	**02 06 08.6**	**+0.1**
CNGN	**Cerro Negro**	**1.44**	**41**	⇑*e*P	**Pn**	**02 06 08.3**	**-0.5**
CNGN				⇑*e*P		02 06 08.3	
TELN	**Telica**	**1.44**	**34**	⇑*e*P	**Pn**	**02 06 08.6**	**-0.2**
MOMJ	**Momotombo**	**1.48**	**47**	⇑*e*P	**Pn**	**02 06 08.8**	**-0.6**
XAVN	**Gruta Xavier**	**1.50**	**60**	*e*P	**Pn**	**02 06 09.8**	**+0.2**
TICN	**Ticuantepe**	**1.53**	**66**	⇓*e*P	**Pn**	**02 06 10.4**	**+0.4**
TISN	**Laguna Tiscapa**	**1.54**	**61**	*e*P	**Pn**	**02 06 10.2**	**-0.1**
MGAN	**Managua**	**1.56**	**62**	⇓*e*P	**Pn**	**02 06 10.2**	**-0.3**
MGAN	

comp=N,14nm,1.0s,mb4.7
LOHW Long Hollow 37.73 332 *e*P **P 02 12 58.3 +0.6**
comp=N,3.5nm,0.9s,mb4.1
LOHW *e*pP pP 02 13 08.3 +1.3
TPAW Teton Pass 37.80 032 *e*P **P 02 12 59.7 +1.5**
comp=N,4.4nm,0.8s,mb4.2
MOOW Moose Ponds 37.90 332 *e*P **P 02 12 59.7 +0.5**
comp=N,3.6nm,0.8s,mb4.2
MOOW *e*pP pP 02 13 09.9 +1.4
NVAR Mina Array Bea 38.36 320 P **P 02 13 04.2 +1.2**
comp=N,0.6nm,0.6s,mb3.5,baz=137,slow=6.3,SNR=6.9
NVAR PcP PcP 02 15 18.4 +2.1
comp=N,0.9nm,0.9s,baz=124,slow=2.2,SNR=4.8
ULM Lac du Bonnet 39.32 352 P **P 02 13 08.8 -2.2**
comp=N,2.3nm,0.6s,mb4.1,baz=193,slow=11,SNR=4.2
ULM Lac du Bonnet 39.32 352 *e*P **P 02 13 08.9 -2.1**
comp=N,5.1nm,0.7s,mb4.4
HLID Hailey 39.52 329 *e*P **P 02 13 13.1 +0.3**
comp=N,2.3nm,1.1s,mb3.8
WVOR Wild Horse Val 41.03 325 *e*P **P 02 13 25.5 +0.3**
comp=N,1.0nm,0.6s,mb3.6
SCHQ Schefferville 46.33 17 P **P 02 14 06.0 -1.8**
comp=N,1.3nm,0.4s,mb4.2,baz=218,slow=16,SNR=8.2
SCHQ pP pP 02 14 14.8 -2.5
comp=N,2.3nm,0.7s,baz=224,slow=10,SNR=1.6
SCHQ Schefferville 46.33 17 P **P 02 14 06.0 -1.8**
SCHQ pP pP 02 14 14.8 -2.5
BDFB Brasilia 47.56 124 P **P 02 14 17.8 +0.4**
comp=N,5.2nm,0.9s,mb4.6,baz=286,slow=12,SNR=7.1
CPUP Villa Florida 47.71 142 P **P 02 14 18.6 0.0**
comp=N,1.1nm,0.8s,mb4.0,baz=256,slow=12,SNR=4.2
PLCA Paso Flores 54.23 164 P **P 02 15 08.2 +0.5**
comp=N,3.4nm,1.0s,mb4.2,baz=323,slow=9.3,SNR=4.5
PLCA pP pP 02 15 17.1 -0.2
comp=N,3.1nm,0.8s,baz=338,slow=8.4,SNR=3.6
PLCA Paso Flores 54.23 164 *e*P **P 02 15 07.9 +0.2**
comp=N,4.6nm,0.9s,mb4.4
PLCA *e*pP pP 02 15 16.8 -0.5
YKA Yellowknife Ar 54.56 345 P **P 02 15 09.0 -1.0**
comp=N,0.6nm,0.7s,mb3.7,baz=138,slow=7.7,SNR=5.6
YKA PcP PcP 02 16 13.5 +0.6
comp=N,1.1nm,0.7s,baz=146,slow=3.5,SNR=7.4
YKA LR LR 02 42 18.4
comp=N,50nm,18.4s,MS3.6,baz=155,slow=40
YKA Yellowknife Ar 54.56 345 P **P 02 15 09.0 -1.0**
YKA PcP PcP 02 16 13.6 +0.6
YKA LR LR 02 42 18.4
ASAR Alice Springs 138.69 247 PKP PKPdf 02 25 09.2 +1.6
comp=N,0.5nm,1.0s,baz=98,slow=2.5,SNR=5.2
ASAR pPKP pPKPdf 02 25 18.9 +0.7
comp=N,0.5nm,0.5s,baz=70,slow=1.8,SNR=4.1
WRA Warramunga Arr 138.78 253 PKP PKPdf 02 25 09.0 +1.2
comp=N,1.4nm,1.0s,baz=88,slow=2.6,SNR=7.9
WRA pPKP pPKPdf 02 25 19.2 +0.9
comp=N,0.5nm,0.5s,baz=91,slow=2.5,SNR=3.7

MEX 14 02:06:34.8±1.0, 1607N×9756W, h16km±25km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**301**	*i* P	Pg	02 06 44.9	-2.3
PNIG				*i* S	Sg	02 06 52.9	-2.7
VHO	**Vista Hermosa**	**1.27**	**38**	*i* P	Pn	02 06 54.7	-3.2
VHO				*i* S	Sb	02 07 08.9	-5.6
OXX	**Oaxaca**	**1.29**	**39**	*i* P	Pn	02 06 55.0	-3.1
OXX				*i* S	Sb	02 07 11.0	-3.9
UTMO	**Huajuapan**	**1.76**	**353**	*e*P	Pn	02 07 02.3	-2.3
UTMO				*i* S	Sn	02 07 23.8	-3.0

WEL 14 02:15:39.3±0.7, 3618S×17824E, h209km±8km, ML3.6/5, Error ellipse: s-maj=19.6km s-min=13.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**178**	PN	Pn	02 16 12.9	+0.2
MXZ				SN	Sn	02 16 37.6	-1.2
MWZ	**Matawai**	**2.23**	**195**	PN	Pn	02 16 21.3	+0.6
MWZ				SN	Sn	02 16 53.7	+0.5
URZ	**Urewera**	**2.27**	**203**	PN	Pn	02 16 21.3	+0.1
URZ				SN	Sn	02 16 52.8	-1.1
URZ				SN	Sn	02 16 52.8	-1.1
KNZ	**Kokohu**	**2.88**	**189**	PN	Pn	02 16 28.0	+0.1
BKZ	**Black Stump Fm**	**3.29**	**204**	PN	Pn	02 16 33.4	+0.7
PXZ	**Pawanui**	**4.00**	**195**	PN	Pn	02 16 40.6	-0.7

CSEM 14 02:31:50.5±1.0, 3860N×2858W, h12km±4km, ML1.8, Error ellipse: s-maj=3.0km s-min=2.6km az=56.0, After PDA
PDA 14 02:31:50.5±1.0, 3860N×2858W, h12km±4km, MD2.9, ML1.8, Error ellipse: s-maj=3.0km s-min=2.6km az=56.0
SVSA 14 02:31:50.5±1.0, 3860N×2858W, h12km±4km, MD2.9, ML1.8, Error ellipse: s-maj=3.0km s-min=2.6km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.08**	**212**	*i* P	Pg	02 31 52.4	-0.7
HOR				*i* S	Sg	02 31 54.6	-0.4
HOR	**Horta**	**0.08**	**212**	*i* S	Sg	02 31 54.6	-0.4
CALA	**Caldeira**	**0.10**	**262**	*e*P	Pg	02 31 53.3	-0.1
CALA				*e*S	Sg	02 31 55.4	0.0
PCED	**Cedros**	**0.10**	**289**	*i* P	Pg	02 31 52.9	-0.5
PCED				*e*S	Sg	02 31 55.3	-0.2
PCED							
	187nm,0.1s						
PCED	**Cedros**	**0.10**	**289**	*e*S	Sg	02 31 55.3	-0.2
PICO	**Pico**	**0.15**	**129**	*e*P	Pg	02 31 53.5	-0.6
PICO				*e*S	Sg	02 31 56.1	-0.5
PCND	**Candelaria**	**0.15**	**145**	*e*P	Pg	02 31 54.3	+0.2
PCND				*e*S	Sg	02 31 56.5	-0.2
PCND							
	103nm,0.2s						
PTEI	**Pico do Teixo**	**0.20**	**120**	*e*S	Sg	02 31 57.5	-0.3
PTEI							
	71nm,0.4s						
PBOI	**Pico dos Bois**	**0.22**	**135**	*e*S	Sg	02 31 57.9	-0.6
PBOI							
	34nm,0.2s						
ROSA	**Rosais**	**0.29**	**65**	*i* P	Pg	02 31 55.6	-0.8
ROSA				*e*S	Sg	02 31 59.5	-0.9
ROSA	**Rosais**	**0.29**	**65**	*e*S	Sg	02 31 59.5	-0.9
PAMA	**Santo Amaro**	**0.32**	**75**	*e*P	Pg	02 31 56.5	-0.5
PAMA				*e*S	Sg	02 32 00.7	-0.7
PAMA							
	47nm,0.2s						
PAMA	**Santo Amaro**	**0.32**	**75**	*e*P	Pg	02 31 56.5	-0.5
PAMA				*e*S	Sg	02 32 00.7	-0.7
PMAN	**Manadas**	**0.38**	**84**	*e*P	Pg	02 31 57.0	-1.1
PMAN				*e*S	Sg	02 32 02.3	-1.0
PMAN							
	62nm,0.2s						
PMAN	**Manadas**	**0.38**	**84**	*e*P	Pg	02 31 57.0	-1.1
PMAN				*e*S	Sg	02 32 02.3	-1.0
PID	**Ribeirinha**	**0.39**	**113**	*e*S	Sg	02 32 02.4	-1.1

NEIC 14 02:35:01.1, 1934N×10350W, h44km, MD4.0(MEX), After MEX.
MEX 14 02:34:59.1±0.8, 1923N×10361W, h107km±23km, MD4.1, 5C-1D, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**1.36**	**23**	*e*P	Pn	02 35 24.0	-0.1
CJM	**Chamela**	**1.38**	**282**	⇑*i*P	Pn	02 35 23.3	-1.0
CJM				*i* S	Sn	02 35 41.5	-1.8
CJM	**Chamela**	**1.38**	**282**	⇑*i*P	Pn	02 35 23.3	-1.0
CJM				*e*S	Sn	02 35 41.1	-2.2
ANIG	**Ahuacatlan**	**2.01**	**335**	⇓*i*P	Pn	02 35 30.6	-1.4
ANIG				*i* S	Sn	02 35 55.0	-2.2
MOIG	**Morelia**	**2.33**	**79**	*e*P	Pn	02 35 35.1	-1.0
MOIG				*e*S	Sn	02 36 02.9	-1.7
MOIG	**Morelia**	**2.33**	**79**	⇑*e*P	Pn	02 35 34.9	-1.2
MOIG				*e*S	Sn	02 36 01.0	-3.5
ZIIG	**Zihuatanejo**	**2.60**	**128**	⇑*e*P	Pn	02 35 38.6	-1.1
ZIIG				*i* S	Sn	02 36 08.8	-2.1
ZIIG	**Zihuatanejo**	**2.60**	**128**	⇑*e*P	Pn	02 35 38.6	-1.1
ZIIG				*i* S	Sn	02 36 08.2	-2.7
ZAIG	**Zacatecas**	**3.66**	**15**	*i* P	Pn	02 35 52.3	-1.4
ZAIG				*i* S	Sn	02 36 35.0	-1.0
ZAIG	**Zacatecas**	**3.66**	**15**	*i* P	Pn	02 35 52.3	-1.4
ZAIG				*i* S	Sn	02 36 32.6	-3.4
UTMO	**Huajuapan**	**5.68**	**103**	*i* P	Pn	02 36 20.9	-0.1
UTMO				*i* S	Sn	02 37 23.6	-1.4
TPIG	**Tehuac#an**	**5.97**	**97**	*i* P	Pn	02 36 26.4	+1.4
OXX	**Oaxaca**	**6.89**	**107**	*e*P	Pn	02 36 43.0	+5.6
CMIG	**Matias Romero**	**8.56**	**103**	*e*P	Pn	02 36 59.8	-0.4
CMIG	**Matias Romero**	**8.56**	**103**	*e*P	Pn	02 37 00.8	+0.6

ISCJB 14 02:50:41.9±0.5, 5574S×009×262W±02, h10km, mb4.3/12, MS3.3/2, Error ellipse: s-maj=15.6km s-min=10.1km az=108.8
IDC 14 02:50:42.3±0.8, 5572S×26.15W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, ML3.5/1, MS3.4/2, Ms1 3.2/2, ms1mx3.0/19, Error ellipse: s-maj=22.0km s-min=19.2km az=57.0
NEIC 14 02:50:43.7±0.4, 5573S×26.17W, h10km, mb4.4/8, Error ellipse: s-maj=11.2km s-min=8.3km az=50.0
ISC 14 02:50:43.6±0.5, 5577S±008×262W±02, h10km, n19, σ0°72/20, mb4.3/12, MS3.3/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.85**	**159**	*e*	**Pn**	**02 54 39.3**	**-0.2**
VNA1				*e*		02 54 42.8	
VNA1				*e*		02 54 44.0	
SNAA	**Sanae**	**18.77**	**157**	P	**Pn**	**02 55 02.9**	**-0.4**
	0.1nm,0.3s,baz=313,slow=9.8,SNR=23						
SNAA				S	**Sn**	**02 58 18.2**	**-15**
	0.0nm,0.3s,baz=331,slow=15,SNR=2.8						
SNAA	**Sanae**	**18.77**	**157**	*e*	**Pn**	**02 55 05.4**	**+2.1**
SNAA				*e*		02 55 08.7	
SNAA				*e*		02 55 10.2	
PMSA	**Palmer Station**	**20.52**	**229**	P	**P**	**02 55 20.6**	**-1.4**
	16nm,1.1s,baz=78,slow=6.1,SNR=5.0						
TRQA	**Tornquist**	**29.75**	**291**	*e*P	**P**	**02 56 50.0**	**-0.1**
	1.3nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**34.48**	**180**	*e*P	**P**	**02 57 32.0**	**+0.3**
	19nm,0.6s,mb5.2						
CPUP	**Villa Florida**	**37.07**	**310**	P	**P**	**02 57 53.4**	**-0.5**
	1.3nm,0.5s,mb4.0,baz=148,slow=7.8,SNR=6.6						
MAW	**Mawson**	**40.03**	**143**	P	**P**	**02 58 18.8**	**0.0**
	0.9nm,0.6s,mb3.7,baz=231,slow=6.5,SNR=4.3						
MAW				LR	LR	03 12 42.5	
	comp=Z,50nm,20.0s,MS3.4,baz=57,slow=33						
BOSA	**Boshof**	**45.34**	**75**	P	**P**	**02 59 01.4**	**-0.5**
	3.3nm,1.0s,mb4.1,baz=216,slow=7.4,SNR=4.3						
BOSA				LR	LR	03 14 18.0	
	comp=Z,38nm,20.9s,MS3.3,baz=333,slow=31						
LVC	**Limon Verde**	**45.66**	**299**	*e*P	**P**	**02 59 05.5**	**+1.1**
	3.8nm,0.7s,mb4.4						
VNDA	**Vanda**	**46.88**	**182**	P	**P**	**02 59 14.1**	**+0.1**
	3.7nm,0.6s,mb4.5,baz=184,slow=6.7,SNR=46						
VNDA	**Vanda**	**46.88**	**182**	*e*P	**P**	**02 59 13.8**	**-0.2**
	4.0nm,0.7s,mb4.5						
LBTB	**Lobatse**	**48.38**	**72**	P	**P**	**02 59 25.5**	**-0.1**
	1.8nm,0.6s,mb4.3,baz=99,slow=20,SNR=5.5						
LBTB	**Lobatse**	**48.38**	**72**	*e*P	**P**	**02 59 25.4**	**-0.2**
	2.2nm,0.6s,mb4.4						
LPAZ	**La Paz**	**50.69**	**304**	P	**P**	**02 59 44.6**	**+1.3**
	3.3nm,0.6s,mb4.5,baz=160,slow=7.1,SNR=23						
LPAZ	**La Paz**	**50.69**	**304**	*e*P	**P**	**02 59 44.4**	**+1.1**
	4.0nm,0.7s,mb4.5						
CASY	**Casey**	**53.98**	**160**	*e*P	**P**	**03 00 08.1**	**+0.4**
	2.9nm,0.7s,mb4.3						
SAML	**Samuel**	**55.02**	**313**	*e*P	**P**	**03 00 14.6**	**-0.6**
	1.9nm,0.8s,mb4.2						
SAML				*e*		03 00 34.9	
TORD	**Torodi Ar. Bea**	**72.53**	**29**	P	**P**	**03 02 10.4**	**-0.3**
	3.4nm,0.6s,mb4.5,baz=199,slow=6.5,SNR=61						

NEIC 14 02:54:28.0, 3041S×7192W, h37km, MD3.7(GUC), After GUC.
GUC 14 02:54:28.0±1.0, 3041S×7192W, h37km±5km, MD3.7, ML3.1, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.65**	**108**	⇓*i*P	Pn	02 54 40.4	-0.4
OVCH				*i* S	Sn	02 54 50.4	+0.6
OVCH				AML	AML	02 54 50.7	
	comp=E,942nm,0.5s						
LSCH	**La Serena**	**0.77**	**50**	AML	AML	02 54 50.7	
	comp=N,74nm,0.3s						
TLL	**Tololo Astrono**	**1.00**	**76**	⇓*i*P	Pn	02 54 45.1	-0.4
TLL				*i* S	Sn	02 54 58.6	+0.3
TLL				AML	AML	02 54 59.5	
	comp=N,877nm,0.4s						
TLL	**Tololo Astrono**	**1.00**	**76**	⇓*i*P	Pn	02 54 45.1	-0.4
TLL				*i* S	Sn	02 54 58.6	+0.3
CMCH	**Combarbala**	**1.10**	**134**	⇑*i*P	Pn	02 54 47.5	+0.6
CMCH				*i* S	Sn	02 55 03.0	+2.2
CMCH				AML	AML	02 55 03.1	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**1.10**	**134**	⇑*i*P	Pn	02 54 47.5	+0.6
CMCH				*i* S	Sn	02 55 03.0	+2.2
PTCH	**Petorca**	**2.03**	**156**	⇑*i*P	Pn	02 55 01.2	+1.4
PTCH				*i* S	Sn	02 55 26.1	+2.2
PTCH				AML	AML	02 55 28.0	
	comp=E,318nm,0.2s						
PTCH	**Petorca**	**2.03**	**156**	⇑*i*P	Pn	02 55 01.2	+1.4
PTCH				*i* S	Sn	02 55 26.1	+2.2
VACH	**Vallenar**	**2.09**	**29**	⇑*i*P	Pn	02 55 02.5	+2.0
VACH				*i* S	Sn	02 55 27.2	+1.9
VACH				AML	AML	02 55 32.1	
	comp=E,739nm,0.1s						
VACH	**Vallenar**	**2.09**	**29**	⇑*i*P	Pn	02 55 02.5	+2.0
VACH				*i* S	Sn	02 55 27.2	+1.9
JACH	**Jahuel**	**2.53**	**154**	⇓*i*P	Pn	02 55 08.3	+1.8
JACH				*i* S	Sn	02 55 39.1	+2.9
RCDM	**Rinconada Maip**	**3.21**	**163**	*e*P	Pn	02 55 17.1	+1.2
RCDM				*i* S	Sn	02 55 54.4	+1.4
RCDM				AML	AML	02 55 58.8	
	comp=N,123nm,0.1s						
RCDM	**Rinconada Maip**	**3.21**	**163**	*e*P	Pn	02 55 17.1	+1.2
RCDM				*i* S	Sn	02 55 54.4	+1.4
PCH	**Pirque**	**3.42**	**160**	⇓*i*P	Pn	02 55 20.3	+1.6
SFDO	**San Fernando**	**4.26**	**170**	⇓*i*P	Pn	02 55 31.6	+1.2
SFDO				*i* S	Sn	02 56 19.8	+1.0

ISK 14 03:19:36.2, 3657N×2834E, h5km, MD3.3
ISCJB 14 03:19:37.0±0.7, 3653N±003×2833E±003, h5km±6km, Error ellipse: s-maj=5.6km s-min=3.7km az=146.7
NEIC 14 03:19:37.3, 3663N×2823E, h19km, MD3.4(ATH), After ATH.
ATH 14 03:19:37.3, 3663N×2823E, h19km±3km, MD3.4/5
CSEM 14 03:19:37.4±0.1, 3661N×2830E, h5km, MD3.3, Error ellipse: s-maj=1.4km s-min=1.1km az=151.0
HLW 14 03:19:45.5, 3615N×2834E, h33km, Mb3.0
ISC 14 03:19:38.3±0.5, 3659N±003×2833E±003, h10km±4km, n32, σ0°90/46, 3C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.31**	**55**	PG	**Pg**	**03 19 43.6**	**-0.8**
DALT				SG	**Sg**	**03 19 49.0**	**+0.5**
ARG	**Arkhangelos**	**0.41**	**203**	*e*PB	**Pg**	**03 19 45.8**	**-0.5**
ARG				*e*SB	**Sg**	**03 19 52.5**	**+0.7**
DAT	**Datca**	**0.62**	**283**	PG	**Pg**	**03 19 49.3**	**-0.9**
DAT				SG	**Sg**	**03 20 00.3**	**+2.0**
MLSB	**Milas**	**0.83**	**328**	PG	**Pg**	**03 19 53.7**	**-0.5**
BDRM	**Kayabasi**	**0.85**	**304**	*i* P	**Pg**	**03 19 54.2**	**-0.5**
BDRM				*i* S	**Sg**	**03 20 09.2**	**+3.5**
BODT	**Bodrum**	**0.94**	**300**	PG	**Pg**	**03 19 55.1**	**-1.3**
KSL	**Kastellorizon**	**1.11**	**113**	*e*PN	**Pn**	**03 20 00.0**	**+0.2**
GOLH	**Golhisar**	**1.18**	**57**	*i* P	**Pg**	**03 20 00.9**	**-0.1**
GOLH				*i* S	**Sg**	**03 20 17.8**	**+1.5**
ELL	**Elmali**	**1.28**	**83**	PN	**Pn**	**03 20 01.6**	**-0.6**
DENT	**Denizli**	**1.29**	**26**	PN	**Pn**	**03 20 02.7**	**+0.4**
KARP	**Karpathos**	**1.41**	**222**	*e*PN	**Pn**	**03 20 03.8**	**-0.1**
KARP				*e*SN	**Sn**	**03 20 22.5**	**0.0**
KARP	**Karpathos**	**1.41**	**222**	*e*Pn	**Pn**	**03 20 04.2**	**+0.3**
KARP				*e*Sn	**Sn**	**03 20 22.5**	**0.0**
SMG	**Samos**	**1.63**	**314**	*e*PN	**Pn**	**03 20 05.9**	**-1.0**
SMG				*e*SN	**Sn**	**03 20 26.7**	**-1.2**
SMG	**Samos**	**1.63**	**314**	*e*Pn	**Pn**	**03 20 06.3**	**-0.6**
SMG				*e*Sn	**Sn**	**03 20 27.1**	**-0.8**
SMG	**Samos**	**1.63**	**314**	*e*Pn	**Pn**	**03 20 06.3**	**-0.6**
SMG				*e*Sn	**Sn**	**03 20 26.7**	**-1.2**
IZM	**Izmir**	**1.99**	**335**	*e*PN	**Pn**	**03 20 12.3**	**+0.4**
KDAG	**Bornova**	**1.99**	**335**	*i* P	**Pg**	**03 20 16.1**	**-0.4**
KDAG				*i* S	**Sg**	**03 20 47.0**	**+4.7**
BCK	**Bucak**	**2.01**	**64**	*e*PN	**Pn**	**03 20 13.1**	**+0.9**
BLCB	**Balcova**	**2.06**	**331**	*e*PN	**Pn**	**03 20 13.5**	**+0.6**
ISP	**Isparta**	**2.14**	**54**	*e*PN	**Pn**	**03 20 14.9**	**+0.9**
TKTP	**Tekketepe**	**2.15**	**47**	*i* P	**Pb**	**03 20 16.8**	**-0.4**
TKTP				*i* S	**Sg**	**03 20 46.0**	**-1.4**
NPS	**Neapolis**	**2.57**	**240**	*e*PN	**Pn**	**03 20 19.6**	**-0.3**
NPS	**Neapolis**	**2.57**	**240**	*e*Pn	**Pn**	**03 20 20.0**	**+0.1**
LAST	**Lasithi**	**2.72**	**239**	P	**Pn**	**03 20 22.5**	**+0.6**
IDI	**Anoyia**	**3.08**	**246**	P	**Pn**	**03 20 27.6**	**+0.7**
KONT	**Konya--Tatoy**	**3.49**	**66**	*e*PN	**Pn**	**03 20 34.7**	**+1.6**
ERMK	**Ermenek**	**3.69**	**88**	*i* P	**Pn**	**03 20 38.3**	**+3.0**
ERMK				*i* S	**Sb**	**03 21 27.1**	**-1.2**
HMAT	**Matruh**	**5.58**	**191**	P	**Pn**	**03 21 00.7**	**-0.6**
SWA1		**7.63**	**197**	⇑P	**Pn**	**03 21 28.9**	**-0.5**
SWA2		**7.72**	**199**	⇓P	**Pn**	**03 21 30.4**	**-0.2**
SWA2				S	**Sn**	**03 22 47.1**	**-11**
AWBH		**8.26**	**176**	⇑P	**Pn**	**03 21 37.6**	**-0.5**
HFRF	**Wahat Farafira**	**9.42**	**180**	⇑P	**Pn**	**03 21 53.5**	**-0.5**

PRU 14 03:30:35.5, 5030N×1922E, h0km
IPEC 14 03:30:35.2±0.2, 5029N×1927E, h0km±1km, ML1.9/3, Error ellipse: s-maj=4.0km s-min=0.9km az=168.0
CSEM 14 03:30:37.3±0.4, 5015N×1920E, h0km±1km, ML1.9/3, Error ellipse: s-maj=6.0km s-min=1.8km az=1.0
WAR 14 03:30:36.3, 5017N×1931E, ML2.5, 1C-3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**81**	*e*Pg	Pg	03 30 42.5	+0.1
OJC				*e*Sg	Sg	03 30 47.2	+0.7
OJC	**Ojcow**	**0.32**	**81**	*e*Pg	Pg	03 30 42.0	-0.4
OJC				*e*Sg	Sg	03 30 45.9	-0.6
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	03 30 51.1	-0.9
OKC				*e*SG	Sg	03 31 02.9	+0.2
	12nm,0.4s						
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*Pg	Pg	03 30 51.8	-0.2
OKC				*e*Sg	Sg	03 31 01.8	-0.9
NIE	**Niedzica**	**0.99**	**139**	*e*Pg	Pg	03 30 55.1	-0.3
NIE				*e*Sg	Sg	03 31 10.0	+1.8
MORC	**Moravsky Berou**	**1.21**	**252**	⇓*i*P	Pg	03 30 58.6	-0.8
MORC	**Moravsky Berou**	**1.21**	**252**	*e*Pg	Pg	03 30 58.7	-0.7
MORC				*e*Sg	Sg	03 31 13.7	-1.4
STHS	**Stebnicka Huta**	**1.46**	**120**	*e*PN	Pn	03 31 04.5	+0.6
STHS				*e*SN	Sn	03 31 25.8	+2.0
VYHS	**Vyhne**	**1.71**	**191**	*e*PN	Pn	03 31 05.9	-1.4
VYHS				*e*SN	Sn	03 31 29.2	-0.6
VYHS	**Vyhne**	**1.71**	**191**	*e*Pn	Pn	03 31 06.0	-1.3
VYHS				*e*Sn	Sn	03 31 29.2	-0.6
KECS	**Kecovo**	**1.85**	**155**	*e*PN	Pn	03 31 08.2	-1.1
KECS				*e*SN	Sn	03 31 35.3	+1.8
CRVS	**Cervenica-Dubn**	**1.89**	**131**	*e*PN	Pn	03 31 09.9	+0.1
CRVS				*e*SN	Sn	03 31 37.5	+3.1
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pg	03 31 08.6	-4.6
DPC				*e*SG	Sg	03 31 34.3	-3.9
	8.5nm,0.6s						
VRAC	**Vranov**	**1.96**	**245**	⇓*i*P	Pn	03 31 10.5	-0.3
VRAC	**Vranov**	**1.96**	**245**	*e*Pn	Pn	03 31 10.3	-0.5
VRAC				*e*Sg	Sg	03 31 37.3	-2.1
KSP	**Ksiaz**	**2.04**	**290**	*e*Pg	Pg	03 31 15.1	-0.3
KSP				*e*Sg	Sg	03 31 40.1	-1.8
UPC	**Upice**	**2.14**	**280**	*e*SG	Sg	03 31 42.8	-2.3
PSZ	**Piszkesteto**	**2.29**	**170**	⇓*i*P	Pn	03 31 20.3	+5.0
KOLS	**Kolonicke sedl**	**2.29**	**122**	*e*PN	Pn	03 31 15.1	-0.2
PRU	**Pruhonice**	**3.08**	**268**	*e*SG	Sg	03 32 10.2	-5.0
KHC	**Kasperske Hory**	**3.87**	**257**	*e*SG	Sg	03 32 37.9	-2.6
BURAR	**Bucovina Array**	**4.66**	**121**	⇑*i*P	Pn	03 31 47.7	-0.2

ISCJB 14 03:44:00.1±1.0, 1097N±007×6220W±004, h78km±9km, Error ellipse: s-maj=11.0km s-min=5.8km az=160.4
FUNV 14 03:44:00.2, 1105N×6210W, h73km, MW2.4
TRN 14 03:44:02.7, 1090N×6210W, h70km, MD3.0
ISC 14 03:44:00.8±1.0, 1098N±007×6220W±004, h75km±10km, n10, σ0°68/19, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**184**	*e*P	**Pn**	**03 44 12.8**	**+0.1**
GUIV				*e*S	**Sn**	**03 44 21.2**	**-0.2**
TCE	**Chacachacare**	**0.52**	**122**	⇑*e*P	**Pn**	**03 44 14.7**	**+0.5**
TCE				*e*S	**Sn**	**03 44 23.5**	**-0.5**
TRN	**Trinidad (W)**	**0.84**	**113**	*e*P	**Pn**	**03 44 18.2**	**+0.5**
TRN				*e*S	**Sn**	**03 44 29.2**	**-1.0**
ITEV	**Isla Los Testi**	**0.99**	**292**	*e*P	**Pn**	**03 44 19.2**	**-0.3**
ITEV				*e*S	**Sn**	**03 44 33.1**	**-0.3**
CRUV	**Carupano**	**1.06**	**254**	*e*P	**Pn**	**03 44 20.7**	**+0.3**
CRUV				*e*S	**Sn**	**03 44 35.3**	**+0.4**
GUNV	**Guanoco**	**1.09**	**222**	*e*P	**Pn**	**03 44 21.5**	**+0.9**
GUNV				*e*S	**Sn**	**03 44 37.3**	**+1.8**
TPR	**Prospect**	**1.41**	**81**	⇓*e*P	**Pn**	**03 44 25.5**	**+0.8**
TPR				*e*S	**Sn**	**03 44 42.5**	**-0.3**
ORIV	**Oritupano**	**2.24**	**212**	*e*P	**Pn**	**03 44 35.8**	**0.0**
ORIV				*e*S	**Sn**	**03 45 02.0**	**-0.4**
PCRV	**Puerto La Cruz**	**2.53**	**252**	*e*P	**Pn**	**03 44 39.1**	**-0.5**
PCRV				*e*S	**Sn**	**03 45 08.6**	**-0.8**
PRGV	**PARIAGUAN**	**3.27**	**228**	*e*S	**Sn**	**03 45 26.4**	**-1.0**

IGQ 14 03:44:48.4, 070S×7875W, h15km±2km, Mb4.1, Ms3.9, 5C-10D, Error ellipse: s-maj=2.3km s-min=0.6km az=179.6, Ecuador

| Code | Station Name |

PTCH			*i* S		Sb	03 45 48.2	-1.2
PTCH			AML		AML	03 45 53.1	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**1.09 144**	⇓*i* P		Pb	03 45 34.1	-1.1
PTCH			*i* S		Sb	03 45 48.2	-1.2
PACH	**Papudo**	**1.18 170**	*i* S		Sb	03 45 50.9	-0.9
TLL	**Tololo Astrono**	**1.42 32**	*eP*		Pn	03 45 39.9	-0.1
TLL			*i* S		Sn	03 45 58.7	0.0
TLL			AML		AML	03 46 01.9	
	comp=N,241nm,0.5s						
TLL	**Tololo Astrono**	**1.42 32**	*eP*		Pn	03 45 39.9	-0.1
TLL			*i* S		Sn	03 45 58.7	0.0
JACH	**Jahuel**	**1.60 145**	*eP*		Pn	03 45 42.4	0.0
JACH			*i* S		Sn	03 46 03.0	0.0
ROCH	**El Roble**	**1.69 160**	*eP*		Pn	03 45 43.4	-0.3
ROCH			*i* S		Sn	03 46 06.5	+1.2
PEL	**Peldehue**	**1.95 155**	*eP*		Pn	03 45 47.1	-0.2
PEL			*i* S		Sn	03 46 13.3	+1.5
PEL			AML		AML	03 46 15.9	
	comp=E,370nm,0.5s						
PEL	**Peldehue**	**1.95 155**	*eP*		Pn	03 45 47.1	-0.2
PEL			*i* S		Sn	03 46 13.3	+1.5
CLCH	**Cerro Calan**	**2.23 155**	⇓*i* P		Pn	03 45 51.7	+0.5
CLCH			*i* S		Sn	03 46 21.4	+2.7
CLCH			AML		AML	03 46 29.9	
	comp=E,241nm,0.4s						
TACH	**Talagante**	**2.35 165**	⇑*i* P		Pn	03 45 52.8	-0.1
TACH			*i* S		Sn	03 46 22.8	+1.1

IDC 14 03:52:56.3±1.8, 2248S×17401W, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, ML4.8/1, Error ellipse: s-maj=124.8km s-min=27.2km az=163.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.28**	**87**	Pn	Pn	03 56 04.8	-1.3
	4.5nm,0.3s,baz=242,slow=5.4,SNR=5.8						
ASAR	**Alice Springs**	**47.72**	**258**	P	P	04 01 35.6	+0.9
	1.4nm,0.8s,baz=102,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**48.03**	**263**	P	P	04 01 36.9	-0.3
	0.6nm,0.7s,baz=98,slow=8.2,SNR=19						
NVAR	**Mina Array Bea**	**79.98**	**41**	P	P	04 05 08.3	+0.9
	0.3nm,0.5s,baz=225,slow=8.9,SNR=3.9						

WEL 14 03:57:55.0±0.3, 4467S×16739E, h12km, ML3.5/11, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.39**	**91**	P*	Pg	03 58 02.9	+0.2
MSZ				S*	Sg	03 58 07.7	-0.2
DCZ	**Deep Cove**	**0.83**	**191**	P*	Pb	03 58 09.8	-1.5
DCZ				S*	Sb	03 58 20.8	-1.6
MLZ	**Mavora Lakes**	**0.88**	**141**	P*	Pb	03 58 11.1	-1.0
MLZ				S*	Sb	03 58 22.3	-1.6
JCZ	**Jackson Bay**	**1.15**	**59**	P*	Pb	03 58 15.7	-1.0
WKZ	**Wanaka**	**1.17**	**99**	P*	Pb	03 58 16.4	-0.8
WHZ	**Wether Hill Ro**	**1.29**	**162**	PN	Pn	03 58 18.0	-0.8
EAZ	**Earnscleugh**	**1.48**	**113**	PN	Pn	03 58 21.3	-0.1
FOZ	**Fox Glacier**	**1.99**	**57**	*e*PN	Pn	03 58 27.0	-1.4
LBZ	**Lake Benmore**	**2.02**	**83**	*e*PN	Pn	03 58 28.2	-0.7
APZ	**The Paps**	**2.21**	**169**	*e*PN	Pn	03 58 31.1	-0.3
SYZ	**Scrubby Hill**	**2.24**	**147**	*e*PN	Pn	03 58 31.3	-0.5
ODZ	**Otahua Downs**	**2.35**	**100**	*e*PN	Pn	03 58 32.7	-0.7
ODZ				SN	Sn	03 58 58.4	-3.7

*ISCJB **14** 04:02:14.3±0.3, 593N×004×12468E±005, h402km±2km, mb4.6/81, Error ellipse: s-maj=8.0km s-min=5.0km az=131.2*
*BJI **14** 04:02:14.1, 578N×12480E, h416km, mB4.6, mb4.7*
*MOS **14** 04:02:15.6±0.9, 598N×12464E, h415km, mb4.9/24, Error ellipse: s-maj=15.7km s-min=6.5km az=113.6*
*NEIC **14** 04:02:15.2±0.6, 598N×12463E, h398km±6km, mb4.6/32, Error ellipse: s-maj=9.0km s-min=5.1km az=73.0*
*IDC **14** 04:02:15.5±1.1, 593N×12453E, h400km±10km, mb3.9/21, mb1 4.0/22, mb1mx4.0/23, mbtmp4.7/22, Error ellipse: s-maj=20.1km s-min=6.5km az=75.0*
*MAN **14** 04:02:17.7, 609N×12460E, h367km, mb4.2, ML5.1, MS5.4*
ISC 14 04:02:15.3±0.3, 595N±004×12473E±005, h396km±2km, h387km±3.9km: pP-P, n183, σ1902/193, mb4.6/80, 6C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.11**	**19**	⇓*i* P	**Pn**	**04 03 08.0**	**+1.7**
KCP				*i* S	**S**	**04 03 49.5**	**+2.2**
DAV	**Davao City (W)**	**1.40**	**37**	Pn	**Pn**	**04 03 06.6**	**-0.8**
DAV				*e*S	**S**	**04 03 49.4**	**-0.2**
MATI	**Mati**	**1.81**	**57**	*e*P	**Pn**	**04 03 09.3**	**-0.4**
MATI				*e*S	**S**	**04 03 51.8**	**-1.7**
BUKP	**Musuan**	**1.94**	**10**	*e*P	**Pn**	**04 03 10.7**	**+0.3**
PAGZ	**Pagadian**	**2.31**	**325**	*e*P	**Pn**	**04 03 12.6**	**-0.2**
CGP	**Cagayan de Oro**	**2.49**	**359**	⇑*i* P	**Pn**	**04 03 13.0**	**-1.1**
IPIL	**Ipil**	**2.81**	**311**	*e*P	**Pn**	**04 03 15.8**	**-0.8**
SCPH	**Surigao**	**3.88**	**11**	⇓*e*P	**Pn**	**04 03 26.1**	**+0.3**
PVCP	**Virac**	**7.62**	**356**	*e*P	**Pn**	**04 04 07.0**	**+1.3**
KKM	**Kota Kinabalu**	**8.47**	**271**	P	**Pn**	**04 04 14.4**	**-1.1**
KKM	**Kota Kinabalu**	**8.47**	**271**	*e*Pn	**Pn**	**04 04 14.1**	**-1.4**
LUBP	**Lubang**	**8.90**	**331**	*e*P	**Pn**	**04 04 20.9**	**+0.4**
LUBP				*e*S		04 04 23.5	
TGY	**Tagaytay City**	**8.92**	**336**	P	**Pn**	**04 04 21.1**	**+0.4**
	38nm,0.3s,baz=185,slow=6.1,SNR=17						
TGY				S	**S**	**04 06 01.9**	**-1.6**
	40nm,0.3s,baz=254,slow=8.1,SNR=1.7						
POLP	**Polilio Island**	**9.14**	**343**	*e*P	**Pn**	**04 04 23.4**	**+0.2**
KSM	**Kuching**	**15.06**	**253**	*e*P	**P**	**04 05 28.5**	**0.0**
NACB	**Ninganchiao**	**18.37**	**351**	*e*P	**P**	**04 06 01.9**	**-1.9**
YHNB	**Yeheng**	**18.89**	**351**	*e*P	**P**	**04 06 07.9**	**-1.3**
TATO	**Taipei**	**19.17**	**351**	*e*P	**P**	**04 06 11.7**	**-0.5**
	26nm,0.7s						
QIZ	**Qiongzhong**	**19.47**	**313**	⇓P	**P**	**04 06 13.9**	**-1.2**
QIZ				S	**S**	**04 09 32.3**	**+1.1**
QIZ				AMB	AMB		
	comp=Z,36nm,0.8s						
QIZ	**Qiongzhong**	**19.47**	**313**	*e*P	**P**	**04 06 14.0**	**-1.1**
	comp=Z,30nm,0.8s						
KAKA	**Kakadu**	**20.06**	**158**	*e*P	**P**	**04 06 20.9**	**+0.4**
	comp=Z,11nm,0.6s						
JOW	**Kunigami**	**21.04**	**9**	P	**P**	**04 06 29.2**	**-0.1**
	comp=Z,47nm,0.9s,mb4.9,baz=174,slow=6.8,SNR=5.7						
KGM	**Kluang**	**21.71**	**260**	P	**P**	**04 06 36.6**	**+1.1**
KKTK	**Khon Kaen**	**23.81**	**297**	⇑P	**P**	**04 06 54.9**	**+0.4**
	comp=Z,432nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.92**	**178**	P	**P**	**04 06 55.6**	**+0.2**
	comp=Z,3.0nm,0.6s,mb3.9,baz=3.3,slow=14,SNR=12						
FITZ				ScP	ScP	04 13 25.7	+0.3
	comp=Z,2.1nm,0.8s,baz=27,slow=4.5,SNR=4.7						
NST	**Nakhon Sawan**	**25.99**	**294**	P	**P**	**04 07 14.5**	**+0.6**
	comp=Z,58nm,0.8s,mb5.1						
WHN	**Wuhan**	**26.34**	**339**	⇑P	**P**	**04 07 18.5**	**+1.5**
WHN				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.2						
NJ2	**Nanjing**	**26.54**	**349**	*e*P	**P**	**04 07 19.6**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,140nm,0.7s,mb5.5						
GYA	**Guiyang**	**26.70**	**322**	P	**P**	**04 07 20.6**	**+0.4**
GYA				PCP	PcP	04 10 32.8	+1.1
GYA				S	**S**	**04 11 27.8**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
GYA				AMB	AMB		
	comp=Z,80nm,5.4s						
WRA	**Warramunga Arr**	**27.41**	**160**	P	**P**	**04 07 26.5**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.5,baz=341,slow=9.2,SNR=29						
WRA				pP		04 08 35.5	
	comp=Z,3.4nm,0.7s,baz=340,slow=11,SNR=4.8						
WRA				PcP	PcP	04 10 34.4	+1.0
	comp=Z,0.6nm,0.4s,baz=333,slow=2.7,SNR=4.6						
WRA				S	**S**	**04 11 35.3**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=345,slow=16,SNR=3.9						
WRA				ScP	ScP	04 13 36.1	+0.5
	comp=Z,2.0nm,0.6s,baz=344,slow=3.4,SNR=9.4						
WRA	**Warramunga Arr**	**27.41**	**160**	P	**P**	**04 07 26.5**	**0.0**
WRA						04 10 34.4	
WRA				S	**S**	**04 11 35.3**	**-2.0**
WB2	**Warramunga Arr**	**27.42**	**160**	*e*P	**P**	**04 07 26.5**	**0.0**
CHG	**Chiang Mai**	**28.19**	**299**	⇓P	**P**	**04 07 33.8**	**+0.5**
	comp=Z,22nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**28.19**	**299**	*e*P	**P**	**04 07 33.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.4						
CHTO	**Chiang Mai**	**28.19**	**299**	*e*P	**P**	**04 07 33.5**	**+0.2**
	comp=Z,25nm,1.2s,mb4.4						
KMI	**Kunming**	**28.41**	**314**	⇓P	**P**	**04 07 36.8**	**+1.5**
KMI				AP		04 08 47.6	
KMI				S	**S**	**04 11 54.5**	**+1.6**
KMI				XS	sS	04 14 03.3	-2.2
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
KMI	**Kunming**	**28.41**	**314**	⇓P	**P**	**04 07 36.7**	**+1.4**
KMI				S	**S**	**04 11 54.5**	**+1.6**
KMI				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
KMI				MLR	MLR		
	comp=Z,110nm,12.6s						
KMI	**Kunming**	**28.41**	**314**	⇓P	**P**	**04 07 36.7**	**+1.4**
	comp=Z,20nm,1.0s,mb4.4						
KMI				pP		04 08 47.6	
KMI				sP	sP	04 09 33.3	+0.1
KMI				S	**S**	**04 11 54.5**	**+1.6**
KMI				sS	sS	04 14 03.3	-2.2
KMI				LR	LR		
	comp=Z,110nm,12.6s						
AS31	**Alice Springs**	**30.77**	**163**	*e*P	**P**	**04 07 55.4**	**-0.5**
ASAR	**Alice Springs**	**30.77**	**163**	P	**P**	**04 07 56.6**	**+0.7**
	comp=Z,0.8nm,0.3s,mb3.6,baz=342,slow=8.3,SNR=27						
ASAR				pP	pP	04 09 07.5	-0.9
	comp=Z,1.9nm,0.9s,baz=335,slow=8.4,SNR=2.5						
ASAR				PcP	PcP	04 10 42.6	+0.6
	comp=Z,1.8nm,0.4s,baz=344,slow=2.4,SNR=9.4						
ASAR				S	**S**	**04 12 29.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=360,slow=20,SNR=4.9						
ASAR				ScP	ScP	04 13 47.6	+1.2
	comp=Z,2.0nm,0.7s,baz=341,slow=2.5,SNR=11						
ASAR	**Alice Springs**	**30.77**	**163**	P	**P**	**04 07 56.6**	**+0.7**
ASAR				*PP	pP	04 09 07.5	-0.8
ASAR						04 10 42.7	
ASAR				S	**S**	**04 12 29.2**	**-0.4**
XAN	**Xi'an**	**31.55**	**334**	P	**P**	**04 08 02.6**	**-0.1**
XAN				AMB	AMB		
	comp=Z,76nm,1.2s,mb4.9						
CD2	**Chengdu**	**31.68**	**324**	P	**P**	**04 08 05.3**	**+1.5**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.5						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
MAJO	**Matsushiro**	**32.85**	**20**	*e*P	**P**	**04 08 13.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**32.85**	**20**	*e*P	**P**	**04 08 13.4**	**-0.5**
	comp=Z,17nm,0.8s,mb4.4						
MAT	**Matsushiro**	**32.85**	**20**	P	**P**	**04 08 13.8**	**-0.1**
MJAR	**Matsushiro Arr**	**32.85**	**20**	P	**P**	**04 08 14.1**	**+0.2**
	comp=Z,18nm,0.7s,mb4.5,baz=193,slow=9.0,SNR=47						
MJAR				ScP	ScP	04 13 54.7	+1.2
	comp=Z,0.7nm,0.3s,baz=196,slow=2.9,SNR=5.1						
DL2	**Dalian**	**32.92**	**356**	*e*P	**P**	**04 08 20.1**	**+5.6**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**33.43**	**141**	*e*P	**P**	**04 08 20.3**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
CTAO	**Charters Tower**	**33.43**	**141**	*e*P	**P**	**04 08 20.3**	**+1.4**
	comp=Z,7.2nm,0.7s,mb4.1						
BJT	**Baijiatuau**	**34.78**	**348**	*e*P	**P**	**04 08 30.7**	**+0.4**
BJT				pmax	pmax		
	comp=Z,60nm,0.8s						
BJT	**Baijiatuau**	**34.78**	**348**	*e*P	**P**	**04 08 30.7**	**+0.4**
	comp=Z,60nm,0.8s,mb5.0						
LZH	**Lanzhou**	**35.59**	**330**	⇓P	**P**	**04 08 38.5**	**+1.4**
LZH				AP	pP	04 09 53.0	+1.9
LZH				PP	PP	04 10 10.6	+2.2
LZH				PCP	PcP	04 10 57.0	+1.3
LZH				*e*S	**S**	**04 13 49.0**	**+5.6**
LZH				SS	SS	04 16 35.3	-3.6
LZH				AMB	AMB		
	comp=Z,146nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,432nm,4.3s						
LZH	**Lanzhou**	**35.59**	**330**	⇓P	**P**	**04 08 38.5**	**+1.4**
LZH				*PP	pP	04 09 53.0	+1.9
LZH						04 10 10.6	
LZH						04 10 57.0	
LZH				*e*S	**S**	**04 13 49.0**	**+5.6**
LZH				SS	SS	04 16 35.2	-3.7
LZH				pmax	pmax		
	comp=Z,146nm,1.5s,mb5.1						
LZH	**Lanzhou**	**35.59**	**330**	⇓P	**P**	**04 08 38.5**	**+1.4**
	comp=Z,146nm,1.5s,mb5.1						
LZH				pP	pP	04 09 53.0	+1.9
LZH				PP	PP	04 10 10.6	+2.2
LZH				sP	sP	04 10 35.0	-1.7
LZH				PcP	PcP	04 10 57.0	+1.3
LZH				*e*S	**S**	**04 13 49.0**	**+5.6**
LZH				sS	sS	04 15 56.0	-2.5
LZH				SS	SS	04 16 35.2	-3.7
SNY	**Shenyang**	**35.74**	**359**	⇑P	**P**	**04 08 38.8**	**+0.5**
SNY				AMB	AMB		
	comp=Z,29nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**36.69**	**343**	*e*P	**P**	**04 08 47.8**	**+1.5**
HHC				PP	PP	04 10 24.9	+4.6
HHC				PCP	PcP	04 11 01.3	+2.2
HHC				S	**S**	**04 14 04.9**	**+5.0**
HHC				SS	SS	04 16 59.4	-1.2
HHC				SCS	ScS	04 18 17.4	+1.9
HHC				AMB	AMB		
	comp=Z,29nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,110nm,3.9s						
SHL	**Shillong**	**36.97**	**305**	*i* P	**P**	**04 08 49.0**	**+0.4**
SHL				*i* S	**S**	**04 14 03.0**	**-1.0**
CN2	**Changchun**	**37.70**	**1**	*e*P	**P**	**04 08 53.8**	**-0.9**
CN2				*e*S	**S**	**04 14 17.4**	**+2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
MDJ	**Mudanjiang**	**38.75**	**6**	P	**P**	**04 09 04.3**	**+1.0**
MDJ				AP	pP	04 10 18.1	-0.4
MDJ				PP	PP	04 10 43.0	+0.7
MDJ				XS	sS	04 16 48.9	+1.6
MDJ				SCS	ScS	04 18 27.8	+0.4
MDJ				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,116nm,3.7s						
MDJ	**Mudanjiang**	**38.75**	**6**	*e*P	**P**	**04 09 03.8**	**+0.5**
	comp=Z,36nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**39.31**	**190**	P	**P**	**04 09 08.3**	**+0.4**
	comp=Z,4.8nm,0.7s,mb3.9,baz=34,slow=9.9,SNR=3.3						
NWAO	**Narrogin (SRO)**	**39.31**	**190**	P	**P**	**04 09 08.3**	**+0.4**
LSA	**Lhasa**	**39.48**	**311**	P	**P**	**04 09 11.3**	**+2.0**
LSA	**Lhasa**	**39.48**	**311**	*e*P	**P**	**04 09 10.7**	**+1.4**
LSA				pmax	pmax		
	comp=Z,30nm,0.6s,mb4.8						
LSA	**Lhasa**	**39.48**	**311**	*e*P	**P**	**04 09 10.7**	**+1.4**
	comp=Z,30nm,0.6s,mb4.8						
GTA	**Gaotai**	**40.18**	**330**	⇓P	**P**	**04 09 15.8**	**+0.8**
GTA				AP	pP	04 10 31.9	+1.1
GTA				PP	PP	04 11 00.8	+3.2
GTA				PCP	PcP	04 11 10.8	+0.7
GTA				SCP	ScP	04 14 21.4	+0.6
GTA				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**40.91**	**158**	*e*P	**P**	**04 09 22.3**	**+1.4**
	comp=Z,5.6nm,0.8s,mb4.0						
STKA				*e*		04 14 24.8	
STKA	**Stephens Creek**	**40.91**	**158**	P	**P**	**04 09 22.2**	**+1.3**
	comp=Z,6.6nm,0.6s,mb4.1,baz=320,slow=8.4,SNR=15						
STKA				ScP	ScP	04 14 24.8	+1.1
	comp=Z,7.2nm,0.9s,baz=21,slow=4.3,SNR=8.8						
STKA				S	**S**	**04 15 05.7**	**+3.2**
	comp=Z,3.7nm,1.0s,baz=290,slow=24,SNR=2.8						
ASAJ	**Asahikawa**	**41.12**	**20**	P	**P**	**04 09 24.4**	**+1.8**
	comp=Z,28nm,1.0s,mb4.5,baz=245,slow=8.7,SNR=7.7						
JIRN	**Jiri**	**42.47**	**305**	*e*P	**P**	**04 09 33.9**	**+0.6**
	comp=Z,5.5nm,0.3s,mb4.4						
GUN	**Gumba**	**42.82**	**305**	*e*P	**P**	**04 09 36.6**	**+0.5**
	comp=Z,119nm,0.7s,mb5.3						
PKI	**Pulchoki**	**43.07**	**305**	*e*P	**P**	**04 09 38.0**	**-0.1**
	comp=Z,24nm,0.7s,mb4.7						
KKN	**Kakani**	**43.26**	**305**	*e*P	**P**	**04 09 39.7**	**+0.1**
	comp=Z,72nm,0.9s,mb5.0						
DMN	**Daman**	**43.33**	**304**	*e*P	**P**	**04 09 40.6**	**+0.5**
	comp=Z,53nm,0.9s,mb4.9						
HIA	**Hailar**	**43.37**	**355**	⇓*i* P	**P**	**04 09 40.1**	**-0.3**
HIA	**Hailar**	**43.37**	**355**	*e*P	**P**	**04 09 40.6**	**+0.1**
	comp=Z,29nm,1.0s,mb4.6						
KLR	**Kul'dur**	**43.53**	**7**	*e*P	**P**	**04 09 38.4**	**-3.3**
GKN	**Gorkha**	**43.87**	**305**	*e*P	**P**	**04 09 44.2**	**-0.1**
	comp=Z,30nm,0.6s,mb4.8						
ARMA	**Armidale**	**44.41**	**146**	*e*P	**P**	**04 09 51.2**	**+2.6**
SONM	**Songino Array**	**44.58**	**342**	P	**P**	**04 09 50.2**	**+0.3**
	comp=Z,21nm,0.7s,mb4.6,baz=157,slow=9.0,SNR=125						
SONM				PcP	PcP	04 11 23.9	-1.0
	comp=Z,2.8nm,0.8s,baz=161,slow=5.3,SNR=4.3						
SONM				ScP	ScP	04 14 38.2	-0.3
	comp=Z,0.6nm,0.7s,baz=151,slow=3.3,SNR=3.7						
SONM	**Songino Array**	**44.58**	**342**	P	**P**	**04 09 50.2**	**+0.3**
SONM						04 11 23.9	
KOLN	**Koldanda**	**44.63**	**304**	*e*P	**P**	**04 09 50.9**	**+0.6**
	comp=Z,140nm,0.7s,mb5.4						
ZAK	**Zakamensk**	**47.79**	**342**	*e*P	**P**	**04 10 14.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
MOY	**Mondy**	**49.63**	**341**	*e*P	**P**	**04 10 28.8**	**+0.4**
MOY				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.5						
WMQ	**Urumqi**	**49.77**	**325**	⇑*i* P	**P**	**04 10 30.6**	**+1.2**
WMQ				PP	PP	04 12 31.0	+2.3
WMQ				PCS	PcS	04 15 41.0	-0.1
WMQ				S	**S**	**04 17 09.0**	**+1.1**
WMQ				SCS	ScS	04 19 36.0	-1.9
WMQ				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,126nm,5.2s						
BOD	**Bodaibo**	**52.41**	**353**	*e*P	**P**	**04 10 48.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
THN	**Thein Dam**	**52.65**	**307**	*e*P	**P**	**04 10 49.4**	**-1.1**
MKAR	**Makanchi Array**	**54.60**	**325**	P	**P**	**04 11 04.8**	**+0.3**
	comp=Z,23nm,0.5s,mb4.6,baz=121,slow=7.7,SNR=151						
MKAR				PcP	PcP	04 12 01.2	-0.6
	comp=Z,5.4nm,0.6s,baz=133,slow=2.5,SNR=7.7						
MKAR				ScP	ScP	04 15 19.2	-2.2
	comp=Z,2.8nm,0.8s,baz=135,slow=4.3,SNR=5.9						
MKAR	**Makanchi Array**	**54.60**	**325**	P	**P**	**04 11 04.8**	**+0.3**
MKAR						04 12 01.2	
YAK	**Yakutsk**	**56.08**	**3**	*e*P	**P**	**04 11 14.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,42nm,0.8s,mb4.8						
YAK	**Yakutsk**	**56.08**	**3**	*e*P	**P**	**04 11 14.4**	**-0.5**
	comp=Z,38nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**56.77**	**318**	P	**P**	**04 11 20.5**	**+0.8**
	SNR=17						
MA2	**Magadan**	**57.08**	**15**	*d i* P	**P**	**04 11 22.9**	**+1.1**
MA2				pmax	pmax		
	comp=N,20nm,0.7s						
MA2				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.0						
MA2	**Magadan**	**57.08**	**15**	*e*P	**P**	**04 11 22.6**	**+0.8**
	comp=Z,30nm,0.8s,mb4.7						
KBK	**Karagaybulak**	**57.09**	**318**	P	**P**	**04 11 23.3**	**+1.4**
	SNR=10						
UCH	**Uchtor**	**57.20**	**317**	P	**P**	**04 11 24.1**	**+1.5**
	SNR=39						
CHMS	**Chumysh**	**57.36**	**318**	P	**P**	**04 11 24.0**	**+0.2**
	SNR=7.2						
AAK	**Ala-Archa**	**57.38**	**318**	P	**P**	**04 11 25.2**	**+1.3**
	SNR=8.7						
AAK	**Ala-Archa**	**57.38**	**318**	*d i* P	**P**	**04 11 23.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.2						
AAK	**Ala-Archa**	**57.38**	**318**	*e*P	**P**	**04 11 23.9**	**-0.1**
	comp=Z,26nm,1.4s,mb4.4						
FRU	**Bishkek**	**57.38**	**318**	*e*P	**P**	**04 11 24.0**	**+0.1**
USP	**Ospenovka**	**57.65**	**318**	P	**P**	**04 11 26.2**	**+0.4**
	SNR=33						
AML	**Almayashu**	**57.71**	**317**	P	**P**	**04 11 27.5**	**+1.3**
	SNR=29						
ZAL	**Zalesovo**	**57.72**	**333**	P	**P**	**04 11 25.4**	**-0.8**
	comp=Z,12nm,0.4s,mb4.6,baz=347,slow=5.8,SNR=41						
ZAL	**Zalesovo**	**57.72**	**333**	P	**P**	**04 11 25.4**	**-0.8**
EKS2	**Erkin-Say**	**57.87**	**317**	P	**P**	**04 11 28.2**	**+0.9**
	SNR=16						
NVS	**Novosibirsk**	**59.00**	**333**	*i* P	**P**	**04 11 33.2**	**-1.8**
NVS				pmax	pmax		
	comp=Z,50nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=N,26nm,1.3s						
NVS				pmax	pmax		
	comp=E,35nm,1.3s						
SEY	**Seymchan**	**60.35**	**14**	*e*P	**P**	**04 11 45.2**	**+1.1**
VOSK	**Vostochnaya**	**63.93**	**327**	P	**P**	**04 12 06.5**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.0						
BVA0	**Borovoye Array**	**64.38**	**327**	*i* P	**P**	**04 12 10.0**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**64.45**	**327**	*e*P	**P**	**04 12 10.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,78nm,0.9s,mb5.2						
BRVK	**Borovoye**	**64.45**	**327**	*e*P	**P**	**04 12 10.3**	**-0.6**
	comp=Z,78nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**64.55**	**328**	*e*P	**P**	**04 12 10.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,25nm,0.6s,mb5

MALT pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MALT Malatya 83.45 308 *eP* **P 04 14 00.3 +0.7**
comp=Z,3.2nm,0.6s,mb4.2
COLA College 83.56 25 *eP* **P 04 14 00.8 +0.7**
COLA College 83.56 25 *eP* **P 04 13 60.0 -0.1**
comp=Z,3.5nm,0.6s,mb4.3
OBN Obninsk 84.11 325 *eP* **P 04 14 01.7 -1.2**
OBN *e* 04 17 25.1
OBN *eS* S 04 23 42.0 -12
OBN pmax pmax
comp=Z,18nm,1.1s,mb4.7
MAW Mawson 85.14 200 P **P 04 14 07.0 -1.0**
comp=Z,0.7nm,0.5s,mb3.6,baz=18,slow=6.4,SNR=5.1
VNDA Vanda 85.87 172 P **P 04 14 11.0 -0.6**
comp=Z,0.3nm,0.4s,baz=307,slow=6.6,SNR=3.7
VNDA Vanda 85.87 172 *eP* **P 04 14 10.8 -0.7**
comp=Z,0.5nm,0.6s
JOF Joensuu 86.30 333 *ep* **P 04 14 11.0 -2.6**
comp=Z,12nm,0.5s,mb4.9
EGAK Eagle 86.42 25 *eP* **P 04 14 14.4 +0.3**
comp=Z,6.3nm,1.1s,mb4.3
EIL Elat 86.90 299 *eP* **P 04 14 16.8 +0.3**
comp=Z,141nm,0.8s
BR131 Keskin Array S 87.08 309 *eP* **P 04 14 16.0 -1.3**
comp=Z,2.2nm,0.4s,mb4.2
BRTR Keskin Array B 87.08 309 P **P 04 14 16.1 -1.2**
comp=Z,3.0nm,0.4s,mb4.4,baz=136,slow=3.8,SNR=24
KEV Kevo 87.13 340 *ep* **P 04 14 15.7 -1.9**
KMBO Kilima Mbogo 87.61 269 P **P 04 14 20.4 +0.6**
comp=Z,4.8nm,0.9s,mb4.2,baz=31,slow=5.4,SNR=10.0
KMBO Kilima Mbogo 87.61 269 *eP* **P 04 14 20.5 +0.7**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 87.61 269 *eP* **P 04 14 20.5 +0.7**
comp=Z,6.6nm,1.1s,mb4.3
ARCES ARCESS Array B 87.69 340 P **P 04 14 18.4 -1.7**
comp=Z,6.4nm,0.6s,mb4.5,baz=79,slow=5.7,SNR=27
ARCES ARCESS Array B 87.69 340 P **P 04 14 18.4 -1.8**
ARE0 ARCESS Array S 87.69 340 *eP* **P 04 14 18.5 -1.7**
KAF Kangasniemi 88.72 332 *ep* **P 04 14 22.6 -2.4**
comp=Z,9.6nm,0.6s,mb4.7,baz=74,slow=4.3
KAF Kangasniemi 88.72 332 *eP* **P 04 14 22.6 -2.4**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
INK Inuvik 88.84 21 *eP* **P 04 14 25.0 -0.6**
INK pmax pmax
comp=Z,203nm,1.1s
INK Inuvik 88.84 21 *eP* **P 04 14 25.0 -0.6**
comp=Z,203nm,1.1s
AKASG Malin Array Be 88.92 321 P **P 04 14 24.1 -1.9**
comp=Z,1.1nm,0.4s,mb4.0,baz=69,slow=4.4,SNR=4.7
FINES FINESS Array B 88.94 332 P **P 04 14 24.4 -1.7**
comp=Z,4.0nm,0.6s,mb4.3,baz=64,slow=5.6,SNR=35
NB2 NORSAR Subarra 95.92 333 P **P 04 14 55.6 -2.5**
comp=Z,2.5nm,0.7s,mb4.5,baz=66,slow=4.4
NB2 NORSAR Subarra 95.92 333 P **P 04 14 55.6 -2.5**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
NOA NORSAR Array B 95.92 333 P **P 04 14 55.4 -2.7**
comp=Z,3.2nm,0.7s,mb4.6,baz=67,slow=4.5,SNR=12
NAO01 NORSAR Array S 96.15 333 *eP* **P 04 14 58.1 -1.1**
comp=Z,3.1nm,0.6s,mb4.6
YKA Yellowknife Ar 98.30 24 P **P 04 15 09.0 +0.3**
comp=Z,0.9nm,0.6s,mb4.2,baz=299,slow=4.5,SNR=6.9
YKA PKiKP PKiKP 04 19 38.2 -0.7
comp=Z,0.4nm,0.9s,baz=314,slow=1.8,SNR=4.5
GERES GERESS Array B 99.12 321 P Pdif 04 15 11.7 -0.7
comp=Z,0.5nm,0.5s,baz=53,slow=6.5,SNR=4.1
ULM Lac du Bonnet 113.94 27 PKP PKiKP 04 20 07.2 -0.6
comp=Z,1.8nm,0.6s,baz=333,slow=2.3,SNR=3.3
ULM Lac du Bonnet 113.94 27 PKP PKiKP 04 20 07.2 -0.6
SCHQ Schefferville 118.67 8 PKP PKPdf 04 20 16.5 -0.4
comp=Z,4.4nm,0.9s,baz=304,slow=3.6,SNR=6.6
SCHQ Schefferville 118.67 8 PKP PKPdf 04 20 16.5 -0.4
TORD Torodi Ar. Bea 120.33 289 PKP PKPdf 04 20 20.0 -0.1
comp=Z,1.6nm,0.6s,baz=52,slow=1.5,SNR=33
TORD Torodi Ar. Bea 120.33 289 PKP PKPdf 04 20 20.0 -0.1
JCT Junction City 124.07 47 *e*PKIKP PKPdf 04 20 29.1 +1.8
DBIC Dimbokro 128.15 283 PKP PKPdf 04 20 34.9 -0.2
comp=Z,2.7nm,0.9s,baz=75,slow=4.1,SNR=3.4
WVT Waverly 128.19 34 *e*PKIKP PKPdf 04 20 36.2 +1.0
LPAZ La Paz 163.74 130 PKP PKPdf 04 21 34.6 +3.2
comp=Z,1.4nm,1.0s,baz=357,slow=11,SNR=5.1

*ISCJB **14** 04:50:00.4±4.6, 780S±009×1277E±01, h14km±29km, mb4.3/13, Error ellipse: s-maj=24.0km s-min=8.2km az=112.0*
*BJI **14** 04:50:05.7, 822S×12748E, h67km, mB5.0, mb4.4, Ms4.6, Msz4.3*
*NEIC **14** 04:50:06.3±1.8, 784S×12746E, h41km±16km, mb4.3/9, Error ellipse: s-maj=16.4km s-min=11.2km az=51.0*
*IDC **14** 04:50:06.7±3.7, 778S±12759E, h44km±34km, mb4.1/8, mb1 4.3/10, mb1mx4.1/16, mbtmp4.4/10, ML4.6/2, MS3.7/1, Ms1 3.6/1, ms1mx3.0/20, Error ellipse: s-maj=34.0km s-min=15.7km az=61.0*
ISC 14 04:50:01.7±4.9, 778S±009×1277E±01, h8km±31km, n34, σ0°94/33, mb4.3/13, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.75**	**137**	*eP*	**Pn**	**04 51 45.6**	**+4.6**
KAKA	69nm,0.6s			*eS*	**Sn**	**04 52 57.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.46**	**191**	*eP*	**Pn**	**04 52 31.7**	**-0.2**
FITZ	39nm,0.4s			*eS*	**Sn**	**04 54 22.4**	**-6.9**
FITZ	**Fitzroy Crossi**	**10.46**	**191**	P	**Pn**	**04 52 32.7**	**+0.8**
FITZ	4.1nm,0.3s,baz=26,slow=11,SNR=73			S	**Sn**	**04 54 18.9**	**-10**
WRA	**Warramunga Arr**	**13.68**	**153**	P	**Pn**	**04 53 15.5**	**-0.5**
WRA	2.1nm,0.3s,baz=328,slow=13,SNR=74			S	Sx	04 55 37.0	
WB2	**Warramunga Arr**	**13.69**	**153**	*eP*	**Pn**	**04 53 15.4**	**-0.7**
WB2	2.0nm,0.3s,baz=330,slow=19,SNR=5.2			*eS*	Sx	04 55 36.7	
MBWA	**Marble Bar**	**15.38**	**209**	*e*Pn	**Pn**	**04 53 37.8**	**-1.2**
AS31	**Alice Springs**	**16.87**	**160**	*eP*	**Pn**	**04 53 57.8**	**-0.4**
AS31	14nm,0.8s			*eS*	Sx	04 56 55.7	
ASAR	**Alice Springs**	**16.87**	**160**	P	**Pn**	**04 53 58.5**	**+0.3**
ASAR	2.1nm,0.3s,baz=332,slow=9.3,SNR=125			S	Sx	04 56 53.8	
ASPA	**Alice Springs**	**16.87**	**160**	*eP*	**Pn**	**04 53 57.8**	**-0.4**
ASPA	0.6nm,0.3s,baz=331,slow=37,SNR=5.5			*eS*	Sx	04 56 55.7	
CTA	**Charters Tower**	**21.72**	**126**	*eP*	**P**	**04 54 57.0**	**+3.7**
CTA	6.5nm,0.9s,mb4.1 **Charters Tower**	**21.72**	**126**	P	**P**	**04 54 56.2**	**+3.0**
CTAO	3.4nm,0.7s,mb3.9,baz=307,slow=12,SNR=3.9 **Charters Tower**	**21.72**	**126**	*eP*	**P**	**04 54 56.7**	**+3.4**
FORT	12nm,1.0s,mb4.3 **Forrest**	**22.88**	**179**	*eP*	**P**	**04 55 07.6**	**+1.9**
NWAO	49nm,0.8s,mb5.0 **Narrogin (SRO)**	**26.85**	**200**	P	**P**	**04 55 42.7**	**+0.1**
NWAO	5.4nm,0.5s,mb4.4,baz=26,slow=8.8,SNR=9.3 **Narrogin (SRO)**	**26.85**	**200**	P	**P**	**04 55 42.7**	**+0.1**
STKA	6.6nm,0.6s,mb4.3 **Stephens Creek**	**27.23**	**154**	*e*P	**P**	**04 55 47.6**	**+1.5**
STKA	6.0nm,0.6s,mb4.4,baz=326,slow=8.8,SNR=19 **Stephens Creek**	**27.23**	**154**	P	**P**	**04 55 47.6**	**+1.5**
STKA	7.0nm,0.6s,mb4.4,baz=326,slow=8.8,SNR=19			LR	LR	05 05 51.7	
PSI	comp=Z,149nm,21.1s,baz=25,slow=35 **Prapat**	**30.60**	**289**	P	**P**	**04 56 16.4**	**+0.4**
KMI	4.2nm,0.8s,mb4.3,baz=84,slow=9.7,SNR=6.1 **Kunming**	**40.76**	**324**	P	**P**	**04 57 42.8**	**-0.4**
KMI	comp=Z,5.0nm,0.9s,mb4.1			AMB	AMB		
KMI	**Kunming**	**40.76**	**324**	P	**P**	**04 57 42.7**	**-0.5**
GTA	comp=Z,5.0nm,0.9s,mb4.1 **Gaotai**	**53.61**	**333**	*eP*	**P**	**04 59 24.3**	**+0.9**
GTA				AP	pP	04 59 37.6	+12
GTA				AMB	AMB		
SONM	comp=Z,3.0nm,0.6s,mb4.4 **Songino Array**	**58.50**	**343**	P	**P**	**04 59 58.7**	**+0.3**
CASY	comp=Z,1.0nm,0.7s,mb4.0,baz=160,slow=9.1,SNR=7.2 **Casey**	**59.60**	**188**	*eP*	**P**	**05 00 06.3**	**+0.2**
WMQ	comp=Z,1.6nm,0.7s,mb4.2 **Urumqi**	**62.84**	**328**	*eP*	**P**	**05 00 29.0**	**+1.0**
MKAR	**Makanchi Array**	**67.66**	**328**	P	**P**	**05 00 58.7**	**-0.6**
MKAR	comp=Z,2.7nm,0.7s,mb4.4,baz=120,slow=8.1,SNR=15 **Makanchi Array**	**67.66**	**328**	P	**P**	**05 00 58.7**	**-0.6**
ZAL	**Zalesovo**	**71.30**	**335**	P	**P**	**05 01 20.5**	**-1.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=350,slow=4.3,SNR=4.3						
VNDA	**Vanda**	**71.96**	**173**	P	**P**	**05 01 25.8**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=320,slow=7.1,SNR=16						
VNDA	**Vanda**	**71.96**	**173**	*eP*	**P**	**05 01 25.7**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**78.22**	**328**	*eP*	**P**	**05 02 00.3**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**126.74**	**281**	PKP	PKPdf	05 09 05.2	-0.7
	comp=Z,0.6nm,0.9s,baz=54,slow=2.1,SNR=8.4						
LVC	**Limon Verde**	**145.68**	**152**	PKPbc	PKPbc	05 09 41.0	0.0
	comp=Z,1.8nm,0.7s,baz=318,slow=9.8,SNR=3.0						
CPUP	**Villa Florida**	**145.74**	**172**	PKPbc	PKPbc	05 09 41.3	0.0
	comp=Z,0.6nm,0.4s,baz=178,slow=1.2,SNR=5.0						
LPAZ	**La Paz**	**151.40**	**147**	PKPbc	PKPbc	05 09 56.8	+0.8
	comp=Z,0.7nm,0.4s,baz=217,slow=7.7,SNR=9.1						

*IDC **14** 05:22:10.6±1.2, 2248S×17075E, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.2/13, mbtmp4.3/7, ML4.1/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/29, Error ellipse: s-maj=39.6km s-min=24.5km az=166.0*
*ISCJB **14** 05:22:13.8±3.2, 228S±02×1708E±0.1, h33km±25km, mb4.4/10, MS3.8/10, Error ellipse: s-maj=29.4km s-min=20.3km az=43.0*
*NEIC **14** 05:22:17.1±2.2, 2258S×17072E, h49km±18km, mb4.7/5, Error ellipse: s-maj=21.6km s-min=13.1km az=215.0*
ISC 14 05:22:17.2±2.4, 226S±02×1707E±01, h46km±19km, n44, σ1°10/23, mb4.4/10, MS3.8/10, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.01**	**277**	*eP*	**Pn**	**05 23 14.8**	**-1.3**
DZM				*eS*	**Sn**	**05 24 01.6**	**-0.2**
DZM	**Mont Dzumac**	**4.01**	**277**	Pn	**Pn**	**05 23 15.1**	**-1.0**
DZM	12nm,0.3s,baz=115,slow=18,SNR=125			Sn	**Sn**	**05 24 02.1**	**+0.3**
URZ	7.5nm,0.3s,baz=324,slow=22,SNR=4.8 **Urewera**	**16.51**	**162**	Pn	**Pn**	**05 26 07.3**	**+1.9**
RPZ	0.6nm,0.3s,baz=39,slow=5.4,SNR=3.9 **Rata Peaks**	**21.03**	**179**	LR	LR	05 33 17.9	
CTA	comp=Z,268nm,19.0s,MS3.6,baz=253,slow=32 **Charters Tower**	**22.93**	**272**	LR	LR	05 34 36.3	
STKA	comp=Z,70nm,19.7s,MS3.1,baz=227,slow=32 **Stephens Creek**	**27.42**	**244**	*eP*	**P**	**05 27 59.2**	**+0.7**
STKA	3.6nm,0.9s,mb3.9 **Stephens Creek**	**27.42**	**244**	P	**P**	**05 27 58.5**	**+0.1**
STKA	4.0nm,0.9s,mb4.0,baz=80,slow=14,SNR=4.5			LR	LR	05 38 37.5	
STKA	comp=Z,188nm,19.9s,MS3.7,baz=26,slow=36 **Stephens Creek**	**27.42**	**244**	*eP*	**P**	**05 27 58.9**	**+0.4**
AS31	**Alice Springs**	**33.82**	**261**	*eP*	**P**	**05 28 55.2**	**+0.3**
ASAR	**Alice Springs**	**33.82**	**261**	P	**P**	**05 28 55.0**	**+0.1**
ASAR	5.3nm,0.9s,mb4.5,baz=87,slow=8.9,SNR=38			LR	LR	05 42 11.9	
ASPA	comp=Z,155nm,21.4s,MS3.7,baz=120,slow=36 **Alice Springs**	**33.83**	**261**	*eP*	**P**	**05 28 55.4**	**+0.5**
WB2	**Warramunga Arr**	**33.95**	**268**	*eP*	**P**	**05 28 55.4**	**-0.6**
WRA	**Warramunga Arr**	**33.97**	**268**	P	**P**	**05 28 55.5**	**-0.7**
WRA	0.5nm,0.4s,mb3.8,baz=96,slow=8.4,SNR=22			LR	LR	05 42 51.2	
FITZ	comp=Z,150nm,18.3s,MS3.8,baz=100,slow=36 **Fitzroy Crossi**	**42.40**	**268**	*e*P	**P**	**05 30 08.0**	**+1.0**
MBWA	15nm,0.8s,mb4.7 **Marble Bar**	**47.16**	**262**	*eP*	**P**	**05 30 45.3**	**+0.3**
VNDA	6.7nm,0.6s,mb4.8 **Vanda**	**55.11**	**182**	LR	LR	05 50 37.4	
QSPA	comp=Z,143nm,21.6s,MS4.0,baz=356,slow=31 **South Pole Qui**	**67.44**	**180**	*eP*	**P**	**05 33 06.8**	**-1.2**
MAW	4.3nm,1.1s,mb4.4 **Mawson**	**75.83**	**202**	LR	LR	06 02 46.9	
CHTO	comp=Z,136nm,18.6s,MS4.3,baz=260,slow=32 **Chiang Mai**	**81.32**	**294**	*eP*	**P**	**05 34 30.7**	**+2.0**
SNAA	6.1nm,1.0s,mb4.5 **Sanae**	**85.85**	**182**	LR	LR	06 09 42.7	
SNAA	comp=Z,30nm,19.2s,MS3.7,baz=36,slow=33 **Sanae**	**85.85**	**182**	*e*	**P**	**05 34 49.2**	**-2.6**
SNAA				*e*	pP	05 34 59.4	-6.2
SNAA	**Sanae**	**85.85**	**182**	*eP*	**P**	**05 34 49.8**	**-2.0**
VNA1	8.3nm,1.2s,mb4.8 **Neumayer--Stat**	**86.97**	**180**	*e*	**P**	**05 34 54.1**	**-3.3**
VNA1				*e*	pP	05 35 04.8	-6.3
YBH	**Yreka Blue Hor**	**88.77**	**43**	LR	LR	06 04 41.1	
NVAR	comp=Z,47nm,20.7s,MS3.9,baz=291,slow=29 **Mina Array Bea**	**90.01**	**48**	P	**P**	**05 35 11.3**	**-0.4**
NVAR	0.7nm,0.7s,mb4.1,baz=226,slow=7.1,SNR=5.4 **Mina Array Bea**	**90.01**	**48**	P	**P**	**05 35 11.3**	**-0.4**
SONM	**Songino Array**	**90.75**	**323**	P	**P**	**05 35 15.8**	**+0.6**
PDAR	2.3nm,1.0s,mb4.5,baz=134,slow=4.2,SNR=12 **Pinedale Array**	**97.89**	**47**	LR	LR	06 12 08.6	
DPC	comp=Z,59nm,19.4s,MS4.1,baz=345,slow=31 **Dobruska-Polom**	**145.85**	**330**	*e*PKP	PKPab	05 41 53.0	+1.2
VYHS	**Vyhne**	**145.87**	**326**	*e*PKP	PKPdf	05 41 49.7	-1.0
UPC	**Upice**	**145.88**	**331**	*e*PKP	PKPab	05 41 52.8	+0.9
PVCC	**Panska Ves**	**146.50**	**332**	*e*PKP	PKPdf	05 42 00.7	+8.9
BRG	**Berggiesshubel**	**146.51**	**333**	*e*P	PKPab	05 41 54.2	-0.1
CLL	**Collm**	**146.56**	**334**	*e*PKiKP	PKiKP	05 41 56.0	-0.3
PRU	comp=Z,8.0nm,1.1s **Pruhonice**	**146.91**	**331**	*e*PKP	PKPab	05 41 55.0	-0.9
KHC	**Kasperske Hory**	**147.97**	**331**	*e*PKP	PKPab	05 41 57.8	-2.3
KHC				*ep*PKP	pPKPdf	05 42 08.0	-0.5
GERES	**GERESS Array B**	**148.12**	**331**	PKPbc	PKPbc	05 41 57.5	-0.3
	comp=Z,2.6nm,0.9s,baz=40,slow=3.2,SNR=9.1						
GRA1	**Grafenberg Arr**	**148.54**	**334**	*e*PKP	PKPbc	05 41 59.8	+0.9
WLF	**Walferdange**	**150.41**	**340**	PKPbc	PKPbc	05 42 02.0	-1.5
GIVF	**Givet**	**150.43**	**341**	*e*PKIKP	PKPbc	05 42 02.4	-1.1
	comp=Z,21nm,0.9s						
CDF	**Champ du Feu**	**151.09**	**337**	*e*PKIKP	PKPbc	05 42 04.0	-1.1
	comp=Z,23nm,1.3s						
SSF	**Saint Saulge**	**153.54**	**340**	*e*PKIKP	PKPbc	05 42 06.8	-3.8
SMF	**Signal de Mont**	**153.80**	**339**	*e*PKIKP	PKPbc	05 42 07.7	-3.4
TORD	**Torodi Ar. Bea**	**165.95**	**230**	PKPab	PKPab	05 43 17.8	+0.8
	comp=Z,1.8nm,1.1s,baz=145,slow=3.9,SNR=6.0						

*ISCJB **14** 05:39:53.0±0.6, 2069N±005×1201E±0.1, h10km, mb3.7/9, Error ellipse: s-maj=16.5km s-min=6.8km az=156.7*
*IDC **14** 05:39:52.9±0.9, 2062N×11989E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=46.6km s-min=18.8km az=71.0*
*NEIC **14** 05:39:54.5±0.5, 2064N×11995E, h10km, mb3.9/1, Error ellipse: s-maj=17.3km s-min=10.4km az=83.0*
ISC 14 05:39:54.6±0.6, 2068N±005×1200E±01, h10km, n12, σ0°78/13, mb3.7/9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.41**	**150**	*e*P	**Pn**	**05 40 49.0**	**+1.2**
CVP				*i* S	**Sn**	**05 41 27.0**	**-1.2**
YHNB	**Yeheng**	**4.16**	**17**	*e*Pn	**Pn**	**05 40 58.5**	**+0.3**
YHNB				*e*Sn	**Sn**	**05 41 45.9**	**-1.0**
JOW	**Kunigami**	**9.71**	**49**	LR	LR	05 46 37.4	
	comp=Z,126nm,19.5s,baz=269,slow=41						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**05 44 54.8**	**+1.6**
	0.7nm,0.5s,mb3.4,baz=237,slow=12,SNR=3.9						
SONM	**Songino Array**	**29.25**	**341**	P	**P**	**05 45 56.8**	**+0.1**
	0.7nm,0.9s,mb3.4,baz=134,slow=4.3,SNR=3.3						
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**05 47 51.0**	**-0.4**
	1.1nm,0.4s,mb4.0,baz=182,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**42.73**	**160**	P	**P**	**05 47 51.7**	**-0.2**
	1.8nm,0.7s,mb3.9,baz=342,slow=9.1,SNR=13						
WRA				PcP	PcP	05 49 43.6	+0.1
	0.8nm,0.9s,baz=343,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**46.10**	**162**	P	**P**	**05 48 19.0**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=346,slow=6.7,SNR=8.4						
ZRNK	**Zerenda**	**50.52**	**322**	P	**P**	**05 48 53.1**	**+0.1**
	0.9nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**73.93**	**330**	P	**P**	**05 51 29.3**	**-0.7**
	0.9nm,0.8s,mb3.8,baz=76,slow=8.0,SNR=4.0						
NOA	**NORSAR Array B**	**80.82**	**332**	P	**P**	**05 52 08.0**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=64,slow=5.2,SNR=2.8						
GERES	**GERESS Array B**	**84.86**	**320**	P	**P**	**05 52 30.3**	**+0.7**
	0.4nm,0.5s,mb3.8,baz=90,slow=3.9,SNR=3.5						

*NEIC **14** 05:52:15.4, 1528N×9385W, h18km, MD4.1(MEX), After MEX.*
MEX 14 05:52:15.5±1.0, 1529N×9386W, h20km±42km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.93**	**59**	*i* P	Pn	05 52 45.1	-2.1
CCIG				*i* S	Sn	05 53 06.5	-4.4
CCIG	**Comitan**	**1.93**	**59**	*i* P	Pn	05 52 45.1	-2.1
CCIG				*i* S	Sn	05 53 06.0	-4.9
CMIG	**Matias Romero**	**2.05**	**331**	*i* P	Pn	05 52 46.5	-2.3
CMIG				*i* S	Sn	05 53 10.7	-3.0
HUIG	**Huatulco**	**2.22**	**283**	*i* P	Pn	05 52 48.8	-2.4
HUIG				*i* S	Sn	05 53 12.9	-5.1
HUIG	**Huatulco**	**2.22**	**283**	*i* P	Pn	05 52 48.8	-2.4
HUIG				*i* S	Sn	05 53 12.8	-5.2
OXX	**Oaxaca**	**3.28**	**303**	*eP*	Pn	05 53 04.5	-1.2
OXX				*i* S	Sn	05 53 40.5	-3.7
OXX	**Oaxaca**	**3.28**	**303**	*eP*	Pn	05 53 05.0	-0.7
OXX				*i* S	Sn	05 53 40.0	-4.2
VHO	**Vista Hermosa**	**3.28**	**303**	*i* P	Pn	05 53 04.3	-1.5
VHO				*i* S	Sn	05 53 40.8	-3.4
VHO	**Vista Hermosa**	**3.28**	**303**	*i* P	Pn	05 53 04.9	-0.9
VHO				*i* S	Sn	05 53 40.4	-3.8
UTMO	**Huajuapan**	**4.55**	**304**	*eP*	Pn	05 53 27.6	+4.4
UTMO				*i* S	Sn	05 54 13.7	-1.8

*IDC **14** 06:02:06.4±0.7, 2066N×12000E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/22, mbtmp4.1/14, MS3.4/5, Ms1 3.4/5, ms1mx3.0/24, Error ellipse: s-maj=27.6km s-min=16.0km az=73.0*
*NEIC **14** 06:02:08.2±0.3, 2071N×12018E, h10km, mb4.1/4, Error ellipse: s-maj=10.2km s-min=5.8km az=82.0*
*ISCJB **14** 06:02:10.3±0.8, 2076N±003×12022E±006, h40km±9km, mb4.2/20, MS3.4/5, Error ellipse: s-maj=8.8km s-min=5.3km az=17.8*
*BJI **14** 06:02:12.5, 2128N×11973E, h4km, mB4.6, mb4.2, ML3.8, Ms4.0, Msz3.8*
*JMA **14** 06:02:12.5±0.3, 2072N×12043E, h48km, M5.0*
ISC 14 06:02:11.3±1.8, 2074N±003×12016E±004, h31km±14km, n49, σ0°99/62, mb4.2/20, MS3.4/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.44**	**170**	*e*P	**Pn**	**06 02 47.5**	**-1.5**
CVP	**Callao Caves**	**3.41**	**152**	*e*P	**Pn**	**06 03 03.0**	**+0.8**
CVP				*i* S	**Sn**	**06 03 42.0**	**+0.4**
NACB	**Ninganchiao**	**3.66**	**21**	*e*Pn	**Pn**	**06 03 05.5**	**-0.3**
NACB				*e*Sn	**Sn**	**06 03 43.9**	**-4.0**
YHNB	**Yeheng**	**4.07**	**16**	*e*Pn	**Pn**	**06 03 11.1**	**-0.2**
YHNB				*e*Sn	**Sn**	**06 04 00.1**	**+2.3**
TATO	**Taipei**	**4.39**	**16**	*e*Pn	**Pn**	**06 03 15.1**	**-0.6**
TATO				*e*Sn	**Sn**	**06 04 10.7**	**+5.0**
QZH	**Quanzhou**	**4.42**	**341**	P	**Pn**	**06 03 12.5**	**-3.7**
QZH				S	**Sn**	**06 04 00.3**	**-6.3**
QZH				Smax			
	comp=N,160nm,0.7s						
QZH				Smax			
	comp=E,160nm,0.3s						
QZH				LR	LR		
	comp=N,1μm,13.8s						
QZH				LR	LR		
	comp=E,840nm,6.7s						
QZH				LR	LR		
	comp=Z,1μm,8.6s						
YOJ	**Yonaguni jima**	**4.54**	**35**	P	**Pn**	**06 03 18.8**	**+1.0**
YOJ				*e*S	**Sn**	**06 04 10.3**	**+0.7**
HATJ	**Hateruma jima**	**4.72**	**45**	P	**Pn**	**06 03 20.9**	**+0.7**
HATJ				*e*S	**Sn**	**06 04 12.1**	**-1.8**
IRIF	**Iriomote-Funau**	**4.87**	**42**	P	**Pn**	**06 03 23.0**	**+0.7**
IRIF				*e*S	**Sn**	**06 04 16.6**	**-0.9**
JKRS	**Kuro-shima**	**4.98**	**45**	P	**Pn**	**06 03 24.8**	**+1.0**
JKRS				*e*S	**Sn**	**06 04 19.4**	**-0.9**
JIJ	**Ishigaki jima**	**5.15**	**45**	P	**Pn**	**06 03 27.0**	**+0.8**
JIJ				*e*S	**Sn**	**06 04 23.0**	**-1.6**
JTJ	**Tarama**	**5.71**	**46**	P	**Pn**	**06 03 34.8**	**+0.9**
JTJ				*e*S	**Sn**	**06 04 37.3**	**-1.1**
GZH	**Guangzhou**	**6.74**	**291**	P	**Pn**	**06 03 43.6**	**-4.4**
GZH				S	**Sn**	**06 04 52.0**	**-12**
GZH				Smax			
	comp=N,179nm,0.6s						
GZH				Smax			
	comp=E,161nm,0.7s						
JOW	**Kunigami**	**9.59**	**49**	LR	LR	06 08 32.1	
	comp=E,337nm,19.8s,baz=256,slow=40						
GYA	**Guiyang**	**13.61**	**297**	*eP*	**Pn**	**06 05 19.3**	**-2.8**
GYA				S	**Sn**	**06 07 43.0**	**-9.2**
GYA				LR	LR		
	comp=N,360nm,11.4s						
GYA				LR	LR		
	comp=E,600nm,11.6s						
GYA				LR	LR		
	comp=Z,680nm,12.3s						
KMI	**Kunming**	**16.62**	**288**	P	**Pn**	**06 06 05.6**	**+3.7**
KMI				S	**Sn**	**06 09 09.0**	**+3.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s						
KMI				AMB	AMB		
	comp=Z,92nm,4.3s						
KMI				LR	LR		
	comp=N,124nm,13.0s						
KMI				LR	LR		
	comp=E,189nm,14.7s						
KMI				LR	LR		
	comp=Z,208nm,13.4s						
KMI	**Kunming**	**16.62**	**288**	P	**Pn**	**06 06 05.6**	**+3.7**
	comp=Z,9.0nm,0.6s						
KMI				pP	pP	06 06 14.4	+2.1
KMI				sP	sP	06 06 18.9	+2.6
KMI				S	**Sn**	**06 09 09.0**	**+3.5**
KMI				SS		06 09 32.5	
LZH	**Lanzhou**	**20.92**	**320**	*eP*	**P**	**06 06 51.5**	**+0.3**
LZH				AP		06 06 56.3	
LZH				XP	sP	06 06 59.1	-4.4
LZH				AMB	AMB		
	comp=Z,20nm,1.3s						
LZH	**Lanzhou**	**20.92**	**320**	*eP*	**P**	**06 06 51.5**	**+0.3**
	comp=Z,20nm,1.3s						
LZH				pP		06 06 56.2	
LZH				sP	sP	06 06 59.1	-4.4
**MJAR

BVAR Borovoye Array 49.78 323 P P 06 11 01.4 +0.6
comp=Z,0.7nm,0.6s,mb3.9,baz=108,slow=8.0,SNR=5.0
CHKZ Chkalovo 49.88 324 *e*P **P 06 11 02.1 +0.5**
comp=Z,2.0nm,0.7s,mb4.3
CHKZ *e*pP pP 06 11 11.5 +0.4
ZRNK Zerenda 50.54 322 *e*P **P 06 11 07.2 +0.6**
comp=Z,2.2nm,0.9s,mb4.1
AKTO Aktyubinsk 56.61 317 P **P 06 11 50.6 -0.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=104,slow=7.3,SNR=6.2
JOF Joensuu 71.24 331 *e*p **P 06 13 26.8 -0.5**
FINES FINESS Array B 73.93 330 P **P 06 13 43.4 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=59,slow=4.9,SNR=9.7
AKASG Malin Array Be 74.81 319 P **P 06 13 47.4 -1.0**
comp=Z,1.9nm,0.7s,mb4.1,baz=61,slow=5.8,SNR=6.7
NOA NORSAR Array B 80.81 332 P **P 06 14 21.2 -0.7**
comp=Z,1.3nm,0.9s,mb3.9,baz=64,slow=5.2,SNR=3.3
CLL Collm 84.22 323 *e*P **P 06 14 40.0 +0.4**
comp=Z,5.0nm,0.7s,mb4.8
GERES GERESS Array B 84.89 320 P **P 06 14 43.9 +0.9**
comp=Z,1.2nm,0.7s,mb4.2,baz=55,slow=5.1,SNR=6.3
YKA Yellowknife Ar 86.50 22 P **P 06 14 51.7 +0.7**
comp=Z,1.6nm,0.8s,mb4.3,baz=305,slow=4.8,SNR=7.7

*LDG **14** 06:38:03.6±0.2,4303N×0.18E,h20km±1km,Md1.6/1,*
Ml1.0/2,Error ellipse: s-maj=6.2km s-min=1.9km az=168.0
*STR **14** 06:38:04.8±0.1,4305N×008W,h5km±1km,Ml2.2,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 14 06:38:05.1±0.5,4302N×014E,h0km,mbLg0.7/2,Error ellipse: s-maj=4.6km s-min=2.6km az=164.0,PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**297**	Pg	Pg	06 38 07.7	+1.5
LABF				Sg	Sg	06 38 09.8	+2.9
EPF	**Esparros**	**0.15**	**87**	*e*Pg	Pg	06 38 08.0	+0.1
EPF				*e*Sg	Sg	06 38 09.9	+0.1
	8.7nm,0.2s						
EPF	**Esparros**	**0.15**	**87**	Pg	Pg	06 38 08.0	+0.1
EPF				Lg		06 38 09.9	
	4.3nm,0.2s						
VIEF	**Viey**	**0.16**	**212**	Pg	Pg	06 38 08.8	+0.6
VIEF				Sg	Sg	06 38 11.9	+1.5
EBIE	**Bielsa**	**0.34**	**180**	Pg	Pg	06 38 11.4	-0.1
	SNR=7.9						
EBIE				Lg		06 38 15.9	
	1.2nm,0.1s,SNR=8.6						
ETSF	**Etsaut**	**0.53**	**257**	*e*Pg	Pg	06 38 14.4	-0.9
ETSF				*e*Sg	Sg	06 38 22.5	+0.4
	1.2nm,0.3s						
ETSF	**Etsaut**	**0.53**	**257**	Pg	Pg	06 38 14.4	-0.9
ETSF				Lg		06 38 22.5	
	0.6nm,0.3s						
SJPF	**Ste Jean**	**1.01**	**276**	*e*Sg	Sg	06 38 36.5	-0.9
	0.6nm,0.3s						
SJPF	**Ste Jean**	**1.01**	**276**	Lg		06 38 36.5	
	0.3nm,0.3s						
MTLF	**Montolieu**	**1.55**	**77**	*e*Pg	Pg	06 38 32.2	-2.6
MTLF				*e*Sg	Sg	06 38 51.9	-3.1
	0.1nm,0.2s						
MTLF	**Montolieu**	**1.55**	**77**	Pg	Pg	06 38 32.2	-2.6
MTLF				Lg		06 38 51.9	
	0.1nm,0.2s						

IDC 14 06:43:25.4±2.3,4700S×10482E,h0km,mb3.8/4,
mb1 4.0/4,mb1mx3.8/13,mbtmp3.8/4,MS3.7/4,Ms1 3.7/4,
ms1mx3.3/19,Error ellipse: s-maj=82.5km
s-min=22.6km az=121.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**29.72**	**211**	LR	LR	06 58 52.0	
	comp=Z,113nm,19.2s,baz=59,slow=31						
ASAR	**Alice Springs**	**32.92**	**55**	P	P	06 50 00.6	-0.8
	0.5nm,0.9s,baz=214,slow=7.6,SNR=3.5						
WRA	**Warramunga Arr**	**36.15**	**52**	P	P	06 50 30.0	+0.7
	1.2nm,0.8s,baz=215,slow=8.2,SNR=8.8						
WRA				LR	LR	07 03 20.2	
	comp=Z,114nm,21.4s,baz=240,slow=33						
VNDA	**Vanda**	**37.57**	**163**	P	P	06 50 40.9	-0.6
	2.6nm,0.8s,baz=288,slow=9.8,SNR=19						
VNDA				LR	LR	07 04 31.5	
	comp=Z,120nm,19.8s,baz=298,slow=34						
PSI	**Prapat**	**49.86**	**352**	LR	LR	07 10 29.7	
	comp=Z,127nm,18.2s,baz=294,slow=33						
SNAA	**Sanae**	**51.25**	**203**	P	P	06 52 30.2	-0.7
	1.6nm,0.9s,baz=134,slow=9.5,SNR=14						
SNAA	**Sanae**	**51.25**	**203**	*e*	P	06 52 29.7	-1.1
SNAA				*e*		06 52 36.8	
VNA1	**Neumayer--Stat**	**53.28**	**202**	*e*	P	06 52 46.3	+0.4
VNA1				*e*		06 52 53.5	

*SSS **14** 06:45:57.7,13.19N×90.24W,h30km,MD3.3*
CASC 14 06:45:56.0±1.0,1319N×9026W,h58km±48km,MD3.6,5C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.89**	**44⇑**	*e*P	x	06 46 14.4	+1.9
SBLS				*e*S	x	06 46 28.2	+3.5
RTR	**El Retiro**	**0.92**	**40⇑**	*e*P	x	06 46 15.1	+2.2
RTR				*e*S	x	06 46 28.6	+3.2
SNJE	**San Jose**	**0.92**	**43⇑**	*e*P	x	06 46 14.9	+1.9
SNJE				*e*S	x	06 46 28.6	+3.1
RBDL	**Robledal**	**1.07**	**31⇑**	*e*P	x	06 46 17.5	+2.6
BOQS	**Boqueron**	**1.09**	**60⇑**	*e*P	x	06 46 17.5	+2.4
BOQS				*e*S	x	06 46 32.9	+3.5
LFRS	**El Faro**	**1.24**	**70**	*e*P	x	06 46 18.9	+1.8
LFRS				*e*S	x	06 46 35.4	+2.5
LCBS	**La Ceiba**	**1.32**	**69**	*e*P	x	06 46 20.2	+1.9
SNVI	**San Vicente**	**1.44**	**73**	*e*P	x	06 46 22.3	+2.5
SNVI				*e*S	x	06 46 41.2	+3.4
TP2	**Tecpan 2**	**1.75**	**335**	*e*P	Pn	06 46 25.0	+1.0
TP2				*e*S	Sn	06 46 47.2	+2.0

*ISCJB **14** 06:55:06.5±3.9,470N±0.1×1522E±02,h15km±26km,*
mb3.9/7,MS3.3/1,Error ellipse: s-maj=33.5km
s-min=9.9km az=92.4
*MOS **14** 06:55:09.0±1.8,4695N×152.10E,h44km,mb4.2/6,Error*
ellipse: s-maj=28.0km s-min=14.6km az=60.9
*IDC **14** 06:55:10.9±7.2,4697N×15224E,h35km±57km,mb3.7/7,*
mb1 3.8/9,mb1mx3.6/23,mbtmp3.9/9,ML3.5/2,MS3.3/1,
Ms1 3.3/1,ms1mx2.5/37,Error ellipse: s-maj=37.8km
s-min=24.3km az=104.0
ISC 14 06:55:09.3±3.5,470N±02×1523E±02,h27km±27km,n19,
σ0:50/21,mb3.9/7,MS3.3/1,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.52**	**242**	⇓*i*PN	**Pn**	**06 55 57.4**	**-4.8**
KUR				*i* S	**Sn**	**06 56 42.0**	**-0.8**
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,100nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,190nm,0.7s						
KUR				smax			
	comp=E,210nm,0.7s						
SKR	**Severo-Kuril's**	**4.50**	**33**	*e*PN	**Pn**	**06 56 15.0**	**-0.6**
ASAJ	**Asahikawa**	**7.36**	**251**	Pn	**Pn**	**06 56 56.0**	**+1.0**
	comp=E,0.7nm,0.3s,baz=104,slow=19,SNR=3.1						
ASAJ				Sn	**Sn**	**06 58 29.0**	**+12**
	comp=E,0.3nm,0.3s,baz=152,slow=28,SNR=1.7						
ASAJ	**Asahikawa**	**7.36**	**251**	PN	**Pn**	**06 56 56.0**	**+1.1**
ASAJ						06 58 29.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.76**	**230**	Pn	**Pn**	**06 58 36.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=8.5,SNR=5.4						
INK	**Inuvik**	**41.77**	**32**	P	**P**	**07 02 56.1**	**-0.1**
	comp=Z,1.9nm,1.1s,mb3.6,baz=278,slow=7.1,SNR=2.9						
INK	**Inuvik**	**41.77**	**32**	P	**P**	**07 02 56.2**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**46.30**	**297**	P	**P**	**07 03 32.7**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=63,slow=7.0,SNR=8.9						
MKAR				LR	LR	07 23 26.4	
	comp=Z,33nm,18.1s,MS3.3,baz=2.8,slow=37						
ARCES	**ARCESS Array B**	**57.43**	**340**	P	**P**	**07 04 56.0**	**+0.4**
	comp=Z,4.7nm,1.1s,mb4.5,baz=19,slow=7.8,SNR=4.9						
ARCES	**ARCESS Array B**	**57.43**	**340**	P	**P**	**07 04 56.0**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**63.57**	**334**	P	**P**	**07 05 37.5**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=35,slow=7.2,SNR=7.9						
FINES				pP	pP	07 05 49.2	+3.2
	comp=Z,0.7nm,0.4s,baz=30,slow=7.7,SNR=7.6						
FINES	**FINESS Array B**	**63.57**	**334**	P	**P**	**07 05 37.6**	**+0.1**
FINES				*PP	pP	07 05 49.2	+3.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**67.81**	**341**	P	**P**	**07 06 04.9**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.81**	**341**	P	**P**	**07 06 05.1**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=29,slow=6.4,SNR=3.3						
NOA	**NORSAR Array B**	**67.81**	**341**	P	**P**	**07 06 05.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.55**	**198**	P	**P**	**07 06 09.8**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=16,slow=6.7,SNR=3.2						
WRA	**Warramunga Arr**	**68.55**	**198**	P	**P**	**07 06 09.8**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.02**	**326**	P	**P**	**07 06 24.4**	**-0.2**
	comp=Z,1.2nm,0.4s,mb4.2,baz=36,slow=6.2,SNR=6.2						
AKASG	**Malin Array Be**	**71.02**	**326**	P	**P**	**07 06 24.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC 14 07:02:54.4±2.2,123S×12733E,h0km,mb3.3/2,mb1 3.5/3,
mb1mx3.4/15,mbtmp3.3/3,ML3.5/1,Error ellipse:
s-maj=192.5km s-min=26.1km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.82**	**160**	P	Pn	07 07 26.5	-1.5
	0.1nm,0.3s,baz=342,slow=12,SNR=9.3						
ASAR	**Alice Springs**	**23.19**	**165**	P	P	07 08 03.3	+0.5
	0.9nm,0.8s,baz=343,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**61.98**	**327**	P	P	07 13 16.4	+0.2
	0.5nm,0.6s,baz=111,slow=7.1,SNR=5.8						

JMA 14 07:05:00.9±0.2,2612N×12788E,h46km±2km,M3.5,
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.12**	**279**	P	Pn	07 05 08.3	0.0
JJT2				S	Sn	07 05 13.8	+0.3
NAH1	**Naha**	**0.19**	**296**	P	Pn	07 05 08.4	-0.3
NAH1				S	Sn	07 05 14.0	-0.2
JAGN	**Aguni-jima**	**0.74**	**309**	P	Pn	07 05 15.4	+0.4
JAGN				*e*S	Sn	07 05 26.0	+0.8
JOW	**Kunigami**	**0.79**	**26**	P	Pn	07 05 15.8	+0.1
JOW				*e*S	Sn	07 05 27.0	+0.5
JIH	**Iheya**	**0.91**	**5**	P	Pn	07 05 17.7	+0.3
JIH				S	Sn	07 05 29.4	0.0
JKE	**Kume jima 2**	**1.00**	**282**	P	Pn	07 05 19.0	+0.4
JKE				*e*S	Sn	07 05 31.8	+0.2
JTK	**Tokunoshima**	**1.92**	**30**	P	Pn	07 05 30.7	-0.3
JAM	**Amami Oshima**	**2.75**	**34**	P	Pn	07 05 43.4	+0.9
JMZ	**Minamidaito 2**	**3.02**	**95**	P	Pn	07 05 47.4	+1.2
JTJ	**Tarama**	**3.23**	**244**	P	Pn	07 05 50.5	+1.4
JIJ	**Ishigaki jima**	**3.81**	**243**	P	Pn	07 05 58.4	+1.4

IDC 14 07:14:57.8±2.3,3294N×9617E,h0km,mb3.4/1,mb1 3.5/3,
mb1mx3.3/22,mbtmp3.5/3,ML3.6/1,Error ellipse:
s-maj=85.5km s-min=35.6km az=69.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.77**	**24**	Pn	Pn	07 18 54.3	+0.3
	0.2nm,0.3s,baz=209,slow=14,SNR=7.9						
MKAR	**Makanchi Array**	**17.42**	**327**	P	Pn	07 19 02.2	-0.1
	0.1nm,0.3s,baz=126,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**66.81**	**142**	P	P	07 25 51.5	+0.2
	0.3nm,0.5s,baz=324,slow=7.0,SNR=4.9						

MOS 14 07:15:05.0±0.6,4328N×4521E,h9km,mb3.7/1,8C,Error ellipse: s-maj=18.4km s-min=9.7km az=168.3,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.36**	**235**	⇑*i*PG	Pg	07 15 14.0	+2.0
SNJR				*i* S	Sg	07 15 21.1	+4.4
VLKR	**Vladikavkaz**	**0.45**	**240**	⇑*i*PG	Pg	07 15 15.4	+1.6
VLKR				*i* S	Sg	07 15 23.6	+3.9
BTKR	**Batakoyurt**	**0.50**	**282**	⇑*i*PG	Pg	07 15 16.2	+1.6
BTKR				*i* S	Sg	07 15 24.9	+3.8
KMSR	**Komsomolskaya**	**0.68**	**278**	⇑*i*PG	Pg	07 15 19.0	+1.0
KMSR				*i* S	Sg	07 15 29.8	+3.0
ARNR	**Ardon**	**0.68**	**263**	⇑*i*PG	Pg	07 15 19.2	+1.0
ARNR				*i* S	Sg	07 15 30.0	+2.9
LACR	**Lac**	**0.81**	**236**	⇑*i*PG	Pg	07 15 21.1	+0.6
LACR				*i* S	Sg	07 15 33.2	+2.2
ZEI	**Tsey**	**1.08**	**243**	⇑*i*PG	Pg	07 15 25.1	-0.7
ZEI				*i* S	Sg	07 15 40.4	+0.5
DBC	**Dubki**	**1.21**	**102**	PG	Pg	07 15 28.0	-0.3
DBC				*i* S	Sb	07 15 47.0	+3.1
DIGR	**Digorskoe uzhe**	**1.25**	**253**	⇑*i*PG	Pg	07 15 27.6	-1.4
DIGR				*i* S	Sb	07 15 44.6	-0.3
UNCR	**Uncukul**	**1.29**	**115**	PG	Pg	07 15 30.0	+0.2
UNCR				*e*S	Sb	07 15 51.0	+4.8
UNCR				pmax	pmax		
	comp=Z,21nm,0.3s						
KRNR	**Karanay**	**1.32**	**109**	*e*PG	Pg	07 15 28.5	-1.9

*STR **14** 07:41:02.9±1.7,5142N×1666E,h5km±1km,Ml4.4,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **14** 07:41:04.6±0.2,5155N×1617E,h1km,Ml4.5/15,Error*
ellipse: s-maj=4.4km s-min=2.5km az=6.0,Suspected
Mining induced.
*ISCJB **14** 07:41:05.4±0.2,5141N±001×1605E±002,h0km,mb4.0/13,*
Error ellipse: s-maj=2.0km s-min=1.7km az=180.0
*CSEM **14** 07:41:05.5±0.1,5155N×1611E,h1km,mb4.3/5,ML4.4/22,*
Error ellipse: s-maj=1.9km s-min=1.5km az=168.0
*MOS **14** 07:41:06.8±1.0,5151N×1604E,h17km,mb4.4/5,Error*
ellipse: s-maj=6.9km s-min=4.1km az=77.8
*BGR **14** 07:41:06.3±0.4,5148N×1611E,h1km,ML3.8/10,Error*
ellipse: s-maj=6.7km s-min=2.2km az=13.0
*IDC **14** 07:41:07.1±0.5,5145N×1600E,h0km,mb3.9/8,*
mb1 4.0/16,mb1mx3.9/25,mbtmp3.9/16,ML3.8/8,MS2.9/1,
Ms1 2.9/1,ms1mx2.1/32,Error ellipse: s-maj=9.0km
s-min=5.4km az=105.0
*PRU **14** 07:41:07.9,5145N×1605E,h0km*
*WAR **14** 07:41:08.0,5146N×1610E,ML3.6,Mining Induced*
*NEIC **14** 07:41:08.0,5140N×1596E,h10km,mb4.4/3,ML3.6(PRU),*
ML3.6(CSEM),ML3.8(SZGRF),ML3.9(STR),After PRU.
*VIE **14** 07:41:09.4±0.4,5126N×1609E,h0km,mb3.3/8,ML3.6/11,*
Error ellipse: s-maj=2.7km s-min=2.0km az=174.0 66 km
WNW of Breslau Suspected Mining induced.
ISC 14 07:41:06.4±0.2,5149N±001×1608E±002,h0km,n196,
σ1:25/299,mb4.0/13,14C-19D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**168**	*i* Pg	**Pg**	**07 41 19.4**	**+0.4**
KSP				*e*Sg	**Sg**	**07 41 27.2**	**-0.3**
KSP				*e*L		07 41 30.5	
KSP	**Ksiaz**	**0.66**	**168**	*e*Pn	**Pg**	**07 41 19.4**	**+0.4**
KSP	**Ksiaz**	**0.66**	**168**	⇓*i*Pg	**Pg**	**07 41 19.4**	**+0.4**
KSP				*e*Sg	**Sg**	**07 41 27.2**	**-0.3**
UPC	**Upice**	**0.98**	**182**	*e*PG	**Pg**	**07 41 25.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pn	**Pn**	**07 41 28.3**	**-1.4**
DPC				*e*Sg	**Sg**	**07 41 42.7**	**-0.6**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**07 41 28.2**	**-0.2**
DPC				*e*SG	**Sg**	**07 41 42.7**	**-0.6**
	542nm,0.8s						
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*P	**Pg**	**07 41 28.2**	**-0.2**
DPC				*e*		07 41 42.7	
DPC				smax			
	comp=N,542nm,0.8s						
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	**Pg**	**07 41 32.6**	**+0.3**
PVCC				*e*SG	**Sg**	**07 41 51.4**	**+1.6**
	comp=N,2μm,0.8s						
PVCC	**Panska Ves**	**1.35**	**225**	*e*P	**Pg**	**07 41 32.6**	**+0.3**
PVCC				*e*		07 41 51.4	
PVCC				smax			
	comp=N,2μm,0.8s						
BRG	**Berggiesshubel**	**1.48**	**246**	P	**Pn**	**07 41 33.8**	**-0.4**
BRG						07 41 55.5	
BRG				smax			
	comp=N,307nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**246**	Pn	**Pn**	**07 41 33.9**	**-0.4**
BRG				Pg	**Pg**	**07 41 35.5**	**+0.8**
BRG				Sg	**Sg**	**07 41 55.5**	**+1.6**
BRG	**Berggiesshubel**	**1.48**	**246**	Pn	**Pn**	**07 41 33.8**	**-0.4**
BRG	**Berggiesshubel**	**1.48**	**246**	Pg	**Pg**	**07 41 35.5**	**+0.8**
PRA	**Prague**	**1.76**	**217**	PG	**Pg**	**07 41 37.0**	**-3.1**
PRA				SG	**Sg**	**07 42 02.0**	**-0.9**
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	**Pn**	**07 41 38.1**	**-0.4**
PRU				*e*PG	**Pg**	**07 41 40.0**	**-0.7**
PRU				*e*SG	**Sg**	**07 42 03.1**	**-0.8**
	comp=N,413nm,0.6s						
PRU	**Pruhonice**	**1.79**	**214**	*e*P	**Pn**	**07 41 38.1**	**-0.4**
PRU				*e*		07 42 03.1	
PRU				smax			
	comp=N,413nm,0.6s						
FBE	**Freiberg**	**1.80**	**253**	*e*Pn	**Pn**	**07 41 38.0**	**-0.7**
FBE				*e*Sg	**Sg**	**07 42 04.2**	**-0.1**
GKP	**Gorka Klasztor**	**1.93**	**21**	*e*Pn	**Pn**	**07 41 42.0**	**+1.6**
GKP				*e*Sg	**Sg**	**07 42 11.8**	**+3.5**
CLL	**Collm**	**1.93**	**266**	*e*Pn	**Pn**	**07 41 40.2**	**-0.4**
CLL				*e*Sg	**Sg**	**07 42 07.3**	**-1.2**
CLL	**Collm**	**1.93**	**266**	*i* P	**Pn**	**07 41 40.2**	**-0.3**
CLL				*e*		07 42 10.0	
CLL				pmax	pmax		
	comp=Z,40nm,0.6s						
CLL	**Collm**	**1.93**	**266**	*i* Pn	**Pn**	**07 41 40.2**	**-0.3**
CLL				*e*Pg	**Pg**	**07 41 44.0**	**+0.5**
CLL				*e*Sg	**Sg**	**07 42 10.0**	**+1.5**
CLL	**Collm**	**1.93**	**266**	*i* Pn	**Pn**	**07 41 40.2**	**-0.3**
	comp=Z,40nm,0.6s						
CLL				*e*Pg	**Pg**	**07 41 44.0**	**+0.5**
CLL				*e*x	x	07 41 48.0	
CLL				*e*Sg	**Sg**	**07 42 10.0**	**+1.5**
	comp=Z,232nm,0.5s						
CLL	**Collm**	**1.93**	**266**	*e*Pg	**Pg**	**07 41 44.0**	**+0.5**
CLL				Sg	**Sg**	**07 42 07.3**	**-1.2**
RAC	**Raciborz**	**1.94**	**135**	*e*Pg	**Pg**	**07 41 43.5**	**-0.2**
RAC				*e*Sg	**Sg**	**07 42 08.5**	**-0.4**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**07 41 39.9**	**-0.9**
MORC	**Moravsky Berou**	**1.95**	**151**	⇓*i*P	**Pn**	**07 41 40.3**	**-0.4**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pg	**Pg**	**07 41 40.1**	**-3.6**
MORC	**Moravsky Berou**	**1.95**	**151**	Pn	**Pn**	**07 41 39.9**	**-0.8**
MORC				*e*Sg	**Sg**	**07 42 08.3**	**-0.7**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pn	**Pn**	**07 41 42.7**	**-0.3**
OKC				*e*Sg	**Sg**	**07 42 11.7**	**-2.6**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PN	**Pn**	**07 41 42.5**	**-0.5**
OKC				*e*PG	**Pg**	**07 41 46.3**	**-0.6**
OKC				*e*SG	**Sg**	**07 42 12.1**	**-2.2**
	comp=Z,501nm,0.7s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*P	**Pn**	**07 41 42.5**	**-0.5**
OKC				*e*		07 42 12.1	
OKC				smax			
	comp=N,501nm,0.7s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pn	**Pn**	**07 41 42.5**	**-0.5**
OKC				*e*Pg	**Pg**	**07 41 46.3**	**-0.6**
OKC				*e*Sg	**Sg**	**07 42 11.7**	**-2.6**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pg	**Pg**	**07 41 46.3**	**-0.6**
OKC				Sg	**Sg**	**07 42 11.7**	**-2.6**
VRAC	**Vranov**	**2.20**	**171**	Pn	**Pn**	**07 41 44.6**	**+0.3**
	comp=N,12nm,0.3s,baz=339,slow=14,SNR=32						
VRAC				Lg		07 42 14.5	
	comp=N,19nm,0.3s,baz=83,slow=20,SNR=5.3						
VRAC	**Vranov**	**2.20**	**171**	⇑*i*P	**Pn**	**07 41 44.4**	**+0.1**
VRAC	**Vranov**	**2.20**	**171**	P	**Pn**	**07 41 44.6**	**+0.3**
VRAC						07 42 14.5	
VRAC				pmax	pmax		
	comp=Z,13nm,0.3s						
VRAC	**Vranov**	**2.20**	**171**	Pn	**Pn**	**07 41 44.6**	**+0.3**
VRAC				*e*Sg	**Sg**	**07 42 14.2**	**-3.1**
TREC	**Trest**	**2.22**	**190**	*e*PN	**Pn**	**07 41 42.9**	**-1.6**
TREC				*e*PG	**Pg**	**07 41 46.6**	**-2.5**
TANN	**Tannenbergstha**	**2.52**	**246**	*e*Pn	**Pn**	**07 41 48.9**	**+0.3**
TANN				*e*Sg	**Sg**	**07 42 27.4**	**-0.1**
WERD	**Werda**	**2.60**	**248**	*e*Pn	**Pn**	**07 41 50.2**	**+0.5**
WERD				*e*Sg	**Sg**	**07 42 30.0**	**+0.1**
OJC	**Ojcow**	**2.68**	**117**	*e*Pn	**Pn**	**07 41 48.9**	**-1.9**
OJC				*e*Pg	**Pg**	**07 41 57.8**	**0.0**
OJC				*e*Sn	**Sn**	**07 42 19.6**	**-4.3**
OJC				*e*Sg	**Sg**	**07 42 33.0**	**+0.5**
OJC	**Ojcow**	**2.68**	**117**	*e*Pn	**Pn**	**07 41 48.7**	**-2.1**
OJC				*e*Sg	**Sg**	**07 42 31.9**	**-0.6**
OJC	**Ojcow**	**2.68**	**117**	*e*P	**Pn**	**07 41 48.9**	**-1.9**
OJC				*e*		07 42 19.6	
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**07 41 57.8**	**0.0**
OJC				*e*Sn	**Sn**	**07 42 19.6**	**-4.3**
OJC				Sg	**Sg**	**07 42 31.9**	**-0.6**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**07 41 53.0**	**-0.1**
KHC				*e*PG	**Pg**	**07 41 59.6**	**-1.4**
KHC				*e*SN	**Sn**	**07 42 28.0**	**-0.1**
KHC				*e*SG	**Sg**	**07 42 38.7**	**+0.7**
	comp=Z,311nm,1.1s						
MANZ	**Manzenberg**	**2.93**	**241**	*e*Pn	**Pn**	**07 41 54.9**	**+0.6**
MOX	**Moxa**	**2.94**	**255**	*e*Pn	**Pn**	**07 41 53.9**	**-0.4**
MOX				*e*Sg	**Sg**	**07 42 40.6**	**-0.2**
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**07 41 54.4**	**+0.1**
MOX				*e*PG	**Pg**	**07 42 03.1**	**+0.4**
MOX				*e*SG	**Sg**	**07 42 43.2**	**+2.4**
MOX	**Moxa**	**2.94**	**255**

CLZ	Clausthal	3.57 278	ePn	Pn	07 42 03.8	+0.8
GRA1	Grafenberg Arr	3.58 242	ePn	Pn	07 42 03.5	+0.4
GRA1			eSg	Sg	07 42 59.5	-1.8
GRA1	Grafenberg Arr	3.58 242	Pn	Pn	07 42 03.5	+0.4
GRA1			Sg	Sg	07 42 59.5	-1.8
GRF	Grafenberg Arr	3.58 242	ePn	Pn	07 42 03.5	+0.4
GRF			eSg	Sg	07 42 59.5	-1.8
BSD	Bornholm Skovb	3.70 350	iP	Pn	07 42 04.0	-0.9
BSD			iS	Sn	07 42 45.3	-3.9
MOA	Molln	3.82 199	⇓iPn	Pn	07 42 06.8	+0.2
	SNR=25					
MOA			⇓iSg	Sg	07 43 09.2	-0.1
	comp=N,275nm,1.0s					
STHS	Stebnicka Huta	3.90 120	ePN	Pn	07 42 08.0	+0.4
STHS			ePG	Pg	07 42 21.3	+0.2
STHS			eSG	Sg	07 43 16.7	+5.0
STHS	Stebnicka Huta	3.90 120	eP	Pn	07 42 08.0	+0.4
STHS			pmax	pmax		
	comp=N,139nm,1.0s					
KECS	Kecovo	4.14 135	ePG	Pg	07 42 27.0	+1.3
KECS			e		07 43 16.1	
ARSA	Arzberg	4.25 185	⇑iPn	Pn	07 42 13.5	+1.0
	SNR=9.0					
ARSA			⇑iSg	Sg	07 43 22.8	-0.3
	comp=N,252nm,0.9s					
CRVS	Cervenica-Dubn	4.32 125	ePN	Pn	07 42 14.1	+0.8
CRVS			ePG	Pg	07 42 30.2	+1.0
CRVS			eSG	Sg	07 43 30.2	+5.0
CRVS	Cervenica-Dubn	4.32 125	eP	Pn	07 42 14.1	+0.8
CRVS			pmax	pmax		
	comp=N,93nm,1.0s					
PSZ	Piszkesteto	4.34 144	⇑ePn	Pn	07 42 14.2	+0.5
PSZ	Piszkesteto	4.34 144	⇓iP	Pn	07 42 14.6	+0.9
PSZ	Piszkesteto	4.34 144	ePn	Pn	07 42 14.0	+0.3
PSZ			eSg	Pg	07 42 34.2	+4.5
BUD	Budapest	4.44 153	⇑ePB	Pb	07 42 23.1	-2.2
KWP	Kalwaria	4.62 111	eP	Pn	07 42 18.1	+0.7
KOLS	Kolonicke sedl	4.73 120	ePN	Pn	07 42 19.1	+0.1
KOLS			ePG	Pg	07 42 37.8	+0.7
KOLS			e		07 43 48.9	
COP	Copenhagen	4.74 334	iP	Pg	07 42 44.1	+6.9
COP			e	Sn	07 43 12.5	-2.1
COP			iS	Sg	07 43 47.0	+8.5
KBA	Koelnbreinsper	4.76 203	⇑iPn	Pn	07 42 20.3	+0.9
	SNR=14					
KBA			⇑iSg	Sg	07 43 39.9	+0.6
	comp=N,105nm,0.8s					
PERS	Pernice	4.89 188	iPn	Pn	07 42 23.2	+2.0
TOD	Tromm	5.00 251	P	Pn	07 42 22.0	-0.7
TOD			S	Sn	07 43 30.6	+9.3
GROS	Grobnik	5.04 185	iPn	Pn	07 42 24.5	+1.2
OBKA	Obir	5.08 192	⇑iPn	Pn	07 42 24.2	+0.4
	SNR=6.8					
OBKA			⇑iSg	Sg	07 43 50.3	+0.7
	comp=N,91nm,0.9s					
WATA	Walderalm	5.08 217	⇓iPn	Pn	07 42 24.7	+0.8
	SNR=7.0					
WATA			⇓iSg	Sg	07 43 52.2	+2.4
	comp=N,55nm,0.6s					
WATA	Walderalm	5.08 217	Pn	Pn	07 42 24.7	+0.8
	SNR=7.0					
WATA			Sg	Sg	07 43 52.2	+2.4
	comp=N,55nm,0.6s					
WTTA	Wattenberg	5.12 216	⇓iPn	Pn	07 42 26.1	+1.7
	SNR=9.0					
WTTA			⇑iSg	Sg	07 43 52.3	+1.3
	comp=N,72nm,0.9s					
MOTA	Moosalm	5.26 220	⇑iPn	Pn	07 42 26.9	+0.6
MOTA			⇓iSg	Sg	07 43 56.7	+1.2
	comp=N,103nm,0.8s					
SQTA	Sankt Quirin	5.32 219	⇓iPn	Pn	07 42 27.7	+0.6
SQTA			⇓iSg	Sg	07 44 00.1	+2.7
	comp=N,73nm,0.8s					
LVV	L'vov	5.33 105	eP	Pn	07 42 34.0	+6.8
LVV			eS	Sn	07 43 31.0	+1.7
LVV			MLR	MLR		
	comp=Z,100nm,1.6s					
GORS	Gorjuse	5.35 196	iPn	Pn	07 42 29.6	+2.1
LJU	Ljubljana	5.54 191	ePn	Pn	07 42 31.2	+1.1
PKSM	Moragy	5.54 161	⇓iP	Pn	07 42 31.0	+0.9
PKSM	Moragy	5.54 161	⇓eP	Pn	07 42 31.1	+1.0
VOY	Vojsko	5.64 196	e(Pn)	Pb	07 42 48.8	+3.0
VOY			e		07 42 53.0	
VOY			e		07 43 18.2	
VOY			e		07 44 05.4	
VOY			e		07 44 15.2	
DAVA	Damuels	5.83 226	⇓iPn	Pn	07 42 34.1	0.0
DAVA			⇓iSg	Sg	07 44 12.6	-1.1
	comp=Z,32nm,0.6s					
LANF	Langenberg	5.87 248	P	Pn	07 42 33.6	-1.0
LANF			S	Sn	07 43 49.2	+6.6
BOJS	Bojanci	6.01 186	iPn	Pn	07 42 37.5	+0.9
RUP	Ruppelstein	6.01 256	P	Pn	07 42 37.0	+0.4
DAVOX	Davos/Dischmat	6.22 223	Pn	Pn	07 42 39.6	+0.2
	baz=106,slow=7.8,SNR=8.6					
DAVOX			Sn	Sn	07 43 48.5	-2.7
	baz=329,slow=23,SNR=3.1					
DAVOX			Lg		07 44 13.9	
	baz=196,slow=23,SNR=3.2					
DAVOX	Davos/Dischmat	6.22 223	Pn	Pn	07 42 39.6	+0.2
DAVOX			Sn	Sn	07 43 48.5	-2.7
MEM	Membach	6.41 266	P	Pn	07 42 42.8	+0.7
WLS	Welschbruch	6.41 245	P	Pn	07 42 42.9	+0.8
MUD	Monsted U'grnd	6.43 323	iP	Pg	07 43 17.5	+7.9
MUD			eS	Sg	07 44 48.4	+15
CDF	Champ du Feu	6.46 245	ePn	Pn	07 42 41.1	-1.6
CDF			eSg	Sg	07 44 29.4	-4.4
	comp=Z,212nm,1.0s					
CDF	Champ du Feu	6.46 245	ePn	Pn	07 42 41.1	-1.6
CDF			eSg	Sg	07 44 29.4	-4.4
	comp=Z,106nm,1.0s					
WLF	Walferdange	6.58 258	P	Pn	07 42 44.6	+0.2
WLF	Walferdange	6.58 258	eP	Pn	07 42 45.7	+1.3
WLF			pmax	pmax		
	comp=Z,12nm,0.8s					
WLF	Walferdange	6.58 258	ePn	Pn	07 42 45.7	+1.3
	comp=Z,12nm,0.8s					
WLF	Walferdange	6.58 258	ePn	Pn	07 42 45.7	+1.3
	comp=Z,12nm,0.8s					
ECH	Echery	6.63 244	P	Pn	07 42 45.8	+0.7
BCLA	Clavier	6.89 265	P	Pn	07 42 50.2	+1.6
BZS	Buzias	6.93 146	⇓iP	Pn	07 42 57.7	+8.5
HINF	Hinteralfeld	7.02 242	ePn	Pn	07 42 48.3	-2.2
HINF			eSg	Sg	07 44 46.3	-5.6
	comp=Z,132nm,1.2s					
HINF	Hinteralfeld	7.02 242	ePn	Pn	07 42 48.3	-2.2
HINF			eSg	Sg	07 44 46.3	-5.6
	comp=Z,66nm,1.2s					
BURAR	Bucovina Array	7.09 120	⇑iP	Pn	07 42 51.5	0.0
HAU	Haudompre	7.20 245	ePn	Pn	07 42 51.4	-1.5
HAU			eSg	Sg	07 44 52.0	-5.6
	comp=Z,139nm,1.0s					
HAU	Haudompre	7.20 245	ePn	Pn	07 42 51.4	-1.5
HAU			eSg	Sg	07 44 52.0	-5.6
	comp=Z,70nm,1.0s					
GIVF	Givet	7.27 263	eSg	Sg	07 44 54.2	-5.6
	comp=Z,161nm,1.1s					
GIVF	Givet	7.27 263	eSg	Sg	07 44 54.2	-5.6
	comp=Z,80nm,1.1s					
THEF	They Montfort	7.29 247	P	Pn	07 42 53.3	-0.9
RFYF	Reffroy	7.40 251	ePn	Pn	07 42 52.6	-3.0
RFYF			eSg	Sg	07 44 58.6	-5.4
	comp=Z,254nm,1.4s					
RFYF	Reffroy	7.40 251	ePn	Pn	07 42 52.6	-3.0
RFYF			eSg	Sg	07 44 58.6	-5.4
	comp=Z,127nm,1.4s					
DOU	Dourbes	7.41 264	P	Pn	07 42 57.5	+1.7
BAIF	Baives	7.66 264	eSg	Sg	07 45 07.4	-5.0
	comp=Z,74nm,1.1s					
BAIF	Baives	7.66 264	eSg	Sg	07 45 07.4	-5.0
	comp=Z,37nm,1.1s					
MEZF	Maizieres J'vi	7.71 252	ePn	Pn	07 42 56.9	-3.0
MEZF			eSg	Sg	07 45 08.7	-5.2
	comp=Z,133nm,1.2s					
MEZF	Maizieres J'vi	7.71 252	ePn	Pn	07 42 56.9	-3.0
MEZF			eSg	Sg	07 45 08.7	-5.2
	comp=Z,66nm,1.2s					
SFTF	Sexfontaines	7.85 250	ePn	Pn	07 42 58.9	-3.0
SFTF			eSg	Sg	07 45 12.7	-5.9
	comp=Z,253nm,1.3s					
SFTF	Sexfontaines	7.85 250	ePn	Pn	07 42 58.9	-3.0
SFTF			eSg	Sg	07 45 12.7	-5.9
	comp=Z,126nm,1.3s					
CABF	La Chapelle	8.17 237	eSg	Sg	07 45 22.5	-6.3
	comp=Z,374nm,1.4s					
CABF	La Chapelle	8.17 237	eSg	Sg	07 45 22.5	-6.3
	comp=Z,187nm,1.4s					
AKASG	Malin Array Be	8.32 90	Pn	Pn	07 43 05.6	-2.7
	comp=Z,2.7nm,0.3s,baz=278,slow=12,SNR=18					
AKASG			Sn	Sn	07 44 36.4	-6.5
	comp=Z,2.6nm,0.3s,baz=263,slow=38,SNR=6.3					
AKASG			Lg		07 45 30.7	
	baz=199,slow=37,SNR=3.1					
AKASG	Malin Array Be	8.32 90	P	Pn	07 43 05.6	-2.7
AKASG					07 44 36.4	
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.3s					
AKASG			smax			
	comp=N,3.0nm,0.3s					
AKBB	Malin Array Si	8.32 90	ePn	Pn	07 43 06.4	-1.9
LPG	La Plagne	8.61 230	eP	Pn	07 43 13.5	+1.2
LPG			eSg	Sg	07 45 37.5	-5.4
	comp=N,115nm,1.2s					
LPG	La Plagne	8.61 230	eP	Pn	07 43 13.5	+1.2
LPG			eSg	Sg	07 45 37.5	-5.4
	comp=N,57nm,1.2s					
HFS	Hagfors	8.77 352	Pn	Pn	07 43 13.4	-1.0
	comp=N,0.9nm,0.3s,baz=166,slow=15,SNR=28					
HFS			Sn	Sn	07 44 47.9	-6.2
	comp=N,0.8nm,0.3s,baz=150,slow=29,SNR=3.6					
HFS	Hagfors	8.77 352	P	Pn	07 43 13.4	-1.1
HFS					07 44 47.9	
HFS			pmax	pmax		
	comp=Z,1.0nm,0.3s					
HFS			smax			
	comp=N,1.0nm,0.3s					
KONO	Kongsberg	8.96 338	eP	Pn	07 43 17.8	+0.7
LOR	Lormes	9.02 247	ePn	Pn	07 43 15.3	-2.5
	baz=58					
LOR			eSg	Sg	07 45 49.9	-6.0
	comp=N,91nm,1.2s					
LOR	Lormes	9.02 247	ePn	Pn	07 43 15.3	-2.5
LOR			eSg	Sg	07 45 49.9	-6.0
	comp=N,45nm,1.2s					
MBDF	Montbardon	9.18 226	eP	Pn	07 43 22.7	+2.6
MBDF			eSg	Sn	07 45 55.3	+51
	comp=N,88nm,1.5s					
MBDF	Montbardon	9.18 226	eP	Pn	07 43 22.7	+2.6
MBDF			eSg	Sn	07 45 55.3	+51
	comp=N,44nm,1.5s					
VSU	Vasula	9.29 37	diP	Pn	07 43 21.8	+0.2
VSU	Vasula	9.29 37	iP	Pn	07 43 21.8	+0.2
AVF	Avril sur Loir	9.57 246	ePn	Pn	07 43 22.2	-3.2
AVF			eSg	Sn	07 46 06.9	+53
	comp=N,69nm,1.3s					
AVF	Avril sur Loir	9.57 246	ePn	Pn	07 43 22.2	-3.2
AVF			eSg	Sn	07 46 06.9	+53
	comp=N,35nm,1.3s					
SBF	Sospel	9.59 221	ePn	Pn	07 43 22.8	-2.9
NOA	NORSAR Array B	9.95 346	Pn	Sn	07 43 28.1	-2.5
	comp=N,0.7nm,0.3s,baz=167,slow=12,SNR=5.1					
NOA			Sn	Sn	07 45 16.4	-6.6
	comp=N,0.4nm,0.3s,baz=158,slow=14,SNR=2.5					
NOA	NORSAR Array B	9.95 346	P	Pn	07 43 28.1	-2.5
NOA					07 45 16.4	
NOA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
FINES	FINESS Array B	11.39 25	Pn	Pn	07 43 48.2	-2.2
	comp=Z,1.0nm,0.3s,baz=208,slow=11,SNR=40					
FINES			Sn	Sn	07 45 49.9	-8.6
	comp=Z,0.7nm,0.3s,baz=213,slow=20,SNR=5.2					
FINES			Lg		07 47 07.7	
	baz=167,slow=26,SNR=2.7					
FINES	FINESS Array B	11.39 25	P	Pn	07 43 48.3	-2.1
FINES					07 45 49.9	
FINES			pmax	pmax		
	comp=Z,1.0nm,0.3s					
FINES			smax			
	comp=N,1.0nm,0.3s					
KAF	Kangasniemi	12.02 24	ep	Pn	07 43 55.6	-3.4
	comp=N,3.3nm,0.4s					
KAF	Kangasniemi	12.02 24	eP	Pn	07 43 55.6	-3.4
KAF			pmax	pmax		
	comp=Z,3.0nm,0.4s					
EKA	Eskdalemuir Ar	12.10 296	Pn	Pn	07 43 56.5	-3.5
	comp=Z,0.7nm,0.3s,baz=101,slow=14,SNR=11					
EKA	Eskdalemuir Ar	12.10 296	P	Pn	07 43 56.6	-3.4
EKA			pmax	pmax		
	comp=Z,1.0nm,0.3s					
OBN	Obninsk	12.77 65	⇓eP	Pn	07 44 05.8	-3.5
OBN			eS	Sn	07 46 40.1	+7.9
OBN			pmax	pmax		
	comp=Z,17nm,1.4s					
JOF	Joensuu	14.07 30	ep	Pn	07 44 22.6	-4.4
	comp=Z,1.1nm,0.4s					
JOF	Joensuu	14.07 30	eP	Pn	07 44 22.6	-4.4
JOF			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ARCES	ARCESS Array B	18.65 10	Pn	Pn	07 45 21.7	-4.3
	comp=Z,1.6nm,0.3s,baz=196,slow=12,SNR=28					
ARCES	ARCESS Array B	18.65 10	P	Pn	07 45 21.7	-4.3
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.3s					
KIV	Kislovodsk	19.35 102	⇑eP	Pn	07 45 34.3	-0.1
KIV			eS	Sn	07 49 07.5	-4.4
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KIV	Kislovodsk	19.35 102	eP	Pn	07 45 34.3	-0.1
	comp=Z,7.0nm,1.0s					
GNI	Garni	22.82 109	LR	LR	07 56 30.7	
	comp=Z,26nm,18.8s,baz=320,slow=40					
ORR	Orenburg	23.87 74	P	P	07 46 22.8	+1.3
ORR			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3					
ORR	Orenburg	23.87 74	P	P	07 46 22.8	+1.3
	comp=Z,10.0nm,1.0s,mb4.3					
ARU	Arti	25.17 62	⇓iP	P	07 46 33.4	0.0
ARU			ePPP		07 47 14.7	
ARU			eS	S	07 51 00.4	+1.0
ARU			eSS		07 51 52.1	
ARU			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5					
ARU	Arti	25.17 62	eP	P	07 46 33.3	-0.1
	comp=Z,6.5nm,0.8s,mb4.4					
ARU	Arti	25.17 62	iP	P	07 46 33.4	0.0
	comp=Z,10.0nm,1.0s,mb4.5					
AKTK	Aktyubinsk	26.18 76	P	P	07 46 42.5	-0.1
	comp=Z,3.0nm,1.0s,mb3.9					
AKTO	Aktyubinsk	26.18 76	P	P	07 46 42.5	-0.1
	comp=Z,3.1nm,0.9s,mb3.9,baz=283,slow=13,SNR=5.2					
AKTO	Aktyubinsk	26.18 76	P	P	07 46 42.5	-0.1
AKTO			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9					
ZRNK	Zerenda	31.86 66	eP	P	07 47 34.0	+0.9
ZRNK			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
ZRNK	Zerenda	31.86 66	eP	P	07 47 34.0	+0.9
	comp=Z,3.1nm,1.0s,mb4.2					
ZRNK	Zerenda	31.86 66	eP	P	07 47 34.0	+0.9
	comp=Z,3.0nm,1.0s,mb4.2					
BRVK	Borovoye	32.55 66	eP	P	07 47 40.1	+0.9
BRVK			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4					
BRVK	Borovoye	32.55 66	eP	P	07 47 40.1	+1.0
	comp=Z,6.4nm,1.1s,mb4.5					
BRVK	Borovoye	32.55 66	eP	P	07 47 40.1	+0.9
	comp=Z,6.0nm,1.1s,mb4.4					
TORD	Torodi Ar. Bea	39.97 202	P	P	07 48 42.3	-0.3
	comp=Z,3.5nm,1.0s,mb3.9,baz=7.4,slow=7.8,SNR=16					
ZAL	Zalesovo	40.22 59	P	P	07 48 46.2	+1.5
	comp=Z,0.9nm,0.5s,mb3.6,baz=200,slow=3.1,SNR=5.2					
MKAR	Makanchi Array	42.24 69	P	P	07 49 02.5	+1.2
	comp=Z,0.9nm,0.9s,mb3.5,baz=312,slow=7.0,SNR=5.3					
SONM	Songino Array	54.95 55	P	P	07 50 40.8	+1.6
	comp=Z,1.4nm,0.9s,mb4.0,baz=299,slow=10,SNR=11					
YKA	Yellowknife Ar	59.87 336	P	P	07 51 14.3	+0.4
	comp=Z,1.3nm,0.7s,mb4.1,baz=30,slow=7.3,SNR=4.4					
PDAR	Pinedale Array	74.95 322	P	P	07 52 50.5	+1.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=54,slow=7.7,SNR=4.5					
NVAR	Mina Array Bea	81.98 325	P	P	07 53 29.3	+1.2
	comp=Z,0.7nm,0.9s,mb3.8,baz=43,slow=4.1,SNR=2.5					
ASAR	Alice Springs	125.39 84	PKP	PKPdf	08 00 08.6	-0.7
	comp=Z,0.4nm,0.9s,baz=22,slow=3.0,SNR=4.3					

KRSC 14 08:08:19, 5532N×16340E, h5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.95	340	P	Pg	08 08 39.5	+2.3
KBTR				iS	Sg	08 08 53.3	+3.8
MKZ	Mys Kozlova	1.23	232	P	Pg	08 08 43.1	+0.5
MKZ				iS	Sg	08 08 59.7	+1.1
ZLN	Zelenaya	1.63	296	P	Pn	08 08 49.9	+1.6
ZLN				iS	Sn	08 09 11.2	+1.6
SRKR	Sorokina	1.83	318	eP	Pn	08 08 52.8	+1.7
SRKR				eS	Sn	08 09 17.1	+2.4
KRSR	Krestovskiy	1.84	300	P	Pn	08 08 52.8	+1.6
KRSR				iS	Sn	08 09 16.4	+1.6
KLY	Klyuchi	1.84	304	P	Pn	08 08 50.8	-0.5
KLY				iS	Sn	08 09 13.2	-1.7
KMNR	Kamenistaya	1.85	285	P	Pn	08 08 54.3	+2.9
KMNR				iS	Sn	08 09 18.4	+3.3
TUMR	Tumrok	1.86	270	P	Pn	08 08 53.3	+1.8
TUMR				iS	Sn	08 09 17.7	+2.3
KPT	Kopyto	1.91	291	eP	Pn	08 08 55.1	+2.9
KPT				iS	Sn	08 09 21.2	+4.5
KOZ	Kozyrevsk	2.13	292	eP	Pn	08 08 57.5	+2.3
KOZ				iS	Sn	08 09 25.9	+3.9
SRDR	Sredinnyy	2.31	297	P	Pn	08 08 59.7	+2.1
SRDR				iS	Sn	08 09 29.2	+2.8
SPN	Mys Shipunski	2.98	223	P	Pn	08 09 08.7	+1.8
SPN				iS	Sn	08 09 45.1	+2.1
NLC	Nalytchevo	3.21	230	P	Pn	08 09 12.4	+2.4
NLC				iS	Sn	08 09 50.4	+1.7
AVH	Avacha	3.42	235	P	Pn	08 09 16.8	+3.8
GNL	Ganaly	3.57	245	P	Pn	08 09 18.5	+3.4
RUS	Russkaya	4.09	227	P	Pn	08 09 25.8	+3.6

ISCJB 14 08:14:23.6±1.2, 201N±01×1237E±02, h10km, mb3.7/4, Error ellipse: s-maj=25.7km s-min=14.0km az=58.8
IDC 14 08:14:24.8±1.4, 1945N×12186E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=271.4km s-min=24.3km az=71.0

ISC 14 08:14:25.8±1.2, 200N±01×1236E±02, h10km, n5, σ0°28/6, mb3.7/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	Callao Caves	2.88	217	⇓eP	Pn	08 15 06.6	-5.2
CVP				eS	Sn	08 15 46.5	0.0
SONM	Songino Array	31.05	337	P	P	08 20 43.9	0.0
	0.2nm,0.6s,mb3.1,baz=157,slow=12,SNR=2.3						
WRA	Warramunga Arr	41.09	165	P	P	08 22 10.1	+0.3
	2.7nm,0.6s,mb4.1,baz=342,slow=9.1,SNR=31						
ASAR	Alice Springs	44.58	167	P	P	08 22 37.8	-0.3
	0.5nm,0.4s,mb3.7,baz=345,slow=7.0,SNR=22						
STKA	Stephens Creek	54.42	161	P	P	08 23 53.0	-0.1
	1.1nm,0.7s,mb3.9,baz=335,slow=8.5,SNR=2.9						

NEIC 14 08:25:09.2, 1768N×6078W, h32km, MD3.7(TRN), MD4.2(RSPR), After TRN.
TRN 14 08:25:09.1, 1771N×6096W, h10km, MD3.7
ISCJB 14 08:25:10.8±1.5, 1780N±008×6087W±008, h79km±14km, Error ellipse: s-maj=17.9km s-min=6.7km az=86.3
RSPR 14 08:25:14.2, 1889N×6099W, h25km±77km, MD4.2/3, MD4.2/3

ISC 14 08:25:11.8±1.4, 1779N±008×6082W±008, h57km±27km, n15, σ0°94/26, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPB	Codrington	0.97	261	eP	Pn	08 25 28.0	-1.2
CPB				eS	Sn	08 25 42.0	-0.2
BPA	Boggy Peak	1.24	233	eP	Pn	08 25 31.7	-1.1
BPA				eS	Sn	08 25 50.1	+1.6
BPA	Boggy Peak	1.24	233	eP	Pn	08 25 31.7	-1.1
BPA				eS	Sn	08 25 47.2	-1.3
BCG	Bois Riant Cap	1.86	204	eP	Pn	08 25 41.9	+0.6
LZG	Guadaloupe-1	1.88	209	eP	Pn	08 25 42.6	+1.1
SKI	Saint Kitts	1.89	256	eP	Pn	08 25 42.2	+0.6
SKI				eS	Sn	08 26 04.5	+0.2
MGG	Marie-Galante	1.93	194	eP	Pn	08 25 42.2	0.0
TBG	Guadaloupe-3	2.09	202	eP	Pn	08 25 44.7	+0.4
TBG				eS	Sn	08 26 10.1	+1.0
SABT	Saba	2.31	266	eP	Pn	08 25 48.1	+0.6
SABT				eS	Sn	08 26 16.3	+1.6
FDF	Fort de France	3.06	186	eP	Pn	08 25 58.2	+0.6
FDF				eS	Sn	08 26 31.7	-1.3
BIM	Bigot	3.27	184	eP	Pn	08 25 58.5	-2.0
MTP	Monte Pirata	4.51	275	⇑eP	Pn	08 26 17.4	-0.2
MTP				eS	Sn	08 27 06.9	-1.8
CBYP	Canovanas	4.81	276	⇓eP	Pn	08 26 22.6	+1.0
CBYP				eS	Sn	08 27 16.0	-0.1
CPD	Cerro la Pandu	4.86	274	ePn	Pn	08 26 22.4	+0.2
CPD				eSn	Sn	08 27 16.3	-0.8
LSP	Las Mesas	5.97	275	⇓eP	Pn	08 26 38.1	+0.5
LSP				eS	Sn	08 27 44.5	-0.1

IDC 14 08:27:53.6±1.8, 2854S×17772W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/12, mbtmp4.2/4, ML4.7/1, Error ellipse: s-maj=40.3km s-min=24.7km az=80.0
NEIC 14 08:27:56.4±2.6, 2850S×17776W, h16km±16km, mb4.3/1, Error ellipse: s-maj=21.8km s-min=16.6km az=140.0
ISCJB 14 08:27:58.5±3.1, 286S±02×1778W±02, h42km±25km, mb4.0/4, Error ellipse: s-maj=34.9km s-min=30.6km az=154.4

ISC 14 08:27:58.5±2.1, 2866S±009×1778W±02, h29km±12km, n13, σ0°72/11, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.61	194	Pn	Pn	08 28 11.1	0.0
	baz=18,slow=20						
RAO				Sn	Sn	08 28 19.7	-0.3
	4μm,0.3s,baz=81,slow=19,SNR=57						
RAO	Raoul Island	0.61	194	ePg	Pb	08 28 11.2	+0.5
RAO				eSg	Sb	08 28 18.1	-0.8
RAO				Sn	Sn	08 28 19.7	-0.3
RPZ	Rata Peaks	17.51	208	P	Pn	08 32 02.5	+2.1
	2.3nm,0.3s,baz=30,slow=20,SNR=5.1						
STKA	Stephens Creek	35.12	254	P	P	08 34 48.8	-0.5
	0.8nm,0.3s,mb4.1,baz=109,slow=15,SNR=3.9						
ASAR	Alice Springs	43.45	265	P	P	08 35 58.8	-0.1
	0.6nm,0.6s,mb3.5,baz=102,slow=7.1,SNR=12						
WRA	Warramunga Arr	44.28	270	P	P	08 36 05.4	-0.1
	1.6nm,0.4s,mb4.1,baz=110,slow=7.8,SNR=45						
QSPA	South Pole Qui	61.44	180	eP	P	08 38 12.1	-0.1
	1.3nm,0.5s,mb4.3						
MCMT	McKenzie Canyo	94.01	40	eP	P	08 41 13.4	-0.4
FINES	FINESS Array B	143.59	341	PKP	PKPdf	08 47 28.9	-1.5
	0.4nm,0.3s,baz=56,slow=3.5,SNR=11						
NB2	NORSAR Subarra	147.07	352	PKP	PKPdf

HDHB	**Dhahab**	**1.87 233**	P	**Pn**	**08 53 01.3**	**-0.4**
DRGI	**Dragot**	**1.91 335**	Pn	**Pn**	**08 53 02.5**	**+0.3**
DRGI	**Dragot**	**1.91 335**	Pn	**Pn**	**08 53 02.4**	**+0.3**
KZIT	**Kziot**	**1.97 303**	Pn	**Pn**	**08 53 04.0**	**+1.0**
KZIT			Sn	**Sn**	**08 53 28.9**	**+0.5**
HNKL	**Nakhl**	**2.04 273**	P	**Pn**	**08 53 05.9**	**+1.9**
HKAT	**Jabal Katrina**	**2.44 237**	P	**Pn**	**08 53 09.2**	**-0.2**
TR2		**2.71 238**	P	**Pn**	**08 53 13.1**	**-0.1**
AMAG	**Maghara**	**2.81 287**	P	**Pn**	**08 53 18.2**	**+3.7**
SUZ		**3.04 271**	P	**Pn**	**08 53 20.2**	**+2.5**

*ISCJB **14** 09:04:27.9±0.4,29.14S±002×6933W±006,h108km±5km, mb4.0/7,Error ellipse: s-maj=9.3km s-min=4.1km az=1.5*
*NEIC **14** 09:04:28.8,29.14S×6942W,h115km,mb4.1/1, MD3.8(GUC),After GUC.*
*GUC **14** 09:04:28.8±1.1,29.14S×6942W,h115km±13km,MD3.8, ML4.5*
*IDC **14** 09:04:29.1±1.4,29.11S×6926W,h96km±11km,mb3.8/7, mb1 3.9/12,mb1mx3.8/21,mbtmp4.1/12,Error ellipse: s-maj=25.3km s-min=9.7km az=84.0*
ISC 14 09:04:29.1±0.4,2913S±002×6934W±006,h103km±5km, n56,σ0.99/67,mb4.0/7,8C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.36**	**294**	⇓*iP*			**Pn**	**09 05 00.0**	**+6.2**
VACH				*i* S			**Sn**	**09 05 19.2**	**+6.6**
VACH				AML			AML	09 05 22.1	
	comp=E,16μm,0.1s								
LSCH	**La Serena**	**1.83**	**245**	⇑*iP*			**Pn**	**09 04 59.7**	**+0.1**
LSCH				*i* S			**Sn**	**09 05 22.7**	**-0.2**
CPCH	**Copiapo**	**1.98**	**333**	⇓*iP*			**Pn**	**09 05 02.1**	**+0.6**
CPCH				*i* S			**Sn**	**09 05 26.6**	**+0.3**
CPCH				AML			AML	09 05 29.8	
	comp=E,5μm,0.1s								
CPCH	**Copiapo**	**1.98**	**333**	⇓*iP*			**Pn**	**09 05 02.1**	**+0.6**
CPCH				*i* S			**Sn**	**09 05 26.6**	**+0.3**
OVCH	**Ovalle**	**2.19**	**227**	⇑*iP*			**Pn**	**09 05 04.2**	**+0.1**
OVCH				*i* S			**Sn**	**09 05 30.3**	**-0.7**
OVCH				AML			AML	09 05 31.3	
	comp=N,2μm,0.7s								
OVCH	**Ovalle**	**2.19**	**227**	⇑*iP*			**Pn**	**09 05 04.2**	**+0.1**
OVCH				*i* S			**Sn**	**09 05 30.3**	**-0.7**
CDCH	**Caldera**	**2.44**	**327**	⇑*iP*			**Pn**	**09 05 08.4**	**+1.0**
CDCH				*i* S			**Sn**	**09 05 36.6**	**-0.2**
CDCH				AML			AML	09 05 40.8	
	comp=N,2μm,0.3s								
CDCH	**Caldera**	**2.44**	**327**	P			**Pn**	**09 05 08.4**	**+1.0**
CDCH				*i* S			**Sn**	**09 05 36.6**	**-0.2**
ZON	**Zonda**	**2.47**	**167**	⇑*iP*			**Pn**	**09 05 09.2**	**+1.3**
ZON	**Zonda**	**2.47**	**167**	AML			AML	09 05 49.3	
	comp=N,540nm,0.5s								
CMCH	**Combarbala**	**2.49**	**215**	⇓*iP*			**Pn**	**09 05 08.4**	**+0.2**
CMCH				*i* S			**Sn**	**09 05 38.4**	**+0.3**
CMCH				AML			AML	09 05 53.1	
	comp=E,5μm,0.8s								
CMCH	**Combarbala**	**2.49**	**215**	⇓*iP*			**Pn**	**09 05 08.4**	**+0.2**
CMCH				*i* S			**Sn**	**09 05 38.4**	**+0.3**
CFAA	**Coronel Fontan**	**2.64**	**159**	P			**Pn**	**09 05 11.4**	**+1.3**
	comp=E,5.3nm,0.3s,baz=333,slow=14,SNR=187								
CFAA				S			**Sn**	**09 05 41.9**	**+0.3**
	comp=E,9.2nm,0.3s,baz=272,slow=23,SNR=31								
CFAA	**Coronel Fontan**	**2.64**	**159**	P			**Pn**	**09 05 11.4**	**+1.3**
CFAA				S			**Sn**	**09 05 41.9**	**+0.3**
CHNG	**Los Chungos**	**3.31**	**214**	⇓*iP*			**Pn**	**09 05 19.0**	**0.0**
CHNG				*i* S			**Sn**	**09 05 56.6**	**-1.0**
CHNG				AML			AML	09 06 10.5	
	comp=E,264nm,0.8s								
PTCH	**Petorca**	**3.41**	**203**	⇓*iP*			**Pn**	**09 05 20.2**	**-0.1**
PTCH				*i* S			**Sn**	**09 05 60.0**	**+0.1**
PTCH				AML			AML	09 06 06.0	
	comp=N,729nm,0.0s								
PTCH	**Petorca**	**3.41**	**203**	⇓*iP*			**Pn**	**09 05 20.2**	**-0.1**
PTCH				*i* S			**Sn**	**09 05 60.0**	**+0.1**
JACH	**Jahuel**	**3.70**	**197**	*iP*			**Pn**	**09 05 25.0**	**+0.8**
MDZ	**Mendoza**	**3.76**	**174**	*eP*			**Pn**	**09 05 26.3**	**+1.2**
MDZ				*e*				09 10 21.1	
CLCH	**Cerro Calan**	**4.37**	**193**	⇓*iP*			**Pn**	**09 05 33.5**	**+0.2**
CLCH				AML			AML	09 06 35.6	
	comp=N,325nm,0.4s								
DSCH	**Colegio Aleman**	**4.38**	**194**	⇑*iP*			**Pn**	**09 05 33.2**	**-0.2**
LACH	**Colegio Las Am**	**4.42**	**193**	AML			AML	09 06 31.4	
	comp=N,125nm,0.7s								
RCDM	**Rinconada Maip**	**4.52**	**196**	⇓*iP*			**Pn**	**09 05 34.5**	**-0.7**
RCDM				*i* S			**Sn**	**09 06 25.6**	**-1.1**
RCDM				AML			AML	09 06 33.0	
	comp=E,232nm,0.1s								
RCDM	**Rinconada Maip**	**4.52**	**196**	⇓*iP*			**Pn**	**09 05 34.5**	**-0.7**
RCDM				*i* S			**Sn**	**09 06 25.6**	**-1.1**
PCH	**Pirque**	**4.59**	**192**	⇑*iP*			**Pn**	**09 05 36.2**	**0.0**
TACH	**Talagante**	**4.71**	**196**	⇑*iP*			**Pn**	**09 05 36.5**	**-1.4**
CICH	**Cipreses**	**5.25**	**190**	*eP*			**Pn**	**09 05 44.8**	**-0.4**
LVC	**Limon Verde**	**6.50**	**3**	P			**Pn**	**09 06 02.3**	**+0.1**
	comp=E,12nm,0.3s,baz=182,slow=8.9,SNR=56								
LVC				S			**Sn**	**09 07 14.2**	**-0.7**
	comp=E,8.0nm,0.3s,baz=25,slow=23,SNR=3.0								
CPUP	**Villa Florida**	**11.00**	**78**	P			**Pn**	**09 07 01.4**	**-1.8**
	comp=E,0.5nm,0.3s,baz=235,slow=12,SNR=5.5								
LPAZ	**La Paz**	**12.83**	**5**	P			**Pn**	**09 07 27.5**	**0.0**
	comp=E,0.8nm,0.3s,baz=193,slow=7.9,SNR=15								
LPAZ	**La Paz**	**12.83**	**5**	P			**Pn**	**09 07 27.5**	**0.0**
SIV	**San Ignacio**	**15.13**	**32**	P			**Pn**	**09 07 55.5**	**-1.7**
	comp=E,0.4nm,0.3s,baz=244,slow=8.8,SNR=12								
SAML	**Samuel**	**20.89**	**17**	*eP*			**P**	**09 09 04.1**	**+1.1**
	comp=E,12nm,1.1s								
SNAA	**Sanae**	**55.26**	**159**	P			**P**	**09 13 51.7**	**+0.1**
	comp=E,1.0nm,0.7s,mb4.0,baz=280,slow=7.5,SNR=15								
DBIC	**Dimbokro**	**71.43**	**71**	P			**P**	**09 15 39.6**	**+1.4**
	comp=E,5.8nm,1.1s,mb4.3,baz=211,slow=7.5,SNR=6.9								
MAW	**Mawson**	**77.17**	**163**	P			**P**	**09 16 11.7**	**+0.3**
	comp=E,2.7nm,1.0s,mb3.9,baz=46,slow=7.0,SNR=6.4								
PRCH	**Ribeira Ch**	**78.17**	**34**	*eP*			**P**	**09 16 17.4**	**+0.4**
CML	**Cha da Macela**	**78.17**	**34**	*eP*			**P**	**09 16 15.5**	**-1.5**
LFA	**Lagoa do Fogo**	**78.20**	**34**	*eP*			**P**	**09 16 14.9**	**-2.2**
VIF	**Vila Franca**	**78.20**	**34**	*eP*			**P**	**09 16 17.3**	**+0.2**
PVER	**Pico Vermelho**	**78.20**	**34**	*eP*			**P**	**09 16 17.3**	**+0.1**
MESC	**Monte Escuro**	**78.23**	**34**	*eP*			**P**	**09 16 18.0**	**+0.7**
PCNG	**Congro**	**78.24**	**34**	*eP*			**P**	**09 16 17.5**	**+0.1**
FRA1	**Furnas**	**78.24**	**34**	*eP*			**P**	**09 16 14.7**	**-2.7**
PMAT	**Coroa da Mata**	**78.24**	**34**	*eP*			**P**	**09 16 18.3**	**+0.9**
MIRA	**Miradouro**	**78.31**	**34**	*eP*			**P**	**09 16 15.1**	**-2.7**
PFAD	**Fenais da Ajud**	**78.33**	**34**	*eP*			**P**	**09 16 16.4**	**-1.5**
BOSA	**Boshof**	**80.26**	**117**	P			**P**	**09 16 28.6**	**+0.3**
	comp=E,1.7nm,0.4s,mb4.2,baz=218,slow=3.7,SNR=2.7								
TORD	**Torodi Ar. Bea**	**80.36**	**69**	P			**P**	**09 16 30.2**	**+1.4**
	comp=E,2.9nm,0.6s,mb4.3,baz=275,slow=5.7,SNR=38								
TORD				pP			pP	09 16 59.8	+4.3
	comp=E,1.4nm,0.8s,baz=252,slow=5.0,SNR=4.3								
PDAR	**Pinedale Array**	**80.55**	**331**	P			**P**	**09 16 30.9**	**+1.0**
	comp=E,0.6nm,0.5s,mb3.6,baz=130,slow=7.4,SNR=7.1								
NVAR	**Mina Array Bea**	**81.30**	**323**	P			**P**	**09 16 36.2**	**+2.3**
	comp=E,0.3nm,0.5s,mb3.4,baz=161,slow=5.7,SNR=4.1								
ASAR	**Alice Springs**	**122.94**	**206**	PKP			PKPdf	09 23 13.7	+0.5
	comp=E,0.5nm,0.5s,baz=137,slow=1.8,SNR=11								
WRA	**Warramunga Arr**	**126.13**	**208**	PKP			PKPdf	09 23 19.9	+0.7
	comp=E,1.1nm,0.5s,baz=165,slow=1.6,SNR=32								
FITZ	**Fitzroy Crossi**	**130.87**	**199**	PKP			PKPdf	09 23 29.1	+0.9
	comp=E,1.4nm,0.8s,baz=51,slow=6.5,SNR=4.4								
ZAL	**Zalesovo**	**148.88**	**30**	PKPbc			PKPbc	09 24 05.8	+1.1
	comp=E,4.3nm,0.5s,baz=152,slow=1.6,SNR=9.3								
MKAR	**Makanchi Array**	**151.74**	**44**	PKPbc			PKPbc	09 24 11.9	+0.4
	comp=E,2.1nm,0.6s,baz=295,slow=2.0,SNR=12								
MKAR				PKPab			PKPab	09 24 22.0	+1.3
	comp=E,1.4nm,0.6s,baz=292,slow=4.0,SNR=5.5								
MKAR				pPKPbc			pPKPbc	09 24 42.5	+2.9
	comp=E,0.9nm,0.5s,baz=336,slow=2.7,SNR=3.9								
MKAR				pPKPab			pPKPab	09 24 52.9	+4.8
	comp=E,0.6nm,0.5s,baz=326,slow=3.8,SNR=2.5								

*IDC **14** 09:09:26.3±0.5,3142S×7165W,h0km,mb4.7/13, mb1 4.7/17,mb1mx4.6/21,mbtmp4.6/17,ML4.7/4,MS4.0/10, Ms1 4.0/10,ms1mx3.7/21,Error ellipse: s-maj=21.4km s-min=13.8km az=93.0*
*ISCJB **14** 09:09:29.5±0.2,3143S±002×7182W±004,h29km, mb4.7/41,MS4.4/10,Error ellipse: s-maj=5.1km s-min=2.3km az=147.6*
*MOS **14** 09:09:30.4±1.1,3143S×7171W,h33km,mb5.3/16,Error ellipse: s-maj=15.0km s-min=7.4km az=96.2*

*NEIC **14** 09:09:31.1,3151S×7171W,h29km,mb4.8/35, ML5.0(GUC),After GUC.*
*BJI **14** 09:09:31.1,3150S×7170W,h28km,mB4.9,Ms5.0,Msz4.8*
*GUC **14** 09:09:31.1±0.9,3151S×7171W,h29km±2km,MD4.5, ML5.0*
ISC 14 09:09:31.0±0.7,3145S±002×7177W±004,h27km±5km, h36km±2.7km:pP-P,n185,σ0.90/173,mb4.7/41,MS4.4/10, 23C-21D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**152**	⇑*iP*			**Pb**	**09 09 40.2**	**-0.8**
CHNG				*i* S			**Sb**	**09 09 46.1**	**-1.8**
CHNG				AML			AML	09 09 47.0	
	comp=E,89μm,0.6s								
CMCH	**Combarbala**	**0.71**	**67**	⇑*iP*			**Pb**	**09 09 44.4**	**-0.4**
CMCH				*i* S			**Sb**	**09 09 53.8**	**-0.5**
CMCH				AML			AML	09 09 59.8	
	comp=E,184μm,0.9s								
CMCH	**Combarbala**	**0.71**	**67**	⇑*iP*			**Pb**	**09 09 44.4**	**-0.4**
CMCH				*i* S			**Sb**	**09 09 53.8**	**-0.5**
OVCH	**Ovalle**	**0.97**	**30**	⇓*iP*			**Pb**	**09 09 49.0**	**+0.2**
OVCH				*i* S			**Sb**	**09 10 02.7**	**+1.1**
OVCH				AML			AML	09 10 05.8	
	comp=E,79μm,0.5s								
OVCH	**Ovalle**	**0.97**	**30**	⇓*iP*			**Pn**	**09 09 49.0**	**+0.2**
OVCH				*i* S			**Sb**	**09 10 02.7**	**+1.1**
PTCH	**Petorca**	**1.08**	**139**	⇓*iP*			**Pn**	**09 09 49.1**	**-1.3**
PTCH				*i* S			**Sn**	**09 10 01.9**	**-2.6**
PTCH				AML			AML	09 10 05.6	
	comp=E,154μm,0.1s								
PTCH	**Petorca**	**1.08**	**139**	⇓*iP*			**Pn**	**09 09 49.1**	**-1.3**
PTCH				*i* S			**Sn**	**09 10 01.9**	**-2.6**
PACH	**Papudo**	**1.12**	**165**	⇑*iP*			**Pn**	**09 09 49.9**	**-1.0**
TLL	**Tololo Astrono**	**1.53**	**33**	⇑*iP*			**Pn**	**09 09 58.0**	**+1.5**
TLL				*i* S			**Sn**	**09 10 19.0**	**+3.5**
TLL				AML			AML	09 10 21.7	
	comp=E,39μm,0.5s								
TLL	**Tololo Astrono**	**1.53**	**33**	⇑*iP*			**Pn**	**09 09 58.0**	**+1.5**
TLL				*i* S			**Sn**	**09 10 19.0**	**+3.5**
JACH	**Jahuel**	**1.58**	**141**	*eP*			**Pn**	**09 09 57.3**	**+0.1**
LSCH	**La Serena**	**1.60**	**17**	*iP*			**Pn**	**09 09 58.9**	**+1.3**
LSCH				*i* S			**Sn**	**09 10 19.7**	**+2.4**
ROCH	**El Roble**	**1.65**	**157**	⇓*iP*			**Pn**	**09 09 58.3**	**+0.2**
PEL	**Peldehue**	**1.92**	**152**	⇓*iP*			**Pn**	**09 10 02.4**	**+0.5**
PEL				*i* S			**Sn**	**09 10 25.8**	**+0.6**
PEL				AML			AML	09 10 31.7	
	comp=E,30μm,0.3s								
PEL	**Peldehue**	**1.92**	**152**	⇓*iP*			**Pn**	**09 10 02.4**	**+0.5**
PEL				*i* S			**Sn**	**09 10 25.8**	**+0.6**
LCCH	**Las Cruces**	**2.02**	**175**	⇑*iP*			**Pn**	**09 10 03.1**	**-0.3**
RCDM	**Rinconada Maip**	**2.19**	**158**	⇑*iP*			**Pn**	**09 10 06.1**	**+0.5**
RCDM				*i* S			**Sn**	**09 10 32.0**	**+0.2**
RCDM				AML			AML	09 10 39.6	
	comp=E,11μm,0.2s								
RCDM	**Rinconada Maip**	**2.19**	**158**	⇑*iP*			**Pn**	**09 10 06.1**	**+0.5**
RCDM				*i* S			**Sn**	**09 10 32.0**	**+0.2**
DSCH	**Colegio Aleman**	**2.19**	**153**	⇓*iP*			**Pn**	**09 10 05.7**	**+0.1**
DSCH				*i* S			**Sn**	**09 10 32.4**	**+0.5**
DSCH				AML			AML	09 10 36.1	
	comp=E,4μm,0.5s								
DSCH	**Colegio Aleman**	**2.19**	**153**	⇓*iP*			**Pn**	**09 10 05.7**	**+0.1**
DSCH				*i* S			**Sn**	**09 10 32.4**	**+0.5**
CLCH	**Cerro Calan**	**2.20**	**152**	⇑*iP*			**Pn**	**09 10 06.2**	**+0.5**
CLCH				*i* S			**Sn**	**09 10 33.6**	**+1.5**
CLCH				AML			AML	09 10 41.4	
	comp=E,22μm,0.6s								
CLCH				AML			AML	09 10 42.0	
	comp=E,26μm,0.7s								
SAN	**Santiago**	**2.21**	**155**	⇑*iP*			**Pn**	**09 10 06.4**	**+0.6**
SAN				*i* S			**Sn**	**09 10 32.8**	**+0.6**
SAN				AML			AML	09 10 40.4	
	comp=E,14μm,0.5s								
SAN	**Santiago**	**2.21**	**155**	⇑*iP*			**Pn**	**09 10 06.4**	**+0.6**
SAN				*i* S			**Sn**	**09 10 32.8**	**+0.6**
FCH	**Farellones**	**2.25**	**147**	⇓*iP*			**Pn**	**09 10 07.8**	**+1.3**
FCH				*i* S			**Sn**	**09 10 34.8**	**+1.4**
LACH	**Colegio Las Am**	**2.25**	**153**	AML			AML	09 10 47.4	
	comp=N,8μm,0.5s								
FSR	**Penalolen**	**2.28**	**153**	⇓*iP*			**Pn**	**09 10 07.5**	**+0.7**
FSR				*i* S			**Sn**	**09 10 34.9**	**+0.9**
TACH	**Talagante**	**2.31**	**162**	⇓*iP*			**Pn**	**09 10 07.4**	**+0.2**
ANTU	**Antumapu**	**2.32**	**156**	⇓*iP*			**Pn**	**09 10 07.9**	**+0.5**
ANTU				*i* S			**Sn**	**09 10 35.4**	**+0.3**
ANTU				AML			AML	09 10 52.9	
	comp=N,13μm,0.5s								
ANTU	**Antumapu**	**2.32**	**156**	⇓*iP*			**Pn**	**09 10 07.9**	**+0.5**
ANTU				*i* S			**Sn**	**09 10 35.4**	**+0.3**
PCH	**Pirque**	**2.41**	**154**	⇓*iP*			**Pn**	**09 10 08.9**	**+0.3**
SJCH	**San Jose de Ma**	**2.49**	**152**	*eP*			**Pn**	**09 10 10.1**	**+0.4**
SJCH				*i* S			**Sn**	**09 10 40.1**	**+0.9**
LCO	**Las Campanas**	**2.60**	**21**	⇑*iP*			**Pn**	**09 10 12.6**	**+1.3**
LCO				*i* S			**Sn**	**09 10 46.3**	**+4.3**
LCO				AML			AML	09 10 53.9	
	comp=E,7μm,0.6s								
LCO	**Las Campanas**	**2.60**	**21**	⇑*iP*			**Pn**	**09 10 12.6**	**+1.3**
LCO				*i* S			**Sn**	**09 10 46.3**	**+4.3**
CHCH	**Chadas Angostu**	**2.65**	**159**	⇓*iP*			**Pn**	**09 10 12.3**	**+0.4**
CACH	**El Canelo**	**2.83**	**160**	⇑*iP*			**Pn**	**09 10 15.5**	**+1.0**
VACH	**Vallenar**	**3.00**	**17**	⇓*iP*			**Pn**	**09 10 22.6**	**+5.9**
VACH				*i* S			**Sn**	**09 10 58.6**	**+6.9**
CFAA	**Coronel Fontan**	**3.02**	**94**	Pn			**Pn**	**09 10 19.6**	**+2.5**
	comp=E,18nm,0.3s,baz=269,slow=11,SNR=116								
CFAA				Pg			**Pn**	**09 10 32.0**	**+15**
	comp=E,94nm,0.3s,baz=273,slow=14,SNR=56								
CFAA				Lg				09 11 00.3	
	comp=E,97nm,0.3s,baz=95,slow=14,SNR=9.1								
CFAA				LR			LR	09 11 43.1	
	comp=E,424nm,20.8s,baz=1.4,slow=47								
CICH	**Cipreses**	**3.08**	**159**	⇓*iP*			**Pn**	**09 10 18.6**	**+0.8**
SFDO	**San Fernando**	**3.22**	**169**	⇑*iP*			**Pn**	**09 10 19.9**	**+0.2**
NICH	**Los Niches**	**3.57**	**173**	⇑*iP*			**Pn**	**09 10 24.9**	**+0.3**
CCHI	**Chillan**	**5.14**	**183**	⇓*iP*			**Pn**	**09 10 46.4**	**+0.2**
CCHI				*eP*				09 10 47.1	
CCHI	**Chillan**	**5.14**	**183**	*eP*			**Pn**	**09 10 47.1**	**+0.9**
LVC	**Limon Verde**	**9.16**	**17**	Pn			**Pn**	**09 11 38.8**	**-2.6**
	comp=E,0.7nm,0.3s,baz=186,slow=12,SNR=7.0								
LVC				Sn			**Sn**	**09 13 24.3**	**+0.6**
	comp=E,5.4nm,0.3s,baz=158,slow=19,SNR=2.1								
LVC				Lg				09 13 49.2	
	comp=E,8.6nm,0.3s,baz=258,slow=20,SNR=3.9								
LVC	**Limon Verde**	**9.16**	**17**	*ePn*			**Pn**	**09 11 42.5**	**+1.1**
LVC				Sn			**Sn**	**09 13 24.3**	**+0.6**
LVC				Lg				09 13 49.2	
PLCA	**Paso Flores**	**9.31**	**174**	Pn			**Pn**	**09 11 43.2**	**-0.2**
	comp=E,1.0nm,0.3s,baz=344,slow=13,SNR=13								
PLCA				LR			LR	09 15 51.2	
	comp=E,635nm,20.1s,baz=350,slow=41								
PLCA	**Paso Flores**	**9.31**	**174**	*ePn*			**Pn**	**09 11 43.5**	**+0.1**
TRQA	**Tornquist**	**10.40**	**132**	*ePn*			**Pn**	**09 11 57.8**	**-0.6**
TRQA				*eSn*			**Sn**	**09 13 52.2**	**-1.8**
CPUP	**Villa Florida**	**13.64**	**72**	Pn			**Pn**	**09 12 39.1**	**-3.5**
	comp=E,2.6nm,0.3s,baz=233,slow=12,SNR=12								
CPUP				Sn			**Sn**	**09 15 12.8**	**-0.3**
	comp=E,2.8nm,0.3s,baz=215,slow=16,SNR=2.4								
CPUP	**Villa Florida**	**13.64**	**72**	*ePn*			**Pn**	**09 12 41.1**	**-1.5**
LPAZ	**La Paz**	**15.46**	**13**	Pn			**Pn**	**09 13 08.5**	**+1.4**
	comp=E,0.4nm,0.3s,baz=188,slow=8.6,SNR=29								
LPAZ	**La Paz**	**15.46**	**13**	*ePn*			**Pn**	**09 13 08.7**	**+1.6**
LPAZ				epPn				09 13 17.0	
SIV	**San Ignacio**	**18.22**	**35**	P			**Pn**	**09 13 40.4**	**-1.6**
	comp=E,1.3nm,0.3s,baz=222,slow=12,SNR=37								
NNA	**Nana**	**19.93**	**345**	P			**Pn**	**09 14 03.0**	**+0.5**
	comp=E,0.5nm,0.3s,baz=204,slow=7.8,SNR=6.4								
NNA				LR			LR	09 20 27.3	
	comp=E,182nm,19.8s,baz=158,slow=33								
NNA	**Nana**	**19.93**	**345**	*eP*			**Pn**	**09 14 01.4**	**-1.0**
	comp=E,12nm,0.8s								
EFI	**East Falkland**	**22.59**	**157**	*eP*			**P**	**09 14 30.4**	**+1.1**
EFI				*e*				09 14 40.1	
EFI				pmax			pmax		
	comp=Z,34nm,0.9s,mb4.8								
EFI	**East Falkland**	**22.59**	**157**	*eP*			**P**	**09 14 30.4**	**+1.1**
	comp=Z,34nm,0.9s,mb4.8								
EFI				*e*				09 14 40.0	
USHA	**Ushuaia**	**23.49**	**175**	P			**P**	**09 14 38.2**	**-0.5**
	comp=Z,15nm,0.9s,mb4.4,baz=352,slow=3.8,SNR=7.1								
USHA				LR			LR	09 24 40.7	
	comp=Z,582nm,19.8s,MS4.0,baz=335,slow=39								
ATAH	**Atahualpa**	**25.10**	**344**	P			**P**	**09 14 52.9**	**-0.6**
	comp=Z,4.1nm,0.3s,mb4.4,baz=77,slow=18,SNR=3.1								
ATAH				LR			LR	09 23 33.5	
	comp=Z,198nm,19.1s,MS3.6,baz=295,slow=34								
BDFB	**Brasilia**	**26.78**	**59**	P			**P**	**09 15 07.4**	**-1.2**
	comp=Z,37nm,0.9s,mb4.9,baz=238,slow=7.0,SNR=36								
BDFB				LR			LR	09 26 54.0	
	comp=Z,2μm,18.8s,MS4.6,baz=239,slow=39								
BDFB	**Brasilia**	**26.78**	**59**	*eP*			**P**	**09 15 07.3**	**-1.3**
BDFB				*e**PP			pP	09 15 18.5	+2.0
BDFB				pmax			pmax		
	comp=Z,65nm,1.0s								
BDFB	**Brasilia**	**26.78**	**59**	*eP*			**P**	**09 15 07.3**	**-1.3**
	comp=Z,65nm,1.0s,mb5.1								
BDFB				*e*pP			pP	09 15 18.5	+2.0
CAM4	**Nova Friburgo**	**27.51**	**78**	⇑*iP*			**P**	**09 15 14.1**	**-1.1**
CAM4				*i*				09 15 16.7	
CAM4				*i*				09 15 24.2	
CAM4				*i*				09 15 43.2	
CAM4				*i*				09 15 45.7	
CAM4				*i*				09 15 48.9	
CAM4				*i*				09 16 01.3	
OTAV	**Otavalo**	**32.15**	**347**	*eP*			**P**	**09 15 57.5**	**+1.3**
	comp=Z,4.7nm,0.9s,mb4.3								
OTAV				*e*PcP			PcP	09 18 45.4	+0.5
PMSA	**Palmer Station**	**33.69**	**174**	*eP*			**P**	**09 16 06.7**	**-3.1**
	comp=Z,3.2nm,0.3s,mb4.7								
PMSA				*e*PcP			PcP	09 18 47.6	-1.5
SDV	**Santo Domingo**	**40.12**	**2**	*eP*			**P**	**09 17 04.8**	**+0.4**
	comp=Z,11nm,0.9s,mb4.6								
SDV				*e*pP			pP	09 17 16.5	+4.1
SDV				*e*sP			sP	09 17 20.2	+4.6
CPD	**Cerro la Pandu**	**49.52**	**7**	*eP*			**P**	**09 18 18.7**	**-0.6**
SJG	**San Juan**	**49.57**	**7**	*eP*			**P**	**09 18 18.9**	**-0.7**
SJG				pmax			pmax		
	comp=Z,18nm,0.7s								
SJG	**San Juan**	**49.57**	**7**	*eP*			**P**	**09 18 18.9**	**-0.8**
	comp=Z,18nm,0.7s,mb5.2								
CBYP	**Canovanas**	**49.76**	**7**	*eP*			**P**	**09 18 20.2**	**-0.8**
VNA1	**Neumayer-Stat**	**51.93**	**158**	*eP*			**P**	**09 18 37.3**	**-0.1**
VNA1				*e*				09 18 47.2	
VNA1				*e*				09 18 51.3	
VNA1				*e*				09 19 49.3	
SNAA	**Sanae**	**53.86**	**159**	P			**P**	**09 18 50.8**	**-0.8**
	comp=Z,5.9nm,0.8s,mb4.6,baz=283,slow=5.9,SNR=52								
SNAA	**Sanae**	**53.86**	**159**	*eP*			**P**	**09 18 50.7**	**-0.9**
SNAA				*e*				09 19 00.6	
SNAA				*e*				09 19 05.2	
SNAA				*e*				09 19 55.1	
SNAA	**Sanae**	**53.86**	**159**	*eP*			**P**	**09 18 50.6**	**-1.0**
SNAA				pmax			pmax		
	comp=Z,21nm,0.9s								
SNAA	**Sanae**	**53.86**	**159**	*eP*			**P**	**09 18 50.6**	**-1.0**
	comp=Z,20nm

comp=Z,8.7nm,0.9s,mb4.7
ISA Isabella 79.87 323 *e*P **P 09 21 37.8 +0.6**
ISA *e* pP 09 21 46.2 +0.5
RSSD Black Hills 80.78 337 *e*P **P 09 21 41.3 -0.8**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
RSSD Black Hills 80.78 337 *e*P **P 09 21 41.3 -0.7**
comp=Z,3.3nm,0.8s,mb4.3
BOSA Boshof 81.06 118 P **P 09 21 43.3 -0.2**
comp=Z,12nm,0.8s,mb4.9,baz=236,slow=5.4,SNR=22
BOSA LR LR 09 51 28.6
comp=Z,98nm,20.0s,MS4.2,baz=194,slow=31
BOSA Boshof 81.06 118 *e*P **P 09 21 42.9 -0.6**
BOSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
BOSA Boshof 81.06 118 *e*P **P 09 21 42.9 -0.7**
comp=Z,11nm,0.8s,mb4.8
HWUT Hardware Ranch 81.43 331 *e*P **P 09 21 45.3 -0.3**
comp=Z,4.8nm,0.9s,mb4.4
PDAR Pinedale Array 81.60 333 P **P 09 21 46.6 +0.2**
comp=Z,0.5nm,0.7s,mb3.6,baz=117,slow=5.0,SNR=7.2
NVAR Mina Array Bea 81.93 325 P **P 09 21 49.4 +1.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=166,slow=5.1,SNR=12
CASY Casey 82.57 181 *e*P **P 09 21 51.1 -0.4**
comp=Z,8.4nm,0.3s,mb5.2
CASY *e* pP 09 21 58.0 -2.1
CMB Columbia Colle 82.67 323 *e*P **P 09 21 52.3 +0.3**
CMB pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
CMB Columbia Colle 82.67 323 *e*P **P 09 21 52.3 +0.3**
comp=Z,2.7nm,1.2s,mb4.2
TOA0 Torodi Ar. Sit 83.13 70 *e*P **P 09 21 54.3 -0.2**
TORD Torodi Ar. Bea 83.13 70 P **P 09 21 54.0 -0.4**
comp=Z,35nm,0.8s,mb5.5,baz=256,slow=4.6,SNR=184
TORD LR LR 09 56 36.7
comp=Z,174nm,19.0s,MS4.5,baz=230,slow=34
LBTB Lobatse 83.17 115 *e*P **P 09 21 53.7 -0.9**
LBTB pmax pmax
comp=Z,12nm,0.8s,mb5.0
LBTB Lobatse 83.17 115 *e*P **P 09 21 53.7 -0.9**
comp=Z,12nm,0.8s,mb5.0
PAHR Pah Rah Range 83.45 325 *e*P **P 09 21 56.8 +0.8**
comp=Z,7.1nm,1.0s,mb4.7
ULM Lac du Bonnet 84.10 345 P **P 09 21 58.0 -1.4**
comp=Z,8.0nm,0.8s,mb4.9,baz=132,slow=4.5,SNR=6.7
MCMT McKenzie Canyo 84.63 332 *e*P **P 09 22 01.9 -0.2**
MCMT *e*pP pP 09 22 11.8 +1.1
WALA Waterton Lakes 88.52 334 *e*P **P 09 22 20.8 -0.3**
comp=Z,3.5nm,0.8s,mb4.7
LSZ Lusaka 90.38 108 *e*P **P 09 22 30.0 +0.2**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
LSZ Lusaka 90.38 108 *e*P **P 09 22 30.0 +0.1**
comp=Z,2.2nm,0.6s,mb4.7
ESDC Sonseca Array 94.65 46 P **P 09 22 48.5 -1.1**
comp=Z,0.2nm,0.3s,mb4.0,baz=259,slow=4.7,SNR=6.3
CLL Collm 110.81 42 *i* PKP PKiKP 09 28 02.8 +1.4
comp=Z,3.0nm,0.5s
SLKM Skilak Lake 111.50 329 *e*PKIKP PKiKP 09 28 00.1 -2.7
ASAR Alice Springs 119.93 207 PKP PKPdf 09 28 17.8 -1.1
comp=Z,0.7nm,0.8s,baz=146,slow=1.8,SNR=6.4
AKASG Malin Array Be 120.29 46 PKP PKPdf 09 28 17.2 -2.4
comp=Z,3.3nm,0.7s,baz=266,slow=2.9,SNR=14
FINES FINESS Array B 120.76 34 PKP PKPdf 09 28 18.3 -2.2
comp=Z,2.5nm,0.9s,baz=349,slow=3.9,SNR=4.7
ARCES ARCESS Array B 121.61 24 PKP PKPdf 09 28 20.6 -1.5
comp=Z,3.3nm,0.7s,baz=244,slow=3.2,SNR=8.2
WRA Warramunga Arr 123.09 210 PKP PKPdf 09 28 24.4 -0.6
comp=Z,1.8nm,0.7s,baz=166,slow=1.6,SNR=17
MALT Malatya 123.55 62 *e*PKIKP PKPdf 09 28 25.6 -0.3
OBN Obninsk 125.41 42 ⇑ *i*PKIKP PKPdf 09 28 27.7 -1.7
OBN *e* 09 30 25.8
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.5
BILL Bilibino 130.64 335 ⇑ *i*PKIKP PKPdf 09 28 38.1 -1.3
BILL *e*PS PS 09 40 57.9 -8.9
BILL pmax pmax
comp=Z,20nm,1.9s
BILL MLR MLR
comp=Z,200nm,26.0s,MS4.7
ARU Arti 137.65 39 *e*PKIKP PKPdf 09 28 51.6 -0.9
ARU Arti 137.65 39 *e*PKPdf PKPdf 09 28 51.6 -0.9
SEY Seymchan 137.92 332 ⇑ *i*PKIKP PKPdf 09 28 52.6 -0.4
PET Petropavlovsk 137.96 316 ⇑ *i*PKIKP PKPdf 09 28 51.1 -2.0
ZRNK Zerenda 144.49 41 *e*PKIKP PKPdf 09 29 03.1 -1.7
CHKZ Chkalovo 145.10 39 *e*PKIKP PKPdf 09 29 05.1 -0.8
BRVK Borovoye 145.16 41 *e*PKIKP PKPdf 09 29 05.2 -0.8
YAK Yakutsk 146.40 342 ⇑ *i*PKP2 PKPab 09 29 08.6 -1.7
YAK Yakutsk 146.40 342 *e*PKPbc PKPbc 09 29 08.7 -0.8
POO Poona 146.43 104 *e*P PKPdf 09 29 06.5 -1.6
NVS Novosibirsk 150.65 30 *i*PKIKP PKPbc 09 29 19.0 -1.5
NVS *i* 09 29 28.6
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,14nm,0.8s
NVS pmax pmax
comp=Z,63nm,0.8s
AAK Ala-Archa 151.03 58 *e*PKIKP PKPbc 09 29 20.6 -0.8
ZAL Zalesovo 151.93 30 PKP PKPdf 09 29 16.0 -1.0
comp=Z,2.0nm,0.7s,baz=268,slow=2.7,SNR=7.0
ZAL PKPbc PKPbc 09 29 22.5 -0.9
comp=Z,53nm,0.7s,baz=166,slow=2.2,SNR=126
CLNS Chul'man 152.10 340 *e*PKIKP PKPbc 09 29 22.1 -1.7
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=Z,26nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.7s
BOD Bodaibo 153.34 353 *e*PKIKP PKPdf 09 29 19.2 +0.2
BOD *e* 09 29 36.4
BOD pmax pmax
comp=Z,15nm,0.9s
BOD pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 154.87 45 PKP PKPdf 09 29 18.4 -2.7
comp=Z,1.1nm,0.7s,baz=318,slow=3.3,SNR=5.0
MKAR PKPbc PKPbc 09 29 28.0 -1.8
comp=Z,6.5nm,0.7s,baz=327,slow=2.0,SNR=23
MKAR PKPab PKPab 09 29 44.7 -0.4
comp=Z,5.1nm,0.8s,baz=316,slow=3.3,SNR=7.7
MDJ Mudanjiang 158.73 314 PKP PKPdf 09 29 25.8 -0.3
WMQ Urumqi 159.65 47 *e*PKP PKPdf 09 29 26.5 -0.7
WMQ LR LR
comp=Z,154nm,24.6s,MS4.8
CN2 Changchun 161.66 317 *e*PKP PKPdf 09 29 29.3 -0.1
SONM Songino Array 163.58 4 PKP PKPdf 09 29 30.3 -1.0
comp=Z,0.8nm,0.9s,baz=328,slow=1.9,SNR=4.5
SONM PKPab PKPab 09 30 22.7 -0.3
comp=Z,1.7nm,1.0s,baz=347,slow=3.6,SNR=5.3
BJI Beijing 169.28 325 PKP PKPdf 09 29 35.4 -0.3
HHC Hu-ho-hao-te 170.24 345 *e*PKP PKPdf 09 29 35.5 -0.8
HHC PP PP 09 34 45.0 +2.6
HHC PP PP
comp=Z,110nm,4.7s
NJ2 Nanjing 170.93 277 *e*PKP PKPdf 09 29 35.3 -1.4
KMI Kunming 172.05 141 PKP PKPdf 09 29 36.9 -0.3
LZH Lanzhou 174.11 37 *e*PKP PKPdf 09 29 41.0 +3.0
LZH APKP 09 29 49.5
LZH XPKP 09 29 54.5
LZH LR LR
comp=N,125nm,19.6s
LZH LR LR
comp=Z,208nm,20.3s
GYA Guiyang 174.84 164 PKP PKPdf 09 29 36.3 -2.0
GYA APKP 09 29 47.0
GYA XPKP 09 29 50.6
GYA PP PP
comp=Z,70nm,6.8s
CD2 Chengdu 176.13 97 *e*PKP PKPdf 09 29 37.6 -1.0

NIED ***14*** *10:24:00,2480N×12360E,h89km,Mw4.1 Best double couple: M0 1.82000×10^15 NP1:φ=257.00000°,δ83.00000°, λ79.00000°. NP2:φ=133.00000°,δ13.00000°,λ145.00000°.*
ISCJB ***14*** *10:24:51.7±0.3,2490N±004×12359E±003,h103km±3km, mb4.0/8,Error ellipse: s-maj=7.5km s-min=4.1km az=139.5*
IDC ***14*** *10:24:52.3±4.4,2497N×12357E,h94km±43km,mb3.8/7, mb1 3.9/9,mb1mx3.7/21,mbtmp4.1/9,Error ellipse: s-maj=33.4km s-min=15.3km az=69.0*

NEIC ***14*** *10:24:52.6±0.5,2492N×12362E,mb4.5/2,MW4.1(NIED), Error ellipse: s-maj=10.0km s-min=8.3km az=168.0*
JMA ***14*** *10:24:53.7±0.2,2482N×12358E,h91km±2km,M3.9*
ISC 14 10:24:52.8±0.3,2491N±004×12357E±003,h95km±3km, n32,σ0=95/49,mb4.0/8,2C,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.59**	**166**	P	**Pn**	**10 25 08.4**	**-0.4**
IRIF				S	**Sn**	**10 25 20.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.68**	**229**	P	**Pn**	**10 25 09.9**	**+0.3**
YOJ				S	**Sn**	**10 25 21.6**	**-0.5**
JIJ	**Ishigaki jima**	**0.75**	**136**	P	**Pn**	**10 25 10.0**	**-0.3**
JIJ				S	**Sn**	**10 25 22.1**	**-1.3**
JKRS	**Kuro-shima**	**0.78**	**149**	P	**Pn**	**10 25 10.5**	**-0.1**
JKRS				S	**Sn**	**10 25 23.1**	**-0.7**
HATJ	**Hateruma jima**	**0.88**	**166**	P	**Pn**	**10 25 11.2**	**-0.3**
HATJ				S	**Sn**	**10 25 24.9**	**-0.7**
JTJ	**Tarama**	**1.06**	**104**	P	**Pn**	**10 25 14.0**	**+0.4**
JTJ				S	**Sn**	**10 25 29.1**	**-0.1**
JMJ	**Miyako jima 2**	**1.57**	**93**	P	**Pn**	**10 25 21.1**	**+1.5**
JMJ				S	**Sn**	**10 25 40.5**	**+0.5**
JOGS	**Gusukube**	**1.68**	**95**	P	**Pn**	**10 25 22.4**	**+1.4**
JOGS				*e*S	**Sn**	**10 25 44.2**	**+1.8**
TATO	**Taipei**	**1.89**	**272**	*e*Pn	**Pn**	**10 25 24.8**	**+1.0**
TATO				*e*Sn	**Sn**	**10 25 48.5**	**+1.1**
NACB	**Ninganchiao**	**1.94**	**248**	*e*Pn	**Pn**	**10 25 24.5**	**+0.1**
YHNB	**Yeheng**	**2.01**	**264**	*e*Pn	**Pn**	**10 25 26.3**	**+1.0**
YHNB				*e*Sn	**Sn**	**10 25 49.3**	**-0.8**
JKE	**Kume jima 2**	**3.23**	**63**	P	**Pn**	**10 25 42.7**	**+1.2**
JKE				*e*S	**Sn**	**10 26 21.2**	**+2.2**
JAGN	**Aguni-jima**	**3.71**	**62**	P	**Pn**	**10 25 49.1**	**+1.2**
JAGN				*e*S	**Sn**	**10 26 30.8**	**+0.2**
JIH	**Iheya**	**4.49**	**61**	P	**Pn**	**10 25 59.0**	**+0.5**
JIH				*e*S	**Sn**	**10 26 48.5**	**-1.0**
JOW	**Kunigami**	**4.65**	**65**	P	**Pn**	**10 26 00.6**	**-0.1**
JOW	20nm,0.3s,baz=242,slow=8.6,SNR=36			S	**Sn**	**10 26 53.0**	**-0.5**
	10nm,0.3s,baz=104,slow=26,SNR=5.8						
JOW	**Kunigami**	**4.65**	**65**	P	**Pn**	**10 26 00.5**	**-0.2**
JOW				*e*S	**Sn**	**10 26 52.2**	**-1.2**
JTK	**Tokunoshima**	**5.61**	**58**	P	**Pn**	**10 26 13.5**	**-0.2**
JTK				*e*S	**Sn**	**10 27 14.9**	**-1.9**
JAM	**Amami Oshima**	**6.43**	**56**	P	**Pn**	**10 26 24.0**	**-0.8**
JAM				*e*S	**Sn**	**10 27 33.4**	**-3.3**
JMZ	**Minamidaito 2**	**6.98**	**81**	*e*S	**Sn**	**10 27 42.1**	**-8.1**
MJAR	**Matsushiro Arr**	**17.09**	**44**	P	**Pn**	**10 28 45.0**	**-0.6**
	0.1nm,0.3s,baz=234,slow=8.8,SNR=3.4						
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**10 30 22.4**	**+0.2**
	0.9nm,0.6s,mb3.5,baz=148,slow=9.7,SNR=8.9						
MKAR	**Makanchi Array**	**39.36**	**314**	P	**P**	**10 32 11.6**	**-1.3**
	0.9nm,0.5s,mb3.8,baz=101,slow=7.6,SNR=6.8						
FITZ	**Fitzroy Crossi**	**42.80**	**177**	⇑ *i*P	**P**	**10 32 40.1**	**-0.9**
	6.2nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**10 33 04.4**	**-0.6**
	7.5nm,0.8s,mb4.5,baz=348,slow=9.0,SNR=68						
WRA				pP	pP	10 33 26.5	-1.1
	1.5nm,0.7s,baz=346,slow=8.5,SNR=3.2						
WB2	**Warramunga Arr**	**45.80**	**166**	⇑ *i*P	**P**	**10 33 05.0**	**+0.1**
AS31	**Alice Springs**	**49.32**	**167**	*e*P	**P**	**10 33 33.1**	**+1.0**
ASAR	**Alice Springs**	**49.32**	**167**	P	**P**	**10 33 33.0**	**+0.9**
	3.2nm,0.5s,mb4.5,baz=351,slow=8.0,SNR=89						
ASAR				pP	pP	10 33 56.0	+1.0
	0.5nm,0.6s,baz=198,slow=12,SNR=2.1						
ASPA	**Alice Springs**	**49.32**	**167**	*e*P	**P**	**10 33 33.1**	**+1.0**
STKA	**Stephens Creek**	**59.04**	**162**	*e*P	**P**	**10 34 42.8**	**+0.1**
	2.4nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**59.04**	**162**	P	**P**	**10 34 42.9**	**+0.2**
	3.3nm,0.7s,mb4.5,baz=28,slow=4.5,SNR=6.9						
NOA	**NORSAR Array B**	**78.59**	**333**	P	**P**	**10 36 42.2**	**-1.7**
	0.3nm,0.5s,mb3.4,baz=55,slow=7.9,SNR=3.2						
YKA	**Yellowknife Ar**	**81.45**	**24**	P	**P**	**10 36 58.9**	**-0.4**
	1.1nm,0.6s,mb3.8,baz=299,slow=5.2,SNR=5.2						

NEIC ***14*** *10:54:09.1,3148S×7168W,h24km,ML3.1(GUC),After GUC.*
GUC 14 10:54:09.1±0.8,3148S×7168W,h24km±4km,MD3.5, ML3.1,7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**160**	⇓ *i*P	Pb	10 54 18.0	-0.2
CHNG				*i* S	Sb	10 54 24.4	+0.1
CHNG				AML	AML	10 54 24.9	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**0.65**	**63**	⇑ *i*P	Pb	10 54 21.5	-0.3
CMCH				*i* S	Sb	10 54 30.8	+0.3
CMCH				AML	AML	10 54 36.9	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**0.65**	**63**	⇑ *i*P	Pb	10 54 21.5	-0.3
CMCH				*i* S	Sb	10 54 30.8	+0.3
OVCH	**Ovalle**	**0.96**	**25**	*e*P	Pn	10 54 26.1	-0.9
OVCH				*i* S	Sb	10 54 39.2	-0.1
OVCH				AML	AML	10 54 42.1	
	comp=E,875nm,0.5s						
OVCH	**Ovalle**	**0.96**	**25**	*e*P	Pn	10 54 26.1	-0.9
OVCH				*i* S	Sb	10 54 39.2	-0.1
PTCH	**Petorca**	**1.01**	**141**	⇓ *i*P	Pn	10 54 26.9	-0.8
PTCH				*i* S	Sb	10 54 39.9	-0.9
PTCH				AML	AML	10 54 42.6	
	comp=E,2μm,0.3s						
PTCH	**Petorca**	**1.01**	**141**	⇓ *i*P	Pn	10 54 26.9	-0.8
PTCH				*i* S	Sb	10 54 39.9	-0.9
PACH	**Papudo**	**1.08**	**169**	⇑ *i*P	Pn	10 54 28.2	-0.4
PACH				*i* S	Sb	10 54 42.3	-0.4
TLL	**Tololo Astrono**	**1.50**	**30**	*i* P	Pn	10 54 35.3	+0.8
TLL				*i* S	Sn	10 54 55.5	+2.1
TLL				AML	AML	10 54 59.2	
	comp=E,423nm,0.5s						
TLL	**Tololo Astrono**	**1.50**	**30**	*i* P	Pn	10 54 35.3	+0.8
TLL				*i* S	Sn	10 54 55.5	+2.1
JACH	**Jahuel**	**1.51**	**143**	⇑ *i*P	Pn	10 54 35.9	+1.2
JACH				*i* S	Sn	10 54 55.4	+1.8
ROCH	**El Roble**	**1.59**	**159**	⇑ *i*P	Pn	10 54 36.3	+0.5
ROCH				*i* S	Sn	10 54 57.6	+2.0
PEL	**Peldehue**	**1.86**	**153**	⇑ *i*P	Pn	10 54 40.6	+1.1
PEL				*i* S	Sn	10 55 05.4	+3.2
PEL				AML	AML	10 55 07.4	
	comp=E,424nm,0.2s						
PEL	**Peldehue**	**1.86**	**153**	⇑ *i*P	Pn	10 54 40.6	+1.1
PEL				*i* S	Sn	10 55 05.4	+3.2
RCDM	**Rinconada Maip**	**2.14**	**160**	*e*P	Pn	10 54 44.8	+1.5
RCDM				*i* S	Sn	10 55 11.1	+2.0
RCDM				AML	AML	10 55 17.3	
	comp=E,233nm,0.1s						
RCDM	**Rinconada Maip**	**2.14**	**160**	*e*P	Pn	10 54 44.8	+1.5
RCDM				*i* S	Sn	10 55 11.1	+2.0
CLCH	**Cerro Calan**	**2.14**	**154**	⇓ *i*P	Pn	10 54 44.3	+1.0
CLCH				*i* S	Sn	10 55 12.2	+3.1
CLCH				AML	AML	10 55 20.2	
	comp=E,190nm,0.6s						

CSEM ***14*** *10:55:26.3±0.8,3856N×2856W,h24km±7km,ML1.5,Error ellipse: s-maj=4.7km s-min=3.8km az=26.0,After PDA*
PDA ***14*** *10:55:26.3±0.8,3856N×2856W,h24km±7km,MD2.6, ML1.5,Error ellipse: s-maj=4.7km s-min=3.8km az=26.0*
SVSA 14 10:55:26.3±0.8,3856N×2856W,h24km±7km,MD2.6, ML1.5,Error ellipse: s-maj=4.7km s-min=3.8km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.06**	**238**	*e*S	Sb	10 55 32.4	-0.9
CALA	**Caldeira**	**0.11**	**280**	*e*P	Pb	10 55 30.3	-0.5
CALA				*e*S	Sb	10 55 33.0	-0.9
PCND	**Candelaria**	**0.12**	**140**	*e*S	Sb	10 55 33.9	-0.1
PCND							
	45nm,0.1s						
PICO	**Pico**	**0.12**	**119**	*e*P	Pb	10 55 30.3	-0.6
PICO				*e*S	Sb	10 55 33.0	-1.1
PCED	**Cedros**	**0.13**	**301**	*e*P	Pb	10 55 30.3	-0.7
PCED				*e*S	Sb	10 55 33.3	-0.9
PCED							
	83nm,0.3s						
PCED	**Cedros**	**0.13**	**301**	*e*P	Pb	10 55 30.3	-0.7
PCED				*e*S	Sb	10 55 33.3	-0.9
PTEI	**Pico de Teixo**	**0.17**	**112**	*e*S	Sb	10 55 34.6	-0.4
PTEI							
	13nm,0.1s						
ROSA	**Rosais**	**0.30**	**58**	*e*P	Pb	10 55 31.9	-1.2
ROSA				*e*S	Sb	10 55 36.3	-1.5
PMAN	**Manadas**	**0.38**	**79**	*e*S	Sb	10 55 38.0	-1.9
PMAN							
	25nm,0.1s						

ISCJB ***14*** *11:17:40.9±0.9,154S±0.1×718W±0.1,h140km±10km, mb4.0/2,Error ellipse: s-maj=19.4km s-min=15.6km az=105.1*
NEIC ***14*** *11:17:41.6±0.8,1536S×7173W,h132km±10km,mb3.9/1, Error ellipse: s-maj=14.9km s-min=12.4km az=47.0*
IDC ***14*** *11:17:50.3±4.2,1592S×7124W,h190km±33km,mb3.3/1, mb1 3.1/4,mb1mx3.0/20,mbtmp3.6/4,Error ellipse: s-maj=56.1km s-min=25.1km az=112.0*
ISC 14 11:17:42.0±0.9,154S±01×717W±01,h133km±10km,n11, σ0=72/10,mb4.0/2,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.12**	**168**	*e*P	**Pn**	**11 18 07.0**	**+0.7**
ARE				*i* S	**Sn**	**11 18 25.0**	**+0.2**
LPAZ	**La Paz**	**3.60**	**105**	P	**Pn**	**11 18 40.7**	**+4.3**
	2.3nm,0.3s,baz=284,slow=9.8,SNR=30						
NNA	**Nana**	**5.98**	**303**	*e*Pn	**Pn**	**11 19 08.1**	**-0.2**
LVC	**Limon Verde**	**7.70**	**160**	P	**Pn**	**11 19 30.1**	**-1.2**
	1.0nm,0.3s,baz=348,slow=8.4,SNR=18						
LVC				S	**Sn**	**11 20 51.3**	**-5.6**
	4.0nm,0.3s,baz=226,slow=20,SNR=17						
SIV	**San Ignacio**	**10.30**	**95**	P	**Pn**	**11 20 06.3**	**+0.2**
	0.3nm,0.3s,baz=283,slow=13,SNR=7.0						
SAML	**Samuel**	**10.51**	**54**	*e*Pn	**Pn**	**11 20 08.2**	**-0.8**
	1.5nm,0.6s						
SNAA	**Sanae**	**68.93**	**162**	*e*P	**P**	**11 28 32.3**	**-0.2**
	16nm,1.0s,mb4.7						
SNAA				*e*PcP	PcP	11 29 00.5	+4.6
TORD	**Torodi Ar. Bea**	**77.97**	**73**	P	**P**	**11 29 26.5**	**+1.1**
	0.3nm,0.4s,mb3.3,baz=264,slow=5.2,SNR=7.3						
WRA	**Warramunga Arr**	**136.55**	**217**	PKP	PKPdf	11 36 50.3	+2.2
	0.2nm,0.4s,baz=136,slow=1.8,SNR=11						
ZAL	**Zalesovo**	**137.35**	**20**	PKP	PKPdf	11 36 51.0	+1.4
	0.5nm,0.4s,baz=176,slow=6.3,SNR=3.2						
SONM	**Songino Array**	**147.58**	**2**	PKPbc	PKPbc	11 37 12.9	+2.4
	1.2nm,0.5s,baz=339,slow=1.9,SNR=12						

ISCJB ***14*** *11:18:06.3±0.7,7758N±004×180E±03,h5km±11km,Error ellipse: s-maj=11.3km s-min=4.8km az=123.3*
NEIC ***14*** *11:18:06.8±2.2,7778N×1932E,h10km,Error ellipse: s-maj=43.7km s-min=7.1km az=59.0*
NAO ***14*** *11:18:07.2±1.1,7764N×1840E,ML2.3*
CSEM ***14*** *11:18:09.5±0.7,7769N×1810E,h12km,ML2.7,Error ellipse: s-maj=41.8km s-min=5.0km az=67.0*
BER ***14*** *11:18:10.0±2.5,7771N×1827E,h10km,MD2.6,ML2.7, ML2.3(NAO)*
ISC 14 11:18:07.8±0.6,7765N±004×181E±03,h9km±10km,n12, σ0=80/24,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.65**	**326**	Pg	**Pg**	**11 18 21.0**	**+0.7**
	baz=144,slow=22						
SPA0				Lg		11 18 29.3	
	baz=138,slow=28						
SPB4	**Spitsbergen Ar**	**0.65**	**326**	*e*Pg	**Pg**	**11 18 21.0**	**+0.6**
SPB4	**Spitsbergen Ar**	**0.65**	**326**	*e*Pg	**Pg**	**11 18 21.0**	**+0.6**
KBS	**Kingsbay**	**1.80**	**318**	Pn	**Pn**	**11 18 39.2**	**+0.3**
KBS				Pg	**Pg**	**11 18 41.9**	**-0.5**
KBS				Lg		11 19 05.3	
KBS	**Kingsbay**	**1.80**	**318**	*e*P	**Pn**	**11 18 39.0**	**+0.1**
KBS				*e*Pg	**Pg**	**11 18 41.7**	**-0.7**
KBS				*e*Sg	**Sg**	**11 19 04.6**	**-1.1**
KBS				AML	AML	11 19 07.8	
	comp=Z,84nm,0.5s						
KBS	**Kingsbay**	**1.80**	**318**	*e*P	**Pn**	**11 18 39.0**	**+0.1**
KBS				*e*Pg	**Pg**	**11 18 41.7**	**-0.7**
KBS				*e*Sg	**Sg**	**11 19 04.6**	**-1.1**
HOPEN	**Hopen**	**1.92**	**123**	*e*P	**Pn**	**11 18 41.0**	**+0.3**
HOPEN				*e*Pg	**Pg**	**11 18 44.4**	**-0.3**
HOPEN				*e*Sg	**Sg**	**11 19 09.1**	**-0.5**
HOPEN				AML	AML	11 19 10.8	
	comp=N,521nm,0.2s						
BJO	**Bjornoya**	**3.17**	**175**	*e*Pg	**Pg**	**11 19 10.0**	**+1.5**
BJO				*e*Sg	**Sg**	**11 19 48.9**	**-0.8**
BJO				AML	AML	11 19 57.7	
	comp=Z,22nm,0.3s						
BJO	**Bjornoya**	**3.17**	**175**	*e*Pg	**Pg**	**11 19 10.0**	**+1.5**
	SNR=92						
BJO				*e*Sg	**Sg**	**11 19 48.8**	**-0.8**
	SNR=92						
BJO1	**Bjornoya**	**3.17**	**176**	*e*Pg	**Pg**	**11 19 10.0**	**+1.5**
BJO1				*e*Sg	**Sg**	**11 19 48.9**	**-0.8**
BJO1	**Bjornoya**	**3.17**	**176**	*e*Pg	**Pg**	**11 19 10.0**	**+1.5**
BJO1				*e*Sg	**Sg**	**11 19 48.8**	**-0.8**
ARA0	**ARCESS Array S**	**8.41**	**162**	Pn	**Pn**	**11 20 09.3**	**-0.4**
	baz=352,slow=14						
ARA0				Sn	**Sn**	**11 21 37.1**	**-7.6**
	baz=357,slow=18						

NIED ***14*** *11:35:00,3690N×14170E,h32km,Mw3.7 Best double couple: M0 3.57000×10^14 NP1:φ=178.00000°,δ73.00000°, λ-61.00000°. NP2:φ=296.00000°,δ33.00000°, λ-148.00000°.*
IDC ***14*** *11:35:38.5±0.9,3666N×14191E,h0km,mb3.6/7, mb1 3.8/9,mb1mx3.7/22,mbtmp3.6/9,ML3.3/2,MS3.7/1, Ms1 3.7/1,ms1mx2.9/24,Error ellipse: s-maj=22.7km s-min=19.8km az=136.0*
ISCJB ***14*** *11:35:40.0±1.4,3690N±005×14181E±007,h16km±8km, mb3.5/7,MS3.8/1,Error ellipse: s-maj=9.8km s-min=7.7km az=81.4*
NEIC ***14*** *11:35:42.0,3688N×14166E,h53km,MG3.8(JMA),After JMA.*
JMA ***14*** *11:35:42.0±0.2,3688N×14166E,h53km±3km,M3.8*
ISC 14 11:35:40.3±1.3,3694N±005×14177E±006,h8km±6km,n21, σ1=07/26,mb3.5/7,MS3.8/1,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.79**	**282**	⇓ P	**Pg**	**11 35 56.2**	**+0.7**
ONAJ				*e*S	**Sg**	**11 36 06.1**	**+0.3**
JFK	**Kawauchi**	**0.83**	**301**	⇓ P	**Pg**	**11 35 57.0**	**+0.7**
JHO	**Hitachi**	**1.02**	**252**	⇓ P	**Pg**	**11 35 58.6**	**-1.2**
JMM	**Marumori**	**1.21**	**320**	⇓ P	**Pb**	**11 36 03.0**	**-0.4**
JMM				*e*S	**Sg**	**11 36 18.1**	**-1.0**
JFT	**Otama**	**1.28**	**297**	⇓ P	**Pn**	**11 36 04.5**	**0.0**
JFT				*e*S	**Sb**	**11 36 19.8**	**-1.5**
JIO	**Ouri**	**1.55**	**348**	⇓ P	**Pn**	**11 36 08.1**	**-0.1**
JIO				*e*S	**Sn**	**11 36 26.8**	**-1.7**
JOU	**Okura**	**1.67**	**329**	P	**Pn**	**11 36 10.5**	**+0.6**
JOU				S	**Sn**	**11 36 31.9**	**+0.4**
JYS	**Shirataka**	**1.86**	**314**	P	**Pn**	**11 36 13.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.89**	**263**	Pn	**Pn**	**11 36 26.9**	**+0.3**
	11nm,0.3s,baz=90,slow=16,SNR=101						
MJAR				Sn	**Sn**	**11 37 01.9**	**+0.4**
	8.9nm,0.3s,baz=82,slow=13,SNR=7.0						
MAT	**Matsushiro**	**2.89**	**263**	P	**Pn**	**11 36 27.2**	**+0.6**
MAT

*NIED **14** 11:37:00, 3690N×14170E, h32km, Mw4.4 Best double couple: M0=3.87000×10^15 NP1:φ0=21.00000°, δ=84.00000°, λ=83.00000°. NP2:φ0=248.00000°, δ=9.00000°, λ=137.00000°.*
*ISCJB **14** 11:37:26.6±0.4, 3683N±003×14177E±004, h33km, mb4.4/30, MS3.9/6, Error ellipse: s-maj=4.8km s-min=4.2km az=178.8*
*MOS **14** 11:37:27.3±1.1, 3681N×14176E, h44km, mb4.5/18, Error ellipse: s-maj=16.0km s-min=10.1km az=115.8*
*JMA **14** 11:37:27.7±0.2, 3688N×14166E, h51km±3km, M4.7*
JMA Felt III J1.
*NEIC **14** 11:37:27.8, 3688N×14166E, h50km, mb4.6/10, MW4.3(NIED), After JMA.*
NEIC Recorded [3 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi, Tochigi and Yamagata Prefectures.
*BJI **14** 11:37:28.5, 3685N×14179E, h63km, mB4.8, mb4.6, Ms4.1, Msz3.7*
*IDC **14** 11:37:28.9±4.9, 3679N×14171E, h33km±37km, mb3.9/13, mb1 4.1/16, mb1mx4.0/23, mbtmp4.1/16, ML4.1/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/28, Error ellipse: s-maj=20.0km s-min=14.4km az=93.0*

ISC 14 11:37:29.0±0.4, 3687N±003×14167E±004, h35km, n79, σ1°08/90, mb4.4/30, MS3.9/6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.74**	**288**	⇓P	**Pn**	**11 37 41.7**	**-1.2**
ONAJ				S	**Sn**	**11 37 51.6**	**-1.3**
JFK	**Kawauchi**	**0.81**	**308**	⇓P	**Pn**	**11 37 42.6**	**-1.2**
JFK				*e*S	**Sn**	**11 37 52.9**	**-1.7**
JHO	**Hitachi**	**0.92**	**254**	P	**Pn**	**11 37 44.1**	**-1.4**
JHO				*e*S	**Sn**	**11 37 56.5**	**-1.0**
JMM	**Marumori**	**1.21**	**325**	P	**Pn**	**11 37 48.6**	**-0.9**
JMM				*e*S	**Sn**	**11 38 03.6**	**-1.0**
JFT	**Otama**	**1.25**	**302**	P	**Pn**	**11 37 50.0**	**+0.1**
JFT				*e*S	**Sn**	**11 38 05.6**	**+0.2**
JIO	**Ouri**	**1.60**	**351**	⇓P	**Pn**	**11 37 53.6**	**-1.2**
JIO				*e*S	**Sn**	**11 38 12.3**	**-1.9**
JFY	**Yanaizu**	**1.66**	**289**	P	**Pn**	**11 37 56.1**	**+0.5**
JOU	**Okura**	**1.69**	**332**	P	**Pn**	**11 37 56.4**	**+0.4**
JOU				S	**Sn**	**11 38 17.5**	**+1.1**
JYS	**Shirataka**	**1.85**	**317**	P	**Pn**	**11 37 59.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.80**	**264**	Pn	**Pn**	**11 38 12.4**	**+1.1**
	47nm,0.3s,baz=89,slow=15,SNR=31						
MJAR				Sn	**Sn**	**11 38 45.6**	**+1.7**
	50nm,0.3s,baz=84,slow=13,SNR=7.3						
MJAR				LR	LR	11 39 27.7	
	comp=Z,2μm,21.2s,baz=80,slow=42						
MJAR	**Matsushiro Arr**	**2.80**	**264**	P	**Pn**	**11 38 12.4**	**+1.1**
MJAR						11 38 45.6	
MJAR				pmax	pmax		
	comp=Z,47nm,0.3s						
MJAR				smax			
	comp=N,50nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,2μm,21.2s						
MAT	**Matsushiro**	**2.80**	**264**	P	**Pn**	**11 38 12.7**	**+1.4**
MAT				S	**Sn**	**11 38 45.3**	**+1.4**
JHJ	**Hachijo jima 2**	**4.05**	**203**	Pn	**Pn**	**11 38 29.3**	**+0.8**
	comp=Z,54nm,0.3s,baz=88,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**11 39 12.5**	**-2.2**
	comp=Z,34nm,0.3s,baz=73,slow=19,SNR=2.9						
JHJ				LR	LR	11 40 09.4	
	comp=Z,423nm,20.6s,baz=125,slow=40						
ASAJ	**Asahikawa**	**7.27**	**5**	Pn	**Pn**	**11 39 13.4**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=60,slow=31,SNR=7.1						
ASAJ				Sn	**Sn**	**11 40 34.1**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=15,slow=15,SNR=2.3						
ASAJ				LR	LR	11 42 29.0	
	comp=Z,257nm,19.8s,baz=127,slow=41						
ASAJ	**Asahikawa**	**7.27**	**5**	P	**Pn**	**11 39 13.4**	**+0.7**
ASAJ						11 40 34.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,257nm,19.8s						
MDJ	**Mudanjiang**	**11.98**	**314**	P	**Pn**	**11 40 21.0**	**+3.8**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,139nm,4.5s						
MDJ				LR	LR		
	comp=N,251nm,18.8s						
MDJ				LR	LR		
	comp=E,207nm,17.1s						
MDJ				LR	LR		
	comp=Z,392nm,15.3s						
MDJ	**Mudanjiang**	**11.98**	**314**	*e*Pn	**Pn**	**11 40 14.5**	**-2.7**
	comp=Z,18nm,0.9s						
MDJ				*ep*Pn		11 40 22.8	
KLR	**Kul'dur**	**14.30**	**333**	*e*P	**Pn**	**11 40 53.8**	**+4.8**
KLR				MLR	MLR		
	comp=E,400nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
CIT	**Chita**	**24.94**	**316**	*e*P	**P**	**11 42 49.4**	**+0.5**
YAK	**Yakutsk**	**26.27**	**347**	*e*P	**P**	**11 42 59.9**	**-1.1**
YAK				*e**PP	pP	11 43 11.4	+0.4
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
YAK	**Yakutsk**	**26.27**	**347**	*e*P	**P**	**11 42 59.9**	**-1.1**
	comp=Z,28nm,0.8s,mb4.8						
YAK				*ep*P	pP	11 43 11.4	+0.4
BOD	**Bodaibo**	**27.77**	**328**	*e*P	**P**	**11 43 14.0**	**-0.5**
BOD				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.5						
SONM	**Songino Array**	**28.05**	**304**	P	**P**	**11 43 16.4**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.1,baz=104,slow=8.0,SNR=22						
SONM				LR	LR	11 55 00.4	
	comp=Z,148nm,18.8s,MS3.6,baz=154,slow=37						
SONM	**Songino Array**	**28.05**	**304**	P	**P**	**11 43 16.4**	**-0.5**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,148nm,18.8s						
LZH	**Lanzhou**	**30.30**	**280**	*e*P	**P**	**11 43 37.0**	**+0.1**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,96nm,5.1s						
LZH				LR	LR		
	comp=E,283nm,13.8s						
LZH				LR	LR		
	comp=Z,429nm,15.4s,MS4.2						
LZH	**Lanzhou**	**30.30**	**280**	*e*P	**P**	**11 43 37.0**	**+0.1**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	11 43 44.0	-3.0
LZH				sP	sP	11 43 48.5	-2.7
LZH				LR	LR		
	comp=Z,430nm,15.4s,MS4.2						
ZAK	**Zakamensk**	**30.53**	**308**	*e*P	**P**	**11 43 39.0**	**+0.1**
ZAK				*e*		11 44 00.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
GYA	**Guiyang**	**31.40**	**261**	P	**P**	**11 43 45.9**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**32.81**	**287**	*e*P	**P**	**11 43 59.8**	**+0.8**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb4.1						
KMI	**Kunming**	**35.14**	**262**	P	**P**	**11 44 18.1**	**-1.1**
KMI				S	**S**	**11 49 38.4**	**-11**
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=Z,160nm,22.2s,MS3.7						
KMI	**Kunming**	**35.14**	**262**	P	**P**	**11 44 18.1**	**-1.1**
	comp=Z,11nm,0.9s,mb4.8						
KMI				S	**S**	**11 49 38.4**	**-11**
KMI				LR	LR		
	comp=Z,160nm,22.2s,MS3.7						
WMQ	**Urumqi**	**41.10**	**297**	*e*P	**P**	**11 45 11.4**	**+2.0**
ZAL	**Zalesovo**	**42.19**	**312**	P	**P**	**11 45 18.3**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.8,baz=6.6,slow=4.6,SNR=6.2						
ZAL				LR	LR	12 04 23.9	
	comp=Z,195nm,18.2s,MS4.0,baz=201,slow=38						
ZAL	**Zalesovo**	**42.19**	**312**	P	**P**	**11 45 18.3**	**0.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,195nm,18.2s						
NVS	**Novosibirsk**	**43.10**	**314**	*e*P	**P**	**11 45 21.7**	**-4.0**
MK31	**Makanchi Array**	**44.38**	**302**	*e*P	**P**	**11 45 35.9**	**-0.1**
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**11 45 35.6**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.1,baz=91,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**11 45 35.6**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GUN	**Gumba**	**47.38**	**276**	*e*P	**P**	**11 46 01.0**	**+1.4**
	comp=Z,16nm,0.4s,mb5.3						
PKI	**Pulchoki**	**47.90**	**276**	*e*P	**P**	**11 46 04.6**	**+0.9**
KKN	**Kakani**	**47.91**	**276**	*e*P	**P**	**11 46 04.9**	**+1.2**
	comp=Z,22nm,0.6s,mb5.3						
GKN	**Gorkha**	**48.33**	**277**	*e*P	**P**	**11 46 07.7**	**+0.7**
	comp=Z,36nm,0.8s,mb5.4						
HNR	**Honiara**	**49.15**	**156**	LR	LR	12 05 14.0	
	comp=Z,100nm,19.0s,MS3.8,baz=360,slow=34						
KOLN	**Koldanda**	**49.26**	**277**	*e*P	**P**	**11 46 15.4**	**+1.3**
	comp=Z,7.8nm,0.5s,mb5.0						
CHKZ	**Chkalovo**	**50.57**	**313**	*e*P	**P**	**11 46 24.6**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**50.57**	**313**	*e*P	**P**	**11 46 24.6**	**+0.4**
	comp=Z,2.8nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**51.67**	**313**	*e*P	**P**	**11 46 32.3**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**51.67**	**313**	*e*P	**P**	**11 46 32.3**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.6						
INK	**Inuvik**	**54.44**	**27**	P	**P**	**11 46 51.8**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=299,slow=19,SNR=9.5						
INK	**Inuvik**	**54.44**	**27**	P	**P**	**11 46 51.8**	**-0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**56.62**	**319**	*e*P	**P**	**11 47 15.2**	**+6.8**
ARU	**Arti**	**56.62**	**319**	*e*P	**P**	**11 47 05.3**	**-3.1**
	comp=Z,11nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.73**	**198**	*e*P	**P**	**11 47 09.1**	**-0.1**
	comp=Z,9.9nm,1.9s,mb4.5						
WB2	**Warramunga Arr**	**56.93**	**188**	*e*P	**P**	**11 47 09.2**	**-1.4**
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**11 47 09.3**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=4.9,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**11 47 09.3**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AS31	**Alice Springs**	**60.66**	**188**	*e*P	**P**	**11 47 35.9**	**-0.6**
ASAR	**Alice Springs**	**60.66**	**188**	P	**P**	**11 47 36.1**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.2,baz=16,slow=6.5,SNR=18						
ASAR	**Alice Springs**	**60.66**	**188**	P	**P**	**11 47 36.1**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASPA	**Alice Springs**	**60.66**	**188**	*e*P	**P**	**11 47 35.9**	**-0.6**
ARCES	**ARCESS Array B**	**64.22**	**339**	P	**P**	**11 48 01.9**	**+1.6**
	comp=Z,3.3nm,0.9s,mb4.4,baz=46,slow=8.7,SNR=4.4						
ARCES	**ARCESS Array B**	**64.22**	**339**	P	**P**	**11 48 01.9**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**11 48 32.3**	**+1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=55,slow=7.5,SNR=2.6						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**11 48 32.3**	**+1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMB	**Columbia Colle**	**73.79**	**55**	*e*P	**P**	**11 49 00.2**	**+0.4**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
CMB	**Columbia Colle**	**73.79**	**55**	*e*P	**P**	**11 49 00.2**	**+0.4**
	comp=Z,6.2nm,1.1s,mb4.5						
NB2	**NORSAR Subarra**	**74.42**	**337**	P	**P**	**11 49 03.7**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=38,slow=5.9						
NB2	**NORSAR Subarra**	**74.42**	**337**	P	**P**	**11 49 03.7**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**74.42**	**337**	P	**P**	**11 49 03.7**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=40,slow=5.8,SNR=3.5						
NOA	**NORSAR Array B**	**74.42**	**337**	P	**P**	**11 49 03.7**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**74.42**	**337**	P	**P**	**11 49 03.7**	**+0.3**
AKASG	**Malin Array Be**	**74.55**	**322**	P	**P**	**11 49 04.2**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=48,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**74.55**	**322**	P	**P**	**11 49 04.3**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**74.92**	**53**	P	**P**	**11 49 07.5**	**+1.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=292,slow=6.7,SNR=24						
PDAR	**Pinedale Array**	**77.63**	**46**	P	**P**	**11 49 22.2**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=287,slow=2.6,SNR=6.8						
SRU	**San Rafael**	**79.36**	**49**	*e*P	**P**	**11 49 28.0**	**-3.2**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
SRU	**San Rafael**	**79.36**	**49**	*e*P	**P**	**11 49 28.0**	**-3.2**
	comp=Z,5.4nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**82.96**	**328**	P	**P**	**11 49 52.4**	**+2.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=20,slow=3.1,SNR=2.5						
ESDC	**Sonseca Array**	**97.53**	**344**	LR	LR	12 38 37.4	
	comp=Z,52nm,18.1s,MS4.1,baz=5.0,slow=38						

*NIED **14** 11:43:00, 3690N×14170E, h26km, Mw3.7 Best double couple: M0=3.96000×10^14 NP1:φ0=20.00000°, δ=88.00000°, λ=87.00000°. NP2:φ0=259.00000°, δ=4.00000°, λ=148.00000°.*
*ISCJB **14** 11:43:40.0±1.3, 3687N±004×14181E±007, h16km±8km, mb3.5/6, Error ellipse: s-maj=9.3km s-min=7.5km az=23.4*
*NEIC **14** 11:43:42.5, 3689N×14167E, h51km, MG3.8(JMA), After JMA.*
*JMA **14** 11:43:42.4±0.2, 3689N×14167E, h51km±3km, M3.8*
*IDC **14** 11:43:45.0±3.5, 3679N×14162E, h48km±36km, mb3.3/6, mb1 3.6/8, mb1mx3.5/22, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=40.9km s-min=19.8km az=115.0*

ISC 14 11:43:41.3±1.2, 3690N±004×14173E±006, h14km±6km, n18, σ1°06/27, mb3.5/6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**286**	⇓P	**Pg**	**11 43 56.5**	**+0.3**
ONAJ				*e*S	**Sg**	**11 44 06.4**	**0.0**
JFK	**Kawauchi**	**0.83**	**305**	⇓P	**Pg**	**11 43 57.3**	**0.0**
JFK				*e*S	**Sg**	**11 44 07.8**	**-0.4**
JHO	**Hitachi**	**0.97**	**253**	P	**Pb**	**11 43 59.1**	**-0.8**
JHO				*e*S	**Sb**	**11 44 11.2**	**-1.3**
JMM	**Marumori**	**1.22**	**323**	P	**Pn**	**11 44 03.3**	**-0.6**
JMM				*e*S	**Sb**	**11 44 18.3**	**-1.4**
JFT	**Otama**	**1.27**	**300**	P	**Pn**	**11 44 04.8**	**+0.2**
JFT				*e*S	**Sb**	**11 44 20.4**	**-0.8**
JIO	**Ouri**	**1.58**	**349**	⇓P	**Pn**	**11 44 08.4**	**-0.5**
JIO				*e*S	**Sn**	**11 44 26.7**	**-2.5**
JOU	**Okura**	**1.69**	**330**	P	**Pn**	**11 44 11.2**	**+0.8**
JOU				*e*S	**Sn**	**11 44 32.0**	**+0.2**
JFY	**Yanaizu**	**1.69**	**288**	P	**Pn**	**11 44 11.2**	**+0.8**
JYS	**Shirataka**	**1.87**	**316**	P	**Pn**	**11 44 14.3**	**+1.5**
JYS				S	**Sn**	**11 44 37.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.85**	**264**	P	**Pn**	**11 44 27.2**	**+0.9**
	9.5nm,0.3s,baz=88,slow=15,SNR=41						
MAT	**Matsushiro**	**2.85**	**264**	P	**Pn**	**11 44 27.3**	**+1.0**
MAT				*e*S	**Sn**	**11 45 02.5**	**+2.1**
ASAJ	**Asahikawa**	**7.24**	**5**	P	**Pn**	**11 45 28.6**	**+1.9**
	0.3nm,0.3s,baz=160,slow=15,SNR=4.1						
SONM	**Songino Array**	**28.07**	**304**	P	**P**	**11 49 31.5**	**-0.7**
	0.5nm,0.6s,mb3.3,baz=108,slow=9.2,SNR=3.7						
INK	**Inuvik**	**54.40**	**27**	P	**P**	**11 53 07.5**	**-0.2**
	1.5nm,1.0s,mb3.9,baz=176,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**56.96**	**188**	P	**P**	**11 53 24.3**	**-1.8**
	0.4nm,0.5s,mb3.7,baz=5.2,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**60.69**	**188**	P	**P**	**11 53 50.6**	**-1.4**
	0.3nm,1.0s,mb3.4,baz=12,slow=6.9,SNR=4.3						
NVAR	**Mina Array Bea**	**74.87**	**53**	P	**P**	**11 55 22.1**	**+0.6**
	0.2nm,0.6s,mb3.2,baz=295,slow=6.4,SNR=4.8						
PDAR	**Pinedale Array**	**77.59**	**46**	P	**P**	**11 55 37.4**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=308,slow=4.4,SNR=2.6						

IGQ 14 11:59:14.2, 250S×7760W, h16km±3km, Mb4.0, Ms3.8, 1C-5D, Error ellipse: s-maj=5.5km s-min=1.9km az=141.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.29**	**320**	P	Pn	11 59 38.7	+1.2
ARRY	**Arrayan**	**1.31**	**319**	⇓P	Pn	11 59 38.6	+1.0
ULBA	**Ulba**	**1.32**	**322**	⇓P	Pn	11 59 39.2	+1.4
ULBA				S	Sn	11 59 56.8	+1.7
RUN5	**Runtun**	**1.36**	**323**	⇓P	Pn	11 59 39.6	+1.3
RUN5				S	Sn	11 59 57.6	+1.6
JUIV	**Juive**	**1.38**	**321**	P	Pn	11 59 40.0	+1.3
JUIV				S	Sn	11 59 58.4	+2.0
BILB	**Tungurahua vol**	**1.39**	**320**	⇑P	Pn	11 59 40.3	+1.5
BILB				S	Sn	11 59 59.0	+2.3
IGUA	**Igualata**	**1.44**	**314**	P	Pn	11 59 42.1	+2.5
IGUA				S	Sn	12 00 02.8	+4.6
TAMB	**Tambo**	**1.95**	**337**	P	Pn	11 59 49.7	+3.1
TAMB				S	Sn	12 00 16.1	+5.5
VC1	**Cotopaxi 1**	**2.01**	**336**	⇓P	Pn	11 59 50.2	+2.8
VC1				S	Sn	12 00 18.0	+5.8
CAMI	**Rancho Maria**	**2.02**	**333**	P	Pn	11 59 51.2	+3.7
CAMI				S	Sn	12 00 18.8	+6.4
NAS1	**Nasa**	**2.05**	**335**	P	Pn	11 59 51.5	+3.6
NAS1				S	Sn	12 00 20.0	+6.9
ANTI	**Antisana**	**2.11**	**345**	⇓P	Pn	11 59 51.7	+2.9
ANTI				S	Sn	12 00 20.2	+5.6
LAV3	**Lava3-Reventad**	**2.39**	**359**	P	Pn	11 59 54.9	+2.3
LAV3				S	Sn	12 00 28.1	+6.7
CONE	**Cono NE Rev Vo**	**2.41**	**359**	P	Pn	11 59 56.8	+3.9
CONE				S	Sn	12 00 28.6	+6.5
GGP	**Refugio Guagua**	**2.52**	**337**	P	Pn	12 00 01.0	+6.7
GGP				S	Sn	12 00 33.5	+8.9
TERV	**Terraza Guagua**	**2.52**	**336**	P	Pn	12 00 04.3	+10
TERV				S	Sn	12 00 34.3	+10
PINO	**Pino**	**2.54**	**337**	P	Pn	12 00 04.1	+10
PINO				S	Sn	12 00 34.2	+9.1
YANA	**Yana**	**2.56**	**338**	P	Pn	12 00 03.5	+8.6
YANA				S	Sn	12 00 33.9	+8.3
CAYA	**Cayambe**	**2.58**	**351**	P	Pn	12 00 00.8	+5.6
CAYA				S	Sn	12 00 33.3	+7.1

*CSEM **14** 12:50:35.7±0.3, 4426N×1963E, h2km, MD2.7, Error ellipse: s-maj=7.1km s-min=4.9km az=117.0*
*ISCJB **14** 12:50:36.3±0.5, 4421N±002×1965E±004, h0km±4km, Error ellipse: s-maj=5.6km s-min=2.9km az=48.0*
*NEIC **14** 12:50:36.5, 4421N×1969E, h8km, MD2.7(PDG), After PDG.*
*PDG **14** 12:50:36.5±0.4, 4421N×1969E, h8km±1km*
*BEO **14** 12:50:37.2±0.1, 4413N×1970E, h15km±2km*

ISC 14 12:50:37.4±0.5, 4421N±002×1967E±005, h5km±4km, n28, σ1°20/48, 9C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.26**	**115**	*i* Pg	**Pg**	**12 50 41.6**	**-0.8**
DIVS				Sg	**Sg**	**12 50 45.3**	**-0.6**
BBLS	**Bajina Basta -**	**0.39**	**209**	*i* Pg	**Pg**	**12 50 43.9**	**-1.0**
BBLS				Sg	**Sg**	**12 50 49.1**	**-0.8**
BEO	**Belgrade**	**0.83**	**42**	*i* Pg	**Pg**	**12 50 53.6**	**+0.1**
BEO				Sg	**Sg**	**12 51 05.9**	**+1.6**
PLE	**Pljevlja**	**0.90**	**193**	⇓*i*Pg	**Pg**	**12 50 53.8**	**-0.9**
PLE				*e*Sg	**Sg**	**12 51 07.3**	**+0.9**
UPM	**Unac-Piva**	**1.14**	**209**	⇓*i*Pg	**Pg**	**12 50 58.0**	**-1.4**
UPM				*e*Sg	**Sg**	**12 51 15.7**	**+1.4**
IVA	**Berane**	**1.35**	**173**	⇓*i*Pg	**Pn**	**12 51 00.4**	**-2.6**
IVA				*e*Sg	**Sg**	**12 51 21.7**	**+1.0**
NKY	**Niksic**	**1.48**	**199**	⇓*i*Pg	**Pn**	**12 51 03.3**	**-1.5**
NKY				*e*Sg	**Sg**	**12 51 26.0**	**+1.1**
BRY	**Bratogost**	**1.54**	**212**	⇓*i*Pg	**Pn**	**12 51 04.5**	**-1.1**
BRY				*e*Sg	**Sg**	**12 51 27.7**	**+0.8**
PVY	**Plav**	**1.63**	**172**	⇑*i*Pn	**Pn**	**12 51 07.0**	**+0.2**
PVY				*e*Sn	**Sg**	**12 51 29.9**	**+0.2**
TTG	**Podgorica**	**1.80**	**190**	⇑*i*Pn	**Pn**	**12 51 09.3**	**+0.1**
TTG				*e*Sn	**Sg**	**12 51 34.5**	**-0.8**
HCY	**Herceg Novi**	**1.96**	**206**	⇑*i*Pn	**Pn**	**12 51 11.8**	**+0.5**
HCY				*e*Sn	**Sg**	**12 51 38.6**	**-1.7**
STON	**Ston**	**1.96**	**228**	*i* Pn	**Pn**	**12 51 11.3**	**0.0**
STON				*i* Sn	**Sn**	**12 51 39.1**	**+2.8**
STON	**Ston**	**1.96**	**228**	*i* Pn	**Pn**	**12 51 11.2**	**-0.1**
STON				*i* Sn	**Sn**	**12 51 39.1**	**+2.8**
BZS	**Buzias**	**1.98**	**44**	⇑*i*P	**Pn**	**12 51 10.9**	**-0.7**
BZS	**Buzias**	**1.98**	**44**	S	**Sg**	**12 51 42.8**	**+1.9**
BZS	**Buzias**	**1.98**	**44**	⇑P	**Pn**	**12 51 10.9**	**-0.7**
BZS				S	**Sg**	**12 51 42.8**	**+1.9**
BUM	**Brajici-Budva**	**1.99**	**197**	⇓*i*Pn	**Pn**	**12 51 11.5**	**-0.3**
BUM				*e*Sn	**Sn**	**12 51 39.6**	**+2.6**
PKSM	**Moragy**	**2.13**	**340**	⇑*i*P	**Pn**	**12 51 13.5**	**-0.2**
PKSM	**Moragy**	**2.13**	**340**	S	**Sg**	**12 51 47.0**	**+1.1**
PKSM	**Moragy**	**2.13**	**340**	⇑P	**Pn**	**12 51 13.5**	**-0.2**
PKSM				S	**Sg**	**12 51 47.0**	**+1.1**
PKSM	**Moragy**	**2.13**	**340**	*e*Pg	**Pn**	**12 51 13.4**	**-0.3**
PKSM				*e*Sg	**Sg**	**12 51 48.8**	**+2.9**
ULC	**Ulcinj**	**2.26**	**188**	⇓*i*Pn	**Pn**	**12 51 16.1**	**+0.6**
ULC				*e*Sn	**Sn**	**12 51 45.1**	**+1.2**
GZR	**Gura Zlata**	**2.51**	**61**	⇑*i*P	**Pn**	**12 51 17.3**	**-1.7**
GZR	**Gura Zlata**	**2.51**	**61**	S	**Sn**	**12 51 50.4**	**+0.4**
GZR	**Gura Zlata**	**2.51**	**61**	⇑P	**Pn**	**12 51 17.3**	**-1.7**
GZR				S	**Sn**	**12 51 50.4**	**+0.4**
KECS	**Kecovo**	**4.31**	**7**	*e*PN	**Pn**	**12 51 44.6**	**+0.9**
KECS				*e*SN	**Sn

SNR=22
MOA Molln 1.09 38⇓ePg Pg 12 56 18.8 -0.4
4.6nm,0.1s,SNR=25
MOA ⇑iSg Sg 12 56 34.0 +0.6
34nm,0.2s
WTTA Wattenberg 1.14 284 ePg Pg 12 56 19.6 -0.6
SNR=42
WTTA eSg Sg 12 56 36.6 +1.7
WTTA Wattenberg 1.14 284 ePg Pg 12 56 19.6 -0.6
26nm,0.1s,SNR=66
WTTA ⇑iSg Sg 12 56 34.8 -0.2
55nm,0.4s
WATA Walderalm 1.20 287⇓ePg Pg 12 56 20.7 -0.5
49nm,0.2s,SNR=46
WATA ⇑iSg Sg 12 56 37.1 +0.3
39nm,0.3s
SQTA Sankt Quirin 1.42 280 ePg Pg 12 56 24.6 -0.8
15nm,0.2s,SNR=17
SQTA ⇑iSg Sg 12 56 44.4 +0.6
62nm,0.3s
SQTA Sankt Quirin 1.42 280 Pg Pg 12 56 24.6 -0.9
15nm,0.2s,SNR=17
SQTA Sg Sg 12 56 44.4 +0.5
62nm,0.3s
APPI Appiano 1.49 251 Pg Pg 12 56 26.1 -0.7
APPI Sg Sg 12 56 47.4 +1.3
37nm,0.3s
MOTA Moosalm 1.51 284⇑ePg Pg 12 56 26.4 -0.8
4.0nm,0.1s,SNR=19
MOTA ⇓iSg Sg 12 56 47.6 +0.7
54nm,0.4s
ARSA Arzberg 1.56 80 ePn Pn 12 56 24.5 -2.3
ARSA ePg Pg 12 56 27.8 -0.4
SNR=6.9
ARSA eSg Sg 12 56 47.7 -0.8
ARSA Arzberg 1.56 80⇑iPn Pn 12 56 25.4 -1.4
ARSA ⇑iPg Pg 12 56 27.0 -1.2
4.1nm,0.2s
ARSA ⇑iSn Sn 12 56 46.9 -0.7
ARSA ⇓iSg Sg 12 56 48.9 +0.4
5.3nm,0.2s
FUR Furstenfeldbru 1.78 312 ePg Pg 12 56 33.0 +0.6
SNR=2.1
GEC2 GERESS Array S 1.88 9 ePn Pn 12 56 32.4 +1.3
SNR=7.4
GEC2 ePg Pg 12 56 34.2 0.0
SNR=7.4
GEC2 eSg Sg 12 56 58.3 -0.2
GEC2 GERESS Array S 1.88 9 Pg Pg 12 56 34.2 0.0
SNR=7.4
GEC2 Sg Sg 12 56 58.3 -0.2
CONA Conrad Observa 2.00 61⇑iPg Pg 12 56 35.2 -1.2
2.9nm,0.2s
CONA ⇓iSg Sg 12 57 02.9 +0.5
4.7nm,0.2s
KHC Kasperske Hory 2.15 6 ePN Pn 12 56 35.6 +0.7
KHC ePG Pg 12 56 44.0 +4.6
KHC eSN Sn 12 57 03.6 +1.6
WET Wettzell 2.17 353 ePn Pn 12 56 35.8 +0.7
WET ePg Pg 12 56 39.4 -0.3
SNR=2.2
WET eSg Sg 12 57 08.0 +0.2
DAVA Damuels 2.33 278 ePg Pg 12 56 42.6 -0.3
SNR=7.9
DAVA eSg Sg 12 57 14.4 +1.4
DAVA Damuels 2.33 278 ePg Pg 12 56 42.0 -0.8
SNR=16
DAVA ⇓iSg Sg 12 57 14.5 +1.5
26nm,0.3s
PRU Pruhonice 3.12 15 eSG Sg 12 57 38.3 0.0
9.8nm,0.7s
BFO Black Forest 3.59 294 ePn Pn 12 56 56.2 +1.5
SNR=3.4
BFO ePg Pg 12 57 06.5 -0.6
SNR=1.1
BFO eSn Sn 12 57 36.8 -0.7
BFO eSg Sg 12 57 52.5 -1.1
MOX Moxa 3.81 344 ePn Pn 12 56 58.6 +0.8
DPC Dobruska-Polom 3.92 30 eSG Sg 12 58 00.3 -3.9
CDF Champ du Feu 4.28 292 ePn Pn 12 57 05.2 +1.0
CDF Champ du Feu 4.28 292 ePg Pg 12 57 19.3 -1.0
CDF eSn Sn 12 57 52.2 -2.5
CDF eSg Sg 12 58 15.5 -0.3
4.0nm,0.4s
CDF Champ du Feu 4.28 292 ePg Pg 12 57 19.3 -1.0
CDF eSn Sn 12 57 52.2 -2.5
CDF eSg Sg 12 58 15.5 -0.3
2.0nm,0.4s
HINF Hinteralfeld 4.43 283 ePn Pn 12 57 07.1 +0.9
HINF eSn Sn 12 57 55.5 -2.8
7.5nm,0.3s
HINF Hinteralfeld 4.43 283 ePn Pn 12 57 07.1 +0.9
HINF eSn Sn 12 57 55.5 -2.8
3.8nm,0.3s
TNS Taunus Mts 4.54 317 ePn Pn 12 57 10.4 +2.6
TNS eSn Sn 12 58 02.6 +1.6
HAU Haudompre 4.79 285 ePn Pn 12 57 11.8 +0.6
HAU Haudompre 4.79 285 ePg Pg 12 57 28.6 -1.5
HAU eSn Sn 12 58 04.3 -3.0
9.9nm,0.6s
HAU Haudompre 4.79 285 ePg Pg 12 57 28.6 -1.5
HAU eSn Sn 12 58 04.3 -3.0
4.9nm,0.6s
CABF La Chapelle 4.94 268 ePg Pg 12 57 31.2 -1.7
MBDF Montbardon 5.07 246 ePn Pn 12 57 14.4 -0.6
MBDF eSn Sn 12 58 09.9 -4.1
0.8nm,0.3s
MBDF Montbardon 5.07 246 ePn Pn 12 57 14.4 -0.6
MBDF eSn Sn 12 58 09.9 -4.1
0.4nm,0.3s
BGF Bois d'Agland 7.17 270 ePn Pn 12 57 43.1 -0.7

JMA 14 13:00:12.8±0.3, 4401N×14817E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.88**	**251**	P	Pn	13 00 46.5	+0.4
NEM2				eS	Sn	13 01 11.0	+0.5
JRA	**Rausu**	**2.20**	**269**	P	Pn	13 00 51.3	+0.7
JNK	**Nakash**	**2.54**	**262**	P	Pn	13 00 56.1	+0.9
JNK				eS	Sn	13 01 28.1	+1.4
JAK	**Akkeshi**	**2.72**	**249**	P	Pn	13 00 58.7	+0.9
JAK				eS	Sn	13 01 32.2	+0.8
JAR	**Ashorobuto**	**3.27**	**259**	P	Pn	13 01 07.2	+1.9
JAR				eS	Sn	13 01 47.9	+3.0
JCH	**Churui**	**3.78**	**250**	P	Pn	13 01 14.1	+1.9
JCH				eS	Sn	13 01 59.6	+2.2
JNBK	**Urakawa-nobuka**	**4.33**	**248**	P	Pn	13 01 21.8	+2.0
JKB	**Kayabe**	**5.65**	**250**	P	Pn	13 01 39.7	+1.7
JKB				eS	Sn	13 02 44.0	+0.4
JOT	**Ohata**	**5.87**	**246**	P	Pn	13 01 42.5	+1.5
JOT				eS	Sn	13 02 49.3	+0.3

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*VIE **14** 13:09:19.5±0.2, 4697N×1326E, h8km±2km, mb2.6/4, ML3.4/8, Error ellipse: s-maj=1.8km s-min=1.0km az=15.0*
7 km NE of Obervellach felt 4 EMS98 at Obervellach / CARINTHIA
*ISCJB **14** 13:09:20.0±0.2, 47011N±0009×1323E±002, h8km, Error ellipse: s-maj=1.5km s-min=1.3km az=163.4*
*CSEM **14** 13:09:20.4±0.1, 4699N×1326E, h2km, ML3.5/7, Error ellipse: s-maj=1.1km s-min=0.8km az=55.0*
*LDG **14** 13:09:21.4±0.2, 4693N×1340E, h10km, Ml3.3/9, Error ellipse: s-maj=4.8km s-min=4.0km az=3.0*
*NEIC **14** 13:09:21.4±0.4, 4692N×1324E, h10km, ML2.6(ROM), ML3.2(LEDBW), ML3.2(SZGRF), Error ellipse: s-maj=4.7km s-min=4.2km az=195.0*
*PRU **14** 13:09:21.7, 4700N×1331E, h0km*
*ROM **14** 13:09:21.9±0.5, 4687N×1318E, h8km, Md3.1/7, Ml2.6/6, Error ellipse: s-maj=5.3km s-min=2.2km az=35.0*
*BGR **14** 13:09:22.9±0.3, 4701N×1336E, h10km, ML3.0/11, Error ellipse: s-maj=8.9km s-min=5.6km az=17.0*
*STR **14** 13:09:25.2±1.3, 4668N×1290E, h10km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 14 13:09:21.2±0.2, 46989N±0008×1325E±001, h8km, n158, σ1§20/316, 40C-22D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.11**	**37⇑**	*e*Pg	**Pg**	**13 09 23.0**	**-0.7**
	comp=Z,456nm,0.1s,SNR=7861						
KBA				⇓*i*Sg	**Sg**	**13 09 24.5**	**-1.0**
	comp=N,2μm,0.1s						
KBA	**Koelnbreinsper**	**0.11**	**37**	*e*Pg	**Pg**	**13 09 22.3**	**-1.4**
	SNR=1560						
KBA				*e*Sg	**Sg**	**13 09 24.4**	**-1.0**
KBA	**Koelnbreinsper**	**0.11**	**37⇑**	*i*Pg	**Pg**	**13 09 22.9**	**-0.9**
	456nm,0.1s,SNR=7861						
KBA				⇓*i*Sg	**Sg**	**13 09 24.5**	**-1.0**
	2μm,0.1s						
PLRO	**Paularo**	**0.44**	**189⇑**	*i*Pg	**Pg**	**13 09 29.4**	**-0.5**
PLRO				*i* Sg	**Sg**	**13 09 35.5**	**-0.2**
ZOU	**Zoufplan**	**0.47**	**203⇑**	*i*Pg	**Pg**	**13 09 29.9**	**-0.4**
ZOU				*i* Sg	**Sg**	**13 09 36.4**	**-0.1**
FVI	**Forni Avoltri**	**0.51**	**219**	*i* Pg	**Pg**	**13 09 30.6**	**-0.4**
FVI				Sg	**Sg**	**13 09 37.7**	**+0.1**
	473nm,0.5s						
LSR	**Lussari**	**0.55**	**159⇓**	*e*Pg	**Pg**	**13 09 31.1**	**-0.7**
LSR				*e*Sg	**Sg**	**13 09 38.7**	**-0.3**
PTCC	**Patocco-Chiusa**	**0.59**	**173**	Pg	**Pg**	**13 09 31.9**	**-0.6**
PTCC				Sg	**Sg**	**13 09 40.3**	**+0.1**
	111nm,0.4s						
CSMI	**Casera Mimoias**	**0.63**	**221⇑**	*i*Pg	**Pg**	**13 09 32.8**	**-0.5**
CSMI				*i* Sg	**Sg**	**13 09 41.5**	**+0.1**
BGLD	**Berchtesgaden**	**0.68**	**347⇑**	*i*Pg	**Pg**	**13 09 33.6**	**-0.7**
BGLD				*e*Sg	**Sg**	**13 09 43.0**	**-0.2**
GMNA	**Gemona**	**0.71**	**180**	Pg	**Pg**	**13 09 35.0**	**+0.1**
GMNA				Sg	**Sg**	**13 09 43.3**	**-0.9**
	356nm,0.6s						
SEST	**Monte Rota**	**0.74**	**252**	Pg	**Pg**	**13 09 35.0**	**-0.5**
SEST				Sg	**Sg**	**13 09 46.6**	**+1.4**
	217nm,0.4s						
BAD	**Bernadia**	**0.75**	**180⇓**	*e*Pg	**Pg**	**13 09 35.4**	**-0.2**
BAD				*e*Sg	**Sg**	**13 09 45.5**	**+0.1**
MPRI	**Monte Prat**	**0.77**	**193⇓**	*i*Pg	**Pg**	**13 09 35.6**	**-0.3**
MPRI				*i* Sg	**Sg**	**13 09 46.2**	**+0.3**
BUA	**Buia**	**0.78**	**186⇑**	*i*Pg	**Pg**	**13 09 36.1**	**0.0**
BUA				*i* Sg	**Sg**	**13 09 46.8**	**+0.6**
COLI	**Coloredo**	**0.86**	**174⇑**	*e*Pg	**Pg**	**13 09 37.4**	**-0.3**
COLI				*e*Sg	**Sg**	**13 09 50.0**	**+1.1**
DRE	**Drenchia**	**0.86**	**161**	⇓*i*Pg	**Pg**	**13 09 38.1**	**+0.4**
DRE				*i* Sg	**Sg**	**13 09 50.5**	**+1.6**
DRE	**Drenchia**	**0.86**	**161**	*i* Pg	**Pg**	**13 09 38.1**	**+0.4**
DRE				*i* Sg	**Sg**	**13 09 50.5**	**+1.6**
AFL	**Alpe Faloria**	**0.86**	**238⇑**	*i*Pg	**Pg**	**13 09 37.5**	**-0.4**
MLNI	**Malnisio**	**0.95**	**208⇑**	*i*Pg	**Pg**	**13 09 39.1**	**-0.3**
MLNI				*i* Sg	**Sg**	**13 09 52.6**	**+1.0**
CSO	**Casso**	**0.96**	**222⇓**	*i*Pg	**Pg**	**13 09 38.7**	**-0.8**
CSO				*i* Sg	**Sg**	**13 09 52.2**	**+0.2**
OBKA	**Obir**	**1.02**	**118⇑**	*e*Pg	**Pg**	**13 09 39.1**	**-1.6**
	comp=Z,29nm,0.2s,SNR=17						
OBKA	**Obir**	**1.02**	**118**	*e*Pg	**Pg**	**13 09 39.0**	**-1.7**
	SNR=62						
OBKA				*e*Sg	**Sg**	**13 09 52.7**	**-1.3**
OBKA	**Obir**	**1.02**	**118⇑**	*e*Pg	**Pg**	**13 09 39.1**	**-1.7**
	29nm,0.2s,SNR=17						
OBKA				⇓*i*Sg	**Sg**	**13 09 53.2**	**-0.7**
	194nm,0.3s						
OBKA	**Obir**	**1.02**	**118⇑**	*e*Pg	**Pg**	**13 09 39.1**	**-1.6**
OBKA				*i* Sg	**Sg**	**13 09 53.2**	**-0.7**
SCE	**Schlegeis**	**1.05**	**273⇑**	*i*Pg	**Pg**	**13 09 40.3**	**-1.1**
VOY	**Vojsko**	**1.06**	**155**	*e*Pg	**Pg**	**13 09 40.7**	**-0.8**
VOY				*e*		13 09 41.8	
VOY				*e*Sg	**Sg**	**13 09 54.7**	**-0.5**
MOA	**Molln**	**1.11**	**38**	⇓*i*Sg	**Sg**	**13 09 56.0**	**-0.8**
	comp=E,359nm,0.4s						
MOA	**Molln**	**1.11**	**38**	*e*Pg	**Pg**	**13 09 41.1**	**-1.3**
	SNR=127						
MOA				*e*Sg	**Sg**	**13 10 02.4**	**+5.6**
MOA	**Molln**	**1.11**	**38⇓**	*e*Pg	**Pg**	**13 09 40.7**	**-1.7**
	72nm,0.2s,SNR=193						
MOA				⇓*i*Sg	**Sg**	**13 09 56.7**	**0.0**
	359nm,0.4s						
MOA	**Molln**	**1.11**	**38⇓**	*e*Pg	**Pg**	**13 09 40.7**	**-1.7**
MOA				*i* Sg	**Sg**	**13 09 56.0**	**-0.8**
CAE	**Caneva**	**1.13**	**210**	*e*Pg	**Pg**	**13 09 42.9**	**0.0**
CAE				*e*Sg	**Sg**	**13 09 58.4**	**+0.8**
WTTA	**Wattenberg**	**1.13**	**285**	*e*Pg	**Pg**	**13 09 42.0**	**-0.9**
	comp=Z,121nm,0.2s,SNR=201						
WTTA	**Wattenberg**	**1.13**	**285**	*e*Pg	**Pg**	**13 09 42.0**	**-1.0**
	SNR=125						
WTTA				*e*Sg	**Sg**	**13 10 05.6**	**+8.0**
WTTA	**Wattenberg**	**1.13**	**285**	*e*Pg	**Pg**	**13 09 42.0**	**-1.0**
	121nm,0.2s,SNR=201						
WTTA				⇓*i*Sg	**Sg**	**13 09 57.7**	**+0.1**
	181nm,0.3s						
WTTA	**Wattenberg**	**1.13**	**285**	*e*Pg	**Pg**	**13 09 42.0**	**-0.9**
WTTA				*i* Sg	**Sg**	**13 09 57.7**	**+0.1**
FAU	**Forcella Aurin**	**1.16**	**229⇓**	*e*Pg	**Pg**	**13 09 42.9**	**-0.5**
WATA	**Walderalm**	**1.19**	**288⇑**	*e*Pg	**Pg**	**13 09 43.1**	**-0.9**
	comp=Z,173nm,0.2s,SNR=146						
WATA	**Walderalm**	**1.19**	**288⇑**	*e*Pg	**Pg**	**13 09 43.1**	**-1.0**
	173nm,0.2s,SNR=146						
WATA				⇑*i*Sg	**Sg**	**13 09 59.1**	**-0.4**
	96nm,0.3s						
WATA	**Walderalm**	**1.19**	**288⇑**	*e*Pg	**Pg**	**13 09 43.1**	**-0.9**
WATA				*i* Sg	**Sg**	**13 09 59.5**	**+0.1**
TRI	**Trieste**	**1.33**	**164**	Pg	**Pg**	**13 09 46.3**	**-0.4**
TRI				Sg	**Sg**	**13 10 04.8**	**+0.8**
	150nm,0.5s						
SQTA	**Sankt Quirin**	**1.41**	**280⇑**	*e*Pg	**Pg**	**13 09 47.0**	**-1.3**
	comp=Z,122nm,0.2s,SNR=130						
SQTA	**Sankt Quirin**	**1.41**	**280⇑**	*i*Pg	**Pg**	**13 09 47.0**	**-1.3**
	122nm,0.2s,SNR=130						
SQTA				⇑*e*Sg	**Sg**	**13 10 06.2**	**-0.4**
	205nm,0.2s						
SQTA	**Sankt Quirin**	**1.41**	**280⇑**	*e*Pg	**Pg**	**13 09 47.0**	**-1.3**
SQTA				*i* Sg	**Sg**	**13 10 06.2**	**-0.3**
MTLO	**Montello**	**1.42**	**214**	*e*Pg	**Pg**	**13 09 48.1**	**-0.3**
MTLO				*e*Sg	**Sg**	**13 10 09.1**	**+2.2**
APPI	**Appiano**	**1.48**	**251**	Pg	**Pg**	**13 09 48.6**	**-0.9**
	167nm,0.3s						
CGRP	**Cima Grappa**	**1.49**	**223⇑**	*e*Pg	**Pg**	**13 09 49.4**	**-0.4**
CGRP				*e*Sg	**Sg**	**13 10 12.1**	**+2.9**
MOTA	**Moosalm**	**1.50**	**284⇓**	*e*Pg	**Pg**	**13 09 48.7**	**-1.4**
	comp=Z,45nm,0.3s,SNR=96						
MOTA	**Moosalm**	**1.50**	**284⇑**	*i*Sg	**Sg**	**13 10 10.0**	**+0.4**
	comp=Z,202nm,0.4s						
MOTA	**Moosalm**	**1.50**	**284⇓**	*e*Pg	**Pg**	**13 09 48.5**	**-1.5**
	45nm,0.3s,SNR=96						
MOTA				⇑*e*Sg	**Sg**	**13 10 10.7**	**+1.1**
	202nm,0.4s						
MOTA	**Moosalm**	**1.50**	**284⇓**	*e*Pg	**Pg**	**13 09 48.7**	**-1.4**
MOTA				*i* Sg	**Sg**	**13 10 10.0**	**+0.4**
MOTA	**Moosalm**	**1.50**	**284**	Pg	**Pg**	**13 09 48.5**	**-1.5**
	45nm,0.3s,SNR=96						
MOTA				*i* Sg	**Sg**	**13 10 10.0**	**+0.4**
ARSA	**Arzberg**	**1.58**	**80**	*e*Pg	**Pn**	**13 09 48.7**	**-0.8**
	SNR=29						
ARSA				*e*Sg	**Sg**	**13 10 11.0**	**-0.9**
ARSA	**Arzberg**	**1.58**	**80⇑**	*e*Pn	**Pn**	**13 09 48.8**	**-0.7**
	SNR=19						
ARSA				⇑*i*Pg	**Pg**	**13 09 49.8**	**-1.6**
	24nm,0.3s						
ARSA				⇓*i*Sn	**Sn**	**13 10 09.0**	**-1.2**
ARSA				⇓*i*Sg	**Sg**	**13 10 11.0**	**-1.0**
	34nm,0.3s						
ARSA	**Arzberg**	**1.58**	**80⇑**	*e*Pn	**Pn**	**13 09 48.0**	**-1.6**
ARSA				⇑*i*Pg	**Pg**	**13 09 49.8**	**-1.6**
ARSA				*i* Sn	**Sn**	**13 10 08.9**	**-1.2**
ARSA				*i* Sg	**Sg**	**13 10 10.9**	**-1.0**
ARSA	**Arzberg**	**1.58**	**80**	Pg	**Pn**	**13 09 48.7**	**-0.8**
	SNR=29						
ARSA				Sg	**Sg**	**13 10 11.0**	**-0.9**
FUR	**Furstenfeldbru**	**1.78**	**312**	*e*Pn	**Pg**	**13 09 55.0**	**-0.3**
	SNR=6.0						
FUR				*e*Sg	**Sg**	**13 10 19.5**	**+1.1**
FUR	**Furstenfeldbru**	**1.78**	**312**	*e*Pn	**Pg**	**13 09 55.0**	**-0.3**
FUR				*e*Sn	**Sg**	**13 10 18.8**	**+0.4**
GEC2	**GERESS Array S**	**1.88**	**9**	*e*Pn	**Pn**	**13 09 54.8**	**+1.1**
	SNR=32						
GEC2				*e*Sg	**Sg**	**13 10 21.3**	**-0.4**
GEC2	**GERESS Array S**	**1.88**	**9**	*e*Pn	**Pn**	**13 09 54.7**	**+1.0**
GEC2				*e*Sn	**Sn**	**13 10 20.0**	**+2.3**
TEOL	**Teolo**	**1.96**	**214⇑**	*e*Pn	**Pn**	**13 09 56.8**	**+2.0**
CONA	**Conrad Observa**	**2.01**	**61⇓**	*e*Pg	**Pn**	**13 09 56.3**	**+0.8**
	7.0nm,0.2s,SNR=45						
CONA				⇓*i*Sg	**Sg**	**13 10 25.4**	**-0.4**
	41nm,0.3s						
BRMO	**Bormio**	**2.04**	**256**	Pg	**Pn**	**13 09 58.1**	**+2.2**
	46nm,0.5s						
MABI	**Malga Bissina**	**2.10**	**245**	Pg	**Pn**	**13 09 59.1**	**+2.3**
	23nm,0.9s						
KHC	**Kasperske Hory**	**2.15**	**6**	*e*PN	**Pn**	**13 09 58.6**	**+1.1**
KHC				*e*PG	**Pg**	**13 10 03.0**	**+0.5**
KHC				*e*SN	**Sn**	**13 10 26.6**	**+2.2**
KHC				*e*SG	**Sg**	**13 10 33.0**	**+2.5**
KHC	**Kasperske Hory**	**2.15**	**6**	*e*Pn	**Pn**	**13 09 58.6**	**+1.1**
KHC				*e*Sn	**Sn**	**13 10 26.6**	**+2.2**
WET	**Wettzell**	**2.17**	**354**	*e*Pn	**Pn**	**13 09 58.5**	**+0.8**
	SNR=15						
WET				*e*Sg	**Sn**	**13 10 25.5**	**+0.7**
WET	**Wettzell**	**2.17**	**354**	*e*Pn	**Pn**	**13 09 58.2**	**+0.5**
WET				*e*Sn	**Sn**	**13 10 25.3**	**+0.5**
UBR	**Ueberruh**	**2.24**	**289**	⇑P	**Pn**	**13 10 00.8**	**+2.1**
UBR				Pg	**Pg**	**13 10 03.3**	**-0.9**
UBR				Sg	**Sg**	**13 10 33.9**	**+0.6**
UBR	**Ueberruh**	**2.24**	**289**	P	**Pn**	**13 10 00.8**	**+2.1**
UBR				Pg	**Pg**	**13 10 03.3**	**-0.9**
UBR				Sg	**Sg**	**13 10 33.9**	**+0.6**
DAVA	**Damuels**	**2.32**	**279⇑**	*e*Pg	**Pg**	**13 10 04.2**	**-1.4**
	comp=Z,72nm,0.3s,SNR=45						
DAVA	**Damuels**	**2.32**	**279⇑**	*i*Sg	**Sg**	**13 10 36.4**	**+0.8**
	comp=Z,112nm,0.4s						
DAVA	**Damuels**	**2.32**	**279**	*e*Pn	**Pn**	**13 10 03.8**	**+4.1**
	SNR=59						
DAVA				*e*Sg	**Sg**	**13 10 37.6**	**+2.0**
DAVA	**Damuels**	**2.32**	**279**	⇑Pn	**Pn**	**13 09 58.5**	**-1.2**
DAVA				⇑*e*Pg	**Pg**	**13 10 04.2**	**-1.4**
	72nm,0.3s,SNR=45						
DAVA				⇓*e*Sg	**Sg**	**13 10 37.1**	**+1.5**
	75nm,0.2s						
DAVA	**Damuels**	**2.32**	**279⇑**	*e*Pg	**Pg**	**13 10 04.2**	**-1.4**
DAVA				*i* Sg	**Sg**	**13 10 36.4**	**+0.8**
HDH	**Heidenheim-Cha**	**2.60**	**309**	P	**Pn**	**13 10 04.5**	**+0.9**
HDH				S	**Sn**	**13 10 34.8**	**-0.5**
HDH				Sg	**Sg**	**13 10 42.7**	**-2.0**
HDH	**Heidenheim-Cha**	**2.60**	**309**	P	**Pn**	**13 10 04.5**	**+1.0**
HDH				S	**Sn**	**13 10 34.8**	**-0.5**
HDH				Sg	**Sg**	**13 10 42.7**	**-1.9**
HDH	**Heidenheim-Cha**	**2.60**	**309**	P	**Pn**	**13 10 04.4**	**+0.9**
HDH				S	**Sn**	**13 10 34.8**	**-0.5**
HDH				Sg	**Sg**	**13 10 42.7**	**-1.9**
ZST	**Bratislava**	**2.88**	**64**	*e*PG	**Pb**	**13 10 12.2**	**-0.6**
ZST				*e*SG	**Sb**	**13 10 49.7**	**+1.5**
SISB	**Singen-Schiene**	**2.99**	**285**	P	**Pn**	**13 10 11.2**	**+2.2**
SISB				Pg	**Pg**	**13 10 16.9**	**-1.6**
SISB				Sg	**Sg**	**13 10 57.2**	**-0.1**
GUT	**Gutenstein**	**3.00**	**293**	P	**Pn**	**13 10 10.8**	**+1.7**
GUT				S	**Sn**	**13 10 47.2**	**+1.9**
GUT				Sg	**Sg**	**13 10 55.5**	**-2.1**
BUCH	**Bad Urach**	**3.01**	**301**	P	**Pn**	**13 10 10.9**	**+1.7**
BUCH				Pg	**Pg**	**13 10 19.1**	**+0.2**
BUCH				S	**Sn**	**13 10 47.5**	**+2.1**
BUCH				Sg	**Sg**	**13 10 55.9**	**-1.9**
BUCH	**Bad Urach**	**3.01**	**301**	P	**Pn**	**13 10 10.9**	**+1.7**
BUCH				S	**Sn**	**13 10 47.5**	**+2.1**
BUCH				Sg	**Sg**	**13 10 55.9**	**-1.9**
GRA1	**Grafenberg Arr**	**3.02**	**334**	Sg	**Sg**	**13 11 00.3**	**+2.0**
GRF	**Grafenberg Arr**	**3.02**	**334**	*e*Sg	**Sg**	**13 11 00.3**	**+2.0**
PRU	**Pruhonice**	**3.12**	**16**	*e*PN	**Pn**	**13 10 12.6**	**+1.8**
PRU				*e*PG	**Pg**	**13 10 19.7**	**-1.4**
PRU				*e*SG	**Sg**	**13 11 00.2**	**-1.3**
	42nm,0.7s						
SMOL	**Smolenice**	**3.21**	**60**	*e*PN	**Pn**	**13 10 12.9**	**+1.0**
SPAK	**Spaichingen-Ko**	**3.22**	**292**	Pn	**Pn**	**13 10 13.5**	**+1.4**
SPAK	**Spaichingen-Ko**	**3.22**	**292**	Pg	**Pg**	**13 10 23.7**	**+0.8**
VRAC	**Vranov**	**3.23**	**43**	*e*Pn	**Pn**	**13 10 12.6**	**+0.4**
VRAC				*e*Sn	**Sn**	**13 10 51.4**	**+0.6**
STU	**Stuttgart**	**3.26**	**305**	*e*Pg	**Pg**	**13 10 23.8**	**+0.2**
	SNR=1.2						
STU				*e*Sg	**Sg**	**13 11 06.8**	**+0.9**
SIND	**Sindeldorf**	**3.39**	**315**	⇑P	**Pn**	**13 10 15.6**	**+1.1**
SIND				S	**Sn**	**13 10 55.1**	**+0.2**
SIND				Sg	**Sg**	**13 11 08.9**	**-1.3**
SIND	**Sindeldorf**	**3.39**	**315**	⇑P	**Pn**	**13 10 15.6**	**+1.1**
SIND				S	**Sn**	**13 10 55.1**	**+0.2**
SIND				Sg	**Sg**	**13 11 08.9**	**-1.3**
GUNZ	**Gunzen**	**3.43**	**350**	*e*Pn	**Pn**	**13 10 16.4**	**+1.4**
	SNR=8.5						
GUNZ				*e*Sg	**Sg**	**13 11 12.8**	**+1.4**
LBG	**Lerchenberg**	**3.44**	**301**	P	**Pn**	**13 10 16.6**	**+1.6**
LBG				Pg	**Pg**	**13 10 25.2**	**-1.8**
LBG				S	**Sn**	**13 10 56.2**	**+0.2**
LBG				Sg	**Sg**	**13 11 12.0**	**+0.5**
LBG	**Lerchenberg**	**3.44**	**301**	P	**Pn**	**13 10 16.6**	**+1.5**
LBG				S	**Sn**	**13 10 56.2**	**+0.2**
LBG				Sg	**Sg**	**13 11 12.0**	**+0.5**
TANN	**Tannenbergstha**	**3.47**	**352**	*e*Pn	**Pn**	**13 10 16.4**	**+0.9**
	SNR=5.7						
TANN				*e*Sg	**Sg**	**13 11 12.0**	**-0.6**
WERD	**Werda**	**3.52**	**350**	*e*Pn	**Pn**	**13 10 17.4**	**+1.2**
	SNR=9.0						
WERD				*e*Sg	**Sg**	**13 11 14.1**	**-0.1**
BFO	**Black Forest**	**3.58**	**294**	*e*Pn	**Pn**	**13 10 18.4**	**+1.3**
BFO				*e*Sg	**Sg**	**13 11 18.4**	**+2.1**
FELD	**Feldberg im Sc**	**3.67**	**286**	Pn	**Pn**	**13 10 19.0**	**+0.8**
FELD	**Feldberg im Sc**	**3.67**	**286**	Pg	**Pg**	**13 10 30.2**	**-1.3**
FELD				Sg	**Sg**	**13 11 22.3**	**+3.3**
KIZ	**Kirchzarten**	**3.74**	**287**	⇑P	**Pn**	**13 10 20.6**	**+1.4**
KIZ				Pg	**Pg**	**13 10 31.1**	**-1.8**
KIZ				S	**Sn**	**13 11 03.1**	**-0.4**
KIZ				Sg	**Sg**	**13 11 19.1**	**-2.2**
KIZ	**Kirchzarten**	**3.74**	**287**	⇑P	**Pn**	**13 10 20.6**	**+1.3**
KIZ				Pg	**Pg**	**13 10 31.1**	**-1.8**
KIZ				S	**Sn**	**13 11 03.1**	**-0.4**
KIZ				Sg	**Sg**	**13 11 19.2**	**-2.1**
MOX	**Moxa**	**3.81**	**344**	*e*Pn	**Pn**	**13 10 21.1**	**+0.8**
	SNR=31						
MOX				*e*Sn	**Sn**	**13 11 03.4**	**-1.9**
MOX				*e*Sg	**Sg**	**13 11 24.7**	**+1.0**
MOX	**Moxa**	**3.81**	**344**	*e*PN	**Pn**	**13 10 21.4**	**+1.1**
MOX				*e*SN	**Sn**	**13 11 04.7**	**-0.6**
MOX				*e*SG	**Sg**	**13 11 24.7**	**+1.0**
MOX	**Moxa**	**3.81**	**344**	*e*Pn	**Pn**	**13 10 21.4**	**+1.1**
MOX				*e*Sn	**Sn**	**13 11 04.7

HINF	**Hinteralfeld**	**4.42 283**	*e*Pn	**Pn**	**13 10 29.6**	**+1.0**
HINF			*e*Sn	**Sn**	**13 11 18.0**	**-2.3**
comp=Z,39nm,0.4s						
HINF	**Hinteralfeld**	**4.42 283**	*e*Pn	**Pn**	**13 10 29.6**	**+1.0**
HINF			*e*Sn	**Sn**	**13 11 18.0**	**-2.3**
comp=Z,20nm,0.4s						
TNS	**Taunus Mts**	**4.54 317**	*e*Pn	**Pn**	**13 10 32.1**	**+1.9**
SNR=8.8						
TNS			*e*Sn	**Sn**	**13 11 22.0**	**-1.2**
TNS	**Taunus Mts**	**4.54 317**	*e*Pn	**Pn**	**13 10 31.8**	**+1.6**
LPG	**La Plagne**	**4.75 254**	*e*P	**Pn**	**13 10 36.8**	**+3.7**
LPL	**La Plagne**	**4.75 254**	*e*P	**Pn**	**13 10 36.4**	**+3.2**
HAU	**Haudompre**	**4.79 285**	*e*Pg	**Pg**	**13 10 51.1**	**-1.8**
HAU			*e*Sn	**Sn**	**13 11 26.7**	**-2.6**
HAU			*e*Sg	**Sg**	**13 11 54.7**	**-0.1**
comp=Z,24nm,0.5s						
HAU	**Haudompre**	**4.79 285**	*e*Pn	**Pn**	**13 10 34.4**	**+0.8**
HAU			*e*Pg	**Pg**	**13 10 51.1**	**-1.8**
HAU			*e*Sn	**Sn**	**13 11 26.7**	**-2.6**
HAU			*e*Sg	**Sg**	**13 11 54.7**	**-0.1**
comp=Z,12nm,0.5s						
HAU	**Haudompre**	**4.79 285**	*e*Pn	**Pn**	**13 10 34.4**	**+0.8**
HAU			*e*Pg	**Pg**	**13 10 51.1**	**-1.8**
HAU			*e*Sn	**Sn**	**13 11 26.7**	**-2.6**
HAU			*e*Sg	**Sg**	**13 11 54.7**	**-0.1**
comp=Z,12nm,0.5s						
CABF	**La Chapelle**	**4.93 268**	*e*Pg	**Pg**	**13 10 53.7**	**-1.9**
CABF			*e*Sg	**Sg**	**13 11 59.6**	**+0.1**
comp=Z,9.3nm,0.6s						
CABF	**La Chapelle**	**4.93 268**	*e*Pn	**Pn**	**13 10 36.4**	**+0.8**
CABF			*e*Pg	**Pg**	**13 10 53.7**	**-1.9**
CABF			*e*Sg	**Sg**	**13 11 59.6**	**+0.1**
CABF	**La Chapelle**	**4.93 268**	*e*Pg	**Pg**	**13 10 53.7**	**-1.9**
CABF			*e*Sg	**Sg**	**13 11 59.6**	**+0.1**
comp=Z,4.7nm,0.6s						
MBDF	**Montbardon**	**5.06 246**	*e*Pn	**Pn**	**13 10 36.8**	**-0.5**
MBDF			*e*Sn	**Sn**	**13 11 32.7**	**-3.3**
comp=Z,5.5nm,0.5s						
MBDF	**Montbardon**	**5.06 246**	*e*Pn	**Pn**	**13 10 36.8**	**-0.5**
MBDF			*e*Sn	**Sn**	**13 11 32.7**	**-3.3**
comp=Z,2.8nm,0.5s						
SBF	**Sospel**	**5.15 235**	*e*Pn	**Pn**	**13 10 37.3**	**-1.3**
RFYF	**Reffroy**	**5.49 290**	*e*Pn	**Pn**	**13 10 42.5**	**-0.8**
ORIF	**Oris-en-Rattie**	**5.54 251**	*e*P	**Pn**	**13 10 47.3**	**+3.3**
ORIF			*e*Sn	**Sn**	**13 11 43.5**	**-4.3**
comp=Z,12nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.54 251**	*e*Pn	**Pn**	**13 10 43.1**	**-0.9**
ORIF			*e*P		13 10 47.3	
ORIF			*e*Sn	**Sn**	**13 11 43.5**	**-4.3**
ORIF	**Oris-en-Rattie**	**5.54 251**	*e*P	**Pn**	**13 10 47.3**	**+3.3**
SFTF	**Sexfontaines**	**5.68 285**	*e*Pn	**Pn**	**13 10 45.4**	**-0.6**
FRF	**La Foret Royal**	**5.78 236**	*e*Pn	**Pn**	**13 10 46.7**	**-0.6**
VIVF	**Saint-Julien-l**	**6.35 253**	*e*Pn	**Pn**	**13 10 54.2**	**-0.9**
LOR	**Lormes**	**6.41 276**	*e*Pn	**Pn**	**13 10 55.5**	**-0.5**
LOR	baz=96		*e*Sn	**Sn**	**13 12 05.3**	**-4.1**
comp=Z,4.1nm,0.4s						
LOR	**Lormes**	**6.41 276**	*e*Pn	**Pn**	**13 10 55.5**	**-0.5**
LOR			*e*Sn	**Sn**	**13 12 05.3**	**-4.1**
comp=Z,2.0nm,0.4s						
SMF	**Signal de Mont**	**6.46 270**	*e*Pg	**Pg**	**13 11 23.1**	**-1.9**
SMF			*e*Sn	**Sn**	**13 12 06.4**	**-4.2**
comp=Z,4.8nm,0.5s						
SMF	**Signal de Mont**	**6.46 270**	*e*Pg	**Pg**	**13 11 23.1**	**-1.9**
SMF			*e*Sn	**Sn**	**13 12 06.4**	**-4.2**
comp=Z,2.4nm,0.5s						
BAIF	**Baives**	**6.74 300**	*e*Pn	**Pn**	**13 11 00.0**	**-0.5**
AVF	**Avril sur Loir**	**6.78 272**	*e*Pn	**Pn**	**13 11 00.8**	**-0.3**
AVF			*e*Pg	**Pg**	**13 11 28.9**	**-2.2**
BGF	**Bois d'Agland**	**7.16 270**	*e*Pn	**Pn**	**13 11 05.5**	**-0.7**
BGF			*e*Sn	**Sn**	**13 12 22.9**	**-4.8**
comp=Z,10nm,0.3s						
BGF	**Bois d'Agland**	**7.16 270**	*e*Pn	**Pn**	**13 11 05.5**	**-0.7**
BGF			*e*Sn	**Sn**	**13 12 22.9**	**-4.8**
comp=Z,5.2nm,0.3s						

*MDD **14** 13:24:17.5±0.5, 3822N×874W, h0km, mbLg1.5/5, Error ellipse: s-maj=4.3km s-min=2.9km az=94.0, PRXIMO*
INMG 14 13:24:17.4±1.0, 3823N×874W, h8km±5km, ML1.3, Error ellipse: s-maj=2.4km s-min=1.3km az=74.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.43**	**46**	*e*Pg	Pg	13 24 26.2	+0.5
MOE				*e*Sg	Sg	13 24 31.5	+0.1
PTEO	**Sao Teotonio**	**0.68**	**179**	*e*Pg	Pg	13 24 29.8	-0.7
PTEO				*e*Sg	Sg	13 24 39.1	-0.2
PTEO	5.8nm,0.2s						
PBEJ	**Beja**	**0.72**	**106**	*e*Pg	Pg	13 24 30.6	-0.6
PBEJ				*e*Sg	Sg	13 24 40.4	-0.2
PBEJ	5.7nm,0.2s						
PLOU	**Loures**	**0.73**	**334**	*e*Pg	Pg	13 24 30.8	-0.7
PLOU				*e*Sg	Sg	13 24 40.6	-0.5
PLOU	14nm,0.2s						
PMAFR	**Mafra**	**0.84**	**330**	*e*P	Pg	13 24 32.9	-0.7
PMAFR				*e*S	Sg	13 24 44.1	-0.5
MORF	**Marmelete**	**0.92**	**176**	*e*P	Pg	13 24 34.8	-0.3
MORF				*e*S	Sg	13 24 46.2	-0.8
PESTR	**Estremoz**	**1.11**	**54**	*e*P	Pg	13 24 37.6	-1.1
PESTR				*e*S	Sg	13 24 52.4	-0.6
PESTR	2.1nm,0.3s						
EGRO	**El Granado**	**1.21**	**124**	Pg	Pg	13 24 39.8	-0.9
EGRO	2.0nm,0.2s,SNR=7.9			Lg		13 24 55.9	
	0.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.46**	**68**	Pg	Pg	13 24 43.4	-1.9
EBAD	0.8nm,0.1s,SNR=5.9			Lg		13 25 03.6	
	4.6nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.70**	**105**	Pg	Pg	13 24 48.6	-1.4
EMIN	0.2nm,0.1s,SNR=7.9			Lg		13 25 09.9	
	1.7nm,0.2s,SNR=9.4						

*ISCJB **14** 13:47:32.5±4.7, 60S±03×1472E±02, h98km±28km, mb4.0/6, Error ellipse: s-maj=48.4km s-min=22.8km az=58.2*
*NEIC **14** 13:47:34.0±1.6, 601S×14724E, h100km, mb4.2/6, Error ellipse: s-maj=26.2km s-min=15.5km az=200.0*
*IDC **14** 13:47:46.2±4.5, 706S×14691E, h133km±28km, mb3.7/4, mb1 3.9/6, mb1mx3.6/13, mbtmp4.1/6, Error ellipse: s-maj=50.8km s-min=37.0km az=15.0*
ISC 14 13:47:33.7±4.5, 60S±03×1472E±02, h96km±27km, n17, σ0§86/19, mb4.0/6, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**181**	P	**Pn**	**13 48 24.3**	**-0.5**
	10nm,0.3s,baz=338,slow=5.8,SNR=38						
PMG				S	**Sn**	**13 49 04.2**	**-0.2**
	36nm,0.3s,baz=158,slow=22,SNR=16						
PMG	**Port Moresby**	**3.41**	**181**	P	**Pn**	**13 48 24.3**	**-0.5**
PMG				*e*Sn	**Sn**	**13 49 03.9**	**-0.5**
PMG				S	**Sn**	**13 49 04.2**	**-0.2**
CTAO	**Charters Tower**	**14.06**	**184**	Pn	**Pn**	**13 50 50.6**	**+2.2**
KAKA	**Kakadu**	**16.04**	**244**	*e*P	**Pn**	**13 51 14.5**	**+1.0**
	6.4nm,0.6s						
WB2	**Warramunga Arr**	**18.69**	**221**	⇑*i*P	**Pn**	**13 51 44.6**	**-1.1**
	17nm,0.8s						
WRA	**Warramunga Arr**	**18.70**	**221**	P	**Pn**	**13 51 44.2**	**-1.6**
	0.9nm,0.3s,baz=44,slow=11,SNR=64						
AS31	**Alice Springs**	**21.76**	**215**	*e*P	**P**	**13 52 17.8**	**+0.4**
ASAR	**Alice Springs**	**21.77**	**215**	P	**P**	**13 52 17.8**	**+0.4**
	3.4nm,0.5s,mb4.0,baz=49,slow=8.1,SNR=60						
ASPA	**Alice Springs**	**21.77**	**215**	⇑*i*P	**P**	**13 52 17.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.27**	**238**	*e*P	**P**	**13 52 41.8**	**0.0**
	12nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.27**	**238**	P	**P**	**13 52 42.1**	**+0.3**
	3.9nm,0.4s,mb4.1,baz=55,slow=9.7,SNR=58						
STKA	**Stephens Creek**	**26.30**	**191**	P	**P**	**13 53 00.7**	**+0.5**
	1.1nm,0.4s,mb3.6,baz=30,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**26.30**	**191**	P	**P**	**13 53 00.2**	**+0.1**
MBWA	**Marble Bar**	**30.61**	**238**	*e*P	**P**	**13 53 38.4**	**-0.1**
	4.1nm,0.8s,mb4.2						
VNDA	**Vanda**	**71.92**	**177**	P	**P**	**13 58 46.4**	**-0.1**
	1.0nm,0.6s,mb3.8,baz=324,slow=6.0,SNR=5.8						
QSPA	**South Pole Qui**	**83.99**	**180**	*e*P	**P**	**13 59 52.4**	**-0.8**
	2.8nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**145.30**	**284**	PKPbc	PKPbc	14 07 10.4	+10
	0.4nm,0.6s,baz=88,slow=3.5,SNR=4.9						

*ISCJB **14** 13:54:37.7±0.6, 2053S×005×6731W×006, h183km±8km, mb4.0/6, Error ellipse: s-maj=9.6km s-min=8.0km az=38.9*
*IDC **14** 13:54:38.7±1.4, 2057S×6729W, h180km±12km, mb3.6/3, mb1 3.5/6, mb1mx3.3/19, mbtmp4.0/6, Error ellipse: s-maj=39.4km s-min=13.0km az=134.0*
*NEIC **14** 13:54:38.7±0.7, 2056S×6733W, h178km±9km, mb4.0/5, Error ellipse: s-maj=11.1km s-min=9.0km az=92.0*
ISC 14 13:54:38.7±0.6, 2052S±005×6731W±006, h174km±7km, n21, σ1§02/24, mb4.0/6, 1C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.56**	**215**	P	**Pn**	**13 55 23.2**	**+1.5**
	9.1nm,0.3s,baz=34,slow=9.3,SNR=92						
LVC				S	**Sn**	**13 55 56.0**	**+0.9**
	43nm,0.3s,baz=294,slow=19,SNR=30						
LVC	**Limon Verde**	**2.56**	**215**	P	**Pn**	**13 55 23.2**	**+1.5**
LVC				*e*Sn	**Sn**	**13 55 55.4**	**+0.3**
LVC				S	**Sn**	**13 55 56.0**	**+0.9**
ARE	**Arequipa**	**5.66**	**315**	⇑*i*P	**Pn**	**13 56 01.4**	**+0.3**
ARE				*i* S	**Sn**	**13 57 04.7**	**-1.1**
SIV	**San Ignacio**	**7.44**	**54**	P	**Pn**	**13 56 25.7**	**+1.1**
	21nm,0.3s,baz=249,slow=12,SNR=364						
SIV				S	**Sn**	**13 57 47.1**	**-1.1**
	baz=155,slow=21,SNR=4.0						
CPUP	**Villa Florida**	**10.84**	**124**	P	**Pn**	**13 57 08.0**	**-1.1**
	1.1nm,0.3s,baz=296,slow=10,SNR=7.2						
CPUP	**Villa Florida**	**10.84**	**124**	P	**Pn**	**13 57 08.0**	**-1.2**
CFAA	**Coronel Fontan**	**11.07**	**184**	P	**Pn**	**13 57 10.5**	**-1.7**
	0.1nm,0.3s,baz=16,slow=15,SNR=3.6						
CFAA	**Coronel Fontan**	**11.07**	**184**	P	**Pn**	**13 57 10.5**	**-1.7**
SAML	**Samuel**	**12.18**	**20**	Pn	**Pn**	**13 57 27.0**	**+0.6**
NNA	**Nana**	**12.47**	**311**	Pn	**Pn**	**13 57 29.2**	**-1.0**
BDFB	**Brasilia**	**18.97**	**78**	P	**P**	**13 58 48.3**	**+1.6**
	0.5nm,0.3s,baz=233,slow=8.2,SNR=5.1						
PLCA	**Paso Flores**	**20.34**	**187**	P	**P**	**13 59 00.8**	**-0.6**
	3.1nm,0.9s,baz=1.8,slow=9.1,SNR=4.0						
SNAA	**Sanae**	**62.72**	**161**	*e*P	**P**	**14 04 44.2**	**-0.8**
	1.5nm,0.7s,mb3.9						
DBIC	**Dimbokro**	**67.02**	**73**	P	**P**	**14 05 13.6**	**+0.7**
	2.6nm,0.9s,mb4.1,baz=253,slow=3.9,SNR=4.3						
DBIC	**Dimbokro**	**67.02**	**73**	*e*P	**P**	**14 05 12.5**	**-0.4**
	11nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**69.67**	**180**	*e*P	**P**	**14 05 29.2**	**-0.1**
	2.5nm,0.9s,mb3.9						
QSPA				*e*		14 05 45.0	
TORD	**Torodi Ar. Bea**	**75.62**	**70**	P	**P**	**14 06 03.8**	**-0.6**
	2.7nm,0.7s,mb4.0,baz=249,slow=5.6,SNR=18						
HLID	**Hailey**	**77.03**	**327**	P	**P**	**14 06 14.0**	**+1.7**
	2.7nm,1.1s,mb3.8						
TSUM	**Tsumeb**	**78.89**	**106**	*e*P	**P**	**14 06 23.1**	**+0.6**
	2.8nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**131.46**	**206**	SKPbc	SKPbc	14 16 37.4	-1.9
	0.7nm,1.0s,baz=154,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**134.54**	**209**	SKPbc	SKPbc	14 16 47.6	-2.1
	1.6nm,1.0s,baz=151,slow=3.0,SNR=6.9						

CASC 14 14:00:04.6±2.0, 1046N×8651W, h29km±25km, MD3.7, ML3.0, 8C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.93**	**111**	*e*P	Pn	14 00 21.4	-0.2
VCR				*e*S	Sn	14 00 36.5	+2.6
CRZC	**La Cruz**	**1.02**	**61**	⇑*e*P	Pn	14 00 21.9	-1.0
CRZC				*e*S	Sn	14 00 37.1	+0.9
SSNN	**San Juan del S**	**1.04**	**38**	⇑*e*P	Pn	14 00 22.9	-0.4
SSNN				*e*S	Sn	14 00 39.8	+3.0
RIN3	**Volcan Rincon**	**1.16**	**74**	⇑*e*P	Pn	14 00 24.4	-0.4
LIM1	**Limonal**	**1.25**	**79**	⇑*i*P	Pn	14 00 25.8	-0.3
LIM1				*i* S	Sn	14 00 42.1	0.0
MADN	**Villa Maderas**	**1.34**	**45**	⇑*e*P	Pn	14 00 27.7	+0.4
CONN	**Concepcion**	**1.40**	**38**	⇑*e*P	Pn	14 00 28.0	-0.1
JCR	**Jicaral**	**1.50**	**114**	*e*P	Pn	14 00 30.2	+0.7
JCR				*e*S	Sn	14 00 48.2	0.0
TICN	**Ticuantepe**	**1.58**	**10**	*e*P	Pn	14 00 31.2	+0.5
MGAN	**Managua**	**1.69**	**9**	*i*	Pn	14 01 04.6	+32
MGAN	comp=E,209nm,0.6s			*i*		14 01 05.3	
	comp=N,168nm,0.6s						
COPN	**Copaltepe**	**1.71**	**357**	*e*P	Pn	14 00 32.2	-0.2
EPA	**Esparza**	**1.94**	**104**	*e*P	Pn	14 00 36.7	+1.1
MIRN	**Miramar**	**1.97**	**354**	⇑*e*P	Pn	14 00 35.9	-0.1
LEON	**Leon**	**1.98**	**349**	⇑*e*P	Pn	14 00 35.9	-0.2
CNGN	**Cerro Negro**	**2.03**	**355**	*e*P	Pn	14 00 37.8	+0.9
PRS1	**Puriscal**	**2.21**	**102**	*e*P	Pn	14 00 40.7	+1.4
LAJ	**Bijagual**	**2.42**	**104**	*e*P	Pn	14 00 37.9	-4.3

*ISCJB **14** 14:40:35.7±1.4, 1028S±0.10×161.1E±0.1, h85km±12km, mb3.9/6, Error ellipse: s-maj=23.1km s-min=12.5km az=118.3*
*IDC **14** 14:40:35.6±1.2, 1042S×161.12E, h61km±5km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.9/4, Error ellipse: s-maj=25.9km s-min=8.0km az=55.0*
*NEIC **14** 14:40:35.5±1.0, 1020S×161.16E, mb4.1/4, Error ellipse: s-maj=21.5km s-min=15.3km az=55.0*
ISC 14 14:40:35.4±1.4, 1027S±009×1613E±01, h68km±11km, h66km±1.9km: pP-P, n13, σ0§80/17, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.54**	**303**	P	**Pn**	**14 41 00.8**	**+0.1**
	147nm,0.3s,baz=101,slow=3.1,SNR=59						
HNR				S	**Sn**	**14 41 19.4**	**0.0**
	929nm,0.3s,baz=103,slow=11,SNR=59						
HNR	**Honiara**	**1.54**	**303**	P	**Pn**	**14 41 00.8**	**+0.1**
HNR				*e*Sn	**Sn**	**14 41 19.3**	**-0.1**
DZM	**Mont Dzumac**	**12.74**	**158**	*e*P	**Pn**	**14 43 37.2**	**+3.6**
DZM				*e*S	**Sn**	**14 45 53.9**	**+0.2**
DZM	**Mont Dzumac**	**12.74**	**158**	P	**Pn**	**14 43 37.5**	**+3.9**
	2.8nm,0.3s,baz=346,slow=22,SNR=186						
DZM				S	**Sn**	**14 45 52.0**	**-1.6**
	0.4nm,0.3s,baz=301,slow=21,SNR=6.6						
CTAO	**Charters Tower**	**17.45**	**234**	*e*P	**Pn**	**14 44 35.4**	**+1.3**
	5.2nm,0.9s						
WRA	**Warramunga Arr**	**27.67**	**247**	P	**P**	**14 46 16.6**	**-0.2**
	0.8nm,0.5s,mb3.5,baz=73,slow=9.2,SNR=29						
WRA				pP	pP	14 46 32.0	-1.0
	1.4nm,0.8s,baz=76,slow=9.0,SNR=3.5						
WRA				sP	sP	14 46 37.6	-3.5
	4.1nm,0.8s,baz=74,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**29.28**	**239**	P	**P**	**14 46 31.1**	**-0.1**
	0.4nm,0.5s,mb3.3,baz=63,slow=9.9,SNR=10						
ASAR				pP	pP	14 46 45.8	-1.7
	1.1nm,1.0s,baz=70,slow=9.3,SNR=2.5						
ASAR				sP	sP	14 46 51.7	-3.9
	1.8nm,0.8s,baz=67,slow=9.5,SNR=8.1						
MBWA	**Marble Bar**	**41.30**	**250**	P	**P**	**14 48 13.6**	**-0.5**
	7.2nm,1.0s,mb4.5						
VNDA	**Vanda**	**67.23**	**180**	P	**P**	**14 51 22.7**	**+0.2**
	1.0nm,0.7s,mb3.8,baz=347,slow=6.1,SNR=10						
VNDA	**Vanda**	**67.23**	**180**	*e*P	**P**	**14 51 22.1**	**-0.4**
	1.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**75.48**	**325**	P	**P**	**14 52 12.5**	**+0.4**
	1.7nm,0.7s,mb3.9,baz=137,slow=5.4,SNR=14						
SONM				pP	pP	14 52 30.8	+0.2
	0.3nm,0.7s,baz=136,slow=3.4,SNR=2.2						
SONM				sP	sP	14 52 39.4	+1.3
	0.7nm,0.6s,baz=143,slow=4.9,SNR=3.5						
SVW2	**Sparrevohn**	**78.82**	**20**	*e*P	**P**	**14 52 31.1**	**+0.3**
QSPA	**South Pole Qui**	**79.73**	**180**	*e*P	**P**	**14 52 35.0**	**-0.8**
	3.6nm,0.8s,mb4.2						

*MOS **14** 15:18:33.2±1.0, 2296S×6831W, h70km, mb5.4/35, Error ellipse: s-maj=16.4km s-min=6.9km az=115.6*
*GUC **14** 15:18:35.7±0.5, 2352S×6836W, h110km, MD4.4, ML5.1*
*ISCJB **14** 15:18:37.5±0.2, 2303S±004×6822W±004, h108km, mb5.0/99, Error ellipse: s-maj=5.7km s-min=4.5km az=41.9*
*IDC **14** 15:18:38.6±0.4, 2300S×6841W, h107km±2km, mb4.6/20, mb1 4.6/22, mb1mx4.6/24, mbtmp4.9/22, MS3.9/14, Ms1 3.8/14, ms1mx3.7/28, Error ellipse: s-maj=13.6km s-min=8.5km az=56.0*
*NEIC **14** 15:18:38.8±0.2, 2302S×6819W, mb5.2/88, Error ellipse: s-maj=6.2km s-min=4.4km az=54.0*
*GCMT **14** 15:18:38.8±0.3, 2312S×6877W, h135km±2km, MW5.1/67, Moment Tensor Solution. s51,c65; s67,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.43±.16; $M_{\theta\theta}$1.24±.19; $M_{\phi\phi}$3.19±.24; $M_{r\theta}$-0.66±.13; $M_{r\phi}$-3.12±.17; $M_{\theta\phi}$-3.07±.15; Best double couple: $M_0$5.93800×10^{16} NP1:ϕ§120.00000°, δ§39.00000°, λ-130.00000°. NP2: ϕ§347.00000°, δ§61.00000°, λ-63.00000°. Principal axes: T 5.9370, Plg12.0000°, Azm58.0000°; N 0.0030, Plg24.0000°, Azm153.0000°; P -5.9400, Plg63.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **14** 15:18:39.7, 2300S×6820W, h108km, mB5.2*
ISC 14 15:18:39.2±0.2, 2309S±004×6825W±004, h110km, h110km±1.1km: pP-P, n475, σ0§72/424, mb5.0/99, 81C-85D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.77**	**308**	P	**Pn**	**15 18 56.4**	**-1.7**
	2μm,0.3s,baz=123,slow=8.0						
LVC				S	**Sn**	**15 19 10.1**	**-2.2**
	12μm,0.3s,baz=3.5,slow=21,SNR=63						
LVC	**Limon Verde**	**0.77**	**308**	*e*Pn	**Pn**	**15 18 55.8**	**-2.4**
LVC				*e*Sn	**Sn**	**15 19 05.3**	**-7.1**
CEN1	**Los Morros**	**1.82**	**260**	⇓*i*P	**Pn**	**15 19 07.1**	**-2.8**
CEN1				*i* S	**Sn**	**15 19 31.0**	**-2.2**
CEN1				AML	AML	15 19 36.3	
	comp=N,21μm,0.5s						
ANCH	**Antofagasta**	**2.07**	**253**	⇑*i*P	**Pn**	**15 19 14.0**	**+1.0**
ANCH				*e*S	**Sn**	**15 19 38.5**	**-0.4**
CDCH	**Caldera**	**4.60**	**210**	*e*P	**Pn**	**15 19 40.3**	**-6.3**
CPCH	**Copiapo**	**4.66**	**204**	*e*P	**Pn**	**15 19 40.3**	**-7.0**
LCO	**Las Campanas**	**6.29**	**200**	⇑*i*P	**Pn**	**15 20 03.0**	**-6.5**
ARE	**Arequipa**	**7.26**	**335**	*e*P	**Pn**	**15 20 18.0**	**-4.6**
ARE				*e*S	**Sn**	**15 21 37.0**	**-6.5**
TLL	**Tololo Astrono**	**7.41**	**197**	⇑*i*P	**Pn**	**15 20 19.1**	**-5.5**
CFAA	**Coronel Fontan**	**8.48**	**180**	P	**Pn**	**15 20 34.7**	**-4.5**
	comp=N,3.0nm,0.3s,baz=352,slow=13,SNR=109						
CFAA	**Coronel Fontan**	**8.48**	**180**	P	**Pn**	**15 20 34.7**	**-4.5**
SIV	**San Ignacio**	**9.78**	**45**	P	**Pn**	**15 20 54.2**	**-2.5**
	comp=N,96nm,0.3s,baz=234,slow=11,SNR=413						
SIV				S	**Sn**	**15 22 38.0**	**-6.6**
	comp=N,2.8nm,0.3s,baz=144,slow=21,SNR=4.1						
CPUP	**Villa Florida**	**10.44**	**110**	P	**Pn**	**15 21 05.4**	**-0.4**
	comp=N,1.9nm,0.3s,baz=266,slow=12,SNR=8.6						
CPUP				LR	LR	15 25 27.6	
	comp=N,519nm,20.7s,baz=271,slow=39						
CPUP	**Villa Florida**	**10.44**	**110**	*e*P	**Pn**	**15 21 04.6**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,131nm,0.6s						
CPUP	**Villa Florida**	**10.44**	**110**	*e*Pn	**Pn**	**15 21 04.6**	**-1.1**
	comp=Z,131nm,0.6s						
NNA	**Nana**	**13.74**	**322**	P	**Pn**	**15 21 54.9**	**+5.6**
	comp=Z,666nm,1.1s,SNR=8.1						
NNA	**Nana**	**13.74**	**322**	P	**Pn**	**15 21 51.4**	**+2.1**
	comp=Z,2.0nm,0.3s,baz=151,slow=9.6,SNR=23						
NNA	**Nana**	**13.74**	**322**	*e*Pn	**Pn**	**15 21 48.1**	**-1.2**
	comp=Z,211nm,1.3s						
NNA				*e*		15 21 53.3	
SAML	**Samuel**	**14.88**	**20**	*e*P	**Pn**	**15 22 00.4**	**-3.4**
	comp=Z,47nm,1.1s						
SAML				*e*sP	sP	15 22 36.8	-3.8
PLCA	**Paso Flores**	**17.70**	**186**	P	**Pn**	**15 22 36.6**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=4.0,slow=13,SNR=7.9						
PLCA				PcP	PcP	15 27 10.8	+0.1
	comp=Z,0.2nm,0.3s,baz=332,slow=1.0,SNR=3.5						
PLCA				LR	LR	15 29 54.7	
	comp=Z,400nm,20.7s,baz=12,slow=38						
PLCA	**Paso Flores**	**17.70**	**186**	*e*P	**Pn**	**15 22 34.6**	**-4.0**
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PLCA	**Paso Flores**	**17.70**	**186**	*e*P	**Pn**	**15 22 34.6**	**-4.0**
	comp=Z,10nm,0.6s						
ATAH	**Atahualpa**	**18.74**	**327**	P	**P**	**15 22 48.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=181,slow=21,SNR=25						
BDFB	**Brasilia**	**20.47**	**72**	P	**P**	**15 23 07.5**	**-0.5**
	comp=Z,55nm,0.8s,baz=254,slow=10,SNR=58						
BDFB	**Brasilia**	**20.47**	**72**	*e*P	**P**	**15 23 07.2**	**-0.9**
BDFB				*e*PP		15 23 31.8	
BDFB				pmax	pmax		
	comp=Z,125nm,0.9s						
BDFB	**Brasilia**	**20.47**	**72**	*e*P	**P**	**15 23 07.2**	**-0.9**
	comp=Z,124nm,0.9s						
BDFB				*e*pP		15 23 31.8	
CAM4	**Nova Friburgo**	**23.70**	**93**	⇑*i*P	**P**	**15 23 41.0**	**+0.1**
CAM4				*i*		15 23 41.8	
CAM4				*i*		15 23 43.3	
CAM4				*i*		15 23 45.0	
CAM4				*i*		15 24 08.6	
CAM4				*i*		15

SNAA **Sanae** 60.59 161 *e*P P 15 28 36.4 -1.8
SNAA *e**PP pP 15 29 05.5 +0.6
SNAA pmax pmax
comp=Z,52nm,1.1s
SNAA **Sanae** 60.59 161 *e*P P 15 28 36.4 -1.8
comp=Z,52nm,1.1s,mb5.5
SNAA *e*pP pP 15 29 05.5 +0.6
OXF **Oxford** 60.71 340 *e*P P 15 28 36.8 -2.2
OXF *e* 15 29 16.5
OXF pmax pmax
comp=Z,43nm,1.1s,mb5.4
OXF **Oxford** 60.71 340 *e*P P 15 28 36.8 -2.2
comp=Z,43nm,1.1s,mb5.4
OXF *e* 15 29 16.5
PLAL **Pickwick Lake** 60.74 341 *e*P P 15 28 36.6 -2.6
comp=Z,36nm,1.2s,mb5.3
PLAL *e*PcP PcP 15 29 16.7 -5.5
BLA **Blacksburg** 61.06 349 P P 15 28 40.5 -0.9
BLA pmax pmax
comp=Z,78nm,1.5s,mb5.5
BLA **Blacksburg** 61.06 349 P P 15 28 40.5 -0.9
comp=Z,78nm,1.5s,mb5.5
JCT **Junction City** 61.27 329 *e*P P 15 28 41.8 -1.0
JCT pmax pmax
comp=Z,21nm,0.9s,mb5.2
JCT **Junction City** 61.27 329 *e*P P 15 28 41.8 -1.0
comp=Z,21nm,0.9s,mb5.2
WVT **Waverly** 61.74 342 *e*P P 15 28 44.0 -2.0
WVT *e* pP 15 29 06.4 -6.4
WVT *e* 15 29 24.1
WVT pmax pmax
comp=Z,28nm,1.0s,mb5.2
WVT **Waverly** 61.74 342 *e*P P 15 28 44.0 -2.0
comp=Z,28nm,1.0s,mb5.2
WVT *e* pP 15 29 06.4 -6.3
WVT *e*PcP PcP 15 29 24.1 -2.1
FVM **French Village** 64.22 341 *e*P P 15 29 00.4 -2.0
FVM *e**PP pP 15 29 27.2 -2.2
FVM *e**SP sP 15 29 40.8 -0.5
FVM pmax pmax
comp=Z,55nm,1.1s,mb5.3
FVM **French Village** 64.22 341 *e*P P 15 29 00.4 -2.0
comp=Z,55nm,1.1s,mb5.3
FVM *e*pP pP 15 29 27.2 -2.2
FVM *e*sP sP 15 29 40.8 -0.5
CCM **Cathedral Cave** 64.54 340 *e*P P 15 29 00.7 -3.8
CCM *e**PP pP 15 29 23.8 -7.7
CCM pmax pmax
comp=Z,42nm,1.2s,mb5.1
CCM **Cathedral Cave** 64.54 340 *e*P P 15 29 00.7 -3.8
comp=Z,42nm,1.2s,mb5.2
CCM *e*pP pP 15 29 23.8 -7.7
MNTX **Cornudas Mount** 65.04 325 *e*P P 15 29 06.0 -1.7
comp=Z,21nm,1.1s,mb4.9
MNTX *e*pP pP 15 29 32.6 -2.2
MAIT **Maitri** 65.11 159⇓*i*P P 15 29 08.3 +0.2
NVL **N'lazarevskaya** 65.14 159*d*/P P 15 29 08.1 -0.2
NVL pmax pmax
comp=Z,59nm,1.6s,mb5.2
NVL pmax pmax
comp=N,17nm,1.4s
NVL pmax pmax
comp=E,25nm,1.6s
HRV **Harvard--Oak R** 65.33 357 *e*P P 15 29 08.9 -0.7
HRV pmax pmax
comp=Z,51nm,1.2s,mb5.2
HRV **Harvard--Oak R** 65.33 357 *e*P P 15 29 08.9 -0.7
comp=Z,51nm,1.2s,mb5.2
BINY **Binghamton** 65.35 354 *e*P P 15 29 09.6 -0.1
comp=Z,6.2nm,0.3s,mb4.9
HNH **Hanover** 66.57 357 *e*P P 15 29 18.1 +0.6
comp=Z,12nm,1.8s,mb4.4
QSPA **South Pole Qui** 67.11 180⇓*i*P P 15 29 20.7 -0.2
comp=Z,31nm,0.5s,mb5.4
KSU1 **Kansas State U** 67.32 336 *e*P P 15 29 20.8 -1.5
comp=Z,9.0nm,0.8s,mb4.7
LONY **Lake Ozonia** 67.62 355 *e*P P 15 29 24.1 -0.1
comp=Z,59nm,1.3s,mb5.3
Y22C **IRIS PASSCAL I** 67.71 326 ⇑P P 15 29 24.9 +0.2
baz=68
LPM **Los Pinos Moun** 67.75 326 *e*P P 15 29 24.8 -0.2
LPM *e*sP sP 15 30 04.6 +0.6
FRNY **Flat Rock** 67.77 356 *e*P P 15 29 25.1 0.0
LENM **Lemitar** 67.81 326 *e*P P 15 29 25.5 +0.2
LENM *e*pP pP 15 29 51.4 -1.2
LENM *e*sP sP 15 30 05.5 +1.1
MSNY **Massena** 68.02 355 *e*P P 15 29 26.7 +0.1
PKME **Peaks-Kenny Pk** 68.03 359 *e*P P 15 29 26.5 -0.3
comp=Z,27nm,0.8s,mb5.1
PKME *e*pP pP 15 29 54.0 0.0
LAZ **Ladron** 68.08 326 *e*P P 15 29 27.1 +0.1
LAZ *e*pP pP 15 29 52.4 -1.9
LAZ *e*sP sP 15 30 07.4 +1.3
ANMO **Albuquerque** 68.16 327 *e*P P 15 29 27.7 +0.2
ANMO *e**PP pP 15 29 56.0 +1.2
ANMO pmax pmax
comp=Z,30nm,1.0s
ANMO **Albuquerque** 68.16 327 *e*P P 15 29 27.7 +0.1
comp=Z,30nm,1.0s,mb5.1
ANMO *e*pP pP 15 29 56.0 +1.2
ANMO *e*sP sP 15 30 07.7 +1.0
TUC **Tucson** 68.46 322 *e*P P 15 29 29.5 +0.1
TUC *e**PP pP 15 29 55.6 -1.1
TUC pmax pmax
comp=Z,43nm,1.4s,mb5.1
TUC **Tucson** 68.46 322 *e*P P 15 29 29.5 +0.2
comp=Z,44nm,1.4s,mb5.1
TUC *e*pP pP 15 29 55.6 -1.1
TUC *e*sP sP 15 30 07.1 -1.5
DBIC **Dimbokro** 68.61 73 P P 15 29 31.2 +0.9
comp=Z,20nm,0.9s,mb4.9,baz=215,slow=6.1,SNR=16
DBIC pP pP 15 29 59.6 +2.0
comp=Z,10.0nm,0.5s,baz=218,slow=5.8,SNR=5.0
DBIC LR LR 15 55 49.3
comp=Z,76nm,18.9s,baz=181,slow=32
DBIC **Dimbokro** 68.61 73 *e*P P 15 29 30.8 +0.4
DBIC *e**PP pP 15 29 58.6 +0.9
DBIC pmax pmax
comp=Z,30nm,1.1s
DBIC **Dimbokro** 68.61 73 *e*P P 15 29 30.8 +0.4
comp=Z,30nm,1.1s,mb5.0
DBIC *e*pP pP 15 29 58.6 +1.0
JFWS **Jewell Farm** 68.73 343 *e*P P 15 29 29.7 -1.4
JFWS pmax pmax
comp=Z,15nm,0.8s,mb4.9
JFWS **Jewell Farm** 68.73 343 *e*P P 15 29 29.7 -1.4
comp=Z,15nm,0.8s,mb4.9
116A **Eloy** 69.17 322 P P 15 29 34.1 +0.3
baz=69,SNR=5.7
115A **Sonoran Desert** 69.57 321 ⇓P P 15 29 36.8 +0.5
baz=70
SDCO **Great Sand Dun** 69.92 329 *e*P P 15 29 38.5 +0.1
comp=Z,72nm,1.3s,mb5.3
SDCO *e*pP pP 15 30 05.1 -0.7
SDCO *e*sP sP 15 30 18.2 +0.6
Z14A **Wintersburg** 70.46 321 ⇓P P 15 29 41.9 +0.2
baz=71
X15A **Humboldt** 70.88 323 ⇓P P 15 29 45.0 +0.7
baz=71,SNR=14
Y14A **Wickenburg** 70.91 322 P P 15 29 45.0 +0.5
baz=71,SNR=6.0
MVCO **Mesa Verde** 70.95 327 *e*P P 15 29 44.4 -0.3
comp=Z,77nm,1.3s,mb5.4
MVCO *e*pP pP 15 30 13.4 +1.3
MVCO *e*sP sP 15 30 25.0 +1.0
MVCO **Mesa Verde** 70.95 327 ⇑P P 15 29 45.1 +0.4
baz=71
WUAZ **Wupatki** 71.17 324 *e*P P 15 29 46.6 +0.6
comp=Z,41nm,1.0s,mb5.2
WUAZ **Wupatki** 71.17 324 ⇓P P 15 29 46.7 +0.7
baz=71,SNR=24
X14A **Yava** 71.23 322 ⇓P P 15 29 47.0 +0.6
baz=72,SNR=13
Y13A **Salome** 71.30 321 ⇓P P 15 29 47.3 +0.5
baz=72,SNR=9.7
GLA **Glamis** 71.34 320 ⇑P P 15 29 47.5 +0.5
baz=72
W15A **Williams** 71.41 323 ⇓P P 15 29 48.4 +0.9
baz=72,SNR=5.2
ISCO **Idaho Springs** 71.62 330 *e*P P 15 29 48.9 +0.2
ISCO pmax pmax
comp=Z,41nm,1.3s,mb5.1
ISCO **Idaho Springs** 71.62 330 *e*P P 15 29 48.9 +0.1
comp=Z,41nm,1.3s,mb5.1
Y12C **Blythe** 71.66 321 ⇓P P 15 29 49.5 +0.6
baz=72,SNR=8.4
PV01 **Paradox Valley** 71.71 327 *e*P P 15 29 49.9 +0.6
SMCO **Snowmass** 71.75 329 *e*P P 15 29 50.0 +0.5
comp=Z,38nm,1.0s,mb5.2
SMCO *e*pP pP 15 30 18.4 +1.4
PDMCI **Parker Dam,Lak** 71.83 321 ⇓P P 15 29 50.3 +0.4
baz=72
DVTC **Desert V Tower** 71.83 319 ⇓P P 15 29 50.7 +0.8
baz=72
SWSC **Sam W. Stewart** 71.84 319 ⇓P P 15 29 50.4 +0.4
baz=72
X13A **Yucca** 71.86 322 P P 15 29 50.6 +0.5
baz=72,SNR=9.8
W14A **Seligman** 71.89 323 ⇑P P 15 29 51.2 +0.9
baz=72,SNR=7.9
PV10 **Paradox Valley** 72.13 327 *e*P P 15 29 51.8 0.0
BC3 **Big Chuckw Mtn** 72.14 320 ⇓P P 15 29 52.3 +0.5
baz=72,SNR=14
MONP **Monument Peak** 72.18 319 ⇓P P 15 29 52.7 +0.6
baz=72
W13A **Hualapai Mount** 72.25 322 ⇑P P 15 29 53.2 +0.7
baz=72
IRM **Iron Mountain** 72.31 321 ⇓P P 15 29 53.2 +0.3
baz=72,SNR=8.1
109C **Camp Elliot, M** 72.60 318 ⇓P P 15 29 54.3 -0.2
baz=73
BELC **Belle Mtn.** 72.70 320 ⇑P P 15 29 55.7 +0.5
baz=73,SNR=6.0
PFO **Pinyon Flat Ob** 72.70 319 ⇓P P 15 29 55.6 +0.5
baz=73
PHWY **Pilot Hill** 72.77 332 *e*P P 15 29 55.5 -0.1
W12A **Cal Nev Ari** 72.96 322 ⇓P P 15 29 57.1 +0.5
baz=73
MURC **Murrieta** 73.14 319 ⇑P P 15 29 58.2 +0.5
baz=73
SRU **San Rafael** 73.43 327 *e*P P 15 29 59.4 -0.1
SRU *e**PP pP 15 30 26.6 -0.5
SRU pmax pmax
comp=Z,46nm,1.0s,mb5.3
SRU **San Rafael** 73.43 327 *e*P P 15 29 59.4 0.0
comp=Z,46nm,1.0s,mb5.3
SRU *e*pP pP 15 30 26.6 -0.5
HEC **Hector,Ludlow** 73.47 320 P P 15 30 00.7 +0.9
baz=74,SNR=7.5
U12A **Valley of Fire** 73.58 323 P P 15 30 01.1 +0.8
baz=74,SNR=7.3
TUQ **Turquoise Mtn.** 73.66 321 P P 15 30 01.4 +0.6
baz=74,SNR=8.9
CCUT **Cedar City** 73.75 324 *e*P P 15 30 02.0 +0.7
CCUT *e*PcP PcP 15 30 17.7 +1.2
CCUT *e*pP pP 15 30 27.5 -1.5
MSU **Marysvale** 73.83 325 *e*P P 15 30 02.3 +0.5
MSU *e* 15 30 16.7
MSU *e**PP pP 15 30 29.6 +0.2
BFSC **Mount Baldy St** 73.86 319 ⇑P P 15 30 02.1 +0.2
baz=74,SNR=8.3
RWWY **Rawlins** 73.86 331 *e*P P 15 30 00.8 -1.1
comp=Z,51nm,1.0s,mb5.2
TMUT **Trail Mountain** 73.92 327 *e*P P 15 30 02.8 +0.5
ARUT **Antelope Range** 73.96 324 *e*P P 15 30 03.2 +0.6
GSC **Goldstone** 74.08 320 *e*P P 15 30 03.0 -0.3
GSC *e**PP pP 15 30 32.0 +1.1
GSC **Goldstone** 74.08 320 P P 15 30 04.0 +0.8
baz=74,SNR=13
SHOC **Shoshone** 74.19 321 ⇑P P 15 30 04.2 +0.3
baz=74
DECC **Green Verdugo** 74.27 319 ⇓P P 15 30 04.7 +0.3
baz=74
SBA **Scott Base** 74.38 190 *e*P P 15 30 05.1 +0.1
SBA *e**PP pP 15 30 34.1 +1.4
SBA pmax pmax
comp=Z,22nm,1.3s,mb4.7
SBA **Scott Base** 74.38 190 *e*P P 15 30 05.1 +0.1
comp=Z,22nm,1.3s,mb4.7
SBA *e*pP pP 15 30 34.1 +1.5
SBA *e*sP sP 15 30 45.8 +1.3
RSSD **Black Hills** 74.48 334 *e*P P 15 30 05.5 -0.1
RSSD pmax pmax
comp=Z,37nm,1.0s,mb5.1
RSSD **Black Hills** 74.48 334 *e*P P 15 30 05.5 -0.1
comp=Z,37nm,1.0s,mb5.1
EDW2 **Edwards Air Fo** 74.50 319 P P 15 30 05.8 +0.1
baz=75,SNR=9.5
MPU **Maple Canyon** 74.68 327 *e*P P 15 30 07.0 +0.3
comp=Z,41nm,1.2s,mb5.0
MPU *e*pP pP 15 30 32.4 -2.0
MPU *e*sP sP 15 30 47.4 +1.2
LRMC **Laurel Mountai** 74.72 320 ⇓P P 15 30 07.4 +0.4
baz=75,SNR=9.0
OSI **Osito Adit** 74.76 319 ⇓P P 15 30 07.2 +0.1
baz=75
DAU **Daniels Canyon** 74.79 327 *e*P P 15 30 08.1 +0.8
SYO **Syowa Base** 74.81 159⇓*i*P P 15 30 06.5 -1.0
SYO **Syowa Base** 74.81 159⇓*e*PcP PcP 15 30 18.2 -2.8
SYO **Syowa Base** 74.81 159⇓*e*pP pP 15 30 34.6 -0.5
NLU **North Lily Min** 74.85 327 *e*P P 15 30 08.0 +0.3
BSC **Santa Cruz Isl** 74.90 318 ⇑P P 15 30 08.3 +0.4
baz=75
FURC **Furnace Creek,** 74.93 321 ⇑P P 15 30 08.2 0.0
baz=75,SNR=11
MPMC **Manual Prospec** 75.01 321 P P 15 30 09.0 +0.4
baz=75,SNR=17
ARVC **Arvin** 75.17 319 ⇓P P 15 30 09.6 +0.1
baz=75
DAC **Darwin (Calif)** 75.22 321 *e*P P 15 30 10.0 +0.2
DAC pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
DAC **Darwin (Calif)** 75.22 321 *e*P P 15 30 10.0 +0.2
comp=Z,6.1nm,0.8s,mb4.4
AGMN **Agassiz Refuge** 75.25 341 *e*P P 15 30 08.6 -1.4
comp=Z,32nm,1.1s,mb5.0
ISA **Isabella** 75.32 320 *e*P P 15 30 10.5 +0.1
ISA *e**PP pP 15 30 39.1 +1.0
ISA **Isabella** 75.32 320 *e*P P 15 30 10.5 +0.1
ISA *e*pP pP 15 30 39.1 +1.0
ISA *e*sP sP 15 30 50.6 +0.7
ISA **Isabella** 75.32 320 ⇑P P 15 30 11.0 +0.6
baz=76,SNR=27
TCUT **Toone Canyon** 75.40 328 *e*P P 15 30 11.1 +0.2
VNDA **Vanda** 75.40 190 P P 15 30 10.9 0.0
comp=Z,3.8nm,1.0s,mb4.1,baz=131,slow=5.5,SNR=17
VNDA pP pP 15 30 39.1 +0.6
comp=Z,2.6nm,0.8s,baz=121,slow=3.3,SNR=4.2
VNDA **Vanda** 75.40 190 *e*P P 15 30 10.7 -0.1
VNDA *e**PP pP 15 30 39.1 +0.5
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA **Vanda** 75.40 190 *e*P P 15 30 10.7 -0.1
comp=Z,3.2nm,0.8s,mb4.1
VNDA *e*pP pP 15 30 39.1 +0.5
VNDA *e*sP sP 15 30 52.9 +2.5
DUG **Dugway** 75.41 326 *e*P P 15 30 10.7 -0.2
DUG pmax pmax
comp=Z,31nm,1.1s,mb5.0
DUG **Dugway** 75.41 326 *e*P P 15 30 10.7 -0.2
comp=Z,31nm,1.1s,mb5.0
DUG **Dugway** 75.41 326 P P 15 30 11.5 +0.6
baz=76,SNR=10
TRCR **Troy Canyon** 75.54 323 *e*P P 15 30 12.7 +1.0
PPT **Papeete** 75.55 257 LR LR 15 54 26.8
comp=Z,83nm,18.8s,baz=57,slow=28
GRAC **Grapevine Rang** 75.59 321 P P 15 30 12.6 +0.7
baz=76,SNR=12
PKM **Peak Mountain** 75.61 318 ⇓P P 15 30 12.5 +0.4
baz=76,SNR=19
CWC **Cottonwood Cre** 75.62 320 ⇑P P 15 30 12.6 +0.5
baz=76
PDAR **Pinedale Array** 75.78 330 P P 15 30 12.7 -0.4
comp=Z,5.0nm,0.7s,mb4.3,baz=152,slow=6.7,SNR=45
VES **Vestal, Richgr** 75.80 319 ⇑P P 15 30 13.4 +0.3
baz=76,SNR=8.8
HWUT **Hardware Ranch** 75.85 328 *e*P P 15 30 12.9 -0.5
comp=Z,30nm,0.9s,mb5.0
HWUT *e*pP pP 15 30 40.9 -0.3
R10A **Warm Springs** 75.89 323 ⇓P P 15 30 14.6 +1.0
baz=76,SNR=11
Q11A **Duckwater** 75.93 324 ⇑P P 15 30 14.4 +0.5
baz=76,SNR=13
P12A **McGill** 75.97 325 P P 15 30 14.7 +0.6
baz=76,SNR=19
SMMC **Simmler** 76.00 319 ⇓P P 15 30 15.0 +0.7
baz=76,SNR=6.6
S09A **Goldfield** 76.01 322 P P 15 30 14.6 +0.3
baz=76,SNR=16
SPUT **South Promonto** 76.06 327 *e*P P 15 30 12.7 -1.9
SPUT *e*pP pP 15 30 40.1 -2.3
BGU **Big Grassy Mou** 76.06 327 *e*P P 15 30 14.2 -0.4
TIN **Tinemaha** 76.12 321 ⇓P P 15 30 15.8 +0.9
baz=76
TPH **Tonopah** 76.25 322 *e*P P 15 30 15.4 -0.3
TPH pmax pmax
comp=Z,29nm,1.1s,mb4.9
TPH **Tonopah** 76.25 322 *e*P P 15 30 15.4 -0.3
comp=Z,29nm,1.1s,mb4.9
R09A **Tonopah** 76.28 322 P P 15 30 16.4 +0.5
baz=76,SNR=16
V05C **Boulder Hill,** 76.31 319 ⇓P P 15 30 16.5 +0.5
baz=76
PTRM **Twissleman Ran** 76.36 319 *e*P P 15 30 17.1 +0.8
S08C **White Mtn Res** 76.40 321 ⇓P P 15 30 17.1 +0.6
baz=77,SNR=16
P11A **Circle Ranch,** 76.49 324 ⇓P P 15 30 17.6 +0.6
baz=77
AHID **Auburn Hatcher** 76.50 329 *e*P P 15 30 16.9 -0.3
comp=Z,68nm,1.0s,mb5.3
MTUM **Tungsten Hills** 76.52 321 *e*P P 15 30 17.6 +0.4
HVU **Hansel Valley** 76.57 327 *e*P P 15 30 17.3 -0.2
HVU pmax pmax
comp=Z,26nm,0.9s,mb5.0
HVU **Hansel Valley** 76.57 327 *e*P P 15 30 17.3 -0.2
comp=Z,26nm,0.9s,mb5.0
N13A **Wendover, West** 76.61 326 ⇓P P 15 30 17.8 0.0
baz=77,SNR=5.6
V04C **Ramage Ranch,** 76.75 318 ⇓P P 15 30 18.9 +0.4
baz=77
PKD **Parkfield** 76.75 319 P P 15 30 18.9 +0.4
baz=77,SNR=7.6
Q09A **Carvers** 76.76 323 ⇑P P 15 30 19.2 +0.6
baz=77
REDW **Red Top Meadow** 76.84 330 *e*P P 15 30 18.7 -0.3
comp=Z,48nm,1.0s,mb5.2
O11A **Cowboy Ranch,** 76.85 325 ⇓P P 15 30 19.3 +0.3
baz=77,SNR=16
MLAC **Mammoth Lakes** 76.87 321 ⇑P P 15 30 20.1 +0.9
baz=77
SNOW **Snow King Moun** 76.88 330 *e*P P 15 30 19.0 -0.2
comp=Z,46nm,0.8s,mb5.3
P10A **Eureka** 76.92 324 ⇑P P 15 30 20.2 +0.8
baz=77,SNR=11
LOHW **Long Hollow** 76.92 330 *e*P P 15 30 19.4 0.0
comp=Z,36nm,0.9s,mb5.1
KCC **Kaiser Creek** 76.94 320 ⇑P P 15 30 19.9 +0.3
baz=77,SNR=7.9
R08A **Mina** 76.94 322 ⇑P P 15 30 19.9 +0.3
baz=77
T06C **Milleton Lake** 76.96 320 ⇓P P 15 30 20.5 +0.9
baz=77
TPAW **Teton Pass** 76.99 330 *e*P P 15 30 19.8 0.0
comp=Z,57nm,1.0s,mb5.2
ULM **Lac du Bonnet** 77.01 342 P P 15 30 18.8 -1.1
comp=Z,12nm,0.7s,mb4.7,baz=153,slow=5.7,SNR=15
ULM LR LR 16 07 24.5
comp=Z,62nm,19.3s,baz=330,slow=38
RRI2 **Red Ridge** 77.05 329 *e*P P 15 30 25.5 +5.3
comp=Z,79nm,1.0s,mb5.4
MOOW **Moose Ponds** 77.09 330 *e*P P 15 30 20.0 -0.4
comp=Z,16nm,0.9s,mb4.8
MOOW *e*pP pP 15 30 48.1 -0.1
NVAR **Mina Array Bea** 77.11 322 P P 15 30 20.9 +0.3
comp=Z,5.2nm,0.9s,mb4.3,baz=163,slow=6.2,SNR=44
Q08A **Gabbs** 77.20 322 ⇑P P 15 30 21.1 +0.1
baz=77,SNR=8.9
V03C **Hunter Liggett** 77.22 318 ⇓P P 15 30 21.6 +0.5
baz=77
P09A **Austin** 77.24 323 ⇓P P 15 30 21.6 +0.3
baz=78
SUR **Sutherland** 77.26 120 *e*P P 15 30 22.9 +1.5
SUR *e*pP pP 15 30 51.2 +2.0
IMW **Indian Meadow** 77.30 330 *e*P P 15 30 21.6 0.0
comp=Z,51nm,1.0s,mb5.2
IMW *e*pP pP 15 30 49.9 +0.5
R07C **Lee Vining** 77.31 321 ⇑P P 15 30 22.4 +0.8
baz=78,SNR=11
TOA0 **Torodi Ar. Sit** 77.32 70 *e*P P 15 30 22.3 +0.6
TOA0 *e*pP pP 15 30 49.5 -0.1
TORD **Torodi Ar. Bea** 77.32 70 P P 15 30 22.3 +0.6
comp=Z,18nm,0.5s,mb5.1,baz=256,slow=5.5,SNR=304
TORD pP pP 15 30 50.4 +0.8
comp=Z,7.5nm,0.5s,baz=252,slow=5.6,SNR=3.1
TORD LR LR 16 05 58.3
comp=Z,97nm,18.0s,baz=285,slow=37
TORD **Torodi Ar. Bea** 77.32 70 P P 15 30 22.3 +0.6
TORD pP pP 15 30 50.4 +0.8
TORD LR LR 16 05 58.2
FLWY **Flagg Ranch** 77.33 330 *e*P P 15 30 22.2 +0.4
comp=Z,91nm,1.0s,mb5.5
FLWY *e*pP pP 15 30 50.8 +1.2
LRV **Little Rabbit** 77.36 319 *e*P P 15 30 22.7 +0.8
N11A **Elko Archery C** 77.38 325 ⇓P P 15 30 22.3 +0.2
baz=78
M12A **Wells** 77.39 326 P P 15 30 22.3 +0.2
baz=78,SNR=21
O10A **Cortez Mining,** 77.42 324 ⇓P P 15 30 22.6 +0.4
baz=78
T05C **Eagle Field, D** 77.46 319 ⇑P P 15 30 23.1 +0.7
baz=78
RLMT **Red Lodge** 77.49 332 *e*P P 15 30 22.7 0.0
comp=Z,35nm,0.9s,mb5.1
RLMT *e*pP pP 15 30 49.9 -0.6
S05C **Merced** 77.56 320 ⇑P P 15 30 23.1 +0.1
baz=78,SNR=6.8
LKWY **Lake** 77.56 331 *e*P P 15 30 24.5 +1.4
LKWY pmax pmax
comp=Z,29nm,1.1s,mb4.9
LKWY **Lake** 77.56 331 *e*P P 15 30 24.5 +1.5
comp=Z,29nm,1.1s,mb4.9
SCHQ **Schefferville** 77.61 1 P P 15 30 22.9 -0.4
comp=Z,5.2nm,0.8s,mb4.3,baz=191,slow=5.6,SNR=7.6
HAST **UC Hastings Re** 77.66 319 P P 15 30 24.1 +0.5
baz=78,SNR=9.3
YFT **Old Faithful** 77.67 330 *e*P P 15 30 25.1 +1.4
O09A **Fish Creek Ran** 77.70 324 ⇑P P 15 30 23.9 0.0
baz=78,SNR=11
N10A **Dunphy** 77.72 325 ⇑P P 15 30 23.9 0.0
baz=78
R06C **Coleville** 77.83 321 P P 15 30 25.6 +1.1
baz=78,SNR=15
M11A **Holland Ranch,** 77.85 325 P P 15 30 25.4 +0.7
baz=78,SNR=18
P08A **Dixie Valley** 77.86 323 ⇑P P 15 30 25.1 +0.4
baz=78,SNR=9.8
YMR **Madison River** 77.90 330 *e*P P 15 30 26.1 +1.2
comp=Z,134nm,1.4s,mb5.5
YMR *e*pP pP 15 30 51.4 -1.4
PACP **Pacheco Peak** 77.90 319 ⇓P P 15 30 25.3 +0.3
baz=78,SNR=5.7
BMN **Battle Mountai** 77.90 324 *e*P P 15 30 24.6 -0.3
BMN pmax pmax
comp=Z,11nm,1.1s,mb4.5
BMN **Battle Mountai** 77.90 324 *e*P P 15 30 24.6 -0.4
comp=Z,11nm,1.1s,mb4.5
CMB **Columbia Colle** 78.05 320 *e*P P 15 30 25.5 -0.2
CMB pmax pmax
comp=Z,23nm,1.6s,mb4.7
CMB **Columbia Colle** 78.05 320 *e*P P 15 30 25.5 -0.3
comp=Z,23nm,1.6s,mb4.7
CMB **Columbia Colle** 78.05 320 ⇓P P 15 30 25.5 -0.2
baz=78,SNR=5.3
DGMT **Dagmar** 78.16 336 *e*P P 15 30 26.4 0.0
comp=Z,117nm,1.3s,mb5.5
GCMT **Greycliff** 78.19 332 *e*P P 15 30 26.5 0.0
GCMT *e*pP pP 15 30 54.8 +0.3
QLMT **Earthquake Lak** 78.24 330 *e*P P 15 30 27.6 +0.8
M10A **I.L. Ranch, Tu** 78.31 325 P P 15 30 27.6 +0.5
baz=78,SNR=10.0
R05C **Kirkwood Meado** 78.31 321 ⇑P P 15 30 27.9 +0.7
baz=78,SNR=8.6
O08A **Rochester Mine** 78.32 323 ⇑P P 15 30 26.9 -0.3
baz=78
N09A **Rock Creek Ran** 78.36 324 ⇓P P 15 30 27.0 -0.5
baz=79
BNLO **Ben Lomond (Sa** 78.52 319 ⇓P P 15 30 28.7 +0.4
baz=79
R04C **Big Horse Ranc** 78.52 320 ⇓P P 15 30 28.8 +0.5
baz=79
WCN **Washoe City** 78.53 322 ⇑P P 15 30 29.1 +0.7
baz=79,SNR=7.5
WENL **Wente Brothers** 78.59 319 ⇓P P 15 30 29.2 +0.5
baz=79
PAHR **Pah Rah Range** 78.60 322 *e*P P 15 30 29.3 +0.5
comp=Z,64nm,1.0s,mb5.4
PAHR *e*pP pP 15 30 55.8 -0.9
PAHR *e*sP sP 15 31 08.9 +0.4

O07A	Toulon	78.63	323	P	P	15 30 29.1	+0.2
	baz=79,SNR=14						
HLID	Hailey	78.70	328	eP	P	15 30 30.0	+0.7
	comp=Z,64nm,1.0s,mb5.4						
M09A	Marrel Ranch,	78.72	325	⇓P	P	15 30 29.7	+0.3
	baz=79,SNR=13						
LAVA	Lava Cap Winer	78.73	321	P	P	15 30 29.6	+0.1
	baz=79,SNR=7.9						
JRSC	Jasper Ridge	78.74	319	⇑P	P	15 30 29.6	+0.1
	baz=79						
BDM	Black Diamond	78.87	320	⇓P	P	15 30 30.9	+0.6
	baz=79						
MCMT	McKenzie Canyo	78.89	329	eP	P	15 30 30.9	+0.6
MCMT				epP	pP	15 30 59.3	+1.0
TSUM	Tsumeb	79.01	106	eP	P	15 30 32.6	+1.6
	comp=Z,8.6nm,0.8s,mb4.6						
TSUM				epP	pP	15 31 00.3	+1.3
N07B	Gerlach	79.10	323	⇓P	P	15 30 31.7	+0.1
	baz=79,SNR=8.1						
O06A	Flanigan	79.16	322	P	P	15 30 32.1	+0.2
	baz=79,SNR=6.9						
Q04C	Lincoln	79.16	320	⇑P	P	15 30 32.1	+0.3
	baz=79						
DLMT	Dillon	79.18	330	eP	P	15 30 31.6	-0.3
	comp=Z,64nm,1.2s,mb5.3						
DLMT				epP	pP	15 30 59.7	-0.2
DLMT				esP	sP	15 31 09.5	-2.1
M08A	Happy Creek Ra	79.24	324	⇑P	P	15 30 32.3	0.0
	baz=80,SNR=16						
L09A	Wilkinson Ranc	79.26	325	⇑P	P	15 30 32.5	+0.1
	baz=80						
BEKR	Beckwourth	79.26	322	P	P	15 30 32.8	+0.5
	baz=80,SNR=19						
FARB	Farallon Islan	79.39	319	⇑P	P	15 30 33.0	0.0
	baz=80						
CVS	Carmenet Viney	79.48	320	⇓P	P	15 30 33.5	0.0
	baz=80,SNR=6.4						
OHCM	Honcut	79.55	321	eP	P	15 30 34.0	0.0
N06A	Buffalo Meadow	79.56	323	P	P	15 30 34.2	+0.2
	baz=80,SNR=25						
MCCM	Marconi Confer	79.60	319	⇑P	P	15 30 34.2	0.0
	baz=80						
M07A	Soldier Meadow	79.63	324	P	P	15 30 34.7	+0.3
	baz=80,SNR=19						
O05C	Quincy	79.64	322	⇑P	P	15 30 34.8	+0.3
	baz=80,SNR=13						
SUTB	Sutter Butte	79.66	321	⇓P	P	15 30 34.2	-0.3
	baz=80						
ORV	Oroville	79.71	321	P	P	15 30 35.1	+0.3
	baz=80,SNR=26						
L08A	Fields	79.74	325	P	P	15 30 34.9	0.0
	baz=80,SNR=23						
K09A	Rome	79.77	325	P	P	15 30 35.3	+0.2
	baz=80,SNR=23						
MNRC	McLaughlin Nat	79.82	320	⇓P	P	15 30 35.5	+0.1
	baz=80						
ELFS	Eagle Lake Fie	79.97	322	P	P	15 30 36.8	+0.5
	baz=80,SNR=18						
O04C	Chester	79.98	322	P	P	15 30 36.2	-0.1
	baz=80,SNR=19						
EGMT	Eagleton	79.98	333	eP	P	15 30 35.5	-0.8
	comp=Z,48nm,1.2s,mb5.2						
WVOR	Wild Horse Val	80.06	325	eP	P	15 30 36.2	-0.5
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
WVOR	Wild Horse Val	80.06	325	eP	P	15 30 36.2	-0.6
	comp=Z,7.9nm,1.1s,mb4.5						
L07A	Adell	80.16	324	⇑P	P	15 30 37.9	+0.7
	baz=80						
K08A	Mann Creek Ran	80.19	325	P	P	15 30 37.6	+0.2
	baz=80,SNR=6.5						
M06C	Likely Place G	80.23	323	P	P	15 30 38.0	+0.4
	baz=80,SNR=19						
J09A	Fry Pan Ranch,	80.24	326	⇑P	P	15 30 37.6	-0.1
	baz=80,SNR=15						
HOPS	Hopland	80.27	320	⇑P	P	15 30 38.1	+0.3
	baz=80						
GASB	Alder Springs	80.48	320	⇑P	P	15 30 39.5	+0.6
	baz=81,SNR=11						
HATC	Hat Creek Radi	80.52	322	P	P	15 30 39.2	0.0
	baz=81,SNR=9.4						
K07A	Rock Creek Ran	80.57	324	⇓P	P	15 30 39.6	+0.2
	baz=81,SNR=27						
MOD	Modoc	80.60	323	eP	P	15 30 39.4	-0.2
	comp=Z,17nm,1.0s,mb4.8						
MOD	Modoc	80.60	323	⇓P	P	15 30 39.0	-0.6
	baz=81,SNR=8.0						
J08A	Circle Bar Ran	80.62	325	⇓P	P	15 30 39.8	+0.1
	baz=81,SNR=21						
CHMT	Chamberlain Mo	80.65	331	eP	P	15 30 40.2	+0.4
CHMT				ePP	PP	15 33 48.8	+3.9
I09A	Lost Marbles R	80.67	326	⇓P	P	15 30 39.9	-0.1
	baz=81,SNR=18						
M05C	Lookout	80.70	323	⇓P	P	15 30 39.9	-0.3
	baz=81,SNR=9.2						
P01C	Double 8 Ranch	80.73	320	⇑P	P	15 30 40.6	+0.3
	baz=81,SNR=5.3						
O02C	Red Bluff	80.86	321	⇑P	P	15 30 40.3	-0.7
	baz=81,SNR=7.0						
MSO	Missoula	80.90	330	eP	P	15 30 41.1	-0.1
	comp=Z,26nm,1.5s,mb4.8						
WDC	Whiskeytown Da	80.98	321	eP	P	15 30 39.7	-1.9
WDC				e*PP	pP	15 31 08.3	-1.4
WDC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
WDC	Whiskeytown Da	80.98	321	eP	P	15 30 39.6	-2.0
	comp=Z,8.0nm,0.7s,mb4.7						
WDC				epP	pP	15 31 08.3	-1.4
WDC	Whiskeytown Da	80.98	321	⇑P	P	15 30 40.0	-1.6
	baz=81,SNR=9.7						
L05A	Lakeview	80.99	323	⇑P	P	15 30 42.1	+0.4
	baz=81,SNR=19						
I08A	Drewsey	81.05	326	⇓P	P	15 30 42.3	+0.3
	baz=81						
J07A	Hines	81.07	325	⇓P	P	15 30 42.3	+0.2
	baz=81						
H09A	Durkee	81.12	327	⇓P	P	15 30 42.2	-0.2
	baz=81,SNR=7.4						
K06A	Valley Falls	81.18	324	P	P	15 30 43.1	+0.4
	baz=81,SNR=26						
M04C	Macdoel	81.37	322	⇑P	P	15 30 43.5	-0.2
	baz=82,SNR=7.9						
J06A	Christmas Vall	81.44	324	⇓P	P	15 30 43.9	-0.1
	baz=82,SNR=43						
O01C	Eel River Cons	81.44	320	⇓P	P	15 30 44.3	+0.3
	baz=82						
K05A	Summer Lake	81.48	324	P	P	15 30 44.8	+0.6
	baz=82,SNR=30						
H08A	Prairie City	81.53	326	⇓P	P	15 30 44.6	+0.1
	baz=82,SNR=9.6						
N02C	Big Bar	81.58	321	⇑P	P	15 30 44.8	0.0
	baz=82,SNR=11						
I07A	Izee	81.66	325	⇑P	P	15 30 45.3	+0.1
	baz=82,SNR=23						
M02C	Callahan	81.69	322	⇓P	P	15 30 44.9	-0.5
	baz=82						
C13A	Hot Springs	81.82	330	P	P	15 30 46.2	+0.2
	baz=82,SNR=24						
F10A	Beach Ranch, E	81.83	328	⇑P	P	15 30 46.0	-0.1
	baz=82,SNR=17						
YBH	Yreka Blue Hor	81.83	322	P	P	15 30 44.7	-1.4
	comp=Z,6.1nm,0.9s,mb4.4,baz=100,slow=5.0,SNR=14						
YBH	Yreka Blue Hor	81.83	322	eP	P	15 30 44.5	-1.6
YBH				e*PP	pP	15 31 13.5	-0.7
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	Yreka Blue Hor	81.83	322	eP	P	15 30 44.5	-1.7
	comp=Z,8.0nm,1.0s,mb4.5						
YBH				epP	pP	15 31 13.5	-0.7
YBH	Yreka Blue Hor	81.83	322	⇑P	P	15 30 45.3	-0.8
	baz=82,SNR=5.0						
K04A	Chilquin	81.86	323	⇓P	P	15 30 46.0	-0.2
	baz=82						
I06A	Prineville	81.94	325	⇑P	P	15 30 47.0	+0.4
	baz=82,SNR=17						
F09A	S2 Ranch, Elgi	81.98	327	⇑P	P	15 30 46.5	-0.4
	baz=82,SNR=15						
J05A	Fort Rock	82.04	324	P	P	15 30 47.5	+0.3
	baz=82,SNR=25						
H07A	Lands Inn, Kim	82.04	326	P	P	15 30 47.3	+0.1
	baz=82,SNR=14						
BOSA	Boshof	82.17	118	P	P	15 30 48.1	+0.3
	comp=Z,12nm,1.0s,mb4.7,baz=280,slow=4.6,SNR=14						
BOSA				pP	pP	15 31 16.0	0.0
	comp=Z,5.3nm,0.6s,baz=242,slow=3.4,SNR=3.4						
BOSA				LR	LR	16 04 45.0	
	comp=Z,54nm,18.5s,baz=80,slow=34						
BOSA	Boshof	82.17	118	eP	P	15 30 48.0	+0.1
BOSA				e*PP	pP	15 31 15.6	-0.4
BOSA				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.0						
BOSA	Boshof	82.17	118	eP	P	15 30 48.0	+0.1
	comp=Z,34nm,1.5s,mb5.0						
BOSA				epP	pP	15 31 15.6	-0.4
G08A	Pilot Rock	82.21	327	P	P	15 30 48.0	-0.1
	baz=82,SNR=14						
C12A	Trout Creek	82.25	330	⇓P	P	15 30 48.2	-0.1
	baz=82						
PTEO	Sao Teotonio	82.27	44	eP	P	15 30 48.0	-0.4
B13A	Whitefish	82.28	331	P	P	15 30 48.4	-0.1
	baz=82,SNR=18						
F08A	Pendleton	82.47	327	P	P	15 30 49.0	-0.5
	baz=83,SNR=5.8						
WALA	Waterton Lakes	82.55	332	eP	P	15 30 49.4	-0.4
	comp=Z,44nm,1.1s,mb5.2						
G07A	Ruggs Ranch, H	82.56	326	⇑P	P	15 30 50.4	+0.5
	baz=83						
L02A	Cave Junction	82.61	322	⇓P	P	15 30 49.9	-0.3
	baz=83						
MAW	Mawson	82.64	163	P	P	15 30 50.1	-0.3
	comp=Z,9.9nm,0.4s,mb5.0,baz=232,slow=6.8,SNR=56						
MAW				pP	pP	15 31 17.9	-0.6
	comp=Z,7.7nm,0.5s,baz=180,slow=4.6,SNR=5.4						
MAW	Mawson	82.64	163	eP	P	15 30 49.6	-0.7
MAW				e*PP	pP	15 31 18.1	-0.4
MAW				pmax	pmax		
	comp=Z,35nm,1.0s						
MAW	Mawson	82.64	163	eP	P	15 30 49.6	-0.7
	comp=Z,35nm,1.0s,mb5.1						
MAW				epP	pP	15 31 18.1	-0.4
MAW				esP	sP	15 31 31.4	+1.3
E09A	Wood Farm, Sta	82.66	328	⇑P	P	15 30 50.2	-0.2
	baz=83						
B12A	Libby	82.86	330	P	P	15 30 51.6	+0.1
	baz=83,SNR=16						
K02A	Glendale	82.94	322	⇓P	P	15 30 51.9	0.0
	baz=83,SNR=6.1						
H05A	Madras	82.95	325	⇓P	P	15 30 52.0	0.0
	baz=83						
G06A	Carlson Farm,	83.04	326	P	P	15 30 52.6	+0.3
	baz=83,SNR=11						
J03A	Ideyld Park	83.05	323	⇑P	P	15 30 52.4	0.0
	baz=83						
PBEJ	Beja	83.10	44	eP	P	15 30 54.2	+1.5
	comp=Z,11nm,0.8s,mb4.7						
F07A	Phinny Hill Vi	83.12	327	⇓P	P	15 30 53.0	+0.2
	baz=83						
D09A	Jones Farm, Ri	83.13	328	P	P	15 30 52.5	-0.4
	baz=83,SNR=20						
C10A	Spilker Farm,	83.19	329	⇑P	P	15 30 52.7	-0.4
	baz=83						
A12A	Yaak River Ran	83.23	331	P	P	15 30 53.1	-0.2
	baz=84,SNR=15						
HAWA	Hanford	83.27	327	eP	P	15 30 53.1	-0.5
	comp=Z,12nm,0.8s,mb4.8						
J02A	Umpqua	83.38	323	⇓P	P	15 30 54.1	-0.1
	baz=84,SNR=5.0						
G05A	Wamic	83.40	325	⇑P	P	15 30 54.5	+0.3
	baz=84,SNR=12						
NEW	Newport	83.42	330	P	P	15 30 53.6	-0.7
	comp=Z,2.9nm,0.4s,mb4.5,baz=103,slow=8.7,SNR=7.9						
NEW				LR	LR	16 10 15.0	
	comp=Z,52nm,19.5s,baz=50,slow=37						
NEW	Newport	83.42	330	eP	P	15 30 53.1	-1.2
NEW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NEW	Newport	83.42	330	eP	P	15 30 53.1	-1.2
	comp=Z,9.1nm,1.0s,mb4.6						
D08A	Wollman Farm,	83.42	328	P	P	15 30 54.2	-0.2
	baz=84,SNR=5.9						
F06A	Goldendale	83.47	326	⇑P	P	15 30 54.6	0.0
	baz=84,SNR=5.1						
H04A	Detroit Lake	83.48	325	⇑P	P	15 30 53.9	-0.8
	baz=84,SNR=11						
B10A	Chitwood Farm,	83.49	330	⇓P	P	15 30 53.9	-0.8
	baz=84						
K01A	Sixes	83.52	322	⇓P	P	15 30 54.5	-0.3
	baz=84						
E07A	Sunnyside	83.54	327	⇓P	P	15 30 54.5	-0.5
	baz=84						
I03A	Eugene	83.61	323	⇑P	P	15 30 55.0	-0.3
	baz=84,SNR=7.2						
C09A	Chrisman Ranch	83.63	329	P	P	15 30 55.2	-0.2
	baz=84,SNR=21						
LBTB	Lobatse	83.81	114	eP	P	15 30 57.3	+1.0
LBTB				e*PP	pP	15 31 25.3	+0.8
LBTB				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
LBTB	Lobatse	83.81	114	eP	P	15 30 57.3	+1.0
	comp=Z,29nm,1.3s,mb5.0						
LBTB				epP	pP	15 31 25.2	+0.7
F05A	White Salmon	83.90	326	⇑P	P	15 30 56.6	-0.2
	baz=84						
I02A	Mapleton	83.93	323	⇑P	P	15 30 56.7	-0.3
	baz=84						
G04A	Mulino	83.98	325	⇓P	P	15 30 56.9	-0.3
	baz=84						
C08A	Higginbotham F	83.99	328	⇓P	P	15 30 56.3	-1.0
	baz=84,SNR=6.5						
B09A	Rice	84.01	329	⇑P	P	15 30 56.7	-0.7
	baz=84,SNR=15						
COR	Corvallis	84.02	324	eP	P	15 30 57.1	-0.3
COR				pmax	pmax		
	comp=Z,92nm,1.5s,mb5.4						
COR	Corvallis	84.02	324	eP	P	15 30 57.1	-0.3
	comp=Z,92nm,1.5s,mb5.4						
D07A	Quincy	84.04	327	⇑P	P	15 30 57.6	+0.1
	baz=84,SNR=5.9						
H03A	Soap Creek Ran	84.08	324	⇓P	P	15 30 57.8	+0.1
	baz=84,SNR=6.5						
A10A	Northport	84.13	330	⇑P	P	15 30 57.0	-1.0
	baz=84,SNR=8.6						
PCBR	Castelo Branco	84.41	42	eP	P	15 31 00.1	+0.7
	comp=Z,9.9nm,2.0s,mb4.3						
C07A	Waterville	84.42	328	P	P	15 30 59.0	-0.5
	baz=85,SNR=24						
F04A	Amboy	84.43	325	⇓P	P	15 30 58.9	-0.6
	baz=85						
G03A	Yamhill	84.48	324	⇓P	P	15 30 59.7	0.0
	baz=85,SNR=5.1						
A09A	Danville	84.61	329	P	P	15 30 59.6	-0.8
	baz=85,SNR=9.9						
PVIS	Viseu	84.67	42	eP	P	15 31 00.1	-0.6
	comp=Z,22nm,1.9s,mb4.8						
MTE	Manteigas	84.70	42	eP	P	15 31 01.5	+0.7
	comp=Z,23nm,1.6s,mb4.8						
B07A	Winthrop	84.98	328	P	P	15 31 01.4	-0.8
	baz=85,SNR=28						
PVRL	Vila Real	85.11	41	eP	P	15 31 03.3	+0.4
	comp=Z,35nm,1.6s,mb5.0						
E03A	Lebam	85.44	325	⇓P	P	15 31 04.0	-0.5
	baz=86						
EDM	Edmonton	85.45	335	eP	P	15 31 02.8	-1.8
B06A	Marblemount	85.69	328	⇑P	P	15 31 04.4	-1.4
	baz=86,SNR=7.2						
B05A	Bryant	85.82	327	⇑P	P	15 31 05.0	-1.4
	baz=86,SNR=8.4						
C04A	Brinnon	85.90	326	⇑P	P	15 31 06.2	-0.6
	baz=86,SNR=6.0						
D03A	Wishkah Elem.	85.92	326	⇑P	P	15 31 06.5	-0.4
	baz=86						
A05A	Maple Falls	86.30	328	⇓P	P	15 31 07.9	-0.9
	baz=86						
B04A	Port Angeles	86.39	326	⇓P	P	15 31 08.6	-0.6
	baz=87						
A04A	Legoe Bay, Lum	86.42	327	⇑P	P	15 31 08.9	-0.5
	baz=87						
ESDC	Sonseca Array	86.54	44	P	P	15 31 10.8	+0.9
	comp=Z,4.1nm,1.0s,mb4.3,baz=232,slow=4.7,SNR=35						
ESDC				pP	pP	15 31 38.2	-0.1
	comp=Z,0.8nm,0.7s,baz=238,slow=4.3,SNR=1.8						
ESDC				LR	LR	16 11 55.5	
	comp=Z,47nm,18.1s,baz=220,slow=37						
ESLA	Sonseca Array	86.54	44	eP	P	15 31 10.6	+0.7
	comp=Z,13nm,1.7s,mb4.6						
PGC	Sidney	86.75	327	eP	P	15 31 10.4	-0.5
	comp=Z,128nm,1.3s,mb5.7						
C03A	Quillayute Air	86.86	326	⇓P	P	15 31 11.6	+0.1
	baz=87						
LSZ	Lusaka	89.86	106	eP	P	15 31 28.6	+2.9
LSZ				e*PP	pP	15 31 55.4	+1.2
LSZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LSZ	Lusaka	89.86	106	eP	P	15 31 28.6	+2.9
	comp=Z,7.2nm,1.0s,mb4.8						
LSZ				epP	pP	15 31 55.4	+1.2
CASY	Casey	90.91	180	eP	P	15 31 29.9	-0.6
	comp=Z,27nm,1.1s,mb5.3						
CASY				epP	pP	15 31 58.2	-0.9
YKA	Yellowknife Ar	92.88	340	P	P	15 31 38.4	-1.2
	comp=Z,16nm,0.9s,mb5.4,baz=135,slow=4.6,SNR=39						
YKA				pP	pP	15 32 06.6	-1.6
	comp=Z,1.9nm,0.5s,baz=137,slow=4.6,SNR=4.0						
YKA				LR	LR	16 18 28.6	
	comp=Z,48nm,18.8s,baz=280,slow=39						
YKA	Yellowknife Ar	92.88	340	P	P	15 31 38.4	-1.3
YKA				*PP	pP	15 32 06.6	-1.6
YKA	Yellowknife Ar	92.88	340	P	P	15 31 38.4	-1.2
YKA				pP	pP	15 32 06.6	-1.6
YKA				LR	LR	16 18 28.6	
KEST	Kesra	93.77	53	LR	LR	16 12 57.2	
	comp=Z,31nm,20.8s,baz=320,slow=35						
SUMG	Summit	97.53	9	eP	P	15 32 00.4	-0.5
	comp=Z,5.9nm,1.0s,mb5.1						
CLL	Collm	102.45	39	ePS	PS	15 45 41.0	-4.5
LVV	L'vov	108.71	43	i P	Pdif	15 32 48.9	-1.7
ANN	Anapa	116.81	50	i PKIKP	PKPdf	15 37 05.3	-5.4
ANN				pmax	pmax		
	comp=Z,112nm,1.8s						
OBN	Obninsk	117.03	39	⇑i PKIKP	PKPdf	15 37 09.6	-1.5
OBN				ePS	PS	15 47 51.9	-15
OBN				eSS	SS	15 54 20.7	-1.0
OBN				pmax	pmax		
	comp=Z,15nm,1.4s						
KIV	Kislovodsk	120.49	52	⇑i PKIKP	PKPdf	15 37 17.2	-0.6
KIV				ePS	PS	15 48 23.2	-15
KIV				pmax	pmax		
	comp=Z,13nm,1.4s						
BILL	Bilibino	124.22	338	⇑i PKIKP	PKPdf	15 37 23.4	-1.5
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
CTA	Charters Tower	125.46	221	PKP	PKPdf	15 37 27.7	+0.4
	comp=Z,4.6nm,0.9s,baz=238,slow=7.5,SNR=3.5						
ASAR	Alice Springs	128.78	206	PKP	PKPdf	15 37 33.5	-0.2
	comp=Z,9.2nm,0.9s,baz=144,slow=2.1,SNR=62						
ASAR				pPKP	pPKPdf	15 38 03.6	+0.2
	comp=Z,2.3nm,0.6s,baz=134,slow=2.1,SNR=4.9						
AS31	Alice Springs	128.78	206	eP	PKPdf	15 37 33.4	-0.2
ASPA	Alice Springs	128.78	206	eP	PKPdf	15 37 33.4	-0.2
ARU	Arti	129.11	35	i PKIKP	PKPdf	15 37 33.4	-0.9
ARU				e		15 39 42.2	
ARU				e		15 44 37.9	
ARU				eSS	SS	15 57 03.6	+9.0
ARU	Arti	129.11	35	ePKPdf	PKPdf	15 37 33.6	-0.6
ARU				epPKPdf	pPKPdf	15 38 02.0	-2.0
SEY	Seymchan	131.79	336	⇑i PKIKP	PKPdf	15 37 39.4	0.0
WB2	Warramunga Arr	131.88	209	eP	PKPdf	15 37 39.6	+0.1
WRA	Warramunga Arr	131.88	209	PKP	PKPdf	15 37 39.7	+0.1
	comp=Z,4.4nm,0.5s,baz=151,slow=1.6,SNR=69						
WRA				pPKP	pPKPdf	15 38 10.0	+0.6
	comp=Z,2.2nm,0.5s,baz=157,slow=1.6,SNR=5.4						
WRAB	Tennant Creek	131.89	209	i PKIKP	PKPdf	15 37 40.3	+0.8
ZRNK	Zerenda	136.03	36	ePKIKP	PKPdf	15 37 47.5	+0.2
ZRNK				e		15 38 17.4	
CHKZ	Chkalovo	136.56	35	ePKIKP	PKPdf	15 37 48.0	-0.3
FITZ	Fitzroy Crossi	136.87	200	eP	PKPdf	15 37 49.5	+0.6
	comp=Z,7.6nm,0.8s						
FITZ	Fitzroy Crossi	136.87	200	PKP	PKPdf	15 37 48.8	-0.1
	comp=Z,4.3nm,0.8s,baz=321,slow=3.1,SNR=9.4						
YAK	Yakutsk	139.19	347	ePKHKP		15 37 44.4	
YAK				e		15 37 51.8	
YAK				e		15 38 20.9	
NVS	Novosibirsk	141.82	27	ePKIKP	PKPdf	15 37 53.6	-4.3
NVS				pmax	pmax		
	comp=Z,24nm,1.5s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
ZAL	Zalesovo	143.11	27	PKP	PKPdf	15 37 56.9	-3.3
	comp=E,5.3nm,0.8s,baz=190,slow=4.2,SNR=24						
ZAL				pPKP	pPKPdf	15 38 25.3	-4.7
	comp=E,3.0nm,0.5s,baz=214,slow=0.7,SNR=2.3						
ZAL	Zalesovo	143.11	27	PKP	PKPdf	15 37 56.9	-3.3
ZAL				pPKP	pPKPdf	15 38 25.3	-4.7
AAK	Ala-Archa	143.52	49	ePKPdf	PKPdf	15 37 58.7	-2.2
AAK				eSKP		15 41 30.5	
CLNS	Chul'man	144.94	347	ePKIKP	PKPdf	15 38 00.2	-3.2
CLNS				pmax	pmax		
	comp=N,22nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,68nm,0.9s						
CLNS				pmax	pmax		
	comp=E,30nm,1.0s						
BOD	Bodaibo	145.27	358	i PKIKP	PKPdf	15 38 02.5	-1.4
BOD				pmax	pmax		
	comp=Z,125nm,1.0s						
YSS	Yuzh-Sakhalins	145.56	321	⇑i PKIKP	PKPdf	15 38 04.0	-0.4
KSH	Kashi	145.59	53	ePKP	PKPdf	15 38 05.9	+1.4
KSH				eXPKP		15 38 43.8	
KSH				ePKS		15 41 41.1	
KSH				PP	PP		
	comp=Z,143nm,5.2s						
KSH				LR	LR		
	comp=N,274nm,8.2s						
KSH				LR	LR		
	comp=E,261nm,9.2s						
KSH				LR	LR		
	comp=Z,11μm,12.3s						
MK31	Makanchi Array	146.53	38	ePKPdf	PKPdf	15 38 06.5	+0.4
MK31				epPKPdf	pPKPdf	15 38 36.4	+0.5
MKAR	Makanchi Array	146.53	38	PKPbc	PKPbc	15 38 06.3	-1.4
	comp=Z,28nm,0.8s,baz=317,slow=2.0,SNR=74						
MKAR				pPKPbc	pPKPbc	15 38 36.6	-0.5
	comp=Z,10.0nm,0.7s,baz=310,slow=3.1,SNR=6.5						
MKAR	Makanchi Array	146.53	38	PKPbc	PKPbc	15 38 06.3	-1.4
MKAR				pPKPbc	pPKPbc	15 38 36.6	-0.5
THN	Thein Dam	146.91	66	eP	PKPdf	15 38 07.3	+0.6
KLR	Kul'dur	149.51	334	ePKHKP	PKPdf	15 38 11.1	+0.1
KLR				pmax	pmax		
	comp=Z,64nm,1.8s						
MOY	Mondy	150.28	14	ePKIKP	PKPbc	15 38 18.3	+0.8
MOY				pmax	pmax		
	comp=Z,79nm,1.8s						
IRK	Irkutsk	150.33	9	ePKIKP	PKPdf	15 38 12.0	-0.3
IRK				pmax	pmax		
	comp=Z,56nm,1.0s						
CIT	Chita	151.08	358	ePKIKP	PKPbc	15 38 19.8	+0.5
CIT				e		15 38 26.1

HHC	**Hu-ho-hao-te**	**162.29**	**0**	*e*PKP	PKPdf	15 38 27.8	0.0
HHC				APKP		15 38 54.3	
HHC				PP	PP	15 43 00.9	+1.1
HHC				PP	PP		
	comp=Z,124nm,4.1s						
HHC				LR	LR		
	comp=N,156nm,5.9s						
HHC				LR	LR		
	comp=E,160nm,6.3s						
HHC				LR	LR		
	comp=Z,136nm,5.6s						
LZH	**Lanzhou**	**165.34**	**26**	*e*PKP	PKPdf	15 38 32.5	+1.9
LZH				APKP		15 39 04.5	
LZH				XPKP		15 39 15.0	
LZH				PKP2	PKPab	15 39 30.0	+1.1
LZH				LR	LR		
	comp=N,124nm,19.6s						
LZH				LR	LR		
	comp=Z,278nm,20.3s						
XAN	**Xi'an**	**168.81**	**12**	PKP	PKPdf	15 38 33.3	+0.2
NJ2	**Nanjing**	**169.07**	**326**	*e*PKP	PKPdf	15 38 31.4	-1.9
CD2	**Chengdu**	**169.45**	**41**	*e*PKP	PKPdf	15 38 32.3	-1.2
CD2				APKP		15 38 59.3	
CD2				XPKP		15 39 09.8	
CD2				PP	PP	15 43 36.1	-0.7
CD2				SKS	SKSdf	15 45 24.3	-2.7
CD2				SKKS	SKKSac	15 50 12.0	-1.6
CD2				SS	SS	16 04 19.9	-4.4
CD2				PP	PP		
	comp=Z,140nm,10.2s						
KMI	**Kunming**	**171.53**	**74**	PKP	PKPdf	15 38 33.1	-1.5
KMI				APKP		15 39 05.0	
KMI				PP	PP	15 43 51.1	+3.9
KMI				SS	SS	16 04 44.5	-0.3
KMI				PP	PP		
	comp=Z,79nm,4.5s						
GYA	**Guiyang**	**174.29**	**53**	PKP	PKPdf	15 38 36.0	+0.2
GYA				APKP		15 39 03.4	
GYA				PP	PP	15 44 07.3	+6.5
GYA				PP	PP		
	comp=Z,240nm,9.6s						
GYA				LR	LR		
	comp=N,340nm,21.0s						
GYA				LR	LR		
	comp=E,210nm,20.8s						
GYA				LR	LR		
	comp=Z,280nm,21.0s						

*NEIC **14** 15:35:42.6, 33.11S×68.92W, h4km, ML2.5(GUC), After GUC.*

GUC 14 15:35:42.6±0.8, 3311S×6892W, h4km±6km, MD3.6, ML2.5, 7C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.23**	**15**	*e*P	Pg	15 35 47.2	+0.1
MDZ				*e*		15 36 08.9	
CLCH	**Cerro Calan**	**1.38**	**258**	⇓*i*P	Pn	15 36 07.5	-1.2
CLCH				*i* S	Sb	15 36 26.5	-0.6
CLCH				AML	AML	15 36 29.6	
	comp=E,200nm,0.5s						
PCH	**Pirque**	**1.43**	**249**	*e*P	Pn	15 36 08.5	-0.8
PCH				*i* S	Sb	15 36 28.1	-0.3
JACH	**Jahuel**	**1.47**	**286**	⇑*i*P	Pn	15 36 09.2	-0.7
JACH				*i* S	Sb	15 36 29.7	+0.1
PEL	**Peldehue**	**1.48**	**268**	⇓*i*P	Pn	15 36 09.3	-0.8
PEL				*i* S	Sn	15 36 29.2	-0.7
PEL				AML	AML	15 36 32.0	
	comp=E,149nm,0.3s						
PEL	**Peldehue**	**1.48**	**268**	⇓*i*P	Pn	15 36 09.3	-0.8
PEL				*i* S	Sn	15 36 29.2	-0.7
ZON	**Zonda**	**1.57**	**8**	⇑*i*P	Pn	15 36 10.1	-1.2
ZON				*i* S	Sn	15 36 32.5	+0.4
RCDM	**Rinconada Maip**	**1.62**	**256**	⇑*i*P	Pn	15 36 11.5	-0.5
RCDM				*i* S	Sn	15 36 34.1	+0.7
RCDM				AML	AML	15 36 35.3	
	comp=E,105nm,0.1s						
RCDM	**Rinconada Maip**	**1.62**	**256**	⇑*i*P	Pn	15 36 11.5	-0.5
RCDM				*i* S	Sn	15 36 34.1	+0.7
CHCH	**Chadas Angostu**	**1.66**	**240**	⇓*i*P	Pn	15 36 12.3	-0.2
CHCH				*i* S	Sn	15 36 34.5	+0.1
CACH	**El Canelo**	**1.72**	**234**	⇑*i*P	Pn	15 36 13.6	+0.2
CACH				*i* S	Sn	15 36 36.7	+0.9
CICH	**Cipreses**	**1.74**	**226**	⇑*i*P	Pn	15 36 13.7	+0.1
CICH				*i* S	Sn	15 36 37.0	+0.8
ROCH	**El Roble**	**1.76**	**274**	⇑*i*P	Pn	15 36 14.9	+1.0
ROCH				*i* S	Sn	15 38.2	+1.5
TACH	**Talagante**	**1.77**	**252**	⇓*i*P	Pn	15 36 14.2	+0.2
TACH				*i* S	Sn	15 36 37.9	+0.9
LCCH	**Las Cruces**	**2.25**	**260**	*e*P	Pn	15 36 21.4	+0.8

*NEIC **14** 16:09:46.3, 1750N×6099W, h8km, MD3.9(TRN), After TRN.*

TRN 14 16:09:47.0, 1751N×6078W, h47km, MD3.9, M3.9(FDF), Md4.1(FDF), 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.00**	**278**	*e*P	Pn	16 10 04.1	-0.6
CPB				*e*S	Sn	16 10 25.5	+7.8
BPA	**Boggy Peak**	**1.13**	**246**	*e*P	Pn	16 10 07.6	+1.3
BPA				*e*S	Sn	16 10 23.4	+2.7
BPA	**Boggy Peak**	**1.13**	**246**	*e*P	Pn	16 10 07.6	+1.3
BPA				*e*S	Sn	16 10 23.4	+2.7
DEG	**La Desirade**	**1.22**	**193**	⇓*e*P	Pn	16 10 08.7	+1.1
DEG				*e*S	Sn	16 10 29.3	+6.3
BCG	**Bois Riant Cap**	**1.63**	**210**	*e*P	Pn	16 10 15.3	+2.1
LZG	**Guadaloupe-1**	**1.66**	**215**	*e*P	Pn	16 10 15.4	+1.7
LZG				*e*S	Sn	16 10 41.6	+7.8
MGG	**Marie-Galante**	**1.66**	**198**	*e*P	Pn	16 10 15.8	+2.1
SCG	**Saint Claude**	**1.71**	**210**	*e*P	Pn	16 10 16.3	+2.0
SKTB	**Turtle Beach**	**1.78**	**261**	*e*P	Pn	16 10 17.3	+2.0
SKTB				*e*S	Sn	16 10 39.0	+2.3
TBG	**Guadaloupe-3**	**1.84**	**207**	*e*P	Pn	16 10 18.0	+1.8
SKI	**Saint Kitts**	**1.88**	**265**	*e*P	Pn	16 10 18.7	+2.1
SKI				*e*S	Sn	16 10 43.0	+3.9
DWS	**Wesley**	**2.00**	**195**	*e*P	Pn	16 10 21.3	+3.0
DWS				*e*S	Sn	16 10 47.2	+5.2
FDF	**Fort de France**	**2.78**	**187**	*e*P	Pn	16 10 30.4	+1.3
FDF				*e*S	Sn	16 11 03.0	+1.7
BIM	**Bigot**	**2.99**	**185**	*e*P	Pn	16 10 33.7	+1.9
BIM				*e*S	Sn	16 11 10.4	+4.0
SJG	**San Juan**	**5.15**	**277**	*e*Pn	Pn	16 11 01.1	-0.4

IDC 14 16:18:20.5±4.4, 1581S×17381W, h294km±236km, mb3.4/4, mb1 3.5/5, mb1mx3.2/15, mbtmp4.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=318.9km s-min=37.8km az=66.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**46**	P	Pn	16 19 14.5	+1.4
	11nm,0.3s,baz=252,slow=23,SNR=40						
AFI				LR	LR	16 19 29.8	
	comp=Z,318nm,18.6s,baz=24,slow=25						
AFI				S	S	16 19 55.4	+0.4
	38nm,0.3s,baz=50,slow=22,SNR=15						
RPZ	**Rata Peaks**	**30.66**	**202**	P	P	16 24 08.1	0.0
	9.9nm,0.4s,baz=172,slow=22,SNR=9.1						
STKA	**Stephens Creek**	**43.50**	**240**	P	P	16 25 54.9	-0.4
	2.4nm,0.9s,baz=108,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**49.37**	**257**	P	P	16 26 41.3	+0.6
	0.2nm,0.4s,baz=94,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**49.62**	**252**	P	P	16 26 42.8	+0.3
	1.2nm,0.6s,baz=89,slow=8.3,SNR=24						

*ISCJB **14** 16:20:20.2±2.3, 3697S±007×1795E±0.1, h15km±13km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=11.3km az=23.6*

*NEIC **14** 16:20:22.6±1.3, 3686S×17930E, h10km, mb4.9/2, Error ellipse: s-maj=20.9km s-min=10.6km az=101.0*

*WEL **14** 16:20:24.4±0.7, 3685S×179.11E, h12km, ML4.2/15, Error ellipse: s-maj=8.1km s-min=3.9km az=90.0*

*IDC **14** 16:20:28.8±7.4, 3703S×179.19E, h52km±70km, mb4.1/2, mb1 4.4/3, mb1mx3.8/11, mbtmp4.4/3, Error ellipse: s-maj=92.2km s-min=47.4km az=159.0*

ISC 14 16:20:23.4±2.4, 3710S±006×1795E±01, h19km±15km, n41, σ1§30/44, mb4.6/4, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.03**	**243**	⇑P*	Pb	16 20 40.4	-2.2
MXZ				S*	Sb	16 20 54.4	-1.4
PUZ	**Puketiti**	**1.37**	**224**	PN	Pn	16 20 49.2	+1.8
PUZ				SN	Sn	16 21 07.9	+2.9
MWZ	**Matawai**	**1.97**	**231**	P	Pn	16 20 57.6	+1.9
MWZ	**Matawai**	**1.97**	**231**	PN	Pn	16 20 57.2	+1.5
URZ	**Urewera**	**2.20**	**237**	P	Pn	16 21 00.3	+1.5
	60nm,0.3s,baz=43,slow=2.2,SNR=92						
URZ				S	Sn	16 21 26.1	+0.6
	30nm,0.3s,baz=160,slow=23,SNR=4.0						
URZ	**Urewera**	**2.20**	**237**	PN	Pn	16 20 59.3	+0.4
URZ				SN	Sn	16 21 26.3	+0.8
KNZ	**Kokohu**	**2.38**	**216**	P	Pn	16 21 02.4	+1.0
KNZ	**Kokohu**	**2.38**	**216**	PN	Pn	16 21 02.3	+0.9
TGRZ	**Tauranga**	**2.63**	**255**	P	Pn	16 21 05.1	+0.4
TGRZ	**Tauranga**	**2.63**	**255**	PN	Pn	16 21 04.9	+0.2
KUZ	**Kuaotunu**	**3.02**	**276**	*e*P	Pn	16 21 07.1	-3.0
KUZ	**Kuaotunu**	**3.02**	**276**	PN	Pn	16 21 07.0	-3.2
BKZ	**Black Stump Fm**	**3.12**	**228**	P	Pn	16 21 12.8	+1.2
BKZ	**Black Stump Fm**	**3.12**	**228**	PN	Pn	16 21 12.7	+1.2
MKAZ	**Moumakai**	**3.44**	**268**	PN	Pn	16 21 16.2	+0.4
PXZ	**Pawanui**	**3.57**	**214**	PN	Pn	16 21 17.2	-0.4
PXZ				SN	Sn	16 21 57.5	-1.9
OTAZ	**Otara**	**3.63**	**271**	PN	Pn	16 21 19.4	+0.8
MTAZ	**Motutapu**	**3.66**	**273**	PN	Pn	16 21 19.6	+0.7
NGZ	**Ngauruhoe**	**3.69**	**235**	PN	Pn	16 21 20.4	+1.1
MOVZ	**Moawhango**	**3.72**	**231**	P	Pn	16 21 20.5	+0.7
MOVZ	**Moawhango**	**3.72**	**231**	PN	Pn	16 21 20.2	+0.4
KAAZ	**Kauri Point**	**3.82**	**273**	PN	Pn	16 21 22.4	+1.2
HIZ	**Hauiti**	**3.91**	**247**	P	Pn	16 21 24.3	+1.9
HIZ	**Hauiti**	**3.91**	**247**	PN	Pn	16 21 23.7	+1.3
WTAZ	**Waiatarua**	**3.92**	**271**	PN	Pn	16 21 23.2	+0.7
WCZ	**Waipu Caves**	**4.28**	**284**	PN	Pn	16 21 25.4	-2.1
WAZ	**Wanganui**	**4.41**	**232**	*e*P	Pn	16 21 30.2	+1.0
SNZO	**South Karori**	**5.60**	**220**	Pn	Pn	16 21 43.9	-1.7
SNZO				*e*Sn	Sn	16 22 43.7	-5.6
NNZ	**Nelson**	**6.27**	**227**	*e*PN	Pn	16 21 52.3	-2.5
QRZ	**Quartz Range**	**6.56**	**233**	*e*PN	Pn	16 21 57.3	-1.5
THZ	**Tophouse**	**6.89**	**225**	*e*PN	Pn	16 22 00.3	-3.0
AS31	**Alice Springs**	**41.15**	**276**	*e*P	P	16 28 06.3	0.0
ASAR	**Alice Springs**	**41.15**	**276**	P	P	16 28 06.3	0.0
	4.0nm,0.7s,mb4.1,baz=118,slow=7.4,SNR=46						
ASPA	**Alice Springs**	**41.15**	**276**	*e*P	P	16 28 06.3	0.0
FORT	**Forrest**	**42.69**	**263**	*e*P	P	16 28 18.6	-0.3
	10nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**42.74**	**281**	*e*P	P	16 28 18.7	-0.6
WRA	**Warramunga Arr**	**42.75**	**281**	P	P	16 28 18.6	-0.8
	3.3nm,0.6s,mb4.3,baz=123,slow=7.0,SNR=67						
KLBR	**Kellerberrin**	**50.47**	**257**	*e*P	P	16 29 19.3	-0.6
	64nm,2.0s,mb5.3						
JOF	**Joensuu**	**147.66**	**333**	*e*p	PKPbc	16 40 07.2	+0.7
KAF	**Kangasniemi**	**149.94**	**335**	*e*p	PKPbc	16 40 11.8	-0.6
FINES	**FINESS Array B**	**150.48**	**334**	PKPbc	PKPbc	16 40 13.8	+0.1
	1.2nm,0.9s,baz=28,slow=4.5,SNR=7.7						

*NIED **14** 16:40:00, 4680N×15300E, h47km, Mw4.2 Best double couple: M0=2.10000×10^15 NP1:φ=254.00000°, δ87.00000°, λ106.00000°. NP2:φ=354.00000°, δ16.00000°, λ9.00000°.*

*IDC **14** 16:40:58.2±1.7, 4687N×15304E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=45.7km s-min=21.2km az=170.0*

*ISCJB **14** 16:41:01.9±1.2, 4641N±0.1×1530E±0.1, h67km±11km, mb4.3/18, Error ellipse: s-maj=28.1km s-min=9.0km az=112.6*

*MOS **14** 16:41:04.1±1.1, 4680N×15287E, h59km, mb4.4/8, Error ellipse: s-maj=17.7km s-min=15.0km az=131.4*

*NEIC **14** 16:41:08.7±1.0, 4661N×15290E, h94km±7km, mb4.2/4, Error ellipse: s-maj=15.1km s-min=6.8km az=152.0*

ISC 14 16:41:03.9±1.1, 4624N±02×1529E±02, h64km±11km, n55, σ1§39/61, mb4.3/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.92**	**24**	*e*PN	Pn	16 42 04.5	-11
SKR				*e*S	Sn	16 42 58.9	-12
SKR				pmax	pmax		
	comp=N,100nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				smax			
	comp=N,220nm,1.0s						
SKR				smax			
	comp=E,220nm,1.0s						
SKR				smax			
	comp=Z,180nm,1.0s						
NEM2	**Nemuro 2**	**5.87**	**243**	P	Pn	16 42 27.0	-1.2
NEM2				*e*S	Sn	16 43 32.1	-2.0
JRA	**Rausu**	**5.99**	**250**	P	Pn	16 42 30.8	+0.9
JNK	**Nakash**	**6.41**	**248**	P	Pn	16 42 35.9	+0.3
JAK	**Akkeshi**	**6.71**	**244**	P	Pn	16 42 39.1	-0.7
JAK				*e*S	Sn	16 43 53.2	-1.6
JTKR	**Abashiri--Toko**	**6.78**	**254**	P	Pn	16 42 41.8	+1.1
YSX	**Yuzh-Sakhalins**	**7.05**	**279**	*e*PN	Pn	16 42 48.0	+3.6
JAR	**Ashorobuto**	**7.15**	**249**	P	Pn	16 42 46.3	+0.5
JKK2	**Kamakawa 2**	**7.59**	**255**	P	Pn	16 42 53.4	+1.6
ASAJ	**Asahikawa**	**7.61**	**257**	Pn	Pn	16 42 54.1	+2.1
	comp=Z,1.0nm,0.3s,baz=72,slow=9.6,SNR=8.3						
ASAJ	**Asahikawa**	**7.61**	**257**	P	Pn	16 42 54.3	+2.3
ASAJ	**Asahikawa**	**7.61**	**257**	PN	Pn	16 42 54.2	+2.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**7.74**	**27**	PN	Pn	16 42 54.3	+0.5
JCH	**Churui**	**7.75**	**246**	P	Pn	16 42 53.6	-0.4
JCH				*e*S	Sn	16 44 18.0	-2.2
JFR	**Furan**	**7.98**	**251**	P	Pn	16 42 58.6	+1.4
JBT2	**Biratori 2**	**8.31**	**249**	P	Pn	16 43 01.8	+0.2
JKB	**Kayabe**	**9.61**	**247**	P	Pn	16 43 17.9	-1.5
JKB				*e*S	Sn	16 45 01.0	-4.7
JANG	**Nango**	**10.18**	**239**	P	Pn	16 43 24.2	-2.9
JANG				*e*S	Sn	16 45 11.0	-8.6
JIO	**Ouri**	**11.57**	**232**	*e*S	Sn	16 45 45.2	-8.4
MJAR	**Matsushiro Arr**	**14.68**	**234**	Pn	Pn	16 44 34.3	+6.4
	comp=Z,0.2nm,0.3s,baz=37,slow=8.8,SNR=6.6						
SONM	**Songino Array**	**31.39**	**290**	P	P	16 47 19.1	+0.5
	comp=Z,0.1nm,0.3s,baz=81,slow=8.9,SNR=3.0						
LZH	**Lanzhou**	**37.78**	**272**	*e*P	P	16 48 16.1	+2.3
LZH				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
LZH	**Lanzhou**	**37.78**	**272**	*e*P	P	16 48 16.1	+2.3
	comp=Z,19nm,1.1s,mb4.7						
LZH				pP	pP	16 48 21.5	-8.1
LZH				sP	sP	16 48 25.1	-12
INK	**Inuvik**	**42.15**	**32**	P	P	16 48 48.8	-1.2
INK				pmax	pmax		
	comp=Z,58nm,0.7s						
INK	**Inuvik**	**42.15**	**32**	P	P	16 48 48.8	-1.3
	comp=Z,58nm,0.7s						
MKAR	**Makanchi Array**	**47.06**	**298**	P	P	16 49 28.7	-0.5
	comp=Z,1.2nm,0.7s,mb3.9,baz=70,slow=7.6,SNR=9.2						
MKAR	**Makanchi Array**	**47.06**	**298**	P	P	16 49 28.7	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.06**	**298**	P	P	16 49 28.7	-0.5
BVAR	**Borovoye Array**	**51.09**	**310**	P	P	16 49 59.2	-0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=44,slow=8.6,SNR=4.4						
BVAR	**Borovoye Array**	**51.09**	**310**	P	P	16 49 59.2	-0.7
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**51.12**	**310**	P	P	16 49 59.4	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**51.12**	**310**	P	P	16 49 59.4	-0.8
	comp=Z,2.6nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	P	16 50 04.8	-0.9
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**51.86**	**310**	*e*P	P	16 50 04.8	-0.9
	comp=Z,2.2nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**53.95**	**297**	*e*P	P	16 50 21.0	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**53.95**	**297**	*e*P	P	16 50 21.0	-0.1
	comp=Z,2.2nm,0.8s,mb4.1						
JIRN	**Jiri**	**54.86**	**275**	*e*P	P	16 50 31.8	+4.1
	comp=Z,1.7nm,0.2s,mb4.7						
KKN	**Kakani**	**55.41**	**276**	*e*P	P	16 50 34.8	+3.2
	comp=Z,5.5nm,0.6s,mb4.8						
PKI	**Pulchoki**	**55.46**	**275**	*e*P	P	16 50 35.7	+3.7
	comp=Z,7.0nm,0.6s,mb4.9						
GKN	**Gorkha**	**55.72**	**276**	*e*P	P	16 50 36.6	+2.7
	comp=Z,8.9nm,0.6s,mb5.0						
KOLN	**Koldanda**	**56.58**	**277**	*e*P	P	16 50 42.5	+2.5
	comp=Z,6.6nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**58.29**	**341**	P	P	16 50 51.2	-0.9
	comp=Z,3.6nm,0.9s,mb4.4,baz=46,slow=8.7,SNR=3.9						
ARCES	**ARCESS Array B**	**58.29**	**341**	P	P	16 50 51.2	-0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.29**	**341**	P	P	16 50 51.2	-0.9
JOF	**Joensuu**	**61.73**	**334**	*e*p	P	16 51 13.9	-1.7
NVAR	**Mina Array Bea**	**62.78**	**62**	P	P	16 51 23.0	+0.4
	comp=Z,0.6nm,0.6s,mb3.9,baz=289,slow=7.5,SNR=5.9						
FINES	**FINESS Array B**	**64.45**	**335**	P	P	16 51 32.4	-1.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=36,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**64.45**	**335**	P	P	16 51 32.4	-1.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**65.15**	**54**	P	P	16 51 38.0	-0.2
	comp=Z,0.6nm,0.8s,mb3.7,baz=72,slow=0.5,SNR=5.0						
NB2	**NORSAR Subarra**	**68.67**	**341**	P	P	16 52 00.1	-0.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.67**	**341**	P	P	16 52 00.1	-0.4
	comp=Z,1.4nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=8.1						
NOA	**NORSAR Array B**	**68.67**	**341**	P	P	16 52 00.1	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.90**	**326**	P	P	16 52 19.4	-0.9
	comp=Z,2.2nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=7.8						
AKASG	**Malin Array Be**	**71.90**	**326**	P	P	16 52 19.4	-0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**78.86**	**334**	P	P	16 53 00.0	-0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=30,slow=6.2,SNR=4.6						

IDC 14 16:42:52.7±4.3, 1861S×17418W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=297.0km s-min=27.5km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**48.45**	**260**	*e*P	P	16 51 37.5	+0.7
WRA	**Warramunga Arr**	**48.46**	**260**	P	P	16 51 36.8	-0.1
	0.9nm,0.4s,baz=98,slow=7.4,SNR=48						
ASAR	**Alice Springs**	**48.48**	**255**	P	P	16 51 37.5	+0.5
	2.8nm,0.5s,baz=92,slow=7.9,SNR=91						
ASPA	**Alice Springs**	**48.48**	**255**	*e*P	P	16 51 38.4	+1.3
FITZ	**Fitzroy Crossi**	**56.87**	**260**	P	P	16 52 40.1	+0.9
	1.7nm,0.9s,baz=97,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**77.20**	**42**	P	P	16 54 48.9	+0.5
	0.6nm,0.7s,baz=224,slow=7.5,SNR=4.9						

*ISCJB **14** 16:54:33.2±0.8, 1818N±0.1×6381W±004, h117km±7km, Error ellipse: s-maj=20.8km s-min=3.5km az=28.8*

*TRN **14** 16:54:33.3, 1805N×6383W, h108km, MD3.7*

*NEIC **14** 16:54:36.3, 1827N×6388W, h93km, MD3.7(TRN), MD3.8(RSPR), After RSPR.*

*RSPR **14** 16:54:36.3, 1827N×6388W, h93km±8km, MD3.8/10, MD3.8/10*

ISC 14 16:54:34.0±0.9, 1819N±01×6380W±004, h114km±8km, n23, σ0§92/38, 6C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.66**	**94**	*e*P	Pn	16 54 52.8	+0.5
STMA				*e*S	Sn	16 55 05.5	-0.7
SABT	**Saba**	**0.71**	**131**	*e*P	Pn	16 54 53.5	+0.8
SABT				*e*S	Sn	16 55 07.0	+0.1
CDVI	**St. Croix**	**0.98**	**250**	⇑*e*P	Pn	16 54 55.5	+0.2
CDVI				*e*S	Sn	16 55 10.9	-0.4
SKI	**Saint Kitts**	**1.26**	**126**	*e*P	Pn	16 54 59.4	+1.2
SKI				*e*S	Sn	16 55 16.9	+0.3
SKTB	**Turtle Beach**	**1.43**	**128**	*e*P	Pn	16 55 01.1	+0.9
SKTB				*e*S	Sn	16 55 22.0	+2.0
NVRH	**Round Hill, Ne**	**1.46**	**128**	*e*P	Pn	16 55 01.1	+0.6
NVRH				*e*S	Sn	16 55 22.0	+1.4
CPB	**Codrington**	**1.93**	**103**	*e*S	Sn	16 55 29.7	-1.2
HUMP	**Col San Antoni**	**1.95**	**272**	⇓*e*P	Pn	16 55 06.7	+0.2
HUMP				*e*S	Sn	16 55 30.1	-1.2
BPA	**Boggy Peak**	**2.12**	**119**	*e*S	Sn	16 55 33.0	-2.2
SJG	**San Juan**	**2.23**	**271**	⇑*e*P	Pn	16 55 10.8	+0.7
SJG				*e*S	Sn	16 55 36.3	-1.5
ICM	**Isla Caja Muer**	**2.60**	**266**	⇑*e*P	Pn	16 55 15.1	+0.3
ICM				*e*S	Sn	16 55 45.5	-0.6
CELP	**Cerrillos**	**2.64**	**270**	⇓*e*P	Pn	16 55 16.1	+0.7
CELP				*e*S	Sn	16 55 46.0	-1.2
LZG	**Guadaloupe-1**	**2.74**	**135**	⇓*e*P	Pn	16 55 16.5	-0.1
AOPR	**Arecibo Observ**	**2.82**	**276**	⇑*e*P	Pn	16 55 18.1	+0.5
AOPR				*e*S	Sn	16 55 50.8	-0.5
BCG	**Bois Riant Cap**	**2.88**	**133**	*e*P	Pn	16 55 18.6	0.0
LRS	**Lares**	**2.90**	**274**	⇓*e*P	Pn	16 55 19.4	+0.7
LRS				*e*S	Sn	16 55 52.6	-0.7
GBPR	**Guanica, Bosqu**	**2.93**	**268**	⇑*e*P	Pn	16 55 19.9	+0.7
GBPR	**Guanica, Bosqu**	**2.93**	**268**	*e*S	Sn	16 55 54.1	+0.2
TBG	**Guadaloupe-3**	**3.03**	**137**	*e*P	Pn	16 55 19.9	-0.6
LSP	**Las Mesas**	**3.13**	**272**	⇓*e*P	Pn	16 55 22.6	+0.9
LSP				*e*S	Sn

comp=Z,120nm,18.4s,MS3.9,baz=93,slow=35
VNDA Vanda 51.64 168 P **P 17 04 56.6 -1.7**
0.8nm,0.6s,mb3.8,baz=243,slow=5.8,SNR=9.3
VNDA LR LR 17 24 40.2
comp=Z,167nm,19.9s,MS4.1,baz=302,slow=34
SBA Scott Base 52.07 169 *eP* **P 17 05 01.1 -0.5**
6.5nm,1.1s,mb4.5
DBIC Dimbokro 63.22 317 *P* **P 17 06 21.2 +1.2**
2.9nm,0.6s,mb4.6,baz=149,slow=2.0,SNR=3.9
DBIC LR LR 17 31 45.9
comp=Z,45nm,18.5s,MS3.7,baz=158,slow=34
TOA0 Torodi Ar. Sit 66.27 326 *eP* **P 17 06 40.7 +0.8**
TORD Torodi Ar. Bea 66.27 326 P **P 17 06 40.6 +0.7**
2.2nm,0.9s,mb4.2,baz=159,slow=6.4,SNR=9.6
CPUP Villa Florida 71.40 251 P **P 17 07 13.1 +1.2**
2.7nm,0.7s,mb4.3,baz=116,slow=5.4,SNR=8.6
CPUP Villa Florida 71.40 251 *eP* **P 17 07 12.9 +1.0**
18nm,0.8s,mb5.0
ASAR Alice Springs 80.00 114 P **P 17 08 01.8 +0.6**
0.3nm,0.8s,mb3.3,baz=205,slow=4.6,SNR=5.1

*NEIC **14** 17:22:05.9, 26.75S×70.79W, h60km, MD3.4(GUC), After GUC.*
GUC 14 17:22:05.9±0.6, 26.75S×70.79W, h60km±5km, MD3.4, ML3.8, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.33**	**186**	⇓*iP*	Pn	17 22 16.4	+0.2
CDCH				*i* S	Sn	17 22 24.0	+0.4
CDCH				AML	AML	17 22 24.8	
	comp=N,3μm,0.0s						
CDCH	**Caldera**	**0.33**	**186**	⇓*iP*	Pn	17 22 16.4	+0.2
CDCH				*i* S	Sn	17 22 24.0	+0.4
CPCH	**Copiapo**	**0.72**	**147**	⇑*iP*	Pn	17 22 20.8	+0.4
CPCH				*i* S	Sn	17 22 31.8	+0.8
CPCH				AML	AML	17 22 32.8	
	comp=N,70μm,0.1s						
CPCH	**Copiapo**	**0.72**	**147**	⇑*iP*	Pn	17 22 20.8	+0.4
CPCH				*i* S	Sn	17 22 31.8	+0.8
VACH	**Vallenar**	**1.82**	**179**	*i* P	Pn	17 22 39.9	+5.0
VACH				*i* S	Sn	17 23 02.6	+5.6
VACH				AML	AML	17 23 03.4	
	comp=N,3μm,0.1s						
VACH	**Vallenar**	**1.82**	**179**	*i* P	Pn	17 22 39.9	+5.0
VACH				*i* S	Sn	17 23 02.6	+5.6
LCO	**Las Campanas**	**2.26**	**178**	⇓*iP*	Pn	17 22 41.6	+0.7
LCO				*i* S	Sn	17 23 09.3	+1.7
LCO				AML	AML	17 23 16.7	
	comp=E,128nm,0.4s						
LCO	**Las Campanas**	**2.26**	**178**	⇓*iP*	Pn	17 22 41.6	+0.7
LCO				*i* S	Sn	17 23 09.3	+1.7
TLL	**Tololo Astrono**	**3.41**	**180**	*i* P	Pn	17 22 58.1	+1.5
TLL				*i* S	Sn	17 23 37.2	+1.5
TLL				AML	AML	17 24 06.3	
	comp=E,115nm,0.5s						
TLL	**Tololo Astrono**	**3.41**	**180**	*i* P	Pn	17 22 58.1	+1.5
TLL				*i* S	Sn	17 23 37.2	+1.5

*NEIC **14** 17:35:09.2, 31.98S×71.19W, h70km, MD3.8(GUC), After GUC.*
GUC 14 17:35:09.2±1.0, 31.98S×71.19W, h70km±4km, MD3.8, ML3.8, 14C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.28**	**291**	⇑*iP*	Pn	17 35 20.5	+0.2
CHNG				*i* S	Sn	17 35 28.9	+0.6
CHNG				AML	AML	17 35 29.8	
	comp=E,11μm,0.3s						
PTCH	**Petorca**	**0.35**	**142**	⇑*iP*	Pn	17 35 20.9	+0.1
PTCH				*i* S	Sn	17 35 29.7	+0.5
PTCH				AML	AML	17 35 32.2	
	comp=E,39μm,0.3s						
PTCH	**Petorca**	**0.35**	**142**	⇑*iP*	Pn	17 35 20.9	+0.1
PTCH				*i* S	Sn	17 35 29.7	+0.5
PACH	**Papudo**	**0.59**	**201**	⇑*iP*	Pn	17 35 23.4	+0.5
PACH				*i* S	Sn	17 35 34.4	+1.4
CMCH	**Combarbala**	**0.82**	**11**	*i* P	Pn	17 35 24.7	-0.8
CMCH				*i* S	Sn	17 35 36.6	-1.0
CMCH				AML	AML	17 35 39.3	
	comp=E,10μm,0.5s						
CMCH	**Combarbala**	**0.82**	**11**	*i* P	Pn	17 35 24.7	-0.8
CMCH				*i* S	Sn	17 35 36.6	-1.0
JACH	**Jahuel**	**0.86**	**144**	⇑*iP*	Pn	17 35 26.3	+0.3
JACH				*i* S	Sn	17 35 39.2	+0.8
ROCH	**El Roble**	**1.00**	**171**	⇓*iP*	Pn	17 35 28.0	+0.4
ROCH				*i* S	Sn	17 35 42.5	+1.1
IHA	**Instituto Hidr**	**1.11**	**200**	⇑*iP*	Pn	17 35 28.9	-0.1
IHA				*i* S	Sn	17 35 43.8	0.0
PEL	**Peldehue**	**1.23**	**160**	⇑*iP*	Pn	17 35 31.1	+0.4
PEL				*i* S	Sn	17 35 47.4	+0.7
PEL				AML	AML	17 35 53.4	
	comp=N,3μm,0.4s						
PEL	**Peldehue**	**1.23**	**160**	⇑*iP*	Pn	17 35 31.1	+0.4
PEL				*i* S	Sn	17 35 47.4	+0.7
OVCH	**Ovalle**	**1.37**	**360**	⇓*iP*	Pn	17 35 33.0	+0.6
OVCH				*i* S	Sn	17 35 51.0	+1.1
OVCH				AML	AML	17 35 52.9	
	comp=E,6μm,0.4s						
OVCH	**Ovalle**	**1.37**	**360**	⇓*iP*	Pn	17 35 33.0	+0.6
OVCH				*i* S	Sn	17 35 51.0	+1.1
CLCH	**Cerro Calan**	**1.51**	**159**	*eP*	Pn	17 35 34.9	+0.6
CLCH				*i* S	Sn	17 35 54.6	+1.4
CLCH				AML	AML	17 36 02.8	
	comp=E,1μm,0.5s						
CLCH				AML	AML	17 36 03.4	
	comp=E,2μm,0.6s						
LCCH	**Las Cruces**	**1.52**	**192**	⇓*iP*	Pn	17 35 34.5	+0.1
SAN	**Santiago**	**1.53**	**163**	*i* S	Sn	17 35 54.9	+1.2
RCDM	**Rinconada Maip**	**1.54**	**168**	⇑*iP*	Pn	17 35 34.9	+0.3
RCDM				*i* S	Sn	17 35 54.5	+0.7
RCDM				AML	AML	17 36 05.2	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**1.54**	**168**	⇑*iP*	Pn	17 35 34.9	+0.3
RCDM				*i* S	Sn	17 35 54.5	+0.7
ANTU	**Antumapu**	**1.65**	**164**	⇑*iP*	Pn	17 35 37.3	+1.2
ANTU				*i* S	Sn	17 35 57.8	+1.3
ANTU				AML	AML	17 36 23.3	
	comp=N,824nm,0.5s						
ANTU	**Antumapu**	**1.65**	**164**	⇑*iP*	Pn	17 35 37.3	+1.2
ANTU				*i* S	Sn	17 35 57.8	+1.3
TACH	**Talagante**	**1.68**	**173**	⇓*iP*	Pn	17 35 37.2	+0.7
PCH	**Pirque**	**1.73**	**161**	*eP*	Pn	17 35 37.9	+0.7
SJCH	**San Jose de Ma**	**1.80**	**157**	AML	AML	17 36 05.2	
	comp=E,467nm,0.2s						
TLL	**Tololo Astrono**	**1.84**	**10**	*i* P	Pn	17 35 39.4	+0.7
TLL				*i* S	Sn	17 36 02.5	+1.5
TLL				AML	AML	17 36 06.0	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**1.84**	**10**	*i* P	Pn	17 35 39.4	+0.7
TLL				*i* S	Sn	17 36 02.5	+1.5
LSCH	**La Serena**	**2.07**	**359**	*eP*	Pn	17 35 41.9	+0.1
LSCH				*i* S	Sn	17 36 07.0	+0.4
MDZ	**Mendoza**	**2.17**	**115**	*eP*	Pn	17 35 46.0	+2.9
MDZ				*i*		17 36 07.2	
ZON	**Zonda**	**2.18**	**79**	⇓*iP*	Pn	17 35 45.6	+2.3
ZON	**Zonda**	**2.18**	**79**	AML	AML	17 36 19.1	
	comp=N,773nm,0.5s						
CACH	**El Canelo**	**2.18**	**167**	⇑*iP*	Pn	17 35 44.7	+1.4
CICH	**Cipreses**	**2.42**	**165**	⇑*iP*	Pn	17 35 47.9	+1.4
SFDO	**San Fernando**	**2.63**	**177**	*eP*	Pn	17 35 49.6	+0.3
VACH	**Vallenar**	**3.42**	**6**	⇓*iP*	Pn	17 36 04.8	+4.8
VACH				*i* S	Sn	17 36 43.6	+4.2

*IDC **14** 17:55:13.4±0.8, 7.42N×78.21W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.5/20, mbtmp4.5/14, ML5.0/1, MS4.0/20, Ms1 4.0/20, ms1mx3.9/27, Error ellipse: s-maj=27.8km s-min=14.6km az=63.0*
*CASC **14** 17:55:14.8±2.6, 7.67N×78.22W, h2km±11km, MW4.3*
*BJI **14** 17:55:15.8, 7.50N×78.10W, h10km, mB5.5, Ms5.1, Msz4.6*
*GCMT **14** 17:55:15.8±0.4, 7.69N×78.16W, h12km, MW4.8/61, Moment Tensor Solution. s15,c17; s61,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.10; $M_{\theta\theta}$2.25±.07; $M_{\phi\phi}$-1.76±.10; $M_{r\theta}$0.09±.24; $M_{\theta\phi}$0.12±.08; $M_{\phi r}$0.12±.27; Best double couple: $M_0$2.01500×10^{16} NP1:ϕ_s133.00000°, δ85.00000°, λ-2.00000°. NP2: ϕ_s223.00000°, δ88.00000°, λ-175.00000°. Principal axes:*

T 2.2570, Plg2.0000°, Azm358.0000°; N -0.4790, Plg85.0000°, Azm247.0000°; P -1.7740, Plg5.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*MOS **14** 17:55:15.1±2.0, 7.53N×78.33W, h13km, mb5.0/18 Error ellipse: s-maj=14.6km s-min=8.2km az=113.9*
*ISCJB **14** 17:55:15.6±1.4, 7.68N±0.003×78.04W±0.003, h15km±9km, mb4.7/61, MS4.1/20, Error ellipse: s-maj=5.7km s-min=4.0km az=70.0*
*NEIC **14** 17:55:15.8±3.4, 7.54N×78.12W, h10km±21km, mb4.8/51, Error ellipse: s-maj=10.4km s-min=4.8km az=50.0*
ISC 14 17:55:16.4±1.3, 7.63N±0.003×78.09W±0.003, h7km±8km, n272, σ0.94/265, mb4.7/61, MS4.1/20, 56C-42D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**0.92**	**4**	*eS*	**Sg**	**17 55 45.6**	**-0.4**
UPA	**Univ. de Panam**	**1.96**	**313**	⇓*eP*	**Pn**	**17 55 48.1**	**-2.0**
UPA				*eS*	**Sn**	**17 56 10.3**	**-4.7**
ACH	**Altos**	**2.10**	**300**	*eP*	**Pn**	**17 55 50.4**	**-1.5**
AZU	**Azuero**	**2.17**	**274**	*eP*	**Pn**	**17 55 49.8**	**-3.2**
ZANG	**Zanguenga, Cho**	**2.20**	**307**	⇓*eP*	**Pn**	**17 55 50.8**	**-2.6**
ZANG				*eS*	**Sn**	**17 56 20.0**	**-0.8**
ACLA	**Agua Clara, Si**	**2.35**	**317**	⇓*eP*	**Pn**	**17 55 52.9**	**-2.6**
PINA	**Piqa, Costa Ab**	**2.54**	**310**	⇓*eP*	**Pn**	**17 55 54.2**	**-3.8**
PINA				*eS*	**Sn**	**17 56 26.2**	**-2.9**
DVD	**David**	**4.40**	**281**	*eP*	**Pn**	**17 56 28.5**	**+5.0**
BRU	**Baru**	**4.58**	**285**	*eP*	**Pn**	**17 56 28.3**	**+2.2**
ROSC	**El Rosal**	**4.64**	**126**	Pn	**Pn**	**17 56 28.9**	**+2.0**
	20nm,0.3s,baz=73,slow=2.0,SNR=56						
ROSC				Sn	**Sn**	**17 57 20.6**	**-0.4**
	7.5nm,0.3s,baz=63,slow=23,SNR=4.0						
ROSC				LR	LR	17 58 22.6	
	comp=Z,2μm,18.4s,baz=335,slow=41						
ROSC	**El Rosal**	**4.64**	**126**	*eP*	**Pn**	**17 56 29.0**	**+2.1**
ROSC	**El Rosal**	**4.64**	**126**	*e*Pn	**Pn**	**17 56 27.9**	**+1.0**
CNI	**Changuinola**	**4.73**	**292**	*eP*	**Pn**	**17 56 35.8**	**+7.6**
BARC	**Barichara**	**4.97**	**101**	⇑*eP*	**Pn**	**17 56 33.2**	**+1.8**
SDV	**Santo Domingo**	**7.48**	**80**	Pn	**Pn**	**17 57 06.6**	**+0.7**
	21nm,0.3s,baz=274,slow=7.9,SNR=260						
SDV				Sn	**Sn**	**17 58 30.1**	**-1.0**
	13nm,0.3s,baz=147,slow=19,SNR=4.7						
SDV				LR	LR	18 00 37.1	
	comp=Z,2μm,18.1s,baz=275,slow=42						
SDV	**Santo Domingo**	**7.48**	**80**	*e*Pn	**Pn**	**17 57 07.1**	**+1.2**
	508nm,0.8s						
SDV				*e*Sn	**Sn**	**17 58 22.8**	**-8.3**
PCJ	**Portland Cotta**	**10.09**	**5**	⇑*eP*	**Pn**	**17 57 41.6**	**-0.1**
PCJ				*eS*	**Sn**	**17 59 36.0**	**+0.8**
YHJ	**Yallahs**	**10.32**	**8**	⇑*eP*	**Pn**	**17 57 45.3**	**+0.4**
STH	**Stony Hill**	**10.46**	**7**	⇑*eP*	**Pn**	**17 57 46.8**	**+0.1**
STH				⇑*eS*	**Sn**	**17 59 44.2**	**0.0**
GWJ	**Greenwich**	**10.47**	**7**	⇑*eP*	**Pn**	**17 57 46.7**	**-0.1**
CVJ	**Coleyville**	**10.55**	**3**	⇑*eP*	**Pn**	**17 57 47.9**	**-0.1**
TGUH	**Tegucigalpa,Un**	**11.05**	**306**	*e*Pn	**Pn**	**17 57 52.7**	**-2.2**
	82nm,1.0s						
LMGC	**Las Mercedes**	**12.41**	**5**	*eP*	**Pn**	**17 58 14.5**	**+1.1**
MASC	**Masc**	**13.02**	**16**	*eP*	**Pn**	**17 58 23.1**	**+1.4**
MOAC	**Moa**	**13.30**	**13**	*eP*	**Pn**	**17 58 28.9**	**+3.2**
HLGC	**Holguin**	**13.33**	**8**	*eP*	**Pn**	**17 58 26.3**	**+0.3**
PCRV	**Puerto La Cruz**	**13.53**	**78**	Pn	**Pn**	**17 58 26.1**	**-2.7**
	2.5nm,0.3s,baz=253,slow=5.9,SNR=15						
PCRV				Sn	**Sn**	**18 00 57.4**	**-1.8**
	1.0nm,0.3s,baz=315,slow=18,SNR=3.5						
ATAH	**Atahualpa**	**14.54**	**181**	Pn	**Pn**	**17 58 44.4**	**+1.9**
	0.6nm,0.3s,baz=315,slow=9.2,SNR=12						
SJG	**San Juan**	**15.61**	**47**	Pn	**Pn**	**17 58 52.8**	**-4.0**
	4.6nm,0.3s,baz=233,slow=16,SNR=6.0						
SJG				Sn	**Sn**	**18 01 39.7**	**-10**
	3.2nm,0.3s,baz=290,slow=22,SNR=3.4						
SJG	**San Juan**	**15.61**	**47**	*eP*	**Pn**	**17 58 52.5**	**-4.3**
SJG				pmax	pmax		
	comp=Z,25nm,0.7s						
SJG	**San Juan**	**15.61**	**47**	*e*Pn	**Pn**	**17 58 52.5**	**-4.3**
	comp=Z,25nm,0.7s						
SOR	**Soroa**	**15.80**	**343**	*eP*	**Pn**	**17 59 04.0**	**+4.7**
CMIG	**Matias Romero**	**18.90**	**301**	LR	LR	18 08 00.5	
	comp=Z,785nm,19.8s,baz=109,slow=41						
NNA	**Nana**	**19.53**	**176**	P	**Pn**	**17 59 43.6**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=175,slow=19,SNR=2.4						
NNA	**Nana**	**19.53**	**176**	P	**Pn**	**17 59 43.7**	**-1.9**
	comp=Z,27nm,1.0s						
SAML	**Samuel**	**22.17**	**138**	*eP*	**P**	**18 00 09.2**	**-3.7**
	comp=Z,24nm,1.1s,mb4.5						
ARE	**Arequipa**	**24.81**	**165**	*eP*	**P**	**18 00 42.0**	**+2.9**
TKL	**Tuckaleechee C**	**28.38**	**350**	LR	LR	18 13 15.6	
	comp=Z,214nm,18.1s,MS3.8,baz=154,slow=38						
SWET	**Sewanee**	**28.39**	**346**	*eP*	**P**	**18 01 12.8**	**+1.5**
SWET				*e*		18 01 29.2	
PLAL	**Pickwick Lake**	**28.73**	**343**	*eP*	**P**	**18 01 13.3**	**-1.1**
	comp=Z,6.8nm,1.0s,mb4.3						
SIV	**San Ignacio**	**28.89**	**144**	P	**P**	**18 01 13.0**	**-2.8**
	comp=Z,9.5nm,1.0s,mb4.5,baz=321,slow=9.0,SNR=20						
WVT	**Waverly**	**29.73**	**344**	*eP*	**P**	**18 01 22.8**	**-0.5**
WVT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
WVT	**Waverly**	**29.73**	**344**	*eP*	**P**	**18 01 22.8**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.4						
LVC	**Limon Verde**	**31.37**	**164**	P	**P**	**18 01 36.0**	**-1.7**
	comp=Z,15nm,1.1s,mb4.7,baz=4.0,slow=9.0,SNR=6.4						
LVC				LR	LR	18 15 36.5	
	comp=Z,889nm,21.7s,MS4.4,baz=319,slow=39						
LVC	**Limon Verde**	**31.37**	**164**	*eP*	**P**	**18 01 37.0**	**-0.7**
	comp=Z,30nm,1.3s,mb5.0						
LVC				*e*		18 01 56.7	
USIN	**University of**	**31.42**	**345**	*eP*	**P**	**18 01 38.1**	**-0.1**
	comp=Z,48nm,0.5s,mb5.6						
FVM	**French Village**	**32.22**	**342**	*eP*	**P**	**18 01 43.3**	**-1.9**
FVM				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
FVM	**French Village**	**32.22**	**342**	*eP*	**P**	**18 01 43.3**	**-1.9**
	comp=Z,26nm,0.8s,mb5.1						
CCM	**Cathedral Cave**	**32.55**	**340**	*eP*	**P**	**18 01 45.7**	**-2.4**
CCM				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
CCM	**Cathedral Cave**	**32.55**	**340**	*eP*	**P**	**18 01 45.7**	**-2.4**
	comp=Z,30nm,0.8s,mb5.3						
MNTX	**Cornudas Mount**	**34.93**	**317**	*eP*	**P**	**18 02 07.2**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8						
KSU1	**Kansas State U**	**35.49**	**335**	*eP*	**P**	**18 02 12.1**	**-1.6**
	comp=Z,28nm,0.8s,mb5.2						
JFWS	**Jewell Farm**	**36.74**	**345**	*eP*	**P**	**18 02 22.5**	**-1.8**
JFWS				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
JFWS	**Jewell Farm**	**36.74**	**345**	*eP*	**P**	**18 02 22.4**	**-1.9**
	comp=Z,10nm,0.6s,mb4.8						
LONY	**Lake Ozonia**	**36.98**	**4**	*eP*	**P**	**18 02 26.8**	**+0.5**
	comp=Z,14nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**37.66**	**320**	*eP*	**P**	**18 02 31.7**	**-0.4**
ANMO	**Albuquerque**	**37.66**	**320**	*eP*	**P**	**18 02 31.8**	**-0.3**
	comp=Z,7.6nm,1.0s,mb4.4						
BDFB	**Brasilia**	**37.71**	**128**	P	**P**	**18 02 31.0**	**-1.5**
	comp=Z,8.3nm,1.0s,mb4.4,baz=299,slow=11,SNR=6.2						
BDFB				LR	LR	18 18 29.8	
	comp=Z,485nm,22.0s,MS4.3,baz=305,slow=37						
SDCO	**Great Sand Dun**	**38.93**	**324**	*eP*	**P**	**18 02 43.2**	**+0.4**
	comp=Z,17nm,1.2s,mb4.7						
TUC	**Tucson**	**39.06**	**313**	*eP*	**P**	**18 02 43.6**	**-0.3**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
TUC	**Tucson**	**39.06**	**313**	*eP*	**P**	**18 02 43.6**	**-0.3**
	comp=Z,8.9nm,1.0s,mb4.5						
CPUP	**Villa Florida**	**39.31**	**150**	P	**P**	**18 02 43.3**	**-2.8**
	comp=Z,0.6nm,0.3s,mb3.8,baz=18,slow=19,SNR=6.8						
CPUP				LR	LR	18 20 19.0	
	comp=Z,197nm,21.2s,MS3.9,baz=318,slow=38						
CPUP	**Villa Florida**	**39.31**	**150**	*eP*	**P**	**18 02 42.6**	**-3.5**
116A	**Eloy**	**39.85**	**313**	⇑*eP*	**P**	**18 02 51.3**	**+0.7**
	baz=40						
CFAA	**Coronel Fontan**	**40.13**	**167**	P	**P**	**18 02 52.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=342,slow=9.0,SNR=6.9						
CFAA				LR	LR	18 20 27.4	
	comp=Z,49nm,21.6s,MS3.3,baz=8.9,slow=38						
CFAA	**Coronel Fontan**	**40.13**	**167**	P	**P**	**18 02 52.8**	**-0.1**
CFAA				LR	LR	18 20 27.4	
ISCO	**Idaho Springs**	**40.42**	**327**	*eP*	**P**	**18 02 55.6**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
ISCO	**Idaho Springs**	**40.42**	**327**	*eP*	**P**	**18 02 55.6**	**+0.3**
	comp=Z,13nm,1.0s,mb4.6						
PV01	**Paradox Valley**	**41.00**	**322**	*eP*	**P**	**18 03 00.2**	**+0.2**
Z14A	**Wintersburg**	**41.16**	**313**	⇓*eP*	**P**	**18 03 02.5**	**+1.2**
	baz=41						
WUAZ	**Wupatki**	**41.21**	**317**	*eP*	**P**	**18 03 02.2**	**+0.4**
	comp=Z,16nm,1.1s,mb4.5						
WUAZ	**Wupatki**	**41.21**	**317**	P	**P**	**18 03 03.1**	**+1.3**
	baz=41,SNR=7.2						
X15A	**Humboldt**	**41.24**	**315**	⇓P	**P**	**18 03 03.3**	**+1.3**
	baz=41,SNR=8.3						
PHWY	**Pilot Hill**	**41.41**	**328**	*eP*	**P**	**18 03 03.6**	**+0.2**
PV10	**Paradox Valley**	**41.44**	**322**	*eP*	**P**	**18 03 03.3**	**-0.4**
PV10				*e*		18 03 09.7	
Y14A	**Wickenburg**	**41.49**	**314**	⇓P	**P**	**18 03 05.5**	**+1.4**
	baz=42						
W15A	**Williams**	**41.63**	**316**	⇑P	**P**	**18 03 06.2**	**+0.9**
	baz=42						
X14A	**Yava**	**41.69**	**315**	⇓P	**P**	**18 03 06.6**	**+0.9**
	baz=42,SNR=7.2						
Y13A	**Salome**	**42.02**	**313**	⇑P	**P**	**18 03 09.3**	**+0.9**
	baz=42						
W14A	**Seligman**	**42.22**	**316**	P	**P**	**18 03 11.6**	**+1.6**
	baz=42,SNR=9.1						
GLA	**Glamis**	**42.38**	**312**	⇑P	**P**	**18 03 12.3**	**+1.0**
	baz=42						
X13A	**Yucca**	**42.42**	**314**	⇑P	**P**	**18 03 12.6**	**+1.0**
	baz=42						
PDMCI	**Parker Dam,Lak**	**42.49**	**314**	⇓P	**P**	**18 03 13.2**	**+1.0**
	baz=43						
Y12C	**Blythe**	**42.49**	**313**	⇑P	**P**	**18 03 12.8**	**+0.6**
	baz=43						
RWWY	**Rawlins**	**42.61**	**327**	*eP*	**P**	**18 03 13.4**	**+0.2**
	comp=Z,28nm,1.0s,mb4.9						
W13A	**Hualapai Mount**	**42.72**	**315**	⇑P	**P**	**18 03 15.5**	**+1.4**
	baz=43,SNR=5.3						
SRU	**San Rafael**	**42.80**	**322**	*eP*	**P**	**18 03 14.8**	**0.0**
SRU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
SRU	**San Rafael**	**42.80**	**322**	*eP*	**P**	**18 03 14.8**	**+0.1**
	comp=Z,12nm,1.0s,mb4.6						
RSSD	**Black Hills**	**42.83**	**332**	*eP*	**P**	**18 03 14.6**	**-0.4**
RSSD				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
RSSD	**Black Hills**	**42.83**	**332**	*eP*	**P**	**18 03 14.6**	**-0.4**
	comp=Z,16nm,1.3s,mb4.6						
SWSC	**Sam W. Stewart**	**43.05**	**311**	⇓P	**P**	**18 03 17.4**	**+0.6**
	baz=43						
IRM	**Iron Mountain**	**43.15**	**313**	⇓P	**P**	**18 03 18.6**	**+1.1**
	baz=43						
MSU	**Marysvale**	**43.47**	**320**	*eP*	**P**	**18 03 20.4**	**+0.2**
MSU				*e*		18 03 30.9	
MSU				*e*		18 03 41.6	
MSU				*e*PcP	PcP	18 05 08.7	+0.5
MONP	**Monument Peak**	**43.49**	**311**	⇓P	**P**	**18 03 21.2**	**+0.8**
	baz=44						
W12A	**Cal Nev Ari**	**43.51**	**315**	⇑P	**P**	**18 03 21.6**	**+1.1**
	baz=44						
BELC	**Belle Mtn.**	**43.69**	**312**	⇑P	**P**	**18 03 22.9**	**+1.0**
	baz=44,SNR=9.8						
PFO	**Pinyon Flat Ob**	**43.84**	**312**	*eP*	**P**	**18 03 24.1**	**+0.9**
PFO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
PFO	**Pinyon Flat Ob**	**43.84**	**312**	*eP*	**P**	**18 03 24.1**	**+0.9**
	comp=Z,6.3nm,0.9s,mb4.3						
PFO	**Pinyon Flat Ob**	**43.84**	**312**	⇑P	**P**	**18 03 24.5**	**+1.3**
	baz=44						
ARUT	**Antelope Range**	**43.86**	**319**	*eP*	**P**	**18 03 24.1**	**+0.8**
ARUT				*e*		18 03 34.0	
109C	**Camp Elliot, M**	**44.01**	**310**	⇓P	**P**	**18 03 25.3**	**+0.8**
	baz=44						
DAU	**Daniels Canyon**	**44.05**	**323**	*eP*	**P**	**18 03 24.5**	**-0.4**
DAU				*e*		18 05 10.0	
HEC	**Hector,Ludlow**	**44.32**	**313**	⇑P	**P**	**18 03 27.7**	**+0.7**
	baz=44						
TUQ	**Turquoise Mtn.**	**44.32**	**314**	⇓P	**P**	**18 03 27.5**	**+0.5**
	baz=44						
MURC	**Murrieta**	**44.39**	**311**	⇓P	**P**	**18 03 28.3**	**+0.7**
	baz=44						
TCUT	**Toone Canyon**	**44.59**	**324**	*eP*	**P**	**18 03 28.9**	**-0.3**
PDAR	**Pinedale Array**	**44.62**	**327**	P	**P**	**18 03 29.0**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.5,baz=132,slow=8.2,SNR=47						
PDAR				LR	LR	18 26 38.6	
	comp=Z,127nm,18.1s,MS3.9,baz=136,slow=42						
SHOC	**Shoshone**	**44.80**	**315**	⇓P	**P**	**18 03 31.4**	**+0.6**
	baz=45						
DUG	**Dugway**	**44.86**	**322**	*eP*	**P**	**18 03 30.5**	**-0.8**
DUG				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
DUG	**Dugway**	**44.86**	**322**	*eP*	**P**	**18 03 30.5**	**-0.8**
	comp=Z,14nm,1.2s,mb4.7						
DUG	**Dugway**	**44.86**	**322**	P	**P**	**18 03 32.4**	**+1.1**
	baz=45,SNR=8.6						
GSC	**Goldstone

J09A	Fry Pan Ranch,	49.70	322	⇓P	P	18 04 08.6	-0.4
	baz=50						
K08A	Mann Creek Ran	49.81	321	⇓P	P	18 04 09.9	0.0
	baz=50						
I09A	Lost Marbles R	50.04	323	P	P	18 04 11.3	-0.3
	baz=50,SNR=5.5						
J08A	Circle Bar Ran	50.14	322	⇓P	P	18 04 12.4	+0.1
	baz=50						
K07A	Rock Creek Ran	50.26	321	⇑P	P	18 04 13.2	-0.1
	baz=50						
C13A	Hot Springs	50.52	329	⇑P	P	18 04 15.3	0.0
	baz=51						
J07A	Hines	50.66	322	⇑P	P	18 04 15.7	-0.6
	baz=51						
F10A	Beach Ranch, E	50.90	325	P	P	18 04 17.5	-0.6
	baz=51,SNR=7.6						
H08A	Prairie City	50.90	323	⇓P	P	18 04 18.0	-0.1
	baz=51						
B13A	Whitefish	50.92	329	⇑P	P	18 04 18.3	0.0
	baz=51,SNR=6.5						
C12A	Trout Creek	51.01	328	⇓P	P	18 04 19.1	+0.1
	baz=51						
F09A	S2 Ranch, Elgi	51.13	325	P	P	18 04 20.1	+0.3
	baz=51,SNR=9.2						
I07A	Izee	51.16	322	⇑P	P	18 04 19.8	-0.3
	baz=51						
K05A	Summer Lake	51.31	320	⇑P	P	18 04 21.0	-0.2
	baz=51						
WDC	Whiskeytown Da	51.36	317	⇓P	P	18 04 21.5	-0.1
	baz=51						
H07A	Lands Inn, Kim	51.47	323	⇓P	P	18 04 22.5	+0.1
	baz=52						
G08A	Pilot Rock	51.50	324	P	P	18 04 22.7	+0.1
	baz=52,SNR=8.1						
I06A	Prineville	51.52	322	⇓P	P	18 04 22.7	-0.1
	baz=52						
B12A	Libby	51.55	329	⇑P	P	18 04 22.9	-0.1
	baz=52						
F08A	Pendleton	51.68	324	P	P	18 04 23.7	-0.3
	baz=52,SNR=9.2						
E09A	Wood Farm, Sta	51.73	326	P	P	18 04 24.2	-0.2
	baz=52,SNR=11						
J05A	Fort Rock	51.81	321	⇑P	P	18 04 24.7	-0.3
	baz=52						
A12A	Yaak River Ran	51.88	329	⇑P	P	18 04 25.7	+0.2
	baz=52						
G07A	Ruggs Ranch, H	51.90	323	⇓P	P	18 04 25.8	+0.2
	baz=52						
NEW	Newport	52.22	328	eP	P	18 04 27.1	-0.9
NEW				pmax	pmax		
	comp=Z,9.0nm,1.2s						
NEW	Newport	52.22	328	eP	P	18 04 27.1	-0.9
	comp=Z,8.8nm,1.2s,mb4.6						
F07A	Phinny Hill Vi	52.40	324	⇓P	P	18 04 29.4	+0.1
	baz=52						
G06A	Carlson Farm,	52.46	323	⇑P	P	18 04 29.7	-0.1
	baz=53						
D08A	Wollman Farm,	52.48	326	⇑P	P	18 04 29.8	-0.1
	baz=53						
JCC	Jacoby Creek	52.48	317	⇑P	P	18 04 29.9	0.0
	baz=53						
E07A	Sunnyside	52.73	325	⇑P	P	18 04 31.6	-0.1
	baz=53						
B09A	Rice	52.86	327	P	P	18 04 32.6	-0.2
	baz=53,SNR=9.3						
G05A	Wamic	52.87	323	⇑P	P	18 04 33.3	+0.5
	baz=53						
A10A	Northport	52.89	328	⇑P	P	18 04 32.4	-0.6
	baz=53						
C08A	Higginbotham F	52.97	326	⇓P	P	18 04 33.6	0.0
	baz=53						
K02A	Glendale	53.01	319	⇓P	P	18 04 33.4	-0.4
	baz=53						
EPH	Ephrata	53.03	326	P	P	18 04 34.1	+0.1
H04A	Detroit Lake	53.11	322	⇓P	P	18 04 34.3	-0.3
	baz=53,SNR=5.2						
D07A	Quincy	53.15	325	⇑P	P	18 04 35.2	+0.3
	baz=53						
F05A	White Salmon	53.30	323	⇓P	P	18 04 36.0	0.0
	baz=53						
J02A	Umpqua	53.34	320	⇑P	P	18 04 36.0	-0.3
	baz=53						
E06A	Yakima	53.37	324	⇑P	P	18 04 36.6	+0.1
	baz=54,SNR=6.2						
A09A	Danville	53.43	328	⇑P	P	18 04 36.7	-0.2
	baz=54						
I03A	Eugene	53.44	320	⇑P	P	18 04 36.7	-0.4
	baz=54						
C07A	Waterville	53.48	326	P	P	18 04 37.4	+0.1
	baz=54,SNR=7.9						
TBM	Table Mountain	53.49	325	P	P	18 04 37.9	+0.5
F04A	Amboy	53.89	323	⇑P	P	18 04 39.9	-0.4
	baz=54						
B07A	Winthrop	53.95	327	⇑P	P	18 04 40.6	-0.1
	baz=54						
D05A	Enumclaw	54.30	324	⇓P	P	18 04 42.7	-0.6
	baz=54						
C05A	Tolt Reservoir	54.40	325	⇓P	P	18 04 43.4	-0.6
	baz=54						
E04A	Onalaska	54.41	323	⇑P	P	18 04 43.8	-0.3
	baz=54						
F03A	Seaside	54.58	322	⇑P	P	18 04 45.3	0.0
	baz=55						
RPW	Rockport	54.71	326	P	P	18 04 45.8	-0.5
B06A	Marblemount	54.73	326	⇑P	P	18 04 46.2	-0.2
	baz=55						
E03A	Lebam	54.89	323	⇓P	P	18 04 47.0	-0.6
	baz=55						
B05A	Bryant	54.94	325	⇓P	P	18 04 47.0	-1.0
	baz=55						
C04A	Brinnon	55.14	324	⇓P	P	18 04 49.0	-0.4
	baz=55						
D03A	Wishkah Elem.	55.30	324	⇓P	P	18 04 50.8	+0.2
	baz=55						
A04A	Legoe Bay, Lum	55.52	326	⇓P	P	18 04 51.9	-0.3
	baz=56						
SNB	Saturna Island	55.81	326	P	P	18 04 54.2	0.0
C03A	Quillayute Air	56.18	324	⇓P	P	18 04 56.9	0.0
	baz=56						
YKA	Yellowknife Ar	60.88	342	P	P	18 05 28.0	-1.6
	comp=Z,7.9nm,0.9s,mb4.9,baz=132,slow=7.3,SNR=21						
YKA				LR	LR	18 33 04.0	
	comp=Z,76nm,18.2s,MS3.9,baz=180,slow=37						
EFI	East Falkland	61.53	166	eP	P	18 05 26.4	-7.6
SUMG	Summit	69.16	12	eP	P	18 06 22.6	-0.9
	comp=Z,14nm,1.0s,mb4.9						
DAWY	Dawson	70.87	336	P	P	18 06 33.8	-0.2
DBIC	Dimbokro	72.58	85	P	P	18 06 43.2	-1.1
	comp=Z,4.0nm,0.9s,mb4.4,baz=255,slow=4.6,SNR=3.1						
DBIC				LR	LR	18 36 11.0	
	comp=Z,80nm,19.0s,MS4.0,baz=247,slow=34						
DBIC	Dimbokro	72.58	85	P	P	18 06 42.4	-1.9
DBIC				pmax	pmax		
	comp=Z,23nm,1.4s						
DBIC	Dimbokro	72.58	85	P	P	18 06 42.4	-1.9
	comp=Z,23nm,1.4s,mb4.9						
ESDC	Sonseca Array	72.95	51	P	P	18 06 45.9	-0.6
	comp=Z,3.1nm,0.9s,mb4.2,baz=273,slow=5.6,SNR=14						
ESLA	Sonseca Array	72.95	51	eP	P	18 06 46.5	0.0
	comp=Z,3.7nm,1.3s,mb4.2						
PMSA	Palmer Station	72.96	174	P	P	18 06 46.4	-0.2
	comp=Z,21nm,1.0s,mb5.0						
COLA	College	74.60	335	eP	P	18 06 52.1	-4.1
PPT	Papeete	74.89	250	LR	LR	18 31 16.1	
	comp=Z,60nm,18.7s,MS3.9,baz=127,slow=29						
EKA	Eskdalemuir Ar	75.20	35	P	P	18 07 00.0	+0.4
	comp=Z,5.5nm,1.0s,mb4.4,baz=264,slow=5.7,SNR=7.2						
SJPF	Ste Jean	75.24	48	eP	P	18 07 03.0	+3.1
	comp=Z,23nm,1.1s,mb4.7						
SJPF	Ste Jean	75.24	48	eP	P	18 07 03.0	+3.1
SJPF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
SJPF	Ste Jean	75.24	48	eP	P	18 07 03.0	+3.1
	comp=Z,12nm,1.1s,mb4.7						
TCF	Toulx Ste Croi	77.83	44	eP	P	18 07 19.5	+5.0
	comp=Z,30nm,1.4s,mb4.7						
TORD	Torodi Ar. Bea	78.40	78	P	P	18 07 16.9	-0.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=290,slow=6.3,SNR=11						
TORD				LR	LR	18 41 04.9	
	comp=Z,113nm,20.5s,MS4.2,baz=270,slow=35						
SSF	Saint Saulge	78.74	44	eP	P	18 07 23.3	+3.7
	comp=Z,24nm,1.4s,mb4.6						
SSF	Saint Saulge	78.74	44	eP	P	18 07 23.3	+3.7
SSF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
SSF	Saint Saulge	78.74	44	eP	P	18 07 23.3	+3.7
	comp=Z,12nm,1.4s,mb4.6						
SMF	Signal de Mont	78.96	44	eP	P	18 07 22.8	+2.0
	comp=Z,20nm,1.3s,mb4.6						
SMF	Signal de Mont	78.96	44	eP	P	18 07 22.8	+2.0
SMF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
SMF	Signal de Mont	78.96	44	eP	P	18 07 22.8	+2.0
	comp=Z,10nm,1.3s,mb4.6						
LOR	Lormes	78.98	43	eP	P	18 07 24.8	+3.9
ORIF	Oris-en-Rattie	80.40	46	eP	P	18 07 31.8	+3.2
	comp=Z,14nm,1.0s,mb4.5						
ORIF	Oris-en-Rattie	80.40	46	eP	P	18 07 31.8	+3.2
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ORIF	Oris-en-Rattie	80.40	46	eP	P	18 07 31.8	+3.2
	comp=Z,6.8nm,1.0s,mb4.5						
CABF	La Chapelle	80.51	44	eP	P	18 07 31.7	+2.5
	comp=Z,25nm,1.2s,mb4.7						
CABF	La Chapelle	80.51	44	eP	P	18 07 31.7	+2.5
CABF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
CABF	La Chapelle	80.51	44	eP	P	18 07 31.7	+2.5
	comp=Z,12nm,1.2s,mb4.7						
NB2	NORSAR Subarra	83.05	29	P	P	18 07 41.8	-0.8
	comp=Z,1.0nm,0.8s,mb3.9,baz=272,slow=5.3						
NB2	NORSAR Subarra	83.05	29	P	P	18 07 41.8	-0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
NOA	NORSAR Array B	83.05	29	P	P	18 07 41.2	-1.4
	comp=Z,3.3nm,1.0s,mb4.3,baz=274,slow=5.3,SNR=5.2						
NOA				LR	LR	18 43 39.8	
	comp=Z,63nm,18.0s,MS4.0,baz=310,slow=35						
GRA1	Grafenberg Arr	83.80	41	eP	P	18 07 48.2	+1.8
	comp=Z,2.0nm,1.0s,mb4.2						
GRF	Grafenberg Arr	83.80	41	eP	P	18 07 48.2	+1.8
	comp=Z,2.0nm,1.0s,mb4.2						
GRF	Grafenberg Arr	83.80	41	eP	P	18 07 48.2	+1.8
GRF				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
GRF	Grafenberg Arr	83.80	41	eP	P	18 07 48.2	+1.8
	comp=Z,2.0nm,1.0s,mb4.2						
KHC	Kasperske Hory	85.38	41	eP	P	18 07 53.7	-0.8
BRG	Berggiesshubel	85.42	39	P	P	18 07 55.5	+0.8
BRG				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
BRG	Berggiesshubel	85.42	39	P	P	18 07 55.5	+0.8
	comp=Z,1.1nm,1.0s,mb3.9						
GERES	GERESS Array B	85.49	41	P	P	18 07 56.6	+1.5
	comp=Z,1.7nm,0.9s,mb4.2,baz=292,slow=3.6,SNR=8.5						
GERES				LR	LR	18 38 49.2	
	comp=Z,78nm,21.7s,MS4.1,baz=125,slow=30						
ARCES	ARCESS Array B	87.62	20	LR	LR	18 42 42.4	
	comp=Z,85nm,21.0s,MS4.1,baz=71,slow=32						
FINES	FINESS Array B	90.05	28	LR	LR	18 44 57.8	
	comp=Z,68nm,18.8s,MS4.1,baz=186,slow=33						
SNAA	Sanae	92.59	162	P	P	18 08 23.0	-5.7
	comp=Z,1.6nm,1.1s,mb4.3,baz=294,slow=7.0,SNR=4.3						
SNAA	Sanae	92.59	162	eP	P	18 08 26.1	-2.6
SNAA				e		18 08 32.4	
SNAA	Sanae	92.59	162	eP	P	18 08 22.3	-6.4
SNAA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SNAA	Sanae	92.59	162	eP	P	18 08 22.3	-6.3
	comp=Z,8.6nm,1.4s,mb5.0						
AKASG	Malin Array Be	94.92	38	LR	LR	18 49 13.1	
	comp=Z,57nm,18.4s,MS4.1,baz=315,slow=34						
OBN	Obninsk	97.45	32	⇓eP	P	18 08 50.0	-0.9
OBN				e		18 12 48.5	
OBN				eS	SKSac	18 19 30.1	+1.4
OBN				ePS	PS	18 21 37.2	-1.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb5.1						
MDJ	Mudanjiang	122.32	337	PKP	PKPdf	18 14 10.5	-1.7
CN2	Changchun	124.55	339	ePKP	PKPdf	18 14 11.9	-4.6
WMQ	Urumqi	127.20	13	ePKP	PKPdf	18 14 20.0	-1.6
WMQ				ePP	PP	18 16 23.0	+2.5
WMQ				PKS		18 17 55.0	
WMQ				SKKS	SKKSac	18 23 12.0	-6.8
WMQ				PP	PP		
	comp=Z,105nm,4.9s						
WMQ				LR	LR		
	comp=N,133nm,20.2s						
WMQ				LR	LR		
	comp=E,146nm,27.6s						
WMQ				LR	LR		
	comp=Z,121nm,26.6s						
BJI	Beijing	130.77	346	PKP	PKPdf	18 14 29.1	+0.7
HHC	Hu-ho-hao-te	130.95	350	ePKP	PKPdf	18 14 24.5	-4.2
HHC				PP	PP	18 16 44.6	-0.4
HHC				SS	SS	18 34 12.6	-3.3
HHC				PP	PP		
	comp=Z,136nm,4.4s						
HHC				LR	LR		
	comp=N,146nm,7.0s						
HHC				LR	LR		
	comp=E,226nm,5.9s						
HHC				LR	LR		
	comp=Z,146nm,21.4s,MS4.7						
SSE	Sheshan	137.30	335	PKP	PKPdf	18 14 41.4	+0.8
SSE				SS	SS	18 35 34.3	+1.8
SSE				LR	LR		
	comp=N,55nm,23.5s,MS4.4						
SSE				LR	LR		
	comp=E,52nm,23.5s,MS4.4						
SSE				LR	LR		
	comp=Z,92nm,22.7s,MS4.5						
WHN	Wuhan	140.22	343	ePKP	PKPdf	18 14 43.6	-2.3
CD2	Chengdu	141.64	357	ePKP	PKPdf	18 14 45.5	-3.0
ASAR	Alice Springs	145.44	239	PKPbc	PKPbc	18 14 52.5	-2.6
	comp=Z,2.1nm,0.8s,baz=101,slow=3.9,SNR=5.0						
GYA	Guiyang	145.81	352	PKP	PKPdf	18 14 55.6	-0.2
GYA				PP	PP	18 18 21.5	+4.3
GYA				PP	PP		
	comp=Z,110nm,7.3s						
KMI	Kunming	147.44	359	PKP	PKPdf	18 14 56.1	-2.4
KMI				PP	PP	18 18 27.0	+0.2
KMI				SS	SS	18 37 26.8	-3.1
KMI				LR	LR		
	comp=Z,67nm,23.1s,MS4.4						

*IDC **14** 18:00:01.7±1.7, 1350N×12066E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=51.6km s-min=14.5km az=99.0*
*ISCJB **14** 18:00:04.5±0.8, 1363N±005×12094E±004, h14km±7km, mb3.3/3, Error ellipse: s-maj=8.5km s-min=6.6km az=28.7*
*MAN **14** 18:00:04.1, 1363N×12097E, h0km, mb2.1, ML3.8, MS2.4*

ISC 14 18:00:04.7±0.7, 1362N±005×12095E±004, h10km±6km, n14, σ0°96/16, mb3.3/3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.12	179	⇓eP	Pg	18 00 07.7	+0.2
TGY	Tagaytay City	0.48	358	⇓iP	Pg	18 00 14.5	+0.6
TGY	Tagaytay City	0.48	358	Pg	Pg	18 00 14.2	+0.2
	578nm,0.3s,baz=176,slow=2.7,SNR=26						
LUBP	Lubang	0.69	279	eP	Pg	18 00 17.2	-0.9
LUBP				eS	Sg	18 00 27.4	+0.3
BOAC	Boac	0.88	100	eP	Pg	18 00 20.1	-1.6
BOAC				eS	Sg	18 00 33.6	+0.5
POLP	Polilio Island	1.46	41	eP	Pn	18 00 30.3	-0.7
OTRP	Odiongan	1.63	140	eP	Pn	18 00 34.1	+0.7
AUQP	San Andres	1.70	100	eP	Pn	18 00 35.8	+1.4
BUSP	Coron	1.77	205	eP	Pn	18 00 36.3	+1.0
BALP	Baler	2.19	16	eP	Pn	18 00 42.5	+1.3
ENPP	El Nido	2.83	212	eP	Pn	18 00 50.5	+0.6
WRA	Warramunga Arr	35.86	158	P	P	18 07 03.0	-1.6
	0.2nm,0.3s,mb3.5,baz=332,slow=11,SNR=4.9						
SONM	Songino Array	36.20	343	P	P	18 07 06.9	-0.6
	0.3nm,0.5s,mb3.4,baz=159,slow=9.3,SNR=3.6						
ASAR	Alice Springs	39.16	161	P	P	18 07 31.5	-1.1
	0.3nm,0.8s,mb3.1,baz=336,slow=6.8,SNR=5.9						

*ISCJB **14** 18:06:00.8±2.1, 465S±008×13757E±0.10, h58km±19km, mb4.3/9, MS4.2/2, Error ellipse: s-maj=17.9km s-min=11.2km az=55.8*
*NEIC **14** 18:06:01.1±2.6, 454S×13767E, h49km±23km, mb4.3/8, Error ellipse: s-maj=18.0km s-min=14.5km az=187.0*
*IDC **14** 18:06:05.9±4.1, 473S×137.19E, h82km±36km, mb3.8/4, mb1 3.9/7, mb1mx3.7/14, mbtmp4.1/7, MS3.8/3, Ms1 3.8/3, ms1mx3.1/20, Error ellipse: s-maj=26.3km s-min=14.9km az=96.0*

ISC 14 18:06:01.6±2.8, 46S±01×1377E±01, h52km±25km, n26, σ1°03/28, mb4.3/9, MS4.2/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.59	212	eP	Pn	18 08 17.5	+0.5
	15nm,0.3s						
KAKA				eS	Sn	18 10 03.3	0.0
WB2	Warramunga Arr	15.60	192	eP	Pn	18 09 34.7	-3.4
WB2				e		18 09 43.2	
WB2				eS	Sx	18 12 22.6	
WB2	Warramunga Arr	15.60	192	ePn	Pn	18 09 34.4	-3.7
WB2				e		18 09 43.2	
WB2				eSn	Sn	18 12 21.6	-8.2
WRA	Warramunga Arr	15.60	192	P	Pn	18 09 36.7	-1.4
	0.4nm,0.3s,baz=6.9,slow=13,SNR=23						
WRA				S	Sx	18 12 22.9	
	0.8nm,0.3s,baz=14,slow=22,SNR=8.4						
CTA	Charters Tower	17.51	152	P	Pn	18 10 03.0	+0.9
	0.5nm,0.3s,baz=316,slow=16,SNR=8.3						
CTAO	Charters Tower	17.51	152	eP	Pn	18 10 02.3	+0.2
	14nm,1.2s						
FITZ	Fitzroy Crossi	17.87	220	eP	Pn	18 10 06.7	+0.3
	5.5nm,0.6s						
FITZ	Fitzroy Crossi	17.87	220	P	Pn	18 10 05.4	-1.0
	0.1nm,0.3s,baz=35,slow=12,SNR=4.2						
FITZ				S	S	18 13 18.1	-11
	0.8nm,0.3s,baz=224,slow=18,SNR=5.2						
AS31	Alice Springs	19.31	191	ePn	Pn	18 10 23.3	-0.4
AS31				e		18 10 29.7	
AS31				eSn	Sn	18 13 51.7	-7.8
ASAR	Alice Springs	19.31	191	P	Pn	18 10 23.7	-0.1
	2.8nm,0.3s,baz=15,slow=10,SNR=456						
ASAR				S	Sx	18 13 55.4	
	0.2nm,0.3s,baz=9.3,slow=29,SNR=4.6						
ASAR	Alice Springs	19.31	191	P	Pn	18 10 23.7	-0.1
ASAR				S	Sx	18 13 55.5	
ASPA	Alice Springs	19.31	191	eP	Pn	18 10 23.8	0.0
ASPA				e		18 10 29.7	
ASPA				eS	S	18 13 46.6	-12
GUMO	Guam	19.42	21	LR	LR	18 16 18.3	
	comp=Z,63nm,21.8s,baz=306,slow=31						
HNR	Honiara	22.60	103	P	P	18 11 03.6	+5.9
	15nm,0.3s,mb4.8,baz=275,slow=11,SNR=3.4						
HNR	Honiara	22.60	103	eP	P	18 10 59.2	+1.4
	32nm,0.7s,mb4.9						
MBWA	Marble Bar	23.99	225	P	P	18 11 13.2	+2.0
	14nm,1.1s,mb4.3						
FORT	Forrest	27.58	198	eP	P	18 11 45.0	+1.2
	7.9nm,0.6s,mb4.5						
KLBR	Kellerberrin	32.74	213	eP	P	18 12 30.0	+0.7
	60nm,1.7s,mb5.2						
MKAR	Makanchi Array	70.66	323	P	P	18 17 12.3	+0.5
	0.6nm,0.7s,mb3.6,baz=124,slow=7.7,SNR=5.6						
VNDA	Vanda	74.01	175	P	P	18 17 31.0	-0.7
	1.4nm,0.6s,mb4.0,baz=314,slow=6.5,SNR=21						
VNDA				LR	LR	18 51 38.7	
	comp=Z,97nm,20.5s,MS4.1,baz=109,slow=37						
VNDA	Vanda	74.01	175	P	P	18 17 31.0	-0.7
VNDA				LR	LR	18 51 38.7	
BVAR	Borovoye Array	80.27	326	P	P	18 18 06.9	+0.1
	0.5nm,0.5s,mb3.7,baz=126,slow=7.5,SNR=4.8						
ZRNK	Zerenda	81.03	325	P	P	18 18 08.2	-2.7
	2.1nm,1.1s,mb4.0						
QSPA	South Pole Qui	85.37	180	eP	P	18 18 32.4	-0.8
	1.9nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	100.31	268	LR	LR	19 03 27.7	
	comp=Z,86nm,18.2s,MS4.3,baz=94,slow=34						
TORD	Torodi Ar. Bea	135.76	284	PKP	PKPdf	18 25 17.1	+0.8
	0.7nm,0.7s,baz=76,slow=1.6,SNR=4.0						

*NEIC **14** 18:06:23.2, 3147S×7166W, h11km, ML2.8(GUC), After GUC.*

GUC 14 18:06:23.2±0.9, 3147S×7166W, h11km±8km, MD3.7, ML2.8, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.44	161	⇓iP	Pg	18 06 32.2	+0.4
CHNG				iS	Sg	18 06 39.4	+1.8
CHNG				AML	AML	18 06 39.8	
	comp=E,662nm,0.4s						
CMCH	Combarbala	0.64	63	⇑iP	Pg	18 06 35.5	0.0
CMCH				iS	Sg	18 06 45.4	+1.4
CMCH				AML	AML	18 06 46.7	
	comp=E,1μm,0.5s						
CMCH	Combarbala	0.64	63	⇑iP	Pg	18 06 35.5	0.0
CMCH				iS	Sg	18 06 45.4	+1.4
PTCH	Petorca	1.01	142	⇑iP	Pg	18 06 41.4	-1.3
PTCH				iS	Sg	18 06 55.2	-0.6
PTCH				AML	AML	18 06 58.4	
	comp=E,822nm,0.1s						
PTCH	Petorca	1.01	142	⇑iP	Pg	18 06 41.4	-1.3
PTCH				iS	Sg	18 06 55.2	-0.6
TLL	Tololo Astrono	1.49	30	⇓iP	Pn	18 06 49.3	-0.6
TLL				iS	Sn	18 07 09.7	+0.5
TLL				AML	AML	18 07 10.8	
	comp=E,238nm,0.3s						
TLL	Tololo Astrono	1.49	30	⇓iP	Pn	18 06 49.3	-0.6
TLL				iS	Sn	18 07 09.7	+0.5
JACH	Jahuel	1.51	143	⇓iP	Pn	18 06 50.0	-0.2
JACH				iS	Sn	18 07 09.7	-0.1
ROCH	El Roble	1.60	160	⇓iP	Pn	18 06 51.8	+0.5
ROCH				iS	Sn	18 07 12.4	+0.5
CLCH	Cerro Calan	2.15	154	eP	Pn	18 06 59.0	+0.1
CLCH				iS	Sn	18 07 26.7	+1.2
CLCH				AML	AML	18 07 36.9	
	comp=E,111nm,0.3s						
TACH	Talagante	2.26	164	⇑iP	Pn	18 07 01.9	+1.5

IGQ 14 18:42:09.4, 129N×7939W, h12km±6km, Mb4.2, Ms4.0, 3C-5D, Error ellipse: s-maj=6.9km s-min=2.9km az=91.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	1.41	196	⇓P	Pn	18 42 35.6	+0.8
COTA	Cotacachi	1.42	132	P	Pn	18 42 36.7	+1.7
COTA				S	Sn	18 42 57.2	+3.7
YANA	Yana	1.62	150	⇓P	Pn	18 42 39.3	+1.5
YANA				S	Sn	18 42 59.5	+0.9
PINO	Pino	1.64	151	P	Pn	18 42 39.8	+1.8
PINO				S	Sn	18 43 00.5	+1.4
TERV	Terraza Guagua	1.65	152	⇓P	Pn	18 42 40.9	+2.7
GGP	Refugio Guagua	1.66	151	⇓P	Pn	18 42 40.4	+2.0
JUA2	San Juan 2	1.69	152	⇓P	Pn	18 42 41.5	+2.7
JUA2				S	Sn	18 43 05.4	+5.2
CAYA	Cayambe	1.85	131	⇑P	Pn	18 42 44.1	+3.1
CAYR	Refugio Cayamb	1.88	132	⇑P	Pn	18 42 44.1	+2.8
NAS1	Nasa

SHL	**Shillong**	**3.62**	**327**	*e*P	**Pn**	**19 04 36.0 +1.1**
SHL				*e*S	**Sn**	**19 05 15.0 -1.9**
CHG	**Chiang Mai**	**5.88**	**128**	PG	**Pn**	**19 05 00.1 -5.2**
CHG				SG	**Sn**	**19 06 19.8 +8.5**
CHTO	**Chiang Mai**	**5.88**	**128**	*e*Pn	**Pn**	**19 05 00.1 -5.1**
	16nm,0.6s					
CHTO				*e*Sn	**Sn**	**19 06 20.2 +8.9**
CM31	**Chiang Mai Arr**	**6.11**	**131**	*e*Pn	**Pn**	**19 05 03.9 -4.5**
SLGI	**Shiliguri**	**6.60**	**310**	*e*P	**Pn**	**19 05 15.5 +0.4**
SLGI				*e*S	**Sn**	**19 06 26.6 -2.3**
GTK	**Gangtok**	**6.88**	**315**	*e*P	**Pn**	**19 05 19.0 +0.2**
LSA	**Lhasa**	**7.60**	**340**	P	**Pn**	**19 05 29.3 +0.7**
LSA				Smax		
	comp=N,90nm,0.6s					
LSA				Smax		
	comp=E,150nm,0.7s					
LSA	**Lhasa**	**7.60**	**340**	*e*Pn	**Pn**	**19 05 29.2 +0.6**
	comp=E,87nm,0.4s					
JIRN	**Jiri**	**8.77**	**307**	*e*Pn	**Pn**	**19 05 46.3 +1.8**
JIRN				*e*Sn	**Sn**	**19 07 20.4 -1.1**
GUN	**Gumba**	**9.14**	**308**	*e*Pn	**Pn**	**19 05 50.7 +1.2**
GUN				*e*Sn	**Sn**	**19 07 30.4 -0.1**
	comp=E,225nm,0.4s					
PKI	**Pulchoki**	**9.31**	**304**	*e*Pn	**Pn**	**19 05 52.9 +1.1**
PKI				*e*Sn	**Sn**	**19 07 33.4 -1.2**
	comp=E,74nm,0.4s					
KKN	**Kakani**	**9.52**	**305**	*e*Pn	**Pn**	**19 05 55.0 +0.4**
KKN				*e*Sn	**Sn**	**19 07 37.0 -2.7**
DMN	**Daman**	**9.56**	**304**	*e*Pn	**Pn**	**19 05 56.4 +1.2**
DMN				*e*Sn	**Sn**	**19 07 39.8 -0.9**
	comp=E,66nm,0.3s					
GKN	**Gorkha**	**10.12**	**304**	*e*Pn	**Pn**	**19 06 03.0 +0.3**
GKN				*e*Sn	**Sn**	**19 07 53.2 -1.0**
KOLN	**Koldanda**	**10.81**	**301**	*e*Pn	**Pn**	**19 06 12.4 +0.3**
KOLN				*e*Sn	**Sn**	**19 08 07.8 -3.3**
	comp=E,58nm,0.3s					
JBP	**Jabalpur**	**13.00**	**276**	⇓*i*P	**Pn**	**19 06 45.4 +4.5**
JBP				*ex*	x	19 06 47.6
	comp=Z,19nm,1.5s					
JBP				*i* S	**Sn**	**19 09 01.9 -2.0**
LGTI	**Lohaghat**	**14.20**	**302**	*ex*	**Pn**	**19 06 59.8 +3.4**
QIZ	**Qiongzhong**	**15.16**	**100**	Pn	**Pn**	**19 07 08.5 -0.1**
GTA	**Gaotai**	**17.53**	**15**	*e*P	**Pn**	**19 07 34.8 -2.9**
KULM	**Kulim**	**18.28**	**159**	*e*P	**P**	**19 07 45.6 +0.1**
PALK	**Pallekele**	**19.89**	**222**	*e*P	**P**	**19 08 07.5 +4.5**
	comp=Z,16nm,1.2s					
PALK				*e*S	**S**	**19 11 38.9 -1.7**
THW	**Thamme Wali**	**22.21**	**302**	P	**P**	**19 08 30.2 +2.5**
CEP	**Cherat**	**22.49**	**305**	P	**P**	**19 08 33.1 +2.5**
DRP	**Derazinda**	**23.09**	**299**	P	pP	19 08 53.4 -5.3
MK31	**Makanchi Array**	**26.01**	**341**	*e*P	**P**	**19 09 04.5 +1.7**
MK31				*e*pP	pP	19 09 26.6 -0.9
MKAR	**Makanchi Array**	**26.01**	**341**	P	**P**	**19 09 05.2 +2.4**
	comp=Z,0.6nm,0.4s,mb3.4,baz=143,slow=11,SNR=21					
MKAR				pP	pP	19 09 26.2 -1.2
	comp=Z,2.6nm,0.8s,baz=150,slow=8.6,SNR=4.4					
KSM	**Kuching**	**26.22**	**141**	P	**P**	**19 09 03.7 -1.0**
SONM	**Songino Array**	**27.11**	**18**	P	**P**	**19 09 10.3 -2.4**
	comp=Z,0.2nm,0.3s,mb3.1,baz=191,slow=9.1,SNR=2.2					
SONM				pP	pP	19 09 35.7 -1.7
	comp=Z,0.9nm,1.0s,baz=199,slow=12,SNR=3.4					
ZAL	**Zalesovo**	**32.13**	**350**	P	**P**	**19 09 57.9 +0.7**
	comp=Z,1.4nm,0.3s,mb4.2,baz=305,slow=5.0,SNR=4.6					
ZRNK	**Zerenda**	**35.89**	**334**	*e*P	**P**	**19 10 30.2 +0.6**
	comp=Z,2.2nm,1.0s,mb4.0					
ZRNK				*e*pP	pP	19 10 57.1 +2.2
RDF	**Al-Radifah**	**42.17**	**289**	*e*P	**P**	**19 11 25.8 +3.9**
RDF				AMb	AMB	19 11 26.3
	comp=Z,10nm,0.5s,mb4.9					
MIB	**Mutribah**	**42.33**	**290**	*e*P	**P**	**19 11 27.1 +3.9**
MIB				AMb	AMB	19 11 28.2
	comp=Z,4.8nm,0.5s,mb4.5					
NAY	**Al-Naaiem**	**42.43**	**289**	*e*P	**P**	**19 11 27.8 +3.8**
NAY				AMb	AMB	19 11 28.4
	comp=Z,2.7nm,0.5s,mb4.3					
RST	**Umm Al-Ruwaisa**	**42.63**	**290**	*e*P	**P**	**19 11 29.2 +3.6**
RST				AMb	AMB	19 11 29.7
	comp=Z,8.5nm,0.5s,mb4.7					
YAK	**Yakutsk**	**46.34**	**22**	P	**P**	**19 11 49.5 -5.6**
	comp=Z,4.1nm,0.6s,mb4.3					
MBWA	**Marble Bar**	**50.12**	**148**	P	**P**	**19 12 23.0 -1.1**
AKASG	**Malin Array Be**	**57.04**	**317**	P	**P**	**19 13 15.6 +1.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=75,slow=7.3,SNR=4.8					
WRA	**Warramunga Arr**	**57.69**	**134**	P	**P**	**19 13 18.0 -1.2**
	comp=Z,2.4nm,0.5s,mb4.5,baz=322,slow=7.5,SNR=108					
WB2	**Warramunga Arr**	**57.70**	**134**	*e*P	**P**	**19 13 18.0 -1.2**
NWAO	**Narrogin (SRO)**	**59.42**	**157**	P	**P**	**19 13 30.6 -0.5**
	comp=Z,5.7nm,1.0s,mb4.5,baz=318,slow=14,SNR=5.8					
KAF	**Kangasniemi**	**59.95**	**330**	*e*p	**P**	**19 13 34.9 +0.1**
FINES	**FINESS Array B**	**59.96**	**329**	P	**P**	**19 13 35.5 +0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=114,slow=4.6,SNR=7.0					
FINES				pP	pP	19 14 04.3 +2.0
	comp=Z,0.9nm,0.7s,baz=106,slow=12,SNR=1.1					
ASPA	**Alice Springs**	**60.08**	**137**	*e*P	**P**	**19 13 35.1 -0.5**
AS31	**Alice Springs**	**60.08**	**137**	*e*P	**P**	**19 13 35.1 -0.6**
ASAR	**Alice Springs**	**60.08**	**137**	P	**P**	**19 13 34.6 -1.0**
	comp=Z,1.9nm,0.5s,mb4.4,baz=320,slow=6.8,SNR=58					
KEV	**Kevo**	**61.14**	**339**	*e*p	**P**	**19 13 46.6 +3.7**
NOA	**NORSAR Array B**	**67.12**	**328**	P	**P**	**19 14 22.3 +0.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=93,slow=3.7,SNR=2.7					
GERES	**GERESS Array B**	**67.15**	**315**	P	**P**	**19 14 23.8 +1.7**
	comp=Z,0.7nm,0.6s,mb3.7,baz=69,slow=7.7,SNR=7.0					
STKA	**Stephens Creek**	**70.68**	**138**	P	**P**	**19 14 44.1 +0.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=319,slow=16,SNR=3.3					
STKA	**Stephens Creek**	**70.68**	**138**	P	**P**	**19 14 43.7 -0.2**

*IDC **14** 19:37:01.1±17.0, 2198S×17563W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/14, mbtmp4.3/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=325.7km s-min=148.6km az=80.0*
*ISCJB **14** 19:37:40.4±2.2, 356S±02×1797E±04, h75km±32km, mb4.1/3, Error ellipse: s-maj=62.6km s-min=19.8km az=58.8*
*WEL **14** 19:37:40.6±0.3, 3532S×179.19E, h33km, ML3.9/6, Error ellipse: s-maj=6.1km s-min=2.9km az=90.0*

ISC 14 19:37:41.2±2.3, 355S±02×1796E±04, h59km±35km, n16, σ0§81/16, mb4.0/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.28**	**207**	P*		**Pn**	**19 38 16.7**	**+0.4**
MXZ				S*		**Sn**	**19 38 43.7**	**+0.4**
PUZ	**Puketiti**	**2.75**	**203**	PN		**Pn**	**19 38 23.1**	**+0.2**
PUZ				SN		**Sn**	**19 38 55.3**	**+0.4**
MWZ	**Matawai**	**3.25**	**210**	P*		**Pn**	**19 38 29.7**	**0.0**
MWZ				S*		**Sn**	**19 39 07.6**	**+0.4**
URZ	**Urewera**	**3.38**	**216**	P*		**Pn**	**19 38 31.6**	**+0.2**
URZ				S*		**Sn**	**19 39 09.7**	**-0.4**
KNZ	**Kokohu**	**3.80**	**203**	*e*PN		**Pn**	**19 38 36.2**	**-1.0**
KNZ				SN		**Sn**	**19 39 19.8**	**-0.8**
KIW	**Kapiti Island**	**6.48**	**213**	SN		Sx	19 40 21.6	
RAO	**Raoul Island**	**6.61**	**19**	LR		LR	19 40 53.6	
	comp=Z,100nm,21.4s,baz=250,slow=31							
TCW	**Tory Channel**	**7.04**	**215**	SN		Sx	19 40 33.9	
NNZ	**Nelson**	**7.49**	**219**	SN		Sx	19 40 45.4	
MQZ	**McQueen's Vall**	**9.76**	**211**	SN		Sx	19 41 34.6	
ASAR	**Alice Springs**	**41.13**	**274**	P		**P**	**19 45 28.3**	**+8.9**
	1.2nm,0.5s,mb3.8,baz=99,slow=7.6,SNR=7.2							
ASPA	**Alice Springs**	**41.14**	**274**	*e*P		**P**	**19 45 28.5**	**+9.1**
WB2	**Warramunga Arr**	**42.59**	**279**	*e*P		**P**	**19 45 30.6**	**-0.7**
WRA	**Warramunga Arr**	**42.60**	**279**	P		**P**	**19 45 30.2**	**-1.1**
	1.2nm,0.3s,mb4.2,baz=95,slow=8.3,SNR=141							
FITZ	**Fitzroy Crossi**	**50.58**	**275**	*e*P		**P**	**19 46 36.0**	**+2.2**
	4.9nm,1.3s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.58**	**275**	P		**P**	**19 46 36.0**	**+2.2**
	1.4nm,0.7s,mb4.0,baz=119,slow=7.3,SNR=4.9							

*MOS **14** 20:34:57.5±0.6, 4254N×145.14E, h64km, mb4.4/3, Error ellipse: s-maj=26.1km s-min=15.9km az=82.7*
*ISCJB **14** 20:34:59.6±0.7, 4271N±006×14494E±006, h57km±5km, mb3.8/8, Error ellipse: s-maj=10.8km s-min=5.2km az=114.9*
*JMA **14** 20:35:00.7±0.1, 4272N×14488E, h51km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=254.00000°, δ13.00000°, λ159.00000°. NP2:φs4.00000°, δ85.00000°, λ78.00000°. Principal axes: T Plg48.0000°, Azm261.0000°; N Plg12.0000°, Azm5.0000°; P Plg39.0000°, Azm105.0000°;*
JMA Felt I J1.

*NEIC **14** 20:35:00.7, 4272N×14488E, h51km, MG3.9(JMA), After JMA.*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*NIED **14** 20:35:00, 4270N×14490E, h32km, Mw3.6 Best double couple: M0:3.34000×10^14 NP1:φs59.00000°, δ51.00000°, λ123.00000°. NP2:φs193.00000°, δ50.00000°, λ56.00000°.*
*IDC **14** 20:35:02.2±2.7, 4258N×14484E, h73km±22km, mb3.6/8, mb1 3.7/10, mb1mx3.6/23, mbtmp3.9/10, Error ellipse: s-maj=25.0km s-min=20.8km az=23.0*

ISC 14 20:35:00.5±0.7, 4272N±005×14493E±006, h51km±6km, n26, σ0§92/38, mb3.8/8, 2C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.32**	**329**	⇓P		**Pn**	**20 35 09.9**	**-0.1**
JAK				*e*S		**Sn**	**20 35 16.4**	**-0.3**
JOB	**Onbets**	**0.82**	**283**	⇓P		**Pn**	**20 35 15.7**	**-0.2**
JOB				*e*S		**Sn**	**20 35 26.6**	**-0.6**
JNK	**Nakash**	**0.88**	**350**	⇓P		**Pn**	**20 35 16.6**	**0.0**
JNK				*e*S		**Sn**	**20 35 28.2**	**-0.3**
NEM2	**Nemuro 2**	**0.88**	**43**	⇑P		**Pn**	**20 35 16.7**	**0.0**
NEM2				S		**Sn**	**20 35 28.3**	**-0.2**
JAR	**Ashorobuto**	**1.03**	**305**	⇓P		**Pn**	**20 35 18.4**	**-0.2**
JAR				*e*S		**Sn**	**20 35 30.2**	**-1.8**
JCH	**Churui**	**1.16**	**265**	⇓P		**Pn**	**20 35 20.1**	**-0.3**
JCH				*e*S		**Sn**	**20 35 35.1**	**0.0**
JRA	**Rausu**	**1.23**	**7**	⇑P		**Pn**	**20 35 21.6**	**+0.3**
JRA				*e*S		**Sn**	**20 35 37.2**	**+0.4**
JTKR	**Abashiri--Toko**	**1.46**	**330**	⇓P		**Pn**	**20 35 25.1**	**+0.7**
JTKR				*e*S		**Sn**	**20 35 43.7**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**1.48**	**27**	*e*PN		**Pn**	**20 35 25.0**	**+0.2**
YUK				*i* S		**Sn**	**20 35 44.0**	**+1.0**
YUK				pmax		pmax		
	comp=Z,710nm,0.3s							
YUK				pmax		pmax		
	comp=N,350nm,0.4s							
YUK				pmax		pmax		
	comp=E,280nm,0.4s							
YUK				smax				
	comp=N,2μm,0.6s							
YUK				smax				
	comp=E,2μm,0.6s							
YUK				smax				
	comp=N,4μm,0.5s							
YUK				smax				
	comp=E,2μm,0.5s							
ERM	**Erimo**	**1.49**	**242**	*e*Pn		**Pn**	**20 35 27.6**	**+2.7**
JEM	**Erimo**	**1.49**	**242**	P		**Pn**	**20 35 25.7**	**+0.8**
ASAJ	**Asahikawa**	**2.20**	**310**	P		**Pn**	**20 35 36.0**	**+1.4**
	comp=E,26nm,0.3s,baz=153,slow=9.8,SNR=170							
ASAJ				S		**Sn**	**20 36 04.9**	**+4.4**
	comp=E,26nm,0.3s,baz=235,slow=34,SNR=10							
ASAJ	**Asahikawa**	**2.20**	**310**	PN		**Pn**	**20 35 36.0**	**+1.4**
ASAJ				S		**Sn**	**20 36 04.9**	**+4.4**
ASAJ				pmax		pmax		
	comp=Z,26nm,0.3s							
ASAJ				smax				
	comp=N,27nm,0.3s							
KUR	**Kuril'sk**	**3.29**	**39**	⇓*i*PN		**Pn**	**20 35 48.0**	**-1.5**
KUR				*i* S		**Sn**	**20 36 26.5**	**-0.9**
KUR				pmax		pmax		
	comp=Z,140nm,0.5s							
KUR				smax				
	comp=N,200nm,0.5s							
KUR				smax				
	comp=E,180nm,0.5s							
MJAR	**Matsushiro Arr**	**8.05**	**222**	P		**Pn**	**20 36 53.9**	**-1.0**
	comp=E,0.2nm,0.3s,baz=30,slow=14,SNR=7.7							
SONM	**Songino Array**	**27.39**	**294**	P		**P**	**20 40 40.8**	**-0.2**
	comp=E,0.2nm,0.5s,mb3.0,baz=107,slow=7.7,SNR=3.1							
KDAK	**Kodiak Island**	**41.14**	**46**	P		**P**	**20 42 39.2**	**-0.4**
	comp=E,4.8nm,0.9s,mb4.1,baz=231,slow=14,SNR=2.7							
MKAR	**Makanchi Array**	**43.63**	**298**	P		**P**	**20 43 00.2**	**+0.4**
	comp=E,0.6nm,0.9s,mb3.3,baz=74,slow=8.9,SNR=4.1							
MKAR	**Makanchi Array**	**43.63**	**298**	P		**P**	**20 43 00.2**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**65.04**	**332**	P		**P**	**20 45 34.3**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.1,baz=36,slow=8.0,SNR=9.0							
FINES	**FINESS Array B**	**65.04**	**332**	P		**P**	**20 45 34.3**	**-1.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**69.50**	**56**	P		**P**	**20 46 05.3**	**+1.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=294,slow=6.6,SNR=5.2							
NOA	**NORSAR Array B**	**69.96**	**338**	P		**P**	**20 46 05.7**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=43,slow=5.5,SNR=2.6							
FRB	**Frobisher Bay**	**70.61**	**15**	P		**P**	**20 46 08.9**	**-1.5**
	comp=Z,8.5nm,0.8s,mb4.7,baz=308,slow=15,SNR=2.6							
FRB	**Frobisher Bay**	**70.61**	**15**	P		**P**	**20 46 08.9**	**-1.5**
FRB				pmax		pmax		
	comp=Z,9.0nm,0.8s							
PDAR	**Pinedale Array**	**71.81**	**48**	P		**P**	**20 46 18.9**	**+1.3**
	comp=Z,0.6nm,0.4s,mb3.8,baz=342,slow=0.6,SNR=11							

PGC 14 20:42:50.9, 7148N×13453W, h35km, MLSn3.0/3, 328km southwest of Sachs Harbour, Nt Beaufort Sea., Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.21**	**173**	Pn		Pn	20 43 38.4	-0.4
INK				Sn		Sn	20 44 13.4	-2.3
INK				Trac			20 44 15.3	
	comp=Z,5.0nm,0.1s							
DAWY	**Dawson**	**7.67**	**196**	Pn		Pn	20 44 37.8	-2.3
DAWY				Sn		Sn	20 45 58.2	-7.5
DAWY				Trac			20 46 01.8	
	comp=Z,2.0nm,0.1s							
YKW3	**Yellowknife Ar**	**11.78**	**129**	Pn		Pn	20 45 34.2	-2.2
YKW3				Sn		Sn	20 47 34.4	-12
YKW3				Trac			20 47 38.0	
	comp=Z,1.0nm,0.1s							

*ISCJB **14** 21:00:12.3±0.4, 1410S±005×7646W±006, h10km, mb4.1/15, MS4.2/19, Error ellipse: s-maj=9.4km s-min=6.1km az=115.7*
*IDC **14** 21:00:12.4±0.9, 1413S×7642W, h0km, mb4.1/12, mb1 4.2/16, mb1mx4.2/23, mbtmp4.1/16, ML3.8/4, MS4.1/22, Ms1 4.1/22, ms1mx4.0/36, Error ellipse: s-maj=28.2km s-min=13.1km az=59.0*
*NEIC **14** 21:00:18.0±0.8, 1413S×7638W, h35km, mb4.6/3, Error ellipse: s-maj=17.8km s-min=9.8km az=58.0*

ISC 14 21:00:14.2±0.4, 1418S±004×7649W±006, h10km, n56, σ1§13/41, mb4.1/15, MS4.2/19, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.20**	**351**	Pn		**Pn**	**21 00 48.9**	**-1.9**
	60nm,0.3s,baz=167,slow=14,SNR=45							
NNA				Sn		**Sn**	**21 01 20.1**	**+2.0**
	387nm,0.3s,baz=181,slow=8.5,SNR=18							
NNA	**Nana**	**2.20**	**351**	Pn		**Pn**	**21 00 48.9**	**-1.9**
NNA				Sn		**Sn**	**21 01 20.1**	**+2.0**
ARE	**Arequipa**	**5.33**	**116**	*e*P		**Pn**	**21 01 35.0**	**+1.2**
ARE				*e*S		**Sb**	**21 02 57.0**	**+5.5**
ATAH	**Atahualpa**	**7.37**	**345**	Pn		**Pn**	**21 02 00.7**	**-1.2**
	2.4nm,0.3s,baz=208,slow=5.1,SNR=7.1							
ATAH				Sn		**Sn**	**21 03 24.5**	**-1.1**
	2.4nm,0.3s,baz=99,slow=12,SNR=1.9							
ATAH				Lg			21 03 47.1	
	4.5nm,0.3s,baz=288,slow=23,SNR=6.0							
ATAH				LR		LR	21 04 16.6	
	comp=Z,582nm,20.3s,baz=195,slow=34							
LVC	**Limon Verde**	**11.05**	**141**	Pn		**Pn**	**21 02 50.5**	**-1.7**
	2.7nm,0.3s,baz=306,slow=9.4,SNR=18							
LVC				Sn		**Sn**	**21 04 51.8**	**-4.0**
	1.5nm,0.3s,baz=125,slow=19,SNR=4.4							
LVC				Lg			21 06 00.0	
	0.9nm,0.3s,baz=322,slow=21,SNR=5.9							
LVC				LR		LR	21 06 31.5	
	comp=Z,613nm,21.4s,baz=322,slow=34							
LVC	**Limon Verde**	**11.05**	**141**	Pn		**Pn**	**21 02 50.5**	**-1.7**
LVC				Sn		**Sn**	**21 04 51.8**	**-4.0**
LVC				Lg			21 06 00.1	
LVC				LR		LR	21 06 31.5	
SAML	**Samuel**	**14.03**	**70**	*e*Pn		**Pn**	**21 03 33.7**	**+0.7**
	5.1nm,0.4s							
SAML				Sn		**Sn**	**21 06 09.0**	**+0.2**
SIV	**San Ignacio**	**15.00**	**99**	Pn		**Pn**	**21 03 44.6**	**-1.5**
	0.3nm,0.3s,baz=251,slow=13,SNR=4.5							
SIV				Lg			21 08 07.3	
	0.2nm,0.3s,baz=254,slow=18,SNR=2.5							

CFAA	**Coronel Fontan**	**18.92**	**158**	Pn	**Pn**	**21 04 36.0 +0.3**
	0.1nm,0.3s,baz=343,slow=12,SNR=7.1					
CFAA				LR	LR	21 10 29.7
	comp=Z,38nm,19.1s,baz=162,slow=33					
CFAA	**Coronel Fontan**	**18.92**	**158**	Pn	**Pn**	**21 04 36.0 +0.3**
CFAA				LR	LR	21 10 29.7
ROSC	**El Rosal**	**19.03**	**7**	P	**Pn**	**21 04 38.7 +1.7**
	0.6nm,0.3s,baz=284,slow=21,SNR=5.8					
ROSC				LR	LR	21 12 48.2
	comp=Z,679nm,19.5s,baz=200,slow=40					
CPUP	**Villa Florida**	**21.63**	**127**	P	**P**	**21 05 04.3 -0.2**
	3.8nm,0.9s,mb3.8,baz=288,slow=8.7,SNR=5.2					
CPUP				LR	LR	21 15 21.7
	comp=Z,332nm,19.2s,MS3.8,baz=81,slow=42					
CPUP	**Villa Florida**	**21.63**	**127**	P	**P**	**21 05 04.3 -0.2**
CPUP				LR	LR	21 15 21.6
SDV	**Santo Domingo**	**23.64**	**15**	P	**P**	**21 05 26.0 +0.4**
	1.7nm,0.4s,mb3.9,baz=215,slow=8.2,SNR=13					
PCRV	**Puerto La Cruz**	**26.90**	**27**	P	**P**	**21 05 54.9 -0.4**
	5.7nm,0.8s,mb4.2,baz=255,slow=11,SNR=3.2					
PLCA	**Paso Flores**	**26.96**	**170**	P	**P**	**21 05 57.3 +1.5**
	2.8nm,1.0s,mb3.8,baz=326,slow=3.6,SNR=3.2					
PLCA				LR	LR	21 13 59.3
	comp=Z,204nm,21.9s,MS3.6,baz=341,slow=31					
BDFB	**Brasilia**	**27.55**	**97**	LR	LR	21 17 30.8
	comp=Z,752nm,19.9s,MS4.3,baz=271,slow=38					
RPN	**Rapa Nui**	**33.21**	**242**	LR	LR	21 17 38.0
	comp=Z,306nm,18.8s,MS4.0,baz=72,slow=31					
CMIG	**Matias Romero**	**35.99**	**329**	LR	LR	21 19 54.3
	comp=Z,216nm,19.2s,MS3.9,baz=169,slow=33					
TKL	**Tuckaleechee C**	**50.04**	**352**	LR	LR	21 30 53.4
	comp=Z,196nm,19.8s,MS4.1,baz=270,slow=37					
RKT	**Rikitea**	**55.82**	**252**	*e*LR	LR	21 26 00.4
	296nm,26.0s					
RKT	**Rikitea**	**55.82**	**252**	*e*T		22 09 55.0
	6.5nm,0.3s					
ANMO	**Albuquerque**	**56.53**	**331**	*e*P	**P**	**21 09 56.9 +0.2**
	6.1nm,1.2s,mb4.5					
TAOE	**Nuku Hiva Isla**	**62.45**	**267**	*e*LR	LR	21 29 03.8
	1μm,24.8s					
HWUT	**Hardware Ranch**	**64.26**	**331**	*e*P	**P**	**21 10 49.4 -0.1**
	3.5nm,0.7s,mb4.5					
PDAR	**Pinedale Array**	**64.28**	**334**	P	**P**	**21 10 48.5 -1.1**
	0.6nm,0.8s,mb3.6,baz=133,slow=6.5,SNR=5.5					
PDAR				LR	LR	21 39 44.7
	comp=Z,101nm,18.7s,MS4.0,baz=331,slow=37					
NVAR	**Mina Array Bea**	**65.35**	**325**	P	**P**	**21 10 57.4 +0.8**
	0.8nm,0.7s,mb3.8,baz=151,slow=5.5,SNR=4.6					
ULM	**Lac du Bonnet**	**66.37**	**347**	P	**P**	**21 11 02.8 -0.4**
	2.6nm,0.8s,mb4.3,baz=152,slow=17,SNR=3.1					
HLID	**Hailey**	**67.10**	**331**	*e*P	**P**	**21 11 08.7 +0.8**
	17nm,1.7s,mb4.8					
MCMT	**McKenzie Canyo**	**67.37**	**333**	*e*P	**P**	**21 11 11.7 +2.2**
TBI	**Tubuai**	**69.08**	**250**	*e*LR	LR	21 32 08.6
	206nm,27.0s					
TBI	**Tubuai**	**69.08**	**250**	*e*T		22 26 34.1
	6.8nm,0.3s					
SCHQ	**Schefferville**	**69.22**	**6**	LR	LR	21 40 51.4
	comp=Z,122nm,18.7s,MS4.2,baz=201,slow=35					
VNA1	**Neumayer--Stat**	**69.55**	**161**	*e*	**P**	**21 11 24.0 +0.8**
VNA1				*e*		21 11 31.6
VNA1				*e*		21 11 34.5
VNA1				*e*		21 11 46.7
PPT	**Papeete**	**69.99**	**256**	*e*LR	LR	21 32 33.9
	153nm,24.0s					
PPT	**Papeete**	**69.99**	**256**	LR	LR	21 34 22.2
	comp=Z,216nm,21.5s,MS4.4,baz=185,slow=29					
SNAA	**Sanae**	**71.50**	**161**	*e*	**P**	**21 11 35.1 0.0**
SNAA				*e*		21 11 42.3
SNAA				*e*		21 11 44.9
SNAA				*e*		21 11 58.8
NEW	**Newport**	**71.89**	**333**	P	**P**	**21 11 37.8 +0.3**
	0.6nm,0.4s,mb3.9,baz=151,slow=10,SNR=2.7					
DBIC	**Dimbokro**	**74.01**	**79**	P	**P**	**21 11 50.2 +0.2**
	3.1nm,0.7s,mb4.4,baz=201,slow=3.9,SNR=5.6					
DBIC				LR	LR	21 44 04.2
	comp=Z,286nm,18.2s,MS4.6,baz=212,slow=36					
DBIC	**Dimbokro**	**74.01**	**79**	P	**P**	**21 11 50.2 +0.2**
DBIC				LR	LR	21 44 04.2
QSPA	**South Pole Qui**	**75.97**	**180**	*e*P	**P**	**21 12 06.5 +5.2**
YKA	**Yellowknife Ar**	**82.02**	**343**	P	**P**	**21 12 32.0 -2.5**
	1.0nm,0.7s,mb3.8,baz=151,slow=5.2,SNR=4.7					
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**21 12 35.4 +0.8**
	10nm,1.1s,mb4.7,baz=245,slow=4.6,SNR=36					
TORD				LR	LR	21 47 44.4
	comp=Z,184nm,19.0s,MS4.5,baz=225,slow=35					
TORD	**Torodi Ar. Bea**	**82.04**	**74**	P	**P**	**21 12 35.4 +0.8**
TORD				LR	LR	21 47 44.4
VNDA	**Vanda**	**82.71**	**191**	LR	LR	21 41 37.7
	comp=Z,95nm,19.5s

RES Trac 21 04 39.4
comp=Z,7.0nm,0.8s
DAWY Dawson 9.62 242 PN Pn 21 03 00.0 -4.2
DAWY SN Sn 21 04 36.7 -15
BULN Bullion Camp, 10.49 97 PN Pn 21 03 18.3 +2.1
BULN SN Sn 21 05 05.4 -7.8
AP3N Apex site 3 Nu 12.18 75 SN Sn 21 05 45.1 -9.4
QILN Qililugaq Expl 12.69 89 SN Sn 21 05 52.7 -14
SRLN Sarcpa Lake, N 12.88 79 PN Pn 21 03 46.5 -2.4
SRLN SN Sn 21 06 00.0 -12
GIFN Gifford Fjord, 12.94 72 PN Pn 21 03 49.1 -0.6
GIFN SN Sn 21 06 04.8 -8.5
JOSN Second Sedna S 13.02 107 SN Sn 21 06 03.2 -12
SEDN First Sedna Si 13.06 107 PN Pn 21 03 48.0 -3.4
SEDN SN Sn 21 06 03.5 -13

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*ISCJB **14** 21:12:15.8±0.7, 1836S±006×69.18W±007, h122km±10km, mb4.1/5, Error ellipse: s-maj=11.8km s-min=8.5km az=92.7*
*IDC **14** 21:12:17.9±2.4, 1846S×69.12W, h127km±23km, mb3.9/6, mb1 3.9/7, mb1mx3.6/19, mbtmp4.3/7, Error ellipse: s-maj=26.1km s-min=16.4km az=127.0*
*NEIC **14** 21:12:17.9±0.9, 1840S×6930W, h131km±10km, mb4.4/2, Error ellipse: s-maj=15.6km s-min=11.9km az=215.0*
ISC 14 21:12:17.3±0.7, 1837S±006×6921W±006, h119km±9km, n14, σ1§12/15, mb4.1/5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.89**	**311**	*e*P	**Pn**	**21 13 03.0**	**+1.0**
ARE				*i* S	**Sn**	**21 13 36.0**	**-0.5**
LVC	**Limon Verde**	**4.23**	**176**	P	**Pn**	**21 13 21.6**	**+1.7**
	1.6nm,0.3s,baz=16,slow=8.6,SNR=38						
LVC				S	**Sn**	**21 14 07.3**	**-1.2**
	14nm,0.3s,baz=132,slow=20,SNR=16						
SIV	**San Ignacio**	**8.13**	**74**	P	**Pn**	**21 14 13.1**	**+0.6**
	1.0nm,0.3s,baz=271,slow=11,SNR=10						
SIV				S	**Sn**	**21 15 40.9**	**-1.7**
	0.2nm,0.3s,baz=161,slow=23,SNR=6.3						
NNA	**Nana**	**9.72**	**310**	Pn	**Pn**	**21 14 32.5**	**-1.4**
	32nm,1.7s						
SAML	**Samuel**	**11.04**	**33**	*e*Pn	**Pn**	**21 14 55.0**	**+3.4**
	2.5nm,0.5s						
BDFB	**Brasilia**	**20.45**	**86**	P	**P**	**21 16 46.6**	**+1.4**
	7.4nm,0.6s,baz=261,slow=12,SNR=9.8						
SDV	**Santo Domingo**	**27.11**	**357**	P	**P**	**21 17 49.4**	**+0.4**
	0.9nm,0.3s,mb3.8,baz=236,slow=7.3,SNR=3.3						
DBIC	**Dimbokro**	**68.15**	**75**	P	**P**	**21 23 03.7**	**-0.8**
	4.7nm,0.6s,mb4.5,baz=222,slow=6.5,SNR=7.4						
DBIC	**Dimbokro**	**68.15**	**75**	P	**P**	**21 23 03.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.59**	**71**	P	**P**	**21 23 54.2**	**-0.4**
	2.6nm,0.5s,mb4.3,baz=254,slow=4.6,SNR=106						
ESDC	**Sonseca Array**	**83.81**	**45**	P	**P**	**21 24 33.8**	**+0.5**
	1.1nm,0.7s,mb3.8,baz=251,slow=5.2,SNR=9.7						
YKA	**Yellowknife Ar**	**88.15**	**341**	P	**P**	**21 24 54.1**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=132,slow=4.9,SNR=5.8						
MKAR	**Makanchi Array**	**143.23**	**33**	PKP	PKPdf	21 31 36.1	-1.2
	0.3nm,0.6s,baz=322,slow=1.5,SNR=4.5						
SONM	**Songino Array**	**150.39**	**6**	PKPbc	PKPbc	21 31 55.5	+0.9
	0.8nm,0.6s,baz=325,slow=1.1,SNR=7.8						

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*NEIC **14** 21:14:17.3, 3144S×7170W, h28km, ML2.9(GUC), After GUC.*
GUC 14 21:14:17.3±0.8, 3144S×7170W, h28km±4km, MD3.5, ML2.9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**159**	⇓*i*P	Pb	21 14 26.7	-0.5
CHNG				*i* S	Sb	21 14 33.9	-0.1
CHNG				AML	AML	21 14 34.4	
	comp=E,702nm,0.6s						
CMCH	**Combarbala**	**0.66**	**66**	⇑*i*P	Pb	21 14 29.6	-0.6
CMCH				*i* S	Sb	21 14 39.5	+0.5
CMCH				AML	AML	21 14 44.8	
	comp=N,1μm,0.8s						
CMCH	**Combarbala**	**0.66**	**66**	⇑*i*P	Pb	21 14 29.6	-0.6
CMCH				*i* S	Sb	21 14 39.5	+0.5
OVCH	**Ovalle**	**0.93**	**28**	*i* S	Sb	21 14 47.2	+0.3
OVCH				AML	AML	21 14 49.6	
	comp=E,454nm,0.6s						
PTCH	**Petorca**	**1.05**	**142**	⇑*i*P	Pn	21 14 35.8	-0.3
PTCH				*i* S	Sn	21 14 49.8	0.0
PTCH				AML	AML	21 14 53.1	
	comp=N,1μm,0.3s						
PTCH	**Petorca**	**1.05**	**142**	⇑*i*P	Pn	21 14 35.8	-0.3
PTCH				*i* S	Sn	21 14 49.8	0.0
TLL	**Tololo Astrono**	**1.48**	**32**	⇓*i*P	Pn	21 14 43.5	+1.4
TLL				*i* S	Sn	21 15 03.2	+2.7
TLL				AML	AML	21 15 09.7	
	comp=E,297nm,0.9s						
TLL	**Tololo Astrono**	**1.48**	**32**	⇓*i*P	Pn	21 14 43.5	+1.4
TLL				*i* S	Sn	21 15 03.2	+2.7
JACH	**Jahuel**	**1.56**	**143**	*e*P	Pn	21 14 44.3	+1.3
JACH				*i* S	Sn	21 15 04.8	+2.5
ROCH	**El Roble**	**1.64**	**159**	*e*P	Pn	21 14 46.0	+1.8
ROCH				*i* S	Sn	21 15 08.3	+4.0
PEL	**Peldehue**	**1.91**	**153**	*e*P	Pn	21 14 48.9	+1.1
PEL				*i* S	Sn	21 15 14.9	+4.0
PEL				AML	AML	21 15 22.8	
	comp=E,277nm,0.8s						
PEL	**Peldehue**	**1.91**	**153**	*e*P	Pn	21 14 48.9	+1.1
PEL				S	Sn	21 15 14.9	+4.0
RCDM	**Rinconada Maip**	**2.18**	**160**	*e*P	Pn	21 14 53.6	+2.0
RCDM				*e*S	Sn	21 15 20.0	+2.3
RCDM				AML	AML	21 15 29.4	
	comp=E,126nm,0.2s						
RCDM	**Rinconada Maip**	**2.18**	**160**	*e*P	Pn	21 14 53.6	+2.0
RCDM				*e*S	Sn	21 15 20.0	+2.3
CLCH	**Cerro Calan**	**2.19**	**154**	*i* S	Sn	21 15 20.9	+3.0
CLCH				AML	AML	21 15 29.1	
	comp=N,161nm,0.5s						
LCO	**Las Campanas**	**2.57**	**20**	*i* S	Sn	21 15 30.2	+2.9
LCO				AML	AML	21 15 40.0	
	comp=E,70nm,0.7s						

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*IDC **14** 21:23:23.8±26.0, 2032S×173.11W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, Error ellipse: s-maj=496.2km s-min=92.6km az=79.0*
*ISCJB **14** 21:23:31.2±4.0, 2075S±03×1736W±06, h33km, mb4.5/9, Error ellipse: s-maj=87.6km s-min=37.7km az=41.4*
*NEIC **14** 21:23:34.0±3.0, 2060S×1737ZW, h35km, mb4.4/4, Error ellipse: s-maj=67.8km s-min=31.9km az=112.0*
ISC 14 21:23:34.4±3.9, 206S±03×1737W±06, h35km, n14, σ0§73/14, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.46**	**264**	P	**P**	**21 30 45.2**	**+0.8**
	1.0nm,0.2s,mb4.2,baz=82,slow=9.6,SNR=5.7						
CTAO	**Charters Tower**	**37.46**	**264**	*e*P	**P**	**21 30 45.1**	**+0.7**
	2.4nm,0.5s,mb4.3						
PMG	**Port Moresby**	**39.28**	**281**	P	**P**	**21 30 58.6**	**-1.1**
	11nm,0.8s,mb4.6,baz=284,slow=5.5,SNR=2.4						
STKA	**Stephens Creek**	**41.36**	**245**	P	**P**	**21 31 16.1**	**-0.9**
	2.9nm,0.8s,mb3.9,baz=75,slow=7.1,SNR=5.3						
STKA	**Stephens Creek**	**41.36**	**245**	*e*P	**P**	**21 31 16.6**	**-0.3**
AS31	**Alice Springs**	**48.39**	**256**	*e*P	**P**	**21 32 12.8**	**0.0**
ASAR	**Alice Springs**	**48.39**	**256**	P	**P**	**21 32 12.7**	**-0.1**
	1.8nm,0.7s,mb4.2,baz=96,slow=6.7,SNR=15						
ASPA	**Alice Springs**	**48.39**	**256**	*e*P	**P**	**21 32 12.8**	**-0.1**
WB2	**Warramunga Arr**	**48.54**	**261**	*e*P	**P**	**21 32 14.0**	**0.0**
WRA	**Warramunga Arr**	**48.55**	**261**	P	**P**	**21 32 14.1**	**+0.1**
	1.1nm,0.2s,mb4.5,baz=96,slow=8.3,SNR=90						
FITZ	**Fitzroy Crossi**	**56.98**	**261**	*e*P	**P**	**21 33 18.5**	**+2.2**
	5.2nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**61.73**	**256**	*e*P	**P**	**21 33 48.9**	**-0.3**
	1.5nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**61.90**	**243**	*e*P	**P**	**21 33 49.9**	**-0.4**
	70nm,1.7s,mb5.5						
MAJO	**Matsushiro**	**72.72**	**321**	P	**P**	**21 34 58.8**	**0.0**
	1.2nm,0.3s,mb4.3						

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*LDG **14** 21:42:27.7±0.1, 3908N×0.16W, h5km, Ml2.8/4, Error ellipse: s-maj=3.7km s-min=1.8km az=131.0*
*CSEM **14** 21:42:28.6±0.1, 3906N×0.09W, h20km, ML2.9/18, Error ellipse: s-maj=2.3km s-min=1.3km az=126.0*
*NEIC **14** 21:42:28.7, 3906N×0.10W, h21km, MN2.5(MDD), After MDD.*
MDD 14 21:42:28.6±0.3, 3907N×011W, h20km±1km, mbLg2.4/34, 9C-2D, Error ellipse: s-maj=4.7km s-min=2.4km az=111.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.37**	**194**	⇓Pg	Pb	21 42 36.2	-0.4
	74nm,0.2s,SNR=18						
EBEN				Lg		21 42 41.5	
	433nm,0.2s,SNR=6.8						
EBEN	**Beniarda**	**0.37**	**194**	Pg	Pb	21 42 36.2	-0.4
EBEN				Lg		21 42 41.4	
EBEN	**Beniarda**	**0.37**	**194**	Pg	Pb	21 42 36.2	-0.4
	74nm,0.2s,SNR=18						
EIBI	**Ibiza**	**1.13**	**91**	⇑Pn	Pn	21 42 48.3	-1.0
	13nm,0.2s,SNR=18						
EIBI				Sn	Sn	21 43 01.8	-2.4
	18nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**1.13**	**91**	Pn	Pn	21 42 48.3	-1.0
EIBI				Sn	Sn	21 43 01.4	-2.8
EIBI	**Ibiza**	**1.13**	**91**	Pn	Pn	21 42 48.3	-1.0
	13nm,0.2s,SNR=18						
EIBI				Sn	Sn	21 43 01.8	-2.4
	18nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.20**	**250**	⇑Pn	Pn	21 42 49.6	-0.6
	5.4nm,0.1s,SNR=18						
ETOB				Pg	Pn	21 42 50.7	+0.5
	51nm,0.1s,SNR=7.9						
ETOB				Lg		21 43 04.8	
	30nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	**1.20**	**250**	Pn	Pn	21 42 49.6	-0.6
ETOB				Pg	Pn	21 42 51.0	+0.7
ETOB				Lg		21 43 05.1	
ETOB	**Tobarra**	**1.20**	**250**	Pn	Pn	21 42 49.6	-0.7
	5.4nm,0.1s,SNR=18						
ETOB	**Tobarra**	**1.20**	**250**	Pg	Pn	21 42 50.7	+0.5
	51nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**1.33**	**348**	Pn	Pn	21 42 51.1	-0.9
	2.1nm,0.1s,SNR=42						
EMOS				Pg	Pn	21 42 53.1	+1.1
	5.1nm,0.2s,SNR=13						
EMOS				Lg		21 43 07.3	
	26nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**1.33**	**348**	Pn	Pn	21 42 51.1	-0.9
	2.1nm,0.1s,SNR=42						
EMOS	**Mosqueruela**	**1.33**	**348**	Pg	Pn	21 42 53.1	+1.1
	5.1nm,0.2s,SNR=13						
EMUR	**La Murta**	**1.51**	**216**	Pg	Pn	21 42 54.1	-0.4
	6.1nm,0.2s,SNR=16						
EMUR				Lg		21 43 12.7	
	58nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**1.51**	**216**	Pg	Pn	21 42 54.1	-0.4
EMUR				Lg		21 43 12.5	
EMUR	**La Murta**	**1.51**	**216**	Pg	Pn	21 42 54.1	-0.4
	6.1nm,0.2s,SNR=16						
EVIA	**Vianos**	**1.92**	**258**	⇑Pn	Pn	21 42 58.0	-2.1
	4.2nm,0.1s,SNR=18						
EVIA				Pg	Pn	21 43 02.6	+2.5
	37nm,0.3s,SNR=30						
EVIA				Lg		21 43 26.0	
	16nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**1.92**	**258**	Pn	Pn	21 42 58.0	-2.1
EVIA				Pg	Pn	21 43 02.1	+1.9
EVIA				Lg		21 43 25.7	
ERTA	**Horta de San J**	**1.92**	**10**	Pn	Pn	21 42 59.1	-1.1
	1.7nm,0.1s,SNR=7.9						
ERTA				Pg	Pn	21 43 02.7	+2.5
	3.0nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	21 43 21.6	-2.1
	9.7nm,0.2s,SNR=7.9						
ERTA				Lg		21 43 27.7	
	21nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**1.92**	**10**	Pn	Pn	21 42 59.5	-0.6
ERTA				Pg	Pn	21 43 02.8	+2.7
ERTA				Sn	Sn	21 43 21.6	-2.1
ERTA				Lg		21 43 27.2	
ERTA	**Horta de San J**	**1.92**	**10**	Pn	Pn	21 42 59.1	-1.1
	1.7nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.92**	**10**	Pg	Pn	21 43 02.7	+2.5
	3.0nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	21 43 21.6	-2.1
	9.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.31**	**320**	Pn	Pn	21 43 03.3	-2.1
	0.5nm,0.2s,SNR=7.9						
ETOR				Pb	Pb	21 43 06.9	-2.6
	SNR=4.0						
ETOR				Pg	Pn	21 43 10.2	+4.7
	18nm,0.4s,SNR=7.9						
ETOR				Lg		21 43 37.3	
	66nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**2.32**	**238**	⇑Pn	Pn	21 43 04.4	-1.2
	5.8nm,0.2s,SNR=18						
EHUE				Sn	Sn	21 43 31.9	-1.6
	5.0nm,0.2s,SNR=4.0						
EHUE				Lg		21 43 39.7	
	4.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.32**	**238**	Pn	Pn	21 43 04.3	-1.3
EHUE	**Huescar**	**2.32**	**238**	Pn	Pn	21 43 04.4	-1.2
	5.8nm,0.2s,SNR=18						
EHUE				Sn	Sn	21 43 31.9	-1.6
	5.0nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.46**	**21**	Pn	Pn	21 43 06.6	-1.0
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	Pn	21 43 11.8	+4.2
	0.6nm,0.2s,SNR=5.9						
EPOB				Sn	Sn	21 43 33.3	-3.7
	3.6nm,0.2s,SNR=7.9						
EPOB				Lg		21 43 41.4	
	4.7nm,0.3s,SNR=8.0						
EPOB	**Poblet**	**2.46**	**21**	Pn	Pn	21 43 06.6	-1.0
EPOB				Sn	Sn	21 43 33.2	-3.8
EPOB	**Poblet**	**2.46**	**21**	Pn	Pn	21 43 06.6	-1.0
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.46**	**21**	Pg	Pn	21 43 11.8	+4.2
	0.6nm,0.2s,SNR=5.9						
EPOB				Sn	Sn	21 43 33.3	-3.7
	3.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.65**	**242**	⇑Pn	Pn	21 43 10.2	+0.1
	3.4nm,0.1s,SNR=18						
EQES				Pg	Pn	21 43 15.4	+5.2
	3.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	21 43 39.1	-2.5
	2.2nm,0.1s,SNR=7.9						
EQES				Lg		21 43 49.8	
	13nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.65**	**242**	Pn	Pn	21 43 10.2	0.0
EQES				Pg	Pn	21 43 17.3	+7.2
EQES				Sn	Sn	21 43 42.0	+0.3
EQES				Lg		21 43 49.5	
EQES	**Quesada**	**2.65**	**242**	Pg	Pn	21 43 15.4	+5.3
	3.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	21 43 39.1	-2.5
	2.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**2.67**	**354**	Pg	Pn	21 43 15.4	+4.9
	19nm,0.2s,SNR=5.0						
ESAC				Sn	Sn	21 43 39.8	-2.4
	19nm,0.2s,SNR=5.3						
ESAC				Lg		21 43 47.8	
	57nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**2.67**	**354**	Pg	Pn	21 43 15.4	+5.0
	19nm,0.2s,SNR=5.0						
ESAC				Sn	Sn	21 43 39.8	-2.4
	19nm,0.2s,SNR=5.3						
EBAN	**Banos Encina**	**3.02**	**254**	⇑Pn	Pn	21 43 12.7	-2.6
	10nm,0.2s,SNR=18						
EBAN				Pg	Pn	21 43 22.3	+7.0
	10.0nm,0.2s,SNR=7.9						
EBAN				Lg		21 44 01.3	
	8.6nm,0.3s,SNR=12						
EBAN	**Banos Encina**	**3.02**	**254**	Pn	Pn	21 43 12.8	-2.5
EBAN				Pg	Pn	21 43 22.5	+7.2
EBAN	**Banos Encina**	**3.02**	**254**	Pn	Pn	21 43 12.8	-2.5
ESDC	**Sonseca Array**	**3.05**	**283**	Pn	Pn	21 43 14.6	-1.1
	4.8nm,0.1s,baz=102,slow=14,SNR=43						
ESDC				Pg	Pn	21 43 22.9	+7.2
	7.3nm,0.2s,baz=99,slow=18,SNR=24						
ESDC				Lg		21 43 59.8	
	30nm,0.4s,baz=98,slow=30,SNR=33						
ESDC	**Sonseca Array**	**3.05**	**283**	Pn	Pn	21 43 14.8	-0.9
ESDC				Pg	Pn	21 43 23.5	+7.8
ESDC				Lg		21 44 00.3	
ESDC	**Sonseca Array**	**3.05**	**283**	Pn	Pn	21 43 14.8	-0.9
ESDC	**Sonseca Array**	**3.05**	**283**	Pg	Pn	21 43 22.9	+7.2
	7.3nm,0.2s,SNR=24						
EBER	**Berja**	**3.08**	**226**	Pn	Pn	21 43 15.9	-0.3
	0.4nm,0.2s,SNR=6.1						
EBER				Pg	Pn	21 43 22.0	+5.9
	1.7nm,0.2s,SNR=7.9						
EBER				Lg		21 44 04.2	
	3.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.08**	**226**	Pn	Pn	21 43 15.9	-0.3
	0.4nm,0.2s,SNR=6.1						
EBER	**Berja**	**3.08**	**226**	Pg	Pn	21 43 22.0	+5.8
	1.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**3.11**	**23**	Pn	Pn	21 43 15.3	-1.2
	0.7nm,0.2s,SNR=4.0						
EMIR				Pg	Pn	21 43 22.2	+5.7
	0.5nm,0.2s,SNR=4.0						
EMIR				Sn	Sn	21 43 50.9	-2.1
	8.2nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**3.11**	**23**	Pn	Pn	21 43 15.3	-1.2
	0.7nm,0.2s,SNR=4.0						
EMIR	**Miracle**	**3.11**	**23**	Pg	Pn	21 43 22.2	+5.7
	0.5nm,0.2s,SNR=4.0						
EMIR				Sn	Sn	21 43 50.9	-2.1
	8.2nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.22**	**236**	Pn	Pn	21 43 18.4	+0.4
	0.1nm,0.2s,SNR=7.9						
EQUE				Pg	Pn	21 43 26.6	+8.7
	3.5nm,0.3s,SNR=7.9						
EQUE				Lg		21 44 07.5	
	4.4nm,0.3s,SNR=4.8						
ECOG	**Cogollos-Vega**	**3.26**	**238**	Pn	Pn	21 43 17.6	-0.9
	1.3nm,0.2s,SNR=7.9						
ECOG				Pg	Pn	21 43 27.2	+8.7
	2.1nm,0.2s,SNR=6.3						
ECOG				Lg		21 44 08.0	
	2.6nm,0.2s,SNR=5.7						
GUD	**Guadarrama**	**3.49**	**298**	Pn	Pn	21 43 21.3	-0.5
	0.4nm,0.2s,SNR=7.9						
GUD				Pg	Pn	21 43 29.5	+7.7
	1.1nm,0.3s,SNR=7.9						
GUD				Lg		21 44 10.9	
	6.0nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**3.52**	**232**	Pg	Pn	21 43 31.2	+9.0
	0.5nm,0.3s,SNR=4.0						
ELUQ	**Luque**	**3.60**	**247**	⇑Pn	Pn	21 43 21.5	-1.8
	2.1nm,0.1s,SNR=18						
ELUQ				Pg	Pn	21 43 32.8	+10
	1.4nm,0.2s,SNR=7.9						
ELUQ				Lg		21 44 19.0	
	2.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.61**	**257**	⇑Pn	Pn	21 43 22.0	-1.5
	2.8nm,0.1s,SNR=18						
EADA				Pg	Pn	21 43 33.4	+10
	6.2nm,0.2s,SNR=20						
EADA				Sn	Sn	21 44 02.7	-2.8
	3.2nm,0.2s,SNR=7.9						
EADA				Lg		21 44 19.0	
	9.4nm,0.4s,SNR=6.1						
EADA	**Adamuz**	**3.61**	**257**	Pn	Pn	21 43 22.0	-1.4
	2.8nm,0.1s,SNR=18						
EADA	**Adamuz**	**3.61**	**257**	Pg	Pn	21 43 33.4	+10
	6.2nm,0.2s,SNR=20						
EADA				Sn	Sn	21 44 02.7	-2.8
	3.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**3.62**	**3**	Pg	Pn	21 43 32.9	+9.4
	0.2nm,0.1s,SNR=4.0						
EBIE				Sn	Sn	21 44 02.2	-3.5
	0.8nm,0.2s,SNR=7.9						
EBIE				Lg		21 44 20.0	
	2.1nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**3.62**	**3**	Pg	Pn	21 43 32.9	+9.3
	0.2nm,0.1s,SNR=4.0						
ELOJ	**Sierra Loja**	**3.72**	**240**	⇑Pn	Pn	21 43 23.8	-1.1
	1.1nm,0.2s,SNR=18						
ELOJ				Sn	Sn	21 44 05.0	-3.1
	0.9nm,0.2s,SNR=7.9						
ELOJ				Lg		21 44 23.7	
	1.6nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.72**	**240**	Pn	Pn	21 43 23.8	-1.1
	1.1nm,0.2s,SNR=18						
ELOJ				Sn	Sn	21 44 05.0	-3.1
	0.9nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**3.85**	**355**	*e*Pn	Pn	21 43 26.9	+0.3
ETSF				*e*Sn	Sn	21 44 08.5	-2.7
ETSF				*e*Sg	Sn	21 44 28.3	+17
	4.9nm,0.5s						
ETSF	**Etsaut**	**3.85**	**355**	*e*Pn	Pn	21 43 26.9	+0.3
ETSF				*e*Sn	Sn	21 44 08.5	-2.7
ETSF				*e*Sg	Sn	21 44 28.3	+17
	2.5nm,0.5s						
EARA	**Aranguren**	**3.87**	**344**	Pn	Pn	21 43 25.3	-1.6
	0.7nm,0.1s,SNR=7.9						
EARA				Lg		21 44 26.7	
	8.1nm,0.3s,SNR=4.0						
EPF	**Esparros**	**3.98**	**5**	*e*Pn	Pn	21 43 27.8	-0.6
EPF				*e*Sn	Sn	21 44 10.8	-3.6
EPF				*e*Sg	Sn	21 44 32.2	+18
	5.3nm,0.5s						
EPF	**Esparros**	**3.98**	**5**	*e*Pn	Pn	21 43 27.8	-0.6
EPF				*e*Sn	Sn	21 44 10.8	-3.6
EPF				*e*Sg	Sn	21 44 32.2	+18
	2.7nm,0.5s						
SJPF	**Ste Jean**	**4.13**	**349**	*e*Pn	Pn	21 43 30.4	-0.2
SJPF				*e*Sn	Sn	21 44 14.6	-3.7
SJPF				*e*Sg	Sn	21 44 36.1	+18
	3.6nm,0.4s						
SJPF	**Ste Jean**	**4.13**	**349**	*e*Pn	Pn	21 43 30.4	-0.2
SJPF				*e*Sn	Sn	21 44 14.6	-3.7
SJPF				*e*Sg	Sn	21 44 36.1	+18
	1.8nm,0.4s						
ELIZ	**Elizondo**	**4.23**	**346**	⇓Pn	Pn	21 43 31.2	-0.7
	2.0nm,0.2s,SNR=18						
ELIZ				Lg		21 44 38.5	
	1.1nm,0.2s,SNR=5.0						
EMIJ	**Mijas**	**4.46**	**237**	Pn	Pn	21 43 35.0	0.0
	0.3nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	21 44 21.6	-4.7
	1.3nm,0.2s,SNR=7.9						
EMIJ				Lg		21 44 45.9	
	3.5nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.46**	**237**	Pn	Pn	21 43 35.0	0.0
	0.3nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	21 44 21.6	-4.7
	1.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.86**

ECAL	**Calabor**	**5.81 302**	Pn	Pn	21 43 52.6	-1.0
	2.3nm,0.3s,SNR=6.3					
ECAL			Sn	Sn	21 44 55.2	-4.5
	1.2nm,0.3s,SNR=5.4					
ECAL			Lg		21 45 26.4	
	3.5nm,0.3s,SNR=5.0					
ECAL	**Calabor**	**5.81 302**	Pn	Pn	21 43 52.6	-1.1
	2.3nm,0.3s,SNR=6.3					
ECAL			Sn	Sn	21 44 55.2	-4.5
LFF	**La Frestale**	**5.91 6**	*e*Pn	Pn	21 43 53.2	-1.7
EGRO	**El Granado**	**6.00 258**	Pn	Pn	21 43 54.1	-2.1
	0.3nm,0.1s,SNR=7.9					
EGRO			Lg		21 45 33.5	
	1.1nm,0.3s,SNR=7.9					
EGRO	**El Granado**	**6.00 258**	Pn	Pn	21 43 54.1	-2.1
CAF	**Calviac**	**6.08 15**	*e*Pn	Pn	21 43 56.4	-0.9
CAF			*e*Sn	Sn	21 45 01.5	-4.7
PBEJ	**Beja**	**6.17 263**	*e*Pn	Pn	21 43 59.8	+1.2
PBEJ			*e*Sg	Sn	21 45 39.9	+31
EVO	**Evora**	**6.20 268**	*e*Pn	Pn	21 43 58.2	-0.8
EVO	**Evora**	**6.20 268**	*e*Pg	Pn	21 44 23.2	+24
EVO			*e*Sg	Sn	21 45 42.9	+34
	7.8nm,0.4s					
PVIS	**Viseu**	**6.21 288**	*e*Sn	Sn	21 45 06.3	-3.2
PVIS			*e*Sg	Sn	21 45 38.1	+29
PVIS						
	2.6nm,0.4s					
EPON	**Pontenova**	**6.81 311**	Pn	Pn	21 44 05.9	-1.4
	0.4nm,0.3s,SNR=7.9					
EPON			Sn	Sn	21 45 18.6	-5.6
	0.4nm,0.2s,SNR=7.9					
EPON			Lg		21 45 57.8	
	1.8nm,0.4s,SNR=7.9					
EPON	**Pontenova**	**6.81 311**	Pn	Pn	21 44 05.9	-1.4
PGF	**Pioggiola**	**7.73 60**	*e*Pn	Pn	21 44 19.3	-0.7
QUIF	**Quistinic**	**9.12 347**	*e*Pn	Pn	21 44 37.1	-2.0
ROSF	**Rostrenen**	**9.55 347**	*e*Pn	Pn	21 44 42.6	-2.3

*ISCJB **14** 21:51:53.6±0.4, 4427N±002×733E±004, h12km, Error ellipse: s-maj=3.9km s-min=2.2km az=135.2*
*LDG **14** 21:51:53.9±0.1, 4427N×742E, h4km, Md2.1/1, Ml1.8/7, Error ellipse: s-maj=2.6km s-min=1.2km az=83.0*
*ROM **14** 21:51:54.0±0.1, 4426N×738E, h12km±2km, Md1.7/3, Ml1.6/2, Error ellipse: s-maj=2.6km s-min=1.5km az=136.0*
*STR **14** 21:51:54.8±0.3, 4423N×740E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 21:51:53.9±0.5,**4426N**±002×**737E**±004,**h16**km±4km,**n21**, σ0°**32**/39,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sta Anna Valdi**	**0.04 239**		Pg	**Pg**	**21 51 56.7**	**0.0**
STV				Sg	**Sg**	**21 51 58.3**	**-0.3**
	179nm,0.1s						
ENR	**Entracque**	**0.05 135**			**Pg**	**21 51 56.9**	**+0.1**
DOI	**San Damiano**	**0.26 340**		Pg	**Pg**	**21 51 59.9**	**+0.4**
DOI				Sg	**Sg**	**21 52 03.8**	**+0.5**
	80nm,0.2s						
TOUF	**Mont Tournerai**	**0.26 199**		Pg	**Pg**	**21 51 59.9**	**+0.3**
TOUF				Sg	**Sg**	**21 52 03.1**	**-0.4**
AUTN	**L'Aution**	**0.27 171**		Pg	**Pg**	**21 52 00.0**	**+0.2**
AUTN				Sg	**Sg**	**21 52 03.6**	**-0.1**
SAOF	**Saorge**	**0.31 154**		Pg	**Pg**	**21 52 00.2**	**-0.2**
SAOF				Sg	**Sg**	**21 52 04.5**	**-0.3**
PZZ	**Prazzo**	**0.31 322**			**Pg**	**21 52 00.7**	**+0.3**
ROB	**Roburent**	**0.36 85**			**Pg**	**21 52 01.9**	**+0.5**
LUCF	**Luceram**	**0.37 183**		Pg	**Pg**	**21 52 01.7**	**+0.2**
LUCF				Sg	**Sg**	**21 52 06.8**	**+0.2**
MVIF	**Mont Vial**	**0.40 203**		Pg	**Pg**	**21 52 02.3**	**+0.3**
MVIF				Sg	**Sg**	**21 52 07.9**	**+0.4**
SBF	**Sospel**	**0.40 173**		*e*Pg	**Pg**	**21 52 02.2**	**+0.1**
SBF				*e*Sg	**Sg**	**21 52 07.6**	**0.0**
	24nm,0.3s						
IMI	**Imperia**	**0.52 133**		Pg	**Pg**	**21 52 04.2**	**+0.1**
IMI				Sg	**Sg**	**21 52 10.9**	**-0.1**
	9.0nm,0.1s						
MBDF	**Montbardon**	**0.63 318**		*e*Pg	**Pg**	**21 52 06.3**	**0.0**
MBDF				*e*Sg	**Sg**	**21 52 15.1**	**+0.4**
	5.6nm,0.3s						
FRF	**La Foret Royal**	**0.88 217**		*e*Pg	**Pg**	**21 52 10.5**	**-0.4**
FRF	**La Foret Royal**	**0.88 217**		*e*Pn	**Pn**	**21 52 11.3**	**-0.3**
FRF				*e*Sg	**Sg**	**21 52 22.3**	**-0.1**
	11nm,0.3s						
LMR	**La Mourre**	**1.12 214**		*e*Pg	**Pg**	**21 52 15.2**	**-0.3**
LMR				*e*Sg	**Sg**	**21 52 29.7**	**-0.4**
	8.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.25 302**		*e*Pg	**Pg**	**21 52 17.9**	**-0.1**
ORIF				*e*Sg	**Sg**	**21 52 34.3**	**0.0**
	0.9nm,0.2s						
LPG	**La Plagne**	**1.31 341**		*e*Pg	**Pg**	**21 52 18.7**	**-0.5**
LPG				*e*Sg	**Sg**	**21 52 35.8**	**-0.4**
	0.9nm,0.3s						
SMRF	**Simiane la Rot**	**1.32 258**		*e*Pg	**Pg**	**21 52 19.8**	**+0.4**
SMRF				*e*Sg	**Sg**	**21 52 37.1**	**+0.4**
	2.7nm,0.2s						
LPL	**La Plagne**	**1.33 340**		*e*Pg	**Pg**	**21 52 19.2**	**-0.4**
LPL				*e*Sg	**Sg**	**21 52 36.3**	**-0.6**
	0.2nm,0.1s						
VIVF	**Saint-Julien-l**	**2.02 288**		*e*Pn	**Pn**	**21 52 27.7**	**+0.4**
VIVF				*e*Sn	**Sn**	**21 52 52.3**	**+0.1**
VIVF				*e*Sg	**Sg**	**21 52 58.5**	**-0.3**
	1.1nm,0.4s						

*ISCJB **14** 22:02:59.7±0.4, 6720N±002×2063E±007, h0km, Error ellipse: s-maj=3.8km s-min=3.5km az=131.2*
*CSEM **14** 22:03:00.6±0.1, 6722N×2075E, h1km, ML3.0, Error ellipse: s-maj=3.5km s-min=2.4km az=101.0, Mining explosion.*
*UPP **14** 22:03:00.8, 67.19N×2067E, h0km, ML3.0, Mining explosion.*
*IDC **14** 22:03:00.5±0.9, 6722N×2106E, h0km, mb1 2.9/4, mb1mx2.8/21, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=15.2km s-min=6.5km az=117.0*
*HEL **14** 22:03:01.5±0.1, 6720N×2066E, h0km, ML2.1, ML3.0(UPP), ML2.0(BER), Explosion*
*NAO **14** 22:03:01.9±1.0, 67.15N×2102E, ML2.0*
*BER **14** 22:03:02.7±3.5, 6722N×2039E, h0km, ML2.0, ML2.0(NAO), Suspected explosion*

ISC 14 22:03:00.9±0.3,**6718N**±002×**2063E**±007,**h0**km,**n42**, σ0°**84**/62,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.60 62**		*i* P	**Pg**	**22 03 11.8**	**-0.6**
KUA	**Kurravaara**	**0.78 352**		*i* P	**Pg**	**22 03 15.7**	**-0.2**
SALU	**Saltoluokta**	**0.85 284**		*i* P	**Pg**	**22 03 16.8**	**-0.4**
ERTU	**Ertsjaerv**	**0.88 135**		*i* P	**Pg**	**22 03 17.6**	**-0.2**
NIKU	**Nikkaluokta**	**0.92 319**		*e*P	**Pg**	**22 03 18.1**	**-0.5**
PAJU	**Pajala**	**0.98 98**		*e*P	**Pg**	**22 03 18.6**	**-1.1**
LANU	**Lannavaara**	**1.01 30**		*e*P	**Pg**	**22 03 19.6**	**-0.7**
HARU	**Harads**	**1.03 172**		*e*P	**Pg**	**22 03 19.8**	**-0.9**
KALU	**Kalix**	**1.72 139**		*e*P	**Pn**	**22 03 32.0**	**0.0**
SJUU	**Sjulsmark**	**1.73 166**		*e*P	**Pn**	**22 03 31.9**	**-0.2**
LILU	**Lilltraesk**	**1.93 190**		*e*P	**Pn**	**22 03 35.7**	**+0.7**
KTK1	**Kautokeino**	**2.08 27**		*e*P	**Pn**	**22 03 39.1**	**+2.1**
KTK1				*e*Sg	**Sg**	**22 04 06.8**	**-1.0**
KTK1				AML	AML	22 04 08.2	
	comp=Z,24nm,0.3s						
KTK1	**Kautokeino**	**2.08 27**		*e*P	**Pn**	**22 03 39.1**	**+2.1**
	SNR=50						
KTK1				*e*Sg	**Sg**	**22 04 06.8**	**-0.9**
	SNR=90						
SGF	**Sodankyl**	**2.30 81**		*e*P	**Pn**	**22 03 40.3**	**+0.3**
SGF				*e*S	**Sn**	**22 04 10.6**	**+1.6**
TRO	**Tromso**	**2.54 346**		*e*P	**Pn**	**22 03 43.6**	**+0.2**
TRO				*e*Sg	**Sg**	**22 04 17.9**	**-4.6**
TRO				AML	AML	22 04 21.3	
	comp=Z,8.1nm,0.3s						
TRO	**Tromso**	**2.54 346**		*e*P	**Pn**	**22 03 43.6**	**+0.3**
	SNR=50						
TRO				*e*Sg	**Sg**	**22 04 17.9**	**-4.6**
	SNR=90						
BURU	**Burvik**	**2.63 173**		*e*P	**Pn**	**22 03 45.7**	**+1.2**
MOR8	**Moi Rana**	**2.67 250**		*e*Sg	**Sg**	**22 04 17.7**	**-8.8**
MOR8				AML	AML	22 04 20.8	
	comp=Z,21nm,0.3s						
SVAU	**Svanoeiden**	**2.74 190**		*e*P	**Pn**	**22 03 47.1**	**+1.1**
LOF	**Lofoten**	**2.87 293**		*e*	**Sg**	**22 04 34.0**	**+0.9**
ARA0	**ARCESS Array S**	**2.97 35**		Pn	**Pn**	**22 03 49.5**	**+0.2**
	baz=211,slow=16						
ARA0				Sn	**Sn**	**22 04 25.6**	**-0.1**
	baz=208,slow=28						
ARA0	**ARCESS Array S**	**2.97 35**		*e*P	**Pn**	**22 03 49.5**	**+0.2**
ARA0				*e*S	**Sn**	**22 04 25.6**	**-0.1**
ARA0	**ARCESS Array S**	**2.97 35**		Pn	**Pn**	**22 03 49.5**	**+0.2**
	SNR=50						
ARA0				Sn	**Sn**	**22 04 25.5**	**-0.1**
	SNR=50						
ARCES	**ARCESS Array B**	**2.97 35**		Pn	**Pn**	**22 03 49.4**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=213,slow=13,SNR=55						
ARCES				Lg		22 04 26.9	
	comp=Z,2.5nm,0.3s,baz=217,slow=24,SNR=12						
OUL	**Oulu**	**3.00 132**		*e*P	**Pn**	**22 03 50.2**	**+0.6**
OUL				*e*S	**Sn**	**22 04 26.8**	**+0.5**
UMAU	**Umeaa**	**3.31 180**		*e*P	**Pn**	**22 03 54.8**	**+0.8**
KEV	**Kevo**	**3.49 39**		*e*P	**Pn**	**22 03 56.8**	**+0.4**
KEV				*e*S	**Sn**	**22 04 37.7**	**-0.7**
KEV				MSG		22 04 55.8	
	comp=Z,5.2nm,0.3s						
KEV	**Kevo**	**3.49 39**		P	**Pn**	**22 03 56.7**	**+0.3**
MSF	**Maaselka**	**3.60 107**		*e*P	**Pn**	**22 03 58.1**	**+0.3**
MSF				*e*S	**Sn**	**22 04 40.2**	**-0.8**
MSF				MSG		22 04 54.2	
	comp=Z,2.5nm,0.2s						
MSF	**Maaselka**	**3.60 107**		P	**Pn**	**22 03 58.0**	**+0.2**
KU4	**Liikasenvaara**	**3.64 99**		*e*P	**Pn**	**22 03 59.1**	**+0.7**
KU4				*e*S	**Sn**	**22 04 42.1**	**0.0**
KU4				MSG		22 04 59.9	
	comp=Z,3.9nm,0.2s						
KU6	**Riekki**	**3.87 103**		*e*P	**Pn**	**22 04 01.6**	**0.0**
KU6				*e*S	**Sn**	**22 04 47.6**	**-0.1**
FIA0	**FINESS Array S**	**6.23 155**		Pn	**Pn**	**22 04 34.7**	**+0.7**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**22 05 44.0**	**-1.9**
	baz=346,slow=28						
FIA0				Lg		22 06 15.4	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.23 155**		*e*P	**Pn**	**22 04 34.7**	**+0.7**
FIA0				*e*S	**Sn**	**22 05 44.0**	**-1.9**
FIA0				*e*SG	**Sg**	**22 06 15.4**	**-5.5**
FIA0	**FINESS Array S**	**6.23 155**		Pn	**Pn**	**22 04 34.7**	**+0.7**
	SNR=50						
FIA0				Sn	**Sn**	**22 05 44.0**	**-1.9**
	SNR=50						
FINES	**FINESS Array B**	**6.23 155**		Pn	**Pn**	**22 04 35.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=10						
FINES				Sn	**Sn**	**22 05 42.0**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=345,slow=23,SNR=6.8						
FINES				Lg		22 06 14.9	
	comp=Z,0.5nm,0.3s,baz=344,slow=26,SNR=7.2						
NB2	**NORSAR Subarra**	**7.41 218**		*e*P	**Pn**	**22 04 49.9**	**-0.3**
NOA	**NORSAR Array B**	**7.41 218**		Pn	**Pn**	**22 04 50.1**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=32,slow=14,SNR=2.3						
NOA				Sn	**Sn**	**22 06 11.9**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=43,slow=24,SNR=2.6						
HFS	**Hagfors**	**7.71 207**		Pn	**Pn**	**22 04 53.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=18,slow=15,SNR=4.2						
HFS				Sn	**Sn**	**22 06 18.5**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=22,SNR=6.5						
HFS	**Hagfors**	**7.71 207**		*e*S	**Sn**	**22 06 18.1**	**-4.4**
SPA0	**Spitsbergen Ar**	**11.12 355**		Pn	**Pn**	**22 05 40.7**	**-0.4**
	baz=176,slow=14						
SPA0	**Spitsbergen Ar**	**11.12 355**		*e*P	**Pn**	**22 05 40.7**	**-0.4**

*CSEM **14** 22:09:47.8, 6720N×2068E, h8km, ML2.9, Mining explosion. After UPP*
*UPP **14** 22:09:47.8, 6720N×2068E, h8km, ML2.9, Mining explosion.*

HEL 14 22:09:48.2±0.1,**6719N×2067E,h0**km,**ML1.6,ML2.9**(UPP), **Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58 62**		*i* P	Pg	22 09 58.6	-0.7
KUA	**Kurravaara**	**0.78 351**		*i* P	Pg	22 10 02.0	-1.0
SALU	**Saltoluokta**	**0.86 284**		*i* P	Pg	22 10 03.8	-0.9
ERTU	**Ertsjaerv**	**0.88 136**		*i* P	Pg	22 10 04.4	-0.7
NIKU	**Nikkaluokta**	**0.92 318**		*e*P	Pg	22 10 04.9	-1.0
PAJU	**Pajala**	**0.97 99**		*e*P	Pg	22 10 05.2	-1.6
LANU	**Lannavaara**	**1.00 30**		*e*P	Pg	22 10 06.0	-1.3
HARU	**Harads**	**1.04 173**		*e*P	Pg	22 10 06.4	-1.7
KALU	**Kalix**	**1.72 140**		*e*P	Pn	22 10 18.2	-1.1
SJUU	**Sjulsmark**	**1.73 167**		*e*P	Pn	22 10 18.6	-1.0
LILU	**Lilltraesk**	**1.95 190**		*e*P	Pn	22 10 22.2	-0.3
OUL	**Oulu**	**3.00 132**		*e*PB	Pb	22 10 40.1	-2.4
OUL				*e*SG	Sg	22 11 21.1	-3.5
MSF	**Maaselka**	**3.58 107**		*e*SG	Sg	22 11 37.1	-6.3
KU6	**Riekki**	**3.86 103**		*e*SG	Sg	22 11 47.9	-4.3
VAF	**Ylistaro**	**4.25 168**		*e*SG	Sg	22 12 00.2	-4.7

IDC 14 22:35:37.7±1.8,**3310S×10838W,h0**km,**mb3.7**/3, **mb1 4.1**/3,**mb1mx3.9**/14,**mbtmp3.7**/3,**MS3.8**/4,**Ms1 3.8**/4, **ms1mx3.5**/20,**1D,Error ellipse: s-maj=181.9km s-min=30.0km az=96.0,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**25.41 286**		*e*LR	LR	22 46 55.3	
	312nm,26.2s						
RKT	**Rikitea**	**25.41 286**		*e*T		23 06 26.1	
	1.7nm,0.2s						
PLCA	**Paso Flores**	**31.01 115**		LR	LR	22 51 56.9	
	comp=Z,178nm,21.6s,baz=216,slow=32						
TBI	**Tubuai**	**37.28 274**		*e*LR	LR	22 52 31.2	
	196nm,28.0s						
TBI	**Tubuai**	**37.28 274**		*e*T		23 21 17.4	
	3.8nm,0.2s						
TAOE	**Nuku Hiva Isla**	**37.97 302**		*e*LR	LR	22 52 48.4	
	605nm,27.5s						
PPT	**Papeete**	**40.04 282**		*e*LR	LR	22 53 46.0	
	252nm,25.8s						
CPUP	**Villa Florida**	**44.49 95**		LR	LR	22 59 33.0	
	comp=Z,153nm,21.2s,baz=242,slow=32						
ROSC	**El Rosal**	**49.66 47**		LR	LR	23 01 35.4	
	comp=Z,75nm,19.5s,baz=220,slow=31						
BDFB	**Brasilia**	**56.94 88**		LR	LR	23 07 27.3	
	comp=Z,117nm,18.6s,baz=242,slow=34						
VNDA	**Vanda**	**57.91 195**		P	P	22 45 31.8	+0.3
	0.4nm,0.7s,baz=99,slow=9.7,SNR=3.2						
NVAR	**Mina Array Bea**	**71.76 352**		P	P	22 47 03.1	+1.3
	1.1nm,0.8s,baz=171,slow=7.3						
SYO	**Syowa Base**	**75.49 169**		‖*e*P	P	22 47 23.8	+0.1
PDAR	**Pinedale Array**	**75.50 359**		P	P	22 47 24.2	+0.4
	0.7nm,0.9s,baz=168,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	**144.46 48**		PKP	PKPdf	22 55 13.2	-2.7
	0.6nm,0.5s,baz=278,slow=4.0,SNR=6.5						
SONM	**Songino Array**	**150.01 310**		PKPbc	PKPbc	22 55 27.5	-2.7
	1.3nm,0.9s,baz=59,slow=0.8,SNR=6.6						

*ISCJB **14** 22:38:46.9±2.0, 1190S±008×1666E±0.1, h128km±16km, mb4.4/21, Error ellipse: s-maj=19.6km s-min=9.9km az=112.0*
*IDC **14** 22:38:46.6±2.4, 1184S×16661E, h115km±19km, mb4.0/11, mb1 4.1/14, mb1mx4.0/18, mbtmp4.4/14, MS3.5/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=20.4km s-min=12.9km az=62.0*
*NEIC **14** 22:38:47.4±1.4, 1181S×16662E, h121km±12km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=8.5km az=63.0*

ISC 14 22:38:47.5±1.8,**1183S**±008×**1666E**±01,**h120**km±14km, **n40**, σ0°**71**/36,**mb4.4**/21,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.00 289**		P	**Pn**	**22 40 26.7**	**-0.7**
	21nm,0.3s,baz=101,slow=5.7,SNR=5.4						
HNR				S	**Sn**	**22 41 45.6**	**+0.3**
	9.4nm,0.3s,baz=77,slow=2.4,SNR=3.4						
HNR				LR	LR	22 42 19.3	
	comp=Z,183nm,19.6s,baz=176,slow=30						
DZM	**Mont Dzumac**	**10.19 181**		*e*P	**Pn**	**22 41 10.7**	**+0.3**
DZM				*e*S	**Sn**	**22 42 54.8**	**-7.9**
DZM	**Mont Dzumac**	**10.19 181**		P	**Pn**	**22 41 10.6**	**+0.2**
	9.1nm,0.3s,baz=101,slow=23,SNR=158						
DZM				S	**Sn**	**22 42 58.1**	**-4.7**
	2.1nm,0.3s,baz=134,slow=22,SNR=5.0						
DZM				LR	LR	22 44 30.8	
	comp=Z,306nm,21.1s,baz=10,slow=34						
PMG	**Port Moresby**	**19.30 275**		P	**P**	**22 43 03.4**	**+0.5**
	0.2nm,0.3s,baz=141,slow=12,SNR=3.2						
ARMA	**Armidale**	**23.16 215**		*e*P	**P**	**22 43 44.1**	**+0.8**
URZ	**Urewera**	**27.94 162**		P	**P**	**22 44 26.9**	**+0.4**
	4.0nm,0.3s,mb4.4,baz=12,slow=7.0,SNR=6.8						
STKA	**Stephens Creek**	**30.50 225**		*e*P	**P**	**22 44 49.4**	**+0.3**
	5.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**30.50 225**		P	**P**	**22 44 49.5**	**+0.4**
	5.1nm,0.7s,mb4.4,baz=52,slow=10.0,SNR=8.6						
STKA				LR	LR	22 55 33.7	
	comp=Z,193nm,21.5s,baz=27,slow=33						
RPZ	**Rata Peaks**	**32.00 174**		P	**P**	**22 45 02.4**	**+0.1**
	23nm,0.7s,mb5.0,baz=47,slow=7.4,SNR=13						
WB2	**Warramunga Arr**	**32.04 251**		*e*P	**P**	**22 45 03.7**	**+1.0**
WRA	**Warramunga Arr**	**32.05 251**		P	**P**	**22 45 01.7**	**-1.1**
	0.6nm,0.4s,mb3.7,baz=84,slow=9.0,SNR=15						
WRA				PcP	PcP	22 47 49.5	0.0
	0.8nm,0.8s,baz=80,slow=3.1,SNR=6.1						
GUMO	**Guam**	**33.22 319**		LR	LR	22 55 36.4	
	comp=Z,77nm,20.9s,baz=108,slow=30						
ASAR	**Alice Springs**	**33.24 245**		P	**P**	**22 45 11.9**	**-1.2**
	0.9nm,0.6s,mb3.8,baz=69,slow=9.6,SNR=20						
ASAR				PcP	PcP	22 47 52.9	0.0
	0.9nm,0.7s,baz=73,slow=2.7,SNR=8.3						
ASAR				ScP	ScP	22 51 27.9	+1.9
	0.5nm,0.7s,baz=76,slow=3.2,SNR=5.0						
FITZ	**Fitzroy Crossi**	**40.04 256**		*e*P	**P**	**22 46 10.6**	**-0.1**
	8.2nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**45.79 252**		*e*P	**P**	**22 46 57.4**	**+0.4**
	65nm,1.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**49.77 237**		*e*P	**P**	**22 47 27.1**	**-0.7**
	2.4nm,0.5s,mb4.4						
VNDA	**Vanda**	**65.73 181**		P	**P**	**22 49 18.6**	**-0.7**
	0.7nm,0.4s,mb3.8,baz=341,slow=8.4,SNR=18						
VNDA	**Vanda**	**65.73 181**		*e*P	**P**	**22 49 18.6**	**-0.7**
	0.7nm,0.5s,mb3.8						
SBA	**Scott Base**	**66.02 180**		*e*P	**P**	**22 49 21.4**	**+0.2**
	2.2nm,0.8s,mb4.0						
KMI	**Kunming**	**72.28 301**		P	**P**	**22 50 01.3**	**+1.5**
	10.0nm,1.1s,mb4.6						
KMI				pP	pP	22 50 32.4	+2.9
QSPA	**South Pole Qui**	**78.18 180**		*e*P	**P**	**22 50 33.0**	**-0.6**
	2.3nm,0.4s,mb4.3						
SONM	**Songino Array**	**79.81 324**		P	**P**	**22 50 42.3**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=145,slow=5.3,SNR=11						
YBH	**Yreka Blue Hor**	**83.81 45**		P	**P**	**22 51 04.5**	**+1.1**
	0.6nm,0.4s,mb3.8,baz=225,slow=1.4,SNR=3.6						
GUN	**Gumba**	**87.46 299**		*e*P	**P**	**22 51 21.6**	**+0.1**
PKI	**Pulchoki**	**87.78 299**		*e*P	**P**	**22 51 22.9**	**-0.1**
KKN	**Kakani**	**87.95 299**		*e*P	**P**	**22 51 23.8**	**0.0**
	8.0nm,0.7s,mb4.9						
DMN	**Daman**	**88.05 299**		*e*P	**P**	**22 51 24.9**	**+0.6**
	15nm,0.7s,mb5.2						
GKN	**Gorkha**	**88.55 299**		*e*P	**P**	**22 51 26.2**	**-0.4**
	12nm,0.9s,mb4.9						
KOLN	**Koldanda**	**89.39 298**		*e*P	**P**	**22 51 29.9**	**-0.7**
	6.7nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**94.69 317**		*e*P	**P**	**22 51 54.7**	**-0.4**
MKAR	**Makanchi Array**	**94.69 317**		P	**P**	**22 51 54.6**	**-0.4**
	3.5nm,0.6s,mb5.0,baz=89,slow=5.6,SNR=46						
ZAL	**Zalesovo**	**94.71 324**		P	**P**	**22 51 56.3**	**+1.2**
	0.8nm,0.3s,mb4.6,baz=36,slow=6.2,SNR=3.1						
YKA	**Yellowknife Ar**	**95.26 27**		P	**P**	**22 51 56.2**	**-1.5**
	0.4nm,0.4s,mb4.2,baz=262,slow=5.0,SNR=6.0						
YKA	**Yellowknife Ar**	**95.26 27**		P	**P**	**22 51 56.2**	**-1.5**
ARCES	**ARCESS Array B**	**117.31 346**		PKP	PKPdf	22 57 16.8	-1.9
	3.0nm,0.9s,baz=91,slow=3.7,SNR=11						
FINES	**FINESS Array B**	**122.81 339**		PKP	PKPdf	22 57 27.5	-1.7
	1.6nm,0.8s,baz=343,slow=6.0,SNR=5.2						
FINES	**FINESS Array B**	**122.81 339**		PKP	PKPdf	22 57 27.5	-1.8
KEST	**Kesra**	**148.56 323**		PKPbc	PKPbc	22 58 18.9	-1.4
	0.6nm,0.6s,baz=304,slow=14,SNR=4.2						
ESDC	**Sonseca Array**	**151.04 345**		PKPbc	PKPbc	22 58 26.4	+0.1
	0.2nm,0.4s,baz=10.0,slow=3.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**165.24 277**		PKPab	PKPab	22 59 36.1	+0.6
	0.6nm,0.9s,baz=61,slow=2.9,SNR=3.3						

*ISCJB **14** 22:43:43.7±0.4, 4935N±002×681E±004, h0km, Error ellipse: s-maj=3.4km s-min=3.3km az=68.8*
*BGR **14** 22:43:45.5±0.6, 4936N×685E, h1km, ML1.7/2, Error ellipse: s-maj=7.8km s-min=4.4km az=110.0*
*LDG **14** 22:43:45.1±0.1, 4938N×688E, h1km, Md2.3/1, Ml2.4/10, Error ellipse: s-maj=0.8km s-min=0.7km az=74.0, Suspected Mining induced.*

ISC 14 22:43:44.7±0.4,**4936N**±002×**682E**±003,**h0**km,**n25**, σ0°**76**/35,**Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38 24**		*e*Pg	**Pg**	**22 43 52.1**	**+0.1**
	SNR=5.0						
LANF	**Langenberg**	**0.75 120**		*e*Pg	**Pg**	**22 43 58.9**	**-0.1**
	SNR=4.0						
CDF	**Champ du Feu**	**0.99 162**		*e*Pg	**Pg**	**22 44 04.2**	**+0.5**
CDF	**Champ du Feu**	**0.99 162**		*e*Pn	**Pn**	**22 44 04.8

RAO	Raoul Island	13.88	197	LR	LR	22 55 17.8	
	comp=Z,110nm,18.2s,baz=39,slow=31						
DZM	Mont Dzumac	20.16	249	eP	P	22 52 44.8	+5.6
DZM	Mont Dzumac	20.16	249	P	P	22 52 39.2	0.0
	3.9nm,0.9s,baz=65,slow=16,SNR=2.5						
PPT	Papeete	22.66	97	LR	LR	22 59 01.5	
	comp=Z,270nm,19.0s,MS3.7,baz=186,slow=29						
URZ	Urewera	23.75	199	P	P	22 53 17.2	-0.1
	3.5nm,0.4s,mb4.2,baz=347,slow=5.8,SNR=11						
CTA	Charters Tower	38.70	258	P	P	22 55 28.4	-0.4
	3.6nm,0.7s,mb4.2,baz=76,slow=4.2,SNR=2.0						
STKA	Stephens Creek	43.91	241	P	P	22 56 11.5	0.0
	4.9nm,0.7s,mb4.3,baz=56,slow=9.0,SNR=7.3						
WB2	Warramunga Arr	49.89	257	eP	P	22 56 58.7	+0.4
WB2	Warramunga Arr	49.89	257	eP	P	22 56 57.8	-0.5
WRA	Warramunga Arr	49.90	257	P	P	22 56 58.1	-0.3
	1.0nm,0.4s,mb4.2,baz=92,slow=6.6,SNR=24						
AS31	Alice Springs	50.11	252	eP	P	22 56 59.8	-0.2
ASAR	Alice Springs	50.11	252	P	P	22 56 59.6	-0.4
	9.6nm,0.7s,mb5.0,baz=91,slow=7.6,SNR=41						
ASAR				LR	LR	23 17 58.3	
	comp=Z,155nm,18.6s,MS4.0,baz=253,slow=36						
ASPA	Alice Springs	50.12	252	eP	P	22 56 59.8	-0.2
KAKA	Kakadu	52.65	266	eP	P	22 57 20.4	+1.4
	5.3nm,0.5s,mb4.7						
FORT	Forrest	55.32	243	eP	P	22 57 37.7	-0.8
	7.3nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	58.28	258	eP	P	22 58 00.5	+1.0
	6.1nm,1.5s,mb4.4						
SBA	Scott Base	62.66	185	eP	P	22 58 30.8	+1.3
	3.5nm,1.5s,mb4.3						
VNDA	Vanda	62.79	186	P	P	22 58 30.2	-0.1
	0.7nm,0.9s,mb3.8,baz=2.3,slow=8.0,SNR=4.6						
VNDA	Vanda	62.79	186	eP	P	22 58 29.7	-0.6
	2.6nm,1.3s,mb4.2						
MBWA	Marble Bar	63.38	254	eP	P	22 58 33.5	-0.7
	2.4nm,0.6s,mb4.5						
KLBR	Kellerberrin	64.13	242	eP	P	22 58 39.5	+0.3
	97nm,1.8s,mb5.5						
YBH	Yreka Blue Hor	73.96	37	P	P	22 59 40.4	+0.2
	3.5nm,0.8s,mb4.3,baz=169,slow=1.9,SNR=11						
QSPA	South Pole Qui	74.04	180	eP	P	22 59 40.3	-0.4
	5.3nm,0.8s,mb4.5						
NVAR	Mina Array Bea	74.65	42	P	P	22 59 44.6	+0.3
	1.1nm,0.7s,mb3.9,baz=233,slow=9.5,SNR=6.0						
ANMO	Albuquerque	81.04	50	eP	P	23 00 20.2	+0.4
LOHW	Long Hollow	82.35	41	eP	P	23 00 28.9	+2.2
	1.9nm,0.6s,mb4.2						
SMCO	Snowmass	82.59	46	eP	P	23 00 28.4	+0.4
COLA	College	82.92	11	eP	P	23 00 29.4	-0.3
	12nm,1.1s,mb4.8						
DAWY	Dawson	83.96	14	eP	P	23 00 35.4	+0.3
PHWY	Pilot Hill	84.59	44	eP	P	23 00 36.5	-1.7
SNAA	Sanae	92.29	177	eP	P	23 01 14.3	-0.7
	3.2nm,1.1s,mb4.6						
SONM	Songino Array	95.43	318	LR	LR	23 38 21.6	
	comp=Z,48nm,19.8s,MS4.0,baz=47,slow=32						
ARCES	ARCESS Array B	125.24	352	PKP	PKPdf	23 07 04.8	-0.8
	2.3nm,0.9s,baz=338,slow=2.6,SNR=4.1						
FINES	FINESS Array B	132.58	348	PKP	PKPdf	23 07 19.1	-0.4
	2.5nm,1.0s,baz=35,slow=4.7,SNR=5.4						
MALT	Malatya	144.43	315	⇑iP	PKPdf	23 07 42.2	+1.0
MALT	Malatya	144.43	315	ePKPdf	PKPdf	23 07 41.3	+0.1
CLL	Collm	144.44	353	ePKPdf	PKPdf	23 07 41.0	-0.2
STHS	Stebnicka Huta	144.67	344	ePKP	PKPdf	23 07 41.8	+0.2
UPC	Upice	144.80	350	ePKP	PKPdf	23 07 41.4	-0.4
KOLS	Kolonicke sedl	144.81	342	ePKP	PKPdf	23 07 41.2	-0.6
DPC	Dobruska-Polom	144.89	349	ePKP	PKPdf	23 07 42.1	+0.1
PVCC	Panska Ves	145.00	351	ePKP	PKPdf	23 07 43.6	+1.4
BURAR	Bucovina Array	145.01	338	⇓iP	PKPdf	23 07 42.9	+0.7
OKC	Ostrava-Krasne	145.03	347	ePKP	PKPdf	23 07 42.2	0.0
CRVS	Cervenica-Dubn	145.07	343	ePKP	PKPdf	23 07 42.1	-0.2
MOX	Moxa	145.24	355	eP	PKPbc	23 07 42.7	+0.4
	10.0nm,1.4s						
KMBO	Kilima Mbogo	145.44	243	PKPbc	PKPbc	23 07 43.7	+0.8
	1.3nm,0.7s,baz=72,slow=9.6,SNR=3.5						
KMBO	Kilima Mbogo	145.44	243	PKPbc	PKPbc	23 07 43.7	+0.7
PRU	Pruhonice	145.53	351	ePKP	PKPdf	23 07 43.7	+0.6
KECS	Kecovo	145.72	344	ePKP	PKPdf	23 07 41.2	-2.2
KECS				e		23 07 44.6	
GIVF	Givet	145.96	2	ePKP1	PKPbc	23 07 44.9	+0.4
BAIF	Baives	145.97	3	ePKP1	PKPbc	23 07 45.2	+0.6
	18nm,1.0s						
TREC	Trest	146.06	350	ePKP	PKPdf	23 07 43.6	-0.4
KHC	Kasperske Hory	146.51	352	ePKP	PKPdf	23 07 46.4	+1.7
KHC				epPKP	pPKPdf	23 08 02.1	+14
BR131	Keskin Array S	146.75	321	ePKPab	PKPab	23 07 48.5	+0.4
GERES	GERESS Array B	146.77	352	PKPbc	PKPbc	23 07 47.0	0.0
	1.6nm,0.8s,baz=35,slow=4.9,SNR=9.6						
ANTO	Ankara	147.18	322	⇑iP	PKPbc	23 07 49.8	+1.7
MEZF	Maizieres J'vi	147.57	2	ePKP1	PKPbc	23 07 50.2	+1.0
	10nm,0.9s						
CDF	Champ du Feu	147.69	359	ePKP1	PKPbc	23 07 50.3	+0.8
	14nm,1.0s						
BZS	Buzias	147.97	340	⇑iP	PKPbc	23 07 50.8	+0.5
HAU	Haudompre	148.09	1	ePKP1	PKPbc	23 07 51.3	+0.7
	9.0nm,0.9s						
HINF	Hinteralfeld	148.28	360	ePKP1	PKPbc	23 07 52.1	+1.0
PKSM	Moragy	148.31	344	⇓iP	PKPbc	23 07 51.1	0.0
LOR	Lormes	148.74	4	ePKP1	PKPbc	23 07 52.3	+0.1
SSF	Saint Saulge	148.92	4	ePKP1	PKPbc	23 07 53.4	+0.7
AVF	Avril sur Loir	149.18	5	ePKP1	PKPbc	23 07 53.8	+0.4
	13nm,1.2s						
SMF	Signal de Mont	149.36	4	ePKP1	PKPbc	23 07 54.4	+0.6
BGF	Bois d'Agland	149.37	5	ePKP1	PKPbc	23 07 54.5	+0.7
	10nm,0.9s						
CABF	La Chapelle	149.49	1	ePKP1	PKPbc	23 07 55.5	+1.4
	23nm,1.2s						
TCF	Toulx Ste Croi	149.57	6	ePKP1	PKPbc	23 07 54.7	+0.4
RJF	Les Rejaudoux	150.46	8	ePKP1	PKPbc	23 07 57.2	+0.7
LPL	La Plagne	150.59	0	ePKP1	PKPbc	23 07 58.6	+1.8
	5.6nm,0.8s						
LPG	La Plagne	150.60	0	ePKP1	PKPbc	23 07 58.7	+1.9
LFF	La Frestale	150.71	9	ePKP1	PKPbc	23 07 57.7	+0.6
	9.8nm,0.8s						
VIVF	Saint-Julien-l	151.19	3	ePKP1	PKPbc	23 07 59.4	+1.2
	5.5nm,0.9s						
LASF	Ste Croix	151.91	5	ePKP1	PKPbc	23 08 01.1	+1.2
	7.1nm,0.8s						
SMRF	Simiane la Rot	152.11	2	ePKP1	PKPbc	23 08 01.8	+1.5
ETSF	Etsaut	152.47	12	ePKP1	PKPbc	23 08 02.4	+1.3
	9.9nm,1.1s						
EPF	Esparros	152.51	10	ePKP1	PKPbc	23 08 01.5	+0.3
ESDC	Sonseca Array	154.62	20	PKPab	PKPab	23 08 20.5	+0.1
	0.5nm,0.7s,baz=329,slow=3.4,SNR=5.1						
TORD	Torodi Ar. Bea	174.29	119	PKP	PKPdf	23 08 14.0	-0.6
	0.6nm,0.8s,baz=327,slow=2.6,SNR=4.1						

*ISCJB **14** 23:18:35.9±0.4, 6780N±003×2005E±007, h0km, Error ellipse: s-maj=3.9km s-min=3.8km az=43.7*
*UPP **14** 23:18:36.8, 6791N×2019E, h0km, ML3.8, Suspected Mining explosion.*
*IDC **14** 23:18:37.7±1.0, 6787N×2051E, h0km, mb1 3.0/3, mb1mx2.9/21, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=16.4km s-min=5.7km az=124.0*
*CSEM **14** 23:18:37.6±0.1, 6784N×2018E, h1km, ML3.8, Error ellipse: s-maj=4.8km s-min=3.3km az=87.0, Mining explosion.*
*NAO **14** 23:18:38.1±1.3, 6780N×2027E, ML2.3*
*HEL **14** 23:18:38.5±0.1, 6785N×2021E, h0km, ML2.1, ML3.8(UPP), ML1.9(BER), Suspected explosion*
*BER **14** 23:18:40.0±3.5, 6784N×2003E, h0km, ML1.9, ML2.3(NAO), Suspected explosion*

ISC 14 23:18:37.2±0.4, 6779N±002×2008E±006, h0km, n35, σ19°04/55, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALU	Saltoluokta	0.73	236	iP	Pg	23 18 52.4	+1.1
PAJU	Pajala	1.40	122	eP	Pn	23 19 03.0	-1.1
PAJU				eS	Sg	23 19 21.4	-1.0
ERTU	Ertsjaerv	1.49	146	eP	Pn	23 19 06.0	+0.7
HARU	Harads	1.68	168	eP	Pn	23 19 08.3	+0.5
HARU				eS	Sn	23 19 31.1	+1.2
KTK1	Kautokeino	1.69	42	eP	Pn	23 19 08.6	+0.5
KTK1				eSg	Sg	23 19 32.8	+1.2
KTK1				AML	AML	23 19 34.1	
	comp=Z,15nm,0.5s						
KTK1	Kautokeino	1.69	42	eP	Pn	23 19 08.6	+0.6
	SNR=50						
KTK1				eSg	Sg	23 19 32.8	+1.2
	comp=Z,15nm,0.5s,SNR=90						
TRO	Tromso	1.90	348	eP	Pn	23 19 10.7	-0.1
TRO				eSg	Sg	23 19 36.2	-2.0
TRO				AML	AML	23 19 38.0	
	comp=Z,19nm,0.4s						
TRO	Tromso	1.90	348	eP	Pn	23 19 10.7	-0.1
	SNR=50						
TRO				eSg	Sg	23 19 36.2	-1.9
	SNR=90						
KALU	Kalix	2.33	145	eP	Pn	23 19 18.2	+1.3
SJUU	Sjulsmark	2.38	164	eP	Pn	23 19 19.2	+1.8
SJUU	Sjulsmark	2.38	164	P	Pn	23 19 19.2	+1.8
LOF	Lofoten	2.49	281	eSg	Sg	23 19 57.5	+0.2
LOF				AML	AML	23 20 00.9	
	comp=Z,12nm,0.4s						
LOF	Lofoten	2.49	281	eSg	Sg	23 19 57.5	+0.2
	comp=Z,12nm,0.4s,SNR=90						
SGF	Sodankyl	2.49	95	eP	Pn	23 19 19.4	+0.4
SGF				eS	Sn	23 19 49.9	-0.3
ARA0	ARCESS Array S	2.64	46	Pn	Pn	23 19 21.4	+0.3
	baz=234,slow=14						
ARA0				Sn	Sn	23 19 54.6	+0.7
	baz=229,slow=28						
ARA0	ARCESS Array S	2.64	46	eP	Pn	23 19 21.4	+0.3
ARA0				eSB	Sn	23 19 54.6	+0.7
ARCES	ARCESS Array B	2.64	46	Pg	Pn	23 19 21.9	+0.7
	comp=Z,1.1nm,0.3s,baz=226,slow=15,SNR=19						
ARCES				Lg		23 19 54.6	
	comp=Z,3.5nm,0.3s,baz=228,slow=25,SNR=12						
MOR8	Moi Rana	2.75	236	eSg	Sg	23 20 01.4	-4.2
KEV	Kevo	3.20	49	eS	Sn	23 20 06.2	-1.4
KEV				MSG		23 20 22.1	
	comp=Z,4.8nm,0.3s						
OUL	Oulu	3.58	137	eS	Sn	23 20 17.9	+0.8
OUL				MSG		23 20 32.4	
	comp=Z,4.5nm,0.3s						
KU4	Liikasenvaara	3.98	107	eP	Pn	23 19 39.2	-0.3
KU4				eS	Sn	23 20 25.3	-1.7
KU4				MSG		23 20 46.4	
	comp=Z,4.6nm,0.3s						
KU4	Liikasenvaara	3.98	107	P	Pn	23 19 39.2	-0.3
MSF	Maaselka	4.01	114	eP	Pn	23 19 40.5	+0.6
MSF				eS	Sn	23 20 26.9	-0.7
MSF	Maaselka	4.01	114	P	Pn	23 19 40.5	+0.6
KU6	Riekki	4.25	110	eP	Pn	23 19 43.2	0.0
KU6				eS	Sn	23 20 32.5	-1.0
NSS	Namsos	4.64	229	eSg	Sg	23 21 03.6	-2.9
NSS				AML	AML	23 21 05.8	
	comp=Z,9.1nm,0.5s						
FIA0	FINESS Array S	6.87	155	Pn	Pn	23 20 20.5	+1.2
	baz=348,slow=12						
FIA0				Sn	Sn	23 21 37.0	-1.2
	baz=344,slow=28						
FIA0				Lg		23 22 10.8	
	baz=343,slow=28						
FIA0	FINESS Array S	6.87	155	eP	Pn	23 20 20.5	+1.2
FIA0				eS	Sn	23 21 37.0	-1.2
FIA0				eSG		23 22 10.8	
FIA0	FINESS Array S	6.87	155	Pn	Pn	23 20 20.5	+1.2
	SNR=50						
FIA0				Sn	Sn	23 21 37.0	-1.2
	SNR=50						
FINES	FINESS Array B	6.87	155	Pn	Pn	23 20 20.1	+0.9
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=7.8						
FINES				Sn	Sn	23 21 37.3	-0.8
	comp=Z,0.2nm,0.3s,baz=346,slow=21,SNR=3.5						
FINES				Lg		23 22 13.8	
	comp=Z,0.5nm,0.3s,baz=344,slow=27,SNR=8.2						
NB2	NORSAR Subarra	7.78	214	eP	Pn	23 20 32.6	+0.9
NOA	NORSAR Array B	7.78	214	Pn	Pn	23 20 32.1	+0.4
	comp=Z,0.2nm,0.3s,baz=21,slow=11,SNR=2.6						
NOA				Sn	Sn	23 21 59.7	-0.9
	comp=Z,0.1nm,0.3s,baz=221,slow=25,SNR=2.6						
NOA				Lg		23 22 46.9	
	comp=Z,0.5nm,0.3s,baz=27,slow=20,SNR=3.7						
HFS	Hagfors	8.18	203	Pn	Pn	23 20 37.0	-0.2
	comp=Z,0.1nm,0.3s,baz=23,slow=13,SNR=4.5						
HFS				Sn	Sn	23 22 08.7	-1.7
	comp=Z,0.2nm,0.3s,baz=27,slow=23,SNR=3.9						
HFS				Lg		23 22 59.7	
	comp=Z,0.3nm,0.3s,baz=30,slow=26,SNR=4.5						
HFS	Hagfors	8.18	203	Pn	Pn	23 20 37.1	-0.1
	baz=23,slow=14						
HFS				Sn	Sn	23 22 06.1	-4.3
	baz=17,slow=28						
HFS				Lg		23 22 57.2	
	baz=7.9,slow=37						
HFS	Hagfors	8.18	203	eP	Pn	23 20 37.1	-0.1
HFS				eS	Sn	23 22 06.1	-4.3

*NNC **14** 23:32:15.9±4.7, 4223N×7664E, h0km, mb3.1, mpv3.2, Error ellipse: s-maj=29.9km s-min=12.8km az=163.0*
*ISCJB **14** 23:32:16.7±1.3, 4226N±007×7672E±006, h6km±7km, Error ellipse: s-maj=12.5km s-min=6.3km az=124.6*
*KNET **14** 23:32:18.5±0.5, 4231N×7655E, h18km±2km, ml3.0, Error ellipse: s-maj=3.4km s-min=3.0km az=105.0*

ISC 14 23:32:17.3±1.3, 4227N±006×7668E±006, h3km±5km, n13, σ0°81/23, 15C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.33	266	⇑P	Pg	23 32 24.0	+0.4
	321nm,0.1s,SNR=64						
ULHL				⇓S	Sg	23 32 29.3	+1.4
	847nm,0.1s						
KNDC	Almaty	0.97	12	⇓P	Pg	23 32 35.7	-0.3
	208nm,0.3s						
KNDC				⇑S	Sg	23 32 49.5	+0.9
	447nm,0.3s						
TKM2	Tokmak 2	1.03	310	⇑P	Pg	23 32 36.2	-0.9
	58nm,0.1s,SNR=54						
TKM2				⇓S	Sg	23 32 50.3	-0.2
	765nm,0.1s						
TKM2	Tokmak 2	1.03	310	⇑P	Pg	23 32 36.2	-1.0
	1.4nm,0.4s						
TKM2				⇑S	Sg	23 32 50.0	-0.6
	3.7nm,0.2s						
KZA	Kyzart	1.08	260	⇑P	Pg	23 32 37.2	-0.8
	60nm,0.1s,SNR=17						
KZA				⇓S	Sg	23 32 51.9	-0.2
	283nm,0.2s						
KBK	Karagaybulak	1.34	287	⇑P	Pn	23 32 41.6	-1.3
	59nm,0.1s,SNR=66						
KBK				⇑S	Sg	23 33 00.3	-0.1
	198nm,0.2s						
CHMS	Chumysh	1.60	298	⇑P	Pn	23 32 45.6	-0.9
	40nm,0.1s,SNR=39						
CHMS				⇓S	Sn	23 33 07.0	-0.7
	167nm,0.2s						
UCH	Uchtor	1.61	269	⇑P	Pn	23 32 46.0	-0.7
	20nm,0.2s,SNR=73						
UCH				⇓S	Sn	23 33 08.0	0.0
	74nm,0.3s						
AAK	Ala-Archa	1.66	283	P	Pn	23 32 46.9	-0.4
	56nm,0.2s,SNR=91						
AAK				⇑S	Sn	23 33 09.5	+0.3
	78nm,0.2s						
USP	Ospenovka	1.89	303	⇑P	Pn	23 32 50.6	+0.1
	221nm,0.2s,SNR=305						
USP				⇓S	Sn	23 33 15.7	+0.8
	226nm,0.2s						
EKS2	Erkin-Say	2.19	281	⇑P	Pn	23 32 55.5	+0.9
	34nm,0.1s,SNR=147						
AML	Almayashu	2.22	267	⇑P	Pn	23 32 57.1	+2.0
	77nm,0.2s,SNR=59						
MK31	Makanchi Array	6.04	40	⇓Pn	Pn	23 33 47.7	+0.1
	0.9nm,0.6s,baz=219,slow=15,SNR=21						
MK31				⇑Lg		23 35 23.8	
	2.0nm,0.4s,baz=214,slow=28						

*ISCJB **14** 23:48:28.5±0.4, 4229N±003×169E±003, h14km±4km, Error ellipse: s-maj=5.2km s-min=3.2km az=140.8*
*MDD **14** 23:48:29.7±0.2, 4223N×172E, h10km, mbLg1.2/12, Error ellipse: s-maj=3.1km s-min=1.8km az=142.0, PRXIMO*
*LDG **14** 23:48:29.6±0.1, 4223N×171E, h5km, Ml1.8/6, Error ellipse: s-maj=2.2km s-min=1.5km az=179.0*

ISC 14 23:48:28.9±0.5, 4224N±003×171E±003, h16km±4km, n28, σ0°76/42, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	Valcebollere	0.28	54	P	Pg	23 48 34.8	-0.2
VALF				S	Sg	23 48 39.7	+0.7
CORG	Organya	0.29	269	P	Pg	23 48 34.8	-0.3
CORG				S	Sg	23 48 40.5	+1.2
	3.1nm,0.4s						
CLLI	Llivia	0.31	39	P	Pg	23 48 35.3	-0.2
CLLI				S	Sg	23 48 40.6	+0.7
	2.2nm,0.2s						
EMIR	Miracle	0.35	203	Pg	Pg	23 48 36.2	0.0
	2.0nm,0.1s,SNR=12						
EMIR				Lg		23 48 41.3	
	10nm,0.3s,SNR=8.6						
CBRU	Bruguera	0.35	82	P	Pg	23 48 36.2	0.0
CBRU				S	Sg	23 48 41.9	+0.9
	5.3nm,0.4s						
CSOR	Sort	0.45	288	P	Pg	23 48 37.9	0.0
CSOR				S	Sg	23 48 45.6	+1.6
	6.7nm,0.3s						
CAVN	Les Avellanes	0.80	244	P	Pb	23 48 44.6	+0.2
CAVN				S	Sb	23 48 55.7	+0.8
	2.7nm,0.3s						
EJON	La Jonquera	0.90	76	Pg	Pg	23 48 46.4	0.0
	0.3nm,0.1s,SNR=7.9						
EJON				Lg		23 48 58.9	
	0.9nm,0.3s,SNR=7.9						
EPOB	Poblet	1.00	208	Pg	Pg	23 48 48.3	0.0
	1.0nm,0.2s,SNR=7.9						
EPOB				Lg		23 49 01.7	
	3.3nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.17	18	ePg	Pg	23 48 51.5	+0.1
MTLF				eSg	Sg	23 49 06.8	+0.2
	1.6nm,0.2s						
MTLF	Montolieu	1.17	18	Pg	Pg	23 48 51.5	+0.1
MTLF				Lg		23 49 06.8	
	0.8nm,0.2s						
EBIE	Bielsa	1.25	292	Pg	Pg	23 48 52.7	-0.2
	0.7nm,0.2s,SNR=7.9						
EBIE				Lg		23 49 10.3	
	1.5nm,0.2s,SNR=7.9						
EPF	Esparros	1.29	309	ePg	Pg	23 48 53.9	+0.2
EPF				eSg	Sg	23 49 10.6	+0.1
	2.4nm,0.2s						
EPF	Esparros	1.29	309	Pg	Pg	23 48 53.9	+0.2
EPF				Lg		23 49 10.6	
	1.2nm,0.2s						
ERTA	Horta de San J	1.64	219	Pg	Pg	23 48 59.2	-1.3
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		23 49 21.5	
	5.7nm,0.4s,SNR=7.9						
ESAC	San Caprasio	1.71	253	Pg	Pg	23 49 00.5	-1.1
	2.1nm,0.2s,SNR=7.9						
ESAC				Lg		23 49 24.5	
	15nm,0.5s,SNR=7.9						
ETSF	Etsaut	1.80	292	ePg	Pg	23 49 03.3	-0.2
ETSF				eSg	Sg	23 49 26.6	-0.4
	1.8nm,0.3s						
ETSF	Etsaut	1.80	292	Pg	Pg	23 49 03.3	-0.2
ETSF				Lg		23 49 26.6	
	0.9nm,0.3s						
SJPF	Ste Jean	2.34	293	ePn	Pn	23 49 07.5	+0.8
SJPF				eSg	Sg	23 49 43.5	-0.5
	0.8nm,0.3s						
SJPF	Ste Jean	2.34	293	Pn	Pn	23 49 07.5	+0.8
SJPF				Lg		23 49 43.5	
	0.4nm,0.3s						
LASF	Ste Croix	2.42	40	ePn	Pn	23 49 08.2	+0.4
LASF	Ste Croix	2.42	40	ePg	Pg	23 49 14.5	-0.8
LASF				eSg	Sg	23 49 45.7	-0.9
	0.6nm,0.3s						
LASF	Ste Croix	2.42	40	Pn	Pn	23 49 08.2	+0.4
LASF				Pg	Pg	23 49 14.5	-0.8
LASF				Lg		23 49 45.7	
	0.3nm,0.3s						
CAF	Calviac	2.70	5	ePn	Pn	23 49 12.5	+0.8
CAF	Calviac	2.70	5	ePg	Pg	23 49 19.6	-1.1
CAF				eSg	Sg	23 49 54.6	-1.1
	1.1nm,0.3s						
CAF	Calviac	2.70	5	Pn	Pn	23 49 12.5	+0.8
CAF				Pg	Pg	23 49 19.6	-1.1
CAF				Lg		23 49 54.6	
	0.6nm,0.3s						
LFF	La Frestale	2.79	346	ePn	Pn	23 49 13.7	+0.8
ETOR	Torete	3.16	245	Pg	Pg	23 49 26.4	-3.1
	0.5nm,0.3s,SNR=4.0						
ETOR				Lg		23 50 09.8	
	1.7nm,0.5s,SNR=4.0						

*IDC **14** 23:51:22.9±1.5, 1174S×16692E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/13, mbtmp3.7/5, Error ellipse: s-maj=43.3km s-min=36.7km az=111.0*

NEIC 14 23:51:29.0±0.9, 1167S×16674E, h35km, mb4.1/5, Error ellipse: s-maj=21.6km s-min=19.7km az=225.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.68	225	P	P	23 57 40.1	-0.2
	1.7nm,0.8s,baz=37,slow=10,SNR=3.8						
WRA	Warramunga Arr	32.19	251	P	P	23 57 54.1	+0.5
	0.1nm,0.3s,baz=84,slow=8.9,SNR=5.2						
ASAR	Alice Springs	33.40	245	P	P	23 58 04.5	+0.4
	0.3nm,0.6s,baz=70,slow=9.5,SNR=6.4						
ASAR				PcP	PcP	00 00 44.8	-0.3
	0.7nm,0.7s,baz=79,slow=2.3,SNR=8.9						
MBWA	Marble Bar	45.92	252	eP	P	23 59 48.9	+0.7
	7.8nm,0.9s						
VNDA	Vanda	65.89	181	P	P	00 02 09.7	-1.5
	0.3nm,0.5s,baz=351,slow=7.5,SNR=9.5						
VNDA	Vanda	65.89	181	eP	P	00 02 10.6	-0.6
	0.4nm,0.6s						
CASY	Casey	66.15	202	eP	P	00 02 12.4	-0.4
	0.5nm,0.4s						
SBA	Scott Base	66.17	180	eP	P	00 02 13.9	+0.9
	1.2nm,0.7s						
QSPA	South Pole Qui	78.33	180	eP	P	00 03 24.9	-0.7
	2.3nm,0.8s						
MKAR	Makanchi Array	94.64	317	P	P	00 04 46.9	+0.5
	0.7nm,0.6s,baz=87,slow=6.3,SNR=9.7						
ARCES	ARCESS Array B	117.18	346	PKP	PKPdf	00 10 09.6	-0.8

*LDG **15** 00:01:54.6±0.0,5090N×653E,h13km,Ml2.4/8,Error ellipse: s-maj=0.9km s-min=0.7km az=113.0*
*BNS **15** 00:01:54.7±0.9,5090N×653E,h13km±7km,ML1.3*
*BGR **15** 00:01:54.4±0.6,5089N×660E,h10km,ML1.8/4,Error ellipse: s-maj=8.9km s-min=4.4km az=112.0*
*UCC **15** 00:01:54.8±0.3,5089N×655E,h13km,ML1.4*
*CSEM **15** 00:01:54.6±0.1,5089N×652E,h10km,ML2.4/7,Error ellipse: s-maj=1.5km s-min=1.3km az=100.0*

ISC 15 00:01:54.1±0.3,5087N±002×653E±003,h10km,n51,σ1°09/91,6C-5D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BD08	**Hambach Funkst**	**0.02**	**310**	*e*Pg	**Pg**	**00 01 57.1**	**+1.2**
BA05	**Sindorf**	**0.10**	**61**	*e*Pg	**Pg**	**00 01 57.7**	**+1.0**
BA05				*e*Sg	**Sg**	**00 01 59.4**	**+0.8**
BD07	**Roetschberg**	**0.12**	**51⇑**	*e*Pg	**Pg**	**00 01 57.9**	**+0.9**
BD07				*e*Sg	**Sg**	**00 01 59.8**	**+0.8**
BD11	**Borschemich**	**0.22**	**344**	*e*Pg	**Pg**	**00 01 59.3**	**+0.6**
BD09	**Hochneukirch**	**0.23**	**350**	*e*Pg	**Pg**	**00 01 59.6**	**+0.7**
KLL	**Kalltalsperre**	**0.26**	**212⇑**	*i*Pg	**Pg**	**00 02 00.6**	**+1.1**
KLL				*i* Sg	**Sg**	**00 02 04.9**	**+1.8**
	32nm,0.4s						
DREG	**Dreilaegerbach**	**0.28**	**222⇑**	*i*Pg	**Pg**	**00 02 00.9**	**+1.2**
DREG				*i* Sg	**Sg**	**00 02 05.1**	**+1.6**
	22nm,0.1s						
STB	**Steinbach**	**0.34**	**144⇑**	*e*Pg	**Pg**	**00 02 02.2**	**+1.3**
STB				*e*Sg	**Sg**	**00 02 06.4**	**+1.0**
	16nm,0.1s						
RODG	**Roetgen-Dahlhe**	**0.35**	**321**	*i* Pg	**Pg**	**00 02 01.9**	**+0.8**
HGN	**Heimansgroeve**	**0.39**	**255⇑**	*e*Pg	**Pg**	**00 02 02.8**	**+0.9**
	3.8nm,0.2s,baz=80						
HGN				*e*Sg	**Sg**	**00 02 08.0**	**+0.9**
HGN	**Heimansgroeve**	**0.39**	**255**	*e*Sg	**Sg**	**00 02 08.0**	**+0.9**
MEM	**Membach**	**0.42**	**232**	⇑P	**Pg**	**00 02 03.3**	**+0.9**
MEM				S	**Sg**	**00 02 09.4**	**+1.4**
	comp=N,18nm,0.4s						
HOBG	**Hohbusch**	**0.52**	**77⇓**	*e*Pg	**Pg**	**00 02 04.6**	**+0.3**
BEBN	**Eben Emael**	**0.55**	**263**	⇓P	**Pg**	**00 02 05.7**	**+0.9**
BEBN	**Eben Emael**	**0.55**	**263**	P	**Pg**	**00 02 05.6**	**+0.9**
LAUG	**Laupendahl**	**0.55**	**28**	*e*Pg	**Pg**	**00 02 04.1**	**-0.7**
LAUG				*i* Sg	**Sg**	**00 02 11.5**	**-0.5**
	comp=N,26nm,0.3s						
HILG	**Hillesheim**	**0.59**	**171**	*e*Sg	**Sg**	**00 02 13.4**	**+0.2**
BUG	**Bochum--Univer**	**0.74**	**39**	*e*Pg	**Pg**	**00 02 07.6**	**-0.8**
	SNR=2.9						
BUG				*e*Sg	**Sg**	**00 02 17.3**	**-0.7**
	SNR=4.2						
BGG	**Burgeitz**	**0.84**	**142**	*e*Pg	**Pg**	**00 02 10.8**	**+0.5**
BGG				*e*Sg	**Sg**	**00 02 22.2**	**+0.9**
	comp=N,10nm,0.2s						
BGG	**Burgeitz**	**0.84**	**142**	Pg	**Pg**	**00 02 10.8**	**+0.5**
BGG				Sg	**Sg**	**00 02 22.2**	**+0.9**
	comp=N,10nm,0.2s						
BCLA	**Clavier**	**0.90**	**240**	⇓P	**Pg**	**00 02 12.2**	**+0.7**
BCLA				S	**Sg**	**00 02 24.2**	**+1.0**
	comp=E,8.0nm,0.1s						
WTSB	**Winterswijk**	**1.11**	**9**	*e*Pg	**Pg**	**00 02 15.3**	**-0.2**
WTSB				*e*Sg	**Sg**	**00 02 29.7**	**-0.2**
WLF	**Walferdange**	**1.23**	**191**	*e*Pg	**Pg**	**00 02 18.2**	**+0.4**
	SNR=1.6						
WLF				*e*Sg	**Sg**	**00 02 33.9**	**+0.1**
	SNR=4.2						
WLF	**Walferdange**	**1.23**	**191**	⇓P	**Pn**	**00 02 18.7**	**+1.3**
WLF				S	**Sb**	**00 02 33.8**	**+0.4**
	comp=E,4.3nm,0.4s						
WLF	**Walferdange**	**1.23**	**191**	P	**Pn**	**00 02 18.6**	**+1.2**
GIVF	**Givet**	**1.33**	**235**	*e*Pn	**Pn**	**00 02 16.5**	**-2.3**
GIVF	**Givet**	**1.33**	**235**	*e*Pg	**Pg**	**00 02 19.4**	**-0.3**
GIVF				*e*Sn	**Sn**	**00 02 34.1**	**-2.5**
GIVF				*e*Sg	**Sg**	**00 02 37.3**	**+0.3**
	comp=E,18nm,0.2s						
GIVF	**Givet**	**1.33**	**235**	*e*Pg	**Pg**	**00 02 19.4**	**-0.3**
GIVF				*e*Sn	**Sn**	**00 02 34.1**	**-2.5**
GIVF				*e*Sg	**Sg**	**00 02 37.3**	**+0.3**
	comp=E,9.1nm,0.2s						
TNS	**Taunus Mts**	**1.39**	**117**	*e*Pg	**Pg**	**00 02 20.8**	**+0.1**
TNS				*e*Sg	**Sg**	**00 02 38.0**	**-0.7**
	SNR=3.5						
DOU	**Dourbes**	**1.46**	**239**	⇓P	**Pn**	**00 02 21.4**	**+0.9**
DOU				S	**Sn**	**00 02 38.3**	**-1.4**
	comp=N,5.5nm,0.2s						
DOU	**Dourbes**	**1.46**	**239**	P	**Pn**	**00 02 21.3**	**+0.8**
IBBN	**Ibbenburen**	**1.63**	**28**	*e*Sg	**Sg**	**00 02 44.9**	**-1.7**
	SNR=2.7						
BAIF	**Baives**	**1.69**	**242**	*e*Pn	**Pn**	**00 02 22.4**	**-1.3**
BAIF	**Baives**	**1.69**	**242**	*e*P	**Pn**	**00 02 24.5**	**+0.8**
BAIF	**Baives**	**1.69**	**242**	*e*Pg	**Pg**	**00 02 26.4**	**-0.2**
BAIF				*e*Sn	**Sn**	**00 02 42.4**	**-3.0**
BAIF				*e*Sg	**Sg**	**00 02 46.8**	**-1.7**
	comp=N,9.0nm,0.3s						
BAIF	**Baives**	**1.69**	**242**	*e*P	**Pn**	**00 02 24.5**	**+0.8**
BAIF	**Baives**	**1.69**	**242**	*e*Pg	**Pg**	**00 02 26.4**	**-0.2**
BAIF				*e*Sn	**Sn**	**00 02 42.4**	**-3.0**
BAIF				*e*Sg	**Sg**	**00 02 46.8**	**-1.7**
	comp=N,4.5nm,0.3s						
CDF	**Champ du Feu**	**2.51**	**169**	*e*Pn	**Pn**	**00 02 33.9**	**-1.0**
CDF	**Champ du Feu**	**2.51**	**169**	*e*Pg	**Pg**	**00 02 41.7**	**-0.5**
CDF				*e*Sn	**Sn**	**00 03 02.6**	**-3.0**
CDF				*e*Sg	**Sg**	**00 03 14.3**	**-0.4**
	comp=N,1.3nm,0.3s						
CDF	**Champ du Feu**	**2.51**	**169**	*e*Pg	**Pg**	**00 02 41.7**	**-0.5**
CDF				*e*Sn	**Sn**	**00 03 02.6**	**-3.0**
CDF				*e*Sg	**Sg**	**00 03 14.3**	**-0.4**
	comp=N,0.6nm,0.3s						
MEZF	**Maizieres J'vi**	**2.56**	**203**	*e*Pg	**Pg**	**00 02 42.4**	**-0.7**
MEZF				*e*Sg	**Sg**	**00 03 15.7**	**-0.6**
	comp=N,2.0nm,0.2s						
MEZF	**Maizieres J'vi**	**2.56**	**203**	*e*Pg	**Pg**	**00 02 42.4**	**-0.7**
MEZF				*e*Sg	**Sg**	**00 03 15.7**	**-0.6**
	comp=N,1.0nm,0.2s						
CLZ	**Clausthal**	**2.60**	**67**	*e*Sg	**Sg**	**00 03 13.3**	**-4.3**
SFTF	**Sexfontaines**	**2.84**	**201**	*e*Pg	**Pg**	**00 02 47.6**	**-0.9**
SFTF				*e*Sn	**Sn**	**00 03 10.3**	**-3.4**
SFTF				*e*Sg	**Sg**	**00 03 25.0**	**-0.3**
	comp=N,1.2nm,0.2s						
SFTF	**Sexfontaines**	**2.84**	**201**	*e*Pg	**Pg**	**00 02 47.6**	**-0.9**
SFTF				*e*Sn	**Sn**	**00 03 10.3**	**-3.4**
SFTF				*e*Sg	**Sg**	**00 03 25.0**	**-0.3**
	comp=N,0.6nm,0.2s						
LOR	**Lormes**	**4.01**	**207**	*e*Pn	**Pn**	**00 02 54.4**	**-1.2**
LOR	**Lormes**	**4.01**	**207**	*e*Pg	**Pg**	**00 03 09.1**	**-1.8**
LOR				*e*Sn	**Sn**	**00 03 38.2**	**-4.4**
LOR				*e*Sg	**Sg**	**00 04 01.6**	**-1.3**
	comp=N,1.7nm,0.3s						
LOR	**Lormes**	**4.01**	**207**	*e*Pg	**Pg**	**00 03 09.1**	**-1.8**
LOR				*e*Sn	**Sn**	**00 03 38.2**	**-4.4**
LOR				*e*Sg	**Sg**	**00 04 01.6**	**-1.3**
	comp=N,0.9nm,0.3s						
SSF	**Saint Saulge**	**4.30**	**209**	*e*Pn	**Pn**	**00 02 59.0**	**-0.6**
FLN	**La Foliniere**	**5.00**	**248**	*e*Sn	**Sn**	**00 04 01.6**	**-5.6**
GRR	**Gorron**	**5.41**	**245**	*e*Pn	**Pn**	**00 03 12.8**	**-2.0**
GRR				*e*Sn	**Sn**	**00 04 12.0**	**-5.0**

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*THE **15** 00:03:18.0,4143N×2047E,h5km,ML2.5*
*SKO **15** 00:03:18.9,4096N×2027E,h2km,M2.2,ML1.9*

CSEM 15 00:03:19.2±0.1,4116N×2034E,h2km,ML2.5,Error ellipse: s-maj=5.1km s-min=2.2km az=16.0,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.35**	**97**	*i* Pg	Pg	00 03 26.5	+0.6
OHR				*e*Sg	Sg	00 03 33.0	+2.5
OHR				*e*Lg		00 03 33.2	
	comp=N,98nm,0.3s						
OHR				*e*Lg		00 03 33.3	
	comp=E,86nm,0.3s						
OHR	**Ohrid**	**0.35**	**97**	*e*Pg	Pg	00 03 26.3	+0.4
OHR				*e*Sg	Sg	00 03 32.7	+2.3
TIR	**Tirane**	**0.41**	**298**	*e*Pg	Pg	00 03 27.2	+0.2
TIR				*e*Sg	Sg	00 03 34.8	+2.5
KRUS	**Krusevo**	**0.72**	**73**	*e*Pg	Pg	00 03 34.4	+1.4
KRUS				*e*Sg	Sg	00 03 45.9	+3.6
KRUS				*e*Lg		00 03 46.7	
	comp=N,0.0nm,0.2s						
KRUS	**Krusevo**	**0.72**	**73**	*e*Pg	Pg	00 03 34.3	+1.4
KRUS				*e*Sg	Sg	00 03 45.8	+3.6
BIA	**Bitola**	**0.76**	**100**	*e*Pg	Pg	00 03 32.8	-0.9
BIA				*e*Sg	Sg	00 03 44.6	+1.1
BIA				*e*Lg		00 03 44.7	
	comp=N,19nm,0.4s						
BIA				*e*Lg		00 03 45.1	
	comp=E,22nm,0.5s						
BIA	**Bitola**	**0.76**	**100**	*e*Pg	Pg	00 03 32.9	-0.8
BIA				*e*Sg	Sg	00 03 44.6	+1.1
FNA	**Florina**	**0.87**	**115**	*e*Pg	Pg	00 03 35.2	-0.6
FNA				*e*Sg	Sg	00 03 49.3	+2.2
IGT	**Igoumenitsa**	**1.62**	**180**	*e*Pb	Pb	00 03 49.0	-0.9
IGT				*e*Sb	Sb	00 04 12.1	+1.4
LKD	**Levkas**	**2.46**	**174**	*e*Pn	Pn	00 04 00.2	-0.1

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*NEIC **15** 00:07:06.5,3144S×7169W,h9km,ML3.0(GUC),After GUC.*

GUC 15 00:07:06.5±0.9,3144S×7169W,h9km±3km,MD3.7,ML3.0, 7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**160⇓**	*i*P	Pg	00 07 16.3	+0.6
CHNG				*i* S	Sg	00 07 23.5	+1.6
CHNG				AML	AML	00 07 24.7	
	comp=E,456nm,0.6s						
CMCH	**Combarbala**	**0.65**	**66⇑**	*i*P	Pg	00 07 19.4	+0.4
CMCH				*i* S	Sg	00 07 29.1	+1.7
CMCH				AML	AML	00 07 30.4	
	comp=N,5μm,0.5s						
CMCH	**Combarbala**	**0.65**	**66⇑**	*i*P	Pg	00 07 19.4	+0.4
CMCH				*i* S	Sg	00 07 29.1	+1.7
OVCH	**Ovalle**	**0.93**	**27⇑**	*i*P	Pg	00 07 23.8	-0.5
OVCH				*i* S	Sg	00 07 36.9	+0.5
OVCH				AML	AML	00 07 39.5	
	comp=E,1μm,0.1s						
OVCH	**Ovalle**	**0.93**	**27⇑**	*i*P	Pg	00 07 23.8	-0.5
OVCH				*i* S	Sg	00 07 36.9	+0.5
PTCH	**Petorca**	**1.05**	**142⇑**	*i*P	Pg	00 07 25.5	-1.2
PTCH				*i* S	Sg	00 07 40.0	-0.2
PTCH				AML	AML	00 07 43.2	
	comp=N,669nm,0.2s						
PTCH	**Petorca**	**1.05**	**142⇑**	*i*P	Pg	00 07 25.5	-1.2
PTCH				*i* S	Sg	00 07 40.0	-0.2
TLL	**Tololo Astrono**	**1.48**	**31⇓**	*i*P	Pn	00 07 33.1	-0.1
TLL				*i* S	Sn	00 07 52.9	+0.2
TLL				AML	AML	00 07 59.4	
	comp=E,629nm,0.4s						
TLL	**Tololo Astrono**	**1.48**	**31⇓**	*i*P	Pn	00 07 33.1	-0.1
TLL				*i* S	Sn	00 07 52.9	+0.2
JACH	**Jahuel**	**1.55**	**143⇓**	*i*P	Pn	00 07 34.6	+0.3
JACH				*i* S	Sn	00 07 54.9	+0.4
ROCH	**El Roble**	**1.64**	**160**	*i* S	Sn	00 07 57.7	+1.1
PEL	**Peldehue**	**1.90**	**154**	*e*P	Pn	00 07 38.8	-0.3
PEL				*i* S	Sn	00 08 03.5	+0.4
PEL				AML	AML	00 08 12.9	
	comp=E,353nm,0.5s						
PEL	**Peldehue**	**1.90**	**154**	*e*P	Pn	00 07 38.8	-0.3
PEL				*i* S	Sn	00 08 03.5	+0.4
RCDM	**Rinconada Maip**	**2.18**	**160⇑**	*i*P	Pn	00 07 43.4	+0.5
CLCH	**Cerro Calan**	**2.18**	**154**	*e*P	Pn	00 07 43.7	+0.7
CLCH				*i* S	Sn	00 08 12.8	+2.6
CLCH				AML	AML	00 08 18.3	
	comp=N,164nm,0.8s						

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*ISCJB **15** 00:21:34.9±3.7,84S±03×1192E±03,h104km±37km, mb3.5/2,Error ellipse: s-maj=68.0km s-min=14.7km az=103.3*
*NEIC **15** 00:21:44.3±4.3,8.19S×11967E,h173km±48km,mb4.2/1, Error ellipse: s-maj=95.1km s-min=22.8km az=48.0*
*IDC **15** 00:21:46.5±3.1,838S×11952E,h198km±34km,mb3.2/3, mb1 3.2/5,mb1mx3.1/17,mbtmp3.7/5,Error ellipse: s-maj=91.0km s-min=13.5km az=50.0*

ISC 15 00:21:45.3±2.6,83S±04×1196E±05,h183km±31km,n8,σ0°31/12,mb3.5/2,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.40**	**150**	*e*P	**Pn**	**00 24 22.8**	**-0.1**
	7.6nm,1.0s						
FITZ				*e*S	**Sn**	**00 26 23.6**	**-6.0**
FITZ	**Fitzroy Crossi**	**11.40**	**150**	P	**Pn**	**00 24 23.0**	**+0.1**
	0.3nm,0.3s,baz=329,slow=8.4,SNR=15						
FITZ				S	**Sn**	**00 26 23.1**	**-6.5**
	0.3nm,0.3s,baz=199,slow=19,SNR=7.3						
WRA	**Warramunga Arr**	**18.39**	**131**	P	**P**	**00 25 46.5**	**0.0**
	0.3nm,0.3s,baz=302,slow=12,SNR=22						
WRA				S	**S**	**00 29 07.0**	**+0.1**
	0.2nm,0.3s,baz=303,slow=26,SNR=5.7						
WB2	**Warramunga Arr**	**18.40**	**131**	*e*P	**P**	**00 25 46.6**	**+0.1**
WB2	**Warramunga Arr**	**18.40**	**131**	*e*P	**P**	**00 25 46.5**	**0.0**
ASAR	**Alice Springs**	**20.55**	**140**	P	**P**	**00 26 09.2**	**-0.5**
	1.1nm,0.3s,baz=316,slow=9.0,SNR=25						
ASAR				S	**S**	**00 29 48.7**	**-0.4**
	0.4nm,1.0s,baz=331,slow=24,SNR=4.3						
STKA	**Stephens Creek**	**31.15**	**142**	P	**P**	**00 27 47.4**	**+0.6**
	1.5nm,0.6s,mb3.9,baz=290,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**64.09**	**332**	P	**P**	**00 31 59.5**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=140,slow=7.2,SNR=5.5						

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*FUNV **15** 00:23:41.5,1069N×6138W,h65km,MW2.3*
*ISCJB **15** 00:23:42.1±1.0,1075N±006×6147W±004,h57km±9km, Error ellipse: s-maj=10.6km s-min=6.5km az=141.8*
*NEIC **15** 00:23:43.5,1078N×6144W,h42km,MD2.5(TRN),After TRN.*
*TRN **15** 00:23:43.5,1078N×6144W,h43km,MD2.5*

ISC 15 00:23:42.5±1.0,1074N±006×6146W±004,h55km±9km,n10,σ0°62/18,1C,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.10**	**148⇑**	*i*P	**Pn**	**00 23 50.5**	**-0.5**
TRN				*e*S	**Sn**	**00 23 55.6**	**-1.3**
TCE	**Chacachacare**	**0.29**	**262**	*e*P	**Pn**	**00 23 52.6**	**+0.5**
TCE				*e*S	**Sn**	**00 23 59.0**	**+0.2**
TPP	**Pointe-a-Pierr**	**0.42**	**179**	*e*P	**Pn**	**00 23 53.5**	**+0.2**
TBH	**Brigand Hill**	**0.46**	**123**	*e*P	**Pn**	**00 23 54.2**	**+0.6**
TBH				*e*S	**Sn**	**00 24 02.9**	**+1.2**
GUIV	**Guiria**	**0.76**	**263**	*e*P	**Pn**	**00 23 57.3**	**+0.1**
GUIV				*e*S	**Sn**	**00 24 08.8**	**+0.9**
TPR	**Prospect**	**0.81**	**56**	*e*P	**Pn**	**00 23 57.5**	**-0.3**
TPR				*e*S	**Sn**	**00 24 08.4**	**-0.6**
GRW	**Mount Saint Ca**	**1.43**	**352**	*e*P	**Pn**	**00 24 06.2**	**+0.1**
GRW				*e*S	**Sn**	**00 24 24.6**	**+0.8**
GUNV	**Guanoco**	**1.57**	**249**	*e*P	**Pn**	**00 24 07.7**	**-0.3**
GUNV				*e*S	**Sn**	**00 24 26.9**	**-0.3**
CRUV	**Carupano**	**1.75**	**268**	*e*P	**Pn**	**00 24 09.7**	**-0.8**
ITEV	**Isla Los Testi**	**1.75**	**291**	*e*P	**Pn**	**00 24 10.1**	**-0.4**
ITEV				*e*S	**Sn**	**00 24 31.9**	**+0.1**

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*NEIC **15** 01:19:20.0,3897N×2655E,h10km,ML3.8(ATH),After ATH.*
*CSEM **15** 01:20:04.5,3472N×2487E,h50km,MD3.2/4,After ATH*

ATH 15 01:20:04.6,3472N×2487E,h48km±6km,MD3.0/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.57**	**2**	P	Pn	01 20 16.0	-0.5
GVD	**Gavdhos**	**0.66**	**281**	*e*P	Pn	01 20 18.5	+0.8
GVD				*e*S	Sn	01 20 28.5	+1.4
LAST	**Lasithi**	**0.67**	**48**	P	Pn	01 20 18.4	+0.6
XRY	**Khrisi**	**0.70**	**77**	*e*P	Pn	01 20 19.0	+0.8
XRY				*e*S	Sn	01 20 29.5	+1.5
NPS	**Neapolis**	**0.81**	**48**	*e*P	Pn	01 20 20.6	+0.8
NPS				*e*S	Sn	01 20 31.8	+1.0
NPS	**Neapolis**	**0.81**	**48**	P	Pn	01 20 21.3	+1.5
NPS	**Neapolis**	**0.81**	**48**	*e*P	Pn	01 20 20.9	+1.1
NPS				*e*S	Sn	01 20 31.8	+1.0
VAM	**Vamos**	**0.88**	**321**	*e*P	Pn	01 20 21.5	+0.9
VAM				*e*S	Sn	01 20 34.3	+2.0
VAM	**Vamos**	**0.88**	**321**	P	Pn	01 20 21.7	+1.1
VAM	**Vamos**	**0.88**	**321**	*e*P	Pn	01 20 21.3	+0.7
VAM				*e*S	Sn	01 20 34.3	+2.0

MEX 15 01:21:29.2±0.3,1523N×9284W,h131km±8km,MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.25**	**33**	*i* P	Pn	01 21 53.5	-1.1
CCIG				*i* S	Sn	01 22 12.5	-1.3
CMIG	**Matias Romero**	**2.70**	**314**	*e*P	Pn	01 22 11.0	-1.0
CMIG				*i* S	Sn	01 22 43.2	-1.7
SCIG	**Sabancuy**	**4.04**	**23**	*i* P	Pn	01 22 28.4	-1.1
SCIG				*i* S	Sn	01 23 14.3	-1.9
OXX	**Oaxaca**	**4.17**	**297**	*e*P	Pn	01 22 30.0	-1.1
OXX				*i* S	Sn	01 23 17.0	-2.2

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*SZGRF **15** 01:35:03.3,3478N×3438E,h10km,mb4.7,Cyprus region*
*IDC **15** 01:35:05.8±0.4,3506N×3390E,h0km,mb4.6/37, mb1 4.7/42,mb1mx4.7/42,mbtmp4.5/42,ML4.1/4,MS3.9/19, Ms1 3.9/19,ms1mx3.8/30,Error ellipse: s-maj=11.2km s-min=9.0km az=89.0*
*ISK **15** 01:35:06.9,3478N×3401E,h42km,ML4.7*
*ISCJB **15** 01:35:08.7±0.1,3488N±001×3392E±001,h41km±2km, mb4.7/146,MS3.9/27,Error ellipse: s-maj=2.1km s-min=1.6km az=105.0*
*CSEM **15** 01:35:08.4±0.4,3499N×3393E,h29km,mb4.8/13,Ms3.5, Mw3.8,Error ellipse: s-maj=1.2km s-min=0.8km az=54.0*
*MOS **15** 01:35:08.4±1.2,3492N×3388E,h33km,mb4.9/65,Error ellipse: s-maj=5.1km s-min=2.5km az=115.9*
*BJI **15** 01:35:08.5,3528N×3358E,h37km,mB5.0,mb4.8,Ms4.9, Msz4.6*
*HLW **15** 01:35:09.5,3491N×3389E,h41km,Mb4.6*
*NIC **15** 01:35:10.1±0.4,3494N×3396E,h32km,ML4.4,MW4.1*
NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Larnaca,Agia Napa Paralimni and Kiti, I=II MM at Zygi.
*GRAL **15** 01:35:10.4±1.9,3496N×3403E,h30km±8km,MD4.3*
*NEIC **15** 01:35:10.1,3494N×3396E,h32km,mb4.7/94, ML4.4(BUC),ML4.4(NIC),ML4.6(ISK),After NIC.*
NEIC Felt [IV] at Ayia Napa, Famagusta, Kiti, Larnaka and Paralimni; [II] at Zyyi. Also felt at Livadhia and Ypsonas.
*NAO **15** 01:35:12.0,35.17N×3345E,h33km,mb4.6*
*GII **15** 01:35:12.0±0.0,3470N×3400E,h15km±1km,mb4.5/7, ML4.4/8,Mw4.1/5*
*NSSC **15** 01:35:13,3495N×3431E,h40km*

ISC 15 01:35:10.6±0.1,3487N±001×3393E±001,h45km±1km, h33km±2.6km:pP-P,n714,σ1°13/764,mb4.7/146,MS3.9/27, 78C-57D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.15**	**32**	⇑P	**Pn**	**01 35 15.5**	**-2.6**
CSS	**Prodhromos**	**0.50**	**280**	⇓P	**Pn**	**01 35 20.4**	**-1.2**
	51nm,1.1s						
CSS				S	**Sn**	**01 35 30.0**	**+0.6**
CSS	**Prodhromos**	**0.50**	**280**	PG	**Pn**	**01 35 18.6**	**-3.0**
CSS	**Prodhromos**	**0.50**	**280**	⇓P	**Pn**	**01 35 20.4**	**-1.2**
	51nm,1.1s						
MAMC	**Mammari**	**0.66**	**297**	P	**Pn**	**01 35 22.9**	**-0.7**
SZAC	**Souni-Zanaja**	**0.87**	**263**	P	**Pn**	**01 35 26.9**	**+0.4**
LEF	**Lefka**	**0.89**	**286**	PG	**Pn**	**01 35 25.4**	**-1.3**
LEF	**Lefka**	**0.89**	**286**	Pg	**Pn**	**01 35 26.8**	**+0.1**
ALFC	**Alevga**	**1.13**	**285**	P	**Pn**	**01 35 29.5**	**-0.5**
PPCY	**Paphos**	**1.31**	**271**	P	**Pn**	**01 35 33.2**	**+0.8**
PPCY				S	**Sn**	**01 35 45.9**	**-2.8**
AKMC	**Akamas**	**1.33**	**277**	P	**Pn**	**01 35 34.0**	**+1.3**
BHL	**Bhannes**	**1.72**	**124**	*e*P	**Pn**	**01 35 36.2**	**-1.8**
BHL				*e*S	**Sn**	**01 35 56.5**	**-2.3**
HWQ	**Hawqa**	**1.76**	**109**	*e*P	**Pn**	**01 35 37.9**	**-0.7**
HWQ				*e*S	**Sn**	**01 35 59.1**	**-0.8**
MATL	**Matirih**	**1.80**	**140**	*e*P	**Pn**	**01 35 38.6**	**-0.6**
ERMK	**Ermenek**	**1.95**	**335**	*i* P	**Pn**	**01 35 41.9**	**+0.7**
ERMK				*i* S	**Sn**	**01 36 06.5**	**+2.0**
SLNF	**Slenfeh**	**2.01**	**68⇓**	*i*P	**Pn**	**01 35 40.0**	**-2.0**
SLNF	**Slenfeh**	**2.01**	**68**	⇓P	**Pn**	**01 35 40.0**	**-2.0**
SLNF				⇓S	**Sn**	**01 36 01.0**	**-4.9**
MERS	**Mersin**	**2.05**	**13**	PN	**Pn**	**01 35 41.0**	**-1.5**
MERS				SN	**Sn**	**01 36 06.0**	**-0.8**
KRTS	**Karatas**	**2.06**	**34**	PN	**Pn**	**01 35 41.0**	**-1.7**
HNTI	**Hanita**	**2.06**	**150**	Pn	**Pn**	**01 35 42.6**	**-0.2**
RCY	**Rachaya**	**2.09**	**131**	*e*P	**Pn**	**01 35 43.0**	**-0.1**
RCY				*e*S	**Sn**	**01 36 06.9**	**-1.0**
WRDH	**Warideh**	**2.13**	**72⇓**	*i*P	**Pn**	**01 35 42.1**	**-1.5**
WRDH	**Warideh**	**2.13**	**72**	⇓P	**Pn**	**01 35 42.0**	**-1.6**
HTY	**Hatay**	**2.19**	**55**	PN	**Pn**	**01 35 42.5**	**-2.0**
HTY	**Hatay**	**2.19**	**55**	Pn	**Pn**	**01 35 43.1**	**-1.4**
HRI	**Mount Hermon**	**2.19**	**137**	Pn	**Pn**	**01 35 44.5**	**0.0**
HRI	**Mount Hermon**	**2.19**	**137**	Pn	**Pn**	**01 35 44.5**	**0.0**
KSDI	**Kefar Szold**	**2.21**	**139**	Pn	**Pn**	**01 35 44.6**	**-0.1**
KSDI	**Kefar Szold**	**2.21**	**139**	P	**Pn**	**01 35 43.7**	**-1.0**
KSDI	**Kefar Szold**	**2.21**	**139**	Pn	**Pn**	**01 35 44.6**	**-0.1**
BRBR	**Barbar**	**2.22**	**131⇓**	*i*P	**Pn**	**01 35 45.0**	**+0.1**
BRBR	**Barbar**	**2.22**	**131**	⇓P	**Pn**	**01 35 44.0**	**-0.9**
BRBR				⇓S	**Sn**	**01 36 09.0**	**-2.1**
MMA0	**Mount Meron ar**	**2.22**	**146**	Pn	**Pn**	**01 35 44.7**	**-0.2**
MARH	**Ras Al Marh**	**2.27**	**111⇓**	*i*P	**Pn**	**01 35 45.5**	**-0.1**
MARH	**Ras Al Marh**	**2.27**	**111**	⇓P	**Pn**	**01 35 45.0**	**-0.6**
MARH				⇓S	**Sn**	**01 36 08.0**	**-4.3**
QASN	**Qassioun

AMAG Maghara 4.26 188 ⇑P Pn 01 36 12.8 -0.2
TKTP Tekketepe 4.30 318 *i* P Pn 01 36 15.4 +2.0
TKTP *i* S Sn 01 37 08.8 +6.5
ATAB Bozova 4.38 52 *i* P Pn 01 36 14.7 +0.1
ATAB *i* S Sn 01 37 23.6 +19
ZFRI Zfri 4.43 166 Pn Pn 01 36 15.7 +0.4
ZFRI Zfri 4.43 166 P Pn 01 36 15.8 +0.5
KAMT Kaman 4.49 358 PN Pn 01 36 16.5 +0.4
PRNI Paran 4.60 168 Pn Pn 01 36 17.9 +0.3
PRNI Paran 4.60 168 P Pn 01 36 18.0 +0.4
PRNI S Sn 01 37 08.9 -0.8
PRNI Paran 4.60 168 Pn Pn 01 36 17.8 +0.2
DALT Dalyan (Mudla) 4.70 295 PN Pn 01 36 19.0 0.0
URFA Urfa 4.71 56 PN Pn 01 36 17.4 -1.7
URFA Urfa 4.71 56 Pn Pn 01 36 19.1 0.0
CDAG Cicekdag 4.75 4 *i* P Pn 01 36 19.9 +0.2
CDAG *i* S Sn 01 37 38.9 +25
KMTI Karmit 4.80 172 Pn Pn 01 36 21.3 +0.9
BRTR Keskin Array B 4.85 357 Pn Pn 01 36 19.9 -1.1
BRTR LR LR 01 38 23.4
comp=Z,703nm,18.1s,baz=165,slow=42
BR131 Keskin Array S 4.85 357 *e*Pn Pn 01 36 21.5 +0.5
YOZ Yozgat 4.88 13 PN Pn 01 36 21.5 0.0
DENT Denizli 4.89 307 PN Pn 01 36 22.3 +0.7
DENT Denizli 4.89 307 Pn Pn 01 36 23.4 +1.8
HRFI Mount Harif 4.91 169 Pn Pn 01 36 22.2 +0.3
ARG Arkhangelos 4.92 287 *e*P Pn 01 36 22.3 +0.3
ARG Arkhangelos 4.92 287 P Pn 01 36 24.0 +2.0
HNKL Nakhl 4.93 180 P Pn 01 36 22.2 +0.1
MALT Malatya 4.99 45 ⇓*i*P Pn 01 36 22.2 -0.7
MALT Malatya 4.99 45 *e*Pn Pn 01 36 22.4 -0.4
MALT Malatya 4.99 45 *e*Pn Pn 01 36 22.5 -0.4
MYA Malataya 4.99 45 PN Pn 01 36 22.5 -0.5
MYA Malataya 4.99 45 Pn Pn 01 36 22.7 -0.3
ANTO Ankara 5.07 350 ⇓*i*P Pn 01 36 25.4 +1.4
ANTO Ankara 5.07 350 P Pn 01 36 25.4 +1.3
ANTO Ankara 5.07 350 P Pn 01 36 24.9 +0.9
SUZ 5.10 191 ⇑P Pn 01 36 24.6 +0.1
MBH Mount Berech 5.13 170 Pn Pn 01 36 25.6 +0.7
MBH Mount Berech 5.13 170 P Pn 01 36 25.5 +0.6
HHAG Hagoal 5.15 198 P Pn 01 36 24.9 -0.1
AQBJ Aqaba 5.22 169 Pn Pn 01 36 26.9 +0.8
KOT Kottamia 5.24 200 P Pn 01 36 26.2 -0.3
ESKT Eskisehir 5.25 333 PN Pn 01 36 27.4 +0.9
ESKT Eskisehir 5.25 333 Pn Pn 01 36 27.9 +1.4
EIL Elat 5.26 170 Pn Pn 01 36 27.0 +0.4
EIL Elat 5.26 170 *e*Pn Pn 01 36 26.8 +0.1
EIL *e*Sn Sn 01 37 24.8 -1.2
EIL Elat 5.26 170 Pn Pn 01 36 27.0 +0.4
EIL *e*Sn Sn 01 37 24.8 -1.2
CORM Corum 5.32 6 PN Pn 01 36 28.6 +1.1
ELZG Elazig 5.43 47 *i* P Pn 01 36 27.6 -1.4
ELZG *i* S Sn 01 38 01.5 +31
DAT Datca 5.49 292 PN Pn 01 36 30.6 +0.8
SQR 5.49 206 P Pn 01 36 29.5 -0.3
GDZ Gediz 5.51 321 *i* P Pn 01 36 29.4 -0.7
GDZ *i* S Sn 01 37 32.5 +0.2
MLSB Milas 5.54 298 PN Pn 01 36 31.2 +0.7
ZNM 5.55 190 ⇑P Pn 01 36 30.9 +0.2
ZNM 5.55 190 ⇑P Pn 01 36 31.1 +0.4
ZNM 5.55 190 P Pn 01 36 31.1 +0.4
KARP Karpathos 5.59 279 *e*P Pn 01 36 33.1 +2.0
SVSK Karacayir 5.59 25 PN Pn 01 36 31.1 -0.1
GLL Jalalah 5.61 200 P Pn 01 36 31.3 -0.1
ELDT Eldivan 5.62 356 *i* P Pn 01 36 30.6 -1.0
ELDT *i* S Sn 01 37 52.2 +17
AYDN Tasoluk 5.63 301 *i* P Pn 01 36 32.3 +0.6
AYDN *i* S Sn 01 37 35.9 +0.9
HBST Basata 5.68 173 P Pn 01 36 33.7 +1.2
ZAF 5.70 192 P Pn 01 36 32.3 -0.4
BDRM Kayabasi 5.70 294 *i* P Pn 01 36 34.0 +1.3
BDRM *i* S Sn 01 37 39.3 +2.5
HMYD Mayadein 5.71 208 P Pn 01 36 33.0 +0.1
FYM Al Fayyum 5.72 206 P Pn 01 36 32.6 -0.3
CANT Cankiri 5.73 358 PN Pn 01 36 32.9 -0.2
CANT Cankiri 5.73 358 Pn Pn 01 36 33.8 +0.7
CTKT Corum 5.78 6 *i* P Pn 01 36 35.1 +1.3
CTKT *i* S Sn 01 38 11.3 +32
BODT Bodrum 5.80 294 PN Pn 01 36 34.3 +0.3
TOKT Tokat 5.82 20 PN Pn 01 36 34.2 -0.1
SGKT Sivrigoynuk 5.88 346 *i* P Pn 01 36 35.4 +0.2
DIY Diyarbakir 5.90 57 PN Pn 01 36 34.8 -0.7
HNAT Natroun 5.93 209 P Pn 01 36 35.5 -0.4
PTK Pertek 5.93 46 PN Pn 01 36 35.7 -0.2
MARD Mardin 6.05 64 *i* P Pn 01 36 38.8 +1.3
MARD *i* S Sn 01 38 17.4 +32
TOS Tosya 6.15 1 PN Pn 01 36 39.1 +0.2
TOS Tosya 6.15 1 Pn Pn 01 36 39.7 +0.8
HDHB Dhahab 6.16 174 P Pn 01 36 38.9 -0.1
HRDS Abu Rudays 6.17 185 P Pn 01 36 39.3 +0.2
HKAT Jabal Katrina 6.33 180 P Pn 01 36 41.1 -0.3
HBNS Bani Suwayf 6.34 202 P Pn 01 36 41.7 +0.2
SMG Samos 6.39 298 *e*P Pn 01 36 42.8 +0.6
HENT Hendek 6.41 339 *i* P Pn 01 36 45.3 +2.9
KDAG Bornova 6.41 305 *i* P Pn 01 36 41.9 -0.6
KDAG *i* S Sn 01 37 52.8 -1.5
KVT Kavak 6.42 14 *e*PN Pn 01 36 42.9 +0.4
SAFT Safranbolu 6.43 352 *e*PN Pn 01 36 43.5 +0.8
SAFT Safranbolu 6.43 352 Pn Pn 01 36 43.9 +1.2
ADVT Abdulvahap 6.47 330 *e*PN Pn 01 36 43.5 +0.2
ADVT Abdulvahap 6.47 330 Pn Pn 01 36 44.7 +1.4
ULDT Uludag 6.50 325 *i* P Pn 01 36 44.0 +0.4
ULDT *i* S Sn 01 37 58.9 +2.5
IZI Iznik 6.50 328 *e*PN Pn 01 36 44.6 +0.9
IZI Iznik 6.50 328 Pn Pn 01 36 44.8 +1.1
BOYT Boyabat 6.58 6 *i* P Pn 01 36 47.1 +2.3
BOYT *i* S Sn 01 38 29.9 +31
BINT Bingol 6.60 51 *e*PN Pn 01 36 44.2 -0.8
BYBT Boyabat 6.62 5 *e*PN Pn 01 36 45.8 +0.5
BYBT Boyabat 6.62 5 Pn Pn 01 36 46.2 +0.9
GRB Gharib 6.66 189 P Pn 01 36 45.5 -0.3
BALT Daday 6.66 356 *i* P Pn 01 36 47.3 +1.4
BALT *i* S Sn 01 38 51.9 +51
GEMT Gemlik 6.71 327 *e*PN Pn 01 36 46.6 +0.1
GEMT Gemlik 6.71 327 Pn Pn 01 36 47.9 +1.4
YLV Yalova 6.73 329 *e*PN Pn 01 36 46.6 -0.3
KELT Kelkit 6.75 37 *i* P Pn 01 36 49.3 +2.1
KELT *i* S Sn 01 38 33.3 +31
KRY Khrisi 6.77 272 *e*P Pn 01 36 45.0 -2.4
HRT Hereke 6.83 332 *e*PN Pn 01 36 48.5 +0.3
HRT Hereke 6.83 332 P Pn 01 36 49.7 +1.5
NPS Neapolis 6.83 276 *e*P Pn 01 36 48.8 +0.5
DIKM Dikmen 6.84 8 *e*PN Pn 01 36 48.2 -0.2
TR1 6.85 180 P Pn 01 36 48.5 +0.1
HMAT Matruh 6.87 239 ⇑P Pn 01 36 48.2 -0.5
HMAT Matruh 6.87 239 P Pn 01 36 48.2 -0.5
BTMT Batman 6.92 59 *e*PN Pn 01 36 45.8 -3.7
SHRM 6.96 179 P Pn 01 36 49.7 -0.3
BNGL BINGOL 7.07 53 *i* P Pn 01 36 55.7 +4.2
BNGL *i* S Sn 01 39 00.7 +50
BZK Bozkurt 7.08 0 *e*PN Pn 01 36 51.4 -0.2
BZK Bozkurt 7.08 0 Pn Pn 01 36 52.2 +0.6
APE Apeiranthos 7.16 290 *e*P Pn 01 36 52.0 -0.7
APE Apeiranthos 7.16 290 ⇑*i*P Pn 01 36 49.3 -3.4
APE Apeiranthos 7.16 290 ⇓P Pn 01 36 48.8 -3.9
ISK Istanbul-Kandi 7.28 330 *e*PN Pn 01 36 54.2 -0.2
ISK Istanbul-Kandi 7.28 330 Pn Pn 01 36 55.7 +1.3
EDC Edincik 7.28 320 *e*PN Pn 01 36 54.7 +0.3
AYVA Ayvalik 7.29 310 *i* P Pn 01 36 58.5 +4.1
AYVA *i* S Sn 01 38 17.8 +2.0
SIRT Sirnak 7.36 67 *e*PN Pn 01 36 54.6 -0.9
IDI Anoyia 7.43 276 P Pn 01 36 58.9 +2.5
PRK Paraskevi 7.52 308 *e*P Pn 01 37 02.2 +4.5
MSL Mosul 7.59 77 *e*x x 01 37 01.5
MSL *e*x x 01 38 25.0
MRMT Marmara Adasi 7.61 321 *e*PN Pn 01 36 59.0 +0.1
HHRG Al Ghardaqah 7.64 182 P Pn 01 36 58.3 -0.9
KTUT Trabzon 7.65 35 *e*PN Pn 01 36 59.5 +0.1
EZM Erzurum 7.76 47 *e*PN Pn 01 36 59.7 -1.2
ERZM Erzurum 7.76 47 *i* P Pn 01 37 01.3 +0.4
AWBH 7.81 215 P Pn 01 37 01.0 -0.6
EZN Ezine 7.82 311 *e*PN Pn 01 37 02.5 +0.8
RKY Sarkoy-Tekirda 7.89 319 *e*PN Pn 01 37 02.4 -0.3
VAM Vamos 7.99 277 *e*P Pn 01 37 04.8 +0.7
GVD Gavdhos 8.10 273 *e*P Pn 01 37 03.0 -2.5
GVD Gavdhos 8.10 273 *e*Pn Pn 01 37 04.5 -1.0
GVD *e*Sn Sn 01 38 34.2 -1.5
GVD Gavdhos 8.10 273 *e*Pn Pn 01 37 04.5 -1.0
CUKT Cukurca 8.18 70 *e*PN Pn 01 37 05.9 -0.9

HSFG 8.28 180 P Pn 01 37 08.1 +0.1
ENEZ Enez 8.49 316 *e*PN Pn 01 37 10.9 -0.1
SEMD Semdilli 8.91 71 *e*PN Pn 01 37 14.9 -1.9
BCA Borcka 8.92 40 *e*PN Pn 01 37 15.7 -1.2
SWA1 8.94 234 ⇓P Pn 01 37 16.8 -0.3
EDRB Edirne 8.96 323 *e*PN Pn 01 37 18.2 +0.8
CLDR Caldiran 9.05 59 *e*PN Pn 01 37 16.9 -1.7
SWA2 9.12 234 ⇑P Pn 01 37 18.9 -0.7
VLI Veliai 9.12 285 *e*P Pn 01 37 18.3 -1.3
KARS Kars 9.24 49 *e*PN Pn 01 37 19.5 -1.7
HEDF Idfu 9.77 184 P Pn 01 37 29.2 +0.8
ITM Ithomi 9.99 287 *e*P Pn 01 37 34.8 +3.2
ITM Ithomi 9.99 287 P Pn 01 37 35.2 +3.6
GNI Garni 10.07 55 Pn Pn 01 37 34.8 +2.3
0.4nm,0.3s,baz=300,slow=4.0,SNR=16
GNI LR LR 01 42 04.9
comp=Z,708nm,19.4s,baz=230,slow=42
GNI Garni 10.07 55 *e*Pn Pn 01 37 36.2 +3.6
ANN Anapa 10.27 14 *e*P Pn 01 37 36.5 +1.2
ANN *e*S Sn 01 39 31.1 +2.0
ANN pmax pmax
comp=Z,60nm,1.6s
ANN MLR MLR
comp=Z,437nm,18.0s
ANN Anapa 10.27 14 *e*P Pn 01 37 36.5 +1.2
comp=Z,60nm,1.6s
EVR Evrytania 10.51 296 *e*P Pn 01 37 41.5 +2.8
ONI Oni 10.69 41 P Pn 01 37 43.1 +2.0
TBLG Delisi 10.90 48 *e*P Pn 01 37 50.7 +6.8
TBLG Delisi 10.90 48 P Pn 01 37 50.7 +6.8
MTA Mtatsminda 10.91 48 P Pn 01 37 46.0 +1.9
ZEI Tsey 11.06 42 *e*P Pn 01 37 49.1 +2.9
DGRG David-gareji 11.14 51 P Pn 01 37 49.0 +1.8
CFR Carcaliu 11.21 338 ⇑*i*P Pn 01 37 48.6 +0.5
CFR Carcaliu 11.21 338 ⇑P Pn 01 37 48.6 +0.5
VLS Valsamata 11.23 291 *e*P Pn 01 37 49.2 +0.7
KIV Kislovodsk 11.31 34 P Pn 01 37 52.8 +3.3
SNR=11
KIV Kislovodsk 11.31 34 *e*P Pn 01 37 52.2 +2.7
KIV *e*S Sn 01 40 00.3 +5.8
KIV pmax pmax
comp=Z,38nm,1.2s
KIV MLR MLR
comp=Z,213nm,12.0s
KIV Kislovodsk 11.31 34 *e*Pn Pn 01 37 52.3 +2.8
KIV Kislovodsk 11.31 34 *e*P Pn 01 37 52.2 +2.7
comp=Z,38nm,1.2s
VTS Vitosha 11.37 316 P Pn 01 37 54.4 +4.0
MLR Muntele Rosu 12.23 333 Pn Pn 01 38 03.5 +1.4
comp=Z,0.2nm,0.3s,baz=159,slow=3.1,SNR=7.9
MLR Muntele Rosu 12.23 333 ⇓*i*P Pn 01 38 05.0 +2.9
MLR Muntele Rosu 12.23 333 ⇑P Pn 01 38 05.3 +3.2
PLOR Plostina 12.28 335 ⇓*i*P Pn 01 38 05.8 +3.0
RST Umm Al-Ruwaisa 12.29 112 *e*P Pn 01 38 02.3 -0.6
MIB Mutribah 12.41 110 *e*P Pn 01 38 03.6 -0.9
VOIR 12.54 330 ⇓*i*P Pn 01 38 08.6 +2.3
VOIR 12.54 330 ⇓P Pn 01 38 08.6 +2.2
NAY Al-Naaiem 12.60 113 *e*P Pn 01 38 05.8 -1.3
UMR Umm Al-Rimmam 12.81 111 *e*P Pn 01 38 08.7 -1.4
RDF Al-Radifah 12.99 113 *e*P Pn 01 38 11.6 -0.9
MAK Makhachkala 13.29 49 *i* P Pn 01 38 16.4 -0.1
MAK *e*S Sn 01 40 47.5 +4.7
MAK pmax pmax
comp=Z,184nm,1.1s
MAK MLR MLR
comp=Z,1μm,16.0s
MAK Makhachkala 13.29 49 *i* P Pn 01 38 16.4 -0.1
comp=Z,1μm,16.0s
GZR Gura Zlata 13.52 324 ⇓*i*P Pn 01 38 20.6 +0.9
GZR Gura Zlata 13.52 324 P Pn 01 38 22.1 +2.3
GZR Gura Zlata 13.52 324 P Pn 01 38 22.1 +2.4
LCI Lecce 13.67 298 P Pn 01 38 20.3 -1.5
LCI pmax pmax
comp=Z,76nm,1.1s
LCI Lecce 13.67 298 Pn Pn 01 38 20.3 -1.5
comp=Z,76nm,1.1s
BZS Buzias 14.25 323 ⇑*i*P Pn 01 38 30.4 +0.7
BZS Buzias 14.25 323 ⇑P Pn 01 38 30.4 +0.8
BURAR Bucovina Array 14.30 335 ⇓*i*P Pn 01 38 33.9 +3.5
BURAR Bucovina Array 14.30 335 ⇓P Pn 01 38 36.4 +6.0
BURAR Bucovina Array 14.30 335 P Pn 01 38 37.5 +7.1
TIP Timpagrande 14.38 292 *e*Pn Pn 01 38 29.0 -2.4
TIP Timpagrande 14.38 292 *e*Pn Pn 01 38 29.0 -2.4
CUC Castrocucco 15.27 295 Pn Pn 01 38 39.6 -3.5
comp=Z,97nm,0.8s
SLCN Sala Consilina 15.50 296 Pn Pn 01 38 45.2 -0.9
comp=Z,184nm,1.2s
VAE Valguarnera 15.98 285 Pn Pn 01 38 50.5 -1.7
comp=Z,0.3nm,0.3s,baz=298,slow=22,SNR=2.3
VAE Sn Sn 01 41 42.7 -5.6
comp=Z,2.5nm,0.3s,baz=215,slow=6.2,SNR=6.2
AKASG Malin Array Be 16.19 349 Pn Pn 01 38 52.1 -2.7
comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=23
AKASG PcP PcP 01 43 48.0 +0.3
comp=Z,0.3nm,0.3s,baz=101,slow=0.6,SNR=5.4
AKASG Malin Array Be 16.19 349 Pn Pn 01 38 52.1 -2.7
AKASG PcP PcP 01 43 48.0 +0.3
AKBB Malin Array Si 16.19 349 ⇓*e*Pn Pn 01 38 52.0 -2.8
PKSM Moragy 16.20 319 ⇑*i*P Pn 01 38 55.9 +0.9
PKSM Moragy 16.20 319 ⇓*e*P Pn 01 38 57.7 +2.7
PKSM Moragy 16.20 319 P Pn 01 38 56.9 +1.9
UZH Uzhgorod 16.23 331 *e*P Pn 01 38 58.0 +2.6
UZH pmax pmax
comp=Z,68nm,1.0s
KOLS Kolonicke sedl 16.48 332 *e*P Pn 01 39 00.5 +1.9
VORD Divnogorie 16.55 12 *e*P Pn 01 38 59.4 0.0
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD Divnogorie 16.55 12 *e*P Pn 01 38 59.4 0.0
comp=E,10.0nm,0.8s
LVV L'vov 16.61 337 *e*P Pn 01 39 02.4 +2.2
LVV *e*S S 01 42 07.6 -5.7
PSZ Piszkesteto 16.72 325 ⇓*e*P Pn 01 39 02.2 +0.6
PSZ Piszkesteto 16.72 325 ⇓*i*P Pn 01 39 02.0 +0.4
VRSR Storozhevoye 16.77 12 *d i*P Pn 01 39 04.0 +1.8
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=N,40nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.1s
VRSR Storozhevoye 16.77 12 *i* P Pn 01 39 04.0 +1.8
comp=E,40nm,0.8s
CRVS Cervenica-Dubn 16.78 330 *e*P Pn 01 39 03.3 +1.0
BUD Budapest 16.84 323 ⇓*e*P Pn 01 39 02.8 -0.2
KECS Kecovo 16.87 328 *e*P Pn 01 39 03.6 +0.2
KECS pmax pmax
comp=Z,9.0nm,1.1s
KECS Kecovo 16.87 328 *e*P Pn 01 39 03.6 +0.2
comp=Z,8.6nm,1.1s
KWP Kalwaria 16.90 334 *e*P Pn 01 39 06.6 +2.8
VRHR Novokhopersk 17.14 17 *e*P Pn 01 39 08.5 +1.6
VRHR pmax pmax
comp=N,70nm,0.6s
VRHR pmax pmax
comp=Z,80nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.7s
STHS Stebnicka Huta 17.28 331 *e*P Pn 01 39 09.8 +1.3
STHS pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 17.28 331 *e*P Pn 01 39 09.8 +1.3
comp=Z,10nm,1.1s
VYHS Vyhne 17.63 325 *e*P Pn 01 39 13.4 +0.6
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 17.63 325 *e*P Pn 01 39 13.4 +0.6
comp=Z,15nm,1.2s
NIE Niedzica 17.66 330 *e*P Pn 01 39 13.7 +0.5
AQU L'Aquila 17.67 301 ⇑*i*P Pn 01 39 18.2 +4.8
AQU L'Aquila 17.67 301 *e*P Pn 01 39 17.9 +4.5
AQU pmax pmax
comp=Z,67nm,1.0s
AQU L'Aquila 17.67 301 *e*P Pn 01 39 17.9 +4.5
comp=Z,67nm,1.0s
BOJS Bojanci 17.75 312 *e*P Pn 01 39 15.7 +1.4
DOBS Dobrina 17.95 314 *e*P Pn 01 39 17.1 +0.3
ZST Bratislava 18.27 322 *e*P Pn 01 39 20.4 -0.3
ZST *e*S S 01 42 37.9 -9.2
ZST *e* 01 47 33.2

ZST *e* 01 49 45.1
ZST Bratislava 18.27 322 *e*P Pn 01 39 20.4 -0.3
ZST pmax pmax
comp=Z,10.0nm,0.9s
ZST Bratislava 18.27 322 *e*P Pn 01 39 20.4 -0.3
comp=Z,9.7nm,0.9s
ZST *e*S S 01 42 37.9 -9.2
ZST *e* 01 47 33.2
ZST *e* 01 49 45.1
ZST *e* 01 51 54.9
ZST Bratislava 18.27 322 *e*P Pn 01 39 20.4 -0.3
comp=Z,9.7nm,0.9s
PERS Pernice 18.42 315 *e*P Pn 01 39 22.3 -0.2
JAVC Velka Javorina 18.44 324 P Pn 01 39 22.8 +0.1
LJU Ljubljana 18.46 313 *e*P Pn 01 39 24.0 +1.1
OJC Ojcow 18.49 330 *e*P Pn 01 39 23.8 +0.5
OJC *e*S S 01 42 49.8 -1.6
OJC L 01 53 10.6
comp=Z,1.1nm,20.0s
OJC Ojcow 18.49 330 *e*P Pn 01 39 23.8 +0.5
OJC *e*S S 01 42 49.8 -1.6
ARSA Arzberg 18.54 317 ⇑*i*Pn Pn 01 39 23.7 -0.1
comp=Z,21nm,0.7s,SNR=18
OBKA Obir 18.68 314 ⇑*i*P Pn 01 39 26.2 +0.5
comp=Z,19nm,0.8s,SNR=11
VOY Vojsko 18.84 312 *e*(P) Pn 01 39 27.2 -0.3
VOY *e* 01 39 27.7
VOY *e* 01 39 37.5
OKC Ostrava-Krasne 18.91 327 *e*P Pn 01 39 29.3 +0.9
OKC AMS AMS 01 48 20.0
comp=Z,300nm,13.0s
OKC Ostrava-Krasne 18.91 327 *e*P Pn 01 39 29.3 +0.9
comp=Z,300nm,13.0s
GORS Gorjuse 18.91 313 *e*P Pn 01 39 28.7 +0.3
MORC Moravsky Berou 19.14 326 ⇑*i*P Pn 01 39 31.2 +0.1
MORC Moravsky Berou 19.14 326 *e*Pn Pn 01 39 31.1 -0.1
MORC Moravsky Berou 19.14 326 *e*Pn Pn 01 39 31.0 -0.1
KRUC Moravsky 19.20 323 P Pn 01 39 29.5 -2.3
VRAC Vranov 19.26 324 P Pn 01 39 31.1 -1.5
comp=Z,0.2nm,0.3s,baz=136,slow=10,SNR=9.4
VRAC LR LR 01 47 21.1
comp=Z,101nm,20.4s,baz=128,slow=38
VRAC Vranov 19.26 324 ⇓*i*P Pn 01 39 31.9 -0.7
VRAC Vranov 19.26 324 P Pn 01 39 31.7 -0.9
MOA Molln 19.58 317 *i* P Pn 01 39 35.1 -1.3
comp=Z,46nm,1.1s,SNR=9.4
KBA Koelnbreinsper 19.69 314 *i* P Pn 01 39 36.8 -0.8
comp=Z,41nm,0.7s,SNR=33
KBA Koelnbreinsper 19.69 314 *i* P Pn 01 39 36.8 -0.9
KBA pmax pmax
comp=Z,41nm,0.7s
TREC Trest 19.80 322 *e*P Pn 01 39 35.2 -3.8
TREC AMS AMS 01 48 40.0
comp=Z,400nm,17.0s
KEST Kesra 20.08 280 P P 01 39 41.5 +1.3
comp=Z,5.1nm,0.9s,baz=12,slow=8.9,SNR=9.9
VSL Villasalto 20.08 291 *e*Pn P 01 39 46.1 +5.9
comp=Z,59nm,0.8s
DPC Dobruska-Polom 20.10 326 *e*P P 01 39 38.9 -1.5
DPC AMS AMS 01 48 50.0
comp=Z,300nm,14.4s
OBN Obninsk 20.32 4 ⇑*e*P P 01 39 41.7 -1.1
OBN *e*S S 01 43 29.5 +1.4
OBN pmax pmax
comp=Z,65nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.3
OBN Obninsk 20.32 4 *e*P P 01 39 41.5 -1.4
OBN Obninsk 20.32 4 *e*P P 01 39 41.7 -1.1
comp=Z,65nm,0.8s
UPC Upice 20.35 326 *e*P P 01 39 42.8 -0.4
GEC2 GERESS Array S 20.45 319 *e*P P 01 39 44.1 -0.2
comp=Z,55nm,1.4s
GEC2 GERESS Array S 20.45 319 *e*P P 01 39 44.1 -0.2
GEC2 pmax pmax
comp=Z,55nm,1.4s
GERES GERESS Array B 20.45 319 P P 01 39 44.2 -0.1
comp=Z,11nm,0.4s,baz=119,slow=11,SNR=82
GERES PcP PcP 01 43 55.6 +0.7
comp=Z,1.4nm,0.7s,baz=169,slow=1.4,SNR=5.9
GERES LR LR 01 49 02.2
comp=Z,216nm,18.5s,MS3.5,baz=111,slow=41
GERES GERESS Array B 20.45 319 P P 01 39 44.2 -0.1
GERES 01 43 55.6
KSP Ksiaz 20.46 327 *e*P P 01 39 45.3 +1.0
KSP Ksiaz 20.46 327 *e*P P 01 39 44.5 +0.2
KSP *e*pP 01 39 52.4
SUW Suwalki 20.57 342 *e*P P 01 39 44.5 -1.1
KHC Kasperske Hory 20.69 320 *e*P P 01 39 45.9 -0.9
KHC *e*pP 01 39 57.0
KHC AMS AMS 01 49 00.0
comp=Z,400nm,20.6s
KHC Kasperske Hory 20.69 320 *e*P P 01 39 45.9 -0.9
comp=Z,400nm,20.6s
PRU Pruhonice 20.72 323 *e*P P 01 39 46.3 -0.8
PRU AMS AMS 01 49 20.0
comp=Z,400nm,19.9s
PRU Pruhonice 20.72 323 *e*P P 01 39 46.3 -0.8
comp=Z,400nm,19.9s
WTTA Wattenberg 20.79 313 *i* P P 01 39 48.1 +0.2
comp=Z,42nm,0.7s,SNR=26
WTTA Wattenberg 20.79 313 *i* P P 01 39 48.1 +0.2
WTTA pmax pmax
comp=Z,42nm,0.7s
WATA Walderalm 20.86 313 ⇓*i*P P 01 39 49.8 +1.1
comp=Z,19nm,0.9s,SNR=21
WATA Walderalm 20.86 313 ⇓*i*P P 01 39 49.8 +1.1
WATA pmax pmax
comp=Z,19nm,0.9s
PGF Pioggiola 20.86 299 *e*P P 01 39 51.6 +2.9
comp=Z,48nm,0.9s
PGF Pioggiola 20.86 299 *e*P P 01 39 51.6 +2.9
PGF pmax pmax
comp=Z,24nm,0.9s
PGF Pioggiola 20.86 299 *e*P P 01 39 51.6 +2.9
comp=Z,24nm,0.9s
MOS Moscow 21.02 6 *e*P P 01 39 49.3 -1.1
MOS *e* 01 40 01.7
MOS *e* 01 40 08.9
MOS *e*S S 01 43 45.5 +3.6
MOS *e*SS 01 44 05.7
MOS pmax pmax
comp=Z,111nm,0.8s,mb5.2
MOS Moscow 21.02 6 *e*P P 01 39 49.3 -1.1
comp=Z,111nm,0.8s,mb5.2
SQTA Sankt Quirin 21.03 313 ⇑*i*P P 01 39 50.2 -0.3
comp=Z,11nm,0.7s,mb4.3,SNR=52
SQTA Sankt Quirin 21.03 313 ⇑*i*P P 01 39 50.2 -0.3
SQTA pmax pmax
comp=Z,11nm,0.7s,mb4.3
PVCC Panska Ves 21.05 324 *e*P P 01 39 50.7 0.0
PVCC AMS AMS 01 49 40.0
comp=Z,400nm,12.9s
PVCC Panska Ves 21.05 324 *e*P P 01 39 50.7 0.0
comp=Z,400nm,12.9s
WET Wettzell 21.07 319 *e*P P 01 39 49.7 -1.2
comp=Z,35nm,0.9s,mb4.7
WET Wettzell 21.07 319 *e*P P 01 39 49.7 -1.2
WET pmax pmax
comp=Z,35nm,0.9s,mb4.7
MOTA Moosalm 21.15 313 ⇑*i*P P 01 39 51.0 -0.8
comp=Z,22nm,0.8s,mb4.5,SNR=45
MOTA Moosalm 21.15 313 ⇑*i*P P 01 39 51.0 -0.8
MOTA pmax pmax
comp=Z,22nm,0.8s,mb4.5
FUR Furstenfeldbru 21.45 315 P P 01 39 53.8 -1.1
BRG Berggiesshubel 21.58 324 *e*P P 01 39 55.5 -0.9
comp=Z,33nm,1.1s,mb4.7
BRG Berggiesshubel 21.58 324 *e*P P 01 39 56.4 0.0
BRG *i* 01 40 14.3
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
BRG pmax pmax
comp=Z,19nm,1.1s,mb4.4
BRG Berggiesshubel 21.58 324 *e*P P 01 39 56.4 0.0
comp=Z,2.9nm,0.8s,mb3.8
BRG *i* 01 40 14.3
BRG Berggiesshubel 21.58 324 *e*P P 01 39 56.4 0.0
comp=Z,5.0nm,0.7s,mb4.0
DAVOX Davos/Dischmat 21.65 311 P P 01 39 57.7 +0.5
comp=Z,9.4nm,0.5s,mb4.5,baz=128,slow=7.5,SNR=30
DAVOX LR LR 01 49 50.5
comp=Z,235nm,20.3s,MS3.6,baz=117,slow=41

HATD Hatta, Dubai 21.66 112 P **P 01 39 59.2 +1.9**
SNR=7.0
ASHO Ashiyiah 21.68 112 P **P 01 39 59.4 +1.9**
SNR=14
PCP Pian Castagno 21.71 304 P **P 01 39 57.7 -0.1**
comp=Z,90nm,1.8s,mb4.9
ROTZ Rotzenmuhle 21.79 320 *eP* **P 01 39 57.4 -1.2**
comp=Z,90nm,1.8s,mb4.9
GKP Gorka Klasztor 21.86 332 *eP* **P 01 39 59.4 0.0**
DAVA Damuels 21.87 312⇓*iP* **P 01 39 58.9 -0.5**
comp=Z,37nm,0.5s,mb5.1,SNR=16
BERN Bernov 21.90 321 ⇓P **P 01 39 55.7 -4.1**
UBR Ueberruh 21.90 313 P **P 01 39 58.7 -1.2**
RORO 21.92 303 P **P 01 40 01.1 +1.1**
TANN Tannenbergstha 22.03 321 *eP* **P 01 40 00.4 -0.8**
comp=Z,22nm,1.2s,mb4.5
ROB Roburent 22.10 303 P **P 01 40 02.8 +0.8**
WERD Werda 22.13 321 *eP* **P 01 40 01.0 -1.3**
comp=Z,16nm,1.2s,mb4.3
LLS Linth-Limmern 22.22 310 ⇓P **P 01 40 02.8 -0.5**
HDH Heidenheim-Cha 22.27 315 P **P 01 40 02.9 -0.9**
GRA1 Grafenberg Arr 22.27 319 *eP* **P 01 40 04.1 +0.3**
GRF Grafenberg Arr 22.27 319 *eP* **P 01 40 04.1 +0.3**
SBF Sospel 22.29 302 *eP* **P 01 40 04.4 +0.4**
comp=Z,76nm,0.9s,mb4.8
SBF Sospel 22.29 302 *eP* **P 01 40 04.4 +0.4**
SBF pmax pmax
comp=Z,38nm,0.9s,mb4.8
SBF Sospel 22.29 302 *eP* **P 01 40 04.4 +0.4**
comp=Z,38nm,0.9s,mb4.8
CLL Collm 22.31 324⇓*iP* **P 01 40 04.5 +0.3**
CLL pmax pmax
comp=Z,15nm,1.0s,mb4.4
CLL Collm 22.31 324⇓*iP* **P 01 40 04.5 +0.3**
comp=Z,15nm,1.0s,mb4.4
CLL *ex* x 01 40 18.0
CLL *e*(S) **S 01 44 06.0 -1.1**
ENR Entracque 22.40 303 P **P 01 40 05.6 +0.5**
ORX Oropa 22.44 306 P **P 01 40 04.9 -0.7**
ORR Orenburg 22.46 35 P **P 01 40 05.4 -0.3**
ORR pmax pmax
comp=Z,60nm,0.9s,mb5.0
ORR MLR MLR
comp=Z,450nm,28.0s,MS3.8
MUO Muotathal 22.50 310 ⇓P **P 01 40 05.5 -0.7**
WILA Wila 22.52 311 ⇓P **P 01 40 05.9 -0.5**
SISB Singen-Schiene 22.60 312 P **P 01 40 06.9 -0.3**
MOX Moxa 22.61 321 *eP* **P 01 40 06.4 -0.9**
comp=Z,56nm,1.5s,mb4.8
MOX Moxa 22.61 321 *eP* **P 01 40 06.6 -0.7**
comp=Z,56nm,1.4s,mb4.8
MOX Moxa 22.61 321 *eP* **P 01 40 06.6 -0.7**
MOX pmax pmax
comp=Z,56nm,1.4s,mb4.8
GUT Gutenstein 22.68 313 P **P 01 40 06.8 -1.3**
PZZ Prazzo 22.69 303 P **P 01 40 07.2 -1.0**
BUCH Bad Urach 22.71 314 P **P 01 40 08.3 -0.1**
RUE Ruedersdorf 22.72 327 *eP* **P 01 40 05.8 -2.7**
comp=Z,83nm,1.4s,mb5.0
RSP Reno Superiore 22.77 305 P **P 01 40 08.1 -1.0**
FRF La Foret Royal 22.77 301⇑*iP* **P 01 40 09.8 +0.7**
comp=Z,23nm,0.8s,mb4.4
FRF La Foret Royal 22.77 301⇑*iP* **P 01 40 09.8 +0.7**
FRF pmax pmax
comp=Z,11nm,0.8s,mb4.3
FRF La Foret Royal 22.77 301⇑*iP* **P 01 40 09.8 +0.7**
comp=Z,11nm,0.8s,mb4.3
LMR La Mourre 22.82 300⇑*iP* **P 01 40 10.1 +0.5**
comp=Z,11nm,0.5s,mb4.2
LMR La Mourre 22.82 300⇑*iP* **P 01 40 10.1 +0.5**
LMR pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
LMR La Mourre 22.82 300⇑*iP* **P 01 40 10.1 +0.5**
comp=Z,5.7nm,0.5s,mb4.3
SPAK Spaichingen-Ko 22.89 313 P **P 01 40 11.2 +0.9**
SLE Schleitheim 22.92 312 ⇓P **P 01 40 09.1 -1.5**
LKBD Leukerbad 22.93 308 ⇓P **P 01 40 10.1 -0.7**
LSD Ceresole Reale 22.93 306 P **P 01 40 10.7 -0.1**
STU Stuttgart 22.95 315 *eP* **P 01 40 09.6 -1.3**
STU pmax pmax
comp=Z,21nm,0.8s,mb4.6
STU Stuttgart 22.95 315 *eP* **P 01 40 09.6 -1.4**
comp=Z,22nm,0.8s,mb4.6
DIX Grande Dixence 22.97 307 ⇑P **P 01 40 11.3 +0.2**
MBDF Montbardon 22.98 304 *eP* **P 01 40 12.1 +0.8**
comp=Z,106nm,0.8s,mb5.0
MBDF Montbardon 22.98 304 *eP* **P 01 40 12.1 +0.8**
MBDF pmax pmax
comp=Z,53nm,0.8s,mb5.0
MBDF Montbardon 22.98 304 *eP* **P 01 40 12.1 +0.8**
comp=Z,53nm,0.8s,mb5.0
SIND Sindeldorf 22.99 316 P **P 01 40 09.7 -1.7**
RRL Cesana Torines 23.02 304 P **P 01 40 11.7 0.0**
SULZ Cheisacher 23.05 311 ⇓P **P 01 40 11.5 -0.6**
BNI Bardonecchia 23.13 304 *eP* **P 01 40 13.2 +0.3**
BNI pmax pmax
comp=Z,18nm,0.8s,mb4.5
BNI Bardonecchia 23.13 304 *eP* **P 01 40 13.2 +0.3**
comp=Z,18nm,0.8s,mb4.6
LBG Lerchenberg 23.13 314 P **P 01 40 11.5 -1.4**
TAVF Tavernes 23.20 300 *eP* **P 01 40 14.8 +1.2**
LPG La Plagne 23.22 305 *eP* **P 01 40 13.5 -0.2**
comp=Z,73nm,0.8s,mb4.9
LPG La Plagne 23.22 305 *eP* **P 01 40 13.5 -0.2**
LPG pmax pmax
comp=Z,36nm,0.8s,mb4.8
LPG La Plagne 23.22 305 *eP* **P 01 40 13.5 -0.2**
comp=Z,36nm,0.8s,mb4.9
LPL La Plagne 23.23 305 *eP* **P 01 40 13.7 -0.2**
comp=Z,47nm,0.5s,mb4.8
LPL La Plagne 23.23 305 *eP* **P 01 40 13.7 -0.2**
LPL pmax pmax
comp=Z,24nm,0.5s,mb4.9
LPL La Plagne 23.23 305 *eP* **P 01 40 13.7 -0.2**
comp=Z,24nm,0.5s,mb4.9
BFO Black Forest 23.26 313 *eP* **P 01 40 13.0 -1.2**
comp=Z,52nm,0.9s,mb5.0
BFO Black Forest 23.26 313 *eP* **P 01 40 13.0 -1.2**
BFO pmax pmax
comp=Z,52nm,0.9s,mb5.0
FELD Feldberg im Sc 23.27 312 *eP* **P 01 40 13.0 -1.3**
EMV Vieux Emosson 23.30 307 ⇓P **P 01 40 13.4 -1.2**
KIZ Kirchzarten 23.35 312 P **P 01 40 14.2 -0.9**
RSL Roselend 23.36 306 *eP* **P 01 40 14.6 -0.6**
STOF St-Etienne Org 23.39 301 *eP* **P 01 40 17.0 +1.5**
BBS Basel-Blauen 23.41 311 *eP* **P 01 40 13.9 -1.7**
AKTK Aktyubinsk 23.42 41 P **P 01 40 14.4 -1.3**
AKTK LR LR 01 51 46.7
AKTO Aktyubinsk 23.42 41 P **P 01 40 14.4 -1.3**
comp=Z,14nm,0.8s,mb4.4,baz=243,slow=10,SNR=43
AKTO LR LR 01 51 46.7
comp=Z,234nm,19.4s,MS3.6,baz=110,slow=43
SWS Schriesheim-Wi 23.57 316 P **P 01 40 15.8 -1.3**
TOD Tromm 23.57 316 *eP* **P 01 40 16.6 -0.5**
SMRF Simiane la Rot 23.62 301⇑*iP* **P 01 40 18.1 +0.5**
comp=Z,31nm,0.8s,mb4.5
SMRF Simiane la Rot 23.62 301⇑*iP* **P 01 40 18.1 +0.5**
comp=Z,31nm,0.8s,mb4.8
ORIF Oris-en-Rattie 23.64 304 *eP* **P 01 40 16.6 -1.1**
comp=Z,22nm,0.7s,mb4.4
ORIF *e*MLR MLR
comp=Z,265nm,23.0s
ORIF Oris-en-Rattie 23.64 304 *eP* **P 01 40 16.6 -1.1**
ORIF pmax pmax
comp=Z,11nm,0.7s,mb4.4
ORIF Oris-en-Rattie 23.64 304 *eP* **P 01 40 16.6 -1.1**
comp=Z,11nm,0.7s,mb4.4
LOMF Lomont 23.79 310 *eP* **P 01 40 18.5 -0.6**
MOF Molkenrain 23.79 311 *eP* **P 01 40 18.9 -0.2**
LANF Langenberg 23.86 314 *eP* **P 01 40 19.3 -0.5**
WLS Welschbruch 23.89 313 *eP* **P 01 40 19.3 -0.7**
ECH Echery 23.92 312 *eP* **P 01 40 19.1 -1.2**
CDF Champ du Feu 23.93 313⇑*iP* **P 01 40 19.6 -0.8**
comp=Z,44nm,0.7s,mb4.7
CDF Champ du Feu 23.93 313⇑*iP* **P 01 40 19.6 -0.8**
CDF pmax pmax
comp=Z,22nm,0.7s,mb4.7
CDF Champ du Feu 23.93 313⇑*iP* **P 01 40 19.6 -0.8**
comp=Z,22nm,0.7s,mb4.7
CLZ Clausthal 23.94 322 *eP* **P 01 40 18.8 -1.7**
comp=Z,21nm,0.8s,mb4.6
CLZ Clausthal 23.94 322 *eP* **P 01 40 18.8 -1.7**
CLZ pmax pmax
comp=Z,21nm,0.8s,mb4.6
HINF Hinteralfeld 23.95 311 *eP* **P 01 40 19.6 -1.0**
comp=Z,21nm,0.5s,mb4.5
HINF Hinteralfeld 23.95 311 *eP* **P 01 40 19.6 -1.0**
HINF pmax pmax
comp=Z,11nm,0.5s,mb4.5
HINF Hinteralfeld 23.95 311 *eP* **P 01 40 19.6 -1.0**
comp=Z,11nm,0.5s,mb4.5
CABF La Chapelle 24.01 308⇑*iP* **P 01 40 20.2 -0.9**
comp=Z,39nm,0.6s,mb4.7
CABF La Chapelle 24.01 308⇑*iP* **P 01 40 20.2 -0.9**
CABF pmax pmax
comp=Z,19nm,0.6s,mb4.7
CABF La Chapelle 24.01 308⇑*iP* **P 01 40 20.2 -0.9**
comp=Z,19nm,0.6s,mb4.7
VSU Vasula 24.08 351 *eP* **P 01 40 22.4 +0.7**
HAU Haudompre 24.34 311⇑*iP* **P 01 40 23.1 -1.0**
comp=Z,53nm,0.7s,mb4.8
HAU *e*MLR MLR
comp=Z,270nm,19.5s
HAU Haudompre 24.34 311⇑*iP* **P 01 40 23.1 -1.0**
HAU pmax pmax
comp=Z,26nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,270nm,19.5s,MS3.7
HAU Haudompre 24.34 311⇑*iP* **P 01 40 23.1 -1.0**
comp=Z,26nm,0.7s,mb4.8
HAU LR LR
comp=Z,270nm,19.5s,MS3.7
RGN Rugen 24.36 330 *eP* **P 01 40 21.4 -3.0**
comp=Z,16nm,0.4s,mb4.8
WHFO Wadi Hawf 24.43 129 P **P 01 40 27.4 +2.4**
SNR=8.1
WSAR Wadi Sarin 24.44 112 P **P 01 40 28.1 +3.1**
comp=Z,3.9nm,0.6s,mb4.0,baz=319,slow=7.2,SNR=4.3
WSAR LR LR 01 52 13.7
comp=Z,255nm,19.6s,MS3.7,baz=78,slow=42
WSAR Wadi Sarin 24.44 112 P **P 01 40 28.1 +3.1**
WSAR LR LR 01 52 13.7
VIVF Saint-Julien-I 24.46 303⇑*iP* **P 01 40 24.4 -0.8**
comp=Z,13nm,0.6s,mb4.2
VIVF Saint-Julien-I 24.46 303⇑*iP* **P 01 40 24.4 -0.8**
VIVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
VIVF Saint-Julien-I 24.46 303⇑*iP* **P 01 40 24.4 -0.8**
comp=Z,6.3nm,0.6s,mb4.2
ABTO Aybut 24.55 130 P **P 01 40 28.5 +2.4**
SNR=6.9
ATD Arta Tunnel 24.61 159 LR LR 01 48 53.1
comp=Z,119nm,20.8s,MS3.4,baz=326,slow=33
RUP Ruppelstein 24.62 315 P **P 01 40 26.2 -0.5**
THEF They Montfort 24.65 311 *eP* **P 01 40 25.4 -1.5**
LASF Ste Croix 24.86 301⇑*iP* **P 01 40 28.9 +0.1**
comp=Z,35nm,0.6s,mb4.8
PUL Pulkovo 25.02 356*d iP* **P 01 40 30.8 +0.5**
PUL pmax pmax
comp=Z,107nm,0.5s,mb5.6
PUL MLR MLR
comp=Z,314nm,14.0s,MS4.0
WLF Walferdange 25.13 315 *eP* **P 01 40 30.4 -0.9**
comp=Z,26nm,0.9s,mb4.8
WLF Walferdange 25.13 315 P **P 01 40 30.1 -1.3**
WLF Walferdange 25.13 315 *eP* **P 01 40 30.8 -0.5**
WLF pmax pmax
comp=Z,20nm,0.8s,mb4.7
WLF Walferdange 25.13 315 *eP* **P 01 40 30.8 -0.6**
comp=Z,20nm,0.8s,mb4.7
BSEG Bad Segeberg 25.25 326 *eP* **P 01 40 31.1 -1.3**
comp=Z,8.0nm,1.0s,mb4.2
BSEG Bad Segeberg 25.25 326 *eP* **P 01 40 31.1 -1.3**
BSEG pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
COLF Collangettes 25.29 304 *eP* **P 01 40 32.2 -0.5**
EJON La Jonquera 25.29 297 P **P 01 40 32.1 -0.7**
comp=Z,7.3nm,0.9s,mb4.2
MEZF Maizieres J'vi 25.33 311 *eP* **P 01 40 32.5 -0.6**
comp=Z,48nm,0.7s,mb4.9
MEZF Maizieres J'vi 25.33 311 *eP* **P 01 40 32.5 -0.6**
comp=Z,48nm,0.7s,mb5.1
PLDF La Plantade 25.45 305 *eP* **P 01 40 33.6 -0.6**
SMF Signal de Mont 25.49 307⇑*iP* **P 01 40 33.4 -1.2**
comp=Z,53nm,0.8s,mb4.8
SMF Signal de Mont 25.49 307⇑*iP* **P 01 40 33.4 -1.2**
SMF pmax pmax
comp=Z,27nm,0.8s,mb4.8
SMF Signal de Mont 25.49 307⇑*iP* **P 01 40 33.4 -1.2**
comp=Z,26nm,0.8s,mb4.8
LBL Lubilhac 25.53 303 *eP* **P 01 40 34.8 -0.1**
MEM Membach 25.64 316 P **P 01 40 35.5 -0.4**
LOR Lormes 25.66 308⇑*iP* **P 01 40 34.9 -1.3**
comp=Z,16nm,0.7s,mb4.4
LOR *e*MLR MLR
comp=Z,288nm,20.0s
LOR Lormes 25.66 308⇑*iP* **P 01 40 34.9 -1.3**
LOR pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
LOR MLR MLR
comp=Z,290nm,20.0s,MS3.8
LOR Lormes 25.66 308⇑*iP* **P 01 40 34.9 -1.3**
comp=Z,7.8nm,0.7s,mb4.3
LOR LR LR
comp=Z,290nm,20.0s,MS3.8
AGO Saint Agoulin 25.80 305 *eP* **P 01 40 36.9 -0.5**
PYM Petit Puy Mans 25.81 304 *eP* **P 01 40 36.9 -0.6**
SSF Saint Saulge 25.83 307⇑*iP* **P 01 40 36.6 -1.1**
comp=Z,71nm,0.7s,mb5.0
SSF Saint Saulge 25.83 307⇑*iP* **P 01 40 36.6 -1.1**
SSF pmax pmax
comp=Z,35nm,0.7s,mb5.0
SSF Saint Saulge 25.83 307⇑*iP* **P 01 40 36.6 -1.1**
comp=Z,36nm,0.7s,mb5.0
AVF Avril sur Loir 25.85 307 *eP* **P 01 40 36.5 -1.4**
comp=Z,20nm,0.7s,mb4.5
AVF Avril sur Loir 25.85 307 *eP* **P 01 40 36.5 -1.4**
AVF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
AVF Avril sur Loir 25.85 307 *eP* **P 01 40 36.5 -1.4**
comp=Z,10nm,0.7s,mb4.5
MTLF Montolieu 25.90 299 *eP* **P 01 40 38.6 +0.3**
comp=Z,16nm,0.7s,mb4.4
MTLF Montolieu 25.90 299 *eP* **P 01 40 38.6 +0.3**
MTLF pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
MTLF Montolieu 25.90 299 *eP* **P 01 40 38.6 +0.3**
comp=Z,8.1nm,0.6s,mb4.4
BCLA Clavier 25.95 316 P **P 01 40 38.5 -0.3**
FRNF Fournols 26.03 303 *eP* **P 01 40 39.7 +0.2**
GIVF Givet 26.10 315 *eP* **P 01 40 39.1 -1.0**
comp=Z,43nm,0.8s,mb4.8
GIVF Givet 26.10 315 *eP* **P 01 40 39.1 -1.0**
GIVF pmax pmax
comp=Z,21nm,0.8s,mb4.7
GIVF Givet 26.10 315 *eP* **P 01 40 39.1 -1.0**
comp=Z,21nm,0.8s,mb4.7
BGF Bois d'Agland 26.13 306⇑*iP* **P 01 40 39.3 -1.0**
comp=Z,20nm,0.7s,mb4.5
BGF Bois d'Agland 26.13 306⇑*iP* **P 01 40 39.3 -1.0**
BGF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BGF Bois d'Agland 26.13 306⇑*iP* **P 01 40 39.3 -1.0**
comp=Z,10nm,0.7s,mb4.5
DOU Dourbes 26.23 314 P **P 01 40 40.7 -0.6**
CAF Calviac 26.28 302 *eP* **P 01 40 41.4 -0.3**
comp=Z,5.6nm,0.6s,mb4.0
BAIF Baives 26.44 314 *eP* **P 01 40 42.2 -1.0**
comp=Z,35nm,0.7s,mb4.7
BAIF Baives 26.44 314 *eP* **P 01 40 42.2 -1.0**
BAIF pmax pmax
comp=Z,17nm,0.7s,mb4.7
BAIF Baives 26.44 314 *eP* **P 01 40 42.2 -1.0**
comp=Z,18nm,0.7s,mb4.7
HYF Humbligny 26.46 307 *eP* **P 01 40 42.7 -0.6**
TCF Toulx Ste Croi 26.48 305⇑*iP* **P 01 40 42.9 -0.7**
comp=Z,16nm,0.7s,mb4.3
TCF Toulx Ste Croi 26.48 305⇑*iP* **P 01 40 42.9 -0.7**
TCF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
TCF Toulx Ste Croi 26.48 305⇑*iP* **P 01 40 42.9 -0.7**
comp=Z,8.1nm,0.7s,mb4.4
RJF Les Rejaudoux 26.74 303⇑*iP* **P 01 40 45.8 0.0**
comp=Z,63nm,0.7s,mb4.9
RJF *e*MLR MLR
comp=Z,302nm,20.2s
RJF Les Rejaudoux 26.74 303⇑*iP* **P 01 40 45.8 0.0**
RJF pmax pmax
comp=Z,32nm,0.7s,mb5.0
RJF MLR MLR
comp=Z,300nm,20.3s,MS3.8
RJF Les Rejaudoux 26.74 303⇑*iP* **P 01 40 45.8 0.0**
comp=Z,32nm,0.7s,mb5.0
RJF LR LR
comp=Z,300nm,20.3s,MS3.8
FINES FINESS Array B 27.06 352 P **P 01 40 47.8 -0.9**
comp=Z,18nm,0.4s,mb4.9,baz=152,slow=11,SNR=357
FINES LR LR 01 53 10.8
comp=Z,181nm,18.3s,MS3.7,baz=344,slow=40
FINES FINESS Array B 27.06 352 *i P* **P 01 40 47.7 -1.0**
FINES pmax pmax
comp=Z,19nm,0.4s
FIA1 FINESS Array S 27.06 352 *eP* **P 01 40 47.5 -1.2**
ERTA Horta de San J 27.08 293 P **P 01 40 48.4 -0.6**
comp=Z,5.3nm,0.7s,mb4.2
LFF La Frestale 27.21 302⇑*iP* **P 01 40 50.1 0.0**
comp=Z,26nm,0.8s,mb4.5
LFF La Frestale 27.21 302⇑*iP* **P 01 40 50.1 0.0**
LFF pmax pmax
comp=Z,13nm,0.8s,mb4.5
LFF La Frestale 27.21 302⇑*iP* **P 01 40 50.1 0.0**
comp=Z,13nm,0.8s,mb4.5
ARU Arti 27.32 30⇓*iP* **P 01 40 50.6 -0.5**
ARU *e* 01 44 08.6
ARU *e*S **S 01 45 29.4 +1.9**
ARU *e*SS 01 46 42.0
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.6
ARU Arti 27.32 30 *eP* **P 01 40 50.9 -0.1**
comp=Z,16nm,0.8s,mb4.6
KAF Kangasniemi 27.68 352 *ep* **P 01 40 53.3 -1.0**
comp=Z,6.3nm,0.4s,mb4.6
KAF Kangasniemi 27.68 352 *eP* **P 01 40 53.3 -1.0**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
ETSF Etsaut 27.87 297 *eP* **P 01 40 56.1 +0.1**
JOF Joensuu 28.12 357 *ep* **P 01 40 57.4 -0.8**
comp=Z,34nm,0.6s,mb5.2
JOF Joensuu 28.12 357 *eP* **P 01 40 57.4 -0.8**
JOF pmax pmax
comp=Z,34nm,0.6s,mb5.2
MFF Saint Martin d 28.14 305⇑*iP* **P 01 40 57.3 -1.1**
comp=Z,17nm,0.8s,mb4.5
MFF Saint Martin d 28.14 305⇑*iP* **P 01 40 57.3 -1.1**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MFF Saint Martin d 28.14 305⇑*iP* **P 01 40 57.3 -1.1**
comp=Z,8.6nm,0.8s,mb4.4
SJPF Ste Jean 28.38 297 *eP* **P 01 41 00.9 +0.4**
SVE Sverdlovsk 28.45 31 *eP* **P 01 41 02.5 +1.4**
HFS Hagfors 28.49 339 P **P 01 41 00.7 -0.8**
comp=Z,20nm,0.5s,mb5.0,baz=127,slow=9.8,SNR=108
ETOB Tobarra 28.57 288 P **P 01 41 02.8 +0.6**
comp=Z,3.8nm,0.7s,mb4.2
LDF La Druitiere 28.61 309⇑*iP* **P 01 41 00.8 -1.8**
comp=Z,17nm,0.7s,mb4.6
LDF La Druitiere 28.61 309⇑*iP* **P 01 41 00.8 -1.8**
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
LDF La Druitiere 28.61 309⇑*iP* **P 01 41 00.8 -1.8**
comp=Z,8.3nm,0.7s,mb4.6
FLN La Foliniere 28.89 309⇑*iP* **P 01 41 03.1 -2.0**
comp=Z,38nm,1.0s,mb4.8
FLN *e*MLR MLR
comp=Z,306nm,22.2s
FLN La Foliniere 28.89 309⇑*iP* **P 01 41 03.1 -2.0**
FLN pmax pmax
comp=Z,19nm,1.0s,mb4.8
FLN MLR MLR
comp=Z,310nm,22.3s,MS3.9
FLN La Foliniere 28.89 309⇑*iP* **P 01 41 03.1 -2.0**
comp=Z,19nm,1.0s,mb4.8
FLN LR LR
comp=Z,310nm,22.3s,MS3.9
GRR Gorron 29.03 308 *eP* **P 01 41 04.6 -1.7**
comp=Z,24nm,0.7s,mb4.7
GRR Gorron 29.03 308 *eP* **P 01 41 04.6 -1.7**
GRR pmax pmax
comp=Z,12nm,0.7s,mb4.7
GRR Gorron 29.03 308 *eP* **P 01 41 04.6 -1.7**
comp=Z,12nm,0.7s,mb4.7
ENIJ Nijar 29.24 285 P **P 01 41 07.3 -0.8**
ENIJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ENIJ Nijar 29.24 285 P **P 01 41 07.3 -0.8**
comp=Z,9.4nm,0.8s,mb4.6
EVIA Vianos 29.31 288 P **P 01 41 08.4 -0.4**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
EVIA Vianos 29.31 288 P **P 01 41 08.4 -0.4**
comp=Z,10nm,0.8s,mb4.6
TMCR Tamitsa 29.43 4 *i P* **P 01 41 09.5 -0.3**
TMCR pmax pmax
comp=Z,67nm,0.6s,mb5.5
KONO Kongsberg 29.45 335⇑*eP* **P 01 41 10.0 -0.1**
KONO Kongsberg 29.45 335 *eP* **P 01 41 09.8 -0.3**
comp=Z,11nm,0.6s,mb4.8
EQES Quesada 29.83 287 P **P 01 41 11.5 -1.9**
comp=Z,4.3nm,0.7s,mb4.3
NAO01 NORSAR Array S 29.92 337 *eP* **P 01 41 13.7 -0.5**
comp=Z,22nm,0.9s,mb4.9
NB2 NORSAR Subarra 29.96 338 P **P 01 41 13.0 -1.6**
comp=Z,4.8nm,0.5s,mb4.5,baz=141,slow=9.3
NB2 NORSAR Subarra 29.96 338 P **P 01 41 13.0 -1.6**
NB2 pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
NOA NORSAR Array B 29.96 338 P **P 01 41 13.4 -1.2**
comp=Z,5.6nm,0.5s,mb4.6,baz=141,slow=9.2,SNR=26
NOA PcP PcP 01 44 15.9 -0.2
comp=Z,2.8nm,0.9s,baz=123,slow=3.2,SNR=3.9
NOA LR LR 01 55 29.4
comp=Z,268nm,20.4s,MS3.9,baz=160,slow=41
NOA NORSAR Array B 29.96 338 P **P 01 41 13.4 -1.2**
NOA 01 44 16.0
NOA NORSAR Array B 29.96 338 P **P 01 41 13.4 -1.2**
NOA PcP PcP 01 44 15.9 -0.2
NOA LR LR 01 55 29.4
ELAN Lanestosa 30.00 297 P **P 01 41 14.8 -0.1**
comp=Z,6.3nm,0.8s,mb4.4
ESDC Sonseca Array 30.38 290 P **P 01 41 19.4 +1.1**
comp=Z,2.3nm,0.5s,mb4.2,baz=82,slow=9.5,SNR=34
ESDC PcP PcP 01 44 17.8 +0.6
comp=Z,0.8nm,0.6s,baz=53,slow=2.5,SNR=7.0
ESDC LR LR 01 54 28.9
comp=Z,106nm,21.9s,MS3.5,baz=110,slow=38
ESDC Sonseca Array 30.38 290 P **P 01 41 18.7 +0.5**
comp=Z,3.9nm,0.4s,mb4.5
ESLA Sonseca Array 30.38 290 *eP* **P 01 41 19.4 +1.1**
QUIF Quistinic 30.43 307 *eP* **P 01 41 16.6 -2.1**
GUD Guadarrama 30.49 292 P **P 01 41 18.3 -0.9**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
GUD Guadarrama 30.49 292 P **P 01 41 18.3 -0.9**
comp=Z,2.5nm,0.6s,mb4.1
ZRNK Zerenda 30.64 43 *eP* **P 01 41 20.6 0.0**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ZRNK Zerenda 30.64 43 *eP* **P 01 41 20.6 0.0**
comp=Z,7.6nm,0.9s,mb4.5
ELUQ Luque 30.80 286 P **P 01 41 19.2 -2.8**
ELUQ pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
ELUQ Luque 30.80 286 P **P 01 41 19.2 -2.8**
comp=Z,5.7nm,0.8s,mb4.5
EADA Adamuz 30.98 288 P **P 01 41 23.7 +0.2**
comp=Z,2.7nm,0.6s,mb4.2
EARI Arriondas 31.30 297 P **P 01 41 26.5 +0.2**
comp=Z,7.7nm,0.9s,mb4.5
EMIJ Mijas 31.33 284 P **P 01 41 24.8 -1.9**
comp=Z,7.7nm,0.7s,mb4.6
BRVK Borovoye 31.40 43 *eP* **P 01 41 26.5 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
BRVK Borovoye 31.40 43 *eP* **P 01 41 26.5 -0.8**
comp=Z,9.6nm,1.0s,mb4.6
BVAR Borovoye Array 31.45 43 P **P 01 41 28.2 +0.5**
comp=Z,5.6nm,0.9s,mb4.4,baz=207,slow=3.0,SNR=5.0
BVAR PcP PcP 01 44 21.2 +1.1
comp=Z,3.1nm,0.9s,baz=259,slow=1.5,SNR=5.1
BVAR LR LR 01 56 30.0
comp=Z,412nm,19.8s,MS4.1,baz=142,slow=41
BVAR Borovoye Array 31.45 43 P **P 01 41 28.2 +0.5**
BVAR 01 44 21.2
CHKZ Chkalovo 31.81 42 *eP* **P 01 41 30.5 -0.4**
MDT Midelt 31.95 277 P **P 01 41 34.1 +2.0**
comp=Z,1.2nm,0.6s,mb3.9,baz=92,slow=10,SNR=5.3
AAK Ala-Archa 32.32 64 *eP* **P 01 41 36.2 +0.9**
ECAL Calabor 32.41 295 P **P 01 41 36.2 +0.1**
comp=Z,4.6nm,0.6s,mb4.5

PBRG	**Braganca**	**32.41**	**295**	*eP*	**P**	**01 41 36.6**	**+0.4**
	comp=Z,16nm,1.4s,mb4.6						
EKA	**Eskdalemuir Ar**	**32.66**	**320**	P	**P**	**01 41 37.1**	**-1.2**
	comp=Z,2.7nm,0.6s,mb4.3,baz=106,slow=8.7,SNR=13						
EMIN	**Mina Concepcio**	**32.67**	**287**	P	**P**	**01 41 38.9**	**+0.5**
	comp=Z,8.2nm,0.5s,mb4.9						
EPON	**Pontenova**	**32.71**	**297**	P	**P**	**01 41 38.5**	**-0.3**
	comp=Z,9.3nm,0.6s,mb4.9						
LVZ	**Lovozero**	**33.07**	**0**	⇓*eP*	**P**	**01 41 41.7**	**-0.2**
LVZ				*eS*	**S**	**01 47 03.9**	**+6.2**
LVZ				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.5						
LVZ				pmax	pmax		
	comp=N,18nm,0.9s						
LVZ				pmax	pmax		
	comp=E,3.0nm,0.6s						
LVZ				smax			
	comp=N,164nm,3.2s						
LVZ				MLR	MLR		
	comp=Z,447nm,16.0s,MS4.3						
PCBR	**Castelo Branco**	**33.07**	**291**	*eP*	**P**	**01 41 42.9**	**+1.0**
	comp=Z,10nm,1.7s,mb4.5						
MTE	**Manteigas**	**33.08**	**292**	*eP*	**P**	**01 41 40.6**	**-1.4**
	comp=Z,20nm,1.4s,mb4.8						
PVRL	**Vila Real**	**33.16**	**294**	*eP*	**P**	**01 41 43.3**	**+0.6**
	comp=Z,9.8nm,1.4s,mb4.5						
PESTR	**Estremoz**	**33.25**	**289**	*eP*	**P**	**01 41 44.0**	**+0.5**
	comp=Z,16nm,1.5s,mb4.7						
MOR8	**Moi Rana**	**33.38**	**346**	*eP*	**P**	**01 41 44.4**	**-0.3**
MOR8				AMb	AMB	01 41 45.6	
	comp=Z,14nm,0.6s,mb5.1						
MOR8	**Moi Rana**	**33.38**	**346**	*eP*	**P**	**01 41 44.4**	**-0.3**
	comp=Z,14nm,0.6s,mb5.1,SNR=31						
PBEJ	**Beja**	**33.57**	**288**	*eP*	**P**	**01 41 47.1**	**+0.8**
	comp=Z,20nm,1.2s,mb4.9						
EZAM	**Zamans**	**33.86**	**295**	P	**P**	**01 41 49.5**	**+0.7**
EZAM				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
EZAM	**Zamans**	**33.86**	**295**	P	**P**	**01 41 49.5**	**+0.7**
	comp=Z,9.9nm,0.6s,mb4.9						
PLOU	**Loures**	**34.46**	**290**	*eP*	**P**	**01 41 55.5**	**+1.5**
	comp=Z,58nm,1.6s,mb5.3						
KTK1	**Kautokeino**	**34.71**	**353**	*eP*	**P**	**01 41 56.2**	**+0.1**
ARCES	**ARCESS Array B**	**35.03**	**355**	P	**P**	**01 41 58.4**	**-0.5**
	comp=Z,33nm,0.5s,mb5.5,baz=169,slow=8.3,SNR=298						
ARCES				LR	LR	01 58 51.5	
	comp=Z,198nm,19.4s,MS3.9,baz=58,slow=41						
ARCES	**ARCESS Array B**	**35.03**	**355**	P	**P**	**01 41 58.4**	**-0.5**
ARCES				LR	LR	01 58 51.5	
ARE0	**ARCESS Array S**	**35.03**	**355**	*eP*	**P**	**01 41 58.3**	**-0.5**
KEV	**Kevo**	**35.15**	**356**	*ep*	**P**	**01 41 59.3**	**-0.6**
	comp=Z,10nm,0.5s,mb5.0						
KEV	**Kevo**	**35.15**	**356**	*eP*	**P**	**01 41 59.3**	**-0.6**
KEV				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
TRO	**Tromso**	**35.79**	**351**	*eP*	**P**	**01 42 03.8**	**-1.6**
KMBO	**Kilima Mbogo**	**35.95**	**174**	P	**P**	**01 42 11.0**	**+4.2**
	comp=Z,4.0nm,1.2s,mb4.2,baz=52,slow=22,SNR=3.8						
KMBO				PcP	PcP	01 44 35.9	+3.0
	comp=Z,2.1nm,0.8s,baz=41,slow=24,SNR=5.2						
TOA0	**Torodi Ar. Sit**	**36.28**	**241**	*eP*	**P**	**01 42 08.8**	**-0.9**
TOA0				*e*PcP	PcP	01 44 34.4	+0.6
TORD	**Torodi Ar. Bea**	**36.28**	**241**	P	**P**	**01 42 11.0**	**+1.4**
	comp=Z,3.7nm,0.7s,mb4.5,baz=54,slow=7.8,SNR=46						
TORD				PcP	PcP	01 44 35.5	+1.7
	comp=Z,2.3nm,0.7s,baz=41,slow=2.4,SNR=8.2						
MKAR	**Makanchi Array**	**37.91**	**57**	P	**P**	**01 42 24.3**	**+0.9**
	comp=Z,4.2nm,0.8s,mb4.2,baz=266,slow=7.4,SNR=17						
MKAR				PcP	PcP	01 44 39.8	+1.0
	comp=Z,5.3nm,0.7s,baz=273,slow=3.1,SNR=8.9						
NVS	**Novosibirsk**	**39.25**	**44**	*i P*	**P**	**01 42 34.0**	**-0.7**
NVS				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
ZAL	**Zalesovo**	**40.02**	**46**	P	**P**	**01 42 41.0**	**-0.1**
	comp=E,2.4nm,0.6s,mb4.1,baz=204,slow=9.3,SNR=12						
ZAL				PcP	PcP	01 44 45.8	+0.4
	comp=E,2.0nm,0.7s,baz=218,slow=4.7,SNR=5.2						
ZAL				LR	LR	02 02 44.8	
	comp=E,236nm,19.1s,MS4.0,baz=212,slow=42						
ZAL	**Zalesovo**	**40.02**	**46**	P	**P**	**01 42 41.0**	**-0.1**
ZAL						01 44 45.8	
WMQ	**Urumqi**	**41.88**	**61**	*eP*	**P**	**01 42 57.5**	**+1.1**
WMQ				AP	pP	01 43 07.5	-1.2
WMQ				XP	sP	01 43 11.0	-3.0
WMQ				PP	PP	01 44 38.0	+4.2
WMQ				*eS*	**S**	**01 49 14.0**	**+2.7**
WMQ				XS	sS	01 49 30.0	-1.8
WMQ				SS	SS	01 52 15.0	-3.8
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,116nm,5.0s						
WMQ				LR	LR		
	comp=N,656nm,23.4s,MS4.6						
WMQ				LR	LR		
	comp=E,586nm,18.6s,MS4.6						
WMQ				LR	LR		
	comp=Z,388nm,18.6s,MS4.3						
KOLN	**Koldanda**	**42.66**	**85**	*eP*	**P**	**01 43 04.5**	**+1.7**
	comp=Z,21nm,0.9s,mb4.9						
GKN	**Gorkha**	**43.42**	**85**	*eP*	**P**	**01 43 10.4**	**+1.5**
	comp=Z,95nm,0.9s,mb5.5						
DMN	**Daman**	**43.96**	**85**	*eP*	**P**	**01 43 15.0**	**+1.8**
	comp=Z,36nm,0.7s,mb5.2						
KKN	**Kakani**	**44.03**	**85**	*eP*	**P**	**01 43 15.4**	**+1.6**
	comp=Z,50nm,0.8s,mb5.3						
SPB4	**Spitsbergen Ar**	**44.06**	**355**	*eP*	**P**	**01 43 14.0**	**-0.1**
PKI	**Pulchoki**	**44.22**	**85**	*eP*	**P**	**01 43 16.8**	**+1.5**
	comp=Z,60nm,1.0s,mb5.3						
GUN	**Gumba**	**44.48**	**84**	*eP*	**P**	**01 43 19.1**	**+1.8**
	comp=Z,85nm,1.1s,mb5.4						
JIRN	**Jiri**	**44.83**	**84**	*eP*	**P**	**01 43 22.7**	**+2.6**
KBS	**Kingsbay**	**45.10**	**354**	*eP*	**P**	**01 43 22.1**	**-0.3**
KBS	**Kingsbay**	**45.10**	**354**	*eP*	**P**	**01 43 22.3**	**0.0**
DBIC	**Dimbokro**	**45.39**	**241**	P	**P**	**01 43 25.8**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=31,slow=7.5,SNR=6.9						
DBIC				PcP	PcP	01 45 05.4	+2.0
	comp=Z,5.0nm,0.7s,baz=301,slow=2.4,SNR=5.8						
LSZ	**Lusaka**	**50.17**	**187**	P	**P**	**01 44 04.7**	**+3.1**
	comp=Z,3.1nm,0.5s,mb4.6,baz=14,slow=6.9,SNR=7.6						
LSZ	**Lusaka**	**50.17**	**187**	P	**P**	**01 44 04.7**	**+3.1**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
LSZ	**Lusaka**	**50.17**	**187**	*eP*	**P**	**01 44 04.2**	**+2.5**
	comp=Z,7.2nm,1.0s,mb4.7						
PALK	**Pallekele**	**50.93**	**111**	*eP*	**P**	**01 44 05.7**	**-1.7**
	comp=Z,4.9nm,0.6s,mb4.6						
ZAK	**Zakamensk**	**51.47**	**50**	*eP*	**P**	**01 44 06.6**	**-4.8**
ZAK				*e*		01 45 20.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SUMG	**Summit**	**51.85**	**339**	*eP*	**P**	**01 44 14.7**	**+0.4**
	comp=Z,8.3nm,0.6s,mb4.8						
SONM	**Songino Array**	**54.02**	**53**	P	**P**	**01 44 31.8**	**+1.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=286,slow=7.3,SNR=11						
SONM				PcP	PcP	01 45 36.3	+1.5
	comp=Z,3.1nm,0.7s,baz=261,slow=2.6,SNR=6.5						
SONM				LR	LR	02 10 30.7	
	comp=Z,710nm,20.1s,MS4.7,baz=247,slow=39						
SONM	**Songino Array**	**54.02**	**53**	P	**P**	**01 44 31.8**	**+1.6**
SONM						01 45 36.3	
SONM	**Songino Array**	**54.02**	**53**	P	**P**	**01 44 31.8**	**+1.6**
SONM				PcP	PcP	01 45 36.3	+1.5
SONM				LR	LR	02 10 30.7	
OPO	**Ambohidratompo**	**54.62**	**165**	P	**P**	**01 44 38.1**	**+3.5**
	comp=Z,6.3nm,1.0s,mb4.6,baz=44,slow=5.3,SNR=3.1						
MATP	**Matopo**	**55.23**	**186**	P	**P**	**01 44 41.5**	**+2.5**
	comp=Z,1.5nm,0.5s,mb4.3,baz=21,slow=7.4,SNR=3.7						
LZH	**Lanzhou**	**55.77**	**67**	*eP*	**P**	**01 44 46.8**	**+3.9**
LZH				PP	PP	01 46 52.5	+4.9
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,53nm,6.7s						
LZH				LR	LR		
	comp=N,427nm,14.7s						
LZH				LR	LR		
	comp=Z,635nm,18.2s,MS4.7						
LZH	**Lanzhou**	**55.77**	**67**	*eP*	**P**	**01 44 46.7**	**+3.8**
LZH						01 46 52.5	
LZH				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.0						
LZH				MLR	MLR		
	comp=Z,640nm,18.2s,MS4.8						
LZH	**Lanzhou**	**55.77**	**67**	*eP*	**P**	**01 44 46.7**	**+3.8**
	comp=Z,21nm,1.4s,mb5.0						
LZH				pP	pP	01 45 07.3	+12
LZH				sP	sP	01 45 11.2	+10
LZH				PP	PP	01 46 52.5	+4.9
LZH				LR	LR		
	comp=Z,640nm,18.2s,MS4.8						
TSUM	**Tsumeb**	**55.98**	**199**	P	**P**	**01 44 46.9**	**+2.5**
	comp=Z,1.7nm,0.6s,mb4.3,baz=346,slow=11,SNR=13						
BOD	**Bodaibo**	**56.17**	**39**	*eP*	**P**	**01 44 45.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
SFJD	**Kangerlussuaq**	**56.36**	**332**	P	**P**	**01 44 47.0**	**-0.1**
	comp=Z,18nm,0.5s,mb5.3,baz=64,slow=6.1,SNR=24						
CD2	**Chengdu**	**57.68**	**73**	*eP*	**P**	**01 44 58.3**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
KMI	**Kunming**	**59.35**	**79**	P	**P**	**01 45 14.1**	**+6.0**
KMI				AP	pP	01 45 23.0	+2.1
KMI				XP	sP	01 45 25.6	-0.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.9						
KMI	**Kunming**	**59.35**	**79**	P	**P**	**01 45 14.1**	**+6.0**
	comp=Z,7.0nm,0.6s,mb4.9						
KMI				pP	pP	01 45 23.0	+2.1
KMI				sP	sP	01 45 25.6	-0.4
LBTB	**Lobatse**	**60.08**	**189**	P	**P**	**01 45 16.2**	**+3.1**
	comp=Z,4.4nm,0.5s,mb4.7,baz=12,slow=7.4,SNR=8.1						
LBTB	**Lobatse**	**60.08**	**189**	*eP*	**P**	**01 45 16.2**	**+3.1**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LBTB	**Lobatse**	**60.08**	**189**	*eP*	**P**	**01 45 16.2**	**+3.1**
	comp=Z,4.4nm,0.6s,mb4.7						
GYA	**Guiyang**	**61.90**	**76**	*eP*	**P**	**01 45 27.8**	**+2.4**
GYA				AP	pP	01 45 45.1	+6.8
GYA				XP	sP	01 45 49.3	+5.9
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
GYA				AMB	AMB		
	comp=Z,100nm,6.6s						
GYA				LR	LR		
	comp=N,140nm,18.8s,MS4.3						
GYA				LR	LR		
	comp=E,140nm,18.2s,MS4.3						
GYA				LR	LR		
	comp=Z,170nm,17.6s,MS4.3						
BOSA	**Boshof**	**63.67**	**189**	P	**P**	**01 45 40.3**	**+3.1**
	comp=Z,5.6nm,0.6s,mb4.8,baz=349,slow=7.8,SNR=22						
FRB	**Frobisher Bay**	**64.48**	**331**	P	**P**	**01 45 42.5**	**-0.1**
	comp=Z,12nm,0.6s,mb5.1,baz=69,slow=9.6,SNR=5.6						
FRB	**Frobisher Bay**	**64.48**	**331**	P	**P**	**01 45 42.5**	**-0.1**
CN2	**Changchun**	**67.86**	**51**	*eP*	**P**	**01 46 08.0**	**+3.8**
CN2				*e*AP	pP	01 46 18.3	+1.1
CN2				*eS*	S	01 55 02.3	+3.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
SCHQ	**Schefferville**	**67.95**	**322**	P	**P**	**01 46 04.4**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.6,baz=63,slow=6.8,SNR=7.4						
SUR	**Sutherland**	**68.03**	**192**	P	**P**	**01 46 09.0**	**+3.7**
	comp=Z,8.7nm,0.6s,mb5.0,baz=12,slow=4.0,SNR=15						
NJ2	**Nanjing**	**68.75**	**65**	*eP*	**P**	**01 46 12.1**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**70.09**	**49**	P	**P**	**01 46 19.4**	**+1.3**
MDJ				AP	pP	01 46 28.8	-2.3
MDJ				XP	sP	01 46 32.6	-3.6
MDJ				PCP	PcP	01 46 41.4	+1.5
MDJ				PP	PP	01 48 54.0	+0.5
MDJ				S	S	01 55 28.0	+2.3
MDJ				XS	sS	01 55 44.1	-3.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,96nm,4.5s						
MDJ				LR	LR		
	comp=N,46nm,23.8s,MS3.8						
MDJ				LR	LR		
	comp=E,45nm,21.7s,MS3.8						
MDJ				LR	LR		
	comp=Z,102nm,19.2s,MS4.1						
SEY	**Seymchan**	**70.92**	**25**	⇑*eP*	**P**	**01 46 24.6**	**+1.5**
BILL	**Bilibino**	**71.39**	**17**	*eP*	**P**	**01 46 26.0**	**0.0**
BILL				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
INK	**Inuvik**	**76.70**	**355**	P	**P**	**01 46 56.8**	**-0.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=18,slow=7.1,SNR=7.5						
INK	**Inuvik**	**76.70**	**355**	*eP*	**P**	**01 46 56.8**	**-0.2**
INK				pmax	pmax		
	comp=Z,314nm,1.3s						
INK	**Inuvik**	**76.70**	**355**	*eP*	**P**	**01 46 56.8**	**-0.2**
	comp=Z,314nm,1.3s,mb6.1						
IMA2	**Indian Mountai**	**79.21**	**3**	*eP*	**P**	**01 47 11.6**	**+0.7**
YKW3	**Yellowknife Ar**	**79.66**	**346**	*eP*	**P**	**01 47 13.7**	**+0.4**
YKA	**Yellowknife Ar**	**79.72**	**346**	P	**P**	**01 47 13.8**	**+0.1**
	comp=Z,11nm,0.7s,mb4.9,baz=22,slow=5.4,SNR=31						
YKA	**Yellowknife Ar**	**79.72**	**346**	⇑*eP*	**P**	**01 47 13.6**	**-0.1**
MJAR	**Matsushiro Arr**	**79.97**	**52**	P	**P**	**01 47 16.5**	**+1.5**
	comp=Z,17nm,0.8s,mb4.0,baz=327,slow=3.3,SNR=8.1						
COLA	**College**	**80.57**	**1**	*eP*	**P**	**01 47 18.9**	**+0.7**
COLA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
COLA	**College**	**80.57**	**1**	*eP*	**P**	**01 47 18.9**	**+0.7**
	comp=Z,25nm,0.9s,mb5.1						
EGAK	**Eagle**	**80.60**	**358**	⇓*eP*	**P**	**01 47 19.4**	**+0.9**
	comp=Z,25nm,0.9s,mb5.1						
MCK	**McKinley**	**81.70**	**1**	*eP*	**P**	**01 47 24.6**	**+0.4**
MCK				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
MCK	**McKinley**	**81.70**	**1**	*eP*	**P**	**01 47 24.6**	**+0.3**
	comp=Z,16nm,1.1s,mb4.9						
PMR	**Palmer**	**83.84**	**1**	*eP*	**P**	**01 47 36.2**	**+0.8**
SVW2	**Sparrevohn**	**84.06**	**5**	*eP*	**P**	**01 47 37.4**	**+1.0**
ULM	**Lac du Bonnet**	**84.35**	**330**	P	**P**	**01 47 37.8**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.9,baz=36,slow=3.4,SNR=22						
ULM				LR	LR	02 26 59.3	
	comp=Z,58nm,19.1s,MS4.0,baz=59,slow=37						
SLKM	**Skilak Lake**	**84.90**	**2**	*eP*	**P**	**01 47 40.3**	**-0.4**
KDAK	**Kodiak Island**	**87.54**	**3**	P	**P**	**01 47 54.0**	**+0.3**
	comp=Z,36nm,0.7s,mb5.7,baz=7.4,slow=3.9,SNR=24						
EDM	**Edmonton**	**87.78**	**341**	*eP*	**P**	**01 47 55.3**	**+0.5**
TKL	**Tuckaleechee C**	**88.91**	**314**	P	**P**	**01 48 01.2**	**+1.0**
	comp=Z,2.2nm,0.5s,mb4.7,baz=93,slow=8.5,SNR=5.0						
LAO	**LASA Array**	**91.25**	**334**	*eP*	**P**	**01 48 12.7**	**+1.6**
BDFB	**Brasilia**	**92.38**	**253**	P	**P**	**01 48 20.1**	**+3.8**
	comp=Z,2.8nm,0.6s,mb4.7,baz=132,slow=4.3,SNR=5.3						
BDFB				LR	LR	02 32 56.6	
	comp=Z,134nm,18.4s,MS4.4,baz=239,slow=38						
NEW	**Newport**	**93.29**	**341**	P	**P**	**01 48 21.8**	**+1.3**
	comp=Z,5.8nm,0.9s,mb5.0,baz=358,slow=4.1,SNR=7.9						
NEW	**Newport**	**93.29**	**341**	P	**P**	**01 48 21.8**	**+1.3**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NEW	**Newport**	**93.29**	**341**	*eP*	**P**	**01 48 22.0**	**+1.5**
CHMT	**Chamberlain Mo**	**93.40**	**338**	*eP*	**P**	**01 48 21.6**	**+0.5**
MSO	**Missoula**	**93.69**	**339**	*eP*	**P**	**01 48 23.4**	**+1.0**
	comp=Z,5.5nm,1.2s,mb4.9						
GNW	**Green Mountain**	**95.33**	**344**	*eP*	**P**	**01 48 31.9**	**+2.1**
PHWY	**Pilot Hill**	**95.51**	**330**	*eP*	**P**	**01 48 31.5**	**+0.8**
PDAR	**Pinedale Array**	**95.83**	**334**	P	**P**	**01 48 32.6**	**+0.5**
	comp=Z,0.6nm,0.8s,mb4.1,baz=57,slow=5.5,SNR=4.9						
PDAR				LR	LR	02 34 20.8	
	comp=Z,72nm,18.0s,MS4.2,baz=169,slow=37						
QSPA	**South Pole Qui**	**124.72**	**180**	*eP*	PKPdf	01 54 04.3	-1.0
URZ	**Urewera**	**150.36**	**107**	PKPbc	PKPbc	01 54 56.4	-0.6
	comp=Z,22nm,0.9s,baz=39,slow=6.5,SNR=6.9						

KRSC 15 01:35:27,5053N×15937E,h5km,ML3.6,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.98**	**345**	*eP*	Pn	01 36 02.9	+1.8
RUS				*eS*	Sn	01 36 28.6	+2.3
GRL	**Gorelyy**	**2.18**	**339**	*eP*	Pn	01 36 06.1	+2.2
GRL				*eS*	Sn	01 36 33.7	+2.4
PET	**Petropavlovsk**	**2.54**	**350**	*eS*	Sn	01 36 42.6	+2.5
SPN	**Mys Shipunski**	**2.60**	**9**	*eP*	Pn	01 36 12.2	+2.5
SPN				*eS*	Sn	01 36 44.3	+2.6
NLC	**Nalytchevo**	**2.65**	**360**	*eS*	Sn	01 36 44.8	+2.0
AVH	**Avacha**	**2.77**	**352**	*eP*	Pn	01 36 14.0	+2.0
AVH				*eS*	Sn	01 36 47.4	+1.6
GNL	**Ganaly**	**3.29**	**345**	*eP*	Pn	01 36 23.0	+3.8
MKZ	**Mys Kozlova**	**4.28**	**19**	*eP*	Pn	01 36 35.5	+2.7
KMNR	**Kamenistaya**	**5.26**	**5**	*eP*	Pn	01 36 50.9	+4.6
KBTR	**Krutoberegovo**	**6.05**	**19**	*eP*	Pn	01 37 00.9	+3.8

*ISCJB **15** 01:39:52.4±0.3,43.16N±002×059W±002,h10km±2km,*
Error ellipse: s-maj=3.4km s-min=2.4km az=7.3
*MDD **15** 01:39:53.9±0.2,43.12N×062W,h5km±3km,mbLg2.1/20,*
Error ellipse: s-maj=2.7km s-min=1.3km az=12.0,PRXIMO
*NEIC **15** 01:39:53.5,43.10N×064W,h3km,MD2.5(LDG),*
ML2.4(STR),After LDG.
*STR **15** 01:39:53.5±0.1,43.09N×061W,h5km±1km,Ml2.4,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **15** 01:39:53.5±0.1,43.10N×064W,h3km,Md2.5/2,Ml2.2/4,*
Error ellipse: s-maj=1.5km s-min=1.0km az=8.0

ISC 15 01:39:53.2±0.3,4312N±002×061W±002,h10km±2km,n60,σ0:85/96,1C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**241**	Pg	**Pg**	**01 39 55.8**	**+0.3**
ATE				Sg	**Sg**	**01 39 57.7**	**+0.6**
ATE	**Arette**	**0.07**	**241**	P	**Pg**	**01 39 55.9**	**+0.4**
ATE				S	**Sg**	**01 39 57.4**	**+0.3**
REYF	**Montagne du Re**	**0.17**	**108**	Pg	**Pg**	**01 39 57.3**	**+0.4**
REYF				Sg	**Sg**	**01 40 00.1**	**+0.7**
REYF	**Montagne du Re**	**0.17**	**108**	P	**Pg**	**01 39 57.4**	**+0.5**
REYF				S	**Sg**	**01 39 60.0**	**+0.6**
ETSF	**Etsaut**	**0.23**	**170**	*e*Pg	**Pg**	**01 39 58.0**	**+0.1**
ETSF				*e*Sg	**Sg**	**01 40 00.8**	**-0.2**
	355nm,0.2s						
ETSF	**Etsaut**	**0.23**	**170**	Pg	**Pg**	**01 39 58.0**	**+0.1**
ETSF				Lg		01 40 00.8	
	177nm,0.2s						
ORDF	**Ordiarp**	**0.25**	**291**	Pg	**Pg**	**01 39 59.0**	**+0.6**
ORDF				Sg	**Sg**	**01 40 03.0**	**+1.1**
ORDF	**Ordiarp**	**0.25**	**291**	P	**Pg**	**01 39 58.9**	**+0.5**
ORDF				S	**Sg**	**01 40 02.7**	**+0.9**
LARF	**Larrau**	**0.29**	**253**	Pg	**Pg**	**01 39 59.2**	**+0.2**
LARF				Sg	**Sg**	**01 40 03.5**	**+0.6**
LARF	**Larrau**	**0.29**	**253**	P	**Pg**	**01 39 59.2**	**+0.2**
LARF				S	**Sg**	**01 40 03.6**	**+0.8**
FDAF	**Les Forges d'A**	**0.30**	**174**	P	**Pg**	**01 39 59.3**	**0.0**
FDAF				S	**Sg**	**01 40 03.2**	**-0.2**
SJPF	**Ste Jean**	**0.45**	**269**	*e*Pg	**Pg**	**01 40 01.9**	**-0.1**
SJPF				*e*Sg	**Sg**	**01 40 07.9**	**0.0**
	24nm,0.2s						
SJPF	**Ste Jean**	**0.45**	**269**	Pg	**Pg**	**01 40 01.9**	**-0.1**
SJPF				Lg		01 40 07.9	
	12nm,0.2s						
OSSF	**Osses**	**0.49**	**286**	Pg	**Pg**	**01 40 02.6**	**-0.2**
OSSF				Sg	**Sg**	**01 40 10.1**	**+0.7**
OSSF	**Osses**	**0.49**	**286**	P	**Pg**	**01 40 02.6**	**-0.2**
OSSF				S	**Sg**	**01 40 10.1**	**+0.7**
OSSF	**Osses**	**0.49**	**286**	Pg	**Pg**	**01 40 02.5**	**-0.3**
OSSF				Sg	**Sg**	**01 40 08.6**	**-0.8**
LABF	**Labassere**	**0.51**	**98**	Pg	**Pg**	**01 40 03.3**	**+0.2**
LABF				Sg	**Sg**	**01 40 10.5**	**+0.7**
LABF	**Labassere**	**0.51**	**98**	P	**Pg**	**01 40 03.2**	**+0.1**
LABF				S	**Sg**	**01 40 10.4**	**+0.6**
VIEF	**Viey**	**0.52**	**117**	Pg	**Pg**	**01 40 03.5**	**+0.1**
VIEF				Sg	**Sg**	**01 40 10.1**	**-0.2**
VIEF	**Viey**	**0.52**	**117**	P	**Pg**	**01 40 03.4**	**+0.1**
VIEF				S	**Sg**	**01 40 10.2**	**-0.1**
IPRE	**Itoiz**	**0.63**	**240**	Pg	**Pg**	**01 40 05.5**	**+0.1**
	2.6nm,0.1s,SNR=8.5						
IPRE				Lg		01 40 14.3	
	52nm,0.4s,SNR=17						
EALK	**Alkurruntz**	**0.66**	**279**	Pg	**Pg**	**01 40 06.5**	**+0.5**
	5.3nm,0.1s,SNR=4.0						
EALK				Lg		01 40 14.5	
	31nm,0.2s,SNR=15						
ELIZ	**Elizondo**	**0.67**	**274**	Pg	**Pg**	**01 40 04.9**	**-1.3**
	3.6nm,0.1s,SNR=21						
ELIZ				Lg		01 40 14.1	
	22nm,0.2s,SNR=14						
EPF	**Esparros**	**0.70**	**97**	*e*Pg	**Pg**	**01 40 07.0**	**+0.2**
EPF				*e*Sg	**Sg**	**01 40 16.6**	**+0.6**
	30nm,0.2s						
EPF	**Esparros**	**0.70**	**97**	Pg	**Pg**	**01 40 07.0**	**+0.2**
EPF				Lg		01 40 16.6	

CAF	**Calviac**	**2.64**	**46**	*e*Sn	**Sn**	**01 41 06.6**	**-1.3**
CAF				*e*Sg	**Sg**	**01 41 17.5**	**-0.6**
EJON	**La Jonquera**	**2.66**	**103**	Lg		01 41 18.1	
	3.3nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.67**	**34**	*e*Sg	**Sg**	**01 41 18.2**	**-0.6**
	2.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.67**	**34**	Lg		01 41 18.2	
	1.3nm,0.2s						
EMOS	**Mosqueruela**	**2.76**	**178**	Pn	**Pn**	**01 40 38.7**	**+1.3**
	SNR=7.9						
EMOS				Pg	**Pg**	**01 40 45.0**	**-1.0**
	0.6nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**01 41 09.8**	**-0.9**
	0.9nm,0.2s,SNR=7.9						
EMOS				Lg		01 41 19.3	
	2.4nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**3.37**	**275**	Pn	**Pn**	**01 40 45.5**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.19**	**64**	*e*Pg	**Pg**	**01 41 12.0**	**-1.4**
ECAL	**Calabor**	**4.68**	**257**	Pn	**Pn**	**01 41 04.6**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**01 41 56.1**	**-2.0**
	0.7nm,0.2s,SNR=7.9						
ECAL				Lg		01 42 20.4	
	2.0nm,0.3s,SNR=7.9						
SGMF	**Saint Gilles**	**5.31**	**346**	*e*P	**Pn**	**01 41 12.4**	**-0.1**
	25nm,0.9s						
SGMF	**Saint Gilles**	**5.31**	**346**	*e*P	**Pn**	**01 41 12.4**	**-0.1**
	13nm,0.9s						
ROSF	**Rostrenen**	**5.54**	**341**	*e*P	**Pn**	**01 41 18.0**	**+2.4**
	27nm,0.7s						
ROSF	**Rostrenen**	**5.54**	**341**	*e*P	**Pn**	**01 41 18.0**	**+2.4**
	14nm,0.6s						

*IDC **15** 01:39:54.4±1.0, 985S×15958E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/13, mbtmp4.1/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=36.3km s-min=8.1km az=133.0*
*ISCJB **15** 01:39:55.3±2.6, 99S±02×1598E±03, h22km±22km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=45.6km s-min=23.8km az=49.8*
*NEIC **15** 01:39:58.3±1.6, 968S×16001E, h35km, mb3.9/2, Error ellipse: s-maj=40.5km s-min=16.3km az=110.0*

ISC 15 01:39:56.2±2.7, 99S±02×1598E±03, h16km±19km, n14, σ0°65/13, mb3.9/5, MS3.2/1, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.48**	**13**	Pg	**Pg**	**01 40 05.3**	**-0.4**
	3μm,0.3s,baz=245,slow=1.7,SNR=654						
HNR				Lg		01 40 12.5	
	8μm,0.3s,baz=109,slow=20,SNR=115						
HNR	**Honiara**	**0.48**	**13**	⇓*i*P	**Pg**	**01 40 05.5**	**-0.3**
HNR				*e*S	**Sg**	**01 40 12.5**	**+0.3**
PMG	**Port Moresby**	**12.51**	**271**	LR	LR	01 45 56.7	
	comp=Z,60nm,20.0s,baz=342,slow=30						
CTA	**Charters Tower**	**16.56**	**231**	Pn	**Pn**	**01 43 52.6**	**+4.9**
	0.4nm,0.3s,baz=62,slow=17,SNR=3.6						
CTAO	**Charters Tower**	**16.56**	**231**	*e*P	**Pn**	**01 43 52.5**	**+4.8**
	4.9nm,0.7s						
WB2	**Warramunga Arr**	**26.54**	**245**	*e*P	**P**	**01 45 34.3**	**+1.2**
WRA	**Warramunga Arr**	**26.55**	**245**	P	**P**	**01 45 33.0**	**-0.2**
	4.7nm,1.1s,mb3.9,baz=71,slow=9.1,SNR=5.8						
ASAR	**Alice Springs**	**28.29**	**238**	P	**P**	**01 45 47.9**	**-0.9**
	1.4nm,0.7s,mb3.7,baz=60,slow=10,SNR=6.3						
FITZ	**Fitzroy Crossi**	**34.12**	**252**	LR	LR	02 00 15.3	
	comp=Z,50nm,21.9s,MS3.2,baz=242,slow=36						
VNDA	**Vanda**	**67.61**	**180**	P	**P**	**01 50 52.5**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=344,slow=7.5,SNR=10						
VNDA	**Vanda**	**67.61**	**180**	*e*P	**P**	**01 50 52.2**	**+0.1**
	1.1nm,0.7s,mb4.0						
SONM	**Songino Array**	**74.38**	**326**	P	**P**	**01 51 33.6**	**+0.4**
	1.7nm,1.0s,mb3.9,baz=144,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**88.75**	**318**	P	**P**	**01 52 48.2**	**-0.8**
	0.7nm,0.7s,mb4.1,baz=101,slow=5.6,SNR=6.3						
MKAR	**Makanchi Array**	**88.75**	**318**	P	**P**	**01 52 48.2**	**-0.8**

*NEIC **15** 01:44:57.0, 3145S×7170W, h10km, ML3.4(GUC), After GUC.*

GUC 15 01:44:57.0±0.7, 3145S×7170W, h10km±2km, MD3.9, ML3.4, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**159**	⇓*i*P	Pg	01 45 06.7	+0.6
CHNG				*i* S	Sg	01 45 13.9	+1.7
CHNG				AML	AML	01 45 14.4	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**0.66**	**65**	⇑*i*P	Pg	01 45 09.9	+0.2
CMCH				*i* S	Sg	01 45 19.4	+1.1
CMCH				AML	AML	01 45 26.1	
	comp=E,4μm,0.8s						
CMCH	**Combarbala**	**0.66**	**65**	⇑*i*P	Pg	01 45 09.9	+0.2
CMCH				*i* S	Sg	01 45 19.4	+1.1
OVCH	**Ovalle**	**0.94**	**27**	⇑*i*P	Pg	01 45 14.2	-0.9
OVCH				*i* S	Sg	01 45 27.5	+0.1
OVCH				AML	AML	01 45 29.7	
	comp=E,1μm,0.5s						
OVCH	**Ovalle**	**0.94**	**27**	⇑*i*P	Pg	01 45 14.2	-0.9
OVCH				*i* S	Sg	01 45 27.5	+0.1
PTCH	**Petorca**	**1.04**	**141**	⇓*i*P	Pg	01 45 15.8	-1.2
PTCH				*i* S	Sg	01 45 30.1	-0.5
PTCH				AML	AML	01 45 33.0	
	comp=E,5μm,0.2s						
PTCH	**Petorca**	**1.04**	**141**	⇓*i*P	Pg	01 45 15.8	-1.2
PTCH				*i* S	Sg	01 45 30.1	-0.5
PACH	**Papudo**	**1.11**	**169**	⇓*i*P	Pb	01 45 16.7	-1.5
PACH				*i* S	Sb	01 45 31.8	-0.8
JACH	**Jahuel**	**1.55**	**143**	*e*P	Pn	01 45 24.5	0.0
JACH				*i* S	Sn	01 45 45.0	+0.4
LSCH	**La Serena**	**1.58**	**14**	⇓*i*P	Pn	01 45 24.6	-0.5
LSCH				*i* S	Sn	01 45 45.3	-0.2
ROCH	**El Roble**	**1.63**	**159**	⇑*i*P	Pn	01 45 25.0	-0.6
RCDM	**Rinconada Maip**	**2.17**	**160**	*i* S	Sn	01 46 01.9	+1.9
RCDM				AML	AML	01 46 07.0	
	comp=E,377nm,0.2s						
CLCH	**Cerro Calan**	**2.17**	**153**	AML	AML	01 46 10.8	
	comp=N,720nm,0.3s						
FCH	**Farellones**	**2.22**	**148**	*e*S	Sn	01 46 04.0	+2.8
PCH	**Pirque**	**2.38**	**156**	⇓*i*P	Pn	01 45 36.0	0.0
CACH	**El Canelo**	**2.82**	**161**	*e*S	Sn	01 46 20.1	+4.1

*IDC **15** 01:45:04.6±1.0, 183N×9754E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/22, mbtmp4.2/10, Error ellipse: s-maj=35.8km s-min=14.8km az=54.0*
*NEIC **15** 01:45:09.8±0.5, 188N×9765E, h35km, mb4.5/2, Error ellipse: s-maj=12.4km s-min=8.5km az=51.0*
*ISCJB **15** 01:45:12.8±2.7, 21.1N±01.1×979E±02, h74km±21km, mb4.2/12, Error ellipse: s-maj=27.5km s-min=14.0km az=128.5*

ISC 15 01:45:13.0±3.0, 20N±01×978E±02, h58km±24km, n16, σ0°44/17, mb4.3/12, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.33**	**55**	Pn	**Pn**	**01 45 35.0**	**-0.3**
	22nm,0.3s,baz=266,slow=5.8,SNR=148						
KULM	**Kulim**	**4.29**	**41**	⇓*i*Pn	**Pn**	**01 46 16.1**	**+0.5**
KULM				*e*Sn	**Sn**	**01 47 04.1**	**-0.3**
NACB	**Ninganchiao**	**31.82**	**44**	*e*P	**P**	**01 51 31.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.91**	**127**	P	**P**	**01 51 50.0**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=315,slow=7.1,SNR=5.8						
WRA	**Warramunga Arr**	**41.95**	**123**	P	**P**	**01 52 58.6**	**+0.7**
	2.3nm,0.4s,mb4.2,baz=306,slow=9.1,SNR=50						
WRA				PcP	PcP	01 54 54.4	+2.0
	0.2nm,0.3s,baz=310,slow=2.7,SNR=4.5						
ASAR	**Alice Springs**	**43.40**	**128**	P	**P**	**01 53 10.3**	**+0.6**
	0.7nm,0.4s,mb3.8,baz=300,slow=7.7,SNR=27						
SONM	**Songino Array**	**46.22**	**8**	P	**P**	**01 53 32.5**	**+0.3**
	1.8nm,0.5s,mb4.3,baz=191,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**46.59**	**345**	P	**P**	**01 53 35.6**	**+0.5**
	1.7nm,0.4s,mb4.3,baz=156,slow=9.1,SNR=34						
ZAL	**Zalesovo**	**52.84**	**350**	P	**P**	**01 54 22.9**	**+0.3**
	3.8nm,0.4s,mb4.7,baz=302,slow=3.8,SNR=9.9						
STKA	**Stephens Creek**	**53.45**	**133**	P	**P**	**01 54 26.2**	**-0.8**
	0.8nm,0.3s,mb4.1,baz=311,slow=9.3,SNR=3.0						
BVAR	**Borovoye Array**	**55.68**	**340**	P	**P**	**01 54 43.2**	**0.0**
	2.9nm,0.5s,mb4.6,baz=140,slow=9.0,SNR=15						
ZRNK	**Zerenda**	**56.09**	**339**	*e*P	**P**	**01 54 45.5**	**-0.6**
	2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**56.15**	**341**	*e*P	**P**	**01 54 46.5**	**-0.1**
	4.8nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**79.56**	**332**	P	**P**	**01 57 13.2**	**-0.4**
	2.8nm,1.0s,mb4.1,baz=101,slow=5.9,SNR=17						
KAF	**Kangasniemi**	**79.63**	**333**	*e*p	**P**	**01 57 13.6**	**-0.4**
ARCES	**ARCESS Array B**	**81.97**	**340**	P	**P**	**01 57 27.0**	**+0.5**
	2.0nm,0.8s,mb4.1,baz=96,slow=4.9,SNR=10						

*BJI **15** 02:20:12.0, 54.10N×16430W, h6km, mB4.6, mb4.5, Ms4.6, Msz4.4*

NEIC 15 02:20:18.0, 5410N×16427W, h7km, mb3.8/1, ML3.9(AEIC), ML4.3(PMR), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.88**	**273**	P	Pg	02 20 34.1	-0.9
AKUT				S	Sg	02 20 47.1	+0.6
AKLV	**Akutan Long Va**	**0.99**	**274**	P	Pg	02 20 35.7	-1.4
AKLV				S	Sg	02 20 50.0	0.0
SDPT	**Sand Point**	**2.53**	**59**	*e*Pn	Pn	02 20 57.1	-2.5
SDPT				*e*Pb	Pb	02 21 01.6	-2.2
SDPT				*e*Sg	Sg	02 21 36.6	-2.7
CHGN	**Chignik**	**4.02**	**54**	P	Pn	02 21 18.9	-1.1
SVW2	**Sparrevohn**	**8.42**	**30**	*e*Pn	Pn	02 22 18.6	-1.8
EGAK	**Eagle**	**15.78**	**38**	*e*Pn	Pn	02 24 00.5	-0.2
DAWY	**Dawson**	**16.10**	**42**	*e*P	Pn	02 24 05.8	+1.0
INK	**Inuvik**	**20.21**	**33**	*e*P	P	02 24 48.8	-4.7
	138nm,0.9s						
MDJ	**Mudanjiang**	**42.62**	**285**	P	P	02 28 11.9	-3.0
MDJ				AP	pP	02 28 14.5	-2.6
MDJ				PP	PP	02 29 50.1	-3.6
MDJ				PCP	PcP	02 30 04.0	-3.0
MDJ				SCP	ScP	02 33 56.1	-2.2
MDJ				S	S	02 34 37.6	-0.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.3s						
MDJ				AMB	AMB		
	comp=Z,81nm,3.3s						
CN2	**Changchun**	**45.47**	**287**	*e*P	P	02 28 37.6	-0.2
LZH	**Lanzhou**	**62.73**	**294**	*e*P	P	02 30 42.5	-1.2
LZH				AP	pP	02 30 43.8	-2.1
LZH				XP	sP	02 30 44.9	-1.8
LZH				PP	PP	02 33 02.8	+1.2
LZH				AMB	AMB		
	comp=Z,17nm,1.3s						
LZH				AMB	AMB		
	comp=Z,45nm,7.8s						
LZH				LR	LR		
	comp=N,263nm,15.2s						
LZH				LR	LR		
	comp=Z,359nm,18.3s						

*TRN **15** 02:48:25.7, 1769N×6062W, h10km, MD4.0, Md4.7(FDF)*
*ISCJB **15** 02:48:30.4±0.8, 1758N±006×6083W±006, h10km, mb3.9/6, MS3.4/2, Error ellipse: s-maj=10.1km s-min=6.5km az=92.2*
*IDC **15** 02:48:30.8±1.1, 1757N×6082W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.7/23, mbtmp4.0/6, ML2.7/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=24.5km s-min=16.2km az=85.0*
*NEIC **15** 02:48:31.3±3.1, 1771N×6089W, h5km±17km, mb3.7/2, Error ellipse: s-maj=21.6km s-min=17.7km az=221.0*

ISC 15 02:48:32.4±0.8, 1746N±006×6088W±006, h10km, n26, σ1°19/27, mb3.9/6, MS3.4/2, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.93**	**282**	*e*P	**Pg**	**02 48 50.0**	**-0.3**
BPA	**Boggy Peak**	**1.02**	**247**	*e*P	**Pg**	**02 48 52.0**	**-0.1**
BPA				*e*S	**Sg**	**02 49 12.1**	**+6.6**
DEG	**La Desirade**	**1.15**	**189**	*e*P	**Pb**	**02 48 53.4**	**-1.0**
BCG	**Bois Riant Cap**	**1.54**	**208**	*e*P	**Pn**	**02 48 59.8**	**-0.1**
LZG	**Guadaloupe-1**	**1.57**	**214**	*e*P	**Pn**	**02 49 00.0**	**-0.3**
MGG	**Marie-Galante**	**1.59**	**196**	*e*P	**Pn**	**02 49 00.6**	**0.0**
SCG	**Saint Claude**	**1.62**	**209**	*e*P	**Pn**	**02 49 01.0**	**0.0**
TBG	**Guadaloupe-3**	**1.76**	**205**	*e*P	**Pn**	**02 49 02.9**	**0.0**
FDF	**Fort de France**	**2.72**	**186**	*e*P	**Pn**	**02 49 15.0**	**-1.2**
FDF				*e*S	**Sn**	**02 49 55.7**	**+6.6**
MVM	**Montagne Vaucl**	**2.89**	**180**	*e*P	**Pn**	**02 49 17.1**	**-1.4**
MVM				*e*S	**Sn**	**02 50 01.1**	**+7.9**
BIM	**Bigot**	**2.93**	**184**	*e*P	**Pn**	**02 49 20.4**	**+1.4**
MTP	**Monte Pirata**	**4.50**	**279**	*e*Pn	**Pn**	**02 49 37.6**	**-3.1**
MTP				*e*Sn	**Sn**	**02 50 32.7**	**-0.4**
CPD	**Cerro la Pandu**	**4.84**	**278**	*e*Pn	**Pn**	**02 49 44.2**	**-1.0**
SJG	**San Juan**	**5.07**	**278**	Pn	**Pn**	**02 49 47.0**	**-1.5**
	4.8nm,0.3s,baz=100,slow=13,SNR=16						
SJG				Sn	**Sn**	**02 50 48.2**	**+1.2**
	2.4nm,0.3s,baz=285,slow=20,SNR=3.8						
PCRV	**Puerto La Cruz**	**8.11**	**207**	LR	LR	02 54 00.9	
	comp=Z,111nm,19.3s,baz=348,slow=40						
SDV	**Santo Domingo**	**12.76**	**229**	Pn	**Pn**	**02 51 38.0**	**+4.2**
	0.2nm,0.3s,baz=51,slow=16,SNR=2.6						
SDV				LR	LR	02 56 60.0	
	comp=Z,21nm,18.5s,baz=350,slow=40						
SDV	**Santo Domingo**	**12.76**	**229**	*e*Pn		02 51 40.2	
	5.3nm,0.6s						
ROSC	**El Rosal**	**18.18**	**228**	P	**Pn**	**02 52 47.8**	**+3.0**
	0.5nm,0.3s,baz=82,slow=18,SNR=3.9						
OTAV	**Otavalo**	**24.33**	**227**	*e*P	**P**	**02 53 52.8**	**+2.5**
	1.4nm,0.6s,mb3.6						
TKL	**Tuckaleechee C**	**27.24**	**316**	LR	LR	03 03 50.9	
	comp=Z,61nm,18.1s,MS3.2,baz=285,slow=34						
MNTX	**Cornudas Mount**	**42.59**	**298**	*e*P	**P**	**02 56 30.1**	**+1.4**
	1.2nm,0.7s,mb3.7						
PDAR	**Pinedale Array**	**48.26**	**312**	P	**P**	**02 57 14.2**	**+0.7**
	0.7nm,0.6s,mb3.9,baz=113,slow=7.9,SNR=7.7						
YKA	**Yellowknife Ar**	**58.25**	**334**	P	**P**	**02 58 26.0**	**-1.0**
	1.0nm,0.6s,mb4.0,baz=106,slow=7.0,SNR=4.2						
PLCA	**Paso Flores**	**58.58**	**189**	P	**P**	**02 58 31.2**	**+1.9**
	3.2nm,0.7s,mb4.4,baz=2.4,slow=9.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**60.28**	**85**	P	**P**	**02 58 40.7**	**-0.4**
	0.7nm,0.9s,mb3.7,baz=283,slow=6.0,SNR=5.6						
GERES	**GERESS Array B**	**66.95**	**44**	LR	LR	03 23 01.2	
	comp=Z,30nm,21.0s,MS3.5,baz=338,slow=31						

*IDC **15** 03:09:49.8±2.5, 3669N×6848E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.5/23, mbtmp3.8/7, ML3.1/3, Error ellipse: s-maj=47.6km s-min=24.2km az=145.0*
*ISCJB **15** 03:09:52.6±2.0, 3693N±007×683E±0.1, h34km±23km, mb3.6/3, Error ellipse: s-maj=16.8km s-min=7.7km az=113.9*
*NNC **15** 03:09:54.9±7.0, 3740N×6813E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=68.4km s-min=28.2km az=5.0*
*MOS **15** 03:09:55.0±1.3, 37.11N×6836E, h36km, mb3.6/1, Error ellipse: s-maj=31.2km s-min=10.8km az=83.7*
*NEIC **15** 03:09:56.3±1.6, 3707N×6839E, h35km, mb3.4/2, Error ellipse: s-maj=25.5km s-min=14.2km az=152.0*

ISC 15 03:09:53.0±3.1, 3685N±006×6819E±009, h29km±27km, n32, σ1°23/35, mb3.7/3, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.78**	**37**	P	**Pn**	**03 11 31.4**	**+0.9**
	SNR=8.1						
EKS2	**Erkin-Say**	**7.22**	**35**	P	**Pn**	**03 11 37.9**	**+1.3**
	SNR=7.4						
UCH	**Uchtor**	**7.26**	**40**	P	**Pn**	**03 11 38.7**	**+1.6**
	SNR=26						
AAK	**Ala-Archa**	**7.54**	**38**	P	**Pn**	**03 11 42.1**	**+1.0**
	SNR=13						
AAK	**Ala-Archa**	**7.54**	**38**	*e*P	**Pn**	**03 11 40.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AAK	**Ala-Archa**	**7.54**	**38**	*e*Pn	**Pn**	**03 11 40.5**	**-0.5**
	comp=Z,6.4nm,0.4s						
KBK	**Karagaybulak**	**7.79**	**40**	P	**Pn**	**03 11 46.0**	**+1.6**
	SNR=20						
USP	**Ospenovka**	**8.03**	**35**	P	**Pn**	**03 11 47.9**	**+0.3**
	SNR=8						
TKM2	**Tokmak 2**	**8.31**	**41**	P	**Pn**	**03 11 52.6**	**+1.1**
	SNR=13						
TKM2	**Tokmak 2**	**8.31**	**41**	⇑P	**Pn**	**03 11 51.8**	**+0.3**
	comp=Z,0.7nm,0.6s						
TKM2				⇓S	**Sn**	**03 13 23.6**	**-0.9**
	comp=Z,0.4nm,0.7s						
AB31	**Akbulak array**	**13.77**	**337**	⇑P	**Pn**	**03 13 04.8**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=149,slow=12,SNR=21						
AB31				⇑S	**Sn**	**03 15 31.6**	**-6.6**
	comp=Z,2.0nm,0.8s,baz=155,slow=22,SNR=2.5						
MKAR	**Makanchi Array**	**14.44**	**42**	Pn	**Pn**	**03 13 14.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=227,slow=14,SNR=11						
MKAR	**Makanchi Array**	**14.44**	**42**	Pn	**Pn**	**03 13 14.1**	**-1.3**
AKTK	**Aktyubinsk**	**15.42**	**335**	Pn	**Pn**	**03 13 28.5**	**0.0**
AKTO	**Aktyubinsk**	**15.42**	**335**	⇑P	**Pn**	**03 13 25.7**	**-2.8**
	comp=Z,0.1nm,0.9s						
AKTO				⇓S	**Sn**	**03 16 16.6**	**-1.8**
	comp=Z,0.1nm,1.1s						
AKTO	**Aktyubinsk**	**15.42**	**335**	Pn	**Pn**	**03 13 28.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=7.5						
KOLN	**Koldanda**	**15.85**	**120**	*e*P	**Pn**	**03 13 33.0**	**-1.0**
ZRNK	**Zerenda**	**16.11**	**2**	*e*P	**Pn**	**03 13 38.0**	**+0.7**
BVAR	**Borovoye Array**	**16.25**	**5**	Pn	**Pn**	**03 13 37.9**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=176,slow=12,SNR=3.0						
BRVK	**Borovoye**	**16.27**	**5**	*e*P	**Pn**	**03 13 40.6**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**16.27**	**5**	*e*Pn	**Pn**	**03 13 40.6**	**+1.2**
	comp=Z,6.4nm,1.0s						
GKN	**Gorkha**	**16.43**	**118**	*e*P	**Pn**	**03 13 41.2**	**-0.3**
	comp=Z,14nm,0.5s						
CHKZ	**Chkalovo**	**16.91**	**5**	*e*P	**Pn**	**03 13 45.7**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CHKZ	**Chkalovo**	**16.91**	**5**	*e*P	**Pn**	**03 13 45.7**	**-1.7**
	comp=Z,3.1nm,1.0s						
KKN	**Kakani**	**17.02**	**117**	*e*P	**Pn**	**03 13 47.8**	**-1.0**
PKI	**Pulchoki**	**17.24**	**118**	*e*P	**Pn**	**03 13 50.8**	**-0.8**
GUN	**Gumba**	**17.38**	**116**	*e*P	**Pn**	**03 13 53.6**	**+0.3**
	comp=Z,9.8nm,0.4s						
ZAL	**Zalesovo**	**20.60**	**29**	P	**P**	**03 14 29.3**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=244,slow=9.4,SNR=13						
ARCES	**ARCESS Array B**	**39.97**	**338**	P	**P**	**03 17 26.8**	**+1.9**
	comp=Z,3.6nm,1.0s,mb4.0,baz=111,slow=6.6,SNR=4.0						
ARCES	**ARCESS Array B**	**39.97**	**338**	P	**P**	**03 17 26.8**	**+1.9**
NOA	**NORSAR Array B**	**42.74**	**323**	P	**P**	**03 17 50.0**	**+2.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=99,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**63.47**	**267**	P	**P**	**03 20 23.9**	**+3.6**
	comp=Z,0.2nm,0.7s,mb3.4,baz=55,slow=6.3,SNR=4.6						

*MDD **15** 03:19:23.6±0.8, 3952N×788W, h9km±6km, mbLg1.7/7, Error ellipse: s-maj=9.5km s-min=4.0km az=103.0, PRXIMO*

INMG 15 03:19:23.8±1.7, 3951N×786W, h11km±5km, ML1.6, Error ellipse: s-maj=4.1km s-min=2.9km az=101.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCBR	**Castelo Branco**	**0.44**	**41**	*e*Pg	Pg	03 19 32.2	-0.3
PCBR				*e*Sg	Sg	03 19 38.1	-0.3
PCBR							
	25nm,0.2s						
PESTR	**Estremoz**	**0.67**	**162**	*e*P	Pg	03 19 36.3	-0.6
PESTR				*e*S	Sg	03 19 45.4	-0.3
PESTR							
	9.6nm,0.1s						
MTE	**Manteigas**	**0.92**	**15**	*e*P	Pg	03 19 40.4	-1.2
MTE				*e*S	Sg	03 19 52.4	-1.2
MTE							
	14nm,0.4s						
MOE	**Montemor**	**1.06**	**201**	*e*P	Pb	03 19 42.5	-1.6
MOE				*e*S	Sb	03 19 56.2	-1.7
PVIS	**Viseu**	**1.21**	**359**	*e*P	Pn	03 19 45.1	-1.4
PVIS				*e*S	Sb	03 20 00.9	-1.3
PVIS							
	11nm,0.1s						
PMAFR	**Mafra**	**1.24**	**244**	*e*P	Pn	03 19 46.1	-0.9
PMAFR				*e*S	Sb	03 20 01.4	-1.7
PBEJ	**Beja**	**1.48**	**180**	*e*P	Pn	03 19 49.7	-0.6
PBEJ				*e*S	Sn	03 20 08.1	-1.5
PBEJ							
	3.6nm,0.2s						
PVRL	**Vila Real**	**1.77**	**3**	*e*Sn	Sn	03 20 15.3	-1.4
PVRL							
	4.7nm,0.1s						
PVRL	**Vila Real**	**1.77**	**3**	Sn	Sn	03 20 15.3	-1.4
	2.3nm,0.1s						
EMIN	**Mina Concepcio**	**1.97**	**152**	Pn	Pn	03 19 59.1	+2.1
	0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	03 20 22.4	+0.6
	0.8nm,0.1s,SNR=7.9						
EMIN				Lg		03 20 25.9	
	1.1nm,0.1s,SNR=5.5						
EGRO	**El Granado**	**1.99**	**171**	Pn	Pn	03 19 59.2	+1.8
	0.3nm,0.1s,SNR=4.0						
EGRO				Sn	Sn	03 20 26.4	+4.1
	1.3nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.08**	**199**	*e*Sg	Sg	03 20 27.7	-2.8
ECAL	**Calabor**	**2.58**	**19**	Sn	Sn	03 20 34.0	-2.7
	0.2nm,0.2s,SNR=7.9						
ECAL				Lg		03 20 43.5	
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.89**	**117**	Pn	Pn	03 20 08.8	-0.9
	0.1nm,0.1s,SNR=4.0						
EADA				Sn	Sn	03 20 41.5	-3.0
	0.2nm,0.1s,SNR=4.0						
EADA				Lg		03 20 52.0	
	1.3nm,0.2s,SNR=5.9						
EQES	**Quesada**	**4.12**	**113**	Pn	Pn	03 20 26.2	-0.4
	0.0nm,0.1s,SNR=7.9						
EQES				Lg		03 21 33.5

7.1nm,0.6s,mb4.1
VNDA Vanda 58.15 185 P **P 03 30 47.5 +1.1**
1.0nm,0.6s,mb3.2,baz=346,slow=6.5,SNR=9.2
VNDA Vanda 58.15 185 *eP* **P 03 30 47.0 +0.7**
1.0nm,0.6s,mb3.2
KLBR Kellerberrin 58.22 245 *eP* **P 03 30 46.3 -0.5**
15nm,1.2s,mb4.1
CASY Casey 64.21 205 *eP* **P 03 31 25.6 -0.5**
QSPA South Pole Qui 69.80 180 *eP* **P 03 32 01.1 +0.5**
4.6nm,0.7s,mb4.1
MJAR Matsushiro Arr 70.07 324 P **P 03 32 01.5 -0.7**
6.6nm,0.5s,mb4.4,baz=156,slow=5.8,SNR=38
MAJO Matsushiro 70.07 324 *eP* **P 03 32 01.3 -0.8**
10nm,0.6s,mb4.5
MAT Matsushiro 70.07 324 P **P 03 32 01.6 -0.6**
KSM Kuching 73.45 278 *eP* **P 03 32 22.0 +0.1**
YBH Yreka Blue Hor 80.06 39 P **P 03 32 58.6 +0.5**
0.8nm,0.6s,mb3.2,baz=252,slow=9.6,SNR=3.8
NVAR Mina Array Bea 80.80 43 P **P 03 33 02.0 +0.1**
0.1nm,0.3s,mb2.7,baz=222,slow=8.0,SNR=3.1
KULM Kulim 83.81 278 *eP* **P 03 33 17.8 +0.6**
XAN Xi'an 88.05 307 P **P 03 33 37.8 +0.3**
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
PDAR Pinedale Array 88.74 43 P **P 03 33 40.5 -0.1**
comp=Z,0.5nm,0.6s,mb3.5,baz=202,slow=2.2,SNR=4.9
KMI Kunming 89.31 297 P **P 03 33 43.0 -0.3**
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
CHTO Chiang Mai 90.23 290 *eP* **P 03 33 48.5 +0.9**
comp=Z,3.0nm,0.8s,mb4.2
ZAL Zalesovo 110.37 321 PKiKP PKiKP 03 39 12.7 -2.9
comp=Z,0.8nm,0.2s,baz=352,slow=6.7,SNR=3.4
MKAR Makanchi Array 111.09 313 PKiKP PKiKP 03 39 14.7 -2.2
comp=Z,0.6nm,0.5s,baz=155,slow=0.6,SNR=8.3
CHKZ Chkalovo 118.76 321 *e*PKPdf PKPdf 03 39 28.9 -2.7
BVAR Borovoye Array 118.95 320 PKP PKPdf 03 39 30.0 -2.0
comp=Z,1.7nm,0.4s,baz=93,slow=1.2,SNR=10
BRVK Borovoye 119.01 320 *e*PKPdf PKPdf 03 39 30.9 -1.3
ZRNK Zerenda 119.79 320 *e*PKPdf PKPdf 03 39 31.2 -2.4
ARU Arti 125.05 326 *e*PKPdf PKPdf 03 39 42.1 -1.6
ARCES ARCESS Array B 128.71 350 PKP PKPdf 03 39 48.6 -2.1
comp=Z,1.0nm,0.5s,baz=346,slow=2.5,SNR=9.2
MATP Matopo 132.00 214 SKPbc SKPbc 03 42 33.6 -1.2
baz=96,slow=2.7
JOF Joensuu 132.93 342 *e*pkp PKPdf 03 39 54.6 -4.1
FINES FINESS Array B 135.57 344 PKP PKPdf 03 39 60.0 -3.6
comp=Z,0.6nm,0.5s,baz=97,slow=6.4,SNR=7.5
FINES FINESS Array B 135.57 344 PKP PKPdf 03 39 60.0 -3.7
NOA NORSAR Array B 138.76 353 PKhKP 03 39 59.4
comp=Z,0.8nm,0.8s,baz=12,slow=2.4,SNR=3.7
AKASG Malin Array Be 142.85 331 PKhKP 03 40 12.1
comp=Z,4.2nm,0.5s,baz=42,slow=4.3,SNR=40
BSEG Bad Segeberg 145.80 351 *e*PKPbc PKPbc 03 40 22.5 -1.1
ASF Jabal al Asfar 146.73 298 PKPbc PKPbc 03 40 26.0 -0.1
comp=Z,1.1nm,0.3s,baz=305,slow=3.3,SNR=4.4
BR131 Keskin Array S 146.74 313 *e*PKPbc PKPbc 03 40 24.5 -1.6
BRTR Keskin Array B 146.74 313 PKPbc PKPbc 03 40 25.1 -1.0
comp=Z,3.0nm,0.7s,baz=134,slow=3.5,SNR=11
KOLS Kolonicke sedl 147.13 335 *e*PKP PKPdf 03 40 25.9 +1.8
STHS Stebnicka Huta 147.13 337 *e*PKP PKPdf 03 40 26.3 +2.2
NRDL Niedersach Rie 147.23 351 *e*PKPbc PKPbc 03 40 26.3 -1.2
CLZ Clausthal 147.83 350 *e*PKPbc PKPbc 03 40 27.9 -1.1
CLL Collm 147.85 347 *e*PKPbc PKPbc 03 40 27.5 -1.6
CLL *e*PKPab PKPab 03 40 32.5 -0.9
CLL Collm 147.85 347 *e*P PKPdf 03 40 28.0 +2.7
CLL Collm 147.85 347 ⇓*i*PKPbc PKPbc 03 40 27.9 -1.2
comp=Z,14nm,0.8s
CLL *e*PKPab PKPab 03 40 32.0 -1.4
comp=Z,7.0nm,1.0s
UPC Upice 147.87 343 *e*PKPbc PKPbc 03 40 28.0 -1.1
DPC Dobruska-Polom 147.93 343 *e*PKPbc PKPbc 03 40 28.4 -0.9
BRG Berggiesshubel 148.05 346 *e*PKPbc PKPbc 03 40 28.6 -1.0
BRG Berggiesshubel 148.05 346 *i*PKP PKPdf 03 40 28.4 +2.7
BRG e 03 40 33.1
MORC Moravsky Berou 148.08 341 *e*PKPbc PKPbc 03 40 28.4 -1.2
KECS Kecovo 148.19 337 *e*PKP PKPdf 03 40 28.4 +2.5
PVCC Panska Ves 148.22 345 *e*PKPbc PKPbc 03 40 29.2 -0.8
BUG Bochum--Univer 148.62 354 *e*PKPbc PKPbc 03 40 29.6 -1.4
PRU Pruhonice 148.73 344 *e*PKPbc PKPbc 03 40 30.1 -1.2
MOX Moxa 148.76 348 *e*PKPbc PKPbc 03 40 30.4 -0.9
VYHS Vyhne 148.77 338 *e*PKP PKPdf 03 40 30.3 +3.5
TANN Tannenbergstha 148.81 347 *e*PKPbc PKPbc 03 40 30.3 -1.2
TANN *e*PKPab PKPab 03 40 36.2 -1.2
EIL Elat 148.85 294 *e*PKPbc PKPbc 03 40 30.4 -1.1
UBBA Unterbreizbach 148.88 350 *e*PKPbc PKPbc 03 40 30.1 -1.5
TREC Trest 149.11 343 *e*PKPbc PKPbc 03 40 29.1 -3.1
ROTZ Rotzenmuhle 149.48 347 *e*PKPbc PKPbc 03 40 32.4 -0.7
MEM Membach 149.56 355 PKPbc PKPbc 03 40 32.2 -1.1
TNS Taunus Mts 149.68 352 *e*PKPbc PKPbc 03 40 32.6 -1.0
TNS *e*PKPab PKPab 03 40 39.9 -1.1
GRA1 Grafenberg Arr 149.75 348 *e*PKPbc PKPbc 03 40 32.8 -0.9
GRF Grafenberg Arr 149.75 348 *e*PKPbc PKPbc 03 40 32.8 -0.9
KHC Kasperske Hory 149.76 345 *e*PKPbc PKPbc 03 40 32.7 -1.0
KHC *e*PKPab PKPab 03 40 40.0 -1.3
GEC2 GERESS Array S 150.00 345 *e*PKPbc PKPbc 03 40 33.1 -1.2
GERES GERESS Array B 150.00 345 PKPbc PKPbc 03 40 33.1 -1.2
comp=Z,1.7nm,0.6s,baz=40,slow=2.3,SNR=19
GIVF Givet 150.15 356 *e*PKP1 PKPbc 03 40 33.4 -1.2
comp=Z,19nm,0.8s
DOU Dourbes 150.17 357 PKPbc PKPbc 03 40 33.7 -1.0
BAIF Baives 150.22 357 *e*PKP1 PKPbc 03 40 33.7 -1.1
comp=Z,13nm,0.9s
WLF Walferdange 150.49 355 *e*PKPbc PKPbc 03 40 34.9 -0.5
WLF Walferdange 150.49 355 PKPbc PKPbc 03 40 34.7 -0.7
STU Stuttgart 150.99 350 *e*PKPbc PKPbc 03 40 35.8 -0.8
FUR Furstenfeldbru 151.19 347 *e*PKPbc PKPbc 03 40 35.9 -1.1
FUR *e*PKPab PKPab 03 40 45.3 -2.0
FLN La Foliniere 151.50 4 *e*PKP1 PKPbc 03 40 35.9 -1.8
CDF Champ du Feu 151.61 353 *e*PKP1 PKPbc 03 40 36.5 -1.5
comp=Z,21nm,1.4s
LDF La Druitiere 151.68 3 *e*PKP1 PKPbc 03 40 36.2 -1.9
GRR Gorron 151.84 4 *e*PKP1 PKPbc 03 40 37.0 -1.5
comp=Z,4.0nm,0.5s
HAU Haudompre 152.11 354 *e*PKP1 PKPbc 03 40 37.4 -1.7
comp=Z,3.8nm,0.5s
LOR Lormes 153.03 357 *e*PKP1 PKPbc 03 40 39.6 -1.5
comp=Z,2.0nm,0.5s
CABF La Chapelle 153.52 354 *e*PKP1 PKPbc 03 40 42.4 +0.3
AVF Avril sur Loir 153.52 358 *e*PKP1 PKPbc 03 40 42.2 0.0
MFF Saint Martin d 153.67 3 *e*PKP1 PKPbc 03 40 40.8 -1.7
TORD Torodi Ar. Bea 172.91 177 PKP PKPdf 03 40 50.2 -1.7
comp=Z,0.5nm,1.0s,baz=214,slow=0.1,SNR=4.0
TORD Torodi Ar. Bea 172.91 177 PKP PKPdf 03 40 50.2 -1.7

NEIC 15 03:30:12.3,5953N×15296W,h84km,MG3.2(AEIC),After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.69**	**53**	P	Pn	03 30 39.8	-0.4
KDAK	**Kodiak Island**	**1.76**	**173**	P	Pn	03 30 39.9	-1.3
SEW	**Seward**	**1.86**	**70**	P	Pn	03 30 41.2	-1.3
SVW2	**Sparrevohn**	**2.05**	**321**	P	Pn	03 30 43.7	-1.2
FIB	**Fire Island**	**2.15**	**39**	P	Pn	03 30 46.6	+0.3
RC01	**Rabbit Creek A**	**2.24**	**44**	P	Pn	03 30 46.4	-1.1
PMR	**Palmer**	**2.80**	**41**	P	Pn	03 30 53.4	-1.6
GHO	**Glory Hole Cre**	**3.00**	**40**	P	Pn	03 30 57.1	-0.6
MID	**Middleton Isla**	**3.38**	**89**	*eP*	Pn	03 31 01.1	-1.7
EYAK	**Cordova Ski Ar**	**3.76**	**71**	P	Pn	03 31 06.6	-1.3
DIV	**Divide**	**3.92**	**63**	P	Pn	03 31 08.1	-2.0
TRF	**Thorofare Moun**	**4.14**	**17**	P	Pn	03 31 11.9	-1.2
KTH	**Kantishna Hill**	**4.16**	**13**	P	Pn	03 31 12.0	-1.3
RAGM	**Ragged Mountai**	**4.25**	**75**	P	Pn	03 31 13.5	-1.1
CHGN	**Chignik**	**4.35**	**224**	*eP*	Pn	03 31 14.9	-1.1
BMRM	**Bremner River**	**4.41**	**67**	P	Pn	03 31 14.9	-1.8
MCK	**McKinley**	**4.63**	**23**	P	Pn	03 31 19.1	-0.7
COLA	**College**	**5.87**	**22**	*e*Pn	Pn	03 31 34.7	-2.0
	16nm,0.8s						
IMA2	**Indian Mountai**	**6.58**	**357**	P	Pn	03 31 44.0	-2.3
PNL	**Peninsula**	**6.89**	**83**	P	Pn	03 31 49.0	-1.5
EGAK	**Eagle**	**7.62**	**41**	*e*Pn	Pn	03 31 59.1	-1.4
DAWY	**Dawson**	**7.87**	**49**	*e*Pn	Pn	03 32 03.5	-0.4
SKAG	**Skagway**	**8.97**	**83**	*e*Pn	Pn	03 32 18.6	-0.3
INK	**Inuvik**	**12.21**	**36**	*e*Pn	Pn	03 33 00.9	-2.1

IDC 15 03:58:33.2±4.5,485S×10301E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.8/4,Error ellipse: s-maj=248.0km s-min=25.6km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.98 119**		P	P	04 05 19.1	+0.6
	0.3nm,0.4s,baz=303,slow=9.2,SNR=5.4						
ASAR	**Alice Springs**	**35.16 125**		P	P	04 05 28.8	+0.1
	0.6nm,0.5s,baz=297,slow=7.7,SNR=33						
STKA	**Stephens Creek**	**45.02 131**		P	P	04 06 50.9	+0.3
	2.1nm,0.5s,baz=310,slow=6.8,SNR=9.3						
MKAR	**Makanchi Array**	**54.59 343**		P	P	04 08 03.4	0.0
	0.3nm,0.4s,baz=152,slow=8.8,SNR=7.5						

*ISCJB **15** 04:15:02.4±0.6,22.18S±0.006×68.91W±0.07,h92km±5km, mb3.9/18,Error ellipse: s-maj=11.1km s-min=9.9km az=21.4*
*IDC **15** 04:15:03.7±0.5,22.39S×68.97W,h90km±3km,mb3.8/8, mb1 3.9/11,mb1mx3.8/17,mbtmp4.1/11,MS2.9/1, Ms1 2.9/1,ms1mx2.5/20,Error ellipse: s-maj=17.3km s-min=11.5km az=83.0*
*NEIC **15** 04:15:03.1±0.6,22.24S×69.00W,h84km±5km,mb4.0/14, Error ellipse: s-maj=9.7km s-min=7.3km az=64.0*
ISC 15 04:15:03.6±0.6,2226S±006×6896W±008,h88km±5km, h93km±1.5km:pP-P,n39,σ1°09/39,mb3.9/18,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.35 173**		P	**Pn**	**04 15 17.9**	**+0.7**
	528nm,0.3s,baz=316,slow=5.1,SNR=4507						
LVC				S	**Sn**	**04 15 28.6**	**+1.4**
	4μm,0.3s,baz=112,slow=20,SNR=256						
LVC	**Limon Verde**	**0.35 173**		*e*Pn	**Pn**	**04 15 17.5**	**+0.4**
LVC				*e*Sn	**Sn**	**04 15 28.4**	**+1.2**
ARE	**Arequipa**	**6.24 337**		*eP*	**Pn**	**04 16 31.0**	**-2.1**
ARE				*e*S	**Sn**	**04 17 40.0**	**-3.0**
CFAA	**Coronel Fontan**	**9.33 176**		P	**Pn**	**04 17 10.8**	**-4.5**
	0.4nm,0.3s,baz=356,slow=13,SNR=34						
CFAA				S	**Sn**	**04 18 47.9**	**-10**
	0.3nm,0.3s,baz=330,slow=9.3,SNR=3.5						
SIV	**San Ignacio**	**9.71 51**		P	**Pn**	**04 17 21.0**	**+0.6**
	2.0nm,0.3s,baz=234,slow=12,SNR=36						
SIV				S	**Sn**	**04 19 05.6**	**-2.1**
	baz=136,slow=23,SNR=2.1						
CPUP	**Villa Florida**	**11.35 113**		P	**Pn**	**04 17 41.6**	**-1.2**
	0.4nm,0.3s,baz=264,slow=11,SNR=8.9						
CPUP				LR	LR	04 22 00.9	
	comp=Z,64nm,20.8s,baz=1.7,slow=37						
CPUP	**Villa Florida**	**11.35 113**		*e*Pn	**Pn**	**04 17 42.2**	**-0.5**
	27nm,0.8s						
PLCA	**Paso Flores**	**18.47 184**		P	**Pn**	**04 19 11.3**	**-2.2**
	0.3nm,0.3s,baz=9.3,slow=7.5,SNR=7.3						
PLCA				PcP	PcP	04 23 39.0	-0.1
	0.1nm,0.3s,baz=27,slow=2.3,SNR=3.2						
PLCA	**Paso Flores**	**18.47 184**		*eP*	**Pn**	**04 19 11.8**	**-1.7**
	2.1nm,0.7s						
BDFB	**Brasilia**	**20.86 75**		P	**P**	**04 19 38.4**	**0.0**
	6.7nm,0.5s,baz=256,slow=12,SNR=22						
RCBR	**Riachuelo**	**35.86 68**		*eP*	**P**	**04 21 56.5**	**+1.6**
	5.3nm,0.7s,mb4.6						
WVT	**Waverly**	**60.75 343**		*eP*	**P**	**04 25 04.5**	**-1.5**
	3.2nm,0.8s,mb4.4						
SNAA	**Sanae**	**61.58 161**		*eP*	**P**	**04 25 10.9**	**-0.7**
	2.1nm,0.7s,mb4.3						
MNTX	**Cornudas Mount**	**63.99 326**		*eP*	**P**	**04 25 26.7**	**-1.0**
	0.9nm,0.8s,mb3.6						
ANMO	**Albuquerque**	**67.11 327**		*eP*	**P**	**04 25 47.9**	**+0.1**
	1.2nm,0.7s,mb3.8						
DBIC	**Dimbokro**	**68.99 73**		P	**P**	**04 26 00.3**	**+0.7**
	2.3nm,0.9s,mb4.0,baz=225,slow=8.6,SNR=2.8						
DBIC				pP	pP	04 26 23.5	+1.4
	5.9nm,0.9s,baz=240,slow=5.0,SNR=4.8						
DBIC	**Dimbokro**	**68.99 73**		P	**P**	**04 26 00.3**	**+0.8**
DBIC				pP	pP	04 26 23.5	+1.4
SMCO	**Snowmass**	**70.71 330**		*eP*	**P**	**04 26 11.1**	**+1.0**
	0.8nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**74.74 330**		P	**P**	**04 26 34.5**	**+0.6**
	0.3nm,0.6s,mb3.2,baz=130,slow=7.9,SNR=4.0						
PDAR				sP	sP	04 27 07.7	+1.3
	0.4nm,0.6s,baz=130,slow=8.4,SNR=3.1						
SYO	**Syowa Base**	**75.81 159**		*eP*	**P**	**04 26 39.4**	**-0.6**
SYO	**Syowa Base**	**75.81 159**		*e*X		04 27 13.6	
LOHW	**Long Hollow**	**75.88 330**		*eP*	**P**	**04 26 40.6**	**+0.1**
	1.0nm,0.6s,mb3.7						
TPAW	**Teton Pass**	**75.95 330**		*eP*	**P**	**04 26 42.1**	**+1.3**
	1.2nm,0.7s,mb3.7						
ULM	**Lac du Bonnet**	**76.02 343**		P	**P**	**04 26 40.3**	**-1.0**
	1.9nm,0.5s,mb4.0,baz=164,slow=8.2,SNR=5.9						
ULM				pP	pP	04 27 04.9	+0.7
	1.2nm,0.6s,baz=182,slow=7.9,SNR=2.6						
ULM	**Lac du Bonnet**	**76.02 343**		*eP*	**P**	**04 26 40.3**	**-1.0**
	3.8nm,0.6s,mb4.3						
MOOW	**Moose Ponds**	**76.05 330**		*eP*	**P**	**04 26 42.1**	**+0.7**
	0.5nm,0.6s,mb3.4						
NVAR	**Mina Array Bea**	**76.06 322**		P	**P**	**04 26 41.9**	**+0.4**
	0.3nm,0.6s,mb3.2,baz=161,slow=6.2,SNR=4.1						
NVAR				pP	pP	04 27 05.0	+0.6
	0.3nm,0.7s,baz=159,slow=5.2,SNR=3.0						
NVAR				sP	sP	04 27 16.3	+2.3
	0.6nm,0.8s,baz=158,slow=5.5,SNR=3.8						
NVAR	**Mina Array Bea**	**76.06 322**		P	**P**	**04 26 41.9**	**+0.4**
NVAR				pP	pP	04 27 05.0	+0.6
NVAR				sP	sP	04 27 16.3	+2.3
VNDA	**Vanda**	**76.10 190**		P	**P**	**04 26 41.5**	**-0.1**
	0.7nm,0.9s,mb3.4,baz=153,slow=2.3,SNR=4.4						
VNDA	**Vanda**	**76.10 190**		*eP*	**P**	**04 26 41.8**	**+0.1**
	1.7nm,1.1s,mb3.7						
TORD	**Torodi Ar. Bea**	**77.65 70**		P	**P**	**04 26 51.5**	**+1.1**
	1.4nm,0.4s,mb4.0,baz=255,slow=5.4,SNR=34						
TORD				PcP	PcP	04 26 60.0	-0.3
	0.7nm,0.4s,baz=256,slow=4.9,SNR=4.6						
TORD				pP	pP	04 27 15.5	+2.1
	2.3nm,0.5s,baz=256,slow=5.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**77.65 70**		P	**P**	**04 26 51.5**	**+1.1**
TORD				PcP	PcP	04 26 60.0	-0.3
TORD				pP	pP	04 27 15.5	+2.1
HLID	**Hailey**	**77.66 328**		*eP*	**P**	**04 26 51.5**	**+1.0**
	1.8nm,1.0s,mb3.8						
MAW	**Mawson**	**83.62 163**		P	**P**	**04 27 21.8**	**-0.5**
	2.1nm,0.7s,mb4.1,baz=234,slow=5.5,SNR=5.1						
CASY	**Casey**	**91.74 180**		*eP*	**P**	**04 28 01.7**	**+0.3**
	3.5nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**129.22 207**		PKP	PKPdf	04 34 01.8	+0.2
	1.2nm,0.7s,baz=129,slow=0.9,SNR=5.8						
WRA	**Warramunga Arr**	**132.28 210**		PKP	PKPdf	04 34 08.0	+0.6
	1.2nm,0.5s,baz=153,slow=1.7,SNR=7.7						
MKAR	**Makanchi Array**	**146.27 37**		PKPbc	PKPbc	04 34 33.0	-1.0
	1.8nm,0.7s,baz=328,slow=2.1,SNR=9.7						
MKAR				pPKPbc	pPKPbc	04 34 59.5	+1.3
	4.7nm,0.7s,baz=314,slow=3.0,SNR=18						
MKAR	**Makanchi Array**	**146.27 37**		PKPbc	PKPbc	04 34 33.0	-1.0
MKAR				pPKPbc	pPKPbc	04 34 59.5	+1.3

*IDC **15** 04:22:05.0±4.4,6.17S×13050E,h50km±42km,mb3.8/6, mb1 4.0/8,mb1mx3.8/13,mbtmp4.1/8,ML4.3/3,Error ellipse: s-maj=41.2km s-min=19.2km az=65.0*
*NEIC **15** 04:22:07.1±1.9,6.29S×13053E,h75km±19km,mb3.9/5, Error ellipse: s-maj=17.5km s-min=12.8km az=47.0*
*ISCJB **15** 04:22:08.1±1.7,6.48S±006×1305E±0.1,h108km±18km, mb3.9/7,Error ellipse: s-maj=17.6km s-min=9.1km az=167.3*
ISC 15 04:22:13.0±2.0,667S±009×1305E±01,h144km±21km,n23, σ1°47/30,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.30 163**		*eP*	**Pn**	**04 23 43.4**	**-0.2**
	27nm,0.2s						
KAKA				*e*S	**Sn**	**04 24 55.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.32 202**		*eP*	**Pn**	**04 25 03.7**	**+0.1**
	18nm,0.2s						
FITZ				*e*S	**Sn**	**04 27 19.7**	**0.0**
FITZ	**Fitzroy Crossi**	**12.32 202**		P	**Pn**	**04 25 04.2**	**+0.6**
	4.7nm,0.3s,baz=33,slow=10,SNR=100						
FITZ				S	**Sn**	**04 27 17.3**	**-2.4**
	1.0nm,0.3s,baz=344,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**13.71 165**		P	**Pn**	**04 25 20.0**	**-1.3**
	3.1nm,0.3s,baz=336,slow=14,SNR=90						
WRA				S	**Sn**	**04 27 48.8**	**-4.2**
	5.7nm,0.3s,baz=340,slow=21,SNR=11						
WB2	**Warramunga Arr**	**13.71 165**		*eP*	**Pn**	**04 25 20.1**	**-1.3**
WB2				*e*S	**Sn**	**04 27 49.8**	**-3.3**
PMG	**Port Moresby**	**16.70 100**		P	**Pn**	**04 25 57.0**	**-1.4**
	0.6nm,0.3s,baz=278,slow=7.3,SNR=2.7						
AS31	**Alice Springs**	**17.21 169**		*eP*	**Pn**	**04 26 06.9**	**+2.3**
AS31				*e*S	**S**	**04 29 13.7**	**-2.0**
ASAR	**Alice Springs**	**17.21 169**		P	**Pn**	**04 26 06.8**	**+2.2**
	2.2nm,0.3s,baz=19,slow=13,SNR=82						
ASAR				S	**S**	**04 29 13.2**	**-2.5**
	1.2nm,0.3s,baz=350,slow=25,SNR=11						
ASPA	**Alice Springs**	**17.21 169**		*eP*	**Pn**	**04 26 06.9**	**+2.2**
ASPA				*e*S	**S**	**04 29 13.7**	**-2.0**
CTA	**Charters Tower**	**20.27 133**		*eP*	**P**	**04 26 37.8**	**+0.6**
	5.4nm,0.8s						
CTA	**Charters Tower**	**20.27 133**		P	**P**	**04 26 40.5**	**+3.3**
	6.9nm,0.7s,baz=301,slow=9.6,SNR=6.2						
CTAO	**Charters Tower**	**20.27 133**		*eP*	**P**	**04 26 40.8**	**+3.5**
	6.4nm,0.8s						
FORT	**Forrest**	**24.10 185**		*eP*	**P**	**04 27 23.9**	**+8.7**
	11nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.13 159**		*eP*	**P**	**04 27 45.4**	**+2.9**
	2.6nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**27.13 159**		P	**P**	**04 27 47.9**	**+5.4**
	1.9nm,0.4s,mb4.0,baz=341,slow=16,SNR=6.6						
SONM	**Songino Array**	**58.29 341**		P	**P**	**04 31 51.4**	**-1.2**
	0.4nm,0.5s,mb3.5,baz=167,slow=7.4,SNR=2.2						
MK31	**Makanchi Array**	**68.23 327**		*eP*	**P**	**04 32 57.8**	**-0.2**
MKAR	**Makanchi Array**	**68.23 327**		P	**P**	**04 32 57.9**	**-0.2**
	2.1nm,0.5s,mb4.1,baz=114,slow=9.0,SNR=29						
ZAL	**Zalesovo**	**71.52 333**		P	**P**	**04 33 17.7**	**-0.4**
	0.7nm,0.3s,mb3.8,baz=198,slow=22,SNR=4.1						
ZAL	**Zalesovo**	**71.52 333**		P	**P**	**04 33 17.7**	**-0.4**
VNDA	**Vanda**	**72.72 173**		P	**P**	**04 33 30.6**	**+5.5**
	0.7nm,0.8s,mb3.5,baz=327,slow=7.4,SNR=5.5						
BRVK	**Borovoye**	**78.13 328**		*eP*	**P**	**04 33 56.7**	**+0.6**
	1.0nm,0.6s,mb3.6						
CPUP	**Villa Florida**	**146.33 167**		PKPbc	PKPbc	04 41 40.8	+4.1
	1.7nm,0.8s,baz=295,slow=1.5,SNR=4.8						

*IDC **15** 04:27:48.5±1.0,4647N×15364E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/20,mbtmp3.8/5,Error ellipse: s-maj=47.9km s-min=25.5km az=101.0*
*ISCJB **15** 04:27:49.9±6.7,464N±02×1535E±02,h21km±47km, mb3.8/6,Error ellipse: s-maj=28.6km s-min=16.3km az=127.7*
*NEIC **15** 04:27:50.2±0.7,4646N×15367E,h10km,mb4.1/1,Error ellipse: s-maj=28.9km s-min=18.5km az=91.0*
*MOS **15** 04:27:51.7±0.6,4649N×15347E,h33km,mb4.4/1,Error ellipse: s-maj=45.7km s-min=36.2km az=78.0*
ISC 15 04:27:51.1±6.9,465N±02×1535E±01,h16km±43km,n9, σ0°33/10,mb3.8/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.14 254**		*e*PN	**Pn**	**04 28 53.5**	**-0.1**
KUR				*e*S	**Sn**	**04 29 41.5**	**-0.1**
KUR				pmax	pmax		
	comp=Z,130nm,0.6s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,100nm,0.8s						
CHKZ	**Chkalovo**	**50.82 310**		*eP*	**P**	**04 36 51.1**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
CHKZ	**Chkalovo**	**50.82 310**		*eP*	**P**	**04 36 51.1**	**+0.4**
	comp=Z,0.8nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**64.40 335**		P	**P**	**04 38 25.8**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=8.2,SNR=6.8						
PDAR	**Pinedale Array**	**64.68 54**		P	**P**	**04 38 27.9**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=294,slow=2.9,SNR=6.2						
WRA	**Warramunga Arr**	**68.35 199**		P	**P**	**04 38 51.5**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=17,slow=7.0,SNR=4.2						
NB2	**NORSAR Subarra**	**68.57 341**		P	**P**	**04 38 53.4**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.57 341**		P	**P**	**04 38 53.5**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=27,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**72.04 199**		P	**P**	**04 39 14.6**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=8.5,slow=5.7,SNR=8.7						

*SZGRF **15** 04:41:54.4,2250S×17864W,h33km,South of Fiji Islands*
*ISCJB **15** 04:43:06.0±2.0,208S±02×1788W±0.1,h669km±26km, mb4.0/16,Error ellipse: s-maj=28.5km s-min=15.9km az=127.6*
*IDC **15** 04:43:06.3±2.3,2073S×17881W,h649km±28km,mb3.3/9, mb1 3.6/10,mb1mx3.5/15,mbtmp4.4/10,Error ellipse: s-maj=22.5km s-min=12.3km az=159.0*
*NEIC **15** 04:43:06.9±2.4,2076S×17883W,h657km±25km,mb4.3/9, Error ellipse: s-maj=20.8km s-min=16.2km az=128.0*
*BJI **15** 04:43:06.9,2080S×17880W,h657km,mB4.8,mb4.4*
ISC 15 04:43:06.0±2.2,208S±02×1787W±01,h649km±28km,n78, σ0°67/30,mb4.0/16,5C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.88 262**		P	**P**	**04 46 02.6**	**+0.7**
	0.7nm,0.3s,baz=168,slow=12,SNR=9.0						
ARMA	**Armidale**	**28.34 244**		*eP*	**P**	**04 48 11.2**	**+0.3**
CTA	**Charters

comp=Z,0.8nm,0.7s,baz=14,slow=2.3,SNR=4.0
AKASG **Malin Array Be 142.93 330** PKP PKPdf 05 01 25.0 -2.5
comp=Z,6.2nm,0.4s,baz=43,slow=4.2,SNR=51
MALT **Malatya 143.57 307** ⇓*i*P PKPdf 05 01 29.7 +1.1
MALT **Malatya 143.57 307** *e*PKPdf PKPdf 05 01 29.3 +0.7
BSEG **Bad Segeberg 146.19 350** *e*PKPbc PKPbc 05 01 35.9 +0.5
BR131 **Keskin Array S 146.53 312** *e*PKPbc PKPbc 05 01 37.0 +0.7
BRTR **Keskin Array B 146.53 312** PKPbc PKPbc 05 01 37.2 +0.8
comp=Z,21nm,0.6s,baz=129,slow=4.2,SNR=8.0
BURAR **Bucovina Array 146.97 330** ⇑*i*P PKPbc 05 01 38.7 +1.2
BURAR **Bucovina Array 146.97 330** ⇑P PKPbc 05 01 38.7 +1.2
STHS **Stebnicka Huta 147.30 336** *e*PKP PKPbc 05 01 39.5 +1.1
STHS *e* 05 01 44.5
VRI **Vrincioaia 147.43 326** ⇓*i*P PKPbc 05 01 39.8 +1.1
VRI **Vrincioaia 147.43 326** ⇓P PKPbc 05 01 39.8 +1.1
CRVS **Cervenica-Dubn 147.63 335** *e*PKP PKPbc 05 01 41.4 +2.2
MLR **Muntele Rosu 148.09 326** ⇓*i*P PKPbc 05 01 39.9 -0.5
MLR **Muntele Rosu 148.09 326** ⇓P PKPbc 05 01 39.9 -0.5
IBBN **Ibbenburen 148.13 352** *e*PKPbc PKPbc 05 01 40.9 +0.4
CLL **Collm 148.18 346** *e*PKPbc PKPbc 05 01 40.7 +0.1
CLL *e*PKPab PKPab 05 01 46.2 0.0
CLL **Collm 148.18 346** *e*P PKPbc 05 01 41.0 +0.4
CLL **Collm 148.18 346** *i* PKPbc PKPbc 05 01 41.0 +0.4
comp=Z,7.0nm,0.9s
CLL *e*PKPab PKPab 05 01 46.0 -0.2
comp=Z,6.0nm,0.7s
DPC **Dobruska-Polom 148.19 342** *e*PKPbc PKPbc 05 01 41.4 +0.8
KECS **Kecovo 148.35 335** *e*PKP PKPbc 05 01 42.2 +1.2
KECS *e* 05 01 47.5
BRG **Berggiesshubel 148.36 345** *e*P PKPbc 05 01 41.5 +0.4
BRG *e* 05 01 46.9
PVCC **Panska Ves 148.51 344** *e*PKPbc PKPbc 05 01 42.3 +0.9
VYHS **Vyhne 148.96 337** *e*PKP PKPbc 05 01 43.3 +0.8
VYHS *e* 05 01 50.1
PRU **Pruhonice 149.01 343** *e*PKPbc PKPbc 05 01 43.2 +0.6
PSZ **Piszkesteto 149.04 335** ⇑*i*P PKPbc 05 01 44.2 +1.5
PSZ **Piszkesteto 149.04 335** *e*PKPbc PKPbc 05 01 43.4 +0.8
MOX **Moxa 149.10 347** *e*PKPbc PKPbc 05 01 43.6 +0.8
TANN **Tannenbergstra 149.13 346** *e*PKPbc PKPbc 05 01 43.4 +0.5
TANN *e*PKPab PKPab 05 01 50.7 +0.5
UBBA **Unterbreizbach 149.25 349** *e*PKPbc PKPbc 05 01 43.6 +0.4
KHC **Kasperske Hory 150.05 344** *e*PKPbc PKPbc 05 01 45.7 +0.6
KHC *e*PKPab PKPab 05 01 54.7 +0.7
TNS **Taunus Mts 150.08 351** *e*PKPbc PKPbc 05 01 45.7 +0.6
TNS **Taunus Mts 150.08 351** *e*PKPbc PKPbc 05 01 45.6 +0.5
GRA1 **Grafenberg Arr 150.09 347** *e*PKPbc PKPbc 05 01 46.3 +1.2
GRA1 *e*PKPab PKPab 05 01 54.7 +0.6
GRF **Grafenberg Arr 150.09 347** *e*PKPbc PKPbc 05 01 46.3 +1.2
GRF *e*PKPab PKPab 05 01 54.7 +0.6
BZS **Buzias 150.12 331** ⇑*i*P PKPbc 05 01 45.9 +0.7
BZS **Buzias 150.12 331** ⇑P PKPbc 05 01 45.9 +0.7
GEC2 **GERESS Array S 150.28 343** *e*PKPbc PKPbc 05 01 46.1 +0.5
GERES **GERESS Array B 150.28 343** PKPbc PKPbc 05 01 46.2 +0.6
comp=Z,1.9nm,0.7s,baz=27,slow=1.5,SNR=14
STU **Stuttgart 151.36 349** *e*PKPbc PKPbc 05 01 48.5 +0.5
STU *e*PKPab PKPab 05 01 59.7 +0.2
BFO **Black Forest 151.93 350** *e*PKPbc PKPbc 05 01 50.2 +0.9

MOS ***15*** *04:48:15.8±0.7, 926S×7880W, h33km, mb5.0/45, Error ellipse: s-maj=11.7km s-min=7.7km az=94.2*
ISCJB ***15*** *04:48:17.7±0.2, 932S±004×7884W±004, h50km, mb4.8/115, MS4.0/25, Error ellipse: s-maj=7.5km s-min=3.7km az=82.7*
NEIC ***15*** *04:48:18.9±0.2, 937S×7883W, mb4.9/99, Error ellipse: s-maj=6.0km s-min=3.3km az=53.0*
NEIC Felt [III] at Chimbote.
IDC ***15*** *04:48:19.2±0.6, 947S×7893W, h54km±5km, mb4.3/17, mb1 4.4/21, mb1mx4.3/26, mbtmp4.5/21, MS3.8/22, Ms1 3.8/22, ms1mx3.7/34, Error ellipse: s-maj=11.3km s-min=6.1km az=73.0*
BJI ***15*** *04:48:19.8, 940S×7880W, h49km, mB5.2, Ms5.3, Msz4.8*
ISC 15 04:48:19.9±0.2, 935S±004×7874W±004, h52km, h52km±.9km; pP-P, n430, σ0 973/386, mb4.8/115, MS4.0/25, 82C-46D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.35**	**8**	P		**Pn**		**04 48 57.6**	**+1.5**
	163nm,0.3s,baz=217,slow=4.8,SNR=477								
ATAH				S		**Sn**		**04 49 26.3**	**+2.5**
	407nm,0.3s,baz=55,slow=21,SNR=13								
ATAH				LR		LR		04 49 57.5	
	comp=Z,2μm,20.7s,baz=80,slow=41								
NNA	**Nana**	**3.22**	**145**	P		**Pn**		**04 49 07.8**	**-0.2**
	250nm,0.3s,baz=316,slow=12,SNR=545								
NNA				S		**Sn**		**04 49 46.9**	**+1.8**
	332nm,0.3s,baz=52,slow=23,SNR=16								
NNA				LR		LR		04 50 10.7	
	comp=Z,296nm,19.2s,baz=322,slow=34								
NNA	**Nana**	**3.22**	**145**	*e*Pn		**Pn**		**04 49 07.6**	**-0.4**
NNA				*e*Sn		**Sn**		**04 49 48.6**	**+3.5**
OTAV	**Otavalo**	**9.53**	**2**	*e*Pn		**Pn**		**04 50 35.7**	**+1.4**
	67nm,1.0s								
ARE	**Arequipa**	**10.00**	**136**	*e*P		**Pn**		**04 50 47.0**	**+6.2**
ROSC	**El Rosal**	**14.78**	**17**	P		**Pn**		**04 51 48.7**	**+3.0**
	0.9nm,0.3s,baz=81,slow=6.3,SNR=3.8								
ROSC	**El Rosal**	**14.78**	**17**	*e*Pn		**Pn**		**04 51 47.4**	**+1.7**
LVC	**Limon Verde**	**16.21**	**146**	P		**Pn**		**04 52 03.9**	**-0.2**
	0.4nm,0.3s,baz=315,slow=8.7,SNR=5.7								
LVC	**Limon Verde**	**16.21**	**146**	*e*Pn		**Pn**		**04 52 05.0**	**+0.8**
	28nm,1.0s								
SIV	**San Ignacio**	**18.45**	**113**	P		**Pn**		**04 52 31.8**	**0.0**
	0.6nm,0.3s,baz=294,slow=11,SNR=79								
SIV				S		**S**		**04 55 57.8**	**-0.5**
	0.5nm,0.3s,baz=259,slow=7.2,SNR=3.4								
SDV	**Santo Domingo**	**19.83**	**24**	P		**Pn**		**04 52 47.8**	**-0.4**
	13nm,0.8s,baz=215,slow=11,SNR=13								
SDV				S		**S**		**04 56 32.1**	**+5.3**
	6.4nm,0.7s,baz=239,slow=22,SNR=2.7								
SDV	**Santo Domingo**	**19.83**	**24**	*e*P		**Pn**		**04 52 48.0**	**-0.2**
	16nm,0.7s								
PCRV	**Puerto La Cruz**	**23.94**	**36**	P		**P**		**04 53 31.1**	**+2.0**
	9.7nm,0.7s,mb4.3,baz=193,slow=4.3,SNR=9.2								
PCRV				LR		LR		05 04 20.3	
	comp=Z,591nm,18.6s,MS4.1,baz=52,slow=40								
CFAA	**Coronel Fontan**	**24.20**	**158**	P		**P**		**04 53 31.8**	**+0.2**
	2.1nm,0.9s,baz=334,slow=8.9,SNR=16								
CFAA				PcP		PcP		04 57 10.8	-0.1
	0.2nm,0.5s,baz=277,slow=10,SNR=3.2								
CFAA				LR		LR		05 00 43.9	
	comp=Z,26nm,20.2s,baz=341,slow=31								
TGUH	**Tegucigalpa,Un**	**24.74**	**340**	*e*P		**P**		**04 53 37.6**	**+1.2**
	28nm,1.0s,mb4.7								
CPUP	**Villa Florida**	**26.40**	**133**	P		**P**		**04 53 51.6**	**+0.2**
	2.9nm,0.7s,mb3.9,baz=299,slow=11,SNR=9.5								
CPUP				PcP		PcP		04 57 15.0	-0.8
	1.5nm,0.6s,baz=255,slow=3.1,SNR=3.1								
CPUP				LR		LR		05 06 23.7	
	comp=Z,212nm,21.5s,MS3.6,baz=308,slow=41								
CPUP	**Villa Florida**	**26.40**	**133**	*e*P		**P**		**04 53 51.5**	**+0.1**
CPUP				pmax		pmax			
	comp=Z,44nm,1.0s								
CPUP	**Villa Florida**	**26.40**	**133**	*e*P		**P**		**04 53 51.5**	**0.0**
	comp=Z,44nm,1.0s,mb5.0								
SJG	**San Juan**	**29.98**	**25**	P		**P**		**04 54 23.9**	**+0.5**
	comp=Z,8.9nm,0.7s,mb4.6,baz=243,slow=3.1,SNR=5.8								
SJG				LR		LR		05 07 42.4	
	comp=Z,233nm,18.7s,MS3.9,baz=270,slow=39								
BDFB	**Brasilia**	**30.62**	**105**	P		**P**		**04 54 29.4**	**+0.4**
	comp=Z,10nm,0.9s,mb4.7,baz=284,slow=11,SNR=14								
BDFB				PcP		PcP		04 57 26.7	+0.4
	comp=Z,5.2nm,0.8s,baz=241,slow=7.6,SNR=3.3								
BDFB				LR		LR		05 07 29.4	
	comp=Z,593nm,20.4s,MS4.2,baz=276,slow=37								
BDFB	**Brasilia**	**30.62**	**105**	P		**P**		**04 54 29.4**	**+0.4**
BDFB								04 57 26.7	
CMIG	**Matias Romero**	**30.74**	**329**	P		**P**		**04 54 29.4**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.1,baz=106,slow=7.4,SNR=2.5								
CMIG				LR		LR		05 04 49.1	
	comp=Z,93nm,20.0s,MS3.4,baz=209,slow=32								
CMIG	**Matias Romero**	**30.74**	**329**	P		**P**		**04 54 29.4**	**-0.6**
CMIG				LR		LR		05 04 49.1	
PLCA	**Paso Flores**	**32.09**	**168**	P		**P**		**04 54 41.7**	**-0.2**
	comp=Z,6.7nm,0.9s,mb4.5,baz=331,slow=11,SNR=7.2								
PLCA				PcP		PcP		04 57 30.6	+0.4
	comp=Z,4.4nm,1.0s,baz=315,slow=6.0,SNR=4.3								
PLCA				pPcP				04 57 45.8	
	comp=Z,2.9nm,0.7s,baz=42,slow=1.1,SNR=6.9								
PLCA	**Paso Flores**	**32.09**	**168**	*e*P		**P**		**04 54 42.0**	**0.0**
PLCA				*e*PP		pP		04 54 54.9	-0.4
PLCA				pmax		pmax			
	comp=Z,16nm,1.1s								
PLCA	**Paso Flores**	**32.09**	**168**	*e*P		**P**		**04 54 42.0**	**0.0**
	comp=Z,16nm,1.1s,mb4.8								
PLCA				*e*pP		pP		04 54 54.9	-0.4
HKT	**Hockley**	**42.39**	**338**	*e*P		**P**		**04 56 09.3**	**+0.2**
HKT				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.2								
HKT	**Hockley**	**42.39**	**338**	*e*P		**P**		**04 56 09.3**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.2								
NATX	**Nacogdoches**	**43.62**	**340**	*e*P		**P**		**04 56 19.7**	**+0.6**
	comp=Z,24nm,0.7s,mb5.0								
SWET	**Sewanee**	**44.84**	**352**	*e*P		**P**		**04 56 27.1**	**-1.7**
CPCT	**Cooper Cave**	**44.88**	**353**	*e*P		**P**		**04 56 28.0**	**-1.2**
PLAL	**Pickwick Lake**	**44.96**	**349**	*e*P		**P**		**04 56 28.2**	**-1.6**
	comp=Z,7.5nm,0.8s,mb4.6								
PLAL				*e*PcP		PcP		04 58 08.6	-1.7
UALR	**University of**	**45.73**	**344**	*e*P		**P**		**04 56 35.6**	**-0.3**
	comp=Z,36nm,1.1s,mb5.2								
TZTN	**Tazewell**	**45.87**	**355**	*e*P		**P**		**04 56 35.5**	**-1.5**
	comp=Z,17nm,1.1s,mb4.9								
WVT	**Waverly**	**46.03**	**350**	*e*P		**P**		**04 56 35.9**	**-2.4**
WVT				pmax		pmax			
	comp=Z,15nm,1.1s,mb4.8								
WVT	**Waverly**	**46.03**	**350**	*e*P		**P**		**04 56 35.9**	**-2.3**
	comp=Z,14nm,1.1s,mb4.8								
ELN	**Prospectdale**	**46.37**	**358**	*e*P		**P**		**04 56 40.4**	**-0.5**
FWV	**Forest Hill**	**46.72**	**358**	*e*P		**P**		**04 56 42.8**	**-0.9**
PARMO	**Parma**	**46.92**	**348**	*e*P		**P**		**04 56 44.5**	**-0.8**
WMOK	**Wichita Mounta**	**47.77**	**338**	*e*P		**P**		**04 56 50.7**	**-1.2**
WMOK				*e*PP		pP		04 57 04.2	-1.5
WMOK				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.5								
WMOK	**Wichita Mounta**	**47.77**	**338**	*e*P		**P**		**04 56 50.7**	**-1.2**
	comp=Z,6.3nm,1.1s,mb4.6								
WMOK				*e*pP		pP		04 57 04.2	-1.5
WCI	**Wyandotte Cave**	**47.85**	**352**	*e*P		**P**		**04 56 50.6**	**-1.8**
WCI				*e*				04 58 19.0	
WCI				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.8								
WCI	**Wyandotte Cave**	**47.85**	**352**	*e*P		**P**		**04 56 50.6**	**-1.9**
	comp=Z,9.9nm,1.0s,mb4.8								
WCI				*e*PcP		PcP		04 58 19.0	-1.4
MNTX	**Cornudas Mount**	**48.12**	**329**	*e*P		**P**		**04 56 54.2**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.4								
MNTX				*e*pP		pP		04 57 07.2	-1.2
FVM	**French Village**	**48.33**	**348**	*e*P		**P**		**04 56 54.9**	**-1.3**
FVM				*e*				04 58 21.1	
FVM				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.9								
FVM	**French Village**	**48.33**	**348**	*e*P		**P**		**04 56 54.9**	**-1.3**
	comp=Z,12nm,1.0s,mb4.9								
FVM				*e*PcP		PcP		04 58 21.1	-1.1
CCM	**Cathedral Cave**	**48.58**	**347**	*e*P		**P**		**04 56 55.3**	**-2.8**
CCM				*e*				04 58 20.3	
CCM				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
CCM	**Cathedral Cave**	**48.58**	**347**	*e*P		**P**		**04 56 55.2**	**-2.8**
	comp=Z,5.9nm,0.6s,mb4.8								
CCM				*e*PcP		PcP		04 58 20.3	-2.8
ACSO	**Alum Creek Sta**	**49.48**	**356**	*e*P		**P**		**04 57 03.9**	**-1.1**
	comp=Z,48nm,1.0s,mb5.5								
ANMO	**Albuquerque**	**51.27**	**331**	*d i*P		**P**		**04 57 18.9**	**+0.4**
ANMO				*e*PP		pP		04 57 32.5	0.0
ANMO	**Albuquerque**	**51.27**	**331**	*e*P		**P**		**04 57 18.6**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.5								
ANMO				*e*pP		pP		04 57 32.5	+0.1
TUC	**Tucson**	**51.50**	**325**	*e*P		**P**		**04 57 19.9**	**-0.3**
TUC				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
TUC	**Tucson**	**51.50**	**325**	*e*P		**P**		**04 57 19.9**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.2								
CBKS	**Cedar Bluff**	**51.75**	**339**	*e*P		**P**		**04 57 21.6**	**-0.4**
CBKS				pmax		pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
CBKS	**Cedar Bluff**	**51.75**	**339**	*e*P		**P**		**04 57 21.6**	**-0.4**
	comp=Z,7.6nm,0.6s,mb4.8								
116A	**Eloy**	**52.21**	**324**	P		**P**		**04 57 25.8**	**+0.4**
	baz=52,SNR=5.3								
SCIA	**State Center**	**52.70**	**346**	*e*P		**P**		**04 57 27.8**	**-1.3**
	comp=Z,21nm,1.1s,mb5.0								
SDCO	**Great Sand Dun**	**53.12**	**333**	*e*P		**P**		**04 57 32.3**	**+0.1**
	comp=Z,9.5nm,1.0s,mb4.7								
X15A	**Humboldt**	**53.92**	**326**	⇓P		**P**		**04 57 38.4**	**+0.4**
	baz=54								
Y14A	**Wickenburg**	**53.95**	**325**	⇓P		**P**		**04 57 38.2**	**-0.1**
	baz=54								
MVCO	**Mesa Verde**	**54.06**	**331**	⇑P		**P**		**04 57 39.4**	**+0.3**
	baz=54								
WUAZ	**Wupatki**	**54.22**	**327**	*e*P		**P**		**04 57 41.0**	**+0.8**
	comp=Z,6.9nm,0.9s,mb4.6								
WUAZ				*e*pP		pP		04 57 54.3	-0.1
WUAZ	**Wupatki**	**54.22**	**327**	P		**P**		**04 57 41.1**	**+0.8**
	baz=54,SNR=8.1								
X14A	**Yava**	**54.27**	**325**	⇓P		**P**		**04 57 40.7**	**+0.1**
	baz=54								
Y13A	**Salome**	**54.34**	**324**	⇑P		**P**		**04 57 41.5**	**+0.4**
	baz=54								
W15A	**Williams**	**54.45**	**326**	⇑P		**P**		**04 57 42.7**	**+0.8**
	baz=55								
Y12C	**Blythe**	**54.70**	**323**	⇓P		**P**		**04 57 44.1**	**+0.4**
	baz=55								
PV01	**Paradox Valley**	**54.83**	**331**	*e*P		**P**		**04 57 44.5**	**-0.2**
ISCO	**Idaho Springs**	**54.88**	**335**	*e*P		**P**		**04 57 45.1**	**+0.1**
ISCO				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
ISCO	**Idaho Springs**	**54.88**	**335**	*e*P		**P**		**04 57 45.1**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.3								
X13A	**Yucca**	**54.90**	**325**	⇑P		**P**		**04 57 45.1**	**-0.1**
	baz=55								
SMCO	**Snowmass**	**54.95**	**333**	*e*P		**P**		**04 57 46.0**	**+0.4**
	comp=Z,4.2nm,1.0s,mb4.4								
PV10	**Paradox Valley**	**55.25**	**331**	*e*P		**P**		**04 57 47.4**	**-0.3**
ECSD	**EROS,Sioux Fal**	**55.27**	**344**	*e*P		**P**		**04 57 46.0**	**-1.8**
	comp=Z,6.6nm,0.8s,mb4.7								
W13A	**Hualapai Mount**	**55.29**	**325**	P		**P**		**04 57 49.1**	**+1.1**
	baz=55,SNR=8.3								
IRM	**Iron Mountain**	**55.36**	**323**	⇑P		**P**		**04 57 48.8**	**+0.4**
	baz=56								
RKT	**Rikitea**	**55.39**	**248**	*e*LR		LR		05 13 56.0	
	comp=Z,295nm,28.2s								
W12A	**Cal Nev Ari**	**56.00**	**324**	⇓P		**P**		**04 57 53.6**	**+0.6**
	baz=56								
V12A	**Nelson**	**56.29**	**325**	P		**P**		**04 57 55.8**	**+0.6**
	baz=56,SNR=5.8								
HEC	**Hector,Ludlow**	**56.52**	**323**	⇓P		**P**		**04 57 57.5**	**+0.7**
	baz=57								
SRU	**San Rafael**	**56.54**	**331**	*e*P		**P**		**04 57 56.9**	**0.0**
SRU				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
SRU	**San Rafael**	**56.54**	**331**	*e*P		**P**		**04 57 56.9**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.5								
U12A	**Valley of Fire**	**56.62**	**326**	⇑P		**P**		**04 57 58.0**	**+0.5**
	baz=57								
V11A	**Goodsprings**	**56.70**	**324**	⇓P		**P**		**04 57 58.5**	**+0.4**
	baz=57								
TUQ	**Turquoise Mtn.**	**56.70**	**324**	⇑P		**P**		**04 57 58.4**	**+0.3**
	baz=57								
CCUT	**Cedar City**	**56.80**	**327**	*e*P		**P**		**04 57 59.5**	**+0.8**
CCUT				*e*pP		pP		04 58 13.4	+0.4
ARUT	**Antelope Range**	**57.02**	**327**	*e*P		**P**		**04 58 01.0**	**+0.7**
ARUT				*e*PP		pP		04 58 14.4	-0.1
U11A	**Corn Creek**	**57.09**	**325**	⇓P		**P**		**04 58 01.1**	**+0.3**
	baz=57								
RWWY	**Rawlins**	**57.12**	**335**	*e*P		**P**		**04 58 00.7**	**-0.3**
	comp=Z,10nm,0.9s,mb4.8								
RWWY				*e*pP		pP		04 58 14.7	-0.5
GSC	**Goldstone**	**57.13**	**323**	⇑P		**P**		**04 58 01.7**	**+0.6**
	baz=57								
SHOC	**Shoshone**	**57.23**	**324**	⇑P		**P**		**04 58 02.4**	**+0.5**
	baz=57								
EDW2	**Edwards Air Fo**	**57.55**	**322**	⇓P		**P**		**04 58 04.6**	**+0.5**
	baz=58								
RSSD	**Black Hills**	**57.95**	**339**	*e*P		**P**		**04 58 07.0**	**+0.2**
RSSD				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
RSSD	**Black Hills**	**57.95**	**339**	*e*P		**P**		**04 58 07.0**	**+0.2**
	comp=Z,6.3nm,1.0s,mb4.6								
FURC	**Furnace Creek,**	**57.97**	**324**	⇑P		**P**		**04 58 07.0**	**0.0**
	baz=58								
MPMC	**Manual Prospec**	**58.05**	**323**	⇑P		**P**		**04 58 07.6**	**0.0**
	baz=58								
ISA	**Isabella**	**58.37**	**322**	⇑P		**P**		**04 58 10.0**	**+0.2**
	baz=58								
DUG	**Dugway**	**58.50**	**330**	*e*P		**P**		**04 58 11.2**	**+0.5**
DUG				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
DUG	**Dugway**	**58.50**	**330**	*e*P		**P**		**04 58 11.2**	**+0.4**
	comp=Z,8.2nm,0.8s,mb4.8								
DUG	**Dugway**	**58.50**	**330**	P		**P**		**04 58 11.6**	**+0.9**
	baz=59,SNR=12								
TCUT	**Toone Canyon**	**58.53**	**331**	*e*P		**P**		**04 58 11.0**	**0.0**
CWC	**Cottonwood Cre**	**58.66**	**323**	⇑P		**P**		**04 58 12.1**	**+0.3**
	baz=59								
VES	**Vestal, Richgr**	**58.86**	**322**	⇓P		**P**		**04 58 13.7**	**+0.5**
	baz=59								
R10A	**Warm Springs**	**58.93**	**326**	⇑P		**P**		**04 58 14.2**	**+0.5**
	baz=59								
Q11A	**Duckwater**	**58.97**	**327**	P		**P**		**04 58 14.7**	**+0.7**
	baz=59,SNR=7.5								
HWUT	**Hardware Ranch**	**58.99**	**332**	*e*P		**P**		**04 58 13.3**	**-0.8**
	comp=Z,21nm,1.0s,mb5.1								
HWUT				*e*pP		pP		04 58 27.4	-1.0
BW06	**Boulder Array**	**59.00**	**334**	*e*P		**P**		**04 58 13.1**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.4								
BW06				*e*PcP		PcP		04 59 01.1	-1.6
PDAR	**Pinedale Array**	**59.00**	**334**	P		**P**		**04 58 13.2**	**-1.0**
	comp=Z,3.3nm,1.0s,mb4.3,baz=127,slow=7.7,SNR=20								
PDAR				PcP		PcP		04 59 01.1	-1.6
	comp=Z,2.9nm,0.9s,baz=142,slow=4.6,SNR=3.9								
PDAR				LR		LR		05 23 22.8	
	comp=Z,84nm,21.0s,MS3.8,baz=358,slow=36								
P12A	**McGill**	**59.03**	**328**	P		**P**		**04 58 15.4**	**+1.0**
	baz=59,SNR=5.8								
S09A	**Goldfield**	**59.05**	**325**	⇓P		**P**		**04 58 15.0**	**+0.4**
	baz=59								
BGU	**Big Grassy Mou**	**59.16**	**330**	*e*P		**P**		**04 58 15.2**	**-0.1**
SPUT	**South Promonto**	**59.17**	**331**	*e*P		**P**		**04 58 13.3**	**-2.1**
SPUT				*e*pP		pP		04 58 27.2	-2.5
RCTC	**Rector, Farmer**	**59.27**	**322**	⇓P		**P**		**04 58 16.2**	**+0.2**
	baz=59								
R09A	**Tonopah**	**59.32**	**325**	⇑P		**P**		**04 58 16.6**	**+0.2**
	baz=60								
AGMN	**Agassiz Refuge**	**59.35**	**347**	*e*P		**P**		**04 58 15.6**	**-1.1**
	comp=Z,14nm,0.8s,mb5.0								
AGMN				*e*pP		pP		04 58 30.5	-0.4
HELL	**Mitchell Peak,**	**59.38**	**323**	⇓P		**P**		**04 58 16.7**	**-0.1**
	baz=60								
S08C	**White Mtn Res**	**59.44**	**324**	⇑P		**P**		**04 58 17.7**	**+0.5**
	baz=60								
O12A	**Currie**	**59.53**	**329**	P		**P**		**04 58 18.4**	**+0.6**
	baz=60,SNR=5.2								
HVU	**Hansel Valley**	**59.69**	**331**	*e*P		**P**		**04 58 18.1**	**-0.9**
HVU				*e*PP		pP		04 58 32.6	-0.7
HVU				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
HVU	**Hansel Valley**	**59.69**	**331**	*e*P		**P**		**04 58 18.1**	**-0.9**
	comp=Z,9.3nm,0.9s,mb4.8								
HVU				*e*pP		pP		04 58 32.6	-0.7
Q09A	**Carvers**	**59.80**	**326**	⇑P		**P**		**04 58 20.3**	**+0.6**
	baz=60								
O11A	**Cowboy Ranch,**	**59.91**	**328**	⇑P		**P**		**04 58 20.9**	**+0.4**
	baz=60								
P10A	**Eureka**	**59.97**	**327**	⇑P		**P**		**04 58 21.6**	**+0.8**
	baz=60								
R08A	**Mina**	**59.98**	**325**	⇑P		**P**		**04 58 21.5**	**+0.6**
	baz=60								
REDW	**Red Top Meadow**	**60.05**	**333**	*e*P		**P**		**04 58 20.7**	**-0.7**
	comp=Z,5.6nm,1.0s,mb4.5								
SNOW	**Snow King Moun**	**60.08**	**334**	*e*P		**P**		**04 58 21.2**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.5								
N12A	**Clover Valley,**	**60.12**	**329**	⇑P		**P**		**04 58 21.9**	**+0.1**
	baz=60								
LOHW	**Long Hollow**	**60.14**	**334**	*e*P		**P**		**04 58 21.1**	**-0.9**
	comp=Z,4.0nm,0.9s,mb4.5								
NVAR	**Mina Array Bea**	**60.15**	**325**	P		**P**		**04 58 22.6**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.4,baz=146,slow=5.3,SNR=28								
NVAR				pP		pP		04 58 35.5	-0.9
	comp=Z,4.6

K08A Mann Creek Ran 63.25 328 ⇑P P 04 58 43.2 +0.3
baz=63
M06C Likely Place G 63.27 326 ⇑P P 04 58 43.5 +0.5
baz=63
J09A Fry Pan Ranch, 63.32 329 P P 04 58 43.5 +0.2
baz=64,SNR=6.5
EGMT Eagleton 63.37 337 ⇓P P 04 58 43.8 0.0
baz=64
GASB Alder Springs 63.53 323 ⇑P P 04 58 45.3 +0.5
baz=64
HATC Hat Creek Radi 63.56 325 ⇓P P 04 58 45.0 0.0
baz=64
K07A Rock Creek Ran 63.62 328 ⇓P P 04 58 45.2 -0.3
baz=64
MOD Modoc 63.65 326 *e*P P 04 58 45.5 0.0
comp=Z,4.5nm,0.6s,mb4.7
MOD *ep*P pP 04 58 59.6 -0.4
MOD Modoc 63.65 326 P P 04 58 45.7 +0.2
baz=64,SNR=15
J08A Circle Bar Ran 63.69 329 P P 04 58 45.8 -0.1
baz=64,SNR=5.8
M05C Lookout 63.74 326 P P 04 58 46.4 +0.2
baz=64,SNR=25
I09A Lost Marbles R 63.76 330 ⇓P P 04 58 46.1 -0.2
baz=64
P01C Double 8 Ranch 63.78 323 ⇑P P 04 58 47.1 +0.6
baz=64
L05A Lakeview 64.03 326 P P 04 58 49.0 +0.9
baz=64,SNR=5.3
MSO Missoula 64.12 334 *e*P P 04 58 48.6 -0.2
comp=Z,7.2nm,1.0s,mb4.7
MSO *ep*P pP 04 59 02.2 -0.9
J07A Hines 64.13 328 ⇑P P 04 58 49.3 +0.5
baz=64
K06A Valley Falls 64.23 327 P P 04 58 50.2 +0.8
baz=64,SNR=7.0
M04C Macdoel 64.41 325 P P 04 58 50.6 0.0
baz=65,SNR=6.9
J06A Christmas Vall 64.49 328 P P 04 58 51.6 +0.5
baz=65,SNR=11
K05A Summer Lake 64.53 327 P P 04 58 52.4 +1.1
baz=65,SNR=7.2
H08A Prairie City 64.62 329 P P 04 58 52.5 +0.6
baz=65,SNR=15
N02C Big Bar 64.62 324 P P 04 58 52.3 +0.3
baz=65,SNR=15
SCHQ Schefferville 64.72 8 P P 04 58 51.5 -1.1
comp=Z,12nm,0.9s,mb4.9,baz=197,slow=6.2,SNR=11
I07A Izee 64.73 329 P P 04 58 53.0 +0.4
baz=65,SNR=11
M02C Callahan 64.73 325 ⇓P P 04 58 52.2 -0.5
baz=65
YBH Yreka Blue Hor 64.87 325 P P 04 58 52.6 -1.0
baz=65,SNR=6.5
KHMM Horse Mountain 64.91 324 *e*P P 04 58 54.0 +0.2
KHMM *ep*P pP 04 59 08.4 +0.1
K04A Chilquin 64.91 326 ⇑P P 04 58 53.4 -0.5
baz=65
F10A Beach Ranch, E 64.97 331 P P 04 58 54.3 +0.1
baz=65,SNR=8.8
I06A Prineville 65.00 328 P P 04 58 55.0 +0.6
baz=65,SNR=11
C13A Hot Springs 65.05 334 P P 04 58 55.2 +0.4
baz=65,SNR=5.9
J05A Fort Rock 65.09 327 P P 04 58 55.6 +0.6
baz=65,SNR=8.4
F09A S2 Ranch, Elgi 65.10 331 P P 04 58 55.2 +0.1
baz=65,SNR=6.1
H07A Lands Inn, Kim 65.12 329 ⇑P P 04 58 55.2 0.0
baz=65
G08A Pilot Rock 65.31 330 P P 04 58 56.5 +0.1
baz=66,SNR=7.4
C12A Trout Creek 65.47 334 P P 04 58 57.6 +0.2
baz=66,SNR=5.7
B13A Whitefish 65.55 335 ⇓P P 04 58 57.9 -0.1
baz=66
F08A Pendleton 65.58 330 ⇓P P 04 58 57.7 -0.5
baz=66
G07A Ruggs Ranch, H 65.65 329 ⇓P P 04 58 58.9 +0.3
baz=66
L02A Cave Junction 65.65 325 P P 04 58 58.7 +0.1
baz=66,SNR=5.9
E09A Wood Farm, Sta 65.80 331 P P 04 58 59.4 -0.2
baz=66,SNR=6.4
WALA Waterton Lakes 65.85 335 *e*P P 04 58 59.7 -0.2
comp=Z,12nm,0.9s,mb4.9
WALA *ep*P pP 04 59 13.2 -1.2
K02A Glendale 65.98 325 P P 04 59 00.8 0.0
baz=66,SNR=10.0
J03A Ideyld Park 66.09 326 ⇑P P 04 59 01.0 -0.5
baz=66
B12A Libby 66.10 334 ⇑P P 04 59 02.0 +0.5
baz=66
G06A Carlson Farm, 66.11 329 ⇑P P 04 59 02.1 +0.5
baz=66
D09A Jones Farm, Ri 66.27 332 ⇓P P 04 59 02.3 -0.3
baz=66
C10A Spilker Farm, 66.37 333 ⇑P P 04 59 02.8 -0.4
baz=66
J02A Umpqua 66.42 326 P P 04 59 04.0 +0.5
baz=67,SNR=7.9
G05A Wamic 66.47 329 ⇑P P 04 59 04.2 +0.4
baz=67
A12A Yaak River Ran 66.48 334 ⇓P P 04 59 04.6 +0.7
baz=67
H04A Detroit Lake 66.54 328 P P 04 59 04.2 -0.2
baz=67,SNR=5.8
F06A Goldendale 66.56 329 ⇓P P 04 59 05.0 +0.5
baz=67
D08A Wollman Farm, 66.56 331 ⇑P P 04 59 04.4 -0.1
baz=67
NEW Newport 66.61 333 *e*P P 04 59 04.1 -0.7
NEW *e**PP pP 04 59 18.3 -1.0
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 66.61 333 *e*P P 04 59 04.1 -0.7
comp=Z,4.5nm,0.8s,mb4.5
NEW *ep*P pP 04 59 18.3 -1.0
E07A Sunnyside 66.65 330 ⇑P P 04 59 05.5 +0.4
baz=67
I03A Eugene 66.65 327 P P 04 59 05.2 +0.2
baz=67,SNR=6.6
B10A Chitwood Farm, 66.69 333 ⇓P P 04 59 05.0 -0.3
baz=67
C09A Chrisman Ranch 66.80 332 ⇑P P 04 59 06.6 +0.6
baz=67
F05A White Salmon 66.98 329 ⇑P P 04 59 07.3 +0.1
baz=67
G04A Mulino 67.05 328 ⇑P P 04 59 07.2 -0.3
baz=67
H03A Soap Creek Ran 67.12 327 P P 04 59 08.8 +0.7
baz=67,SNR=5.5
C08A Higginbotham F 67.14 332 ⇑P P 04 59 08.4 +0.2
baz=67
D07A Quincy 67.16 331 ⇑P P 04 59 08.4 +0.2
baz=67
B09A Rice 67.19 333 ⇑P P 04 59 08.6 +0.1
baz=67
E06A Yakima 67.19 330 ⇓P P 04 59 08.0 -0.5
baz=67
F04A Amboy 67.50 329 ⇓P P 04 59 09.9 -0.6
baz=68
C07A Waterville 67.55 331 P P 04 59 11.1 +0.4
baz=68,SNR=6.8
D06A Cle Elum 67.58 330 ⇑P P 04 59 10.6 -0.4
baz=68
A09A Danville 67.80 333 P P 04 59 12.5 +0.2
baz=68,SNR=5.7
E04A Onalaska 68.10 329 ⇓P P 04 59 14.5 +0.2
baz=68
B07A Winthrop 68.13 332 ⇑P P 04 59 14.0 -0.4
baz=68
D05A Enumclaw 68.14 330 ⇓P P 04 59 14.3 -0.2
baz=68
C05A Tolt Reservoir 68.34 330 ⇓P P 04 59 15.2 -0.5
baz=68
D04A Dobbs Creek Ra 68.50 329 ⇑P P 04 59 16.5 -0.2
baz=69
TBI Tubuai 68.71 249 *e*LR LR 05 20 06.1
comp=Z,216nm,32.8s
EDM Edmonton 68.93 339 *e*P P 04 59 17.8 -1.6
EDM *e**PP pP 04 59 32.0 -2.0
B05A Bryant 68.93 331 ⇓P P 04 59 18.7 -0.7
baz=69
C04A Brinnon 68.99 330 ⇑P P 04 59 19.2 -0.6
baz=69
PPT Papeete 69.05 255 *e*LR LR 05 20 15.0
comp=Z,366nm,26.0s
PPT Papeete 69.05 255 LR LR 05 21 02.6
comp=Z,202nm,20.8s,MS4.3,baz=171,slow=28
A05A Maple Falls 69.43 331 ⇓P P 04 59 22.2 -0.3
baz=70
B04A Port Angeles 69.48 330 ⇑P P 04 59 23.4 +0.6
baz=70
VNA1 Neumayer--Stat 74.81 161 ⇓*i*P P 04 59 55.0 +0.4
VNA1 *e* pP 05 00 09.3 -0.1
VNA1 *e* pP 05 00 11.4 +2.0
VNA1 *e* pP 05 00 14.3 +4.9
DBIC Dimbokro 75.32 81 P P 04 59 58.8 +1.2
comp=Z,10nm,0.7s,mb4.9,baz=247,slow=4.3,SNR=30
DBIC LR LR 05 33 39.1
comp=Z,64nm,18.8s,MS4.0,baz=273,slow=36
DBIC Dimbokro 75.32 81 *e*P P 04 59 58.6 +1.0
DBIC pmax pmax
comp=Z,30nm,1.2s
DBIC Dimbokro 75.32 81 *e*P P 04 59 58.6 +1.1
comp=Z,30nm,1.2s,mb5.1
SNAA Sanae 76.76 162 ⇑*i*P P 05 00 04.5 -1.2
SNAA *e* pP 05 00 18.9 -1.6
SNAA *e* pP 05 00 21.7 +1.2
SNAA *e* 05 00 26.7
SNAA Sanae 76.76 162 *e*P P 05 00 05.2 -0.5
SNAA *e**PP pP 05 00 19.2 -1.3
SNAA pmax pmax
comp=Z,18nm,1.0s
SNAA Sanae 76.76 162 *e*P P 05 00 05.2 -0.5
comp=Z,18nm,1.0s,mb5.0
SNAA *ep*P pP 05 00 19.2 -1.3
YKA Yellowknife Ar 76.79 344 P P 05 00 04.4 -1.5
comp=Z,4.0nm,0.6s,mb4.5,baz=144,slow=6.0,SNR=14
YKA LR LR 05 39 15.7
comp=Z,47nm,19.2s,MS3.8,baz=180,slow=40
SFJD Kangerlussuaq 78.83 11 LR LR 05 33 29.3
comp=Z,69nm,19.6s,MS4.0,baz=134,slow=34
PLOU Loures 80.34 48 *e*P P 05 00 27.5 +2.0
comp=Z,49nm,1.3s,mb5.3
QSPA South Pole Qui 80.77 180 *e*P P 05 00 27.8 0.0
comp=Z,28nm,1.1s,mb5.1
PBEJ Beja 81.00 49 *e*P P 05 00 30.7 +1.7
comp=Z,20nm,1.6s,mb4.8
EVO Evora 81.06 49 ⇑*i*P P 05 00 30.0 +0.7
comp=Z,31nm,0.9s,mb4.9
EVO *e*MLR MLR
comp=Z,100nm,17.8s
EGRO El Granado 81.13 50 P P 05 00 30.8 +1.1
comp=Z,30nm,0.9s,mb5.2
PESTR Estremoz 81.48 48 *e*P P 05 00 33.3 +1.7
comp=Z,12nm,1.8s,mb4.5
EMIN Mina Concepcio 81.81 50 P P 05 00 34.1 +0.8
comp=Z,12nm,0.7s,mb4.9
PVIS Viseu 81.88 46 *e*P P 05 00 34.5 +0.9
comp=Z,20nm,1.4s,mb4.8
PCBR Castelo Branco 81.89 47 *e*P P 05 00 34.4 +0.7
comp=Z,10nm,1.6s,mb4.5
MDT Midelt 81.94 55 LR LR 05 32 15.7
comp=Z,50nm,21.4s,MS3.8,baz=351,slow=32
MTE Manteigas 82.02 47 *e*P P 05 00 34.2 -0.2
comp=Z,15nm,1.5s,mb4.7
ESPR Espera 82.15 51 P P 05 00 35.7 +0.6
comp=Z,17nm,0.9s,mb5.0
PVRL Vila Real 82.19 46 *e*P P 05 00 36.5 +1.2
comp=Z,13nm,1.9s,mb4.5
EJIF Jimena Fronter 82.32 51 P P 05 00 36.2 +0.2
EJIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
EJIF Jimena Fronter 82.32 51 P P 05 00 36.2 +0.2
comp=Z,10.0nm,0.8s,mb4.8
EMIJ Mijas 82.89 51 P P 05 00 39.8 +0.8
comp=Z,15nm,0.8s,mb5.1
TOA0 Torodi Ar. Sit 82.92 75 *e*P P 05 00 39.6 +0.5
TORD Torodi Ar. Bea 82.92 75 P P 05 00 39.8 +0.7
comp=Z,16nm,0.9s,mb5.0,baz=271,slow=4.6,SNR=62
TORD pP pP 05 00 54.7 +0.7
comp=Z,5.1nm,0.8s,baz=275,slow=6.2,SNR=6.9
TORD LR LR 05 33 33.0
comp=Z,117nm,20.5s,MS4.2,baz=280,slow=33
TORD Torodi Ar. Bea 82.92 75 P P 05 00 39.8 +0.7
TORD pP pP 05 00 54.7 +0.7
TORD LR LR 05 33 33.0
PBRG Braganca 83.06 46 *e*P P 05 00 40.7 +0.9
comp=Z,26nm,1.2s,mb5.1
ECAL Calabor 83.11 46 P P 05 00 40.2 +0.1
comp=Z,23nm,0.7s,mb5.3
EPON Pontenova 83.28 44 P P 05 00 39.3 -1.6
comp=Z,18nm,0.8s,mb5.2
EADA Adamuz 83.51 50 P P 05 00 42.7 +0.6
comp=Z,15nm,0.8s,mb5.2
ELOJ Sierra Loja 83.54 51 P P 05 00 42.1 -0.2
ELOJ pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
ELOJ Sierra Loja 83.54 51 P P 05 00 42.1 -0.2
comp=Z,8.0nm,0.7s,mb5.0
ELUQ Luque 83.57 50 P P 05 00 42.3 -0.1
ELUQ pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
ELUQ Luque 83.57 50 P P 05 00 42.3 -0.2
comp=Z,6.6nm,0.6s,mb4.9
ERON Agron 83.77 51 P P 05 00 43.0 -0.4
ESDC Sonseca Array 84.41 48 P P 05 00 47.8 +1.1
comp=Z,3.4nm,0.5s,mb4.7,baz=261,slow=5.0,SNR=48
ESDC LR LR 05 37 24.0
comp=Z,47nm,18.4s,MS3.9,baz=0.0,slow=35
ESDC Sonseca Array 84.41 48 P P 05 00 47.1 +0.3
comp=Z,9.5nm,0.6s,mb5.1
ESLA Sonseca Array 84.41 48 *e*P P 05 00 47.8 +1.1
comp=Z,6.6nm,1.5s,mb4.5
EQES Quesada 84.55 50 P P 05 00 47.4 0.0
comp=Z,10nm,0.8s,mb5.0
GUD Guadarrama 84.56 47 P P 05 00 46.5 -0.9
GUD pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GUD Guadarrama 84.56 47 P P 05 00 46.5 -0.9
comp=Z,9.9nm,0.9s,mb4.9
EARI Arriondas 84.61 45 P P 05 00 47.2 -0.5
comp=Z,89nm,1.5s,mb5.7
EVIA Vianos 85.21 50 P P 05 00 50.5 -0.2
EVIA pmax pmax
comp=Z,12nm,0.7s,mb5.1
EVIA Vianos 85.21 50 P P 05 00 50.5 -0.2
comp=Z,12nm,0.7s,mb5.1
BORG Borgarnes 85.28 21 LR LR 05 38 45.9
comp=Z,10.0nm,18.2s,MS3.2,baz=344,slow=35
SUMG Summit 85.82 11 *e*P P 05 00 53.4 -0.3
comp=Z,29nm,1.1s,mb5.4
DAWY Dawson 86.11 337 *e*P P 05 00 53.9 -1.3
INK Inuvik 86.45 342 *e*P P 05 00 55.3 -1.6
INK pmax pmax
comp=Z,759nm,1.1s
INK Inuvik 86.45 342 *e*P P 05 00 55.3 -1.6
comp=Z,760nm,1.1s
VNDA Vanda 87.02 191 P P 05 00 59.0 -0.6
comp=Z,1.3nm,1.0s,mb4.1,baz=131,slow=6.8,SNR=7.3
VNDA Vanda 87.02 191 *e*P P 05 00 58.8 -0.8
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA Vanda 87.02 191 *e*P P 05 00 58.8 -0.8
comp=Z,1.9nm,1.1s,mb4.2
EGAK Eagle 87.13 338 *e*P P 05 00 58.8 -1.4
comp=Z,32nm,0.9s,mb5.5
SJPF Ste Jean 87.34 46 ⇑*i*P P 05 01 01.4 +0.2
comp=Z,16nm,0.8s,mb5.0
SJPF Ste Jean 87.34 46 ⇑*i*P P 05 01 01.4 +0.2
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
SJPF Ste Jean 87.34 46 ⇑*i*P P 05 01 01.4 +0.2
comp=Z,7.8nm,0.8s,mb5.0
QUIF Quistinic 87.36 41 *e*P P 05 01 00.6 -0.7
ROSF Rostrenen 87.42 40 *e*P P 05 01 01.0 -0.6
comp=Z,23nm,1.0s,mb5.1
ROSF Rostrenen 87.42 40 *e*P P 05 01 01.0 -0.6
ROSF pmax pmax
comp=Z,12nm,1.0s,mb5.1
ROSF Rostrenen 87.42 40 *e*P P 05 01 01.0 -0.6
comp=Z,12nm,1.0s,mb5.1
ETSF Etsaut 87.76 46 ⇑*i*P P 05 01 03.4 +0.2
comp=Z,12nm,0.8s,mb4.8
ETSF Etsaut 87.76 46 ⇑*i*P P 05 01 03.4 +0.2
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
ETSF Etsaut 87.76 46 ⇑*i*P P 05 01 03.4 +0.2
comp=Z,6.0nm,0.8s,mb4.9
SGMF Saint Gilles 87.85 40 *e*P P 05 01 03.0 -0.6
comp=Z,26nm,1.1s,mb5.1
SGMF Saint Gilles 87.85 40 *e*P P 05 01 03.0 -0.6
SGMF pmax pmax
comp=Z,13nm,1.1s,mb5.1
SGMF Saint Gilles 87.85 40 *e*P P 05 01 03.0 -0.6
comp=Z,13nm,1.1s,mb5.1
EBIE Bielsa 88.21 46 P P 05 01 04.5 -0.8
comp=Z,5.1nm,0.6s,mb4.9
EPF Esparros 88.43 46 *e*P P 05 01 05.8 -0.6
comp=Z,3.9nm,0.6s,mb4.5
EPF Esparros 88.43 46 *e*P P 05 01 05.8 -0.6
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
EPF Esparros 88.43 46 *e*P P 05 01 05.8 -0.6
comp=Z,2.0nm,0.6s,mb4.5
GRR Gorron 88.98 41 *e*P P 05 01 08.2 -0.8
comp=Z,13nm,0.8s,mb5.0
GRR Gorron 88.98 41 *e*P P 05 01 08.2 -0.8
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
GRR Gorron 88.98 41 *e*P P 05 01 08.2 -0.8
comp=Z,6.6nm,0.8s,mb5.0
MFF Saint Martin d 88.99 43 ⇑*i*P P 05 01 08.4 -0.6
comp=Z,16nm,0.8s,mb5.1
MFF Saint Martin d 88.99 43 ⇑*i*P P 05 01 08.4 -0.6
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
MFF Saint Martin d 88.99 43 ⇑*i*P P 05 01 08.4 -0.6
comp=Z,7.8nm,0.8s,mb5.1
LFF La Frestale 89.18 44 ⇑*i*P P 05 01 09.4 -0.5
comp=Z,13nm,0.7s,mb5.1
LFF La Frestale 89.18 44 ⇑*i*P P 05 01 09.4 -0.5
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LFF La Frestale 89.18 44 ⇑*i*P P 05 01 09.4 -0.5
comp=Z,6.4nm,0.7s,mb5.1
FLN La Foliniere 89.32 40 ⇑*i*P P 05 01 10.0 -0.6
comp=Z,31nm,0.9s,mb5.3
FLN *e*MLR MLR
comp=Z,66nm,22.5s
FLN La Foliniere 89.32 40 ⇑*i*P P 05 01 10.0 -0.6
FLN pmax pmax
comp=Z,16nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,70nm,22.5s,MS4.0
FLN La Foliniere 89.32 40 ⇑*i*P P 05 01 10.0 -0.6
comp=Z,16nm,0.9s,mb5.3
FLN LR LR
comp=Z,70nm,22.5s,MS4.0
LDF La Druitiere 89.51 41 *e*P P 05 01 10.8 -0.6
comp=Z,26nm,1.0s,mb5.2
LDF La Druitiere 89.51 41 *e*P P 05 01 10.8 -0.6
LDF pmax pmax
comp=Z,13nm,1.0s,mb5.2
LDF La Druitiere 89.51 41 *e*P P 05 01 10.8 -0.6
comp=Z,13nm,1.0s,mb5.2
COLA College 89.75 336 *e*P P 05 01 11.1 -1.5
COLA *e**PP pP 05 01 24.5 -3.2
COLA pmax pmax
comp=Z,16nm,0.9s,mb5.3
COLA College 89.75 336 *e*P P 05 01 11.1 -1.5
comp=Z,16nm,0.9s,mb5.3
COLA *ep*P pP 05 01 24.5 -3.2
RJF Les Rejaudoux 89.80 44 ⇑*i*P P 05 01 12.1 -0.7
comp=Z,12nm,0.9s,mb4.9
RJF *e*MLR MLR
comp=Z,74nm,20.0s
RJF Les Rejaudoux 89.80 44 ⇑*i*P P 05 01 12.1 -0.7
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,70nm,20.0s,MS4.1
RJF Les Rejaudoux 89.80 44 ⇑*i*P P 05 01 12.1 -0.7
comp=Z,5.8nm,0.9s,mb4.9
RJF LR LR
comp=Z,70nm,20.0s,MS4.1
MTLF Montolieu 89.84 46 ⇑*i*P P 05 01 12.4 -0.6
comp=Z,4.8nm,0.6s,mb4.7
MTLF Montolieu 89.84 46 ⇑*i*P P 05 01 12.4 -0.6
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
MTLF Montolieu 89.84 46 ⇑*i*P P 05 01 12.4 -0.6
comp=Z,2.4nm,0.6s,mb4.7
CAF Calviac 90.09 45 *e*P P 05 01 13.5 -0.7
comp=Z,4.7nm,0.7s,mb4.6
CAF Calviac 90.09 45 *e*P P 05 01 13.5 -0.7
CAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
CAF Calviac 90.09 45 *e*P P 05 01 13.5 -0.7
comp=Z,2.3nm,0.7s,mb4.6
TCF Toulx Ste Croi 90.49 43 *e*P P 05 01 15.1 -0.9
comp=Z,4.8nm,0.8s,mb4.6
TCF Toulx Ste Croi 90.49 43 *e*P P 05 01 15.1 -0.9
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 90.49 43 *e*P P 05 01 15.1 -0.9
comp=Z,2.4nm,0.8s,mb4.6
BGF Bois d'Agland 90.98 43 *e*P P 05 01 17.7 -0.6
comp=Z,9.9nm,0.8s,mb4.9
BGF Bois d'Agland 90.98 43 *e*P P 05 01 17.7 -0.6
BGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
BGF Bois d'Agland 90.98 43 *e*P P 05 01 17.7 -0.6
comp=Z,4.9nm,0.8s,mb4.9
HYF Humbligny 91.00 42 *e*P P 05 01 17.8 -0.6
SYO Syowa Base 91.05 162 ⇓*e*PcP PcP 05 01 17.0 -2.6
SYO Syowa Base 91.05 162 ⇑*es*P pP 05 01 35.0 +1.3
AVF Avril sur Loir 91.37 43 *e*P P 05 01 19.1 -1.0
comp=Z,6.0nm,1.0s,mb4.6
AVF Avril sur Loir 91.37 43 *e*P P 05 01 19.1 -1.0
AVF pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
AVF Avril sur Loir 91.37 43 *e*P P 05 01 19.1 -1.0
comp=Z,3.0nm,1.0s,mb4.6
SSF Saint Saulge 91.53 43 *e*P P 05 01 19.6 -1.3
comp=Z,11nm,1.1s,mb4.8
SSF Saint Saulge 91.53 43 *e*P P 05 01 19.6 -1.3
SSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
SSF Saint Saulge 91.53 43 *e*P P 05 01 19.6 -1.3
comp=Z,5.5nm,1.1s,mb4.8
SMF Signal de Mont 91.67 43 *e*P P 05 01 20.7 -0.8
comp=Z,8.6nm,1.0s,mb4.7
SMF Signal de Mont 91.67 43 *e*P P 05 01 20.7 -0.8
SMF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
SMF Signal de Mont 91.67 43 *e*P P 05 01 20.7 -0.8
comp=Z,4.3nm,1.0s,mb4.7
LOR Lormes 91.81 43 *e*P P 05 01 21.1 -1.1
comp=Z,3.3nm,0.7s,mb4.5
LOR *e*MLR MLR
comp=Z,84nm,20.0s
LOR Lormes 91.81 43 *e*P P 05 01 21.1 -1.1
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
LOR MLR MLR
comp=Z,80nm,20.0s,MS4.2
LOR Lormes 91.81 43 *e*P P 05 01 21.1 -1.1
comp=Z,1.6nm,0.7s,mb4.5
LOR LR LR
comp=Z,80nm,20.0s,MS4.2
DAG Danmarks Havn 92.50 12 ⇑*i*P P 05 01 24.6 -0.7
comp=Z,4.5nm,0.8s,mb5.0
DAG Danmarks Havn 92.50 12 ⇑*i*P P 05 01 24.6 -0.7
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 92.74 45 *e*P P 05 01 26.7 +0.2
comp=Z,4.4nm,0.6s,mb4.8
ORIF *e*MLR MLR
comp=Z,81nm,19.2s
ORIF Oris-en-Rattie 92.74 45 *e*P P 05 01 26.7 +0.2
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
ORIF Oris-en-Rattie 92.74 45 *e*P P 05 01 26.7 +0.2
comp=Z,2.2nm,0.6s,mb4.8
TSUM Tsumeb 92.87 110 *e*P P 05 01 28.2 +1.1
comp=Z,14nm,1.3s,mb5.2
TSUM *ep*P pP 05 01 43.4 +1.2
LPL La Plagne 93.44 45 *e*P P 05 01 30.0 +0.3
comp=Z,5.7nm,0.8s,mb4.7
LPL La Plagne 93.44 45 *e*P P 05 01 30.0 +0.3
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
LPL La Plagne 93.44 45 *e*P P 05 01 30.0 +0.3
comp=Z,2.8nm,0.8s,mb4.7
LPG La Plagne 93.45 45 *e*P P 05 01 30.2 +0.5
comp=Z,6.3nm,0.8s,mb4.8
LPG La Plagne 93.45 45 *e*P P 05 01 30.2 +0.5
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.8

LPG	La Plagne	93.45	45	eP	P	05 01 30.2	+0.5
	comp=Z,3.2nm,0.8s,mb4.8						
KEST	Kesra	93.84	55	LR	LR	05 39 10.7	
	comp=Z,28nm,19.3s,MS3.7,baz=213,slow=32						
DAVOX	Davos/Dischmat	95.79	44	LR	LR	05 43 06.2	
	comp=Z,50nm,18.0s,MS4.0,baz=258,slow=34						
NOA	NORSAR Array B	98.08	29	LR	LR	05 46 32.9	
	comp=Z,35nm,18.6s,MS3.9,baz=270,slow=36						
VAE	Valguarnera	98.10	53	LR	LR	05 46 46.0	
	comp=Z,108nm,19.6s,MS4.3,baz=107,slow=36						
HFS	Hagfors	99.25	30	LR	LR	05 41 11.8	
	comp=Z,60nm,19.1s,MS4.1,baz=247,slow=32						
MALT	Malatya	117.01	52	ePKIKP	PKPdf	05 06 58.8	-0.1
STKA	Stephens Creek	123.72	221	ePKPdf	PKPdf	05 07 11.4	-0.4
CTAO	Charters Tower	126.93	236	ePKIKP	PKPdf	05 07 18.0	+0.1
ZRNK	Zerenda	129.31	25	ePKIKP	PKPdf	05 07 21.8	-0.6
CHKZ	Chkalovo	129.41	23	ePKIKP	PKPdf	05 07 22.1	-0.5
ZAL	Zalesovo	133.61	13	PKP	PKPdf	05 07 29.0	-1.5
	comp=Z,1.8nm,0.6s,baz=226,slow=2.2,SNR=11						
ZAL	Zalesovo	133.61	13	PKP	PKPdf	05 07 29.0	-1.5
ASAR	Alice Springs	134.23	224	PKP	PKPdf	05 07 31.1	-0.6
	comp=Z,2.9nm,0.7s,baz=124,slow=1.9,SNR=5.1						
ASAR				pPKP	pPKPdf	05 07 47.0	-0.4
	comp=Z,2.5nm,0.8s,baz=125,slow=2.0,SNR=8.2						
WB2	Warramunga Arr	136.31	228	ePKPdf	PKPdf	05 07 35.3	-0.3
WB2				epPKPdf	pPKPdf	05 07 50.8	-0.5
WRA	Warramunga Arr	136.32	228	PKP	PKPdf	05 07 35.6	-0.1
	comp=Z,4.9nm,0.5s,baz=125,slow=1.9,SNR=41						
WRA				pPKP	pPKPdf	05 07 50.8	-0.5
	comp=Z,2.9nm,0.5s,baz=123,slow=2.0,SNR=9.0						
MDJ	Mudanjiang	137.16	330	PKP	PKPdf	05 07 35.6	-1.6
MKAR	Makanchi Array	139.33	20	PKhKP		05 07 30.4	
	comp=Z,0.7nm,0.7s,baz=352,slow=3.1,SNR=5.4						
MKAR				PKP	PKPdf	05 07 39.9	-1.3
	comp=Z,1.2nm,0.7s,baz=285,slow=2.4,SNR=7.9						
AAK	Ala-Archa	139.39	31	ePKIKP	PKPdf	05 07 41.3	0.0
SONM	Songino Array	141.40	354	PKhKP		05 07 37.7	
	comp=Z,1.3nm,0.6s,baz=338,slow=2.2,SNR=6.9						
SONM				PKP	PKPdf	05 07 42.4	-2.5
	comp=Z,2.9nm,0.9s,baz=356,slow=1.6,SNR=8.3						
WMQ	Urumqi	143.68	17	ePKP	PKPdf	05 07 50.0	+1.0
WMQ				LR	LR		
	comp=Z,103nm,20.4s,MS4.6						
MBWA	Marble Bar	144.67	211	ePKPdf	PKPdf	05 07 48.9	-1.8
DL2	Dalian	145.36	331	PKP	PKPdf	05 07 50.3	-1.6
BJI	Beijing	146.67	339	PKP	PKPdf	05 07 54.0	-0.1
BJT	Baijiatuan	146.69	339	ePKP2	PKPab	05 07 54.0	-3.1
HHC	Hu-ho-hao-te	147.32	345	ePKP	PKPdf	05 07 56.8	+1.6
HHC				PP	PP	05 11 29.6	+6.2
HHC				SS	SS	05 30 24.9	+3.3
HHC				LR	LR		
	comp=N,131nm,6.2s						
HHC				LR	LR		
	comp=E,146nm,6.1s						
HHC				LR	LR		
	comp=Z,107nm,6.3s						
GTA	Gaotai	150.04	2	PKP	PKPdf	05 08 00.0	+0.4
GTA				APKP		05 08 11.8	
GTA				XPKP		05 08 19.6	
GTA				PKS		05 11 34.0	
GTA				SKS	SKSdf	05 14 57.0	-6.1
GTA				PP	PP		
	comp=Z,138nm,8.4s						
GTA				LR	LR		
	comp=N,132nm,21.7s,MS5.0						
GTA				LR	LR		
	comp=E,218nm,20.5s,MS5.0						
GTA				LR	LR		
	comp=Z,66nm,16.0s,MS4.5						
NDI	New Delhi	150.34	46	eP	PKPbc	05 08 04.5	-0.8
POO	Poona	151.91	68	ex	PKPbc	05 08 08.0	-1.0
NJ2	Nanjing	152.13	327	ePKP	PKPdf	05 08 02.0	-0.8
LZH	Lanzhou	153.28	355	ePKP	PKPdf	05 08 04.5	0.0
LZH				APKP		05 08 19.8	
LZH				XPKP		05 08 25.3	
LZH				PKS		05 11 36.8	
LZH				PP	PP	05 12 01.3	+3.6
LZH				SKS	SKSdf	05 15 04.3	-2.8
LZH				SKKS	SKKSac	05 18 43.3	-0.3
LZH				eSS	SS	05 31 27.8	0.0
LZH				PP	PP		
	comp=Z,81nm,8.9s						
LZH				LR	LR		
	comp=E,145nm,18.1s						
LZH				LR	LR		
	comp=Z,249nm,20.3s,MS5.0						
KOLN	Koldanda	155.24	40	eP	PKPab	05 08 33.0	+0.6
GKN	Gorkha	155.72	38	eP	PKPab	05 08 35.2	+0.8
KKN	Kakani	156.26	37	eP	PKPab	05 08 37.0	+0.2
DMN	Daman	156.29	38	eP	PKPab	05 08 38.3	+1.4
	comp=Z,31nm,0.9s						
PKI	Pulchoki	156.50	37	eP	PKPab	05 08 38.8	+1.0
GUN	Gumba	156.53	36	eP	PKPab	05 08 39.5	+1.6
	comp=Z,49nm,0.8s						
CD2	Chengdu	158.42	354	ePKP	PKPdf	05 08 11.4	+0.1
GYA	Guiyang	162.23	344	PKP	PKPdf	05 08 15.8	+0.3
GYA				PKP2	PKPab	05 09 01.9	-0.8
GYA				PP	PP	05 12 47.1	+0.3
GYA				PP	PP		
	comp=Z,110nm,8.9s						
KMI	Kunming	164.25	355	PKP	PKPdf	05 08 15.0	-2.4
KMI				APKP		05 08 31.4	
KMI				LR	LR		
	comp=Z,50nm,23.8s						

TRN 15 05:02:39.5, 1763N×6229W, h147km, MD3.8, Md3.9(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	0.45	88	eP	Pn	05 03 01.6	+1.4
BPA	Boggy Peak	0.71	144	eP	Pn	05 03 02.4	+0.7
BPA				eS	Sn	05 03 19.8	+1.1
LZG	Guadaloupe-1	1.56	161	eP	Pn	05 03 12.9	+3.5
BCG	Bois Riant Cap	1.66	157	↓eP	Pn	05 03 12.3	+1.7
SCG	Saint Claude	1.69	160	eP	Pn	05 03 13.2	+2.3
TBG	Guadaloupe-3	1.87	161	↓eP	Pn	05 03 15.2	+2.2
MGG	Marie-Galante	1.94	151	eP	Pn	05 03 13.6	-0.1
FDF	Fort de France	3.08	159	eP	Pn	05 03 27.5	-0.2
FDF				eS	Sn	05 03 58.9	-6.1
BIM	Bigot	3.31	159	eP	Pn	05 03 31.1	+0.4

*INMG **15** 05:05:49.8±1.5, 4240N×8.14W, h0km, ML1.5, Error ellipse: s-maj=3.2km s-min=2.3km az=77.0*

MDD 15 05:05:49.9±0.3, 4241N×816W, h0km, mbLg1.6/10, 2C, Error ellipse: s-maj=2.8km s-min=2.5km az=66.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZAM	Zamans	0.47	238	⇑Pg	Pg	05 05 58.3	-0.6
	SNR=18						
EZAM				Lg		05 06 04.6	
	7.1nm,0.1s,SNR=7.9						
STS	Santiago	0.56	329	⇑Pg	Pg	05 06 00.1	-0.5
	SNR=18						
STS				Lg		05 06 08.1	
	22nm,0.2s,SNR=7.9						
PCAB	Cabril	0.70	172	ePg	Pg	05 06 03.5	+0.2
PCAB				eSg	Sg	05 06 12.5	+0.1
PCAB							
	18nm,0.1s						
ERUA	La Rua	0.75	91	Lg		05 06 13.0	
	6.1nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	0.81	312	Pg	Pg	05 06 05.8	+0.3
	1.2nm,0.1s,SNR=4.0						
EMAZ				Lg		05 06 16.3	
	5.3nm,0.1s,SNR=5.0						
ECAL	Calabor	1.15	113	Pg	Pg	05 06 11.8	-0.2
	3.3nm,0.3s,SNR=12						
ECAL				Lg		05 06 25.9	
	4.2nm,0.2s,SNR=5.0						
PVRL	Vila Real	1.18	164	eP	Pg	05 06 12.3	-0.1
PVRL				eS	Sg	05 06 27.3	-0.4
PVRL							
	15nm,0.1s						
EPON	Pontenova	1.18	38	Pg	Pg	05 06 10.5	-2.1
	1.1nm,0.1s,SNR=10						
EPON				Lg		05 06 28.0	
	1.4nm,0.1s,SNR=5.0						
PBRG	Braganca	1.21	119	eP	Pg	05 06 12.4	-0.7
PBRG				eS	Sg	05 06 27.2	-1.7
PBRG							
	2.2nm,0.1s						
PVIS	Viseu	1.70	173	ePn	Pn	05 06 21.2	+0.4
PVIS				eSg	Sg	05 06 42.4	-2.1
MTE	Manteigas	2.06	167	eSn	Sn	05 06 50.1	-1.9
EARI	Arriondas	2.34	67	Pg	Pg	05 06 32.5	-2.4
	SNR=4.0						
EARI				Lg		05 07 04.1	
	2.2nm,0.6s,SNR=7.9						

IDC 15 05:14:20.5±29.0, 2382S×17829W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=555.1km s-min=145.8km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.21	248	P	P	05 21 25.0	+0.1
	0.7nm,0.4s,baz=107,slow=11,SNR=4.4						
ASAR	Alice Springs	43.60	260	P	P	05 22 27.0	+0.7
	0.6nm,0.4s,baz=91,slow=7.0,SNR=16						
WRA	Warramunga Arr	43.98	265	P	P	05 22 29.5	+0.1
	1.4nm,0.3s,baz=104,slow=8.0,SNR=33						
FITZ	Fitzroy Crossi	52.40	265	P	P	05 23 34.6	+0.2
	1.7nm,0.9s,baz=97,slow=8.1,SNR=4.5						

IGQ 15 05:30:16.8, 202S×8039W, h12km±5km, Mb4.0, Ms3.8, 3C-2D, Error ellipse: s-maj=5.6km s-min=4.7km az=113.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	1.83	73	P	Pn	05 30 50.2	+2.2
IGUA				S	Sn	05 31 15.4	+4.4
ARRY	Arrayan	2.00	75	↓P	Pn	05 30 52.9	+2.5
ARRY				S	Sn	05 31 18.8	+3.5
JUIV	Juive	2.01	73	P	Pn	05 30 53.5	+2.9
JUIV				S	Sn	05 31 20.9	+5.2
PATA	Patacocha	2.02	75	⇑P	Pn	05 30 53.6	+2.9
PATA				S	Sn	05 31 20.9	+5.1
RETU	Refugio	2.02	74	P	Pn	05 30 54.1	+3.4
RETU				S	Sn	05 31 22.3	+6.4
RUN5	Runtun	2.06	73	P	Pn	05 30 54.2	+3.0
RUN5				S	Sn	05 31 22.2	+5.5
ULBA	Ulba	2.06	74	⇑P	Pn	05 30 54.0	+2.8
ULBA				S	Sn	05 31 21.5	+4.6
CAMI	Rancho Maria	2.31	55	P	Pn	05 30 57.4	+2.8
NAS1	Nasa	2.36	54	P	Pn	05 30 59.0	+3.7
VC1	Cotopaxi 1	2.41	55	P	Pn	05 30 59.2	+3.2
TAMB	Tambo	2.41	57	P	Pn	05 30 58.4	+2.3
JUA2	San Juan 2	2.53	45	P	Pn	05 30 58.3	+0.6
TERV	Terraza Guagua	2.56	44	P	Pn	05 30 59.8	+1.7
TERV				S	Sn	05 31 35.5	+6.4
GGP	Refugio Guagua	2.57	44	⇑P	Pn	05 30 58.7	+0.5
PINO	Pino	2.57	44	P	Pn	05 30 58.6	+0.4
PINO				S	Sn	05 31 33.0	+3.7
YANA	Yana	2.62	44	P	Pn	05 31 00.0	+1.1
YANA				S	Sn	05 31 37.7	+7.0
ANTI	Antisana	2.72	55	↓P	Pn	05 31 04.7	+4.4
CAYA	Cayambe	3.17	49	P	Pn	05 31 10.6	+4.0
CAYA				S	Sn	05 31 55.1	+11

*IDC **15** 05:35:27.8±1.5, 3841N×3189E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=23.6km s-min=14.1km az=150.0*
*ISK **15** 05:35:27.3, 3873N×3157E, h3km, MD3.7, ML3.8*
*NEIC **15** 05:35:27.0, 3876N×3160E, h5km, ML3.7(ISK), After ISK.*
*ISCJB **15** 05:35:28.1±0.3, 3872N±002×3157E±002, h10km, mb3.5/3, Error ellipse: s-maj=3.2km s-min=2.3km az=1.4*
*CSEM **15** 05:35:28.2±0.1, 3874N×3157E, h10km, MD3.7, Error ellipse: s-maj=2.8km s-min=1.7km az=24.0*

ISC 15 05:35:28.4±0.5, 3870N±002×3158E±002, h2km±4km, n69, σ1°02/89, mb3.5/3, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	Kadinhani	0.46	113	iP	Pg	05 35 38.5	+1.4
KDHN				iS	Sg	05 35 41.7	-1.3
KONT	Konya--Tatoy	0.97	141	PG	Pg	05 35 47.3	+0.3
ESKT	Eskisehir	1.00	325	PG	Pg	05 35 46.4	-1.1
TKTP	Tekketepe	1.19	237	iP	Pn	05 35 50.0	-2.0
TKTP				iS	Sn	05 36 07.9	-0.8
ISP	Isparta	1.20	225	ePg	Pn	05 35 50.6	-1.5
ISP				eSg	Sn	05 36 06.8	-2.2
ISP	Isparta	1.20	225	ePg	Pn	05 35 50.6	-1.6
ISP				eSg	Sn	05 36 06.8	-2.2
BCK	Bucak	1.47	213	PN	Pn	05 35 55.0	-0.8
ANTO	Ankara	1.50	38	ePn	Pn	05 35 57.0	+0.8
ANTO	Ankara	1.50	38	ePn	Pn	05 35 57.0	+0.8
GDZ	Gediz	1.69	284	iP	Pn	05 35 59.0	+0.2
GDZ				iS	Sn	05 36 22.0	+1.1
KAMT	Kaman	1.79	67	PN	Pn	05 36 00.3	+0.1
GPA	Golpazari	1.87	329	PN	Pn	05 36 01.2	-0.1
BR131	Keskin Array S	1.90	57	ePg	Pg	05 36 03.1	-1.6
BR131				eSg	Sg	05 36 29.3	0.0
BR131	Keskin Array S	1.90	57	ePg	Pg	05 36 03.1	-1.6
BR131				eSg	Sg	05 36 29.3	0.0
BRTR	Keskin Array B	1.90	57	Pg	Pg	05 36 03.2	-1.5
	19nm,0.3s,baz=235,slow=16,SNR=126						
BRTR				Lg		05 36 26.8	
	12nm,0.3s,baz=223,slow=29,SNR=9.9						
BRTR	Keskin Array B	1.90	57	Pg	Pg	05 36 03.2	-1.5
BRTR				Lg		05 36 26.8	
SGKT	Sivrigoynuk	1.91	11	iP	Pg	05 36 03.1	-1.8
SGKT				iS	Sg	05 36 37.8	+8.2
GOLH	Golhisar	2.17	228	iP	Pg	05 36 09.1	-0.7
GOLH				iS	Sg	05 36 49.5	+12
HENT	Hendek	2.18	346	iP	Pn	05 36 09.7	+4.0
HENT				iS	Sn	05 36 32.1	-1.1
DENT	Denizli	2.22	246	PN	Pn	05 36 06.4	+0.3
DNZL	Cakiroluk	2.24	244	iP	Pg	05 36 16.4	+5.1
DNZL				iS	Sg	05 36 52.1	+12
ADVT	Abdulvahap	2.24	321	PN	Pn	05 36 06.6	+0.2
ADVT				SN	Sn	05 36 34.4	-0.2
IZL	Iznik	2.31	316	PN	Pn	05 36 06.8	-0.6
ERMK	Ermenek	2.31	152	iP	Pg	05 36 12.5	-0.2
ERMK				iS	Sg	05 36 49.7	+7.0
CDAG	Cicekdag	2.36	66	iP	Pn	05 36 10.6	+2.6
CDAG				iS	Sg	05 36 46.0	+1.9
ELL	Elmali	2.36	215	PN	Pn	05 36 09.2	+1.2
ULDT	Uludag	2.38	308	iP	Pn	05 36 08.4	+0.1
ULDT				iS	Sg	05 36 45.3	+0.5
CANT	Cankiri	2.47	39	PN	Pn	05 36 09.1	-0.5
GEMT	Gemlik	2.53	314	PN	Pn	05 36 10.7	+0.2
AVNT	Avonos	2.56	87	iP	Pg	05 36 13.4	-4.0
AVNT				iS	Sg	05 36 54.7	+4.0
HRT	Hereke	2.58	326	ePN	Pn	05 36 10.4	-0.7
KDZE	Karadeniz Ereo	2.61	358	ePN	Pn	05 36 11.0	-0.5
SAFT	Safranbolu	2.67	18	ePN	Pn	05 36 12.0	-0.4
CORM	Corum	2.78	57	ePN	Pn	05 36 14.2	+0.3
KCT	Karacabey	2.94	303	ePN	Pn	05 36 15.3	-0.8
BTOK	Tokmak	2.95	292	iP	Pg	05 36 24.2	-0.8
BTOK				iS	Sg	05 37 06.2	+3.0
MERS	Mersin	2.96	127	ePN	Pn	05 36 17.1	+0.8
TOS	Tosya	2.99	38	ePN	Pn	05 36 16.2	-0.6
ISK	Istanbul-Kandi	3.06	321	ePN	Pn	05 36 18.2	+0.6
KARA	Karaisali	3.10	117	ePN	Pn	05 36 19.1	+0.9
AYDN	Tasoluk	3.10	252	iP	Pg	05 36 26.9	-0.8
AYDN				iS	Sg	05 37 11.4	+3.5
BALT	Daday	3.15	25	iP	Pg	05 36 28.1	-0.6
BALT				iS	Sg	05 37 14.9	+5.3
KLYT	Kilyos	3.21	323	ePN	Pn	05 36 20.1	+0.3
EDC	Edincik	3.31	301	ePN	Pn	05 36 20.7	-0.5
BNN	Bunyan	3.34	86	ePN	Pn	05 36 22.5	+1.0
IZM	Izmir	3.40	266	ePN	Pn	05 36 23.2	+0.8
KOZT	Kozan	3.56	109	ePN	Pn	05 36 25.4	+0.8
KRTS	Karatas	3.68	124	ePN	Pn	05 36 27.5	+1.2
AYVA	Ayvalik	3.86	281	iP	Pg	05 36 43.2	+0.9
AYVA				iS	Sg	05 37 33.3	+0.9
MFT	Murefte	3.92	303	ePN	Pn	05 36 30.4	+0.9
RKY	Sarkoy-Tekirda	3.94	302	ePN	Pn	05 36 30.8	+1.1
CSS	Prodhromos	3.99	159	ePg	Pb	05 36 39.2	-0.1
CSS	Prodhromos	3.99	159	ePg	Pb	05 36 39.2	-0.1
EZN	Ezine	4.23	287	ePN	Pn	05 36 34.1	+0.3
SVSK	Karacayir	4.37	72	ePN	Pn	05 36 36.7	+1.0
ENEZ	Enez	4.65	298	ePN	Pn	05 36 39.7	+0.1
MALT	Malatya	5.38	92	↓iP	Pb	05 36 58.7	-4.4
MALT	Malatya	5.38	92	ePg	Pg	05 37 08.7	-2.8
	12nm,1.1s						
MALT	Malatya	5.38	92	ePg	Pg	05 37 08.7	-2.8
	12nm,1.1s						
CFR	Carcaliu	6.96	339	↓iP	Pn	05 37 11.0	-0.3
VTS	Vitosha	7.46	304	⇑iP	Pn	05 37 08.5	-10
MLR	Muntele Rosu	7.97	330	Pn	Pn	05 37 31.5	+6.3
	0.4nm,0.3s,baz=230,slow=11,SNR=4.6						
VRI	Vrincioaia	8.01	335	⇑iP	Pn	05 37 20.1	-5.6
GERES	GERESS Array B	16.38	314	Pn	Pn	05 39 24.2	+4.9
	baz=117,slow=14,SNR=3.7						
AKTK	Aktyubinsk	22.06	49	P	P	05 40 23.4	-1.0
AKTK	Aktyubinsk	22.06	49	P	P	05 40 23.4	-1.0
AKTO	Aktyubinsk	22.06	49	P	P	05 40 23.4	-1.0
	0.6nm,0.4s,mb3.4,baz=246,slow=10.0,SNR=6.2						
TORD	Torodi Ar. Bea	36.72	234	P	P	05 42 36.8	0.0
	1.2nm,0.9s,mb3.7,baz=37,slow=8.2,SNR=6.3						
MKAR	Makanchi Array	37.54	61	P	P	05 42 44.2	+0.3
	0.3nm,0.5s,mb3.3,baz=266,slow=11,SNR=3.0						

FUNV 15 05:44:57.5, 682N×7314W, h170km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.32	38	eP	Pn	05 45 26.4	-0.5
CAPV				eS	Sn	05 45 47.6	-1.8
VIGV	El Vigia	2.67	41	eP	Pn	05 45 40.7	-0.9
VIGV				eS	Sn	05 46 12.7	-3.1
SOCV	Socops	2.69	57	eP	Pn	05 45 41.4	-0.4
SOCV				eS	Sn	05 46 12.8	-3.5
VIRV	Villa del Rosa	3.73	11	eP	Pn	05 45 53.5	-1.2
QARV	Quebrada Arrib	4.24	37	eP	Pn	05 46 00.1	-1.2
QARV				eS	Sn	05 46 46.3	-5.0
SANV	Sanarito	4.45	53	eP	Pn	05 46 02.5	-1.5
CURV	Curarigua	4.46	45	eP	Pn	05 46 02.7	-1.5
CURV				eS	Sn	05 46 51.5	-4.9
TEPV	Terepaima	5.00	51	eP	Pn	05 46 09.6	-1.6
SIQV	Siquisique	5.03	41	eP	Pn	05 46 09.8	-1.8

*NEIC **15** 05:55:45.1, 4033S×17582E, h41km, ML3.9(WEL), After WEL.*
NEIC Felt at Palmerston North.

WEL 15 05:55:45.2±0.1, 4033S×17581E, h40km±2km, ML3.7/18, 3C-3D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.30	22	P	Pn	05 55 52.4	-1.0
TSZ				S	Sn	05 55 58.1	-1.0
TSZ	Takapari Road	0.30	22	⇑P*	Pn	05 55 52.4	-1.0
TSZ				S*	Sn	05 55 58.1	-1.0
MRZ	Mangatainoka R	0.37	208	P	Pn	05 55 54.1	-0.2
MRZ				S	Sn	05 56 01.3	+0.7
MRZ	Mangatainoka R	0.37	208	↓P*	Pn	05 55 54.1	-0.2
MRZ				S*	Sn	05 56 01.0	+0.3
TIWZ	Tintock	0.45	173	P*	Pn	05 55 55.9	+0.7
BFZ	Birch Farm	0.48	137	P	Pn	05 55 56.2	+0.6
BFZ	Birch Farm	0.48	137	⇑P*	Pn	05 55 56.3	+0.7
MTW	Mount Morrison	0.86	196	P	Pn	05 56 01.5	+0.7
MTW	Mount Morrison	0.86	196	eP*	Pn	05 56 01.4	+0.7
PXZ	Pawanui	0.86	70	P*	Pn	05 56 00.7	0.0
WAZ	Wanganui	0.86	312	P	Pn	05 56 00.6	-0.2
WAZ	Wanganui	0.86	312	PN	Pn	05 56 00.5	-0.2
KIW	Kapiti Island	0.87	232	P	Pn	05 56 01.0	+0.1
KIW				S	Sn	05 56 13.0	+0.7
KIW	Kapiti Island	0.87	232	⇑P*	Pn	05 56 01.0	+0.1
KIW				S*	Sn	05 56 12.7	+0.4
KIW				S*	Sn	05 56 12.8	+0.5
MOVZ	Moawhango	0.93	357	P	Pn	05 56 00.9	-0.8
MOVZ				S	Sn	05 56 13.1	-0.7
MOVZ	Moawhango	0.93	357	↓PN	Pn	05 56 00.9	-0.8
CAW	Cannon Point	0.96	216	P	Pn	05 56 02.0	-0.1
CAW	Cannon Point	0.96	216	P*	Pn	05 56 01.9	-0.3
MTVZ	Mangateitei	0.98	344	PN	Pn	05 56 02.1	-0.4
TRVZ	Turoa	1.05	349	PN	Pn	05 56 03.2	-0.2
TRWZ	Traveller	1.07	185	PN	Pn	05 56 04.0	+0.4
DRZ	Dome Shelter	1.07	350	P	Pn	05 56 03.9	+0.2
PAWZ	Paruwai Farm	1.09	196	P	Pn	05 56 03.6	-0.3
PAWZ	Paruwai Farm	1.09	196	PN	Pn	05 56 03.4	-0.5
FWVZ	Far West T-bar	1.09	349	PN	Pn	05 56 03.7	-0.3
PKVZ	Pokaka	1.10	341	PN	Pn	05 56 03.6	-0.5
WPVZ	Whakapapa	1.15	350	P	Pn	05 56 04.6	-0.1
WPVZ	Whakapapa	1.15	350	PN	Pn	05 56 04.6	-0.1
MSWZ	Moikau Station	1.16	201	P	Pn	05 56 04.4	-0.5
MSWZ	Moikau Station	1.16	201	PN	Pn	05 56 04.4	-0.5
NGZ	Ngauruhoe	1.17	352	P	Pn	05 56 05.1	+0.1
NGZ	Ngauruhoe	1.17	352	PN	Pn	05 56 05.1	+0.2
WTVZ	West Tongariro	1.23	352	P	Pn	05 56 05.8	0.0
WTVZ	West Tongariro	1.23	352	PN	Pn	05 56 05.8	0.0
MRW	Makara Radio	1.23	223	P	Pn	05 56 05.3	-0.6
MRW	Makara Radio	1.23	223	PN	Pn	05 56 05.3	-0.5
KRVZ	Karewarewa	1.24	354	PN	Pn	05 56 06.2	+0.2
BKZ	Black Stump Fm	1.28	24	P	Pn	05 56 06.0	-0.5
BKZ	Black Stump Fm	1.28	24	↓PN	Pn	05 56 06.0	-0.5
SNZO	South Karori	1.29	220	P	Pn	05 56 06.0	-0.7
SNZO	South Karori	1.29	220	PN	Pn	05 56 06.0	-0.7
BHW	Baring Head	1.29	213	PN	Pn	05 56 05.9	-0.8
TWVZ	Taurewa	1.29	347	P	Pn	05 56 06.8	+0.1
TWVZ	Taurewa	1.29	347	PN	Pn	05 56 06.7	0.0
RITZ	Rihia Road	1.35	1	PN	Pn	05 56 07.8	+0.2
KATZ	Kakaramea	1.36	356	P	Pn	05 56 07.8	+0.2
VRZ	Vera Road	1.46	326	P	Pn	05 56 08.7	-0.2
VRZ	Vera

*IDC **15** 06:14:38.0±1.6, 3140S×7155W, h0km, mb4.5/4, mb1 4.2/8, mb1mx3.9/18, mbtmp4.1/8, ML4.0/4, MS3.9/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=52.1km s-min=22.8km az=105.0*

*ISCJB **15** 06:14:40.6±0.6, 3147S±002×7198W±007, h23km, mb4.3/5, Error ellipse: s-maj=8.3km s-min=3.1km az=3.6*

*NEIC **15** 06:14:42.2, 3149S×7175W, h23km, mb4.3/3, ML4.4(GUC), After GUC.*

*GUC **15** 06:14:42.2±0.9, 3149S×7175W, h23km±3km, MD4.3, ML4.4*

ISC 15 06:14:39.3±0.9, 3146S±002×7197W±007, h5km±4km, n51, σ0§98/66, mb4.3/5, 11C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.58**	**137**	⇑*iP*	**Pg**	**06 14 51.7**	**+1.3**
CHNG				*i* S	**Sg**	**06 14 58.3**	**+0.4**
CHNG				AML	AML	06 14 58.7	
	comp=E,37μm,0.5s						
CMCH	**Combarbala**	**0.87**	**71**	⇑*iP*	**Pg**	**06 14 55.2**	**-0.8**
CMCH				AML	AML	06 15 10.8	
	comp=N,30μm,0.5s						
OVCH	**Ovalle**	**1.07**	**38**	⇑*iP*	**Pg**	**06 15 00.1**	**+0.2**
OVCH				*i* S	**Sg**	**06 15 13.5**	**-0.3**
OVCH				AML	AML	06 15 16.4	
	comp=E,7μm,0.7s						
OVCH	**Ovalle**	**1.07**	**38**	⇑*iP*	**Pg**	**06 15 00.1**	**+0.2**
OVCH				*i* S	**Sg**	**06 15 13.5**	**-0.3**
PACH	**Papudo**	**1.16**	**157**	⇓*iP*	**Pg**	**06 15 01.6**	**0.0**
PACH				*i* S	**Sg**	**06 15 15.4**	**-1.3**
PTCH	**Petorca**	**1.19**	**133**	⇑*iP*	**Pg**	**06 15 00.7**	**-1.4**
PTCH				*i* S	**Sg**	**06 15 13.8**	**-3.8**
PTCH				AML	AML	06 15 16.5	
	comp=E,42μm,0.3s						
PTCH	**Petorca**	**1.19**	**133**	⇑*iP*	**Pg**	**06 15 00.7**	**-1.4**
PTCH				*i* S	**Sg**	**06 15 13.8**	**-3.8**
IHA	**Instituto Hidr**	**1.58**	**170**	*eP*	**Pn**	**06 15 08.3**	**+0.3**
TLL	**Tololo Astrono**	**1.63**	**38**	⇓*iP*	**Pn**	**06 15 09.4**	**+0.7**
TLL				*i* S	**Sn**	**06 15 29.1**	**-0.9**
TLL				AML	AML	06 15 32.9	
	comp=E,6μm,0.7s						
TLL	**Tololo Astrono**	**1.63**	**38**	⇓*iP*	**Pn**	**06 15 09.4**	**+0.7**
TLL				*i* S	**Sn**	**06 15 29.1**	**-0.9**
LSCH	**La Serena**	**1.67**	**22**	*eP*	**Pn**	**06 15 09.8**	**+0.6**
LSCH				*e*S	**Sn**	**06 15 30.6**	**-0.4**
JACH	**Jahuel**	**1.68**	**137**	⇓*iP*	**Pn**	**06 15 09.1**	**-0.3**
ROCH	**El Roble**	**1.71**	**152**	*iP*	**Pn**	**06 15 09.7**	**0.0**
PEL	**Peldehue**	**2.00**	**147**	⇓*iP*	**Pn**	**06 15 13.9**	**+0.2**
PEL				*i* S	**Sn**	**06 15 38.0**	**-1.1**
PEL				AML	AML	06 15 41.2	
	comp=E,9μm,0.3s						
PEL	**Peldehue**	**2.00**	**147**	⇓*iP*	**Pn**	**06 15 13.9**	**+0.2**
PEL				*i* S	**Sn**	**06 15 38.0**	**-1.1**
LCCH	**Las Cruces**	**2.04**	**171**	⇓*iP*	**Pn**	**06 15 14.7**	**+0.4**
RCDM	**Rinconada Maip**	**2.25**	**154**	*eP*	**Pn**	**06 15 17.7**	**+0.5**
RCDM				AML	AML	06 15 54.1	
	comp=E,4μm,0.4s						
DSCH	**Colegio Aleman**	**2.26**	**149**	*i* S	**Sn**	**06 15 45.0**	**-0.7**
DSCH				AML	AML	06 15 48.7	
	comp=E,2μm,0.2s						
SAN	**Santiago**	**2.27**	**151**	*i* S	**Sn**	**06 15 45.4**	**-0.5**
SAN				AML	AML	06 15 49.0	
	comp=E,4μm,0.7s						
CLCH	**Cerro Calan**	**2.28**	**148**	⇑*iP*	**Pn**	**06 15 17.8**	**+0.3**
CLCH				*i* S	**Sn**	**06 15 46.1**	**+0.2**
CLCH				AML	AML	06 15 54.1	
	comp=E,7μm,0.7s						
CLCH				AML	AML	06 15 54.7	
	comp=E,8μm,0.6s						
LACH	**Colegio Las Am**	**2.33**	**149**	*eP*	**Pn**	**06 15 18.4**	**+0.2**
LACH				AML	AML	06 15 53.6	
	comp=E,2μm,0.2s						
FCH	**Farellones**	**2.34**	**143**	⇓*iP*	**Pn**	**06 15 20.0**	**+1.6**
FCH				*i* S	**Sn**	**06 15 48.1**	**+0.6**
TACH	**Talagante**	**2.35**	**159**	⇓*iP*	**Pn**	**06 15 19.2**	**+0.6**
TACH				*i* S	**Sn**	**06 15 47.7**	**-0.2**
ANTU	**Antumapu**	**2.38**	**152**	*eP*	**Pn**	**06 15 19.4**	**+0.3**
ANTU				*i* S	**Sn**	**06 15 47.9**	**-0.7**
ANTU				AML	AML	06 15 56.4	
	comp=E,4μm,0.5s						
ANTU	**Antumapu**	**2.38**	**152**	*eP*	**Pn**	**06 15 19.4**	**+0.3**
ANTU				*i* S	**Sn**	**06 15 47.9**	**-0.7**
PCH	**Pirque**	**2.48**	**151**	⇓*iP*	**Pn**	**06 15 21.1**	**+0.8**
LCO	**Las Campanas**	**2.68**	**24**	⇑*iP*	**Pn**	**06 15 23.5**	**+0.4**
LCO				*i* S	**Sn**	**06 15 58.0**	**+2.1**
LCO				AML	AML	06 16 08.7	
	comp=E,919nm,0.8s						
LCO	**Las Campanas**	**2.68**	**24**	P	**Pn**	**06 15 23.5**	**+0.4**
LCO				*i* S	**Sn**	**06 15 58.0**	**+2.1**
CHCH	**Chadas Angostu**	**2.70**	**156**	⇑*iP*	**Pn**	**06 15 24.1**	**+0.7**
CACH	**El Canelo**	**2.89**	**157**	⇓*iP*	**Pn**	**06 15 27.4**	**+1.4**
MDZ	**Mendoza**	**3.00**	**119**	⇑*iP*	**Pn**	**06 15 32.2**	**+4.7**
MDZ				*i*		06 15 40.2	
MDZ				*i* S	**Sn**	**06 16 10.3**	**+6.5**
CICH	**Cipreses**	**3.13**	**156**	⇑*iP*	**Pn**	**06 15 30.4**	**+1.0**
CFAA	**Coronel Fontan**	**3.19**	**94**	Pn	**Pn**	**06 15 31.1**	**+1.0**
	comp=E,4.7nm,0.3s,baz=266,slow=10,SNR=116						
CFAA				Sn	**Sn**	**06 16 09.6**	**+1.1**
	comp=E,9.3nm,0.3s,baz=64,slow=19,SNR=3.6						
LVC	**Limon Verde**	**9.22**	**18**	Pn	**Pn**	**06 16 50.0**	**-3.0**
	comp=E,0.2nm,0.3s,baz=173,slow=16,SNR=2.2						
PLCA	**Paso Flores**	**9.32**	**173**	Pn	**Pn**	**06 16 53.0**	**-1.3**
	comp=E,0.3nm,0.3s,baz=317,slow=15,SNR=8.6						
PLCA	**Paso Flores**	**9.32**	**173**	*ePn*	**Pn**	**06 16 54.8**	**+0.4**
CPUP	**Villa Florida**	**13.80**	**72**	Pn	**Pn**	**06 17 49.7**	**-5.9**
	comp=E,0.4nm,0.3s,baz=224,slow=10,SNR=8.0						
CPUP	**Villa Florida**	**13.80**	**72**	*ePn*	**Pn**	**06 17 50.5**	**-5.1**
	comp=E,0.7nm,0.3s						
SIV	**San Ignacio**	**18.33**	**35**	P	**Pn**	**06 18 50.5**	**-3.8**
	comp=E,0.2nm,0.3s,baz=226,slow=12,SNR=12						
BDFB	**Brasilia**	**26.93**	**60**	P	**P**	**06 20 17.9**	**-3.5**
	comp=E,7.4nm,1.0s,mb4.2,baz=233,slow=8.3,SNR=6.9						
BDFB				LR	LR	06 32 14.5	
	comp=E,224nm,19.5s,baz=224,slow=40						
SNAA	**Sanae**	**53.91**	**159**	P	**P**	**06 24 02.4**	**-1.3**
	comp=E,0.9nm,0.8s,mb3.8,baz=284,slow=6.0,SNR=14						
SNAA	**Sanae**	**53.91**	**159**	*eP*	**P**	**06 24 02.2**	**-1.5**
	comp=E,2.5nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**58.77**	**180**	*eP*	**P**	**06 24 38.0**	**-0.4**
	comp=E,1.9nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**74.32**	**72**	P	**P**	**06 26 15.8**	**-1.9**
	comp=E,4.5nm,0.6s,mb4.6,baz=204,slow=6.6,SNR=9.3						
DBIC	**Dimbokro**	**74.32**	**72**	*eP*	**P**	**06 26 16.1**	**-1.6**
	comp=E,4.6nm,0.6s,mb4.6						
TORD	**Torodi Ar. Bea**	**83.29**	**70**	P	**P**	**06 27 05.6**	**-1.5**
	comp=E,5.4nm,0.8s,mb4.6,baz=259,slow=4.8,SNR=31						
ZRNK	**Zerenda**	**144.60**	**41**	*e*PKPdf	PKPdf	06 34 14.9	-2.0
CHKZ	**Chkalovo**	**145.21**	**39**	*e*PKPdf	PKPdf	06 34 16.3	-1.7
ZAL	**Zalesovo**	**152.02**	**30**	PKPbc	PKPbc	06 34 34.1	-1.5
	comp=E,7.9nm,0.5s,baz=166,slow=2.1,SNR=32						
MKAR	**Makanchi Array**	**154.99**	**45**	PKPbc	PKPbc	06 34 40.4	-1.6
	comp=E,1.1nm,0.8s,baz=309,slow=2.3,SNR=7.9						
MKAR	**Makanchi Array**	**154.99**	**45**	PKPbc	PKPbc	06 34 40.4	-1.7

*CSEM **15** 06:23:23.9±0.1, 3522N×3782E, h8km, Mc2.2, Error ellipse: s-maj=4.0km s-min=2.2km az=127.0*

*ISCJB **15** 06:23:24.3±0.9, 3517N±002×3786E±004, h11km±7km, Error ellipse: s-maj=5.4km s-min=3.8km az=47.7*

*NSSC **15** 06:23:24, 35.16N×3782E, h3km±3km*

*GRAL **15** 06:23:25.2±3.4, 3533N×3786E, h0km±40km, MD3.6*

ISC 15 06:23:24.4±0.6, 3515N±002×3784E±003, h7km±4km, n39, σ1§09/58, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHLN	**Al Jahlan**	**0.72**	**43**	⇓*iP*	**Pg**	**06 23 37.8**	**-0.5**
JHLN	**Al Jahlan**	**0.72**	**43**	⇓P	**Pg**	**06 23 37.0**	**-1.3**
JHLN				⇓S	**Sg**	**06 23 49.0**	**+1.3**
KFRA	**Kufra**	**0.85**	**275**	⇑*iP*	**Pg**	**06 23 41.0**	**+0.1**
KFRA	**Kufra**	**0.85**	**275**	⇑P	**Pg**	**06 23 41.0**	**+0.1**
KFRA				⇑S	**Sg**	**06 23 53.0**	**+1.0**
SLMH	**Al Salmeh**	**1.07**	**4**	⇓*iP*	**Pg**	**06 23 44.4**	**-0.6**
SLMH	**Al Salmeh**	**1.07**	**4**	⇓P	**Pg**	**06 23 44.0**	**-1.0**
SLMH				⇓S	**Sg**	**06 23 59.0**	**+0.2**
ROOS	**tl_alroos**	**1.07**	**205**	⇑*iP*	**Pg**	**06 23 44.3**	**-0.8**
ROOS	**tl_alroos**	**1.07**	**205**	⇑P	**Pg**	**06 23 44.0**	**-1.1**
ROOS				⇑S	**Sg**	**06 23 59.0**	**0.0**
WRDH	**Warideh**	**1.22**	**288**	⇑*iP*	**Pg**	**06 23 47.8**	**-0.1**
WRDH	**Warideh**	**1.22**	**288**	⇑P	**Pg**	**06 23 47.0**	**-0.9**
WRDH				⇑S	**Sg**	**06 24 03.0**	**-0.7**
BIDA	**Albida**	**1.25**	**264**	⇑*iP*	**Pn**	**06 23 48.1**	**-0.2**
BIDA	**Albida**	**1.25**	**264**	⇑P	**Pn**	**06 23 48.0**	**-0.3**
BIDA				⇑S	**Sg**	**06 24 04.0**	**-0.7**
HAWK	**Haweek**	**1.33**	**243**	⇑*iP*	**Pn**	**06 23 48.8**	**-0.6**
HAWK	**Haweek**	**1.33**	**243**	⇑P	**Pn**	**06 23 48.0**	**-1.4**
HAWK				⇑S	**Sb**	**06 24 07.0**	**0.0**
MARH	**Ras Al Marh**	**1.58**	**225**	⇑*iP*	**Pn**	**06 23 53.2**	**+0.4**
MARH	**Ras Al Marh**	**1.58**	**225**	⇑P	**Pn**	**06 23 53.0**	**+0.2**
MARH				⇑S	**Sn**	**06 24 14.0**	**+0.5**
HTY	**Hatay**	**1.69**	**306**	PN	**Pn**	**06 23 53.7**	**-0.7**
HTY				SN	**Sn**	**06 24 15.3**	**-1.0**
HWQ	**Hawqa**	**1.78**	**242**	*eP*	**Pn**	**06 23 56.1**	**+0.5**
HWQ				*e*S	**Sn**	**06 24 20.2**	**+1.7**
COBT	**Iskenderun**	**1.88**	**317**	*iP*	**Pn**	**06 23 58.1**	**+1.2**
COBT				*i* S	**Sg**	**06 24 26.8**	**+2.0**
GAZ	**Gaziantep**	**2.08**	**346**	*e*PN	**Pn**	**06 23 57.4**	**-2.4**
TOTH	**TOTAH**	**2.13**	**214**	⇓*iP*	**Pn**	**06 24 00.7**	**+0.3**
TOTH	**TOTAH**	**2.13**	**214**	⇓P	**Pn**	**06 24 00.0**	**-0.4**
TOTH				⇓S	**Sn**	**06 24 26.0**	**-1.0**
BHL	**Bhannes**	**2.19**	**236**	*eP*	**Pn**	**06 24 02.3**	**+1.1**
BHL				*e*S	**Sn**	**06 24 32.4**	**+3.9**
GZT	**Gaziantep**	**2.22**	**354**	*iP*	**Pn**	**06 24 02.0**	**+0.4**
GZT				*i* S	**Sn**	**06 24 33.0**	**+3.8**
ZALF	**Zalf**	**2.26**	**191**	⇓*iP*	**Pn**	**06 24 04.2**	**+2.1**
ZALF	**Zalf**	**2.26**	**191**	⇓P	**Pn**	**06 24 04.0**	**+1.9**
ZALF				⇓S	**Sn**	**06 24 30.0**	**-0.2**
ATAB	**Bozova**	**2.35**	**9**	*iP*	**Pn**	**06 24 03.5**	**+0.1**
ATAB				*i* S	**Sg**	**06 24 41.8**	**+1.9**
URFA	**Urfa**	**2.42**	**19**	*e*PN	**Pn**	**06 24 04.5**	**+0.1**
KRTS	**Karatas**	**2.46**	**306**	*e*PN	**Pn**	**06 24 03.9**	**-1.0**
KMRS	**Kahramanmaras**	**2.47**	**342**	*e*PN	**Pn**	**06 24 03.2**	**-1.9**
SALA	**Sala**	**2.60**	**201**	⇑*iP*	**Pn**	**06 24 08.4**	**+1.6**
SALA	**Sala**	**2.60**	**201**	⇑P	**Pn**	**06 24 08.0**	**+1.2**
SALA				⇑S	**Sn**	**06 24 38.0**	**-0.6**
KOZT	**Kozan**	**2.84**	**326**	*e*PN	**Pn**	**06 24 08.3**	**-1.9**
KARA	**Karaisali**	**3.09**	**314**	*e*PN	**Pn**	**06 24 12.7**	**-0.8**
MYA	**Malataya**	**3.21**	**8**	*e*PN	**Pn**	**06 24 15.3**	**+0.1**
MARD	**Mardin**	**3.21**	**47**	*iP*	**Pn**	**06 24 22.1**	**+6.8**
MARD				*i* S	**Sg**	**06 25 05.5**	**-2.2**
ELZG	**Elazig**	**3.47**	**15**	*iP*	**Pn**	**06 24 19.7**	**+0.9**
ELZG				*i* S	**Sg**	**06 25 15.8**	**0.0**
PTK	**Pertek**	**3.94**	**18**	*e*PN	**Pn**	**06 24 26.8**	**+1.5**
SEMD	**Semdilli**	**5.83**	**66**	*eP*	**Pn**	**06 24 57.0**	**+5.8**

MEX 15 06:23:25.1±0.8, 1782N×9995W, h20km±11km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.34**	**71**	*iP*	Pb	06 23 31.0	-1.4
MEIG				*i* S	Sb	06 23 36.4	-0.9
ACX	**Acapulco**	**0.95**	**178**	*iP*	Pb	06 23 40.0	-2.8
ACX				*i* S	Sb	06 23 51.5	-3.4
UTMO	**Huajuapan**	**2.05**	**89**	*iP*	Pn	06 23 56.8	-1.6
UTMO				*i* S	Sn	06 24 19.3	-4.1

*ISCJB **15** 06:35:55.4±1.4, 3529S±007×1793W±0.1, h40km±11km, mb4.2/7, MS4.1/2, Error ellipse: s-maj=18.8km s-min=11.8km az=30.3*

*IDC **15** 06:35:58.7±2.5, 3517S×17925W, h58km±21km, mb4.0/5, mb1 4.2/7, mb1mx3.9/14, mbtmp4.3/7, ML4.1/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/25, Error ellipse: s-maj=26.8km s-min=15.6km az=160.0*

*NEIC **15** 06:35:58.5±0.7, 3531S×17931W, mb4.4/3, Error ellipse: s-maj=17.8km s-min=10.8km az=115.0*

ISC 15 06:35:55.2±1.9, 3527S±006×1793W±01, h22km±14km, n49, σ1§37/52, mb4.2/7, MS4.1/2, 1C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.99**	**219**	P	**Pn**	**06 36 43.3**	**+2.1**
MXZ	**Matakaoa Point**	**2.99**	**219**	PN	**Pn**	**06 36 43.2**	**+2.0**
MXZ				SN	**Sn**	**06 37 21.9**	**+5.5**
PUZ	**Puketiti**	**3.41**	**214**	PN	**Pn**	**06 36 49.0**	**+2.0**
PUZ				SN	**Sn**	**06 37 30.7**	**+3.9**
MWZ	**Matawai**	**3.98**	**219**	PN	**Pn**	**06 36 56.9**	**+2.1**
MWZ				SN	**Sn**	**06 37 46.5**	**+5.8**
URZ	**Urewera**	**4.14**	**223**	P	**Pn**	**06 36 59.7**	**+2.6**
	34nm,0.3s,baz=16,slow=2.3,SNR=194						
URZ				S	**Sn**	**06 37 49.8**	**+4.9**
	26nm,0.3s,baz=308,slow=20,SNR=14						
URZ	**Urewera**	**4.14**	**223**	P	**Pn**	**06 36 58.9**	**+1.8**
URZ	**Urewera**	**4.14**	**223**	*e*PN	**Pn**	**06 36 59.3**	**+2.2**
URZ				SN	**Sn**	**06 37 50.1**	**+5.2**
KUZ	**Kuaotunu**	**4.29**	**248**	*eP*	**Pn**	**06 37 02.8**	**+3.7**
KUZ	**Kuaotunu**	**4.29**	**248**	PN	**Pn**	**06 37 02.5**	**+3.4**
KNZ	**Kokohu**	**4.45**	**212**	*eP*	**Pn**	**06 37 02.0**	**+0.7**
KNZ	**Kokohu**	**4.45**	**212**	*e*PN	**Pn**	**06 37 01.9**	**+0.5**
KNZ				*e*SN	**Sn**	**06 37 55.8**	**+3.4**
PXZ	**Pawanui**	**5.64**	**211**	*e*PN	**Pn**	**06 37 16.9**	**-0.7**
PXZ				*e*SN	**Sn**	**06 38 22.1**	**+0.3**
MOVZ	**Moawhango**	**5.70**	**222**	P	**Pn**	**06 37 20.0**	**+1.5**
MOVZ	**Moawhango**	**5.70**	**222**	PN	**Pn**	**06 37 19.7**	**+1.2**
BFZ	**Birch Farm**	**6.44**	**212**	*e*PN	**Pn**	**06 37 27.2**	**-1.5**
MRZ	**Mangatainoka R**	**6.73**	**215**	P	**Pn**	**06 37 32.8**	**+0.2**
MRZ	**Mangatainoka R**	**6.73**	**215**	*e*PN	**Pn**	**06 37 31.8**	**-0.8**
MRZ				SN	**Sn**	**06 38 47.6**	**-0.9**
MTW	**Mount Morrison**	**7.16**	**213**	*e*PN	**Pn**	**06 37 36.7**	**-1.8**
KIW	**Kapiti Island**	**7.21**	**218**	*e*PN	**Pn**	**06 37 38.4**	**-0.8**
MRW	**Makara Radio**	**7.59**	**217**	SN	**Sn**	**06 39 08.2**	**-1.5**
TCW	**Tory Channel**	**7.79**	**218**	*e*PN	**Pn**	**06 37 45.6**	**-1.5**
NNZ	**Nelson**	**8.27**	**222**	*e*PN	**Pn**	**06 37 52.2**	**-1.5**
QRZ	**Quartz Range**	**8.50**	**227**	*e*PN	**Pn**	**06 37 55.3**	**-1.6**
THZ	**Tophouse**	**8.90**	**221**	*e*PN	**Pn**	**06 37 59.7**	**-2.7**
MQZ	**McQueen's Vall**	**10.46**	**214**	SN	**Sn**	**06 40 12.2**	**-8.1**
RPZ	**Rata Peaks**	**11.24**	**219**	P	**Pn**	**06 38 33.2**	**-1.3**
	0.9nm,0.3s,baz=34,slow=18,SNR=2.2						
RPZ				S	**Sn**	**06 40 32.1**	**-7.3**
	2.1nm,0.3s,baz=349,slow=20,SNR=8.9						
DZM	**Mont Dzumac**	**18.12**	**313**	P	**Pn**	**06 40 05.2**	**-0.2**
	0.2nm,0.3s,baz=135,slow=16,SNR=3.4						
DZM				LR	LR	06 45 15.2	
	comp=Z,173nm,20.3s,baz=168,slow=31						
CTA	**Charters Tower**	**33.84**	**287**	P	**P**	**06 42 35.5**	**-0.4**
	2.9nm,0.7s,mb4.3,baz=89,slow=15,SNR=3.3						
AS31	**Alice Springs**	**42.00**	**273**	*eP*	**P**	**06 43 45.0**	**+0.4**
ASAR	**Alice Springs**	**42.00**	**273**	P	**P**	**06 43 45.2**	**+0.6**
	7.2nm,0.8s,mb4.3,baz=114,slow=7.3,SNR=62						
ASAR				S	**S**	**06 50 01.3**	**-1.0**
	0.5nm,0.8s,baz=116,slow=17,SNR=4.0						
ASAR				LR	LR	07 00 34.4	
	comp=Z,121nm,21.7s,MS3.7,baz=148,slow=35						
ASAR	**Alice Springs**	**42.00**	**273**	P	**P**	**06 43 45.2**	**+0.6**
ASAR				S	**S**	**06 50 01.3**	**-1.0**
ASPA	**Alice Springs**	**42.00**	**273**	*eP*	**P**	**06 43 45.3**	**+0.6**
WB2	**Warramunga Arr**	**43.42**	**278**	*eP*	**P**	**06 43 56.3**	**+0.1**
WRA	**Warramunga Arr**	**43.43**	**278**	P	**P**	**06 43 56.5**	**+0.2**
	4.8nm,0.7s,mb4.3,baz=120,slow=7.5,SNR=31						
WRA				S	**S**	**06 50 19.9**	**-3.4**
	1.0nm,1.0s,baz=120,slow=12,SNR=4.3						
CASY	**Casey**	**50.35**	**210**	*eP*	**P**	**06 44 51.5**	**+1.1**
	3.2nm,0.9s,mb4.3						
CASY				*e*pP	pP	06 45 06.4	+9.2
FITZ	**Fitzroy Crossi**	**51.44**	**274**	*eP*	**P**	**06 44 59.2**	**+0.6**
	4.8nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.44**	**274**	P	**P**	**06 44 59.2**	**+0.6**
	0.7nm,0.4s,mb4.0,baz=121,slow=5.9,SNR=5.5						
QSPA	**South Pole Qui**	**54.85**	**180**	*eP*	**P**	**06 45 24.8**	**+1.0**
	2.5nm,0.6s,mb4.4						
QSPA				*e*pP	pP	06 45 39.5	+8.9
SYO	**Syowa Base**	**72.14**	**194**	⇑*eP*	**P**	**06 47 25.0**	**+7.0**
MJAR	**Matsushiro Arr**	**81.65**	**327**	LR	LR	07 18 41.0	
	comp=Z,162nm,18.8s,MS4.4,baz=190,slow=31						
NVAR	**Mina Array Bea**	**92.54**	**43**	P	**P**	**06 49 03.1**	**-1.6**
	0.2nm,0.6s,mb3.7,baz=202,slow=4.5,SNR=2.7						
MKAR	**Makanchi Array**	**119.99**	**308**	PKP	PKPdf	06 54 41.2	-2.7
	0.8nm,1.1s,baz=75,slow=1.6,SNR=4.0						
JOF	**Joensuu**	**146.45**	**335**	*e*pkp	PKPdf	06 55 29.7	-3.4
KAF	**Kangasniemi**	**148.68**	**337**	*e*pkp	PKPdf	06 55 36.9	+0.1
FINES	**FINESS Array B**	**149.24**	**336**	PKPbc	PKPbc	06 55 39.5	-2.4
	4.8nm,0.8s,baz=31,slow=5.9,SNR=17						
DBIC	**Dimbokro**	**151.08**	**169**	PKPbc	PKPbc	06 55 45.9	-0.5
	1.4nm,0.7s,baz=183,slow=3.2,SNR=4.6						
DBIC	**Dimbokro**	**151.08**	**169**	PKPbc	PKPbc	06 55 45.9	-0.5
NOA	**NORSAR Array B**	**153.34**	**349**	PKPbc	PKPbc	06 55 49.1	-2.4
	0.6nm,0.6s,baz=16,slow=4.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**157.95**	**183**	PKPab	PKPab	06 56 22.7	-0.6
	1.1nm,1.0s,baz=174,slow=2.2,SNR=4.4						

*ISCJB **15** 07:01:51.0±0.4, 2861S±002×7061W±009, h94km±5km, mb4.0/8, Error ellipse: s-maj=12.5km s-min=3.9km az=12.0*

*GUC **15** 07:01:51.5±1.0, 2860S×7067W, h96km±8km, ML4.7*

*IDC **15** 07:01:52.6±0.7, 2868S×7072W, h89km±4km, mb3.8/4, mb1 3.9/6, mb1mx3.9/6, mbtmp4.1/6, Error ellipse: s-maj=26.8km s-min=13.3km az=66.0*

*NEIC **15** 07:01:52.0±0.4, 2861S×7076W, h86km±4km, mb4.4/3, Error ellipse: s-maj=11.8km s-min=4.8km az=97.0*

ISC 15 07:01:52.0±0.4, 2859S±002×7066W±009, h88km±5km, h92km±8km: pP-P, n42, σ0§94/49, mb4.0/8, 4C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.09**	**282**	⇓*iP*	**Pn**	**07 02 10.4**	**+6.0**
VACH				*i* S	**Sn**	**07 02 19.8**	**+6.2**
VACH				AML	AML	07 02 21.1	
	comp=E,121μm,0.6s						
CPCH	**Copiapo**	**1.26**	**12**	⇑*iP*	**Pn**	**07 02 15.2**	**+0.5**
CPCH				*i* S	**Sn**	**07 02 32.6**	**+0.9**
LSCH	**La Serena**	**1.41**	**201**	⇓*iP*	**Pn**	**07 02 16.7**	**+0.2**
LSCH				*i* S	**Sn**	**07 02 35.4**	**+0.4**
CDCH	**Caldera**	**1.52**	**354**	⇑*iP*	**Pn**	**07 02 18.2**	**+0.3**
CDCH				*i* S	**Sn**	**07 02 37.2**	**-0.4**
CDCH				AML	AML	07 02 37.5	
	comp=N,7μm,0.2s						
TLL	**Tololo Astrono**	**1.57**	**185**	⇑*iP*	**Pn**	**07 02 19.8**	**+1.2**
TLL				*i* S	**Sn**	**07 02 40.7**	**+2.0**
TLL				AML	AML	07 02 42.6	
	comp=E,15μm,0.4s						
TLL	**Tololo Astrono**	**1.57**	**185**	⇑*iP*	**Pn**	**07 02 19.8**	**+1.2**
TLL				*i* S	**Sn**	**07 02 40.7**	**+2.0**
OVCH	**Ovalle**	**2.06**	**193**	*eP*	**Pn**	**07 02 24.7**	**-0.3**
OVCH				*i* S	**Sn**	**07 02 49.8**	**-0.3**
OVCH				AML	AML	07 02 52.7	
	comp=E,6μm,0.5s						
OVCH	**Ovalle**	**2.06**	**193**	*eP*	**Pn**	**07 02 24.7**	**-0.3**
OVCH				*i* S	**Sn**	**07 02 49.8**	**-0.3**
CMCH	**Combarbala**	**2.59**	**187**	⇓*iP*	**Pn**	**07 02 31.6**	**-0.4**
CMCH				*i* S	**Sn**	**07 03 02.9**	**+0.3**
CHNG	**Los Chungos**	**3.36**	**192**	*eP*	**Pn**	**07 02 42.3**	**0.0**
CHNG				*i* S	**Sn**	**07 03 21.1**	**-0.1**
CFAA	**Coronel Fontan**	**3.66**	**146**	P	**Pn**	**07 02 48.0**	**+1.6**
CFAA				S	**Sn**	**07 03 28.6**	**+0.2**
	comp=E,5.1nm,0.3s,baz=106,slow=20,SNR=4.5						
PTCH	**Petorca**	**3.67**	**184**	*eP*	**Pn**	**07 02 46.3**	**-0.2**
JACH	**Jahuel**	**4.08**	**179**	⇓*iP*	**Pn**	**07 02 52.5**	**+0.5**
ROCH	**El Roble**	**4.37**	**184**	*eP*	**Pn**	**07 02 55.1**	**-1.0**
PEL	**Peldehue**	**4.54**	**180**	*eP*	**Pn**	**07 02 57.9**	**-0.4**
PEL				*i* S	**Sn**	**07 03 48.6**	**-1.2**
MDZ	**Mendoza**	**4.55**	**160**	*eP*	**Pn**	**07 02 59.4**	**+0.9**
MDZ				*e*S		07 03 28.3	
CLCH	**Cerro Calan**	**4.79**	**179**	*eP*	**Pn**	**07 03 01.6**	**-0.2**
CLCH				*i* S	**Sn**	**07 03 55.6**	**-0.3**
RCDM	**

1.5nm,0.5s,mb3.8,baz=100,slow=7.6,SNR=22
WRA ScP ScP 07 44 17.9 +0.6
0.3nm,0.7s,baz=104,slow=3.6,SNR=5.9
WRA S **S** **07 45 10.9 -1.0**
1.3nm,1.2s,baz=105,slow=15,SNR=3.2
QSPA South Pole Qui 64.03 180 *eP* **P** **07 42 12.3 +1.8**
3.1nm,1.2s,mb3.6
NVAR Mina Array Bea 86.65 44 P **P** **07 44 16.2 -0.2**
1.2nm,0.7s,mb3.6,baz=225,slow=8.2,SNR=12
ARCES ARCESS Array B 133.89 348 SKPbc SKPbc 07 53 25.9 -1.1
6.8nm,1.2s,baz=35,slow=4.4,SNR=5.0
NB2 NORSAR Subarra144.12 350 PKP PKPdf 07 51 01.6 -3.0
comp=Z,4.4nm,0.8s,baz=15,slow=3.1
NOA NORSAR Array B144.12 350 PKP PKPdf 07 51 01.6 -3.0
comp=Z,2.9nm,0.7s,baz=21,slow=2.5,SNR=15
AKASG Malin Array Be 146.48 325 PKPbc PKPbc 07 51 08.7 -2.3
comp=Z,0.6nm,0.5s,baz=46,slow=4.1,SNR=5.1

IDC 15 07:40:12.6±1.0,980S×15954E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.9/14,mbtmp3.9/5,ML3.2/1,MS3.5/1,Ms1 3.5/1, ms1mx2.6/24,Error ellipse: s-maj=36.1km s-min=8.1km az=138.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.55**	**48**	Pg	Pg	07 40 23.5	+0.4
	985nm,0.3s,baz=238,slow=2.8,SNR=322						
HNR				Lg		07 40 30.4	
	2μm,0.3s,baz=105,slow=2.1,SNR=59						
DZM	**Mont Dzumac**	**13.88**	**152**	Pn	Pn	07 43 32.0	+1.4
	0.1nm,0.3s,baz=22,slow=15,SNR=1.9						
CTA	**Charters Tower**	**16.39**	**230**	Pn	Pn	07 44 09.3	+5.3
	0.1nm,0.3s,baz=86,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**26.32**	**245**	P	P	07 45 50.9	+1.0
	1.8nm,0.7s,baz=72,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.08**	**237**	P	P	07 46 05.7	-0.2
	0.6nm,0.7s,baz=61,slow=10,SNR=6.7						
ASAR				LR	LR	07 57 12.7	
	comp=Z,107nm,21.2s,baz=167,slow=36						
VNDA	**Vanda**	**67.71**	**179**	P	P	07 51 11.0	-0.7
	0.8nm,0.8s,baz=339,slow=6.4,SNR=8.1						
MKAR	**Makanchi Array**	**88.48**	**318**	P	P	07 53 06.8	0.0
	0.9nm,0.8s,baz=116,slow=5.5,SNR=5.3						

IDC 15 07:48:00.6±7.4,1921S×16823E,h248km±36km,mb3.6/4, mb1 3.7/5,mb1mx3.4/13,mbtmp4.2/5,Error ellipse: s-maj=93.2km s-min=65.9km az=78.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.30**	**210**	*eP*	Pn	07 48 56.9	+0.7
DZM	**Mont Dzumac**	**3.30**	**210**	P	Pn	07 48 56.7	+0.5
	2.8nm,0.3s,baz=55,slow=20,SNR=38						
DZM				S	S	07 49 40.4	+0.1
	2.3nm,0.3s,baz=117,slow=22,SNR=2.3						
CTA	**Charters Tower**	**20.71**	**264**	P	P	07 52 23.9	+1.6
	4.6nm,0.9s,baz=239,slow=22,SNR=3.9						
STKA	**Stephens Creek**	**27.05**	**237**	P	P	07 53 21.5	+1.2
	2.3nm,0.7s,baz=78,slow=11,SNR=6.2						
WB2	**Warramunga Arr**	**31.90**	**263**	*eP*	P	07 54 01.8	-1.1
WRA	**Warramunga Arr**	**31.91**	**263**	P	P	07 54 02.2	-0.8
	0.6nm,0.3s,baz=96,slow=8.4,SNR=38						
ASAR	**Alice Springs**	**32.21**	**256**	P	P	07 54 05.7	+0.1
	9.8nm,0.6s,baz=83,slow=8.8,SNR=145						
ASPA	**Alice Springs**	**32.21**	**256**	*eP*	P	07 54 05.5	-0.1
FITZ	**Fitzroy Crossi**	**40.29**	**264**	*eP*	P	07 55 13.8	0.0
	2.9nm,0.5s						

*ISCJB **15** 07:59:01.6±4.6,38S±03×1533E±01,h75km±30km, mb4.1/6,Error ellipse: s-maj=58.8km s-min=15.5km az=154.8*
*NEIC **15** 07:59:04.6±2.6,383S×15329E,h84km±17km,mb4.5/3, Error ellipse: s-maj=36.3km s-min=13.4km az=176.0*
*IDC **15** 07:59:07.0±8.6,381S×15307E,h97km±60km,mb3.8/4, mb1 4.0/5,mb1mx3.6/15,mbtmp4.2/5,ML3.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/23,Error ellipse: s-maj=69.3km s-min=54.8km az=104.0*
ISC 15 07:59:03.4±4.1,37S±04×1533E±01,h79km±25km,n12, σ0§31/11,mb4.2/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.33**	**227**	P	**Pn**	**08 01 01.8**	**+0.4**
	3.8nm,0.3s,baz=33,slow=9.6,SNR=9.1						
PMG				S	**Sn**	**08 02 33.6**	**-0.2**
	0.6nm,0.3s,baz=117,slow=19,SNR=2.4						
HNR	**Honiara**	**8.73**	**131**	LR	LR	08 04 25.0	
	comp=Z,163nm,18.4s,baz=358,slow=36						
HNR	**Honiara**	**8.73**	**131**	*e*Pn	**Pn**	**08 01 06.6**	**-0.2**
	1μm,0.6s						
WB2	**Warramunga Arr**	**24.54**	**227**	*eP*	**P**	**08 04 15.7**	**+0.2**
WRA	**Warramunga Arr**	**24.55**	**227**	P	**P**	**08 04 15.8**	**+0.2**
	9.3nm,0.6s,mb4.4,baz=51,slow=10.0,SNR=144						
ASAR	**Alice Springs**	**27.30**	**222**	P	**P**	**08 04 40.3**	**-0.1**
	0.6nm,0.4s,mb3.5,baz=54,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**30.12**	**200**	P	**P**	**08 05 05.7**	**+0.2**
	1.3nm,0.8s,mb3.6,baz=31,slow=12,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.63**	**240**	*eP*	**P**	**08 05 09.3**	**-0.7**
	3.8nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.63**	**240**	P	**P**	**08 05 09.3**	**-0.7**
	1.6nm,0.4s,mb4.1,baz=56,slow=10.0,SNR=17						
FORT	**Forrest**	**35.96**	**219**	*eP*	**P**	**08 05 56.2**	**-0.1**
	7.4nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	**86.26**	**180**	*eP*	**P**	**08 11 36.6**	**+0.3**
	2.6nm,0.5s,mb4.4						
TORD	**Torodi Ar. Bea**	**150.41**	**290**	PKPbc	PKPbc	08 18 48.4	+2.8
	1.8nm,1.3s,baz=93,slow=2.7,SNR=4.4						

IDC 15 08:01:25.3±2.2,3141S×17759W,h0km,mb4.2/5, mb1 4.3/7,mb1mx4.1/15,mbtmp4.2/7,ML3.1/1,Error ellipse: s-maj=51.4km s-min=25.0km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**352**	Pn	Pn	08 02 01.7	-0.9
	64nm,0.3s,baz=313,slow=23,SNR=6.5						
RAO				Sn	Sn	08 02 20.8	-9.4
	161nm,0.3s,baz=262,slow=22,SNR=5.5						
URZ	**Urewera**	**8.11**	**211**	Pn	Pn	08 03 22.9	-1.3
	0.2nm,0.3s,baz=0.1,slow=16,SNR=6.2						
URZ				Sn	Sn	08 04 56.9	+0.4
	0.8nm,0.3s,baz=41,slow=21,SNR=7.4						
CTA	**Charters Tower**	**34.32**	**280**	P	P	08 08 14.0	+0.6
	3.4nm,0.8s,baz=99,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**34.61**	**258**	P	P	08 08 16.4	+0.5
	1.4nm,0.6s,baz=92,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**43.42**	**268**	P	P	08 09 29.8	+0.1
	3.6nm,0.8s,baz=108,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**44.50**	**273**	P	P	08 09 38.3	0.0
	6.5nm,0.5s,baz=111,slow=8.1,SNR=27						
FITZ	**Fitzroy Crossi**	**52.72**	**270**	P	P	08 10 42.3	+0.7
	1.3nm,0.7s,baz=98,slow=3.9,SNR=3.3						
KAF	**Kangasniemi**	**145.62**	**340**	*e*pkp	PKPdf	08 21 01.7	-3.8
FINES	**FINESS Array B**	**146.21**	**340**	PKPbc	PKPbc	08 21 06.7	-0.8
	2.4nm,0.6s,baz=59,slow=4.4,SNR=24						
NB2	**NORSAR Subarra149.80**	**351**		PKP	PKPab	08 21 23.8	+1.3
	comp=Z,0.7nm,0.6s,baz=24,slow=2.7						
AKASG	**Malin Array Be**	**152.31**	**322**	PKPbc	PKPbc	08 21 22.0	-1.0
	comp=Z,0.9nm,0.5s,baz=46,slow=2.5,SNR=2.7						

*INMG **15** 08:19:31.6±1.4,3696N×495W,h3km±2km,ML2.4,Error ellipse: s-maj=2.1km s-min=1.4km az=6.0*
MDD 15 08:19:31.8±0.2,3695N×494W,h5km±3km,mbLg2.3/26, 4C-1D,Error ellipse: s-maj=2.5km s-min=1.8km az=147.0,PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.38**	**263**	⇑P	Pg	08 19 39.9	+0.8
LIJA				S	Sg	08 19 47.6	+3.6
EMIJ	**Mijas**	**0.41**	**161**	⇑Pg	Pg	08 19 39.1	-0.6
	56nm,0.3s,SNR=18						
EMIJ				Lg		08 19 45.5	
	264nm,0.3s						
REAL	**Reales**	**0.52**	**205**	P	Pg	08 19 42.1	+0.3
REAL				S	Sg	08 19 51.1	+2.6
ELOJ	**Sierra Loja**	**0.66**	**73**	⇑Pg	Pg	08 19 43.2	-1.1
	14nm,0.3s,SNR=18						
ELOJ				Lg		08 19 52.7	
	44nm,0.4s,SNR=9.1						
EJIF	**Jimena Fronter**	**0.66**	**221**	Pg	Pg	08 19 43.2	-1.2
	17nm,0.4s,SNR=15						
EJIF				Lg		08 19 52.6	
	36nm,0.4s						
ESPR	**Espera**	**0.74**	**264**	Pg	Pg	08 19 47.1	+1.1
	SNR=7.9						
ELUQ	**Luque**	**0.81**	**41**	⇑Pg	Pg	08 19 46.2	-1.1
	SNR=18						
ELUQ				Lg		08 19 57.7	
	75nm,0.3s,SNR=7.9						
GIBL	**Gibalbin**	**0.84**	**262**	P	Pg	08 19 49.6	+1.7
GIBL				S	Sg	08 20 04.5	+5.8
ERON	**Agron**	**0.91**	**86**	Pg	Pg	08 19 47.6	-1.6
	14nm,0.4s,SNR=17						
ERON				Lg		08 20 02.5	
	15nm,0.3s,SNR=7.2						
SCRT	**Cerro San Cris**	**1.04**	**253**	P	Pg	08 19 53.7	+1.9
SCRT				S	Sg	08 20 09.9	+4.5
EGUA	**Guajares**	**1.10**	**96**	Pg	Pg	08 19 51.3	-1.6
	2.4nm,0.2s,SNR=7.9						
EGUA				Lg		08 20 07.0	
	1.5nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.14**	**73**	Pg	Pg	08 19 53.7	0.0
	13nm,0.3s,SNR=16						
ECOG				Lg		08 20 09.9	
	12nm,0.2s,SNR=8.6						
EQUE	**Quentar**	**1.22**	**78**	Pg	Pg	08 19 55.4	+0.2
	SNR=7.9						
EQUE				Lg		08 20 11.4	
	27nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.24**	**13**	Pg	Pg	08 19 55.2	-0.4
	20nm,0.2s,SNR=7.9						
EADA				Lg		08 20 12.0	
	79nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**1.51**	**37**	Pn	Pn	08 19 57.0	-2.5
	SNR=7.9						
EBAN				Pg	Pg	08 19 58.7	-2.1
	10nm,0.2s,SNR=21						
EBAN				Sn	Sn	08 20 16.4	-3.1
	137nm,0.4s,SNR=42						
EBAN				Lg		08 20 18.8	
	135nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.60**	**301**	⇓Pn	Pn	08 19 58.8	-1.9
	1.2nm,0.1s,SNR=18						
EMIN				Pg	Pg	08 20 01.3	-1.3
	6.2nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 20 19.1	-2.7
	4.8nm,0.2s,SNR=7.9						
EMIN				Lg		08 20 22.5	
	36nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.64**	**91**	Pg	Pg	08 20 03.2	0.0
	SNR=7.9						
EBER				Lg		08 20 24.9	
	8.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.71**	**60**	Pn	Pn	08 20 02.2	0.0
	SNR=7.9						
EQES				Sn	Sn	08 20 23.1	-1.2
	SNR=4.0						
EQES				Lg		08 20 26.6	
	25nm,0.2s,SNR=22						
ERIP	**Rio Piedras**	**1.90**	**283**	Pn	Pn	08 20 03.3	-1.5
	1.2nm,0.1s,SNR=7.9						
ERIP				Pg	Pg	08 20 06.2	-2.0
	5.2nm,0.1s,SNR=7.9						
ERIP				Sn	Sn	08 20 27.5	-1.5
	10.0nm,0.2s,SNR=7.9						
ERIP				Lg		08 20 32.3	
	12nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.05**	**65**	Pg	Pg	08 20 09.4	-1.8
	SNR=4.0						
EHUE				Sn	Sn	08 20 31.5	-1.4
	SNR=4.0						
EHUE				Lg		08 20 36.8	
	6.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**287**	Pn	Pn	08 20 06.0	-1.7
	SNR=7.9						
EGRO				Sn	Sn	08 20 31.9	-2.4
	SNR=7.9						
EGRO				Lg		08 20 38.8	
	31nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**2.56**	**48**	Pn	Pn	08 20 11.9	-1.9
	0.6nm,0.1s,SNR=7.9						
EVIA				Pg	Pg	08 20 18.3	-2.5
	6.3nm,0.4s,SNR=6.9						
EVIA				Sn	Sn	08 20 44.0	-1.3
	SNR=7.9						
EVIA				Lg		08 20 54.2	
	4.9nm,0.2s,SNR=6.4						
PBEJ	**Beja**	**2.56**	**296**	*e*Pn	Pn	08 20 12.6	-1.3
PBEJ				*e*Sn	Sn	08 20 42.9	-2.6
PBEJ				*e*Sg	Sg	08 20 53.2	-1.0
PBEJ							
	9.3nm,0.3s						
PBEJ	**Beja**	**2.56**	**296**	Pn	Pn	08 20 12.6	-1.3
PBEJ				Sn	Sn	08 20 42.9	-2.6
PBEJ				Lg		08 20 53.2	
	4.7nm,0.3s						
ESDC	**Sonseca Array**	**2.82**	**15**	Pn	Pn	08 20 17.4	0.0
	1.1nm,0.2s,baz=196,slow=12,SNR=14						
ESDC				Pg	Pg	08 20 23.5	-2.4
	0.6nm,0.3s,baz=196,slow=12,SNR=11						
ESDC				Sn	Sn	08 20 48.6	-3.2
	0.7nm,0.3s,baz=183,slow=17,SNR=5.1						
ESDC				Lg		08 20 59.3	
	4.8nm,0.4s,baz=196,slow=28,SNR=15						
PESTR	**Estremoz**	**2.84**	**313**	*e*Pn	Pn	08 20 16.3	-1.4
PESTR				*e*Sn	Sn	08 20 50.1	-2.1
PESTR				*e*Sg	Sg	08 21 00.5	-2.5
PESTR							
	11nm,0.4s						
EMUR	**La Murta**	**3.07**	**72**	Pn	Pn	08 20 21.5	+0.6
	0.6nm,0.2s,SNR=4.0						
EMUR				Pg	Pg	08 20 29.1	-1.6
	4.8nm,0.5s,SNR=4.0						
EMUR				Sn	Sn	08 20 57.1	-0.9
	1.1nm,0.2s,SNR=4.0						
EMUR				Lg		08 21 10.2	
	12nm,0.9s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.08**	**282**	*e*Pn	Pn	08 20 20.0	-1.0
PTEO				*e*Sn	Sn	08 20 55.9	-2.3
PTEO				*e*Sg	Sg	08 21 09.0	-1.7
PTEO							
	14nm,0.5s						
PTEO	**Sao Teotonio**	**3.08**	**282**	Pn	Pn	08 20 20.0	-1.0
PTEO				Sn	Sn	08 20 55.9	-2.3
PTEO				Lg		08 21 09.0	
	7.2nm,0.5s						
MOE	**Montemor**	**3.13**	**301**	*e*Pn	Pn	08 20 21.2	-0.5
MOE				*e*Sn	Sn	08 20 57.5	-1.9
MOE				*e*Sg	Sg	08 21 11.4	-0.8
ETOB	**Tobarra**	**3.17**	**57**	Pn	Pn	08 20 21.8	-0.4
	SNR=7.9						
ETOB				Pg	Pg	08 20 30.4	-2.1
	2.1nm,0.4s,SNR=5.1						
ETOB				Sn	Sn	08 20 59.2	-1.2
	SNR=7.9						
ETOB				Lg		08 21 12.1	
	8.0nm,0.4s,SNR=6.0						
PCBR	**Castelo Branco**	**3.51**	**326**	*e*Pn	Pn	08 20 25.2	-1.7
PCBR				*e*Sn	Sn	08 21 04.2	-4.5
PCBR				*e*Sg	Sg	08 21 22.0	-2.4
PCBR							
	5.2nm,0.6s						
PCBR	**Castelo Branco**	**3.51**	**326**	Pn	Pn	08 20 25.2	-1.7
PCBR				Sn	Sn	08 21 04.2	-4.5
PCBR				Lg		08 21 22.0	
	2.6nm,0.6s						
GUD	**Guadarrama**	**3.73**	**9**	Pn	Pn	08 20 27.7	-2.3
	SNR=7.9						
GUD				Lg		08 21 28.9	
	2.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.00**	**330**	*e*Sg	Sg	08 21 38.2	-2.1
MTE							
	8.9nm,0.8s						
MTE	**Manteigas**	**4.00**	**330**	Lg		08 21 38.2	
	4.4nm,0.8s						
PVIS	**Viseu**	**4.41**	**329**	*e*Pn	Pn	08 20 38.6	-0.7
PVIS				*e*Sn	Sn	08 21 27.8	-3.2
ETOR	**Torete**	**4.47**	**29**	Pn	Pn	08 20 39.6	-0.4
	SNR=7.9						
ETOR				Sn	Sn	08 21 28.4	-4.0
	SNR=7.9						
ETOR				Lg		08 21 52.6	
	14nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.88**	**44**	Lg		08 22 05.1	
	1.6nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.04**	**344**	*e*Pn	Pn	08 20 46.8	-1.2
PBRG				*e*Sg	Sg	08 22 12.8	-0.9
ECAL	**Calabor**	**5.17**	**345**	Pn	Pn	08 20 48.3	-1.5
	SNR=7.9						
ECAL				Sn	Sn	08 21 44.8	-5.0
	SNR=7.9						
ECAL				Lg		08 22 14.9	
	9.9nm,0.6s,SNR=7.9						

*NEIC **15** 08:21:41.2,3140S×7163W,h13km,ML2.8(GUC),After GUC.*
GUC 15 08:21:41.2±0.7,3140S×7163W,h13km±5km,MD3.6, ML2.8,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**167**	⇓*i*P	Pg	08 21 50.8	-0.1
CHNG				*i* S	Sg	08 21 58.1	+0.6
CHNG				AML	AML	08 21 58.6	
	comp=N,1μm,0.2s						
CMCH	**Combarbala**	**0.58**	**67**	⇑*i*P	Pg	08 21 52.3	-0.3
CMCH				*i* S	Sg	08 22 01.2	+0.9
CMCH				AML	AML	08 22 02.4	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**0.58**	**67**	⇑*i*P	Pg	08 21 52.3	-0.3
CMCH				*i* S	Sg	08 22 01.2	+0.9
PTCH	**Petorca**	**1.04**	**146**	⇑*i*P	Pb	08 21 59.5	-1.5
PTCH				*i* S	Sb	08 22 13.4	-1.2
PTCH				AML	AML	08 22 16.2	
	comp=E,599nm,0.1s						
PTCH	**Petorca**	**1.04**	**146**	⇑*i*P	Pb	08 21 59.5	-1.5
PTCH				*i* S	Sb	08 22 13.4	-1.2
TLL	**Tololo Astrono**	**1.42**	**30**	*eP*	Pn	08 22 06.0	-0.6
TLL				*i* S	Sn	08 22 25.4	+0.3
TLL				AML	AML	08 22 27.6	
	comp=N,168nm,0.3s						
TLL	**Tololo Astrono**	**1.42**	**30**	*e*P	Pn	08 22 06.0	-0.6
TLL				*i* S	Sn	08 22 25.4	+0.3
JACH	**Jahuel**	**1.55**	**146**	⇓*i*P	Pn	08 22 08.1	-0.3
JACH				*i* S	Sn	08 22 28.4	+0.1
ROCH	**El Roble**	**1.65**	**162**	*i* S	Sn	08 22 31.0	+0.1
PEL	**Peldehue**	**1.91**	**156**	⇓*i*P	Pn	08 22 13.8	+0.4
PEL				*i* S	Sn	08 22 38.7	+1.4
PEL				AML	AML	08 22 40.9	
	comp=N,174nm,0.2s						
PEL	**Peldehue**	**1.91**	**156**	⇓*i*P	Pn	08 22 13.8	+0.4
PEL				*i* S	Sn	08 22 38.7	+1.4
RCDM	**Rinconada Maip**	**2.19**	**162**	*eP*	Pn	08 22 18.3	+1.0
RCDM				*i* S	Sn	08 22 45.8	+1.5
RCDM				AML	AML	08 22 48.4	
	comp=E,62nm,0.1s						
RCDM	**Rinconada Maip**	**2.19**	**162**	*eP*	Pn	08 22 18.3	+1.0
RCDM				*i* S	Sn	08 22 45.8	+1.5
TACH	**Talagante**	**2.32**	**166**	*i* S	Sn	08 22 49.5	+2.2

MAN 15 08:41:21.3,1364N×12105E,h1km,mb1.9,ML3.6,MS2.2, 2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.17**	**216**	⇑*i*P	Pg	08 41 24.0	-0.6
PGP				*i* S	Sg	08 41 26.7	-0.1
TGY	**Tagaytay City**	**0.47**	**346**	⇑*i*P	Pg	08 41 30.6	+0.2
TGY				*i* S	Sg	08 41 38.9	+2.3
BOAC	**Boac**	**0.79**	**103**	*eP*	Pg	08 41 36.6	+0.2
LUBP	**Lubang**	**0.79**	**277**	*eP*	Pg	08 41 34.1	-2.4
LUBP				*e*S	Sg	08 41 45.0	-1.8
POLP	**Polilio Island**	**1.38**	**38**	*eP*	Pn	08 41 47.0	-0.7
OTRP	**Odiongan**	**1.58**	**143**	*eP*	Pn	08 41 50.5	+0.1
BUSP	**Coron**	**1.83**	**207**	*eP*	Pn	08 41 54.6	+0.7

MAN 15 08:44:02.3,1364N×12091E,h0km,mb1.9,ML3.7,MS3.2, 2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.15**	**162**	⇑*i*P	Pg	08 44 05.0	-0.1
PGP				*i* S	Sg	08 44 07.5	+0.5
TGY	**Tagaytay City**	**0.46**	**4**	⇑*i*P	Pg	08 44 11.7	+0.6
TGY				*i* S	Sg	08 44 18.0	+0.9
LUBP	**Lubang**	**0.65**	**278**	*eP*	Pg	08 44 15.0	+0.2
LUBP				*e*S	Sg	08 44 25.6	+2.4
LUBP	**Lubang**	**0.65**	**278**	*eP*	Pg	08 44 14.8	+0.1
LUBP				*e*S	Sg	08 44 25.7	+2.5
BOAC	**Boac**	**0.93**	**101**	*eP*	Pg	08 44 17.3	-2.9
BOAC	**Boac**	**0.93**	**101**	*eP*	Pg	08 44 17.4	-2.8
POLP	**Polilio Island**	**1.47**	**43**	*eP*	Pn	08 44 28.9	-1.1
OTRP	**Odiongan**	**1.67**	**139**	*eP*	Pn	08 44 33.1	+0.3

*MOS **15** 08:51:34.0±1.0,309N×9330E,h23km,mb4.7/18,Error ellipse: s-maj=12.0km s-min=7.3km az=108.4*
*BJI **15** 08:51:34.1,266N×9350E,h36km,mB5.1,mb4.7,Ms4.5, Msz4.1*
*ISCJB **15** 08:51:35.6±0.3,308N±005×9338E±004,h32km,mb4.5/50, MS3.8/17,Error ellipse: s-maj=7.7km s-min=5.2km az=54.6*
*NEIC **15** 08:51:36.6±0.4,305N×9327E,h30km,mb4.5/16,Error ellipse: s-maj=10.2km s-min=6.8km az=212.0*
*IDC **15** 08:51:37.1±0.6,306N×9327E,h32km±3km,mb4.1/16, mb1 4.3/17,mb1mx4.2/20,mbtmp4.3/17,ML4.5/1,MS3.8/9, Ms1 3.8/9,ms1mx3.4/29,Error ellipse: s-maj=21.2km s-min=12.2km az=52.0*
ISC 15 08:51:37.8±0.3,307N±005×9333E±004,h34km, h34km±.5km:pP-P,n117,σ1§10/119,mb4.5/50,MS3.8/17, 7C-3D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.60**	**93**	Pn	**Pn**	**08 52 59.0**	**+0.4**
	14nm,0.3s,baz=296,slow=9.6,SNR=50						
PSI				Sn	**Sn**	**08 54 01.1**	**-0.6**
	52nm,0.3s,baz=189,slow=20,SNR=14						
KULM	**Kulim**	**7.63**	**73**	*e*Pn	**Pn**	**08 53 26.5**	**0.0**
KULM				*e*Sn	**Sn**	**08 54 45.4**	**-6.3**
PALK	**Pallekele**	**13.24**	**289**	*eP*	**Pn**	**08 54 40.5**	**-2.9**
	12nm,0.5s						
CM31	**Chiang Mai Arr**	**16.25**	**19**	*eP*	**Pn**	**08 55 23.3**	**-0.1**
	19nm,0.7s						
CHG	**Chiang Mai**	**16.58**	**19**	⇓P	pP	08 55 39.5	+0.7
	11nm,0.8s						
CHTO	**Chiang Mai**	**16.58**	**19**	*eP*	**Pn**	**08 55 27.1**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**16.58**	**19**	*eP*	**Pn**	**08 55 27.1**	**-0.5**
	comp=Z,6.9nm,0.8s						
KSM	**Kuching**	**17.04**	**95**	*eP*	**Pn**	**08 55 37.5**	**+4.1**
TRD	**Trivandrum**	**17.15**	**289**	*eP*	**Pn**	**08 55 37.0**	**+2.3**
TRD				AMb	AMB	08 55 47.4	
	comp=Z,18nm,1.0s						
VIS	**

KMI Kunming 23.72 22 P **P** **08 56 47.4 +0.7**
comp=Z,10.0nm,0.9s,mb4.2
KMI sP sP 08 56 58.5 -2.2
KMI LR LR
comp=Z,100nm,19.4s,MS3.3
POO Poona 24.49 310 *ex* x 08 57 36.0
BHPL Bhopal 25.28 324 *eP* **P** **08 57 01.7 +0.8**
BHPL AMb AMB 08 57 12.9
comp=Z,16nm,0.8s,mb4.6
PKI Pulchoki 25.51 344 *eP* **P** **08 57 05.7 +2.7**
DMN Daman 25.63 343 *eP* **P** **08 57 06.0 +1.9**
GUN Gumba 25.70 345 *eP* **P** **08 57 06.6 +1.9**
KKN Kakani 25.75 343 *eP* **P** **08 57 07.1 +1.9**
GKN Gorkha 26.14 342 *eP* **P** **08 57 09.2 +0.5**
KOLN Koldanda 26.26 340 *eP* **P** **08 57 10.2 +0.4**
comp=Z,52nm,1.1s,mb5.0
LSA Lhasa 26.56 356 P **P** **08 57 14.3 +1.8**
LSA AMB AMB
comp=Z,20nm,0.7s,mb4.8
CD2 Chengdu 29.39 18 *eP* **P** **08 57 39.1 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,30nm,4.2s
XAN Xi'an 34.07 23 P **P** **08 58 17.8 -1.1**
XAN AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
LZH Lanzhou 34.26 15 *eP* **P** **08 58 24.3 +3.8**
LZH AP pP 08 58 34.1 +3.7
LZH XP sP 08 58 39.8 +5.2
LZH PP PP 08 59 40.5 +2.1
LZH AMB AMB
comp=Z,22nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,45nm,4.9s
LZH LR LR
comp=N,416nm,13.4s
LZH LR LR
comp=Z,589nm,17.3s,MS4.4
LZH Lanzhou 34.26 15 *eP* **P** **08 58 24.3 +3.8**
comp=Z,22nm,1.2s,mb5.0
LZH pP pP 08 58 34.1 +3.7
LZH sP sP 08 58 39.8 +5.2
LZH PP PP 08 59 40.5 +2.1
LZH LR LR
comp=Z,590nm,17.3s,MS4.4
GTA Gaotai 36.65 8 *eP* **P** **08 58 41.5 +0.5**
GTA AP pP 08 58 51.3 +0.3
GTA XP sP 08 58 55.3 +0.2
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
NJ2 Nanjing 37.50 37 *eP* **P** **08 58 47.3 -1.0**
NJ2 AP pP 08 58 57.1 -1.2
NJ2 XP sP 08 59 01.3 -1.1
NJ2 PP PP 09 00 15.0 +0.8
NJ2 S **S** **09 04 33.0 -1.9**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,2μm,6.0s
SSE Sheshan 38.31 40 P **P** **08 58 55.0 -0.1**
SSE AP pP 08 59 04.0 -1.1
SSE XP sP 08 59 07.8 -1.4
SSE S **S** **09 04 47.3 +0.3**
SSE XS sS 09 05 03.6 +0.1
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,105nm,5.6s
SSE LR LR
comp=N,178nm,18.0s,MS4.0
SSE LR LR
comp=E,98nm,18.1s,MS4.0
SSE LR LR
comp=Z,98nm,20.0s,MS3.6
SSE Sheshan 38.31 40 P **P** **08 58 55.0 -0.1**
comp=Z,37nm,0.8s,mb5.2
SSE pP pP 08 59 04.0 -1.1
SSE sP sP 08 59 07.8 -1.4
SSE S **S** **09 04 47.3 +0.3**
SSE sS sS 09 05 03.6 +0.1
SSE SS SS 09 07 35.8 -0.2
SSE LR LR
comp=Z,100nm,20.0s,MS3.6
WMQ Urumqi 40.88 354 *eP* **P** **08 59 16.0 -0.5**
WMQ AP pP 08 59 26.0 -0.6
WMQ XP sP 08 59 30.0 -0.7
WMQ PP PP 09 00 54.0 +2.9
WMQ *eS* **S** **09 05 25.0 -0.6**
WMQ AMB AMB
comp=Z,11nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,92nm,4.8s
WMQ LR LR
comp=N,200nm,17.9s,MS4.3
WMQ LR LR
comp=E,316nm,20.2s,MS4.3
WMQ LR LR
comp=Z,264nm,22.0s,MS4.0
JOW Kunigami 40.95 51 LR LR 09 15 34.0
comp=Z,140nm,20.6s,MS3.8,baz=264,slow=35
HHC Hu-ho-hao-te 41.05 21 *eP* **P** **08 59 18.9 +1.0**
HHC AP pP 08 59 28.9 +0.9
HHC XP sP 08 59 32.0 -0.1
HHC AMB AMB
comp=Z,22nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,178nm,6.7s
HHC LR LR
comp=N,130nm,5.3s
HHC LR LR
comp=E,320nm,11.4s
HHC LR LR
comp=Z,148nm,11.8s,MS4.1
BJI Beijing 42.22 26 P **P** **08 59 28.8 +1.3**
BJI S **S** **09 05 53.4 +8.0**
BJI AMB AMB
comp=Z,11nm,1.0s,mb4.4
BJI LR LR
comp=Z,70nm,23.7s,MS3.5
BJI Beijing 42.22 26 P **P** **08 59 28.7 +1.2**
BJI S **S** **09 05 53.4 +8.0**
BJI pmax pmax
comp=Z,11nm,1.0s,mb4.4
BJI MLR MLR
comp=Z,70nm,23.7s,MS3.5
BJI Beijing 42.22 26 P **P** **08 59 28.7 +1.2**
comp=Z,11nm,1.0s,mb4.4
BJI S **S** **09 05 53.4 +8.0**
BJI LR LR
comp=Z,70nm,23.7s,MS3.5
AAK Ala-Archa 42.83 339 *eP* **P** **08 59 32.1 -0.3**
AAK *e* pP 08 59 42.5 0.0
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
AAK Ala-Archa 42.83 339 *eP* **P** **08 59 32.1 -0.3**
comp=Z,5.1nm,1.0s,mb4.2
AAK *e* pP 08 59 42.5 -0.1
MK31 Makanchi Array 44.59 349 *eP* **P** **08 59 46.7 +0.1**
MK31 *e* pP 08 59 56.0 -0.8
MKAR Makanchi Array 44.59 349 P **P** **08 59 46.8 +0.1**
comp=Z,5.2nm,0.6s,mb4.5,baz=168,slow=8.4,SNR=49
MKAR pP pP 08 59 56.5 -0.3
comp=Z,10.0nm,0.6s,baz=170,slow=8.8,SNR=24
MKAR LR LR 09 19 34.0
comp=Z,71nm,18.9s,MS3.6,baz=167,slow=38
MKAR Makanchi Array 44.59 349 P **P** **08 59 46.8 +0.2**
MKAR *PP pP 08 59 56.5 -0.3
SONM Songino Array 45.99 12 P **P** **08 59 57.8 +0.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=204,slow=9.1,SNR=8.3
SONM pP pP 09 00 08.2 +0.3
comp=Z,5.7nm,0.8s,baz=204,slow=8.9,SNR=9.0
SONM PcP PcP 09 01 34.4 +0.4
comp=Z,1.8nm,0.7s,baz=157,slow=4.1,SNR=3.3
WRA Warramunga Arr 46.30 121 P **P** **09 00 00.2 0.0**
comp=Z,30nm,0.5s,mb5.5,baz=298,slow=8.8,SNR=373
WRAB Tennant Creek 46.31 121⇑ *eP* **P** **09 00 00.6 +0.4**
WB2 Warramunga Arr 46.32 121 *eP* **P** **09 00 00.2 0.0**
ASAR Alice Springs 47.61 126 P **P** **09 00 10.3 0.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=292,slow=7.9,SNR=89
ASAR PcP PcP 09 01 39.9 +0.2
comp=Z,1.8nm,0.6s,baz=292,slow=3.3,SNR=6.4
CN2 Changchun 49.53 30 *eP* **P** **09 00 28.6 +3.5**
ZAL Zalesovo 51.18 354 P **P** **09 00 37.4 -0.3**
comp=Z,5.1nm,0.5s,mb4.8,baz=306,slow=5.1,SNR=16
ZAL pP pP 09 00 47.6 -0.3
comp=Z,14nm,0.4s,baz=309,slow=4.1,SNR=17
ZAL LR LR 09 26 07.2
comp=Z,58nm,18.5s,MS3.6,baz=97,slow=40
ZAL Zalesovo 51.18 354 P **P** **09 00 37.4 -0.2**
ZAL *PP pP 09 00 47.7 -0.2
HIA Hailar 51.24 22⇑ *eP* **P** **09 00 37.3 -0.8**
GUMO Guam 51.95 75 LR LR 09 21 45.2
comp=Z,106nm,20.6s,MS3.9,baz=52,slow=35
MDJ Mudanjiang 52.24 32 P **P** **09 00 46.5 +0.9**
MDJ AP pP 09 00 55.5 -0.4
MDJ XP sP 09 00 59.4 -0.5
MDJ PCP PcP 09 01 57.0 +0.3
MDJ PP PP 09 02 44.8 +0.6
MDJ SCP ScP 09 05 51.8 +0.7
MDJ PCS PcS 09 05 55.3 +0.3
MDJ S **S** **09 08 10.8 +2.7**
MDJ AMB AMB
comp=Z,8.0nm,1.6s,mb4.4
MDJ AMB AMB
comp=Z,39nm,4.1s
MDJ LR LR
comp=N,49nm,26.6s,MS3.5
MDJ LR LR
comp=E,39nm,26.6s,MS3.5
MDJ LR LR
comp=Z,68nm,21.8s,MS3.6
NVS Novosibirsk 52.26 353 *i* P **P** **09 00 43.9 -1.7**
MJAR Matsushiro Arr 53.03 45 P **P** **09 00 51.1 -0.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=240,slow=6.7,SNR=5.6
BVAR Borovoye Array 53.28 343 P **P** **09 00 52.4 -0.8**
comp=Z,4.3nm,0.8s,mb4.4,baz=148,slow=8.7,SNR=22
BVAR pP pP 09 01 02.2 -1.4
comp=Z,10nm,0.9s,baz=142,slow=7.5,SNR=16
BRVK Borovoye 53.34 343 *eP* **P** **09 00 52.7 -0.9**
BRVK *e* pP 09 01 02.6 -1.4
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 53.34 343 *eP* **P** **09 00 52.6 -1.0**
comp=Z,8.6nm,0.9s,mb4.7
BRVK *e* pP 09 01 02.6 -1.3
ZRNK Zerenda 53.63 342 *eP* **P** **09 00 54.9 -0.9**
ZRNK *e* pP 09 01 05.0 -1.1
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZRNK Zerenda 53.63 342 *eP* **P** **09 00 54.9 -0.9**
comp=Z,2.1nm,0.8s,mb4.1
ZRNK *e* pP 09 01 05.0 -1.1
CHKZ Chkalovo 53.78 343 *eP* **P** **09 00 56.3 -0.6**
CHKZ *e* pP 09 01 06.1 -1.1
CHKZ pmax pmax
comp=Z,13nm,0.7s,mb5.0
CHKZ Chkalovo 53.78 343 *eP* **P** **09 00 56.3 -0.6**
comp=Z,13nm,0.7s,mb5.0
CHKZ *e* pP 09 01 06.1 -1.1
KMBO Kilima Mbogo 56.21 267 LR LR 09 23 45.8
comp=Z,92nm,18.0s,MS3.9,baz=85,slow=34
CTAO Charters Tower 56.80 116 *eP* **P** **09 01 19.4 +0.8**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CTAO Charters Tower 56.80 116 *eP* **P** **09 01 19.4 +0.8**
comp=Z,6.8nm,1.0s,mb4.6
BOD Bodaibo 56.98 13 *eP* **P** **09 01 19.2 -0.7**
BOD *e* pP 09 01 28.9 -1.4
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
STKA Stephens Creek 57.48 131 P **P** **09 01 23.7 +0.2**
comp=Z,5.2nm,0.5s,mb4.8,baz=294,slow=5.1,SNR=26
STKA Stephens Creek 57.48 131 *eP* **P** **09 01 23.4 0.0**
ASAJ Asahikawa 59.59 39 LR LR 09 26 20.0
comp=Z,85nm,20.1s,MS3.9,baz=249,slow=35
ARU Arti 60.00 339⇓ *iP* **P** **09 01 40.1 -0.9**
ARU *e* 09 02 23.5
ARU *e* 09 03 58.1
ARU *eS* **S** **09 09 50.6 -0.5**
ARU *eSS* SS 09 13 41.8 -6.2
ARU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ARU Arti 60.00 339 P **P** **09 01 40.0 -1.0**
comp=Z,8.4nm,1.0s,mb4.7
ARU *e* pP 09 01 49.5 -1.9
KIV Kislovodsk 60.38 320 *i* P **P** **09 01 42.9 -0.7**
MALT Malatya 61.02 313 *eP* **P** **09 01 48.9 +1.0**
MALT *e* pP 09 01 59.2 +0.8
MALT pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MALT Malatya 61.02 313 *eP* **P** **09 01 48.9 +1.0**
comp=Z,10nm,1.0s,mb4.9
MALT *e* pP 09 01 59.2 +0.8
YAK Yakutsk 64.78 18*c i P* **P** **09 02 10.9 -2.0**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BRTR Keskin Array B 65.00 313 P **P** **09 02 13.6 -0.8**
comp=Z,1.2nm,0.7s,mb4.0,baz=122,slow=7.1,SNR=6.7
BRTR pP pP 09 02 23.6 -1.3
comp=Z,2.4nm,0.8s,baz=133,slow=7.3,SNR=7.6
BRTR LR LR 09 33 38.8
comp=Z,40nm,19.8s,MS3.6,baz=116,slow=39
BRTR Keskin Array B 65.00 313 P **P** **09 02 13.6 -0.8**
BRTR *PP pP 09 02 23.6 -1.3
MATP Matopo 67.67 247 pP pP 09 02 42.1 0.0
comp=Z,2.8nm,0.8s,baz=101,slow=9.0,SNR=4.2
OBN Obninsk 69.02 329*c i P* **P** **09 02 38.5 -1.4**
OBN *e* pP 09 02 48.9 -1.6
OBN pmax pmax
comp=Z,29nm,2.5s,mb4.8
AKASG Malin Array Be 71.43 323 P **P** **09 02 53.4 -1.2**
comp=Z,1.7nm,0.6s,mb4.1,baz=91,slow=4.6,SNR=9.0
AKASG pP pP 09 03 03.5 -1.8
comp=Z,3.4nm,0.7s,baz=91,slow=4.5,SNR=5.9
AKASG Malin Array Be 71.43 323 P **P** **09 02 53.4 -1.2**
AKASG pP pP 09 03 03.5 -1.8
SEY Seymchan 73.60 24⇑ *eP* **P** **09 03 08.3 +0.7**
MAW Mawson 73.70 192 P **P** **09 03 08.5 +0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=74,slow=5.1,SNR=4.2
STHS Stebnicka Huta 76.06 320 *eP* **P** **09 03 23.1 +1.3**
STHS *e* pP 09 03 32.5 0.0
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
STHS Stebnicka Huta 76.06 320 *eP* **P** **09 03 23.1 +1.3**
comp=Z,3.9nm,1.0s,mb4.3
STHS *e* pP 09 03 32.5 0.0
KECS Kecovo 76.36 319 *eP* **P** **09 03 27.5 +4.0**
KECS *e* 09 03 33.9
KECS pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
KECS Kecovo 76.36 319 *eP* **P** **09 03 27.5 +4.0**
comp=Z,4.7nm,1.6s,mb4.2
KECS *e* 09 03 33.9
FINES FINESS Array B 76.57 333 P **P** **09 03 23.6 -1.1**
comp=Z,3.4nm,1.0s,mb4.2,baz=100,slow=7.9,SNR=6.9
FINES pP pP 09 03 33.1 -2.3
comp=Z,3.1nm,0.7s,baz=99,slow=6.4,SNR=3.6
FINES LR LR 09 41 53.2
comp=Z,36nm,20.1s,MS3.7,baz=176,slow=39
FINES FINESS Array B 76.57 333 P **P** **09 03 23.6 -1.1**
FINES *PP pP 09 03 33.1 -2.3
KAF Kangasniemi 76.69 334 *ep* **P** **09 03 23.7 -1.6**
baz=106,slow=5.3
VYHS Vyhne 77.44 319 *eP* **P** **09 03 27.4 -2.2**
VYHS *e* pP 09 03 39.8 -0.5
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
VYHS Vyhne 77.44 319 *eP* **P** **09 03 27.4 -2.2**
comp=Z,7.0nm,1.5s,mb4.4
VYHS *e* pP 09 03 39.8 -0.5
ZST Bratislava 78.54 318 *eP* pP 09 03 46.4 0.0
ZST pmax pmax
comp=Z,15nm,0.8s,mb5.0
ARCES ARCESS Array B 79.49 341 P **P** **09 03 39.9 -1.0**
comp=Z,3.0nm,0.9s,mb4.2,baz=316,slow=10,SNR=4.8
ARCES pP pP 09 03 49.9 -1.8
comp=Z,4.6nm,0.8s,baz=90,slow=6.1,SNR=3.1
SYO Syowa Base 80.61 197⇓ *eP* **P** **09 03 47.7 +0.8**
BILL Bilibino 80.82 21 *eP* **P** **09 03 47.2 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GERES GERESS Array B 80.86 319 P **P** **09 03 48.5 +0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=93,slow=5.7,SNR=24
GERES pP pP 09 03 58.9 -0.2
comp=Z,6.3nm,0.6s,baz=120,slow=6.1,SNR=16
BRG Berggiesshubel 80.92 321 *eP* **P** **09 03 49.0 +0.4**
BRG *e* pP 09 03 59.0 -0.4
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KHC Kasperske Hory 80.97 319⇑ *eP* **P** **09 03 49.1 +0.2**
CLL Collm 81.56 321 *eP* **P** **09 03 52.0 0.0**
CLL *e*PP pP 09 04 02.0 -0.8
CLL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CLL Collm 81.56 321 *eP* **P** **09 03 52.0 0.0**
comp=Z,3.0nm,0.7s,mb4.3
CLL *e*pP pP 09 04 02.0 -0.8
GRF Grafenberg Arr 82.56 320 *eP* **P** **09 03 57.5 +0.3**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KEST Kesra 83.33 305 pP pP 09 04 12.7 +0.7
comp=Z,3.6nm,1.0s,baz=187,slow=3.3,SNR=3.8
NB2 NORSAR Subarra 83.50 331 P **P** **09 04 00.9 -1.2**
comp=Z,0.8nm,0.7s,mb3.9,baz=98,slow=5.3
NOA NORSAR Array B 83.50 331 P **P** **09 04 01.0 -1.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=94,slow=5.7,SNR=4.6
NOA pP pP 09 04 11.1 -1.8
comp=Z,1.4nm,0.9s,baz=94,slow=5.6,SNR=3.5
KBS Kingsbay 85.34 349⇑ *eP* **P** **09 04 12.2 +0.8**
LPG La Plagne 85.42 315 *eP* pP 09 04 22.3 -0.4
comp=Z,13nm,0.8s
VNDA Vanda 88.42 168 P **P** **09 04 26.3 -0.1**
comp=Z,0.9nm,0.9s,mb4.0,baz=310,slow=3.7,SNR=3.9
VNDA LR LR 09 37 39.1
comp=Z,80nm,21.3s,MS4.1,baz=14,slow=31
ESDC Sonseca Array 93.67 310 P **P** **09 04 51.4 +0.6**
comp=Z,0.3nm,0.5s,mb4.0,baz=57,slow=4.7,SNR=3.0
ESDC pP pP 09 05 01.6 0.0
comp=Z,0.2nm,0.4s,baz=60,slow=4.5,SNR=2.6
NVAR Mina Array Bea 129.41 32 PKP PKPdf 09 10 44.1 +1.4
comp=Z,0.3nm,0.5s,baz=310,slow=4.1,SNR=3.7
CPUP Villa Florida 143.58 228 PKP PKPdf 09 11 07.4 -1.6
comp=Z,1.3nm,0.4s,baz=83,slow=2.2,SNR=4.8
CPUP pPKP pPKPdf 09 11 18.2 -2.0
comp=Z,1.3nm,0.4s,baz=29,slow=1.3,SNR=3.3
JCT Junction City 144.36 20 *e*PKIKP PKPdf 09 11 08.7 -1.6

MEX 15 08:52:02.3±0.3, 1644N×9851W, h24km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**98**	*i* P	Pb	08 52 09.2	-1.2
PNIG				*i* S	Sb	08 52 14.4	-1.5
UTMO	**Huajuapan**	**1.54**	**26**	*i* P	Pn	08 52 25.8	-2.4
UTMO				*i* S	Sn	08 52 44.2	-3.1
VHO	**Vista Hermosa**	**1.82**	**70**	*i* P	Pn	08 52 30.0	-2.0
VHO				*i* S	Sn	08 52 51.4	-2.9
CMIG	**Matias Romero**	**3.54**	**79**	*i* P	Pn	08 52 53.7	-2.0
CMIG				*i* S	Sn	08 53 34.0	-2.6

GUC 15 08:55:41.0±0.8, 3091S×7162W, h62km±8km, MD3.7, ML3.8, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.47**	**51**	⇓ *iP*	Pn	08 55 53.2	+0.5
OVCH				*i* S	Sn	08 56 02.0	+0.7
OVCH				AML	AML	08 56 02.6	
	comp=E,5μm,0.2s						
CMCH	**Combarbala**	**0.59**	**117**	⇑ *iP*	Pn	08 55 54.6	+0.5
CMCH				*i* S	Sn	08 56 04.8	+1.1
CMCH				AML	AML	08 56 05.1	
	comp=N,29μm,0.1s						
CHNG	**Los Chungos**	**0.98**	**174**	⇓ *iP*	Pn	08 55 59.4	+0.6
CHNG				*i* S	Sn	08 56 12.8	+0.9
CHNG				AML	AML	08 56 13.6	
	comp=E,954nm,0.3s						
LSCH	**La Serena**	**1.05**	**18**	⇓ *iP*	Pn	08 55 59.8	+0.1
LSCH				*i* S	Sn	08 56 13.8	+0.2
PTCH	**Petorca**	**1.48**	**157**	⇑ *iP*	Pn	08 56 06.2	+0.8
PTCH				*i* S	Sn	08 56 24.7	+1.0
PTCH				AMP		08 56 29.5	
	comp=E,4μm,0.3s						
PACH	**Papudo**	**1.63**	**175**	⇓ *iP*	Pn	08 56 08.0	+0.5
PACH				*i* S	Sn	08 56 28.1	+0.6
JACH	**Jahuel**	**1.97**	**154**	⇓ *iP*	Pn	08 56 13.2	+1.1
JACH				*i* S	Sn	08 56 37.1	+1.3
ROCH	**El Roble**	**2.12**	**166**	⇓ *iP*	Pn	08 56 15.0	+0.9
ROCH				*e*S	Sn	08 56 40.6	+1.3
VACH	**Vallenar**	**2.44**	**18**	*i* P	Pn	08 56 22.9	+4.4
VACH				*i* S	Sn	08 56 51.5	+4.3
VACH				AML	AML	08 56 58.9	
	comp=N,865nm,0.2s						
LCCH	**Las Cruces**	**2.56**	**179**	⇑ *iP*	Pn	08 56 20.4	+0.4
RCDM	**Rinconada Maip**	**2.67**	**165**	*e*P	Pn	08 56 22.3	+0.7
RCDM				*i* S	Sn	08 56 53.2	+0.6
RCDM				AML	AML	08 56 55.4	
	comp=E,426nm,0.1s						
TACH	**Talagante**	**2.80**	**168**	*e*P	Pn	08 56 23.8	+0.4
PCH	**Pirque**	**2.86**	**161**	*e*P	Pn	08 56 24.9	+0.7
PCH				*i* S	Sn	08 56 57.6	+0.1
CHCH	**Chadas Angostu**	**3.13**	**165**	⇓ *iP*	Pn	08 56 28.9	+1.1
CACH	**El Canelo**	**3.31**	**165**	⇑ *iP*	Pn	08 56 32.5	+2.1
CACH				*i* S	Sn	08 57 10.4	+1.9
SFDO	**San Fernando**	**3.73**	**172**	*e*P	Pn	08 56 37.0	+0.9
SFDO				*e*S	Sn	08 57 18.8	0.0

MAN 15 09:03:47.2, 1363N×12090E, h1km, mb2.3, ML3.9, MS3.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.47**	**5**	⇓ *iP*	Pg	09 03 57.0	+0.8
TGY				*i* S	Sg	09 04 04.2	+2.0
LUBP	**Lubang**	**0.64**	**279**	*e*P	Pg	09 03 59.7	+0.2
LUBP				*e*S	Sg	09 04 10.4	+2.7
BOAC	**Boac**	**0.94**	**101**	*e*P	Pg	09 04 02.1	-3.0
POLP	**Polilio Island**	**1.48**	**43**	*e*P	Pn	09 04 12.8	-2.2
OTRP	**Odiongan**	**1.67**	**139**	*e*P	Pn	09 04 17.9	+0.3

ISCJB ***15*** *09:12:41.5±0.8, 2455N±005×141.13E±005, h214km±6km, mb4.3/57, Error ellipse: s-maj=8.9km s-min=7.8km az=171.4*
NEIC ***15*** *09:12:41.1±1.5, 2445N×141.11E, h200km±14km, mb4.4/21, Error ellipse: s-maj=9.4km s-min=6.8km az=104.0*
IDC ***15*** *09:12:42.9±2.1, 2453N×140.94E, h222km±19km, mb3.9/17, mb1 3.9/19, mb1mx3.9/21, mbtmp4.4/19, Error ellipse: s-maj=16.4km s-min=9.8km az=90.0*
JMA ***15*** *09:12:46.4±0.1, 2510N×14203E, h262km*
BJI ***15*** *09:12:47.1, 2473N×14122E, h277km, mB4.7, mb4.5*
ISC 15 09:12:42.4±0.8, 2451N±005×14119E±005, h209km±6km, h285km±9.0km; pP-P, n103, σ1§17/110, mb4.3/58, 3C-1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.29**	**23**	P	**Pn**	**09 13 26.2**	**+1.6**
JHHJ				*e*S		09 13 57.2	
JOD2	**Odawara 2**	**10.87**	**351**	P	**Pn**	**09 15 11.5**	**-1.1**
JOD2				*e*S	**S**	**09 17 04.6**	**-10**
JRY	**Ryogami san**	**11.64**	**351**	P	**Pn**	**09 15 20.9**	**-1.5**
MJAR	**Matsushiro Arr**	**12.27**	**349**	P	**Pn**	**09 15 28.7**	**-1.6**
	1.6nm,0.3s,baz=165,slow=10,SNR=17						
MJAR				S	**S**	**09 17 37.1**	**-10**
	0.8nm,0.3s,baz=117,slow=19,SNR=3.7						
MJAR	**Matsushiro Arr**	**12.27**	**349**	P	**Pn**	**09 15 28.7**	**-1.6**
MJAR				S	**S**	**09 17 37.1**	**-10**
MAJO	**Matsushiro**	**12.27**	**349**	*e*Pn	**Pn**	**09 15 29.8**	**-0.5**
MAJO				*e*S	**S**	**09 17 35.2**	**-12**
MAT	**Matsushiro**	**12.27**	**349**	P	**Pn**	**09 15 28.9**	**-1.4**
MAT				*e*S	**S**	**09 17 39.2**	**-8.0**
MAT	**Matsushiro**	**12.27**	**349**	P	**Pn**	**09 15 29.6**	**-0.7**
JSJ	**Shimokoshiki**	**12.39**	**308**	P	**Pn**	**09 15 41.9**	**+10**
JHS	**Saijyo**	**12.58**	**328**	P	**Pn**	**09 15 36.6**	**+2.4**
JMK	**Ichinoseki**	**14.40**	**0**	P	**Pn**	**09 15 56.2**	**-0.6**
JMK				*e*S	**S**	**09 18 24.0**	**-13**
JOT	**Ohata**	**16.83**	**360**	P	**P**	**09 16 26.2**	**+1.5**
KS15	**Wonju Array Si**	**17.19**	**322**	*e*P	**P**	**09 16 29.7**	**+1.0**
JKB	**Kayabe**	**17.34**	**360**	P	**P**	**09 16 31.5**	**+1.3**
JOSM	**Okushiri--Mats**	**17.59**	**356**	P	**P**	**09 16 34.7**	**+1.7**
INCN	**Inchon**	**17.95**	**320**	*e*P	**P**	**09 16 37.1**	**+0.3**
	61nm,0.8s						
YHNB	**Yeheng**	**18.03**	**275**	*e*P	**P**	**09 16 44.3**	**+6.6**

ASAJ Asahikawa 19.60 3 P **P 09 16 53.8 -0.9**
1.3nm,0.3s,baz=215,slow=19,SNR=11
NJ2 Nanjing 21.04 296 *e*P **P 09 17 09.6 -0.4**
NJ2 AMB AMB
comp=Z,70nm,0.8s,mb5.2
MDJ Mudanjiang 22.18 338 P **P 09 17 20.0 -1.2**
MDJ XP sP 09 18 44.1 +20
MDJ S **S 09 20 59.1 -11**
MDJ SCP ScP 09 24 18.5 -8.8
MDJ PCS PcS 09 24 49.3 +0.6
MDJ SCS ScS 09 28 03.8 -8.7
MDJ AMB AMB
comp=Z,8.0nm,2.5s,mb3.8
MDJ AMB AMB
comp=Z,133nm,5.0s
MDJ LR LR
comp=N,35nm,26.1s
MDJ LR LR
comp=E,52nm,20.1s
MDJ LR LR
comp=Z,68nm,22.1s
CN2 Changchun 23.17 330 *e*P **P 09 17 29.3 -1.0**
TIA Tai'an 23.75 305 ⇑P **P 09 17 35.5 -0.1**
TIA AMB AMB
comp=Z,42nm,0.8s,mb5.1
BJT Baijiatuau 26.09 312 *e*P **P 09 17 56.5 -0.3**
comp=Z,15nm,0.6s,mb4.8
HHC Hu-ho-hao-te 29.60 311 *e*P **P 09 18 28.1 +0.2**
HHC AP pP 09 19 21.6 +11
HHC XP sP 09 19 56.3 +22
HHC S **S 09 22 57.8 -10**
HHC AMB AMB
comp=Z,36nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,184nm,6.1s
HHC LR LR
comp=N,91nm,5.1s
HHC LR LR
comp=E,247nm,8.0s
HHC LR LR
comp=Z,102nm,8.0s
GYA Guiyang 31.18 281 P **P 09 18 42.0 +0.3**
GYA S **S 09 23 19.9 -12**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
GYA AMB AMB
comp=Z,200nm,9.4s
GYA LR LR
comp=N,320nm,8.1s
GYA LR LR
comp=E,440nm,7.5s
GYA LR LR
comp=Z,400nm,7.5s
CD2 Chengdu 33.64 289 *e*P **P 09 19 05.5 +2.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
LZH Lanzhou 34.06 299 ⇑P **P 09 19 07.3 +0.6**
LZH AP pP 09 20 03.5 +14
LZH PP PP 09 20 33.8 +5.4
LZH XP sP 09 20 37.6 +24
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,47nm,4.6s
KMI Kunming 34.83 279 P **P 09 19 14.9 +1.6**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
KMI Kunming 34.83 279 P **P 09 19 14.9 +1.6**
comp=Z,10.0nm,1.1s,mb4.3
KMI pP pP 09 20 16.2 +20
MA2 Magadan 35.68 8 *e*P **P 09 19 17.0 -3.6**
comp=Z,36nm,1.1s,mb4.8
SONM Songino Array 36.02 319 P **P 09 19 21.2 -2.3**
comp=Z,3.5nm,0.5s,mb4.2,baz=138,slow=5.5,SNR=9.0
CTAO Charters Tower 44.60 173 *e*P **P 09 20 33.3 -0.4**
comp=Z,4.2nm,0.6s,mb4.0
WB2 Warramunga Arr 44.68 189⇑*i*P **P 09 20 33.3 -1.1**
WRA Warramunga Arr 44.68 189 P **P 09 20 33.4 -0.9**
comp=Z,34nm,0.5s,mb4.9,baz=8.6,slow=8.7,SNR=444
WRA ScP ScP 09 25 42.5 -2.7
comp=Z,1.2nm,0.9s,baz=0.8,slow=4.2,SNR=6.1
FITZ Fitzroy Crossi 44.98 201 *e*P **P 09 20 35.6 -1.2**
comp=Z,4.6nm,0.6s,mb4.0
WMQ Urumqi 47.40 308⇓*i*P **P 09 20 56.4 +0.8**
WMQ AMB AMB
comp=Z,21nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,157nm,5.0s
AS31 Alice Springs 48.40 189 *e*P **P 09 21 02.7 -0.6**
ASAR Alice Springs 48.41 189 P **P 09 21 02.6 -0.7**
comp=Z,1.4nm,0.7s,mb3.4,baz=12,slow=14,SNR=27
ASAR ScP ScP 09 25 58.6 -2.2
comp=Z,0.6nm,0.8s,baz=357,slow=4.1,SNR=4.2
JIRN Jiri 49.16 286 *e*P **P 09 21 10.7 +1.7**
GUN Gumba 49.39 287 *e*P **P 09 21 12.1 +1.3**
comp=Z,42nm,0.6s,mb4.9
PKI Pulchoki 49.86 286 *e*P **P 09 21 15.0 +0.7**
comp=Z,11nm,0.5s,mb4.4
KKN Kakani 49.94 287 *e*P **P 09 21 16.1 +1.2**
comp=Z,13nm,0.5s,mb4.5
MBWA Marble Bar 49.96 206 *e*P **P 09 21 23.5 +8.5**
comp=Z,54nm,1.4s,mb4.7
DMN Daman 50.12 286 *e*P **P 09 21 17.0 +0.8**
comp=Z,16nm,0.6s,mb4.5
GKN Gorkha 50.46 287 *e*P **P 09 21 19.5 +0.7**
ZAL Zalesovo 50.89 321 P **P 09 21 20.6 -1.4**
comp=Z,1.9nm,0.4s,mb3.9,baz=20,slow=5.5,SNR=8.7
KOLN Koldanda 51.41 287 *e*P **P 09 21 26.7 +0.9**
comp=Z,25nm,0.8s,mb4.7
MK31 Makanchi Array 51.47 311 *e*P **P 09 21 26.0 -0.3**
MKAR Makanchi Array 51.47 311 P **P 09 21 25.3 -1.0**
comp=Z,19nm,0.6s,mb4.7,baz=91,slow=9.0,SNR=128
ULHL Ulahol 55.76 306 P **P 09 21 58.1 +0.7**
SNR=10.0
SVW2 Sparrevohn 55.95 32 *e*P **P 09 21 59.9 +1.2**
STKA Stephens Creek 56.07 180 *e*P **P 09 21 58.5 -1.1**
comp=Z,3.5nm,0.6s,mb4.1
STKA Stephens Creek 56.07 180 P **P 09 21 58.9 -0.7**
comp=Z,3.9nm,0.6s,mb4.1,baz=340,slow=7.2,SNR=14
TKM2 Tokmak 2 56.20 306 P **P 09 22 01.7 +1.2**
SNR=13
KBK Karagaybulak 56.69 306 P **P 09 22 05.2 +1.3**
SNR=6.5
KDAK Kodiak Island 56.97 36 P **P 09 22 06.2 +0.3**
comp=Z,7.0nm,0.5s,mb4.5,baz=290,slow=8.0,SNR=12
KDAK Kodiak Island 56.97 36 P **P 09 22 06.2 +0.3**
AAK Ala-Archa 57.02 306 P **P 09 22 07.0 +0.7**
SNR=8.1
AAK Ala-Archa 57.02 306 *e*P **P 09 22 06.0 -0.3**
comp=Z,6.1nm,0.6s,mb4.4
UCH Uchtor 57.04 306 P **P 09 22 08.2 +1.8**
SNR=21
EKS2 Erkin-Say 57.55 306 P **P 09 22 10.7 +0.7**
SNR=7.8
AML Almayashu 57.66 306 P **P 09 22 12.1 +1.4**
SNR=12
CHKZ Chkalovo 59.22 319 *e*P **P 09 22 20.6 -0.9**
comp=Z,7.4nm,0.7s,mb4.4
CHKZ *e*PcP PcP 09 23 05.7 -1.8
CHKZ *e* 09 23 27.2
MCK McKinley 59.41 29 *e*P **P 09 22 21.9 -0.9**
comp=Z,7.1nm,0.9s,mb4.3
COLA College 60.01 28 P **P 09 22 26.8 0.0**
comp=Z,3.3nm,0.8s,mb4.0
ZRNK Zerenda 60.20 318 *e*P **P 09 22 27.0 -1.2**
comp=Z,9.8nm,0.8s,mb4.5
ZRNK *e*PcP PcP 09 23 10.1 -1.4
EGAK Eagle 62.86 28 *e*P **P 09 22 45.5 -0.5**
INK Inuvik 65.75 24 P **P 09 23 04.1 -0.6**
comp=Z,2.2nm,0.5s,mb4.0,baz=293,slow=5.9,SNR=19
INK Inuvik 65.75 24 *e*P **P 09 23 03.8 -0.9**
comp=Z,64nm,0.4s,mb5.6
ARU Arti 65.93 323 *e*P **P 09 23 04.4 -1.4**
comp=Z,9.5nm,0.5s,mb4.7
ARU *e* 09 23 13.3
YKA Yellowknife Ar 74.84 28 P **P 09 23 59.3 -0.4**
comp=Z,4.2nm,0.6s,mb4.2,baz=295,slow=5.8,SNR=11
ARCES ARCESS Array B 75.69 341 P **P 09 24 03.2 -1.4**
comp=Z,4.4nm,0.5s,mb4.3,baz=60,slow=7.2,SNR=26
JOF Joensuu 77.00 334 *e*p **P 09 24 09.6 -2.3**
comp=Z,8.9nm,0.6s,mb4.6
KAF Kangasniemi 79.41 334 *e*p **P 09 24 23.0 -2.2**
comp=Z,1.9nm,0.3s,mb4.2,baz=56,slow=5.0
FINES FINESS Array B 79.87 334 P **P 09 24 24.8 -2.8**
comp=Z,1.8nm,0.3s,mb4.2,baz=68,slow=5.3,SNR=52
WALA Waterton Lakes 80.99 40 *e*P **P 09 24 34.2 +0.7**
comp=Z,4.8nm,0.6s,mb4.3
WALA *e* 09 26 05.2
MIB Mutribah 81.33 299 *e*P **P 09 24 35.0 -0.4**
MIB AMb AMB 09 24 36.5
comp=Z,46nm,0.7s,mb5.2
CMB Columbia Colle 81.50 52 P **P 09 24 36.6 +0.3**
comp=Z,0.7nm,0.6s,mb3.5
RDF Al-Radifah 81.50 298 *e*P **P 09 24 35.9 -0.4**
RDF AMb AMB 09 24 37.4
comp=Z,38nm,0.8s,mb5.0
NAY Al-Naaiem 81.62 298 *e*P **P 09 24 36.5 -0.4**
NAY AMb AMB 09 24 37.9
comp=Z,19nm,0.7s,mb4.8
NVAR Mina Array Bea 82.83 51 P **P 09 24 44.2 +1.1**
comp=Z,0.7nm,0.6s,mb3.5,baz=293,slow=6.0,SNR=9.5
SUMG Summit 83.17 360 P **P 09 24 44.6 -0.3**
comp=Z,18nm,1.4s,mb4.6
HLID Hailey 83.19 45 *e*P **P 09 24 45.4 +0.4**
comp=Z,0.4nm,0.4s,mb3.5
LRM Limekiln Ridge 83.37 42 *e*P **P 09 24 46.8 +0.8**
DLMT Dillon 83.50 43 *e*P **P 09 24 47.8 +1.2**
comp=Z,3.4nm,1.0s,mb4.0
AKASG Malin Array Be 84.17 324 P **P 09 24 48.0 -2.0**
comp=Z,0.9nm,0.3s,mb3.9,baz=53,slow=4.7,SNR=14
QLMT Earthquake Lak 84.48 43 *e*P **P 09 24 52.7 +1.2**
RRI2 Red Ridge 85.27 44 *e*P **P 09 24 57.2 +1.8**
GSC Goldstone 85.28 53 *e*P **P 09 24 57.0 +1.5**
RLMT Red Lodge 85.66 42 *e*P **P 09 24 58.3 +0.9**
RLMT *e* 09 26 12.3
NB2 NORSAR Subarra 85.67 338 P **P 09 24 54.7 -2.8**
comp=Z,0.9nm,0.5s,mb3.8,baz=41,slow=5.1
NOA NORSAR Array B 85.67 338 P **P 09 24 54.0 -3.5**
comp=Z,1.0nm,0.5s,mb3.8,baz=47,slow=4.6,SNR=5.9
DUG Dugway 85.82 48 *e*P **P 09 24 58.1 0.0**
comp=Z,1.8nm,0.6s,mb4.0
HWUT Hardware Ranch 85.97 46 *e*P **P 09 24 59.5 +0.6**
comp=Z,0.8nm,0.6s,mb3.6
PDAR Pinedale Array 86.68 44 P **P 09 25 03.0 +0.6**
comp=Z,0.4nm,0.5s,mb3.4,baz=4.0,slow=1.9,SNR=4.8
BRTR Keskin Array B 87.09 313 P **P 09 25 02.9 -1.5**
comp=Z,2.1nm,0.7s,mb4.0,baz=86,slow=3.9,SNR=8.8
RSSD Black Hills 89.36 41 *e*P **P 09 25 15.3 +0.3**
comp=Z,1.1nm,0.4s,mb4.0
ULM Lac du Bonnet 90.10 33 P **P 09 25 16.9 -1.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=301,slow=7.4,SNR=3.6
ISCO Idaho Springs 90.77 45 *e*P **P 09 25 22.7 +1.1**
comp=Z,1.0nm,0.5s,mb4.0
SDCO Great Sand Dun 91.96 47 *e*P **P 09 25 28.4 +1.3**
comp=Z,1.2nm,0.5s,mb4.1
GERES GERESS Array B 93.25 328 P **P 09 25 30.3 -2.7**
comp=Z,0.3nm,0.4s,mb3.7,baz=37,slow=5.2,SNR=4.2
TORD Torodi Ar. Bea 125.56 309 PKP PKPdf 09 31 18.1 -0.4
comp=Z,0.4nm,0.5s,baz=31,slow=1.2,SNR=6.1
PLCA Paso Flores 148.96 129 PKPbc PKPbc 09 32 05.5 +0.2
comp=Z,2.1nm,0.8s,baz=266,slow=3.5,SNR=4.1

NEIC ***15*** *09:14:08.9, 3145S×7161W, h6km, ML2.7(GUC), After GUC.*
GUC 15 09:14:08.9±0.7, 3145S×7161W, h6km±3km, MD3.6, ML2.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**168**	⇓*i*P	Pg	09 14 18.1	+0.8
CHNG				*e*S	Sg	09 14 24.4	+1.3
CHNG				AML	AML	09 14 28.3	
	comp=N,228nm,0.2s						
CMCH	**Combarbala**	**0.59**	**62**	⇑*i*P	Pg	09 14 20.8	+0.5
CMCH				*i* S	Sg	09 14 30.6	+2.7
CMCH				AML	AML	09 14 31.8	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**0.59**	**62**	⇑*i*P	Pg	09 14 20.8	+0.5
CMCH				*i* S	Sg	09 14 30.6	+2.7
PTCH	**Petorca**	**0.99**	**145**	*i* P	Pg	09 14 27.3	-0.7
PTCH				*i* S	Sg	09 14 41.4	+0.5
PTCH				AML	AML	09 14 44.3	
	comp=N,792nm,0.3s						
PTCH	**Petorca**	**0.99**	**145**	*i* P	Pg	09 14 27.3	-0.7
PTCH				*i* S	Sg	09 14 41.4	+0.5
JACH	**Jahuel**	**1.50**	**145**	*e*P	Pn	09 14 35.7	-0.6
JACH				*i* S	Sn	09 14 57.4	+1.3
RCDM	**Rinconada Maip**	**2.14**	**162**	*e*P	Pn	09 14 45.9	+0.8
RCDM				AML	AML	09 15 22.6	
	comp=E,104nm,0.1s						

LDG ***15*** *10:00:02.7±0.1, 4207N×8340E, h10km, Mb4.5/20, Ms3.0/1, Error ellipse: s-maj=5.6km s-min=4.9km az=136.0*
IDC ***15*** *10:00:03.0±0.7, 4212N×8360E, h0km, mb4.1/12, mb1 4.3/17, mb1mx4.1/27, mbtmp4.1/17, ML3.9/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=18.9km s-min=12.6km az=66.0*
ISCJB ***15*** *10:00:03.1±1.2, 4214N±003×8350E±004, h9km±8km, mb4.3/36, Error ellipse: s-maj=5.8km s-min=4.7km az=123.6*
BJI ***15*** *10:00:05.7, 4204N×8360E, h16km, mB4.2, mb4.3, ML4.3, Ms4.0, Msz3.8*
NNC ***15*** *10:00:05.4±2.2, 4227N×8358E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=21.7km s-min=14.1km az=133.0*
MOS ***15*** *10:00:06.4±0.8, 4221N×8350E, h31km, mb4.6/17, Error ellipse: s-maj=10.4km s-min=5.3km az=121.5*
NEIC ***15*** *10:00:09.0±0.9, 4221N×8351E, h36km±8km, mb4.4/15, Error ellipse: s-maj=11.2km s-min=6.0km az=207.0*
ISC 15 10:00:03.6±0.9, 4214N±002×8351E±004, h1km±5km, n148, σ1§15/175, mb4.3/36, 33C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.50**	**60**	⇑*i*P	**Pn**	**10 01 02.3**	**+3.1**
WMQ				S	**Sn**	**10 01 46.5**	**+5.2**
WMQ				Smax			
	comp=N,806nm,0.7s						
WMQ				Smax			
	comp=E,671nm,0.9s						
WMQ				LR	LR		
	comp=N,1μm,4.0s						
WMQ				LR	LR		
	comp=E,972nm,3.5s						
MK31	**Makanchi Array**	**4.73**	**350**	Pn	**Pn**	**10 01 18.8**	**+2.6**
	comp=E,4.1nm,0.3s,baz=164,slow=13,SNR=417						
MK31				Pg	**Pg**	**10 01 32.6**	**-1.7**
	comp=E,50nm,0.5s,baz=162,slow=15,SNR=42						
MK31				⇓Lg		10 02 33.4	
	comp=E,355nm,0.5s,baz=166,slow=29,SNR=13						
MK31	**Makanchi Array**	**4.73**	**350**	*e*P	**Pn**	**10 01 18.9**	**+2.8**
MK31				*e*		10 02 12.8	
MK31	**Makanchi Array**	**4.73**	**350**	*e*Pn	**Pn**	**10 01 18.9**	**+2.8**
MK31				*e*Pg	**Pg**	**10 01 32.5**	**-1.8**
MK31				*e*Sn	**Sn**	**10 02 12.8**	**+1.1**
MK31				*e*Sg	**Sg**	**10 02 33.8**	**-1.8**
MKAR	**Makanchi Array**	**4.73**	**350**	Pn	**Pn**	**10 01 18.5**	**+2.4**
	comp=E,4.4nm,0.3s,baz=182,slow=4.0,SNR=127						
MKAR				Pg	**Pg**	**10 01 31.4**	**-2.9**
	comp=E,27nm,0.3s,baz=168,slow=17,SNR=47						
MKAR				Lg		10 02 33.6	
	comp=E,69nm,0.3s,baz=164,slow=27,SNR=9.8						
MKAR				LR	LR	10 03 35.5	
	comp=E,95nm,19.0s,baz=71,slow=45						
MKAR	**Makanchi Array**	**4.73**	**350**	Pn	**Pn**	**10 01 18.5**	**+2.4**
MKAR				Pg	**Pg**	**10 01 31.4**	**-2.9**
MKAR				Lg		10 02 33.6	
MKAR				LR	LR	10 03 35.5	
KNDC	**Almaty**	**4.94**	**285**	⇓Pn	**Pn**	**10 01 23.1**	**+4.0**
	comp=E,12nm,0.3s						
KNDC				⇓Lg		10 02 42.0	
	comp=E,489nm,0.8s						
ULHL	**Ulahol**	**5.40**	**274**	P	**Pn**	**10 01 27.2**	**+1.8**
SNR=35							
TKM2	**Tokmak 2**	**5.90**	**280**	P	**Pn**	**10 01 35.4**	**+3.2**
SNR=25							
TKM2	**Tokmak 2**	**5.90**	**280**	⇑Pn	**Pn**	**10 01 35.2**	**+3.1**
	comp=E,1.8nm,0.6s						
TKM2				⇑Lg		10 03 13.3	
	comp=E,16nm,0.8s						
KSH	**Kashi**	**6.29**	**248**	*e*P	**Pn**	**10 01 40.8**	**+3.2**
KSH				S	**Sn**	**10 02 53.3**	**+3.2**
KSH				Smax			
	comp=N,186nm,0.5s						
KSH				Smax			
	comp=E,216nm,0.6s						
KBK	**Karagaybulak**	**6.36**	**277**	P	**Pn**	**10 01 40.8**	**+2.3**
SNR=20							

FRU Bishkek 6.61 279 *e*P **Pn 10 01 45.0 +3.0**
FRU *e*S **Sn 10 02 49.0 -9.0**
FRU pmax pmax
comp=N,306nm,1.5s
UCH Uchtor 6.68 274 P **Pn 10 01 46.6 +3.6**
SNR=12
AAK Ala-Archa 6.69 277 P **Pn 10 01 45.8 +2.7**
SNR=7.3
AAK Ala-Archa 6.69 277 *e*P **Pn 10 01 44.7 +1.6**
AAK pmax pmax
comp=Z,26nm,0.5s
AAK Ala-Archa 6.69 277 *e*Pn **Pn 10 01 44.6 +1.5**
comp=Z,26nm,0.5s
AAK *e*Pg **Pg 10 02 12.3 +0.4**
AAK *e*Sg **Sg 10 03 36.9 -1.7**
USP Ospenovka 6.73 283 P **Pn 10 01 46.6 +3.0**
SNR=5.4
DLH Dalhousie 11.30 214 *e*P **Pn 10 02 51.0 +4.7**
DLH *e*S **Sn 10 04 46.0 -7.3**
THN Thein Dam 11.50 215 *e*P **Pn 10 02 49.1 +0.1**
THN *e*S **Sn 10 04 55.5 -2.7**
CHCP Chirah Chowk 11.71 227 P **Pn 10 02 52.6 +0.8**
ZAL Zalesovo 11.83 4 Pn **Pn 10 02 52.9 -0.7**
comp=Z,2.1nm,0.3s,baz=281,slow=9.1,SNR=19
ZAL Sn **Sn 10 05 05.0 -1.3**
comp=Z,1.3nm,0.3s,baz=216,slow=17,SNR=3.0
ZAL Lg 10 06 19.5
comp=Z,1.0nm,0.3s,baz=211,slow=21,SNR=3.4
ZAL Zalesovo 11.83 4 P **Pn 10 02 52.9 -0.7**
ZAL 10 05 05.0
ZAL Zalesovo 11.83 4 Pn **Pn 10 02 52.9 -0.7**
ZAL Sn **Sn 10 05 05.0 -1.3**
ZAL Lg 10 06 19.5
CEP Cherat 12.35 232 P **Pn 10 03 00.2 -0.4**
CEP S **Sn 10 05 13.0 -5.9**
GTA Gaotai 12.66 97 *e*P **Pn 10 03 04.3 -0.5**
GTA S **Sn 10 05 23.9 -2.6**
GTA AMB AMB
comp=Z,3.0nm,0.8s
GTA LR LR
comp=N,209nm,8.4s
GTA LR LR
comp=E,264nm,10.6s
GTA LR LR
comp=Z,213nm,11.4s
NVS Novosibirsk 12.71 359 *e*P **Pn 10 03 05.0 -0.5**
NVS *e* 10 05 20.3
THW Thamme Wali 13.20 229 P **Pn 10 03 12.3 +0.1**
THW S **Sn 10 05 34.0 -5.6**
VOSK Vostochnaya 13.54 326 ⇓Pn **Pn 10 03 16.7 -0.2**
comp=Z,14nm,0.8s
VOSK ⇑Sn **Sn 10 05 47.4 -0.6**
comp=Z,4.1nm,0.8s
VOSK ⇑Lg 10 07 13.0
comp=Z,54nm,1.2s
LSA Lhasa 13.87 151 P **Pn 10 03 26.4 +5.1**
BVA0 Borovoye Array 14.01 325 Pn **Pn 10 03 25.9 +2.7**
comp=Z,1.6nm,0.9s,baz=135,slow=13,SNR=36
BVA0 Sn **Sn 10 06 01.0 +1.6**
comp=Z,1.6nm,1.1s,baz=134,slow=23,SNR=4.2
BVA0 ⇑Lg 10 07 30.5
comp=Z,8.6nm,1.4s,baz=130,slow=31,SNR=4.3
BVAR Borovoye Array 14.01 325 Pn **Pn 10 03 23.5 +0.2**
comp=Z,0.6nm,0.3s,baz=132,slow=13,SNR=30
BVAR Sn **Sn 10 05 58.8 -0.6**
comp=Z,0.3nm,0.3s,baz=130,slow=20,SNR=3.9
BVAR Lg 10 07 32.2
comp=Z,0.7nm,0.3s,baz=129,slow=30,SNR=4.3
BVAR LR LR 10 08 54.7
comp=Z,151nm,18.6s,baz=26,slow=38
BVAR Borovoye Array 14.01 325 P **Pn 10 03 23.5 +0.3**
BVAR 10 05 58.8
BRVK Borovoye 14.07 325 *e*P **Pn 10 03 21.2 -3.0**
BRVK *e* 10 06 01.6
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK Borovoye 14.07 325 *e*Pn **Pn 10 03 21.2 -3.0**
comp=Z,28nm,0.9s
BRVK *e*Sn **Sn 10 06 01.6 +0.5**
SBDP Sheikh Budin 14.09 230 P **Pn 10 03 21.3 -3.1**
GKN Gorkha 14.14 176 *e*P **Pn 10 03 29.1 +4.1**
comp=Z,128nm,0.6s
GUN Gumba 14.33 171 *e*P **Pn 10 03 29.2 +1.5**
comp=Z,37nm,0.5s
KOLN Koldanda 14.34 180 *e*P **Pn 10 03 28.1 +0.3**
comp=Z,16nm,0.7s
CHKZ Chkalovo 14.39 328 ⇓Pn **Pn 10 03 27.7 -0.8**
comp=Z,8.3nm,0.9s
CHKZ ⇑Sn **Sn 10 06 05.5 -3.3**
comp=Z,7.1nm,0.7s
CHKZ ⇑Lg 10 07 35.7
comp=Z,84nm,2.0s
CHKZ Chkalovo 14.39 328 *e*P **Pn 10 03 28.2 -0.3**
CHKZ *e* 10 06 06.7
CHKZ pmax pmax
comp=Z,8.0nm,0.6s
CHKZ Chkalovo 14.39 328 *e*Pn **Pn 10 03 28.2 -0.2**
comp=Z,7.9nm,0.6s
CHKZ *e*Sn **Sn 10 06 06.7 -2.1**
KKN Kakani 14.39 174 *e*P **Pn 10 03 28.5 0.0**
ZRNK Zerenda 14.56 323 ⇓Pn **Pn 10 03 30.7 -0.1**
comp=Z,4.8nm,0.7s
ZRNK ⇓Sn **Sn 10 06 14.6 +1.8**
comp=Z,7.5nm,0.9s
ZRNK ⇑Lg 10 07 41.9
comp=Z,60nm,1.8s
ZRNK Zerenda 14.56 323 *e*P **Pn 10 03 30.7 -0.1**
ZRNK *e* 10 06 11.7
ZRNK pmax pmax
comp=Z,6.0nm,0.5s
ZRNK Zerenda 14.56 323 *e*Pn **Pn 10 03 30.7 -0.1**
comp=Z,6.2nm,0.5s
ZRNK *e*Sn **Sn 10 06 11.7 -1.1**
DMN Daman 14.56 174 *e*P **Pn 10 03 29.3 -1.5**
comp=Z,40nm,0.7s
PKI Pulchoki 14.62 173 *e*P **Pn 10 03 28.4 -3.2**
comp=Z,49nm,0.6s
KRAR Krasnoyarsk 15.15 20⇑*e*P **Pn 10 03 40.6 +1.7**
KRAR pmax pmax
comp=Z,16nm,0.5s
ZAK Zakamensk 15.93 52 *e*P **Pn 10 03 49.7 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 16.89 104 *e*P **Pn 10 04 03.6 +2.4**
LZH AP pP 10 04 11.3 +7.8
LZH XP sP 10 04 16.1 +12
LZH PP 10 04 18.3
LZH AMB AMB
comp=Z,18nm,1.0s
LZH AMB AMB
comp=Z,43nm,4.3s
LZH LR LR
comp=N,279nm,10.5s
LZH LR LR
comp=Z,476nm,14.3s
LZH Lanzhou 16.89 104 *e*P **Pn 10 04 03.6 +2.4**
LZH *e*P 10 04 05.5
LZH pP pP 10 04 10.1 +6.6
LZH pP pP 10 04 11.3 +7.8
LZH sP sP 10 04 12.4 +8.8
LZH sP sP 10 04 16.1 +12
LZH PP 10 04 18.2
SONM Songino Array 17.13 63 Pn **Pn 10 04 02.7 -1.6**
comp=Z,0.2nm,0.3s,baz=251,slow=14,SNR=2.7
AB31 Akbulak array 17.89 301 P **Pn 10 04 13.2 -0.5**
comp=Z,2.6nm,0.6s,baz=102,slow=11,SNR=35
AKTK Aktyubinsk 19.40 304 P **Pn 10 04 30.7 -1.4**
AKTO Aktyubinsk 19.40 304 ⇑P **Pn 10 04 31.2 -0.9**
comp=Z,0.1nm,0.7s
AKTO Aktyubinsk 19.40 304 P **Pn 10 04 30.7 -1.4**
comp=Z,0.7nm,0.3s,baz=100,slow=14,SNR=19
CD2 Chengdu 19.71 118 *e*P **Pn 10 04 35.9 0.0**
CD2 XP sP 10 04 48.8 +14
CD2 PP 10 04 53.8
CD2 SS 10 08 36.8
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=N,450nm,13.2s
CD2 LR LR
comp=Z,90nm,15.6s
SVE Sverdlovsk 20.75 323 *e*P **P 10 04 48.0 +2.2**
ARU Arti 21.49 320⇓*i*P **P 10 04 53.6 -0.2**
ARU *e* 10 05 06.5
ARU *e*PPP 10 05 17.9

ARU eS S 10 08 43.1 -10
ARU eSS 10 09 00.7
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.4
ARU Arti 21.49 320 eP P 10 04 53.9 +0.1
comp=Z,13nm,0.5s,mb4.5
ORR Orenburg 21.70 306 P P 10 04 55.8 -0.2
ORR pmax pmax
comp=Z,20nm,1.1s,mb4.5
BOD Bodaibo 24.82 40 eP P 10 05 27.2 -0.1
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
CHTO Chiang Mai 26.70 146 eP P 10 05 45.6 +1.2
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CHTO Chiang Mai 26.70 146 eP P 10 05 45.5 +1.1
comp=Z,4.5nm,0.8s,mb4.2
OBN Obninsk 32.98 310⇑ eP P 10 06 38.6 -1.4
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
JOF Joensuu 36.58 323 ep P 10 07 10.9 -0.3
comp=Z,3.5nm,0.5s,mb4.3
JOF Joensuu 36.58 323 eP P 10 07 10.9 -0.3
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
BRTR Keskin Array B 37.33 283 P P 10 07 17.3 -0.2
comp=Z,2.1nm,0.8s,mb3.9,baz=112,slow=7.6,SNR=9.2
AKASG Malin Array Be 37.63 302 P P 10 07 19.4 -0.7
comp=Z,0.4nm,0.3s,mb3.6,baz=68,slow=8.5,SNR=5.3
AKASG Malin Array Be 37.63 302 i P P 10 07 19.3 -0.8
KAF Kangasniemi 38.79 321 ep P 10 07 28.6 -1.3
comp=Z,1.8nm,0.5s,mb4.0
KAF Kangasniemi 38.79 321 eP P 10 07 28.6 -1.3
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
FINES FINESS Array B 38.87 320 P P 10 07 30.8 +0.3
comp=Z,2.3nm,0.8s,mb3.9,baz=98,slow=11,SNR=12
FINES PcP PcP 10 09 40.7 -0.8
comp=Z,2.2nm,0.9s,baz=61,slow=4.8,SNR=5.1
FINES FINESS Array B 38.87 320 P P 10 07 30.8 +0.3
FINES PcP PcP 10 09 40.7 -0.8
ARCES ARCESS Array B 40.15 332 P P 10 07 41.4 +0.2
comp=Z,2.6nm,0.5s,mb4.2,baz=89,slow=7.7,SNR=27
ARCES ARCESS Array B 40.15 332 P P 10 07 41.4 +0.2
PLOR Plostina 40.34 295⇓ iP P 10 07 44.3 +1.5
BURAR Bucovina Array 40.82 298⇓ iP P 10 07 47.1 +0.3
MLR Muntele Rosu 40.91 295⇓ iP P 10 07 48.8 +1.3
BZS Buzias 43.77 297⇓ iP P 10 08 12.0 +1.2
MORC Moravsky Berou 45.14 303⇑ iP P 10 08 22.3 +0.5
NB2 NORSAR Subarra 46.05 320 P P 10 08 28.5 -0.5
comp=Z,5.1nm,0.8s,mb4.6,baz=78,slow=7.9
NB2 NORSAR Subarra 46.05 320 P P 10 08 28.5 -0.5
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
NOA NORSAR Array B 46.05 320 P P 10 08 28.6 -0.4
comp=Z,2.9nm,0.7s,mb4.4,baz=80,slow=7.7,SNR=12
NAO01 NORSAR Array S 46.24 320 eP P 10 08 30.0 -0.5
CLL Collm 47.45 307 eP P 10 08 40.0 0.0
comp=Z,5.0nm,1.0s,mb4.6
CLL epP 10 08 48.0
GERES GERESS Array B 47.82 303 P P 10 08 42.9 0.0
comp=Z,0.6nm,0.7s,mb3.8,baz=71,slow=8.7,SNR=4.6
CDF Champ du Feu 51.95 305 eP P 10 09 14.2 0.0
comp=Z,4.0nm,0.7s,mb4.2
CDF Champ du Feu 51.95 305 eP P 10 09 14.2 0.0
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CDF Champ du Feu 51.95 305 eP P 10 09 14.2 0.0
comp=Z,2.0nm,0.7s,mb4.2
HINF Hinteralfeld 52.45 304 eP P 10 09 17.8 -0.1
GIVF Givet 52.74 308 eP P 10 09 19.9 -0.2
BAIF Baives 53.12 308 eP P 10 09 22.1 -0.8
MEZF Maizieres J'vi 53.26 306 eP P 10 09 24.5 +0.6
PGF Pioggiola 53.33 297 eP P 10 09 23.5 -1.0
CABF La Chapelle 53.42 303 eP P 10 09 25.0 -0.1
LPG La Plagne 53.49 302 eP P 10 09 26.5 +0.9
comp=Z,15nm,0.7s,mb4.7
LPG La Plagne 53.49 302 eP P 10 09 26.5 +0.9
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LPG La Plagne 53.49 302 eP P 10 09 26.5 +0.9
comp=Z,7.7nm,0.7s,mb4.7
LPL La Plagne 53.49 302⇑ iP P 10 09 26.4 +0.8
comp=Z,15nm,0.6s,mb4.8
LPL La Plagne 53.49 302⇑ iP P 10 09 26.4 +0.8
LPL pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LPL La Plagne 53.49 302⇑ iP P 10 09 26.4 +0.8
comp=Z,7.7nm,0.6s,mb4.8
MBDF Montbardon 53.81 301 eP P 10 09 27.8 -0.2
ORIF Oris-en-Rattie 54.29 301⇑ iP P 10 09 31.4 -0.1
comp=Z,6.7nm,0.5s,mb4.6
ORIF Oris-en-Rattie 54.29 301⇑ iP P 10 09 31.4 -0.1
ORIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ORIF Oris-en-Rattie 54.29 301⇑ iP P 10 09 31.4 -0.1
comp=Z,3.3nm,0.5s,mb4.6
FRF La Foret Royal 54.41 299 eP P 10 09 32.6 +0.2
LOR Lormes 54.51 305 eP P 10 09 32.3 -0.8
comp=Z,2.6nm,0.5s,mb4.2
LOR Lormes 54.51 305 eP P 10 09 32.3 -0.8
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
LOR Lormes 54.51 305 eP P 10 09 32.3 -0.8
comp=Z,1.3nm,0.5s,mb4.2
SMF Signal de Mont 54.80 304⇑ iP P 10 09 34.9 -0.3
comp=Z,8.1nm,0.7s,mb4.5
SMF Signal de Mont 54.80 304⇑ iP P 10 09 34.9 -0.3
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SMF Signal de Mont 54.80 304⇑ iP P 10 09 34.9 -0.3
comp=Z,4.1nm,0.7s,mb4.6
SSF Saint Saulge 54.82 305⇑ iP P 10 09 34.3 -1.0
comp=Z,2.4nm,0.5s,mb4.2
SSF Saint Saulge 54.82 305⇑ iP P 10 09 34.3 -1.0
SSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SSF Saint Saulge 54.82 305⇑ iP P 10 09 34.3 -1.0
comp=Z,1.2nm,0.5s,mb4.2
SMRF Simiane la Rot 54.91 300 eP P 10 09 36.4 +0.4
EKA Eskdalemuir Ar 55.02 316 P P 10 09 36.0 -0.8
comp=Z,2.2nm,0.6s,mb4.3,baz=95,slow=8.3,SNR=12
AVF Avril sur Loir 55.04 304⇑ iP P 10 09 36.7 -0.2
comp=Z,6.0nm,0.7s,mb4.4
AVF Avril sur Loir 55.04 304⇑ iP P 10 09 36.7 -0.2
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AVF Avril sur Loir 55.04 304⇑ iP P 10 09 36.7 -0.2
comp=Z,3.0nm,0.7s,mb4.4
VIVF Saint-Julien-l 55.09 302 eP P 10 09 37.3 0.0
comp=Z,6.8nm,0.7s,mb4.5
VIVF Saint-Julien-l 55.09 302 eP P 10 09 37.3 0.0
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
VIVF Saint-Julien-l 55.09 302 eP P 10 09 37.3 0.0
comp=Z,3.4nm,0.7s,mb4.5
LASF Ste Croix 55.97 301 eP P 10 09 43.3 -0.3
TCF Toulx Ste Croi 55.97 304⇑ iP P 10 09 43.7 +0.1
comp=Z,5.3nm,0.6s,mb4.5
TCF Toulx Ste Croi 55.97 304⇑ iP P 10 09 43.7 +0.1
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 55.97 304⇑ iP P 10 09 43.7 +0.1
comp=Z,2.7nm,0.6s,mb4.5
LDF La Druitiere 56.31 308⇑ iP P 10 09 45.6 -0.5
comp=Z,7.5nm,0.7s,mb4.5
FLN La Foliniere 56.45 308 eP P 10 09 46.5 -0.5
CAF Calviac 56.70 303 eP P 10 09 48.6 -0.2
comp=Z,3.8nm,0.7s,mb4.2
GRR Gorron 56.84 308 eP P 10 09 49.4 -0.4
RJF Les Rejaudoux 56.86 303 eP P 10 09 50.4 +0.5
comp=Z,13nm,0.9s,mb4.7
MFF Saint Martin d 57.26 305 eP P 10 09 52.6 -0.2
comp=Z,3.0nm,0.6s,mb4.2
LFF La Frestale 57.52 303 eP P 10 09 55.0 +0.4
comp=Z,8.3nm,0.6s,mb4.7
SGMF Saint Gilles 57.90 308 eP P 10 09 57.3 0.0
ROSF Rostrenen 58.28 308 eP P 10 09 59.7 -0.3
comp=Z,13nm,0.8s,mb4.8
EPF Esparros 58.71 302 eP P 10 10 03.0 0.0
ESDC Sonseca Array 63.23 300 P P 10 10 34.0 +0.3
comp=Z,0.8nm,0.6s,mb4.1,baz=53,slow=6.4,SNR=7.7
INK Inuvik 66.43 14 P P 10 10 53.6 -1.0
comp=Z,3.1nm,0.6s,mb4.7,baz=348,slow=5.3,SNR=19
INK Inuvik 66.43 14 P P 10 10 53.6 -1.0
INK eP 10 10 53.8

TORD Torodi Ar. Bea 75.27 274 P P 10 11 47.7 -0.7
comp=Z,2.5nm,0.8s,mb4.3,baz=44,slow=5.2,SNR=16
TORD Torodi Ar. Bea 75.27 274 P P 10 11 47.7 -0.7
WRAB Tennant Creek 77.57 132⇑ eP P 10 12 06.5 +5.2
WRA Warramunga Arr 77.57 132 P P 10 12 00.7 -0.6
comp=Z,1.5nm,0.6s,mb4.3,baz=328,slow=5.1,SNR=26
WB2 Warramunga Arr 77.58 132 eP P 10 12 00.8 -0.6
ASAR Alice Springs 80.33 134 P P 10 12 16.1 -0.4
comp=Z,1.3nm,0.7s,mb4.0,baz=325,slow=5.4,SNR=24

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*CSEM **15** 10:03:59.8, 3786N×2091E, h3km, MD3.5/3, After ATH*
ATH 15 10:03:59.8, 3786N×2091E, h3km, MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.41**	**321**	ePG	Pg	10 04 07.7	+0.1
RLS	**Riolos of Patr**	**0.48**	**66**	ePG	Pg	10 04 08.5	-0.6
ITM	**Ithomi**	**1.06**	**130**	ePG	Pg	10 04 20.0	0.0
EVR	**Evrytania**	**1.27**	**34**	ePN	Pn	10 04 24.5	+0.1

GUC 15 10:10:50.6±0.7, 3142S×7170W, h29km±3km, MD3.7, ML2.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**160⇑**	iP	Pb	10 11 00.7	-0.1
CHNG				i S	Sb	10 11 07.7	-0.2
CHNG				AML	AML	10 11 09.0	
comp=E,201nm,0.5s							
CMCH	**Combarbala**	**0.64**	**68⇑**	iP	Pb	10 11 03.1	-0.2
CMCH				i S	Sb	10 11 12.4	+0.4
PTCH	**Petorca**	**1.07**	**142⇓**	iP	Pn	10 11 09.5	0.0
PTCH				i S	Sn	10 11 23.9	+0.6
PTCH				AML	AML	10 11 26.5	
comp=N,772nm,0.2s							
RCDM	**Rinconada Maip**	**2.20**	**160⇓**	eP	Pn	10 11 26.4	+1.3
RCDM				i S	Sn	10 11 53.8	+2.5
RCDM				AML	AML	10 12 07.2	
comp=E,53nm,0.2s							

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*ISCJB **15** 10:53:40.2±0.6, 177S×0.1×4174E±0.07, h10km, mb3.9/10, Error ellipse: s-maj=17.7km s-min=9.5km az=171.9*
*IDC **15** 10:53:40.4±0.7, 1781S×4175E, h0km, mb3.9/10, mb1 4.0/14, mb1mx3.9/28, mbtmp3.9/14, ML3.7/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/38, Error ellipse: s-maj=24.2km s-min=16.3km az=2.0*
*NEIC **15** 10:53:41.8±0.3, 1783S×4176E, h10km, Error ellipse: s-maj=12.3km s-min=6.6km az=175.0*
ISC 15 10:53:42.2±0.6, 178S±01×4176E±007, h10km, n27, σ0§62/20, mb3.9/10, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.22**	**99**	Pn	**Pn**	**10 54 59.1**	**-1.2**
6.0nm,0.3s,baz=271,slow=14,SNR=40							
OPO				Sn	**Sn**	**10 55 53.8**	**-6.8**
26nm,0.3s,baz=222,slow=11,SNR=8.8							
MATP	**Matopo**	**12.80**	**256**	Pn	**Pn**	**10 56 44.7**	**+0.5**
0.4nm,0.3s,baz=77,slow=16,SNR=9.0							
MATP				Sn	**Sn**	**10 58 51.9**	**-15**
0.9nm,0.3s,baz=3.8,slow=23,SNR=4.1							
MATP	**Matopo**	**12.80**	**256**	Pn	**Pn**	**10 56 44.7**	**+0.5**
MATP				Sn	**Sn**	**10 58 51.9**	**-15**
LSZ	**Lusaka**	**13.25**	**279**	Pn	**Pn**	**10 56 50.1**	**-0.3**
0.3nm,0.3s,baz=105,slow=17,SNR=3.2							
LSZ	**Lusaka**	**13.25**	**279**	Pn	**Pn**	**10 56 50.1**	**-0.3**
LBTB	**Lobatse**	**16.66**	**242**	Pn	**Pn**	**10 57 35.7**	**-0.1**
0.2nm,0.3s,baz=73,slow=9.6,SNR=4.0							
LBTB				LR	LR	11 03 22.7	
comp=Z,61nm,19.8s,baz=144,slow=35							
LBTB	**Lobatse**	**16.66**	**242**	Pn	**Pn**	**10 57 35.7**	**-0.1**
LBTB				LR	LR	11 03 22.7	
KMBO	**Kilima Mbogo**	**17.15**	**345**	LR	LR	11 04 42.3	
comp=Z,38nm,18.6s,baz=81,slow=39							
TSUM	**Tsumeb**	**22.96**	**263**	P	**P**	**10 58 46.0**	**-0.8**
0.7nm,0.4s,mb3.4,baz=97,slow=8.1,SNR=4.1							
SUR	**Sutherland**	**23.82**	**228**	P	**P**	**10 58 54.8**	**-0.6**
6.6nm,1.0s,mb4.0,baz=80,slow=13,SNR=3.5							
TORD	**Torodi Ar. Bea**	**50.08**	**305**	P	**P**	**11 02 37.9**	**+0.6**
0.6nm,0.4s,mb4.0,baz=128,slow=7.3,SNR=18							
TORD				PcP	PcP	11 03 57.6	+0.7
0.4nm,0.6s,baz=105,slow=4.0,SNR=4.4							
DBIC	**Dimbokro**	**52.04**	**294**	P	**P**	**11 02 52.3**	**+0.3**
1.3nm,0.5s,mb4.2,baz=111,slow=8.0,SNR=5.9							
BRTR	**Keskin Array B**	**57.72**	**353**	P	**P**	**11 03 32.9**	**-0.2**
1.0nm,0.6s,mb4.0,baz=170,slow=10,SNR=5.8							
GERES	**GERESS Array B**	**70.89**	**341**	P	**P**	**11 04 59.1**	**-0.3**
0.9nm,0.6s,mb3.9,baz=131,slow=4.7,SNR=7.9							
MKAR	**Makanchi Array**	**73.93**	**28**	P	**P**	**11 05 17.2**	**-0.4**
0.7nm,0.4s,mb3.9,baz=221,slow=6.4,SNR=9.0							
FITZ	**Fitzroy Crossi**	**79.03**	**106**	P	**P**	**11 05 47.4**	**+0.9**
0.8nm,0.5s,mb3.9,baz=250,slow=12,SNR=6.1							
ASAR	**Alice Springs**	**84.92**	**113**	P	**P**	**11 06 18.3**	**+0.8**
1.4nm,0.7s,mb4.2,baz=259,slow=4.7,SNR=30							
WRA	**Warramunga Arr**	**86.41**	**110**	P	**P**	**11 06 25.5**	**+0.7**
0.2nm,0.5s,mb3.6,baz=252,slow=3.0,SNR=5.0							
SDCO	**Great Sand Dun**	**145.13**	**311**	ePKPbc	PKPbc	11 13 20.7	+1.2
PDAR	**Pinedale Array**	**145.19**	**322**	PKPbc	PKPbc	11 13 19.6	0.0
1.3nm,0.7s,baz=70,slow=5.5,SNR=13							
IMW	**Indian Meadow**	**145.28**	**324**	ePKPbc	PKPbc	11 13 21.3	+1.4
SMCO	**Snowmass**	**145.50**	**315**	ePKPbc	PKPbc	11 13 21.9	+1.3
MCMT	**McKenzie Canyo**	**145.68**	**327**	ePKPdf	PKPdf	11 13 20.8	0.0
HWUT	**Hardware Ranch**	**147.07**	**322**	ePKPdf	PKPdf	11 13 21.8	-1.5
HWUT				ePKPbc	PKPbc	11 13 26.1	+0.8
SRU	**San Rafael**	**147.89**	**317**	ePKPdf	PKPdf	11 13 25.1	+0.5
SRU				ePKPbc	PKPbc	11 13 28.1	+0.5
NVAR	**Mina Array Bea**	**153.06**	**324**	PKPbc	PKPbc	11 13 40.5	+0.5
0.4nm,0.8s,baz=76,slow=3.8,SNR=3.8							
NVAR	**Mina Array Bea**	**153.06**	**324**	PKPbc	PKPbc	11 13 40.5	+0.5

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*NIED **15** 10:58:00, 3600N×140.10E, h65km, Mw3.9 Best double couple: M0 9.22000×1014 NP1:φs339.00000°, δ67.00000°, λ80.00000°. NP2:φs182.00000°, δ25.00000°, λ111.00000°.*
*IDC **15** 10:58:33.9±3.0, 3601N×14037E, h57km±29km, mb3.5/4, mb1 3.7/5, mb1mx3.4/21, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=23.3km s-min=17.8km az=137.0*
*ISCJB **15** 10:58:34.2±0.7, 3597N±006×14024E±008, h76km±5km, mb3.6/4, Error ellipse: s-maj=10.9km s-min=8.9km az=132.1*
*JMA **15** 10:58:36.7±0.1, 3599N×14008E, h63km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs203.00000°, δ29.00000°, λ140.00000°. NP2: φs329.00000°, δ72.00000°, λ67.00000°. Principal axes: T Plg57.0000°, Azm209.0000°; N Plg22.0000°, Azm337.0000°; P Plg24.0000°, Azm77.0000°;*
JMA Felt II J1.
*NEIC **15** 10:58:36.7, 3599N×14008E, h63km, MG3.5(JMA), After JMA.*
ISC 15 10:58:35.2±0.7, 3600N±005×14023E±007, h70km±5km, n15, σ0§77/22, mb3.6/4, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.23**	**352**	⇑P	**Pn**	**10 58 46.9**	**+1.0**
JYT				S	**Sn**	**10 58 54.3**	**+0.6**
JAG	**Ashikaga**	**0.76**	**304**	⇓P	**Pn**	**10 58 51.1**	**+0.4**
JAG				S	**Sn**	**10 59 01.7**	**-0.5**
JRY	**Ryogami san**	**1.08**	**271**	⇓P	**Pn**	**10 58 54.6**	**0.0**
JKT	**Katashina**	**1.10**	**314**	⇓P	**Pn**	**10 58 55.4**	**+0.5**
JOD2	**Odawara 2**	**1.19**	**232**	⇓P	**Pn**	**10 58 55.5**	**-0.5**
JOD2				S	**Sn**	**10 59 09.4**	**-2.2**
BSO3	**Boso 3**	**1.22**	**169**	P	**Pn**	**10 58 56.9**	**+0.5**
JYN	**Shimob**	**1.46**	**250**	⇓P	**Pn**	**10 58 59.6**	**0.0**
MJAR	**Matsushiro Arr**	**1.72**	**289**	P	**Pn**	**10 59 02.6**	**-0.4**
16nm,0.3s,baz=96,slow=8.6,SNR=468							
MJAR				S	**Sn**	**10 59 24.3**	**+0.1**
15nm,0.3s,baz=94,slow=17,SNR=9.4							
MAJO	**Matsushiro**	**1.72**	**289**	ePn	**Pn**	**10 59 02.9**	**-0.1**
MAJO				eSn	**Sn**	**10 59 19.6**	**-4.6**
MAT	**Matsushiro**	**1.72**	**289**	P	**Pn**	**10 59 03.7**	**+0.6**
MAT				S	**Sn**	**10 59 24.9**	**+0.7**
ASAJ	**Asahikawa**	**8.31**	**12**	P	**Pn**	**11 00 32.1**	**-0.7**
1.1nm,0.3s,baz=161,slow=24,SNR=13							
ASAJ				S	**Sn**	**11 02 03.2**	**-1.8**
0.2nm,0.3s,baz=24,slow=10.0,SNR=2.8							
ZAL	**Zalesovo**	**41.93**	**313**	P	**P**	**11 06 19.6**	**+0.8**
0.8nm,0.4s,mb3.8,baz=340,slow=5.9,SNR=3.6							

MKAR Makanchi Array 43.87 303 P P 11 06 35.4 +0.8
1.4nm,0.9s,mb3.7,baz=91,slow=10,SNR=6.2
WRA Warramunga Arr 55.91 187 P P 11 08 05.7 -0.1
0.6nm,0.5s,mb3.9,baz=2.7,slow=7.6,SNR=18
ASAR Alice Springs 59.64 187 P P 11 08 31.9 0.0
0.2nm,0.8s,mb3.2,baz=18,slow=12,SNR=4.3

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*ISCJB **15** 11:06:21.4±0.3, 763N±004×78.11W±003, h8km, mb4.4/34, MS3.7/4, Error ellipse: s-maj=5.8km s-min=3.6km az=72.0*
*IDC **15** 11:06:21.6±0.6, 763N×7805W, h0km, mb4.2/15, mb1 4.5/20, mb1mx4.4/27, mbtmp4.4/20, ML3.4/3, MS3.7/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=19.2km s-min=12.7km az=61.0*
*NEIC **15** 11:06:22.9±3.1, 766N×7801W, h8km±20km, mb4.6/20, Error ellipse: s-maj=8.8km s-min=5.7km az=56.0*
*CASC **15** 11:06:22.7±2.1, 766N×78.17W, h8km, MW4.1, mb4.6(NEIC)*
ISC 15 11:06:22.7±1.3, 765N±004×7813W±003, h3km±8km, n73, σ1§27/78, mb4.4/34, MS3.7/4, 4C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**0.90**	**7**	eS	**Sg**	**11 06 52.0**	**+0.5**
UPA	**Univ. de Panam**	**1.92**	**314**	eP	**Pn**	**11 06 54.9**	**-1.2**
UPA				⇑eP		11 06 55.2	
UPA				eS	**Sn**	**11 07 19.4**	**-1.3**
UPA				eS	**Sn**	**11 07 19.9**	**-0.8**
ACH	**Altos**	**2.04**	**300⇓**	iP	**Pn**	**11 06 55.8**	**-2.2**
AZU	**Azuero**	**2.13**	**274⇑**	eP	**Pn**	**11 06 56.5**	**-2.6**
ZANG	**Zanguenga, Cho**	**2.15**	**307**	eP	**Pn**	**11 06 57.8**	**-1.6**
ZANG				eS	**Sn**	**11 07 27.6**	**+1.0**
ACLA	**Agua Clara, Si**	**2.31**	**318**	eP	**Pn**	**11 07 00.7**	**-0.9**
PINA	**Piqa, Costa Ab**	**2.49**	**310**	eP	**Pn**	**11 07 01.0**	**-3.0**
PINA				eS	**Sn**	**11 07 36.4**	**+1.6**
TOLC	**Tolima**	**4.12**	**138**	eP	**Pn**	**11 07 27.1**	**+0.7**
ROSC	**El Rosal**	**4.69**	**126**	Pn	**Pn**	**11 07 35.1**	**+0.9**
6.0nm,0.3s,baz=113,slow=21,SNR=32							
ROSC				Sn	**Sn**	**11 08 36.9**	**+7.7**
4.9nm,0.3s,baz=308,slow=4.7,SNR=5.1							
ROSC				LR	LR	11 09 29.8	
comp=Z,773nm,18.7s,baz=338,slow=41							
CTCR	**Cotoan**	**4.75**	**285**	eP	**Pn**	**11 07 33.6**	**-1.5**
OCAC	**Ocana**	**4.80**	**83⇑**	eP	**Pn**	**11 07 37.0**	**+1.2**
BARC	**Barichara**	**5.02**	**101⇑**	eP	**Pn**	**11 07 39.8**	**+1.0**
BARC				eS	**Sn**	**11 08 45.2**	**+8.0**
RUSC	**La Rusia**	**5.30**	**109**	eP	**Pn**	**11 07 44.1**	**+1.4**
IRZ2	**Volcan Irazu 2**	**6.15**	**292**	eP	**Pn**	**11 07 55.0**	**+0.7**
OCM	**Ochomogo**	**6.18**	**292**	eP	**Pn**	**11 07 53.2**	**-1.5**
POA2	**Poas 2**	**6.55**	**293**	eP	**Pn**	**11 07 57.6**	**-2.2**
EPA	**Esparza**	**6.80**	**290**	eP	**Pn**	**11 08 00.0**	**-3.2**
OTAV	**Otavalo**	**7.37**	**183**	ePn	**Pn**	**11 08 11.3**	**+0.2**
12nm,0.6s							
SDV	**Santo Domingo**	**7.52**	**80**	Pn	**Pn**	**11 08 13.2**	**0.0**
25nm,0.3s,baz=273,slow=10.0,SNR=119							
SDV				Sn	**Sn**	**11 09 37.0**	**-1.9**
1.6nm,0.3s,baz=137,slow=19,SNR=3.3							
TGUH	**Tegucigalpa,Un**	**11.00**	**306**	ePn	**Pn**	**11 09 01.1**	**+0.2**
30nm,0.9s							
TGUH				eSn	**Sn**	**11 11 01.7**	**-2.8**
LMGC	**Las Mercedes**	**12.39**	**5**	eP	**Pn**	**11 09 12.0**	**-7.8**
RCC	**Rio Carpintero**	**12.49**	**11**	eP	**Pn**	**11 09 21.3**	**0.0**
MASC	**Masc**	**13.01**	**16**	eP	**Pn**	**11 09 30.3**	**+2.0**
MOAC	**Moa**	**13.29**	**13**	eP	**Pn**	**11 09 35.8**	**+3.6**
HLGC	**Holguin**	**13.31**	**8**	eP	**Pn**	**11 09 34.5**	**+2.1**
PCRV	**Puerto La Cruz**	**13.56**	**78**	Pn	**Pn**	**11 09 33.6**	**-2.4**
1.9nm,0.3s,baz=264,slow=4.5,SNR=24							
PCRV				Sn	**Sn**	**11 12 03.3**	**-3.8**
0.3nm,0.3s,baz=270,slow=20,SNR=2.5							
ATAH	**Atahualpa**	**14.56**	**181**	Pn	**Pn**	**11 09 50.9**	**+1.4**
0.3nm,0.3s,baz=349,slow=8.2,SNR=5.6							
ATAH				LR	LR	11 15 43.0	
comp=Z,85nm,21.5s,baz=3.2,slow=38							
SJG	**San Juan**	**15.62**	**47**	Pn	**Pn**	**11 10 00.6**	**-3.1**
3.2nm,0.3s,baz=246,slow=9.8,SNR=9.3							
SJG				Sn	**Sn**	**11 12 45.3**	**-12**
0.7nm,0.3s,baz=92,slow=22,SNR=3.6							
CPD	**Cerro la Pandu**	**15.75**	**48**	ePn	**Pn**	**11 10 02.1**	**-3.3**
CPD				eSn	**Sn**	**11 12 44.2**	**-16**
CMIG	**Matias Romero**	**18.85**	**301**	LR	LR	11 18 57.5	
comp=Z,278nm,20.3s,baz=353,slow=40							
TKL	**Tuckaleechee C**	**28.35**	**350**	P	**P**	**11 12 19.0**	**+1.2**
5.2nm,0.9s,mb4.2,baz=154,slow=8.8,SNR=3.5							
TKL				LR	LR	11 22 07.8	
comp=Z,139nm,21.5s,MS3.5,baz=256,slow=33							
SIV	**San Ignacio**	**28.93**	**144**	P	**P**	**11 12 20.9**	**-2.1**
3.6nm,1.0s,mb4.1,baz=334,slow=9.6,SNR=10							
WCI	**Wyandotte Cave**	**31.32**	**348**	eP	**P**	**11 12 45.0**	**+0.9**
8.7nm,0.8s,mb4.6							
USIN	**University of**	**31.39**	**345**	eP	**P**	**11 12 44.8**	**+0.1**
45nm,0.7s,mb5.4							
LVC	**Limon Verde**	**31.40**	**163**	P	**P**	**11 12 44.4**	**-0.4**
8.2nm,1.1s,mb4.5,baz=354,slow=9.2,SNR=3.1							
FVM	**French Village**	**32.18**	**342**	eP	**P**	**11 12 52.1**	**+0.4**
11nm,0.7s,mb4.8							
BLO	**Bloomington**	**32.28**	**348**	eP	**P**	**11 12 52.6**	**+0.1**
26nm,0.8s,mb5.1							
CCM	**Cathedral Cave**	**32.51**	**341**	eP	**P**	**11 12 52.0**	**-2.6**
16nm,0.6s,mb5.1							
MNTX	**Cornudas Mount**	**34.88**	**317**	eP	**P**	**11 13 15.4**	**+0.1**
6.7nm,1.0s,mb4.5							
SCIA	**State Center**	**36.64**	**341**	eP	**P**	**11 13 29.9**	**-0.4**
8.5nm,0.8s,mb4.6							
ANMO	**Albuquerque**	**37.61**	**320**	eP	**P**	**11 13 39.3**	**+0.8**
5.2nm,0.8s,mb4.3							
BDFB	**Brasilia**	**37.76**	**128**	P	**P**	**11 13 39.2**	**-0.5**
4.4nm,1.0s,mb4.1,baz=334,slow=16,SNR=4.4							
BDFB				LR	LR	11 30 48.4	
comp=Z,233nm,18.6s,MS4.0,baz=307,slow=39							
CFAA	**Coronel Fontan**	**40.16**	**167**	P	**P**	**11 14 00.8**	**+0.9**
0.2nm,0.2s,mb3.4,baz=230,slow=16,SNR=3.8							
CFAA	**Coronel Fontan**	**40.16**	**167**	P	**P**	**11 14 00.8**	**+0.9**
ISCO	**Idaho Springs**	**40.38**	**327**	eP	**P**	**11 14 02.5**	**+0.8**
5.0nm,0.8s,mb4.3							
WUAZ	**Wupatki**	**41.17**	**317**	eP	**P**	**11 14 09.5**	**+1.3**
7.6nm,1.0s,mb4.3							
RWWY	**Rawlins**	**42.57**	**327**	eP	**P**	**11 14 20.9**	**+1.2**
7.4nm,1.0s,mb4.4							
SRU	**San Rafael**	**42.75**	**322**	eP	**P**	**11 14 21.7**	**+0.5**
4.2nm,0.9s,mb4.2							
DAU	**Daniels Canyon**	**44.01**	**323**	eP	**P**	**11 14 32.8**	**+1.5**
PDAR	**Pinedale Array**	**44.57**	**327**	P	**P**	**11 14 36.

ASAR	Alice Springs	145.41 239	PKPbc	PKPbc	11 26 00.8	-1.1
	comp=Z,2.7nm,0.9s,baz=118,slow=3.7,SNR=34					
ASPA	Alice Springs	145.41 239	*e*P	PKPbc	11 26 01.4	-0.5
WRA	Warramunga Arr	146.26 245	PKPbc	PKPbc	11 26 04.1	-0.5
	comp=Z,1.7nm,0.8s,baz=100,slow=2.5,SNR=20					

*ISCJB **15** 11:07:16.1±0.8, 475N±008×1238E±0.1, h513km±10km, mb4.2/17, Error ellipse: s-maj=21.5km s-min=7.8km az=124.6*
*IDC **15** 11:07:17.9±1.4, 468N×12369E, h517km±15km, mb3.6/10, mb1 3.6/10, mb1mx3.4/20, mbtmp4.4/10, Error ellipse: s-maj=34.6km s-min=7.9km az=70.0*
*NEIC **15** 11:07:17.6±2.2, 472N×12360E, h520km±26km, mb4.4/7, Error ellipse: s-maj=54.8km s-min=9.0km az=61.0*

ISC 15 11:07:17.2±0.8, 476N±008×1238E±01, h509km±10km, n34, σ0°95/34, mb4.2/17, 8C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	3.33	22	*e*P	P	11 08 30.8	-0.3
KKM	Kota Kinabalu	7.67	280	⇑*i*Pn	P	11 09 08.7	-1.7
KAKA	Kakadu	19.36	154	⇑*i*P	P	11 11 09.4	-0.1
	34nm,0.6s						
FITZ	Fitzroy Crossi	22.79	176	⇑*i*P	P	11 11 40.1	-0.4
	4.9nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	22.79	176	P	P	11 11 40.4	0.0
	2.8nm,0.6s,mb4.1,baz=19,slow=7.6,SNR=14						
FITZ				ScP	ScP	11 18 03.4	+0.9
	1.0nm,0.7s,baz=283,slow=18,SNR=4.0						
WRA	Warramunga Arr	26.64	157	P	P	11 12 14.4	-0.2
	4.8nm,0.4s,mb4.5,baz=338,slow=9.6,SNR=78						
WRA				PcP	PcP	11 15 28.4	+6.6
	0.5nm,0.6s,baz=325,slow=3.2,SNR=5.6						
WRA				S	S	11 16 11.0	-2.4
	0.3nm,0.7s,baz=340,slow=16,SNR=4.1						
WRA				ScP	ScP	11 18 14.2	+0.8
	0.2nm,0.4s,baz=339,slow=2.9,SNR=5.9						
WB2	Warramunga Arr	26.65	157	⇑*i*P	P	11 12 14.4	-0.2
AS31	Alice Springs	29.92	161	⇑*i*P	P	11 12 43.8	+0.6
ASPA	Alice Springs	29.92	161	⇑*i*P	P	11 12 43.8	+0.6
ASAR	Alice Springs	29.92	161	P	P	11 12 43.9	+0.7
	4.5nm,0.4s,mb4.4,baz=341,slow=7.0,SNR=162						
ASAR				S	S	11 17 03.3	-1.1
	0.6nm,0.7s,baz=342,slow=13,SNR=6.2						
ASAR				ScP	ScP	11 18 24.5	+0.7
	0.7nm,0.4s,baz=341,slow=3.2,SNR=16						
FORT	Forrest	35.57	174	⇑*i*P	P	11 13 31.8	+0.6
	12nm,0.5s,mb4.7						
STKA	Stephens Creek	40.18	156	⇑*i*P	P	11 14 10.1	+1.3
	4.2nm,0.4s,mb4.3						
STKA	Stephens Creek	40.18	156	P	P	11 14 10.3	+1.5
	5.2nm,0.4s,mb4.4,baz=336,slow=6.6,SNR=26						
JIRN	Jiri	42.42	307	*e*P	P	11 14 27.8	+1.2
ASAJ	Asahikawa	42.54	20	P	P	11 14 28.6	+1.0
	2.0nm,0.3s,mb4.1,baz=72,slow=32,SNR=9.4						
GUN	Gumba	42.78	307	*e*P	P	11 14 29.9	+0.5
	23nm,0.7s,mb4.8						
PKI	Pulchoki	43.01	306	*e*P	P	11 14 31.6	+0.4
KKN	Kakani	43.21	306	*e*P	P	11 14 32.9	+0.1
DMN	Daman	43.27	306	*e*P	P	11 14 34.4	+1.1
GKN	Gorkha	43.81	306	*e*P	P	11 14 37.9	+0.4
KOLN	Koldanda	44.55	305	*e*P	P	11 14 43.9	+0.7
	47nm,0.7s,mb5.1						
SONM	Songino Array	45.44	344	P	P	11 14 50.3	+0.3
	3.1nm,0.7s,mb4.0,baz=147,slow=7.2,SNR=4.7						
MK31	Makanchi Array	55.07	326	*e*P	P	11 16 00.9	+0.3
MKAR	Makanchi Array	55.07	326	P	P	11 16 00.8	+0.3
	2.8nm,0.4s,mb3.9,baz=122,slow=7.4,SNR=66						
MKAR				PcP	PcP	11 16 54.1	-0.4
	1.4nm,0.5s,baz=121,slow=3.7,SNR=7.1						
MKAR				ScP	ScP	11 20 03.9	0.0
	0.7nm,0.9s,baz=103,slow=2.7,SNR=3.7						
MKAR	Makanchi Array	55.07	326	P	P	11 16 00.8	+0.3
MKAR				PcP	PcP	11 16 54.1	-0.4
MKAR				ScP	ScP	11 20 03.9	0.0
BVAR	Borovoye Array	64.89	328	P	P	11 17 05.5	-0.4
	2.0nm,0.5s,mb3.8,baz=143,slow=9.2,SNR=16						
ZRNK	Zerenda	65.59	327	*e*P	P	11 17 10.0	-0.4
	12nm,0.9s,mb4.4						
VNDA	Vanda	84.82	172	*e*P	P	11 19 03.4	+5.7
	1.4nm,0.8s,mb3.5						
JOF	Joensuu	86.94	333	*e*p	P	11 19 05.4	-2.4
	0.9nm,0.4s,mb3.8						
ARCES	ARCESS Array B	88.48	340	P	P	11 19 13.1	-2.0
	3.8nm,1.0s,mb4.1,baz=64,slow=5.5,SNR=4.6						
KAF	Kangasniemi	89.34	332	*e*p	P	11 19 15.2	-3.8
	1.7nm,0.5s,mb4.1						
FINES	FINESS Array B	89.55	332	P	P	11 19 18.6	-1.4
	1.2nm,0.7s,mb3.9,baz=67,slow=6.4,SNR=8.3						
TORD	Torodi Ar. Bea	119.84	288	PKP	PKPdf	11 25 09.8	+0.5
	0.4nm,0.4s,baz=63,slow=1.5,SNR=11						
TORD	Torodi Ar. Bea	119.84	288	PKP	PKPdf	11 25 09.8	+0.5

*IDC **15** 11:22:41.0±4.5, 1898N×12138E, h20km±28km, mb3.9/12, mb1 4.1/12, mb1mx3.9/21, mbtmp4.1/12, MS3.9/15, Ms1 3.9/15, ms1mx3.7/26, Error ellipse: s-maj=37.4km s-min=13.1km az=69.0*
*MAN **15** 11:22:41.4, 1926N×12106E, h11km, mb4.1, ML5.1, MS6.2*
*ISCJB **15** 11:22:44.8±0.5, 1916N±003×12130E±007, h64km±7km, mb4.2/23, Error ellipse: s-maj=10.8km s-min=5.3km az=175.2*
*NEIC **15** 11:22:45.8±1.0, 1905N×12146E, h63km±10km, mb4.5/9, Error ellipse: s-maj=13.1km s-min=6.6km az=79.0*
*BJI **15** 11:22:46.9, 1954N×12105E, h33km, mB4.5, mb4.5, ML4.0, Ms4.0, Msz3.9*

ISC 15 11:22:46.2±0.5, 1915N±003×12136E±007, h62km±6km, n68, σ1°13/68, mb4.2/23, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.11	144	*e*P	Pn	11 23 05.8	+0.1
CVP	Callao Caves	1.50	163	⇓*e*P	Pn	11 23 10.5	-0.4
ABRA	Dolores	1.61	203	*e*P	Pn	11 23 09.3	-3.1
CAUP	Cauayan	2.23	169	*e*P	Pn	11 23 22.8	+2.0
PALP	Palanan	2.30	154	*e*P	Pn	11 23 23.4	+1.6
BCPH	Baguio City Da	2.85	195	⇑*i*P	Pn	11 23 29.3	+0.1
BCPH				*i* S	Sn	11 24 03.5	+1.2
BOLP	Bolinao	3.08	207	*e*P	Pn	11 23 30.2	-2.1
BALP	Baler	3.39	177	*e*P	Pn	11 23 36.4	-0.3
PCPH	Palayan	3.57	184	⇑*e*P	Pn	11 23 39.2	+0.1
PCPH				*e*S	Sn	11 24 23.6	+3.5
SCZP	Santa Cruz	3.63	203	*e*P	Pn	11 23 39.5	-0.3
POLP	Polilio Island	4.43	173	*e*P	Pn	11 23 51.9	+1.1
NACB	Ninganchiao	5.01	2	*e*Pn	Pn	11 23 58.6	-0.1
NACB				*e*Sn	Sn	11 24 52.7	-2.6
TGY	Tagaytay City	5.03	185	Pn	Pn	11 24 00.1	+1.0
	37nm,0.3s,baz=179,slow=4.3,SNR=4.6						
LUBP	Lubang	5.49	191	*e*P	Pn	11 24 05.1	-0.2
YHNB	Yeheng	5.50	0	*e*Pn	Pn	11 24 06.0	+0.5
YHNB				*e*Sn	Sn	11 25 06.2	-1.1
PVCP	Virac	6.13	154	*e*P	Pn	11 24 14.6	+0.5
OTRP	Odiongan	6.77	175	*e*P	Pn	11 24 26.8	+3.9
GZH	Guangzhou	8.45	299	P	Pn	11 24 39.0	-6.8
JOW	Kunigami	9.95	38	LR	LR	11 28 58.0	
	comp=Z,320nm,19.8s,baz=209,slow=37						
QIZ	Qiongzhong	10.89	271	*e*Pn	Pn	11 25 12.7	-6.6
	20nm,0.6s						
QIZ				*e*Sn	Sn	11 27 04.3	-15
KMI	Kunming	18.24	292	P	Pn	11 26 55.1	+0.2
KMI				AP	pP	11 27 01.1	-6.5
KMI				S	S	11 30 06.6	-12
KMI				AMB	AMB		
	comp=Z,15nm,1.5s						
KMI				LR	LR		
	comp=N,300nm,16.6s						
KMI				LR	LR		
	comp=E,456nm,16.1s						
KMI				LR	LR		
	comp=Z,596nm,19.7s						
KMI	Kunming	18.24	292	P	Pn	11 26 55.1	+0.2
	comp=Z,15nm,1.5s						
KMI				pP	pP	11 27 01.1	-6.5
KMI				S	S	11 30 06.6	-12
XAN	Xi'an	18.52	326	P	Pn	11 26 56.8	-1.4
XAN				AMB	AMB		
	comp=Z,11nm,1.3s						
CD2	Chengdu	19.76	310	P	Pn	11 27 11.0	-2.0
CD2				AMB	AMB		
	comp=Z,50nm,0.7s						
CD2				LR	LR		
	comp=N,520nm,16.2s						
CD2				LR	LR		
	comp=Z,730nm,18.0s						
KSM	Kuching	20.63	213	*e*P	P	11 27 20.4	0.0
CHTO	Chiang Mai	21.20	273	*e*P	P	11 27 25.5	-1.1
	comp=Z,15nm,1.3s,mb4.2						
BJT	Baijiatuau	21.28	349	*e*P	P	11 27 33.2	+5.9
	comp=Z,19nm,0.9s,mb4.4						
BJI	Beijing	21.30	349	P	P	11 27 29.0	+1.4
BJI				AMB	AMB		
	comp=Z,12nm,1.7s,mb4.0						
BJI				LR	LR		
	comp=N,220nm,17.5s						
BJI				LR	LR		
	comp=E,375nm,17.5s						
BJI				LR	LR		
	comp=Z,200nm,18.1s						
BJI	Beijing	21.30	349	P	P	11 27 29.0	+1.4
	comp=Z,12nm,1.7s,mb4.0						
BJI				S	S	11 31 24.6	+4.0
BJI				LR	LR		
	comp=Z,200nm,18.1s						
MJAR	Matsushiro Arr	22.79	37	P	P	11 27 43.1	-0.4
	comp=Z,1.0nm,0.7s,mb3.4,baz=218,slow=9.8,SNR=3.4						
LZH	Lanzhou	22.87	321	⇓P	P	11 27 44.8	+0.6
LZH				AP		11 27 55.1	
LZH				XP	sP	11 28 01.8	-3.9
LZH				PP		11 28 15.3	
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,63nm,4.8s						
LZH				LR	LR		
	comp=N,267nm,11.2s						
LZH				LR	LR		
	comp=Z,483nm,14.6s						
LZH	Lanzhou	22.87	321	⇓P	P	11 27 44.8	+0.6
	comp=Z,39nm,1.3s,mb4.7						
LZH				pP		11 27 55.1	
LZH				sP	sP	11 28 01.8	-3.9
LZH				PP		11 28 15.2	
LZH				LR	LR		
	comp=Z,480nm,14.6s						
GUMO	Guam	23.21	100	LR	LR	11 34 46.0	
	comp=Z,255nm,21.8s,baz=252,slow=31						
PSI	Prapat	27.30	236	LR	LR	11 38 01.6	
	comp=Z,160nm,18.1s,baz=163,slow=34						
GTA	Gaotai	27.46	322	*e*P	P	11 28 27.6	+1.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,110nm,4.6s						
GTA				LR	LR		
	comp=N,127nm,14.4s						
GTA				LR	LR		
	comp=E,229nm,17.1s						
GTA				LR	LR		
	comp=Z,293nm,17.1s						
ASAJ	Asahikawa	30.59	31	LR	LR	11 41 37.6	
	comp=Z,126nm,21.6s,baz=94,slow=37						
SONM	Songino Array	31.10	340	P	P	11 28 59.6	+1.0
	comp=Z,4.6nm,1.0s,mb4.3,baz=156,slow=9.7,SNR=5.6						
SONM				LR	LR	11 42 35.7	
	comp=Z,257nm,20.7s,baz=222,slow=38						
GUN	Gumba	33.59	292	*e*P	P	11 29 20.7	+0.4
	comp=Z,27nm,0.9s,mb5.2						
PKI	Pulchoki	33.96	291	*e*P	P	11 29 23.4	-0.1
KKN	Kakani	34.10	291	*e*P	P	11 29 24.5	-0.2
DMN	Daman	34.23	291	*e*P	P	11 29 26.1	+0.2
GKN	Gorkha	34.69	292	*e*P	P	11 29 29.2	-0.6
KOLN	Koldanda	35.58	291	*e*P	P	11 29 37.4	-0.1
	comp=Z,31nm,1.1s,mb5.1						
FITZ	Fitzroy Crossi	37.25	173	*e*P	P	11 29 49.2	-2.5
	comp=Z,12nm,1.7s,mb4.4						
FITZ	Fitzroy Crossi	37.25	173	P	P	11 29 49.2	-2.5
	comp=Z,1.8nm,0.5s,mb4.2,baz=40,slow=7.0,SNR=14						
WRA	Warramunga Arr	40.88	161	P	P	11 30 19.8	-2.2
	comp=Z,2.0nm,0.6s,mb4.0,baz=342,slow=9.1,SNR=22						
WRA				PcP	PcP	11 32 23.5	+1.9
	comp=Z,1.5nm,0.6s,baz=345,slow=3.3,SNR=7.7						
WB2	Warramunga Arr	40.88	161	*e*P	P	11 30 19.1	-2.9
WB2				*e*P		11 30 20.3	
MKAR	Makanchi Array	42.17	320	P	P	11 30 33.7	+1.1
	comp=Z,1.9nm,0.7s,mb3.8,baz=109,slow=9.1,SNR=15						
MKAR				LR	LR	11 49 55.2	
	comp=Z,153nm,18.4s,baz=118,slow=39						
MKAR	Makanchi Array	42.17	320	P	P	11 30 33.7	+1.1
MKAR				LR	LR	11 49 55.2	
AS31	Alice Springs	44.27	163	*e*P	P	11 30 48.5	-1.0
ASPA	Alice Springs	44.27	163	*e*P	P	11 30 48.5	-1.0
ASAR	Alice Springs	44.27	163	P	P	11 30 48.4	-1.1
	comp=Z,1.5nm,0.5s,mb3.9,baz=341,slow=6.5,SNR=28						
ASAR				ScP	ScP	11 36 23.0	+3.5
	comp=Z,0.3nm,0.5s,baz=347,slow=2.6,SNR=5.9						
ASAR				LR	LR	11 52 05.8	
	comp=Z,102nm,19.9s,baz=225,slow=40						
ZAL	Zalesovo	44.61	330	P	P	11 30 52.5	+0.2
	comp=Z,1.1nm,0.7s,mb3.8,baz=354,slow=8.3,SNR=7.8						
ZAL				LR	LR	11 51 14.8	
	comp=Z,307nm,18.1s,baz=338,slow=38						
BVAR	Borovoye Array	51.73	323	P	P	11 31 47.9	+0.8
	comp=Z,0.6nm,0.4s,mb3.9,baz=123,slow=9.4,SNR=9.4						
BVAR				LR	LR	11 55 18.4	
	comp=Z,88nm,18.7s,baz=305,slow=38						
BRVK	Borovoye	51.80	323	*e*P	P	11 31 48.8	+1.1
	comp=Z,4.7nm,0.9s,mb4.4						
CHKZ	Chkalovo	51.84	324	*e*P	P	11 31 49.0	+1.0
	comp=Z,5.7nm,1.1s,mb4.4						
ZRNK	Zerenda	52.49	323	*e*P	P	11 31 54.0	+1.2
	comp=Z,7.1nm,1.0s,mb4.5						
STKA	Stephens Creek	54.31	159	P	P	11 32 05.2	-0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=336,slow=12,SNR=2.5						
STKA				LR	LR	11 56 59.4	
	comp=Z,134nm,20.5s,baz=26,slow=38						
AKTK	Aktyubinsk	58.55	318	P	P	11 32 36.5	+0.3
AKTO	Aktyubinsk	58.55	318	P	P	11 32 36.5	+0.3
	comp=Z,2.3nm,0.8s,mb4.3,baz=96,slow=6.9,SNR=7.0						
ARCES	ARCESS Array B	74.26	339	LR	LR	12 12 41.6	
	comp=Z,64nm,19.8s,baz=327,slow=40						
FINES	FINESS Array B	75.88	330	P	P	11 34 26.5	+0.6
	comp=Z,2.4nm,1.1s,mb4.1,baz=54,slow=7.1,SNR=3.1						
NOA	NORSAR Array B	82.75	333	P	P	11 35 10.1	+6.8
	comp=Z,1.1nm,0.8s,mb4.0,baz=65,slow=5.0,SNR=4.0						
NOA				LR	LR	12 14 55.2	
	comp=Z,172nm,19.7s,baz=45,slow=38						
NOA	NORSAR Array B	82.75	333	P	P	11 35 10.1	+6.8
NOA				LR	LR	12 14 55.2	
KMBO	Kilima Mbogo	84.80	267	LR	LR	12 10 59.6	
	comp=Z,68nm,18.3s,baz=84,slow=34						
GERES	GERESS Array B	86.83	321	LR	LR	12 17 14.8	
	comp=Z,70nm,18.9s,baz=102,slow=38						
YKA	Yellowknife Ar	87.53	23	P	P	11 35 28.3	+1.1
	comp=Z,1.1nm,0.5s,mb4.4,baz=305,slow=4.9,SNR=6.5						
KEST	Kesra	95.67	311	LR	LR	12 29 16.6	
	comp=Z,22nm,18.9s,baz=207,slow=42						

MAN 15 11:28:17.7, 1258N×12353E, h1km, mb2.4, ML4.0, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.23	157	⇑*i*P	Pg	11 28 21.7	-0.5
MMPH				*i* S	Sg	11 28 24.5	-0.8
AUQP	San Andres	1.12	312	*e*P	Pg	11 28 42.9	+3.7
PVCP	Virac	1.18	31	*e*P	Pg	11 28 41.1	+0.8
PVCP				*e*S	Sg	11 28 58.9	+3.2
RCP	Roxas	1.27	217	⇑*e*P	Pg	11 28 42.2	+0.2
RCP				*e*S	Sg	11 28 59.5	+1.0
OTRP	Odiongan	1.49	262	*e*P	Pn	11 28 45.3	-0.3
OCLP	Ormoc	1.85	145	*e*P	Pn	11 28 50.5	+0.1
PLP	Palo	1.99	135	*e*P	Pn	11 28 54.3	+1.8
PLP				*e*S	Sn	11 29 19.7	+1.6
GUIM	Jordan	2.15	206	*e*P	Pn	11 28 56.6	+2.0

MAN 15 11:30:48.0, 1203N×12396E, h8km, mb1.8, ML3.6, MS1.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.46	315	⇑*i*P	Pg	11 30 57.5	+0.5
MMPH				*i* S	Sg	11 31 00.2	-2.9
PVCP	Virac	1.57	7	*e*P	Pn	11 31 15.6	-0.6
AUQP	San Andres	1.80	316	*e*P	Pn	11 31 19.3	+0.1
OTRP	Odiongan	1.92	280	*e*P	Pn	11 31 21.0	0.0

*ISCJB **15** 11:31:09.0±0.7, 3562N±004×3168E±004, h93km±12km, Error ellipse: s-maj=7.9km s-min=4.5km az=61.3*
*ISK **15** 11:31:08.5, 3565N×3167E, h28km, MD3.4*
*CSEM **15** 11:31:09.0±0.1, 3568N×3162E, h40km, Mw3.0, Error ellipse: s-maj=3.5km s-min=1.8km az=23.0*
*NEIC **15** 11:31:11.8, 3586N×3181E, h25km, MD3.6(ISK), ML3.5(NIC), After NIC.*
*NIC **15** 11:31:11.8±0.4, 3586N×3181E, h25km, ML3.5, MW3.0*

ISC 15 11:31:10.2±0.7, 3562N±004×3167E±004, h80km±14km, n35, σ1°13/49, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	Akamas	0.80	138	P	Pn	11 31 27.1	+0.2
ALFC	Alevga	0.89	121	P	Pn	11 31 27.6	-0.3
	28nm,0.1s						
ALFC				S	Sn	11 31 40.9	-0.2
PPCY	Paphos	0.92	143	P	Pn	11 31 29.6	+1.4
SZAC	Souni-Zanaja	1.31	131	⇑P	Pn	11 31 37.5	+4.4
SZAC				S	Sn	11 31 54.4	+4.1
MAMC	Mammari	1.34	109	P	Pn	11 31 33.7	+0.3
ERMK	Ermenek	1.43	44	*i* P	Pn	11 31 34.9	+0.3
ERMK				*i* S	Sn	11 31 56.0	+3.0
CSS	Prodhromos	1.51	115	P	Pn	11 31 35.9	+0.3
	3.0nm,0.3s						
CSS				S	Sn	11 31 54.3	-0.5
CSS	Prodhromos	1.51	115	PN	Pn	11 31 35.1	-0.5
CSS				SN	Sn	11 31 53.2	-1.6
CSS	Prodhromos	1.51	115	P	Pn	11 31 35.9	+0.3
	3.0nm,0.3s						
LFK	Lefkose	1.56	102	Pn	Pn	11 31 36.0	-0.2
LFK				Sg	Sn	11 31 55.0	-0.9
LFK	Lefkose	1.56	102	Pn	Pn	11 31 36.0	-0.2
LFK				Sg	Sn	11 31 55.0	-0.9
ELL	Elmali	1.82	309	Pn	Pn	11 31 38.2	-1.4
ELL	Elmali	1.82	309	Pn	Pn	11 31 38.2	-1.4
MAGT	Magosa	1.87	105	Pn	Pn	11 31 40.2	-0.1
MAGT	Magosa	1.87	105	Pn	Pn	11 31 40.2	-0.1
PHNC	Paralimni	2.03	107	P	Pn	11 31 44.0	+1.6
BCK	Bucak	2.03	335	*e*PN	Pn	11 31 41.7	-0.8
BCK				*e*SN	Sn	11 32 05.4	-1.7
GOLH	Golhisar	2.34	314	*i* P	Pn	11 31 49.9	+3.2
GOLH				*i* S	Sn	11 32 17.2	+2.6
KONT	Konya--Tatoy	2.39	13	*e*PN	Pn	11 31 46.2	-1.0
KONT				*e*SN	Sn	11 32 14.5	-1.1
ISP	Isparta	2.41	338	*e*PN	Pn	11 31 47.1	-0.4
MERS	Mersin	2.62	61	*e*PN	Pn	11 31 50.2	-0.2
TKTP	Tekketepe	2.65	336	*i* P	Pn	11 31 52.4	+1.7
TKTP				*i* S	Sn	11 32 21.3	-0.6
DALT	Dalyan (Mudla)	2.71	296	*e*PN	Pn	11 31 51.1	-0.5
KDHN	Kadinhani	2.92	7	*i* P	Pn	11 31 55.3	+0.9
KDHN				*i* S	Sn	11 32 30.8	+2.4
KRTS	Karatas	3.15	71	*e*PN	Pn	11 31 56.8	-0.7
KARA	Karaisali	3.18	58	*e*PN	Pn	11 31 58.6	+0.6
DAT	Datca	3.49	290	*e*PN	Pn	11 32 02.1	-0.1
CEYT	Ceyhan	3.57	66	*e*PN	Pn	11 32 03.6	+0.3
HTY	Hatay	3.66	81	Pn	Pn	11 32 04.5	+0.1
HTY				Sg	Sn	11 32 44.5	-1.9
HTY	Hatay	3.66	81	Pn	Pn	11 32 04.6	+0.1
BDRM	Kayabasi	3.71	294	*i* P	Pn	11 32 06.3	+1.3
BDRM				*i* S	Sn	11 32 45.3	-2.2
BDRM	Kayabasi	3.71	294	*i* P	Pn	11 32 06.3	+1.2
BODT	Bodrum	3.80	294	*e*PN	Pn	11 32 06.4	0.0
KOZT	Kozan	3.83	60	*e*PN	Pn	11 32 06.2	-0.5
KMRS	Kahramanmaras	4.61	64	*e*PN	Pn	11 32 17.7	+0.3

IDC 15 11:36:12.2±13.0, 4683N×15278E, h0km, mb4.0/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=296.6km s-min=45.0km az=141.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.65	253	Pn	Pn	11 38 04.8	-0.1
	0.2nm,0.3s,baz=77,slow=19,SNR=2.8						
MKAR	Makanchi Array	46.70	297	P	P	11 44 42.4	-0.3
	1.1nm,0.8s,baz=64,slow=8.2,SNR=6.1						
FINES	FINESS Array B	63.87	335	P	P	11 46 46.1	-0.4
	2.7nm,0.9s,baz=43,slow=8.6,SNR=10						
NB2	NORSAR Subarra	68.08	341	P	P	11 47 13.2	-0.5
	comp=Z,0.8nm,0.7s,baz=28,slow=6.5						
NOA	NORSAR Array B	68.08	341	P	P	11 47 13.1	-0.6
	comp=Z,0.8nm,0.7s,baz=28,slow=6.4,SNR=5.4						

*ISCJB **15** 11:37:15.9±0.8, 2757N±009×5435E±007, h10km, mb3.9/3, Error ellipse: s-maj=14.6km s-min=5.9km az=63.1*
*IDC **15** 11:37:17.7±1.7, 2782N×5409E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.4/22, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=47.3km s-min=32.0km az=66.0*
*CSEM **15** 11:37:18.3±0.2, 2804N×5451E, h12km, ML2.9, Error ellipse: s-maj=7.8km s-min=4.1km az=14.0*
*NEIC **15** 11:37:20.1, 2792N×5445E, h14km, ML2.9(THR), After THR.*

ISC 15 11:37:18.1±1.1, 2785N±007×5450E±005, h11km±9km, n12, σ1°41/17, mb3.9/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.40	289	*e*Pg	Pg	11 37 44.0	-1.0
GHIR				*e*Sg	Sg	11 38 03.0	-0.3
GHIR	Ghir-Karzin	1.40	289	*e*Pg	Pg	11 37 45.0	0.0
	SNR=90						
GHIR				*e*Sg	Sg	11 38 03.3	0.0
	SNR=90						
BNDS	Bandar-Abbas	1.55	106	*e*Pg	Pg	11 37 49.0	+1.2
KRBR	Kerman	2.91	42	*e*Pn	Pn	11 38 08.0	+3.7
KRBR				*e*Sg	Sg	11 38 50.0	-1.6
KRBR	Kerman	2.91	42	*e*Pn	Pn	11 38 08.0	+3.7
KRBR				*e*Sg	Sg	11 38 50.4	-1.2
	SNR=90						
NASN	Na'in	5.15	344	*e*Pn	Pn	11 38

σ0°87/27, **3C, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YTIR	**Yattir**	**0.27**	**352**	Pg	**Pg**	**11 48 19.1**	**+0.1**
YTIR				T		11 49 20.5	
MZDA	**Masada**	**0.28**	**39**	T		11 49 41.1	
MZDA	**Masada**	**0.28**	**39**	Pg	**Pg**	**11 48 19.5**	**+0.4**
MZDA				Sg	**Sg**	**11 48 24.5**	**+1.8**
MASH	**Mash'abbe Sade**	**0.34**	**253**	Pg	**Pg**	**11 48 20.8**	**+0.5**
RTMI	**Retamim**	**0.40**	**264**	Pg	**Pg**	**11 48 21.9**	**+0.4**
SVTA	**Shivta**	**0.49**	**250**	Pg	**Pg**	**11 48 23.5**	**+0.3**
DSI	**Dead Sea**	**0.51**	**22**	Pg	**Pg**	**11 48 23.9**	**+0.4**
DSI	**Dead Sea**	**0.51**	**22**	Pg	**Pg**	**11 48 23.9**	**+0.3**
DRGI	**Dragot**	**0.54**	**22**	Pg	**Pg**	**11 48 23.9**	**-0.2**
ZFRI	**Zfri**	**0.54**	**178**	Pg	**Pg**	**11 48 24.8**	**+0.7**
KZIT	**Kziot**	**0.68**	**254**	Pg	**Pg**	**11 48 26.9**	**0.0**
KZIT				Sg	**Sg**	**11 48 37.5**	**+1.9**
PRNI	**Paran**	**0.75**	**190**	Pg	**Pg**	**11 48 28.8**	**+0.5**
PRNI				Sg	**Sg**	**11 48 41.8**	**+3.8**
KMTI	**Karmit**	**1.06**	**201**	Pg	**Pg**	**11 48 34.9**	**+0.9**
HRFI	**Mount Harif**	**1.06**	**186**	Pg	**Pg**	**11 48 34.2**	**0.0**
HMDT	**Nahal Hemdat**	**1.20**	**15**	Pg	**Pg**	**11 48 36.2**	**-0.5**
MBH	**Mount Berech**	**1.32**	**189**	Pn	**Pn**	**11 48 38.9**	**-0.6**
MMLI	**Mount Malkishu**	**1.36**	**9**	Pn	**Pn**	**11 48 38.3**	**-1.7**
AQBJ	**Aqaba**	**1.37**	**184**	Pn	**Pn**	**11 48 39.9**	**-0.2**
EIL	**Elat**	**1.43**	**187**	Pn	**Pn**	**11 48 40.7**	**-0.3**
HNKL	**Nakhl**	**1.54**	**221**	P	**Pn**	**11 48 41.5**	**-1.0**
AMAG	**Maghara**	**1.74**	**255**	P	**Pn**	**11 48 43.6**	**-1.6**
HBST	**Basata**	**1.91**	**191**	P	**Pn**	**11 48 47.7**	**+0.1**
SUZ		**2.37**	**239**	⇑P	**Pn**	**11 48 52.7**	**-1.2**
HKAT	**Jabal Katrina**	**2.76**	**202**	⇑P	**Pn**	**11 48 59.0**	**-0.3**
TR2		**2.98**	**205**	⇑P	**Pn**	**11 49 01.4**	**-0.9**

*NEIC **15** 12:26:21.2, 3856S×17880E, h52km, ML3.8(WEL), After WEL.*

WEL 15 12:26:23.1±0.5, 3850S×17857E, h12km, ML3.6/9, 1C, Error ellipse: s-maj=4.0km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.49**	**330**	P	Pg	12 26 33.9	+1.1
PUZ	**Puketiti**	**0.49**	**330**	P*	Pg	12 26 33.9	+1.1
PUZ				S*	Sg	12 26 38.8	-0.5
PUZ				S*	Sg	12 26 39.3	0.0
MWZ	**Matawai**	**0.84**	**281**	P	Pg	12 26 38.8	-0.4
MWZ	**Matawai**	**0.84**	**281**	⇑P*	Pb	12 26 38.8	-0.7
MWZ				S*	Sb	12 26 50.0	-0.7
KNZ	**Kokohu**	**0.87**	**233**	P	Pg	12 26 39.1	-0.9
KNZ	**Kokohu**	**0.87**	**233**	P*	Pb	12 26 39.0	-1.2
KNZ				S*	Sb	12 26 51.5	-0.3
MXZ	**Matakaoa Point**	**0.96**	**347**	P	Pg	12 26 40.8	-0.8
MXZ	**Matakaoa Point**	**0.96**	**347**	P*	Pb	12 26 40.7	-0.9
URZ	**Urewera**	**1.17**	**281**	P	Pb	12 26 43.6	-1.7
URZ	**Urewera**	**1.17**	**281**	P*	Pb	12 26 43.5	-1.8
TGRZ	**Tauranga**	**1.98**	**292**	P	Pn	12 26 54.3	-2.1
TGRZ	**Tauranga**	**1.98**	**292**	PN	Pn	12 26 54.1	-2.3
PXZ	**Pawanui**	**2.02**	**220**	PN	Pn	12 26 53.4	-3.6
PXZ				SN	Sn	12 27 17.7	-4.5
MOVZ	**Moawhango**	**2.38**	**247**	P	Pn	12 27 00.0	-1.9
MOVZ	**Moawhango**	**2.38**	**247**	PN	Pn	12 26 59.7	-2.1
WNVZ	**Wahianoa**	**2.46**	**249**	PN	Pn	12 27 01.4	-1.6
WPVZ	**Whakapapa**	**2.46**	**252**	PN	Pn	12 27 01.4	-1.7
TSZ	**Takapari Road**	**2.56**	**232**	PN	Pn	12 27 00.8	-3.5
KUZ	**Kuaotunu**	**2.86**	**307**	PN	Pn	12 27 05.6	-2.9
KIW	**Kapiti Island**	**3.68**	**229**	P	Pn	12 27 15.8	-4.0
KIW	**Kapiti Island**	**3.68**	**229**	*e*PN	Pn	12 27 15.5	-4.3
TCW	**Tory Channel**	**4.27**	**229**	*e*PN	Pn	12 27 22.6	-5.3
THZ	**Tophouse**	**5.43**	**231**	*e*PN	Pn	12 27 37.5	-6.3
KHZ	**Kahutara**	**5.48**	**223**	SN	Sn	12 28 37.6	-10
LTZ	**Lake Taylor**	**6.42**	**226**	*e*PN	Pn	12 27 52.5	-5.0
MQZ	**McQueen's Vall**	**6.86**	**219**	SN	Sn	12 29 07.7	-14

*PRU **15** 12:34:51.9, 44.15N×2077E, h0km*
*ISCJB **15** 12:34:53.0±0.5, 44.32N±002×2070E±004, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=170.6*
*NEIC **15** 12:34:53.6, 44.18N×2057E, h15km, ML2.5(BRA), ML3.3(BUC), After BUC.*
*CSEM **15** 12:34:53.4±0.1, 44.26N×2071E, h15km, ML3.3, Error ellipse: s-maj=2.6km s-min=2.2km az=37.0*
*BEO **15** 12:34:54.6±0.7, 44.27N×2076E, h5km±2km*

ISC 15 12:34:53.9±0.6, 4428N±002×2070E±003, h6km±5km, n50, σ0°92/72, 16C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVIS	**Svilajnac**	**0.38**	**87**	*i* Pg	**Pg**	**12 35 00.2**	**-1.0**
SVIS				Sg	**Sg**	**12 35 05.5**	**-0.7**
DIVS	**Divcibare**	**0.54**	**251**	*i* Pg	**Pg**	**12 35 04.3**	**0.0**
DIVS				Sg	**Sg**	**12 35 11.9**	**+0.6**
DIVS	**Divcibare**	**0.54**	**251**	Pg	**Pg**	**12 35 04.3**	**0.0**
DIVS				Sg	**Sg**	**12 35 11.9**	**+0.6**
BEO	**Belgrade**	**0.57**	**342**	*i* Pg	**Pg**	**12 35 05.1**	**+0.3**
BEO				Sg	**Sg**	**12 35 16.9**	**+4.7**
BZS	**Buzias**	**1.49**	**26**	⇓*i*P	**Pn**	**12 35 20.3**	**-0.9**
BZS	**Buzias**	**1.49**	**26**	S	**Sn**	**12 35 42.9**	**+2.0**
BZS	**Buzias**	**1.49**	**26**	⇓P	**Pn**	**12 35 20.3**	**-0.9**
BARS	**Barje**	**1.67**	**150**	*i* Pn	**Pn**	**12 35 24.3**	**+0.6**
BARS				Sg	**Sg**	**12 35 46.9**	**-0.8**
GZR	**Gura Zlata**	**1.85**	**52**	⇑*i*P	**Pn**	**12 35 25.6**	**-0.6**
GZR	**Gura Zlata**	**1.85**	**52**	S	**Sg**	**12 35 52.8**	**-0.6**
GZR	**Gura Zlata**	**1.85**	**52**	⇑P	**Pn**	**12 35 25.6**	**-0.6**
GZR				S	**Sg**	**12 35 52.8**	**-0.6**
TREB	**Trebinje**	**2.31**	**228**	P	**Pn**	**12 35 33.0**	**+0.5**
RHK3	**Tenkes**	**2.36**	**314**	⇓*e*P	**Pn**	**12 35 32.8**	**-0.4**
SKO	**Skopje**	**2.37**	**166**	*e*Pn	**Pg**	**12 35 40.0**	**+0.6**
PKSM	**Moragy**	**2.42**	**324**	⇓*i*P	**Pn**	**12 35 33.4**	**-0.5**
PKSM	**Moragy**	**2.42**	**324**	S	**Sn**	**12 36 03.9**	**+0.1**
PKSM	**Moragy**	**2.42**	**324**	⇓P	**Pn**	**12 35 33.4**	**-0.5**
PKSM				S	**Sn**	**12 36 03.9**	**+0.1**
PKSM	**Moragy**	**2.42**	**324**	⇑*e*Pn	**Pn**	**12 35 33.4**	**-0.5**
VTS	**Vitosha**	**2.49**	**132**	⇑*i*P	**Pn**	**12 35 33.8**	**-1.1**
VTS	**Vitosha**	**2.49**	**132**	⇑P	**Pn**	**12 35 33.8**	**-1.2**
STON	**Ston**	**2.59**	**238**	*i* Pn	**Pn**	**12 35 35.7**	**-0.7**
STON				*i* Sn	**Sn**	**12 36 09.2**	**+1.0**
STON	**Ston**	**2.59**	**238**	*i* Pn	**Pn**	**12 35 35.6**	**-0.8**
STON				*i* Sn	**Sn**	**12 36 09.1**	**+0.9**
STIP	**Stip**	**2.81**	**157**	*e*Pn	**Pb**	**12 35 43.6**	**-0.9**
STIP				*e*Sn	**Sb**	**12 36 20.4**	**+1.4**
PKS9	**Tamasi**	**2.87**	**324**	⇑*i*P	**Pn**	**12 35 40.3**	**+0.2**
KRUS	**Krusevo**	**2.94**	**172**	*e*Pn	**Pn**	**12 35 41.1**	**0.0**
KRUS	**Krusevo**	**2.94**	**172**	*e*Pn	**Pn**	**12 35 41.0**	**-0.1**
VAY	**Valandovo**	**3.26**	**154**	*e*Pn	**Pb**	**12 35 51.9**	**-0.3**
VOIR		**3.30**	**68**	⇑*i*P	**Pn**	**12 35 46.5**	**+0.4**
VOIR		**3.30**	**68**	⇑P	**Pn**	**12 35 46.5**	**+0.3**
PKSG		**3.50**	**333**	*e*P	**Pn**	**12 35 48.6**	**-0.3**
PENC	**Penc**	**3.65**	**345**	*e*P	**Pn**	**12 35 50.7**	**-0.2**
PSZ	**Piszkesteto**	**3.68**	**352**	⇑*e*Pn	**Pn**	**12 35 51.4**	**+0.1**
PSZ	**Piszkesteto**	**3.68**	**352**	⇓*i*P	**Pn**	**12 35 51.0**	**-0.3**
PSZ	**Piszkesteto**	**3.68**	**352**	⇓P	**Pn**	**12 35 51.0**	**-0.4**
MLR	**Muntele Rosu**	**3.92**	**70**	⇑*i*P	**Pn**	**12 35 55.9**	**+1.3**
KECS	**Kecovo**	**4.21**	**358**	*e*PN	**Pn**	**12 36 00.5**	**+1.9**
KECS				*e*SN	**Sn**	**12 36 46.2**	**-1.8**
VYHS	**Vyhne**	**4.41**	**344**	*e*PN	**Pn**	**12 36 01.9**	**+0.6**
VYHS				*e*SN	**Sn**	**12 36 52.1**	**-0.8**
BURAR	**Bucovina Array**	**4.59**	**42**	⇓*i*P	**Pn**	**12 36 05.3**	**+1.5**
BURAR	**Bucovina Array**	**4.59**	**42**	⇓P	**Pn**	**12 36 05.3**	**+1.5**
ARSA	**Arzberg**	**4.68**	**311**	⇓*i*Sn	**Sn**	**12 36 55.5**	**-4.2**
ARSA	**Arzberg**	**4.68**	**311**	⇓*i*Pn	**Pn**	**12 36 05.1**	**0.0**
ARSA				⇓*i*Sn	**Sn**	**12 36 57.7**	**-2.0**
ARSA	**Arzberg**	**4.68**	**311**	⇓*i*Pn	**Pn**	**12 36 05.1**	**0.0**
ARSA				*i* Sn	**Sn**	**12 36 55.5**	**-4.2**
ARSA	**Arzberg**	**4.68**	**311**	⇓*i*Pn	**Pn**	**12 36 05.1**	**0.0**
ARSA				*i* Sn	**Sn**	**12 36 55.5**	**-4.2**
KOLS	**Kolonicke sedl**	**4.78**	**13**	*es*PG	**Pg**	**12 36 30.5**	**+5.0**
KOLS				*es*SB	**Sg**	**12 37 29.3**	**+1.9**
OBKA	**Obir**	**4.87**	**299**	⇑*i*Pn	**Pn**	**12 36 07.8**	**+0.1**
OBKA				⇑*i*Sn	**Sn**	**12 37 02.0**	**-2.3**
OBKA	**Obir**	**4.87**	**299**	⇑*i*Pn	**Pn**	**12 36 07.8**	**+0.1**
OBKA				*i* Sn	**Sn**	**12 37 01.3**	**-3.0**
OBKA	**Obir**	**4.87**	**299**	⇑*i*Pn	**Pn**	**12 36 07.8**	**+0.1**
OBKA				*i* Sn	**Sn**	**12 37 01.3**	**-3.0**
CONA	**Conrad Observa**	**4.96**	**319**	⇑*i*Pn	**Pn**	**12 36 08.8**	**-0.1**
CONA				⇑*i*Sn	**Sn**	**12 37 06.6**	**0.0**
CONA	**Conrad Observa**	**4.96**	**319**	Pn	**Pn**	**12 36 08.8**	**-0.1**
CONA				Sn	**Sn**	**12 37 06.6**	**0.0**
KHC	**Kasperske Hory**	**6.89**	**317**	*e*PN	**Pn**	**12 36 35.4**	**0.0**
KHC				*e*SN	**Sn**	**12 37 47.5**	**-6.6**

MAN 15 12:47:52.1, 1866N×12077E, h27km, mb2.0, ML3.7, MS3.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.01**	**183**	*e*P	Pn	12 48 09.8	-0.7
SGCP	**Mt. Cagua**	**1.28**	**109**	*e*P	Pn	12 48 10.5	-3.6
CVP	**Callao Caves**	**1.38**	**134**	⇓*e*P	Pn	12 48 15.0	-0.5
CVP				*e*S	Sn	12 48 33.0	+0.1
CAUP	**Cauayan**	**1.98**	**150**	*e*P	Pn	12 48 26.0	+2.2
PALP	**Palanan**	**2.24**	**135**	*e*P	Pn	12 48 27.9	+0.6
BOLP	**Bolinao**	**2.41**	**200**	*e*P	Pn	12 48 30.2	+0.4

NEIC 15 12:58:04.0, 5736N×15566W, h72km, ML2.9(AEIC), ML3.6(PMR), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.71**	**74**	P	Pn	12 58 30.9	-0.9
CHGN	**Chignik**	**1.85**	**236**	P	Pn	12 58 32.3	-1.4
SDPT	**Sand Point**	**3.35**	**235**	*e*P	Pn	12 58 53.0	-1.0
SVW2	**Sparrevohn**	**3.75**	**1**	*e*P	Pn	12 58 57.6	-1.9
SLKM	**Skilak Lake**	**4.23**	**39**	P	Pn	12 59 05.1	-0.9
SEW	**Seward**	**4.25**	**47**	P	Pn	12 59 03.7	-2.5
PMR	**Palmer**	**5.40**	**35**	*e*P	Pn	12 59 19.7	-2.2
TRF	**Thorofare Moun**	**6.67**	**21**	P	Pn	12 59 37.5	-1.8
BMRM	**Bremner River**	**6.74**	**53**	P	Pn	12 59 38.7	-1.5

*ISCJB **15** 13:08:13.7±0.7, 2757S±009×178.1W±02, h232km±9km, mb3.4/6, Error ellipse: s-maj=26.6km s-min=10.7km az=42.7*
*IDC **15** 13:08:16.6±1.2, 2783S×17831W, h231km±9km, mb3.1/4, mb1 3.4/4, mb1mx3.3/10, mbtmp3.7/4, Error ellipse: s-maj=30.3km s-min=21.5km az=61.0*
*NEIC **15** 13:08:16.4±1.1, 2775S×17830W, h231km±9km, mb3.8/3, Error ellipse: s-maj=24.5km s-min=16.0km az=59.0*

ISC 15 13:08:15.3±0.9, 277S±01×1781W±02, h229km±9km, n16, σ0°63/16, mb3.4/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.60**	**175**	P	**Pn**	**13 08 53.2**	**+0.8**
	965nm,0.3s,baz=87,slow=4.3,SNR=80						
RAO				S	**S**	**13 09 21.3**	**-0.3**
	401nm,0.3s,baz=80,slow=23,SNR=5.9						
RAO	**Raoul Island**	**1.60**	**175**	*e*Pn	**Pn**	**13 08 53.1**	**+0.7**
RAO				S	**S**	**13 09 21.3**	**-0.3**
URZ	**Urewera**	**11.32**	**200**	P	**Pn**	**13 10 41.3**	**-9.5**
	0.7nm,0.3s,baz=290,slow=6.3,SNR=11						
URZ				S	**S**	**13 12 38.2**	**-19**
	3.2nm,0.3s,baz=306,slow=23,SNR=8.4						
AFI	**Afiamalu**	**14.88**	**25**	P	**Pn**	**13 11 34.2**	**-0.6**
	7.7nm,0.3s,baz=84,slow=24,SNR=7.8						
AFI				S	**S**	**13 14 10.5**	**-8.9**
	2.5nm,0.3s,baz=54,slow=19,SNR=4.1						
ASAR	**Alice Springs**	**43.26**	**264**	P	**P**	**13 15 53.6**	**-0.6**
	0.2nm,0.5s,mb2.9,baz=99,slow=6.8,SNR=9.0						
WB2	**Warramunga Arr**	**43.99**	**269**	*e*P	**P**	**13 15 59.8**	**-0.1**
WRA	**Warramunga Arr**	**44.00**	**269**	P	**P**	**13 15 59.8**	**-0.2**
	0.4nm,0.5s,mb3.0,baz=113,slow=6.6,SNR=11						
SBA	**Scott Base**	**50.77**	**184**	*e*P	**P**	**13 16 52.7**	**+0.7**
	4.6nm,1.1s,mb3.8						
VNDA	**Vanda**	**50.82**	**186**	P	**P**	**13 16 52.3**	**-0.1**
	0.6nm,0.6s,mb3.2,baz=7.4,slow=9.5,SNR=9.9						
VNDA	**Vanda**	**50.82**	**186**	*e*P	**P**	**13 16 51.8**	**-0.6**
	0.7nm,0.6s,mb3.3						
QSPA	**South Pole Qui**	**62.45**	**180**	*e*P	**P**	**13 18 13.7**	**-0.5**
	1.9nm,0.5s,mb4.0						
MJAR	**Matsushiro Arr**	**75.95**	**325**	P	**P**	**13 19 38.2**	**+1.4**
	0.9nm,0.4s,mb3.8,baz=150,slow=4.0,SNR=8.4						
NB2	**NORSAR Subarra**	**146.03**	**352**	PKP	PKPdf	13 27 28.4	+1.6
	comp=Z,0.7nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**146.03**	**352**	PKPbc	PKPbc	13 27 28.4	+0.4
	comp=Z,0.7nm,0.5s,baz=16,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**149.04**	**325**	PKPbc	PKPbc	13 27 36.6	+0.5
	comp=Z,0.5nm,0.4s,baz=44,slow=3.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.57**	**179**	PKPab	PKPab	13 28 51.0	-1.2
	comp=Z,0.6nm,0.8s,baz=171,slow=3.6,SNR=5.8						

IDC 15 13:14:23.0±1.9, 028S×12506E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, Error ellipse: s-maj=188.5km s-min=26.8km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**156**	P	P	13 19 15.1	+1.2
	0.6nm,0.7s,baz=334,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**24.78**	**160**	P	P	13 19 46.0	-0.4
	0.4nm,0.9s,baz=344,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	13 24 31.2	+0.2
	0.4nm,0.7s,baz=125,slow=8.4,SNR=6.2						

IDC 15 13:22:19.6±4.8, 1858N×14737E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, MS4.1/1, Ms1 4.1/1, ms1mx2.8/24, Error ellipse: s-maj=294.0km s-min=36.1km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**27.81**	**180**	LR	LR	13 37 46.7	
	comp=Z,340nm,18.1s,baz=270,slow=33						
WRA	**Warramunga Arr**	**40.36**	**199**	P	P	13 29 58.4	-0.6
	0.3nm,0.5s,baz=21,slow=9.2,SNR=7.6						
ASAR	**Alice Springs**	**43.99**	**198**	P	P	13 30 29.8	+1.1
	0.2nm,0.7s,baz=39,slow=7.5,SNR=5.0						
FINES	**FINESS Array B**	**87.65**	**336**	P	P	13 35 09.7	-0.2
	2.7nm,1.0s,baz=79,slow=4.1,SNR=4.6						

*BJI **15** 13:34:27.5, 627S×14595E, h56km, mB5.3, mb4.6, Ms4.9, Msz3.9*
*MOS **15** 13:34:29.5±1.1, 569S×14546E, h33km, mb4.7/6, Error ellipse: s-maj=18.4km s-min=9.0km az=93.3*
*ISCJB **15** 13:34:30.6±1.7, 586S±006×14558E±008, h46km±16km, mb4.5/25, MS3.8/4, Error ellipse: s-maj=13.8km s-min=10.2km az=157.4*
*IDC **15** 13:34:32.0±3.0, 585S×14553E, h42km±31km, mb4.0/10, mb1 4.2/12, mb1mx4.1/15, mbtmp4.3/12, ML3.6/2, MS3.6/5, Ms1 3.7/5, ms1mx3.3/25, Error ellipse: s-maj=28.6km s-min=16.3km az=86.0*
*NEIC **15** 13:34:33.8±1.8, 583S×14544E, h57km±17km, mb4.4/8, Error ellipse: s-maj=15.9km s-min=12.2km az=75.0*

ISC 15 13:34:33.7±1.5, 591S±007×14562E±008, h58km±15km, n62, σ0°99/60, mb4.5/25, MS3.8/4, 6C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**156**	P	**Pn**	**13 35 31.2**	**+1.6**
	10nm,0.3s,baz=335,slow=6.3,SNR=47						
PMG				S	**Sn**	**13 36 13.7**	**+0.7**
	93nm,0.3s,baz=323,slow=24,SNR=31						
PMG	**Port Moresby**	**3.80**	**156**	⇑*e*P	**Pn**	**13 35 30.9**	**+1.3**
PMG	**Port Moresby**	**3.80**	**156**	*e*Pn	**Pn**	**13 35 30.5**	**+0.8**
CTA	**Charters Tower**	**14.11**	**178**	*e*P	**Pn**	**13 37 54.4**	**+3.9**
	4.6nm,0.8s						
CTA	**Charters Tower**	**14.11**	**178**	P	**Pn**	**13 37 54.5**	**+4.0**
	0.8nm,0.3s,baz=354,slow=14,SNR=4.1						
CTA	**Charters Tower**	**14.11**	**178**	*e*P	**Pn**	**13 37 54.4**	**+3.9**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTAO	**Charters Tower**	**14.11**	**178**	*e*P	**Pn**	**13 37 54.2**	**+3.7**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CTAO	**Charters Tower**	**14.11**	**178**	*e*P	**Pn**	**13 37 54.2**	**+3.7**
	comp=Z,4.1nm,0.4s						
HNR	**Honiara**	**14.62**	**105**	LR	LR	13 43 34.3	
	comp=Z,132nm,18.2s,baz=360,slow=37						
KAKA	**Kakadu**	**14.65**	**242**	*e*P	**Pn**	**13 37 55.3**	**-2.3**
	comp=Z,23nm,0.6s						
WRAB	**Tennant Creek**	**17.73**	**217**	*c iP*	**Pn**	**13 38 36.0**	**-0.4**
WB2	**Warramunga Arr**	**17.74**	**217**	*e*P	**Pn**	**13 38 35.9**	**-0.6**
WRA	**Warramunga Arr**	**17.75**	**217**	P	**Pn**	**13 38 36.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=61						
GUMO	**Guam**	**19.38**	**358**	LR	LR	13 45 10.3	
	comp=Z,55nm,19.6s,baz=148,slow=33						
AS31	**Alice Springs**	**20.95**	**211**	*e*P	**P**	**13 39 11.8**	**+0.1**
ASAR	**Alice Springs**	**20.95**	**211**	P	**P**	**13 39 11.3**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=48,slow=8.5,SNR=43						
ASPA	**Alice Springs**	**20.95**	**211**	*e*P	**P**	**13 39 11.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.96**	**236**	*e*P	**P**	**13 39 32.0**	**-1.1**
	comp=Z,7.2nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.96**	**236**	P	**P**	**13 39 32.4**	**-0.7**
	comp=Z,2.8nm,0.6s,mb3.9,baz=77,slow=8.0,SNR=8.7						
STKA	**Stephens Creek**	**26.11**	**188**	*e*P	**P**	**13 40 02.1**	**+0.1**
	comp=Z,9.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**26.11**	**188**	P	**P**	**13 40 02.2**	**+0.2**
	comp=Z,11nm,0.9s,mb4.4,baz=339,slow=11,SNR=16						
MJAR	**Matsushiro Arr**	**42.79**	**351**	P	**P**	**13 42 23.6**	**-1.9**
	comp=Z,2.5nm,0.8s,mb4.0,baz=169,slow=7.7,SNR=7.0						
NJ2	**Nanjing**	**45.55**	**328**	*e*P	**P**	**13 42 50.4**	**+2.7**
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
ASAJ	**Asahikawa**	**49.87**	**357**	P	**P**	**13 43 21.1**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.5,baz=246,slow=10.0,SNR=4.8						
KMI	**Kunming**	**51.86**	**308**	P	**P**	**13 43 37.3**	**+1.3**
KMI				S	**S**	**13 50 55.3**	**+1.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,33nm,30.5s,MS3.2						
KMI	**Kunming**	**51.86**	**308**	P	**P**	**13 43 37.2**	**+1.2**
KMI				S	**S**	**13 50 55.2**	**+0.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
KMI				MLR	MLR		
	comp=Z,30nm,30.5s,MS3.1						
KMI	**Kunming**	**51.86**	**308**	P	**P**	**13 43 37.2**	**+1.2**
	comp=Z,7.0nm,1.1s,mb4.5						
KMI				pP	pP	13 43 57.5	+6.2
KMI				sP	sP	13 44 04.9	+7.1
KMI				S	**S**	**13 50 55.2**	**+0.9**
KMI				LR	LR		
	comp=Z,30nm,30.5s,MS3.1						
CM31	**Chiang Mai Arr**	**52.00**	**299**	*e*P	**P**	**13 43 38.5**	**+1.4**
	comp=Z,2.3nm,0.5s,mb4.4						
XAN	**Xi'an**	**52.74**	**321**	P	**P**	**13 43 41.9**	**-0.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
CD2	**Chengdu**	**54.23**	**315**	P	**P**	**13 43 54.8**	**+1.3**
LZH	**Lanzhou**	**57.25**	**320**	*e*P	**P**	**13 44 14.8**	**-0.3**
LZH				*SP	sP	13 44 24.3	-13
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
LZH	**Lanzhou**	**57.25**	**320**	*e*P	**P**	**13 44 14.8**	**-0.3**
	comp=Z,26nm,1.2s,mb5.1						
LZH				pP	pP	13 44 20.1	-10
LZH				sP	sP	13 44 24.3	-13
GTA	**Gaotai**	**61.80**	**321**	*e*P	**P**	**13 44 47.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.5						
SONM	**Songino Array**	**63.66**	**332**	P	**P**	**13 44 57.6**	**-1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=151,slow=6.8,SNR=3.9						
GUN	**Gumba**	**66.67**	**304**	*e*P	**P**	**13 45 19.6**	**+1.3**
	comp=Z,16nm,0.4s,mb5.4						
ZAK	**Zakamensk**	**66.91**	**332**	⇑*i*P	**P**	**13 45 19.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
PKI	**Pulchoki**	**66.94**	**303**	*e*P	**P**	**13 45 20.8**	**+0.8**
KKN	**Kakani**	**67.12**	**303**	*e*P	**P**	**13 45 22.2**	**+1.0**
DMN	**Daman**	**67.21**	**303**	*e*P	**P**	**13 45 22.8**	**+1.1**
	comp=Z,18nm,0.7s,mb5.2						
GKN	**Gorkha**	**67.73**	**303**	*e*P	**P**	**13 45 25.8**	**+0.8**
	comp=Z,14nm,0.6s,mb5.2						
BOD	**Bodaibo**	**68.47**	**342**	*e*P	**P**	**13 45 28.4**	**-1.3**
KOLN	**Koldanda**	**68.52**	**303**	*e*P	**P**	**13 45 30.8**	**+0.8**
	comp=Z,11

LKD	Levkas	2.75 285	*e*Pn	Pn	13 47 33.6 +1.8
LKD			*e*Sn	Sn	13 48 06.2 +0.9
SRS	Serrai	3.08 354	*e*Pn	Pn	13 47 37.9 +1.5
KNT	Kendrikon	3.23 344	*e*Pn	Pn	13 47 40.1 +1.7
ALN	Alexandroupoli	3.23 28	*e*Pn	Pn	13 47 38.9 +0.4
IGT	Igoumenitsa	3.26 298	*e*Pn	Pn	13 47 41.1 +2.3
FNA	Florina	3.42 324	*e*Pn	Pn	13 47 41.5 +0.5
FNA			*e*Sn	Sn	13 48 21.6 -0.4
FNA	Florina	3.42 324	*e*Pn	Pn	13 47 41.5 +0.4
FNA			*e*Sn	Sn	13 48 21.6 -0.4
MMB	Musomiste	3.54 356	*e*Pn	Pn	13 47 44.0 +1.3
MMB			*e*Sn	Sn	13 48 23.6 -1.3

IDC ***15*** *13:50:44.1±10.0, 2030S×178.11W, h558km±94km, mb3.1/4, mb1 3.3/5, mb1mx3.0/14, mbtmp4.1/5, Error ellipse: s-maj=113.3km s-min=80.2km az=136.0*

NEIC 15 13:50:45.0±3.9, 2011S×17819W, h569km±34km, mb3.9/2, 1D, Error ellipse: s-maj=45.4km s-min=28.2km az=219.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.47	260	P	P	13 53 48.9	+0.2
	0.4nm,0.3s,baz=8.5,slow=20,SNR=6.6						
CTAO	Charters Tower	33.35	264	*e*P	P	13 56 37.8	+1.0
	3.3nm,0.6s						
STKA	Stephens Creek	37.80	244	P	P	13 57 13.0	-0.5
	2.1nm,0.8s,baz=117,slow=9.2,SNR=8.0						
STKA	Stephens Creek	37.80	244	*e*P	P	13 57 13.4	-0.1
AS31	Alice Springs	44.43	256	*e*P	P	13 58 06.2	+0.3
ASAR	Alice Springs	44.43	256	P	P	13 58 06.3	+0.3
	2.4nm,0.5s,baz=93,slow=7.6,SNR=119						
ASPA	Alice Springs	44.43	256	⇓*i*P	P	13 58 06.2	+0.2
WB2	Warramunga Arr	44.46	262	*e*P	P	13 58 06.0	-0.2
WB2	Warramunga Arr	44.46	262	*e*P	P	13 58 06.3	+0.1
WRA	Warramunga Arr	44.48	262	P	P	13 58 06.6	+0.3
	0.8nm,0.3s,baz=98,slow=7.5,SNR=54						
FITZ	Fitzroy Crossi	52.90	262	P	P	13 59 09.3	+0.7
	1.3nm,0.9s,baz=75,slow=6.8,SNR=7.5						
QSPA	South Pole Qui	69.96	180	*e*P	P	14 00 59.7	0.0
	0.9nm,0.3s						
AKASG	Malin Array Be	142.59	331	PKP	PKPdf	14 09 13.4	-0.3
	0.7nm,0.4s,baz=41,slow=3.9,SNR=6.4						

IDC 15 13:54:21.3±10.0, 1976S×6921W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.6/15, mbtmp4.1/2, Error ellipse: s-maj=868.3km s-min=71.8km az=0.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	20.60	82	P	P	13 59 02.3	+0.3
	4.4nm,0.4s,baz=256,slow=9.1,SNR=9.6						
TORD	Torodi Ar. Bea	77.05	71	P	P	14 06 17.0	+0.8
	1.0nm,0.4s,baz=250,slow=5.6,SNR=19						
MKAR	Makanchi Array	144.38	34	PKP	PKPdf	14 13 58.9	-0.6
	1.5nm,0.8s,baz=326,slow=2.6,SNR=7.0						

CSEM ***15*** *14:10:41.2, 6785N×2021E, h0km, ML2.9, Mining explosion. After UPP*

UPP ***15*** *14:10:41.2, 6785N×2021E, h0km, ML2.9, Mining explosion.*

HEL 15 14:10:42.1±0.2, 6782N×2019E, h0km, ML2.0, ML2.9(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	23	*i*P	Pg	14 10 43.6	-1.3
NIKU	Nikkaluokta	0.44	276	*i*P	Pg	14 10 49.9	-0.7
NIKU	Nikkaluokta	0.44	276	P	Pg	14 10 49.8	-0.7
LANU	Lannavaara	0.72	71	*i*P	Pg	14 10 54.7	-1.2
DUNU	Dundret	0.72	168	*i*P	Pg	14 10 55.0	-1.0
MASU	Masugnsbyn	0.79	117	*i*P	Pg	14 10 56.2	-0.9
KIF	Kilpisjarvi	1.21	11	*e*P	Pg	14 11 05.8	+0.5
KIF				*e*S	Sg	14 11 21.2	+0.3
PAJU	Pajala	1.39	124	*e*P	Pg	14 11 06.3	-2.4
ERTU	Ertsjaerv	1.50	148	*e*P	Pn	14 11 09.8	-0.4
HARU	Harads	1.70	169	*e*P	Pn	14 11 12.4	-0.6
SGF	Sodankyl	2.46	96	*e*P	Pn	14 11 24.5	+1.1
SGF				*e*SG	Sg	14 11 57.2	-3.8
SGF				MSG		14 12 02.6	
	comp=Z,7.0nm,0.3s						
KEV	Kevo	3.15	49	*e*P	Pn	14 11 34.2	+1.3
KEV				*e*S	Sn	14 12 10.5	-0.7
KEV				MSG		14 12 19.1	
	comp=Z,2.7nm,0.3s						
OUL	Oulu	3.58	138	*e*SG	Sg	14 12 31.6	-5.5
KU4	Liikasenvaara	3.95	107	*e*SG	Sg	14 12 46.9	-2.2

IDC 15 14:21:01.8±5.9, 996S×12049E, h0km, mb4.1/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=145.2km s-min=69.0km az=51.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.51	149	Pn	Pn	14 23 21.7	+1.7
	0.1nm,0.3s,baz=297,slow=6.8,SNR=7.0						
FITZ				Sn	Sn	14 25 08.0	+0.4
	0.3nm,0.3s,baz=199,slow=20,SNR=10.0						
WRA	Warramunga Arr	16.64	128	Pn	Pn	14 24 57.2	+0.7
	0.1nm,0.3s,baz=298,slow=13,SNR=5.2						
WRA				Sn	Sn	14 28 01.7	-0.2
	0.0nm,0.3s,baz=320,slow=25,SNR=3.4						
ASAR	Alice Springs	18.70	138	P	Pn	14 25 22.5	+0.5
	0.0nm,0.3s,baz=324,slow=14,SNR=4.9						
STKA	Stephens Creek	29.28	141	P	P	14 27 05.2	-0.6
	1.1nm,0.8s,baz=319,slow=15,SNR=3.1						

IDC ***15*** *15:06:53.2±1.8, 223N×9681E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=52.8km s-min=20.8km az=54.0*

NEIC ***15*** *15:06:57.8±0.7, 225N×9688E, h30km, mb3.8/2, Error ellipse: s-maj=14.4km s-min=8.6km az=51.0*

ISCJB ***15*** *15:07:00.4±4.8, 24N±02×97.1E±03, h64km±37km, mb4.1/8, Error ellipse: s-maj=61.4km s-min=13.2km az=106.1*

ISC 15 15:07:02.4±5.0, 24N±02×971E±03, h62km±39km, n18, σ0§27/18, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.82	79	Pn	Pn	15 07 31.3	-0.1
	7.8nm,0.3s,baz=282,slow=5.8,SNR=31						
PSI				LR	LR	15 08 34.4	
	comp=Z,499nm,20.3s,baz=265,slow=47						
KULM	Kulim	4.51	51	*e*P	Pn	15 08 08.2	+0.1
CHTO	Chiang Mai	16.37	6	*e*P	Pn	15 10 48.1	0.0
	1.4nm,0.8s						
GUN	Gumba	27.52	338	*e*P	P	15 12 43.3	+0.2
	8.4nm,0.5s,mb4.7						
DMN	Daman	27.55	336	*e*P	P	15 12 44.0	+0.6
KKN	Kakani	27.64	337	*e*P	P	15 12 43.9	-0.3
GKN	Gorkha	28.09	336	*e*P	P	15 12 47.8	-0.4
KOLN	Koldanda	28.32	334	*e*P	P	15 12 50.4	+0.2
	7.7nm,0.8s,mb4.4						
WRA	Warramunga Arr	42.75	123	P	P	15 14 53.5	-0.1
	1.4nm,0.6s,mb3.9,baz=303,slow=8.8,SNR=13						
WB2	Warramunga Arr	42.76	123	*e*P	P	15 14 53.8	+0.1
WB2	Warramunga Arr	42.76	123	*e*P	P	15 14 53.5	-0.2
ASAR	Alice Springs	44.20	128	P	P	15 15 05.5	+0.2
	0.3nm,0.7s,mb3.1,baz=300,slow=7.4,SNR=7.3						
SONM	Songino Array	45.92	9	P	P	15 15 19.1	+0.1
	0.6nm,0.4s,mb3.9,baz=193,slow=8.8,SNR=6.6						
MK31	Makanchi Array	46.03	346	*e*P	P	15 15 19.8	0.0
MKAR	Makanchi Array	46.03	346	P	P	15 15 19.8	0.0
	2.2nm,0.8s,mb4.2,baz=156,slow=8.4,SNR=14						
ZAL	Zalesovo	52.32	351	P	P	15 16 07.7	-0.1
	1.3nm,0.3s,mb4.3,baz=286,slow=4.0,SNR=4.2						
ZAL	Zalesovo	52.32	351	P	P	15 16 07.7	-0.1
CHKZ	Chkalovo	55.54	341	*e*P	P	15 16 30.8	-0.5
	3.4nm,0.8s,mb4.4						

NEIC ***15*** *15:28:56.4, 3143S×7168W, h9km, ML2.6(GUC), After GUC.*

GUC 15 15:28:56.4±0.8, 3143S×7168W, h9km±4km, MD3.5, ML2.6, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.48 161	⇑*i*P		Pg	15 29 06.5	+0.7
CHNG			*i* S		Sg	15 29 13.6	+1.5
CHNG				AML	AML	15 29 16.3	
	comp=N,146nm,0.3s						
CMCH	Combarbala	0.63 67	⇑*i*P		Pg	15 29 09.2	+0.5
CMCH			*i* S		Sg	15 29 18.9	+2.0
CMCH				AML	AML	15 29 20.2	
	comp=N,1μm,0.3s						
CMCH	Combarbala	0.63 67	⇑*i*P		Pg	15 29 09.2	+0.5
CMCH			*i* S		Sg	15 29 18.9	+2.0
PTCH	Petorca	1.05 143	⇑*i*P		Pg	15 29 15.5	-1.1
PTCH			*i* S		Sg	15 29 29.6	-0.8
PTCH				AML	AML	15 29 36.4	
	comp=E,474nm,0.2s						
PTCH	Petorca	1.05 143	⇑*i*P		Pg	15 29 15.5	-1.1
PTCH			*i* S		Sg	15 29 29.6	-0.8
TLL	Tololo Astrono	1.46 31	⇑*i*P		Pn	15 29 22.8	-0.2
TLL			*i* S		Sn	15 29 42.6	+0.2
TLL				AML	AML	15 29 45.8	
	comp=N,162nm,0.6s						
TLL	Tololo Astrono	1.46 31	⇑*i*P		Pn	15 29 22.8	-0.2
TLL			*i* S		Sn	15 29 42.6	+0.2
JACH	Jahuel	1.56 144	⇓*i*P		Pn	15 29 24.2	-0.1
JACH			*i* S		Sn	15 29 45.5	+0.8
PEL	Peldehue	1.91 154		AML	AML	15 29 58.6	
	comp=E,198nm,0.3s						
TACH	Talagante	2.31 164	*i* S		Sn	15 30 05.3	+2.1

IGQ 15 15:34:11.6, 011S×7850W, h8km±3km, Mb4.2, Ms4.0, 5C-13D, Error ellipse: s-maj=1.3km s-min=0.7km az=56.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	Yana	0.07 263	⇓P		Pg	15 34 13.8	+0.3
GGP	Refugio Guagua	0.11 236	⇓P		Pg	15 34 14.6	+0.4
PINO	Pino	0.12 246	⇓P		Pg	15 34 14.8	+0.6
TERV	Terraza Guagua	0.12 239	⇓P		Pg	15 34 14.8	+0.5
JUA2	San Juan 2	0.15 226	⇓P		Pg	15 34 14.7	0.0
COTA	Cotacachi	0.47 20	⇓P		Pg	15 34 21.2	+0.5
COTA				S	Sg	15 34 28.6	+1.7
ANTI	Antisana	0.48 135	⇑P		Pg	15 34 21.2	+0.4
CAYR	Refugio Cayamb	0.51 76	⇓P		Pg	15 34 22.3	+0.9
NAS1	Nasa	0.52 178	⇓P		Pg	15 34 22.7	+1.0
VC1	Cotopaxi 1	0.54 170	⇑P		Pg	15 34 23.0	+1.0
CAYA	Cayambe	0.54 71	⇑P		Pg	15 34 22.7	+0.7
CAYA				S	Sg	15 34 31.3	+2.2
CAMI	Rancho Maria	0.56 180	⇓P		Pg	15 34 23.4	+1.0
TAMB	Tambo	0.59 167	⇑P		Pg	15 34 23.9	+0.8
CONE	Cono NE Rev Vo	0.86 87	⇑P		Pg	15 34 28.1	0.0
LAV3	Lava3-Reventad	0.87 89	⇓P		Pg	15 34 28.5	+0.2
LAV3				S	Sg	15 34 41.0	+1.5
PISA	Pisayambo	0.95 173		P	Pg	15 34 30.2	+0.4
PISA				S	Sg	15 34 42.4	+0.2
MAG1	Magdalena	1.27 272	⇓P		Pn	15 34 36.4	+0.7
MAG1				S	Sb	15 34 54.4	+2.0
RUN5	Runtun	1.30 177		P	Pn	15 34 37.5	+1.4
RUN5				S	Sb	15 34 54.5	+1.4
JUIV	Juive	1.30 178		P	Pn	15 34 36.2	0.0
JUIV				S	Sb	15 34 55.1	+1.9
ULBA	Ulba	1.33 176	⇓P		Pn	15 34 36.4	-0.1
ULBA				S	Sb	15 34 54.6	+0.5
IGUA	Igualata	1.38 186		P	Pn	15 34 37.5	+0.3
PATA	Patacocha	1.39 177		P	Pn	15 34 39.1	+1.9
ARRY	Arrayan	1.39 178	⇓P		Pn	15 34 37.2	-0.1
ARRY				S	Sb	15 34 56.1	+0.4

BJI ***15*** *15:39:16.5, 2220S×17020E, h33km, mB5.2, mb4.7, Ms5.3, Msz5.1*

LDG ***15*** *15:39:16.3±0.5, 2103S×17008E, h10km, Mb4.8/2, Ms4.3/10, Error ellipse: s-maj=56.7km s-min=5.8km az=153.0*

SZGRF ***15*** *15:39:17.5, 2216S×17085E, h33km, Southeast of Loyalty Islands*

IDC ***15*** *15:39:17.4±3.7, 2216S×17027E, h29km±23km, mb4.2/11, mb1 4.4/13, mb1mx4.3/16, mbtmp4.4/13, ML4.5/2, MS4.1/17, Ms1 4.1/17, ms1mx4.0/26, Error ellipse: s-maj=21.9km s-min=17.8km az=52.0*

ISCJB ***15*** *15:39:18.3±1.9, 2226S±007×170.15E±009, h51km±15km, mb4.7/28, MS4.1/15, Error ellipse: s-maj=15.4km s-min=9.2km az=105.7*

MOS ***15*** *15:39:18.0±1.9, 2234S×16998E, h33km, mb5.0/10, Error ellipse: s-maj=16.3km s-min=11.5km az=38.9*

GCMT ***15*** *15:39:19.5±0.3, 2238S×17026E, h22km±1km, MW5.1/77, Moment Tensor Solution. s37,c45; s77,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.94±.21; $M_{\theta\theta}$-3.06±.15; $M_{\phi\phi}$3.99±.17; $M_{r\theta}$0.81±.25; $M_{\theta\phi}$2.95±.11; $M_{r\phi}$1.54±.25; Best double couple: $M_0$4.83700×10^{16} NP1:ϕ_s334.00000°, δ76.00000°, λ173.00000°. NP2: ϕ_s66.00000°, δ83.00000°, λ14.00000°. Principal axes: T 5.5220, Plg15.0000°, Azm290.0000°; N -1.3770, Plg74.0000°, Azm92.0000°; P -4.1510, Plg5.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *15:39:19.5±1.5, 2222S×170.16E, h44km±12km, mb4.9/14 Error ellipse: s-maj=11.2km s-min=6.9km az=57.0*

BGS ***15*** *15:39:20.6, 2222S×170.16E, h44km, mb4.9(NEIC)*

ISC 15 15:39:19.1±1.8, 2223S±007×17023E±009, h45km±14km, h34km±6.6km: pP-P, n168, σ1§11/59, mb4.7/28, MS4.1/15, 10C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.51 272	*e*P		Pn	15 40 09.6	-1.5
DZM			*e*S		Sn	15 40 50.1	-1.4
DZM	Mont Dzumac	3.51 272	Pn		Pn	15 40 09.8	-1.4
	114nm,0.3s,baz=117,slow=12,SNR=3927						
DZM			Sn		Sn	15 40 51.9	+0.5
	74nm,0.3s,baz=139,slow=20,SNR=8.5						
DZM			LR		LR	15 41 26.4	
	comp=Z,4μm,20.0s,baz=90,slow=36						
RAO	Raoul Island	12.76 126	LR		LR	15 46 17.8	
	comp=Z,684nm,18.4s,baz=149,slow=33						
HNR	Honiara	16.10 321	Pn		Pn	15 43 05.1	+2.8
	6.5nm,0.3s,baz=264,slow=12,SNR=4.1						
HNR			LR		LR	15 48 26.7	
	comp=Z,1μm,20.9s,baz=177,slow=34						
HNR	Honiara	16.10 321	Pn		Pn	15 43 02.2	-0.1
HNR			LR		LR	15 48 26.7	
URZ	Urewera	17.04 161	P		Pn	15 43 15.8	+1.7
	0.6nm,0.3s,baz=317,slow=11,SNR=4.0						
URZ			LR		LR	15 48 13.8	
	comp=Z,1μm,18.6s,baz=18,slow=31						
SNZO	South Karori	19.40 170	P		Pn	15 43 42.2	-0.6
SNZO			*e*			15 43 53.4	
RPZ	Rata Peaks	21.44 178	P		P	15 44 04.4	+1.0
	7.4nm,0.6s,mb4.2,baz=55,slow=22,SNR=5.5						
RPZ			LR		LR	15 50 46.6	
	comp=Z,521nm,19.6s,MS3.9,baz=171,slow=32						
CNB	Canberra Magne	22.40 230	*e*P		P	15 44 15.6	+1.9
	41nm,1.2s,mb4.7						
CTA	Charters Tower	22.46 271	*e*P		P	15 44 15.2	+0.9
	14nm,0.8s,mb4.5						
CTA	Charters Tower	22.46 271	P		P	15 44 15.9	+1.6
	15nm,0.7s,mb4.5,baz=98,slow=12,SNR=32						
CTA			LR		LR	15 52 28.6	
	comp=Z,496nm,18.2s,MS4.0,baz=93,slow=35						
CTA	Charters Tower	22.46 271	*e*P		P	15 44 15.2	+0.9
CTA			pmax		pmax		
	comp=Z,14nm,0.8s						
CTAO	Charters Tower	22.46 271	*e*P		P	15 44 15.0	+0.7
CTAO			pmax		pmax		
	comp=Z,16nm,0.8s,mb4.5						
CTAO	Charters Tower	22.46 271	*e*P		P	15 44 15.0	+0.7
	comp=Z,16nm,0.8s,mb4.5						
PMG	Port Moresby	25.55 296	P		P	15 44 45.1	+1.5
	comp=Z,14nm,0.6s,mb4.6,baz=83,slow=8.0,SNR=7.4						
PMG			LR		LR	15 53 28.1	
	comp=Z,550nm,19.1s,MS4.1,baz=16,slow=33						
PMG	Port Moresby	25.55 296	⇑*e*P		P	15 44 43.9	+0.3
PMG	Port Moresby	25.55 296	*e*P		P	15 44 45.0	+1.4
PMG			LR		LR	15 53 28.1	
STKA	Stephens Creek	27.18 243	*e*P		P	15 44 59.0	+0.6
	comp=Z,8.3nm,1.8s,mb4.0						
STKA	Stephens Creek	27.18 243	P		P	15 44 59.5	+1.1
	comp=Z,4.5nm,0.7s,mb4.1,baz=92,slow=10.0,SNR=17						
STKA			LR		LR	15 56 17.1	
	comp=Z,436nm,19.0s,MS4.0,baz=70,slow=37						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AS31	Alice Springs	33.42	260	*e*P	P	15 45 53.1	-0.4
ASAR	Alice Springs	33.43	260	P	P	15 45 53.6	+0.1
	comp=Z,2.9nm,0.6s,mb4.4,baz=86,slow=9.5,SNR=89						
ASAR				PcP	PcP	15 48 34.8	+0.7
	comp=Z,1.3nm,0.8s,baz=100,slow=3.2,SNR=3.5						
ASAR				LR	LR	15 58 24.7	
	comp=Z,352nm,19.4s,MS4.1,baz=104,slow=34						
ASAR	Alice Springs	33.43	260	P	P	15 45 53.7	+0.2
ASAR						15 48 34.8	
ASPA	Alice Springs	33.43	260	*e*P	P	15 45 53.1	-0.5
WB2	Warramunga Arr	33.51	267	*e*P	P	15 45 53.4	-0.8
WRAB	Tennant Creek	33.51	267	⇑*e*P	P	15 45 51.8	-2.5
WRA	Warramunga Arr	33.52	267	P	P	15 45 53.6	-0.7
	comp=Z,3.6nm,0.5s,mb4.6,baz=100,slow=8.3,SNR=91						
WRA				LR	LR	16 00 11.4	
	comp=Z,605nm,18.4s,MS4.3,baz=95,slow=37						
TBI	Tubuai	37.10	100	*e*LR	LR	15 56 06.6	
	comp=Z,463nm,28.8s						
KAKA	Kakadu	37.18	278	*e*P	P	15 46 25.6	-0.2
	comp=Z,15nm,0.6s,mb5.0						
PPT	Papeete	38.00	90	*e*LR	LR	15 56 34.1	
	comp=Z,344nm,23.5s						
PPT	Papeete	38.00	90	LR	LR	15 57 55.5	
	comp=Z,278nm,20.8s,MS4.0,baz=311,slow=30						
FITZ	Fitzroy Crossi	41.95	267	*e*P	P	15 47 06.3	+0.8
	comp=Z,34nm,0.9s,mb5.0						
MBWA	Marble Bar	46.76	261	*e*P	P	15 47 43.5	-0.4
	comp=Z,12nm,0.6s,mb5.0						
KLBR	Kellerberrin	47.34	247	*e*P	P	15 47 48.2	-0.2
	comp=Z,53nm,1.5s,mb5.2						
KLBR				*e*	pP	15 47 58.5	-2.4
RKT	Rikitea	50.31	102	*e*LR	LR	16 02 13.4	
	comp=Z,326nm,38.8s						
VNDA	Vanda	55.49	182	P	P	15 48 48.7	-0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=358,slow=6.6,SNR=10						
VNDA				LR	LR	16 09 31.8	
	comp=Z,53nm,21.9s,MS3.6,baz=18,slow=33						
VNDA	Vanda	55.49	182	*e*P	P	15 48 48.6	-0.8
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	Vanda	55.49	182	*e*P	P	15 48 48.6	-0.8
	comp=Z,1.7nm,0.9s,mb4.1						
VNDA				LR	LR	16 09 31.8	
SBA	Scott Base	55.70	181	*e*P	P	15 48 51.0	+0.1
SBA				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
SBA	Scott Base	55.70	181	*e*P	P	15 48 51.0	+0.1
	comp=Z,16nm,1.4s,mb4.9						
KSM	Kuching	62.96	284	*e*P	P	15 49 41.9	+0.8
MJAR	Matsushiro Arr	65.81	332	P	P	15 49 59.0	-0.8
	comp=Z,2.5nm,0.6s,mb4.4,baz=164,slow=6.2,SNR=11						
MJAR				LR	LR	16 14 53.8	
	comp=Z,219nm,20.5s,MS4.3,baz=200,slow=32						
QSPA	South Pole Qui	67.84	180	*e*P	P	15 50 11.9	-0.8
	comp=Z,11nm,0.9s,mb4.9						
ASAJ	Asahikawa	70.71	339	LR	LR	16 20 13.4	
	comp=Z,197nm,19.4s,MS4.4,baz=163,slow=35						
RPN	Rapa Nui	72.08	113	LR	LR	16 14 28.0	
	comp=Z,85nm,20.8s,MS4.0,baz=269,slow=29						
NJ2	Nanjing	72.99	316	*e*P	P	15 50 43.8	-0.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
MAW	Mawson	76.03	202	P	P	15 51 02.0	+0.3
	comp=Z,3.0nm,0.8s,mb4.3,baz=121,slow=7.3,SNR=5.5						
CN2	Changchun	77.48	329	*e*P	P	15 51 10.0	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA	Guiyang	78.28	305	*e*P	P	15 51 15.6	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CM31	Chiang Mai Arr	80.57	294	P	P	15 51 28.8	+2.0
CHTO	Chiang Mai	80.73	295	*e*P	P	15 51 30.0	+2.4
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
CHTO	Chiang Mai	80.73	295	*e*P	P	15 51 30.0	+2.4
	comp=Z,9.4nm,1.0s,mb4.7						
LZH	Lanzhou	85.41	312	*e*P	P	15 51 56.1	+4.3
LZH				AP	pP	15 52 04.5	-0.6
LZH				XP	sP	15 52 08.3	-1.9
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,89nm,4.1s						
LZH				LR	LR		
	comp=E,183nm,10.6s						
LZH				LR	LR		
	comp=Z,275nm,13.8s,MS4.8						
LZH	Lanzhou	85.41	312	*e*P	P	15 51 56.1	+4.3
	comp=Z,17nm,1.0s,mb5.1						
LZH				pP	pP	15 52 04.5	-0.6
LZH				sP	sP	15 52 08.3	-1.9
LZH				LR	LR		
	comp=Z,280nm,13.8s,MS4.8						
SNAA	Sanae	86.23	182	*e*P	P	15 51 54.1	-1.7
SNAA				*e*		15 51 57.5	
SNAA				*e*	pP	15 52 06.1	-3.1
SNAA				*e*	pP	15 52 09.2	0.0
SNAA				*e*		15 52 16.3	
SNAA				*e*		17 27 02.0	
SNAA				*e*		17 27 08.5	
SNAA				*e*		17 28 39.8	
SNAA				*e*		17 33 15.9	
SNAA				*e*		17 33 21.3	
SNAA	Sanae	86.23	182	*e*P	P	15 51 54.1	-1.7
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SNAA	Sanae	86.23	182	*e*P	P	15 51 54.1	-1.8
	comp=Z,9.6nm,1.0s,mb5.0						
VNA1	Neumayer--Stat	87.37	181	*e*P	P	15 51 59.6	-1.8
VNA1				*e*		15 52 03.0	
VNA1				*e*	pP	15 52 10.2	-4.6
VNA1				*e*	pP	15 52 14.9	+0.1
VNA1				*e*		15 52 24.6	
VNA1				*e*		17 26 57.4	
VNA1				*e*		17 27 02.2	
VNA1				*e*		17 28 38.2	
VNA1				*e*		17 30 17.7	
VNA1				*e*		17 33 18.3	
VNA1				*e*		17 33 20.2	
GTA	Gaotai	89.84	313	*e*P	P	15 52 14.4	+1.3
GTA				AP	pP	15 52 22.3	-4.2
GTA				XP	sP	15 52 26.1	-5.4
GTA				AMB	AMB		
	comp=Z

DPC	Dobruska-Polom	145.28 330	*e*PKP	PKPdf	15 58 52.1	+0.3
VYHS	Vyhne	145.28 326	*e*PKP	PKPdf	15 58 52.2	+0.3
UPC	Upice	145.31 331	*e*PKP	PKPdf	15 58 52.0	+0.1
UPC			*ex*	x	15 58 54.6	
BZS	Buzias	145.39 320 ⇓	*i*P	PKPbc	15 58 54.8	+2.8
EAB	Aberfoyle	145.85 355	*e*P	PKPdf	15 58 52.1	-0.7
VTS	Vitosha	145.85 314 ⇑	*i*P	PKPdf	15 58 54.9	+2.1
VRAC	Vranov	145.87 329 ⇓	*i*P	PKPdf	15 58 54.5	+1.6
PVCC	Panska Ves	145.93 332	*e*PKP	PKPdf	15 58 54.8	+1.8
PVCC			*ex*	x	15 58 56.7	
ESY	Stoneypath	145.94 353	*e*P	PKPdf	15 58 52.8	-0.2
BRG	Berggiesshubel	145.94 333	*e*PKPbc	PKPbc	15 58 53.7	0.0
BRG	Berggiesshubel	145.94 333	*e*PKP	PKPdf	15 58 53.9	+0.9
CLL	Collm	146.00 334	*e*PKPbc	PKPbc	15 58 53.5	-0.4
CLL	Collm	146.00 334	*e*P	PKPdf	15 58 54.0	+0.9
CLL	Collm	146.00 334	*i* PKPbc	PKPbc	15 58 53.5	-0.4
	comp=Z,32nm,1.1s					
CLL			*i* pPKPbc	pPKPbc	15 59 05.3	-2.4
EAU	Auchinoon	146.10 354	*e*P	PKPdf	15 58 53.1	-0.2
EBL	Broad Law	146.13 353	*e*P	PKPdf	15 58 52.9	-0.4
NRDL	Niedersach Rie	146.14 338	*e*PKPbc	PKPbc	15 58 54.1	-0.2
PGBU	Glenifferbraes	146.23 355	*e*P	PKPdf	15 58 52.7	-0.8
XSO	Sourhope Farm	146.31 352	*e*P	PKPdf	15 58 54.3	+0.7
PRU	Pruhonice	146.34 331	*e*PKP	PKPdf	15 58 55.1	+1.4
PRU			*ex*	x	15 58 57.4	
ZST	Bratislava	146.36 327	*e*PKP	PKPbc	15 58 56.9	+1.9
ZST			*e*		15 59 07.8	
TREC	Trest	146.40 330	*e*PKP	PKPdf	15 58 53.5	-0.3
TREC			*ex*	x	15 58 56.0	
CLZ	Clausthal	146.58 337	*e*PKPbc	PKPbc	15 58 55.6	0.0
ESK	Eskdalemuir	146.59 353	*e*P	PKPdf	15 58 54.1	+0.1
ECK	Cauldkaine Hil	146.72 353	*e*P	PKPdf	15 58 54.5	+0.2
PKSM	Moragy	146.78 323 ⇑	*i*P	PKPbc	15 58 58.8	+2.6
TANN	Tannenbergstha	146.91 334	*e*PKPbc	PKPbc	15 58 56.6	0.0
MOX	Moxa	147.07 335	*e*P	PKPbc	15 58 59.8	+2.8
	comp=Z,16nm,1.5s					
IBBN	Ibbenburen	147.07 340	*e*PKPbc	PKPbc	15 58 56.6	-0.4
GAL1	Galloway	147.19 355	*e*P	PKPdf	15 58 55.8	+0.7
LWH	Whinny Nab	147.21 350	*e*P	PKPdf	15 58 57.2	+2.0
MANZ	Manzenberg	147.38 333	*e*PKPbc	PKPbc	15 58 58.1	+0.2
KHC	Kasperske Hory	147.39 331	*e*PKP	PKPbc	15 58 58.5	+0.6
KHC			*ex*	x	15 59 00.8	
XDE	Dent Fell	147.42 353	*e*P	PKPdf	15 58 56.0	+0.5
ROTZ	Rotzenmuhle	147.51 333	*e*PKPbc	PKPbc	15 58 58.6	+0.4
GEC2	GERESS Array S	147.54 331	*e*PKPbc	PKPbc	15 58 58.5	+0.2
GERES	GERESS Array B	147.54 331	PKPbc	PKPbc	15 58 58.8	+0.4
	comp=Z,8.7nm,1.0s,baz=47,slow=2.7,SNR=27					
WET	Wettzell	147.69 332	*e*PKPbc	PKPbc	15 58 58.9	+0.2
BUG	Bochum--Univer	147.97 340	*e*PKPbc	PKPbc	15 59 00.2	+0.7
GRA1	Grafenberg Arr	147.97 334	*e*PKPbc	PKPbc	15 59 00.1	+0.6
GRF	Grafenberg Arr	147.97 334	*e*PKPbc	PKPbc	15 59 00.1	+0.6
LHO	Holmfirth	148.16 351	*e*P	PKPdf	15 58 59.0	+2.3
PERS	Pernice	148.40 326	*i* PKPbc	PKPbc	15 59 02.6	+1.9
TNS	Taunus Mts	148.61 337	*e*PKPbc	PKPbc	15 59 01.0	-0.2
WCB1	Church Bay	148.65 354	*e*P	PKPdf	15 59 00.2	+2.8
KWE	Weaver Farm	148.67 351	*e*P	PKPdf	15 58 58.8	+1.3
SBD1	Bryn Du	148.97 352	*e*P	PKPbc	15 59 01.1	-0.9
KBA	Koelnbreinsper	148.98 329 ⇑	*i*P	PKPbc	15 59 02.6	+0.5
	comp=Z,13nm,1.4s					
MEM	Membach	149.09 340	PKPbc	PKPbc	15 59 04.5	+2.1
MEM			APKPbc		15 59 14.3	
LJU	Ljubljana	149.10 326	*e*PKPbc	PKPbc	15 59 04.6	+2.2
HLM1	Long Mynd	149.30 352	*e*P	PKPdf	15 58 59.6	+1.0
VOY	Vojsko	149.44 327	*e*PKPbc	PKPbc	15 59 03.6	+0.4
BCLA	Clavier	149.48 341	PKPbc	PKPbc	15 59 05.5	+2.2
STU	Stuttgart	149.51 335	*e*PKPbc	PKPbc	15 59 03.3	-0.1
WATA	Walderalm	149.62 331 ⇑	*i*P	PKPbc	15 59 03.4	-0.3
	comp=Z,13nm,1.3s					
WTTA	Wattenberg	149.65 331 ⇑	*i*P	PKPbc	15 59 03.5	-0.3
	comp=Z,21nm,1.1s					
HTR	Trewern Hill	149.78 352	*e*P	PKPbc	15 59 03.1	-1.0
MCH1	Michaelchurch	149.82 352	*e*P	PKPbc	15 59 03.0	-1.2
MOTA	Moosalm	149.83 331	*i* P	PKPbc	15 59 04.3	+0.1
	comp=Z,14nm,1.1s,SNR=7.4					
WLF	Walferdange	149.87 339	*e*PKPbc	PKPbc	15 59 04.6	+0.3
WLF	Walferdange	149.87 339	PKPbc	PKPbc	15 59 07.1	+2.8
WLF	Walferdange	149.87 339	*e*PKPbc	PKPbc	15 59 06.3	+2.0
LANF	Langenberg	149.87 337	PKP	PKPbc	15 59 06.8	+2.5
SQTA	Sankt Quirin	149.87 331 ⇓	*i*P	PKPbc	15 59 04.5	+0.2
	comp=Z,16nm,1.2s,SNR=6.5					
GIVF	Givet	149.90 341	*e*PKP1	PKPbc	15 59 04.3	-0.1
	comp=Z,53nm,1.0s					
DOU	Dourbes	149.98 341	PKPbc	PKPbc	15 59 04.5	-0.1
DOU			PKPab	PKPab	15 59 10.0	-0.4
DOU			APKP		15 59 13.3	
BAIF	Baives	150.12 342	*e*PKP1	PKPbc	15 59 05.0	+0.1
	comp=Z,41nm,1.1s					
WLS	Welschbruch	150.51 337	PKP	PKPbc	15 59 08.5	+2.7
CDF	Champ du Feu	150.54 337	*e*PKP1	PKPbc	15 59 05.3	-0.6
	comp=Z,43nm,1.2s					
ECH	Echery	150.75 337	PKP	PKPbc	15 59 08.3	+1.9
DAVOX	Davos/Dischmat	150.80 332	PKPbc	PKPbc	15 59 06.6	0.0
MOF	Molkenrain	151.06 336	PKP	PKPbc	15 59 09.2	+2.1
THEF	They Montfort	151.16 338	PKP	PKPbc	15 59 10.5	+3.1
HINF	Hinteralfeld	151.19 336	*e*PKP1	PKPbc	15 59 06.8	-0.6
	comp=Z,30nm,1.2s					
HAU	Haudompre	151.22 337	*e*PKP1	PKPbc	15 59 07.0	-0.5
	comp=Z,32nm,1.0s					
HAU			*e*MLR	MLR		
	comp=Z,79nm,20.0s					
MEZF	Maizieres J'vi	151.24 339	*e*PKP1	PKPbc	15 59 07.4	-0.1
	comp=Z,68nm,1.1s					
CABF	La Chapelle	152.49 336	*e*PKP1	PKPbc	15 59 09.9	-0.5
FLN	La Foliniere	152.51 347	*e*PKP1	PKPbc	15 59 08.7	-1.7
FLN			*e*MLR	MLR		
	comp=Z,60nm,21.5s					
LDF	La Druitiere	152.59 346	*e*PKP1	PKPbc	15 59 09.4	-1.2
	comp=Z,8.7nm,0.7s					
LOR	Lormes	152.71 340	*e*PKP1	PKPbc	15 59 10.3	-0.6
LOR			*e*MLR	MLR		
	comp=Z,86nm,17.5s					
GRR	Gorron	152.94 347	*e*PKP1	PKPbc	15 59 10.2	-1.2
SSF	Saint Saulge	153.00 340	*e*PKP1	PKPbc	15 59 11.1	-0.4
LPL	La Plagne	153.14 334	*e*PKP1	PKPbc	15 59 11.9	+0.1
LPG	La Plagne	153.14 334	*e*PKP1	PKPbc	15 59 12.0	+0.2
	comp=Z,11nm,0.9s					
MBDF	Montbardon	153.76 333	*e*PKP1	PKPbc	15 59 13.8	+0.6
ORIF	Oris-en-Rattie	153.97 334	*e*PKP1	PKPbc	15 59 13.5	-0.1
	comp=Z,8.4nm,0.7s					
ORIF			*e*MLR	MLR		
	comp=Z,101nm,18.2s					
TCF	Toulx Ste Croi	154.10 341	*e*PKP1	PKPbc	15 59 14.0	+0.1
TORD	Torodi Ar. Bea	165.83 232	PKP	PKPdf	15 59 20.1	+1.1
	comp=Z,1.2nm,1.0s,baz=348,slow=0.9,SNR=4.2					
TORD			PKPab	PKPab	16 00 20.7	+2.0
	comp=Z,0.5nm,0.9s,baz=126,slow=3.3,SNR=2.5					

IGQ 15 15:44:25.4, 012S×7849W, h8km±3km, Mb4.0, Ms3.8, 6C-8D, Error ellipse: s-maj=1.1km s-min=0.9km az=76.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	Yana	0.08	271	⇓P	Pg	15 44 27.5	0.0
GGP	Refugio Guagua	0.12	243	⇓P	Pg	15 44 28.2	+0.2
PINO	Pino	0.12	252	⇓P	Pg	15 44 28.4	+0.3
TERV	Terraza Guagua	0.13	245	⇓P	Pg	15 44 28.4	+0.3
JUA2	San Juan 2	0.15	231	⇓P	Pg	15 44 28.4	-0.1
ANTI	Antisana	0.46	135	⇓P	Pg	15 44 34.8	+0.4
COTA	Cotacachi	0.48	19	⇑P	Pg	15 44 34.9	+0.3
CAYR	Refugio Cayamb	0.50	74	⇓P	Pg	15 44 35.9	+0.8
NAS1	Nasa	0.51	179	P	Pg	15 44 36.2	+1.0
NAS1				S	Sg	15 44 46.0	+4.1
VC1	Cotopaxi 1	0.53	170	P	Pg	15 44 36.5	+0.9
CAYA	Cayambe	0.54	69	⇑P	Pg	15 44 36.3	+0.6
CAYA				S	Sg	15 44 47.1	+4.3
CAMI	Rancho Maria	0.55	182	⇓P	Pg	15 44 37.1	+1.0
TAMB	Tambo	0.58	168	⇑P	Pg	15 44 37.5	+0.9
TAMB				S	Sg	15 44 45.8	+1.5
CONE	Cono NE Rev Vo	0.85	87	⇑P	Pg	15 44 42.3	+0.6
CONE				S	Sg	15 44 55.1	+2.3
LAV3	Lava3-Reventad	0.86	88	P	Pg	15 44 42.1	+0.3
PISA	Pisayambo	0.94	174	⇑P	Pg	15 44 44.0	+0.6
PISA				S	Sg	15 44 57.3	+1.7
MAG1	Magdalena	1.28	272	⇑P	Pn	15 44 50.0	+0.4
MAG1				S	Sb	15 45 08.0	+1.6

NIED ***15*** *16:07:00, 2930N×132.10E, h5km, Mw4.1 Best double couple: M0 1.74000×10^15 NP1:φs=28.00000°, δ55.00000°, λ-83.00000°. NP2:φs=196.00000°, δ35.00000°, λ-100.00000°.*

IDC ***15*** *16:07:11.5±0.9, 2923N×132.10E, h0km, mb4.0/10, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML3.6/2, Error ellipse: s-maj=28.1km s-min=19.3km az=79.0*

NEIC ***15*** *16:07:13.4±0.4, 2923N×132.00E, h10km, mb4.2/3, Error ellipse: s-maj=11.9km s-min=7.7km az=104.0*

ISCJB ***15*** *16:07:14.0±1.8, 2924N±004×132.12E±005, h30km±13km, mb4.1/13, Error ellipse: s-maj=6.9km s-min=5.6km az=61.4*

JMA ***15*** *16:07:15.4±0.3, 2925N×132.09E, h60km, M4.5*

ISC 15 16:07:15.8±1.9, 2925N±004×13205E±005, h27km±14km, n30, σ0°74/39, mb4.1/13, 1C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	1.68	327	P	Pn	16 07 43.4	0.0
JTN				S	Sn	16 08 04.2	+0.2
JNN	Nakanoshima	1.98	288	P	Pn	16 07 48.2	+0.6
JNN				S	Sn	16 08 12.1	+0.6
JKC	Kuchinoerabu	2.01	307	P	Pn	16 07 48.6	+0.7
JKC				eS	Sn	16 08 13.0	+0.8
JZK	Kikaishima	2.05	243	eS	Sn	16 08 13.8	+0.7
JTSR	Tashiro 2	2.14	333	P	Pn	16 07 49.7	-0.1
JTSR				S	Sn	16 08 14.7	-0.8
JAM	Amami Oshima	2.30	249	P	Pn	16 07 51.5	-0.4
JAM				S	Sn	16 08 18.6	-0.8
JNAR	Kushima--Naru	2.36	344	P	Pn	16 07 52.9	+0.1
JNAR				S	Sn	16 08 19.8	-1.1
JTZ	Takazaki	2.77	343	P	Pn	16 07 58.5	+0.2
JTZ				S	Sn	16 08 29.8	-1.1
JTK	Tokunoshima	3.09	243	P	Pn	16 08 02.8	0.0
JTK				S	Sn	16 08 38.8	-0.1
JSJ	Shimokoshiki	3.15	321	P	Pn	16 08 03.4	-0.2
JOW	Kunigami	4.12	235	Pn	Pn	16 08 14.3	-2.5
	7.7nm,0.3s,baz=101,slow=20,SNR=11						
JOW				Sn	Sn	16 09 00.5	-3.7
	23nm,0.3s,baz=181,slow=30,SNR=8.6						
MAJO	Matsushiro	8.92	34	eP	Pn	16 09 23.3	+0.4
MAT	Matsushiro	8.92	34	P	Pn	16 09 23.2	+0.3
MJAR	Matsushiro Arr	8.92	34	Pn	Pn	16 09 23.1	+0.2
	0.8nm,0.3s,baz=230,slow=14,SNR=9.5						
BJI	Beijing	16.90	314	P	Pn	16 11 18.4	+8.1
	10.0nm,0.7s						
SONM	Songino Array	27.13	320	P	P	16 12 56.1	-0.4
	1.2nm,0.8s,mb3.5,baz=143,slow=8.6,SNR=7.1						
YAK	Yakutsk	32.82	358	P	P	16 13 46.7	-0.2
	3.9nm,0.3s,mb4.8						
ZAL	Zalesovo	42.03	320	P	P	16 15 06.0	+1.0
	0.7nm,0.4s,mb3.6,baz=234,slow=18,SNR=4.1						
MKAR	Makanchi Array	42.17	309	P	P	16 15 07.5	+1.4
	2.7nm,0.7s,mb4.0,baz=90,slow=10,SNR=19						
WRA	Warramunga Arr	48.96	177	P	P	16 15 59.8	0.0
	1.2nm,0.7s,mb4.0,baz=355,slow=8.5,SNR=12						
WB2	Warramunga Arr	48.96	177	eP	P	16 15 59.7	-0.1
ZRNK	Zerenda	51.19	316	eP	P	16 16 17.4	+0.8
	2.1nm,0.8s,mb4.1						
KDAK	Kodiak Island	58.08	38	P	P	16 17 05.5	-1.1
	3.2nm,0.6s,mb4.5,baz=320,slow=23,SNR=4.2						
STKA	Stephens Creek	61.47	171	P	P	16 17 30.1	+0.2
	1.8nm,0.9s,mb4.2,baz=326,slow=11,SNR=3.0						
FINES	FINESS Array B	71.89	331	P	P	16 18 35.8	-0.7
	1.5nm,0.5s,mb4.2,baz=68,slow=6.3,SNR=26						
AKASG	Malin Array Be	75.41	320	P	P	16 18 56.7	-0.4
	0.8nm,0.5s,mb4.0,baz=56,slow=5.9,SNR=6.2						
AKASG	Malin Array Be	75.41	320	P	P	16 18 56.7	-0.4
BRTR	Keskin Array B	77.83	309	P	P	16 19 11.9	+1.1
	1.5nm,0.8s,mb4.0,baz=111,slow=6.8,SNR=8.3						
CLL	Collm	83.56	326 ⇑	*i*P	P	16 19 41.9	+0.4
	comp=Z,10.0nm,1.2s,mb4.8						
GERES	GERESS Array B	84.79	324	P	P	16 19 47.4	-0.3
	comp=Z,0.3nm,0.5s,mb3.7,baz=90,slow=3.2,SNR=3.6						

ISCJB ***15*** *16:09:08.0±1.5, 181S±02×178.7W±02, h600km, mb3.7/8, Error ellipse: s-maj=31.1km s-min=24.3km az=38.9*

NEIC ***15*** *16:09:09.2±1.0, 181S×17862W, h600km, mb4.0/3, Error ellipse: s-maj=24.9km s-min=21.8km az=150.0*

IDC ***15*** *16:09:12.2±18.0, 1795S×178.98W, h613km±192km, mb3.1/7, mb1 3.2/7, mb1mx3.0/16, mbtmp4.1/7, Error ellipse: s-maj=142.7km s-min=43.5km az=100.0*

ISC 15 16:09:09.0±1.5, 182S±02×1786W±02, h600km, n18, σ0°58/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.26	261	eP	P	16 14 58.5	+0.2
	4.1nm,1.3s,mb3.9						
CTA	Charters Tower	33.26	261	P	P	16 14 58.3	0.0
	1.8nm,0.5s,mb4.0,baz=106,slow=11,SNR=5.1						
CTAO	Charters Tower	33.26	261	eP	P	16 14 58.2	-0.1
	1.5nm,0.3s,mb4.1						
STKA	Stephens Creek	38.38	241	P	P	16 15 40.7	+0.3
	1.8nm,0.8s,mb3.7,baz=75,slow=6.5,SNR=4.0						
STKA	Stephens Creek	38.38	241	eP	P	16 15 41.2	+0.8
WB2	Warramunga Arr	44.43	260	eP	P	16 16 27.8	-0.2
WRA	Warramunga Arr	44.44	260	P	P	16 16 27.9	-0.2
	1.0nm,0.6s,mb3.5,baz=91,slow=7.0,SNR=46						
AS31	Alice Springs	44.58	254	eP	P	16 16 28.5	-0.6
AS31	Alice Springs	44.58	254	eP	P	16 16 28.4	-0.7
ASAR	Alice Springs	44.58	254	P	P	16 16 28.6	-0.5
	4.3nm,0.6s,mb4.2,baz=89,slow=8.3,SNR=131						
ASPA	Alice Springs	44.59	254	eP	P	16 16 28.4	-0.7
KAKA	Kakadu	47.43	269	eP	P	16 16 51.2	+0.6
	5.6nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	52.84	261	P	P	16 17 31.3	+1.3
	1.0nm,0.8s,mb3.2,baz=131,slow=9.3,SNR=3.1						
MJAR	Matsushiro Arr	68.02	324	P	P	16 19 09.1	-0.5
	0.3nm,0.4s,mb3.1,baz=141,slow=3.0,SNR=4.3						
ASAJ	Asahikawa	71.42	332	P	P	16 19 30.2	+0.3
	4.5nm,0.9s,mb4.0,baz=239,slow=5.9,SNR=4.1						
QSPA	South Pole Qui	71.90	180	eP	P	16 19 32.6	0.0
CLL	Collm	145.67	347	*e*PKPbc	PKPbc	16 27 42.0	+0.3
GERES	GERESS Array B	147.81	345	PKPbc	PKPbc	16 27 47.9	+0.5
	0.7nm,0.5s,baz=31,slow=3.6,SNR=7.1						

IDC 15 16:10:25.5±3.5, 382S×1142W, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.5/22, mbtmp3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx3.0/23, Error ellipse: s-maj=164.3km s-min=65.1km az=116.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	12.31	32	LR	LR	16 17 04.2	
	comp=Z,174nm,20.2s,baz=282,slow=32						
TORD	Torodi Ar. Bea	21.30	37	P	P	16 15 14.0	+0.2
	2.8nm,0.8s,baz=225,slow=11,SNR=16						
TORD				LR	LR	16 23 15.1	
	comp=Z,43nm,18.7s,baz=195,slow=36						
GERES	GERESS Array B	56.83	20	P	P	16 20 11.9	+0.2
	0.9nm,0.7s,baz=198,slow=7.0,SNR=8.6						
ASAR	Alice Springs	136.55	131	PKP	PKPdf	16 29 50.1	+0.6
	0.7nm,1.0s,baz=200,slow=2.2,SNR=4.8						

IDC 15 16:12:59.5±4.2, 045S×9889E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=171.6km s-min=25.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.74	121	P	P	16 20 32.4	-1.4
	0.2nm,0.5s,baz=302,slow=9.1,SNR=4.0						
ASAR	Alice Springs	41.06	127	P	P	16 20 46.5	+1.8
	0.3nm,0.9s,baz=302,slow=7.6,SNR=4.3						
SONM	Songino Array	48.53	7	P	P	16 21 45.6	+1.4
	0.5nm,0.6s,baz=187,slow=10,SNR=4.1						
MKAR	Makanchi Array	49.25	345	P	P	16 21 49.0	-0.8
	0.7nm,0.5s,baz=161,slow=8.1,SNR=8.6						

WEL 15 16:18:50.0±0.7, 4485S×16692E, h33km, ML4.0/17, 1C-2D, Error ellipse: s-maj=7.6km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.65	165	⇓PN	Pn	16 19 01.8	-1.1
DCZ				SN	Sn	16 19 10.1	-1.9
MSZ	Milford Sound	0.74	77	⇑PN	Pn	16 19 03.5	-0.6
MSZ				SN	Sn	16 19 12.0	-2.2
MLZ	Mavora Lakes	1.02	120	PN	Pn	16 19 06.9	-1.0
MLZ				SN	Sn	16 19 20.5	-0.6
WHZ	Wether Hill Ro	1.27	146	⇓PN	Pn	16 19 11.1	-0.3
WHZ				SN	Sn	16 19 26.6	-0.7
WKZ	Wanaka	1.49	90	PN	Pn	16 19 15.2	+0.7
JCZ	Jackson Bay	1.53	60	PN	Pn	16 19 14.5	-0.4
JCZ				SN	Sn	16 19 31.8	-1.8
EAZ	Earnscleugh	1.74	104	PN	Pn	16 19 18.2	+0.4
APZ	The Paps	2.12	160	PN	Pn	16 19 23.3	+0.2
TUZ	Tuapeka	2.21	121	PN	Pn	16 19 24.0	-0.3
SYZ	Scrubby Hill	2.30	138	PN	Pn	16 19 25.3	-0.2
FOZ	Fox Glacier	2.37	58	PN	Pn	16 19 26.1	-0.4
LBZ	Lake Benmore	2.38	80	PN	Pn	16 19 26.2	-0.4
ODZ	Otahua Downs	2.65	96	PN	Pn	16 19 29.9	-0.5
HHSZ	Highcliff Hill	2.79	113	*e*PN	Pn	16 19 32.0	-0.3
RPZ	Rata Peaks	3.18	71	PN	Pn	16 19 36.2	-1.4
WVZ	Waitaha Valley	3.27	59	PN	Pn	16 19 37.1	-1.8
THZ	Tophouse	5.34	57	PN	Pn	16 20 06.8	-0.6
QRZ	Quartz Range	5.76	48	PN	Pn	16 20 11.9	-1.2
QRZ				SN	Sn	16 21 10.6	-7.3
NNZ	Nelson	5.96	55	*e*PN	Pn	16 20 14.6	-1.3
TUWZ	Tuamarina	6.17	59	*e*PN	Pn	16 20 19.0	+0.3
TCW	Tory Channel	6.50	59	*e*PN	Pn	16 20 22.9	-0.3
WCZ	Waipu Caves	10.54	35	*e*PN	Pn	16 21 18.1	-0.6

IDC 15 16:33:27.2±15.0, 668S×12946E, h100km±167km, mb3.2/1, mb1 3.4/4, mb1mx3.3/13, mbtmp3.6/4, ML3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/12, Error ellipse: s-maj=130.1km s-min=59.6km az=36.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.95	198	P	Pn	16 36 14.2	+0.1
	0.4nm,0.3s,baz=17,slow=12,SNR=22						
FITZ				S	Sn	16 38 18.5	-6.9
	0.2nm,0.3s,baz=68,slow=19,SNR=2.8						
WRA	Warramunga Arr	14.01	161	P	Pn	16 36 40.8	-0.4
	0.2nm,0.3s,baz=343,slow=13,SNR=14						
WRA				S	Sn	16 39 07.4	-7.9
	0.2nm,0.3s,baz=330,slow=22,SNR=6.2						
ASAR	Alice Springs	17.42	166	P	Pn	16 37 24.2	+0.3
	0.3nm,0.3s,baz=344,slow=10,SNR=53						
ASAR				S	S	16 40 30.8	-7.4
	0.0nm,0.3s,baz=350,slow=26,SNR=4.6						
MJAR	Matsushiro Arr	43.77	10	LR	LR	16 59 16.6	
	comp=Z,136nm,20.1s,baz=105,slow=35						
MKAR	Makanchi Array	67.66	327	P	P	16 44 13.7	+0.2
	0.3nm,0.6s,baz=126,slow=7.9,SNR=2.1						

IDC ***15*** *16:36:57.3±1.6, 8.10N×124.55E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=251.3km s-min=22.3km az=67.0*

MAN ***15*** *16:37:06.1, 1050N×126.53E, h26km, mb3.5, ML4.7, MS5.2*

ISCJB ***15*** *16:37:07.2±1.3, 1050N±007×1265E±0.1, h33km, mb4.0/3, Error ellipse: s-maj=19.7km s-min=8.4km az=36.5*

ISC 15 16:37:08.8±1.3, 1048N±007×1265E±01, h35km, n9, σ1°92/11, mb4.0/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.19	234	eP	Pn	16 37 26.9	-1.9
SCPH				*i* S	Sn	16 37 43.3	-0.4
MSLP	Maasin	1.62	258	eP	Pn	16 37 35.2	+0.5
BUTP	Butuan	1.72	209	eP	Pn	16 37 34.5	-1.6
BUKP	Musuan	2.93	208	eP	Pn	16 37 52.8	0.0
BUKP				eS	Sn	16 38 28.7	+1.8
GUIM	Jordan	3.82	273	eP	Pn	16 38 06.0	+1.0
PVCP	Virac	3.84	324	eP	Pn	16 38 04.7	-0.6
MKAR	Makanchi Array	51.98	323	P	P	16 46 14.8	+0.4
	0.3nm,0.7s,mb3.3,baz=116,slow=8.5,SNR=4.2						
ARCES	ARCESS Array B	84.07	340	P	P	16 49 36.6	+0.8
	2.9nm,0.9s,mb4.4,baz=53,slow=6.0,SNR=4.1						
FINES	FINESS Array B	85.80	332	P	P	16 49 44.4	-0.1
	1.1nm,0.8s,mb4.1,baz=64,slow=6.3,SNR=5.0						

ISCJB ***15*** *17:07:43.2±0.3, 1983N±002×156.11W±002, h3km±2km, mb6.2/220, MS6.6/213, Error ellipse: s-maj=4.1km s-min=2.5km az=135.1*

IDC ***15*** *17:07:44.6±0.3, 1996N×156.14W, h0km, mb5.6/26, mb1 5.7/26, mb1mx5.7/26, mbtmp5.6/26, MS6.5/35, Ms1 6.5/35, ms1mx6.4/37, Error ellipse: s-maj=13.8km s-min=8.9km az=114.0*

CRAAG ***15*** *17:07:46.7, 1987N×156.06W, Mw6.7*

*M

TAOE eLR LR 17 22 50.8
comp=Z,327µm,26.0s,baz=341
FARB Farallon Islan 33.79 51 ⇑P P 17 14 27.6 -0.8
baz=34,SNR=7.5
FARB ⇓S S 17 19 53.8 +1.2
baz=34
MCCM Marconi Confer 34.05 51 eP P 17 14 30.1 -0.6
comp=Z,360nm,1.1s,mb6.2
MCCM Marconi Confer 34.05 51 ⇓P P 17 14 30.1 -0.5
baz=34,SNR=14
MCCM ⇑S S 17 19 58.6 +1.9
baz=34
SAC San Andreas 34.17 52 eP P 17 14 31.7 -0.1
BNLO Ben Lomond (Sa 34.19 53 ⇑P P 17 14 31.5 -0.4
baz=34,SNR=14
BNLO ⇑S S 17 20 03.2 +4.3
baz=34
O01C Eel River Cons 34.22 47 ⇓P P 17 14 32.3 +0.2
baz=34
O01C ⇓S S 17 20 05.2 +6.0
baz=34
JRSC Jasper Ridge 34.24 52 P P 17 14 32.0 -0.4
baz=34,SNR=20
JRSC ⇓S S 17 20 04.5 +4.8
baz=34
HOPS Hopland 34.25 49 eP P 17 14 32.9 +0.4
comp=Z,852nm,1.4s,mb6.5
HOPS LR LR
comp=Z,207µm,22.0s,MS6.8
HOPS Hopland 34.25 49 ⇑P P 17 14 32.6 +0.2
baz=34,SNR=47
HOPS ⇓S S 17 20 05.5 +5.7
baz=34
P01C Double 8 Ranch 34.26 48 ⇑P P 17 14 32.6 0.0
baz=34,SNR=74
P01C ⇑S S 17 20 04.7 +4.8
baz=34
KIPM Iron Peak 34.31 47 eP P 17 14 33.4 +0.4
JCC Jacoby Creek 34.38 46 ⇑P P 17 14 34.1 +0.5
baz=34,SNR=42
JCC ⇓S S 17 20 05.2 +3.3
baz=34
HAST UC Hastings Re 34.41 54 ⇑P P 17 14 33.3 -0.5
baz=34,SNR=47
HAST ⇑S S 17 20 06.6 +4.4
baz=34
CVS Carmenet Viney 34.43 50 ⇑P P 17 14 33.4 -0.6
baz=34,SNR=62
CVS ⇑S S 17 20 08.3 +5.8
baz=34
V03C Hunter Liggett 34.53 55 ⇓P P 17 14 34.9 0.0
baz=34,SNR=41
V03C ⇑S S 17 20 09.6 +5.4
baz=34
KHMM Horse Mountain 34.61 46⇑ eP P 17 14 36.4 +0.9
SAO San Andreas Ge 34.61 54 eP P 17 14 35.4 -0.2
SAO pmax pmax
comp=Z,596nm,1.1s,mb6.4
SAO MLR MLR
comp=Z,165µm,20.0s,MS6.8
SAO San Andreas Ge 34.61 54 eP P 17 14 35.4 -0.2
comp=Z,596nm,1.1s,mb6.4
SAO LR LR
comp=Z,165µm,20.0s,MS6.8
MNRC McLaughlin Nat 34.65 50 ⇑P P 17 14 36.3 +0.4
baz=34,SNR=100
MNRC ⇑S S 17 20 11.2 +5.2
baz=34
WENL Wente Brothers 34.68 52 ⇑P P 17 14 36.1 -0.1
baz=34
WENL ⇑S S 17 20 10.4 +4.0
baz=34
V04C Ramage Ranch, 34.70 56 ⇓P P 17 14 36.0 -0.3
baz=34,SNR=24
V04C ⇑S S 17 20 11.0 +4.3
baz=34
BDM Black Diamond 34.72 51 ⇓P P 17 14 36.6 +0.1
baz=35,SNR=22
BDM ⇑S S 17 20 09.3 +2.3
baz=35
GASB Alder Springs 34.77 48 ⇑P P 17 14 37.7 +0.8
baz=35,SNR=108
GASB ⇑S S 17 20 12.8 +5.0
baz=35
KRMB Red Mountain 34.80 45⇑ eP P 17 14 37.9 +0.7
M01C Crescent City 34.81 44 ⇓P P 17 14 38.2 +0.9
baz=35,SNR=32
M01C ⇓S S 17 20 11.8 +3.3
baz=35
PACP Pacheco Peak 34.82 53 ⇓P P 17 14 37.5 +0.1
baz=35,SNR=131
PACP ⇓S S 17 20 11.1 +2.6
baz=35
LRV Little Rabbit 34.83 54 eP P 17 14 37.2 -0.2
UNV Unalaska Valle 34.83 349 PFAKE 17 14 50.0 +13
UNV LR LR
comp=Z,274µm,21.0s,MS7.0
N02C Big Bar 34.88 46 ⇑P P 17 14 38.5 +0.6
baz=35,SNR=196
N02C ⇓S S 17 20 13.7 +4.3
baz=35
KBO Bosley Butte 34.92 43 eP P 17 14 38.6 +0.3
O02C Red Bluff 34.95 47 ⇑P P 17 14 39.1 +0.7
baz=35,SNR=275
O02C ⇓S S 17 20 14.8 +4.3
baz=35
AKUT Akutan 34.99 350 eP P 17 14 39.9 +1.1
comp=Z,993nm,1.0s,mb6.7
PKD Parkfield 35.05 55 ⇓P P 17 14 39.1 -0.2
baz=35,SNR=81
PKD ⇑S S 17 20 14.0 +1.9
baz=35
K01A Sixes 35.07 42 ⇓P P 17 14 40.2 +0.7
baz=35
K01A ⇑S S 17 20 16.0 +3.5
baz=35
SNCC San Nicolas Is 35.15 60 eP P 17 14 38.3 -1.9
comp=Z,0.8nm,1.2s
SNCC LR LR
comp=Z,152µm,20.0s
SNCC San Nicolas Is 35.15 60 ⇑P P 17 14 39.9 -0.3
baz=35,SNR=7.7
SNCC ⇑S S 17 20 15.3 +1.6
baz=35
KEBM Edson Butte 35.19 42 eP P 17 14 41.1 +0.6
PTRM Twissleman Ran 35.22 56 eP P 17 14 41.2 +0.4
BSC Santa Cruz Isl 35.23 59 ⇓P P 17 14 40.6 -0.3
baz=35,SNR=18
BSC ⇑S S 17 20 15.5 +0.6
baz=35
T05C Eagle Field, D 35.24 54 ⇓P P 17 14 41.0 0.0
baz=35,SNR=5.8
T05C ⇑S S 17 20 16.7 +1.6
baz=35
SUTB Sutter Butte 35.26 49 ⇓P P 17 14 40.8 -0.3
baz=35,SNR=29
SUTB ⇓S S 17 20 19.8 +4.5
baz=35
SBC Santa Barbara 35.28 58 ⇓P P 17 14 41.0 -0.4
baz=35,SNR=15
SBC ⇓S S 17 20 16.9 +1.3
baz=35
SMMC Simmler 35.28 57 ⇑P P 17 14 41.5 +0.1
baz=35,SNR=29
SMMC ⇓S S 17 20 17.0 +1.3
baz=35
WDC Whiskeytown Da 35.29 47 eP P 17 14 41.5 +0.1
WDC pmax pmax
comp=Z,361nm,1.3s,mb6.1
WDC MLR MLR
comp=Z,184µm,22.0s,MS6.8
WDC Whiskeytown Da 35.29 47 eP P 17 14 41.5 +0.1
comp=Z,361nm,1.3s,mb6.1
WDC LR LR
comp=Z,184µm,22.0s,MS6.8
WDC Whiskeytown Da 35.29 47 P P 17 14 41.8 +0.4
baz=35,SNR=107
WDC ⇓S S 17 20 15.8 0.0
baz=35
L02A Cave Junction 35.30 44 ⇓P P 17 14 42.1 +0.6
baz=35,SNR=72
L02A ⇑S S 17 20 17.4 +1.4
baz=35
PKM Peak Mountain 35.31 57 ⇑P P 17 14 41.5 -0.2
baz=35,SNR=80
PKM ⇓S S 17 20 17.2 +1.1
baz=35
O03C Acorn Hollow, 35.40 48 ⇑P P 17 14 42.6 +0.3
baz=35,SNR=30
O03C ⇓S S 17 20 20.0 +2.6
baz=35
Q04C Lincoln 35.40 50 ⇓P P 17 14 42.3 -0.1
baz=35,SNR=20
Q04C ⇓S S 17 20 19.1 +1.6
baz=35
M02C Callahan 35.44 45 P P 17 14 43.8 +1.1
baz=35,SNR=133
M02C ⇓S S 17 20 19.0 +1.0
baz=35
U05C Westside ANR, 35.49 55 ⇑P P 17 14 43.8 +0.7
baz=35,SNR=12
U05C ⇑S S 17 20 19.2 +0.4
baz=35
R04C Big Horse Ranc 35.51 51 ⇑P P 17 14 42.4 -0.9
baz=35,SNR=15
R04C ⇓S S 17 20 19.0 -0.2
baz=35
OHCM Honcut 35.52 49 eP P 17 14 43.0 -0.4
V05C Boulder Hill, 35.52 56 ⇑P P 17 14 43.8 +0.4
baz=35,SNR=8.4
V05C ⇑S S 17 20 20.0 +0.7
baz=35
SDPT Sand Point 35.56 356 P P 17 14 44.5 +0.7
comp=Z,2µm,1.7s,mb6.8
ORV Oroville 35.59 49 P P 17 14 43.9 -0.1
baz=36,SNR=177
ORV ⇓S S 17 20 21.7 +1.3
baz=36
PMOR Pomariorio Ree 35.59 166 eP P 17 14 45.9 +1.9
comp=Z,128nm,1.1s,mb5.8
S05C Merced 35.65 53 ⇓P P 17 14 43.8 -0.7
baz=36
S05C ⇓S S 17 20 20.7 -0.7
baz=36
K02A Glendale 35.67 43 ⇓P P 17 14 45.2 +0.5
baz=36,SNR=60
K02A ⇑S S 17 20 23.0 +1.4
baz=36
YBH Yreka Blue Hor 35.69 45 T 17 50 48.5
comp=Z,23nm,0.5s,baz=216,slow=18,SNR=5.1
YBH Yreka Blue Hor 35.69 45⇑ eP P 17 14 45.9 +1.1
YBH pmax pmax
comp=Z,81nm,1.1s
YBH MLR MLR
comp=Z,124µm,22.0s
YBH Yreka Blue Hor 35.69 45⇑ eP P 17 14 45.9 +1.1
comp=Z,81nm,1.1s,mb5.6
YBH LR LR
comp=Z,124µm,22.0s,MS6.6
YBH Yreka Blue Hor 35.69 45 ⇑P P 17 14 45.9 +1.1
baz=36,SNR=357
YBH ⇑S S 17 20 21.7 -0.2
baz=36
LAVA Lava Cap Winer 35.84 51 P P 17 14 46.2 +0.1
baz=36,SNR=183
LAVA ⇓S S 17 20 24.7 +0.5
baz=36
CMB Columbia Colle 35.84 52 eP P 17 14 45.7 -0.4
CMB pmax pmax
comp=Z,141nm,1.1s,mb5.8
CMB MLR MLR
comp=Z,160µm,20.0s,MS6.8
CMB Columbia Colle 35.84 52 eP P 17 14 45.7 -0.5
comp=Z,141nm,1.1s,mb5.8
CMB LR LR
comp=Z,160µm,20.0s,MS6.8
CMB Columbia Colle 35.84 52 P P 17 14 46.1 -0.1
baz=36,SNR=192
CMB ⇑S S 17 20 23.3 -1.0
baz=36
VAH Vaihoa 35.88 166 eP P 17 14 48.1 +1.6
comp=Z,186nm,1.1s,mb5.9
SCI San Clemente I 35.89 61 ⇓P P 17 14 46.2 -0.4
baz=36,SNR=19
SCI ⇑S S 17 20 25.0 -0.1
baz=36
J02A Umpqua 35.92 42 ⇑P P 17 14 47.5 +0.7
baz=36,SNR=23
J02A ⇑S S 17 20 25.1 -0.3
baz=36
HUMO Hull Mountain 35.94 43 eP P 17 14 47.7 +0.7
comp=Z,760nm,1.8s,mb6.3
HUMO LR LR
comp=Z,148µm,22.0s,MS6.7
HUMO Hull Mountain 35.94 43 ⇓P P 17 14 47.6 +0.6
baz=36,SNR=92
HUMO ⇑S S 17 20 25.8 0.0
baz=36
LHEM Herd Peak 35.97 45 P P 17 14 49.0 +1.7
T06C Millerton Lake 36.01 54 P P 17 14 47.3 -0.3
baz=36,SNR=166
T06C ⇓S S 17 20 25.7 -1.2
baz=36
I02A Mapleton 36.09 41 ⇑P P 17 14 49.0 +0.8
baz=36,SNR=22
I02A ⇓S S 17 20 26.6 -1.4
baz=36
CIS Catalina Islan 36.10 60 ⇓P P 17 14 47.5 -0.8
baz=36,SNR=30
CIS ⇑S S 17 20 26.2 -2.0
baz=36
OSI Osito Adit 36.12 58 ⇑P P 17 14 48.0 -0.5
baz=36,SNR=21
OSI ⇓S S 17 20 26.9 -1.5
baz=36
HATC Hat Creek Radi 36.13 47 ⇓P P 17 14 48.9 +0.2
baz=36,SNR=76
HATC ⇓S S 17 20 30.7 +2.0
baz=36
VES Vestal, Richgr 36.15 56 P P 17 14 48.3 -0.6
baz=36,SNR=149
VES ⇓S S 17 20 28.2 -0.8
baz=36
ARVC Arvin 36.16 57 ⇑P P 17 14 48.3 -0.5
baz=36,SNR=46
ARVC ⇓S S 17 20 31.2 +2.0
baz=36
RCTC Rector, Farmer 36.16 55 ⇑P P 17 14 48.1 -0.8
baz=36,SNR=9.2
RCTC ⇓S S 17 20 28.3 -0.8
baz=36
O05C Quincy 36.16 49 ⇓P P 17 14 49.4 +0.4
baz=36,SNR=40
O05C ⇓S S 17 20 30.0 +0.8
baz=36
S06C San Francisco 36.19 52 ⇓P P 17 14 49.1 0.0
baz=36
S06C ⇓S S 17 20 30.7 +1.1
baz=36
O04C Chester 36.19 48 P P 17 14 49.6 +0.5
baz=36,SNR=109
O04C ⇑S S 17 20 31.6 +2.1
baz=36
FMP Fort Macarthur 36.26 60 ⇑P P 17 14 49.3 -0.4
baz=36
FMP ⇑S S 17 20 28.6 -2.1
baz=36
M04C Macdoel 36.29 45 P P 17 14 51.0 +1.0
baz=36,SNR=101
M04C ⇓S S 17 20 32.6 +1.4
baz=36
R05C Kirkwood Meado 36.30 51 P P 17 14 50.2 +0.2
baz=36,SNR=148
R05C ⇓S S 17 20 31.1 -0.2
baz=36
J03A Ideyld Park 36.30 42 ⇑P P 17 14 51.1 +1.0
baz=36,SNR=55
J03A ⇓S S 17 20 33.7 +2.4
baz=36
H02A Toledo 36.34 40 ⇑P P 17 14 51.7 +1.3
baz=36
H02A ⇓S S 17 20 32.2 +0.3
baz=36
DECC Green Verdugo 36.34 59 ⇓P P 17 14 49.6 -0.8
baz=36,SNR=14
DECC ⇑S S 17 20 30.8 -1.2
baz=36
KCC Kaiser Creek 36.41 54 ⇓P P 17 14 51.0 0.0
baz=36,SNR=129
KCC ⇓S S 17 20 33.4 +0.5
baz=36
CHGN Chignik 36.41 358 eP P 17 14 53.4 +2.4
I03A Eugene 36.41 41 ⇓P P 17 14 51.8 +0.8
baz=36,SNR=21
I03A ⇓S S 17 20 32.7 -0.2
baz=36
HELL Mitchell Peak, 36.44 55 ⇑P P 17 14 50.8 -0.4
baz=36
HELL ⇓S S 17 20 32.6 -0.7
baz=36
BEKR Beckwourth 36.52 49 P P 17 14 52.1 +0.1
baz=36,SNR=82
BEKR ⇑S S 17 20 33.0 -1.7
baz=36
ELFS Eagle Lake Fie 36.56 48 ⇓P P 17 14 53.0 +0.7
baz=36
ELFS ⇑S S 17 20 34.8 -0.4
baz=36
M05C Lookout 36.58 46 ⇓P P 17 14 53.0 +0.5
baz=36
M05C ⇓S S 17 20 36.8 +1.2
baz=36
ISA Isabella 36.58 57 eP P 17 14 52.1 -0.4
comp=Z,1.8nm,1.4s
ISA LR LR
comp=Z,37µm,20.0s
ISA Isabella 36.58 57 P P 17 14 52.4 -0.1
baz=36,SNR=350
ISA ⇑S S 17 20 34.8 -0.8
baz=36
R06C Coleville 36.70 52 P P 17 14 54.0 +0.5
baz=37,SNR=288
R06C ⇑S S 17 20 38.2 +0.8
baz=37
COR Corvallis 36.71 40 PFAKE 17 15 00.0 +6.4
COR LR LR
comp=Z,128µm,22.0s,MS6.7
K04A Chilquin 36.74 44 ⇓P P 17 14 54.8 +0.9
baz=37,SNR=13
K04A ⇓S S 17 20 37.9 -0.1
baz=37
WCN Washoe City 36.75 50 P P 17 14 54.3 +0.4
baz=37,SNR=158
WCN ⇓S S 17 20 39.7 +1.6
baz=37
H03A Soap Creek Ran 36.77 40 ⇑P P 17 14 55.1 +1.0
baz=37,SNR=16
H03A ⇑S S 17 20 37.7 -0.7
baz=37
EDW2 Edwards Air Fo 36.77 58 ⇑P P 17 14 53.7 -0.4
baz=37,SNR=183
EDW2 ⇓S S 17 20 38.9 +0.5
baz=37
P06A Stead Airport, 36.78 50 ⇓P P 17 14 54.8 +0.6
baz=37,SNR=25
P06A ⇓S S 17 20 37.1 -1.5
baz=37
R07C Lee Vining 36.85 52 P P 17 14 55.0 +0.2
baz=37,SNR=127
R07C ⇑S S 17 20 38.6 -1.1
baz=37
MLAC Mammoth Lakes 36.87 53 ⇑P P 17 14 55.7 +0.8
baz=37,SNR=67
MLAC ⇑S S 17 20 39.7 -0.2
baz=37
BFSC Mount Baldy St 36.88 59 P P 17 14 54.2 -0.9
baz=37,SNR=54
BFSC ⇑S S 17 20 38.8 -1.5
baz=37
AMKA Amchitka 36.89 334 eP P 17 14 55.7 +0.6
AFI Afiamalu 36.94 206 P P 17 14 55.5 0.0
comp=Z,49nm,0.7s,mb5.4,baz=52,slow=18,SNR=3.6
AFI PP PP 17 16 21.5 +1.9
comp=Z,75nm,0.5s,baz=358,slow=12,SNR=9.4
AFI S S 17 20 46.0 +4.9
comp=Z,42nm,0.6s,baz=53,slow=22,SNR=7.9
AFI LR LR 17 27 08.2
comp=Z,54µm,19.5s,MS6.3,baz=351,slow=31
AFI Afiamalu 36.94 206 P P 17 14 55.5 -0.1
AFI 17 16 21.5
AFI S S 17 20 46.0 +4.9
AFI pmax pmax
comp=Z,49nm,0.7s,mb5.5
AFI pmax pmax
comp=Z,75nm,0.5s,mb5.8
AFI smax
comp=N,42nm,0.6s
AFI MLR MLR
comp=Z,54µm,19.5s,MS6.3
M06C Likely Place G 36.97 47 P P 17 14 56.5 +0.7
baz=37,SNR=119
M06C ⇓S S 17 20 38.8 -2.7
baz=37
MTUM Tungsten Hills 36.99 54 eP P 17 14 56.1 +0.1
O06A Flanigan 37.02 49 ⇓P P 17 14 56.4 +0.2
baz=37,SNR=102
O06A ⇓S S 17 20 38.2 -4.0
baz=37
109C Camp Elliot, M 37.06 61 ⇓P P 17 14 56.2 -0.4
baz=37,SNR=94
109C ⇑S S 17 20 40.2 -2.7
baz=37
L05A Lakeview 37.08 46 P P 17 14 57.9 +1.2
baz=37,SNR=107
L05A ⇓S S 17 20 42.7 -0.6
baz=37
CWC Cottonwood Cre 37.10 55 ⇓P P 17 14 56.9 0.0
baz=37,SNR=12
CWC ⇑S S 17 20 42.5 -0.9
baz=37
G03A Yamhill 37.11 39 ⇓P P 17 14 58.0 +1.0
baz=37,SNR=19
G03A ⇓S S 17 20 40.2 -3.4
baz=37
MURC Murrieta 37.12 60 P P 17 14 56.8 -0.3
baz=37,SNR=96
MURC ⇑S S 17 20 43.7 -0.2
baz=37
LRMC Laurel Mountai 37.15 57 ⇓P P 17 14 57.1 -0.2
baz=37,SNR=100
LRMC ⇓S S 17 20 44.5 +0.2
baz=37
TIN Tinemaha 37.16 54 ⇑P P 17 14 57.5 +0.2
baz=37,SNR=9.6
TIN ⇑S S 17 20 40.7 -3.7
baz=37
PAHR Pah Rah Range 37.16 50⇑ eP P 17 14 57.7 +0.3
comp=Z,243nm,0.5s,mb6.3
N06A Buffalo Meadow 37.23 48 ⇑P P 17 14 58.1 0.0
baz=37,SNR=140
N06A ⇓S S 17 20 40.5 -5.0
baz=37
FUNA Funafuti 37.25 223 PFAKE 17 15 10.0 +12
FUNA LR LR
comp=Z,89µm,20.0s,MS6.6
F03A Seaside 37.28 38 ⇑P P 17 14 59.7 +1.3
baz=37,SNR=17
F03A ⇑S S 17 20 44.0 -2.2
baz=37
Q07A Schurz 37.31 51 ⇓P P 17 14 59.1 +0.4
baz=37
Q07A ⇓S S 17 20 44.0 -2.7
baz=37
S08C White Mtn Res 37.33 54 P P 17 14 59.6 +0.7
baz=37,SNR=215
S08C ⇓S S 17 20 43.6 -3.4
baz=37
K05A Summer Lake 37.34 44 P P 17 15 00.1 +1.2
baz=37,SNR=124
K05A ⇓S S 17 20 46.3 -0.8
baz=37
J05A Fort Rock 37.37 43 ⇑P P 17 15 00.2 +1.0
baz=37,SNR=106
J05A ⇓S S 17 20 45.6 -2.0
baz=37
MOD Modoc 37.38 46 eP P 17 14 59.9 +0.6
comp=Z,472nm,1.1s,mb6.2
MOD LR LR
comp=Z,73µm,20.0s,MS6.5
MOD Modoc 37.38 46 P P 17 15 00.1 +0.8
baz=37,SNR=188
MOD ⇓S S 17 20 46.1 -1.6
baz=37
DAC Darwin (Calif) 37.43 56 eP P 17 14 59.4 -0.3
DAC pmax pmax
comp=Z,30nm,1.6s
DAC Darwin (Calif) 37.43 56 eP P 17 14 59.4 -0.3
comp=Z,30nm,1.6s
H04A Detroit Lake 37.45 41 ⇓P P 17 15 00.5 +0.7
baz=37,SNR=35
H04A ⇑S S 17 20 43.0 -5.8
baz=37
MPMC Manual Prospec 37.45 56 P P 17 15 00.1 +0.2
baz=37,SNR=163

MPMC ⇑S S 17 20 45.1 -3.8
baz=37
P07A Fallon 37.46 50 ⇓P P 17 15 00.5 +0.6
baz=37,SNR=18
P07A ⇑S S 17 20 44.8 -4.2
baz=37
BBRC Big Bear Sol-O 37.49 59 ⇓P P 17 15 00.3 +0.1
baz=37,SNR=13
BBRC ⇓S S 17 20 44.8 -4.6
baz=37
NVAR Mina Array Bea 37.52 52 P P 17 15 00.5 0.0
comp=Z,138nm,1.2s,mb5.6,baz=248,slow=9.3,SNR=174
NVAR PcP PcP 17 17 20.9 +2.3
comp=Z,19nm,0.8s,baz=238,slow=5.4,SNR=3.7
NVAR P3KPbc 17 45 25.5
comp=Z,1.0nm,0.8s,baz=71,slow=4.0,SNR=7.3
NVAR Mina Array Bea 37.52 52 P P 17 15 00.5 0.0
NVAR PcP PcP 17 17 20.9 +2.3
NVAR *e* 17 45 25.5
G04A Mulino 37.53 40 ⇑P P 17 15 01.0 +0.4
baz=37,SNR=27
G04A ⇓S S 17 20 48.6 -1.5
baz=37
RRX Edison Barstow 37.56 58 ⇓P P 17 15 00.5 -0.3
baz=37,SNR=10
RRX ⇓S S 17 20 45.9 -4.5
baz=37
E03A Lebam 37.62 37 ⇓P P 17 15 02.1 +0.8
baz=38,SNR=16
E03A ⇑S S 17 20 50.3 -1.1
baz=38
MONP Monument Peak 37.63 62 P P 17 15 01.5 +0.1
baz=38,SNR=125
MONP ⇑S S 17 20 48.4 -3.2
baz=38
R08A Mina 37.64 52 ⇓P P 17 15 01.5 +0.1
baz=38,SNR=56
R08A ⇑S S 17 20 50.1 -1.6
baz=38
O07A Toulon 37.69 49 P P 17 15 02.5 +0.6
baz=38,SNR=203
O07A ⇑S S 17 20 49.6 -2.8
baz=38
PFO Pinyon Flat Ob 37.73 61 P P 17 15 02.4 +0.1
comp=Z,2μm,1.2s,mb6.6,SNR=47
PFO Pinyon Flat Ob 37.73 61 *e*P P 17 15 01.9 -0.4
PFO pmax pmax
comp=Z,536nm,1.3s,mb6.1
PFO MLR MLR
comp=Z,6μm,19.0s
PFO Pinyon Flat Ob 37.73 61 *e*P P 17 15 01.9 -0.4
comp=Z,536nm,1.3s,mb6.1
PFO LR LR
comp=Z,6μm,19.0s
PFO Pinyon Flat Ob 37.73 61 ⇓P P 17 15 01.9 -0.4
baz=38,SNR=110
PFO ⇓S S 17 20 51.2 -1.9
baz=38
PPT Papeete 37.76 170 *e*P P 17 15 04.4 +1.9
comp=Z,277nm,1.4s,mb5.8
PPT Papeete 37.76 170 *e*S S 17 20 55.1 +1.5
comp=Z,53μm,26.2s
PPT *e*LQ 17 23 09.7
comp=Z,135μm,26.0s
PPT *e*LR LR 17 25 18.0
comp=Z,138μm,26.0s,baz=350
PPT Papeete 37.76 170 P P 17 15 04.0 +1.5
comp=Z,135nm,1.0s,mb5.7,baz=60,slow=6.3,SNR=5.9
PPT LR LR 17 26 56.7
comp=Z,40μm,19.9s,MS6.2,baz=351,slow=30
PPT T 17 54 39.1
comp=Z,111nm,0.3s,baz=11,slow=23,SNR=4.3
PPT Papeete 37.76 170 P P 17 15 04.0 +1.5
PPT LR LR 17 26 56.7
GRAC Grapevine Rang 37.80 55 P P 17 15 03.3 +0.5
baz=38,SNR=265
GRAC ⇑S S 17 20 51.9 -2.2
baz=38
K06A Valley Falls 37.80 45 ⇓P P 17 15 03.6 +0.8
baz=38,SNR=148
K06A ⇓S S 17 20 54.5 +0.4
baz=38
GSC Goldstone 37.81 58 *e*P P 17 15 02.7 -0.2
GSC Goldstone 37.81 58 P P 17 15 02.9 -0.1
baz=38,SNR=186
GSC ⇑S S 17 20 52.4 -1.9
baz=38
D03A Wishkah Elem. 37.82 37 ⇑P P 17 15 04.8 +1.8
baz=38,SNR=7.5
D03A ⇓S S 17 20 55.9 +1.4
baz=38
N07B Gerlach 37.85 48 ⇑P P 17 15 04.0 +0.7
baz=38
N07B ⇑S S 17 20 55.9 +1.0
baz=38
PAE Paea 37.85 170 *e*P P 17 15 04.9 +1.6
comp=Z,277nm,1.0s,mb6.0
PAE Paea 37.85 170 *e*P P 17 15 04.9 +1.6
PAE pmax pmax
comp=Z,277nm,1.0s,mb5.9
DVTC Desert V Tower 37.86 62 ⇑P P 17 15 03.3 -0.1
baz=38,SNR=50
DVTC ⇑S S 17 20 53.7 -1.3
baz=38
C03A Quillayute Air 37.87 35 ⇓P P 17 15 04.7 +1.3
baz=38
C03A ⇓S S 17 20 56.3 +1.1
baz=38
Q08A Gabbs 37.93 52 P P 17 15 04.1 +0.1
baz=38,SNR=352
Q08A ⇑S S 17 20 55.9 -0.2
baz=38
KDAK Kodiak Island 37.94 3 P P 17 15 05.6 +1.6
comp=Z,1μm,1.0s,mb6.5,SNR=12
KDAK Kodiak Island 37.94 3 P P 17 15 04.8 +0.8
comp=Z,111nm,0.9s,mb5.6,baz=200,slow=6.9,SNR=40
KDAK PP PP 17 16 38.7 +8.1
comp=Z,147nm,0.9s,baz=165,slow=10,SNR=5.8
KDAK S S 17 20 58.5 +2.2
comp=Z,5.5nm,0.9s,baz=288,slow=20,SNR=2.2
KDAK LR LR 17 27 35.9
comp=Z,100μm,20.4s,MS6.6,baz=199,slow=32
KDAK T 17 53 48.2
comp=Z,31nm,0.4s,baz=178,slow=12,SNR=4.1
KDAK Kodiak Island 37.94 3 *e*P P 17 15 05.0 +1.0
comp=Z,350nm,0.9s,mb6.1
KDAK LR LR
comp=Z,24μm,20.0s,MS6.0
M07A Soldier Meadow 37.95 47 ⇑P P 17 15 04.6 +0.6
baz=38,SNR=147
M07A ⇑S S 17 20 56.7 +0.3
baz=38
F04A Amboy 37.95 39 ⇓P P 17 15 04.7 +0.6
baz=38,SNR=17
F04A ⇑S S 17 20 55.4 -1.0
baz=38
H05A Madras 38.02 42 ⇓P P 17 15 05.7 +1.0
baz=38,SNR=90
H05A ⇓S S 17 20 57.0 -0.5
baz=38
TVO Taravao 38.03 169 *e*P P 17 15 06.7 +1.9
comp=Z,444nm,1.2s,mb6.1
TVO Taravao 38.03 169 *e*P P 17 15 06.7 +1.9
TVO pmax pmax
comp=Z,444nm,1.2s,mb6.1
FURC Furnace Creek, 38.05 56 ⇓P P 17 15 05.1 +0.1
baz=38,SNR=112
FURC ⇑S S 17 20 56.4 -1.6
baz=38
J06A Christmas Vall 38.06 44 P P 17 15 05.7 +0.7
baz=38,SNR=219
J06A ⇓S S 17 20 56.7 -1.4
baz=38
L07A Adell 38.08 46 ⇑P P 17 15 05.9 +0.7
baz=38,SNR=169
L07A ⇓S S 17 20 59.3 +0.9
baz=38
HEC Hector,Ludlow 38.08 59 ⇑P P 17 15 04.6 -0.7
baz=38,SNR=85
HEC ⇓S S 17 20 56.6 -1.9
baz=38
P08A Dixie Valley 38.10 50 ⇓P P 17 15 05.5 +0.2
baz=38,SNR=32
P08A ⇑S S 17 21 00.8 +2.1
baz=38
S09A Goldfield 38.11 54 P P 17 15 05.5 0.0
baz=38,SNR=226
S09A ⇓S S 17 20 57.4 -1.4
baz=38
E04A Onalaska 38.13 38 ⇑P P 17 15 06.5 +0.9
baz=38,SNR=12
E04A ⇓S S 17 20 59.9 +0.8
baz=38
SWSC Sam W. Stewart 38.16 62 ⇑P P 17 15 05.3 -0.5
baz=38,SNR=51
SWSC ⇑S S 17 20 57.7 -1.9
baz=38
BELC Belle Mtn. 38.18 60 ⇓P P 17 15 06.0 -0.1
baz=38,SNR=199
BELC ⇓S S 17 20 59.3 -0.6
baz=38
TPH Tonopah 38.22 53 *e*P P 17 15 06.2 -0.2
TPH pmax pmax
comp=Z,1μm,1.9s,mb6.4
TPH MLR MLR
comp=Z,127μm,21.0s,MS6.7
TPH Tonopah 38.22 53 *e*P P 17 15 06.2 -0.2
comp=Z,1μm,1.9s,mb6.4
TPH LR LR
comp=Z,127μm,21.0s,MS6.7
O08A Rochester Mine 38.25 49 ⇑P P 17 15 07.2 +0.5
baz=38
O08A ⇑S S 17 21 00.6 -0.4
baz=38
G05A Wamic 38.26 41 ⇑P P 17 15 07.1 +0.4
baz=38,SNR=30
G05A ⇑S S 17 21 00.9 -0.2
baz=38
I06A Prineville 38.34 43 P P 17 15 08.5 +1.1
baz=38,SNR=185
I06A ⇓S S 17 21 02.4 +0.2
baz=38
D04A Dobbs Creek Ra 38.36 37 ⇑P P 17 15 09.2 +1.6
baz=38,SNR=13
D04A ⇓S S 17 21 04.3 +1.6
baz=38
SHOC Shoshone 38.37 57 ⇑P P 17 15 07.6 0.0
baz=38,SNR=53
SHOC ⇓S S 17 21 02.9 +0.2
baz=38
R09A Tonopah 38.38 53 P P 17 15 07.8 0.0
baz=38,SNR=100
R09A ⇓S S 17 21 03.5 +0.6
baz=38
K07A Rock Creek Ran 38.42 45 P P 17 15 08.8 +0.7
baz=38,SNR=276
K07A ⇓S S 17 21 04.1 +0.5
baz=38
N08A GE Springer Mi 38.44 49 P P 17 15 08.8 +0.5
baz=38,SNR=201
N08A ⇑S S 17 21 03.7 -0.2
baz=38
Q09A Carvers 38.48 52 ⇓P P 17 15 08.9 +0.4
baz=38,SNR=23
Q09A ⇑S S 17 21 04.4 0.0
baz=38
F05A White Salmon 38.50 40 ⇑P P 17 15 09.3 +0.6
baz=38,SNR=57
F05A ⇓S S 17 21 07.2 +2.6
baz=38
B04A Port Angeles 38.51 36 ⇓P P 17 15 10.1 +1.3
baz=38,SNR=29
B04A ⇑S S 17 21 05.5 +0.7
baz=38
M08A Happy Creek Ra 38.52 48 ⇓P P 17 15 09.4 +0.5
baz=38,SNR=122
M08A ⇑S S 17 21 05.8 +0.8
baz=38
TUQ Turquoise Mtn. 38.54 58 P P 17 15 09.1 0.0
baz=38,SNR=310
TUQ ⇑S S 17 21 04.8 -0.6
baz=38
BC3 Big Chuckw Mtn 38.56 61 P P 17 15 09.2 -0.1
baz=38,SNR=177
BC3 ⇑S S 17 21 06.4 +0.7
baz=38
C04A Brinnon 38.61 36 ⇓P P 17 15 10.9 +1.2
baz=38,SNR=46
C04A ⇑S S 17 21 06.8 +0.5
baz=38
J07A Hines 38.67 44 ⇓P P 17 15 10.8 +0.7
baz=38,SNR=52
J07A ⇓S S 17 21 07.6 +0.3
baz=38
G06A Carlson Farm, 38.68 41 ⇓P P 17 15 10.9 +0.7
baz=39,SNR=44
G06A ⇓S S 17 21 08.7 +1.3
baz=39
WVOR Wild Horse Val 38.73 46 *e*P P 17 15 11.0 +0.4
WVOR pmax pmax
comp=Z,494nm,0.8s,mb6.3
WVOR MLR MLR
comp=Z,79μm,20.0s,MS6.5
WVOR Wild Horse Val 38.73 46 *e*P P 17 15 11.0 +0.3
comp=Z,494nm,0.8s,mb6.3
WVOR LR LR
comp=Z,79μm,20.0s,MS6.5
P09A Austin 38.74 51 ⇑P P 17 15 11.1 +0.4
baz=39,SNR=34
P09A ⇑S S 17 21 09.5 +1.2
baz=39
L08A Fields 38.83 47 ⇑P P 17 15 12.1 +0.6
baz=39,SNR=233
L08A ⇓S S 17 21 10.8 +1.1
baz=39
I07A Izee 38.85 43 P P 17 15 12.8 +1.1
baz=39,SNR=230
I07A ⇓S S 17 21 11.6 +1.5
baz=39
D05A Enumclaw 38.87 38 ⇑P P 17 15 13.2 +1.3
baz=39,SNR=51
D05A ⇓S S 17 21 10.0 -0.4
baz=39
PGC Sidney 38.88 35 *e*P P 17 15 12.8 +0.8
comp=Z,2μm,1.4s,mb6.6
N09A Rock Creek Ran 38.90 49 ⇑P P 17 15 12.6 +0.5
baz=39,SNR=104
N09A ⇓S S 17 21 11.4 +0.6
baz=39
O09A Fish Creek Ran 38.90 50 P P 17 15 12.5 +0.4
baz=39,SNR=168
O09A ⇑S S 17 21 11.4 +0.5
baz=39
IRM Iron Mountain 38.90 60 P P 17 15 11.7 -0.5
baz=39,SNR=201
IRM ⇑S S 17 21 11.7 +0.8
baz=39
BBB Bella Bella 38.93 27 T 17 55 31.0
comp=Z,44nm,0.4s,baz=143,slow=11,SNR=6.5
K08A Mann Creek Ran 38.95 46 ⇑P P 17 15 13.2 +0.7
baz=39,SNR=249
K08A ⇓S S 17 21 13.3 +1.8
baz=39
BMN Battle Mountai 38.97 50 *e*P P 17 15 12.9 +0.2
BMN pmax pmax
comp=Z,426nm,1.1s,mb6.1
BMN Battle Mountai 38.97 50 *e*P P 17 15 12.9 +0.3
comp=Z,426nm,1.1s,mb6.1
R10A Warm Springs 38.97 53 ⇓P P 17 15 13.0 +0.2
baz=39,SNR=240
R10A ⇓S S 17 21 10.3 -1.5
baz=39
GLA Glamis 38.98 62 *e*P P 17 15 12.6 -0.2
GLA Glamis 38.98 62 P P 17 15 12.9 +0.1
baz=39,SNR=128
GLA ⇓S S 17 21 11.3 -0.7
baz=39
V11A Goodsprings 39.02 57 ⇓P P 17 15 13.2 +0.1
baz=39
V11A ⇓S S 17 21 11.5 -1.1
baz=39
H07A Lands Inn, Kim 39.04 42 P P 17 15 14.1 +0.8
baz=39,SNR=219
H07A ⇑S S 17 21 14.2 +1.2
baz=39
E06A Yakima 39.12 39 ⇑P P 17 15 14.9 +1.0
baz=39,SNR=123
E06A ⇓S S 17 21 15.4 +1.3
baz=39
M09A Marrel Ranch, 39.16 48 ⇓P P 17 15 15.2 +0.9
baz=39,SNR=69
M09A ⇑S S 17 21 15.0 +0.3
baz=39
U11A Corn Creek 39.19 56 ⇑P P 17 15 14.9 +0.3
baz=39,SNR=22
U11A ⇓S S 17 21 16.5 +1.3
baz=39
J08A Circle Bar Ran 39.21 45 ⇑P P 17 15 15.2 +0.4
baz=39,SNR=250
J08A ⇑S S 17 21 17.4 +2.0
baz=39
L09A Wilkinson Ranc 39.23 47 ⇑P P 17 15 15.0 +0.1
baz=39
L09A ⇓S S 17 21 16.5 +0.8
baz=39
P10A Eureka 39.25 51 ⇑P P 17 15 15.1 0.0
baz=39,SNR=34
P10A ⇓S S 17 21 16.2 +0.1
baz=39
G07A Ruggs Ranch, H 39.29 41 ⇓P P 17 15 15.8 +0.4
baz=39,SNR=150
G07A ⇓S S 17 21 18.2 +1.5
baz=39
C05A Tolt Reservoir 39.32 37 ⇓P P 17 15 16.6 +1.0
baz=39,SNR=48
C05A ⇑S S 17 21 19.5 +2.4
baz=39
A04A Legoe Bay, Lum 39.33 35 ⇑P P 17 15 17.0 +1.4
baz=39,SNR=16
A04A ⇓S S 17 21 19.6 +2.4
baz=39
Y12C Blythe 39.34 61 ⇑P P 17 15 15.4 -0.5
baz=39,SNR=86
Y12C ⇓S S 17 21 18.7 +1.2
baz=39
W12A Cal Nev Ari 39.35 58 ⇑P P 17 15 15.9 +0.1
baz=39,SNR=50
W12A ⇓S S 17 21 18.8 +1.2
baz=39
I08A Drewsey 39.38 44 ⇑P P 17 15 16.8 +0.6
baz=39,SNR=137
I08A ⇓S S 17 21 20.8 +2.8
baz=39
B05A Bryant 39.40 36 P P 17 15 17.4 +1.1
baz=39,SNR=53
B05A ⇑S S 17 21 20.2 +1.9
baz=39
F07A Phinny Hill Vi 39.43 40 ⇓P P 17 15 17.3 +0.8
baz=39,SNR=32
F07A ⇑S S 17 21 20.3 +1.6
baz=39
O10A Cortez Mining, 39.44 50 ⇓P P 17 15 17.2 +0.5
baz=39,SNR=36
O10A Cortez Mining, 39.44 50 ⇑S S 17 21 21.1 +2.2
baz=39
K09A Rome 39.45 46 P P 17 15 17.2 +0.5
baz=39,SNR=364
K09A ⇑S S 17 21 20.8 +1.8
baz=39
V12A Nelson 39.46 58 P P 17 15 16.9 +0.2
baz=39,SNR=178
V12A ⇑S S 17 21 20.6 +1.5
baz=39
TRCR Troy Canyon 39.53 53 *e*P P 17 15 17.7 +0.3
D06A Cle Elum 39.54 38 ⇑P P 17 15 18.4 +1.0
baz=39,SNR=71
D06A ⇑S S 17 21 22.2 +1.9
baz=39
CRAG Craig 39.54 20 *e*P P 17 15 17.8 +0.4
comp=Z,206nm,1.1s,mb5.8
N10A Dunphy 39.58 50 ⇓P P 17 15 18.2 +0.5
baz=39,SNR=45
N10A ⇑S S 17 21 22.3 +1.3
baz=39
H08A Prairie City 39.58 43 P P 17 15 18.4 +0.5
baz=40,SNR=175
H08A ⇓S S 17 21 22.0 +1.0
baz=40
Q11A Duckwater 39.62 53 ⇓P P 17 15 18.4 +0.2
baz=40,SNR=303
Q11A ⇓S S 17 21 23.0 +1.5
baz=40
TBM Table Mountain 39.67 38 P P 17 15 19.6 +1.1
J09A Fry Pan Ranch, 39.69 45 ⇓P P 17 15 19.2 +0.6
baz=40,SNR=95
J09A ⇓S S 17 21 23.8 +1.2
baz=40
G08A Pilot Rock 39.75 42 P P 17 15 19.5 +0.4
baz=40,SNR=272
G08A ⇓S S 17 21 23.9 +0.4
baz=40
PDMCI Parker Dam,Lak 39.75 60 ⇑P P 17 15 18.8 -0.5
baz=40,SNR=60
PDMCI ⇓S S 17 21 25.9 +2.3
baz=40
P11A Circle Ranch, 39.75 52 ⇓P P 17 15 19.3 +0.1
baz=40,SNR=104
E07A Sunnyside 39.80 40 ⇑P P 17 15 20.4 +0.8
baz=40,SNR=69
E07A ⇓S S 17 21 26.3 +2.0
baz=40
A05A Maple Falls 39.82 35 ⇑P P 17 15 20.7 +0.9
baz=40,SNR=43
A05A ⇓S S 17 21 26.6 +2.0
baz=40
M10A I.L. Ranch, Tu 39.83 48 ⇓P P 17 15 20.6 +0.7
baz=40,SNR=102
M10A ⇑S S 17 21 25.9 +1.1
baz=40
U12A Valley of Fire 39.86 57 P P 17 15 20.4 +0.3
baz=40,SNR=65
U12A ⇑S S 17 21 25.4 +0.3
baz=40
B06A Marblemount 39.88 36 ⇓P P 17 15 20.8 +0.5
baz=40,SNR=21
B06A ⇑S S 17 21 27.5 +2.0
baz=40
HAWA Hanford 39.91 40 *e*P P 17 15 21.0 +0.4
comp=Z,225nm,0.8s,mb6.0
HAWA LR LR
comp=Z,85μm,20.0s,MS6.6
Y13A Salome 39.92 61 P P 17 15 20.5 -0.2
baz=40,SNR=80
Y13A ⇑S S 17 21 26.4 +0.2
baz=40
I09A Lost Marbles R 39.95 44 P P 17 15 21.2 +0.3
baz=40,SNR=215
I09A ⇑S S 17 21 27.9 +1.3
baz=40
O11A Cowboy Ranch, 40.00 51 P P 17 15 21.5 +0.2
baz=40,SNR=87
D07A Quincy 40.05 39 ⇓P P 17 15 22.4 +0.7
baz=40,SNR=64
D07A ⇓S S 17 21 29.3 +1.3
baz=40
X13A Yucca 40.06 60 P P 17 15 21.5 -0.2
baz=40,SNR=165
X13A ⇑S S 17 21 28.9 +0.8
baz=40
SMY Shemya 40.08 332 *e*P P 17 15 21.7 -0.3
SMY pmax pmax
comp=Z,3μm,1.3s,mb6.8
SMY Shemya 40.08 332 *e*P P 17 15 21.7 -0.3
comp=Z,3μm,1.3s,mb6.8
F08A Pendleton 40.09 41 ⇓P P 17 15 22.2 +0.2
baz=40,SNR=97
F08A ⇓S S 17 21 31.6 +2.9
baz=40
W13A Hualapai Mount 40.10 59 ⇓P P 17 15 22.2 +0.1
baz=40,SNR=161
W13A ⇑S S 17 21 29.8 +1.0
baz=40
N11A Elko Archery C 40.16 50 ⇑P P 17 15 23.2 +0.6
baz=40,SNR=11
N11A ⇓S S 17 21 31.5 +1.7
baz=40
SIT Sitka 40.20 17 *e*P P 17 15 25.8 +2.9
SIT pmax pmax
comp=Z,1μm,2.6s,mb6.2
SIT MLR MLR
comp=Z,104μm,23.0s,MS6.6
SIT Sitka 40.20 17 *e*P P 17 15 25.8 +2.9
comp=Z,1μm,2.6s,mb6.2
SIT LR LR
comp=Z,104μm,23.0s,MS6.6
C07A Waterville 40.25 38 P P 17 15 24.0 +0.6
baz=40,SNR=85
C07A ⇓S S 17 21 32.9 +1.9
baz=40
H09A Durkee 40.29 43 P P 17 15 23.9 +0.1
baz=40,SNR=112
H09A ⇑S S 17 21 33.7 +2.0
baz=40
M11A Holland Ranch, 40.33 49 P P 17 15 25.0 +1.0

baz=40,SNR=61
M11A ⇑S **S** **17 21 33.8 +1.6**
baz=40
P12A McGill 40.36 52 P **P 17 15 24.6 +0.3**
baz=40,SNR=140
P12A ⇑S **S 17 21 33.5 +0.9**
baz=40
WRAK Wrangell Islan 40.57 20 *e*P **P 17 15 27.2 +1.2**
comp=Z,386nm,1.0s,mb6.0
Z14A Wintersburg 40.59 62 ⇑P **P 17 15 25.8 -0.3**
baz=40,SNR=34
Z14A ⇑S **S 17 21 36.6 +0.6**
baz=40
F09A S2 Ranch, Elgi 40.59 42 ⇑P **P 17 15 26.6 +0.4**
baz=40,SNR=95
F09A ⇓S **S 17 21 38.1 +1.9**
baz=40
D08A Wollman Farm, 40.60 39 P **P 17 15 26.9 +0.6**
baz=40,SNR=135
D08A ⇓S **S 17 21 37.7 +1.4**
baz=40
B07A Winthrop 40.62 37 P **P 17 15 26.9 +0.5**
baz=40,SNR=75
B07A ⇑S **S 17 21 37.5 +1.0**
baz=40
Y14A Wickenburg 40.62 61 ⇓P **P 17 15 26.0 -0.4**
baz=40,SNR=76
Y14A ⇓S **S 17 21 36.5 -0.1**
baz=40
N12A Clover Valley, 40.68 50 P **P 17 15 27.4 +0.6**
baz=40,SNR=126
N12A ⇑S **S 17 21 38.1 +0.7**
baz=40
O12A Currie 40.71 51 ⇑P **P 17 15 27.4 +0.2**
baz=41,SNR=72
O12A ⇑S **S 17 21 37.5 -0.4**
baz=41
W14A Seligman 40.77 59 P **P 17 15 27.6 0.0**
baz=41,SNR=94
W14A ⇓S **S 17 21 38.7 -0.1**
baz=41
X14A Yava 40.80 60 ⇑P **P 17 15 27.6 -0.3**
baz=41,SNR=99
X14A ⇓S **S 17 21 38.9 -0.3**
baz=41
SLKM Skilak Lake 40.80 4 *e*P **P 17 15 28.4 +0.5**
E09A Wood Farm, Sta 40.81 41 P **P 17 15 28.2 +0.2**
baz=41,SNR=93
E09A ⇑S **S 17 21 38.2 -1.3**
baz=41
C08A Higginbotham F 40.89 38 ⇑P **P 17 15 28.8 +0.2**
baz=41,SNR=147
C08A ⇓S **S 17 21 39.1 -1.4**
baz=41
OD2 Odessa Site #2 40.89 39 P **P 17 15 28.8 +0.2**
M12A Wells 40.95 49 ⇓P **P 17 15 29.5 +0.4**
baz=41,SNR=139
M12A ⇑S **S 17 21 41.3 -0.1**
baz=41
D09A Jones Farm, Ri 40.97 40 ⇓P **P 17 15 29.3 0.0**
baz=41,SNR=124
D09A ⇑S **S 17 21 41.7 -0.1**
baz=41
RAR Rarotonga 40.99 185 P **P 17 15 31.1 +1.6**
comp=Z,167nm,0.9s,mb5.7,baz=237,slow=2.4,SNR=8.0
RAR LR LR 17 29 13.9
comp=Z,36μm,19.0s,MS6.3,baz=4.8,slow=31
ARUT Antelope Range 41.02 55 *e*P **P 17 15 29.6 -0.2**
CCUT Cedar City 41.03 55 *e*P **P 17 15 30.3 +0.5**
115A Sonoran Desert 41.10 63 ⇑P **P 17 15 30.0 -0.4**
baz=41,SNR=47
115A ⇑S **S 17 21 42.8 -0.9**
baz=41
F10A Beach Ranch, E 41.14 42 ⇓P **P 17 15 30.7 +0.1**
baz=41,SNR=99
F10A ⇓S **S 17 21 43.0 -1.2**
baz=41
SVW2 Sparrevohn 41.18 0 *e*P **P 17 15 31.3 +0.3**
N13A Wendover, West 41.28 50 ⇑P **P 17 15 32.0 +0.2**
baz=41,SNR=55
N13A ⇓S **S 17 21 46.4 +0.1**
baz=41
EYAK Cordova Ski Ar 41.29 8 *e*P **P 17 15 32.1 +0.2**
X15A Humboldt 41.34 60 P **P 17 15 32.3 0.0**
baz=41,SNR=261
X15A ⇓S **S 17 21 46.2 -1.0**
baz=41
C09A Chrisman Ranch 41.35 39 ⇓P **P 17 15 32.3 -0.1**
baz=41
C09A ⇓S **S 17 21 43.5 -3.9**
baz=41
W15A Williams 41.42 59 ⇑P **P 17 15 33.5 +0.5**
baz=41,SNR=68
W15A ⇓S **S 17 21 46.0 -2.5**
baz=41
116A Eloy 41.52 63 P **P 17 15 33.8 0.0**
baz=41,SNR=42
116A ⇓S **S 17 21 49.1 -0.8**
baz=41
B09A Rice 41.73 38 ⇓P **P 17 15 35.5 0.0**
baz=42,SNR=79
B09A ⇓S **S 17 21 50.4 -2.6**
baz=42
A09A Danville 41.75 37 P **P 17 15 35.8 +0.1**
baz=42,SNR=110
A09A ⇓S **S 17 21 52.0 -1.4**
baz=42
DIV Divide 41.85 8 *e*P **P 17 15 36.9 +0.4**
comp=Z,1μm,1.3s,mb6.3
DIV LR LR
comp=Z,244μm,21.0s,MS7.1
C10A Spilker Farm, 41.93 39 ⇓P **P 17 15 37.3 +0.1**
baz=42
C10A ⇓S **S 17 21 52.0 -4.0**
baz=42
PMR Palmer 41.96 5 *e*P **P 17 15 37.4 0.0**
PMR pmax pmax
comp=Z,533nm,1.2s,mb6.0
PMR MLR MLR
comp=Z,79μm,21.0s,MS6.6
PMR Palmer 41.96 5 *e*P **P 17 15 37.4 0.0**
comp=Z,533nm,1.2s,mb6.0
PMR LR LR
comp=Z,79μm,21.0s,MS6.6
HLID Hailey 42.02 46 *e*P **P 17 15 38.1 +0.2**
comp=Z,333nm,0.6s,mb6.1
HLID LR LR
comp=Z,137μm,20.0s,MS6.8
HLID Hailey 42.02 46 ⇓P **P 17 15 38.2 +0.2**
baz=42,SNR=334
HLID ⇑S **S 17 21 55.6 -1.7**
baz=42
DUG Dugway 42.11 52 *e*P **P 17 15 38.6 0.0**
DUG pmax pmax
comp=Z,511nm,1.4s,mb6.0
DUG MLR MLR
comp=Z,121μm,20.0s,MS6.8
DUG Dugway 42.11 52 *e*P **P 17 15 38.6 0.0**
comp=Z,511nm,1.4s,mb6.0
DUG LR LR
comp=Z,121μm,20.0s,MS6.8
DUG Dugway 42.11 52 ⇑P **P 17 15 38.8 +0.2**
baz=42
DUG ⇑S **S 17 21 58.7 +0.1**
baz=42
BGU Big Grassy Mou 42.15 50 *e*P **P 17 15 39.0 0.0**
MSU Marysvale 42.16 54 *e*P **P 17 15 39.3 +0.2**
WUAZ Wupatki 42.20 59 *e*P **P 17 15 39.4 0.0**
comp=Z,937nm,1.3s,mb6.3
WUAZ LR LR
comp=Z,127μm,20.0s,MS6.8
WUAZ Wupatki 42.20 59 P **P 17 15 39.8 +0.4**
baz=42,SNR=194
WUAZ ⇑S **S 17 21 58.3 -1.7**
baz=42
B10A Chitwood Farm, 42.20 39 ⇑P **P 17 15 38.8 -0.6**
baz=42,SNR=5.8
B10A ⇓S **S 17 21 57.6 -2.5**
baz=42
NEW Newport 42.25 39 LR LR 17 30 11.2
comp=Z,66μm,18.9s,MS6.5,baz=246,slow=32
NEW Newport 42.25 39 *e*P **P 17 15 39.3 -0.5**
NEW pmax pmax
comp=Z,397nm,1.1s
NEW MLR MLR
comp=Z,63μm,20.0s
NEW Newport 42.25 39 *e*P **P 17 15 39.3 -0.5**
comp=Z,397nm,1.1s,mb6.0
NEW LR LR
comp=Z,63μm,20.0s,MS6.5
TUC Tucson 42.27 64 P **P 17 15 39.8 -0.1**
TUC Tucson 42.27 64 *e*P **P 17 15 39.7 -0.2**
TUC pmax pmax
comp=Z,887nm,1.7s,mb6.1
TUC MLR MLR
comp=Z,107μm,20.0s,MS6.7
TUC Tucson 42.27 64 *e*P **P 17 15 39.7 -0.2**
comp=Z,887nm,1.7s,mb6.1
TUC LR LR
comp=Z,107μm,20.0s,MS6.7
SKAG Skagway 42.27 16 *e*P **P 17 15 41.2 +1.2**
comp=Z,140nm,0.9s,mb5.6
SKAG LR LR
comp=Z,94μm,22.0s,MS6.6
A10A Northport 42.34 38 ⇓P **P 17 15 40.3 -0.3**
baz=42,SNR=33
A10A ⇑S **S 17 22 02.0 -0.1**
baz=42
LPIG La Paz 42.55 76 P **P 17 15 41.6 -0.6**
comp=Z,211nm,1.2s,mb5.8,baz=264,slow=2.8,SNR=10
LPIG LR LR 17 28 30.9
comp=Z,136μm,21.5s,MS6.8,baz=270,slow=29
LPIG La Paz 42.55 76 P **P 17 15 41.6 -0.6**
LPIG LR LR 17 28 30.9
HVU Hansel Valley 42.58 49 *e*P **P 17 15 42.4 -0.1**
HVU pmax pmax
comp=Z,789nm,1.0s,mb6.4
HVU Hansel Valley 42.58 49 *e*P **P 17 15 42.4 -0.1**
comp=Z,789nm,1.0s,mb6.4
NLU North Lily Min 42.59 52 *e*P **P 17 15 42.6 +0.1**
SPUT South Promonto 42.68 50 *e*P **P 17 15 41.6 -1.7**
MPU Maple Canyon 42.93 52 *e*P **P 17 15 45.2 -0.1**
comp=Z,17nm,1.4s
C12A Trout Creek 42.98 40 ⇑P **P 17 15 45.1 -0.6**
baz=43,SNR=53
C12A ⇓S **S 17 22 09.1 -2.3**
baz=43
CTU Camp Tracy 43.02 51 *e*P **P 17 15 46.0 0.0**
comp=Z,608nm,1.4s,mb6.1
TMUT Trail Mountain 43.08 53 *e*P **P 17 15 47.0 +0.4**
B12A Libby 43.25 39 ⇑P **P 17 15 47.7 -0.2**
baz=43,SNR=25
B12A ⇑S **S 17 22 15.2 -0.3**
baz=43
DAU Daniels Canyon 43.31 52 *e*P **P 17 15 48.6 +0.2**
TCUT Toone Canyon 43.38 51 *e*P **P 17 15 49.3 +0.3**
HWUT Hardware Ranch 43.40 50 *e*P **P 17 15 48.8 -0.3**
comp=Z,834nm,1.1s,mb6.4
HWUT LR LR
comp=Z,46μm,20.0s,MS6.4
A12A Yaak River Ran 43.42 39 ⇓P **P 17 15 49.1 -0.3**
baz=43,SNR=84
A12A ⇑S **S 17 22 15.6 -2.4**
baz=43
TBI Tubuai 43.45 171 *e*LQ 17 25 51.1
comp=Z,173μm,31.0s
TBI Tubuai 43.45 171 *e*S **S 17 22 20.2 +1.8**
comp=Z,62μm,38.8s
TBI *e*LR LR 17 28 02.6
comp=Z,91μm,28.0s,baz=350
TBI Tubuai 43.45 171 *e*P **P 17 15 51.2 +1.6**
comp=Z,365nm,0.9s,mb6.1
TBI *e*S **S 17 22 20.2 +1.8**
TBI *e*LQ 17 25 51.1
C13A Hot Springs 43.52 41 P **P 17 15 50.2 +0.1**
baz=43,SNR=114
C13A ⇓S **S 17 22 15.9 -3.5**
baz=43
MCMT McKenzie Canyo 43.52 45 *e*P **P 17 15 49.9 -0.2**
SRU San Rafael 43.55 54 P **P 17 15 50.3 -0.1**
SRU pmax pmax
comp=Z,53nm,1.0s,mb5.2
SRU San Rafael 43.55 54 *e*P **P 17 15 50.3 -0.1**
comp=Z,53nm,1.0s,mb5.2
MSO Missoula 43.56 42 *e*P **P 17 15 49.6 -0.8**
comp=Z,304nm,1.1s,mb5.9
MSO LR LR
comp=Z,52μm,19.0s,MS6.5
DLMT Dillon 43.88 44 *e*P **P 17 15 53.1 +0.1**
B13A Whitefish 43.88 40 ⇓P **P 17 15 53.1 +0.1**
baz=44,SNR=59
B13A ⇑S **S 17 22 24.1 -0.6**
baz=44
CHMT Chamberlain Mo 44.03 42 *e*P **P 17 15 53.6 -0.6**
AHID Auburn Hatcher 44.06 49 *e*P **P 17 15 54.5 +0.1**
comp=Z,700nm,1.6s,mb6.1
AHID LR LR
comp=Z,81μm,20.0s,MS6.6
RRI2 Red Ridge 44.08 48 *e*P **P 17 15 55.0 +0.4**
comp=Z,2μm,1.5s,mb6.7
MCK McKinley 44.09 5 *e*P **P 17 15 54.6 -0.1**
MCK pmax pmax
comp=Z,479nm,1.1s,mb6.1
MCK MLR MLR
comp=Z,34μm,22.0s,MS6.2
MCK McKinley 44.09 5 *e*P **P 17 15 54.6 -0.1**
comp=Z,479nm,1.1s,mb6.1
MCK LR LR
comp=Z,34μm,22.0s,MS6.2
DCID1 Drake Creek 44.25 47 *e*P **P 17 15 56.4 +0.5**
TPAW Teton Pass 44.38 48 *e*P **P 17 15 57.1 +0.2**
comp=Z,717nm,1.5s,mb6.2
REDW Red Top Meadow 44.41 48 *e*P **P 17 15 57.3 0.0**
comp=Z,191nm,1.0s,mb5.8
QLMT Earthquake Lak 44.47 46 *e*P **P 17 15 58.0 +0.3**
SNOW Snow King Moun 44.51 48 *e*P **P 17 15 58.2 +0.2**
comp=Z,713nm,1.5s,mb6.3
WALA Waterton Lakes 44.51 39 *e*P **P 17 15 58.2 +0.1**
comp=Z,4,6nm,1.5s
IMW Indian Meadow 44.51 47 *e*P **P 17 15 58.0 0.0**
comp=Z,415nm,1.8s,mb6.0
MOOW Moose Ponds 44.60 47 *e*P **P 17 15 58.7 -0.1**
comp=Z,222nm,1.0s,mb6.0
LOHW Long Hollow 44.66 48 *e*P **P 17 15 59.0 -0.2**
comp=Z,716nm,1.5s,mb6.3
FLWY Flagg Ranch 44.73 47 *e*P **P 17 16 00.1 +0.3**
comp=Z,534nm,0.9s,mb6.4
YMR Madison River 44.73 46 *e*P **P 17 16 00.5 +0.7**
comp=Z,394nm,0.9s,mb6.2
YMR LR LR
comp=Z,107μm,20.0s,MS6.8
YFT Old Faithful 44.75 46 *e*P **P 17 16 01.5 +1.5**
MVCO Mesa Verde 44.76 57 *e*P **P 17 15 59.9 -0.2**
comp=Z,2μm,1.8s,mb6.7
MVCO Mesa Verde 44.76 57 P **P 17 16 00.2 +0.1**
baz=45,SNR=88
MVCO ⇓S **S 17 22 35.1 -2.4**
baz=45
HRY Holter Researc 44.86 43 P **P 17 15 58.0 -2.8**
LKWY Lake 45.08 46 *e*P **P 17 16 04.2 +1.6**
LKWY pmax pmax
comp=Z,1μm,1.7s,mb6.5
LKWY MLR MLR
comp=Z,157μm,19.0s,MS7.0
LKWY Lake 45.08 46 *e*P **P 17 16 04.2 +1.6**
comp=Z,1μm,1.7s,mb6.5
LKWY LR LR
comp=Z,157μm,19.0s,MS7.0
BW06 Boulder Array 45.15 49 *e*P **P 17 16 02.2 -0.9**
comp=Z,332nm,1.1s,mb6.1
BW06 LR LR
comp=Z,63μm,20.0s,MS6.5
PDAR Pinedale Array 45.15 49 P **P 17 16 02.5 -0.7**
comp=Z,58nm,0.9s,mb5.4,baz=241,slow=4.9,SNR=135
PDAR LR LR 17 31 44.3
comp=Z,56μm,21.0s,MS6.5,baz=333,slow=32
COLA College 45.31 5 *e*P **P 17 16 03.6 -0.8**
COLA pmax pmax
comp=Z,2μm,1.8s,mb6.7
COLA MLR MLR
comp=Z,39μm,19.0s,MS6.4
COLA College 45.31 5 *e*P **P 17 16 03.5 -0.8**
comp=Z,2μm,1.8s,mb6.7
COLA LR LR
comp=Z,39μm,19.0s,MS6.4
LAZ Ladron 45.50 61 *e*P **P 17 16 05.5 -0.5**
DAWY Dawson 45.58 10 *e*P **P 17 16 06.6 0.0**
LENM Lemitar 45.62 61 *e*P **P 17 16 06.0 -0.8**
Y22C IRIS PASSCAL I 45.65 61 ⇑P **P 17 16 07.4 +0.3**
baz=46,SNR=12
Y22C ⇓S **S 17 22 47.9 -2.5**
baz=46
BNM Barren Site 45.90 61 *e*P **P 17 16 09.3 +0.2**
LPM Los Pinos Moun 45.91 61 *e*P **P 17 16 08.9 -0.3**
GCMT Greycliff 45.96 45 *e*P **P 17 16 09.4 -0.1**
EGAK Eagle 45.97 9 *e*P **P 17 16 10.0 +0.4**
comp=Z,494nm,0.8s,mb6.5
RLMT Red Lodge 46.02 46 *e*P **P 17 16 10.2 +0.2**
comp=Z,333nm,1.0s,mb6.2
ANMO Albuquerque 46.11 60 *c i*P **P 17 16 10.6 -0.2**
ANMO Albuquerque 46.11 60 *e*P **P 17 16 10.3 -0.4**
comp=Z,62nm,0.4s,mb5.9
ANMO LR LR
comp=Z,78μm,22.0s,MS6.6
IMA2 Indian Mountai 46.20 1 *e*P **P 17 16 10.6 -0.8**
SMCO Snowmass 46.27 54 *e*P **P 17 16 12.0 -0.1**
comp=Z,479nm,1.0s,mb6.4
TNA Tin City 46.32 353 PFAKE 17 16 20.0 +7.6
TNA LR LR
comp=Z,34μm,20.0s,MS6.3
RWWY Rawlins 46.59 51 *e*P **P 17 16 13.2 -1.3**
comp=Z,397nm,1.8s,mb6.0
EGMT Eagleton 46.65 42 *e*P **P 17 16 14.1 -0.8**
comp=Z,6.3nm,0.2s,mb5.2
EGMT LR LR
comp=Z,65μm,22.0s,MS6.5
EGMT Eagleton 46.65 42 ⇓P **P 17 16 14.3 -0.7**
baz=46
EGMT ⇓S **S 17 23 03.2 -1.4**
baz=46
EDM Edmonton 46.72 34 *e*P **P 17 16 14.4 -1.2**
MNTX Cornudas Mount 46.81 65 *e*P **P 17 16 15.5 -0.7**
comp=Z,243nm,1.1s,mb6.0
MNTX LR LR
comp=Z,105μm,20.0s,MS6.8
SDCO Great Sand Dun 47.20 57 *e*P **P 17 16 18.9 -0.4**
comp=Z,767nm,1.1s,mb6.5
SDCO LR LR
comp=Z,122μm,20.0s,MS6.9
ISCO Idaho Springs 47.42 54 *e*P **P 17 16 20.4 -0.6**
ISCO pmax pmax
comp=Z,137nm,1.0s,mb5.8
ISCO MLR MLR
comp=Z,169μm,21.0s,MS7.0
ISCO Idaho Springs 47.42 54 *e*P **P 17 16 20.4 -0.6**
comp=Z,137nm,1.0s,mb5.8
ISCO LR LR
comp=Z,169μm,21.0s,MS7.0
RKT Rikitea 47.46 153 *e*S **S 17 23 16.9 +0.7**
comp=Z,26μm,28.0s
RKT *e*LQ 17 27 41.1
comp=Z,100μm,29.2s
RKT *e*LR LR 17 29 51.6
comp=Z,61μm,29.5s,baz=333
RKT Rikitea 47.46 153 *e*P **P 17 16 22.9 +1.6**
RKT *e*S **S 17 23 16.9 +0.7**
RKT pmax pmax
comp=Z,157nm,1.2s,mb5.8
RKT Rikitea 47.46 153 *e*P **P 17 16 22.9 +1.6**
comp=Z,157nm,1.2s,mb5.8
RKT *e*S **S 17 23 16.9 +0.7**
RKT *e*LQ 17 27 41.1
PHWY Pilot Hill 47.80 52 *e*P **P 17 16 22.9 -1.0**
PET Petropavlovsk 47.95 325 *e*P **P 17 16 25.6 +0.5**
comp=Z,248nm,1.0s,mb6.2
PET LR LR
comp=Z,35μm,20.0s,MS6.3
SKR Severo-Kuril's 48.45 321 *e*P **P 17 16 25.3 -3.7**
SKR *e* 17 16 38.6
SKR *e* 17 17 54.0
SKR *e*S **S 17 23 24.0 -6.3**
SKR *e*SS ScS 17 26 14.0 -8.6
SKR pmax pmax
comp=Z,670nm,1.0s,mb6.6
SKR pmax pmax
comp=N,70nm,0.7s
SKR pmax pmax
comp=N,6μm,16.0s
SKR pmax pmax
comp=E,10μm,16.0s
SKR pmax pmax
comp=Z,13μm,16.0s
SKR smax
comp=E,17μm,16.0s
SKR smax
comp=N,19μm,20.0s
SKR MLR MLR
comp=Z,28μm,18.0s,MS6.3
SKR MLR MLR
comp=N,14μm,14.0s,MS6.2
SKR MLR MLR
comp=E,8μm,14.0s,MS6.2
SKR Severo-Kuril's 48.45 321 *e*P **P 17 16 26.0 -3.0**
LAO LASA Array 48.51 45 *e*P **P 17 16 29.0 -0.4**
comp=E,912nm,1.1s,mb6.7
LAO LR LR
comp=Z,117μm,20.0s,MS6.9
RSSD Black Hills 49.38 48 P **P 17 16 34.9 -1.2**
RSSD Black Hills 49.38 48 *e*P **P 17 16 34.8 -1.3**
RSSD pmax pmax
comp=Z,214nm,1.0s,mb6.1
RSSD MLR MLR
comp=Z,45μm,20.0s,MS6.5
RSSD Black Hills 49.38 48 *e*P **P 17 16 34.8 -1.3**
comp=Z,214nm,1.0s,mb6.1
RSSD LR LR
comp=Z,45μm,20.0s,MS6.5
SFJM Santa Fe 49.64 80 *i*P **P 17 16 38.0 -0.1**
ZAIG Zacatecas 49.75 77 ⇑*i*P **P 17 16 39.8 +0.9**
DGMT Dagmar 50.31 43 *e*P **P 17 16 42.7 -0.5**
comp=Z,740nm,1.1s,mb6.6
DGMT LR LR
comp=Z,75μm,22.0s,MS6.7
INK Inuvik 50.44 11 P **P 17 16 43.0 -1.2**
comp=Z,240nm,1.0s,mb6.2,baz=202,slow=8.4,SNR=126
INK S **S 17 23 57.2 -1.0**
comp=Z,37nm,1.0s,baz=216,slow=8.7,SNR=1.6
INK LR LR 17 34 39.8
comp=Z,102μm,20.4s,MS6.8,baz=113,slow=32
INK Inuvik 50.44 11 P **P 17 16 43.0 -1.2**
INK S **S 17 23 57.3 -1.0**
INK pmax pmax
comp=Z,240nm,1.0s
INK smax
comp=N,37nm,1.0s
INK MLR MLR
comp=Z,102μm,20.4s
INK Inuvik 50.44 11 *e*P **P 17 16 42.9 -1.3**
comp=Z,148nm,1.5s,mb5.8
YKA Yellowknife Ar 51.20 23 P **P 17 16 48.7 -1.2**
comp=Z,59nm,0.9s,mb5.5,baz=233,slow=7.9,SNR=63
YKA PcP PcP 17 18 05.3 +0.1
comp=Z,30nm,0.7s,baz=242,slow=3.2,SNR=5.8
YKA LR LR 17 34 40.0
comp=Z,62μm,21.2s,MS6.6,baz=210,slow=32
YKA Yellowknife Ar 51.20 23 P **P 17 16 48.7 -1.2**
YKA 17 18 05.3
YKA Yellowknife Ar 51.20 23 P **P 17 16 48.7 -1.2**
YKA PcP PcP 17 18 05.3 +0.1
YKA LR LR 17 34 40.0
MOIG Morelia 51.49 80 *i*P **P 17 16 51.2 -0.9**
JCT Junction City 51.60 66 *e*P **P 17 16 51.2 -1.7**
JCT pmax pmax
comp=Z,238nm,1.0s,mb6.1
JCT Junction City 51.60 66 *e*P **P 17 16 51.2 -1.7**
comp=Z,238nm,1.0s,mb6.1
CBKS Cedar Bluff 51.82 56 *e*P **P 17 16 53.3 -1.3**
CBKS pmax pmax
comp=Z,837nm,1.2s,mb6.5
CBKS MLR MLR
comp=Z,86μm,20.0s,MS6.8
CBKS Cedar Bluff 51.82 56 *e*P **P 17 16 53.3 -1.2**
comp=Z,837nm,1.2s,mb6.5
CBKS LR LR
comp=Z,86μm,20.0s,MS6.8
HNR Honiara 52.14 240 LR LR 17 35 16.4
comp=Z,80μm,20.6s,MS6.7,baz=3.5,slow=32
HNR Honiara 52.14 240 *e*P **P 17 16 57.7 +0.7**
comp=Z,580nm,1.0s,mb6.5
HNR LR LR
comp=Z,91μm,22.0s,MS6.8
WMOK Wichita Mounta 52.41 61 *e*P **P 17 16 57.2 -1.7**
WMOK pmax pmax
comp=Z,160nm,1.1s,mb5.9
WMOK MLR MLR
comp=Z,73μm,22.0s,MS6.7
WMOK Wichita Mounta 52.41 61 *e*P **P 17 16 57.2 -1.7**
comp=Z,160nm,1.1s,mb5.9
WMOK LR LR
comp=Z,73μm,22.0s,MS6.7
CAIG El Cayaco 52.85 83 *i*P **P 17 17 03.0 +0.8**
RAO Raoul Island 53.18 204 LR LR 17 35 42.2

comp=Z,33μm,20.8s,MS6.4,baz=204,slow=32
RAO Raoul Island 53.18 204 P **P 17 17 02.9 -1.7**
RAO pmax pmax
comp=Z,579nm,1.1s,mb6.4
RAO MLR MLR
comp=Z,33μm,21.0s,MS6.4
RAO Raoul Island 53.18 204 P **P 17 17 02.9 -1.8**
comp=Z,579nm,1.1s,mb6.4
RAO LR LR
comp=Z,33μm,21.0s,MS6.4
ACX Acapulco 53.22 83 *e*P **P 17 17 06.0 +1.1**
PLIG Platanillo 53.29 81⇑*i*P **P 17 17 06.1 +0.6**
UNM Universidad Na 53.41 80 *e*P **P 17 17 05.0 -1.4**
KVTX Kingsville 53.45 70 P **P 17 17 04.9 -1.7**
comp=Z,910nm,1.4s,mb6.5
FFC Flin Flon 53.48 36 P **P 17 17 06.9 +0.1**
comp=Z,673nm,1.5s,mb6.3,SNR=12
BILL Bilibino 53.58 343 *de*P **P 17 17 07.1 -0.5**
BILL *i* S **S 17 24 36.7 -4.7**
BILL pmax pmax
comp=Z,1μm,1.2s,mb6.7
BILL Bilibino 53.58 343 *e*P **P 17 17 07.0 -0.6**
comp=Z,736nm,1.1s,mb6.5
BILL LR LR
comp=Z,40μm,22.0s,MS6.4
YUK Yuzh-Kuril'sk 53.58 311 *e*P **P 17 17 08.2 +0.6**
YUK *e* 17 19 07.1
YUK *e*PPP 17 20 20.0
YUK *e*S **S 17 24 48.2 +6.8**
YUK *e*SSS 17 30 03.0
YUK pmax pmax
comp=Z,6μm,2.0s,mb7.1
YUK pmax pmax
comp=E,8μm,3.0s
PPM Popocatepetl 53.98 80 *e*P **P 17 17 11.0 +0.5**
KSU1 Kansas State U 54.27 56 *e*P **P 17 17 11.3 -1.3**
comp=E,543nm,0.9s,mb6.5
ECSD EROS,Sioux Fal 54.62 50 *e*P **P 17 17 13.1 -2.1**
comp=E,321nm,1.0s,mb6.3
MA2 Magadan 54.66 330 *d i*P **P 17 17 16.1 +0.7**
MA2 pmax pmax
comp=Z,342nm,1.7s,mb6.1
MA2 Magadan 54.66 330 *e*P **P 17 17 15.7 +0.3**
comp=Z,504nm,1.3s,mb6.4
MA2 LR LR
comp=Z,38μm,21.0s,MS6.5
PNIG Pinotepa 55.00 84⇑*i*P **P 17 17 18.0 +0.1**
HKT Hockley 55.05 67 P **P 17 17 18.2 -0.1**
HKT pmax pmax
comp=Z,810nm,1.2s,mb6.6
HKT Hockley 55.05 67 *e*P **P 17 17 16.0 -2.3**
comp=Z,806nm,1.3s,mb6.6
HKT LR LR
comp=Z,82μm,20.0s,MS6.8
SEY Seymchan 55.35 334 *e*P **P 17 17 20.2 -0.2**
SEY Seymchan 55.35 334 *e*P **P 17 17 20.2 -0.2**
ERM Erimo 55.36 308 P **P 17 17 22.1 +1.6**
comp=Z,3μm,1.3s,mb7.1,SNR=8.2
ERM Erimo 55.36 308 *e*P **P 17 17 21.6 +1.1**
comp=Z,1μm,1.4s,mb6.7
ERM LR LR
comp=Z,16μm,21.0s,MS6.1
AGMN Agassiz Refuge 55.71 45 *e*P **P 17 17 20.9 -2.1**
comp=Z,305nm,1.1s,mb6.2
LVIG Laguna Verde 55.90 79⇑*i*P **P 17 17 24.3 -0.1**
ASAJ Asahikawa 55.93 310 LR LR 17 36 17.4
comp=Z,55μm,20.9s,MS6.6,baz=118,slow=31
NATX Nacogdoches 55.94 65 *e*P **P 17 17 23.6 -1.1**
comp=Z,584nm,0.9s,mb6.6
NATX LR LR
comp=Z,101μm,20.0s,MS6.9
ULM Lac du Bonnet 56.01 42 P **P 17 17 23.4 -1.8**
comp=Z,93nm,1.1s,mb5.7,baz=266,slow=8.1,SNR=38
ULM LR LR 17 39 15.1
comp=Z,33μm,18.6s,MS6.5,baz=256,slow=34
ULM Lac du Bonnet 56.01 42 *e*P **P 17 17 22.7 -2.5**
comp=Z,480nm,1.2s,mb6.4
ULM LR LR
comp=Z,50μm,19.0s,MS6.6
YSS Yuzh-Sakhalins 56.11 314κ*e*P **P 17 17 26.0 +0.1**
YSS *e**SP sP 17 17 40.8 +13
YSS *e* 17 18 23.0
YSS *i* S **S 17 25 19.0 +3.7**
YSS *e*PS 17 25 37.0
YSS pmax pmax
comp=Z,570nm,1.5s,mb6.4
YSS pmax pmax
comp=E,760nm,1.6s
YSS pmax pmax
comp=E,5μm,10.0s
YSS pmax pmax
comp=Z,12μm,10.0s
YSS MLR MLR
comp=N,10μm,17.0s,MS6.3
YSS MLR MLR
comp=E,20μm,18.0s,MS6.3
YSS MLR MLR
comp=Z,25μm,18.0s,MS6.3
YSS Yuzh-Sakhalins 56.11 314 *e*P **P 17 17 25.6 -0.4**
comp=Z,418nm,1.4s,mb6.3
YSS LR LR
comp=Z,32μm,22.0s,MS6.4
VHO Vista Hermosa 56.15 82⇑*i*P **P 17 17 26.0 -0.2**
OXX Oaxaca 56.16 82 *e*P **P 17 17 27.0 +0.8**
GUMO Guam 56.63 273 P **P 17 17 29.1 -0.5**
comp=Z,958nm,1.2s,mb6.7,baz=211,slow=0.7,SNR=21
GUMO LR LR 17 36 48.7
comp=Z,42μm,20.9s,MS6.5,baz=73,slow=31
GUMO Guam 56.63 273 *e*P **P 17 17 30.2 +0.6**
GUMO pmax pmax
comp=Z,2μm,1.4s,mb6.9
GUMO MLR MLR
comp=Z,50μm,22.0s,MS6.6
GUMO Guam 56.63 273 *e*P **P 17 17 30.2 +0.6**
comp=Z,2μm,1.4s,mb6.9
GUMO LR LR
comp=Z,50μm,22.0s,MS6.6
SCIA State Center 56.98 52 *e*P **P 17 17 30.6 -1.5**
comp=Z,694nm,1.0s,mb6.6
HUIG Huatulco 57.03 84⇑*i*P **P 17 17 33.1 +0.6**
UALR University of 57.71 61 *e*P **P 17 17 35.1 -2.2**
comp=Z,198nm,0.9s,mb6.1
CMIG Matias Romero 57.87 82⇑*i*P **P 17 17 37.9 -0.4**
TUIG Tuzandepetl 58.09 81⇑*e*P **P 17 17 40.4 +0.5**
CCM Cathedral Cave 58.47 57 *e*P **P 17 17 38.1 -4.5**
CCM pmax pmax
comp=Z,195nm,1.3s,mb6.0
CCM MLR MLR
comp=Z,72μm,21.0s,MS6.8
CCM Cathedral Cave 58.47 57 *e*P **P 17 17 38.1 -4.5**
comp=Z,195nm,1.3s,mb6.0
CCM LR LR
comp=Z,72μm,21.0s,MS6.8
EYMN Ely 58.57 45 *e*P **P 17 17 41.6 -1.7**
comp=Z,178nm,1.2s,mb6.0
FCC Fort Churchill 58.77 33 *e*P **P 17 17 42.3 -2.3**
FCC pmax pmax
comp=Z,747nm,1.4s,mb6.5
FCC Fort Churchill 58.77 33 *e*P **P 17 17 42.3 -2.4**
comp=Z,747nm,1.4s,mb6.5
HBAR Harrisburg 59.04 60 P **P 17 17 43.8 -2.8**
FVM French Village 59.12 57 *e*P **P 17 17 44.5 -2.6**
FVM pmax pmax
comp=Z,255nm,1.0s,mb6.2
FVM French Village 59.12 57 *e*P **P 17 17 44.5 -2.5**
comp=Z,255nm,1.0s,mb6.2
MJAR Matsushiro Arr 59.16 301 P **P 17 17 48.2 +0.8**
comp=Z,132nm,0.8s,mb6.0,baz=91,slow=4.4,SNR=186
MJAR LR LR 17 38 45.4
comp=Z,15μm,21.3s,MS6.1,baz=100,slow=32
MJAR PKP2bc 17 47 33.9
comp=Z,13nm,1.4s,baz=281,slow=2.9,SNR=6.7
MJAR Matsushiro Arr 59.16 301 P **P 17 17 48.2 +0.8**
MJAR LR LR 17 38 45.4
MJAR ⇑*e* 17 47 33.9
MAJO Matsushiro 59.16 301 *e*P **P 17 17 48.3 +0.9**
MAJO pmax pmax
comp=Z,2μm,1.3s,mb7.0
MAJO MLR MLR
comp=Z,20μm,22.0s,MS6.2
MAJO Matsushiro 59.16 301 *e*P **P 17 17 48.3 +0.9**
comp=Z,2μm,1.3s,mb7.0
MAJO LR LR
comp=Z,20μm,22.0s,MS6.2
MAT Matsushiro 59.16 301 P **P 17 17 48.3 +0.9**
MAT S **S 17 25 50.0 -5.4**

SLM Saint Louis 59.24 56 *e*P **P 17 17 45.8 -2.2**
SLM pmax pmax
comp=Z,198nm,1.0s,mb6.1
SLM Saint Louis 59.24 56 *e*P **P 17 17 45.8 -2.2**
comp=Z,198nm,1.0s,mb6.1
MET Memphis--Engin 59.66 60 P **P 17 17 49.0 -1.9**
PARMO Parma 59.71 59 *e*P **P 17 17 49.7 -1.5**
PVMO Portageville 59.77 59 *e*P **P 17 17 50.5 -1.1**
comp=Z,1μm,1.1s,mb6.9
SIUC Southern Illin 60.08 57 *e*P **P 17 17 51.6 -2.2**
comp=Z,312nm,0.9s,mb6.3
HALT Halls 60.09 59 *e*P **P 17 17 52.6 -1.2**
GLAT Glass 60.11 59 *e*P **P 17 17 53.2 -0.8**
OXF Oxford 60.14 61 *e*P **P 17 17 52.6 -1.5**
OXF pmax pmax
comp=Z,905nm,1.1s,mb6.7
OXF MLR MLR
comp=Z,57μm,20.0s,MS6.7
OXF Oxford 60.14 61 *e*P **P 17 17 52.6 -1.5**
comp=Z,905nm,1.1s,mb6.7
OXF LR LR
comp=Z,57μm,20.0s,MS6.7
UTMT University of 60.45 59 *e*P **P 17 17 55.1 -1.2**
comp=Z,674nm,1.1s,mb6.6
CCIG Comitan 60.62 82⇑*i*P **P 17 17 57.3 0.0**
PLAL Pickwick Lake 61.19 60 *e*P **P 17 17 58.5 -2.8**
comp=Z,249nm,0.9s,mb6.3
PLAL LR LR
comp=Z,72μm,22.0s,MS6.8
WVT Waverly 61.30 59 *e*P **P 17 17 59.6 -2.4**
WVT pmax pmax
comp=Z,221nm,1.1s,mb6.2
WVT MLR MLR
comp=Z,44μm,20.0s,MS6.6
WVT Waverly 61.30 59 *e*P **P 17 17 59.6 -2.4**
comp=Z,221nm,1.1s,mb6.2
WVT LR LR
comp=Z,44μm,20.0s,MS6.6
USIN University of 61.30 57 *e*P **P 17 18 00.7 -1.3**
comp=Z,398nm,1.1s,mb6.5
BLO Bloomington 62.12 56 *e*P **P 17 18 07.1 -0.4**
BLO pmax pmax
comp=Z,128nm,0.8s,mb6.1
BLO Bloomington 62.12 56 *e*P **P 17 18 07.1 -0.4**
comp=Z,128nm,0.8s,mb6.1
WCI Wyandotte Cave 62.36 57 *e*P **P 17 18 07.6 -1.6**
WCI pmax pmax
comp=Z,614nm,1.5s,mb6.5
WCI MLR MLR
comp=Z,75μm,21.0s,MS6.8
WCI Wyandotte Cave 62.36 57 *e*P **P 17 18 07.6 -1.5**
comp=Z,614nm,1.5s,mb6.5
WCI LR LR
comp=Z,75μm,21.0s,MS6.8
PUZ Puketiti 62.47 203 PN **P 17 18 11.0 +1.1**
SWET Sewanee 62.92 60 *e*P **P 17 18 10.7 -2.3**
PMG Port Moresby 62.96 248 LR LR 17 45 04.8
comp=Z,45μm,18.0s,MS6.7,baz=64,slow=36
PMG Port Moresby 62.96 248 *i* P **P 17 18 14.0 +0.8**
PMG Port Moresby 62.96 248 PFAKE 17 18 30.0 +17
PMG LR LR
comp=Z,57μm,22.0s,MS6.7
URZ Urewera 63.06 203 LR LR 17 40 09.9
comp=Z,43μm,21.2s,MS6.6,baz=51,slow=31
RES Resolute Bay 63.49 15 *e*P **P 17 18 15.2 -1.5**
RES pmax pmax
comp=Z,516nm,0.9s,mb6.7
RES Resolute Bay 63.49 15 *e*P **P 17 18 15.2 -1.5**
comp=Z,5μm,0.9s
KLR Kul'dur 63.60 316⇑*i*P **P 17 18 13.5 -3.9**
KLR *e*S **S 17 26 48.0 -3.8**
KLR pmax pmax
comp=E,460nm,1.8s
KLR pmax pmax
comp=Z,790nm,1.8s,mb6.4
KLR pmax pmax
comp=N,2μm,12.0s
KLR pmax pmax
comp=E,4μm,12.0s
KLR pmax pmax
comp=Z,14μm,12.0s
KLR MLR MLR
comp=Z,18μm,15.0s,MS6.4
VLA Vladivostok 63.69 309*c e*P **P 17 18 17.8 -0.2**
VLA pmax pmax
comp=Z,398nm,1.7s,mb6.2
VLA Vladivostok 63.69 309⇑*e*P **P 17 18 17.9 -0.1**
CPCT Cooper Cave 64.04 60 *e*P **P 17 18 18.1 -2.2**
AAM Ann Arbor 64.08 52 *e*P **P 17 18 18.6 -2.0**
AAM pmax pmax
comp=Z,291nm,1.1s,mb6.2
AAM MLR MLR
comp=Z,102μm,20.0s,MS7.0
AAM Ann Arbor 64.08 52 *e*P **P 17 18 18.6 -2.0**
comp=Z,291nm,1.1s,mb6.2
AAM LR LR
comp=Z,102μm,20.0s,MS7.0
TZTN Tazewell 64.70 58 *e*P **P 17 18 22.5 -2.1**
comp=Z,556nm,1.3s,mb6.4
PXZ Pawanui 64.71 203 PN **P 17 18 25.2 +0.5**
ACSO Alum Creek Sta 64.76 54 *e*P **P 17 18 22.4 -2.7**
comp=Z,249nm,0.9s,mb6.2
ACSO LR LR
comp=Z,99μm,22.0s,MS7.0
RPN Rapa Nui 65.10 134 P pP 17 18 39.7 +11
comp=Z,2μm,1.5s,SNR=6.5
RPN Rapa Nui 65.10 134 LR LR 17 40 10.6
comp=Z,20μm,20.8s,MS6.3,baz=323,slow=30
RPN Rapa Nui 65.10 134 P **P 17 18 27.6 +0.3**
comp=Z,973nm,1.5s,mb6.6
YAK Yakutsk 65.23 330*d i*P **P 17 18 26.1 -2.0**
YAK pmax pmax
comp=Z,603nm,0.8s,mb6.7
YAK Yakutsk 65.23 330 *e*P **P 17 18 26.4 -1.8**
comp=Z,989nm,0.9s,mb6.8
YAK LR LR
comp=Z,40μm,20.0s,MS6.6
MDJ Mudanjiang 65.25 311 P **P 17 18 28.3 +0.1**
MDJ AP pP 17 18 37.5 +7.6
MDJ XP sP 17 18 41.3 +11
MDJ PCP PcP 17 19 00.0 -0.6
MDJ PP PP 17 20 52.0 +0.3
MDJ AMB AMB
comp=Z,297nm,1.9s,mb6.0
MDJ AMB AMB
comp=Z,8μm,10.9s
MDJ LR LR
comp=N,7μm,30.4s
MDJ LR LR
comp=E,31μm,39.1s
MDJ LR LR
comp=Z,47μm,38.0s
MDJ Mudanjiang 65.25 311 PFAKE 17 18 40.0 +12
MDJ LR LR
comp=Z,23μm,22.0s,MS6.3
TGUH Tegucigalpa,Un 65.72 83 *e*P **P 17 18 30.2 -1.0**
comp=Z,199nm,0.9s,mb6.2
LEON Leon 66.53 85 *e*P **P 17 18 34.9 -1.5**
TELN Telica 66.53 85 *e*P **P 17 18 35.5 -1.0**
SNZO South Karori 66.62 204 *e*P **P 17 18 36.6 -0.4**
comp=Z,303nm,1.1s,mb6.2
SNZO LR LR
comp=Z,32μm,21.0s,MS6.5
CNGN Cerro Negro 66.69 85 *e*P **P 17 18 35.7 -1.7**
CNGN *i* 17 19 08.2
comp=E,147nm,0.6s
MIRN Miramar 66.69 85 *e*P **P 17 18 35.4 -2.1**
FWV Forest Hill 66.74 57 *e*P **P 17 18 36.1 -1.7**
ALLY Alegheny Colle 66.75 52 *e*P **P 17 18 35.7 -2.2**
ELN Prospectdale 66.83 57 *e*P **P 17 18 36.9 -1.5**
MOMJ Momotombo 66.86 85 *e*P **P 17 18 38.3 -0.3**
COPN Copaltepe 66.88 85 *e*P **P 17 18 38.2 -0.5**
BLA Blacksburg 67.10 57 *e*P **P 17 18 38.4 -1.7**
BLA pmax pmax
comp=Z,859nm,1.3s,mb6.6
BLA MLR MLR
comp=Z,65μm,21.0s,MS6.8
BLA Blacksburg 67.10 57 *e*P **P 17 18 38.4 -1.7**
comp=Z,859nm,1.3s,mb6.6
BLA LR LR
comp=Z,65μm,21.0s,MS6.8
LHS Liberty Hill 67.19 60 *e*P **P 17 18 39.9 -0.8**
MCWV Mont Chateau 67.22 54 *e*P **P 17 18 39.0 -1.9**
comp=Z,493nm,1.3s,mb6.4
MCWV LR LR
comp=Z,63μm,22.0s,MS6.8

SOR Soroa 67.51 73 *e*P **P 17 18 43.4 +0.7**
PAYG Puerto Ayora 67.58 99 PFAKE 17 18 50.0 +6.8
PAYG LR LR
comp=Z,36μm,20.0s,MS6.6
CLNS Chul'man 67.59 324 *e*P **P 17 18 42.1 -1.1**
CLNS *e**PP pP 17 18 47.6 +2.8
CLNS *e* 17 19 07.7
CLNS *e*S S 17 27 29.3 -11
CLNS *e*PPS 17 27 59.5
CLNS *e* 17 28 32.3
CLNS pmax pmax
comp=Z,328nm,0.8s,mb6.4
CLNS pmax pmax
comp=N,79nm,1.0s
CLNS pmax pmax
comp=E,139nm,1.0s
CLNS smax
comp=N,3μm,12.6s
CLNS smax
comp=Z,1μm,13.0s
CLNS smax
comp=E,3μm,11.2s
CLNS Chul'man 67.59 324 *e*P **P 17 18 42.0 -1.2**
NRGR Nerungri 67.69 324 *e*P **P 17 18 43.5 -0.4**
NRGR S S 17 27 33.1 -8.7
NRGR smax
comp=E,99nm,0.8s
DWPF Disney 67.79 67 *e*P **P 17 18 43.5 -1.0**
comp=E,209nm,0.9s,mb6.2
DWPF LR LR
comp=Z,52μm,19.0s,MS6.8
CONN Concepcion 67.96 85 *e*P **P 17 18 42.4 -3.2**
KHZ Kahutara 68.02 204 *e*PN **P 17 18 44.9 -1.0**
MADN Villa Maderas 68.09 85 *e*P **P 17 18 46.2 -0.2**
INCN Inchon 68.28 303 *e*P **P 17 18 47.1 -0.4**
comp=Z,801nm,1.3s,mb6.6
INCN LR LR
comp=Z,27μm,22.0s,MS6.4
CN2 Changchun 68.30 310⇓P **P 17 18 47.0 -0.7**
CN2 *e*XP sP 17 19 05.3 +15
CN2 AMB AMB
comp=Z,8μm,10.0s
CN2 LR LR
comp=N,20μm,19.0s,MS6.7
CN2 LR LR
comp=E,39μm,19.0s,MS6.7
CN2 LR LR
comp=Z,49μm,21.0s,MS6.7
LIM1 Limonal 68.56 86 *e*P **P 17 18 48.5 -0.8**
SSPA Standing Stone 68.57 53 *e*P **P 17 18 46.6 -2.8**
comp=Z,284nm,1.4s,mb6.0
SSPA LR LR
comp=Z,130μm,20.0s,MS7.2
CTA Charters Tower 69.01 238 *e*P **P 17 18 51.8 -0.3**
comp=Z,65nm,1.5s,mb5.3
CTA *e*S S 17 27 59.6 +2.1
CTA *e*PKPPKP 17 47 01.8
CTA Charters Tower 69.01 238 *e*P **P 17 18 51.8 -0.3**
CTA *e*S S 17 27 59.6 +2.1
CTA pmax pmax
comp=Z,65nm,1.5s
CTAO Charters Tower 69.01 238 *e*P **P 17 18 52.1 0.0**
CTAO pmax pmax
comp=Z,693nm,1.9s,mb6.3
CTAO MLR MLR
comp=Z,60μm,21.0s,MS6.8
CTAO Charters Tower 69.01 238 *e*P **P 17 18 52.1 0.0**
comp=Z,693nm,1.9s,mb6.3
CTAO LR LR
comp=Z,60μm,21.0s,MS6.8
CBN Corbin 69.33 56 *e*P **P 17 18 51.2 -2.9**
comp=Z,237nm,1.0s,mb6.1
CBN LR LR
comp=Z,99μm,19.0s,MS7.1
CNNC Cliffs of the 69.43 59 *e*P **P 17 18 53.2 -1.5**
comp=Z,542nm,1.3s,mb6.3
BINY Binghamton 69.75 51 *e*P **P 17 18 54.3 -2.4**
comp=Z,218nm,1.1s,mb6.0
BINY LR LR
comp=Z,92μm,20.0s,MS7.0
MVL Millersville 69.83 54 *e*P **P 17 18 55.4 -1.8**
SNY Shenyang 69.94 308⇓P **P 17 18 57.8 0.0**
SNY PCP PcP 17 19 16.6 -3.6
SNY PP PP 17 21 31.4 -1.0
SNY AMB AMB
comp=Z,150nm,2.0s,mb5.6
SNY AMB AMB
comp=Z,10μm,12.0s
SNY LR LR
comp=E,17μm,25.0s
SNY LR LR
comp=Z,30μm,34.3s
MSNY Massena 70.14 48 *e*P **P 17 18 55.9 -3.2**
LONY Lake Ozonia 70.39 49 *e*P **P 17 18 58.3 -2.3**
comp=Z,250nm,1.4s,mb6.0
NCB Newcomb 70.75 49 P **P 17 19 01.5 -1.3**
comp=Z,110nm,1.3s,mb5.6
NCB LR LR
comp=Z,22μm,20.0s,MS6.4
ARMA Armidale 70.89 226 *e*P **P 17 19 04.8 +1.1**
ARMA *e*S S 17 28 26.0 +6.5
ALE Alert 70.92 8 P **P 17 19 02.6 -1.2**
comp=Z,945nm,1.0s,mb6.7,SNR=20
FRNY Flat Rock 71.06 48 *e*P **P 17 19 01.8 -2.9**
ACCN Adirondack Com 71.25 50 *e*P **P 17 19 03.0 -2.8**
ODZ Otahua Downs 71.36 204 *e*PN **P 17 19 05.0 -1.5**
HIA Hailar 71.44 317 PFAKE 17 19 20.0 +13
HIA LR LR
comp=Z,41μm,22.0s,MS6.7
CPNY Central Park 71.49 52 *e*P **P 17 19 06.7 -0.6**
PAL Palisades 71.49 52 *e*P **P 17 19 05.9 -1.4**
PAL pmax pmax
comp=Z,348nm,1.4s,mb6.1
PAL Palisades 71.49 52 *e*P **P 17 19 05.9 -1.4**
comp=Z,348nm,1.4s,mb6.1
WKZ Wanaka 71.82 205 *e*PN **P 17 19 07.6 -1.7**
DL2 Dalian 71.92 306 *i* P **P 17 19 10.0 +0.1**
DL2 PCP PcP 17 19 29.9 +1.3
DL2 PP PP 17 21 53.8 +4.3
DL2 AMB AMB
comp=Z,230nm,1.2s,mb6.0
DL2 AMB AMB
comp=Z,5μm,8.7s
DL2 LR LR
comp=N,4μm,20.6s,MS6.0
DL2 LR LR
comp=E,9μm,20.2s,MS6.0
DL2 LR LR
comp=Z,18μm,28.4s
HNH Hanover 72.18 49 *e*P **P 17 19 10.2 -1.2**
comp=Z,38nm,1.6s,mb5.1
LBNH Lisbon 72.33 49 *e*P **P 17 19 11.3 -1.1**
LBNH pmax pmax
comp=Z,332nm,1.4s,mb6.1
LBNH MLR MLR
comp=Z,86μm,20.0s,MS7.0
LBNH Lisbon 72.33 49 *e*P **P 17 19 11.3 -1.1**
comp=Z,332nm,1.4s,mb6.1
LBNH LR LR
comp=Z,86μm,20.0s,MS7.0
QUA2 Belchertown 72.40 51 *e*P **P 17 19 11.6 -1.2**
comp=Z,187nm,1.2s,mb5.9
FFD Franklin Falls 72.67 49 *e*P **P 17 19 12.4 -2.0**
comp=Z,542nm,1.7s,mb6.2
HRV Harvard--Oak R 72.93 50 *e*P **P 17 19 15.6 -0.3**
HRV pmax pmax
comp=Z,134nm,1.3s,mb5.7
HRV MLR MLR
comp=Z,43μm,20.0s,MS6.7
HRV Harvard--Oak R 72.93 50 *e*P **P 17 19 15.6 -0.3**
comp=Z,134nm,1.3s,mb5.7
HRV LR LR
comp=Z,43μm,20.0s,MS6.7
WES Weston 73.13 50 *e*P **P 17 19 16.0 -1.1**
WES pmax pmax
comp=Z,189nm,1.2s,mb5.9
WES MLR MLR
comp=Z,33μm,20.0s,MS6.6
WES Weston 73.13 50 *e*P **P 17 19 15.9 -1.1**
comp=Z,190nm,1.2s,mb5.9
WES LR LR
comp=Z,33μm,20.0s,MS6.6
RIV Riverview 73.31 224 *e*P **P 17 19 17.8 -0.4**
BOD Bodaibo 73.34 326⇓*i*P **P 17 19 17.5 -0.9**
BOD *e* 17 19 37.1
BOD pmax pmax

comp=Z,834nm,1.4s,mb6.5
SCHQ Schefferville 73.59 37 P **P 17 19 19.0 -0.8**
comp=Z,28nm,0.9s,mb5.2,baz=295,slow=5.9,SNR=11
SCHQ LR LR 17 49 57.0
comp=Z,17μm,18.4s,MS6.4,baz=293,slow=34
SCHQ Schefferville 73.59 37 *e*P **P 17 19 18.7 -1.1**
comp=Z,382nm,1.6s,mb6.1
SCHQ LR LR
comp=Z,31μm,22.0s,MS6.5
LMGC Las Mercedes 73.60 74 *e*P **P 17 19 21.1 +1.2**
LMGC *e*S S 17 28 30.6 -20
comp=N,119nm,16.8s
LMGC *e*S S
comp=N,170nm,23.1s
SSE Sheshan 73.96 298 P **P 17 19 21.8 -0.2**
SSE XP sP 17 19 38.8 +15
SSE PP PP 17 22 01.6 -5.3
SSE S S 17 28 49.9 -4.8
SSE SS SS 17 33 34.0 -4.9
SSE AMB AMB
comp=Z,59nm,1.0s,mb5.5
SSE AMB AMB
comp=Z,7μm,11.5s
SSE LR LR
comp=N,6μm,20.4s,MS6.6
SSE LR LR
comp=E,34μm,20.4s,MS6.6
SSE LR LR
comp=Z,43μm,17.2s,MS6.8
SSE Sheshan 73.96 298 P **P 17 19 21.8 -0.2**
comp=Z,59nm,1.0s,mb5.5
SSE sP sP 17 19 38.7 +15
SSE PP PP 17 22 01.6 -5.3
SSE S S 17 28 49.9 -4.8
SSE sS sS 17 29 13.0 +16
SSE SS SS 17 33 34.0 -4.9
SSE LR LR
comp=Z,43μm,17.2s,MS6.8
PKME Peaks-Kenny Pk 73.97 47 *e*P **P 17 19 19.5 -2.6**
comp=Z,378nm,1.4s,mb6.1
HLGC Holguin 74.23 73 *e*P **P 17 19 24.7 +1.1**
CIT Chita 74.79 320 *e*P **P 17 19 26.5 -0.3**
CIT *e* 17 19 46.5
CIT pmax pmax
comp=Z,980nm,2.1s,mb6.4
RCC Rio Carpintero 74.80 74 *e*P **P 17 19 25.2 -1.7**
TATO Taipei 75.23 292 *e*P **P 17 19 30.1 +0.8**
comp=Z,1μm,1.9s,mb6.5
TATO LR LR
comp=Z,30μm,19.0s,MS6.6
MOAC Moa 75.28 73 *e*P **P 17 19 34.6 +4.9**
NACB Ninganchiao 75.34 291 *e*P **P 17 19 29.2 -0.8**
CNB Canberra Magne 75.39 223 *e*P **P 17 19 32.5 +2.2**
comp=Z,431nm,1.5s,mb6.2
YHNB Yeheng 75.41 291 *e*P **P 17 19 29.9 -0.4**
NJ2 Nanjing 75.65 299 *e*P **P 17 19 32.1 +0.3**
NJ2 AP pP 17 19 39.9 +6.5
NJ2 XP sP 17 19 44.5 +10
NJ2 PP PP 17 22 23.3 +2.0
NJ2 AMB AMB
comp=Z,700nm,1.1s,mb6.5
NJ2 AMB AMB
comp=Z,17μm,11.0s
NJ2 LR LR
comp=N,29μm,23.8s,MS6.8
NJ2 LR LR
comp=E,46μm,21.6s,MS6.8
NJ2 LR LR
comp=Z,270μm,20.4s,MS7.5
BJI Beijing 75.79 308 P **P 17 19 32.1 -0.5**
BJI XP sP 17 19 48.9 +14
BJI PP PP 17 22 22.3 -0.1
BJI AMB AMB
comp=Z,246nm,3.4s
BJI LR LR
comp=N,15μm,19.7s,MS6.4
BJI LR LR
comp=E,13μm,18.6s,MS6.4
BJI LR LR
comp=Z,25μm,28.7s
BJI Beijing 75.79 308 P **P 17 19 32.1 -0.5**
BJI *SP sP 17 19 48.9 +14
BJI 17 22 22.2
BJI *SS sS 17 29 32.2 +14
BJI SS SS 17 34 05.0 -1.7
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJI Beijing 75.79 308 P **P 17 19 32.1 -0.5**
comp=Z,10.0nm,0.7s
BJI sP sP 17 19 48.9 +14
BJI PP PP 17 22 22.2 -0.2
BJI S S 17 28 53.7 -21
BJI sS sS 17 29 32.2 +14
BJI SS SS 17 34 05.0 -1.7
BJI LR LR
comp=Z,25μm,28.7s,MS6.4
BJT Baijiatuau 75.80 308 PFAKE 17 19 40.0 +7.4
BJT LR LR
comp=Z,20μm,20.0s,MS6.4
PVCP Virac 75.99 280 *e*P **P 17 19 33.7 0.0**
TIA Tai'an 76.00 304 ⇓P **P 17 19 33.5 -0.3**
TIA PP PP 17 22 24.0 -0.2
TIA S S 17 29 17.5 0.0
TIA XS sS 17 29 27.3 +7.1
TIA AMB AMB
comp=Z,131nm,1.0s,mb5.8
TIA AMB AMB
comp=Z,2μm,5.0s
TIA LR LR
comp=N,2μm,18.4s,MS6.0
TIA LR LR
comp=E,7μm,18.4s,MS6.0
MASC Masc 76.08 73 *e*P **P 17 19 40.2 +6.0**
MASC *e*S S 17 29 15.3 -3.0
comp=N,8.4nm,7.3s
MASC *e*
comp=E,11nm,6.4s
MSLP Maasin 76.38 276 *e*P **P 17 19 36.5 +0.6**
DAV Davao City (W) 76.66 273 P **P 17 19 38.3 +0.8**
comp=E,446nm,1.2s,mb6.3
DAV LR LR
comp=Z,24μm,22.0s,MS6.5
DMPH Davao City--Mi 76.72 273 ⇑*i*P **P 17 19 38.8 +0.9**
BUKP Musuan 76.89 274 *e*P **P 17 19 39.9 +1.1**
CVP Callao Caves 76.93 284 ⇓*e*P **P 17 19 40.0 +0.9**
CGP Cagayan de Oro 77.05 274 ⇑*i*P **P 17 19 40.5 +0.8**
CAUP Cauayan 77.15 284 *e*P **P 17 19 42.5 +2.3**
LLP Lapu-Lapu 77.16 276 ⇑*e*P **P 17 19 41.0 +0.7**
comp=Z,201μm,1.8s
KAKA Kakadu 77.39 251 *e*P **P 17 19 41.3 -0.3**
comp=Z,314nm,1.1s,mb6.2
AUQP San Andres 77.44 280 *e*P **P 17 19 44.9 +3.0**
BALP Baler 77.73 282 *e*P **P 17 19 44.8 +1.3**
SFJD Kangerlussuaq 77.76 23 LR LR 17 52 08.6
comp=Z,81μm,18.5s,MS7.1,baz=266,slow=34
SFJD Kangerlussuaq 77.76 23 ⇓*i*P **P 17 19 43.0 -0.7**
comp=Z,282nm,1.1s,mb6.1
SFJD *i* 17 19 57.1
SFJD *i*S S 17 29 34.8 -1.9
SFJD
comp=Z,79μm,19.0s
SFJD Kangerlussuaq 77.76 23 ⇓*i*P **P 17 19 43.0 -0.7**
SFJD *i* 17 19 57.1
SFJD *i*S S 17 29 34.8 -1.9
SFJD pmax pmax
comp=Z,282nm,1.1s,mb6.1
SFJD MLR MLR
comp=Z,79μm,19.0s,MS7.1
QZH Quanzhou 77.77 292 P **P 17 19 44.5 +0.8**
QZH XP sP 17 20 03.8 +18
QZH AMB AMB
comp=Z,2μm,1.4s,mb6.8
QZH AMB AMB
comp=Z,15μm,13.9s
QZH LR LR
comp=N,39μm,22.7s,MS6.9
QZH LR LR
comp=E,49μm,24.5s,MS6.9
QZH LR LR
comp=Z,70μm,23.6s,MS6.9
ABRA Dolores 77.96 285 *e*P **P 17 19 44.6 -0.2**
BOAC Boac 78.17 280 *e*P **P 17 19 46.6 +0.6**
OTAV Otavalo 78.32 94 *e*P **P 17 19 46.9 +0.1**
comp=Z,84nm,1.0s,mb5.6
OTRP Odiongan 78.34 279 *e*P **P 17 19 47.6 +0.7**

GUIM Jordan 78.35 277 *e*P **P 17 19 47.0 0.0**
BCPH Baguio City Da 78.45 283 ⇓*i*P **P 17 19 47.7 +0.2**
PAGZ Pagadian 78.48 274 *e*P **P 17 19 48.5 +0.8**
WRAB Tennant Creek 78.75 244 P **P 17 19 48.0 -1.2**
comp=Z,1μm,1.4s,mb6.7,SNR=64
WRAB Tennant Creek 78.75 244 ⇑*i*P **P 17 19 48.8 -0.4**
WB2 Warramunga Arr 78.75 244 ⇓*i*P **P 17 19 48.4 -0.8**
WB2 *e* 17 19 53.8
WB2 Warramunga Arr 78.75 244 *e*S ScS 17 30 14.8 +3.5
WB2 Warramunga Arr 78.75 244 ⇓*i*P **P 17 19 48.4 -0.8**
WB2 *e* 17 19 53.8
WB2 *e*S ScS 17 30 14.8 +3.5
WRA Warramunga Arr 78.76 244 P **P 17 19 48.5 -0.8**
comp=Z,119nm,1.0s,mb5.8,baz=62,slow=5.8,SNR=130
WRA PKKPbc PKKPbc 17 38 45.9 +2.5
comp=Z,0.7nm,0.8s,baz=256,slow=1.8,SNR=6.4
WRA PKP2ab 17 46 34.5
comp=Z,2.9nm,1.1s,baz=255,slow=1.4,SNR=7.6
WRA PKPPKP 17 46 46.4
comp=Z,2.1nm,1.1s,baz=244,slow=2.3,SNR=5.4
WRA LR LR 17 54 58.3
comp=Z,60μm,18.2s,MS7.0,baz=75,slow=36
STKA Stephens Creek 78.77 230 *e*P **P 17 19 49.2 -0.1**
comp=Z,86nm,0.8s,mb5.7
STKA *e*S S 17 29 49.3 +1.8
STKA *e*PKPPKP 17 46 42.1
STKA Stephens Creek 78.77 230 P **P 17 19 49.2 -0.1**
comp=Z,46nm,0.7s,mb5.5,baz=51,slow=5.5,SNR=38
STKA PKKPbc PKKPbc 17 38 45.5 +2.2
comp=Z,1.9nm,0.9s,baz=228,slow=12,SNR=3.1
STKA PKPPKP 17 46 41.9
comp=Z,3.3nm,0.9s,baz=288,slow=5.6,SNR=3.6
STKA LR LR 17 49 39.1
comp=Z,103μm,21.4s,MS7.1,baz=45,slow=32
TGY Tagaytay City 78.81 281 LR LR 17 48 08.7
comp=Z,126nm,20.9s,baz=18,slow=31
HHC Hu-ho-hao-te 78.97 309 *e*P **P 17 19 50.5 +0.1**
HHC AP pP 17 19 58.4 +6.4
HHC XP sP 17 20 01.9 +9.3
HHC PP PP 17 22 52.8 +3.7
HHC AMB AMB
comp=Z,127nm,1.4s,mb5.7
HHC AMB AMB
comp=Z,8μm,13.1s
HHC LR LR
comp=N,13μm,20.2s,MS6.4
HHC LR LR
comp=E,13μm,23.8s,MS6.4
HHC LR LR
comp=Z,25μm,21.8s,MS6.5
SUMG Summit 79.01 16 *e*P **P 17 19 49.8 -0.8**
comp=Z,303nm,1.0s,mb6.2
BOLP Bolinao 79.07 284 *e*P **P 17 19 51.1 +0.2**
TOO Toolangi 79.24 224 *e*P **P 17 19 52.3 +0.4**
comp=Z,57nm,1.2s,mb5.4
TOO Toolangi 79.24 224 *e*P **P 17 19 52.3 +0.4**
TOO pmax pmax
comp=Z,57nm,1.2s,mb5.4
SCZP Santa Cruz 79.25 283 *e*P **P 17 19 53.8 +1.8**
LUBP Lubang 79.56 281 *e*P **P 17 19 53.7 +0.1**
CUYO Cuyo Island 79.74 278 *e*P **P 17 19 55.4 +0.8**
WHN Wuhan 79.77 299 P **P 17 19 54.0 -0.8**
WHN AMB AMB
comp=Z,18μm,9.4s
WHN LR LR
comp=Z,86μm,33.6s,MS6.9
BUSP Coron 80.14 279 *e*P **P 17 19 57.2 +0.5**
IRK Irkutsk 80.22 322 *e*P **P 17 19 56.3 -0.9**
IRK *e* 17 22 54.3
IRK *e* 17 30 05.5
IRK pmax pmax
comp=Z,1μm,2.0s,mb6.5
DAG Danmarks Havn 80.26 9*b i*P **P 17 19 55.4 -2.0**
comp=Z,343nm,1.2s,mb6.2
DAG
comp=Z,64μm,21.0s
DAG Danmarks Havn 80.26 9*b i*P **P 17 19 55.4 -2.0**
DAG pmax pmax
comp=Z,340nm,1.2s,mb6.2
DAG MLR MLR
comp=Z,65μm,21.0s,MS7.0
DAG MLR MLR
comp=N,30μm,23.0s,MS6.8
DAG MLR MLR
comp=E,35μm,20.0s,MS6.8
DAG Danmarks Havn 80.26 9 *i* Pcr **P 17 19 55.4 -2.0**
comp=E,344nm,1.2s,mb6.2
DAG LR LR
comp=Z,65μm,21.0s,MS7.0
SONM Songino Array 80.38 317 P **P 17 19 57.6 -0.4**
comp=Z,22nm,0.8s,mb5.2,baz=94,slow=4.5,SNR=82
SONM PKPPKP 17 46 49.0
comp=Z,2.3nm,1.2s,baz=318,slow=2.0,SNR=4.3
SONM LR LR 17 57 05.2
comp=Z,24μm,18.8s,MS6.6,baz=67,slow=37
ROSC El Rosal 80.66 88 P **P 17 20 00.5 +0.9**
comp=Z,63nm,1.0s,mb5.5,baz=117,slow=4.8,SNR=28
ROSC LR LR 17 47 15.6
comp=Z,26μm,22.0s,MS6.5,baz=349,slow=29
ROSC El Rosal 80.66 88 *e*P **P 17 20 00.7 +1.1**
AS31 Alice Springs 80.76 241 ⇓*i*P **P 17 19 59.9 -0.2**
AS31 *e* 17 20 05.3
ASAR Alice Springs 80.76 241 P **P 17 19 60.0 -0.1**
comp=Z,178nm,1.1s,mb5.9,baz=65,slow=5.7,SNR=195
ASAR PKKPbc PKKPbc 17 38 41.1 +2.2
comp=Z,2.6nm,0.9s,baz=215,slow=2.0,SNR=5.7
ASAR PKPPKP 17 46 40.0
comp=Z,1.3nm,0.9s,baz=265,slow=1.8,SNR=5.0
ASAR LR LR 17 56 38.9
comp=Z,72μm,18.3s,MS7.1,baz=57,slow=36
ASAR Alice Springs 80.76 241 P **P 17 20 00.0 -0.1**
ASAR 17 38 41.1
ASPA Alice Springs 80.77 241 ⇓*i*P **P 17 19 59.9 -0.2**
ASPA *e* 17 20 05.3
BBSR BB Station 80.77 59 P **P 17 19 59.3 -0.9**
comp=Z,322nm,1.5s,mb6.0
BBSR LR LR
comp=Z,24μm,22.0s,MS6.5
ATAH Atahualpa 80.93 101 P **P 17 20 03.5 +2.5**
comp=Z,23nm,1.0s,mb5.1,baz=304,slow=10
ENPP El Nido 81.11 279 *e*P **P 17 20 02.7 +0.7**
KBS Kingsbay 81.16 2 *i* P **P 17 20 02.5 +0.3**
KBS *e*PP PP 17 23 07.9 +0.6
KBS *e*S S 17 30 05.9 -6.8
KBS AMS AMS 17 50 51.2
comp=Z,10μm,21.4s,MS6.1
KBS Kingsbay 81.16 2 ⇓*e*P **P 17 20 03.7 +1.5**
KBS Kingsbay 81.16 2 *e*P **P 17 20 02.2 0.0**
comp=Z,371nm,1.4s,mb6.1
KBS LR LR
comp=Z,18μm,21.0s,MS6.4
TAU Tasmania Unive 81.27 218 P **P 17 20 05.8 +3.0**
TAU pmax pmax
comp=Z,1μm,2.1s,mb6.5
TAU Tasmania Unive 81.27 218 PFAKE 17 20 10.0 +7.2
TAU LR LR
comp=Z,13μm,20.0s,MS6.3
ZAK Zakamensk 81.44 320 ⇓*i*P **P 17 20 03.6 -0.1**
ZAK pmax pmax
comp=Z,196nm,1.4s,mb5.8
PPR Puerto Princes 82.22 278 ⇓*i*P **P 17 20 09.4 +1.6**
MOY Mondy 82.31 322 *e*P **P 17 20 08.6 +0.3**
MOY pmax pmax
comp=Z,1μm,2.2s,mb6.4
HKC Hong Kong 82.42 291 ⇓*i*P **P 17 20 10.0 +1.2**
HKC S S 17 30 28.0 +2.3
ADE Adelaide 82.43 229 *e*P **P 17 20 10.0 +1.1**
SDV Santo Domingo 82.81 83 *e*P **P 17 20 10.4 -0.5**
comp=Z,231nm,0.8s,mb6.3
SDV LR LR
comp=Z,12μm,20.0s,MS6.3
GZH Guangzhou 82.90 292 P **P 17 20 10.3 -1.0**
GZH AMB AMB
comp=Z,157nm,1.8s,mb5.7
GZH LR LR
comp=N,11μm,19.0s,MS6.4
GZH LR LR
comp=E,11μm,20.5s,MS6.4
GZH LR LR
comp=Z,25μm,19.0s,MS6.6
BATP Bataraza 83.40 277 *e*P **P 17 20 15.0 +1.1**
SJG San Juan 83.98 73 LR LR 17 57 16.1
comp=Z,18μm,20.6s,MS6.4,baz=270,slow=35
SJG San Juan 83.98 73 *e*P **P 17 20 15.4 -1.5**
SJG pmax pmax
comp=Z,166nm,0.8s

SJG MLR MLR
comp=Z,17μm,21.0s
SJG San Juan 83.98 73 *e*P **P 17 20 15.4 -1.5**
comp=Z,166nm,0.8s,mb6.2
SJG LR LR
comp=Z,17μm,21.0s,MS6.4
NNA Nana 84.17 105 *e*P **P 17 20 13.3 -4.6**
comp=Z,262nm,1.4s,mb6.2
SCO Scoresbysund 84.38 14 *i* P **P 17 20 19.3 +0.4**
comp=Z,66nm,0.9s,mb5.8
SCO *i* 17 30 49.2
SCO Scoresbysund 84.38 14 *e*P **P 17 20 19.3 +0.4**
SCO pmax pmax
comp=Z,66nm,0.9s,mb5.8
SCO Scoresbysund 84.38 14 *e*P **P 17 20 19.3 +0.4**
comp=Z,66nm,0.9s,mb5.8
SCO *i* 17 30 49.2
TSM Tawau 84.81 273 P **P 17 20 22.1 +1.0**
KRAR Krasnoyarsk 84.83 328 *d i*P **P 17 20 20.4 -0.8**
KRAR pmax pmax
comp=Z,338nm,1.7s,mb6.2
FITZ Fitzroy Crossi 85.53 249 *e*P **P 17 20 24.9 +0.2**
comp=Z,177nm,1.1s,mb6.2
FITZ *e*S S 17 31 02.9 +6.0
KKM Kota Kinabalu 85.79 275 P **P 17 20 27.3 +1.3**
KKM Kota Kinabalu 85.79 275 *e*P **P 17 20 26.8 +0.8**
BJO1 Bjornoya 85.79 1 *e*P **P 17 20 24.8 -1.2**
BJO1 *i* 17 31 05.3
BJO1 LR LR
comp=Z,20μm,20.6s,MS6.5
BJO Bjornoya 85.79 1 *e*P **P 17 20 24.8 -1.2**
BJO *e*PP PP 17 23 44.3 -0.9
BJO *e*S S 17 30 57.4 -2.1
BJO AMS AMS 17 55 19.5
comp=Z,20μm,20.6s,MS6.5
KAPI Kappang 86.18 263 P **P 17 20 28.5 +0.5**
comp=Z,2μm,1.3s,mb7.1,SNR=45
LZH Lanzhou 86.25 307 ⇓P **P 17 20 28.5 +0.2**
LZH AP pP 17 20 39.4 +9.4
LZH XP sP 17 20 43.6 +13
LZH PP PP 17 23 51.6 +2.6
LZH PPP 17 25 48.5
LZH AMB AMB
comp=Z,615nm,1.5s,mb6.6
LZH AMB AMB
comp=Z,5μm,7.2s
LZH LR LR
comp=N,16μm,15.3s
LZH LR LR
comp=Z,40μm,18.6s,MS6.8
LZH Lanzhou 86.25 307 ⇓P **P 17 20 28.5 +0.2**
LZH *PP pP 17 20 39.4 +9.4
LZH *SP sP 17 20 43.6 +13
LZH 17 23 51.6
LZH PPP 17 25 48.5
LZH 17 30 49.1
LZH S S 17 30 59.7 -4.3
LZH PS 17 32 04.5
LZH SS SS 17 36 42.8 -0.1
LZH pmax pmax
comp=Z,615nm,1.5s,mb6.6
LZH MLR MLR
comp=Z,40μm,18.6s,MS6.8
LZH Lanzhou 86.25 307 ⇓P **P 17 20 28.5 +0.2**
comp=Z,615nm,1.5s,mb6.6
LZH pP pP 17 20 39.4 +9.4
LZH sP sP 17 20 43.6 +13
LZH PP PP 17 23 51.6 +2.6
LZH PPP 17 25 48.5
LZH SKS 17 30 49.1
LZH S S 17 30 59.7 -4.3
LZH sS sS 17 31 17.2 +10
LZH PS 17 32 04.5
LZH SS SS 17 36 42.8 -0.1
LZH LR LR
comp=Z,40μm,18.6s,MS6.8
JMIC Jan Mayen 86.62 10 LR LR 17 56 05.9
comp=Z,39μm,21.2s,MS6.8,baz=294,slow=34
JMIC Jan Mayen 86.62 10 *e*P **P 17 20 30.8 +0.7**
JMIC *e*S S 17 31 01.5 -6.1
JMIC AMS AMS 17 56 07.0
comp=Z,35μm,22.0s,MS6.7
SABT Saba 86.75 73 *e*P **P 17 20 33.7 +3.0**
QIZ Qiongzhong 87.31 289 P **P 17 20 34.0 +0.5**
QIZ XP sP 17 20 49.9 +14
QIZ PP PP 17 23 56.3 -1.3
QIZ AMB AMB
comp=Z,285nm,1.7s,mb6.2
QIZ AMB AMB
comp=Z,6μm,10.3s
QIZ LR LR
comp=E,13μm,20.6s
QIZ LR LR
comp=Z,17μm,20.6s,MS6.4
QIZ Qiongzhong 87.31 289 *e*P **P 17 20 33.0 -0.5**
comp=Z,807nm,1.6s,mb6.7
QIZ LR LR
comp=Z,18μm,20.0s,MS6.5
GYA Guiyang 87.49 297 ⇓*i*P **P 17 20 33.3 -1.1**
GYA SKS 17 30 50.9
GYA S SKSac 17 31 02.0 -0.8
GYA SS SS 17 36 48.0 -13
GYA AMB AMB
comp=Z,310nm,1.4s,mb6.3
GYA AMB AMB
comp=Z,5μm,14.1s
GYA LR LR
comp=N,23μm,21.6s,MS6.7
GYA LR LR
comp=E,23μm,22.8s,MS6.7
GYA LR LR
comp=Z,30μm,24.5s,MS6.6
GTA Gaotai 87.91 311 ⇓P **P 17 20 36.4 +0.1**
GTA AP pP 17 20 47.5 +9.5
GTA XP sP 17 20 52.0 +13
GTA PP PP 17 24 04.1 +1.8
GTA PPP 17 26 01.0
GTA AMB AMB
comp=Z,178nm,1.8s,mb6.0
GTA AMB AMB
comp=Z,8μm,7.6s
GTA LR LR
comp=N,15μm,20.6s,MS6.6
GTA LR LR
comp=E,18μm,22.2s,MS6.6
GTA LR LR
comp=Z,26μm,23.3s,MS6.6
CPB Codrington 88.02 72 *e*P **P 17 20 36.3 -0.6**
BPA Boggy Peak 88.19 73 *e*P **P 17 20 37.5 -0.2**
CD2 Chengdu 88.25 302 ⇓*i*P **P 17 20 37.3 -0.7**
CD2 AP pP 17 20 45.3 +5.7
CD2 XP sP 17 20 48.5 +8.3
CD2 AMB AMB
comp=Z,320nm,1.5s,mb6.3
CD2 AMB AMB
comp=Z,8μm,10.2s
CD2 LR LR
comp=N,20μm,22.8s,MS6.7
CD2 LR LR
comp=E,27μm,24.0s,MS6.7
CD2 LR LR
comp=Z,30μm,36.3s
FORT Forrest 88.49 237 *e*P **P 17 20 39.0 -0.1**
comp=Z,410nm,0.9s,mb6.7
BORG Borgarnes 88.80 18 LR LR 18 00 51.3
comp=Z,27μm,19.7s,MS6.7,baz=318,slow=36
BORG Borgarnes 88.80 18 PFAKE 17 20 50.0 +9.4
BORG LR LR
comp=Z,8μm,21.0s,MS6.1
MGG Marie-Galante 89.06 74 *e*P **P 17 20 42.8 +1.0**
MDN Morne-Daniel 89.20 74 *e*P **P 17 20 45.2 +2.8**
DSHT Scott's Head 89.26 74 *e*P **P 17 20 44.5 +1.8**
FDF Fort de France 89.62 75 ⇓*e*P **P 17 20 46.8 +2.4**
BIM Bigot 89.77 75 *e*P **P 17 20 46.5 +1.4**
ZAL Zalesovo 89.88 329 P **P 17 20 45.0 -0.7**
comp=Z,48nm,0.8s,mb5.8,baz=67,slow=5.5,SNR=104
ZAL PKKP PKKPbc 17 38 12.2 -5.3
comp=Z,0.8nm,0.5s,baz=130,slow=2.8,SNR=3.7
ZAL LR LR 17 59 25.5
comp=Z,35μm,20.7s,MS6.8,baz=57,slow=34
ZAL Zalesovo 89.88 329 P **P 17 20 45.0 -0.7**
ZAL PKKP PKKPbc 17 38 12.2 -5.3
ZAL LR LR 17 59 25.5
NVS Novosibirsk 90.10 330 ⇓*i*P **P 17 20 45.1 -1.6**
NVS *i* 17 31 13.0

NVS *i* S S 17 31 36.0 -4.6
NVS pmax pmax
comp=Z,1μm,1.7s,mb7.0
NVS pmax pmax
comp=N,385nm,2.2s
NVS pmax pmax
comp=E,633nm,1.5s
NVS smax
comp=E,6μm,6.0s
KEV Kevo 90.59 359 *e*p **P 17 20 44.4 -4.5**
ARE Arequipa 90.61 107 *e*P **P 17 20 53.0 +4.0**
TRO Tromso 90.67 2 *e*P **P 17 20 43.3 -6.0**
TRO *e*PP PP 17 24 21.0 -3.4
TRO *e* 17 31 31.1
TRO *e*SS SS 17 37 47.6 +0.5
TRO AMS AMS 17 57 04.9
comp=Z,17μm,22.2s,MS6.4
TRO Tromso 90.67 2 *e*P **P 17 20 43.3 -6.0**
TRO *e* 17 24 19.2
TRO MLR MLR
comp=Z,17μm,22.2s,MS6.4
TRO Tromso 90.67 2 *e*P **P 17 20 43.3 -6.0**
TRO *e* 17 24 19.2
TRO *i* 17 31 25.6
TRO LR LR
comp=Z,17μm,22.2s,MS6.4
TRN Trinidad (W) 90.80 78 *e*P **P 17 20 52.0 +2.1**
ARCES ARCESS Array B 90.83 359 P **P 17 20 47.7 -2.4**
comp=Z,94nm,1.0s,mb6.1,baz=48,slow=1.8,SNR=30
ARCES LR LR 18 02 46.4
comp=Z,17μm,18.9s,MS6.5,baz=2.4,slow=36
ARE0 ARCESS Array S 90.83 359 *e*P **P 17 20 47.2 -2.9**
KMI Kunming 91.27 297 P **P 17 20 51.8 -0.3**
KMI AP pP 17 21 04.3 +11
KMI XP sP 17 21 08.4 +14
KMI PP PP 17 24 30.9 +1.8
KMI AMB AMB
comp=Z,271nm,1.7s,mb6.3
KMI LR LR
comp=N,14μm,25.5s,MS6.5
KMI LR LR
comp=E,17μm,25.5s,MS6.5
KMI LR LR
comp=Z,31μm,26.9s,MS6.6
KMI Kunming 91.27 297 P **P 17 20 51.8 -0.3**
KMI *PP pP 17 21 04.2 +10
KMI 17 24 30.9
KMI 17 31 18.9
KMI S S 17 31 44.1 -7.2
KMI PS PS 17 33 01.0 +1.0
KMI SS SS 17 37 50.0 -5.9
KMI SSS 17 41 29.6
KMI pmax pmax
comp=Z,271nm,1.7s,mb6.3
KMI Kunming 91.27 297 P **P 17 20 51.8 -0.3**
comp=Z,271nm,1.7s,mb6.3
KMI pP pP 17 21 04.2 +10
KMI sP sP 17 21 08.4 +14
KMI PP PP 17 24 30.9 +1.8
KMI SKS 17 31 18.9
KMI S S 17 31 44.1 -7.2
KMI sS sS 17 32 03.8 +10
KMI PS PS 17 33 01.0 +1.0
KMI SS SS 17 37 50.0 -5.9
KMI SSS 17 41 29.6
KMI LR LR
comp=Z,31μm,26.9s,MS6.6
MBWA Marble Bar 91.82 248 *e*P **P 17 20 54.9 +0.2**
comp=Z,485nm,1.6s,mb6.6
MBWA LR LR
comp=Z,69μm,22.0s,MS7.0
LVZ Lovozero 92.12 356 P **P 17 20 54.8 -1.2**
comp=Z,628nm,1.2s,mb6.8,SNR=6.3
LVZ Lovozero 92.12 356⇑*e*P **P 17 20 53.9 -2.1**
LVZ *e* 17 24 34.1
LVZ *e* 17 31 26.6
LVZ *e* 17 31 49.8
LVZ *e*SS SS 17 38 09.7 +1.5
LVZ pmax pmax
comp=Z,170nm,1.5s,mb6.2
LVZ pmax pmax
comp=N,30nm,1.4s
LVZ Lovozero 92.12 356⇓*e*P **P 17 20 56.4 +0.4**
APA Apatity 92.53 356⇑*i*P **P 17 20 55.4 -2.5**
APA *i* 17 24 46.0
APA *i* 17 31 30.0
APA *e*S SKKSac 17 31 50.0 +0.2
APA *i* SPP 17 33 16.0
APA *i* SS SS 17 38 16.0 +2.0
APA *e*SSS 17 41 44.0
APA pmax pmax
comp=Z,99nm,1.3s,mb6.1
APA MLR MLR
comp=Z,15μm,20.0s,MS6.4
KSM Kuching 92.87 273 *e*P **P 17 20 58.6 -0.9**
WMQ Urumqi 93.86 319⇑*i*P **P 17 21 04.3 +0.2**
WMQ AP pP 17 21 15.0 +9.3
WMQ XP sP 17 21 19.0 +13
WMQ AMB AMB
comp=Z,96nm,1.5s,mb6.0
WMQ AMB AMB
comp=Z,3μm,8.6s
WMQ LR LR
comp=N,33μm,18.2s,MS7.0
WMQ LR LR
comp=E,30μm,19.8s,MS7.0
WMQ LR LR
comp=Z,29μm,26.8s
KKTK Khon Kaen 94.52 289⇑P **P 17 21 07.0 -0.1**
comp=Z,340nm,0.7s,mb6.9
KURK Kurchatov 94.85 329 P **P 17 21 08.3 -0.3**
comp=Z,440nm,1.3s,mb6.7,SNR=21
LVC Limon Verde 94.98 112 P **P 17 21 09.6 +0.4**
comp=Z,21nm,1.2s,mb5.5,baz=357,slow=4.2,SNR=5.1
LVC Limon Verde 94.98 112 *e*P **P 17 21 09.8 +0.6**
comp=Z,206nm,1.4s,mb6.4
LVC LR LR
comp=Z,30μm,21.0s,MS6.7
MK31 Makanchi Array 95.34 324 *e*P **P 17 21 09.9 -1.0**
MKAR Makanchi Array 95.34 324 P **P 17 21 10.2 -0.7**
comp=Z,9.4nm,0.8s,mb5.3,baz=46,slow=3.5,SNR=20
MKAR LR LR 18 00 08.8
comp=Z,15μm,21.8s,MS6.4,baz=308,slow=33
MKAR Makanchi Array 95.34 324 *i* P **P 17 21 10.1 -0.8**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
NSS Namsos 95.36 5 *e*P **P 17 21 05.7 -5.3**
NSS *e*PP PP 17 24 57.0 -4.2
NSS *i* 17 33 37.5
NSS AMS AMS 18 02 48.3
comp=Z,21μm,19.7s,MS6.6
TMCR Tamitsa 95.51 354 *e*P **P 17 21 09.4 -2.2**
TMCR pmax pmax
comp=Z,266nm,1.8s,mb6.4
CHKZ Chkalovo 96.44 334 *e*P **P 17 21 13.6 -2.2**
CHKZ pmax pmax
comp=Z,80nm,1.2s,mb6.0
CHKZ Chkalovo 96.44 334 *e*P **P 17 21 13.6 -2.2**
comp=Z,80nm,1.2s,mb6.0
MOL Molde 96.82 8 *e*P **P 17 21 15.5 -2.0**
MOL *i* 17 33 56.9
CHG Chiang Mai 96.97 293⇑P **P 17 21 18.4 +0.1**
comp=Z,49nm,1.5s,mb5.7
CHTO Chiang Mai 96.97 293 *e*P **P 17 21 17.4 -0.9**
CHTO pmax pmax
comp=Z,113nm,1.7s,mb6.0
CHTO MLR MLR
comp=Z,11μm,22.0s,MS6.3
CHTO Chiang Mai 96.97 293 *e*P **P 17 21 17.4 -0.9**
comp=Z,113nm,1.7s,mb6.0
CHTO LR LR
comp=Z,11μm,22.0s,MS6.3
KLBR Kellerberrin 97.00 239 *e*P **P 17 21 20.3 +1.9**
comp=Z,9μm,7.6s
BRVK Borovoye 97.02 334 P **P 17 21 17.1 -1.4**
comp=Z,369nm,1.2s,mb6.7,SNR=19
BRVK Borovoye 97.02 334 *e*P **P 17 21 16.8 -1.7**
BRVK pmax pmax
comp=Z,52nm,2.2s,mb5.6
BRVK MLR MLR
comp=Z,9μm,22.0s,MS6.2
BRVK Borovoye 97.02 334 *e*P **P 17 21 16.8 -1.7**
comp=Z,52nm,2.2s,mb5.6
BRVK LR LR
comp=Z,9μm,22.0s,MS6.2

CM31 Chiang Mai Arr 97.12 292 PFAKE 17 21 30.0 +11
CM31 LR LR
comp=Z,13μm,21.0s,MS6.4
NST Nakhon Sawan 97.16 289 P **P 17 21 20.0 +0.9**
JOF Joensuu 97.27 357 *e*p **P 17 21 16.7 -2.9**
comp=Z,126nm,0.9s,mb6.3
JOF Joensuu 97.27 357 *e*P **P 17 21 16.7 -2.9**
JOF pmax pmax
comp=Z,126nm,0.9s,mb6.3
SVE Sverdlovsk 97.59 341⇓*e*P **P 17 21 21.0 -0.1**
SVE *e* 17 25 20.0
SVE *e*S S 17 32 44.0 -2.8
SVE pmax pmax
comp=Z,210nm,2.3s,mb6.3
SVE MLR MLR
comp=E,14μm,19.0s
ZRNK Zerenda 97.62 334 *e*P **P 17 21 19.0 -2.2**
ZRNK pmax pmax
comp=Z,24nm,0.8s,mb5.8
ZRNK Zerenda 97.62 334 *e*P **P 17 21 19.0 -2.3**
comp=Z,24nm,0.8s,mb5.8
NWAO Narrogin (SRO) 97.85 238 PFAKE 17 21 30.0 +7.8
NWAO LR LR
comp=Z,34μm,22.0s,MS6.8
KAF Kangasniemi 98.27 359 *e*p **P 17 21 21.6 -2.5**
comp=Z,34nm,0.9s,mb5.9
KAF Kangasniemi 98.27 359 *e*P **P 17 21 21.6 -2.5**
KAF pmax pmax
comp=Z,34nm,0.9s,mb5.9
DRV Dumont d'Urvil 98.33 201 Pdif **P 17 21 19.0 -5.4**
DRV Dumont d'Urvil 98.33 201 PP PP 17 25 22.0 -2.1
DRV S S 17 32 44.0 -9.1
DRV SP SS 17 39 30.0 -6.5
CFAA Coronel Fontan 98.43 120 P **P 17 21 23.6 -1.2**
comp=Z,0.4nm,0.9s,baz=344,slow=7.4,SNR=2.9
CFAA PKKPbc PKKPbc 17 37 54.8 -0.2
comp=Z,0.2nm,0.4s,baz=216,slow=4.6,SNR=4.0
ARU Arti 98.56 341⇓*i*P **P 17 21 24.4 -1.0**
ARU *e* 17 25 25.3
ARU *e*S SKSac 17 32 00.6 -3.5
ARU *e*SP SP 17 34 18.4 -1.1
ARU *e*SS SS 17 39 34.3 -5.4
ARU pmax pmax
comp=Z,84nm,1.2s,mb6.2
ARU MLR MLR
comp=N,20μm,22.0s,MS6.6
ARU MLR MLR
comp=Z,32μm,22.0s,MS6.8
ARU MLR MLR
comp=E,12μm,21.0s,MS6.6
ARU Arti 98.56 341 *e*P **P 17 21 22.9 -2.5**
comp=E,121nm,1.3s,mb6.3
ARU LR LR
comp=Z,8μm,22.0s,MS6.2
LSA Lhasa 98.61 306 P **P 17 21 25.3 -0.4**
LSA AP pP 17 21 42.3 +15
LSA AMB AMB
comp=Z,230nm,13.1s
LSA LR LR
comp=E,19μm,35.9s
LSA LR LR
comp=Z,28μm,43.7s
LSA Lhasa 98.61 306 PFAKE 17 21 40.0 +14
LSA LR LR
comp=Z,15μm,20.0s,MS6.5
BER Bergen 98.62 9 *e*P **P 17 21 22.9 -2.7**
BER *e*PP PP 17 25 24.8 -1.5
BER *i* 17 34 17.6
BER AMS AMS 18 04 53.8
comp=Z,34μm,19.0s,MS6.9
NB2 NORSAR Subarra 98.72 6 Pdif **P 17 21 22.9 -3.2**
comp=Z,29nm,1.4s,mb5.6,baz=348,slow=4.4
NB2 NORSAR Subarra 98.72 6 P **P 17 21 22.9 -3.2**
NB2 pmax pmax
comp=Z,29nm,1.4s,mb5.6
NB2 NORSAR Subarra 98.72 6 Pdif **P 17 21 22.9 -3.2**
comp=Z,29nm,1.4s,mb5.6
NOA NORSAR Array B 98.72 6 P **P 17 21 23.6 -2.5**
comp=Z,8.5nm,0.8s,mb5.3,baz=350,slow=5.2,SNR=16
NOA PP PP 17 25 30.6 +3.6
comp=Z,3.5nm,0.9s,baz=343,slow=7.6,SNR=6.0
NOA PKKPbc PKKPbc 17 37 55.5 +1.3
comp=Z,5.0nm,0.8s,baz=153,slow=2.9,SNR=11
NOA LR LR 18 03 18.7
comp=Z,15μm,21.3s,MS6.5,baz=335,slow=34
NOA NORSAR Array B 98.72 6 P **P 17 21 23.6 -2.5**
NOA 17 25 30.7
NAO01 NORSAR Array S 98.88 6 PFAKE 17 21 40.0 +13
NAO01 LR LR
comp=Z,18μm,20.0s,MS6.6
FIA1 FINESS Array S 98.94 359 *e*P **P 17 21 24.4 -2.7**
FINES FINESS Array B 98.94 359 P **P 17 21 25.0 -2.2**
comp=Z,19nm,0.8s,mb5.7,baz=37,slow=5.1,SNR=22
FINES PKKPbc PKKPbc 17 37 55.2 +1.7
comp=Z,4.6nm,0.8s,baz=114,slow=4.8,SNR=9.6
FINES LR LR 18 08 46.2
comp=Z,15μm,19.0s,MS6.5,baz=183,slow=37
FINES FINESS Array B 98.94 359 P **P 17 21 25.0 -2.2**
FINES PKKPbc PKKPbc 17 37 55.2 +1.7
FINES LR LR 18 08 46.2
PLCA Paso Flores 99.47 130 P **P 17 21 29.9 +0.4**
comp=Z,4.3nm,1.2s,baz=163,slow=23,SNR=3.2
PLCA LR LR 17 55 56.9
comp=Z,21μm,21.7s,MS6.6,baz=306,slow=29
PLCA Paso Flores 99.47 130 *e*P **P 17 21 30.3 +0.8**
PLCA pmax pmax
comp=Z,105nm,1.7s
PLCA MLR MLR
comp=Z,21μm,21.0s
PLCA Paso Flores 99.47 130 *e*Pdif **P 17 21 30.3 +0.8**
comp=Z,105nm,1.7s,mb6.1
PLCA LR LR
comp=Z,21μm,21.0s,MS6.6
HFS Hagfors 99.84 5 LR LR 18 05 02.7
comp=Z,32μm,20.9s,MS6.8,baz=345,slow=34
SBA Scott Base 99.87 187 *e*P Pdif 17 21 29.8 -1.5
SBA pmax pmax
comp=Z,123nm,2.0s,mb6.0
SBA MLR MLR
comp=Z,22μm,19.0s,MS6.7
SBA Scott Base 99.87 187 *e*Pdif Pdif 17 21 29.8 -1.5
comp=Z,123nm,2.0s
SBA LR LR
comp=Z,22μm,19.0s,MS6.7
KONO Kongsberg 99.90 7 *e*P Pdif 17 21 28.1 -3.3
KONO *e*PP PP 17 25 30.7 -5.4
KONO *i* 17 34 35.5
KONO Kongsberg 99.90 7⇓*i*P Pdif 17 21 32.4 +1.0
KONO Kongsberg 99.90 7 Pdif Pdif 17 21 29.9 -1.5
comp=Z,14nm,1.0s
KONO LR LR
comp=Z,26μm,22.0s,MS6.7
SIV San Ignacio 99.91 103 P Pdif 17 21 30.6 -0.8
comp=Z,1.4nm,0.8s,baz=321,slow=7.2,SNR=4.1
SHL Shillong 99.98 302 *i* P Pdif 17 21 32.0 +0.2
SHL *ex* x 17 25 38.0
SHL AMS AMS 18 04 39.0
comp=Z,117μm,18.8s,MS7.4
VNDA Vanda 100.25 189 P Pdif 17 21 32.0 -0.9
comp=Z,6.3nm,0.9s,baz=340,slow=2.4,SNR=8.8
VNDA PP PP 17 25 38.8 +0.1
comp=Z,4.5nm,1.1s,baz=31,slow=7.2,SNR=3.2
VNDA PKKPbc PKKPbc 17 37 50.9 +1.1
comp=Z,1.7nm,0.9s,baz=267,slow=4.2,SNR=5.1
VNDA Vanda 100.25 189 P Pdif 17 21 32.0 -0.9
VNDA 17 25 38.8
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 100.25 189 *e*Pdif Pdif 17 21 32.3 -0.6
comp=Z,49nm,1.8s
VNDA LR LR
comp=Z,16μm,22.0s,MS6.5
PUL Pulkovo 100.47 357 *de*P Pdif 17 21 31.1 -2.8
PUL *e* 17 25 45.3
PUL *e* 17 32 06.2
PUL *e*PS PS 17 34 39.7 -0.9
PUL *e*SP SP 17 34 40.6 +0.6
PUL *e*SS SS 17 40 09.7 +3.3
PUL pmax pmax
comp=Z,26nm,0.3s
PUL MLR MLR
comp=Z,21μm,21.0s,MS6.6
PUL MLR MLR
comp=N,9μm,15.0s

PUL MLR MLR
comp=E,2μm,17.0s
AAA Alma-Ata 100.50 324 *i* P Pdif 17 21 39.1 +5.0
AAA pmax pmax
comp=Z,2μm,7.3s
AAA MLR MLR
comp=Z,27μm,21.0s,MS6.7
IPM Ipoh 100.52 279 P Pdif 17 21 34.9 +0.8
AGT Ágartala 101.27 301 *i* P Pdif 17 21 40.0 +2.5
AGT *i* x x 17 25 50.0
TKM2 Tokmak 2 101.48 324 P Pdif 17 21 38.3 -0.1
SNR=15
EKA Eskdalemuir Ar 101.63 15 PP PP 17 25 48.1 -1.0
comp=Z,5.4nm,0.8s,baz=317,slow=6.8,SNR=7.4
EKA PKKPbc PKKPbc 17 37 48.9 +3.0
comp=Z,6.3nm,0.9s,baz=148,slow=3.3,SNR=13
ESK Eskdalemuir 101.63 15 PFAKE 17 21 50.0 +11
ESK LR LR
comp=Z,11μm,22.0s,MS6.3
USP Ospenovka 101.85 325 P Pdif 17 21 44.8 +4.8
SNR=5.9
CHMS Chumysh 101.89 324 P Pdif 17 21 44.9 +4.7
SNR=5.1
VSU Vasula 101.92 358⇑*e*P Pdif 17 21 38.6 -1.8
KBK Karagaybulak 102.01 324 P Pdif 17 21 42.6 +1.8
SNR=14
FRU Bishkek 102.08 324 *e*P Pdif 17 21 41.0 -0.1
FRU *e* 17 32 17.0
FRU *e* 17 33 18.0
FRU pmax pmax
comp=Z,270nm,2.5s
FRU MLR MLR
comp=E,14μm,20.0s
FRU MLR MLR
comp=Z,16μm,20.0s,MS6.5
PECR Pechory 102.21 349⇑*i*P Pdif 17 21 40.4 -1.2
PECR *e* 17 25 54.0
PECR *e* 17 32 20.0
PECR *e*SS SS 17 40 30.0 -0.5
PECR pmax pmax
comp=Z,1μm,9.0s
PECR MLR MLR
comp=N,13μm,20.0s,MS6.5
PECR MLR MLR
comp=E,3μm,20.0s,MS6.5
PECR MLR MLR
comp=Z,10μm,20.0s,MS6.4
AAK Ala-Archa 102.28 324 P Pdif 17 21 46.8 +4.9
SNR=5.5
AAK Ala-Archa 102.28 324 *i* P Pdif 17 21 41.6 -0.4
AAK Ala-Archa 102.28 324 *e*Pdif Pdif 17 21 41.0 -0.9
comp=Z,14nm,1.1s
AAK LR LR
comp=Z,4μm,21.0s,MS6.0
UCH Uchtor 102.54 324 P Pdif 17 21 43.8 +0.7
SNR=13
EKS2 Erkin-Say 102.65 325 P Pdif 17 21 43.5 -0.1
SNR=13
PSI Prapat 103.07 278 PKKPbc PKKPbc 17 37 44.3 +2.7
comp=Z,1.4nm,0.4s,baz=225,slow=6.4,SNR=4.5
GUN Gumba 103.51 307 *e*P Pdif 17 21 47.8 +0.3
comp=Z,387nm,1.6s
MOS Moscow 103.78 352 *e*P Pdif 17 21 51.2 +2.5
MOS *e* 17 26 10.8
MOS *e* 17 32 29.1
MOS *e*SS SS 17 40 57.3 +5.1
MOS pmax pmax
comp=Z,1μm,4.8s
MOS pmax pmax
comp=N,900nm,5.2s
MOS MLR MLR
comp=Z,24μm,24.0s,MS6.7
MOS MLR MLR
comp=N,19μm,23.4s
ORR Orenburg 103.85 341 *e*P Pdif 17 21 51.3 +2.4
ORR pmax pmax
comp=Z,40nm,1.0s
KKN Kakani 104.03 307 *e*P Pdif 17 21 49.7 0.0
PKI Pulchoki 104.04 306 *e*P Pdif 17 21 49.6 -0.2
comp=Z,180nm,1.9s
COP Copenhagen 104.11 7⇓*i*P Pdif 17 21 52.5 +2.4
COP *i* 17 25 59.6
COP *i* S SKSac 17 32 33.0 +2.4
COP *i* 17 33 40.0
COP *i* 17 35 16.7
COP
comp=Z,9μm,20.0s
DMN Daman 104.25 307 *e*P Pdif 17 21 50.6 -0.1
comp=Z,110nm,1.7s
CAL Calcutta 104.27 301 *e*P Pdif 17 21 51.0 +0.1
CAL *ex* x 17 26 15.6
CAL AMP 17 36 43.1
comp=Z,3μm,14.9s
GKN Gorkha 104.40 307 *e*P Pdif 17 21 51.4 0.0
comp=Z,330nm,1.8s
OBN Obninsk 104.53 353⇑*e*P Pdif 17 21 51.5 -0.5
OBN *i* 17 26 08.3
OBN *i* S Sdif 17 33 41.2 -3.7
OBN *i* PS PS 17 35 22.4 -1.2
OBN *i* SS SS 17 41 10.1 +7.7
OBN pmax pmax
comp=Z,65nm,1.7s
OBN pmax pmax
comp=Z,96nm,1.6s
OBN MLR MLR
comp=Z,23μm,20.0s,MS6.7
OBN Obninsk 104.53 353 PFAKE 17 22 00.0 +8.0
OBN LR LR
comp=Z,6μm,22.0s,MS6.1
ADH Angra Heroismo 104.61 39 *i* P PS 17 35 30.0 +5.5
ADH Angra Heroismo 104.61 39 *e*LR LR 18 03 45.0
BSD Bornholm Skovb 104.92 5⇓*i*P Pdif 17 21 52.6 -1.1
comp=Z,32nm,1.0s
BSD *i* 17 26 12.4
BSD *i* 17 32 36.7
BSD *i* 17 33 43.5
BSD *e* 17 35 31.2
BSD
comp=Z,13μm,21.0s
BSD Bornholm Skovb 104.92 5⇓*i*P Pdif 17 21 52.6 -1.1
BSD *i* 17 26 12.4
BSD *i* 17 33 43.5
BSD *e* 17 35 31.2
BSD pmax pmax
comp=Z,32nm,1.0s
BSD Bornholm Skovb 104.92 5⇓*i*P Pdif 17 21 52.6 -1.1
comp=Z,32nm,1.0s
BSD *i* 17 26 12.4
BSD *i* 17 32 36.7
BSD *i* 17 33 43.5
BSD *e* 17 35 31.2
KOLN Koldanda 105.30 308 *e*P Pdif 17 21 55.0 -0.4
comp=Z,308nm,1.9s
PBA Port Blair 105.35 289 *e*P Pdif 17 21 54.1 -1.5
PBA *ex* x 17 26 11.7
PBA AMS AMS 18 04 57.1
comp=Z,6μm,20.6s,MS6.1
BSEG Bad Segeberg 105.57 8 *e*Pdiff Pdif 17 21 55.6 -1.0
BSEG *e*PP PP 17 26 15.9 -2.7
BSEG *e*SKSac SKSac 17 32 34.1 -3.3
BSEG *e*SP SP 17 35 19.9 -14
BSEG Bad Segeberg 105.57 8 *e*P Pdif 17 21 55.6 -1.0
BSEG *e* 17 26 15.9
BSEG *e* 17 32 34.1
BOK Bokaro 105.61 303 *e*P Pdif 17 21 56.1 -0.7
BOK *e*PP PP 17 26 18.6 -0.3
BOK AMS AMS 18 08 36.3
comp=Z,5μm,10.0s,MS6.3
MNK Minsk 105.85 358⇓*e*P Pdif 17 21 54.0 -3.8
MNK *e* 17 26 18.0
MNK *e*PPP 17 28 32.0
MNK *e* 17 32 34.0
MNK *e*S Sdif 17 33 52.0 -3.9
MNK *e*PS PS 17 35 28.0 -9.3
MNK *e*SS SS 17 41 14.0 -6.5
MNK *e*SSS 17 45 22.0
MNK MLR MLR
comp=N,12μm,20.0s,MS6.7
MNK MLR MLR
comp=Z,22μm,20.0s,MS6.7
MNK MLR MLR
comp=E,17μm,20.0s,MS6.7
PDA Ponta Delgada 106.14 39 *i* LR LR 18 04 24.0
CPUP Villa Florida 106.15 113 Pdiff Pdif 17 21 59.5 +0.3
comp=E,0.2nm,0.3s,baz=131,slow=10,SNR=1.9

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CPUP                                  PKKPbc PKKPbc  17 37 34.7 +2.4
     comp=E,0.4nm,0.3s,baz=39,slow=4.7,SNR=3.6
CPUP                                  PKKPab PKKPab  17 37 47.9 -0.7
     comp=E,5.2nm,0.8s,baz=23,slow=3.8,SNR=4.6
CPUP Villa Florida      106.15 113    Pdif   Pdif    17 21 59.5 +0.3
CPUP                                  PKKPbc PKKPbc  17 37 34.7 +2.4
CPUP                                  PKKPab PKKPab  17 37 47.9 -0.7
CPUP                                  LR     LR
     comp=Z,435nm,19.0s
SUW  Suwalki            106.41   0    ePdiff Pdif    17 22 00.1 -0.2
SUW                                   ePKiKP PKiKP   17 26 13.1 +1.6
SUW                                   ePP    PP      17 26 27.3 +2.5
SUW                                   eSKS   SKSac   17 32 43.7 +2.5
SUW                                   eSP    SP      17 35 39.7 -2.8
SUW                                   ePS    PS      17 35 55.9 +13
SUW                                   eSS    SS      17 41 33.6 +5.4
SUW                                   L              18 06 25.4
     comp=Z,25nm,24.3s
SUW  Suwalki            106.41   0    ePdiff Pdif    17 22 00.1 -0.2
     comp=Z,3.2nm,1.3s
SUW                                   ePKPdf PKiKP   17 26 13.1 +1.6
SUW                                   ePP    PP      17 26 27.3 +2.5
SUW                                   eSKS   SKSac   17 32 43.7 +2.5
SUW                                   eSP    SP      17 35 39.7 -2.8
SUW                                   ePS    PS      17 35 55.9 +13
SUW                                   eSS    SS      17 41 33.6 +5.4
WTSB Winterswijk        106.92   11   eP     Pdif    17 21 57.9 -4.7
WTSB                                  ePP    PP      17 26 31.5 +3.0
GKP  Gorka Klasztor     106.93    4   ePdiff Pdif    17 22 07.1 +4.4
GKP                                   ePKiKP PKiKP   17 26 11.2 -1.2
GKP                                   ePP    PP      17 26 33.3 +4.7
GKP                                   eSKS   SKSac   17 32 45.1 +1.7
GKP                                   eSS    SS      17 41 40.8 +5.6
GKP                                   L              18 08 33.6
     comp=Z,25nm,21.4s
NRDL Niedersach Rie     106.94    9   ePdiff Pdif    17 22 01.7 -1.0
NRDL                                  ePP    PP      17 26 24.7 -4.0
NRDL                                  eSKSac SKSac   17 32 40.7 -2.8
BUG  Bochum--Univer     107.51   11   eSKSac SKSac   17 32 47.3 +1.3
CLZ  Clausthal          107.62    9   ePdiff Pdif    17 22 04.7 -1.0
CLZ                                   eSKSac SKSac   17 32 43.9 -2.5
CLZ                                   eSP    SP      17 35 48.7 -6.2
HGN  Heimansgroeve      107.91   12   eP     Pdif    17 22 05.0 -2.0
HGN                                   ePP    PP      17 26 35.6 -0.2
MEM  Membach            108.07   12   PP     PP      17 26 36.4 -0.6
BCLA Clavier            108.11   12   PP     PP      17 26 37.4 +0.1
THN  Thein Dam          108.14 316   ex     x       17 26 09.5
WAR  Warsaw             108.15    2   ePdiff Pdif    17 22 09.3 +1.2
WAR                                   ePP    PP      17 26 39.1 +1.6
WAR                                   eSKS   SKSac   17 32 56.2 +7.5
WAR                                   L              18 08 37.8
     comp=Z,26nm,21.8s
WAR  Warsaw             108.15    2   eP     Pdif    17 22 09.3 +1.2
WAR                                   e              17 26 39.1
WAR                                   MLR    MLR
     comp=Z,26µm,21.8s,MS6.8
SGMF Saint Gilles       108.17   18   eP     Pdif    17 22 07.6 -0.5
BAIF Baives             108.22   13   eP     Pdif    17 22 08.8 +0.4
FLN  La Foliniere       108.29   17   eP     Pdif    17 22 08.7  0.0
     comp=Z,37nm,1.1s
FLN                                   eMLR   MLR
     comp=Z,39µm,21.8s
FLN  La Foliniere       108.29   17   eP     Pdif    17 22 08.7  0.0
FLN                                   pmax   pmax
     comp=Z,18nm,1.1s
FLN                                   MLR    MLR
     comp=Z,39µm,21.8s,MS6.9
FLN  La Foliniere       108.29   17   eP     Pdif    17 22 08.7  0.0
     comp=Z,18nm,1.1s
FLN                                   LR     LR
     comp=Z,39µm,21.8s,MS6.9
GIVF Givet              108.31   13   eP     Pdif    17 22 08.5 -0.3
CLL  Collm              108.48    7   ePdiff Pdif    17 22 08.9 -0.6
     comp=Z,43nm,1.5s
CLL                                   e              17 22 23.6
CLL                                   ePP    PP      17 26 46.0 +6.0
CLL                                   eSKSac SKSac   17 32 46.5 -3.6
CLL                                   eSKSac SKSac   17 32 49.0 -1.1
CLL                                   eSKKSac SKKSac 17 33 35.8 -8.7
CLL                                   eSdiff Sdif    17 34 11.3 -6.5
CLL                                   eSP    SP      17 36 08.0 +4.2
CLL                                   ePPS           17 37 12.0
CLL                                   ePKKPbc PKKPbc 17 37 26.6 +1.6
CLL                                   ePKKPab PKKPab 17 37 40.2 +2.0
CLL                                   e              17 37 53.4
CLL                                   eSS    SS      17 41 54.9 -1.3
CLL                                   ePKPPKPdf      17 45 53.7
CLL                                   eSSS           17 45 59.8
CLL                                   eL             18 08 08.2
     comp=Z,29µm,22.0s
CLL  Collm              108.48    7   eP     Pdif    17 22 09.0 -0.5
CLL                                   e              17 32 49.0
CLL                                   pmax   pmax
     comp=Z,43nm,1.5s
CLL                                   MLR    MLR
     comp=Z,27µm,23.1s,MS6.8
CLL  Collm              108.48    7   ePdif  Pdif    17 22 09.0 -0.5
     comp=Z,43nm,1.5s
CLL                                   eSKS   SKSac   17 32 49.0 -1.1
CLL                                   eSdif  Sdif    17 34 19.0 +1.2
CLL                                   ePKKP  PKKPbc  17 37 40.0 +15
CLL                                   LR     LR
     comp=Z,27µm,23.1s,MS6.8
CLL  Collm              108.48    7   ePdif  Pdif    17 22 09.0 -0.5
     comp=Z,43nm,1.5s
CLL                                   esPdif         17 22 23.0
CLL                                   ePP    PP      17 26 37.0 -3.0
CLL                                   epPP           17 26 48.0
CLL                                   eSKSac SKSac   17 32 49.0 -1.1
CLL                                   eSKKSac SKKSac 17 33 35.0 -10
CLL                                   eSdif  Sdif    17 34 19.0 +1.2
     comp=E,3µm,14.9s
CLL                                   ePS    PS      17 36 08.0 +3.6
CLL                                   ePPS           17 37 12.0
CLL                                   ePKKPbc PKKPbc 17 37 26.0 +1.0
     comp=Z,14nm,1.2s
CLL                                   ePKKPab PKKPab 17 37 40.0 +1.8
     comp=Z,40nm,1.1s
CLL                                   esPKKPab       17 37 53.0
     comp=Z,90nm,1.7s
CLL                                   ePcPPKPre      17 41 34.0
CLL                                   eSS    SS      17 41 56.0 -0.2
CLL                                   ePKPPKPdf      17 45 54.0
GRR  Gorron             108.53   17   eP     Pdif    17 22 09.7 -0.1
LDF  La Druitiere       108.54   17   eP     Pdif    17 22 09.8  0.0
PMSA Palmer Station     108.66 153    PFAKE          17 26 20.0 +4.3
PMSA                                  LR     LR
     comp=Z,7µm,19.0s,MS6.3
TNS  Taunus Mts         108.89   10   ePdiff Pdif    17 22 10.3 -1.0
TNS                                   eSKSac SKSac   17 32 52.9 +1.0
MOX  Moxa               108.96    8   ePdiff Pdif    17 22 10.6 -1.1
MOX  Moxa               108.96    8   eP     Pdif    17 22 11.2 -0.5
     comp=Z,22nm,1.6s
MOX                                   e              17 26 00.7
MOX
     comp=Z,11µm,22.0s
MOX  Moxa               108.96    8   eP     Pdif    17 22 11.2 -0.5
MOX                                   pmax   pmax
     comp=Z,22nm,1.6s
MOX                                   MLR    MLR
     comp=Z,11µm,22.0s,MS6.4
WLF  Walferdange        109.00   12   ePP    PP      17 26 42.4 -1.3
WLF                                   eSKSac SKSac   17 32 54.5 +2.2
BRG  Berggiesshubel     109.02    7   ePdiff Pdif    17 22 11.4 -0.5
BRG                                   eSKSac SKSac   17 32 54.0 +1.6
BRG                                   eSP    SP      17 36 04.2 -5.0
BRG  Berggiesshubel     109.02    7   eP     Pdif    17 22 11.3 -0.6
BRG                                   i              17 26 46.0
BRG                                                  17 32 52.0
BRG                                   pmax   pmax
     comp=Z,30nm,1.4s
BRG                                   pmax   pmax
     comp=Z,34nm,1.6s
BRG                                   MLR    MLR
     comp=N,12µm,19.9s,MS6.5
BRG                                   MLR    MLR
     comp=E,7µm,18.8s,MS6.5
BRG                                   MLR    MLR
     comp=Z,9µm,20.1s,MS6.3
BRG  Berggiesshubel     109.02    7   ePdif  Pdif    17 22 11.3 -0.6
     comp=Z,30nm,1.4s
BRG                                   i              17 22 29.5
BRG                                   i              17 26 46.0
BRG                                   SKS    SKSac   17 32 52.0 -0.4
BRG                                   PP     SKSdf   17 33 40.0 +11
BRG                                   Sdif   Sdif    17 34 18.0 -4.3
BRG                                   ePKKP  PKKPbc  17 37 26.3 +3.0
BRG                                   LR     LR
     comp=Z,9µm,20.0s,MS6.3
KSP  Ksiaz              109.27    5   ePdiff Pdif    17 22 17.2 +4.1
KSP                                   ePKiKP PKiKP   17 26 16.5 -0.3
KSP                                   ePP    PP      17 26 41.8 -3.9
KSP                                   eSKSac SKSac   17 32 57.0 +3.5
KSP                                   eSKSdf SKSdf   17 33 28.1 -1.4
KSP                                   ePS    PS      17 36 11.2 -1.2
KSP                                   eSP    SP      17 36 14.1 +2.3
KSP                                   eSS    SS      17 42 12.4 +5.5
KSP                                   L              18 09 32.8
     comp=Z,32nm,22.3s
KSP  Ksiaz              109.27    5   eP     Pdif    17 22 11.4 -1.7
KSP                                   ePS    PS      17 36 10.3 -2.1
KSP                                   MLR    MLR
     comp=Z,36µm,22.3s,MS6.9
KSP  Ksiaz              109.27    5   ePdif  Pdif    17 22 11.4 -1.7
KSP                                   ePP    PP      17 26 36.0 -10
KSP                                   eSKS   SKSac   17 32 38.5 -15
KSP                                   eSdif  Sdif    17 34 18.0 -6.4
KSP                                   ePS    PS      17 36 10.3 -2.1
KSP                                   eSS    SS      17 41 54.0 -13
KSP                                   LR     LR
     comp=Z,36µm,22.3s,MS6.9
TANN Tannenbergstha     109.29    8   ePdiff Pdif    17 22 12.6 -0.6
TANN                                  eSKSac SKSac   17 32 55.1 +1.5
CASY Casey              109.35 205    PFAKE          17 26 30.0 +13
CASY                                  LR     LR
     comp=Z,18µm,22.0s,MS6.6
NDI  New Delhi          109.41 312    eP     Pdif    17 22 11.1 -2.5
NDI                                   ePP    PP      17 26 47.3 +0.6
NDI                                   AMS    AMS     18 07 37.4
     comp=Z,6µm,22.9s,MS6.1
PVCC Panska Ves         109.42    6   ePDIF  Pdif    17 22 14.2 +0.5
PVCC                                  epP            17 22 28.3
PVCC                                  ex     x       17 22 48.3
PVCC                                  ePP    PP      17 26 50.9 +4.1
PVCC                                  ePS    PS      17 36 16.2 +2.2
PVCC                                  ePKKP  PKKPbc  17 37 36.5 +14
PVCC                                  ex     x       17 37 48.4
PVCC                                  eSS    SS      17 42 12.1 +3.2
PVCC                                  ex     x       17 53 08.4
PVCC                                  AMS    AMS     18 14 10.0
     comp=Z,21µm,18.9s
PVCC Panska Ves         109.42    6   eP     Pdif    17 22 14.2 +0.5
PVCC                                  e              17 26 50.9
PVCC                                  eSP    SP      17 36 16.2 +2.9
PVCC                                  eSS    SS      17 42 12.1 +3.2
PVCC                                  MLR    MLR
     comp=Z,21µm,18.9s,MS6.7
PVCC Panska Ves         109.42    6   ePdif  Pdif    17 22 14.2 +0.5
PVCC                                  epP            17 22 28.3
PVCC                                  e              17 22 48.3
PVCC                                  ePP    PP      17 26 50.9 +4.1
PVCC                                  eSP    SP      17 36 16.2 +2.9
PVCC                                  ePKKP  PKKPbc  17 37 36.5 +14
PVCC                                  e              17 37 48.4
PVCC                                  eSS    SS      17 42 12.1 +3.2
PVCC                                  LR     LR
     comp=Z,21µm,18.9s,MS6.7
AKASG Malin Array Be    109.57 356    Pdiff  Pdif    17 22 13.2 -1.1
     comp=Z,1.1nm,0.6s,baz=355,slow=4.3,SNR=12
AKASG                                 PKiKP  PKiKP   17 26 16.3 -1.1
     comp=Z,3.8nm,0.9s,baz=13,slow=8.9,SNR=4.9
AKASG                                 PKKPbc PKKPbc  17 37 22.8 +1.2
     comp=Z,2.6nm,0.8s,baz=186,slow=3.3,SNR=7.4
AKASG                                 PKKPab PKKPab  17 37 34.3 +0.9
     comp=Z,11nm,1.2s,baz=194,slow=4.1,SNR=5.8
AKASG                                 PKPPKP         17 45 49.6
     comp=Z,0.2nm,0.2s,baz=215,slow=1.3,SNR=6.0
AKASG Malin Array Be    109.57 356    P      Pdif    17 22 13.3 -1.1
AKASG                                 PKiKP          17 37 22.8
AKASG Malin Array Be    109.57 356    Pdif   Pdif    17 22 13.2 -1.1
AKASG                                 PKPdf  PKiKP   17 26 16.3 -1.1
AKASG                                 PKKPbc PKKPbc  17 37 22.8 +1.2
AKASG                                 PKKPab PKKPab  17 37 34.3 +0.9
AKASG                                 P'P'           17 45 49.6
UPC  Upice              109.58    5   ePDIF  Pdif    17 22 13.9 -0.5
UPC                                   epP            17 22 26.8
UPC                                   ePP    PP      17 26 47.0 -1.0
UPC                                   ePKKP  PKKPbc  17 37 22.2 +0.7
UPC                                   ex     x       17 37 35.6
UPC                                   ex     x       17 37 48.6
UPC  Upice              109.58    5   eP     Pdif    17 22 13.9 -0.5
UPC                                   e              17 26 47.0
UPC                                   e              17 37 22.2
UPC  Upice              109.58    5   ePdif  Pdif    17 22 13.9 -0.5
UPC                                   epP            17 22 26.8
UPC                                   ePP    PP      17 26 47.0 -1.0
UPC                                   ePKKP  PKKPbc  17 37 22.2 +0.7
UPC                                   e              17 37 35.6
UPC                                   e              17 37 48.6
MANZ Manzenberg         109.67    8   ePdiff Pdif    17 22 14.0 -0.8
MANZ                                  ePP    PP      17 26 42.4 -6.2
MANZ                                  eSKSac SKSac   17 32 55.1 -0.1
QSPA South Pole Qui     109.72 180    ePKiKP PKiKP   17 26 16.7 -1.0
QSPA                                  LR     LR
     comp=Z,17µm,19.0s,MS6.7
DPC  Dobruska-Polom     109.76    5   ePDIF  Pdif    17 22 14.1 -1.1
DPC                                   epP            17 22 30.5
DPC                                   ex     x       17 22 49.3
DPC                                   ePP    PP      17 26 49.5 +0.2
DPC                                   ePS    PS      17 36 19.9 +2.5
DPC                                   ePKKP  PKKPbc  17 37 24.4 +3.5
DPC                                   ex     x       17 37 36.2
DPC                                   ex     x       17 37 48.5
DPC                                   eSS    SS      17 42 12.0 -1.5
DPC                                   ex     x       17 53 05.7
DPC                                   AMS    AMS     18 09 20.0
     comp=Z,20µm,22.1s
DPC  Dobruska-Polom     109.76    5   eP     Pdif    17 22 14.1 -1.1
DPC                                   e              17 26 49.5
DPC                                   eSP    SP      17 36 19.9 +3.1
DPC                                   e              17 37 24.4
DPC                                   eSS    SS      17 42 12.0 -1.5
DPC                                   MLR    MLR
     comp=Z,20µm,22.1s,MS6.6
DPC  Dobruska-Polom     109.76    5   ePdif  Pdif    17 22 14.1 -1.1
DPC                                   epP            17 22 30.5
DPC                                   e              17 22 49.3
DPC                                   ePP    PP      17 26 49.5 +0.2
DPC                                   eSP    SP      17 36 19.9 +3.1
DPC                                   ePKKP  PKKPbc  17 37 24.4 +3.5
DPC                                   e              17 37 36.2
DPC                                   e              17 37 48.5
DPC                                   eSS    SS      17 42 12.0 -1.5
DPC                                   LR     LR
     comp=Z,20µm,22.1s,MS6.6
GRA3 Grafenberg Arr     109.78    9   ePKPPKP        17 45 45.3
GRF  Grafenberg Arr     109.83    9   ePP    PP      17 26 43.5 -6.3
GRF                                   eSKSac SKSac   17 32 55.2 -0.7
GRF                                   eSP    SP      17 36 11.9 -5.6
GRF                                   ePKKPbc PKKPbc 17 37 22.5 +1.8
GRF                                   ePKKPab PKKPab 17 37 32.2  0.0
GRF                                   eL             18 10 47.2
     comp=Z,19µm,21.8s
PRA  Prague             109.86    6   PP     PP      17 26 52.0 +2.0
PRA                                   PKKP   PKKPbc  17 37 33.0 +12
PRA                                   ex     x       17 37 47.0
ROTZ Rotzenmuhle        109.90    8   eSKSac SKSac   17 32 54.6 -1.5
PRU  Pruhonice          109.95    6   ePDIF  Pdif    17 22 17.9 +1.8
PRU                                   epP            17 22 31.2
PRU                                   ePP    PP      17 26 49.7 -1.0
PRU                                   eSP    SP      17 36 22.3 +3.6
PRU                                   ePKKP  PKKPbc  17 37 23.1 +2.8
PRU                                   ex     x       17 37 33.9
PRU                                   ex     x       17 37 47.0
PRU                                   eSS    SS      17 42 18.4 +2.4
PRU                                   ex     x       17 53 19.1
PRU                                   AMS    AMS     18 14 40.0
     comp=Z,16µm,19.2s
PRU  Pruhonice          109.95    6   eP     Pdif    17 22 17.9 +1.8
PRU                                   e              17 26 49.7
PRU                                   eSP    SP      17 36 22.3 +3.6
PRU                                   e              17 37 23.1
PRU                                   eSS    SS      17 42 18.4 +2.4
PRU                                   MLR    MLR
     comp=Z,16µm,19.2s,MS6.6
PRU  Pruhonice          109.95    6   ePdif  Pdif    17 22 17.9 +1.8
PRU                                   epP            17 22 31.2
PRU                                   ePP    PP      17 26 49.7 -1.0
PRU                                   eSP    SP      17 36 22.3 +3.6
PRU                                   ePKKP  PKKPbc  17 37 23.1 +2.8
PRU                                   e              17 37 33.9
PRU                                   e              17 37 47.0
PRU                                   eSS    SS      17 42 18.4 +2.4
PRU                                   e              17 53 19.1
PRU                                   LR     LR
     comp=Z,16µm,19.2s,MS6.6
OJC  Ojcow              110.12    3   ePdiff Pdif    17 22 14.6 -2.2
OJC                                   ePP    PP      17 26 47.0 -4.9
OJC                                   eSKSac SKSac   17 32 51.8 -5.2
OJC                                   ePS    PS      17 36 22.1 +1.1
OJC                                   eSS    SS      17 42 16.5 -1.8
OJC                                   L              18 12 02.5
     comp=Z,130nm,20.0s
OJC  Ojcow              110.12    3   eP     Pdif    17 22 14.6 -2.2
OJC                                   e              17 26 47.0
OJC                                                  17 32 51.8
OJC                                   ePS    PS      17 36 22.1 +1.1
OJC                                   eSS    SS      17 42 16.5 -1.8
RAC  Raciborz           110.17    4   eP     Pdif    17 22 17.1 +0.1
RAC                                   e              17 26 51.5
RAC                                   MLR    MLR
     comp=E,24µm,23.1s,MS6.9
RAC                                   MLR    MLR
     comp=N,25µm,18.5s,MS6.9
RAC                                   MLR    MLR
     comp=Z,20µm,18.8s,MS6.7
RAC  Raciborz           110.17    4   ePdif  Pdif    17 22 17.1 +0.1
RAC                                   ePP    PP      17 26 51.5 -0.7
RAC                                   LR     LR
     comp=Z,20µm,18.8s,MS6.7
EFI  East Falkland      110.28 139    PFAKE          17 26 30.0 +11
EFI                                   LR     LR
     comp=Z,6µm,20.0s,MS6.2
OKC  Ostrava-Krasne     110.41    4   ePDIF  Pdif    17 22 18.0 -0.1
OKC                                   epP            17 22 34.5
OKC                                   ePP    PP      17 26 53.2 -0.8
OKC                                   ePS    PS      17 36 26.5 +2.8
OKC                                   ex     x       17 37 45.1
OKC                                   eSS    SS      17 42 21.1 -1.1
OKC                                   AMS    AMS     18 14 30.0
     comp=Z,14µm,18.4s
OKC  Ostrava-Krasne     110.41    4   eP     Pdif    17 22 18.0 -0.1
OKC                                   e              17 26 53.2
OKC                                   eSP    SP      17 36 26.5 +3.5
OKC                                   eSS    SS      17 42 21.1 -1.1
OKC                                   MLR    MLR
     comp=Z,14µm,18.4s,MS6.6
OKC  Ostrava-Krasne     110.41    4   ePdif  Pdif    17 22 18.0 -0.1
OKC                                   epP            17 22 34.5
OKC                                   ePP    PP      17 26 53.2 -0.8
OKC                                   eSP    SP      17 36 26.5 +3.5
OKC                                   ePKKP  PKKPbc  17 37 45.1 +26
OKC                                   eSS    SS      17 42 21.1 -1.1
MORC Moravsky Berou     110.43    4 ↑ iP     Pdif    17 22 19.6 +1.4
MORC Moravsky Berou     110.43    4 ↓↓ iP    PKiKP   17 26 22.0 +3.0
MORC Moravsky Berou     110.43    4 ↓↓ iP    PKKPbc  17 37 22.0 +3.2
MORC Moravsky Berou     110.43    4   ePdif  Pdif    17 22 17.5 -0.7
JBP  Jabalpur           110.54 305    ex     PKiKP   17 26 11.0 -8.2
     comp=Z,19nm,1.6s
JBP                                   eS     SKSac   17 32 55.2 -3.6
WET  Wettzell           110.59    8   ePdiff Pdif    17 22 18.3 -0.6
WET                                   eSKSac SKSac   17 32 56.9 -2.1
LVV  L'vov              110.61 360    i PKIKP PKiKP  17 26 18.8 -0.5
LVV                                   ePPP           17 29 12.0
LVV                                   e              17 32 45.6
LVV                                   ePS    PS      17 36 22.2 -3.3
LVV                                   i SS   SS      17 42 27.6 +2.7
LVV                                   i SSS          17 46 26.2
LVV                                   MLR    MLR
     comp=Z,18µm,20.0s,MS6.6
LVV                                   MLR    MLR
     comp=N,11µm,19.0s,MS6.5
LVV                                   MLR    MLR
     comp=E,6µm,22.0s,MS6.5
BFO  Black Forest       110.69   11   eSKSac SKSac   17 32 56.3 -3.1
BFO                                   eSP    SP      17 36 18.5 -7.1
KHC  Kasperske Hory     110.69    7   ePDIF  Pdif    17 22 19.8 +0.4
KHC                                   epP            17 22 33.9
KHC                                   ex     x       17 22 53.0
KHC                                   ePP    PP      17 26 51.4 -4.6
KHC                                   ePS    PS      17 36 30.9 +4.6
KHC                                   ePKKP  PKKPbc  17 37 20.4 +2.5
KHC                                   ex     x       17 37 31.1
KHC                                   ex     x       17 37 42.3
KHC                                   eSS    SS      17 42 29.7 +3.8
KHC                                   ex     x       17 53 33.1
KHC                                   AMS    AMS     18 08 50.0
     comp=E,18µm,22.8s
KHC  Kasperske Hory     110.69    7   eP     Pdif    17 22 19.8 +0.4
KHC                                   e              17 26 51.4
KHC                                   e              17 37 20.4
KHC                                   e              17 37 31.1
KHC                                   eSS    SS      17 42 29.7 +3.8
KHC                                   MLR    MLR
     comp=Z,18µm,22.8s,MS6.6
KHC  Kasperske Hory     110.69    7   ePdif  Pdif    17 22 19.8 +0.4
KHC                                   epP            17 22 33.9
KHC                                   e              17 22 53.0
KHC                                   ePP    PP      17 26 51.4 -4.6
KHC                                   eSP    SP      17 36 30.9 +5.3
KHC                                   ePKKP  PKKPbc  17 37 20.4 +2.5
KHC                                   e              17 37 31.1
KHC                                   e              17 37 42.3
KHC                                   eSS    SS      17 42 29.7 +3.8
KHC                                   e              17 53 33.1
KHC                                   LR     LR
     comp=Z,18µm,22.8s,MS6.6
VIS  Vishakhapatnam     110.72 299    eP     PKiKP   17 26 16.8 -2.7
VIS                                   AMS    AMS     18 08 59.7
     comp=Z,8µm,26.8s,MS6.2
TREC Trest              110.73    6   ePDIF  Pdif    17 22 19.8 +0.2
TREC                                  epP            17 22 32.9
TREC                                  ex     x       17 22 49.1
TREC                                  ePP    PP      17 26 54.1 -2.2
TREC                                  ePS    PS      17 36 25.4 -1.3
TREC                                  ePKKP  PKKPbc  17 37 18.0 +0.2
TREC                                  ex     x       17 37 29.4
TREC                                  ex     x       17 37 40.5
TREC                                  eSS    SS      17 42 25.7 -0.8
TREC                                  ex     x       17 53 33.1
TREC                                  AMS    AMS     18 11 40.0
     comp=Z,25µm,20.6s
TREC Trest              110.73    6   eP     Pdif    17 22 19.8 +0.2
TREC                                  e              17 26 54.1
TREC                                  eSP    SP      17 36 25.4 -0.6
TREC                                  e              17 37 29.4
TREC                                  eSS    SS      17 42 25.7 -0.8
TREC                                  MLR    MLR
     comp=Z,25µm,20.6s,MS6.8
LOR  Lormes             110.77   14   eP     Pdif    17 22 20.0 +0.3
     comp=Z,28nm,1.4s
LOR                                   eMLR   MLR
     comp=Z,69µm,21.2s
LOR  Lormes             110.77   14   eP     Pdif    17 22 20.0 +0.3
LOR                                   LR     LR
     comp=Z,69µm,21.3s,MS7.2
KWP  Kalwaria           110.80    1   ePdiff Pdif    17 22 24.4 +4.6
KWP                                   ePKiKP PKiKP   17 26 22.0 +2.3
KWP                                   ePP    PP      17 26 56.3 -0.4
KWP                                   eSS    SS      17 42 28.3 +1.0
KWP                                   L              18 13 03.6
     comp=Z,22nm,20.6s
KWP  Kalwaria           110.80    1   eP     Pdif    17 22 24.4 +4.6
KWP                                   i              17 26 22.0
KWP                                   e              17 26 56.3
KWP                                   eSS    SS      17 42 28.3 +1.0
KWP                                   MLR    MLR
     comp=Z,22µm,20.6s,MS6.7
KWP  Kalwaria           110.80    1   ePdif  Pdif    17 22 24.4 +4.6
KWP                                   ePKPdf PKiKP   17 26 22.0 +2.3
KWP                                   ePP    PP      17 26 56.3 -0.4
KWP                                   eSS    SS      17 42 28.3 +1.0
VRAC Vranov             110.82    5   PKiKP  PKiKP   17 26 18.6 -1.1
     comp=Z,2.9nm,0.6s,baz=243,slow=6.8,SNR=2.7
VRAC                                  PKKPab PKKPab  17 37 30.3 +2.5
     comp=Z,7.0nm,0.9s,baz=191,slow=5.7,SNR=7.6
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VRAC Vranov 110.82 5⇓*i*P Pdif 17 22 21.7 +1.8
VRAC Vranov 110.82 5⇓*i*P PP 17 26 56.4 -0.5
VRAC Vranov 110.82 5⇓*i*P PKKPbc 17 37 31.0 +13
SSF Saint Saulge 110.88 15 *e*P Pdif 17 22 20.4 +0.2
comp=Z,19nm,1.2s
STHS Stebnicka Huta 110.98 2 PDIF Pdif 17 22 23.8 +3.2
STHS *e*PP PP 17 27 02.1 +4.0
STHS Stebnicka Huta 110.98 2⇑*e*PKKPB PKKPbc 17 37 18.8 +1.8
STHS *e*PKKPpB PKKPab 17 37 27.8 +0.6
STHS Stebnicka Huta 110.98 2 *e*P Pdif 17 22 23.8 +3.2
STHS *e* 17 27 02.1
STHS *e* 17 37 27.8
STHS Stebnicka Huta 110.98 2 *e*Pdif Pdif 17 22 23.8 +3.2
STHS *e*PP PP 17 27 02.1 +4.0
STHS *e* 17 37 18.8
STHS *e* 17 37 27.8
GEC2 GERESS Array S 110.99 7 *e*PP PP 17 26 53.5 -4.6
GEC2 *e*SKSac SKSac 17 32 59.5 -1.1
GEC2 *e*SP SP 17 36 26.3 -2.1
GERES GERESS Array B 110.99 7 Pdiff Pdif 17 22 19.0 -1.7
comp=Z,3.7nm,0.9s,baz=357,slow=2.8,SNR=16
GERES PKiKP PKiKP 17 26 20.2 +0.2
comp=Z,1.7nm,1.0s,baz=5.7,slow=2.7,SNR=3.8
GERES PKKPbc PKKPbc 17 37 19.0 +2.0
comp=Z,2.9nm,0.9s,baz=151,slow=3.0,SNR=11
GERES PKKPab PKKPab 17 37 30.6 +3.4
comp=Z,3.6nm,0.8s,baz=190,slow=3.8,SNR=10.0
GERES PKPPKP 17 45 46.6
comp=Z,0.9nm,0.9s,baz=155,slow=4.4,SNR=4.7
GERES GERESS Array B 110.99 7 P Pdif 17 22 19.0 -1.7
GERES 17 26 20.2
GERES 17 37 30.6
TCF Toulx Ste Croi 111.28 16 *e*P Pdif 17 22 22.2 +0.2
FUR Furstenfeldbru 111.33 9 *e*PP PP 17 26 52.4 -8.2
FUR *e*SP SP 17 36 32.9 +1.4
SMF Signal de Mont 111.36 15 *e*P Pdif 17 22 22.4 +0.1
KOLS Kolonicke sedl 111.49 1 *e*PKP PKiKP 17 26 31.2 +10
KOLS *e*PP PP 17 26 58.4 -3.3
KOLS *e*SP SP 17 36 30.2 -2.8
KOLS Kolonicke sedl 111.49 1⇑*e*PKKPB PKKPbc 17 37 18.6 +3.3
KOLS *e*SS SS 17 42 30.1 -6.5
KOLS Kolonicke sedl 111.49 1 *e*PKIKP PKiKP 17 26 31.2 +10
KOLS *e* 17 26 58.4
KOLS *e*SP SP 17 36 30.2 -2.8
KOLS *e*SS SS 17 42 30.1 -6.5
KOLS Kolonicke sedl 111.49 1 *e*P PKiKP 17 26 31.2 +10
KOLS *e*PP PP 17 26 58.4 -3.3
KOLS *e*SP SP 17 36 30.2 -2.8
KOLS *e* 17 37 18.6
KOLS *e*SS SS 17 42 30.1 -6.5
CRVS Cervenica-Dubn 111.50 2 PDIF Pdif 17 22 23.9 +0.9
CRVS *e*PP PP 17 27 05.3 +3.5
CRVS *e*SP SP 17 36 25.1 -8.0
CRVS *e*SKPDF 17 52 08.1
CRVS Cervenica-Dubn 111.50 2 *e*Pdif Pdif 17 22 23.9 +0.9
CRVS *e*PP PP 17 27 05.3 +3.5
CRVS *e*PS PS 17 36 25.1 -8.6
UZH Uzhgorod 111.79 1 *e*P Pdif 17 22 25.0 +0.8
UZH *i* 17 26 23.4
UZH *e* 17 27 05.0
UZH *i* 17 33 02.0
UZH *i*PS PS 17 36 30.0 -6.4
UZH MLR MLR
comp=Z,15μm,21.0s,MS6.6
VYHS Vyhne 111.79 4 PDIF Pdif 17 22 23.3 -1.0
VYHS Vyhne 111.79 4 *e*PKP PKiKP 17 26 21.5 -0.1
VYHS *e*PP PP 17 27 04.9 +1.0
VYHS *e*PS PS 17 36 41.3 +4.9
VYHS Vyhne 111.79 4⇑*e*PKKPB PKKPbc 17 37 15.7 +1.4
VYHS *e*PKKPDF 17 37 38.5
VYHS *e*SS SS 17 42 34.8 -5.8
VYHS Vyhne 111.79 4 *e*P Pdif 17 22 23.3 -1.0
VYHS *e* 17 26 21.5
VYHS *e* 17 27 04.9
VYHS *e*SS SS 17 42 34.8 -5.8
VYHS MLR MLR
comp=Z,10μm,20.1s,MS6.4
VYHS Vyhne 111.79 4 *e*Pdif Pdif 17 22 23.3 -1.0
VYHS *e* 17 26 21.5
VYHS *e*PP PP 17 27 04.9 +1.0
VYHS *e*SP SP 17 36 41.3 +5.5
VYHS *e* 17 37 15.7
VYHS *e* 17 37 38.5
VYHS *e*SS SS 17 42 34.8 -5.8
VYHS LR LR
comp=Z,10μm,20.1s,MS6.4
BDFB Brasilia 111.86 99 PKiKP PKiKP 17 26 24.9 +3.2
comp=Z,4.3nm,0.9s,baz=194,slow=4.8,SNR=6.3
BDFB PKKPbc PKKPbc 17 37 14.5 +0.4
comp=Z,2.3nm,0.8s,baz=126,slow=14,SNR=3.0
BDFB PKKPab PKKPab 17 37 24.3 +1.0
comp=Z,11nm,1.1s,baz=30,slow=5.1,SNR=6.0
BDFB Brasilia 111.86 99 PKPdf PKiKP 17 26 24.9 +3.2
BDFB PKKPbc PKKPbc 17 37 14.5 +0.4
BDFB PKKPab PKKPab 17 37 24.3 +1.0
BDFB LR LR
comp=Z,57μm,21.0s,MS7.1
KECS Kecovo 111.88 2 PDIF Pdif 17 22 27.2 +2.5
KECS Kecovo 111.88 2 *e*PKP PKiKP 17 26 24.3 +2.6
KECS *e*PP PP 17 27 02.1 -2.5
KECS Kecovo 111.88 2⇑*e*PKKPB PKKPbc 17 37 17.1 +3.1
KECS *e*PKKPpB PKKPab 17 37 27.0 +3.9
KECS Kecovo 111.88 2 *e*P Pdif 17 22 27.2 +2.5
KECS *e* 17 26 24.3
KECS *e* 17 27 02.1
KECS Kecovo 111.88 2 *e*Pdif Pdif 17 22 27.2 +2.5
KECS *e* 17 26 24.3
KECS *e*PP PP 17 27 02.1 -2.5
KECS *e* 17 37 17.1
KECS *e* 17 37 27.0
ZST Bratislava 111.97 5 PDIF Pdif 17 22 25.8 +0.8
ZST Bratislava 111.97 5 *e*PKP PKiKP 17 26 22.0 +0.1
ZST *e*PP PP 17 27 05.3 +0.1
ZST *e*SP Sdif 17 34 38.8 -8.1
ZST *e*SS SS 17 42 47.4 +4.4
ZST pPDIF 17 43 48.5
ZST Bratislava 111.97 5 *e*P Pdif 17 22 25.8 +0.8
ZST *e* 17 26 22.0
ZST *e* 17 27 05.3
ZST *e*SS SS 17 42 47.4 +4.4
ZST MLR MLR
comp=Z,15μm,20.5s,MS6.6
ZST Bratislava 111.97 5 *e*Pdif Pdif 17 22 25.8 +0.8
ZST *e* 17 26 22.0
ZST *e*PP PP 17 27 05.3 +0.1
ZST *e*SP Sdif 17 34 38.8 -8.1
ZST *e*SS SS 17 42 47.4 +4.4
ZST *e* 17 43 48.6
ZST LR LR
comp=Z,15μm,20.5s,MS6.6
DAVA Damuels 111.97 10⇑*i*P PKiKP 17 26 24.5 +2.6
comp=Z,12nm,1.2s
DAVA Damuels 111.97 10 PKiKP 17 26 24.5 +2.6
comp=Z,12nm,1.2s
PCAB Cabril 111.97 25 *i*PP PP 17 27 08.3 +3.1
MOA Molln 112.03 7⇑*i*P Pdif 17 22 24.2 -1.2
comp=Z,15nm,1.6s
MOA ⇑*i*P 17 26 24.0
comp=Z,13nm,1.3s
MOA Molln 112.03 7⇑*i* PKKPbc 17 37 16.9 +3.4
comp=Z,12nm,0.9s
MOA Molln 112.03 7 PKKPbc 17 37 16.9 +3.4
comp=Z,12nm,0.9s
MOA Molln 112.03 7⇑*i*P Pdif 17 22 24.2 -1.2
MOA ⇑*i*P 17 26 24.0
MOA *i* PKKPbc 17 37 16.9 +3.4
MOTA Moosalm 112.11 9⇓*i* PKKPbc 17 37 14.7 +1.4
comp=Z,15nm,0.9s
MOTA Moosalm 112.11 9 PKKPbc 17 37 14.7 +1.4
comp=Z,15nm,0.9s
CONA Conrad Observa 112.12 6⇑*i*Pdiff Pdif 17 22 27.2 +1.5
comp=Z,11nm,1.4s
CONA ⇓*i*PKiKP PKiKP 17 26 23.2 +1.0
comp=Z,14nm,1.3s
SQTA Sankt Quirin 112.25 9⇓*i* PKKPbc 17 37 14.9 +2.1
comp=Z,23nm,1.0s
SQTA Sankt Quirin 112.25 9 PKKPbc 17 37 14.9 +2.1
comp=Z,23nm,1.0s
WTTA Wattenberg 112.27 9⇑*i* PKKPbc 17 37 16.0 +3.2
comp=Z,15nm,0.9s
WTTA Wattenberg 112.27 9 PKKPbc 17 37 16.0 +3.2
comp=Z,15nm,0.9s

PBRG Braganca 112.40 24 *e*PKPdf PKiKP 17 26 26.0 +3.3
PBRG Braganca 112.40 24 *i*PP PP 17 27 01.5 -6.7
PSZ Piszkesteto 112.42 3⇑*i*P Pdif 17 22 32.9 +5.8
PSZ Piszkesteto 112.42 3⇑*i*P PKKPbc 17 37 15.7 +3.5
BHPL Bhopal 112.44 307 *e*P PKiKP 17 26 21.8 -1.0
BHPL AMS AMS 18 14 02.4
comp=Z,7μm,26.8s,MS6.1
DAVOX Davos/Dischmat 112.46 10 PKiKP PKiKP 17 26 25.0 +2.1
comp=Z,7.7nm,0.8s,baz=11,slow=6.8,SNR=10
DAVOX PKKPbc PKKPbc 17 37 14.2 +2.1
comp=Z,6.6nm,0.8s,baz=84,slow=2.5,SNR=8.1
PVRL Vila Real 112.46 25 *i*PP PP 17 27 11.7 +3.0
AJM Ajmer 112.56 311 *i*PP PP 17 27 09.3 -0.1
AJM AMS AMS 18 10 33.4
comp=Z,14μm,23.4s,MS6.5
KBA Koelnbreinsper 112.68 8⇓*i*P PKiKP 17 26 25.6 +2.3
comp=Z,20nm,1.3s
KBA Koelnbreinsper 112.68 8⇓*i*P PKiKP 17 26 25.6 +2.3
ARSA Arzberg 112.76 6⇑*i* PKKPbc 17 37 15.0 +3.9
comp=Z,18nm,1.0s
ARSA Arzberg 112.76 6 PKKPbc 17 37 15.0 +3.9
comp=Z,18nm,1.0s
BURAR Bucovina Array 112.81 359⇑*i*P Pdif 17 22 37.3 +8.5
BURAR Bucovina Array 112.81 359⇑*i*P PKiKP 17 26 25.4 +1.9
BURAR Bucovina Array 112.81 359⇓*i*P PKKPbc 17 37 19.6 +8.7
BURAR Bucovina Array 112.81 359⇓PKIKP PKiKP 17 26 38.9 +15
LPL La Plagne 113.08 13 *e*P Pdif 17 22 30.3 +0.3
LPG La Plagne 113.10 13 *e*P Pdif 17 22 30.8 +0.7
SJPF Ste Jean 113.20 20 *e*P Pdif 17 22 29.9 -0.6
MTE Manteigas 113.27 26 *e*P PKiKP 17 26 25.0 +0.6
MTE Manteigas 113.27 26 *e*PP PP 17 27 11.7 -2.8
MTE *i*P 17 36 50.6
MTE *e*SS SS 17 43 01.9 +1.6
MTE Manteigas 113.27 26 *e*LQ 17 55 58.2
MTE *e*LR LR 18 01 32.0
comp=Z,21μm,20.0s
KIS Kishinev 113.29 356 *e*P Pdif 17 22 29.0 -1.9
KIS *e* 17 26 16.0
KIS *e* 17 27 20.0
KIS *i*PPS 17 38 04.0
KIS *e*SS SS 17 42 53.0 -7.5
KIS MLR MLR
comp=N,7μm,20.0s
KIS MLR MLR
comp=Z,23μm,20.0s,MS6.8
KIS MLR MLR
comp=Z,28μm,20.0s
KIS Kishinev 113.29 356 *e*PKP PKiKP 17 26 16.0 -8.4
KIS Kishinev 113.29 356 *e*PP PP 17 27 20.0 +5.4
KIS Kishinev 113.29 356 *i*SKKS Sdif 17 34 50.0 -7.9
PERS Pernice 113.33 7 *e*PKPdf PKiKP 17 26 26.0 +1.5
PTCC Patocco-Chiusa 113.34 8 P PKiKP 17 26 20.5 -4.0
ORIF Oris-en-Rattie 113.46 14 *e*P Pdif 17 22 31.3 -0.4
ORIF *e*MLR MLR
comp=Z,64μm,20.8s
GMNA Gemona 113.46 8 P PKiKP 17 26 26.8 +2.1
CADS Cadrg 113.57 8 *e*PKPdf PKiKP 17 26 27.1 +2.1
CADS *e*PP PP 17 27 18.9 +2.4
CADS *e*SKSac SKSac 17 33 06.4 -4.5
CADS *e* 17 34 15.4
CADS *e*Sdiff Sdif 17 34 56.9 -3.4
CADS *e*SS SS 17 43 01.6 -2.6
PMAFR Mafra 113.74 28 *e*PP PP 17 27 14.6 -3.2
PMAFR *i*P 17 36 58.8
PMAFR *e*SS SS 17 43 12.8 +6.3
PMAFR Mafra 113.74 28 *e*LR LR 18 01 57.3
LASF Ste Croix 113.77 16 *e*P Pdif 17 22 33.4 +0.4
VOY Vojsko 113.78 8 *e*PKPdf PKiKP 17 26 26.2 +0.8
VOY *e* 17 26 28.5
VOY *e* 17 27 15.8
VOY *e* 17 27 22.7
VOY *e* 17 37 10.8
VOY *e* 17 37 19.5
MAK Makhachkala 113.80 341 *i*P Pdif 17 22 30.1 -3.1
MAK *i* 17 26 24.6
MAK *e*PPP 17 29 40.8
MAK *i* 17 33 36.6
MAK *i*PS PS 17 36 50.3 -4.5
MAK *e*SS SS 17 43 04.9 -2.3
MAK *e*SSS 17 47 17.8
MAK pmax pmax
comp=Z,496nm,1.3s
MAK MLR MLR
comp=Z,37μm,20.0s,MS7.0
MAK MLR MLR
comp=N,22μm,22.0s,MS7.1
MAK MLR MLR
comp=E,39μm,18.0s,MS7.1
MBDF Montbardon 113.84 13 *e*P Pdif 17 22 33.1 -0.2
comp=E,19nm,1.1s
LJU Ljubljana 113.85 7 *e*Pdiff Pdif 17 22 36.2 +2.9
LJU *e*PKPdf PKiKP 17 26 28.5 +3.0
LJU *e* 17 27 22.5
LJU *e*SKSac SKSac 17 33 07.6 -4.4
LJU *e* 17 34 17.8
LJU *e*Sdiff Sdif 17 34 59.2 -3.4
LJU *e*SP SP 17 36 47.8 -6.8
LJU *e* 17 38 06.5
LJU *e*SS SS 17 43 05.5 -2.3
LJU Ljubljana 113.85 7 *e*P Pdif 17 22 36.2 +2.8
LJU *e* 17 33 07.6
LJU *e*SP SP 17 36 47.8 -6.8
LJU *e* 17 38 06.5
LJU *e*SS SS 17 43 05.5 -2.4
MTLF Montolieu 114.02 17 *e*P Pdif 17 22 33.9 -0.2
PKSM Moragy 114.05 4⇑*i*P PKiKP 17 26 24.9 -1.0
PKSM Moragy 114.05 4 P PKiKP 17 26 24.7 -1.2
VISS Visnje 114.12 7 *e*PP PP 17 27 18.7 -1.8
KIV Kislovodsk 114.18 345 *e*P Pdif 17 22 29.5 -5.4
KIV *i* 17 26 27.8
KIV *e* 17 27 19.3
KIV *e*PPP 17 29 49.2
KIV *e*SP SP 17 36 49.4 -8.3
KIV *e*PS PS 17 36 59.6 +1.3
KIV *e*SS SS 17 43 07.9 -4.4
KIV *e*SSS 17 47 20.8
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 114.18 345⇑*e*PKP PKiKP 17 26 27.5 +1.4
KIV LR LR
comp=Z,5μm,20.0s,MS6.2
ANN Anapa 114.46 349 *i*PKIKP PKiKP 17 26 18.4 -8.2
ANN *e* 17 26 28.5
ANN *e* 17 27 20.9
ANN *e*PPP 17 29 46.2
ANN *e* 17 33 01.9
ANN *e*PS PS 17 36 55.3 -5.6
ANN *e*SS SS 17 43 12.3 -3.6
ANN pmax pmax
comp=Z,129nm,6.2s
ANN MLR MLR
comp=N,17μm,23.0s,MS6.6
ANN MLR MLR
comp=E,9μm,23.0s,MS6.6
ANN MLR MLR
comp=Z,17μm,23.0s,MS6.6
BOJS Bojanci 114.46 7 *e*Pdiff Pdif 17 22 39.0 +2.9
BOJS *e*PKPdf PKiKP 17 26 26.7 +0.1
BOJS *e*SKSac SKSac 17 33 10.0 -4.5
BOJS *e*SP SP 17 36 54.8 -5.5
BOJS *e* 17 38 10.5
BOJS *e*SS SS 17 43 18.2 +2.2
BOJS *e* 17 56 13.2
VRI Vrincioaia 114.52 358⇑*i*P PKKPbc 17 37 09.0 +3.9
PESTR Estremoz 114.54 27 *e*PKPdf PKiKP 17 26 29.0 +2.2
PESTR Estremoz 114.54 27 *e*PP PP 17 27 26.9 +3.4
PESTR *i*P 17 37 01.5
PESTR *e*SS SS 17 43 22.4 +5.3
PESTR Estremoz 114.54 27 *e*LQ 17 55 24.3
PESTR *e*LR LR 18 02 07.5
comp=Z,20μm,20.5s
EVO Evora 114.64 27 *e*PKIKP PKiKP 17 26 24.8 -2.2
comp=Z,36nm,1.1s
EVO *e*MLR MLR
comp=Z,36μm,22.8s
HYB Hyderabad 114.77 301 *i*Pdiff Pdif 17 22 36.0 -1.5
HYB *e*PKP PKiKP 17 26 25.0 -2.3
HYB *e*PP PP 17 27 24.0 -1.1
HYB *e*SKS SKSac 17 33 12.0 -3.6
HYB *e*PKKP PKKPbc 17 37 24.0 +20
HYB Hyderabad 114.77 301 *e*PKP PKiKP 17 26 25.0 -2.3
HYB *e*LR LR 18 03 10.0

BZS Buzias 114.79 2⇓*i*P Pdif 17 22 39.7 +2.1
BZS Buzias 114.79 2⇓*i*P PKiKP 17 26 26.3 -1.0
BZS Buzias 114.79 2⇑*i*P PKKPbc 17 37 04.3 +0.1
BZS Buzias 114.79 2⇑PKIKP PKiKP 17 26 29.9 +2.6
BZS Buzias 114.79 2 P PKiKP 17 26 29.8 +2.5
SIM Simferopol' 114.81 352 *e*P Pdif 17 22 33.5 -4.2
SIM *e* 17 27 22.0
SIM *e*PPP 17 29 50.0
SIM *e*PS PS 17 37 01.0 -3.1
SIM *e*PPS 17 38 24.0
SIM *e*SS SS 17 43 30.0 +9.4
SIM pmax pmax
comp=Z,2μm,18.0s
SIM MLR MLR
comp=Z,43μm,19.6s,MS7.1
MLR Muntele Rosu 114.92 358 PKP PKiKP 17 26 27.2 -0.4
comp=Z,18nm,0.9s,baz=250,slow=4.7,SNR=16
MLR PKKPbc PKKPbc 17 37 05.2 +1.5
comp=Z,9.5nm,1.0s,baz=70,slow=14,SNR=5.3
MLR Muntele Rosu 114.92 358⇑*i*P PKiKP 17 26 30.1 +2.6
MLR Muntele Rosu 114.92 358⇑*i*P PKKPbc 17 37 03.9 +0.1
MLR Muntele Rosu 114.92 358 PKIKP PKiKP 17 26 27.2 -0.3
MLR 17 37 05.2
MLR pmax pmax
comp=Z,18nm,0.9s
MLR Muntele Rosu 114.92 358 P PKiKP 17 26 28.5 +1.0
GSCL Gusciola 114.94 10 P PKiKP 17 26 29.9 +2.3
ZEI Tsey 114.99 344 *e*PKIKP PKiKP 17 26 27.0 -0.7
ZEI *e* 17 27 26.1
VOIR 114.99 359⇓*i*P PKiKP 17 26 30.1 +2.4
VOIR 114.99 359⇑*i*P PKKPbc 17 37 12.2 +8.7
PBEJ Beja 115.13 27 *e*PKPdf PKiKP 17 26 30.1 +2.2
CFR Carcaliu 115.14 357⇑*i*P PKKPbc 17 37 05.9 +2.9
CFR Carcaliu 115.14 357 PKIKP PKiKP 17 26 28.4 +0.4
PTEO Sao Teotonio 115.15 28 *e*PKPdf PKiKP 17 26 29.1 +1.1
PTEO Sao Teotonio 115.15 28 *i*PP PP 17 27 27.3 -0.5
ESDC Sonseca Array 115.30 23 Pdiff Pdif 17 22 46.3 +6.5
comp=Z,0.6nm,0.7s,baz=340,slow=4.5,SNR=4.5
ESDC PKP PKPdf 17 26 28.0 -0.2
comp=Z,6.1nm,0.7s,baz=334,slow=2.5,SNR=23
ESDC PP PP 17 27 24.1 -4.7
comp=Z,10nm,1.2s,baz=331,slow=6.5,SNR=4.2
ESDC PKKPbc PKKPbc 17 37 02.8 +0.3
comp=Z,9.6nm,0.9s,baz=144,slow=3.1,SNR=7.2
ESDC PKKP PKKPbc 17 37 24.1 +22
comp=Z,8.4nm,1.1s,baz=162,slow=3.9,SNR=6.2
ESLA Sonseca Array 115.30 23 *e*PKiKP PKiKP 17 26 30.0 +1.8
ESLA LR LR
comp=Z,124μm,20.0s,MS7.5
NVLJ Novalja 115.35 7 *i*P PKiKP 17 26 32.1 +3.8
MORF Marmelete 115.38 28 *e*PKPdf PKPdf 17 26 31.5 +3.1
MORF Marmelete 115.38 28 *i*P PS 17 37 12.4 +3.1
MORF *e*SS SS 17 43 26.5 -1.6
MORF Marmelete 115.38 28 *e*LQ 17 57 02.6
MORF *e*LR LR 18 02 16.1
comp=Z,17μm,16.7s
MDRS Chennai 115.60 296 *i*P PKPdf 17 26 27.2 -1.7
MDRS AMS AMS 18 11 05.1
comp=Z,5μm,30.1s,MS5.9
HARR Harsova 115.64 357 PKIKP PKPdf 17 26 31.6 +2.7
TBLG Delisi 115.73 343 P PP 17 27 37.2 +5.4
MTA Mtatsminda 115.75 343 P PP 17 27 32.4 +0.4
MTA S PS 17 37 15.7 +3.0
LATR Latur 115.82 303 *ex* x 17 25 52.0
DIVS Divcibare 116.24 3 *i*Pn PKPdf 17 26 30.7 +0.6
SNTG Esanatoglia 116.38 9 P PKPdf 17 26 33.1 +2.8
GNI Garni 117.19 342 *c*PKIKP PKPdf 17 26 33.1 +1.2
GNI MLR MLR
comp=Z,14μm,21.0s
GNI Garni 117.19 342 *e*PKPdf PKPdf 17 26 33.6 +1.7
GNI LR LR
comp=Z,13μm,19.0s,MS6.6
VTS Vitosha 117.84 1⇑PKIKP PKPdf 17 26 25.2 -8.0
POO Poona 117.88 305⇑*i*P PKPdf 17 26 33.0 -0.2
comp=Z,30nm,1.0s
POO AMS AMS 18 13 07.2
comp=Z,9μm,20.1s,MS6.4
PALK Pallekele 117.93 290 PKPdf PKPdf 17 26 32.6 -0.8
PALK LR LR
comp=Z,2μm,21.0s,MS5.8
BALT Daday 118.27 352 *i*P PKPdf 17 26 34.5 +0.6
RGNG Rignano Grg 118.28 7 P PKPdf 17 26 35.1 +1.1
KAD Karad 118.31 303 *e*PP PP 17 27 49.4 -0.5
KAD AMS AMS 18 11 13.5
comp=Z,5μm,26.8s,MS6.0
ERZM Erzurum 118.33 345 *i*P PKPdf 17 26 33.4 -0.7
KELT Kelkit 118.59 347 *i*P PKPdf 17 26 38.6 +4.0
VAY Valandovo 119.10 1 *e*PKP PKPdf 17 26 36.9 +1.4
VAY Valandovo 119.10 1 *e*PKP PKPdf 17 26 37.2 +1.6
OHR Ohrid 119.26 3 *e*PKP PKPdf 17 26 37.9 +2.0
OHR Ohrid 119.26 3 *e*PKP PKPdf 17 26 37.7 +1.9
BNGL BINGOL 119.28 345 *i*P PKPdf 17 26 40.2 +4.3
ELDT Eldivan 119.29 352 *i*P PKPdf 17 26 35.5 -0.4
SGKT Sivrigoynuk 119.38 353 *i*P PKPdf 17 26 34.7 -1.5
VSL Villasalto 119.40 13 *e*PKPdf PKPdf 17 26 36.4 +0.2
ANTO Ankara 119.98 352⇑*i*P PKPdf 17 26 37.7 +0.4
ANTO Ankara 119.98 352 *e*PKPdf PKPdf 17 26 35.1 -2.2
ANTO LR LR
comp=Z,13μm,20.0s,MS6.6
CDAG Cicekdag 120.00 351 *i*P PKPdf 17 26 37.1 -0.2
BR131 Keskin Array S 120.01 351 *e*PKPdf PKPdf 17 26 36.3 -1.0
BR131 LR LR
comp=Z,10μm,21.0s,MS6.4
BRTR Keskin Array B 120.01 351 PKP PKPdf 17 26 36.9 -0.4
comp=Z,9.1nm,0.9s,baz=75,slow=0.8,SNR=19
BRTR PKKPab PKKPab 17 36 48.4 +1.0
comp=Z,4.0nm,0.9s,baz=182,slow=5.0,SNR=6.7
ULDT Uludag 120.09 355 *i*P PKPdf 17 26 36.0 -1.4
MNGI Mangalore 120.19 299 *e*P PKPdf 17 26 37.9 +0.2
MNGI AMS AMS 18 07 22.3
comp=Z,2μm,19.5s,MS5.8
MNGI *ex* x 18 09 42.3
comp=N,4μm,26.8s
ELZG Elazig 120.23 346 *i*P PKPdf 17 26 36.9 -0.8
EBNR Beni Rached 120.27 21 P PKPdf 17 26 44.0 +6.2
ABA Alger-Bouzarea 120.29 19 P PKPdf 17 26 42.0 +4.1
EANR 'Ain N'Sour 120.43 21 P PKPdf 17 26 40.0 +1.9
MALT Malatya 120.53 347⇑*i*P PKPdf 17 26 38.6 +0.3
MALT Malatya 120.53 347 *e*PKPdf PKPdf 17 26 37.9 -0.4
TRD Trivandrum 120.63 293 *e*PP PP 17 28 03.9 -1.9
EMHD Djebel Mahouad 120.81 20 P PKPdf 17 26 36.0 -2.9
TIP Timpagrande 120.88 6 *e*PKPdf PKPdf 17 26 38.3 -0.7
MARD Mardin 120.93 344 *i*P PKPdf 17 26 39.2 +0.1
MDT Midelt 120.94 28 PKP PKPdf 17 26 39.5 +0.3
comp=N,36nm,0.9s,baz=347,slow=1.5,SNR=41
MDT PP PP 17 28 08.7 +0.8
comp=N,12nm,1.1s,baz=304,slow=6.3,SNR=4.2
ADJB Djebel Djouab 121.00 19 P PKPdf 17 26 40.0 +0.8
ETRT Tiaret 121.01 21 P PKPdf 17 26 43.0 +3.8
GDZ Gediz 121.11 355 *i*P PKPdf 17 26 38.7 -0.7
AKET Djebel Ketaf 121.24 19 P PKPdf 17 26 38.9 -0.8
MSL Mosul 121.25 342 *ex* x 17 26 42.0
MSL *ex* x 17 29 57.0
MSL *ex* x 17 33 20.0
DFRA Djebel Bou Aff 121.36 17 P PKPdf 17 26 45.0 +5.1
CAEH 'Ain El Ouahch 121.40 16 P PKPdf 17 26 44.5 +4.5
KDHN Kadinhani 121.40 352 *i*P PKPdf 17 26 41.5 +1.5
ERC Erice 121.42 10 P PKPdf 17 26 43.1 +3.1
SET Setif 121.55 18 P PKPdf 17 26 45.0 +4.7
GZT Gaziantep 121.63 347 *i*P PKPdf 17 26 39.5 -0.9
CMAH Djebel Manchou 121.69 16 P PKPdf 17 26 41.0 +0.4
CKFL Kef-Lekhel 121.72 16 P PKPdf 17 26 43.0 +2.4
CASM Ain Smara 121.79 17 P PKPdf 17 26 44.0 +3.2
CLTB Caltabellotta 121.97 10 P PKPdf 17 26 43.9 +2.8
ABSA Djebel Ababsia 122.04 16 P PKPdf 17 26 42.0 +0.8
CMER Merouana 122.23 17 P PKPdf 17 26 44.0 +2.4
ISP Isparta 122.25 354 *e*PKPdf PKPdf 17 26 40.0 -1.7
ISP ⇑*i*PKP PKPdf 17 26 43.1 +1.5
VAE Valguarnera 122.26 9 PKP PKPdf 17 26 43.8 +2.1
comp=N,3.5nm,0.4s,baz=96,slow=9.5,SNR=3.1
HVZN Vizzini 122.60 9 P PKPdf 17 26 45.4 +3.1
AYDN Tasoluk 122.65 356 *i*P PKPdf 17 26 41.1 -1.2
KEST Kesra 123.00 14 PKP PKPdf 17 26 43.0 -0.1
comp=N,12nm,0.7s,baz=280,slow=1.2,SNR=29
KEST PP PP 17 28 26.3 +4.3
comp=N,10nm,1.2s,baz=300,slow=6.4,SNR=2.7
KEST PKKPbc PKKPbc 17 36 37.5 +3.2
comp=N,3.2nm,0.8s,baz=232,slow=1.0,SNR=6.9
ERMK Ermenek 123.14 351 *i*P PKPdf 17 26 42.9 -0.5
BDRM Kayabasi 123.26 357 *i*P PKPdf 17 26 41.8 -1.8
BHD Baghdad 123.64 339 *ex* x 17 26 38.0
BHD *ex* x 17 29 54.0
MAMC Mammari 124.54 351 P PKPdf 17 26 46.6 +0.6

ALFC Alevga 124.64 351 P PKPdf 17 26 46.6 +0.4
comp=N,1.7nm,0.8s
CSS Prodhromos 124.73 351 P PKPdf 17 26 46.7 +0.3
comp=N,2.2nm,1.6s
PPCY Paphos 124.95 352 P PKPdf 17 26 46.5 -0.3
SZAC Souni-Zanaja 125.00 351 P PKPdf 17 26 46.6 -0.3
BHL Bhannes 125.35 348 *e*P PP 17 28 43.8 +6.1
GVD Gavdhos 125.58 360 PKPdf PKPdf 17 26 46.8 -1.2
MIB Mutribah 125.68 335 *e*P PKPdf 17 26 47.5 -0.7
MIB AMb AMB 17 26 53.4
comp=Z,237nm,1.1s
UMR Umm Al-Rimmam 125.75 334 *e*P PKPdf 17 26 48.2 -0.1
UMR AMb AMB 17 26 55.1
comp=Z,245nm,1.1s
SNAA Sanae 125.92 170 PKP PKPdf 17 26 47.0 -1.6
comp=Z,2.4nm,0.6s,baz=228,slow=2.6,SNR=32
SNAA Sanae 125.92 170 *e*PKPdf PKPdf 17 26 45.8 -2.9
RST Umm Al-Ruwaisa 126.08 335 *e*P PKPdf 17 26 48.3 -0.7
RST AMb AMB 17 26 55.6
comp=Z,239nm,1.6s
NAY Al-Naaiem 126.21 335 *e*P PKPdf 17 26 48.5 -0.7
NAY AMb AMB 17 26 53.7
comp=Z,118nm,1.0s
MAW Mawson 126.34 197 *e*P PKPdf 17 26 48.6 -0.9
comp=Z,18nm,0.8s
MAW Mawson 126.34 197 PKP PKPdf 17 26 47.9 -1.6
comp=Z,19nm,0.8s,baz=131,slow=0.8,SNR=20
MAW Mawson 126.34 197 PKIKP PKPdf 17 26 47.9 -1.6
MAW pmax pmax
comp=Z,19nm,0.8s
RDF Al-Radifah 126.37 334 *e*P PKPdf 17 26 49.0 -0.5
RDF AMb AMB 17 26 53.1
comp=Z,224nm,1.3s
QRN Al-Qurain 126.38 334 *e*P PKPdf 17 26 49.4 -0.2
QRN AMb AMB 17 26 56.4
comp=Z,254nm,1.4s
ASF Jabal al Asfar 126.76 346 PKP PKPdf 17 26 50.1 -0.2
comp=Z,29nm,1.0s,baz=8.0,slow=2.8,SNR=9.8
MAIT Maitri 128.59 175 *e*PKP PKPdf 17 26 52.8 -1.0
NVL N'lazarevskaya 128.60 175 *c i*PKIKP PKPdf 17 26 53.2 -0.6
NVL *i* 17 31 52.5
NVL *i* 17 46 37.4
NVL pmax pmax
comp=Z,162nm,1.7s
NVL MLR MLR
comp=Z,21μm,20.9s,MS6.8
SYO Syowa Base 129.92 187 ‖ *e*PKPdf PKPdf 17 26 52.2 -4.1
SYO Syowa Base 129.92 187 ‖ *e*PKiKP PKiKP 17 26 57.6 +0.5
DGAR Diego Garcia 131.37 278 PFAKE 17 27 10.0 +11
DGAR LR LR
comp=Z,3μm,20.0s,MS6.0
TOA0 Torodi Ar. Sit 140.58 35 *e*PKPpre 17 27 06.9
TORD Torodi Ar. Bea 140.58 35 PKhKP 17 27 06.3
comp=Z,3.7nm,0.7s,baz=331,slow=3.6,SNR=17
TORD PKP PKPdf 17 27 18.2 +2.1
comp=Z,65nm,0.8s,baz=341,slow=3.1,SNR=43
TORD PP PP 17 30 15.1 -0.1
comp=Z,18nm,1.0s,baz=316,slow=7.2,SNR=5.6
TORD Torodi Ar. Bea 140.58 35 PKP 17 27 06.3
TORD PKP PKPdf 17 27 18.2 +2.1
TORD PP PP 17 30 15.1 -0.1
DBIC Dimbokro 141.32 50 PKhKP 17 27 11.5
comp=Z,4.7nm,0.6s,baz=293,slow=5.1,SNR=10
DBIC PKP PKPdf 17 27 18.8 +1.3
comp=Z,132nm,0.9s,baz=299,slow=3.4,SNR=31
DBIC Dimbokro 141.32 50 PKHKP 17 27 11.5
DBIC 17 27 18.8
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC pmax pmax
comp=Z,132nm,0.9s
DBIC Dimbokro 141.32 50 *e*PKPpre 17 27 11.3
DBIC PKP PKPdf 17 27 18.8 +1.3
DBIC LR LR
comp=Z,35μm,21.0s,MS7.1
TRIS Tristan da Cun 144.13 126 *e*PKPdf PKPdf 17 27 20.0 -2.4
TRIS LR LR
comp=Z,10μm,21.0s,MS6.5
DESE Dese 145.51 332 *e*P PKPdf 17 27 26.7 +1.9
MSEY Mahe Island 145.72 292 PFAKE 17 27 40.0 +15
MSEY LR LR
comp=Z,3μm,19.0s,MS6.2
FURI Furi 147.91 332 *e*P PKPdf 17 27 30.6 +1.7
FURI S 17 33 45.1
KMBO Kilima Mbogo 157.23 323 PKP PKPdf 17 27 42.5 -0.1
comp=Z,32nm,1.1s,baz=45,slow=2.5,SNR=16
KMBO PKPab PKPab 17 28 15.2 +1.7
comp=Z,24nm,1.2s,baz=54,slow=3.1,SNR=4.7
KMBO PP PP 17 31 51.5 -0.6
comp=Z,9.6nm,1.1s,baz=7.1,slow=7.5,SNR=4.3
KMBO Kilima Mbogo 157.23 323 PKIKP PKPdf 17 27 42.5 -0.1
KMBO 17 31 51.5
KMBO pmax pmax
comp=Z,33nm,1.1s
KMBO pmax pmax
comp=Z,10.0nm,1.1s
KMBO Kilima Mbogo 157.23 323 *e*PKPdf PKPdf 17 27 43.4 +0.8
KMBO LR LR
comp=Z,13μm,20.0s,MS6.8
OPO Ambohidratompo 157.96 269 PKP PKPdf 17 27 44.8 +1.3
comp=Z,8.2nm,0.8s,baz=119,slow=3.5,SNR=6.9
OPO PKPab PKPab 17 28 16.4 -0.1
comp=Z,17nm,0.8s,baz=92,slow=2.3,SNR=9.1
SUR Sutherland 167.25 168 PKP PKPdf 17 27 53.0 +0.4
comp=Z,72nm,1.2s,baz=172,slow=2.8,SNR=12
SUR Sutherland 167.25 168 *e*PKPdf PKPdf 17 27 53.3 +0.6
SUR LR LR
comp=Z,10μm,21.0s
LSZ Lusaka 173.85 317 PKP PKPdf 17 27 56.3 +0.1
comp=Z,28nm,1.1s,baz=40,slow=1.0,SNR=14
LSZ PKPab PKPab 17 29 26.7 +0.2
comp=Z,22nm,0.9s,baz=27,slow=5.9,SNR=7.7
LSZ PP PP 17 33 21.0 +2.6
comp=Z,49nm,1.2s,baz=57,slow=5.3,SNR=8.9
LSZ Lusaka 173.85 317 *e*PKPdf PKPdf 17 27 55.9 -0.3
TSUM Tsumeb 174.02 85 PKPdf PKPdf 17 27 56.8 +0.5
TSUM PKPab PKPab 17 29 32.6 +5.3
TSUM Tsumeb 174.02 85 PKP PKPdf 17 27 56.1 -0.1
comp=Z,16nm,0.9s,baz=285,slow=2.2,SNR=14
TSUM PKPab PKPab 17 29 29.9 +2.5
comp=Z,23nm,1.0s,baz=276,slow=5.2,SNR=5.3
TSUM PP PP 17 33 21.7 +2.4
comp=Z,2.1nm,0.8s,baz=240,slow=11,SNR=3.3
TSUM Tsumeb 174.02 85 PKP PKPdf 17 27 56.1 -0.1
TSUM PKPab PKPab 17 29 29.9 +2.5
TSUM PP PP 17 33 21.7 +2.4
TSUM LR LR
comp=Z,40μm,21.0s
LBTB Lobatse 174.65 197 PKPdf PKPdf 17 27 56.6 +0.1
LBTB pPKPdf pPKPdf 17 28 12.3 +14
LBTB PP PP 17 33 21.5 -0.8
LBTB Lobatse 174.65 197 PKP PKPdf 17 27 55.8 -0.7
comp=Z,41nm,0.9s,baz=214,slow=2.9,SNR=11
LBTB PKPab PKPab 17 29 31.4 +1.3
comp=Z,9.5nm,1.0s,baz=152,slow=6.4,SNR=3.7
LBTB PP PP 17 33 25.3 +3.0
comp=Z,12nm,1.2s,baz=185,slow=6.6,SNR=6.0
LBTB Lobatse 174.65 197 PKIKP PKPdf 17 27 55.8 -0.7
LBTB 17 29 31.4
LBTB 17 33 25.3
LBTB pmax pmax
comp=Z,41nm,0.9s
LBTB pmax pmax
comp=Z,10.0nm,1.0s
LBTB pmax pmax
comp=Z,12nm,1.2s
LBTB Lobatse 174.65 197 *e*PKPdf PKPdf 17 27 55.6 -0.8
LBTB LR LR
comp=Z,29μm,22.0s
MATP Matopo 175.63 262 PKP PKPdf 17 27 55.7 -1.1
comp=Z,42nm,1.1s,baz=144,slow=0.4,SNR=11
MATP PKPab PKPab 17 29 34.0 -0.4
comp=Z,56nm,1.2s,baz=100,slow=3.7,SNR=7.2
MATP PP PP 17 33 30.8 +3.8
comp=Z,19nm,1.2s,baz=142,slow=3.3,SNR=4.5
MATP Matopo 175.63 262 PKP PKPdf 17 27 55.7 -1.1
MATP PKPab PKPab 17 29 34.0 -0.4
MATP PP PP 17 33 30.8 +3.8

BJI ***15*** *17:14:08.3, 2000N×15590W, h13km, mB6.1, mb5.4, Ms6.5, Msz6.2*
IDC ***15*** *17:14:09.5±0.3, 2013N×15608W, h0km, mb5.5/35, mb1 5.5/35, mb1mx5.5/35, mbtmp5.5/35, Error ellipse: s-maj=13.2km s-min=10.3km az=125.0*
ISCJB ***15*** *17:14:10.9±0.1, 2006N±003×156.14W±002, h19km, mb5.6/130, MS6.2/14, Error ellipse: s-maj=4.5km s-min=2.8km az=123.9*
GCMT ***15*** *17:14:12.1±0.3, 2009N×15588W, h20km±1km, MW6.0/89, Moment Tensor Solution. s11,c12; s89,c206; Duration: 2≥6 Moment tensor: Scale 10^18Nm; Mrr0.98±.07; Mθθ0.00±.04; Mφφ-0.98±.04; Mrθ-0.93±.10; Mφθ0.51±.02; Mφr0.29±.06; Best double couple: M0 1.47100×10^18 NP1:φs=182.00000°, δ36.00000°, λ137.00000°. NP2: φs=309.00000°, δ67.00000°, λ62.00000°. Principal axes: T 1.5440, Plg59.0000°, Azm179.0000°; N -0.1460, Plg25.0000°, Azm320.0000°; P -1.3970, Plg17.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***15*** *17:14:12.1, 2013N×15598W, h19km, mb5.8/84, After HVO.*
MOS ***15*** *17:14:13.2±1.0, 2020N×15620W, h33km, mb5.9/24, Error ellipse: s-maj=8.8km s-min=6.5km az=69.5*
ISC 15 17:14:13.2±0.1, 2012N±003×15616W±003, h20km, h20km±2.1km: pP-P, n642, n0S88/524, mb5.6/128, MS6.2/14, 106C-83D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKL	**Haleakala**	**0.60**	**351**	*e*P	**Pb**	**17 14 22.6**	**-2.4**
POHA	**Pohakuloa**	**0.69**	**121**	*e*P	**Pb**	**17 14 21.5**	**-5.1**
HON	**Honolulu**	**2.10**	**305**	*e*P	**Pn**	**17 14 44.0**	**-3.2**
KIP	**Kipapa**	**2.17**	**307**	*d i*P	**Pn**	**17 14 44.4**	**-3.8**
FARB	**Farallon Islan**	**33.67**	**51**	⇓P	**P**	**17 20 51.2**	**-1.5**
	baz=34						
MCCM	**Marconi Confer**	**33.93**	**51**	⇑P	**P**	**17 20 54.9**	**-0.1**
	baz=34						
BNLO	**Ben Lomond (Sa**	**34.08**	**53**	⇑P	**P**	**17 20 55.9**	**-0.3**
	baz=34						
O01C	**Eel River Cons**	**34.09**	**47**	⇑P	**P**	**17 20 56.2**	**-0.1**
	baz=34						
HOPS	**Hopland**	**34.12**	**49**	*e*P	**P**	**17 20 54.7**	**-2.0**
	92nm,1.3s,mb5.5						
HOPS	**Hopland**	**34.12**	**49**	⇑P	**P**	**17 20 55.8**	**-0.8**
	baz=34						
JRSC	**Jasper Ridge**	**34.13**	**52**	⇑P	**P**	**17 20 56.1**	**-0.6**
	baz=34						
P01C	**Double 8 Ranch**	**34.13**	**48**	⇑P	**P**	**17 20 55.7**	**-1.1**
	baz=34,SNR=6.1						
KIPM	**Iron Peak**	**34.18**	**48**	*e*P	**P**	**17 20 57.4**	**+0.3**
JCC	**Jacoby Creek**	**34.25**	**46**	⇓P	**P**	**17 20 57.8**	**+0.1**
	baz=34,SNR=6.8						
HAST	**UC Hastings Re**	**34.30**	**54**	P	**P**	**17 20 57.9**	**-0.3**
	baz=34,SNR=6.2						
CVS	**Carmenet Viney**	**34.31**	**51**	P	**P**	**17 20 58.0**	**-0.3**
	baz=34,SNR=6.5						
V03C	**Hunter Liggett**	**34.43**	**55**	⇑P	**P**	**17 20 58.7**	**-0.6**
	baz=34						
KHMM	**Horse Mountain**	**34.48**	**46**	*e*P	**P**	**17 21 00.5**	**+0.8**
SAO	**San Andreas Ge**	**34.51**	**54**	*e*P	**P**	**17 20 59.2**	**-0.7**
	75nm,0.9s,mb5.6						
MNRC	**McLaughlin Nat**	**34.53**	**50**	⇓P	**P**	**17 21 00.3**	**+0.1**
	baz=34,SNR=9.0						
WENL	**Wente Brothers**	**34.56**	**52**	⇓P	**P**	**17 21 00.2**	**-0.3**
	baz=34,SNR=5.4						
V04C	**Ramage Ranch,**	**34.60**	**56**	⇓P	**P**	**17 21 00.3**	**-0.5**
	baz=34						
BDM	**Black Diamond**	**34.60**	**52**	⇓P	**P**	**17 21 00.8**	**0.0**
	baz=34						
GASB	**Alder Springs**	**34.64**	**48**	⇓P	**P**	**17 21 01.3**	**+0.1**
	baz=34						
KRMB	**Red Mountain**	**34.66**	**45**	*e*P	**P**	**17 21 01.3**	**+0.1**
M01C	**Crescent City**	**34.67**	**44**	⇓P	**P**	**17 21 02.4**	**+1.0**
	baz=34						
PACP	**Pacheco Peak**	**34.71**	**53**	P	**P**	**17 21 01.9**	**+0.2**
	baz=35,SNR=9.5						
LRV	**Little Rabbit**	**34.73**	**55**	*e*P	**P**	**17 21 00.2**	**-1.6**
N02C	**Big Bar**	**34.74**	**46**	⇑P	**P**	**17 21 02.4**	**+0.4**
	baz=35,SNR=7.3						
AKUT	**Akutan**	**34.75**	**350**	*e*P	**P**	**17 21 01.8**	**-0.2**
	367nm,1.0s,mb6.3						
KBO	**Bosley Butte**	**34.78**	**44**	*e*P	**P**	**17 21 02.0**	**-0.3**
O02C	**Red Bluff**	**34.81**	**48**	⇓P	**P**	**17 21 03.2**	**+0.6**
	baz=35,SNR=10						
K01A	**Sixes**	**34.92**	**42**	⇑P	**P**	**17 21 04.0**	**+0.5**
	baz=35						
PKD	**Parkfield**	**34.95**	**56**	P	**P**	**17 21 03.6**	**-0.2**
	baz=35,SNR=12						
KEBM	**Edson Butte**	**35.04**	**42**	*e*P	**P**	**17 21 05.0**	**+0.4**
SNCC	**San Nicolas Is**	**35.07**	**61**	⇓P	**P**	**17 21 04.8**	**0.0**
	baz=35						
PTRM	**Twissleman Ran**	**35.12**	**56**	*e*P	**P**	**17 21 04.5**	**-0.7**
T05C	**Eagle Field, D**	**35.14**	**54**	⇓P	**P**	**17 21 05.3**	**0.0**
	baz=35						
SUTB	**Sutter Butte**	**35.14**	**50**	⇑P	**P**	**17 21 05.3**	**-0.1**
	baz=35						
BSC	**Santa Cruz Isl**	**35.15**	**59**	P	**P**	**17 21 04.8**	**-0.7**
	baz=35,SNR=6.2						
WDC	**Whiskeytown Da**	**35.16**	**47**	*e*P	**P**	**17 21 06.1**	**+0.5**
WDC	**Whiskeytown Da**	**35.16**	**47**	*e*P	**P**	**17 21 03.2**	**-2.4**
WDC	**Whiskeytown Da**	**35.16**	**47**	⇓P	**P**	**17 21 06.0**	**+0.4**
	baz=35						
L02A	**Cave Junction**	**35.16**	**44**	⇓P	**P**	**17 21 06.0**	**+0.4**
	baz=35						
SBC	**Santa Barbara**	**35.19**	**58**	⇑P	**P**	**17 21 06.1**	**+0.2**
	baz=35						
SMMC	**Simmler**	**35.19**	**57**	⇑P	**P**	**17 21 05.5**	**-0.3**
	baz=35						
PKM	**Peak Mountain**	**35.22**	**58**	⇑P	**P**	**17 21 06.1**	**0.0**
	baz=35						
O03C	**Acorn Hollow,**	**35.27**	**48**	⇑P	**P**	**17 21 06.8**	**+0.2**
	baz=35						
Q04C	**Lincoln**	**35.28**	**50**	⇓P	**P**	**17 21 06.2**	**-0.5**
	baz=35						
M02C	**Callahan**	**35.30**	**46**	⇓P	**P**	**17 21 07.5**	**+0.6**
	baz=35,SNR=7.2						
U05C	**Westside ANR,**	**35.39**	**55**	⇓P	**P**	**17 21 07.1**	**-0.5**
	baz=35						
OHCM	**Honcut**	**35.40**	**50**	*e*P	**P**	**17 21 07.1**	**-0.5**
R04C	**Big Horse Ranc**	**35.40**	**52**	⇑P	**P**	**17 21 07.3**	**-0.3**
	baz=35						
V05C	**Boulder Hill,**	**35.42**	**56**	⇓P	**P**	**17 21 07.4**	**-0.4**
	baz=35						
ORV	**Oroville**	**35.47**	**49**	⇑P	**P**	**17 21 08.0**	**-0.3**
	baz=35,SNR=9.5						
K02A	**Glendale**	**35.53**	**43**	⇓P	**P**	**17 21 08.9**	**+0.1**
	baz=35,SNR=6.7						
S05C	**Merced**	**35.54**	**53**	⇑P	**P**	**17 21 08.9**	**+0.1**
	baz=35						
YBH	**Yreka Blue Hor**	**35.55**	**45**	T		17 57 08.4	
	3.5nm,0.5s,baz=175,slow=13,SNR=4.6						
YBH	**Yreka Blue Hor**	**35.55**	**45**	*e*P	**P**	**17 21 09.5**	**+0.5**
YBH				pmax	pmax		
	comp=Z,96nm,1.1s						
YBH	**Yreka Blue Hor**	**35.55**	**45**	*e*P	**P**	**17 21 09.4**	**+0.5**
	comp=Z,96nm,1.1s,mb5.6						
YBH	**Yreka Blue Hor**	**35.55**	**45**	⇓P	**P**	**17 21 08.8**	**-0.1**
	baz=35,SNR=14						
LAVA	**Lava Cap Winer**	**35.72**	**51**	P	**P**	**17 21 10.6**	**+0.2**
	baz=36,SNR=8.1						
CMB	**Columbia Colle**	**35.73**	**52**	⇑P	**P**	**17 21 09.9**	**-0.5**
	baz=36						
J02A	**Umpqua**	**35.77**	**42**	⇓P	**P**	**17 21 11.0**	**+0.1**
	baz=36						
HUMO	**Hull Mountain**	**35.80**	**44**	P	**P**	**17 21 10.8**	**-0.3**
HUMO	**Hull Mountain**	**35.80**	**44**	⇓P	**P**	**17 21 11.3**	**+0.2**
	baz=36,SNR=5.5						
SCI	**San Clemente I**	**35.81**	**61**	⇑P	**P**	**17 21 10.7**	**-0.5**
	baz=36						
PMOR	**Pomariorio Ree**	**35.83**	**166**	*e*P	**P**	**17 21 11.2**	**-0.2**
	comp=Z,237nm,1.3s,mb6.0						
T06C	**Millerton Lake**	**35.91**	**54**	P	**P**	**17 21 11.7**	**-0.3**
	baz=36,SNR=7.9						
I02A	**Mapleton**	**35.93**	**41**	⇓P	**P**	**17 21 12.9**	**+0.6**
	baz=36,SNR=5.5						
HATC	**Hat Creek Radi**	**36.00**	**47**	⇑P	**P**	**17 21 12.6**	**-0.2**
	baz=36						
CIS	**Catalina Islan**	**36.02**	**61**	P	**P**	**17 21 12.3**	**-0.7**
	baz=36,SNR=6.3						
OSI	**Osito Adit**	**36.03**	**58**	⇑P	**P**	**17 21 12.6**	**-0.4**
	baz=36,SNR=7.0						
O05C	**Quincy**	**36.04**	**49**	⇓P	**P**	**17 21 12.9**	**-0.3**
	baz=36						
VES	**Vestal, Richgr**	**36.05**	**56**	P	**P**	**17 21 12.9**	**-0.4**
	baz=36,SNR=8.1						
RCTC	**Rector, Farmer**	**36.06**	**56**	⇑P	**P**	**17 21 12.7**	**-0.7**
	baz=36						
O04C	**Chester**	**36.06**	**48**	⇑P	**P**	**17 21 13.9**	**+0.5**
	baz=36						
ARVC	**Arvin**	**36.07**	**58**	P	**P**	**17 21 12.5**	**-0.9**
	baz=36,SNR=8.4						
S06C	**San Francisco**	**36.08**	**53**	⇑P	**P**	**17 21 13.2**	**-0.2**
	baz=36						
VAH	**Vaihoa**	**36.12**	**166**	*e*P	**P**	**17 21 13.4**	**-0.4**
	comp=Z,434nm,1.3s,mb6.2						
M04C	**Macdoel**	**36.16**	**46**	⇓P	**P**	**17 21 14.5**	**+0.3**
	baz=36,SNR=6.8						
J03A	**Ideyld Park**	**36.16**	**43**	⇓P	**P**	**17 21 14.4**	**+0.3**
	baz=36,SNR=7.5						
CHGN	**Chignik**	**36.17**	**358**	*e*P	**P**	**17 21 21.3**	**+7.0**
FMP	**Fort Macarthur**	**36.17**	**60**	⇑P	**P**	**17 21 14.2**	**-0.1**
	baz=36						
H02A	**Toledo**	**36.18**	**40**	⇑P	**P**	**17 21 14.7**	**+0.3**
	baz=36						
R05C	**Kirkwood Meado**	**36.18**	**51**	⇑P	**P**	**17 21 14.2**	**-0.2**
	baz=36,SNR=5.7						
DECC	**Green Verdugo**	**36.26**	**59**	⇓P	**P**	**17 21 14.1**	**-0.9**
	baz=36						
I03A	**Eugene**	**36.26**	**42**	⇓P	**P**	**17 21 15.2**	**+0.1**
	baz=36						
KCC	**Kaiser Creek**	**36.30**	**54**	P	**P**	**17 21 15.7**	**+0.3**
	baz=36,SNR=6.2						
HELL	**Mitchell Peak,**	**36.33**	**55**	P	**P**	**17 21 15.5**	**-0.2**
	baz=36,SNR=13						
BEKR	**Beckwourth**	**36.40**	**49**	⇓P	**P**	**17 21 16.3**	**0.0**
	baz=36						
ELFS	**Eagle Lake Fie**	**36.43**	**48**	⇑P	**P**	**17 21 16.7**	**+0.2**
	baz=36						
M05C	**Lookout**	**36.45**	**47**	⇓P	**P**	**17 21 17.6**	**+1.0**
	baz=36						
ISA	**Isabella**	**36.48**	**57**	P	**P**	**17 21 16.7**	**-0.3**
	baz=36,SNR=16						
R06C	**Coleville**	**36.58**	**52**	⇑P	**P**	**17 21 17.9**	**+0.1**
	baz=36,SNR=9.5						
K04A	**Chilquin**	**36.60**	**44**	⇓P	**P**	**17 21 18.1**	**+0.2**
	baz=36						
H03A	**Soap Creek Ran**	**36.61**	**40**	⇓P	**P**	**17 21 18.7**	**+0.6**
	baz=36						
WCN	**Washoe City**	**36.63**	**51**	P	**P**	**17 21 18.3**	**+0.1**
	baz=36,SNR=6.4						
P06A	**Stead Airport,**	**36.66**	**50**	⇑P	**P**	**17 21 18.6**	**+0.1**
	baz=36						
EDW2	**Edwards Air Fo**	**36.68**	**58**	P	**P**	**17 21 18.3**	**-0.3**
	baz=36,SNR=9.4						
R07C	**Lee Vining**	**36.74**	**53**	P	**P**	**17 21 19.9**	**+0.7**
	baz=37,SNR=8.7						
MLAC	**Mammoth Lakes**	**36.76**	**54**	⇑P	**P**	**17 21 19.9**	**+0.6**
	baz=37,SNR=9.3						
BFSC	**Mount Baldy St**	**36.80**	**59**	P	**P**	**17 21 18.9**	**-0.7**
	baz=37,SNR=5.3						
M06C	**Likely Place G**	**36.84**	**47**	⇑P	**P**	**17 21 20.4**	**+0.4**
	baz=37,SNR=5.7						
MTUM	**Tungsten Hills**	**36.88**	**54**	*e*P	**P**	**17 21 20.6**	**+0.3**
O06A	**Flanigan**	**36.89**	**49**	⇑P	**P**	**17 21 20.6**	**+0.2**
	baz=37,SNR=6.2						
BROR	**Big Rock Looko**	**36.92**	**42**	P	**P**	**17 21 21.6**	**+0.9**
L05A	**Lakeview**	**36.95**	**46**	⇓P	**P**	**17 21 21.8**	**+0.9**
	baz=37						
G03A	**Yamhill**	**36.95**	**40**	⇑P	**P**	**17 21 21.9**	**+0.9**
	baz=37						
109C	**Camp Elliot, M**	**36.99**	**62**	P	**P**	**17 21 20.8**	**-0.4**
	baz=37,SNR=11						
CWC	**Cottonwood Cre**	**37.00**	**56**	⇓P	**P**	**17 21 21.4**	**+0.1**
	baz=37						
PAHR	**Pah Rah Range**	**37.04**	**50**	*e*P	**P**	**17 21 21.5**	**-0.2**
	comp=Z,59nm,1.1s,mb5.3						
MURC	**Murrieta**	**37.04**	**61**	P	**P**	**17 21 21.2**	**-0.5**
	baz=37,SNR=16						
TIN	**Tinemaha**	**37.05**	**55**	⇓P	**P**	**17 21 21.6**	**-0.2**
	baz=37						
LRMC	**Laurel Mountai**	**37.06**	**57**	P	**P**	**17 21 22.0**	**+0.2**
	baz=37,SNR=5.8						
N06A	**Buffalo Meadow**	**37.11**	**48**	⇑P	**P**	**17 21 22.8**	**+0.5**
	baz=37,SNR=5.1						
F03A	**Seaside**	**37.12**	**39**	P	**P**	**17 21 23.9**	**+1.5**
	baz=37,SNR=8.0						
AFI	**Afiamalu**	**37.14**	**206**	P	**P**	**17 21 22.8**	**+0.3**
	comp=Z,67nm,0.8s,mb5.5,baz=221,slow=24,SNR=4.3						
AFI	**Afiamalu**	**37.14**	**206**	P	**P**	**17 21 22.8**	**+0.3**
AFI				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.5						
Q07A	**Schurz**	**37.20**	**52**	⇓P	**P**	**17 21 23.3**	**+0.3**
	baz=37						
K05A	**Summer Lake**	**37.20**	**45**	⇓P	**P**	**17 21 24.0**	**+0.9**
	baz=37						
SSOR	**Sweet Springs**	**37.21**	**41**	P	**P**	**17 21 24.1**	**+0.9**
S08C	**White Mtn Res**	**37.22**	**54**	P	**P**	**17 21 23.8**	**+0.6**
	baz=37,SNR=6.1						
J05A	**Fort Rock**	**37.23**	**44**	⇓P	**P**	**17 21 23.9**	**+0.6**
	baz=37,SNR=6.9						
MOD	**Modoc**	**37.24**	**46**	P	**P**	**17 21 24.4**	**+1.0**
	baz=37,SNR=7.1						
H04A	**Detroit Lake**	**37.30**	**41**	⇑P	**P**	**17 21 24.6**	**+0.7**
	baz=37						
P07A	**Fallon**	**37.34**	**51**	⇑P	**P**	**17 21 24.9**	**+0.7**
	baz=37						
MPMC	**Manual Prospec**	**37.36**	**57**	P	**P**	**17 21 24.8**	**+0.4**
	baz=37,SNR=5.1						
G04A	**Mulino**	**37.38**	**40**	P	**P**	**17 21 26.4**	**+1.8**
	baz=37,SNR=8.3						
BBRC	**Big Bear Sol-O**	**37.40**	**60**	⇑P	**P**	**17 21 25.2**	**+0.4**
	baz=37						
NVAR	**Mina Array Bea**	**37.41**	**53**	P	**P**	**17 21 24.9**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.4,baz=84,slow=8.7,SNR=14						
NVAR				PcP	PcP	17 23 42.9	-0.4
	comp=Z,16nm,1.0s,baz=236,slow=5.2,SNR=7.1						
E03A	**Lebam**	**37.45**	**38**	P	**P**	**17 21 26.4**	**+1.2**
	baz=37,SNR=7.0						
RRX	**Edison Barstow**	**37.47**	**59**	⇑P	**P**	**17 21 25.6**	**+0.3**
	baz=37						
R08A	**Mina**	**37.53**	**53**	P	**P**	**17 21 26.1**	**+0.3**
	baz=37,SNR=8.2						
MONP	**Monument Peak**	**37.56**	**62**	P	**P**	**17 21 26.1**	**+0.1**
	baz=37,SNR=16						
O07A	**Toulon**	**37.57**	**50**	P	**P**	**17 21 26.9**	**+0.8**
	baz=37,SNR=6.8						
PFO	**Pinyon Flat Ob**	**37.65**	**61**	P	**P**	**17 21 26.0**	**-0.9**
	comp=Z,239nm,1.4s,mb5.7,SNR=6.2						
PFO	**Pinyon Flat Ob**	**37.65**	**61**	*e*P	**P**	**17 21 26.2**	**-0.7**
PFO	**Pinyon Flat Ob**	**37.65**	**61**	P	**P**	**17 21 26.9**	**0.0**
	baz=38,SNR=8.4						
D03A	**Wishkah Elem.**	**37.66**	**37**	⇑P	**P**	**17 21 27.3**	**+0.4**
	baz=38						
K06A	**Valley Falls**	**37.66**	**45**	P	**P**	**17 21 28.2**	**+1.3**
	baz=38,SNR=7.2						
GRAC	**Grapevine Rang**	**37.70**	**55**	⇑P	**P**	**17 21 27.5**	**+0.3**
	baz=38,SNR=6.5						
C03A	**Quillayute Air**	**37.70**	**35**	⇓P	**P**	**17 21 27.6**	**+0.3**
	baz=38						
KDAK	**Kodiak Island**	**37.71**	**3**	P	**P**	**17 21 27.3**	**-0.1**
	comp=Z,553nm,1.2s,mb6.2,SNR=9.3						
KDAK	**Kodiak Island**	**37.71**	**3**	P	**P**	**17 21 27.6**	**+0.3**
	comp=Z,51nm,0.9s,mb5.3,baz=178,slow=6.3,SNR=8.3						
KDAK	**Kodiak Island**	**37.71**	**3**	*e*P	**P**	**17 21 27.4**	**+0.1**
GSC	**Goldstone**	**37.72**	**58**	P	**P**	**17 21 27.6**	**+0.2**
	baz=38,SNR=8.7						
N07B	**Gerlach**	**37.73**	**49**	⇑P	**P**	**17 21 27.0**	**-0.5**
	baz=38						
DVTC	**Desert V Tower**	**37.78**	**62**	⇓P	**P**	**17

baz=38,SNR=7.4
PAE Paea 38.09 170 *e*P **P 17 21 30.6 0.0**
comp=Z,644nm,1.2s,mb6.2
PAE Paea 38.09 170 *e*P **P 17 21 30.6 0.0**
PAE pmax pmax
comp=Z,644nm,1.2s,mb6.2
BELC Belle Mtn. 38.10 60 P **P 17 21 30.9 +0.3**
baz=38,SNR=12
G05A Wamic 38.11 41 ⇑P **P 17 21 31.4 +0.7**
baz=38
TPH Tonopah 38.11 53 *e*P **P 17 21 30.7 0.0**
O08A Rochester Mine 38.13 50 ⇑P **P 17 21 31.2 +0.3**
baz=38
I06A Prineville 38.19 43 P **P 17 21 32.5 +1.0**
baz=38,SNR=14
D04A Dobbs Creek Ra 38.20 37 ⇑P **P 17 21 32.0 +0.5**
baz=38
TVO Taravao 38.27 169 *e*P **P 17 21 32.6 +0.5**
comp=Z,1μm,1.3s,mb6.5
TVO Taravao 38.27 169 *e*P **P 17 21 32.6 +0.5**
TVO pmax pmax
comp=Z,1μm,1.3s,mb6.5
R09A Tonopah 38.27 53 ⇑P **P 17 21 31.9 -0.2**
baz=38
SHOC Shoshone 38.27 57 P **P 17 21 32.3 +0.2**
baz=38,SNR=11
K07A Rock Creek Ran 38.28 46 ⇑P **P 17 21 32.5 +0.2**
baz=38
N08A GE Springer Mi 38.32 49 P **P 17 21 33.2 +0.8**
baz=38,SNR=7.7
F05A White Salmon 38.34 40 P **P 17 21 33.8 +1.1**
baz=38,SNR=7.9
B04A Port Angeles 38.34 36 ⇑P **P 17 21 33.9 +1.2**
baz=38,SNR=9.6
Q09A Carvers 38.37 52 ⇑P **P 17 21 32.8 -0.1**
baz=38
M08A Happy Creek Ra 38.39 48 ⇓P **P 17 21 33.6 +0.5**
baz=38
C04A Brinnon 38.44 36 P **P 17 21 34.7 +1.1**
baz=38,SNR=14
TUQ Turquoise Mtn. 38.45 58 P **P 17 21 33.9 +0.3**
baz=38,SNR=15
BC3 Big Chuckw Mtn 38.48 61 P **P 17 21 34.1 +0.2**
baz=38,SNR=8.9
G06A Carlson Farm, 38.53 41 ⇓P **P 17 21 34.6 +0.4**
baz=38
J07A Hines 38.53 45 ⇓P **P 17 21 34.8 +0.6**
baz=38,SNR=6.8
WVOR Wild Horse Val 38.59 46 *e*P **P 17 21 35.0 +0.2**
WVOR pmax pmax
comp=Z,123nm,1.1s,mb5.5
WVOR Wild Horse Val 38.59 46 *e*P **P 17 21 35.0 +0.2**
comp=Z,124nm,1.1s,mb5.5
P09A Austin 38.62 51 ⇑P **P 17 21 35.2 +0.2**
baz=38
L08A Fields 38.70 47 ⇓P **P 17 21 36.5 +0.8**
baz=39,SNR=10
I07A Izee 38.71 43 P **P 17 21 37.2 +1.4**
baz=39,SNR=7.8
D05A Enumclaw 38.71 38 P **P 17 21 37.6 +1.8**
baz=39,SNR=7.6
PGC Sidney 38.72 35 *e*P **P 17 21 36.8 +1.0**
BBB Bella Bella 38.74 28 T 18 01 44.9
comp=Z,8.2nm,0.3s,baz=168,slow=22,SNR=3.6
N09A Rock Creek Ran 38.78 49 P **P 17 21 36.9 +0.5**
baz=39,SNR=11
O09A Fish Creek Ran 38.78 50 ⇓P **P 17 21 36.2 -0.2**
baz=39
K08A Mann Creek Ran 38.81 46 ⇓P **P 17 21 37.0 +0.4**
baz=39
IRM Iron Mountain 38.82 60 P **P 17 21 36.5 -0.2**
baz=39,SNR=8.5
BMN Battle Mountai 38.85 50 *e*P **P 17 21 35.8 -1.1**
BMN pmax pmax
comp=Z,45nm,0.8s,mb5.2
BMN Battle Mountai 38.85 50 *e*P **P 17 21 35.8 -1.2**
comp=Z,45nm,0.8s,mb5.2
R10A Warm Springs 38.87 53 ⇓P **P 17 21 37.4 +0.3**
baz=39
H07A Lands Inn, Kim 38.90 43 P **P 17 21 38.5 +1.1**
baz=39,SNR=17
GLA Glamis 38.90 62 *e*P **P 17 21 37.1 -0.3**
GLA Glamis 38.90 62 P **P 17 21 37.9 +0.5**
baz=39,SNR=8.2
V11A Goodsprings 38.93 58 ⇑P **P 17 21 36.8 -0.8**
baz=39
E06A Yakima 38.96 39 ⇑P **P 17 21 39.0 +1.0**
baz=39,SNR=9.4
M09A Marrel Ranch, 39.03 48 ⇑P **P 17 21 38.8 +0.3**
baz=39
J08A Circle Bar Ran 39.08 45 P **P 17 21 39.4 +0.5**
baz=39,SNR=15
L09A Wilkinson Ranc 39.10 47 ⇓P **P 17 21 39.3 +0.3**
baz=39
U11A Corn Creek 39.10 57 ⇑P **P 17 21 39.0 0.0**
baz=39
P10A Eureka 39.14 51 ⇓P **P 17 21 39.5 +0.2**
baz=39
G07A Ruggs Ranch, H 39.14 42 ⇑P **P 17 21 40.0 +0.6**
baz=39,SNR=7.3
C05A Tolt Reservoir 39.15 37 P **P 17 21 40.7 +1.2**
baz=39,SNR=8.3
A04A Legoe Bay, Lum 39.16 35 ⇑P **P 17 21 40.7 +1.1**
baz=39
B05A Bryant 39.24 36 P **P 17 21 41.6 +1.5**
baz=39,SNR=12
I08A Drewsey 39.24 44 P **P 17 21 41.4 +1.1**
baz=39,SNR=12
W12A Cal Nev Ari 39.26 59 ⇓P **P 17 21 40.4 0.0**
baz=39,SNR=6.2
Y12C Blythe 39.26 61 P **P 17 21 40.5 +0.1**
baz=39,SNR=9.8
F07A Phinny Hill Vi 39.28 41 P **P 17 21 41.7 +1.1**
baz=39,SNR=6.7
K09A Rome 39.32 46 ⇓P **P 17 21 41.7 +0.8**
baz=39,SNR=10
O10A Cortez Mining, 39.32 50 ⇑P **P 17 21 41.1 +0.2**
baz=39
V12A Nelson 39.37 58 ⇑P **P 17 21 41.8 +0.6**
baz=39,SNR=6.8
D06A Cle Elum 39.38 38 P **P 17 21 42.6 +1.3**
baz=39,SNR=8.9
MXC Moxie City 39.39 40 P **P 17 21 42.5 +1.1**
TRCR Troy Canyon 39.42 54 *e*P **P 17 21 41.3 -0.5**
H08A Prairie City 39.44 43 P **P 17 21 42.8 +0.9**
baz=39,SNR=6.7
N10A Dunphy 39.46 50 P **P 17 21 42.8 +0.8**
baz=39,SNR=5.1
Q11A Duckwater 39.51 53 ⇑P **P 17 21 42.5 0.0**
baz=39,SNR=8.6
J09A Fry Pan Ranch, 39.55 45 P **P 17 21 43.5 +0.7**
baz=39,SNR=14
G08A Pilot Rock 39.60 42 P **P 17 21 44.1 +0.9**
baz=40,SNR=12
P11A Circle Ranch, 39.64 52 ⇑P **P 17 21 43.7 +0.2**
baz=40,SNR=8.5
E07A Sunnyside 39.64 40 ⇑P **P 17 21 44.7 +1.1**
baz=40,SNR=8.1
A05A Maple Falls 39.65 35 P **P 17 21 44.9 +1.2**
baz=40,SNR=7.5
PDMCI Parker Dam,Lak 39.67 60 P **P 17 21 43.8 0.0**
baz=40,SNR=7.8
WRW Wenatchee Ridg 39.70 38 P **P 17 21 45.0 +0.9**
M10A I.L. Ranch, Tu 39.71 49 ⇑P **P 17 21 44.5 +0.4**
baz=40
SNIWA Snively Ranch 39.72 40 P **P 17 21 45.3 +1.1**
B06A Marblemount 39.72 36 P **P 17 21 45.0 +0.8**
baz=40,SNR=6.4
RSW Rattlesnake Hi 39.72 40 P **P 17 21 45.4 +1.2**
BVW Beverly 39.75 39 P **P 17 21 45.8 +1.3**
HAWA Hanford 39.76 40 *e*P **P 17 21 45.3 +0.8**
comp=Z,434nm,1.7s,mb5.9
U12A Valley of Fire 39.76 57 P **P 17 21 45.2 +0.6**
baz=40,SNR=6.7
I09A Lost Marbles R 39.81 44 ⇓P **P 17 21 45.2 +0.2**
baz=40,SNR=10
Y13A Salome 39.85 61 P **P 17 21 45.4 +0.1**
baz=40,SNR=7.1
O11A Cowboy Ranch, 39.88 51 ⇓P **P 17 21 45.6 0.0**
baz=40
D07A Quincy 39.89 39 P **P 17 21 46.9 +1.3**
baz=40,SNR=6.1
F08A Pendleton 39.94 41 P **P 17 21 47.0 +1.0**
baz=40,SNR=15
X13A Yucca 39.97 60 P **P 17 21 46.5 +0.2**
baz=40,SNR=8.2
SIT Sitka 39.98 18 *e*P **P 17 21 45.4 -1.0**
W13A Hualapai Mount 40.02 59 ⇓P **P 17 21 46.2 -0.5**
baz=40,SNR=12
N11A Elko Archery C 40.04 50 P **P 17 21 47.9 +1.0**
baz=40,SNR=5.6
C07A Waterville 40.09 38 P **P 17 21 48.2 +1.0**
baz=40,SNR=11
H09A Durkee 40.15 44 P **P 17 21 48.5 +0.7**
baz=40,SNR=8.8
M11A Holland Ranch, 40.20 49 ⇑P **P 17 21 49.2 +1.0**
baz=40
P12A McGill 40.24 52 ⇑P **P 17 21 48.2 -0.3**
baz=40,SNR=7.2
WRAK Wrangell Islan 40.36 20 *e*P **P 17 21 50.2 +0.7**
F09A S2 Ranch, Elgi 40.45 42 ⇑P **P 17 21 50.5 +0.3**
baz=40,SNR=18
D08A Wollman Farm, 40.45 40 P **P 17 21 50.8 +0.5**
baz=40,SNR=8.4
B07A Winthrop 40.45 37 P **P 17 21 51.5 +1.1**
baz=40,SNR=8.5
Z14A Wintersburg 40.51 62 ⇑P **P 17 21 50.8 0.0**
baz=40
Y14A Wickenburg 40.54 61 P **P 17 21 51.0 -0.1**
baz=40,SNR=6.8
N12A Clover Valley, 40.56 50 ⇓P **P 17 21 51.5 +0.3**
baz=40,SNR=6.6
SLKM Skilak Lake 40.57 5 *e*P **P 17 21 50.9 -0.4**
O12A Currie 40.59 51 ⇓P **P 17 21 51.8 +0.3**
baz=40
E09A Wood Farm, Sta 40.66 41 P **P 17 21 52.4 +0.3**
baz=40,SNR=8.8
W14A Seligman 40.68 59 P **P 17 21 52.6 +0.4**
baz=40,SNR=6.8
X14A Yava 40.72 60 P **P 17 21 52.6 +0.1**
baz=40,SNR=6.4
C08A Higginbotham F 40.73 39 P **P 17 21 52.9 +0.3**
baz=41,SNR=18
D09A Jones Farm, Ri 40.82 40 P **P 17 21 54.0 +0.6**
baz=41,SNR=9.7
M12A Wells 40.82 49 P **P 17 21 53.7 +0.4**
baz=41,SNR=8.4
ARUT Antelope Range 40.92 55 *e*P **P 17 21 54.5 +0.3**
CCUT Cedar City 40.93 56 P **P 17 21 53.4 -0.9**
SVW2 Sparrevohn 40.94 0 *e*P **P 17 21 53.3 -1.1**
F10A Beach Ranch, E 40.99 42 P **P 17 21 54.8 +0.1**
baz=41,SNR=12
115A Sonoran Desert 41.02 63 ⇑P **P 17 21 55.0 -0.1**
baz=41
EYAK Cordova Ski Ar 41.06 8 *e*P **P 17 21 55.1 -0.3**
N13A Wendover, West 41.16 50 ⇓P **P 17 21 56.6 +0.5**
baz=41
C09A Chrisman Ranch 41.19 39 ⇑P **P 17 21 56.8 +0.4**
baz=41
RAR Rarotonga 41.23 185 P **P 17 21 57.2 +0.6**
comp=Z,519nm,0.9s,mb6.1,baz=290,slow=3.3,SNR=28
RAR T 18 05 49.5
comp=Z,382nm,0.4s,baz=358,slow=7.2,SNR=11
RAR Rarotonga 41.23 185 P **P 17 21 57.2 +0.5**
RAR pmax pmax
comp=Z,519nm,1.0s
X15A Humboldt 41.25 60 ⇑P **P 17 21 56.4 -0.5**
baz=41,SNR=11
W15A Williams 41.34 59 ⇑P **P 17 21 57.5 -0.1**
baz=41,SNR=8.2
116A Eloy 41.45 63 ⇑P **P 17 21 58.4 -0.1**
baz=41
B09A Rice 41.57 38 P **P 17 21 59.5 0.0**
baz=41,SNR=10
A09A Danville 41.59 37 P **P 17 21 60.0 +0.3**
baz=42,SNR=15
DIV Divide 41.62 8 *e*P **P 17 21 59.4 -0.5**
comp=Z,264nm,1.0s,mb5.8
PMR Palmer 41.73 5 *e*P **P 17 22 00.4 -0.4**
C10A Spilker Farm, 41.77 39 ⇓P **P 17 22 01.3 +0.2**
baz=42
HLID Hailey 41.89 46 *e*P **P 17 22 01.9 -0.2**
HLID Hailey 41.89 46 P **P 17 22 02.6 +0.5**
baz=42,SNR=14
BGU Big Grassy Mou 42.03 51 *e*P **P 17 22 03.1 -0.2**
B10A Chitwood Farm, 42.05 39 ⇓P **P 17 22 04.0 +0.6**
baz=42
MSU Marysvale 42.06 54 *e*P **P 17 22 04.0 +0.5**
SKAG Skagway 42.06 16 P **P 17 22 04.0 +0.5**
NEW Newport 42.09 39 P **P 17 22 03.3 -0.4**
comp=Z,80nm,1.0s,mb5.3,baz=234,slow=5.4,SNR=15
NEW Newport 42.09 39 *e*P **P 17 22 03.6 -0.2**
NEW pmax pmax
comp=Z,107nm,1.1s
NEW Newport 42.09 39 *e*P **P 17 22 03.6 -0.2**
comp=Z,107nm,1.1s,mb5.4
WUAZ Wupatki 42.11 59 *e*P **P 17 22 03.8 -0.1**
comp=Z,107nm,0.9s,mb5.5
WUAZ Wupatki 42.11 59 ⇓P **P 17 22 04.1 +0.2**
baz=42,SNR=18
A10A Northport 42.18 38 P **P 17 22 04.9 +0.4**
baz=42,SNR=8.4
TUC Tucson 42.20 64 *e*P **P 17 22 04.1 -0.5**
HVU Hansel Valley 42.46 50 *e*P **P 17 22 06.1 -0.7**
LPIG La Paz 42.53 76 P **P 17 22 06.8 -0.5**
comp=Z,40nm,0.9s,mb5.2,baz=22,slow=1.4,SNR=3.6
LPIG PcP PcP 17 23 59.7 0.0
comp=Z,19nm,0.5s,baz=46,slow=2.0,SNR=3.7
LPIG La Paz 42.53 76 P **P 17 22 06.8 -0.5**
LPIG PcP PcP 17 23 59.7 0.0
SPUT South Promonto 42.56 50 *e*P **P 17 22 06.2 -1.4**
MPU Maple Canyon 42.82 52 P **P 17 22 07.9 -1.8**
comp=Z,70nm,1.3s,mb5.2
C12A Trout Creek 42.82 40 ⇓P **P 17 22 10.3 +0.6**
baz=43
TMUT Trail Mountain 42.97 54 *e*P **P 17 22 11.1 +0.2**
B12A Libby 43.09 39 ⇓P **P 17 22 12.4 +0.4**
baz=43
DAU Daniels Canyon 43.20 52 *e*P **P 17 22 12.8 0.0**
TCUT Toone Canyon 43.27 51 *e*P **P 17 22 12.7 -0.6**
A12A Yaak River Ran 43.27 39 ⇑P **P 17 22 13.6 +0.3**
baz=43
C13A Hot Springs 43.37 41 P **P 17 22 14.7 +0.6**
baz=43,SNR=18
MCMT McKenzie Canyo 43.38 45 *e*P **P 17 22 13.7 -0.5**
SRU San Rafael 43.45 54 *e*P **P 17 22 15.1 +0.3**
SRU pmax pmax
comp=Z,262nm,1.3s,mb5.8
SRU San Rafael 43.45 54 *e*P **P 17 22 15.1 +0.3**
comp=Z,262nm,1.3s,mb5.8
MENT Mentasta 43.63 8 *e*P **P 17 22 21.9 +5.6**
TBI Tubuai 43.69 171 *e*P **P 17 22 17.1 +0.4**
comp=Z,780nm,0.9s,mb6.4
TBI Tubuai 43.69 171 *e*P **P 17 22 17.1 +0.4**
comp=Z,780nm,0.9s,mb6.4
B13A Whitefish 43.72 40 ⇑P **P 17 22 17.4 +0.4**
baz=44
DLMT Dillon 43.74 45 *e*P **P 17 22 17.1 0.0**
MCK McKinley 43.86 5 *e*P **P 17 22 17.8 -0.3**
MCK pmax pmax
comp=Z,109nm,1.1s,mb5.5
MCK McKinley 43.86 5 *e*P **P 17 22 17.8 -0.3**
comp=Z,109nm,1.1s,mb5.5
CHMT Chamberlain Mo 43.88 42 *e*P **P 17 22 17.8 -0.4**
RRI2 Red Ridge 43.95 48 *e*P **P 17 22 18.9 +0.1**
DCID1 Drake Creek 44.12 48 *e*P **P 17 22 19.7 -0.5**
TPAW Teton Pass 44.25 48 *e*P **P 17 22 21.8 +0.5**
comp=Z,174nm,1.0s,mb5.7
REDW Red Top Meadow 44.28 48 *e*P **P 17 22 22.0 +0.6**
comp=Z,296nm,1.3s,mb5.9
QLMT Earthquake Lak 44.34 46 *e*P **P 17 22 22.6 +0.7**
WALA Waterton Lakes 44.35 39 *e*P **P 17 22 22.4 +0.4**
comp=Z,151nm,0.9s,mb5.7
SNOW Snow King Moun 44.38 48 *e*P **P 17 22 22.6 +0.4**
comp=Z,96nm,0.8s,mb5.6
IMW Indian Meadow 44.38 47 *e*P **P 17 22 22.1 -0.1**
comp=Z,77nm,1.1s,mb5.3
MOOW Moose Ponds 44.47 47 *e*P **P 17 22 23.1 +0.1**
LOHW Long Hollow 44.53 48 *e*P **P 17 22 23.1 -0.3**
YMR Madison River 44.60 46 *e*P **P 17 22 24.6 +0.7**
comp=Z,310nm,0.7s,mb6.2
FLWY Flagg Ranch 44.60 47 *e*P **P 17 22 23.8 -0.2**
comp=Z,172nm,1.2s,mb5.8
YFT Old Faithful 44.62 46 *e*P **P 17 22 25.5 +1.4**
MVCO Mesa Verde 44.67 57 *e*P **P 17 22 24.4 -0.2**
comp=Z,118nm,1.1s,mb5.6
MVCO Mesa Verde 44.67 57 ⇑P **P 17 22 24.2 -0.4**
baz=44,SNR=6.4
LKWY Lake 44.95 46 P **P 17 22 26.8 0.0**
BW06 Boulder Array 45.03 49 *e*P **P 17 22 26.5 -0.9**
comp=Z,51nm,1.0s,mb5.3
PDAR Pinedale Array 45.03 49 P **P 17 22 26.8 -0.6**
comp=Z,21nm,0.9s,mb5.0,baz=233,slow=4.7,SNR=9.6
COLA College 45.08 5 *e*P **P 17 22 26.3 -1.5**
COLA pmax pmax
comp=Z,78nm,0.9s,mb5.5
COLA College 45.08 5 *e*P **P 17 22 26.3 -1.5**
comp=Z,78nm,0.9s,mb5.5
DAWY Dawson 45.35 10 *e*P **P 17 22 29.5 -0.5**
LAZ Ladron 45.43 61 *e*P **P 17 22 30.7 +0.1**
LENM Lemitar 45.54 62 *e*P **P 17 22 31.7 +0.2**
Y22C IRIS PASSCAL I 45.58 62 ⇑P **P 17 22 31.7 -0.1**
baz=45
EGAK Eagle 45.74 9 *e*P **P 17 22 32.8 -0.4**
comp=Z,158nm,1.0s,mb5.9
GCMT Greycliff 45.82 45 *e*P **P 17 22 33.8 +0.1**
LPM Los Pinos Moun 45.84 61 *e*P **P 17 22 33.4 -0.4**
RLMT Red Lodge 45.88 46 *e*P **P 17 22 34.8 +0.5**
IMA2 Indian Mountai 45.96 1 *e*P **P 17 22 38.9 +4.1**
SMCO Snowmass 46.17 55 *e*P **P 17 22 36.4 -0.1**
comp=Z,82nm,1.0s,mb5.6
EGMT Eagleton 46.50 42 *e*P **P 17 22 38.9 -0.2**
comp=Z,462nm,1.6s,mb6.2
EGMT Eagleton 46.50 42 P **P 17 22 39.1 +0.1**
baz=46,SNR=6.6
EDM Edmonton 46.55 34 *e*P **P 17 22 38.0 -1.5**
MNTX Cornudas Mount 46.74 65 *e*P **P 17 22 41.0 0.0**
comp=Z,37nm,0.7s,mb5.4
SDCO Great Sand Dun 47.10 57 *e*P **P 17 22 43.5 -0.3**
comp=Z,97nm,1.1s,mb5.6
ISCO Idaho Springs 47.31 54 *e*P **P 17 22 43.8 -1.6**
comp=Z,55nm,1.3s,mb5.3
PHWY Pilot Hill 47.68 52 *e*P **P 17 22 47.0 -1.3**
RKT Rikitea 47.69 153 *e*P **P 17 22 49.3 +1.0**
comp=Z,201nm,1.1s,mb6.1
LAO LASA Array 48.37 45 *e*P **P 17 22 53.6 +0.1**
comp=Z,788nm,1.7s,mb6.5
DGMT Dagmar 50.17 43 *e*P **P 17 23 07.1 -0.3**
comp=Z,144nm,0.9s,mb6.0
INK Inuvik 50.22 11 P **P 17 23 06.5 -1.2**
comp=Z,84nm,0.9s,mb5.8,baz=204,slow=9.4,SNR=16
INK Inuvik 50.22 11 *e*P **P 17 23 05.7 -2.1**
comp=Z,4μm,1.0s
YKA Yellowknife Ar 51.00 23 P **P 17 23 12.3 -1.3**
comp=Z,25nm,0.9s,mb5.1,baz=233,slow=7.8,SNR=12
YKA PcP PcP 17 24 28.1 -1.5
comp=Z,8.1nm,0.9s,baz=238,slow=3.2,SNR=3.8
YKA Yellowknife Ar 51.00 23 P **P 17 23 12.3 -1.3**
YKA PcP PcP 17 24 28.1 -1.5
MOIG Morelia 51.48 80 *e*P **P 17 23 18.2 +0.9**
JCT Junction City 51.54 67 *e*P **P 17 23 16.4 -1.2**
CBKS Cedar Bluff 51.72 56 *e*P **P 17 23 17.0 -2.1**
comp=Z,93nm,1.0s,mb5.7
HNR Honiara 52.23 240 *e*P **P 17 23 23.6 +0.8**
comp=Z,189nm,0.9s,mb6.0
ACX Acapulco 53.23 84 *e*P **P 17 23 31.0 +0.8**
BILL Bilibino 53.35 343 *e*P **P 17 23 30.3 -0.8**
comp=Z,519nm,1.7s,mb6.2
RAO Raoul Island 53.38 204 P **P 17 23 31.4 +0.1**
comp=Z,328nm,0.8s,mb6.3,baz=54,slow=18,SNR=5.7
UNM Universidad Na 53.41 80 *e*P **P 17 23 33.0 +1.4**
PPM Popocatepetl 53.98 81 *e*P **P 17 23 34.0 -1.7**
KSU1 Kansas State U 54.18 56 *e*P **P 17 23 35.8 -1.4**
comp=Z,100nm,0.8s,mb5.8
ECSD EROS,Sioux Fal 54.49 50 *e*P **P 17 23 37.3 -2.2**
comp=Z,22nm,0.4s,mb5.4
HKT Hockley 55.00 67 *e*P **P 17 23 42.1 -1.0**
comp=Z,322nm,1.7s,mb6.1
SEY Seymchan 55.12 334 *i* P **P 17 23 43.8 -0.2**
AGMN Agassiz Refuge 55.57 45 *e*P **P 17 23 44.5 -2.7**
DZM Mont Dzumac 55.61 223 *e*P **P 17 23 49.3 +1.8**
ASAJ Asahikawa 55.75 310 P **P 17 23 49.2 +0.7**
comp=Z,19nm,1.0s,mb5.1,baz=84,slow=1.7,SNR=3.6
ULM Lac du Bonnet 55.86 42 P **P 17 23 47.4 -2.0**
comp=Z,47nm,0.9s,mb5.5,baz=269,slow=8.8,SNR=12
ULM Lac du Bonnet 55.86 42 *e*P **P 17 23 44.7 -4.7**
comp=Z,78nm,1.0s,mb5.7
NATX Nacogdoches 55.87 65 *e*P **P 17 23 48.1 -1.3**
comp=Z,142nm,0.9s,mb6.0
LVIG Laguna Verde 55.89 79 *e*P **P 17 23 48.8 -0.8**
YSS Yuzh-Sakhalins 55.92 314 P **P 17 23 50.8 +1.0**
VHO Vista Hermosa 56.16 83 *e*P **P 17 23 52.4 +1.0**
OXX Oaxaca 56.16 83 *e*P **P 17 23 53.0 +1.5**
GUMO Guam 56.58 273 P **P 17 23 55.7 +1.3**
comp=Z,200nm,0.9s,mb6.1,baz=81,slow=4.0,SNR=6.4
SCIA State Center 56.87 53 *e*P **P 17 23 55.1 -1.4**
comp=Z,95nm,0.8s,mb5.9
HUIG Huatulco 57.04 84 *e*P **P 17 23 58.1 +0.4**
CMIG Matias Romero 57.87 82 *i* P **P 17 24 02.6 -1.0**
TUIG Tuzandepetl 58.09 81 *e*P **P 17 24 05.7 +0.6**
CCM Cathedral Cave 58.37 57 *e*P **P 17 24 04.3 -2.8**
EYMN Ely 58.44 45 *e*P **P 17 24 05.1 -2.5**
comp=Z,81nm,1.3s,mb5.6
FCC Fort Churchill 58.59 33 *e*P **P 17 24 06.2 -2.5**
comp=Z,107nm,1.1s,mb5.8
MJAR Matsushiro Arr 59.01 301 P **P 17 24 12.7 +1.2**
comp=Z,48nm,1.1s,mb5.5,baz=98,slow=4.9,SNR=8.3
MJAR PKPPKP 17 53 46.5
comp=Z,1.5nm,0.9s,baz=230,slow=3.1,SNR=4.2
MAT Matsushiro 59.01 301 P **P 17 24 12.7 +1.2**
SIUC Southern Illin 59.99 57 *e*P **P 17 24 16.6 -1.7**
comp=Z,4.3nm,0.2s,mb5.1
OXF Oxford 60.06 61 *e*P **P 17 24 17.0 -1.7**
comp=Z,146nm,1.1s,mb5.9
PLAL Pickwick Lake 61.11 60 *e*P **P 17 24 23.4 -2.5**
comp=Z,60nm,0.9s,mb5.7
WCI Wyandotte Cave 62.26 57 *e*P **P 17 24 32.5 -1.2**
comp=Z,75nm,1.2s,mb5.7
PUZ Puketiti 62.68 203 PN **P 17 24 37.2 +0.7**
comp=Z,565nm,0.9s
URZ Urewera 63.26 203 P **P 17 24 39.3 -1.1**
comp=Z,168nm,1.1s,mb6.1,baz=33,slow=4.8,SNR=16
ACSO Alum Creek Sta 64.65 54 *e*P **P 17 24 47.6 -1.9**
comp=Z,93nm,1.0s,mb5.8
YAK Yakutsk 65.01 330 *e*P **P 17 24 49.7 -2.1**
comp=Z,81nm,0.9s,mb5.8
MDJ Mudanjiang 65.07 311 P **P 17 24 52.3 +0.1**
MDJ AP pP 17 24 55.4 -3.3
MDJ PCP PcP 17 25 25.1 +0.2
MDJ PP PP 17 27 15.0 -0.4
MDJ S S 17 33 35.3 +1.7
MDJ SCS ScS 17 34 46.8 +0.6
MDJ AMB AMB
comp=Z,34nm,2.2s,mb5.0
MDJ AMB AMB
comp=Z,890nm,7.3s
MDJ LR LR
comp=N,22μm,20.1s,MS6.4
MDJ LR LR
comp=E,12μm,21.1s,MS6.4
MDJ LR LR
comp=Z,16μm,20.3s,MS6.2
RPN Rapa Nui 65.29 134 P **P 17 24 53.4 -0.2**
comp=Z,84nm,1.1s,mb5.7,baz=320,slow=4.4,SNR=6.9
TGUH Tegucigalpa,Un 65.73 83 *e*P **P 17 24 55.2 -1.4**
comp=Z,221nm,1.3s,mb6.0
ELN Prospectdale 66.74 57 *e*P **P 17 25 00.8 -2.2**
BLA Blacksburg 67.00 57 *e*P **P 17 25 02.9 -1.8**
BLA pmax pmax
comp=Z,115nm,1.0s,mb5.9
BLA Blacksburg 67.00 57 *e*P **P 17 25 02.9 -1.7**
comp=Z,115nm,1.0s,mb5.9
MCWV Mont Chateau 67.11 55 *e*P **P 17 25 03.9 -1.5**
comp=Z,114nm,1.0s,mb5.9
NRGR Nerungri 67.48 324 *e*P **P 17 25 05.4 -2.3**
NRGR S S 17 33 55.3 -7.5
NRGR smax
comp=N,92nm,0.8s
CN2 Changchun 68.12 310 *e*P **P 17 25 11.1 -0.6**
CN2 *e*XP sP 17 25 20.1 -0.5
CN2 *e*S S 17 34 09.0 -1.5
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,6μm,18.0s,MS6.1
CN2 LR LR
comp=E,7μm,18.0s,MS6.1
CN2 LR LR
comp=Z,12μm,19.0s,MS6.2
INCN Inchon 68.12 303 *e*P **P 17 25 12.5 +0.8**
comp=Z,6.9nm,0.3s,mb5.2
SSPA Standing Stone 68.46 53 *e*P **P 17 25 12.2 -1.7**
comp=Z,81nm,1.3s,mb5.6
JOW Kunigami 68.73 292 P **P 17 25 17.6 +2.0**
comp=Z,47nm,0.8s,mb5.5,baz=88,slow=2.0,SNR=4.0
CTA Charters Tower 69.10 238 *e*P **P 17 25 17.9 +0.1**
comp=Z,25nm,1.5s,mb4.9
CTA Charters Tower 69.10 238 *e*P **P 17 25 17.9 +0.1**

CTA pmax pmax
comp=Z,25nm,1.5s
CTAO Charters Tower 69.10 238 *eP* **P 17 25 17.6 -0.2**
comp=Z,66nm,1.3s,mb5.4
CBN Corbin 69.24 56 P **P 17 25 16.9 -1.8**
comp=Z,68nm,0.8s,mb5.6
CNNC Cliffs of the 69.34 59 *eP* **P 17 25 18.6 -0.7**
comp=Z,105nm,1.1s,mb5.7
BINY Binghamton 69.64 51 *eP* **P 17 25 18.6 -2.5**
comp=Z,66nm,0.8s,mb5.6
SNY Shenyang 69.76 308 ⇑P **P 17 25 21.8 -0.1**
SNY AP pP 17 25 27.5 -0.9
SNY XP sP 17 25 30.1 -0.7
SNY AMB AMB
comp=Z,19nm,2.1s,mb4.7
SNY AMB AMB
comp=Z,2μm,10.4s
SNY LR LR
comp=N,7μm,18.0s,MS6.3
SNY LR LR
comp=E,14μm,20.0s,MS6.3
SNY LR LR
comp=Z,18μm,19.6s,MS6.3
LONY Lake Ozonia 70.27 49 *eP* **P 17 25 23.0 -2.0**
comp=Z,56nm,1.2s,mb5.4
RPZ Rata Peaks 70.28 205 P **P 17 25 24.6 -0.5**
comp=Z,27nm,1.0s,mb6.2,baz=181,slow=4.2,SNR=4.7
ALE Alert 70.69 8 P **P 17 25 26.0 -1.6**
comp=Z,365nm,1.2s,mb6.2,SNR=9.8
ARMA Armidale 71.02 226 *eP* **P 17 25 30.7 +1.1**
HIA Hailar 71.24 317⇓*eP* **P 17 25 30.1 -0.8**
HIA Hailar 71.24 317⇓*eP* **P 17 25 30.2 -0.7**
DL2 Dalian 71.75 306 P **P 17 25 34.6 +0.6**
DL2 S S 17 34 56.8 +3.7
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,640nm,4.6s
DL2 LR LR
comp=N,3μm,17.2s,MS5.8
DL2 LR LR
comp=E,3μm,19.3s,MS5.8
DL2 LR LR
comp=Z,9μm,19.6s,MS6.0
LBNH Lisbon 72.21 49 *eP* **P 17 25 34.6 -2.2**
LBNH pmax pmax
comp=Z,60nm,0.9s,mb5.5
LBNH Lisbon 72.21 49 *eP* **P 17 25 34.6 -2.2**
comp=Z,60nm,0.9s,mb5.5
MLZ Mavora Lakes 72.78 205 PN **P 17 25 39.2 -1.0**
comp=Z,79nm,0.8s,mb5.7
BOD Bodaibo 73.13 326 *eP* **P 17 25 41.3 -0.9**
BOD pmax pmax
comp=Z,114nm,1.5s,mb5.6
SCHQ Schefferville 73.43 37 P **P 17 25 41.7 -2.3**
comp=Z,7.7nm,0.8s,mb4.7,baz=238,slow=9.5,SNR=2.9
SCHQ Schefferville 73.43 37 P **P 17 25 41.7 -2.3**
PKME Peaks-Kenny Pk 73.84 47 *eP* **P 17 25 43.9 -2.5**
NJ2 Nanjing 75.50 299 *eP* **P 17 25 54.3 -1.8**
NJ2 AP pP 17 25 58.9 -3.7
NJ2 XP sP 17 26 01.3 -3.7
NJ2 PP PP 17 28 44.3 -1.0
NJ2 S S 17 35 32.0 -3.5
NJ2 AMB AMB
comp=Z,150nm,1.1s,mb5.8
NJ2 AMB AMB
comp=Z,1μm,7.0s
NJ2 LR LR
comp=N,9μm,21.8s,MS6.2
NJ2 LR LR
comp=E,11μm,21.6s,MS6.2
NJ2 LR LR
comp=Z,11μm,21.4s,MS6.1
CNB Canberra Magne 75.53 223 *eP* **P 17 25 57.5 +1.3**
comp=Z,141nm,1.5s,mb5.7
BJI Beijing 75.61 308 P **P 17 25 56.3 -0.4**
BJI AMB AMB
comp=Z,47nm,2.0s,mb5.1
BJI LR LR
comp=N,11μm,18.0s,MS6.2
BJI LR LR
comp=E,4μm,18.0s,MS6.2
BJI LR LR
comp=Z,11μm,19.6s,MS6.2
BJI Beijing 75.61 308 P **P 17 25 56.3 -0.4**
comp=Z,47nm,2.0s,mb5.1
PVCP Virac 75.91 279 *eP* **P 17 25 59.5 +1.1**
MSLP Maasin 76.31 276 *eP* **P 17 25 58.7 -1.9**
BUKP Musuan 76.84 274 *eP* **P 17 26 05.0 +1.4**
CAUP Cauayan 77.06 283 *eP* **P 17 26 13.9 +9.0**
AUQP San Andres 77.36 280 *eP* **P 17 26 06.2 -0.4**
SFJD Kangerlussuaq 77.56 23 *i P* **P 17 26 06.5 -1.2**
comp=Z,76nm,1.1s,mb5.5
SFJD Kangerlussuaq 77.56 23 *i P* **P 17 26 06.5 -1.2**
SFJD pmax pmax
comp=Z,76nm,1.1s,mb5.5
BALP Baler 77.64 282 *eP* **P 17 26 09.9 +1.7**
ABRA Dolores 77.86 284 *eP* **P 17 26 09.4 0.0**
BOAC Boac 78.09 280 *eP* **P 17 26 11.1 +0.4**
GUIM Jordan 78.28 277 *eP* **P 17 26 12.0 +0.3**
OTAV Otavalo 78.38 94 *eP* **P 17 26 12.8 +0.5**
comp=Z,185nm,1.3s,mb5.8
PAGZ Pagadian 78.42 274 *eP* **P 17 26 13.8 +1.4**
TGY Tagaytay City 78.73 281 P **P 17 26 14.9 +0.7**
comp=Z,35nm,0.3s,baz=151,slow=12,SNR=5.4
HHC Hu-ho-hao-te 78.79 309 *eP* **P 17 26 14.9 +0.4**
HHC S S 17 36 10.9 -0.3
HHC PS 17 36 57.5
HHC AMB AMB
comp=Z,38nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,2μm,7.3s
HHC LR LR
comp=N,6μm,18.0s,MS6.3
HHC LR LR
comp=E,11μm,19.0s,MS6.3
HHC LR LR
comp=Z,14μm,18.9s,MS6.3
WRAB Tennant Creek 78.82 244⇑*iP* **P 17 26 13.9 -0.8**
WB2 Warramunga Arr 78.82 244 *eP* **P 17 26 14.2 -0.5**
WRA Warramunga Arr 78.83 244 P **P 17 26 14.2 -0.5**
comp=Z,45nm,1.0s,mb5.3,baz=60,slow=5.6,SNR=15
WRA Warramunga Arr 78.83 244 *i P* **P 17 26 14.1 -0.6**
WRA pmax pmax
comp=Z,45nm,1.0s
STKA Stephens Creek 78.89 230 *eP* **P 17 26 15.3 +0.2**
comp=Z,51nm,0.9s,mb5.5
STKA Stephens Creek 78.89 230 P **P 17 26 15.1 0.0**
comp=Z,50nm,0.9s,mb5.5,baz=59,slow=6.2,SNR=20
STKA PKKPbc PKKPbc 17 45 08.0 -0.1
comp=Z,3.5nm,1.1s,baz=316,slow=13,SNR=3.2
BOLP Bolinao 78.97 283 *eP* **P 17 26 15.7 +0.2**
TOO Toolangi 79.38 223 *eP* **P 17 26 18.3 +0.5**
comp=Z,30nm,1.0s,mb5.2
TOO Toolangi 79.38 223 *eP* **P 17 26 18.3 +0.5**
TOO pmax pmax
comp=Z,30nm,1.0s,mb5.2
LUBP Lubang 79.48 281 *eP* **P 17 26 18.4 +0.1**
WHN Wuhan 79.62 299 ⇓P **P 17 26 19.8 +0.7**
CUYO Cuyo Island 79.67 278 *eP* **P 17 26 20.3 +1.0**
DAG Danmarks Havn 80.03 9⇓*iP* **P 17 26 19.6 -1.7**
comp=Z,80nm,1.1s,mb5.6
DAG Danmarks Havn 80.03 9⇓*iP* **P 17 26 19.6 -1.7**
DAG pmax pmax
comp=Z,80nm,1.1s,mb5.6
BUSP Coron 80.07 279 *eP* **P 17 26 21.9 +0.4**
SONM Songino Array 80.18 317 P **P 17 26 21.8 -0.2**
comp=Z,10.0nm,0.9s,mb4.8,baz=97,slow=3.8,SNR=6.6
ROSC El Rosal 80.69 88 P **P 17 26 26.1 +1.3**
comp=Z,109nm,1.2s,mb5.7,baz=334,slow=0.6,SNR=20
ROSC El Rosal 80.69 88 *eP* **P 17 26 25.6 +0.7**
AS31 Alice Springs 80.84 241⇑*iP* **P 17 26 25.8 +0.2**
ASAR Alice Springs 80.84 241 P **P 17 26 25.9 +0.3**
comp=Z,82nm,1.0s,mb5.6,baz=66,slow=5.7,SNR=54
ASAR PKKPbc PKKPbc 17 45 04.5 +0.7
comp=Z,1.4nm,0.9s,baz=249,slow=2.5,SNR=6.8
ASPA Alice Springs 80.84 241⇑*iP* **P 17 26 25.8 +0.1**
KBS Kingsbay 80.93 2⇑*eP* **P 17 26 24.3 -1.8**
ATAH Atahualpa 81.01 101 P **P 17 26 27.7 +1.1**
comp=Z,36nm,0.8s,mb5.4,baz=282,slow=4.9,SNR=15
ENPP El Nido 81.04 279 *eP* **P 17 26 27.7 +1.0**
GZH Guangzhou 82.77 292 P **P 17 26 33.1 -2.7**
GZH S S 17 36 49.3 -3.5
GZH LR LR
comp=N,8μm,18.6s,MS6.2
GZH LR LR
comp=E,5μm,18.1s,MS6.2
GZH LR LR
comp=Z,13μm,18.0s,MS6.3
SDV Santo Domingo 82.83 83 *eP* **P 17 26 35.2 -0.9**
comp=Z,140nm,0.8s,mb6.0
BATP Bataraza 83.33 277 *eP* **P 17 26 39.8 +1.1**
SJG San Juan 83.95 73 *eP* **P 17 26 39.2 -2.7**
NNA Nana 84.27 105 P **P 17 26 42.2 -1.3**
comp=Z,589nm,1.2s,mb6.6,SNR=5.2
NNA Nana 84.27 105 *eP* **P 17 26 40.8 -2.7**
comp=Z,196nm,1.3s,mb6.1
KRAR Krasnoyarsk 84.61 328 *eP* **P 17 26 44.4 -0.8**
KRAR pmax pmax
comp=Z,88nm,1.3s,mb5.7
FITZ Fitzroy Crossi 85.57 249 *eP* **P 17 26 50.9 +0.8**
comp=Z,46nm,0.9s,mb5.7
LZH Lanzhou 86.08 307 ⇓P **P 17 26 52.5 -0.1**
LZH AP pP 17 26 59.1 -0.1
LZH XP sP 17 27 01.8 +0.2
LZH PP PP 17 30 14.5 +1.7
LZH PPP 17 32 11.8
LZH SKS 17 37 14.6
LZH S S 17 37 24.3 -1.5
LZH XS sS 17 37 35.4 -1.4
LZH PS 17 38 27.3
LZH SS SS 17 43 05.8 +1.7
LZH AMB AMB
comp=Z,247nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,1μm,7.6s
LZH LR LR
comp=N,4μm,15.5s
LZH LR LR
comp=Z,5μm,18.3s,MS5.9
LZH Lanzhou 86.08 307 ⇓P **P 17 26 52.5 -0.1**
LZH *SP sP 17 27 01.7 +0.1
LZH 17 30 14.5
LZH PPP 17 32 11.7
LZH 17 37 14.6
LZH S S 17 37 24.2 -1.6
LZH PS 17 38 27.2
LZH SS SS 17 43 05.7 +1.6
LZH pmax pmax
comp=Z,247nm,1.5s,mb6.2
LZH Lanzhou 86.08 307 ⇓P **P 17 26 52.5 -0.1**
comp=Z,247nm,1.5s,mb6.2
LZH pP pP 17 26 59.1 -0.1
LZH sP sP 17 27 01.7 +0.1
LZH PP PP 17 30 14.5 +1.7
LZH PPP 17 32 11.7
LZH SKS 17 37 14.6
LZH S S 17 37 24.2 -1.6
LZH sS sS 17 37 35.4 -1.4
LZH PS 17 38 27.2
LZH SS SS 17 43 05.7 +1.6
KAPI Kappang 86.17 263 P **P 17 26 53.9 +0.9**
comp=Z,447nm,1.2s,mb6.6,SNR=6.5
QIZ Qiongzhong 87.20 289⇑*iP* **P 17 26 59.0 +0.9**
QIZ PPP 17 32 21.3
QIZ S S 17 37 36.5 -0.2
QIZ SS SS 17 43 28.6 +8.1
QIZ AMB AMB
comp=Z,34nm,1.4s,mb5.4
QIZ LR LR
comp=E,13μm,19.7s
QIZ LR LR
comp=Z,17μm,19.6s,MS6.5
QIZ Qiongzhong 87.20 289 *eP* **P 17 26 58.7 +0.6**
comp=Z,72nm,1.3s,mb5.8
GTA Gaotai 87.72 311 ⇑P **P 17 27 01.0 +0.4**
GTA AP pP 17 27 08.1 +0.9
GTA XP sP 17 27 11.6 +2.0
GTA AMB AMB
comp=Z,34nm,1.4s,mb5.4
CD2 Chengdu 88.09 302 *eP* **P 17 26 59.8 -2.5**
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.5
CD2 AMB AMB
comp=Z,120nm,6.8s
FORT Forrest 88.59 237 *eP* **P 17 27 05.5 +0.8**
comp=Z,170nm,1.0s,mb6.3
ZAL Zalesovo 89.66 329 P **P 17 27 09.9 +0.2**
comp=Z,40nm,1.2s,mb5.6,baz=54,slow=5.5,SNR=11
ZAL Zalesovo 89.66 329 *i P* **P 17 27 09.8 +0.1**
ZAL pmax pmax
comp=Z,40nm,1.2s
NVS Novosibirsk 89.88 330⇑*iP* **P 17 27 08.7 -2.0**
NVS *e* 17 37 33.2
NVS *i S* S 17 38 00.9 -1.1
NVS pmax pmax
comp=Z,390nm,2.0s,mb6.4
NVS pmax pmax
comp=N,86nm,1.9s
NVS pmax pmax
comp=E,159nm,1.5s
NVS smax
comp=N,2μm,6.0s
ARCES ARCESS Array B 90.59 359 P **P 17 27 11.9 -2.2**
comp=N,24nm,1.0s,mb5.5,baz=10,slow=7.4,SNR=7.9
ARCES PKP2bc 17 52 02.0
comp=N,2.1nm,0.8s,baz=132,slow=1.8,SNR=5.6
ARCES ARCESS Array B 90.59 359 P **P 17 27 11.9 -2.2**
ARCES ⇑*e* 17 52 02.0
ARE Arequipa 90.72 107 *eP* **P 17 27 14.0 -0.6**
KMI Kunming 91.13 297 P **P 17 27 17.1 +0.6**
KMI AP pP 17 27 24.9 +1.7
KMI XP sP 17 27 28.8 +3.2
KMI AMB AMB
comp=Z,35nm,1.9s,mb5.4
KMI AMB AMB
comp=Z,666nm,5.0s
KMI LR LR
comp=N,9μm,18.6s,MS6.4
KMI LR LR
comp=E,10μm,17.7s,MS6.4
KMI LR LR
comp=Z,11μm,18.6s,MS6.3
KMI Kunming 91.13 297 P **P 17 27 17.1 +0.6**
comp=Z,35nm,1.9s,mb5.4
KMI pP pP 17 27 24.9 +1.7
KMI sP sP 17 27 28.7 +3.1
MBWA Marble Bar 91.87 248 *eP* **P 17 27 20.1 +0.1**
comp=Z,45nm,1.1s,mb5.7
APA Apatity 92.29 356⇑*iP* **P 17 27 21.0 -0.9**
APA pmax pmax
comp=Z,23nm,1.0s,mb5.5
APA MLR MLR
comp=Z,10μm,17.0s,MS6.3
KSM Kuching 92.82 273 *eP* **P 17 27 24.9 +0.5**
WMQ Urumqi 93.66 319 *eP* **P 17 27 28.5 +0.3**
WMQ AP pP 17 27 35.0 +0.1
WMQ XP sP 17 27 38.0 +0.7
WMQ SKS 17 38 00.0
WMQ PS PS 17 39 56.0 +4.0
WMQ AMB AMB
comp=Z,24nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,784nm,4.2s
WMQ LR LR
comp=N,5μm,17.4s,MS6.2
WMQ LR LR
comp=E,6μm,16.8s,MS6.2
WMQ LR LR
comp=Z,9μm,19.8s,MS6.2
LVC Limon Verde 95.11 112 P **P 17 27 35.1 +0.2**
comp=Z,41nm,1.1s,mb5.8,baz=288,slow=4.1,SNR=12
LVC Limon Verde 95.11 112 *eP* **P 17 27 35.2 +0.3**
comp=Z,116nm,1.4s,mb6.1
MKAR Makanchi Array 95.13 324 P **P 17 27 35.2 +0.2**
comp=Z,5.3nm,0.8s,mb5.0,baz=30,slow=4.0,SNR=4.0
MKAR PKKPbc PKKPbc 17 44 27.5 -1.4
comp=Z,1.5nm,0.9s,baz=249,slow=6.4,SNR=4.7
BVAR Borovoye Array 96.77 334 PKKPbc PKKPbc 17 44 23.5 -1.1
comp=Z,4.9nm,0.9s,baz=205,slow=3.1,SNR=14
BRVK Borovoye 96.79 334⇓*eP* **P 17 27 41.6 -0.9**
JOF Joensuu 97.04 357 *ep* **P 17 27 41.4 -2.3**
KAF Kangasniemi 98.03 359 *ep* **P 17 27 45.2 -2.9**
ARU Arti 98.33 341⇓*iP* **P 17 27 47.0 -2.5**
ARU *e* 17 31 46.3
ARU *eS* SKSac 17 38 24.7 -1.6
ARU *eSP* SP 17 40 38.0 -2.4
ARU PS PS 17 40 48.4 +5.4
ARU *eSS* SS 17 46 09.2 +9.1
ARU pmax pmax
comp=Z,34nm,1.4s,mb5.7
ARU Arti 98.33 341⇓*eP* **P 17 27 47.2 -2.3**
NB2 NORSAR Subarra 98.49 6 PKKP PKKPbc 17 44 16.8 -3.0
comp=Z,6.1nm,1.2s,baz=168,slow=2.9
NB2 NORSAR Subarra 98.49 6 PKKPbc PKKPbc 17 44 16.8 -3.0
NOA NORSAR Array B 98.49 6 P **P 17 27 48.0 -2.2**
comp=Z,1.1nm,0.8s,mb4.4,baz=345,slow=3.8,SNR=3.1
NOA PKKPbc PKKPbc 17 44 18.2 -1.6
comp=Z,2.2nm,0.9s,baz=154,slow=2.9,SNR=3.8
CFAA Coronel Fontan 98.58 120 P **P 17 27 49.2 -1.4**
comp=Z,0.7nm,0.9s,baz=327,slow=4.9,SNR=5.0
CFAA Coronel Fontan 98.58 120 P **P 17 27 49.2 -1.4**
FINES FINESS Array B 98.71 359 P **P 17 27 49.7 -1.5**
comp=Z,3.6nm,0.8s,mb5.0,baz=22,slow=4.5,SNR=3.3
PLCA Paso Flores 99.65 130 P Pdif 17 27 53.4 -2.0
comp=Z,10nm,1.3s,baz=276,slow=9.2,SNR=2.1
PLCA PP PP 17 31 58.6 -0.8
comp=Z,10nm,1.3s,baz=235,slow=6.1,SNR=3.4
SIV San Ignacio 100.01 103 P Pdif 17 27 55.9 -1.1
comp=Z,5.6nm,1.0s,baz=273,slow=7.9,SNR=4.3
SIV PP PP 17 32 00.7 -1.4
comp=Z,5.7nm,1.2s,baz=262,slow=8.4,SNR=4.3
VNDA Vanda 100.47 189 P Pdif 17 27 59.4 +0.4
comp=Z,6.3nm,0.9s,baz=345,slow=4.4,SNR=7.8
VNDA PP PP 17 32 04.4 -1.2
comp=Z,10nm,1.2s,baz=29,slow=8.7,SNR=11
EKA Eskdalemuir Ar 101.41 15 PKKPbc PKKPbc 17 44 10.6 -0.9
comp=Z,3.7nm,1.0s,baz=186,slow=2.5,SNR=6.1
AAK Ala-Archa 102.06 324⇑*eP* Pdif 17 28 07.0 +0.9
AAK pmax pmax
comp=Z,22nm,1.7s
AKTO Aktyubinsk 103.55 338 PKKPbc PKKPbc 17 44 02.3 -2.9
comp=Z,7.0nm,1.2s,baz=202,slow=3.3,SNR=6.2
KOLN Koldanda 105.12 308 *eP* PKKPbc 17 43 59.1 -1.4
comp=Z,33nm,1.2s
CPUP Villa Florida 106.28 113 Pdiff Pdif 17 28 24.4 -0.4
comp=Z,8.5nm,1.2s,baz=328,slow=3.3,SNR=2.9
CLL Collm 108.25 7 *ePP* PP 17 33 04.0 +0.5
comp=Z,25nm,1.4s
CLL *i* PKKPbc PKKPbc 17 43 49.8 -1.0
CLL ⇑*i*PKKPab PKKPab 17 44 04.0 -0.3
comp=Z,29nm,1.1s
CLL *es*PKKPab 17 44 12.0
CLL *e*PKPPKPdf 17 52 13.0
CLL Collm 108.25 7 *ePP* PP 17 33 04.0 +0.5
MOX Moxa 108.73 8 *eP* Pdif 17 28 36.3 +0.6
comp=Z,36nm,1.9s
MOX Moxa 108.73 8 *eP* Pdif 17 28 36.3 +0.6
MOX pmax pmax
comp=Z,36nm,1.9s
BRG *e* 17 45 51.5
BRG Berggiesshubel 108.79 7 *e* PKKPbc 17 43 48.4 -0.7
PVCC Panska Ves 109.19 6 *e*PKKP PKKPbc 17 43 47.3 -0.5
PVCC *ex* x 17 43 59.5
PVCC Panska Ves 109.19 6 *eP* 17 52 13.0
PVCC *e* 17 43 59.5
PVCC Panska Ves 109.19 6 *e*PKKP PKKPbc 17 43 47.3 -0.5
AKASG Malin Array Be 109.34 356 PKiKP PKiKP 17 32 40.1 -1.8
comp=Z,0.9nm,0.6s,baz=356,slow=1.9,SNR=5.5
AKASG PP PP 17 33 14.5 +3.1
comp=Z,0.3nm,0.3s,baz=3.0,slow=5.7,SNR=5.1
AKASG PKKPbc PKKPbc 17 43 45.1 -2.3
comp=Z,0.1nm,0.3s,baz=200,slow=2.6,SNR=5.2
AKASG PKKPab PKKPab 17 43 58.4 -1.2
comp=Z,1.0nm,0.6s,baz=190,slow=4.3,SNR=5.3
AKASG PKPPKP 17 52 12.4
comp=Z,0.9nm,0.7s,baz=217,slow=1.9,SNR=14
UPC Upice 109.35 5 *e*PP PP 17 33 14.8 +3.3
UPC *e*PKKP PKKPbc 17 43 46.9 -0.4
UPC *ex* x 17 43 59.4
UPC Upice 109.35 5 *eP* 17 52 14.3
UPC *e*PKKP PKKPbc 17 43 46.9 -0.4
UPC *e* 17 43 59.4
UPC Upice 109.35 5 *e*PP PP 17 33 14.8 +3.3
DPC Dobruska-Polom 109.53 5 *e*PKKP PKKPbc 17 43 46.1 -0.6
DPC *ex* x 17 43 58.5
DPC Dobruska-Polom 109.53 5 *eP* 17 52 13.1
DPC *e* 17 43 58.5
DPC Dobruska-Polom 109.53 5 *e*PKKP PKKPbc 17 43 46.1 -0.6
GRF Grafenberg Arr 109.61 9 *e*PKKPbc PKKPbc 17 43 45.1 -1.4
GRF *e*PKKPab PKKPab 17 43 57.0 -1.3
GRF *e*PKPPKP 17 52 09.8
PRU Pruhonice 109.72 6 *e*PP PP 17 33 09.4 -4.8
PRU *e*PKKP PKKPbc 17 43 45.5 -0.6
PRU *ex* x 17 43 57.1
PRU Pruhonice 109.72 6 *eP* 17 52 10.3
PRU *e*PKKP PKKPbc 17 43 45.5 -0.6
PRU *e* 17 43 57.1
PRU Pruhonice 109.72 6 *e*PP PP 17 33 09.4 -4.8
OKC Ostrava-Krasne 110.18 4 *e*PP PP 17 33 24.0 +6.5
OKC *e*PKKP PKKPbc 17 43 43.9 -0.8
OKC *ex* x 17 43 55.0
OKC Ostrava-Krasne 110.18 4 *eP* 17 52 12.1
OKC *e*PKKP PKKPbc 17 43 43.9 -0.8
OKC *e* 17 43 55.0
OKC Ostrava-Krasne 110.18 4 *e*PP PP 17 33 24.0 +6.5
MORC Moravsky Berou 110.20 4⇑*iP* PKKPbc 17 43 44.0 -0.6
KHC Kasperske Hory 110.46 7 *e*PP PP 17 33 13.3 -6.3
KHC *e*PKKP PKKPbc 17 43 42.6 -1.1
KHC *ex* x 17 43 52.7
KHC Kasperske Hory 110.46 7 *eP* 17 52 10.3
KHC Kasperske Hory 110.46 7⇑*i*PKIKP PKiKP 17 32 43.7 -0.4
KHC *e*PKKP PKKPbc 17 43 42.6 -1.1
KHC *e* 17 43 52.7
KHC Kasperske Hory 110.46 7 *e*PP PP 17 33 13.3 -6.3
TREC Trest 110.50 6 *e*PKKP PKKPbc 17 43 40.9 -2.7
TREC *ex* x 17 43 52.1
VRAC Vranov 110.59 5 PP PP 17 33 25.3 +4.9
comp=Z,3.5nm,0.9s,baz=7.7,slow=7.0,SNR=3.8
VRAC PKKPbc PKKPbc 17 43 40.1 -3.3
comp=Z,1.6nm,0.3s,baz=218,slow=5.0,SNR=4.1
VRAC PKKPab PKKPab 17 43 52.9 -1.1
comp=Z,4.2nm,0.3s,baz=218,slow=7.2,SNR=5.8
GERES GERESS Array B 110.76 7 PP PP 17 33 27.2 +5.5
comp=Z,2.7nm,1.0s,baz=352,slow=5.4,SNR=5.0
GERES PKKPbc PKKPbc 17 43 41.7 -1.1
comp=Z,1.2nm,0.9s,baz=150,slow=5.6,SNR=5.7
GERES PKKPab PKKPab 17 43 52.7 -0.5
comp=Z,3.7nm,0.9s,baz=182,slow=4.0,SNR=14
GERES PKPPKP 17 52 10.3
comp=Z,3.8nm,1.2s,baz=196,slow=2.5,SNR=12
VYHS Vyhne 111.56 4 PDIF PKKPab 17 43 38.9 -11
VYHS *e* 17 45 44.4
VYHS *e* 17 52 04.8
VYHS *e*SKPDF 17 52 08.7
KECS Kecovo 111.65 2 *e* PKKPab 17 43 48.1 -1.2
KECS Kecovo 111.65 2 pPDIF PKKPab 17 43 48.0 -1.3
DAVA Damuels 111.74 10⇑*iP* PKKPbc 17 43 37.6 -1.9
comp=Z,15nm,1.2s
DAVA Damuels 111.74 10⇓*iP* 17 52 06.9
comp=Z,40nm,1.4s
DAVA Damuels 111.74 10 PKKPbc 17 43 37.6 -1.9
comp=Z,15nm,1.2s
MOA Molln 111.81 7⇑*i* PKKPbc 17 43 39.3 0.0
comp=Z,18nm,1.0s
MOA Molln 111.81 7 *i* PKKPbc 17 43 39.3 0.0
MOA Molln 111.81 7 PKKPbc 17 43 39.3 0.0
comp=Z,18nm,1.0s
SQTA Sankt Quirin 112.02 9⇑*i* PKKPbc 17 43 37.7 -0.9
comp=Z,13nm,1.2s
SQTA Sankt Quirin 112.02 9 PKKPbc 17 43 37.7 -0.9
comp=Z,13nm,1.2s
WTTA Wattenberg 112.04 9⇑*iP* 17 52 05.7
comp=Z,43nm,1.5s
PSZ Piszkesteto 112.19 3⇑*iP* PKKPbc 17 43 37.9 -0.2
DAVOX Davos/Dischmat 112.23 10 PKKPbc PKKPbc 17 43 37.5 -0.4
comp=Z,3.1nm,0.9s,baz=117,slow=1.0,SNR=4.1
DAVOX PKKPab PKKPab 17 43 45.8 -0.9
comp=Z,4.6nm,1.0s,baz=96,slow=19,SNR=4.3
KBA Koelnbreinsper 112.45 8⇑*i* PKKPbc 17 43 30.8 -6.4
comp=Z,15nm,1.6s
KBA Koelnbreinsper 112.45 8 PKKPbc 17 43 30.8 -6.4
comp=Z,15nm,1.6s
KBA Koelnbreinsper 112.45 8 *i* PKKPbc 17 43 30.8 -6.4
ARSA Arzberg 112.53 6⇓*i* PKKPbc 17 43 37.0 +0.1
comp=Z,16nm,1.0s
ARSA Arzberg 112.53 6 PKKPbc 17 43 37.0 +0.1
comp=Z,16nm,1.0s
BURAR Bucovina Array 112.58 359⇑*iP* PKKPab 17 43 45.1 -0.1
KIS Kishinev 113.05 356 *e*PKS 17 29 23.0
KIS Kishinev 113.05 356 *i* PS 17 36 32.0
PKSM Moragy 113.82 4⇑*iP* PKKPbc 17 43 31.8 -0.8
KIV Kislovodsk 113.94 345 *e*PKIKP PKiKP 17 32 50.8 +0.1
KIV pmax pmax
comp=Z,20nm,1.2s

KIV	Kislovodsk	113.94	345⇑	ePKP	PKiKP	17 32 51.2	+0.5
ANN	Anapa	114.22	349	ePKIKP	PKiKP	17 32 42.5	-8.7
ANN				MLR	MLR		
	comp=N,18μm,22.0s,MS6.6						
ANN				MLR	MLR		
	comp=E,2μm,22.0s,MS6.6						
ANN				MLR	MLR		
	comp=Z,12μm,22.0s,MS6.5						
PLOR	Plostina	114.30	358⇓	iP	PKKPbc	17 43 30.0	-0.9
MLR	Muntele Rosu	114.68	358	PKKPbc	PKKPbc	17 43 28.4	-1.2
	comp=Z,6.9nm,1.1s,baz=353,slow=6.1,SNR=4.8						
MLR				PKKPab	PKKPab	17 43 37.1	+1.3
	comp=Z,3.8nm,0.9s,baz=287,slow=14,SNR=3.1						
MLR	Muntele Rosu	114.68	358⇑	iP	PKKPbc	17 43 27.9	-1.7
VOIR		114.76	359⇓	iP	PKKPab	17 43 34.5	-1.0
CFR	Carcaliu	114.91	357⇑	iP	PKKPab	17 43 34.2	-0.7
ESDC	Sonseca Array	115.10	23	PKP	PKiKP	17 32 51.7	-1.2
	comp=Z,0.8nm,0.8s,baz=337,slow=2.0,SNR=4.6						
ESDC				PP	PP	17 33 50.5	-2.1
	comp=Z,2.6nm,0.9s,baz=330,slow=7.5,SNR=5.9						
ESDC				PKKPbc	PKKPbc	17 43 28.2	0.0
	comp=Z,7.0nm,1.1s,baz=148,slow=2.7,SNR=14						
ESDC				PKKPab	PKKPab	17 43 35.4	+1.3
	comp=Z,1.6nm,0.7s,baz=157,slow=4.5,SNR=13						
GNI	Garni	116.96	342⇑	ePKIKP	PKPdf	17 32 55.6	-0.9
ANTO	Ankara	119.75	352	ePKIKP	PKPdf	17 33 01.8	-0.1
BRTR	Keskin Array B	119.77	351	PKP	PKPdf	17 33 01.1	-0.9
	comp=Z,7.4nm,1.1s,baz=162,slow=0.4,SNR=7.1						
BRTR				PKKPbc	PKKPbc	17 43 11.2	-0.4
	comp=Z,1.1nm,0.7s,baz=176,slow=4.7,SNR=4.8						
MDT	Midelt	120.75	28	PKKPbc	PKKPbc	17 43 08.7	+0.8
	comp=Z,5.8nm,0.9s,baz=148,slow=5.2,SNR=11						
MSL	Mosul	121.02	342	ex	x	17 33 07.0	
MSL				ex	x	17 36 38.0	
MSL				ex	x	17 40 09.0	
ISP	Isparta	122.01	354⇑	iPKIKP	PKPdf	17 33 05.6	-0.6
ISP	Isparta	122.01	354⇑	ePKP	PKPdf	17 33 05.7	-0.5
VAE	Valguarnera	122.03	9	PKKPbc	PKKPbc	17 43 04.2	+1.1
	comp=Z,16nm,0.7s,baz=62,slow=18,SNR=6.3						
KEST	Kesra	122.79	14	PKP	PKPdf	17 33 07.8	+0.1
	comp=Z,4.7nm,1.0s,baz=258,slow=3.4,SNR=9.0						
KEST				PKKPbc	PKKPbc	17 43 00.8	+0.7
	comp=Z,2.5nm,0.9s,baz=234,slow=2.8,SNR=7.3						
BHD	Baghdad	123.41	339	ex	x	17 33 04.0	
BHD				ex	x	17 36 17.0	
BHD				ex	x	17 39 25.0	
CSS	Prodhromos	124.49	351	ePKPdf	PKPdf	17 33 10.0	-1.0
MIB	Mutribah	125.45	335	eP	PKPdf	17 33 11.8	-1.0
MIB				AMb	AMB	17 33 14.3	
	comp=Z,110nm,1.1s						
UMR	Umm Al-Rimmam	125.52	334	eP	PKPdf	17 33 11.9	-1.0
UMR				AMb	AMB	17 33 14.6	
	comp=Z,140nm,1.3s						
RST	Umm Al-Ruwaisa	125.86	335	eP	PKPdf	17 33 12.8	-0.8
RST				AMb	AMB	17 33 15.0	
	comp=Z,123nm,1.4s						
NAY	Al-Naaiem	125.98	335	eP	PKPdf	17 33 12.9	-0.9
NAY				AMb	AMB	17 33 15.2	
	comp=Z,103nm,1.3s						
RDF	Al-Radifah	126.14	334	eP	PKPdf	17 33 12.9	-1.2
RDF				AMb	AMB	17 33 15.7	
	comp=Z,156nm,1.3s						
SNAA	Sanae	126.16	170	PKP	PKPdf	17 33 12.6	-1.6
	comp=Z,22nm,1.1s,baz=228,slow=1.1,SNR=20						
SNAA				PP	PP	17 35 04.2	-4.1
	comp=Z,7.3nm,1.4s,baz=241,slow=7.6,SNR=3.1						
SNAA	Sanae	126.16	170	PKIKP	PKPdf	17 33 12.6	-1.5
SNAA						17 35 04.2	
SNAA				pmax	pmax		
	comp=Z,22nm,1.1s						
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SNAA	Sanae	126.16	170	ePKPdf	PKPdf	17 33 12.1	-2.1
ASF	Jabal al Asfar	126.53	346	PKP	PKPdf	17 33 15.0	+0.1
	comp=Z,24nm,1.2s,baz=301,slow=1.4,SNR=6.2						
MAW	Mawson	126.55	197	eP	PKPdf	17 33 13.8	-1.1
	comp=Z,18nm,1.2s						
MAW	Mawson	126.55	197	PKP	PKPdf	17 33 14.0	-0.9
	comp=Z,18nm,1.1s,baz=135,slow=2.1,SNR=9.6						
MAW	Mawson	126.55	197	PKIKP	PKPdf	17 33 14.0	-0.9
MAW				pmax	pmax		
	comp=Z,19nm,1.1s						
NVL	N'lazarevskaya	128.84	175	c iPKIKP	PKPdf	17 33 17.2	-2.1
NVL				pmax	pmax		
	comp=Z,119nm,1.5s						
SYO	Syowa Base	130.15	187⇑	iPKPdf	PKPdf	17 33 20.0	-1.8
TORD	Torodi Ar. Bea	140.41	35	PKP	PKPdf	17 33 40.7	-0.1
	comp=Z,35nm,1.2s,baz=324,slow=2.0,SNR=11						
TORD	Torodi Ar. Bea	140.41	35	PKP	PKPdf	17 33 40.7	-0.1
DBIC	Dimbokro	141.20	50	PKP	PKPdf	17 33 42.2	-0.1
	comp=Z,50nm,1.0s,baz=314,slow=3.6,SNR=8.2						
DBIC	Dimbokro	141.20	50	PKIKP	PKPdf	17 33 42.2	-0.1
DBIC				pmax	pmax		
	comp=Z,50nm,1.0s						
DBIC	Dimbokro	141.20	50	PKPdf	PKPdf	17 33 41.3	-1.0
ATD	Arta Tunnel	143.41	328	PKP	PKPdf	17 33 46.9	+0.7
	comp=Z,18nm,1.0s,baz=90,slow=20,SNR=3.1						
ATD	Arta Tunnel	143.41	328	PKP	PKPdf	17 33 46.9	+0.7
TRIS	Tristan da Cun	144.30	126	ePKP	PKPdf	17 33 45.5	-2.3
KMBO	Kilima Mbogo	157.02	324	PKP	PKPdf	17 34 08.3	+1.0
	comp=Z,20nm,1.2s,baz=11,slow=3.6,SNR=5.6						
KMBO	Kilima Mbogo	157.02	324	ePKIKP	PKPdf	17 34 08.5	+1.2
KMBO	Kilima Mbogo	157.02	324	ePKPdf	PKPdf	17 34 08.0	+0.6
OPO	Ambohidratompo	157.92	270	PKP	PKPdf	17 34 09.2	+0.8
	comp=Z,14nm,1.2s,baz=65,slow=6.7,SNR=3.1						
OPO				PKPab	PKPab	17 34 42.3	+0.8
	comp=Z,22nm,1.1s,baz=78,slow=7.3,SNR=5.5						
SUR	Sutherland	167.49	168	PKP	PKPdf	17 34 18.7	+0.9
	comp=Z,73nm,1.1s,baz=282,slow=0.9,SNR=8.4						
LSZ	Lusaka	173.65	319	PKPab	PKPab	17 35 50.5	-0.2
	comp=Z,3.0nm,0.9s,baz=333,slow=6.8,SNR=2.8						
TSUM	Tsumeb	174.03	82	PKP	PKPdf	17 34 21.4	+0.1
	comp=Z,50nm,1.2s,baz=71,slow=1.3,SNR=7.3						
TSUM				PKPab	PKPab	17 35 52.6	+0.1
	comp=Z,24nm,1.1s,baz=263,slow=6.5,SNR=6.3						
TSUM				PP	PP	17 39 44.1	-0.3
	comp=Z,5.5nm,0.9s,baz=248,slow=6.9,SNR=4.2						
TSUM	Tsumeb	174.03	82	ePKPdf	PKPdf	17 34 21.0	-0.3
TSUM				ePKPab	PKPab	17 35 51.7	-0.8
LBTB	Lobatse	174.86	198	PKP	PKPdf	17 34 21.0	-0.6
	comp=Z,73nm,1.2s,baz=228,slow=1.9,SNR=10.0						
MATP	Matopo	175.61	265	PKP	PKPdf	17 34 21.1	-0.7
	comp=Z,52nm,1.1s,baz=302,slow=2.2,SNR=7.7						
MATP				PKPab	PKPab	17 36 00.2	+0.7
	comp=Z,31nm,1.1s,baz=110,slow=4.1,SNR=6.2						

*ISCJB **15** 17:24:43.4±0.6, 2936N±005×1390E±02, h416km±7km, mb3.6/13, Error ellipse: s-maj=23.5km s-min=7.0km az=155.2*
*IDC **15** 17:24:44.5±1.9, 2938N×13899E, h412km±21km, mb3.3/12, mb1 3.4/14, mb1mx3.3/24, mbtmp4.0/14, Error ellipse: s-maj=27.1km s-min=10.6km az=90.0*
*NEIC **15** 17:24:45.1±0.9, 2936N×13897E, h419km±10km, mb3.7/1, Error ellipse: s-maj=18.0km s-min=8.3km az=88.0*
*JMA **15** 17:24:45.2±0.3, 2956N×13987E, h443km±4km, M3.7*

ISC 15 17:24:44.4±0.6, 2941N±005×1391E±02, h410km±8km, n33, σ1§07/39, mb3.6/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	Haha-jima-NKT	3.87	135	P	P	17 25 56.4	+0.5
JHHJ				eS	S	17 26 52.5	-1.4
JIE	Ise	5.38	338	P	P	17 26 15.4	+4.6
BSO1	Boso 1	5.46	16	P	P	17 26 12.5	+0.8
BSO3	Boso 3	5.50	12	eS	S	17 27 21.9	-1.7
BSO4	Boso 4	5.66	10	P	P	17 26 14.4	+0.7
BSO4				eS	S	17 27 25.4	-1.1
JOD2	Odawara 2	5.84	360	P	P	17 26 17.3	+1.7
JNY	Yasuok	6.03	350	P	P	17 26 20.6	+2.9
JHU	Hanno	6.42	1	P	P	17 26 22.4	+0.4
JHU				eS	S	17 27 38.6	-3.1
JRY	Ryogami san	6.59	358	P	P	17 26 25.2	+1.4
JRY				eS	S	17 27 44.0	-1.0
JYT	Yasato	6.86	7	P	P	17 26 27.0	+0.3
JAG	Ashikaga	7.00	2	P	P	17 26 28.2	-0.1
MJAR	Matsushiro Arr	7.15	354	P	P	17 26 30.9	+0.9
	1.3nm,0.3s,baz=169,slow=10,SNR=19						
MJAR				S	S	17 27 54.4	-2.0
	0.4nm,0.3s,baz=166,slow=17,SNR=3.6						
MJAR	Matsushiro Arr	7.15	354	P	P	17 26 30.9	+0.9
MJAR				S	S	17 27 54.4	-2.0
MAJO	Matsushiro	7.15	354	eP	P	17 26 31.3	+1.3
JHO	Hitachi	7.28	9	P	P	17 26 32.0	+0.5
ASAJ	Asahikawa	14.94	10	P	P	17 27 56.5	+0.8
	0.3nm,0.3s,baz=236,slow=3.6,SNR=4.2						
SONM	Songino Array	31.18	315	P	P	17 30 28.1	+0.5
	1.4nm,0.8s,mb3.4,baz=127,slow=7.1,SNR=7.3						
WB2	Warramunga Arr	49.28	186	eP	P	17 32 52.9	-0.7
WRA	Warramunga Arr	49.28	186	P	P	17 32 53.2	-0.5
	1.0nm,0.4s,mb3.5,baz=0.9,slow=7.7,SNR=54						
ASAR	Alice Springs	53.01	186	P	P	17 33 20.8	-0.2
	0.3nm,0.5s,mb2.8,baz=23,slow=11,SNR=12						
CHKZ	Chkalovo	54.35	317	eP	P	17 33 29.9	-0.6
	1.7nm,0.5s,mb3.5						
STKA	Stephens Creek	60.99	178	P	P	17 34 15.8	-0.4
	1.5nm,0.5s,mb3.7,baz=284,slow=18,SNR=7.3						
STKA	Stephens Creek	60.99	178	P	P	17 34 15.8	-0.4
INK	Inuvik	62.06	25	P	P	17 34 23.2	-0.1
	1.4nm,0.3s,mb3.9,baz=255,slow=12,SNR=3.8						
INK	Inuvik	62.06	25	P	P	17 34 23.2	-0.1
NWAO	Narrogin (SRO)	65.38	200	P	P	17 34 44.5	-0.1
	4.3nm,0.7s,mb4.2,baz=124,slow=7.3,SNR=3.6						
ARCES	ARCESS Array B	70.47	340	P	P	17 35 15.3	-0.5
	5.0nm,1.0s,mb4.0,baz=76,slow=10,SNR=7.3						
FINES	FINESS Array B	74.67	333	P	P	17 35 39.0	-1.4
	1.5nm,0.8s,mb3.6,baz=66,slow=4.6,SNR=4.0						
HFS	Hagfors	80.22	336	P	P	17 36 10.3	-0.5
	1.9nm,1.0s,mb3.7,baz=153,slow=0.7,SNR=7.9						
NOA	NORSAR Array B	80.45	337	P	P	17 36 10.9	-1.0
	0.3nm,0.3s,mb3.3,baz=52,slow=6.3,SNR=2.4						
NVAR	Mina Array Bea	81.19	51	P	P	17 36 17.2	+1.4
	0.6nm,0.7s,mb3.4,baz=289,slow=7.6,SNR=5.8						
NVAR	Mina Array Bea	81.19	51	P	P	17 36 17.2	+1.4
PDAR	Pinedale Array	84.44	44	P	P	17 36 33.5	+1.3
	0.3nm,0.6s,mb3.2,baz=264,slow=8.1,SNR=2.9						

NEIC 15 17:29:04.0, 1988N×15590W, h37km, MD3.6(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POHA	Pohakuloa	0.36	110	ePn	Pn	17 29 12.8	-0.1
POHA				eSn	Sn	17 29 18.1	-0.9
HON	Honolulu	2.44	306	ePn	Pn	17 29 40.0	-1.3
HON				eSn	Sn	17 30 05.8	-4.0
KIP	Kipapa	2.51	308	ePn	Pn	17 29 40.6	-1.6
KIP				eSn	Sn	17 30 04.3	-7.3

IDC 15 17:32:18.4±54.0, 1211S×17318E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=950.9km s-min=139.6km az=66.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	35.08	231	P	P	17 39 13.2	+0.1
	3.3nm,1.0s,baz=84,slow=10,SNR=2.6						
WRA	Warramunga Arr	38.06	253	P	P	17 39 39.3	+0.7
	0.2nm,0.4s,baz=85,slow=8.6,SNR=9.0						
ASAR	Alice Springs	38.98	247	P	P	17 39 46.4	+0.1
	1.1nm,0.6s,baz=76,slow=9.0,SNR=30						
ASPA	Alice Springs	38.98	247	eP	P	17 39 46.3	0.0
FITZ	Fitzroy Crossi	46.18	257	eP	P	17 40 50.5	+5.6
	2.5nm,0.4s						

IDC 15 17:42:04.4±2.1, 669S×12874E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/12, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=122.1km s-min=32.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.25	158	Pn	Pn	17 45 27.2	-0.2
	0.1nm,0.3s,baz=337,slow=13,SNR=15						
WRA				Sn	Sn	17 47 52.4	-14
	0.5nm,0.3s,baz=326,slow=24,SNR=8.0						
ASAR	Alice Springs	17.59	164	P	Pn	17 46 11.4	+0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=14						
ASAR				S	Sn	17 49 12.4	-15
	0.1nm,0.3s,baz=325,slow=16,SNR=6.0						
MKAR	Makanchi Array	67.29	327	P	P	17 53 01.1	+0.2
	0.1nm,0.4s,baz=122,slow=8.1,SNR=4.2						

IDC 15 17:50:48.7±4.5, 323S×15432E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/13, mbtmp3.5/2, Error ellipse: s-maj=217.8km s-min=49.9km az=118.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.61	228	P	P	17 56 20.4	+0.7
	1.4nm,1.3s,baz=53,slow=9.3,SNR=5.2						
ASAR	Alice Springs	28.32	222	P	P	17 56 44.2	+0.1
	0.3nm,0.3s,baz=55,slow=9.0,SNR=19						
TORD	Torodi Ar. Bea	151.20	292	PKPbc	PKPbc	18 10 45.0	+1.0
	0.3nm,0.3s,baz=62,slow=2.1,SNR=6.4						

PGC 15 17:59:48.2, 7208N×13129W, h35km, MLSn3.5/3, 207km northwest of Sachs Harbour, Nt Beaufort Sea., Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	Inuvik	3.86	192	Pn	Pn	18 00 44.1	-1.0
INK				Sn	Sn	18 01 26.4	-2.9
INK				Trac		18 01 27.9	
	comp=Z,11nm,0.1s						
DAWY	Dawson	8.59	205	Pn	Pn	18 01 48.0	-2.0
DAWY				Sn	Sn	18 03 16.7	-8.8
DAWY				Trac		18 03 22.4	
	comp=Z,3.0nm,0.1s						
YKW3	Yellowknife Ar	11.46	138	Pn	Pn	18 02 26.8	-2.4
YKW3				Sn	Sn	18 04 24.2	-12
YKW3				Trac		18 04 25.6	
	comp=Z,4.0nm,0.4s						

IDC 15 18:16:37.6±5.6, 5067S×14286E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.8/8, mbtmp3.7/2, Error ellipse: s-maj=391.0km s-min=79.3km az=83.0, South of Tasmania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	27.84	342	P	P	18 22 28.6	0.0
	0.5nm,0.9s,baz=165,slow=10,SNR=7.3						
WRA	Warramunga Arr	31.40	344	P	P	18 23 00.2	0.0
	1.4nm,0.8s,baz=171,slow=7.5,SNR=8.9						
ARCES	ARCESS Array B	145.59	326	PKPbc	PKPbc	18 36 15.6	-2.4
	3.3nm,0.8s,baz=80,slow=5.8,SNR=4.0						

NEIC 15 18:19:58.0, 1993N×15592W, h36km, MD3.7(HVO), 1D, After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKH	Kailua Kona	0.28	199	⇓iP	Pn	18 20 04.9	-0.9
HKL	Haleakala	0.84	338	eP	Pn	18 20 11.7	-1.5
HPO	Honuapo	0.90	157	eP	Pn	18 20 12.3	-1.9
HON	Honolulu	2.39	306	ePn	Pn	18 20 32.0	-2.6
KIP	Kipapa	2.46	308	ePn	Pn	18 20 33.1	-2.4

MAN 15 18:27:30.0, 1283N×12520E, h0km, mb2.2, ML3.9, MS8.6, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	Virac	1.27	307	eP	Pg	18 27 55.0	+0.7
PLP	Palo	1.67	187	eP	Pn	18 28 02.6	+2.1
OCLP	Ormoc	1.86	198	eP	Pn	18 28 03.2	+0.1
AUQP	San Andres	2.50	282	eP	Pn	18 28 16.2	+4.3
MSLP	Maasin	2.70	187	eP	Pn	18 28 16.2	+1.5
BOAC	Boac	3.32	281	eP	Pn	18 28 23.9	+0.6
GUIM	Jordan	3.37	230	eP	Pn	18 28 24.4	+0.6
POLP	Polilio Island	3.68	301	eP	Pn	18 28 33.5	+5.3
LUBP	Lubang	4.90	281	eP	Sn	18 29 46.7	+4.4
PALP	Palanan	4.99	328	eP	Pn	18 28 46.9	+0.8
CAUP	Cauayan	5.23	322	eP	Pn	18 28 50.7	+1.3

IDC 15 18:32:40.3±2.5, 2284N×1161W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=77.2km s-min=29.4km az=79.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	Midelt	11.71	30	Pn	Pn	18 35 24.1	-4.5
	baz=330,slow=17,SNR=1.8						
MDT				Lg		18 38 55.1	
	0.1nm,0.3s,baz=315,slow=16,SNR=5.3						
TORD	Torodi Ar. Bea	15.89	125	Pn	Pn	18 36 26.6	+1.3
	0.1nm,0.3s,baz=312,slow=13,SNR=7.6						
TORD				Sn	Sn	18 39 22.1	0.0
	0.1nm,0.3s,baz=305,slow=21,SNR=5.4						
TORD				Lg		18 41 09.7	
	0.0nm,0.3s,baz=313,slow=28,SNR=3.2						
DBIC	Dimbokro	17.34	157	P	Pn	18 36 42.9	-0.8
	0.2nm,0.3s,baz=325,slow=15,SNR=4.8						
GERES	GERESS Array B	32.79	31	P	P	18 39 15.2	0.0
	0.7nm,0.7s,baz=215,slow=8.1,SNR=4.6						
FINES	FINESS Array B	46.43	24	P	P	18 41 07.8	-1.0
	0.6nm,0.6s,baz=201,slow=16,SNR=4.2						
MKAR	Makanchi Array	76.27	45	P	P	18 44 31.4	+0.6
	0.5nm,0.6s,baz=312,slow=5.5,SNR=6.6						
WRA	Warramunga Arr	148.20	91	PKPbc	PKPbc	18 52 28.5	+0.3
	0.5nm,0.7s,baz=296,slow=2.2,SNR=7.3						
ASAR	Alice Springs	148.35	98	PKPbc	PKPbc	18 52 28.9	+0.3
	0.9nm,0.9s,baz=296,slow=2.1,SNR=9.3						

IDC 15 18:37:57.0±7.2, 2022N×14392E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=494.2km s-min=34.4km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.00	194	P	P	18 45 42.4	+0.7
	0.2nm,0.5s,baz=14,slow=8.3,SNR=4.8						
ASAR	Alice Springs	44.70	193	P	P	18 46 11.4	-0.3
	0.2nm,0.6s,baz=20,slow=7.1,SNR=5.6						
FINES	FINESS Array B	84.80	335	P	P	18 50 33.2	-0.1
	1.3nm,0.9s,baz=57,slow=5.1,SNR=5.3						

IDC 15 18:45:28.9±32.0, 1609S×17798W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/14, mbtmp4.2/4, 1D, Error ellipse: s-maj=613.9km s-min=134.9km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.88	239	eP	P	18 53 04.6	+0.2
	2.2nm,0.9s						
STKA	Stephens Creek	39.88	239	P	P	18 53 04.3	0.0
	1.3nm,0.4s,baz=77,slow=9.2,SNR=10						
WRA	Warramunga Arr	45.39	258	P	P	18 53 50.4	+1.2
	1.0nm,0.6s,baz=91,slow=7.6,SNR=43						
ASAR	Alice Springs	45.70	253	P	P	18 53 51.5	-0.1
	8.0nm,0.6s,baz=88,slow=8.1,SNR=244						
ASPA	Alice Springs	45.71	253	⇓iP	P	18 53 52.2	+0.6
FITZ	Fitzroy Crossi	53.75	259	P	P	18 54 53.2	+0.2
	0.6nm,0.3s,baz=105,slow=4.9,SNR=6.1						

IDC 15 18:49:24.1±1.2, 260N×12169E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=177.0km s-min=20.5km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.61	152	P	P	18 54 55.8	+0.7
	0.3nm,0.4s,baz=335,slow=9.3,SNR=3.7						
ASAR	Alice Springs	28.68	156	P	P	18 55 23.1	+0.5
	0.2nm,0.6s,baz=344,slow=7.5,SNR=4.1						
STKA	Stephens Creek	39.15	153	P	P	18 56 53.1	-0.3
	0.8nm,0.6s,baz=0.0,slow=12,SNR=3.0						
SONM	Songino Array	46.96	346	P	P	18 57 57.8	+1.1
	0.2nm,0.4s,baz=171,slow=7.4,SNR=3.9						
MKAR	Makanchi Array	55.73	328	P	P	18 59 01.9	-0.5
	0.2nm,0.3s,baz=128,slow=8.1,SNR=12						

*ISCJB **15** 18:54:31.6±1.0, 206S±02×169.1E±02, h10km, mb3.8/6, Error ellipse: s-maj=32.8km s-min=12.1km az=112.5*
*IDC **15** 18:54:31.2±1.9, 2060S×169.17E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/12, mbtmp3.7/6, ML3.0/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/24, Error ellipse: s-maj=83.1km s-min=24.4km az=146.0*
*NEIC **15** 18:54:33.0±0.7, 2050S×16909E, h10km, mb4.2/1, Error ellipse: s-maj=24.1km s-min=13.5km az=143.0*

ISC 15 18:54:33.4±1.0, 206S±02×1691E±02, h10km, n11, σ0§71/12, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	2.83	239	eP	Pn	18 55 19.5	+0.8
DZM				eS	Sn	18 55 50.9	-1.9
DZM	Mont Dzumac	2.83	239	Pn	Pn	18 55 19.7	+1.0
	2.0nm,0.3s,baz=65,slow=20,SNR=113						
DZM				Sn	Sn	18 55 52.4	-0.4
	24nm,0.3s,baz=153,slow=20,SNR=14						
DZM				LR	LR	18 56 14.0	
	comp=Z,2μm,19.2s,baz=243,slow=35						
STKA	Stephens Creek	26.98	240	P	P	19 00 15.6	+0.3
	0.8nm,0.4s,mb3.6,baz=88,slow=16,SNR=2.5						
STKA	Stephens Creek	26.98	240	P	P	19 00 15.6	+0.3
WRA	Warramunga Arr	32.53	265	P	P	19 01 04.4	0.0
	0.3nm,0.5s,mb3.4,baz=94,slow=8.5,SNR=9.3						
ASAR	Alice Springs	32.65	258	P	P	19 01 06.2	+0.8
	1.3nm,0.7s,mb4.0,baz=80,slow=8.7,SNR=28						
SBA	Scott Base	57.30	181	eP	P	19 04 21.5	+0.1
	2.2nm,0.9s,mb4.2						
SONM	Songino Array	88.20	323	P	P	19 07 24.5	-0.2
	0.4nm,1.0s,mb3.6,baz=132,slow=2.1,SNR=3.1						
NVAR	Mina Array Bea	89.84	49	P	P	19 07 31

*CSEM **15** 19:06:47.8±0.2,3721N×4507E,h2km,MD3.8,Error ellipse: s-maj=5.6km s-min=3.2km az=14.0*
*ISK **15** 19:06:48.9,3708N×4489E,h5km,MD3.8*
*THR **15** 19:06:48.9±0.6,3721N×4508E,h14km±6km,ML3.0*
ISC 15 19:06:47.8±0.8,3691N±006×4485E±008,h7km±10km,n16,σ1§13/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEMD	**Semdilli**	**0.51**	**329**	PG	**Pg**	**19 06 57.0**	**-0.7**
SEMD				SG	**Sg**	**19 07 04.4**	**0.0**
CUKT	**Cukurca**	**1.05**	**289**	PG	**Pg**	**19 07 09.0**	**+1.0**
HKR	**Hakkari**	**1.11**	**307**	PG	**Pg**	**19 07 09.3**	**+0.2**
HKR				SG	**Sg**	**19 07 26.2**	**+2.6**
MSL	**Mosul**	**1.55**	**247**	*e*x	x	19 07 21.5	
MSL				*e*x	x	19 07 26.0	
MSL				*e*x	x	19 07 46.5	
MSL				*e*x	x	19 07 50.5	
VANT	**Van**	**1.92**	**323**	*e*PN	**Pg**	**19 07 23.4**	**-1.3**
SIRT	**Sirnak**	**2.02**	**288**	PN	**Pg**	**19 07 25.8**	**-0.7**
VANB	**Van**	**2.04**	**326**	PN	**Pb**	**19 07 24.6**	**-0.7**
CLDR	**Caldiran**	**2.35**	**342**	*e*PN	**Pn**	**19 07 27.5**	**+0.7**
MAKU	**Maku**	**2.45**	**357**	*e*Pg	**Pn**	**19 07 28.1**	**0.0**
SNGE	**Sanandaj**	**2.71**	**131**	*e*PN	**Pb**	**19 07 35.6**	**-1.1**
SNGE				*e*SG	**Sg**	**19 08 16.3**	**+1.2**
SNGE				AML	AML	19 08 25.2	
	comp=N,93nm,0.7s						
SNGE				AML	AML	19 08 26.3	
	comp=E,44nm,0.5s						
SNGE	**Sanandaj**	**2.71**	**131**	*e*Pn	**Pb**	**19 07 35.7**	**-1.0**
	SNR=52						
SNGE				*e*Sg	**Sg**	**19 08 16.3**	**+1.2**
	comp=E,44nm,0.5s,SNR=90						
BTMT	**Batman**	**2.96**	**297**	*e*PN	**Pb**	**19 07 40.0**	**-1.0**
GRMI	**Germi**	**3.07**	**51**	*e*Pn	**Pn**	**19 07 34.6**	**-2.1**
GRMI				*e*SG	**Sn**	**19 08 14.4**	**+0.8**
GRMI				AML	AML	19 08 23.3	
	comp=E,35nm,0.5s						
GRMI				AML	AML	19 08 24.6	
	comp=N,50nm,0.5s						
GRMI	**Germi**	**3.07**	**51**	*e*Pn	**Pn**	**19 07 34.6**	**-2.1**
	SNR=52						
GRMI				*e*Sg	**Sn**	**19 08 14.4**	**+0.8**
	comp=N,50nm,0.5s,SNR=90						
GNI	**Garni**	**3.24**	**359**	*e*PN	**Pn**	**19 07 40.6**	**+1.6**
PTK	**Pertek**	**4.75**	**296**	*e*PN	**Pn**	**19 08 03.9**	**+4.1**

*IDC **15** 19:10:16.0±2.0,4354N×10527W,h0km,mb4.1/3, mb1 4.0/7,mb1mx3.7/24,mbtmp3.8/7,ML3.5/4,Error ellipse: s-maj=58.2km s-min=8.1km az=152.0*
*ISCJB **15** 19:10:16.4±0.4,4374N±003×10527W±005,h0km,mb4.2/3, Error ellipse: s-maj=5.2km s-min=4.6km az=75.5*
*NEIC **15** 19:10:17.9±0.3,4375N×10526W,h0km,ML3.4,Error ellipse: s-maj=4.3km s-min=3.5km az=143.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 15 19:10:17.6±0.4,4374N±003×10521W±004,h0km,n46,σ1§05/61,mb4.2/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**65**	*e*Pg	**Pg**	**19 10 36.4**	**+1.0**
PHWY	**Pilot Hill**	**2.44**	**184**	*e*Pn	**Pn**	**19 10 58.5**	**-0.2**
PHWY				*e*Sn	**Sn**	**19 11 29.6**	**+0.4**
RWWY	**Rawlins**	**2.52**	**216**	*e*Pn	**Pn**	**19 11 00.1**	**+0.3**
RWWY				*e*Sn	**Sn**	**19 11 30.2**	**-1.0**
LAO	**LASA Array**	**3.04**	**347**	*e*Pn	**Pn**	**19 11 06.5**	**-0.3**
RLMT	**Red Lodge**	**3.22**	**297**	*e*Pn	**Pn**	**19 11 08.9**	**-0.4**
BW06	**Boulder Array**	**3.32**	**255**	*e*Pn	**Pn**	**19 11 10.4**	**-0.3**
BW06				*e*Sn	**Sn**	**19 11 52.3**	**+1.3**
PDAR	**Pinedale Array**	**3.32**	**255**	Pn	**Pn**	**19 11 10.6**	**-0.2**
	3.1nm,0.3s,baz=74,slow=17,SNR=63						
PDAR				Lg		19 11 56.6	
	13nm,0.3s,baz=67,slow=31,SNR=8.7						
GCMT	**Greycliff**	**3.78**	**304**	*e*P	**Pn**	**19 11 16.7**	**-0.4**
LOHW	**Long Hollow**	**3.92**	**270**	*e*Pn	**Pn**	**19 11 19.4**	**+0.4**
ISCO	**Idaho Springs**	**3.95**	**185**	*e*Pn	**Pn**	**19 11 20.2**	**+0.8**
ISCO				*e*Sg	**Sg**	**19 12 17.8**	**-6.6**
FLWY	**Flagg Ranch**	**3.98**	**277**	*e*Pn	**Pn**	**19 11 20.0**	**+0.1**
FLWY				*e*Pg	**Pg**	**19 11 30.1**	**-3.8**
FLWY				*e*Sg	**Sg**	**19 12 22.3**	**-3.3**
MOOW	**Moose Ponds**	**4.01**	**272**	*e*Pn	**Pn**	**19 11 20.0**	**-0.3**
SNOW	**Snow King Moun**	**4.04**	**268**	*e*Pn	**Pn**	**19 11 21.1**	**+0.5**
YFT	**Old Faithful**	**4.12**	**282**	*e*Pn	**Pn**	**19 11 23.8**	**+2.1**
REDW	**Red Top Meadow**	**4.12**	**267**	*e*Pn	**Pn**	**19 11 21.9**	**+0.1**
REDW				Sg	**Sg**	**19 12 29.7**	**-0.2**
IMW	**Indian Meadow**	**4.15**	**274**	*e*Pn	**Pn**	**19 11 22.4**	**+0.2**
IMW				*e*Pg	**Pg**	**19 11 31.8**	**-5.3**
TPAW	**Teton Pass**	**4.18**	**269**	*e*Pn	**Pn**	**19 11 21.8**	**-0.7**
DCID1	**Drake Creek**	**4.34**	**270**	*e*Pn	**Pn**	**19 11 17.9**	**-6.9**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pg	**Pg**	**19 11 38.4**	**-3.8**
RRI2	**Red Ridge**	**4.46**	**267**	*e*Pn	**Pn**	**19 11 26.6**	**+0.2**
SMCO	**Snowmass**	**4.75**	**197**	*e*Pn	**Pn**	**19 11 31.1**	**+0.8**
SMCO				*e*Pg	**Pg**	**19 11 43.7**	**-4.8**
DGMT	**Dagmar**	**4.79**	**8**	*e*Pn	**Pn**	**19 11 32.5**	**+1.6**
DGMT				*e*Pg	**Pg**	**19 11 44.8**	**-4.5**
HWUT	**Hardware Ranch**	**5.15**	**248**	*e*Pn	**Pn**	**19 11 35.2**	**-0.6**
	13nm,0.6s						
TCUT	**Toone Canyon**	**5.28**	**242**	*e*Pn	**Pn**	**19 11 37.7**	**0.0**
EGMT	**Eagleton**	**5.33**	**325**	*e*Pn	**Pn**	**19 11 37.9**	**-0.5**
	19nm,0.5s						
DAU	**Daniels Canyon**	**5.59**	**236**	*e*Pn	**Pn**	**19 11 43.3**	**+1.3**
MCMT	**McKenzie Canyo**	**5.59**	**284**	Pn	**Pn**	**19 11 43.8**	**+1.8**
SPUT	**South Promonto**	**5.88**	**248**	*e*Pn	**Pn**	**19 11 44.7**	**-1.2**
SPUT				*e*Pg	**Pg**	**19 12 01.5**	**-8.7**
HVU	**Hansel Valley**	**5.90**	**253**	*e*Pn	**Pn**	**19 11 46.6**	**+0.4**
	9.1nm,0.7s						
SDCO	**Great Sand Dun**	**5.99**	**182**	*e*P	**Pn**	**19 11 48.4**	**+0.9**
	4.6nm,0.8s						
SDCO				*e*Pg	**Pg**	**19 12 10.3**	**-2.1**
MPU	**Maple Canyon**	**6.07**	**234**	*e*Pn	**Pn**	**19 11 49.3**	**+0.8**
	11nm,0.7s						
SRU	**San Rafael**	**6.11**	**223**	*e*Pn	**Pn**	**19 11 48.2**	**-0.9**
	14nm,0.5s						
SRU				*e*Pg	**Pg**	**19 12 05.1**	**-10**
SRU				*e*Sg	**Sg**	**19 13 18.0**	**-16**
ECSD	**EROS,Sioux Fal**	**6.23**	**87**	*e*Pn	**Pn**	**19 11 52.0**	**+1.3**
TMUT	**Trail Mountain**	**6.32**	**227**	*e*Pn	**Pn**	**19 11 52.4**	**+0.5**
TMUT				*e*Pg	**Pg**	**19 12 13.3**	**-5.4**
CBKS	**Cedar Bluff**	**6.41**	**138**	*e*Pg	**Pg**	**19 12 18.4**	**-2.0**
	24nm,0.7s						
CHMT	**Chamberlain Mo**	**6.50**	**302**	*e*Pn	**Pn**	**19 11 54.3**	**-0.2**
DUG	**Dugway**	**6.68**	**241**	*e*Pn	**Pn**	**19 11 56.0**	**-1.0**
	3.8nm,0.5s						
MSU	**Marysvale**	**7.41**	**228**	*e*Pn	**Pn**	**19 12 07.4**	**+0.5**
ARUT	**Antelope Range**	**8.62**	**229**	*e*Pn	**Pn**	**19 12 23.6**	**+0.1**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**19 12 28.6**	**-1.7**
	1.5nm,0.3s,baz=240,slow=12,SNR=15						
ULM				Lg		19 15 04.2	
	0.5nm,0.3s,baz=137,slow=19,SNR=2.9						
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**19 13 00.1**	**+1.0**
	0.1nm,0.3s,baz=25,slow=11,SNR=3.6						
YBH	**Yreka Blue Hor**	**13.03**	**267**	Pn	**Pn**	**19 13 26.8**	**+2.9**
	0.1nm,0.3s,baz=59,slow=5.9,SNR=4.5						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**19 20 33.3**	**-2.2**
	4.2nm,1.0s,mb4.5,baz=340,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**19 21 17.8**	**-0.8**
	1.8nm,0.9s,mb4.3,baz=336,slow=4.2,SNR=4.9						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**19 21 17.8**	**-0.9**
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**19 23 17.1**	**-0.1**
	0.5nm,0.7s,mb3.9,baz=31,slow=5.3,SNR=4.0						

*IDC **15** 19:29:46.9±1.5,3456N×2649E,h0km,mb3.3/3,mb1 3.4/4, mb1mx3.3/19,mbtmp3.3/4,ML3.7/1,Error ellipse: s-maj=60.2km s-min=27.9km az=144.0*
*HLW **15** 19:29:48.5,3463N×2629E,h33km,Mb3.1*
*CSEM **15** 19:29:48.9±0.1,3444N×2644E,h30km,MD3.6,Error ellipse: s-maj=4.4km s-min=2.5km az=69.0*
*ISCJB **15** 19:29:49.7±0.8,3444N±006×2644E±0.1,h39km±13km, mb3.2/3,Error ellipse: s-maj=14.7km s-min=9.2km az=138.8*
*NEIC **15** 19:29:51.0,3461N×2633E,h5km,MD3.6(ATH),After ATH.*
*ATH **15** 19:29:51.4,3463N×2632E,h2km,MD3.6/4*
ISC 15 19:29:48.6±1.8,3449N±006×2646E±009,h10km±14km, n16,σ0§85/16,mb3.2/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.74**	**302**	*e*PG	**Pg**	**19 30 01.8**	**-1.0**
NPS	**Neapolis**	**1.04**	**318**	*e*PB	**Pb**	**19 30 07.8**	**-0.9**
NPS	**Neapolis**	**1.04**	**318**	*e*Pb	**Pb**	**19 30 08.0**	**-0.7**
KARP	**Karpathos**	**1.20**	**28**	*e*PB	**Pb**	**19 30 13.0**	**+1.6**
GVD	**Gavdhos**	**1.99**	**281**	*e*PB	**Pb**	**19 30 26.5**	**+1.7**
GVD	**Gavdhos**	**1.99**	**281**	Pn	**Pn**	**19 30 23.0**	**+0.8**
HMAT	**Matruh**	**3.43**	**171**	P	**Pn**	**19 30 42.2**	**+0.1**
SWA1		**5.25**	**187**	P	**Pn**	**19 31 06.5**	**-0.7**
SWA2		**5.30**	**190**	P	**Pn**	**19 31 07.5**	**-0.4**
GLL	**Jalalah**	**6.62**	**136**	P	**Pn**	**19 31 26.5**	**+0.5**
TIP	**Timpagrande**	**9.07**	**304**	*e*Pn	**Pn**	**19 31 59.8**	**+0.2**
TIP	**Timpagrande**	**9.07**	**304**	*e*Pn	**Pn**	**19 31 59.8**	**+0.2**
GERES	**GERESS Array B**	**17.18**	**330**	P	**Pn**	**19 33 47.8**	**-0.9**
	0.1nm,0.3s,baz=140,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.90**	**233**	P	**P**	**19 36 05.8**	**+0.5**
	0.1nm,0.4s,mb3.0,baz=31,slow=8.8,SNR=5.9						
MKAR	**Makanchi Array**	**43.26**	**56**	P	**P**	**19 37 49.6**	**-0.6**
	0.3nm,0.6s,mb3.2,baz=280,slow=6.8,SNR=4.8						
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**19 39 48.3**	**-0.7**
	0.2nm,0.5s,mb3.4,baz=292,slow=8.2,SNR=2.1						

*BJI **15** 19:44:40.7,3.14N×12840E,h139km,mB5.2,mb5.1*
*ISCJB **15** 19:44:42.0±0.5,3.13N±003×12822E±004,h147km±4km, mb4.9/92,Error ellipse: s-maj=7.0km s-min=4.4km az=142.3*
*MOS **15** 19:44:42.5±1.0,3.17N×128.16E,h152km,mb4.8/24,Error ellipse: s-maj=14.0km s-min=6.5km az=110.5*
*NEIC **15** 19:44:42.2±1.4,3.13N×128.15E,h136km±12km,mb4.9/24, Error ellipse: s-maj=9.0km s-min=4.8km az=64.0*
*IDC **15** 19:44:44.0±1.3,306N×12808E,h148km±11km,mb4.5/27, mb1 4.5/27,mb1mx4.5/28,mbtmp4.9/27,Error ellipse: s-maj=14.2km s-min=7.3km az=72.0*
ISC 15 19:44:43.1±0.5,315N±003×12827E±004,h140km±4km, h138km±2.9km;pP-P,n210,σ1§06/198,mb4.9/90,20C-14D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.27**	**332**	*e*P	**Pn**	**19 45 48.0**	**+1.5**
DAV	**Davao City (W)**	**4.72**	**326**	*e*P	**Pn**	**19 45 54.0**	**+1.4**
DMPH	**Davao City--Mi**	**4.78**	**325**	⇑*e*P	**Pn**	**19 45 54.2**	**+0.9**
DMPH				*e*S	**Sn**	**19 46 53.7**	**+5.8**
KCP	**Kidapawan**	**4.97**	**321**	⇑*e*P	**Pn**	**19 45 55.5**	**-0.4**
BUKP	**Musuan**	**5.68**	**326**	*e*P	**Pn**	**19 46 05.6**	**+0.3**
BUTP	**Butuan**	**6.35**	**336**	*e*P	**Pn**	**19 46 15.4**	**+1.1**
CGP	**Cagayan de Oro**	**6.36**	**326**	⇑*e*P	**Pn**	**19 46 14.3**	**-0.1**
PAGZ	**Pagadian**	**6.74**	**314**	*e*P	**Pn**	**19 46 17.7**	**-1.8**
SCPH	**Surigao**	**7.14**	**337**	*e*P	**Pn**	**19 46 27.4**	**+2.4**
IPIL	**Ipil**	**7.30**	**309**	*e*P	**Pn**	**19 46 25.6**	**-1.5**
MSLP	**Maasin**	**7.72**	**334**	*e*P	**Pn**	**19 46 31.0**	**-1.7**
GUIM	**Jordan**	**9.32**	**323**	*e*P	**Pn**	**19 46 53.3**	**-0.9**
TSM	**Tawau**	**10.44**	**277**	P	**Pn**	**19 47 08.6**	**-0.4**
CUYO	**Cuyo Island**	**10.50**	**317**	*e*P	**Pn**	**19 47 08.2**	**-1.5**
PVCP	**Virac**	**11.15**	**339**	*e*P	**Pn**	**19 47 18.8**	**+0.5**
BATP	**Bataraza**	**11.82**	**299**	*e*P	**Pn**	**19 47 25.5**	**-1.7**
ENPP	**El Nido**	**11.87**	**313**	*e*P	**Pn**	**19 47 27.6**	**-0.2**
KKM	**Kota Kinabalu**	**12.35**	**284**	P	**Pn**	**19 47 34.7**	**+0.5**
KKM	**Kota Kinabalu**	**12.35**	**284**	*e*P	**Pn**	**19 47 32.3**	**-1.8**
LUBP	**Lubang**	**13.17**	**323**	*e*P	**Pn**	**19 47 45.0**	**+0.3**
CAUP	**Cauayan**	**15.10**	**336**	*e*P	**Pn**	**19 48 07.8**	**-1.2**
KAKA	**Kakadu**	**16.29**	**165**	*e*P	**Pn**	**19 48 22.7**	**-1.1**
	98nm,0.7s						
KMMI	**Kalianget**	**17.50**	**235**	P	**Pn**	**19 48 39.3**	**+0.9**
	394nm,0.9s						
DNP	**Denpasar**	**17.54**	**228**	P	**Pn**	**19 48 44.0**	**+5.2**
	437nm,1.1s						
KSM	**Kuching**	**18.02**	**265**	*e*P	**P**	**19 48 43.4**	**+0.3**
KRKI	**Karangkates**	**19.36**	**234**	P	**P**	**19 48 59.0**	**+1.2**
	607nm,0.8s						
BJII	**Banjamegara**	**21.25**	**241**	P	**P**	**19 49 17.6**	**-0.3**
	337nm,1.3s,mb5.5						
FITZ	**Fitzroy Crossi**	**21.28**	**187**	*e*P	**P**	**19 49 16.3**	**-2.0**
	18nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**21.28**	**187**	P	**P**	**19 49 16.8**	**-1.4**
	9.4nm,0.5s,mb4.4,baz=19,slow=7.5,SNR=38						
JCJI	**Jatiwangi**	**22.14**	**244**	P	**P**	**19 49 30.1**	**+2.7**
	212nm,0.8s,mb5.6						
YHNB	**Yeheng**	**22.40**	**343**	*e*P	**P**	**19 49 29.7**	**-0.4**
PMG	**Port Moresby**	**22.58**	**124**	P	**P**	**19 49 32.4**	**+0.7**
	10nm,0.7s,mb4.4,baz=316,slow=10,SNR=4.1						
LEM	**Lembang**	**22.87**	**244**	P	**P**	**19 49 35.5**	**+1.1**
	324nm,0.9s,mb5.8						
CBJI	**Citeko**	**23.40**	**246**	P	**P**	**19 49 40.6**	**+1.4**
	451nm,0.9s,mb5.9						
JOW	**Kunigami**	**23.55**	**0**	P	**P**	**19 49 38.2**	**-2.3**
	19nm,0.5s,mb4.9,baz=109,slow=18,SNR=2.5						
WRAB	**Tennant Creek**	**23.70**	**166**	*c*eP	**P**	**19 49 41.5**	**-0.5**
WRAB	**Tennant Creek**	**23.70**	**166**	*e*P	**P**	**19 49 41.3**	**-0.7**
	39nm,2.6s,mb4.5						
WRA	**Warramunga Arr**	**23.71**	**166**	P	**P**	**19 49 42.4**	**+0.3**
	70nm,0.8s,mb5.2,baz=342,slow=10,SNR=24						
WRA				S	**S**	**19 53 42.4**	**-4.4**
	6.8nm,0.9s,baz=346,slow=16,SNR=3.4						
WRA				ScP	ScP	19 56 47.0	-0.3
	2.2nm,0.6s,baz=342,slow=3.0,SNR=7.4						
WRA	**Warramunga Arr**	**23.71**	**166**	P	**P**	**19 49 42.4**	**+0.3**
WRA				S	**S**	**19 53 42.4**	**-4.4**
WB2	**Warramunga Arr**	**23.71**	**166**	⇑*i*P	**P**	**19 49 41.3**	**-0.8**
SBJI	**Serang**	**23.95**	**247**	P	**P**	**19 49 45.1**	**+0.9**
	198nm,1.2s,mb5.5						
QIZ	**Qiongzhong**	**23.95**	**313**	⇓*i*P	**P**	**19 49 45.0**	**+0.7**
QIZ				S	**S**	**19 53 51.8**	**+1.2**
QIZ				XS	sS	19 54 40.5	-1.4
QIZ				AMB	AMB		
	comp=Z,29nm,0.9s,mb4.8						
KLI	**Kotabumi**	**24.71**	**251**	P	**P**	**19 49 53.9**	**+2.8**
	comp=Z,221nm,0.9s,mb5.7						
AS31	**Alice Springs**	**27.21**	**169**	⇓*i*P	**P**	**19 50 13.5**	**-0.2**
AS31				*e*		19 53 30.8	
AS31				*e*S	PcS	19 57 10.5	-1.4
AS31				*e*ScS	ScS	20 00 46.3	-2.7
ASAR	**Alice Springs**	**27.21**	**169**	P	**P**	**19 50 13.2**	**-0.4**
	comp=Z,6.7nm,0.4s,mb4.6,baz=350,slow=6.9,SNR=194						
ASAR				PcP	PcP	19 53 31.0	+0.8
	comp=Z,15nm,0.6s,baz=355,slow=2.2,SNR=17						
ASAR				ScP	ScP	19 56 56.8	-0.6
	comp=Z,2.9nm,0.7s,baz=346,slow=2.7,SNR=7.5						
ASAR				PKiKP	PKiKP	20 01 07.2	-0.1
	comp=Z,0.4nm,0.6s,baz=353,slow=2.1,SNR=4.5						
ASAR				P3KPbc		20 22 45.6	
	comp=Z,0.6nm,0.7s,baz=164,slow=4.3,SNR=6.9						
ASAR	**Alice Springs**	**27.21**	**169**	P	**P**	**19 50 13.3**	**-0.4**
ASAR						19 53 31.0	
ASAR	**Alice Springs**	**27.21**	**169**	P	**P**	**19 50 13.2**	**-0.4**
ASAR				PcP	PcP	19 53 31.0	+0.8
ASAR				ScP	ScP	19 56 56.8	-0.6
ASPA	**Alice Springs**	**27.21**	**169**	⇓*i*P	**P**	**19 50 13.5**	**-0.2**
ASPA				*e*		19 53 30.8	
ASPA				*e*S	PcS	19 57 10.5	-1.4
ASPA				*e*SCS	ScS	20 00 46.3	-2.7
KULM	**Kulim**	**27.62**	**275**	*e*P	**P**	**19 50 17.0**	**-0.3**
KKTK	**Khon Kaen**	**28.24**	**299**	⇓P	**P**	**19 50 23.0**	**+0.2**
	comp=Z,370nm,0.6s						
CTA	**Charters Tower**	**29.07**	**143**	*e*P	**P**	**19 50 30.1**	**-0.1**
	comp=Z,11nm,0.7s,mb4.7						
CTA	**Charters Tower**	**29.07**	**143**	P	**P**	**19 50 31.4**	**+1.2**
	comp=Z,13nm,0.7s,mb4.8,baz=322,slow=12,SNR=16						
CTA				ScP	ScP	19 57 05.5	+2.3
	comp=Z,2.4nm,0.7s,baz=350,slow=6.1,SNR=2.9						
CTA	**Charters Tower**	**29.07**	**143**	*e*P	**P**	**19 50 30.1**	**-0.1**
CTA				pmax	pmax		
	comp=Z,11nm,0.7s						
PSI	**Prapat**	**29.30**	**270**	P	**P**	**19 50 32.4**	**+0.2**
	comp=Z,11nm,0.7s,mb4.7,baz=91,slow=4.0,SNR=18						
PSI				ScP	ScP	19 57 02.5	-1.5
	comp=Z,3.6nm,0.7s,baz=73,slow=1.9,SNR=4.5						
PSI	**Prapat**	**29.30**	**270**	P	**P**	**19 50 32.4**	**+0.2**
PSI				ScP	ScP	19 57 02.5	-1.5
NJ2	**Nanjing**	**30.08**	**344**	*e*P	**P**	**19 50 36.3**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
WHN	**Wuhan**	**30.26**	**336**	P	**P**	**19 50 42.0**	**+1.4**
NST	**Nakhon Sawan**	**30.36**	**296**	P	**P**	**19 50 42.5**	**+0.9**
GYA	**Guiyang**	**31.08**	**320**	P	**P**	**19 50 44.9**	**-3.0**
GYA				PCP	PcP	19 53 41.5	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CM31	**Chiang Mai Arr**	**32.49**	**300**	P	**P**	**19 50 57.9**	**-2.3**
CHG	**Chiang Mai**	**32.63**	**301**	⇓P	**P**	**19 51 02.2**	**+0.7**
	comp=Z,23nm,0.7s,mb5.0						
KMI	**Kunming**	**32.88**	**314**	P	**P**	**19 51 05.1**	**+1.5**
KMI				AP	pP	19 51 34.8	+1.1
KMI				XP	sP	19 51 50.3	+0.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,247nm,5.9s						
KMI	**Kunming**	**32.88**	**314**	P	**P**	**19 51 05.1**	**+1.5**
	comp=Z,9.0nm,1.3s,mb4.3						
KMI				pP	pP	19 51 34.8	+1.1
KMI				sP	sP	19 51 50.2	+0.4
FORT	**Forrest**	**33.74**	**180**	*e*P	**P**	**19 51 10.0**	**-1.1**
	comp=Z,39nm,0.7s,mb5.2						
FORT				*e*		19 53 47.8	
MJAR	**Matsushiro Arr**	**34.47**	**14**	P	**P**	**19 51 16.9**	**-0.4**
	comp=Z,20nm,0.7s,mb5.0,baz=184,slow=9.2,SNR=56						
MJAR				PcP	PcP	19 53 50.8	+1.3
	comp=Z,5.7nm,0.7s,baz=189,slow=3.2,SNR=9.4						
MAT	**Matsushiro**	**34.47**	**14**	P	**P**	**19 51 16.8**	**-0.6**
KLBR	**Kellerberrin**	**35.97**	**195**	*e*P	**P**	**19 51 29.1**	**-1.1**
	comp=Z,38nm,0.7s,mb5.1						
CD2	**Chengdu**	**36.02**	**323**	P	**P**	**19 51 31.1**	**+0.4**
CD2				AP	pP	19 52 01.8	+0.7
CD2				XP	sP	19 52 18.3	+1.2
CD2				PP	PP	19 52 57.8	+2.4
CD2				S	**S**	**19 56 58.8**	**-0.3**
CD2				XS	sS	19 57 52.4	+0.1
CD2				SS	SS	19 59 30.4	-10
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
DL2	**Dalian**	**36.10**	**351**	P	**P**	**19 51 32.3**	**+1.0**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
MUN	**Mundaring**	**36.77**	**197**	*e*P	**P**	**19 51 45.6**	**+8.6**
STKA	**Stephens Creek**	**37.07**	**161**	*e*P	**P**	**19 51 39.6**	**+0.1**
	comp=Z,54nm,0.4s,mb5.5						
STKA	**Stephens Creek**	**37.07**	**161**	P	**P**	**19 51 39.7**	**+0.2**
	comp=Z,61nm,0.4s,mb5.6,baz=341,slow=7.8,SNR=399						
STKA				PcP	PcP	19 53 57.9	+0.7
	comp=Z,14nm,0.7s,baz=331,slow=4.6,SNR=3.5						
NWAO	**Narrogin (SRO)**	**37.37**	**195**	P	**P**	**19 51 41.4**	**-0.7**
	comp=Z,17nm,0.5s,mb4.9,baz=28,slow=8.4,SNR=17						
NWAO				PcP	PcP	19 53 58.6	+0.5
	comp=Z,14nm,0.7s,baz=35,slow=5.1,SNR=4.7						
BJI	**Beijing**	**38.32**	**345**	P	**P**	**19 51 50.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,49nm,0.7s,mb5.2						
BJI	**Beijing**	**38.32**	**345**	P	**P**	**19 51 50.0**	**-0.1**
	comp=Z,49nm,0.7s,mb5.2						
LZH	**Lanzhou**	**39.79**	**328**	⇑P	**P**	**19 52 03.5**	**+1.3**
LZH				PP	PP	19 53 35.3	-1.2
LZH				*e*S	**S**	**19 57 56.9**	**+1.1**
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,93nm,5.4s						
LZH				LR	LR		
	comp=E,765nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,17.3s						
LZH	**Lanzhou**	**39.79**	**328**	⇑P	**P**	**19 52 03.5**	**+1.3**
LZH						19 53 35.2	
LZH				*e*S	**S**	**19 57 56.9**	**+1.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,17.3s						
LZH	**Lanzhou**	**39.79**	**328**	⇑P	**P**	**19 52 03.5**	**+1.3**
	comp=Z,25nm,1.3s,mb4.7						
LZH				pP	pP	19 52 09.6	-24
LZH				sP	sP	19 52 12.7	-36
LZH				PP	PP	19 53 35.2	-1.3
LZH				*e*S	**S**	**19 57 56.9**	**+1.1**
LZH				sS	sS	19 58 07.2	-42
LZH				SS	SS	20 00 36.4	-21
LZH				LR	LR		

comp=Z,21nm,0.7s,mb5.0
MOY Mondy 53.45 339 *eP* **P 19 53 49.7 +1.1**
MOY pmax pmax
comp=Z,38nm,2.7s,mb4.7
CLNS Chul'man 53.60 358 *eP* **P 19 53 47.5 -2.1**
CLNS pmax pmax
comp=Z,26nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,26nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
WMQ Urumqi 54.08 324⇑ *iP* **P 19 53 54.8 +1.7**
WMQ AP pP 19 54 25.0 -0.7
WMQ XP sP 19 54 39.0 -2.2
WMQ PCP PcP 19 54 58.0 +1.8
WMQ SCP ScP 19 58 43.0 +1.9
WMQ S **S 20 01 19.0 +0.4**
WMQ AMB AMB
comp=Z,46nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,233nm,6.6s
NDI New Delhi 54.72 303 *eP* **P 19 53 57.1 -0.7**
NDI AMb AMB 19 54 01.1
comp=Z,27nm,0.4s,mb5.3
KAD Karad 54.85 289 *eP* **P 19 53 58.0 -0.8**
KAD AMb AMB 19 54 04.1
comp=Z,15nm,2.0s,mb4.4
POO Poona 55.35 290 *eP* **P 19 54 00.0 -2.3**
BOD Bodaibo 55.67 351 *eP* **P 19 54 03.5 -1.1**
BOD pmax pmax
comp=Z,12nm,1.2s,mb4.6
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SDNR Sundarnagar 55.83 306 *eP* **P 19 54 06.5 +0.8**
AJM Ajmer 56.29 300 *eP* **P 19 54 10.0 +1.0**
AJM AMb AMB 19 54 12.8
comp=Z,15nm,0.7s,mb5.0
THN Thein Dam 57.14 307 *eP* **P 19 54 14.5 -0.5**
YAK Yakutsk 58.75 1c *iP* **P 19 54 25.8 -0.4**
YAK pmax pmax
comp=Z,156nm,0.8s,mb5.9
MA2 Magadan 58.90 13⇑ *eP* **P 19 54 26.4 -0.9**
MA2 pmax pmax
comp=Z,113nm,1.7s,mb5.4
MK31 Makanchi Array 58.91 325 *eP* **P 19 54 27.3 0.0**
MKAR Makanchi Array 58.91 325 P **P 19 54 27.3 0.0**
comp=Z,33nm,0.6s,mb5.3,baz=116,slow=8.2,SNR=332
MKAR ScP ScP 19 59 00.8 -1.6
comp=Z,2.3nm,0.8s,baz=114,slow=5.4,SNR=4.5
MKAR Makanchi Array 58.91 325 P **P 19 54 27.3 0.0**
MKAR ScP ScP 19 59 00.8 -1.6
KRAR Krasnoyarsk 59.85 338⇑ *eP* **P 19 54 33.2 -0.5**
KRAR pmax pmax
comp=Z,14nm,0.7s,mb4.9
TKM2 Tokmak 2 61.20 318 P **P 19 54 43.4 +0.5**
SNR=13
KBK Karagaybulak 61.52 318 P **P 19 54 45.7 +0.7**
SNR=5.5
UCH Uchtor 61.64 317 P **P 19 54 47.6 +1.8**
SNR=17
ZAL Zalesovo 61.80 333 P **P 19 54 46.3 -0.6**
comp=Z,4.9nm,0.6s,mb4.5,baz=352,slow=6.0,SNR=24
AAK Ala-Archa 61.81 318⇓ *iP* **P 19 54 46.7 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
AAK Ala-Archa 61.81 318 *eP* **P 19 54 46.9 -0.2**
comp=Z,2.4nm,0.6s,mb4.2
USP Ospenovka 62.07 318 P **P 19 54 48.9 +0.1**
SNR=17
AML Almayashu 62.16 317 P **P 19 54 51.3 +2.0**
SNR=14
SEY Seymchan 62.26 12 *dP* **P 19 54 51.5 +1.5**
EKS2 Erkin-Say 62.31 317 P **P 19 54 51.4 +1.1**
SNR=17
NVS Novosibirsk 63.08 333⇑ *iP* **P 19 54 52.9 -2.6**
NVS *i* 19 55 41.0
NVS *eS* **S 20 03 06.9 -8.2**
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=Z,17nm,0.7s,mb5.0
NVS pmax pmax
comp=E,11nm,0.6s
NVS smax
comp=N,20nm,2.5s
NVS smax
comp=E,25nm,2.1s
BVAR Borovoye Array 68.64 327 P **P 19 55 30.6 -0.4**
comp=E,14nm,0.7s,mb4.8,baz=128,slow=8.1,SNR=83
BRVK Borovoye 68.71 327 *eP* **P 19 55 30.6 -0.9**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.0
BRVK Borovoye 68.71 327 *eP* **P 19 55 30.6 -0.9**
comp=Z,20nm,0.6s,mb5.0
CHKZ Chkalovo 68.79 327 *eP* **P 19 55 30.6 -1.4**
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
CHKZ Chkalovo 68.79 327 *eP* **P 19 55 30.6 -1.4**
comp=Z,8.6nm,0.8s,mb4.5
ZRNK Zerenda 69.38 326 *eP* **P 19 55 34.3 -1.3**
ZRNK pmax pmax
comp=Z,20nm,0.6s,mb5.0
ZRNK Zerenda 69.38 326 *eP* **P 19 55 34.3 -1.2**
comp=Z,20nm,0.6s,mb5.0
BILL Bilibino 69.72 14⇓ *eP* **P 19 55 38.3 +0.6**
BILL pmax pmax
comp=Z,27nm,1.6s,mb4.7
WSAR Wadi Sarin 70.06 293 P **P 19 55 39.5 -0.2**
comp=Z,3.7nm,0.6s,mb4.3,baz=125,slow=4.7,SNR=8.3
CASY Casey 70.44 188⇑ *iP* **P 19 55 42.1 +0.1**
MIR Mirnyy 73.96 194 *diP* **P 19 56 04.0 +1.0**
MIR pmax pmax
comp=Z,200nm,1.0s,mb5.8
AKTK Aktyubinsk 75.06 321 P **P 19 56 09.1 -0.3**
AKTO Aktyubinsk 75.06 321 P **P 19 56 09.1 -0.3**
comp=Z,8.4nm,0.8s,mb4.4,baz=107,slow=7.1,SNR=28
ARU Arti 76.24 328⇓ *iP* **P 19 56 14.8 -1.3**
ARU *e* 19 56 32.8
ARU *e* 19 59 05.6
ARU *e*PPP 20 00 53.2
ARU *eS* S 20 05 52.5 +3.5
ARU *e*SS SS 20 10 41.7 -3.9
ARU *e*SSS 20 13 58.0
ARU pmax pmax
comp=Z,12nm,0.7s,mb4.6
ARU Arti 76.24 328 *eP* **P 19 56 13.8 -2.2**
comp=Z,15nm,0.6s,mb4.8
ORR Orenburg 77.33 322 *eP* **P 19 56 21.7 -0.5**
ORR *i* 19 57 03.0
ORR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
SVW2 Sparrevohn 80.57 29 *eP* **P 19 56 40.5 +0.7**
KDAK Kodiak Island 81.56 32 P **P 19 56 46.2 +1.2**
comp=Z,25nm,0.7s,mb4.9,baz=284,slow=2.9,SNR=17
KDAK Kodiak Island 81.56 32 *eP* **P 19 56 46.3 +1.3**
comp=Z,24nm,0.8s,mb4.9
IMA2 Indian Mountai 82.29 24 *eP* **P 19 56 50.1 +1.2**
VNDA Vanda 82.67 173 P **P 19 56 50.5 -0.4**
comp=Z,9.3nm,0.7s,mb4.6,baz=319,slow=6.1,SNR=79
VNDA Vanda 82.67 173 *eP* **P 19 56 49.8 -1.0**
VNDA pmax pmax
comp=Z,10.0nm,0.8s
VNDA Vanda 82.67 173 *eP* **P 19 56 49.8 -1.0**
comp=Z,9.7nm,0.8s,mb4.6
GNI Garni 83.03 310⇑ *eP* **P 19 56 53.5 +0.8**
GNI pmax pmax
comp=Z,7.0nm,1.3s
SLKM Skilak Lake 83.09 30 *eP* **P 19 56 53.3 +0.3**
PMR Palmer 83.72 28 *eP* **P 19 56 56.2 0.0**
PMR pmax pmax
comp=Z,34nm,0.8s,mb5.1
PMR Palmer 83.72 28 *eP* **P 19 56 56.1 -0.1**
comp=Z,34nm,0.8s,mb5.1
ZEI Tsey 83.74 313 *eP* **P 19 56 55.5 -0.8**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MAW Mawson 83.75 201 *eP* **P 19 56 56.2 -0.2**
comp=Z,6.8nm,0.8s,mb4.4
MAW Mawson 83.75 201 P **P 19 56 56.5 +0.1**
comp=Z,7.4nm,0.7s,mb4.5,baz=74,slow=6.5,SNR=20
MAW Mawson 83.75 201 *eP* **P 19 56 56.2 -0.2**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 84.00 26 *eP* **P 19 56 56.9 -0.7**
MCK pmax pmax
comp=Z,21nm,1.2s,mb4.7
MCK McKinley 84.00 26 *eP* **P 19 56 56.9 -0.7**
comp=Z,20nm,1.2s,mb4.7
COLA College 84.56 25⇑ *eP* **P 19 57 00.3 -0.2**
KIV Kislovodsk 84.64 314 *iP* **P 19 57 00.7 -0.2**
DIV Divide 85.31 29 *eP* **P 19 57 05.9 +1.7**
comp=Z,197nm,1.1s,mb5.8
VRHR Novokhopersk 85.45 321 *eP* **P 19 57 05.0 +0.1**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.4s
EGAK Eagle 87.42 25 *eP* **P 19 57 14.8 +0.2**
comp=E,3.9nm,0.6s,mb4.4
OBN Obninsk 88.41 325⇓ *eP* **P 19 57 17.6 -1.6**
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
JOF Joensuu 90.39 333 *ep* **P 19 57 26.5 -1.9**
comp=Z,2.8nm,0.6s,mb4.4
KMBO Kilima Mbogo 91.07 269 P **P 19 57 30.6 -1.1**
comp=Z,0.7nm,0.4s,mb4.0,baz=53,slow=20,SNR=2.2
ARCES ARCESS Array B 91.52 340 P **P 19 57 32.2 -1.4**
comp=Z,6.6nm,0.7s,mb4.8,baz=81,slow=5.9,SNR=17
BRTR Keskin Array B 91.57 310 P **P 19 57 33.6 -0.4**
comp=Z,0.5nm,0.6s,baz=70,slow=3.5,SNR=3.4
SYO Syowa Base 92.44 201⇑ *eP* **P 19 57 37.8 -0.1**
KAF Kangasniemi 92.82 333 *ep* **P 19 57 37.4 -2.3**
QSPA South Pole Qui 93.06 180 *eP* **P 19 57 40.9 +0.1**
comp=Z,14nm,0.8s,mb5.1
FINES FINESS Array B 93.06 332 P **P 19 57 39.4 -1.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=46,slow=5.5,SNR=10
FINES FINESS Array B 93.06 332 *iP* **P 19 57 40.5 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 93.31 321 P **P 19 57 40.9 -1.0**
comp=Z,1.6nm,0.7s,mb4.3,baz=68,slow=4.8,SNR=6.5
MLR Muntele Rosu 96.38 316 P **P 19 57 55.2 -0.8**
comp=Z,2.4nm,0.7s,mb4.6,baz=162,slow=18,SNR=3.4
YKA Yellowknife Ar 99.38 25 P Pdif 19 58 09.8 +0.4
comp=Z,2.0nm,0.6s,baz=295,slow=4.3,SNR=7.5
YKA Yellowknife Ar 99.38 25⇑ *eP* Pdif 19 58 09.8 +0.3
NB2 NORSAR Subarra 99.98 334 P Pdif 19 58 10.4 -1.7
comp=Z,2nm,0.7s,baz=69,slow=5.6
NOA NORSAR Array B 99.98 334 P Pdif 19 58 10.1 -2.0
comp=Z,1.0nm,0.7s,baz=66,slow=4.6,SNR=5.5
NOA NORSAR Array B 99.98 334 P Pdif 19 58 10.1 -2.0
GERES GERESS Array B 103.49 322 PKiKP PKiKP 20 02 46.9 +1.2
comp=Z,0.3nm,0.4s,baz=235,slow=3.5,SNR=2.9
NVAR Mina Array Bea 106.14 49 PKiKP PKiKP 20 02 53.9 +3.2
comp=Z,0.6nm,0.7s,baz=284,slow=3.1,SNR=5.1
PDAR Pinedale Array 110.77 42 PKKPbc PKKPbc 20 13 59.5 +1.9
comp=Z,0.2nm,0.8s,baz=111,slow=4.9,SNR=2.7
PHWY Pilot Hill 114.16 42 *e*PKiKP PKiKP 20 03 06.2 +0.5
ULM Lac du Bonnet 114.72 29 PKP PKiKP 20 03 06.3 -0.5
comp=Z,2.9nm,0.6s,baz=112,slow=1.8,SNR=6.3
ULM Lac du Bonnet 114.72 29 PKP PKiKP 20 03 06.3 -0.5
ISCO Idaho Springs 114.75 43 *e*PKiKP PKiKP 20 03 08.8 +1.9
ANMO Albuquerque 116.27 48⇑ *i*PKiKP PKPdf 20 03 12.4 +2.6
ESDC Sonseca Array 118.90 319 PKP PKPdf 20 03 15.1 +0.2
comp=Z,0.6nm,0.6s,baz=17,slow=2.3,SNR=6.5
TOA0 Torodi Ar. Sit 124.56 288 *e*PKPdf PKPdf 20 03 26.6 +0.9
TORD Torodi Ar. Bea 124.56 288 PKP PKPdf 20 03 26.4 +0.7
comp=Z,3.4nm,0.4s,baz=80,slow=1.6,SNR=94
TORD PKKPbc PKKPbc 20 13 10.4 +2.2
comp=Z,0.4nm,0.7s,baz=280,slow=2.2,SNR=5.2
CCM Cathedral Cave 125.07 38 *e*PKiKP PKPdf 20 03 25.3 -1.4
FWV Forest Hill 131.31 31 *e*PKPdf PKPdf 20 03 40.4 +1.9
ELN Prospectdale 131.61 31 *e*PKPdf PKPdf 20 03 40.4 +1.3
DBIC Dimbokro 132.20 282 PKP PKPdf 20 03 40.9 +0.7
comp=Z,6.2nm,0.8s,baz=72,slow=2.5,SNR=10
DBIC SKPbc SKPbc 20 06 52.8 -1.0
comp=Z,5.7nm,0.7s,baz=84,slow=4.5,SNR=10
PLCA Paso Flores 138.91 158 PKP PKPdf 20 03 52.6 -0.1
comp=Z,6.4nm,0.7s,baz=278,slow=4.0,SNR=6.2
ROSC El Rosal 156.06 71 PKPab PKPab 20 04 53.0 +4.3
comp=Z,20nm,0.8s,baz=90,slow=15,SNR=12
CPUP Villa Florida 156.34 167 PKP PKPdf 20 04 22.4 +1.4
comp=Z,0.7nm,0.4s,baz=184,slow=1.7,SNR=4.4
CPUP PKPab PKPab 20 04 51.2 +1.3
comp=Z,11nm,0.7s,baz=126,slow=3.7,SNR=2.9
CPUP Villa Florida 156.34 167 *e*PKPdf PKPdf 20 04 22.6 +1.6
CPUP *e* 20 04 32.2
CPUP *e*PKPab PKPab 20 04 51.3 +1.4
BDFB Brasilia 167.06 196 PKP PKPdf 20 04 31.9 -0.1
comp=Z,0.6nm,0.3s,baz=34,slow=5.2,SNR=3.3

IDC 15 20:16:37.1±3.1,351S×13374E,h0km,mb3.2/2,mb1 3.6/4, mb1mx3.4/13,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=132.1km s-min=28.7km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.34**	**178**	Pn	Pn	20 20 27.9	+0.1
	0.1nm,0.3s,baz=354,slow=13,SNR=10.0						
FITZ	**Fitzroy Crossi**	**16.53**	**208**	Pn	Pn	20 20 30.5	+0.3
	0.1nm,0.3s,baz=39,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**20.04**	**180**	P	P	20 21 11.8	+0.3
	0.8nm,0.5s,baz=6.6,slow=12,SNR=8.6						
MKAR	**Makanchi Array**	**67.47**	**324**	P	P	20 27 34.9	+0.2
	0.2nm,0.3s,baz=108,slow=8.1,SNR=5.6						

*BJI **15** 20:35:14.4, 19.15N×156.08W, h9km, mB4.9, mb4.7, Ms5.0, Msz4.7*
*IDC **15** 20:35:18.8±1.0, 2005N×156.08W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.2/22, mbtmp4.2/10, Error ellipse: s-maj=48.1km s-min=20.7km az=145.0*
*ISCJB **15** 20:35:19.6±1.2, 2002N±006×156.14W±006, h14km±8km, mb4.4/37, MS4.9/1, Error ellipse: s-maj=10.1km s-min=9.5km az=79.8*
*NEIC **15** 20:35:21.0, 2009N×155.97W, h10km, mb4.4/21, After HVO.*
NEIC Felt [III] at Kailua Kona, Kamuela and Kihei; [II] at Kula. Also felt at Captain Cook, Ewa Beach, Haiku, Hana, Hilo, Holualoa, Honolulu, Kapolei, Kaunakakai, Lahaina, Makawao, Volcano, Waialua and Waikoloa.
ISC 15 20:35:19.7±1.1,2005N±005×15616W±006,h2km±7km, h17km±5.5km:pP-P,n60,σ1°14/61,mb4.4/37,MS4.9/1,1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.41**	**162**⇑	*iP*	**Pg**	**20 35 29.2**	**+1.5**
KKH				S	**Sg**	**20 35 32.4**	**-0.6**
HKL	**Haleakala**	**0.66**	**352**	*eP*	**Pg**	**20 35 32.7**	**+0.3**
HPO	**Honuapo**	**1.11**	**149**	*iP*	**Pg**	**20 35 37.8**	**-3.2**
HON	**Honolulu**	**2.14**	**307**	*eP*	**Pn**	**20 35 53.8**	**-2.6**
HON				S	**Sn**	**20 36 18.8**	**-4.7**
SAC	**San Andreas**	**34.10**	**52**	*eP*	**P**	**20 41 58.6**	**-7.0**
YBH	**Yreka Blue Hor**	**35.59**	**45**	P	**P**	**20 42 20.3**	**+1.8**
	1.5nm,0.7s,mb4.0,baz=246,slow=11,SNR=3.6						
CMB	**Columbia Colle**	**35.76**	**52**	P	**P**	**20 42 16.0**	**-4.0**
ISA	**Isabella**	**36.52**	**57**	P	**P**	**20 42 26.8**	**+0.4**
COR	**Corvallis**	**36.61**	**41**	*eP*	**P**	**20 42 27.1**	**0.0**
NVAR	**Mina Array Bea**	**37.44**	**52**	P	**P**	**20 42 32.9**	**-1.4**
	1.0nm,0.8s,mb3.7,baz=251,slow=11,SNR=5.3						
NVAR				PcP	PcP	20 44 53.2	+0.3
	0.3nm,0.3s,baz=240,slow=5.1,SNR=4.3						
PGC	**Sidney**	**38.77**	**35**	P	**P**	**20 42 45.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**41.13**	**8**	*eP*	**P**	**20 43 06.2**	**+1.1**
PMR	**Palmer**	**41.79**	**5**	*eP*	**P**	**20 43 10.8**	**+0.3**
	4.7nm,0.6s,mb4.3						
HLID	**Hailey**	**41.93**	**46**	*eP*	**P**	**20 43 12.7**	**+1.0**
	2.8nm,0.6s,mb4.1						
NEW	**Newport**	**42.14**	**39**	P	**P**	**20 43 14.1**	**+0.7**
	4.4nm,0.9s,mb4.1,baz=256,slow=7.1,SNR=8.3						
NEW	**Newport**	**42.14**	**39**	*eP*	**P**	**20 43 13.9**	**+0.5**
	3.8nm,1.0s,mb4.0						
WUAZ	**Wupatki**	**42.14**	**59**	*eP*	**P**	**20 43 14.5**	**+1.1**
	6.4nm,1.0s,mb4.2						
TUC	**Tucson**	**42.22**	**64**	*eP*	**P**	**20 43 13.1**	**-1.0**
	1.0nm,0.6s,mb3.6						
HVU	**Hansel Valley**	**42.50**	**50**	*eP*	**P**	**20 43 16.5**	**+0.1**
	3.9nm,0.6s,mb4.3						
SPUT	**South Promonto**	**42.60**	**50**	*eP*	**P**	**20 43 16.3**	**-0.8**
HWUT	**Hardware Ranch**	**43.32**	**50**	*eP*	**P**	**20 43 21.9**	**-1.1**
	2.3nm,0.8s,mb4.0						
SRU	**San Rafael**	**43.48**	**54**	*eP*	**P**	**20 43 25.2**	**+1.0**
	5.3nm,0.8s,mb4.3						
DLMT	**Dillon**	**43.78**	**45**	*eP*	**P**	**20 43 27.5**	**+0.8**
	8.0nm,1.0s,mb4.4						
MCK	**McKinley**	**43.93**	**5**	*eP*	**P**	**20 43 26.9**	**-0.9**
	4.1nm,1.1s,mb4.1						
CHMT	**Chamberlain Mo**	**43.93**	**42**	*eP*	**P**	**20 43 27.8**	**-0.1**
LRM	**Limekiln Ridge**	**44.04**	**44**	*eP*	**P**	**20 43 28.6**	**-0.1**
WALA	**Waterton Lakes**	**44.40**	**39**	*eP*	**P**	**20 43 32.4**	**+0.8**
	11nm,0.6s,mb4.8						
LOHW	**Long Hollow**	**44.57**	**48**	P	**P**	**20 43 29.5**	**-3.5**
	4.0nm,0.5s,mb4.5						
YMR	**Madison River**	**44.64**	**46**	P	**P**	**20 43 36.0**	**+2.4**
	56nm,0.8s,mb5.4						
COLA	**College**	**45.14**	**5**	*eP*	**P**	**20 43 36.8**	**-0.8**
	3.5nm,0.7s,mb4.3						
DAWY	**Dawson**	**45.42**	**10**	*eP*	**P**	**20 43 40.5**	**+0.8**
EGAK	**Eagle**	**45.81**	**9**	*eP*	**P**	**20 43 43.7**	**+0.8**
	12nm,1.0s,mb4.8						
ANMO	**Albuquerque**	**46.06**	**60**	P	**P**	**20 43 45.3**	**+0.5**
	2.7nm,0.8s,mb4.2,baz=255,slow=9.2,SNR=8.4						
ANMO	**Albuquerque**	**46.06**	**60**	*eP*	**P**	**20 43 44.4**	**-0.5**
	2.6nm,0.8s,mb4.2						
SMCO	**Snowmass**	**46.21**	**55**	P	**P**	**20 43 47.2**	**+1.2**
	3.6nm,0.6s,mb4.5						
EDM	**Edmonton**	**46.60**	**34**	*eP*	**P**	**20 43 48.4**	**-0.7**
MNTX	**Cornudas Mount**	**46.77**	**65**	P	**P**	**20 43 51.0**	**+0.6**
	8.5nm,1.0s,mb4.6						
SDCO	**Great Sand Dun**	**47.14**	**57**	*eP*	**P**	**20 43 52.8**	**-0.5**
	2.6nm,0.6s,mb4.3						
INK	**Inuvik**	**50.28**	**11**	P	**P**	**20 44 16.4**	**-1.1**
	8.9nm,0.9s,mb4.8,baz=205,slow=7.6,SNR=10.0						
WMOK	**Wichita Mounta**	**52.36**	**61**	*eP*	**P**	**20 44 31.9**	**-1.1**
	1.0nm,0.6s,mb3.9						
ULM	**Lac du Bonnet**	**55.91**	**42**	P	**P**	**20 44 56.3**	**-2.6**
	3.2nm,0.7s,mb4.5,baz=264,slow=8.1,SNR=6.1						
TKL	**Tuckaleechee C**	**64.56**	**59**	P	**P**	**20 45 56.5**	**-1.8**
	2.2nm,1.0s,mb4.2,baz=207,slow=6.8,SNR=3.6						
YAK	**Yakutsk**	**65.07**	**330**	P	**P**	**20 46 00.8**	**-0.8**
MDJ	**Mudanjiang**	**65.11**	**311**	P	**P**	**20 46 03.6**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,3.0nm,2.3s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,169nm,4.7s						
CN2	**Changchun**	**68.16**	**310**	*eP*	**P**	**20 46 23.0**	**+1.7**
WRAB	**Tennant Creek**	**78.79**	**244**	P	**P**	**20 47 24.9**	**+1.0**
HHC	**Hu-ho-hao-te**	**78.83**	**309**	*eP*	**P**	**20 47 21.8**	**-2.3**
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,160nm,5.5s						
STKA	**Stephens Creek**	**78.85**	**230**	P	**P**	**20 47 25.1**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=14,slow=8.3,SNR=3.2						
SUMG	**Summit**	**78.85**	**16**	*eP*	**P**	**20 47 24.3**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**80.81**	**241**	P	**P**	**20 47 34.6**	**-0.3**
	comp=Z,1.1nm,1.0s,mb3.8,baz=69,slow=6.1,SNR=6.7						
SDV	**Santo Domingo**	**82.83**	**83**	*eP*	**P**	**20 47 45.9**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.5						
LZH	**Lanzhou**	**86.12**	**307**	*eP*	**P**	**20 48 02.1**	**-0.1**
LZH				AP	pP	20 48 05.3	+2.3
LZH				XP	sP	20 48 06.8	+3.5
LZH				PP	PP	20 51 24.3	+1.9
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,45nm,8.3s						
LZH				LR	LR		
	comp=N,315nm,15.4s						
LZH				LR	LR		
	comp=Z,432nm,18.3s,MS4.9						
GTA	**Gaotai**	**87.77**	**311**	*eP*	**P**	**20 48 12.6**	**+2.4**
GTA				AP	pP	20 48 17.0	+6.0
GTA				XP	sP	20 48 19.8	+8.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.3						
CD2	**Chengdu**	**88.12**	**302**	*eP*	**P**	**20 48 12.4**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**89.71**	**329**	P	**P**	**20 48 18.9**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.4,baz=58,slow=4.2,SNR=9.5						
KMI	**Kunming**	**91.16**	**297**	P	**P**	**20 48 21.9**	**-4.2**
KMI				AP	pP	20 48 31.8	+4.9
KMI				XP	sP	20 48 36.9	+10
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.8						
WMQ	**Urumqi**	**93.71**	**319**	*eP*	**P**	**20 48 36.0**	**-1.9**
LVC	**Limon Verde**	**95.08**	**112**	P	**P**	**20 48 43.4**	**-0.8**
MKAR	**Makanchi Array**	**95.19**	**324**	P	**P**	**20 48 44.6**	**0.0**
	comp=Z,0.8nm,1.0s,mb4.1,baz=35,slow=4.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**140.46**	**35**	PKP	PKPdf	20 54 50.9	+0.5
	comp=Z,0.8nm,0.8s,baz=320,slow=3.5,SNR=5.4						

*ISCJB **15** 20:49:41.1±0.5, 44.74N±007×142.03E±009, h265km±4km, mb3.3/5, Error ellipse: s-maj=10.7km s-min=10.0km az=65.4*
*JMA **15** 20:49:41.3±0.2, 44.83N×141.95E, h263km±2km, M2.7*
*IDC **15** 20:49:42.0±0.8, 44.68N×141.99E, h262km±10km, mb3.1/5, mb1 3.2/6, mb1mx2.9/22, mbtmp3.7/6, Error ellipse: s-maj=38.0km s-min=24.0km az=170.0*
ISC 15 20:49:41.9±0.5,4472N±006×14204E±009,h261km±4km, n22,σ0°90/32,mb3.3/5,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.35**	**202**	P	**Pn**	**20 50 15.8**	**+0.1**
JSS				*eS*	S	20 50 42.0	-0.3
JSE	**Soyaes**	**0.46**	**59**	P	**Pn**	**20 50 15.4**	**-0.5**
JSE				*eS*	S	20 50 41.1	-1.7
JYG	**Yagishiri**	**0.53**	**236**	P	**Pn**	**20 50 15.8**	**-0.3**
JYG				*eS*	**S**	**20 50 42.5**	**-0.6**
ASAJ	**Asahikawa**	**0.73**	**146**	P	**Pn**	**20 50 17.2**	**+0.4**
	2.2nm,0.3s,baz=27,slow=6.8,SNR=18						
ASAJ				S	**S**	**20 50 45.3**	**+0.9**
	0.8nm,0.3s,baz=17,slow=19,SNR=9.8						
ASAJ	**Asahikawa**	**0.73**	**146**	P	**Pn**	**20 50 17.2**	**+0.4**
ASAJ				*eS*	**S**	**20 50 45.1**	**+0.7**
JKK2	**Kamakawa 2**	**0.99**	**149**	P	**Pn**	**20 50 18.7**	**+0.6**
JKK2				*eS*	**S**	**20 50 48.0**	**+1.4**
JTKR	**Abashiri--Toko**	**1.54**	**119**	P	**Pn**	**20 50 22.1**	**+0.6**
JTKR				*eS*	**S**	**20 50 53.5**	**+0.6**
JAR	**Ashorobuto**	**1.90**	**138**	P	**Pn**	**20 50 25.5**	**+1.1**
JAR				*eS*	**S**	**20 50 59.3**	**+1.3**
JEW	**Eniwo**	**1.93**	**193**	*eS*	**S**	**20 50 59.8**	**+1.3**
JCH	**Churui**	**2.32**	**155**	P	**Pn**	**20 50 27.6**	**-0.6**
JCH				*eS*	**S**	**20 51 02.8**	**-2.0**
JRA	**Rausu**	**2.35**	**108**	P	**Pn**	**20 50 29.7**	**+1.2**
JNBK	**Urakawa-nobuka**	**2.50**	**168**	*eS*	**S**	**20 51 08.0**	**+0.1**
JAK	**Akkeshi**	**2.59**	**131**	*eS*	**S**	**20 51 08.5**	**-1.0**
JKB	**Kayabe**	**2.93**	**195**	P	**Pn**	**20 50 34.5**	**+0.2**
JKB				*eS*	**S**	**20 51 14.8**	**-1.0**
NEM2	**Nemuro 2**	**3.00**	**116**	*eS*	**S**	**20 51 15.1**	**-2.1**
JOSM	**Okushiri--Mats**	**3.23**	**216**	P	**Pn**	**20 50 37.9**	**+0.4**
MJAR	**Matsushiro Arr**	**8.67**	**201**	P	**Pn**	**20 51 43.2**	**-0.4**
	0.3nm,0.3s,baz=11,slow=14,SNR=4.0						
SONM	**Songino Array**	**24.69**	**290**	P	**P**	**20 54 39.5**	**+0.2**
	1.6nm,0.5s,mb3.7,baz=82,slow=8.9,SNR=20						
MKAR	**Makanchi Array**	**40.86**	**295**	P	**P**	**20 56 58.3**	**-0.2**
	0.9nm,0.7s,mb3.1,baz=78,slow=9.7,SNR=10						
BVAR	**Borovoye Array**	**46.02**	**307**	P	**P**	**20 57 38.8**	**-0.7**
	0.3nm,0.5s,mb2.9,baz=89,slow=6.5,SNR=3.5						
FINES	**FINESS Array B**	**62.28**	**331**	P	**P**	**20 59 36.2**	**-0.2**
	0.9nm,0.8s,mb3.4,baz=27,slow=9.4,SNR=5.3						
PDAR	**Pinedale Array**	**72.02**	**47**	P	**P**	**21 00 38.0**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=354,slow=3.0,SNR=4.0						

*NEIC **15** 21:04:01.4, 31.37S×71.64W, h18km, ML2.6(GUC), After GUC.*
**GUC 15 21:04:01.4±0.5,3137S×7164W,h18km±8km,MD3.5, ML2.6,2C

PTCH				*i* S	Sb	21 04 34.6	-0.6
TLL	**Tololo Astrono**	**1.40**	**31**	*i* S	Sn	21 04 44.6	+0.5
TLL				AML	AML	21 04 46.3	
comp=E,105nm,0.3s							
JACH	**Jahuel**	**1.58**	**146**	⇓*i* P	Pn	21 04 28.6	+0.1
JACH				*i* S	Sn	21 04 48.9	+0.4
PEL	**Peldehue**	**1.94**	**156**	*e*P	Pn	21 04 34.5	+1.0
PEL				*i* S	Sn	21 04 58.8	+1.3
PEL				AML	AML	21 05 01.7	
comp=E,131nm,0.3s							
PEL	**Peldehue**	**1.94**	**156**	*e*P	Pn	21 04 34.5	+1.0
PEL				*i* S	Sn	21 04 58.8	+1.3
TACH	**Talagante**	**2.35**	**166**	*e*P	Pn	21 04 40.3	+1.2

SZGRF ***15*** *22:08:37.4, 382S×10198E, h100km, mb4.6, Southern Sumatera, Indonesia*
ISCJB ***15*** *22:08:45.3±1.2, 208S±006×101.11E±007, h115km±10km, mb4.4/45, Error ellipse: s-maj=13.8km s-min=6.2km az=95.5*
BJI ***15*** *22:08:46.8, 200S×10120E, h113km, mB5.1, mb4.5*
NEIC ***15*** *22:08:46.9±0.9, 205S×101.16E, h113km±8km, mb4.2/18, Error ellipse: s-maj=9.2km s-min=4.3km az=50.0*
MOS ***15*** *22:08:46.5±1.1, 199S×10120E, h124km, mb4.3/20, Error ellipse: s-maj=18.4km s-min=7.1km az=120.6*
IDC ***15*** *22:08:47.2±2.3, 209S×101.12E, h116km±19km, mb4.0/23, mb1 4.1/24, mb1mx4.0/26, mbtmp4.3/24, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=21.3km s-min=8.6km az=47.0*

ISC 15 22:08:47.3±1.1, 207S±006×10111E±007, h116km±9km, n110, σ0.96/105, mb4.4/45, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.75**	**336**	P	**Pn**	**22 09 11.5**	**-6.0**
426nm,0.5s							
KGM	**Kluang**	**4.62**	**29**	P	**Pn**	**22 09 54.5**	**-0.5**
PSI	**Prapat**	**5.31**	**336**	P	**Pn**	**22 10 03.7**	**-0.6**
1.8nm,0.3s,baz=149,slow=9.4,SNR=8.9							
PSI				LR	LR	22 12 17.7	
comp=Z,339nm,21.3s,baz=160,slow=40							
PSI	**Prapat**	**5.31**	**336**	P	**Pn**	**22 10 03.7**	**-0.6**
PSI				LR	LR	22 12 17.8	
IPM	**Ipoh**	**6.50**	**359**	P	**Pn**	**22 10 19.6**	**-0.9**
KULM	**Kulim**	**7.32**	**356**	*e*Pn	**Pn**	**22 10 30.7**	**-0.9**
KULM				*e*Sn	**Sn**	**22 11 56.4**	**+3.3**
BSI	**Banda Aceh**	**9.50**	**322**	P	**Pn**	**22 11 03.8**	**+2.7**
24nm,0.6s							
KKM	**Kota Kinabalu**	**17.10**	**62**	Pn	**Pn**	**22 12 39.8**	**+0.7**
TSM	**Tawau**	**17.90**	**69**	P	**Pn**	**22 12 51.1**	**+2.4**
QIZ	**Qiongzhong**	**22.65**	**22**	*e*P	**P**	**22 13 36.5**	**-2.4**
MBWA	**Marble Bar**	**26.25**	**138**	*e*P	**P**	**22 14 11.6**	**+0.1**
2.3nm,0.4s,mb4.0							
KMI	**Kunming**	**27.08**	**3**	P	**P**	**22 14 24.3**	**+5.4**
KMI				AMB	AMB		
comp=Z,6.0nm,1.3s,mb4.0							
KMI	**Kunming**	**27.08**	**3**	P	**P**	**22 14 24.3**	**+5.4**
comp=Z,6.0nm,1.3s,mb4.0							
KMI				pP	pP	22 14 38.1	-5.9
FITZ	**Fitzroy Crossi**	**28.86**	**125**	P	**P**	**22 14 34.2**	**-0.6**
comp=Z,1.3nm,0.5s,mb3.8,baz=301,slow=6.0,SNR=3.9							
CD2	**Chengdu**	**32.89**	**4**	*e*P	**P**	**22 15 12.5**	**+2.3**
LSA	**Lhasa**	**32.99**	**344**	*e*P	**P**	**22 15 10.9**	**-0.2**
LSA				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.4							
LSA	**Lhasa**	**32.99**	**344**	*e*P	**P**	**22 15 10.9**	**-0.2**
comp=Z,1.6nm,0.3s,mb4.3							
PKI	**Pulchoki**	**33.12**	**334**	*e*P	**P**	**22 15 12.6**	**+0.4**
GUN	**Gumba**	**33.21**	**335**	*e*P	**P**	**22 15 14.1**	**+1.1**
comp=Z,111nm,0.6s							
DMN	**Daman**	**33.29**	**334**	*e*P	**P**	**22 15 14.2**	**+0.5**
KKN	**Kakani**	**33.37**	**334**	*e*P	**P**	**22 15 14.9**	**+0.5**
comp=Z,52nm,0.9s,mb5.4							
GKN	**Gorkha**	**33.84**	**333**	*e*P	**P**	**22 15 18.9**	**+0.5**
comp=Z,23nm,0.6s,mb5.2							
KOLN	**Koldanda**	**34.12**	**332**	*e*P	**P**	**22 15 21.5**	**+0.6**
comp=Z,25nm,0.7s,mb5.1							
NWAO	**Narrogin (SRO)**	**34.23**	**155**	*e*P	**P**	**22 15 21.9**	**+0.1**
NWAO				pmax	pmax		
comp=Z,3.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**34.23**	**155**	*e*P	**P**	**22 15 21.9**	**+0.1**
comp=Z,3.3nm,0.5s,mb4.4							
WRA	**Warramunga Arr**	**37.00**	**121**	P	**P**	**22 15 45.2**	**-0.3**
comp=Z,4.6nm,0.5s,mb4.7,baz=300,slow=9.0,SNR=67							
WRA				PcP	PcP	22 18 05.0	+0.9
comp=Z,0.5nm,0.7s,baz=305,slow=2.4,SNR=6.9							
WRA				S	**S**	**22 21 21.4**	**-1.0**
comp=Z,0.9nm,0.9s,baz=294,slow=14,SNR=4.6							
WB2	**Warramunga Arr**	**37.01**	**121**	*e*P	**P**	**22 15 44.9**	**-0.7**
NJ2	**Nanjing**	**37.88**	**25**	*e*P	**P**	**22 15 50.1**	**-2.8**
ASPA	**Alice Springs**	**38.31**	**127**	*e*P	**P**	**22 15 56.6**	**0.0**
AS31	**Alice Springs**	**38.32**	**127**	*e*P	**P**	**22 15 56.6**	**0.0**
ASAR	**Alice Springs**	**38.32**	**127**	P	**P**	**22 15 56.6**	**+0.1**
comp=Z,14nm,0.6s,mb4.9,baz=302,slow=7.9,SNR=179							
ASAR				PcP	PcP	22 18 09.4	+1.3
comp=Z,2.0nm,0.6s,baz=314,slow=2.9,SNR=8.6							
ASAR				S	**S**	**22 21 43.9**	**+1.6**
comp=Z,1.9nm,0.9s,baz=292,slow=16,SNR=12							
PMG	**Port Moresby**	**46.35**	**101**	P	**P**	**22 17 01.9**	**+0.3**
WMQ	**Urumqi**	**47.24**	**347**	P	**P**	**22 17 09.8**	**+1.2**
WMQ				AMB	AMB		
comp=Z,12nm,0.8s,mb4.7							
WMQ				AMB	AMB		
comp=Z,146nm,5.7s							
CTA	**Charters Tower**	**47.56**	**115**	P	**P**	**22 17 11.0**	**-0.1**
comp=Z,3.0nm,0.8s,mb4.2,baz=284,slow=11,SNR=5.3							
CTAO	**Charters Tower**	**47.56**	**115**	*e*P	**P**	**22 17 10.8**	**-0.3**
CTAO				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.2							
CTAO	**Charters Tower**	**47.56**	**115**	*e*P	**P**	**22 17 10.8**	**-0.3**
comp=Z,1.9nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**48.28**	**132**	*e*P	**P**	**22 17 16.8**	**+0.2**
comp=Z,3.1nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**48.28**	**132**	P	**P**	**22 17 16.7**	**+0.1**
comp=Z,6.4nm,0.7s,mb4.5,baz=299,slow=7.1,SNR=15							
WSAR	**Wadi Sarin**	**48.41**	**304**	P	**P**	**22 17 18.0**	**+0.5**
comp=Z,1.6nm,0.7s,mb4.0,baz=6.3,slow=9.2,SNR=2.6							
WSAR	**Wadi Sarin**	**48.41**	**304**	P	**P**	**22 17 18.0**	**+0.5**
SONM	**Songino Array**	**49.91**	**5**	P	**P**	**22 17 30.1**	**+1.1**
comp=Z,3.1nm,0.6s,mb4.4,baz=188,slow=8.7,SNR=38							
SONM				PcP	PcP	22 18 48.4	+0.7
comp=Z,1.6nm,0.6s,baz=191,slow=4.0,SNR=6.1							
AAK	**Ala-Archa**	**50.57**	**335**	*i* P	**P**	**22 17 32.4**	**-1.6**
AAK				pmax	pmax		
comp=Z,7.0nm,1.6s,mb4.4							
MK31	**Makanchi Array**	**51.40**	**344**	*e*P	**P**	**22 17 40.3**	**+0.1**
MKAR	**Makanchi Array**	**51.40**	**344**	P	**P**	**22 17 40.3**	**+0.1**
comp=Z,11nm,0.6s,mb5.1,baz=147,slow=8.0,SNR=116							
ZAL	**Zalesovo**	**57.44**	**349**	P	**P**	**22 18 24.0**	**+0.1**
comp=Z,7.4nm,0.5s,mb5.0,baz=311,slow=5.2,SNR=34							
HNR	**Honiara**	**58.93**	**100**	*e*P	**P**	**22 18 35.0**	**+0.8**
HNR				pmax	pmax		
comp=Z,42nm,0.4s							
HNR	**Honiara**	**58.93**	**100**	*e*P	**P**	**22 18 35.0**	**+0.8**
comp=Z,42nm,0.4s,mb5.8							
BVAR	**Borovoye Array**	**60.64**	**339**	P	**P**	**22 18 45.0**	**-0.9**
comp=Z,2.5nm,0.6s,mb4.5,baz=138,slow=8.1,SNR=15							
BRVK	**Borovoye**	**60.70**	**339**	*e*P	**P**	**22 18 45.2**	**-1.2**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.5							
BRVK	**Borovoye**	**60.70**	**339**	*e*P	**P**	**22 18 45.2**	**-1.2**
comp=Z,2.2nm,0.4s,mb4.5							
ZRNK	**Zerenda**	**61.08**	**338**	*e*P	**P**	**22 18 47.8**	**-1.1**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**61.08**	**338**	*e*P	**P**	**22 18 47.8**	**-1.1**
comp=Z,1.3nm,0.5s,mb4.2							
CHKZ	**Chkalovo**	**61.09**	**340**	*e*P	**P**	**22 18 48.5**	**-0.5**
CHKZ				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**61.09**	**340**	*e*P	**P**	**22 18 48.5**	**-0.4**
comp=Z,5.7nm,0.8s,mb4.7							
KMBO	**Kilima Mbogo**	**63.84**	**270**	P	**P**	**22 19 08.0**	**+0.7**
comp=Z,0.8nm,0.7s,mb3.7,baz=56,slow=13,SNR=4.1							
KMBO	**Kilima Mbogo**	**63.84**	**270**	⇑*e*P	**P**	**22 19 08.8**	**+1.5**
KMBO	**Kilima Mbogo**	**63.84**	**270**	P	**P**	**22 19 08.0**	**+0.7**
AKTK	**Aktyubinsk**	**63.95**	**331**	P	**P**	**22 19 07.1**	**-0.9**
AKTO	**Aktyubinsk**	**63.95**	**331**	P	**P**	**22 19 07.1**	**-0.9**
comp=Z,1.5nm,0.6s,mb4.0,baz=114,slow=5.5,SNR=7.1							
CASY	**Casey**	**64.43**	**176**	*e*P	**P**	**22 19 10.9**	**-0.2**
comp=Z,2.4nm,0.8s,mb4.1							
ARU	**Arti**	**67.72**	**336**	⇑*i* P	**P**	**22 19 29.9**	**-2.3**
ARU				*e*		22 19 53.2	
ARU				*e*S	S	22 28 21.6	+1.1
ARU				*e*SS	SS	22 32 43.3	-0.4
ARU				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.2							
ASF	**Jabal al Asfar**	**69.53**	**305**	P	**P**	**22 19 44.2**	**+0.7**
comp=Z,3.9nm,0.9s,mb4.2,baz=38,slow=4.8,SNR=4.5							
MAW	**Mawson**	**70.50**	**195**	P	**P**	**22 19 49.2**	**-0.1**
comp=Z,2.4nm,0.8s,mb4.0,baz=21,slow=11,SNR=4.5							
MAW	**Mawson**	**70.50**	**195**	*e*P	**P**	**22 19 49.1**	**-0.2**
MAW				pmax	pmax		
comp=Z,2.0nm,0.7s							
MAW	**Mawson**	**70.50**	**195**	*e*P	**P**	**22 19 49.1**	**-0.2**
comp=Z,2.3nm,0.7s,mb4.1							
EIL	**Elat**	**70.50**	**302**	*e*P	**P**	**22 19 49.9**	**+0.6**
comp=Z,86nm,0.7s,mb5.7							
BRTR	**Keskin Array B**	**74.19**	**312**	P	**P**	**22 20 10.4**	**-0.9**
comp=Z,2.0nm,0.6s,mb4.0,baz=133,slow=6.5,SNR=13							
BRTR	**Keskin Array B**	**74.19**	**312**	*i* P	**P**	**22 20 10.3**	**-1.0**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.6s							
VRSR	**Storozhevoye**	**74.46**	**325**	*e*P	**P**	**22 20 11.9**	**-0.9**
VRSR				pmax	pmax		
comp=N,10.0nm,0.9s							
VRSR				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.5							
VRSR				pmax	pmax		
comp=E,8.0nm,0.8s							
OBN	**Obninsk**	**77.44**	**328**	*e*P	**P**	**22 20 28.4**	**-1.3**
OBN				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.6							
AKASG	**Malin Array Be**	**80.22**	**322**	P	**P**	**22 20 44.4**	**-0.5**
comp=Z,0.5nm,0.5s,mb3.6,baz=87,slow=4.8,SNR=5.6							
VNDA	**Vanda**	**81.88**	**169**	P	**P**	**22 20 53.2**	**-0.5**
comp=Z,0.7nm,0.6s,mb3.7,baz=309,slow=5.5,SNR=13							
VNDA	**Vanda**	**81.88**	**169**	*e*P	**P**	**22 20 53.5**	**-0.2**
VNDA				pmax	pmax		
comp=Z,1.0nm,0.5s							
VNDA	**Vanda**	**81.88**	**169**	*e*P	**P**	**22 20 53.5**	**-0.2**
comp=Z,0.5nm,0.5s							
BURAR	**Bucovina Array**	**82.05**	**319**	⇓*i* P	**P**	**22 20 55.8**	**+1.2**
SBA	**Scott Base**	**82.97**	**169**	*e*P	**P**	**22 20 59.4**	**0.0**
SBA				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.1							
SBA	**Scott Base**	**82.97**	**169**	*e*P	**P**	**22 20 59.4**	**0.0**
comp=Z,2.0nm,0.6s,mb4.1							
BZS	**Buzias**	**84.13**	**316**	⇓*i* P	**P**	**22 21 04.9**	**-0.4**
KOLS	**Kolonicke sedl**	**84.23**	**319**	*e*P	**P**	**22 21 06.0**	**+0.2**
KOLS				*e*		22 21 22.2	
FINES	**FINESS Array B**	**84.69**	**332**	P	**P**	**22 21 08.4**	**+0.2**
comp=Z,2.1nm,0.8s,mb4.1,baz=112,slow=5.7,SNR=12							
FINES	**FINESS Array B**	**84.69**	**332**	*i* P	**P**	**22 21 08.3**	**+0.2**
FINES				pmax	pmax		
comp=Z,2.0nm,0.9s							
STHS	**Stebnicka Huta**	**84.97**	**320**	*e*P	**P**	**22 21 11.0**	**+1.5**
STHS				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
STHS	**Stebnicka Huta**	**84.97**	**320**	*e*P	**P**	**22 21 11.0**	**+1.5**
comp=Z,3.1nm,0.8s,mb4.3							
STHS				*e*		22 21 27.1	
PSZ	**Piszkesteto**	**85.64**	**318**	⇑*i* P	**P**	**22 21 11.2**	**-1.6**
PKSM	**Moragy**	**86.27**	**316**	⇓*i* P	**P**	**22 21 15.7**	**-0.2**
VYHS	**Vyhne**	**86.41**	**319**	*e*P	**P**	**22 21 15.2**	**-1.5**
VYHS	**Vyhne**	**86.41**	**319**	*e*P	**P**	**22 21 15.3**	**-1.4**
ARCES	**ARCESS Array B**	**86.92**	**340**	P	**P**	**22 21 18.9**	**-0.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=93,slow=4.9,SNR=5.3							
MORC	**Moravsky Beroun**	**87.41**	**320**	⇑*i* P	**P**	**22 21 22.5**	**+1.0**
BRG	**Berggiesshubel**	**89.80**	**321**	P	**P**	**22 21 33.8**	**+1.1**
BRG				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.3							
BRG	**Berggiesshubel**	**89.80**	**321**	P	**P**	**22 21 33.8**	**+1.1**
comp=Z,1.6nm,0.8s,mb4.2							
BRG				*e*		22 21 49.6	
GERES	**GERESS Array B**	**89.83**	**319**	P	**P**	**22 21 33.7**	**+0.8**
comp=Z,1.0nm,0.8s,mb4.0,baz=93,slow=5.9,SNR=5.6							
HFS	**Hagfors**	**90.49**	**330**	P	**P**	**22 21 36.7**	**+0.7**
comp=Z,0.9nm,0.6s,mb4.1,baz=191,slow=5.3,SNR=5.5							
GRA1	**Grafenberg Arr**	**91.49**	**319**	*e*P	**P**	**22 21 41.2**	**+0.6**
comp=Z,3.0nm,0.9s,mb4.4							
GRF	**Grafenberg Arr**	**91.49**	**319**	*e*P	**P**	**22 21 41.2**	**+0.6**
comp=Z,3.0nm,0.9s,mb4.4							
GRF	**Grafenberg Arr**	**91.49**	**319**	*e*P	**P**	**22 21 41.2**	**+0.6**
GRF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.4							
GRF	**Grafenberg Arr**	**91.49**	**319**	*e*P	**P**	**22 21 41.2**	**+0.6**
GRF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.4							
NB2	**NORSAR Subarra**	**91.75**	**331**	P	**P**	**22 21 41.5**	**-0.3**
comp=Z,1.5nm,0.7s,mb4.3,baz=94,slow=4.8							
NB2	**NORSAR Subarra**	**91.75**	**331**	P	**P**	**22 21 41.5**	**-0.3**
NB2				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.5							
NOA	**NORSAR Array B**	**91.75**	**331**	P	**P**	**22 21 41.4**	**-0.4**
comp=Z,1.3nm,0.8s,mb4.2,baz=92,slow=4.6,SNR=4.4							
SNAA	**Sanae**	**92.42**	**198**	P	**P**	**22 21 44.6**	**-0.3**
KEST	**Kesra**	**92.63**	**206**	P	**P**	**22 21 46.8**	**+0.9**
comp=Z,1.0nm,0.9s,mb4.2,baz=37,slow=10,SNR=2.5							
BDFB	**Brasilia**	**144.76**	**239**	PKP	PKPdf	22 28 11.5	+1.1
comp=Z,8.2nm,0.5s,baz=115,slow=2.5,SNR=18							
CPUP	**Villa Florida**	**144.91**	**215**	PKP	PKPdf	22 28 11.4	+0.8
comp=Z,10nm,0.8s,baz=138,slow=2.7,SNR=26							
CPUP	**Villa Florida**	**144.91**	**215**	*e*PKPbc	PKPdf	22 28 10.0	-0.6
WVT	**Waverly**	**145.11**	**13**	*e*PKIKP	PKPdf	22 28 11.5	+0.5
TZTN	**Tazewell**	**145.43**	**7**	*e*PKP	PKPdf	22 28 11.9	+0.4
JCT	**Junction City**	**145.49**	**33**	*e*PKP2	PKPab	22 28 13.1	+0.9
PLAL	**Pickwick Lake**	**146.16**	**14**	*e*PKPdf	PKPdf	22 28 13.9	+1.1
CPCT	**Cooper Cave**	**146.38**	**8**	*e*PKPdf	PKPdf	22 28 14.7	+1.6

NEIC ***15*** *22:14:21.4, 3207S×7169W, h24km, After GUC.*

GUC 15 22:14:21.4±0.9, 3207S×7169W, h24km±4km, MD3.5, ML2.9, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.25**	**41**	⇑*i* P	Pb	22 14 27.3	-0.3
CHNG				*i* S	Sb	22 14 32.3	+0.6
CHNG				AML	AML	22 14 32.7	
comp=E,734nm,0.3s							
PTCH	**Petorca**	**0.67**	**107**	⇓*i* P	Pb	22 14 33.9	-0.6
PTCH				*i* S	Sb	22 14 43.6	+0.2
PTCH				AML	AML	22 14 44.4	
comp=N,1μm,0.2s							
PTCH	**Petorca**	**0.67**	**107**	⇓*i* P	Pb	22 14 33.9	-0.6
PTCH				*i* S	Sb	22 14 43.6	+0.2
ROCH	**El Roble**	**1.07**	**148**	*e*P	Pn	22 14 39.7	-1.1
ROCH				*i* S	Sb	22 14 54.0	-0.7
CMCH	**Combarbala**	**1.07**	**34**	⇓*i* P	Pn	22 14 39.3	-1.6
CMCH				*i* S	Sb	22 14 53.7	-1.1
CMCH				AML	AML	22 14 57.0	
comp=E,1μm,0.6s							
CMCH	**Combarbala**	**1.07**	**34**	⇓*i* P	Pn	22 14 39.3	-1.6
CMCH				*i* S	Sb	22 14 53.7	-1.1
JACH	**Jahuel**	**1.11**	**124**	⇓*i* P	Pn	22 14 40.6	-0.9
JACH				*i* S	Sb	22 14 55.8	-0.2
PEL	**Peldehue**	**1.37**	**142**	*e*P	Pn	22 14 44.8	-0.1
PEL				*i* S	Sn	22 15 03.1	+0.8
PEL				AML	AML	22 15 05.2	
comp=E,507nm,0.3s							
PEL	**Peldehue**	**1.37**	**142**	*e*P	Pn	22 14 44.8	-0.1
PEL				*i* S	Sn	22 15 03.1	+0.8
LCCH	**Las Cruces**	**1.41**	**176**	*i* S	Sn	22 15 03.8	+0.6
RCDM	**Rinconada Maip**	**1.60**	**152**	*e*P	Pn	22 14 48.0	-0.1
RCDM				*i* S	Sn	22 15 09.3	+1.2
CLCH	**Cerro Calan**	**1.64**	**144**	⇓*i* P	Pn	22 14 49.9	+1.2
CLCH				*i* S	Sn	22 15 10.6	+1.5
CLCH				AML	AML	22 15 23.2	
comp=N,147nm,0.4s							
TACH	**Talagante**	**1.70**	**158**	*e*P	Pn	22 14 50.3	+0.7
TACH				*i* S	Sn	22 15 12.9	+2.4
TLL	**Tololo Astrono**	**2.04**	**22**	*e*P	Pn	22 14 56.4	+2.1
TLL				*i* S	Sn	22 15 22.0	+2.9
TLL				AML	AML	22 15 27.4	
comp=N,279nm,0.7s							
TLL	**Tololo Astrono**	**2.04**	**22**	*e*P	Pn	22 14 56.4	+2.1
TLL				*i* S	Sn	22 15 22.0	+2.9
CHCH	**Chadas Angostu**	**2.05**	**155**	*i* S	Sn	22 15 22.4	+3.2

CSEM ***15*** *22:18:41.9±0.1, 6726N×2061E, h2km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.9km az=57.0, Mining explosion.*
UPP ***15*** *22:18:43.2, 6720N×2065E, h4km, ML2.7, Mining explosion.*

HEL 15 22:18:43.5±0.0, 6719N×2067E, h0km, ML2.1, ML2.7(UPP),

Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**211**	*i* P	Pg	22 18 44.8	-0.2
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	22 18 54.1	-0.5
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 18 57.4	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	22 18 59.1	-0.9
ERTU	**Ertsjaerv**	**0.88**	**136**	*i* P	Pg	22 19 00.0	-0.3
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	22 19 00.2	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	22 19 00.9	-1.2
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	22 19 01.3	-1.4
HARU	**Harads**	**1.04**	**173**	*e*P	Pg	22 19 02.0	-1.4
KALU	**Kalix**	**1.71**	**140**	*e*P	Pn	22 19 13.9	-0.7
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 19 14.1	-0.7
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P	Pn	22 19 16.1	0.0
KIF				*e*S	Sn	22 19 40.8	+0.9
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 19 17.4	-0.4
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	22 19 23.3	-2.2
SGF				*e*SG	Sg	22 19 53.2	-3.7
SGF				MSG		22 19 56.1	
comp=Z,10nm,0.3s							
BURU	**Burvik**	**2.63**	**173**	*e*P	Pn	22 19 27.5	+0.2
OUL	**Oulu**	**3.00**	**132**	*e*S	Sn	22 20 08.8	0.0
KEV	**Kevo**	**3.48**	**39**	*e*P	Pn	22 19 38.6	-0.3
KEV				*e*SG	Sg	22 20 33.3	-2.0
KEV				MSG		22 20 37.4	
comp=Z,4.1nm,0.4s							
KEV	**Kevo**	**3.48**	**39**	P	Pn	22 19 38.5	-0.3
KEV				Sg	Sg	22 20 33.2	-2.0
comp=Z,4.1nm,0.4s							
KU4	**Liikasenvaara**	**3.62**	**99**	*e*SG	Sg	22 20 34.8	-5.2

NEIC ***15*** *22:33:36.4, 3141S×7172W, h11km, ML2.9(GUC), After GUC.*

GUC 15 22:33:36.4±0.8, 3141S×7172W, h11km±7km, MD3.6, ML2.9, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**159**	⇓*i* P	Pg	22 33 46.6	+0.3
CHNG				*i* S	Sg	22 33 54.3	+1.4
CHNG				AML	AML	22 33 56.1	
comp=E,296nm,0.6s							
CMCH	**Combarbala**	**0.66**	**69**	⇑*i* P	Pg	22 33 49.1	0.0
CMCH				*i* S	Sg	22 33 58.9	+1.2
CMCH				AML	AML	22 34 01.9	
comp=N,2μm,0.5s							
CMCH	**Combarbala**	**0.66**	**69**	⇑*i* P	Pg	22 33 49.1	0.0
CMCH				*i* S	Sg	22 33 58.9	+1.2
OVCH	**Ovalle**	**0.91**	**29**	⇑*i* P	Pg	22 33 53.1	-0.9
OVCH				*i* S	Sg	22 34 06.0	+0.1
OVCH				AML	AML	22 34 10.0	
comp=E,576nm,0.3s							
OVCH	**Ovalle**	**0.91**	**29**	⇑*i* P	Pg	22 33 53.1	-0.9
OVCH				*i* S	Sg	22 34 06.0	+0.1
PTCH	**Petorca**	**1.08**	**142**	⇑*i* P	Pb	22 33 55.8	-1.3
PTCH				*i* S	Sb	22 34 10.7	-0.6
PTCH				AML	AML	22 34 13.7	
comp=N,1μm,0.2s							
PTCH	**Petorca**	**1.08**	**142**	⇑*i* P	Pb	22 33 55.8	-1.3
PTCH				*i* S	Sb	22 34 10.7	-0.6
TLL	**Tololo Astrono**	**1.47**	**33**	⇓*i* P	Pn	22 34 03.1	+0.3
TLL				*i* S	Sn	22 34 22.3	+0.4
TLL				AML	AML	22 34 26.1	
comp=E,304nm,0.5s							
TLL	**Tololo Astrono**	**1.47**	**33**	⇓*i* P	Pn	22 34 03.1	+0.3
TLL				*i* S	Sn	22 34 22.3	+0.4
JACH	**Jahuel**	**1.59**	**143**	⇓*i* P	Pn	22 34 04.3	-0.1
JACH				*i* S	Sn	22 34 24.9	0.0
ROCH	**El Roble**	**1.67**	**159**	⇑*i* P	Pn	22 34 04.9	-0.6
ROCH				*i* S	Sn	22 34 27.5	+0.6
PEL	**Peldehue**	**1.94**	**153**	*e*P	Pn	22 34 10.6	+1.4
PEL				*i* S	Sn	22 34 35.3

*NEIC **15** 23:15:20.8±2.8, 21.02S×169.79E, h77km±21km, mb3.9/2, Error ellipse: s-maj=23.3km s-min=15.2km az=73.0*
*IDC **15** 23:15:21.0±1.1, 21.04S×169.68E, h71km±6km, mb3.7/5, mb1 3.8/6, mb1mx3.7/12, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=46.6km s-min=12.0km az=153.0*

ISC 15 23:15:20.3±3.7, 211S±01×169.8E±02, h70km±26km, n20, σ0.9 90/19, mb3.7/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.27**	**252**	*eP*	**Pn**	**23 16 09.8**	**+0.7**
DZM				*eS*	**Sn**	**23 16 45.9**	**-0.9**
DZM	**Mont Dzumac**	**3.27**	**252**	P	**Pn**	**23 16 10.0**	**+0.9**
	7.1nm,0.3s,baz=39,slow=12,SNR=182						
DZM				S	**Sn**	**23 16 45.8**	**-1.0**
	37nm,0.3s,baz=133,slow=23,SNR=23						
CTAO	**Charters Tower**	**22.06**	**268**	*eP*	**P**	**23 20 08.7**	**-0.5**
STKA	**Stephens Creek**	**27.36**	**241**	P	**P**	**23 21 00.1**	**+1.4**
	0.6nm,0.3s,mb3.6,baz=96,slow=7.8,SNR=3.3						
WB2	**Warramunga Arr**	**33.17**	**266**	*eP*	**P**	**23 21 50.5**	**+0.4**
WRA	**Warramunga Arr**	**33.19**	**266**	P	**P**	**23 21 50.6**	**+0.5**
	0.6nm,0.4s,mb3.8,baz=92,slow=8.4,SNR=32						
WRA				LR	LR	23 34 39.3	
	comp=Z,45nm,20.5s,baz=265,slow=35						
ASAR	**Alice Springs**	**33.23**	**259**	P	**P**	**23 21 51.7**	**+1.1**
	0.9nm,0.5s,mb3.9,baz=79,slow=8.5,SNR=17						
ASAR				pP	pP	23 22 06.0	-1.5
	0.9nm,0.7s,baz=85,slow=8.9,SNR=5.5						
GUMO	**Guam**	**42.27**	**322**	P	**P**	**23 23 06.4**	**-0.3**
MBWA	**Marble Bar**	**46.54**	**260**	*eP*	**P**	**23 23 41.7**	**+1.0**
NWAO	**Narrogin (SRO)**	**47.86**	**244**	P	**P**	**23 23 48.5**	**-2.5**
VNDA	**Vanda**	**56.61**	**182**	*eP*	**P**	**23 24 55.4**	**-0.4**
	0.4nm,0.7s,mb3.6						
SBA	**Scott Base**	**56.83**	**181**	*eP*	**P**	**23 24 57.7**	**+0.2**
CASY	**Casey**	**58.65**	**204**	P	**P**	**23 25 09.8**	**-0.4**
MAW	**Mawson**	**76.92**	**202**	P	**P**	**23 27 04.7**	**-0.3**
	1.6nm,0.8s,mb3.8,baz=90,slow=5.1,SNR=4.0						
MAW	**Mawson**	**76.92**	**202**	*eP*	**P**	**23 27 05.0**	**0.0**
	1.7nm,0.7s,mb3.9						
SONM	**Songino Array**	**89.00**	**323**	P	**P**	**23 28 06.5**	**-0.8**
	0.4nm,0.9s,mb3.5,baz=121,slow=3.8,SNR=3.8						
SONM	**Songino Array**	**89.00**	**323**	P	**P**	**23 28 06.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**145.40**	**353**	PKPbc	PKPbc	23 34 48.9	-1.3
	0.9nm,0.6s,baz=358,slow=2.6,SNR=6.3						
EKA				pPKPbc	pPKPbc	23 35 09.2	-0.9
	0.5nm,0.7s,baz=257,slow=3.1,SNR=1.1						
GERES	**GERESS Array B**	**146.36**	**331**	PKPbc	PKPbc	23 34 52.8	-0.2
	1.0nm,0.7s,baz=29,slow=2.2,SNR=6.8						
GERES				pPKPbc	pPKPbc	23 35 14.0	+1.0
	0.7nm,0.6s,baz=42,slow=2.2,SNR=3.9						
DAVOX	**Davos/Dischmat**	**149.61**	**332**	PKPbc	PKPbc	23 35 02.0	+0.3
	2.3nm,0.7s,baz=46,slow=8.7,SNR=3.8						
DAVOX				pPKPbc	pPKPbc	23 35 22.2	+0.4
	1.5nm,0.7s,baz=0.0,slow=4.0,SNR=2.3						

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*IDC **15** 23:28:10.6±1.1, 20.35N×119.36E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/36, Error ellipse: s-maj=46.0km s-min=20.0km az=72.0*
*NEIC **15** 23:28:10.8±0.6, 20.85N×120.13E, h10km, mb3.9/2, Error ellipse: s-maj=21.1km s-min=9.4km az=80.0*
*ISCJB **15** 23:28:11.4±3.9, 20.86N±004×120.1E±0.1, h28km±29km, mb3.9/7, Error ellipse: s-maj=20.1km s-min=7.0km az=171.8*

ISC 15 23:28:11.8±4.0, 20.86N±004×120.1E±01, h16km±25km, n16, σ0.9 79/17, mb3.9/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.52**	**153**	⇓*eP*	**Pn**	**23 29 06.0**	**+0.2**
CVP				*eS*	**Sn**	**23 29 47.0**	**-0.1**
NACB	**Ninganchiao**	**3.57**	**22**	*ePn*	**Pn**	**23 29 05.4**	**-1.1**
NACB				*eSn*	**Sn**	**23 29 49.4**	**+1.1**
YHNB	**Yeheng**	**3.96**	**17**	*ePn*	**Pn**	**23 29 12.7**	**+0.8**
YHNB				*eSn*	**Sn**	**23 29 56.8**	**-1.2**
JOW	**Kunigami**	**9.53**	**50**	LR	LR	23 34 39.7	
	comp=Z,122nm,18.7s,baz=166,slow=37						
MJAR	**Matsushiro Arr**	**22.20**	**41**	P	sP	23 33 17.9	+3.9
	1.6nm,0.7s,baz=237,slow=9.9,SNR=4.1						
SONM	**Songino Array**	**29.11**	**341**	P	**P**	**23 34 16.3**	**+4.5**
	0.3nm,0.7s,mb3.1,baz=183,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**40.13**	**319**	P	**P**	**23 35 46.6**	**-0.2**
	0.3nm,0.5s,mb3.3,baz=116,slow=9.1,SNR=3.4						
YAK	**Yakutsk**	**41.67**	**7**	P	**P**	**23 36 04.3**	**+4.8**
WRA	**Warramunga Arr**	**42.87**	**160**	P	**P**	**23 36 08.5**	**-0.8**
	2.4nm,0.5s,mb4.2,baz=342,slow=9.1,SNR=32						
WB2	**Warramunga Arr**	**42.87**	**160**	*eP*	**P**	**23 36 08.6**	**-0.7**
ASAR	**Alice Springs**	**46.24**	**162**	P	**P**	**23 36 36.1**	**-0.1**
	1.0nm,0.5s,mb4.0,baz=343,slow=6.4,SNR=14						
CTA	**Charters Tower**	**48.05**	**146**	P	**P**	**23 36 52.0**	**+1.6**
	3.9nm,0.7s,mb4.6,baz=339,slow=7.8,SNR=4.5						
CTA	**Charters Tower**	**48.05**	**146**	P	**P**	**23 36 52.0**	**+1.6**
CTAO	**Charters Tower**	**48.05**	**146**	P	**P**	**23 36 51.3**	**+1.0**
CHKZ	**Chkalovo**	**49.78**	**324**	P	**P**	**23 37 03.7**	**+0.1**
	0.6nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**50.44**	**322**	P	**P**	**23 37 09.0**	**+0.4**
	0.6nm,0.4s,mb4.0						

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*MOS **15** 23:34:09.4±2.1, 52.56N×106.65E, h14km, mb4.3/1, Error ellipse: s-maj=11.8km s-min=9.3km az=62.1*
MOS Felt (II) at Elantsy.

BYKL 15 23:34:09.8±0.1, 52.56N×106.63E, h10km±3km, 6C-2D, FELT I=II MSK at Yelantsy, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	**Tyrgan**	**0.26**	**320**	⇑*iPg*	Pg	23 34 14.8	-0.3
TRG				*eSg*	Sg	23 34 18.6	-0.1
TRG				Pmax			
	930nm,0.2s						
TRG				Smax			
	3μm,0.2s						
ZRHB	**Zarechye**	**0.32**	**91**	⇑*iPg*	Pg	23 34 15.8	-0.3
ZRHB				*eSg*	Sg	23 34 20.2	-0.2
ZRHB				Pmax			
	606nm,0.2s						
ZRHB				Smax			
	4μm,0.7s						
KAB	**Kabansk**	**0.51**	**178**	*ePG*	Pg	23 34 20.1	+0.3
KAB				*e*		23 34 26.8	
KAB				pmax	pmax		
	comp=Z,196nm,0.1s						
KAB				smax			
	comp=E,5μm,0.3s						
FFNB	**Fofonovo**	**0.52**	**171**	*ePg*	Pg	23 34 19.3	-0.6
FFNB				*e*		23 34 20.6	
FFNB				*eSg*	Sg	23 34 26.0	-0.8
FFNB				max			
	comp=E,1μm,0.1s						
FFNB				Smax			
	comp=E,7μm,0.3s						
TRTB	**Turuntaevo**	**0.70**	**118**	⇓*iPg*	Pg	23 34 22.5	-0.8
	comp=E,226nm,0.3s						
TRTB				⇑*iPg*	Pg	23 34 22.5	-0.8
	comp=E,277nm,0.3s						
TRTB				⇑*iPg*	Pg	23 34 22.5	-0.8
	comp=E,334nm,0.3s						
TRTB				*eSg*	Sg	23 34 31.5	-0.9
TRTB				Pmax			
	comp=E,367nm,0.2s						
TRTB				Smax			
	comp=E,1μm,0.4s						
KELR	**Kotokel**	**0.91**	**77**	⇑*iPg*	Pg	23 34 25.4	-1.8
KELR				*eSg*	Sg	23 34 37.2	-1.8
KELR				*eSb*	Sb	23 34 41.4	+1.7
KELR				Pmax			
	comp=E,787nm,0.3s						
KELR				max			
	comp=E,4μm,0.4s						
HRMR	**Khuramsha**	**0.95**	**168**	⇓*iPg*	Pg	23 34 27.2	-1.0
HRMR				*ePb*	Pb	23 34 28.7	+0.3
HRMR				*eSg*	Sg	23 34 39.7	-0.9
HRMR				*eSb*	Sb	23 34 43.3	+2.2
HRMR				max			
	comp=E,485nm,0.2s						
HRMR				max			
	comp=E,3μm,0.2s						
OGRR	**Ongureny**	**1.23**	**28**	*ePg*	Pg	23 34 31.8	-1.7
OGRR				*ePb*	Pb	23 34 33.3	+0.2
OGRR				*eSg*	Sg	23 34 48.7	-0.8
OGRR				*eSb*	Sb	23 34 50.9	+1.8
OGRR				max			
	comp=E,135nm,0.4s						
OGRR				max			
	comp=E,686nm,0.5s						
OGRR	**Ongureny**	**1.23**	**28**	*ePG*	Pg	23 34 33.4	-0.1
LSTR	**Listvyanka**	**1.30**	**239**	*ePg*	Pg	23 34 33.1	-1.8
LSTR				*ePb*	Pb	23 34 34.7	+0.3
LSTR				*eSg*	Sg	23 34 50.4	-1.4
LSTR				max			
	comp=E,127nm,0.1s						
LSTR				Smax			
	comp=E,682nm,0.5s						
LSTR	**Listvyanka**	**1.30**	**239**	*ePG*	Pg	23 34 33.1	-1.8
LSTR				*e*		23 34 50.5	
LSTR				pmax	pmax		
	comp=Z,127nm,0.1s						
LSTR				smax			
	comp=E,641nm,0.2s						
MXMB	**Maximikha**	**1.46**	**60**	*ePg*	Pg	23 34 36.2	-1.7
MXMB				*eSg*	Sg	23 34 55.9	-0.9
MXMB				Pmax			
	comp=E,70nm,0.1s						
MXMB				Smax			
	comp=E,983nm,0.7s						
IRK	**Irkutsk**	**1.48**	**259**	*ePg*	Pg	23 34 36.7	-1.5
IRK				*eSg*	Sg	23 34 56.5	-0.9
IRK				Pmax			
	comp=E,564nm,0.2s						
IRK				Smax			
	comp=E,3μm,0.3s						
IRK	**Irkutsk**	**1.48**	**259**	*ePN*	Pn	23 34 35.5	-1.0
IRK				*e*		23 34 55.3	
IRK				pmax	pmax		
	comp=Z,555nm,0.2s						
IRK				smax			
	comp=E,3μm,0.3s						
SYVR	**Suvo**	**2.31**	**60**	*ePn*	Pn	23 34 47.7	-0.2
SYVR				*ePg*	Pg	23 34 50.9	-3.2
SYVR				*eSg*	Sg	23 35 21.4	-2.6
SYVR				Pmax			
	comp=E,32nm,0.5s						
SYVR				Smax			
	comp=E,108nm,0.2s						
ARS	**Arshan**	**2.67**	**258**	*ePn*	Pn	23 34 53.8	+1.0
ARS				*ePg*	Pg	23 34 57.5	-3.4
ARS				*e*		23 35 26.0	
ARS				*eSg*	Sg	23 35 31.7	-3.7
ARS				Pmax			
	comp=E,144nm,0.1s						
ARS				Smax			
	comp=E,638nm,0.4s						
ARS	**Arshan**	**2.67**	**258**	*ePN*	Pn	23 34 54.3	+1.5
ARS				*e*		23 34 58.2	
ARS				*e*		23 35 31.8	
ARS				pmax	pmax		
	comp=Z,145nm,0.2s						
ARS				smax			
	comp=E,626nm,0.2s						
ZAK	**Zakamensk**	**3.02**	**225**	*ePn*	Pn	23 34 57.5	-0.2
ZAK				*ePg*	Pg	23 35 04.0	-3.7
ZAK				*eSg*	Sg	23 35 43.2	-3.7
ZAK				Pmax			
	comp=E,12nm,0.2s						
ZAK				Smax			
	comp=E,126nm,0.4s						
ZAK	**Zakamensk**	**3.02**	**225**	*ePN*	Pn	23 34 57.5	-0.2
ZAK				*e*		23 35 04.0	
ZAK				*e*		23 35 42.2	
ZAK				pmax	pmax		
	comp=Z,13nm,0.2s						
ZAK				smax			
	comp=E,126nm,0.4s						
YLYR	**Ulyunkhan**	**3.55**	**47**	*ePn*	Pn	23 35 05.1	+0.1
YLYR				*e*		23 35 13.8	
YLYR				*eSg*	Sg	23 35 58.7	-5.2
YLYR				max			
	comp=E,5.0nm,0.5s						
YLYR				Smax			
	comp=E,81nm,2.0s						
MOY	**Mondy**	**3.59**	**258**	*ePn*	Pn	23 35 07.7	+2.2
MOY				*ePg*	Pg	23 35 14.7	-3.9
MOY				*e*		23 35 51.1	
MOY				*eSg*	Sg	23 36 01.2	-3.9
MOY				Pmax			
	comp=E,109nm,0.6s						
MOY				Smax			
	comp=E,218nm,1.0s						
MOY	**Mondy**	**3.59**	**258**	*ePN*	Pn	23 35 15.0	+10
MOY				*e*		23 35 59.5	
MOY				pmax	pmax		
	comp=Z,109nm,0.3s						
MOY				smax			
	comp=N,194nm,0.6s						
NIZ	**Nizh Angarsk**	**3.65**	**27**	*ePn*	Pn	23 35 06.7	+0.4
NIZ				*ePg*	Pg	23 35 15.8	-3.9
NIZ				*eSn*	Sn	23 35 50.8	+1.4
NIZ				*eSg*	Sg	23 36 03.9	-3.0
NIZ				Pmax			
	comp=N,26nm,0.7s						
NIZ				Smax			
	comp=N,186nm,0.6s						
NIZ	**Nizh Angarsk**	**3.65**	**27**	*ePN*	Pn	23 35 06.7	+0.4
NIZ				*e*		23 35 15.6	
NIZ				*e*		23 36 01.7	
NIZ				pmax	pmax		
	comp=Z,25nm,0.6s						
NIZ				smax			
	comp=N,186nm,0.7s						
ORL	**Orlik**	**4.16**	**272**	*e*	Pn	23 35 14.1	+0.7
ORL				*ePg*	Pg	23 35 23.8	-5.8
ORL				*e*		23 36 03.6	
ORL				*eSg*	Sg	23 36 17.3	-6.2
ORL				Pmax			
	comp=N,16nm,1.0s						
ORL				Smax			
	comp=N,137nm,0.8s						
ORL	**Orlik**	**4.16**	**272**	*ePN*	Pn	23 35 14.5	+1.1
ORL				*eS*	Sn	23 36 18.0	+16
ORL				smax			
	comp=N,136nm,0.7s						
KMO	**Kumora**	**4.28**	**37**	*e*	Pn	23 35 27.4	+12
KMO				*eSg*	Sg	23 36 21.8	-5.4
KMO				max			
	comp=N,13nm,0.5s						
KMO				Smax			
	comp=N,73nm,0.8s						
KMO	**Kumora**	**4.28**	**37**	*ePN*	Pn	23 35 15.8	+0.8
KMO				*e*		23 35 26.6	
KMO				*eS*	Sn	23 36 04.2	-0.7
KMO				*e*		23 36 20.5	
KMO				pmax	pmax		
	comp=Z,17nm,0.6s						
KMO				smax			
	comp=N,73nm,0.9s						
CIT	**Chita**	**4.28**	**94**	*ePn*	Pn	23 35 15.2	+0.2
CIT				*ePg*	Pg	23 35 26.7	-5.2
CIT				*eSg*	Sg	23 36 22.2	-5.2
CIT				Pmax			
	comp=N,21nm,0.9s						
CIT				Smax			
	comp=N,205nm,1.4s						
CIT	**Chita**	**4.28**	**94**	*ePN*	Pn	23 35 12.6	-2.4
CIT				*e*		23 35 24.5	
CIT				*e*		23 36 22.6	
CIT				pmax	pmax		
	comp=Z,22nm,0.4s						
CIT				smax			
	comp=N,204nm,0.6s						
KPC	**Khapcheranga**	**4.61**	**126**	*ePn*	Pn	23 35 19.5	-0.1
KPC				*ePg*	Pg	23 35 33.0	-5.2
KPC				*eSn*	Sn	23 36 13.2	0.0
KPC				*eSg*	Sg	23 36 32.8	-5.1
KPC				Pmax			
	comp=N,7.0nm,0.5s						
KPC				Smax			
	comp=N,104nm,0.9s						
KPC	**Khapcheranga**	**4.61**	**126**	*ePN*	Pn	23 35 18.9	-0.7
KPC				*e*		23 35 31.3	
KPC				*e*		23 36 32.2	
KPC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KPC				smax			
	comp=E,104nm,1.1s						
UKT	**Uakit**	**5.06**	**52**	*ePn*	Pn	23 35 26.4	+0.7
UKT				*ePg*	Pg	23 35 40.8	-5.9
UKT				*eSg*	Sg	23 36 46.7	-5.6
UKT				Pmax			
	comp=E,5.0nm,0.5s						
UKT				Smax			
	comp=E,30nm,0.6s						
TUP	**Tupik**	**8.16**	**71**	*ePn*	Pn	23 36 09.6	+1.3
TUP				*eSg*	Sn	23 38 22.7	+42
TUP				Smax			
	comp=E,43nm,2.0s						
TUP	**Tupik**	**8.16**	**71**	*ePN*	Pn	23 36 07.3	-1.0
TUP				*e*		23 36 35.0	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**8.92**	**106**	⇑*ePN*	Pn	23 36 16.0	-2.6

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*ISCJB **15** 23:50:11.7±1.9, 30.76S±004×178.26W±009, h23km±13km, mb4.9/20, MS4.4/8, Error ellipse: s-maj=12.9km s-min=6.5km az=26.8*
*NEIC **15** 23:50:13.0±0.4, 30.43S×177.91W, h35km, mb5.0/15, MS4.9/1, Error ellipse: s-maj=12.5km s-min=9.3km az=103.0*
*MOS **15** 23:50:13.3±1.4, 30.39S×178.10W, h37km, mb5.3/8, Error ellipse: s-maj=15.4km s-min=12.1km az=94.5*
*IDC **15** 23:50:14.9±1.5, 30.25S×178.01W, h47km±13km, mb4.3/8, mb1 4.6/8, mb1mx4.5/10, mbtmp4.6/8, MS4.3/9, Ms1 4.3/9, ms1mx4.0/24, Error ellipse: s-maj=15.6km s-min=14.4km az=63.0*

ISC 15 23:50:14.9±1.9, 30.73S±004×178.18W±009, h34km±13km, h34km±3.5km: pP-P, n111, σ1.9 38/85, mb4.9/20, MS4.4/8, 6C-4D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.49**	**9**	P	**Pn**	**23 50 31.9**	**-7.2**
	1μm,0.3s,baz=120,slow=5.0,SNR=162						
RAO				S	**Sn**	**23 50 46.0**	**-11**
	5μm,0.3s,baz=253,slow=23,SNR=27						
RAO	**Raoul Island**	**1.49**	**9**	*eP*	**Pn**	**23 50 31.7**	**-7.4**
RAO				*eS*	**Sn**	**23 50 46.0**	**-11**
PUZ	**Puketiti**	**7.90**	**201**	PN	**Pn**	**23 52 06.4**	**-0.8**
PUZ				SN	**Sn**	**23 53 37.2**	**+1.8**
WCZ	**Waipu Caves**	**8.13**	**228**	PN	**Pn**	**23 52 20.3**	**+10**
OUZ	**Omahuta**	**8.24**	**235**	PN	**Pn**	**23 52 21.4**	**+10**
MWZ	**Matawai**	**8.38**	**204**	*ePN*	**Pn**	**23 52 12.9**	**-0.8**
MWZ				SN	**Sn**	**23 53 51.9**	**+4.8**
URZ	**Urewera**	**8.46**	**206**	P	**Pn**	**23 52 14.9**	**0.0**
	1.3nm,0.3s,baz=357,slow=21,SNR=20						
URZ				S	**Sn**	**23 53 55.7**	**+6.5**
	13nm,0.3s,baz=186,slow=20,SNR=14						
URZ	**Urewera**	**8.46**	**206**	*ePN*	**Pn**	**23 52 14.8**	**-0.1**
URZ				SN	**Sn**	**23 53 54.8**	**+5.6**
BFZ	**Birch Farm**	**10.91**	**203**	SN	**Sn**	**23 54 51.1**	**+1.6**
MRZ	**Mangatainoka R**	**11.13**	**205**	SN	**Sn**	**23 54 52.5**	**-2.3**
KIW	**Kapiti Island**	**11.56**	**207**	SN	**Sn**	**23 55 04.3**	**-0.9**
MRW	**Makara Radio**	**11.96**	**207**	SN	**Sn**	**23 55 13.6**	**-1.3**
SNZO	**South Karori**	**12.02**	**207**	*ePn*	**Pn**	**23 53 05.0**	**+1.3**
SNZO				*eSn*	**Sn**	**23 55 06.6**	**-10**
TCW	**Tory Channel**	**12.11**	**208**	*ePN*	**Pn**	**23 53 00.4**	**-4.5**
TCW				SN	**Sn**	**23 55 16.8**	**-1.9**
NNZ	**Nelson**	**12.50**	**211**	SN	**Sn**	**23 55 26.9**	**-1.2**
THZ	**Tophouse**	**13.15**	**211**	*ePN*	**Pn**	**23 53 15.5**	**-3.6**
THZ				SN	**Sn**	**23 55 41.0**	**-3.0**
MQZ	**McQueen's Vall**	**14.86**	**207**	SN	**Sn**	**23 56 18.1**	**-7.7**
RPZ	**Rata Peaks**	**15.53**	**210**	P	**Pn**	**23 53 52.8**	**+1.6**
	1.2nm,0.3s,baz=320,slow=23,SNR=4.1						
RPZ				S	**Sn**	**23 56 36.2**	**-5.8**
	2.4nm,0.3s,baz=72,slow=20,SNR=6.1						
RPZ				LR	LR	00 00 29.8	
	comp=Z,464nm,18.3s,baz=309,slow=38						
DZM	**Mont Dzumac**	**16.24**	**298**	*eP*	**Pn**	**23 54 05.3**	**+5.0**
DZM	**Mont Dzumac**	**16.24**	**298**	P	**Pn**	**23 54 05.9**	**+5.6**
	0.2nm,0.3s,baz=106,slow=15,SNR=11						
DZM				LR	LR	23 59 10.4	
	comp=Z,2μm,18.7s,baz=195,slow=33						
AFI	**Afiamalu**	**17.75**	**21**	P	**Pn**	**23 54 16.5**	**-2.7**
RAR	**Rarotonga**	**19.05**	**65**	LR	LR	00 00 03.4	
	comp=Z,513nm,21.4s,baz=270,slow=32						
TBI	**Tubuai**	**26.56**	**81**	*eLR*	LR	00 02 21.4	
	2μm,27.5s,baz=248						
CNB	**Canberra Magne**	**27.53**	**252**	*eP*	**P**	**23 56 01.5**	**+3.3**
	10nm,0.8s,mb4.5						
PPT	**Papeete**	**29.10**	**70**	*eLR*	LR	00 03 25.5	
	2μm,27.0s,baz=229						
HNR	**Honiara**	**29.40**	**312**	LR	LR	00 06 09.8	
	comp=Z,436nm,19.6s,MS4.1,baz=180,slow=33						
HNR	**Honiara**	**29.40**	**312**	P	**P**	**23 56 13.2**	**-1.7**
CTA	**Charters Tower**	**33.70**	**280**	*eP*	**P**	**23 56 54.4**	**+1.7**
	18nm,0.5s,mb5.3						
CTA	**Charters Tower**	**33.70**	**280**	*eP*	**P**	**23 56 54.4**	**+1.7**
CTA				pmax	pmax		
	comp=Z,18nm,0.5s						
CTAO	**Charters Tower**	**33.70**	**280**	*eP*	**P**	**23 56 54.7**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.3						
CTAO	**Charters Tower**	**33.70**	**280**	*eP*	**P**	**23 56 54.7**	**+2.0**
	comp=Z,27nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**34.26**	**257**	⇓*iP*	**P**	**23 56 59.9**	**+2.4**
	comp=Z,32nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**34.26**	**257**	P	**P**	**23 56 60.0**	**+2.4**
	comp=Z,45nm,0.8s,mb5.5,baz=103,slow=11,SNR=67						
STKA				LR	LR	00 09 19.7	
	comp=Z,714nm,19.1s,MS4.4,baz=282,slow=33						
STKA	**Stephens Creek**	**34.26**	**257**	*eP*	**P**	**23 56 59.8**	**+2.2**
PMG	**Port Moresby**	**38.61**	**296**	LR	LR	00 10 41.5	
	comp=Z,480nm,22.0s,MS4.3,baz=325,slow=32						
PMG	**Port Moresby**	**38.61**	**296**	*eP*	**P**	**23 57 35.2**	**+0.5**
RKT	**Rikitea**	**39.07**	**90**	*eLR*	LR	00 08 12.8	
	comp=Z,1μm,27.8s						
TAOE	**Nuku Hiva Isla**	**41.58**	**67**	*eLR*	LR	00 08 55.2	
	comp=Z,2μm,28.3s						
AS31	**Alice Springs**	**42.94**	**267**	⇑*iP*	**P**	**23 58 10.7**	**+0.3**
ASAR	**Alice Springs**	**42.94**	**267**	P	**P**	**23 58 10.7**	**+0.3**
	comp=Z,9.2nm,0.7s,mb4.7,baz=103,slow=7.4,SNR=77						
ASAR				ScP	ScP	00 03 48.0	-0.9
	comp=Z,1.0nm,0.9s,baz=115,slow=4.0,SNR=4.8						
ASAR				S	**S**	**00 04 35.7**	**+2.6**
	comp=Z,0.7nm,1.0s,baz=109,slow=13,SNR=3.7						
ASAR				LR	LR	00 15 50.4	
	comp=Z,811nm,18.3s,MS4.7,baz=124,slow=36						
ASAR	**Alice Springs**	**42.94**	**267**	P	**P**	**23 58 10.7**	**+0.3**
ASAR				S	**S**	**00 04 35.7**	**+2.6**
ASPA	**Alice Springs**	**42.94**	**267**	⇑*iP*	**P**	**23 58 10.7**	**+0.3**
WB2	**Warramunga Arr**	**43.95**	**273**	*eP*	**P**	**23 58 18.0**	**-0.5**
WB2				*eS*	**S**	**00 04 46.4**	**-1.4**
WB2	**Warramunga Arr**	**43.95**	**273**	*eP*	**P**	**23 58 18.1**	**-0.4**
WRAB	**Tennant Creek**	**43.95**	**273**	*dP*	**P**	**23 58 18.5**	**0.0**
WRA	**Warramunga Arr**	**43.96**	**273**	P	**P**	**23 58 18.5**	**0.0**
	comp=Z,17nm,0.6s,mb4.9,baz=110,slow=8.0,SNR=266						
WRA				S	**S**	**00 04 47.3**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=111,slow=14,SNR=6.2						
WRA				LR	LR	00 16 51.4	
	comp=Z,511nm,18.1s,MS4.5,baz=105,slow=36						
WRA	**Warramunga Arr**	**43.96**	**273**	P	**P**	**23 58 18.5**	**-0.1**
WRA				S	**S**	**00 04 47.3**	**-0.7**
FORT	**Forrest**	**45.82**	**255**	*eP*	**P**	**23 58 33.2**	**-0.2**
	comp=Z,16nm,0.5s,mb5.2						
SBA	**Scott Base

comp=Z,200nm,1.2s
MAW Mawson 71.95 201 *e*P **P 00 01 35.6 +0.8**
MAW Mawson 71.95 201 P **P 00 01 35.6 +0.8**
comp=Z,4.4nm,0.8s,mb4.5,baz=115,slow=7.1,SNR=10
PMSA Palmer Station 72.03 156 *e*P **P 00 01 35.4 +0.1**
comp=Z,6.8nm,0.4s,mb4.9
SNAA Sanae 77.83 178 *e* **P 00 02 08.3 -0.5**
SNAA *e* 00 02 15.2
SNAA *e* 00 02 23.0
SNAA *e* 00 02 29.4
SNAA Sanae 77.83 178 *e*P **P 00 02 08.6 -0.2**
SNAA Sanae 77.83 178 *e*P **P 00 02 08.4 -0.4**
comp=Z,6.1nm,0.9s,mb4.5
VNA1 Neumayer--Stat 78.65 177 *e* **P 00 02 13.8 +0.5**
VNA1 *e* pP 00 02 21.9 -2.2
VNA1 *e* 00 02 30.8
VNA1 *e* 00 02 35.1
PLCA Paso Flores 82.40 133 P **P 00 02 33.5 +0.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=229,slow=9.6,SNR=6.1
PLCA Paso Flores 82.40 133 *e*P **P 00 02 33.5 +0.1**
PLCA pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 82.40 133 *e*P **P 00 02 33.5 +0.1**
comp=Z,6.6nm,1.1s,mb4.5
YSS Yuzh-Sakhalins 84.97 334⇑*e*P **P 00 02 48.9 +2.3**
YSS pmax pmax
comp=Z,33nm,1.7s,mb5.2
NVAR Mina Array Bea 88.58 43 P **P 00 03 01.9 -2.2**
comp=Z,1.4nm,0.7s,mb4.4,baz=223,slow=8.0,SNR=9.5
NVAR Mina Array Bea 88.58 43 P **P 00 03 01.9 -2.2**
KMI Kunming 93.83 297 P **P 00 03 28.3 -0.2**
KMI *PP pP 00 03 39.9 +0.4
KMI *SP sP 00 03 44.2 +0.8
KMI pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
KMI MLR MLR
comp=Z,90nm,38.0s,MS4.0
KMI Kunming 93.83 297 P **P 00 03 28.3 -0.2**
comp=Z,5.0nm,0.6s,mb5.1
KMI pP pP 00 03 39.9 +0.4
KMI sP sP 00 03 44.2 +0.8
KMI LR LR
comp=Z,90nm,38.0s,MS4.0
PDAR Pinedale Array 96.48 44 P **P 00 03 37.5 -3.1**
comp=Z,0.5nm,1.0s,baz=274,slow=4.3,SNR=2.9
LZH Lanzhou 98.79 307 *e*P **P 00 03 49.7 -1.4**
LZH *PP pP 00 04 00.9 -1.1
LZH *SP sP 00 04 04.8 -1.1
LZH 00 07 54.5
LZH 00 14 24.3
LZH *e*S S 00 15 14.5 -4.0
LZH PS PS 00 16 49.6 +1.6
LZH *e*SS SS 00 22 06.2 +1.2
LZH pmax pmax
comp=Z,21nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,390nm,18.3s,MS4.9
LZH Lanzhou 98.79 307 *e*P **P 00 03 49.7 -1.4**
comp=Z,21nm,1.5s,mb5.5
LZH pP pP 00 04 00.9 -1.1
LZH sP sP 00 04 04.8 -1.1
LZH PP PP 00 07 54.5 +2.0
LZH SKS 00 14 24.3
LZH *e*S S 00 15 14.5 -4.0
LZH sS sS 00 15 32.3 -4.4
LZH PS PS 00 16 49.6 +1.6
LZH *e*SS SS 00 22 06.2 +1.2
LZH LR LR
comp=Z,390nm,18.3s,MS4.9
MK31 Makanchi Array 117.86 310 *e*PKIKP PKPdf 00 08 54.5 -3.2
MKAR Makanchi Array 117.86 310 PKP PKPdf 00 08 54.5 -3.2
comp=Z,1.0nm,0.6s,baz=195,slow=1.2,SNR=16
ZAL Zalesovo 118.18 318 PKP PKPdf 00 08 55.1 -3.2
comp=Z,0.8nm,0.3s,baz=277,slow=2.2,SNR=3.1
ZAL Zalesovo 118.18 318 *i* PKIKP PKPdf 00 08 55.7 -2.6
ZAL pmax pmax
comp=Z,1.0nm,0.3s
CHKZ Chkalovo 126.44 316 *e*PKIKP PKPdf 00 09 10.5 -3.6
BRVK Borovoye 126.60 316 *e*PKIKP PKPdf 00 09 11.5 -2.9
ZRNK Zerenda 127.36 315 *e*PKIKP PKPdf 00 09 12.8 -3.1
ARU Arti 133.24 320 *i* PKIKP PKPdf 00 09 22.1 -5.0
ARU *e* 00 11 50.9
ARU *e*SS SS 00 29 32.5 -2.9
ARCES ARCESS Array B 138.88 348 PKhKP 00 09 28.5
comp=Z,3.7nm,0.9s,baz=70,slow=1.8,SNR=6.3
ARCES PKP PKPdf 00 09 35.1 -2.4
comp=Z,4.7nm,0.9s,baz=9.5,slow=1.1,SNR=5.7
ARCES ARCESS Array B 138.88 348 PKP 00 09 28.5
ARCES PKP PKPdf 00 09 35.1 -2.4
JOF Joensuu 142.66 338 *e*pkp PKPdf 00 09 36.3 -8.1
GNI Garni 144.09 297⇑*i* PKIKP PKPdf 00 09 46.0 -0.9
KAF Kangasniemi 144.80 340 *e*pkp PKPdf 00 09 41.7 -6.4
KIV Kislovodsk 145.28 304⇑*i* PKIKP PKPdf 00 09 49.8 +0.9
OBN Obninsk 145.35 325 *i* PKP2 PKPab 00 09 45.2 -3.9
OBN pmax pmax
comp=Z,14nm,0.9s
OBN Obninsk 145.35 325 *e*PKPbc PKPbc 00 09 45.8 -3.2
FIA1 FINESS Array S 145.40 340 *e*PKPbc PKPbc 00 09 44.8 -4.3
FINES FINESS Array B 145.40 340 PKPbc PKPbc 00 09 44.6 -4.5
comp=Z,20nm,0.8s,baz=62,slow=4.0,SNR=92
FINES FINESS Array B 145.40 340⇑*i* PKP2 PKPab 00 09 44.5 -4.8
VSU Vasula 147.46 336 *d* PKIKP PKPdf 00 09 51.3 -1.3
NB2 NORSAR Subarra 149.05 351 PKP PKPdf 00 09 55.5 +0.3
comp=Z,8.4nm,0.8s,baz=13,slow=2.8
NOA NORSAR Array B 149.05 351 PKPbc PKPbc 00 09 55.5 -3.8
comp=Z,7.0nm,0.8s,baz=14,slow=4.2,SNR=20
MALT Malatya 149.06 294 *e*PKIKP PKPdf 00 09 54.1 -1.1
MALT *e* 00 10 02.3
NAO01 NORSAR Array S 149.28 351 *e*PKPbc PKPbc 00 09 56.3 -3.6
ASF Jabal al Asfar 150.12 282 PKPbc PKPbc 00 10 00.2 -1.8
comp=Z,5.0nm,0.9s,baz=20,slow=9.0,SNR=4.5
KONO Kongsberg 150.60 352 *d* PKIKP PKPdf 00 09 59.3 +1.6
EIL Elat 151.40 276 *e*PKPdf PKPdf 00 09 57.6 -1.3
EIL *e*PKPbc PKPbc 00 10 04.0 -1.0
AKASG Malin Array Be 151.47 322 PKPbc PKPbc 00 10 01.6 -3.6
comp=Z,13nm,0.7s,baz=48,slow=2.7,SNR=44
AKBB Malin Array Si 151.47 322 *e*PKIKP PKPdf 00 10 00.7 +1.7
BRTR Keskin Array B 152.62 298 PKPbc PKPbc 00 10 05.0 -2.8
comp=Z,2.7nm,0.6s,baz=149,slow=5.8,SNR=12
ANTO Ankara 153.24 298 *e*PKIKP PKPdf 00 10 07.2 +5.6
GERES GERESS Array B 159.78 337 PKPab PKPab 00 10 46.6 -2.5
comp=Z,0.6nm,0.6s,baz=35,slow=4.1,SNR=5.0
TORD Torodi Ar. Bea 162.50 180 PKPdf 00 10 11.9 -1.1
comp=Z,0.6nm,1.0s,baz=152,slow=0.8,SNR=3.0
TORD PKPab PKPab 00 11 01.0 0.0
comp=Z,4.6nm,0.9s,baz=184,slow=3.3,SNR=16

IDC 16 00:09:44.7±52.0, 1362S×16331E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=878.4km s-min=108.2km az=62.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.95**	**224**	P	P	00 15 28.3	+0.5
0.8nm,0.9s,baz=45,slow=11,SNR=2.8							
WRA	**Warramunga Arr**	**28.42**	**253**	P	P	00 15 41.2	+0.3
0.3nm,0.4s,baz=84,slow=8.8,SNR=7.3							
ASAR	**Alice Springs**	**29.55**	**246**	P	P	00 15 51.2	+0.3
0.7nm,0.5s,baz=75,slow=9.9,SNR=6.3							

MAN 16 00:11:09.1, 1120N×12557E, h32km, mb2.7, ML4.2, MS3.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.41**	**342**	*e*P	Pb	00 11 19.7	+1.3
BESP				*e*S	Sb	00 11 27.3	+2.7
PLP	**Palo**	**0.58**	**266**	*e*P	Pb	00 11 21.6	+0.7
PLP				*e*S	Sb	00 11 30.6	+1.7
MSLP	**Maasin**	**1.27**	**213**	*e*P	Pn	00 11 31.9	+1.3
MSLP				*e*S	Sn	00 11 50.8	+4.2
SCPH	**Surigao**	**1.42**	**183**	*e*P	Pn	00 11 32.2	-0.4
SCPH				*e*S	Sn	00 11 50.2	+0.1

*IDC **16** 00:35:31.3±1.0, 5083S×162.15E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.2/13, mbtmp4.2/9, ML3.8/2, MS5.3/19, Ms1 5.3/19, ms1mx5.1/23, Error ellipse: s-maj=28.2km s-min=20.2km az=91.0*
*BJI **16** 00:35:33.1, 5080S×162.20E, h8km, mB5.6, Ms5.6, Msz5.4*
*GCMT **16** 00:35:33.1±0.1, 5094S×161.83E, h28km, MW5.8/103, Moment Tensor Solution. s100, c206; s103, c290; Duration: 2s0 Moment tensor: Scale 1018Nm; Mrr0.05±.01; Mθθ0.66±.01; Mφφ-0.71±.01; Mrθ0.15±.01; Mθφ0.20±.01; Mφr0.14±.01; Best double couple: M0 0.74400×1018 NP1:φs127.00000°, δ74.00000°, λ4.00000°. NP2:φs36.00000°, δ86.00000°, λ164.00000°. Principal axes: T 0.7310, Plg14.0000°, Azm351.0000°; N 0.0260, Plg74.0000°, Azm203.0000°; P -0.7570, Plg8.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **16** 00:35:33.1±0.4, 5078S×162.16E, h10km, mb4.9/17, MS5.3/142, MW5.8 Error ellipse: s-maj=11.6km s-min=8.9km az=77.0, Moment Tensor Solution. s8 Moment tensor: Scale 1017Nm; Mrr1.13; Mθθ4.97; Mφφ-6.09; Mrθ0.98; Mθφ4.24; Mφr0.02; Best double couple: M0 7.10000×1017 NP1:φs117.00000°, δ84.00000°, λ8.00000°. NP2:φs26.00000°, δ82.00000°, λ174.00000°. Principal axes: T 6.5700, Plg10.0000°, Azm341.0000°; N 0.9700, Plg80.0000°, Azm150.0000°; P -7.5400, Plg2.0000°, Azm251.0000°;*
*ISCJB **16** 00:35:34.3±0.3, 5066S×104.16258E.007, h33km, mb4.8/20, MS5.3/150 Error ellipse: s-maj=8.0km s-min=4.6km az=81.4*
*MOS **16** 00:35:36.7±2.0, 5084S×161.67E, h33km, mb5.1/9, MS5.2/17, Error ellipse: s-maj=25.5km s-min=11.8km az=101.6*
*SZGRF **16** 00:35:43.5, 5084S×159.75E, h33km, mb5.2, North of Macquarie Island*
ISC 16 00:35:33.2±2.2, 5071S±005×16244E±008, h13km±14km, h20km±6.5km: pP-P, n230, σ1§21/73, mb4.8/20, MS5.3/150, 1D, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**5.34**	**46**	PN	**Pn**	**00 36 52.8**	**+0.2**
APZ				SN	**Sn**	**00 37 53.3**	**-0.8**
SYZ	**Scrubby Hill**	**6.10**	**49**	PN	**Pn**	**00 37 01.8**	**-1.2**
SYZ				SN	**Sn**	**00 38 08.6**	**-4.0**
DCZ	**Deep Cove**	**6.12**	**33**	*e*PN	**Pn**	**00 37 03.5**	**+0.2**
MLZ	**Mavora Lakes**	**6.60**	**38**	*e*PN	**Pn**	**00 37 09.0**	**-1.0**
TUZ	**Tuapeka**	**6.75**	**48**	PN	**Pn**	**00 37 12.2**	**+0.2**
EAZ	**Earnscleugh**	**7.16**	**43**	*e*PN	**Pn**	**00 37 17.2**	**-0.4**
JCZ	**Jackson Bay**	**7.90**	**35**	*e*PN	**Pn**	**00 37 29.8**	**+2.0**
ODZ	**Otahua Downs**	**7.91**	**47**	*e*PN	**Pn**	**00 37 27.0**	**-0.9**
RPZ	**Rata Peaks**	**9.12**	**43**	Pn	**Pn**	**00 37 47.5**	**+2.9**
0.7nm,0.3s,baz=73,slow=20,SNR=3.1							
RPZ				LR	LR	00 41 28.9	
comp=Z,25μm,19.9s,baz=211,slow=38							
TAU	**Tasmania Unive**	**12.95**	**301**	*e*P	**Pn**	**00 38 35.3**	**-1.6**
TAU				*e*		00 40 51.1	
TAU				pmax	pmax		
comp=Z,85nm,0.9s							
TAU	**Tasmania Unive**	**12.95**	**301**	*e*Pn	**Pn**	**00 38 35.3**	**-1.6**
comp=Z,85nm,0.9s							
TAU				*e*Sn	**Sn**	**00 40 51.1**	**-10**
URZ	**Urewera**	**16.23**	**46**	Pn	**Pn**	**00 39 24.5**	**+3.6**
comp=Z,0.4nm,0.3s,baz=92,slow=9.2,SNR=3.7							
URZ				LR	LR	00 46 09.4	
comp=Z,18μm,19.8s,baz=38,slow=39							
TOO	**Toolangi**	**17.85**	**311**	*e*P	**Pn**	**00 39 46.4**	**+5.2**
comp=Z,26nm,1.4s							
TOO				*i* S	**Sn**	**00 43 05.6**	**+5.6**
TOO				*e*T		00 57 21.7	
TOO	**Toolangi**	**17.85**	**311**	*e*P	**Pn**	**00 39 46.4**	**+5.2**
TOO				pmax	pmax		
comp=Z,26nm,1.4s							
CNB	**Canberra Magne**	**18.07**	**323**	*e*P	**Pn**	**00 39 48.2**	**+4.2**
comp=Z,4.6nm,0.3s							
CNB				*e*T		00 56 51.7	
DRV	**Dumont d'Urvil**	**19.59**	**207**	PP		00 40 13.0	
DRV				S	**Sn**	**00 43 38.0**	**-4.2**
DRV				R		00 45 00.0	
STKA	**Stephens Creek**	**24.34**	**313**	*e*P	**P**	**00 40 52.1**	**+1.4**
comp=Z,13nm,1.9s,mb4.0							
STKA				*e*S	**S**	**00 45 09.2**	**-0.4**
STKA	**Stephens Creek**	**24.34**	**313**	P	**P**	**00 40 52.0**	**+1.3**
comp=Z,2.9nm,0.8s,mb3.8,baz=147,slow=10,SNR=5.5							
STKA				LR	LR	00 49 11.4	
comp=Z,9μm,21.3s,MS5.2,baz=134,slow=34							
STKA	**Stephens Creek**	**24.34**	**313**	*e*P	**P**	**00 40 43.5**	**-7.2**
RAO	**Raoul Island**	**26.04**	**42**	LR	LR	00 51 41.6	
comp=Z,3μm,18.5s,MS4.8,baz=199,slow=37							
RAO	**Raoul Island**	**26.04**	**42**	*e*P	pP	00 41 14.6	+4.6
RAO				pmax	pmax		
comp=Z,103nm,0.5s,mb5.6							
RAO				MLR	MLR		
comp=Z,5μm,22.0s,MS5.0							
RAO	**Raoul Island**	**26.04**	**42**	*e*P	pP	00 41 14.6	+4.6
comp=Z,103nm,0.5s							
RAO				LR	LR		
comp=Z,5μm,22.0s,MS5.0							
VNDA	**Vanda**	**26.91**	**180**	P	**P**	**00 41 12.3**	**-1.7**
comp=Z,0.5nm,0.7s,baz=36,slow=5.8,SNR=3.3							
VNDA				LR	LR	00 49 39.3	
comp=Z,8μm,18.3s,MS5.3,baz=32,slow=32							
VNDA	**Vanda**	**26.91**	**180**	*e*P	**P**	**00 41 14.0**	**0.0**
VNDA				pmax	pmax		
comp=Z,24nm,1.4s							
VNDA				MLR	MLR		
comp=Z,8μm,22.0s							
VNDA	**Vanda**	**26.91**	**180**	*e*P	**P**	**00 41 13.9**	**-0.1**
comp=Z,24nm,1.4s,mb4.5							
VNDA				LR	LR		
comp=Z,8μm,22.0s,MS5.2							
SBA	**Scott Base**	**27.30**	**178**	*e*P	**P**	**00 41 19.1**	**+1.6**
SBA				pmax	pmax		
comp=Z,30nm,1.3s,mb4.7							
SBA				MLR	MLR		
comp=Z,6μm,19.0s,MS5.2							
SBA	**Scott Base**	**27.30**	**178**	*e*P	**P**	**00 41 19.1**	**+1.6**
comp=Z,30nm,1.3s,mb4.7							
SBA				LR	LR		
comp=Z,6μm,19.0s,MS5.2							
DZM	**Mont Dzumac**	**28.76**	**8**	P	**P**	**00 41 31.6**	**+1.1**
comp=Z,7.5nm,1.1s,mb4.3,baz=127,slow=20,SNR=2.9							
DZM				LR	LR	00 51 14.6	
comp=Z,4μm,18.9s,MS5.0,baz=194,slow=33							
CASY	**Casey**	**30.16**	**219**	*e*P	**P**	**00 41 42.2**	**-0.8**
CTA	**Charters Tower**	**33.13**	**331**	LR	LR	00 53 51.8	
comp=Z,7μm,19.2s,MS5.4,baz=142,slow=33							
CTAO	**Charters Tower**	**33.13**	**331**	*e*P	**P**	**00 42 10.7**	**+1.6**
CTAO				pmax	pmax		
comp=Z,19nm,1.2s,mb4.9							
CTAO				MLR	MLR		
comp=Z,6μm,19.0s,MS5.3							
CTAO	**Charters Tower**	**33.13**	**331**	*e*P	**P**	**00 42 10.7**	**+1.6**
comp=Z,18nm,1.2s,mb4.9							
CTAO				LR	LR		
comp=Z,6μm,19.0s,MS5.3							
ASAR	**Alice Springs**	**34.89**	**310**	P	**P**	**00 42 23.9**	**-0.5**
comp=Z,5.4nm,0.7s,mb4.6,baz=146,slow=7.5,SNR=39							
ASAR				LR	LR	00 55 23.8	
comp=Z,7μm,18.5s,MS5.4,baz=161,slow=34							
AS31	**Alice Springs**	**34.90**	**310**	*e*P	**P**	**00 42 25.1**	**+0.7**
ASPA	**Alice Springs**	**34.90**	**310**	*e*P	**P**	**00 42 25.1**	**+0.7**
MIR	**Mirnyy**	**37.17**	**218**	*e*P	**P**	**00 42 46.5**	**+2.6**
MIR				pmax	pmax		
comp=Z,200nm,1.5s,mb5.7							
NWAO	**Narrogin (SRO)**	**37.41**	**281**	LR	LR	00 54 26.8	
comp=Z,4μm,19.9s,MS5.2,baz=130,slow=30							
NWAO	**Narrogin (SRO)**	**37.41**	**281**	P	**P**	**00 42 45.5**	**-0.4**
NWAO				pmax	pmax		
comp=Z,44nm,1.4s							
NWAO				MLR	MLR		
comp=Z,4μm,21.0s							
NWAO	**Narrogin (SRO)**	**37.41**	**281**	P	**P**	**00 42 45.5**	**-0.4**
comp=Z,44nm,1.4s,mb5.1							
NWAO				LR	LR		
comp=Z,4μm,21.0s,MS5.2							
WB2	**Warramunga Arr**	**37.87**	**314**	*e*P	**P**	**00 42 49.0**	**-0.8**
WB2				*e*S	**S**	**00 48 37.3**	**-3.5**
WB2				*e*		00 51 15.8	
WRA	**Warramunga Arr**	**37.88**	**314**	P	**P**	**00 42 48.7**	**-1.2**
comp=Z,5.7nm,0.8s,mb4.3,baz=146,slow=7.8,SNR=21							
WRA				LR	LR	00 56 55.1	
comp=Z,4μm,20.6s,MS5.2,baz=160,slow=34							
WRAB	**Tennant Creek**	**37.88**	**314**	*e*P	**P**	**00 42 48.7**	**-1.2**
WRAB				pmax	pmax		
comp=Z,13nm,1.0s,mb4.6							
WRAB				MLR	MLR		
comp=Z,1μm,19.0s,MS4.8							
WRAB	**Tennant Creek**	**37.88**	**314**	*e*P	**P**	**00 42 48.7**	**-1.2**
comp=Z,13nm,1.0s,mb4.6							
WRAB				LR	LR		
comp=Z,1μm,19.0s,MS4.8							
QSPA	**South Pole Qui**	**39.41**	**180**	*e*P	**P**	**00 43 02.3**	**-0.4**
comp=Z,32nm,1.2s,mb4.9							
QSPA				LR	LR		
comp=Z,4μm,19.0s,MS5.3							
HNR	**Honiara**	**41.21**	**356**	LR	LR	00 59 19.4	
comp=Z,2μm,18.2s,MS5.0,baz=178,slow=35							
HNR	**Honiara**	**41.21**	**356**	P	**P**	**00 43 23.2**	**+5.6**
HNR				MLR	MLR		
comp=Z,2μm,19.0s,MS5.0							
PMG	**Port Moresby**	**43.07**	**338**	LR	LR	00 59 09.3	
comp=Z,4μm,19.9s,MS5.3,baz=168,slow=33							
PMG	**Port Moresby**	**43.07**	**338**	PFAKE		00 43 40.0	+7.2
PMG				LR	LR		
comp=Z,4μm,20.0s,MS5.3							
FITZ	**Fitzroy Crossi**	**43.73**	**304**	*e*P	**P**	**00 43 38.4**	**+0.2**
comp=Z,16nm,1.5s,mb4.5							
FITZ				*e*S	**S**	**00 50 08.9**	**+0.8**
FITZ				*e*		00 53 14.9	
FITZ	**Fitzroy Crossi**	**43.73**	**304**	P	**P**	**00 43 37.1**	**-1.0**
comp=Z,1.6nm,0.7s,mb3.9,baz=188,slow=5.1,SNR=6.4							
FITZ				LR	LR	01 00 50.2	
comp=Z,6μm,18.3s,MS5.6,baz=152,slow=35							
MBWA	**Marble Bar**	**44.52**	**295**	*e*P	**P**	**00 43 42.4**	**-2.0**
comp=Z,33nm,1.4s,mb5.0							
MBWA				*e*PP	PP	00 45 26.3	-2.1
MBWA				LR	LR		
comp=Z,4μm,20.0s,MS5.3							
TBI	**Tubuai**	**46.02**	**72**	*e*S	Sx	00 50 14.9	
comp=Z,3μm,30.5s							
TBI				*e*LR	LR	00 56 49.8	
comp=Z,6μm,60.8s							
MAW	**Mawson**	**47.74**	**211**	P	**P**	**00 44 08.5**	**-1.3**
comp=Z,2.3nm,0.9s,mb4.2,baz=112,slow=10,SNR=3.4							
MAW				LR	LR	01 01 11.9	
comp=Z,4μm,19.7s,MS5.4,baz=297,slow=32							
MAW	**Mawson**	**47.74**	**211**	*e*P	**P**	**00 44 10.5**	**+0.6**
MAW				pmax	pmax		
comp=Z,26nm,1.3s							
MAW				MLR	MLR		
comp=Z,7μm,21.0s							
MAW	**Mawson**	**47.74**	**211**	*e*P	**P**	**00 44 10.5**	**+0.6**
comp=Z,26nm,1.3s,mb5.1							
MAW				LR	LR		
comp=Z,7μm,21.0s,MS5.6							
PPT	**Papeete**	**50.40**	**67**	*e*S	Sx	00 51 15.4	
comp=Z,3μm,28.0s							
PPT				*e*LR	LR	00 58 56.8	
comp=Z,4μm,24.8s							
PPT	**Papeete**	**50.40**	**67**	LR	LR	01 00 12.3	
comp=Z,2μm,21.2s,MS5.0,baz=245,slow=29							
SYO	**Syowa Base**	**53.43**	**202**‖	*e*P	**P**	**00 44 53.8**	**+1.0**
RKT	**Rikitea**	**55.19**	**84**	*e*S	Sx	00 52 19.6	
comp=Z,2μm,33.5s							
RKT				*e*LR	LR	01 01 07.4	
comp=Z,4μm,49.5s,baz=218							
NVL	**N'lazarevskaya**	**57.00**	**191**	*e*P	pP	00 45 29.1	+6.5
NVL				*i* S	**S**	**00 53 18.5**	**+5.9**
NVL				pmax	pmax		
comp=Z,25nm,1.6s,mb5.0							
SNAA	**Sanae**	**57.47**	**185**	*e*P	**P**	**00 45 20.4**	**-1.5**
SNAA				pmax	pmax		
comp=Z,39nm,1.6s							
SNAA	**Sanae**	**57.47**	**185**	*e*P	**P**	**00 45 20.4**	**-1.6**
comp=Z,39nm,1.6s,mb5.2							
PMSA	**Palmer Station**	**59.35**	**159**	P	**P**	**00 45 32.3**	**-2.7**
PMSA				*e*S	**S**	**00 53 55.4**	**+12**
TAOE	**Nuku Hiva Isla**	**62.84**	**69**	*e*S	Sx	00 53 56.3	
comp=Z,3μm,31.1s							
TAOE				*e*LR	LR	01 04 29.6	
comp=Z,13μm,52.9s							
GUMO	**Guam**	**65.85**	**341**	LR	LR	01 11 31.3	
comp=Z,570nm,20.8s,MS4.8,baz=147,slow=33							
GUMO	**Guam**	**65.85**	**341**	*e*P	**P**	**00 46 18.3**	**-0.1**
GUMO				*e*		00 46 27.5	
GUMO				pmax	pmax		
comp=Z,42nm,0.6s,mb5.7							
GUMO				MLR	MLR		
comp=Z,1μm,19.0s,MS5.1							
GUMO	**Guam**	**65.85**	**341**	*e*P	**P**	**00 46 18.3**	**-0.1**
comp=Z,42nm,0.6s,mb5.7							
GUMO				*e*P		00 46 27.5	
GUMO				*e*S	S	00 55 17.2	+12
GUMO				LR	LR		
comp=Z,1μm,19.0s,MS5.1							
KSM	**Kuching**	**68.26**	**302**	P	**P**	**00 46 37.6**	**+3.9**
RPN	**Rapa Nui**	**68.43**	**107**	*e*P	**P**	**00 46 41.7**	**+6.9**
RPN				*e*S	S	00 55 50.6	+14
KKM	**Kota Kinabalu**	**69.10**	**310**	P	**P**	**00 46 43.1**	**+4.1**
PSI	**Prapat**	**75.78**	**293**	LR	LR	01 18 18.0	
comp=Z,2μm,20.2s,MS5.3,baz=142,slow=34							
KULM	**Kulim**	**76.79**	**296**	P	**P**	**00 47 25.4**	**+0.9**
PLCA	**Paso Flores**	**77.83**	**142**	*e*P	**P**	**00 47 30.7**	**+0.4**
PLCA				MLR	MLR		
comp=Z,2μm,20.0s							
JOW	**Kunigami**	**82.91**	**330**	LR	LR	01 25 31.7	
comp=Z,1μm,18.9s,MS5.3,baz=160,slow=36							
QIZ	**Qiongzhong**	**83.39**	**311**	P	**P**	**00 48 06.3**	**+6.1**
QIZ				S	S	00 58 21.6	+0.6
QIZ				SCS	ScS	00 58 31.6	-3.0
QIZ				AMB	AMB		
comp=Z,240nm,6.5s							
QIZ				LR	LR		
comp=E,634nm,17.9s							
QIZ				LR	LR		
comp=Z,569nm,17.9s,MS5.0							
QIZ	**Qiongzhong**	**83.39**	**311**	PFAKE		00 48 10.0	+10
QIZ				LR	LR		
comp=Z,559nm,19.0s,MS5.0							
TATO	**Taipei**	**83.59**	**323**	PFAKE		00 48 10.0	+8.8
TATO				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
DGAR	**Diego Garcia**	**84.31**	**265**	PFAKE		00 48 20.0	+15
DGAR				LR	LR		
comp=Z,422nm,19.0s,MS4.8							
JHJ	**Hachijo jima 2**	**85.83**	**341**	LR	LR	01 19 27.7	
comp=Z,1μm,22.0s,MS5.2,baz=164,slow=31							
CM31	**Chiang Mai Arr**	**88.49**	**302**	PFAKE		00 48 40.0	+15
CM31				LR	LR		
comp=Z,959nm,20.0s,MS5.2							
CHTO	**Chiang Mai**	**88.78**	**302**	*e*P	**P**	**00 48 27.1**	**+0.4**
CHTO				pmax	pmax		
comp=Z,15nm,1.3s,mb5.2							
CHTO				MLR	MLR		
comp=Z,1μm,22.0s,MS5.3							
CHTO	**Chiang Mai**	**88.78**	**302**	*e*P	**P**	**00 48 27.1**	**+0.3**
comp=Z,15nm,1.3s,mb5.2							
CHTO				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
MAJO	**Matsushiro**	**89.47**	**341**	PFAKE		00 48 40.0	+10
MAJO				LR	LR		
comp=Z,1μm,22.0s,MS5.2							
PALK	**Pallekele**	**90.37**	**281**	PFAKE		00 48 50.0	+16
PALK				LR	LR		
comp=Z,373nm,20.0s,MS4.8							
SUR	**Sutherland**	**90.59**	**212**	PFAKE		00 48 50.0	+15
SUR				LR	LR		
comp=Z,405nm,19.0s,MS4.9							
NJ2	**Nanjing**	**90.95**	**324**	*e*P	**P**	**00 48 36.9**	**0.0**
NJ2				AP	pP	00 48 41.8	+0.6
NJ2				XP	sP	00 48 43.9	+1.2
NJ2				PP	PP	00 52 14.9	+1.9
NJ2				S	S	00 59 30.0	-3.9
NJ2				AMB	AMB		
comp=Z,1μm,6.2s							
NJ2				LR	LR		
comp=N,2μm,19.0s,MS5.6							
NJ2				LR	LR		
comp=E,2μm,20.0s,MS5.6							
NJ2				LR	LR		
comp=Z,1μm,16.0s,MS5.4							
KMI	**Kunming**	**92.

comp=Z,4.0nm,1.0s,mb4.7
KMI MLR MLR
comp=Z,950nm,24.0s,MS5.2
KMI Kunming 92.01 308 P P 00 48 51.4 +10
comp=Z,4.0nm,1.0s,mb4.7
KMI pP pP 00 49 01.7 +16
KMI sP sP 00 49 05.6 +18
KMI PP PP 00 52 30.9 +10
KMI PPP 00 54 29.4
KMI SKS 00 59 15.8
KMI S S 00 59 45.2 +1.7
KMI sS sS 00 59 59.7 +9.1
KMI PS PS 01 00 56.4 +1.7
KMI SS SS 01 05 52.7 +0.5
KMI SSS 01 09 19.6
KMI LR LR
comp=Z,950nm,24.0s,MS5.2
INCN Inchon 93.30 332 PFAKE 00 49 00.0 +12
INCN LR LR
comp=Z,834nm,22.0s,MS5.2
ERM Erimo 93.87 346 PFAKE 00 49 00.0 +10
ERM LR LR
comp=Z,242nm,22.0s,MS4.6
LVC Limon Verde 94.12 134 PFAKE 00 49 00.0 +8.5
LVC LR LR
comp=Z,17μm,21.0s
LBTB Lobatse 95.52 219 PFAKE 00 49 10.0 +12
LBTB LR LR
comp=Z,2μm,20.0s,MS5.5
CD2 Chengdu 96.34 312 *e*P **P 00 49 03.0 +1.3**
CD2 AP pP 00 49 07.9 +1.9
CD2 XP sP 00 49 10.5 +3.0
CD2 SKS 00 59 38.0
CD2 S S 01 00 20.5 -1.0
CD2 XS sS 01 00 28.5 -0.1
CD2 SS SS 01 06 58.6 +4.6
CD2 AMB AMB
comp=Z,80nm,8.8s
CD2 LR LR
comp=N,730nm,22.8s,MS5.3
CD2 LR LR
comp=E,740nm,19.2s,MS5.3
CD2 LR LR
comp=Z,510nm,20.4s,MS5.0
MSEY Mahe Island 97.03 254 PFAKE 00 49 20.0 +15
MSEY LR LR
comp=Z,266nm,19.0s,MS4.7
YSS Yuzh-Sakhalins 98.76 346 PFAKE 00 49 20.0 +7.4
YSS LR LR
comp=Z,616nm,22.0s,MS5.1
BJT Baijiatuan 99.03 326 PFAKE 00 49 20.0 +6.2
BJT LR LR
comp=Z,1μm,21.0s,MS5.3
NNA Nana 99.12 122 PFAKE 00 49 30.0 +16
NNA LR LR
comp=Z,850nm,21.0s,MS5.2
MDJ Mudanjiang 99.14 337 P pP 00 49 24.1 +5.5
MDJ LR LR
comp=Z,488nm,19.0s,MS5.0
PAYG Puerto Ayora 100.36 104 PFAKE 00 49 30.0 +10
PAYG LR LR
comp=Z,3μm,21.0s,MS5.8
LZH Lanzhou 100.62 315 *e*P Pdif 00 49 22.8 +1.9
LZH AP 00 49 26.1
LZH XP 00 49 27.5
LZH PP PP 00 53 33.3 +5.4
LZH SKS 01 00 00.4
LZH *e*S Sdif 01 00 56.3 -1.4
LZH XS 01 01 04.8
LZH SS SS 01 07 58.6 +4.6
LZH AMB AMB
comp=Z,168nm,9.2s
LZH LR LR
comp=N,842nm,15.4s
LZH LR LR
comp=Z,1μm,18.2s,MS5.5
LZH Lanzhou 100.62 315 *e*P Pdif 00 49 22.8 +1.9
LZH 00 53 33.2
LZH 01 00 00.4
LZH *e*S Sdif 01 00 56.3 -1.4
LZH PS PS 01 02 32.5 +3.8
LZH SS SS 01 07 58.6 +4.6
LZH pmax pmax
comp=Z,36nm,1.5s
LZH MLR MLR
comp=Z,1μm,18.2s,MS5.5
LZH Lanzhou 100.62 315 *e*P Pdif 00 49 22.8 +1.9
comp=Z,36nm,1.5s
LZH pP 00 49 26.1
LZH sP 00 49 27.5
LZH PP PP 00 53 33.2 +5.3
LZH SKS 01 00 00.4
LZH *e*S Sdif 01 00 56.3 -1.4
LZH sS 01 01 04.7
LZH PS PS 01 02 32.5 +3.8
LZH SS SS 01 07 58.6 +4.6
LZH LR LR
comp=Z,1μm,18.2s,MS5.5
LSA Lhasa 101.72 303 PFAKE 00 49 40.0 +14
LSA LR LR
comp=Z,434nm,19.0s,MS5.0
LSZ Lusaka 103.06 225 PFAKE 00 49 40.0 +8.3
LSZ LR LR
comp=Z,2μm,20.0s,MS5.6
PET Petropavlovsk 103.41 358 PFAKE 00 49 40.0 +6.7
PET LR LR
comp=Z,1μm,21.0s,MS5.4
TSUM Tsumeb 103.82 214 PFAKE 00 49 50.0 +15
TSUM LR LR
comp=Z,1μm,22.0s,MS5.4
HIA Hailar 106.09 332 PFAKE 00 54 10.0 +13
HIA LR LR
comp=Z,815nm,20.0s,MS5.3
SNCC San Nicolas Is 108.11 60 PFAKE 00 54 10.0 +9.1
SNCC LR LR
comp=Z,647nm,19.0s,MS5.2
OTAV Otavalo 108.21 113 PFAKE 00 54 10.0 +8.9
OTAV LR LR
comp=Z,2μm,20.0s,MS5.6
BDFB Brasilia 108.74 149 PFAKE 00 54 10.0 +8.0
BDFB LR LR
comp=Z,4μm,21.0s,MS5.9
SAO San Andreas Ge 109.72 56 PFAKE 00 54 20.0 +16
SAO LR LR
comp=Z,727nm,19.0s,MS5.3
PFO Pinyon Flat Ob 110.07 61 PFAKE 00 54 20.0 +15
PFO LR LR
comp=Z,219nm,20.0s,MS4.7
MA2 Magadan 110.34 354 PKIKP PKiKP 00 54 17.4 +12
MA2 MLR MLR
comp=Z,631nm,21.0s,MS5.2
ISA Isabella 110.49 59 PFAKE 00 54 20.0 +15
ISA LR LR
comp=Z,201nm,19.0s,MS4.7
KMBO Kilima Mbogo 110.56 241 PFAKE 00 54 20.0 +15
KMBO LR LR
comp=Z,654nm,22.0s,MS5.2
HOPS Hopland 110.56 53 PFAKE 00 54 20.0 +15
HOPS LR LR
comp=Z,1μm,19.0s,MS5.5
CMB Columbia Colle 111.23 56 PFAKE 00 54 20.0 +13
CMB LR LR
comp=Z,436nm,19.0s,MS5.1
DAC Darwin (Calif) 111.42 59 PFAKE 00 54 20.0 +13
DAC LR LR
comp=Z,900nm,20.0s,MS5.3
WDC Whiskeytown Da 112.02 53 PFAKE 00 54 20.0 +12
WDC LR LR
comp=Z,969nm,20.0s,MS5.4
TUC Tucson 112.35 66 PFAKE 00 54 20.0 +11
TUC LR LR
comp=Z,795nm,19.0s,MS5.3
YBH Yreka Blue Hor 112.80 52 PFAKE 00 54 20.0 +10
YBH LR LR
comp=Z,630nm,20.0s,MS5.2
SHEL Horse Pasture 112.81 192 PFAKE 00 54 20.0 +10
SHEL LR LR
comp=Z,473nm,19.0s,MS5.1
TPH Tonopah 112.94 58 PFAKE 00 54 20.0 +10
TPH LR LR
comp=Z,447nm,21.0s,MS5.0
HUMO Hull Mountain 113.33 51 PFAKE 00 54 20.0 +9.3
HUMO LR LR
comp=Z,774nm,20.0s,MS5.3
TGUH Tegucigalpa,Un 113.59 97 PFAKE 00 54 20.0 +8.8
TGUH LR LR
comp=Z,405nm,19.0s,MS5.0
MOD Modoc 114.14 53 PFAKE 00 54 20.0 +7.7
MOD LR LR
comp=Z,519nm,20.0s,MS5.1
KDAK Kodiak Island 114.26 25 PFAKE 00 54 20.0 +7.5
KDAK LR LR
comp=Z,202nm,22.0s,MS4.7
WMQ Urumqi 114.30 310 *e*PKP PKiKP 00 54 12.0 -0.6
WMQ PP PP 00 55 12.0 +3.9
WMQ PKS 00 57 47.0
WMQ SKS SKSdf 01 01 20.0 -4.4
WMQ SKKS SKKSac 01 02 03.0 -6.7
WMQ SS SS 01 10 58.0 -1.4
WMQ PP PP
comp=Z,151nm,5.2s
WMQ LR LR
comp=N,2μm,25.8s,MS5.7
WMQ LR LR
comp=E,2μm,26.2s,MS5.7
WMQ LR LR
comp=Z,2μm,26.3s,MS5.5
WUAZ Wupatki 114.33 63 PFAKE 00 54 20.0 +7.4
WUAZ LR LR
comp=Z,643nm,20.0s,MS5.2
COR Corvallis 114.63 49 PFAKE 00 54 20.0 +6.8
COR LR LR
comp=Z,1μm,21.0s,MS5.4
BMN Battle Mountai 114.66 56 PFAKE 00 54 30.0 +17
BMN LR LR
comp=Z,439nm,19.0s,MS5.1
MNTX Cornudas Mount 115.10 70 PFAKE 00 54 30.0 +16
MNTX LR LR
comp=Z,626nm,21.0s,MS5.2
WVOR Wild Horse Val 115.37 54 PFAKE 00 54 30.0 +15
WVOR LR LR
comp=Z,855nm,20.0s,MS5.3
YAK Yakutsk 115.38 344 PFAKE 00 54 30.0 +15
YAK LR LR
comp=Z,436nm,21.0s,MS5.0
MVU Marysvale 115.98 60 PFAKE 00 54 30.0 +14
MVU LR LR
comp=Z,554nm,20.0s,MS5.2
ANMO Albuquerque 116.76 67 PFAKE 00 54 30.0 +13
ANMO LR LR
comp=Z,1μm,19.0s,MS5.5
DUG Dugway 116.85 59 PFAKE 00 54 30.0 +13
DUG LR LR
comp=Z,577nm,19.0s,MS5.2
MVCO Mesa Verde 117.16 64 PFAKE 00 54 30.0 +12
MVCO LR LR
comp=Z,531nm,20.0s,MS5.2
MPU Maple Canyon 117.37 60 PFAKE 00 54 30.0 +12
MPU LR LR
comp=Z,635nm,19.0s,MS5.3
HAWA Hanford 117.76 50 PFAKE 00 54 30.0 +11
HAWA LR LR
comp=Z,703nm,20.0s,MS5.3
TNA Tin City 118.16 13 PFAKE 00 54 30.0 +10
TNA LR LR
comp=Z,402nm,21.0s,MS5.0
HLID Hailey 118.35 55 PFAKE 00 54 30.0 +10
HLID LR LR
comp=Z,412nm,22.0s,MS5.0
PMR Palmer 118.43 24 PFAKE 00 54 30.0 +9.5
PMR LR LR
comp=Z,492nm,22.0s,MS5.1
BILL Bilibino 118.46 2 PFAKE 00 54 30.0 +9.4
BILL LR LR
comp=Z,541nm,21.0s,MS5.2
HWUT Hardware Ranch 118.51 58 PFAKE 00 54 30.0 +9.3
HWUT LR LR
comp=Z,744nm,20.0s,MS5.3
DIV Divide 118.95 26 PFAKE 00 54 30.0 +8.5
DIV LR LR
comp=Z,1μm,20.0s,MS5.6
SIT Sitka 118.99 34 PFAKE 00 54 30.0 +8.4
SIT LR LR
comp=Z,1μm,21.0s,MS5.5
SDCO Great Sand Dun 119.25 65 PFAKE 00 54 30.0 +7.9
SDCO LR LR
comp=Z,504nm,19.0s,MS5.2
AHID Auburn Hatcher 119.56 58 PFAKE 00 54 30.0 +7.3
AHID LR LR
comp=Z,486nm,21.0s,MS5.1
WRAK Wrangell Islan 119.58 35 PFAKE 00 54 30.0 +7.3
WRAK LR LR
comp=Z,425nm,20.0s,MS5.1
HKT Hockley 119.71 78 PFAKE 00 54 30.0 +7.0
HKT LR LR
comp=Z,630nm,19.0s,MS5.3
SDV Santo Domingo 119.73 115 PFAKE 00 54 40.0 +17
SDV LR LR
comp=Z,670nm,19.0s,MS5.3
NEW Newport 120.25 50 PFAKE 00 54 40.0 +16
NEW LR LR
comp=Z,889nm,19.0s,MS5.4
AAK Ala-Archa 120.27 301 PFAKE 00 54 40.0 +16
AAK LR LR
comp=Z,165nm,22.0s,MS4.6
MCK McKinley 120.28 23 PFAKE 00 54 30.0 +5.9
MCK LR LR
comp=Z,344nm,21.0s,MS5.0
BW06 Boulder Array 120.39 59 PFAKE 00 54 40.0 +16
BW06 LR LR
comp=Z,502nm,20.0s,MS5.2
ISCO Idaho Springs 120.58 63 PFAKE 00 54 40.0 +15
ISCO LR LR
comp=Z,760nm,21.0s,MS5.3
MSO Missoula 120.84 53 PFAKE 00 54 40.0 +15
MSO LR LR
comp=Z,706nm,20.0s,MS5.3
YMR Madison River 120.92 56 PFAKE 00 54 40.0 +15
YMR LR LR
comp=Z,863nm,21.0s,MS5.4
LKWY Lake 121.15 57 PFAKE 00 54 40.0 +14
LKWY LR LR
comp=Z,645nm,19.0s,MS5.3
WMOK Wichita Mounta 121.18 72 PFAKE 00 54 40.0 +14
WMOK LR LR
comp=Z,911nm,20.0s,MS5.4
MSKU Masuku 121.44 217 PFAKE 00 54 40.0 +14
MSKU LR LR
comp=Z,2.0nm,19.0s
COLA College 121.50 22 PFAKE 00 54 40.0 +14
COLA LR LR
comp=Z,488nm,21.0s,MS5.1
RCBR Riachuelo 121.50 158 PFAKE 00 54 40.0 +14
RCBR LR LR
comp=Z,2μm,20.0s,MS5.8
ASCN Ascension 121.53 184 PFAKE 00 54 40.0 +14
ASCN LR LR
comp=Z,368nm,20.0s,MS5.0
NATX Nacogdoches 121.68 77 PFAKE 00 54 40.0 +13
NATX LR LR
comp=Z,740nm,21.0s,MS5.3
EGAK Eagle 123.14 25 PFAKE 00 54 40.0 +10
EGAK LR LR
comp=Z,537nm,21.0s,MS5.2
CBKS Cedar Bluff 123.33 68 PFAKE 00 54 40.0 +10
CBKS LR LR
comp=Z,525nm,21.0s,MS5.2
EGMT Eagleton 123.76 54 PFAKE 00 54 40.0 +9.2
EGMT LR LR
comp=Z,627nm,21.0s,MS5.2
RSSD Black Hills 124.31 60 PFAKE 00 54 40.0 +8.2
RSSD LR LR
comp=Z,6μm,21.0s,MS6.3
TIXI Tiksi 124.36 348 PFAKE 00 54 40.0 +8.1
TIXI LR LR
comp=Z,3μm,20.0s,MS5.9
LAO LASA Array 124.76 57 PFAKE 00 54 40.0 +7.3
LAO LR LR
comp=Z,587nm,20.0s,MS5.2
KSU1 Kansas State U 125.37 70 PFAKE 00 54 50.0 +16
KSU1 LR LR
comp=Z,747nm,20.0s,MS5.4
OXF Oxford 126.79 78 PFAKE 00 54 50.0 +13
OXF LR LR
comp=Z,493nm,21.0s,MS5.2
DGMT Dagmar 126.94 56 PFAKE 00 54 50.0 +13
DGMT LR LR
comp=Z,855nm,19.0s,MS5.5
DWPF Disney 127.53 90 PFAKE 00 54 50.0 +12
DWPF LR LR
comp=Z,709nm,21.0s,MS5.3
PLAL Pickwick Lake 127.93 79 PFAKE 00 54 50.0 +11
PLAL LR LR
comp=Z,672nm,22.0s,MS5.3
CCM Cathedral Cave 127.94 74 PFAKE 00 54 50.0 +11
CCM LR LR
comp=Z,892nm,19.0s,MS5.5
WVT Waverly 128.82 78 PFAKE 00 54 50.0 +10
WVT LR LR
comp=Z,523nm,19.0s,MS5.2
BRVK Borovoye 129.04 309 PFAKE 00 54 50.0 +9.1
BRVK LR LR
comp=Z,187nm,22.0s,MS4.7
SCIA State Center 129.14 69 PFAKE 00 54 50.0 +8.9
SCIA LR LR
comp=Z,908nm,19.0s,MS5.5
BBGH Gun Hill 129.40 122 PFAKE 00 54 50.0 +8.5
BBGH LR LR
comp=Z,3μm,22.0s,MS5.9
SJG San Juan 129.68 112 PFAKE 00 54 50.0 +7.9
SJG LR LR
comp=Z,1μm,22.0s,MS5.5
HDIL Hopedale 130.67 73 PFAKE 00 55 00.0 +16
HDIL LR LR
comp=Z,945nm,21.0s,MS5.5
WCI Wyandotte Cave 131.09 77 PFAKE 00 55 00.0 +15
WCI LR LR
comp=Z,607nm,20.0s,MS5.3
AGMN Agassiz Refuge 131.35 61 PFAKE 00 55 00.0 +15
AGMN LR LR
comp=Z,483nm,21.0s,MS5.2
ULM Lac du Bonnet 132.41 58 PFAKE 00 55 00.0 +13
ULM LR LR
comp=Z,686nm,20.0s,MS5.4
BLA Blacksburg 134.13 82 PFAKE 00 55 00.0 +10
BLA LR LR
comp=Z,505nm,19.0s,MS5.3
ACSO Alum Creek Sta 134.35 77 PFAKE 00 55 00.0 +9.1
ACSO LR LR
comp=Z,673nm,19.0s,MS5.4
CNNC Cliffs of the 134.51 86 PFAKE 00 55 00.0 +8.8
CNNC LR LR
comp=Z,591nm,19.0s,MS5.3
DBIC Dimbokro 134.84 198 *e*PKIKP PKPdf 00 54 50.9 -0.9
DBIC MLR MLR
comp=Z,1μm,20.0s
AAM Ann Arbor 135.13 74 PFAKE 00 55 00.0 +7.6
AAM LR LR
comp=Z,976nm,20.0s,MS5.5
MCWV Mont Chateau 135.97 79 PFAKE 00 55 10.0 +16
MCWV LR LR
comp=Z,895nm,19.0s,MS5.5
GNI Garni 136.24 281 PFAKE 00 55 10.0 +16
GNI LR LR
comp=Z,522nm,20.0s,MS5.3
ARU Arti 136.59 308 PFAKE 00 55 10.0 +15
ARU LR LR
comp=Z,136nm,22.0s,MS4.6
CBN Corbin 136.66 83 PFAKE 00 55 10.0 +15
CBN LR LR
comp=Z,819nm,22.0s,MS5.4
SSPA Standing Stone 137.75 80 PFAKE 00 55 10.0 +13
SSPA LR LR
comp=Z,734nm,22.0s,MS5.4
MALT Malatya 139.14 275 PKIKP PKPdf 00 54 57.6 -2.2
TOA0 Torodi Ar. Sit 139.39 210 *e*PKPdf PKPdf 00 54 59.2 -1.0
TORD Torodi Ar. Bea 139.39 210 PKP PKPdf 00 54 58.1 -2.1
comp=Z,0.9nm,1.0s,baz=183,slow=2.4,SNR=5.6
KIV Kislovodsk 139.62 285 PFAKE 00 55 10.0 +9.4
KIV LR LR
comp=Z,94nm,20.0s,MS4.5
BINY Binghamton 139.81 79 PFAKE 00 55 10.0 +9.0
BINY LR LR
comp=Z,755nm,20.0s,MS5.4
NCB Newcomb 141.84 78 PFAKE 00 55 20.0 +15
NCB LR LR
comp=Z,657nm,20.0s,MS5.4
LONY Lake Ozonia 141.95 76 PFAKE 00 55 20.0 +15
LONY LR LR
comp=Z,789nm,20.0s,MS5.5
HRV Harvard--Oak R 142.75 81 PFAKE 00 55 20.0 +14
HRV LR LR
comp=Z,665nm,20.0s,MS5.4
WES Weston 142.83 82 PFAKE 00 55 20.0 +14
WES LR LR
comp=Z,789nm,22.0s,MS5.4
BR131 Keskin Array S 143.00 273 PFAKE 00 55 20.0 +13
BR131 LR LR
comp=Z,306nm,20.0s,MS5.1
BRTR Keskin Array B 143.00 273 PKP PKPdf 00 55 03.7 -3.0
comp=Z,0.2nm,0.4s,baz=124,slow=26,SNR=3.6
LBNH Lisbon 143.41 79 PFAKE 00 55 20.0 +13
LBNH LR LR
comp=Z,731nm,21.0s,MS5.4
ANTO Ankara 143.61 273 PFAKE 00 55 20.0 +12
ANTO LR LR
comp=Z,405nm,22.0s,MS5.2
PKME Peaks-Kenny Pk 145.54 79 PFAKE 00 55 20.0 +8.9
PKME LR LR
comp=Z,713nm,20.0s,MS5.4
OBN Obninsk 147.76 299 *e*PKP2 PKPab 00 55 16.8 -3.3
OBN *i* 00 58 40.1
OBN *e*SS SS 01 17 49.5 +0.7
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,500nm,20.0s,MS5.3
OBN Obninsk 147.76 299 *e*PKPdf PKPdf 00 55 17.1 +2.2
OBN LR LR
comp=Z,164nm,21.0s,MS4.8
KBS Kingsbay 149.80 349 PFAKE 00 55 30.0 +12
KBS LR LR
comp=Z,498nm,19.0s,MS5.3
SCHQ Schefferville 150.41 63 PFAKE 00 55 30.0 +11
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.7
AKASG Malin Array Be 150.75 288 PKPbc PKPbc 00 55 23.8 -1.5
comp=Z,1.0nm,0.5s,baz=83,slow=2.1,SNR=5.5
KEV Kevo 151.80 329 PFAKE 00 55 30.0 +8.7
KEV LR LR
comp=Z,697nm,20.0s,MS5.5
ARCES ARCESS Array B 152.37 329 PKPbc PKPbc 00 55 29.2 +0.3
comp=Z,2.6nm,0.9s,baz=90,slow=3.6,SNR=4.6
FINES FINESS Array B 153.90 311 PKPbc PKPbc 00 55 29.5 -2.8
comp=Z,1.4nm,0.8s,baz=98,slow=2.8,SNR=3.3
FINES FINESS Array B 153.90 311 PKPbc PKPbc 00 55 29.5 -2.8
SFJD Kangerlussuaq 156.81 33 PFAKE 00 55 40.0 +12
SFJD LR LR
comp=Z,1μm,19.0s,MS5.8
GERES GERESS Array B 159.80 277 PKPab PKPab 00 56 09.4 -1.4
comp=Z,0.6nm,0.8s,baz=108,slow=5.3,SNR=3.4
CLL Collm 160.82 284 *e*PKIKP PKPdf 00 55 39.0 +6.0
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL MLR MLR
comp=Z,700nm,21.0s
CLL Collm 160.82 284 *e*PKPdf PKPdf 00 55 39.0 +6.0
comp=Z,3.0nm,0.9s
CLL *e*(PKPab) PKPab 00 56 23.0 +7.7
CLL *e*PP PP 00 59 57.0 -0.9
CLL *e*PSKS 01 10 27.0
CLL *e*SS SS 01 20 10.0 -0.9
CLL *e*(PSS) 01 21 19.0
CLL *e*SSS 01 26 22.0
CLL LmV 02 19 00.0
comp=Z,700nm,21.0s
NAO01 NORSAR Array S 161.22 314 PFAKE 00 55 40.0 +6.6
NAO01 LR LR
comp=Z,853nm,21.0s
GRF Grafenberg Arr 161.59 278 *e*PKPab PKPab 00 56 18.2 -0.5
GRF *e*PP PP 01 00 01.2 -0.8
GRF *e*SS SS 01 20 18.0 -1.0
GRF *e*L 02 15 02.7
comp=Z,386nm,21.4s
GRF Grafenberg Arr 161.59 278 *e*PKP2 PKPab 00 56 18.2 -0.5
GRF *e* 01 00 01.2
GRF *e*SS SS 01 20 18.0 -1.0
KONO Kongsberg 162.21 311 PFAKE 00 55 40.0 +5.5
KONO LR LR
comp=Z,657nm,19.0s
ESLA Sonseca Array 165.41 226 PFAKE 00 55 50.0 +13
ESLA LR LR
comp=Z,8μm,22.0s
ESK Eskdalemuir 170.20 304 PFAKE 00 55 50.0 +9.2

ESK LR LR
comp=Z,307nm,20.0s

*IDC **16** 00:44:08.8±1.6,999N×12528E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.6/18,mbtmp3.5/4,Error ellipse: s-maj=170.6km s-min=21.4km az=69.0*
*ISCJB **16** 00:44:10.3±0.6,987N±004×12542E±005,h19km±5km, mb3.5/4,Error ellipse: s-maj=9.3km s-min=5.5km az=125.2*
*MAN **16** 00:44:10.7,980N×12537E,h10km,mb3.3,ML4.5,MS2.0*
ISC 16 00:44:10.8±0.6,987N±004×12539E±005,h14km±4km,n19, σ1§11/26,mb3.5/4,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.14**	**132**	*eP*			**Pg**	**00 44 14.1**	**-0.3**
SCPH				*eS*			**Sg**	**00 44 16.8**	**-0.2**
MSLP	**Maasin**	**0.58**	**297**	*eP*			**Pg**	**00 44 22.2**	**0.0**
MSLP				*eS*			**Sg**	**00 44 30.2**	**+0.2**
BUTP	**Butuan**	**0.93**	**165**	*eP*			**Pb**	**00 44 27.9**	**-0.8**
BUTP				*eS*			**Sb**	**00 44 44.5**	**+3.6**
PLP	**Palo**	**1.34**	**343**	*eP*			**Pn**	**00 44 34.6**	**-0.6**
PLP				*eS*			**Sn**	**00 44 51.2**	**-1.6**
OCLP	**Ormoc**	**1.40**	**327**	*eP*			**Pn**	**00 44 36.8**	**+0.9**
OCLP				*eS*			**Sn**	**00 44 57.5**	**+3.4**
LLP	**Lapu-Lapu**	**1.47**	**288**	*iS*			**Sn**	**00 44 55.3**	**-0.5**
TBP	**Tagbilaran**	**1.51**	**263**	*eP*			**Pn**	**00 44 36.9**	**-0.5**
TBP				*eS*			**Sn**	**00 44 56.5**	**-0.4**
CGP	**Cagayan de Oro**	**1.57**	**206**	↑*iP*			**Pn**	**00 44 34.6**	**-3.6**
CGP				*eS*			**Sn**	**00 44 57.4**	**-0.8**
BUKP	**Musuan**	**2.01**	**189**	*eP*			**Pn**	**00 44 44.4**	**+0.1**
SNPH	**Sibulan**	**2.18**	**256**	*eP*			**Pn**	**00 44 49.0**	**+2.3**
DCPH	**Dipolog City**	**2.38**	**238**	↓*eP*			**Pn**	**00 44 49.0**	**-0.5**
PAGZ	**Pagadian**	**2.82**	**225**	*eP*			**Pn**	**00 44 55.0**	**-0.4**
GUIM	**Jordan**	**2.85**	**285**	*eP*			**Pn**	**00 44 56.1**	**+0.2**
RCP	**Roxas**	**3.09**	**303**	↑*eP*			**Pn**	**00 45 01.0**	**+1.9**
PVCP	**Virac**	**3.89**	**342**	*eP*			**Pn**	**00 45 14.5**	**+4.3**
WRA	**Warramunga Arr**	**30.91**	**163**	P			**P**	**00 50 29.3**	**+2.3**
	0.7nm,1.0s,mb3.5,baz=345,slow=9.3,SNR=3.0								
ASAR	**Alice Springs**	**34.36**	**166**	P			**P**	**00 50 58.1**	**+0.9**
	0.4nm,0.6s,mb3.5,baz=339,slow=6.9,SNR=7.0								
SONM	**Songino Array**	**41.09**	**341**	P			**P**	**00 51 53.3**	**-0.8**
	0.4nm,0.6s,mb3.2,baz=163,slow=9.6,SNR=2.8								
MKAR	**Makanchi Array**	**51.82**	**323**	P			**P**	**00 53 17.2**	**-1.1**
	0.7nm,0.9s,mb3.6,baz=120,slow=6.0,SNR=5.0								

*ISCJB **16** 01:02:02.7±0.5,135N±008×1263E±02,h10km,mb4.3/12, Error ellipse: s-maj=24.7km s-min=7.2km az=134.0*
*IDC **16** 01:02:02.9±1.0,137N×12640E,h0km,mb4.3/8,mb1 4.4/9, mb1mx4.2/17,mbtmp4.3/9,ML4.0/1,Error ellipse: s-maj=73.0km s-min=16.1km az=72.0*
*NEIC **16** 01:02:08.0±0.4,134N×12631E,h35km,mb4.1/5,Error ellipse: s-maj=20.3km s-min=6.3km az=68.0*
ISC 16 01:02:04.6±0.5,136N±008×1264E±02,h10km,n24, σ0§76/25,mb4.3/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.13**	**295**	*e*Pn			**Pn**	**01 04 43.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.36**	**182**	*eP*			**Pn**	**01 06 30.3**	**-1.0**
	4.9nm,0.8s								
FITZ	**Fitzroy Crossi**	**19.36**	**182**	P			**Pn**	**01 06 30.3**	**-1.0**
	0.4nm,0.3s,baz=21,slow=13,SNR=13								
WRAB	**Tennant Creek**	**22.57**	**160**	*eP*			**P**	**01 07 05.0**	**0.0**
	15nm,0.3s,mb4.9								
WRA	**Warramunga Arr**	**22.58**	**160**	P			**P**	**01 07 04.5**	**-0.5**
	12nm,0.3s,mb4.7,baz=337,slow=11,SNR=216								
WB2	**Warramunga Arr**	**22.58**	**160**	*eP*			**P**	**01 07 04.5**	**-0.5**
WB2				*eS*			**S**	**01 11 07.4**	**-5.4**
NACB	**Ninganchiao**	**23.14**	**349**	P			**P**	**01 07 10.5**	**-0.5**
MBWA	**Marble Bar**	**23.30**	**196**	P			**P**	**01 07 13.0**	**+0.4**
AS31	**Alice Springs**	**25.94**	**164**	*eP*			**P**	**01 07 37.6**	**+0.6**
ASAR	**Alice Springs**	**25.94**	**164**	P			**P**	**01 07 37.0**	**0.0**
	2.1nm,0.4s,mb4.0,baz=346,slow=7.6,SNR=54								
ASAR				PcP			PcP	01 11 06.2	+0.7
	0.6nm,0.6s,baz=352,slow=2.8,SNR=4.2								
ASPA	**Alice Springs**	**25.94**	**164**	*eP*			**P**	**01 07 37.6**	**+0.6**
NWAO	**Narrogin (SRO)**	**35.18**	**193**	P			**P**	**01 08 59.4**	**+0.8**
	10nm,1.0s,mb4.7,baz=277,slow=23,SNR=6.4								
STKA	**Stephens Creek**	**36.08**	**158**	P			**P**	**01 09 06.5**	**+0.1**
	4.1nm,0.8s,mb4.4,baz=328,slow=9.0,SNR=7.5								
LSA	**Lhasa**	**43.75**	**314**	P			**P**	**01 10 11.6**	**+1.5**
SONM	**Songino Array**	**49.41**	**342**	P			**P**	**01 10 54.9**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=154,slow=9.1,SNR=6.4								
MK31	**Makanchi Array**	**59.29**	**326**	*eP*			**P**	**01 12 05.7**	**-0.7**
MKAR	**Makanchi Array**	**59.29**	**326**	P			**P**	**01 12 05.6**	**-0.8**
	1.3nm,0.4s,mb4.3,baz=120,slow=7.3,SNR=26								
BRVK	**Borovoye**	**69.17**	**328**	*eP*			**P**	**01 13 11.2**	**0.0**
	2.7nm,0.8s,mb4.2								
CHKZ	**Chkalovo**	**69.28**	**328**	*eP*			**P**	**01 13 11.7**	**-0.2**
	0.7nm,0.3s,mb4.1								
ZRNK	**Zerenda**	**69.81**	**327**	*eP*			**P**	**01 13 14.0**	**-1.1**
	2.2nm,0.6s,mb4.3								
VNDA	**Vanda**	**81.14**	**173**	P			**P**	**01 14 19.2**	**-1.0**
	0.9nm,0.6s,mb3.9,baz=322,slow=5.9,SNR=7.0								
VNDA	**Vanda**	**81.14**	**173**	*eP*			**P**	**01 14 19.7**	**-0.6**
	0.7nm,0.5s,mb3.9								
MALT	**Malatya**	**87.53**	**308**	P			**P**	**01 14 53.7**	**+1.0**
FINES	**FINESS Array B**	**93.72**	**332**	P			**P**	**01 15 23.2**	**+1.7**
	2.2nm,1.0s,mb4.5,baz=60,slow=7.5,SNR=5.7								

*IDC **16** 01:06:45.8±3.2,3040S×17773W,h0km,mb4.3/2, mb1 4.6/2,mb1mx4.0/11,mbtmp4.3/2,Error ellipse: s-maj=68.2km s-min=24.4km az=107.0*
*ISCJB **16** 01:06:50.2±3.0,304S±02×1776W±05,h57km±31km, mb3.8/3,Error ellipse: s-maj=75.1km s-min=32.5km az=144.5*
*NEIC **16** 01:06:51.9±1.1,3031S×17788W,h35km,mb4.0/2,Error ellipse: s-maj=27.0km s-min=14.8km az=114.0*
ISC 16 01:06:48.2±7.0,3040S±009×1777W±04,h16km±47km,n13, σ0§70/11,mb3.8/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**350**	Pn			**Pn**	**01 07 10.0**	**+0.1**
	63nm,0.3s,baz=89,slow=23,SNR=6.3								
RAO				Sn			**Sn**	**01 07 25.4**	**0.0**
	261nm,0.3s,baz=143,slow=20,SNR=9.3								
CTAO	**Charters Tower**	**34.06**	**279**	P			**P**	**01 13 29.9**	**-1.8**
ASAR	**Alice Springs**	**43.38**	**267**	P			**P**	**01 14 50.0**	**+0.1**
	0.7nm,0.7s,mb3.5,baz=106,slow=6.9,SNR=4.2								
ASAR	**Alice Springs**	**43.38**	**267**	P			**P**	**01 14 50.0**	**+0.1**
WB2	**Warramunga Arr**	**44.36**	**272**	*eP*			**P**	**01 14 58.6**	**+0.8**
WRAB	**Tennant Creek**	**44.36**	**272**	*eP*			**P**	**01 14 58.3**	**+0.6**
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**44.37**	**272**	P			**P**	**01 14 57.7**	**-0.1**
	0.7nm,0.4s,mb3.7,baz=110,slow=8.1,SNR=23								
NWAO	**Narrogin (SRO)**	**54.65**	**249**	P			**P**	**01 16 17.0**	**+0.7**
CASY	**Casey**	**55.27**	**208**	P			**P**	**01 16 20.3**	**-0.4**
	1.9nm,0.8s,mb4.2								
GUMO	**Guam**	**56.67**	**315**	*eP*			**P**	**01 16 30.6**	**-0.2**
	50nm,0.5s								
CHKZ	**Chkalovo**	**126.49**	**317**	PKPdf			PKPdf	01 25 51.5	+1.0
ZRNK	**Zerenda**	**127.42**	**316**	PKPdf			PKPdf	01 25 52.9	+0.6
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc			PKPbc	01 26 23.2	-1.6
	1.0nm,0.6s,baz=62,slow=3.3,SNR=7.9								

*IDC **16** 01:33:29.4±0.4,3029S×7138W,h0km,mb5.0/22, mb1 5.0/27,mb1mx5.0/28,mbtmp4.9/27,ML5.1/4,MS4.9/14, Ms1 4.9/14,ms1mx4.7/22,Error ellipse: s-maj=17.7km s-min=10.5km az=85.0*
*BJI **16** 01:33:31.7,3001S×7204W,h21km,mB5.4,Ms5.5,Msz5.3*
*MOS **16** 01:33:33.8±0.9,3016S×7127W,h33km,mb5.6/26, MS5.2/9,Error ellipse: s-maj=11.3km s-min=6.6km az=91.2*
*ISCJB **16** 01:33:34.4±0.1,3021S±002×7129W±004,h38km, mb5.2/75,MS5.2/19,Error ellipse: s-maj=5.3km s-min=2.3km az=154.5*
*GUC **16** 01:33:34.9±1.1,3030S×7147W,h47km±8km,ML5.8*
*GCMT **16** 01:33:35.5±0.2,3032S×7176W,h43km,MW5.5/75, Moment Tensor Solution. s70,c105; s75,c132; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.98±.05; $M_{\theta\theta}$0.11±.03; $M_{\phi\phi}$-2.09±.04; $M_{r\theta}$0.60±.03; $M_{\theta\phi}$0.23±.03; $M_{\phi r}$-0.61±.04; Best double couple: $M_0$2.22200×10^{17} NP1:ϕ_s8.00000°,δ38.00000°, λ113.00000°. NP2:ϕ_s160.00000°,δ56.00000°,λ73.00000°. Principal axes: T 2.2200, Plg73.0000°, Azm25.0000°; N 0.0070, Plg14.0000°, Azm170.0000°; P -2.2250, Plg9.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 01:33:35.5±0.1,3024S×7133W,mb5.3/74,MS5.3/4 Error ellipse: s-maj=6.2km s-min=2.9km az=80.0*
NEIC Felt [V] at Coquimbo and La Serena; [III] at Combarbala, Illapel, Ovalle and Quillota; [II] at Copiapo, Puchuncavi, Santiago and Vallenar.
ISC 16 01:33:36.1±0.1,3026S±002×7138W±004,h40km, h40km±.5km:pP-P,n662,σ0§81/479,mb5.2/75,MS5.2/19, 140C-113D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.37**	**19**	↓*iP*			**Pn**	**01 33 45.6**	**+0.5**
LSCH				*i S*			**Sn**	**01 33 53.4**	**+2.0**
OVCH	**Ovalle**	**0.38**	**156**	↑*iP*			**Pn**	**01 33 44.9**	**-0.3**
OVCH				*i S*			**Sn**	**01 33 51.9**	**+0.3**
OVCH					AML	AML		01 33 52.7	
	comp=N,1509μm,0.3s								
OVCH	**Ovalle**	**0.38**	**156**	↑*iP*			**Pn**	**01 33 44.9**	**-0.3**
OVCH				*i S*			**Sn**	**01 33 51.9**	**+0.3**
TLL	**Tololo Astrono**	**0.51**	**80**	↓*iP*			**Pn**	**01 33 48.5**	**+1.6**
TLL				*i S*			**Sn**	**01 33 57.9**	**+3.4**
TLL					AML	AML		01 34 04.3	
	comp=E,323μm,0.5s								
TLL	**Tololo Astrono**	**0.51**	**80**	↓*iP*			**Pn**	**01 33 48.5**	**+1.6**
TLL				*i S*			**Sn**	**01 33 57.9**	**+3.4**
CMCH	**Combarbala**	**0.97**	**160**	↓*iP*			**Pn**	**01 33 52.9**	**-0.3**
CMCH				*i S*			**Sn**	**01 34 06.1**	**+0.3**
CMCH					AML	AML		01 34 08.9	
	comp=E,1425μm,0.7s								
CMCH	**Combarbala**	**0.97**	**160**	↓*iP*			**Pn**	**01 33 52.9**	**-0.3**
CMCH				*i S*			**Sn**	**01 34 06.1**	**+0.3**
LCO	**Las Campanas**	**1.38**	**26**	↓*eP*			**Pn**	**01 33 59.7**	**+0.9**
LCO				*i S*			**Sn**	**01 34 18.1**	**+2.3**
LCO					AML	AML		01 34 25.3	
	comp=E,37μm,0.3s								
LCO	**Las Campanas**	**1.38**	**26**	↓*eP*			**Pn**	**01 33 59.7**	**+0.9**
LCO				S			**Sn**	**01 34 18.1**	**+2.3**
CHNG	**Los Chungos**	**1.62**	**184**	↓*iP*			**Pn**	**01 34 01.5**	**-0.7**
CHNG				*i S*			**Sn**	**01 34 20.2**	**-1.6**
VACH	**Vallenar**	**1.76**	**18**	*eP*			**Pn**	**01 34 09.7**	**+5.6**
VACH					AML	AML		01 34 42.0	
	comp=N,77μm,0.4s								
PTCH	**Petorca**	**2.04**	**169**	*i P*			**Pn**	**01 34 08.2**	**+0.4**
PTCH				*i S*			**Sn**	**01 34 33.0**	**+1.0**
PTCH					AML	AML		01 34 42.4	
	comp=E,216μm,0.4s								
PTCH	**Petorca**	**2.04**	**169**	*i P*			**Pn**	**01 34 08.2**	**+0.4**
PTCH				*i S*			**Sn**	**01 34 33.0**	**+1.0**
PACH	**Papudo**	**2.27**	**181**	↓*iP*			**Pn**	**01 34 10.5**	**-0.5**
JACH	**Jahuel**	**2.51**	**165**	*eP*			**Pn**	**01 34 15.7**	**+1.4**
ROCH	**El Roble**	**2.72**	**173**	↑*iP*			**Pn**	**01 34 17.7**	**+0.4**
PEL	**Peldehue**	**2.94**	**169**	*eP*			**Pn**	**01 34 20.4**	**+0.2**
CFAA	**Coronel Fontan**	**3.02**	**117**	Pn			**Pn**	**01 34 24.7**	**+3.4**
	comp=E,52nm,0.3s,baz=309,slow=12,SNR=1687								
CFAA					Lg			01 35 01.2	
	comp=E,246nm,0.3s,baz=309,slow=18,SNR=3.8								
CFAA					LR	LR		01 35 50.0	
	comp=E,3μm,21.8s,baz=167,slow=47								
CFAA	**Coronel Fontan**	**3.02**	**117**	Pn			**Pn**	**01 34 24.7**	**+3.4**
CFAA					Lg			01 35 01.2	
CFAA					LR	LR		01 35 50.0	
CPCH	**Copiapo**	**3.03**	**18**	↓*iP*			**Pn**	**01 34 21.6**	**+0.1**
CLCH	**Cerro Calan**	**3.21**	**167**	*eP*			**Pn**	**01 34 24.3**	**+0.3**
LCCH	**Las Cruces**	**3.21**	**183**	↑*iP*			**Pn**	**01 34 23.0**	**-1.0**
CDCH	**Caldera**	**3.21**	**9**	*eP*			**Pn**	**01 34 22.7**	**-1.3**
RCDM	**Rinconada Maip**	**3.26**	**172**	*eP*			**Pn**	**01 34 24.4**	**-0.2**
RCDM				*i S*			**Sn**	**01 35 01.4**	**-0.7**
RCDM					AML	AML		01 35 22.1	
	comp=E,35μm,0.6s								
RCDM	**Rinconada Maip**	**3.26**	**172**	*eP*			**Pn**	**01 34 24.4**	**-0.2**
RCDM				*i S*			**Sn**	**01 35 01.4**	**-0.7**
LACH	**Colegio Las Am**	**3.26**	**167**	*eP*			**Pn**	**01 34 25.3**	**+0.6**
ANTU	**Antumapu**	**3.36**	**169**	*eP*			**Pn**	**01 34 26.7**	**+0.7**
ANTU				*i S*			**Sn**	**01 35 05.2**	**+0.5**
MDZ	**Mendoza**	**3.39**	**141**	*eP*			**Pn**	**01 34 29.8**	**+3.3**
MDZ				S			**Sn**	**01 34 53.4**	**-12**
TACH	**Talagante**	**3.41**	**174**	*eP*			**Pn**	**01 34 26.7**	**0.0**
PCH	**Pirque**	**3.43**	**168**	*eP*			**Pn**	**01 34 27.8**	**+0.7**
CACH	**El Canelo**	**3.90**	**170**	*eP*			**Pn**	**01 34 34.4**	**+0.9**
CICH	**Cipreses**	**4.13**	**169**	*i P*			**Pn**	**01 34 37.7**	**+1.0**
LVC	**Limon Verde**	**7.93**	**17**	Pn			**Pn**	**01 35 26.8**	**-2.0**
	comp=E,3.9nm,0.3s,baz=201,slow=9.2,SNR=27								
LVC					Sn		**Sn**	**01 37 11.0**	**+14**
	comp=E,29nm,0.3s,baz=130,slow=22,SNR=4.1								
LVC					LR	LR		01 38 29.7	
	comp=E,15μm,20.6s,baz=205,slow=38								
LVC	**Limon Verde**	**7.93**	**17**	*e*Pn			**Pn**	**01 35 26.6**	**-2.2**
PLCA	**Paso Flores**	**10.47**	**177**	Pn			**Pn**	**01 36 02.1**	**-1.5**
	comp=E,2.2nm,0.3s,baz=344,slow=11,SNR=34								
PLCA					Lg			01 38 49.4	
	comp=E,2.7nm,0.3s,baz=54,slow=19,SNR=2.4								
PLCA					LR	LR		01 40 39.7	
	comp=E,9μm,19.0s,baz=347,slow=41								
PLCA	**Paso Flores**	**10.47**	**177**	*e*Pn			**Pn**	**01 36 02.8**	**-0.8**
CPUP	**Villa Florida**	**12.98**	**76**	Pn			**Pn**	**01 36 36.2**	**-1.7**
	comp=E,2.0nm,0.3s,baz=233,slow=11,SNR=27								
CPUP					Sn		**Sn**	**01 39 01.9**	**+0.8**
	comp=E,3.3nm,0.3s,baz=135,slow=20,SNR=1.6								
CPUP					Lg			01 40 12.7	
	comp=E,7.5nm,0.3s,baz=334,slow=20,SNR=2.8								
CPUP	**Villa Florida**	**12.98**	**76**	*e*Pn			**Pn**	**01 36 36.0**	**-2.0**
ARE	**Arequipa**	**13.73**	**360**	*eP*			**Pn**	**01 36 49.0**	**+0.8**
SIV	**San Ignacio**	**17.06**	**36**	P			**Pn**	**01 37 30.3**	**-1.2**
	comp=E,4.7nm,0.3s,baz=230,slow=12,SNR=85								
NNA	**Nana**	**18.88**	**343**	P			**Pn**	**01 37 52.8**	**-1.0**
	baz=178,slow=18,SNR=3.1								
NNA					LR	LR		01 43 43.4	
	comp=E,3μm,18.8s,baz=168,slow=32								
NNA	**Nana**	**18.88**	**343**	*e*Pn			**Pn**	**01 37 52.4**	**-1.4**
EFI	**East Falkland**	**23.57**	**159**	P			**P**	**01 38 45.3**	**+2.3**
	comp=E,1μm,0.7s,SNR=13								
EFI	**East Falkland**	**23.57**	**159**	↓*eP*			**P**	**01 38 35.7**	**-7.3**
EFI	**East Falkland**	**23.57**	**159**	*eP*			**P**	**01 38 45.3**	**+2.3**
ATAH	**Atahualpa**	**24.06**	**343**	P			**P**	**01 38 47.3**	**-0.2**
	comp=E,11nm,0.7s,mb4.4,baz=172,slow=5.0,SNR=10								
ATAH					LR	LR		01 47 17.3	
	comp=E,2μm,18.8s,MS4.6,baz=165,slow=35								
USHA	**Ushuaia**	**24.65**	**176**	P			**P**	**01 38 52.0**	**-0.8**
	comp=E,42nm,0.5s,mb5.2,baz=4.7,slow=6.9,SNR=24								
USHA					LR	LR		01 49 10.5	
	comp=E,6μm,18.3s,MS5.1,baz=342,slow=38								
BDFB	**Brasilia**	**25.90**	**61**	P			**P**	**01 39 04.2**	**0.0**
	comp=E,137nm,0.7s,mb5.6,baz=242,slow=8.0,SNR=106								
OTAV	**Otavalo**	**31.07**	**346**	*eP*			**P**	**01 39 52.5**	**+2.2**
RPN	**Rapa Nui**	**33.34**	**266**	LR			LR	01 49 58.9	
	comp=E,2μm,21.2s,MS4.9,baz=111,slow=30								
PMSA	**Palmer Station**	**34.84**	**175**	P			**P**	**01 40 22.7**	**-0.5**
	comp=E,18nm,0.9s,mb5.0,baz=8.0,slow=7.5,SNR=4.2								
PMSA	**Palmer Station**	**34.84**	**175**	*eP*			**P**	**01 40 21.4**	**-1.8**
	comp=E,51nm,1.2s,mb5.3								
PMSA					P			01 40 22.7	
PMSA					*e*pP	pP		01 40 33.4	-0.9
ROSC	**El Rosal**	**35.03**	**355**	P			**P**	**01 40 26.2**	**+1.4**
	comp=E,22nm,0.9s,mb5.1,baz=93,slow=4.7,SNR=16								
SDV	**Santo Domingo**	**38.92**	**1**	P			**P**	**01 40 57.4**	**-0.5**
	comp=E,19nm,0.8s,mb4.9,baz=208,slow=7.4,SNR=38								
SDV					LR	LR		01 58 40.6	
	comp=E,2μm,19.1s,MS5.0,baz=201,slow=39								
SDV	**Santo Domingo**	**38.92**	**1**	*eP*			**P**	**01 40 57.4**	**-0.5**
PCRV	**Puerto La Cruz**	**40.72**	**10**	P			**P**	**01 41 12.2**	**-0.7**
	comp=E,16nm,0.8s,mb4.7,baz=349,slow=1.0,SNR=8.2								
RCBR	**Riachuelo**	**41.27**	**61**	*eP*			**P**	**01 41 17.4**	**-0.1**
	comp=E,58nm,1.0s,mb5.2								
TGUH	**Tegucigalpa,Un**	**46.64**	**339**	*eP*			**P**	**01 42 00.5**	**0.0**
	comp=E,70nm,0.8s,mb5.6								
TGUH					*e*pP	pP		01 42 11.7	-0.1
SJG	**San Juan**	**48.35**	**7**	P			**P**	**01 42 11.8**	**-1.9**
	comp=E,57nm,0.8s,mb5.7,baz=197,slow=2.0,SNR=24								
SJG	**San Juan**	**48.35**	**7**	*eP*			**P**	**01 42 11.7**	**-2.1**
MPR	**Mayaguez**	**48.36**	**5**	*eP*			**P**	**01 42 13.2**	**-0.6**
HUMP	**Col San Antoni**	**48.41**	**7**	*eP*			**P**	**01 42 13.1**	**-1.1**
CMIG	**Matias Romero**	**52.24**	**331**	P			**P**	**01 42 42.3**	**-0.8**
	comp=E,18nm,0.8s,mb5.0,baz=147,slow=4.4,SNR=19								
CMIG					LR	LR		02 00 03.6	
	comp=E,729nm,20.2s,MS4.7,baz=328,slow=30								
VNA1	**Neumayer--Stat**	**52.91**	**158**	↑*iP*			**P**	**01 42 47.9**	**-0.2**
VNA1				*e*			pP	01 42 58.4	-1.2
VNA1				*e*				01 43 04.4	
VNA1				*e*				01 43 11.8	
VNA1				*e*				01 43 26.8	
VNA1				*e*				01 43 43.8	
VNA1				*e*				01 43 47.8	
VNA1				*e*				01 43 56.4	
VNA1				*e*				01 44 03.6	
SOR	**Soroa**	**53.92**	**347**	*eP*			**P**	**01 42 54.2**	**-1.3**
SNAA	**Sanae**	**54.85**	**159**	P			**P**	**01 43 01.4**	**-0.9**
	comp=E,10nm,0.5s,mb5.1,baz=284,slow=6.9,SNR=207								
SNAA	**Sanae**	**54.85**	**159**	↑*iP*			**P**	**01 43 01.4**	**-0.9**
SNAA				*e*			pP	01 43 11.7	-2.2
SNAA				*e*				01 43 18.0	
SNAA				*e*				01 43 28.9	
SNAA				*e*				01 43 44.9	
SNAA				*e*				01 43 52.4	
SNAA				*e*				01 43 56.7	
SNAA	**Sanae**	**54.85**	**159**	*eP*			**P**	**01 43 01.3**	**-1.0**
SNAA				*epP*			pP	01 43 12.3	-1.6
RKT	**Rikitea**	**56.63**	**261**	*eS*			**S**	**01 51 07.8**	**+3.4**
	comp=E,751nm,31.5s								
RKT				*e*LR			LR	01 59 53.7	
	comp=E,2μm,27.0s								
DWPF	**Disney**	**58.83**	**350**	*eP*			**P**	**01 43 29.8**	**-0.7**
MAIT	**Maitri**	**59.51**	**158**	*eP*			**P**	**01 43 34.6**	**-0.6**
QSPA	**South Pole Qui**	**59.97**	**180**	*eP*			**P**	**01 43 38.0**	**-0.3**
QSPA				*epP*			pP	01 43 49.0	-1.1
BBSR	**BB Station**	**62.61**	**6**	P			**P**	**01 43 56.7**	**+0.5**
CNNC	**Cliffs of the**	**65.44**	**354**	*eP*			**P**	**01 44 14.6**	**-0.2**
	comp=E,41nm,0.9s,mb5.5								
CNNC				*epP*			pP	01 44 25.7	-0.9
CNNC				*esP*			sP	01 44 32.9	+1.7
NATX	**Nacogdoches**	**65.52**	**338**	*eP*			**P**	**01 44 16.2**	**+0.9**
NATX				*epP*			pP	01 44 27.2	+0.1
JCT	**Junction City**	**66.18**	**333**	*eP*			**P**	**01 44 19.9**	**+0.3**
JCT				*e*PP*			pP	01 44 30.4	-1.0
CPCT	**Cooper Cave**	**66.52**	**348**	*eP*			**P**	**01 44 21.4**	**-0.3**
CPCT				*epP*			pP	01 44 31.9	-1.6
SWET	**Sewanee**	**66.55**	**347**	*eP*			**P**	**01 44 21.3**	**-0.6**
OXF	**Oxford**	**66.63**	**344**	*eP*			**P**	**01 44 21.6**	**-0.9**
PLAL	**Pickwick Lake**	**66.77**	**345**	*eP*			**P**	**01 44 22.1**	**-1.2**
	comp=E,19nm,0.8s,mb5.2								
SBA	**Scott Base**	**66.84**	**191**	*eP*			**P**	**01 44 23.8**	**0.0**
SBA				*e*PP*			pP	01 44 34.9	-0.8
TAOE	**Nuku Hiva Isla**	**67.27**	**273**	*eS*			S	01 53 22.4	+3.7
	comp=E,1μm,29.3s								
TAOE				*e*LR			LR	02 04 39.8	
	comp=E,2μm,24.8s								
TZTN	**Tazewell**	**67.42**	**349**	*eP*			**P**	**01 44 26.4**	**-1.1**
TZTN				*epP*			pP	01 44 36.9	-2.5
BLA	**Blacksburg**	**67.65**	**352**	*eP*			**P**	**01 44 28.1**	**-0.8**
BLA				*e*PP*			pP	01 44 39.4	-1.4
BLA				pmax			pmax		
	comp=Z,14nm,0.8s,mb5.0								
BLA	**Blacksburg**	**67.65**	**352**	*eP*			**P**	**01 44 28.1**	**-0.8**
	comp=Z,14nm,0.8s,mb5.1								
BLA				*epP*			pP	01 44 39.4	-1.4
ELN	**Prospectdale**	**67.71**	**352**	*eP*			**P**	**01 44 28.9**	**-0.4**
WVT	**Waverly**	**67.82**	**346**	*eP*			**P**	**01 44 29.0**	**-1.0**

DBIC LR LR 02 15 04.2
comp=Z,1µm,19.4s,MS5.2,baz=228,slow=34
DBIC Dimbokro 73.47 72 eP P 01 45 04.5 +0.1
DBIC pmax pmax
comp=Z,82nm,1.1s
DBIC Dimbokro 73.47 72 eP P 01 45 04.5 +0.1
comp=Z,82nm,1.1s,mb5.6
115A Sonoran Desert 73.60 325 ⇓P P 01 45 06.2 +1.1
baz=74,SNR=6.2
HNH Hanover 73.61 359 eP P 01 45 06.2 +1.0
CBKS Cedar Bluff 73.63 337 eP P 01 45 05.7 +0.4
CBKS e*PP pP 01 45 16.4 -0.9
NCB Newcomb 73.92 358 eP P 01 45 07.0 0.0
LBNH Lisbon 74.14 360 eP P 01 45 09.1 +0.8
LBNH e*PP pP 01 45 20.8 +0.5
LBNH pmax pmax
comp=Z,23nm,0.9s,mb5.1
LBNH Lisbon 74.14 360 eP P 01 45 09.1 +0.8
comp=Z,23nm,0.9s,mb5.1
LBNH epP pP 01 45 20.8 +0.5
Z14A Wintersburg 74.49 325 ⇑P P 01 45 10.8 +0.5
baz=75
LONY Lake Ozonia 74.58 358 eP P 01 45 10.9 +0.1
SCIA State Center 74.58 343 eP P 01 45 09.8 -1.1
comp=Z,85nm,1.4s,mb5.5
SCIA epP pP 01 45 20.9 -2.0
EMMW East Machias 74.69 3 eP P 01 45 12.2 +0.7
comp=Z,34nm,0.9s,mb5.3
EMMW epP pP 01 45 23.6 +0.1
FRNY Flat Rock 74.76 358 eP P 01 45 12.2 +0.2
SDCO Great Sand Dun 74.80 333 eP P 01 45 12.8 +0.7
comp=Z,39nm,1.3s,mb5.2
JFWS Jewell Farm 74.85 346 eP P 01 45 11.6 -0.8
MSNY Massena 74.96 357 eP P 01 45 10.9 -2.2
MSNY e pP 01 45 24.3 -0.8
Y14A Wickenburg 74.98 325 ⇓P P 01 45 13.8 +0.6
baz=75
X15A Humboldt 75.05 326 ⇑P P 01 45 14.5 +0.9
baz=75,SNR=14
PKME Peaks-Kenny Pk 75.19 2 eP P 01 45 14.3 -0.1
comp=Z,22nm,0.9s,mb5.1
PKME e pP 01 45 24.8 -1.6
GLA Glamis 75.20 323 eP P 01 45 15.2 +0.7
GLA Glamis 75.20 323 ⇓P P 01 45 15.1 +0.6
baz=76
Y13A Salome 75.30 324 ⇓P P 01 45 15.6 +0.6
baz=76,SNR=10
X14A Yava 75.35 326 ⇓P P 01 45 16.0 +0.7
baz=76,SNR=8.8
WUAZ Wupatki 75.48 327 eP P 01 45 16.7 +0.7
comp=Z,53nm,1.1s,mb5.4
WUAZ Wupatki 75.48 327 ⇓P P 01 45 16.9 +0.8
baz=76,SNR=14
DVTC Desert V Tower 75.56 322 ⇓P P 01 45 17.5 +1.0
baz=76
MVCO Mesa Verde 75.59 330 eP P 01 45 17.1 +0.4
comp=Z,50nm,1.2s,mb5.3
MVCO epP pP 01 45 28.9 +0.2
MVCO Mesa Verde 75.59 330 ⇓P P 01 45 17.3 +0.6
baz=76,SNR=17
Y12C Blythe 75.60 324 P P 01 45 17.4 +0.7
baz=76,SNR=8.1
SWSC Sam W. Stewart 75.62 323 ⇓P P 01 45 17.6 +0.7
baz=76
W15A Williams 75.62 326 ⇑P P 01 45 17.9 +1.1
baz=76,SNR=5.0
PDMCI Parker Dam,Lak 75.84 325 ⇓P P 01 45 18.7 +0.6
baz=76
BAR Barrett 75.88 322 eP P 01 45 19.4 +1.0
BAR epP pP 01 45 30.8 +0.4
MONP Monument Peak 75.91 322 ⇓P P 01 45 19.4 +0.8
baz=76
X13A Yucca 75.92 325 P P 01 45 19.1 +0.6
baz=76,SNR=14
BC3 Big Chuckw Mtn 76.00 323 ⇑P P 01 45 19.6 +0.6
baz=76,SNR=13
W14A Seligman 76.05 326 P P 01 45 20.4 +1.1
baz=76,SNR=10.0
SUR Sutherland 76.16 119 P P 01 45 21.3 +1.4
comp=Z,374nm,0.7s,SNR=14
SUR Sutherland 76.16 119 eP P 01 45 20.8 +0.9
comp=Z,51nm,0.8s,mb5.5
IRM Iron Mountain 76.24 324 P P 01 45 21.0 +0.6
baz=76,SNR=10
109C Camp Elliot, M 76.28 322 ⇑P P 01 45 21.0 +0.4
baz=76
W13A Hualapai Mount 76.35 325 ⇓P P 01 45 21.9 +0.9
baz=77,SNR=15
PFO Pinyon Flat Ob 76.48 323 eP P 01 45 22.7 +0.9
PFO pmax pmax
comp=Z,30nm,1.1s,mb5.1
PFO Pinyon Flat Ob 76.48 323 eP P 01 45 22.7 +1.0
comp=Z,30nm,1.1s,mb5.1
PFO Pinyon Flat Ob 76.48 323 P P 01 45 22.8 +1.0
baz=77,SNR=7.0
BELC Belle Mtn. 76.55 323 ⇓P P 01 45 23.0 +0.9
baz=77,SNR=5.6
MAW Mawson 76.60 164 ⇑iP P 01 45 21.3 -1.1
comp=Z,10nm,0.5s,mb5.0
MAW epP pP 01 45 32.4 -2.1
MAW Mawson 76.60 164 P P 01 45 21.4 -1.0
comp=Z,10nm,0.5s,mb5.0,baz=212,slow=6.5,SNR=55
MAW LR LR 02 19 37.9
comp=Z,1µm,18.8s,MS5.3,baz=234,slow=36
MAW Mawson 76.60 164 ⇑iP P 01 45 21.3 -1.1
MAW e*PP pP 01 45 32.4 -2.1
MAW pmax pmax
comp=Z,11nm,0.5s
ISCO Idaho Springs 76.62 334 eP P 01 45 23.2 +0.7
ISCO pmax pmax
comp=Z,28nm,1.2s,mb5.1
ISCO Idaho Springs 76.62 334 eP P 01 45 23.2 +0.6
comp=Z,28nm,1.2s,mb5.1
SMCO Snowmass 76.62 332 eP P 01 45 23.6 +1.1
MURC Murrieta 76.87 322 ⇑P P 01 45 24.6 +0.7
baz=77,SNR=6.7
W12A Cal Nev Ari 77.00 325 ⇑P P 01 45 24.9 +0.2
baz=77
BBRC Big Bear Sol-O 77.23 323 ⇓P P 01 45 27.4 +1.3
baz=78
V12A Nelson 77.32 325 ⇑P P 01 45 26.9 +0.4
baz=78,SNR=21
HEC Hector,Ludlow 77.37 323 ⇑P P 01 45 27.6 +0.8
baz=78,SNR=6.9
BFSC Mount Baldy St 77.61 322 P P 01 45 28.5 +0.5
baz=78,SNR=6.5
TUQ Turquoise Mtn. 77.63 324 ⇓P P 01 45 28.8 +0.6
baz=78,SNR=16
V11A Goodsprings 77.70 325 ⇑P P 01 45 29.2 +0.6
baz=78
U12A Valley of Fire 77.73 326 ⇓P P 01 45 29.2 +0.5
baz=78,SNR=18
RRX Edison Barstow 77.75 323 ⇓P P 01 45 29.5 +0.6
baz=78
MWC Mount Wilson 77.81 322 eP P 01 45 30.4 +1.2
PHWY Pilot Hill 77.86 334 eP P 01 45 29.9 +0.5
DECC Green Verdugo 77.97 322 ⇑P P 01 45 30.8 +0.6
baz=78
GSC Goldstone 77.98 323 eP P 01 45 30.9 +0.7
GSC Goldstone 77.98 323 P P 01 45 30.9 +0.8
baz=78,SNR=14
SRU San Rafael 78.05 330 eP P 01 45 31.1 +0.6
CCUT Cedar City 78.06 327 eP P 01 45 31.9 +1.3
CCUT epP pP 01 45 43.0 +0.3
SHPR Sheep Range 78.09 325 eP P 01 45 31.6 +0.8
U11A Corn Creek 78.14 325 ⇑P P 01 45 31.7 +0.7
baz=78
SHOC Shoshone 78.18 324 ⇓P P 01 45 31.6 +0.4
baz=78
EDW2 Edwards Air Fo 78.27 322 P P 01 45 32.1 +0.3
baz=78,SNR=13
ARUT Antelope Range 78.29 327 eP P 01 45 32.6 +0.7
ARUT e*PP pP 01 45 43.9 0.0
MSU Marysvale 78.29 328 eP P 01 45 32.6 +0.7
BSC Santa Cruz Isl 78.48 321 ⇑P P 01 45 33.4 +0.5
baz=79
TMUT Trail Mountain 78.50 330 eP P 01 45 32.0 -1.0
LRMC Laurel Mountai 78.57 323 ⇓P P 01 45 34.0 +0.6
baz=79
RWWY Rawlins 78.86 333 eP P 01 45 35.6 +0.6
comp=Z,78nm,1.1s,mb5.5
ARVC Arvin 78.91 322 ⇑P P 01 45 35.8 +0.5
baz=79
FURC Furnace Creek, 78.91 324 ⇓P P 01 45 35.8 +0.5
baz=79,SNR=17
MPMC Manual Prospec 78.92 323 P P 01 45 35.9 +0.6
baz=79,SNR=12
ISA Isabella 79.12 323 eP P 01 45 37.7 +1.2
comp=Z,0.1nm,1.0s
ISA Isabella 79.12 323 ⇑P P 01 45 37.1 +0.7
baz=79,SNR=12
DAC Darwin (Calif) 79.14 324 eP P 01 45 37.1 +0.6
DAC pmax pmax
comp=Z,20nm,0.8s,mb5.1
DAC Darwin (Calif) 79.14 324 eP P 01 45 37.1 +0.6
comp=Z,20nm,0.8s,mb5.1
PKM Peak Mountain 79.26 321 ⇓P P 01 45 38.3 +1.1
baz=80,SNR=9.8
MPU Maple Canyon 79.28 330 eP P 01 45 37.9 +0.5
MPU epP pP 01 45 48.7 -0.7
NLU North Lily Min 79.42 329 eP P 01 45 38.7 +0.6
DAU Daniels Canyon 79.44 330 eP P 01 45 38.9 +0.7
CWC Cottonwood Cre 79.51 323 ⇑P P 01 45 39.1 +0.5
baz=80
VES Vestal, Richgr 79.58 322 ⇓P P 01 45 39.2 +0.2
baz=80,SNR=14
GRAC Grapevine Rang 79.58 324 P P 01 45 39.6 +0.7
baz=80,SNR=12
SMMC Simmer 79.67 321 ⇓P P 01 45 40.5 +1.1
baz=80,SNR=5.5
TSUM Tsumeb 79.71 106 eP P 01 45 40.5 +0.8
comp=Z,80nm,1.0s,mb5.6
TRCR Troy Canyon 79.75 326 eP P 01 45 40.4 +0.6
TRCR epP pP 01 45 52.0 0.0
CTU Camp Tracy 79.89 330 eP P 01 45 41.7 +1.1
CTU epP pP 01 45 52.2 -0.5
EYMN Ely 79.92 346 eP P 01 45 39.9 -0.9
EYMN epP pP 01 45 54.2 +1.3
DUG Dugway 79.95 329 eP P 01 45 41.7 +0.8
DUG Dugway 79.95 329 ⇓P P 01 45 41.3 +0.3
baz=80,SNR=18
RCTC Rector, Farmer 80.02 323 ⇑P P 01 45 40.8 -0.5
baz=80
V05C Boulder Hill, 80.04 322 ⇑P P 01 45 42.3 +0.9
baz=80
R10A Warm Springs 80.05 326 ⇑P P 01 45 42.5 +1.0
baz=80,SNR=19
TIN Tinemaha 80.06 324 ⇓P P 01 45 42.1 +0.5
baz=80
S09A Goldfield 80.07 325 P P 01 45 42.0 +0.4
baz=80,SNR=8.3
TCUT Toone Canyon 80.09 330 eP P 01 45 42.1 +0.4
Q11A Duckwater 80.18 326 P P 01 45 42.7 +0.5
baz=80,SNR=13
HELL Mitchell Peak, 80.19 323 ⇓P P 01 45 42.2 0.0
baz=80,SNR=37
P12A McGill 80.32 327 ⇑P P 01 45 43.3 +0.4
baz=81
TPH Tonopah 80.34 325 eP P 01 45 44.1 +1.0
TPH pmax pmax
comp=Z,43nm,1.2s,mb5.2
TPH Tonopah 80.34 325 eP P 01 45 44.1 +1.1
comp=Z,43nm,1.2s,mb5.2
S08C White Mtn Res 80.37 324 P P 01 45 44.0 +0.8
baz=81,SNR=7.8
V04C Ramage Ranch, 80.39 321 ⇑P P 01 45 44.0 +0.7
baz=81
R09A Tonopah 80.39 325 P P 01 45 43.7 +0.4
baz=81,SNR=15
PKD Parkfield 80.44 321 ⇓P P 01 45 44.1 +0.5
baz=81,SNR=5.7
MTUM Tungsten Hills 80.46 324 eP P 01 45 44.3 +0.6
DRV Dumont d'Urvil 80.47 192 S S 01 55 52.0 +4.8
U05C Westside ANR, 80.50 322 ⇓P P 01 45 44.1 +0.1
baz=81
HWUT Hardware Ranch 80.56 331 eP P 01 45 44.0 -0.2
comp=Z,31nm,0.8s,mb5.3
BGU Big Grassy Mou 80.64 329 eP P 01 45 44.3 -0.3
BGU epP pP 01 45 55.9 -0.9
SPUT South Promonto 80.69 330 eP P 01 45 43.5 -1.4
PDAR Pinedale Array 80.70 333 P P 01 45 44.3 -0.7
comp=Z,2.8nm,0.8s,mb4.3,baz=131,slow=4.3,SNR=16
PDAR LR LR 02 18 32.8
comp=Z,493nm,18.5s,MS4.9,baz=118,slow=34
BW06 Boulder Array 80.70 333 eP P 01 45 44.4 -0.6
P11A Circle Ranch, 80.78 327 ⇑P P 01 45 46.0 +0.5
baz=81
T06C Milleton Lake 80.79 323 ⇑P P 01 45 44.8 -0.6
baz=81
MLAC Mammoth Lakes 80.81 324 ⇓P P 01 45 46.3 +0.7
baz=81
KCC Kaiser Creek 80.83 323 ⇑P P 01 45 45.3 -0.3
baz=81,SNR=8.4
V03C Hunter Liggett 80.87 321 ⇑P P 01 45 46.6 +0.7
baz=81
O12A Currie 80.88 328 P P 01 45 46.3 +0.4
baz=81,SNR=17
Q09A Carvers 80.91 325 ⇓P P 01 45 46.3 +0.2
baz=81
R08A Mina 80.99 325 ⇑P P 01 45 46.9 +0.4
baz=81
N13A Wendover, West 81.10 329 ⇓P P 01 45 46.8 -0.3
baz=81
NVAR Mina Array Bea 81.15 325 P P 01 45 47.8 +0.4
comp=Z,6.9nm,0.7s,mb4.7,baz=162,slow=5.6,SNR=47
P10A Eureka 81.17 326 ⇓P P 01 45 48.0 +0.5
baz=82
O11A Cowboy Ranch, 81.19 327 ⇓P P 01 45 48.1 +0.5
baz=82,SNR=31
HVU Hansel Valley 81.22 330 eP P 01 45 47.8 +0.1
T05C Eagle Field, D 81.22 322 ⇓P P 01 45 48.2 +0.4
baz=82
AGMN Agassiz Refuge 81.22 344 eP P 01 45 46.4 -1.3
comp=Z,22nm,0.9s,mb5.1
AGMN epP pP 01 45 58.0 -1.9
R07C Lee Vining 81.27 324 ⇑P P 01 45 48.6 +0.5
baz=82,SNR=19
Q08A Gabbs 81.30 325 ⇑P P 01 45 48.1 0.0
baz=82,SNR=16
HAST UC Hastings Re 81.31 321 ⇓P P 01 45 48.7 +0.5
baz=82
S05C Merced 81.37 323 ⇓P P 01 45 48.7 +0.2
baz=82
P09A Austin 81.45 326 ⇑P P 01 45 49.1 +0.2
baz=82
N12A Clover Valley, 81.48 328 ⇑P P 01 45 48.9 -0.2
baz=82,SNR=13
S06C San Francisco 81.53 323 ⇓P P 01 45 49.7 +0.3
baz=82,SNR=8.5
SAO San Andreas Ge 81.53 321 epP pP 01 46 05.6 +4.1
PACP Pacheco Peak 81.63 322 ⇑P P 01 45 50.6 +0.7
baz=82
REDW Red Top Meadow 81.72 332 eP P 01 45 50.1 -0.3
comp=Z,31nm,1.4s,mb5.0
O10A Cortez Mining, 81.72 327 ⇑P P 01 45 50.4 0.0
baz=82
SNOW Snow King Moun 81.76 332 eP P 01 45 50.6 0.0
comp=Z,45nm,1.4s,mb5.2
N11A Elko Archery C 81.77 328 ⇑P P 01 45 50.4 -0.3
baz=82
WAKR Walker 81.78 324 eP P 01 45 51.6 +0.9
Q07A Schurz 81.80 325 ⇓P P 01 45 51.2 +0.4
baz=82
LOHW Long Hollow 81.82 332 eP P 01 45 51.1 +0.1
TPAW Teton Pass 81.86 332 eP P 01 45 51.4 +0.3
M12A Wells 81.87 328 P P 01 45 51.2 0.0
baz=82,SNR=12
RRI2 Red Ridge 81.89 332 eP P 01 45 50.9 -0.4
comp=Z,36nm,1.4s,mb5.1
CMB Columbia Colle 81.92 323 eP P 01 45 51.4 0.0
CMB Columbia Colle 81.92 323 P P 01 45 51.5 0.0
baz=82,SNR=10
O09A Fish Creek Ran 81.95 326 ⇑P P 01 45 51.4 -0.2
baz=82,SNR=9.1
MOOW Moose Ponds 81.99 332 eP P 01 45 52.0 +0.1
MOOW epP pP 01 46 03.1 -0.8
P08A Dixie Valley 82.02 325 ⇓P P 01 45 52.1 +0.2
baz=82
N10A Dunphy 82.06 327 ⇓P P 01 45 51.8 -0.4
baz=82
BMN Battle Mountai 82.17 326 eP P 01 45 53.1 +0.3
BMN e*PP pP 01 46 03.6 -1.3
IMW Indian Meadow 82.19 332 eP P 01 45 53.3 +0.4
comp=Z,36nm,1.4s,mb5.1
BNLO Ben Lomond (Sa 82.20 321 ⇑P P 01 45 53.3 +0.4
baz=82
FLWY Flagg Ranch 82.25 333 eP P 01 45 53.8 +0.6
R05C Kirkwood Meado 82.26 324 ⇓P P 01 45 53.6 +0.3
baz=82,SNR=9.3
M11A Holland Ranch, 82.28 328 ⇑P P 01 45 53.5 +0.1
baz=83,SNR=19
P07A Fallon 82.30 325 ⇓P P 01 45 53.8 +0.4
baz=83
WENL Wente Brothers 82.33 322 ⇓P P 01 45 54.4 +0.8
baz=83
R04C Big Horse Ranc 82.37 323 ⇓P P 01 45 54.2 +0.4
baz=83
TOA0 Torodi Ar. Sit 82.41 70 eP P 01 45 53.8 -0.2
TOA0 ePcP PcP 01 45 57.2 -1.9
TORD Torodi Ar. Bea 82.41 70 P P 01 45 54.1 0.0
comp=Z,21nm,0.6s,mb5.3,baz=275,slow=5.2,SNR=376
TORD PKKPbc PKKPbc 02 04 17.4 -2.8
comp=Z,0.3nm,0.5s,baz=59,slow=2.4,SNR=11
TORD LR LR 02 21 19.0
comp=Z,1µm,19.2s,MS5.4,baz=250,slow=35
JRSC Jasper Ridge 82.43 321 ⇓P P 01 45 54.9 +0.7
baz=83
WCN Washoe City 82.55 324 ⇓P P 01 45 55.4 +0.6
baz=83
RLMT Red Lodge 82.57 334 eP P 01 45 54.2 -0.7
comp=Z,7.0nm,0.8s,mb4.7
RLMT epP pP 01 46 05.8 -1.2
RLMT esP sP 01 46 09.7 -1.8
BDM Black Diamond 82.64 322 ⇑P P 01 45 56.0 +0.8
baz=83
LAVA Lava Cap Winer 82.64 323 ⇓P P 01 45 55.3 0.0
baz=83,SNR=14
PAHR Pah Rah Range 82.67 325 eP P 01 45 55.9 +0.5
comp=Z,50nm,1.1s,mb5.5
M10A I.L. Ranch, Tu 82.70 328 ⇑P P 01 45 55.7 +0.2
baz=83
MIR Mirnyy 82.76 174 eP P 01 45 56.0 +0.2
MIR e 01 46 12.0
MIR pmax pmax
comp=Z,250nm,2.0s,mb5.9
O07A Toulon 82.77 325 ⇑P P 01 45 56.0 +0.2
baz=83
LAO LASA Array 82.81 337 epP pP 01 46 07.2 -1.0
N08A GE Springer Mi 82.88 326 P P 01 45 56.0 -0.5
baz=83,SNR=12
P06A Stead Airport, 82.91 324 ⇑P P 01 45 56.9 +0.3
baz=83
Q04C Lincoln 83.04 323 ⇑P P 01 45 57.8 +0.5
baz=83
ULM Lac du Bonnet 83.05 344 P P 01 45 55.7 -1.6
comp=Z,9.7nm,1.0s,mb4.8,baz=170,slow=5.2,SNR=12
ULM Lac du Bonnet 83.05 344 P P 01 45 55.7 -1.7
M09A Marrel Ranch, 83.05 327 ⇑P P 01 45 57.0 -0.4
baz=83
FARB Farallon Islan 83.06 321 ⇑P P 01 45 57.9 +0.5
baz=83
QLMT Earthquake Lak 83.17 333 eP P 01 46 00.0 +2.1
O06A Flanigan 83.24 325 ⇓P P 01 45 58.7 +0.4
baz=84,SNR=5.2
CVS Carmenet Viney 83.24 322 ⇓P P 01 45 58.3 0.0
baz=84
BEKR Beckwourth 83.28 324 ⇓P P 01 45 58.7 +0.2
baz=84,SNR=19
N07B Gerlach 83.28 326 ⇓P P 01 45 58.8 +0.2
baz=84
MCCM Marconi Confer 83.32 322 ⇑P P 01 45 59.4 +0.6
baz=84
LBTB Lobatse 83.37 115 eP P 01 45 59.0 0.0
HLID Hailey 83.37 330 P P 01 45 59.4 +0.4
baz=84,SNR=18
OHCM Honcut 83.46 323 eP P 01 46 00.0 +0.6
OHCM epP pP 01 46 11.2 -0.4
M08A Happy Creek Ra 83.51 326 ⇓P P 01 45 59.7 0.0
baz=84
SUTB Sutter Butte 83.54 323 ⇓P P 01 45 59.4 -0.4
baz=84
L09A Wilkinson Ranc 83.62 327 ⇑P P 01 45 60.0 -0.3
baz=84
MNRC McLaughlin Nat 83.63 322 ⇑P P 01 46 00.8 +0.5
baz=84
ORV Oroville 83.63 323 ⇓P P 01 46 00.6 +0.3
baz=84,SNR=12
O05C Quincy 83.64 324 ⇓P P 01 46 00.5 +0.2
baz=84,SNR=13
N06A Buffalo Meadow 83.69 325 ⇑P P 01 46 00.8 +0.2
baz=84,SNR=12
DGMT Dagmar 83.70 339 eP P 01 46 00.4 -0.3
MCMT McKenzie Canyo 83.74 332 eP P 01 46 01.0 +0.1
MCMT epP pP 01 46 12.5 -0.5
CASY Casey 83.76 181 ⇑iP P 01 45 59.8 -1.2
CASY iP pP 01 46 11.8 -1.4
M07A Soldier Meadow 83.85 326 ⇓P P 01 46 01.6 +0.1
baz=84,SNR=9.0
HOPS Hopland 84.04 322 ⇑P P 01 46 03.1 +0.6
baz=84
L08A Fields 84.07 327 ⇑P P 01 46 01.9 -0.7
baz=84,SNR=11
DLMT Dillon 84.07 332 eP P 01 46 02.5 -0.1
comp=Z,45nm,1.4s,mb5.4
K09A Rome 84.17 328 P P 01 46 02.7 -0.4
baz=84,SNR=6.5
GASB Alder Springs 84.34 323 ⇑P P 01 46 04.6 +0.7
baz=85,SNR=23
M06C Likely Place G 84.35 325 ⇓P P 01 46 04.0 0.0
baz=85,SNR=8.5
LRM Limekiln Ridge 84.39 333 eP P 01 46 04.1 -0.1
WVOR Wild Horse Val 84.39 327 eP P 01 46 03.9 -0.3
WVOR e*PP pP 01 46 15.3 -1.1
WVOR pmax pmax
comp=Z,20nm,1.3s,mb5.1
WVOR Wild Horse Val 84.39 327 eP P 01 46 03.9 -0.3
comp=Z,20nm,1.3s,mb5.1
WVOR epP pP 01 46 15.3 -1.1
L07A Adell 84.41 326 P P 01 46 04.9 +0.6
baz=85,SNR=9.3
P01C Double 8 Ranch 84.53 322 ⇑P P 01 46 05.4 +0.5
baz=85,SNR=10
HATC Hat Creek Radi 84.55 324 ⇑P P 01 46 04.8 -0.2
baz=85
K08A Mann Creek Ran 84.55 327 ⇓P P 01 46 04.8 -0.2
baz=85
J09A Fry Pan Ranch, 84.69 328 ⇓P P 01 46 05.3 -0.4
baz=85
O02C Red Bluff 84.76 323 ⇑P P 01 46 06.0 -0.1
baz=85
MOD Modoc 84.79 326 eP P 01 46 06.7 +0.5
comp=Z,18nm,1.1s,mb5.1
MOD Modoc 84.79 326 ⇓P P 01 46 06.1 -0.1
baz=85,SNR=5.1
M05C Lookout 84.80 325 ⇓P P 01 46 06.2 -0.1
baz=85
SCHQ Schefferville 84.83 3 P P 01 46 05.2 -1.2
comp=Z,7.5nm,1.0s,mb4.8,baz=145,slow=9.4,SNR=4.4
K07A Rock Creek Ran 84.88 327 ⇓P P 01 46 06.8 +0.2
baz=85,SNR=16
WDC Whiskeytown Da 84.93 323 ⇓P P 01 46 05.6 -1.3
baz=85,SNR=5.5
J08A Circle Bar Ran 85.03 328 ⇑P P 01 46 07.5 0.0
baz=85,SNR=11
L05A Lakeview 85.16 325 ⇓P P 01 46 08.1 0.0
baz=85,SNR=12
I09A Lost Marbles R 85.17 328 ⇓P P 01 46 07.7 -0.4
baz=86,SNR=14
EGMT Eagleton 85.20 335 eP P 01 46 08.7 +0.4
comp=Z,28nm,1.3s,mb5.2
EGMT Eagleton 85.20 335 ⇓P P 01 46 07.4 -0.9
baz=86
J07A Hines 85.43 327 ⇓P P 01 46 09.6 +0.1
baz=86
K06A Valley Falls 85.44 326 ⇓P P 01 46 09.7 +0.2
baz=86
M04C Macdoel 85.46 325 ⇑P P 01 46 09.4 -0.1
baz=86,SNR=7.1
I08A Drewsey 85.50 328 ⇑P P 01 46 09.7 -0.1
baz=86
N02C Big Bar 85.50 323 ⇓P P 01 46 09.9 +0.2
baz=86
CHMT Chamberlain Mo 85.60 333 eP P 01 46 10.3 +0.1
H09A Durkee 85.67 329 ⇑P P 01 46 10.4 -0.2
baz=86
M02C Callahan 85.69 324 ⇑P P 01 46 10.3 -0.4
baz=86
K05A Summer Lake 85.70 326 ⇑P P 01 46 10.6 -0.2
baz=86,SNR=9.3
J06A Christmas Vall 85.74 327 ⇓P P 01 46 10.7 -0.3
baz=86,SNR=6.9
MSO Missoula 85.81 332 eP P 01 46 11.3 0.0
MSO epP pP 01 46 23.6 +0.1
YBH Yreka Blue Hor 85.86 324 eP P 01 46 10.1 -1.5
YBH e*PP pP 01 46 21.9 -1.9
YBH Yreka Blue Hor 85.86 324 ⇓P P 01 46 10.5 -1.0
baz=86,SNR=5.9
JCC Jacoby Creek 85.87 323 ⇓P P 01 46 11.6 0.0
baz=86
H08A Prairie City 86.02 328 ⇓P P 01 46 12.0 -0.3

baz=86
I07A Izee 86.06 327 ⇑P **P** **01 46 12.6 +0.1**
baz=86,SNR=8.6
D13A Huson 86.23 332 ⇑P **P** **01 46 13.0 -0.4**
baz=86
J05A Fort Rock 86.28 326 ⇑P **P** **01 46 13.6 0.0**
baz=87
I06A Prineville 86.29 327 ⇑P **P** **01 46 13.7 0.0**
baz=87,SNR=6.3
KTRM Thompson Ridge 86.33 324 P **P** **01 46 13.0 -0.9**
H07A Lands Inn, Kim 86.48 328 ⇓P **P** **01 46 14.5 -0.1**
baz=87
C14A Swan Lake 86.49 333 ⇑P **P** **01 46 14.3 -0.4**
baz=87
F10A Beach Ranch, E 86.50 330 ⇑P **P** **01 46 14.1 -0.7**
baz=87
F09A S2 Ranch, Elgi 86.59 329 ⇑P **P** **01 46 14.5 -0.7**
baz=87
L02A Cave Junction 86.62 324 ⇑P **P** **01 46 15.5 +0.2**
baz=87
HUMO Hull Mountain 86.63 325 *e*P **P** **01 46 14.3 -1.0**
HUMO Hull Mountain 86.63 325 ⇑P **P** **01 46 14.6 -0.7**
baz=87
G08A Pilot Rock 86.74 329 ⇓P **P** **01 46 15.6 -0.3**
baz=87,SNR=5.8
C13A Hot Springs 86.75 332 ⇓P **P** **01 46 15.2 -0.7**
baz=87,SNR=5.9
BSMT Bassoo Peak 86.97 332 P **P** **01 46 16.9 -0.2**
K02A Glendale 87.01 324 ⇑P **P** **01 46 17.0 -0.2**
baz=87
THZ Tophouse 87.03 222 PN **P** **01 46 18.4 +1.1**
G07A Ruggs Ranch, H 87.04 328 P **P** **01 46 17.6 +0.2**
baz=87,SNR=5.6
C12A Trout Creek 87.14 332 ⇑P **P** **01 46 17.1 -0.7**
baz=87
B13A Whitefish 87.27 333 ⇓P **P** **01 46 18.1 -0.3**
baz=88
G06A Carlson Farm, 87.46 328 ⇑P **P** **01 46 19.6 +0.2**
baz=88
J02A Umpqua 87.49 325 ⇑P **P** **01 46 19.3 -0.2**
baz=88
WALA Waterton Lakes 87.61 334 *e*P **P** **01 46 19.8 -0.3**
comp=Z,17nm,0.9s,mb5.3
F07A Phinny Hill Vi 87.64 328 ⇓P **P** **01 46 20.0 -0.3**
baz=88
H04A Detroit Lake 87.78 326 P **P** **01 46 20.5 -0.4**
baz=88,SNR=7.1
G05A Wamic 87.79 327 ⇓P **P** **01 46 21.0 +0.1**
baz=88
I03A Eugene 87.79 325 ⇓P **P** **01 46 20.8 -0.2**
baz=88
B12A Libby 87.79 332 ⇑P **P** **01 46 20.1 -0.8**
baz=88
D09A Jones Farm, Ri 87.82 330 ⇑P **P** **01 46 20.0 -1.1**
baz=88
HAWA Hanford 87.84 329 *e*P **P** **01 46 17.4 -3.8**
comp=Z,45nm,1.5s,mb5.5
HAWA *e*pP pP 01 46 32.3 -1.2
F06A Goldendale 87.93 328 ⇑P **P** **01 46 21.1 -0.5**
baz=88
C10A Spilker Farm, 87.98 331 ⇑P **P** **01 46 20.7 -1.1**
baz=88
D08A Wollman Farm, 88.08 330 ⇓P **P** **01 46 21.8 -0.6**
baz=88
I02A Mapleton 88.08 325 ⇓P **P** **01 46 22.3 0.0**
baz=88
E07A Sunnyside 88.11 329 ⇓P **P** **01 46 22.3 -0.2**
baz=88
A12A Yaak River Ran 88.19 333 ⇑P **P** **01 46 22.0 -0.8**
baz=88
NEW Newport 88.25 331 *e*P **P** **01 46 20.7 -2.5**
NEW *e**PP pP 01 46 33.3 -2.1
G04A Mulino 88.31 327 ⇓P **P** **01 46 22.8 -0.6**
baz=89,SNR=6.3
H03A Soap Creek Ran 88.31 326 ⇑P **P** **01 46 22.2 -1.2**
baz=89
B10A Chitwood Farm, 88.33 331 ⇓P **P** **01 46 22.4 -1.1**
baz=89
F05A White Salmon 88.33 328 ⇓P **P** **01 46 23.2 -0.3**
baz=89
C09A Chrisman Ranch 88.38 331 ⇑P **P** **01 46 22.8 -0.9**
baz=89
E06A Yakima 88.61 328 ⇑P **P** **01 46 24.5 -0.3**
baz=89
D07A Quincy 88.65 329 ⇑P **P** **01 46 24.4 -0.6**
baz=89
EBG Ellensburg 88.70 329 P **P** **01 46 25.5 +0.2**
G03A Yamhill 88.77 326 ⇓P **P** **01 46 24.4 -1.2**
baz=89
B09A Rice 88.81 331 ⇑P **P** **01 46 24.4 -1.4**
baz=89,SNR=5.2
F04A Amboy 88.82 327 ⇓P **P** **01 46 24.8 -1.0**
baz=89
A10A Northport 89.00 332 ⇑P **P** **01 46 25.3 -1.3**
baz=89,SNR=5.6
WTV Waterville 89.02 330 P **P** **01 46 25.9 -0.9**
MDT Midelt 89.03 51 P **P** **01 46 26.9 +0.1**
comp=Z,3.7nm,0.9s,mb4.7,baz=132,slow=0.7,SNR=7.9
D06A Cle Elum 89.04 329 ⇑P **P** **01 46 26.0 -0.9**
baz=89
C07A Waterville 89.06 330 P **P** **01 46 26.1 -0.8**
baz=89,SNR=12
MORF Marmelete 89.22 45 *e*SKS SKSac 01 56 42.2 -12
MORF *e*LR LR 02 02 34.7
PTEO Sao Teotonio 89.33 45 *e*P **P** **01 46 28.6 +0.4**
A09A Danville 89.42 331 ⇑P **P** **01 46 26.9 -1.7**
baz=90,SNR=7.3
D05A Enumclaw 89.55 328 ⇓P **P** **01 46 28.1 -1.1**
baz=90
B07A Winthrop 89.68 330 ⇑P **P** **01 46 29.0 -0.8**
baz=90,SNR=12
C05A Tolt Reservoir 89.79 329 ⇑P **P** **01 46 28.9 -1.5**
baz=90
PMAFR Mafra 89.90 44 *e*P **P** **01 46 32.9 +2.0**
PMAFR Mafra 89.90 44 *e*SKS SKSac 01 56 58.9 +0.4
PMAFR Mafra 89.90 44 *e*LR LR 02 07 51.1
PBEJ Beja 90.16 45 *e*P **P** **01 46 32.7 +0.6**
B06A Marblemount 90.32 329 ⇓P **P** **01 46 31.1 -1.7**
baz=91
EVO Evora 90.39 45 *e*P **P** **01 46 29.1 -4.1**
comp=Z,17nm,0.8s,mb5.1
EVO *e*MLR MLR
comp=Z,2μm,22.5s
B05A Bryant 90.40 329 ⇓P **P** **01 46 31.5 -1.7**
baz=91
LSZ Lusaka 90.43 108 *e*P **P** **01 46 34.2 +0.8**
EDM Edmonton 90.79 336 *e*P **P** **01 46 33.1 -1.9**
EDM *e**PP pP 01 46 44.5 -2.8
PESTR Estremoz 90.86 44 *e*P **P** **01 46 36.1 +0.7**
PESTR Estremoz 90.86 44 *e*SKS SKSac 01 57 04.3 +0.3
PESTR *e*LR LR 02 04 27.6
A05A Maple Falls 90.94 329 ⇑P **P** **01 46 34.1 -1.6**
baz=91
MTE Manteigas 91.85 43 *e*P **P** **01 46 39.9 -0.1**
MTE Manteigas 91.85 43 *e*SKS SKSac 01 56 57.3 -12
MTE *e*LQ 02 01 30.7
MTE *e*LR LR 02 04 35.0
comp=Z,1μm,22.0s
ESDC Sonseca Array 93.58 46 P **P** **01 46 47.0 -0.9**
comp=Z,1.9nm,0.8s,mb4.6,baz=251,slow=4.1,SNR=13
SJPF Ste Jean 97.26 44⇑*iP* **P** **01 47 04.5 -0.2**
comp=Z,14nm,0.8s,mb5.2
SJPF Ste Jean 97.26 44⇑*iP* **P** **01 47 04.5 -0.2**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
SJPF Ste Jean 97.26 44⇑*iP* **P** **01 47 04.5 -0.2**
comp=Z,6.9nm,0.8s,mb5.1
ETSF Etsaut 97.54 44⇑*iP* **P** **01 47 05.8 -0.2**
comp=Z,29nm,0.9s,mb5.5
ETSF Etsaut 97.54 44⇑*iP* **P** **01 47 05.8 -0.2**
ETSF pmax pmax
comp=Z,14nm,0.9s,mb5.5
ETSF Etsaut 97.54 44⇑*iP* **P** **01 47 05.8 -0.2**
comp=Z,14nm,0.9s,mb5.5
EPF Esparros 98.16 45⇑*iP* **P** **01 47 08.4 -0.4**
comp=Z,13nm,0.8s,mb5.2
EPF Esparros 98.16 45⇑*iP* **P** **01 47 08.4 -0.4**
EPF pmax pmax
comp=Z,7.0nm,0.8s,mb5.2
EPF Esparros 98.16 45⇑*iP* **P** **01 47 08.4 -0.4**
comp=Z,6.6nm,0.8s,mb5.2
YKA Yellowknife Ar 98.70 341 P **P** **01 47 09.5 -1.7**
comp=Z,1.1nm,0.6s,mb4.6,baz=142,slow=4.5,SNR=6.8
YKA Yellowknife Ar 98.70 341 P **P** **01 47 09.5 -1.7**
ROSF Rostrenen 99.10 39 *e*P **P** **01 47 10.8 -2.2**
comp=Z,24nm,0.9s,mb5.4
ROSF Rostrenen 99.10 39 *e*P **P** **01 47 10.8 -2.2**
ROSF pmax pmax
comp=Z,12nm,0.9s,mb5.4
ROSF Rostrenen 99.10 39 *e*P **P** **01 47 10.8 -2.2**
comp=Z,12nm,0.9s,mb5.4
SGMF Saint Gilles 99.44 39 *e*P **P** **01 47 13.3 -1.2**
LFF La Frestale 99.46 43 *e*P **P** **01 47 13.7 -0.9**
MTLF Montolieu 99.48 45 *e*P **P** **01 47 13.8 -0.8**
MFF Saint Martin d 99.86 42⇑*iP* Pdif 01 47 15.4 -0.9
comp=Z,33nm,1.0s
MFF Saint Martin d 99.86 42⇑*iP* Pdif 01 47 15.4 -0.9
MFF pmax pmax
comp=Z,16nm,1.0s,mb5.4
MFF Saint Martin d 99.86 42⇑*iP* Pdif 01 47 15.4 -0.9
comp=Z,16nm,1.0s
RJF Les Rejaudoux 100.12 43 *e*P Pdif 01 47 16.6 -0.9
RJF *e*MLR MLR
comp=Z,2μm,19.2s
RJF Les Rejaudoux 100.12 43 *e*P Pdif 01 47 16.6 -0.9
RJF LR LR
comp=Z,2μm,19.3s,MS5.5
CAF Calviac 100.24 44⇑*iP* Pdif 01 47 17.3 -0.7
comp=Z,5.2nm,0.7s
CAF Calviac 100.24 44⇑*iP* Pdif 01 47 17.3 -0.7
CAF pmax pmax
comp=Z,3.0nm,0.7s
CAF Calviac 100.24 44⇑*iP* Pdif 01 47 17.3 -0.7
comp=Z,2.6nm,0.7s
GRR Gorron 100.45 40⇑*iP* Pdif 01 47 17.4 -1.6
comp=Z,30nm,1.1s
GRR Gorron 100.45 40⇑*iP* Pdif 01 47 17.4 -1.6
GRR pmax pmax
comp=Z,15nm,1.1s
GRR Gorron 100.45 40⇑*iP* Pdif 01 47 17.4 -1.6
comp=Z,15nm,1.1s
FLN La Foliniere 100.87 40 *e*P Pdif 01 47 19.4 -1.4
comp=Z,14nm,0.9s
FLN *e*MLR MLR
comp=Z,994nm,21.0s
FLN La Foliniere 100.87 40 *e*P Pdif 01 47 19.4 -1.4
FLN pmax pmax
comp=Z,7.0nm,0.9s
FLN MLR MLR
comp=Z,990nm,21.0s,MS5.3
FLN La Foliniere 100.87 40 *e*P Pdif 01 47 19.4 -1.4
comp=Z,6.9nm,0.9s
FLN LR LR
comp=Z,990nm,21.0s,MS5.3
LASF Ste Croix 100.87 45 *e*P Pdif 01 47 20.9 0.0
LDF La Druitiere 100.97 40 *e*P Pdif 01 47 19.8 -1.5
comp=Z,17nm,0.9s
LDF La Druitiere 100.97 40 *e*P Pdif 01 47 19.8 -1.5
LDF pmax pmax
comp=Z,8.0nm,0.9s
LDF La Druitiere 100.97 40 *e*P Pdif 01 47 19.8 -1.5
comp=Z,8.4nm,0.9s
TCF Toulx Ste Croi 101.06 43 *e*P Pdif 01 47 20.5 -1.2
comp=Z,25nm,1.3s
TCF Toulx Ste Croi 101.06 43 *e*P Pdif 01 47 20.5 -1.2
TCF pmax pmax
comp=Z,12nm,1.3s
TCF Toulx Ste Croi 101.06 43 *e*P Pdif 01 47 20.5 -1.2
comp=Z,12nm,1.3s
BGF Bois d'Agland 101.57 43 *e*P Pdif 01 47 23.1 -0.9
comp=Z,35nm,1.2s
BGF Bois d'Agland 101.57 43 *e*P Pdif 01 47 23.1 -0.9
BGF pmax pmax
comp=Z,18nm,1.2s
BGF Bois d'Agland 101.57 43 *e*P Pdif 01 47 23.1 -0.9
comp=Z,18nm,1.2s
VIVF Saint-Julien-l 101.78 45⇑*iP* Pdif 01 47 24.7 -0.2
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 101.78 45⇑*iP* Pdif 01 47 24.7 -0.2
VIVF pmax pmax
comp=Z,8.0nm,1.1s
VIVF Saint-Julien-l 101.78 45⇑*iP* Pdif 01 47 24.7 -0.2
comp=Z,8.4nm,1.1s
SMRF Simiane la Rot 101.88 46 *e*P Pdif 01 47 25.7 +0.3
AVF Avril sur Loir 101.99 43⇑*iP* Pdif 01 47 24.6 -1.2
comp=Z,9.3nm,0.9s
AVF Avril sur Loir 101.99 43⇑*iP* Pdif 01 47 24.6 -1.2
AVF pmax pmax
comp=Z,5.0nm,0.9s
AVF Avril sur Loir 101.99 43⇑*iP* Pdif 01 47 24.6 -1.2
comp=Z,4.7nm,0.9s
LMR La Mourre 102.15 47 *e*P Pdif 01 47 26.3 -0.2
comp=Z,27nm,1.1s
LMR La Mourre 102.15 47 *e*P Pdif 01 47 26.3 -0.2
LMR pmax pmax
comp=Z,14nm,1.1s
LMR La Mourre 102.15 47 *e*P Pdif 01 47 26.3 -0.2
comp=Z,14nm,1.1s
SMF Signal de Mont 102.20 43⇑*iP* Pdif 01 47 26.0 -0.8
comp=Z,19nm,0.9s
SMF Signal de Mont 102.20 43⇑*iP* Pdif 01 47 26.0 -0.8
SMF pmax pmax
comp=Z,9.0nm,0.9s
SMF Signal de Mont 102.20 43⇑*iP* Pdif 01 47 26.0 -0.8
comp=Z,9.4nm,0.9s
SSF Saint Saulge 102.22 42 *e*P Pdif 01 47 25.5 -1.3
FRF La Foret Royal 102.35 47 *e*P Pdif 01 47 27.0 -0.4
comp=Z,15nm,0.8s
FRF La Foret Royal 102.35 47 *e*P Pdif 01 47 27.0 -0.4
FRF pmax pmax
comp=Z,8.0nm,0.8s
FRF La Foret Royal 102.35 47 *e*P Pdif 01 47 27.0 -0.4
comp=Z,7.6nm,0.8s
LOR Lormes 102.53 42 *e*P Pdif 01 47 27.0 -1.2
comp=Z,7.8nm,0.9s
LOR *e*MLR MLR
comp=Z,984nm,21.2s
LOR Lormes 102.53 42 *e*P Pdif 01 47 27.0 -1.2
LOR pmax pmax
comp=Z,4.0nm,0.9s
LOR MLR MLR
comp=Z,980nm,21.3s,MS5.3
LOR Lormes 102.53 42 *e*P Pdif 01 47 27.0 -1.2
comp=Z,3.9nm,0.9s
LOR LR LR
comp=Z,980nm,21.3s,MS5.3
ORIF Oris-en-Rattie 102.55 45⇑*iP* Pdif 01 47 28.5 +0.2
comp=Z,24nm,1.0s
ORIF *e*MLR MLR
comp=Z,2μm,23.0s
ORIF Oris-en-Rattie 102.55 45⇑*iP* Pdif 01 47 28.5 +0.2
ORIF pmax pmax
comp=Z,12nm,1.0s
ORIF Oris-en-Rattie 102.55 45⇑*iP* Pdif 01 47 28.5 +0.2
comp=Z,12nm,1.0s
MBDF Montbardon 103.00 46⇑*iP* Pdif 01 47 30.5 +0.2
LPL La Plagne 103.37 45 *e*P Pdif 01 47 31.6 -0.4
comp=Z,4.7nm,0.9s
LPL La Plagne 103.37 45 *e*P Pdif 01 47 31.6 -0.4
LPL pmax pmax
comp=Z,2.0nm,0.9s
LPL La Plagne 103.37 45 *e*P Pdif 01 47 31.6 -0.4
comp=Z,2.3nm,0.9s
LPG La Plagne 103.37 45 *e*P Pdif 01 47 31.9 -0.1
comp=Z,8.8nm,0.9s
LPG La Plagne 103.37 45 *e*P Pdif 01 47 31.9 -0.1
LPG pmax pmax
comp=Z,4.0nm,0.9s
LPG La Plagne 103.37 45 *e*P Pdif 01 47 31.9 -0.1
comp=Z,4.4nm,0.9s
CABF La Chapelle 103.52 44 *e*P Pdif 01 47 31.9 -0.7
MEZF Maizieres J'vi 103.85 42 *e*P Pdif 01 47 32.5 -1.6
BAIF Baives 104.16 40 *e*P Pdif 01 47 34.1 -1.3
comp=Z,16nm,1.1s
BAIF Baives 104.16 40 *e*P Pdif 01 47 34.1 -1.3
BAIF pmax pmax
comp=Z,8.0nm,1.1s
BAIF Baives 104.16 40 *e*P Pdif 01 47 34.1 -1.3
comp=Z,8.1nm,1.1s
HAU Haudompre 104.36 43 *e*P Pdif 01 47 35.4 -1.0
comp=Z,4.3nm,0.7s
HAU *e*MLR MLR
comp=Z,1μm,22.2s
HAU Haudompre 104.36 43 *e*P Pdif 01 47 35.4 -1.0
HAU pmax pmax
comp=Z,2.0nm,0.6s
HAU MLR MLR
comp=Z,1μm,22.3s,MS5.3
HAU Haudompre 104.36 43 *e*P Pdif 01 47 35.4 -1.0
comp=Z,2.2nm,0.6s
HAU LR LR
comp=Z,1μm,22.3s,MS5.3
HINF Hinteralfeld 104.56 43 *e*P Pdif 01 47 36.2 -1.1
comp=Z,5.0nm,0.8s
HINF Hinteralfeld 104.56 43 *e*P Pdif 01 47 36.2 -1.1
HINF pmax pmax
comp=Z,3.0nm,0.8s
HINF Hinteralfeld 104.56 43 *e*P Pdif 01 47 36.2 -1.1
comp=Z,2.5nm,0.8s
MOX Moxa 108.63 42 *e*(P) PP 01 52 23.9 -2.6
comp=Z,30nm,2.2s
GERES GERESS Array B 109.11 44 PKiKP PKiKP 01 52 00.4 -1.1
comp=Z,1.4nm,0.7s,baz=204,slow=2.9,SNR=12
KHC Kasperske Hory 109.15 44 *e*PKP PKiKP 01 52 03.7 +2.1
KHC *e*PP PP 01 52 24.7 -5.6
KHC AMS AMS 02 36 20.0
comp=Z,600nm,17.5s
CLL Collm 109.70 42 *e*PP PP 01 52 20.0 -14
CLL LmV 02 37 00.0
comp=Z,1μm,20.4s
PRU Pruhonice 110.07 43 *e*PP PP 01 52 37.4 +0.4
PRU AMS AMS 02 35 20.0
comp=Z,500nm,19.9s
PVCC Panska Ves 110.30 43 AMS AMS 02 32 20.0
comp=Z,700nm,20.1s
TREC Trest 110.37 44 *e*PKP PKiKP 01 52 04.6 +0.7
TREC *ep*PKP 01 52 13.6
TREC *e*PP PP 01 52 33.2 -5.9
TREC AMS AMS 02 34 30.0
comp=Z,700nm,19.4s
TREC Trest 110.37 44 *e*PKIKP PKiKP 01 52 04.6 +0.7
TREC *e* 01 52 13.6
TREC MLR MLR
comp=Z,700nm,19.4s,MS5.2
UPC Upice 111.14 43 *e*PP PP 01 52 42.0 -2.7
PKSM Moragy 111.16 48⇓*iP* PKiKP 01 52 04.2 -1.2
DPC Dobruska-Polom 111.27 43 *e*PKP PKiKP 01 52 05.3 -0.3
DPC *ep*PKP 01 52 16.9
DPC *e*PP PP 01 52 42.0 -3.6
DPC AMS AMS 02 35 30.0
comp=Z,500nm,21.2s
MORC Moravsky Berou 111.79 44⇓*iP* PKiKP 01 52 06.2 -0.3
VYHS Vyhne 112.12 46 *e*PKP PKiKP 01 52 06.1 -1.1
VYHS *e* 01 52 18.3
OKC Ostrava-Krasne 112.18 44 AMS AMS 02 36 20.0
comp=Z,600nm,24.4s
BZS Buzias 112.89 50⇓*iP* PKiKP 01 52 08.0 -0.6
HFS Hagfors 113.38 33 PKiKP PKiKP 01 52 10.0 +0.4
comp=Z,4.8nm,1.1s,baz=169,slow=1.5,SNR=4.2
HFS PP PP 01 52 58.8 -1.9
comp=Z,2.7nm,0.8s,baz=270,slow=4.4,SNR=3.7
BURAR Bucovina Array 115.88 48⇑*iP* PKPdf 01 52 15.4 +1.0
SUW Suwalki 116.45 41 *e*PKP PKPdf 01 52 14.0 -1.5
SUW *e* 01 52 26.2
AKASG Malin Array Be 119.22 46 PKP PKPdf 01 52 18.4 -2.4
comp=Z,3.6nm,0.5s,baz=262,slow=2.8,SNR=20
AKASG PP PP 01 53 36.1 -5.5
comp=Z,0.5nm,0.3s,baz=267,slow=2.9,SNR=5.2
AKBB Malin Array Si 119.22 46 *e*PKIKP PKPdf 01 52 18.6 -2.2
AKBB *e* 01 52 30.7
VSU Vasula 119.39 37 *i*PKIKP PKPdf 01 52 20.6 -0.5
BRTR Keskin Array B 119.48 59 PKP PKPdf 01 52 20.3 -1.0
comp=Z,1.8nm,0.7s,baz=186,slow=2.6,SNR=11
FINES FINESS Array B 119.58 33 PKP PKPdf 01 52 19.1 -2.3
comp=Z,0.6nm,0.4s,baz=43,slow=1.3,SNR=10
KAF Kangasniemi 119.80 32 *e*pkp PKPdf 01 52 19.2 -2.7
ARCES ARCESS Array B 120.39 24 PKP PKPdf 01 52 20.4 -2.6
comp=Z,3.1nm,0.8s,baz=309,slow=3.9,SNR=4.3
ASAR Alice Springs 121.14 207 PKP PKPdf 01 52 22.9 -1.6
comp=Z,1.2nm,0.4s,baz=125,slow=1.7,SNR=25
ASAR PKKPbc PKKPbc 02 02 26.6 +0.2
comp=Z,1.9nm,0.7s,baz=334,slow=3.4,SNR=16
AS31 Alice Springs 121.14 207 PKPdf PKPdf 01 52 22.4 -2.1
JOF Joensuu 122.19 32 *e*pkp PKPdf 01 52 24.5 -2.0
MALT Malatya 122.70 62⇓*iP* PKPdf 01 52 27.6 +0.1
MALT Malatya 122.70 62 *e*PKPdf PKPdf 01 52 27.0 -0.5
MALT *ep*PKPdf pPKPdf 01 52 39.4 -0.7
ANN Anapa 123.42 54 *i*PKIKP PKPdf 01 52 24.4 -4.5
ANN *e* 01 59 22.2
ANN pmax pmax
comp=Z,120nm,1.1s
LVZ Lovozero 123.68 26 *i*PKIKP PKPdf 01 52 27.9 -1.5
WB2 Warramunga Arr 124.28 210⇑*iP* PKPdf 01 52 29.2 -1.3
WB2 Warramunga Arr 124.28 210 *e*P PKKPbc 02 02 13.8 -0.5
WRA Warramunga Arr 124.29 210 PKP PKPdf 01 52 29.1 -1.4
comp=Z,2.4nm,0.3s,baz=96,slow=8.4,SNR=92
WRA PKKPbc 02 02 14.0
comp=Z,1.8nm,0.6s,baz=334,slow=4.3,SNR=23
WRAB Tennant Creek 124.29 210*c*PKIKP PKPdf 01 52 29.2 -1.3
WRAB Tennant Creek 124.29 210 *e*PKPdf PKPdf 01 52 29.4 -1.2
OBN Obninsk 124.30 41*d*PKIKP PKPdf 01 52 29.2 -1.4
OBN *i* 01 52 40.6
OBN *e* 01 54 13.4
OBN pmax pmax
comp=Z,20nm,1.4s
OBN MLR MLR
comp=Z,300nm,17.0s,MS5.0
KIV Kislovodsk 126.99 56⇑*iP* PKPdf 01 52 31.4 -4.3
VRHR Novokhopersk 127.04 47 *e*PKIKP PKPdf 01 52 35.3 -0.5
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.5s
FITZ Fitzroy Crossi 129.20 201 *e*P PKPdf 01 52 39.2 -0.7
comp=E,4.9nm,0.8s
FITZ Fitzroy Crossi 129.20 201 PKP PKPdf 01 52 39.1 -0.8
comp=E,3.6nm,1.0s,baz=190,slow=8.1,SNR=8.3
BILL Bilibino 129.69 336⇓*iP*PKIKP PKPdf 01 52 39.8 -1.0
ARU Arti 136.51 38 *i*PKIKP PKPdf 01 52 52.9 -0.8
ARU *e* 01 55 32.0
ARU MLR MLR
comp=E,400nm,19.0s
ARU MLR MLR
comp=Z,600nm,19.0s,MS5.3
ARU Arti 136.51 38 *e*PKPdf PKPdf 01 52 53.0 -0.7
SEY Seymchan 137.03 332⇓*iP*PKIKP PKPdf 01 52 54.5 -0.1
AKTK Aktyubinsk 137.45 47 PKP 01 52 43.7
AKTK PKP PKPdf 01 52 54.6 -0.8
AKTO Aktyubinsk 137.45 47 PKhKP 01 52 43.7
comp=Z,0.8nm,0.7s,baz=337,slow=4.4,SNR=5.5
AKTO PKP PKPdf 01 52 54.6 -0.8
comp=Z,3.9nm,0.7s,baz=309,slow=3.7,SNR=16
SVE Sverdlovsk 137.49 37 *e*PKIKP PKPdf 01 52 57.0 +1.5
AB31 Akbulak array 138.86 48 *i*PKIKP PKPdf 01 52 57.2 -0.8
AB31 pmax pmax
comp=Z,61nm,1.6s
ZRNK Zerenda 143.37 40 *e*PKIKP PKPdf 01 53 02.9 -3.2
ZRNK *e* 01 53 15.6
CHKZ Chkalovo 143.96 39 *i*PKIKP PKPdf 01 53 04.6 -2.5
CHKZ pmax pmax
comp=Z,85nm,1.2s
CHKZ Chkalovo 143.96 39 *e*PKPdf PKPdf 01 53 06.7 -0.5
BRVK Borovoye 144.04 40 *e*PKIKP PKPdf 01 53 05.4 -1.9
BRVK *e* 01 53 17.0
BVA0 Borovoye Array 144.11 40 *i*PKIKP PKPdf 01 53 05.2 -2.2
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 144.11 40 PKP PKPdf 01 53 05.4 -2.0
comp=Z,12nm,0.6s,baz=278,slow=2.3,SNR=64
VOSK Vostochnaya 144.56 40 PKIKP PKPdf 01 53 06.1 -2.1
VOSK pmax pmax
comp=Z,133nm,1.2s
PALK Pallekele 145.24 125 *e*PKPdf PKPdf 01 53 08.6 -0.8
PALK *ep*PKPdf pPKPdf 01 53 20.0 -2.0
YAK Yakutsk 145.37 343*c*PKIKP PKPdf 01 53 08.8 -0.8
YAK *e* 01 53 20.2
YAK pmax pmax
comp=Z,148nm,0.8s
YAK pmax pmax
comp=N,19nm,1.4s
YAK pmax pmax
comp=E,18nm,1.6s
YAK pmax pmax
comp=Z,207nm,1.5s
YAK pmax pmax
comp=N,18nm,1.7s
YAK pmax pmax
comp=E,25nm,1.5s
YAK Yakutsk 145.37 343 *e*PKPdf PKPdf 01 53 08.4 -1.2
KAD Karad 146.09 104 *e*P PKPdf 01 53 11.6 +0.8
POO Poona 146.38 102⇓*iP* PKPdf 01 53 08.0 -3.3
comp=E,91nm,1.2s
LATR Latur 148.61 105 *ex* x 01 53 33.2
YSS Yuzh-Sakhalins 148.85 312⇑*iP*PKIKP PKPdf 01 53 16.0 +0.6
YSS *e* 01 53 28.0
YSS pmax pmax

	comp=Z,90nm,1.2s							
YSS	**Yuzh-Sakhalins**	**148.85**	**312**	*e*PKP	PKPdf	01 53 17.8	+2.4	
NVS	**Novosibirsk**	**149.45**	**29**	⇑*i*PKIKP	PKPdf	01 53 14.4	-2.0	
NVS				pmax	pmax			
	comp=Z,415nm,1.6s							
NVS				pmax	pmax			
	comp=E,73nm,1.3s							
EKS2	**Erkin-Say**	**149.58**	**56**	P	PKPbc	01 53 21.9	+0.7	
	SNR=25							
AML	**Almayashu**	**149.63**	**57**	P	PKPbc	01 53 22.1	+0.8	
	SNR=16							
HYB	**Hyderabad**	**149.78**	**108**	⇑*i*PKP	PKPdf	01 53 20.0	+3.1	
HYB	**Hyderabad**	**149.78**	**108**	⇑*e*P	PKPbc	01 53 22.0	+0.4	
AJM	**Ajmer**	**149.93**	**89**	*e*P	PKPdf	01 53 16.8	-0.3	
USP	**Ospenovka**	**149.96**	**55**	P	PKPbc	01 53 22.5	+0.4	
	SNR=6.2							
AAK	**Ala-Archa**	**150.10**	**56**	P	PKPbc	01 53 23.3	+0.9	
	SNR=51							
AAK	**Ala-Archa**	**150.10**	**56**	*e*PKPdf	PKPdf	01 53 17.1	-0.3	
AAK				*e*		01 53 22.4		
FRU	**Bishkek**	**150.14**	**56**	*i*PKIKP	PKPbc	01 53 24.0	+1.5	
FRU				*i*		01 53 35.0		
FRU				pmax	pmax			
	comp=Z,100nm,2.0s							
CHMS	**Chumysh**	**150.20**	**55**	P	PKPbc	01 53 22.9	+0.2	
	SNR=23							
UCH	**Uchtor**	**150.21**	**57**	P	PKPbc	01 53 23.9	+1.2	
	SNR=33							
KBK	**Karagaybulak**	**150.42**	**56**	P	PKPbc	01 53 23.9	+0.7	
	SNR=14							
ZAL	**Zalesovo**	**150.73**	**29**	PKP	PKPdf	01 53 17.1	-1.3	
	comp=Z,2.3nm,0.6s,baz=209,slow=2.1,SNR=11							
ZAL				PKPbc	PKPbc	01 53 23.2	-0.7	
	comp=Z,44nm,0.7s,baz=159,slow=3.3,SNR=137							
TKM2	**Tokmak 2**	**150.82**	**55**	P	PKPbc	01 53 24.4	+0.3	
	SNR=16							
TKM2	**Tokmak 2**	**150.82**	**55**	PKIKP	PKPbc	01 53 24.6	+0.5	
TKM2				pmax	pmax			
	comp=Z,125nm,1.1s							
CLNS	**Chul'man**	**151.09**	**341**	*e*PKIKP	PKPdf	01 53 22.6	+3.7	
PSI	**Prapat**	**151.19**	**160**	PKPbc	PKPbc	01 53 23.8	-1.2	
	comp=Z,8.9nm,0.7s,baz=351,slow=7.3,SNR=13							
BHPL	**Bhopal**	**151.34**	**97**	*e*P	PKPdf	01 53 19.6	+0.3	
BHPL				AMb	AMB	01 53 46.6		
	comp=Z,38nm,1.1s							
ULHL	**Ulahol**	**151.45**	**56**	P	PKPbc	01 53 26.4	+0.8	
	SNR=7.8							
THN	**Thein Dam**	**151.88**	**77**	*e*P	PKPdf	01 53 20.7	+0.6	
BOD	**Bodaibo**	**152.19**	**354**	*e*PKIKP	PKPdf	01 53 17.9	-2.7	
BOD				*e*		01 53 25.1		
BOD				*e*		01 53 35.7		
BOD				pmax	pmax			
	comp=Z,26nm,1.4s							
BOD				pmax	pmax			
	comp=Z,39nm,1.0s							
MK31	**Makanchi Array**	**153.78**	**44**	*e*PKIKP	PKPdf	01 53 18.1	-4.8	
MK31				*e*		01 53 29.5		
MKAR	**Makanchi Array**	**153.78**	**44**	PKP	PKPdf	01 53 22.0	-0.9	
	comp=Z,1.9nm,0.7s,baz=331,slow=1.0,SNR=15							
MKAR				PKPbc	PKPbc	01 53 29.9	-0.9	
	comp=Z,5.8nm,0.7s,baz=304,slow=1.7,SNR=25							
MKAR				PKPab	PKPab	01 53 41.4	-2.4	
	comp=Z,22nm,0.9s,baz=310,slow=2.7,SNR=22							
MKAR	**Makanchi Array**	**153.78**	**44**	PKP	PKPdf	01 53 22.0	-0.9	
MKAR				PKPbc	PKPbc	01 53 29.9	-0.9	
MKAR				PKPab	PKPab	01 53 41.4	-2.4	
VIS	**Vishakhapatnam**	**153.81**	**113**	*e*P	PKPdf	01 53 21.6	-1.3	
VIS				AMb	AMB	01 53 57.8		
	comp=Z,22nm,1.5s							
KLR	**Kul'dur**	**154.19**	**324**	*e*PKIKP	PKPdf	01 53 18.8	-4.7	
MJAR	**Matsushiro Arr**	**154.58**	**292**	PKP	PKPdf	01 53 23.2	-0.9	
	comp=Z,1.1nm,0.5s,baz=151,slow=2.9,SNR=4.7							
MJAR				PKPbc	PKPbc	01 53 33.1	+0.6	
	comp=Z,0.8nm,0.3s,baz=122,slow=0.7,SNR=4.2							
MJAR				PKPab	PKPab	01 53 46.5	-0.7	
	comp=Z,9.5nm,0.7s,baz=107,slow=2.8,SNR=15							
MAT	**Matsushiro**	**154.58**	**292**	PKP2	PKPab	01 53 47.0	-0.2	
IRK	**Irkutsk**	**157.80**	**7**	*e*PKIKP	PKPdf	01 53 27.3	-1.0	
IRK				*e*		01 53 58.0		
IRK				pmax	pmax			
	comp=Z,57nm,2.1s							
KOLN	**Koldanda**	**157.99**	**90**	*e*PKIKP	PKPdf	01 53 27.8	-0.7	
	comp=Z,89nm,2.0s							
MDJ	**Mudanjiang**	**158.12**	**317**	PKP	PKPdf	01 53 25.8	-2.8	
MDJ				APKP		01 53 28.4		
MDJ				XPKP		01 53 39.3		
MDJ				PP	PP	01 57 41.3	-0.9	
MDJ				SS	SS	02 17 36.8	-1.8	
MDJ				PP	PP			
	comp=Z,206nm,8.9s							
MDJ				LR	LR			
	comp=N,128nm,28.1s							
MDJ				LR	LR			
	comp=E,159nm,22.9s							
MDJ				LR	LR			
	comp=Z,337nm,25.5s,MS5.1							
WMQ	**Urumqi**	**158.58**	**45**	PKP	PKPdf	01 53 28.8	-0.4	
WMQ				APKP		01 53 39.5		
WMQ				PKP2	PKPab	01 54 05.5	+1.1	
WMQ				PKS		01 57 01.0		
WMQ				PP	PP	01 57 47.5	+2.8	
WMQ				SKS	SKSdf	02 00 29.0	-2.6	
WMQ				PP	PP			
	comp=Z,162nm,4.0s							
WMQ				LR	LR			
	comp=N,579nm,18.6s,MS5.5							
WMQ				LR	LR			
	comp=E,344nm,18.6s,MS5.5							
WMQ				LR	LR			
	comp=Z,490nm,22.4s,MS5.3							
BOK	**Bokaro**	**158.77**	**102**	*e*P	PKPdf	01 53 27.2	-2.2	
GKN	**Gorkha**	**158.94**	**90**	*e*PKIKP	PKPdf	01 53 29.3	-0.3	
DMN	**Daman**	**159.26**	**91**	*e*PKIKP	PKPdf	01 53 29.1	-0.9	
KKN	**Kakani**	**159.45**	**91**	*e*PKIKP	PKPdf	01 53 29.7	-0.5	
ZAK	**Zakamensk**	**159.50**	**10**	*e*PKIKP	PKPdf	01 53 28.9	-1.4	
ZAK				*e*		01 54 07.8		
ZAK				pmax	pmax			
	comp=Z,4.0nm,2.0s							
ZAK				pmax	pmax			
	comp=Z,8.0nm,2.0s							
PKI	**Pulchoki**	**159.51**	**92**	*e*PKIKP	PKPdf	01 53 29.2	-1.1	
	comp=Z,67nm,1.5s							
GUN	**Gumba**	**159.99**	**91**	*e*PKIKP	PKPdf	01 53 30.7	-0.1	
	comp=Z,153nm,1.8s							
CN2	**Changchun**	**160.99**	**320**	*e*PKP	PKPdf	01 53 32.4	+0.5	
SONM	**Songino Array**	**162.37**	**5**	PKP	PKPdf	01 53 32.2	-1.2	
	comp=Z,1.3nm,0.7s,baz=184,slow=0.5,SNR=9.5							
SONM				PKPab	PKPab	01 54 21.2	+0.3	
	comp=Z,4.8nm,0.8s,baz=324,slow=4.5,SNR=11							
SONM				PP	PP	01 58 05.7	+0.6	
	comp=Z,1.3nm,0.9s,baz=350,slow=3.4,SNR=4.7							
GTA	**Gaotai**	**168.36**	**36**	PKP	PKPdf	01 53 38.3	-0.1	
GTA				PKS		01 57 09.0		
GTA				PP	PP	01 58 42.3	+6.0	
GTA				SKS	SKSdf	02 00 36.3	-2.6	
GTA				SKKS	SKKSac	02 05 23.3	+3.0	
GTA				PP	PP			
	comp=Z,315nm,9.1s							
GTA				LR	LR			
	comp=N,190nm,16.7s							
GTA				LR	LR			
	comp=E,200nm,19.4s							
GTA				LR	LR			
	comp=Z,325nm,21.3s							
BJI	**Beijing**	**168.45**	**330**	PKP	PKPdf	01 53 37.8	-0.6	
QIZ	**Qiongzhong**	**168.76**	**186**	PKP	PKPdf	01 53 35.0	-3.6	
QIZ				PKP2	PKPab	01 54 53.4	+4.3	
QIZ				PP	PP	01 58 40.9	+2.6	
QIZ				SS	SS	02 19 24.6	-3.9	
QIZ				PP	PP			
	comp=Z,326nm,16.8s							
QIZ				LR	LR			
	comp=E,420nm,10.4s							
QIZ				LR	LR			
	comp=Z,576nm,11.2s							
QIZ	**Qiongzhong**	**168.76**	**186**	*e*PKPdf	PKPdf	01 53 38.2	-0.4	
HHC	**Hu-ho-hao-te**	**169.17**	**348**	*e*PKP	PKPdf	01 53 38.1	-0.8	
HHC				APKP		01 53 48.3		
HHC				PP	PP	01 58 40.1	-0.3	
HHC				SKS	SKSdf	02 00 39.6	+0.3	
HHC				SKKS	SKKSac	02 05 23.9	-0.4	
HHC				LR	LR			
	comp=N,533nm,18.1s							
HHC				LR	LR			
	comp=E,616nm,20.4s							
HHC				LR	LR			
	comp=Z,605nm,21.0s							
BTO	**Baotou**	**169.61**	**354**	*e*PKP	PKPdf	01 53 34.9	-4.2	
NJ2	**Nanjing**	**171.05**	**284**	*e*PKP	PKPdf	01 53 37.1	-2.8	
KMI	**Kunming**	**172.70**	**133**	PKP	PKPdf	01 53 41.3	+0.6	
KMI				PKP2	PKPab	01 55 09.4	+2.8	
KMI				PP	PP	01 58 58.5	+0.5	
KMI				SS	SS	02 20 10.3	+2.9	
KMI				PP	PP			
	comp=Z,205nm,10.1s							
KMI				LR	LR			
	comp=N,283nm,24.1s							
KMI				LR	LR			
	comp=E,284nm,24.1s							
KMI				LR	LR			
	comp=Z,333nm,25.8s							
KMI	**Kunming**	**172.70**	**133**	PKIKP	PKPdf	01 53 41.2	+0.5	
KMI						01 53 52.4		
KMI	**Kunming**	**172.70**	**133**	PKP	PKPdf	01 53 41.2	+0.5	
KMI				pPKP	pPKPdf	01 53 52.4	-1.0	
KMI				sPKP		01 53 55.8		
LZH	**Lanzhou**	**172.94**	**33**	⇑PKP	PKPdf	01 53 40.5	-0.3	
LZH				PKP2	PKPab	01 55 08.8	+1.1	
LZH				PKS		01 57 10.4		
LZH				PP	PP	01 59 01.5	+2.3	
LZH				SKS	SKSdf	02 00 37.9	-2.9	
LZH				SKKS	SKKSac	02 05 43.1	+0.5	
LZH				*e*SS	SS	02 20 08.3	-1.5	
LZH				PP	PP			
	comp=Z,125nm,9.5s							
LZH				LR	LR			
	comp=E,417nm,18.4s							
LZH				LR	LR			
	comp=Z,548nm,20.3s							
CD2	**Chengdu**	**175.76**	**80**	*e*PKP	PKPdf	01 53 41.4	-0.3	
CD2				XPKP		01 53 51.1		
CD2				PKP2	PKPab	01 55 20.0	-0.2	
CD2				PP	PP	01 59 14.0	+1.2	
CD2				SKS	SKSdf	02 00 38.0	-3.5	
CD2				SKKS	SKKSac	02 05 54.9	-1.1	
CD2				PP	PP			
	comp=Z,140nm,10.2s							
CD2				LR	LR			
	comp=N,1μm,20.4s							
CD2				LR	LR			
	comp=E,520nm,18.0s							
CD2				LR	LR			
	comp=Z,500nm,21.6s							
GYA	**Guiyang**	**175.84**	**155**	PKP	PKPdf	01 53 40.5	-1.3	
GYA				APKP		01 53 51.3		
GYA				XPKP		01 53 54.9		
GYA				PKP2	PKPab	01 55 24.3	+3.8	
GYA				SKKS	SKKSac	02 05 58.5	+2.1	
GYA				SS	SS	02 20 40.6	+3.0	
GYA				PP	PP			
	comp=Z,120nm,8.4s							
GYA				LR	LR			
	comp=N,430nm,20.8s							
GYA				LR	LR			
	comp=E,340nm,21.0s							
GYA				LR	LR			
	comp=Z,470nm,21.4s							
XAN	**Xi'an**	**176.22**	**356**	PKP	PKPdf	01 53 41.4	-0.4	

MOS ***16*** *01:43:23.7±3.2, 48.12N×2563E, h10km, mb3.7/1, Error ellipse: s-maj=20.0km s-min=14.5km az=122.1*
IDC ***16*** *01:43:24.4±3.8, 4800N×2536E, h0km, mb3.5/1, mb1 3.7/2, mb1mx3.2/17, mbtmp3.6/2, ML2.6/2, Error ellipse: s-maj=35.9km s-min=24.1km az=174.0*
CSEM ***16*** *01:43:25.9±0.5, 4804N×2557E, h10km, mb3.7, Error ellipse: s-maj=13.6km s-min=5.9km az=158.0*
ISCJB ***16*** *01:43:27.3±2.6, 4844N±03×25.1E±02, h10km, mb3.4/1, Error ellipse: s-maj=45.0km s-min=6.9km az=141.3*
ISC 16 01:43:28.2±2.5, 483N±03×251E±02, h10km, n13, σ1§16/19, mb3.4/1, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVV	**L'vov**	**1.66**	**334**	*e*P	**Pn**	**01 44 01.6**	**+4.2**
LVV				*i* S	**Sn**	**01 44 26.4**	**+7.7**
UZH	**Uzhgorod**	**1.92**	**280**	*e*P	**Pn**	**01 44 06.0**	**+5.1**
UZH				*e*		01 44 24.0	
UZH				MLR	MLR		
	comp=Z,13nm,10.0s						
UZH	**Uzhgorod**	**1.92**	**280**	*e*P	**Pn**	**01 44 06.0**	**+5.1**
UZH				*e*S	**Sn**	**01 44 24.0**	**-1.1**
	comp=Z,13nm,10.0s						
KOLS	**Kolonicke sedl**	**2.00**	**289**	*e*PN	**Pn**	**01 44 06.0**	**+4.0**
CRVS	**Cervenica-Dubn**	**2.51**	**285**	*e*PN	**Pn**	**01 44 10.0**	**+1.0**
KECS	**Kecovo**	**3.11**	**275**	*e*PN	**Pn**	**01 44 17.4**	**+0.1**
AKASG	**Malin Array Be**	**3.56**	**47**	Pn	**Pn**	**01 44 22.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=225,slow=12,SNR=3.3						
AKASG				Pg	**Pg**	**01 44 29.8**	**-6.8**
	comp=Z,8.4nm,0.3s,baz=227,slow=16,SNR=24						
AKASG				Sn	**Sn**	**01 45 06.3**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=235,slow=24,SNR=4.4						
AKASG				Lg		01 45 19.1	
	comp=Z,5.9nm,0.3s,baz=221,slow=30,SNR=12						
AKASG	**Malin Array Be**	**3.56**	**47**	P	**Pn**	**01 44 22.6**	**-1.0**
AKASG				Pg		01 45 06.3	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AKASG				smax			
	comp=N,2.0nm,0.3s						
AKASG	**Malin Array Be**	**3.56**	**47**	P	**Pn**	**01 44 22.6**	**-1.0**
	comp=N,8.0nm,0.3s						
AKASG				S	**Sn**	**01 45 06.3**	**+0.6**
VYHS	**Vyhne**	**4.20**	**275**	*e*PN	**Pn**	**01 44 32.4**	**0.0**
FINES	**FINESS Array B**	**13.15**	**2**	Pn	**Pn**	**01 46 30.3**	**-4.8**
	comp=N,0.1nm,0.3s,baz=178,slow=13,SNR=4.2						
FINES				Sn	**Sn**	**01 48 53.9**	**-7.5**
	comp=N,0.1nm,0.3s,baz=186,slow=24,SNR=3.3						
ARCES	**ARCESS Array B**	**21.27**	**0**	P	**P**	**01 48 13.7**	**-1.0**
	comp=N,1.7nm,0.8s,mb3.4,baz=175,slow=10,SNR=1.7						
ARCES	**ARCESS Array B**	**21.27**	**0**	P	**P**	**01 48 13.7**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						

NEIC ***16*** *01:46:10.7, 3032S×7145W, h37km, MD3.8(GUC), After GUC.*
GUC 16 01:46:10.7±0.5, 3032S×7145W, h37km±2km, MD3.8, ML3.1, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.36**	**144**	⇑*i*P	Pn	01 46 19.1	-0.3
OVCH				*i* S	Sn	01 46 25.8	+0.2
OVCH				AML	AML	01 46 26.7	
	comp=N,3μm,0.4s						
OVCH	**Ovalle**	**0.36**	**144**	⇑*i*P	Pn	01 46 19.1	-0.3
OVCH				*i* S	Sn	01 46 25.8	+0.2
LSCH	**La Serena**	**0.44**	**23**	*e*P	Pn	01 46 20.1	-0.5
LSCH				*i* S	Sn	01 46 27.8	+0.5
TLL	**Tololo Astrono**	**0.57**	**75**	*e*P	Pn	01 46 22.7	+0.4
TLL				*i* S	Sn	01 46 32.1	+1.5
TLL				AML	AML	01 46 35.2	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**0.57**	**75**	*e*P	Pn	01 46 22.7	+0.4
TLL				*i* S	Sn	01 46 32.1	+1.5
CHNG	**Los Chungos**	**1.56**	**182**	⇓*i*P	Pn	01 46 37.3	+1.3
CHNG				*i* S	Sn	01 46 57.4	+2.4
VACH	**Vallenar**	**1.83**	**19**	*e*P	Pn	01 46 43.9	+4.3
VACH				*i* S	Sn	01 47 07.2	+5.6
PTCH	**Petorca**	**1.99**	**167**	*i* P	Pn	01 46 43.2	+1.4
PTCH				*i* S	Sn	01 47 07.7	+2.1
PTCH				AML	AML	01 47 13.8	
	comp=E,387nm,0.4s						
PTCH	**Petorca**	**1.99**	**167**	*i* P	Pn	01 46 43.2	+1.4
PTCH				*i* S	Sn	01 47 07.7	+2.1
PEL	**Peldehue**	**2.89**	**167**	*e*P	Pn	01 46 57.1	+2.8

NEIC ***16*** *01:49:28.7, 3034S×7128W, h49km, MD3.5(GUC), After GUC.*
GUC 16 01:49:28.7±0.7, 3034S×7128W, h49km±5km, MD3.5, ML2.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.28**	**166**	⇑*i*P	Pn	01 49 37.7	+0.2
OVCH				*i* S	Sn	01 49 44.3	+0.6
OVCH				AML	AML	01 49 45.1	
	comp=E,894nm,0.6s						
OVCH	**Ovalle**	**0.28**	**166**	⇑*i*P	Pn	01 49 37.7	+0.2
OVCH				*i* S	Sn	01 49 44.3	+0.6
LSCH	**La Serena**	**0.43**	**4**	*e*P	Pn	01 49 39.1	+0.1
LSCH				*i* S	Sn	01 49 47.1	+0.7
CMCH	**Combarbala**	**0.87**	**164**	*e*P	Pn	01 49 44.8	+0.2
CMCH				*i* S	Sn	01 49 57.9	+1.7
CMCH				AML	AML	01 50 00.5	
	comp=E,368nm,0.8s						
CMCH	**Combarbala**	**0.87**	**164**	*e*P	Pn	01 49 44.8	+0.2
CMCH				*i* S	Sn	01 49 57.9	+1.7
LCO	**Las Campanas**	**1.42**	**21**	*e*P	Pn	01 49 53.5	+1.5
LCO				*i* S	Sn	01 50 11.6	+2.1
LCO				AML	AML	01 50 14.7	
	comp=E,68nm,0.8s						
LCO	**Las Campanas**	**1.42**	**21**	*e*P	Pn	01 49 53.5	+1.5
LCO				*i* S	Sn	01 50 11.6	+2.1

IDC ***16*** *02:02:42.0±2.4, 6.19S×130.15E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, ML3.7/2, MS4.5/1, Ms1 4.5/1, ms1mx2.9/28, Error ellipse: s-maj=107.5km s-min=28.8km az=77.0*
ISCJB ***16*** *02:02:45.6±1.5, 64S±0.1×1298E±03, h33km, mb3.9/1, MS4.4/1, Error ellipse: s-maj=41.2km s-min=16.5km az=138.3*
NEIC ***16*** *02:02:47.6±1.1, 634S×1298E, h35km, Error ellipse: s-maj=30.8km s-min=12.3km az=69.0*
ISC 16 02:02:48.2±4.9, 64S±03×1299E±03, h40km±51km, n8, σ0§16/7, mb3.9/1, MS4.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.37**	**199**	Pn	**Pn**	**02 05 41.8**	**0.0**
	0.2nm,0.3s,baz=31,slow=11,SNR=30						
FITZ				Sn	Sx	02 07 46.1	
	0.5nm,0.3s,baz=148,slow=14,SNR=6.2						
WRAB	**Tennant Creek**	**14.19**	**162**	*e*Pn	**Pn**	**02 06 06.7**	**+0.2**
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**14.19**	**163**	Pn	**Pn**	**02 06 06.3**	**-0.2**
	0.4nm,0.3s,baz=349,slow=11,SNR=22						
WRA				Sn	Sx	02 08 31.4	
	0.8nm,0.3s,baz=333,slow=21,SNR=9.3						
WB2	**Warramunga Arr**	**14.20**	**162**	*e*Pn	**Pn**	**02 06 06.7**	**0.0**
WB2				*e*Sn	Sx	02 08 31.3	
AS31	**Alice Springs**	**17.64**	**168**	*e*Pn	**Pn**	**02 06 50.9**	**0.0**
AS31				*e*Sn	Sx	02 09 55.6	
ASAR	**Alice Springs**	**17.65**	**168**	Pn	**Pn**	**02 06 51.0**	**0.0**
	0.4nm,0.3s,baz=346,slow=8.9,SNR=32						
ASAR				Sn	Sx	02 09 57.1	
	0.2nm,0.3s,baz=324,slow=14,SNR=5.2						
DZM	**Mont Dzumac**	**38.62**	**118**	LR	LR	02 24 34.5	
	comp=Z,608nm,19.5s,MS4.4,baz=45,slow=34						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**02 13 40.8**	**0.0**
	0.4nm,0.3s,mb3.9,baz=114,slow=8.2,SNR=6.7						

IDC ***16*** *02:16:29.3±1.0, 2194N×143.11E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.7/7, Error ellipse: s-maj=36.5km s-min=21.9km az=85.0*
ISCJB ***16*** *02:16:32.6±0.8, 219N±0.1×143.1E±02, h33km, mb3.8/9, Error ellipse: s-maj=25.8km s-min=15.1km az=159.4*
NEIC ***16*** *02:16:34.0±0.8, 2186N×1433.2E, h35km, mb4.3/2, Error ellipse: s-maj=26.0km s-min=14.0km az=72.0*
ISC 16 02:16:34.4±0.7, 2190N±010×1432E±02, h35km, n12, σ1§21/12, mb3.8/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.41**	**169**	Pn	**Pn**	**02 18 31.1**	**-2.5**
	243nm,1.4s						
NACB	**Ninganchiao**	**20.05**	**281**	P	**P**	**02 21 07.3**	**+2.9**
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**02 23 58.3**	**-0.9**
	0.5nm,0.8s,mb3.3,baz=128,slow=11,SNR=5.1						
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P	**P**	**02 24 27.0**	**+1.1**
WRA	**Warramunga Arr**	**42.48**	**192**	P	**P**	**02 24 27.3**	**+1.3**
	0.8nm,0.7s,mb3.5,baz=14,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**46.19**	**192**	P	**P**	**02 24 55.1**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=11,slow=5.9,SNR=3.3						
ZAL	**Zalesovo**	**54.10**	**322**	P	**P**	**02 25 54.7**	**-0.9**
	1.3nm,0.4s,mb4.3,baz=356,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**02 25 58.9**	**-0.4**
	0.5nm,0.7s,mb3.7,baz=89,slow=12,SNR=3.5						
CHKZ	**Chkalovo**	**62.42**	**320**	*e*P	**P**	**02 26 53.2**	**-0.6**
	0.7nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**63.40**	**319**	*e*P	**P**	**02 26 59.9**	**-0.3**
	8.0nm,1.8s,mb4.5						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**02 28 19.5**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=293,slow=5.8,SNR=5.6						
NVAR	**Mina Array Bea**	**82.98**	**52**	P	**P**	**02 28 57.5**	**+1.7**
	0.8nm,0.7s,mb3.9,baz=281,slow=5.9,SNR=5.0						

NEIC ***16*** *02:20:24.7, 3685N×1045W, h0km, MN2.7(MDD), After MDD.*
MDD ***16*** *02:20:25.1±2.0, 3679N×1051W, h11km±60km, mbLg2.7/5, Error ellipse: s-maj=74.8km s-min=12.8km az=52.0, PRXIMO*
INMG 16 02:20:25.6±1.3, 3675N×1052W, h12km±39km, ML1.9, Error ellipse: s-maj=37.4km s-min=4.8km az=57.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.60**	**69**	*e*Pn	Pn	02 20 51.9	-1.7
MORF				*e*Sn	Sn	02 21 11.1	-3.1
MORF							
	12nm,0.2s						
PTEO	**Sao Teotonio**	**1.64**	**60**	*e*Pn	Pn	02 20 52.6	-1.6
PTEO				*e*Sn	Sn	02 21 12.6	-2.7
PTEO							
	11nm,0.2s						
PLOU	**Loures**	**2.39**	**27**	*e*Pn	Pn	02 21 02.6	-2.0
PLOU				*e*Sn	Sn	02 21 31.4	-2.4
PLOU							
	9.8nm,0.1s						
PMAFR	**Mafra**	**2.41**	**24**	*e*Pn	Pn	02 21 02.8	-2.0
PMAFR				*e*Sn	Sn	02 21 31.3	-2.9
PBEJ	**Beja**	**2.47**	**58**	*e*Pn	Pn	02 21 03.6	-2.0
PBEJ				*e*Sn	Sn	02 21 32.2	-3.5
PBEJ							
	4.1nm,0.2s						
MOE	**Montemor**	**2.47**	**44**	*e*Pn	Pn	02 21 04.3	-1.3
MOE				*e*Sn	Sn	02 21 32.5	-3.2
EGRO	**El Granado**	**2.55**	**71**	P	Pn	02 21 05.3	-1.5
	0.7nm,0.1s,SNR=7.9						
EGRO	

0.8nm,0.2s
PBRG Braganca 5.84 29 Sn Sn 02 22 52.8 -6.0
0.4nm,0.2s
ESDC Sonseca Array 5.94 59 P Pn 02 21 51.5 -1.8
0.9nm,0.1s,baz=245,slow=14,SNR=7.7
ESDC S Sn 02 22 55.6 -5.5
1.1nm,0.2s,baz=244,slow=24,SNR=10.0
ECAL Calabor 5.96 28 P Pn 02 21 51.2 -2.3
SNR=7.9
ECAL S Sn 02 22 55.6 -6.1
0.9nm,0.2s,SNR=4.0
EQES Quesada 6.04 78 P Pn 02 21 52.8 -1.8
SNR=4.0
EQES S Sn 02 22 58.6 -5.0
0.6nm,0.1s,SNR=8.2
ETOB Tobarra 7.36 72 S Sn 02 23 30.2 -6.2
0.2nm,0.1s,SNR=4.0
ETOR Torete 7.76 56 S Sn 02 23 37.9 -8.2
2.3nm,0.2s,SNR=7.9

GUC 16 02:33:09.6±0.7, 31.41S×71.73W, h0km±4km, MD3.5, ML2.2, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**158**	*e*P	Pg	02 33 19.6	+0.2
CHNG				*i* S	Sg	02 33 28.1	+2.1
CMCH	**Combarbala**	**0.66**	**69**	⇑*i*P	Pg	02 33 23.2	+0.8
CMCH				*i* S	Sg	02 33 33.2	+2.2
CMCH				AML	AML	02 33 39.1	
	comp=N,203nm,0.6s						
PTCH	**Petorca**	**1.09**	**142**	*e*P	Pg	02 33 29.6	-0.9
PTCH				*i* S	Sg	02 33 44.7	+0.1
PTCH				AML	AML	02 33 48.6	
	comp=E,191nm,0.1s						
TLL	**Tololo Astrono**	**1.47**	**33**	*e*P	Pn	02 33 36.3	-0.3
TLL				*i* S	Sn	02 33 56.8	+0.7
TLL				AML	AML	02 33 58.0	
	comp=N,52nm,0.6s						

IDC 16 02:34:12.6±10.0, 348N×127.20E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=167.6km s-min=151.9km az=150.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.31**	**163**	P	P	02 39 31.6	-0.1
	1.4nm,0.7s,baz=344,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.76**	**167**	P	P	02 40 03.3	+0.3
	0.2nm,0.5s,baz=349,slow=7.8,SNR=4.1						
STKA	**Stephens Creek**	**37.73**	**160**	P	P	02 41 30.7	+0.7
	0.6nm,0.3s,baz=334,slow=10,SNR=3.7						

IDC 16 02:43:06.9±3.1, 22.20N×143.68E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=140.0km s-min=30.7km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.87**	**193**	P	P	02 51 07.0	+0.2
	0.5nm,0.4s,baz=14,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**54.70**	**312**	P	P	02 52 37.8	0.0
	0.7nm,0.7s,baz=88,slow=8.6,SNR=4.4						
FINES	**FINESS Array B**	**82.93**	**335**	P	P	02 55 33.5	-0.1
	0.5nm,0.4s,baz=76,slow=5.9,SNR=2.8						

NIED ***16*** *02:51:00.4 100N×142.40E, h47km, Mw4.3 Best double couple: M0:3.46000×10^15 NP1:φs=12.00000°, δ75.00000°, λ61.00000°. NP2:φs=258.00000°, δ32.00000°, λ152.00000°.*
BJI ***16*** *02:51:20.4, 40.99N×142.53E, h49km, mB5.1, mb4.7, Ms4.5, Msz4.3*
MOS ***16*** *02:51:21.7±0.8, 40.95N×142.08E, h39km, mb4.8/40, Error ellipse: s-maj=10.0km s-min=5.6km az=111.0*
ISCJB ***16*** *02:51:23.9±0.4, 41.04N±0.03×142.31E±0.04, h59km±2km, mb4.6/64, MS4.4/4, Error ellipse: s-maj=5.3km s-min=3.4km az=75.4*
JMA ***16*** *02:51:23.5±0.1, 41.02N×142.41E, h35km±4km, M4.5 Broadband fault plane solution: P waves. NP1: φs=229.00000°, δ25.00000°, λ90.00000°. NP2:φs=49.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm319.0000°; N Plg0.0000°, Azm49.0000°; P Plg20.0000°, Azm139.0000°;*
JMA Felt II J1.
NEIC ***16*** *02:51:23.5, 41.02N×142.41E, h35km, mb4.6/29, MW4.3(NIED), After JMA.*
IDC ***16*** *02:51:26.1±1.9, 41.02N×142.27E, h69km±16km, mb4.0/19, mb1 4.1/21, mb1mx4.1/27, mbtmp4.3/21, MS2.9/1, Ms1 2.9/1, ms1mx2.7/36, Error ellipse: s-maj=15.5km s-min=11.3km az=110.0*

ISC 16 02:51:24.8±0.4, 41.04N±0.03×142.34E±0.04, h54km±3km, h52km±2.2km:pP-P, n199, σ0.97/214, mb4.6/64, MS4.4/4, 20C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.92**	**223**	P	**Pn**	**02 51 40.4**	**-1.1**
JANG				S	**Sn**	**02 51 52.5**	**-1.3**
JTM	**Tenmabayashi**	**1.00**	**256**	⇑P	**Pn**	**02 51 42.2**	**-0.3**
JTM				S	**Sn**	**02 51 55.6**	**-0.1**
JOT	**Ohata**	**1.03**	**290**	⇓P	**Pn**	**02 51 42.4**	**-0.6**
JOT				S	**Sn**	**02 51 55.9**	**-0.6**
ERM	**Erimo**	**1.15**	**32**	⇓*i*Pn	**Pn**	**02 51 43.8**	**-0.8**
ERM				*e*Sn	**Sn**	**02 51 57.5**	**-1.8**
JEM	**Erimo**	**1.15**	**32**	⇑P	**Pn**	**02 51 43.8**	**-0.8**
JEM				*e*S	**Sn**	**02 51 58.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.27**	**14**	P	**Pn**	**02 51 46.0**	**-0.3**
JNBK				S	**Sn**	**02 52 04.0**	**+1.7**
JKB	**Kayabe**	**1.30**	**311**	⇓P	**Pn**	**02 51 45.8**	**-0.8**
JKB				*e*S	**Sn**	**02 52 01.9**	**-0.9**
JSR	**Shiriuchi**	**1.53**	**289**	⇓P	**Pn**	**02 51 49.6**	**-0.1**
JSR				S	**Sn**	**02 52 09.3**	**+0.8**
JCH	**Churui**	**1.75**	**26**	P	**Pn**	**02 51 52.3**	**-0.4**
JCH				S	**Sn**	**02 52 12.8**	**-1.0**
JOM	**Ohasama**	**1.76**	**207**	P	**Pn**	**02 51 52.8**	**-0.1**
JOM				S	**Sn**	**02 52 14.3**	**+0.2**
JEW	**Eniwo**	**1.92**	**340**	⇓P	**Pn**	**02 51 55.1**	**+0.1**
JEW				S	**Sn**	**02 52 18.7**	**+0.8**
ASAJ	**Asahikawa**	**3.08**	**3**	P	**Pn**	**02 52 11.8**	**+0.9**
	125nm,0.3s,baz=222,slow=13,SNR=129						
ASAJ				S	**Sn**	**02 52 49.0**	**+2.5**
	24nm,0.3s,baz=32,slow=24,SNR=6.7						
ASAJ	**Asahikawa**	**3.08**	**3**	P	**Pn**	**02 52 11.8**	**+0.9**
ASAJ				S	**Sn**	**02 52 49.0**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,125nm,0.3s						
ASAJ				smax			
	comp=N,24nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.96**	**40**	P	**Pn**	**02 52 22.5**	**-0.5**
YUK				*i* S	**Sn**	**02 53 03.5**	**-4.7**
YUK				pmax	pmax		
	comp=N,440nm,0.5s						
YUK				pmax	pmax		
	comp=E,220nm,0.5s						
YUK				pmax	pmax		
	comp=Z,520nm,0.5s						
YUK				smax			
	comp=E,2μm,1.2s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,770nm,0.5s						
MAJO	**Matsushiro**	**5.53**	**217**	*e*P	**Pn**	**02 52 46.8**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,73nm,0.5s						
MAJO	**Matsushiro**	**5.53**	**217**	*e*Pn	**Pn**	**02 52 46.8**	**+2.3**
	comp=Z,73nm,0.5s						
MAT	**Matsushiro**	**5.53**	**217**	P	**Pn**	**02 52 46.8**	**+2.3**
MAT				*e*S	**Sn**	**02 53 53.0**	**+6.3**
MJAR	**Matsushiro Arr**	**5.53**	**217**	P	**Pn**	**02 52 46.6**	**+2.1**
	comp=Z,8.0nm,0.3s,baz=29,slow=12,SNR=96						
MJAR	**Matsushiro Arr**	**5.53**	**217**	P	**Pn**	**02 52 46.6**	**+2.1**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KUR	**Kuril'sk**	**5.82**	**42**	⇓*i*P	**Pn**	**02 52 45.0**	**-3.5**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.92**	**3**	⇑*i*P	**Pn**	**02 52 51.0**	**+1.2**
YSS				*e*S	**Sn**	**02 53 57.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,120nm,1.0s						
YSS				pmax	pmax		
	comp=N,120μm,1.0s						
YSS				pmax	pmax		
	comp=Z,200nm,4.0s						
YSS				smax			
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.92**	**3**	*e*Pn	**Pn**	**02 52 50.6**	**+0.8**
	comp=N,105nm,0.9s						
MDJ	**Mudanjiang**	**10.02**	**295**	P	**Pn**	**02 53 48.0**	**+2.0**
MDJ				XP		02 54 06.8	
MDJ				S	**Sn**	**02 55 39.3**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,19nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,99nm,4.7s						
MDJ				LR	LR		
	comp=Z,337nm,22.7s						
MDJ	**Mudanjiang**	**10.02**	**295**	*e*Pn	**Pn**	**02 53 49.0**	**+3.0**
	comp=Z,17nm,0.8s						
KLR	**Kul'dur**	**11.08**	**321**	*e*P	**Pn**	**02 54 00.0**	**-0.4**
CN2	**Changchun**	**12.79**	**288**	*e*P	**Pn**	**02 54 27.0**	**+3.3**
CN2				*e*XP		02 54 41.9	
CN2				*e*S	**Sn**	**02 56 44.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
HIA	**Hailar**	**17.89**	**305**	*e*Pn	**Pn**	**02 55 26.8**	**-2.8**
	comp=Z,8.9nm,1.0s						
BJI	**Beijing**	**19.89**	**276**	P	**Pn**	**02 55 48.9**	**-4.8**
BJI				AMB	AMB		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**19.90**	**276**	*e*P	**Pn**	**02 55 50.2**	**-3.6**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJT	**Baijiatuau**	**19.90**	**276**	*e*P	**Pn**	**02 55 50.2**	**-3.5**
	comp=Z,8.9nm,0.5s						
NJ2	**Nanjing**	**20.84**	**252**	*e*P	**P**	**02 56 01.3**	**-0.6**
NJ2				AP		02 56 12.3	
NJ2				XP	sP	02 56 18.1	-2.8
NJ2				PP		02 56 24.3	
NJ2				AMB	AMB		
	comp=Z,100nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,60nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,14.0s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,13.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,1μm,16.2s,MS4.4						
YAK	**Yakutsk**	**22.36**	**344**	⇑*e*P	**P**	**02 56 17.2**	**-1.0**
YAK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
SEY	**Seymchan**	**22.73**	**12**	⇑*i*P	**P**	**02 56 24.6**	**+2.6**
TATO	**Taipei**	**23.62**	**234**	*e*P	**P**	**02 56 32.2**	**+1.3**
	comp=Z,60nm,0.8s,mb5.1						
BOD	**Bodaibo**	**24.65**	**322**	⇑*i*P	**P**	**02 56 39.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
WHN	**Wuhan**	**24.91**	**254**	P	**P**	**02 56 43.0**	**+0.4**
SONM	**Songino Array**	**26.37**	**297**	P	**P**	**02 56 55.3**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.1,baz=91,slow=8.8,SNR=30						
SONM	**Songino Array**	**26.37**	**297**	P	**P**	**02 56 55.3**	**-0.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
XAN	**Xi'an**	**27.29**	**266**	P	**P**	**02 57 01.9**	**-2.2**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.9						
ZAK	**Zakamensk**	**28.54**	**302**	*e*P	**P**	**02 57 14.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
LZH	**Lanzhou**	**30.33**	**273**	*e*P	**P**	**02 57 30.5**	**-0.6**
LZH				AP	pP	02 57 43.1	-1.7
LZH				XP	sP	02 57 48.5	-2.7
LZH				*e*PP	PP	02 58 29.6	-11
LZH				*e*S	**S**	**03 02 23.1**	**-4.4**
LZH				XS	sS	03 02 45.4	-5.3
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,57nm,4.8s						
LZH				LR	LR		
	comp=N,546nm,13.2s						
LZH				LR	LR		
	comp=Z,839nm,17.4s,MS4.4						
LZH	**Lanzhou**	**30.33**	**273**	*e*P	**P**	**02 57 30.5**	**-0.6**
LZH				pP	pP	02 57 43.1	-1.7
LZH				sP	sP	02 57 48.5	-2.7
LZH				*e*PP	PP	02 58 29.6	-11
LZH				*e*S	**S**	**03 02 23.1**	**-4.4**
LZH				sS	sS	03 02 45.4	-5.3
LZH				*e*SS	SS	03 04 03.5	-35
GTA	**Gaotai**	**32.28**	**281**	*e*P	**P**	**02 57 47.6**	**-0.7**
GTA				AP	pP	02 57 59.5	-2.5
GTA				XP	sP	02 58 04.9	-3.5
GTA				PP	PP	02 58 56.0	-5.9
GTA				S	**S**	**03 02 55.9**	**-2.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,231nm,6.2s						
GTA				LR	LR		
	comp=N,340nm,19.4s,MS4.2						
GTA				LR	LR		
	comp=E,365nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=Z,585nm,20.5s,MS4.3						
CD2	**Chengdu**	**32.59**	**264**	P	**P**	**02 57 51.3**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
TGY	**Tagaytay City**	**32.68**	**221**	LR	LR	03 09 06.7	
	comp=Z,21nm,20.1s,baz=342,slow=32						
KMI	**Kunming**	**36.44**	**257**	P	**P**	**02 58 23.9**	**-0.3**
KMI				AP	pP	02 58 38.6	+0.5
KMI				XP	sP	02 58 45.8	+1.3
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
KMI				AMB	AMB		
	comp=Z,123nm,5.3s						
WMQ	**Urumqi**	**39.81**	**293**	⇓*i*P	**P**	**02 58 53.5**	**+0.9**
WMQ				AP	pP	02 59 06.0	-0.7
WMQ				XP	sP	02 59 12.0	-1.0
WMQ				PP	PP	03 00 29.0	+4.1
WMQ				PCP	PcP	03 00 59.0	+1.2
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,282nm,7.2s						
WMQ				LR	LR		
	comp=N,624nm,19.8s,MS4.5						
WMQ				LR	LR		
	comp=E,495nm,23.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,526nm,19.0s,MS4.4						
ZAL	**Zalesovo**	**39.87**	**309**	P	**P**	**02 58 52.2**	**-0.8**
	comp=Z,7.5nm,0.6s,mb4.6,baz=23,slow=10.0,SNR=21						
ZAL	**Zalesovo**	**39.87**	**309**	*i* P	**P**	**02 58 53.0**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZAL	**Zalesovo**	**39.87**	**309**	P	**P**	**02 58 52.2**	**-0.8**
NVS	**Novosibirsk**	**40.69**	**310**	*e*P	**P**	**02 58 59.0**	**-0.9**
LSA	**Lhasa**	**42.70**	**271**	*e*P	**P**	**02 59 18.0**	**+1.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**42.70**	**271**	*e*P	**P**	**02 59 18.0**	**+1.7**
	comp=Z,6.7nm,0.5s,mb4.6						
MK31	**Makanchi Array**	**42.72**	**299**	⇑*i*P	**P**	**02 59 16.1**	**-0.3**
MKAR	**Makanchi Array**	**42.72**	**299**	P	**P**	**02 59 16.3**	**-0.1**
	comp=Z,7.0nm,0.5s,mb4.6,baz=86,slow=10,SNR=69						
MKAR	**Makanchi Array**	**42.72**	**299**	⇑*e*P	**P**	**02 59 16.2**	**-0.2**
IMA2	**Indian Mountai**	**42.90**	**33**	*e*P	**P**	**02 59 19.0**	**+1.1**
CHTO	**Chiang Mai**	**43.09**	**252**	*e*P	**P**	**02 59 19.4**	**0.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CHTO	**Chiang Mai**	**43.09**	**252**	*e*P	**P**	**02 59 19.4**	**0.0**
	comp=Z,6.6nm,0.6s,mb4.5						
KDAK	**Kodiak Island**	**43.69**	**45**	P	**P**	**02 59 23.9**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.2,baz=262,slow=14,SNR=3.0						
COLA	**College**	**45.34**	**34**	⇓*i*P	**P**	**02 59 40.0**	**+2.6**
COLA	**College**	**45.34**	**34**	*e*P	**P**	**02 59 40.2**	**+2.8**
	comp=Z,11nm,0.8s,mb4.7						
EYAK	**Cordova Ski Ar**	**46.79**	**40**	P	**P**	**02 59 54.5**	**+5.6**
EYAK				*e*pP	pP	03 00 05.2	+2.0
JIRN	**Jiri**	**47.49**	**272**	*e*P	**P**	**02 59 55.3**	**+1.0**
GUN	**Gumba**	**47.59**	**273**	*e*P	**P**	**02 59 55.7**	**+0.6**
	comp=Z,97nm,0.4s						
KKN	**Kakani**	**48.11**	**273**	*e*P	**P**	**02 59 59.5**	**+0.4**
	comp=Z,41nm,0.6s,mb5.6						
PKI	**Pulchoki**	**48.12**	**272**	*e*P	**P**	**02 59 59.6**	**+0.4**
	comp=Z,18nm,0.5s,mb5.4						
CHKZ	**Chkalovo**	**48.18**	**311**	⇑*i*P	**P**	**02 59 59.0**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**48.18**	**311**	⇑*i*P	**P**	**02 59 59.0**	**-0.6**
	comp=Z,12nm,0.7s,mb5.0						
EGAK	**Eagle**	**48.19**	**34**	*e*P	**P**	**03 00 03.6**	**+3.9**
	comp=Z,12nm,1.3s,mb4.8						
VOSK	**Vostochnaya**	**48.22**	**309**	P	**P**	**02 59 58.8**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
DMN	**Daman**	**48.33**	**273**	*e*P	**P**	**03 00 01.3**	**+0.5**
	comp=Z,24nm,0.5s,mb5.5						
TKM2	**Tokmak 2**	**48.45**	**296**	*i* P	**P**	**03 00 01.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
GKN	**Gorkha**	**48.48**	**273**	*e*P	**P**	**03 00 02.1**	**+0.1**
	comp=Z,45nm,0.4s						
BVA0	**Borovoye Array**	**48.48**	**310**	*i* P	**P**	**03 00 01.8**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**48.48**	**310**	P	**P**	**03 00 01.9**	**0.0**
	comp=Z,11nm,0.4s,mb5.2,baz=81,slow=7.6,SNR=54						
BVAR	**Borovoye Array**	**48.48**	**310**	P	**P**	**03 00 01.9**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,11nm,0.4s						
BRVK	**Borovoye**	**48.54**	**310**	⇑*i*P	**P**	**03 00 02.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
BRVK	**Borovoye**	**48.54**	**310**	⇑*i*P	**P**	**03 00 02.2**	**-0.2**
	comp=Z,13nm,0.8s,mb5.0						
DANN	**Dangsing**	**48.96**	**274**	*e*P	**P**	**03 00 07.0**	**+1.3**
ZRNK	**Zerenda**	**49.31**	**310**	⇑*i*P	**P**	**03 00 08.1**	**-0.2**
ZRNK				*e*		03 01 29.5	
ZRNK				pmax	pmax		
	comp=Z,58nm,0.6s						
ZRNK	**Zerenda**	**49.31**	**310**	⇑*i*P	**P**	**03 00 08.1**	**-0.2**
	comp=Z,58nm,0.6s						
ZRNK				*e*PcP	PcP	03 01 29.5	-0.8
AAK	**Ala-Archa**	**49.31**	**296**	*c i*P	**P**	**03 00 07.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**49.31**	**296**	*e*P	**P**	**03 00 06.9**	**-1.5**
	comp=Z,4.0nm,0.4s,mb4.8						
KOLN	**Koldanda**	**49.39**	**274**	*e*P	**P**	**03 00 09.2**	**+0.3**
	comp=Z,24nm,0.5s,mb5.5						
INK	**Inuvik**	**50.51**	**29**	P	**P**	**03 00 17.7**	**+0.3**
	comp=Z,1.5nm,0.3s,mb4.3,baz=271,slow=10,SNR=18						
INK	**Inuvik**	**50.51**	**29**	P	**P**	**03 00 17.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**50.51**	**29**	P	**P**	**03 00 17.7**	**+0.2**
ARU	**Arti**	**53.88**	**317**	⇓*i*P	**P**	**03 00 41.8**	**-0.6**
ARU				*e*		03 02 41.8	
ARU				*e*PPP		03 03 51.7	
ARU				*e*S	**S**	**03 08 14.6**	**+0.9**
ARU				*e*SS	SS	03 11 56.5	+1.3
ARU				*e*SSS		03 13 51.3	
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
ARU	**Arti**	**53.88**	**317**	*e*P	**P**	**03 00 42.2**	**-0.3**
	comp=Z,22nm,1.1s,mb5.0						
PSI	**Prapat**	**54.51**	**237**	P	**P**	**03 00 46.7**	**-0.3**
	comp=Z,1.6nm,0.3s,mb4.5,baz=8.8,slow=6.3,SNR=6.2						
PSI	**Prapat**	**54.51**	**237**	P	**P**	**03 00 46.7**	**-0.3**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
PSI	**Prapat**	**54.51**	**237**	P	**P**	**03 00 46.7**	**-0.3**
AB31	**Akbulak array**	**55.97**	**308**	*i* P	**P**	**03 00 57.3**	**-0.2**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
AKTK	**Aktyubinsk**	**56.59**	**310**	P	**P**	**03 01 01.4**	**-0.5**
AKTO	**Aktyubinsk**	**56.59**	**310**	P	**P**	**03 01 01.4**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.8,baz=69,slow=13,SNR=22						
AKTO	**Aktyubinsk**	**56.59**	**310**	P	**P**	**03 01 01.4**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KEV	**Kevo**	**59.97**	**339**	*e*p	**P**	**03 01 23.8**	**-1.7**
YKA	**Yellowknife Ar**	**60.00**	**31**	P	**P**	**03 01 26.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=303,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**60.00**	**31**	⇑*e*P	**P**	**03 01 32.5**	**+6.8**
ARCES	**ARCESS Array B**	**60.52**	**339**	P	**P**	**03 01 27.9**	**-1.3**
	comp=Z,4.6nm,0.9s,mb4.6,baz=61,slow=7.3,SNR=3.1						
ARCES	**ARCESS Array B**	**60.52**	**339**	P	**P**	**03 01 27.9**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRAB	**Tennant Creek**	**61.11**	**189**	⇑*e*P	**P**	**03 01 33.2**	**-0.1**
WRAB	**Tennant Creek**	**61.11**	**189**	*e*P	**P**	**03 01 32.6**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**61.12**	**189**	*e*P	**P**	**03 01 32.1**	**-1.3**
WRA	**Warramunga Arr**	**61.12**	**189**	P	**P**	**03 01 32.5**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.6,baz=6.2,slow=7.0,SNR=76						
WRA	**Warramunga Arr**	**61.12**	**189**	P	**P**	**03 01 32.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	**Joensuu**	**62.79**	**331**	*e*p	**P**	**03 01 43.8**	**-0.7**
AS31	**Alice Springs**	**64.85**	**189**	*e*P	**P**	**03 01 57.6**	**-0.5**
ASAR	**Alice Springs**	**64.85**	**189**	P	**P**	**03 01 58.0**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=12,slow=5.6,SNR=28						
ASAR	**Alice Springs**	**64.85**	**189**	P	**P**	**03 01 58.0**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**65.09**	**332**	*e*p	**P**	**03 01 58.1**	**-1.6**
	baz=46,slow=6.2						
OBN	**Obninsk**	**65.34**	**323**	*e*P	**P**	**03 02 01.1**	**-0.2**
OBN				*e*		03 02 30.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FIA1	**FINESS Array S**	**65.62**	**332**	*e*P	**P**	**03 02 02.7**	**-0.4**
FINES	**FINESS Array B**	**65.62**	**332**	P	**P**	**03 02 02.1**	**-1.0**
	comp=Z,1.7nm,0.3s,mb4.5,baz=32,slow=10,SNR=8.9						
FINES	**FINESS Array B**	**65.62**	**332**	*i* P	**P**	**03 02 06.0**	**+2.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRSR	**Storozhevoye**	**66.41**	**318**	*e*P	**P**	**03 02 07.7**	**-0.4**
VRSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
KRMB	**Red Mountain**	**66.75**	**55**	*e*P	**P**	**03 02 12.9**	**+2.6**
KIV	**Kislovodsk**	**68.85**	**310**	*ce*P	**P**	**03 02 24.1**	**+0.6**
K

AKBB				e*PP	pP	03 02 54.8	-0.6
AKBB				e		03 03 00.7	
NVAR	**Mina Array Bea**	**72.04**	**55**	P	**P**	**03 02 43.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=290,slow=5.4,SNR=3.6						
PDAR	**Pinedale Array**	**74.37**	**47**	P	**P**	**03 02 57.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=266,slow=3.9,SNR=4.2						
MALT	**Malatya**	**74.89**	**308**	⇓iP	**P**	**03 03 01.2**	**+1.5**
BURAR	**Bucovina Array**	**75.62**	**322**	⇓iP	**P**	**03 03 04.4**	**+0.5**
STHS	**Stebnicka Huta**	**76.10**	**325**	eP	**P**	**03 03 10.6**	**+3.9**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
STHS	**Stebnicka Huta**	**76.10**	**325**	eP	**P**	**03 03 10.6**	**+3.9**
	comp=Z,5.1nm,1.3s,mb4.3						
OJC	**Ojcow**	**76.12**	**326**	eP	**P**	**03 03 06.8**	**0.0**
BRTR	**Keskin Array B**	**76.74**	**311**	P	**P**	**03 03 10.7**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=91,slow=4.0,SNR=9.1						
BRTR	**Keskin Array B**	**76.74**	**311⇑**	eP	**P**	**03 03 10.6**	**+0.3**
OKC	**Ostrava-Krasne**	**77.10**	**327**	eP	**P**	**03 03 12.3**	**0.0**
OKC				epP	pP	03 03 28.0	+0.4
NWAO	**Narrogin (SRO)**	**77.16**	**201**	eP	**P**	**03 03 12.9**	**+0.3**
NWAO				e	pP	03 03 23.0	-4.9
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**77.16**	**201**	eP	**P**	**03 03 12.9**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
NWAO				ePcP	PcP	03 03 23.0	-0.2
MORC	**Moravsky Berou**	**77.40**	**327**	⇓iP	**P**	**03 03 14.8**	**+0.8**
MORC	**Moravsky Berou**	**77.40**	**327**	eP	**P**	**03 03 14.5**	**+0.5**
MORC				e*PP	pP	03 03 30.0	+0.7
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**77.40**	**327**	eP	**P**	**03 03 14.5**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2						
MORC				epP	pP	03 03 30.0	+0.7
DPC	**Dobruska-Polom**	**77.45**	**328**	eP	**P**	**03 03 14.7**	**+0.4**
DPC				epP	pP	03 03 30.3	+0.7
VYHS	**Vyhne**	**77.84**	**325**	eP	pP	03 03 24.6	-7.2
CLL	**Collm**	**77.98**	**330**	eP	**P**	**03 03 17.0**	**-0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CLL	**Collm**	**77.98**	**330**	eP	**P**	**03 03 17.0**	**-0.2**
	comp=Z,4.0nm,0.9s,mb4.3						
PRU	**Pruhonice**	**78.44**	**329**	eP	**P**	**03 03 20.2**	**+0.4**
PRU				epP	pP	03 03 36.4	+1.3
KHC	**Kasperske Hory**	**79.51**	**329**	eP	**P**	**03 03 25.9**	**+0.3**
KHC				epP	pP	03 03 41.4	+0.4
GERES	**GERESS Array B**	**79.69**	**328**	P	**P**	**03 03 26.1**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=38,slow=5.8,SNR=11						
GERES	**GERESS Array B**	**79.69**	**328**	P	**P**	**03 03 26.1**	**-0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VTS	**Vitosha**	**80.26**	**319**	⇓iP	**P**	**03 03 30.3**	**+0.6**
ANMO	**Albuquerque**	**81.47**	**51⇑**	eP	**P**	**03 03 38.0**	**+1.9**
HINF	**Hinteralfeld**	**83.13**	**332**	eP	**P**	**03 03 44.6**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.1						
HINF	**Hinteralfeld**	**83.13**	**332**	eP	**P**	**03 03 44.6**	**-0.2**
HINF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
HINF	**Hinteralfeld**	**83.13**	**332**	eP	**P**	**03 03 44.6**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.1						
HAU	**Haudompre**	**83.15**	**332**	eP	**P**	**03 03 45.2**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.3						
HAU	**Haudompre**	**83.15**	**332**	eP	**P**	**03 03 45.2**	**+0.3**
HAU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
HAU	**Haudompre**	**83.15**	**332**	eP	**P**	**03 03 45.2**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.3						
LOR	**Lormes**	**84.65**	**333**	eP	**P**	**03 03 52.1**	**-0.4**
	comp=Z,20nm,1.2s,mb4.8						
LOR	**Lormes**	**84.65**	**333**	eP	**P**	**03 03 52.1**	**-0.4**
LOR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
LOR	**Lormes**	**84.65**	**333**	eP	**P**	**03 03 52.1**	**-0.4**
	comp=Z,10.0nm,1.2s,mb4.8						
FLN	**La Foliniere**	**84.74**	**336**	eP	**P**	**03 03 53.2**	**+0.2**
SSF	**Saint Saulge**	**84.95**	**333**	eP	**P**	**03 03 53.9**	**-0.1**
LPL	**La Plagne**	**85.12**	**330**	eP	**P**	**03 03 55.3**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.5						
LPL	**La Plagne**	**85.12**	**330**	eP	**P**	**03 03 55.3**	**+0.4**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
LPL	**La Plagne**	**85.12**	**330**	eP	**P**	**03 03 55.3**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.5						
LPG	**La Plagne**	**85.13**	**330**	eP	**P**	**03 03 55.5**	**+0.6**
	comp=Z,7.1nm,0.6s,mb4.7						
LPG	**La Plagne**	**85.13**	**330**	eP	**P**	**03 03 55.5**	**+0.6**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
LPG	**La Plagne**	**85.13**	**330**	eP	**P**	**03 03 55.5**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**85.19**	**333**	eP	**P**	**03 03 55.2**	**-0.1**
	comp=Z,7.3nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**85.19**	**333**	eP	**P**	**03 03 55.2**	**-0.1**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**85.19**	**333**	eP	**P**	**03 03 55.2**	**-0.1**
	comp=Z,3.7nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**85.24**	**333**	eP	**P**	**03 03 55.5**	**0.0**
	comp=Z,16nm,1.0s,mb4.8						
AVF	**Avril sur Loir**	**85.24**	**333**	eP	**P**	**03 03 55.5**	**0.0**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
AVF	**Avril sur Loir**	**85.24**	**333**	eP	**P**	**03 03 55.5**	**0.0**
	comp=Z,8.1nm,1.0s,mb4.8						
MBDF	**Montbardon**	**85.77**	**330**	eP	**P**	**03 03 57.8**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.5						
MBDF	**Montbardon**	**85.77**	**330**	eP	**P**	**03 03 57.8**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
MBDF	**Montbardon**	**85.77**	**330**	eP	**P**	**03 03 57.8**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**85.95**	**331**	eP	**P**	**03 03 59.2**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.6						
ORIF	**Oris-en-Rattie**	**85.95**	**331**	eP	**P**	**03 03 59.2**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
ORIF	**Oris-en-Rattie**	**85.95**	**331**	eP	**P**	**03 03 59.2**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.6						
VIVF	**Saint-Julien-l**	**86.44**	**331**	eP	**P**	**03 04 01.5**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**86.44**	**331**	eP	**P**	**03 04 01.5**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
VIVF	**Saint-Julien-l**	**86.44**	**331**	eP	**P**	**03 04 01.5**	**+0.1**
	comp=Z,6.3nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**86.56**	**335**	eP	**P**	**03 04 02.3**	**+0.3**
RJF	**Les Rejaudoux**	**87.16**	**333**	eP	**P**	**03 04 05.2**	**+0.3**
CAF	**Calviac**	**87.30**	**333**	eP	**P**	**03 04 06.3**	**+0.7**
	comp=Z,9.5nm,0.8s,mb4.8						
CAF	**Calviac**	**87.30**	**333**	eP	**P**	**03 04 06.3**	**+0.7**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
CAF	**Calviac**	**87.30**	**333**	eP	**P**	**03 04 06.3**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.8						
LFF	**La Frestale**	**87.74**	**334**	eP	**P**	**03 04 08.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**114.96**	**317**	PKP	PKiKP	03 09 58.7	-0.8
	comp=Z,0.2nm,0.5s,baz=25,slow=1.7,SNR=7.0						
TORD				PP	PP	03 10 49.5	-10
	comp=Z,0.5nm,0.8s,baz=27,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**114.96**	**317**	PKP	PKiKP	03 09 58.7	-0.8
TORD				PP	PP	03 10 49.5	-10
SNAA	**Sanae**	**144.78**	**198**	ePKPdf	PKPdf	03 10 53.6	-1.9
SNAA				e		03 11 09.2	
SNAA	**Sanae**	**144.78**	**198**	ePKPdf	PKPdf	03 10 53.0	-2.5
VNA1	**Neumayer--Stat**	**146.76**	**197**	ePKPdf	PKPdf	03 10 55.3	-3.6
VNA1				e		03 11 00.4	

*IDC **16** 02:54:09.5±0.7,2051N×11992E,h0km,mb4.0/13, mb1 4.2/13,mb1mx4.1/21,mbtmp4.1/13,MS3.8/3, Ms1 3.9/3,ms1mx3.2/33,Error ellipse: s-maj=36.0km s-min=15.3km az=64.0*

*NEIC **16** 02:54:11.6±0.5,2060N×12007E,h10km,mb4.5/8,Error ellipse: s-maj=13.8km s-min=9.5km az=87.0*

*BJI **16** 02:54:12.9,2080N×11978E,h13km,mB5.0,mb4.4,ML3.8, Ms4.2,Msz4.1*

*ISCJB **16** 02:54:13.2±2.4,2067N±004×12005E±006,h32km±18km, mb4.2/18,MS3.8/3,Error ellipse: s-maj=9.5km s-min=7.0km az=48.2*

ISC 16 02:54:14.8±2.2,2067N±004×12011E±006,h29km±16km, n36,σ1°09/40,mb4.2/18,MS3.8/3,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.36**	**151**	eP	**Pn**	**02 55 06.0**	**+0.7**
NACB	**Ninganchiao**	**3.75**	**21**	ePn	**Pn**	**02 55 10.6**	**-0.1**
NACB				eSn	**Sn**	**02 55 54.4**	**+0.6**
YHNB	**Yeheng**	**4.15**	**16**	ePn	**Pn**	**02 55 14.9**	**-1.2**
YHNB				eSn	**Sn**	**02 56 03.1**	**-0.6**
GZH	**Guangzhou**	**6.73**	**292**	P	**Pn**	**02 55 46.5**	**-5.1**
GZH				S	**Sn**	**02 56 55.5**	**-12**
GZH				Smax			
	comp=N,68nm,0.7s						
GZH				Smax			
	comp=E,70nm,0.7s						
JOW	**Kunigami**	**9.67**	**49**	LR	LR	03 00 40.7	
	comp=E,342nm,19.1s,baz=126,slow=39						
QIZ	**Qiongzhong**	**9.80**	**262**	P	**Pn**	**02 56 34.0**	**+0.3**
QIZ				S	**Sn**	**02 58 23.4**	**+0.6**
QIZ				LR	LR		
	comp=E,420nm,11.0s						
QIZ				LR	LR		
	comp=Z,576nm,11.6s						
QIZ	**Qiongzhong**	**9.80**	**262**	ePn	**Pn**	**02 56 34.0**	**+0.3**
	comp=Z,7.0nm,0.6s						
NJ2	**Nanjing**	**11.39**	**355**	eP	**Pn**	**02 56 58.3**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s						
CD2	**Chengdu**	**17.89**	**308**	eP	**Pn**	**02 58 21.6**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJT	**Baijiatuau**	**19.58**	**351**	eP	**Pn**	**02 58 41.3**	**-0.5**
	comp=Z,18nm,1.3s						
BJI	**Beijing**	**19.60**	**351**	P	**Pn**	**02 58 41.8**	**-0.3**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s						
BJI	**Beijing**	**19.60**	**351**	P	**Pn**	**02 58 41.8**	**-0.3**
	comp=Z,13nm,0.7s						
MAJO	**Matsushiro**	**22.36**	**41**	P	**P**	**02 59 13.5**	**+3.2**
	comp=Z,5nm,1.1s,mb4.3						
MJAR	**Matsushiro Arr**	**22.36**	**41**	P	**P**	**02 59 10.9**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.0,baz=244,slow=11,SNR=6.6						
MDJ	**Mudanjiang**	**25.15**	**16**	P	**P**	**02 59 38.5**	**+1.2**
MDJ				AP	pP	02 59 47.1	+1.4
MDJ				XP	sP	02 59 51.0	+1.7
MDJ				PCP	PcP	03 03 11.8	+0.9
MDJ				S	**S**	**03 04 03.0**	**+2.6**
MDJ				XS	sS	03 04 15.3	+1.0
MDJ				SCP	ScP	03 06 48.5	+0.6
MDJ				PCS	PcS	03 06 52.1	+0.9
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,190nm,4.9s						
MDJ				LR	LR		
	comp=N,207nm,26.0s,MS3.5						
MDJ				LR	LR		
	comp=E,95nm,30.7s,MS3.5						
MDJ				LR	LR		
	comp=Z,261nm,23.2s						
MDJ	**Mudanjiang**	**25.15**	**16**	eP	**P**	**02 59 36.9**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5						
SONM	**Songino Array**	**29.29**	**341**	P	**P**	**03 00 13.8**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.6,baz=172,slow=9.0,SNR=3.7						
SONM				LR	LR	03 11 40.2	
	comp=Z,432nm,21.8s,MS4.0,baz=9.1,slow=36						
WMQ	**Urumqi**	**35.49**	**318**	eP	**P**	**03 01 11.0**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,110nm,3.9s						
MKAR	**Makanchi Array**	**40.26**	**319**	P	**P**	**03 01 48.5**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=98,slow=8.9,SNR=2.1						
MBWA	**Marble Bar**	**41.57**	**181**	eP	**P**	**03 02 01.1**	**+1.2**
	comp=Z,8.4nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**42.69**	**160**	P	**P**	**03 02 07.6**	**-1.4**
	comp=Z,4.5nm,1.0s,mb4.2,baz=341,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**46.07**	**162**	P	**P**	**03 02 32.7**	**-3.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=360,slow=6.9,SNR=4.3						
CTA	**Charters Tower**	**47.91**	**146**	P	**P**	**03 02 50.0**	**-0.4**
	comp=Z,7.7nm,1.0s,mb4.7,baz=334,slow=8.4,SNR=5.1						
CTAO	**Charters Tower**	**47.91**	**146**	eP	**P**	**03 02 51.2**	**+0.9**
	comp=Z,12nm,1.4s,mb4.7						
BVAR	**Borovoye Array**	**49.81**	**323**	P	**P**	**03 03 04.2**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=126,slow=7.3,SNR=2.4						
BVAR				PcP	PcP	03 04 25.1	-0.3
	comp=Z,1.4nm,0.8s,baz=134,slow=4.3,SNR=3.9						
CHKZ	**Chkalovo**	**49.92**	**324**	eP	**P**	**03 03 04.6**	**-1.2**
STKA	**Stephens Creek**	**56.15**	**158**	P	**P**	**03 03 51.4**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=111,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**56.15**	**158**	P	**P**	**03 03 51.4**	**-0.3**
FINES	**FINESS Array B**	**73.98**	**330**	P	**P**	**03 05 47.2**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=72,slow=12,SNR=6.2						
AKASG	**Malin Array Be**	**74.84**	**319**	P	**P**	**03 05 51.0**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=62,slow=4.9,SNR=5.2						
NB2	**NORSAR Subarra**	**80.86**	**332**	P	**P**	**03 06 25.4**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**80.86**	**332**	P	**P**	**03 06 24.8**	**-1.1**
	comp=Z,2.7nm,0.9s,mb4.2,baz=64,slow=5.2,SNR=5.9						
NOA				LR	LR	03 42 20.3	
	comp=Z,49nm,20.8s,MS3.8,baz=75,slow=36						
CLL	**Collm**	**84.25**	**323**	eP	**P**	**03 06 44.0**	**+0.4**
CLL				epP	pP	03 06 52.0	-0.9
GERES	**GERESS Array B**	**84.92**	**320**	P	**P**	**03 06 47.2**	**-0.2**
	comp=Z,1.5nm,0.9s,mb4.1,baz=59,slow=3.4,SNR=8.2						
YKA	**Yellowknife Ar**	**86.58**	**22**	P	**P**	**03 06 56.8**	**+1.6**
	comp=Z,1.6nm,0.7s,mb4.4,baz=313,slow=4.7,SNR=7.5						
HAWA	**Hanford**	**94.26**	**37**	eP	**P**	**03 07 30.0**	**-1.2**
	comp=Z,22nm,2.0s,mb5.2						

*IDC **16** 03:07:40.9±1.4,1312N×12190E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/19,mbtmp3.4/3,Error ellipse: s-maj=75.8km s-min=13.2km az=54.0*

*ISCJB **16** 03:07:41.8±0.8,1332N±003×12203E±005,h9km±6km, mb3.3/3,Error ellipse: s-maj=7.9km s-min=4.9km az=138.2*

*MAN **16** 03:07:43.4,1433N×12031E,h104km,mb1.7,ML3.5, MS1.7*

ISC 16 03:07:42.4±0.7,1332N±003×12201E±005,h11km±5km, n20,σ1°06/26,mb3.3/3,2C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.22**	**311**	eP	**Pg**	**03 07 46.3**	**-0.7**
BOAC				eS	**Sg**	**03 07 50.5**	**+0.5**
AUQP	**San Andres**	**0.64**	**89**	eP	**Pg**	**03 07 56.3**	**+1.4**
OTRP	**Odiongan**	**0.95**	**180**	eP	**Pg**	**03 08 01.2**	**+0.6**
OTRP				eS	**Sg**	**03 08 13.7**	**+0.7**
PGP	**Puerto Galera**	**1.05**	**280**	eP	**Pg**	**03 08 01.0**	**-1.6**
TGY	**Tagaytay City**	**1.31**	**307⇑**	iP	**Pn**	**03 08 06.9**	**+0.3**
TGY				i S	**Sb**	**03 08 25.4**	**+1.6**
TGY	**Tagaytay City**	**1.31**	**307**	Pg	**Pg**	**03 08 06.5**	**-1.0**
	632nm,0.3s,baz=158,slow=2.9,SNR=37						
TGY				Lg		03 08 24.1	
	878nm,0.3s,baz=110,slow=10,SNR=16						
POLP	**Polillo Island**	**1.41**	**357**	eP	**Pn**	**03 08 06.5**	**-1.6**
POLP				eS	**Sn**	**03 08 25.2**	**-1.4**
LUBP	**Lubang**	**1.77**	**284**	eP	**Pn**	**03 08 12.1**	**-0.9**
RCP	**Roxas**	**1.89**	**158⇑**	eP	**Pn**	**03 08 14.0**	**-0.7**
PVCP	**Virac**	**2.10**	**82⇓**	eP	**Pn**	**03 08 17.3**	**-0.3**
PVCP				eS	**Sn**	**03 08 51.7**	**+7.9**
PVCP	**Virac**	**2.10**	**82**	eP	**Pn**	**03 08 17.7**	**+0.1**
BUSP	**Coron**	**2.20**	**234**	eP	**Pn**	**03 08 19.3**	**+0.3**
PCPH	**Palayan**	**2.40**	**338⇓**	eP	**Pn**	**03 08 21.0**	**-0.7**
PCPH				eS	**Sn**	**03 08 53.1**	**+1.9**
BALP	**Baler**	**2.45**	**350**	eP	**Pn**	**03 08 22.5**	**+0.1**
CUYO	**Cuyo Island**	**2.64**	**202**	eP	**Pn**	**03 08 25.1**	**+0.2**
SCZP	**Santa Cruz**	**3.18**	**320**	eP	**Pn**	**03 08 33.8**	**+1.3**
ENPP	**El Nido**	**3.29**	**231**	eP	**Pn**	**03 08 34.2**	**+0.3**
WRA	**Warramunga Arr**	**35.20**	**160**	P	**P**	**03 14 34.7**	**-1.9**
	0.4nm,0.8s,mb3.4,baz=341,slow=9.4,SNR=6.3						
SONM	**Songino Array**	**36.80**	**342**	P	**P**	**03 14 52.0**	**+1.7**
	0.4nm,0.8s,mb3.3,baz=139,slow=6.8,SNR=4.3						
ASAR	**Alice Springs**	**38.55**	**162**	P	**P**	**03 15 04.8**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=339,slow=7.0,SNR=4.1						

*ISCJB **16** 03:08:32.5±1.2,194S±02×1764W±03,h612km±40km, mb3.9/6,Error ellipse: s-maj=43.1km s-min=31.9km az=11.7*

*NEIC **16** 03:08:32.7±1.0,1953S×17679W,h548km±16km,mb4.5/3, Error ellipse: s-maj=26.9km s-min=16.5km az=146.0*

*IDC **16** 03:08:40.7±2.9,2004S×17741W,h590km±32km,mb3.3/5, mb1 3.5/7,mb1mx3.2/17,mbtmp4.4/7,Error ellipse: s-maj=37.5km s-min=24.3km az=168.0*

ISC 16 03:08:33.1±1.8,195S±02×1766W±04,h572km±56km,n17, σ0°72/18,mb3.9/6,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.23**	**40**	eP	**P**	**03 10 24.0**	**-0.1**
	74nm,1.1s						
AFI				eS	**S**	**03 12 07.7**	**+13**
DZM	**Mont Dzumac**	**16.06**	**258**	eP	**P**	**03 11 52.1**	**0.0**
DZM	**Mont Dzumac**	**16.06**	**258**	P	**P**	**03 11 52.8**	**+0.7**
	1.4nm,0.3s,baz=87,slow=19,SNR=15						
DZM				S	**S**	**03 14 21.3**	**-13**
	0.3nm,0.3s,baz=315,slow=20,SNR=5.1						
URZ	**Urewera**	**19.48**	**195**	P	**P**	**03 12 23.2**	**-0.1**
	2.2nm,0.3s,baz=344,slow=3.1,SNR=9.9						
CTA	**Charters Tower**	**34.91**	**263**	eP	**P**	**03 14 37.4**	**-0.3**
	5.3nm,0.3s,mb4.7						
CTA	**Charters Tower**	**34.91**	**263**	P	**P**	**03 14 37.5**	**-0.2**
	10.0nm,0.5s,mb4.7,baz=92,slow=10,SNR=21						
STKA	**Stephens Creek**	**39.41**	**243**	P	**P**	**03 15 14.4**	**0.0**
	1.9nm,0.7s,mb3.7,baz=83,slow=8.1,SNR=3.9						
AS31	**Alice Springs**	**46.03**	**256**	eP	**P**	**03 16 06.2**	**+0.1**
ASAR	**Alice Springs**	**46.03**	**256**	P	**P**	**03 16 06.1**	**0.0**
	2.5nm,0.4s,mb4.1,baz=87,slow=8.1,SNR=49						
ASAR				PcP	PcP	03 17 34.5	+4.0
	0.4nm,0.5s,baz=108,slow=3.9,SNR=4.9						
ASAR				S	**S**	**03 22 04.5**	**-5.5**
	0.5nm,0.8s,baz=88,slow=15,SNR=5.2						
ASPA	**Alice Springs**	**46.04**	**256**	eP	**P**	**03 16 06.2**	**+0.1**
WB2	**Warramunga Arr**	**46.04**	**261**	⇓iP	**P**	**03 16 05.6**	**-0.5**
WB2	**Warramunga Arr**	**46.04**	**261**	eP	**P**	**03 16 05.7**	**-0.4**
WRAB	**Tennant Creek**	**46.04**	**261**	eP	**P**	**03 16 05.6**	**-0.5**
	1.4nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**46.05**	**261**	P	**P**	**03 16 05.9**	**-0.3**
	2.3nm,0.5s,mb3.9,baz=97,slow=8.3,SNR=61						
FITZ	**Fitzroy Crossi**	**54.47**	**261**	P	**P**	**03 17 08.5**	**+1.0**
	1.0nm,0.6s,mb3.3,baz=114,slow=6.7,SNR=6.0						
AKASG	**Malin Array Be**	**142.76**	**333**	PKP	PKPdf	03 27 04.8	+3.0
	0.2nm,0.4s,baz=31,slow=0.7,SNR=4.1						
GERES	**GERESS Array B**	**149.57**	**347**	PKPbc	PKPbc	03 27 25.9	+7.4
	0.1nm,0.4s,baz=11,slow=2.1,SNR=5.2						

CASC 16 03:09:32.3±2.1,891N×8296W,h13km±7km,MD3.7,2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.19**	**95**	⇓iP	Pg	03 09 37.8	+1.1
CTCR				eS	Sg	03 09 41.4	+1.7
BRU	**Baru**	**0.40**	**105**	eP	Pg	03 09 40.9	+0.5
BRU				eS	Sg	03 09 47.2	+1.4
CNI	**Changuinola**	**0.66**	**41**	⇓iP	Pg	03 09 44.8	-0.4
CNI				eS	Sg	03 09 54.3	+0.4
DVD	**David**	**0.69**	**134⇑**	iP	Pg	03 09 45.3	-0.4
DVD				eS	Sg	03 09 54.1	-0.7
LCR2	**La Lucha 2**	**1.32**	**309**	eS	Sb	03 10 14.0	+0.2
LAJ	**Bijagual**	**1.49**	**309**	eP	Pn	03 10 03.5	+4.8
LAJ				eS	Sn	03 10 26.7	+8.7
PRS1	**Puriscal**	**1.71**	**309⇑**	eP	Pn	03 10 01.5	-0.3
PRS1				eS	Sn	03 10 23.4	0.0
CGA2	**Cerro Gallo 2**	**1.85**	**306**	eP	Pn	03 10 04.3	+0.6
CGA2				eS	Sn	03 10 28.2	+1.3
PTP	**Ponta Puerca**	**19.22**	**59**	eP		03 09 45.9	
PTP				eS		03 09 55.0	

*NEIC **16** 03:41:18.9,3149S×7169W,h23km,ML3.2(GUC),After GUC.*

GUC 16 03:41:18.9±0.7,3149S×7169W,h23km±3km,MD3.9, ML3.2,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**157**	⇓iP	Pb	03 41 27.8	0.0
CHNG				i S	Sb	03 41 34.0	+0.2
CHNG				AML	AML	03 41 34.8	
	comp=E,1μm,0.3s						
CMCH	**Combarbala**	**0.67**	**62⇑**	iP	Pb	03 41 31.6	-0.3
CMCH				i S	Sb	03 41 41.0	+0.3
CMCH				AML	AML	03 41 47.7	
	comp=N,3μm,0.5s						
CMCH	**Combarbala**	**0.67**	**62⇑**	iP	Pb	03 41 31.6	-0.3
CMCH				i S	Sb	03 41 41.0	+0.3
OVCH	**Ovalle**	**0.97**	**26**	eP	Pb	03 41 36.3	-0.8
OVCH				i S	Sb	03 41 49.7	+0.2
OVCH				AML	AML	03 41 54.9	
	comp=E,1μm,0.5s						
OVCH	**

AKTO	**Aktyubinsk**	**10.45**	**12**	⇓P		**Pn**	**03 52 08.2**	**+1.7**
	0.1nm,0.7s							
AKTO				⇑S		**Sn**	**03 54 03.7**	**+1.5**
	0.3nm,0.8s							
AKTO	**Aktyubinsk**	**10.45**	**12**	Pn		**Pn**	**03 52 06.5**	**0.0**
	1.5nm,0.3s,baz=194,slow=12,SNR=23							
AKTO				Sn		**Sn**	**03 54 03.2**	**+1.1**
	2.0nm,0.3s,baz=48,slow=20,SNR=9.5							
ORR	**Orenburg**	**11.36**	**0**	*e*P		**Pn**	**03 52 18.2**	**-0.9**
ORR				S		**Sn**	**03 54 22.0**	**-2.5**
ORR				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ORR	**Orenburg**	**11.36**	**0**	*e*P		**Pn**	**03 52 18.2**	**-0.9**
	comp=Z,6.0nm,0.4s							
AAK	**Ala-Archa**	**15.07**	**74**	*e*P		**Pn**	**03 53 04.4**	**-4.8**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**15.07**	**74**	*e*Pn		**Pn**	**03 53 04.4**	**-4.8**
	comp=Z,2.7nm,0.8s							
AAK	**Ala-Archa**	**15.07**	**74**	*e*Pn		**Pn**	**03 53 04.4**	**-4.8**
	comp=Z,2.7nm,0.8s							
ZRNK	**Zerenda**	**16.04**	**33**	⇑P		**Pn**	**03 53 20.6**	**-1.0**
	comp=Z,2.6nm,0.6s							
ZRNK	**Zerenda**	**16.04**	**33**	*e*P		**Pn**	**03 53 20.7**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZRNK	**Zerenda**	**16.04**	**33**	*e*Pn		**Pn**	**03 53 20.6**	**-0.9**
	comp=Z,4.3nm,0.6s							
ZRNK	**Zerenda**	**16.04**	**33**	*e*P		**Pn**	**03 53 20.7**	**-0.9**
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**16.66**	**35**	*e*P		**Pn**	**03 53 28.9**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**16.66**	**35**	*e*P		**Pn**	**03 53 28.9**	**-0.5**
	comp=Z,4.0nm,0.6s							
BVA0	**Borovoye Array**	**16.68**	**35**	P		**Pn**	**03 53 29.3**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=221,slow=11,SNR=12							
BVAR	**Borovoye Array**	**16.68**	**35**	P		**Pn**	**03 53 29.2**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=227,slow=13,SNR=16							
BVAR	**Borovoye Array**	**16.68**	**35**	P		**Pn**	**03 53 29.3**	**-0.4**
	comp=Z,1.1nm,0.9s,SNR=12							
VOSK	**Vostochnaya**	**16.74**	**36**	⇑P		**Pn**	**03 53 30.5**	**+0.1**
	comp=Z,2.1nm,0.8s							
CHKZ	**Chkalovo**	**17.23**	**34**	⇑P		**Pn**	**03 53 37.7**	**+1.2**
	comp=Z,4.6nm,1.3s							
CHKZ	**Chkalovo**	**17.23**	**34**	*e*P		**Pn**	**03 53 37.4**	**+0.8**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CHKZ	**Chkalovo**	**17.23**	**34**	*e*Pn		**Pn**	**03 53 37.4**	**+0.8**
	comp=Z,2.7nm,0.6s							
CHKZ	**Chkalovo**	**17.23**	**34**	*e*P		**Pn**	**03 53 37.4**	**+0.8**
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**20.56**	**309**	P		**P**	**03 54 13.7**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=102,slow=8.3,SNR=7.2							
MK31	**Makanchi Array**	**21.02**	**63**	⇑P		**P**	**03 54 19.2**	**+0.3**
	comp=Z,2.4nm,0.8s,mb3.5,baz=250,slow=11,SNR=13							
MKAR	**Makanchi Array**	**21.02**	**63**	P		**P**	**03 54 18.8**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.1,baz=247,slow=11,SNR=8.9							
FINES	**FINESS Array B**	**27.45**	**330**	P		**P**	**03 55 20.4**	**-0.3**
	comp=Z,2.4nm,1.0s,mb3.7,baz=120,slow=12,SNR=3.6							
ARCES	**ARCESS Array B**	**33.11**	**342**	P		**P**	**03 56 11.7**	**+1.0**
	comp=Z,2.8nm,0.9s,mb4.2,baz=142,slow=10,SNR=3.8							
WRA	**Warramunga Arr**	**95.13**	**112**	P		**P**	**04 02 52.7**	**-4.6**
	comp=Z,0.5nm,1.1s,mb3.9,baz=316,slow=4.0,SNR=4.6							
WRA	**Warramunga Arr**	**95.13**	**112**	P		**P**	**04 02 52.7**	**-4.6**
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							

IDC 16 04:18:45.1±2.1, 4655N×15328E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=81.9km s-min=32.6km az=84.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.05**	**234**	LR	LR	04 27 34.7	
	comp=Z,44nm,20.8s,baz=160,slow=35						
MKAR	**Makanchi Array**	**47.14**	**298**	P		P	04 27 18.8 -0.2
	1.0nm,0.9s,baz=59,slow=8.6,SNR=3.2						
FINES	**FINESS Array B**	**64.28**	**335**	P		P	04 29 21.3 -0.8
	2.1nm,1.0s,baz=28,slow=8.6,SNR=6.8						
NOA	**NORSAR Array B**	**68.46**	**341**	P		P	04 29 48.8 -0.2
	0.3nm,0.5s,baz=28,slow=6.4,SNR=2.8						
ASAR	**Alice Springs**	**72.05**	**199**	P		P	04 30 10.8 -0.1
	0.3nm,0.7s,baz=12,slow=5.6,SNR=5.4						

*IDC **16** 04:19:28.1±1.6, 4651N×15332E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=58.6km s-min=23.4km az=80.0*
*ISCJB **16** 04:19:31.0±1.0, 466N±0.1×1534E±02, h33km, mb3.7/7, Error ellipse: s-maj=21.4km s-min=9.7km az=106.6*
*MOS **16** 04:19:31.8±1.1, 4662N×15336E, h44km, mb4.1/6, Error ellipse: s-maj=30.7km s-min=20.1km az=79.1*

ISC 16 04:19:30.6±5.6, 466N±01×1534E±02, h18km±36km, n16, σ0°58/17, mb3.7/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.08**	**253**	⇓*i*PN		**Pn**	**04 20 32.5** **+0.4**
KUR				*e*S		**Sn**	**04 21 19.0** **-0.4**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.49**	**23**	*e*PN		**Pn**	**04 20 37.1** **-0.6**
SONM	**Songino Array**	**31.57**	**290**	P		**P**	**04 25 52.3** **+0.3**
	comp=E,0.2nm,0.7s,mb3.0,baz=74,slow=6.3,SNR=2.2						
MKAR	**Makanchi Array**	**47.19**	**298**	P		**P**	**04 28 02.1** **-0.1**
	comp=E,0.9nm,0.8s,mb3.8,baz=69,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**47.19**	**298**	P		**P**	**04 28 02.1** **-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**04 30 04.6** **-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=35,slow=7.7,SNR=7.9						
FINES	**FINESS Array B**	**64.28**	**335**	P		**P**	**04 30 04.6** **-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.41**	**199**	P		**P**	**04 30 30.4** **-0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=21,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**68.41**	**199**	P		**P**	**04 30 30.4** **-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.45**	**341**	P		**P**	**04 30 32.4** **+0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.45**	**341**	P		**P**	**04 30 32.8** **+1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**68.45**	**341**	P		**P**	**04 30 32.8** **+1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.80**	**326**	P		**P**	**04 30 51.8** **-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=30,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**71.80**	**326**	P		**P**	**04 30 51.8** **-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**72.10**	**199**	P		**P**	**04 30 54.5** **+0.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=0.3,slow=6.2,SNR=6.4						
ASAR	**Alice Springs**	**72.10**	**199**	P		**P**	**04 30 54.5** **+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*NEIC **16** 04:31:59.2, 1550N×9478W, h18km, MD4.1(MEX), After MEX.*

MEX 16 04:31:59.0±0.6, 1551N×9480W, h17km±8km, MD4.2, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.29**	**282**	*i*P		Pn	04 32 18.8 -3.5
HUIG				*i*S		Sb	04 32 33.9 -5.2
CMIG	**Matias Romero**	**1.57**	**357**	⇓*i*P		Pn	04 32 23.0 -3.2
CMIG				*i*S		Sn	04 32 41.1 -5.1
OXX	**Oaxaca**	**2.42**	**310**	*i*P		Pn	04 32 37.5 -0.3
VHO	**Vista Hermosa**	**2.42**	**310**	*i*P		Pn	04 32 37.5 -0.4
VHO				*i*S		Sn	04 33 04.7 -2.4
VHO	**Vista Hermosa**	**2.42**	**310**	*i*P		Pn	04 32 37.6 -0.3
VHO				*i*S		Sn	04 33 06.2 -1.0
CCIG	**Comitan**	**2.67**	**73**	*e*P		Pn	04 32 38.7 -2.6
CCIG				*i*S		Sn	04 33 09.9 -3.4
UTMO	**Huajuapan**	**3.69**	**309**	*e*P		Pn	04 32 54.4 -0.9
UTMO				*i*S		Sn	04 33 35.1 -3.3
TPIG	**Tehuac#an**	**3.79**	**320**	*e*P		Pn	04 32 54.5 -2.2
TPIG				*i*S		Sn	04 33 38.4 -2.5
PPM	**Popocatepetl**	**5.09**	**315**	*e*P		Pn	04 33 14.0 -0.5
IIO	**Organos**	**5.52**	**318**	*i*S		Sn	04 34 30.5 +6.9

OTT 16 04:59:12.6±0.6, 6307N×6694W, h18km, MN3.3/4, 110km southeast from Iqaluit, Nu Southern Baffin Island, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**0.99**	**314**	PG	Pg	04 59 31.0	-0.8
FRB				SG	Sg	04 59 42.9	-2.0
FRB				Trac		04 59 45.3	
	comp=Z,200nm,0.1s						
KUQ	**Kuujjuuaa**	**5.03**	**189**	PN	Pn	05 00 26.4	-0.6
KUQ				SN	Sn	05 01 19.3	-5.4
KUQ				SG	Sg	05 01 42.6	-11
KUQ				Trac		05 01 49.0	
	comp=Z,25nm,0.3s						
IVKQ	**Ivujivik**	**5.09**	**268**	PN	Pn	05 00 28.9	+1.0
IVKQ				SN	Sn	05 01 22.6	-3.5
IVKQ				SG	Sg	05 01 45.7	-10
IVKQ				Trac		05 01 53.4	
	comp=Z,18nm,0.2s						
AKVQ	**Akulik**	**5.78**	**252**	PN	Pn	05 00 37.0	-0.3
AKVQ				SN	Sn	05 01 38.2	-4.9
AKVQ				Trac		05 02 18.4	
	comp=Z,20nm,0.4s						
INUQ	**Inukjuak**	**7.17**	**235**	PN	Pn	05 00 55.8	-0.6
INUQ				SN	Sn	05 02 11.0	-6.4
INUQ				LG		05 02 52.2	
INUQ				Trac		05 02 58.7	
	comp=Z,29nm,0.6s						
SFJD	**Kangerlussuaq**	**7.94**	**53**	SN	Sn	05 02 35.5	-0.8
SCHQ	**Schefferville**	**8.26**	**180**	PN	Pn	05 01 11.4	-0.1
SCHQ				SN	Sn	05 02 39.2	-5.2
SCHQ				Trac		05 02 44.1	
	comp=Z,12nm,0.5s						
SCHQ				LG		05 03 29.8	
SRLN	**Sarcpa Lake, N**	**8.67**	**316**	PN	Pn	05 01 15.4	-1.6
SRLN				SN	Sn	05 02 46.0	-8.2
SRLN				LG		05 03 36.9	
SRLN				Trac		05 03 40.0	
	comp=Z,28nm,0.5s						
ILON	**Igloolik, Nuna**	**8.70**	**323**	PN	Pn	05 01 16.4	-1.1
ILON				SN	Sn	05 02 47.0	-8.2
ILON				LG		05 03 38.2	
ILON				Trac		05 03 44.6	
	comp=Z,26nm,0.6s						
SNQN	**Sanikiliuq**	**9.00**	**229**	PN	Pn	05 01 16.4	-5.1
SNQN				SN	Sn	05 02 56.9	-5.5
QILN	**Qililugaq Expl**	**9.00**	**302**	PN	Pn	05 01 19.8	-1.8
QILN				SN	Sn	05 02 55.0	-7.5
QILN				LG		05 03 44.6	
GIFN	**Gifford Fjord,**	**9.06**	**326**	PN	Pn	05 01 20.6	-1.9
GIFN				SN	Sn	05 02 55.0	-9.0
GIFN				LG		05 03 45.5	
GIFN				Trac		05 04 04.3	
	comp=Z,18nm,0.5s						
AP3N	**Apex site 3 Nu**	**9.50**	**320**	PN	Pn	05 01 27.0	-1.5
AP3N				SN	Sn	05 03 05.9	-8.9
AP3N				LG		05 04 00.6	
AP3N				Trac		05 04 07.5	
	comp=Z,22nm,0.6s						
LG4Q	**La Grande 4**	**10.18**	**205**	PN	Pn	05 01 37.4	-0.3
LG4Q				SN	Sn	05 03 23.2	-8.3
LG4Q				Trac		05 03 29.1	
	comp=Z,3.0nm,0.2s						
LG4Q				LG		05 04 18.3	
PINU	**Pond Inlet**	**10.50**	**342**	PN	Pn	05 05 54.6	
PINU				SN		05 07 42.9	
PINU				LG		05 08 47.0	
PINU				Trac		05 08 56.0	
	comp=Z,191nm,1.2s						
SEDN	**First Sedna Si**	**10.95**	**282**	PN	Pn	05 01 47.1	-1.2
SEDN				SN	Sn	05 03 40.5	-10
SEDN				LG		05 04 45.8	
JOSN	**Second Sedna S**	**11.12**	**281**	PN	Pn	05 01 49.0	-1.6
JOSN				SN	Sn	05 03 45.3	-9.1
JOSN				LG		05 04 53.3	
WEMQ	**Wemindji, Queb**	**11.60**	**215**	SN	Sn	05 03 57.0	-9.2
BULN	**Bullion Camp,**	**11.63**	**298**	PN	Pn	05 01 54.5	-3.1
BULN				SN	Sn	05 03 56.7	-10
SILO	**Sutton Inlier**	**12.64**	**235**	PN	Pn	05 02 09.3	-2.2
SILO				SN	Sn	05 04 19.8	-12
YBKN	**Baker Lake, Hu**	**12.90**	**288**	LG		05 05 47.4	
VIMO	**Victor Mine**	**13.56**	**228**	PN	Pn	05 02 22.2	-1.8
VIMO				SN	Sn	05 04 42.7	-11
ICQ	**Pointe Anglais**	**13.58**	**181**	PN	Pn	05 02 25.1	+0.8
ICQ				SN	Sn	05 04 42.3	-12
FCC	**Fort Churchill**	**13.83**	**264**	PN	Pn	05 02 25.3	-2.4
FCC				SN	Sn	05 04 47.2	-13
MALO	**McAlpine Lake**	**14.82**	**214**	PN	Pn	05 02 40.6	-0.6
MALO				SN	Sn	05 05 11.5	-13
RES	**Resolute Bay**	**15.16**	**332**	SN	Sn	05 05 17.5	-16
RES				LG		05 07 00.8	
KILO	**Kirkland Lake**	**16.23**	**212**	PN	Pn	05 02 59.0	-0.6
KILO				SN	Sn	05 05 44.5	-15
NANO	**Nakina Ontario**	**16.72**	**230**	PN	Pn	05 03 05.4	-0.5
NANO				SN	Sn	05 05 54.9	-16

*CSEM **16** 05:47:56.0±1.0, 3886N×2898W, h3km±7km, ML1.8, Error ellipse: s-maj=9.5km s-min=5.8km az=74.0, After PDA*
*PDA **16** 05:47:56.0±1.0, 3886N×2898W, h3km±7km, MD3.0, ML1.8, Error ellipse: s-maj=9.5km s-min=5.8km az=74.0*

SVSA 16 05:47:56.0±1.0, 3886N×2898W, h3km±7km, MD3.0, ML1.8, Error ellipse: s-maj=9.5km s-min=5.8km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.32**	**136**	*i*P	Pg	05 48 01.7	-0.5
PCED				*e*S	Sg	05 48 06.3	0.0
PCED							
	38nm,0.1s						
PCED	**Cedros**	**0.32**	**136**	*i*P	Pg	05 48 01.7	-0.5
PCED				*e*S	Sg	05 48 06.3	0.0
HOR	**Horta**	**0.43**	**140**	*i*P	Pg	05 48 03.4	-0.9
HOR				*e*S	Sg	05 48 09.2	-0.8
HOR	**Horta**	**0.43**	**140**	*e*S	Sg	05 48 09.2	-0.8
PCND	**Candelaria**	**0.57**	**134**	*e*P	Pg	05 48 06.0	-0.9
PCND				*e*S	Sg	05 48 10.4	-3.8
PCND							
	20nm,0.1s						
PICO	**Pico**	**0.57**	**129**	*e*P	Pg	05 48 06.0	-0.9
PICO				*e*S	Sg	05 48 13.6	-0.6
ROSA	**Rosais**	**0.60**	**103**	*e*P	Pg	05 48 06.4	-1.1
ROSA				*e*S	Sg	05 48 13.7	-1.5
PBOI	**Pico dos Bois**	**0.64**	**131**	*e*P	Pg	05 48 07.2	-1.0
PBOI				*e*S	Sg	05 48 15.5	-1.0
PBOI							
	16nm,0.2s						
PMAN	**Manadas**	**0.74**	**108**	*e*S	Sg	05 48 17.5	-2.2
PMAN							
	29nm,0.2s						

*NEIC **16** 06:02:48.6, 3102S×7134W, h60km, MD3.8(GUC), After GUC.*

GUC 16 06:02:48.6±0.5, 3102S×7134W, h60km±3km, MD3.4, ML3.1, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.32**	**118**	⇑*i*P	Pn	06 02 59.2	+0.3
CMCH				*i*S	Sn	06 03 07.4	+1.1
CMCH				AML	AML	06 03 07.6	
	comp=N,6μm,0.1s						
OVCH	**Ovalle**	**0.43**	**16**	*e*P	Pn	06 03 00.1	+0.2
OVCH				*i*S	Sn	06 03 09.0	+1.0
OVCH				AML	AML	06 03 10.2	
	comp=N,1μm,0.4s						
OVCH	**Ovalle**	**0.43**	**16**	*e*P	Pn	06 03 00.1	+0.2
OVCH				*i*S	Sn	06 03 09.0	+1.0
CHNG	**Los Chungos**	**0.87**	**189**	*e*P	Pn	06 03 05.3	+0.4
CHNG				*i*S	Sn	06 03 17.3	+0.4
CHNG				AML	AML	06 03 19.6	
	comp=E,222nm,0.4s						
TLL	**Tololo Astrono**	**0.97**	**28**	*e*P	Pn	06 03 07.1	+0.9
TLL				*i*S	Sn	06 03 21.0	+1.8
TLL				AML	AML	06 03 22.7	
	comp=N,1μm,0.5s						
TLL	**Tololo Astrono**	**0.97**	**28**	*e*P	Pn	06 03 07.1	+0.9
TLL				*i*S	Sn	06 03 21.0	+1.8
LSCH	**La Serena**	**1.11**	**4**	⇓*i*P	Pn	06 03 08.5	+0.4
LSCH				*i*S	Sn	06 03 23.4	+0.8
PTCH	**Petorca**	**1.28**	**164**	*e*P	Pn	06 03 11.0	+0.6
PTCH				*i*S	Sn	06 03 27.6	+0.9
PTCH				AML	AML	06 03 33.5	
	comp=E,852nm,0.1s						
PTCH	**Petorca**	**1.28**	**164**	*e*P	Pn	06 03 11.0	+0.6
PTCH				*i*S	Sn	06 03 27.6	+0.9
PEL	**Peldehue**	**2.18**	**166**	*e*P	Pn	06 03 23.0	+0.5
CLCH	**Cerro Calan**	**2.46**	**164**	*e*P	Pn	06 03 26.9	+0.6
RCDM	**Rinconada Maip**	**2.50**	**170**	*e*P	Pn	06 03 27.6	+0.7
RCDM				*i*S	Sn	06 03 57.0	+0.9
RCDM				AML	AML	06 04 00.2	
	comp=N,105nm,0.4s						
RCDM	**Rinconada Maip**	**2.50**	**170**	*e*P	Pn	06 03 27.6	+0.7
RCDM				*i*S	Sn	06 03 57.0	+0.9

IDC 16 06:37:29.9±2.1, 058N×9740E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=60.7km s-min=24.1km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.68**	**35**	Pn	Pn	06 38 14.4	0.0
	3.0nm,0.3s,baz=287,slow=8.2,SNR=9.8						
WRA	**Warramunga Arr**	**41.54**	**122**	P		P	06 45 19.0 -0.1
	0.4nm,0.5s,baz=305,slow=8.8,SNR=5.9						
ASAR	**Alice Springs**	**42.87**	**127**	P		P	06 45 30.6 +0.7
	0.3nm,0.7s,baz=300,slow=8.2,SNR=4.3						
SONM	**Songino Array**	**47.71**	**8**	P		P	06 46 08.2 -0.2
	0.1nm,0.4s,baz=190,slow=8.0,SNR=2.7						
MKAR	**Makanchi Array**	**47.89**	**346**	P		P	06 46 09.8 +0.1
	0.8nm,0.5s,baz=161,slow=8.3,SNR=7.7						

*IDC **16** 06:37:41.9±0.9, 037N×9703E, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, ML3.5/1, Error ellipse: s-maj=37.4km s-min=16.2km az=50.0*
*BJI **16** 06:37:42.5, 040N×97.10E, h20km, mB4.9, mb4.7*
*NEIC **16** 06:37:46.5±0.5, 039N×9708E, h30km, mb4.3/3, Error ellipse: s-maj=14.5km s-min=8.3km az=55.0*
*ISCJB **16** 06:37:50.1±4.0, 06N±02×973E±02, h74km±31km, mb4.1/14, Error ellipse: s-maj=46.6km s-min=14.0km az=110.6*

ISC 16 06:37:51.4±4.0, 06N±02×973E±02, h67km±32km, n20, σ0°55/17, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.71**	**36**	Pn	Pn	**06 38 32.5**	**0.0**
	6.9nm,0.3s,baz=284,slow=15,SNR=12						
FITZ	**Fitzroy Crossi**	**33.49**	**125**	P		**P**	**06 44 23.5** **-0.7**
	2.9nm,0.8s,mb4.2,baz=158,slow=6.9,SNR=5.2						
XAN	**Xi'an**	**34.99**	**17**	P		**P**	**06 44 35.6** **-1.6**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**41.62**	**121**	P		**P**	**06 45 33.2** **+0.3**
	comp=Z,3.0nm,0.8s,mb4.1,baz=300,slow=9.1,SNR=15						
WRAB	**Tennant Creek**	**41.62**	**121**	P		**P**	**06 45 33.3** **+0.4**
	comp=Z,3.0nm,0.7s,mb4.1						
BJI	**Beijing**	**42.84**	**21**	P		**P**	**06 45 43.8** **+1.0**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
BJI	**Beijing**	**42.84**	**21**	P		**P**	**06 45 43.7** **+0.9**
	comp=Z,10.0nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**42.94**	**127**	P		**P**	**06 45 43.7** **+0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=304,slow=7.5,SNR=14						
SONM	**Songino Array**	**47.70**	**8**	P		**P**	**06 46 21.3** **+0.1**
	comp=Z,1.2nm,0.9s,mb3.7,baz=192,slow=5.5,SNR=6.6						
MK31	**Makanchi Array**	**47.84**	**346**	*e*P		**P**	**06 46 22.8** **+0.4**
MKAR	**Makanchi Array**	**47.84**	**346**	P		**P**	**06 46 23.0** **+0.6**
	comp=Z,3.1nm,0.6s,mb4.3,baz=156,slow=8.1,SNR=20						
ZAL	**Zalesovo**	**54.15**	**351**	P		**P**	**06 47 09.8** **+0.2**
	comp=Z,2.6nm,0.5s,mb4.5,baz=279,slow=5.0,SNR=5.9						
BVAR	**Borovoye Array**	**56.85**	**341**	P		**P**	**06 47 28.9** **-0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=141,slow=9.6,SNR=5.9						
CHKZ	**Chkalovo**	**57.33**	**341**	*e*P		**P**	**06 47 32.2** **-0.2**
	comp=Z,2.5nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**69.60**	**312**	P		**P**	**06 48 53.2** **-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=117,slow=10,SNR=2.6						
AKASG	**Malin Array Be**	**75.80**	**323**	P		**P**	**06 49 30.2** **+0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=94,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**80.58**	**333**	P		**P**	**06 49 56.2** **-0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=120,slow=8.2,SNR=2.2						
CPUP	**Villa Florida**	**144.65**	**222**	PKP	PKPdf	06 57 21.8	+1.5
	comp=Z,2.1nm,0.7s,baz=104,slow=2.1,SNR=6.7						
CPUP	**Villa Florida**	**144.65**	**222**	PKP	PKPdf	06 57 21.8	+1.4
JCT	**Junction City**	**145.05**	**26**	*e*PKPdf	PKPdf	06 57 22.2	+1.2

*IDC **16** 06:38:16.5±0.8, 056N×9730E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/24, mbtmp4.2/12, ML3.3/1, Error ellipse: s-maj=35.6km s-min=15.0km az=49.0*
*ISCJB **16** 06:38:19.8±0.8, 06N±01×974E±01, h33km, mb4.2/12, Error ellipse: s-maj=22.5km s-min=11.9km az=105.8*
*NEIC **16** 06:38:21.1±0.5, 059N×9735E, h30km, mb4.6/1, Error ellipse: s-maj=16.2km s-min=9.0km az=52.0*

ISC 16 06:38:22.3±0.8, 07N±01×974E±01, h35km, n19, σ0°60/15, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.59**	**36**	Pn	Pn	**06 39 01.3**	**-0.3**
	5.8nm,0.3s,baz=181,slow=14,SNR=5.5						
FITZ	**Fitzroy Crossi**	**33.46**	**125**	P		**P**	**06 44 57.2** **-0.8

SONM Songino Array 44.09 321 P P 06 54 58.1 -0.3
0.6nm,0.3s,baz=131,slow=6.8,SNR=8.1
ZAL Zalesovo 58.95 322 P P 06 56 51.5 +1.8
1.3nm,0.4s,baz=113,slow=7.7,SNR=2.4
BVAR Borovoye Array 67.43 320 P P 06 57 44.8 -1.2
2.1nm,0.5s,baz=94,slow=7.5,SNR=14

LDG ***16*** *06:55:50.3±0.1, 43.03N×00.5E, h10km, Md1.4/2, Ml1.4/2, Error ellipse: s-maj=3.6km s-min=1.6km az=168.0*
STR ***16*** *06:55:50.7±0.0, 43.02N×00.0E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 16 06:55:50.8±0.5, 43.03N×00.5E, h0km, mbLg0.7/3, Error ellipse: s-maj=4.9km s-min=2.6km az=173.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.03**	**46**	Pg	Pg	06 55 52.6	+1.4
LABF				Sg	Sg	06 55 54.1	+2.5
VIEF	**Viey**	**0.15**	**187**	Pg	Pg	06 55 54.0	+0.4
VIEF				Sg	Sg	06 55 56.4	+0.9
EPF	**Esparros**	**0.21**	**90**	*e*Pg	Pg	06 55 54.7	-0.2
EPF				*e*Sg	Sg	06 55 57.7	+0.1
	3.2nm,0.2s						
EPF	**Esparros**	**0.21**	**90**	Pg	Pg	06 55 54.7	-0.2
EPF				Lg		06 55 57.7	
	1.6nm,0.2s						
EBIE	**Bielsa**	**0.35**	**169**	Pg	Pg	06 55 57.3	-0.2
	SNR=7.9						
EBIE				Lg		06 56 02.1	
	2.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.47**	**254**	*e*Pg	Pg	06 55 59.1	-0.6
ETSF				*e*Sg	Sg	06 56 05.9	+0.2
	2.6nm,0.2s						
ETSF	**Etsaut**	**0.47**	**254**	Pg	Pg	06 55 59.1	-0.6
ETSF				Lg		06 56 05.9	
	1.3nm,0.2s						
SJPF	**Ste Jean**	**0.94**	**276**	*e*Sg	Sg	06 56 20.1	-0.8
	0.5nm,0.2s						
SJPF	**Ste Jean**	**0.94**	**276**	Lg		06 56 20.1	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.62**	**78**	*e*Sg	Sg	06 56 41.3	-1.4
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.62**	**78**	Lg		06 56 41.3	
	0.6nm,0.3s						

IDC ***16*** *06:55:57.0±3.1, 33.42S×179.40W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=68.5km s-min=46.0km az=114.0*
ISCJB ***16*** *06:56:04.0±2.7, 33.68S±0.08×180.0W±0.04, h33km, mb3.4/2, Error ellipse: s-maj=49.7km s-min=12.0km az=2.9*
ISC 16 06:56:05.5±2.7, 33.64S±0.09×179.9W±0.04, h35km, n8, σ0°35/9, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.67**	**198**	*e*PN	**Pn**	**06 57 13.7**	**+0.3**
PUZ				SN	**Sn**	**06 58 06.2**	**-0.2**
URZ	**Urewera**	**5.21**	**207**	Pn	**Pn**	**06 57 21.3**	**+0.4**
	2.2nm,0.3s,baz=281,slow=6.7,SNR=12						
URZ				Sn	**Sn**	**06 58 20.0**	**+0.2**
	5.5nm,0.3s,baz=234,slow=21,SNR=6.5						
URZ	**Urewera**	**5.21**	**207**	PN	**Pn**	**06 57 20.9**	**0.0**
URZ				SN	**Sn**	**06 58 19.7**	**0.0**
KNZ	**Kokohu**	**5.71**	**199**	*e*PN	**Pn**	**06 57 27.6**	**-0.3**
MQZ	**McQueen's Vall**	**11.61**	**208**	SN	Sx	07 00 44.3	
ASAR	**Alice Springs**	**41.45**	**271**	P	**P**	**07 03 48.2**	**-0.6**
	0.5nm,0.7s,mb3.2,baz=112,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**42.74**	**277**	P	**P**	**07 03 59.8**	**+0.5**
	0.4nm,0.3s,mb3.6,baz=116,slow=7.8,SNR=21						
FINES	**FINESS Array B**	**147.56**	**337**	PKPbc	PKPbc	07 15 41.5	-4.5
	1.5nm,0.8s,baz=66,slow=6.5,SNR=4.7						

NIED ***16*** *07:17:00, 38.00N×142.50E, h23km, Mw3.6 Best double couple: M0:2.63000×10^14 NP1:φs=357.00000°, δ47.00000°, λ73.00000°. NP2:φs=201.00000°, δ45.00000°, λ107.00000°.*
JMA 16 07:17:40.7±0.1, 38.00N×142.51E, h36km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.02**	**297**	P	Pn	07 17 58.9	+0.4
JIO				*e*S	Sn	07 18 12.0	+0.4
OFUJ	**Ofunato**	**1.26**	**329**	P	Pn	07 18 02.5	+0.7
OFUJ				*e*S	Sn	07 18 18.6	+1.0
JMM	**Marumori**	**1.36**	**265**	P	Pn	07 18 03.8	+0.6
JMM				*e*S	Sn	07 18 20.7	+0.6
JMK	**Ichinoseki**	**1.39**	**314**	P	Pn	07 18 04.5	+0.9
JFK	**Kawauchi**	**1.44**	**245**	P	Pn	07 18 04.6	+0.3
JOU	**Okura**	**1.50**	**285**	P	Pn	07 18 06.4	+1.3
JOM	**Ohasama**	**1.75**	**327**	P	Pn	07 18 09.9	+1.3
JOM				*e*S	Sn	07 18 32.5	+2.9
JFT	**Otama**	**1.79**	**255**	P	Pn	07 18 10.4	+1.3
JFT				*e*S	Sn	07 18 31.8	+1.3
JYK	**Kaneyama**	**1.92**	**299**	P	Pn	07 18 12.2	+1.3
JYS	**Shiratake**	**1.94**	**277**	P	Pn	07 18 12.6	+1.4
JYS				*e*S	Sn	07 18 37.3	+3.0
JFY	**Yanaizu**	**2.30**	**256**	P	Pn	07 18 18.2	+2.1
JFY				*e*S	Sn	07 18 46.8	+3.6

NEIC ***16*** *07:24:19.7, 31.51S×71.62W, h28km, ML2.9(GUC), After GUC.*
GUC 16 07:24:19.7±0.5, 31.51S×71.62W, h28km±1km, MD3.8, ML2.9, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.39**	**164**	⇓*i*P	Pb	07 24 28.1	-0.2
CHNG				*i* S	Sb	07 24 34.0	-0.1
CHNG				AML	AML	07 24 34.6	
	comp=E,986nm,0.1s						
CMCH	**Combarbala**	**0.63**	**58**	⇑*i*P	Pb	07 24 31.9	-0.3
CMCH				*i* S	Sb	07 24 40.9	+0.2
CMCH				AML	AML	07 24 45.8	
	comp=E,1μm,0.5s						
CMCH	**Combarbala**	**0.63**	**58**	⇑*i*P	Pb	07 24 31.9	-0.3
CMCH				*i* S	Sb	07 24 40.9	+0.2
PTCH	**Petorca**	**0.95**	**142**	*e*P	Pn	07 24 36.9	-0.2
PTCH				*i* S	Sn	07 24 49.7	-0.1
PTCH				AML	AML	07 24 52.5	
	comp=E,2μm,0.2s						
PTCH	**Petorca**	**0.95**	**142**	*e*P	Pn	07 24 36.9	-0.2
PTCH				*i* S	Sn	07 24 49.7	-0.1
OVCH	**Ovalle**	**0.97**	**22**	⇑*i*P	Pn	07 24 37.2	-0.2
OVCH				*i* S	Sn	07 24 50.1	0.0
OVCH				AML	AML	07 24 53.4	
	comp=E,592nm,0.5s						
OVCH	**Ovalle**	**0.97**	**22**	⇑*i*P	Pn	07 24 37.2	-0.2
OVCH				*i* S	Sn	07 24 50.1	0.0
PACH	**Papudo**	**1.04**	**171**	*i* P	Pn	07 24 38.0	-0.3
PACH				*i* S	Sn	07 24 52.2	+0.4
JACH	**Jahuel**	**1.46**	**144**	*e*P	Pn	07 24 45.0	+0.9
JACH				*i* S	Sn	07 25 04.4	+2.1
TLL	**Tololo Astrono**	**1.51**	**28**	*e*P	Pn	07 24 46.4	+1.6
TLL				*i* S	Sn	07 25 06.2	+2.6
TLL				AML	AML	07 25 09.5	
	comp=E,231nm,0.1s						
TLL	**Tololo Astrono**	**1.51**	**28**	*e*P	Pn	07 24 46.4	+1.6
TLL				*i* S	Sn	07 25 06.2	+2.6
PEL	**Peldehue**	**1.81**	**154**	*e*P	Pn	07 24 50.4	+1.4
PEL				*i* S	Sn	07 25 13.8	+2.8
PEL				AML	AML	07 25 18.5	
	comp=E,265nm,0.5s						
PEL	**Peldehue**	**1.81**	**154**	*e*P	Pn	07 24 50.4	+1.4
PEL				*i* S	Sn	07 25 13.8	+2.8
RCDM	**Rinconada Maip**	**2.09**	**161**	⇑*i*P	Pn	07 24 53.6	+0.8
RCDM				AML	AML	07 25 31.6	
	comp=E,187nm,0.2s						
CLCH	**Cerro Calan**	**2.09**	**154**	*e*P	Pn	07 24 54.4	+1.5
CLCH				*i* S	Sn	07 25 20.7	+2.8
CLCH				AML	AML	07 25 25.5	
	comp=N,111nm,0.6s						
ANTU	**Antumapu**	**2.22**	**158**	⇑*i*P	Pn	07 24 55.7	+1.2
ANTU				*i* S	Sn	07 25 23.4	+2.4
ANTU				AML	AML	07 25 32.1	
	comp=N,120nm,0.8s						
ANTU	**Antumapu**	**2.22**	**158**	⇑*i*P	Pn	07 24 55.7	+1.2
ANTU				*i* S	Sn	07 25 23.4	+2.4
CACH	**El Canelo**	**2.74**	**162**	*e*P	Pn	07 25 03.8	+2.1

IDC 16 07:43:08.6±8.5, 22.34N×145.08E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, Error ellipse: s-maj=316.3km s-min=27.2km az=75.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.99**	**319**	P	P	07 50 45.5	+0.5
	0.4nm,0.5s,baz=123,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**43.31**	**195**	P	P	07 51 13.5	+1.3
	0.4nm,0.7s,baz=17,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**47.00**	**194**	P	P	07 51 40.6	-0.9
	0.2nm,0.6s,baz=17,slow=9.7,SNR=5.0						
MKAR	**Makanchi Array**	**55.57**	**312**	P	P	07 52 45.3	-0.5
	0.3nm,0.6s,baz=93,slow=8.6,SNR=2.9						

NEIC ***16*** *07:45:22.1, 32.57S×71.73W, h24km, ML2.9(GUC), After GUC.*
GUC 16 07:45:22.1±0.7, 32.57S×71.73W, h24km±3km, MD3.9, ML2.9, 4C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**82**	⇓*i*P	Pb	07 45 28.8	+0.5
PACH				*i* S	Sb	07 45 33.5	+1.0
IHA	**Instituto Hidr**	**0.46**	**171**	*e*P	Pb	07 45 31.3	-0.3
IHA				*i* S	Sb	07 45 38.0	0.0
CHNG	**Los Chungos**	**0.71**	**16**	⇓*i*P	Pb	07 45 35.5	-0.4
CHNG				*i* S	Sb	07 45 44.9	-0.4
CHNG				AML	AML	07 45 45.7	
	comp=E,390nm,0.3s						
ROCH	**El Roble**	**0.72**	**124**	⇑*i*P	Pb	07 45 35.8	-0.2
PTCH	**Petorca**	**0.74**	**66**	⇓*i*P	Pb	07 45 36.3	0.0
PTCH				*i* S	Sb	07 45 46.3	+0.2
PTCH				AML	AML	07 45 48.0	
	comp=E,1μm,0.1s						
PTCH	**Petorca**	**0.74**	**66**	⇓*i*P	Pb	07 45 36.3	0.0
PTCH				*i* S	Sb	07 45 46.3	+0.2
LCCH	**Las Cruces**	**0.91**	**172**	⇑*i*P	Pb	07 45 38.3	-0.9
JACH	**Jahuel**	**0.96**	**97**	⇓*i*P	Pn	07 45 39.5	-0.6
JACH				*i* S	Sb	07 45 52.5	0.0
PEL	**Peldehue**	**1.05**	**123**	⇓*e*P	Pn	07 45 40.7	-0.5
PEL				*i* S	Sb	07 45 54.6	-0.2
PEL				AML	AML	07 45 57.6	
	comp=E,865nm,0.2s						
PEL	**Peldehue**	**1.05**	**123**	⇓*e*P	Pn	07 45 40.7	-0.5
PEL				*i* S	Sb	07 45 54.6	-0.2
RCDM	**Rinconada Maip**	**1.20**	**140**	*e*P	Pn	07 45 43.0	-0.3
RCDM				*i* S	Sn	07 45 58.4	-0.3
RCDM				AML	AML	07 46 00.7	
	comp=N,405nm,0.2s						
RCDM	**Rinconada Maip**	**1.20**	**140**	*e*P	Pn	07 45 43.0	-0.3
RCDM				*i* S	Sn	07 45 58.4	-0.3
TACH	**Talagante**	**1.27**	**149**	⇑*i*P	Pn	07 45 44.3	+0.1
CLCH	**Cerro Calan**	**1.29**	**130**	⇓*i*P	Pn	07 45 44.6	-0.1
CLCH				*i* S	Sn	07 46 01.7	+0.5
CLCH				AML	AML	07 46 05.0	
	comp=E,313nm,0.3s						
LACH	**Colegio Las Am**	**1.33**	**131**	*e*P	Pn	07 45 44.6	-0.6
LNV	**Longovilo**	**1.40**	**169**	*i* P	Pn	07 45 45.9	-0.3
LNV				*i* S	Sn	07 46 04.3	+0.4
PCH	**Pirque**	**1.46**	**136**	⇓*i*P	Pn	07 45 47.4	+0.4
PCH				*i* S	Sn	07 46 06.7	+1.4
CMCH	**Combarbala**	**1.53**	**24**	⇓*i*P	Pn	07 45 48.1	+0.2
CMCH				*i* S	Sn	07 46 07.8	+0.9
CMCH				AML	AML	07 46 11.6	
	comp=E,697nm,0.5s						
CMCH	**Combarbala**	**1.53**	**24**	⇓*i*P	Pn	07 45 48.1	+0.2
CMCH				*i* S	Sn	07 46 07.8	+0.9
SJCH	**San Jose de Ma**	**1.57**	**133**	*e*P	Pn	07 45 48.9	+0.5
SJCH				AML	AML	07 46 18.2	
	comp=N,95nm,0.2s						
CHCH	**Chadas Angostu**	**1.63**	**147**	⇑*i*P	Pn	07 45 50.4	+1.2
CHCH				*i* S	Sn	07 46 11.4	+1.9
CACH	**El Canelo**	**1.81**	**149**	*e*P	Pn	07 45 53.4	+1.7
CICH	**Cipreses**	**2.06**	**148**	⇓*i*P	Pn	07 45 56.5	+1.4
CICH				*i* S	Sn	07 46 22.9	+2.9
TLL	**Tololo Astrono**	**2.52**	**18**	*e*P	Pn	07 46 03.5	+1.9
TLL				*i* S	Sn	07 46 35.0	+3.4
TLL				AML	AML	07 46 43.0	
	comp=N,115nm,0.5s						
TLL	**Tololo Astrono**	**2.52**	**18**	*e*P	Pn	07 46 03.5	+1.9
TLL				*i* S	Sn	07 46 35.0	+3.4

ISCJB ***16*** *07:54:14.3±0.7, 38.04N±0.03×23.95E±0.03, h0km±6km, Error ellipse: s-maj=4.6km s-min=4.1km az=91.8*
NEIC ***16*** *07:54:16.0, 37.96N×23.94E, h17km, ML2.8(ATH), After ATH.*
ATH ***16*** *07:54:16.0, 37.97N×23.95E, h16km, MD2.8/7, ML2.8*
CSEM ***16*** *07:54:16.0±0.1, 38.03N×23.97E, h2km, ML2.8, Error ellipse: s-maj=1.9km s-min=1.7km az=54.0*
THE ***16*** *07:54:20.4, 38.13N×23.40E, h20km, ML2.8*
ISC 16 07:54:15.8±0.5, 38.06N±0.03×23.98E±0.03, h8km±4km, n23, σ1°11/39, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.09**	**266**	*e*PB	**Pg**	**07 54 19.2**	**+1.1**
PTL				*e*SB	**Sg**	**07 54 21.3**	**+1.6**
PTL	**Penteli**	**0.09**	**266**	*e*Pb	**Pg**	**07 54 19.2**	**+1.1**
PTL				*e*Sb	**Sg**	**07 54 21.2**	**+1.5**
ATH	**Athens Observa**	**0.23**	**248**	⇑*i*PB	**Pg**	**07 54 20.6**	**+0.2**
ATH				*e*SB	**Sg**	**07 54 23.5**	**0.0**
ATH	**Athens Observa**	**0.23**	**248**	⇑*i*Pb	**Pg**	**07 54 20.7**	**+0.3**
ATH				*e*Sb	**Sg**	**07 54 23.5**	**0.0**
KVR	**Kavouri**	**0.28**	**216**	*e*PB	**Pg**	**07 54 20.8**	**-0.7**
KVR				*e*SB	**Sg**	**07 54 24.0**	**-1.2**
NAIG	**Nisos Aigina**	**0.49**	**233**	*e*PB	**Pg**	**07 54 24.6**	**-0.8**
NAIG	**Nisos Aigina**	**0.49**	**233**	*e*Pb	**Pg**	**07 54 24.8**	**-0.6**
LKR	**Lokris**	**0.97**	**308**	*e*PN	**Pn**	**07 54 35.3**	**-0.5**
LKR				*e*SN	**Sn**	**07 54 49.3**	**-0.5**
AOS	**Alonnisos**	**1.12**	**356**	*e*Pg	**Pg**	**07 54 39.0**	**+1.7**
AOS				*e*Sg	**Sg**	**07 54 52.4**	**+0.7**
XOR	**Xorichti**	**1.45**	**335**	*e*Pg	**Pg**	**07 54 43.1**	**-0.5**
XOR				*e*Sg	**Sg**	**07 55 00.2**	**-2.2**
VLI	**Veliai**	**1.57**	**212**	*e*PN	**Pn**	**07 54 43.8**	**-0.2**
VLI	**Veliai**	**1.57**	**212**	*e*Pn	**Pn**	**07 54 42.8**	**-1.2**
APE	**Apeiranthos**	**1.58**	**128**	*e*Pg	**Pg**	**07 54 46.0**	**0.0**
APE				*e*Sg	**Sg**	**07 55 06.3**	**-0.2**
APE	**Apeiranthos**	**1.58**	**128**	*e*Pn	**Pn**	**07 54 45.0**	**+0.9**
APE	**Apeiranthos**	**1.58**	**128**	*e*Pg	**Pg**	**07 54 46.0**	**-0.1**
APE				*e*Sg	**Sg**	**07 55 06.3**	**-0.2**
AGG	**Agios Georgios**	**1.61**	**307**	*e*Pg	**Pg**	**07 54 45.8**	**-1.0**
AGG				*e*Sg	**Sg**	**07 55 05.4**	**-2.4**
CHOS	**Chios island**	**1.67**	**78**	*e*Pb	**Pb**	**07 54 45.7**	**-1.0**
CHOS				*e*Sb	**Sb**	**07 55 07.0**	**-0.9**
LOS	**Limnos**	**2.06**	**24**	*e*Pn	**Pn**	**07 54 52.3**	**+1.5**
OUR	**Ouranopolis**	**2.27**	**360**	*e*Pn	**Pn**	**07 54 54.7**	**+1.1**
OUR				*e*Sn	**Sn**	**07 55 21.6**	**-0.3**
OUR	**Ouranopolis**	**2.27**	**360**	*e*Pn	**Pn**	**07 54 54.7**	**+1.0**
OUR				*e*Sn	**Sn**	**07 55 21.5**	**-0.4**
LIT	**Litokhoron**	**2.35**	**331**	*e*Pn	**Pn**	**07 54 55.1**	**+0.4**
PLG	**Polygyros**	**2.35**	**350**	*e*Pn	**Pn**	**07 54 55.7**	**+1.0**
PLG				*e*Sn	**Sn**	**07 55 22.2**	**-1.6**
LKD	**Levkas**	**2.70**	**285**	*e*Pn	**Pn**	**07 55 01.5**	**+2.0**
LKD				*e*Sn	**Sn**	**07 55 33.9**	**+1.6**

CASC 16 08:46:30.2±2.1, 19.9N×83.86W, h14km±10km, MD3.6, 5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.57**	**345**	⇓*e*P	Pg	08 46 40.8	-0.6
LCR2				*e*S	Sg	08 46 50.1	+1.0
PRS1	**Puriscal**	**0.91**	**331**	⇓*e*P	Pb	08 46 45.3	-2.4
PRS1				*e*S	Sb	08 46 58.2	-1.5
CTCR	**Cotoan**	**1.12**	**105**	⇓*i*P	Pb	08 46 49.2	-2.1
LIO	**Limon**	**1.15**	**45**	⇓*i*P	Pn	08 46 50.1	-1.7
LIO				*e*S	Sb	08 47 06.1	-0.4
CNI	**Changuinola**	**1.34**	**80**	⇓*e*P	Pn	08 46 53.0	-1.4
DVD	**David**	**1.58**	**118**	*e*P	Pn	08 46 57.7	+0.1
DVD				*e*S	Sn	08 47 16.7	-1.1
PTP	**Ponta Puerca**	**19.86**	**61**	*e*S		08 47 14.0	

NNC 16 09:09:02.4±3.6, 53.37N×86.60E, h0km, mb3.7, mpv3.3, 8C-2D, Error ellipse: s-maj=31.5km s-min=13.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**7.14**	**205**	⇑Pn	Pn	09 10 46.4	-1.7
	1.5nm,0.7s,baz=42,slow=13,SNR=8.5						
MK31				⇑Sn	Sn	09 12 12.3	+2.4
	2.0nm,0.7s,baz=34,slow=25,SNR=4.2						
MK31				⇑Lg		09 12 48.7	
	4.7nm,0.9s,baz=35,slow=30,SNR=4.2						
VOSK	**Vostochnaya**	**9.44**	**272**	⇑Pn	Pn	09 11 19.7	+0.2
VOSK				⇑Sn	Sn	09 13 05.8	-0.5
	0.7nm,0.3s						
VOSK				⇑Lg		09 14 01.4	
	1.8nm,0.7s						
CHKZ	**Chkalovo**	**9.53**	**278**	⇓Pn	Pn	09 11 22.3	+1.5
	11nm,2.5s						
CHKZ				⇑Sn	Sn	09 13 08.9	+0.2
	0.8nm,0.4s						
CHKZ				⇓Lg		09 14 04.8	
	7.0nm,2.2s						
BVA0	**Borovoye Array**	**9.74**	**274**	⇑Pn	Pn	09 11 24.0	+0.3
	1.3nm,1.9s,baz=87,slow=13,SNR=5.1						
BVA0				Sn	Sn	09 13 15.8	+2.0
	1.0nm,1.2s,baz=71,slow=21,SNR=6.1						

CSEM ***16*** *09:30:40.6, 12.09N×45.19E, h13km, ML4.3, After DHMR*
DHMR 16 09:30:40.6±1.7, 12.09N×45.19E, h14km±10km, ML4.3, 2C-2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.71**	**343**	*i* S	Sg	09 31 04.1	+0.2
ADEN				AML	AML	09 31 13.1	
	comp=N,15μm,0.6s						
ADEN	**Aden**	**0.71**	**343**	*i* S	Sg	09 31 04.1	+0.2
	comp=N,8μm,0.6s						
TRBA	**At Turbah**	**1.55**	**317**	*i* P	Pn	09 31 09.8	+2.1
TRBA				*i* S	Sn	09 31 29.9	+2.2
TRBA				AML	AML	09 31 38.8	
	comp=N,6μm,0.6s						
LBOS		**1.77**	**2**	⇑*i*P	Pn	09 31 11.5	+0.6
LBOS				*i* S	Sn	09 31 36.8	+3.6
BDHA	**Al Bayda'**	**1.91**	**11**	⇓*i*P	Pn	09 31 14.7	+2.0
BDHA				AML	AML	09 31 26.0	
	comp=N,3μm,0.5s						
BDHA				*i* S	Sn	09 31 41.1	+4.5
BDHA	**Al Bayda'**	**1.91**	**11**	⇓*i*P	Pn	09 31 14.7	+2.0
	comp=N,2μm,0.5s						
BDHA				*i* S	Sn	09 31 41.1	+4.5
UDYN	**Al 'Udayn**	**2.22**	**327**	*i* P	Pn	09 31 18.5	+1.5
UDYN				*i* S	Sn	09 31 48.2	+4.0
UDYN				AML	AML	09 32 05.8	
	comp=N,2μm,0.6s						
DHBB	**Dhamar BB**	**2.59**	**342**	*i* P	Pn	09 31 24.9	+2.8
DHBB				*i* S	Sn	09 31 59.1	+5.7
HAJJ	**Hajjah**	**3.91**	**337**	*i* P	Pn	09 31 42.9	+2.7
HAJJ				*i* S	Sn	09 32 32.0	+6.1
MUKL	**Al Mukalla**	**4.43**	**57**	⇑*i*P	Pn	09 31 49.1	+1.7

IDC ***16*** *09:31:30.9±1.8, 36.36S×122.05E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=261.7km s-min=25.0km az=56.0*
ISCJB ***16*** *09:31:47.9±1.6, 7.92S±0.10×123.2E±0.1, h164km±15km, mb3.6/2, Error ellipse: s-maj=21.6km s-min=11.3km az=103.8*
NEIC ***16*** *09:31:51.5±2.5, 8.02S×123.13E, h187km±24km, mb4.4/3, Error ellipse: s-maj=29.6km s-min=18.4km az=59.0*
ISC 16 09:31:55.8±1.9, 83S±01×1235E±01, h173km±13km, n11, σ1°08/19, mb3.6/2, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.83**	**117**	*e*P	**Pn**	**09 34 14.3**	**+1.2**
	7.3nm,0.3s						
KAKA				*e*S	**Sn**	**09 36 02.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**9.97**	**168**	*e*P	**Pn**	**09 34 14.8**	**-0.2**
	4.7nm,0.3s						
FITZ				*e*S	**Sn**	**09 36 06.1**	**+0.3**
WRA	**Warramunga Arr**	**15.63**	**139**	Pn	**Pn**	**09 35 26.5**	**-0.3**
	0.5nm,0.3s,baz=314,slow=13,SNR=28						
WRA				Sn	**Sn**	**09 38 19.4**	**-2.0**
	0.7nm,0.3s,baz=298,slow=22,SNR=6.6						
WRAB	**Tennant Creek**	**15.63**	**139**	*e*P	**Pn**	**09 35 26.8**	**0.0**
	3.6nm,0.5s						
WRAB				*e*S	**S**	**09 38 18.8**	**-1.9**
WB2	**Warramunga Arr**	**15.64**	**139**	*e*P	**Pn**	**09 35 26.6**	**-0.3**
WB2				*e*S	**S**	**09 38 19.7**	**-1.1**
ASPA	**Alice Springs**	**18.25**	**148**	*e*P	**P**	**09 35 56.5**	**+0.4**
ASPA				*e*S	**S**	**09 39 16.7**	**+0.9**
AS31	**Alice Springs**	**18.25**	**148**	*e*P	**P**	**09 35 56.5**	**+0.4**
AS31				*e*S	**S**	**09 39 16.7**	**+0.9**
ASAR	**Alice Springs**	**18.25**	**148**	P	**P**	**09 35 56.1**	**+0.1**
	0.4nm,0.3s,baz=329,slow=13,SNR=36						
ASAR				S	**S**	**09 39 25.1**	**+9.3**
	0.1nm,0.3s,baz=313,slow=17,SNR=4.5						
STKA	**Stephens Creek**	**28.88**	**147**	P	**P**	**09 37 36.6**	**-1.6**
	1.3nm,0.9s,mb3.7,baz=326,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**28.88**	**147**	*e*P	**P**	**09 37 36.6**	**-1.5**
MKAR	**Makanchi Array**	**65.95**	**330**	P	**P**	**09 42 14.9**	**-8.3**
	0.5nm,0.5s,mb3.6,baz=128,slow=7.2,SNR=5.6						

ISCJB ***16*** *10:11:06.8±0.3, 12.7N±0.03×77.73W±0.05, h133km±4km, mb4.1/19, Error ellipse: s-maj=8.9km s-min=4.4km az=168.3*
IDC ***16*** *10:11:07.5±2.1, 12.8N×77.74W, h132km±21km, mb3.7/11, mb1 3.9/14, mb1mx3.8/26, mbtmp4.2/14, MS3.5/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=19.2km s-min=10.7km az=73.0*
NEIC ***16*** *10:11:07.3±0.4, 12.3N×77.79W, mb4.5/10, Error ellipse: s-maj=11.0km s-min=7.7km az=74.0*
IGQ ***16*** *10:11:08.0, 1.18N×77.94W, h130km±4km, Mb4.7, Ms4.6, Error ell

ATAH	**Atahualpa**	**8.24**	**185**	P	**Pn**	**10 13 04.6**	**+0.1**
	2.9nm,0.3s,baz=12,slow=10.0,SNR=14						
ATAH				S	**Sn**	**10 14 34.5**	**-1.4**
	1.6nm,0.3s,baz=15,slow=20,SNR=3.5						
DVD	**David**	**8.53**	**327**	*e*P	**Pn**	**10 13 08.8**	**+0.3**
CNI	**Changuinola**	**9.39**	**330**	*e*P	**Pn**	**10 13 20.7**	**+0.7**
SDV	**Santo Domingo**	**10.36**	**43**	P	**Pn**	**10 13 30.9**	**-2.1**
	2.2nm,0.3s,baz=234,slow=9.8,SNR=24						
SDV	**Santo Domingo**	**10.36**	**43**	*e*Pn	**Pn**	**10 13 31.1**	**-2.0**
NNA	**Nana**	**13.20**	**176**	P	**Pn**	**10 14 14.2**	**+3.8**
	4.2nm,0.3s,baz=352,slow=9.0,SNR=7.5						
PCRV	**Puerto La Cruz**	**15.75**	**55**	P	**Pn**	**10 14 45.9**	**+3.2**
	6.9nm,0.3s,baz=189,slow=4.7,SNR=22						
PCRV				LR	LR	10 21 13.2	
	comp=Z,109nm,21.1s,baz=103,slow=38						
TGUH	**Tegucigalpa,Un**	**15.82**	**324**	*e*P	**Pn**	**10 14 45.3**	**+1.8**
	44nm,1.3s						
ARE	**Arequipa**	**18.66**	**161**	*e*P	**P**	**10 15 18.0**	**+2.0**
MPR	**Mayaguez**	**19.80**	**31**	*e*Pn	**Pn**	**10 15 29.8**	**-1.2**
SJG	**San Juan**	**20.24**	**34**	P	**P**	**10 15 33.7**	**+0.6**
	83nm,0.6s,baz=220,slow=9.6,SNR=15						
SJG	**San Juan**	**20.24**	**34**	*e*P	**P**	**10 15 34.4**	**+1.3**
HUMP	**Col San Antoni**	**20.44**	**34**	*e*P	**P**	**10 15 36.2**	**+1.0**
FDF	**Fort de France**	**21.16**	**50**	⇑*i*P	**P**	**10 15 42.5**	**-0.4**
SIV	**San Ignacio**	**23.77**	**137**	P	**P**	**10 16 08.4**	**-0.3**
	38nm,0.5s,mb5.0,baz=319,slow=11,SNR=235						
LVC	**Limon Verde**	**25.25**	**161**	P	**P**	**10 16 22.8**	**+0.7**
	18nm,0.9s,mb4.5,baz=225,slow=7.9,SNR=3.1						
LVC	**Limon Verde**	**25.25**	**161**	*e*P	**P**	**10 16 23.6**	**+1.6**
CPUP	**Villa Florida**	**33.78**	**146**	P	**P**	**10 17 35.9**	**-1.7**
	2.3nm,0.6s,mb4.2,baz=308,slow=9.6,SNR=8.4						
CPUP	**Villa Florida**	**33.78**	**146**	*e*P	**P**	**10 17 35.5**	**-2.0**
	16nm,0.8s,mb4.9						
BDFB	**Brasilia**	**33.84**	**121**	P	**P**	**10 17 37.9**	**-0.2**
	1.3nm,0.4s,mb4.1,baz=268,slow=7.6,SNR=3.0						
CFAA	**Coronel Fontan**	**33.91**	**165**	P	**P**	**10 17 38.9**	**+0.2**
	2.1nm,0.8s,mb4.0,baz=340,slow=7.7,SNR=39						
CFAA	**Coronel Fontan**	**33.91**	**165**	P	**P**	**10 17 38.9**	**+0.2**
CPCT	**Cooper Cave**	**34.59**	**350**	*e*P	**P**	**10 17 45.3**	**+0.7**
SWET	**Sewanee**	**34.63**	**348**	*e*P	**P**	**10 17 44.8**	**-0.1**
ELN	**Prospectdale**	**35.89**	**356**	*e*P	**P**	**10 17 57.0**	**+1.3**
TXAR	**Lajitas Array**	**37.27**	**321**	P	**P**	**10 18 07.0**	**-0.3**
	0.4nm,0.9s,mb3.3,baz=118,slow=7.5,SNR=3.5						
SIUC	**Southern Illin**	**37.78**	**345**	*e*P	**P**	**10 18 11.1**	**-0.6**
	6.7nm,0.6s,mb4.7						
FVM	**French Village**	**38.36**	**344**	*e*P	**P**	**10 18 15.4**	**-1.1**
	9.2nm,0.8s,mb4.7						
MVL	**Millersville**	**38.57**	**2**	*e*P	**P**	**10 18 19.3**	**+1.0**
CCM	**Cathedral Cave**	**38.66**	**343**	*e*P	**P**	**10 18 15.3**	**-3.8**
	5.5nm,0.9s,mb4.4						
MNTX	**Cornudas Mount**	**39.97**	**322**	*e*P	**P**	**10 18 30.4**	**+0.5**
MNTX				e*p*P	p*P*	10 18 59.1	+1.0
MNTX				e*s*P	s*P*	10 19 09.9	-2.5
PLCA	**Paso Flores**	**42.31**	**172**	P	**P**	**10 18 48.8**	**-0.2**
	11nm,0.8s,mb4.6,baz=341,slow=9.9,SNR=26						
ANMO	**Albuquerque**	**42.88**	**325**	P	**P**	**10 18 53.7**	**0.0**
	1.2nm,0.7s,mb3.7,baz=133,slow=10.0,SNR=5.0						
ANMO	**Albuquerque**	**42.88**	**325**	*e*P	**P**	**10 18 54.8**	**+1.1**
	1.0nm,0.8s,mb3.6						
ANMO				e*p*P	p*P*	10 19 22.4	+0.2
LAZ	**Ladron**	**42.90**	**323**	*e*P	**P**	**10 18 53.5**	**-0.3**
LAZ				e*p*P	p*P*	10 19 21.9	-0.4
LAZ				e*s*P	s*P*	10 19 37.1	+0.6
FRNY	**Flat Rock**	**43.54**	**4**	*e*P	**P**	**10 18 59.7**	**+0.7**
TUC	**Tucson**	**43.84**	**318**	*e*P	**P**	**10 18 58.9**	**-2.4**
SDCO	**Great Sand Dun**	**44.38**	**328**	*e*P	**P**	**10 19 06.9**	**+1.2**
	5.8nm,0.8s,mb4.4						
SDCO				e*p*P	p*P*	10 19 34.3	-0.1
SDCO				e*s*P	s*P*	10 19 49.9	+1.4
WUAZ	**Wupatki**	**46.23**	**321**	P	**P**	**10 19 21.6**	**+1.3**
	14nm,1.2s,mb4.6						
WUAZ				e*p*P	p*P*	10 19 49.4	+0.2
RSSD	**Black Hills**	**48.64**	**335**	*e*P	**P**	**10 19 39.7**	**+0.8**
	5.2nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**50.18**	**330**	P	**P**	**10 19 49.7**	**-0.9**
	0.3nm,0.7s,mb3.3,baz=120,slow=11,SNR=2.4						
PDAR				LR	LR	10 42 53.3	
	comp=Z,36nm,18.3s,baz=249,slow=38						
ULM	**Lac du Bonnet**	**51.19**	**345**	P	**P**	**10 19 55.8**	**-2.3**
	2.6nm,0.6s,mb4.4,baz=168,slow=7.7,SNR=5.9						
SCHQ	**Schefferville**	**54.14**	**8**	LR	LR	10 41 47.2	
	comp=Z,71nm,20.9s,baz=146,slow=34						
DBIC	**Dimbokro**	**72.85**	**83**	P	**P**	**10 22 22.5**	**-0.4**
	2.1nm,0.7s,mb4.0,baz=252,slow=4.8,SNR=5.9						
DBIC	**Dimbokro**	**72.85**	**83**	P	**P**	**10 22 22.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**79.42**	**77**	P	**P**	**10 22 59.5**	**-0.6**
	0.7nm,0.5s,mb3.8,baz=285,slow=5.7,SNR=13						
TORD	**Torodi Ar. Bea**	**79.42**	**77**	P	**P**	**10 22 59.5**	**-0.6**
VNA1	**Neumayer--Stat**	**84.48**	**162**	*e*P	**P**	**10 23 26.2**	**-0.3**
VNA1				*e*		10 23 29.8	
SNAA	**Sanae**	**86.47**	**162**	*e*P	**P**	**10 23 35.6**	**-0.7**
SNAA				*e*		10 23 38.0	
QSPA	**South Pole Qui**	**91.31**	**180**	*e*P	**P**	**10 23 59.0**	**-0.1**
	3.5nm,1.0s,mb4.4						
MDJ	**Mudanjiang**	**128.24**	**335**	PKP	PKPdf	10 29 58.5	-0.8
CN2	**Changchun**	**130.56**	**338**	*e*PKP	PKPdf	10 29 58.9	-4.8
WMQ	**Urumqi**	**133.26**	**14**	*e*PKP	PKPdf	10 30 08.0	-0.8
HHC	**Hu-ho-hao-te**	**137.24**	**350**	*e*PKP	PKPdf	10 30 20.8	+4.6
ASAR	**Alice Springs**	**142.10**	**232**	PKhKP		10 30 17.9	
	0.3nm,0.7s,baz=119,slow=3.4,SNR=3.8						
ASAR				PKP	PKPdf	10 30 22.6	-2.5
	0.5nm,0.8s,baz=118,slow=3.1,SNR=4.7						
LZH	**Lanzhou**	**142.81**	**358**	*e*PKP	PKPdf	10 30 25.4	-0.9
LZH				APKP		10 30 57.6	
LZH				LR	LR		
	comp=E,149nm,18.1s						
LZH				LR	LR		
	comp=Z,215nm,20.5s						
NJ2	**Nanjing**	**143.32**	**336**	*e*PKP	PKPdf	10 30 29.9	+2.7
WRA	**Warramunga Arr**	**143.55**	**237**	PKP	PKPdf	10 30 24.7	-2.9
	comp=Z,0.5nm,0.7s,baz=111,slow=3.0,SNR=7.4						
CD2	**Chengdu**	**147.97**	**358**	*e*PKP	PKPdf	10 30 32.9	-2.2
KMI	**Kunming**	**153.76**	**359**	PKP	PKPdf	10 30 45.3	+1.3

KRSC 16 10:36:06,5448N×16030E,h83km,ML3.5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.81**	**354**	*e*P	Pn	10 36 26.7	+3.7
MKZ	**Mys Kozlova**	**0.84**	**84**	*e*P	Pn	10 36 25.9	+2.5
MKZ				*e*S	Sn	10 36 40.0	+3.7
KMNR	**Kamenistaya**	**1.28**	**358**	*e*P	Pn	10 36 31.7	+3.1
SPN	**Mys Shipunski**	**1.40**	**187**	*e*P	Pn	10 36 32.0	+1.9
SPN				*e*S	Sn	10 36 50.8	+2.6
NLC	**Nalytchevo**	**1.43**	**204**	*e*P	Pn	10 36 33.2	+2.7
NLC				*e*S	Sn	10 36 52.8	+3.8
KPT	**Kopyto**	**1.49**	**358**	*e*P	Pn	10 36 33.6	+2.3
AVH	**Avacha**	**1.53**	**218**	*e*P	Pn	10 36 35.0	+3.2
AVH				*e*S	Sn	10 36 55.3	+4.0
ZLN	**Zelenaya**	**1.57**	**10**	*e*P	Pn	10 36 35.3	+3.0
ZLN				*e*S	Sn	10 36 56.1	+3.9
GNL	**Ganaly**	**1.60**	**241**	*e*P	Pn	10 36 35.7	+3.0
KOZ	**Kozyrevsk**	**1.60**	**351**	*e*P	Pn	10 36 34.6	+1.9
KRSR	**Krestovskiy**	**1.75**	**5**	*e*P	Pn	10 36 35.7	+1.1
PET	**Petropavlovsk**	**1.76**	**215**	*e*P	Pn	10 36 37.5	+2.8
PET				*e*S	Sn	10 36 59.7	+3.1
KLY	**Klyuchi**	**1.85**	**6**	S	Sn	10 37 03.4	+4.7
SRDR	**Sredinnyy**	**1.87**	**350**	*e*P	Pn	10 36 38.0	+1.8
SRKR	**Sorokina**	**2.23**	**12**	*e*P	Pn	10 36 42.9	+1.8
KBTR	**Krutoberegovo**	**2.25**	**39**	*e*P	Pn	10 36 42.7	+1.4
KBTR				*e*S	Sn	10 37 08.8	+0.5
RUS	**Russkaya**	**2.31**	**208**	*e*P	Pn	10 36 43.8	+1.7
RUS				*e*S	Sn	10 37 10.9	+1.1
GRL	**Gorelyy**	**2.34**	**215**	*e*P	Pn	10 36 45.4	+2.9

NEIC ***16*** *10:53:36.5±0.7,2074N×11991E,h10km,Error ellipse: s-maj=25.0km s-min=11.7km az=86.0*
IDC ***16*** *10:53:38.9±0.9,2074N×11995E,h24km±6km,mb3.5/5, mb1 3.8/5,mb1mx3.6/19,mbtmp3.7/5,Error ellipse: s-maj=41.0km s-min=15.7km az=70.0*
ISCJB ***16*** *10:53:40.1±1.0,2085N±004×1203E±01,h56km±13km, mb3.6/5,Error ellipse: s-maj=16.2km s-min=5.2km az=28.4*
JMA ***16*** *10:53:43.6±0.5,2089N×12072E,h194km,M3.3*
ISC 16 10:53:41.8±1.0,2085N±004×1203E±01,h52km±13km, h25km±2.5km:pP-P,n20,σ0⁹91/27,mb3.6/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**3.20**	**173**	*e*P	**Pn**	**10 54 26.2**	**-3.4**
CVP	**Callao Caves**	**3.44**	**155**	*e*P	**Pn**	**10 54 32.0**	**-0.9**
CVP				*e*S	**Sn**	**10 55 12.0**	**-0.4**
YHNB	**Yeheng**	**3.93**	**14**	*e*Pn	**Pn**	**10 54 38.7**	**-0.9**
YHNB				*e*Sn	**Sn**	**10 55 20.1**	**-4.4**
CAUP	**Cauayan**	**4.14**	**159**	*e*P	**Pn**	**10 54 43.4**	**+0.9**
YOJ	**Yonaguni jima**	**4.38**	**34**	P	**Pn**	**10 54 47.7**	**+1.9**
YOJ				*e*S	**Sn**	**10 55 37.1**	**+1.5**
HATJ	**Hateruma jima**	**4.55**	**45**	P	**Pn**	**10 54 49.0**	**+0.9**
IRIF	**Iriomote-Funau**	**4.70**	**42**	P	**Pn**	**10 54 50.3**	**+0.1**
IRIF				*e*S	**Sn**	**10 55 42.9**	**-0.5**
JKRS	**Kuro-shima**	**4.81**	**45**	P	**Pn**	**10 54 52.2**	**+0.5**
JKRS				*e*S	**Sn**	**10 55 45.9**	**-0.2**
JIJ	**Ishigaki jima**	**4.99**	**45**	P	**Pn**	**10 54 54.5**	**+0.4**
JIJ				*e*S	**Sn**	**10 55 50.1**	**-0.3**
BALP	**Baler**	**5.22**	**166**	*e*P	**Pn**	**10 54 58.1**	**+0.8**
JTJ	**Tarama**	**5.55**	**46**	P	**Pn**	**10 55 01.2**	**-0.6**
JTJ				*e*S	**Sn**	**10 56 02.2**	**-2.0**
JMJ	**Miyako jima 2**	**6.07**	**48**	P	**Pn**	**10 55 08.9**	**0.0**
LUBP	**Lubang**	**7.07**	**180**	*e*P	**Pn**	**10 55 22.3**	**-0.4**
MJAR	**Matsushiro Arr**	**22.11**	**41**	P	**P**	**10 58 36.7**	**+4.0**
	1.6nm,0.9s,mb3.4,baz=227,slow=11,SNR=4.9						
SONM	**Songino Array**	**29.17**	**341**	P	**P**	**10 59 37.5**	**-0.6**
	0.3nm,0.6s,mb3.2,baz=144,slow=5.2,SNR=2.9						
SONM				p*P*	p*P*	10 59 45.1	-6.3
	0.6nm,0.9s,baz=155,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**11 01 12.8**	**-0.6**
	0.3nm,0.3s,mb3.5,baz=105,slow=10,SNR=4.5						
MKAR				p*P*	p*P*	11 01 20.4	-6.6
	0.4nm,0.4s,baz=111,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**11 01 12.8**	**-0.6**
MKAR				p*P*	p*P*	11 01 20.4	-6.6
WRA	**Warramunga Arr**	**42.80**	**160**	P	**P**	**11 01 34.4**	**+0.1**
	1.6nm,0.5s,mb4.0,baz=342,slow=9.1,SNR=28						
WRA				p*P*	p*P*	11 01 42.4	-5.7
	1.5nm,0.7s,baz=342,slow=9.1,SNR=7.6						
WRA				PcP	PcP	11 03 26.3	+1.4
	0.5nm,0.6s,baz=346,slow=3.6,SNR=5.3						
WB2	**Warramunga Arr**	**42.81**	**160**	*e*P	**P**	**11 01 34.7**	**+0.3**
ASAR	**Alice Springs**	**46.19**	**163**	P	**P**	**11 02 02.0**	**+0.7**
	0.8nm,0.6s,mb3.8,baz=346,slow=7.1,SNR=22						

CSEM ***16*** *11:15:28.8±0.1,3367N×3672E,h8km,Mc2.0,Error ellipse: s-maj=2.5km s-min=2.1km az=72.0*
GRAL ***16*** *11:15:28.6±2.5,3371N×3695E,h0km±27km,MD3.4*
ISCJB ***16*** *11:15:29.4±0.8,3373N±002×3679E±004,h4km±6km, Error ellipse: s-maj=6.0km s-min=4.0km az=163.9*
NSSC ***16*** *11:15:30,3373N×3675E,h10km±1km*
ISC 16 11:15:30.0±0.6,3373N±003×3679E±004,h9km±8km,n22, σ0⁹95/42,4D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.39**	**320**	⇑*i*P	**Pg**	**11 15 37.5**	**-0.2**
MARH				⇑*i*S	**Sg**	**11 15 42.5**	**-0.4**
MARH	**Ras Al Marh**	**0.39**	**320**	⇑P	**Pg**	**11 15 37.0**	**-0.7**
MARH				⇑S	**Sg**	**11 15 42.0**	**-0.9**
QASN	**Qassioun**	**0.47**	**246**	⇑*i*P	**Pg**	**11 15 38.5**	**-0.7**
QASN				⇓*i*S	**Sg**	**11 15 45.9**	**+0.6**
QASN	**Qassioun**	**0.47**	**246**	⇑P	**Pg**	**11 15 38.0**	**-1.2**
QASN				⇓S	**Sg**	**11 15 45.0**	**-0.3**
TOTH	**TOTAH**	**0.47**	**220**	⇑*i*P	**Pg**	**11 15 38.9**	**-0.3**
TOTH				⇑*i*S	**Sg**	**11 15 46.2**	**+0.7**
TOTH	**TOTAH**	**0.47**	**220**	⇑P	**Pg**	**11 15 38.0**	**-1.2**
TOTH				⇑S	**Sg**	**11 15 46.0**	**+0.5**
ROOS	**tl_alroos**	**0.61**	**43**	⇑*i*P	**Pg**	**11 15 42.8**	**+1.0**
ROOS	**tl_alroos**	**0.61**	**43**	⇑P	**Pg**	**11 15 42.0**	**+0.2**
BRBR	**Barbar**	**0.77**	**246**	⇑*i*P	**Pg**	**11 15 43.5**	**-1.3**
BRBR				⇑*i*S	**Sg**	**11 15 55.5**	**+0.7**
BRBR	**Barbar**	**0.77**	**246**	⇑P	**Pg**	**11 15 43.0**	**-1.8**
BRBR				⇑S	**Sg**	**11 15 55.0**	**+0.2**
RCY	**Rachaya**	**0.84**	**254**	*e*P	**Pg**	**11 15 45.1**	**-1.2**
RCY				*e*S	**Sg**	**11 15 58.0**	**+0.7**
HWQ	**Hawqa**	**0.89**	**308**	*e*P	**Pg**	**11 15 47.3**	**+0.2**
HWQ				*e*S	**Sg**	**11 16 00.9**	**+2.2**
ZALF	**Zalf**	**0.92**	**150**	⇑*i*P	**Pg**	**11 15 47.5**	**-0.3**
ZALF				⇑*i*S	**Sg**	**11 16 01.1**	**+1.3**
ZALF	**Zalf**	**0.92**	**150**	⇑P	**Pg**	**11 15 47.0**	**-0.8**
ZALF				⇑S	**Sg**	**11 16 01.0**	**+1.2**
BHL	**Bhannes**	**0.96**	**281**	*e*P	**Pg**	**11 15 47.5**	**-1.0**
BHL				*e*S	**Sg**	**11 16 01.9**	**+0.9**
BHL	**Bhannes**	**0.96**	**281**	*e*P	**Pg**	**11 15 47.5**	**-1.0**
BHL				*e*S	**Sg**	**11 16 01.9**	**+0.9**
SALA	**Sala**	**1.01**	**183**	⇑*i*P	**Pg**	**11 15 48.5**	**-1.0**
SALA				⇓*i*S	**Sg**	**11 16 04.2**	**+1.5**
SALA	**Sala**	**1.01**	**183**	⇑P	**Pg**	**11 15 48.0**	**-1.5**
SALA				⇓S	**Sg**	**11 16 04.0**	**+1.3**
BIDA	**Albida**	**1.34**	**343**	⇑*i*P	**Pn**	**11 15 55.0**	**+0.1**
BIDA				⇑*i*S	**Sb**	**11 16 13.6**	**+1.0**
BIDA	**Albida**	**1.34**	**343**	⇑P	**Pn**	**11 15 54.0**	**-0.9**
BIDA				⇑S	**Sb**	**11 16 13.0**	**+0.4**
WRDH	**Warideh**	**1.80**	**350**	⇑*i*P	**Pn**	**11 16 01.6**	**+0.3**
WRDH				⇑*i*S	**Sn**	**11 16 24.4**	**+0.1**
WRDH	**Warideh**	**1.80**	**350**	⇑P	**Pn**	**11 16 01.0**	**-0.3**
WRDH				⇑S	**Sn**	**11 16 24.0**	**-0.3**

IDC 16 11:17:25.7±1.9,358S×12803E,h0km,mb3.8/3,mb1 3.9/4, mb1mx3.6/16,mbtmp3.7/4,ML3.0/1,MS4.1/1,Ms1 4.1/1, ms1mx2.7/30,Error ellipse: s-maj=182.1km s-min=25.4km az=65.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.39**	**160**	P	Pn	11 21 28.4	-1.3
	0.1nm,0.3s,baz=337,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**20.76**	**165**	P	P	11 22 09.7	+1.6
	3.8nm,0.7s,baz=344,slow=11,SNR=45						
JOW	**Kunigami**	**30.23**	**0**	LR	LR	11 34 05.7	
	comp=Z,321nm,19.6s,baz=86,slow=33						
STKA	**Stephens Creek**	**30.90**	**157**	P	P	11 23 43.5	-0.4
	2.7nm,1.0s,baz=330,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**64.31**	**327**	P	P	11 28 03.3	+0.3
	0.4nm,0.6s,baz=116,slow=8.2,SNR=5.0						

ISCJB ***16*** *11:34:53.0±0.7,1251N±003×12358E±004,h13km±4km, mb3.5/3,MS3.6/1,Error ellipse: s-maj=6.2km s-min=5.3km az=135.7*
MAN ***16*** *11:34:52.4,1251N×12357E,h8km,mb3.7,ML4.8,MS2.4*
MAN F MASBATE MASBATE - INTENSITY III.
IDC ***16*** *11:35:37.3±41.0,765N×12656E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/18,mbtmp3.5/3,MS3.8/1,Ms1 3.8/1, ms1mx2.6/28,Error ellipse: s-maj=697.4km s-min=242.1km az=157.0*
ISC 16 11:34:53.0±0.8,1252N±004×12359E±004,h11km±5km, n25,σ1⁹04/33,mb3.5/3,MS3.6/1,1C-3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.16**	**167**	⇓*i*P	**Pg**	**11 34 56.5**	**-0.2**
MMPH				*i*S	**Sg**	**11 34 59.1**	**-0.1**
AUQP	**San Andres**	**1.20**	**312**	*e*P	**Pn**	**11 35 16.9**	**+1.3**
AUQP				*e*S	**Sb**	**11 35 36.7**	**+5.5**
PVCP	**Virac**	**1.21**	**27**	⇓*e*P	**Pn**	**11 35 15.2**	**-0.6**
PVCP				*e*S	**Sb**	**11 35 31.9**	**+0.5**
PVCP	**Virac**	**1.21**	**27**	*e*P	**Pn**	**11 35 15.1**	**-0.7**
PVCP				*e*S	**Sb**	**11 35 32.0**	**+0.6**
RCP	**Roxas**	**1.26**	**221**	⇓*e*P	**Pn**	**11 35 15.7**	**-0.8**
RCP				*e*S	**Sb**	**11 35 34.1**	**+1.2**
KALP	**Kalibo**	**1.48**	**236**	*e*P	**Pn**	**11 35 15.6**	**-4.0**
OTRP	**Odiongan**	**1.54**	**264**	*e*P	**Pn**	**11 35 20.0**	**-0.3**
OTRP				*e*S	**Sn**	**11 35 39.0**	**-1.3**
OCLP	**Ormoc**	**1.77**	**145**	*e*P	**Pn**	**11 35 22.7**	**-0.8**
PLP	**Palo**	**1.91**	**134**	*e*P	**Pn**	**11 35 24.4**	**-1.1**
PLP				*e*S	**Sn**	**11 35 50.8**	**+1.3**
BOAC	**Boac**	**1.94**	**299**	*e*P	**Pn**	**11 35 25.2**	**-0.6**
GUIM	**Jordan**	**2.12**	**208**	*e*P	**Pn**	**11 35 28.9**	**+0.6**
GUIM				*e*S	**Sn**	**11 35 50.8**	**-3.8**
LLP	**Lapu-Lapu**	**2.22**	**170**	⇑*e*P	**Pn**	**11 35 29.0**	**-0.6**
LLP				*i*S	**Sn**	**11 35 56.8**	**-0.2**
MSLP	**Maasin**	**2.68**	**152**	*e*P	**Pn**	**11 35 36.5**	**+0.5**
POLP	**Polilio Island**	**2.72**	**324**	*e*P	**Pn**	**11 35 42.3**	**+5.7**
TBP	**Tagbilaran**	**2.82**	**174**	*e*P	**Pn**	**11 35 37.8**	**-0.2**
CUYO	**Cuyo Island**	**3.01**	**237**	*e*P	**Pn**	**11 35 41.0**	**+0.4**
SNPH	**Sibulan**	**3.17**	**186**	*e*P	**Pn**	**11 35 46.5**	**+3.7**
SNPH	**Sibulan**	**3.17**	**186**	*e*P	**Sg**	**11 36 40.5**	**+5.6**
BUSP	**Coron**	**3.35**	**262**	*e*P	**Pn**	**11 35 46.0**	**+0.7**
LUBP	**Lubang**	**3.47**	**291**	*e*P	**Pn**	**11 35 47.4**	**+0.5**
PAGZ	**Pagadian**	**4.64**	**183**	*e*P	**Pn**	**11 36 04.5**	**+1.5**
CBIJ	**Chichi jima**	**22.68**	**48**	LR	LR	11 48 33.3	
	comp=Z,245nm,19.6s,MS3.6,baz=138,slow=32						
WRA	**Warramunga Arr**	**33.95**	**162**	P	**P**	**11 41 34.1**	**-2.1**
	0.2nm,0.6s,mb3.2,baz=346,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**37.35**	**164**	P	**P**	**11 42 04.5**	**-0.9**
	0.3nm,0.5s,mb3.4,baz=349,slow=7.4,SNR=12						
STKA	**Stephens Creek**	**47.39**	**159**	P	**P**	**11 43 30.1**	**+2.9**
	1.8nm,0.8s,mb4.0,baz=323,slow=10,SNR=2.9						

MOS ***16*** *11:36:31.2±1.2,4946N×15562E,h15km,mb4.9/31,Error ellipse: s-maj=11.5km s-min=5.3km az=79.2*
MOS Felt (II) at Severo-Kuril'sk.
ISCJB ***16*** *11:36:36.1±0.6,4956N±004×15563E±005,h53km±5km, mb4.5/65,MS3.9/23,Error ellipse: s-maj=8.0km s-min=3.7km az=108.3*
KRSC ***16*** *11:36:36,4933N×15735E,h5km,ML5.1*
IDC ***16*** *11:36:39.9±3.9,4956N×15550E,h76km±35km,mb4.0/18, mb1 4.2/20,mb1mx4.1/26,mbtmp4.3/20,MS3.8/14, Ms1 3.8/14,ms1mx3.5/34,Error ellipse: s-maj=16.5km s-min=12.3km az=132.0*
BJI ***16*** *11:36:40.9,4950N×15553E,h94km,mB4.9,mb4.6*
NEIC ***16*** *11:36:42.1±0.3,4957N×15551E,mb4.6/38,Error ellipse: s-maj=8.2km s-min=5.3km az=152.0*
NEIC Felt [II] at Severo-Kuril'sk.
ISC 16 11:36:39.0±0.6,4964N±004×15553E±005,h62km±4km, h90km±4.0km:pP-P,n183,σ1⁹09/198,mb4.5/65,4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.11**	**20**	⇓*i*PN	**Pn**	**11 36 53.7**	**-4.9**
SKR				*i* S	**Sn**	**11 37 09.6**	**-3.5**
SKR				pmax	pmax		
	comp=Z,540nm,0.5s						
SKR				pmax	pmax		
	comp=N,370nm,0.3s						
SKR				smax			
	comp=N,7μm,0.5s						
SKR				smax			
	comp=E,1μm,0.3s						
SKR				smax			
	comp=N,10μm,1.0s						
SKR				smax			
	comp=E,12μm,2.0s						
GRL	**Gorelyy**	**3.33**	**28**	*e*P	**Pn**	**11 37 29.4**	**+0.8**
GRL				*i* S	**Sn**	**11 38 08.0**	**+1.1**
RUS	**Russkaya**	**3.37**	**33**	*e*P	**Pn**	**11 37 27.7**	**-1.5**
RUS				*i* S	**Sn**	**11 38 04.7**	**-3.3**
PET	**Petropavlovsk**	**3.92**	**29**	*e*PN	**Pn**	**11 37 36.9**	**+0.3**
PET				pmax	pmax		
	comp=Z,110nm,0.4s						
PET				MLR	MLR		
	comp=Z,400nm,17.0s						
PET	**Petropavlovsk**	**3.92**	**29**	*e*Pg	**Pn**	**11 37 36.9**	**+0.3**
PET				*e*Sn	**Sn**	**11 38 21.2**	**-0.1**
PET	**Petropavlovsk**	**3.92**	**29**	*e*P	**Pn**	**11 37 36.8**	**+0.2**
PET				*i* S	**Sn**	**11 38 21.0**	**-0.3**
INSR	**Institute**	**3.94**	**28**	*e*P	**Pn**	**11 37 36.8**	**-0.1**
INSR				*i* S	**Sn**	**11 38 20.8**	**-1.0**
NLC	**Nalytchevo**	**4.27**	**33**	*e*P	**Pn**	**11 37 39.5**	**-1.9**
NLC				*i* S	**Sn**	**11 38 25.5**	**-4.5**
GNL	**Ganaly**	**4.33**	**19**	*e*P	**Pn**	**11 37 44.7**	**+2.4**
GNL				*i* S	**Sn**	**11 38 36.1**	**+4.6**
SPN	**Mys Shipunski**	**4.46**	**37**	*e

HHC AP pP 11 43 18.0 +5.4
HHC PP PP 11 44 09.3 -0.7
HHC S **S** **11 48 03.9 +0.9**
HHC AMB AMB
comp=Z,15nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,154nm,4.0s
HHC LR LR
comp=N,191nm,21.4s
HHC LR LR
comp=E,275nm,19.4s
HHC LR LR
comp=Z,222nm,17.5s
SONM Songino Array 32.00 286 PcP PcP 11 45 46.4 -1.5
comp=Z,1.1nm,0.8s,baz=52,slow=3.1,SNR=7.4
SONM LR LR 11 56 39.5
comp=Z,144nm,18.5s,baz=65,slow=38
NJ2 Nanjing 32.43 251 *e*P **P** **11 43 04.8 +1.8**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
COLA College 32.88 41 *c i*P **P** **11 43 06.5 -0.5**
COLA College 32.88 41 *e*P **P** **11 43 06.4 -0.6**
comp=Z,7.7nm,0.8s,mb4.7
ZAK Zakamensk 33.01 292 *e*P **P** **11 43 08.3 +0.2**
ZAK *e* 11 45 50.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
EGAK Eagle 35.74 41 *e*P **P** **11 43 30.5 -1.2**
comp=Z,6.7nm,0.8s,mb4.6
WHN Wuhan 36.26 254 P **P** **11 43 35.5 -0.6**
INK Inuvik 38.35 34 P **P** **11 43 53.7 -0.1**
comp=Z,4.2nm,0.6s,mb4.3,baz=318,slow=8.0,SNR=14
INK Inuvik 38.35 34 *e*P **P** **11 43 53.8 -0.1**
LZH Lanzhou 39.46 270 *e*P **P** **11 44 03.5 +0.4**
LZH AP pP 11 44 25.3 +6.6
LZH XP sP 11 44 36.8 +11
LZH PP PP 11 45 40.3 +5.7
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,57nm,5.2s
LZH LR LR
comp=E,327nm,13.4s
LZH LR LR
comp=Z,418nm,17.6s
LZH Lanzhou 39.46 270 *e*P **P** **11 44 03.5 +0.4**
comp=Z,22nm,1.3s,mb4.7
LZH pP pP 11 44 25.2 +6.5
LZH sP sP 11 44 36.7 +11
LZH PP PP 11 45 40.2 +5.6
LZH LR LR
comp=Z,420nm,17.6s
GTA Gaotai 40.16 277 *e*P **P** **11 44 08.8 -0.2**
GTA AP pP 11 44 26.9 +2.3
ZAL Zalesovo 42.30 304 PcP PcP 11 46 18.4 -0.8
comp=Z,1.4nm,0.7s,baz=31,slow=4.4,SNR=8.3
ZAL LR LR 12 03 30.2
comp=Z,83nm,21.0s,baz=43,slow=38
CD2 Chengdu 42.76 264 *e*P **P** **11 44 31.0 +0.8**
CD2 AP pP 11 44 51.5 +5.5
CD2 XP sP 11 44 59.8 +6.6
CD2 PP PP 11 46 13.9 +3.5
CD2 S **S** **11 50 49.8 +0.3**
CD2 SS SS 11 53 55.6 -6.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,120nm,12.4s
CD2 LR LR
comp=E,90nm,14.3s
CD2 LR LR
comp=Z,100nm,13.4s
GYA Guiyang 43.93 257 P **P** **11 44 38.0 -1.7**
GYA AP pP 11 45 01.8 +6.3
GYA XP sP 11 45 12.4 +10
GYA SCP ScP 11 50 05.8 -5.2
GYA S **S** **11 50 59.5 -7.2**
GYA XS sS 11 51 39.4 +5.9
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,90nm,5.2s
WMQ Urumqi 45.43 290 *e*P **P** **11 44 53.5 +2.0**
WMQ AP pP 11 45 16.0 +8.6
WMQ XP sP 11 45 24.0 +9.4
WMQ PCP PcP 11 46 32.0 +2.2
WMQ *e*S **S** **11 51 28.0 -0.3**
WMQ XS sS 11 52 04.0 +8.8
WMQ SS SS 11 54 40.0 -13
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,111nm,4.0s
WMQ LR LR
comp=N,208nm,20.6s
WMQ LR LR
comp=E,252nm,21.2s
WMQ LR LR
comp=Z,234nm,21.8s
MK31 Makanchi Array 47.08 296 *e*P **P** **11 45 04.3 -0.2**
MKAR Makanchi Array 47.08 296 P **P** **11 45 02.9 -1.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=61,slow=7.5,SNR=12
MKAR PcP PcP 11 46 35.0 -0.6
comp=Z,0.4nm,0.3s,baz=40,slow=4.0,SNR=3.9
MKAR LR LR 12 06 17.1
comp=Z,191nm,18.7s,baz=29,slow=38
MKAR Makanchi Array 47.08 296 P **P** **11 45 02.9 -1.6**
MKAR 11 46 35.0
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,191nm,18.7s
KMI Kunming 47.37 259 P **P** **11 45 10.1 +3.3**
KMI AP pP 11 45 32.8 +10
KMI XP sP 11 45 40.8 +11
KMI PP PP 11 47 01.1 +2.7
KMI S **S** **11 51 53.8 -2.3**
KMI XS sS 11 52 31.0 +7.8
KMI SS SS 11 55 17.6 -6.7
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
KMI AMB AMB
comp=Z,108nm,4.7s
KMI LR LR
comp=Z,39nm,33.2s
KMI Kunming 47.37 259 P **P** **11 45 10.1 +3.3**
KMI 11 47 01.1
KMI S **S** **11 51 53.8 -2.3**
KMI SS SS 11 55 17.6 -6.7
KMI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KMI MLR MLR
comp=Z,40nm,33.2s
KMI Kunming 47.37 259 P **P** **11 45 10.1 +3.3**
comp=Z,5.0nm,1.0s,mb4.4
KMI pP pP 11 45 32.7 +10
KMI sP sP 11 45 40.7 +11
KMI PP PP 11 47 01.1 +2.7
KMI S **S** **11 51 53.8 -2.3**
KMI sS sS 11 52 31.0 +7.8
KMI SS SS 11 55 17.6 -6.7
KMI LR LR
comp=Z,40nm,33.2s
YKA Yellowknife Ar 47.65 39 P **P** **11 45 08.6 -0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=305,slow=8.3,SNR=4.4
YKA LR LR 12 06 07.0
comp=Z,40nm,19.2s,baz=265,slow=37
YKA Yellowknife Ar 47.65 39 P **P** **11 45 08.6 -0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA MLR MLR
comp=Z,40nm,19.3s
CHKZ Chkalovo 49.83 309 *e*P **P** **11 45 24.8 -0.9**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CHKZ Chkalovo 49.83 309 *e*P **P** **11 45 24.8 -0.8**
comp=Z,3.4nm,0.6s,mb4.5
BVAR Borovoye Array 50.30 309 P **P** **11 45 29.1 -0.1**
comp=Z,1.7nm,0.6s,mb4.3,baz=58,slow=7.4,SNR=8.4
BVAR PcP PcP 11 46 46.0 -1.2
comp=Z,1.6nm,0.7s,baz=69,slow=4.9,SNR=5.0
BVAR Borovoye Array 50.30 309 P **P** **11 45 29.1 -0.1**
BVAR 11 46 46.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
EDM Edmonton 53.17 49 *e*P **P** **11 45 49.7 -0.9**
ARU Arti 53.98 317 ‖*i*P **P** **11 45 55.5 -1.1**
ARU *e* 11 46 56.8
ARU *e*S **S** **11 53 25.2 -2.5**
ARU *e*SS SS 11 57 07.5 -2.2
ARU *e*SSS 11 59 11.2
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
AAK Ala-Archa 54.02 296 *i*P **P** **11 45 56.5 -0.3**
AAK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
AAK MLR MLR
comp=Z,200nm,20.0s
CHTO Chiang Mai 54.36 257 *e*P **P** **11 46 00.5 +1.2**
CHTO pmax pmax
comp=Z,13nm,0.9s,mb4.9
CHTO Chiang Mai 54.36 257 *e*P **P** **11 46 00.5 +1.3**
comp=Z,13nm,0.9s,mb4.9
ARCES ARCESS Array B 55.65 341 P **P** **11 46 09.2 +0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=35,slow=6.5,SNR=3.5
ARCES LR LR 12 11 52.8
comp=Z,84nm,19.8s,baz=205,slow=38
ARCES ARCESS Array B 55.65 341 P **P** **11 46 09.2 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,84nm,19.8s
BSMT Bassoo Peak 55.67 55 *e*P **P** **11 46 08.6 -0.1**
MSO Missoula 56.75 55 *e*P **P** **11 46 15.8 -0.7**
CHMT Chamberlain Mo 57.07 55 *e*P **P** **11 46 18.9 +0.2**
SUMG Summit 57.69 5 *e*P **P** **11 46 23.1 +0.1**
comp=Z,13nm,0.8s,mb5.0
AKTK Aktyubinsk 58.01 312 P **P** **11 46 24.9 -0.4**
AKTO Aktyubinsk 58.01 312 P **P** **11 46 24.9 -0.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=67,slow=11,SNR=4.4
AKTO Aktyubinsk 58.01 312 P **P** **11 46 24.9 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
HNR Honiara 58.95 175 LR LR 12 13 25.3
comp=Z,77nm,18.4s,baz=359,slow=38
QLMT Earthquake Lak 59.38 56 *e*P **P** **11 46 35.4 +0.6**
NVAR Mina Array Bea 59.71 65 P **P** **11 46 37.1 +0.1**
comp=Z,1.3nm,0.6s,mb4.2,baz=298,slow=8.0,SNR=12
YMR Madison River 59.74 56 *e*P **P** **11 46 37.8 +0.5**
comp=Z,8.7nm,1.1s,mb4.7
IMW Indian Meadow 60.27 56 *e*P **P** **11 46 42.1 +1.2**
RLMT Red Lodge 60.34 54 *e*P **P** **11 46 41.9 +0.5**
comp=Z,5.8nm,0.9s,mb4.6
RRI2 Red Ridge 60.42 57 *e*P **P** **11 46 43.4 +1.4**
comp=Z,5.6nm,0.7s,mb4.7
TPAW Teton Pass 60.53 57 *e*P **P** **11 46 43.8 +1.1**
comp=Z,7.8nm,0.9s,mb4.8
LOHW Long Hollow 60.63 56 *e*P **P** **11 46 44.5 +1.1**
comp=Z,4.3nm,0.9s,mb4.6
SNOW Snow King Moun 60.65 56 *e*P **P** **11 46 43.9 +0.3**
comp=Z,11nm,1.1s,mb4.9
REDW Red Top Meadow 60.67 57 *e*P **P** **11 46 44.4 +0.8**
comp=Z,11nm,1.1s,mb4.9
LAO LASA Array 60.87 51 *e*P **P** **11 46 45.2 +0.2**
HWUT Hardware Ranch 61.45 58 *e*P **P** **11 46 49.5 +0.5**
DUG Dugway 61.70 60 *e*P **P** **11 46 51.1 +0.5**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
DUG Dugway 61.70 60 *e*P **P** **11 46 51.0 +0.4**
comp=Z,5.7nm,1.0s,mb4.7
BW06 Boulder Array 61.77 56 *e*P **P** **11 46 51.5 +0.4**
comp=Z,7.3nm,0.9s,mb4.8
PDAR Pinedale Array 61.77 56 P **P** **11 46 51.2 +0.1**
comp=Z,5.3nm,0.8s,mb4.7,baz=328,slow=3.4,SNR=40
FINES FINESS Array B 62.10 335 P **P** **11 46 52.8 -0.6**
comp=Z,0.9nm,0.6s,mb4.1,baz=28,slow=8.6,SNR=4.6
FINES LR LR 12 16 43.3
comp=Z,70nm,18.6s,baz=11,slow=39
FINES FINESS Array B 62.10 335 *i*P **P** **11 46 52.7 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
TMUT Trail Mountain 63.22 60 *e*P **P** **11 47 01.4 +0.6**
SRU San Rafael 63.74 60 *e*P **P** **11 47 04.5 +0.4**
SRU pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SRU San Rafael 63.74 60 *e*P **P** **11 47 04.5 +0.4**
comp=Z,5.6nm,0.6s,mb4.8
RSSD Black Hills 63.75 52 *e*P **P** **11 47 04.1 -0.1**
SMCO Snowmass 65.66 58 *e*P **P** **11 47 16.7 0.0**
comp=Z,6.8nm,0.8s,mb4.7
ISCO Idaho Springs 65.97 56 *e*P **P** **11 47 19.4 +0.8**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ISCO Idaho Springs 65.97 56 *e*P **P** **11 47 19.4 +0.8**
comp=Z,5.9nm,0.8s,mb4.7
NOA NORSAR Array B 66.00 342 P **P** **11 47 18.9 0.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=24,slow=6.3,SNR=4.3
NOA LR LR 12 20 39.0
comp=Z,75nm,19.4s,baz=0.0,slow=40
NOA NORSAR Array B 66.00 342 P **P** **11 47 18.9 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,75nm,19.4s
PSI Prapat 66.78 245 P **P** **11 47 24.2 +0.4**
comp=Z,2.3nm,0.3s,mb4.6,baz=308,slow=13,SNR=4.7
PSI Prapat 66.78 245 P **P** **11 47 24.2 +0.4**
PSI pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
SDCO Great Sand Dun 67.49 58 *e*P **P** **11 47 28.9 +0.6**
comp=Z,14nm,1.4s,mb4.8
ANMO Albuquerque 68.97 61 *e*P **P** **11 47 37.9 +0.3**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 68.97 61 *e*P **P** **11 47 37.9 +0.3**
comp=Z,2.2nm,0.8s,mb4.1
LAZ Ladron 68.98 61 *e*P **P** **11 47 38.6 +0.9**
KIV Kislovodsk 69.92 315 *e*P **P** **11 47 48.5 +5.0**
KIV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,35nm,18.0s
SCHQ Schefferville 70.02 25 P **P** **11 47 41.6 -2.4**
comp=Z,5.1nm,0.7s,mb4.5,baz=137,slow=6.1,SNR=6.4
AKASG Malin Array Be 70.02 327 P **P** **11 47 42.2 -1.8**
comp=Z,1.7nm,0.5s,mb4.2,baz=31,slow=6.1,SNR=9.4
AKASG LR LR 12 20 24.2
comp=Z,48nm,20.2s,baz=295,slow=37
AKASG Malin Array Be 70.02 327 *i*P **P** **11 47 42.7 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
WB2 Warramunga Arr 71.78 201 *e*P **P** **11 47 52.9 -1.8**
WRA Warramunga Arr 71.78 201 P **P** **11 47 53.0 -1.7**
comp=Z,5.0nm,0.8s,mb4.5,baz=15,slow=6.3,SNR=32
WRA Warramunga Arr 71.78 201 P **P** **11 47 53.0 -1.7**
WRA pmax pmax
comp=Z,5.0nm,0.8s
DZM Mont Dzumac 72.04 169 LR LR 12 14 58.9
comp=Z,120nm,20.5s,baz=28,slow=32
FITZ Fitzroy Crossi 72.45 210 *e*P **P** **11 47 58.0 -0.8**
comp=Z,5.6nm,0.8s,mb4.5
FITZ Fitzroy Crossi 72.45 210 P **P** **11 47 57.8 -0.9**
comp=Z,3.6nm,0.8s,mb4.3,baz=23,slow=4.6,SNR=7.7
WMOK Wichita Mounta 73.37 56 *e*P **P** **11 48 03.8 -0.4**
WMOK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WMOK Wichita Mounta 73.37 56 *e*P **P** **11 48 03.8 -0.4**
comp=Z,5.9nm,0.8s,mb4.6
TXAR Lajitas Array 74.70 63 P **P** **11 48 11.7 -0.3**
comp=Z,6.8nm,0.7s,mb4.7,baz=299,slow=4.4,SNR=84
TXAR Lajitas Array 74.70 63 P **P** **11 48 11.7 -0.2**
TXAR pmax pmax
comp=Z,7.0nm,0.7s
AS31 Alice Springs 75.47 200 *e*P **P** **11 48 15.4 -1.0**
ASAR Alice Springs 75.47 200 P **P** **11 48 15.7 -0.7**
comp=Z,2.5nm,0.7s,mb4.3,baz=13,slow=5.4,SNR=57
ASAR LR LR 12 16 44.0
comp=Z,74nm,20.0s,baz=277,slow=32
ASPA Alice Springs 75.47 200 *e*P **P** **11 48 15.4 -1.0**
JCT Junction City 76.04 59 *e*P **P** **11 48 18.9 -0.7**
JCT pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
JCT Junction City 76.04 59 *e*P **P** **11 48 18.9 -0.7**
comp=Z,7.4nm,0.7s,mb4.7
GERES GERESS Array B 76.54 335 P **P** **11 48 22.1 -0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=46,slow=9.5,SNR=3.5
GERES LR LR 12 26 15.8
comp=Z,102nm,20.3s,baz=115,slow=39
WSAR Wadi Sarin 76.92 290 LR LR 12 26 27.0
comp=Z,70nm,19.0s,baz=11,slow=39
BINY Binghamton 78.00 36 *e*P **P** **11 48 25.5 -5.1**
FLN La Foliniere 79.82 344 *e*P **P** **11 48 40.5 -0.1**
FLN *e*MLR MLR
comp=Z,86nm,19.8s
FLN La Foliniere 79.82 344 *e*P **P** **11 48 40.5 -0.1**
FLN LR LR
comp=Z,90nm,19.8s
LDF La Druitiere 79.92 344 *e*P **P** **11 48 40.8 -0.3**
comp=Z,5.4nm,0.5s,mb4.5
LDF La Druitiere 79.92 344 *e*P **P** **11 48 40.8 -0.3**
LDF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
LDF La Druitiere 79.92 344 *e*P **P** **11 48 40.8 -0.3**
comp=Z,2.7nm,0.4s,mb4.5
GRR Gorron 80.25 344 *e*P **P** **11 48 43.1 +0.2**
comp=Z,49nm,0.9s,mb5.1
GRR Gorron 80.25 344 *e*P **P** **11 48 43.1 +0.2**
GRR pmax pmax
comp=Z,25nm,0.9s,mb5.1
GRR Gorron 80.25 344 *e*P **P** **11 48 43.1 +0.2**
comp=Z,25nm,0.9s,mb5.1
LOR Lormes 80.41 341 *e*P **P** **11 48 43.9 +0.1**
LOR *e*MLR MLR
comp=Z,106nm,19.8s
LOR Lormes 80.41 341 *e*P **P** **11 48 43.9 +0.1**
LOR LR LR
comp=Z,110nm,19.8s
SGMF Saint Gilles 80.67 345 *e*P **P** **11 48 45.4 +0.2**
comp=Z,13nm,0.5s,mb4.8
SGMF Saint Gilles 80.67 345 *e*P **P** **11 48 45.4 +0.2**
SGMF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
SGMF Saint Gilles 80.67 345 *e*P **P** **11 48 45.4 +0.2**
comp=Z,6.3nm,0.5s,mb4.8
SSF Saint Saulge 80.68 341 *e*P **P** **11 48 45.2 0.0**
comp=Z,13nm,1.0s,mb4.5
SSF Saint Saulge 80.68 341 *e*P **P** **11 48 45.2 0.0**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSF Saint Saulge 80.68 341 *e*P **P** **11 48 45.2 0.0**
comp=Z,6.7nm,1.0s,mb4.5
ROSF Rostrenen 80.71 346 *e*P **P** **11 48 45.7 +0.3**
comp=Z,25nm,0.8s,mb4.9
ROSF Rostrenen 80.71 346 *e*P **P** **11 48 45.7 +0.3**
ROSF pmax pmax
comp=Z,12nm,0.8s,mb4.9
ROSF Rostrenen 80.71 346 *e*P **P** **11 48 45.7 +0.3**
comp=Z,12nm,0.8s,mb4.9
AVF Avril sur Loir 80.97 341 *e*P **P** **11 48 47.0 +0.2**
comp=Z,22nm,1.1s,mb4.7
AVF Avril sur Loir 80.97 341 *e*P **P** **11 48 47.0 +0.2**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 80.97 341 *e*P **P** **11 48 47.0 +0.2**
comp=Z,11nm,1.1s,mb4.7
LPL La Plagne 81.41 338 *e*P **P** **11 48 50.2 +1.1**
comp=Z,13nm,0.6s,mb4.7
LPL La Plagne 81.41 338 *e*P **P** **11 48 50.2 +1.1**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LPL La Plagne 81.41 338 *e*P **P** **11 48 50.2 +1.1**
comp=Z,6.4nm,0.6s,mb4.7
LPG La Plagne 81.42 338 *e*P **P** **11 48 50.4 +1.2**
comp=Z,14nm,0.7s,mb4.7
LPG La Plagne 81.42 338 *e*P **P** **11 48 50.4 +1.2**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPG La Plagne 81.42 338 *e*P **P** **11 48 50.4 +1.2**
comp=Z,6.8nm,0.7s,mb4.7
TCF Toulx Ste Croi 81.69 342 *e*P **P** **11 48 51.0 +0.5**
comp=Z,10.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 81.69 342 *e*P **P** **11 48 51.0 +0.5**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TCF Toulx Ste Croi 81.69 342 *e*P **P** **11 48 51.0 +0.5**
comp=Z,5.0nm,0.8s,mb4.5
MFF Saint Martin d 81.84 343 *e*P **P** **11 48 51.8 +0.4**
comp=Z,13nm,0.8s,mb4.6
MFF Saint Martin d 81.84 343 *e*P **P** **11 48 51.8 +0.4**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MFF Saint Martin d 81.84 343 *e*P **P** **11 48 51.8 +0.4**
comp=Z,6.5nm,0.8s,mb4.6
ORIF Oris-en-Rattie 82.18 339 *e*P **P** **11 48 54.1 +1.0**
comp=Z,14nm,0.8s,mb4.7
ORIF *e*MLR MLR
comp=Z,59nm,19.5s
ORIF Oris-en-Rattie 82.18 339 *e*P **P** **11 48 54.1 +1.0**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 82.18 339 *e*P **P** **11 48 54.1 +1.0**
comp=Z,7.2nm,0.8s,mb4.7
LHS Liberty Hill 82.51 44 *e*P **P** **11 48 56.0 +1.1**
RJF Les Rejaudoux 82.77 342 *e*P **P** **11 48 56.8 +0.6**
comp=Z,13nm,0.9s,mb4.6
RJF *e*MLR MLR
comp=Z,68nm,20.8s
RJF Les Rejaudoux 82.77 342 *e*P **P** **11 48 56.8 +0.6**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,70nm,20.8s
RJF Les Rejaudoux 82.77 342 *e*P **P** **11 48 56.8 +0.6**
comp=Z,6.3nm,0.9s,mb4.7
RJF LR LR
comp=Z,70nm,20.8s
LFF La Frestale 83.27 342 *e*P **P** **11 48 59.6 +0.8**
EIL Elat 85.04 311 *e*P **P** **11 49 06.9 -0.9**
CPUP Villa Florida 145.62 60 PKPbc PKPbc 11 56 08.6 -1.9
comp=Z,3.0nm,0.6s,baz=301,slow=4.8,SNR=12
CPUP Villa Florida 145.62 60 *e*PKPdf PKPdf 11 56 09.4 -0.7
PLCA Paso Flores 146.78 92 PKPbc PKPbc 11 56 12.3 -1.7
comp=Z,3.1nm,0.8s,baz=41,slow=19,SNR=8.1
PLCA Paso Flores 146.78 92 PKP2 PKPbc 11 56 12.3 -1.7
PLCA pmax pmax
comp=Z,3.0nm,0.8s

ISCJB ***16*** *11:37:18.7±1.4, 2982N±007×363E±0.1, h0km, Error ellipse: s-maj=13.3km s-min=9.5km az=160.7*
HLW ***16*** *11:37:18.7, 2966N×3664E, h20km, Mb2.8*
CSEM ***16*** *11:37:20.0±0.2, 2980N×3613E, h1km, ML2.0, Error ellipse: s-maj=4.2km s-min=2.8km az=96.0, Mining explosion.*
GII ***16*** *11:37:20.6±0.8, 2991N×3616E, h0km±3km, ML2.0/2*
ISC 16 11:37:18.6±1.4, 2981N±007×363E±01, h0km, n16, σ0=65/17, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.10**	**266**	Pg	**Pg**	**11 37 40.0**	**+0.2**
HRFI	**Mount Harif**	**1.13**	**282**	Pg	**Pg**	**11 37 39.8**	**-0.5**
EIL	**Elat**	**1.20**	**264**	Pg	**Pg**	**11 37 42.4**	**+0.9**
MBH	**Mount Berech**	**1.22**	**270**	Pg	**Pg**	**11 37 42.2**	**+0.2**
PRNI	**Paran**	**1.26**	**296**	Pg	**Pg**	**11 37 41.7**	**-1.1**
PRNI				Sg	**Sg**	**11 37 59.0**	**-0.1**
KMTI	**Karmit**	**1.41**	**282**	Pg	**Pg**	**11 37 45.3**	**-0.4**
HBST	**Basata**	**1.50**	**247**	P	**Pn**	**11 37 46.3**	**-0.5**
MZDA	**Masada**	**1.71**	**331**	Pn	**Pn**	**11 37 49.2**	**-0.4**
HDHB	**Dhahab**	**1.84**	**234**	P	**Pn**	**11 37 50.7**	**-0.7**
DRGI	**Dragot**	**1.95**	**336**	Pn	**Pn**	**11 37 53.0**	**+0.1**
KZIT	**Kziot**	**1.99**	**304**	Pn	**Pn**	**11 37 54.5**	**+1.0**
HNKL	**Nakhl**	**2.03**	**274**	P	**Pn**	**11 37 54.9**	**+0.8**
HKAT	**Jabal Katrina**	**2.40**	**238**	P	**Pn**	**11 37 59.5**	**+0.3**
TR2		**2.68**	**239**	P	**Pn**	**11 38 02.3**	**-0.7**
TR2		**2.68**	**239**	P	**Pn**	**11 38 02.3**	**-0.7**
	312nm,0.2s						
SUZ		**3.03**	**271**	P	**Pn**	**11 38 08.8**	**+1.0**

MAN 16 11:46:42.1, 1253N×12360E, h7km, mb3.3, ML4.5, MS2.1, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.17**	**174**	‖*iP*	Pg	11 46 46.4	+0.8
MMPH				*i* S	Sg	11 46 49.0	+0.9
PVCP	**Virac**	**1.19**	**27**	‖*iP*	Pg	11 47 05.0	+0.1
PVCP				*i* S	Sg	11 47 21.1	+0.8
PVCP	**Virac**	**1.19**	**27**	*e*P	Pg	11 47 05.0	+0.1

PVCP				*e*S		Sg	11 47 21.4 +1.1
AUQP	**San Andres**	**1.20**	**311**	*e*P		Pg	11 47 07.1 +2.0
AUQP				*e*S		Sg	11 47 26.7 +6.0
RCP	**Roxas**	**1.28**	**221**⇑	*e*P		Pn	11 47 05.5 -0.9
RCP				*e*S		Sb	11 47 23.6 +0.4
OTRP	**Odiongan**	**1.56**	**264**	*e*P		Pn	11 47 10.2 0.0
OCLP	**Ormoc**	**1.77**	**146**	*e*P		Pn	11 47 13.3 +0.2
PLP	**Palo**	**1.91**	**135**	*e*P		Pn	11 47 14.3 -0.7
PLP				*e*S		Sn	11 47 40.6 +1.2
BOAC	**Boac**	**1.95**	**298**	*e*P		Pn	11 47 14.8 -0.8
BOAC				*e*S		Sn	11 47 34.7 -5.6
GUIM	**Jordan**	**2.14**	**208**	*e*P		Pn	11 47 18.6 +0.4
GUIM				*e*S		Sn	11 47 48.6 +3.6
LLP	**Lapu-Lapu**	**2.23**	**171**⇓	*e*P		Pn	11 47 19.8 +0.4
LLP				*i* S		Sn	11 47 46.6 -0.6
MSLP	**Maasin**	**2.68**	**153**	*e*P		Pn	11 47 26.4 +0.7
POLP	**Polilio Island**	**2.72**	**324**	*e*P		Pn	11 47 31.4 +5.2
CUYO	**Cuyo Island**	**3.03**	**237**	*e*P		Pn	11 47 30.9 +0.4
SNPH	**Sibulan**	**3.19**	**187**	*e*P		Pn	11 47 36.5 +3.8
BUSP	**Coron**	**3.37**	**261**	*e*P		Pn	11 47 36.0 +0.8
LUBP	**Lubang**	**3.48**	**290**	*e*P		Pn	11 47 38.4 +1.7
ENPP	**El Nido**	**4.30**	**253**	*e*P		Pn	11 47 49.4 +1.5

IDC 16 11:49:37.9±3.9, 432S×13907E, h0km, mb3.9/1, mb1 3.5/4, mb1mx3.3/11, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=73.7km s-min=37.8km az=106.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.20**	**196**	Pn	Pn	11 53 25.6	-1.2
	0.1nm,0.3s,baz=19,slow=13,SNR=8.2						
WRA				Sn	Sn	11 56 28.3	+1.2
	0.1nm,0.3s,baz=16,slow=24,SNR=4.1						
FITZ	**Fitzroy Crossi**	**18.98**	**223**	P	Pn	11 54 01.4	-0.1
	0.1nm,0.3s,baz=60,slow=16,SNR=2.0						
ASAR	**Alice Springs**	**19.87**	**194**	P	Pn	11 54 10.8	-1.3
	0.1nm,0.3s,baz=24,slow=9.2,SNR=4.4						
ASAR				S	Sn	11 57 56.6	+0.6
	0.0nm,0.3s,baz=16,slow=27,SNR=3.7						
STKA	**Stephens Creek**	**27.52**	**175**	P	P	11 55 26.4	+0.3
	0.6nm,0.4s,baz=342,slow=16,SNR=3.0						

*IDC **16** 11:51:33.1±16.0, 1943S×174.11W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/16, mbtmp4.4/5, Error ellipse: s-maj=305.1km s-min=139.1km az=81.0*
*ISCJB **16** 11:51:41.1±3.6, 198S±08×174.7W±07, h33km, mb4.7/6, Error ellipse: s-maj=146.0km s-min=21.2km az=101.6*
*NEIC **16** 11:51:42.3±3.0, 1995S×17456W, h35km, mb4.6/2, Error ellipse: s-maj=124.0km s-min=18.5km az=141.0*
ISC 16 11:51:42.8±3.6, 199S±08×1746W±07, h35km, n11, σ0§55/11, mb4.7/6, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.74**	**263**	*e*P	P	11 58 48.1	+1.4
	2.8nm,0.3s,mb4.6						
CTA	**Charters Tower**	**36.74**	**263**	P	P	11 58 47.5	+0.8
	4.2nm,0.4s,mb4.6,baz=96,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**40.92**	**244**	P	P	11 59 22.2	+0.5
	1.9nm,0.5s,mb4.0,baz=84,slow=11,SNR=9.2						
POHA	**Pohakuloa**	**43.65**	**26**	*e*P	P	11 59 44.0	+0.1
	61nm,0.3s,mb5.8						
AS31	**Alice Springs**	**47.77**	**256**	*e*P	P	12 00 16.2	-0.3
ASAR	**Alice Springs**	**47.77**	**256**	P	P	12 00 16.2	-0.3
	5.0nm,0.8s,mb4.6,baz=96,slow=7.9,SNR=53						
ASPA	**Alice Springs**	**47.77**	**256**	*e*P	P	12 00 16.2	-0.3
WB2	**Warramunga Arr**	**47.85**	**261**⇓	*i*P	P	12 00 16.5	-0.6
WRA	**Warramunga Arr**	**47.86**	**261**	P	P	12 00 16.5	-0.7
	1.5nm,0.3s,mb4.5,baz=96,slow=7.3,SNR=105						
FITZ	**Fitzroy Crossi**	**56.29**	**261**	*e*P	P	12 01 20.4	+0.6
	1.8nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.29**	**261**	P	P	12 01 20.1	+0.3
	0.9nm,0.3s,mb4.2,baz=78,slow=7.1,SNR=12						

*BJI **16** 12:07:51.4, 230N×9586E, h41km, mB5.1, mb4.8, Ms4.1, Msz3.7*
*MOS **16** 12:07:52.3±0.9, 255N×9586E, h33km, mb4.9/12, Error ellipse: s-maj=16.4km s-min=9.2km az=101.5*
*NEIC **16** 12:07:53.5±0.4, 250N×9587E, h30km, mb4.8/7, Error ellipse: s-maj=10.5km s-min=7.2km az=52.0*
*ISCJB **16** 12:07:58.6±2.1, 271N±009×962E±01, h84km±17km, mb4.6/34, Error ellipse: s-maj=23.6km s-min=9.8km az=110.6*
*IDC **16** 12:08:01.1±3.9, 271N×9630E, h89km±33km, mb4.1/10, mb1 4.2/11, mb1mx3.9/21, mbtmp4.4/11, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=34.7km s-min=14.4km az=62.0*
ISC 16 12:07:59.7±2.0, 267N±010×961E±01, h77km±16km, n65, σ0§95/59, mb4.6/34, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.79**	**87**	P	Pn	12 08 41.3	-0.8
	5.7nm,0.3s,baz=283,slow=7.2,SNR=55						
PSI				LR	LR	12 09 11.6	
	comp=Z,247nm,20.7s,baz=266,slow=27						
BSI	**Banda Aceh**	**2.93**	**343**	P	Pn	12 08 37.5	-6.5
	0.0nm,0.0s						
IPM	**Ipoh**	**5.20**	**70**	P	Pn	12 09 14.9	0.0
KULM	**Kulim**	**5.20**	**60**	*e*P	Pn	12 09 14.5	-0.4
KGM	**Kluang**	**7.21**	**95**	P	Pn	12 09 44.4	+2.1
KKTK	**Khon Kaen**	**15.09**	**25**	P	Pn	12 11 33.0	+4.5
CM31	**Chiang Mai Arr**	**15.93**	**10**	P	Pn	12 11 36.8	-2.3
CHG	**Chiang Mai**	**16.28**	**10**	P	Pn	12 11 42.3	-1.2
CHTO	**Chiang Mai**	**16.28**	**10**	*e*P	Pn	12 11 42.1	-1.4
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**16.28**	**10**	*e*P	Pn	12 11 42.1	-1.4
	comp=Z,5.8nm,0.9s						
KKM	**Kota Kinabalu**	**20.30**	**80**	P	P	12 12 33.1	+3.8
KKM	**Kota Kinabalu**	**20.30**	**80**	*e*P	P	12 12 30.8	+1.5
KMI	**Kunming**	**23.21**	**15**	P	P	12 13 02.3	+2.3
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,214nm,11.8s						
KMI				LR	LR		
	comp=E,177nm,12.9s						
KMI				LR	LR		
	comp=Z,208nm,12.9s						
KMI	**Kunming**	**23.21**	**15**	P	P	12 13 02.3	+2.3
	comp=Z,14nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=Z,210nm,12.9s						
GYA	**Guiyang**	**25.72**	**22**⇓	*i*P	P	12 13 24.3	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
JIRN	**Jiri**	**26.61**	**340**	*e*P	P	12 13 31.8	+1.0
	comp=Z,50nm,0.7s,mb5.2						
PKI	**Pulchoki**	**26.80**	**339**	*e*P	P	12 13 32.9	+0.4
	comp=Z,31nm,0.8s,mb4.9						
GUN	**Gumba**	**26.94**	**340**	*e*P	P	12 13 34.7	+0.9
	comp=Z,70nm,0.8s,mb5.2						
DMN	**Daman**	**26.95**	**338**	*e*P	P	12 13 34.1	+0.2
	comp=Z,35nm,1.1s,mb4.8						
KKN	**Kakani**	**27.05**	**338**	*e*P	P	12 13 35.2	+0.5
	comp=Z,42nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.29**	**351**	P	P	12 13 37.0	0.0
LSA	**Lhasa**	**27.29**	**351**	*e*P	P	12 13 37.8	+0.8
LSA				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.29**	**351**	*e*P	P	12 13 37.8	+0.8
	comp=Z,24nm,0.8s,mb4.8						
GKN	**Gorkha**	**27.48**	**338**	*e*P	P	12 13 39.0	+0.4
	comp=Z,33nm,0.8s,mb4.9						
KOLN	**Koldanda**	**27.68**	**336**	*e*P	P	12 13 40.8	+0.3
	comp=Z,30nm,0.8s,mb4.9						
CD2	**Chengdu**	**29.00**	**14**	P	P	12 13 52.0	-0.1
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
XAN	**Xi'an**	**33.41**	**19**	P	P	12 14 31.0	+0.1
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
LZH	**Lanzhou**	**34.01**	**11**	*e*P	P	12 14 36.8	+0.7
LZH				*SP	sP	12 14 47.0	-16
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
LZH	**Lanzhou**	**34.01**	**11**	*e*P	P	12 14 36.8	+0.7
	comp=Z,24nm,1.3s,mb4.9						
LZH				pP	pP	12 14 43.1	-11
LZH				sP	sP	12 14 47.0	-16
FITZ	**Fitzroy Crossi**	**35.65**	**127**	P	P	12 14 49.0	-1.2
	comp=Z,2.8nm,0.9s,mb4.2,baz=312,slow=7.0,SNR=4.3						
GTA	**Gaotai**	**36.72**	**5**	P	P	12 15 00.0	+0.6
GTA				AP	pP	12 15 06.5	-11
GTA				XP	sP	12 15 11.8	-15
GTA				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
BJI	**Beijing**	**41.40**	**23**	P	P	12 15 37.6	-0.8
BJI				AMB	AMB		
	comp=Z,28nm,1.8s,mb4.8						
BJI				LR	LR		
	comp=Z,61nm,16.2s						
BJI	**Beijing**	**41.40**	**23**	P	P	12 15 37.6	-0.8
	comp=Z,28nm,1.8s,mb4.8						
BJI				LR	LR		
	comp=Z,60nm,16.2s						
WRA	**Warramunga Arr**	**43.72**	**123**	P	P	12 15 57.2	+0.1
	comp=Z,2.7nm,0.8s,mb4.0,baz=302,slow=9.1,SNR=11						
AAK	**Ala-Archa**	**44.24**	**337**⇑	*e*P	P	12 16 02.3	+1.0
AAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.1						
AAK	**Ala-Archa**	**44.24**	**337**	*e*P	P	12 16 01.2	-0.1
	comp=Z,4.2nm,0.8s,mb4.2						
AS31	**Alice Springs**	**45.13**	**128**	*e*P	P	12 16 08.6	+0.2
ASAR	**Alice Springs**	**45.13**	**128**	P	P	12 16 08.0	-0.4
	comp=Z,1.3nm,0.8s,mb3.7,baz=305,slow=7.6,SNR=12						
ASAR				PcP	PcP	12 17 48.0	+0.3
	comp=Z,0.4nm,1.0s,baz=337,slow=2.9,SNR=4.8						
MK31	**Makanchi Array**	**45.57**	**347**	*e*P	P	12 16 11.9	0.0
MKAR	**Makanchi Array**	**45.57**	**347**	P	P	12 16 12.4	+0.5
	comp=Z,11nm,0.7s,mb4.7,baz=163,slow=8.0,SNR=94						
MKAR	**Makanchi Array**	**45.57**	**347**	*i* P	P	12 16 11.9	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**45.85**	**10**	P	P	12 16 14.6	+0.4
	comp=Z,7.0nm,0.7s,mb4.5,baz=189,slow=8.2,SNR=50						
SONM				PcP	PcP	12 17 50.4	+0.2
	comp=Z,1.6nm,0.7s,baz=186,slow=3.5,SNR=5.3						
ZAK	**Zakamensk**	**47.92**	**6**	*e*P	P	12 16 31.1	+0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.8						
ZAL	**Zalesovo**	**51.94**	**352**	P	P	12 17 00.6	-0.1
	comp=Z,5.4nm,0.4s,mb4.9,baz=177,slow=3.5,SNR=28						
VOSK	**Vostochnaya**	**54.08**	**341**	P	P	12 17 15.7	-0.7
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BVA0	**Borovoye Array**	**54.52**	**341**	*i* P	P	12 17 18.8	-0.8
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**54.58**	**341**	*e*P	P	12 17 19.5	-0.6
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**54.58**	**341**	*e*P	P	12 17 19.5	-0.6
	comp=Z,10nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**55.00**	**342**	*i* P	P	12 17 22.6	-0.5
CHKZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**55.00**	**342**	*e*P	P	12 17 22.8	-0.3
	comp=Z,19nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**55.13**	**132**	LR	LR	12 44 40.0	
	comp=Z,72nm,20.2s,baz=24,slow=40						
KLR	**Kul'dur**	**55.44**	**28**	*e*P	P	12 17 23.7	-2.5
BOD	**Bodaibo**	**56.77**	**11**	*e*P	P	12 17 35.3	-0.5
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MAK	**Makhachkala**	**58.93**	**320**	*e*P	pP	12 18 06.0	-4.4
ARU	**Arti**	**61.42**	**337**⇓	*i*P	P	12 18 07.0	-0.9
ARU				*e*	PP	12 20 21.2	-2.6
ARU				*e*PPP		12 21 54.1	
ARU				*e*S		12 26 35.1	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**64.32**	**17**	*i* P	P	12 18 19.3	-7.8
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**73.45**	**322**	*i* P	P	12 19 23.1	-0.7
BOSA	**Boshof**	**74.60**	**240**	P	P	12 19 33.6	+3.1
	comp=Z,2.7nm,0.9s,mb4.0,baz=90,slow=5.1,SNR=2.6						
FINES	**FINESS Array B**	**78.21**	**333**	P	P	12 19 50.4	-0.5
	comp=Z,4.8nm,0.9s,mb4.2,baz=128,slow=12,SNR=6.2						
ARCES	**ARCESS Array B**	**80.80**	**340**	P	P	12 20 03.8	-1.1
	comp=Z,5.9nm,1.0s,mb4.4,baz=76,slow=5.1,SNR=8.0						
GERES	**GERESS Array B**	**83.01**	**319**	P	P	12 20 16.8	+0.2
	comp=Z,2.0nm,0.8s,mb4.0,baz=102,slow=5.6,SNR=9.6						
TXAR	**Lajitas Array**	**142.95**	**29**	PKP	PKPdf	12 27 22.4	-2.0
	comp=Z,0.5nm,0.8s,baz=251,slow=0.6,SNR=7.3						
CPUP	**Villa Florida**	**145.33**	**225**	PKPbc	PKPbc	12 27 28.3	-0.3
	comp=Z,1.5nm,0.7s,baz=173,slow=3.3,SNR=4.7						
CFAA	**Coronel Fontan**	**147.67**	**205**	PKPbc	PKPbc	12 27 35.2	-0.2
	comp=Z,0.2nm,0.4s,baz=207,slow=2.7,SNR=4.5						
CFAA	**Coronel Fontan**	**147.67**	**205**	PKPbc	PKPbc	12 27 35.2	-0.2

MAN 16 12:10:31.7, 1244N×12349E, h6km, mb2.8, ML4.2, MS3.3, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.15**	**121**⇑	*i*P	Pg	12 10 35.6	+0.8
MMPH				*i* S	Sg	12 10 40.0	+3.1
RCP	**Roxas**	**1.14**	**220**⇓	*e*P	Pg	12 10 53.3	-0.3
RCP				*e*S	Sg	12 11 11.6	+3.3
AUQP	**San Andres**	**1.19**	**318**	*e*P	Pg	12 10 57.8	+3.3
AUQP				*e*S	Sg	12 11 09.4	-0.5
PVCP	**Virac**	**1.32**	**29**⇓	*i*P	Pn	12 10 55.8	-0.9
PVCP				*i* S	Sb	12 11 13.9	-0.2
PVCP	**Virac**	**1.32**	**29**	*e*P	Pn	12 10 55.8	-0.9
PVCP				*e*S	Sb	12 11 10.9	-3.2
OTRP	**Odiongan**	**1.44**	**267**	*e*P	Pn	12 10 58.4	+0.1
OTRP				*e*S	Sb	12 11 16.9	-0.6
OCLP	**Ormoc**	**1.76**	**141**	*e*P	Pn	12 11 01.1	-1.6
BOAC	**Boac**	**1.90**	**302**	*e*P	Pn	12 11 04.8	+0.1
GUIM	**Jordan**	**2.01**	**206**	*e*P	Pn	12 11 09.7	+3.6
MSLP	**Maasin**	**2.65**	**149**	*e*P	Pn	12 11 16.6	+1.6
POLP	**Polilio Island**	**2.73**	**327**	*e*P	Pn	12 11 24.1	+8.0
BUSP	**Coron**	**3.25**	**263**	*e*P	Pn	12 11 22.0	-1.2

*CSEM **16** 12:21:30.5±0.1, 3823N×2662E, h5km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.7km az=119.0*
*ATH **16** 12:21:30.9, 3818N×2676E, h35km±1km, MD3.2/3*
*ISCJB **16** 12:21:31.1±1.0, 3820N±003×2661E±006, h3km±7km, Error ellipse: s-maj=7.7km s-min=4.4km az=133.3*
*ISK **16** 12:21:32.9, 3825N×2676E, h20km, MD3.1*
ISC 16 12:21:31.7±0.7, 3821N±003×2662E±005, h9km±5km, n14, σ0§66/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.15**	**351**	*i* P	Pg	12 21 34.6	-0.4
URLA				*i* S	Sg	12 21 37.4	+0.2
BLCB	**Balcova**	**0.37**	**62**	PG	Pg	12 21 38.3	-0.7
BLCB				SG	Sg	12 21 44.7	+0.8
SMG	**Samos**	**0.53**	**161**	*e*PB	Pg	12 21 41.5	-0.5
SMG				*e*SB	Sg	12 21 49.3	+0.4
IZM	**Izmir**	**0.54**	**69**	PG	Pg	12 21 41.7	-0.4
IZM				SG	Sg	12 21 49.0	-0.1
KDAG	**Bornova**	**0.54**	**69**	*i* P	Pg	12 21 41.7	-0.5
KDAG				*i* S	Sg	12 21 48.8	-0.5
PRK	**Paraskevi**	**1.07**	**345**	*e*PN	Pn	12 21 52.0	-0.9
PRK				*e*SN	Sn	12 22 07.3	-0.6
AYVA	**Ayvalik**	**1.10**	**3**	*i* P	Pg	12 21 53.0	+0.2
AYVA				*i* S	Sg	12 22 08.6	+1.6
AYDN	**Tasoluk**	**1.13**	**119**	*i* P	Pb	12 21 53.5	0.0
AYDN				*i* S	Sg	12 22 08.0	-0.2
BODT	**Bodrum**	**1.27**	**154**	PN	Pn	12 21 56.9	+1.3
MLSB	**Milas**	**1.29**	**135**	PN	Pn	12 21 55.1	-0.8
BDRM	**Kayabasi**	**1.32**	**150**	*i* P	Pn	12 21 56.6	+0.3
BDRM				*i* S	Sb	12 22 13.8	+0.3
APE	**Apeiranthos**	**1.43**	**218**	*e*PN	Pn	12 21 57.1	-0.8
DAT	**Datca**	**1.66**	**153**	*e*PN	Pn	12 22 02.0	+1.0
CANB	**Canakkale**	**1.83**	**11**	*e*PN	Pn	12 22 03.9	+0.5

*IDC **16** 12:54:13.6±4.3, 2161N×12176E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=325.4km s-min=26.1km az=60.0*
*ISCJB **16** 12:54:30.4±2.7, 217N±02×1218E±03, h169km±34km, mb3.4/3, Error ellipse: s-maj=41.9km s-min=26.1km az=131.7*
*JMA **16** 12:55:31.8±0.4, 2281N×12075E, h133km, M2.6*

ISC 16 12:54:31.2±2.8, 217N±02×1218E±03, h159km±35km, n8, σ0§85/13, mb3.4/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.00**	**22**	P	Pn	12 55 14.4	-4.5
YOJ				*e*S	Sn	12 55 47.0	-8.9
IRIF	**Iriomote-Funau**	**3.21**	**34**	P	Pn	12 55 21.0	-0.5
IRIF				*e*S	Sn	12 55 58.8	-1.7
JKRS	**Kuro-shima**	**3.29**	**39**	P	Pn	12 55 23.1	+0.6
JKRS				*e*S	Sn	12 56 02.4	+0.1
JIJ	**Ishigaki jima**	**3.46**	**39**	P	Pn	12 55 24.8	+0.1
JIJ				*e*S	Sn	12 56 05.7	-0.6
JTJ	**Tarama**	**4.00**	**42**	P	Pn	12 55 33.4	+1.7
JTJ				*e*S	Sn	12 56 19.8	+1.0
MKAR	**Makanchi Array**	**40.52**	**318**	P	P	13 01 54.7	+0.2
	0.5nm,0.6s,mb3.3,baz=116,slow=9.8,SNR=6.8						
WRA	**Warramunga Arr**	**43.16**	**163**	P	P	13 02 15.4	-0.6
	1.3nm,0.7s,mb3.7,baz=344,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**46.60**	**165**	P	P	13 02 43.0	-0.1
	0.4nm,0.5s,mb3.3,baz=345,slow=7.0,SNR=17						

*ISCJB **16** 13:14:18.0±1.6, 3236S±009×1779W±04, h10km, mb4.0/3, Error ellipse: s-maj=44.3km s-min=5.4km az=31.6*
*IDC **16** 13:14:21.9±2.0, 3213S×17760W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=51.7km s-min=26.5km az=115.0*
*NEIC **16** 13:14:22.4±0.9, 3229S×17751W, h10km, mb4.3/1, Error ellipse: s-maj=27.3km s-min=13.4km az=108.0*
ISC 16 13:14:19.5±1.6, 3235S±008×1777W±03, h10km, n27, σ1§09/29, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.09**	**357**	Pn	Pn	13 15 08.1	-0.2
	34nm,0.3s,baz=119,slow=19,SNR=2.0						
RAO				Sn	Sn	13 15 45.7	+0.4
	181nm,0.3s,baz=93,slow=22,SNR=7.0						
RAO	**Raoul Island**	**3.09**	**357**	Pn	Pn	13 15 08.5	+0.2
RAO				*e*Sn	Sn	13 15 44.4	-0.9
RAO				Sn	Sn	13 15 45.7	+0.4
MXZ	**Matakaoa Point**	**6.15**	**211**	*e*PN	Pn	13 15 50.4	0.0
PUZ	**Puketiti**	**6.60**	**209**	PN	Pn	13 15 57.5	+0.9
PUZ				SN	Sn	13 17 12.4	+0.5
MWZ	**Matawai**	**7.13**	**212**	PN	Pn	13 16 05.0	+1.2
MWZ				SN	Sn	13 17 25.6	+0.7
URZ	**Urewera**	**7.26**	**214**	Pn	Pn	13 16 10.2	+4.6
	0.4nm,0.3s,baz=16,slow=15,SNR=3.8						
URZ	**Urewera**	**7.26**	**214**	*e*PN	Pn	13 16 06.8	+1.1
URZ				SN	Sn	13 17 28.5	+0.3
KNZ	**Kokohu**	**7.65**	**208**	*e*PN	Pn	13 16 10.2	-0.7
BKZ	**Black Stump Fm**	**8.28**	**213**	*e*PN	Pn	13 16 20.1	+0.5
BKZ				SN	Sn	13 17 51.6	-1.5
MRZ	**Mangatainoka R**	**9.90**	**211**	*e*PN	Pn	13 16 39.8	-2.0
MRZ				SN	Sn	13 18 26.9	-6.1
CAW	**Cannon Point**	**10.49**	**211**	*e*PN	Pn	13 16 48.5	-1.4
CAW				SN	Sx	13 18 40.7	
NNZ	**Nelson**	**11.37**	**216**	*e*PN	Pn	13 17 02.9	+0.9
NNZ				SN	Sx	13 19 02.9	
THZ	**Tophouse**	**12.02**	**216**	*e*PN	Pn	13 17 10.1	-0.7
THZ				SN	Sx	13 19 18.9	
LTZ	**Lake Taylor**	**13.10**	**214**	*e*PN	Pn	13 17 24.0	-1.5
RPZ	**Rata Peaks**	**14.38**	**215**	Pn	Pn	13 17 45.2	+2.1
	0.6nm,0.3s,baz=5.8,slow=17,SNR=3.1						
ASAR	**Alice Springs**	**43.29**	**269**	P	P	13 22 26.1	+4.8
	1.1nm,0.8s,mb3.7,baz=103,slow=7.5,SNR=13						
WB2	**Warramunga Arr**	**44.44**	**274**	*e*P	P	13 22 36.3	+5.7
WB2	**Warramunga Arr**	**44.44**	**274**	*e*P	P	13 22 36.0	+5.4
WRAB	**Tennant Creek**	**44.45**	**274**	*e*P	P	13 22 36.4	+5.8
WRA	**Warramunga Arr**	**44.45**	**274**	P	P	13 22 35.9	+5.2
	2.0nm,0.6s,mb4.0,baz=113,slow=7.8,SNR=43						
QSPA	**South Pole Qui**	**57.77**	**180**	*e*P	P	13 24 15.0	+4.3
	3.6nm,1.1s,mb4.3						
JOF	**Joensuu**	**144.31**	**338**	*e*p	PKPdf	13 33 56.7	+0.9
	0.7nm,0.4s						
KAF	**Kangasniemi**	**146.46**	**340**	*e*p	PKPdf	13 34 02.0	+2.5
FIA1	**FINESS Array S**	**147.05**	**339**	*e*PKPbc	PKPbc	13 34 05.7	+3.2
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	PKPbc	13 34 04.9	+2.4
	2.0nm,0.4s,baz=38,slow=3.7,SNR=19						
NB2	**NORSAR Subarra**	**150.71**	**351**	PKP	PKPbc	13 34 14.9	+3.0
	comp=Z,0.7nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.71**	**351**	PKPbc	PKPbc	13 34 14.4	+2.5
	comp=Z,1.3nm,0.7s,baz=13,slow=4.1,SNR=4.9						

*RSPR **16** 13:20:01.9, 1912N×6318W, h137km±20km*
*NEIC **16** 13:20:01.9, 1912N×6318W, h137km, MD3.6(RSPR), After RSPR.*
TRN 16 13:19:58.3, 1918N×6293W, h97km, 7C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**2.96**	**250**⇑	*e*P	Pn	13 20 44.8	+1.5
HUMP				*e*S	Sn	13 21 18.8	+0.7
CELP	**Cerrillos**	**3.63**	**253**⇑	*e

SNZO	**South Karori**	**4.22 207**	Pn	Pn	13 30 08.8	-2.4
SNZO			*e*Sn	Sn	13 30 56.0	-3.8
TCW	**Tory Channel**	**4.30 212**	P	Pn	13 30 08.9	-3.5
TCW	**Tory Channel**	**4.30 212**	PN	Pn	13 30 08.7	-3.7
NNZ	**Nelson**	**4.72 219**	*e*PN	Pn	13 30 14.4	-3.5
QRZ	**Quartz Range**	**4.91 227**	*e*PN	Pn	13 30 16.5	-3.9
THZ	**Tophouse**	**5.37 218**	*e*PN	Pn	13 30 23.5	-3.1
LTZ	**Lake Taylor**	**6.45 215**	*e*PN	Pn	13 30 36.1	-5.1
AS31	**Alice Springs**	**39.48 278**	*e*P	P	13 36 25.0	-1.5
ASPA	**Alice Springs**	**39.48 278**	*e*P	P	13 36 25.2	-1.4

MAN 16 13:49:03.5, 1246N×12370E, h10km, mb2.5, ML4.0, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.13**	**217**	⇓*e*P	Pg	13 49 07.3	+0.9
MMPH				*i* S	Sg	13 49 10.0	+1.5
PVCP	**Virac**	**1.21**	**21**	*e*P	Pn	13 49 25.8	-0.7
PVCP				*e*S	Sb	13 49 42.8	+0.6
RCP	**Roxas**	**1.29**	**226**	⇑*e*P	Pn	13 49 26.6	-1.0
RCP				*e*S	Sb	13 49 44.6	0.0
AUQP	**San Andres**	**1.32**	**311**	*e*P	Pn	13 49 28.1	+0.1
OTRP	**Odiongan**	**1.64**	**267**	*e*P	Pn	13 49 31.0	-1.4
OCLP	**Ormoc**	**1.66**	**147**	*e*P	Pn	13 49 34.1	+1.5
OCLP				*e*S	Sn	13 49 54.2	+0.3
BOAC	**Boac**	**2.06**	**299**	*e*P	Pn	13 49 35.0	-3.2
GUIM	**Jordan**	**2.12**	**211**	*e*P	Pn	13 49 39.6	+0.6

*ISCJB **16** 14:07:17.0±0.6, 501N±01×1788W±01, h10km, mb4.1/14, MS3.4/4, Error ellipse: s-maj=19.6km s-min=9.3km az=132.8*
*IDC **16** 14:07:17.2±0.7, 5000N×17893W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/25, mbtmp4.1/13, MS3.4/4, Ms1 3.4/4, ms1mx2.9/33, Error ellipse: s-maj=23.1km s-min=17.3km az=160.0*
*NEIC **16** 14:07:19.0±0.5, 5003N×17881W, h10km, mb4.6/3, ML3.9(AEIC), Error ellipse: s-maj=16.5km s-min=7.6km az=153.0*

ISC 16 14:07:18.5±0.6, 501N±01×1789W±01, h10km, n31, σ0§94/26, mb4.1/14, MS3.4/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**3.64**	**52**	P	**Pn**	**14 08 14.7**	**-0.2**
SDPT	**Sand Point**	**12.33**	**57**	*e*Pn	**Pn**	**14 10 13.5**	**-0.6**
KDAK	**Kodiak Island**	**17.22**	**53**	*e*Pn	**Pn**	**14 11 18.7**	**-0.3**
	43nm,0.3s						
RC01	**Rabbit Creek A**	**19.64**	**45**	P	**Pn**	**14 11 45.3**	**-3.3**
KNK	**Knik Glacier**	**20.34**	**44**	P	**P**	**14 11 53.6**	**-1.2**
IMA2	**Indian Mountai**	**20.61**	**30**	P	**P**	**14 12 00.3**	**+2.4**
MCK	**McKinley**	**21.06**	**38**	P	**P**	**14 12 05.6**	**+3.0**
EYAK	**Cordova Ski Ar**	**21.34**	**48**	P	**P**	**14 12 04.4**	**-1.3**
DIV	**Divide**	**21.48**	**46**	P	**P**	**14 12 07.0**	**-0.2**
YKA	**Yellowknife Ar**	**36.19**	**45**	P	**P**	**14 14 21.4**	**+0.2**
	4.0nm,0.8s,mb4.4,baz=278,slow=8.1,SNR=8.3						
YKA				LR	LR	14 28 04.2	
	comp=Z,56nm,20.0s,MS3.3,baz=130,slow=34						
NEW	**Newport**	**39.40**	**68**	P	**P**	**14 14 49.4**	**+1.0**
	1.6nm,0.3s,mb4.3,baz=292,slow=23,SNR=3.8						
EDM	**Edmonton**	**39.51**	**59**	*e*P	**P**	**14 14 49.4**	**+0.1**
BW06	**Boulder Array**	**46.77**	**71**	*e*P	**P**	**14 15 48.7**	**+0.7**
	2.1nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**46.77**	**71**	P	**P**	**14 15 48.6**	**+0.7**
	1.4nm,0.8s,mb3.9,baz=308,slow=4.9,SNR=9.3						
GUMO	**Guam**	**46.85**	**232**	LR	LR	14 32 12.2	
	comp=Z,34nm,20.0s,MS3.3,baz=105,slow=32						
SONM	**Songino Array**	**47.22**	**298**	P	**P**	**14 15 52.5**	**+1.0**
	0.5nm,0.6s,mb3.6,baz=50,slow=8.2,SNR=3.7						
TXAR	**Lajitas Array**	**58.90**	**80**	P	**P**	**14 17 17.9**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=298,slow=5.0,SNR=5.4						
TXAR				PcP	PcP	14 18 08.0	+1.1
	0.9nm,0.8s,baz=304,slow=3.0,SNR=5.1						
MKAR	**Makanchi Array**	**60.84**	**309**	P	**P**	**14 17 30.1**	**-0.8**
	0.4nm,0.3s,mb4.0,baz=70,slow=7.0,SNR=3.8						
MKAR				LR	LR	14 45 47.9	
	comp=Z,36nm,18.4s,MS3.5,baz=75,slow=38						
BVAR	**Borovoye Array**	**61.89**	**320**	P	**P**	**14 17 38.2**	**+0.2**
	1.0nm,0.4s,mb4.3,baz=50,slow=6.3,SNR=5.6						
FINES	**FINESS Array B**	**67.08**	**347**	P	**P**	**14 18 11.5**	**-0.5**
	2.2nm,0.7s,mb4.3,baz=38,slow=9.6,SNR=5.2						
NB2	**NORSAR Subarra**	**68.97**	**355**	P	**P**	**14 18 23.5**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.4,baz=7.2,slow=6.5						
NB2	**NORSAR Subarra**	**68.97**	**355**	P	**P**	**14 18 23.5**	**-0.4**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**68.97**	**355**	P	**P**	**14 18 23.7**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=6.7,slow=6.3,SNR=10						
NOA				LR	LR	14 49 31.3	
	comp=Z,18nm,18.6s,MS3.4,baz=295,slow=37						
AKASG	**Malin Array Be**	**76.81**	**342**	P	**P**	**14 19 10.5**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=22,slow=5.8,SNR=6.1						
WRA	**Warramunga Arr**	**81.03**	**224**	P	**P**	**14 19 32.2**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=32,slow=5.9,SNR=14						
FITZ	**Fitzroy Crossi**	**83.62**	**232**	P	**P**	**14 19 47.3**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.4,baz=8.3,slow=5.5,SNR=4.0						
ASAR	**Alice Springs**	**84.48**	**223**	P	**P**	**14 19 51.5**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.1,baz=23,slow=5.5,SNR=18						
MAW	**Mawson**	**145.40**	**216**	PKPbc	PKPbc	14 26 55.1	-1.5
	comp=Z,3.4nm,0.9s,baz=61,slow=3.8,SNR=6.7						
LBTB	**Lobatse**	**148.64**	**314**	PKPbc	PKPbc	14 27 06.7	+1.0
	comp=Z,2.0nm,0.6s,baz=136,slow=5.2,SNR=4.1						
LBTB	**Lobatse**	**148.64**	**314**	PKPbc	PKPbc	14 27 06.7	+1.0
BOSA	**Boshof**	**151.83**	**310**	PKPbc	PKPbc	14 27 13.9	+0.5
	comp=Z,1.7nm,0.5s,baz=0.9,slow=11,SNR=8.0						

*BJI **16** 14:09:50.9, 3368N×6928E, h29km, mB5.1, mb4.5, Ms4.0, Msz4.0*
*IDC **16** 14:09:52.5±0.6, 3339N×6987E, h0km, mb4.3/17, mb1 4.3/21, mb1mx4.2/28, mbtmp4.2/21, ML4.0/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/35, Error ellipse: s-maj=16.4km s-min=14.0km az=100.0*
*ISCJB **16** 14:09:53.6±1.4, 3340N±003×6991E±004, h20km±11km, mb4.2/27, Error ellipse: s-maj=6.5km s-min=3.8km az=93.3*
*NEIC **16** 14:09:54.5±3.2, 3348N×6982E, h12km±20km, mb4.3/6, Error ellipse: s-maj=7.8km s-min=6.2km az=80.0*
*MOS **16** 14:09:56.6±0.9, 3358N×6991E, h39km, mb4.5/22, Error ellipse: s-maj=14.3km s-min=7.0km az=98.2*

ISC 16 14:09:57.6±0.5, 3341N±003×6984E±004, h35km±6km, n115, σ1§43/128, mb4.2/27, 3C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**1.37**	**143**	⇑P	**Pn**	**14 10 21.7**	**+1.4**
DRP	**Derazinda**	**1.69**	**169**	⇓P	**Pn**	**14 10 28.3**	**+3.7**
THW	**Thamme Wali**	**1.71**	**110**	⇑P	**Pn**	**14 10 26.8**	**+1.9**
CEP	**Cherat**	**1.77**	**76**	⇑P	**Pn**	**14 10 27.0**	**+1.2**
CHCP	**Chirah Chowk**	**2.87**	**84**	P	**Pn**	**14 10 42.8**	**+1.9**
THN	**Thein Dam**	**5.04**	**100**	*e*P	**Pn**	**14 11 12.0**	**+1.3**
THN				*e*S	**Sn**	**14 12 13.2**	**+5.6**
BHK	**Bhakra**	**5.91**	**108**	*e*P	**Pn**	**14 11 26.0**	**+3.4**
BHK				*ex*	x	14 12 36.0	
SDNR	**Sundarnagar**	**6.32**	**106**	*e*P	**Pn**	**14 11 28.5**	**+0.2**
SDNR				*e*S	**Sn**	**14 12 40.0**	**+0.8**
KLP	**Kalpa**	**7.35**	**102**	*e*P	**Pn**	**14 11 43.7**	**+1.3**
KLP				*e*S	**Sn**	**14 13 04.5**	**-0.1**
KLP				AML	AML	14 14 02.1	
	comp=N,408nm,0.8s						
KLP				AML	AML	14 14 02.8	
	comp=E,433nm,1.0s						
KHET	**Khetri**	**7.39**	**134**	*e*P	**Pn**	**14 11 40.9**	**-2.1**
KHET				*e*S	**Sn**	**14 13 02.2**	**-3.3**
BHGR	**Bahadurgarh**	**7.70**	**126**	*e*P	**Pn**	**14 11 48.1**	**+0.9**
KUDL	**Kundal**	**7.76**	**131**	*e*P	**Pn**	**14 11 48.7**	**+0.6**
KUDL				*e*S	**Sn**	**14 13 14.1**	**-0.6**
NDI	**New Delhi**	**7.89**	**125**	*e*P	**Pn**	**14 11 50.4**	**+0.6**
NDI				*e*S	**Sn**	**14 13 16.0**	**-1.8**
AYAN	**Aya Nagar**	**7.95**	**126**	*e*P	**Pn**	**14 11 51.3**	**+0.6**
AYAN				*e*S	**Sn**	**14 13 17.1**	**-2.3**
AJM	**Ajmer**	**8.06**	**148**	*e*P	**Pn**	**14 11 52.2**	**0.0**
AJM				*e*S	**Sn**	**14 13 19.0**	**-3.2**
SONA	**Sohna**	**8.07**	**128**	*e*P	**Pn**	**14 11 53.3**	**+1.0**
SONA				*e*S	**Sn**	**14 13 20.9**	**-1.5**
SONA				AML	AML	14 14 29.6	
	comp=N,39nm,0.6s						
SONA				AML	AML	14 14 30.1	
	comp=E,64nm,0.4s						
AML	**Almayashu**	**9.22**	**18**	P	**Pn**	**14 12 08.7**	**+0.5**
	SNR=19						
AGRA	**Agra**	**9.32**	**129**	*e*P	**Pn**	**14 12 10.2**	**+0.8**
AGRA				*e*S	**Sn**	**14 13 50.2**	**-2.9**
AGRA				AML	AML	14 15 12.1	
	comp=E,87nm,0.7s						
AGRA				AML	AML	14 15 17.9	
	comp=N,68nm,0.7s						
UCH	**Uchtor**	**9.55**	**21**	P	**Pn**	**14 12 15.5**	**+3.0**
	SNR=12						
EKS2	**Erkin-Say**	**9.74**	**17**	P	**Pn**	**14 12 15.1**	**-0.1**
	SNR=7.8						
AAK	**Ala-Archa**	**9.91**	**20**	P	**Pn**	**14 12 19.3**	**+1.7**
	SNR=21						
AAK	**Ala-Archa**	**9.91**	**20**	⇓*e*P	**Pn**	**14 12 17.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AAK	**Ala-Archa**	**9.91**	**20**	*e*Pn	**Pn**	**14 12 16.5**	**-1.0**
	comp=Z,11nm,0.5s						
CHMS	**Chumysh**	**10.32**	**21**	P	**Pn**	**14 12 25.1**	**+2.0**
	SNR=6.6						
USP	**Ospenovka**	**10.50**	**19**	P	**Pn**	**14 12 27.0**	**+1.4**
	SNR=8.7						
TKM2	**Tokmak 2**	**10.52**	**24**	P	**Pn**	**14 12 27.5**	**+1.6**
	SNR=12						
BHPL	**Bhopal**	**12.13**	**145**	*e*P	**Pn**	**14 12 46.8**	**-1.1**
BHPL				*e*S	**Sn**	**14 14 55.5**	**-6.3**
KOLN	**Koldanda**	**13.11**	**112**	*e*P	**Pn**	**14 13 00.0**	**-1.3**
	comp=Z,35nm,0.7s						
GKN	**Gorkha**	**13.82**	**109**	*e*P	**Pn**	**14 13 08.4**	**-2.6**
	comp=Z,35nm,0.3s						
WSAR	**Wadi Sarin**	**14.13**	**227**	Pn	**Pn**	**14 13 14.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=253,slow=11,SNR=3.6						
WSAR				Sn	**Sn**	**14 15 46.1**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=313,slow=19,SNR=3.2						
WSAR	**Wadi Sarin**	**14.13**	**227**	Pn	**Pn**	**14 13 14.5**	**-0.7**
WSAR				Sn	**Sn**	**14 15 46.1**	**-4.7**
DMN	**Daman**	**14.37**	**110**	*e*P	**Pn**	**14 13 15.7**	**-2.7**
	comp=Z,52nm,0.5s						
KKN	**Kakani**	**14.42**	**109**	*e*P	**Pn**	**14 13 16.3**	**-2.9**
	comp=Z,56nm,0.5s						
PKI	**Pulchoki**	**14.62**	**109**	*e*P	**Pn**	**14 13 18.7**	**-3.2**
	comp=Z,30nm,0.4s						
GUN	**Gumba**	**14.85**	**107**	*e*P	**Pn**	**14 13 21.3**	**-3.6**
	comp=Z,38nm,0.4s						
MK31	**Makanchi Array**	**16.39**	**32**	*e*P	**Pn**	**14 13 41.9**	**-3.0**
MKAR	**Makanchi Array**	**16.39**	**32**	Pn	**Pn**	**14 13 43.0**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=205,slow=10,SNR=19						
MKAR				LR	LR	14 20 52.6	
	comp=Z,44nm,20.6s,baz=207,slow=40						
MKAR	**Makanchi Array**	**16.39**	**32**	*i* P	**Pn**	**14 13 45.9**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**16.39**	**32**	Pn	**Pn**	**14 13 43.0**	**-1.9**
MKAR				LR	LR	14 20 52.6	
WMQ	**Urumqi**	**17.37**	**48**	*e*P	**Pn**	**14 13 56.0**	**-1.1**
WMQ				AP	pP	14 14 08.0	+0.6
WMQ				PP		14 14 12.5	
WMQ				*e*S	**S**	**14 16 59.0**	**-18**
WMQ				XS	sS	14 17 18.0	-13
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,132nm,4.0s						
WMQ				LR	LR		
	comp=N,255nm,12.4s						
WMQ				LR	LR		
	comp=E,276nm,14.8s						
WMQ				LR	LR		
	comp=Z,238nm,17.6s						
AB31	**Akbulak array**	**17.46**	**338**	P	**Pn**	**14 13 57.1**	**-1.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HYB	**Hyderabad**	**17.75**	**152**	*i* P	**Pn**	**14 14 04.0**	**+2.1**
HYB				*e*S	**S**	**14 17 30.0**	**+5.3**
HYB	**Hyderabad**	**17.75**	**152**	*e*P	**Pn**	**14 14 04.0**	**+2.1**
HYB				*e*S	**S**	**14 17 38.0**	**+13**
LSA	**Lhasa**	**18.53**	**96**	P	**Pn**	**14 14 12.1**	**+0.7**
LSA	**Lhasa**	**18.53**	**96**	P	**Pn**	**14 14 11.4**	**0.0**
AKTK	**Aktyubinsk**	**19.11**	**336**	P	**Pn**	**14 14 17.0**	**-1.5**
AKTO	**Aktyubinsk**	**19.11**	**336**	P	**Pn**	**14 14 17.0**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=159,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**19.11**	**336**	P	**Pn**	**14 14 17.0**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**19.32**	**2**	P	**Pn**	**14 14 17.9**	**-3.1**
VOSK				pmax	pmax		
	comp=Z,17nm,1.4s						
MIB	**Mutribah**	**19.49**	**265**	*e*P	**Pn**	**14 14 23.5**	**+0.5**
MIB				AMb	AMB	14 14 27.4	
	comp=Z,45nm,0.7s						
RDF	**Al-Radifah**	**19.58**	**263**	*e*P	**Pn**	**14 14 26.1**	**+2.1**
RDF				AMb	AMB	14 14 30.6	
	comp=Z,56nm,1.1s						
BVA0	**Borovoye Array**	**19.61**	**1**	*i* P	**Pn**	**14 14 21.6**	**-2.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**19.61**	**1**	P	**Pn**	**14 14 22.0**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=179,slow=8.0,SNR=18						
BVAR	**Borovoye Array**	**19.61**	**1**	P	**Pn**	**14 14 22.0**	**-2.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**19.64**	**1**	*e*P	**Pn**	**14 14 21.2**	**-3.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	**Borovoye**	**19.64**	**1**	*e*P	**Pn**	**14 14 21.2**	**-3.6**
	comp=Z,8.4nm,0.7s						
NAY	**Al-Naaiem**	**19.74**	**264**	*e*P	**Pn**	**14 14 25.3**	**-0.6**
NAY				AMb	AMB	14 14 29.0	
	comp=Z,19nm,1.4s						
RST	**Umm Al-Ruwaisa**	**19.86**	**265**	*e*P	**Pn**	**14 14 25.6**	**-1.8**
RST				AMb	AMB	14 14 32.3	
	comp=Z,40nm,1.2s						
CHKZ	**Chkalovo**	**20.27**	**1**	*e*P	**P**	**14 14 28.2**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHKZ	**Chkalovo**	**20.27**	**1**	*e*P	**P**	**14 14 28.2**	**-1.8**
	comp=Z,4.3nm,0.6s						
ORR	**Orenburg**	**21.25**	**333**	*e*P	**P**	**14 14 41.4**	**+0.7**
ORR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
ZEI	**Tsey**	**22.38**	**302**	*e*P	**P**	**14 15 00.4**	**+7.6**
ZAL	**Zalesovo**	**23.11**	**23**	P	**P**	**14 15 01.1**	**+0.7**
	comp=Z,3.6nm,0.4s,mb4.2,baz=244,slow=4.9,SNR=6.0						
ZAL	**Zalesovo**	**23.11**	**23**	P	**P**	**14 15 01.1**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,49nm,19.4s						
ARU	**Arti**	**24.30**	**345**	⇓*i* P	**P**	**14 15 11.2**	**-0.5**
ARU				*e*		14 15 29.1	
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
ARU	**Arti**	**24.30**	**345**	*e*P	**P**	**14 15 11.4**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.3						
GTA	**Gaotai**	**24.79**	**67**	*e*P	**P**	**14 15 18.4**	**+2.2**
GTA				AP		14 15 22.6	
GTA				XP	sP	14 15 26.3	-4.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb3.9						
ANN	**Anapa**	**27.43**	**304**	*e*P	pP	14 15 52.3	+2.3
ANN				pmax	pmax		
	comp=Z,41nm,1.6s,mb4.7						
KMI	**Kunming**	**29.77**	**97**	P	**P**	**14 16 02.5**	**+1.7**
KMI				*PP	pP	14 16 17.9	+7.0
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
KMI	**Kunming**	**29.77**	**97**	P	**P**	**14 16 02.5**	**+1.7**
	comp=Z,7.0nm,0.7s,mb4.5						
KMI				pP	pP	14 16 17.9	+7.0
KMI				sP	sP	14 16 26.9	+12
ZAK	**Zakamensk**	**29.79**	**45**	*e*P	**P**	**14 15 53.7**	**-7.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.8						
SONM	**Songino Array**	**30.94**	**51**	P	**P**	**14 16 11.7**	**+0.5**
	comp=Z,1.7nm,0.8s,mb3.9,baz=256,slow=8.7,SNR=9.5						
SONM	**Songino Array**	**30.94**	**51**	P	**P**	**14 16 11.7**	**+0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**34.24**	**313**	P	**P**	**14 16 40.6**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=94,slow=7.1,SNR=6.4						
AKASG	**Malin Array Be**	**34.24**	**313**	P	**P**	**14 16 40.6**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**38.12**	**332**	*e*p	**P**	**14 17 12.7**	**-0.5**
	comp=Z,2.5nm,0.4s,mb4.3						
JOF	**Joensuu**	**38.12**	**332**	*e*P	**P**	**14 17 12.7**	**-0.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**39.57**	**329**	P	**P**	**14 17 25.6**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.0,baz=101,slow=9.9,SNR=5.7						
FINES	**FINESS Array B**	**39.57**	**329**	*i* P	**P**	**14 17 27.1**	**+1.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**39.75**	**330**	*ep*	**P**	**14 17 24.8**	**-2.1**
PSI	**Prapat**	**40.82**	**132**	P	**P**	**14 17 36.5**	**+0.8**
	comp=Z,1.1nm,0.4s,mb3.8,baz=3.4,slow=7.0,SNR=3.6						
PSI	**Prapat**	**40.82**	**132**	P	**P**	**14 17 36.5**	**+0.8**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KEV	**Kevo**	**43.34**	**340**	*ep*	**P**	**14 17 54.9**	**-1.4**
	comp=Z,1.0nm,0.4s,mb3.9						
KEV	**Kevo**	**43.34**	**340**	*e*P	**P**	**14 17 54.9**	**-1.4**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**43.66**	**339**	P	**P**	**14 17 59.1**	**+0.2**
	comp=Z,4.1nm,0.6s,mb4.4,baz=123,slow=8.8,SNR=15						
ARCES	**ARCESS Array B**	**43.66**	**339**	P	**P**	**14 17 59.1**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMBO	**Kilima Mbogo**	**46.06**	**228**	P	**P**	**14 18 20.1**	**+2.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=23,slow=18,SNR=2.8						
KMBO	**Kilima Mbogo**	**46.06**	**228**	P	**P**	**14 18 20.1**	**+2.2**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**46.31**	**325**	P	**P**	**14 18 19.6**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.1,baz=100,slow=7.9,SNR=9.2						
NOA	**NORSAR Array B**	**46.31**	**325**	P	**P**	**14 18 19.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,23nm,19.3s						
NOA	**NORSAR Array B**	**46.31**	**325**	P	**P**	**14 18 19.6**	**-0.4**
NOA				LR	LR	14 39 07.9	
MDJ	**Mudanjiang**	**46.80**	**58**	P	**P**	**14 18 19.9**	**-3.9**
MDJ				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,131nm,4.9s						
KEST	**Kesra**	**49.17**	**291**	P	**P**	**14 18 43.8**	**+1.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=143,slow=2.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**64.71**	**269**	P	**P**	**14 20 31.1**	**-1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=50,slow=5.9,SNR=13						
LBTB	**Lobatse**	**71.75**	**222**	P	**P**	**14 21 16.5**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.5,baz=41,slow=6.1						
LBTB	**Lobatse**	**71.75**	**222**	P	**P**	**14 21 16.5**	**+0.3**
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BOSA	**Boshof**	**74.77**	**220**	P	**P**	**14 21 35.1**	**+1.1**
	comp=Z,3.7nm,0.7s,mb4.5,baz=31,slow=7.0,SNR=8.4						
BOSA	**Boshof**	**74.77**	**220**	P	**P**	**14 21 35.1**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
INK	**Inuvik**	**77.10**	**9**	P	**P**	**14 21 47.3**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=11,slow=5.2,SNR=8.0						
INK	**Inuvik**	**77.10**	**9**	P	**P**	**14 21 47.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**81.20**	**121**	P	**P**	**14 22 10.8**	**+1.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=322,slow=5.0,SNR=28						
WRA	**Warramunga Arr**	**81.20**	**121**	P	**P**	**14 22 10.8**	**+1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRAB	**Tennant Creek**	**81.20**	**121**	*e*P	**P**	**14 22 10.7**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**81.20**	**121**	*e*P	**P**	**14 22 10.7**	**+1.0**
	comp=Z,3.7nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**81.21**	**121**	*e*P	**P**	**14 22 10.8**	**+1.0**
KDAK	**Kodiak Island**	**82.42**	**21**	P	**P**	**14 22 16.0**	**-0.1**
	comp=Z,11nm,1.0s,mb4.7,baz=270,slow=1.0,SNR=3.7						
KDAK	**Kodiak Island**	**82.42**	**21**	P	**P**	**14 22 16.0**	**-0.1**
AS31	**Alice Springs**	**83.30**	**124**	*e*P	**P**	**14 22 21.6**	**+0.8**
ASAR	**Alice Springs**	**83.30**	**124**	P	**P**	**14 22 20.4**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=309,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**83.30**	**124**	P	**P**	**14 22 20.5**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**84.37**	**2**	P	**P**	**14 22 25.8**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.3,baz=352,slow=5.4,SNR=7.2						
YKA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.54**	**127**	⇓*iP*	**Pg**	**15 09 48.3**	**+1.8**
CHNG				*i* S	**Sg**	**15 09 55.0**	**+1.5**
CHNG				AML	AML	15 09 56.0	
	comp=E,4μm,0.5s						
CMCH	**Combarbala**	**0.94**	**66**	⇑*iP*	**Pg**	**15 09 53.9**	**-0.3**
CMCH				*i* S	**Sg**	**15 10 05.3**	**-1.1**
CMCH				AML	AML	15 10 09.3	
	comp=E,20μm,0.6s						
CMCH	**Combarbala**	**0.94**	**66**	⇑*iP*	**Pg**	**15 09 53.9**	**-0.3**
CMCH				*i* S	**Sg**	**15 10 05.3**	**-1.1**
PACH	**Papudo**	**1.09**	**154**	*eP*	**Pg**	**15 09 57.3**	**+0.3**
PTCH	**Petorca**	**1.16**	**128**	*i* P	**Pg**	**15 09 57.5**	**-0.7**
PTCH				*i* S	**Sg**	**15 10 12.2**	**-1.1**
PTCH				AML	AML	15 10 14.0	
	comp=N,5μm,0.2s						
PTCH	**Petorca**	**1.16**	**128**	*i* P	**Pg**	**15 09 57.5**	**-0.7**
PTCH				*i* S	**Sg**	**15 10 12.2**	**-1.1**
OVCH	**Ovalle**	**1.18**	**36**	*eP*	**Pg**	**15 09 58.0**	**-0.6**
OVCH				*i* S	**Sg**	**15 10 12.5**	**-1.3**
OVCH				AML	AML	15 10 17.1	
	comp=E,12μm,0.5s						
OVCH	**Ovalle**	**1.18**	**36**	*eP*	**Pg**	**15 09 58.0**	**-0.6**
OVCH				*i* S	**Sg**	**15 10 12.5**	**-1.3**
JACH	**Jahuel**	**1.64**	**133**	⇓*iP*	**Pn**	**15 10 06.4**	**+0.5**
JACH				*i* S	**Sn**	**15 10 26.7**	**-0.8**
ROCH	**El Roble**	**1.65**	**149**	⇓*iP*	**Pn**	**15 10 06.2**	**+0.3**
ROCH				*i* S	**Sn**	**15 10 26.8**	**-0.6**
TLL	**Tololo Astrono**	**1.73**	**37**	⇑*iP*	**Pn**	**15 10 06.8**	**-0.2**
TLL				*i* S	**Sn**	**15 10 29.6**	**-0.1**
TLL				AML	AML	15 10 34.3	
	comp=E,5μm,0.3s						
TLL	**Tololo Astrono**	**1.73**	**37**	⇑*iP*	**Pn**	**15 10 06.8**	**-0.2**
TLL				*i* S	**Sn**	**15 10 29.6**	**-0.1**
LSCH	**La Serena**	**1.77**	**22**	*eP*	**Pn**	**15 10 07.5**	**0.0**
LSCH				*i* S	**Sn**	**15 10 31.8**	**+1.2**
PEL	**Peldehue**	**1.94**	**145**	*eP*	**Pn**	**15 10 09.5**	**-0.4**
PEL				*i* S	**Sn**	**15 10 34.1**	**-0.6**
PEL				AML	AML	15 10 38.3	
	comp=E,4μm,0.6s						
PEL	**Peldehue**	**1.94**	**145**	*eP*	**Pn**	**15 10 09.5**	**-0.4**
PEL				*i* S	**Sn**	**15 10 34.1**	**-0.6**
LCCH	**Las Cruces**	**1.95**	**169**	*eP*	**Pn**	**15 10 10.1**	**+0.1**
RCDM	**Rinconada Maip**	**2.18**	**152**	*eP*	**Pn**	**15 10 13.5**	**+0.3**
RCDM				*i* S	**Sn**	**15 10 39.9**	**-0.8**
RCDM				AML	AML	15 10 47.6	
	comp=E,746nm,0.8s						
RCDM	**Rinconada Maip**	**2.18**	**152**	*eP*	**Pn**	**15 10 13.5**	**+0.3**
RCDM				*i* S	**Sn**	**15 10 39.9**	**-0.8**
CLCH	**Cerro Calan**	**2.22**	**146**	*eP*	**Pn**	**15 10 13.8**	**0.0**
CLCH				*i* S	**Sn**	**15 10 39.8**	**-1.8**
CLCH				AML	AML	15 10 52.9	
	comp=E,2μm,0.4s						
FCH	**Farellones**	**2.29**	**141**	*eP*	**Pn**	**15 10 15.2**	**+0.5**
FCH				*i* S	**Sn**	**15 10 43.4**	**0.0**
FCH				AML	AML	15 10 55.9	
	comp=N,745nm,0.4s						
PCH	**Pirque**	**2.41**	**149**	*eP*	**Pn**	**15 10 16.2**	**-0.2**
CHCH	**Chadas Angostu**	**2.63**	**155**	*eP*	**Pn**	**15 10 16.0**	**-3.4**
LCO	**Las Campanas**	**2.78**	**24**	*eP*	**Pn**	**15 10 20.8**	**-0.7**
LCO				*i* S	**Sn**	**15 10 57.2**	**+1.7**
LCO				AML	AML	15 11 06.0	
	comp=E,677nm,0.5s						
LCO	**Las Campanas**	**2.78**	**24**	P	**Pn**	**15 10 20.8**	**-0.7**
LCO				S	**Sn**	**15 10 57.2**	**+1.7**
CACH	**El Canelo**	**2.81**	**155**	*eP*	**Pn**	**15 10 23.4**	**+1.5**
ZON	**Zonda**	**2.84**	**91**	*i* P	**Pn**	**15 10 25.6**	**+3.2**
ZON				*i* S	**Sn**	**15 11 02.8**	**+5.7**
MDZ	**Mendoza**	**2.99**	**117**	*eP*	**Pn**	**15 10 32.2**	**+7.9**
MDZ				*i* S	**Sn**	**15 11 13.2**	**+13**
CICH	**Cipreses**	**3.06**	**155**	*eP*	**Pn**	**15 10 26.7**	**+1.4**
SFDO	**San Fernando**	**3.16**	**165**	*eP*	**Pn**	**15 10 27.3**	**+0.6**
VACH	**Vallenar**	**3.17**	**20**	*eP*	**Pn**	**15 10 27.0**	**+0.2**
VACH				AML	AML	15 11 19.8	
	comp=E,2μm,0.3s						
CFAA	**Coronel Fontan**	**3.22**	**92**	Pn	**Pn**	**15 10 29.9**	**+2.4**
	comp=E,2.5nm,0.3s,baz=276,slow=11,SNR=98						
CFAA				Sn	**Sn**	**15 11 11.3**	**+4.9**
	comp=E,7.3nm,0.3s,baz=26,slow=18,SNR=10.0						
CFAA	**Coronel Fontan**	**3.22**	**92**	Pn	**Pn**	**15 10 29.9**	**+2.4**
CFAA				Sn	**Sn**	**15 11 11.3**	**+4.9**
PLCA	**Paso Flores**	**9.23**	**173**	Pn	**Pn**	**15 11 51.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=330,slow=7.4,SNR=3.5						
LVC	**Limon Verde**	**9.33**	**18**	*e*Pn	**Pn**	**15 11 47.8**	**-3.5**
	comp=E,5.4nm,0.4s						
CPUP	**Villa Florida**	**13.87**	**72**	Pn	**Pn**	**15 12 54.4**	**+0.9**
	comp=E,0.4nm,0.3s,baz=228,slow=11,SNR=2.9						
CPUP				Sn	**Sn**	**15 15 30.2**	**+2.2**
	comp=E,0.4nm,0.3s,baz=200,slow=8.1,SNR=4.4						
CPUP				LR	LR	15 18 36.9	
	comp=E,150nm,20.4s,baz=288,slow=39						
CPUP	**Villa Florida**	**13.87**	**72**	P	**Pn**	**15 12 53.8**	**+0.3**
CPUP				Sn	**Sn**	**15 15 30.2**	**+2.2**
CPUP				LR	LR	15 18 36.9	
BDFB	**Brasilia**	**27.01**	**60**	P	**P**	**15 15 17.3**	**-1.9**
	comp=E,3.7nm,0.8s,mb4.0,baz=225,slow=10.0,SNR=4.1						
BDFB				LR	LR	15 27 07.8	
	comp=E,148nm,20.2s,MS3.5,baz=307,slow=39						
SNAA	**Sanae**	**53.84**	**159**	P	**P**	**15 18 59.8**	**-0.4**
	comp=E,0.6nm,0.9s,mb3.5,baz=275,slow=9.8,SNR=10.0						
SNAA	**Sanae**	**53.84**	**159**	*eP*	**P**	**15 18 59.5**	**-0.7**
	comp=E,1.3nm,0.8s,mb3.9						
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**15 21 14.3**	**-1.0**
	comp=E,3.1nm,0.7s,mb4.3,baz=201,slow=5.5,SNR=6.5						
DBIC	**Dimbokro**	**74.39**	**72**	*eP*	**P**	**15 21 14.2**	**-1.0**
	comp=E,3.1nm,0.7s,mb4.3						
TOA0	**Torodi Ar. Sit**	**83.36**	**70**	*eP*	**P**	**15 22 03.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P	**P**	**15 22 03.5**	**-1.0**
	comp=E,2.7nm,0.7s,mb4.4,baz=262,slow=4.7,SNR=19						
CHKZ	**Chkalovo**	**145.31**	**39**	*e*PKP	PKPdf	15 29 14.2	-1.0
BRVK	**Borovoye**	**145.38**	**41**	*e*PKP	PKPdf	15 29 13.3	-2.1
BVAR	**Borovoye Array**	**145.45**	**41**	PKPbc	PKPbc	15 29 15.0	-0.5
	comp=E,1.9nm,0.4s,baz=293,slow=3.1,SNR=13						
MKAR	**Makanchi Array**	**155.09**	**45**	PKPab	PKPab	15 29 54.0	-1.0
	comp=E,0.5nm,0.8s,baz=289,slow=4.4,SNR=3.6						

IDC 16 15:10:27.2±8.3, 611S×13185E, h0km, mb3.8/1, mb1 3.4/3, mb1mx3.3/10, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=616.3km s-min=31.1km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**170**	Pn	Pn	15 13 47.1	+0.7
	0.1nm,0.3s,baz=340,slow=14,SNR=2.8						
WRA				Sn	Sn	15 16 08.1	-14
	0.6nm,0.3s,baz=330,slow=22,SNR=10.0						
ASAR	**Alice Springs**	**17.57**	**174**	P	Pn	15 14 33.5	0.0
	0.1nm,0.3s,baz=354,slow=13,SNR=8.5						
ASAR				S	Sn	15 17 31.2	-19
	0.1nm,0.3s,baz=357,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**68.50**	**326**	P	P	15 21 31.6	+0.2
	0.5nm,0.5s,baz=111,slow=8.2,SNR=12						

*NEIC **16** 15:21:55.3, 3230S×7190W, h38km, MD3.6(GUC), After GUC.*

GUC 16 15:21:55.3±0.7, 3230S×7190W, h38km±3km, MD3.6, ML2.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.46**	**122**	*eP*	Pn	15 22 05.3	-0.2
PACH				*i* S	Sn	15 22 12.8	+0.3
CHNG	**Los Chungos**	**0.53**	**39**	⇑*iP*	Pn	15 22 06.3	-0.1
CHNG				*i* S	Sn	15 22 14.5	+0.2
CHNG				AML	AML	15 22 15.1	
	comp=E,681nm,0.3s						
PTCH	**Petorca**	**0.82**	**88**	*i* P	Pn	15 22 10.9	+0.5
PTCH				*i* S	Sn	15 22 22.5	+1.2
PTCH				AML	AML	15 22 23.4	
	comp=N,1μm,0.1s						
PTCH	**Petorca**	**0.82**	**88**	*i* P	Pn	15 22 10.9	+0.5
PTCH				*i* S	Sn	15 22 22.5	+1.2
ROCH	**El Roble**	**1.01**	**132**	⇓*iP*	Pn	15 22 14.1	+1.2
ROCH				*i* S	Sn	15 22 28.1	+2.2
JACH	**Jahuel**	**1.17**	**110**	*i* P	Pn	15 22 16.4	+1.3
JACH				*i* S	Sn	15 22 32.4	+2.5
PEL	**Peldehue**	**1.33**	**130**	*eP*	Pn	15 22 18.4	+1.2
PEL				*i* S	Sn	15 22 36.4	+2.6
PEL				AML	AML	15 22 38.9	
	comp=N,483nm,0.3s						
PEL	**Peldehue**	**1.33**	**130**	*eP*	Pn	15 22 18.4	+1.2
PEL				*i* S	Sn	15 22 36.4	+2.6
RCDM	**Rinconada Maip**	**1.50**	**143**	*eP*	Pn	15 22 21.3	+1.5
RCDM				*i* S	Sn	15 22 40.7	+2.6
RCDM				AML	AML	15 22 43.1	
	comp=E,110nm,0.2s						
RCDM	**Rinconada Maip**	**1.50**	**143**	*eP*	Pn	15 22 21.3	+1.5
RCDM				*i* S	Sn	15 22 40.7	+2.6
FCH	**Farellones**	**1.70**	**128**	⇓*eP*	Pn	15 22 24.4	+2.0
FCH				*i* S	Sn	15 22 46.1	+3.1
FCH				AML	AML	15 22 49.1	
	comp=E,48nm,0.2s						

*IDC **16** 15:26:58.2±3.6, 3279N×8370E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML2.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/21, Error ellipse: s-maj=104.3km s-min=32.5km az=88.0*

*ISCJB **16** 15:27:03.0±1.7, 330N±0.1×836E±0.5, h51km±26km, mb3.2/3, MS3.8/2, Error ellipse: s-maj=66.2km s-min=15.7km az=166.4*

ISC 16 15:27:05.1±1.4, 3302N±009×837E±04, h50km±21km, n9, σ1°69/8, mb3.2/3, MS3.8/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**5.07**	**171**	*eP*	**Pn**	**15 28 22.1**	**+3.6**
	4.8nm,0.3s						
KOLN	**Koldanda**	**5.24**	**181**	*eP*	**Pn**	**15 28 21.8**	**+1.0**
	10nm,0.5s						
GUN	**Gumba**	**5.43**	**159**	*eP*	**Pn**	**15 28 22.9**	**-0.5**
	11nm,0.3s						
DMN	**Daman**	**5.53**	**167**	*eP*	**Pn**	**15 28 22.3**	**-2.5**
	4.0nm,0.3s						
MKAR	**Makanchi Array**	**13.80**	**356**	Pn	**Pn**	**15 30 17.4**	**-0.5**
	0.0nm,0.3s,baz=173,slow=16,SNR=6.8						
SONM	**Songino Array**	**22.63**	**43**	P	**P**	**15 32 02.6**	**+1.0**
	0.3nm,0.6s,mb2.9,baz=219,slow=11,SNR=4.6						
HFS	**Hagfors**	**52.17**	**323**	LR	LR	15 59 16.5	
	comp=Z,88nm,21.7s,MS3.8,baz=16,slow=37						
WRA	**Warramunga Arr**	**71.50**	**130**	P	**P**	**15 38 19.9**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=320,slow=6.7,SNR=5.6						
WRA				LR	LR	16 14 22.0	
	comp=Z,49nm,19.3s,MS3.8,baz=160,slow=40						
ASAR	**Alice Springs**	**73.95**	**133**	P	**P**	**15 38 35.0**	**-0.1**
	0.5nm,0.9s,mb3.4,baz=308,slow=5.8,SNR=4.5						

MAN 16 15:39:09.9, 1251N×12358E, h7km, mb3.1, ML4.4, MS1.4, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.15**	**164**	⇑*iP*	Pg	15 39 13.9	+0.9
MMPH				*i* S	Sg	15 39 16.6	+1.4
AUQP	**San Andres**	**1.20**	**313**	*eP*	Pg	15 39 34.7	+1.8
PVCP	**Virac**	**1.22**	**27**	⇓*eP*	Pb	15 39 32.3	-0.9
PVCP				*e*S	Sg	15 39 49.7	+0.6
PVCP	**Virac**	**1.22**	**27**	*eP*	Pb	15 39 32.4	-0.9
PVCP				*e*S	Sg	15 39 45.2	-3.9
RCP	**Roxas**	**1.25**	**221**	⇓*eP*	Pn	15 39 33.0	-0.6
RCP				*e*S	Sg	15 39 51.8	+1.8
OTRP	**Odiongan**	**1.53**	**265**	*eP*	Pn	15 39 37.5	-0.1
OCLP	**Ormoc**	**1.76**	**145**	*eP*	Pn	15 39 40.5	-0.3
GUIM	**Jordan**	**2.11**	**208**	*eP*	Pn	15 39 46.2	+0.6
GUIM				*e*S	Sn	15 40 12.8	+0.8
POLP	**Polilio Island**	**2.73**	**324**	*eP*	Pn	15 40 00.2	+6.2
CUYO	**Cuyo Island**	**3.00**	**237**	*eP*	Pn	15 39 58.3	+0.5
BUSP	**Coron**	**3.34**	**262**	*eP*	Pn	15 40 03.4	+0.8
ENPP	**El Nido**	**4.27**	**253**	*eP*	Pn	15 40 16.0	+0.7

IDC 16 15:45:52.5±13.0, 931S×11172E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=216.6km s-min=144.5km az=138.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.27**	**118**	P	P	15 51 13.1	+1.7
	0.3nm,0.6s,baz=294,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**25.56**	**127**	P	P	15 51 23.3	+0.2
	0.2nm,0.6s,baz=303,slow=9.0,SNR=5.8						
STKA	**Stephens Creek**	**35.65**	**133**	P	P	15 52 51.5	-0.6
	3.3nm,0.5s,baz=308,slow=9.5,SNR=21						

*IDC **16** 16:15:21.6±2.5, 2740S×17689W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/11, mbtmp3.7/4, Error ellipse: s-maj=71.0km s-min=33.6km az=40.0*

*NEIC **16** 16:15:23.5±1.4, 2749S×17691W, h10km, mb4.2/1, Error ellipse: s-maj=30.9km s-min=18.7km az=59.0*

*ISCJB **16** 16:15:28.8±5.1, 277S±02×1772W±03, h50km±33km, mb3.7/5, Error ellipse: s-maj=50.4km s-min=24.8km az=104.3*

ISC 16 16:15:29.4±5.3, 277S±02×1771W±03, h41km±36km, n11, σ0°86/10, mb3.7/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**206**	*e*Pn	**Pn**	**16 15 56.5**	**+0.1**
RAO				*e*Sn	**Sn**	**16 16 16.7**	**-0.2**
AS31	**Alice Springs**	**44.13**	**264**	P	**P**	**16 23 34.6**	**+0.9**
ASAR	**Alice Springs**	**44.13**	**264**	P	**P**	**16 23 33.6**	**-0.1**
	0.4nm,0.8s,mb3.2,baz=98,slow=6.5,SNR=10						
WB2	**Warramunga Arr**	**44.87**	**269**	*eP*	**P**	**16 23 39.3**	**-0.4**
WB2				*e*		16 23 53.6	
WRA	**Warramunga Arr**	**44.88**	**269**	P	**P**	**16 23 39.4**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=109,slow=6.3,SNR=11						
SBA	**Scott Base**	**50.76**	**184**	*eP*	**P**	**16 24 26.7**	**+1.5**
	2.5nm,0.8s,mb4.2						
VNDA	**Vanda**	**50.83**	**186**	P	**P**	**16 24 26.4**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=29,slow=8.2,SNR=9.5						
QSPA	**South Pole Qui**	**62.38**	**180**	*eP*	**P**	**16 25 45.7**	**-2.1**
MAW	**Mawson**	**75.09**	**200**	P	**P**	**16 27 06.7**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=125,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**116.66**	**311**	PKP	PKPdf	16 34 07.6	-1.4
	0.6nm,0.9s,baz=90,slow=2.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**165.45**	**175**	PKPab	PKPab	16 36 27.2	-0.5
	0.3nm,0.5s,baz=173,slow=3.5,SNR=4.5						

JMA 16 16:24:49.8±0.2, 4364N×14765E, h9km±5km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.42**	**259**	P	Pn	16 25 15.7	0.0
NEM2				*e*S	Sn	16 25 34.4	0.0
JRA	**Rausu**	**1.85**	**280**	P	Pn	16 25 22.2	+0.5
JRA				*e*S	Sn	16 25 46.2	+0.9
JNK	**Nakash**	**2.13**	**270**	P	Pn	16 25 26.0	+0.5
JNK				*e*S	Sn	16 25 52.4	+0.3
JAK	**Akkeshi**	**2.25**	**254**	P	Pn	16 25 27.7	+0.5
JAK				*e*S	Sn	16 25 55.3	+0.3
JTKR	**Abashiri--Toko**	**2.73**	**278**	P	Pn	16 25 34.8	+1.0
JAR	**Ashorobuto**	**2.85**	**264**	P	Pn	16 25 36.6	+1.2
JAR				*e*S	Sn	16 26 12.0	+2.2
JOB	**Onbets**	**2.88**	**257**	P	Pn	16 25 37.2	+1.3
JMP	**Maruseppu**	**3.13**	**278**	P	Pn	16 25 40.6	+1.4
JCH	**Churui**	**3.30**	**253**	P	Pn	16 25 42.7	+1.1
JNBK	**Urakawa-nobuka**	**3.84**	**251**	P	Pn	16 25 50.3	+1.2

IDC 16 16:25:57.5±14.0, 1450S×16633E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=242.4km s-min=38.0km az=60.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.53**	**179**	Pn	Pn	16 27 48.2	-0.3
	1.1nm,0.3s,baz=326,slow=11,SNR=9.3						
DZM				Sn	Sn	16 29 13.9	-0.6
	1.0nm,0.3s,baz=140,slow=21,SNR=5.6						
STKA	**Stephens Creek**	**28.45**	**228**	P	P	16 31 55.4	+1.4
	1.6nm,0.5s,baz=50,slow=9.2,SNR=5.6						
WRA	**Warramunga Arr**	**31.00**	**255**	P	P	16 32 16.5	0.0
	0.4nm,0.6s,baz=85,slow=9.3,SNR=9.0						
ASAR	**Alice Springs**	**31.90**	**248**	P	P	16 32 24.6	+0.1
	0.6nm,0.5s,baz=83,slow=8.5,SNR=34						

*IDC **16** 16:30:59.8±5.3, 6195×14653E, h59km±32km, mb4.0/5, mb1 4.1/7, mb1mx3.8/14, mbtmp4.2/7, ML3.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/26, Error ellipse: s-maj=50.8km s-min=26.4km az=44.0*

*NEIC **16** 16:30:59.1±3.2, 596S×14643E, h66km±20km, mb4.6/4, Error ellipse: s-maj=31.4km s-min=14.6km az=194.0*

*ISCJB **16** 16:31:01.5±4.2, 63S±02×1464E±01, h81km±25km, mb4.2/6, Error ellipse: s-maj=44.1km s-min=17.9km az=47.3*

ISC 16 16:31:01.7±4.2, 62S±03×1465E±01, h76km±25km, n21, σ0°73/22, mb4.2/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.22**	**168**	P	**Pn**	**16 31 50.0**	**+0.2**
	12nm,0.3s,baz=28,slow=5.5,SNR=47						
PMG				S	**Sn**	**16 32 26.3**	**-0.7**
	25nm,0.3s,baz=264,slow=13,SNR=14						
PMG				LR	LR	16 33 02.8	
	comp=Z,194nm,19.3s,baz=21,slow=38						
PMG	**Port Moresby**	**3.22**	**168**	*eP*	**Pn**	**16 31 49.7**	**-0.1**
PMG				S	**Sn**	**16 32 26.3**	**-0.7**
PMG				LR	LR	16 33 02.8	
CTA	**Charters Tower**	**13.77**	**181**	P	**Pn**	**16 34 15.7**	**+2.3**
	0.8nm,0.3s,baz=359,slow=12,SNR=10						
CTA				LR	LR	16 38 53.1	
	comp=Z,93nm,19.6s,baz=50,slow=34						
CTAO	**Charters Tower**	**13.77**	**181**	*eP*	**Pn**	**16 34 16.6**	**+3.2**
	3.9nm,0.4s						
KAKA	**Kakadu**	**15.28**	**244**	*eP*	**Pn**	**16 34 32.9**	**0.0**
	38nm,0.6s						
WB2	**Warramunga Arr**	**18.02**	**220**	*eP*	**Pn**	**16 35 06.1**	**-0.9**
WB2	**Warramunga Arr**	**18.02**	**220**	*eP*	**Pn**	**16 35 06.0**	**-1.0**
WRA	**Warramunga Arr**	**18.03**	**220**	P	**Pn**	**16 35 06.4**	**-0.6**
	0.7nm,0.3s,baz=37,slow=11,SNR=65						
WRA				ScP	ScP	16 43 09.9	+3.5
	0.0nm,0.3s,baz=39,slow=2.3,SNR=6.4						
AS31	**Alice Springs**	**21.14**	**214**	*eP*	**P**	**16 35 40.9**	**+0.6**
ASAR	**Alice Springs**	**21.14**	**214**	P	**P**	**16 35 41.4**	**+1.0**
	7.0nm,0.8s,mb4.0,baz=52,slow=8.6,SNR=66						
ASPA	**Alice Springs**	**21.14**	**214**	*eP*	**P**	**16 35 41.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.52**	**238**	*eP*	**P**	**16 36 03.8**	**-1.0**
	12nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.52**	**238**	P	**P**	**16 36 05.3**	**+0.4**
	11nm,0.8s,mb4.2,baz=62,slow=9.2,SNR=25						
FITZ				LR	LR	16 47 10.8	
	comp=Z,64nm,18.9s,baz=0.5,slow=41						
STKA	**Stephens Creek**	**25.92**	**190**	P	**P**	**16 36 26.6**	**0.0**
	6.5nm,0.8s,mb4.1,baz=348,slow=8.4,SNR=14						
STKA				LR	LR	16 46 01.8	
	comp=Z,69nm,19.7s,baz=25,slow=35						
KLBR	**Kellerberrin**	**36.86**	**223**	*eP*	**P**	**16 38 02.2**	**-0.4**
	4.9nm,0.5s,mb4.7						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**16 42 15.3**	**-0.2**
	1.5nm,0.6s,mb4.0,baz=327,slow=6.2,SNR=18						
VNDA	**Vanda**	**71.71**	**177**	*eP*	**P**	**16 42 15.4**	**0.0**
	1.3nm,0.6s,mb3.9						
SBA	**Scott Base**	**72.36**	**176**	*eP*	**P**	**16 42 19.6**	**+0.2**
MAW	**Mawson**	**81.84**	**203**	P	**P**	**16 43 12.1**	**-0.4**
	1.3nm,0.9s,mb3.8,baz=112,slow=11,SNR=5.9						
QSPA	**South Pole Qui**	**83.73**	**180**	*eP*	**P**	**16 43 21.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**144.66**	**284**	PKP	PKPdf	16 50 29.9	+0.4
	2.9nm,0.7s,baz=75,slow=3.3,SNR=22						

*NEIC **16** 16:58:37.8, 3154S×7188W, h31km, ML3.2(GUC), After GUC.*

GUC 16 16:58:37.8±0.8, 3154S×7188W, h31km±3km, MD3.9, ML3.2, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**137**	⇓*iP*	Pb	16 58 47.8	0.0
CHNG				*i* S	Sb	16 58 54.4	-0.2
CHNG				AML	AML	16 58 55.3	
	comp=E,698nm,0.4s						
CMCH	**Combarbala**	**0.83**	**64**	⇑*iP*	Pn	16 58 53.2	-0.2
CMCH				*i* S	Sn	16 59 05.2	+0.6
CMCH				AML	AML	16 59 08.5	
	comp=E,2μm,0.5s						
CMCH	**Combarbala**	**0.83**	**64**	⇑*iP*	Pn	16 58 53.2	-0.2
CMCH				*i* S	Sn	16 59 05.2	+0.6
PACH	**Papudo**	**1.06**	**160**	*eP*	Pn	16 58 57.0	+0.5
PACH				*i* S	Sn	16 59 11.0	+0.8
PTCH	**Petorca**	**1.08**	**132**	*eP*	Pn	16 58 57.3	+0.5
PTCH				*i* S	Sn	16 59 11.4	+0.7
PTCH				AML	AML	16 59 13.9	
	comp=N,1μm,0.2s						
PTCH	**Petorca**	**1.08**	**132**	*eP*	Pn	16 58 57.3	+0.5
PTCH				*i* S	Sn	16 59 11.4	+0.7
OVCH	**Ovalle**	**1.09**	**32**	*eP*	Pn	16 58 57.0	0.0
OVCH				*i* S	Sn	16 59 12.0	+1.0
OVCH				AML	AML	16 59 16.7	
	comp=E,1μm,0.7s						
OVCH	**Ovalle**	**1.09**	**32**	*eP*	Pn	16 58 57.0	0.0
OVCH				*i* S	Sn	16 59 12.0	+1.0
JACH	**Jahuel**	**1.58**	**137**	*eP*	Pn	16 59 05.0	+1.4
JACH				*i* S	Sn	16 59 25.7	+2.7
ROCH	**El Roble**	**1.60**	**153**	*eP*	Pn	16 59 05.5	+1.5
TLL	**Tololo Astrono

mb4.5/32, MS4.1/28, Error ellipse: s-maj=12.9km s-min=4.5km az=139.4
*IDC **16** 17:31:31.1±0.8, 487N×12639E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/19, mbtmp4.3/14, MS4.1/18, Ms1 4.1/18, ms1mx3.8/35, Error ellipse: s-maj=75.9km s-min=12.6km az=71.0*
*NEIC **16** 17:31:32.0±0.4, 508N×12693E, h10km, mb4.7/13, Error ellipse: s-maj=14.7km s-min=6.5km az=69.0*
*BJI **16** 17:31:38.6, 594N×12660E, h10km, mB5.0, mb4.6, Ms4.6, Msz4.3*
*MAN **16** 17:31:47.6, 577N×12625E, h11km, mb3.1, ML4.4, MS6.4*
ISC 16 17:31:33.1±0.3, 505N±004×12699E±008, h15km, h15km±1.7km: pP-P, n77, σ1919/75, mb4.5/32, MS4.1/28, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.02**	**339**	*eP*	**Pn**	**17 32 07.9**	**+1.3**
DAV	**Davao City (W)**	**2.45**	**325**	*eP*	**Pn**	**17 32 13.0**	**+0.5**
DAV	**Davao City (W)**	**2.45**	**325**	*eP*	**Pn**	**17 32 09.2**	**-3.3**
KCP	**Kidapawan**	**2.71**	**316**	‖*eP*	**Pn**	**17 32 16.4**	**+0.2**
BUKP	**Musuan**	**3.40**	**326**	*eP*	**Pn**	**17 32 24.7**	**-0.9**
CGP	**Cagayan de Oro**	**4.08**	**326**	‖*iP*	**Pn**	**17 32 38.2**	**+3.2**
BUTP	**Butuan**	**4.12**	**341**	*eP*	**Pn**	**17 32 40.2**	**+4.7**
SCPH	**Surigao**	**4.93**	**342**	*eP*	**Sb**	**17 33 56.4**	**-1.8**
DCPH	**Dipolog City**	**5.04**	**314**	‖*eP*	**Pn**	**17 32 55.9**	**+7.8**
MSLP	**Maasin**	**5.47**	**337**	*eP*	**Pn**	**17 32 56.8**	**+2.7**
OCLP	**Ormoc**	**6.41**	**339**	*eP*	**Pn**	**17 33 11.0**	**+4.0**
GUIM	**Jordan**	**7.05**	**322**	*eP*	**Pn**	**17 33 18.3**	**+2.6**
SWI	**Sorong**	**7.26**	**144**	P	**Pn**	**17 33 25.8**	**+7.2**
	0.0nm,0.0s						
CUYO	**Cuyo Island**	**8.26**	**315**	*eP*	**Pn**	**17 33 35.4**	**+3.0**
PCI	**Palu**	**9.28**	**231**	P	**Pn**	**17 33 54.8**	**+8.4**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**10.77**	**276**	*eP*	**Pn**	**17 34 05.2**	**-1.6**
KSM	**Kuching**	**17.03**	**259**	*eP*	**Pn**	**17 35 32.0**	**+1.3**
KAKA	**Kakadu**	**18.46**	**163**	*eP*	**Pn**	**17 35 48.8**	**+0.4**
	15nm,0.6s						
BJII	**Banjamegara**	**21.19**	**235**	P	**P**	**17 36 21.6**	**+3.6**
	50nm,1.8s,mb4.5						
JOW	**Kunigami**	**21.69**	**3**	LR	LR	17 43 09.5	
	comp=Z,508nm,22.0s,MS3.9,baz=144,slow=32						
QIZ	**Qiongzhong**	**21.74**	**311**	P	**P**	**17 36 23.5**	**-0.4**
QIZ				S	**S**	**17 40 17.9**	**-6.1**
QIZ				LR	LR		
	comp=E,329nm,16.2s						
QIZ				LR	LR		
	comp=Z,439nm,17.4s,MS3.9						
FITZ	**Fitzroy Crossi**	**23.05**	**183**	*eP*	**P**	**17 36 38.0**	**+0.2**
	comp=Z,19nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**23.05**	**183**	P	**P**	**17 36 37.5**	**-0.3**
	comp=Z,12nm,0.8s,mb4.4,baz=23,slow=9.9,SNR=17						
PMG	**Port Moresby**	**24.70**	**126**	LR	LR	17 47 31.7	
	comp=Z,105nm,20.6s,MS3.3,baz=332,slow=38						
WRA	**Warramunga Arr**	**25.87**	**164**	P	**P**	**17 37 04.9**	**+0.7**
	comp=Z,24nm,0.7s,mb4.8,baz=343,slow=10,SNR=41						
WRA				PcP	PcP	17 40 32.7	-0.4
	comp=Z,0.6nm,0.8s,baz=346,slow=2.6,SNR=2.2						
WB2	**Warramunga Arr**	**25.87**	**164**	*eP*	**P**	**17 37 04.4**	**+0.2**
NJ2	**Nanjing**	**27.92**	**345**	*eP*	**P**	**17 37 23.6**	**+1.0**
NJ2				AP	pP	17 37 27.9	+0.7
NJ2				XP	sP	17 37 30.6	+1.6
NJ2				S	**S**	**17 42 06.0**	**+0.2**
NJ2				XS	sS	17 42 13.0	-0.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,80nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,11.0s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,12.0s,MS4.7						
GYA	**Guiyang**	**28.82**	**320**	P	**P**	**17 37 33.9**	**+3.3**
GYA				AP	pP	17 37 38.3	+3.1
GYA				XP	sP	17 37 40.9	+3.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,140nm,7.3s						
GYA				LR	LR		
	comp=N,570nm,15.2s,MS4.5						
GYA				LR	LR		
	comp=E,540nm,13.6s,MS4.5						
GYA				LR	LR		
	comp=Z,720nm,14.7s,MS4.4						
AS31	**Alice Springs**	**29.33**	**167**	*eP*	**P**	**17 37 35.4**	**+0.2**
ASAR	**Alice Springs**	**29.33**	**167**	P	**P**	**17 37 35.4**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.1,baz=350,slow=6.5,SNR=33						
ASAR				PcP	PcP	17 40 43.0	+1.6
	comp=Z,0.8nm,0.7s,baz=349,slow=2.4,SNR=4.2						
ASPA	**Alice Springs**	**29.33**	**167**	*eP*	**P**	**17 37 35.4**	**+0.2**
JHJ	**Hachijo jima 2**	**30.36**	**22**	LR	LR	17 47 36.8	
	comp=Z,479nm,21.0s,MS4.1,baz=294,slow=31						
CHTO	**Chiang Mai**	**30.59**	**299**	*eP*	**P**	**17 37 46.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.0						
KMI	**Kunming**	**30.65**	**313**	P	**P**	**17 37 51.3**	**+4.4**
KMI				AP	pP	17 37 54.0	+2.6
KMI				XP	sP	17 37 55.8	+2.5
KMI				PP	PP	17 38 49.8	-6.3
KMI				S	**S**	**17 42 50.0**	**+1.2**
KMI				XS	sS	17 42 55.6	-0.7
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.2						
KMI				AMB	AMB		
	comp=Z,142nm,5.6s						
KMI				LR	LR		
	comp=N,255nm,18.8s,MS4.0						
KMI				LR	LR		
	comp=E,229nm,21.3s,MS4.0						
KMI				LR	LR		
	comp=Z,325nm,25.0s,MS3.9						
KMI	**Kunming**	**30.65**	**313**	P	**P**	**17 37 51.2**	**+4.3**
	comp=Z,5.0nm,1.3s,mb4.2						
KMI				pP	pP	17 37 54.0	+2.6
KMI				sP	sP	17 37 55.7	+2.4
KMI				PP	PP	17 38 49.7	-6.4
KMI				S	**S**	**17 42 50.0**	**+1.2**
KMI				sS	sS	17 42 55.6	-0.7
KMI				SS	SS	17 44 30.6	-29
KMI				SSS		17 44 53.5	
KMI				LR	LR		
	comp=Z,330nm,25.0s,MS3.9						
CTA	**Charters Tower**	**31.35**	**143**	LR	LR	17 51 51.4	
	comp=Z,254nm,18.1s,MS3.9,baz=327,slow=39						
MJAR	**Matsushiro Arr**	**32.99**	**17**	LR	LR	17 48 59.9	
	comp=Z,258nm,21.0s,MS3.9,baz=200,slow=32						
XAN	**Xi'an**	**33.37**	**332**	P	**P**	**17 38 09.4**	**-1.3**
XAN				AP	pP	17 38 16.8	+1.5
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2	**Chengdu**	**33.75**	**322**	*eP*	**P**	**17 38 13.8**	**-0.2**
CD2				AP	pP	17 38 18.3	-0.3
CD2				XP	sP	17 38 20.8	+0.3
CD2				PP	PP	17 39 27.0	-3.4
CD2				S	**S**	**17 43 36.3**	**-0.7**
CD2				XS	sS	17 43 43.4	-1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.4s						
CD2				LR	LR		
	comp=N,570nm,19.2s,MS4.5						
CD2				LR	LR		
	comp=E,540nm,16.8s,MS4.5						
CD2				LR	LR		
	comp=Z,570nm,20.4s,MS4.3						
HNR	**Honiara**	**35.86**	**114**	LR	LR	17 52 16.8	
	comp=Z,117nm,21.3s,MS3.6,baz=358,slow=34						
BJT	**Baijiatuau**	**36.15**	**346**	*eP*	**P**	**17 38 35.9**	**+1.1**
	comp=Z,14nm,0.8s,mb4.9						
BJI	**Beijing**	**36.17**	**346**	P	**P**	**17 38 36.1**	**+1.2**
BJI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
BJI				AMB	AMB		
	comp=Z,162nm,4.3s						
BJI				LR	LR		
	comp=N,191nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=E,256nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=Z,137nm,21.0s,MS3.7						
BJI	**Beijing**	**36.17**	**346**	P	**P**	**17 38 36.1**	**+1.2**
	comp=Z,11nm,1.1s,mb4.7						
BJI				LR	LR		
	comp=Z,140nm,21.0s,MS3.7						
LZH	**Lanzhou**	**37.51**	**328**	*eP*	**P**	**17 38 45.5**	**-0.8**
LZH				AP	pP	17 38 48.8	-2.1
LZH				XP	sP	17 38 52.3	-0.5
LZH				*e*PP	PP	17 40 14.1	+2.2
LZH				*e*S	**S**	**17 44 34.5**	**-0.2**
LZH				XS	sS	17 44 40.8	-1.5
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,87nm,5.2s						
LZH				LR	LR		
	comp=N,788nm,12.7s						
LZH				LR	LR		
	comp=Z,983nm,17.5s,MS4.7						
LZH	**Lanzhou**	**37.51**	**328**	*eP*	**P**	**17 38 45.5**	**-0.8**
	comp=Z,24nm,1.3s,mb4.8						
LZH				pP	pP	17 38 48.7	-2.2
LZH				sP	sP	17 38 52.2	-0.6
LZH				*e*PP	PP	17 40 14.1	+2.2
LZH				*e*S	**S**	**17 44 34.5**	**-0.2**
LZH				sS	sS	17 44 40.8	-1.5
LZH				*e*SS	SS	17 47 07.5	-12
LZH				LR	LR		
	comp=Z,980nm,17.5s,MS4.7						
MUN	**Mundaring**	**38.23**	**195**	*eP*	pP	17 39 02.4	+5.4
HHC	**Hu-ho-hao-te**	**38.24**	**341**	*eP*	**P**	**17 38 53.8**	**+1.3**
HHC				AP	pP	17 38 58.3	+1.2
HHC				XP	sP	17 39 01.1	+2.2
HHC				PP	PP	17 40 24.8	+4.9
HHC				PCP	PcP	17 41 08.4	+1.8
HHC				S	**S**	**17 44 48.4**	**+2.7**
HHC				XS	sS	17 44 54.0	+0.7
HHC				AMB	AMB		
	comp=Z,25nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,148nm,5.4s						
HHC				LR	LR		
	comp=N,229nm,5.5s						
HHC				LR	LR		
	comp=E,241nm,6.9s						
HHC				LR	LR		
	comp=Z,187nm,23.5s,MS3.8						
STKA	**Stephens Creek**	**39.27**	**160**	‖*iP*	**P**	**17 39 01.7**	**+0.5**
	comp=Z,14nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**39.27**	**160**	P	**P**	**17 39 01.5**	**+0.4**
	comp=Z,20nm,0.8s,mb4.9,baz=331,slow=7.3,SNR=22						
MDJ	**Mudanjiang**	**39.47**	**3**	P	**P**	**17 39 02.5**	**-0.3**
MDJ				AP	pP	17 39 05.5	-1.9
MDJ				PP	PP	17 40 33.1	-0.3
MDJ				SCP	ScP	17 44 58.8	+0.2
MDJ				PCS	PcS	17 45 00.1	-0.3
MDJ				S	**S**	**17 45 05.4**	**+1.1**
MDJ				XS	sS	17 45 10.8	-1.1
MDJ				AMB	AMB		
	comp=Z,15nm,2.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,186nm,3.6s						
MDJ				LR	LR		
	comp=N,102nm,26.2s						
MDJ				LR	LR		
	comp=E,56nm,32.6s						
MDJ				LR	LR		
	comp=Z,152nm,28.3s,MS3.7						
SONM	**Songino Array**	**46.14**	**341**	P	**P**	**17 39 58.0**	**+1.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=154,slow=8.1,SNR=15						
SONM				LR	LR	18 01 47.7	
	comp=Z,182nm,18.6s,MS4.0,baz=156,slow=39						
DZM	**Mont Dzumac**	**47.09**	**126**	LR	LR	17 57 29.6	
	comp=Z,119nm,19.4s,MS3.9,baz=30,slow=33						
WMQ	**Urumqi**	**51.80**	**324**	*eP*	**P**	**17 40 41.0**	**+0.7**
WMQ				AP	pP	17 40 45.0	0.0
WMQ				XP	sP	17 40 48.0	+1.1
WMQ				PCP	PcP	17 41 55.0	+1.7
WMQ				*e*S	**S**	**17 48 01.0**	**-1.0**
WMQ				XS	sS	17 48 10.5	+0.8
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,86nm,4.3s						
WMQ				LR	LR		
	comp=N,709nm,19.2s,MS4.8						
WMQ				LR	LR		
	comp=E,456nm,20.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,712nm,20.4s,MS4.7						
MK31	**Makanchi Array**	**56.63**	**325**	*eP*	**P**	**17 41 14.2**	**-1.3**
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**17 41 14.2**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=123,slow=8.8,SNR=8.8						
MKAR				PcP	PcP	17 42 12.8	+1.0
	comp=Z,1.1nm,0.7s,baz=102,slow=6.6,SNR=2.0						
MKAR				LR	LR	18 06 11.2	
	comp=Z,263nm,20.3s,MS4.3,baz=116,slow=37						
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**17 41 14.2**	**-1.3**
MKAR				PcP	PcP	17 42 12.8	+1.0
MKAR				LR	LR	18 06 11.2	
YAK	**Yakutsk**	**56.89**	**2**	*eP*	**P**	**17 41 17.3**	**0.0**
	comp=Z,14nm,0.8s,mb5.0						
ZAL	**Zalesovo**	**59.54**	**333**	P	**P**	**17 41 35.6**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.1,baz=357,slow=8.7,SNR=4.1						
ZAL				LR	LR	18 09 41.3	
	comp=Z,229nm,19.1s,MS4.3,baz=83,slow=38						
RPZ	**Rata Peaks**	**62.69**	**145**	LR	LR	18 11 19.8	
	comp=Z,163nm,18.3s,MS4.2,baz=233,slow=38						
BVAR	**Borovoye Array**	**66.36**	**327**	P	**P**	**17 42 21.0**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=141,slow=9.6,SNR=15						
BRVK	**Borovoye**	**66.44**	**327**	*eP*	**P**	**17 42 20.5**	**-1.2**
	comp=Z,15nm,1.0s,mb5.0						
CHKZ	**Chkalovo**	**66.52**	**327**	*eP*	**P**	**17 42 22.6**	**+0.3**
	comp=Z,7.4nm,1.1s,mb4.6						
CASY	**Casey**	**72.15**	**187**	*eP*	**P**	**17 42 56.8**	**-0.3**
AKTK	**Aktyubinsk**	**72.79**	**321**	P	**P**	**17 42 59.6**	**-1.4**
AKTO	**Aktyubinsk**	**72.79**	**321**	P	**P**	**17 42 59.6**	**-1.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=97,slow=10,SNR=11						
ARU	**Arti**	**73.97**	**327**	P	**P**	**17 43 07.0**	**-0.9**
	comp=Z,4.9nm,0.6s,mb4.6						
VNDA	**Vanda**	**84.70**	**173**	P	**P**	**17 44 06.5**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.3,baz=305,slow=5.5,SNR=9.0						
VNDA				LR	LR	18 18 42.1	
	comp=Z,64nm,19.1s,MS4.0,baz=316,slow=34						
VNDA	**Vanda**	**84.70**	**173**	*eP*	**P**	**17 44 06.3**	**-0.1**
	comp=Z,3.7nm,1.0s,mb4.5						
MAW	**Mawson**	**85.08**	**200**	P	**P**	**17 44 05.2**	**-3.1**
	comp=Z,1.4nm,1.0s,mb4.1,baz=8.3,slow=17,SNR=2.8						
MAW				LR	LR	18 17 10.0	
	comp=Z,151nm,18.7s,MS4.4,baz=244,slow=32						
PPT	**Papeete**	**85.27**	**108**	LR	LR	18 13 43.0	
	comp=Z,250nm,21.2s,MS4.6,baz=314,slow=30						
JOF	**Joensuu**	**88.13**	**333**	*ep*	**P**	**17 44 21.5**	**-1.7**
	comp=Z,3.4nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**89.31**	**340**	P	**P**	**17 44 27.9**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.6,baz=91,slow=6.1,SNR=6.5						
ARCES				LR	LR	18 27 49.0	
	comp=Z,80nm,20.0s,MS4.1,baz=63,slow=38						
KAF	**Kangasniemi**	**90.55**	**332**	*ep*	**P**	**17 44 32.3**	**-2.3**
FINES	**FINESS Array B**	**90.80**	**332**	P	**P**	**17 44 35.3**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.5,baz=36,slow=7.1,SNR=8.2						
FINES				LR	LR	18 27 59.0	
	comp=Z,101nm,18.6s,MS4.3,baz=2.9,slow=37						
AKASG	**Malin Array Be**	**91.04**	**321**	P	**P**	**17 44 37.1**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.9,baz=70,slow=5.4,SNR=4.4						
AKASG				LR	LR	18 27 50.6	
	comp=Z,64nm,19.9s,MS4.1,baz=45,slow=37						
NOA	**NORSAR Array B**	**97.72**	**334**	LR	LR	18 33 23.1	
	comp=Z,136nm,20.9s,MS4.4,baz=100,slow=38						
TORD	**Torodi Ar. Bea**	**122.75**	**289**	PKP	PKPdf	17 50 29.1	+0.8
	comp=Z,1.1nm,0.7s,baz=46,slow=2.0,SNR=6.7						

MAN 16 17:48:18.4, 1550N×11978E, h33km, mb2.8, ML4.2, MS4.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.30**	**25**	*eP*	Pb	17 48 27.6	+1.5
SCZP				*e*S	Sb	17 48 31.7	+0.4
BOLP	**Bolinao**	**0.88**	**8**	*eP*	Pn	17 48 34.7	+0.3
BOLP				*e*S	Sn	17 48 44.2	-1.9
BCPH	**Baguio City Da**	**1.16**	**41**	‖*iP*	Pn	17 48 38.4	+0.1
BCPH				*i* S	Sn	17 48 54.7	+1.7
PCPH	**Palayan**	**1.27**	**87**	‖*iP*	Pn	17 48 39.3	-0.5
PCPH				*i* S	Sn	17 48 55.2	-0.5
BALP	**Baler**	**1.75**	**82**	*eP*	Pn	17 48 46.9	+0.6
BALP				*e*S	Sn	17 49 04.6	-2.9
LUBP	**Lubang**	**1.82**	**166**	*eP*	Pn	17 48 48.6	+1.3
LUBP				*e*S	Sn	17 49 09.7	+0.5
POLP	**Polilio Island**	**2.22**	**110**	*eP*	Pn	17 48 54.5	+1.6
ABRA	**Dolores**	**2.31**	**23**	*eP*	Pn	17 48 55.5	+1.3
CAUP	**Cauayan**	**2.43**	**54**	*eP*	Pn	17 48 57.5	+1.7
BUSP	**Coron**	**3.50**	**173**	*eP*	Pn	17 49 11.2	+0.7
ENPP	**El Nido**	**4.29**	**185**	*eP*	Pn	17 49 21.4	+0.1

*ISCJB **16** 18:11:00.5±0.5, 4381N±004×10523W±006, h0km, mb4.0/2, Error ellipse: s-maj=6.8km s-min=5.0km az=94.9*
*NEIC **16** 18:11:02.3±0.3, 4378N×10525W, h0km, ML3.4, Error ellipse: s-maj=4.9km s-min=3.8km az=145.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **16** 18:11:03.2±1.0, 4424N×10594W, h0km, mb3.9/2, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, ML2.5/2, Error ellipse: s-maj=34.3km s-min=7.4km az=145.0*
ISC 16 18:11:02.1±0.5, 4381N±004×10522W±006, h0km, n38, σ0982/43, mb4.0/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**70**	*eP*g	**Pg**	**18 11 20.6**	**+1.0**
PHWY	**Pilot Hill**	**2.51**	**184**	*eP*n	**Pn**	**18 11 44.3**	**+0.1**
RWWY	**Rawlins**	**2.58**	**215**	*eP*n	**Pn**	**18 11 45.5**	**+0.5**
RWWY				*e*Sn	**Sn**	**18 12 17.9**	**+0.8**
LAO	**LASA Array**	**2.96**	**347**	*eP*n	**Pn**	**18 11 50.2**	**-0.1**
LAO				*e*Sn	**Sn**	**18 12 32.0**	**+5.4**
RLMT	**Red Lodge**	**3.18**	**296**	*eP*n	**Pn**	**18 11 53.3**	**0.0**
BW06	**Boulder Array**	**3.33**	**253**	*eP*	**Pn**	**18 11 55.0**	**-0.4**
BW06				*e*Sn	**Sn**	**18 12 38.6**	**+2.9**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**18 11 55.1**	**-0.3**
	5.0nm,0.3s,baz=68,slow=15,SNR=67						
PDAR				Pg	**Pg**	**18 12 00.5**	**-5.5**
	14nm,0.3s,baz=63,slow=20,SNR=74						
PDAR				Lg		18 12 38.6	
	21nm,0.3s,baz=76,slow=20,SNR=15						
GCMT	**Greycliff**	**3.73**	**304**	*eP*n	**Pn**	**18 12 01.5**	**+0.6**
LOHW	**Long Hollow**	**3.91**	**269**	*eP*n	**Pn**	**18 12 03.6**	**+0.2**
FLWY	**Flagg Ranch**	**3.96**	**276**	*eP*n	**Pn**	**18 12 04.1**	**-0.1**
MOOW	**Moose Ponds**	**4.00**	**271**	*eP*	**Pn**	**18 12 04.9**	**+0.3**
ISCO	**Idaho Springs**	**4.02**	**184**	*eP*n	**Pn**	**18 12 04.9**	**0.0**
SNOW	**Snow King Moun**	**4.03**	**267**	*eP*	**Pn**	**18 12 06.3**	**+1.3**
YFT	**Old Faithful**	**4.09**	**281**	P	**Pn**	**18 12 06.7**	**+0.8**
REDW	**Red Top Meadow**	**4.11**	**266**	*eP*	**Pn**	**18 12 05.4**	**-0.8**
IMW	**Indian Meadow**	**4.13**	**273**	*eP*n	**Pn**	**18 12 06.2**	**-0.3**
TPAW	**Teton Pass**	**4.17**	**268**	*eP*	**Pn**	**18 12 07.1**	**+0.1**
RRI2	**Red Ridge**	**4.45**	**266**	*eP*	**Pn**	**18 12 10.6**	**-0.2**
QLMT	**Earthquake Lak**	**4.57**	**285**	*eP*g	**Pg**	**18 12 22.6**	**-7.1**
DGMT	**Dagmar**	**4.71**	**8**	*eP*	**Pn**	**18 12 16.5**	**+2.1**
HWUT	**Hardware Ranch**	**5.17**	**247**	*eP*	**Pn**	**18 12 20.1**	**-0.6**
	12nm,0.5s						
EGMT	**Eagleton**	**5.27**	**325**	*eP*	**Pn**	**18 12 18.1**	**-4.0**
	33nm,0.6s						
TCUT	**Toone Canyon**	**5.31**	**242**	*eP*	**Pn**	**18 12 21.0**	**-1.6**
DAU	**Daniels Canyon**	**5.63**	**235**	*eP*	**Pn**	**18 12 27.2**	**+0.2**
HVU	**Hansel Valley**	**5.92**	**253**	*eP*	**Pn**	**18 12 30.0**	**-0.9**
	7.5nm,0.6s						
SRU	**San Rafael**	**6.16**	**222**	P	**Pn**	**18 12 32.8**	**-1.5**
ECSD	**EROS,Sioux Fal**	**6.23**	**88**	*eP*	**Pn**	**18 12 35.4**	**+0.1**
TMUT	**Trail Mountain**	**6.36**	**227**	*eP*	**Pn**	**18 12 37.3**	**+0.2**
CHMT	**Chamberlain Mo**	**6.45**	**302**	*eP*	**Pn**	**18 12 38.4**	**+0.1**
BGU	**Big Grassy Mou**	**6.46**	**246**	*eP*	**Pn**	**18 12 38.4**	**0.0**
WALA	**Waterton Lakes**	**7.97**	**314**	*eP*	**Pn**	**18 12 58.6**	**-0.6**
ARUT	**Antelope Range**	**8.66**	**229**	*eP*	**Pn**	**18 13 09.0**	**+0.4**
CCUT	**Cedar City**	**8.79**	**227**	*eP*	**Pn**	**18 13 10.8**	**+0.4**
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**18 13 13.9**	**-0.3**
	1.2nm,0.3s,baz=225,slow=13,SNR=11						
ULM				Pg	**Pg**	**18 13 47.8**	**-7.9**
	1.0nm,0.3s,baz=227,slow=16,SNR=4.9						
ULM				Lg		18 15 45.2	
	0.6nm,0.3s,baz=316,slow=20,SNR=2.4						
TKL	**Tuckaleechee C**	**18.36**	**109**	P	**Pn**	**18 15 27.3**	**+9.2**
	0.7nm,0.3s,baz=306,slow=8.7,SNR=3.7						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**Pn**	**18 15 26.8**	**-5.2**
	0.0nm,0.3s,baz=152,slow=14,SNR=2.3						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**18 21 17.8**	**-1.8**
	1.5nm,0.7s,mb4.3,baz=335,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**18 24 00.7**	**-0.6**
	0.3nm,0.6s,mb3.7,baz=13,slow=4.6,SNR=4.5						

CASC 16 18:12:11.6±2.5, 1192N×8673W, h100km±12km, MD4.2, ML3.5, 7C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.29**	**28**	‖*eP*	Pn	18 12 24.9	-1.3
COPN				*e*S	Sn	18 12 37.3	+0.2
COPN				*i*		18 12 37.7	
	comp=Z,2μm,0.4s						
XAVN	**Gruta Xavier**	**0.46**	**60**	‖*eP*	Pn	18 12 26.9	-0.2
XAVN				*e*S	Sn	18 12 39.7	+1.0
XAVN				*i*		18 12 45.6	
	comp=Z,1μm,0.5s						
TICN	**Ticuantepe**	**0.50**	**77**	‖*eP*	Pn	18 12 27.0	-0.4
TISN	**Laguna Tiscapa**	**0.50**	**64**	‖*eP*	Pn	18 12 27.5	+0.1
MIRN	**Miramar**	**0.52**	**2**	‖*eP*	Pn	18 12 27.6	+0.1
LEON	**Leon**	**0.52**	**342**	‖*eP*	Pn	18 12 26.8	-0.7
LEON				*e*S	Sn	18 12 40.3	+0.8
MOMJ	**Momotombo**	**0.52**	**21**	‖*eP*	Pn	18 12 27.9

ARA0					Sn	Sn	18 16 21.1	-1.0
	baz=251,slow=22							
ARA0					Lg		18 16 33.3	
	baz=247,slow=28							
ARA0	**ARCESS Array S**	**3.67**	**64**	*e*P		Pn	18 15 39.4	+0.7
ARA0				*e*PG		Pg	18 15 47.7	-4.5
ARA0				*e*SG		Sg	18 16 35.0	-4.8
SGF	**Sodankyl**	**4.04**	**96**	*e*P		Pn	18 15 43.4	-0.4
SGF				*e*PG		Pg	18 15 54.4	-4.9
SGF				*e*S		Sn	18 16 30.1	-1.0
SGF				MSG			18 16 56.7	
	comp=Z,5.0nm,0.3s							
KEV	**Kevo**	**4.24**	**63**	*e*P		Pn	18 15 46.7	+0.2
KEV				*e*S		Sn	18 16 34.3	-1.8
KEV				*e*SG		Sg	18 16 52.0	-6.0
KEV				MSG			18 16 54.4	
	comp=Z,1.9nm,0.2s							
OUL	**Oulu**	**5.01**	**124**	*e*P		Pn	18 15 57.0	0.0
OUL				*e*S		Sn	18 16 52.6	-2.4
OUL				MSG			18 17 19.9	
	comp=Z,1.6nm,0.2s							
KU4	**Liikasenvaara**	**5.55**	**103**	*e*P		Pn	18 16 03.6	-0.9
KU4				*e*S		Sn	18 17 06.4	-2.0
KU4				MSG			18 17 35.9	
	comp=Z,0.7nm,0.2s							
MSF	**Maaselka**	**5.57**	**108**	*e*P		Pn	18 16 04.7	-0.1
MSF				*e*S		Sn	18 17 06.3	-2.5
KU6	**Riekki**	**5.82**	**106**	*e*P		Pn	18 16 07.7	-0.5
KU6				*e*S		Sn	18 17 12.4	-2.6
VAF	**Ylistaro**	**5.86**	**149**	*e*P		Pn	18 16 07.5	-1.2
VAF				*e*S		Sn	18 17 13.2	-2.7
VAF				MSG			18 17 46.7	
	comp=Z,1.1nm,0.3s							
KJN	**Kajaani**	**6.27**	**126**	*e*S		Sn	18 17 22.2	-3.9
SUF	**Sumiainen**	**6.92**	**138**	*e*S		Sn	18 17 38.1	-3.9
KEF	**Keuruu**	**7.10**	**144**	*e*P		Pn	18 16 24.4	-1.3
KEF				*e*S		Sn	18 17 42.8	-3.6
KAF	**Kangasniemi**	**7.47**	**140**	*e*S		Sn	18 17 52.0	-3.7
NB2	**NORSAR Subarra**	**7.48**	**198**	Lg			18 18 33.4	
NB2	**NORSAR Subarra**	**7.48**	**198**	*e*SG			18 18 33.4	
FIA0	**FINESS Array S**	**8.01**	**143**	Pn		Pn	18 16 38.2	+0.1
	baz=333,slow=14							
FIA0					Sn	Sn	18 18 06.1	-2.7
	baz=328,slow=18							
FIA0	**FINESS Array S**	**8.01**	**143**	*e*P		Pn	18 16 38.2	+0.1
FIA0				*e*S		Sn	18 18 06.1	-2.7
HFS	**Hagfors**	**8.16**	**188**	Lg			18 18 57.0	
	baz=3.3,slow=37							
HFS	**Hagfors**	**8.16**	**188**	Lg			18 18 57.0	
	baz=3.3,slow=37							
JOF	**Joensuu**	**8.23**	**123**	*e*P		Pn	18 16 39.9	-1.4
JOF				*e*S		Sn	18 18 07.8	-6.6

MOS ***16*** *18:20:34.6±1.6, 66.07N×126.22E, h7km, mb3.7/2, Error ellipse: s-maj=99.9km s-min=33.3km az=92.6*
IDC ***16*** *18:20:35.9±2.2, 65.91N×126.56E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=54.5km s-min=34.5km az=82.0*
ISCJB ***16*** *18:20:36.5±1.5, 65.9N±02.0×126.2E±05, h10km, mb3.5/3, MS3.0/1, Error ellipse: s-maj=35.1km s-min=17.2km az=111.2*

ISC 16 18:20:37.3±1.5, 66.0N±02.0×126.4E±05, h10km, n7, σ1.9s08/7, mb3.4/4, MS3.0/1, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAK	**Yakutsk**	**4.25**	**159**	*e*P	**Pn**	**18 21 42.4**	**+0.4**
YAK				*e*		18 22 30.3	
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,192nm,9.0s						
YAK				MLR	MLR		
	comp=N,90nm,8.0s						
YAK				MLR	MLR		
	comp=E,41nm,6.0s						
SONM	**Songino Array**	**21.07**	**220**	P	**P**	**18 25 22.8**	**+1.3**
	comp=E,0.9nm,0.7s,mb3.2,baz=17,slow=11,SNR=6.2						
SONM				LR	LR	18 34 32.5	
	comp=E,55nm,18.1s,MS3.0,baz=128,slow=40						
SONM	**Songino Array**	**21.07**	**220**	P	**P**	**18 25 22.8**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,55nm,18.2s						
MKAR	**Makanchi Array**	**30.16**	**252**	P	**P**	**18 26 45.9**	**-1.5**
	comp=Z,0.3nm,0.5s,mb3.3,baz=47,slow=6.5,SNR=5.3						
NOA	**NORSAR Array B**	**44.56**	**321**	P	**P**	**18 28 50.2**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.5,baz=22,slow=7.1,SNR=2.5						
NOA	**NORSAR Array B**	**44.56**	**321**	P	**P**	**18 28 50.2**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**85.90**	**173**	P	**P**	**18 33 16.3**	**-1.1**
	comp=Z,0.4nm,1.0s,mb3.6,baz=351,slow=5.7,SNR=4.6						

IDC 16 18:26:14.7±15.0, 155S×1263W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/22, mbtmp4.1/4, ML3.6/1, MS3.9/21, Ms1 3.9/21, ms1mx3.7/34, Error ellipse: s-maj=441.6km s-min=69.5km az=157.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.27**	**43**	Pn	Pn	18 28 56.6	-0.4
	0.4nm,0.3s,baz=213,slow=15,SNR=7.6						
DBIC				Sn	Sn	18 30 55.1	-8.5
	0.3nm,0.3s,baz=146,slow=20,SNR=4.7						
DBIC				LR	LR	18 32 24.8	
	comp=Z,815nm,20.7s,baz=208,slow=33						
TORD	**Torodi Ar. Bea**	**20.38**	**44**	P	P	18 30 53.5	+0.5
	8.9nm,1.0s,baz=225,slow=9.2,SNR=26						
TORD				S	S	18 34 30.1	-12
	0.5nm,0.4s,baz=227,slow=22,SNR=5.0						
TORD				LR	LR	18 37 52.2	
	comp=Z,496nm,20.8s,baz=230,slow=34						
TSUM	**Tsumeb**	**34.39**	**123**	LR	LR	18 44 15.8	
	comp=Z,222nm,21.4s,baz=349,slow=31						
BDFB	**Brasilia**	**37.59**	**246**	LR	LR	18 45 30.7	
	comp=Z,162nm,21.9s,baz=261,slow=31						
KEST	**Kesra**	**42.39**	**27**	LR	LR	18 53 07.3	
	comp=Z,86nm,18.3s,baz=173,slow=38						
LSZ	**Lusaka**	**42.51**	**111**	LR	LR	18 49 14.4	
	comp=Z,149nm,18.3s,baz=347,slow=32						
LBTB	**Lobatse**	**43.63**	**126**	LR	LR	18 49 29.2	
	comp=Z,177nm,19.3s,baz=282,slow=32						
SUR	**Sutherland**	**43.93**	**138**	LR	LR	18 50 30.2	
	comp=Z,109nm,19.4s,baz=47,slow=33						
BOSA	**Boshof**	**45.05**	**130**	LR	LR	18 49 47.0	
	comp=Z,124nm,18.3s,baz=314,slow=31						
CPUP	**Villa Florida**	**49.49**	**236**	LR	LR	18 53 11.4	
	comp=Z,130nm,18.4s,baz=80,slow=33						
KMBO	**Kilima Mbogo**	**49.87**	**90**	LR	LR	18 55 07.3	
	comp=Z,378nm,18.5s,baz=284,slow=35						
GERES	**GERESS Array B**	**55.13**	**21**	P	P	18 35 49.2	+0.5
	0.6nm,0.6s,baz=207,slow=5.5,SNR=7.8						
GERES				PP	PP	18 37 52.3	+0.3
	0.6nm,0.6s,baz=201,slow=7.1,SNR=4.4						
GERES				LR	LR	18 59 06.2	
	comp=Z,62nm,18.1s,baz=267,slow=36						
ATD	**Arta Tunnel**	**56.64**	**75**	LR	LR	18 56 40.8	
	comp=Z,47nm,18.1s,baz=110,slow=32						
ASF	**Jabal al Asfar**	**57.59**	**50**	LR	LR	19 01 18.5	
	comp=Z,57nm,19.2s,baz=72,slow=36						
ROSC	**El Rosal**	**61.97**	**276**	LR	LR	19 00 14.4	
	comp=Z,146nm,21.9s,baz=99,slow=33						
NOA	**NORSAR Array B**	**65.07**	**13**	LR	LR	19 04 46.2	
	comp=Z,25nm,18.6s,baz=180,slow=36						
FINES	**FINESS Array B**	**69.44**	**19**	P	P	18 37 24.2	-0.5
	3.4nm,0.9s,baz=218,slow=6.5,SNR=5.6						
FINES				LR	LR	19 07 17.8	
	comp=Z,44nm,19.8s,baz=302,slow=36						
USHA	**Ushuaia**	**69.70**	**211**	LR	LR	19 02 29.4	
	comp=Z,181nm,19.2s,baz=4.6,slow=31						
WSAR	**Wadi Sarin**	**73.45**	**65**	LR	LR	19 09 58.5	
	comp=Z,59nm,18.8s,baz=187,slow=36						
MKAR	**Makanchi Array**	**94.50**	**43**	LR	LR	19 28 32.8	
	comp=Z,42nm,20.5s,baz=79,slow=40						
PDAR	**Pinedale Array**	**96.14**	**313**	LR	LR	19 18 51.3	
	comp=Z,60nm,18.1s,baz=248,slow=33						

IDC ***16*** *18:47:48.6±2.7, 37.03N×143.05E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=75.1km s-min=25.8km az=58.0*
JMA ***16*** *18:47:51.8±0.2, 36.96N×142.79E, h35km, M3.3*
ISCJB ***16*** *18:47:52.7±1.3, 36.92N±004×142.75E±009, h36km±12km, mb3.4/4, Error ellipse: s-maj=12.6km s-min=7.1km az=15.9*

ISC 16 18:47:53.6±2.1, 36.95N±004×142.71E±008, h26km±18km, n18, σ0.9s76/27, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.52**	**286**	P	**Pn**	**18 48 18.4**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.54**	**276**	P	**Pn**	**18 48 18.4**	**-0.8**
JMM	**Marumori**	**1.78**	**301**	P	**Pn**	**18 48 21.8**	**-0.8**
JMM				*e*S	**Sn**	**18 48 44.3**	**0.0**
JIO	**Ouri**	**1.85**	**325**	P	**Pn**	**18 48 22.7**	**-0.8**
JIO				*e*S	**Sn**	**18 48 45.6**	**-0.4**
JFT	**Otama**	**1.98**	**287**	P	**Pn**	**18 48 25.5**	**+0.2**
JFT				*e*S	**Sn**	**18 48 50.1**	**+0.9**
JOU	**Okura**	**2.15**	**312**	P	**Pn**	**18 48 27.6**	**-0.1**
JOU				*e*S	**Sn**	**18 48 54.3**	**+0.8**
JMK	**Ichinoseki**	**2.32**	**330**	P	**Pn**	**18 48 29.5**	**-0.5**
JMK				*e*S	**Sn**	**18 48 57.1**	**-0.5**
JAG	**Ashikaga**	**2.67**	**260**	P	**Pn**	**18 48 35.1**	**+0.3**
JYK	**Kaneyama**	**2.70**	**317**	P	**Pn**	**18 48 35.4**	**+0.1**
JOM	**Ohasama**	**2.75**	**337**	P	**Pn**	**18 48 35.8**	**-0.2**
JOM				*e*S	**Sn**	**18 49 08.8**	**+0.4**
JRY	**Ryogami san**	**3.21**	**254**	P	**Pn**	**18 48 42.4**	**+0.2**
JRY				*e*S	**Sn**	**18 49 18.9**	**-0.7**
JOD2	**Odawara 2**	**3.38**	**241**	P	**Pn**	**18 48 44.8**	**+0.2**
JOD2				*e*S	**Sn**	**18 49 22.6**	**-1.3**
MJAR	**Matsushiro Arr**	**3.64**	**265**	Pn	**Pn**	**18 48 49.5**	**+1.3**
	2.5nm,0.3s,baz=46,slow=18,SNR=19						
MAT	**Matsushiro**	**3.64**	**265**	P	**Pn**	**18 48 49.8**	**+1.6**
MAT				S	**Sn**	**18 49 35.2**	**+5.0**
SONM	**Songino Array**	**28.69**	**304**	P	**P**	**18 53 50.1**	**+1.8**
	0.6nm,0.7s,mb3.4,baz=97,slow=8.7,SNR=8.5						
MKAR	**Makanchi Array**	**45.04**	**302**	P	**P**	**18 56 06.1**	**-0.9**
	0.5nm,0.8s,mb3.4,baz=82,slow=8.7,SNR=5.0						
WRA	**Warramunga Arr**	**57.13**	**189**	P	**P**	**18 57 38.1**	**+0.2**
	0.2nm,0.7s,mb3.2,baz=9.0,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**60.86**	**189**	P	**P**	**18 58 03.6**	**-0.1**
	0.2nm,0.8s,mb3.3,baz=360,slow=6.2,SNR=5.4						

ISCJB ***16*** *19:00:38.4±3.7, 093N±006×97.31E±007, h7km±23km, mb4.3/23, Error ellipse: s-maj=11.7km s-min=10.4km az=122.2*
IDC ***16*** *19:00:38.7±0.8, 087N×97.17E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML3.3/1, Error ellipse: s-maj=19.5km s-min=15.6km az=60.0*
BJI ***16*** *19:00:41.6, 133N×97.70E, h10km, mB5.1, mb4.6*
NEIC ***16*** *19:00:43.7±0.4, 099N×97.33E, h30km, mb4.4/5, Error ellipse: s-maj=10.8km s-min=6.9km az=59.0*

ISC 16 19:00:41.4±4.4, 096N±007×97.34E±007, h13km±27km, n35, σ0.8s87/37, mb4.3/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.42**	**41**	Pn	**Pn**	**19 01 20.5**	**-0.1**
	6.1nm,0.3s,baz=247,slow=4.6,SNR=25						
PSI				Sn	**Sn**	**19 01 50.7**	**+0.6**
	9.1nm,0.3s,baz=241,slow=6.7,SNR=6.7						
PSI				Lg		19 01 59.4	
	13nm,0.3s,baz=291,slow=21,SNR=11						
PSI	**Prapat**	**2.42**	**41**	Pn	**Pn**	**19 01 20.5**	**-0.1**
PSI				Sn	**Sn**	**19 01 50.7**	**+0.6**
PSI				Lg		19 01 59.4	
KULM	**Kulim**	**5.42**	**37**	*e*P	**Pn**	**19 02 02.0**	**+0.1**
CM31	**Chiang Mai Arr**	**17.46**	**5**	P	**Pn**	**19 04 45.7**	**+1.1**
CHTO	**Chiang Mai**	**17.81**	**5**	*e*P	**Pn**	**19 04 46.7**	**-2.4**
	3.3nm,0.8s						
KKM	**Kota Kinabalu**	**19.50**	**75**	*e*P	**Pn**	**19 05 08.4**	**-1.0**
KMI	**Kunming**	**24.58**	**12**	P	**P**	**19 06 01.6**	**+0.5**
	8.0nm,1.4s,mb4.1						
GUN	**Gumba**	**28.96**	**339**	*e*P	**P**	**19 06 41.6**	**+1.0**
	15nm,0.8s,mb4.8						
DMN	**Daman**	**28.98**	**337**	*e*P	**P**	**19 06 42.4**	**+1.7**
	7.4nm,0.6s,mb4.6						
KKN	**Kakani**	**29.07**	**338**	*e*P	**P**	**19 06 42.3**	**+0.7**
	15nm,1.0s,mb4.7						
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**19 06 43.6**	**+1.0**
	2.9nm,0.4s,mb4.4						
GKN	**Gorkha**	**29.51**	**337**	*e*P	**P**	**19 06 46.4**	**+0.9**
	7.5nm,0.7s,mb4.6						
KOLN	**Koldanda**	**29.73**	**335**	*e*P	**P**	**19 06 48.5**	**+1.1**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.67**	**126**	P	**P**	**19 07 22.1**	**0.0**
	1.1nm,0.8s,mb3.9,baz=346,slow=17,SNR=3.3						
XAN	**Xi'an**	**34.65**	**17**	P	**P**	**19 07 28.8**	**-1.7**
XAN				AP	pP	19 07 35.9	+1.5
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
GTA	**Gaotai**	**38.33**	**3**	*e*P	**P**	**19 08 01.8**	**-0.2**
GTA				AP	pP	19 08 07.6	+1.7
GTA				XP	sP	19 08 10.6	+3.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**41.79**	**122**	P	**P**	**19 08 30.2**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**41.79**	**122**	*e*P	**P**	**19 08 31.4**	**+0.7**
BJI	**Beijing**	**42.51**	**22**	P	**P**	**19 08 36.8**	**+0.3**
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
BJI	**Beijing**	**42.51**	**22**	P	**P**	**19 08 36.8**	**+0.3**
	comp=Z,17nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**43.14**	**127**	P	**P**	**19 08 42.4**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.5,baz=295,slow=7.9,SNR=8.8						
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**19 09 15.0**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=191,slow=9.8,SNR=25						
SONM				PcP	PcP	19 10 45.9	+0.2
	comp=Z,1.6nm,0.8s,baz=182,slow=3.8,SNR=7.3						
MK31	**Makanchi Array**	**47.51**	**346**	*e*P	**P**	**19 09 16.1**	**-0.2**
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**19 09 16.2**	**-0.1**
	comp=Z,5.8nm,0.7s,mb4.7,baz=159,slow=7.8,SNR=60						
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**19 09 16.2**	**-0.1**
STKA	**Stephens Creek**	**53.09**	**132**	P	**P**	**19 09 59.4**	**+0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=320,slow=13,SNR=3.8						
ZAL	**Zalesovo**	**53.81**	**351**	P	**P**	**19 10 03.2**	**-0.6**
	comp=Z,7.6nm,0.5s,mb4.9,baz=316,slow=6.0,SNR=33						
BRVK	**Borovoye**	**56.58**	**341**	*e*P	**P**	**19 10 22.8**	**-1.1**
CHKZ	**Chkalovo**	**57.00**	**341**	*e*P	**P**	**19 10 26.1**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**75.53**	**322**	P	**P**	**19 12 24.8**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=87,slow=3.6,SNR=4.8						
FINES	**FINESS Array B**	**80.28**	**333**	P	**P**	**19 12 51.6**	**-0.4**
	comp=Z,2.3nm,0.9s,mb4.1,baz=134,slow=8.2,SNR=4.1						
ARCES	**ARCESS Array B**	**82.81**	**340**	P	**P**	**19 13 04.5**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.2,baz=92,slow=7.3,SNR=5.4						
GERES	**GERESS Array B**	**85.09**	**319**	P	**P**	**19 13 16.7**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.9,baz=110,slow=7.3,SNR=5.4						
NB2	**NORSAR Subarra**	**87.28**	**331**	P	**P**	**19 13 27.4**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.28**	**331**	P	**P**	**19 13 26.7**	**-1.2**
	comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.6						

JMA ***16*** *19:06:55.9±0.6, 31.89N×138.37E, h363km, M3.2*
ISCJB ***16*** *19:06:57.2±0.7, 32.09N±008×138.3E±01, h367km±6km, mb3.3/9, Error ellipse: s-maj=15.1km s-min=12.4km az=73.1*
IDC ***16*** *19:06:58.6±2.0, 32.11N×138.09E, h358km±22km, mb3.1/7, mb1 3.3/8, mb1mx3.1/23, mbtmp3.9/8, Error ellipse: s-maj=30.9km s-min=14.2km az=78.0*
NEIC ***16*** *19:06:58.5±0.8, 32.13N×138.09E, h360km±9km, mb3.3/2, Error ellipse: s-maj=24.9km s-min=10.9km az=76.0*

ISC 16 19:06:58.6±0.7, 32.16N±009×138.2E±01, h363km±6km, n26, σ0.6s60/32, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**2.51**	**304**	P	**Pn**	**19 07 54.2**	**-0.6**
JIE	**Ise**	**2.56**	**331**	P	**Pn**	**19 07 55.6**	**+0.4**
JIE				*e*S	**S**	**19 08 40.4**	**-0.4**
JWY	**Kouya**	**3.01**	**314**	P	**Pn**	**19 07 59.3**	**+0.3**
JOD2	**Odawara 2**	**3.18**	**13**	P	**Pn**	**19 08 00.7**	**+0.2**
JOD2				S	**S**	**19 08 50.3**	**-0.1**
JYN	**Shimob**	**3.34**	**5**	P	**Pn**	**19 08 03.1**	**+1.1**
BSO1	**Boso 1**	**3.40**	**42**	P	**Pn**	**19 08 01.3**	**-1.2**
BSO1				*e*S	**S**	**19 08 50.5**	**-3.5**
JAI	**Aioi**	**3.56**	**298**	P	**Pn**	**19 08 03.5**	**-0.5**
JGM	**Miyama**	**3.74**	**341**	P	**Pn**	**19 08 06.6**	**+0.8**
JRY	**Ryogami san**	**3.89**	**8**	P	**Pn**	**19 08 07.9**	**+0.7**
JRY				S	**S**	**19 09 03.0**	**+0.3**
JWT	**Wachi**	**3.90**	**324**	P	**Pn**	**19 08 07.5**	**+0.2**
JMN	**Monobe**	**3.97**	**294**	P	**Pn**	**19 08 07.8**	**-0.2**
MJAR	**Matsushiro Arr**	**4.37**	**360**	P	**Pn**	**19 08 12.1**	**0.0**
	4.7nm,0.3s,baz=173,slow=11,SNR=67						
MAJO	**Matsushiro**	**4.37**	**360**	*e*P	**Pn**	**19 08 12.3**	**+0.2**
MAT	**Matsushiro**	**4.37**	**360**	P	**Pn**	**19 08 12.1**	**0.0**
MAT				S	**S**	**19 09 11.0**	**-0.6**
MAT	**Matsushiro**	**4.37**	**360**	P	**Pn**	**19 08 12.1**	**0.0**
MAT				*e*S	**S**	**19 09 11.5**	**-0.1**
SONM	**Songino Array**	**28.72**	**312**	P	**P**	**19 12 23.9**	**+0.3**
	0.5nm,0.6s,mb2.9,baz=114,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**44.65**	**306**	P	**P**	**19 14 36.5**	**0.0**
	0.9nm,0.7s,mb3.0,baz=87,slow=10,SNR=11						
CHKZ	**Chkalovo**	**51.83**	**316**	*e*P	**P**	**19 15 30.2**	**-0.5**
	0.8nm,0.5s,mb3.3						
WRAB	**Tennant Creek**	**51.93**	**185**	*e*P	**P**	**19 15 31.6**	**+0.1**
	0.2nm,0.3s,mb2.9						
WRA	**Warramunga Arr**	**51.94**	**185**	P	**P**	**19 15 31.6**	**+0.1**
	0.6nm,0.6s,mb3.1,baz=1.9,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**55.66**	**185**	P	**P**	**19 15 58.4**	**+0.2**
	0.3nm,0.6s,mb2.8,baz=16,slow=13,SNR=5.5						
INK	**Inuvik**	**59.91**	**25**	P	**P**	**19 16 28.2**	**+0.7**
	0.9nm,0.3s,mb3.7,baz=319,slow=6.4,SNR=5.9						
INK	**Inuvik**	**59.91**	**25**	P	**P**	**19 16 28.2**	**+0.7**
JOF	**Joensuu**	**69.02**	**332**	*e*p	**P**	**19 17 24.6**	**-1.2**
FINES	**FINESS Array B**	**71.88**	**332**	P	**P**	**19 17 43.2**	**+0.3**
	4.7nm,1.1s,mb4.1,baz=51,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**76.51**	**322**	P	**P**	**19 18 08.8**	**-0.6**
	0.4nm,0.3s,mb3.6,baz=50,slow=5.5,SNR=4.5						

IDC 16 19:17:07.8±8.5, 22.52N×145.26E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=316.9km s-min=27.0km az=75.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.96**	**319**	P	P	19 24 44.0	+0.2
	0.3nm,0.5s,baz=131,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**43.53**	**195**	P	P	19 25 13.7	+0.6
	0.4nm,0.7s,baz=17,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**47.22**	**194**	P	P	19 25 42.0	-0.3
	0.3nm,0.7s,baz=14,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**55.57**	**312**	P	P	19 26 44.8	-0.1
	0.3nm,0.8s,baz=92,slow=8.7,SNR=3.5						

CASC 16 19:18:28.4±2.9, 12.96N×89.73W, h16km±13km, MD4.1, 5C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.88**	**34**	*e*P	x	19 18 45.1	-0.1
SNET				*e*S	x	19 18 57.2	+0.5
SBLS	**San Blas**	**0.88**	**7⇓**	*e*P	x	19 18 51.2	+5.8
SBLS				*e*S	x	19 19 04.5	+7.6
BOQS	**Boqueron**	**0.89**	**30⇓**	*e*P	x	19 18 51.5	+6.0
BOQS				*e*S	x	19 19 04.1	+7.0
SNJE	**San Jose**	**0.92**	**8⇑**	*e*P	x	19 18 51.6	+5.7
SNJE				*e*S	x	19 19 05.2	+7.4
LFRS	**El Faro**	**0.93**	**44⇑**	*e*P	x	19 18 52.0	+5.8
LFRS				*e*S	x	19 19 05.0	+6.7
RTR	**El Retiro**	**0.94**	**5⇓**	*e*P	x	19 18 52.1	+5.8
RTR				*e*S	x	19 19 06.7	+8.1
LCBS	**La Ceiba**	**1.01**	**46⇑**	*e*P	x	19 18 53.1	+5.5
LCBS				*e*S	x	19 19 05.5	+4.9
LBRS	**Las Brisas**	**1.03**	**41⇑**	*e*P	x	19 18 53.8	+5.9
LBRS				*e*S	x	19 19 08.4	+7.4
SNVI	**San Vicente**	**1.09**	**53**	*e*P	x	19 18 54.8	+5.9
SNVI				*e*S	x	19 19 10.1	+7.3
RBDL	**Robledal**	**1.15**	**2⇓**	*e*P	x	19 18 55.2	+5.4
RBDL				*e*S	x	19 19 12.8	+8.2
MTO2	**Montecristo 2**	**1.48**	**14⇑**	*e*P	x	19 19 00.7	+6.3
MTO2				*e*S	x	19 19 19.4	+6.0
VSM	**San Miguel**	**1.50**	**72⇓**	*e*P	x	19 19 00.4	+5.8
VSM				*e*S	x	19 19 21.8	+8.0
BLLM	**Bellamira**	**1.53**	**71⇓**	*e*P	x	19 19 00.9	+5.8
BLLM				*e*S	x	19 19 20.8	+6.1
FUG	**Fuego 3**	**1.83**	**324**	*e*P	Pn	19 18 59.1	-0.1
FUG				*e*S	Sn	19 19 23.7	+1.5
CNCH	**Conchagua**	**1.88**	**80⇓**	*e*P	x	19 19 05.5	+5.6
CNCH				*e*S	x	19 19 31.3	+8.1
TP2	**Tecpan 2**	**2.21**	**326**	*e*

0.3nm,0.4s,mb3.1,baz=360,slow=11,SNR=4.2
WRA Warramunga Arr 26.66 166 P **P 19 45 00.1 -0.8**
0.8nm,0.4s,mb3.6,baz=340,slow=10,SNR=16
WRA pP pP 19 45 14.7 +0.4
0.9nm,0.7s,baz=353,slow=9.6,SNR=5.2
WB2 Warramunga Arr 26.66 166 *e*P **P 19 45 00.7 -0.2**
AS31 Alice Springs 30.16 168 *e*P **P 19 45 32.6 +0.5**
ASAR Alice Springs 30.16 168 P **P 19 45 32.3 +0.2**
0.5nm,0.3s,mb3.7,baz=355,slow=12,SNR=12
ASAR pP pP 19 45 45.9 +0.3
0.3nm,0.3s,baz=356,slow=9.2,SNR=7.3
ASAR PcP PcP 19 48 34.0 +1.7
0.3nm,0.7s,baz=352,slow=2.1,SNR=4.2
STKA Stephens Creek 40.00 161 *e*P **P 19 46 56.6 0.0**
2.9nm,1.0s,mb4.0
STKA *e* pP 19 47 10.8 +0.3
STKA Stephens Creek 40.00 161 P **P 19 46 57.2 +0.6**
3.0nm,0.6s,mb4.2,baz=308,slow=8.7,SNR=14
STKA pP pP 19 47 10.9 +0.4
2.9nm,0.4s,baz=332,slow=7.7,SNR=5.4
MKAR Makanchi Array 56.18 324 P **P 19 49 01.7 +0.2**
0.4nm,0.5s,mb3.7,baz=118,slow=7.6,SNR=6.6
MKAR pP pP 19 49 14.7 -1.2
0.3nm,0.5s,baz=117,slow=7.5,SNR=3.6
BVAR Borovoye Array 65.88 326 P **P 19 50 06.5 -0.7**
0.4nm,0.6s,mb3.6,baz=134,slow=10,SNR=4.1
BVAR pP pP 19 50 21.1 -0.9
0.3nm,0.4s,baz=111,slow=8.1,SNR=3.0
ARCES ARCESS Array B 88.59 340 P **P 19 52 13.4 -0.8**
3.1nm,1.0s,mb4.6,baz=74,slow=5.2,SNR=6.8
ARCES pP pP 19 52 27.2 -2.4
2.9nm,0.9s,baz=84,slow=5.9,SNR=1.1
FINES FINESS Array B 90.22 332 P **P 19 52 23.3 +1.4**
1.7nm,1.0s,mb4.3,baz=134,slow=6.0,SNR=3.0

CASC 16 20:09:34.8±2.0, 1060N×8614W, h10km±7km, MD3.7, ML3.7, 12C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZC	**La Cruz**	**0.64**	**56**	‖*e*P	Pg	20 09 47.0	-0.2
CRZC				*e*S	Sg	20 09 56.4	+0.8
VCR	**Vista de Mar**	**0.68**	**133**	‖*e*P	Pg	20 09 47.2	-0.8
VCR				⇑*e*S	Sg	20 09 59.0	+2.0
SSNN	**San Juan del S**	**0.74**	**22**	‖*e*P	Pg	20 09 49.2	0.0
LIM1	**Limonal**	**0.88**	**83**	⇑*i*P	Pg	20 09 50.5	-1.2
LIM1				*i* S	Sg	20 10 03.5	+0.4
MADN	**Villa Maderas**	**1.00**	**36**	⇑*e*P	Pg	20 09 54.1	0.0
MADN				*e*S	Sg	20 10 08.7	+1.6
CONN	**Concepcion**	**1.09**	**28**	‖*e*P	Pb	20 09 54.8	-0.9
JCR	**Jicaral**	**1.25**	**126**	*e*P	Pn	20 09 56.5	-1.8
APON	**Apoyo**	**1.31**	**3**	*e*P	Pn	20 09 58.9	-0.2
TICN	**Ticuantepe**	**1.43**	**356**	⇑*e*P	Pn	20 10 00.4	-0.4
TISN	**Laguna Tiscapa**	**1.54**	**355**	‖*e*P	Pn	20 10 01.8	-0.5
TISN				*e*S	Sn	20 10 24.9	+2.5
MGAN	**Managua**	**1.55**	**356**	⇑*e*P	Pn	20 10 02.0	-0.4
MGAN				*e*S	Sn	20 10 23.6	+1.1
MGAN				*i*		20 10 24.9	
	comp=N,810nm,0.4s						
XAVN	**Gruta Xavier**	**1.56**	**353**	⇑*e*P	Pn	20 10 02.3	-0.2
COPN	**Copaltepe**	**1.64**	**344**	⇑*e*P	Pn	20 10 03.1	-0.4
COPN				*e*S	Sn	20 10 24.6	-0.1
CGA2	**Cerro Gallo 2**	**1.74**	**109**	*e*P	Pn	20 10 05.1	0.0
CGA2				*e*S	Sn	20 10 29.0	+1.7
MOMJ	**Momotombo**	**1.84**	**348**	⇑*e*P	Pn	20 10 06.1	-0.3
PRS1	**Puriscal**	**1.90**	**109**	‖*e*P	Pn	20 10 07.2	+0.1
MIRN	**Miramar**	**1.92**	**343**	‖*e*P	Pn	20 10 07.3	-0.1
LEON	**Leon**	**1.96**	**338**	⇑*e*P	Pn	20 10 08.1	+0.1
LEON				*e*S	Sn	20 10 32.2	-0.3
CNGN	**Cerro Negro**	**1.97**	**344**	⇑*e*P	Pn	20 10 07.0	-1.2
CNGN				⇑*e*P		20 10 07.9	
CNGN				*i*		20 10 37.7	
	comp=N,904nm,0.5s						
TELN	**Telica**	**2.11**	**341**	*e*P	Pn	20 10 10.3	+0.2
LAJ	**Bijagual**	**2.11**	**110**	*e*P	Pn	20 10 05.5	-4.6
LAJ				*e*S	Sn	20 10 30.1	-6.4
LCR2	**La Lucha 2**	**2.27**	**112**	*e*P	Pn	20 10 13.5	+1.3

*LDG **16** 20:23:55.4±1.3, 1821S×16720E, h10km, Error ellipse: s-maj=292.1km s-min=8.6km az=95.0*
*ISCJB **16** 20:24:01.7±5.4, 214S±04×1700E±03, h145km±32km, mb3.4/2, Error ellipse: s-maj=83.2km s-min=21.9km az=57.7*
*IDC **16** 20:24:01.6±4.5, 2122S×16999E, h131km±34km, mb3.1/2, mb1 3.6/4, mb1mx3.4/13, mbtmp3.9/4, Error ellipse: s-maj=50.8km s-min=30.9km az=20.0*

ISC 16 20:24:02.3±5.2, 213S±04×1700E±03, h131km±31km, n25, σ0§50/7, mb3.4/2, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**255**	*e*P	**Pn**	**20 24 54.0**	**0.0**
DZM				*e*S	**Sn**	**20 25 34.2**	**+0.1**
DZM	**Mont Dzumac**	**3.40**	**255**	P	**Pn**	**20 24 54.2**	**+0.2**
	15nm,0.3s,baz=75,slow=15,SNR=258						
DZM				S	**Sn**	**20 25 33.9**	**-0.2**
	44nm,0.3s,baz=14,slow=20,SNR=14						
URZ	**Urewera**	**18.04**	**162**	P	**P**	**20 28 03.1**	**0.0**
	0.6nm,0.3s,baz=0.1,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**33.35**	**266**	P	**P**	**20 30 27.2**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=99,slow=8.3,SNR=12						
WRA				pP	pP	20 30 51.5	-4.7
	0.3nm,0.6s,baz=92,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**33.38**	**259**	P	**P**	**20 30 28.6**	**+0.6**
	0.7nm,0.8s,mb3.5,baz=99,slow=9.3,SNR=6.6						
ASAR				pP	pP	20 30 52.6	-3.8
	0.7nm,0.8s,baz=91,slow=9.2,SNR=5.4						
ASAR				PcP	PcP	20 33 05.8	-0.8
	0.5nm,0.9s,baz=108,slow=2.5,SNR=5.1						
ARCES	**ARCESS Array B**	**127.18**	**345**	PKP	PKPdf	20 42 48.6	-2.4
	3.0nm,0.8s,baz=26,slow=3.1,SNR=7.1						
FINES	**FINESS Array B**	**132.70**	**337**	PKP	PKPdf	20 43 00.3	-1.1
	1.4nm,0.8s,baz=146,slow=3.7,SNR=3.7						
KHC	**Kasperske Hory**	**146.43**	**332**	*e*P	PKPdf	20 43 27.5	+1.2
GERES	**GERESS Array B**	**146.58**	**331**	PKPbc	PKPbc	20 43 27.2	-1.0
	2.9nm,0.8s,baz=32,slow=2.6,SNR=18						
GIVF	**Givet**	**148.91**	**341**	*e*PKP1	PKPbc	20 43 33.3	-1.2
BAIF	**Baives**	**149.13**	**342**	*e*PKP1	PKPbc	20 43 33.8	-1.2
	14nm,1.1s						
CDF	**Champ du Feu**	**149.56**	**337**	*e*PKP1	PKPbc	20 43 34.9	-1.2
	8.5nm,0.8s						
HINF	**Hinteralfeld**	**150.21**	**337**	*e*PKP1	PKPbc	20 43 36.3	-1.4
	6.9nm,0.7s						
HAU	**Haudompre**	**150.23**	**338**	*e*PKP1	PKPbc	20 43 36.5	-1.2
	15nm,0.8s						
MEZF	**Maizieres J'vi**	**150.25**	**340**	*e*PKP1	PKPbc	20 43 36.9	-0.9
	19nm,0.8s						
CABF	**La Chapelle**	**151.50**	**336**	*e*PKP1	PKPbc	20 43 39.9	-0.8
	14nm,0.8s						
FLN	**La Foliniere**	**151.51**	**347**	*e*PKP1	PKPbc	20 43 39.0	-1.7
	32nm,0.8s						
LDF	**La Druitiere**	**151.59**	**346**	*e*PKP1	PKPbc	20 43 39.0	-1.9
	14nm,0.9s						
LOR	**Lormes**	**151.71**	**340**	*e*PKP1	PKPbc	20 43 39.9	-1.3
	7.1nm,0.7s						
GRR	**Gorron**	**151.94**	**347**	*e*PKP1	PKPbc	20 43 40.0	-1.7
SSF	**Saint Saulge**	**152.01**	**340**	*e*PKP1	PKPbc	20 43 40.5	-1.4
	7.8nm,0.9s						
LPL	**La Plagne**	**152.16**	**334**	*e*PKP1	PKPbc	20 43 41.4	-0.8
	6.9nm,0.8s						
LPG	**La Plagne**	**152.17**	**334**	*e*PKP1	PKPbc	20 43 41.5	-0.7
	13nm,0.9s						
MBDF	**Montbardon**	**152.79**	**333**	*e*PKP1	PKPbc	20 43 42.9	-0.7
	6.0nm,1.0s						
ORIF	**Oris-en-Rattie**	**153.00**	**335**	*e*PKP1	PKPbc	20 43 42.9	-1.1
	7.2nm,0.7s						

*CSEM **16** 20:29:11.9±0.1, 6726N×2065E, h1km, ML3.3, Error ellipse: s-maj=3.0km s-min=2.3km az=84.0, Mining explosion.*
*UPP **16** 20:29:13.0, 67.18N×2068E, h0km, ML3.3, Mining explosion.*

HEL 16 20:29:13.7±0.0, 6718N×2069E, h0km, ML3.3(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**219**	*i* P	Pg	20 29 14.7	-0.5
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	20 29 23.9	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	20 29 27.8	-1.0
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	20 29 29.9	-0.3
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	20 29 29.6	-0.8
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	20 29 30.3	-1.4
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	20 29 30.8	-1.3
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	20 29 31.8	-1.1
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	20 29 32.0	-1.4
KALU	**Kalix**	**1.70**	**140**	*e*P	Pn	20 29 44.0	-0.6
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	20 29 44.1	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	20 29 46.6	+0.2
KIF				*e*S	Sn	20 30 12.3	+2.0
KIF	**Kilpisjarvi**	**1.83**	**1**	P	Pn	20 29 46.6	+0.2
LILU	**Lilltraesk**	**1.93**	**191**	*e*P	Pn	20 29 47.6	-0.2
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	20 29 53.2	-2.4
SGF				*e*SG	Sg	20 30 23.9	-3.0
BURU	**Burvik**	**2.62**	**174**	*e*P	Pn	20 29 57.5	+0.2
OUL	**Oulu**	**2.98**	**132**	*e*SB	Sb	20 30 40.7	-4.0
KEV	**Kevo**	**3.48**	**39**	*e*P	Pn	20 30 08.8	-0.3
KU4	**Liikasenvaara**	**3.62**	**99**	*e*P	Pn	20 30 09.8	-1.2
KU4	**Liikasenvaara**	**3.62**	**99**	P	Pn	20 30 09.7	-1.3

*ISCJB **16** 20:32:22.8±0.3, 4979N×002×1833E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.4km az=33.9*
*IPEC **16** 20:32:23.6±0.1, 4976N×1845E, h0km, ML2.0/4, Error ellipse: s-maj=1.7km s-min=0.7km az=165.0*
*CSEM **16** 20:32:24.4±0.2, 4982N×1841E, h1km, ML3.0/6, Error ellipse: s-maj=4.3km s-min=3.0km az=7.0, Mining induced.*
*VIE **16** 20:32:24.3±0.5, 4967N×1834E, h0km, mb1.8/3, ML2.4/4, Error ellipse: s-maj=3.3km s-min=1.8km az=94.0 19 km SSE of Ostrava Suspected Mining induced.*
*PRU **16** 20:32:25.0, 4981N×1832E, h0km, Rockburst, Felt In Havirov Mining induced.*

ISC 16 20:32:23.8±0.3, 4978N±002×1834E±003, h0km, n28, σ1§21/54, 3C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.14**	**294**	*e*PG	**Pg**	**20 32 27.9**	**+1.5**
OKC				*e*SG	**Sg**	**20 32 30.9**	**+2.7**
	170nm,0.3s						
OKC	**Ostrava-Krasne**	**0.14**	**294**	*e*Pg	**Pg**	**20 32 27.7**	**+1.3**
OKC				*e*Sg	**Sg**	**20 32 31.0**	**+2.8**
RAC	**Raciborz**	**0.32**	**343**	*e*Pg	**Pg**	**20 32 30.9**	**+1.1**
RAC				*e*Sg	**Sg**	**20 32 35.7**	**+1.8**
MORC	**Moravsky Berou**	**0.52**	**270**	*e*Pg	**Pg**	**20 32 34.5**	**+0.8**
MORC				*e*Sg	**Sg**	**20 32 42.0**	**+1.6**
	18nm,0.1s						
LIKS	**Likavka**	**0.89**	**145**	*e*PN	**Pn**	**20 32 41.5**	**-2.0**
LIKS				*e*SN	**Sg**	**20 32 56.0**	**+3.8**
OJC	**Ojcow**	**1.04**	**64**	*e*Pg	**Pg**	**20 32 41.9**	**-1.7**
OJC				*e*Sg	**Sg**	**20 32 54.8**	**-2.3**
OJC	**Ojcow**	**1.04**	**64**	*e*Pg	**Pg**	**20 32 42.4**	**-1.2**
OJC				*e*Sg	**Sg**	**20 32 54.7**	**-2.4**
VRAC	**Vranov**	**1.23**	**248**	*e*Pg	**Pg**	**20 32 48.0**	**+0.6**
VRAC				*e*Sg	**Sg**	**20 33 05.0**	**+1.6**
	22nm,0.2s						
VYHS	**Vyhne**	**1.33**	**166**	*e*PN	**Pn**	**20 32 48.8**	**-0.8**
VYHS				*e*SN	**Sn**	**20 33 07.0**	**-1.0**
NIE	**Niedzica**	**1.33**	**105**	*e*Pg	**Pg**	**20 32 48.4**	**-0.9**
NIE				*e*Sg	**Sg**	**20 33 07.5**	**+0.9**
SMOL	**Smolenice**	**1.40**	**206**	*e*PN	**Pn**	**20 32 50.5**	**-0.1**
SMOL				*e*SN	**Sn**	**20 33 10.9**	**+1.1**
DPC	**Dobruska-Polom**	**1.42**	**294**	*e*PG	**Pg**	**20 32 50.6**	**-0.4**
DPC				*e*SG	**Sg**	**20 33 10.7**	**+1.3**
	19nm,0.3s						
DPC	**Dobruska-Polom**	**1.42**	**294**	*e*Pn	**Pn**	**20 32 50.7**	**-0.1**
DPC				*e*Sg	**Sg**	**20 33 09.8**	**+0.4**
KRUC	**Moravsky**	**1.46**	**241**	*e*Pn	**Pn**	**20 32 51.6**	**+0.2**
KRUC				*e*Sg	**Sg**	**20 33 10.8**	**+0.1**
	31nm,0.3s						
UPC	**Upice**	**1.67**	**297**	*e*PG	**Pg**	**20 32 55.0**	**-0.7**
KSP	**Ksiaz**	**1.69**	**310**	*e*Pg	**Pg**	**20 32 54.9**	**-1.3**
KSP				*e*Sg	**Sg**	**20 33 17.5**	**-0.6**
ZST	**Bratislava**	**1.79**	**208**	*e*PN	**Pn**	**20 32 56.2**	**+0.4**
ZST				*e*SN	**Sn**	**20 33 19.4**	**+0.2**
KECS	**Kecovo**	**1.92**	**132**	*e*PN	**Pn**	**20 32 59.2**	**+1.6**
KECS				*e*SN	**Sn**	**20 33 22.2**	**-0.2**
TREC	**Trest**	**1.92**	**256**	*e*SG	**Sg**	**20 33 23.6**	**-1.9**
	17nm,0.4s						
STHS	**Stebnicka Huta**	**1.92**	**100**	*e*PN	**Pn**	**20 32 59.8**	**+2.1**
STHS				*e*SN	**Sn**	**20 33 27.2**	**+4.6**
CRVS	**Cervenica-Dubn**	**2.22**	**112**	*e*PN	**Pn**	**20 33 05.0**	**+3.2**
CRVS				*e*SN	**Sn**	**20 33 34.6**	**+4.6**
PRU	**Pruhonice**	**2.47**	**276**	*e*PG	**Pg**	**20 33 08.7**	**-2.4**
PRU				*e*SG	**Sg**	**20 33 42.4**	**-0.6**
	7.9nm,0.5s						
CONA	**Conrad Observa**	**2.47**	**222**	⇑*i*Pn	**Pn**	**20 33 05.0**	**-0.3**
CONA				⇑*i*Sn	**Sn**	**20 33 35.8**	**-0.4**
PVCC	**Panska Ves**	**2.54**	**289**	*e*PG	**Pg**	**20 33 10.6**	**-1.8**
PVCC				*e*SG	**Sg**	**20 33 45.6**	**+0.2**
	16nm,0.4s						
KOLS	**Kolonicke sedl**	**2.71**	**107**	*e*PG	**Pg**	**20 33 15.5**	**-0.2**
KOLS				*e*SG	**Sg**	**20 33 51.3**	**+0.6**
KHC	**Kasperske Hory**	**3.18**	**260**	*e*PN	**Pn**	**20 33 15.7**	**+0.7**
KHC				*e*PG	**Pg**	**20 33 22.4**	**-2.2**
KHC				*e*SG	**Sg**	**20 34 04.8**	**-1.0**
	6.8nm,0.4s						
MOA	**Molln**	**3.32**	**236**	‖*i*Pn	**Pn**	**20 33 16.5**	**-0.4**
MOA				⇑*i*Sg	**Sg**	**20 34 11.1**	**+0.8**
	comp=Z,2.4nm,0.3s						
CLL	**Collm**	**3.73**	**296**	*e*Sg	**Sg**	**20 34 23.0**	**-0.7**

WEL 16 20:52:19.7±0.5, 3510S×17751E, h33km, ML4.7/4, Error ellipse: s-maj=5.8km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.54**	**166**	PN	Pn	20 52 58.0	-0.7
MXZ				SN	Sn	20 53 27.2	-1.2
URZ	**Urewera**	**3.17**	**186**	PN	Pn	20 53 06.7	-0.6
URZ				SN	Sn	20 53 42.0	-2.0
MWZ	**Matawai**	**3.23**	**180**	SN	Sn	20 53 42.5	-2.9

IDC 16 21:27:55.3±1.5, 3554N×7089E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=35.4km s-min=32.6km az=106.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.07**	**126**	*e*P	Pn	21 29 44.5	+32
THN				*e*S	Sn	21 30 50.8	+39
MKAR	**Makanchi Array**	**14.13**	**34**	Pn	Pn	21 31 17.2	+0.6
	0.0nm,0.3s,baz=219,slow=15,SNR=3.7						
BVAR	**Borovoye Array**	**17.48**	**359**	P	Pn	21 31 59.6	-0.8
	0.2nm,0.3s,baz=162,slow=15,SNR=4.1						
AKTO	**Aktyubinsk**	**17.57**	**332**	P	Pn	21 32 02.5	+1.0
	0.4nm,0.3s,baz=130,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	P	21 38 41.1	+0.1
	0.3nm,0.8s,baz=48,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**81.57**	**122**	P	P	21 40 15.4	+0.5
	0.3nm,0.9s,baz=325,slow=5.4,SNR=4.6						

IDC 16 21:35:46.8±7.0, 2193N×14344E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.9/30, Error ellipse: s-maj=288.6km s-min=21.8km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**35.12**	**151**	LR	LR	21 53 26.7	
	comp=Z,98nm,20.4s,baz=360,slow=30						
SONM	**Songino Array**	**39.31**	**320**	P	P	21 43 18.0	+0.5
	0.7nm,0.7s,baz=116,slow=6.6,SNR=7.1						
WRA	**Warramunga Arr**	**42.56**	**193**	P	P	21 43 45.3	+1.1
	1.3nm,0.9s,baz=13,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**46.27**	**192**	P	P	21 44 13.2	-0.7
	0.2nm,0.6s,baz=18,slow=6.2,SNR=3.3						
ZAL	**Zalesovo**	**54.19**	**321**	P	P	21 45 13.5	-0.5
	0.8nm,0.4s,baz=273,slow=3.2,SNR=3.2						
MKAR	**Makanchi Array**	**54.72**	**313**	P	P	21 45 17.5	-0.3
	0.4nm,0.7s,baz=86,slow=8.5,SNR=4.7						
BVAR	**Borovoye Array**	**62.65**	**319**	P	P	21 46 13.1	+0.1
	1.5nm,0.6s,baz=72,slow=9.3,SNR=9.2						

*ISCJB **16** 21:38:10.6±0.8, 5144N±004×1602E±004, h0km, Error ellipse: s-maj=5.5km s-min=3.1km az=22.7*
*NEIC **16** 21:38:10.6±0.7, 5158N×1601E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=8.3km s-min=6.1km az=31.0*
*IPEC **16** 21:38:10.6±0.3, 5158N×1626E, h0km, ML2.0/3, Error ellipse: s-maj=4.0km s-min=2.0km az=85.0*
*WAR **16** 21:38:11.9, 5154N×1603E, ML2.4, Mining Induced*
*CSEM **16** 21:38:11.9±0.2, 5150N×1601E, h1km, ML2.9/6, Error ellipse: s-maj=2.8km s-min=1.3km az=17.0*
*VIE **16** 21:38:12.4±0.6, 5136N×1616E, h0km, mb1.7/1, ML2.5/4, Error ellipse: s-maj=3.6km s-min=3.4km az=168.0 66 km WNW of Breslau Suspected Mining induced.*
*PRU **16** 21:38:12.4, 5148N×1599E, h0km*

ISC 16 21:38:10.4±0.6, 5154N±003×1601E±004, h0km, n24, σ0§92/46, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**165**	*e*Pg	**Pg**	**21 38 24.9**	**+0.6**
KSP				*e*		21 38 27.0	
KSP				*e*Sg	**Sg**	**21 38 34.3**	**+0.6**
KSP				*e*		21 38 38.2	
KSP	**Ksiaz**	**0.72**	**165**	*e*Pg	**Pg**	**21 38 24.9**	**+0.6**
KSP				*e*		21 38 27.0	
KSP				*e*Sg	**Sg**	**21 38 34.3**	**+0.6**
KSP				*e*		21 38 38.2	
KSP	**Ksiaz**	**0.72**	**165**	*e*Pg	**Pg**	**21 38 24.8**	**+0.5**
KSP				*e*Sg	**Sg**	**21 38 34.1**	**+0.4**
UPC	**Upice**	**1.04**	**180**	*e*PG	**Pg**	**21 38 30.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.21**	**170**	*e*PG	**Pg**	**21 38 33.6**	**0.0**
DPC				*e*SG	**Sg**	**21 38 49.3**	**0.0**
	27nm,0.3s						
DPC	**Dobruska-Polom**	**1.21**	**170**	*e*Pg	**Pg**	**21 38 33.6**	**0.0**
DPC				*e*Sg	**Sg**	**21 38 49.3**	**0.0**
PVCC	**Panska Ves**	**1.36**	**222**	*e*PG	**Pg**	**21 38 36.9**	**+0.4**
BRG	**Berggiesshubel**	**1.46**	**244**	Pn	**Pn**	**21 38 38.5**	**+0.5**
BRG				Pg	**Pg**	**21 38 39.2**	**+0.7**
BRG				Sg	**Sg**	**21 38 58.8**	**+1.4**
BRG	**Berggiesshubel**	**1.46**	**244**	Pn	**Pn**	**21 38 38.5**	**+0.5**
BRG	**Berggiesshubel**	**1.46**	**244**	Pg	**Pg**	**21 38 39.2**	**+0.8**
PRU	**Pruhonice**	**1.81**	**211**	*e*PN	**Pn**	**21 38 42.7**	**-0.2**
PRU				*e*PG	**Pg**	**21 38 44.5**	**-0.7**
PRU				*e*SG	**Sg**	**21 39 08.5**	**-0.2**
	16nm,0.3s						
CLL	**Collm**	**1.90**	**264**	*e*Pg	**Pg**	**21 38 46.0**	**-0.8**
CLL				*e*x	x	21 38 52.0	
CLL				*e*Sg	**Sg**	**21 39 12.0**	**+0.7**
	comp=Z,15nm,0.5s						
MORC	**Moravsky Berou**	**2.02**	**150**	*e*Pn	**Pn**	**21 38 45.2**	**-0.5**
MORC				*e*Sg	**Sg**	**21 39 12.6**	**-2.7**
OKC	**Ostrava-Krasne**	**2.18**	**141**	*e*PG	**Pg**	**21 38 51.7**	**-0.6**
OKC				*e*SG	**Sg**	**21 39 19.9**	**-0.7**
	comp=Z,17nm,0.6s						
VRAC	**Vranov**	**2.27**	**170**	*e*PN	**Pn**	**21 38 49.5**	**+0.3**
KRUC	**Moravsky**	**2.50**	**174**	*e*Pn	**Pn**	**21 38 53.4**	**+1.1**
KRUC				*e*Sg	**Sg**	**21 39 29.2**	**-1.4**
	comp=Z,6.5nm,0.4s						
OJC	**Ojcow**	**2.74**	**117**	*e*Pg	**Pg**	**21 39 04.2**	**+1.2**
OJC				*e*Sg	**Sg**	**21 39 39.0**	**+0.4**
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN	**Pn**	**21 38 57.8**	**+0.3**
KHC				*e*PG	**Pg**	**21 39 03.9**	**-1.6**
KHC				*e*SN	**Sn**	**21 39 32.9**	**+0.2**
KHC				*e*SG	**Sg**	**21 39 42.3**	**-0.4**
	comp=Z,4.4nm,0.3s						
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	**Pn**	**21 39 01.5**	**+1.2**
GEC2				*e*Sg	**Sg**	**21 39 48.4**	**-1.0**
VYHS	**Vyhne**	**3.56**	**148**	*e*SG	**Sg**	**21 40 05.6**	**+0.9**
CONA	**Conrad Observa**	**3.62**	**182**	‖*i*Pn	**Pn**	**21 39 07.0**	**-0.7**
CONA				⇑*i*Sg	**Sg**	**21 40 05.4**	**-1.3**
	comp=Z,6.0nm,0.6s						
BSD	**Bornholm Skovb**	**3.64**	**350**	*i* P	**Pn**	**21 39 06.7**	**-1.3**
BSD				*i* S	**Sn**	**21 39 46.9**	**-4.7**
BSD				*i* S	**Sn**	**21 39 49.3**	**-2.3**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	**21 39 11.8**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**21 40 15.6**	**+1.0**
	comp=Z,2.1nm,0.3s						
STHS	**Stebnicka Huta**	**3.96**	**120**	*e*SG	**Sg**	**21 40 19.0**	**+1.2**

*SZGRF **16** 21:44:02.8, 1908S×17795W, h33km, Fiji Islands region*
*BJI **16** 21:45:06.3, 1790S×17850W, h577km, mB5.0, mb4.5*
*ISCJB **16** 21:45:07.2±0.7, 1803S±008×17851W±006, h593km±9km, mb4.4/37, Error ellipse: s-maj=13.3km s-min=6.7km az=109.0*
*NEIC **16** 21:45:07.4±0.8, 1794S×17852W, h578km±9km, mb4.4/23, Error ellipse: s-maj=12.5km s-min=6.2km az=143.0*
*IDC **16** 21:45:09.1±1.3, 1793S×17855W, h602km±15km, mb3.8/13, mb1 4.0/15, mb1mx4.0/17, mbtmp4.7/15, Error ellipse: s-maj=15.9km s-min=9.1km az=148.0*

ISC 16 21:45:07.8±0.7, 1804S±007×17843W±007, h586km±9km, n205, σ0§92/67, mb4.4/37, 39C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**58**	P	**P**	**21 47 03.5**	**+0.8**
	8.5nm,0.3s,baz=347,slow=3.3,SNR=12						
AFI				S	**S**	**21 48 35.7**	**-1.2**
	4.1nm,0.3s,baz=41,slow=19,SNR=3.5						
AFI	**Afi

CMB	Columbia Colle	77.94	43	eP	P		21 56 05.6	-0.6
	9.8nm,0.9s,mb4.2							
MDJ	Mudanjiang	78.28	325	P	P		21 56 08.3	+0.3
MDJ				AMB	AMB			
	comp=Z,29nm,1.3s,mb4.5							
MDJ				AMB	AMB			
	comp=Z,69nm,4.7s							
NVAR	Mina Array Bea	79.53	44	P	P		21 56 15.2	+0.6
	comp=Z,4.4nm,0.7s,mb3.9,baz=228,slow=8.7,SNR=26							
CN2	Changchun	80.11	322	eP	P		21 56 17.9	+0.3
CN2				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.3							
MOD	Modoc	80.19	40	eP	P		21 56 18.2	+0.2
	comp=Z,20nm,1.3s,mb4.3							
WHN	Wuhan	80.67	306	P	P		21 56 21.8	+1.3
WVOR	Wild Horse Val	81.51	40	eP	P		21 56 25.2	+0.3
	comp=Z,15nm,1.0s,mb4.5							
HAWA	Hanford	83.22	37	eP	P		21 56 33.0	-0.4
	comp=Z,12nm,0.9s,mb4.4							
MAW	Mawson	83.73	200	eP	P		21 56 35.5	-0.5
	comp=Z,2.0nm,0.4s,mb4.0							
MAW	Mawson	83.73	200	P	P		21 56 35.8	-0.2
	comp=Z,2.9nm,0.5s,mb4.1,baz=134,slow=6.8,SNR=30							
TMUT	Trail Mountain	84.73	46	eP	P		21 56 42.1	+1.2
HLID	Hailey	84.74	41	eP	P		21 56 41.0	+1.1
	comp=Z,5.9nm,0.8s,mb4.3							
TXAR	Lajitas Array	86.08	58	P	P		21 56 49.0	+1.7
	comp=Z,6.2nm,0.8s,mb4.3,baz=220,slow=6.4,SNR=41							
XAN	Xi'an	86.32	307	P	P		21 56 48.8	+0.4
XAN				AMB	AMB			
	comp=Z,23nm,1.1s,mb4.7							
RRI2	Red Ridge	86.59	42	eP	P		21 56 50.4	+0.7
	comp=Z,19nm,0.8s,mb4.9							
DLMT	Dillon	86.77	40	eP	P		21 56 50.6	+0.1
	comp=Z,12nm,1.1s,mb4.5							
CHMT	Chamberlain Mo	87.14	39	eP	P		21 56 51.8	-0.5
DAWY	Dawson	87.21	16	eP	P		21 56 51.3	-1.4
QLMT	Earthquake Lak	87.23	41	eP	P		21 56 53.8	+1.1
EGAK	Eagle	87.34	15	eP	P		21 56 51.3	-1.9
	comp=Z,4.3nm,0.6s,mb4.4							
PDAR	Pinedale Array	87.45	43	P	P		21 56 53.8	0.0
	comp=Z,4.6nm,0.6s,mb4.4,baz=227,slow=2.8,SNR=38							
KMI	Kunming	87.87	297	P	P		21 56 57.3	+1.6
KMI				AMB	AMB			
	comp=Z,8.0nm,1.2s,mb4.3							
RLMT	Red Lodge	88.72	41	eP	P		21 57 00.2	+0.5
	comp=Z,5.5nm,1.1s,mb4.3							
SNAA	Sanae	90.47	179	ePdiff	P		21 57 05.6	-2.2
SNAA				e			21 57 07.4	
LZH	Lanzhou	90.95	308	eP	P		21 57 11.3	+1.3
LZH				AMB	AMB			
	comp=Z,21nm,1.2s,mb4.9							
VNA1	Neumayer--Stat	91.28	177	ePdiff	P		21 57 10.6	-0.9
VNA1				e			21 57 12.9	
SONM	Songino Array	93.64	319	P	P		21 57 20.8	-1.5
	comp=Z,0.8nm,0.6s,mb4.0,baz=125,slow=4.1,SNR=11							
YKA	Yellowknife Ar	94.45	25	P	P		21 57 24.5	-1.5
	comp=Z,1.8nm,0.6s,mb4.4,baz=240,slow=4.5,SNR=7.9							
GTA	Gaotai	95.10	310	eP	P		21 57 28.9	0.0
GTA				AMB	AMB			
	comp=Z,3.0nm,1.2s,mb4.3							
MKAR	Makanchi Array	109.21	314	PKiKP	PKiKP		22 02 30.0	-1.8
	comp=Z,1.3nm,0.5s,baz=180,slow=0.6,SNR=32							
ARU	Arti	122.94	326	ePKPdf	PKPdf		22 02 56.4	-1.8
ARCES	ARCESS Array B	126.44	350	PKPdf	PKPdf		22 03 03.0	-1.8
	comp=Z,4.6nm,0.7s,baz=21,slow=1.5,SNR=9.6							
JOF	Joensuu	130.67	343	epkp	PKPdf		22 03 10.2	-2.7
KAF	Kangasniemi	132.68	344	epkp	PKPdf		22 03 13.6	-3.0
FINES	FINESS Array B	133.31	344	PKP	PKPdf		22 03 14.8	-3.0
	comp=Z,2.6nm,0.6s,baz=66,slow=2.3,SNR=13							
NB2	NORSAR Subarra	136.50	353	PKPdf	PKPdf		22 03 22.4	-1.4
	comp=Z,0.4nm,0.5s,baz=14,slow=1.8							
NOA	NORSAR Array B	136.50	353	PKhKP			22 03 11.9	
	comp=Z,0.8nm,0.7s,baz=2.1,slow=2.3,SNR=5.5							
NOA				PKP	PKPdf		22 03 22.4	-1.4
	comp=Z,0.9nm,0.7s,baz=14,slow=4.1,SNR=5.2							
AKASG	Malin Array Be	140.66	332	PKhKP			22 03 23.9	
	comp=Z,1.8nm,0.4s,baz=42,slow=4.0,SNR=20							
AKASG				PKP	PKPdf		22 03 32.0	+0.7
	comp=Z,3.0nm,0.5s,baz=43,slow=3.0,SNR=4.0							
AKBB	Malin Array Si	140.66	332	ePKPpre			22 03 24.1	
MALT	Malatya	142.08	310	⇑P	PKPdf		22 03 32.8	-1.1
MALT	Malatya	142.08	310	⇑P	PKPdf		22 03 32.8	-1.1
GKP	Gorka Klasztor	142.78	344	ePKP	PKPdf		22 03 32.2	-2.9
BSEG	Bad Segeberg	143.54	351	ePKPbc	PKPdf		22 03 34.1	-2.3
DCN	Croghan	144.09	9	eP	PKPdf		22 03 32.0	-5.4
KWP	Kalwaria	144.18	336	ePKP	PKPdf		22 03 36.9	-0.6
DLF	Lyons Farm	144.25	8	eP	PKPdf		22 03 34.0	-3.7
RUE	Ruedersdorf	144.31	347	ePKPdf	PKPdf		22 03 36.5	-1.3
BURAR	Bucovina Array	144.72	332	⇓iP	PKPdf		22 03 39.3	+0.8
BURAR	Bucovina Array	144.72	332	⇓P	PKPdf		22 03 39.3	+0.8
OJC	Ojcow	144.72	340	ePKP	PKPdf		22 03 38.3	-0.2
BRTR	Keskin Array B	144.86	315	PKP	PKPdf		22 03 37.9	-0.8
	comp=Z,13nm,1.0s							
STHS	Stebnicka Huta	144.90	338	iPKP	PKPdf		22 03 39.4	+0.6
KOLS	Kolonicke sedl	144.91	336	ePKP	PKPdf		22 03 39.2	+0.4
NRDL	Niedersach Rie	144.97	351	ePKPbc	PKPdf		22 03 38.9	0.0
ASF	Jabal al Asfar	145.23	301	PKPbc	PKPbc		22 03 40.7	+0.2
	comp=Z,5.5nm,0.8s,baz=318,slow=3.6,SNR=9.0							
KSP	Ksiaz	145.23	344	ePKP	PKPdf		22 03 40.5	+1.2
KSP	Ksiaz	145.23	344	ePKP	PKPdf		22 03 40.2	+0.9
NIE	Niedzica	145.23	338	ePKPc			22 03 40.5	
CRVS	Cervenica-Dubn	145.25	337	ePKP	PKPdf		22 03 40.0	+0.6
VRI	Vrincioaia	145.28	329	⇓iP	PKPdf		22 03 40.3	+0.9
VRI	Vrincioaia	145.28	329	⇓P	PKPdf		22 03 40.3	+0.9
ANTO	Ankara	145.36	315	⇑iP	PKPdf		22 03 40.0	+0.4
ANTO	Ankara	145.36	315	ePKPdf	PKPdf		22 03 37.7	-1.9
IBBN	Ibbenburen	145.46	353	ePKPbc	PKPbc		22 03 40.4	-0.8
CLZ	Clausthal	145.56	350	ePKPbc	PKPbc		22 03 40.9	-0.5
CLL	Collm	145.58	347	ePKPbc	PKPbc		22 03 40.6	-0.9
CLL	Collm	145.58	347	⇑iPKPbc	PKPbc		22 03 40.7	-0.8
	comp=Z,53nm,0.8s							
OKC	Ostrava-Krasne	145.59	341	ePKP	PKPdf		22 03 41.0	+1.0
OKC				ex	x		22 03 43.5	
UPC	Upice	145.61	344	ePKP	PKPdf		22 03 41.4	+1.4
UPC				ex	x		22 03 43.6	
DPC	Dobruska-Polom	145.66	343	ePKP	PKPdf		22 03 41.8	+1.7
DPC				ex	x		22 03 43.8	
BRG	Berggiesshubel	145.78	346	ePKPbc	PKPbc		22 03 41.4	-0.7
BRG	Berggiesshubel	145.78	346	iPKP	PKPdf		22 03 41.4	+1.1
MORC	Moravsky Berou	145.83	341	⇓iP	PKPdf		22 03 42.1	+1.7
MORC	Moravsky Berou	145.83	341	P	PKPdf		22 03 42.2	+1.8
WTSB	Winterswijk	145.89	354	eP	PKPdf		22 03 41.4	+1.0
	comp=Z,37nm,0.9s							
MLR	Muntele Rosu	145.93	329	⇑iP	PKPdf		22 03 41.8	+1.3
MLR	Muntele Rosu	145.93	329	P	PKPdf		22 03 41.9	+1.4
KECS	Kecovo	145.96	337	iPKP	PKPdf		22 03 42.2	+1.6
PVCC	Panska Ves	145.96	345	ePKP	PKPdf		22 03 42.4	+1.8
PVCC				ex	x		22 03 44.8	
BUG	Bochum--Univer	146.37	354	ePKPbc	PKPbc		22 03 42.8	-0.9
VOIR		146.41	330	⇓iP	PKPbc		22 03 44.0	+0.2
VOIR		146.41	330	⇓P	PKPbc		22 03 44.0	+0.2
PRU	Pruhonice	146.46	345	ePKP	PKPbc		22 03 43.5	-0.5
PRU				ex	x		22 03 46.3	
PRU	Pruhonice	146.46	345	ePKP	PKPbc		22 03 43.5	-0.5
PRU				e			22 03 46.3	
MOX	Moxa	146.49	348	eP	PKPdf		22 03 40.9	-0.6
	comp=Z,16nm,0.9s							
VRAC	Vranov	146.53	342	⇑iP	PKPbc		22 03 43.7	-0.4
VRAC	Vranov	146.53	342	P	PKPbc		22 03 43.9	-0.2
VYHS	Vyhne	146.53	339	iPKP	PKPbc		22 03 43.9	-0.2
TANN	Tannenbergstha	146.54	347	ePKPbc	PKPbc		22 03 43.5	-0.7
UBBA	Unterbreizbach	146.61	350	ePKPbc	PKPbc		22 03 43.2	-1.2
PSZ	Piszkesteto	146.65	337	⇑iP	PKPbc		22 03 44.0	-0.5
PSZ	Piszkesteto	146.65	337	P	PKPbc		22 03 44.1	-0.3
TREC	Trest	146.85	343	ePKP	PKPdf		22 03 42.7	+0.6
TREC				ex	x		22 03 46.2	
SMOL	Smolenice	146.98	341	ePKP	PKPbc		22 03 45.7	+0.4
MANZ	Manzenberg	147.02	347	ePKPbc	PKPbc		22 03 45.1	-0.3
HGN	Heimansgroeve	147.16	355	eP	PKPbc		22 03 44.8	-1.0
	comp=Z,8.8nm,0.7s							
ROTZ	Rotzenmuhle	147.21	347	ePKPbc	PKPbc		22 03 45.5	-0.4
MEM	Membach	147.31	355	PKPbc	PKPbc		22 03 45.7	-0.5
ZST	Bratislava	147.36	341	ePKP	PKPbc		22 03 46.2	-0.1
TNS	Taunus Mts	147.42	352	ePKPbc	PKPbc		22 03 46.0	-0.5
TNS				ePKPab	PKPab		22 03 49.4	-1.1
GRA1	Grafenberg Arr	147.48	348	ePKPbc	PKPbc		22 03 46.3	-0.3
GRA1				ePKPab	PKPab		22 03 50.0	-0.8
GRF	Grafenberg Arr	147.48	348	ePKPbc	PKPbc		22 03 46.3	-0.3
GRF				ePKPab	PKPab		22 03 50.0	-0.8
KHC	Kasperske Hory	147.49	345	ePKP	PKPbc		22 03 46.4	-0.3
KHC				ex	x		22 03 51.1	
GZR	Gura Zlata	147.50	332	⇓iP	PKPbc		22 03 45.8	-0.9
GZR	Gura Zlata	147.50	332	⇓P	PKPbc		22 03 45.8	-0.9
SNF	Seneffe	147.53	357	PKPbc	PKPbc		22 03 46.4	-0.4
BCLA	Clavier	147.55	356	PKPbc	PKPbc		22 03 45.8	-1.0
BCLA				PKPab	PKPab		22 03 50.2	-0.9
WET	Wettzell	147.65	346	ePKPbc	PKPbc		22 03 46.5	-0.6
GEC2	GERESS Array S	147.73	345	ePKPbc	PKPbc		22 03 46.6	-0.7
GERES	GERESS Array B	147.73	345	PKPbc	PKPbc		22 03 46.8	-0.5
	comp=Z,13nm,0.7s,baz=20,slow=2.9,SNR=75							
BZS	Buzias	147.84	333	⇑iP	PKPbc		22 03 46.9	-0.7
BZS	Buzias	147.84	333	P	PKPbc		22 03 46.9	-0.6
GIVF	Givet	147.90	356	⇑iPKP1	PKPbc		22 03 47.2	-0.5
	comp=Z,32nm,0.6s							
DOU	Dourbes	147.92	356	PKPbc	PKPbc		22 03 47.2	-0.6
BAIF	Baives	147.98	357	⇑iPKP1	PKPbc		22 03 47.5	-0.4
	comp=Z,23nm,0.6s							
WLF	Walferdange	148.23	354	ePKPbc	PKPbc		22 03 48.4	-0.1
WLF				ePKPab	PKPab		22 03 52.9	-1.0
WLF	Walferdange	148.23	354	PKPbc	PKPbc		22 03 48.5	-0.1
WLF	Walferdange	148.23	354	ePKPbc	PKPbc		22 03 48.4	-0.2
MOA	Molln	148.50	344	⇑iP	PKPbc		22 03 48.5	-0.7
	comp=Z,12nm,1.2s							
PKSM	Moragy	148.54	337	⇓iP	PKPbc		22 03 48.0	-1.3
PKSM	Moragy	148.54	337	P	PKPbc		22 03 48.5	-0.9
STU	Stuttgart	148.72	350	ePKPbc	PKPbc		22 03 49.2	-0.5
FUR	Furstenfeldbru	148.92	347	ePKPbc	PKPbc		22 03 49.6	-0.6
FUR				ePKPab	PKPab		22 03 55.5	-1.2
BFO	Black Forest	149.29	351	ePKPbc	PKPbc		22 03 50.4	-0.7
BFO				ePKPab	PKPab		22 03 57.0	-1.2
FLN	La Foiniere	149.31	3	⇑iPKP1	PKPbc		22 03 50.3	-0.9
	comp=Z,45nm,0.8s							
CDF	Champ du Feu	149.35	353	ePKP1	PKPbc		22 03 50.8	-0.5
	comp=Z,38nm,0.9s							
PERS	Pernice	149.36	342	iPKPdf	PKPbc		22 03 50.1	-1.2
VTS	Vitosha	149.39	328	⇑iP	PKPbc		22 03 51.0	-0.3
VTS	Vitosha	149.39	328	P	PKPbc		22 03 51.1	-0.2
KBA	Koelnbreinsper	149.46	344	⇑iP	PKPbc		22 03 50.4	-1.1
	comp=Z,14nm,0.8s							
MEZF	Maizieres J'vi	149.48	355	⇑iPKP1	PKPbc		22 03 51.2	-0.4
LDF	La Druitiere	149.49	2	⇑iPKP1	PKPbc		22 03 50.6	-1.0
	comp=Z,15nm,0.6s							
ROSF	Rostrenen	149.52	6	⇑iPKP1	PKPbc		22 03 50.6	-1.1
	comp=Z,24nm,0.9s							
WATA	Walderalm	149.64	346	⇓iP	PKPbc		22 03 51.2	-0.8
	comp=Z,16nm,1.1s							
GRR	Gorron	149.66	3	⇑iPKP1	PKPbc		22 03 51.2	-0.8
	comp=Z,24nm,0.7s							
SGMF	Saint Gilles	149.67	5	⇑iPKP1	PKPbc		22 03 51.0	-1.0
	comp=Z,32nm,0.9s							
WTTA	Wattenberg	149.70	346	⇑iP	PKPbc		22 03 51.4	-0.7
	comp=Z,29nm,0.6s							
MOTA	Moosalm	149.74	347	⇑iP	PKPbc		22 03 51.3	-0.9
	comp=Z,12nm,0.9s							
DIVS	Divcibare	149.75	333	eP	PKPbc		22 03 51.8	-0.4
MMB	Musomiste	149.83	326	eP	PKPbc		22 03 51.5	-0.8
SQTA	Sankt Quirin	149.83	347	⇑iP	PKPbc		22 03 51.9	-0.5
	comp=Z,12nm,0.8s							
HAU	Haudompre	149.85	354	⇑iPKP1	PKPbc		22 03 51.8	-0.7
	comp=Z,26nm,0.8s							
QUIF	Quistinic	149.95	6	ePKP1	PKPbc		22 03 52.4	-0.3
	comp=Z,70nm,1.2s							
HINF	Hinteralfeld	149.99	353	⇑iPKP1	PKPbc		22 03 52.0	-0.8
	comp=Z,19nm,0.8s							
DAVA	Damuels	150.04	349	⇑iP	PKPbc		22 03 52.4	-0.5
	comp=Z,23nm,1.1s							
ROBS	Robic	150.18	343	iPKPdf	PKPbc		22 03 51.9	-1.3
BOJS	Bojanci	150.33	340	iPKPdf	PKPbc		22 03 53.1	-0.4
LOR	Lormes	150.79	357	⇑iPKP1	PKPbc		22 03 54.1	-0.5
	comp=Z,28nm,0.7s							
HYF	Humbligny	150.83	359	ePKP1	PKPbc		22 03 54.6	-0.1
SSF	Saint Saulge	151.01	357	⇑iPKP1	PKPbc		22 03 54.6	-0.5
	comp=Z,38nm,0.9s							
CABF	La Chapelle	151.26	354	⇑iPKP1	PKPbc		22 03 55.7	0.0
	comp=Z,44nm,1.0s							
AVF	Avril sur Loir	151.29	357	⇑iPKP1	PKPbc		22 03 54.9	-0.8
	comp=Z,15nm,0.9s							
SMF	Signal de Mont	151.41	357	ePKP1	PKPbc		22 03 55.4	-0.6
	comp=Z,13nm,0.9s							
MFF	Saint Martin d	151.48	2	⇑iPKP1	PKPbc		22 03 55.4	-0.8
	comp=Z,36nm,0.9s							
BGF	Bois d'Agland	151.54	358	⇑iPKP1	PKPbc		22 03 55.8	-0.5
	comp=Z,22nm,0.8s							
FNA	Florina	151.64	327	eP	PKPbc		22 03 55.5	-1.0
TCF	Toulx Ste Croi	151.82	359	⇑iPKP1	PKPbc		22 03 56.2	-0.7
	comp=Z,25nm,0.9s							
LPL	La Plagne	152.26	352	⇑iPKP1	PKPbc		22 03 58.2	+0.3
	comp=Z,6.7nm,0.8s							
LPG	La Plagne	152.28	352	⇑iPKP1	PKPbc		22 03 58.3	+0.4
	comp=Z,6.8nm,0.7s							
LAST	Lasithi	152.76	313	eP	PKPbc		22 03 58.5	-0.5
RJF	Les Rejaudoux	152.81	0	ePKP1	PKPbc		22 03 58.5	-0.6
ORIF	Oris-en-Rattie	152.96	353	⇑iPKP1	PKPbc		22 03 59.2	-0.2
	comp=Z,4.3nm,0.6s							
MBDF	Montbardon	153.03	352	⇑iPKP1	PKPbc		22 03 59.3	-0.3
	comp=Z,11nm,0.7s							
VIVF	Saint-Julien-l	153.13	355	ePKP1	PKPbc		22 03 59.5	-0.3
	comp=Z,14nm,0.9s							
LFF	La Frestale	153.17	1	⇑iPKP1	PKPbc		22 03 59.1	-0.8
	comp=Z,7.5nm,0.7s							
CAF	Calviac	153.19	359	⇑iPKP1	PKPbc		22 03 59.5	-0.4
	comp=Z,7.9nm,0.8s							
ESDC	Sonseca Array	157.91	11	PKPab	PKPab		22 04 33.6	-1.5
	comp=Z,1.1nm,0.6s,baz=343,slow=4.2,SNR=6.9							
KEST	Kesra	161.07	340	PKPab	PKPab		22 04 48.4	-0.6
	comp=Z,0.9nm,0.7s,baz=193,slow=5.4,SNR=5.0							
DBIC	Dimbokro	167.08	150	PKP	PKPdf		22 04 05.8	-1.1
	comp=Z,1.8nm,0.8s,baz=86,slow=15,SNR=4.1							
TORD	Torodi Ar. Bea	175.14	181	PKP	PKPdf		22 04 09.8	-1.1
	comp=Z,0.3nm,0.6s,baz=353,slow=1.8,SNR=7.8							
TORD				PKPab	PKPab		22 05 50.8	-0.4
	comp=Z,1.0nm,1.2s,baz=194,slow=3.9,SNR=9.8							

WEL 16 22:01:14.0±0.4, 3715S×17769E, h98km±4km, ML3.5/5, Error ellipse: s-maj=4.6km s-min=3.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.64	130	PN	Pn	22 01 30.5	-0.1
MXZ				SN	Sn	22 01 43.2	0.0
PUZ	Puketiti	1.03	154	PN	Pn	22 01 36.3	+1.8
PUZ				SN	Sn	22 01 50.4	+0.4
MWZ	Matawai	1.19	186	PN	Pn	22 01 36.7	+0.3
MWZ				SN	Sn	22 01 53.5	+0.2
URZ	Urewera	1.20	202	PN	Pn	22 01 36.9	+0.4
URZ				SN	Sn	22 01 53.0	-0.5
KNZ	Kokohu	1.87	180	PN	Pn	22 01 44.3	-0.4
KNZ				SN	Sn	22 02 07.2	-1.0
BKZ	Black Stump Fm	2.23	205	PN	Pn	22 01 49.2	-0.2
MOVZ	Moawhango	2.72	213	PN	Pn	22 01 55.8	-0.2
MQZ	McQueen's Vall	7.59	209	SN	Sn	22 04 19.8	-6.5

*NEIC **16** 22:01:40.1, 3626S×7150W, h151km, MD3.6(GUC), After GUC.*

GUC 16 22:01:40.1±0.7, 3626S×7150W, h151km±4km, MD3.6, ML3.8, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.42	348	⇑iP	Pn	22 02 01.4	+0.3
LNCH				iS	Sn	22 02 17.1	-0.1
LNCH				AML	AML	22 02 18.2	
	comp=E,4μm,0.3s						
LNCH	Linares	0.42	348	⇑iP	Pn	22 02 01.4	+0.3
LNCH				iS	Sn	22 02 17.1	-0.1
CCHI	Chillan	0.58	233	eP	Pn	22 02 01.9	0.0
CCHI				iS	Sn	22 02 18.6	-0.1
CCHI				AML	AML	22 02 20.4	
	comp=N,1μm,0.4s						
CCHI	Chillan	0.58	233	eP	Pn	22 02 01.9	0.0
CCHI				iS	Sn	22 02 18.6	-0.1
TALC	Talca	0.86	352	iP	Pn	22 02 05.3	+1.4
TALC				iS	Sn	22 02 23.9	+1.9
TALC				AML	AML	22 02 25.3	
	comp=E,2μm,0.5s						
TALC	Talca	0.86	352	iP	Pn	22 02 05.3	+1.4
TALC				iS	Sn	22 02 23.9	+1.9
COCH	Cobquecura	1.05	276	⇓iP	Pn	22 02 07.8	+2.4
COCH				iS	Sn	22 02 27.1	+2.4
NICH	Los Niches	1.27	10	iP	Pn	22 02 07.9	+0.5
NICH				iS	Sn	22 02 28.1	-0.2
SFDO	San Fernando	1.69	14	eP	Pn	22 02 12.2	+0.5
SFDO				iS	Sn	22 02 36.5	+0.6
CICH	Cipreses	2.12	25	eP	Pn	22 02 17.3	+0.6
CICH				iS	Sn	22 02 46.0	+1.2
CACH	El Canelo	2.26	19	eP	Pn	22 02 18.7	+0.4
CACH				iS	Sn	22 02 48.4	+0.7
LNV	Longovilo	2.30	2	⇓iP	Pn	22 02 20.5	+1.7
LNV				iS	Sn	22 02 49.9	+1.4
TACH	Talagante	2.64	10	⇓iP	Pn	22 02 23.4	+0.5
RCDM	Rinconada Maip	2.82	12	eP	Pn	22 02 25.8	+0.7
RCDM				iS	Sn	22 03 00.1	+0.1
RCDM				AML	AML	22 03 04.2	
	comp=E,227nm,0.1s						
RCDM	Rinconada Maip	2.82	12	eP	Pn	22 02 25.8	+0.7
RCDM				iS	Sn	22 03 00.1	+0.1
CLCH	Cerro Calan	2.96	16	iS	Sn	22 03 03.9	+0.7
FCH	Farellones	3.08	19	eP	Pn	22 02 29.2	+0.7
FCH				iS	Sn	22 03 06.8	+0.8
FCH				AML	AML	22 03 10.1	
	comp=E,90nm,0.6s						
PEL	Peldehue	3.18	12	eP	Pn	22 02 30.0	+0.3
PEL				iS	Sn	22 03 08.9	+0.8
PEL				AML	AML	22 03 12.5	
	comp=N,227nm,0.1s						
PEL	Peldehue	3.18	12	eP	Pn	22 02 30.0	+0.3
PEL				iS	Sn	22 03 08.9	+0.8

*ISCJB **16** 23:03:55.1±1.3, 607S±004×14756E±006, h54km±12km, mb4.8/28, MS4.1/9, Error ellipse: s-maj=10.5km s-min=6.7km az=46.9*

*IDC **16** 23:03:55.6±1.8, 605S×147.44E, h44km±15km, mb4.2/8, mb1 4.5/11, mb1mx4.5/14, mbtmp4.5/11, ML4.3/3, MS3.7/7, Ms1 3.7/7, ms1mx3.5/18, Error ellipse: s-maj=16.3km s-min=9.9km az=118.0*

*BJI **16** 23:03:55.7, 6.18S×148.02E, h79km, mB5.1, mb4.9, Ms4.9, Msz4.7*

*NEIC **16** 23:03:56.6±0.2, 603S×147.55E, mb4.8/13, Error ellipse: s-maj=7.3km s-min=4.7km az=87.0*

ISC 16 23:03:57.9±1.0, 613S±004×14759E±007, h64km±10km, h69km±5.5km: pP-P, n81, σ1§11/76, mb4.8/28, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.29	187	P	Pn	23 04 46.7	-0.1
	27nm,0.3s,baz=18,slow=13,SNR=41						
PMG				S	Sn	23 05 25.3	+0.5
	167nm,0.3s,baz=214,slow=21,SNR=22						
PMG	Port Moresby	3.29	187	⇓iPn	Pn	23 04 46.6	-0.2
PMG				eSn	Sn	23 05 18.3	-6.4
HNR	Honiara	12.68	106	LR	LR	23 10 52.4	
	comp=Z,160nm,21.2s,baz=358,slow=32						
HNR	Honiara	12.68	106	Pn	Pn	23 06 55.5	+0.3
CTA	Charters Tower	13.94	185	eP	Pn	23 07 13.5	+1.3
	3.7nm,0.6s						
CTA	Charters Tower	13.94	185	P	Pn	23 07 13.2	+1.0
	0.6nm,0.3s,baz=1.0,slow=15,SNR=5.3						
CTAO	Charters Tower	13.94	185	ePn	Pn	23 07 13.7	+1.5
	3.9nm,0.6s						
KAKA	Kakadu	16.31	245	eP	Pn	23 07 42.3	-0.4
	61nm,0.4s						
KAKA				eS	S	23 10 38.1	-14
WB2	Warramunga Arr	18.82	222	eP	Pn	23 08 11.7	-1.7
WB2				eS	S	23 11 37.9	-5.0
WRA	Warramunga Arr	18.82	222	P	Pn

CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,40nm,5.2s
HHC Hu-ho-hao-te 57.25 328 *e*P **P 23 13 41.8 +3.2**
HHC XP sP 23 14 09.8 +7.2
HHC PP PP 23 15 52.1 +5.9
HHC S **S 23 21 31.5 +1.7**
HHC XS sS 23 22 04.6 +6.5
HHC SS SS 23 25 19.3 -0.4
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,172nm,7.6s
HHC LR LR
comp=N,157nm,7.3s
HHC LR LR
comp=E,157nm,9.2s
HHC LR LR
comp=Z,234nm,10.8s
LZH Lanzhou 58.69 319 *e*P **P 23 13 52.6 +3.9**
LZH AP pP 23 14 09.3 +3.8
LZH PP PP 23 16 03.3 +4.3
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,54nm,7.3s
LZH LR LR
comp=E,426nm,14.8s
LZH LR LR
comp=Z,589nm,18.2s
LZH Lanzhou 58.69 319 *e*P **P 23 13 52.6 +3.9**
comp=Z,21nm,1.5s,mb5.0
LZH pP pP 23 14 09.2 +3.7
LZH sP sP 23 14 12.6 -0.1
LZH PP PP 23 16 03.2 +4.2
LZH LR LR
comp=Z,590nm,18.2s
HIA Hailar 60.27 339 *e*P **P 23 13 59.6 -0.1**
comp=Z,2.9nm,0.3s,mb4.8
LSA Lhasa 64.78 307 *e*P **P 23 14 30.0 +0.3**
comp=Z,1.5nm,0.4s,mb4.4
SONM Songino Array 64.80 331 P **P 23 14 29.4 -0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=137,slow=7.4,SNR=14
CASY Casey 65.29 196 *e*P **P 23 14 32.6 -0.4**
PALK Pallekele 68.04 280 P **P 23 14 49.9 -0.6**
GUN Gumba 68.43 303 *e*P **P 23 14 54.2 +1.3**
comp=Z,5.7nm,0.4s,mb5.0
PKI Pulchoki 68.71 303 *e*P **P 23 14 57.0 +2.3**
comp=Z,6.4nm,0.5s,mb4.8
DMN Daman 68.97 303 *e*P **P 23 14 59.1 +2.8**
comp=Z,4.1nm,0.4s,mb4.7
GKN Gorkha 69.49 303 *e*P **P 23 15 00.3 +0.8**
comp=Z,4.7nm,0.5s,mb4.7
KOLN Koldanda 70.29 302 *e*P **P 23 15 07.0 +2.6**
comp=Z,8.4nm,0.8s,mb4.7
VNDA Vanda 71.75 177 P **P 23 15 13.7 +0.4**
comp=Z,2.0nm,0.5s,mb4.3,baz=334,slow=6.7,SNR=49
SBA Scott Base 72.39 176 P **P 23 15 17.3 +0.2**
WMQ Urumqi 73.27 319 *e*P **P 23 15 23.0 +0.7**
WMQ PCP PcP 23 15 39.5 +1.1
WMQ AP pP 23 15 43.0 +3.4
WMQ XP sP 23 15 52.0 +5.3
WMQ PP PP 23 18 10.0 +3.9
WMQ *e*S S 23 24 44.0 -1.8
WMQ XS sS 23 25 18.0 +2.9
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,164nm,5.8s
WMQ LR LR
comp=N,208nm,20.6s
WMQ LR LR
comp=E,256nm,21.2s
WMQ LR LR
comp=Z,234nm,21.8s
MK31 Makanchi Array 77.97 320 *e*P **P 23 15 48.3 -0.9**
MKAR Makanchi Array 77.97 320 P **P 23 15 48.1 -1.1**
comp=Z,0.4nm,0.3s,baz=99,slow=7.2,SNR=18
AAK Ala-Archa 81.84 314 *e*P **P 23 16 09.1 -1.0**
comp=Z,1.1nm,0.6s,mb4.0
MAW Mawson 82.36 203 *e*P **P 23 16 12.4 -0.4**
comp=Z,2.4nm,0.7s,mb4.2
MAW Mawson 82.36 203 P **P 23 16 11.6 -1.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=100,slow=6.5,SNR=14
PMR Palmer 83.07 25 *e*P **P 23 16 15.8 -0.7**
QSPA South Pole Qui 83.84 180 *e*P **P 23 16 20.2 -0.3**
comp=Z,11nm,0.4s,mb5.3
CHKZ Chkalovo 87.24 325 *e*P **P 23 16 34.7 -2.6**
comp=Z,1.0nm,0.4s,mb4.4
BRVK Borovoye 87.28 324 *e*P **P 23 16 36.0 -1.5**
ARU Arti 94.52 326 P **P 23 17 07.9 -3.3**
SNAA Sanae 99.97 189 *e*Pdif Pdif 23 17 34.9 -0.8
KIV Kislovodsk 104.95 314 *e*Pdif Pdif 23 17 56.8 -1.2
BOSA Boshof 114.65 235 PKP PKiKP 23 22 32.0 +1.2
comp=Z,1.1nm,0.4s,baz=118,slow=4.0,SNR=4.0
LBTB Lobatse 115.68 239 *e*PKPdf PKPdf 23 22 34.0 +1.2
GERES GERESS Array B 122.34 326 PKP PKPdf 23 22 44.3 -1.3
comp=Z,0.6nm,0.6s,baz=64,slow=3.1,SNR=5.2
NNA Nana 132.29 112 *e*PKPdf PKPdf 23 23 05.3 +0.7
LVC Limon Verde 134.27 130 *e*PKPdf PKPdf 23 23 09.6 +1.3
CPUP Villa Florida 139.69 144 PKP PKPdf 23 23 19.9 +1.6
comp=Z,0.5nm,0.4s,baz=209,slow=3.1,SNR=3.1
CPUP Villa Florida 139.69 144 PKP PKPdf 23 23 19.9 +1.6
SDV Santo Domingo 142.02 83 *e*PKPdf PKPdf 23 23 19.1 -3.4
TOA0 Torodi Ar. Sit 145.69 284 *e*PKPdf PKPdf 23 23 29.4 +0.5
TORD Torodi Ar. Bea 145.69 284 PKPbc PKPbc 23 23 29.3 -0.1
comp=Z,2.8nm,0.4s,baz=65,slow=3.1,SNR=77
DBIC Dimbokro 152.61 273 PKPbc PKPbc 23 23 48.7 +1.6
comp=Z,3.8nm,0.6s,baz=90,slow=3.1,SNR=18
BDFB Brasilia 153.42 145 PKP PKPdf 23 23 42.1 +0.9
comp=Z,3.8nm,0.6s,baz=204,slow=1.9,SNR=7.8
BDFB PKPbc PKPbc 23 23 50.2 +1.4
comp=Z,11nm,0.5s,baz=223,slow=2.5,SNR=20
BDFB PKPab PKPab 23 24 03.1 +1.9
comp=Z,6.6nm,0.6s,baz=230,slow=4.6,SNR=5.6

NIED ***16*** *23:15:00, 3730N×143.10E, h11km, Mw3.8 Best double couple: M0 5.39000×10^14 NP1:φs7.00000°, δ64.00000°, λ71.00000°. NP2:φs224.00000°, δ32.00000°, λ123.00000°.*
JMA ***16*** *23:15:19.9±0.3, 3732N×14306E, h54km, M3.7*
ISCJB ***16*** *23:15:20.9±0.6, 3734N±004×14299E±005, h32km, mb3.8/11, Error ellipse: s-maj=6.7km s-min=4.7km az=81.7*
IDC ***16*** *23:15:22.6±0.9, 3724N×143.11E, h32km±4km, mb3.6/10, mb1 3.8/12, mb1mx3.7/23, mbtmp3.9/12, ML3.7/2, Error ellipse: s-maj=24.7km s-min=15.4km az=75.0*
NEIC ***16*** *23:15:22.6±0.6, 3725N×14308E, mb4.0/1, Error ellipse: s-maj=13.0km s-min=10.1km az=123.0*
ISC 16 23:15:23.1±0.6, 3738N±004×14292E±006, h34km, h34km±.6km: pP-P, n32, σ1§09/44, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.63**	**270**	P	**Pn**	**23 15 48.4**	**-1.0**
JFK				*e*S	**Sn**	**23 16 09.2**	**0.0**
JIO	**Ouri**	**1.64**	**311**	P	**Pn**	**23 15 48.9**	**-0.7**
JIO				*e*S	**Sn**	**23 16 10.0**	**+0.5**
ONAJ	**Iwakimizuishiy**	**1.71**	**261**	P	**Pn**	**23 15 49.9**	**-0.7**
ONAJ				*e*S	**Sn**	**23 16 12.2**	**+0.9**
JMM	**Marumori**	**1.76**	**287**	P	**Pn**	**23 15 50.2**	**-0.9**
JMK	**Ichinoseki**	**2.06**	**320**	P	**Pn**	**23 15 54.7**	**-0.7**
JOM	**Ohasama**	**2.45**	**329**	P	**Pn**	**23 16 00.0**	**-0.7**
JOM				*e*S	**Sn**	**23 16 29.7**	**+0.2**
JYK	**Kaneyama**	**2.54**	**308**	P	**Pn**	**23 16 02.0**	**+0.1**
JAG	**Ashikaga**	**2.94**	**252**	P	**Pn**	**23 16 06.6**	**-0.8**
JAG				*e*S	**Sn**	**23 16 41.0**	**-0.4**
JANG	**Nango**	**3.19**	**340**	P	**Pn**	**23 16 09.3**	**-1.5**
JANG				*e*S	**Sn**	**23 16 46.4**	**-1.2**
JRY	**Ryogami san**	**3.50**	**248**	P	**Pn**	**23 16 14.4**	**-0.7**
JRY				*e*S	**Sn**	**23 16 54.0**	**-1.4**
JOD2	**Odawara 2**	**3.74**	**237**	P	**Pn**	**23 16 17.2**	**-1.3**
JOD2				*e*S	**Sn**	**23 16 59.6**	**-1.7**
MJAR	**Matsushiro Arr**	**3.86**	**259**	Pn	**Pn**	**23 16 20.9**	**+0.7**
	3.2nm,0.3s,baz=87,slow=16,SNR=22						
MJAR				Sn	**Sn**	**23 17 07.4**	**+3.1**
	1.6nm,0.3s,baz=84,slow=16,SNR=5.3						
MAJO	**Matsushiro**	**3.86**	**259**	*e*Pn	**Pn**	**23 16 21.6**	**+1.5**
MAJO				*e*Sn	**Sn**	**23 17 07.7**	**+3.4**
MAT	**Matsushiro**	**3.86**	**259**	P	**Pn**	**23 16 20.9**	**+0.8**
MAT				S	**Sn**	**23 17 07.8**	**+3.5**
ERM	**Erimo**	**4.64**	**2**	*e*Pn	**Pn**	**23 16 31.8**	**+1.1**
ERM				*e*Sn	**Sn**	**23 17 20.5**	**-2.9**
JHJ	**Hachijo jima 2**	**4.96**	**212**	Pn	**Pn**	**23 16 35.5**	**+0.3**
	13nm,0.3s,baz=53,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**23 17 24.5**	**-6.9**
	46nm,0.3s,baz=80,slow=22,SNR=5.6						
SONM	**Songino Array**	**28.60**	**303**	P	**P**	**23 21 17.9**	**+1.9**
	2.4nm,0.8s,mb4.0,baz=104,slow=8.7,SNR=17						
SONM				pP	pP	23 21 27.1	+1.3
	1.6nm,0.8s,baz=100,slow=8.5,SNR=7.2						
ZAL	**Zalesovo**	**42.59**	**312**	P	**P**	**23 23 16.3**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=348,slow=4.9,SNR=5.5						
ZAL				pP	pP	23 23 26.4	+0.6
	1.3nm,0.5s,baz=5.7,slow=5.1,SNR=4.7						
ZAL	**Zalesovo**	**42.59**	**312**	P	**P**	**23 23 16.3**	**+0.5**
ZAL				pP	pP	23 23 26.4	+0.6
MK31	**Makanchi Array**	**44.95**	**302**	*e*P	**P**	**23 23 35.8**	**+0.9**
MK31				*e*pP	pP	23 23 45.5	+0.6
MKAR	**Makanchi Array**	**44.95**	**302**	P	**P**	**23 23 35.9**	**+1.0**
	1.2nm,0.7s,mb3.8,baz=86,slow=10,SNR=15						
MKAR				pP	pP	23 23 45.7	+0.8
	1.1nm,0.6s,baz=85,slow=9.3,SNR=8.0						
MKAR	**Makanchi Array**	**44.95**	**302**	P	**P**	**23 23 35.9**	**+1.0**
MKAR				pP	pP	23 23 45.7	+0.8
CHKZ	**Chkalovo**	**50.96**	**313**	*e*P	**P**	**23 24 21.6**	**+0.4**
	0.7nm,0.4s,mb3.9						
CHKZ				*e*pP	pP	23 24 31.2	-0.2
WRA	**Warramunga Arr**	**57.58**	**190**	P	**P**	**23 25 08.0**	**-1.5**
	0.7nm,0.7s,mb3.8,baz=9.8,slow=7.5,SNR=7.1						
WRA				pP	pP	23 25 18.0	-1.8
	0.7nm,0.8s,baz=8.4,slow=7.1,SNR=3.4						
ASAR	**Alice Springs**	**61.31**	**189**	P	**P**	**23 25 35.0**	**-0.1**
	0.3nm,0.6s,mb3.6,baz=8.2,slow=8.4,SNR=3.8						
ASAR				pP	pP	23 25 44.1	-1.5
	0.2nm,0.4s,baz=2.8,slow=7.7,SNR=2.0						
ARCES	**ARCESS Array B**	**64.10**	**340**	P	**P**	**23 25 55.7**	**+2.0**
	4.1nm,1.0s,mb4.4,baz=42,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**69.07**	**333**	P	**P**	**23 26 26.1**	**+0.6**
	1.0nm,0.7s,mb3.9,baz=57,slow=14,SNR=3.5						
FINES				pP	pP	23 26 36.8	+0.7
	1.6nm,0.9s,baz=58,slow=5.2,SNR=0.9						
NOA	**NORSAR Array B**	**74.33**	**338**	P	**P**	**23 26 57.4**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=39,slow=5.7,SNR=3.6						
NOA	**NORSAR Array B**	**74.33**	**338**	P	**P**	**23 26 57.4**	**+0.3**
AKASG	**Malin Array Be**	**74.76**	**323**	P	**P**	**23 26 59.9**	**+0.3**
	0.1nm,0.3s,mb3.3,baz=42,slow=5.8,SNR=4.3						
AKASG				pP	pP	23 27 09.6	-0.6
	0.2nm,0.3s,baz=43,slow=6.9,SNR=2.4						
PDAR	**Pinedale Array**	**76.57**	**46**	P	**P**	**23 27 10.2**	**+0.2**
	0.2nm,0.3s,mb3.5,baz=345,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**117.93**	**316**	PKP	PKPdf	23 34 05.5	-0.6
	0.5nm,0.9s,baz=336,slow=3.2,SNR=2.8						

NIED ***16*** *23:23:00, 4670N×15370E, h11km, Mw4.7 Best double couple: M0 1.46000×10^16 NP1:φs128.00000°, δ71.00000°, λ71.00000°. NP2:φs355.00000°, δ27.00000°, λ134.00000°.*
SZGRF ***16*** *23:23:08.5, 4801N×15260E, h33km, mb5.3, Kuril Islands, Russia*
SKHL ***16*** *23:23:11.5±0.0, 4774N×15425E, h145km±44km, mb6.2/4, mbh5.8/2, Ms4.5/4, msh5.9/4*
BJI ***16*** *23:23:16.8, 4826N×15338E, h147km, mB5.1, mb5.1*
MOS ***16*** *23:23:16.1±0.9, 4815N×15324E, h125km, mb5.0/103, Error ellipse: s-maj=6.6km s-min=4.0km az=95.6*
ISCJB ***16*** *23:23:16.8±0.1, 4810N±002×15324E±002, h134km, mb4.9/204, Error ellipse: s-maj=3.6km s-min=1.7km az=147.2*
GCMT ***16*** *23:23:18.6±0.2, 4821N×15360E, h137km±1km, MW5.1/92, Moment Tensor Solution. s45,c61; s92,c153; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.03±.12; Mθθ 1.11±.14; Mφφ 2.92±.15; Mrθ 0.37±.10; Mφφ 2.29±.13; Mθφ 3.12±.10; Best double couple: M0 5.30200×10^16 NP1:φs51.00000°, δ31.00000°, λ-61.00000°. NP2: φs198.00000°, δ64.00000°, λ-106.00000°. Principal axes: T 5.3400, Plg17.0000°, Azm300.0000°; N -0.0760, Plg14.0000°, Azm205.0000°; P -5.2640, Plg67.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***16*** *23:23:18.3±0.6, 4818N×153.15E, h135km±4km, mb4.5/21, mb1 4.7/22, mb1mx4.7/23, mbtmp4.9/22, MS3.8/14, Ms1 3.8/14, ms1mx3.6/41 Error ellipse: s-maj=11.4km s-min=9.5km az=142.0*
NEIC ***16*** *23:23:18.6±0.1, 4816N×153.19E, mb5.0/147, Error ellipse: s-maj=3.6km s-min=2.3km az=165.0*
ISC 16 23:23:18.7±0.1, 4818N±002×15313E±002, h136km, h136km±1.1km: pP-P, n912, σ0§82/913, mb4.9/204, 144C-74D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.18**	**37**	*e*P	**Pn**	**23 24 01.2**	**-6.6**
SKR				AMB	AMB	23 24 03.0	
	2μm,3.0s						
SKR				AMB	AMB	23 24 03.0	
	3μm,3.0s						
SKR				AMB	AMB	23 24 03.0	
	3μm,3.0s						
SKR				AMB	AMB	23 24 04.5	
	310nm,0.5s						
SKR				AMB	AMB	23 24 04.5	
	540nm,0.5s						
SKR				AMB	AMB	23 24 04.5	
	1μm,0.5s						
SKR				*e*S	**Sn**	**23 24 38.5**	**-7.2**
SKR				A		23 24 40.0	
	5μm,4.0s						
SKR				A		23 24 40.0	
	7μm,4.0s						
SKR				A		23 24 40.0	
	5μm,4.0s						
SKR				A		23 24 40.4	
	1μm,0.4s						
SKR				A		23 24 40.4	
	2μm,0.4s						
SKR				A		23 24 40.4	
	770nm,0.4s						
SKR				AMS	AMS	23 25 14.0	
	5μm,8.0s						
SKR				AMS	AMS	23 25 14.0	
	5μm,8.0s						
SKR	**Severo-Kuril's**	**3.18**	**37**	*e*PN	**Pn**	**23 24 01.2**	**-6.6**
SKR				*e*S	**Sn**	**23 24 38.5**	**-7.2**
SKR				pmax	pmax		
	comp=N,2μm,3.0s						
SKR				pmax	pmax		
	comp=E,3μm,3.0s						
SKR				pmax	pmax		
	comp=Z,3μm,3.0s						
SKR				pmax	pmax		
	comp=N,310nm,0.5s						
SKR				pmax	pmax		
	comp=E,540nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax			
	comp=N,6μm,4.0s						
SKR				smax			
	comp=E,5μm,4.0s						
SKR				smax			
	comp=N,2μm,0.3s						
SKR				smax			
	comp=E,2μm,0.3s						
SKR				MLR	MLR		
	comp=N,5μm,8.0s						
SKR				MLR	MLR		
	comp=E,5μm,8.0s						
SKR				MLR	MLR		
	comp=Z,5μm,8.0s						
KUR	**Kuril'sk**	**4.67**	**233**	*i*P	**Pn**	**23 24 25.5**	**-1.9**
KUR				AMB	AMB	23 24 27.4	
	comp=Z,80nm,0.5s						
KUR				AMB	AMB	23 24 27.4	
	comp=Z,290nm,0.5s						
KUR				AMB	AMB	23 24 42.0	
	comp=Z,5μm,2.0s						
KUR				*e*S	**Sn**	**23 25 21.0**	**+0.2**
KUR				A		23 25 24.0	
	comp=Z,740nm,0.6s						
KUR				A		23 25 24.0	
	comp=Z,460nm,0.6s						
KUR				A		23 25 42.0	
	comp=Z,14μm,3.0s						
KUR				A		23 25 42.0	
	comp=Z,8μm,3.0s						
KUR	**Kuril'sk**	**4.67**	**233**	⇑*i*PN	**Pn**	**23 24 25.5**	**-1.9**
KUR				*e*S	**Sn**	**23 25 21.0**	**+0.2**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,290nm,0.5s						
KUR				smax			
	comp=N,740nm,0.6s						
KUR				smax			
	comp=E,460nm,0.6s						
PET	**Petropavlovsk**	**5.99**	**34**	*e*P	**Pn**	**23 24 42.6**	**-2.5**
PET				AMB	AMB	23 24 57.6	
	comp=E,110nm,1.0s						
PET				*e*S	**Sn**	**23 25 46.3**	**-6.3**
PET				A		23 26 07.5	
	comp=E,490nm,0.6s						
PET				A		23 26 07.5	
	comp=E,150nm,0.6s						
PET				AMS	AMS	23 27 52.6	
	comp=E,300nm,18.0s						
PET	**Petropavlovsk**	**5.99**	**34**	*e*PN	**Pn**	**23 24 42.6**	**-2.5**
PET				*e*S	**Sn**	**23 25 46.3**	**-6.3**
PET				pmax	pmax		
	comp=Z,112nm,1.0s						
PET				smax			
	comp=N,486nm,0.5s						
PET				smax			
	comp=E,149nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PET	**Petropavlovsk**	**5.99**	**34**	*e*Pn	**Pn**	**23 24 42.5**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**6.53**	**233**	⇓*i*PN	**Pn**	**23 24 52.3**	**-0.1**
YUK				AMB	AMB	23 24 54.0	
	comp=Z,2μm,0.4s						
YUK				AMB	AMB	23 24 54.5	
	comp=Z,2μm,0.4s						
YUK				*e*S	**Sn**	**23 26 03.5**	**-2.1**
YUK				A		23 26 08.0	
	comp=Z,2μm,0.8s						
YUK				A		23 26 08.5	
	comp=Z,490nm,0.5s						
YUK				A		23 26 08.5	
	comp=Z,690nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.53**	**233**	⇓*i*PN	**Pn**	**23 24 52.3**	**-0.1**
YUK				*e*S	**Sn**	**23 26 03.5**	**-2.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK				smax			
	comp=N,490nm,0.4s						
YUK				smax			
	comp=E,690nm,0.5s						
JRA	**Rausu**	**7.00**	**236**	P	**Pn**	**23 24 58.9**	**+0.3**
NEM2	**Nemuro 2**	**7.06**	**230**	P	**Pn**	**23 24 56.8**	**-2.6**
NEM2				*e*S	**Sn**	**23 26 10.9**	**-7.3**
YSS	**Yuzh-Sakhalins**	**7.12**	**264**	⇓*i*P	**Pn**	**23 25 04.9**	**+4.6**
YSS				AMB	AMB	23 25 06.0	
	comp=E,150nm,0.8s						
YSS				*e*S	**Sn**	**23 26 28.3**	**+8.4**
YSS				A		23 26 34.0	
	comp=E,210nm,1.1s						
YSS				AMS	AMS	23 28 01.0	
	comp=E,1μm,15.0s						
YSS				AMS	AMS	23 28 01.0	
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.12**	**264**	*e*Pn	**Pn**	**23 25 04.2**	**+3.8**
TYV	**Tymovskoe**	**7.33**	**295**	*e*P	**Pn**	**23 25 06.0**	**+2.9**
TYV				AMB	AMB	23 25 08.0	
	comp=E,317nm,1.0s						
TYV				AMB	AMB	23 25 09.0	
	comp=E,2μm,4.0s						
TYV				AMB	AMB	23 25 09.0	
	comp=E,2μm,4.0s						
TYV				AMB	AMB	23 25 09.0	
	comp=E,3μm,4.0s						
TYV				*e*S	**Sn**	**23 26 35.0**	**+10**
TYV				A		23 26 57.0	
	comp=E,2μm,8.0s						
TYV				A		23 26 57.0	
	comp=E,2μm,8.0s						
TYV				AMS	AMS	23 29 10.0	
	comp=E,1μm,13.0s						
TYV				AMS	AMS	23 29 10.0	
	comp=E,2μm,13.0s						
TYV				AMS	AMS	23 29 10.0	
	comp=E,1μm,13.0s						
JNK	**Nakash**	**7.45**	**235**	P	**Pn**	**23 25 04.7**	**0.0**
JTKR	**Abashiri--Toko**	**7.67**	**240**	P	**Pn**	**23 25 08.3**	**+0.7**
JAK	**Akkeshi**	**7.86**	**232**	P	**Pn**	**23 25 07.9**	**-2.3**
JAK				*e*S	**Sn**	**23 26 31.0**	**-6.6**
JMP	**Maruseppu**	**7.97**	**242**	P	**Pn**	**23 25 12.9**	**+1.3**
JAR	**Ashorobuto**	**8.16**	**237**	P	**Pn**	**23 25 14.6**	**+0.3**
ASAJ	**Asahikawa**	**8.36**	**245**	P	**Pn**	**23 25 19.0**	**+2.0**
	comp=E,46nm,0.3s,baz=71,slow=16,SNR=107						
ASAJ				LR	LR	23 28 48.4	
	comp=E,360nm,21.4s,baz=356,slow=39						
ASAJ	**Asahikawa**	**8.36**	**245**	P	**Pn**	**23 25 19.5**	**+2.5**
ASAJ	**Asahikawa**	**8.36**	**245**	PN	**Pn**	**23 25 19.0**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,47nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,360nm,21.4s						
JOB	**Onbets**	**8.38**	**234**	P	**Pn**	**23 25 15.7**	**-1.6**
JOB				*e*S	**Sn**	**23 26 45.1**	**-5.2**
JKK2	**Kamakawa 2**	**8.41**	**243**	P	**Pn**	**23 25 19.1**	**+1.6**
JSS	**Shosan**	**8.67**	**248**	P	**Pn**	**23 25 25.3**	**+4.2**
JCH	**Churui**	**8.84**	**235**	P	**Pn**	**23 25 21.2**	**-2.1**
JCH				*e*S	**Sn**	**23 26 54.2**	**-7.0**
JFR	**Furan**	**8.91**	**240**	P	**Pn**	**23 25 25.5**	**+1.1**
JBT2	**Biratori 2**	**9.29**	**238**	P	**Pn**	**23 25 28.5**	**-0.8**
NKL	**Nikolayevsk**	**9.34**	**307**	*i*P	**Pn**	**23 25 29.0**	**-1.0**
NKL				AMB	AMB	23 25 30.6	
	comp=Z,140nm,1.4s						
NKL				AMB	AMB	23 25 30.6	
	comp=Z,310nm,1.4s						
NKL				AMB	AMB	23 25 30.6	
	comp=Z,220nm,1.4s						
NKL				AMB	AMB	23 25 31.0	
	comp=Z,2μm,5.0s						
JEM	**Erimo**	**9.36**	**233**	P	**Pn**	**23 25 28.4**	**-1.9**
ERM	**Erimo**	**9.36**	**233**	Pn	**Pn**	**23 25 29.7**	**-0.6**
	comp=Z,1μm,0.4s,SNR=22						
ERM	**Erimo**	**9.36**	**233**	*e*PN	**Pn**	**23 25 29.4**	**-0.9**
ERM				pmax	pmax		
	comp=Z,107nm,0.4s						
ERM	**Erimo**	**9.36**	**233**	*e*Pn	**Pn**	**23 25 29.4**	**-1.0**
	comp=Z,107nm,0.4s						
JEW	**Eniwo**	**9.78**	**241**	P	**Pn**	**23 25 37.1**	**+1.2**
JNB	**Noboribetsu**	**10.24**	**241**	P	**Pn**	**23 25 41.0**	**-1.1**
JNB				*e*S	**Sn**	**23 27 30.2**	**-5.0**
JKB	**Kayabe**	**10.62**	**238**	P	**Pn**	**23 25 44.6**	**-2.4**
JKB				*e*S	**Sn**	**23 27 34.7**	**-9.5**
JSH	**Shimam**	**10.73**	**244**	P	**Pn**	**23 25 48.7**	**+0.2**
JYM2	**Yakumo 2**	**10.85**	**241**	P	**Pn**	**23 25 48.6**	**-1.6**
GRNR	**Gornyy**	**11.18**	**290**	*e*P	**Pn**	**23 25 54.5**	**0.0**
JTM	**Tenmabayashi**	**11.34**	**234**	P	**Pn**	**23 25 51.7**	**-4.9**
JTM				*e*S	**Sn**	**23 27 49.2**	**-12**
JANG	**Nango**	**11.40**	**231**	P	**Pn**	**23 25 52.0**	**-5.4**
JANG				*e*S	**Sn**	**23 27 50.2**	**-13**
JOSM	**Okushiri--Mats**	**11.40**	**243**	P	**Pn**	**23 25 56.6**	**-0.8**
MA2	**Magadan**	**11.51**	**354**	*e*PN	**Pn**	**23 25 56.9**	**-1.9**
MA2	**Magadan**	**11.51**	**354**	Pn	**Pn**	**23 25 58.4**	**-0.4**
JTH	**Tanohata**	**11.54**	**229**	P	**Pn**	**23 25 53.6**	**-5.7**
JTH				*e*S	**Sn**	**23 27 53.0**	**-14**
TEY	**Ternei**	**11.79**	**261**	*e*P	**Pn**	**23 26 06.0**	**+3.4**
OFUJ	**Ofunato**	**12.30**	**227**	P	**Pn**	**23 26 04.3**	**-4.9**
JRG	**Rokugo**	**12.58**	**230**	P	**Pn**	**23 26 08.6**	**-4.2**
JRG				*e*S	**Sn**	**23 28 20.6**	**-11**
EKMR	**Ekimchan**	**13.70**	**298**	*e*P	**Pn**	**23 26 27.0**	**-0.2**
EKMR				AMB	AMB	23 26 29.0	
	comp=Z,110nm,1.4s						
EKMR				AMB	AMB	23 26 29.0	
	comp=Z,190nm,1.4s						
EKMR				AMB	AMB	23 26 29.0	
	comp=Z,250nm,1.4s						
JFK	**Kawauchi**	**14.04**	**224**	P	**Pn**	**23 26 26.6**	**-5.0**
SMY	**Shemya**	**14.10**	**63**	*e*P	**Pn**	**23 26 30.9**	**-1.5**
KLR	**Kul'dur**	**14.15**	**282**	*e*P	**Pn**	**23 26 33.3**	**+0.3**

KLR eP 23 26 33.5
KLR AMB AMB 23 26 35.0
comp=Z,380nm,1.6s
KLR AMB AMB 23 26 35.0
comp=Z,330nm,1.6s
KLR AMS AMS 23 33 09.5
comp=Z,900nm,13.0s
KLR AMS AMS 23 33 09.5
comp=Z,1µm,13.0s
SEY Seymchan 14.80 359⇑ eP Pn 23 26 41.6 +0.5
VLA Vladivostok 15.67 259 i P **Pn 23 26 50.6 -1.4**
MJAR Matsushiro Arr 15.99 229 P **Pn 23 26 55.6 -0.3**
comp=Z,1.9nm,0.3s,baz=30,slow=12,SNR=29
MJAR Matsushiro Arr 15.99 229 P **Pn 23 26 55.6 -0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MAJO Matsushiro 15.99 229 eP **Pn 23 26 55.2 -0.7**
MAT Matsushiro 15.99 229 P **Pn 23 26 55.2 -0.7**
BMKR Bomnak 16.44 303 eP **Pn 23 27 00.5 -0.9**
BMKR AMB AMB 23 27 04.9
comp=Z,10.0nm,0.5s
MDJ Mudanjiang 16.60 266 P **Pn 23 27 03.0 -0.4**
MDJ XP sP 23 27 43.4 -1.0
MDJ S **S 23 30 07.4 -1.0**
MDJ SCP ScP 23 35 08.3 +1.1
MDJ PCS PcS 23 35 21.5 +0.4
MDJ SCS ScS 23 38 47.3 +0.7
MDJ AMB AMB
comp=Z,29nm,1.4s
MDJ AMB AMB
comp=Z,87nm,4.5s
MDJ LR LR
comp=N,172nm,23.7s
MDJ LR LR
comp=E,302nm,35.3s
MDJ LR LR
comp=Z,465nm,24.4s
MDJ Mudanjiang 16.60 266 eP **Pn 23 27 04.6 +1.2**
comp=Z,68nm,1.3s
MDJ epP pP 23 27 28.3 +1.1
YASR Yasnyy 16.68 297 eP **Pn 23 27 02.4 -2.0**
YASR AMB AMB 23 27 05.2
comp=Z,7.0nm,0.7s
YASR AMB AMB 23 27 05.2
comp=Z,50nm,0.7s
YASR AMB AMB 23 27 05.2
comp=Z,80nm,0.7s
KROS Kirovskiy 17.45 301⇓ eP **Pn 23 27 11.2 -2.4**
KROS AMB AMB 23 27 17.3
comp=Z,50nm,0.5s
KROS AMB AMB 23 27 17.3
comp=Z,27nm,0.5s
KROS AMB AMB 23 27 17.3
comp=Z,29nm,0.5s
JHJ Hachijo jima 2 18.09 219 LR LR 23 32 20.8
comp=Z,221nm,21.2s,baz=66,slow=30
CLNS Chul'man 19.13 307 eP **P 23 27 35.5 +4.3**
YAK Yakutsk 19.14 325 eP **P 23 27 31.2 -0.1**
YAK Yakutsk 19.14 325 eP **P 23 27 31.3 0.0**
YAK eS **S 23 30 59.5 -1.5**
YAK pmax pmax
comp=Z,109nm,1.1s
YAK pmax pmax
comp=N,65nm,1.6s
YAK pmax pmax
comp=E,84nm,1.9s
YAK smax
comp=N,349nm,2.6s
YAK smax
comp=Z,517nm,3.6s
YAK smax
comp=E,383nm,2.2s
YAK Yakutsk 19.14 325 ePn **Pn 23 27 33.0 -0.6**
comp=E,80nm,0.8s
CN2 Changchun 19.67 267 eP **P 23 27 36.0 -1.1**
CN2 eS **S 23 31 04.4 -7.2**
CN2 AMB AMB
comp=Z,60nm,1.1s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
BILL Bilibino 21.00 14⇑ eP **P 23 27 49.8 -1.5**
BILL pmax pmax
comp=Z,17nm,0.6s,mb4.5
BILL Bilibino 21.00 14 eP **P 23 27 49.8 -1.5**
comp=Z,24nm,0.6s,mb4.7
KS15 Wonju Array Si 21.31 249 eP **P 23 27 55.9 +1.3**
HIA Hailar 21.96 285 eP **P 23 27 59.8 -1.6**
HIA e*PP 23 28 27.1
HIA pmax pmax
comp=Z,13nm,0.6s
HIA Hailar 21.96 285 eP **P 23 27 59.8 -1.6**
comp=Z,13nm,0.6s,mb4.5
HIA epP 23 28 27.1
INCN Inchon 22.07 251 eP **P 23 28 04.3 +1.7**
comp=Z,26nm,0.5s,mb4.9
DL2 Dalian 24.50 259 P **P 23 28 27.0 +1.8**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb4.9
BOD Bodaibo 25.11 307 eP **P 23 28 29.5 -1.3**
BOD e pP 23 28 57.6 -1.8
BOD pmax pmax
comp=Z,70nm,1.3s,mb5.0
CIT Chita 25.45 294 eP **P 23 28 33.9 0.0**
CIT e pP 23 29 01.9 -0.6
BJI Beijing 27.54 267 P **P 23 28 54.6 +2.0**
BJI AMB AMB
comp=Z,18nm,2.0s,mb4.5
BJI LR LR
comp=N,300nm,19.0s
BJI LR LR
comp=E,519nm,19.0s
BJI LR LR
comp=Z,150nm,17.8s
BJI Beijing 27.54 267 P **P 23 28 54.6 +2.0**
comp=Z,18nm,2.0s,mb4.5
BJI LR LR
comp=Z,150nm,17.8s
JOW Kunigami 28.81 231 LR LR 23 40 21.8
comp=Z,163nm,20.2s,baz=171,slow=36
SSE Sheshan 29.65 247 P **P 23 29 13.9 +2.6**
SSE AP pP 23 29 43.8 +3.4
SSE XP sP 23 30 00.3 +4.3
SSE S **S 23 33 58.3 +1.4**
SSE XS sS 23 34 50.8 +3.0
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,75nm,10.9s
SSE LR LR
comp=N,53nm,18.8s
SSE LR LR
comp=E,137nm,18.7s
SSE LR LR
comp=Z,183nm,23.0s
SSE Sheshan 29.65 247 P **P 23 29 13.9 +2.6**
comp=Z,23nm,0.8s,mb5.0
SSE pP pP 23 29 43.7 +3.3
SSE sP sP 23 30 00.2 +4.2
SSE S **S 23 33 58.3 +1.4**
SSE sS sS 23 34 50.8 +3.0
SSE SS SS 23 36 09.9 +1.4
SSE LR LR
comp=Z,180nm,23.0s
HHC Hu-ho-hao-te 30.23 272 eP **P 23 29 17.0 +0.5**
HHC AP pP 23 29 46.3 +0.8
HHC XP sP 23 30 03.6 +2.4
HHC S **S 23 34 05.3 -0.7**
HHC XS sS 23 34 59.9 +3.0
HHC SS SS 23 35 53.3 -27
HHC SCS ScS 23 39 33.9 -5.7
HHC AMB AMB
comp=Z,50nm,0.6s,mb5.4
HHC AMB AMB
comp=Z,144nm,4.5s
HHC LR LR
comp=N,220nm,7.9s
HHC LR LR
comp=E,282nm,6.9s
HHC LR LR
comp=Z,309nm,15.9s

SONM Songino Array 30.89 287 P **P 23 29 22.9 +0.6**
comp=Z,1.8nm,0.5s,mb4.0,baz=116,slow=8.7,SNR=16
SONM pP pP 23 29 51.6 +0.1
comp=Z,2.5nm,0.8s,baz=84,slow=9.4,SNR=9.6
SONM PcP PcP 23 32 15.0 -0.6
comp=Z,1.4nm,0.5s,baz=117,slow=2.8,SNR=5.9
SONM ScP ScP 23 35 45.5 -0.3
comp=Z,1.8nm,0.8s,baz=96,slow=2.0,SNR=8.5
SVW2 Sparrevohn 31.49 47 eP **P 23 29 26.7 -0.8**
TLY Talaya 31.56 295 ⇓P **P 23 29 28.9 +0.8**
SNR=5.4
TLY Talaya 31.56 295 eP **P 23 29 28.4 +0.3**
TLY e pP 23 29 58.5 +1.2
TLY e 23 30 51.5
TLY eSS SS 23 36 59.1 +12
TLY pmax pmax
comp=Z,17nm,0.6s,mb5.0
TLY MLR MLR
comp=Z,125nm,14.0s
TLY Talaya 31.56 295 eP **P 23 29 28.5 +0.4**
TLY epP pP 23 29 58.6 +1.3
ZAK Zakamensk 32.11 293 eP **P 23 29 33.1 +0.2**
ZAK e pP 23 30 02.2 +0.1
ZAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
IMA2 Indian Mountai 32.65 37 eP **P 23 29 36.9 -0.8**
IMA2 epP pP 23 30 05.3 -1.7
MOY Mondy 33.16 296 eP **P 23 29 43.0 +0.9**
KDAK Kodiak Island 33.21 53 P **P 23 29 41.0 -1.6**
comp=Z,29nm,0.8s,mb5.1,baz=297,slow=4.1,SNR=13
KDAK Kodiak Island 33.21 53 P **P 23 29 41.0 -1.6**
TATO Taipei 33.99 238 P **P 23 29 50.1 +0.8**
YHNB Yeheng 34.29 238 P **P 23 29 51.1 -0.7**
NACB Ninganchiao 34.55 237 eP **P 23 29 52.1 -2.0**
PMR Palmer 34.58 45 P **P 23 29 53.6 -0.8**
GUMO Guam 35.16 194 LR LR 23 43 23.2
comp=Z,109nm,18.6s,baz=277,slow=34
XAN Xi'an 35.67 263 P **P 23 30 03.9 +0.2**
XAN AMB AMB
comp=Z,19nm,1.4s,mb4.5
MENT Mentasta 36.97 43 eP **P 23 30 14.5 -0.2**
LZH Lanzhou 37.88 270 ⇑P **P 23 30 23.3 +0.9**
LZH AP pP 23 30 54.3 +2.1
LZH XP sP 23 31 10.5 +2.9
LZH S **S 23 36 01.8 -1.8**
LZH SS SS 23 38 44.5 -11
LZH AMB AMB
comp=Z,79nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,237nm,5.4s
LZH LR LR
comp=N,946nm,13.6s
LZH LR LR
comp=Z,1µm,17.3s
LZH Lanzhou 37.88 270 ⇑P **P 23 30 23.2 +0.8**
LZH *PP pP 23 30 54.3 +2.1
LZH *SP sP 23 31 10.5 +2.9
LZH S **S 23 36 01.7 -1.9**
LZH SS SS 23 38 44.5 -11
LZH pmax pmax
comp=Z,79nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,1µm,17.3s
LZH Lanzhou 37.88 270 ⇑P **P 23 30 23.2 +0.8**
comp=Z,79nm,1.3s,mb5.2
LZH pP pP 23 30 54.3 +2.1
LZH sP sP 23 31 10.5 +2.9
LZH PP PcP 23 32 56.4 +21
LZH S **S 23 36 01.7 -1.9**
LZH sS sS 23 36 55.8 +0.3
LZH SS SS 23 38 44.5 -11
LZH LR LR
comp=Z,1µm,17.3s
EGAK Eagle 37.88 39 eP **P 23 30 20.9 -1.5**
comp=Z,59nm,0.9s,mb5.2
EGAK epP pP 23 30 51.6 -0.6
DAWY Dawson 38.74 40 eP **P 23 30 28.9 -0.7**
DAWY epP pP 23 31 00.3 +0.8
GTA Gaotai 38.78 277 eP **P 23 30 30.5 +0.6**
GTA AP pP 23 31 01.8 +2.0
GTA XP sP 23 31 17.9 +2.7
GTA PP PP 23 32 10.0 +8.6
GTA SCP ScP 23 36 12.6 -1.5
GTA S **S 23 36 17.9 +0.7**
GTA XS sS 23 37 12.6 +3.4
GTA SS SS 23 39 07.8 -5.8
GTA SCS ScS 23 40 24.8 -0.4
GTA AMB AMB
comp=Z,22nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,126nm,6.5s
GTA LR LR
comp=N,204nm,11.0s
GTA LR LR
comp=E,161nm,11.0s
GTA LR LR
comp=Z,285nm,14.5s
GZH Guangzhou 40.24 246 P **P 23 30 37.6 -4.4**
GZH LR LR
comp=N,234nm,13.1s
GZH LR LR
comp=E,182nm,14.0s
GZH LR LR
comp=Z,227nm,14.9s
INK Inuvik 40.45 33 P **P 23 30 43.5 -0.2**
comp=Z,18nm,0.6s,mb4.9,baz=301,slow=7.5,SNR=30
INK pP pP 23 31 12.4 -1.4
comp=Z,10nm,1.0s,baz=318,slow=6.9,SNR=2.8
INK Inuvik 40.45 33 P **P 23 30 43.5 -0.2**
INK *PP pP 23 31 12.4 -1.5
INK pmax pmax
comp=Z,18nm,0.6s
INK Inuvik 40.45 33 eP **P 23 30 43.5 -0.3**
comp=Z,480nm,0.4s
INK epP pP 23 31 12.7 -1.1
CD2 Chengdu 41.03 264 eP **P 23 30 47.8 -0.7**
CD2 AP pP 23 31 19.1 +0.4
CD2 XP sP 23 31 35.3 +1.3
CD2 PP PP 23 32 27.3 +1.4
CD2 PCP PcP 23 32 46.8 +1.0
CD2 S **S 23 36 47.6 -3.1**
CD2 SCS ScS 23 40 35.6 -3.0
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,540nm,18.0s
CD2 LR LR
comp=E,480nm,18.0s
CD2 LR LR
comp=Z,290nm,12.0s
ZAL Zalesovo 41.81 304 P **P 23 30 54.1 -0.8**
comp=Z,13nm,0.5s,mb4.8,baz=52,slow=7.5,SNR=63
ZAL pP pP 23 31 24.1 -1.1
comp=Z,5.8nm,0.9s,baz=43,slow=7.9,SNR=2.4
ZAL PcP PcP 23 32 48.3 -0.1
comp=Z,4.7nm,0.6s,baz=56,slow=3.5,SNR=7.2
ZAL Zalesovo 41.81 304 P **P 23 30 54.1 -0.8**
ZAL *PP pP 23 31 24.1 -1.1
ZAL 23 32 48.3
ZAL pmax pmax
comp=Z,13nm,0.5s
GYA Guiyang 42.05 256 ⇑ i P **P 23 30 57.8 +1.0**
GYA AP pP 23 31 29.8 +2.7
GYA XP sP 23 31 45.6 +3.2
GYA S **S 23 37 08.1 +2.3**
GYA AMB AMB
comp=Z,70nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,250nm,5.0s
GYA LR LR
comp=N,430nm,16.8s
GYA LR LR
comp=E,520nm,17.1s
GYA LR LR
comp=Z,650nm,17.0s
NVS Novosibirsk 42.34 306 eP **P 23 30 57.7 -1.5**
NVS e*PP pP 23 31 29.4 -0.1
NVS eSS SS 23 40 44.3 +20
NVS pmax pmax
comp=N,29nm,1.5s
NVS pmax pmax
comp=E,50nm,1.5s

NVS pmax pmax
comp=Z,72nm,1.5s,mb5.1
WRAK Wrangell Islan 44.20 50 eP **P 23 31 14.6 +0.5**
comp=Z,7.6nm,0.4s,mb4.7
WMQ Urumqi 44.43 290⇑ i P **P 23 31 16.3 +0.3**
WMQ AP pP 23 31 48.5 +2.0
WMQ XP sP 23 32 01.6 -0.2
WMQ PCP PcP 23 32 58.0 +0.8
WMQ PCS PcS 23 36 50.0 -0.8
WMQ S **S 23 37 39.5 -1.0**
WMQ XS sS 23 38 35.0 +1.5
WMQ SS SS 23 40 55.0 -9.0
WMQ AMB AMB
comp=Z,24nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,194nm,3.9s
WMQ LR LR
comp=N,430nm,19.5s
WMQ LR LR
comp=E,319nm,22.8s
WMQ LR LR
comp=Z,336nm,21.4s
QIZ Qiongzhong 45.43 246 P **P 23 31 24.9 +1.0**
QIZ S **S 23 37 58.5 +3.6**
QIZ XS sS 23 38 53.9 +5.8
QIZ SS SS 23 41 12.3 -8.1
QIZ AMB AMB
comp=Z,62nm,5.5s
KMI Kunming 45.53 258 P **P 23 31 25.6 +1.0**
KMI AP pP 23 31 54.0 -1.3
KMI PCP PcP 23 33 00.9 -0.1
KMI PP PP 23 33 14.8 +1.0
KMI S **S 23 37 59.5 +3.2**
KMI SS SS 23 41 18.4 -3.5
KMI AMB AMB
comp=Z,44nm,1.2s,mb5.0
KMI LR LR
comp=Z,150nm,39.8s
KMI Kunming 45.53 258 P **P 23 31 25.6 +1.0**
comp=Z,44nm,1.2s,mb5.0
KMI pP pP 23 31 54.0 -1.3
KMI PcP PcP 23 33 00.9 -0.1
KMI PP PP 23 33 14.7 +0.9
KMI S **S 23 37 59.5 +3.2**
KMI sS sS 23 38 47.7 -1.8
KMI SS SS 23 41 18.4 -3.5
KMI LR LR
comp=Z,150nm,39.8s
MK31 Makanchi Array 46.31 296 eP **P 23 31 30.2 -0.5**
MK31 e*PP pP 23 31 57.9 -3.6
MK31 e*SP sP 23 32 16.1 -0.6
MK31 Makanchi Array 46.31 296 eP **P 23 31 30.2 -0.5**
MK31 epP pP 23 31 57.9 -3.6
MK31 esP sP 23 32 16.1 -0.6
MK31 eScP ScP 23 36 43.7 -0.7
MKAR Makanchi Array 46.31 296 P **P 23 31 30.0 -0.7**
comp=Z,21nm,0.6s,mb4.9,baz=71,slow=7.2,SNR=135
MKAR pP pP 23 32 00.7 -0.8
comp=Z,12nm,0.9s,baz=67,slow=7.2,SNR=3.7
MKAR PcP PcP 23 33 04.4 +0.6
comp=Z,2.3nm,0.6s,baz=73,slow=4.2,SNR=5.3
MKAR ScP ScP 23 36 44.2 -0.1
comp=Z,1.4nm,0.7s,baz=63,slow=3.8,SNR=5.5
MKAR LR LR 23 52 28.4
comp=Z,134nm,18.6s,baz=67,slow=38
KURK Kurchatov 46.59 303 P **P 23 31 32.0 -1.0**
comp=Z,367nm,0.7s,mb6.1,SNR=48
RES Resolute Bay 49.48 19 eP **P 23 31 54.6 -0.5**
comp=Z,463nm,0.8s
RES ePcP PcP 23 33 16.2 +1.1
CHKZ Chkalovo 49.53 309 eP **P 23 31 54.2 -1.3**
comp=Z,89nm,0.4s,mb5.8
CHKZ epP pP 23 32 25.5 -1.1
CHKZ ePcP PcP 23 33 07.9 -7.5
YKW3 Yellowknife Ar 49.74 37 eP **P 23 31 56.3 -0.8**
YKA Yellowknife Ar 49.78 37 P **P 23 31 56.7 -0.7**
comp=Z,13nm,0.6s,mb4.7,baz=297,slow=7.1,SNR=32
YKA pP pP 23 32 28.0 -0.6
comp=Z,4.2nm,0.8s,baz=302,slow=7.9,SNR=3.3
YKA sP sP 23 32 42.8 -0.8
comp=Z,5.1nm,0.9s,baz=295,slow=7.1,SNR=2.7
YKA Yellowknife Ar 49.78 37 P **P 23 31 56.7 -0.7**
YKA *PP pP 23 32 28.0 -0.6
YKA pmax pmax
comp=Z,13nm,0.6s
YKA Yellowknife Ar 49.78 37 P **P 23 31 56.7 -0.7**
YKA pP pP 23 32 28.0 -0.6
YKA sP sP 23 32 42.9 -0.8
VOSK Vostochnaya 49.81 308 P **P 23 31 56.3 -1.3**
VOSK pmax pmax
comp=Z,13nm,0.6s,mb4.7
BVA0 Borovoye Array 49.97 309 i P **P 23 31 57.5 -1.3**
BRVK Borovoye 50.01 309 P **P 23 31 58.9 -0.2**
comp=Z,579nm,0.6s,SNR=21
BRVK Borovoye 50.01 309 ⇓P **P 23 31 58.7 -0.4**
SNR=11
BRVK Borovoye 50.01 309 eP **P 23 31 58.4 -0.7**
BRVK pmax pmax
comp=Z,35nm,0.6s,mb5.2
BRVK Borovoye 50.01 309 eP **P 23 31 58.4 -0.7**
comp=Z,54nm,0.6s,mb5.4
BRVK epP pP 23 32 28.9 -1.4
BRVK ePcP PcP 23 33 13.1 -4.0
LSA Lhasa 50.22 272 P **P 23 32 03.3 +2.6**
LSA Lhasa 50.22 272 eP **P 23 32 02.7 +2.0**
LSA e*PP pP 23 32 32.3 +0.3
LSA pmax pmax
comp=Z,27nm,0.7s,mb5.0
LSA Lhasa 50.22 272 eP **P 23 32 02.7 +2.0**
comp=Z,26nm,0.7s,mb5.0
LSA epP pP 23 32 32.2 +0.3
ULHL Ulahol 52.38 294 P **P 23 32 17.3 +0.5**
SNR=11
TKM2 Tokmak 2 52.39 295 P **P 23 32 17.4 +0.6**
SNR=16
SHL Shillong 52.43 267 ex x 23 32 08.7
CHTO Chiang Mai 52.47 256 ⇓P **P 23 32 19.7 +2.2**
SNR=14
CHTO Chiang Mai 52.47 256 eP **P 23 32 19.5 +2.0**
CHTO e*PP pP 23 32 48.0 -1.0
CHTO e*SP sP 23 33 04.2 +0.2
CHTO pmax pmax
comp=Z,20nm,0.6s,mb4.9
CHTO Chiang Mai 52.47 256 eP **P 23 32 19.4 +2.0**
comp=Z,20nm,0.6s,mb4.9
CHTO epP pP 23 32 48.0 -0.9
CHTO esP sP 23 33 04.2 +0.3
CM31 Chiang Mai Arr 52.73 255 eP **P 23 32 21.9 +2.5**
comp=Z,7.0nm,0.5s,mb4.7
USP Ospenovka 52.86 296 P **P 23 32 20.2 -0.1**
SNR=54
CHMS Chumysh 52.86 296 P **P 23 32 20.7 +0.4**
SNR=12
B04A Port Angeles 52.93 57 ⇑P **P 23 32 20.5 -0.4**
baz=53
KBK Karagaybulak 52.93 295 P **P 23 32 21.6 +0.7**
SNR=18
A04A Legoe Bay, Lum 53.01 56 ⇑P **P 23 32 21.0 -0.4**
baz=53
FRU Bishkek 53.03 296 eP **P 23 32 22.0 +0.4**
FRU e pP 23 32 53.0 -0.2
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.1
A05A Maple Falls 53.19 55 ⇓P **P 23 32 21.7 -1.0**
baz=53
AAK Ala-Archa 53.22 295 P **P 23 32 23.0 0.0**
SNR=21
AAK Ala-Archa 53.22 295 P **P 23 32 22.6 -0.4**
comp=Z,121nm,0.9s,mb5.6,SNR=14
AAK Ala-Archa 53.22 295 ⇓P **P 23 32 22.8 -0.2**
SNR=13
AAK Ala-Archa 53.22 295 ⇓eP **P 23 32 21.4 -1.6**
AAK pmax pmax
comp=Z,27nm,1.2s,mb4.8
AAK Ala-Archa 53.22 295 eP **P 23 32 21.2 -1.7**
comp=Z,13nm,0.7s,mb4.8
AAK epP pP 23 32 54.3 -0.3
C04A Brinnon 53.41 57 ⇓P **P 23 32 24.0 -0.4**
baz=53
B05A Bryant 53.60 56 P **P 23 32 25.3 -0.4**
baz=53,SNR=6.2
EKS2 Erkin-Say 53.64 296 P **P 23 32 26.2 +0.2**
SNR=32
E03A Lebam 53.74 58 ⇓P **P 23 32 24.7 -2.1**
baz=54

B06A Marblemount 53.79 55 ⇓P P 23 32 26.4 -0.8
baz=54
ARU Arti 53.97 317 P **P 23 32 27.0 -1.5**
comp=Z,281nm,0.5s,mb6.2,SNR=16
ARU Arti 53.97 317 ⇑*i*P **P 23 32 26.9 -1.6**
ARU *e* pP 23 32 59.0 -1.1
ARU *e* 23 33 31.0
ARU *e*S **S 23 39 53.5 -0.2**
ARU *e*SS SS 23 43 37.6 +0.9
ARU pmax pmax
comp=Z,34nm,1.3s,mb4.9
ARU Arti 53.97 317 *e*P **P 23 32 27.0 -1.5**
comp=Z,22nm,0.4s,mb5.2
ARU *e*pP pP 23 32 58.3 -1.8
ARU *e*PcP PcP 23 33 31.9 0.0
AML Almayashu 53.99 295 P **P 23 32 29.9 +1.3**
SNR=8.2
KSH Kashi 54.13 291 *e*P **P 23 32 31.3 +1.7**
KSH *e*AP pP 23 33 04.0 +2.7
KSH *e*XP sP 23 33 20.3 +4.1
KSH *e*PCP PcP 23 33 34.5 +1.9
KSH *e*PP PP 23 34 36.3 +3.8
KSH *e*SCP ScP 23 37 17.3 -0.6
KSH *e*PCS PcS 23 37 33.4 +1.3
KSH *e*S **S 23 39 54.3 -1.5**
KSH *e*XS sS 23 40 51.1 +0.7
KSH *e*SCS ScS 23 42 03.3 -2.0
KSH *e*SS SS 23 43 37.0 -2.2
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,318nm,7.1s
KSH LR LR
comp=E,502nm,4.7s
KSH LR LR
comp=Z,4μm,11.6s
C05A Tolt Reservoir 54.14 56 P **P 23 32 29.2 -0.5**
baz=54,SNR=7.1
E04A Onalaska 54.19 58 ⇓P **P 23 32 30.3 +0.3**
baz=54
D05A Enumclaw 54.27 57 ⇑P **P 23 32 31.5 +1.0**
baz=54
B07A Winthrop 54.57 55 P **P 23 32 32.5 -0.3**
baz=54,SNR=5.2
F04A Amboy 54.74 58 ⇑P **P 23 32 34.0 0.0**
baz=54
GUN Gumba 54.90 274 *e*P **P 23 32 36.2 +1.1**
comp=Z,35nm,0.5s,mb5.3
D06A Cle Elum 54.90 56 P **P 23 32 35.1 0.0**
baz=55,SNR=5.1
C07A Waterville 55.05 55 P **P 23 32 35.5 -0.8**
baz=55,SNR=8.8
I02A Mapleton 55.05 61 ⇑P **P 23 32 36.3 0.0**
baz=55
A09A Danville 55.11 53 P **P 23 32 36.4 -0.2**
baz=55,SNR=17
E06A Yakima 55.20 57 ⇑P **P 23 32 37.3 -0.1**
baz=55
EBG Ellensburg 55.22 56 P **P 23 32 37.5 0.0**
DAG Danmarks Havn 55.22 358 ⇑*i*P **P 23 32 35.6 -1.9**
comp=Z,2.1nm,0.5s,mb4.1
DAG Danmarks Havn 55.22 358 ⇑*e*P **P 23 32 35.6 -1.9**
comp=Z,2.1nm,0.5s,mb4.1
F05A White Salmon 55.32 58 ⇑P **P 23 32 38.4 +0.3**
baz=55
EDM Edmonton 55.33 47 *e*P **P 23 32 37.6 -0.6**
EDM *e**PP pP 23 33 10.7 +0.7
EDM Edmonton 55.33 47 *e*P **P 23 32 37.6 -0.6**
EDM *e*pP pP 23 33 10.7 +0.7
EDM *e*PcP PcP 23 33 36.1 -1.0
KKN Kakani 55.38 274 *e*P **P 23 32 40.1 +1.5**
comp=Z,28nm,0.4s,mb5.3
D07A Quincy 55.38 56 P **P 23 32 38.0 -0.6**
baz=55,SNR=5.7
I03A Eugene 55.39 61 ⇑P **P 23 32 39.4 +0.7**
baz=55
PKI Pulchoki 55.44 274 *e*P **P 23 32 40.4 +1.4**
comp=Z,20nm,0.6s,mb5.0
EPH Ephrata 55.50 55 P **P 23 32 38.5 -0.9**
HOOD Mount Hood Mea 55.54 59 *e*P **P 23 32 40.1 +0.4**
C08A Higginbotham F 55.55 55 P **P 23 32 39.1 -0.7**
baz=55,SNR=6.7
J02A Umpqua 55.58 61 ⇑P **P 23 32 40.0 0.0**
baz=55,SNR=9.6
H04A Detroit Lake 55.61 59 P **P 23 32 40.1 -0.1**
baz=55,SNR=11
DMN Daman 55.61 274 *e*P **P 23 32 41.4 +1.1**
comp=Z,32nm,0.5s,mb5.4
A10A Northport 55.65 53 P **P 23 32 40.0 -0.6**
baz=55,SNR=14
B09A Rice 55.66 54 P **P 23 32 40.2 -0.5**
baz=55,SNR=8.7
GKN Gorkha 55.67 275 *e*P **P 23 32 41.5 +0.8**
comp=Z,38nm,0.5s,mb5.4
G05A Wamic 55.77 58 ⇓P **P 23 32 40.7 -0.7**
baz=56
E07A Sunnyside 55.82 56 P **P 23 32 41.0 -0.7**
baz=56,SNR=9.6
J03A Ideyld Park 55.93 61 P **P 23 32 43.3 +0.7**
baz=56,SNR=9.8
C09A Chrisman Ranch 55.96 54 ⇓P **P 23 32 41.9 -0.8**
baz=56
K02A Glendale 55.98 62 ⇓P **P 23 32 41.9 -1.0**
baz=56,SNR=5.2
KEV Kevo 56.00 340 *e*p **P 23 32 39.7 -3.3**
comp=Z,1.6nm,0.4s,mb4.2
D08A Wollman Farm, 56.05 55 P **P 23 32 42.6 -0.8**
baz=56,SNR=8.9
HAWA Hanford 56.10 56 *e*P **P 23 32 43.0 -0.7**
comp=Z,14nm,0.8s,mb4.8
HAWA *e*pP pP 23 33 13.9 -1.7
HAWA *e*sP sP 23 33 28.6 -2.0
HAWA *e*PcP PcP 23 33 39.9 -0.3
M01C Crescent City 56.16 63 ⇑P **P 23 32 42.5 -1.6**
baz=56
G06A Carlson Farm, 56.17 58 ⇑P **P 23 32 43.5 -0.7**
baz=56
F07A Phinny Hill Vi 56.17 57 ⇑P **P 23 32 44.2 -0.1**
baz=56
H05A Madras 56.18 59 ⇑P **P 23 32 43.2 -1.0**
baz=56,SNR=8.1
L02A Cave Junction 56.28 63 ⇓P **P 23 32 45.8 +0.8**
baz=56,SNR=6.8
NEW Newport 56.31 53 *e*P **P 23 32 44.5 -0.7**
NEW pmax pmax
comp=Z,34nm,1.1s
NEW Newport 56.31 53 *e*P **P 23 32 44.5 -0.7**
comp=Z,19nm,0.9s,mb4.9
NEW *e*pP pP 23 33 16.7 -0.4
NEW *e*PcP PcP 23 33 41.3 +0.4
D09A Jones Farm, Ri 56.38 55 P **P 23 32 45.0 -0.7**
baz=56,SNR=7.4
HUMO Hull Mountain 56.39 62 *e*P **P 23 32 45.8 0.0**
comp=Z,7.5nm,0.5s,mb4.8
HUMO *e*PcP PcP 23 33 42.1 +0.8
HUMO Hull Mountain 56.39 62 P **P 23 32 46.2 +0.4**
baz=56,SNR=8.3
C10A Spilker Farm, 56.47 54 ⇑P **P 23 32 45.2 -1.2**
baz=56
ARCES ARCESS Array B 56.51 340 P **P 23 32 45.3 -1.3**
comp=Z,1.5nm,0.3s,mb4.3,baz=30,slow=7.4,SNR=49
ARCES PcP PcP 23 33 41.0 -0.7
comp=Z,3.6nm,0.6s,baz=58,slow=4.6,SNR=6.0
ARCES LR LR 00 00 18.9
comp=Z,84nm,20.4s,baz=7.8,slow=39
ARCES ARCESS Array B 56.51 340 P **P 23 32 45.3 -1.3**
ARCES 23 33 41.1
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES MLR MLR
comp=Z,84nm,20.4s
ARE0 ARCESS Array S 56.51 340 *e*P **P 23 32 45.4 -1.3**
KOLN Koldanda 56.51 276 *e*P **P 23 32 47.7 +1.1**
comp=Z,20nm,0.5s,mb5.2
KTRM Thompson Ridge 56.56 63 P **P 23 32 47.5 +0.5**
VIPM Ingram Point 56.61 59 P **P 23 32 47.4 +0.1**
H06A Lindquist Farm 56.64 58 P **P 23 32 47.5 -0.1**
baz=56,SNR=8.9
A12A Yaak River Ran 56.69 52 P **P 23 32 48.0 0.0**
baz=56,SNR=7.4
G07A Ruggs Ranch, H 56.70 58 ⇓P **P 23 32 47.2 -0.7**
baz=56,SNR=6.8
E09A Wood Farm, Sta 56.80 56 P **P 23 32 48.3 -0.4**
baz=56,SNR=22
F08A Pendleton 56.88 57 P **P 23 32 49.2 -0.1**
baz=57,SNR=8.6

KHMM Horse Mountain 56.98 64 *e*P **P 23 32 51.8 +1.9**
J05A Fort Rock 56.99 60 P **P 23 32 50.8 +0.8**
baz=57,SNR=32
YBH Yreka Blue Hor 57.07 63 *e*P **P 23 32 51.1 +0.5**
YBH pmax pmax
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 57.07 63 *e*P **P 23 32 51.1 +0.5**
comp=Z,35nm,1.1s,mb5.1
YBH Yreka Blue Hor 57.07 63 P **P 23 32 51.3 +0.7**
baz=57,SNR=13
G08A Pilot Rock 57.08 57 P **P 23 32 50.6 -0.1**
baz=57,SNR=11
K04A Chilquin 57.11 61 ⇓P **P 23 32 50.9 0.0**
baz=57,SNR=5.5
H07A Lands Inn, Kim 57.16 58 ⇑P **P 23 32 51.0 -0.2**
baz=57,SNR=9.9
I06A Prineville 57.19 59 P **P 23 32 51.8 +0.4**
baz=57,SNR=14
M02C Callahan 57.19 63 P **P 23 32 52.0 +0.6**
baz=57,SNR=11
N02C Big Bar 57.27 64 ⇓P **P 23 32 51.7 -0.2**
baz=57
L04A Klamath Falls 57.28 62 ⇑P **P 23 32 51.8 -0.3**
baz=57,SNR=8.2
A13A Flathead Natio 57.34 51 ⇓P **P 23 32 52.3 -0.2**
baz=57
O01C Eel River Cons 57.38 65 ⇑P **P 23 32 54.2 +1.5**
baz=57
F09A S2 Ranch, Elgi 57.41 56 ⇑P **P 23 32 52.9 -0.1**
baz=57,SNR=6.2
I07A Izee 57.51 59 P **P 23 32 53.7 0.0**
baz=57,SNR=18
AB31 Akbulak array 57.53 309 *e*P **P 23 32 52.8 -1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
C12A Trout Creek 57.53 53 ⇑P **P 23 32 54.1 +0.3**
baz=57
WALA Waterton Lakes 57.53 51 *e*P **P 23 32 53.6 -0.3**
comp=Z,35nm,0.6s,mb5.4
WALA *e* 23 33 37.1
WALA *e*PP PP 23 34 59.0 -3.8
K05A Summer Lake 57.53 61 ⇓P **P 23 32 55.2 +1.4**
baz=57
M04C Macdoel 57.55 62 P **P 23 32 54.8 +0.8**
baz=57,SNR=9.8
PMG Port Moresby 57.57 187 *e*P **P 23 32 53.6 -0.5**
PMG pmax pmax
comp=Z,5.0nm,0.5s
PMG Port Moresby 57.57 187 *e*P **P 23 32 53.6 -0.5**
comp=Z,4.9nm,0.5s,mb4.6
BOK Bokaro 57.64 270 *e*P **P 23 32 54.4 -0.2**
BOK AMb AMB 23 33 00.5
comp=Z,28nm,1.4s,mb4.9
J06A Christmas Vall 57.64 60 P **P 23 32 55.0 +0.4**
baz=57,SNR=24
B13A Whitefish 57.66 52 P **P 23 32 54.7 0.0**
baz=57,SNR=30
H08A Prairie City 57.71 58 P **P 23 32 55.4 +0.3**
baz=57,SNR=31
BSMT Bassoo Peak 57.81 53 P **P 23 32 55.9 +0.1**
K06A Valley Falls 57.86 60 P **P 23 32 56.8 +0.7**
baz=58,SNR=34
WDC Whiskeytown Da 57.87 64 *e*P **P 23 32 55.6 -0.6**
WDC *e**PP pP 23 33 27.5 -0.8
WDC *e**SP sP 23 33 42.8 -0.3
WDC pmax pmax
comp=Z,26nm,1.0s,mb5.0
WDC Whiskeytown Da 57.87 64 *e*P **P 23 32 55.6 -0.7**
comp=Z,26nm,1.0s,mb5.0
WDC *e*pP pP 23 33 27.5 -0.7
WDC *e*sP sP 23 33 42.8 -0.4
WDC Whiskeytown Da 57.87 64 ⇓P **P 23 32 55.7 -0.5**
baz=58,SNR=11
O02C Red Bluff 57.98 64 P **P 23 32 57.4 +0.4**
baz=58,SNR=12
L05A Lakeview 57.98 61 P **P 23 32 57.8 +0.8**
baz=58,SNR=24
C13A Hot Springs 58.03 53 P **P 23 32 57.4 +0.1**
baz=58,SNR=7.1
J07A Hines 58.05 59 P **P 23 32 58.4 +0.9**
baz=58,SNR=9.4
P01C Double 8 Ranch 58.08 65 ⇓P **P 23 32 57.5 -0.2**
baz=58,SNR=5.7
I08A Drewsey 58.14 58 P **P 23 32 58.6 +0.5**
baz=58,SNR=20
H09A Durkee 58.19 57 P **P 23 32 58.8 +0.4**
baz=58,SNR=12
M05C Lookout 58.22 62 ⇑P **P 23 32 59.3 +0.7**
baz=58,SNR=7.7
GASB Alder Springs 58.34 64 P **P 23 33 00.1 +0.7**
baz=58,SNR=17
HATC Hat Creek Radi 58.37 63 ⇑P **P 23 32 59.3 -0.4**
baz=58,SNR=8.6
MOD Modoc 58.38 61 *e*P **P 23 32 59.9 +0.2**
comp=Z,27nm,0.7s,mb5.2
MOD *e*pP pP 23 33 29.2 -2.7
MOD Modoc 58.38 61 P **P 23 33 00.0 +0.3**
baz=58,SNR=18
LBCM Butte Creek Ri 58.43 63 P **P 23 32 60.0 -0.1**
K07A Rock Creek Ran 58.51 60 P **P 23 33 01.1 +0.4**
baz=58,SNR=24
HOPS Hopland 58.54 65 ⇑P **P 23 33 01.0 +0.1**
baz=58
J08A Circle Bar Ran 58.54 59 P **P 23 33 01.2 +0.4**
baz=58,SNR=27
O03C Acorn Hollow, 58.54 64 ⇓P **P 23 33 00.6 -0.2**
baz=58
I09A Lost Marbles R 58.58 58 P **P 23 33 01.4 +0.4**
baz=58,SNR=14
ORR Orenburg 58.66 314 *e*P **P 23 33 00.5 -1.2**
ORR *i* pP 23 33 35.0 +1.2
ORR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
M06C Likely Place G 58.71 62 P **P 23 33 02.7 +0.6**
baz=58,SNR=7.1
L07A Adell 58.87 60 P **P 23 33 03.8 +0.6**
baz=59,SNR=26
MSO Missoula 58.89 53 *e*P **P 23 33 03.1 -0.1**
comp=Z,46nm,1.1s,mb5.2
MSO *e*pP pP 23 33 36.8 +1.4
O04C Chester 58.91 63 ⇓P **P 23 33 03.9 +0.5**
baz=59
K08A Mann Creek Ran 58.92 59 P **P 23 33 03.9 +0.4**
baz=59,SNR=17
J09A Fry Pan Ranch, 58.96 58 P **P 23 33 04.2 +0.4**
baz=59,SNR=31
MNRC McLaughlin Nat 58.99 65 P **P 23 33 04.5 +0.5**
baz=59,SNR=8.6
WVOR Wild Horse Val 59.02 60 *e*P **P 23 33 04.0 -0.2**
WVOR *e**PP pP 23 33 35.2 -1.1
WVOR *e**SP sP 23 33 49.9 -1.3
WVOR pmax pmax
comp=Z,43nm,0.9s,mb5.3
WVOR Wild Horse Val 59.02 60 *e*P **P 23 33 04.0 -0.2**
comp=Z,44nm,0.9s,mb5.3
WVOR *e*pP pP 23 33 35.2 -1.1
WVOR *e*sP sP 23 33 49.9 -1.2
ORV Oroville 59.14 64 P **P 23 33 04.2 -0.8**
baz=59,SNR=20
SUTB Sutter Butte 59.17 64 ⇓P **P 23 33 04.5 -0.7**
baz=59
MCCM Marconi Confer 59.19 66 ⇓P **P 23 33 05.2 -0.1**
baz=59
CHMT Chamberlain Mo 59.21 53 *e*P **P 23 33 05.1 -0.4**
CHMT *e*PcP PcP 23 33 50.0 -2.4
O05C Quincy 59.23 63 ⇓P **P 23 33 06.0 +0.4**
baz=59
SUMG Summit 59.28 4 *e*P **P 23 33 05.2 -0.7**
comp=Z,25nm,0.8s,mb5.1
SUMG *e*pP pP 23 33 38.5 +0.4
SUMG *e*PcP PcP 23 33 52.3 -0.4
OHCM Honcut 59.28 64 *e*P **P 23 33 05.3 -0.7**
CVS Carmenet Viney 59.32 65 ⇓P **P 23 33 05.9 -0.3**
baz=59
L08A Fields 59.34 60 P **P 23 33 06.7 +0.3**
baz=59,SNR=28
M07A Soldier Meadow 59.37 61 P **P 23 33 07.2 +0.6**
baz=59,SNR=28
K09A Rome 59.38 59 P **P 23 33 06.6 0.0**
baz=59,SNR=13
N06A Buffalo Meadow 59.38 62 P **P 23 33 06.8 +0.2**
baz=59,SNR=22
Q03C Winters 59.41 65 ⇓P **P 23 33 07.8 +0.9**
baz=59
NIL Nilore 59.48 288 P **P 23 33 08.0 +0.7**
comp=Z,89nm,0.6s,mb5.8,SNR=7.8
BEKR Beckwourth 59.62 63 P **P 23 33 08.1 -0.2**
baz=59,SNR=37
FFC Flin Flon 59.64 41 P **P 23 33 08.8 +0.3**
comp=Z,177nm,0.7s,mb6.0,SNR=5.4
O06A Flanigan 59.75 62 P **P 23 33 09.2 0.0**
baz=60,SNR=17
M08A Happy Creek Ra 59.79 60 P **P 23 33 09.9 +0.4**
baz=60,SNR=26
L09A Wilkinson Ranc 59.84 60 P **P 23 33 10.2 +0.4**
baz=60,SNR=18
N07B Gerlach 59.87 61 P **P 23 33 10.2 +0.3**
baz=60,SNR=9.3
JOF Joensuu 60.06 333 *ep* **P 23 33 09.0 -2.3**
comp=Z,9.4nm,0.3s,mb5.1
JOF Joensuu 60.06 333 *e*P **P 23 33 09.0 -2.3**
JOF pmax pmax
comp=Z,9.0nm,0.3s,mb5.1
FCC Fort Churchill 60.07 34 *e*P **P 23 33 10.3 -1.0**
FCC pmax pmax
comp=Z,20nm,0.6s,mb5.1
FCC Fort Churchill 60.07 34 *e*P **P 23 33 10.3 -1.0**
comp=Z,20nm,0.6s,mb5.1
HRY Holter Researc 60.09 52 *e*P **P 23 33 11.7 +0.2**
HRY *e*pP pP 23 33 45.0 +1.2
HRY *e*PcP PcP 23 33 56.1 +0.2
LAVA Lava Cap Winer 60.10 64 P **P 23 33 11.2 -0.3**
baz=60,SNR=13
NDI New Delhi 60.14 281 *e*P **P 23 33 12.1 +0.2**
NDI AMb AMB 23 33 14.4
comp=Z,25nm,0.6s,mb5.2
WENL Wente Brothers 60.21 66 ⇑P **P 23 33 12.3 0.0**
baz=60
CEP Cherat 60.22 289 ⇓P **P 23 33 09.9 -2.5**
CEP S pP 23 33 46.0 +1.4
BNLO Ben Lomond (Sa 60.27 66 ⇑P **P 23 33 12.1 -0.6**
baz=60
R04C Big Horse Ranc 60.30 65 ⇑P **P 23 33 12.6 -0.3**
baz=60
PAHR Pah Rah Range 60.30 63 *e*P **P 23 33 12.9 0.0**
comp=Z,40nm,0.9s,mb5.2
PAHR *e*PcP PcP 23 33 55.3 -1.5
O07A Toulon 60.31 62 P **P 23 33 13.2 +0.2**
baz=60,SNR=42
LRM Limekiln Ridge 60.33 53 *e*P **P 23 33 13.2 0.0**
EGMT Eagleton 60.33 50 *e*P **P 23 33 12.8 -0.4**
comp=Z,78nm,1.2s,mb5.4
EGMT *e*pP pP 23 33 43.1 -2.3
EGMT Eagleton 60.33 50 P **P 23 33 12.8 -0.3**
baz=60,SNR=11
WCN Washoe City 60.34 63 ⇑P **P 23 33 13.8 +0.6**
baz=60,SNR=6.0
M09A Marrel Ranch, 60.35 60 P **P 23 33 13.8 +0.6**
baz=60,SNR=10
N08A GE Springer Mi 60.36 61 P **P 23 33 13.3 0.0**
baz=60,SNR=24
R05C Kirkwood Meado 60.53 64 ⇓P **P 23 33 14.5 0.0**
baz=60,SNR=11
S04C Ingram Canyon, 60.54 66 ⇑P **P 23 33 14.4 -0.1**
baz=60
DLMT Dillon 60.55 54 *e*P **P 23 33 15.1 +0.5**
comp=Z,16nm,0.6s,mb5.0
DLMT *e*pP pP 23 33 47.0 +0.1
DLMT *e*PP PP 23 35 33.8 +4.2
O08A Rochester Mine 60.66 61 ⇑P **P 23 33 16.2 +0.8**
baz=60
N09A Rock Creek Ran 60.67 60 P **P 23 33 15.8 +0.4**
baz=60,SNR=26
HLID Hailey 60.70 56 *e*P **P 23 33 15.9 +0.2**
comp=Z,14nm,0.8s,mb4.8
HLID Hailey 60.70 56 P **P 23 33 15.9 +0.3**
baz=60,SNR=28
MCMT McKenzie Canyo 60.75 54 *e*P **P 23 33 16.6 +0.6**
CMB Columbia Colle 60.77 65 *e*P **P 23 33 15.8 -0.3**
CMB pmax pmax
comp=Z,26nm,1.0s,mb5.0
CMB Columbia Colle 60.77 65 *e*P **P 23 33 15.8 -0.3**
comp=Z,26nm,1.0s,mb5.0
CMB *e*pP pP 23 33 43.2 -5.3
CMB *e*PcP PcP 23 33 57.9 -0.8
CMB *e*PP PP 23 35 27.3 -4.3
CMB Columbia Colle 60.77 65 P **P 23 33 15.9 -0.2**
baz=60,SNR=16
M10A I.L. Ranch, Tu 60.81 59 P **P 23 33 16.9 +0.6**
baz=60,SNR=37
PACP Pacheco Peak 60.89 66 ⇑P **P 23 33 16.8 -0.1**
baz=61
THW Thamme Wali 60.99 288 P **P 23 33 19.4 +1.8**
WAKR Walker 61.04 64 *e*P **P 23 33 18.2 +0.3**
P08A Dixie Valley 61.09 62 ⇓P **P 23 33 19.1 +0.9**
baz=61
BMN Battle Mountai 61.11 61 *e*P **P 23 33 18.9 +0.5**
HAST UC Hastings Re 61.12 67 P **P 23 33 18.4 -0.1**
baz=61,SNR=7.6
S05C Merced 61.25 65 ⇓P **P 23 33 18.9 -0.4**
baz=61
M11A Holland Ranch, 61.30 59 P **P 23 33 20.5 +0.8**
baz=61,SNR=14
O09A Fish Creek Ran 61.30 61 P **P 23 33 20.2 +0.5**
baz=61,SNR=37
T05C Eagle Field, D 61.34 66 ⇑P **P 23 33 20.9 +1.0**
baz=61
N10A Dunphy 61.34 60 P **P 23 33 20.6 +0.6**
baz=61,SNR=9.4
QLMT Earthquake Lak 61.52 54 *e*P **P 23 33 21.6 +0.4**
R07C Lee Vining 61.55 64 ⇑P **P 23 33 22.0 +0.6**
baz=61
V03C Hunter Liggett 61.56 67 ⇑P **P 23 33 21.5 +0.1**
baz=61
O10A Cortez Mining, 61.62 60 P **P 23 33 22.5 +0.6**
baz=61,SNR=9.9
Q08A Gabbs 61.71 62 P **P 23 33 22.6 +0.1**
baz=62,SNR=27
N11A Elko Archery C 61.73 60 ⇑P **P 23 33 22.6 0.0**
baz=62,SNR=6.5
P09A Austin 61.73 61 ⇓P **P 23 33 23.1 +0.6**
baz=62
NVAR Mina Array Bea 61.77 63 P **P 23 33 23.0 +0.2**
comp=Z,25nm,0.7s,mb5.2,baz=303,slow=7.7,SNR=94
NVAR Mina Array Bea 61.77 63 P **P 23 33 23.0 +0.2**
M12A Wells 61.81 59 P **P 23 33 23.7 +0.6**
baz=62,SNR=32
GCMT Greycliff 61.83 52 *e*P **P 23 33 23.9 +0.7**
GCMT *e*pP pP 23 33 56.4 +0.7
GCMT *e*PP PP 23 35 41.6 +0.7
T06C Millerton Lake 61.85 65 P **P 23 33 22.7 -0.7**
baz=62,SNR=9.8
YMR Madison River 61.88 54 *e*P **P 23 33 24.1 +0.5**
comp=Z,127nm,1.5s,mb5.5
YMR *e*pP pP 23 33 56.1 +0.1
YMR *e*PcP PcP 23 34 03.6 +0.5
KCC Kaiser Creek 61.88 65 P **P 23 33 23.3 -0.3**
baz=62,SNR=16
SBDP Sheikh Budin 61.91 288 P **P 23 33 22.3 -1.5**
SBDP S sP 23 34 07.0 -4.0
R08A Mina 61.94 63 ⇑P **P 23 33 24.0 0.0**
baz=62
PKD Parkfield 62.03 66 ⇑P **P 23 33 24.2 -0.4**
baz=62,SNR=5.5
V04C Ramage Ranch, 62.03 67 ⇑P **P 23 33 25.3 +0.7**
baz=62
P10A Eureka 62.08 61 ⇑P **P 23 33 25.8 +0.9**
baz=62,SNR=10
YFT Old Faithful 62.09 54 *e*P **P 23 33 27.1 +2.1**
N12A Clover Valley, 62.10 59 P **P 23 33 25.7 +0.6**
baz=62,SNR=15
KAF Kangasniemi 62.15 335 *ep* **P 23 33 22.6 -2.8**
comp=Z,5.5nm,0.4s,mb4.7,baz=36,slow=6.3
KAF Kangasniemi 62.15 335 *e*P **P 23 33 22.6 -2.8**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
Q09A Carvers 62.17 62 ⇓P **P 23 33 26.0 +0.4**
baz=62,SNR=5.3
O11A Cowboy Ranch, 62.22 60 P **P 23 33 26.2 +0.4**
baz=62,SNR=23
MTUM Tungsten Hills 62.32 64 *e*P **P 23 33 27.2 +0.7**
MTUM *e*pP pP 23 34 04.5 +5.6
IMW Indian Meadow 62.40 54 *e*P **P 23 33 27.9 +0.9**
comp=Z,59nm,1.2s,mb5.3
FLWY Flagg Ranch 62.41 54 *e*P **P 23 33 28.5 +1.4**
comp=Z,38nm,1.0s,mb5.2
S08C White Mtn Res 62.46 64 P **P 23 33 27.9 +0.5**
baz=62,SNR=12
DCID1 Drake Creek 62.46 55 *e*P **P 23 33 29.6 +2.1**
V05C Boulder Hill, 62.48 66 ⇑P **P 23 33 28.3 +0.7**
baz=62
HELL Mitchell Peak, 62.48 65 P **P 23 33 26.9 -0.7**
baz=62,SNR=29

RLMT Red Lodge 62.48 52 eP P 23 33 28.1 +0.5
comp=Z,54nm,1.1s,mb5.3
RLMT epP pP 23 33 58.9 -1.2
RLMT esP sP 23 34 13.0 -1.8
P11A Circle Ranch, 62.54 61 ⇓P P 23 33 28.5 +0.6
baz=62,SNR=7.2
RRI2 Red Ridge 62.55 55 eP P 23 33 29.0 +1.0
N13A Wendover, West 62.58 59 P P 23 33 28.7 +0.5
baz=62,SNR=17
RCTC Rector, Farmer 62.59 65 ⇓P P 23 33 28.4 +0.1
baz=62
MOOW Moose Ponds 62.60 54 eP P 23 33 29.1 +0.7
comp=Z,49nm,1.2s,mb5.2
R09A Tonopah 62.63 62 P P 23 33 28.6 0.0
baz=62,SNR=21
TPH Tonopah 62.65 63 eP P 23 33 29.1 +0.4
O12A Currie 62.66 59 P P 23 33 29.0 +0.3
baz=62,SNR=38
TPAW Teton Pass 62.66 55 eP P 23 33 29.7 +1.0
DRP Derazinda 62.66 288 P P 23 33 28.7 -0.1
TIN Tinemaha 62.71 64 ⇓P P 23 33 29.0 -0.1
baz=62
FIA1 FINESS Array S 62.75 334 eP P 23 33 27.8 -1.6
FIA1 ePcP PcP 23 34 05.0 -1.8
FINES FINESS Array B 62.76 334 P P 23 33 27.8 -1.6
comp=Z,14nm,0.5s,mb5.1,baz=37,slow=8.2,SNR=183
FINES FINESS Array B 62.76 334 i P P 23 33 27.7 -1.7
FINES pmax pmax
comp=Z,14nm,0.5s
FINES FINESS Array B 62.76 334 P P 23 33 27.8 -1.6
LOHW Long Hollow 62.77 54 eP P 23 33 30.2 +0.8
HVU Hansel Valley 62.78 57 eP P 23 33 30.2 +0.6
SMMC Simmler 62.78 67 P P 23 33 30.1 +0.6
baz=62,SNR=7.3
SNOW Snow King Moun 62.79 54 eP P 23 33 31.0 +1.4
SNOW epP pP 23 34 01.9 -0.2
SNOW esP sP 23 34 16.3 -0.5
SNOW PP PP 23 35 48.1 -1.2
REDW Red Top Meadow 62.80 55 eP P 23 33 30.5 +0.8
DGMT Dagmar 62.82 47 eP P 23 33 30.4 +0.6
S09A Goldfield 62.88 63 P P 23 33 30.1 0.0
baz=63,SNR=39
VES Vestal, Richgr 63.00 66 P P 23 33 30.3 -0.7
baz=63,SNR=6.9
LAO LASA Array 63.02 49 eP P 23 33 32.5 +1.4
comp=Z,27nm,0.9s,mb5.1
R10A Warm Springs 63.05 62 P P 23 33 31.4 0.0
baz=63,SNR=15
AHID Auburn Hatcher 63.06 55 eP P 23 33 32.0 +0.6
comp=Z,29nm,1.0s,mb5.1
Q11A Duckwater 63.06 61 P P 23 33 31.3 -0.2
baz=63,SNR=16
P12A McGill 63.09 60 P P 23 33 31.8 +0.2
baz=63,SNR=12
PKM Peak Mountain 63.17 67 P P 23 33 32.4 +0.3
baz=63,SNR=14
BGU Big Grassy Mou 63.20 58 eP P 23 33 32.3 -0.1
CWC Cottonwood Cre 63.21 65 ⇑P P 23 33 32.1 -0.3
baz=63
GRAC Grapevine Rang 63.27 64 P P 23 33 33.1 +0.3
baz=63,SNR=15
SPUT South Promonto 63.28 57 eP P 23 33 31.8 -1.1
AJM Ajmer 63.30 281 eP P 23 33 33.9 +0.9
AJM AMb AMB 23 33 36.1
comp=Z,31nm,1.2s,mb5.0
KAKA Kakadu 63.35 203 eP P 23 33 32.0 -1.3
comp=Z,13nm,0.5s,mb5.0
TRCR Troy Canyon 63.43 62 eP P 23 33 33.6 -0.3
ISA Isabella 63.48 65 eP P 23 33 33.3 -0.9
ISA Isabella 63.48 65 P P 23 33 32.9 -1.3
baz=63,SNR=7.9
SBC Santa Barbara 63.53 67 ⇓P P 23 33 34.5 0.0
baz=63
HWUT Hardware Ranch 63.57 56 eP P 23 33 35.1 +0.3
comp=Z,26nm,0.6s,mb5.2
VIS Vishakhapatnam 63.57 267 eP P 23 33 35.4 +0.6
VIS AMb AMB 23 33 38.1
comp=Z,48nm,1.4s,mb5.1
DAC Darwin (Calif) 63.61 64 eP P 23 33 34.5 -0.5
ARVC Arvin 63.62 66 ⇓P P 23 33 34.8 -0.4
baz=63
BHPL Bhopal 63.67 276 eP P 23 33 36.2 +0.8
BHPL AMb AMB 23 33 37.4
comp=Z,40nm,1.1s,mb5.2
DUG Dugway 63.81 58 eP P 23 33 36.4 0.0
DUG e pP 23 34 11.2 +2.2
DUG pmax pmax
comp=Z,45nm,0.9s,mb5.3
DUG Dugway 63.81 58 eP P 23 33 36.4 0.0
comp=Z,45nm,0.9s,mb5.3
DUG ePcP PcP 23 34 11.2 +0.2
DUG Dugway 63.81 58 P P 23 33 36.7 +0.3
baz=64,SNR=37
MPMC Manual Prospec 63.82 65 P P 23 33 36.2 -0.2
baz=64,SNR=28
BW06 Boulder Array 63.90 54 eP P 23 33 37.0 0.0
comp=Z,48nm,0.9s,mb5.3
PDAR Pinedale Array 63.90 54 P P 23 33 36.9 -0.1
comp=Z,28nm,0.8s,mb5.2,baz=273,slow=1.6,SNR=123
PDAR pP pP 23 34 09.7 +0.1
comp=Z,8.0nm,1.0s,baz=302,slow=2.8,SNR=2.8
FURC Furnace Creek, 63.92 64 P P 23 33 37.0 -0.1
baz=64,SNR=31
TCUT Toone Canyon 63.99 57 eP P 23 33 38.2 +0.7
OSI Osito Adit 64.03 66 ⇓P P 23 33 37.9 +0.1
baz=64
CTU Camp Tracy 64.08 57 eP P 23 33 38.3 +0.2
LRMC Laurel Mountai 64.08 65 ⇑P P 23 33 37.8 -0.4
baz=64
EDW2 Edwards Air Fo 64.30 66 ⇑P P 23 33 38.7 -0.8
baz=64,SNR=21
NLU North Lily Min 64.39 58 eP P 23 33 40.4 +0.2
SNCC San Nicolas Is 64.45 68 ⇓P P 23 33 39.7 -0.8
baz=64
DECC Green Verdugo 64.51 67 ⇓P P 23 33 40.4 -0.5
baz=64
DAU Daniels Canyon 64.55 57 eP P 23 33 41.7 +0.5
MPU Maple Canyon 64.60 58 eP P 23 33 42.0 +0.4
SHOC Shoshone 64.65 64 ⇑P P 23 33 41.3 -0.5
baz=64
MWC Mount Wilson 64.70 66 eP P 23 33 41.7 -0.4
GSC Goldstone 64.74 65 eP P 23 33 42.0 -0.4
GSC Goldstone 64.74 65 P P 23 33 42.1 -0.3
baz=64,SNR=11
U11A Corn Creek 64.84 63 ⇑P P 23 33 43.6 +0.5
baz=65
SHPR Sheep Range 64.92 63 eP P 23 33 43.5 0.0
BFSC Mount Baldy St 64.93 66 P P 23 33 43.1 -0.5
baz=65,SNR=12
CIS Catalina Islan 65.03 67 ⇓P P 23 33 43.8 -0.5
baz=65
ARUT Antelope Range 65.07 61 eP P 23 33 44.5 0.0
ARUT e pP 23 34 16.1 -1.1
TUQ Turquoise Mtn. 65.18 64 P P 23 33 45.1 -0.1
baz=65,SNR=27
V11A Goodsprings 65.20 63 P P 23 33 45.4 -0.1
baz=65,SNR=17
SCI San Clemente I 65.23 68 ⇓P P 23 33 45.0 -0.6
baz=65
CCUT Cedar City 65.27 61 eP P 23 33 46.0 +0.2
CCUT ePcP PcP 23 34 16.5 -0.6
MSU Marysvale 65.31 59 eP P 23 33 46.5 +0.4
TMUT Trail Mountain 65.33 58 eP P 23 33 46.8 +0.6
U12A Valley of Fire 65.33 62 P P 23 33 46.5 +0.2
baz=65,SNR=7.5
HEC Hector,Ludlow 65.34 65 P P 23 33 46.1 -0.2
baz=65,SNR=14
ULM Lac du Bonnet 65.44 41 P P 23 33 45.9 -1.1
comp=Z,3.2nm,0.5s,mb4.4,baz=304,slow=10,SNR=10
V12A Nelson 65.63 63 ⇑P P 23 33 47.7 -0.4
baz=65,SNR=13
MURC Murrieta 65.64 66 ⇑P P 23 33 47.8 -0.4
baz=65,SNR=6.2
SRU San Rafael 65.85 58 eP P 23 33 49.5 0.0
SRU San Rafael 65.85 58 eP P 23 33 49.5 0.0
RSSD Black Hills 65.90 50 eP P 23 33 49.4 -0.5
W12A Cal Nev Ari 65.90 64 ⇓P P 23 33 49.8 -0.1
baz=66
RWWY Rawlins 65.91 54 eP P 23 33 49.7 -0.3
comp=Z,49nm,1.1s,mb5.2
PFO Pinyon Flat Ob 66.09 66 eP P 23 33 50.3 -0.8
PFO pmax pmax
comp=Z,39nm,1.4s,mb5.0
PFO Pinyon Flat Ob 66.09 66 eP P 23 33 50.3 -0.8
comp=Z,38nm,1.4s,mb5.0
PFO Pinyon Flat Ob 66.09 66 ⇑P P 23 33 50.5 -0.7
baz=66
BELC Belle Mtn. 66.11 65 P P 23 33 50.4 -0.8
baz=66,SNR=13
109C Camp Elliot, M 66.18 67 ⇓P P 23 33 50.9 -0.8
baz=66
IRM Iron Mountain 66.51 65 P P 23 33 53.6 -0.2
baz=66,SNR=16
BAR Barrett 66.59 67 eP P 23 33 53.8 -0.5
MONP Monument Peak 66.60 66 ⇑P P 23 33 53.9 -0.5
baz=66
W13A Hualapai Mount 66.63 63 ⇓P P 23 33 53.8 -0.7
baz=66,SNR=13
BC3 Big Chuckw Mtn 66.67 65 ⇓P P 23 33 54.2 -0.6
baz=66,SNR=7.2
NB2 NORSAR Subarra 66.88 341 P P 23 33 54.6 -1.5
comp=Z,145nm,2.5s,mb5.4,baz=26,slow=6.5
NB2 NORSAR Subarra 66.88 341 P P 23 33 54.6 -1.5
NB2 pmax pmax
comp=Z,145nm,2.5s,mb5.4
NOA NORSAR Array B 66.88 341 P P 23 33 55.3 -0.8
comp=Z,5.8nm,0.6s,mb4.6,baz=26,slow=6.4,SNR=26
NOA LR LR 00 08 22.4
comp=Z,48nm,18.7s,baz=15,slow=40
NOA NORSAR Array B 66.88 341 P P 23 33 55.3 -0.8
NOA pmax pmax
comp=Z,6.0nm,0.6s
NOA MLR MLR
comp=Z,48nm,18.7s
SWSC Sam W. Stewart 66.95 66 ⇑P P 23 33 56.0 -0.6
baz=67
DVTC Desert V Tower 66.96 66 P P 23 33 56.1 -0.5
baz=67,SNR=8.0
HYB Hyderabad 66.98 271 i P P 23 33 57.0 +0.2
HYB Hyderabad 66.98 271 eP P 23 33 57.0 +0.2
X13A Yucca 67.01 63 P P 23 33 56.6 -0.3
baz=67,SNR=23
PDMCI Parker Dam,Lak 67.02 64 P P 23 33 56.7 -0.3
baz=67,SNR=14
W14A Seligman 67.03 63 P P 23 33 57.4 +0.3
baz=67,SNR=44
HFS Hagfors 67.12 339 LR LR 00 06 28.4
comp=Z,80nm,20.6s,baz=67,slow=39
PHWY Pilot Hill 67.13 53 eP P 23 33 57.6 -0.1
NAO01 NORSAR Array S 67.13 341 P P 23 33 57.0 -0.7
Y12C Blythe 67.17 65 P P 23 33 57.8 -0.1
baz=67,SNR=8.5
PV10 Paradox Valley 67.19 58 eP P 23 33 58.8 +0.7
GLA Glamis 67.47 65 eP P 23 33 59.5 -0.3
GLA e 23 34 25.1
GLA Glamis 67.47 65 ⇑P P 23 33 59.4 -0.5
baz=67,SNR=10
W15A Williams 67.54 62 P P 23 34 01.0 +0.7
baz=67,SNR=9.5
Y13A Salome 67.55 64 P P 23 33 60.0 -0.4
baz=67,SNR=13
PV01 Paradox Valley 67.63 58 eP P 23 34 00.9 +0.1
PV01 e 23 34 48.0
X14A Yava 67.66 63 P P 23 34 01.4 +0.3
baz=67,SNR=26
SMCO Snowmass 67.79 56 eP P 23 33 56.5 -5.3
comp=Z,37nm,0.8s,mb5.2
WUAZ Wupatki 67.83 61 eP P 23 34 02.7 +0.6
comp=Z,42nm,1.2s,mb5.0
WUAZ Wupatki 67.83 61 P P 23 34 02.7 +0.6
baz=68,SNR=8.9
Y14A Wickenburg 67.95 63 P P 23 34 02.7 -0.2
baz=68,SNR=21
X15A Humboldt 68.03 63 P P 23 34 03.7 +0.4
baz=68,SNR=31
ISCO Idaho Springs 68.10 55 eP P 23 34 04.2 +0.4
ISCO pmax pmax
comp=Z,56nm,1.0s,mb5.2
ISCO Idaho Springs 68.10 55 eP P 23 34 04.2 +0.4
comp=Z,52nm,1.0s,mb5.2
CTA Charters Tower 68.23 187 eP P 23 34 03.8 -0.8
comp=Z,6.3nm,0.6s,mb4.5
CTA Charters Tower 68.23 187 eP P 23 34 03.8 -0.8
CTA pmax pmax
comp=Z,6.0nm,0.6s
CTAO Charters Tower 68.23 187 eP P 23 34 03.9 -0.7
CTAO pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
CTAO Charters Tower 68.23 187 eP P 23 34 03.9 -0.7
comp=Z,6.3nm,0.4s,mb4.7
MVCO Mesa Verde 68.31 58 eP P 23 34 04.9 -0.2
comp=Z,38nm,0.9s,mb5.1
MVCO Mesa Verde 68.31 58 P P 23 34 05.1 0.0
baz=68,SNR=18
Z14A Wintersburg 68.39 64 P P 23 34 05.4 -0.2
baz=68,SNR=5.4
KONO Kongsberg 68.49 341 P P 23 34 06.7 +0.5
115A Sonoran Desert 69.28 64 ⇓P P 23 34 11.1 0.0
baz=69,SNR=9.2
POO Poona 69.34 275 ⇓i P P 23 34 10.0 -1.5
comp=Z,40nm,1.0s,mb5.1
SDCO Great Sand Dun 69.62 56 eP P 23 34 13.3 +0.1
comp=Z,58nm,1.5s,mb5.1
116A Eloy 69.69 64 ⇑P P 23 34 13.8 +0.2
baz=69,SNR=5.9
SUW Suwalki 69.75 331 eP P 23 34 13.5 -0.5
SUW e 23 34 35.3
SUW pmax pmax
comp=Z,6.0nm,0.3s,mb4.8
SUW Suwalki 69.75 331 eP P 23 34 13.5 -0.5
comp=Z,5.7nm,0.3s,mb4.8
SUW ePcP PcP 23 34 35.3 -0.5
KIV Kislovodsk 69.81 314 eP P 23 34 15.0 +0.6
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KIV Kislovodsk 69.81 314 eP P 23 34 15.0 +0.7
comp=Z,8.3nm,0.8s,mb4.5
WRAB Tennant Creek 69.85 199 P P 23 34 14.0 -0.6
comp=Z,147nm,0.5s,mb6.0,SNR=24
WRAB Tennant Creek 69.85 199 d i P P 23 34 14.1 -0.5
WB2 Warramunga Arr 69.86 199 eP P 23 34 13.8 -0.9
WB2 Warramunga Arr 69.86 199 eP P 23 34 14.2 -0.5
WB2 ePcP PcP 23 34 34.5 -1.7
WRA Warramunga Arr 69.86 199 P P 23 34 14.1 -0.6
comp=Z,14nm,0.5s,mb5.0,baz=23,slow=6.5,SNR=216
WRA Warramunga Arr 69.86 199 P P 23 34 14.1 -0.6
WRA pmax pmax
comp=Z,14nm,0.5s
ECSD EROS,Sioux Fal 69.89 46 eP P 23 34 13.6 -1.3
comp=Z,73nm,1.4s,mb5.2
ECSD epP pP 23 34 44.5 -3.5
KAD Karad 69.98 274 eP P 23 34 16.9 +1.5
KAD AMb AMB 23 34 18.4
comp=Z,64nm,1.2s,mb5.2
ZEI Tsey 70.10 312 eP P 23 34 15.0 -1.1
ZEI e*PP pP 23 34 43.5 -5.8
AKASG Malin Array Be 70.37 326 P P 23 34 16.3 -1.5
comp=Z,4.7nm,0.4s,mb4.6,baz=34,slow=6.4,SNR=28
AKASG LR LR 00 07 32.4
comp=Z,65nm,18.5s,baz=10.0,slow=38
AKASG Malin Array Be 70.37 326 i P P 23 34 16.2 -1.6
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 70.37 326 P P 23 34 16.3 -1.5
AKASG LR LR 00 07 32.4
AKBB Malin Array Si 70.37 326 eP P 23 34 16.1 -1.7
AKBB e*PP pP 23 34 49.8 -1.1
FITZ Fitzroy Crossi 70.41 208 eP P 23 34 17.9 -0.1
comp=Z,10nm,0.8s,mb4.6
TUC Tucson 70.42 63 eP P 23 34 17.7 -0.4
ANMO Albuquerque 71.08 59 eP P 23 34 22.1 +0.1
BSD Bornholm Skovb 71.25 336 i P P 23 34 22.2 -0.9
comp=Z,0.5nm,0.2s
LENM Lemitar 71.34 60 eP P 23 34 24.4 +0.7
LPM Los Pinos Moun 71.44 59 eP P 23 34 25.0 +0.8
GNI Garni 71.62 310 LR LR 00 09 55.0
comp=Z,136nm,19.0s,baz=238,slow=39
GNI Garni 71.62 310 eP P 23 34 27.3 +2.0
ANN Anapa 71.63 317 eP P 23 34 29.5 +4.1
ANN pmax pmax
comp=Z,111nm,1.7s,mb5.3
CBKS Cedar Bluff 71.96 52 eP P 23 34 26.3 -1.0
CBKS pmax pmax
comp=Z,41nm,0.8s,mb5.2
CBKS Cedar Bluff 71.96 52 eP P 23 34 26.2 -1.1
comp=Z,41nm,0.8s,mb5.2
SCHQ Schefferville 71.99 23 P P 23 34 26.9 -0.6
comp=Z,10nm,0.5s,mb4.8,baz=347,slow=5.4,SNR=55
RGN Rugen 72.18 337 P P 23 34 27.4 -1.3
GKP Gorka Klasztor 72.22 334 eP P 23 34 28.7 -0.2
MNGI Mangalore 72.69 270 eP P 23 34 30.3 -1.3
MNGI AMb AMB 23 34 34.4
comp=Z,43nm,0.4s,mb5.5
PALK Pallekele 72.91 262 eP P 23 34 35.5 +2.6
SCIA State Center 72.91 46 eP P 23 34 32.2 -0.7
comp=Z,76nm,0.9s,mb5.4
SCIA epP pP 23 35 03.9 -2.4
LVV L'vov 72.98 328 eP P 23 34 33.0 -0.4
KSU1 Kansas State U 73.36 50 eP P 23 34 33.8 -1.9
comp=Z,18nm,0.6s,mb5.0
BSEG Bad Segeberg 73.51 338 eP P 23 34 36.2 -0.3
comp=Z,25nm,1.2s,mb4.8
BSEG Bad Segeberg 73.51 338 eP P 23 34 36.2 -0.3
BSEG pmax pmax
comp=Z,25nm,1.2s,mb4.8
AS31 Alice Springs 73.56 198 eP P 23 34 36.2 -0.6
AS31 epP pP 23 35 09.5 -0.8
ASAR Alice Springs 73.56 198 P P 23 34 37.0 +0.2
comp=Z,11nm,0.5s,mb4.8,baz=15,slow=5.6,SNR=126
ASAR pP pP 23 35 09.2 -1.1
comp=Z,6.6nm,0.9s,baz=14,slow=5.5,SNR=5.1
ASAR LR LR 00 04 19.1
comp=Z,76nm,20.0s,baz=166,slow=33
ASPA Alice Springs 73.57 198 eP P 23 34 37.2 +0.4
KWP Kalwaria 73.61 329 eP P 23 34 37.4 +0.4
RUE Ruedersdorf 73.91 335 eP P 23 34 38.4 -0.4
comp=Z,16nm,0.4s,mb5.1
RUE ePcP PcP 23 34 52.2 -1.4
MNTX Cornudas Mount 74.05 60 eP P 23 34 39.2 -0.5
OJC Ojcow 74.08 331 eP P 23 34 39.6 -0.2
GDL2 Guadalupe Moun 74.27 59 eP P 23 34 40.7 -0.2
STHS Stebnicka Huta 74.29 330 eP P 23 34 41.0 0.0
STHS e 23 35 43.1
STHS e 23 35 52.5
STHS Stebnicka Huta 74.29 330 eP P 23 34 41.1 +0.1
STHS pmax pmax
comp=Z,11nm,0.7s,mb4.7
STHS Stebnicka Huta 74.29 330 eP P 23 34 41.1 +0.1
comp=Z,11nm,0.7s,mb4.7
STHS e 23 35 43.1
STHS e 23 35 52.5
KOLS Kolonicke sedl 74.35 329 eP P 23 34 40.4 -1.0
BURAR Bucovina Array 74.41 326 ⇓P P 23 34 41.5 -0.2
NIE Niedzica 74.60 330 eP P 23 34 43.6 +0.8
KSP Ksiaz 74.63 333 eP P 23 34 43.2 +0.2
KSP Ksiaz 74.63 333 ⇓eP P 23 34 43.1 +0.1
CRVS Cervenica-Dubn 74.65 329 eP P 23 34 43.4 +0.3
NRDL Niedersach Rie 74.87 338 eP P 23 34 45.2 +0.8
OKC Ostrava-Krasne 74.94 332 eP P 23 34 45.0 +0.2
ESK Eskdalemuir 74.98 346 eP P 23 34 44.7 -0.3
ESK e*PP pP 23 35 17.6 -1.0
ESK e*SP sP 23 35 32.0 -1.0
ESK pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
ESK Eskdalemuir 74.98 346 eP P 23 34 44.7 -0.3
comp=Z,8.1nm,0.6s,mb4.5
ESK epP pP 23 35 17.6 -1.0
ESK esP sP 23 35 31.9 -1.1
UPC Upice 75.01 333 eP P 23 34 45.8 +0.6
UPC ePCP PcP 23 34 52.7 -5.6
DPC Dobruska-Polom 75.06 333 eP P 23 34 45.7 +0.3
DPC ePCP PcP 23 34 52.1 -6.4
CLL Collm 75.17 335 eP P 23 34 45.1 -1.0
comp=Z,62nm,1.3s,mb5.1
CLL Collm 75.17 335 ⇓i P P 23 34 46.1 0.0
CLL pmax pmax
comp=Z,63nm,1.3s,mb5.1
CLL Collm 75.17 335 ⇓i P P 23 34 46.1 0.0
comp=Z,63nm,1.3s,mb5.1
CLL e(pP) pP 23 35 23.0 +3.3
MORC Moravsky Berou 75.18 332 ⇑i P P 23 34 45.5 -0.7
MORC Moravsky Berou 75.18 332 ⇑P P 23 34 45.5 -0.7
MBWA Marble Bar 75.23 212 eP P 23 34 46.4 0.0
comp=Z,3.3nm,0.6s,mb4.1
MBWA ePcP PcP 23 34 59.1 -0.2
MBWA epP pP 23 35 16.8 -3.2
BRG Berggiesshubel 75.30 335 eP P 23 34 46.0 -0.8
comp=Z,14nm,0.9s,mb4.6
BRG Berggiesshubel 75.30 335 ⇑i P P 23 34 46.8 0.0
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
BRG Berggiesshubel 75.30 335 ⇑i P P 23 34 46.8 0.0
comp=Z,8.7nm,0.9s,mb4.4
KECS Kecovo 75.35 330 eP P 23 34 47.0 -0.1
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
KECS Kecovo 75.35 330 eP P 23 34 47.0 -0.1
comp=Z,5.5nm,0.8s,mb4.2
CLZ Clausthal 75.40 337 eP P 23 34 47.3 -0.1
comp=Z,50nm,1.3s,mb5.0
CLZ Clausthal 75.40 337 eP P 23 34 47.3 -0.1
CLZ pmax pmax
comp=Z,50nm,1.3s,mb5.0
PVCC Panska Ves 75.42 334 eP P 23 34 47.6 +0.1
PVCC ePCP PcP 23 34 53.5 -6.5
WMOK Wichita Mounta 75.51 54 eP P 23 34 47.1 -0.9
VYHS Vyhne 75.89 331 eP P 23 34 49.8 -0.4
VYHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
VYHS Vyhne 75.89 331 eP P 23 34 49.8 -0.4
comp=Z,8.3nm,0.8s,mb4.4
VRAC Vranov 75.89 332 ⇓i P P 23 34 50.7 +0.5
VRAC Vranov 75.89 332 P P 23 34 50.7 +0.5
MLR Muntele Rosu 75.91 325 LR LR 00 10 13.5
comp=Z,83nm,19.7s,baz=132,slow=37
MLR Muntele Rosu 75.91 325 ⇓i P P 23 34 51.6 +1.3
MLR Muntele Rosu 75.91 325 P P 23 34 50.9 +0.7
PRU Pruhonice 75.91 334 eP P 23 34 50.4 +0.1
PRU ePCP PcP 23 34 57.5 -4.7
PSZ Piszkesteto 76.03 330 ⇓i P P 23 34 52.1 +1.1
PSZ Piszkesteto 76.03 330 eP P 23 34 52.2 +1.2
TANN Tannenbergstha 76.12 335 eP P 23 34 51.1 -0.4
MOX Moxa 76.15 336 eP P 23 34 51.2 -0.5
comp=Z,24nm,1.2s,mb4.7
MOX Moxa 76.15 336 eP P 23 34 51.9 +0.2
comp=Z,39nm,1.4s,mb4.8
MOX Moxa 76.15 336 eP P 23 34 51.9 +0.2
MOX pmax pmax
comp=Z,39nm,1.4s,mb4.8
WTSB Winterswijk 76.17 339 eP P 23 34 51.5 -0.3
comp=Z,39nm,1.3s,mb4.9
MALT Malatya 76.19 313 ⇑i P P 23 34 52.9 +1.0
MALT Malatya 76.19 313 eP P 23 34 53.0 +1.1
TREC Trest 76.24 333 eP P 23 34 50.5 -1.7
TREC ePCP PcP 23 34 57.6 -6.0
VOIR 76.29 325 ⇑i P P 23 34 53.4 +0.9
VOIR 76.29 325 ⇑P P 23 34 53.4 +0.9
SMOL Smolenice 76.33 331 eP P 23 34 53.7 +1.0
UBBA Unterbreizbach 76.43 337 eP P 23 34 52.7 -0.5
ASHO Ashiyiah 76.49 292 ⇑P P 23 34 54.3 +0.8
SNR=7.2
HOQ Hoqain 76.51 290 ⇓P P 23 34 54.5 +0.8
SNR=7.3
BUG Bochum--Univer 76.54 339 eP P 23 34 53.3 -0.6
MANZ Manzenberg 76.61 335 eP P 23 34 54.0 -0.3
ZST Bratislava 76.71 331 eP P 23 34 55.5 +0.7
ZST pmax pmax
comp=Z,16nm,1.2s,mb4.5
ZST Bratislava 76.71 331 eP P 23 34 55.5 +0.7
comp=Z,16nm,1.2s,mb4.5
ROTZ Rotzenmuhle 76.78 335 eP P 23 34 55.2 0.0
TXAR Lajitas Array 76.78 61 P P 23 34 54.9 -0.3
comp=Z,35nm,0.5s,mb5.2,baz=298,slow=4.5,SNR=361
TXAR Lajitas Array 76.78 61 P P 23 34 54.9 -0.3
TXAR pmax pmax
comp=Z,35nm,0.5s
TXAR Lajitas Array 76.78 61 P P 23 34 54.9 -0.3
CCM Cathedral Cave 76.85 47 eP P 23 34 52.1 -3.5
CCM e 23 37 50.3
CCM pmax pmax
comp=Z,39nm,1.1s,mb5.0
CCM Cathedral Cave 76.85 47 eP P 23 34 52.1 -3.5
comp=Z,39nm,1.1s,mb5.0
CCM ePP PP 23 37 50.3 +0.1
SLM Saint Louis 76.88 46 eP P 23 34 55.8 0.0
KHC Kasperske Hory 76.96 334 eP P 23 34 56.6 +0.4
KHC ePCP PcP 23 35 02.0 -4.7
GRA1 Grafenberg Arr 77.12 336 eP P 23 34 57.2 +0.1
comp=Z,42nm,0.9s,mb5.1
GRF Grafenberg Arr 77.12 336 eP P 23 34 57.2 +0.1
comp=Z,42nm,0.9s,mb5.1
GRF Grafenberg Arr 77.12 336 eP P 23 34 57.2 +0.1
GRF pmax pmax
comp=Z,42nm,0.9s,mb5.1
GRF Grafenberg Arr 77.12 336 eP P 23 34 57.2 +0.1
GRF pmax pmax

comp=Z,42nm,0.9s,mb5.1
WET Wettzell 77.15 334 *e*P **P 23 34 57.4 +0.1**
comp=Z,34nm,1.2s,mb4.8
WET Wettzell 77.15 334 *e*P **P 23 34 57.4 +0.1**
WET pmax pmax
comp=Z,34nm,1.2s,mb4.8
GEC2 GERESS Array S 77.18 334 *e*P **P 23 34 57.0 -0.4**
comp=Z,22nm,1.3s,mb4.6
GEC2 GERESS Array S 77.18 334 *e*P **P 23 34 57.0 -0.4**
GEC2 pmax pmax
comp=Z,22nm,1.3s,mb4.6
GERES GERESS Array B 77.18 334 P **P 23 34 57.3 -0.1**
comp=Z,3.4nm,0.4s,mb4.3,baz=36,slow=6.0,SNR=42
GERES GERESS Array B 77.18 334 P **P 23 34 57.3 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.4s
GZR Gura Zlata 77.18 327⇑*i*P **P 23 34 57.8 +0.3**
GZR Gura Zlata 77.18 327⇑P **P 23 34 57.8 +0.4**
BSY Bisya 77.19 290⇓P **P 23 34 58.4 +1.0**
SNR=6.9
FVM French Village 77.30 46 *e*P **P 23 34 57.2 -0.9**
FVM pmax pmax
comp=Z,57nm,1.3s,mb5.0
FVM French Village 77.30 46 *e*P **P 23 34 57.2 -1.0**
comp=Z,63nm,1.3s,mb5.1
CONA Conrad Observa 77.34 332⇑*i*P **P 23 34 58.8 +0.5**
comp=Z,18nm,1.5s,mb4.5
BR131 Keskin Array S 77.36 317 *e*P **P 23 34 58.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.2
BR131 *e*PcP PcP 23 35 07.5 -1.0
BRTR Keskin Array B 77.36 317 P **P 23 34 58.9 +0.4**
comp=Z,4.7nm,0.7s,mb4.2
BRTR Keskin Array B 77.36 317 P **P 23 34 58.9 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
TNS Taunus Mts 77.37 338 *e*P **P 23 34 58.2 -0.3**
BZS Buzias 77.42 327⇓*i*P **P 23 34 57.8 -1.0**
BZS Buzias 77.42 327 P **P 23 34 59.1 +0.3**
HGN Heimansgroeve 77.49 339 *e*P **P 23 34 58.9 -0.3**
comp=Z,33nm,1.3s,mb4.8
BEBN Eben Emael 77.52 340 P **P 23 35 00.0 +0.7**
MEM Membach 77.62 339 P **P 23 35 00.0 +0.1**
MEM E 23 35 05.1
ANTO Ankara 77.63 317⇑*i*P **P 23 35 00.5 +0.5**
ANTO Ankara 77.63 317⇑P **P 23 35 00.5 +0.6**
TOD Tromm 77.85 337 *e*P **P 23 35 01.6 +0.4**
MOA Molln 77.90 333⇓*i*P **P 23 35 01.1 -0.3**
comp=Z,14nm,1.1s,mb4.5
UMR Umm Al-Rimmam 77.90 301 *e*P **P 23 35 01.4 -0.1**
UMR AMb AMB 23 35 03.1
comp=Z,36nm,0.5s,mb5.2
MIB Mutribah 77.93 301 *e*P **P 23 35 01.6 0.0**
MIB AMb AMB 23 35 02.8
comp=Z,76nm,0.5s,mb5.6
PKSM Moragy 77.94 330⇑*i*P **P 23 35 00.1 -1.6**
PKSM Moragy 77.94 330 P **P 23 35 01.7 +0.1**
BCLA Clavier 77.96 340 P **P 23 35 01.5 -0.2**
ARSA Arzberg 78.05 332⇑*i*P **P 23 35 02.0 -0.2**
comp=Z,60nm,2.1s,mb4.8,SNR=5.4
SIUC Southern Illin 78.10 46 *e*P **P 23 35 02.1 -0.5**
comp=Z,56nm,1.1s,mb5.1
SNF Seneffe 78.11 340 P **P 23 35 03.3 +0.7**
JCT Junction City 78.15 57 *e*P **P 23 35 02.3 -0.5**
JCT *e**PP pP 23 35 35.5 -1.1
JCT *e**SP sP 23 35 47.9 -3.2
JCT pmax pmax
comp=Z,23nm,0.7s,mb4.9
JCT Junction City 78.15 57 *e*P **P 23 35 02.2 -0.6**
comp=Z,23nm,0.7s,mb4.9
JCT *e*pP pP 23 35 35.5 -1.2
JCT *e*sP sP 23 35 47.9 -3.2
ARMA Armidale 78.25 181 *e*P **P 23 35 03.0 -0.4**
GIVF Givet 78.36 340 *e*P **P 23 35 03.6 -0.4**
comp=Z,88nm,1.3s,mb4.9
GIVF Givet 78.36 340 *e*P **P 23 35 03.6 -0.4**
GIVF pmax pmax
comp=Z,44nm,1.3s,mb4.9
GIVF Givet 78.36 340 *e*P **P 23 35 03.6 -0.4**
comp=Z,44nm,1.3s,mb4.9
QRN Al-Qurain 78.39 300 *e*P **P 23 35 04.7 +0.5**
QRN AMb AMB 23 35 08.1
comp=Z,68nm,0.9s,mb5.3
DOU Dourbes 78.42 340 P **P 23 35 05.0 +0.7**
WLF Walferdange 78.46 339 *e*P **P 23 35 04.2 -0.3**
WLF *e**PP pP 23 35 34.9 -3.4
RDF Al-Radifah 78.47 300 *e*P **P 23 35 04.9 +0.3**
RDF AMb AMB 23 35 06.0
comp=Z,46nm,0.5s,mb5.4
FUR Furstenfeldbru 78.49 335 *e*P **P 23 35 04.6 -0.1**
comp=Z,37nm,0.8s,mb5.1
FUR Furstenfeldbru 78.49 335 *e*P **P 23 35 04.6 -0.1**
FUR pmax pmax
comp=Z,37nm,0.8s,mb5.1
STU Stuttgart 78.51 337 *e*P **P 23 35 04.5 -0.3**
STU Stuttgart 78.51 337 *e*P **P 23 35 05.4 +0.6**
STU pmax pmax
comp=Z,13nm,0.5s,mb4.8
STU Stuttgart 78.51 337 *e*P **P 23 35 05.4 +0.6**
comp=Z,13nm,0.5s,mb4.8
MENF Mencas 78.53 342 *e*P **P 23 35 05.6 +0.7**
BAIF Baives 78.55 340⇑*i*P **P 23 35 04.9 -0.1**
comp=Z,46nm,1.2s,mb4.7
BAIF Baives 78.55 340⇑*i*P **P 23 35 04.9 -0.1**
BAIF pmax pmax
comp=Z,23nm,1.2s,mb4.7
BAIF Baives 78.55 340⇑*i*P **P 23 35 04.9 -0.1**
comp=Z,23nm,1.2s,mb4.7
USIN University of 78.64 45 *e*P **P 23 35 05.3 -0.2**
LANF Langenberg 78.68 338 *e*P **P 23 35 06.1 +0.4**
PERS Pernice 78.72 332 *i*P **P 23 35 06.3 +0.3**
KBA Koelnbreinsper 78.87 333 *i*P **P 23 35 07.8 +1.0**
comp=Z,49nm,1.1s,mb5.0,SNR=24
KBA Koelnbreinsper 78.87 333 *i*P **P 23 35 07.8 +1.0**
KBA pmax pmax
comp=Z,49nm,1.1s,mb5.0
ACSO Alum Creek Sta 78.92 40 *e*P **P 23 35 06.1 -0.9**
comp=Z,18nm,1.0s,mb4.7
ACSO *e*PcP PcP 23 35 15.3 +0.1
ALLY Alegheny Colle 78.94 38 *e*P **P 23 35 07.4 +0.3**
OBKA Obir 79.01 332⇑*i*P **P 23 35 08.3 +0.7**
comp=Z,6.0nm,0.7s,mb4.4,SNR=5.3
WCI Wyandotte Cave 79.07 44 *e*P **P 23 35 07.1 -0.8**
WCI *e**PP pP 23 35 40.5 -1.2
WCI pmax pmax
comp=Z,43nm,1.0s,mb5.0
WCI Wyandotte Cave 79.07 44 *e*P **P 23 35 07.1 -0.8**
comp=Z,43nm,1.0s,mb5.0
WCI *e*pP pP 23 35 40.5 -1.2
HBAR Harrisburg 79.11 48 *e*P **P 23 35 08.4 +0.3**
BFO Black Forest 79.14 337 P **P 23 35 08.6 +0.3**
comp=Z,125nm,1.0s,mb5.5,SNR=7.0
BFO Black Forest 79.14 337 *e*P **P 23 35 07.9 -0.4**
comp=Z,24nm,1.0s,mb4.8
BFO Black Forest 79.14 337 *e*P **P 23 35 07.9 -0.4**
BFO pmax pmax
comp=Z,24nm,1.0s,mb4.8
BFO Black Forest 79.14 337 *e*P **P 23 35 08.0 -0.3**
comp=Z,15nm,0.8s,mb4.7
WATA Walderalm 79.16 334⇓*i*P **P 23 35 09.0 +0.7**
comp=Z,36nm,1.1s,mb4.9,SNR=14
WATA Walderalm 79.16 334⇓*i*P **P 23 35 09.0 +0.7**
WATA pmax pmax
comp=Z,37nm,1.1s,mb4.9
WTTA Wattenberg 79.21 334⇑*i*P **P 23 35 09.3 +0.7**
comp=Z,70nm,1.2s,mb5.2,SNR=19
WTTA Wattenberg 79.21 334⇑*i*P **P 23 35 09.3 +0.7**
WTTA pmax pmax
comp=Z,70nm,1.2s,mb5.2
VAL Valentia 79.25 350 *e*P **P 23 35 07.9 -1.0**
MOTA Moosalm 79.29 335 *i*P **P 23 35 09.7 +0.7**
comp=Z,42nm,1.1s,mb5.0,SNR=23
MOTA Moosalm 79.29 335 *i*P **P 23 35 09.7 +0.7**
MOTA pmax pmax
comp=Z,42nm,1.1s,mb5.0
DIVS Divcibare 79.31 328 *i*P **P 23 35 08.9 -0.2**
WLS Welschbruch 79.32 338 *e*P **P 23 35 09.6 +0.4**
CDF Champ du Feu 79.34 338⇑*i*P **P 23 35 09.3 0.0**
comp=Z,59nm,1.1s,mb4.8
CDF Champ du Feu 79.34 338⇑*i*P **P 23 35 09.3 0.0**
CDF pmax pmax
comp=Z,29nm,1.1s,mb4.8
CDF Champ du Feu 79.34 338⇑*i*P **P 23 35 09.3 0.0**
comp=Z,29nm,1.1s,mb4.8
SQTA Sankt Quirin 79.37 335⇓*i*P **P 23 35 10.5 +1.0**
comp=Z,39nm,1.1s,mb4.9,SNR=16
SQTA Sankt Quirin 79.37 335⇓*i*P **P 23 35 10.5 +1.0**
SQTA pmax pmax
comp=Z,39nm,1.1s,mb5.0
VTS Vitosha 79.41 325⇑*i*P **P 23 35 09.7 0.0**
PTCC Patocco-Chiusa 79.47 333 P **P 23 35 09.4 -0.6**
comp=Z,9.1nm,0.6s,mb4.6
ECH Echery 79.55 338 *e*P **P 23 35 10.5 0.0**
ROBS Robic 79.57 333 *e*P **P 23 35 10.5 -0.1**
FELD Feldberg im Sc 79.65 337⇓*e*P **P 23 35 11.3 +0.3**
DAVA Damuels 79.68 336⇓*i*P **P 23 35 11.8 +0.7**
comp=Z,32nm,1.0s,mb4.9
BOJS Bojanci 79.68 331 *i*P **P 23 35 11.3 +0.1**
RDO Rodhopi 79.71 323 P **P 23 35 13.2 +1.9**
MEZF Maizieres J'vi 79.81 339⇑*i*P **P 23 35 12.0 +0.1**
comp=Z,48nm,0.8s,mb4.9
MEZF Maizieres J'vi 79.81 339⇑*i*P **P 23 35 12.0 +0.1**
comp=Z,48nm,0.8s,mb5.2
MET Memphis--Engin 79.81 48 P **P 23 35 11.4 -0.4**
MET *e*PcP PcP 23 35 18.7 -0.4
THEF They Montfort 79.84 338 *e*P **P 23 35 11.8 -0.2**
MOF Molkenrain 79.89 338 *e*P **P 23 35 12.2 -0.1**
HAU Haudompre 79.95 338⇑*i*P **P 23 35 12.5 -0.1**
comp=Z,42nm,1.2s,mb4.7
HAU *e*MLR MLR
comp=Z,139nm,23.0s
HAU Haudompre 79.95 338⇑*i*P **P 23 35 12.5 -0.1**
HAU pmax pmax
comp=Z,21nm,1.2s,mb4.6
HAU MLR MLR
comp=Z,140nm,23.0s
HAU Haudompre 79.95 338⇑*i*P **P 23 35 12.5 -0.1**
comp=Z,21nm,1.2s,mb4.7
HAU LR LR
comp=Z,140nm,23.0s
ACCN Adirondack Com 79.95 33 *e*P **P 23 35 12.5 -0.2**
HINF Hinteralfeld 80.00 338⇑*i*P **P 23 35 12.6 -0.3**
comp=Z,35nm,1.2s,mb4.6
HINF Hinteralfeld 80.00 338⇑*i*P **P 23 35 12.6 -0.3**
HINF pmax pmax
comp=Z,18nm,1.2s,mb4.6
HINF Hinteralfeld 80.00 338⇑*i*P **P 23 35 12.6 -0.3**
comp=Z,18nm,1.2s,mb4.6
NATX Nacogdoches 80.00 53 *e*P **P 23 35 13.2 +0.3**
WVT Waverly 80.03 46 *e*P **P 23 35 12.3 -0.8**
WVT pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
WVT Waverly 80.03 46 *e*P **P 23 35 12.3 -0.8**
comp=Z,8.7nm,0.9s,mb4.4
APPI Appiano 80.04 334 P **P 23 35 11.6 -1.5**
STKA Stephens Creek 80.36 190 *e*P **P 23 35 14.1 -0.7**
comp=Z,4.5nm,0.4s,mb4.5
STKA Stephens Creek 80.36 190 P **P 23 35 14.2 -0.6**
comp=Z,5.0nm,0.5s,mb4.5,baz=357,slow=6.1,SNR=30
STKA Stephens Creek 80.36 190 *e*P **P 23 35 14.4 -0.5**
STKA *e*pP pP 23 35 46.3 -2.5
STKA *e*sP sP 23 36 02.9 -0.3
LOMF Lomont 80.44 338 *e*P **P 23 35 15.9 +0.7**
OXF Oxford 80.55 48 *e*P **P 23 35 15.6 -0.3**
OXF *e**PP pP 23 35 48.8 -1.0
STIP Stip 80.57 325 *e*P **P 23 35 15.7 -0.3**
TUE Stuetta 80.58 336 P **P 23 35 16.8 +0.8**
MCWV Mont Chateau 80.73 39 *e*P **P 23 35 14.2 -2.6**
VAY Valandovo 80.74 325⇑*i*P **P 23 35 17.1 +0.2**
FLN La Foliniere 80.77 343 *e*P **P 23 35 16.9 -0.1**
FLN *e*MLR MLR
comp=Z,89nm,20.8s
FLN La Foliniere 80.77 343 *e*P **P 23 35 16.9 -0.1**
FLN LR LR
comp=Z,90nm,20.8s
LDF La Druitiere 80.86 342 *e*P **P 23 35 17.5 0.0**
GRR Gorron 81.21 343 *e*P **P 23 35 19.5 +0.2**
comp=Z,62nm,1.0s,mb4.9
GRR Gorron 81.21 343 *e*P **P 23 35 19.5 +0.2**
GRR pmax pmax
comp=Z,31nm,1.0s,mb4.9
GRR Gorron 81.21 343 *e*P **P 23 35 19.5 +0.2**
comp=Z,31nm,1.0s,mb4.9
LOR Lormes 81.25 339⇑*i*P **P 23 35 19.5 0.0**
comp=Z,81nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,102nm,17.2s
LOR Lormes 81.25 339⇑*i*P **P 23 35 19.5 0.0**
LOR pmax pmax
comp=Z,40nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,100nm,17.3s
LOR Lormes 81.25 339⇑*i*P **P 23 35 19.5 0.0**
comp=Z,40nm,1.0s,mb5.0
LOR LR LR
comp=Z,100nm,17.3s
CABF La Chapelle 81.31 338 *e*P **P 23 35 20.1 +0.2**
comp=Z,60nm,1.2s,mb4.8
CABF La Chapelle 81.31 338 *e*P **P 23 35 20.1 +0.2**
CABF pmax pmax
comp=Z,30nm,1.2s,mb4.8
CABF La Chapelle 81.31 338 *e*P **P 23 35 20.1 +0.2**
comp=Z,30nm,1.2s,mb4.8
CSS Prodhromos 81.34 314 *e*P **P 23 35 19.7 -0.3**
comp=Z,16nm,0.7s,mb4.8
CSS *e*pP pP 23 35 54.1 0.0
SSF Saint Saulge 81.52 340⇑*i*P **P 23 35 20.9 -0.1**
comp=Z,48nm,1.1s,mb4.7
SSF Saint Saulge 81.52 340⇑*i*P **P 23 35 20.9 -0.1**
SSF pmax pmax
comp=Z,24nm,1.1s,mb4.7
SSF Saint Saulge 81.52 340⇑*i*P **P 23 35 20.9 -0.1**
comp=Z,24nm,1.1s,mb4.7
HYF Humbligny 81.53 340 *e*P **P 23 35 21.5 +0.5**
SGMF Saint Gilles 81.66 344⇑*i*P **P 23 35 21.9 +0.2**
comp=Z,38nm,0.6s,mb4.9
SGMF Saint Gilles 81.66 344⇑*i*P **P 23 35 21.9 +0.2**
SGMF pmax pmax
comp=Z,19nm,0.6s,mb4.9
SGMF Saint Gilles 81.66 344⇑*i*P **P 23 35 21.9 +0.2**
comp=Z,19nm,0.6s,mb4.9
SWET Sewanee 81.68 45 *e*P **P 23 35 21.0 -0.8**
TZTN Tazewell 81.70 43 *e*P **P 23 35 21.5 -0.4**
ROSF Rostrenen 81.71 344 *e*P **P 23 35 22.9 +0.9**
comp=Z,63nm,0.9s,mb4.9
ROSF Rostrenen 81.71 344 *e*P **P 23 35 22.9 +0.9**
ROSF pmax pmax
comp=Z,32nm,0.9s,mb5.0
ROSF Rostrenen 81.71 344 *e*P **P 23 35 22.9 +0.9**
comp=Z,32nm,0.9s,mb4.9
FORT Forrest 81.75 202 *e*P **P 23 35 21.8 -0.4**
comp=Z,35nm,0.6s,mb5.2
ASF Jabal al Asfar 81.79 310 LR LR 00 19 33.3
comp=Z,26nm,20.1s,baz=357,slow=41
AVF Avril sur Loir 81.81 340⇑*i*P **P 23 35 22.7 +0.2**
comp=Z,55nm,0.8s,mb5.0
AVF Avril sur Loir 81.81 340⇑*i*P **P 23 35 22.7 +0.2**
AVF pmax pmax
comp=Z,28nm,0.8s,mb4.9
AVF Avril sur Loir 81.81 340⇑*i*P **P 23 35 22.7 +0.2**
comp=Z,28nm,0.8s,mb4.9
SMF Signal de Mont 81.83 339⇑*i*P **P 23 35 22.8 +0.2**
comp=Z,112nm,1.0s,mb5.1
SMF Signal de Mont 81.83 339⇑*i*P **P 23 35 22.8 +0.2**
SMF pmax pmax
comp=Z,56nm,1.0s,mb5.2
SMF Signal de Mont 81.83 339⇑*i*P **P 23 35 22.8 +0.2**
comp=Z,56nm,1.0s,mb5.2
MVL Millersville 81.86 36 *e*P **P 23 35 22.1 -0.7**
QUIF Quistinic 82.10 344 *e*P **P 23 35 24.4 +0.4**
comp=Z,21nm,0.7s,mb4.6
QUIF Quistinic 82.10 344 *e*P **P 23 35 24.4 +0.4**
QUIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
QUIF Quistinic 82.10 344 *e*P **P 23 35 24.4 +0.4**
comp=Z,10nm,0.7s,mb4.6
BGF Bois d'Agland 82.15 340⇑*i*P **P 23 35 25.5 +1.2**
comp=Z,20nm,0.5s,mb4.7
BGF Bois d'Agland 82.15 340⇑*i*P **P 23 35 25.5 +1.2**
BGF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
BGF Bois d'Agland 82.15 340⇑*i*P **P 23 35 25.5 +1.2**
comp=Z,9.9nm,0.5s,mb4.7
CPCT Cooper Cave 82.15 44 *e*P **P 23 35 24.5 +0.2**
GSCL Gusciola 82.16 334 P **P 23 35 25.7 +1.4**
comp=Z,17nm,0.7s,mb4.8
LPL La Plagne 82.16 337⇑*i*P **P 23 35 25.3 +1.0**
comp=Z,58nm,1.0s,mb4.9
LPL La Plagne 82.16 337⇑*i*P **P 23 35 25.3 +1.0**
LPL pmax pmax
comp=Z,29nm,1.0s,mb4.9
LPL La Plagne 82.16 337⇑*i*P **P 23 35 25.3 +1.0**
comp=Z,29nm,1.0s,mb4.9
LPG La Plagne 82.18 337⇑*i*P **P 23 35 25.5 +1.1**
comp=Z,83nm,1.0s,mb5.0
LPG La Plagne 82.18 337⇑*i*P **P 23 35 25.5 +1.1**
LPG pmax pmax
comp=Z,42nm,1.0s,mb5.0
LPG La Plagne 82.18 337⇑*i*P **P 23 35 25.5 +1.1**
comp=Z,42nm,1.0s,mb5.0
SFI Santa Sofia 82.19 333 P **P 23 35 25.9 +1.4**
SFI pmax pmax
comp=Z,25nm,0.9s,mb4.8
SFI Santa Sofia 82.19 333 P **P 23 35 25.9 +1.4**
comp=Z,25nm,0.9s,mb4.8
VMG Vicchio 82.23 333 P **P 23 35 25.9 +1.2**
comp=Z,26nm,0.7s,mb5.0
ELN Prospectdale 82.38 41 *e*P **P 23 35 24.5 -1.0**
ELN *e*pP pP 23 35 60.0 +0.4
ELN *e*sP sP 23 36 12.9 -1.0
PLDF La Plantade 82.52 339 *e*P **P 23 35 26.6 +0.4**
TCF Toulx Ste Croi 82.55 340⇑*i*P **P 23 35 26.9 +0.5**
comp=Z,29nm,0.8s,mb4.7
TCF Toulx Ste Croi 82.55 340⇑*i*P **P 23 35 26.9 +0.5**
TCF pmax pmax
comp=Z,15nm,0.8s,mb4.8
TCF Toulx Ste Croi 82.55 340⇑*i*P **P 23 35 26.9 +0.5**
comp=Z,15nm,0.8s,mb4.8
AGO Saint Agoulin 82.56 339 *e*P **P 23 35 27.5 +1.1**
BNI Bardonecchia 82.61 337 *e*P **P 23 35 27.1 +0.4**
BNI pmax pmax
comp=Z,17nm,1.0s,mb4.7
BNI Bardonecchia 82.61 337 *e*P **P 23 35 27.1 +0.5**
comp=Z,17nm,1.0s,mb4.7
BNI *e*PcP PcP 23 35 31.3 -0.1
MFF Saint Martin d 82.77 342 *e*P **P 23 35 27.9 +0.4**
comp=Z,39nm,0.8s,mb4.9
MFF Saint Martin d 82.77 342 *e*P **P 23 35 27.9 +0.4**
MFF pmax pmax
comp=Z,19nm,0.8s,mb4.9
MFF Saint Martin d 82.77 342 *e*P **P 23 35 27.9 +0.4**
comp=Z,19nm,0.8s,mb4.9
PYM Petit Puy Mans 82.87 339 *e*P **P 23 35 28.3 +0.3**
MBDF Montbardon 82.89 337 *e*P **P 23 35 28.3 +0.2**
comp=Z,28nm,0.9s,mb4.7
MBDF Montbardon 82.89 337 *e*P **P 23 35 28.3 +0.2**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.7
MBDF Montbardon 82.89 337 *e*P **P 23 35 28.3 +0.2**
comp=Z,14nm,0.9s,mb4.7
WHFO Wadi Hawf 82.90 289⇓P **P 23 35 29.0 +0.8**
SNR=6.0
ORIF Oris-en-Rattie 82.94 337⇑*i*P **P 23 35 29.3 +0.9**
comp=Z,34nm,0.8s,mb4.8
ORIF *e*MLR MLR
comp=Z,101nm,21.2s
ORIF Oris-en-Rattie 82.94 337⇑*i*P **P 23 35 29.3 +0.9**
ORIF pmax pmax
comp=Z,17nm,0.8s,mb4.8
ORIF Oris-en-Rattie 82.94 337⇑*i*P **P 23 35 29.3 +0.9**
comp=Z,17nm,0.8s,mb4.8
AQU L'Aquila 83.10 331 P **P 23 35 29.9 +0.7**
LBL Lubilhac 83.30 339 *e*P **P 23 35 31.7 +1.5**
VIVF Saint-Julien-l 83.31 338⇑*i*P **P 23 35 31.0 +0.7**
comp=Z,37nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.31 338⇑*i*P **P 23 35 31.0 +0.7**
VIVF pmax pmax
comp=Z,19nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.31 338⇑*i*P **P 23 35 31.0 +0.7**
comp=Z,18nm,1.0s,mb4.8
SAOF Saorge 83.36 336 *e*P **P 23 35 29.8 -0.7**
AUTN L'Aution 83.39 336 *e*P **P 23 35 30.3 -0.4**
TOUF Mont Tournerai 83.42 336 *e*P **P 23 35 31.6 +0.8**
LUCF Luceram 83.50 336 *e*P **P 23 35 31.1 -0.2**
SBF Sospel 83.51 336⇑*i*P **P 23 35 31.0 -0.3**
MVIF Mont Vial 83.55 336 *e*P **P 23 35 31.8 +0.3**
REVF Revere 83.64 336 *e*P **P 23 35 32.1 +0.2**
RJF Les Rejaudoux 83.64 340 *e*P **P 23 35 32.4 +0.5**
comp=Z,80nm,1.2s,mb5.0
RJF *e*MLR MLR
comp=Z,97nm,19.0s
RJF Les Rejaudoux 83.64 340 *e*P **P 23 35 32.4 +0.5**
RJF pmax pmax
comp=Z,40nm,1.2s,mb5.0
RJF MLR MLR
comp=Z,100nm,19.0s
RJF Les Rejaudoux 83.64 340 *e*P **P 23 35 32.4 +0.5**
comp=Z,40nm,1.2s,mb5.0
RJF LR LR
comp=Z,100nm,19.0s
SANT Santorini 83.77 320 *e*P **P 23 35 37.3 +4.7**
CAF Calviac 83.87 340⇑*i*P **P 23 35 34.2 +1.1**
comp=Z,62nm,1.0s,mb5.0
CAF Calviac 83.87 340⇑*i*P **P 23 35 34.2 +1.1**
CAF pmax pmax
comp=Z,31nm,1.0s,mb5.0
CAF Calviac 83.87 340⇑*i*P **P 23 35 34.2 +1.1**
comp=Z,31nm,1.0s,mb5.0
SMRF Simiane la Rot 83.90 337⇑*i*P **P 23 35 34.5 +1.2**
comp=Z,10nm,0.7s,mb4.4
SMRF Simiane la Rot 83.90 337⇑*i*P **P 23 35 34.5 +1.2**
comp=Z,10nm,0.7s,mb4.7
FRF La Foret Royal 84.00 336⇑*i*P **P 23 35 33.7 -0.1**
comp=Z,13nm,0.7s,mb4.5
FRF La Foret Royal 84.00 336⇑*i*P **P 23 35 33.7 -0.1**
FRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
FRF La Foret Royal 84.00 336⇑*i*P **P 23 35 33.7 -0.1**
comp=Z,6.6nm,0.7s,mb4.5
TAVF Tavernes 84.11 337 *e*P **P 23 35 35.8 +1.5**
LFF La Frestale 84.16 341 *e*P **P 23 35 35.0 +0.4**
comp=Z,57nm,1.0s,mb5.0
LFF La Frestale 84.16 341 *e*P **P 23 35 35.0 +0.4**
LFF pmax pmax
comp=Z,28nm,1.0s,mb5.0
LFF La Frestale 84.16 341 *e*P **P 23 35 35.0 +0.4**
comp=Z,28nm,1.0s,mb5.0
PRAF Pradon 84.16 337 *e*P **P 23 35 35.6 +1.0**
LASF Ste Croix 84.24 338⇑*i*P **P 23 35 36.1 +1.1**
comp=Z,60nm,1.2s,mb4.9
LMR La Mourre 84.25 336⇑*i*P **P 23 35 35.3 +0.3**
comp=Z,11nm,0.5s,mb4.5
LMR La Mourre 84.25 336⇑*i*P **P 23 35 35.3 +0.3**
LMR pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
LMR La Mourre 84.25 336⇑*i*P **P 23 35 35.3 +0.3**
comp=Z,5.7nm,0.5s,mb4.6
PGF Pioggiola 84.28 334⇑*i*P **P 23 35 36.1 +0.9**
comp=Z,45nm,1.0s,mb4.9
PGF Pioggiola 84.28 334⇑*i*P **P 23 35 36.1 +0.9**
PGF pmax pmax
comp=Z,23nm,1.0s,mb4.9
PGF Pioggiola 84.28 334⇑*i*P **P 23 35 36.1 +0.9**
comp=Z,23nm,1.0s,mb4.9
GELF Grande-Etoile 84.49 337 *e*P **P 23 35 38.0 +1.7**
VLI Veliai 84.54 322 P **P 23 35 36.4 -0.1**
TIP Timpagrande 84.78 327 *e*P **P 23 35 37.9 +0.2**
EIL Elat 84.79 310 *e*P **P 23 35 38.4 +0.7**
MTLF Montolieu 85.33 339 *e*P **P 23 35 41.4 +0.9**
comp=Z,24nm,0.9s,mb4.6
MTLF Montolieu 85.33 339 *e*P **P 23 35 41.4 +0.9**
MTLF pmax pmax
comp=Z,12nm,0.9s,mb4.6
MTLF Montolieu 85.33 339 *e*P **P 23 35 41.4 +0.9**
comp=Z,12nm,0.9s,mb4.6
KLBR Kellerberrin 85.50 210 *e*P **P 23 35 39.8 -1.5**
comp=Z,7.9nm,0.5s,mb4.7
EPF Esparros 86.06 340 *e*P **P 23 35 43.4 -0.7**
comp=Z,7.2nm,0.6s,mb4.3
EPF Esparros 86.06 340 *e*P **P 23 35 43.4 -0.7**
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
EPF Esparros 86.06 340 *e*P **P 23 35 43.4 -0.7**
comp=Z,3.6nm,0.6s,mb4.3
SJPF Ste Jean 86.33 341 *e*P **P 23 35 46.5 +1.1**
comp=Z,10nm,0.7s,mb4.3
SJPF Ste Jean 86.33 341 *e*P **P 23 35 46.5 +1.1**
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
SJPF Ste Jean 86.33 341 *e*P **P 23 35 46.5 +1.1**
comp=Z,5.2nm,0.7s,mb4.4
MUN Mundaring 86.38 211 *e*P **P 23 35 55.5 +10**
ETSF Etsaut 86.39 341 *e*P **P 23 35 46.8 +1.1**
comp=Z,12nm,0.6s,mb4.5
ETSF Etsaut 86.39 341 *e*P **P 23 35 46.8 +1.1**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ETSF Etsaut 86.39 341 *e*P **P 23 35 46.8 +1.1**

comp=Z,5.9nm,0.6s,mb4.5
NWAO Narrogin (SRO) 86.90 210 *e*P **P 23 35 47.8 -0.3**
NWAO pmax pmax
comp=Z,9.0nm,0.5s
NWAO Narrogin (SRO) 86.90 210 *e*P **P 23 35 47.8 -0.4**
comp=Z,8.8nm,0.5s,mb4.8
VSL Villasalto 86.96 333 *e*P **P 23 35 48.4 -0.1**
comp=Z,19nm,0.9s,mb4.9
MTE Manteigas 90.16 345 P **P 23 36 04.0 +0.5**
ESDC Sonseca Array 90.19 343 P **P 23 36 02.9 -0.8**
comp=Z,0.7nm,0.5s,baz=3.6,slow=3.6,SNR=6.2
KEST Kesra 90.42 331 P **P 23 36 04.9 +0.2**
comp=Z,5.2nm,0.7s,mb4.6,baz=355,slow=1.0,SNR=30
TAU Tasmania Unive 90.85 184 P **P 23 36 07.1 +0.4**
TAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TAU Tasmania Unive 90.85 184 P **P 23 36 07.1 +0.4**
comp=Z,4.4nm,0.6s,mb4.7
MDT Midelt 96.94 341 LR LR 00 22 45.1
comp=Z,56nm,18.8s,baz=5.9,slow=37
MPR Mayaguez 104.75 39 *e*Pdif Pdif 23 37 08.7 -0.8
TORD Torodi Ar. Bea 113.87 329 PKiKP PKiKP 23 41 40.2 -1.1
comp=Z,0.8nm,0.6s,baz=23,slow=1.8,SNR=21
TORD PP PP 23 42 34.2 -2.4
comp=Z,0.4nm,0.6s,baz=4.9,slow=6.3,SNR=4.9
TORD PKKPbc PKKPbc 23 52 21.7 -1.8
comp=Z,0.6nm,0.5s,baz=199,slow=2.1,SNR=24
CASY Casey 118.69 198 *e*PKPdf PKPdf 23 41 49.1 -1.5
DBIC Dimbokro 122.05 334 PKP PKPdf 23 41 56.4 -0.7
comp=Z,3.1nm,0.7s,baz=45,slow=2.6,SNR=12
DBIC PKKPbc PKKPbc 23 51 55.0 +0.8
comp=Z,5.5nm,1.2s,baz=135,slow=7.1,SNR=2.7
DBIC Dimbokro 122.05 334 PKIKP PKPdf 23 41 56.4 -0.7
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC pmax pmax
comp=Z,6.0nm,1.2s
LSZ Lusaka 124.37 287 *e*PKIKP PKPdf 23 42 01.7 +0.2
VNDA Vanda 125.54 178 PKP PKPdf 23 42 01.0 -2.7
comp=Z,1.6nm,0.6s,baz=333,slow=4.9,SNR=23
VNDA Vanda 125.54 178 PKIKP PKPdf 23 42 01.0 -2.7
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 125.54 178 PKP PKPdf 23 42 01.0 -2.7
SBA Scott Base 126.04 176 *e*PKIKP PKPdf 23 42 03.0 -1.7
LBTB Lobatse 133.03 280 *e*PKIKP PKPdf 23 42 18.2 +0.2
MAW Mawson 133.43 212 PKP PKPdf 23 42 16.4 -2.3
comp=Z,2.2nm,0.6s,baz=75,slow=3.9,SNR=15
MAW PKKP 23 52 11.6
comp=Z,1.6nm,1.0s,baz=316,slow=5.4,SNR=3.5
LPAZ La Paz 133.65 61 *e*PKIKP PKPdf 23 42 20.1 +0.9
TSUM Tsumeb 133.98 293 *e*PKPdf PKPdf 23 42 21.2 +1.5
BOSA Boshof 135.66 277 PKP PKPdf 23 42 22.1 -0.9
comp=Z,20nm,1.4s,baz=45,slow=1.5,SNR=4.3
BOSA Boshof 135.66 277 PKIKP PKPdf 23 42 22.1 -0.8
BOSA pmax pmax
comp=Z,20nm,1.4s
BOSA Boshof 135.66 277 *e*PKPdf PKPdf 23 42 24.2 +1.3
QSPA South Pole Qui 137.91 180 *e*PKPdf PKPdf 23 42 26.2 -0.9
LVC Limon Verde 138.02 68 *e*PKPdf PKPdf 23 42 28.1 +0.9
SUR Sutherland 141.01 276 *e*PKPdf PKPdf 23 42 31.1 -1.6
BDFB Brasilia 143.18 35 PKhKP 23 42 32.7
comp=Z,3.7nm,0.5s,baz=355,slow=2.8,SNR=7.4
BDFB PKP PKPdf 23 42 37.7 +1.1
comp=Z,2.0nm,0.5s,baz=74,slow=2.2,SNR=3.4
CPUP Villa Florida 147.73 58 PKPbc PKPbc 23 42 46.3 -1.0
comp=Z,7.5nm,0.5s,baz=308,slow=2.5,SNR=34
CPUP Villa Florida 147.73 58 *e*PKPdf PKPdf 23 42 42.0 -2.4
CPUP *e*PKPbc PKPbc 23 42 46.1 -1.2
CPUP PKPbc PKPbc 23 42 46.3 -1.0
NVL N'lazarevskaya 150.94 205 *d i*PKIKP PKPbc 23 42 53.1 -2.2
NVL pmax pmax
comp=Z,35nm,1.5s
NVL pmax pmax
comp=N,15nm,1.2s
NVL pmax pmax
comp=E,8.0nm,1.0s
MAIT Maitri 150.96 205 *e*PKPdf PKPbc 23 42 53.5 -1.9
TRQA Tornquist 152.66 81 *e*PKPbc PKPbc 23 42 57.8 -1.4
SNAA Sanae 153.92 197 PKPbc PKPbc 23 42 59.1 -2.9
comp=E,2.4nm,0.6s,baz=199,slow=4.0,SNR=62
SNAA PKPab PKPab 23 43 13.8 -1.9
comp=E,1.7nm,0.6s,baz=116,slow=4.4,SNR=9.5
SNAA Sanae 153.92 197 PKIKP PKPbc 23 42 59.1 -2.9
SNAA 23 43 13.8
SNAA pmax pmax
comp=Z,2.0nm,0.6s
SNAA pmax pmax
comp=Z,2.0nm,0.6s

IDC 16 23:43:50.2±3.4, 1152S×16726E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.9/14, mbtmp3.9/5, Error ellipse: s-maj=114.8km s-min=33.7km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.72**	**251**	P	P	23 50 25.0	+0.5
0.5nm,0.5s,baz=83,slow=8.8,SNR=12							
ASAR	**Alice Springs**	**33.92**	**245**	P	P	23 50 34.9	0.0
0.2nm,0.4s,baz=69,slow=9.6,SNR=3.5							
FITZ	**Fitzroy Crossi**	**40.70**	**256**	P	P	23 51 33.1	+0.7
3.8nm,0.7s,baz=99,slow=7.6,SNR=16							
SONM	**Songino Array**	**79.93**	**323**	P	P	23 56 01.1	+0.1
0.3nm,0.6s,baz=138,slow=5.3,SNR=4.1							
MKAR	**Makanchi Array**	**94.88**	**317**	P	P	23 57 14.0	-0.2
1.0nm,0.5s,baz=102,slow=5.4,SNR=19							
ARCES	**ARCESS Array B**	**117.16**	**346**	PKP	PKPdf	00 02 37.3	0.0
1.3nm,0.8s,baz=40,slow=1.8,SNR=5.2							

*ISCJB **17** 00:00:23.6±0.8, 5151N±004×1601E±005, h0km, Error ellipse: s-maj=6.0km s-min=3.7km az=63.2*
*IPEC **17** 00:00:24.0±0.2, 5160N×1612E, h0km, ML1.8/2, Error ellipse: s-maj=1.9km s-min=1.1km az=25.0*
*PRU **17** 00:00:25.1, 5152N×1606E, h0km*
*CSEM **17** 00:00:26.5±0.4, 5147N×1605E, h0km, ML2.8/5, Error ellipse: s-maj=6.6km s-min=3.8km az=22.0*
*VIE **17** 00:00:27.2±0.5, 5131N×1602E, h0km, mb1.6/2, ML2.4/3, Error ellipse: s-maj=3.5km s-min=2.8km az=176.0 73 km WNW of Breslau Suspected Mining induced.*

ISC 17 00:00:24.0±0.8, 5155N±004×1608E±005, h0km, n24, σ0.86/42, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg	**Pg**	**00 00 38.9**	**+1.2**
KSP				e		00 00 40.4	
KSP				*e*Sg	**Sg**	**00 00 48.4**	**+1.4**
KSP				e		00 00 52.4	
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg	**Pg**	**00 00 38.8**	**+1.1**
KSP				*e*Sg	**Sg**	**00 00 48.4**	**+1.4**
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**00 00 44.8**	**+0.9**
UPC	**Upice**	**1.04**	**182**	*e*Pg	**Pg**	**00 00 45.1**	**+1.2**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**00 00 47.5**	**+0.4**
DPC				*e*SG	**Sg**	**00 01 03.2**	**+0.4**
15nm,0.3s							
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pg**	**00 00 47.6**	**+0.5**
DPC				*e*Sg	**Sg**	**00 01 03.1**	**+0.3**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pg**	**00 00 50.9**	**+0.2**
PVCC				*e*SG	**Sg**	**00 01 09.4**	**+0.6**
78nm,0.2s							
PVCC	**Panska Ves**	**1.40**	**224**	*e*Pn	**Pn**	**00 00 51.3**	**+0.6**
PVCC				*e*Sg	**Sg**	**00 01 09.7**	**+0.9**
BRG	**Berggiesshubel**	**1.50**	**244**	SG	**Sg**	**00 01 12.8**	**+0.5**
14nm,0.4s							
BRG	**Berggiesshubel**	**1.50**	**244**	*e*Pn	**Pn**	**00 00 52.9**	**+0.7**
BRG				*e*Sg	**Sg**	**00 01 12.6**	**+0.3**
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pg**	**00 00 58.6**	**-0.7**
PRU				*e*SG	**Sg**	**00 01 22.6**	**-0.5**
9.5nm,0.2s							
PRU	**Pruhonice**	**1.84**	**213**	*e*Pn	**Pn**	**00 00 57.3**	**+0.5**
PRU	**Pruhonice**	**1.84**	**213**	*e*Pg	**Pg**	**00 00 58.6**	**-0.7**
PRU				*e*Sg	**Sg**	**00 01 22.6**	**-0.5**
9.5nm,0.2s							
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**00 00 57.7**	**-0.5**
CLL				*e*Pg	**Pg**	**00 01 00.0**	**-1.2**
CLL				*ex*	x	00 01 06.0	
CLL				*e*Sg	**Sg**	**00 01 27.0**	**+0.7**
comp=Z,8.0nm,0.5s							
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**00 00 59.7**	**+0.7**
MORC				*e*Sg	**Sg**	**00 01 27.8**	**-0.5**
comp=Z,5.1nm,0.2s							
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*SG	**Sg**	**00 01 32.2**	**-1.2**
comp=Z,10nm,0.7s							
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**00 01 03.6**	**+0.9**
VRAC				*e*Sg	**Sg**	**00 01 36.3**	**-0.5**
comp=Z,5.4nm,0.3s							
TREC	**Trest**	**2.29**	**190**	*e*PG	**Pg**	**00 01 05.7**	**-2.1**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PG	**Pg**	**00 01 17.9**	**-1.7**
KHC				*e*SG	**Sg**	**00 01 56.4**	**-0.8**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*Pn	**Pn**	**00 01 12.0**	**+0.6**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*Pg	**Pg**	**00 01 17.9**	**-1.7**
KHC				*e*Sg	**Sg**	**00 01 56.4**	**-0.8**
MOX	**Moxa**	**2.95**	**254**	*e*PG	**Pg**	**00 01 20.5**	**-0.1**
MOX				*e*SG	**Sg**	**00 01 59.0**	**+0.1**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**00 01 20.7**	**-0.9**
BSD				*i* S	**Sn**	**00 02 00.7**	**-4.5**
MOA	**Molln**	**3.88**	**198**	⇑*i*Pn	**Pn**	**00 01 25.7**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**00 02 27.7**	**-1.0**
comp=Z,1.5nm,0.3s							

IDC 17 00:04:49.7±16.0, 1729S×17870W, h519km±203km, mb3.1/5, mb1 3.4/5, mb1mx3.2/13, mbtmp4.0/5, Error ellipse: s-maj=160.1km s-min=42.8km az=170.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.69**	**240**	P	P	00 11 28.3	-0.3
1.0nm,0.7s,baz=51,slow=3.6,SNR=3.4							
WRA	**Warramunga Arr**	**44.47**	**259**	P	P	00 12 14.6	+0.2
0.9nm,0.5s,baz=96,slow=7.2,SNR=41							
ASAR	**Alice Springs**	**44.69**	**254**	P	P	00 12 16.6	+0.5
4.3nm,0.5s,baz=87,slow=8.8,SNR=57							
TXAR	**Lajitas Array**	**85.90**	**58**	P	P	00 16 35.1	+0.7
0.7nm,0.7s,baz=212,slow=5.6,SNR=8.2							
PDAR	**Pinedale Array**	**87.10**	**44**	P	P	00 16 40.1	0.0
0.4nm,0.6s,baz=255,slow=2.9,SNR=3.6							
GERES	**GERESS Array B**	**146.95**	**345**	PKPbc	PKPbc	00 23 33.2	-0.6
0.4nm,0.5s,baz=31,slow=5.9,SNR=3.3							

IDC 17 00:16:38.4±9.8, 2084S×17906W, h695km±129km, mb2.8/6, mb1 3.1/6, mb1mx3.0/12, mbtmp3.9/6, Error ellipse: s-maj=49.7km s-min=29.8km az=60.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.75**	**244**	P	P	00 22 51.5	-0.1
1.5nm,0.6s,baz=119,slow=3.2,SNR=4.8							
ASAR	**Alice Springs**	**43.48**	**257**	P	P	00 23 45.0	+0.5
0.9nm,0.5s,baz=96,slow=7.7,SNR=15							
WRA	**Warramunga Arr**	**43.58**	**263**	P	P	00 23 45.4	+0.2
0.5nm,0.2s,baz=97,slow=6.9,SNR=70							
VNDA	**Vanda**	**57.49**	**185**	P	P	00 25 24.4	-0.6
0.6nm,0.8s,baz=352,slow=5.9,SNR=8.8							
TXAR	**Lajitas Array**	**88.07**	**58**	P	P	00 28 18.5	+0.5
0.3nm,0.7s,baz=221,slow=6.6,SNR=4.0							
PDAR	**Pinedale Array**	**89.88**	**44**	P	P	00 28 26.6	+0.2
0.7nm,0.7s,baz=241,slow=4.0,SNR=4.2							
AKASG	**Malin Array Be**	**142.82**	**330**	PKP	PKPdf	00 34 54.6	-0.8
0.9nm,0.5s,baz=40,slow=4.0,SNR=6.8							

*ISCJB **17** 00:21:22.3±0.2, 4765N±002×744E±002, h12km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=142.5*
*ZUR **17** 00:21:23.5, 4767N×747E, h14km±2km, ML1.5/4*
*LEDBW **17** 00:21:23.6±0.2, 4767N±001×7463E±0009, h14km±3km, ML1.4, Error ellipse: s-maj=3.8km s-min=3.0km az=20.0*
*LDG **17** 00:21:23.8±0.1, 4767N×745E, h10km, Md2.2/2, Ml2.0/10, Error ellipse: s-maj=1.2km s-min=1.0km az=71.0*
*STR **17** 00:21:23.5±0.2, 4768N×743E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 17 00:21:22.9±0.2, 4766N±002×745E±002, h19km±2km, n48, σ0.73/89, 4C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOES	**Loerrach-Stett**	**0.16**	**110**	⇑*e*Pg	**Pg**	**00 21 27.4**	**0.0**
LOES				*e*Sg	**Sg**	**00 21 30.3**	**-0.1**
BBS	**Basel-Blauen**	**0.20**	**168**	⇓*i*P*	**Pg**	**00 21 28.4**	**+0.4**
BBS				S*	**Sg**	**00 21 31.6**	**+0.2**
MOF	**Molkenrain**	**0.29**	**312**	Pg	**Pg**	**00 21 29.5**	**+0.2**
MOF				Sg	**Sg**	**00 21 33.6**	**-0.1**
MOF	**Molkenrain**	**0.29**	**312**	⇓*i*P*	**Pg**	**00 21 29.7**	**+0.4**
MOF				*i* S*	**Sg**	**00 21 33.9**	**+0.2**
BOURR	**Bourrignon**	**0.30**	**209**	⇑*i*Pg	**Pg**	**00 21 30.4**	**+0.8**
107nm,0.3s							
BOURR				*e*Sg	**Sg**	**00 21 34.9**	**+0.8**
107nm,0.3s							
BALST	**Balsthal**	**0.36**	**152**	⇓*i*Pg	**Pg**	**00 21 31.1**	**+0.5**
31nm,0.3s							
HINF	**Hinteralfeld**	**0.43**	**292**	*e*Pg	**Pg**	**00 21 32.0**	**+0.2**
HINF				*e*Sg	**Sg**	**00 21 37.6**	**-0.2**
12nm,0.2s							
FELD	**Feldberg im Sc**	**0.43**	**60**	⇑*i*P*	**Pg**	**00 21 31.9**	**0.0**
FELD				S*	**Sg**	**00 21 37.7**	**-0.2**
FELD	**Feldberg im Sc**	**0.43**	**60**	⇑*i*Pg	**Pg**	**00 21 31.9**	**0.0**
FELD				Sg	**Sg**	**00 21 37.7**	**-0.2**
SULZ	**Cheisacher**	**0.47**	**106**	⇑*i*Pg	**Pg**	**00 21 32.5**	**0.0**
37nm,0.3s							
SULZ				*e*Sg	**Sg**	**00 21 38.9**	**-0.1**
37nm,0.3s							
LIBD	**Limburg**	**0.50**	**12**	PmP		00 21 35.7	
LIBD				S*	**Sb**	**00 21 41.2**	**+1.1**
LIBD	**Limburg**	**0.50**	**12**	Sx	**Sb**	**00 21 41.2**	**+1.1**
LIBD	**Limburg**	**0.50**	**12**	Px	**Pg**	**00 21 35.7**	**+2.6**
LOMF	**Lomont**	**0.52**	**234**	Pg	**Pg**	**00 21 34.1**	**+0.7**
LOMF				Sg	**Sg**	**00 21 41.4**	**+0.9**
LOMF	**Lomont**	**0.52**	**234**	Pg	**Pg**	**00 21 34.3**	**+0.9**
LOMF				Sg	**Sg**	**00 21 41.9**	**+1.4**
LOMF				SmS		00 21 44.4	
ECH	**Echery**	**0.59**	**341**	Pg	**Pg**	**00 21 35.3**	**+0.6**
ECH	**Echery**	**0.59**	**341**	P*	**Pb**	**00 21 35.5**	**+0.8**
ECH				PmP		00 21 36.0	
ECH				S*	**Sb**	**00 21 42.6**	**0.0**
ECH	**Echery**	**0.59**	**341**	PmP	**Pb**	**00 21 36.0**	**+1.3**
SLE	**Schleitheim**	**0.71**	**81**	⇑*i*Pg	**Pg**	**00 21 36.9**	**-0.1**
54nm,0.2s							
WLS	**Welschbruch**	**0.76**	**355**	Pg	**Pg**	**00 21 38.3**	**+0.5**
WLS				Sg	**Sg**	**00 21 48.0**	**+0.1**
WLS	**Welschbruch**	**0.76**	**355**	⇓*i*P	**Pb**	**00 21 38.5**	**+1.0**
WLS				S	**Sb**	**00 21 48.3**	**+0.9**
WLS				SmS		00 21 49.4	
CDF	**Champ du Feu**	**0.76**	**351**	*e*Pg	**Pg**	**00 21 38.3**	**+0.4**
CDF				*e*Sg	**Sg**	**00 21 47.8**	**-0.3**
6.1nm,0.3s							
HAU	**Haudompre**	**0.82**	**295**	*e*Pg	**Pg**	**00 21 39.3**	**+0.3**
HAU				*e*Sg	**Sg**	**00 21 49.6**	**-0.2**
HAU				*e*Sn	**Sn**	**00 21 51.2**	**+0.2**
15nm,0.2s							
BFO	**Black Forest**	**0.90**	**41**	P	**Pb**	**00 21 39.7**	**-0.1**
BFO				Pg	**Pg**	**00 21 40.4**	**0.0**
BFO				S	**Sb**	**00 21 50.6**	**-0.8**
BFO				Sg	**Sg**	**00 21 51.7**	**-0.5**
BFO	**Black Forest**	**0.90**	**41**	P	**Pg**	**00 21 40.4**	**0.0**
SISB	**Singen-Schiene**	**1.02**	**88**	Pg	**Pg**	**00 21 42.8**	**0.0**
SISB				Sg	**Sg**	**00 21 57.0**	**+0.6**
THEF	**They Montfort**	**1.14**	**301**	Pg	**Pg**	**00 21 44.7**	**-0.2**
THEF				Sg	**Sg**	**00 21 59.7**	**-0.1**
THEF	**They Montfort**	**1.14**	**301**	P	**Pn**	**00 21 45.0**	**+1.2**
THEF				S	**Sb**	**00 21 60.0**	**+1.7**
GUT	**Gutenstein**	**1.20**	**69**	Pg	**Pg**	**00 21 45.7**	**-0.4**
GUT				Sg	**Sg**	**00 22 01.3**	**-0.5**
LBG	**Lerchenberg**	**1.35**	**41**	Pg	**Pg**	**00 21 48.9**	**-0.2**
LBG				Sg	**Sg**	**00 22 05.7**	**-1.0**
CABF	**La Chapelle**	**1.40**	**222**	*e*Pn	**Pn**	**00 21 48.3**	**+0.9**
CABF	**La Chapelle**	**1.40**	**222**	*e*Pg	**Pg**	**00 21 50.8**	**+0.8**
CABF				*e*Sg	**Sg**	**00 22 07.7**	**-0.6**
1.7nm,0.2s							
BUCH	**Bad Urach**	**1.50**	**58**	P	**Pn**	**00 21 48.2**	**-0.7**
BUCH				Pg	**Pg**	**00 21 52.2**	**+0.3**
BUCH				S	**Sn**	**00 22 06.4**	**-1.5**
BUCH				Sg	**Sg**	**00 22 11.3**	**-0.3**
BUCH	**Bad Urach**	**1.50**	**58**	Px	**Pn**	**00 21 48.2**	**-0.7**
BUCH				Sx	**Sn**	**00 22 06.4**	**-1.5**
BUCH				S	**Sg**	**00 22 11.3**	**-0.3**
BUCH	**Bad Urach**	**1.50**	**58**	P	**Pg**	**00 21 52.2**	**+0.3**
SFTF	**Sexfontaines**	**1.71**	**290**	*e*Pn	**Pn**	**00 21 52.2**	**+0.5**
SFTF	**Sexfontaines**	**1.71**	**290**	*e*Pg	**Pg**	**00 21 56.1**	**+0.2**
baz=112							
SFTF				*e*Sn	**Sn**	**00 22 11.7**	**-1.3**
SFTF				*e*Sg	**Sg**	**00 22 17.4**	**-0.7**
4.6nm,0.3s							
MEZF	**Maizieres J'vi**	**1.81**	**299**	*e*Pn	**Pn**	**00 21 53.4**	**+0.3**
MEZF	**Maizieres J'vi**	**1.81**	**299**	*e*Pg	**Pg**	**00 21 57.5**	**-0.3**
baz=118							
MEZF				*e*Sg	**Sg**	**00 22 20.5**	**-0.9**
2.2nm,0.4s							
LPL	**La Plagne**	**2.20**	**193**	*e*Pg	**Pg**	**00 22 05.3**	**+0.1**
LPL				*e*Sg	**Sg**	**00 22 34.0**	**+0.3**
0.8nm,0.3s							
LPG	**La Plagne**	**2.21**	**193**	*e*Pg	**Pg**	**00 22 05.7**	**+0.2**
LPG				*e*Sg	**Sg**	**00 22 34.1**	**-0.1**
0.6nm,0.2s							
SIND	**Sindeldorf**	**2.22**	**40**	Pg	**Pg**	**00 22 05.2**	**-0.3**
SIND				Sg	**Sg**	**00 22 33.5**	**-0.9**
SIND	**Sindeldorf**	**2.22**	**40**	Px	**Pg**	**00 22 05.2**	**-0.3**
SIND				Sx	**Sg**	**00 22 33.5**	**-0.9**
LOR	**Lormes**	**2.47**	**262**	*e*Pg	**Pg**	**00 22 09.7**	**-0.6**
baz=75							
LOR				*e*Sg	**Sg**	**00 22 41.0**	**-1.3**
1.2nm,0.2s							
SMF	**Signal de Mont**	**2.66**	**249**	*e*Pn	**Pn**	**00 22 05.1**	**+0.3**
SMF	**Signal de Mont**	**2.66**	**249**	*e*Pg	**Pg**	**00 22 13.3**	**-0.7**
SMF				*e*Sg	**Sg**	**00 22 47.7**	**-0.8**
1.1nm,0.3s							
AVF	**Avril sur Loir**	**2.92**	**254**	*e*Pg	**Pg**	**00 22 17.9**	**-1.1**
AVF				*e*Sg	**Sg**	**00 22 54.4**	**-2.5**
0.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.95**	**202**	*e*Sg	**Sg**	**00 22 56.6**	**-1.1**
0.9nm,0.2s							

*NEIC **17** 00:37:24.5, 1822N×10027W, h36km, MD3.4(MEX), After MEX.*

MEX 17 00:37:25.3±1.3, 1820N×10003W, h65km±25km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.47**	**125**	*i* P	Pn	00 37 35.5	-2.0
MEIG				*i* S	Sn	00 37 44.9	-1.4
PLIG	**Platanillo**	**0.54**	**69**	*i* P	Pn	00 37 36.5	-1.5
PLIG				*e*S	Sn	00 37 46.7	-0.7
PLIG	**Platanillo**	**0.54**	**69**	*i* P	Pn	00 37 37.0	-1.1
PLIG				*e*S	Sn	00 37 46.7	-0.7
YAIG	**Yautepec**	**1.13**	**54**	*i* P	Pn	00 37 44.5	-0.7
ACX	**Acapulco**	**1.33**	**175**	*e*P	Pn	00 37 47.0	-0.8
ACX				*i* S	Sn	00 38 02.0	-2.7
IIO	**Organos**	**1.86**	**41**	*i* P	Pn	00 37 49.8	-5.1
UTMO	**Huajuapan**	**2.15**	**99**	*e*P	Pn	00 37 58.3	-0.5
UTMO				*i* S	Sn	00 38 22.9	-1.6

IDC 17 00:38:58.3±1.9, 239N×12543E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=181.7km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**159**	P	P	00 44 13.3	0.0
2.0nm,0.6s,baz=338,slow=11,SNR=16							
ASAR	**Alice Springs**	**27.18**	**163**	P	P	00 44 44.3	+0.8
0.9nm,0.5s,baz=344,slow=7.9,SNR=17							
MKAR	**Makanchi Array**	**57.92**	**326**	P	P	00 48 52.1	-0.1
0.1nm,0.5s,baz=141,slow=8.5,SNR=3.6							

IDC 17 00:59:15.8±1.3, 2241N×14479E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, Error ellipse: s-maj=52.7km s-min=27.6km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.76**	**319**	P	P	01 06 50.3	0.0
0.4nm,0.6s,baz=122,slow=7.5,SNR=4.9							
WRA	**Warramunga Arr**	**43.31**	**194**	P	P	01 07 19.4	+0.1
1.1nm,0.9s,baz=17,slow=8.8,SNR=4.5							
ASAR	**Alice Springs**	**47.00**	**194**	P	P	01 07 48.9	+0.2
0.3nm,0.6s,baz=11,slow=8.9,SNR=3.7							
PDAR	**Pinedale Array**	**85.84**	**45**	P	P	01 11 57.9	+0.6
0.2nm,0.5s,baz=268,slow=7.2,SNR=2.2							

*BJI **17** 01:25:04.6, 632S×15192E, h32km, mB6.9, mb5.9, Ms6.9, Msz6.8*
*MOS **17** 01:25:11.6±1.2, 583S×15096E, h38km, mb6.2/60, MS6.9/68, Error ellipse: s-maj=6.8km s-min=5.4km az=86.2 Broadband fault plane solution: P waves. NP1: φs213.00000°, δ58.00000°, λ79.00000°. NP2: φs53.00000°, δ33.00000°, λ107.00000°. Principal axes: T Plg74.0000°, Azm93.0000°; N Plg9.0000°, Azm219.0000°; P Plg13.0000°, Azm311.0000°;*
*ISCJB **17** 01:25:11.3±0.1, 5915S×0024E×15099E±002, h32km, mb6.2/134, MS6.8/224 Error ellipse: s-maj=3.1km s-min=2.4km az=10.6*
*GCMT **17** 01:25:12.2±0.1, 609S×15126E, h32km, MW6.7/116, Moment Tensor Solution. s116,c285; s116,c528; Duration: 59s Moment tensor: Scale 10^19Nm; Mrr1.39±.01; Mθθ-0.54±.00; Mφφ-0.85±.01; Mrθ-0.02±.01; Mrφ-0.45±.00; Mθr-0.53±.01; Best double couple: M0 1.37800×10^19 NP1:φs43.00000°, δ36.00000°, λ105.00000°. NP2:φs205.00000°, δ55.00000°, λ79.00000°. Principal axes: T 1.5100, Plg77.0000°, Azm80.0000°; N -0.2670, Plg9.0000°, Azm211.0000°; P -1.2460, Plg10.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **17** 01:25:12.2±0.1, 588S×15098E, h32km, mb6.4/62, ME6.6, MS6.9/151, MW6.6 Error ellipse: s-maj=3.8km s-min=3.6km az=98.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^19Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθr0.00; Best double couple: M0 1.00000×10^19 NP1:φs186.00000°, δ58.00000°, λ86.00000°. NP2:φs13.00000°, δ32.00000°, λ96.00000°. Principal axes: T 1.0200, Plg77.0000°, Azm83.0000°; N 0.0000, Plg3.0000°, Azm188.0000°; P -1.0200, Plg13.0000°, Azm279.0000°; Broadband fault plane solution: P waves. NP1:φs10.00000°, δ20.00000°, λ90.00000°. NP2:φs190.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm100.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm280.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kimbe, Kokopo and Rabaul.
*BGS **17** 01:25:12.6

HNR pmax pmax
comp=Z,230nm,0.3s
HNR smax
comp=N,98nm,0.3s
HNR MLR MLR
comp=Z,544μm,21.3s
CTA Charters Tower 14.84 198 *e*P **Pn 01 28 41.4 +0.6**
comp=Z,277nm,2.0s
CTA *e*pP pP 01 28 48.8 -6.3
CTA *e*S **Sn 01 31 27.8 +3.9**
CTA Charters Tower 14.84 198 P **Pn 01 28 41.3 +0.6**
comp=Z,2.6nm,0.3s,baz=26,slow=14,SNR=22
CTA S **Sn 01 31 29.9 +6.0**
comp=Z,1.5nm,0.3s,baz=341,slow=14,SNR=1.6
CTA ScP ScP 01 37 26.1 +4.9
comp=Z,0.6nm,0.3s,baz=40,slow=12,SNR=4.3
CTA Charters Tower 14.84 198 P **Pn 01 28 41.3 +0.5**
CTA S **Sn 01 31 29.9 +6.0**
CTA pmax pmax
comp=Z,3.0nm,0.3s
CTA smax
comp=N,2.0nm,0.3s
CTAO Charters Tower 14.84 198⇓ *i*Pn **Pn 01 28 41.9 +1.1**
KAKA Kakadu 19.54 248 *e*P **Pn 01 29 38.9 -0.5**
KAKA *e*S **Sn 01 33 12.5 -5.2**
GUMO Guam 20.31 343 P **P 01 29 47.8 +1.5**
comp=N,2μm,1.0s,baz=186,slow=7.9,SNR=34
GUMO S **S 01 33 37.8 +5.6**
comp=N,220nm,1.1s,baz=28,slow=19,SNR=4.7
GUMO LR LR 01 36 15.1
comp=N,160μm,20.7s,MS6.4,baz=322,slow=32
GUMO ScP ScP 01 37 32.8 +0.2
comp=N,95nm,0.7s,baz=155,slow=21,SNR=4.6
GUMO Guam 20.31 343 P **P 01 29 47.8 +1.4**
GUMO MLR MLR
comp=Z,160μm,20.7s,MS6.4
GUMO Guam 20.31 343 *e*P **P 01 29 47.9 +1.5**
GUMO *e*ScP ScP 01 37 34.0 +1.4
GUMO LR LR
comp=Z,163μm,21.0s,MS6.4
WRAB Tennant Creek 21.38 228 P **P 01 29 58.0 0.0**
comp=Z,11μm,0.8s,mb7.2
WRAB Tennant Creek 21.38 228*c i*P **P 01 29 58.9 +0.9**
WRAB Tennant Creek 21.38 228 *e*P **P 01 29 57.5 -0.5**
comp=Z,2μm,0.8s,mb6.4
WRAB LR LR
comp=Z,39μm,21.0s,MS5.8
WB2 Warramunga Arr 21.39 228⇑ *i*P **P 01 29 58.5 +0.5**
WB2 *e*pP 01 30 10.8
WB2 *e*S **S 01 33 52.9 -0.6**
WRA Warramunga Arr 21.39 228 P **P 01 29 57.4 -0.7**
comp=Z,1μm,0.8s,mb6.2,baz=52,slow=11,SNR=476
WRA S **S 01 33 52.7 -1.0**
comp=Z,359nm,1.2s,baz=44,slow=22,SNR=12
WRA ScP ScP 01 37 36.1 +0.9
comp=Z,133nm,1.0s,baz=40,slow=2.3,SNR=11
WRA LR LR 01 38 27.7
comp=Z,141μm,20.5s,MS6.3,baz=50,slow=37
WRA P3KPbc 02 03 47.1
comp=Z,0.5nm,0.7s,baz=234,slow=3.1,SNR=5.5
WRA Warramunga Arr 21.39 228 P **P 01 29 57.4 -0.7**
WRA S **S 01 33 52.7 -0.9**
WRA smax
comp=N,359nm,1.2s
WRA MLR MLR
comp=Z,141μm,20.5s
WRA Warramunga Arr 21.39 228 P **P 01 29 57.4 -0.7**
WRA S **S 01 33 52.6 -1.0**
WRA ScP ScP 01 37 36.1 +0.9
WRA LR LR 01 38 27.7
DZM Mont Dzumac 21.92 139⇑ *i*P **P 01 30 03.0 -0.8**
DZM Mont Dzumac 21.92 139 P **P 01 30 03.1 -0.6**
comp=Z,338nm,0.7s,mb5.9,baz=345,slow=9.3,SNR=106
DZM LR LR 01 37 14.5
comp=Z,524μm,21.9s,MS6.9,baz=314,slow=33
AS31 Alice Springs 24.15 221 *e*P **P 01 30 26.9 +0.6**
AS31 *e*S **S 01 34 41.0 -1.0**
ASAR Alice Springs 24.15 221 P **P 01 30 27.1 +0.8**
comp=Z,887nm,0.7s,mb6.3,baz=52,slow=9.6,SNR=24
ASAR S **S 01 34 50.9 +8.9**
comp=Z,176nm,1.1s,baz=33,slow=21,SNR=6.0
ASAR ScP ScP 01 37 46.4 +3.9
comp=Z,77nm,1.0s,baz=50,slow=2.2,SNR=10
ASAR LR LR 01 39 52.7
comp=Z,189μm,20.6s,MS6.6,baz=123,slow=36
ASAR P3KPbc 02 03 30.1
comp=Z,1.2nm,1.0s,baz=219,slow=2.0,SNR=5.2
ASAR Alice Springs 24.15 221 P **P 01 30 27.1 +0.8**
ASAR S **S 01 34 50.9 +8.9**
ASAR ScP ScP 01 37 46.4 +3.9
ASAR LR LR 01 39 52.7
ASPA Alice Springs 24.15 221 *e*P **P 01 30 26.9 +0.6**
ASPA *e*S **S 01 34 41.0 -1.1**
ARMA Armidale 24.39 179 *e*P **P 01 30 28.3 -0.2**
ARMA *e*S **S 01 34 48.1 +2.2**
STKA Stephens Creek 27.30 198⇑ *i*P **P 01 30 53.5 -1.3**
comp=Z,482nm,1.0s,mb6.0
STKA *e*S **S 01 35 22.5 -10**
STKA Stephens Creek 27.30 198 P **P 01 30 54.0 -0.8**
comp=Z,416nm,1.0s,mb5.9,baz=6.3,slow=8.4,SNR=143
STKA ScP ScP 01 37 54.5 +2.9
comp=Z,76nm,1.1s,baz=171,slow=2.7,SNR=4.8
STKA LR LR 01 42 29.1
comp=Z,138μm,18.5s,MS6.6,baz=299,slow=38
FITZ Fitzroy Crossi 27.58 242⇑ *i*P **P 01 30 57.8 +0.5**
comp=Z,2μm,0.7s,mb6.8
FITZ *e*S **S 01 35 36.9 +0.5**
FITZ Fitzroy Crossi 27.58 242 P **P 01 30 57.8 +0.5**
comp=Z,887nm,0.7s,mb6.5,baz=71,slow=7.6,SNR=730
FITZ S **S 01 35 34.9 -1.6**
comp=Z,85nm,0.9s,baz=18,slow=13,SNR=2.1
FITZ LR LR 01 43 27.5
comp=Z,214μm,19.1s,MS6.7,baz=353,slow=40
RIV Riverview 27.79 180 *e*P **P 01 30 58.9 -0.2**
RIV *e*PCP PcP 01 34 17.1 +2.2
FUNA Funafuti 28.07 97⇑ *i*P **P 01 31 00.9 -0.8**
comp=Z,7μm,2.3s,mb6.9
FUNA *e*S **S 01 35 39.1 -5.0**
FUNA LR LR
comp=Z,120μm,19.0s,MS6.5
DAV Davao City (W) 28.47 297 PFAKE 01 31 20.0 +15
DAV LR LR
comp=Z,86μm,22.0s,MS6.3
BUKP Musuan 29.29 298 *e*P **P 01 31 11.2 -1.3**
CNB Canberra Magne 29.31 183 *e*P **P 01 31 11.4 -1.3**
comp=Z,1μm,1.6s,mb6.3
CGP Cagayan de Oro 29.88 298⇓ *i*P **P 01 31 18.9 +1.1**
MSLP Maasin 30.55 301 *e*P **P 01 31 24.1 +0.5**
PAGZ Pagadian 30.77 296 *e*P **P 01 31 26.0 +0.4**
PLP Palo 30.97 303 *e*P **P 01 31 28.7 +1.3**
ADE Adelaide 31.07 200⇑ *i*P **P 01 31 28.1 -0.2**
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
KAPI Kappang 31.14 270 P **P 01 31 29.5 +0.6**
comp=Z,998nm,0.8s,mb6.7,SNR=16
SNPH Sibulan 31.57 298 *e*P **P 01 31 35.5 +2.9**
TOO Toolangi 31.92 188⇑ *i*P **P 01 31 35.7 0.0**
comp=Z,341nm,1.0s,mb6.1
TOO *e*PCP PcP 01 34 25.6 0.0
TOO *e*S **S 01 36 39.2 -5.3**
TOO *e*SCP ScP 01 38 16.4 +10
TOO Toolangi 31.92 188⇑ *i*P **P 01 31 35.7 0.0**
TOO *e* 01 34 25.6
TOO *e*S **S 01 36 39.2 -5.3**
TOO pmax pmax
comp=Z,341nm,1.0s,mb6.1
GUIM Jordan 32.73 300 *e*P **P 01 31 43.6 +0.8**
FORT Forrest 32.83 218⇑ *i*P **P 01 31 42.1 -1.6**
comp=Z,548nm,0.8s,mb6.5
FORT *e*pP pP 01 31 55.1 +1.6
comp=Z,548nm,0.8s
FORT *e*sP sP 01 32 03.5 +5.8
comp=Z,408nm,0.6s
FORT *e*S **S 01 36 56.8 -1.8**
PVCP Virac 32.97 306 *e*P **P 01 31 45.7 +0.8**
RCP Roxas 33.05 302⇑ *e*P **P 01 31 47.0 +1.4**
MBWA Marble Bar 33.89 240 *e*P **P 01 31 53.3 +0.4**
comp=Z,430nm,0.6s,mb6.6
MBWA LR LR
comp=Z,226μm,19.0s,MS6.9
CBIJ Chichi jima 33.90 346 P **P 01 31 56.5 +3.5**
comp=Z,104nm,0.5s,mb6.0,baz=248,slow=20,SNR=4.1
CBIJ LR LR 01 44 25.5
comp=Z,177μm,21.9s,MS6.8,baz=160,slow=34
OTRP Odiongan 34.07 302 *e*P **P 01 31 55.2 +0.7**
CUYO Cuyo Island 34.19 299 *e*P **P 01 31 57.7 +2.2**
TSM Tawau 34.62 286 P **P 01 32 00.7 +1.5**
POLP Polilio Island 35.38 306 *e*P **P 01 32 06.9 +1.0**
ENPP El Nido 35.75 298 *e*P **P 01 32 11.0 +2.0**
PPR Puerto Princes 35.75 296⇑ *i*P **P 01 32 12.4 +3.5**
TGY Tagaytay City 35.87 304⇓ *e*P **P 01 32 12.1 +2.1**
TGY Tagaytay City 35.87 304 P **P 01 32 10.7 +0.7**
comp=Z,454nm,0.5s,baz=127,slow=6.4,SNR=22
TGY ScP ScP 01 38 21.4 +1.1
comp=Z,100nm,0.4s,baz=157,slow=5.9,SNR=5.3
TGY LR LR 01 44 39.6
comp=Z,674nm,21.1s,baz=109,slow=32
BATP Bataraza 36.20 294 *e*P **P 01 32 14.1 +1.3**
BALP Baler 36.23 307 *e*P **P 01 32 13.1 0.0**
LUBP Lubang 36.25 303 *e*P **P 01 32 12.0 -1.3**
PALP Palanan 36.33 309 *e*P **P 01 32 15.6 +1.7**
PCPH Palayan 36.52 306⇑ *e*P **P 01 32 16.4 +0.8**
KKM Kota Kinabalu 36.72 288 P **P 01 32 18.0 +0.7**
KKM Kota Kinabalu 36.72 288⇓ *i*P **P 01 32 15.2 -2.0**
KKM *e*pP pP 01 32 23.8 -3.4
KKM *e*sP sP 01 32 29.9 -1.4
KKM *e*S **S 01 37 54.2 -4.3**
CAUP Cauayan 36.72 309 *e*P **P 01 32 19.0 +1.7**
TAU Tasmania Unive 37.00 185 P **P 01 32 20.9 +1.3**
comp=Z,5μm,1.3s,mb7.2,SNR=75
TAU Tasmania Unive 37.00 185 *e*P **P 01 32 20.1 +0.5**
comp=Z,908nm,1.0s,mb6.6
TAU LR LR
comp=Z,56μm,21.0s,MS6.3
CVP Callao Caves 37.17 310⇓ *e*P **P 01 32 21.0 -0.1**
SGCP Mt. Cagua 37.32 311 *e*P **P 01 32 24.9 +2.5**
BCPH Baguio City Da 37.38 307⇑ *i*P **P 01 32 22.8 -0.1**
RAO Raoul Island 37.41 132 P **P 01 32 23.0 -0.1**
comp=Z,332nm,0.7s,mb6.3,baz=301,slow=5.1,SNR=4.0
RAO LR LR 01 45 31.9
comp=Z,129μm,20.0s,MS6.7,baz=5.1,slow=32
RAO Raoul Island 37.41 132⇑ *i*P **P 01 32 21.7 -1.4**
RAO *e**PP pP 01 32 30.8 -2.3
RAO *e* 01 33 47.4
RAO Raoul Island 37.41 132⇑ *i*P **P 01 32 21.7 -1.4**
RAO *e*pP pP 01 32 30.8 -2.3
RAO *e*PP PP 01 33 47.4 -1.4
RAO LR LR 01 45 31.9
AFI Afiamalu 37.45 105 P **P 01 32 22.7 -0.8**
comp=Z,293nm,0.9s,mb6.1,baz=256,slow=3.1,SNR=20
AFI LR LR 01 46 04.2
comp=Z,115μm,19.3s,MS6.7,baz=275,slow=33
AFI Afiamalu 37.45 105 P **P 01 32 23.5 0.0**
AFI pmax pmax
comp=Z,2μm,1.6s,mb6.7
SCZP Santa Cruz 37.59 305 *e*P **P 01 32 24.2 -0.4**
BOLP Bolinao 37.92 306 *e*P **P 01 32 26.3 -1.1**
HIZ Hauiti 38.99 150 *e*P **P 01 32 37.0 +0.5**
HIZ Hauiti 38.99 150⇑PN **P 01 32 37.0 +0.6**
JOW Kunigami 39.30 327 P **P 01 32 40.3 +1.3**
comp=Z,456nm,0.7s,mb6.3,baz=158,slow=7.5,SNR=46
JOW ScP ScP 01 38 34.3 +1.1
comp=Z,138nm,1.2s,baz=153,slow=5.0,SNR=9.0
JOW LR LR 01 45 50.1
comp=Z,127μm,21.5s,MS6.7,baz=150,slow=31
QRZ Quartz Range 39.75 154 *e*P **P 01 32 42.8 0.0**
QRZ Quartz Range 39.75 154⇑PN **P 01 32 42.9 +0.1**
URZ Urewera 39.97 147 P **P 01 32 43.7 -0.9**
comp=Z,160nm,0.6s,mb5.9,baz=322,slow=3.6,SNR=98
URZ PP PP 01 34 20.9 +4.1
comp=Z,28nm,0.6s,baz=292,slow=7.8,SNR=3.2
URZ LR LR 01 46 45.6
comp=Z,137μm,21.6s,MS6.8,baz=125,slow=32
URZ Urewera 39.97 147 P **P 01 32 43.7 -0.9**
URZ PP PP 01 34 20.9 +4.1
URZ LR LR 01 46 45.6
JHJ Hachijo jima 2 40.25 345 LR LR 01 46 41.7
comp=Z,110μm,20.7s,MS6.7,baz=178,slow=32
KLBR Kellerberrin 40.27 226 *e*P **P 01 32 46.2 -0.9**
comp=Z,3μm,1.8s,mb6.7
KLBR *e* 01 34 19.0
KLBR *e*SCP ScP 01 38 39.9 +2.9
DUWZ D'Urville Isla 40.34 153 *e*PN **P 01 32 47.1 -0.6**
NNZ Nelson 40.44 154 *e*P **P 01 32 47.0 -1.5**
NNZ Nelson 40.44 154 *e*PN **P 01 32 47.4 -1.1**
TSZ Takapari Road 40.73 150 *e*P **P 01 32 49.9 -1.0**
TSZ Takapari Road 40.73 150⇑PN **P 01 32 50.3 -0.6**
TCW Tory Channel 40.83 153 *e*P **P 01 32 51.2 -0.5**
TCW Tory Channel 40.83 153⇑PN **P 01 32 51.2 -0.5**
comp=Z,1μm,0.6s,mb6.7
TUWZ Tuamarina 40.86 153⇑PN **P 01 32 51.3 -0.7**
JCZ Jackson Bay 41.08 160 *e*P **P 01 32 53.8 0.0**
JCZ Jackson Bay 41.08 160⇑PN **P 01 32 53.8 -0.1**
SNZO South Karori 41.11 153 *e*P **P 01 32 52.7 -1.3**
SNZO LR LR
comp=Z,241μm,20.0s,MS7.1
LTZ Lake Taylor 41.26 156 *e*P **P 01 32 54.4 -0.8**
LTZ Lake Taylor 41.26 156⇑PN **P 01 32 54.4 -0.8**
KSM Kuching 41.31 279⇓ *i*P **P 01 32 54.4 -1.2**
KSM *e*pP pP 01 33 05.5 -0.2
KSM *e*PP PP 01 34 28.8 -2.6
KSM *e*PcP PcP 01 34 54.1 +0.3
KSM *e*ScP ScP 01 38 39.0 -2.1
KSM *e*S **S 01 39 06.2 -1.5**
NWAO Narrogin (SRO) 41.36 225 P **P 01 32 55.6 -0.4**
comp=Z,313nm,1.2s,mb5.8,baz=56,slow=7.6,SNR=27
NWAO PP PP 01 34 31.1 -0.8
comp=Z,231nm,0.9s,baz=48,slow=13,SNR=5.3
NWAO LR LR 01 50 32.8
comp=Z,137μm,19.1s,MS6.8,baz=54,slow=37
NWAO Narrogin (SRO) 41.36 225 P **P 01 32 55.6 -0.5**
NWAO 01 34 31.1
NWAO pmax pmax
comp=Z,313nm,1.2s
NWAO pmax pmax
comp=Z,231nm,0.9s
NWAO MLR MLR
comp=Z,137μm,19.1s
NWAO Narrogin (SRO) 41.36 225 *e*P **P 01 32 55.7 -0.4**
comp=Z,400nm,1.3s,mb5.9
NWAO LR LR
comp=Z,112μm,21.0s,MS6.7
NACB Ninganchiao 41.44 317⇑ *e*P **P 01 32 57.9 +1.2**
NACB *e*pP pP 01 33 05.5 -1.3
NACB *e*sP sP 01 33 08.3 -2.5
NACB *e*PP PP 01 34 26.3 -6.4
NACB *e*PcP PcP 01 34 46.8 -7.4
NACB *e*S **S 01 39 06.6 -2.9**
PAWZ Paruwai Farm 41.50 152 *e*P **P 01 32 55.8 -1.4**
PAWZ Paruwai Farm 41.50 152⇑PN **P 01 32 55.8 -1.4**
comp=Z,795nm,0.7s,mb6.5
RPZ Rata Peaks 41.58 158 P **P 01 32 56.4 -1.5**
comp=Z,362nm,0.9s,mb6.0,baz=358,slow=2.5,SNR=38
RPZ LR LR 01 47 49.9
comp=Z,254μm,21.3s,MS7.1,baz=323,slow=33
RPZ Rata Peaks 41.58 158 PN **P 01 32 56.3 -1.6**
RPZ PcP PcP 01 34 55.1 +0.5
MUN Mundaring 41.59 227⇑ *i*P **P 01 33 07.9 +10**
MUN *e* 01 34 44.5
MUN *e*S **S 01 39 14.7 +2.9**
LBZ Lake Benmore 41.84 159 *e*P **P 01 32 58.6 -1.5**
LBZ Lake Benmore 41.84 159 PN **P 01 32 58.6 -1.5**
comp=Z,352nm,0.6s,mb6.2
YHNB Yeheng 41.91 318⇑ *e*P **P 01 33 01.9 +1.3**
YHNB *e*pP pP 01 33 09.5 -1.2
YHNB *e*sP sP 01 33 12.8 -1.9
YHNB *e*PcP PcP 01 34 51.1 -4.6
YHNB *e*ScP ScP 01 38 41.4 -2.1
MLZ Mavora Lakes 42.03 162 *e*P **P 01 33 00.8 -0.8**
MLZ Mavora Lakes 42.03 162⇑PN **P 01 33 01.0 -0.6**
TATO Taipei 42.05 318 *e*P **P 01 33 02.5 +0.8**
comp=Z,903nm,0.8s,mb6.5
TATO LR LR
comp=Z,213μm,21.0s,MS7.0
ODZ Otahua Downs 42.58 159 *e*P **P 01 33 04.5 -1.5**
ODZ Otahua Downs 42.58 159 PN **P 01 33 04.5 -1.5**
MJAR Matsushiro Arr 43.90 345 P **P 01 33 14.4 -2.3**
comp=Z,25nm,0.9s,baz=169,slow=8.3,SNR=33
MJAR PcP PcP 01 35 02.8 +0.4
comp=Z,23nm,0.8s,baz=156,slow=4.5,SNR=4.4
MJAR ScP ScP 01 38 51.4 -0.1
comp=Z,52nm,1.1s,baz=180,slow=4.6,SNR=14
MJAR LR LR 01 50 19.9
comp=Z,52μm,18.2s,MS6.5,baz=175,slow=34
MJAR Matsushiro Arr 43.90 345 P **P 01 33 14.4 -2.3**
MJAR 01 35 02.8
MJAR pmax pmax
comp=Z,25nm,0.9s
MAJO Matsushiro 43.90 345 *e*P **P 01 33 14.8 -1.9**
MAJO *e*ScP ScP 01 38 50.5 -1.0
MAJO LR LR
comp=Z,98μm,19.0s,MS6.7
MAT Matsushiro 43.90 345 P **P 01 33 13.7 -3.0**
MAT S **S 01 39 36.0 -10**
QZH Quanzhou 44.00 316⇓ *i*P **P 01 33 19.1 +1.6**
QZH SCP ScP 01 38 53.8 +1.9
QZH S **S 01 39 44.9 -2.3**
QZH XS sS 01 40 12.0 +8.2
QZH SCS ScS 01 43 11.5 -2.1
QZH AMB AMB
comp=Z,32μm,8.8s
QZH LR LR
comp=N,150μm,19.0s,MS7.1
QZH LR LR
comp=E,187μm,20.3s,MS7.1
QZH LR LR
comp=Z,278μm,19.9s,MS7.2
MIDW Midway 45.60 40 PFAKE 01 33 40.0 +10
MIDW LR LR
comp=Z,54μm,22.0s,MS6.4
HKC Hong Kong 45.69 309⇓ *i*P **P 01 33 33.0 +2.1**
HKC *i* S **S 01 40 10.0 -1.6**
SSE Sheshan 46.55 324 P **P 01 33 39.0 +1.3**
SSE AP pP 01 33 50.4 +2.5
SSE S **S 01 40 24.1 +0.1**
SSE AMB AMB
comp=Z,493nm,1.0s,mb6.4
SSE AMB AMB
comp=Z,12μm,6.9s
SSE LR LR
comp=N,64μm,23.5s,MS6.7
SSE LR LR
comp=E,65μm,23.5s,MS6.7
SSE LR LR
comp=Z,99μm,23.5s,MS6.7
SSE Sheshan 46.55 324 P **P 01 33 39.0 +1.3**
comp=Z,493nm,1.0s,mb6.4
SSE pP pP 01 33 50.4 +2.5
SSE S **S 01 40 24.1 +0.1**
SSE LR LR
comp=Z,99μm,23.5s,MS6.7
GZH Guangzhou 46.75 309 P **P 01 33 41.4 +2.1**
GZH S **S 01 40 28.3 +1.4**
GZH AMB AMB
comp=Z,456nm,0.8s,mb6.5
GZH LR LR
comp=N,79μm,18.7s,MS6.9
GZH LR LR
comp=E,97μm,19.0s,MS6.9
GZH LR LR
comp=Z,250μm,20.5s,MS7.2
QIZ Qiongzhong 47.53 302 P **P 01 33 45.4 0.0**
QIZ AP pP 01 33 56.6 +1.0
QIZ PP PP 01 35 34.5 -2.4
QIZ S **S 01 40 38.4 +0.4**
QIZ SS SS 01 44 09.3 +3.2
QIZ AMB AMB
comp=Z,3μm,8.7s
QIZ LR LR
comp=N,47μm,22.2s,MS6.7
QIZ LR LR
comp=E,83μm,23.8s,MS6.7
QIZ LR LR
comp=Z,180μm,24.0s,MS7.0
QIZ Qiongzhong 47.53 302 PFAKE 01 34 00.0 +15
QIZ LR LR
comp=Z,170μm,22.0s,MS7.0
KS15 Wonju Array Si 48.22 335 *e*P **P 01 33 51.2 +0.4**
KS15 *e*ScP ScP 01 39 12.0 +2.5
ERM Erimo 48.23 352⇓ *e*P **P 01 33 48.2 -2.6**
ERM MLR MLR
comp=Z,17μm,20.0s,MS6.0
KGM Kluang 48.28 278 P **P 01 33 52.9 +1.7**
NJ2 Nanjing 48.62 323 *e*P **P 01 33 55.1 +1.3**
NJ2 AP pP 01 34 05.5 +1.5
NJ2 XP sP 01 34 09.9 +1.9
NJ2 PP PP 01 35 48.3 +1.5
NJ2 SCP ScP 01 39 12.4 +1.3
NJ2 S **S 01 40 54.0 +0.6**
NJ2 AMB AMB
comp=Z,930nm,0.8s,mb6.9
NJ2 AMB AMB
comp=Z,38μm,8.0s
NJ2 LR LR
comp=N,191μm,19.4s,MS7.2
NJ2 LR LR
comp=E,116μm,18.1s,MS7.2
NJ2 LR LR
comp=Z,771μm,17.7s,MS7.7
INCN Inchon 48.79 334 *e*P **P 01 33 57.8 +2.6**
INCN LR LR
comp=Z,64μm,21.0s,MS6.6
MCQ Macquarie Isla 48.88 174 *e*P **P 01 33 55.8 +0.1**
MCQ *e*S **S 01 41 00.0 +3.0**
YUK Yuzh-Kuril'sk 49.92 355 *e*P **P 01 33 59.0 -4.8**
YUK *e* 01 35 18.0
YUK *e* 01 35 58.0
YUK *e*S **S 01 41 16.0 +4.3**
YUK *e* 01 43 50.0
YUK pmax pmax
comp=Z,10μm,7.0s
YUK smax
comp=N,7μm,10.0s
YUK MLR MLR
comp=Z,67μm,19.0s,MS6.7
YUK MLR MLR
comp=N,25μm,20.0s,MS6.4
YUK MLR MLR
comp=E,20μm,16.0s,MS6.4
RAR Rarotonga 49.97 113 P **P 01 34 03.3 -0.8**
comp=E,66nm,0.8s,mb5.7,baz=263,slow=7.0,SNR=7.0
RAR LR LR 01 51 18.0
comp=E,17μm,18.9s,MS6.1,baz=276,slow=31
ASAJ Asahikawa 50.37 352 P **P 01 34 06.1 -1.0**
comp=E,64nm,0.8s,mb5.7,baz=231,slow=12,SNR=12
ASAJ LR LR 01 53 59.4
comp=E,62μm,21.0s,MS6.6,baz=201,slow=34
WHN Wuhan 50.46 318⇑P **P 01 34 09.0 +1.2**
WHN AP pP 01 34 18.3 +0.3
WHN S **S 01 41 22.0 +2.9**
WHN AMB AMB
comp=Z,119nm,1.0s,mb5.9
WHN LR LR
comp=Z,308μm,20.5s,MS7.3
IPM Ipoh 50.98 281 P **P 01 34 13.0 +1.2**
KULM Kulim 51.51 281⇓ *i*P **P 01 34 14.3 -1.4**
KULM *e*pP pP 01 34 22.7 -3.2
KULM *e*ScP ScP 01 39 24.5 +1.0
KULM *e*S **S 01 41 22.9 -11**
VLA Vladivostok 51.79 342 *i*P **P 01 34 17.0 -0.8**
VLA *i* pP 01 34 24.1 -3.9
VLA pmax pmax
comp=Z,174nm,1.3s,mb5.8
VLA Vladivostok 51.79 342 *i*P **P 01 34 17.1 -0.7**
SNG Songkhla 51.95 284 P **P 01 34 19.0 0.0**
comp=Z,510nm,1.0s,mb6.4
DL2 Dalian 52.24 331⇑ *i*P **P 01 34 21.9 +0.7**

DL2			XP	sP	01 34 34.3 -1.2
DL2			S	**S**	**01 41 43.0 -0.8**
DL2			AMB	AMB	
	comp=Z,370nm,0.8s,mb6.4				
DL2			AMB	AMB	
	comp=Z,8μm,8.7s				
DL2			LR	LR	
	comp=N,11μm,17.9s,MS6.3				
DL2			LR	LR	
	comp=E,24μm,19.2s,MS6.3				
DL2			LR	LR	
	comp=Z,31μm,19.2s,MS6.4				
KKTK	**Khon Kaen**	**52.55 296**	⇑P	**P**	**01 34 24.6 +1.1**
	comp=Z,1μm,0.7s,mb7.0				
TIA	**Tai'an**	**52.58 325**	*e*P	**P**	**01 34 23.6 -0.1**
TIA			AP	pP	01 34 36.3 +2.4
TIA			XP	sP	01 34 41.5 +3.5
TIA			PCP	PcP	01 35 33.3 -0.3
TIA			S	**S**	**01 41 46.0 -2.4**
TIA			AMB	AMB	
	comp=Z,190nm,0.7s,mb6.1				
TIA			LR	LR	
	comp=N,41μm,18.0s,MS6.6				
TIA			LR	LR	
	comp=E,34μm,18.0s,MS6.6				
PSI	**Prapat**	**52.74 278**	P	**P**	**01 34 22.6 -2.3**
	comp=E,72nm,0.9s,mb5.6,baz=87,slow=10.0,SNR=12				
PSI			ScP	ScP	01 39 29.9 +1.0
	comp=E,28nm,1.1s,baz=168,slow=4.5,SNR=6.4				
PSI	**Prapat**	**52.74 278**	P	**P**	**01 34 22.6 -2.3**
PSI			pmax	pmax	
	comp=Z,72nm,0.9s,mb5.6				
PSI			pmax	pmax	
	comp=N,28nm,1.1s				
YSS	**Yuzh-Sakhalins**	**53.13 353**	⇓*e*P	**P**	**01 34 26.1 -1.7**
YSS			pmax	pmax	
	comp=Z,50nm,1.0s,mb5.4				
YSS			MLR	MLR	
	comp=Z,62μm,21.0s,MS6.6				
ENH	**Enshi**	**53.63 315**	PFAKE		01 34 40.0 +8.6
ENH			LR	LR	
	comp=Z,3.0nm,21.0s				
GYA	**Guiyang**	**53.68 309**	⇓*i*P	**P**	**01 34 32.5 +0.7**
GYA			AP	pP	01 34 45.1 +3.0
GYA			XP	sP	01 34 50.4 +4.3
GYA			PCP	PcP	01 35 38.0 +0.3
GYA			PP	PP	01 36 34.6 +1.9
GYA			SCP	ScP	01 39 32.5 -0.5
GYA			S	**S**	**01 42 03.9 +0.6**
GYA			AMB	AMB	
	comp=Z,450nm,0.8s,mb6.5				
GYA			AMB	AMB	
	comp=Z,10μm,10.8s				
GYA			LR	LR	
	comp=N,41μm,18.6s,MS6.8				
GYA			LR	LR	
	comp=E,71μm,19.5s,MS6.8				
GYA			LR	LR	
	comp=Z,69μm,19.5s,MS6.7				
SNY	**Shenyang**	**53.71 335**	⇑P	**P**	**01 34 31.1 -0.9**
SNY			AP	pP	01 34 41.8 -0.5
SNY			XP	sP	01 34 44.3 -2.0
SNY			PP	PP	01 36 33.6 +0.6
SNY			S	**S**	**01 41 57.9 -5.8**
SNY			AMB	AMB	
	comp=Z,352nm,3.0s				
SNY			AMB	AMB	
	comp=Z,16μm,7.1s				
SNY			LR	LR	
	comp=N,31μm,19.2s,MS6.7				
SNY			LR	LR	
	comp=E,52μm,19.2s,MS6.7				
SNY			LR	LR	
	comp=Z,69μm,20.2s,MS6.7				
COCO	**West Island**	**53.80 259**	P	**P**	**01 34 35.6 +2.9**
	comp=Z,4μm,0.9s,mb7.3,SNR=6.5				
COCO	**West Island**	**53.80 259**	*e*P	**P**	**01 34 34.8 +2.1**
COCO			LR	LR	
	comp=Z,10μm,22.0s,MS5.8				
MDJ	**Mudanjiang**	**53.86 341**	P	**P**	**01 34 32.1 -1.0**
MDJ			AP	pP	01 34 42.6 -0.8
MDJ			XP	sP	01 34 46.8 -0.6
MDJ			PP	PP	01 36 35.4 +1.1
MDJ			SCP	ScP	01 39 34.3 +0.6
MDJ			S	**S**	**01 42 03.0 -2.7**
MDJ			XS	sS	01 42 23.4 +0.7
MDJ			SS	SS	01 45 47.8 +0.9
MDJ			AMB	AMB	
	comp=Z,90nm,1.1s,mb5.6				
MDJ			AMB	AMB	
	comp=Z,10μm,6.5s				
MDJ			LR	LR	
	comp=N,29μm,26.3s,MS6.5				
MDJ			LR	LR	
	comp=E,50μm,23.8s,MS6.5				
MDJ			LR	LR	
	comp=Z,60μm,20.0s,MS6.7				
MDJ	**Mudanjiang**	**53.86 341**	⇑*i*P	**P**	**01 34 32.5 -0.6**
	comp=Z,610nm,1.8s,mb6.2				
MDJ			*e*pP	pP	01 34 41.0 -2.4
MDJ			*e*PcP	PcP	01 35 40.4 +2.0
MDJ			*e*PP	PP	01 36 31.5 -2.9
MDJ			*e*ScP	ScP	01 39 32.9 -0.8
MDJ			LR	LR	
	comp=Z,65μm,22.0s,MS6.7				
NNT	**Nongplab**	**54.18 290**	P	**P**	**01 34 36.5 +1.1**
CN2	**Changchun**	**54.60 337**	⇓P	**P**	**01 34 39.3 +0.8**
CN2			PP	PP	01 36 44.0 +2.9
CN2			*e*S	**S**	**01 42 10.6 -5.2**
CN2			AMB	AMB	
	comp=Z,50nm,1.3s,mb5.4				
CN2			LR	LR	
	comp=N,38μm,20.0s,MS6.5				
CN2			LR	LR	
	comp=E,24μm,20.0s,MS6.5				
CN2			LR	LR	
	comp=Z,53μm,21.0s,MS6.6				
NST	**Nakhon Sawan**	**54.76 294**	P	**P**	**01 34 40.0 +0.4**
	comp=Z,117nm,0.6s,mb6.1				
BJT	**Baijiatuau**	**55.84 328**	PFAKE		01 35 00.0 +13
BJT			LR	LR	
	comp=Z,82μm,20.0s,MS6.8				
BJI	**Beijing**	**55.86 328**	P	**P**	**01 34 47.8 +0.3**
BJI			PP	PP	01 36 52.4 +0.1
BJI			PCS	PcS	01 39 43.5 -2.9
BJI			S	**S**	**01 42 33.0 +0.4**
BJI			SS	SS	01 46 22.3 +3.8
BJI			AMB	AMB	
	comp=Z,89nm,1.0s,mb5.8				
BJI			AMB	AMB	
	comp=Z,2μm,4.5s				
BJI			LR	LR	
	comp=N,55μm,19.6s				
BJI			LR	LR	
	comp=E,25μm,24.9s				
BJI			LR	LR	
	comp=Z,59μm,24.0s,MS6.6				
BJI	**Beijing**	**55.86 328**	P	**P**	**01 34 47.7 +0.2**
BJI					01 36 52.4
BJI			S	**S**	**01 42 33.0 +0.4**
BJI			SS	SS	01 46 22.2 +3.7
BJI			pmax	pmax	
	comp=Z,89nm,1.0s,mb5.8				
BJI			MLR	MLR	
	comp=Z,59μm,24.0s,MS6.6				
BJI	**Beijing**	**55.86 328**	P	**P**	**01 34 47.7 +0.2**
	comp=Z,89nm,1.0s,mb5.8				
BJI			PP	PP	01 36 52.4 +0.1
BJI			PcS	PcS	01 39 43.5 -2.9
BJI			S	**S**	**01 42 33.0 +0.4**
BJI			SS	SS	01 46 22.2 +3.7
BJI			LR	LR	
	comp=Z,59μm,24.0s,MS6.6				
KMI	**Kunming**	**56.16 305**	P	**P**	**01 34 51.0 +1.3**
KMI			AP	pP	01 34 58.9 -1.1
KMI			XP	sP	01 35 02.8 -1.2
KMI			PP	PP	01 36 56.4 +1.4
KMI			SCP	ScP	01 39 45.8 +2.0
KMI			S	**S**	**01 42 37.9 +1.4**
KMI			AMB	AMB	
	comp=Z,167nm,1.1s,mb6.0				
KMI	**Kunming**	**56.16 305**	P	**P**	**01 34 51.0 +1.3**
	comp=Z,167nm,1.1s,mb6.0				
KMI			pP	pP	01 34 58.9 -1.1
KMI			sP	sP	01 35 02.8 -1.2
KMI			PP	PP	01 36 56.4 +1.4
KMI			PPP		01 38 12.7
KMI			ScP	ScP	01 39 45.7 +1.9
KMI			S	**S**	**01 42 37.9 +1.4**
KMI			sS	sS	01 42 51.5 -2.1
KMI			SS	SS	01 46 22.5 -0.7
KMI			SSS		01 48 31.6
KMI			LR	LR	
	comp=Z,96μm,29.2s,MS6.7				
XAN	**Xi'an**	**56.22 318**	P	**P**	**01 34 50.0 -0.1**
XAN			AP	pP	01 34 59.3 -1.2
XAN			AMB	AMB	
	comp=Z,70nm,1.0s,mb5.7				
XAN			AMB	AMB	
	comp=Z,10μm,10.3s				
XAN			LR	LR	
	comp=N,40μm,19.0s,MS6.7				
XAN			LR	LR	
	comp=E,36μm,19.8s,MS6.7				
XAN			LR	LR	
	comp=Z,118μm,19.8s,MS7.0				
BDT	**Bhumibol Dam**	**56.30 295**	P	**P**	**01 34 51.0 +0.3**
	comp=Z,18nm,1.0s				
SKR	**Severo-Kuril's**	**56.53 4**	*e*P	**P**	**01 34 48.0 -4.3**
SKR			*e*		01 35 07.0
SKR			*e*		01 35 49.0
SKR			*e*S	**S**	**01 42 30.0 -11**
SKR			*e*		01 44 35.0
SKR			*e*SSS		01 48 30.0
SKR			pmax	pmax	
	comp=E,180nm,1.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s,mb6.1				
SKR			pmax	pmax	
	comp=N,6μm,14.0s				
SKR			pmax	pmax	
	comp=Z,9μm,14.0s				
SKR			pmax	pmax	
	comp=E,6μm,8.0s				
SKR			smax		
	comp=N,19μm,20.0s				
SKR			smax		
	comp=E,17μm,20.0s				
SKR			MLR	MLR	
	comp=N,34μm,20.0s,MS6.7				
SKR			MLR	MLR	
	comp=E,53μm,20.0s,MS6.7				
SKR			MLR	MLR	
	comp=Z,50μm,20.0s,MS6.6				
CM31	**Chiang Mai Arr**	**56.76 296**	PFAKE		01 35 10.0 +16
CM31			LR	LR	
	comp=Z,13μm,20.0s,MS6.0				
HON	**Honolulu**	**56.84 60**	*e*P	**P**	**01 34 54.9 +0.4**
KIP	**Kipapa**	**56.86 60**	⇑*i*P	**P**	**01 34 55.5 +0.8**
KIP	**Kipapa**	**56.86 60**	*e*P	**P**	**01 34 55.1 +0.4**
KIP			LR	LR	
	comp=Z,87μm,22.0s,MS6.8				
CHG	**Chiang Mai**	**56.88 297**	⇓P	**P**	**01 34 55.0 +0.2**
	comp=Z,75nm,0.8s,mb5.8				
CHTO	**Chiang Mai**	**56.88 297**	⇓*i*P	**P**	**01 34 54.8 0.0**
CHTO			*e*S	**S**	**01 42 35.3 -11**
CHTO			pmax	pmax	
	comp=Z,86nm,1.1s,mb5.7				
CHTO			MLR	MLR	
	comp=Z,40μm,19.0s,MS6.5				
CHTO	**Chiang Mai**	**56.88 297**	⇓*i*P	**P**	**01 34 54.8 0.0**
	comp=Z,86nm,1.1s,mb5.7				
CHTO			*e*S	**S**	**01 42 35.2 -11**
CHTO			LR	LR	
	comp=Z,40μm,19.0s,MS6.5				
KLR	**Kul'dur**	**57.42 345**	*e*P	**P**	**01 34 53.5 -5.2**
KLR			*e*S	**S**	**01 43 05.0 +12**
KLR			pmax	pmax	
	comp=Z,130nm,1.6s,mb5.7				
KKH	**Kailua Kona**	**57.95 63**	P	**P**	**01 35 04.0 +1.6**
KKH	**Kailua Kona**	**57.95 63**	*e*P	**P**	**01 35 03.2 +0.8**
HKL	**Haleakala**	**58.12 61**	*e*P	**P**	**01 35 05.3 +1.8**
HKL			*e*	pP	01 35 15.2 +1.3
CD2	**Chengdu**	**58.13 312**	⇓*i*P	**P**	**01 35 04.1 +0.5**
CD2			AP	pP	01 35 19.0 +5.0
CD2			PP	PP	01 37 14.1 +1.6
CD2			XS	sS	01 43 25.6 +5.9
CD2			AMB	AMB	
	comp=Z,380nm,0.6s,mb6.6				
CD2			AMB	AMB	
	comp=Z,17μm,9.6s				
CD2			LR	LR	
	comp=N,115μm,19.2s,MS7.2				
CD2			LR	LR	
	comp=E,133μm,21.0s,MS7.2				
CD2			LR	LR	
	comp=Z,185μm,21.6s,MS7.2				
HPO	**Honuapo**	**58.17 63**	*e*P	**P**	**01 35 04.4 +0.5**
POHA	**Pohakuloa**	**58.42 63**	PFAKE		01 35 20.0 +14
POHA			LR	LR	
	comp=Z,93μm,20.0s,MS6.9				
HHC	**Hu-ho-hao-te**	**58.93 326**	*e*P	**P**	**01 35 09.4 +0.2**
HHC			PP	PP	01 37 24.1 +4.5
HHC			PCS	PcS	01 39 59.4 -0.6
HHC			S	**S**	**01 43 10.3 -2.7**
HHC			AMB	AMB	
	comp=Z,64nm,1.2s,mb5.5				
HHC			AMB	AMB	
	comp=Z,11μm,12.8s				
HHC			LR	LR	
	comp=N,32μm,20.6s,MS6.7				
HHC			LR	LR	
	comp=E,54μm,19.6s,MS6.7				
HHC			LR	LR	
	comp=Z,72μm,19.0s,MS6.8				
PET	**Petropavlovsk**	**59.06 5**	*c i*P	**P**	**01 35 07.7 -2.4**
PET			*i* S	**S**	**01 43 12.5 -2.1**
PET			*e*SS	SS	01 47 14.1 +5.3
PET			*e*SSS		01 49 37.2
PET			pmax	pmax	
	comp=Z,98nm,0.7s,mb6.0				
PET	**Petropavlovsk**	**59.06 5**	PFAKE		01 35 20.0 +10
PET			LR	LR	
	comp=Z,56μm,20.0s,MS6.7				
PPT	**Papeete**	**59.09 107**	*e*P	**P**	**01 35 11.2 +0.9**
	comp=Z,60nm,0.9s,mb5.6				
PPT	**Papeete**	**59.09 107**	*e*LQ		01 50 06.6
	comp=Z,87μm,31.2s				
PPT	**Papeete**	**59.09 107**	*e*PP	PP	01 37 16.6 -4.4
	comp=Z,9μm,23.5s				
PPT	**Papeete**	**59.09 107**	*e*S	**S**	**01 43 14.9 -0.1**
	comp=Z,73μm,27.0s				
PPT			*e*SS	SS	01 47 00.0 -9.3
	comp=Z,34μm,31.0s				
PPT			*e*LR	LR	01 52 37.3
	comp=Z,32μm,24.8s				
PPT	**Papeete**	**59.09 107**	P	**P**	**01 35 09.9 -0.4**
	comp=Z,42nm,0.3s,mb5.9,baz=285,slow=8.5,SNR=3.4				
PPT	**Papeete**	**59.09 107**	P	**P**	**01 35 09.9 -0.4**
PPT			pmax	pmax	
	comp=Z,42nm,0.3s				
PAE	**Paea**	**59.09 107**	*e*P	**P**	**01 35 11.3 +1.0**
	comp=Z,112nm,0.9s,mb5.9				
PAE	**Paea**	**59.09 107**	*e*P	**P**	**01 35 11.3 +1.0**
PAE			pmax	pmax	
	comp=Z,112nm,0.9s,mb5.9				
TVO	**Taravao**	**59.41 107**	*e*P	**P**	**01 35 13.7 +1.2**
	comp=Z,210nm,0.8s,mb6.2				
TVO	**Taravao**	**59.41 107**	*e*P	**P**	**01 35 13.7 +1.2**
TVO			pmax	pmax	
	comp=Z,210nm,0.8s,mb6.2				
BTO	**Baotou**	**59.65 325**	*e*P	**P**	**01 35 14.1 0.0**
BTO			S	**S**	**01 43 24.8 +2.6**
TBI	**Tubuai**	**59.73 113**	*e*PP	PP	01 37 25.3 -1.4
	comp=Z,7μm,26.0s				
TBI	**Tubuai**	**59.73 113**	*e*S	**S**	**01 43 22.4 -0.9**
	comp=Z,64μm,31.5s				
TBI			*e*SS	SS	01 47 19.7 +0.3
	comp=Z,35μm,26.8s				
TBI			*e*LR	LR	01 52 55.5
	comp=Z,119μm,33.8s,baz=286				
TBI	**Tubuai**	**59.73 113**	*e*P	**P**	**01 35 15.3 +0.6**
	comp=Z,129nm,0.8s,mb6.0				
TBI			*e*PP	PP	01 37 25.3 -1.4
TBI			*e*S	**S**	**01 43 22.4 -0.9**
TBI			*e*SS	SS	01 47 19.7 +0.3
PBA	**Port Blair**	**60.54 287**	*e*P	**P**	**01 35 18.6 -1.6**
PBA			*ex*	x	01 43 04.8
PBA			AMS	AMS	02 14 39.7
	comp=Z,17μm,21.5s,MS6.2				
PMOR	**Pomariorio Ree**	**60.59 104**	*e*P	**P**	**01 35 21.8 +1.2**
	comp=Z,632nm,1.0s,mb6.7				
PMOR			*e*pP	pP	01 35 32.6 +1.6
	comp=Z,798nm,1.2s				
LZH	**Lanzhou**	**60.81 317**	⇑*i*P	**P**	**01 35 23.0 +0.9**
LZH			AP	pP	01 35 33.1 +0.6
LZH			XP	sP	01 35 37.3 +0.8
LZH			PCP	PcP	01 36 05.9 +0.2
LZH			PP	PP	01 37 39.5 +3.3
LZH			SCP	ScP	01 40 03.4 -1.0
LZH			PCS	PcS	01 40 07.3 -1.0
LZH			S	**S**	**01 43 36.3 -0.8**
LZH			XS	sS	01 43 54.1 -0.2
LZH			SCS	ScS	01 45 08.1 -2.4
LZH			AMB	AMB	
	comp=Z,997nm,1.3s,mb6.8				
LZH			AMB	AMB	
	comp=Z,14μm,9.5s				
LZH			LR	LR	
	comp=E,54μm,16.9s				
LZH			LR	LR	
	comp=Z,81μm,19.2s,MS6.9				
LZH	**Lanzhou**	**60.81 317**	⇑*i*P	**P**	**01 35 23.0 +0.9**
LZH			*PP	pP	01 35 33.1 +0.6
LZH			*SP	sP	01 35 37.2 +0.7
LZH					01 36 05.9
LZH					01 37 39.5
LZH			PPP		01 39 08.2
LZH			S	**S**	**01 43 36.2 -0.9**
LZH			*SS	sS	01 43 54.1 -0.2
LZH			PS		01 43 57.4
LZH					01 45 08.1
LZH			SS	SS	01 47 38.5 +2.3
LZH			pmax	pmax	
	comp=Z,997nm,1.3s,mb6.8				
LZH			MLR	MLR	
	comp=Z,81μm,19.2s,MS6.9				
LZH	**Lanzhou**	**60.81 317**	⇑*i*P	**P**	**01 35 23.0 +0.9**
	comp=Z,997nm,1.3s,mb6.8				
LZH			pP	pP	01 35 33.1 +0.6
LZH			sP	sP	01 35 37.2 +0.7
LZH			PcP	PcP	01 36 05.9 +0.2
LZH			PP	PP	01 37 39.5 +3.3
LZH			PPP		01 39 08.2
LZH			ScP	ScP	01 40 03.4 -1.0
LZH			PcS	PcS	01 40 07.3 -1.0
LZH			S	**S**	**01 43 36.2 -0.9**
LZH			sS	sS	01 43 54.1 -0.2
LZH			PS		01 43 57.4
LZH			ScS	ScS	01 45 08.1 -2.4
LZH			SS	SS	01 47 38.5 +2.3
LZH			LR	LR	
	comp=Z,81μm,19.2s,MS6.9				
VAH	**Vaihoa**	**60.85 104**	*e*P	**P**	**01 35 23.3 +0.9**
	comp=Z,302nm,0.9s,mb6.4				
VAH			*e*pP	pP	01 35 34.1 +1.3
	comp=Z,388nm,1.1s				
DRV	**Dumont d'Urvil**	**61.14 185**	P	**P**	**01 35 25.0 +0.7**
DRV	**Dumont d'Urvil**	**61.14 185**	PP	PP	01 37 40.0 +0.9
DRV			S	sS	01 43 57.0 -1.5
DRV			SS	SS	01 47 45.0 +3.6
DRV			L		01 50 00.0
DRV			R		01 55 00.0
HIA	**Hailar**	**61.33 337**	⇑*i*P	**P**	**01 35 25.0 -0.7**
HIA			*e**PP	pP	01 35 32.8 -3.3
HIA			*e*		01 37 37.9
HIA			pmax	pmax	
	comp=Z,198nm,1.0s				
HIA			MLR	MLR	
	comp=Z,39μm,19.0s				
HIA	**Hailar**	**61.33 337**	⇑*i*P	**P**	**01 35 25.0 -0.6**
	comp=Z,198nm,1.0s,mb6.2				
HIA			*e*pP	pP	01 35 32.8 -3.3
HIA			*e*PP	PP	01 37 37.9 -3.0
HIA			*e*ScP	ScP	01 40 04.9 -1.8
HIA			LR	LR	
	comp=Z,39μm,19.0s,MS6.6				
IMP	**Imphal**	**63.34 301**	*ex*	x	01 35 50.0
IMP			*ex*	x	01 40 10.0
MA2	**Magadan**	**65.27 360**	*e*P	**P**	**01 35 48.6 -3.1**
MA2			*e*		01 38 11.3
MA2			*e*S	S	01 44 27.7 -5.2
MA2			pmax	pmax	
	comp=Z,200nm,1.0s,mb6.1				
MA2			MLR	MLR	
	comp=Z,66μm,18.2s,MS6.9				
MA2	**Magadan**	**65.27 360**	*e*P	**P**	**01 35 49.0 -2.8**
MA2			LR	LR	
	comp=Z,52μm,20.0s,MS6.7				
GTA	**Gaotai**	**65.28 318**	P	**P**	**01 35 52.0 +0.2**
GTA			AP	pP	01 36 05.3 +3.0
GTA			XP	sP	01 36 10.4 +4.1
GTA			S	S	01 44 34.1 +1.1
GTA			XS	sS	01 44 56.5 +6.1
GTA			SCS	ScS	01 45 40.4 -4.0
GTA			SS	SS	01 48 52.6 +6.5
GTA			AMB	AMB	
	comp=Z,44nm,1.2s,mb5.4				
GTA			AMB	AMB	
	comp=Z,11μm,9.1s				
GTA			LR	LR	
	comp=N,24μm,20.9s,MS6.7				
GTA			LR	LR	
	comp=E,41μm,19.8s,MS6.7				
GTA			LR	LR	
	comp=Z,65μm,20.1s,MS6.8				
AGT	**Agartala**	**65.34 300**	*i* P	**P**	**01 35 53.0 +0.8**
SHL	**Shillong**	**65.35 301**	*ex*	**P**	**01 35 42.5 -10**
SHL			*e*S	S	01 44 32.5 -1.5
CIT	**Chita**	**65.95 336**	*e*P	**P**	**01 35 55.8 -0.3**
CIT			*e*		01 38 18.2
CIT			*e*S	S	01 44 41.6 +0.4
CIT			pmax	pmax	
	comp=Z,1μm,3.7s				
NRGR	**Nerungri**	**65.97 344**	*e*P	**P**	**01 35 55.6 -0.6**
CLNS	**Chul'man**	**66.08 345**	*e*P	**P**	**01 35 56.2 -0.7**
CLNS			*e*		01 36 24.2
CLNS			*e*		01 38 19.2
CLNS			*e*PPP		01 39 54.2
CLNS			*e*S	S	01 44 41.3 -1.5
CLNS			pmax	pmax	
	comp=N,57nm,0.9s				
CLNS			pmax	pmax	
	comp=E,27nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,157nm,0.9s,mb6.0				
CLNS			pmax	pmax	
	comp=N,27nm,1.1s				
CLNS			pmax	pmax	
	comp=Z,27nm,1.1s,mb5.2				
CLNS			pmax	pmax	
	comp=E,38nm,1.0s				
CLNS			smax		
	comp=N,2μm,12.5s				
CLNS			smax		
	comp=Z,8μm,15.5s				
CLNS			smax		
	comp=E,5μm,13.4s				
SONM	**Songino Array**	**66.33 329**	P	**P**	**01 35 58.4 -0.2**
	comp=E,56nm,0.6s,mb5.8,baz=146,slow=5.9,SNR=101				
SONM			ScP		01 40 30.0
	comp=E,4.4nm,0.7s,baz=151,slow=6.6,SNR=2.9				
SONM			PKiKP	PKiKP	01 42 29.3 -0.2
	comp=E,6.7nm,0.8s,baz=153,slow=2.3,SNR=6.0				
SONM			LR	LR	02 04 26.6
	comp=E,89μm,21.0s,MS7.0,baz=136,slow=35				

SONM PKPPKP 02 04 32.7
comp=E,17nm,0.8s,baz=300,slow=1.9,SNR=16
SONM Songino Array 66.33 329 P **P 01 35 58.4 -0.2**
SONM ScP 01 40 30.0
CASY Casey 66.45 197 *e*P **P 01 35 57.4 -1.9**
CASY *e*S S 01 44 47.0 -0.3
CASY Casey 66.45 197 *e*P **P 01 35 57.4 -1.9**
CASY *e*S S 01 44 47.0 -0.3
CASY LR LR
comp=Z,60μm,19.0s,MS6.8
LSA Lhasa 67.42 305 P **P 01 36 07.6 +2.1**
LSA SCS ScS 01 46 01.5 +0.5
LSA AMB AMB
comp=Z,80nm,0.7s,mb5.9
LSA AMB AMB
comp=Z,7μm,13.1s
LSA LR LR
comp=N,23μm,26.3s,MS6.7
LSA LR LR
comp=E,52μm,27.0s,MS6.7
LSA LR LR
comp=Z,72μm,27.0s,MS6.8
LSA Lhasa 67.42 305 PFAKE 01 36 20.0 +15
LSA LR LR
comp=Z,51μm,19.0s,MS6.8
CAL Calcutta 67.48 297 *e*P **P 01 36 08.2 +2.4**
CAL *e*S S 01 45 03.7 +4.0
CAL AMP 02 01 20.4
comp=Z,12μm,16.1s
TAOE Nuku Hiva Isla 68.24 97 *e*S S 01 45 08.3 -0.5
comp=Z,92μm,26.5s
TAOE *e*SS SS 01 49 34.1 +2.0
comp=Z,55μm,33.4s
TAOE *e*LR LR 01 56 56.7
comp=Z,129μm,22.4s,baz=267
TAOE Nuku Hiva Isla 68.24 97 *e*P **P 01 36 11.4 +0.7**
comp=Z,2μm,0.9s,mb7.1
TAOE *e*S S 01 45 08.3 -0.5
TAOE *e*SS SS 01 49 34.1 +2.0
SEY Seymchan 68.65 1⇑*e*P **P 01 36 10.8 -2.4**
GTK Gangtok 68.70 302 *e*P **P 01 36 10.0 -3.5**
ZAK Zakamensk 69.53 330⇑*i*P **P 01 36 18.2 -0.4**
ZAK *e* 01 45 21.0
ZAK pmax pmax
comp=Z,68nm,1.1s,mb5.5
YAK Yakutsk 69.71 349 *e*P **P 01 36 17.7 -2.1**
YAK *e**PP pP 01 36 27.4 -3.0
YAK *i* 01 36 41.8
YAK *e* 01 38 49.8
YAK *e*S S 01 45 26.9 +0.7
YAK *e**SS sS 01 45 47.9 +4.2
YAK *i* 01 46 11.6
YAK *e*SS SS 01 49 51.4 -3.4
YAK *e*SSS 01 52 55.7
YAK pmax pmax
comp=Z,196nm,1.2s,mb5.9
YAK pmax pmax
comp=N,57nm,1.1s
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=Z,4μm,7.2s
YAK pmax pmax
comp=N,2μm,6.0s
YAK pmax pmax
comp=E,1μm,6.9s
YAK smax
comp=E,3μm,8.9s
YAK smax
comp=Z,3μm,11.3s
YAK smax
comp=N,6μm,8.5s
YAK MLR MLR
comp=Z,31μm,21.0s,MS6.5
YAK MLR MLR
comp=N,21μm,18.0s,MS6.5
YAK MLR MLR
comp=E,17μm,20.0s,MS6.5
YAK Yakutsk 69.71 349 *e*P **P 01 36 19.4 -0.4**
comp=E,163nm,0.8s,mb6.0
YAK LR LR
comp=Z,53μm,22.0s,MS6.7
AKUT Akutan 69.87 25 *e*P **P 01 36 19.6 -1.2**
comp=Z,179nm,0.8s,mb6.0
BOK Bokaro 70.00 298 *e*P **P 01 36 21.8 +0.2**
BOK *i*S S 01 45 27.8 -1.7
TLY Talaya 70.16 331 P **P 01 36 22.0 -0.5**
comp=Z,293nm,0.9s,mb6.2,SNR=13
TLY Talaya 70.16 331 *e*P **P 01 36 21.5 -1.0**
TLY *e*PPP 01 40 34.3
TLY pmax pmax
comp=Z,367nm,4.0s
TLY MLR MLR
comp=Z,33μm,20.0s,MS6.6
TLY Talaya 70.16 331 *e*P **P 01 36 22.5 0.0**
TLY LR LR
comp=Z,17μm,22.0s,MS6.3
BOD Bodaibo 70.20 340 *e*P **P 01 36 20.4 -2.4**
BOD pmax pmax
comp=Z,92nm,1.3s,mb5.5
IRK Irkutsk 70.21 332 *e*P **P 01 36 21.9 -1.0**
IRK pmax pmax
comp=Z,515nm,4.5s
VIS Vishakhapatnam 70.80 291 *e*P **P 01 36 26.8 +0.3**
VIS *i*x x 01 45 29.4
JIRN Jiri 70.85 302 *e*P **P 01 36 26.5 -0.2**
GUN Gumba 71.19 302 *e*P **P 01 36 28.7 -0.1**
comp=Z,479nm,0.8s,mb6.5
PALK Pallekele 71.37 280 P **P 01 36 30.5 +0.6**
comp=Z,1μm,0.8s,mb6.8,SNR=32
PALK Pallekele 71.37 280 *e*P **P 01 36 30.5 +0.6**
PALK LR LR
comp=Z,5μm,20.0s,MS5.8
MOY Mondy 71.46 330 *e*P **P 01 36 30.4 0.0**
MOY pmax pmax
comp=Z,1μm,3.9s
PKI Pulchoki 71.48 301 *e*P **P 01 36 30.5 -0.1**
comp=Z,307nm,1.0s,mb6.2
KKN Kakani 71.66 302 *e*P **P 01 36 31.0 -0.6**
comp=Z,265nm,0.9s,mb6.2
DMN Daman 71.75 301 *e*P **P 01 36 32.0 -0.2**
comp=Z,735nm,1.0s,mb6.6
VNDA Vanda 71.80 178 P **P 01 36 31.8 -0.7**
VNDA S S 01 45 51.2 +0.7
VNDA Vanda 71.80 178 P **P 01 36 31.9 -0.6**
comp=Z,142nm,1.0s,mb5.9,baz=331,slow=6.6,SNR=288
VNDA PKP2ab 02 04 10.5
comp=Z,1.2nm,0.9s,baz=195,slow=1.0,SNR=3.7
VNDA Vanda 71.80 178 *e*P **P 01 36 31.7 -0.8**
comp=Z,531nm,1.4s,mb6.3
VNDA LR LR
comp=Z,22μm,19.0s,MS6.5
GKN Gorkha 72.27 302 *e*P **P 01 36 34.7 -0.6**
comp=Z,665nm,1.0s,mb6.5
MIR Mirnyy 72.27 201*c i*P **P 01 36 36.0 +0.7**
MIR *e*PS 01 45 56.0
MIR *e* 01 46 24.0
MIR pmax pmax
comp=Z,18μm,15.0s
SBA Scott Base 72.38 177 *e*P **P 01 36 36.2 +0.3**
SBA LR LR
comp=Z,18μm,20.0s,MS6.3
MDRS Chennai 72.77 286 *e*P **P 01 36 36.0 -2.3**
MDRS *e*x x 01 45 55.7
SDPT Sand Point 72.99 27⇑*e*P **P 01 36 35.8 -3.7**
SDPT LR LR
comp=Z,43μm,18.0s,MS6.8
RKT Rikitea 73.01 112 *e*LQ 01 56 07.1
comp=Z,16μm,38.5s
RKT Rikitea 73.01 112 *e*PP PP 01 39 20.6 -1.8
comp=Z,7μm,26.2s
RKT Rikitea 73.01 112 *e*S S 01 46 03.8 -0.5
comp=Z,16μm,30.5s
RKT *e*SS SS 01 50 44.6 -0.7
comp=Z,27μm,35.2s
RKT *e*LR LR 01 59 04.8
comp=Z,102μm,30.8s,baz=278
RKT Rikitea 73.01 112 *e*P **P 01 36 39.9 +0.2**
RKT *e* 01 39 20.6
RKT *e*S S 01 46 03.8 -0.5
RKT *e*SS SS 01 50 44.6 -0.7
RKT pmax pmax
comp=Z,217nm,0.9s,mb6.1
RKT Rikitea 73.01 112 *e*P **P 01 36 39.9 +0.2**
comp=Z,216nm,0.9s,mb6.1
RKT *e*PP PP 01 39 20.6 -1.8
RKT *e*S S 01 46 03.8 -0.5
RKT *e*SS SS 01 50 44.6 -0.7
RKT *e*LQ 01 56 07.1
KOLN Koldanda 73.08 301 *e*P **P 01 36 39.5 -0.6**
comp=Z,264nm,0.7s,mb6.3
DANN Dangsing 73.11 302 *e*P **P 01 36 40.4 +0.1**
CHGN Chignik 74.49 27 *e*P **P 01 36 45.6 -2.8**
BILL Bilibino 74.55 6*c i*P **P 01 36 46.0 -2.7**
BILL *e**PP pP 01 36 58.4 -1.0
BILL *e* 01 37 03.1
BILL *e*S S 01 46 16.9 -4.8
BILL pmax pmax
comp=Z,181nm,1.2s,mb5.9
BILL Bilibino 74.55 6⇑*i*P **P 01 36 46.1 -2.6**
BILL LR LR
comp=Z,27μm,19.0s,MS6.6
JBP Jabalpur 75.08 296⇓*i*P **P 01 36 52.6 +0.9**
JBP *e*x x 01 36 57.2
comp=Z,248nm,1.3s
JBP *e*S S 01 46 24.1 -3.5
HYB Hyderabad 75.19 290 *i*P **P 01 36 52.0 -0.4**
comp=Z,170nm,1.0s,mb5.9
HYB *e*S S 01 46 29.0 +0.2
HYB Hyderabad 75.19 290 *e*P **P 01 36 52.0 -0.4**
HYB *e*S S 01 46 24.0 -4.8
HYB pmax pmax
comp=Z,170nm,1.0s,mb5.9
HYB Hyderabad 75.19 290 *e*P **P 01 36 52.0 -0.4**
comp=Z,170nm,1.0s,mb5.9
HYB *e*S S 01 46 24.0 -4.8
HYB *e*LR LR 02 14 24.0
TRD Trivandrum 75.22 280 *e*P **P 01 36 53.0 +0.4**
TRD *e*x x 01 46 08.1
WMQ Urumqi 75.36 318⇑*i*P **P 01 36 53.0 -0.4**
WMQ PCP PcP 01 37 06.5 0.0
WMQ PP PP 01 39 44.1 +1.7
WMQ S S 01 46 27.8 -2.9
WMQ XS sS 01 46 49.8 +1.4
WMQ AMB AMB
comp=Z,246nm,2.2s,mb5.8
WMQ AMB AMB
comp=Z,9μm,4.7s
WMQ LR LR
comp=N,64μm,20.4s,MS7.2
WMQ LR LR
comp=E,90μm,18.5s,MS7.2
WMQ LR LR
comp=Z,82μm,19.2s,MS7.0
NGP Nagpur 75.48 294⇓*e*P **P 01 36 52.7 -1.4**
NGP *e*x x 01 46 25.8
NGP *e*x x 02 08 18.2
comp=Z,27μm,24.4s
LGTI Lohaghat 76.37 302 *e*P **P 01 36 58.0 -1.2**
LGTI *e*x x 01 37 03.0
AKL Akola 77.25 293 *e*P **P 01 37 04.4 +0.3**
AKL *i*x x 01 46 43.0
BHPL Bhopal 77.39 295 *e*P **P 01 37 04.4 -0.6**
BHPL AMb AMB 01 37 07.3
comp=Z,147nm,0.6s,mb6.1
PTCN Pitcairn Islan 77.47 114 PFAKE 01 37 20.0 +15
PTCN LR LR
comp=Z,25μm,22.0s,MS6.5
KDAK Kodiak Island 77.95 27 P **P 01 37 06.0 -2.1**
comp=Z,618nm,0.6s,mb6.7,SNR=22
KDAK Kodiak Island 77.95 27 P **P 01 37 06.7 -1.3**
comp=Z,84nm,0.9s,mb5.7,baz=260,slow=4.9,SNR=20
KDAK Kodiak Island 77.95 27 P **P 01 37 06.7 -1.3**
KDAK LR LR
comp=Z,10μm,21.0s,MS6.1
DGAR Diego Garcia 77.96 264⇑*e*P **P 01 37 08.2 +0.1**
DGAR Diego Garcia 77.96 264 *e*P **P 01 37 08.8 +0.7**
DGAR LR LR
comp=Z,6μm,22.0s,MS5.9
MNGI Mangalore 77.96 285 *i*P **P 01 37 09.2 +1.1**
MNGI *e*S S 01 46 57.7 -1.4
MNGI *e*x x 02 16 17.4
comp=Z,19μm,19.2s
SVW2 Sparrevohn 78.53 23 *e*P **P 01 37 10.8 -0.4**
NDI New Delhi 78.76 301 *e*P **P 01 37 10.0 -2.5**
NDI *e*P 01 37 11.2
NDI AMb AMB 01 37 26.7
comp=Z,310nm,0.8s,mb6.3
NDI *e*x x 01 47 01.0
NDI AMS AMS 02 18 42.7
comp=Z,14μm,20.0s,MS6.3
TIXI Tiksi 78.76 353 *e*P **P 01 37 07.9 -4.6**
TIXI *e*S S 01 46 58.8 -8.9
TIXI *e*SSS 01 55 35.5
TIXI pmax pmax
comp=E,16nm,1.1s
TIXI pmax pmax
comp=Z,66nm,1.1s,mb5.5
TIXI pmax pmax
comp=N,16nm,1.3s
TIXI pmax pmax
comp=Z,6μm,6.5s
TIXI Tiksi 78.76 353⇑*i*P **P 01 37 10.8 -1.7**
TIXI LR LR
comp=Z,77μm,19.0s,MS7.1
KAD Karad 79.27 289 *e*P **P 01 37 15.2 -0.1**
KAD AMb AMB 01 37 17.8
comp=Z,177nm,0.9s,mb6.0
SDNR Sundarnagar 79.61 303 *e*P **P 01 37 17.0 -0.2**
POO Poona 79.79 290⇓*i*P **P 01 37 15.0 -3.1**
comp=Z,140nm,1.0s,mb5.8
POO *i*PCP PcP 01 37 24.0 -1.7
POO *i*x x 01 47 14.0
MK31 Makanchi Array 80.00 319⇑*e*P **P 01 37 18.3 -1.0**
MK31 *e* 01 37 24.4
MK31 *e**PP pP 01 37 28.6 -1.4
MK31 *e* 01 40 21.6
MKAR Makanchi Array 80.00 319 P **P 01 37 18.4 -0.9**
comp=Z,33nm,0.7s,mb5.4,baz=99,slow=7.5,SNR=117
MKAR PP PP 01 40 21.8 +0.5
comp=Z,47nm,0.9s,baz=105,slow=9.3,SNR=5.7
MKAR ScS ScS 01 47 36.3 -5.3
comp=Z,4.6nm,1.1s,baz=160,slow=3.9,SNR=5.4
MKAR PKKPbc PKKPbc 01 56 03.7 0.0
comp=Z,5.2nm,0.7s,baz=284,slow=2.1,SNR=15
MKAR PKP2bc 02 03 54.8
comp=Z,1.2nm,0.8s,baz=282,slow=1.2,SNR=5.7
MKAR PKPPKP 02 04 08.3
comp=Z,1.7nm,0.9s,baz=354,slow=2.4,SNR=5.5
MKAR LR LR 02 13 35.4
comp=Z,44μm,18.1s,MS6.8,baz=110,slow=36
MKAR Makanchi Array 80.00 319 P **P 01 37 18.4 -0.9**
MKAR 01 40 21.8
MKAR pmax pmax
comp=Z,33nm,0.7s
MKAR pmax pmax
comp=Z,47nm,0.9s
MKAR pmax pmax
comp=N,5.0nm,1.1s
MKAR MLR MLR
comp=Z,44μm,18.2s
MKAR Makanchi Array 80.00 319 P **P 01 37 18.4 -0.9**
MKAR PP PP 01 40 21.8 +0.5
MKAR ScS ScS 01 47 36.3 -5.3
MKAR PKKPbc PKKPbc 01 56 03.7 0.0
MKAR ⇑*e* 02 03 54.8
MKAR P'P' 02 04 08.3
MKAR LR LR 02 13 35.4
BHK Bhakra 80.05 303 *e*P **P 01 37 20.0 +0.5**
SLKM Skilak Lake 80.41 25 *e*P **P 01 37 20.2 -1.3**
AJM Ajmer 80.52 298 *e*P **P 01 37 21.9 -0.2**
DLH Dalhousie 80.68 304 *e*x **P 01 37 19.0 -3.9**
BOM Bombay 80.82 290 *e*x **P 01 37 16.3 -7.3**
BOM *e*x x 01 47 16.6
THN Thein Dam 80.86 304 *e*P **P 01 37 22.1 -1.8**
THN *e*x x 01 47 25.8
ZAL Zalesovo 81.10 327 P **P 01 37 23.0 -2.1**
comp=Z,32nm,0.8s,mb5.3,baz=356,slow=5.9,SNR=62
ZAL S S 01 47 26.9 -5.4
comp=Z,7.9nm,1.1s,baz=201,slow=19,SNR=9.6
ZAL PKKPbc PKKPbc 01 56 01.3 +0.1
comp=Z,1.7nm,0.6s,baz=122,slow=1.7,SNR=4.4
ZAL PKP2bc 02 03 51.0
comp=Z,1.4nm,0.6s,baz=184,slow=6.0,SNR=5.1
ZAL PKPPKP 02 04 04.7
comp=Z,1.5nm,0.7s,baz=281,slow=0.4,SNR=5.5
ZAL LR LR 02 13 13.3
comp=Z,81μm,19.4s,MS7.1,baz=357,slow=35
ZAL Zalesovo 81.10 327 P **P 01 37 23.0 -2.1**
ZAL S S 01 47 26.9 -5.4
ZAL PKKPbc PKKPbc 01 56 01.3 +0.1
ZAL ⇑*e* 02 03 51.0
ZAL P'P' 02 04 04.7
ZAL LR LR 02 13 13.3
PMR Palmer 81.42 25 *e*P **P 01 37 26.1 -0.7**
PMR pmax pmax
comp=Z,99nm,1.1s,mb5.7
PMR MLR MLR
comp=Z,30μm,18.0s,MS6.7
PMR Palmer 81.42 25 *e*P **P 01 37 26.1 -0.7**
comp=Z,99nm,1.1s,mb5.7
PMR LR LR
comp=Z,30μm,18.0s,MS6.7
IMA2 Indian Mountai 82.08 20 *e*P **P 01 37 29.2 -1.2**
IMA2 *e*pP pP 01 37 41.0 -0.1
NVS Novosibirsk 82.29 327⇑*i*P **P 01 37 29.1 -2.3**
NVS *e*S S 01 47 36.1 -8.5
NVS pmax pmax
comp=N,215nm,2.4s
NVS pmax pmax
comp=E,376nm,2.4s
NVS pmax pmax
comp=Z,704nm,2.4s,mb6.2
NVS smax
comp=N,317nm,2.6s
NVS smax
comp=E,1μm,3.1s
KSH Kashi 82.31 311 ⇑P **P 01 37 32.5 +0.9**
KSH *e*PP PP 01 40 43.6 +3.2
KSH *e*S S 01 47 41.3 -3.6
KSH *e*SKS 01 47 48.8
KSH *e*XS sS 01 48 09.9 +7.2
KSH AMB AMB
comp=Z,3μm,6.5s
KSH LR LR
comp=N,38μm,16.8s,MS7.1
KSH LR LR
comp=E,66μm,19.7s,MS7.1
KSH LR LR
comp=Z,64μm,19.7s,MS7.0
AAA Alma-Ata 82.56 315*c i*P **P 01 37 34.3 +1.5**
AAA *e*S S 01 47 43.5 -3.9
AAA pmax pmax
comp=Z,13μm,8.1s
AAA smax
comp=E,22μm,12.4s
ULHL Ulahol 82.79 314 P **P 01 37 29.8 -4.3**
SNR=24
NIL Nilore 83.14 305 P **P 01 37 36.6 +0.7**
comp=E,338nm,0.6s,mb6.5,SNR=9.4
TKM2 Tokmak 2 83.42 314 P **P 01 37 36.9 -0.5**
SNR=81
COLA College 83.53 22⇑*i*P **P 01 37 34.5 -3.4**
COLA *e**PP pP 01 37 44.9 -3.7
COLA *e* 01 40 43.5
COLA pmax pmax
comp=Z,159nm,0.7s,mb6.3
COLA MLR MLR
comp=Z,36μm,21.0s,MS6.7
COLA College 83.53 22⇑*i*P **P 01 37 34.5 -3.4**
comp=Z,159nm,0.7s,mb6.3
COLA *e*pP pP 01 37 44.9 -3.7
COLA *e*PP PP 01 40 43.5 -6.9
COLA LR LR
comp=Z,36μm,21.0s,MS6.7
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KURK Kurchatov 83.55 322 P **P 01 37 36.3 -1.7**
comp=Z,776nm,1.4s,mb6.6,SNR=27
KBK Karagaybulak 83.82 314 P **P 01 37 39.7 +0.3**
SNR=42
MAW Mawson 83.88 203 *e*S S 01 47 55.4 -5.3
MAW Mawson 83.88 203 P **P 01 37 38.8 -0.8**
comp=Z,144nm,0.7s,mb6.2,baz=88,slow=6.3,SNR=204
MAW PKKPbc PKKPbc 01 55 54.6 -0.3
comp=Z,5.6nm,0.9s,baz=288,slow=5.3,SNR=7.9
MAW PKPPKP 02 04 03.1
comp=Z,7.1nm,1.2s,baz=250,slow=3.7,SNR=5.0
MAW LR LR 02 12 25.9
comp=Z,61μm,21.0s,MS7.0,baz=86,slow=34
MAW Mawson 83.88 203⇑*i*P **P 01 37 38.2 -1.4**
comp=Z,162nm,1.0s,mb6.1
MAW *e*S S 01 47 55.4 -5.3
MAW LR LR
comp=Z,105μm,22.0s,MS7.2
UCH Uchtor 84.03 313 P **P 01 37 41.1 +0.7**
SNR=141
CHMS Chumysh 84.04 314 P **P 01 37 39.9 -0.6**
SNR=70
QSPA South Pole Qui 84.06 180 P **P 01 37 39.7 -0.9**
QSPA South Pole Qui 84.06 180⇑*i*P **P 01 37 40.1 -0.5**
comp=Z,712nm,1.0s,mb6.8
QSPA LR LR
comp=Z,31μm,22.0s,MS6.7
FRU Bishkek 84.10 314⇑*i*P **P 01 37 41.2 +0.4**
FRU *i*pP pP 01 37 52.5 +0.9
FRU *e*S S 01 47 58.0 -5.0
FRU pmax pmax
comp=Z,976nm,2.4s,mb6.5
FRU smax
comp=E,10μm,18.0s
FRU MLR MLR
comp=Z,47μm,20.0s,MS6.9
AAK Ala-Archa 84.14 314 P **P 01 37 40.8 -0.2**
SNR=108
AAK Ala-Archa 84.14 314 P **P 01 37 39.8 -1.2**
comp=Z,716nm,0.7s,mb6.9,SNR=78
AAK Ala-Archa 84.14 314*c i*P **P 01 37 39.3 -1.7**
AAK pmax pmax
comp=Z,291nm,2.1s,mb6.0
AAK MLR MLR
comp=Z,92μm,22.0s,MS7.1
AAK Ala-Archa 84.14 314 *e*P **P 01 37 39.6 -1.4**
AAK LR LR
comp=Z,22μm,21.0s,MS6.5
MENT Mentasta 84.29 25 *e*P **P 01 37 40.6 -1.1**
USP Ospenovka 84.29 314 P **P 01 37 41.1 -0.6**
SNR=214
AML Almayashu 84.61 313 P **P 01 37 43.8 +0.4**
SNR=223
EKS2 Erkin-Say 84.66 314 P **P 01 37 43.1 -0.5**
SNR=205
EGAK Eagle 86.07 23⇑*i*P **P 01 37 49.2 -1.5**
comp=Z,267nm,1.1s,mb6.4
EGAK *e*pP pP 01 38 00.3 -1.1
EGAK *e*PP PP 01 41 05.4 -5.6
SIT Sitka 86.13 32 *e*P **P 01 37 51.3 +0.3**
SIT pmax pmax
comp=Z,474nm,1.7s,mb6.5
SIT MLR MLR
comp=Z,71μm,17.0s,MS7.1
SIT Sitka 86.13 32 *e*P **P 01 37 51.3 +0.3**
comp=Z,474nm,1.7s,mb6.4
SIT LR LR
comp=Z,71μm,17.0s,MS7.1
DAWY Dawson 86.51 24 *e*P **P 01 37 51.8 -1.0**
SKAG Skagway 86.84 29⇑*i*P **P 01 37 53.8 -0.6**

comp=Z,357nm,1.4s,mb6.4
SKAG *e*pP pP 01 38 03.1 -2.2
SKAG *e*PP PP 01 41 15.7 -1.6
CRAG Craig 86.88 34 ⇑*i*P **P 01 37 54.3 -0.3**
comp=Z,769nm,1.7s,mb6.7
CRAG *e*pP pP 01 38 04.0 -1.5
CRAG *es*P sP 01 38 07.4 -1.9
WRAK Wrangell Islan 87.54 33 ⇑*i*P **P 01 37 57.1 -0.8**
comp=Z,646nm,1.6s,mb6.6
WRAK *e*pP pP 01 38 07.2 -1.5
WRAK *es*P sP 01 38 11.8 -0.8
WRAK *e*PP PP 01 41 25.6 +2.7
CHKZ Chkalovo 89.06 324 *e*P **P 01 38 02.5 -2.5**
BVA0 Borovoye Array 89.06 323 *i* P **P 01 38 02.3 -2.7**
BVAR Borovoye Array 89.06 323 PKPPKP 02 03 52.4
comp=Z,0.9nm,0.7s,baz=254,slow=1.1,SNR=7.3
BVAR LR LR 02 20 14.3
comp=Z,41μm,19.2s,MS6.9,baz=234,slow=37
BRVK Borovoye 89.13 323 P **P 01 38 03.1 -2.2**
comp=Z,214nm,0.8s,mb6.5,SNR=21
BRVK Borovoye 89.13 323 P **P 01 38 03.2 -2.1**
BRVK *e**PP pP 01 38 20.2 +4.0
BRVK pmax pmax
comp=Z,64nm,1.2s,mb5.8
BRVK Borovoye 89.13 323 ⇓*i*P **P 01 38 02.5 -2.8**
BRVK LR LR
comp=Z,11μm,20.0s,MS6.3
K01A Sixes 89.95 47 ⇓P **P 01 38 09.6 +0.4**
baz=90
K01A ⇑S S 01 48 58.7 -0.7
baz=90
JCC Jacoby Creek 90.00 49 ⇑P **P 01 38 09.5 +0.1**
baz=90
JCC ⇓S S 01 48 58.6 -1.3
baz=90
KBO Bosley Butte 90.05 48 *e*P **P 01 38 10.8 +1.2**
KEBM Edson Butte 90.06 47 *e*P **P 01 38 10.9 +1.2**
O01C Eel River Cons 90.07 50 P **P 01 38 10.5 +0.8**
baz=90,SNR=18
O01C ⇓S S 01 49 00.7 +0.2
baz=90
M01C Crescent City 90.07 48 ⇑P **P 01 38 10.2 +0.4**
baz=90,SNR=6.0
M01C ⇑S S 01 48 58.7 -1.9
baz=90
INK Inuvik 90.11 21 P **P 01 38 07.6 -2.3**
comp=Z,72nm,0.9s,mb6.0,baz=247,slow=5.3,SNR=68
INK PKiKP PKiKP 01 43 03.6 -2.0
comp=Z,7.3nm,0.9s,baz=275,slow=1.8,SNR=4.5
INK PKKPbc PKKPbc 01 55 39.6 -0.3
comp=Z,12nm,0.9s,baz=35,slow=6.2,SNR=8.6
INK PKPPKP 02 03 48.4
comp=Z,1.6nm,0.7s,baz=133,slow=7.2,SNR=3.2
INK LR LR 02 15 10.5
comp=Z,26μm,20.8s,MS6.7,baz=262,slow=33
KRMB Red Mountain 90.19 48 ⇑*i*P **P 01 38 10.5 +0.2**
KRMB *e*pP pP 01 38 20.3 -0.9
KRMB *es*P sP 01 38 24.8 -0.2
KRMB *e*PP PP 01 41 39.0 -5.0
KIPM Iron Peak 90.28 50 ⇑*i*P **P 01 38 11.1 +0.3**
KIPM *e*pP pP 01 38 21.3 -0.3
KIPM *e*PP PP 01 41 45.1 +0.3
P01C Double 8 Ranch 90.35 51 ⇑P **P 01 38 10.8 -0.3**
baz=90,SNR=10
P01C ⇑S S 01 49 01.4 -1.7
baz=90
FARB Farallon Islan 90.39 52 ⇓P **P 01 38 10.7 -0.5**
baz=90
FARB ⇓S S 01 48 59.3 -4.2
baz=90
HOPS Hopland 90.50 51 *e*P **P 01 38 12.3 +0.6**
comp=Z,126nm,1.1s,mb6.2
HOPS LR LR
comp=Z,113μm,20.0s,MS7.3
HOPS Hopland 90.50 51 ⇑P **P 01 38 11.9 +0.2**
baz=90,SNR=8.3
HOPS ⇑S S 01 49 00.9 -3.5
baz=90
L02A Cave Junction 90.50 48 ⇑P **P 01 38 12.0 +0.3**
baz=90,SNR=27
L02A ⇑S S 01 49 00.6 -3.8
baz=90
H02A Toledo 90.54 45 ⇑P **P 01 38 11.7 -0.3**
baz=91
H02A ⇓S S 01 49 00.6 -4.3
baz=91
MCCM Marconi Confer 90.54 52 ⇓P **P 01 38 11.6 -0.3**
baz=91
MCCM ⇓S S 01 49 00.6 -4.3
baz=91
N02C Big Bar 90.55 49 P **P 01 38 12.3 +0.4**
baz=91,SNR=31
N02C ⇓S S 01 49 02.0 -2.9
baz=91
I02A Mapleton 90.57 46 ⇓P **P 01 38 12.1 +0.1**
baz=91,SNR=13
I02A ⇓S S 01 49 02.7 -2.4
baz=91
C03A Quillayute Air 90.60 42 ⇓P **P 01 38 12.4 +0.2**
baz=91
C03A ⇑S S 01 49 02.9 -2.5
baz=91
K02A Glendale 90.66 47 ⇑P **P 01 38 12.5 +0.1**
baz=91,SNR=39
K02A ⇑S S 01 49 02.3 -3.7
baz=91
J02A Umpqua 90.67 47 P **P 01 38 12.6 0.0**
baz=91,SNR=29
J02A ⇑S S 01 49 03.2 -2.9
baz=91
OTR Olympics--Tyee 90.77 42 P **P 01 38 13.6 +0.6**
GASB Alder Springs 90.85 50 ⇑P **P 01 38 14.0 +0.6**
baz=91,SNR=20
GASB ⇓S S 01 49 05.7 -1.9
baz=91
O02C Red Bluff 90.86 50 ⇑P **P 01 38 13.7 +0.3**
baz=91,SNR=84
O02C ⇑S S 01 49 04.3 -3.4
baz=91
CVS Carmenet Viney 90.89 52 ⇑P **P 01 38 13.4 -0.2**
baz=91,SNR=12
CVS ⇑S S 01 49 03.6 -4.5
baz=91
M02C Callahan 90.96 49 P **P 01 38 14.4 +0.5**
baz=91,SNR=87
M02C ⇑S S 01 49 04.8 -3.9
baz=91
JRSC Jasper Ridge 90.96 53 ⇑P **P 01 38 13.8 0.0**
baz=91
JRSC ⇑S S 01 49 03.3 -5.3
baz=91
I03A Eugene 90.96 46 P **P 01 38 14.1 +0.2**
baz=91,SNR=18
I03A ⇑S S 01 49 03.4 -5.3
baz=91
MNRC McLaughlin Nat 90.97 51 ⇓P **P 01 38 14.2 +0.3**
baz=91,SNR=21
MNRC ⇑S S 01 49 05.7 -3.1
baz=91
BNLO Ben Lomond (Sa 90.98 53 ⇓P **P 01 38 14.0 +0.1**
baz=91,SNR=9.3
BNLO ⇓S S 01 49 04.6 -4.3
baz=91
F03A Seaside 91.02 44 ⇑P **P 01 38 13.7 -0.4**
baz=91,SNR=5.5
F03A ⇓S S 01 49 03.9 -5.3
baz=91
COR Corvallis 91.02 45 ⇑*i*P **P 01 38 14.2 0.0**
COR *e**PP pP 01 38 23.4 -1.6
COR *e**SP sP 01 38 27.9 -1.1
COR pmax pmax
comp=Z,782nm,1.7s,mb6.8
COR MLR MLR
comp=Z,74μm,22.0s,MS7.1
COR Corvallis 91.02 45 ⇑*i*P **P 01 38 14.2 0.0**
comp=Z,782nm,1.7s,mb6.8
COR *e*pP pP 01 38 23.4 -1.7
COR *es*P sP 01 38 27.9 -1.1
COR LR LR
comp=Z,74μm,22.0s,MS7.1
D03A Wishkah Elem. 91.02 43 ⇑P **P 01 38 14.3 +0.2**
baz=91
D03A ⇓S S 01 49 05.4 -3.9
baz=91
HUMO Hull Mountain 91.03 47 ⇑*i*P **P 01 38 14.3 +0.2**
comp=Z,376nm,1.1s,mb6.6
HUMO *e*pP pP 01 38 23.9 -1.1
HUMO *es*P sP 01 38 29.1 +0.1
HUMO *e*PP PP 01 41 52.5 +1.7
HUMO *e*PKiKP PKiKP 01 43 15.5 +8.3
HUMO LR LR
comp=Z,84μm,19.0s,MS7.2
HUMO Hull Mountain 91.03 47 P **P 01 38 14.3 +0.2**
baz=91,SNR=125
HUMO ⇓S S 01 49 04.0 -5.3
baz=91
H03A Soap Creek Ran 91.04 45 P **P 01 38 14.3 0.0**
baz=91,SNR=27
H03A ⇑S S 01 49 05.5 -4.0
baz=91
E03A Lebam 91.09 43 ⇓P **P 01 38 14.1 -0.4**
baz=91,SNR=24
E03A ⇓S S 01 49 04.6 -5.3
baz=91
WDC Whiskeytown Da 91.09 49 *e*P **P 01 38 14.7 +0.2**
WDC Whiskeytown Da 91.09 49 PFAKE 01 38 30.0 +16
WDC LR LR
comp=Z,96μm,21.0s,MS7.2
WDC Whiskeytown Da 91.09 49 ⇑P **P 01 38 14.5 0.0**
baz=91,SNR=69
WDC ⇑S S 01 49 05.1 -4.8
baz=91
YBH Yreka Blue Hor 91.10 48 *e*P **P 01 38 14.8 +0.3**
comp=Z,440nm,1.3s,mb6.6
YBH *e*pP pP 01 38 26.3 +0.8
YBH *e*PP PP 01 41 50.8 -0.6
YBH LR LR
comp=Z,59μm,19.0s,MS7.0
YBH Yreka Blue Hor 91.10 48 P **P 01 38 14.9 +0.4**
baz=91,SNR=102
YBH ⇑S S 01 49 04.9 -5.1
baz=91
J03A Ideyld Park 91.12 47 P **P 01 38 15.0 +0.4**
baz=91,SNR=26
J03A ⇓S S 01 49 04.1 -6.0
baz=91
G03A Yamhill 91.13 45 ⇓P **P 01 38 14.3 -0.4**
baz=91
G03A ⇑S S 01 49 05.3 -4.9
baz=91
Q03C Winters 91.27 51 ⇓P **P 01 38 15.9 +0.6**
baz=91,SNR=9.4
BDM Black Diamond 91.31 52 ⇓P **P 01 38 15.8 +0.3**
baz=91
BDM ⇑S S 01 49 06.7 -5.2
baz=91
B04A Port Angeles 91.32 42 ⇑P **P 01 38 15.4 -0.2**
baz=91,SNR=26
B04A ⇑S S 01 49 05.9 -6.1
baz=91
WENL Wente Brothers 91.36 52 ⇓P **P 01 38 15.9 +0.2**
baz=91,SNR=14
WENL ⇓S S 01 49 06.1 -6.3
baz=91
HAST UC Hastings Re 91.39 54 ⇑P **P 01 38 16.3 +0.4**
baz=91,SNR=16
HAST ⇑S S 01 49 06.5 -6.1
baz=91
O03C Acorn Hollow, 91.41 50 ⇓P **P 01 38 15.8 -0.2**
baz=91,SNR=21
O03C ⇑S S 01 49 06.3 -6.5
baz=91
PGC Sidney 91.43 41 *e*P **P 01 38 15.9 -0.2**
LHEM Herd Peak 91.46 48 P **P 01 38 16.5 +0.3**
SAO San Andreas Ge 91.52 53 *e*P **P 01 38 17.4 +0.9**
comp=Z,288nm,1.5s,mb6.4
SAO LR LR
comp=Z,95μm,21.0s,MS7.2
SUTB Sutter Butte 91.52 51 ⇑P **P 01 38 15.8 -0.7**
baz=92
HDW Hoodsport 91.57 42 P **P 01 38 16.6 -0.1**
V03C Hunter Liggett 91.61 54 ⇑P **P 01 38 17.8 +0.9**
baz=92,SNR=11
HBO Huckleberry Mo 91.64 46 P **P 01 38 16.8 -0.2**
C04A Brinnon 91.64 42 ⇑P **P 01 38 16.7 -0.3**
baz=92,SNR=35
PACP Pacheco Peak 91.67 53 ⇓P **P 01 38 17.5 +0.4**
baz=92,SNR=35
E04A Onalaska 91.67 44 ⇓P **P 01 38 17.0 -0.2**
baz=92
D04A Dobbs Creek Ra 91.68 43 ⇓P **P 01 38 17.3 +0.1**
baz=92
G04A Mulino 91.68 45 P **P 01 38 17.1 -0.1**
baz=92,SNR=11
S04C Ingram Canyon, 91.69 53 P **P 01 38 17.7 +0.5**
baz=92,SNR=35
GNW Green Mountain 91.72 43 *e*P **P 01 38 17.1 -0.3**
M04C Macdoel 91.76 48 ⇑P **P 01 38 17.3 -0.3**
baz=92,SNR=90
L04A Klamath Falls 91.76 48 ⇓P **P 01 38 17.4 -0.2**
baz=92,SNR=66
OHCM Honcut 91.76 51 *e*P **P 01 38 17.1 -0.5**
ORV Oroville 91.77 51 P **P 01 38 17.4 -0.3**
baz=92,SNR=118
Q04C Lincoln 91.79 51 ⇓P **P 01 38 17.4 -0.3**
baz=92
F04A Amboy 91.80 44 ⇑P **P 01 38 16.9 -0.9**
baz=92,SNR=14
LRV Little Rabbit 91.82 54 *e*P **P 01 38 19.2 +1.3**
LRV *es*P sP 01 38 32.0 -0.7
H04A Detroit Lake 91.83 45 ⇓P **P 01 38 16.9 -1.0**
baz=92,SNR=36
FRIS Frissel Point 91.83 46 P **P 01 38 17.8 -0.1**
V04C Ramage Ranch, 91.86 55 ⇑P **P 01 38 18.5 +0.5**
baz=92,SNR=9.7
K04A Chilquin 91.93 48 ⇑P **P 01 38 18.5 +0.1**
baz=92,SNR=22
A04A Legoe Bay, Lum 91.93 41 ⇑P **P 01 38 17.6 -0.8**
baz=92,SNR=37
HATC Hat Creek Radi 91.94 49 ⇓P **P 01 38 18.3 -0.1**
baz=92,SNR=28
SYO Syowa Base 92.04 200 ⇓*i*P **P 01 38 17.0 -1.9**
SYO Syowa Base 92.04 200 ⇑*i*P **P 01 38 19.4 +0.5**
SYO Syowa Base 92.04 200 *e*SH S 01 49 13.0 -5.5
R04C Big Horse Ranc 92.08 52 ⇑P **P 01 38 18.4 -0.7**
baz=92,SNR=11
T05C Eagle Field, D 92.15 53 ⇑P **P 01 38 20.2 +0.8**
baz=92,SNR=5.7
PKD Parkfield 92.16 54 ⇑P **P 01 38 20.1 +0.7**
baz=92,SNR=46
O04C Chester 92.17 50 ⇓P **P 01 38 19.5 0.0**
baz=92,SNR=28
M05C Lookout 92.23 49 P **P 01 38 19.9 +0.1**
baz=92,SNR=104
D05A Emmclaw 92.24 43 ⇓P **P 01 38 19.5 -0.3**
baz=92,SNR=15
O05C Quincy 92.26 50 ⇓P **P 01 38 19.8 -0.1**
baz=92,SNR=34
HOOD Mount Hood Mea 92.27 45 *e*P **P 01 38 19.7 -0.2**
LAVA Lava Cap Winer 92.28 51 P **P 01 38 20.0 0.0**
baz=92,SNR=65
B05A Bryant 92.28 42 ⇑P **P 01 38 19.5 -0.6**
baz=92,SNR=32
J05A Fort Rock 92.36 47 ⇑P **P 01 38 20.5 +0.1**
baz=92,SNR=173
A05A Maple Falls 92.37 41 ⇓P **P 01 38 19.3 -1.1**
baz=92,SNR=7.7
PTRM Twissleman Ran 92.40 55 *e*P **P 01 38 21.7 +1.2**
PTRM *e*pP pP 01 38 31.3 -0.1
PTRM *es*P sP 01 38 34.4 -1.0
PTRM *e*PP PP 01 42 01.6 0.0
S05C Merced 92.47 53 ⇓P **P 01 38 20.7 -0.1**
baz=92,SNR=28
F05A White Salmon 92.47 44 ⇓P **P 01 38 20.4 -0.4**
baz=92,SNR=24
MBW Mount Baker 92.47 41 P **P 01 38 20.1 -0.8**
ELFS Eagle Lake Fie 92.47 50 ⇓P **P 01 38 21.1 +0.2**
baz=92
CMB Columbia Colle 92.48 52 *e*P **P 01 38 20.9 0.0**
comp=Z,278nm,1.4s,mb6.4
CMB LR LR
comp=Z,123μm,22.0s,MS7.3
CMB Columbia Colle 92.48 52 P **P 01 38 20.9 0.0**
baz=92,SNR=116
C05A Tolt Reservoir 92.50 42 ⇑P **P 01 38 20.2 -0.8**
baz=92,SNR=35
C05A ⇑SKSac SKSac 01 48 52.0 +0.2
baz=92
G05A Wamic 92.50 45 ⇑P **P 01 38 20.4 -0.6**
baz=92,SNR=15
G05A ⇑SKSac SKSac 01 48 53.3 +1.4
baz=92
H05A Madras 92.50 46 ⇓P **P 01 38 20.8 -0.2**
baz=92,SNR=38
H05A ⇑SKSac SKSac 01 48 53.6 +1.7
baz=92
L05A Lakeview 92.53 48 ⇓P **P 01 38 21.3 +0.1**
baz=92,SNR=68
L05A ⇑SKSac SKSac 01 48 56.6 +4.5
baz=92
U05C Westside ANR, 92.54 54 ⇑P **P 01 38 22.0 +0.8**
baz=93,SNR=5.3
U05C ⇓SKSac SKSac 01 48 56.2 +4.1
baz=93
SMMC Simmler 92.54 55 ⇓P **P 01 38 22.1 +0.9**
baz=93,SNR=26
SMMC ⇓SKSac SKSac 01 48 56.0 +3.8
baz=93
K05A Summer Lake 92.55 47 P **P 01 38 21.4 +0.1**
baz=93,SNR=137
K05A ⇑SKSac SKSac 01 48 56.7 +4.5
baz=93
PKM Peak Mountain 92.65 55 P **P 01 38 23.0 +1.3**
baz=93,SNR=37
PKM ⇓SKSac SKSac 01 48 56.5 +3.7
baz=93
V05C Boulder Hill, 92.67 54 ⇓P **P 01 38 22.7 +0.9**
baz=93,SNR=5.5
V05C ⇑SKSac SKSac 01 48 56.9 +4.0
baz=93
BEKR Beckwourth 92.68 50 ⇓P **P 01 38 21.8 0.0**
baz=93,SNR=31
BEKR ⇓SKSac SKSac 01 48 56.3 +3.4
baz=93
RPW Rockport 92.69 42 P **P 01 38 20.8 -1.0**
SBC Santa Barbara 92.69 56 ⇑P **P 01 38 22.7 +0.8**
baz=93
SBC ⇓SKSac SKSac 01 48 56.6 +3.7
baz=93
B06A Marblemount 92.72 42 ⇑P **P 01 38 20.9 -1.1**
baz=93,SNR=9.4
B06A ⇓SKSac SKSac 01 48 54.9 +1.8
baz=93
BSC Santa Cruz Isl 92.72 56 ⇑P **P 01 38 22.3 +0.3**
baz=93
BSC ⇓SKSac SKSac 01 48 56.8 +3.6
baz=93
M06C Likely Place G 92.72 49 P **P 01 38 22.3 +0.3**
baz=93,SNR=66
M06C ⇑SKSac SKSac 01 48 54.6 +1.5
baz=93
SNCC San Nicolas Is 92.74 57 *e*P **P 01 38 24.0 +1.9**
SNCC LR LR
comp=Z,81μm,21.0s,MS7.2
SNCC San Nicolas Is 92.74 57 ⇑P **P 01 38 23.0 +0.9**
baz=93,SNR=7.5
SNCC ⇓SKSac SKSac 01 48 56.9 +3.6
baz=93
R05C Kirkwood Meado 92.79 52 ⇓P **P 01 38 22.4 0.0**
baz=93,SNR=64
R05C ⇓SKSac SKSac 01 48 57.1 +3.6
baz=93
E06A Yakima 92.86 44 P **P 01 38 22.4 -0.2**
baz=93,SNR=27
E06A ⇓SKSac SKSac 01 48 56.8 +2.9
baz=93
MOD Modoc 92.91 48 *e*P **P 01 38 22.9 0.0**
comp=Z,252nm,1.3s,mb6.5
MOD LR LR
comp=Z,39μm,19.0s,MS6.9
MOD Modoc 92.91 48 P **P 01 38 22.8 -0.1**
baz=93,SNR=132
MOD ⇓SKSac SKSac 01 48 56.7 +2.5
baz=93
F06A Goldendale 92.92 44 ⇓P **P 01 38 22.7 -0.2**
baz=93
F06A ⇓SKSac SKSac 01 48 57.4 +3.2
baz=93
T06C Millerton Lake 92.93 53 P **P 01 38 23.1 +0.1**
baz=93,SNR=110
T06C ⇑SKSac SKSac 01 48 57.4 +3.1
baz=93
G06A Carlson Farm, 92.98 45 ⇑P **P 01 38 22.5 -0.7**
baz=93,SNR=21
G06A ⇓SKSac SKSac 01 48 57.4 +2.8
baz=93
D06A Cle Elum 93.02 43 P **P 01 38 23.0 -0.4**
baz=93,SNR=17
D06A ⇓SKSac SKSac 01 48 56.6 +1.8
baz=93
P06A Stead Airport, 93.02 51 ⇑P **P 01 38 23.7 +0.3**
baz=93,SNR=10
P06A ⇑SKSac SKSac 01 48 58.2 +3.4
baz=93
K06A Valley Falls 93.03 47 ⇓P **P 01 38 23.2 -0.2**
baz=93,SNR=78
K06A ⇑SKSac SKSac 01 48 58.2 +3.4
baz=93
WCN Washoe City 93.09 51 ⇓P **P 01 38 24.0 +0.3**
baz=93,SNR=41
WCN ⇑SKSac SKSac 01 48 59.4 +4.2
baz=93
O06A Flanigan 93.11 50 P **P 01 38 23.9 +0.1**
baz=93,SNR=41
O06A ⇓SKSac SKSac 01 48 58.3 +3.0
baz=93
J06A Christmas Vall 93.14 47 ⇑P **P 01 38 23.5 -0.5**
baz=93,SNR=144
J06A ⇑SKSac SKSac 01 48 57.2 +1.7
baz=93
H06A Lindquist Farm 93.14 46 ⇑P **P 01 38 23.4 -0.6**
baz=93
H06A ⇑SKSac SKSac 01 48 57.5 +2.0
baz=93
N06A Buffalo Meadow 93.16 50 P **P 01 38 24.2 +0.1**
baz=93,SNR=105
N06A ⇓SKSac SKSac 01 48 58.5 +2.9
baz=93
I06A Prineville 93.16 46 P **P 01 38 24.2 +0.1**
baz=93,SNR=103
I06A ⇑SKSac SKSac 01 48 58.8 +3.2
baz=93
EBG Ellensburg 93.18 43 P **P 01 38 23.8 -0.3**
TBM Table Mountain 93.18 43 P **P 01 38 23.6 -0.6**
RCTC Rector, Farmer 93.24 54 ⇑P **P 01 38 24.2 -0.3**
baz=93,SNR=8.4
RCTC ⇓SKSac SKSac 01 48 58.8 +2.8
baz=93
KCC Kaiser Creek 93.27 53 ⇓P **P 01 38 24.7 +0.2**
baz=93,SNR=128
KCC ⇓SKSac SKSac 01 49 00.2 +4.1
baz=93
WAKR Walker 93.27 52 *e*P **P 01 38 25.1 +0.6**
VES Vestal, Richgr 93.33 54 ⇑P **P 01 38 24.5 -0.4**
baz=93,SNR=67
VES ⇑SKSac SKSac 01 48 58.3 +1.8
baz=93
PAHR Pah Rah Range 93.41 51 *e*P **P 01 38 25.4 +0.1**
HELL Mitchell Peak, 93.45 54 P **P 01 38 25.4 0.0**
baz=94,SNR=158
HELL ⇓SKSac SKSac 01 48 59.2 +2.0
baz=94
ARVC Arvin 93.48 55 ⇓P **P 01 38 26.2 +0.7**
baz=94,SNR=20
ARVC ⇑SKSac SKSac 01 49 01.2 +3.9
baz=94
OSI Osito Adit 93.52 56 ⇓P **P 01 38 26.5 +0.8**
baz=94
OSI ⇓SKSac SKSac 01 49 01.1 +3.5
baz=94
F07A Phinny Hill Vi 93.53 44 ⇑P **P 01 38 25.3 -0.5**
baz=94,SNR=28
F07A ⇑SKSac SKSac 01 49 00.8 +3.2
baz=94
SCI San Clemente I 93.53 57 ⇑P **P 01 38 26.2 +0.4**
baz=94
SCI ⇓SKSac SKSac 01 49 02.1 +4.4
baz=94
R07C Lee Vining 93.54 52 ⇓P **P 01 38 26.4 +0.6**
baz=94,SNR=8.0
R07C ⇓SKSac SKSac 01 49 01.5 +3.8
baz=94
C07A Waterville 93.59 43 P **P 01 38 25.1 -0.9**
baz=94,SNR=28
C07A ⇓SKSac SKSac 01 48 59.5 +1.6
baz=94
D07A Quincy 93.61 43 P **P 01 38 25.5 -0.6**
baz=94,SNR=43
D07A ⇑SKSac SKSac 01 49 00.9 +2.8
baz=94
B07A Winthrop 93.61 42 ⇓P **P 01 38 25.3 -0.8**
baz=94,SNR=30

B07A ⇑SKSac SKSac 01 48 60.0 +1.9
baz=94
E07A Sunnyside 93.64 44 ⇓P **P 01 38 25.9 -0.4**
baz=94,SNR=24
E07A ⇓SKSac SKSac 01 49 01.3 +3.1
baz=94
L07A Adell 93.64 48 P **P 01 38 26.7 +0.5**
baz=94,SNR=130
L07A ⇓SKSac SKSac 01 49 01.6 +3.4
baz=94
G07A Ruggs Ranch, H 93.66 45 P **P 01 38 25.9 -0.5**
baz=94,SNR=77
G07A ⇑SKSac SKSac 01 49 01.7 +3.4
baz=94
MLAC Mammoth Lakes 93.67 53 ⇑P **P 01 38 27.2 +0.8**
baz=94,SNR=6.3
MLAC ⇓SKSac SKSac 01 49 03.0 +4.6
baz=94
H07A Lands Inn, Kim 93.68 46 P **P 01 38 26.0 -0.4**
baz=94,SNR=114
H07A ⇑SKSac SKSac 01 49 00.9 +2.5
baz=94
I07A Izee 93.68 46 P **P 01 38 26.3 -0.2**
baz=94,SNR=112
I07A ⇑SKSac SKSac 01 49 01.2 +2.8
baz=94
CIS Catalina Islan 93.69 57 ⇑P **P 01 38 27.0 +0.5**
baz=94,SNR=26
CIS ⇓SKSac SKSac 01 49 01.5 +3.0
baz=94
M07A Soldier Meadow 93.71 49 P **P 01 38 26.9 +0.3**
baz=94,SNR=45
M07A ⇑SKSac SKSac 01 49 01.0 +2.4
baz=94
K07A Rock Creek Ran 93.76 48 P **P 01 38 26.9 0.0**
baz=94,SNR=100
K07A ⇓SKSac SKSac 01 49 00.3 +1.4
baz=94
J07A Hines 93.77 47 ⇓P **P 01 38 26.8 0.0**
baz=94,SNR=35
J07A ⇑SKSac SKSac 01 49 00.0 +1.1
baz=94
P07A Fallon 93.78 51 ⇓P **P 01 38 27.0 +0.1**
baz=94,SNR=9.8
P07A ⇓SKSac SKSac 01 49 01.0 +2.0
baz=94
Q07A Schurz 93.80 51 ⇑P **P 01 38 27.2 +0.2**
baz=94,SNR=9.3
Q07A ⇓SKSac SKSac 01 49 02.3 +3.3
baz=94
FMP Fort Macarthur 93.81 57 ⇓P **P 01 38 27.4 +0.4**
baz=94
FMP ⇓SKSac SKSac 01 49 01.4 +2.3
baz=94
ISA Isabella 93.81 55 *e*P **P 01 38 27.4 +0.4**
comp=Z,0.3nm,1.1s
ISA *e*PKKPdf PKKPdf 01 55 30.9 +1.8
ISA LR LR
comp=Z,22μm,20.0s
ISA Isabella 93.81 55 ⇑P **P 01 38 27.0 0.0**
baz=94,SNR=60
ISA ⇓SKSac SKSac 01 49 01.8 +2.6
baz=94
DECC Green Verdugo 93.81 56 ⇓P **P 01 38 27.5 +0.4**
baz=94,SNR=7.9
DECC ⇑SKSac SKSac 01 49 02.7 +3.5
baz=94
N07B Gerlach 93.82 50 ⇑P **P 01 38 26.9 -0.1**
baz=94,SNR=80
N07B ⇑SKSac SKSac 01 49 02.7 +3.6
baz=94
O07A Toulon 93.84 50 ⇑P **P 01 38 27.5 +0.3**
baz=94,SNR=91
O07A ⇑SKSac SKSac 01 49 02.9 +3.6
baz=94
HAWA Hanford 93.85 44 ⇑*i*P **P 01 38 26.8 -0.4**
comp=Z,284nm,1.5s,mb6.5
HAWA *e*pP pP 01 38 36.4 -1.7
HAWA *e*sP sP 01 38 41.2 -0.8
HAWA *e*PP PP 01 42 12.2 -0.7
HAWA LR LR
comp=Z,58μm,19.0s,MS7.1
MTUM Tungsten Hills 93.87 53 *e*P **P 01 38 27.9 +0.6**
EPH Ephrata 93.88 43 P **P 01 38 26.6 -0.8**
MWC Mount Wilson 94.04 56 *e*P **P 01 38 28.4 +0.3**
TIN Tinemaha 94.11 53 ⇑P **P 01 38 28.8 +0.4**
baz=94,SNR=15
TIN ⇓SKSac SKSac 01 49 04.7 +3.9
baz=94
EDW2 Edwards Air Fo 94.14 56 ⇑P **P 01 38 29.2 +0.6**
baz=94,SNR=78
EDW2 ⇑SKSac SKSac 01 49 03.9 +2.9
baz=94
NVAR Mina Array Bea 94.15 52 P **P 01 38 29.2 +0.6**
comp=Z,61nm,0.7s,mb6.2,baz=263,slow=6.4,SNR=210
NVAR PP PP 01 42 11.0 -4.3
comp=Z,1.5nm,0.7s,baz=256,slow=7.3,SNR=2.6
NVAR PKKPbc PKKPbc 01 55 32.9 +3.3
comp=Z,1.7nm,0.6s,baz=80,slow=2.8,SNR=4.5
NVAR PKPPKP 02 03 38.4
comp=Z,2.0nm,0.8s,baz=95,slow=2.1,SNR=6.0
NVAR Mina Array Bea 94.15 52 P **P 01 38 29.2 +0.6**
NVAR PP PP 01 42 11.0 -4.3
NVAR PKKPbc PKKPbc 01 55 32.9 +3.3
NVAR P'P' 02 03 38.4
G08A Pilot Rock 94.16 45 P **P 01 38 28.1 -0.5**
baz=94,SNR=96
G08A ⇓SKSac SKSac 01 49 04.0 +3.0
baz=94
CWC Cottonwood Cre 94.19 54 ⇓P **P 01 38 29.3 +0.5**
baz=94
CWC ⇓SKSac SKSac 01 49 04.4 +3.2
baz=94
S08C White Mtn Res 94.19 53 ⇑P **P 01 38 29.9 +1.1**
baz=94,SNR=107
S08C ⇓SKSac SKSac 01 49 05.7 +4.5
baz=94
WVOR Wild Horse Val 94.19 48 ⇑*i*P **P 01 38 28.6 -0.2**
WVOR *e**PP pP 01 38 38.2 -1.5
WVOR *e**SP sP 01 38 42.8 -0.8
WVOR *e* 01 42 13.0
WVOR pmax pmax
comp=Z,527nm,1.6s,mb6.7
WVOR MLR MLR
comp=Z,57μm,22.0s,MS7.0
WVOR Wild Horse Val 94.19 48 ⇑*i*P **P 01 38 28.6 -0.1**
comp=Z,527nm,1.6s,mb6.7
WVOR *e*pP pP 01 38 38.2 -1.5
WVOR *e*sP sP 01 38 42.8 -0.8
WVOR *e*PP PP 01 42 13.0 -2.6
WVOR LR LR
comp=Z,57μm,22.0s,MS7.0
C08A Higginbotham F 94.28 43 ⇑P **P 01 38 28.1 -1.1**
baz=94,SNR=23
C08A ⇑SKSac SKSac 01 49 03.9 +2.3
baz=94
R08A Mina 94.30 52 ⇑P **P 01 38 29.7 +0.4**
baz=94,SNR=62
R08A ⇓SKSac SKSac 01 49 06.2 +4.4
baz=94
M08A Happy Creek Ra 94.31 49 P **P 01 38 29.6 +0.3**
baz=94,SNR=60
M08A ⇑SKSac SKSac 01 49 03.8 +1.9
baz=94
H08A Prairie City 94.31 46 P **P 01 38 29.1 -0.3**
baz=94,SNR=74
H08A ⇑SKSac SKSac 01 49 05.0 +3.2
baz=94
K08A Mann Creek Ran 94.32 48 ⇓P **P 01 38 28.9 -0.5**
baz=94,SNR=34
K08A ⇑SKSac SKSac 01 49 03.5 +1.6
baz=94
F08A Pendleton 94.33 45 ⇓P **P 01 38 28.7 -0.7**
baz=94,SNR=52
F08A ⇑SKSac SKSac 01 49 02.3 +0.3
baz=94
I08A Drewsey 94.34 46 ⇓P **P 01 38 29.1 -0.4**
baz=94,SNR=23
I08A ⇑SKSac SKSac 01 49 03.0 +0.9
baz=94
BFSC Mount Baldy St 94.37 56 ⇑P **P 01 38 29.4 -0.2**
baz=94,SNR=48
BFSC ⇑SKSac SKSac 01 49 04.0 +1.8
baz=94
J08A Circle Bar Ran 94.37 47 ⇓P **P 01 38 29.2 -0.4**
baz=94,SNR=61
J08A ⇑SKSac SKSac 01 49 03.7 +1.5
baz=94
L08A Fields 94.39 48 P **P 01 38 29.9 +0.2**
baz=94,SNR=96
L08A ⇓SKSac SKSac 01 49 04.4 +2.1
baz=94
O08A Rochester Mine 94.40 50 ⇓P **P 01 38 30.0 +0.2**
baz=94
O08A ⇓SKSac SKSac 01 49 05.1 +2.8
baz=94
P08A Dixie Valley 94.42 51 ⇓P **P 01 38 30.3 +0.5**
baz=94,SNR=11
P08A ⇓SKSac SKSac 01 49 04.5 +2.1
baz=94
LRMC Laurel Mountai 94.43 55 ⇓P **P 01 38 30.7 +0.8**
baz=94,SNR=27
LRMC ⇓SKSac SKSac 01 49 05.6 +3.1
baz=94
N08A GE Springer Mi 94.45 50 ⇓P **P 01 38 29.9 -0.1**
baz=94,SNR=91
N08A ⇓SKSac SKSac 01 49 05.0 +2.4
baz=94
Q08A Gabbs 94.47 52 ⇓P **P 01 38 30.0 -0.1**
baz=94,SNR=88
Q08A ⇑SKSac SKSac 01 49 06.1 +3.3
baz=94
OD2 Odessa Site #2 94.48 43 P **P 01 38 29.4 -0.7**
WSAR Wadi Sarin 94.49 293 S SKSac 01 49 01.2 -1.6
comp=Z,1.5nm,0.8s,baz=341,slow=21,SNR=13
WSAR PKKPbc PKKPbc 01 55 29.7 +1.0
comp=Z,7.7nm,0.7s,baz=269,slow=5.5,SNR=14
WSAR LR LR 02 20 03.9
comp=Z,6μm,19.5s,MS6.1,baz=105,slow=35
DAC Darwin (Calif) 94.56 54 *e*P **P 01 38 31.0 +0.5**
comp=Z,217nm,1.0s,mb6.5
DAC LR LR
comp=Z,123μm,20.0s,MS7.4
MPMC Manual Prospec 94.63 54 ⇓P **P 01 38 31.3 +0.5**
baz=95,SNR=168
A09A Danville 94.67 41 P **P 01 38 30.6 -0.4**
baz=95,SNR=31
A09A ⇑SKSac SKSac 01 49 04.8 +1.0
baz=95
MURC Murrieta 94.70 57 P **P 01 38 31.6 +0.5**
baz=95,SNR=18
MURC ⇑SKSac SKSac 01 49 06.2 +2.2
baz=95
D09A Jones Farm, Ri 94.73 43 P **P 01 38 31.0 -0.2**
baz=95,SNR=14
D09A ⇑SKSac SKSac 01 49 04.4 +0.3
baz=95
109C Camp Elliot, M 94.73 58 P **P 01 38 32.3 +1.0**
baz=95,SNR=16
109C ⇑SKSac SKSac 01 49 06.0 +1.8
baz=95
GRAC Grapevine Rang 94.79 53 P **P 01 38 31.9 +0.3**
baz=95,SNR=75
C09A Chrisman Ranch 94.80 43 ⇑P **P 01 38 30.7 -0.9**
baz=95
C09A ⇑SKSac SKSac 01 49 04.7 +0.3
baz=95
E09A Wood Farm, Sta 94.81 44 ⇓P **P 01 38 30.9 -0.8**
baz=95,SNR=82
K09A Rome 94.88 48 P **P 01 38 31.6 -0.3**
baz=95,SNR=85
L09A Wilkinson Ranc 94.88 48 ⇓P **P 01 38 32.0 0.0**
baz=95
J09A Fry Pan Ranch, 94.90 47 P **P 01 38 31.9 -0.2**
baz=95,SNR=132
N09A Rock Creek Ran 94.92 50 ⇑P **P 01 38 32.2 0.0**
baz=95,SNR=38
B09A Rice 94.92 42 P **P 01 38 31.6 -0.5**
baz=95,SNR=46
F09A S2 Ranch, Elgi 94.93 45 ⇓P **P 01 38 31.3 -0.9**
baz=95
I09A Lost Marbles R 94.94 46 P **P 01 38 31.8 -0.4**
baz=95,SNR=42
RRX Edison Barstow 94.95 56 ⇓P **P 01 38 32.7 +0.4**
baz=95
S09A Goldfield 94.95 53 P **P 01 38 32.7 +0.4**
baz=95,SNR=303
TPH Tonopah 94.98 52 *e*P **P 01 38 32.9 +0.5**
comp=Z,294nm,1.4s,mb6.5
TPH LR LR
comp=Z,99μm,22.0s,MS7.2
BBRC Big Bear Sol-O 94.98 56 ⇑P **P 01 38 32.9 +0.5**
baz=95
M09A Marrel Ranch, 95.01 49 ⇑P **P 01 38 32.6 0.0**
baz=95,SNR=34
MSEY Mahe Island 95.02 265 PFAKE 01 38 40.0 +7.4
MSEY LR LR
comp=Z,5μm,20.0s,MS6.0
H09A Durkee 95.04 46 ⇑P **P 01 38 32.4 -0.3**
baz=95,SNR=26
Q09A Carvers 95.06 52 ⇓P **P 01 38 33.0 +0.3**
baz=95,SNR=25
BAR Barrett 95.08 58 *e*P **P 01 38 33.8 +0.9**
R09A Tonopah 95.11 52 P **P 01 38 33.5 +0.5**
baz=95,SNR=53
SVE Sverdlovsk 95.11 326 *d i*P **P 01 38 32.0 -1.0**
SVE *e* 01 42 18.0
SVE *e* 01 44 22.0
SVE *e*S SKSac 01 49 00.0 -6.1
SVE *e* 01 51 36.0
SVE pmax pmax
comp=Z,190nm,2.3s,mb6.1
SVE MLR MLR
comp=N,13μm,20.0s,MS6.5
SVE MLR MLR
comp=E,9μm,20.0s,MS6.5
BMN Battle Mountai 95.12 50 *e*P **P 01 38 33.4 +0.3**
comp=E,455nm,1.9s,mb6.6
BMN LR LR
comp=Z,85μm,21.0s,MS7.2
O09A Fish Creek Ran 95.13 50 P **P 01 38 33.4 +0.3**
baz=95,SNR=89
P09A Austin 95.13 51 ⇑P **P 01 38 33.1 0.0**
baz=95
AB31 Akbulak array 95.13 319 P **P 01 38 29.1 -4.0**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
GSC Goldstone 95.14 55 *e*P **P 01 38 33.6 +0.5**
GSC Goldstone 95.14 55 P **P 01 38 33.7 +0.5**
baz=95,SNR=26
FURC Furnace Creek, 95.17 54 ⇑P **P 01 38 33.6 +0.4**
baz=95,SNR=134
MONP Monument Peak 95.31 58 ⇑P **P 01 38 35.1 +1.2**
baz=95,SNR=24
PFO Pinyon Flat Ob 95.33 57 P **P 01 38 34.0 0.0**
comp=Z,561nm,0.8s,mb7.0,SNR=27
PFO Pinyon Flat Ob 95.33 57 *e*P **P 01 38 34.8 +0.8**
comp=Z,137nm,0.9s,mb6.4
PFO LR LR
comp=Z,21μm,20.0s,MS6.6
PFO Pinyon Flat Ob 95.33 57 ⇑P **P 01 38 34.7 +0.7**
baz=95,SNR=22
A10A Northport 95.34 41 P **P 01 38 33.6 -0.4**
baz=95,SNR=35
C10A Spilker Farm, 95.45 43 ⇑P **P 01 38 33.9 -0.7**
baz=96
HEC Hector,Ludlow 95.50 56 ⇓P **P 01 38 35.3 +0.5**
baz=96,SNR=33
B10A Chitwood Farm, 95.53 42 ⇓P **P 01 38 34.2 -0.7**
baz=96
DVTC Desert V Tower 95.56 58 ⇓P **P 01 38 36.3 +1.2**
baz=96
NEW Newport 95.60 42 *e*P **P 01 38 34.3 -0.9**
NEW LR LR
comp=Z,55μm,20.0s,MS7.0
SHOC Shoshone 95.60 55 ⇑P **P 01 38 35.6 +0.4**
baz=96,SNR=44
P10A Eureka 95.66 51 ⇑P **P 01 38 36.0 +0.5**
baz=96,SNR=19
O10A Cortez Mining, 95.66 50 ⇓P **P 01 38 35.9 +0.4**
baz=96,SNR=18
N10A Dunphy 95.68 50 ⇓P **P 01 38 35.6 0.0**
baz=96,SNR=17
M10A I.L. Ranch, Tu 95.70 49 ⇓P **P 01 38 35.6 -0.1**
baz=96,SNR=23
R10A Warm Springs 95.72 52 P **P 01 38 36.3 +0.5**
baz=96,SNR=53
BELC Belle Mtn. 95.73 56 P **P 01 38 36.6 +0.8**
baz=96,SNR=72
SWSC Sam W. Stewart 95.84 58 ⇑P **P 01 38 37.1 +0.8**
baz=96,SNR=15
RPN Rapa Nui 95.86 118 *e*P **P 01 38 39.6 +3.2**
comp=Z,156nm,0.8s,mb6.5
RPN *e*pP pP 01 38 50.7 +3.4
RPN LR LR
comp=Z,5μm,22.0s,MS5.9
TUQ Turquoise Mtn. 95.87 55 ⇑P **P 01 38 37.0 +0.6**
baz=96,SNR=34
ABKT Ailbek 95.88 307 P **P 01 38 35.1 -1.4**
comp=Z,178nm,1.2s,mb6.4,SNR=7.5
VAN Vannovskaya 95.89 307 *i* P **P 01 38 35.5 -1.0**
BC3 Big Chuckw Mtn 96.16 57 P **P 01 38 39.0 +1.2**
baz=96,SNR=35
P11A Circle Ranch, 96.20 51 ⇑P **P 01 38 38.2 +0.2**
baz=96,SNR=13
ARU Arti 96.24 326 P **P 01 38 35.0 -3.1**
comp=Z,150nm,0.7s,mb6.5,SNR=6.2
ARU Arti 96.24 326 ⇑*i*P **P 01 38 34.8 -3.4**
ARU *e* 01 42 27.9
ARU *e*PPP 01 44 32.6
ARU *e*S SKSac 01 49 08.2 -3.9
ARU *e*SP SP 01 51 13.9 -0.6
ARU *e*PS PS 01 51 22.2 +3.3
ARU pmax pmax
comp=Z,26nm,0.9s,mb5.7
ARU MLR MLR
comp=N,11μm,20.0s,MS7.1
ARU MLR MLR
comp=E,61μm,22.0s,MS7.1
ARU MLR MLR
comp=Z,87μm,22.0s,MS7.2
ARU Arti 96.24 326 *e*P **P 01 38 35.0 -3.2**
ARU LR LR
comp=Z,21μm,21.0s,MS6.6
Q11A Duckwater 96.25 52 P **P 01 38 38.7 +0.5**
baz=96,SNR=70
M11A Holland Ranch, 96.25 49 P **P 01 38 38.6 +0.4**
baz=96,SNR=26
N11A Elko Archery C 96.27 50 ⇓P **P 01 38 38.2 -0.1**
baz=96
TRCR Troy Canyon 96.28 52 ⇑*i*P **P 01 38 38.7 +0.4**
TRCR *e*pP pP 01 38 48.3 -1.0
TRCR *e*sP sP 01 38 53.3 +0.2
TRCR *e*PP PP 01 42 30.9 -1.0
V11A Goodsprings 96.29 55 P **P 01 38 39.0 +0.6**
baz=96,SNR=68
O11A Cowboy Ranch, 96.30 50 P **P 01 38 38.8 +0.4**
baz=96,SNR=77
U11A Corn Creek 96.36 54 ⇓P **P 01 38 39.7 +1.0**
baz=96,SNR=11
AKTO Aktyubinsk 96.43 320 PKPPKP 02 03 37.0
comp=Z,1.1nm,0.8s,baz=255,slow=5.3,SNR=5.5
AKTO LR LR 02 21 39.2
comp=Z,51μm,21.9s,MS7.0,baz=90,slow=35
AKTO Aktyubinsk 96.43 320 P **P 01 38 37.1 -1.9**
AKTO pmax pmax
comp=Z,200nm,3.0s
IRM Iron Mountain 96.44 56 P **P 01 38 40.0 +0.9**
baz=96,SNR=46
SHPR Sheep Range 96.54 54 *e*P **P 01 38 40.3 +0.8**
A12A Yaak River Ran 96.59 42 ⇑P **P 01 38 39.7 0.0**
baz=97,SNR=17
B12A Libby 96.63 42 P **P 01 38 39.7 -0.2**
baz=97,SNR=12
GLA Glamis 96.66 57 *e*P **P 01 38 41.6 +1.6**
GLA Glamis 96.66 57 P **P 01 38 41.5 +1.4**
baz=97,SNR=26
C12A Trout Creek 96.68 43 P **P 01 38 39.5 -0.6**
baz=97,SNR=15
W12A Cal Nev Ari 96.72 55 ⇓P **P 01 38 41.1 +0.8**
baz=97,SNR=16
V12A Nelson 96.75 55 P **P 01 38 41.2 +0.7**
baz=97,SNR=70
N12A Clover Valley, 96.80 50 ⇓P **P 01 38 41.2 +0.5**
baz=97,SNR=48
P12A McGill 96.85 51 ⇑P **P 01 38 41.0 +0.1**
baz=97,SNR=53
M12A Wells 96.91 49 ⇓P **P 01 38 41.4 +0.2**
baz=97,SNR=39
Y12C Blythe 96.94 57 P **P 01 38 42.5 +1.2**
baz=97,SNR=24
O12A Currie 97.00 50 P **P 01 38 41.6 0.0**
baz=97,SNR=105
U12A Valley of Fire 97.04 54 P **P 01 38 42.7 +0.9**
baz=97,SNR=42
BSMT Bassoo Peak 97.15 43 *e*P **P 01 38 41.7 -0.6**
YKW3 Yellowknife Ar 97.22 28 *e*P **P 01 38 40.6 -1.9**
YKA Yellowknife Ar 97.22 28 P **P 01 38 40.2 -2.4**
comp=Z,15nm,0.7s,mb5.5,baz=271,slow=4.9,SNR=45
YKA PKiKP PKiKP 01 43 17.3 -0.6
comp=Z,3.2nm,0.7s,baz=268,slow=1.1,SNR=6.6
YKA PKKPbc PKKPbc 01 55 19.7 -1.6
comp=Z,7.5nm,0.7s,baz=91,slow=2.9,SNR=16
YKA LR LR 02 21 55.0
comp=Z,34μm,19.2s,MS6.8,baz=270,slow=35
YKA Yellowknife Ar 97.22 28 P **P 01 38 40.2 -2.4**
PDMCI Parker Dam,Lak 97.28 56 P **P 01 38 43.8 +0.9**
baz=97,SNR=32
C13A Hot Springs 97.29 43 ⇓P **P 01 38 41.8 -1.1**
baz=97,SNR=10.0
HLID Hailey 97.34 47 *e*P **P 01 38 42.9 -0.3**
HLID LR LR
comp=Z,59μm,19.0s,MS7.1
HLID Hailey 97.34 47 P **P 01 38 42.8 -0.3**
baz=97,SNR=73
B13A Whitefish 97.37 42 P **P 01 38 42.9 -0.4**
baz=97,SNR=82
A13A Flathead Natio 97.41 42 ⇑P **P 01 38 43.4 -0.1**
baz=97
N13A Wendover, West 97.43 50 ⇓P **P 01 38 43.6 0.0**
baz=97,SNR=15
M13A Montello 97.47 49 ⇓P **P 01 38 43.7 -0.1**
baz=98
W13A Hualapai Mount 97.52 55 P **P 01 38 45.1 +1.2**
baz=98,SNR=45
Y13A Salome 97.52 57 ⇓P **P 01 38 45.0 +1.1**
baz=98,SNR=18
X13A Yucca 97.55 56 P **P 01 38 44.9 +0.8**
baz=98,SNR=38
MSO Missoula 97.72 44 *e*P **P 01 38 43.3 -1.5**
MSO LR LR
comp=Z,34μm,19.0s,MS6.9
WALA Waterton Lakes 97.74 41 *e*P **P 01 38 45.0 0.0**
ARUT Antelope Range 97.95 53 *e*P **P 01 38 46.7 +0.8**
ARUT *e*pP pP 01 38 55.8 -1.0
ARUT *e*sP sP 01 38 59.0 -1.7
ARUT *e*PP PP 01 42 45.3 +0.6
CCUT Cedar City 98.01 53 ⇑*i*P **P 01 38 47.1 +1.0**
CCUT *e*pP pP 01 38 56.6 -0.4
CCUT *e*sP sP 01 39 00.1 -0.9
CCUT *e*PP PP 01 42 39.8 -5.4
EDM Edmonton 98.06 37 *e*P **P 01 38 45.8 -0.6**
EDM *e*PKKPbc PKKPbc 01 55 20.1 +1.1
W14A Seligman 98.18 55 ⇑P **P 01 38 48.1 +1.2**
baz=98,SNR=38
CHMT Chamberlain Mo 98.19 44 *e*P **P 01 38 45.8 -1.1**
Y14A Wickenburg 98.21 57 ⇑P **P 01 38 47.6 +0.6**
baz=98,SNR=19
Z14A Winterburg 98.24 57 P **P 01 38 48.7 +1.5**
baz=98,SNR=20
X14A Yava 98.32 56 P **P 01 38 48.9 +1.4**
baz=98,SNR=34
BGU Big Grassy Mou 98.32 50 ⇑*i*P **P 01 38 47.2 -0.3**
BGU *e*pP pP 01 38 57.2 -1.2
BGU *e*sP sP 01 39 02.0 -0.3
BGU *e*PP PP 01 42 45.4 -2.2
MCMT McKenzie Canyo 98.47 46 *e*P **P 01 38 48.5 +0.3**
MCMT *e*pP pP 01 38 57.8 -1.4
MCMT *e*PP PP 01 42 47.1 -1.6
DUG Dugway 98.48 50 *e*P **P 01 38 47.8 -0.5**
DUG LR LR
comp=Z,69μm,22.0s,MS7.1
DUG Dugway 98.48 50 ⇓P **P 01 38 48.0 -0.3**
baz=98,SNR=23
ORR Orenburg 98.49 321 *i* P **P 01 38 43.8 -4.5**
ORR 01 42 43.6
ORR S SKSac 01 49 16.0 -7.7
ORR SSS 02 00 45.8
ORR pmax pmax
comp=Z,50nm,0.9s,mb6.0
ORR MLR MLR
comp=Z,23μm,18.0s,MS6.7
HVU Hansel Valley 98.52 49 *e*P **P 01 38 48.0 -0.4**
LRM Limekiln Ridge 98.75 45 *e*P **P 01 38 48.7 -0.8**
SPUT South Promonto 98.77 49 *e*P **P 01 38 48.0 -1.5**
NVL N'lazarevskaya 98.81 193 *c i*P **P 01 38 48.5 -1.2**
NVL *i* 01 42 50.2
NVL *i* S SKSac 01 49 23.7 -1.6
NVL *i* 01 50 14.9
NVL *i* PS PS 01 51 51.4 +4.7

NVL				*i* SS	SS	01 56 59.4	-4.4
NVL				*i* SSS		02 00 51.1	
NVL				pmax	pmax		
	comp=Z,170nm,1.9s,mb6.2						
NVL				pmax	pmax		
	comp=N,58nm,1.7s						
NVL				pmax	pmax		
	comp=E,34nm,1.4s						
NVL				MLR	MLR		
	comp=Z,40μm,17.3s,MS7.0						
115A	**Sonoran Desert**	**98.83**	**58**	⇑P	**P**	**01 38 50.9**	**+1.1**
	baz=99,SNR=13						
W15A	**Williams**	**98.85**	**55**	⇓P	**P**	**01 38 51.4**	**+1.5**
	baz=99,SNR=31						
X15A	**Humboldt**	**98.86**	**56**	P	**P**	**01 38 51.4**	**+1.4**
	baz=99,SNR=54						
MVU	**Marysvale**	**98.93**	**52**	PFAKE		01 39 00.0	+10
MVU				LR	LR		
	comp=Z,123μm,22.0s,MS7.4						
MSU	**Marysvale**	**98.96**	**52**	*e*P	**P**	**01 38 51.3**	**+0.9**
NLU	**North Lily Min**	**99.05**	**51**	*e*P	**P**	**01 38 51.1**	**+0.3**
HRY	**Holter Researc**	**99.17**	**44**	*e*P	**P**	**01 38 50.9**	**-0.4**
116A	**Eloy**	**99.27**	**58**	⇓P	**P**	**01 38 53.3**	**+1.6**
	baz=99,SNR=12						
CTU	**Camp Tracy**	**99.30**	**50**	*e*P	**P**	**01 38 52.1**	**+0.2**
MPU	**Maple Canyon**	**99.39**	**51**	*e*pP	pP	01 39 09.8	+6.6
MPU				LR	LR		
	comp=Z,89μm,22.0s,MS7.2						
HWUT	**Hardware Ranch**	**99.43**	**49**	*e*P	**P**	**01 38 51.9**	**-0.6**
HWUT				LR	LR		
	comp=Z,52μm,20.0s,MS7.0						
QLMT	**Earthquake Lak**	**99.48**	**46**	*e*P	**P**	**01 38 53.1**	**+0.4**
QLMT				*e*PKKPdf	PKKPdf	01 55 19.8	+0.8
TCUT	**Toone Canyon**	**99.55**	**49**	*e*Pdif	**P**	**01 38 53.2**	**+0.2**
WUAZ	**Wupatki**	**99.58**	**55**	*e*Pdif	Pdif	01 38 54.6	+1.5
	comp=Z,87nm,1.0s						
WUAZ				LR	LR		
	comp=Z,87μm,21.0s,MS7.2						
WUAZ	**Wupatki**	**99.58**	**55**	⇓P	Pdif	01 38 54.5	+1.3
	baz=100,SNR=25						
RRI2	**Red Ridge**	**99.59**	**47**	*e*Pdif	Pdif	01 38 53.3	+0.1
DAU	**Daniels Canyon**	**99.67**	**50**	*e*P	Pdif	01 38 53.8	+0.2
DCID1	**Drake Creek**	**99.68**	**47**	*e*Pdif	Pdif	01 38 54.2	+0.6
TMUT	**Trail Mountain**	**99.72**	**51**	*e*Pdif	Pdif	01 38 54.6	+0.8
AHID	**Auburn Hatcher**	**99.76**	**48**	*e*Pdif	Pdif	01 38 54.1	+0.1
AHID				LR	LR		
	comp=Z,65μm,21.0s,MS7.1						
YMR	**Madison River**	**99.82**	**46**	*e*Pdif	Pdif	01 38 54.8	+0.6
	comp=Z,86nm,1.2s						
YMR				LR	LR		
	comp=Z,85μm,21.0s,MS7.2						
IMW	**Indian Meadow**	**99.86**	**47**	*e*Pdif	Pdif	01 38 54.5	+0.2
	comp=Z,67nm,1.2s						
TPAW	**Teton Pass**	**99.86**	**47**	*e*Pdif	Pdif	01 38 54.5	+0.1
	comp=Z,102nm,1.3s						
YFT	**Old Faithful**	**99.92**	**46**	*e*Pdif	Pdif	01 38 56.6	+1.9
REDW	**Red Top Meadow**	**99.93**	**47**	*e*Pdif	Pdif	01 38 54.5	-0.2
	comp=Z,152nm,1.5s						
SNOW	**Snow King Moun**	**100.00**	**47**	*e*Pdif	Pdif	01 38 55.3	+0.3
	comp=Z,115nm,1.4s						
MOOW	**Moose Ponds**	**100.00**	**47**	*e*Pdif	Pdif	01 38 54.9	-0.2
FLWY	**Flagg Ranch**	**100.02**	**46**	*e*Pdif	Pdif	01 38 55.4	+0.2
TUC	**Tucson**	**100.04**	**58**	Pdiff	Pdif	01 38 56.8	+1.6
TUC				PP	PP	01 42 58.5	-2.1
TUC				sSKSac		01 49 52.6	
TUC	**Tucson**	**100.04**	**58**	*e*P	Pdif	01 38 57.3	+2.1
TUC				*e*		01 43 00.6	
TUC				pmax	pmax		
	comp=Z,22nm,0.8s						
TUC				MLR	MLR		
	comp=Z,38μm,22.0s,MS6.9						
TUC	**Tucson**	**100.04**	**58**	*e*Pdif	Pdif	01 38 57.3	+2.1
	comp=Z,22nm,0.8s						
TUC				*e*		01 39 09.2	
TUC				*e*PP	PP	01 43 00.6	-0.1
TUC				*e*PKKPbc	PKKPbc	01 55 15.5	+2.0
TUC				*e*PKKPdf	PKKPdf	01 55 18.4	+0.4
TUC				LR	LR		
	comp=Z,38μm,22.0s,MS6.9						
SRU	**San Rafael**	**100.25**	**51**	*e*P	Pdif	01 38 56.2	+0.1
EGMT	**Eagleton**	**100.53**	**42**	*e*Pdif	Pdif	01 38 56.8	-0.6
EGMT				LR	LR		
	comp=Z,41μm,21.0s,MS6.9						
EGMT	**Eagleton**	**100.53**	**42**	⇑P	Pdif	01 38 56.9	-0.5
	baz=100,SNR=23						
GCMT	**Greycliff**	**100.70**	**45**	*e*Pdif	Pdif	01 38 58.2	+0.1
SNAA	**Sanae**	**100.70**	**188**	PKKPbc	PKKPbc	01 55 10.0	-1.6
	comp=Z,3.6nm,0.9s,baz=343,slow=2.4,SNR=13						
SNAA	**Sanae**	**100.70**	**188**	*e*P	Pdif	01 38 55.8	-2.3
BW06	**Boulder Array**	**100.89**	**48**	*e*Pdif	Pdif	01 38 57.5	-1.6
BW06				LR	LR		
	comp=Z,67μm,21.0s,MS7.1						
PDAR	**Pinedale Array**	**100.89**	**48**	P	Pdif	01 38 58.3	-0.7
	comp=Z,24nm,0.8s,baz=226,slow=2.0,SNR=120						
PDAR				PP	PP	01 43 11.1	+3.9
	comp=Z,4.1nm,0.9s,baz=252,slow=3.0,SNR=6.2						
PDAR				PKKPbc	PKKPbc	01 55 11.3	+0.3
	comp=Z,1.2nm,0.6s,baz=112,slow=5.8,SNR=4.8						
PDAR				PKPPKP		02 03 28.1	
	comp=Z,2.2nm,1.0s,baz=111,slow=2.1,SNR=6.4						
RLMT	**Red Lodge**	**101.01**	**45**	*e*Pdif	Pdif	01 38 59.9	+0.4
	comp=Z,100nm,1.7s						
RLMT				*e*PP	PP	01 43 09.1	+1.1
RLMT				*e*PKiKP	PKiKP	01 43 24.1	-0.6
RLMT				*e*PKKPbc	PKKPbc	01 55 12.9	+2.1
PV10	**Paradox Valley**	**101.43**	**52**	*e*Pdif	Pdif	01 39 02.2	+0.9
PV10				*e*		01 39 14.3	
PV10				*e*PP	PP	01 43 11.1	-0.1
PV10				*e*PKiKP	PKiKP	01 43 26.3	+0.8
PV01	**Paradox Valley**	**101.80**	**52**	*e*Pdif	Pdif	01 39 03.8	+0.7
PV01				*e*		01 39 15.9	
MVCO	**Mesa Verde**	**101.89**	**53**	*e*Pdif	Pdif	01 39 04.1	+0.7
	comp=Z,134nm,1.4s						
MVCO				*e*PKiKP	PKiKP	01 43 24.9	-1.4
MVCO				*e*PKKPbc	PKKPbc	01 55 10.8	+2.6
MVCO	**Mesa Verde**	**101.89**	**53**	P	Pdif	01 39 04.3	+0.9
	baz=102,SNR=31						
RWWY	**Rawlins**	**102.69**	**49**	*e*Pdif	Pdif	01 39 06.8	-0.1
SMCO	**Snowmass**	**103.01**	**51**	*e*Pdif	Pdif	01 39 09.1	+0.7
LAZ	**Ladron**	**103.07**	**56**	*e*Pdif	Pdif	01 39 11.0	+2.3
LAZ				*e*		01 39 22.8	
LENM	**Lemitar**	**103.22**	**56**	*e*Pdif	Pdif	01 39 10.6	+1.3
LENM				*e*PKKPbc	PKKPbc	01 55 07.7	+3.4
Y22C	**IRIS PASSCAL I**	**103.26**	**57**	⇑P	Pdif	01 39 11.4	+1.9
	baz=103						
LPM	**Los Pinos Moun**	**103.50**	**56**	*e*Pdif	Pdif	01 39 12.9	+2.3
LPM				*e*PKKPab	PKKPab	01 55 24.3	+0.7
ANMO	**Albuquerque**	**103.61**	**56**	PKPPKP		02 03 18.9	
	comp=Z,1.5nm,0.9s,baz=89,slow=5.0,SNR=3.6						
ANMO	**Albuquerque**	**103.61**	**56**	*e*Pdif	Pdif	01 39 12.7	+1.6
ANMO				*e*PKKPab	PKKPab	01 55 23.2	+0.1
ANMO				LR	LR		
	comp=Z,31μm,21.0s,MS6.8						
MAK	**Makhachkala**	**103.89**	**313**	*e*P	Pdif	01 39 11.2	-1.1
MAK				*i*		01 43 29.5	
MAK				*e*PPP		01 45 37.4	
MAK				*i* S	SKSac	01 49 46.4	-3.3
MAK				*e*PS	PS	01 52 37.3	-3.6
MAK				*e*SS	SS	01 58 09.9	-4.5
MAK				pmax	pmax		
	comp=Z,325nm,1.3s						
MAK				MLR	MLR		
	comp=Z,31μm,20.0s,MS6.8						
MAK				MLR	MLR		
	comp=N,32μm,17.0s,MS7.2						
MAK				MLR	MLR		
	comp=E,46μm,18.0s,MS7.2						
ISCO	**Idaho Springs**	**104.02**	**51**	*e*Pdif	Pdif	01 39 13.5	+0.6
ISCO				LR	LR		
	comp=Z,64μm,22.0s,MS7.1						
PHWY	**Pilot Hill**	**104.03**	**49**	*e*Pdif	Pdif	01 39 12.8	-0.2
DGMT	**Dagmar**	**104.19**	**42**	*e*Pdif	Pdif	01 39 13.6	0.0
DGMT				LR	LR		
	comp=Z,29μm,20.0s,MS6.8						
KBS	**Kingsbay**	**104.22**	**352**	*e*	Pdif	01 39 09.0	-4.8
KBS				*e*PP	PP	01 43 28.2	-3.8
KBS				*e*SKS		01 49 50.1	
KBS				*i*		01 52 26.1	
KBS				*e*SS	SS	01 58 19.5	+0.7
KBS				AMS	AMS	02 36 09.5	
	comp=Z,13μm,19.6s,MS6.5						
KBS	**Kingsbay**	**104.22**	**352**	*e*P	Pdif	01 39 09.3	-4.5
KBS				*e*		01 43 23.5	
KBS				*i*		01 52 26.1	
SDCO	**Great Sand Dun**	**104.24**	**53**	*e*Pdif	Pdif	01 39 14.8	+0.9
SDCO				*e*PKKPbc	PKKPbc	01 55 02.0	+0.8
SDCO				*e*PKKPab	PKKPab	01 55 20.3	0.0
SDCO				LR	LR		
	comp=Z,132μm,22.0s,MS7.4						
MNTX	**Cornudas Mount**	**104.64**	**59**	*e*Pdif	Pdif	01 39 17.8	+2.1
MNTX				*e*PKiKP	PKiKP	01 43 32.1	+0.8
MNTX				*e*PP	PP	01 43 36.0	+0.9
MNTX				*e*PKKPbc	PKKPbc	01 55 00.6	+0.5
MNTX				*e*PKKPdf	PKKPdf	01 55 11.7	+2.1
MNTX				LR	LR		
	comp=Z,47μm,22.0s,MS7.0						
RSSD	**Black Hills**	**104.81**	**46**	*e*Pdif	Pdif	01 39 15.8	-0.6
RSSD				LR	LR		
	comp=Z,34μm,20.0s,MS6.9						
PMSA	**Palmer Station**	**104.87**	**165**	PFAKE		01 39 30.0	+13
PMSA				LR	LR		
	comp=Z,28μm,19.0s,MS6.8						
LVZ	**Lovozero**	**105.18**	**339**	*e*P	Pdif	01 39 14.9	-3.1
LVZ				*e*		01 43 38.9	
LVZ				*i*		01 49 49.4	
LVZ				*e*SP	SP	01 52 51.6	+1.6
LVZ				*e*PS	PS	01 52 51.6	-2.7
LVZ				*e*SS	SS	01 58 47.5	+16
LVZ				MLR	MLR		
	comp=Z,28μm,18.0s,MS6.8						
LVZ				MLR	MLR		
	comp=E,16μm,15.0s						
TMCR	**Tamitsa**	**105.19**	**335**	*e*P	Pdif	01 39 12.7	-5.4
TMCR				pmax	pmax		
	comp=Z,33nm,0.7s						
GDL2	**Guadalupe Moun**	**105.48**	**58**	*e*Pdif	Pdif	01 39 21.9	+2.5
MTA	**Mtatsminda**	**106.02**	**312**	P	Pdif	01 39 22.3	+0.6
BJO	**Bjornoya**	**106.07**	**348**	*e*P	Pdif	01 39 30.0	+8.0
BJO				*e*PP	PP	01 43 40.4	-5.3
BJO				AMS	AMS	02 30 51.4	
	comp=Z,35μm,19.4s,MS6.9						
BJO1	**Bjornoya**	**106.11**	**348**	*e*P	Pdif	01 39 29.9	+7.7
BJO1				*e*		01 43 37.7	
BJO1				LR	LR		
	comp=Z,35μm,19.4s,MS6.9						
TXAR	**Lajitas Array**	**106.21**	**61**	Pdiff	Pdif	01 39 24.1	+1.5
	comp=Z,1.9nm,0.7s,baz=292,slow=3.8,SNR=21						
TXAR				PP	PP	01 43 36.0	-11
	comp=Z,2.0nm,0.9s,baz=14,slow=3.6,SNR=6.0						
TXAR				PKKPbc	PKKPbc	01 54 55.9	+0.7
	comp=Z,5.1nm,0.8s,baz=116,slow=4.7,SNR=13						
TXAR				PKPPKP		02 03 18.9	
	comp=Z,1.2nm,0.8s,baz=146,slow=2.4,SNR=7.4						
TXAR	**Lajitas Array**	**106.21**	**61**	Pdif	Pdif	01 39 24.1	+1.5
TXAR				PP	PP	01 43 36.0	-11
TXAR				PKKPbc	PKKPbc	01 54 55.9	+0.7
TXAR				P'P'		02 03 18.9	
GNI	**Garni**	**106.22**	**310**	PKKPbc	PKKPbc	01 54 55.8	+0.6
	comp=Z,2.5nm,0.5s,baz=44,slow=8.7,SNR=4.0						
GNI	**Garni**	**106.22**	**310**	*e*PKiKP	PKiKP	01 43 35.2	+1.0
GNI				*e*PP	PP	01 43 46.6	-0.3
GNI				LR	LR		
	comp=Z,29μm,22.0s,MS6.8						
ZEI	**Tsey**	**106.55**	**313**	*e*P	Pdif	01 39 19.8	-4.3
VRHR	**Novokhopersk**	**106.72**	**322**	*e*P	Pdif	01 39 21.0	-3.9
VRHR				*e*		01 43 52.0	
VRHR				pmax	pmax		
	comp=Z,760nm,11.9s						
VRHR				pmax	pmax		
	comp=N,300nm,14.2s						
VRHR				pmax	pmax		
	comp=E,350nm,14.6s						
VRHR				pmax	pmax		
	comp=Z,40nm,1.0s						
VRHR				pmax	pmax		
	comp=N,8.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				MLR	MLR		
	comp=Z,11μm,15.0s,MS6.5						
VRHR				MLR	MLR		
	comp=N,4μm,14.0s						
VRHR				MLR	MLR		
	comp=E,14μm,20.0s						
KEV	**Kevo**	**106.83**	**342**	*e*PKP	PKiKP	01 43 33.3	-2.0
KEV				LR	LR		
	comp=Z,33μm,22.0s,MS6.8						
ONI	**Oni**	**106.90**	**313**	P	Pdif	01 39 26.8	+1.1
BHD	**Baghdad**	**107.13**	**303**	*e*x	x	01 43 49.0	
BHD				*i* x	SKSac	01 49 48.0	-16
KIV	**Kislovodsk**	**107.26**	**314**	*e*P	Pdif	01 39 26.0	-1.3
KIV				*e*		01 43 53.8	
KIV				*e*		01 50 04.7	
KIV				*e*SP	SP	01 53 08.2	-3.3
KIV				*e*PS	PS	01 53 15.9	+0.1
KIV				*e*SS	SS	01 59 03.6	+3.3
KIV				pmax	pmax		
	comp=Z,27nm,0.9s						
KIV				MLR	MLR		
	comp=Z,43μm,22.0s,MS7.0						
KIV	**Kislovodsk**	**107.26**	**314**	*e*PKiKP	PKiKP	01 43 34.8	-1.3
KIV				LR	LR		
	comp=Z,9μm,19.0s,MS6.4						
HKR	**Hakkari**	**107.27**	**307**	*e*P	PKiKP	01 43 33.7	-2.4
ZAIG	**Zacatecas**	**107.38**	**68**	*i* P	PP	01 43 56.7	+1.3
ARCES	**ARCESS Array B**	**107.39**	**343**	Pdiff	Pdif	01 39 26.8	-1.1
	comp=Z,6.5nm,0.9s,baz=43,slow=2.3,SNR=6.1						
ARCES				PKiKP	PKiKP	01 43 35.1	-1.2
	comp=Z,9.7nm,0.5s,baz=85,slow=1.7,SNR=45						
ARCES				PKKPbc	PKKPbc	01 54 50.4	-1.2
	comp=Z,7.2nm,0.9s,baz=248,slow=1.9,SNR=10						
ARE0	**ARCESS Array S**	**107.39**	**343**	*e*PKiKP	PKiKP	01 43 36.5	+0.1
TVAN	**Van**	**107.43**	**308**	*i* P	PKiKP	01 43 37.7	+1.2
MOS	**Moscow**	**107.92**	**327**	*e*P	Pdif	01 39 22.9	-7.3
MOS				*i*		01 43 58.0	
MOS				*e*PPP		01 46 16.4	
MOS				*i* PS	PS	01 53 13.6	-9.0
MOS				*i* SS	SS	01 59 07.9	-1.4
MOS				MLR	MLR		
	comp=N,22μm,20.0s,MS6.9						
MOS				MLR	MLR		
	comp=E,26μm,21.0s,MS6.9						
MOS				MLR	MLR		
	comp=Z,65μm,21.0s,MS7.2						
KTK1	**Kautokeino**	**108.36**	**343**	*e*	PKiKP	01 43 37.5	-0.6
JOF	**Joensuu**	**108.45**	**335**	*e*pkp	PKKPbc	01 54 43.8	-4.4
JOF	**Joensuu**	**108.45**	**335**	*e*PKP	Pdif	01 39 30.0	-2.6
JOF				*e*PKP	PKiKP	01 43 37.7	-0.6
CBKS	**Cedar Bluff**	**108.66**	**51**	*e*Pdif	Pdif	01 39 36.2	+2.7
CBKS				LR	LR		
	comp=Z,120μm,21.0s,MS7.4						
OBN	**Obninsk**	**108.68**	**326**	⇓*e*P	Pdif	01 39 31.6	-2.0
OBN				*e*		01 44 02.4	
OBN				*e*		01 50 07.9	
OBN				*e*SS	SS	01 59 15.0	-4.5
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,60μm,20.0s,MS7.2						
OBN	**Obninsk**	**108.68**	**326**	*e*PKiKP	PKiKP	01 43 35.5	-3.3
OBN				LR	LR		
	comp=Z,17μm,22.0s,MS6.6						
ERZM	**Erzurum**	**108.83**	**310**	*i* P	PKiKP	01 43 39.8	+0.8
EZM	**Erzurum**	**108.83**	**310**	*e*P	PKiKP	01 43 38.6	-0.4
ATD	**Arta Tunnel**	**108.93**	**280**	PKKPbc	PKKPbc	01 54 49.7	+3.0
	comp=Z,18nm,0.9s,baz=280,slow=5.6,SNR=4.3						
DAG	**Danmarks Havn**	**108.95**	**357**α	*i* P	Pdif	01 39 32.8	-2.0
	comp=Z,1.3nm,0.6s						
DAG							
	comp=Z,27μm,23.0s						
DAG	**Danmarks Havn**	**108.95**	**357**αα	*e*P	Pdif	01 39 32.8	-2.0
DAG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DAG				MLR	MLR		
	comp=N,20μm,23.0s						
DAG				MLR	MLR		
	comp=Z,27μm,23.0s,MS6.8						
DAG	**Danmarks Havn**	**108.95**	**357**	*e*P	Pdif	01 39 32.8	-2.0
	comp=Z,1.3nm,0.6s						
DAG				LR	LR		
	comp=Z,27μm,23.0s,MS6.8						
BTMT	**Batman**	**108.97**	**308**	*e*P	PKiKP	01 43 38.5	-0.8
BNGL	**BINGOL**	**109.13**	**309**	*i* P	PKiKP	01 43 43.1	+3.5
ULM	**Lac du Bonnet**	**109.20**	**39**	Pdiff	Pdif	01 39 35.1	-0.9
	comp=Z,9.9nm,0.9s,baz=306,slow=6.9,SNR=6.8						
ULM				PKiKP	PKiKP	01 43 37.8	-1.9
	comp=Z,6.2nm,0.7s,baz=313,slow=5.6,SNR=6.4						
TRO	**Tromso**	**109.22**	**344**	*e*	Pdif	01 39 35.7	-0.3
TRO				*e*PP	PP	01 44 06.9	-1.9
TRO				*e*SKS	SKSac	01 50 09.4	-3.7
TRO				*i*		01 53 19.6	
TRO				AMS	AMS	02 31 28.6	
	comp=Z,19μm,21.4s,MS6.6						
TRO	**Tromso**	**109.22**	**344**	*e*P	PKiKP	01 43 38.1	-1.7
TRO				*i*		01 53 19.6	
TRO				LR	LR		
	comp=Z,19μm,21.4s,MS6.6						
JCT	**Junction City**	**109.49**	**60**	Pdif	Pdif	01 39 37.8	+0.5
JCT				*e*PKiKP	PKiKP	01 43 38.6	-1.7
JCT				*e*PKKPab	PKKPab	01 54 57.5	+0.5
MARD	**Mardin**	**109.64**	**307**	*i* P		01 43 52.7	
BINT	**Bingol**	**109.65**	**309**	*e*P	PKiKP	01 43 39.3	-1.3
MACK	**Trabzon**	**109.87**	**311**	*i* P	PP	01 44 15.0	+1.5
WMOK	**Wichita Mounta**	**109.92**	**55**	*e*Pdif	Pdif	01 39 41.5	+2.3
WMOK				*e*PKKPbc	PKKPbc	01 54 45.1	+1.5
WMOK				*e*PKKPab	PKKPab	01 54 53.5	-1.5
WMOK				LR	LR		
	comp=Z,41μm,21.0s,MS7.0						
EZC	**Erzincan**	**110.03**	**310**	*e*P	PKiKP	01 43 40.0	-1.3
ECSD	**EROS,Sioux Fal**	**110.17**	**46**	*e*Pdif	Pdif	01 39 38.7	-1.5
ECSD				*e*PKiKP	PKiKP	01 43 40.8	-0.8
ECSD				*e*PKKPab	PKKPab	01 54 53.2	-0.7
PUL	**Pulkovo**	**110.19**	**332**α*e*	P	Pdif	01 39 37.9	-2.5
PUL				*e*		01 44 20.6	
PUL				*e*PPP		01 46 41.8	
PUL				*e*		01 50 09.6	
PUL				*e*		01 53 37.9	
PUL				*e*SS	SS	01 59 37.9	-2.0
PUL				*e*SSS		02 03 43.7	
PUL				MLR	MLR		
	comp=Z,63μm,18.0s,MS7.2						
PUL				MLR	MLR		
	comp=E,49μm,17.0s						
KELT	**Kelkit**	**110.39**	**311**	*i* P	PP	01 44 17.9	+0.6
PTK	**Pertek**	**110.49**	**309**	*e*P	PKiKP	01 43 42.4	+0.2
ANN	**Anapa**	**110.81**	**316**	*e*P	Pdif	01 39 40.0	-3.1
ANN				*i*		01 43 39.8	
ANN				*i*		01 44 16.3	
ANN				*e*		01 50 16.1	
ANN				*e*		01 53 47.4	
ANN				*e*SS	SS	01 59 48.3	+0.2
ANN				pmax	pmax		
	comp=Z,53nm,1.0s						
ANN				MLR	MLR		
	comp=N,20μm,24.0s,MS6.8						
ANN				MLR	MLR		
	comp=E,26μm,24.0s,MS6.8						
ANN				MLR	MLR		
	comp=Z,39μm,24.0s,MS6.9						
ELZG	**Elazig**	**110.87**	**309**	*i* P	PKiKP	01 43 43.2	+0.3
KAF	**Kangasniemi**	**110.89**	**336**	*e*pkp	PKKPbc	01 54 37.4	-3.0
KAF	**Kangasniemi**	**110.89**	**336**	*e*PKP	Pdif	01 39 41.5	-1.9
KAF				*e*PKP	PKiKP	01 43 41.0	-1.9
GRSN	**GIRESUNGRSN**	**110.99**	**312**	*i* P	PKiKP	01 43 42.2	-0.9
KSU1	**Kansas State U**	**111.02**	**50**	*e*Pdif	Pdif	01 39 44.4	+0.4
KSU1				*e*PKiKP	PKiKP	01 43 43.1	-0.1
KSU1				*e*PKKPab	PKKPab	01 54 49.1	-1.1
KSU1				*e*PKKPdf	PKKPdf	01 54 59.3	+1.6
PPM	**Popocatepetl**	**111.12**	**72**	*e*P	PP	01 44 10.0	-13
FIA1	**FINESS Array S**	**111.31**	**335**	*e*PKiKP	PKiKP	01 43 43.2	-0.5
FINES	**FINESS Array B**	**111.31**	**335**	Pdiff	Pdif	01 39 44.6	-0.7
	comp=Z,5.0nm,0.8s,baz=65,slow=5.1,SNR=14						
FINES				PKiKP	PKiKP	01 43 43.1	-0.6
	comp=Z,15nm,0.6s,baz=38,slow=2.0,SNR=31						
FINES				PKKPbc	PKKPbc	01 54 38.8	-0.2
	comp=Z,2.0nm,0.8s,baz=180,slow=1.9,SNR=3.4						
FINES				PKKPab	PKKPab	01 54 49.1	+0.2
	comp=Z,4.9nm,0.8s,baz=155,slow=6.3,SNR=6.5						
FINES	**FINESS Array B**	**111.31**	**335**	P	Pdif	01 39 44.6	-0.7
FINES				*i*		01 43 43.1	
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,15nm,0.6s						
MYA	**Malataya**	**111.33**	**309**	*e*P	PKiKP	01 43 43.7	-0.1
MALT	**Malatya**	**111.33**	**309**⇓	*i* P	PP	01 44 26.7	+2.7
MALT	**Malatya**	**111.33**	**309**⇓	*i* P	PKKPbc	01 54 40.8	+1.8
MALT	**Malatya**	**111.33**	**309**	*e*PKIKP	PKiKP	01 43 44.1	+0.3
ATAB	**Bozova**	**111.57**	**308**	*i* P	PP	01 44 36.4	+11
LOF	**Lofoten**	**111.68**	**344**	*e*	PKiKP	01 43 45.5	+1.1
LOF				AMb	AMB	01 43 46.7	
	comp=Z,110nm,1.3s						
GZT	**Gaziantep**	**112.17**	**308**	*i* P	PKiKP	01 43 45.2	-0.1
GAZ	**Gaziantep**	**112.47**	**308**	*e*P	PKiKP	01 43 46.1	+0.2
EYMN	**Ely**	**112.60**	**40**	*e*PKiKP	PKiKP	01 43 45.9	-0.3
HKT	**Hockley**	**112.96**	**60**	PFAKE		01 44 00.0	+13
HKT				LR	LR		
	comp=Z,124μm,20.0s,MS7.5						
SCIA	**State Center**	**113.00**	**47**	*e*PKiKP	PKiKP	01 43 46.8	-0.2
SCIA				*e*PP	PP	01 44 34.2	-1.7
SCIA				*e*SKPdf	SKPdf	01 47 20.4	+0.6
SCIA				*e*PKKPab	PKKPab	01 54 40.8	-0.6
SCIA				*e*PKKPdf	PKKPdf	01 54 55.6	+1.6
SIM	**Simferopol'**	**113.06**	**317**α*e*	P	Pdif	01 39 53.8	+0.7
SIM				*i*		01 43 47.0	
SIM				*e*		01 50 26.0	
SIM				pmax	pmax		
	comp=Z,290nm,9.8s						
SIM				pmax	pmax		
	comp=Z,2.0nm,10.0s						
SIM				MLR	MLR		
	comp=Z,36μm,22.0s,MS6.9						
SUMG	**Summit**	**113.14**	**3**	*e*

AKASG			PP	PP	01 44 41.8	-3.8
AKASG			SKP		01 47 20.1	
AKASG			SKS	SKSac	01 50 40.2	+6.3
AKASG			PKKPbc	PKKPbc	01 54 27.8	-1.1
AKASG			PKKPab	PKKPab	01 54 38.6	+3.2
AKASG			SKKP		01 58 30.1	
AKASG			SKKS	SKKSdf	02 02 05.8	+5.4
AKBB	**Malin Array Si**	**114.34 324**	*e*PKiKP	PKiKP	01 43 48.3	-1.2
AKBB			*e*SKPdf	SKPdf	01 47 20.3	-2.0
BALT	**Daday**	**114.45 313**	*i* P	PKiKP	01 43 49.5	-0.3
CANT	**Cankiri**	**114.51 312**	*e*P	PKiKP	01 43 48.8	-1.0
NSS	**Namsos**	**114.65 342**	*e*PKPdf	PKiKP	01 43 47.8	-2.3
NSS			*i*		01 54 13.7	
NSS			AMS	AMS	02 36 08.7	
comp=Z,37μm,21.6s,MS7.0						
ELDT	**Eldivan**	**114.68 312**	*i* P	PKiKP	01 43 49.9	-0.3
CMIG	**Matias Romero**	**114.72 74**	PKP	PKiKP	01 43 50.8	+0.5
comp=Z,7.5nm,0.8s,baz=224,slow=1.7						
CMIG			PP	PP	01 44 46.1	-2.0
comp=Z,13nm,1.0s,baz=290,slow=12,SNR=6.4						
CMIG			PKKPab	PKKPab	01 54 35.3	+1.5
comp=Z,9.4nm,0.9s,baz=99,slow=6.5,SNR=3.8						
KAMT	**Kaman**	**114.73 311**	*e*P	PKiKP	01 43 50.0	-0.2
JFWS	**Jewell Farm**	**114.87 45**	*e*PKKPbc	PKKPbc	01 54 29.8	+2.7
UALR	**University of**	**115.16 54**	*e*PKiKP	PKiKP	01 43 50.9	-0.2
UALR			*e*SKPdf	SKPdf	01 47 24.5	+0.6
UALR			*e*PKKPab	PKKPab	01 54 31.4	-0.5
ANTO	**Ankara**	**115.30 311**	⇑*i*P	PKiKP	01 43 50.9	-0.4
ANTO	**Ankara**	**115.30 311**	P	PKiKP	01 43 51.2	-0.2
SCO	**Scoresbysund**	**115.34 357**	*i* P	PKiKP	01 43 50.4	-1.0
comp=Z,9.5nm,0.9s						
SCO			*i*		01 54 28.7	
SCO	**Scoresbysund**	**115.34 357**	*e*P	PKiKP	01 43 50.4	-1.0
SCO			*i*		01 54 28.7	
CCM	**Cathedral Cave**	**115.35 51**	*e*PKIKP	PKPdf	01 43 48.5	-2.9
CCM			*e*		01 47 23.8	
CCM			*e*		01 54 25.4	
CCM			MLR	MLR		
comp=Z,117μm,21.0s,MS7.5						
EIL	**Elat**	**115.52 300**	*e*PKPdf	PKPdf	01 43 52.0	+0.2
EIL			*e*SKPdf	SKPdf	01 47 26.3	+1.7
SGKT	**Sivrigoynuk**	**115.67 312**	*i* P	PKPdf	01 43 51.4	-0.7
KIS	**Kishinev**	**115.94 320**	*e*P	Pdif	01 40 06.0	+0.1
KIS			*e*		01 43 50.0	
KIS			*e*		01 44 00.0	
KIS			*e*		01 44 56.0	
KIS			*i*		01 50 36.0	
KIS			*i* PS	PS	01 54 42.0	+3.9
KIS			*e*PPS		01 56 00.0	
KIS			pmax	pmax		
comp=Z,4μm,10.0s						
KIS			pmax	pmax		
comp=Z,3μm,16.0s						
KIS	**Kishinev**	**115.94 320**	*e*PKP	PKPdf	01 43 50.0	-2.6
KIS	**Kishinev**	**115.94 320**	*e*PP	PP	01 44 56.0	-0.7
comp=Z,4μm,10.0s						
KIS	**Kishinev**	**115.94 320**	*e*PPS		01 56 00.0	
KIS			LRM		02 36 04.0	
comp=Z,53μm,20.0s						
ERMK	**Ermenek**	**115.96 308**	*i* P	PKPdf	01 43 54.5	+1.9
CSS	**Prodhromos**	**115.98 306**	*e*P	PKPdf	01 43 52.3	-0.4
CSS	**Prodhromos**	**115.98 306**	*e*PKPdf	PKPdf	01 43 52.2	-0.4
CSS			*e*SKPdf	SKPdf	01 47 26.7	+1.2
FVM	**French Village**	**116.00 51**	*e*PKIKP	PKPdf	01 43 51.7	-1.0
FVM			*e*		01 44 02.2	
FVM			*e*		01 44 55.6	
FVM			*e*		01 47 26.2	
FVM			*e*		01 54 28.1	
FVM	**French Village**	**116.00 51**	*e*PKPdf	PKPdf	01 43 51.7	-1.0
FVM			*ep*PKPdf	pPKPdf	01 44 02.2	-1.6
FVM			*e*PP	PP	01 44 55.6	-1.5
FVM			*e*SKPdf	SKPdf	01 47 26.2	+0.7
FVM			*e*PKKPbc	PKKPbc	01 54 24.6	+1.4
FVM			*e*PKKPab	PKKPab	01 54 28.1	-0.1
KONT	**Konya--Tatoy**	**116.09 309**	*e*P	PKPdf	01 43 51.1	-1.8
KDHN	**Kadínhani**	**116.14 310**	*i* P	PKPdf	01 43 52.9	0.0
SUW	**Suwalki**	**116.28 329**	*e*PKP	PKPdf	01 43 52.5	-0.7
SUW			*e*PP	PP	01 45 07.8	+8.7
SUW			*e*SKS	SKSac	01 50 39.0	-2.2
SUW			*e*PS	PS	01 54 35.2	-6.0
SUW			*e*SP	SP	01 54 46.9	+10
SUW			*e*SS	SS	02 01 17.4	+17
SUW			L		02 30 09.4	
comp=Z,43nm,26.2s						
SUW	**Suwalki**	**116.28 329**	*e*PKIKP	PKPdf	01 43 52.5	-0.7
SUW			*e*		01 45 07.8	
SUW			*e*	SKSac	01 50 39.0	-2.2
SUW			*e*PS	PS	01 54 35.2	-6.0
SUW			*e*SS	SS	02 01 17.4	+17
SUW	**Suwalki**	**116.28 329**	*e*PKP	PKPdf	01 43 52.5	-0.7
SUW			*e*PP	PP	01 45 07.8	+8.7
SUW			*e*SKS	SKSac	01 50 39.0	-2.2
SUW			*e*PS	PS	01 54 35.2	-6.0
SUW			*e*SP	SP	01 54 46.9	+10
SUW			*e*SS	SS	02 01 17.4	+17
HENT	**Hendek**	**116.45 313**	*i* P	PKPdf	01 43 52.7	-0.8
IAS	**Iasi**	**116.67 320**	PKIKP	PKPdf	01 43 53.1	-0.9
PARMO	**Parma**	**116.83 52**	*e*PKPdf	PKPdf	01 43 53.5	-0.8
PARMO			*ep*PKPdf	pPKPdf	01 44 03.4	-2.0
PARMO			*e*PKKPab	PKKPab	01 54 24.8	+0.2
ESKT	**Eskisehir**	**116.84 311**	*e*P	PKPdf	01 43 53.9	-0.4
SIUC	**Southern Illin**	**116.99 51**	*e*PKKPbc	PKKPbc	01 54 20.3	+0.7
TIRR	**Tirgusor**	**117.08 317**	*e*PKIKP	PKPdf	01 43 54.3	-0.5
TIRR			*e*		01 44 05.4	
SFJD	**Kangerlussuaq**	**117.22 9**	*i* P	PKPdf	01 43 53.6	-1.4
comp=Z,29nm,0.9s						
SFJD			*i*		01 54 36.7	
SFJD						
comp=Z,20μm,19.0s						
SFJD	**Kangerlussuaq**	**117.22 9**	*i* PKIKP	PKPdf	01 43 53.6	-1.4
SFJD			*i*		01 54 36.7	
SFJD			pmax	pmax		
comp=Z,29nm,0.9s						
SFJD			MLR	MLR		
comp=Z,20μm,19.0s,MS6.8						
NB2	**NORSAR Subarra**	**117.33 339**	PKPdf	PKPdf	01 43 53.4	-1.8
comp=Z,7.7nm,0.7s,baz=39,slow=1.9						
NB2	**NORSAR Subarra**	**117.33 339**	PKPdf	PKPdf	01 43 53.4	-1.8
baz=39,slow=1.9						
NOA	**NORSAR Array B**	**117.33 339**	PKP	PKPdf	01 43 53.4	-1.9
comp=Z,23nm,0.9s,baz=48,slow=1.9,SNR=29						
NOA			SKP		01 47 24.1	
comp=Z,7.1nm,0.8s,baz=50,slow=1.9,SNR=5.1						
NOA			PKKPbc	PKKPbc	01 54 18.9	+0.5
comp=Z,2.4nm,0.8s,baz=42,slow=3.5,SNR=7.9						
DOMB	**Dombas**	**117.34 341**	*e*PKPdf	PKPdf	01 43 54.2	-1.1
DOMB			AMb	AMB	01 43 58.0	
comp=Z,84nm,1.3s						
DOMB	**Dombas**	**117.34 341**	*e*P	PKPdf	01 43 54.5	-0.8
HRT	**Hereke**	**117.35 313**	*e*P	PKPdf	01 43 52.2	-3.1
HRT	**Hereke**	**117.35 313**	*e*P	PKPdf	01 43 53.9	-1.4
OSMT	**Osmaniye**	**117.39 313**	*e*P	PKPdf	01 43 53.4	-2.0
MOL	**Molde**	**117.44 342**	*e*PKPdf	PKPdf	01 43 54.3	-1.2
MOL			*e*PP	PP	01 45 06.4	-0.8
MOL			*i*		01 54 54.5	
MOL			*e*SS	SS	02 01 17.9	+2.4
MOL	**Molde**	**117.44 342**	*e*P	PKPdf	01 43 55.1	-0.3
EFI	**East Falkland**	**117.47 160**	PFAKE		01 44 10.0	+14
EFI			LR	LR		
comp=Z,6μm,19.0s,MS6.3						
BOSA	**Boshof**	**117.55 234**	PKP	PKPdf	01 43 55.9	+0.3
comp=Z,27nm,0.7s,baz=106,slow=1.0,SNR=27						
BOSA			PKKPbc	PKKPbc	01 54 18.3	+0.6
comp=Z,12nm,0.9s,baz=308,slow=3.6,SNR=9.5						
BOSA	**Boshof**	**117.55 234**	PKP	PKPdf	01 43 55.9	+0.2
BOSA			PKKPbc	PKKPbc	01 54 18.3	+0.6
BOSA			LR	LR		
comp=Z,28μm,21.0s,MS6.9						
BCK	**Bucak**	**117.57 309**	*e*P	PKPdf	01 43 53.3	-2.4
OXF	**Oxford**	**117.58 54**	PFAKE		01 44 10.0	+14
OXF			LR	LR		
comp=Z,40μm,21.0s,MS7.0						
NAO01	**NORSAR Array S**	**117.58 339**	*e*PKPdf	PKPdf	01 43 55.9	+0.1
NAO01			*ep*PKPdf	pPKPdf	01 44 06.2	-0.7
NAO01			LR	LR		
comp=Z,38μm,20.0s,MS7.0						
IZI	**Iznik**	**117.63 313**	*e*P	PKPdf	01 43 54.6	-1.2
TKTP	**Tekketepe**	**117.63 310**	*i* P	PKPdf	01 43 54.8	-1.0
VRI	**Vrincioaia**	**117.69 319**	⇑*i*P	PKPdf	01 43 55.6	-0.3
VRI	**Vrincioaia**	**117.69 319**	⇓*i*P	PKKPbc	01 54 17.7	+0.5
VRI	**Vrincioaia**	**117.69 319**	P	PKPdf	01 43 55.7	-0.3
LVV	**L'vov**	**117.75 324**	*i* PKIKP	PKPdf	01 43 55.2	-0.8
LVV			*i*		01 45 19.0	
LVV			*i*		01 50 43.0	
LVV			MLR	MLR		
comp=Z,20μm,23.0s,MS6.7						
PLOR	**Plostina**	**117.75 319**	⇑*i*P	PKPdf	01 43 55.1	-1.0
PLOR	**Plostina**	**117.75 319**	⇑*i*P	PKKPbc	01 54 16.8	-0.2
MATP	**Matopo**	**117.79 243**	PKP	PKPdf	01 43 56.4	+0.2
comp=Z,79nm,0.7s,baz=96,slow=1.2,SNR=8.5						
ULDT	**Uludag**	**117.93 313**	*i* P	PKPdf	01 43 55.6	-0.8
BURAR	**Bucovina Array**	**117.97 322**	⇑*i*P	PKPdf	01 43 56.3	-0.2
BURAR	**Bucovina Array**	**117.97 322**	⇓*i*P	PKKPbc	01 54 11.4	-4.8
BURAR	**Bucovina Array**	**117.97 322**	P	PKPdf	01 43 56.8	+0.3
GDZ	**Gediz**	**117.98 311**	*i* P	PKPdf	01 43 55.8	-0.7
USIN	**University of**	**118.11 50**	*e*PKPdf	PKPdf	01 43 56.1	-0.7
USIN			*ep*PKPdf	pPKPdf	01 44 06.1	-1.8
USIN			*e*PKKP	PKKPbc	01 54 17.0	+1.3
ELL	**Elmali**	**118.28 309**	*e*P	PKPdf	01 43 54.6	-2.5
WAR	**Warsaw**	**118.28 328**	*e*PKP	PKPdf	01 43 57.9	+0.8
WAR			*ep*PKP	pPKPdf	01 44 07.9	-0.4
WAR			L		02 34 28.8	
comp=Z,37nm,21.5s						
MLR	**Muntele Rosu**	**118.34 319**	⇑*i*P	PKPdf	01 43 56.3	-0.9
MLR	**Muntele Rosu**	**118.34 319**	⇓*i*P	PKKPbc	01 54 14.2	-0.6
MLR	**Muntele Rosu**	**118.34 319**	⇑PKIKP	PKPdf	01 43 56.4	-0.8
MLR	**Muntele Rosu**	**118.34 319**	P	PKPdf	01 43 57.2	0.0
GOLH	**Golhisar**	**118.42 309**	*i* P	PKPdf	01 43 56.8	-0.6
PAYG	**Puerto Ayora**	**118.45 94**	PFAKE		01 44 10.0	+13
PAYG			LR	LR		
comp=Z,15μm,20.0s,MS6.6						
WVT	**Waverly**	**118.46 52**	*e*PKIKP	PKPdf	01 43 56.2	-1.2
WVT			MLR	MLR		
comp=Z,72μm,22.0s,MS7.3						
PLAL	**Pickwick Lake**	**118.54 53**	PFAKE		01 44 10.0	+12
PLAL			LR	LR		
comp=Z,3μm,21.0s,MS5.9						
KWP	**Kalwaria**	**118.60 324**	*e*PKP	PKPdf	01 43 57.2	-0.5
KWP			*ep*PKP	pPKPdf	01 44 07.8	-1.1
KWP			*e*PP	PP	01 45 25.7	+10
KWP			*e*SKS	SKSac	01 50 48.7	-0.9
KWP	**Kalwaria**	**118.60 324**	*e*PS	PS	01 55 05.6	+3.4
KWP			*e*SP	SP	01 55 09.0	+11
KWP			L		02 32 12.7	
comp=Z,59nm,27.2s						
KWP	**Kalwaria**	**118.60 324**	*e*PKIKP	PKPdf	01 43 57.2	-0.5
KWP			*e*		01 44 07.8	
KWP			*e*		01 50 48.7	
KWP			*e*PS	PS	01 55 05.6	+3.4
KWP	**Kalwaria**	**118.60 324**	*e*PKP	PKPdf	01 43 57.2	-0.5
KWP			*ep*PKP	pPKPdf	01 44 07.8	-1.1
KWP			*e*PP	PP	01 45 25.7	+10
KWP			*e*SKS	SKSac	01 50 48.7	-0.9
KWP			*e*PS	PS	01 55 05.6	+3.4
KWP			*e*SP	SP	01 55 09.0	+11
BLO	**Bloomington**	**118.64 48**	*e*PKIKP	PKPdf	01 43 57.1	-0.7
BLO			*e*		01 44 09.3	
BLO			*e*		01 45 13.8	
LBTB	**Lobatse**	**118.70 237**	PKP	PKPdf	01 43 57.9	0.0
baz=150,slow=4.5						
LBTB			PKKPbc	PKKPbc	01 54 14.9	+1.3
comp=Z,8.1nm,0.9s,baz=311,slow=6.3,SNR=6.3						
LBTB	**Lobatse**	**118.70 237**	PKP	PKPdf	01 43 57.9	0.0
LBTB			PKKPbc	PKKPbc	01 54 14.9	+1.3
LBTB			LR	LR		
comp=Z,23μm,20.0s,MS6.8						
BUC1	**Bucharest**	**118.72 318**	PKIKP	PKPdf	01 43 57.9	0.0
KONO	**Kongsberg**	**118.88 339**	*e*	Pdif	01 40 16.3	-2.7
KONO			*e*PKPdf	PKPdf	01 43 56.6	-1.6
KONO			*e*PP	PP	01 45 17.6	+0.4
KONO			*e*SKS	SKSac	01 50 47.6	-3.1
KONO			*e*SS	SS	02 01 33.8	-0.4
KONO	**Kongsberg**	**118.88 339**	*e*P	Pdif	01 40 16.3	-2.7
KONO			*i*		01 45 19.5	
VOIR		**118.95 319**	⇑*i*P	PKPdf	01 43 58.8	+0.4
VOIR		**118.95 319**	⇑P	PKPdf	01 43 58.8	+0.5
JMB	**Yambol**	**119.01 316**	*i* P	PKPdf	01 43 59.4	+0.9
WCI	**Wyandotte Cave**	**119.08 49**	*e*PKIKP	PKPdf	01 43 58.0	-0.6
WCI			*e*		01 44 09.1	
WCI			MLR	MLR		
comp=Z,64μm,20.0s,MS7.2						
WCI	**Wyandotte Cave**	**119.08 49**	*e*PKPdf	PKPdf	01 43 58.0	-0.6
WCI			*ep*PKPdf	pPKPdf	01 44 09.1	-0.7
WCI			*e*PKKPbc	PKKPbc	01 54 13.3	+1.1
WCI			LR	LR		
comp=Z,64μm,20.0s,MS7.2						
KOLS	**Kolonicke sedl**	**119.17 324**	*e*PKP	PKPdf	01 43 58.8	0.0
KOLS			*e*		01 47 31.4	
KOLS	**Kolonicke sedl**	**119.17 324**	⇑*e*SKSp	SKSac	01 50 52.2	+0.5
KOLS			*e*		01 54 34.1	
KOLS			*e*SP	SP	01 55 07.5	+4.3
KOLS	**Kolonicke sedl**	**119.17 324**	⇑*e*PKIKP	PKPdf	01 43 58.9	+0.1
KOLS			*e*		01 50 52.2	
KOLS			*e*SP	SP	01 55 07.5	+4.3
KOLS	**Kolonicke sedl**	**119.17 324**	*e*PKP	PKPdf	01 43 58.9	+0.1
KOLS			*e*		01 47 31.4	
KOLS			*e*SKSac	SKSac	01 50 52.2	+0.5
KOLS			*e*		01 54 34.1	
KOLS			*e*SP	SP	01 55 07.5	+4.3
KOLS			*e*SKSac	SS	02 01 38.1	+0.1
SZH	**Strazhica**	**119.18 317**	*i* P	PKPdf	01 43 59.7	+0.9
DALT	**Dalyan (Mudla)**	**119.26 309**	*e*P	PKPdf	01 43 58.3	-0.7
SUR	**Sutherland**	**119.27 228**	PKKPbc	PKKPbc	01 54 13.3	+1.9
comp=Z,14nm,0.8s,baz=294,slow=2.7,SNR=4.5						
SUR	**Sutherland**	**119.27 228**	*e*PKPdf	PKPdf	01 44 00.4	+1.4
SUR			*e*SKPdf	SKPdf	01 47 37.3	+5.5
SUR			LR	LR		
comp=Z,8μm,21.0s,MS6.3						
UZH	**Uzhgorod**	**119.30 324**	*d i*P	Pdif	01 40 21.4	+0.6
UZH			*i*		01 43 57.6	
UZH			*i*		01 44 16.0	
UZH			*i*		01 45 23.0	
UZH			*i*		01 50 48.0	
UZH			*i* PS	PS	01 55 00.0	-8.5
UZH			pmax	pmax		
comp=Z,112nm,1.2s						
ZIMR		**119.42 317**	PKIKP	PKPdf	01 43 59.1	-0.2
STHS	**Stebnicka Huta**	**119.54 325**	*e*PKP	PKPdf	01 43 59.1	-0.4
STHS			*e*PP	PP	01 45 32.6	+11
STHS	**Stebnicka Huta**	**119.54 325**	⇑*e*SKSp	SKSac	01 50 53.5	+0.5
STHS	**Stebnicka Huta**	**119.54 325**	*e*PKP	PKPdf	01 43 59.1	-0.4
STHS			*e*PP	PP	01 45 32.6	+11
STHS			*e*SKSac	SKSac	01 50 53.5	+0.5
AYDN	**Tasoluk**	**119.59 310**	*i* P	PKPdf	01 44 00.6	+1.0
LSZ	**Lusaka**	**119.59 249**	PKP	PKPdf	01 44 00.1	+0.5
comp=Z,65nm,0.9s,baz=107,slow=1.6,SNR=46						
LSZ			PKKPbc	PKKPbc	01 54 11.4	+1.1
comp=Z,12nm,1.0s,baz=256,slow=3.2,SNR=13						
LSZ	**Lusaka**	**119.59 249**	PKP	PKPdf	01 44 00.1	+0.5
LSZ			PKKPbc	PKKPbc	01 54 11.4	+1.1
LSZ			LR	LR		
comp=Z,16μm,21.0s,MS6.6						
PVL	**Pavlikeni**	**119.60 317**	P	PKPdf	01 44 00.6	+1.0
CRVS	**Cervenica-Dubn**	**119.66 324**	*e*PKP	PKPdf	01 43 59.1	-0.6
CRVS			*e*PP	PP	01 45 29.4	+6.8
CRVS			*e*		01 47 33.5	
CRVS	**Cervenica-Dubn**	**119.66 324**	⇑*e*SKSp	SKSac	01 50 52.2	-1.2
CRVS	**Cervenica-Dubn**	**119.66 324**	*e*PKP	PKKPbc	01 54 05.8	-4.3
CRVS			*e*		01 54 15.7	
CRVS			*e*SP	SP	01 55 08.0	+0.4
CRVS			*e*		01 57 59.5	
CRVS			*e*		01 58 06.8	
CRVS	**Cervenica-Dubn**	**119.66 324**	⇑*e*PKIKP	PKPdf	01 43 59.1	-0.6
CRVS			*e*		01 45 29.4	
CRVS			*e*		01 50 52.2	
CRVS			*e*SP	SP	01 55 08.0	+0.4
CRVS	**Cervenica-Dubn**	**119.66 324**	*e*PKP	PKPdf	01 43 59.1	-0.6
CRVS			*e*PP	PP	01 45 29.4	+6.8
CRVS			*e*		01 47 33.5	
CRVS			*e*SKSac	SKSac	01 50 52.2	-1.2
CRVS			*e*SP	SP	01 55 08.0	+0.4
GKP	**Gorka Klasztor**	**119.68 330**	*e*PKP	PKPdf	01 43 59.1	-0.7
GKP			*ep*PKP	pPKPdf	01 44 08.5	-2.5
GKP			*e*PP	PP	01 45 33.1	+10
GKP			*e*SKS	SKSac	01 50 53.4	-0.1
GKP	**Gorka Klasztor**	**119.68 330**	*e*PS	PS	01 55 04.8	-7.1
GKP			*e*SP	SP	01 55 16.0	+8.2
GKP			*e*SS	SS	02 01 43.1	-1.4
GKP			L		02 38 05.8	
comp=Z,47nm,22.0s						
GKP	**Gorka Klasztor**	**119.68 330**	*e*PKIKP	PKPdf	01 43 59.1	-0.7
GKP			*e*		01 44 08.5	
GKP			*e*		01 50 53.4	
GKP			*e*PS	PS	01 55 04.8	-7.1
GKP			*e*SP	SP	01 55 16.0	+8.2
GKP			*e*SS	SS	02 01 43.1	-1.4
GKP	**Gorka Klasztor**	**119.68 330**	*e*PKP	PKPdf	01 43 59.1	-0.7
GKP			*ep*PKP	pPKPdf	01 44 08.5	-2.5
GKP			*e*PP	PP	01 45 33.1	+10
GKP			*e*SKS	SKSac	01 50 53.4	-0.1
GKP			*e*PS	PS	01 55 04.8	-7.1
GKP			*e*SP	SP	01 55 16.0	+8.2
GKP			*e*SS	SS	02 01 43.1	-1.4
GKP			LR	LR		
comp=Z,47μm,22.0s,MS7.1						
AAM	**Ann Arbor**	**119.68 44**	*e*PKIKP	PKPdf	01 43 59.2	-0.6
AAM			*e*		01 44 09.4	
AAM			MLR	MLR		
comp=Z,46μm,19.0s,MS7.1						
BSD	**Bornholm Skovb**	**119.70 333**	*i* P	PKPdf	01 43 58.7	-1.1
comp=Z,72nm,1.0s						
BSD			*i*		01 44 09.8	
BSD			*i* S	SKSac	01 50 53.0	-0.6
BSD			*i*		01 55 08.3	
BSD						
comp=Z,43μm,19.0s						
BSD	**Bornholm Skovb**	**119.70 333**	*i* PKIKP	PKPdf	01 43 58.7	-1.1
BSD			*i*		01 44 09.8	
BSD			*i* S	SKSac	01 50 53.0	-0.6
BSD			*i*		01 55 08.3	
BSD			pmax	pmax		
comp=Z,72nm,1.0s						
BSD			MLR	MLR		
comp=Z,43μm,19.0s,MS7.1						
BSD	**Bornholm Skovb**	**119.70 333**	*i* P	PKPdf	01 43 58.7	-1.1
BSD			*i*		01 44 09.8	
BSD			*i* S	SKSac	01 50 53.0	-0.6
BSD			*i*		01 55 08.3	
HOPE	**Hope Point**	**119.70 175**	*e*PKPdf	PKPdf	01 43 58.8	-1.1
HOPE			*ep*PKPdf	pPKPdf	01 44 09.7	-1.3
HOPE			LR	LR		
comp=Z,7μm,19.0s,MS6.3						
ODD1	**Odda**	**119.72 340**	*e*PKPdf	PKPdf	01 43 58.2	-1.6
ODD1			AMb	AMB	01 44 02.0	
comp=Z,120nm,1.3s						
ODD1	**Odda**	**119.72 340**	*e*P	PKPdf	01 43 58.1	-1.7
MLSB	**Milas**	**119.77 310**	*e*P	PKPdf	01 43 59.0	-0.9
BER	**Bergen**	**119.79 341**	*e*PKPdf	PKPdf	01 43 58.6	-1.4
BER			*e*PP	PP	01 45 16.3	-7.2
BER			*e*SKS	SKSac	01 50 49.5	-4.4
BER			*i*		01 55 14.7	
ARG	**Arkhangelos**	**119.80 309**	*e*P	PKPdf	01 44 00.0	0.0
KDAG	**Bornova**	**119.84 311**	*i* P	PKPdf	01 43 58.6	-1.4
IZM	**Izmir**	**119.84 311**	*e*P	PKPdf	01 43 59.1	-1.0
DIM	**Dimitrovgrad**	**119.89 316**	*i* P	PKPdf	01 43 59.9	-0.3
OJC	**Ojcow**	**119.96 326**	*e*PKPdf	PKPdf	01 43 59.6	-0.7
OJC			*e*PP	PP	01 45 23.1	-1.6
OJC			*e*SKSac	SKSac	01 50 50.4	-4.1
OJC			*e*SKKSac	SKKSac	01 52 17.4	-4.6
OJC			*e*PS	PS	01 55 15.2	+0.8
OJC			*e*SS	SS	02 01 47.4	-0.8
OJC			L		02 36 39.5	
comp=Z,255nm,21.4s						
OJC	**Ojcow**	**119.96 326**	*e*PKIKP	PKPdf	01 43 59.6	-0.7
OJC			*e*		01 45 23.1	
OJC			*e*		01 50 50.4	
OJC			*e*PS	PS	01 55 15.2	+0.8
OJC			*e*SS	SS	02 01 47.4	-0.8
OJC			MLR	MLR		
comp=Z,255μm,21.4s,MS7.8						
NIE	**Niedzica**	**120.07 325**	*e*PKPdf	PKPdf	01 44 00.3	-0.2
NIE			*e*PP	PP	01 45 27.8	+2.4
DAT	**Datca**	**120.09 309**	*e*P	PKPdf	01 43 58.3	-2.2
BDRM	**Kayabasi**	**120.09 310**	*i* P	PKPdf	01 44 00.2	-0.4
KDZ	**Kurdzhali**	**120.11 315**	*i* P	PKPdf	01 44 00.4	-0.2
BLS5	**Blasjo**	**120.15 340**	*e*PKPdf	PKPdf	01 44 01.0	+0.4
BLS5			AMb	AMB	01 44 03.7	
comp=Z,49nm,1.1s						
BLS5	**Blasjo**	**120.15 340**	*e*P	PKPdf	01 44 01.3	+0.6
SWET	**Sewanee**	**120.19 53**	*e*PKKPbc	PKKPbc	01 54 09.5	+1.4
BODT	**Bodrum**	**120.20 310**	*e*P	PKPdf	01 43 58.6	-2.2
CRAR	**CRAIOVA**	**120.20 319**	PKIKP	PKPdf	01 44 01.5	+0.7
RDO	**Rodhopi**	**120.20 315**	*e*P	PKPdf	01 43 59.5	-1.3
PRK	**Paraskevi**	**120.31 312**	*e*P	PKPdf	01 44 01.0	0.0
URLA	**Izmir**	**120.35 311**	*i* P	PKPdf	01 44 00.3	-0.8
SMG	**Samos**	**120.37 310**	*e*P	PKPdf	01 43 58.0	-3.1
GZR	**Gura Zlata**	**120.43 320**	⇑*i*P	PKPdf	01 44 00.6	-0.6
GZR	**Gura Zlata**	**120.43 320**	⇓*i*P	PKKPbc	01 54 07.4	+0.2
GZR	**Gura Zlata**	**120.43 320**	P	PKPdf	01 44 00.9	-0.3
KECS	**Kecovo**	**120.43 324**	*e*PKP	PKPdf	01 44 00.1	-1.1
KECS			*e*PP	PP	01 45 31.2	+3.3
KECS			*e*		01 47 34.8	
KECS	**Kecovo**	**120.43 324**	*e*PKP	PKKPbc	01 54 06.7	-0.5
KECS			*e*		01 54 19.0	
KECS			*e*		01 58 05.9

MUD			*i* S	SKSac	01 51 01.0	+2.0
MUD			*i*		01 55 20.1	
MUD			pmax	pmax		
	comp=Z,71nm,1.3s					
MUD			MLR	MLR		
	comp=Z,46µm,21.0s,MS7.1					
MUD	**Monsted U'grnd**	**121.28 336**	*i* P	PKPdf	01 44 02.4	-0.5
MUD			*i*		01 44 13.1	
MUD			*e*		01 45 26.3	
MUD			*i* S	SKSac	01 51 01.0	+2.0
MUD			*i*		01 55 20.1	
VTS	**Vitosha**	**121.28 317**	*i* P	PKPdf	01 44 03.2	+0.3
VTS	**Vitosha**	**121.28 317⇑**	*i* P	PKPdf	01 44 02.2	-0.7
VTS	**Vitosha**	**121.28 317⇓**	*i* P	PKKPbc	01 54 04.6	+0.6
VTS	**Vitosha**	**121.28 317**	P	PKiKP	01 44 02.5	-0.5
NVR	**Nevrokopi**	**121.31 315**	*e*P	PKPdf	01 44 01.5	-1.4
MMB	**Musomiste**	**121.31 316**	*i* P	PKPdf	01 44 02.3	-0.6
VYHS	**Vyhne**	**121.38 325**	*e*PKP	PKPdf	01 44 02.0	-1.0
VYHS			*e*		01 45 13.0	
VYHS			*e*PP	PP	01 45 43.4	+9.1
VYHS	**Vyhne**	**121.38 325⇑**	*e*SKSp	SKSac	01 50 57.6	-1.7
VYHS			*e*SP	SP	01 55 21.1	-1.8
VYHS	**Vyhne**	**121.38 325**	*e*PKP	PKKPbc	01 54 03.4	-0.3
VYHS			*es*SKSDF		02 01 28.7	
VYHS	**Vyhne**	**121.38 325**	*e*PKP	PKPdf	01 44 02.0	-1.0
VYHS			*e*		01 45 13.0	
VYHS			*e*PP	PP	01 45 43.4	+9.1
VYHS			*e*SKSac	SKSac	01 50 57.7	-1.6
VYHS			*e*SP	SP	01 55 21.1	-1.8
VYHS			LR	LR		
	comp=Z,28µm,24.7s,MS6.8					
MORC	**Moravsky Berou**	**121.44 327⇑**	*i* P	PKPdf	01 44 02.6	-0.5
MORC	**Moravsky Berou**	**121.44 327⇓**	*i* P	PKKPbc	01 54 03.5	+0.1
MORC	**Moravsky Berou**	**121.44 327**	P	PKPdf	01 44 03.3	+0.2
PENC	**Penc**	**121.47 324**	*e*P	PKPdf	01 44 03.5	+0.3
KSP	**Ksiaz**	**121.53 328**	*e*PKP	PKPdf	01 44 03.7	+0.4
KSP			*ep*PKP	pPKPdf	01 44 14.0	-0.5
KSP			*e*PP	PP	01 45 46.1	+11
KSP			*e*SKS	SKSac	01 50 59.6	-0.2
KSP			*e*SP	SP	01 55 24.1	-0.1
KSP			*e*PS	PS	01 55 29.7	+1.3
KSP			*e*SS	SS	02 02 17.6	+9.4
KSP			L		02 35 33.9	
	comp=Z,73nm,24.3s					
KSP	**Ksiaz**	**121.53 328**	*e*PKIKP	PKPdf	01 44 02.6	-0.7
KSP			*e*		01 44 14.1	
KSP			*e*		01 45 32.0	
KSP			*e*		01 50 52.0	
KSP			*e*PS	PS	01 55 25.3	-3.1
KSP			*e*SSS		02 06 42.0	
KSP			MLR	MLR		
	comp=Z,85µm,24.3s,MS7.3					
KSP	**Ksiaz**	**121.53 328**	*e*Pdif	Pdif	01 40 29.5	-1.2
KSP			*e*PKP	PKPdf	01 44 02.6	-0.7
KSP			*e*		01 44 14.1	
KSP			*e*PP	PP	01 45 32.0	-3.3
KSP			*e*SKS	SKSac	01 50 52.0	-7.8
KSP			*e*SKKS	SKKSac	01 52 21.0	-11
KSP			*e*PS	PS	01 55 25.3	-3.1
KSP			*e*SS	SS	02 01 54.0	-14
KSP			*e*SSS		02 06 42.0	
KSP			LR	LR		
	comp=Z,85µm,24.3s,MS7.3					
APE	**Apeiranthos**	**121.55 310**	*e*P	PKPdf	01 44 02.1	-1.3
APE	**Apeiranthos**	**121.55 310⇑**	*i* P	PKPdf	01 44 01.4	-2.0
APE	**Apeiranthos**	**121.55 310⇑**	P	PKPdf	01 44 01.4	-2.0
ZKR	**Zakros**	**121.60 308**	*e*P	PKPdf	01 44 03.3	-0.2
KKB	**Krupnik**	**121.65 316**	*i* P	PKPdf	01 44 02.5	-1.1
TZTN	**Tazewell**	**121.67 50**	*e*PKPdf	PKPdf	01 44 03.5	0.0
TZTN			*ep*PKPdf	pPKPdf	01 44 12.1	-2.6
TZTN			*e*PP	PP	01 45 33.6	-2.7
TZTN			*e*SKPdf	SKPdf	01 47 37.9	+1.5
BUD	**Budapest**	**121.77 324⇑**	*e*PKP	PKPdf	01 44 02.9	-0.9
DPC	**Dobruska-Polom**	**121.78 328**	*e*PKPdf	PKPdf	01 44 02.9	-0.9
DPC			*ex*	x	01 45 48.5	
DPC			*e*PKS		01 47 37.2	
DPC			*e*SKS	SKSac	01 50 53.0	-7.7
DPC			*e*PKKP	PKKPbc	01 54 02.8	+0.7
DPC			*e*PS	PS	01 55 30.8	+0.1
DPC			AMS	AMS	02 38 10.0	
	comp=Z,37µm,20.3s					
DPC	**Dobruska-Polom**	**121.78 328**	*e*PKIKP	PKPdf	01 44 02.9	-0.9
DPC			*e*		01 50 53.0	
DPC			*e*		01 55 30.8	
DPC			MLR	MLR		
	comp=Z,37µm,20.3s,MS7.0					
SANT	**Santorini**	**121.82 309**	*e*PKPdf	PKPdf	01 44 02.3	-1.5
SANT			*ep*PKPdf	pPKPdf	01 44 13.5	-1.6
SANT			*e*SKPdf	SKPdf	01 47 37.0	+0.3
RUE	**Ruedersdorf**	**121.84 331**	*e*PKPdf	PKPdf	01 44 03.2	-0.7
UPC	**Upice**	**121.86 328**	*e*PKPdf	PKPdf	01 44 03.7	-0.3
UPC			*e*SKP		01 47 37.3	
UPC			*e*SKS	SKSac	01 51 00.1	-0.9
UPC			*e*PKKP	PKKPbc	01 54 02.5	+0.7
UPC	**Upice**	**121.86 328**	*e*PKIKP	PKPdf	01 44 03.7	-0.3
UPC			*e*		01 51 00.1	
PKS6	**Bocsa**	**121.88 323⇓**	*e*P	PKPdf	01 44 04.1	+0.1
SVIS	**Svilajnac**	**121.90 319**	*i* P	PKPdf	01 44 03.7	-0.4
PKS7	**Kunszentmiklos**	**121.91 323⇓**	*e*P	PKPdf	01 44 02.1	-1.9
LRW	**Lerwick**	**121.93 344**	*e*P	PKPdf	01 44 03.1	-1.0
LRW			⇑*e*P		01 44 03.1	
LRW			AMb	AMB	01 44 12.2	
	comp=Z,20nm,1.7s					
WAL1	**Walls**	**121.95 344**	*e*P	PKPdf	01 44 02.9	-1.2
PLG	**Polygyros**	**121.97 314**	*e*P	PKPdf	01 44 03.0	-1.2
NPS	**Neapolis**	**122.03 308**	*e*P	PKPdf	01 44 04.5	+0.2
XRY	**Khrisi**	**122.08 308**	*e*P	PKPdf	01 44 03.5	-0.9
TGUH	**Tegucigalpa,Un**	**122.14 77**	*e*PKPdf	PKPdf	01 44 03.9	-0.6
TGUH			*ep*PKPdf	pPKPdf	01 44 14.2	-1.5
TGUH			*e*PP	PP	01 45 39.7	+0.2
BEO	**Belgrade**	**122.16 320**	*i* P	PKPdf	01 44 03.9	-0.6
LAST	**Lasithi**	**122.17 308**	*e*P	PKPdf	01 44 04.7	+0.2
SMOL	**Smolenice**	**122.17 325**	*e*PKP	PKPdf	01 44 04.3	-0.3
PKSG		**122.19 324⇓**	*e*P	PKPdf	01 44 04.2	-0.4
VRAC	**Vranov**	**122.21 326⇑**	*i* P	PKPdf	01 44 03.9	-0.7
VRAC	**Vranov**	**122.21 326**	P	PKPdf	01 44 04.6	0.0
VAY	**Valandovo**	**122.22 316**	*e*PKP	PKPdf	01 44 02.4	-2.2
STIP	**Stip**	**122.34 316**	*e*PKP	PKPdf	01 44 02.9	-2.0
GRUS	**Gruza**	**122.40 319**	*i* P	PKPdf	01 44 05.2	+0.2
PTL	**Penteli**	**122.49 312**	*e*P	PKPdf	01 44 04.0	-1.2
NEO	**Neokhori**	**122.51 313**	*e*P	PKPdf	01 44 03.0	-2.2
BSEG	**Bad Segeberg**	**122.52 334**	*e*Pdiff	Pdif	01 40 33.8	-1.4
BSEG			*e*PKPdf	PKPdf	01 44 04.5	-0.7
BSEG			*e*PP	PP	01 45 37.7	-4.4
BSEG			*e*SKPdf	SKPdf	01 47 38.1	+0.1
BSEG	**Bad Segeberg**	**122.52 334**	*e*PKIKP	PKPdf	01 44 04.5	-0.7
BSEG			*e*		01 45 37.7	
ZST	**Bratislava**	**122.52 325**	*e*PKP	PKPdf	01 44 04.9	-0.3
ZST			*e*PP	PP	01 45 53.2	+11
ZST	**Bratislava**	**122.52 325⇑**	*e*SKSp	SKSac	01 51 03.4	+0.2
ZST	**Bratislava**	**122.52 325**	*e*PKP	PKPdf	01 44 04.9	-0.3
ZST			*e*PP	PP	01 45 53.2	+11
ZST			*e*		01 47 36.0	
ZST			*e*SKSac	SKSac	01 51 03.4	+0.2
ZST			LR	LR		
	comp=Z,21µm,21.2s,MS6.8					
SCHQ	**Schefferville**	**122.53 25**	PKP	PKPdf	01 44 03.2	-2.0
	comp=Z,26nm,0.8s,baz=343,slow=2.5,SNR=21					
SCHQ			PKKPbc	PKKPbc	01 53 59.0	-0.2
	comp=Z,26nm,0.8s,baz=147,slow=3.2,SNR=18					
SCHQ	**Schefferville**	**122.53 25**	PKP	PKPdf	01 44 03.2	-2.0
SCHQ			*e*PKPdf	PKPdf	01 44 04.3	-1.0
SCHQ			PKKPbc	PKKPbc	01 53 59.0	-0.2
SCHQ			LR	LR		
	comp=Z,57µm,20.0s,MS7.2					
PVCC	**Panska Ves**	**122.61 329**	*e*PKPdf	PKPdf	01 44 04.8	-0.6
PVCC			*e*PKS	SKPdf	01 47 40.7	+2.5
PVCC			*e*SKS	SKSac	01 51 03.3	-0.1
PVCC			*e*PKKP	PKKPbc	01 53 58.4	-0.6
PVCC			AMS	AMS	02 37 00.0	
	comp=Z,46µm,22.3s					
PVCC	**Panska Ves**	**122.61 329**	*e*PKIKP	PKPdf	01 44 04.8	-0.6
PVCC			*e*		01 51 03.3	
PVCC			MLR	MLR		
	comp=Z,46µm,22.3s,MS7.1					
ATH	**Athens Observa**	**122.62 312**	*e*P	PKPdf	01 44 04.5	-0.9
PKSM	**Moragy**	**122.63 322⇑**	*i* P	PKPdf	01 44 04.7	-0.7
PKSM	**Moragy**	**122.63 322⇓**	*i* P	PKKPbc	01 53 59.5	+0.6
PKSM	**Moragy**	**122.63 322**	P	PKPdf	01 44 05.2	-0.2
KVR	**Kavouri**	**122.63 312**	*e*P	PKPdf	01 44 02.5	-2.9
BRG	**Berggiesshubel**	**122.73 329**	*e*Pdiff	Pdif	01 40 35.1	-1.0
BRG			*e*PKPdf	PKPdf	01 44 04.8	-0.8
BRG			*e*PP	PP	01 45 39.6	-3.9
BRG			*e*SKPdf	SKPdf	01 47 38.4	0.0
BRG	**Berggiesshubel**	**122.73 329**	*i* PKP	PKPdf	01 44 05.1	-0.5
	comp=Z,79nm,1.0s					
BRG			PP	PP	01 45 41.0	-2.5
BRG			*i*		01 47 39.6	
	comp=Z,77nm,1.5s					
BRG			*i*		01 50 53.3	
	comp=Z,6.0nm,0.9s					
BRG			*e*		01 51 04.9	
BRG			*i*		01 52 42.0	
BRG			*e*PKKP	PKKPbc	01 54 00.0	+1.5
	comp=Z,22nm,1.6s					
BRG			*i*		01 55 31.0	
BRG			*e*		01 58 00.5	
	comp=Z,69nm,2.4s					
BRG			SS	SS	02 02 25.0	+1.5
BRG	**Berggiesshubel**	**122.73 329**	*i* PKIKP	PKPdf	01 44 05.1	-0.5
BRG					01 45 41.0	
BRG			*i*		01 50 53.3	
BRG			*e*		01 51 04.9	
BRG			*i*		01 55 31.0	
BRG			SS	SS	02 02 25.0	+1.5
BRG			pmax	pmax		
	comp=Z,79nm,1.0s					
BRG			pmax	pmax		
	comp=Z,77nm,1.5s					
BRG	**Berggiesshubel**	**122.73 329**	Pdif	Pdif	01 40 37.0	+0.9
BRG			*i* PKP	PKPdf	01 44 05.1	-0.5
BRG			PP	PP	01 45 41.0	-2.5
BRG			*i*		01 47 39.6	
BRG			*i*		01 50 53.3	
BRG			*e*		01 51 04.9	
BRG			*i*		01 52 42.0	
BRG			*e*PKKP	PKKPbc	01 54 00.0	+1.5
BRG			*i*		01 55 31.0	
BRG			*e*		01 58 00.5	
BRG			SS	SS	02 02 25.0	+1.5
SIVA	**Sivas**	**122.73 308**	*e*P	PKPdf	01 44 05.9	+0.3
SKO	**Skopje**	**122.74 317**	*e*PKP	PKPdf	01 44 05.5	-0.1
DIVS	**Divcibare**	**122.78 320**	*i* P	PKPdf	01 44 05.8	+0.1
TREC	**Trest**	**122.82 327**	*e*PKPdf	PKPdf	01 44 03.8	-2.0
TREC			*e*SKP		01 47 37.0	
TREC			*e*SKS	SKSdf	01 51 02.6	-13
TREC			*e*PS	PS	01 55 39.8	-0.1
TREC			AMS	AMS	02 38 10.0	
	comp=Z,53µm,21.4s					
NAIG	**Nisos Aigina**	**122.86 312**	*e*P	PKPdf	01 44 03.0	-2.9
LKR	**Lokris**	**122.91 313**	*e*P	PKPdf	01 44 04.4	-1.6
VKA	**Vienna**	**122.93 326**	*i* PKiKP	PKiKP	01 44 06.4	+0.2
PRU	**Pruhonice**	**122.93 328**	*e*PKPdf	PKPdf	01 44 05.6	-0.4
PRU			*e*PKS	SKPdf	01 47 38.4	-0.4
PRU			*e*SKS	SKSac	01 51 04.2	-0.3
PRU			*e*PKKP	PKKPbc	01 53 56.7	-1.0
PRU			*e*PS	PS	01 55 40.1	-0.8
PRU			AMS	AMS	02 37 00.0	
	comp=Z,38µm,21.8s					
PRU	**Pruhonice**	**122.93 328**	*e*PKIKP	PKPdf	01 44 05.6	-0.4
PRU			*e*		01 51 04.2	
PRU			*e*		01 55 40.1	
PRU			MLR	MLR		
	comp=Z,38µm,21.8s,MS7.0					
CLL	**Collm**	**122.94 330**	*e*Pdiff	Pdif	01 40 40.8	+3.8
CLL			*e*PKPdf	PKPdf	01 44 04.9	-1.1
	comp=Z,96nm,0.9s					
CLL			*ep*PKPdf	pPKPdf	01 44 15.8	-1.4
CLL			*e*PP	PP	01 45 47.7	+2.8
CLL			*es*PP		01 45 57.3	
CLL			*e*SKPdf	SKPdf	01 47 38.0	-0.8
CLL			*e*PPP		01 48 26.5	
CLL			*e*SKSac	SKSac	01 51 03.9	-0.6
CLL			*e*SKKSac	SKKSac	01 52 38.6	-2.8
CLL			*e*PKKP	PKKPbc	01 53 58.9	+1.2
CLL			*e*PKKPdf	PKKPdf	01 54 34.6	-0.6
CLL			*e*PS	PS	01 55 41.0	+0.1
CLL			*e*PPS		01 57 14.2	
CLL			*e*PPPr		02 01 21.4	
CLL			*e*SS	SS	02 02 27.0	+0.8
CLL			*e*SSS		02 07 14.2	
CLL			*e*L		02 37 14.5	
	comp=Z,41µm,22.0s					
CLL	**Collm**	**122.94 330⇑**	*e*P	Pdif	01 40 41.0	+4.0
CLL			*i*		01 44 05.3	
CLL			*e*		01 51 00.0	
CLL			pmax	pmax		
	comp=Z,95nm,0.9s					
CLL			MLR	MLR		
	comp=Z,39µm,22.5s,MS7.0					
CLL	**Collm**	**122.94 330**	*e*Pdif	Pdif	01 40 41.0	+4.0
CLL			⇑*i* PKP	PKPdf	01 44 05.3	-0.7
CLL			*i* SKP	SKPdf	01 47 37.7	-1.1
CLL			*e*SKS	SKSac	01 51 00.0	-4.5
CLL			*e*PKKP	PKKPbc	01 53 59.0	+1.3
CLL			*e*P'P'		02 01 24.0	
CLL			LR	LR		
	comp=Z,39µm,22.5s,MS7.0					
CLL	**Collm**	**122.94 330**	*ep*Pdif		01 40 46.0	
	comp=Z,600nm,12.7s					
CLL			⇑*i* PKPdf	PKPdf	01 44 05.3	-0.7
	comp=Z,95nm,0.9s					
CLL			*ep*PKPdf	pPKPdf	01 44 12.0	-5.2
CLL			*e*PPIp	PP	01 45 41.0	-3.9
CLL			*e*PP	PP	01 45 57.0	+12
CLL			*ex*	x	01 47 16.0	
CLL			*i* SKPdf	SKPdf	01 47 37.7	-1.1
CLL			*e*PPP		01 48 24.0	
CLL			*e*SKSac	SKSac	01 51 06.0	+1.5
CLL			*e*SKKSac	SKKSac	01 52 39.0	-2.4
CLL			*e*PKKPab	PKKPab	01 53 59.0	+1.0
	comp=Z,63nm,1.6s					
CLL			*e*PKKPdf	PKKPdf	01 54 34.0	-1.2
CLL			*e*PS	PS	01 55 39.0	-1.9
CLL			*e*PPS		01 57 05.0	
CLL			*e*PPPrev		02 01 24.0	
	comp=Z,452nm,3.3s					
CLL			*e*SS	SS	02 02 30.0	+3.8
CLL			*e*SSS		02 07 12.0	
PRA	**Prague**	**122.94 328**	PKPdf	PKPdf	01 44 06.0	0.0
MGER	**Gerania Oros**	**122.96 312**	*e*P	PKPdf	01 44 04.5	-1.6
VAM	**Vamos**	**123.09 309**	*e*P	PKPdf	01 44 07.0	+0.7
KZN	**Kozani**	**123.17 315**	*e*P	PKPdf	01 44 05.5	-1.0
BIA	**Bitola**	**123.20 316**	*e*PKP	PKPdf	01 44 05.3	-1.2
BBLS	**Bajina Basta -**	**123.26 320**	*i* P	PKPdf	01 44 07.9	+1.2
THL	**Klokotos Trika**	**123.29 314**	*e*P	PKPdf	01 44 04.5	-2.2
KARN	**Karanos**	**123.31 309**	*e*P	PKPdf	01 44 06.7	-0.1
MCWV	**Mont Chateau**	**123.34 46**	*e*PKPdf	PKPdf	01 44 06.1	-0.7
MCWV			*ep*PKPdf	pPKPdf	01 44 17.4	-0.6
MCWV			LR	LR		
	comp=Z,54µm,21.0s,MS7.2					
GVD	**Gavdhos**	**123.36 308**	*e*P	PKPdf	01 44 06.7	-0.1
GVD	**Gavdhos**	**123.36 308**	*e*P	PKPdf	01 44 05.5	-1.3
GVD	**Gavdhos**	**123.36 308**	*e*PKPdf	PKPdf	01 44 06.4	-0.4
GVD			*ep*PKPdf	pPKPdf	01 44 16.9	-1.1
CONA	**Conrad Observa**	**123.37 325⇑**	*i* PKiKP	PKiKP	01 44 06.2	-0.9
	comp=Z,66nm,0.7s,SNR=54					
IVA	**Berane**	**123.39 318⇓**	*i* PKP	PKPdf	01 44 06.5	-0.4
FWV	**Forest Hill**	**123.39 48**	*e*PKPdf	PKPdf	01 44 06.1	-0.8
FWV			*ep*PKPdf	pPKPdf	01 44 18.4	+0.3
FWV			*es*PKPdf		01 44 21.4	
FWV			*e*PP	PP	01 45 44.6	-3.4
FWV			*e*SKPdf	SKPdf	01 47 43.5	+3.9
FWV			*e*PKKPab	PKKPab	01 53 56.2	+0.1
PVY	**Plav**	**123.46 318⇓**	*i* PKP	PKPdf	01 44 06.5	-0.6
BCI	**Bajram Curri**	**123.49 318**	*i* Pn	PKPdf	01 44 06.5	-0.6
PLE	**Pljevlja**	**123.51 319**	*e*PKP	PKPdf	01 44 06.9	-0.2
OHR	**Ohrid**	**123.53 316**	*e*PKP	PKPdf	01 44 06.0	-1.2
PHP	**Peshkopia**	**123.53 317**	*i* Pn	PKPdf	01 44 06.7	-0.5
ELN	**Prospectdale**	**123.56 49**	*e*PKPdf	PKPdf	01 44 06.3	-1.0
ELN			*ep*PKPdf	pPKPdf	01 44 17.6	-0.8
ELN			*e*PP	PP	01 45 46.3	-2.8
ELN			*e*PKKPab	PKKPab	01 53 56.6	+1.2
NRDL	**Niedersach Rie**	**123.57 332**	*e*Pdiff	Pdif	01 40 39.2	-0.6
NRDL			*e*PKPdf	PKPdf	01 44 06.6	-0.6
NRDL			*e*PP	PP	01 45 45.4	-3.8
NRDL			*e*SKPdf	SKPdf	01 47 40.2	+0.2
VLI	**Veliai**	**123.63 311**	*e*P	PKPdf	01 44 07.0	-0.4
EVR	**Evrytania**	**123.68 313**	*e*P	PKPdf	01 44 07.5	+0.1
KYTH	**Kithira**	**123.71 310**	*e*P	PKPdf	01 44 06.0	-1.5
KBN	**Korca**	**123.74 316**	*i* Pn	PKPdf	01 44 07.0	-0.6
TANN	**Tannenbergstha**	**123.75 329**	*e*Pdiff	Pdif	01 40 40.6	0.0
TANN			*e*PKPdf	PKPdf	01 44 06.8	-0.8
TANN			*e*PP	PP	01 45 46.6	-3.8
TANN			*e*SKPdf	SKPdf	01 47 40.3	-0.1
OBR	**Brabster**	**123.76 344**	*e*P	PKPdf	01 44 06.4	-1.2
BLA	**Blacksburg**	**123.82 49**	*e*PKIKP	PKPdf	01 44 07.2	-0.5
BLA			*e*		01 44 18.7	
BLA			*e*		01 45 49.2	
BLA			MLR	MLR		
	comp=Z,105µm,20.0s,MS7.5					
BLA	**Blacksburg**	**123.82 49**	*e*PKPdf	PKPdf	01 44 07.2	-0.5
BLA			*ep*PKPdf	pPKPdf	01 44 18.6	-0.2
BLA			*e*PP	PP	01 45 49.2	-1.6
BLA			*e*SKPdf	SKPdf	01 47 41.3	+0.8
BLA			LR	LR		
	comp=Z,105µm,20.0s,MS7.5					
CLZ	**Clausthal**	**123.88 332**	*e*Pdiff	Pdif	01 40 41.0	-0.2
CLZ			*e*PKPdf	PKPdf	01 44 07.3	-0.5
CLZ			*e*PP	PP	01 45 47.7	-3.5
CLZ			*e*SKPdf	SKPdf	01 47 40.9	+0.3
CLZ	**Clausthal**	**123.88 332**	*e*PKIKP	PKPdf	01 44 07.3	-0.5
CLZ			*e*		01 45 47.7	
UPM	**Unac-Piva**	**123.88 319⇓**	*i* PKP	PKPdf	01 44 07.1	-0.8
ARSA	**Arzberg**	**123.93 325⇑**	*i* P	PKPdf	01 44 06.7	-1.2
	comp=Z,806nm,3.2s,SNR=13					
KHC	**Kasperske Hory**	**123.94 328**	*e*PKPdf	PKPdf	01 44 07.3	-0.7
KHC			*e*PKS		01 47 40.6	
KHC			*e*SKS	SKSac	01 51 03.9	-3.9
KHC			*e*PKKP	PKKPbc	01 53 55.3	+1.6
KHC			*e*PS	PS	01 55 49.2	-0.6
KHC			AMS	AMS	02 37 10.0	
	comp=Z,45µm,22.6s					
KHC	**Kasperske Hory**	**123.94 328**	*e*PKIKP	PKPdf	01 44 07.3	-0.7
KHC			*e*		01 51 03.9	
KHC			*e*		01 55 49.2	
KHC			MLR	MLR		
	comp=Z,45µm,22.6s,MS7.1					
ORE	**Reay**	**123.98 344⇑**	*e*P	PKPdf	01 44 06.8	-1.3
TTG	**Podgorica**	**124.00 318⇓**	*i* PKP	PKPdf	01 44 06.8	-1.3
NKY	**Niksic**	**124.00 319⇓**	*i* PKP	PKPdf	01 44 06.9	-1.2
MOX	**Moxa**	**124.04 330**	*e*Pdiff	Pdif	01 40 41.3	-0.6
MOX			*e*PKPdf	PKPdf	01 44 07.2	-0.9
MOX			*e*PP	PP	01 45 48.3	-4.0
MOX			*e*SKPdf	SKPdf	01 47 40.8	-0.1
MOX	**Moxa**	**124.04 330**	*e*PKP	PKPdf	01 44 07.1	-1.0
	comp=Z,148nm,1.6s					
MOX			*e*		01 44 19.4	
MOX						
	comp=Z,18µm,19.0s					
MOX	**Moxa**	**124.04 330**	*e*PKIKP	PKPdf	01 44 07.1	-1.0
MOX			*e*		01 44 19.4	
MOX			pmax	pmax		
	comp=Z,148nm,1.6s					
MOX			MLR	MLR		
	comp=Z,18µm,19.0s,MS6.8					
MOX	**Moxa**	**124.04 330⇑**	*e*PKP	PKPdf	01 44 07.1	-1.0
MOX			*e*		01 44 19.4	
MOX			*e*PP	PP	01 45 24.0	-28
MOX			*e*SKP		01 47 40.8	
MOX			*i* PKKP	PKKPbc	01 53 52.0	-1.3
MOX			*e*SKSP		01 55 47.0	
MOX			*e*SS	SS	02 02 47.0	+6.9
MOX			LR	LR		
	comp=Z,18µm,19.0s,MS6.8					
GEC2	**GERESS Array S**	**124.04 327**	*e*Pdiff	Pdif	01 40 41.5	-0.4
GEC2			*e*PKPdf	PKPdf	01 44 07.3	-0.8
GEC2			*e*PP	PP	01 45 48.2	-4.2
GEC2			*e*SKPdf	SKPdf	01 47 40.8	-0.1
GEC2	**GERESS Array S**	**124.04 327**	*e*PKIKP	PKPdf	01 44 07.3	-0.8
GEC2			*e*		01 45 48.2	
GERES	**GERESS Array B**	**124.04 327**	PKP	PKPdf	01 44 07.3	-0.8
	comp=Z,70nm,0.7s,baz=70,slow=1.5,SNR=139					
GERES			SKP		01 47 42.9	
	comp=Z,5.5nm,0.8s,baz=66,slow=1.6,SNR=4.6					
GERES			PKKPbc	PKKPbc	01 53 53.5	+0.2
	comp=Z,3.6nm,0.9s,baz=201,slow=2.6,SNR=5.6					
GERES			SKKPbc		01 57 50.6	
	comp=Z,6.5nm,1.1s,baz=207,slow=2.7,SNR=4.5					
LSK	**Leskovik**	**124.06 315**	*i* Pn	PKPdf	01 44 08.1	-0.1
JAN	**Janina**	**124.08 315**	*e*P	PKPdf	01 44 08.0	-0.2
MANZ	**Manzenberg**	**124.20 329**	*e*Pdiff	Pdif	01 40 42.8	+0.2
MANZ			*e*PKPdf	PKPdf	01 44 07.9	-0.5
MANZ			*e*PP	PP	01 45 49.7	-3.7
MANZ			*e*SKPdf	SKPdf	01 47 41.4	+0.2
ULC	**Ulcinj**	**124.22 318⇓**	*i* PKP	PKPdf	01 44 07.7	-0.7
ITM	**Ithomi**	**124.23 311**	*e*P	PKPdf	01 44 08.5	0.0
RLS	**Riolos of Patr**	**124.25 313**	*e*P	PKPdf	01 44 08.7	+0.2
BRY	**Bratogost**	**124.26 319⇓**	*i* PKP	PKPdf	01 44 07.7	-0.9
ROTZ	**Rotzenmuhle**	**124.28 329**	*e*Pdiff	Pdif	01 40 42.9	-0.1
ROTZ			*e*PKPdf	PKPdf	01 44 07.9	-0.7
ROTZ			*e*PP	PP	01 45 50.3	-3.7
ROTZ			*e*SKPdf	SKPdf	01 47 41.6	+0.2
MSNY	**Massena**	**124.28 38**	*e*PKPdf	PKPdf	01 44 07.4	-1.2
MSNY			*ep*PKPdf	pPKPdf	01 44 18.5	-1.3
BUM	**Brajici-Budva**	**124.30 318⇓**	*i* PKP	PKPdf	01 44 07.9	-0.7
MOA	**Molin**	**124.31 326⇑**	*i* P	PKPdf	01 44 07.6	-1.1
	comp

GRF ePPP 01 48 36.6
GRF eSS SS 02 02 44.2 -5.9
GRF eL 02 38 26.7
comp=Z,38µm,21.6s
GRF Grafenberg Arr 124.83 329 ePKIKP PKPdf 01 44 08.8 -0.9
GRF e 01 45 53.9
GRF ePPP 01 48 36.6
GRF eSS SS 02 02 44.2 -5.9
GRF MLR MLR
comp=Z,38µm,21.6s,MS7.0
GRF Grafenberg Arr 124.83 329 eP Pdif 01 40 45.3 -0.1
GRF e 01 44 08.8
GRF e 01 45 53.9
GRF ePPP 01 48 36.6
GRF eSS SS 02 02 44.2 -5.9
GRF MLR MLR
comp=Z,38µm,21.6s,MS7.0
VLS Valsamata 124.85 313 eP PKPdf 01 44 05.0 -4.7
WIT Witteveen 124.88 334 ePKP PKPdf 01 44 09.2 -0.6
WIT epPKP pPKPdf 01 44 21.3 +0.3
WIT ePP PP 01 46 04.2 +6.2
OBKA Obir 124.89 325⇑iP PKPdf 01 44 08.9 -0.9
comp=Z,883nm,3.9s,SNR=25
OBKA Obir 124.89 325⇑iP PKPdf 01 44 08.9 -0.9
BINY Binghamton 124.92 42 ePKPdf PKPdf 01 44 08.9 -0.9
BINY epPKPdf pPKPdf 01 44 20.1 -0.7
BINY eSKPdf SKPdf 01 47 43.5 +0.9
BINY LR LR
comp=Z,55µm,22.0s,MS7.2
BOJS Bojanci 125.03 323 ePdiff Pdif 01 40 55.5 +9.2
RRR Rubha Reidh 125.12 345 eP PKPdf 01 44 07.9 -2.3
FRNY Flat Rock 125.15 38 ePKPdf PKPdf 01 44 09.1 -1.1
FRNY epPKPdf pPKPdf 01 44 19.9 -1.6
FRNY ePP PP 01 45 57.6 -2.2
FRNY eSKPdf SKPdf 01 47 43.8 +0.8
LJU Ljubljana 125.16 324 ePdiff Pdif 01 40 55.2 +8.3
LJU ePKPdf PKPdf 01 44 09.8 -0.5
LJU epPKPdf pPKPdf 01 44 20.6 -0.9
LJU e 01 45 30.2
LJU ePP PP 01 45 57.6 -2.2
LJU e 01 46 35.5
LJU e 01 47 18.7
LJU ePPP 01 48 48.1
LJU eSKSac SKSac 01 51 09.9 -1.8
LJU ePS PS 01 55 54.3 -6.2
LJU e 01 57 39.6
LJU e 02 01 12.6
LJU e 02 03 18.6
LJU e 02 08 03.8
LJU Ljubljana 125.16 324 P Pdif 01 40 55.2 +8.3
LJU e 01 44 09.8
LJU e 01 44 20.6
LJU 01 45 57.6
LJU PPP 01 48 48.1
LJU e 01 51 09.9
LJU PS PS 01 55 54.3 -6.2
LJU e 02 03 18.6
NCB Newcomb 125.20 39 ePKPdf PKPdf 01 44 09.7 -0.6
NCB epPKPdf pPKPdf 01 44 21.1 -0.5
NCB eSKPdf SKPdf 01 47 43.3 +0.2
NCB LR LR
comp=Z,48µm,19.0s,MS7.2
KBA Koelnbreinsper 125.26 326⇑iP PKPdf 01 44 08.9 -1.5
comp=Z,822nm,4.4s,SNR=29
RRH Rhenigidale 125.28 346 eP PKPdf 01 44 09.3 -1.3
KAC Achnashellach 125.30 345 eP PKPdf 01 44 09.3 -1.3
SOR Soroa 125.35 66 eP PKPdf 01 44 10.1 -0.5
WTSB Winterswijk 125.42 334 ePKP PKPdf 01 44 10.1 -0.7
comp=Z,156nm,1.0s
WTSB epPKP pPKPdf 01 44 21.5 -0.5
WTSB ePP PP 01 46 06.6 +5.0
CADS Cadrg 125.52 325 ePKPdf PKPdf 01 44 09.7 -1.3
CADS epPKPdf pPKPdf 01 44 21.1 -1.1
KPL Plockton 125.53 345⇑eP PKPdf 01 44 09.7 -1.3
KPL AMb AMB 01 44 13.4
comp=Z,248nm,1.3s
VOY Vojsko 125.54 324 ePKPdf PKPdf 01 44 10.1 -0.9
BUG Bochum--Univer 125.58 333 ePdiff Pdif 01 40 48.4 -0.3
BUG ePKPdf PKPdf 01 44 10.3 -0.8
BUG ePP PP 01 45 58.5 -4.1
BUG eSKPdf SKPdf 01 47 43.9 +0.1
KSB Sheil Bridge 125.59 344 eP PKPdf 01 44 09.6 -1.6
MVL Millersville 125.66 44 ePKPdf PKPdf 01 44 10.8 -0.4
MVL epPKPdf pPKPdf 01 44 22.7 +0.2
MVL eSKPdf SKPdf 01 47 45.1 +1.1
CBN Corbin 125.68 46 ePKPdf PKPdf 01 44 11.0 -0.3
CBN LR LR
comp=Z,53µm,19.0s,MS7.2
DWPF Disney 125.69 60 ePKPdf PKPdf 01 44 11.8 +0.5
DWPF epPKPdf pPKPdf 01 44 21.8 -0.7
DWPF LR LR
comp=Z,43µm,20.0s,MS7.1
LCI Lecce 125.71 316 PKIKP PKPdf 01 44 06.5 -4.8
FUR Furstenfeldbru 125.75 328 ePdiff Pdif 01 40 49.6 +0.1
FUR ePKPdf PKPdf 01 44 10.6 -0.8
FUR ePP PP 01 45 59.6 -4.1
FUR eSKPdf SKPdf 01 47 44.0 -0.2
FUR Furstenfeldbru 125.75 328 ePKIKP PKPdf 01 44 10.6 -0.8
FUR e 01 45 59.6
NVLJ Novalja 125.75 322⇑iP PKPdf 01 44 09.5 -1.9
GMNA Gemona 125.78 325 PKP PKPdf 01 44 11.1 -0.4
TRI Trieste 125.79 324 PKIKP PKPdf 01 44 08.8 -2.7
ACCN Adirondack Com 125.84 39 ePKPdf PKPdf 01 44 10.7 -0.9
ACCN epPKPdf pPKPdf 01 44 21.4 -1.4
TNS Taunus Mts 125.86 331 ePdiff Pdif 01 40 50.2 +0.2
TNS ePKPdf PKPdf 01 44 10.9 -0.7
TNS ePP PP 01 46 01.0 -3.5
TNS eSKPdf SKPdf 01 47 44.6 +0.2
TNS Taunus Mts 125.86 331 ePKIKP PKPdf 01 44 10.9 -0.7
TNS e 01 46 01.0
ESY Stoneypath 125.89 342⇑eP PKPdf 01 44 10.4 -1.3
KAR1 Arisaig 125.95 345 eP PKPdf 01 44 10.3 -1.5
MDZ Mendoza 125.96 138 ePKIKP PKPdf 01 44 21.1 +9.3
EDI Edinburgh 126.06 342 eP PKPdf 01 44 11.4 -0.6
EDI AMb AMB 01 44 15.3
comp=Z,171nm,1.3s
WATA Walderalm 126.09 327⇓iP PKPdf 01 44 11.4 -0.7
comp=Z,325nm,1.7s,SNR=21
TOD Tromm 126.09 330 PKIKP PKPdf 01 44 11.5 -0.6
WTTA Wattenberg 126.10 327 iP PKPdf 01 44 11.5 -0.6
comp=Z,2µm,2.4s,SNR=53
XSO Sourhope Farm 126.13 342 eP PKPdf 01 44 11.9 -0.2
EBL Broad Law 126.14 342⇑eP PKPdf 01 44 11.0 -1.2
EAB Aberfoyle 126.17 343⇑eP PKPdf 01 44 10.8 -1.4
EAU Auchinoon 126.20 342⇑eP PKPdf 01 44 11.3 -0.9
MOTA Moosalm 126.34 327⇑iP PKPdf 01 44 11.7 -0.8
comp=Z,158nm,1.2s,SNR=61
SQTA Sankt Quirin 126.36 327⇑iP PKPdf 01 44 11.8 -0.8
comp=Z,168nm,1.2s,SNR=41
CNNC Cliffs of the 126.43 50 ePKPdf PKPdf 01 44 12.8 +0.1
CNNC epPKPdf pPKPdf 01 44 22.4 -1.6
CNNC ePP PP 01 46 06.6 -1.7
STU Stuttgart 126.44 329 ePdiff Pdif 01 40 52.2 -0.4
STU ePKPdf PKPdf 01 44 11.9 -0.8
STU ePP PP 01 46 04.4 -4.0
STU eSKPdf SKPdf 01 47 45.4 -0.1
STU Stuttgart 126.44 329 ePKPdf PKPdf 01 44 12.6 -0.1
STU eSKPdf SKPdf 01 47 45.5 0.0
LBNH Lisbon 126.47 38 ePKIKP PKPdf 01 44 12.6 -0.2
LBNH e 01 44 23.3
LBNH MLR MLR
comp=Z,41µm,20.0s,MS7.1
FGMS Monte Sant'Ang 126.52 319 PKP PKPdf 01 44 13.0 +0.1
HNH Hanover 126.53 38 ePKPdf PKPdf 01 44 12.8 -0.1
HNH epPKPdf pPKPdf 01 44 23.2 -0.9
PGBU Glenifferbraes 126.54 343⇑eP PKPdf 01 44 12.3 -0.6
PGBU AMb AMB 01 44 15.2
comp=Z,60nm,1.3s
TRQA Tornquist 126.57 148 PKPdf PKPdf 01 44 12.4 -0.6
TRQA PP PP 01 46 06.9 -2.4
TRQA Tornquist 126.57 148 ePKPdf PKPdf 01 44 13.0 0.0
TRQA epPKPdf pPKPdf 01 44 23.1 -1.1
TRQA ePP PP 01 46 08.5 -0.8
TRQA eSKPdf SKPdf 01 47 38.2 -7.5
TRQA LR LR
comp=Z,24µm,22.0s,MS6.8
ESK Eskdalemuir 126.58 342⇑eP PKPdf 01 44 12.9 -0.1
ESK AMb AMB 01 44 15.3
comp=Z,156nm,1.4s
ESK Eskdalemuir 126.58 342 ePKPdf PKPdf 01 44 13.0 0.0
ESK epPKPdf pPKPdf 01 44 22.1 -2.1
ESK LR LR
comp=Z,5µm,19.0s,MS6.2
XAL Allendale 126.65 341 eP PKPdf 01 44 13.0 -0.1
HGN Heimansgroeve 126.66 333 ePKP PKPdf 01 44 12.4 -0.8
comp=Z,155nm,1.4s
HGN epPKP pPKPdf 01 44 23.1 -1.3
HGN ePP PP 01 46 14.8 +5.0
HGN Heimansgroeve 126.66 333 ePPS 01 57 46.5
HGN eSS SS 02 03 57.2 +44
ECK Cauldkaine Hil 126.67 342 eP PKPdf 01 44 11.7 -1.5
MEM Membach 126.73 333 PKP PKPdf 01 44 12.6 -0.7
MEM E 01 47 27.1
MEM SKiKP 01 47 47.8
BEBN Eben Emael 126.75 333 PKP PKPdf 01 44 12.7 -0.6
BEBN APKP 01 44 23.3
BEBN E 01 47 27.9
BEBN SKiKP 01 47 47.8
BHH Howats Hill 126.77 342 eP PKPdf 01 44 11.8 -1.6
APPI Appiano 126.79 326 PKP PKPdf 01 44 12.0 -1.4
CTI Castel Tesino 126.81 325 PKIKP PKPdf 01 44 12.7 -0.7
BWH Wardlaw 126.84 342⇑eP PKPdf 01 44 12.0 -1.5
PAL Palisades 126.85 42 ePKIKP PKPdf 01 44 13.4 -0.1
PAL e 01 44 24.5
RUP Ruppelstein 126.87 331 PKIKP PKPdf 01 44 14.8 +1.2
CPNY Central Park 126.92 42 ePKPdf PKPdf 01 44 12.9 -0.7
CPNY epPKPdf pPKPdf 01 44 23.7 -1.1
ORI Oriolo Calabro 126.97 317 PKIKP PKPdf 01 44 14.0 +0.3
LANF Langenberg 127.00 330 PKP PKPdf 01 44 13.5 -0.3
LANF Langenberg 127.00 330 PKP PKPdf 01 44 13.7 -0.1
DAVA Damuels 127.03 328⇑iP PKPdf 01 44 13.1 -0.7
comp=Z,1µm,3.2s,SNR=23
FFD Franklin Falls 127.05 38 ePKPdf PKPdf 01 44 14.2 +0.3
FFD epPKPdf pPKPdf 01 44 23.8 -1.3
SPAK Spaichingen-Ko 127.08 329 PKP PKPdf 01 44 14.6 +0.6
CFAA Coronel Fontan 127.15 137 PKP PKPdf 01 44 13.4 -0.7
comp=Z,4.6nm,0.7s,baz=245,slow=2.3,SNR=30
CFAA PP PP 01 46 07.9 -5.1
comp=Z,0.7nm,0.7s,baz=259,slow=6.0,SNR=7.2
TIP Timpagrande 127.15 316 ePKPdf PKPdf 01 44 14.0 -0.1
CKE Keswick 127.16 341⇑eP PKPdf 01 44 12.9 -1.2
BFO Black Forest 127.17 330 ePdiff Pdif 01 40 56.4 +0.6
BFO ePKPdf PKPdf 01 44 13.4 -0.7
BFO ePP PP 01 46 09.2 -4.0
BFO Black Forest 127.17 330 ePKIKP PKPdf 01 44 13.4 -0.7
BFO e 01 46 09.2
FG5 Orsara di Pugl 127.17 319 PKIKP PKPdf 01 44 14.0 -0.1
BCLA Clavier 127.18 333 PKP PKPdf 01 44 13.7 -0.5
BCLA E 01 47 28.6
BCLA SKiKP 01 47 47.8
GCD Castle Douglas 127.19 342 eP PKPdf 01 44 12.9 -1.3
LIENZ Kamor/St.Gall 127.23 328⇑iPdiff PKPdf 01 44 11.5 -2.7
comp=Z,1µm,3.3s
LIENZ Kamor/St.Gall 127.23 328⇑iP PKPdf 01 44 13.6 -0.6
FUORN Ofenpass-Fuorn 127.23 327⇑iPdiff PKPdf 01 44 13.2 -1.1
comp=Z,2µm,3.2s
FUORN Ofenpass-Fuorn 127.23 327⇑iP PKPdf 01 44 14.2 -0.1
QUA2 Belchertown 127.24 40 ePKPdf PKPdf 01 44 14.1 -0.1
QUA2 epPKPdf pPKPdf 01 44 25.2 -0.2
QUA2 ePP PP 01 46 12.3 -1.4
AEU East Anglia Un 127.24 337 eP PKPdf 01 44 13.3 -0.9
GMK Mull of Kintyr 127.26 343 eP PKPdf 01 44 13.0 -1.3
STR Strasbourg 127.28 330 PKP PKPdf 01 44 13.5 -0.8
STR Strasbourg 127.28 330 PKP PKPdf 01 44 15.4 +1.1
STEIN Stein am Rhein 127.32 329⇑iPdiff PKPdf 01 44 13.3 -1.1
comp=Z,886nm,3.1s
STEIN Stein am Rhein 127.32 329⇑iP PKPdf 01 44 13.2 -1.2
WLF Walferdange 127.33 332 ePdiff Pdif 01 40 56.7 +0.2
WLF ePKPdf PKPdf 01 44 14.4 0.0
WLF ePP PP 01 46 10.8 -3.4
WLF eSKPdf SKPdf 01 47 47.4 +0.3
WLF Walferdange 127.33 332 PKP PKPdf 01 44 14.8 +0.4
WLF E 01 47 30.7
WLF SKiKP 01 47 47.9
WLF Walferdange 127.33 332 ePKPdf PKPdf 01 44 14.7 +0.2
WLF eSKPdf pPKPdf 01 44 27.1 +1.5
UCC Uccle 127.33 334 PKP PKPdf 01 44 15.6 +1.1
UCC APKP 01 44 25.4
DAVOX Davos/Dischmat 127.34 327⇑iPdiff PKPdf 01 44 13.4 -1.1
comp=Z,990nm,2.5s
DAVOX Davos/Dischmat 127.34 327⇑iP PKPdf 01 44 14.1 -0.4
WEIN Weingarten 127.35 328⇑iPdiff PKPdf 01 44 13.4 -1.1
comp=Z,801nm,2.5s
XDE Dent Fell 127.35 342 eP PKPdf 01 44 13.6 -0.9
CING Cingoli 127.41 322 PKP PKPdf 01 44 14.1 -0.5
GAL1 Galloway 127.42 343 P PKPdf 01 44 14.2 -0.4
GAL1 AMb AMB 01 44 17.0
comp=Z,312nm,1.3s
GAL1 Galloway 127.42 343 eP PKPdf 01 44 13.1 -1.5
GAL1 ⇑eP 01 44 14.2
GAL1 AMb AMB 01 44 17.0
comp=Z,312nm,1.3s
CUC Castrocucco 127.43 317 PKP PKPdf 01 44 13.8 -0.8
TRULL Truellikon 127.43 329⇑iPdiff PKPdf 01 44 13.4 -1.2
comp=Z,783nm,3.2s
MABI Malga Bissina 127.44 326 PKP PKPdf 01 44 13.4 -1.2
PLONS Plons/SG 127.44 328⇑iPdiff PKPdf 01 44 13.6 -1.0
comp=Z,1µm,2.4s
PLONS Plons/SG 127.44 328⇑iP PKPdf 01 44 14.0 -0.6
PKME Peaks-Kenny Pk 127.45 35 ePKPdf PKPdf 01 44 14.0 -0.6
PKME epPKPdf pPKPdf 01 44 26.3 +0.5
SLE Schleitheim 127.45 329⇑iPdiff PKPdf 01 44 13.6 -1.1
comp=Z,826nm,3.0s
SLE Schleitheim 127.45 329⇑iP PKPdf 01 44 13.4 -1.3
WILA Wila 127.46 328⇑iPdiff PKPdf 01 44 13.8 -0.9
comp=Z,953nm,2.6s
BERNI Berninapass 127.49 327⇑iPdiff PKPdf 01 44 13.8 -0.9
comp=Z,903nm,2.5s
BERNI Berninapass 127.49 327⇑iP PKPdf 01 44 14.2 -0.5
FLACH Flaach 127.54 329⇑iP PKPdf 01 44 13.6 -1.2
SNF Seneffe 127.57 334 PKP PKPdf 01 44 14.5 -0.4
SNF E 01 47 30.6
SNF SKiKP 01 47 48.5
WLS Welschbruch 127.60 330 PKP PKPdf 01 44 13.5 -1.4
WLS Welschbruch 127.60 330 PKP PKPdf 01 44 15.4 +0.5
LHO Holmfirth 127.62 340 eP PKPdf 01 44 12.3 -2.6
HRV Harvard--Oak R 127.62 39 PKPdf PKPdf 01 44 14.7 -0.3
HRV PP PP 01 46 13.8 -2.4
HRV Harvard--Oak R 127.62 39 ePKPdf PKPdf 01 44 14.8 -0.1
HRV epPKPdf pPKPdf 01 44 26.1 0.0
HRV LR LR
comp=Z,40µm,20.0s,MS7.1
GIVF Givet 127.63 333 ePKIKP PKPdf 01 44 12.7 -2.3
comp=Z,638nm,1.5s
FELD Feldberg im Sc 127.63 329⇑eP PKPdf 01 44 14.3 -0.7
CDF Champ du Feu 127.64 330 ePKIKP PKPdf 01 44 12.3 -2.7
comp=Z,354nm,1.6s
GCL Cushendall 127.65 344 eP PKPdf 01 44 14.2 -0.9
MIDA Miranda 127.65 320 PKP PKPdf 01 44 13.4 -1.7
ZUR Degenried 127.66 328⇑iPdiff PKPdf 01 44 14.0 -1.1
comp=Z,560nm,1.6s
ZUR Degenried 127.66 328⇑iP PKPdf 01 44 14.1 -1.0
DOU Dourbes 127.73 333 PKP PKPdf 01 44 14.8 -0.4
DOU E 01 47 30.5
DOU SKiKP 01 47 47.7
KBI1 Birley Grange 127.74 339 eP PKPdf 01 44 15.0 -0.2
VDL Val di Lei 127.75 327⇑iPdiff PKPdf 01 44 14.1 -1.1
comp=Z,1µm,2.5s
VDL Val di Lei 127.75 327⇑iP PKPdf 01 44 14.7 -0.5
LLS Linth-Limmern 127.77 328⇑iPdiff PKPdf 01 44 14.1 -1.2
comp=Z,971nm,3.0s
LLS Linth-Limmern 127.77 328⇑iP PKPdf 01 44 14.6 -0.7
SULZ Cheisacher 127.80 329⇑iPdiff PKPdf 01 44 14.2 -1.1
comp=Z,681nm,2.4s
SULZ Cheisacher 127.80 329⇑iP PKPdf 01 44 14.1 -1.2
TSUM Tsumeb 127.81 240 PKP PKPdf 01 44 16.6 +1.3
comp=Z,55nm,0.8s,baz=124,slow=2.5,SNR=30
TSUM SKPbc 01 47 30.6
comp=Z,22nm,1.0s,baz=86,slow=2.7,SNR=4.6
TSUM Tsumeb 127.81 240 ePKPdf PKPdf 01 44 16.6 +1.3
TSUM SKPbc 01 47 30.6
TSUM LR LR
comp=Z,19µm,20.0s,MS6.8
TUE Stuetta 127.82 327 PKP PKPdf 01 44 13.2 -2.2
AQU L'Aquila 127.83 321⇑iP PKPdf 01 44 14.7 -0.7
AQU L'Aquila 127.83 321 PKIKP PKPdf 01 44 16.8 +1.4
AQU L'Aquila 127.83 321 PKP PKPdf 01 44 14.8 -0.6
ECH Echery 127.83 330 PKP PKPdf 01 44 12.8 -2.6
ECH Echery 127.83 330 PKP PKPdf 01 44 15.9 +0.5
WES Weston 127.83 39 ePKIKP PKPdf 01 44 15.0 -0.4
WES e 01 44 25.0
WES e 01 46 15.9
WES MLR MLR
comp=Z,30µm,20.0s,MS7.0
GIM North Isle of 127.84 342 eP PKP PKPdf 01 44 14.0 -1.4
MURB Monte Urbino 127.88 322 PKP PKPdf 01 44 15.8 +0.3
MUO Muotathal 127.89 328⇑iPdiff PKPdf 01 44 14.2 -1.3
comp=Z,1µm,2.5s
MUO Muotathal 127.89 328⇑iP PKPdf 01 44 15.0 -0.5
BAIF Baives 127.93 333 ePKIKP PKPdf 01 44 13.4 -2.2
comp=Z,417nm,1.7s
WIM Isle of Man 128.02 342 eP PKPdf 01 44 14.5 -1.2
KWE Weaver Farm 128.05 340⇑eP PKPdf 01 44 15.1 -0.7
BNALP Bannalp 128.06 328⇑iPdiff PKPdf 01 44 14.6 -1.2
comp=Z,1µm,3.2s
BNALP Bannalp 128.06 328⇑iP PKPdf 01 44 15.2 -0.6
MOF Molkenrain 128.09 330 PKP PKPdf 01 44 13.5 -2.4
MOF Molkenrain 128.09 330 PKP PKPdf 01 44 16.3 +0.4
BALST Balsthal 128.14 329⇑iPdiff PKPdf 01 44 14.7 -1.3
comp=Z,633nm,1.8s
BALST Balsthal 128.14 329⇑iP PKPdf 01 44 15.0 -1.0
BBS Basel-Blauen 128.15 329 PKIKP PKPdf 01 44 16.5 +0.5
FUSIO Fusio 128.20 328⇑iPdiff PKPdf 01 44 14.8 -1.3
comp=Z,2µm,2.6s
FUSIO Fusio 128.20 328⇑iP PKPdf 01 44 15.7 -0.4
FNVD Fontana Vidola 128.21 324 PKP PKPdf 01 44 16.2 +0.1
HINF Hinteralfeld 128.25 330 ePKIKP PKPdf 01 44 13.5 -2.7
comp=Z,472nm,1.3s
HASLI Hasliberg/Brie 128.28 328⇑iPdiff PKPdf 01 44 15.0 -1.2
comp=Z,683nm,2.2s
HASLI Hasliberg/Brie 128.28 328⇑iP PKPdf 01 44 15.5 -0.7
SCLL Scilla 128.30 315 PKP PKPdf 01 44 10.5 -5.8
CERT Cerreto 128.31 321 PKP PKPdf 01 44 13.9 -2.4
MUGIO Muggio 128.33 327⇑iPdiff PKPdf 01 44 15.9 -0.4
comp=Z,736nm,2.0s
MUGIO Muggio 128.33 327⇑iP PKPdf 01 44 14.8 -1.5
BOURR Bourrignon 128.34 329⇑iPdiff PKPdf 01 44 15.2 -1.2
comp=Z,1µm,2.6s
BOURR Bourrignon 128.34 329⇑iP PKPdf 01 44 15.6 -0.8
HAU Haudompre 128.37 330 ePKIKP PKPdf 01 44 13.8 -2.6
comp=Z,170nm,0.8s
HAU eMLR MLR
comp=Z,50µm,22.0s
HAU Haudompre 128.37 330 ePKPdf PKPdf 01 44 13.8 -2.6
HAU LR LR
comp=Z,50µm,22.0s,MS7.2
THEF They Montfort 128.40 331 PKP PKPdf 01 44 13.3 -3.2
THEF They Montfort 128.40 331 PKP PKPdf 01 44 16.9 +0.4
MTCE Montecelio 128.42 321 PKP PKPdf 01 44 15.4 -1.1
MENF Mencas 128.45 335 PKP PKPdf 01 44 15.8 -0.8
MENF Mencas 128.45 335 PKP PKPdf 01 44 17.7 +1.1
CSNT Castellina Chi 128.51 323 PKP PKPdf 01 44 14.7 -2.0
LOMF Lomont 128.57 329 PKP PKPdf 01 44 14.3 -2.5
LOMF Lomont 128.57 329 PKP PKPdf 01 44 17.6 +0.8
SBD1 Bryn Du 128.62 340⇑eP PKPdf 01 44 15.5 -1.4
WCB1 Church Bay 128.64 342 eP PKPdf 01 44 16.1 -0.8
VLC Villacollemand 128.65 324 ePKPdf PKPdf 01 44 16.8 -0.1
VLC epPKPdf pPKPdf 01 44 28.1 0.0
VLC ePP PP 01 46 24.2 +1.3
VLC eSKPdf SKPdf 01 47 34.6 -15
MEZF Maizieres J'vi 128.66 332 ePKIKP PKPdf 01 44 15.0 -2.0
WLF1 Llynfaes 128.67 341 eP PKPdf 01 44 16.5 -0.5
SKP1 Kophill 128.72 338⇑eP PKPdf 01 44 15.7 -1.4
TSA1 Sevenoaks 128.73 337 eP PKPdf 01 44 17.3 +0.2
YRC Rhoscolyn 128.76 341 eP PKPdf 01 44 17.0 -0.1
LKBD Leukerbad 128.79 328⇑iPdiff PKPdf 01 44 15.5 -1.7
comp=Z,422nm,2.3s
LKBD Leukerbad 128.79 328⇑iP PKPdf 01 44 16.6 -0.6
HLM1 Long Mynd 128.81 340⇑eP PKPdf 01 44 17.3 +0.1
BOB Bobbio (Coli) 128.82 325 PKIKP PKPdf 01 44 18.1 +0.8
MMK Mattmark 128.83 328⇑iPdiff PKPdf 01 44 15.6 -1.7
comp=Z,1µm,2.4s
MMK Mattmark 128.83 328⇑iP PKPdf 01 44 17.4 +0.1
TORNY Torny/Romont 128.89 329⇑iPdiff PKPdf 01 44 15.7 -1.7
comp=Z,1µm,2.6s
TORNY Torny/Romont 128.89 329⇑iP PKPdf 01 44 17.0 -0.4
SENIN Lac Senin/Sane 128.98 328⇑iPdiff PKPdf 01 44 16.6 -1.0
comp=Z,1µm,3.3s
SENIN Lac Senin/Sane 128.98 328⇑iP PKPdf 01 44 17.2 -0.4
BRANT Les Verrieres 129.03 329⇑iPdiff PKPdf 01 44 17.1 -0.6
comp=Z,1µm,3.2s
BRANT Les Verrieres 129.03 329⇑iP PKPdf 01 44 17.4 -0.3
ATAH Atahualpa 129.05 104 PKP PKPdf 01 44 19.8 +2.1
comp=Z,120nm,0.8s,baz=136,slow=1.1,SNR=44
ATAH SKP 01 47 39.9
comp=Z,24nm,0.9s,baz=283,slow=5.1,SNR=4.2
DIX Grande Dixence 129.11 328⇑iPdiff PKPdf 01 44 17.2 -0.6
comp=Z,1µm,3.1s
DIX Grande Dixence 129.11 328⇑iP PKPdf 01 44 17.9 +0.1
GRYON Gryon 129.16 328⇑iPdiff PKPdf 01 44 17.2 -0.7
comp=Z,636nm,2.4s
GRYON Gryon 129.16 328⇑iP PKPdf 01 44 17.5 -0.4
AIGLE Aigle 129.18 328⇑iPdiff PKPdf 01 44 17.4 -0.6
comp=Z,1µm,2.5s
NNA Nana 129.19 111 PKP PKPdf 01 44 17.6 -0.3
comp=Z,97nm,0.9s,baz=277,slow=4.9,SNR=19
NNA SKP 01 47 37.2
comp=Z,2.6nm,0.3s,baz=281,slow=9.0,SNR=2.9
NNA Nana 129.19 111 PKP PKPdf 01 44 17.6 -0.3
NNA SKP 01 47 37.1
NNA LR LR
comp=Z,5µm,22.0s,MS6.1
MAON Monte Argentar 129.20 322 PKP PKPdf 01 44 17.4 -0.6
SWN1 Swindon 129.26 338 P PKPdf 01 44 17.4 -0.7
SWN1 AMb AMB 01 44 20.9
comp=Z,359nm,1.4s
SWN1 Swindon 129.26 338 eP PKPdf 01 44 17.3 -0.8
SWN1 eP 01 44 17.4
SWN1 AMb AMB 01 44 20.9
comp=Z,359nm,1.4s
MCH1 Michaelchurch 129.29 340 P PKPdf 01 44 18.1 -0.1
MCH1 AMb AMB 01 44 20.7
comp=Z,140nm,1.5s
MCH1 Michaelchurch 129.29 340 eP PKPdf 01 44 17.2 -1.0
MCH1 eP 01 44 18.1
MCH1 AMb AMB 01 44 20.7
comp=Z,140nm,1.5s
SALAN Lac Salanfe 129.30 328⇑iPdiff PKPdf 01 44 17.4 -0.8
comp=Z,1µm,3.3s
SALAN Lac Salanfe 129.30 328⇑iP PKPdf 01 44 17.8 -0.4
DSB Dublin 129.32 343 ePKPdf PKPdf 01 44 17.7 -0.5
DSB epPKPdf pPKPdf 01 44 28.7 -0.7
DLF Lyons Farm 129.32 343⇑iP PKPdf 01 44 15.8 -2.4
EMV Vieux Emosson 129.39 328⇑iPdiff PKPdf 01 44 17.4 -1.0
comp=Z,1µm,3.2s
EMV Vieux Emosson 129.39 328⇑iP PKPdf 01 44 18.1 -0.3
GIMEL St. Georges / 129.41 329⇑iPdiff PKPdf 01 44 17.5 -0.9
comp=Z,1µm,3.3s
GIMEL St. Georges / 129.41 329⇑iP PKPdf 01 44 18.3 -0.1
CABF La Chapelle 129.44 329 ePKIKP PKPdf 01 44 16.6 -1.9
comp=Z,325nm,0.9s
DCN Croghan 129.49 343⇑iP PKPdf 01 44 16.5 -2.1
HVZN Vizzini 129.49 314 PKP PKPdf 01 44 18.9 +0.3
HGH Gray Hill 129.52 339⇑eP PKPdf 01 44 17.1 -1.5
VAE Valguarnera 129.57 315 SKP SKPdf 01 47 37.8 -14
comp=Z,63nm,1.0s,baz=37,slow=3.1,SNR=5.8
SWK Warminster 129.72 338 eP PKPdf 01 44 18.1 -0.8
LPL La Plagne 129.84 328 ePKIKP PKPdf 01 44 17.2 -2.0
comp=Z,188nm,1.0s
LPG La Plagne 129.84 328 ePKIKP PKPdf 01 44 17.3 -1.9
comp=Z,147nm,0.9s
FIN Finale Ligure 129.86 326 PKIKP PKPdf 01 44 18.1 -1.2
LOR Lormes 130.09 331 ePKIKP PKPdf 01 44 17.4 -2.3
comp=Z,471nm,1.5s
LOR eMLR MLR
comp=Z,52µm,22.2s
LOR Lormes 130.09 331 ePKPdf PKPdf 01 44 17.4 -2.3
LOR LR LR
comp=Z,52µm,22.3s,MS7.2
BNI Bardonecchia 130.17 327 ePKIKP PKPdf 01 44 09.2 -11
BNI e 01 44 20.2
DOI San Damiano 130.21 326 PKIKP PKPdf 01 44 18.5 -1.4
OTAV Otavalo 130.30 95 ePKPdf PKPdf 01 44 21.0 +0.9
OTAV epPKPdf pPKPdf 01 44 31.5 +0.3
OTAV eP PP 01 46 35.1 +1.4
OTAV eSKPbc SKPbc 01 47 44.4 +3.9
OTAV LR LR
comp=Z,18µm,21.0s,MS6.8
MBDF Montbardon 130.33 327 ePKIKP PKPdf 01 44 17.8 -2.3
HEX Exmoor 130.34 339 eP PKPdf 01 44 20.3 +0.1
CLTB Caltabellotta 130.36 316 PKP PKPdf 01 44 21.5 +1.3
SAOF Saorge 130.37 326 PKP PKPdf 01 44 19.8 -0.4
SAOF Saorge 130.37 326 PKP PKPdf 01 44 21.2 +1.0
GDM Grand'Maison 130.37 328 PKP PKPdf 01 44 20.2 0.0
GDM Grand'Maison 130.37 328 PKP PKPdf 01 44 21.7 +1.5
SSF Saint Saulge 130.41 331 ePKIKP PKPdf 01 44 18.0 -2.3
comp=Z,404nm,1.5s

PGF	**Pioggiola**	**130.41 323**	*e*PKIKP	PKPdf	01 44 18.0	-2.3
	comp=Z,168nm,0.6s					
AUTN	**L'Aution**	**130.43 326**	PKP	PKPdf	01 44 19.6	-0.7
AUTN	**L'Aution**	**130.43 326**	PKP	PKPdf	01 44 21.5	+1.2
SURF	**Saint Ours**	**130.47 327**	PKP	PKPdf	01 44 20.4	0.0
SURF	**Saint Ours**	**130.47 327**	PKP	PKPdf	01 44 22.2	+1.8
SBF	**Sospel**	**130.51 326**	*e*PKIKP	PKPdf	01 44 17.9	-2.6
	comp=Z,339nm,0.9s					
TOUF	**Mont Tournerai**	**130.52 326**	PKP	PKPdf	01 44 19.4	-1.1
TOUF	**Mont Tournerai**	**130.52 326**	PKP	PKPdf	01 44 21.9	+1.4
GRN	**Grenoble**	**130.54 328**	PKP	PKPdf	01 44 20.2	-0.3
GRN	**Grenoble**	**130.54 328**	PKP	PKPdf	01 44 22.0	+1.5
SMF	**Signal de Mont**	**130.54 331**	*e*PKIKP	PKPdf	01 44 18.2	-2.3
	comp=Z,606nm,1.6s					
LUCF	**Luceram**	**130.54 326**	PKP	PKPdf	01 44 19.1	-1.4
ERC	**Erice**	**130.57 316**	PKP	PKPdf	01 44 21.6	+1.0
REVF	**Revere**	**130.63 326**	PKP	PKPdf	01 44 19.6	-1.1
REVF	**Revere**	**130.63 326**	PKP	PKPdf	01 44 21.9	+1.2
HTL	**Hartland**	**130.64 340**	*e*P	PKPdf	01 44 21.3	+0.6
HTL			AMb	AMB	01 44 23.6	
	comp=Z,76nm,1.3s					
MVIF	**Mont Vial**	**130.65 326**	PKP	PKPdf	01 44 19.6	-1.2
MVIF	**Mont Vial**	**130.65 326**	PKP	PKPdf	01 44 21.9	+1.1
HYF	**Humbligny**	**130.67 332**	*e*PKIKP	PKPdf	01 44 18.8	-2.0
AVF	**Avril sur Loir**	**130.68 331**	*e*PKIKP	PKPdf	01 44 18.2	-2.6
	comp=Z,118nm,1.2s					
ORIF	**Oris-en-Rattie**	**130.68 328**	*e*PKIKP	PKPdf	01 44 18.5	-2.3
	comp=Z,121nm,0.9s					
ORIF			*e*MLR	MLR		
	comp=Z,49µm,21.5s					
LDF	**La Druitiere**	**130.91 335**	*e*PKIKP	PKPdf	01 44 18.8	-2.4
	comp=Z,537nm,1.6s					
DYA	**Yadsworthy**	**130.91 339**	*e*P	PKPdf	01 44 21.4	+0.1
FLN	**La Foliniere**	**130.93 335**	*e*PKIKP	PKPdf	01 44 18.8	-2.5
	comp=Z,686nm,1.5s					
FLN			*e*MLR	MLR		
	comp=Z,44µm,19.0s					
FLN	**La Foliniere**	**130.93 335**	*e*PKPdf	PKPdf	01 44 18.8	-2.5
FLN			LR	LR		
	comp=Z,44µm,19.0s,MS7.2					
LPA	**La Plata**	**131.08 148**	*de*P	Pdif	01 41 17.0	+3.8
BGF	**Bois d'Agland**	**131.09 331**	*e*PKIKP	PKPdf	01 44 19.5	-2.1
	comp=Z,286nm,1.3s					
PLDF	**La Plantade**	**131.13 330**	PKP	PKPdf	01 44 21.7	0.0
PLDF	**La Plantade**	**131.13 330**	PKP	PKPdf	01 44 22.5	+0.8
FRF	**La Foret Royal**	**131.15 326**	*e*PKIKP	PKPdf	01 44 19.3	-2.4
	comp=Z,132nm,0.7s					
AGO	**Saint Agoulin**	**131.31 330**	PKP	PKPdf	01 44 21.3	-0.7
AGO	**Saint Agoulin**	**131.31 330**	PKP	PKPdf	01 44 23.4	+1.4
LMGC	**Las Mercedes**	**131.32 69**	*e*P	PKPdf	01 44 17.3	-4.7
DGI	**Dorgali Grotta**	**131.33 321**	PKP	PKPdf	01 44 22.4	+0.4
VIVF	**Saint-Julien-l**	**131.36 328**	*e*PKIKP	PKPdf	01 44 19.8	-2.3
	comp=Z,474nm,1.6s					
LMR	**La Mourre**	**131.37 326**	*e*PKIKP	PKPdf	01 44 19.8	-2.3
	comp=Z,384nm,1.1s					
GRR	**Gorron**	**131.38 335**	*e*PKIKP	PKPdf	01 44 19.9	-2.2
	comp=Z,628nm,1.6s					
SMRF	**Simiane la Rot**	**131.47 327**	*e*PKIKP	PKPdf	01 44 20.6	-1.7
	comp=Z,455nm,1.4s					
VAL	**Valentia**	**131.56 345**	*e*P	PKPdf	01 44 18.8	-3.7
VAL			⇓*i*pP		01 47 43.3	
CCA1	**Carnmenellis**	**131.57 340**	*e*P	PKPdf	01 44 21.6	-0.9
PYM	**Petit Puy Mans**	**131.59 330**	PKP	PKPdf	01 44 23.6	+1.1
PYM	**Petit Puy Mans**	**131.59 330**	PKP	PKPdf	01 44 24.3	+1.8
TCF	**Toulx Ste Croi**	**131.59 331**	*e*PKIKP	PKPdf	01 44 20.4	-2.1
LVC	**Limon Verde**	**131.74 127**	PKhKP		01 44 08.8	
	comp=Z,3.4nm,0.7s,baz=231,slow=3.7,SNR=5.4					
LVC			PKP	PKPdf	01 44 24.0	+1.2
	comp=Z,25nm,0.9s,baz=242,slow=2.2,SNR=17					
LVC			PP	PP	01 46 42.2	-0.8
	comp=Z,8.5nm,1.0s,baz=213,slow=4.1,SNR=3.3					
LVC			SKP		01 47 49.4	
	comp=Z,17nm,1.2s,baz=293,slow=20,SNR=7.7					
LVC	**Limon Verde**	**131.74 127**	PKP		01 44 08.8	
LVC			PKP	PKPdf	01 44 24.0	+1.2
LVC			PP	PP	01 46 42.2	-0.8
LVC			SKP		01 47 49.4	
LVC			LR	LR		
	comp=Z,27µm,21.0s,MS6.9					
LBL	**Lubilhac**	**131.83 330**	PKP	PKPdf	01 44 23.9	+0.9
LBL	**Lubilhac**	**131.83 330**	PKP	PKPdf	01 44 25.0	+2.0
VSL	**Villasalto**	**131.94 320**	*e*PKPdf	PKPdf	01 44 23.2	0.0
VSL			*ep*PKPdf	pPKPdf	01 44 34.4	0.0
HLGC	**Holguin**	**132.04 67**	*e*P	PKPdf	01 44 23.0	-0.4
SGMF	**Saint Gilles**	**132.18 336**	*e*PKIKP	PKPdf	01 44 21.2	-2.4
LASF	**Ste Croix**	**132.32 328**	*e*PKIKP	PKPdf	01 44 22.0	-1.9
	comp=Z,352nm,1.4s					
ARE	**Arequipa**	**132.44 119**	*e*PKIKP	PKPdf	01 44 26.0	+1.9
MFF	**Saint Martin d**	**132.44 333**	*e*PKIKP	PKPdf	01 44 21.7	-2.4
	comp=Z,96nm,0.8s					
RCC	**Rio Carpintero**	**132.54 68**	*e*P	PKPdf	01 44 21.7	-2.7
RJF	**Les Rejaudoux**	**132.64 331**	*e*PKIKP	PKPdf	01 44 22.7	-1.8
	comp=Z,235nm,1.4s					
RJF			*e*MLR	MLR		
	comp=Z,24µm,23.0s					
RJF	**Les Rejaudoux**	**132.64 331**	*e*PKPdf	PKPdf	01 44 22.7	-1.8
RJF			LR	LR		
	comp=Z,24µm,23.0s,MS6.8					
CAF	**Calviac**	**132.64 330**	*e*PKIKP	PKPdf	01 44 22.8	-1.7
	comp=Z,110nm,1.1s					
QUIF	**Quistinic**	**132.69 337**	*e*PKIKP	PKPdf	01 44 22.2	-2.4
MOAC	**Moa**	**133.09 67**	*e*P	PKPdf	01 44 27.3	+1.9
LFF	**La Frestale**	**133.28 331**	*e*PKIKP	PKPdf	01 44 24.0	-1.7
	comp=Z,261nm,1.2s					
MTLF	**Montolieu**	**133.69 328**	*e*PKIKP	PKPdf	01 44 24.2	-2.3
	comp=Z,133nm,1.0s					
LRDF	**Laroque-de-Fa**	**133.80 328**	PKP	PKPdf	01 44 26.5	-0.2
MASC	**Masc**	**133.86 68**	*e*P	PKPdf	01 44 27.1	+0.3
MASC			*e*S	PP	01 46 55.3	-1.3
	comp=N,4µm,7.3s					
MASC			*e*			
	comp=E,8µm,3.6s					
SJAF	**Saint Jean de**	**133.93 327**	PKP	PKPdf	01 44 26.8	-0.1
SJAF	**Saint Jean de**	**133.93 327**	PKP	PKPdf	01 44 29.1	+2.2
EJON	**La Jonquera**	**133.95 327**	⇑PKP	PKPdf	01 44 25.6	-1.3
KEST	**Kesra**	**133.98 315**	PKhKP		01 44 11.3	
	comp=E,2.0nm,0.9s,baz=143,slow=9.1,SNR=8.8					
KEST			PKP	PKPdf	01 44 26.5	-0.6
	comp=E,25nm,1.0s,baz=346,slow=6.3,SNR=18					
KEST			SKP		01 47 52.6	
	comp=E,37nm,1.1s,baz=275,slow=3.4,SNR=9.8					
FILF	**Fillols**	**134.05 327**	PKP	PKPdf	01 44 27.7	+0.5
CARF	**Carcanieres**	**134.18 328**	PKP	PKPdf	01 44 26.3	-1.1
VALF	**Valcebollere**	**134.45 328**	PKP	PKPdf	01 44 28.9	+1.0
TRIS	**Tristan da Cun**	**134.50 199**	*e*PKPdf	PKPdf	01 44 28.5	+0.5
TRIS			LR	LR		
	comp=Z,22µm,20.0s,MS6.9					
SALF	**Salau**	**134.63 329**	PKP	PKPdf	01 44 28.7	+0.5
MELF	**Melles**	**134.77 329**	PKP	PKPdf	01 44 28.2	-0.3
CMAH	**Djebel Manchou**	**134.82 318**	P	PKPdf	01 44 29.0	+0.4
ROSC	**El Rosal**	**134.84 89**	PKhKP		01 44 17.9	
	comp=Z,13nm,0.6s,baz=305,slow=4.6,SNR=8.6					
ROSC			PKP	PKPdf	01 44 30.1	+1.5
	comp=Z,87nm,0.7s,baz=111,slow=8.2,SNR=29					
ROSC			SKP		01 48 00.6	
	comp=Z,22nm,0.7s,baz=260,slow=23,SNR=6.1					
EPF	**Esparros**	**134.87 330**	*e*PKIKP	PKPdf	01 44 26.5	-2.2
	comp=Z,80nm,0.9s					
ABSA	**Djebel Ababsia**	**134.97 317**	P	PKPdf	01 44 30.0	+1.1
LABF	**Labassere**	**134.99 330**	PKP	PKPdf	01 44 28.6	-0.3
RESF	**Ens**	**135.03 329**	PKP	PKPdf	01 44 30.3	+1.3
EMIR	**Miracle**	**135.05 328**	⇑PKP	PKPdf	01 44 28.1	-1.0
VIEF	**Viey**	**135.14 330**	PKP	PKPdf	01 44 29.1	-0.1
VIEF	**Viey**	**135.14 330**	PKP	PKPdf	01 44 28.7	-0.5
REYF	**Montagne du Re**	**135.21 330**	PKP	PKPdf	01 44 30.3	+1.0
EBIE	**Bielsa**	**135.22 329**	⇑PKP	PKPdf	01 44 28.7	-0.7
ATE	**Arette**	**135.35 330**	PKP	PKPdf	01 44 30.1	+0.5
ORDF	**Ordiarp**	**135.37 331**	PKP	PKPdf	01 44 28.7	-0.9
CKFL	**Kef-Lekhel**	**135.41 318**	P	PKPdf	01 44 31.0	+1.3
ETSF	**Etsaut**	**135.42 330**	*e*PKIKP	PKPdf	01 44 27.4	-2.3
	comp=Z,314nm,1.2s					
LPAZ	**La Paz**	**135.43 120**	PKhKP		01 44 16.2	
	comp=Z,7.9nm,0.6s,baz=260,slow=3.0,SNR=15					
LPAZ			PKP	PKPdf	01 44 32.1	+2.4
	comp=Z,26nm,0.6s,baz=110,slow=1.3,SNR=18					
LPAZ			SKP		01 48 04.8	
	comp=Z,17nm,0.9s,baz=168,slow=25,SNR=3.8					
LPAZ	**La Paz**	**135.43 120**	PKHKP		01 44 16.3	
LPAZ					01 44 32.2	
LPAZ			pmax	pmax		
	comp=Z,8.0nm,0.6s					
LPAZ			pmax	pmax		
	comp=Z,26nm,0.6s					
LPAZ			pmax	pmax		
	comp=N,17nm,0.9s					
LPAZ	**La Paz**	**135.43 120**	PKP		01 44 16.2	
LPAZ			PKP	PKPdf	01 44 32.1	+2.4
LPAZ			SKP		01 48 04.8	
LPAZ			LR	LR		
	comp=Z,19µm,22.0s,MS6.8					
OSSF	**Osses**	**135.49 331**	PKP	PKPdf	01 44 29.3	-0.6
LARF	**Larrau**	**135.52 331**	PKP	PKPdf	01 44 29.8	-0.1
SJPF	**Ste Jean**	**135.58 331**	*e*PKIKP	PKPdf	01 44 28.3	-1.7
	comp=Z,74nm,0.8s					
EALK	**Alkurruntz**	**135.64 331**	⇑PKP	PKPdf	01 44 29.3	-0.8
CASM	**Ain Smara**	**135.64 318**	P	PKPdf	01 44 32.0	+1.9
EPOB	**Poblet**	**135.68 327**	⇑PKP	PKPdf	01 44 28.6	-1.6
ELIZ	**Elizondo**	**135.69 331**	PKIKP	PKPdf	01 44 29.1	-1.1
CTEI	**Djebel Teioual**	**135.81 318**	P	PKPdf	01 44 33.0	+2.5
DFRA	**Djebel Bou Aff**	**135.89 319**	P	PKPdf	01 44 34.0	+3.4
ESAC	**San Caprasio**	**136.23 329**	PKP	PKPdf	01 44 31.1	-0.2
ERTA	**Horta de San J**	**136.36 328**	PKP	PKPdf	01 44 30.8	-0.7
CMER	**Merouana**	**136.40 318**	P	PKPdf	01 44 33.0	+1.5
SET	**Setif**	**136.40 319**	P	PKPdf	01 44 33.0	+1.5
ELAN	**Lanestosa**	**136.53 333**	⇑PKP	PKPdf	01 44 31.4	-0.3
MSKU	**Masuku**	**136.81 261**	PFAKE		01 44 40.0	+7.7
MSKU			LR	LR		
	comp=Z,3.0nm,22.0s					
EIBI	**Ibiza**	**137.13 325**	PKP	PKPdf	01 44 33.6	+0.7
EMOS	**Mosqueruela**	**137.21 328**	PKP	PKPdf	01 44 31.9	-1.1
EARI	**Arriondas**	**137.26 334**	⇑PKP	PKPdf	01 44 33.0	-0.2
BBSR	**BB Station**	**137.55 47**	*e*PKPdf	PKPdf	01 44 33.8	+0.1
BBSR			*ep*PKPdf	pPKPdf	01 44 44.4	-0.4
BBSR			LR	LR		
	comp=Z,49µm,21.0s,MS7.2					
ABA	**Alger-Bouzarea**	**137.56 321**	P	PKPdf	01 44 33.0	-0.7
ETOR	**Torete**	**137.71 329**	PKIKP	PKPdf	01 44 30.1	-3.9
CPUP	**Villa Florida**	**137.78 141**	PKPdf	PKPdf	01 44 34.6	+0.5
CPUP	**Villa Florida**	**137.78 141**	PKhKP		01 44 23.3	
	comp=Z,7.5nm,0.7s,baz=216,slow=3.1,SNR=23					
CPUP			PKP	PKPdf	01 44 34.5	+0.4
	comp=Z,18nm,0.7s,baz=226,slow=4.1,SNR=19					
CPUP	**Villa Florida**	**137.78 141**	PKHKP		01 44 23.3	
CPUP					01 44 34.5	
CPUP			pmax	pmax		
	comp=Z,8.0nm,0.7s					
CPUP			pmax	pmax		
	comp=Z,18nm,0.7s					
CPUP	**Villa Florida**	**137.78 141**	PKP		01 44 23.3	
CPUP			PKP	PKPdf	01 44 34.5	+0.4
CPUP			LR	LR		
	comp=Z,2µm,20.0s,MS5.9					
EMHD	**Djebel Mahouad**	**137.98 320**	P	PKPdf	01 44 37.0	+2.5
EPON	**Pontenova**	**138.05 336**	PKP	PKPdf	01 44 33.2	-1.4
EBEN	**Beniarda**	**138.25 326**	⇑PKP	PKPdf	01 44 34.6	-0.4
SDV	**Santo Domingo**	**138.60 83**	PKhKP		01 44 25.9	
	comp=Z,17nm,0.5s,baz=308,slow=4.4,SNR=27					
SDV			PKP	PKPdf	01 44 36.2	+0.6
	comp=Z,292nm,0.8s,baz=307,slow=5.9,SNR=48					
SDV			SKP		01 48 09.0	
	comp=Z,34nm,0.9s,baz=192,slow=21,SNR=11					
SDV	**Santo Domingo**	**138.60 83**	PKP		01 44 25.9	
SDV			PKP	PKPdf	01 44 36.2	+0.6
SDV			SKP		01 48 09.0	
SDV			LR	LR		
	comp=Z,9µm,21.0s,MS6.5					
EBNR	**Beni Rached**	**138.82 321**	P	PKPdf	01 44 39.0	+3.0
ERUA	**La Rua**	**138.82 335**	PKIKP	PKPdf	01 44 35.5	-0.5
GUD	**Guadarrama**	**138.88 331**	PKIKP	PKPdf	01 44 34.6	-1.5
STS	**Santiago**	**138.98 337**	PKIKP	PKPdf	01 44 34.6	-1.7
ECHA	**Ech Chlef**	**139.01 321**	P	PKPdf	01 44 35.0	-1.4
ETOB	**Tobarra**	**139.02 327**	PKP	PKPdf	01 44 34.6	-1.7
ECAL	**Calabor**	**139.03 334**	PKP	PKPdf	01 44 35.0	-1.3
EMAZ	**Mazaricos**	**139.09 337**	PKP	PKPdf	01 44 35.7	-0.8
PBRG	**Braganca**	**139.14 334**	*e*PKP	PKPdf	01 44 29.6	-7.0
PBRG			*i* P		01 48 09.2	
EANR	**'Ain N'Sour**	**139.31 321**	P	PKPdf	01 44 33.0	-3.9
EMUR	**La Murta**	**139.42 326**	PKP	PKPdf	01 44 33.3	-3.8
ESDC	**Sonseca Array**	**139.53 330**	PKhKP		01 44 28.5	
	comp=Z,3.8nm,0.6s,baz=25,slow=3.7,SNR=12					
ESDC			PKP	PKPdf	01 44 36.8	-0.5
	comp=Z,7.7nm,0.6s,baz=23,slow=3.2,SNR=23					
ESDC			PP	PP	01 47 34.0	+2.0
	comp=Z,5.9nm,0.9s,baz=24,slow=7.2,SNR=4.4					
ESDC			SKP		01 48 08.0	
	comp=Z,4.5nm,0.7s,baz=30,slow=4.3,SNR=5.8					
ESDC	**Sonseca Array**	**139.53 330**	PKP		01 44 28.5	
ESDC			PKP	PKPdf	01 44 34.0	-3.4
ESLA	**Sonseca Array**	**139.53 330**	*e*PKPdf	PKPdf	01 44 32.2	-5.1
ESLA			*ep*PKPdf	pPKPdf	01 44 48.1	-0.4
ESLA			*e*SKPdf	SKPdf	01 48 10.6	+1.1
ESLA			LR	LR		
	comp=Z,93µm,20.0s,MS7.5					
ETRT	**Tiaret**	**139.54 321**	P	PKPdf	01 44 38.0	+0.7
EVIA	**Vianos**	**139.54 327**	PKIKP	PKPdf	01 44 35.6	-1.7
PCAB	**Cabril**	**139.76 336**	*i* P	SKPdf	01 48 11.2	+1.3
PVRL	**Vila Real**	**139.99 335**	*e*PKP	PKPdf	01 44 35.6	-2.5
PVRL			*i* P		01 48 11.2	
EHUE	**Huescar**	**140.19 327**	PKIKP	PKPdf	01 44 38.2	-0.3
EQES	**Quesada**	**140.46 327**	PKP	PKPdf	01 44 36.0	-3.0
PTO	**Porto**	**140.47 336**	*e*PKP	PKPdf	01 44 36.4	-2.6
PTO			*e*P		01 48 13.1	
PVIS	**Viseu**	**140.53 335**	*e*PKP	PKPdf	01 44 35.1	-4.0
PVIS			*e*P		01 48 13.5	
EBAN	**Banos Encina**	**140.57 328**	PKIKP	PKPdf	01 44 33.8	-5.4
ENIJ	**Nijar**	**140.58 325**	PKIKP	PKPdf	01 44 35.0	-4.2
MTE	**Manteigas**	**140.64 334**	*e*PKP	PKPdf	01 44 34.1	-5.2
MTE	**Manteigas**	**140.64 334**	*e*PP	PP	01 47 49.9	+11
MTE			*i* P		01 48 14.1	
MTE	**Manteigas**	**140.64 334**	*e*P	SS	02 06 28.8	+27
MTE	**Manteigas**	**140.64 334**	*e*LQ		02 24 43.8	
MTE	**Manteigas**	**140.64 334**	*e*LR	LR	02 36 50.7	
	comp=Z,21µm,18.2s					
MTE	**Manteigas**	**140.64 334**	*e*PKPdf	PKPdf	01 44 35.1	-4.2
EADA	**Adamuz**	**140.98 329**	PKP	PKPdf	01 44 30.3	-10
EBER	**Berja**	**141.01 326**	PKP	PKPdf	01 44 36.0	-4.0
PCBR	**Castelo Branco**	**141.06 333**	*e*PKP	PKPdf	01 44 35.9	-4.2
PCBR			*i* P		01 48 14.8	
ECOG	**Cogollos-Vega**	**141.11 327**	PKHKP		01 44 33.4	
ELUQ	**Luque**	**141.28 328**	PKHKP		01 44 34.5	
ERON	**Agron**	**141.43 327**	PKP	PKPdf	01 44 33.5	-7.2
EGUA	**Guajares**	**141.43 326**	PKIKP	PKPdf	01 44 35.8	-5.0
SIV	**San Ignacio**	**141.50 125**	PKhKP		01 44 33.6	
	comp=Z,36nm,0.7s,baz=239,slow=3.8,SNR=106					
ELOJ	**Sierra Loja**	**141.52 327**	PKIKP	PKPdf	01 44 37.5	-3.4
SJG	**San Juan**	**141.76 68**	PKhKP		01 44 35.5	
	comp=Z,63nm,0.7s,baz=104,slow=2.6,SNR=16					
SJG			SKPbc	SKPbc	01 48 15.4	-0.6
	comp=Z,126nm,1.1s,baz=131,slow=0.7,SNR=4.8					
SJG	**San Juan**	**141.76 68**	PKHKP		01 44 35.5	
SJG			pmax	pmax		
	comp=Z,63nm,0.7s					
SJG			pmax	pmax		
	comp=N,126nm,1.1s					
SJG	**San Juan**	**141.76 68**	PKP	PKPdf	01 44 35.5	-5.8
SJG			SKPbc	SKPbc	01 48 15.4	-0.6
SJG			LR	LR		
	comp=Z,24µm,20.0s,MS6.9					
PESTR	**Estremoz**	**141.90 333**	*e*PKP	PKPdf	01 44 33.8	-7.8
PESTR	**Estremoz**	**141.90 333**	*e*PP	PP	01 47 54.3	+7.7
PESTR			*i* P		01 48 16.9	
PESTR	**Estremoz**	**141.90 333**	LQ		02 26 17.7	
PESTR	**Estremoz**	**141.90 333**	*e*LR	LR	02 39 41.4	
	comp=Z,24µm,14.9s					
ALMR	**Almeirim**	**142.11 334**	*e*P	PKPdf	01 44 38.5	-3.4
EMIJ	**Mijas**	**142.29 327**	PKP	PKPdf	01 44 37.2	-5.1
EMIN	**Mina Concepcio**	**142.34 331**	PKP	PKPdf	01 44 38.9	-3.5
EVO	**Evora**	**142.37 333**	*e*PKIKP	PKPdf	01 44 39.9	-2.5
	comp=Z,449nm,1.5s					
EVO			*e*MLR	MLR		
	comp=Z,45µm,21.8s					
MOE	**Montemor**	**142.53 333**	*i* P	PKPdf	01 44 43.3	+0.6
PMAFR	**Mafra**	**142.58 334**	*e*PKP	PKPdf	01 44 38.5	-4.3
PMAFR	**Mafra**	**142.58 334**	*e*PP	PP	01 47 59.4	+8.7
PMAFR			*i* P		01 48 18.6	
PMAFR	**Mafra**	**142.58 334**	*i* LQ		02 33 34.5	
PMAFR			*e*LR	LR	02 42 41.5	
	comp=Z,18µm,24.8s					
PLOU	**Loures**	**142.59 334**	*e*PKP	PKPdf	01 44 37.3	-5.5
PLOU			*i* P		01 48 18.7	
ESPR	**Espera**	**142.63 329**	PKP	PKPdf	01 44 38.7	-4.2
PBEJ	**Beja**	**142.71 332**	*e*PKP	PKPdf	01 44 40.7	-2.3
PBEJ			*i* P		01 48 19.1	
LIS	**Lisbon**	**142.72 334**	*e*P	PKPdf	01 44 40.9	-2.2
LIS			*e*SS	SS	02 06 24.4	-1.8
LIS			*e*SS	SS	02 06 24.4	-1.8
LIS			AMS	AMS	02 58 08.4	
	comp=Z,27µm,27.0s,MS6.9					
EJIF	**Jimena Fronter**	**142.74 328**	PKIKP	PKPdf	01 44 39.2	-3.9
EGRO	**El Granado**	**142.92 331**	PKP	PKPdf	01 44 38.9	-4.5
PTEO	**Sao Teotonio**	**143.50 332**	*e*PKP	PKPdf	01 44 42.6	-1.8
PTEO			*i* P		01 48 21.1	
MORF	**Marmelete**	**143.66 332**	*e*PKP	PKPdf	01 44 41.9	-2.8
MORF	**Marmelete**	**143.66 332**	*e*PP	PP	01 47 54.3	-2.9
MORF			*e*P		01 48 21.7	
MORF	**Marmelete**	**143.66 332**	*e*LR	LR	02 40 44.9	
	comp=Z,14µm,16.1s					
PCRV	**Puerto La Cruz**	**144.45 81**	PKP	PKPdf	01 44 43.6	-2.5
	comp=Z,156nm,0.5s,baz=226,slow=0.6,SNR=104					
SABS	**Saba**	**144.56 68**	*e*P	PKPdf	01 44 45.7	-0.6
SABT	**Saba**	**144.56 68**	*e*P	PKPdf	01 44 45.5	-0.7
MDT	**Midelt**	**144.90 323**	SKP	SKPdf	01 48 20.7	+2.2
	comp=Z,34nm,1.1s,baz=35,slow=4.4,SNR=5.2					
SKI	**Saint Kitts**	**145.10 68**	*e*P	PKPbc	01 44 45.9	-0.8
SKTB	**Turtle Beach**	**145.25 68**	*e*P	PKPbc	01 44 47.1	-0.1
NVRH	**Round Hill, Ne**	**145.27 68**	*e*P	PKPbc	01 44 46.8	-0.5
CPB	**Codrington**	**145.86 67**	*e*P	PKPdf	01 44 48.6	+0.1
BPA	**Boggy Peak**	**145.99 68**	*e*P	PKPdf	01 44 49.5	+0.8
LZG	**Guadaloupe-1**	**146.29 70**	*e*P	PKPdf	01 44 49.7	+0.5
SCG	**Saint Claude**	**146.41 70**	*e*P	PKPdf	01 44 49.8	+0.4
BCG	**Bois Riant Cap**	**146.45 70**	*e*P	PKPdf	01 44 50.3	+0.8
TBG	**Guadaloupe-3**	**146.48 70**	*e*P	PKPdf	01 44 49.5	0.0
BBL	**Barber's Block**	**146.72 71**	*e*P	PKPdf	01 44 52.0	+2.0
SFG	**Saint Francois**	**146.80 69**	*e*P	PKPdf	01 44 52.1	+2.0
MDN	**Morne-Daniel**	**146.84 71**	*e*P	PKPdf	01 44 51.2	+1.0
DWS	**Wesley**	**146.86 71**	*e*P	PKPdf	01 44 51.2	+1.0
DSHT	**Scott's Head**	**146.88 71**	*e*P	PKPbc	01 44 54.0	+1.9
DEG	**La Desirade**	**146.91 69**	*e*P	PKPdf	01 44 52.2	+1.9
STGR	**Santa Cruz**	**146.96 359**	*e*PKP	PKPbc	01 44 54.7	+2.3
PVIA	**Vitoria**	**146.97 359**	*e*PKP	PKPbc	01 44 54.5	+2.1
PLUZ	**Luz**	**147.04 0**	*e*PKP	PKPbc	01 44 55.4	+2.8
GRW	**Mount Saint Ca**	**147.15 77**	*e*P	PKPdf	01 44 52.7	+2.0
GRHS	**Sauteurs**	**147.16 77**	*e*P	PKPdf	01 44 50.1	-0.6
GRSS	**Sisters**	**147.18 77**	*e*P	PKPdf	01 44 51.3	+0.6
FDF	**Fort de France**	**147.19 72**	⇓*e*P	PKPdf	01 44 52.3	+1.6
GRIC	**Isle de Caille**	**147.21 77**	*e*P	PKPdf	01 44 51.1	+0.4
TCE	**Chacachacare**	**147.23 79**	*e*P	PKPdf	01 44 52.4	+1.6
TCE			*e*S		14 49 07.5	
PVNV	**Vila Nova**	**147.25 357**	*e*PKP	PKPbc	01 44 55.9	+2.7
PBIS	**Biscoitos**	**147.25 358**	*e*PKP	PKPbc	01 44 57.4	+4.2
PFAV	**Pico das Favas**	**147.30 357**	*e*PKP	PKPbc	01 44 55.4	+2.1
ASBA	**Santa Barbara**	**147.30 358**	*e*PKP	PKPbc	01 44 56.1	+2.8
GRCU	**Cariacou**	**147.31 76**	*e*P	PKPdf	01 44 53.2	+2.3
BIM	**Bigot**	**147.31 72**	⇓*e*P	PKPdf	01 44 51.7	+0.8
PPAD	**Pico dos Padre**	**147.32 358**	*e*PKP	PKPdf	01 44 54.7	+3.7
RIB2	**Ribeirinha**	**147.34 357**	*e*PKP	PKPbc	01 44 55.8	+2.4
ADH	**Angra Heroismo**	**147.36 357**	*e*PKP	PKPdf	01 44 52.4	+1.4
ADH	**Angra Heroismo**	**147.36 357**	*i* PP	SKPdf	01 48 24.0	+1.6
PAMA	**Santo Amaro**	**147.37 359**	*e*PKP	PKPbc	01 44 55.2	+1.7
SVB	**Belmont**	**147.37 75**	*e*P	PKPdf	01 44 50.3	-0.8
FCV	**Fort Charlotte**	**147.40 75**	*e*P	PKPdf	01 44 52.5	+1.4
SSV	**Crater Summit**	**147.42 75**	*e*P	PKPdf	01 44 52.2	+1.1
MVM	**Montagne Vaucl**	**147.47 72**	⇓*e*P	PKPdf	01 44 52.8	+1.5
PTEI	**Pico do Teixo**	**147.55 359**	*e*PKP	PKPbc	01 44 55.0	+1.0
TPP	**Pointe-a-Pierr**	**147.56 80**	*e*P	PKPbc	01 44 55.0	+1.0
PCND	**Candelaria**	**147.58 359**	*e*PKP	PKPbc	01 44

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.63**	**139**	Pn	Pn	01 43 13.8	+0.4
	0.5nm,0.3s,baz=300,slow=12,SNR=7.1						
WRA				Sn	Sn	01 45 45.4	-11
	1.3nm,0.3s,baz=310,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.25**	**148**	P	Pn	01 43 47.6	+0.2
	0.3nm,0.3s,baz=322,slow=12,SNR=4.5						
ASAR				S	Sn	01 46 49.2	-11
	0.6nm,0.3s,baz=313,slow=21,SNR=8.0						
MKAR	**Makanchi Array**	**66.95**	**330**	P	P	01 50 39.6	+0.1
	0.5nm,0.5s,baz=143,slow=7.1,SNR=7.0						

IDC 17 01:50:23.3±3.5, 415S×15144E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/13, mbtmp3.4/2, Error ellipse: s-maj=149.1km s-min=47.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.89**	**225**	P	P	01 55 28.9	+0.4
	0.4nm,0.3s,baz=54,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**25.75**	**219**	P	P	01 55 57.2	+1.7
	0.8nm,0.7s,baz=56,slow=9.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.82**	**289**	PKPbc	PKPbc	02 10 12.2	-0.5
	0.3nm,0.5s,baz=89,slow=1.9,SNR=5.5						

IDC 17 01:52:48.9±8.8, 583S×15051E, h97km±61km, mb3.4/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.7/3, ML2.5/1, Error ellipse: s-maj=117.8km s-min=58.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**223**	P	Pn	01 53 59.6	-0.1
	1.3nm,0.3s,baz=45,slow=13,SNR=2.3						
PMG				S	Sn	01 54 55.7	+0.9
	1.1nm,0.3s,baz=241,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	01 57 25.0	-0.2
	1.2nm,0.4s,baz=53,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**23.88**	**220**	P	P	01 57 54.0	+0.7
	2.0nm,0.6s,baz=55,slow=9.0,SNR=13						
TORD	**Torodi Ar. Bea**	**148.42**	**286**	PKPbc	PKPbc	02 12 24.6	+0.5
	0.6nm,0.6s,baz=65,slow=1.9,SNR=6.9						

*NEIC **17** 01:53:11.7, 3143S×7175W, h18km, ML2.8(GUC), After GUC.*
GUC 17 01:53:11.7±0.8, 3143S×7175W, h18km±5km, MD3.8, ML2.8, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.50**	**155**	*e*P	Pg	01 53 21.5	-0.2
CHNG				*i* S	Sg	01 53 28.5	+0.1
CHNG				AML	AML	01 53 32.5	
	comp=E,236nm,0.6s						
CMCH	**Combarbala**	**0.69**	**68**	⇑*i*P	Pb	01 53 24.5	-0.6
CMCH				*i* S	Sb	01 53 34.3	+0.1
CMCH				AML	AML	01 53 35.6	
	comp=N,2μm,0.5s						
CMCH	**Combarbala**	**0.69**	**68**	⇑*i*P	Pb	01 53 24.5	-0.6
CMCH				*i* S	Sb	01 53 34.3	+0.1
OVCH	**Ovalle**	**0.94**	**30**	*e*P	Pb	01 53 28.2	-1.3
OVCH				*i* S	Sb	01 53 41.3	-0.4
OVCH				AML	AML	01 53 45.8	
	comp=N,566nm,0.4s						
OVCH	**Ovalle**	**0.94**	**30**	*e*P	Pb	01 53 28.2	-1.3
OVCH				*i* S	Sb	01 53 41.3	-0.4
PTCH	**Petorca**	**1.08**	**140**	*e*P	Pb	01 53 30.8	-1.2
PTCH				*i* S	Sb	01 53 44.8	-0.9
PTCH				AML	AML	01 53 47.9	
	comp=N,597nm,0.3s						
PTCH	**Petorca**	**1.08**	**140**	*e*P	Pb	01 53 30.8	-1.2
PTCH				*i* S	Sb	01 53 44.8	-0.9
TLL	**Tololo Astrono**	**1.50**	**33**	*e*P	Pn	01 53 38.0	+0.4
TLL				*i* S	Sn	01 53 57.5	+0.8
TLL				AML	AML	01 53 59.8	
	comp=E,299nm,0.5s						
TLL	**Tololo Astrono**	**1.50**	**33**	*e*P	Pn	01 53 38.0	+0.4
TLL				*i* S	Sn	01 53 57.5	+0.8
PEL	**Peldehue**	**1.93**	**153**	*e*P	Pn	01 53 43.9	+0.3
PEL				*i* S	Sn	01 54 09.1	+1.7
PEL				AML	AML	01 54 14.0	
	comp=E,325nm,0.4s						
PEL	**Peldehue**	**1.93**	**153**	*e*P	Pn	01 53 43.9	+0.3
PEL				*i* S	Sn	01 54 09.1	+1.7
CLCH	**Cerro Calan**	**2.21**	**153**	*e*P	Pn	01 53 49.1	+1.6
CLCH				*i* S	Sn	01 54 16.9	+2.5
CLCH				AML	AML	01 54 24.1	
	comp=N,103nm,0.7s						
FCH	**Farellones**	**2.26**	**147**	*e*P	Pn	01 53 49.5	+1.3
FCH				*i* S	Sn	01 54 17.8	+2.2

*IDC **17** 01:59:06.8±0.5, 1720S×16778E, h0km, mb4.8/16, mb1 4.9/19, mb1mx4.9/23, mbtmp4.9/19, ML4.9/2, MS5.2/1, Ms1 5.2/1, ms1mx3.9/37, Error ellipse: s-maj=17.0km s-min=14.9km az=79.0*
*LDG **17** 01:59:10.2±0.1, 1704S×16697E, h10km, Mb5.4/2, Error ellipse: s-maj=18.9km s-min=3.5km az=89.0*
*ISCJB **17** 01:59:11.7±0.2, 1730S±004×16776E±005, h37km, mb5.0/52, MS5.3/3, Error ellipse: s-maj=6.8km s-min=5.7km az=156.8*
*MOS **17** 01:59:12.5±1.8, 1736S×16776E, h33km, mb5.2/21, Error ellipse: s-maj=9.8km s-min=8.9km az=31.6*
*BJI **17** 01:59:12.6, 1777S×16726E, h45km, mB5.1, mb4.9, Ms5.2, Msz5.1*
*NEIC **17** 01:59:13.2±0.2, 1726S×16782E, mb5.1/27, Error ellipse: s-maj=8.8km s-min=8.0km az=124.0*
ISC 17 01:59:13.6±0.2, 1732S±004×16785E±005, h39km, h39km±2.2km: pP-P, n246, σ1§02/121, mb5.0/51, MS5.3/3, 36C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.91**	**195**	*e*P	**Pn**	**02 00 23.4**	**-1.5**
DZM				*e*S	**Sn**	**02 01 17.8**	**-2.6**
DZM	**Mont Dzumac**	**4.91**	**195**	Pn	**Pn**	**02 00 23.7**	**-1.2**
	31nm,0.3s,baz=38,slow=13,SNR=94						
DZM				Sn	**Sn**	**02 01 15.6**	**-4.8**
	68nm,0.3s,baz=126,slow=23,SNR=9.9						
DZM				LR	LR	02 02 08.9	
	comp=Z,27μm,18.8s,baz=289,slow=36						
HNR	**Honiara**	**10.98**	**315**	Pn	**Pn**	**02 01 43.9**	**-4.1**
	11nm,0.3s,baz=90,slow=19,SNR=5.7						
HNR	**Honiara**	**10.98**	**315**	*e*Pn	**Pn**	**02 01 44.1**	**-3.9**
HNR				*e*		02 01 55.0	
HNR				*e*Sn	**Sn**	**02 03 48.1**	**-1.4**
RAO	**Raoul Island**	**17.64**	**135**	P	**Pn**	**02 03 16.6**	**+0.3**
ARMA	**Armidale**	**19.72**	**226**	*e*P	**Pn**	**02 03 42.5**	**+1.1**
AFI	**Afiamalu**	**19.91**	**83**	P	**Pn**	**02 03 41.6**	**-2.0**
	1.9nm,0.3s,baz=316,slow=15,SNR=4.8						
AFI	**Afiamalu**	**19.91**	**83**	*e*P	**Pn**	**02 03 42.1**	**-1.5**
AFI				pmax	pmax		
	comp=Z,209nm,1.0s						
AFI	**Afiamalu**	**19.91**	**83**	*e*P	**Pn**	**02 03 42.1**	**-1.5**
	comp=Z,209nm,1.0s						
AFI				*e*		02 03 52.3	
CTA	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**02 03 51.1**	**+1.4**
	comp=Z,43nm,0.8s						
CTA	**Charters Tower**	**20.64**	**259**	P	**P**	**02 03 48.7**	**-0.9**
	comp=Z,25nm,1.0s,baz=76,slow=13,SNR=9.4						
CTA	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**02 03 51.1**	**+1.4**
CTA				pmax	pmax		
	comp=Z,43nm,0.8s						
CTAO	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**02 03 51.1**	**+1.4**
CTAO				*e*		02 04 04.4	
CTAO				pmax	pmax		
	comp=Z,51nm,0.8s						
CTAO	**Charters Tower**	**20.64**	**259**	*e*P	**P**	**02 03 51.1**	**+1.4**
	comp=Z,51nm,0.8s						
CTAO				*e*		02 04 04.4	
PMG	**Port Moresby**	**21.60**	**289**	*i* P	**P**	**02 04 03.0**	**+3.0**
PMG	**Port Moresby**	**21.60**	**289**	P	**P**	**02 04 01.8**	**+1.9**
	comp=Z,80nm,1.5s,mb4.9						
URZ	**Urewera**	**22.39**	**161**	P	**P**	**02 04 09.2**	**+0.8**
	comp=Z,26nm,0.6s,mb4.9,baz=45,slow=2.7,SNR=20						
CNB	**Canberra Magne**	**24.34**	**219**	*e*P	**P**	**02 04 29.1**	**+1.5**
	comp=Z,124nm,0.9s,mb5.3						
SNZO	**South Karori**	**24.63**	**168**	P	**P**	**02 04 32.0**	**+1.8**
	comp=Z,31nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**26.46**	**175**	P	**P**	**02 04 46.7**	**0.0**
	comp=Z,19nm,0.7s,mb4.7,baz=60,slow=4.9,SNR=6.9						
STKA	**Stephens Creek**	**27.83**	**234**	*e*P	**P**	**02 05 00.4**	**+1.3**
	comp=Z,28nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**27.83**	**234**	P	**P**	**02 04 57.8**	**-1.3**
	comp=Z,11nm,0.7s,mb4.6,baz=66,slow=9.9,SNR=12						
TOO	**Toolangi**	**28.17**	**220**	*e*P	**P**	**02 05 05.9**	**+3.8**
	comp=Z,11nm,0.9s,mb4.5						
TOO	**Toolangi**	**28.17**	**220**	*e*P	**P**	**02 05 05.9**	**+3.8**
TOO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
TAU	**Tasmania Unive**	**30.91**	**210**	P	**P**	**02 05 26.2**	**-0.3**
WB2	**Warramunga Arr**	**31.82**	**260**	*e*P	**P**	**02 05 33.7**	**-0.8**
WRAB	**Tennant Creek**	**31.82**	**260**	*i* P	**P**	**02 05 34.2**	**-0.3**
WRAB	**Tennant Creek**	**31.82**	**260**	*e*P	**P**	**02 05 34.4**	**-0.1**
	comp=Z,24nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**31.84**	**260**	P	**P**	**02 05 33.0**	**-1.6**
	comp=Z,4.2nm,0.6s,mb4.5,baz=83,slow=6.1,SNR=27						
WRA				PcP	PcP	02 08 23.4	-1.4
	comp=Z,3.2nm,0.7s,baz=89,slow=3.1,SNR=6.3						
WRA				ScP	ScP	02 12 07.4	+2.4
	comp=Z,2.7nm,1.2s,baz=94,slow=3.7,SNR=4.8						
WRA	**Warramunga Arr**	**31.84**	**260**	P	**P**	**02 05 33.0**	**-1.6**
WRA						02 08 23.4	
AS31	**Alice Springs**	**32.37**	**253**	*e*P	**P**	**02 05 38.7**	**-0.6**
AS31				*e*pP	pP	02 05 48.5	-1.7
ASAR	**Alice Springs**	**32.37**	**253**	P	**P**	**02 05 38.8**	**-0.5**
	comp=Z,16nm,0.6s,mb5.0,baz=77,slow=8.7,SNR=74						
ASAR				PcP	PcP	02 08 25.8	-0.4
	comp=Z,5.3nm,1.0s,baz=111,slow=2.6,SNR=4.6						
ASAR				ScP	ScP	02 12 09.8	+3.0
	comp=Z,2.2nm,1.0s,baz=96,slow=3.5,SNR=6.0						
ASAR	**Alice Springs**	**32.37**	**253**	P	**P**	**02 05 38.8**	**-0.4**
ASAR						02 08 25.8	
ASPA	**Alice Springs**	**32.37**	**253**	*e*P	**P**	**02 05 38.7**	**-0.6**
KAKA	**Kakadu**	**34.48**	**273**	*e*P	**P**	**02 05 54.4**	**-3.2**
	comp=Z,13nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.16**	**262**	*e*P	**P**	**02 06 46.2**	**+0.5**
	comp=Z,36nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**40.16**	**262**	P	**P**	**02 06 45.6**	**-0.2**
	comp=Z,19nm,0.8s,mb4.8,baz=98,slow=6.7,SNR=17						
MBWA	**Marble Bar**	**45.46**	**257**	*e*P	**P**	**02 07 30.2**	**+1.5**
	comp=Z,55nm,1.0s,mb5.3						
MBWA				*e*pP	pP	02 07 39.3	-0.7
KLBR	**Kellerberrin**	**47.38**	**243**	*e*P	**P**	**02 07 43.0**	**-0.7**
	comp=Z,29nm,0.9s,mb5.2						
MIDW	**Midway**	**47.47**	**18**	P	**P**	**02 07 45.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**47.95**	**241**	P	**P**	**02 07 48.4**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,33nm,0.8s						
NWAO	**Narrogin (SRO)**	**47.95**	**241**	P	**P**	**02 07 48.4**	**+0.2**
	comp=Z,33nm,0.8s,mb5.4						
KKM	**Kota Kinabalu**	**56.04**	**290**	*e*P	**P**	**02 08 48.0**	**-0.3**
KSM	**Kuching**	**59.67**	**282**	*e*P	**P**	**02 09 14.3**	**+0.4**
VNDA	**Vanda**	**60.30**	**182**	P	**P**	**02 09 17.4**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.4,baz=355,slow=6.9,SNR=18						
VNDA	**Vanda**	**60.30**	**182**	*e*P	**P**	**02 09 17.9**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**60.30**	**182**	*e*P	**P**	**02 09 17.9**	**-0.3**
	comp=Z,6.8nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**60.45**	**333**	P	**P**	**02 09 17.2**	**-2.0**
	comp=Z,6.4nm,0.8s,mb4.7,baz=165,slow=7.8,SNR=11						
MAJO	**Matsushiro**	**60.45**	**333**	*e*P	**P**	**02 09 21.4**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
MAJO	**Matsushiro**	**60.45**	**333**	*e*P	**P**	**02 09 21.4**	**+2.2**
	comp=Z,30nm,0.9s,mb5.3						
MAT	**Matsushiro**	**60.45**	**333**	P	**P**	**02 09 17.5**	**-1.7**
SBA	**Scott Base**	**60.57**	**180**	*e*P	**P**	**02 09 20.5**	**+0.5**
SBA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
SBA	**Scott Base**	**60.57**	**180**	*e*P	**P**	**02 09 20.5**	**+0.5**
	comp=Z,25nm,0.9s,mb5.3						
CASY	**Casey**	**61.37**	**203**	*e*P	**P**	**02 09 24.8**	**-0.6**
CASY	**Casey**	**61.37**	**203**	*e*P	**P**	**02 09 25.1**	**-0.3**
CASY				*e*pP	pP	02 09 35.9	-1.2
YHNB	**Yeheng**	**61.59**	**311**	*e*P	**P**	**02 09 26.7**	**-0.3**
TATO	**Taipei**	**61.70**	**312**	*e*P	**P**	**02 09 27.6**	**0.0**
ASAJ	**Asahikawa**	**65.35**	**340**	P	**P**	**02 09 52.6**	**+0.9**
	comp=Z,16nm,0.7s,mb5.1,baz=202,slow=29,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**67.85**	**342**	⇑*e*P	**P**	**02 10 09.6**	**+1.9**
YSS				pmax	pmax		
	comp=Z,242nm,2.4s,mb5.8						
YSS	**Yuzh-Sakhalins**	**67.85**	**342**	*e*P	**P**	**02 10 07.7**	**0.0**
NJ2	**Nanjing**	**67.92**	**316**	*e*P	**P**	**02 10 08.6**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
MIR	**Mirnyy**	**68.22**	**205**	*d i*P	**P**	**02 10 12.0**	**+2.0**
MIR				*i*		02 10 20.0	
MIR				*i*		02 10 31.0	
MIR				pmax	pmax		
	comp=Z,250nm,1.5s,mb6.0						
KULM	**Kulim**	**70.03**	**282**	*e*P	**P**	**02 10 22.0**	**+0.7**
KULM				*e*pP	pP	02 10 31.8	-1.3
WHN	**Wuhan**	**70.09**	**312**	P	**P**	**02 10 21.0**	**-0.6**
PSI	**Prapat**	**70.81**	**279**	P	**P**	**02 10 24.8**	**-1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=170,slow=8.0,SNR=6.8						
PSI	**Prapat**	**70.81**	**279**	P	**P**	**02 10 24.8**	**-1.2**
MDJ	**Mudanjiang**	**70.81**	**332**	P	**P**	**02 10 27.8**	**+1.8**
MDJ				AP	pP	02 10 39.3	+1.4
MDJ				XP	sP	02 10 43.8	+1.4
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
CN2	**Changchun**	**72.14**	**329**	*e*P	**P**	**02 10 38.9**	**+4.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
QSPA	**South Pole Qui**	**72.73**	**180**	*e*P	**P**	**02 10 37.3**	**-0.2**
	comp=Z,50nm,1.0s,mb5.4						
KLR	**Kul'dur**	**73.59**	**336**	*e*P	**P**	**02 10 44.2**	**+1.6**
GYA	**Guiyang**	**73.64**	**305**	⇑*i*P	**P**	**02 10 43.1**	**+0.2**
GYA				XP	sP	02 11 01.5	+2.1
GYA				PP	PP	02 13 28.6	+1.2
GYA				S	S	02 20 06.5	-4.0
GYA				SS	SS	02 24 51.0	-3.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,5.5s						
GYA				LR	LR		
	comp=N,490nm,17.8s,MS5.0						
GYA				LR	LR		
	comp=E,540nm,18.0s,MS5.0						
GYA				LR	LR		
	comp=Z,520nm,18.2s,MS4.9						
BJI	**Beijing**	**74.62**	**321**	P	**P**	**02 10 48.1**	**-0.5**
BJI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
BJI	**Beijing**	**74.62**	**321**	P	**P**	**02 10 48.1**	**-0.5**
	comp=Z,16nm,1.3s,mb4.8						
XAN	**Xi'an**	**75.84**	**313**	P	**P**	**02 10 55.3**	**-0.4**
XAN				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
KMI	**Kunming**	**76.14**	**302**	P	**P**	**02 10 58.5**	**+1.1**
KMI				AP	pP	02 11 11.3	+2.0
KMI				XP	sP	02 11 16.3	+2.5
KMI				AMB	AMB		
	comp=Z,22nm,1.6s,mb4.8						
KMI	**Kunming**	**76.14**	**302**	P	**P**	**02 10 58.5**	**+1.1**
KMI				*PP	pP	02 11 11.2	+1.9
KMI				*SP	sP	02 11 16.2	+2.4
KMI				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
KMI	**Kunming**	**76.14**	**302**	P	**P**	**02 10 58.5**	**+1.1**
	comp=Z,22nm,1.6s,mb4.8						
KMI				pP	pP	02 11 11.2	+1.9
KMI				sP	sP	02 11 16.2	+2.4
CHTO	**Chiang Mai**	**76.66**	**295**	*e*P	**P**	**02 11 01.1**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.2						
CHTO	**Chiang Mai**	**76.66**	**295**	*e*P	**P**	**02 11 01.1**	**+0.8**
	comp=Z,48nm,1.6s,mb5.2						
HHC	**Hu-ho-hao-te**	**77.91**	**320**	*e*P	**P**	**02 11 08.0**	**+0.7**
HHC				AP	pP	02 11 21.5	+2.2
HHC				XP	sP	02 11 26.0	+2.2
HHC				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.2						
CD2	**Chengdu**	**78.02**	**308**	P	**P**	**02 11 08.6**	**+0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,5.6s						
MAW	**Mawson**	**79.71**	**202**	*e*P	**P**	**02 11 17.4**	**+0.2**
	comp=Z,8.6nm,0.7s,mb4.8						
MAW	**Mawson**	**79.71**	**202**	P	**P**	**02 11 17.3**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=107,slow=6.9,SNR=36						
MAW	**Mawson**	**79.71**	**202**	*e*P	**P**	**02 11 17.4**	**+0.2**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LZH	**Lanzhou**	**80.47**	**312**	⇑P	**P**	**02 11 22.0**	**+0.7**
LZH				AP	pP	02 11 35.3	+2.0
LZH				XP	sP	02 11 40.5	+2.7
LZH				PP	PP	02 14 28.6	+3.9
LZH				*e*S	S	02 21 25.3	+0.5
LZH				SKS		02 21 31.9	
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,268nm,8.7s						
LZH				LR	LR		
	comp=E,617nm,15.2s						
LZH				LR	LR		
	comp=Z,737nm,18.4s,MS5.1						
LZH	**Lanzhou**	**80.47**	**312**	⇑P	**P**	**02 11 22.0**	**+0.7**
LZH				*PP	pP	02 11 35.3	+2.0
LZH						02 14 28.6	
LZH				*e*S	S	02 21 25.2	+0.4
LZH						02 21 31.9	
LZH				PS		02 22 18.3	
LZH				*e*SS	SS	02 26 42.5	+5.3
LZH				pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,740nm,18.4s,MS5.1						
LZH	**Lanzhou**	**80.47**	**312**	⇑P	**P**	**02 11 22.0**	**+0.7**
	comp=Z,43nm,1.5s,mb5.2						
LZH				pP	pP	02 11 35.3	+2.0
LZH				sP	sP	02 11 40.5	+2.7
LZH				PP	PP	02 14 28.6	+3.9
LZH				*e*S	S	02 21 25.2	+0.4
LZH				SKS		02 21 31.9	
LZH				sS	sS	02 21 37.5	-7.3
LZH				PS		02 22 18.3	
LZH				*e*SS	SS	02 26 42.5	+5.3
LZH				LR	LR		
	comp=Z,740nm,18.4s,MS5.1						
SEY	**Seymchan**	**80.90**	**353**	⇑*e*P	**P**	**02 11 23.6**	**0.0**
IMP	**Imphal**	**83.27**	**298**	*ex*	x	02 11 36.0	
CIT	**Chita**	**83.58**	**330**	*e*P	**P**	**02 11 37.5**	**-0.1**
CIT				*e*	pP	02 11 48.3	-1.4
CIT				pmax	pmax		
	comp=Z,96nm,3.4s						
YAK	**Yakutsk**	**84.65**	**343**	⇑*e*P	**P**	**02 11 43.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.4						
YAK	**Yakutsk**	**84.65**	**343**	P	**P**	**02 11 42.1**	**-1.0**
GTA	**Gaotai**	**84.85**	**314**	*e*P	**P**	**02 11 44.4**	**+0.3**
GTA				AP	pP	02 11 57.8	+1.6
GTA				XP	sP	02 12 02.8	+2.2
GTA				PP	PP	02 15 04.9	+4.2
GTA				SKS		02 22 01.6	
GTA				S	S	02 22 10.3	+0.8
GTA				XS	sS	02 22 30.5	+0.9
GTA				SS	SS	02 27 44.6	+2.3
GTA				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
SONM	**Songino Array**	**84.90**	**324**	P	**P**	**02 11 43.8**	**-0.5**
	comp=Z,12nm,0.8s,mb5.1,baz=155,slow=10,SNR=61						
BILL	**Bilibino**	**85.12**	**359**	*e*P	**P**	**02 11 46.7**	**+1.3**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
BILL				MLR	MLR		
	comp=Z,4μm,15.0s,MS5.9						
SYO	**Syowa Base**	**86.40**	**196**	⇓*e*P	**P**	**02 11 50.8**	**-0.9**
SYO	**Syowa Base**	**86.40**	**196**	⇓*i*P	**P**	**02 11 52.0**	**+0.3**
OHCM	**Honcut**	**86.64**	**47**	P	**P**	**02 11 51.4**	**-1.5**
CMB	**Columbia Colle**	**86.87**	**49**	*e*P	**P**	**02 11 53.5**	**-0.6**
CMB				*e**PP	pP	02 12 03.1	-3.1
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**86.87**	**49**	*e*P	**P**	**02 11 53.5**	**-0.5**
	comp=Z,7.9nm,1.0s,mb4.9						
CMB				*e*pP	pP	02 12 03.1	-3.1
BOD	**Bodaibo**	**87.04**	**334**	*e*P	**P**	**02 11 50.8**	**-4.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.8						
ZAK	**Zakamensk**	**87.97**	**325**	*e*P	**P**	**02 11 58.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.0						
DAC	**Darwin (Calif)**	**88.21**	**51**	*e*P	**P**	**02 12 00.1**	**-0.4**
DAC				pmax	pmax		
	comp=Z,21nm,1.8s,mb5.1						
DAC	**Darwin (Calif)**	**88.21**	**51**	*e*P	**P**	**02 12 00.1**	**-0.3**
	comp=Z,21nm,1.8s,mb5.1						
NVAR	**Mina Array Bea**	**88.53**	**49**	P	**P**	**02 12 01.8**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.4,baz=216,slow=4.5,SNR=4.4						
PMSA	**Palmer Station**	**89.16**	**160**	*e*P	**P**	**02 12 03.7**	**-1.2**
TPH	**Tonopah**	**89.18**	**50**	P	**P**	**02 12 05.3**	**+0.3**
WVOR	**Wild Horse Val**	**89.89**	**45**	*e*P	**P**	**02 12 07.3**	**-1.1**
WVOR				*e**PP	pP	02 12 17.6	-3.0
WVOR				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.1						
WVOR	**Wild Horse Val**	**89.89**	**45**	*e*P	**P**	**02 12 07.3**	**-1.1**
	comp=Z,13nm,1.3s,mb5.1						
WVOR				*e*pP	pP	02 12 17.6	-3.0
MAIT	**Maitri**	**90.58**	**188**	*e*P	**P**	**02 12 05.6**	**-6.0**
HAWA	**Hanford**	**90.92**	**41**	*e*P	**P**	**02 12 12.6**	**-0.6**
	comp=Z,29nm,1.3s,mb5.5						
HAWA				*e*pP	pP	02 12 23.4	-1.9
SNAA	**Sanae**	**91.01**	**183**	P	**P**	**02 12 12.5**	**-1.1**
	comp=Z,11nm,1.1s,mb5.1,baz=187,slow=3.5,SNR=30						
TIXI	**Tiksi**	**92.60**	**348**	⇑*e*P	**P**	**02 12 19.8**	**-1.2**
TIXI				pmax	pmax		

comp=Z,2.4nm,0.8s,baz=157,slow=6.2,SNR=5.2
FINES FINESS Array B 128.32 338⇑PKIKP PKPdf 02 18 16.1 +0.3
AKASG Malin Array Be 133.17 325 PKP PKPdf 02 18 23.1 -1.8
comp=Z,0.2nm,0.3s,baz=60,slow=1.9,SNR=5.0
NB2 NORSAR Subarra 133.25 345 PKPdf PKPdf 02 18 26.9 +1.8
comp=Z,2.5nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 133.25 345 PKP PKPdf 02 18 22.4 -2.7
comp=Z,1.8nm,0.7s,baz=33,slow=1.9,SNR=9.1
NOA NORSAR Array B 133.25 345 PKP PKPdf 02 18 22.4 -2.7
KONO Kongsberg 134.86 345⇑PKIKP PKPdf 02 18 22.6 -5.5
EIL Elat 135.37 295 *e*PKPdf PKPdf 02 18 29.5 +0.4
CSS Prodhromos 135.96 303 *e*PKPdf PKPdf 02 18 29.4 -0.7
KOLS Kolonicke sedl 137.90 326 *e*PKP PKPdf 02 18 34.3 +0.5
CRVS Cervenica-Dubn 138.35 327 *e*PKP PKPdf 02 18 34.8 +0.2
OKC Ostrava-Krasne 139.42 330 *e*pPKP pPKPdf 02 18 42.7 -6.4
DPC Dobruska-Polom 139.92 332 *e*PKPDF PKPdf 02 18 36.8 -0.7
VYHS Vyhne 139.96 328 *e*PKP PKPdf 02 18 39.2 +1.7
VYHS *e* 02 18 50.8
PVCC Panska Ves 140.56 333 *e*PKPDF PKPdf 02 18 39.8 +1.2
BRG Berggiesshubel 140.57 334 *e*PKP PKPdf 02 18 37.0 -1.6
comp=Z,8.3nm,1.7s
BRG
comp=N,17μm,20.4s
BRG
comp=E,11μm,20.5s
BRG
comp=Z,18μm,22.4s
CLL Collm 140.63 335 *e*PKPdf PKPdf 02 18 40.0 +1.3
comp=Z,7.0nm,1.0s
CLL *e*(pPKPdf) 02 18 53.0
PRU Pruhonice 140.97 333 *e*PKPDF PKPdf 02 18 38.8 -0.6
TREC Trest 141.05 331 *e*PKPDF PKPdf 02 18 43.8 +4.3
CONA Conrad Observa 141.82 329⇓*i*PKPdf PKPdf 02 18 37.5 -3.4
comp=Z,5.3nm,1.0s
KHC Kasperske Hory 142.03 332 *e*PKPpre 02 18 36.4
GERES GERESS Array B 142.18 332 PKhKP 02 18 37.0
comp=Z,0.9nm,0.6s,baz=47,slow=2.4,SNR=8.4
TNS Taunus Mts 143.24 338 *e*PKIKP PKPdf 02 18 44.4 +1.0
KBA Koelnbreinsper 143.63 330⇑*i*P PKPdf 02 18 41.5 -2.6
comp=Z,14nm,1.2s
MEM Membach 143.74 340 PKP PKPdf 02 18 49.8 +5.5
FUR Furstenfeldbru 143.76 333 *e*PKIKP PKPdf 02 18 42.6 -1.7
BCLA Clavier 144.13 341 PKP PKPdf 02 18 49.5 +4.5
FVI Forni Avoltri 144.25 330 PKIKP PKPdf 02 18 42.5 -2.7
WTTA Wattenberg 144.29 332⇓*i*P PKPdf 02 18 43.3 -2.0
comp=Z,25nm,1.5s
SNF Seneffe 144.36 342 PKP PKPdf 02 18 45.5 +0.1
MOTA Moosalm 144.46 332⇑*i*P PKPdf 02 18 43.3 -2.2
comp=Z,18nm,1.0s
WLF Walferdange 144.51 339 PKP PKPdf 02 18 44.3 -1.4
WLF Walferdange 144.51 339 *e*PKPdf PKPdf 02 18 44.3 -1.3
SQTA Sankt Quirin 144.51 332⇓*i*P PKPdf 02 18 44.0 -1.7
comp=Z,16nm,1.0s
DOU Dourbes 144.63 341 PKP PKPdf 02 18 47.1 +1.3
BAIF Baives 144.78 342⇑*i*PKP1 PKPdf 02 18 45.2 -0.9
comp=Z,41nm,1.2s
BFO Black Forest 144.84 336 *e*PKIKP PKPdf 02 18 44.4 -1.8
DAVA Dannuels 145.04 334⇑*i*P PKPbc 02 18 45.4 -0.6
comp=Z,30nm,0.8s
WLS Welschbruch 145.14 337 PKP PKPdf 02 18 46.2 -0.5
CDF Champ du Feu 145.17 337⇑*i*PKP1 PKPbc 02 18 45.6 -0.8
comp=Z,68nm,0.7s
CTI Castel Tesino 145.19 331 PKP2 PKPab 02 18 45.6 -0.9
LIBD Limburg 145.26 337 PKIKP PKPdf 02 18 46.9 0.0
FELD Feldberg im Sc 145.33 336 PKP PKPdf 02 18 46.4 -0.7
ECH Echery 145.37 337 PKP PKPdf 02 18 46.4 -0.7
BRMO Bormio 145.45 332 PKP PKPdf 02 18 47.3 0.0
MOF Molkenrain 145.69 337 PKP PKPdf 02 18 47.7 0.0
THEF They Montfort 145.79 338 PKP PKPdf 02 18 48.0 +0.2
HINF Hinteralfeld 145.82 337⇑*i*PKP1 PKPbc 02 18 47.4 -1.1
comp=Z,40nm,1.0s
HAU Haudompre 145.85 338⇑*i*PKP1 PKPbc 02 18 47.8 -0.7
comp=Z,72nm,1.0s
BBS Basel-Blauen 145.86 336 PKIKP PKPdf 02 18 48.2 +0.2
MEZF Maizieres J'vi 145.88 339⇑*i*PKP1 PKPbc 02 18 48.2 -0.4
comp=Z,107nm,0.8s
RGNG Rignano Grg 146.03 321 PKP PKPdf 02 18 48.8 +0.6
LOMF Lomont 146.22 337 PKP PKPdf 02 18 49.7 +1.1
SNTG Esanatoglia 146.52 326 PKP PKPdf 02 18 50.7 +1.6
SFI Santa Sofia 146.64 328 PKP2 PKPab 02 18 51.2 -0.8
TIP Timpagrande 146.73 317 *e*PKPbc PKPbc 02 18 52.2 +1.0
VMG Vicchio 146.75 328 PKP PKPbc 02 18 52.3 +1.1
ZCCA Zocca 146.75 329 PKP PKPdf 02 18 51.3 +1.8
SEI Scarperia 146.78 328 PKP PKPbc 02 18 54.9 +3.6
AQU L'Aquila 146.87 324 *e*PKIKP PKPdf 02 18 51.0 +1.3
GSCL Gusciola 146.94 329 PKP PKPdf 02 18 51.8 +2.0
ERBM Eremo 146.98 330 PKP PKPdf 02 18 51.9 +2.1
VVLD Villa Vallelon 147.06 323 PKP PKPdf 02 18 51.3 +1.3
CABF La Chapelle 147.11 337⇑*i*PKP1 PKPbc 02 18 51.9 -0.3
comp=Z,60nm,1.0s
GRI Girifalco 147.14 316 PKP2 PKPab 02 18 52.7 -1.3
FLN La Foliniere 147.23 346⇑*i*PKP1 PKPbc 02 18 51.3 -1.3
comp=Z,96nm,1.0s
CSNT Castellina Chi 147.23 328 PKP PKPdf 02 18 50.9 +0.6
LDF La Druitiere 147.30 345⇑*i*PKP1 PKPbc 02 18 51.5 -1.3
comp=Z,73nm,1.2s
LOR Lormes 147.35 340⇑*i*PKP1 PKPbc 02 18 51.0 -1.9
comp=Z,71nm,1.1s
PII Pisa 147.44 329 PKIKP PKPdf 02 18 51.7 +1.1
GRR Gorron 147.67 346 *e*PKP1 PKPbc 02 18 52.7 -1.1
comp=Z,82nm,0.9s
LPL La Plagne 147.76 335 *e*PKP1 PKPbc 02 18 53.7 -0.3
comp=Z,31nm,0.9s
LPG La Plagne 147.77 335⇑*i*PKP1 PKPbc 02 18 53.9 -0.2
comp=Z,39nm,0.8s
SOI Samo 147.79 316 PKIKP PKPdf 02 18 52.1 +0.9
SMF Signal de Mont 147.90 339 *e*PKP1 PKPbc 02 18 53.3 -1.1
comp=Z,78nm,1.1s
AVF Avril sur Loir 147.93 340⇑*i*PKP1 PKPbc 02 18 53.4 -1.1
comp=Z,57nm,1.0s
MTTG Motta San Giov 148.06 316 PKP PKPbc 02 18 56.3 +1.5
BNI Bardonecchia 148.16 334 *e*PKP2 PKPbc 02 18 55.0 -0.1
BGF Bois d'Agland 148.30 340⇑*i*PKP1 PKPbc 02 18 54.6 -0.9
comp=Z,36nm,0.9s
GRN Grenoble 148.38 336 PKP PKPbc 02 18 55.5 -0.2
MBDF Montbardon 148.39 334⇑*i*PKP1 PKPbc 02 18 54.8 -0.9
comp=Z,18nm,0.7s
PLDF La Plantade 148.56 339 PKP PKPbc 02 18 55.8 -0.3
SURF Saint Ours 148.57 334 PKP PKPbc 02 18 56.8 +0.6
ORIF Oris-en-Rattie 148.60 335⇑*i*PKP1 PKPbc 02 18 55.6 -0.6
comp=Z,33nm,0.8s
QUIF Quistinic 148.60 348 *e*PKP1 PKPbc 02 18 55.6 -0.6
comp=Z,46nm,0.9s
SAOF Saorge 148.64 332 PKP PKPbc 02 18 55.9 -0.4
AGO Saint Agoulin 148.65 339 PKP PKPbc 02 18 56.2 -0.2
AUTN L'Aution 148.69 332 PKP PKPbc 02 18 55.9 -0.6
TCF Toulx Ste Croi 148.75 341⇑*i*PKP1 PKPbc 02 18 55.7 -0.9
TOUF Mont Tournerai 148.75 332 PKP PKPbc 02 18 55.9 -0.7
LUCF Luceram 148.80 332 PKP PKPbc 02 18 55.9 -0.9
REVF Revere 148.91 332 PKP PKPdf 02 18 54.8 +1.8
PYM Petit Puy Mans 148.96 339 PKP PKPbc 02 18 57.2 +0.1
VIVF Saint-Julien-l 149.13 336 *e*PKP1 PKPbc 02 18 56.8 -0.8
comp=Z,40nm,1.1s
MFF Saint Martin d 149.15 344⇑*i*PKP1 PKPbc 02 18 56.6 -1.0
comp=Z,58nm,0.8s
LBL Lubilhac 149.33 338 PKP PKPbc 02 18 58.5 +0.4
FRF La Foret Royal 149.38 333⇑*i*PKP1 PKPbc 02 18 57.2 -1.0
comp=Z,55nm,1.1s
RJF Les Rejaudoux 149.84 341 *e*PKP1 PKPbc 02 18 58.6 -0.7
comp=Z,51nm,1.0s
CAF Calviac 150.00 340⇑*i*PKP1 PKPbc 02 18 59.2 -0.5
comp=Z,41nm,1.1s
LASF Ste Croix 150.10 337 *e*PKP1 PKPbc 02 18 59.3 -0.7
comp=Z,81nm,1.1s
VSL Villasalto 151.04 324 *e*PKPbc PKPbc 02 19 02.2 0.0
MTLF Montolieu 151.34 338⇑*i*PKP1 PKPbc 02 19 02.2 -0.7
comp=Z,36nm,1.0s
EPF Esparros 152.25 340 *e*PKP1 PKPbc 02 19 04.4 -0.6
comp=Z,20nm,0.9s
ETSF Etsaut 152.66 341⇑*i*PKP1 PKPbc 02 19 05.6 -0.3
comp=Z,22nm,0.7s
SJPF Ste Jean 152.66 342 *e*PKP1 PKPbc 02 19 05.3 -0.6
comp=Z,15nm,0.8s
KEST Kesra 153.53 318 PKPbc PKPbc 02 19 08.7 +0.9
comp=Z,1.0nm,0.8s,baz=44,slow=17,SNR=4.5
ESDC Sonseca Array 156.61 344 PKPab PKPab 02 19 31.2 -2.2
comp=Z,0.6nm,0.6s,baz=9.7,slow=4.8,SNR=2.8
TORD Torodi Ar. Bea 166.01 255 PKP PKPdf 02 19 13.6 -0.5
comp=Z,3.1nm,1.0s,baz=108,slow=1.1,SNR=12
TORD PKPab PKPab 02 20 14.2 -0.3
comp=Z,1.4nm,1.0s,baz=104,slow=3.1,SNR=3.6
DBIC Dimbokro 167.24 215 PKPab PKPab 02 20 18.7 -1.2
comp=Z,4.0nm,1.1s,baz=135,slow=9.5,SNR=2.4

IDC ***17*** *02:01:37.7±2.0, 2702S×71.14W, h0km, mb4.2/2, mb1 3.9/5, mb1mx3.7/19, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=54.6km s-min=25.8km az=86.0*
ISCJB ***17*** *02:01:39.1±1.9, 2707S±0.04×713W±0.1, h29km±11km, mb4.0/2, Error ellipse: s-maj=20.8km s-min=7.1km az=174.0*
NEIC ***17*** *02:01:39.8, 2706S×7106W, h47km, MD4.2(GUC), After GUC.*
GUC ***17*** *02:01:39.8±0.9, 2706S×7106W, h47km±3km, MD4.2, ML3.9*
ISC 17 02:01:38.8±2.3, 2711S±005×713W±01, h12km±12km, n19, σ1°16/25, mb4.0/2, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.42**	**85**	⇓*i*P	**Pg**	**02 01 48.1**	**+1.1**
CDCH				*i* S	**Sg**	**02 01 53.9**	**+1.3**
CPCH	**Copiapo**	**0.87**	**107**	⇓*i*P	**Pg**	**02 01 54.0**	**-1.7**
CPCH				*i* S	**Sg**	**02 02 05.6**	**-1.5**
VACH	**Vallenar**	**1.53**	**162**	*i* P	**Pn**	**02 02 05.7**	**-0.2**
VACH				*i* S	**Sn**	**02 02 24.4**	**-1.4**
VACH				AML	AML	02 02 32.9	
	comp=E,2μm,0.5s						
VACH	**Vallenar**	**1.53**	**162**	*i* P	**Pn**	**02 02 05.7**	**-0.2**
VACH				*i* S	**Sn**	**02 02 24.4**	**-1.4**
TLL	**Tololo Astrono**	**3.08**	**172**	*e*P	**Pn**	**02 02 27.7**	**+0.6**
TLL				*i* S	**Sn**	**02 03 03.4**	**-0.4**
CEN1	**Los Morros**	**3.84**	**15**	⇑*i*P	**Pn**	**02 02 32.5**	**-5.0**
CEN1				*i* S	**Sn**	**02 03 11.8**	**-11**
CEN1				AML	AML	02 03 48.8	
	comp=E,101nm,0.8s						
LVC	**Limon Verde**	**4.97**	**26**	Pn	**Pn**	**02 02 53.6**	**+0.4**
	comp=E,3.6nm,0.3s,baz=246,slow=9.9,SNR=25						
LVC				Lg		02 04 06.9	
	comp=E,5.0nm,0.3s,baz=158,slow=23,SNR=4.2						
CFAA	**Coronel Fontan**	**5.21**	**150**	Pn	**Pn**	**02 02 59.0**	**+2.5**
	comp=E,0.3nm,0.3s,baz=330,slow=9.7,SNR=23						
CFAA				Sn	**Sn**	**02 03 58.0**	**+1.5**
	comp=E,0.2nm,0.3s,baz=133,slow=13,SNR=2.9						
CFAA				Lg		02 04 09.6	
	comp=E,0.6nm,0.3s,baz=243,slow=23,SNR=5.8						
CFAA	**Coronel Fontan**	**5.21**	**150**	Pn	**Pn**	**02 02 59.0**	**+2.5**
CFAA				Sn	**Sn**	**02 03 58.0**	**+1.5**
CFAA				Lg		02 04 09.6	
LPAZ	**La Paz**	**11.16**	**16**	Pn	**Pn**	**02 04 17.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=192,slow=7.4,SNR=7.2						
LPAZ	**La Paz**	**11.16**	**16**	Pn	**Pn**	**02 04 17.0**	**-1.1**
SIV	**San Ignacio**	**14.58**	**43**	Pn	**Pn**	**02 05 05.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=222,slow=11,SNR=5.6						
BDFB	**Brasilia**	**24.45**	**67**	P	**P**	**02 06 56.2**	**-1.2**
	comp=E,2.8nm,0.8s,mb3.7,baz=224,slow=14,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P	**P**	**02 13 55.2**	**+0.4**
	comp=E,2.5nm,0.7s,mb4.3,baz=259,slow=4.9,SNR=32						
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P	**P**	**02 13 55.2**	**+0.4**
ZAL	**Zalesovo**	**147.93**	**27**	PKPbc	PKPbc	02 21 23.9	+0.1
	comp=E,1.1nm,0.4s,baz=180,slow=8.7,SNR=4.1						
ZAL	**Zalesovo**	**147.93**	**27**	PKPbc	PKPbc	02 21 23.9	+0.1
MKAR	**Makanchi Array**	**151.38**	**40**	PKPbc	PKPbc	02 21 32.4	0.0
	comp=E,1.5nm,0.6s,baz=316,slow=2.3,SNR=9.7						

IDC 17 02:08:56.7±3.8, 549S×15067E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/12, mbtmp3.2/2, Error ellipse: s-maj=146.8km s-min=50.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.42**	**226**	P	P	02 13 46.6	+0.5
	0.3nm,0.5s,baz=52,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**24.23**	**220**	P	P	02 14 15.3	+0.1
	1.2nm,0.8s,baz=53,slow=8.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.48**	**286**	PKPbc	PKPbc	02 28 46.0	+0.7
	0.5nm,0.7s,baz=94,slow=2.6,SNR=6.3						

IDC 17 02:09:33.7±8.9, 573S×15080E, h73km±64km, mb3.3/2, mb1 3.6/3, mb1mx3.4/13, mbtmp3.7/3, ML2.4/1, Error ellipse: s-maj=122.1km s-min=57.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.13**	**224**	P	Pn	02 10 48.2	+0.3
	1.0nm,0.3s,baz=36,slow=8.7,SNR=2.8						
PMG				S	Sn	02 11 46.7	+0.9
	3.3nm,0.3s,baz=84,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**21.34**	**227**	P	P	02 14 14.8	+0.1
	1.3nm,0.5s,baz=53,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.13**	**221**	P	P	02 14 43.1	+0.5
	0.8nm,0.7s,baz=55,slow=9.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**148.67**	**286**	PKPbc	PKPbc	02 29 13.0	+0.6
	0.6nm,0.6s,baz=81,slow=2.0,SNR=9.0						

NEIC ***17*** *02:20:54.0, 3165S×7174W, h27km, ML3.3(GUC), After GUC.*
GUC 17 02:20:54.0±0.9, 3165S×7174W, h27km±3km, MD4.1, ML3.3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.31**	**138**	⇓*i*P	Pb	02 21 01.2	-0.1
CHNG				*i* S	Sb	02 21 06.2	-0.1
CHNG				AML	AML	02 21 06.9	
	comp=N,7μm,0.2s						
CMCH	**Combarbala**	**0.79**	**53**	⇑*i*P	Pb	02 21 08.5	-0.7
CMCH				*i* S	Sb	02 21 19.4	-0.1
CMCH				AML	AML	02 21 21.9	
	comp=N,4μm,0.7s						
CMCH	**Combarbala**	**0.79**	**53**	⇑*i*P	Pb	02 21 08.5	-0.7
CMCH				*i* S	Sb	02 21 19.4	-0.1
PACH	**Papudo**	**0.92**	**164**	*e*P	Pn	02 21 10.4	-0.8
PTCH	**Petorca**	**0.92**	**132**	⇑*i*P	Pn	02 21 10.8	-0.4
PTCH				*i* S	Sb	02 21 23.4	+0.1
PTCH				AML	AML	02 21 24.5	
	comp=N,4μm,0.2s						
PTCH	**Petorca**	**0.92**	**132**	⇑*i*P	Pn	02 21 10.8	-0.4
PTCH				*i* S	Sb	02 21 23.4	+0.1
OVCH	**Ovalle**	**1.14**	**24**	*e*P	Pn	02 21 14.4	+0.2
OVCH				*i* S	Sn	02 21 29.3	+0.4
OVCH				AML	AML	02 21 33.8	
	comp=N,938nm,0.3s						
OVCH	**Ovalle**	**1.14**	**24**	*e*P	Pn	02 21 14.4	+0.2
OVCH				*i* S	Sn	02 21 29.3	+0.4
JACH	**Jahuel**	**1.42**	**137**	*e*P	Pn	02 21 18.8	+0.8
ROCH	**El Roble**	**1.46**	**155**	*i* P	Pn	02 21 19.3	+0.7
TLL	**Tololo Astrono**	**1.68**	**29**	*e*P	Pn	02 21 23.0	+1.3
TLL				*i* S	Sn	02 21 46.5	+4.1
TLL				AML	AML	02 21 54.4	
	comp=N,530nm,0.5s						
TLL	**Tololo Astrono**	**1.68**	**29**	*e*P	Pn	02 21 23.0	+1.3
TLL				S	Sn	02 21 46.5	+4.1
PEL	**Peldehue**	**1.74**	**149**	*e*P	Pn	02 21 23.3	+0.9
PEL				AML	AML	02 21 49.3	
	comp=E,453nm,0.7s						
RCDM	**Rinconada Maip**	**2.00**	**157**	*e*P	Pn	02 21 27.1	+1.1
RCDM				*i* S	Sn	02 21 52.2	+2.1
CLCH	**Cerro Calan**	**2.02**	**150**	*e*P	Pn	02 21 27.6	+1.4
CLCH				AML	AML	02 22 00.8	
	comp=N,386nm,0.7s						
FCH	**Farellones**	**2.08**	**144**	*e*P	Pn	02 21 28.8	+1.8
FCH				*i* S	Sn	02 21 55.8	+3.8
FCH				AML	AML	02 22 00.3	
	comp=E,159nm,0.3s						
TACH	**Talagante**	**2.11**	**161**	*e*P	Pn	02 21 28.9	+1.4

ISCJB ***17*** *02:23:40.6±8.2, 593S±0.1×270W±02, h8km±52km, mb4.7/16, Error ellipse: s-maj=19.1km s-min=13.1km az=77.5*
IDC ***17*** *02:23:40.9±0.5, 5930S×2699W, h0km, mb4.7/15, mb1 4.7/17, mb1mx4.7/20, mbtmp4.7/17, ML4.7/2, Error ellipse: s-maj=18.0km s-min=14.3km az=43.0*
NEIC ***17*** *02:23:45.8±0.3, 5934S×2701W, h35km, mb5.0/1, Error ellipse: s-maj=10.7km s-min=9.0km az=60.0*
ISC 17 02:23:43.4±8.4, 594S±01×270W±02, h16km±53km, n38, σ0°70/19, mb4.7/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.71**	**151**	Pn	**Pn**	**02 27 23.2**	**-0.7**
	1.9nm,0.3s,baz=324,slow=13,SNR=124						
PMSA	**Palmer Station**	**17.98**	**237**	P	**Pn**	**02 27 53.2**	**+0.6**
	0.3nm,0.3s,baz=56,slow=19,SNR=5.7						
USHA	**Ushuaia**	**22.69**	**263**	P	**P**	**02 28 43.5**	**-0.6**
	16nm,0.9s,mb4.5,baz=100,slow=3.8,SNR=4.9						
QSPA	**South Pole Qui**	**30.88**	**180**	*e*P	**P**	**02 29 59.3**	**+0.4**
	36nm,1.3s,mb5.0						
MAW	**Mawson**	**37.45**	**141**	P	**P**	**02 30 56.7**	**+0.9**
	7.8nm,1.0s,mb4.5,baz=224,slow=9.0,SNR=11						
CPUP	**Villa Florida**	**39.15**	**314**	P	**P**	**02 31 09.3**	**-0.9**
	10nm,0.9s,mb4.6,baz=139,slow=7.2,SNR=24						
VNDA	**Vanda**	**43.26**	**183**	P	**P**	**02 31 44.1**	**+0.2**
	6.5nm,0.9s,mb4.4,baz=191,slow=6.9,SNR=30						
VNDA				PcP	PcP	02 33 34.5	+1.6
	1.4nm,0.8s,baz=201,slow=4.2,SNR=3.3						
BDFB	**Brasilia**	**46.32**	**331**	P	**P**	**02 32 08.4**	**0.0**
	3.8nm,0.9s,mb4.3,baz=103,slow=6.5,SNR=3.7						
BOSA	**Boshof**	**46.77**	**73**	P	**P**	**02 32 12.4**	**+0.5**
	18nm,1.0s,mb4.9,baz=218,slow=5.5,SNR=12						
BOSA				PcP	PcP	02 33 45.8	+0.8
	5.3nm,0.9s,baz=221,slow=6.4,SNR=3.5						
LPAZ	**La Paz**	**52.43**	**307**	P	**P**	**02 32 55.8**	**+0.7**
	22nm,1.0s,mb5.1,baz=164,slow=6.6,SNR=56						
ATAH	**Atahualpa**	**65.10**	**301**	P	**P**	**02 34 24.5**	**+1.3**
	13nm,0.9s,mb5.0,baz=133,slow=20,SNR=13						
DBIC	**Dimbokro**	**68.15**	**24**	P	**P**	**02 34 42.1**	**-0.5**
	15nm,0.9s,mb5.0,baz=165,slow=7.5,SNR=19						
ROSC	**El Rosal**	**74.13**	**310**	P	**P**	**02 35 19.4**	**+0.5**
	5.6nm,0.7s,mb4.6,baz=108,slow=23,SNR=8.0						
TOA0	**Torodi Ar. Sit**	**75.90**	**29**	*e*P	**P**	**02 35 28.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**75.90**	**29**	P	**P**	**02 35 28.9**	**-0.2**
	27nm,0.8s,mb5.2,baz=196,slow=3.6,SNR=155						
KMBO	**Kilima Mbogo**	**76.15**	**68**	P	**P**	**02 35 31.4**	**+0.9**
	5.5nm,1.2s,mb4.4,baz=209,slow=10,SNR=4.6						
SDV	**Santo Domingo**	**76.45**	**315**	P	**P**	**02 35 31.3**	**-0.9**
	3.1nm,0.6s,mb4.4,baz=118,slow=5.4,SNR=8.4						
STKA	**Stephens Creek**	**88.60**	**170**	P	**P**	**02 36 35.1**	**-0.4**
	4.4nm,0.8s,mb4.8,baz=105,slow=8.6,SNR=6.3						
ASAR	**Alice Springs**	**95.78**	**162**	P	**P**	**02 37 07.4**	**-1.3**
	1.6nm,0.7s,mb4.6,baz=183,slow=3.7,SNR=16						
TMUT	**Trail Mountain**	**120.12**	**297**	*e*PKPdf	PKPdf	02 42 32.4	-0.9
PDAR	**Pinedale Array**	**122.17**	**300**	PKP	PKPdf	02 42 34.5	-2.8
	0.8nm,1.0s,baz=162,slow=1.4,SNR=4.9						
QLMT	**Earthquake Lak**	**124.63**	**301**	*e*PKPdf	PKPdf	02 42 42.0	0.0
QLMT				*e*PP	PP	02 44 28.1	-0.8
HRY	**Holter Researc**	**126.28**	**302**	*e*PKPdf	PKPdf	02 42 45.2	+0.1
CHMT	**Chamberlain Mo**	**127.05**	**301**	*e*PKPdf	PKPdf	02 42 45.0	-1.6
FINES	**FINESS Array B**	**127.25**	**29**	PKP	PKPdf	02 42 44.4	-2.6
	1.3nm,0.6s,baz=104,slow=3.9,SNR=5.2						
EDM	**Edmonton**	**131.82**	**306**	*e*PKPdf	PKPdf	02 42 53.7	-2.0
ARCES	**ARCESS Array B**	**133.97**	**23**	PKP	PKPdf	02 42 56.9	-2.9
	2.8nm,0.7s,baz=150,slow=1.0,SNR=7.8						
MK31	**Makanchi Array**	**137.75**	**75**	*e*PKPdf	PKPdf	02 43 05.8	-1.0
MKAR	**Makanchi Array**	**137.75**	**75**	PKhKP		02 42 56.1	
	0.5nm,0.8s,baz=202,slow=5.2,SNR=4.4						
MKAR				PKP	PKPdf	02 43 06.0	-0.7
	1.1nm,0.8s,baz=222,slow=1.6,SNR=6.0						
YKA	**Yellowknife Ar**	**138.67**	**315**	PKP	PKPdf	02 43 04.9	-3.6
	3.4nm,0.8s,baz=124,slow=1.8,SNR=6.0						
YKA	**Yellowknife Ar**	**138.67**	**315**	PKP	PKPdf	02 43 04.9	-3.6
ZAL	**Zalesovo**	**143.61**	**68**	PKhKP		02 43 12.5	
	2.6nm,0.7s,baz=203,slow=4.0,SNR=9.9						
SKAG	**Skagway**	**145.17**	**302**	*e*PKPdf	PKPdf	02 43 17.3	-2.7
DAWY	**Dawson**	**149.02**	**308**	*e*PKPbc	PKPbc	02 43 27.3	-3.2
EGAK	**Eagle**	**150.00**	**309**	*e*PKPbc	PKPbc	02 43 30.1	-2.9
SONM	**Songino Array**	**150.65**	**92**	PKPbc	PKPbc	02 43 33.3	-1.3
	6.2nm,0.7s,baz=218,slow=2.7,SNR=29						
KDAK	**Kodiak Island**	**152.25**	**291**	PKPbc	PKPbc	02 43 35.6	-2.7
	5.1nm,0.6s,baz=143,slow=6.8,SNR=6.8						
COLA	**College**	**152.74**	**307**	*e*PKPdf	PKPdf	02 43 30.2	-2.0
COLA				*e*PKPbc	PKPbc	02 43 36.3	-3.1

NEIC ***17*** *02:27:48.4, 1892N×6406W, h71km, MD3.5(RSPR), After RSPR.*
RSPR 17 02:27:48.4, 1892N×6406W, h71km±21km, MD3.5/5, MD3.5/5, 2C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.86**	**246**	⇓*e*P	Pn	02 28 17.3	-0.9
HUMP				*e*S	Sn	02 28 40.0	-0.8
CELP	**Cerrillos**	**2.53**	**251**	⇓*e*P	Pn	02 28 26.2	-1.0
ICM	**Isla Caja Muer**	**2.55**	**247**	⇑*e*P	Pn	02 28 27.6	+0.2
ICM				*e*S	Sn	02 28 57.7	+0.3
LSP	**Las Mesas**	**2.96**	**256**	⇑*e*P	Pn	02 28 32.9	-0.2
CRPR	**Cabo Rojo, PR**	**3.03**	**253**	⇓*e*P	Pn	02 28 33.7	-0.3
CRPR				*e*S	Sn	02 29 08.8	-0.3

NEIC ***17*** *02:28:49.7±3.3, 542S×15080E, h35km, Error ellipse: s-maj=142.0km s-min=32.0km az=121.0*
ISCJB ***17*** *02:28:54.6±5.6, 56S±06×1503E±08, h69km±41km, mb3.5/3, Error ellipse: s-maj=155.6km s-min=42.9km az=74.6*
IDC ***17*** *02:28:54.6±8.9, 589S×15076E, h63km±64km, mb3.4/3, mb1 3.7/4, mb1mx3.3/14, mbtmp3.7/4, ML2.8/1, MS4.7/1, Ms1 4.7/1, ms1mx3.8/24, Error ellipse: s-maj=100.0km s-min=55.9km az=127.0*
ISC 17 02:28:55.7±5.5, 58S±07×1506E±07, h70km±37km, n7, σ0°46/7, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.00**	**223**	P	**Pn**	**02 30 07.5**	**-0.6**
	2.3nm,0.3s,baz=47,slow=18,SNR=4.4						
PMG				S	**Sn**	**02 31 04.3**	**-0.3**
	3.6nm,0.3s,baz=82,slow=23,SNR=8.0						
PMG	**Port Moresby**	**5.00**	**223**	*e*Pn	**Pn**	**02 30 08.8**	**+0.7**
	12nm,0.4s				

3.7nm,1.1s,mb4.2,baz=218,slow=6.4,SNR=18
PV01 Paradox Valley 81.59 46 *e*P **P 02 42 38.8 +0.5**
ANMO Albuquerque 81.67 50 P **P 02 42 38.9 +0.3**
1.5nm,0.8s,mb4.0,baz=252,slow=4.7,SNR=6.4
ANMO Albuquerque 81.67 50 P **P 02 42 38.9 +0.3**
COLA College 83.13 11 *e*P **P 02 42 45.5 -0.8**
14nm,0.9s,mb5.0
PDAR Pinedale Array 83.14 42 P **P 02 42 46.2 -0.2**
4.1nm,0.8s,mb4.5,baz=217,slow=3.1,SNR=30
DAWY Dawson 84.21 15 *e*P **P 02 42 51.7 -0.1**
MAW Mawson 86.98 199 P **P 02 43 04.3 -1.2**
2.5nm,0.9s,mb4.5,baz=101,slow=5.8,SNR=5.6
CLL Collm 144.41 352 *e*PKPdf PKPdf 02 49 55.0 -1.5
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 144.51 343 *e*PKP PKPdf 02 49 55.6 -1.0
KOLS Kolonicke sedl 144.64 341 *e*PKP PKPdf 02 49 55.7 -1.2
KOLS Kolonicke sedl 144.64 341 *e* PKPdf 02 49 55.7 -1.2
UPC Upice 144.72 349 *e*PKP PKPdf 02 49 55.9 -1.1
KMBO Kilima Mbogo 144.73 244 PKP PKPdf 02 49 57.7 +0.7
comp=Z,1.8nm,0.9s,baz=69,slow=6.7,SNR=7.3
KMBO Kilima Mbogo 144.73 244 PKP PKPdf 02 49 57.7 +0.7
DPC Dobruska-Polom 144.81 349 *e*PKP PKPdf 02 49 56.6 -0.6
OKC Ostrava-Krasne 144.91 346 *e*PKP PKPdf 02 49 56.4 -0.9
PRU Pruhonice 145.47 350 *e*PKP PKPdf 02 49 58.4 +0.1
KECS Kecovo 145.57 343 *e*PKP PKPdf 02 49 57.6 -0.9
VYHS Vyhne 146.00 345 *e*PKP PKPdf 02 50 00.0 +0.8
BAIF Baives 146.07 2 *e*PKP1 PKPbc 02 49 59.4 -0.8
KHC Kasperske Hory 146.46 351 *e*PKP PKPdf 02 50 01.1 +1.1
GERES GERESS Array B 146.72 351 PKPbc PKPbc 02 50 01.7 -0.4
comp=Z,2.2nm,0.8s,baz=33,slow=3.2,SNR=14
FLN La Foliniere 146.97 8 *e*PKP1 PKPbc 02 50 01.7 -1.2
comp=Z,15nm,0.9s
SGMF Saint Gilles 147.15 11 *e*PKP1 PKPbc 02 50 02.1 -1.3
LDF La Druitiere 147.18 8 *e*PKP1 PKPbc 02 50 02.7 -0.8
GRR Gorron 147.28 8 *e*PKP1 PKPbc 02 50 02.8 -0.9
comp=Z,15nm,0.8s
CDF Champ du Feu 147.74 358 *e*PKP1 PKPbc 02 50 04.3 -0.7
comp=Z,12nm,0.9s
HAU Haudompre 148.16 360 *e*PKP1 PKPbc 02 50 05.4 -0.7
comp=Z,13nm,0.7s
LOR Lormes 148.85 3 *e*PKP1 PKPbc 02 50 07.3 -0.6
comp=Z,11nm,0.8s
SSF Saint Saulge 149.03 3 *e*PKP1 PKPbc 02 50 07.8 -0.6
comp=Z,22nm,1.0s
AVF Avril sur Loir 149.29 4 *e*PKP1 PKPbc 02 50 08.1 -0.9
comp=Z,8.6nm,1.0s
BGF Bois d'Agland 149.49 4 *e*PKP1 PKPbc 02 50 08.8 -0.7
comp=Z,12nm,0.9s
CABF La Chapelle 149.55 360 *e*PKP1 PKPbc 02 50 09.7 0.0
comp=Z,31nm,1.0s
TCF Toulx Ste Croi 149.71 5 *e*PKP1 PKPbc 02 50 09.1 -0.9
comp=Z,20nm,1.2s
LPL La Plagne 150.64 359 *e*PKP1 PKPbc 02 50 12.6 +0.3
comp=Z,6.9nm,0.8s
LPG La Plagne 150.66 359 *e*PKP1 PKPbc 02 50 12.8 +0.5
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 151.25 0 *e*PKP1 PKPbc 02 50 13.4 -0.3
comp=Z,12nm,1.0s
VIVF Saint-Julien-l 151.29 2 *e*PKP1 PKPbc 02 50 13.5 -0.3
comp=Z,7.4nm,0.9s
MBDF Montbardon 151.43 359 *e*PKP1 PKPbc 02 50 14.5 +0.4
comp=Z,6.8nm,0.8s
LASF Ste Croix 152.03 3 *e*PKP1 PKPbc 02 50 15.3 -0.2
comp=Z,26nm,1.3s
SMRF Simiane la Rot 152.19 1 *e*PKP1 PKPbc 02 50 15.9 +0.1
comp=Z,14nm,1.0s
TORD Torodi Ar. Bea 174.91 124 PKPab PKPab 02 52 04.7 -0.2
comp=Z,0.8nm,1.0s,baz=234,slow=4.6,SNR=2.7

IDC 17 02:36:06.3±1.2,680N×7298W,h163km±14km,mb2.9/2,
mb1 3.5/4,mb1mx3.1/21,mbtmp3.6/4,MS4.5/1,Ms1 4.5/1,
ms1mx4.3/11,Error ellipse: s-maj=33.7km
s-min=14.6km az=130.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**215**	P	Pn	02 36 46.7	+0.3
	59nm,0.3s,baz=23,slow=2.0,SNR=335						
ROSC				S	Sn	02 37 13.7	-3.6
	27nm,0.3s,baz=104,slow=20,SNR=9.9						
ROSC				LR	LR	02 37 58.0	
	comp=Z,9μm,19.2s,baz=186,slow=47						
SDV	**Santo Domingo**	**3.11**	**48**	P	Pn	02 36 57.1	+1.6
	8.8nm,0.3s,baz=235,slow=1.8,SNR=60						
SDV				S	Sn	02 37 34.2	+0.5
	39nm,0.3s,baz=68,slow=21,SNR=45						
TXAR	**Lajitas Array**	**36.58**	**312**	P	P	02 42 57.1	+0.6
	0.4nm,0.7s,baz=127,slow=9.3,SNR=5.8						
PDAR	**Pinedale Array**	**48.18**	**324**	P	P	02 44 30.1	0.0
	0.2nm,0.6s,baz=123,slow=9.8,SNR=2.5						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	02 55 36.1	+0.7
	0.4nm,0.6s,baz=121,slow=2.8,SNR=4.3						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	02 55 39.2	+0.7
	0.4nm,0.4s,baz=110,slow=2.4,SNR=14						

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*SZGRF **17** 02:35:21.4,1862S×17401E,h33km,Fiji Islands region*
*MOS **17** 02:36:35.0±1.1,1480S×17208E,h601km,mb4.7/9,Error ellipse: s-maj=11.8km s-min=10.1km az=21.6*
*ISCJB **17** 02:36:35.6±1.0,1493S±007×172.15E±006,h615km±13km, mb4.7/42,Error ellipse: s-maj=11.5km s-min=8.6km az=143.5*
*BJI **17** 02:36:35.3,1449S×17194E,h576km,mB5.3,mb4.8*
*NEIC **17** 02:36:35.6±1.1,1486S×172.17E,h599km±12km,mb5.1/11, Error ellipse: s-maj=11.5km s-min=10.0km az=179.0*
*IDC **17** 02:36:36.1±1.1,1490S×172.13E,h605km±12km,mb4.0/19, mb1 4.2/22,mb1mx4.2/23,mbtmp5.0/22,Error ellipse: s-maj=11.6km s-min=8.6km az=152.0*
ISC 17 02:36:36.1±1.0,1489S±007×17222E±006,h604km±13km,
n264,σ0∓95/91,mb4.7/42,7C-57D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.00**	**217**	*e*P	**P**	**02 38 46.1**	**+1.1**
DZM	**Mont Dzumac**	**9.00**	**217**	P	**P**	**02 38 46.6**	**+1.6**
	14nm,0.3s,baz=62,slow=18,SNR=78						
HNR	**Honiara**	**13.16**	**293**	P	**P**	**02 39 24.6**	**-1.8**
	27nm,0.3s,baz=283,slow=3.2,SNR=5.5						
AFI	**Afiamalu**	**15.54**	**88**	P	**P**	**02 39 48.3**	**-0.6**
	4.8nm,0.3s,baz=115,slow=6.6,SNR=5.6						
RAO	**Raoul Island**	**16.95**	**149**	P	**P**	**02 40 03.4**	**+1.6**
	199nm,0.3s,baz=95,slow=22,SNR=14						
RAO	**Raoul Island**	**16.95**	**149**	P	**P**	**02 40 03.4**	**+1.5**
URZ	**Urewera**	**23.68**	**170**	P	**P**	**02 41 01.2**	**-1.1**
	56nm,0.7s,mb5.3,baz=355,slow=4.2,SNR=16						
CTA	**Charters Tower**	**25.28**	**254**	*e*P	**P**	**02 41 16.8**	**+0.3**
	44nm,0.9s,mb5.1						
CTA	**Charters Tower**	**25.28**	**254**	P	**P**	**02 41 16.8**	**+0.3**
	54nm,0.8s,mb5.2,baz=78,slow=11,SNR=32						
CTA	**Charters Tower**	**25.28**	**254**	*e*P	**P**	**02 41 16.8**	**+0.3**
CTA				pmax	pmax		
	comp=Z,45nm,0.9s						
CTAO	**Charters Tower**	**25.28**	**254**	*e*P	**P**	**02 41 16.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**25.28**	**254**	*e*P	**P**	**02 41 16.9**	**+0.4**
	comp=Z,54nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**28.75**	**182**	P	**P**	**02 41 45.5**	**-1.2**
	comp=Z,18nm,0.5s,mb5.0,baz=44,slow=2.2,SNR=11						
STKA	**Stephens Creek**	**32.64**	**233**	*e*P	**P**	**02 42 20.5**	**+0.6**
	comp=Z,48nm,0.4s,mb5.5						
STKA	**Stephens Creek**	**32.64**	**233**	P	**P**	**02 42 20.8**	**+0.8**
	comp=Z,66nm,0.5s,mb5.5,baz=58,slow=8.0,SNR=209						
STKA				PcP	PcP	02 44 48.1	+0.9
	comp=Z,7.5nm,0.8s,baz=82,slow=3.2,SNR=4.9						
STKA				ScP	ScP	02 47 36.9	+2.3
	comp=Z,5.3nm,0.5s,baz=70,slow=0.2,SNR=8.9						
TOO	**Toolangi**	**32.73**	**221**	*e*P	**P**	**02 42 21.8**	**+1.1**
	comp=Z,4.4nm,0.3s,mb4.6						
TOO	**Toolangi**	**32.73**	**221**	*e*P	**P**	**02 42 21.8**	**+1.1**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.5						
WB2	**Warramunga Arr**	**36.42**	**257**	⇓*i*P	**P**	**02 42 50.6**	**-0.7**
WB2	**Warramunga Arr**	**36.42**	**257**	⇓*e*P	**P**	**02 42 50.7**	**-0.6**
WB2				*e*		02 44 36.4	
WRAB	**Tennant Creek**	**36.42**	**257**	*i*P	**P**	**02 42 49.7**	**-1.6**
WRA	**Warramunga Arr**	**36.44**	**257**	P	**P**	**02 42 50.6**	**-0.8**
	comp=Z,79nm,0.7s,mb5.3,baz=89,slow=8.8,SNR=264						
WRA				S	**S**	**02 47 47.6**	**-3.8**
	comp=Z,4.0nm,0.8s,baz=88,slow=14,SNR=9.0						
AS31	**Alice Springs**	**37.11**	**250**	*e*P	**P**	**02 42 56.9**	**0.0**
AS31				*e*PcP	PcP	02 45 00.6	+0.1
AS31				*e*ScP	ScP	02 47 52.7	+1.9
AS31				*e*S	**S**	**02 47 60.0**	**-1.3**
ASAR	**Alice Springs**	**37.11**	**250**	P	**P**	**02 42 56.7**	**-0.2**
	comp=Z,60nm,0.5s,mb5.4,baz=77,slow=9.3,SNR=594						
ASAR				PcP	PcP	02 45 01.1	+0.6
	comp=Z,11nm,0.7s,baz=93,slow=3.2,SNR=16						
ASAR				ScP	ScP	02 47 52.4	+1.6
	comp=Z,5.5nm,0.8s,baz=90,slow=3.8,SNR=10.0						
ASAR				S	**S**	**02 47 59.5**	**-1.9**
	comp=Z,5.9nm,0.8s,baz=79,slow=17,SNR=13						
ASAR	**Alice Springs**	**37.11**	**250**	P	**P**	**02 42 56.7**	**-0.2**
ASAR						02 45 01.1	
ASAR				S	**S**	**02 47 59.5**	**-1.8**
ASPA	**Alice Springs**	**37.11**	**250**	*e*P	**P**	**02 42 56.8**	**-0.1**
KAKA	**Kakadu**	**38.66**	**268**	*e*P	**P**	**02 43 09.6**	**+0.2**
	comp=Z,111nm,0.4s,mb5.7						
FORT	**Forrest**	**43.37**	**241**	*e*P	**P**	**02 43 46.3**	**-0.2**
	comp=Z,98nm,0.5s,mb5.6						
FITZ	**Fitzroy Crossi**	**44.69**	**259**	⇓*i*P	**P**	**02 43 57.4**	**+0.7**
	comp=Z,134nm,0.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**44.69**	**259**	P	**P**	**02 43 57.3**	**+0.6**
	comp=Z,75nm,0.5s,mb5.5,baz=106,slow=4.7,SNR=68						
MBWA	**Marble Bar**	**50.12**	**255**	*e*P	**P**	**02 44 37.2**	**0.0**
	comp=Z,19nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**52.22**	**241**	*e*P	**P**	**02 44 51.4**	**-0.9**
	comp=Z,58nm,0.7s,mb5.0						
KAPI	**Kappang**	**52.48**	**275**	P	**P**	**02 44 54.5**	**+0.3**
	comp=Z,424nm,0.6s,SNR=8.4						
NWAO	**Narrogin (SRO)**	**52.79**	**240**	⇓*e*P	**P**	**02 44 56.0**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,14nm,0.4s						
NWAO	**Narrogin (SRO)**	**52.79**	**240**	⇓*e*P	**P**	**02 44 56.0**	**-0.3**
	comp=Z,14nm,0.4s,mb4.7						
TSM	**Tawau**	**57.11**	**285**	P	**P**	**02 45 26.1**	**-0.2**
KKM	**Kota Kinabalu**	**59.27**	**286**	P	**P**	**02 45 42.2**	**+1.4**
KKM	**Kota Kinabalu**	**59.27**	**286**	*e*P	**P**	**02 45 41.4**	**+0.5**
MJAR	**Matsushiro Arr**	**60.39**	**329**	P	**P**	**02 45 47.7**	**-0.5**
	comp=Z,21nm,0.8s,mb4.4,baz=158,slow=6.2,SNR=35						
MAT	**Matsushiro**	**60.39**	**329**	P	**P**	**02 45 47.9**	**-0.3**
VNDA	**Vanda**	**62.87**	**183**	P	**P**	**02 46 03.9**	**-0.4**
	comp=Z,3.0nm,0.6s,mb3.8,baz=354,slow=7.1,SNR=48						
YHNB	**Yeheng**	**63.29**	**308**	*e*P	**P**	**02 46 07.4**	**+0.4**
KSM	**Kuching**	**63.34**	**279**	*e*P	**P**	**02 46 08.2**	**+0.8**
CASY	**Casey**	**65.23**	**203**	*e*P	**P**	**02 46 18.6**	**-0.6**
KGM	**Kluang**	**70.19**	**278**	P	**P**	**02 46 50.8**	**+1.5**
MDJ	**Mudanjiang**	**70.77**	**329**	P	**P**	**02 46 52.8**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,31nm,0.8s,mb4.9						
WHN	**Wuhan**	**71.66**	**310**	⇑*i*P	**P**	**02 46 58.5**	**+0.5**
CN2	**Changchun**	**72.34**	**326**	*e*P	**P**	**02 47 06.8**	**+5.0**
CN2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.2						
IPM	**Ipoh**	**73.08**	**279**	P	**P**	**02 47 07.5**	**+1.4**
KLR	**Kul'dur**	**73.18**	**334**	*e*P	**P**	**02 47 04.2**	**-2.4**
GYA	**Guiyang**	**75.78**	**303**	⇓*i*P	**P**	**02 47 22.0**	**+0.8**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6						
XAN	**Xi'an**	**77.38**	**311**	P	**P**	**02 47 30.6**	**+0.7**
XAN				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.6						
KDAK	**Kodiak Island**	**78.01**	**18**	P	**P**	**02 47 32.5**	**-0.9**
	comp=Z,10nm,0.8s,mb4.3,baz=249,slow=2.4,SNR=5.3						
KMI	**Kunming**	**78.49**	**300**	P	**P**	**02 47 37.4**	**+1.5**
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
BDT	**Bhumibol Dam**	**78.95**	**291**	P	**P**	**02 47 40.0**	**+1.7**
SEY	**Seymchan**	**79.10**	**351**	⇑*e*P	**P**	**02 47 39.0**	**-0.1**
CHG	**Chiang Mai**	**79.53**	**293**	⇓P	**P**	**02 47 42.8**	**+1.5**
	comp=Z,28nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**79.53**	**293**	*e*P	**P**	**02 47 42.6**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,38nm,1.1s,mb4.6						
CHTO	**Chiang Mai**	**79.53**	**293**	*e*P	**P**	**02 47 42.5**	**+1.2**
	comp=Z,38nm,1.1s,mb4.6						
LZH	**Lanzhou**	**82.01**	**311**	⇓P	**P**	**02 47 55.6**	**+1.5**
LZH				AMB	AMB		
	comp=Z,53nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,216nm,4.1s						
YBH	**Yreka Blue Hor**	**82.20**	**43**	P	**P**	**02 47 56.1**	**+1.0**
	comp=Z,2.3nm,0.6s,mb3.9,baz=268,slow=0.7,SNR=8.9						
BILL	**Biiibino**	**82.81**	**358**	*e*P	**P**	**02 47 57.4**	**-0.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
MAW	**Mawson**	**83.51**	**201**	*e*P	**P**	**02 48 00.8**	**-0.8**
	comp=Z,1.4nm,0.6s,mb3.7						
MAW	**Mawson**	**83.51**	**201**	P	**P**	**02 48 01.1**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.7,baz=146,slow=6.5,SNR=8.9						
MAW	**Mawson**	**83.51**	**201**	*e*P	**P**	**02 48 00.8**	**-0.8**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YAK	**Yakutsk**	**83.64**	**341**	⇑*e*P	**P**	**02 48 02.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.9						
CIT	**Chita**	**83.69**	**328**	*e*P	**P**	**02 48 01.0**	**-1.5**
NVAR	**Mina Array Bea**	**83.79**	**48**	P	**P**	**02 48 03.8**	**+0.8**
	comp=Z,4.2nm,0.8s,mb4.0,baz=231,slow=8.2,SNR=17						
SONM	**Songino Array**	**85.52**	**322**	P	**P**	**02 48 11.1**	**-0.3**
	comp=Z,7.7nm,1.0s,mb4.3,baz=120,slow=4.8,SNR=24						
GTA	**Gaotai**	**86.27**	**312**	P	**P**	**02 48 16.0**	**+1.1**
GTA				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.9						
BOD	**Bodaibo**	**86.74**	**333**	*e*P	**P**	**02 48 14.9**	**-2.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
ZAK	**Zakamensk**	**88.49**	**323**	*e*P	**P**	**02 48 24.9**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
TLY	**Talaya**	**88.85**	**325**	*e*P	**P**	**02 48 25.8**	**-1.2**
TLY				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9						
LSA	**Lhasa**	**89.72**	**301**	P	**P**	**02 48 32.8**	**+1.8**
CHMT	**Chamberlain Mo**	**90.52**	**41**	*e*P	**P**	**02 48 34.7**	**0.0**
ANMO	**Albuquerque**	**91.48**	**54**	P	**P**	**02 48 39.4**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=283,slow=3.3,SNR=6.0						
INK	**Inuvik**	**91.55**	**18**	P	**P**	**02 48 38.3**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=229,slow=6.6,SNR=4.0						
PDAR	**Pinedale Array**	**91.57**	**46**	P	**P**	**02 48 39.0**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=177,slow=2.3,SNR=10.0						
TXAR	**Lajitas Array**	**92.17**	**60**	P	**P**	**02 48 43.5**	**+1.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=221,slow=5.2,SNR=26						
TXAR				PKKPbc	PKKPbc	03 05 55.0	+1.0
	comp=Z,0.1nm,0.4s,baz=126,slow=4.6,SNR=3.6						
JIRN	**Jiri**	**93.35**	**298**	*e*P	**P**	**02 48 48.4**	**+0.7**
	comp=Z,1.4nm,0.2s,mb4.6						
GUN	**Gumba**	**93.68**	**298**	*e*P	**P**	**02 48 49.3**	**+0.1**
PKI	**Pulchoki**	**94.00**	**297**	*e*P	**P**	**02 48 50.6**	**0.0**
	comp=Z,17nm,1.0s,mb5.1						
KKN	**Kakani**	**94.16**	**297**	*e*P	**P**	**02 48 51.5**	**+0.1**
DMN	**Daman**	**94.27**	**297**	*e*P	**P**	**02 48 52.2**	**+0.3**
	comp=Z,22nm,0.9s,mb5.3						
GKN	**Gorkha**	**94.77**	**298**	*e*P	**P**	**02 48 53.5**	**-0.6**
	comp=Z,9.3nm,0.4s,mb5.2						
YKA	**Yellowknife Ar**	**95.52**	**27**	P	**P**	**02 48 57.0**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.6,baz=256,slow=4.7,SNR=8.5						
YKA				PKiKP	PKiKP	02 53 32.2	-1.2
	comp=Z,0.9nm,0.8s,baz=244,slow=1.3,SNR=4.1						
YKA	**Yellowknife Ar**	**95.52**	**27**	P	**P**	**02 48 57.0**	**-0.5**
KOLN	**Koldanda**	**95.60**	**297**	*e*P	**P**	**02 48 57.0**	**-0.9**
ZAL	**Zalesovo**	**100.38**	**323**	P	Pdif	02 49 18.2	-0.9
	comp=Z,1.8nm,0.4s,baz=329,slow=2.4,SNR=5.5						
MK31	**Makanchi Array**	**100.64**	**316**	*e*P	Pdif	02 49 20.5	+0.2
MKAR	**Makanchi Array**	**100.64**	**316**	P	Pdif	02 49 20.1	-0.2
	comp=Z,3.7nm,0.8s,baz=90,slow=6.2,SNR=20						
MKAR				PKiKP	PKiKP	02 53 41.9	-0.6
	comp=Z,0.9nm,0.7s,baz=143,slow=0.9,SNR=5.5						
MKAR	**Makanchi Array**	**100.64**	**316**	⇑*e*P	Pdif	02 49 21.1	+0.8
BVAR	**Borovoye Array**	**108.86**	**321**	PKiKP	PKiKP	02 53 56.6	-1.1
	comp=Z,1.2nm,0.5s,baz=132,slow=2.7,SNR=7.0						
ARU	**Arti**	**115.33**	**326**	*i* PKIKP	PKPdf	02 54 08.6	-1.4
ARU				*e*		02 55 19.6	
AKTK	**Aktyubinsk**	**116.73**	**319**	PKP	PKPdf	02 54 12.0	-0.7
AKTO	**Aktyubinsk**	**116.73**	**319**	PKP	PKPdf	02 54 12.0	-0.8
	comp=Z,4.2nm,0.6s,baz=81,slow=3.9,SNR=12						
SDV	**Santo Domingo**	**118.37**	**88**	PKP	PKPdf	02 54 16.4	+0.5
	comp=Z,1.0nm,0.2s,baz=357,slow=4.1,SNR=4.2						
SIV	**San Ignacio**	**119.08**	**118**	PKP	PKPdf	02 54 17.4	+0.1
	comp=Z,0.5nm,0.5s,baz=281,slow=5.2,SNR=4.7						
KEV	**Kevo**	**121.05**	**347**	*e*pkp	PKPdf	02 54 18.6	-2.4
ARCES	**ARCESS Array B**	**121.55**	**347**	PKP	PKPdf	02 54 20.7	-1.3
	comp=Z,9.3nm,0.5s,baz=48,slow=1.3,SNR=65						
JOF	**Joensuu**	**124.78**	**339**	*e*pkp	PKPdf	02 54 25.6	-2.6
BOSA	**Boshof**	**126.23**	**216**	PKP	PKPdf	02 54 31.6	+0.6
	comp=Z,1.5nm,0.4s,baz=72,slow=5.7,SNR=10						
KAF	**Kangasniemi**	**127.00**	**341**	*e*pkp	PKPdf	02 54 30.6	-1.8
OBN	**Obninsk**	**127.31**	**330**	*i* PKIKP	PKPdf	02 54 33.2	+0.2
OBN				*e*		02 56 43.8	
OBN				*e*		03 00 45.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,4μm,16.0s						
FINES	**FINESS Array B**	**127.57**	**340**	PKhKP		02 54 29.1	
	comp=Z,2.6nm,0.5s,baz=123,slow=3.4,SNR=11						
FINES				PKP	PKPdf	02 54 32.8	-0.7
	comp=Z,2.8nm,0.5s,baz=47,slow=2.5,SNR=18						
FINES				SKPbc		02 56 57.3	
	comp=Z,2.7nm,0.9s,baz=86,slow=3.8,SNR=7.2						
GNI	**Garni**	**127.94**	**310**	PKP	PKPdf	02 54 35.6	+1.3
	comp=Z,1.9nm,0.4s,baz=307,slow=22,SNR=3.7						
BDFB	**Brasilia**	**130.00**	**126**	SKPbc	SKPbc	02 57 08.1	+2.7
	comp=Z,11nm,0.9s,baz=276,slow=2.0,SNR=14						
NB2	**NORSAR Subarra**	**131.91**	**348**	PKPdf	PKPdf	02 54 40.2	-1.5
	comp=Z,2.1nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.91**	**348**	PKP	PKPdf	02 54 41.0	-0.8
	comp=Z,3.0nm,0.7s,baz=29,slow=2.0,SNR=13						
NOA				SKPbc	SKPbc	02 57 14.5	+2.3
	comp=Z,2.5nm,0.8s,baz=26,slow=3.4,SNR=6.3						
KMBO	**Kilima Mbogo**	**132.70**	**254**	PKP	PKPdf	02 54 45.6	+2.4
	comp=Z,1.7nm,0.5s,baz=40,slow=2.9,SNR=5.7						
KMBO				SKPbc	SKPbc	02 57 18.7	+3.8
	comp=Z,0.9nm,0.6s,baz=220,slow=22,SNR=3.8						
KMBO	**Kilima Mbogo**	**132.70**	**254**	PKP	PKPdf	02 54 45.6	+2.4
KMBO				SKPbc	SKPbc	02 57 18.7	+3.8
MALT	**Malatya**	**133.15**	**309**	⇓*i*P	PKPdf	02 54 44.3	+0.2
AKASG	**Malin Array Be**	**133.47**	**328**	PKP	PKPdf	02 54 43.0	-1.6
	comp=Z,1.0nm,0.4s,baz=46,slow=2.1,SNR=7.8						
AKASG				SKPbc	SKPbc	02 57 17.0	-0.4
	comp=Z,1.5nm,0.7s,baz=47,slow=4.0,SNR=6.2						
BURAR	**Bucovina Array**	**137.44**	**327**	⇓*i*P	PKPdf	02 54 54.4	+2.4
KOLS	**Kolonicke sedl**	**138.05**	**330**	*e*PKP	PKPdf	02 54 51.9	-1.3
CRVS	**Cervenica-Dubn**	**138.46**	**331**	*e*PKP	PKPdf	02 54 51.9	-2.0
CRVS	**Cervenica-Dubn**	**138.46**	**331**	*e*PKP	PKPdf	02 54 52.0	-1.9
KECS	**Kecovo**	**139.21**	**331**	*e*PKP	PKPdf	02 54 51.0	-4.3
DPC	**Dobruska-Polom**	**139.59**	**336**	*e*PKPDF	PKPdf	02 54 54.1	-1.9
DPC				*ex*	x	02 54 58.8	
VYHS	**Vyhne**	**139.96**	**332**	*e*PKP	PKPdf	02 54 53.9	-2.7
CLL	**Collm**	**140.01**	**340**	*e*PKPpre		02 54 50.0	
	comp=Z,5.0nm,0.7s						
CLL				*i* PKiKP	PKiKP	02 54 59.3	-0.1
BRG	**Berggiesshubel**	**140.05**	**339**	*e*PKP		02 54 51.2	
	comp=Z,1.2nm,0.6s						
BRG				*i*		02 54 55.8	
	comp=Z,3.0nm,0.6s						
BRG				*e*		02 54 59.4	
	comp=Z,8.9nm,2.0s						
BRG				*e*		02 57 18.2	
	comp=Z,1.8nm,1.0s						
BRG	**Berggiesshubel**	**140.05**	**339**	*e*PKHKP		02 54 51.2	
BRG				*i*		02 54 55.8	
PVCC	**Panska Ves**	**140.11**	**338**	*e*PKPDF	PKPdf	02 54 55.7	-1.2
PVCC				*ex*	x	02 54 59.8	
CLZ	**Clausthal**	**140.37**	**342**	*e*PKPbc	PKPdf	02 54 52.2	-5.2
PRU	**Pruhonice**	**140.56**	**337**	*e*PKPDF	PKPdf	02 54 53.2	-4.5
IBBN	**Ibbenburen**	**140.67**	**345**	*e*PKPbc	PKPdf	02 54 53.4	-4.5
UBBA	**Unterbreizbach**	**141.39**	**342**	*e*PKPbc	PKPdf	02 54 55.3	-3.9
KHC	**Kasperske Hory**	**141.62**	**337**	*e*PKPDF	PKPdf	02 54 56.1	-3.5
KHC				*ex*	x	02 55 02.7	
VTS	**Vitosha**	**141.65**	**322**	*e*P	PKPdf	02 54 56.1	-3.5
VTS	**Vitosha**	**141.65

comp=Z,44nm,0.7s
GRR Gorron 146.11 352 ↓*i*PKP1 PKPbc 02 55 09.7 +0.1
comp=Z,56nm,0.5s
LOR Lormes 146.29 346 ↓*i*PKP1 PKPbc 02 55 10.3 +0.2
comp=Z,46nm,0.5s
CABF La Chapelle 146.31 343 ↓*i*PKP1 PKPbc 02 55 10.9 +0.8
comp=Z,83nm,0.8s
ROSF Rostrenen 146.44 355 ↓*i*PKP1 PKPbc 02 55 10.4 -0.1
comp=Z,36nm,0.7s
SGMF Saint Gilles 146.45 354 ↓*i*PKP1 PKPbc 02 55 10.5 0.0
comp=Z,88nm,0.8s
HYF Humbligny 146.57 347 ↓*i*PKP1 PKPbc 02 55 11.5 +0.7
SSF Saint Saulge 146.57 346 ↓*i*PKP1 PKPbc 02 55 11.2 +0.4
comp=Z,64nm,0.7s
QUIF Quistinic 146.84 354 *e*PKP1 PKPbc 02 55 11.3 -0.3
comp=Z,39nm,0.7s
AVF Avril sur Loir 146.86 346 ↓*i*PKP1 PKPbc 02 55 11.5 -0.1
comp=Z,22nm,0.8s
SMF Signal de Mont 146.88 345 ↓*i*PKP1 PKPbc 02 55 11.6 0.0
AQU L'Àquila 147.10 330 ⇑*i*P PKPbc 02 55 12.6 +0.4
LPL La Plagne 147.10 341 ↓*i*PKP1 PKPbc 02 55 13.2 +1.0
comp=Z,38nm,0.7s
LPG La Plagne 147.11 341 ↓*i*PKP1 PKPbc 02 55 13.3 +1.0
comp=Z,56nm,0.8s
BGF Bois d'Agland 147.19 346 ↓*i*PKP1 PKPbc 02 55 12.8 +0.3
comp=Z,90nm,0.5s
BNI Bardonecchia 147.53 341 *e*PKP2 PKPbc 02 55 14.2 +0.8
PLDF La Plantade 147.56 345 PKP PKPbc 02 55 14.1 +0.7
GDM Grand'Maison 147.57 342 PKP PKPbc 02 55 14.6 +1.1
TCF Toulx Ste Croi 147.59 347 ↓*i*PKP1 PKPbc 02 55 13.7 +0.2
comp=Z,64nm,0.7s
AGO Saint Agoulin 147.60 346 PKP PKPbc 02 55 13.7 +0.2
GRN Grenoble 147.65 342 PKP PKPbc 02 55 14.7 +1.0
MFF Saint Martin d 147.74 350 ↓*i*PKP1 PKPbc 02 55 14.1 +0.2
comp=Z,91nm,0.8s
MBDF Montbardon 147.79 340 ↓*i*PKP1 PKPbc 02 55 14.3 +0.3
comp=Z,28nm,0.7s
ORIF Oris-en-Rattie 147.90 342 ↓*i*PKP1 PKPbc 02 55 14.8 +0.5
comp=Z,34nm,0.6s
PYM Petit Puy Mans 147.92 346 PKP PKPbc 02 55 15.0 +0.7
SURF Saint Ours 148.00 340 PKP PKPbc 02 55 15.7 +1.2
SAOF Saorge 148.18 339 PKP PKPbc 02 55 15.1 +0.1
AUTN L'Aution 148.22 339 PKP PKPbc 02 55 15.3 +0.2
TOUF Mont Tournerai 148.27 339 PKP PKPbc 02 55 15.5 +0.3
VIVF Saint-Julien-l 148.32 343 ↓*i*PKP1 PKPbc 02 55 15.7 +0.4
comp=Z,32nm,0.8s
LUCF Luceram 148.34 339 PKP PKPdf 02 55 15.3 +4.3
LBL Lubilhac 148.35 345 PKP PKPbc 02 55 16.7 +1.3
REVF Revere 148.47 339 PKP PKPbc 02 55 15.3 -0.4
RJF Les Rejaudoux 148.68 347 ↓*i*PKP1 PKPbc 02 55 16.4 +0.2
comp=Z,45nm,1.0s
STOF St-Etienne Org 148.72 341 PKP PKPbc 02 55 17.0 +0.7
SMRF Simiane la Rot 148.85 341 ↓*i*PKP1 PKPbc 02 55 17.4 +0.8
comp=Z,72nm,0.9s
FRF La Foret Royal 148.87 339 ↓*i*PKP1 PKPbc 02 55 16.6 -0.1
comp=Z,81nm,1.0s
CAF Calviac 148.92 346 ↓*i*PKP1 PKPbc 02 55 17.1 +0.3
comp=Z,38nm,1.1s
TAVF Tavernes 149.02 340 PKP PKPbc 02 55 17.2 +0.2
PRAF Pradon 149.13 342 PKP PKPbc 02 55 17.4 +0.1
LFF La Frestale 149.19 348 ↓*i*PKP1 PKPbc 02 55 17.7 +0.3
comp=Z,34nm,0.8s
LASF Ste Croix 149.26 343 ↓*i*PKP1 PKPbc 02 55 18.1 +0.5
comp=Z,58nm,0.9s
GELF Grande-Etoile 149.43 341 PKP PKPbc 02 55 18.5 +0.5
MTLF Montolieu 150.38 345 ↓*i*PKP1 PKPbc 02 55 20.6 +0.4
comp=Z,23nm,0.7s
EPF Esparros 151.10 348 ↓*i*PKP1 PKPbc 02 55 22.1 +0.2
comp=Z,25nm,0.8s
SJPF Ste Jean 151.31 350 ↓*i*PKP1 PKPbc 02 55 22.7 +0.3
comp=Z,13nm,0.6s
ETSF Etsaut 151.40 349 ↓*i*PKP1 PKPbc 02 55 23.4 +0.8
comp=Z,30nm,0.6s
KEST Kesra 154.18 327 PKPbc PKPbc 02 55 29.2 +0.6
comp=Z,1.1nm,0.6s,baz=247,slow=3.2,SNR=15
KEST PKPab PKPab 02 55 47.0 +1.3
comp=Z,2.4nm,0.8s,baz=42,slow=3.1,SNR=4.0
ESDC Sonseca Array 155.08 353 PKPab PKPab 02 55 50.2 +0.6
comp=Z,3.8nm,0.8s,baz=4.3,slow=4.0,SNR=11
TORD Torodi Ar. Bea 170.64 261 PKP PKPdf 02 55 35.8 +0.1
comp=Z,2.6nm,0.9s,baz=40,slow=0.7,SNR=15
TORD PKPab PKPab 02 56 59.0 +1.1
comp=Z,12nm,0.8s,baz=97,slow=3.8,SNR=52
DBIC Dimbokro 171.34 200 PKP PKPdf 02 55 35.9 -0.1
comp=Z,1.5nm,0.9s,baz=248,slow=4.7,SNR=5.3

IDC 17 02:40:00.8±7.4, 604S×15078E, h94km±55km, mb3.9/4, mb1 4.1/5, mb1mx3.8/13, mbtmp4.3/5, ML3.1/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/28, Error ellipse: s-maj=58.5km s-min=43.4km az=89.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**227**	P	Pn	02 41 12.7	+0.7
	5.0nm,0.3s,baz=78,slow=4.8,SNR=15						
PMG				S	Sn	02 42 07.9	+0.4
	16nm,0.3s,baz=255,slow=24,SNR=11						
WRA	**Warramunga Arr**	**21.12**	**228**	P	P	02 44 38.1	+0.3
	7.8nm,0.5s,baz=54,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**23.89**	**221**	P	P	02 45 06.2	+0.7
	12nm,0.6s,baz=53,slow=9.3,SNR=12						
JNU	**Nakatsue**	**43.29**	**335**	LR	LR	03 02 19.1	
	comp=Z,59nm,21.6s,baz=37,slow=31						
VNDA	**Vanda**	**71.68**	**177**	P	P	02 51 11.7	-0.6
	0.8nm,0.9s,baz=320,slow=7.2,SNR=3.3						
MAW	**Mawson**	**83.66**	**203**	P	P	02 52 19.0	+0.2
	1.3nm,0.7s,baz=79,slow=5.6,SNR=6.3						
GERES	**GERESS Array B**	**124.03**	**327**	PKP	PKPdf	02 58 47.7	-0.3
	0.3nm,0.4s,baz=122,slow=1.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.73**	**285**	PKPbc	PKPbc	02 59 37.7	+0.6
	5.4nm,0.7s,baz=56,slow=2.5,SNR=37						

IDC 17 02:52:54.2±4.2, 549S×15104E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.2/12, mbtmp3.0/2, Error ellipse: s-maj=183.0km s-min=50.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**227**	P	P	02 57 47.0	+0.5
	0.3nm,0.6s,baz=54,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**24.47**	**221**	P	P	02 58 15.2	+0.3
	0.1nm,0.5s,baz=51,slow=9.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc	03 12 44.3	+0.6
	0.3nm,0.7s,baz=74,slow=2.6,SNR=3.8						

IDC 17 02:57:01.1±9.2, 585S×15055E, h80km±65km, mb3.0/2, mb1 3.3/3, mb1mx3.1/13, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=124.0km s-min=59.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**223**	P	Pn	02 58 12.4	+0.5
	0.8nm,0.3s,baz=45,slow=7.1,SNR=2.2						
PMG				S	Sn	02 59 07.5	+0.5
	1.6nm,0.3s,baz=245,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**21.08**	**227**	P	P	03 01 39.1	+0.2
	0.7nm,0.4s,baz=54,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.88**	**220**	P	P	03 02 08.2	+0.9
	0.6nm,0.6s,baz=58,slow=9.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**148.47**	**286**	PKPbc	PKPbc	03 16 38.8	+0.3
	0.5nm,0.6s,baz=67,slow=2.5,SNR=9.3						

KRSC 17 02:57:28, 5583N×16039E, h307km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPT	**Kopyto**	**0.17**	**325**	*e*P	Pn	02 58 07.6	+0.8
ZLN	**Zelenaya**	**0.30**	**51**	*i*P	Pn	02 58 08.1	+1.1
ZLN				*i*S	S	02 58 38.1	+0.1
KRSR	**Krestovskiy**	**0.40**	**14**	*e*P	Pn	02 58 08.4	+1.2
TUMR	**Tumrok**	**0.57**	**194**	*i*P	Pn	02 58 09.5	+2.0
TUMR				*i*S	S	02 58 40.1	+1.1
SRDR	**Sredinnyy**	**0.62**	**323**	P	Pn	02 58 08.0	+0.3
SRKR	**Sorokina**	**0.93**	**27**	*e*P	Pn	02 58 10.5	+1.7
SRKR				*i*S	S	02 58 42.4	+1.1
KBTR	**Krutoberegovo**	**1.42**	**73**	*e*P	Pn	02 58 13.2	+1.9
KBTR				*i*S	S	02 58 44.7	-1.1
MKZ	**Mys Kozlova**	**1.49**	**148**	*e*P	Pn	02 58 13.3	+1.5
MKZ				*i*S	S	02 58 45.7	-0.9
GNL	**Ganaly**	**2.57**	**215**	*e*P	Pn	02 58 22.2	+2.1
NLC	**Nalytchevo**	**2.73**	**193**	P	Pn	02 58 23.6	+1.9
NLC				*i*S	S	02 59 03.6	-0.9
AVH	**Avacha**	**2.75**	**201**	*e*P	Pn	02 58 23.7	+1.9
SPN	**Mys Shipunski**	**2.75**	**185**	*e*P	Pn	02 58 22.3	+0.5
SPN				*i*S	S	02 59 02.5	-2.2
RUS	**Russkaya**	**3.58**	**199**	*e*P	Pn	02 58 31.8	+1.8
RUS				*i*S	S	02 59 18.4	-1.3

IDC 17 03:00:11.5±8.3, 589S×15062E, h76km±60km, mb3.2/3, mb1 3.5/4, mb1mx3.2/14, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=102.3km s-min=54.3km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**224**	P	Pn	03 01 23.2	+0.7
	0.9nm,0.3s,baz=284,slow=8.3,SNR=2.0						
PMG				S	Sn	03 02 18.1	+0.3
	2.5nm,0.3s,baz=135,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**21.11**	**227**	P	P	03 04 49.8	0.0
	0.7nm,0.5s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.90**	**221**	P	P	03 05 18.9	+0.9
	0.9nm,0.6s,baz=57,slow=9.2,SNR=8.1						
FITZ	**Fitzroy Crossi**	**27.23**	**241**	P	P	03 05 49.0	+0.8
	1.0nm,0.6s,baz=48,slow=9.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.54**	**286**	PKPbc	PKPbc	03 19 49.5	+0.1
	0.9nm,0.6s,baz=51,slow=2.5,SNR=16						

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*NEIC **17** 03:16:24.8±1.3, 3306S×17904W, h62km±11km, mb5.2/9, Error ellipse: s-maj=16.3km s-min=11.4km az=112.0*
*IDC **17** 03:16:27.1±2.0, 3294S×179.11W, h77km±16km, mb4.6/9, mb1 4.6/10, mb1mx4.4/17, mbtmp4.9/10, MS3.7/1, Ms1 3.7/1, ms1mx3.4/30, Error ellipse: s-maj=20.2km s-min=13.3km az=120.0*
*ISCJB **17** 03:16:28.2±1.3, 3348S±006×1797W±0.1, h74km±11km, mb5.0/13, Error ellipse: s-maj=17.2km s-min=10.0km az=26.1*
ISC 17 03:16:29.6±1.2, 3347S±007×1797W±01, h70km±10km, n73, σ1°26/77, mb5.0/13, 2C-5D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.39**	**201**	P	**Pn**	**03 17 35.2**	**+1.4**
MXZ				S	**Sn**	**03 18 30.2**	**+6.6**
MXZ	**Matakaoa Point**	**4.39**	**201**	*e*PN	**Pn**	**03 17 35.0**	**+1.3**
MXZ				*e*SN	**Sn**	**03 18 28.8**	**+5.2**
RAO	**Raoul Island**	**4.48**	**21**	P	**Pn**	**03 17 22.9**	**-12**
	141nm,0.3s,baz=232,slow=23,SNR=8.6						
RAO				S	**Sn**	**03 18 08.3**	**-17**
	882nm,0.3s,baz=96,slow=23,SNR=16						
RAO				LR	LR	03 18 34.2	
	comp=Z,1μm,19.9s,baz=2.8,slow=33						
PUZ	**Puketiti**	**4.88**	**199**	P	**Pn**	**03 17 41.7**	**+1.3**
PUZ				S	**Sn**	**03 18 40.0**	**+4.4**
PUZ	**Puketiti**	**4.88**	**199**	*e*PN	**Pn**	**03 17 41.6**	**+1.2**
PUZ				*e*SN	**Sn**	**03 18 40.0**	**+4.4**
MWZ	**Matawai**	**5.34**	**204**	*e*PN	**Pn**	**03 17 48.2**	**+1.5**
MWZ				*e*SN	**Sn**	**03 18 52.2**	**+5.2**
URZ	**Urewera**	**5.43**	**207**	P	**Pn**	**03 17 50.1**	**+2.1**
	12nm,0.3s,baz=339,slow=18,SNR=30						
URZ				S	**Sn**	**03 18 58.3**	**+9.3**
	83nm,0.3s,baz=145,slow=21,SNR=13						
URZ	**Urewera**	**5.43**	**207**	*e*PN	**Pn**	**03 17 49.6**	**+1.6**
URZ				*e*SN	**Sn**	**03 18 55.7**	**+6.7**
OUZ	**Omahuta**	**5.79**	**251**	*e*P	**Pn**	**03 18 00.4**	**+7.4**
KNZ	**Kokohu**	**5.93**	**200**	*e*PN	**Pn**	**03 17 54.7**	**0.0**
KNZ				*e*SN	**Sn**	**03 19 04.1**	**+2.9**
BKZ	**Black Stump Fm**	**6.45**	**207**	*e*PN	**Pn**	**03 18 02.8**	**+0.8**
BKZ				*e*SN	**Sn**	**03 19 19.7**	**+5.5**
WNVZ	**Wahianoa**	**6.96**	**211**	*e*PN	**Pn**	**03 18 12.8**	**+3.9**
PXZ	**Pawanui**	**7.10**	**202**	*e*SN	**Sn**	**03 19 29.4**	**-0.6**
WAZ	**Wanganui**	**7.58**	**213**	*e*SN	**Sn**	**03 19 50.3**	**+8.6**
BFZ	**Birch Farm**	**7.88**	**203**	*e*PN	**Pn**	**03 18 20.7**	**-0.8**
BFZ				*e*SN	**Sn**	**03 19 49.2**	**0.0**
MRZ	**Mangatainoka R**	**8.10**	**206**	*e*PN	**Pn**	**03 18 22.6**	**-1.9**
MRZ				*e*SN	**Sn**	**03 19 54.4**	**0.0**
KIW	**Kapiti Island**	**8.53**	**209**	*e*PN	**Pn**	**03 18 28.5**	**-1.9**
MSWZ	**Moikau Station**	**8.88**	**205**	SN	**Sn**	**03 20 13.6**	**+0.1**
DUWZ	**D'Urville Isla**	**8.90**	**213**	*e*PN	**Pn**	**03 18 36.4**	**+0.9**
NNZ	**Nelson**	**9.48**	**213**	*e*SN	**Sn**	**03 20 29.2**	**+0.9**
QRZ	**Quartz Range**	**9.60**	**218**	*e*PN	**Pn**	**03 18 43.7**	**-1.2**
THZ	**Tophouse**	**10.13**	**213**	*e*PN	**Pn**	**03 18 50.4**	**-1.9**
THZ				*e*SN	**Sn**	**03 20 45.2**	**+1.0**
KHZ	**Kahutara**	**10.39**	**209**	*e*PN	**Pn**	**03 18 54.1**	**-1.7**
DSZ	**Denniston Nort**	**10.64**	**217**	SN	**Sn**	**03 20 55.1**	**-1.6**
LTZ	**Lake Taylor**	**11.23**	**212**	*e*PN	**Pn**	**03 19 05.7**	**-1.5**
LTZ				*e*SN	**Sn**	**03 21 06.9**	**-4.0**
MQZ	**McQueen's Vall**	**11.83**	**208**	SN	**Sn**	**03 21 19.3**	**-6.3**
WVZ	**Waitaha Valley**	**12.16**	**215**	SN	**Sn**	**03 21 29.2**	**-4.5**
RPZ	**Rata Peaks**	**12.51**	**212**	P	**Pn**	**03 19 20.5**	**-4.2**
	0.9nm,0.3s,baz=346,slow=8.3,SNR=2.8						
RPZ				S	**Sn**	**03 21 37.9**	**-4.2**
	7.2nm,0.3s,baz=300,slow=21,SNR=12						
FOZ	**Fox Glacier**	**13.04**	**216**	SN	**Sn**	**03 21 46.5**	**-8.5**
JCZ	**Jackson Bay**	**13.87**	**217**	*e*PN	**Pn**	**03 19 39.2**	**-3.7**
JCZ				SN	**Sn**	**03 22 08.3**	**-7.0**
EAZ	**Earnscleugh**	**14.47**	**213**	SN	**Sn**	**03 22 21.9**	**-8.0**
AFI	**Afiamalu**	**20.77**	**22**	P	**P**	**03 20 54.0**	**-11**
	30nm,0.6s,baz=150,slow=8.1,SNR=3.8						
STKA	**Stephens Creek**	**32.48**	**262**	*e*P	**P**	**03 22 56.2**	**+2.8**
	3.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**32.48**	**262**	P	**P**	**03 22 55.0**	**+1.7**
	3.1nm,0.8s,mb4.1,baz=88,slow=11,SNR=4.4						
CTA	**Charters Tower**	**33.01**	**285**	↓*i*P	**P**	**03 22 59.8**	**+1.8**
	18nm,0.6s,mb5.1						
CTA	**Charters Tower**	**33.01**	**285**	P	**P**	**03 22 60.0**	**+1.9**
	19nm,0.5s,mb5.2,baz=112,slow=10.0,SNR=32						
CTAO	**Charters Tower**	**33.01**	**285**	*e*P	**P**	**03 22 59.7**	**+1.7**
	21nm,0.6s,mb5.1						
PMG	**Port Moresby**	**38.75**	**301**	P	**P**	**03 23 45.5**	**-1.5**
	17nm,0.8s,mb4.9,baz=202,slow=1.7,SNR=4.6						
AS31	**Alice Springs**	**41.59**	**271**	↓*i*P	**P**	**03 24 11.6**	**+1.0**
ASAR	**Alice Springs**	**41.59**	**271**	P	**P**	**03 24 11.5**	**+0.9**
	24nm,0.7s,mb5.0,baz=109,slow=7.4,SNR=176						
ASAR				S	**S**	**03 30 22.1**	**+0.5**
	0.8nm,0.8s,baz=118,slow=17,SNR=4.8						
ASPA	**Alice Springs**	**41.59**	**271**	↓*i*P	**P**	**03 24 11.6**	**+1.0**
WB2	**Warramunga Arr**	**42.85**	**276**	↓*i*P	**P**	**03 24 20.7**	**-0.1**
WRAB	**Tennant Creek**	**42.86**	**276**	*e*P	**P**	**03 24 21.0**	**+0.1**
WRA	**Warramunga Arr**	**42.86**	**276**	P	**P**	**03 24 21.5**	**+0.6**
	32nm,0.7s,mb5.2,baz=116,slow=7.6,SNR=120						
WRA				S	**S**	**03 30 38.9**	**-1.4**
	1.0nm,0.7s,baz=116,slow=17,SNR=4.4						
FORT	**Forrest**	**43.92**	**259**	*e*P	**P**	**03 24 29.8**	**+0.3**
	42nm,0.7s,mb5.3						
VNDA	**Vanda**	**44.91**	**186**	P	**P**	**03 24 39.2**	**+1.9**
	3.1nm,0.9s,mb4.0,baz=7.7,slow=6.3,SNR=8.3						
VNDA	**Vanda**	**44.91**	**186**	P	**P**	**03 24 39.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**50.98**	**273**	⇑*i*P	**P**	**03 25 24.1**	**-0.1**
	20nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**50.98**	**273**	P	**P**	**03 25 24.2**	**0.0**
	11nm,0.7s,mb5.0,baz=141,slow=7.9,SNR=36						
CASY	**Casey**	**51.75**	**209**	*e*P	**P**	**03 25 29.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**52.00**	**252**	P	**P**	**03 25 30.5**	**-1.3**
	9.0nm,0.7s,mb4.9,baz=36,slow=2.6,SNR=5.3						
NWAO	**Narrogin (SRO)**	**52.00**	**252**	P	**P**	**03 25 30.5**	**-1.3**
KLBR	**Kellerberrin**	**52.03**	**254**	*e*P	**P**	**03 25 31.5**	**-0.5**
	27nm,1.1s,mb5.2						
MUN	**Mundaring**	**53.13**	**253**	*e*P	pP	03 25 51.7	-6.3
MBWA	**Marble Bar**	**54.51**	**267**	*e*P	**P**	**03 25 49.5**	**-0.7**
QSPA	**South Pole Qui**	**56.65**	**180**	*e*P	**P**	**03 26 07.0**	**+1.5**
	38nm,0.6s,mb5.6						
MAW	**Mawson**	**68.93**	**201**	⇑*i*P	**P**	**03 27 26.6**	**-0.5**
	19nm,0.9s,mb4.9						
MAW	**Mawson**	**68.93**	**201**	P	**P**	**03 27 26.7**	**-0.4**
	13nm,0.6s,mb5.0,baz=132,slow=7.9,SNR=60						
SYO	**Syowa Base**	**73.80**	**194**	↓*e*P	**P**	**03 27 54.8**	**-1.7**
SNAA	**Sanae**	**75.13**	**179**	*e*P	**P**	**03 28 03.0**	**-1.3**
	25nm,0.9s,mb4.9						
BOSA	**Boshof**	**113.87**	**204**	PKP	PKiKP	03 34 58.4	-2.0
	2.6nm,0.7s,baz=98,slow=4.4,SNR=6.6						
MKAR	**Makanchi Array**	**118.59**	**309**	PKP	PKPdf	03 35 04.9	-4.6
	0.5nm,0.4s,baz=69,slow=1.7,SNR=6.5						
ARCES	**ARCESS Array B**	**141.24**	**346**	PKhKP		03 35 41.9	
	1.5nm,0.7s,baz=25,slow=3.2,SNR=6.8						
ARCES				PKP	PKPdf	03 35 46.4	-5.8
	3.4nm,0.7s,baz=57,slow=1.9,SNR=8.5						
ARCES				SKPbc	SKPbc	03 39 17.0	-5.9
	2.7nm,0.8s,baz=32,slow=3.5,SNR=5.4						
ARCES	**ARCESS Array B**	**141.24**	**346**	PKP		03 35 41.9	
ARCES				PKP	PKPdf	03 35 46.4	-5.8
ARCES				SKPbc	SKPbc	03 39 17.0	-5.9
JOF	**Joensuu**	**144.67**	**336**	*e*pkp	PKPdf	03 35 51.3	-6.9
KAF	**Kangasniemi**	**146.89**	**338**	*e*pkp	PKPdf	03 35 57.8	-4.2
FIA1	**FINESS Array S**	**147.46**	**337**	*e*PKPbc	PKPdf	03 36 00.2	-2.7
FINES	**FINESS Array B**	**147.46**	**337**	PKPbc	PKPdf	03 36 00.2	-2.7
	8.7nm,0.5s,baz=48,slow=3.6,SNR=81						
FINES	**FINESS Array B**	**147.46**	**337**	PKPbc	PKPdf	03 36 00.2	-2.7
NB2	**NORSAR Subarra**	**151.51**	**349**	PKP	PKPdf	03 36 10.3	+0.9
	comp=Z,7.9nm,0.7s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.51**	**349**	PKPbc	PKPdf	03 36 10.1	+0.7
	comp=Z,5.9nm,0.6s,baz=14,slow=4.1,SNR=31						
AKASG	**Malin Array Be**	**152.72**	**318**	PKPbc	PKPdf	03 36 12.9	+1.7
	comp=Z,1.2nm,0.4s,baz=45,slow=3.0,SNR=10.0						
AKASG				PKPab	PKPbc	03 36 23.6	+5.2
	comp=Z,0.4nm,0.3s,baz=41,slow=3.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**159.73**	**184**	PKP	PKPdf	03 36 19.6	-0.8
	comp=Z,1.4nm,0.9s,baz=315,slow=0.8,SNR=7.8						
TORD				PKPab	PKPab	03 36 58.8	-0.6
	comp=Z,10nm,0.9s,baz=170,slow=3.8,SNR=24						

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*IDC **17** 03:23:20.1±1.7, 693S×12898E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.7/13, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=78.4km s-min=25.5km az=78.0*
NEIC 17 03:23:24.4±1.0, 674S×12951E, h30km, mb4.4/1, Error ellipse: s-maj=28.4km s-min=13.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.90**	**198**	Pn	Pn	03 26 05.4	-6.6
	0.6nm,0.3s,baz=120,slow=7.5,SNR=9.7						
FITZ				Sn	Sn	03 28 01.7	-22
	0.5nm,0.3s,baz=321,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**13.93**	**161**	Pn	Pn	03 26 39.9	+0.1
	0.3nm,0.3s,baz=339,slow=13,SNR=4.9						
WRA				Sn	Sn	03 29 04.1	-9.3
	0.6nm,0.3s,baz=336,slow=22,SNR=5.5						
WB2	**Warramunga Arr**	**13.94**	**161**	*e*Pn	Pn	03 26 40.8	+0.9
ASAR	**Alice Springs**	**17.35**	**166**	P	Pn	03 27 24.1	-0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=3.4						
PMG	**Port Moresby**	**17.67**	**100**	*e*P	Pn	03 27 28.2	0.0
	25nm,0.8s						
SONM	**Songino Array**	**58.05**	**342**	P	P	03 33 16.4	+1.8
	0.4nm,0.7s,baz=172,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	03 34 17.7	-1.4
	0.3nm,0.4s,baz=124,slow=7.4,SNR=5.0						

IDC 17 03:26:12.6±8.4, 598S×15075E, h98km±58km, mb3.6/3, mb1 3.7/4, mb1mx3.3/14, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=105.0km s-min=55.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**226**	P	Pn	03 27 24.7	+0.5
	1.3nm,0.3s,baz=52,slow=17,SNR=2.8						
PMG				S	Sn	03 28 20.5	+0.6
	2.7nm,0.3s,baz=237,slow=23,SNR=7.2						
WRA	**Warramunga Arr**	**21.14**	**227**	P	P	03 30 49.7	+0.1
	2.3nm,0.6s,baz=54,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**23.92**	**221**	P	P	03 31 17.9	+0.5
	2.5nm,0.6s,baz=56,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**27.31**	**242**	P	P	03 31 48.6	+0.7
	1.1nm,0.5s,baz=69,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc	PKPbc	03 45 48.7	+0.4
	1.2nm,0.6s,baz=66,slow=3.1,SNR=18						

MEX 17 03:26:57.0±0.3, 1595N×9879W, h16km±14km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.41**	**310**	*e*P	Pn	03 27 18.5	-3.5
ACX				*i*S	Sn	03 27 35.0	-5.2
UTMO	**Huajuapan**	**2.09**	**27**	*e*P	Pn	03 27 28.5	-2.9
UTMO				*i*S	Sn	03 27 52.7	-4.3
MEIG	**Mezcala**	**2.12**	**338**	*i*S	Sn	03 27 53.5	-4.1
VHO	**Vista Hermosa**	**2.27**	**60**	*i*P	Pn	03 27 30.9	-2.8
VHO				*i*S	Sn	03 27 57.6	-3.7
OXX	**Oaxaca**	**2.28**	**60**	*e*P	Pn	03 27 30.5	-3.4

IDC 17 03:34:51.3±3.9, 590S×15139E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/12, mbtmp3.3/2, Error ellipse: s-maj=164.9km s-min=50.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
**WRA

LZH	**Lanzhou**	**60.88 317**	*eP*	**P**	**03 50 47.8**	**+1.4**
LZH			AP	pP	03 50 53.1	-10
LZH			XP	sP	03 50 56.4	-14
LZH			AMB	AMB		
	comp=Z,28nm,1.2s,mb5.3					
LZH	**Lanzhou**	**60.88 317**	*eP*	**P**	**03 50 47.8**	**+1.4**
	comp=Z,28nm,1.2s,mb5.3					
LZH			pP	pP	03 50 53.1	-10
LZH			sP	sP	03 50 56.4	-14
GTA	**Gaotai**	**65.36 318**	*eP*	**P**	**03 51 16.5**	**+0.4**
GTA			AP	pP	03 51 21.1	-12
GTA			XP	sP	03 51 24.5	-16
GTA			AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.3					
SONM	**Songino Array**	**66.41 329**	P	**P**	**03 51 22.4**	**-0.5**
	comp=Z,2.5nm,1.0s,mb4.2,baz=145,slow=5.7,SNR=9.2					
GUN	**Gumba**	**71.25 302**	*eP*	**P**	**03 51 52.6**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0					
PKI	**Pulchoki**	**71.55 302**	*eP*	**P**	**03 51 53.4**	**-1.3**
VNDA	**Vanda**	**71.72 178**	P	**P**	**03 51 55.7**	**0.0**
	comp=Z,1.4nm,1.0s,mb3.9,baz=332,slow=6.8,SNR=8.0					
VNDA	**Vanda**	**71.72 178**	P	**P**	**03 51 55.7**	**0.0**
KKN	**Kakani**	**71.72 302**	*eP*	**P**	**03 51 55.2**	**-0.6**
DMN	**Daman**	**71.82 301**	*eP*	**P**	**03 51 56.5**	**+0.2**
	comp=Z,23nm,0.9s,mb5.1					
GKN	**Gorkha**	**72.33 302**	*eP*	**P**	**03 51 59.1**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9					
KOLN	**Koldanda**	**73.14 301**	*eP*	**P**	**03 52 04.1**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8					
MK31	**Makanchi Array**	**80.08 319**	*eP*	**P**	**03 52 42.6**	**-0.7**
MKAR	**Makanchi Array**	**80.08 319**	P	**P**	**03 52 42.3**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=107,slow=6.5,SNR=15					
MKAR			PP	PP	03 55 43.0	-3.0
	comp=Z,1.3nm,0.9s,baz=118,slow=9.7,SNR=4.5					
ZAL	**Zalesovo**	**81.18 327**	P	**P**	**03 52 50.4**	**+1.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=83,slow=11,SNR=3.2					
MAW	**Mawson**	**83.81 203**	P	**P**	**03 53 03.0**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.2,baz=72,slow=9.6,SNR=5.1					
QSPA	**South Pole Qui**	**83.98 180**	*eP*	**P**	**03 53 03.7**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.5					
DAWY	**Dawson**	**86.58 24**	*eP*	**P**	**03 53 16.0**	**-0.7**
NVAR	**Mina Array Bea**	**94.19 52**	P	**P**	**03 53 53.4**	**+1.1**
	comp=Z,3.7nm,0.8s,mb4.9,baz=263,slow=6.7,SNR=18					
EDM	**Edmonton**	**98.12 37**	*eP*	**P**	**03 54 10.3**	**+0.1**
PDAR	**Pinedale Array**	**100.93 48**	P	Pdif	03 54 22.2	-0.5
	comp=Z,1.2nm,0.9s,baz=273,slow=2.4,SNR=8.7					
VRI	**Vrincioaia**	**117.77 319** ⇑	*iP*	PKPdf	03 59 20.1	+0.6
BURAR	**Bucovina Array**	**118.05 322** ⇑	*iP*	PKPdf	03 59 21.3	+1.2
MLR	**Muntele Rosu**	**118.42 319** ⇑	*iP*	PKPdf	03 59 19.6	-1.2
KOLS	**Kolonicke sedl**	**119.25 324**	*e*PKP	PKPdf	03 59 22.8	+0.4
STHS	**Stebnicka Huta**	**119.62 325**	*e*PKP	PKPdf	03 59 23.4	+0.3
GZR	**Gura Zlata**	**120.50 320** ⇑	*iP*	PKPdf	03 59 25.0	+0.2
OKC	**Ostrava-Krasne**	**121.15 326**	*e*PKPDF	PKPdf	03 59 24.3	-1.7
MORC	**Moravsky Berou**	**121.52 327** ⇓	*iP*	PKPdf	03 59 26.7	0.0
PVCC	**Panska Ves**	**122.69 329**	*e*PKPDF	PKPdf	03 59 29.0	0.0
PKSM	**Moragy**	**122.71 322** ⇓	*iP*	PKPdf	03 59 28.9	-0.1
BRG	**Berggiesshubel**	**122.81 329**	*e*PKP	PKPdf	03 59 29.3	+0.1
	comp=Z,4.3nm,0.9s					
TREC	**Trest**	**122.90 327**	*e*PKPDF	PKPdf	03 59 27.9	-1.5
PRU	**Pruhonice**	**123.02 328**	*e*PKPDF	PKPdf	03 59 30.0	+0.4
CLL	**Collm**	**123.02 330**	*e*PKPdf	PKPdf	03 59 29.0	-0.6
	comp=Z,6.0nm,0.8s					
CLL			*ep*PKPdf	pPKPdf	03 59 38.0	-10
KHC	**Kasperske Hory**	**124.03 328**	*e*PKPDF	PKPdf	03 59 31.5	0.0
MOX	**Moxa**	**124.12 330**	*e*PKP	pPKPdf	03 59 52.0	+1.9
GERES	**GERESS Array B**	**124.13 327**	PKP	PKPdf	03 59 31.6	-0.1
	comp=Z,3.1nm,0.8s,baz=101,slow=1.4,SNR=21					
GRA1	**Grafenberg Arr**	**124.91 329**	*e*PKPdf	PKPdf	03 59 33.2	0.0
GRF	**Grafenberg Arr**	**124.91 329**	*e*PKP	PKPdf	03 59 33.2	0.0
WTTA	**Wattenberg**	**126.18 327** ⇑	*iP*	PKPdf	03 59 35.8	+0.2
	comp=Z,11nm,0.9s					
MOTA	**Moosalm**	**126.42 327** ⇓	*iP*	PKPdf	03 59 36.2	+0.1
	comp=Z,8.7nm,1.1s					
SQTA	**Sankt Quirin**	**126.44 327** ⇓	*iP*	PKPdf	03 59 36.5	+0.3
	comp=Z,5.4nm,1.0s					
KEST	**Kesra**	**134.05 315**	PKP	PKPdf	03 59 52.4	+1.8
	comp=Z,1.9nm,0.9s,baz=172,slow=3.4,SNR=4.2					
SDV	**Santo Domingo**	**138.59 83**	*e*PKPdf	PKPdf	04 00 00.2	+1.2
TOA0	**Torodi Ar. Sit**	**148.98 286**	*e*PKPbc	PKPbc	04 00 21.6	+0.4
TORD	**Torodi Ar. Bea**	**148.98 286**	PKPbc	PKPbc	04 00 21.7	+0.5
	comp=Z,20nm,0.8s,baz=68,slow=2.7,SNR=103					
BDFB	**Brasilia**	**151.40 139**	PKPbc	PKPbc	04 00 27.1	+0.1
	comp=Z,3.2nm,0.7s,baz=209,slow=4.4,SNR=6.2					
BDFB			PKPab	PKPab	04 00 35.0	-0.4
	comp=Z,3.4nm,0.7s,baz=300,slow=2.0,SNR=4.9					
DBIC	**Dimbokro**	**156.04 273**	PKP	PKPdf	04 00 29.0	+1.5
	comp=Z,5.3nm,1.1s,baz=44,slow=2.9,SNR=3.7					
DBIC			PKPab	PKPab	04 00 55.5	+0.5
	comp=Z,4.0nm,0.9s,baz=90,slow=9.2,SNR=4.6					

BJI ***17*** *03:41:36.0, 655S×15160E, h15km, mb4.8*
NEIC ***17*** *03:41:46.3±0.9, 587S×151.12E, h35km, mb4.7/1, Error ellipse: s-maj=27.7km s-min=12.0km az=112.0*
ISCJB ***17*** *03:41:49.1±3.3, 591S±0.10×1509E±02, h70km±27km, mb4.3/10, Error ellipse: s-maj=32.5km s-min=15.3km az=23.2*
IDC ***17*** *03:41:49.7±3.2, 580S×15086E, h61km±26km, mb4.1/8, mb1 4.4/9, mb1mx4.3/14, mbtmp4.4/9, ML3.7/1, MS4.2/2, Ms1 4.2/2, ms1mx3.8/19, Error ellipse: s-maj=35.1km s-min=14.9km az=127.0*
ISC 17 03:41:50.1±2.3, 594S±009×1510E±02, h65km±18km, n22, σ0=93/20, mb4.4/10, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.14**	**228**	P	**Pn**	**03 43 04.0**	**-0.6**
	20nm,0.3s,baz=200,slow=18,SNR=3.7						
PMG				S	**Sn**	**03 44 02.6**	**0.0**
	32nm,0.3s,baz=104,slow=20,SNR=3.6						
PMG				LR	LR	03 45 22.4	
	comp=Z,2μm,19.1s,baz=248,slow=41						
PMG	**Port Moresby**	**5.14**	**228**	P	**Pn**	**03 43 04.0**	**-0.6**
PMG				S	**Sn**	**03 44 02.6**	**0.0**
PMG				LR	LR	03 45 22.4	
CTA	**Charters Tower**	**14.81**	**198**	LR	LR	03 49 10.8	
	comp=Z,1μm,19.7s,baz=327,slow=30						
GUMO	**Guam**	**20.34**	**343**	P	**P**	**03 46 22.2**	**+1.2**
	143nm,1.0s,baz=180,slow=19,SNR=2.9						
WRAB	**Tennant Creek**	**21.35**	**228**	*eP*	**P**	**03 46 32.4**	**+0.5**
	28nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**21.36**	**228**	*eP*	**P**	**03 46 31.7**	**-0.3**
WRA	**Warramunga Arr**	**21.37**	**228**	P	**P**	**03 46 31.6**	**-0.5**
	11nm,0.8s,mb4.2,baz=52,slow=11,SNR=2.7						
WRA				S	**S**	**03 50 26.3**	**+0.7**
	8.0nm,1.2s,baz=57,slow=19,SNR=4.6						
ASAR	**Alice Springs**	**24.12**	**221**	P	**P**	**03 47 00.7**	**+0.8**
	12nm,0.7s,mb4.4,baz=54,slow=9.1,SNR=5.3						
FITZ	**Fitzroy Crossi**	**27.56**	**242**	P	**P**	**03 47 31.5**	**+0.6**
	3.5nm,0.4s,mb4.3,baz=65,slow=11,SNR=2.2						
YHNB	**Yeheng**	**41.94**	**318**	*eP*	**P**	**03 49 34.2**	**-0.2**
QZH	**Quanzhou**	**44.02**	**316** ⇑	*iP*	**P**	**03 49 52.4**	**+1.2**
QZH				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.5						
SONM	**Songino Array**	**66.35**	**329**	P	**P**	**03 52 31.9**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=147,slow=6.7,SNR=2.9						
VNDA	**Vanda**	**71.77**	**178**	P	**P**	**03 53 05.3**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=322,slow=8.1,SNR=3.5						
MK31	**Makanchi Array**	**80.02**	**319**	*eP*	**P**	**03 53 51.8**	**-0.7**
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**03 53 50.7**	**-1.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=113,slow=5.8,SNR=5.2						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**03 53 50.7**	**-1.8**
ZAL	**Zalesovo**	**81.12**	**327**	P	**P**	**03 53 55.5**	**-3.0**
	comp=Z,1.2nm,0.3s,mb4.3,baz=321,slow=19,SNR=3.3						
NVAR	**Mina Array Bea**	**94.18**	**52**	P	**P**	**03 55 02.9**	**+1.0**
	comp=Z,3.9nm,0.8s,mb4.9,baz=259,slow=6.5,SNR=11						
PDAR	**Pinedale Array**	**100.92**	**48**	P	Pdif	03 55 31.4	-0.8
	comp=Z,1.1nm,0.8s,baz=249,slow=1.9,SNR=6.3						
GERES	**GERESS Array B**	**124.07**	**327**	PKP	PKPdf	04 00 41.1	0.0
	comp=Z,1.2nm,0.6s,baz=77,slow=1.8,SNR=6.9						
KEST	**Kesra**	**134.00**	**315**	PKP	PKPdf	04 01 02.2	+2.3
	comp=Z,1.6nm,0.9s,baz=135,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.93**	**286**	PKPbc	PKPbc	04 01 31.4	+0.8
	comp=Z,15nm,0.7s,baz=70,slow=2.8,SNR=16						

CSEM ***17*** *03:53:38.7±2.1, 6723N×2051E, h3km±25km, ML3.2, Error ellipse: s-maj=15.9km s-min=6.8km az=124.0, Mining explosion.*
UPP ***17*** *03:53:38.9, 67.19N×2070E, h0km, ML3.2, Mining explosion.*
HEL 17 03:53:39.8±0.1, 6719N×2068E, h0km, ML2.0, ML3.2(UPP), **Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	03 53 49.9	-1.0
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	03 53 53.7	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	03 53 55.5	-0.9
NIKU	**Nikkaluokta**	**0.93**	**318**	*eP*	Pg	03 53 56.4	-1.3
PAJU	**Pajala**	**0.97**	**99**	*eP*	Pg	03 53 56.8	-1.5
LANU	**Lannavaara**	**1.00**	**30**	*eP*	Pg	03 53 57.4	-1.6
HARU	**Harads**	**1.03**	**173**	*eP*	Pg	03 53 58.0	-1.6
KALU	**Kalix**	**1.71**	**140**	*eP*	Pn	03 54 09.9	-1.0
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	03 54 10.2	-0.9
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	03 54 12.7	+0.3
KIF				*eS*	Sn	03 54 36.9	+0.6
KIF				MSG		03 54 39.9	
	comp=Z,12nm,0.3s						
LILU	**Lilltraesk**	**1.94**	**190**	*eP*	Pn	03 54 13.8	-0.2
SGF	**Sodankyl**	**2.28**	**81**	*eP*	Pn	03 54 18.9	+0.2
SGF				*eS*	Sn	03 54 48.8	+1.3
SGF				MSG		03 54 51.6	
	comp=Z,21nm,0.3s						
SGF	**Sodankyl**	**2.28**	**81**	P	Pn	03 54 18.8	+0.1
BURU	**Burvik**	**2.63**	**173**	*eP*	Pn	03 54 23.4	-0.1
OUL	**Oulu**	**2.99**	**132**	*eP*	Pn	03 54 29.1	+0.6
OUL				*e*PG	Pg	03 54 34.1	-3.1
OUL				*eS*	Sn	03 55 05.5	+0.5
OUL				*e*SB	Sb	03 55 09.6	-1.5
OUL				MSG		03 55 11.8	
	comp=Z,2.2nm,0.2s						
KEV	**Kevo**	**3.48**	**39**	*eP*	Pn	03 54 36.2	+1.0
KEV				*eS*	Sn	03 55 16.5	-0.5
KEV				*e*SG	Sg	03 55 27.3	-4.3
KEV				MSG		03 55 33.8	
	comp=Z,2.7nm,0.3s						
KEV	**Kevo**	**3.48**	**39**	P	Pn	03 54 36.1	+0.9
KEV				Sg	Sg	03 55 27.2	-4.4
	comp=Z,2.7nm,0.3s						
KU4	**Liikasenvaara**	**3.62**	**99**	*eP*	Pn	03 54 37.3	+0.1
KU4				*eS*	Sn	03 55 20.3	-0.3
KU4				MSG		03 55 36.1	
	comp=Z,2.3nm,0.3s						
KU6	**Riekki**	**3.86**	**103**	*eP*	Pn	03 54 39.8	-0.5
KU6				*eS*	Sn	03 55 24.5	-1.9
KU6				MSG		03 55 40.1	
	comp=Z,2.3nm,0.3s						

MOS ***17*** *04:02:36.3±1.1, 2082S×6827W, h137km, mb5.5/56, MS5.2/4, Error ellipse: s-maj=9.1km s-min=6.0km az=92.3*
IDC ***17*** *04:02:36.2±0.3, 2124S×6847W, h139km±2km, mb5.0/21, mb1 5.1/24, mb1mx5.1/25, mbtmp5.4/24, MS4.9/6, Ms1 4.8/6, ms1mx4.6/26, Error ellipse: s-maj=12.0km s-min=6.8km az=89.0*
ISCJB ***17*** *04:02:36.1±0.2, 2101S±003×6831W±003, h141km, mb5.3/163, Error ellipse: s-maj=5.3km s-min=3.6km az=65.6*
CRAAG ***17*** *04:02:37.1, 2095S×6842W, Mb5.6*
BJI ***17*** *04:02:37.2, 2117S×6844W, h144km, mB5.7*
NEIC ***17*** *04:02:37.3±0.2, 2104S×6828W, mb5.5/131, Error ellipse: s-maj=5.7km s-min=4.0km az=45.0*
NEIC Felt [V] at Pozo Almonte; [IV] at Huara, Iquique and Pica; [III] at Alto Hospicio, Calama, Camina, Maria Elena, Pisagua and Tocopilla; [II] at Antofagasta and Arica, Chile.
GCMT ***17*** *04:02:37.3±0.2, 2109S×6847W, h150km±1km, MW5.9/99, Moment Tensor Solution. s68,c106; s99,c225; Duration: 2s2 Moment tensor: Scale 1018Nm; Mrr=0.26±.01; Mθθ0.34±.02; Mϕϕ=0.08±.02; Mrθ0.27±.01; Mθϕ=0.85±.01; Mϕr0.24±.01; Best double couple: M0=0.97500×1018 NP1:ϕs170.00000°, δ68.00000°, λ=18.00000°. NP2:ϕs266.00000°, δ73.00000°, λ=157.00000°. Principal axes: T 1.0110, Plg3.0000°, Azm37.0000°; N -0.0710, Plg62.0000°, Azm301.0000°; P -0.9400, Plg28.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
LDG ***17*** *04:02:39.4, 2041S×6784W, h144km*
ISC 17 04:02:38.0±0.2, 2101S±004×6825W±003, h143km, h143km±.5km: pP-P, n670, σ0=98/558, mb5.3/163, 85C-65D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.71**	**201**	P	**Pn**	**04 03 03.3**	**-6.0**
	4μm,0.3s,baz=12,slow=7.8,SNR=7138						
LVC				S	**Sn**	**04 03 23.8**	**-10**
	3μm,0.3s,baz=72,slow=17,SNR=5.6						
LVC	**Limon Verde**	**1.71**	**201**	*e*Pn	**Pn**	**04 03 02.9**	**-6.4**
LVC				*e*Sn	**Sn**	**04 03 23.8**	**-10**
CEN1	**Los Morros**	**2.98**	**217**	⇓ *iP*	**Pn**	**04 03 19.8**	**-5.1**
ANCH	**Antofagasta**	**3.33**	**217**	*eP*	**Pn**	**04 03 21.3**	**-8.0**
ANCH				*i* S	**Sn**	**04 03 56.5**	**-13**
LPAZ	**La Paz**	**4.70**	**1**	P	**Pn**	**04 03 47.9**	**+0.6**
	130nm,0.3s,baz=172,slow=7.5,SNR=557						
LPAZ				S	**Sn**	**04 04 41.0**	**-0.1**
	68nm,0.3s,baz=199,slow=13,SNR=4.9						
LPAZ	**La Paz**	**4.70**	**1**	⇑ *e*Pn	**Pn**	**04 03 47.7**	**+0.5**
LPAZ				*e*Sn	**Sn**	**04 04 40.1**	**-1.1**
ARE	**Arequipa**	**5.47**	**325**	⇓ *iP*	**Pn**	**04 03 51.9**	**-5.6**
ARE				*i* S	**Sn**	**04 04 52.0**	**-7.6**
CDCH	**Caldera**	**6.48**	**201**	*eP*	**Pn**	**04 04 00.2**	**-11**
CPCH	**Copiapo**	**6.61**	**197**	*eP*	**Pn**	**04 04 03.3**	**-9.5**
VACH	**Vallenar**	**7.87**	**196**	⇑ *iP*	**Pn**	**04 04 19.1**	**-11**
SIV	**San Ignacio**	**8.44**	**55**	P	**Pn**	**04 04 35.4**	**-1.9**
	333nm,0.3s,baz=245,slow=15,SNR=933						
SIV				S	**Sn**	**04 06 06.2**	**-4.8**
	baz=281,slow=17,SNR=2.3						
CFAA	**Coronel Fontan**	**10.55**	**180**	P	**Pn**	**04 04 57.0**	**-8.4**
	5.7nm,0.3s,baz=354,slow=13,SNR=213						
CFAA				S	**Sn**	**04 06 47.9**	**-14**
	7.2nm,0.3s,baz=200,slow=12,SNR=7.0						
CFAA				LR	LR	04 09 04.0	
	comp=Z,443nm,21.5s,baz=357,slow=38						
CPUP	**Villa Florida**	**11.32**	**120**	P	**Pn**	**04 05 12.8**	**-2.7**
	13nm,0.3s,baz=280,slow=11,SNR=200						
CPUP				LR	LR	04 09 56.1	
	comp=Z,2μm,19.9s,baz=270,slow=39						
CPUP	**Villa Florida**	**11.32**	**120**	*e*Pn	**Pn**	**04 05 11.7**	**-3.9**
MDZ	**Mendoza**	**11.84**	**182**	*eP*	**Pn**	**04 05 15.5**	**-6.8**
NNA	**Nana**	**12.18**	**316**	Pn	**Pn**	**04 05 22.2**	**-4.6**
	1μm,1.2s,SNR=9.3						
NNA	**Nana**	**12.18**	**316**	P	**Pn**	**04 05 21.5**	**-5.3**
	15nm,0.3s,baz=173,slow=7.6,SNR=38						
NNA				S	**Sn**	**04 07 33.4**	**-7.8**
	16nm,0.3s,baz=240,slow=20,SNR=5.4						
NNA	**Nana**	**12.18**	**316**	*e*Pn	**Pn**	**04 05 19.9**	**-6.9**
NNA				*e*Sn	**Sn**	**04 07 31.1**	**-10**
LPA	**La Plata**	**16.56**	**149**	*ceP*	**Pn**	**04 06 17.0**	**-4.9**
LPA				*eS*	**S**	**04 09 44.0**	**+18**
ATAH	**Atahualpa**	**17.04**	**323**	P	**Pn**	**04 06 25.3**	**-2.4**
	1.9nm,0.3s,baz=128,slow=9.4,SNR=65						
ATAH				S	**S**	**04 09 32.7**	**-4.5**
	0.4nm,0.3s,baz=254,slow=20,SNR=1.8						
TRQA	**Tornquist**	**17.83**	**164**	*eP*	**Pn**	**04 06 31.8**	**-5.4**
BDFB	**Brasilia**	**19.93**	**78**	P	**P**	**04 06 58.2**	**-0.5**
	49nm,0.4s,baz=257,slow=9.3,SNR=54						
BDFB	**Brasilia**	**19.93**	**78**	*eP*	**P**	**04 06 57.9**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,23nm,2.1s						
BDFB	**Brasilia**	**19.93**	**78**	*eP*	**P**	**04 06 57.9**	**-0.7**
	comp=Z,22nm,2.1s						
BDFB				*ep*P		04 07 30.4	
OTAV	**Otavalo**	**23.36**	**333**	*eP*	**P**	**04 07 34.9**	**+1.3**
CAM4	**Nova Friburgo**	**23.89**	**98**	⇑ *iP*	**P**	**04 07 38.0**	**-0.5**
CAM4				*i*		04 07 38.9	
CAM4				*i*		04 07 42.2	
CAM4				*i*		04 07 44.0	
CAM4				*i*		04 07 56.6	
CAM3	**Guarapari**	**25.90**	**94**	*i*	**P**	**04 07 58.1**	**+1.5**
CAM3				*i*		04 08 01.2	
CAM3				*i*		04 08 05.8	
CAM3				*i*	pP	04 08 24.7	-1.8
CAM3				*i*		04 08 35.2	
ROSC	**El Rosal**	**26.39**	**346**	P	**P**	**04 08 01.0**	**-0.1**
	comp=Z,22nm,0.5s,mb5.1,baz=108,slow=5.5,SNR=23						
SDV	**Santo Domingo**	**29.80**	**355**	P	**P**	**04 08 30.9**	**-0.4**
	comp=Z,25nm,0.8s,mb5.0,baz=172,slow=3.8,SNR=7.7						
SDV				pP	pP	04 09 00.9	-0.8
	comp=Z,99nm,0.8s,baz=18,slow=20,SNR=7.5						
SDV				LR	LR	04 21 55.6	
	comp=Z,3μm,21.1s,baz=288,slow=39						
SDV	**Santo Domingo**	**29.80**	**355**	*eP*	**P**	**04 08 30.7**	**-0.6**
	comp=Z,107nm,0.8s,mb5.6						
SDV				*ep*P	pP	04 09 00.9	-0.8
PCRV	**Puerto La Cruz**	**31.19**	**7**	P	**P**	**04 08 43.6**	**0.0**
	comp=Z,52nm,0.6s,mb5.4,baz=179,slow=4.1,SNR=41						
PCRV				pP	pP	04 09 14.3	+0.2
	comp=Z,62nm,0.6s,baz=257,slow=2.6,SNR=4.3						
EFI	**East Falkland**	**31.62**	**168**	P	**P**	**04 08 45.4**	**-2.0**
	comp=Z,1μm,1.0s,SNR=5.4						
EFI	**East Falkland**	**31.62**	**168**	*eP*	**P**	**04 08 45.9**	**-1.5**
EFI				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.7						
EFI	**East Falkland**	**31.62**	**168**	*eP*	**P**	**04 08 45.9**	**-1.5**
	comp=Z,163nm,0.9s,mb5.8						
TRN	**Trinidad (W)**	**32.17**	**13**	*i* P	**P**	**04 08 54.1**	**+2.0**
TPR	**Prospect**	**32.83**	**14**	*eP*	**P**	**04 09 00.5**	**+2.6**
TPR	**Prospect**	**32.83**	**14**	*e*	pP	04 09 33.7	+5.2
GRW	**Mount Saint Ca**	**33.59**	**12**	*eP*	**P**	**04 09 06.4**	**+1.8**
GRHS	**Sauteurs**	**33.66**	**12**	*eP*	**P**	**04 09 03.4**	**-1.7**
GRIC	**Isle de Caille**	**33.73**	**12**	*eP*	**P**	**04 09 09.2**	**+3.5**
GRSS	**Sisters**	**33.73**	**12**	*eP*	**P**	**04 09 06.9**	**+1.1**
USHA	**Ushuaia**	**33.77**	**180**	P	**P**	**04 09 03.1**	**-2.9**
	comp=Z,47nm,0.7s,mb5.3,baz=353,slow=5.8,SNR=36						
RCBR	**Riachuelo**	**34.79**	**69**	*eP*	**P**	**04 09 15.1**	**+0.2**
	comp=Z,97nm,0.8s,mb5.5						
BIM	**Bigot**	**36.00**	**12**	*eP*	**P**	**04 09 24.0**	**-1.2**
FDF	**Fort de France**	**36.20**	**12**	*eP*	**P**	**04 09 26.1**	**-0.8**
SJG	**San Juan**	**38.93**	**3**	P	**P**	**04 09 47.8**	**-2.1**
SJG				pP	pP	04 10 20.4	-0.8
SJG	**San Juan**	**38.93**	**3**	P	**P**	**04 09 47.7**	**-2.2**
	comp=Z,122nm,0.6s,mb5.7,baz=141,slow=4.3,SNR=70						
SJG				pP	pP	04 10 20.8	-0.4
	comp=Z,543nm,1.0s,baz=204,slow=3.8,SNR=11						
SJG	**San Juan**	**38.93**	**3**	*eP*	**P**	**04 09 47.3**	**-2.6**
HUMP	**Col San Antoni**	**38.98**	**4**	*eP*	**P**	**04 09 48.7**	**-1.5**
MPR	**Mayaguez**	**38.99**	**2**	*eP*	**P**	**04 09 49.3**	**-1.1**
TGUH	**Tegucigalpa,Un**	**39.54**	**330**	*eP*	**P**	**04 09 55.0**	**0.0**
	comp=Z,58nm,0.9s,mb5.2						
TGUH				*es*P	sP	04 10 42.1	-0.4
HOPE	**Hope Point**	**41.01**	**152**	*eP*	**P**	**04 10 07.7**	**+0.7**
RCC	**Rio Carpintero**	**41.40**	**349**	*eP*	pP	04 10 39.5	-2.3
LMGC	**Las Mercedes**	**41.71**	**348**	*eP*	pP	04 10 39.6	-4.8
HLGC	**Holguin**	**42.34**	**349**	*eP*	**P**	**04 10 17.4**	**-0.4**
PMSA	**Palmer Station**	**43.83**	**177**	P	**P**	**04 10 29.3**	**-0.6**
	comp=Z,69nm,0.7s,mb5.4,baz=12,slow=6.8,SNR=54						
CCIG	**Comitan**	**43.85**	**326**	*eP*	**P**	**04 10 30.8**	**+0.8**
SOR	**Soroa**	**45.85**	**341**	*eP*	**P**	**04 10 44.2**	**-1.6**
CMIG	**Matias Romero**	**46.00**	**323**	P	**P**	**04 10 45.9**	**-1.1**
	comp=Z,12nm,0.6s,mb4.7,baz=123,slow=6.6,SNR=18						
CMIG				pP	pP	04 11 18.0	-1.2
	comp=Z,62nm,0.9s,baz=125,slow=4.6,SNR=10						
VHO	**Vista Hermosa**	**47.04**	**321**	*i* P	**P**	**04 10 56.1**	**+1.0**
OXX	**Oaxaca**	**47.04**	**321**	*eP*	**P**	**04 10 56.0**	**+0.9**
PPM	**Popocatepetl**	**49.71**	**321**	*i* P	**P**	**04 11 17.7**	**+2.2**
DWPF	**Disney**	**50.47**	**345**	*eP*	**P**	**04 11 20.8**	**-0.4**
	comp=Z,118nm,0.7s,mb5.6						
DWPF				*es*P	sP	04 12 09.0	-0.7
TRIS	**Tristan da Cun**	**50.76**	**121**	*eP*	**P**	**04 11 23.7**	**+0.3**
	comp=Z,646nm,0.8s,mb6.3						
BBSR	**BB Station**	**53.19**	**4**	*eP*	**P**	**04 11 40.2**	**-1.2**
	comp=Z,172nm,1.0s,mb5.7						
BBSR				*ep*P	pP	04 12 13.7	-0.6
SFJM	**Santa Fe**	**53.46**	**318**	*eP*	**P**	**04 11 43.0**	**-0.4**
LHS	**Liberty Hill**	**56.46**	**348**	*eP*	**P**	**04 12 05.6**	**+0.7**
LHS				*e*PP	pP	04 12

CCM Cathedral Cave 62.60 340 eP P **04 12 42.7 -4.3**
CCM e*PP pP 04 13 17.9 -3.1
CCM e*SP sP 04 13 32.7 -3.8
CCM pmax pmax
comp=Z,203nm,1.1s,mb5.9
CCM Cathedral Cave 62.60 340 eP P **04 12 42.7 -4.3**
comp=Z,203nm,1.1s,mb5.9
CCM epP pP 04 13 17.9 -3.1
CCM esP sP 04 13 32.7 -3.8
SLM Saint Louis 62.81 341 epP pP 04 13 21.4 -1.1
QUA2 Belchertown 63.08 357 eP P **04 12 49.4 -0.8**
comp=Z,89nm,1.0s,mb5.5
QUA2 e pP 04 13 23.2 -1.0
WES Weston 63.14 357 eP P **04 12 50.7 +0.2**
WES e*PP pP 04 13 24.9 +0.3
WES pmax pmax
comp=Z,110nm,1.1s,mb5.6
WES Weston 63.14 357 epP pP 04 13 24.9 +0.3
GDL2 Guadalupe Moun 63.20 326 eP P **04 12 51.0 +0.1**
GDL2 epP pP 04 13 23.8 -1.2
HRV Harvard--Oak R 63.27 357 eP P **04 12 50.4 -1.0**
BINY Binghamton 63.29 354 eP P **04 12 51.0 -0.6**
BINY epP pP 04 13 25.0 -0.6
ALLY Alegheny Colle 63.31 350 eP P **04 12 50.4 -1.3**
ALLY epP pP 04 13 25.6 -0.2
MNTX Cornudas Mount 63.35 325 eP P **04 12 50.6 -1.3**
comp=Z,105nm,1.0s,mb5.6
MNTX epP pP 04 13 23.6 -2.4
MNTX esP sP 04 13 39.8 -1.7
FFD Franklin Falls 64.23 357 eP P **04 12 57.5 -0.2**
comp=Z,42nm,0.6s,mb5.4
FFD epP pP 04 13 32.0 +0.1
BUF Buffalo 64.36 351 P P **04 12 58.9 +0.3**
BUF S pP 04 13 32.7 0.0
HNH Hanover 64.50 357 eP P **04 12 60.0 +0.5**
AAM Ann Arbor 64.58 347 eP P **04 12 59.0 -1.0**
AAM pmax pmax
comp=Z,76nm,0.9s,mb5.5
NCB Newcomb 64.89 355 eP P **04 13 01.1 -0.9**
comp=Z,132nm,1.1s,mb5.7
LBNH Lisbon 65.02 357 eP P **04 13 03.6 +0.8**
LBNH pmax pmax
comp=Z,120nm,1.0s,mb5.7
LBNH Lisbon 65.02 357 eP P **04 13 03.6 +0.8**
comp=Z,120nm,1.0s,mb5.7
WVL Waterville 65.27 359 eP P **04 13 05.8 +1.4**
comp=Z,65nm,1.1s,mb5.4
WVL epP pP 04 13 39.5 +0.8
EMMW East Machias 65.40 1 eP P **04 13 06.0 +0.7**
comp=Z,75nm,1.0s,mb5.5
EMMW epP pP 04 13 40.5 +1.0
KSU1 Kansas State U 65.43 336 eP P **04 13 03.1 -2.4**
comp=Z,196nm,1.1s,mb5.8
KSU1 epP pP 04 13 38.6 -1.1
LONY Lake Ozonia 65.56 355 eP P **04 13 05.5 -0.8**
FRNY Flat Rock 65.70 356 eP P **04 13 07.5 +0.3**
BNM Barren Site 65.91 326 epP pP 04 13 43.0 +0.1
PKME Peaks-Kenny Pk 65.96 359 eP P **04 13 08.0 -0.8**
comp=Z,103nm,1.1s,mb5.6
PKME epP pP 04 13 43.3 +0.2
MSNY Massena 65.96 355 eP P **04 13 09.5 +0.6**
MSNY e 04 13 23.3
Y22C IRIS PASSCAL I 66.00 325 ⇑P P **04 13 09.5 +0.3**
baz=66
LPM Los Pinos Moun 66.03 326 eP P **04 13 09.2 -0.1**
LENM Lemitar 66.10 325 eP P **04 13 10.9 +1.1**
LENM epP pP 04 13 43.5 -0.6
LAZ Ladron 66.37 325 eP P **04 13 11.3 -0.2**
LAZ epP pP 04 13 45.0 -0.8
LAZ esP sP 04 14 00.5 -0.7
CBKS Cedar Bluff 66.43 334 eP P **04 13 11.8 0.0**
CBKS e*PP pP 04 13 45.4 -0.8
CBKS e*SP sP 04 14 00.3 -1.3
ANMO Albuquerque 66.44 326 eP P **04 13 11.1 -0.8**
ANMO e*PP pP 04 13 44.9 -1.4
ANMO e*SP sP 04 14 00.8 -0.9
ANMO pmax pmax
comp=Z,250nm,1.7s
ANMO Albuquerque 66.44 326 eP P **04 13 11.1 -0.8**
comp=Z,252nm,1.7s,mb5.8
ANMO epP pP 04 13 44.9 -1.3
ANMO esP sP 04 14 00.8 -0.8
SCIA State Center 66.73 340 eP P **04 13 11.1 -2.7**
comp=Z,228nm,1.0s,mb6.0
SCIA epP pP 04 13 46.9 -1.3
SCIA esP sP 04 14 02.2 -1.3
JFWS Jewell Farm 66.76 343 eP P **04 13 11.7 -2.2**
JFWS e*PP pP 04 13 47.4 -0.9
JFWS pmax pmax
comp=Z,190nm,0.9s,mb5.9
JFWS Jewell Farm 66.76 343 eP P **04 13 11.7 -2.2**
comp=Z,190nm,0.9s,mb5.9
JFWS epP pP 04 13 47.4 -1.0
TUC Tucson 66.83 321 eP P **04 13 14.4 0.0**
MAIT Maitri 67.04 159 eP P **04 13 14.7 -1.0**
116A Eloy 67.56 321 ⇑P P **04 13 19.1 +0.1**
baz=68,SNR=9.8
115A Sonoran Desert 67.96 321 ⇑P P **04 13 22.2 +0.7**
baz=68,SNR=6.5
DBIC Dimbokro 68.00 73 P P **04 13 21.9 +0.2**
comp=Z,202nm,0.8s,mb5.9,baz=219,slow=6.3,SNR=225
DBIC Dimbokro 68.00 73 eP P **04 13 22.8 +1.0**
SDCO Great Sand Dun 68.14 329 eP P **04 13 21.8 -0.9**
Z14A Wintersburg 68.86 321 ⇑P P **04 13 27.3 +0.2**
baz=69
QSPA South Pole Qui 69.18 180 eP P **04 13 27.4 -1.7**
comp=Z,98nm,0.6s,mb5.7
MVCO Mesa Verde 69.23 327 eP P **04 13 28.7 -0.6**
comp=Z,130nm,1.0s,mb5.6
MVCO epP pP 04 14 03.2 -0.8
MVCO sP sP 04 14 18.5 -0.8
MVCO Mesa Verde 69.23 327 ⇓P P **04 13 29.4 0.0**
baz=70,SNR=23
X15A Humboldt 69.25 322 ⇓P P **04 13 29.7 +0.2**
baz=70,SNR=32
Y14A Wickenburg 69.30 321 ⇓P P **04 13 30.1 +0.3**
baz=70,SNR=6.6
ECSD EROS,Sioux Fal 69.49 338 eP P **04 13 28.8 -2.1**
comp=Z,150nm,1.2s,mb5.6
ECSD epP pP 04 14 04.1 -1.5
ECSD esP sP 04 14 19.6 -1.4
WUAZ Wupatki 69.50 323 eP P **04 13 34.3 +3.2**
comp=Z,170nm,1.1s,mb5.7
WUAZ Wupatki 69.50 323 ⇑P P **04 13 31.6 +0.5**
baz=70,SNR=17
X14A Yava 69.61 322 ⇑P P **04 13 32.4 +0.7**
baz=70,SNR=21
Y13A Salome 69.70 321 ⇓P P **04 13 32.4 +0.2**
baz=70,SNR=20
W15A Williams 69.76 323 ⇓P P **04 13 33.0 +0.4**
baz=70,SNR=13
GLA Glamis 69.77 319 eP P **04 13 33.6 +0.9**
GLA e*PP pP 04 14 07.1 -0.2
GLA Glamis 69.77 319 ⇓P P **04 13 32.8 +0.1**
baz=70,SNR=7.0
ISCO Idaho Springs 69.83 330 eP P **04 13 32.9 -0.1**
ISCO e*PP pP 04 14 07.2 -0.5
ISCO e*SP sP 04 14 21.2 -1.9
ISCO pmax pmax
comp=Z,120nm,1.2s,mb5.5
ISCO Idaho Springs 69.83 330 eP P **04 13 32.9 -0.2**
comp=Z,113nm,1.2s,mb5.5
ISCO epP pP 04 14 07.2 -0.5
ISCO esP sP 04 14 21.2 -1.8
PV01 Paradox Valley 69.97 327 eP P **04 13 33.9 0.0**
PV01 epP pP 04 14 08.4 -0.2
PV01 esP sP 04 14 23.7 -0.2
SMCO Snowmass 69.98 329 eP P **04 13 33.9 -0.1**
comp=Z,191nm,1.4s,mb5.6
SMCO epP pP 04 14 08.2 -0.5
SMCO esP sP 04 14 22.6 -1.4
Y12C Blythe 70.06 320 ⇓P P **04 13 34.8 +0.3**
baz=70,SNR=9.2
PDMCI Parker Dam,Lak 70.22 321 ⇓P P **04 13 35.7 +0.3**
baz=70
X13A Yucca 70.24 321 ⇑P P **04 13 35.9 +0.3**
baz=70,SNR=19
W14A Seligman 70.25 322 ⇓P P **04 13 35.7 +0.1**
baz=70,SNR=15
DVTC Desert V Tower 70.28 318 ⇓P P **04 13 36.0 +0.2**
baz=70
SWSC Sam W. Stewart 70.28 319 ⇑P P **04 13 35.9 +0.1**
baz=70
PV10 Paradox Valley 70.39 327 eP P **04 13 35.7 -0.7**
PV10 epP pP 04 14 10.6 -0.6
BC3 Big Chuckw Mtn 70.56 320 ⇑P P **04 13 37.7 +0.2**
baz=71,SNR=26
W13A Hualapai Mount 70.63 322 ⇑P P **04 13 37.9 0.0**
baz=71,SNR=15
BAR Barrett 70.65 318 eP P **04 13 38.6 +0.6**
BAR epP pP 04 14 12.4 -0.4
BAR esP sP 04 14 26.9 -1.2
IRM Iron Mountain 70.72 320 ⇓P P **04 13 38.7 +0.2**
baz=71,SNR=29
PHWY Pilot Hill 70.96 331 eP P **04 13 40.4 +0.5**
109C Camp Elliot, M 71.06 318 ⇓P P **04 13 41.1 +0.6**
baz=71
BELC Belle Mtn. 71.13 319 ⇓P P **04 13 41.4 +0.5**
baz=71,SNR=14
PFO Pinyon Flat Ob 71.14 319 P P **04 13 41.1 +0.1**
comp=Z,141nm,0.9s,mb5.7,SNR=9.8
PFO Pinyon Flat Ob 71.14 319 eP P **04 13 41.3 +0.3**
PFO Pinyon Flat Ob 71.14 319 ⇑P P **04 13 41.3 +0.3**
baz=71,SNR=7.1
W12A Cal Nev Ari 71.35 321 ⇓P P **04 13 42.6 +0.4**
baz=72,SNR=6.4
MURC Murrieta 71.59 318 ⇑P P **04 13 44.0 +0.3**
baz=72,SNR=7.5
V12A Nelson 71.63 321 ⇓P P **04 13 44.2 +0.3**
baz=72,SNR=14
SRU San Rafael 71.70 327 eP P **04 13 44.0 -0.4**
EYMN Ely 71.74 344 eP P **04 13 43.3 -1.3**
CFTV Fuerteventura 71.75 49 P P **04 13 45.4 +0.7**
comp=Z,12nm,0.6s,mb4.8
HEC Hector,Ludlow 71.89 320 ⇓P P **04 13 45.9 +0.4**
baz=72
U12A Valley of Fire 71.95 322 ⇑P P **04 13 46.3 +0.4**
baz=72,SNR=19
SCI San Clemente I 72.03 317 ⇓P P **04 13 46.5 +0.2**
baz=72
V11A Goodsprings 72.05 321 ⇑P P **04 13 46.7 +0.3**
baz=72,SNR=9.0
TUQ Turquoise Mtn. 72.06 321 ⇓P P **04 13 46.9 +0.3**
baz=72
RWWY Rawlins 72.06 330 eP P **04 13 47.6 +1.1**
comp=Z,122nm,1.3s,mb5.5
RWWY epP pP 04 14 21.2 -0.2
CCUT Cedar City 72.08 324 eP P **04 13 47.2 +0.6**
CCUT epP pP 04 14 21.9 +0.4
CCUT esP sP 04 14 37.3 +0.5
MSU Marysvale 72.13 325 eP P **04 13 47.0 +0.1**
MSU e*PP pP 04 14 21.8 0.0
MSU e*SP sP 04 14 37.5 +0.4
TMUT Trail Mountain 72.20 326 eP P **04 13 47.8 +0.4**
TMUT epP pP 04 14 22.0 -0.2
TMUT esP sP 04 14 37.3 -0.2
CIS Catalina Islan 72.22 318 ⇓P P **04 13 47.7 +0.3**
baz=72
ARUT Antelope Range 72.29 324 eP P **04 13 48.6 +0.7**
ARUT e*PP pP 04 14 23.3 +0.5
ARUT e*SP sP 04 14 38.5 +0.4
BFSC Mount Baldy St 72.30 319 P P **04 13 48.1 +0.1**
baz=72,SNR=14
RRX Edison Barstow 72.33 320 ⇓P P **04 13 48.4 +0.3**
baz=72
FMP Fort Macarthur 72.34 318 ⇑P P **04 13 48.8 +0.6**
baz=72
SHPR Sheep Range 72.36 322 eP P **04 13 48.4 +0.1**
GSC Goldstone 72.50 320 eP P **04 13 50.2 +1.1**
GSC Goldstone 72.50 320 ⇑P P **04 13 49.4 +0.3**
baz=73,SNR=11
MWC Mount Wilson 72.54 318 eP P **04 13 49.2 -0.2**
SHOC Shoshone 72.59 321 ⇑P P **04 13 50.4 +0.7**
baz=73
RSSD Black Hills 72.63 334 eP P **04 13 49.5 -0.4**
RSSD pmax pmax
comp=Z,100nm,1.2s,mb5.4
RSSD Black Hills 72.63 334 eP P **04 13 49.5 -0.4**
comp=Z,92nm,1.2s,mb5.4
DECC Green Verdugo 72.73 318 ⇑P P **04 13 50.7 +0.2**
baz=73
SNCC San Nicolas Is 72.83 317 ⇑P P **04 13 51.7 +0.6**
baz=73
EDW2 Edwards Air Fo 72.93 319 ⇑P P **04 13 51.9 +0.2**
baz=73,SNR=14
MPU Maple Canyon 72.95 327 eP P **04 13 52.4 +0.6**
MPU epP pP 04 14 25.9 -0.9
MPU esP sP 04 14 41.8 -0.2
DAU Daniels Canyon 73.05 327 eP P **04 13 52.7 +0.3**
DAU e*PP pP 04 14 27.0 -0.3
DAU e*SP sP 04 14 42.4 -0.2
NLU North Lily Min 73.13 326 eP P **04 13 53.1 +0.3**
NLU epP pP 04 14 27.8 -0.1
NLU esP sP 04 14 41.8 -1.3
AGMN Agassiz Refuge 73.29 341 eP P **04 13 51.7 -2.1**
comp=Z,124nm,0.9s,mb5.6
AGMN epP pP 04 14 27.2 -1.5
AGMN esP sP 04 14 42.3 -1.8
FURC Furnace Creek, 73.32 321 ⇑P P **04 13 54.3 +0.3**
baz=74,SNR=26
BSC Santa Cruz Isl 73.38 317 ⇓P P **04 13 54.2 0.0**
baz=74
MPMC Manual Prospec 73.42 320 ⇑P P **04 13 54.7 +0.2**
baz=74,SNR=20
CTU Camp Tracy 73.51 327 eP P **04 13 56.5 +1.4**
CTU epP pP 04 14 29.8 -0.3
ARVC Arvin 73.61 319 ⇑P P **04 13 56.4 +0.8**
baz=74
DAC Darwin (Calif) 73.63 320 eP P **04 13 55.9 +0.2**
TCUT Toone Canyon 73.66 327 eP P **04 13 57.0 +1.1**
DUG Dugway 73.69 326 eP P **04 13 55.7 -0.4**
DUG pmax pmax
comp=Z,150nm,1.2s,mb5.6
DUG Dugway 73.69 326 eP P **04 13 55.7 -0.4**
comp=Z,153nm,1.2s,mb5.6
DUG Dugway 73.69 326 ⇑P P **04 13 56.2 +0.1**
baz=74,SNR=30
ISA Isabella 73.75 319 eP P **04 13 56.5 0.0**
ISA e*PP pP 04 14 30.5 -1.0
ISA e*SP sP 04 14 46.7 0.0
ISA Isabella 73.75 319 ⇑P P **04 13 56.7 +0.3**
baz=74,SNR=30
TRCR Troy Canyon 73.88 323 eP P **04 13 57.2 0.0**
TRCR esP sP 04 14 47.1 -0.4
GRAC Grapevine Rang 73.98 321 ⇑P P **04 13 58.3 +0.5**
baz=74,SNR=8.3
BW06 Boulder Array 74.00 330 eP P **04 13 58.2 +0.3**
BW06 epP pP 04 14 31.5 -1.4
BW06 esP sP 04 14 46.1 -2.1
PDAR Pinedale Array 74.00 330 P P **04 13 57.0 -0.9**
comp=Z,5.6nm,0.5s,mb4.5,baz=123,slow=8.8,SNR=57
PDAR pP pP 04 14 31.9 -1.0
comp=Z,20nm,0.9s,baz=134,slow=6.4,SNR=8.7
CWC Cottonwood Cre 74.03 320 ⇑P P **04 13 58.6 +0.5**
baz=74
PKM Peak Mountain 74.08 318 ⇓P P **04 13 58.6 +0.2**
baz=74,SNR=12
HWUT Hardware Ranch 74.10 328 eP P **04 13 59.8 +1.3**
comp=Z,90nm,0.7s,mb5.6
HWUT epP pP 04 14 32.6 -0.9
HWUT esP sP 04 14 48.0 -0.8
VES Vestal, Richgr 74.23 319 ⇑P P **04 13 59.5 +0.2**
baz=74,SNR=21
R10A Warm Springs 74.25 323 P P **04 14 00.2 +0.9**
baz=74,SNR=28
Q11A Duckwater 74.27 323 ⇓P P **04 13 59.9 +0.5**
baz=74,SNR=13
P12A McGill 74.30 324 ⇓P P **04 14 00.2 +0.6**
baz=74,SNR=11
SPUT South Promonto 74.32 327 eP P **04 14 00.9 +1.1**
SPUT epP pP 04 14 32.9 -2.0
SPUT esP sP 04 14 47.7 -2.4
BGU Big Grassy Mou 74.34 326 eP P **04 13 59.0 -0.8**
BGU epP pP 04 14 34.3 -0.7
S09A Goldfield 74.39 322 ⇑P P **04 14 00.4 +0.2**
baz=75,SNR=16
SMMC Simmler 74.46 318 ⇑P P **04 14 00.6 +0.1**
baz=75,SNR=15
TIN Tinemaha 74.53 321 ⇓P P **04 14 01.2 +0.2**
baz=75
TPH Tonopah 74.63 322 eP P **04 14 02.9 +1.4**
TPH e*PP pP 04 14 36.5 -0.1
TPH e*SP sP 04 14 51.0 -0.9
TPH Tonopah 74.63 322 eP P **04 14 02.9 +1.3**
TPH esP sP 04 14 51.0 -0.8
RCTC Rector, Farmer 74.64 319 P P **04 14 01.8 +0.2**
baz=75,SNR=7.0
R09A Tonopah 74.65 322 ⇓P P **04 14 01.6 -0.1**
baz=75,SNR=13
AHID Auburn Hatcher 74.74 329 eP P **04 14 02.6 +0.4**
comp=Z,166nm,1.1s,mb5.6
AHID epP pP 04 14 36.9 -0.3
AHID esP sP 04 14 52.0 -0.5
HELL Mitchell Peak, 74.75 320 ⇓P P **04 14 02.4 +0.1**
baz=75,SNR=40
V05C Boulder Hill, 74.76 319 ⇑P P **04 14 02.5 +0.2**
baz=75
O12A Currie 74.77 325 ⇑P P **04 14 03.0 +0.6**
baz=75,SNR=16
S08C White Mtn Res 74.79 321 ⇓P P **04 14 02.9 +0.4**
baz=75,SNR=15
PTRM Twissleman Ran 74.81 318 eP P **04 14 01.8 -0.8**
PTRM esP sP 04 14 53.1 +0.2
P11A Circle Ranch, 74.82 324 ⇑P P **04 14 03.2 +0.6**
baz=75
HVU Hansel Valley 74.83 327 eP P **04 14 02.1 -0.6**
HVU e*PP pP 04 14 37.0 -0.9
HVU e*SP sP 04 14 52.3 -0.8
HVU pmax pmax
comp=Z,101nm,1.0s,mb5.4
HVU Hansel Valley 74.83 327 eP P **04 14 02.1 -0.7**
comp=Z,101nm,1.0s,mb5.4
HVU epP pP 04 14 37.0 -0.8
HVU esP sP 04 14 52.3 -0.8
N13A Wendover, West 74.90 326 ⇓P P **04 14 03.3 +0.1**
baz=75,SNR=5.7
MTUM Tungsten Hills 74.92 321 eP P **04 14 04.2 +0.9**
MTUM epP pP 04 14 38.3 -0.1
ULM Lac du Bonnet 75.04 342 P P **04 14 01.8 -2.1**
comp=Z,16nm,0.5s,mb4.9,baz=150,slow=6.5,SNR=40
ULM pP pP 04 14 37.6 -1.4
comp=Z,92nm,0.9s,baz=152,slow=5.4,SNR=12
ULM LR LR 04 50 01.3
comp=Z,589nm,19.5s,baz=315,slow=38
REDW Red Top Meadow 75.07 329 eP P **04 14 03.8 -0.3**
comp=Z,194nm,1.3s,mb5.6
REDW epP pP 04 14 38.5 -0.7
SNOW Snow King Moun 75.10 329 eP P **04 14 03.8 -0.5**
comp=Z,100nm,0.9s,mb5.4
SNOW epP pP 04 14 39.8 +0.4
Q09A Carvers 75.12 322 ⇑P P **04 14 04.6 +0.2**
baz=75,SNR=6.9
LOHW Long Hollow 75.14 330 eP P **04 14 03.9 -0.6**
comp=Z,98nm,1.0s,mb5.4
LOHW epP pP 04 14 38.7 -1.0
O11A Cowboy Ranch, 75.17 324 ⇑P P **04 14 04.9 +0.2**
baz=75,SNR=13
U05C Westside ANR, 75.20 319 ⇓P P **04 14 04.7 -0.1**
baz=75
PKD Parkfield 75.20 318 ⇓P P **04 14 04.8 0.0**
baz=75
TPAW Teton Pass 75.21 329 eP P **04 14 04.8 -0.1**
comp=Z,186nm,1.3s,mb5.6
TPAW epP pP 04 14 39.6 -0.4
V04C Ramage Ranch, 75.21 318 ⇓P P **04 14 05.1 +0.2**
baz=75
M13A Montello 75.25 326 ⇑P P **04 14 05.0 -0.1**
baz=76
P10A Eureka 75.26 323 ⇓P P **04 14 05.2 +0.1**
baz=76,SNR=12
MLAC Mammoth Lakes 75.27 321 ⇓P P **04 14 05.5 +0.3**
baz=76
RRI2 Red Ridge 75.28 329 eP P **04 14 06.8 +1.5**
MOOW Moose Ponds 75.31 330 eP P **04 14 04.8 -0.7**
comp=Z,125nm,1.4s,mb5.3
MOOW epP pP 04 14 40.1 -0.5
R08A Mina 75.32 322 ⇓P P **04 14 06.2 +0.6**
baz=76
N12A Clover Valley, 75.34 325 P P **04 14 06.2 +0.5**
baz=76,SNR=9.2
KCC Kaiser Creek 75.36 320 P P **04 14 05.9 +0.1**
baz=76,SNR=11
T06C Millerton Lake 75.38 320 ⇓P P **04 14 05.7 -0.2**
baz=76
DCID1 Drake Creek 75.40 329 eP P **04 14 07.3 +1.4**
DCID1 epP pP 04 14 41.4 +0.2
NVAR Mina Array Bea 75.49 322 P P **04 14 06.0 -0.5**
comp=Z,6.5nm,0.6s,mb4.4,baz=154,slow=5.0,SNR=38
NVAR pP pP 04 14 41.1 -0.5
comp=Z,17nm,0.7s,baz=153,slow=5.4,SNR=13
IMW Indian Meadow 75.51 330 eP P **04 14 06.6 0.0**
comp=Z,211nm,1.2s,mb5.7
IMW epP pP 04 14 41.9 +0.1
IMW esP sP 04 14 57.2 +0.2
FLWY Flagg Ranch 75.54 330 eP P **04 14 06.8 0.0**
FLWY epP pP 04 14 41.5 -0.5
FLWY esP sP 04 14 56.6 -0.6
SCHQ Schefferville 75.54 1 P P **04 14 07.0 +0.2**
comp=Z,25nm,0.8s,mb4.9,baz=181,slow=3.3,SNR=20
SCHQ pP pP 04 14 42.1 +0.2
comp=Z,73nm,1.0s,baz=145,slow=5.4,SNR=8.6
SCHQ Schefferville 75.54 1 eP P **04 14 05.9 -0.9**
comp=Z,289nm,1.5s,mb5.7
SCHQ epP pP 04 14 40.6 -1.4
SCHQ esP sP 04 14 56.5 -0.7
Q08A Gabbs 75.57 322 P P **04 14 07.5 +0.6**
baz=76,SNR=20
P09A Austin 75.59 323 ⇓P P **04 14 07.3 +0.3**
baz=76,SNR=7.2
LAO LASA Array 75.61 334 eP P **04 14 07.8 +0.6**
comp=Z,256nm,1.2s,mb5.7
RLMT Red Lodge 75.68 331 eP P **04 14 07.0 -0.5**
comp=Z,238nm,1.3s,mb5.7
RLMT epP pP 04 14 42.4 -0.4
RLMT esP sP 04 14 56.4 -1.6
M12A Wells 75.68 326 ⇓P P **04 14 08.0 +0.4**
baz=76,SNR=16
V03C Hunter Liggett 75.68 318 ⇑P P **04 14 08.2 +0.6**
baz=76
R07C Lee Vining 75.70 321 ⇑P P **04 14 08.3 +0.6**
baz=76
O10A Cortez Mining, 75.74 324 ⇓P P **04 14 08.3 +0.4**
baz=76,SNR=6.9
LRV Little Rabbit 75.81 319 eP P **04 14 08.9 +0.6**
YFT Old Faithful 75.88 330 eP P **04 14 10.9 +2.2**
YFT epP pP 04 14 45.3 +1.4
T05C Eagle Field, D 75.90 319 ⇓P P **04 14 09.3 +0.5**
baz=76
S05C Merced 75.98 320 ⇓P P **04 14 09.8 +0.6**
baz=76,SNR=36
O09A Fish Creek Ran 76.04 323 ⇓P P **04 14 10.3 +0.6**
baz=76,SNR=11
N10A Dunphy 76.04 324 ⇑P P **04 14 10.0 +0.4**
baz=76
YMR Madison River 76.11 330 eP P **04 14 10.5 +0.5**
comp=Z,350nm,1.3s,mb5.8
YMR epP pP 04 14 45.2 0.0
HAST UC Hastings Re 76.11 318 ⇑P P **04 14 10.4 +0.3**
baz=76,SNR=6.5
Q07A Schurz 76.13 322 ⇓P P **04 14 10.4 +0.3**
baz=76
M11A Holland Ranch, 76.16 325 ⇑P P **04 14 10.6 +0.3**
baz=76,SNR=20
WAKR Walker 76.20 321 eP P **04 14 11.4 +0.9**
WAKR epP pP 04 14 46.0 +0.2
P08A Dixie Valley 76.22 323 ⇓P P **04 14 11.0 +0.4**
baz=76,SNR=12
BMN Battle Mountai 76.24 324 eP P **04 14 13.4 +2.7**
BMN e*PP pP 04 14 44.6 -1.4
BMN e*SP sP 04 15 00.2 -1.0
DGMT Dagmar 76.27 336 epP pP 04 14 45.9 -0.3
PACP Pacheco Peak 76.35 319 ⇑P P **04 14 11.8 +0.4**
baz=76
GCMT Greycliff 76.38 332 eP P **04 14 11.0 -0.5**
GCMT epP pP 04 14 46.4 -0.4
GCMT esP sP 04 15 01.5 -0.5
SBA Scott Base 76.42 190 eP P **04 14 11.7 -0.1**
SBA e*PP pP 04 14 46.4 -0.6
QLMT Earthquake Lak 76.45 330 eP P **04 14 13.9 +2.0**
QLMT epP pP 04 14 47.4 +0.2
CMB Columbia Colle 76.46 320 eP P **04 14 12.2 +0.2**
CMB e*PP pP 04 14 45.8 -1.4
CMB Columbia Colle 76.46 320 P P **04 14 11.9 -0.1**
baz=77,SNR=11
TOA0 Torodi Ar. Sit 76.61 70 ⇓eP P **04 14 12.1 -0.7**
TOA0 epP pP 04 14 50.2 +2.2
TORD Torodi Ar. Bea 76.61 70 P P **04 14 12.2 -0.7**
comp=Z,228nm,0.8s,mb5.8,baz=251,slow=3.6,SNR=578
M10A I.L. Ranch, Tu 76.62 325 P P **04 14 13.1 +0.2**
baz=77,SNR=6.9
S04C Ingram Canyon, 76.69 319 ⇓P P **04 14 13.2 0.0**
baz=77
N09A Rock Creek Ran 76.69 324 ⇑P P **04 14 13.3 0.0**
baz=77,SNR=12
R05C Kirkwood Meado 76.71 321 ⇑P P **04 14 13.5 +0.1**

baz=77,SNR=12
SYO Syowa Base 76.74 159⇑eP P 04 14 11.0 -2.6
WCN Washoe City 76.92 321 ⇓P P 04 14 14.8 +0.2
baz=77,SNR=5.3
R04C Big Horse Ranc 76.94 320 ⇓P P 04 14 14.9 +0.3
baz=77,SNR=9.0
HLID Hailey 76.96 327 eP P 04 14 14.8 0.0
comp=Z,138nm,1.0s,mb5.5
HLID epP pP 04 14 50.3 +0.2
HLID esP sP 04 15 04.8 -0.4
HLID Hailey 76.96 327 P P 04 14 14.9 +0.1
baz=77,SNR=57
PAHR Pah Rah Range 76.97 322 eP P 04 14 14.7 -0.1
comp=Z,134nm,0.9s,mb5.6
PAHR epP pP 04 14 49.5 -0.6
PAHR esP sP 04 15 05.2 -0.2
N08A GE Springer Mi 76.98 323 ⇑P P 04 14 15.0 0.0
baz=77,SNR=12
O07A Toulon 76.98 323 P P 04 14 15.4 +0.5
baz=77,SNR=16
WENL Wente Brothers 77.03 319 ⇑P P 04 14 15.2 0.0
baz=77
M09A Marrel Ranch, 77.05 324 ⇓P P 04 14 15.5 +0.3
baz=77,SNR=19
MCMT McKenzie Canyo 77.12 329 eP P 04 14 15.5 -0.2
MCMT epP pP 04 14 51.0 0.0
MCMT esP sP 04 15 06.2 +0.1
LAVA Lava Cap Winer 77.14 320 P P 04 14 15.5 -0.3
baz=77,SNR=8.1
P06A Stead Airport, 77.25 322 ⇓P P 04 14 16.4 0.0
baz=78
BDM Black Diamond 77.30 319 ⇑P P 04 14 16.7 0.0
baz=78,SNR=5.4
DLMT Dillon 77.39 330 eP P 04 14 17.9 +0.7
comp=Z,195nm,1.3s,mb5.6
DLMT epP pP 04 14 52.5 -0.1
DLMT esP sP 04 15 07.6 -0.2
VNDA Vanda 77.44 190 P P 04 14 17.1 -0.4
VNDA pP pP 04 14 52.2 -0.6
VNDA Vanda 77.44 190 P P 04 14 16.0 -1.4
comp=Z,16nm,1.1s,mb4.6,baz=135,slow=5.1,SNR=58
VNDA pP pP 04 14 52.0 -0.8
comp=Z,21nm,0.9s,baz=112,slow=3.6,SNR=9.4
VNDA Vanda 77.44 190 eP P 04 14 17.1 -0.4
N07B Gerlach 77.45 323 ⇑P P 04 14 17.7 +0.1
baz=78,SNR=7.2
O06A Flanigan 77.53 322 ⇓P P 04 14 18.4 +0.4
baz=78
L09A Wilkinson Ranc 77.57 325 ⇓P P 04 14 18.4 +0.2
baz=78,SNR=13
M08A Happy Creek Ra 77.57 324 ⇓P P 04 14 18.7 +0.5
baz=78,SNR=8.4
Q04C Lincoln 77.57 320 ⇑P P 04 14 18.6 +0.3
baz=78,SNR=5.7
BEKR Beckwourth 77.64 322 ⇓P P 04 14 18.8 +0.2
baz=78,SNR=22
LRM Limekiln Ridge 77.67 330 eP P 04 14 19.1 +0.3
LRM epP pP 04 14 54.0 -0.1
LRM esP sP 04 15 09.1 -0.2
Q03C Winters 77.83 320 ⇑P P 04 14 20.0 +0.4
baz=78
CVS Carmenet Viney 77.91 319 ⇓P P 04 14 20.1 0.0
baz=78
N06A Buffalo Meadow 77.92 322 P P 04 14 19.7 -0.4
baz=78,SNR=53
OHCM Honcut 77.96 321 eP P 04 14 20.4 0.0
OHCM epP pP 04 14 55.1 -0.6
M07A Soldier Meadow 77.97 323 P P 04 14 20.2 -0.2
baz=78,SNR=29
EGMT Eagleton 78.14 333 eP P 04 14 21.1 -0.2
comp=Z,254nm,1.1s,mb5.8
EGMT epP pP 04 14 55.2 -1.5
SUR Sutherland 78.29 120 P P 04 14 24.6 +2.4
comp=Z,776nm,0.7s,SNR=8.0
SUR Sutherland 78.29 120 eP P 04 14 24.3 +2.2
comp=Z,101nm,0.8s,mb5.5
WVOR Wild Horse Val 78.38 324 eP P 04 14 20.2 -2.5
WVOR e*PP pP 04 14 57.3 -0.8
WVOR pmax pmax
comp=Z,45nm,1.3s,mb4.9
WVOR Wild Horse Val 78.38 324 eP P 04 14 20.1 -2.5
comp=Z,45nm,1.3s,mb4.9
WVOR epP pP 04 14 57.3 -0.8
LBCM Butte Creek Ri 78.85 322 P P 04 14 24.2 -1.0
CHMT Chamberlain Mo 78.85 330 eP P 04 14 27.5 +2.2
CHMT epP pP 04 15 00.7 0.0
MOD Modoc 78.95 323 eP P 04 14 25.2 -0.6
MOD epP pP 04 14 59.9 -1.3
MSO Missoula 79.11 330 eP P 04 14 27.9 +1.3
MSO epP pP 04 15 01.0 -1.1
MSO esP sP 04 15 17.5 +0.2
WDC Whiskeytown Da 79.38 321 eP P 04 14 25.8 -2.3
WDC e*PP pP 04 15 01.4 -2.2
WDC e*SP sP 04 15 16.2 -2.5
KIPM Iron Peak 79.45 320 eP P 04 14 29.4 +0.9
KIPM sP sP 04 15 19.0 -0.1
TSUM Tsumeb 79.59 107 eP P 04 14 30.2 +1.0
comp=Z,139nm,0.8s,mb5.6
YBH Yreka Blue Hor 80.21 322 eP P 04 14 31.8 -0.8
YBH e*PP pP 04 15 06.2 -1.9
YBH e*SP sP 04 15 21.3 -1.9
BSMT Bassoo Peak 80.25 330 eP P 04 14 32.9 +0.1
BSMT epP pP 04 15 07.5 -0.8
BSMT esP sP 04 15 22.6 -0.9
MORF Marmelete 80.68 44 eP P 04 14 37.4 +2.3
MORF epP pP 04 15 13.0 +2.3
WALA Waterton Lakes 80.73 332 eP P 04 14 34.5 -0.8
comp=Z,188nm,1.0s,mb5.7
WALA epP pP 04 15 10.6 -0.4
PTEO Sao Teotonio 80.77 44 eP P 04 14 38.5 +2.9
comp=Z,160nm,1.7s,mb5.4
HUMO Hull Mountain 80.90 322 eP P 04 14 34.8 -1.5
comp=Z,28nm,1.2s,mb4.8
MDT Midelt 80.96 50 P P 04 14 37.1 +0.5
comp=Z,23nm,0.9s,mb4.8,baz=243,slow=4.5,SNR=35
HBO Huckleberry Mo 81.34 324 P P 04 14 38.6 +0.1
HAWA Hanford 81.53 327 eP P 04 14 38.8 -0.8
comp=Z,189nm,1.1s,mb5.6
HAWA epP pP 04 15 14.7 -0.5
HAWA esP sP 04 15 29.6 -0.8
HSO Harness Mounta 81.56 323 P P 04 14 40.6 +0.8
EGRO El Granado 81.57 45 P P 04 14 41.8 +1.9
comp=Z,39nm,0.9s,mb5.0
PBEJ Beja 81.60 44 eP P 04 14 42.0 +2.0
comp=Z,38nm,1.3s,mb4.9
PBEJ epP pP 04 15 19.4 +3.8
NEW Newport 81.64 329 eP P 04 14 39.2 -1.0
NEW e*PP pP 04 15 14.3 -1.5
NEW e*SP sP 04 15 29.6 -1.3
EVO Evora 81.80 43 eP P 04 14 39.9 -1.1
comp=Z,40nm,0.8s,mb4.8
EVO eMLR MLR
comp=Z,884nm,22.2s
KEBM Edson Butte 81.86 322 eP P 04 14 41.3 0.0
KEBM epP pP 04 15 17.5 +0.5
HOOD Mount Hood Mea 81.93 325 eP P 04 14 42.7 +1.0
HOOD epP pP 04 15 17.4 0.0
EMIN Mina Concepcio 82.24 45 P P 04 14 43.6 +0.3
comp=Z,41nm,0.8s,mb5.1
PESTR Estremoz 82.26 43 eP P 04 14 45.3 +1.9
comp=Z,30nm,1.5s,mb4.7
PESTR epP pP 04 15 22.8 +3.7
ESPR Espera 82.28 46 P P 04 14 45.1 +1.6
comp=Z,38nm,0.9s,mb5.0
FCC Fort Churchill 82.30 347 eP P 04 14 43.4 -0.2
FCC e*PP pP 04 15 18.7 -0.6
FCC pmax pmax
comp=Z,190nm,0.9s,mb5.7
FCC Fort Churchill 82.30 347 eP P 04 14 43.4 -0.2
comp=Z,189nm,0.9s,mb5.7
FCC epP pP 04 15 18.7 -0.6
EJIF Jimena Fronter 82.31 46 P P 04 14 44.2 +0.5
EJIF pmax pmax
comp=Z,19nm,0.8s,mb4.8
EJIF Jimena Fronter 82.31 46 P P 04 14 44.2 +0.5
comp=Z,19nm,0.8s,mb4.8
TBM Table Mountain 82.60 327 P P 04 14 45.9 +0.8
EMIJ Mijas 82.84 47 P P 04 14 47.6 +1.2
comp=Z,24nm,0.7s,mb5.0
PCBR Castelo Branco 82.89 43 eP P 04 14 47.7 +1.1
comp=Z,25nm,1.4s,mb4.7
PVIS Viseu 83.12 42 eP P 04 14 50.0 +2.1
comp=Z,70nm,1.6s,mb5.1
BOSA Boshof 83.13 118 P P 04 14 47.1 -0.8
comp=Z,121nm,0.8s,mb5.7,baz=252,slow=4.3,SNR=135
BOSA LR LR 04 50 02.5
comp=Z,896nm,19.3s,baz=240,slow=34
MTE Manteigas 83.16 42 eP P 04 14 48.6 +0.5
comp=Z,68nm,1.2s,mb5.2
MTE epP pP 04 15 28.3 +4.5
MTE Manteigas 83.16 42 eP P 04 14 49.0 +0.9
PVRL Vila Real 83.56 41 eP P 04 14 51.4 +1.3
comp=Z,75nm,1.6s,mb5.2
ELOJ Sierra Loja 83.58 46 P P 04 14 49.9 -0.3
ELOJ pmax pmax
comp=Z,18nm,0.7s,mb4.9
ELOJ Sierra Loja 83.58 46 P P 04 14 49.9 -0.2
comp=Z,18nm,0.7s,mb4.9
EDM Edmonton 83.58 335 eP P 04 14 48.8 -1.4
EDM e*PP pP 04 15 24.1 -1.9
PCAB Cabril 83.61 41 eP P 04 14 51.6 +1.2
comp=Z,55nm,0.9s,mb5.3
ELUQ Luque 83.72 46 P P 04 14 51.3 +0.4
ELUQ pmax pmax
comp=Z,17nm,0.5s,mb5.0
ELUQ Luque 83.72 46 P P 04 14 51.3 +0.3
comp=Z,17nm,0.5s,mb5.0
ERON Agron 83.74 47 P P 04 14 50.5 -0.5
comp=Z,6.8nm,0.5s,mb4.6
EGUA Guajares 83.81 47 P P 04 14 50.8 -0.6
EGUA pmax pmax
comp=Z,1.0nm,0.8s
EGUA Guajares 83.81 47 P P 04 14 50.8 -0.6
comp=Z,0.9nm,0.8s
EADA Adamuz 83.84 45 P P 04 14 51.7 +0.2
comp=Z,26nm,0.8s,mb5.0
STS Santiago 83.98 40 P P 04 14 52.1 -0.1
STS pmax pmax
comp=Z,12nm,0.9s,mb4.6
STS Santiago 83.98 40 P P 04 14 52.1 -0.1
comp=Z,12nm,0.9s,mb4.6
GNW Green Mountain 84.00 326 eP P 04 14 51.4 -1.0
GNW epP pP 04 15 26.7 -1.5
ECOG Cogollos-Vega 84.04 46 P P 04 14 51.9 -0.7
ECOG pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
ECOG Cogollos-Vega 84.04 46 P P 04 14 51.9 -0.7
comp=Z,9.9nm,0.8s,mb4.6
EBER Berja 84.31 47 P P 04 14 55.5 +1.6
comp=Z,36nm,0.8s,mb5.2
EBAN Banos Encina 84.36 46 P P 04 14 54.0 -0.2
EBAN pmax pmax
comp=Z,71nm,0.8s,mb5.5
EBAN Banos Encina 84.36 46 P P 04 14 54.0 -0.2
comp=Z,71nm,0.8s,mb5.5
PBRG Braganca 84.46 41 eP P 04 14 56.1 +1.4
comp=Z,76nm,1.4s,mb5.2
PBRG epP pP 04 15 34.1 +3.6
ECAL Calabor 84.54 41 P P 04 14 56.4 +1.3
comp=Z,61nm,1.2s,mb5.2
ERUA La Rua 84.55 41 P P 04 14 55.0 -0.1
ERUA pmax pmax
comp=Z,29nm,0.7s,mb5.1
ERUA La Rua 84.55 41 P P 04 14 55.0 -0.1
comp=Z,29nm,0.7s,mb5.1
MAW Mawson 84.62 163⇓iP P 04 14 53.5 -2.0
comp=Z,77nm,0.6s,mb5.6
MAW Mawson 84.62 163 P P 04 14 53.7 -1.7
comp=Z,85nm,0.6s,mb5.6,baz=219,slow=6.2,SNR=265
MAW Mawson 84.62 163⇓iP P 04 14 53.5 -2.0
MAW pmax pmax
comp=Z,77nm,0.6s
EQES Quesada 84.65 46 P P 04 14 56.2 +0.6
comp=Z,66nm,1.0s,mb5.3
LBTB Lobatse 84.66 115 eP P 04 14 55.5 -0.2
LBTB pmax pmax
comp=Z,130nm,0.8s,mb5.7
LBTB Lobatse 84.66 115 eP P 04 14 55.5 -0.1
comp=Z,128nm,0.8s,mb5.7
ENIJ Nijar 84.81 47 P P 04 14 54.7 -1.7
ENIJ pmax pmax
comp=Z,19nm,0.7s,mb4.9
ENIJ Nijar 84.81 47 P P 04 14 54.7 -1.7
comp=Z,19nm,0.7s,mb4.9
EHUE Huescar 84.98 46 P P 04 14 56.2 -1.1
EHUE pmax pmax
comp=Z,17nm,0.7s,mb4.9
EHUE Huescar 84.98 46 P P 04 14 56.2 -1.1
comp=Z,17nm,0.7s,mb4.9
PGC Sidney 85.02 327 eP P 04 15 32.6 -0.7
ESDC Sonseca Array 85.05 44 P P 04 14 58.7 +1.1
comp=Z,23nm,1.0s,mb4.9,baz=240,slow=5.0,SNR=51
ESDC pP pP 04 15 33.9 +0.4
comp=Z,24nm,1.0s,baz=241,slow=5.2,SNR=7.5
ESDC LR LR 04 52 41.0
comp=Z,442nm,19.6s,baz=230,slow=35
ESDC Sonseca Array 85.05 44 P P 04 14 57.4 -0.2
comp=Z,24nm,0.9s,mb4.9
ESLA Sonseca Array 85.05 44 eP P 04 15 00.1 +2.5
ESLA epP pP 04 15 37.5 +4.0
EPON Pontenova 85.08 40 P P 04 14 58.7 +1.0
comp=Z,53nm,1.5s,mb5.0
GUD Guadarrama 85.45 43 P P 04 14 59.0 -0.6
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
GUD Guadarrama 85.45 43 P P 04 14 59.0 -0.6
comp=Z,3.8nm,0.6s,mb4.3
EVIA Vianos 85.47 46 P P 04 14 59.2 -0.5
EVIA pmax pmax
comp=Z,17nm,0.6s,mb5.0
EVIA Vianos 85.47 46 P P 04 14 59.2 -0.5
comp=Z,17nm,0.6s,mb5.0
EMUR La Murta 85.92 47 P P 04 15 01.8 -0.1
comp=Z,22nm,1.0s,mb4.8
ETOB Tobarra 86.11 46 P P 04 15 03.9 +1.0
comp=Z,56nm,0.9s,mb5.3
EARI Arriondas 86.23 41 P P 04 15 04.7 +1.3
comp=Z,25nm,1.5s,mb4.7
ETOR Torete 86.89 44 P P 04 15 07.7 +1.0
ETOR pmax pmax
comp=Z,17nm,0.7s,mb5.0
ETOR Torete 86.89 44 P P 04 15 07.7 +1.1
comp=Z,16nm,0.7s,mb5.0
ESAC San Caprasio 88.38 44 P P 04 15 14.9 +1.2
comp=Z,22nm,0.6s,mb5.2
ERTA Horta de San J 88.53 45 P P 04 15 15.2 +0.7
comp=Z,34nm,0.8s,mb5.3
SJPF Ste Jean 88.60 42 eP P 04 15 14.5 -0.3
comp=Z,56nm,1.1s,mb5.1
SJPF epP pP 04 15 51.7 +0.7
SJPF Ste Jean 88.60 42 eP P 04 15 14.5 -0.3
SJPF e*PP pP 04 15 51.7 +0.7
SJPF pmax pmax
comp=Z,28nm,1.1s,mb5.1
SJPF Ste Jean 88.60 42 eP P 04 15 14.5 -0.3
comp=Z,28nm,1.1s,mb5.1
SJPF epP pP 04 15 51.7 +0.7
ETSF Etsaut 88.92 43 eP P 04 15 16.0 -0.3
comp=Z,15nm,0.8s,mb4.7
ETSF Etsaut 88.92 43 eP P 04 15 16.0 -0.3
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ETSF Etsaut 88.92 43 eP P 04 15 16.0 -0.3
comp=Z,7.3nm,0.8s,mb4.7
EPOB Poblet 89.21 45 P P 04 15 18.1 +0.4
comp=Z,16nm,0.8s,mb5.0
EBIE Bielsa 89.26 43 P P 04 15 19.3 +1.4
comp=Z,8.9nm,0.8s,mb4.8
EPF Esparros 89.55 43 eP P 04 15 18.7 -0.5
comp=Z,12nm,0.8s,mb4.6
EPF Esparros 89.55 43 eP P 04 15 18.7 -0.5
EPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EPF Esparros 89.55 43 eP P 04 15 18.7 -0.5
comp=Z,6.0nm,0.8s,mb4.6
EMIR Miracle 89.78 44 P P 04 15 21.9 +1.6
comp=Z,12nm,0.8s,mb4.9
SET Setif 89.82 51 P P 04 15 24.0 +3.5
QUIF Quistinic 89.94 38 eP P 04 15 19.5 -1.5
comp=Z,36nm,1.1s,mb4.9
QUIF Quistinic 89.94 38 eP P 04 15 19.5 -1.5
QUIF pmax pmax
comp=Z,18nm,1.1s,mb4.9
QUIF Quistinic 89.94 38 eP P 04 15 19.5 -1.5
comp=Z,18nm,1.1s,mb4.9
DFRA Djebel Bou Aff 90.31 51 P P 04 15 25.5 +2.7
LSZ Lusaka 90.44 106 ⇓P P 04 15 24.8 +1.4
SNR=6.1
LSZ Lusaka 90.44 106 eP P 04 15 24.8 +1.4
LSZ e 04 18 58.0
LSZ pmax pmax
comp=Z,34nm,0.8s,mb5.3
LSZ Lusaka 90.44 106 eP P 04 15 24.8 +1.4
comp=Z,34nm,0.8s,mb5.3
LSZ ePP PP 04 18 58.0 -1.7
CASM Ain Smara 90.64 51 P P 04 15 26.5 +2.2
MTLF Montolieu 90.91 43 eP P 04 15 24.4 -1.1
comp=Z,26nm,1.0s,mb4.9
MTLF epP pP 04 16 01.8 0.0
MTLF Montolieu 90.91 43 eP P 04 15 24.4 -1.1
MTLF e*PP pP 04 16 01.8 0.0
MTLF pmax pmax
comp=Z,13nm,1.0s,mb4.9
MTLF Montolieu 90.91 43 eP P 04 15 24.4 -1.1
comp=Z,13nm,1.0s,mb4.9
MTLF epP pP 04 16 01.8 0.0
YKA Yellowknife Ar 90.93 340 P P 04 15 23.6 -2.1
comp=Z,34nm,0.6s,mb5.6,baz=133,slow=4.5,SNR=104
YKA pP pP 04 16 00.7 -1.2
comp=Z,138nm,1.0s,baz=135,slow=4.7,SNR=15
YKA Yellowknife Ar 90.93 340 P P 04 15 23.6 -2.1
YKA pP pP 04 16 00.8 -1.2
YKW3 Yellowknife Ar 90.99 340 eP P 04 15 24.1 -1.8
YKW3 epP pP 04 16 00.9 -1.3
MFF Saint Martin d 91.02 40 eP P 04 15 25.0 -1.1
comp=Z,92nm,1.0s,mb5.5
MFF epP pP 04 16 02.1 -0.2
MFF Saint Martin d 91.02 40 eP P 04 15 25.0 -1.1
MFF e*PP pP 04 16 02.1 -0.2
MFF pmax pmax
comp=Z,46nm,1.0s,mb5.5
MFF Saint Martin d 91.02 40 eP P 04 15 25.0 -1.1
comp=Z,46nm,1.0s,mb5.5
MFF epP pP 04 16 02.1 -0.2
ABSA Djebel Ababsia 91.36 52 P P 04 15 30.0 +2.4
RJF Les Rejaudoux 91.40 41 eP P 04 15 26.6 -1.2
comp=Z,43nm,1.0s,mb5.2
RJF eMLR MLR
comp=Z,1μm,20.5s
RJF Les Rejaudoux 91.40 41 eP P 04 15 26.6 -1.2
RJF pmax pmax
comp=Z,22nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,1μm,20.5s
RJF Les Rejaudoux 91.40 41 eP P 04 15 26.6 -1.2
comp=Z,22nm,1.0s,mb5.1
RJF LR LR
comp=Z,1μm,20.5s
CMAH Djebel Manchou 91.47 51 P P 04 15 29.5 +1.4
GRR Gorron 91.50 38 eP P 04 15 26.7 -1.6
comp=Z,58nm,1.1s,mb5.2
GRR Gorron 91.50 38 eP P 04 15 26.7 -1.6
GRR pmax pmax
comp=Z,29nm,1.1s,mb5.2
GRR Gorron 91.50 38 eP P 04 15 26.7 -1.6
comp=Z,29nm,1.1s,mb5.2
CAF Calviac 91.56 42 eP P 04 15 27.6 -1.0
comp=Z,31nm,0.9s,mb5.0
CAF Calviac 91.56 42 eP P 04 15 27.6 -1.0
CAF pmax pmax
comp=Z,16nm,0.9s,mb5.0
CAF Calviac 91.56 42 eP P 04 15 27.6 -1.0
comp=Z,16nm,0.9s,mb5.0
MIR Mirnyy 91.57 173 eP P 04 15 29.5 +0.9
MIR e pP 04 16 04.0 -0.9
MIR e 04 16 20.0
MIR pmax pmax
comp=Z,180nm,1.5s,mb5.9
FLN La Foliniere 91.91 38 eP P 04 15 28.6 -1.6
comp=Z,66nm,1.2s,mb5.2
FLN eMLR MLR
comp=Z,1μm,22.8s
FLN La Foliniere 91.91 38 eP P 04 15 28.6 -1.6
FLN pmax pmax
comp=Z,33nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,1μm,22.8s
FLN La Foliniere 91.91 38 eP P 04 15 28.6 -1.6
comp=Z,33nm,1.2s,mb5.2
FLN LR LR
comp=Z,1μm,22.8s
LDF La Druitiere 92.03 38 eP P 04 15 29.2 -1.5
comp=Z,70nm,1.2s,mb5.3
LDF La Druitiere 92.03 38 eP P 04 15 29.2 -1.5
LDF pmax pmax
comp=Z,35nm,1.2s,mb5.3
LDF La Druitiere 92.03 38 eP P 04 15 29.2 -1.5
comp=Z,35nm,1.2s,mb5.3
TCF Toulx Ste Croi 92.30 41 eP P 04 15 30.6 -1.4
comp=Z,30nm,0.9s,mb5.0
TCF epP pP 04 16 07.9 -0.3
TCF Toulx Ste Croi 92.30 41 eP P 04 15 30.6 -1.4
TCF e*PP pP 04 16 07.9 -0.3
TCF pmax pmax
comp=Z,15nm,0.9s,mb5.0
TCF Toulx Ste Croi 92.30 41 eP P 04 15 30.6 -1.4
comp=Z,15nm,0.9s,mb5.0
TCF epP pP 04 16 07.9 -0.3
KEST Kesra 92.52 53 P P 04 15 33.9 +0.9
comp=Z,5.5nm,0.8s,mb4.7,baz=230,slow=2.4,SNR=16
BGF Bois d'Agland 92.81 41 eP P 04 15 33.1 -1.2
comp=Z,37nm,0.9s,mb5.2
BGF epP pP 04 16 10.3 -0.3
BGF Bois d'Agland 92.81 41 eP P 04 15 33.1 -1.2
BGF e*PP pP 04 16 10.3 -0.3
BGF pmax pmax
comp=Z,19nm,0.9s,mb5.2
BGF Bois d'Agland 92.81 41 eP P 04 15 33.1 -1.2
comp=Z,19nm,0.9s,mb5.2
BGF epP pP 04 16 10.3 -0.3
CASY Casey 92.98 180⇓iP P 04 15 33.5 -1.6
CASY epP pP 04 16 09.7 -1.7
HYF Humbligny 93.02 40 eP P 04 15 34.1 -1.2
VIVF Saint-Julien-l 93.17 43 eP P 04 15 34.5 -1.5
comp=Z,34nm,1.4s,mb5.0
VIVF Saint-Julien-l 93.17 43 eP P 04 15 34.5 -1.5
VIVF pmax pmax
comp=Z,17nm,1.4s,mb5.0
VIVF Saint-Julien-l 93.17 43 eP P 04 15 34.5 -1.5
comp=Z,17nm,1.4s,mb5.0
AVF Avril sur Loir 93.23 41 eP P 04 15 34.8 -1.5
comp=Z,46nm,1.3s,mb5.2
AVF Avril sur Loir 93.23 41 eP P 04 15 34.8 -1.5
AVF pmax pmax
comp=Z,23nm,1.3s,mb5.2
AVF Avril sur Loir 93.23 41 eP P 04 15 34.8 -1.5
comp=Z,23nm,1.3s,mb5.2
SMRF Simiane la Rot 93.36 44 eP P 04 15 36.8 -0.1
comp=Z,16nm,0.9s,mb4.8
SMRF Simiane la Rot 93.36 44 eP P 04 15 36.8 -0.1
comp=Z,16nm,0.9s,mb5.2
SSF Saint Saulge 93.44 41 eP P 04 15 35.5 -1.8
comp=Z,44nm,1.3s,mb5.2
SSF epP pP 04 16 12.8 -0.8
SSF Saint Saulge 93.44 41 eP P 04 15 35.5 -1.8
SSF e*PP pP 04 16 12.8 -0.8
SSF pmax pmax
comp=Z,22nm,1.3s,mb5.1
SSF Saint Saulge 93.44 41 eP P 04 15 35.5 -1.8
comp=Z,22nm,1.3s,mb5.1
SSF epP pP 04 16 12.8 -0.8
SMF Signal de Mont 93.46 41 eP P 04 15 36.2 -1.1
comp=Z,104nm,1.3s,mb5.5
SMF epP pP 04 16 13.5 -0.1
SMF Signal de Mont 93.46 41 eP P 04 15 36.2 -1.1
SMF e*PP pP 04 16 13.5 -0.1
SMF pmax pmax
comp=Z,52nm,1.3s,mb5.5
SMF Signal de Mont 93.46 41 eP P 04 15 36.2 -1.1
comp=Z,52nm,1.3s,mb5.5
SMF epP pP 04 16 13.5 -0.1
LMR La Mourre 93.70 45 eP P 04 15 37.8 -0.6
comp=Z,54nm,1.2s,mb5.3
LMR epP pP 04 16 15.2 +0.5
LMR La Mourre 93.70 45 eP P 04 15 37.8 -0.6
LMR e*PP pP 04 16 15.2 +0.5
LMR pmax pmax
comp=Z,27nm,1.2s,mb5.2
LMR La Mourre 93.70 45 eP P 04 15 37.8 -0.6
comp=Z,27nm,1.2s,mb5.2
LMR epP pP 04 16 15.2 +0.5
FRF La Foret Royal 93.88 45 eP P 04 15 38.7 -0.6
comp=Z,94nm,1.4s,mb5.4
FRF La Foret Royal 93.88 45 eP P 04 15 38.7 -0.6
FRF pmax pmax
comp=Z,47nm,1.4s,mb5.4
FRF La Foret Royal 93.88 45 eP P 04 15 38.7 -0.6

comp=Z,47nm,1.4s,mb5.4
ORIF Oris-en-Rattie 93.97 43 *e*P **P 04 15 39.5 -0.2**
comp=Z,20nm,0.9s,mb4.9
ORIF *e*MLR MLR 04 15 39.5 -0.2
comp=Z,1μm,22.0s
ORIF Oris-en-Rattie 93.97 43 *e*P **P 04 15 39.5 -0.2**
ORIF pmax pmax 04 15 39.5 -0.2
comp=Z,10.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 93.97 43 *e*P **P 04 15 39.5 -0.2**
comp=Z,9.9nm,0.9s,mb4.9
MBDF Montbardon 94.46 44 *e*P **P 04 15 41.5 -0.4**
comp=Z,16nm,0.9s,mb4.8
MBDF Montbardon 94.46 44 *e*P **P 04 15 41.5 -0.4**
MBDF pmax pmax 04 15 41.5 -0.4
comp=Z,8.0nm,0.9s,mb4.8
MBDF Montbardon 94.46 44 *e*P **P 04 15 41.5 -0.4**
comp=Z,7.8nm,0.9s,mb4.8
LPL La Plagne 94.77 43 *e*P **P 04 15 43.3 0.0**
comp=Z,10nm,0.8s,mb4.8
LPL La Plagne 94.77 43 *e*P **P 04 15 43.3 0.0**
LPL pmax pmax 04 15 43.3 0.0
comp=Z,5.0nm,0.8s,mb4.8
LPL La Plagne 94.77 43 *e*P **P 04 15 43.3 0.0**
comp=Z,5.1nm,0.8s,mb4.8
LPG La Plagne 94.78 43 *e*P **P 04 15 43.4 0.0**
comp=Z,23nm,1.1s,mb5.0
LPG La Plagne 94.78 43 *e*P **P 04 15 43.4 0.0**
LPG pmax pmax 04 15 43.4 0.0
comp=Z,12nm,1.1s,mb5.0
LPG La Plagne 94.78 43 *e*P **P 04 15 43.4 0.0**
comp=Z,12nm,1.1s,mb5.0
DOU Dourbes 95.46 38 P **P 04 15 46.6 +0.1**
SUMG Summit 95.48 9 *e*P **P 04 15 47.5 +0.9**
comp=Z,25nm,1.0s,mb5.4
SUMG *e*pP pP 04 16 30.4 +7.5
HAU Haudompre 95.59 41 *e*P **P 04 15 45.4 -1.7**
HAU *e*MLR MLR 04 15 45.4 -1.7
comp=Z,763nm,20.0s
HAU Haudompre 95.59 41 *e*P **P 04 15 45.4 -1.7**
HAU LR LR 04 15 45.4 -1.7
comp=Z,760nm,20.0s
GIVF Givet 95.59 38 *e*P **P 04 15 45.7 -1.4**
HINF Hinteralfeld 95.82 41 *e*P **P 04 15 46.4 -1.7**
BCLA Clavier 96.01 38 P **P 04 15 50.1 +1.1**
WLF Walferdange 96.18 39 *e*P **P 04 15 51.3 +1.6**
WLF pmax pmax 04 15 51.3 +1.6
comp=Z,32nm,1.2s,mb5.5
WLF Walferdange 96.18 39 *e*P **P 04 15 51.2 +1.5**
comp=Z,32nm,1.2s,mb5.5
CDF Champ du Feu 96.33 40 *e*P **P 04 15 49.0 -1.4**
comp=Z,27nm,1.3s,mb5.1
CDF Champ du Feu 96.33 40 *e*P **P 04 15 49.0 -1.4**
CDF pmax pmax 04 15 49.0 -1.4
comp=Z,14nm,1.3s,mb5.1
CDF Champ du Feu 96.33 40 *e*P **P 04 15 49.0 -1.4**
comp=Z,14nm,1.3s,mb5.1
MEM Membach 96.50 38 P **P 04 15 52.0 +0.8**
VAE Valguarnera 96.95 53 LR LR 04 59 24.2
comp=Z,1μm,18.6s,baz=323,slow=35
DAVOX Davos/Dischmat 97.28 43 P **P 04 15 54.6 -0.2**
comp=Z,6.4nm,0.7s,mb5.0,baz=203,slow=3.9,SNR=7.6
DAVA Damuels 97.48 42⇑ *i*P **P 04 15 56.2 +0.5**
comp=Z,18nm,1.6s,mb5.2
MOTA Moosalm 98.27 42⇑ *i*P **P 04 15 59.2 0.0**
comp=Z,18nm,1.3s,mb5.3
MOTA Moosalm 98.27 42⇑ *i*P **P 04 15 59.2 0.0**
MOTA pmax pmax 04 15 59.2 0.0
comp=Z,19nm,1.3s,mb5.4
SQTA Sankt Quirin 98.29 43⇑ *i*P **P 04 15 59.4 +0.1**
comp=Z,11nm,0.8s,mb5.3
SQTA Sankt Quirin 98.29 43⇑ *i*P **P 04 15 59.4 +0.1**
SQTA pmax pmax 04 15 59.4 +0.1
comp=Z,11nm,0.8s,mb5.3
WATA Walderalm 98.57 43⇑ *i*P **P 04 16 01.1 +0.6**
comp=Z,5.8nm,0.9s,mb5.0
WATA Walderalm 98.57 43⇑ *i*P **P 04 16 01.1 +0.6**
WATA pmax pmax 04 16 01.1 +0.6
comp=Z,6.0nm,0.9s,mb5.0
WTTA Wattenberg 98.58 43⇑ *i*P **P 04 16 01.5 +1.0**
comp=Z,18nm,1.1s,mb5.4
WTTA Wattenberg 98.58 43⇑ *i*P **P 04 16 01.5 +0.9**
WTTA pmax pmax 04 16 01.5 +0.9
comp=Z,18nm,1.1s,mb5.4
KBA Koelnbreinsper 99.60 43⇑ *i*P Pdif 04 16 05.6 +0.5
comp=Z,6.2nm,1.0s
KBA Koelnbreinsper 99.60 43⇑ *i*P Pdif 04 16 05.6 +0.5
KBA pmax pmax 04 16 05.6 +0.5
comp=Z,6.0nm,1.0s,mb5.0
GERES GERESS Array B 100.44 42 P Pdif 04 16 07.7 -1.1
comp=Z,1.3nm,0.8s,baz=250,slow=4.0,SNR=10
KHC Kasperske Hory 100.46 41 *e*P Pdif 04 16 09.1 +0.2
INK Inuvik 100.69 340 *e*Pdif Pdif 04 16 09.7 -0.3
INK *e*pP 04 16 44.0
CLL Collm 100.85 39 *e*P Pdif 04 16 12.0 +1.3
CLL *e* 04 26 41.0
CLL pmax pmax 04 16 12.0 +1.3
comp=Z,8.0nm,1.2s
CLL Collm 100.85 39 *e*Pdif Pdif 04 16 12.0 +1.3
comp=Z,8.0nm,1.2s
CLL *e*SKS 04 26 41.0
CLL Collm 100.85 39 *e*Pdif Pdif 04 16 12.0 +1.3
comp=Z,8.0nm,1.2s
CLL *e*PP PP 04 20 18.0 -2.1
NOA NORSAR Array B 103.19 29 Pdiff Pdif 04 16 20.8 -0.2
comp=Z,0.8nm,0.8s,baz=259,slow=5.9,SNR=3.4
AKASG Malin Array Be 110.63 42 PKiKP PKiKP 04 20 52.3 -1.4
comp=Z,0.4nm,0.3s,baz=267,slow=2.8,SNR=8.0
AKASG PP PP 04 21 32.2 +0.1
comp=Z,0.5nm,0.3s,baz=258,slow=4.8,SNR=6.4
ARCES ARCESS Array B 110.80 22 PKKPbc PKKPbc 04 31 49.9 -2.3
comp=Z,7.2nm,1.1s,baz=16,slow=5.6,SNR=5.0
OBN Obninsk 115.40 38⇑ *e*PKIKP PKPdf 04 21 03.0 +0.2
OBN *e* 04 21 42.2
OBN pmax pmax 04 21 03.0 +0.2
comp=Z,10.0nm,0.9s
OBN MLR MLR 04 21 03.0 +0.2
comp=Z,600nm,20.0s
OBN Obninsk 115.40 38⇑ *e*PKP PKPdf 04 21 03.0 +0.2
ANN Anapa 115.47 49 *i* PKIKP PKPdf 04 21 01.8 -1.1
ANN *e* 04 22 02.9
ANN *e* 04 27 39.4
ANN *e*SS SS 04 37 57.5 +3.5
ANN pmax pmax 04 37 57.5 +3.5
comp=Z,39nm,1.4s
MALT Malatya 115.53 57 *e*PKIKP PKPdf 04 21 03.1 +0.1
MALT *e* 04 21 40.1
KIV Kislovodsk 119.18 51⇑ *i*PKIKP PKPdf 04 21 09.8 -0.3
KIV Kislovodsk 119.18 51⇑ *e*PKP PKPdf 04 21 09.8 -0.3
ZEI Tsey 120.03 52 *e*PKIKP PKPdf 04 21 12.5 +0.8
ZEI *e* 04 22 39.5
STKA Stephens Creek 120.14 209 *e*PKP PKPdf 04 21 11.5 -0.4
comp=Z,4.8nm,0.7s
STKA Stephens Creek 120.14 209 PKP PKPdf 04 21 10.9 -1.0
comp=Z,5.8nm,0.7s,baz=188,slow=2.9,SNR=10
GNI Garni 120.57 55⇑ *i*PKIKP PKPdf 04 21 12.9 +0.2
GNI Garni 120.57 55⇑ *e*PKP PKPdf 04 21 12.0 -0.7
BILL Bilibino 122.29 339 *e*PKIKP PKPdf 04 21 14.5 -1.5
BILL pmax pmax 04 21 14.5 -1.5
comp=Z,6.0nm,1.0s
NWAO Narrogin (SRO) 126.11 186 PKP PKPdf 04 21 22.3 -1.0
comp=Z,13nm,0.7s,baz=177,slow=3.5,SNR=14
FORT Forrest 126.18 197 *e*PKP PKPdf 04 21 23.1 -0.4
comp=Z,32nm,0.7s
FORT *e*pPKP pPKPdf 04 22 00.3 -1.1
CTA Charters Tower 127.02 222 *e*PKP PKPdf 04 21 24.8 -0.3
comp=Z,5.0nm,0.7s
CTA *e*pPKP pPKPdf 04 22 01.9 -1.1
CTA Charters Tower 127.02 222 PKP PKPdf 04 21 24.1 -1.0
comp=Z,7.6nm,1.0s,baz=242,slow=5.5,SNR=5.1
CTA pPKP pPKPdf 04 22 01.2 -1.8
comp=Z,8.2nm,0.9s,baz=90,slow=1.6,SNR=3.8
KLBR Kellerberrin 127.38 186 *e*PKP PKPdf 04 21 24.4 -1.4
comp=Z,38nm,0.7s
KLBR *e*pPKP pPKPdf 04 22 03.2 -0.5
ARU Arti 127.40 34 *i* PKIKP PKPdf 04 21 25.6 -0.2
ARU *e* 04 23 27.4
ARU *e* 04 28 19.9
ARU *e*SS SS 04 40 30.4 +4.4
ARU Arti 127.40 34⇑ *e*PKP PKPdf 04 21 25.9 +0.1
AKTO Aktyubinsk 128.86 41 PKIKP PKPdf 04 21 28.9 +0.3
AKTO pmax pmax 04 21 28.9 +0.3
comp=Z,15nm,1.9s
SEY Seymchan 129.89 337⇑ *i*PKIKP PKPdf 04 21 30.9 +0.4
SEY Seymchan 129.89 337⇑ *e*PKP PKPdf 04 21 30.9 +0.4
AB31 Akbulak array 130.37 43⇑ *e*PKIKP PKPdf 04 21 31.0 -0.5

SMDO Samad 130.41 77⇑ P PKPdf 04 21 32.5 +1.0
SNR=15
AS31 Alice Springs 130.63 207 *e*PKPdf PKPdf 04 21 30.4 -1.6
AS31 sPKPdf 04 22 24.1
ASAR Alice Springs 130.63 207 PKP PKPdf 04 21 30.8 -1.2
comp=Z,12nm,0.7s,baz=148,slow=2.3,SNR=60
ASAR pPKP pPKPdf 04 22 08.6 -1.3
comp=Z,11nm,0.9s,baz=148,slow=2.2,SNR=7.0
WBK Wadi Bani Khal 131.18 78⇑ P PKPdf 04 21 34.8 +1.8
SNR=9.7
WB2 Warramunga Arr 133.68 210 *e*PKP PKPdf 04 21 36.8 -0.9
WB2 *e*pPKP pPKPdf 04 22 14.4 -1.2
WRA Warramunga Arr 133.69 210 PKP PKPdf 04 21 36.8 -0.9
comp=Z,8.8nm,0.7s,baz=157,slow=1.8,SNR=14
WRA pPKP pPKPdf 04 22 15.0 -0.7
comp=Z,11nm,0.8s,baz=153,slow=1.5,SNR=5.7
WRAB Tennant Creek 133.69 210 *i* PKIKP PKPdf 04 21 37.1 -0.6
CHKZ Chkalovo 134.84 34 *e*PKIKP PKPdf 04 21 39.4 -0.5
BRVK Borovoye 134.97 34⇑ *e*PKIKP PKPdf 04 21 40.6 +0.5
YAK Yakutsk 137.18 348⇑ *e*PKIKP PKPdf 04 21 45.4 +1.2
MBWA Marble Bar 137.37 191 *e*PKPdf PKPdf 04 21 44.6 0.0
FITZ Fitzroy Crossi 138.82 200 *e*PKP 04 21 39.6
comp=Z,32nm,0.8s
FITZ Fitzroy Crossi 138.82 200 PKhKP 04 21 39.8
comp=Z,2.4nm,0.6s,baz=197,slow=6.8,SNR=8.0
FITZ PKP PKPdf 04 21 48.1 +0.9
comp=Z,18nm,0.8s,baz=193,slow=2.7,SNR=22
FITZ pPKP pPKPdf 04 22 24.0 -1.2
comp=Z,7.7nm,0.8s,baz=209,slow=2.9,SNR=3.6
FITZ Fitzroy Crossi 138.82 200 *e*PKP 04 21 39.6
FITZ PKP PKPdf 04 21 48.1 +0.9
FITZ pPKP pPKPdf 04 22 24.0 -1.2
NVS Novosibirsk 139.96 25 *e*PKIKP 04 21 44.3
NVS pmax pmax 04 21 44.3
comp=N,6.0nm,1.3s
NVS pmax pmax 04 21 44.3
comp=E,17nm,1.3s
NVS pmax pmax 04 21 44.3
comp=Z,34nm,1.3s
ZAL Zalesovo 141.25 25 PKhKP 04 21 45.8
comp=Z,4.4nm,0.8s,baz=176,slow=2.3,SNR=22
AML Almayashu 141.76 48 P PKPdf 04 21 52.4 -0.2
SNR=8.3
USP Ospenovka 141.87 46 P PKPdf 04 21 49.1 -3.6
SNR=9.3
AAK Ala-Archa 142.12 47 P PKPdf 04 21 54.5 +1.3
SNR=11
AAK Ala-Archa 142.12 47⇓ P PKPdf 04 21 49.8 -3.4
SNR=9.5
AAK Ala-Archa 142.12 47⇑ *i*PKIKP PKPdf 04 21 53.1 -0.1
AAK Ala-Archa 142.12 47⇑ *e*PKP PKPdf 04 21 53.1 -0.1
UCH Uchtor 142.29 47 P PKPdf 04 21 51.7 -1.8
SNR=14
KBK Karagaybulak 142.42 46 P PKPdf 04 21 54.3 +0.6
SNR=7.7
TKM2 Tokmak 2 142.75 46 P PKPdf 04 21 51.3 -3.0
SNR=14
BOD Bodaibo 143.20 358 *e*PKHKP 04 21 49.9
BOD pmax pmax 04 21 49.9
comp=Z,19nm,1.1s
BOD pmax pmax 04 21 49.9
comp=Z,12nm,1.1s
ULHL Ulahol 143.46 46 P PKPdf 04 21 56.4 +0.8
SNR=10
MNGI Mangalore 143.85 97 *e*P PKPdf 04 21 55.6 -0.6
MNGI AMS AMS 05 17 14.2
comp=Z,292nm,14.2s
TRD Trivandrum 144.22 105 *e*P PKPdf 04 21 57.0 +0.1
TRD AMS AMS 04 47 02.2
comp=Z,371nm,15.4s
POO Poona 144.30 87⇓ *i*P PKPdf 04 21 54.0 -3.0
comp=Z,120nm,1.0s
POO *e*x x 04 22 31.2
KSH Kashi 144.31 51 *e*PKP PKPdf 04 21 57.8 +0.7
KSH *e*PKS 04 25 32.4
KSH *e*SKS SKSdf 04 28 50.3 -2.8
KSH PP PP 04 28 50.3 -2.8
comp=Z,513nm,8.2s
KSH LR LR 04 28 50.3 -2.8
comp=N,1μm,16.0s
KSH LR LR 04 28 50.3 -2.8
comp=E,2μm,17.8s
KSH LR LR 04 28 50.3 -2.8
comp=Z,964nm,15.4s
KAD Karad 144.37 89 *e*P PKPdf 04 21 56.6 -0.5
KAD AMS AMS 04 48 47.2
comp=Z,500nm,16.8s
MK31 Makanchi Array 144.88 36⇓ *i*PKIKP PKPdf 04 21 57.1 -0.9
MK31 *e* 04 22 36.0
MKAR Makanchi Array 144.88 36 PKPbc PKPdf 04 21 57.1 -0.9
comp=Z,141nm,0.8s,baz=336,slow=2.7,SNR=373
MKAR pPKPbc 04 22 34.4
comp=Z,82nm,0.8s,baz=316,slow=3.3,SNR=7.4
AJM Ajmer 145.68 74 *e*P PKPdf 04 22 00.4 +1.0
AJM AMS AMS 04 51 33.6
comp=Z,529nm,18.1s
THN Thein Dam 146.01 63 *e*P PKPdf 04 22 00.0 0.0
SALM Salem 146.54 101 *e*P PKPdf 04 22 02.0 +1.1
PALK Pallekele 147.03 110 *e*PKPdf PKPdf 04 22 02.8 +1.1
GUMO Guam 147.58 262 PKPbc PKPbc 04 22 04.6 -0.9
comp=Z,144nm,0.9s,baz=261,slow=23,SNR=3.7
KLR Kul'dur 147.64 335 *e*PKIKP PKPdf 04 22 02.0 -0.7
KLR *e* 04 22 36.6
NDI New Delhi 147.83 69 *e*P PKPdf 04 22 02.2 -0.8
NDI *e*P 04 22 03.5
comp=Z,5.0nm,0.6s
NDI AMS AMS 05 13 36.9
comp=Z,27μm,19.2s
BHPL Bhopal 148.16 80 *e*P PKPdf 04 22 05.2 +1.6
BHPL AMS AMS 04 49 25.5
comp=Z,564nm,17.6s
MOY Mondy 148.27 13 *e*PKP2 PKPab 04 22 08.0 -2.7
MOY pmax pmax
comp=Z,78nm,1.5s
HYB Hyderabad 148.48 91 *e*PKP PKPdf 04 22 05.0 +0.9
HYB *e* 04 22 12.0
HYB Hyderabad 148.48 91 *e*PKIKP PKPdf 04 22 05.0 +0.9
HYB *e* 04 22 12.0
TLY Talaya 148.74 10 *e*PKIKP PKPdf 04 22 05.1 +0.6
TLY *e* 04 22 09.0
MDRS Chennai 148.90 100 *e*P PKPdf 04 22 05.5 +0.7
MDRS AMS AMS 04 47 43.1
comp=Z,571nm,15.8s
CIT Chita 149.02 358 *e*PKIKP PKPdf 04 22 06.1 +1.2
CIT *e* 04 22 46.5
CIT pmax pmax
comp=Z,150nm,1.5s
WMQ Urumqi 149.71 36 PKP PKPdf 04 22 10.0 +3.9
WMQ PKP2 PKPab 04 22 23.0 +6.4
WMQ PP PP 04 25 52.0 +6.8
WMQ PP PP
comp=Z,347nm,8.4s
WMQ LR LR
comp=N,588nm,19.4s
WMQ LR LR
comp=E,462nm,21.7s
WMQ LR LR
comp=Z,909nm,20.2s
ZAK Zakamensk 149.93 11 *e*PKHKP 04 22 06.5
ZAK pmax pmax
comp=Z,86nm,0.9s
ZAK pmax pmax
comp=Z,112nm,1.2s
MDJ Mudanjiang 152.21 332 PKP PKPdf 04 22 10.6 +0.7
MDJ PKP2 PKPab 04 22 28.9 +1.9
MDJ APKP 04 22 45.5
MDJ XPKP 04 22 59.1
MDJ PP PP 04 26 00.5 +0.9
MDJ PP PP
comp=Z,627nm,9.5s
MJAR Matsushiro Arr 152.25 310 PKP PKPdf 04 22 09.7 -0.3
comp=Z,1.3nm,0.6s,baz=111,slow=3.4,SNR=3.9
MJAR PKPbc PKPbc 04 22 15.4 -1.4
comp=Z,20nm,0.9s,baz=66,slow=1.6,SNR=31
MJAR pPKPbc pPKPbc 04 22 52.4 -2.2
comp=Z,15nm,0.7s,baz=88,slow=1.3,SNR=8.4
MAJO Matsushiro 152.25 310 *e*PKIKP PKPbc 04 22 16.4 -0.4
MAT Matsushiro 152.25 310 PKP PKPbc 04 22 16.4 -0.4
SONM Songino Array 152.89 8 PKP PKPdf 04 22 10.5 -0.4
comp=Z,10.0nm,0.9s,baz=295,slow=0.3,SNR=41
SONM PKPbc PKPbc 04 22 17.7 -0.5
comp=Z,12nm,0.6s,baz=296,slow=0.8,SNR=29
SONM pPKP pPKPdf 04 22 46.1 -2.9
comp=Z,9.2nm,0.7s,baz=332,slow=3.5,SNR=3.6
SONM pPKPbc pPKPbc 04 22 55.7 -0.3
comp=Z,13nm,0.7s,baz=343,slow=1.9,SNR=4.3
SONM Songino Array 152.89 8 PKIKP PKPdf 04 22 10.5 -0.4
SONM 04 22 46.1
VIS Vishakhapatnam 153.00 92 *e*P PKPdf 04 22 10.1 -0.9
VIS AMS AMS 04 46 54.6
comp=Z,522nm,19.6s
KOLN Koldanda 153.53 70 *e*P PKPdf 04 22 12.4 +0.6
GKN Gorkha 154.40 69 *e*P PKPdf 04 22 13.3 +0.3
DMN Daman 154.87 70 *e*P PKPdf 04 22 14.8 +1.1
KKN Kakani 154.99 69 *e*P PKPdf 04 22 14.8 +0.9
PKI Pulchoki 155.14 70 *e*P PKPdf 04 22 14.5 +0.4
GUN Gumba 155.50 69 *e*P PKPdf 04 22 15.4 +0.9
BOK Bokaro 155.93 79 *e*P PKPdf 04 22 16.8 +1.7
BOK AMS AMS 04 49 08.7
comp=Z,373nm,19.1s
GTA Gaotai 158.99 27 PKP PKPdf 04 22 18.8 -0.1
GTA PKS 04 25 51.8
GTA PP PP
comp=Z,693nm,14.8s
GTA LR LR
comp=N,520nm,26.2s
GTA LR LR
comp=E,328nm,22.1s
GTA LR LR
comp=Z,539nm,25.1s
HHC Hu-ho-hao-te 160.22 0 *e*PKP PKPdf 04 22 16.5 -3.8
SHL Shillong 161.20 72 *ex* x 04 22 14.6
LZH Lanzhou 163.46 23 *e*PKP PKPdf 04 22 23.5 -0.1
LZH APKP 04 23 01.4
LZH XPKP 04 23 16.1
LZH PKP2 PKPab 04 23 17.5 +1.9
LZH PKS 04 25 55.4
LZH PP PP 04 27 03.6 +2.5
LZH SKS SKSdf 04 29 12.5 -2.4
LZH PP PP
comp=Z,351nm,9.2s
LZH LR LR
comp=N,579nm,18.3s
LZH LR LR
comp=Z,768nm,20.1s
KKM Kota Kinabalu 164.51 197 *e*PKPdf PKPdf 04 22 25.4 +0.8
XAN Xi'an 166.78 10 PKP PKPdf 04 22 27.3 +0.8
NJ2 Nanjing 167.31 331 *e*PKP PKPdf 04 22 24.4 -2.4
CHTO Chiang Mai 167.75 98⇓ P PKPdf 04 22 27.8 +0.6
SNR=8.5
CHTO Chiang Mai 167.75 98 *e*PKPdf PKPdf 04 22 27.2 0.0
CD2 Chengdu 167.80 34 *e*PKP PKPdf 04 22 27.8 +0.6
CD2 APKP 04 23 00.9
CD2 XPKP 04 23 16.0
CD2 PKP2 PKPab 04 23 37.0 +2.2
CD2 SKS SKSdf 04 29 17.0 -0.7
CD2 PP PP
comp=Z,220nm,10.8s
WHN Wuhan 170.22 347 *e*PKP PKPdf 04 22 29.5 +0.8
WHN APKP 04 23 06.5
KMI Kunming 170.75 62 PKP PKPdf 04 22 30.3 +1.3
KMI APKP 04 23 08.9
KMI XPKP 04 23 25.6
KMI PKP2 PKPab 04 23 48.9 +1.1
KMI LR LR
comp=Z,380nm,22.0s
KMI Kunming 170.75 62 PKP PKPdf 04 22 30.2 +1.2
KMI pPKP pPKPdf 04 23 08.9 +1.7
KMI sPKP 04 23 25.6
GYA Guiyang 172.85 40 *i* PKP PKPdf 04 22 30.8 +0.8
GYA APKP 04 23 08.8
GYA XPKP 04 23 20.1
GYA PKP2 PKPab 04 23 57.5 +0.4
GYA PKS 04 26 01.8
GYA PP PP
comp=Z,640nm,8.4s
GYA LR LR
comp=N,1μm,21.8s
GYA LR LR
comp=E,2μm,22.7s
GYA LR LR
comp=Z,2μm,22.0s

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*ISCJB **17** 04:03:22.7±0.6,3017N±005×5164E±004,h10km,Error ellipse: s-maj=8.3km s-min=4.7km az=128.9*
*CSEM **17** 04:03:25.6,3002N×5188E,h18km,ML3.5,After THR*
*THR **17** 04:03:25.6±0.7,3002N×5188E,h18km±6km,ML3.5*
*KISR **17** 04:03:37.1±1.1,3012N×5099E,h30km±670km,ML2.9*
ISC 17 04:03:23.9±0.7,3014N±006×5164E±005,h10km,n9,
σ1§43/14,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**2.19**	**147**	*e*PG	**Pn**	**04 04 01.8**	**+1.4**
GHIR				AML	AML	04 04 41.8	
comp=E,411nm,0.4s							
NASN	**Na'in**	**2.83**	**20**	*e*PN	**Pb**	**04 04 13.0**	**-1.5**
NASN				*e*SG	**Sg**	**04 04 56.1**	**+1.3**
MIB	**Mutribah**	**3.75**	**266**	*e*P	**Pb**	**04 04 28.6**	**-1.6**
MIB				*e*S	**Sn**	**04 05 06.4**	**+0.5**
MIB				AML	AML	04 05 09.9	
comp=Z,35nm,0.5s							
RDF	**Al-Radifah**	**3.77**	**252**	*e*P	**Pb**	**04 04 28.7**	**-1.7**
RDF				*e*S	**Sn**	**04 05 07.8**	**+1.4**
RDF				AML	AML	04 05 08.3	
comp=Z,22nm,0.5s							
NAY	**Al-Naaiem**	**3.93**	**258**	*e*P	**Pb**	**04 04 31.6**	**-1.7**
NAY				*e*S	**Sn**	**04 05 11.9**	**+1.5**
NAY				AML	AML	04 05 15.9	
comp=Z,14nm,0.5s							
RST	**Umm Al-Ruwaisa**	**4.08**	**262**	*e*P	**Pb**	**04 04 32.9**	**-3.0**
RST				*e*S	**Sn**	**04 05 15.7**	**+1.5**
RST				AML	AML	04 05 19.0	
comp=Z,38nm,0.6s							
KRBR	**Kerman**	**4.44**	**91**	*e*PN	**Pn**	**04 04 31.9**	**+0.6**
KRBR				AML	AML	04 05 51.6	
comp=N,42nm,0.7s							
KRBR				AML	AML	04 05 51.9	
comp=E,64nm,0.7s							
ASAO	**Ashtian**	**4.60**	**343**	*e*PN	**Pn**	**04 04 39.4**	**+5.9**
ASAO				AML	AML	04 06 11.3	
comp=N,24nm,0.8s							
BNDS	**Bandar-Abbas**	**4.83**	**123**	*e*Pn	**Pn**	**04 04 36.0**	**-0.6**
BNDS				AML	AML	04 05 31.8	
comp=E,41nm,0.9s							
BNDS				AML	AML	04 05 35.5	
comp=N,44nm,0.8s							

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*ISCJB **17** 04:11:48.4±0.9,4401N±004×787E±005,h5km,Error ellipse: s-maj=6.0km s-min=4.8km az=80.5*
*LDG **17** 04:11:50.1±0.1,4400N×780E,h4km,Md2.0/1,MI1.9/6, Error ellipse: s-maj=1.9km s-min=1.4km az=34.0*
*STR **17** 04:11:51.8±0.4,4397N×772E,h5km±1km,MI1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 17 04:11:50.0±1.0,4400N±004×777E±009,h19km±7km,n12,
σ0§46/21,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.15**	**266**	Pg	**Pg**	**04 11 54.5**	**+0.1**
SAOF				Sg	**Sg**	**04 11 56.6**	**-0.8**
AUTN	**L'Aution**	**0.25**	**270**	Pg	**Pg**	**04 11 56.5**	**+0.7**
AUTN				Sg	**Sg**	**04 11 59.8**	**+0.1**
SBF	**Sospel**	**0.28**	**241**	*e*Pg	**Pg**	**04 11 56.0**	**-0.2**
SBF				*e*Sg	**Sg**	**04 11 59.9**	**-0.6**
26nm,0.2s							
LUCF	**Luceram**	**0.32**	**251**	Pg	**Pg**	**04 11 57.3**	**+0.3**
LUCF				Sg	**Sg**	**04 12 01.8**	**0.0**
TOUF	**Mont Tournerai**	**0.38**	**273**	Pg	**Pg**	**04 11 58.6**	**+0.7**
TOUF				Sg	**Sg**	**04 12 03.9**	**+0.6**
MVIF	**Mont Vial**	**0.46**	**258**	Pg	**Pg**	**04 12 00.3**	**+0.9**
FRF	**La Foret Royal**	**0.92**	**242**	*e*Pg	**Pg**	**04 12 08.3**	**+0.3**
FRF				*e*Sg	**Sg**	**04 12 20.3**	**+0.1**
4.3nm,0.2s							
MBDF	**Montbardon**	**1.02**	**316**	*e*Sg	**Sg**	**04 12 23.3**	**-0.1**
1.9nm,0.3s							
LMR	**La Mourre**	**1.13**	**235**	*e*Pg	**Pg**	**04 12 11.6**	**-0.3**
LMR				*e*Sg	**Sg**	**04 12 26.3**	**-0.4**
5.7nm,0.3s							
SMRF	**Simiane la Rot**	**1.58**	**270**	*e*Pg	**Pg**	**04 12 20.1**	**-0.4**
SMRF				*e*Sg	**Sg**	**04 12 41.0**	**-0.2**
7.0nm,0.3s							
LPL	**La Plagne**	**1.69**	**334**	*e*Sg	**Sg**	**04 12 44.0**	**-0.6**
0.7nm,0.2s							
PGF	**Pioggiola**	**1.70**	**148**	*e*Pn	**Pn**	**04 12 18.8**	**+0.1**
PGF				*e*Sn	**Sn**	**04 12 39.7**	**-0.2**

0.3nm,0.2s

BJI **17** *04:20:12.6, 642S×15146E, h36km, mB5.4, mb4.8, Ms5.1, Msz4.9*
ISCJB **17** *04:20:16.0±0.2, 586S±004×15105E±004, h27km, mb4.9/55, MS4.9/4, Error ellipse: s-maj=6.6km s-min=5.0km az=60.0*
MOS **17** *04:20:17.5±1.0, 581S×15103E, h33km, mb5.0/15, Error ellipse: s-maj=10.3km s-min=8.6km az=86.8*
NEIC **17** *04:20:17.3±0.1, 590S×15103E, mb5.0/25, Error ellipse: s-maj=6.1km s-min=5.1km az=110.0*
IDC **17** *04:20:21.2±1.9, 595S×15107E, h59km±16km, mb4.3/16, mb1 4.5/18, mb1mx4.5/19, mbtmp4.7/18, Error ellipse: s-maj=14.4km s-min=10.5km az=127.0*
ISC 17 04:20:18.2±0.2, 591S±004×15105E±005, h29km, h29km±1.3km: pP-P, n183, σ1.9 15/126, mb4.9/55, MS4.9/4, 6C-14D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**228**	P	**Pn**	**04 21 37.7**	**+3.8**
	15nm,0.3s,baz=48,slow=11,SNR=18						
PMG				S	**Sn**	**04 22 36.2**	**+3.4**
	35nm,0.3s,baz=209,slow=18,SNR=8.3						
HNR	**Honiara**	**9.48**	**112**	P	**Pn**	**04 22 34.0**	**+1.2**
	15nm,0.3s,baz=264,slow=5.7,SNR=5.7						
HNR	**Honiara**	**9.48**	**112**	*e*P	**Pn**	**04 22 33.9**	**+1.1**
HNR				pmax	pmax		
	comp=Z,305nm,0.8s						
HNR	**Honiara**	**9.48**	**112**	*e*Pn	**Pn**	**04 22 33.9**	**+1.1**
	comp=Z,305nm,0.8s						
CTA	**Charters Tower**	**14.85**	**198**	⇓*i*P	**Pn**	**04 23 52.2**	**+6.1**
	comp=Z,18nm,1.4s						
CTA	**Charters Tower**	**14.85**	**198**	P	**Pn**	**04 23 52.9**	**+6.9**
	comp=Z,1.5nm,0.3s,baz=18,slow=11,SNR=9.1						
CTA	**Charters Tower**	**14.85**	**198**	⇓*i*P	**Pn**	**04 23 52.2**	**+6.1**
CTA				pmax	pmax		
	comp=Z,18nm,1.4s						
CTAO	**Charters Tower**	**14.85**	**198**	*e*P	**Pn**	**04 23 52.6**	**+6.5**
CTAO				pmax	pmax		
	comp=Z,73nm,1.4s						
CTAO	**Charters Tower**	**14.85**	**198**	*e*Pn	**Pn**	**04 23 52.6**	**+6.6**
	comp=Z,73nm,1.4s						
KAKA	**Kakadu**	**19.56**	**248**	⇓*i*P	**Pn**	**04 24 44.1**	**-0.9**
	comp=Z,37nm,0.5s						
GUMO	**Guam**	**20.32**	**342**	P	**P**	**04 24 53.0**	**+1.2**
	comp=Z,168nm,0.8s,baz=221,slow=15,SNR=4.0						
GUMO	**Guam**	**20.32**	**342**	*e*P	**P**	**04 24 53.9**	**+2.1**
GUMO				pmax	pmax		
	comp=Z,398nm,1.1s						
GUMO	**Guam**	**20.32**	**342**	*e*P	**P**	**04 24 53.9**	**+2.0**
	comp=Z,398nm,1.1s						
WRAB	**Tennant Creek**	**21.40**	**228**	P	**P**	**04 25 04.0**	**+0.5**
	comp=Z,204nm,0.6s,mb5.6,SNR=13						
WRAB	**Tennant Creek**	**21.40**	**228**	*i*P	**P**	**04 25 03.6**	**+0.1**
WB2	**Warramunga Arr**	**21.41**	**228**	⇓*i*P	**P**	**04 25 04.1**	**+0.5**
WB2				*e*S	**S**	**04 28 56.8**	**-2.7**
WRA	**Warramunga Arr**	**21.41**	**228**	P	**P**	**04 25 04.3**	**+0.6**
	comp=Z,14nm,0.5s,mb4.5,baz=53,slow=11,SNR=98						
WRA				S	**S**	**04 28 58.2**	**-1.5**
	comp=Z,3.3nm,1.1s,baz=47,slow=23,SNR=8.4						
DZM	**Mont Dzumac**	**21.90**	**139**	P	**P**	**04 25 08.2**	**-0.7**
	comp=Z,18nm,0.6s,mb4.7,baz=356,slow=11,SNR=11						
AS31	**Alice Springs**	**24.17**	**221**	*e*P	**P**	**04 25 31.9**	**+0.1**
ASAR	**Alice Springs**	**24.17**	**221**	P	**P**	**04 25 32.3**	**+0.5**
	comp=Z,20nm,0.6s,mb4.7,baz=56,slow=9.1,SNR=122						
ASAR				S	**S**	**04 29 55.0**	**+6.9**
	comp=Z,4.2nm,1.0s,baz=37,slow=20,SNR=8.3						
ASAR				ScP	ScP	04 32 47.4	-1.2
	comp=Z,0.6nm,0.8s,baz=28,slow=3.1,SNR=2.8						
ASAR	**Alice Springs**	**24.17**	**221**	P	**P**	**04 25 32.3**	**+0.5**
ASAR				S	**S**	**04 29 55.1**	**+7.0**
ASPA	**Alice Springs**	**24.17**	**221**	*e*P	**P**	**04 25 31.9**	**+0.1**
ARMA	**Armidale**	**24.39**	**179**	*e*P	**P**	**04 25 32.4**	**-1.4**
STKA	**Stephens Creek**	**27.31**	**198**	*e*P	**P**	**04 26 00.2**	**-0.1**
	comp=Z,11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**27.31**	**198**	P	**P**	**04 26 00.2**	**0.0**
	comp=Z,6.0nm,0.7s,mb4.2,baz=3.9,slow=12,SNR=8.4						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	⇓*i*P	**P**	**04 26 03.1**	**+0.2**
	comp=Z,39nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	**P**	**04 26 03.2**	**+0.2**
	comp=Z,21nm,0.7s,mb4.9,baz=78,slow=7.4,SNR=32						
MBWA	**Marble Bar**	**33.91**	**240**	*e*P	**P**	**04 26 57.9**	**-0.6**
	comp=Z,18nm,0.9s,mb5.0						
TAU	**Tasmania Unive**	**37.00**	**185**	P	**P**	**04 27 25.1**	**+0.1**
TAU				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.1						
TAU	**Tasmania Unive**	**37.00**	**185**	P	**P**	**04 27 25.1**	**+0.1**
	comp=Z,34nm,1.1s,mb5.1						
URZ	**Urewera**	**39.95**	**147**	P	**P**	**04 27 49.2**	**-0.7**
	comp=Z,5.6nm,0.4s,mb4.6,baz=21,slow=17,SNR=11						
NWAO	**Narrogin (SRO)**	**41.38**	**225**	P	**P**	**04 28 02.9**	**+1.2**
	comp=Z,22nm,0.9s,mb4.8,baz=210,slow=23,SNR=7.0						
NWAO	**Narrogin (SRO)**	**41.38**	**225**	P	**P**	**04 28 02.3**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,13nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.38**	**225**	P	**P**	**04 28 02.3**	**+0.7**
	comp=Z,13nm,0.8s,mb4.6						
NACB	**Ninganchiao**	**41.46**	**317**	*e*P	**P**	**04 28 03.4**	**+1.1**
YHNB	**Yeheng**	**41.94**	**318**	*e*P	**P**	**04 28 06.7**	**+0.5**
TATO	**Taipei**	**42.07**	**318**	*e*P	**P**	**04 28 07.9**	**+0.6**
	comp=Z,79nm,1.0s,mb5.3						
MJAR	**Matsushiro Arr**	**43.91**	**345**	P	**P**	**04 28 23.6**	**+1.4**
	comp=Z,3.0nm,0.8s,mb4.1,baz=163,slow=7.1,SNR=5.6						
QZH	**Quanzhou**	**44.02**	**315**	⇑*i*P	**P**	**04 28 24.8**	**+1.7**
WHN	**Wuhan**	**50.48**	**318**	*e*P	**P**	**04 29 14.5**	**+1.1**
GYA	**Guiyang**	**53.70**	**309**	⇑*i*P	**P**	**04 29 35.4**	**-2.0**
GYA				PP	PP	04 31 36.8	-1.5
GYA				SCP	ScP	04 34 37.8	-1.3
GYA				S	**S**	**04 37 03.3**	**-6.2**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,160nm,5.0s						
GYA				LR	LR		
	comp=N,460nm,18.4s,MS4.7						
GYA				LR	LR		
	comp=E,370nm,17.8s,MS4.7						
GYA				LR	LR		
	comp=Z,410nm,18.0s,MS4.5						
MDJ	**Mudanjiang**	**53.87**	**341**	P	**P**	**04 29 37.8**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,640nm,8.6s						
CN2	**Changchun**	**54.62**	**337**	*e*P	**P**	**04 29 41.4**	**-2.6**
BJT	**Baijiatuan**	**55.86**	**328**	P	**P**	**04 29 51.7**	**-1.3**
BJI	**Beijing**	**55.87**	**328**	P	**P**	**04 29 53.1**	**0.0**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.0						
KMI	**Kunming**	**56.18**	**305**	P	**P**	**04 29 56.9**	**+1.6**
KMI				AP	pP	04 30 07.8	+3.6
KMI				XP	sP	04 30 14.3	+6.6
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.9						
KMI	**Kunming**	**56.18**	**305**	P	**P**	**04 29 56.9**	**+1.6**
KMI				pP	pP	04 30 07.8	+3.6
KMI				sP	sP	04 30 14.2	+6.5
XAN	**Xi'an**	**56.24**	**318**	P	**P**	**04 29 55.6**	**-0.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KIP	**Kipapa**	**56.84**	**60**	*i*P	**P**	**04 30 00.4**	**+0.4**
CD2	**Chengdu**	**58.15**	**312**	*e*P	**P**	**04 30 11.1**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
HHC	**Hu-ho-hao-te**	**58.95**	**326**	*e*P	**P**	**04 30 16.8**	**+2.0**
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.5						
LZH	**Lanzhou**	**60.83**	**317**	⇓P	**P**	**04 30 28.3**	**+0.6**
LZH				AP	pP	04 30 36.5	-0.2
LZH				XP	sP	04 30 40.3	+0.2
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,105nm,7.5s						
LZH				LR	LR		
	comp=E,539nm,15.2s						
LZH				LR	LR		
	comp=Z,995nm,18.5s,MS5.0						
LZH	**Lanzhou**	**60.83**	**317**	⇓P	**P**	**04 30 28.3**	**+0.6**
LZH				*SP	pP	04 30 36.5	-0.2
LZH				*SP	sP	04 30 40.2	+0.1
LZH				*e*S	**S**	**04 38 43.2**	**-0.1**
LZH				*SS	sS	04 38 56.7	-1.4
LZH				PS		04 39 02.5	
LZH				*e*SS	SS	04 42 44.6	+2.2
LZH	**Lanzhou**	**60.83**	**317**	⇓P	**P**	**04 30 28.3**	**+0.6**
LZH				pP	pP	04 30 36.5	-0.2
LZH				sP	sP	04 30 40.2	+0.1
LZH				PP	PP	04 32 54.8	+13
LZH				*e*S	**S**	**04 38 43.2**	**-0.1**
LZH				sS	sS	04 38 56.7	-1.4
LZH				PS		04 39 02.5	
LZH				*e*SS	SS	04 42 44.6	+2.2
HIA	**Hailar**	**61.35**	**337**	*e*P	**P**	**04 30 29.7**	**-1.5**
HIA				*e*PP	pP	04 30 38.4	-1.8
HIA				pmax	pmax		
	comp=Z,14nm,1.0s						
HIA	**Hailar**	**61.35**	**337**	*e*P	**P**	**04 30 29.7**	**-1.5**
	comp=Z,14nm,1.0s,mb5.0						
HIA				*e*pP	pP	04 30 38.4	-1.8
GTA	**Gaotai**	**65.30**	**318**	*e*P	**P**	**04 30 57.8**	**+0.4**
GTA				AP	pP	04 31 05.5	-0.9
GTA				XP	sP	04 31 09.0	-0.8
GTA				PP	PP	04 33 23.8	+2.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,232nm,8.0s						
GTA				LR	LR		
	comp=N,775nm,16.0s,MS5.2						
GTA				LR	LR		
	comp=E,817nm,17.1s,MS5.2						
GTA				LR	LR		
	comp=Z,866nm,17.5s,MS5.0						
SONM	**Songino Array**	**66.35**	**329**	P	**P**	**04 31 04.1**	**0.0**
	comp=Z,4.7nm,1.0s,mb4.5,baz=142,slow=5.7,SNR=8.2						
CASY	**Casey**	**66.46**	**197**	*e*P	**P**	**04 31 03.6**	**-1.2**
LSA	**Lhasa**	**67.44**	**305**	P	**P**	**04 31 11.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**67.44**	**305**	P	**P**	**04 31 11.9**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**69.54**	**330**	*e*P	**P**	**04 31 23.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
YAK	**Yakutsk**	**69.72**	**349**	*i*P	**P**	**04 31 22.9**	**-2.4**
YAK				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.3						
BOD	**Bodaibo**	**70.21**	**340**	*e*P	**P**	**04 31 25.1**	**-3.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
GUN	**Gumba**	**71.21**	**302**	*e*P	**P**	**04 31 34.8**	**+0.4**
	comp=Z,27nm,0.9s,mb5.2						
PKI	**Pulchoki**	**71.51**	**301**	*e*P	**P**	**04 31 36.4**	**+0.2**
KKN	**Kakani**	**71.68**	**302**	*e*P	**P**	**04 31 37.4**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9						
DMN	**Daman**	**71.78**	**301**	*e*P	**P**	**04 31 38.5**	**+0.7**
VNDA	**Vanda**	**71.80**	**178**	P	**P**	**04 31 37.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=340,slow=5.9,SNR=6.3						
VNDA	**Vanda**	**71.80**	**178**	*e*P	**P**	**04 31 37.5**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**71.80**	**178**	*e*P	**P**	**04 31 37.5**	**-0.4**
	comp=Z,4.1nm,1.0s,mb4.3						
MIR	**Mirnyy**	**72.28**	**201**	P	**P**	**04 31 43.0**	**+2.2**
MIR				*e*		04 32 07.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
GKN	**Gorkha**	**72.29**	**302**	*e*P	**P**	**04 31 40.8**	**-0.1**
	comp=Z,21nm,0.8s,mb5.1						
SBA	**Scott Base**	**72.38**	**177**	P	**P**	**04 31 50.1**	**+8.7**
SBA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SBA	**Scott Base**	**72.38**	**177**	P	**P**	**04 31 50.1**	**+8.7**
	comp=Z,2.8nm,1.0s,mb4.2						
KOLN	**Koldanda**	**73.10**	**301**	*e*P	**P**	**04 31 45.3**	**-0.4**
	comp=Z,25nm,0.9s,mb5.1						
BILL	**Bilibino**	**74.55**	**6**	*i*P	**P**	**04 31 53.1**	**-1.1**
BILL				*e*		04 32 05.0	
BILL				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
WMQ	**Urumqi**	**75.38**	**318**	P	**P**	**04 31 59.3**	**+0.3**
WMQ				AP	pP	04 32 07.0	-1.2
WMQ				XP	sP	04 32 13.0	+1.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,332nm,7.0s						
WMQ				LR	LR		
	comp=N,709nm,22.9s,MS5.1						
WMQ				LR	LR		
	comp=E,648nm,21.2s,MS5.1						
WMQ				LR	LR		
	comp=Z,732nm,21.8s,MS4.9						
SVW2	**Sparrevohn**	**78.52**	**23**	*e*P	**P**	**04 32 16.1**	**-0.6**
MK31	**Makanchi Array**	**80.02**	**319**	*e*P	**P**	**04 32 23.7**	**-1.1**
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**04 32 23.9**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=110,slow=5.8,SNR=10						
MKAR				PP	PP	04 35 25.7	-1.1
	comp=Z,0.6nm,0.3s,baz=105,slow=11,SNR=5.6						
ZAL	**Zalesovo**	**81.12**	**327**	P	**P**	**04 32 28.8**	**-1.9**
	comp=Z,1.9nm,0.3s,mb4.4,baz=206,slow=1.4,SNR=4.6						
ZAL	**Zalesovo**	**81.12**	**327**	*i*P	**P**	**04 32 27.7**	**-3.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
COLA	**College**	**83.52**	**22**	*e*P	**P**	**04 32 40.6**	**-2.7**
COLA				*e*	pP	04 32 49.8	-2.8
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
COLA	**College**	**83.52**	**22**	*e*P	**P**	**04 32 40.6**	**-2.7**
	comp=Z,7.4nm,0.8s,mb4.9						
COLA				*e*	pP	04 32 49.8	-2.8
KURK	**Kurchatov**	**83.57**	**322**	P	**P**	**04 32 41.1**	**-2.4**
	comp=Z,47nm,1.4s,mb5.4,SNR=5.3						
MAW	**Mawson**	**83.89**	**203**	*e*P	**P**	**04 32 44.3**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.5						
MAW	**Mawson**	**83.89**	**203**	P	**P**	**04 32 44.4**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.3,baz=120,slow=6.4,SNR=11						
MAW	**Mawson**	**83.89**	**203**	*e*P	**P**	**04 32 44.3**	**-0.8**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**84.06**	**180**	*e*P	**P**	**04 32 45.3**	**-0.7**
	comp=Z,12nm,1.0s,mb5.0						
FRU	**Bishkek**	**84.12**	**314**	*e*P	**P**	**04 32 46.5**	**+0.1**
FRU				pmax	pmax		
	comp=Z,84nm,2.5s,mb5.4						
AAK	**Ala-Archa**	**84.17**	**314**	⇓*e*P	**P**	**04 32 44.6**	**-2.0**
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.9						
AAK	**Ala-Archa**	**84.17**	**314**	*e*P	**P**	**04 32 45.2**	**-1.4**
	comp=Z,15nm,1.3s,mb5.0						
EGAK	**Eagle**	**86.06**	**23**	*e*P	**P**	**04 32 54.2**	**-1.9**
	comp=Z,11nm,0.9s,mb5.1						
DAWY	**Dawson**	**86.50**	**24**	*e*P	**P**	**04 32 56.7**	**-1.5**
SKAG	**Skagway**	**86.83**	**29**	P	**P**	**04 32 57.0**	**-2.9**
	comp=Z,13nm,1.5s,mb5.0						
INK	**Inuvik**	**90.11**	**21**	*e*P	**P**	**04 33 14.7**	**-0.7**
INK				pmax	pmax		
	comp=Z,189nm,1.1s						
INK	**Inuvik**	**90.11**	**21**	*e*P	**P**	**04 33 14.7**	**-0.7**
	comp=Z,189nm,1.1s						
HUMO	**Hull Mountain**	**91.01**	**47**	*e*P	**P**	**04 33 20.4**	**+0.8**
	comp=Z,7.0nm,0.9s,mb5.0						
HUMO				*e*pP	pP	04 33 28.5	-0.5
WDC	**Whiskeytown Da**	**91.08**	**49**	*e*P	**P**	**04 33 20.6**	**+0.7**
WDC				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.1						
WDC	**Whiskeytown Da**	**91.08**	**49**	*e*P	**P**	**04 33 20.6**	**+0.7**
	comp=Z,14nm,1.4s,mb5.1						
YBH	**Yreka Blue Hor**	**91.08**	**48**	*e*P	**P**	**04 33 20.9**	**+1.0**
SYO	**Syowa Base**	**92.05**	**200**	⇓*e*pP	pP	04 33 31.4	-2.4
CMB	**Columbia Colle**	**92.47**	**52**	*e*P	**P**	**04 33 26.4**	**+0.1**
CMB				*e*PP	pP	04 33 35.5	-0.2
CMB				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.7						
CMB	**Columbia Colle**	**92.47**	**52**	*e*P	**P**	**04 33 26.4**	**+0.1**
	comp=Z,5.2nm,1.3s,mb4.7						
CMB				*e*pP	pP	04 33 35.5	-0.2
MOD	**Modoc**	**92.89**	**48**	*e*P	**P**	**04 33 28.9**	**+0.6**
	comp=Z,7.3nm,1.1s,mb5.0						
MTUM	**Tungsten Hills**	**93.85**	**53**	*e*P	**P**	**04 33 34.0**	**+1.3**
MWC	**Mount Wilson**	**94.02**	**56**	*e*P	**P**	**04 33 35.1**	**+1.6**
NVAR	**Mina Array Bea**	**94.13**	**52**	P	**P**	**04 33 34.6**	**+0.6**
	comp=Z,5.1nm,0.8s,mb5.0,baz=260,slow=6.7,SNR=23						
DAC	**Darwin (Calif)**	**94.54**	**54**	*e*P	**P**	**04 33 37.2**	**+1.3**
DAC				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.2						
DAC	**Darwin (Calif)**	**94.54**	**54**	*e*P	**P**	**04 33 37.2**	**+1.3**
	comp=Z,11nm,1.0s,mb5.2						
TPH	**Tonopah**	**94.96**	**52**	*e*P	**P**	**04 33 38.2**	**+0.4**
TPH				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2						
TPH	**Tonopah**	**94.96**	**52**	*e*P	**P**	**04 33 38.2**	**+0.4**
	comp=Z,9.9nm,0.9s,mb5.2						
SHPR	**Sheep Range**	**96.52**	**54**	*e*P	**P**	**04 33 46.5**	**+1.6**
YKA	**Yellowknife Ar**	**97.21**	**28**	P	**P**	**04 33 47.1**	**-0.9**
	comp=Z,0.8nm,0.7s,mb4.3,baz=272,slow=5.0,SNR=4.6						
HLID	**Hailey**	**97.32**	**47**	*e*P	**P**	**04 33 48.9**	**+0.4**
WALA	**Waterton Lakes**	**97.73**	**41**	*e*P	**P**	**04 33 50.4**	**0.0**
	comp=Z,3.8nm,0.7s,mb5.0						
WALA				*e*pP	pP	04 33 59.3	-0.4
CCUT	**Cedar City**	**97.99**	**53**	*e*P	**P**	**04 33 52.7**	**+1.1**
EDM	**Edmonton**	**98.05**	**37**	*e*P	**P**	**04 33 51.8**	**0.0**
EDM				*e*PP	pP	04 34 00.3	-0.9
PDAR	**Pinedale Array**	**100.88**	**48**	P	Pdif	04 34 04.0	-0.4
	comp=Z,1.5nm,0.9s,baz=273,slow=2.6,SNR=9.8						
ARCES	**ARCESS Array B**	**107.40**	**343**	PKiKP	PKiKP	04 38 40.5	-1.4
	comp=Z,2.2nm,0.8s,baz=86,slow=0.3,SNR=11						
AKASG	**Malin Array Be**	**114.36**	**324**	PKP	PKiKP	04 38 53.8	-1.2
	comp=Z,0.9nm,0.5s,baz=72,slow=1.5,SNR=4.9						
NOA	**NORSAR Array B**	**117.34**	**339**	PKP	PKPdf	04 38 59.2	-1.6
	comp=Z,1.1nm,0.8s,baz=131,slow=6.8,SNR=3.7						
BURAR	**Bucovina Array**	**117.99**	**322**	⇓*i*P	PKPdf	04 39 02.8	+0.8
KOLS	**Kolonicke sedl**	**119.19**	**324**	*e*PKP	PKPdf	04 39 04.8	+0.5
STHS	**Stebnicka Huta**	**119.56**	**325**	*e*PKP	PKPdf	04 39 03.4	-1.6
STHS				*e*		04 39 04.3	
OJC	**Ojcow**	**119.98**	**326**	*e*PKP	PKPdf	04 39 05.1	-0.7
NIE	**Niedzica**	**120.09**	**325**	*e*PKP	PKPdf	04 39 06.5	+0.4
GZR	**Gura Zlata**	**120.45**	**320**	⇓*i*P	PKPdf	04 39 06.8	+0.1
VTS	**Vitosha**	**121.31**	**317**	⇑*i*P	PKPdf	04 39 03.8	-4.6
VYHS	**Vyhne**	**121.40**	**325**	*e*PKP	PKPdf	04 39 08.0	-0.6
MORC	**Moravsky Berou**	**121.46**	**327**	⇓*i*P	PKPdf	04 39 08.8	+0.1
DPC	**Dobruska-Polom**	**121.80**	**328**	*e*PKPDF	PKPdf	04 39 09.9	+0.6
UPC	**Upice**	**121.88**	**328**	*e*PKPDF	PKPdf	04 39 09.4	-0.1
PVCC	**Panska Ves**	**122.62**	**329**	*e*PKPDF	PKPdf	04 39 11.2	+0.3
PKSM	**Moragy**	**122.65**	**322**	⇓*i*P	PKPdf	04 39 10.3	-0.7
BRG	**Berggiesshubel**	**122.74**	**329**	*e*PKP	PKPdf	04 39 10.9	-0.2
	comp=Z,6.0nm,1.0s						
BRG				*e*		04 39 19.2	
	comp=Z,3.8nm,1.2s						
BRG				*e*		04 40 30.8	
	comp=Z,2.3nm,0.7s						
BRG	**Berggiesshubel**	**122.74**	**329**	*e*PKIKP	PKPdf	04 39 10.9	-0.3
BRG				*e*		04 39 19.2	
TREC	**Trest**	**122.84**	**327**	*e*PKPDF	PKPdf	04 39 09.6	-1.7
TREC				*ep*PKP	pPKPdf	04 39 17.9	-3.1
PRU	**Pruhonice**	**122.95**	**328**	*e*PKPDF	PKPdf	04 39 11.5	-0.1
PRU				*ep*PKP	pPKPdf	04 39 19.8	-1.4
CLL	**Collm**	**122.95**	**330**	*e*PKIKP	PKPdf	04 39 18.0	+6.4
CLL	**Collm**	**122.95**	**330**	*e*PKPdf	PKPdf	04 39 11.0	-0.6
KHC	**Kasperske Hory**	**123.96**	**328**	*e*PKPDF	PKPdf	04 39 13.5	0.0
KHC				*ep*PKP	pPKPdf	04 39 21.8	-1.3
GEC2	**GERESS Array S**	**124.06**	**327**	*e*PKIKP	PKPdf	04 39 13.2	-0.5
GEC2				*e*		04 39 21.4	
GERES	**GERESS Array B**	**124.06**	**327**	PKP	PKPdf	04 39 13.4	-0.3
	comp=Z,3.6nm,0.7s,baz=75,slow=1.5,SNR=28						
GCIS	**Gornji Cirnik**	**124.63**	**323**	*e*PKPdf	PKPdf	04 39 14.8	0.0
GCIS				*e*		04 39 22.4	
GRA1	**Grafenberg Arr**	**124.85**	**329**	*e*PKPdf	PKPdf	04 39 14.7	-0.5
GRF	**Grafenberg Arr**	**124.85**	**329**	*e*PKIKP	PKPdf	04 39 14.7	-0.5
BOJS	**Bojanci**	**125.04**	**323**	*e*PKPdf	PKPdf	04 39 15.7	+0.1
CEY	**Cerknica**	**125.41**	**324**	*e*PKPdf	PKPdf	04 39 16.1	-0.2
WTTA	**Wattenberg**	**126.11**	**327**	⇑*i*P	PKPdf	04 39 17.4	-0.2
	comp=Z,8.3nm,0.7s						
MOTA	**Moosalm**	**126.36**	**327**	⇑*i*P	PKPdf	04 39 17.7	-0.4
	comp=Z,12nm,1.1s						
DAVA	**Damuels**	**127.05**	**328**	⇑*i*P	PKPdf	04 39 19.7	+0.4
	comp=Z,10nm,0.9s						
GIVF	**Givet**	**127.64**	**333**	*e*PKIKP	PKPdf	04 39 19.8	-0.7
CDF	**Champ du Feu**	**127.66**	**330**	*e*PKIKP	PKPdf	04 39 19.5	-1.1
BAIF	**Baives**	**127.95**	**333**	*e*PKIKP	PKPdf	04 39 20.4	-0.7
HINF	**Hinteralfeld**	**128.26**	**330**	*e*PKIKP	PKPdf	04 39 20.5	-1.2
	comp=Z,25nm,1.2s						
HAU	**Haudompre**	**128.39**	**330**	*e*PKIKP	PKPdf	04 39 20.8	-1.2
	comp=Z,30nm,1.1s						
CABF	**La Chapelle**	**129.46**	**329**	*e*PKIK

60μm,2.0s
KUR A 04 31 34.0
25μm,2.0s
KUR A 04 31 46.0
82μm,2.0s
YUK Yuzh-Kuril'sk 3.24 246 *i* P **Pn 04 31 41.0 +1.3**
YUK AMB AMB 04 31 44.0
1μm,0.3s
YUK AMB AMB 04 31 44.0
2μm,0.3s
YUK AMB AMB 04 31 44.0
4μm,0.3s
YUK AMB AMB 04 31 45.0
4μm,0.6s
YUK *i* S **Sn 04 32 19.7 +2.6**
YUK A 04 32 32.0
9μm,1.0s
YUK A 04 32 32.0
34μm,1.0s
YUK A 04 32 40.5
19μm,0.6s
YUK A 04 32 40.5
8μm,0.6s
YUK Yuzh-Kuril'sk 3.24 246⇑ *i*PN **Pn 04 31 41.0 +1.3**
YUK *i* S **Sn 04 32 19.7 +2.6**
YUK pmax pmax
comp=Z,4μm,0.3s
YUK pmax pmax
comp=N,1μm,0.2s
YUK pmax pmax
comp=E,2μm,0.4s
YUK pmax pmax
comp=Z,4μm,0.6s
YUK smax
comp=N,9μm,1.0s
YUK smax
comp=E,34μm,0.9s
YUK smax
comp=N,19μm,0.6s
YUK smax
comp=E,8μm,0.5s
NEM2 Nemuro 2 3.66 238 P **Pn 04 31 45.0 -0.5**
NEM2 *e*S **Sn 04 32 25.7 -1.7**
JRA Rausu 3.77 249 P **Pn 04 31 49.0 +2.1**
JNK Nakash 4.18 246 P **Pn 04 31 54.3 +1.6**
JNK *e*S **Sn 04 32 42.0 +1.8**
JAK Akkeshi 4.50 239 P **Pn 04 31 57.2 +0.2**
JAK *e*S **Sn 04 32 46.1 -1.9**
JTKR Abashiri--Toko 4.56 254 P **Pn 04 32 00.1 +2.2**
JMP Maruseppu 4.92 256 P **Pn 04 32 05.7 +2.9**
JAR Ashorobuto 4.93 247 P **Pn 04 32 05.2 +2.3**
JAR *e*S **Sn 04 33 00.4 +1.8**
JOB Onbets 5.08 243 P **Pn 04 32 06.1 +1.1**
JOB *e*S **Sn 04 33 03.4 +1.0**
YSS Yuzh-Sakhalins 5.25 290⇓ *i*P **Pn 04 32 10.6 +3.3**
YSS AMB AMB 04 32 13.0
comp=E,260nm,0.6s
YSS *e*S **Sn 04 33 09.0 +2.4**
YSS A 04 33 10.5
comp=E,160nm,0.7s
YSS AMS AMS 04 34 16.0
comp=E,5μm,18.0s
YSS AMS AMS 04 34 16.0
comp=E,6μm,18.0s
YSS Yuzh-Sakhalins 5.25 290⇓ *i*PN **Pn 04 32 10.6 +3.3**
YSS *e*S **Sn 04 33 09.0 +2.4**
YSS pmax pmax
comp=Z,260nm,0.6s
YSS smax
comp=N,160nm,0.7s
YSS MLR MLR
comp=Z,6μm,18.0s
YSS MLR MLR
comp=E,5μm,17.0s
YSS Yuzh-Sakhalins 5.25 290 *e*Pn **Pn 04 32 10.9 +3.6**
JKK2 Kamakawa 2 5.38 256 P **Pn 04 32 12.2 +3.0**
ASAJ Asahikawa 5.42 259 Pn **Pn 04 32 12.7 +3.1**
comp=E,28nm,0.3s,baz=87,slow=15,SNR=46
ASAJ Sn **Sn 04 33 17.1 +6.5**
baz=54,slow=17,SNR=2.0
ASAJ LR LR 04 34 31.0
comp=E,4μm,21.0s,baz=2.3,slow=41
ASAJ Asahikawa 5.42 259 P **Pn 04 32 12.8 +3.2**
ASAJ Asahikawa 5.42 259 PN **Pn 04 32 12.7 +3.1**
ASAJ 04 33 17.1
ASAJ pmax pmax
comp=Z,28nm,0.3s
ASAJ MLR MLR
comp=Z,4μm,21.0s
JCH Churui 5.53 242 P **Pn 04 32 11.5 +0.4**
JCH *e*S **Sn 04 33 12.5 -0.9**
JWK2 Keihoku 5.70 272 P **Pn 04 32 18.6 +5.1**
JFR Furan 5.76 250 P **Pn 04 32 16.9 +2.6**
JAB Ashibetsu 5.87 254 P **Pn 04 32 19.8 +4.0**
JEM Erimo 6.00 238 P **Pn 04 32 18.9 +1.4**
ERM Erimo 6.00 238 Pn **Pn 04 32 19.9 +2.4**
comp=Z,23μm,0.4s
ERM Erimo 6.00 238 *e*PN **Pn 04 32 18.9 +1.4**
ERM pmax pmax
comp=Z,2μm,0.4s
ERM Erimo 6.00 238 *e*Pn **Pn 04 32 18.9 +1.3**
comp=Z,2μm,0.4s
ERM *e*Sn **Sn 04 33 18.4 -6.5**
JNBK Urakawa-nobuka 6.09 242 P **Pn 04 32 18.6 -0.2**
UGL Uglegorsk 6.52 307 *e*P **Pn 04 32 29.0 +4.3**
UGL AMB AMB 04 32 30.5
comp=Z,360nm,1.0s
UGL AMS AMS 04 35 06.0
comp=Z,5μm,19.0s
UGL AMS AMS 04 35 06.0
comp=Z,6μm,19.0s
UGL AMS AMS 04 35 06.0
comp=Z,6μm,19.0s
JEW Eniwo 6.66 250 P **Pn 04 32 29.4 +2.8**
SKR Severo-Kuril's 6.69 36 *e*P **Pn 04 32 24.0 -3.1**
SKR AMB AMB 04 32 29.0
comp=Z,220nm,0.5s
SKR AMB AMB 04 32 29.0
comp=Z,320nm,0.5s
SKR *e*S **Sn 04 33 41.1 -0.8**
SKR A 04 33 55.0
comp=Z,460nm,0.5s
SKR A 04 33 55.0
comp=Z,390nm,0.5s
SKR A 04 33 55.0
comp=Z,150nm,0.5s
SKR AMS AMS 04 35 14.0
comp=Z,3μm,13.0s
SKR AMS AMS 04 35 14.0
comp=Z,3μm,13.0s
SKR Severo-Kuril's 6.69 36 *e*PN **Pn 04 32 24.0 -3.1**
SKR pmax pmax
comp=Z,320nm,0.6s
SKR pmax pmax
comp=N,220nm,0.5s
SKR pmax pmax
comp=E,220nm,0.5s
SKR MLR MLR
comp=N,3μm,14.0s
SKR MLR MLR
comp=Z,3μm,14.0s
SKR MLR MLR
comp=E,3μm,12.0s
JNB Noboribetsu 7.09 249 P **Pn 04 32 34.0 +1.4**
JNB *e*S **Sn 04 33 52.1 +0.3**
JSK Shakotan 7.12 257 P **Pn 04 32 37.8 +4.9**
TYV Tymovskoe 7.33 321 *e*P **Pn 04 32 37.2 +1.3**
JKB Kayabe 7.38 245 P **Pn 04 32 37.0 +0.5**
JKB *e*S **Sn 04 33 55.5 -3.4**
JSH Shimam 7.68 252 P **Pn 04 32 43.0 +2.4**
JYM2 Yakumo 2 7.70 248 P **Pn 04 32 41.9 +1.1**
JTM Tenmabayashi 7.99 238 P **Pn 04 32 43.6 -1.3**
JTM *e*S **Sn 04 34 07.8 -6.0**
JANG Nango 7.99 234 P **Pn 04 32 42.1 -2.8**
JANG *e*S **Sn 04 34 06.7 -7.3**
JTH Tanohata 8.10 230 P **Pn 04 32 43.0 -3.4**
JTH *e*S **Sn 04 34 07.4 -9.1**
JOSM Okushiri--Mats 8.30 250 P **Pn 04 32 49.9 +0.8**
OFUJ Ofunato 8.83 227 P **Pn 04 32 53.0 -3.3**
OFUJ *e*S **Sn 04 34 24.2 -10**
JRG Rokugo 9.15 232 P **Pn 04 32 58.7 -2.1**
OKH Okha 9.35 333 AMS AMS 04 38 18.6
comp=E,5μm,15.0s
OKH AMS AMS 04 38 18.6
comp=E,4μm,12.0s

TEY Ternei 9.45 273 *e*P **Pn 04 33 09.0 +4.1**
TEY AMB AMB 04 33 12.0
comp=E,280nm,0.7s
TEY AMB AMB 04 33 12.0
comp=E,470nm,1.0s
TEY AMS AMS 04 37 25.0
comp=E,3μm,14.0s
JIO Ouri 9.46 226 P **Pn 04 33 01.6 -3.4**
JIO *e*S **Sn 04 34 40.3 -10**
PET Petropavlovsk 9.50 34 *e*PN **Pn 04 33 12.6 +7.1**
PET pmax pmax
comp=Z,86nm,1.2s
PET MLR MLR
comp=Z,1μm,17.0s
NKL Nikolayevsk 9.84 325 *i* P **Pn 04 33 09.0 -1.2**
NKL AMB AMB 04 33 12.0
comp=Z,230nm,0.7s
NKL AMB AMB 04 33 12.0
comp=Z,70nm,0.7s
NKL AMB AMB 04 33 12.0
comp=Z,690nm,1.3s
NKL AMB AMB 04 33 14.0
comp=Z,2μm,14.0s
NKL *e*S **Sn 04 35 00.5 +1.2**
NKL A 04 35 02.6
comp=Z,150nm,0.7s
NKL A 04 35 02.6
comp=Z,30nm,0.7s
NKL AMS AMS 04 37 58.0
comp=Z,3μm,19.0s
NKL AMS AMS 04 37 58.0
comp=Z,2μm,21.0s
JYA Atsumi 10.23 232 P **Pn 04 33 13.6 -1.9**
GRNR Gornyy 10.53 305 *e*P **Pn 04 33 19.8 +0.1**
GRNR AMB AMB 04 33 20.8
comp=Z,96nm,1.0s
GRNR AMB AMB 04 33 20.8
comp=Z,170nm,1.0s
JFK Kawauchi 10.54 224 P **Pn 04 33 16.5 -3.3**
JFK *e*S **Sn 04 35 05.2 -11**
JFY Yanaizu 11.10 228 P **Pn 04 33 25.2 -2.3**
JAG Ashikaga 11.99 225 P **Pn 04 33 36.6 -2.9**
MAJO Matsushiro 12.54 229 *e*PN **Pn 04 33 44.4 -2.7**
MAT Matsushiro 12.54 229 P **Pn 04 33 44.1 -3.0**
MAT S **Sn 04 35 59.7 -5.6**
MAT Matsushiro 12.54 229 P **Pn 04 33 44.6 -2.5**
MJAR Matsushiro Arr 12.54 229 Pn **Pn 04 33 44.8 -2.3**
comp=Z,2.2nm,0.3s,baz=30,slow=13,SNR=41
MJAR Matsushiro Arr 12.54 229 PN **Pn 04 33 44.8 -2.3**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
JNG Nsakai 12.70 229 P **Pn 04 33 47.1 -2.2**
KLR Kul'dur 12.95 294 *e*P **Pn 04 33 55.2 +2.6**
KLR AMB AMB 04 33 57.0
comp=Z,190nm,1.2s
KLR AMB AMB 04 33 57.0
comp=Z,130nm,1.2s
VLA Vladivostok 13.17 266 *i* PN **Pn 04 33 57.3 +1.7**
VLA pmax pmax
comp=Z,67nm,0.7s
EKMR Ekimchan 13.49 311 *e*P **Pn 04 34 00.5 +0.4**
EKMR AMB AMB 04 34 03.6
comp=Z,110nm,1.4s
EKMR AMB AMB 04 34 03.6
comp=Z,190nm,1.4s
EKMR AMB AMB 04 34 03.6
comp=Z,120nm,1.4s
MA2 Magadan 14.20 2⇑ *e*P **Pn 04 34 11.4 +1.7**
MA2 pmax pmax
comp=Z,42nm,0.8s
MA2 Magadan 14.20 2 *e*Pn **Pn 04 34 12.4 +2.7**
MDJ Mudanjiang 14.45 274 P **Pn 04 34 14.3 +1.3**
MDJ AP 04 34 23.0
MDJ XP sP 04 34 30.0 -5.8
MDJ S **Sn 04 36 54.1 +2.4**
MDJ SS 04 37 13.3
MDJ PCP PcP 04 39 25.8 +0.2
MDJ PCS PcS 04 43 00.3 -0.3
MDJ AMB AMB
comp=Z,49nm,0.8s
MDJ AMB AMB
comp=Z,890nm,6.2s
MDJ LR LR
comp=N,1μm,18.0s
MDJ LR LR
comp=Z,2μm,15.9s
MDJ Mudanjiang 14.45 274 *e*Pn **Pn 04 34 15.6 +2.7**
comp=Z,36nm,0.8s
JFM Mihama 14.50 232 P **Pn 04 34 12.2 -1.5**
YASR Yasnyy 16.32 307 *e*P **Pn 04 34 36.0 -1.1**
YASR AMB AMB 04 34 39.6
comp=Z,3.0nm,0.8s
YASR AMB AMB 04 34 39.6
comp=Z,20nm,0.8s
YASR AMB AMB 04 34 39.6
comp=Z,29nm,0.8s
BMKR Bomnak 16.40 312 *e*P **Pn 04 34 38.0 -0.2**
BMKR AMB AMB 04 34 41.9
comp=Z,80nm,0.9s
CN2 Changchun 17.53 274 *e*P **Pn 04 34 53.4 +1.1**
CN2 *e*AP pP 04 35 02.1 -1.8
CN2 *e*S **S 04 38 04.6 -7.8**
CN2 AMB AMB
comp=Z,40nm,0.7s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=E,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
SEY Seymchan 17.62 4⇓ *i*P **Pn 04 34 54.7 +1.4**
KS15 Wonju Array Si 18.34 252 *e*Pn **Pn 04 35 02.1 -0.1**
INCN Inchon 19.17 254 *e*Pn **Pn 04 35 15.7 +3.6**
comp=Z,79nm,0.6s
CLNS Chul'man 19.34 315 *e*P **Pn 04 35 13.9 -0.2**
CLNS pmax pmax
comp=Z,87nm,0.8s
CLNS pmax pmax
comp=N,59nm,0.9s
CLNS pmax pmax
comp=E,51nm,0.9s
YAK Yakutsk 20.38 332 *e*P **P 04 35 24.9 +0.9**
YAK *e**PP 04 35 34.7
YAK *e* 04 35 40.4
YAK *e*S **S 04 39 09.4 -0.3**
YAK *e**SS sS 04 39 19.5 -8.3
YAK *e*SSS 04 39 40.4
YAK pmax pmax
comp=Z,732nm,1.0s
YAK pmax pmax
comp=N,250nm,1.1s
YAK pmax pmax
comp=E,246nm,1.2s
YAK pmax pmax
comp=Z,297nm,1.0s
YAK pmax pmax
comp=N,274nm,1.5s
YAK pmax pmax
comp=E,239nm,1.3s
YAK smax
comp=N,107nm,1.8s
YAK smax
comp=E,206nm,3.7s
YAK MLR MLR
comp=Z,2μm,18.0s,MS4.4
YAK MLR MLR
comp=N,796nm,17.0s,MS4.3
YAK MLR MLR
comp=E,846nm,14.0s,MS4.3
YAK Yakutsk 20.38 332 *e*Pn **P 04 35 26.3 +2.3**
HIA Hailar 20.78 292 *e*P **P 04 35 29.0 +0.6**
HIA pmax pmax
comp=Z,185nm,1.4s
HIA Hailar 20.78 292 *e*P **P 04 35 28.9 +0.6**
comp=Z,185nm,1.4s
DL2 Dalian 21.93 263 P **P 04 35 40.3 -0.4**
DL2 AMB AMB
comp=Z,60nm,0.7s,mb5.1
BILL Bilibino 24.22 15 *e*P **P 04 36 04.1 +0.6**
BILL *e*SS 04 41 08.2
BILL pmax pmax
comp=Z,16nm,1.1s,mb4.4
CIT Chita 24.73 299 *e*P **P 04 36 07.4 -0.8**

BOD Bodaibo 25.23 312 *e*P **P 04 36 09.9 -2.8**
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
BJI Beijing 25.29 270 P **P 04 36 13.6 +0.4**
BJI AMB AMB
comp=Z,9.0nm,0.7s,mb4.4
BJT Baijiatuau 25.30 270 *e*P **P 04 36 13.4 0.0**
BJT pmax pmax
comp=Z,33nm,0.8s
BJT Baijiatuau 25.30 270 *e*P **P 04 36 13.4 0.0**
comp=Z,32nm,0.8s,mb4.9
JOW Kunigami 25.38 230 P **P 04 36 13.7 -0.4**
comp=Z,34nm,0.6s,mb5.0,baz=358,slow=11,SNR=4.3
TIA Tai'an 26.36 261 *e*P **P 04 36 22.8 -0.1**
TIA AMB AMB
comp=Z,47nm,0.8s,mb5.1
NJ2 Nanjing 27.51 252 *e*P **P 04 36 32.6 -0.7**
NJ2 PP 04 37 23.8
NJ2 S **S 04 41 07.0 -3.9**
NJ2 AMB AMB
comp=Z,110nm,0.7s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,1μm,14.6s,MS4.8
NJ2 LR LR
comp=E,1μm,15.2s,MS4.8
NJ2 LR LR
comp=Z,2μm,16.2s,MS4.8
HHC Hu-ho-hao-te 28.22 275 *e*P **P 04 36 40.8 +1.2**
HHC AMB AMB
comp=Z,46nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,636nm,5.1s
HHC LR LR
comp=N,996nm,17.4s,MS4.7
HHC LR LR
comp=E,1μm,16.1s,MS4.7
HHC LR LR
comp=Z,2μm,15.1s,MS4.8
SONM Songino Array 29.74 291 P **P 04 36 52.6 -0.5**
comp=Z,2.4nm,0.3s,mb4.4,baz=82,slow=8.2,SNR=23
SONM PcP PcP 04 39 55.8 -0.2
comp=Z,5.1nm,0.6s,baz=116,slow=2.4,SNR=7.0
SONM Songino Array 29.74 291 P **P 04 36 52.6 -0.5**
SONM 04 39 55.8
SONM pmax pmax
comp=Z,2.0nm,0.3s
ZAK Zakamensk 31.29 296 *e*P **P 04 37 07.0 +0.2**
WHN Wuhan 31.48 254⇑ *i*P **P 04 37 07.8 -0.6**
WHN AMB AMB
comp=Z,86nm,0.7s,mb5.7
XAN Xi'an 33.22 265 P **P 04 37 23.5 -0.2**
XAN AP pP 04 37 33.9 -2.5
XAN AMB AMB
comp=Z,41nm,0.8s,mb5.4
SVW2 Sparrevohn 34.98 44 *e*P **P 04 37 39.7 +0.8**
LZH Lanzhou 35.75 271 ⇑P **P 04 37 46.5 +1.0**
LZH AP pP 04 37 59.1 +0.8
LZH XP sP 04 38 04.5 +0.6
LZH PP PP 04 39 08.8 +1.4
LZH *e*S **S 04 43 20.3 +1.1**
LZH XS sS 04 43 40.5 0.0
LZH SS SS 04 45 42.3 -14
LZH AMB AMB
comp=Z,53nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,176nm,5.2s
LZH LR LR
comp=E,1μm,13.2s
LZH LR LR
comp=Z,2μm,17.4s,MS4.9
LZH Lanzhou 35.75 271 ⇑P **P 04 37 46.5 +1.0**
LZH 04 39 08.7
LZH *e*S **S 04 43 20.2 +1.0**
LZH SS SS 04 45 42.3 -14
LZH Lanzhou 35.75 271 ⇑P **P 04 37 46.5 +1.0**
LZH pP pP 04 37 59.1 +0.8
LZH sP sP 04 38 04.5 +0.6
LZH PP PP 04 39 08.7 +1.3
LZH *e*S **S 04 43 20.2 +1.0**
LZH sS sS 04 43 40.5 0.0
LZH SS SS 04 45 42.3 -14
IMA2 Indian Mountai 36.16 35 *e*P **P 04 37 49.1 0.0**
KDAK Kodiak Island 36.64 49 P **P 04 37 52.9 -0.2**
comp=Z,441nm,0.5s,SNR=15
KDAK Kodiak Island 36.64 49 P **P 04 37 52.3 -0.9**
comp=Z,45nm,0.6s,mb5.5,baz=301,slow=3.6,SNR=66
KDAK PcP PcP 04 40 14.8 -0.5
comp=Z,24nm,0.7s,baz=210,slow=1.7,SNR=5.9
GTA Gaotai 37.03 279 *e*P **P 04 37 57.8 +1.3**
GTA AP pP 04 38 10.6 +1.4
GTA XP sP 04 38 15.0 +0.1
GTA PP PP 04 39 25.0 +3.5
GTA PCP PcP 04 40 17.4 +0.9
GTA S **S 04 43 40.5 +1.8**
GTA XS sS 04 44 00.6 +0.5
GTA SCS ScS 04 48 08.1 +1.2
GTA AMB AMB
comp=Z,40nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,260nm,6.5s
GTA LR LR
comp=N,775nm,16.7s,MS4.7
GTA LR LR
comp=E,917nm,19.4s,MS4.7
GTA LR LR
comp=Z,860nm,17.9s,MS4.6
PMR Palmer 38.07 43 *e*P **P 04 38 04.6 -0.7**
PMR pmax pmax
comp=Z,31nm,1.1s,mb5.0
PMR Palmer 38.07 43 *e*P **P 04 38 04.6 -0.7**
comp=Z,31nm,1.1s,mb5.0
COLA College 38.53 37 *c i*P **P 04 38 09.4 +0.2**
COLA College 38.53 37 *e*P **P 04 38 09.0 -0.2**
comp=Z,101nm,1.0s,mb5.5
CD2 Chengdu 38.59 264⇑ *i*P **P 04 38 09.6 0.0**
CD2 XP sP 04 38 27.3 -0.8
CD2 PP PP 04 39 42.6 +4.0
CD2 S **S 04 44 01.6 -0.7**
CD2 SS SS 04 46 44.6 -9.0
CD2 AMB AMB
comp=Z,150nm,0.8s,mb5.8
CD2 AMB AMB
comp=Z,300nm,8.2s
GYA Guiyang 39.29 256⇑ *i*P **P 04 38 15.5 0.0**
GYA AP pP 04 38 27.8 -0.5
GYA XP sP 04 38 33.1 -0.9
GYA PP PP 04 39 50.4 +4.2
GYA PCP PcP 04 40 24.3 +0.8
GYA S **S 04 44 11.9 -1.0**
GYA XS sS 04 44 32.9 -1.5
GYA SCS ScS 04 48 18.4 -1.4
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,1μm,19.0s,MS4.8
GYA LR LR
comp=E,930nm,18.6s,MS4.8
GYA LR LR
comp=Z,1μm,19.8s,MS4.7
TGY Tagaytay City 39.70 228 P **P 04 38 18.5 -0.5**
comp=Z,97nm,0.3s,baz=166,slow=10,SNR=6.7
EGAK Eagle 41.40 37⇑ *e*P **P 04 38 32.3 -0.7**
comp=Z,81nm,1.1s,mb5.3
ZAL Zalesovo 41.65 306 P **P 04 38 34.4 -0.6**
comp=Z,2.7nm,0.3s,mb4.3,baz=22,slow=9.8,SNR=7.4
ZAL PcP PcP 04 40 30.7 -0.4
comp=Z,15nm,0.6s,baz=30,slow=4.2,SNR=16
ZAL Zalesovo 41.65 306 P **P 04 38 34.4 -0.6**
ZAL 04 40 30.7
ZAL pmax pmax
comp=Z,3.0nm,0.3s
ZAL Zalesovo 41.65 306 P **P 04 38 34.4 -0.6**
ZAL PcP PcP 04 40 30.7 -0.5
DAWY Dawson 42.25 38 *e*P **P 04 38 39.8 -0.2**
DAWY *e*PcP PcP 04 40 32.9 -0.2
NVS Novosibirsk 42.28 308 *e*P **P 04 38 37.9 -2.3**
KMI Kunming 42.84 258 P **P 04 38 45.0 +0.3**
KMI AP pP 04 38 58.5 +0.8
KMI XP sP 04 39 03.5 +0.2
KMI AMB AMB
comp=Z,38nm,1.1s,mb5.0

KMI AMB AMB
comp=Z,347nm,3.5s
WMQ Urumqi 43.38 291 *e*P **P 04 38 50.0 +1.0**
WMQ AP pP 04 39 02.3 +0.3
WMQ XP sP 04 39 07.5 -0.1
WMQ PP PP 04 40 33.0 +2.5
WMQ *e*S **S 04 45 15.0 +1.5**
WMQ XS sS 04 45 38.0 +2.8
WMQ AMB AMB
comp=Z,15nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,152nm,6.1s
WMQ LR LR
comp=N,932nm,23.0s,MS4.8
WMQ LR LR
comp=E,908nm,21.0s,MS4.8
WMQ LR LR
comp=Z,1μm,20.4s,MS4.8
INK Inuvik 43.95 31 *e*P **P 04 38 54.0 +0.4**
comp=Z,2μm,0.9s
SKAG Skagway 45.15 44 *e*P **P 04 39 04.3 +1.1**
comp=Z,30nm,1.2s,mb5.0
MK31 Makanchi Array 45.62 297 *e*P **P 04 39 07.2 +0.3**
MK31 *e* 04 40 44.3
MKAR Makanchi Array 45.62 297 P **P 04 39 07.5 +0.6**
comp=Z,5.1nm,0.5s,mb4.7,baz=75,slow=8.1,SNR=37
MKAR PcP PcP 04 40 44.3 -0.3
comp=Z,14nm,0.6s,baz=75,slow=1.5,SNR=12
MKAR Makanchi Array 45.62 297 P **P 04 39 07.5 +0.6**
MKAR 04 40 44.3
MKAR pmax pmax
comp=Z,5.0nm,0.5s
KURK Kurchatov 46.29 304 P **P 04 39 10.8 -1.4**
comp=Z,166nm,0.5s,mb6.2,SNR=13
WRAK Wrangell Islan 47.65 47 *e*PcP PcP 04 40 50.9 -0.8
comp=Z,38nm,1.2s
WRAK *e*PP PP 04 41 14.7 +0.1
LSA Lhasa 48.16 272 P **P 04 39 28.3 +1.6**
LSA Lhasa 48.16 272 *e*P **P 04 39 28.9 +2.2**
LSA pmax pmax
comp=Z,21nm,0.5s,mb5.4
LSA Lhasa 48.16 272 *e*P **P 04 39 28.9 +2.2**
comp=Z,20nm,0.5s,mb5.4
CHKZ Chkalovo 49.62 310 *e*P **P 04 39 39.1 +1.1**
CHTO Chiang Mai 49.68 255 P **P 04 39 39.1 +0.8**
SNR=12
CHTO Chiang Mai 49.68 255 *e*P **P 04 39 38.9 +0.5**
CHTO pmax pmax
comp=Z,24nm,0.6s,mb5.4
CHTO Chiang Mai 49.68 255 *e*P **P 04 39 38.9 +0.5**
comp=Z,24nm,0.6s,mb5.4
BRVK Borovoye 50.07 309 *e*P **P 04 39 41.9 +0.6**
SHL Shillong 50.14 267 *ex* x 04 39 31.4
ALE Alert 51.29 5 P **P 04 39 49.9 -0.6**
comp=Z,51nm,0.5s,mb5.7,SNR=8.4
ULHL Ulahol 51.55 294 P **P 04 39 53.5 +1.0**
SNR=14
TKM2 Tokmak 2 51.62 296 P **P 04 39 54.6 +1.6**
SNR=14
USP Ospenovka 52.14 296 P **P 04 39 58.2 +1.3**
SNR=5.4
KBK Karagaybulak 52.17 296 P **P 04 39 58.0 +0.9**
SNR=9.0
AAK Ala-Archa 52.47 296 P **P 04 40 00.5 +1.2**
SNR=9.6
AAK Ala-Archa 52.47 296 P **P 04 39 59.1 -0.2**
comp=Z,77nm,0.7s,mb5.7,SNR=7.6
AAK Ala-Archa 52.47 296 P **P 04 39 59.9 +0.6**
SNR=5.3
AAK Ala-Archa 52.47 296⇑ *e*P **P 04 39 58.9 -0.4**
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.8
JIRN Jiri 52.87 273 *e*P **P 04 40 03.3 +1.1**
EKS2 Erkin-Say 52.91 296 P **P 04 40 03.2 +0.7**
SNR=15
GUN Gumba 52.93 274 *e*P **P 04 40 03.5 +0.8**
comp=Z,97nm,0.6s,mb5.9
KSH Kashi 53.14 292 *e*P **P 04 40 04.9 +0.7**
KSH *e*AP pP 04 40 17.8 +0.3
KSH *e*XP sP 04 40 23.6 +0.5
KSH *e*S **S 04 47 31.6 +0.3**
KSH *e*SCS ScS 04 49 48.8 -0.8
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,1μm,17.0s,MS5.2
KSH LR LR
comp=E,2μm,18.4s,MS5.2
KSH LR LR
comp=Z,4μm,11.6s
AML Almayashu 53.23 296 P **P 04 40 06.3 +1.4**
SNR=12
YKW3 Yellowknife Ar 53.26 35 *e*P **P 04 40 05.0 -0.1**
YKW3 *e*pP pP 04 40 14.7 -3.7
YKA Yellowknife Ar 53.29 35 P **P 04 40 05.1 -0.2**
comp=Z,32nm,0.7s,mb5.4,baz=300,slow=6.8,SNR=70
YKA Yellowknife Ar 53.29 35 *i* P **P 04 40 05.0 -0.4**
YKA pmax pmax
comp=Z,32nm,0.7s
YKA Yellowknife Ar 53.29 35 P **P 04 40 05.1 -0.2**
KKN Kakani 53.43 274 *e*P **P 04 40 07.1 +0.7**
comp=Z,139nm,1.0s,mb5.8
PKI Pulchoki 53.47 274 *e*P **P 04 40 07.3 +0.6**
DMN Daman 53.66 274 *e*P **P 04 40 09.1 +1.0**
comp=Z,138nm,0.8s,mb5.9
GKN Gorkha 53.75 275 *e*P **P 04 40 09.4 +0.7**
comp=Z,56nm,0.4s,mb5.9
ARU Arti 54.52 317⇑ *i*P **P 04 40 13.4 -0.9**
ARU *e* 04 41 15.6
ARU *e* 04 42 14.1
ARU *e*S **S 04 47 49.0 -1.0**
ARU pmax pmax
comp=Z,26nm,0.8s,mb5.3
ARU Arti 54.52 317 *e*P **P 04 40 13.0 -1.3**
comp=Z,21nm,0.6s,mb5.3
KOLN Koldanda 54.62 275 *e*P **P 04 40 15.9 +0.8**
BOK Bokaro 55.48 270 *e*P **P 04 40 21.9 +0.6**
BOK AMb AMB 04 40 22.9
comp=Z,37nm,0.8s,mb5.5
KSM Kuching 55.93 230 *e*P **P 04 40 25.0 +0.5**
B04A Port Angeles 56.28 54 ⇓P **P 04 40 26.8 -0.2**
baz=56
A04A Legoe Bay, Lum 56.38 53 ⇓P **P 04 40 27.7 0.0**
baz=56,SNR=9.2
A05A Maple Falls 56.58 52 ⇑P **P 04 40 28.6 -0.5**
baz=56,SNR=6.4
D03A Wishkah Elem. 56.64 55 ⇑P **P 04 40 29.2 -0.3**
baz=56
C04A Brinnon 56.77 54 ⇓P **P 04 40 30.4 0.0**
baz=57,SNR=5.8
GNW Green Mountain 56.94 54 *e*P **P 04 40 32.2 +0.5**
GNW *e*pP pP 04 40 44.6 -0.4
B05A Bryant 56.97 53 ⇑P **P 04 40 31.8 -0.1**
baz=57,SNR=12
DLH Dalhousie 57.06 285 *e*P **P 04 40 29.0 -3.5**
B06A Marblemount 57.17 52 ⇑P **P 04 40 32.6 -0.7**
baz=57,SNR=7.8
D04A Dobbs Creek Ra 57.20 54 ⇓P **P 04 40 33.4 -0.1**
baz=57
C05A Tolt Reservoir 57.51 53 ⇓P **P 04 40 35.2 -0.4**
baz=57,SNR=8.2
E04A Onalaska 57.53 55 ⇑P **P 04 40 35.5 -0.3**
baz=57
AB31 Akbulak array 57.60 309 P **P 04 40 34.6 -1.7**
AB31 pmax pmax
comp=Z,25nm,0.5s,mb5.5
D05A Enumclaw 57.62 54 ⇓P **P 04 40 36.4 -0.1**
baz=58
KEV Kevo 57.87 340 *ep* **P 04 40 36.2 -2.0**
comp=Z,2.0nm,0.3s,mb4.6
KEV Kevo 57.87 340 *e*P **P 04 40 36.2 -2.0**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
G03A Yamhill 57.91 56 ⇓P **P 04 40 38.1 -0.5**
baz=58
B07A Winthrop 57.96 52 ⇓P **P 04 40 38.8 -0.1**
baz=58,SNR=9.6
AKTO Aktyubinsk 57.98 311 LR LR 05 07 52.1
comp=Z,974nm,20.1s,MS4.9,baz=125,slow=38
F04A Amboy 58.07 55 ⇑P **P 04 40 39.5 -0.1**
baz=58,SNR=5.3
H03A Soap Creek Ran 58.26 57 ⇓P **P 04 40 41.1 +0.1**
baz=58
D06A Cle Elum 58.26 53 ⇓P **P 04 40 40.9 -0.1**
baz=58,SNR=7.0
ARCES ARCESS Array B 58.39 340 P **P 04 40 38.8 -3.1**
comp=Z,7.0nm,0.9s,mb4.7,baz=26,slow=6.5,SNR=12
ARCES PcP PcP 04 41 31.4 -0.8
comp=Z,8.8nm,0.8s,baz=62,slow=4.6,SNR=9.5
ARCES ARCESS Array B 58.39 340 P **P 04 40 38.8 -3.1**
ARCES 04 41 31.5
ARCES pmax pmax
comp=Z,7.0nm,0.9s
TBM Table Mountain 58.42 53 P **P 04 40 42.1 0.0**
C07A Waterville 58.42 52 ⇓P **P 04 40 41.7 -0.5**
baz=58,SNR=14
G04A Mulino 58.44 56 ⇓P **P 04 40 42.5 +0.2**
baz=58,SNR=5.8
WTV Waterville 58.48 52 P **P 04 40 42.1 -0.4**
A09A Danville 58.52 51 ⇓P **P 04 40 42.5 -0.3**
baz=58,SNR=22
NDI New Delhi 58.52 280 *e*P **P 04 40 42.5 -0.2**
NDI AMb AMB 04 40 43.8
comp=Z,72nm,1.6s,mb5.5
KULM Kulim 58.52 242 *e*P **P 04 40 43.2 +0.4**
E06A Yakima 58.55 54 ⇑P **P 04 40 43.0 0.0**
baz=58
F05A White Salmon 58.65 55 ⇑P **P 04 40 43.9 +0.2**
baz=58
D07A Quincy 58.76 53 ⇓P **P 04 40 44.0 -0.4**
baz=59,SNR=5.3
VLL Laurance Lake 58.76 55 P **P 04 40 45.3 +0.8**
EDM Edmonton 58.81 44 *e*P **P 04 40 44.3 -0.5**
EDM *e*pP pP 04 40 57.8 -0.4
J02A Umpqua 58.84 58 ⇓P **P 04 40 45.3 +0.3**
baz=59
HOOD Mount Hood Mea 58.86 55 *e*P **P 04 40 45.9 +0.8**
EPH Ephrata 58.88 53 P **P 04 40 44.9 -0.4**
H04A Detroit Lake 58.91 56 ⇑P **P 04 40 45.3 -0.1**
baz=59,SNR=11
C08A Higginbotham F 58.94 52 ⇓P **P 04 40 45.1 -0.5**
baz=59,SNR=11
B09A Rice 59.07 51 ⇓P **P 04 40 46.3 -0.3**
baz=59,SNR=12
A10A Northport 59.07 50 ⇓P **P 04 40 46.2 -0.4**
baz=59,SNR=16
G05A Wamic 59.10 55 ⇑P **P 04 40 47.2 +0.4**
baz=59,SNR=7.6
F06A Goldendale 59.11 55 ⇑P **P 04 40 47.1 +0.3**
baz=59
E07A Sunnyside 59.18 53 ⇑P **P 04 40 47.4 0.0**
baz=59,SNR=6.7
J03A Ideyld Park 59.20 58 ⇓P **P 04 40 47.2 -0.3**
baz=59
K02A Glendale 59.23 59 ⇓P **P 04 40 47.5 -0.2**
baz=59
OD2 Odessa Site #2 59.35 52 P **P 04 40 48.2 -0.3**
C09A Chrisman Ranch 59.35 52 ⇑P **P 04 40 48.3 -0.3**
baz=59
M01C Crescent City 59.38 60 ⇓P **P 04 40 48.3 -0.5**
baz=59
HAWA Hanford 59.46 53 *e*P **P 04 40 49.5 +0.2**
H05A Madras 59.49 56 ⇓P **P 04 40 50.1 +0.6**
baz=59,SNR=5.4
G06A Carlson Farm, 59.50 55 ⇑P **P 04 40 50.4 +0.9**
baz=59,SNR=7.5
L02A Cave Junction 59.52 59 ⇑P **P 04 40 49.9 +0.2**
baz=59
F07A Phinny Hill Vi 59.52 54 ⇑P **P 04 40 50.2 +0.5**
baz=59,SNR=24
B10A Chitwood Farm, 59.64 51 ⇓P **P 04 40 50.4 -0.1**
baz=60
HUMO Hull Mountain 59.64 59 ⇑P **P 04 40 51.0 +0.4**
baz=60
NEW Newport 59.72 51 *e*P **P 04 40 51.0 -0.1**
NEW pmax pmax
comp=Z,30nm,1.0s
NEW Newport 59.72 51 *e*P **P 04 40 51.0 -0.1**
comp=Z,30nm,1.0s,mb5.3
D09A Jones Farm, Ri 59.76 52 ⇓P **P 04 40 51.0 -0.4**
baz=60,SNR=8.5
KTRM Thompson Ridge 59.80 60 P **P 04 40 52.5 +0.9**
C10A Spilker Farm, 59.88 51 ⇑P **P 04 40 52.1 0.0**
baz=60,SNR=13
VIPM Ingram Point 59.93 56 P **P 04 40 53.2 +0.7**
H06A Lindquist Farm 59.96 55 ⇓P **P 04 40 52.9 +0.2**
baz=60,SNR=5.9
KAKA Kakadu 59.98 200 *e*P **P 04 40 51.6 -1.3**
comp=Z,22nm,0.6s,mb5.4
G07A Ruggs Ranch, H 60.03 55 ⇓P **P 04 40 53.5 +0.3**
baz=60,SNR=8.3
A12A Yaak River Ran 60.12 49 ⇑P **P 04 40 53.9 +0.1**
baz=60,SNR=10
E09A Wood Farm, Sta 60.17 53 ⇑P **P 04 40 54.0 -0.2**
baz=60,SNR=28
F08A Pendleton 60.23 54 ⇓P **P 04 40 54.5 -0.1**
baz=60,SNR=9.8
J05A Fort Rock 60.28 57 ⇑P **P 04 40 55.5 +0.6**
baz=60,SNR=15
YBH Yreka Blue Hor 60.30 59 *e*P **P 04 40 56.2 +1.1**
YBH pmax pmax
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 60.30 59 *e*P **P 04 40 56.2 +1.1**
comp=Z,24nm,1.1s,mb5.2
YBH Yreka Blue Hor 60.30 59 ⇓P **P 04 40 55.5 +0.5**
baz=60,SNR=8.4
K04A Chilquin 60.38 58 ⇑P **P 04 40 56.2 +0.6**
baz=60
M02C Callahan 60.41 60 ⇓P **P 04 40 56.5 +0.6**
baz=60,SNR=8.3
B12A Libby 60.43 50 ⇑P **P 04 40 56.1 +0.1**
baz=60
G08A Pilot Rock 60.43 54 P **P 04 40 56.4 +0.4**
baz=60,SNR=12
N02C Big Bar 60.47 61 ⇓P **P 04 40 56.7 +0.5**
baz=60
H07A Lands Inn, Kim 60.49 55 ⇓P **P 04 40 56.3 0.0**
baz=60,SNR=6.4
I06A Prineville 60.49 56 ⇓P **P 04 40 56.9 +0.5**
baz=60,SNR=8.6
L04A Klamath Falls 60.54 59 ⇓P **P 04 40 57.0 +0.4**
baz=60,SNR=7.8
O01C Eel River Cons 60.56 61 ⇓P **P 04 40 57.5 +0.7**
baz=60
F09A S2 Ranch, Elgi 60.78 53 ⇑P **P 04 40 58.5 +0.2**
baz=61
A13A Flathead Natio 60.78 49 P **P 04 40 58.5 +0.2**
baz=61,SNR=23
M04C Macdoel 60.80 59 ⇓P **P 04 40 58.9 +0.5**
baz=61,SNR=11
K05A Summer Lake 60.81 58 ⇑P **P 04 40 59.5 +1.0**
baz=61,SNR=17
I07A Izee 60.83 56 P **P 04 40 59.2 +0.6**
baz=61,SNR=8.2
J06A Christmas Vall 60.94 57 ⇑P **P 04 40 59.9 +0.5**
baz=61,SNR=22
C12A Trout Creek 60.94 50 P **P 04 40 59.6 +0.2**
baz=61,SNR=15
WALA Waterton Lakes 60.97 48 *e*P **P 04 40 59.8 +0.2**
H08A Prairie City 61.05 55 ⇑P **P 04 41 00.4 +0.3**
baz=61,SNR=16
B13A Whitefish 61.09 49 ⇑P **P 04 41 00.6 +0.2**
baz=61,SNR=23
WDC Whiskeytown Da 61.09 60 *e*P **P 04 41 00.8 +0.4**
WDC pmax pmax
comp=Z,24nm,0.9s,mb5.3
WDC Whiskeytown Da 61.09 60 *e*P **P 04 41 00.8 +0.4**
comp=Z,24nm,0.9s,mb5.3
WDC *e*pP pP 04 41 14.6 +0.7
WDC Whiskeytown Da 61.09 60 P **P 04 41 00.9 +0.5**
baz=61,SNR=13
K06A Valley Falls 61.15 57 ⇑P **P 04 41 01.4 +0.6**
baz=61,SNR=36
O02C Red Bluff 61.17 61 ⇑P **P 04 41 01.8 +0.8**
baz=61,SNR=11
BSMT Bassoo Peak 61.23 50 *e*P **P 04 41 01.9 +0.5**
L05A Lakeview 61.25 58 ⇓P **P 04 41 02.4 +1.0**
baz=61,SNR=13
P01C Double 8 Ranch 61.26 62 ⇓P **P 04 41 02.0 +0.5**
baz=61
VIS Vishakhapatnam 61.26 266 *e*P **P 04 41 02.1 +0.5**
VIS AMb AMB 04 41 03.1
comp=Z,32nm,0.6s,mb5.6
J07A Hines 61.36 56 ⇓P **P 04 41 02.9 +0.6**
baz=61,SNR=20
LTIM Timbered Crate 61.37 59 P **P 04 41 03.0 +0.6**
C13A Hot Springs 61.45 50 P **P 04 41 03.2 +0.4**
baz=61,SNR=10.0
I08A Drewsey 61.47 55 ⇓P **P 04 41 03.6 +0.6**
baz=61,SNR=31
M05C Lookout 61.47 59 P **P 04 41 03.5 +0.6**
baz=61,SNR=16
GASB Alder Springs 61.53 61 ⇓P **P 04 41 04.3 +0.9**
baz=61,SNR=12
PSI Prapat 61.53 242 P **P 04 41 03.5 +0.2**
comp=Z,16nm,0.9s,mb5.2,baz=22,slow=4.7,SNR=5.4
PSI Prapat 61.53 242 P **P 04 41 03.6 +0.2**
PSI pmax pmax
comp=Z,16nm,0.9s,mb5.2
H09A Durkee 61.54 54 ⇓P **P 04 41 03.9 +0.5**
baz=61,SNR=8.9
JOF Joensuu 61.55 333 *ep* **P 04 41 00.9 -2.7**
comp=Z,27nm,0.6s,mb5.5
JOF Joensuu 61.55 333 *e*P **P 04 41 00.9 -2.7**
JOF pmax pmax
comp=Z,27nm,0.6s,mb5.5
HATC Hat Creek Radi 61.60 60 P **P 04 41 04.3 +0.5**
baz=62,SNR=11
MOD Modoc 61.65 58 *e*P **P 04 41 04.2 0.0**
comp=Z,17nm,0.7s,mb5.3
MOD Modoc 61.65 58 ⇑P **P 04 41 04.7 +0.5**
baz=62,SNR=17
LBCM Butte Creek Ri 61.66 60 P **P 04 41 04.5 +0.2**
AJM Ajmer 61.67 280 *e*P **P 04 41 04.6 +0.2**
AJM AMb AMB 04 41 05.8
comp=Z,58nm,0.8s,mb5.8
HOPS Hopland 61.70 62 ⇑P **P 04 41 04.6 +0.1**
baz=62
O03C Acorn Hollow, 61.74 61 ⇑P **P 04 41 04.9 +0.1**
baz=62
BHPL Bhopal 61.79 275 *e*P **P 04 41 05.2 +0.1**
BHPL AMb AMB 04 41 06.7
comp=Z,70nm,0.9s,mb5.8
K07A Rock Creek Ran 61.80 57 ⇓P **P 04 41 05.8 +0.6**
baz=62,SNR=23
J08A Circle Bar Ran 61.86 56 P **P 04 41 06.4 +0.8**
baz=62,SNR=28
I09A Lost Marbles R 61.91 55 P **P 04 41 06.5 +0.5**
baz=62,SNR=24
M06C Likely Place G 61.97 59 ⇑P **P 04 41 06.8 +0.5**
baz=62,SNR=8.2
O04C Chester 62.13 60 ⇑P **P 04 41 08.1 +0.6**
baz=62,SNR=14
L07A Adell 62.15 57 ⇓P **P 04 41 08.4 +0.8**
baz=62,SNR=20
MNRC McLaughlin Nat 62.16 62 ⇓P **P 04 41 08.2 +0.6**
baz=62,SNR=6.2
ELFS Eagle Lake Fie 62.17 59 ⇑P **P 04 41 08.3 +0.6**
baz=62
SUMG Summit 62.17 3 *e*P **P 04 41 07.1 -0.6**
K08A Mann Creek Ran 62.23 56 P **P 04 41 08.9 +0.8**
baz=62,SNR=16
J09A Fry Pan Ranch, 62.28 55 P **P 04 41 09.2 +0.8**
baz=62,SNR=26
MSO Missoula 62.30 50 *e*P **P 04 41 08.7 +0.1**
comp=Z,24nm,0.9s,mb5.3
WVOR Wild Horse Val 62.32 57⇑ *i*P **P 04 41 09.1 +0.4**
WVOR pmax pmax
comp=Z,34nm,1.0s,mb5.4
WVOR Wild Horse Val 62.32 57⇑ *i*P **P 04 41 09.1 +0.4**
comp=Z,34nm,1.0s,mb5.4
MCCM Marconi Confer 62.34 63 ⇑P **P 04 41 09.1 +0.2**
baz=62
ORV Oroville 62.34 61 ⇓P **P 04 41 08.2 -0.6**
baz=62,SNR=14
SUTB Sutter Butte 62.36 61 P **P 04 41 08.7 -0.2**
baz=62,SNR=6.5
O05C Quincy 62.45 60 ⇓P **P 04 41 09.8 +0.2**
baz=62,SNR=5.5
OHCM Honcut 62.48 61 *e*P **P 04 41 09.6 -0.2**
Q03C Winters 62.58 62 ⇑P **P 04 41 11.3 +0.8**
baz=62
CHMT Chamberlain Mo 62.62 50 *e*P **P 04 41 10.7 -0.1**
CHMT *e*pP pP 04 41 23.7 -0.6
N06A Buffalo Meadow 62.63 59 ⇑P **P 04 41 11.1 +0.3**
baz=62,SNR=29
M07A Soldier Meadow 62.64 58 ⇓P **P 04 41 11.5 +0.6**
baz=62,SNR=80
L08A Fields 62.64 57 ⇑P **P 04 41 11.1 +0.3**
baz=62,SNR=28
K09A Rome 62.69 56 P **P 04 41 11.6 +0.4**
baz=62,SNR=12
BEKR Beckwourth 62.85 60 ⇑P **P 04 41 12.4 +0.2**
baz=63,SNR=41
Q04C Lincoln 62.85 61 ⇑P **P 04 41 12.4 +0.2**
baz=63
O06A Flanigan 62.99 59 ⇑P **P 04 41 13.5 +0.3**
baz=63,SNR=16
M08A Happy Creek Ra 63.07 57 ⇓P **P 04 41 14.3 +0.6**
baz=63,SNR=14
BDM Black Diamond 63.09 62 ⇓P **P 04 41 14.0 +0.2**
baz=63
N07B Gerlach 63.13 58 ⇓P **P 04 41 14.6 +0.5**
baz=63,SNR=18
L09A Wilkinson Ranc 63.14 57 ⇑P **P 04 41 14.7 +0.6**
baz=63,SNR=10
FFC Flin Flon 63.16 38 P **P 04 41 14.0 -0.3**
comp=Z,509nm,1.0s,SNR=16
P06A Stead Airport, 63.24 60 ⇑P **P 04 41 15.3 +0.5**
baz=63
LAVA Lava Cap Winer 63.29 61 ⇑P **P 04 41 15.0 -0.2**
baz=63,SNR=14
WENL Wente Brothers 63.36 63 ⇑P **P 04 41 15.6 -0.1**
baz=63
R04C Big Horse Ranc 63.48 62 ⇑P **P 04 41 15.8 -0.6**
baz=63
PAHR Pah Rah Range 63.54 60 *e*P **P 04 41 17.2 +0.4**
comp=Z,31nm,1.0s,mb5.3
PAHR *e*pP pP 04 41 31.0 +0.6
WCN Washoe City 63.56 60 ⇑P **P 04 41 17.4 +0.5**
baz=63,SNR=16
O07A Toulon 63.56 59 ⇓P **P 04 41 17.5 +0.5**
baz=63,SNR=32
N08A GE Springer Mi 63.63 58 ⇓P **P 04 41 17.9 +0.5**
baz=64,SNR=12
M09A Marrel Ranch, 63.64 57 ⇑P **P 04 41 17.8 +0.3**
baz=64,SNR=13
KAF Kangasniemi 63.72 334 *ep* **P 04 41 16.0 -2.0**
comp=Z,15nm,0.6s,mb5.2,baz=40,slow=6.2
KAF Kangasniemi 63.72 334 *e*P **P 04 41 16.0 -2.0**
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.2
R05C Kirkwood Meado 63.73 61 ⇓P **P 04 41 18.4 +0.3**
baz=64,SNR=8.5
LRM Limekiln Ridge 63.74 51 *e*P **P 04 41 18.3 +0.2**
LRM *e*pP pP 04 41 32.4 +0.7
EGMT Eagleton 63.78 47 *e*P **P 04 41 18.5 +0.1**
EGMT Eagleton 63.78 47 ⇓P **P 04 41 18.3 -0.1**
baz=64,SNR=17
O08A Rochester Mine 63.92 58 ⇑P **P 04 41 19.7 +0.4**
baz=64
P07A Fallon 63.94 59 ⇓P **P 04 41 19.4 -0.1**
baz=64
N09A Rock Creek Ran 63.95 58 ⇑P **P 04 41 19.9 +0.4**
baz=64,SNR=20
DLMT Dillon 63.95 51 *e*P **P 04 41 19.6 +0.1**
comp=Z,52nm,1.4s,mb5.4
CMB Columbia Colle 63.96 62 *e*P **P 04 41 19.7 +0.1**
CMB pmax pmax
comp=Z,19nm,0.8s,mb5.2
CMB Columbia Colle 63.96 62 *e*P **P 04 41 19.7 +0.2**
comp=Z,19nm,0.8s,mb5.2
CMB Columbia Colle 63.96 62 P **P 04 41 19.8 +0.3**
baz=64,SNR=19
PACP Pacheco Peak 64.03 63 ⇓P **P 04 41 20.2 +0.1**
baz=64,SNR=8.6
HLID Hailey 64.06 54 *e*P **P 04 41 20.6 +0.4**
HLID Hailey 64.06 54 P **P 04 41 20.7 +0.5**
baz=64,SNR=20
M10A I.L. Ranch, Tu 64.11 56 ⇓P **P 04 41 21.2 +0.7**
baz=64,SNR=23
HAST UC Hastings Re 64.25 64 ⇓P **P 04 41 21.2 -0.3**
baz=64
WAKR Walker 64.25 61 *e*P **P 04 41 22.2 +0.8**
FIA1 FINESS Array S 64.30 334 *e*P **P 04 41 19.8 -2.1**
FINES FINESS Array B 64.30 334 P **P 04 41 19.9 -1.9**
comp=Z,20nm,0.6s,mb5.4,baz=34,slow=7.5,SNR=50
FINES FINESS Array B 64.30 334 *i* P **P 04 41 19.6 -2.2**
FINES pmax pmax
comp=Z,20nm,0.6s
FINES FINESS Array B 64.30 334 P **P 04 41 19.9 -1.9**
P08A Dixie Valley 64.33 59 ⇓P **P 04 41 22.8 +0.7**
baz=64,SNR=5.5
BMN Battle Mountai 64.39 58 *e*P **P 04 41 23.0 +0.6**
BMN *e*pP pP 04 41 35.5 -0.5
S05C Merced 64.42 62 ⇓P **P 04 41 22.0 -0.6**
baz=64
T05C Eagle Field, D 64.49 63 ⇓P **P 04 41 23.0 0.0**
baz=64
O09A Fish Creek Ran 64.57 58 ⇓P **P 04 41 24.1 +0.5**

baz=64,SNR=20
M11A Holland Ranch, 64.61 56 ⇊P **P 04 41 24.3 +0.5**
baz=64,SNR=21
N10A Dunphy 64.63 57 ⇊P **P 04 41 24.3 +0.3**
baz=64
V03C Hunter Liggett 64.68 64 ⇑P **P 04 41 24.7 +0.4**
baz=64
R07C Lee Vining 64.75 61 ⇊P **P 04 41 25.5 +0.8**
baz=65
HYB Hyderabad 64.83 270 *i* P **P 04 41 25.0 -0.2**
HYB Hyderabad 64.83 270 *eP* **P 04 41 25.0 -0.2**
O10A Cortez Mining, 64.91 57 ⇊P **P 04 41 26.5 +0.7**
baz=65,SNR=6.5
QLMT Earthquake Lak 64.92 51 *eP* **P 04 41 26.3 +0.4**
QLMT *epP* pP 04 41 40.2 +0.7
Q08A Gabbs 64.95 59 ⇑P **P 04 41 26.4 +0.3**
baz=65,SNR=28
P09A Austin 64.99 58 ⇑P **P 04 41 26.9 +0.6**
baz=65,SNR=6.6
NVAR Mina Array Bea 64.99 60 P **P 04 41 26.9 +0.6**
comp=Z,24nm,0.7s,mb5.4,baz=299,slow=7.6,SNR=111
T06C Millerton Lake 65.02 62 P **P 04 41 26.4 -0.1**
baz=65,SNR=11
N11A Elko Archery C 65.03 57 ⇑P **P 04 41 26.5 -0.1**
baz=65
KCC Kaiser Creek 65.06 62 ⇑P **P 04 41 26.9 +0.1**
baz=65,SNR=13
M12A Wells 65.13 56 ⇑P **P 04 41 27.4 +0.3**
baz=65,SNR=22
OBN Obninsk 65.16 324⇑*eP* **P 04 41 27.3 -0.1**
OBN *e* 04 41 56.7
OBN pmax pmax
comp=Z,24nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
R08A Mina 65.16 60 ⇑P **P 04 41 27.7 +0.3**
baz=65,SNR=6.8
PKD Parkfield 65.17 63 ⇊P **P 04 41 27.1 -0.3**
baz=65
U05C Westside ANR, 65.18 63 ⇑P **P 04 41 27.8 +0.2**
baz=65
GCMT Greycliff 65.26 49 *eP* **P 04 41 28.1 +0.1**
CTA Charters Tower 65.27 184 *eP* **P 04 41 26.9 -1.2**
comp=Z,6.4nm,0.6s,mb4.8
CTA Charters Tower 65.27 184 P **P 04 41 26.7 -1.4**
comp=Z,5.9nm,0.6s,mb4.8,baz=25,slow=8.0,SNR=6.8
CTA Charters Tower 65.27 184 *eP* **P 04 41 26.9 -1.2**
CTA pmax pmax
comp=Z,6.0nm,0.6s
YMR Madison River 65.28 51 *eP* **P 04 41 28.8 +0.6**
comp=Z,12nm,0.6s,mb5.1
P10A Eureka 65.35 58 ⇊P **P 04 41 29.1 +0.4**
baz=65,SNR=8.9
ABKT Ailbek 65.40 300 P **P 04 41 29.0 +0.1**
comp=Z,355nm,0.5s,SNR=5.2
N12A Clover Valley, 65.41 56 ⇑P **P 04 41 29.5 +0.4**
baz=65,SNR=15
Q09A Carvers 65.42 59 ⇊P **P 04 41 29.5 +0.4**
baz=65
YFT Old Faithful 65.49 51 *eP* **P 04 41 31.8 +2.3**
YFT *epP* pP 04 41 44.6 +1.4
O11A Cowboy Ranch, 65.51 57 P **P 04 41 30.4 +0.7**
baz=65,SNR=15
MTUM Tungsten Hills 65.51 61 *eP* **P 04 41 30.5 +0.8**
PTRM Twissleman Ran 65.56 63 *eP* **P 04 41 30.3 +0.3**
M13A Montello 65.60 55 ⇑P **P 04 41 30.5 +0.2**
baz=65
V05C Boulder Hill, 65.62 63 ⇊P **P 04 41 30.9 +0.5**
baz=66
HELL Mitchell Peak, 65.65 62 P **P 04 41 30.4 -0.2**
baz=66,SNR=42
S08C White Mtn Res 65.66 61 ⇑P **P 04 41 31.2 +0.6**
baz=66,SNR=15
RCTC Rector, Farmer 65.75 62 ⇊P **P 04 41 31.5 +0.3**
baz=66
IMW Indian Meadow 65.79 52 *eP* **P 04 41 33.9 +2.4**
comp=Z,33nm,1.1s,mb5.3
FLWY Flagg Ranch 65.81 51 *eP* **P 04 41 32.7 +1.2**
comp=Z,35nm,1.1s,mb5.3
P11A Circle Ranch, 65.82 58 ⇑P **P 04 41 32.2 +0.5**
baz=66,SNR=5.7
DCID1 Drake Creek 65.85 52 *eP* **P 04 41 33.3 +1.4**
R09A Tonopah 65.86 60 P **P 04 41 32.3 +0.4**
baz=66,SNR=9.0
TPH Tonopah 65.87 60 *eP* **P 04 41 32.5 +0.5**
TPH pmax pmax
comp=Z,31nm,0.8s,mb5.4
TPH Tonopah 65.87 60 *eP* **P 04 41 32.5 +0.5**
comp=Z,31nm,0.8s,mb5.4
TPH *epP* pP 04 41 46.9 +1.2
N13A Wendover, West 65.90 56 ⇑P **P 04 41 32.8 +0.6**
baz=66,SNR=8.9
TIN Tinemaha 65.91 61 ⇑P **P 04 41 32.7 +0.5**
baz=66
RLMT Red Lodge 65.91 50 *eP* **P 04 41 32.8 +0.6**
comp=Z,26nm,1.0s,mb5.2
SMMC Simmler 65.91 64 ⇊P **P 04 41 32.5 +0.2**
baz=66
RRI2 Red Ridge 65.94 52 *eP* **P 04 41 33.5 +1.1**
O12A Currie 65.96 57 P **P 04 41 33.1 +0.5**
baz=66,SNR=29
MOOW Moose Ponds 66.00 52 *eP* **P 04 41 33.4 +0.6**
comp=Z,27nm,1.0s,mb5.2
TPAW Teton Pass 66.05 52 *eP* **P 04 41 34.3 +1.2**
S09A Goldfield 66.10 60 ⇑P **P 04 41 33.6 +0.1**
baz=66,SNR=19
HVU Hansel Valley 66.13 54 *eP* **P 04 41 34.2 +0.5**
VES Vestal, Richgr 66.15 63 ⇑P **P 04 41 32.9 -0.9**
baz=66,SNR=6.7
LOHW Long Hollow 66.16 52 *eP* **P 04 41 34.8 +0.9**
comp=Z,37nm,1.2s,mb5.3
SNOW Snow King Moun 66.18 52 *eP* **P 04 41 35.1 +1.2**
comp=Z,36nm,1.0s,mb5.3
SNOW *epP* pP 04 41 48.0 +0.3
REDW Red Top Meadow 66.19 52 *eP* **P 04 41 34.6 +0.6**
PKM Peak Mountain 66.29 64 ⇊P **P 04 41 34.7 0.0**
baz=66
R10A Warm Springs 66.30 59 ⇊P **P 04 41 34.8 0.0**
baz=66,SNR=9.6
DGMT Dagmar 66.30 44 *eP* **P 04 41 34.6 -0.1**
Q11A Duckwater 66.33 58 ⇊P **P 04 41 34.3 -0.6**
baz=66
P12A McGill 66.37 57 P **P 04 41 35.6 +0.4**
baz=66,SNR=9.9
GRAC Grapevine Rang 66.47 61 ⇑P **P 04 41 36.2 +0.4**
baz=66,SNR=11
LAO LASA Array 66.47 47 *eP* **P 04 41 32.5 -3.3**
BGU Big Grassy Mou 66.53 55 *eP* **P 04 41 36.4 +0.2**
WRAB Tennant Creek 66.56 196 P **P 04 41 34.3 -2.1**
comp=Z,105nm,0.7s,mb6.0,SNR=6.2
WB2 Warramunga Arr 66.57 196⇑*iP* **P 04 41 35.0 -1.5**
WRA Warramunga Arr 66.57 196 P **P 04 41 35.1 -1.4**
comp=Z,11nm,0.6s,mb5.0,baz=16,slow=6.8,SNR=98
WRA PKP2bc 05 10 09.5
comp=Z,2.0nm,1.0s,baz=202,slow=2.8,SNR=8.5
WRA Warramunga Arr 66.57 196 P **P 04 41 35.1 -1.4**
WRA ⇑*e* 05 10 09.5
SPUT South Promonto 66.62 54 *eP* **P 04 41 35.8 -1.0**
ISA Isabella 66.64 62 *eP* **P 04 41 36.1 -0.8**
ISA Isabella 66.64 62 P **P 04 41 36.2 -0.7**
baz=66,SNR=8.1
TRCR Troy Canyon 66.69 59 *eP* **P 04 41 37.4 +0.1**
ARVC Arvin 66.76 63 ⇑P **P 04 41 36.9 -0.8**
baz=67
VRSR Storozhevoye 66.77 320 *eP* **P 04 41 37.4 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
DAC Darwin (Calif) 66.80 61 *eP* **P 04 41 37.9 0.0**
SFJD Kangerlussuaq 66.83 9 *i* P **P 04 41 36.6 -1.5**
comp=E,18nm,0.9s,mb5.1
SFJD Kangerlussuaq 66.83 9 *i* P **P 04 41 36.6 -1.5**
SFJD pmax pmax
comp=Z,18nm,0.9s,mb5.1
VORD Divnogorie 66.89 320 *eP* **P 04 41 37.2 -1.3**
VORD pmax pmax
comp=Z,20nm,0.8s,mb5.2
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,6.0nm,0.6s
HWUT Hardware Ranch 66.93 54 *eP* **P 04 41 40.0 +1.2**
FITZ Fitzroy Crossi 66.97 205 *eP* **P 04 41 38.2 -0.8**
comp=E,12nm,0.8s,mb5.0
FITZ Fitzroy Crossi 66.97 205 P **P 04 41 38.3 -0.7**
comp=E,6.5nm,0.8s,mb4.7,baz=64,slow=3.9,SNR=18
MPMC Manual Prospec 67.00 62 P **P 04 41 39.2 0.0**
baz=67,SNR=26
FURC Furnace Creek, 67.12 61 P **P 04 41 40.3 +0.3**
baz=67,SNR=39
DUG Dugway 67.13 56 *eP* **P 04 41 40.5 +0.4**
DUG pmax pmax
comp=Z,24nm,0.9s,mb5.2
DUG Dugway 67.13 56 *eP* **P 04 41 40.5 +0.5**
comp=Z,24nm,0.9s,mb5.2
DUG *epP* pP 04 41 53.8 0.0
DUG Dugway 67.13 56 ⇊P **P 04 41 40.2 +0.2**
baz=67,SNR=20
LRMC Laurel Mountai 67.25 62 ⇑P **P 04 41 40.6 -0.2**
baz=67,SNR=6.5
BW06 Boulder Array 67.30 52 *eP* **P 04 41 41.1 0.0**
comp=Z,24nm,0.9s,mb5.2
PDAR Pinedale Array 67.30 52 P **P 04 41 41.0 -0.1**
comp=Z,20nm,0.9s,mb5.2,baz=273,slow=1.7,SNR=117
PDAR PKP2bc 05 10 04.2
comp=Z,0.8nm,0.9s,baz=98,slow=7.6,SNR=5.3
PDAR Pinedale Array 67.30 52 P **P 04 41 41.0 -0.1**
PDAR ⇑*e* 05 10 04.2
TCUT Toone Canyon 67.34 54 *eP* **P 04 41 42.3 +0.9**
POO Poona 67.39 274 *eP* **P 04 41 39.5 -2.2**
CTU Camp Tracy 67.42 55 *eP* **P 04 41 42.5 +0.6**
EDW2 Edwards Air Fo 67.45 63 ⇊P **P 04 41 41.8 -0.2**
baz=67,SNR=20
DECC Green Verdugo 67.64 64 ⇊P **P 04 41 43.1 -0.2**
baz=68
NLU North Lily Min 67.72 55 *eP* **P 04 41 44.5 +0.7**
MWC Mount Wilson 67.83 63 *eP* **P 04 41 44.7 +0.3**
MWC *epP* pP 04 41 59.6 +1.4
SHOC Shoshone 67.85 61 ⇑P **P 04 41 44.0 -0.5**
baz=68
DAU Daniels Canyon 67.89 55 *eP* **P 04 41 45.5 +0.7**
GSC Goldstone 67.91 62 *eP* **P 04 41 44.9 -0.1**
GSC Goldstone 67.91 62 P **P 04 41 44.8 -0.2**
baz=68,SNR=10
MPU Maple Canyon 67.94 55 *eP* **P 04 41 45.6 +0.5**
MPU *epP* pP 04 41 58.0 -0.9
MPU *epP* pP 04 41 58.6 -0.3
KAD Karad 67.98 273 *eP* **P 04 41 45.0 -0.4**
KAD AMb AMB 04 41 46.6
comp=Z,59nm,0.7s,mb5.7
BFSC Mount Baldy St 68.07 63 ⇊P **P 04 41 45.6 -0.4**
baz=68,SNR=8.3
CIS Catalina Islan 68.14 64 ⇊P **P 04 41 45.9 -0.5**
baz=68
SHPR Sheep Range 68.14 60 *eP* **P 04 41 46.9 +0.5**
ARUT Antelope Range 68.34 58 *eP* **P 04 41 46.6 -1.0**
TUQ Turquoise Mtn. 68.37 61 ⇑P **P 04 41 47.9 +0.1**
baz=68
V11A Goodsprings 68.41 61 P **P 04 41 48.5 +0.4**
baz=68,SNR=12
HEC Hector,Ludlow 68.52 62 ⇊P **P 04 41 48.6 -0.2**
baz=68
CCUT Cedar City 68.54 58 *eP* **P 04 41 49.2 +0.3**
U12A Valley of Fire 68.57 60 ⇑P **P 04 41 49.5 +0.4**
baz=68,SNR=5.0
MSU Marysvale 68.61 57 *eP* **P 04 41 50.2 +0.9**
TMUT Trail Mountain 68.66 55 *eP* **P 04 41 50.1 +0.5**
TMUT *epP* pP 04 42 03.3 -0.1
NB2 NORSAR Subarra 68.77 340 P **P 04 41 48.6 -1.7**
comp=Z,6.9nm,0.6s,mb4.8,baz=29,slow=6.2
NB2 NORSAR Subarra 68.77 340 P **P 04 41 48.6 -1.7**
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
NOA NORSAR Array B 68.77 340 P **P 04 41 49.0 -1.3**
comp=Z,5.3nm,0.5s,mb4.7,baz=29,slow=6.4,SNR=26
NOA NORSAR Array B 68.77 340 P **P 04 41 49.0 -1.3**
NOA pmax pmax
comp=Z,5.0nm,0.5s
MURC Murrieta 68.78 63 P **P 04 41 50.5 +0.1**
baz=69,SNR=6.3
DZM Mont Dzumac 68.81 164 P **P 04 41 51.4 +0.8**
comp=Z,7.2nm,0.8s,mb4.6,baz=28,slow=11,SNR=3.7
V12A Nelson 68.84 60 P **P 04 41 51.2 +0.5**
baz=69,SNR=5.5
ULM Lac du Bonnet 68.95 39 P **P 04 41 50.6 -0.9**
comp=Z,18nm,0.4s,mb5.4,baz=315,slow=6.9,SNR=56
W12A Cal Nev Ari 69.11 61 ⇑P **P 04 41 53.0 +0.6**
baz=69
SRU San Rafael 69.18 55 *eP* **P 04 41 53.1 +0.2**
PFO Pinyon Flat Ob 69.24 63 *eP* **P 04 41 52.4 -0.9**
PFO *epP* pP 04 42 06.0 -1.0
PFO Pinyon Flat Ob 69.24 63 ⇑P **P 04 41 53.5 +0.3**
baz=69
BELC Belle Mtn. 69.27 62 P **P 04 41 53.4 -0.1**
baz=69,SNR=8.1
109C Camp Elliot, M 69.30 64 ⇊P **P 04 41 53.4 -0.2**
baz=69
RWWY Rawlins 69.31 51 *eP* **P 04 41 53.9 +0.2**
comp=Z,30nm,0.9s,mb5.2
RWWY *epP* pP 04 42 06.3 -1.1
RSSD Black Hills 69.35 48 *eP* **P 04 41 53.5 -0.4**
RSSD pmax pmax
comp=Z,21nm,0.9s,mb5.1
RSSD Black Hills 69.35 48 *eP* **P 04 41 53.5 -0.4**
comp=Z,21nm,0.9s,mb5.1
IRM Iron Mountain 69.69 62 P **P 04 41 56.1 0.0**
baz=70,SNR=14
BAR Barrett 69.71 64 *eP* **P 04 41 56.2 0.0**
BC3 Big Chuckw Mtn 69.83 62 ⇑P **P 04 41 56.5 -0.4**
baz=70,SNR=8.0
W13A Hualapai Mount 69.85 60 ⇊P **P 04 41 57.1 +0.1**
baz=70,SNR=5.8
SWSC Sam W. Stewart 70.09 63 ⇊P **P 04 41 58.0 -0.5**
baz=70
KIV Kislovodsk 70.14 313 P **P 04 41 59.4 +0.6**
comp=Z,675nm,0.7s,SNR=6.4
KIV Kislovodsk 70.14 313 P **P 04 42 00.0 +1.2**
SNR=6.2
KIV Kislovodsk 70.14 313⇊*iP* **P 04 41 59.5 +0.7**
KIV pmax pmax
comp=Z,74nm,0.7s,mb5.7
KIV Kislovodsk 70.14 313 *eP* **P 04 41 59.8 +1.0**
X13A Yucca 70.22 61 ⇊P **P 04 41 58.9 -0.3**
baz=70,SNR=16
PDMCI Parker Dam,Lak 70.22 61 P **P 04 41 59.4 +0.1**
baz=70,SNR=11
W14A Seligman 70.26 60 P **P 04 42 00.3 +0.8**
baz=70,SNR=30
AS31 Alice Springs 70.28 196 *eP* **P 04 41 59.4 -0.3**
ASAR Alice Springs 70.28 196 P **P 04 41 59.3 -0.4**
comp=Z,10nm,0.7s,mb4.9,baz=10,slow=5.7,SNR=100
ASAR PKP2bc 05 09 58.4
comp=Z,1.2nm,0.9s,baz=180,slow=3.5,SNR=5.8
ASAR Alice Springs 70.28 196 P **P 04 41 59.3 -0.4**
ASAR ⇑*e* 05 09 58.4
ASPA Alice Springs 70.28 196 *eP* **P 04 41 59.4 -0.3**
PALK Pallekele 70.33 260 *eP* **P 04 42 00.1 +0.1**
ZEI Tsey 70.34 311 *eP* **P 04 42 00.2 +0.2**
ZEI pmax pmax
comp=Z,35nm,0.8s,mb5.3
Y12C Blythe 70.35 62 ⇊P **P 04 41 59.9 -0.1**
baz=70,SNR=8.0
AGMN Agassiz Refuge 70.38 40 *eP* **P 04 41 59.2 -1.0**
comp=Z,22nm,0.6s,mb5.3
DGRG David-gareji 70.46 309 P **P 04 42 01.9 +1.1**
PV10 Paradox Valley 70.53 55 *eP* **P 04 42 01.7 +0.6**
PHWY Pilot Hill 70.54 51 *eP* **P 04 42 01.4 +0.2**
MTA Mtatsminda 70.61 310 P **P 04 42 02.8 +1.2**
TBLG Delisi 70.61 310 *eP* **P 04 42 03.6 +1.9**
TBLG Delisi 70.61 310 P **P 04 42 03.6 +1.9**
GLA Glamis 70.63 62 *eP* **P 04 42 02.2 +0.4**
GLA Glamis 70.63 62 ⇑P **P 04 42 01.9 +0.1**
baz=70,SNR=6.9
ONI Oni 70.71 311 P **P 04 42 03.0 +0.8**
Y13A Salome 70.74 61 ⇑P **P 04 42 02.7 +0.3**
baz=71,SNR=5.8
W15A Williams 70.78 59 ⇊P **P 04 42 03.4 +0.8**
baz=71,SNR=9.9
X14A Yava 70.88 60 ⇊P **P 04 42 03.7 +0.4**
baz=71,SNR=22
PV01 Paradox Valley 70.96 55 *eP* **P 04 42 03.8 0.0**
WUAZ Wupatki 71.09 58 ⇊P **P 04 42 04.9 +0.3**
baz=71
SMCO Snowmass 71.16 53 *eP* **P 04 42 05.4 +0.4**
comp=Z,19nm,0.8s,mb5.1
SMCO *epP* pP 04 42 18.4 -0.4
Y14A Wickenburg 71.16 61 P **P 04 42 05.2 +0.2**
baz=71,SNR=19
X15A Humboldt 71.26 60 ⇊P **P 04 42 06.2 +0.6**
baz=71,SNR=18
AKASG Malin Array Be 71.42 325 P **P 04 42 05.0 -1.5**
comp=Z,9.5nm,0.4s,mb5.0,baz=37,slow=6.1,SNR=57
AKASG Malin Array Be 71.42 325 P **P 04 42 05.0 -1.6**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKBB Malin Array Si 71.42 325 *eP* **P 04 42 05.0 -1.6**
ISCO Idaho Springs 71.49 52 *eP* **P 04 42 07.5 +0.5**
ISCO *e**PP pP 04 42 20.9 +0.1
Z14A Wintersburg 71.59 61 ⇊P **P 04 42 07.4 -0.1**
baz=71,SNR=5.2
MVCO Mesa Verde 71.64 56 *eP* **P 04 42 08.0 +0.1**
comp=Z,13nm,0.8s,mb4.9
MVCO Mesa Verde 71.64 56 ⇊P **P 04 42 07.9 +0.1**
baz=72,SNR=12
GNI Garni 71.71 309*c iP* **P 04 42 09.6 +1.3**
GNI pmax pmax
comp=Z,42nm,1.4s
GNI Garni 71.71 309 *eP* **P 04 42 10.2 +1.9**
comp=Z,34nm,0.8s,mb5.3
TRD Trivandrum 72.08 264 *eP* **P 04 42 10.8 +0.3**
TRD AMb AMB 04 42 11.7
comp=Z,42nm,0.6s,mb5.6
ANN Anapa 72.18 316 *eP* **P 04 42 09.4 -1.7**
ANN *i* *PP pP 04 42 27.4 +2.5
ANN *e* 04 44 49.5
ANN *eS* S 04 51 27.8 -2.2
ANN pmax pmax
comp=Z,53nm,0.6s,mb5.7
115A Sonoran Desert 72.48 61 ⇑P **P 04 42 13.4 +0.6**
baz=72
EYMN Ely 72.59 38 *eP* **P 04 42 12.5 -1.0**
116A Eloy 72.89 61 ⇊P **P 04 42 15.5 +0.1**
baz=73,SNR=7.8
SDCO Great Sand Dun 72.98 53 *eP* **P 04 42 19.6 +3.7**
SDCO *epP* pP 04 42 30.6 +0.9
ECSD EROS,Sioux Fal 73.38 44 *eP* **P 04 42 17.2 -1.0**
comp=Z,38nm,0.9s,mb5.3
TVAN Van 73.58 308 *i* P **P 04 42 20.4 +1.0**
TUC Tucson 73.63 61 *eP* **P 04 42 19.8 +0.1**
TUC *e**PP pP 04 42 35.3 +1.7
ORE Reay 74.15 346 *eP* **P 04 42 21.9 -0.9**
LVV L'vov 74.17 327 *eP* **P 04 42 22.0 -0.9**
LVV *eS* S 04 51 45.8 -6.8
LVV *ePS* 04 52 48.4
LVV *eSSS* 04 59 54.0
LAZ Ladron 74.38 57 *eP* **P 04 42 24.8 +0.7**
ANMO Albuquerque 74.39 56⇑*eP* **P 04 42 23.2 -1.0**
ANMO Albuquerque 74.39 56 *eP* **P 04 42 24.4 +0.3**
LENM Lemitar 74.64 57 *eP* **P 04 42 26.0 +0.4**
LPM Los Pinos Moun 74.74 57 *eP* **P 04 42 26.6 +0.4**
KWP Kalwaria 74.82 328 *eP* **P 04 42 26.7 0.0**
MCD Coleburn Disti 74.98 345 *eP* **P 04 42 26.5 -1.1**
MME1 Meikle Cairn 75.18 345 *eP* **P 04 42 27.4 -1.3**
SMDO Samad 75.25 288 P **P 04 42 30.5 +1.4**
SNR=8.8
HATD Hatta, Dubai 75.32 290 P **P 04 42 30.1 +0.5**
SNR=16
SCHQ Schefferville 75.37 21 P **P 04 42 29.3 -0.5**
comp=Z,15nm,0.9s,mb4.9,baz=340,slow=4.0,SNR=17
CBKS Cedar Bluff 75.39 49 *eP* **P 04 42 29.0 -0.9**
CBKS *e**PP pP 04 42 43.1 -0.7
CBKS pmax pmax
comp=Z,27nm,1.1s,mb5.1
CBKS Cedar Bluff 75.39 49 *eP* **P 04 42 29.0 -0.9**
comp=Z,27nm,1.1s,mb5.1
CBKS *epP* pP 04 42 43.1 -0.7
HOQ Hoqain 75.39 289 P **P 04 42 30.5 +0.5**
SNR=16
KAC Achnashellach 75.41 347 *eP* **P 04 42 29.1 -0.9**
OJC Ojcow 75.41 330 *eP* **P 04 42 29.6 -0.4**
ASHO Ashiyiah 75.47 290 P **P 04 42 31.4 +1.0**
SNR=11
BURAR Bucovina Array 75.47 325⇑*iP* **P 04 42 30.3 -0.1**
BURAR Bucovina Array 75.47 325 ⇑P **P 04 42 30.3 -0.1**
ARMA Armidale 75.48 179⇊*iP* **P 04 42 31.6 +1.2**
STHS Stebnicka Huta 75.55 328 *i* P **P 04 42 31.2 +0.4**
STHS pmax pmax
comp=Z,15nm,0.9s,mb4.9
STHS Stebnicka Huta 75.55 328 *i* P **P 04 42 31.2 +0.4**
comp=Z,15nm,0.9s,mb4.9
KOLS Kolonicke sedl 75.56 327 *eP* **P 04 42 30.7 -0.2**
KPL Plockton 75.62 347 *eP* **P 04 42 30.1 -1.1**
KPL AMb AMB 04 42 31.5
comp=Z,48nm,1.3s,mb5.3
JMDO Jabal Madar 75.69 287 P **P 04 42 32.7 +1.0**
SNR=15
KSB Sheil Bridge 75.71 346 *eP* **P 04 42 30.7 -1.1**
UZH Uzhgorod 75.80 327 *eP* **P 04 42 32.0 -0.3**
UZH pmax pmax
comp=Z,22nm,0.9s,mb5.1
NIE Niedzica 75.89 329 *eP* **P 04 42 33.3 +0.5**
CRVS Cervenica-Dubn 75.89 328 *eP* **P 04 42 32.5 -0.3**
BOYT Boyabat 75.92 315 *i* P **P 04 42 34.0 +1.0**
ELZG Elazig 76.00 311 *i* P **P 04 42 35.1 +1.7**
BSY Bisya 76.04 288 P **P 04 42 34.6 +0.9**
SNR=15
KAR1 Arisaig 76.05 347 *eP* **P 04 42 32.9 -0.8**
KSP Ksiaz 76.09 332 *eP* **P 04 42 33.6 -0.3**
KSP Ksiaz 76.09 332 *eP* **P 04 42 33.3 -0.6**
VRI Vrincioaia 76.24 323⇊*iP* **P 04 42 35.1 +0.3**
OKC Ostrava-Krasne 76.31 330⇑*eP* **P 04 42 35.4 +0.2**
SCIA State Center 76.40 43 *eP* **P 04 42 35.1 -0.6**
comp=Z,66nm,0.6s,mb5.7
MALT Malatya 76.43 311⇑*iP* **P 04 42 37.3 +1.4**
MALT Malatya 76.43 311 P **P 04 42 37.8 +1.9**
ESY Stoneypath 76.44 345 *eP* **P 04 42 35.1 -0.8**
UPC Upice 76.47 332⇑*eP* **P 04 42 36.1 0.0**
EAB Aberfoyle 76.50 346 *eP* **P 04 42 35.3 -0.9**
DPC Dobruska-Polom 76.50 332⇑*iP* **P 04 42 36.4 +0.1**
DPC *e*PCP PcP 04 42 49.2 +1.5
NRDL Niedersach Rie 76.57 336 *eP* **P 04 42 35.9 -0.7**
MORC Moravsky Berou 76.57 331⇑*iP* **P 04 42 36.6 -0.1**
MORC Moravsky Berou 76.57 331 *eP* **P 04 42 36.5 -0.1**
comp=Z,29nm,0.9s,mb5.2
MORC *epP* pP 04 42 49.5 -1.1
CTKT Corum 76.58 315 *i* P **P 04 42 37.8 +1.0**
BALT Daday 76.58 316 *i* P **P 04 42 37.9 +1.1**
KECS Kecovo 76.60 328 *eP* **P 04 42 36.6 -0.2**
KECS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KECS Kecovo 76.60 328 *eP* **P 04 42 36.6 -0.2**
comp=Z,8.7nm,0.8s,mb4.7
EBL Broad Law 76.66 345 *eP* **P 04 42 36.4 -0.7**
EAU Auchinoon 76.66 345 *eP* **P 04 42 36.4 -0.7**
CLL Collm 76.75 334 *eP* **P 04 42 36.6 -1.1**
comp=Z,42nm,1.0s,mb5.3
CLL Collm 76.75 334⇑*iP* **P 04 42 36.8 -0.9**
CLL pmax pmax
comp=Z,42nm,1.0s,mb5.3
CLL Collm 76.75 334⇑*iP* **P 04 42 36.8 -0.9**
comp=Z,42nm,1.0s,mb5.3
CLL *i* pP pP 04 42 39.2 -12
CLL *i* PcP PcP 04 42 49.9 +1.1
XSO Sourhope Farm 76.77 344 *eP* **P 04 42 36.7 -1.1**
KSU1 Kansas State U 76.82 47 *eP* **P 04 42 36.3 -1.7**
comp=Z,32nm,0.9s,mb5.3
BRG Berggiesshubel 76.83 333 *eP* **P 04 42 37.3 -0.8**
comp=Z,10.0nm,0.9s,mb4.8
BRG Berggiesshubel 76.83 333 *e* **P 04 42 37.3 -0.8**
comp=Z,6.0nm,1.0s,mb4.5
MLR Muntele Rosu 76.87 323⇊*iP* **P 04 42 39.5 +1.1**
MLR Muntele Rosu 76.87 323 P **P 04 42 39.7 +1.4**
PGBU Glenifferbraes 76.88 346 *eP* **P 04 42 38.0 -0.4**
PGBU AMb AMB 04 42 43.8
comp=Z,17nm,1.3s,mb4.8
PVCC Panska Ves 76.93 333⇑*eP* **P 04 42 38.4 -0.3**
CLZ Clausthal 77.07 336 *eP* **P 04 42 39.3 -0.2**
comp=Z,20nm,0.9s,mb5.0
CLZ Clausthal 77.07 336 *eP* **P 04 42 39.3 -0.2**
CLZ pmax pmax
comp=Z,20nm,0.9s,mb5.0
ESK Eskdalemuir 77.12 345 *eP* **P 04 42 38.4 -1.3**
ESK AMb AMB 04 42 39.6
comp=Z,41nm,1.2s,mb5.2
VYHS Vyhne 77.20 329 *eP* **P 04 42 40.2 0.0**
VYHS pmax pmax
comp=Z,12nm,1.2s,mb4.7
VYHS Vyhne 77.20 329 *eP* **P 04 42 40.2 0.0**
comp=Z,12nm,1.2s,mb4.7
WIT Witteveen 77.23 338 *eP* **P 04 42 44.1 +3.7**
ECK Cauldkaine Hil 77.23 345 *eP* **P 04 42 39.5 -0.9**
PSZ Piszkesteto 77.29 328⇑*iP* **P 04 42 40.6 -0.1**
PSZ Piszkesteto 77.29 328 *eP* **P 04 42 39.8 -0.9**
comp=Z,18nm,0.8s,mb5.0

VOIR 77.29 324 ⇓iP P 04 42 41.5 +0.8
VOIR 77.29 324 ⇓P P 04 42 41.5 +0.8
STKA Stephens Creek 77.29 187 ⇑iP P 04 42 40.5 -0.2
comp=Z,5.3nm,0.8s,mb4.5
STKA Stephens Creek 77.29 187 P P 04 42 40.3 -0.4
comp=Z,5.9nm,0.7s,mb4.6,baz=345,slow=5.9,SNR=9.3
VRAC Vranov 77.30 331 ⇓iP P 04 42 41.2 +0.5
VRAC Vranov 77.30 331 P P 04 42 41.0 +0.2
MNTX Cornudas Mount 77.33 58 eP P 04 42 40.8 -0.1
comp=Z,17nm,0.9s,mb5.0
MNTX epP pP 04 42 55.1 +0.3
BHH Howats Hill 77.33 345 eP P 04 42 40.0 -0.9
ELDT Eldivan 77.36 316 iP P 04 42 42.1 +1.0
XAL Allendale 77.36 344 eP P 04 42 40.1 -1.0
PRU Pruhonice 77.40 332 ⇑iP P 04 42 41.1 -0.2
PRU ePCP PcP 04 42 54.1 +2.5
UMR Umm Al-Rimmam 77.42 299 eP P 04 42 41.7 +0.3
UMR AMb AMB 04 42 42.3
comp=Z,218nm,0.7s,mb6.2
MIB Mutribah 77.47 300 eP P 04 42 41.9 +0.2
MIB AMb AMB 04 42 43.5
comp=Z,233nm,0.8s,mb6.2
GDL2 Guadalupe Moun 77.57 57 eP P 04 42 42.4 +0.1
GZT Gaziantep 77.60 311 iP P 04 42 43.6 +1.2
SMOL Smolenice 77.68 330 eP P 04 42 43.5 +0.6
TREC Trest 77.69 331 ⇑iP P 04 42 41.1 -1.8
TANN Tannenbergstha 77.70 334 eP P 04 42 42.5 -0.5
MOX Moxa 77.76 334 eP P 04 42 42.7 -0.6
comp=Z,23nm,1.3s,mb5.0
MOX Moxa 77.76 334 eP P 04 42 42.6 -0.7
comp=Z,23nm,1.2s,mb5.0
MOX Moxa 77.76 334 eP P 04 42 42.6 -0.7
MOX pmax pmax
comp=Z,23nm,1.2s,mb5.0
CKE Keswick 77.79 344 eP P 04 42 43.1 -0.3
GAL1 Galloway 77.82 345 eP P 04 42 42.6 -1.0
GAL1 AMb AMB 04 42 44.0
comp=Z,42nm,1.2s,mb5.2
QRN Al-Qurain 77.86 299 eP P 04 42 44.2 +0.3
QRN AMb AMB 04 42 45.1
comp=Z,235nm,0.4s
RST Umm Al-Ruwaisa 77.89 300 eP P 04 42 43.9 -0.1
RST AMb AMB 04 42 45.5
comp=Z,247nm,0.8s,mb6.2
NAY Al-Naaiem 77.92 299 eP P 04 42 44.2 0.0
NAY AMb AMB 04 42 46.0
comp=Z,104nm,1.0s,mb5.7
AVNT Avonos 77.94 314 iP P 04 42 44.8 +0.4
WTSB Winterswijk 77.96 338 eP P 04 42 43.7 -0.7
comp=Z,28nm,0.6s,mb5.4
WTSB epP pP 04 42 56.6 -1.8
RDF Al-Radifah 77.96 299 eP P 04 42 44.8 +0.4
RDF AMb AMB 04 42 45.7
comp=Z,268nm,0.6s
SGKT Sivrigoynuk 77.97 317 iP P 04 42 45.4 +1.0
ZST Bratislava 78.07 330 eP P 04 42 45.2 +0.2
ZST pmax pmax
comp=Z,15nm,1.0s,mb4.9
ZST Bratislava 78.07 330 eP P 04 42 45.2 +0.2
comp=Z,15nm,1.0s,mb4.9
UBBA Unterbreizbach 78.09 335 eP P 04 42 44.4 -0.7
ANTO Ankara 78.15 316 ⇑iP P 04 42 46.2 +0.7
ANTO Ankara 78.15 316 P P 04 42 46.4 +1.0
MANZ Manzenberg 78.18 334 eP P 04 42 45.3 -0.4
GZR Gura Zlata 78.26 325 ⇑iP P 04 42 45.8 -0.3
GZR Gura Zlata 78.26 325 P P 04 42 46.0 -0.1
BUG Bochum--Univer 78.30 337 eP P 04 42 45.6 -0.7
ROTZ Rotzenmuhle 78.34 334 eP P 04 42 46.5 -0.1
FORT Forrest 78.40 199 eP P 04 42 46.6 -0.3
comp=Z,42nm,0.7s,mb5.5
KHC Kasperske Hory 78.46 332 ⇑iP P 04 42 47.2 0.0
KHC ePCP PcP 04 43 00.3 +4.1
LHO Holmfirth 78.53 343 eP P 04 42 46.5 -1.0
BZS Buzias 78.54 326 ⇓iP P 04 42 47.3 -0.3
BZS Buzias 78.54 326 P P 04 42 47.6 0.0
GEC2 GERESS Array S 78.67 332 eP P 04 42 47.8 -0.5
comp=Z,15nm,0.6s,mb5.1
GEC2 GERESS Array S 78.67 332 eP P 04 42 47.8 -0.5
GEC2 pmax pmax
comp=Z,15nm,0.6s,mb5.1
GERES GERESS Array B 78.67 332 P P 04 42 47.9 -0.4
comp=Z,10nm,0.5s,mb5.0,baz=35,slow=5.7,SNR=83
GERES GERESS Array B 78.67 332 P P 04 42 47.9 -0.4
GERES pmax pmax
comp=Z,10.0nm,0.5s
WET Wettzell 78.68 333 eP P 04 42 48.3 -0.1
comp=Z,32nm,1.0s,mb5.2
WET Wettzell 78.68 333 eP P 04 42 48.3 -0.1
WET pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRA1 Grafenberg Arr 78.72 334 eP P 04 42 48.5 -0.1
comp=Z,36nm,0.8s,mb5.3
GRF Grafenberg Arr 78.72 334 eP P 04 42 48.5 -0.1
comp=Z,36nm,0.8s,mb5.3
GRF Grafenberg Arr 78.72 334 eP P 04 42 48.5 -0.1
GRF pmax pmax
comp=Z,36nm,0.8s,mb5.3
GRF Grafenberg Arr 78.72 334 eP P 04 42 48.5 -0.1
GRF pmax pmax
comp=Z,36nm,0.8s,mb5.3
CONA Conrad Observa 78.73 331 ⇑iP P 04 42 48.9 +0.2
comp=Z,16nm,0.6s,mb5.1
KBI1 Birley Grange 78.74 343 eP P 04 42 48.0 -0.8
WMOK Wichita Mounta 78.91 51 eP P 04 42 49.3 -0.3
WMOK ePP pP 04 43 02.2 -1.4
COBT Iskenderun 78.92 311 iP P 04 42 50.7 +1.0
KWE Weaver Farm 79.03 343 eP P 04 42 49.7 -0.6
TNS Taunus Mts 79.07 336 eP P 04 42 50.1 -0.4
PKSM Moragy 79.19 328 ⇑iP P 04 42 50.1 -1.1
PKSM Moragy 79.19 328 P P 04 42 50.3 -0.9
HGN Heimansgroeve 79.28 338 eP P 04 42 51.0 -0.6
comp=Z,24nm,0.7s,mb5.3
MOA Molln 79.35 331 ⇑iP P 04 42 51.8 -0.2
comp=Z,12nm,0.7s,mb4.9
MEM Membach 79.40 338 P P 04 42 51.9 -0.5
SBD1 Bryn Du 79.41 344 eP P 04 42 51.6 -0.8
ARSA Arzberg 79.43 330 ⇑iP P 04 42 52.4 -0.2
comp=Z,7.6nm,0.8s,mb4.7
DLF Lyons Farm 79.64 346 ⇑iP P 04 42 53.1 -0.6
ULDT Uludag 79.70 318 iP P 04 42 54.5 +0.5
HLM1 Long Mynd 79.71 344 eP P 04 42 53.5 -0.5
DCN Croghan 79.72 346 ⇑iP P 04 42 53.5 -0.6
BCLA Clavier 79.76 338 P P 04 42 53.5 -0.8
SNF Seneffe 79.94 339 P P 04 42 55.0 -0.3
SKP1 Kophill 80.03 342 eP P 04 42 54.6 -1.1
FUR Furstenfeldbru 80.05 333 eP P 04 42 55.5 -0.3
comp=Z,30nm,0.9s,mb5.2
FUR Furstenfeldbru 80.05 333 eP P 04 42 55.5 -0.3
FUR pmax pmax
comp=Z,30nm,0.9s,mb5.2
TXAR Lajitas Array 80.05 58 P P 04 42 55.9 0.0
comp=Z,25nm,0.5s,mb5.4,baz=299,slow=4.3,SNR=732
TXAR PKKPbc PKKPbc 05 01 39.0 -0.8
comp=Z,0.6nm,0.7s,baz=143,slow=5.4,SNR=7.9
TXAR Lajitas Array 80.05 58 P P 04 42 55.9 0.0
TXAR 05 01 39.1
TXAR pmax pmax
comp=Z,25nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
GROS Grobnik 80.12 330 eP P 04 42 55.7 -0.6
GROS e pP 04 43 08.6 -1.6
STU Stuttgart 80.15 335 eP P 04 42 55.8 -0.6
GIVF Givet 80.17 338 ⇑iP P 04 42 55.8 -0.7
HTR Trewern Hill 80.20 344 eP P 04 42 56.4 -0.3
MCH1 Michaelchurch 80.22 343 eP P 04 42 56.1 -0.7
MCH1 eP 04 42 56.1
MCH1 AMb AMB 04 42 58.8
comp=Z,40nm,1.7s,mb5.1
DOU Dourbes 80.24 338 P P 04 42 56.4 -0.5
KBA Koelnbreinsper 80.33 332 ⇑iP P 04 42 57.7 +0.3
comp=Z,35nm,1.0s,mb5.2,SNR=18
KBA Koelnbreinsper 80.33 332 ⇑iP P 04 42 57.7 +0.4
KBA pmax pmax
comp=Z,35nm,1.0s,mb5.2
CCM Cathedral Cave 80.33 45 eP P 04 42 54.1 -3.3
CCM pmax pmax
comp=Z,37nm,0.9s,mb5.3
CCM Cathedral Cave 80.33 45 eP P 04 42 54.1 -3.3
comp=Z,37nm,0.9s,mb5.3
SLM Saint Louis 80.37 44 eP P 04 42 57.2 -0.4
BAIF Baives 80.37 338 ⇑iP P 04 42 57.0 -0.6
comp=Z,19nm,0.6s,mb4.9
BAIF Baives 80.37 338 ⇑iP P 04 42 57.0 -0.6
BAIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BAIF Baives 80.37 338 ⇑iP P 04 42 57.0 -0.6
comp=Z,9.4nm,0.6s,mb4.9
VTS Vitosha 80.38 323 eP P 04 42 57.8 +0.2
VTS Vitosha 80.38 323 ⇑iP P 04 42 57.7 +0.1
VTS Vitosha 80.38 323 P P 04 42 58.0 +0.3
OBKA Obir 80.41 331 ⇑iP P 04 42 57.3 -0.5
comp=Z,14nm,0.6s,mb5.1
AAM Ann Arbor 80.44 37 eP P 04 42 57.8 -0.2
AAM pmax pmax
comp=Z,43nm,0.9s,mb5.4
AAM Ann Arbor 80.44 37 eP P 04 42 57.8 -0.2
comp=Z,43nm,0.9s,mb5.4
DIVS Divcibare 80.45 326 iP P 04 42 57.5 -0.5
DIVS Divcibare 80.45 326 eP P 04 42 57.5 -0.5
ALN Alexandroupoli 80.52 320 eP P 04 42 58.4 0.0
HGH Gray Hill 80.53 343 eP P 04 42 57.0 -1.4
GCIS Gornji Cirnik 80.58 330 iP P 04 42 57.9 -0.8
WATA Walderalm 80.68 333 ⇑iP P 04 42 59.2 0.0
comp=Z,36nm,1.1s,mb5.2
WATA Walderalm 80.68 333 ⇑iP P 04 42 59.2 -0.1
WATA pmax pmax
comp=Z,36nm,1.1s,mb5.2
WTTA Wattenberg 80.72 333 iP P 04 42 59.7 +0.2
comp=Z,67nm,1.5s,mb5.3,SNR=43
WTTA Wattenberg 80.72 333 iP P 04 42 59.7 +0.2
WTTA pmax pmax
comp=Z,67nm,1.5s,mb5.3
TKTP Tekketepe 80.78 316 iP P 04 42 59.9 +0.1
FVM French Village 80.79 44 eP P 04 42 58.8 -1.0
FVM pmax pmax
comp=Z,27nm,0.6s,mb5.3
FVM French Village 80.79 44 eP P 04 42 58.8 -1.0
comp=Z,27nm,0.6s,mb5.4
BFO Black Forest 80.80 335 P P 04 42 59.7 -0.2
comp=Z,127nm,0.6s,mb6.0,SNR=6.7
BFO Black Forest 80.80 335 eP P 04 42 59.2 -0.7
comp=Z,21nm,1.1s,mb5.0
BFO Black Forest 80.80 335 eP P 04 42 59.2 -0.7
BFO pmax pmax
comp=Z,21nm,1.1s,mb5.0
LJU Ljubljana 80.82 330 eP P 04 42 59.0 -1.0
MOTA Moosalm 80.83 333 ⇑iP P 04 42 59.9 -0.1
comp=Z,26nm,1.0s,mb5.1,SNR=15
MOTA Moosalm 80.83 333 ⇑iP P 04 42 59.9 -0.1
MOTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
BBLS Bajina Basta - 80.87 326 iP P 04 43 01.0 +0.7
SWK Warminster 80.87 343 eP P 04 42 59.7 -0.6
SQTA Sankt Quirin 80.90 333 ⇑iP P 04 43 00.4 0.0
comp=Z,19nm,1.0s,mb5.0,SNR=9.1
SQTA Sankt Quirin 80.90 333 ⇑iP P 04 43 00.5 +0.1
SQTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
PTCC Patocco-Chiusa 80.91 331 P P 04 42 59.2 -1.3
comp=Z,16nm,0.5s,mb5.2
MMB Musomiste 80.98 322 eP P 04 43 00.9 +0.1
WLS Welschbruch 81.01 336 eP P 04 43 00.9 -0.1
BOJS Bojanci 81.03 330 iP P 04 43 00.4 -0.7
BOJS e pP 04 43 13.2 -2.0
CDF Champ du Feu 81.03 336 ⇑iP P 04 43 00.5 -0.6
comp=Z,26nm,0.7s,mb5.0
CDF Champ du Feu 81.03 336 ⇑iP P 04 43 00.5 -0.6
CDF pmax pmax
comp=Z,13nm,0.7s,mb5.0
CDF Champ du Feu 81.03 336 ⇑iP P 04 43 00.5 -0.6
comp=Z,13nm,0.7s,mb5.0
ECH Echery 81.25 336 eP P 04 43 01.6 -0.7
DAVA Damuels 81.26 334 iP P 04 43 02.1 -0.2
SNR=12
HEX Exmoor 81.27 344 eP P 04 43 01.8 -0.5
FELD Feldberg im Sc 81.30 335 eP P 04 43 02.0 -0.6
HTL Hartland 81.47 344 eP P 04 43 03.2 -0.2
HTL AMb AMB 04 43 06.8
comp=Z,34nm,1.6s,mb5.0
JCT Junction City 81.49 55 eP P 04 43 02.0 -1.5
VAL Valentia 81.55 348 ⇓iP P 04 43 02.9 -1.0
THEF They Montfort 81.57 337 eP P 04 43 03.7 -0.3
MEZF Maizieres J'vi 81.58 337 ⇑iP P 04 43 03.7 -0.3
comp=Z,40nm,0.6s,mb5.2
MEZF Maizieres J'vi 81.58 337 ⇑iP P 04 43 03.7 -0.3
comp=Z,40nm,0.6s,mb5.5
MOF Molkenrain 81.58 336 eP P 04 43 05.3 +1.3
SIUC Southern Illin 81.59 44 eP P 04 43 03.0 -1.0
SIUC epP pP 04 43 17.7 -0.4
MSNY Massena 81.62 30 eP P 04 43 02.6 -1.6
SKO Skopje 81.63 324 eP P 04 43 05.0 +0.7
HAU Haudompre 81.67 336 ⇑iP P 04 43 03.7 -0.8
comp=Z,24nm,0.8s,mb4.9
HAU Haudompre 81.67 336 ⇑iP P 04 43 03.7 -0.8
HAU pmax pmax
comp=Z,12nm,0.8s,mb4.9
HAU Haudompre 81.67 336 ⇑iP P 04 43 03.7 -0.8
comp=Z,12nm,0.8s,mb4.9
KNT Kendrikon 81.69 323 eP P 04 43 04.4 -0.2
HINF Hinteralfeld 81.69 336 ⇑iP P 04 43 03.6 -1.0
VAY Valandovo 81.69 323 eP P 04 43 04.2 -0.5
VAY Valandovo 81.69 323 eP P 04 43 04.0 -0.6
BLO Bloomington 81.70 41 eP P 04 43 04.0 -0.7
BLO pmax pmax
comp=Z,19nm,0.7s,mb5.1
BLO Bloomington 81.70 41 eP P 04 43 04.0 -0.7
comp=Z,19nm,0.7s,mb5.1
CTI Castel Tesino 81.79 332 P P 04 43 03.9 -1.2
BBS Basel-Blauen 81.82 335 eP P 04 43 05.7 +0.4
ASF Jabal al Asfar 81.85 308 P P 04 43 05.7 +0.2
comp=Z,10nm,0.9s,mb4.8,baz=238,slow=0.9,SNR=9.9
ASF Jabal al Asfar 81.85 308 P P 04 43 05.7 +0.3
ASF pmax pmax
comp=Z,11nm,0.9s
OUR Ouranopolis 81.89 321 eP P 04 43 05.5 -0.2
DYA Yadsworthy 81.89 343 eP P 04 43 05.1 -0.6
DYA AMb AMB 04 43 10.9
comp=Z,58nm,1.5s,mb5.3
KLBR Kellerberrin 82.03 207 eP P 04 43 05.0 -1.4
comp=Z,8.8nm,0.8s,mb4.7
GRG Griva 82.07 323 eP P 04 43 06.1 -0.5
PLG Polygyros 82.09 322 eP P 04 43 06.2 -0.6
LOMF Lomont 82.12 336 eP P 04 43 07.0 +0.1
USIN University of 82.14 42 eP P 04 43 07.0 0.0
USIN epP pP 04 43 21.2 +0.2
TUE Stuetta 82.15 334 P P 04 43 06.9 -0.1
PARMO Parma 82.16 45 eP P 04 43 06.7 -0.4
CSA1 St Austell 82.16 344 eP P 04 43 06.5 -0.6
AYDN Tasoluk 82.26 317 iP P 04 43 08.2 +0.6
CCA1 Carnmenellis 82.38 344 eP P 04 43 07.6 -0.6
ACSO Alum Creek Sta 82.43 38 eP P 04 43 07.9 -0.6
comp=Z,36nm,0.8s,mb5.3
ALLY Alegheny Colle 82.45 35 eP P 04 43 08.5 -0.1
BIA Bitola 82.47 323 eP P 04 43 10.1 +1.3
WCI Wyandotte Cave 82.57 41 eP P 04 43 08.6 -0.6
WCI pmax pmax
comp=Z,38nm,0.9s,mb5.4
WCI Wyandotte Cave 82.57 41 eP P 04 43 08.6 -0.7
comp=Z,38nm,0.9s,mb5.4
HBAR Harrisburg 82.58 46 eP P 04 43 09.4 +0.1
OHR Ohrid 82.61 324 eP P 04 43 08.1 -1.3
OHR Ohrid 82.61 324 eP P 04 43 07.8 -1.7
FNA Florina 82.64 323 eP P 04 43 08.9 -0.7
FLN La Foliniere 82.73 341 ⇑iP P 04 43 09.4 -0.6
comp=Z,52nm,0.6s,mb5.4
FLN La Foliniere 82.73 341 ⇑iP P 04 43 09.4 -0.6
FLN pmax pmax
comp=Z,26nm,0.6s,mb5.4
FLN La Foliniere 82.73 341 ⇑iP P 04 43 09.4 -0.6
comp=Z,26nm,0.6s,mb5.4
NCB Newcomb 82.74 30 eP P 04 43 09.3 -0.8
comp=Z,44nm,1.5s,mb5.3
LDF La Druitiere 82.80 341 ⇑iP P 04 43 09.8 -0.6
comp=Z,35nm,0.6s,mb5.2
LDF La Druitiere 82.80 341 ⇑iP P 04 43 09.8 -0.6
LDF pmax pmax
comp=Z,17nm,0.6s,mb5.2
LDF La Druitiere 82.80 341 ⇑iP P 04 43 09.8 -0.6
comp=Z,17nm,0.6s,mb5.3
UTMT University of 82.85 44 eP P 04 43 10.9 +0.3
BDRM Kayabasi 82.94 317 iP P 04 43 11.3 +0.1
CABF La Chapelle 83.01 336 ⇑iP P 04 43 11.1 -0.4
comp=Z,12nm,0.7s,mb4.8
CABF La Chapelle 83.01 336 ⇑iP P 04 43 11.1 -0.4
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
CABF La Chapelle 83.01 336 ⇑iP P 04 43 11.1 -0.4
comp=Z,6.0nm,0.7s,mb4.7
XOR Xorichti 83.03 321 eP P 04 43 10.8 -0.8
GRR Gorron 83.17 341 ⇑iP P 04 43 12.0 -0.3
comp=Z,99nm,0.6s,mb5.7
GRR Gorron 83.17 341 ⇑iP P 04 43 12.0 -0.3
GRR pmax pmax
comp=Z,49nm,0.6s,mb5.7
GRR Gorron 83.17 341 ⇑iP P 04 43 12.0 -0.3
comp=Z,50nm,0.6s,mb5.7
PKME Peaks-Kenny Pk 83.26 27 eP P 04 43 12.2 -0.5
comp=Z,12nm,0.8s,mb5.0
LBNH Lisbon 83.30 29 eP P 04 43 12.8 -0.2
SSF Saint Saulge 83.31 338 ⇑iP P 04 43 12.5 -0.6
comp=Z,37nm,0.9s,mb5.1
SSF Saint Saulge 83.31 338 ⇑iP P 04 43 12.5 -0.6
SSF pmax pmax
comp=Z,19nm,0.9s,mb5.1
SSF Saint Saulge 83.31 338 ⇑iP P 04 43 12.5 -0.6
comp=Z,19nm,0.9s,mb5.1
HYF Humbligny 83.35 338 ⇑iP P 04 43 13.1 -0.2
NWAO Narrogin (SRO) 83.43 207 P P 04 43 13.0 -0.7
comp=Z,28nm,0.9s,mb5.3,baz=24,slow=6.7,SNR=9.2
NWAO Narrogin (SRO) 83.43 207 P P 04 43 13.0 -0.7
NWAO pmax pmax
comp=Z,28nm,0.9s
ACCN Adirondack Com 83.45 30 eP P 04 43 12.8 -1.0
ACCN epP pP 04 43 26.8 -1.0
FSSB Fossombrone 83.48 330 P P 04 43 13.8 -0.1
comp=Z,40nm,0.5s,mb5.7
WVT Waverly 83.52 44 eP P 04 43 13.5 -0.6
WVT pmax pmax
comp=Z,19nm,0.8s,mb5.3
WVT Waverly 83.52 44 eP P 04 43 13.5 -0.7
comp=Z,19nm,0.8s,mb5.3
AVF Avril sur Loir 83.60 338 ⇑iP P 04 43 14.2 -0.4
comp=Z,28nm,0.6s,mb5.3
AVF Avril sur Loir 83.60 338 ⇑iP P 04 43 14.2 -0.4
AVF pmax pmax
comp=Z,14nm,0.6s,mb5.3
AVF Avril sur Loir 83.60 338 ⇑iP P 04 43 14.2 -0.4
comp=Z,14nm,0.6s,mb5.3
SMF Signal de Mont 83.61 337 ⇑iP P 04 43 14.2 -0.4
comp=Z,49nm,0.7s,mb5.5
SMF Signal de Mont 83.61 337 ⇑iP P 04 43 14.2 -0.4
SMF pmax pmax
comp=Z,25nm,0.7s,mb5.5
SMF Signal de Mont 83.61 337 ⇑iP P 04 43 14.2 -0.4
comp=Z,25nm,0.7s,mb5.5
BINY Binghamton 83.62 33 eP P 04 43 13.9 -0.7
ERBM Eremo 83.64 332 P P 04 43 15.2 +0.5
comp=Z,42nm,1.1s,mb5.5
GSCL Gusciola 83.64 332 P P 04 43 15.3 +0.5
comp=Z,15nm,0.6s,mb5.3
BOB Bobbio (Coli) 83.64 333 P P 04 43 15.1 +0.3
SEI Scarperia 83.65 331 P P 04 43 15.2 +0.4
comp=Z,183nm,0.8s,mb6.3
VMG Vicchio 83.67 331 P P 04 43 15.8 +0.9
comp=Z,51nm,0.8s,mb5.7
SGMF Saint Gilles 83.67 342 ⇑iP P 04 43 14.4 -0.5
comp=Z,113nm,0.8s,mb5.7
SGMF Saint Gilles 83.67 342 ⇑iP P 04 43 14.4 -0.5
SGMF pmax pmax
comp=Z,57nm,0.8s,mb5.8
SGMF Saint Gilles 83.67 342 ⇑iP P 04 43 14.4 -0.5
comp=Z,57nm,0.8s,mb5.8
RSL Roselend 83.69 335 eP P 04 43 14.9 -0.1
AGG Agios Georgios 83.69 322 eP P 04 43 13.9 -1.1
OG05 Jujurieux 83.71 336 eP P 04 43 14.9 -0.2
ROSF Rostrenen 83.75 342 eP P 04 43 14.6 -0.7
WVL Waterville 83.77 27 eP P 04 43 14.8 -0.6
comp=Z,21nm,0.9s,mb5.3
WVL epP pP 04 43 28.6 -0.9
SNTG Esanatoglia 83.81 330 P P 04 43 15.4 -0.2
LPL La Plagne 83.81 335 ⇑iP P 04 43 15.9 +0.3
comp=Z,39nm,0.8s,mb5.3
LPL La Plagne 83.81 335 ⇑iP P 04 43 15.9 +0.3
LPL pmax pmax
comp=Z,20nm,0.8s,mb5.3
LPL La Plagne 83.81 335 ⇑iP P 04 43 15.9 +0.3
comp=Z,20nm,0.8s,mb5.3
LPG La Plagne 83.82 335 ⇑iP P 04 43 16.1 +0.4
comp=Z,17nm,0.7s,mb5.3
LPG La Plagne 83.82 335 ⇑iP P 04 43 16.1 +0.4
LPG pmax pmax
comp=Z,16nm,0.7s,mb5.3
LPG La Plagne 83.82 335 ⇑iP P 04 43 16.1 +0.4
comp=Z,16nm,0.7s,mb5.2
BDI Bagni Di Lucca 83.90 332 P P 04 43 16.3 +0.2
BDI pmax pmax
comp=Z,29nm,1.0s,mb5.4
BDI Bagni Di Lucca 83.90 332 P P 04 43 16.3 +0.2
comp=Z,28nm,1.0s,mb5.3
BGF Bois d'Agland 83.95 338 ⇑iP P 04 43 15.9 -0.4
comp=Z,31nm,0.6s,mb5.3
BGF Bois d'Agland 83.95 338 ⇑iP P 04 43 15.9 -0.4
BGF pmax pmax
comp=Z,15nm,0.6s,mb5.3
BGF Bois d'Agland 83.95 338 ⇑iP P 04 43 15.9 -0.4
comp=Z,15nm,0.6s,mb5.3
FFD Franklin Falls 84.08 29 eP P 04 43 16.6 -0.3
comp=Z,21nm,0.5s,mb5.5
QUIF Quistinic 84.13 342 ⇑iP P 04 43 16.7 -0.5
comp=Z,34nm,0.8s,mb5.2
QUIF Quistinic 84.13 342 ⇑iP P 04 43 16.7 -0.5
QUIF pmax pmax
comp=Z,17nm,0.8s,mb5.2
QUIF Quistinic 84.13 342 ⇑iP P 04 43 16.7 -0.5
comp=Z,17nm,0.8s,mb5.2
SSPA Standing Stone 84.22 35 eP P 04 43 16.8 -0.9
comp=Z,14nm,0.8s,mb5.1
MCWV Mont Chateau 84.24 36 eP P 04 43 17.2 -0.6
BNI Bardonecchia 84.25 335 eP P 04 43 18.1 +0.3
PLDF La Plantade 84.29 337 eP P 04 43 18.0 0.0
PLAL Pickwick Lake 84.32 44 eP P 04 43 17.2 -0.9
comp=Z,19nm,1.0s,mb5.2
EMMW East Machias 84.33 26 eP P 04 43 17.9 -0.3
comp=Z,19nm,0.8s,mb5.3
EMMW epP pP 04 43 31.5 -0.8
AGO Saint Agoulin 84.34 338 eP P 04 43 18.8 +0.5
TCF Toulx Ste Croi 84.37 338 ⇑iP P 04 43 18.3 -0.2
AQU L'Aquila 84.43 329 eP P 04 43 19.1 +0.3
MBDF Montbardon 84.52 335 ⇑iP P 04 43 18.8 -0.4
comp=Z,19nm,0.5s,mb5.2
MBDF Montbardon 84.52 335 ⇑iP P 04 43 18.8 -0.4
MBDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.2
MBDF Montbardon 84.52 335 ⇑iP P 04 43 18.8 -0.4
comp=Z,9.4nm,0.5s,mb5.2
ORIF Oris-en-Rattie 84.61 335 ⇑iP P 04 43 19.8 +0.1
comp=Z,40nm,0.6s,mb5.4
ORIF Oris-en-Rattie 84.61 335 ⇑iP P 04 43 19.8 +0.1
ORIF pmax pmax
comp=Z,20nm,0.6s,mb5.4
ORIF Oris-en-Rattie 84.61 335 ⇑iP P 04 43 19.8 +0.1
comp=Z,20nm,0.6s,mb5.4
PYM Petit Puy Mans 84.66 337 eP P 04 43 19.9 0.0
MFF Saint Martin d 84.67 340 eP P 04 43 19.4 -0.6
comp=Z,53nm,0.6s,mb5.5
MFF Saint Martin d 84.67 340 eP P 04 43 19.4 -0.6
MFF pmax pmax
comp=Z,26nm,0.6s,mb5.5
MFF Saint Martin d 84.67 340 eP P 04 43 19.4 -0.6
comp=Z,26nm,0.6s,mb5.5
EIL Elat 84.83 308 eP P 04 43 21.5 +0.7
HRV Harvard--Oak R 84.96 29 eP P 04 43 20.7 -0.7
HRV pmax pmax
comp=Z,22nm,0.9s,mb5.3
HRV Harvard--Oak R 84.96 29 eP P 04 43 20.7 -0.7
comp=Z,22nm,0.9s,mb5.3
HRV epP pP 04 43 34.4 -1.2
VIVF Saint-Julien-l 85.01 336 ⇑iP P 04 43 21.3 -0.4
comp=Z,38nm,0.9s,mb5.2
VIVF Saint-Julien-l 85.01 336 ⇑iP P 04 43 21.3 -0.4
VIVF pmax pmax
comp=Z,19nm,0.9s,mb5.2
VIVF Saint-Julien-l 85.01 336 ⇑iP P 04 43 21.3 -0.4
comp=Z,19nm,0.9s,mb5.2
LBL Lubilhac 85.07 337 eP P 04 43 22.5 +0.5
SBF Sospel 85.09 334 ⇑iP P 04 43 21.3 -0.8
comp=Z,24nm,0.5s,mb5.2
SBF Sospel 85.09 334 ⇑iP P 04 43 21.3 -0.8
SBF pmax pmax
comp=Z,12nm,0.5s,mb5.3
SBF Sospel 85.09 334 ⇑iP P 04 43 21.3 -0.8
comp=Z,12nm,0.5s,mb5.3
WES Weston 85.15 29 eP P 04 43 22.3 -0.1

WES				*e*pP	pP	04 43 35.8	-0.7
SWET	**Sewanee**	**85.17**	**43**	*e*P	**P**	**04 43 21.9**	**-0.6**
TZTN	**Tazewell**	**85.21**	**41**	*e*P	**P**	**04 43 22.4**	**-0.2**
MVL	**Millersville**	**85.37**	**34**	*e*P	**P**	**04 43 23.1**	**-0.4**
MVL				*e*pP	pP	04 43 37.0	-0.6
PAL	**Palisades**	**85.43**	**32**	*e*P	**P**	**04 43 23.3**	**-0.5**
PAL				pmax	pmax		
comp=Z,16nm,0.7s,mb5.3							
PAL	**Palisades**	**85.43**	**32**	*e*P	**P**	**04 43 23.3**	**-0.4**
comp=Z,16nm,0.7s,mb5.2							
RJF	**Les Rejaudoux**	**85.46**	**338⇑**	*i*P	**P**	**04 43 23.3**	**-0.7**
comp=Z,59nm,0.9s,mb5.4							
RJF	**Les Rejaudoux**	**85.46**	**338⇑**	*i*P	**P**	**04 43 23.3**	**-0.7**
RJF				pmax	pmax		
comp=Z,29nm,0.9s,mb5.4							
RJF	**Les Rejaudoux**	**85.46**	**338⇑**	*i*P	**P**	**04 43 23.3**	**-0.7**
comp=Z,29nm,0.9s,mb5.4							
SMRF	**Simiane la Rot**	**85.56**	**335⇑**	*i*P	**P**	**04 43 24.8**	**+0.4**
FWV	**Forest Hill**	**85.57**	**38**	*e*P	**P**	**04 43 23.8**	**-0.7**
FRF	**La Foret Royal**	**85.61**	**334**	*e*P	**P**	**04 43 24.5**	**-0.2**
comp=Z,38nm,1.1s,mb5.2							
FRF	**La Foret Royal**	**85.61**	**334**	*e*P	**P**	**04 43 24.5**	**-0.2**
FRF				pmax	pmax		
comp=Z,19nm,1.1s,mb5.2							
FRF	**La Foret Royal**	**85.61**	**334**	*e*P	**P**	**04 43 24.5**	**-0.2**
comp=Z,19nm,1.1s,mb5.2							
CPCT	**Cooper Cave**	**85.65**	**42**	*e*P	**P**	**04 43 24.5**	**-0.4**
CPCT				*e*pP	pP	04 43 37.5	-1.6
CAF	**Calviac**	**85.67**	**338**	*e*P	**P**	**04 43 25.0**	**0.0**
comp=Z,77nm,0.9s,mb5.7							
CAF	**Calviac**	**85.67**	**338**	*e*P	**P**	**04 43 25.0**	**0.0**
CAF				pmax	pmax		
comp=Z,39nm,0.9s,mb5.6							
CAF	**Calviac**	**85.67**	**338**	*e*P	**P**	**04 43 25.0**	**0.0**
comp=Z,39nm,0.9s,mb5.6							
PGF	**Pioggiola**	**85.77**	**332⇑**	*i*P	**P**	**04 43 24.8**	**-0.7**
comp=Z,22nm,0.7s,mb5.2							
PGF	**Pioggiola**	**85.77**	**332⇑**	*i*P	**P**	**04 43 24.8**	**-0.7**
PGF				pmax	pmax		
comp=Z,11nm,0.7s,mb5.2							
PGF	**Pioggiola**	**85.77**	**332⇑**	*i*P	**P**	**04 43 24.8**	**-0.7**
comp=Z,11nm,0.7s,mb5.2							
LMR	**La Mourre**	**85.86**	**334**	*e*P	**P**	**04 43 25.7**	**-0.2**
comp=Z,128nm,1.2s,mb5.7							
LMR	**La Mourre**	**85.86**	**334**	*e*P	**P**	**04 43 25.7**	**-0.2**
LMR				pmax	pmax		
comp=Z,64nm,1.2s,mb5.7							
LMR	**La Mourre**	**85.86**	**334**	*e*P	**P**	**04 43 25.7**	**-0.2**
comp=Z,64nm,1.2s,mb5.7							
ELN	**Prospectdale**	**85.89**	**38**	*e*P	**P**	**04 43 25.0**	**-1.0**
LASF	**Ste Croix**	**85.96**	**336⇑**	*i*P	**P**	**04 43 26.7**	**+0.3**
comp=Z,27nm,1.0s,mb5.1							
BLA	**Blacksburg**	**86.05**	**38**	*e*P	**P**	**04 43 26.2**	**-0.6**
BLA				pmax	pmax		
comp=Z,36nm,0.9s,mb5.6							
BLA	**Blacksburg**	**86.05**	**38**	*e*P	**P**	**04 43 26.1**	**-0.7**
comp=Z,36nm,0.9s,mb5.6							
CBN	**Corbin**	**86.50**	**35**	*e*P	**P**	**04 43 28.6**	**-0.4**
comp=Z,14nm,0.6s,mb5.4							
MTLF	**Montolieu**	**87.10**	**337⇑**	*i*P	**P**	**04 43 31.7**	**-0.3**
comp=Z,30nm,1.0s,mb5.2							
MTLF	**Montolieu**	**87.10**	**337⇑**	*i*P	**P**	**04 43 31.7**	**-0.3**
MTLF				pmax	pmax		
comp=Z,15nm,1.0s,mb5.2							
MTLF	**Montolieu**	**87.10**	**337⇑**	*i*P	**P**	**04 43 31.7**	**-0.3**
comp=Z,15nm,1.0s,mb5.2							
EPF	**Esparros**	**87.89**	**338**	*e*P	**P**	**04 43 35.8**	**0.0**
comp=Z,11nm,0.6s,mb5.0							
EPF	**Esparros**	**87.89**	**338**	*e*P	**P**	**04 43 35.8**	**0.0**
EPF				pmax	pmax		
comp=Z,6.0nm,0.6s,mb5.0							
EPF	**Esparros**	**87.89**	**338**	*e*P	**P**	**04 43 35.8**	**0.0**
comp=Z,5.6nm,0.6s,mb5.0							
SJPF	**Ste Jean**	**88.21**	**339⇑**	*i*P	**P**	**04 43 36.9**	**-0.4**
ETSF	**Etsaut**	**88.25**	**339⇑**	*i*P	**P**	**04 43 36.9**	**-0.6**
comp=Z,14nm,0.5s,mb5.2							
ETSF	**Etsaut**	**88.25**	**339⇑**	*i*P	**P**	**04 43 36.9**	**-0.6**
ETSF				pmax	pmax		
comp=Z,7.0nm,0.5s,mb5.2							
ETSF	**Etsaut**	**88.25**	**339⇑**	*i*P	**P**	**04 43 36.9**	**-0.6**
comp=Z,7.1nm,0.5s,mb5.2							
CNNC	**Cliffs of the**	**88.81**	**37**	*e*P	**P**	**04 43 39.5**	**-0.6**
comp=Z,35nm,1.0s,mb5.6							
RPZ	**Rata Peaks**	**90.69**	**165**	P	**P**	**04 43 49.4**	**+0.4**
comp=Z,16nm,0.7s,mb5.5,baz=95,slow=4.3,SNR=5.5							
KEST	**Kesra**	**91.75**	**329**	P	**P**	**04 43 53.3**	**-0.5**
comp=Z,2.7nm,0.9s,mb4.6,baz=272,slow=6.8,SNR=4.6							
ESDC	**Sonseca Array**	**92.13**	**340**	P	**P**	**04 43 54.5**	**-1.1**
comp=Z,1.1nm,0.5s,mb4.4,baz=6.1,slow=4.0,SNR=5.3							
EVO	**Evora**	**94.13**	**343**	*e*P	**P**	**04 44 00.5**	**-4.3**
comp=Z,21nm,1.0s,mb5.2							
SJG	**San Juan**	**108.77**	**36**	*e*PKiKP	PKiKP	04 49 15.4	+0.2
HUMP	**Col San Antoni**	**108.87**	**36**	*e*PKiKP	PKiKP	04 49 19.8	+4.5
SDV	**Santo Domingo**	**114.80**	**45**	*e*PKiKP	PKiKP	04 49 26.4	-0.2
TORD	**Torodi Ar. Bea**	**115.05**	**326**	PKP	PKiKP	04 49 26.2	-0.9
comp=Z,1.7nm,0.4s,baz=15,slow=2.3,SNR=57							
TORD				PKKPbc	PKKPbc	05 00 00.0	-2.7
comp=Z,1.1nm,0.5s,baz=216,slow=3.4,SNR=6.2							
CASY	**Casey**	**115.40**	**197**	*e*P	PKPdf	04 49 25.5	-2.3
CASY	**Casey**	**115.40**	**197**	*e*Pdif	Pdif	04 45 40.0	+0.2
CASY				*e*PKPdf	PKPdf	04 49 25.4	-2.3
VNDA	**Vanda**	**122.87**	**177**	PKP	PKPdf	04 49 39.7	-2.4
comp=Z,4.8nm,0.8s,baz=315,slow=4.5,SNR=42							
VNDA				PKKPbc	PKKPbc	04 59 33.4	-0.8
comp=Z,2.5nm,1.1s,baz=207,slow=3.0,SNR=13							
VNDA	**Vanda**	**122.87**	**177**	*e*PKPdf	PKPdf	04 49 39.9	-2.2
LSZ	**Lusaka**	**122.96**	**282**	*e*PKiKP	PKPdf	04 49 42.7	+0.4
SBA	**Scott Base**	**123.42**	**176**	*e*PKiKP	PKPdf	04 49 41.1	-2.1
DBIC	**Dimbokro**	**123.47**	**330**	PKP	PKPdf	04 49 42.8	-0.5
comp=Z,9.6nm,0.6s,baz=16,slow=2.6,SNR=36							
DBIC	**Dimbokro**	**123.47**	**330**	*e*PKPdf	PKPdf	04 49 42.3	-1.0
MAW	**Mawson**	**129.94**	**210**	*e*P	PKPdf	04 49 53.7	-1.9
comp=Z,6.0nm,0.6s							
MAW	**Mawson**	**129.94**	**210**	PKP	PKPdf	04 49 53.8	-1.8
comp=Z,7.7nm,0.7s,baz=57,slow=1.1,SNR=36							
MAW	**Mawson**	**129.94**	**210**	PKiKP	PKPdf	04 49 53.8	-1.8
MAW				pmax	pmax		
comp=Z,8.0nm,0.7s							
BOSA	**Boshof**	**133.71**	**272**	PKP	PKPdf	04 50 01.4	-1.3
comp=Z,1.0nm,0.4s,baz=182,slow=19,SNR=3.7							
BOSA	**Boshof**	**133.71**	**272**	PKiKP	PKPdf	04 50 01.4	-1.3
BOSA				pmax	pmax		
comp=Z,1.0nm,0.4s							
QSPA	**South Pole Qui**	**135.14**	**180**	*e*P	PKPdf	04 50 04.4	-1.0
LPAZ	**La Paz**	**136.90**	**60**	PKhKP		04 49 57.1	
comp=Z,1.2nm,0.8s,baz=24,slow=12,SNR=4.6							
LPAZ				PKP	PKPdf	04 50 09.8	+1.1
comp=Z,5.3nm,0.8s,baz=17,slow=12,SNR=22							
LPAZ	**La Paz**	**136.90**	**60**	PKHKP		04 49 57.1	
LPAZ						04 50 09.8	
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.8s							
LPAZ				pmax	pmax		
comp=Z,5.0nm,0.8s							
LPAZ	**La Paz**	**136.90**	**60**	*e*PKPdf	PKPdf	04 50 09.6	+0.9
SYO	**Syowa Base**	**138.63**	**211⇑**	*e*PKPdf	PKPdf	04 50 09.6	-2.3
SYO	**Syowa Base**	**138.63**	**211⇑**	*e*PKiKP	PKiKP	04 50 11.4	-2.6
SIV	**San Ignacio**	**140.78**	**52**	PKhKP		04 50 06.8	
comp=Z,2.5nm,0.6s,baz=306,slow=3.2,SNR=19							
SIV				PKP	PKPdf	04 50 15.7	-0.1
comp=Z,5.1nm,0.7s,baz=329,slow=1.7,SNR=13							
SIV	**San Ignacio**	**140.78**	**52**	PKP	PKPdf	04 50 15.7	-0.1
LVC	**Limon Verde**	**141.08**	**67**	PKhKP		04 50 12.7	
comp=Z,2.5nm,0.6s,baz=264,slow=9.2,SNR=3.0							
BDFB	**Brasilia**	**146.69**	**33**	PKPbc	PKPbc	04 50 26.8	-1.0
comp=Z,48nm,0.6s,baz=301,slow=2.1,SNR=97							
BDFB	**Brasilia**	**146.69**	**33**	PKP2	PKPab	04 50 26.8	-2.2
BDFB				pmax	pmax		
comp=Z,49nm,0.6s							
FCH	**Farellones**	**146.94**	**83**	*e*P	PKPdf	04 50 26.6	+0.1
CFAA	**Coronel Fontan**	**147.39**	**78**	PKPbc	PKPbc	04 50 27.0	-2.8
comp=Z,5.6nm,0.5s,baz=295,slow=2.6,SNR=11							
NVL	**N'lazarevskaya**	**147.51**	**204***c*	*i*PKP2	PKPbc	04 50 28.3	-1.8
NVL				pmax	pmax		
comp=Z,60nm,1.0s							
NVL				pmax	pmax		
comp=N,21nm,1.1s							
NVL				pmax	pmax		
comp=E,7.0nm,0.7s							
MAIT	**Maitri**	**147.54**	**204⇑**	*i*PKPdf	PKPdf	04 50 28.5	+1.0
SNAA	**Sanae**	**150.64**	**197**	*e*PKiKP	PKPdf	04 50 29.2	-3.3
SNAA				*e*		04 50 35.8	
SNAA	**Sanae**	**150.64**	**197**	*e*PKPdf	PKPdf	04 50 29.2	-3.4
SNAA				*e*PKPbc	PKPbc	04 50 35.8	-2.2
SNAA				*e*PKPab	PKPab	04 50 43.3	-1.7
CPUP	**Villa Florida**	**151.03**	**58**	PKP	PKPdf	04 50 31.4	-1.7
comp=E,20nm,0.6s,baz=332,slow=2.7,SNR=21							
CPUP				PKPbc	PKPbc	04 50 38.2	-0.7
comp=E,20nm,0.6s,baz=306,slow=2.0,SNR=66							
CPUP				PKPab	PKPab	04 50 45.6	-1.0
comp=E,4.6nm,0.6s,baz=320,slow=5.3,SNR=6.9							
CPUP	**Villa Florida**	**151.03**	**58**	PKIKP	PKPdf	04 50 31.5	-1.6
CPUP						04 50 38.3	
CPUP						04 50 45.6	
CPUP				pmax	pmax		
comp=Z,20nm,0.6s							
CPUP				pmax	pmax		
comp=Z,5.0nm,0.6s							
CPUP	**Villa Florida**	**151.03**	**58**	*e*PKPdf	PKPdf	04 50 32.5	-0.6
CPUP				*e*PKPbc	PKPbc	04 50 38.0	-0.9
CPUP				*e*PKPab	PKPab	04 50 45.8	-0.8

MAN ***17*** *04:40:24.5, 934N×12702E, h1km, mb3.0, ML4.3, MS6.6*
ISCJB ***17*** *04:40:26.8±2.5, 935N±005×12706E±005, h28km±18km, mb4.0/11, Error ellipse: s-maj=9.4km s-min=7.4km az=78.5*
NEIC ***17*** *04:40:29.7±0.7, 931N×12694E, h35km, mb4.3/2, Error ellipse: s-maj=53.8km s-min=9.0km az=73.0*
IDC ***17*** *04:40:31.0±1.1, 931N×12697E, h48km±8km, mb3.8/10, mb1 3.9/10, mb1mx3.7/21, mbtmp4.0/10, Error ellipse: s-maj=72.4km s-min=13.1km az=73.0*
ISC 17 04:40:27.1±2.5, 936N±005×12701E±005, h16km±16km, h45km±1.7km; pP-P, n21, σ1°01/27, mb4.0/11, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.43**	**254**	*e*P	**Pn**	**04 40 50.4**	**-2.0**
BUTP				*e*S	**Sn**	**04 41 08.7**	**-2.1**
SCPH	**Surigao**	**1.56**	**286**	*e*P	**Pn**	**04 40 53.3**	**-0.9**
SCPH				*e*S	**Sn**	**04 41 11.7**	**-2.4**
MSLP	**Maasin**	**2.26**	**290**	*e*P	**Pn**	**04 41 04.7**	**+0.9**
MSLP				*e*S	**Sn**	**04 41 32.8**	**+1.5**
BUKP	**Musuan**	**2.43**	**233**	*e*P	**Pn**	**04 41 06.3**	**+0.2**
BUKP				*e*S	**Sn**	**04 41 37.4**	**+2.0**
CGP	**Cagayan de Oro**	**2.46**	**249⇓**	*e*P	**Pn**	**04 41 06.1**	**-0.5**
CGP				*i*S	**Sn**	**04 41 36.7**	**+0.4**
PLP	**Palo**	**2.69**	**312**	*e*P	**Pn**	**04 41 10.6**	**+0.9**
PLP				*e*S	**Sn**	**04 41 42.4**	**+0.5**
DCPH	**Dipolog City**	**3.70**	**258⇑**	*e*P	**Pn**	**04 41 23.8**	**+0.2**
PAGZ	**Pagadian**	**3.89**	**248**	*e*P	**Pn**	**04 41 27.3**	**+1.0**
GUIM	**Jordan**	**4.54**	**286**	*e*P	**Pn**	**04 41 28.2**	**-6.9**
KAKA	**Kakadu**	**22.58**	**166**	⇓*i*P	**P**	**04 45 27.4**	**+0.7**
9.0nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**27.32**	**183**	*e*P	**P**	**04 46 10.9**	**-0.2**
3.0nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**27.32**	**183**	P	**P**	**04 46 11.2**	**+0.1**
1.6nm,0.5s,mb3.8,baz=16,slow=14,SNR=12							
WRA	**Warramunga Arr**	**30.00**	**166**	P	**P**	**04 46 33.9**	**-1.0**
0.5nm,0.5s,mb3.5,baz=347,slow=9.2,SNR=6.5							
ASAR	**Alice Springs**	**33.51**	**169**	P	**P**	**04 47 05.2**	**-0.6**
0.5nm,0.4s,mb3.8,baz=351,slow=6.7,SNR=9.5							
SONM	**Songino Array**	**42.12**	**339**	P	**P**	**04 48 19.1**	**+0.6**
0.3nm,0.4s,mb3.3,baz=138,slow=4.9,SNR=2.6							
NWAO	**Narrogin (SRO)**	**43.07**	**192**	P	**P**	**04 48 26.5**	**+0.3**
5.3nm,0.6s,mb4.5,baz=27,slow=11,SNR=4.0							
STKA	**Stephens Creek**	**43.31**	**162**	P	**P**	**04 48 28.6**	**+0.4**
2.2nm,0.7s,mb4.0,baz=272,slow=8.3,SNR=3.3							
STKA				pP	pP	04 48 41.2	+8.0
1.9nm,0.4s,baz=358,slow=6.1,SNR=3.4							
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**04 49 44.3**	**-0.1**
1.0nm,0.6s,mb3.9,baz=121,slow=7.9,SNR=11							
MKAR				pP	pP	04 49 57.5	+7.9
1.4nm,0.6s,baz=121,slow=8.0,SNR=7.8							
BVAR	**Borovoye Array**	**62.83**	**325**	P	**P**	**04 50 51.0**	**-1.0**
0.7nm,0.5s,mb4.0,baz=99,slow=4.7,SNR=4.5							
ARCES	**ARCESS Array B**	**85.30**	**340**	P	**P**	**04 53 03.5**	**+0.3**
1.7nm,0.6s,mb4.3,baz=88,slow=6.7,SNR=7.9							
ARCES				pP	pP	04 53 16.9	+8.3
0.9nm,0.5s,baz=86,slow=5.9,SNR=1.0							
FINES	**FINESS Array B**	**87.03**	**332**	P	**P**	**04 53 11.6**	**-0.2**
1.8nm,0.8s,mb4.3,baz=52,slow=7.2,SNR=4.2							

IDC ***17*** *04:48:07.4±7.7, 3538N×7015E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.6/24, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=123.9km s-min=47.4km az=160.0*
NEIC ***17*** *04:48:10.1±4.0, 3549N×7006E, h10km, Error ellipse: s-maj=60.0km s-min=18.8km az=166.0*
ISCJB ***17*** *04:48:22.7±0.5, 3597N±004×7085E±007, h151km±9km, mb3.5/2, Error ellipse: s-maj=10.4km s-min=4.8km az=139.8*
ISC 17 04:48:23.2±0.6, 3598N±003×7075E±008, h135km±9km, n37, σ1°29/49, mb3.5/2, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.35**	**156**	⇓P	**Pn**	**04 49 03.2**	**+1.4**
CEP				S	**Sn**	**04 49 32.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.11**	**138**	⇑P	**Pn**	**04 49 13.8**	**+2.4**
THW	**Thamme Wali**	**3.28**	**165**	⇑P	**Pn**	**04 49 14.4**	**+0.7**
SBDP	**Sheikh Budin**	**3.67**	**179**	⇑P	**Pn**	**04 49 17.8**	**-0.9**
DRP	**Derazinda**	**4.25**	**186**	⇓P	**Pn**	**04 49 26.3**	**-0.1**
THN	**Thein Dam**	**5.43**	**129**	*e*P	**Pn**	**04 49 43.7**	**+1.6**
THN				*e*S	**Sn**	**04 50 46.3**	**+2.8**
DLH	**Dalhousie**	**5.52**	**127**	*e*P	**Pn**	**04 49 40.0**	**-3.3**
DLH				*e*S	**Sn**	**04 50 44.0**	**-1.7**
AML	**Almayashu**	**6.56**	**20**	P	**Pn**	**04 49 57.2**	**-0.1**
SNR=37							
SDNR	**Sundarnagar**	**6.84**	**129**	*e*P	**Pn**	**04 50 02.6**	**+1.5**
SDNR				*e*S	**Sn**	**04 51 16.2**	**-1.4**
UCH	**Uchtor**	**6.89**	**24**	P	**Pn**	**04 50 02.0**	**+0.3**
SNR=26							
EKS2	**Erkin-Say**	**7.07**	**18**	P	**Pn**	**04 50 03.9**	**-0.3**
SNR=12							
AAK	**Ala-Archa**	**7.25**	**22**	P	**Pn**	**04 50 06.8**	**+0.2**
SNR=12							
AAK	**Ala-Archa**	**7.25**	**22**	⇓*i*Pn	**Pn**	**04 50 05.5**	**-1.1**
9.9nm,0.6s							
AAK				*e*Sn	**Sn**	**04 51 25.0**	**-2.4**
KBK	**Karagaybulak**	**7.42**	**25**	P	**Pn**	**04 50 10.0**	**+1.2**
SNR=9.6							
ULHL	**Ulahol**	**7.57**	**33**	P	**Pn**	**04 50 12.7**	**+1.7**
SNR=8.8							
CHMS	**Chumysh**	**7.66**	**23**	P	**Pn**	**04 50 11.5**	**-0.6**
SNR=8.4							
USP	**Ospenovka**	**7.83**	**21**	P	**Pn**	**04 50 13.6**	**-0.8**
SNR=28							
TKM2	**Tokmak 2**	**7.88**	**27**	P	**Pn**	**04 50 15.5**	**+0.5**
SNR=10							
KHET	**Khetri**	**8.97**	**150**	*e*P	**Pn**	**04 50 26.5**	**-3.2**
KHET				*e*S	**Sn**	**04 52 01.1**	**-8.0**
KHET				AML	AML	04 52 03.6	
comp=N,18nm,0.1s							
KHET				AML	AML	04 52 03.7	
comp=E,23nm,0.2s							
NDI	**New Delhi**	**9.10**	**141**	*e*P	**Pn**	**04 50 30.0**	**-1.4**
NDI				*e*S	**Sn**	**04 52 07.0**	**-5.1**
KUDL	**Kundal**	**9.20**	**146**	*e*P	**Pn**	**04 50 32.2**	**-0.6**
KUDL				*e*S	**Sn**	**04 52 06.9**	**-7.7**
KUDL				AML	AML	04 52 12.4	
comp=E,24nm,0.5s							
KUDL				AML	AML	04 52 13.1	
comp=N,15nm,0.1s							
SONA	**Sohna**	**9.39**	**143**	*e*P	**Pn**	**04 50 34.3**	**-1.0**
SONA				*e*S	**Sn**	**04 52 12.8**	**-6.3**
SONA				AML	AML	04 52 17.8	
comp=N,24nm,0.2s							
SONA				AML	AML	04 52 17.8	
comp=E,62nm,0.3s							
KOLN	**Koldanda**	**13.64**	**123**	*e*P	**Pn**	**04 51 31.5**	**+0.5**
KOLN				*e*S	**Sn**	**04 53 53.6**	**-8.1**
MK31	**Makanchi Array**	**13.83**	**35**	*e*Pn	**Pn**	**04 51 36.8**	**+3.3**
MKAR	**Makanchi Array**	**13.83**	**35**	Pn	**Pn**	**04 51 35.9**	**+2.4**
comp=E,0.5nm,0.3s,baz=220,slow=11,SNR=12							
MKAR	**Makanchi Array**	**13.83**	**35**	Pn	**Pn**	**04 51 35.9**	**+2.4**
GKN	**Gorkha**	**14.21**	**120**	*e*P	**Pn**	**04 51 37.0**	**-1.3**
GKN				*e*S	**Sn**	**04 54 06.8**	**-8.6**
DMN	**Daman**	**14.78**	**120**	*e*P	**Pn**	**04 51 45.5**	**0.0**
KKN	**Kakani**	**14.79**	**119**	*e*P	**Pn**	**04 51 46.1**	**+0.5**
PKI	**Pulchoki**	**15.01**	**120**	*e*P	**Pn**	**04 51 49.0**	**+0.6**
PKI				*e*S	**Sn**	**04 54 26.4**	**-8.4**
GUN	**Gumba**	**15.14**	**118**	*e*P	**Pn**	**04 51 50.3**	**+0.3**
BVAR	**Borovoye Array**	**17.05**	**359**	P	**Pn**	**04 52 12.8**	**-0.6**
comp=E,0.6nm,0.3s,baz=170,slow=11,SNR=13							
AKTK	**Aktyubinsk**	**17.13**	**331**	P	**Pn**	**04 52 13.1**	**-1.4**
AKTO	**Aktyubinsk**	**17.13**	**331**	P	**Pn**	**04 52 13.1**	**-1.4**
comp=E,0.5nm,0.3s,baz=142,slow=13,SNR=16							
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**04 55 59.2**	**+1.8**
comp=E,2.1nm,0.8s,mb3.8,baz=106,slow=8.6,SNR=4.1							
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**04 55 59.2**	**+1.8**
NOA	**NORSAR Array B**	**44.67**	**323**	P	**P**	**04 56 23.0**	**+0.5**
comp=E,0.3nm,0.4s,mb3.2,baz=101,slow=7.9,SNR=3.3							

IDC 17 04:55:37.9±3.7, 565S×15100E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/12, mbtmp3.4/2, Error ellipse: s-maj=153.0km s-min=48.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**227**	P	P	05 00 29.0	+0.3
0.5nm,0.5s,baz=53,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**24.33**	**221**	P	P	05 00 57.6	+0.4
0.9nm,0.7s,baz=58,slow=8.9,SNR=9.5							
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc	05 15 28.0	+0.6
0.7nm,0.7s,baz=63,slow=2.4,SNR=9.1							

GUC 17 04:57:50.1±0.5, 3304S×7212W, h35km±1km, MD3.8, ML3.7, 7C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.63**	**133⇑**	*i*P	Pn	04 58 02.1	-0.4
LCCH				*i*S	Sn	04 58 11.4	0.0
PACH	**Papudo**	**0.76**	**49⇑**	*i*P	Pn	04 58 04.4	0.0
PACH				*i*S	Sn	04 58 15.7	+1.0
LNV	**Longovilo**	**1.09**	**147**	*i*P	Pn	04 58 09.4	+0.5
LNV				*i*S	Sn	04 58 24.2	+1.6
TACH	**Talagante**	**1.16**	**122**	⇓*i*P	Pn	04 58 10.9	+1.0
TACH				*i*S	Sn	04 58 26.4	+1.9
RCDM	**Rinconada Maip**	**1.19**	**112**	*e*P	Pn	04 58 11.1	+0.9
RCDM				*i*S	Sn	04 58 26.6	+1.5
PEL	**Peldehue**	**1.21**	**95⇑**	*i*P	Pn	04 58 12.0	+1.5
PEL				*i*S	Sn	04 58 28.2	+2.6
PEL				AML	AML	04 58 32.0	
comp=N,2μm,0.5s							
PTCH	**Petorca**	**1.27**	**53**	*i*P	Pn	04 58 12.7	+1.4
PTCH				*i*S	Sn	04 58 29.3	+2.2
PTCH				AML	AML	04 58 32.5	
comp=N,4μm,0.4s							
SAN	**Santiago**	**1.29**	**109**	AML	AML	04 58 35.6	
comp=E,919nm,0.6s							
STL	**Santa Lucia**	**1.30**	**108**	*i*P	Pn	04 58 12.8	+1.0
STL				*i*S	Sn	04 58 30.1	+2.2
JACH	**Jahuel**	**1.33**	**75**	*e*P	Pn	04 58 13.2	+1.0
JACH				*i*S	Sn	04 58 31.4	+2.6
DSCH	**Colegio Aleman**	**1.35**	**106**	*i*P	Pn	04 58 13.5	+1.1
DSCH				*i*S	Sn	04 58 31.7	+2.6
ANTU	**Antumapu**	**1.35**	**113**	⇓*i*P	Pn	04 58 14.4	+1.9
ANTU				*i*S	Sn	04 58 32.4	+3.3
ANTU				AML	AML	04 58 37.7	
comp=E,868nm,0.5s							
CLCH	**Cerro Calan**	**1.37**	**105**	*i*P	Pn	04 58 14.2	+1.5
CLCH				⇑*i*S	Sn	04 58 32.2	+2.5
CLCH				AML	AML	04 58 38.6	
comp=N,1μm,0.8s							
PCH	**Pirque**	**1.46**	**114**	⇓*i*P	Pn	04 58 15.8	+1.9
PCH				*i*S	Sn	04 58 35.0	+3.1
CHCH	**Chadas Angostu**	**1.52**	**126**	⇑*i*P	Pn	04 58 16.3	+1.6
CHCH				*i*S	Sn	04 58 36.2	+3.0
FCH	**Farellones**	**1.56**	**101**	⇑*i*P	Pn	04 58 17.6	+2.3
FCH				*i*S	Sn	04 58 38.3	+4.0
FCH				AML	AML	04 58 44.1	
comp=N,809nm,0.6s							
CACH	**El Canelo**	**1.66**	**131**

EPON Pontenova 3.68 20 Lg 05 10 36.1
comp=E,0.6nm,0.2s,SNR=4.0
GUD Guadarrama 3.71 77 Lg 05 10 35.2
comp=E,0.5nm,0.2s,SNR=4.0
EADA Adamuz 3.78 116 Sn **Sn 05 10 18.9 -4.2**
comp=E,0.2nm,0.1s,SNR=7.9
EADA Lg 05 10 41.6
comp=E,0.4nm,0.1s,SNR=7.9

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*IDC **17** 05:36:19.6±2.1, 7140N×982W, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.5/24, mbtmp3.8/5, ML3.2/3, Error ellipse: s-maj=44.4km s-min=21.9km az=16.0*
*ISCJB **17** 05:36:21.4±0.9, 7144N±005×96W±0.3, h10km, mb3.9/2, Error ellipse: s-maj=13.3km s-min=5.1km az=137.4*
*NEIC **17** 05:36:22.0±0.7, 7132N×1012W, h10km, Error ellipse: s-maj=10.3km s-min=6.3km az=52.0*
*NAO **17** 05:36:24.5±4.3, 7143N×9.14W*
*BER **17** 05:36:25.1±1.7, 7144N×9.11W, h10km, MD3.3, ML3.4*
*CSEM **17** 05:36:27.3±0.5, 7148N×9.30W, h10km, ML3.4, Error ellipse: s-maj=17.4km s-min=8.4km az=101.0*
ISC 17 05:36:23.3±1.6, 7136N±007×97W±03, h11km±10km, n19, σ0§65/26, mb3.9/2, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.52**	**129**	⇑*iP*	**Pg**	**05 36 33.9**	**+0.4**
JNW				*eS*	**Sg**	**05 36 40.2**	**-0.3**
JNW				AML	AML	05 36 42.1	
	comp=Z,3μm,0.2s						
JNW	**Jan Mayen West**	**0.52**	**129**	⇑*iP*	**Pg**	**05 36 33.9**	**+0.4**
JNW				*eS*	**Sg**	**05 36 40.2**	**-0.3**
JMIC	**Jan Mayen**	**0.53**	**135**	Pg	**Pg**	**05 36 33.9**	**+0.2**
JMIC				Lg		05 36 40.7	
JMIC	**Jan Mayen**	**0.53**	**135**	Pn	**Pg**	**05 36 34.0**	**+0.3**
	comp=Z,618nm,0.3s,baz=245,slow=0.9,SNR=44						
JMIC				Sn	**Sg**	**05 36 40.7**	**0.0**
	comp=Z,432nm,0.3s,baz=229,slow=20,SNR=57						
JMI	**Jan Mayen**	**0.53**	**145**	⇑*iP*	**Pg**	**05 36 34.0**	**+0.3**
JMI				*eS*	**Sg**	**05 36 41.7**	**+1.0**
JNE	**Jan Mayen East**	**0.58**	**130**	⇑*iP*	**Pg**	**05 36 34.6**	**0.0**
JNE				*eS*	**Sg**	**05 36 40.5**	**-1.7**
JNE				AML	AML	05 36 43.3	
	comp=Z,3μm,0.1s						
JNE	**Jan Mayen East**	**0.58**	**130**	⇑*iP*	**Pg**	**05 36 34.6**	**0.0**
JNE				*eS*	**Sg**	**05 36 40.5**	**-1.7**
DAG	**Danmarks Havn**	**5.96**	**340**	⇑*iP*	**Pn**	**05 37 51.0**	**-0.6**
	comp=Z,11nm,0.6s						
DAG				*i*		05 38 53.8	
KBS	**Kingsbay**	**9.31**	**26**	Pn	**Pn**	**05 38 37.0**	**-0.5**
KBS				Sn	**Sn**	**05 40 14.6**	**-7.6**
SPA0	**Spitsbergen Ar**	**9.55**	**33**	Pn	**Pn**	**05 38 41.7**	**+0.9**
	baz=233,slow=14						
ARA0	**ARCESS Array S**	**11.81**	**82**	Pn	**Pn**	**05 39 12.3**	**+0.6**
	baz=296,slow=12						
ARCES	**ARCESS Array B**	**11.81**	**82**	Pn	**Pn**	**05 39 11.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=302,slow=12,SNR=4.1						
KEV	**Kevo**	**12.19**	**80**	*ep*	**Pn**	**05 39 17.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**16.34**	**167**	Pn	**Pn**	**05 40 12.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=357,slow=13,SNR=2.8						
FIA0	**FINESS Array S**	**17.09**	**107**	P	**Pn**	**05 40 23.1**	**+0.9**
	baz=325,slow=12						
FINES	**FINESS Array B**	**17.09**	**107**	P	**Pn**	**05 40 22.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=325,slow=12,SNR=5.7						
JOF	**Joensuu**	**17.64**	**98**	*ep*	**Pn**	**05 40 34.1**	**+5.1**
SCHQ	**Schefferville**	**29.17**	**266**	P	**P**	**05 42 20.1**	**-4.5**
	comp=Z,3.7nm,0.8s,mb4.2,baz=51,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**58.60**	**167**	P	**P**	**05 46 20.2**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=6.2,slow=6.6,SNR=7.4						

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*CSEM **17** 05:41:33.9±0.1, 4642N×1051E, h2km, ML3.7/13, Error ellipse: s-maj=1.3km s-min=0.9km az=167.0*
*ZUR **17** 05:41:33.9, 4650N×1055E, h6km, ML3.2/6*
*NEIC **17** 05:41:34.8, 4651N×1046E, h8km, ML3.0(ROM), ML3.2(ZUR), After ROM.*
*ROM **17** 05:41:34.8±0.2, 4651N×1046E, h8km±1km, Md2.9/7, Ml3.0/9, Error ellipse: s-maj=2.8km s-min=1.5km az=23.0*
*ISCJB **17** 05:41:34.3±0.2, 46515N±0010×1053E±001, h0km±2km, Error ellipse: s-maj=1.7km s-min=1.3km az=10.0*
*STR **17** 05:41:35.6±1.7, 4664N×1094E, h10km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **17** 05:41:37.6±0.8, 4650N×1048E, h10km, ML3.4, Error ellipse: s-maj=8.9km s-min=5.6km az=179.0*
*PRU **17** 05:41:38.3, 4659N×1049E, h0km*
*LDG **17** 05:41:38.7±0.1, 4666N×1055E, h10km, Ml3.3/20, Error ellipse: s-maj=3.7km s-min=3.1km az=21.0*
ISC 17 05:41:35.4±0.2, 46503N±0009×1051E±001, h0km±1km, n208, σ1§17/385, 25C-21D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.10**	**254**	Pg	**Pg**	**05 41 36.9**	**-0.4**
BRMO				Sg	**Sg**	**05 41 38.5**	**-0.1**
	7μm,0.5s						
FUORN	**Ofenpass-Fuorn**	**0.21**	**304**	⇓*iPg*	**Pg**	**05 41 38.9**	**-0.5**
	9μm,0.6s						
FUORN				*i* Sg	**Sg**	**05 41 42.5**	**+0.4**
	9μm,0.6s						
BERNI	**Berninapass**	**0.35**	**255**	⇓*iPg*	**Pg**	**05 41 41.8**	**-0.3**
	4μm,0.5s						
BERNI				*e*Sg	**Sg**	**05 41 47.1**	**+0.5**
	4μm,0.5s						
MABI	**Malga Bissina**	**0.45**	**180**	Pg	**Pg**	**05 41 43.8**	**-0.2**
	202nm,0.2s						
APPI	**Appiano**	**0.50**	**93**	Pg	**Pg**	**05 41 45.1**	**+0.2**
	1μm,0.5s						
DAVOX	**Davos/Dischmat**	**0.52**	**303**	⇑*iPg*	**Pg**	**05 41 44.6**	**-0.7**
	2μm,0.5s						
DAVOX				*e*Sg	**Sg**	**05 41 52.7**	**+0.7**
	2μm,0.5s						
VDL	**Val di Lei**	**0.72**	**269**	*e*Pg	**Pg**	**05 41 48.4**	**-0.8**
	812nm,0.5s						
TUE	**Stuetta**	**0.81**	**268**	Pg	**Pg**	**05 41 49.8**	**-1.0**
TUE				Sg	**Sg**	**05 42 00.2**	**-1.1**
	262nm,0.5s						
SQTA	**Sankt Quirin**	**0.86**	**33**	⇑*e*Pg	**Pg**	**05 41 51.4**	**-0.5**
	SNR=39						
SQTA				⇑*i*Sg	**Sg**	**05 42 02.3**	**-0.8**
	189nm,0.2s						
SQTA	**Sankt Quirin**	**0.86**	**33**	Pg	**Pg**	**05 41 51.4**	**-0.5**
	38nm,8.0s						
SQTA				Sg	**Sg**	**05 42 02.3**	**-0.8**
	189nm,0.2s						
SALO	**Salr**	**0.89**	**179**	Pg	**Pg**	**05 41 52.2**	**-0.2**
	2μm,0.5s						
DAVA	**Damuels**	**0.90**	**331**	⇑*e*Pg	**Pg**	**05 41 52.4**	**-0.1**
	SNR=33						
DAVA				⇓*i*Sg	**Sg**	**05 42 04.5**	**+0.3**
	163nm,0.4s						
DAVA	**Damuels**	**0.90**	**331**	Pg	**Pg**	**05 41 52.4**	**-0.2**
	32nm,7.0s						
DAVA				Sg	**Sg**	**05 42 04.5**	**+0.3**
	163nm,0.4s						
CTI	**Castel Tesino**	**0.91**	**120**	Pg	**Pg**	**05 41 52.6**	**-0.3**
CTI				Sg	**Sg**	**05 42 05.4**	**+0.7**
	223nm,0.3s						
MDI	**Monti di Nese**	**0.92**	**218**	Pg	**Pg**	**05 41 52.5**	**-0.4**
MDI				Sg	**Sg**	**05 42 04.8**	**0.0**
	403nm,0.5s						
OBER	**Oberstdorf**	**0.92**	**351**	⇓*iPg*	**Pg**	**05 41 52.6**	**-0.4**
OBER				*i* Sg	**Sg**	**05 42 06.2**	**+1.3**
MOTA	**Moosalm**	**0.94**	**26**	⇑*e*Pg	**Pg**	**05 41 52.6**	**-0.7**
	SNR=40						
MOTA				⇑*i*Sg	**Sg**	**05 42 04.9**	**-0.5**
	99nm,0.3s						
MOTA	**Moosalm**	**0.94**	**26**	Pg	**Pg**	**05 41 52.6**	**-0.7**
	39nm,8.0s						
MOTA				Sg	**Sg**	**05 42 04.9**	**-0.5**
	99nm,0.3s						
PLONS	**Plons/SG**	**0.95**	**306**	*e*Pg	**Pg**	**05 41 52.4**	**-1.2**
	428nm,0.5s						
PLONS	**Plons/SG**	**0.95**	**306**	*e*P	**Pg**	**05 41 53.2**	**-0.4**
SCE	**Schlegeis**	**0.98**	**57**	⇑*iPg*	**Pg**	**05 41 53.5**	**-0.7**
SCE				*e*Sg	**Sg**	**05 42 07.8**	**+0.8**
FAU	**Forcella Aurin**	**1.05**	**105**	⇓*iPg*	**Pg**	**05 41 55.3**	**-0.3**
FAU				*i* Sg	**Sg**	**05 42 09.8**	**+0.6**
FAU	**Forcella Aurin**	**1.05**	**105**	*i* Pg	**Pg**	**05 41 55.3**	**-0.3**
FAU				*i* Sg	**Sg**	**05 42 09.8**	**+0.6**
WTTA	**Wattenberg**	**1.08**	**45**	⇓*e*Pg	**Pg**	**05 41 55.8**	**-0.4**
	SNR=15						
WTTA				⇓*i*Sg	**Sg**	**05 42 10.1**	**-0.1**
	58nm,0.3s						
WTTA	**Wattenberg**	**1.08**	**45**	Pg	**Pg**	**05 41 55.8**	**-0.4**
	14nm,7.0s						
WTTA				Sg	**Sg**	**05 42 10.1**	**-0.1**
	58nm,0.3s						
LLS	**Linth-Limmern**	**1.09**	**289**	*e*Pg	**Pg**	**05 41 53.2**	**-3.1**
	428nm,0.4s						
LLS	**Linth-Limmern**	**1.09**	**289**	*e*P	**Pg**	**05 41 55.0**	**-1.3**
CGRP	**Cima Grappa**	**1.09**	**124**	⇑*iPg*	**Pg**	**05 41 56.6**	**+0.2**
CGRP				*i* Sg	**Sg**	**05 42 11.4**	**+0.9**
CGRP	**Cima Grappa**	**1.09**	**124**		**Pg**	**05 41 56.8**	**+0.5**
CGRP	**Cima Grappa**	**1.09**	**124**	*e*P	**Pg**	**05 41 56.8**	**+0.5**
CGRP				*i* Sg	**Sg**	**05 42 11.4**	**+0.9**
WATA	**Walderalm**	**1.11**	**41**	*e*Pg	**Pg**	**05 41 56.5**	**-0.1**
	SNR=16						
WATA				⇓*i*Sg	**Sg**	**05 42 10.7**	**-0.3**
	46nm,0.2s						
WATA	**Walderalm**	**1.11**	**41**	Pg	**Pg**	**05 41 56.5**	**-0.1**
	15nm,6.0s						
WATA				Sg	**Sg**	**05 42 10.7**	**-0.3**
	46nm,0.2s						
AFL	**Alpe Faloria**	**1.15**	**88**	⇓*iPg*	**Pg**	**05 41 57.5**	**0.0**
AFL				*i* Sg	**Sg**	**05 42 13.8**	**+1.3**
AFL	**Alpe Faloria**	**1.15**	**88**		**Pg**	**05 41 57.6**	**+0.1**
AFL	**Alpe Faloria**	**1.15**	**88**	*e*P	**Pg**	**05 41 57.6**	**+0.1**
AFL				*i* Sg	**Sg**	**05 42 13.8**	**+1.4**
MUGIO	**Muggio**	**1.18**	**241**	Pg	**Pg**	**05 41 56.8**	**-1.1**
MUGIO	**Muggio**	**1.18**	**241**	⇑*iPg*	**Pg**	**05 41 55.3**	**-2.6**
	870nm,0.4s						
MUGIO	**Muggio**	**1.18**	**241**	⇑*iP*	**Pg**	**05 41 56.7**	**-1.2**
SEST	**Monte Rota**	**1.20**	**78**	Pg	**Pg**	**05 41 57.9**	**-0.5**
SEST				Sg	**Sg**	**05 42 14.2**	**+0.2**
	276nm,0.5s						
UBR	**Ueberruh**	**1.21**	**347**	P*	**Pb**	**05 41 58.8**	**-0.4**
UBR				Sg	**Sg**	**05 42 20.7**	**+6.4**
UBR	**Ueberruh**	**1.21**	**347**	P	**Pg**	**05 41 58.8**	**+0.2**
UBR				Sg	**Sg**	**05 42 20.7**	**+6.4**
CSO	**Casso**	**1.27**	**100**	⇑*iPg*	**Pg**	**05 41 59.3**	**-0.6**
CSO				*i* Sg	**Sg**	**05 42 17.1**	**+0.7**
CSO	**Casso**	**1.27**	**100**		**Pg**	**05 41 59.4**	**-0.5**
CSO	**Casso**	**1.27**	**100**	*e*P	**Pg**	**05 41 59.4**	**-0.5**
CSO				*i* Sg	**Sg**	**05 42 17.1**	**+0.7**
FUSIO	**Fusio**	**1.28**	**268**	*e*Pg	**Pg**	**05 41 56.7**	**-3.2**
	616nm,0.6s						
FUSIO	**Fusio**	**1.28**	**268**	*e*P	**Pg**	**05 41 58.4**	**-1.5**
MTLO	**Montello**	**1.30**	**121**	*e*Pg	**Pg**	**05 42 00.6**	**+0.2**
MTLO				*e*Sg	**Sg**	**05 42 19.0**	**+1.9**
TEOL	**Teolo**	**1.40**	**144**	⇓*e*Pg	**Pg**	**05 42 02.2**	**0.0**
TEOL				*e*Sg	**Sg**	**05 42 22.0**	**+1.6**
TEOL	**Teolo**	**1.40**	**144**	*e*Pg	**Pg**	**05 42 02.2**	**-0.1**
TEOL				*e*Sg	**Sg**	**05 42 22.0**	**+1.6**
CAE	**Caneva**	**1.43**	**110**	⇓*e*Pg	**Pg**	**05 42 02.8**	**+0.1**
CAE				*e*Sg	**Sg**	**05 42 22.6**	**+1.4**
CSMI	**Casera Mimoias**	**1.48**	**89**	⇑*iPg*	**Pg**	**05 42 03.2**	**-0.5**
CSMI				*i* Sg	**Sg**	**05 42 24.1**	**+1.2**
MLNI	**Malnisio**	**1.50**	**103**	⇑*e*Pg	**Pg**	**05 42 04.5**	**+0.4**
MLNI				*e*Sg	**Sg**	**05 42 24.6**	**+1.1**
FVI	**Forni Avoltri**	**1.57**	**86**	Pg	**Pg**	**05 42 04.5**	**-1.0**
	189nm,0.8s						
SISB	**Singen-Schiene**	**1.59**	**319**	P	**Pn**	**05 42 05.7**	**+0.9**
SISB				Sg	**Sg**	**05 42 29.8**	**+3.4**
ZOU	**Zoufplan**	**1.70**	**87**	⇑*e*Pg	**Pg**	**05 42 06.8**	**-1.2**
ZOU				*e*Sg	**Sg**	**05 42 29.5**	**-0.5**
MPRI	**Monte Prat**	**1.73**	**98**	⇓*iPg*	**Pg**	**05 42 08.7**	**0.0**
MPRI				*i* Sg	**Sg**	**05 42 32.6**	**+1.4**
FUR	**Furstenfeldbru**	**1.74**	**17**	*e*Pg	**Pg**	**05 42 09.4**	**+0.6**
FUR				*e*Sg	**Sg**	**05 42 33.6**	**+2.1**
FUR	**Furstenfeldbru**	**1.74**	**17**	*e*Pg	**Pg**	**05 42 09.4**	**+0.6**
FUR				*e*Sg	**Sg**	**05 42 33.6**	**+2.2**
BOO	**Bordano**	**1.80**	**95**	⇑*iPg*	**Pg**	**05 42 09.4**	**-0.5**
BOO				*i* Sg	**Sg**	**05 42 34.8**	**+1.5**
PLRO	**Paularo**	**1.82**	**88**	⇑*iPg*	**Pg**	**05 42 09.0**	**-1.3**
PLRO				*i* Sg	**Sg**	**05 42 34.3**	**+0.3**
BUA	**Buia**	**1.83**	**98**	*e*Pg	**Pg**	**05 42 10.5**	**0.0**
GUT	**Gutenstein**	**1.83**	**329**	P	**Pn**	**05 42 08.6**	**+0.4**
GUT				Pg	**Pg**	**05 42 10.6**	**0.0**
GUT				S	**Sn**	**05 42 31.8**	**-0.3**
GUT				Sg	**Sg**	**05 42 35.5**	**+1.2**
GUT	**Gutenstein**	**1.83**	**329**	P	**Pn**	**05 42 08.6**	**+0.5**
GUT				Pg	**Pg**	**05 42 10.6**	**0.0**
GUT				S	**Sn**	**05 42 31.8**	**-0.2**
GUT				Sg	**Sg**	**05 42 35.5**	**+1.2**
BAD	**Bernadia**	**1.91**	**97**	⇑*iPn*	**Pg**	**05 42 11.2**	**-0.8**
BAD				*i* Sn	**Sg**	**05 42 37.3**	**+0.5**
ORX	**Oropa**	**1.96**	**245**	P	**Pn**	**05 42 11.7**	**+1.8**
SPAK	**Spaichingen-Ko**	**1.98**	**324**	P	**Pn**	**05 42 10.9**	**+0.7**
COLI	**Coloredo**	**2.02**	**100**	⇑*e*Pn	**Pn**	**05 42 13.5**	**+2.8**
KBA	**Koelnbreinsper**	**2.03**	**73**	⇑*e*Pg	**Pg**	**05 42 12.7**	**-1.6**
	SNR=23						
KBA				⇓*i*Sg	**Sg**	**05 42 39.9**	**-0.7**
	39nm,0.2s						
KBA	**Koelnbreinsper**	**2.03**	**73**	Pg	**Pg**	**05 42 12.7**	**-1.6**
	22nm,7.0s						
KBA				Sg	**Sg**	**05 42 39.9**	**-0.7**
	39nm,0.2s						
GRAM		**2.04**	**189**	P	**Pn**	**05 42 11.9**	**+1.0**
BGLD	**Berchtesgaden**	**2.06**	**55**	⇓*iPn*	**Pg**	**05 42 13.9**	**-1.0**
LSR	**Lussari**	**2.08**	**90**	⇑*e*Pn	**Pg**	**05 42 13.3**	**-2.0**
HDH	**Heidenheim-Cha**	**2.09**	**354**	P	**Pn**	**05 42 11.5**	**-0.2**
HDH				Sg	**Sg**	**05 42 42.7**	**0.0**
ROBS	**Robic**	**2.09**	**96**	*e*Pn	**Pg**	**05 42 14.7**	**-0.8**
ROBS				*e*Sn	**Sg**	**05 42 42.7**	**+0.1**
ROBS							
	comp=Z,29nm,0.3s						
ROBS	**Robic**	**2.09**	**96**	*e*Pn	**Pg**	**05 42 14.7**	**-0.8**
ROBS				*e*Sn	**Sg**	**05 42 42.7**	**+0.1**
ROBS	**Robic**	**2.09**	**96**	Pn	**Pg**	**05 42 14.7**	**-0.8**
ROBS				*e*Sn	**Sg**	**05 42 42.7**	**+0.1**
	comp=Z,29nm,0.3s						
BUCH	**Bad Urach**	**2.10**	**338**	P	**Pn**	**05 42 12.2**	**+0.4**
BUCH				Pg	**Pg**	**05 42 15.6**	**-0.1**
BUCH				S	**Sn**	**05 42 39.3**	**+0.7**
BUCH				Sg	**Sg**	**05 42 43.7**	**+0.8**
BUCH	**Bad Urach**	**2.10**	**338**	P	**Pn**	**05 42 12.2**	**+0.4**
BUCH				Pg	**Pg**	**05 42 15.6**	**-0.1**
BUCH				S	**Sn**	**05 42 39.3**	**+0.7**
BUCH				Sg	**Sg**	**05 42 43.7**	**+0.8**
FELD	**Feldberg im Sc**	**2.19**	**310**	P	**Pn**	**05 42 13.9**	**+0.8**
FELD				S	**Sn**	**05 42 40.4**	**-0.5**
FELD	**Feldberg im Sc**	**2.19**	**310**	P	**Pn**	**05 42 13.9**	**+0.8**
FELD				S	**Sn**	**05 42 40.4**	**-0.5**
CADS	**Cadrg**	**2.25**	**96**	*e*Pn	**Pg**	**05 42 17.0**	**-1.6**
CADS				*e*Sn	**Sg**	**05 42 45.6**	**-2.2**
CADS							
	comp=Z,46nm,0.4s						
BBS	**Basel-Blauen**	**2.27**	**296**	P	**Pg**	**05 42 18.1**	**-0.8**
BBS				S	**Sg**	**05 42 49.8**	**+1.4**
BBS	**Basel-Blauen**	**2.27**	**296**	P	**Pg**	**05 42 18.1**	**-0.8**
BBS				S	**Sg**	**05 42 49.8**	**+1.5**
BBS	**Basel-Blauen**	**2.27**	**296**	P	**Pb**	**05 42 16.8**	**-0.4**
KIZ	**Kirchzarten**	**2.29**	**310**	P	**Pn**	**05 42 14.9**	**+0.5**
KIZ				S	**Sn**	**05 42 43.4**	**+0.1**
KIZ	**Kirchzarten**	**2.29**	**310**	P	**Pn**	**05 42 14.9**	**+0.5**
KIZ				S	**Sn**	**05 42 43.4**	**+0.1**
VLC	**Villacollemand**	**2.35**	**182**	*e*Pn	**Pb**	**05 42 17.9**	**-0.6**
VLC				*e*Sn	**Sb**	**05 42 46.4**	**-1.6**
VLC	**Villacollemand**	**2.35**	**182**	*e*Pn	**Pb**	**05 42 17.9**	**-0.6**
VLC				*e*Sn	**Sb**	**05 42 46.4**	**-1.6**
BFO	**Black Forest**	**2.35**	**322**	*e*Pn	**Pn**	**05 42 15.8**	**+0.5**
BFO				⇑P		05 42 15.8	
BFO				*e*Sn	**Sn**	**05 42 43.6**	**-1.3**
BFO				S	**Sn**	**05 42 44.0**	**-0.8**
BFO				*e*Sg	**Sg**	**05 42 53.8**	**+2.7**
BFO	**Black Forest**	**2.35**	**322**	*e*Pn	**Pn**	**05 42 15.8**	**+0.5**
BFO				*e*Sn	**Sn**	**05 42 43.6**	**-1.2**
BFO				*e*Sg	**Sg**	**05 42 53.8**	**+2.8**
BFO	**Black Forest**	**2.35**	**322**	*e*Pn	**Pn**	**05 42 15.8**	**+0.5**
BFO				*e*Sn	**Sn**	**05 42 43.6**	**-1.2**
VOY	**Vojsko**	**2.39**	**100**	Pn	**Pb**	**05 42 19.2**	**-0.1**
VOY				*e*Sn	**Sg**	**05 42 52.3**	**0.0**
PCP	**Pian Castagno**	**2.40**	**216**	P	**Pn**	**05 42 13.9**	**-2.0**
STU	**Stuttgart**	**2.44**	**339**	*e*Pn	**Pb**	**05 42 18.7**	**-1.4**
STU				*e*Sn	**Sb**	**05 42 49.9**	**-0.8**
STU	**Stuttgart**	**2.44**	**339**	*e*Pn	**Pb**	**05 42 18.7**	**-1.4**
STU				*e*Sn	**Sb**	**05 42 49.9**	**-0.8**
LBG	**Lerchenberg**	**2.45**	**332**	P	**Pn**	**05 42 17.6**	**+1.0**
LBG				S	**Sn**	**05 42 46.0**	**-1.4**
LBG				Sg	**Sg**	**05 42 55.6**	**+1.3**
JAVS	**Javornik**	**2.54**	**103**	*e*Pn	**Pb**	**05 42 22.4**	**+0.5**
JAVS				*e*Sn	**Sg**	**05 42 56.4**	**-0.7**
JAVS							
	comp=Z,32nm,0.4s						
LSD	**Ceresole Reale**	**2.56**	**247**	P	**Pn**	**05 42 19.7**	**+1.5**
RSP	**Reno Superiore**	**2.65**	**240**	P	**Pn**	**05 42 17.4**	**-1.9**
LOMF	**Lomont**	**2.66**	**290**	P	**Pb**	**05 42 22.7**	**-1.2**
LOMF	**Lomont**	**2.66**	**290**	P	**Pb**	**05 42 22.5**	**-1.4**
MOF	**Molkenrain**	**2.67**	**302**	P	**Pn**	**05 42 21.0**	**+1.4**
MOF	**Molkenrain**	**2.67**	**302**	P	**Pn**	**05 42 20.8**	**+1.2**
OBKA	**Obir**	**2.79**	**88**	⇓*e*Pn	**Pn**	**05 42 20.1**	**-1.2**
	SNR=7.5						
OBKA				⇑*iPg*	**Pg**	**05 42 28.1**	**-0.7**
OBKA				⇑*iSg*	**Sg**	**05 43 04.4**	**-0.6**
	comp=Z,60nm,0.6s						
OBKA	**Obir**	**2.79**	**88**	Pn	**Pn**	**05 42 20.1**	**-1.2**
	comp=Z,7.0nm,5.0s						
LPG	**La Plagne**	**2.81**	**250**	*e*Pn	**Pn**	**05 42 23.7**	**+2.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 42 55.0**	**-1.1**
	comp=Z,62nm,0.6s						
LPG	**La Plagne**	**2.81**	**250**	*e*Pn	**Pn**	**05 42 23.7**	**+2.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 42 55.0**	**-1.1**
	comp=Z,31nm,0.6s						
FIN	**Finale Ligure**	**2.81**	**216**	P	**Pn**	**05 42 19.0**	**-2.6**
LPL	**La Plagne**	**2.81**	**251**	*e*Pn	**Pn**	**05 42 23.0**	**+1.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 43 10.0**	**+4.2**
	comp=Z,12nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**2.81**	**251**	*e*Pn	**Pn**	**05 42 23.0**	**+1.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 43 10.0**	**+4.2**
	comp=Z,5.9nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.82**	**299**	*e*Pg	**Pg**	**05 42 31.0**	**+1.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 42 53.0**	**-3.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 43 05.5**	**-0.6**
	comp=Z,36nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**2.82**	**299**	*e*Pn	**Pn**	**05 42 21.7**	**0.0**
HINF				*e*Pg	**Pg**	**05 42 31.0**	**+1.5**
HINF				*e*Sn	**Sn**	**05 42 53.0**	**-3.4**
HINF				*e*Sg	**Sg**	**05 43 05.5**	**-0.6**
HINF	**Hinteralfeld**	**2.82**	**299**	*e*Pg	**Pg**	**05 42 31.0**	**+1.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 42 53.0**	**-3.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 43 05.5**	**-0.6**
	comp=Z,18nm,0.4s,SNR=1.0						
LJU	**Ljubljana**	**2.82**	**98**	*e*Pn	**Pg**	**05 42 28.9**	**-0.6**
LJU				*e*Sn	**Sg**	**05 43 09.3**	**+3.2**
ECH	**Echery**	**2.85**	**308**	P	**Pn**	**05 42 22.9**	**+0.8**
ECH				S	**Sn**	**05 42 58.3**	**+1.1**
ECH	**Echery**	**2.85**	**308**	P	**Pn**	**05 42 22.8**	**+0.7**
ROB	**Roburent**	**2.89**	**221**	P	**Pn**	**05 42 21.5**	**-1.1**
MOA	**Molln**	**2.89**	**61**	⇑*e*Pn	**Pn**	**05 42 21.2**	**-1.5**
	SNR=6.9						
MOA				⇓*iPg*	**Pg**	**05 42 28.8**	**-2.0**
MOA				⇓*i*Sg	**Sg**	**05 43 08.4**	**0.0**
	comp=Z,28nm,0.4s						
MOA	**Molln**	**2.89**	**61**	Pn	**Pn**	**05 42 21.2**	**-1.5**
	comp=Z,6.0nm,9.0s						
CDF	**Champ du Feu**	**2.91**	**312**	*e*Pn	**Pn**	**05 42 23.4**	**+0.5**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 42 54.1**	**-4.5**
CDF				*e*Sg	**Sg**	**05 43 07.9**	**-1.0**
	comp=Z,38nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**2.91**	**312**	*e*Pn	**Pn**	**05 42 23.4**	**+0.5**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 42 54.1**	**-4.5**
CDF				*e*Sg	**Sg**	**05 43 07.9**	**-1.0**
	comp=Z,19nm,0.4s,SNR=1.0						
SIND	**Sindeldorf**	**2.91**	**348**	Pg	**Pg**	**05 42 30.7**	**-0.5**
SIND				S	**Sn**	**05 42 58.5**	**-0.1**
RORO		**2.95**	**217**	P	**Pn**	**05 42 21.9**	**-1.6**
BNI	**Bardonecchia**	**3.05**	**243**	*e*Pn	**Pb**	**05 42 29.4**	**-1.1**
BNI				*e*Sn	**Sb**	**05 43 07.2**	**-1.1**
BNI	**Bardonecchia**	**3.05**	**243**	*e*Pn	**Pb**	**05 42 29.4**	**-1.

comp=Z,15nm,0.4s,SNR=1.0
FRF La Foret Royal 4.02 224 *e*Pn **Pn 05 42 39.9 +1.7**
SNR=1.0
FRF *e*Sn **Sn 05 43 24.6 -1.4**
comp=Z,7.7nm,0.4s,SNR=1.0
PGF Pioggiola 4.10 196 *e*Pn **Pn 05 42 41.5 +2.2**
PGF *e*Sn **Sn 05 43 27.1 -0.8**
comp=Z,5.9nm,0.4s
MEZF Maizieres J'vi 4.21 300 *e*Pn **Pn 05 42 40.2 -0.6**
MEZF *e*Pg **Pg 05 42 56.3 +0.3**
MOX Moxa 4.21 10 *e*Pg **Pg 05 42 57.4 +1.3**
MOX *e*Sn **Sn 05 43 29.1 -1.6**
MOX Moxa 4.21 10 *e*PG **Pg 05 42 57.4 +1.3**
MOX *e*SN **Sn 05 43 28.7 -1.9**
LMR La Mourre 4.26 223 *e*Pn **Pn 05 42 43.0 +1.5**
SNR=1.0
LMR *e*Sn **Sn 05 43 31.3 -0.5**
comp=Z,9.9nm,0.5s
LMR La Mourre 4.26 223 *e*Pn **Pn 05 42 43.0 +1.5**
SNR=1.0
LMR *e*Sn **Sn 05 43 31.3 -0.5**
comp=Z,4.9nm,0.5s
SMRF Simiane la Rot 4.31 236 *e*Pn **Pn 05 42 44.4 +2.3**
SMRF *e*Sn **Sn 05 43 32.2 -0.8**
comp=Z,10nm,0.6s
SMRF Simiane la Rot 4.31 236 *e*Pn **Pn 05 42 44.4 +2.3**
SMRF *e*Sn **Sn 05 43 32.2 -0.8**
comp=Z,5.2nm,0.6s
TREC Trest 4.36 48 *e*SG **Sg 05 43 55.0 -0.5**
PRU Pruhonice 4.41 36 *e*PG **Pg 05 42 56.2 -3.6**
PRU *e*SN **Sn 05 43 34.1 -1.4**
PRU *e*SG **Sg 05 43 55.2 -1.8**
comp=Z,32nm,0.7s
VIVF Saint-Julien-l 4.41 250 *e*Pn **Pn 05 42 44.9 +1.3**
SNR=1.0
VIVF *e*Sn **Sn 05 43 33.2 -2.4**
comp=Z,6.5nm,0.5s
VIVF Saint-Julien-l 4.41 250 *e*Pn **Pn 05 42 44.9 +1.3**
SNR=1.0
VIVF *e*Sn **Sn 05 43 33.2 -2.4**
comp=Z,3.2nm,0.5s
SMF Signal de Mont 4.60 274 *e*Pn **Pn 05 42 47.4 +1.2**
SNR=1.0
SMF *e*Sn **Sn 05 43 36.9 -3.4**
SMF *e*Sg **Sg 05 44 03.4 +0.1**
comp=Z,21nm,0.6s,SNR=1.0
SMF Signal de Mont 4.60 274 *e*Pn **Pn 05 42 47.4 +1.2**
SNR=1.0
SMF *e*Sn **Sn 05 43 36.9 -3.4**
SMF *e*Sg **Sg 05 44 03.4 +0.1**
comp=Z,11nm,0.6s,SNR=1.0
LOR Lormes 4.62 282 *e*Pn **Pn 05 42 47.9 +1.4**
baz=100,SNR=1.0
LOR *e*Sn **Sn 05 43 37.1 -3.8**
LOR *e*Sg **Sg 05 44 03.2 -0.8**
comp=Z,21nm,0.7s
LOR Lormes 4.62 282 *e*Pn **Pn 05 42 47.9 +1.4**
SNR=1.0
LOR *e*Sn **Sn 05 43 37.1 -3.8**
LOR *e*Sg **Sg 05 44 03.2 -0.8**
comp=Z,10nm,0.7s
SSF Saint Saulge 4.84 279 *e*Pn **Pn 05 42 50.9 +1.4**
SNR=1.0
SSF *e*Sg **Sg 05 44 11.1 0.0**
comp=Z,6.6nm,0.4s
SSF Saint Saulge 4.84 279 *e*Pn **Pn 05 42 50.9 +1.4**
SNR=1.0
SSF *e*Sg **Sg 05 44 11.1 0.0**
comp=Z,3.3nm,0.4s
BRG Berggiesshubel 4.93 26 *e*Sg **Sg 05 44 13.3 -0.5**
BRG Berggiesshubel 4.93 26 PG **Pg 05 43 07.0 -2.8**
BRG SN **Sn 05 43 46.6 -1.8**
BRG SG **Sg 05 44 14.8 +1.0**
comp=Z,12nm,0.7s
AVF Avril sur Loir 4.94 276 *e*Pn **Pn 05 42 52.1 +1.3**
SNR=1.0
CLL Collm 5.08 18 *e*(Pn) **Pg 05 43 16.0 +3.2**
CLL *e*Sg **Sg 05 44 18.0 -0.6**
CLL Collm 5.08 18 *e*Pg **Pg 05 43 14.0 +1.2**
CLL *e*Sg **Sg 05 44 18.0 -0.6**
comp=Z,17nm,0.8s
GIVF Givet 5.23 316 *e*Pn **Pn 05 42 54.9 +0.1**
SNR=1.0
GIVF *e*Sn **Sn 05 43 50.0 -5.9**
comp=Z,16nm,0.5s
GIVF Givet 5.23 316 *e*Pn **Pn 05 42 54.9 +0.1**
SNR=1.0
GIVF *e*Sn **Sn 05 43 50.0 -5.9**
comp=Z,7.9nm,0.5s
LASF Ste Croix 5.29 245 *e*Pn **Pn 05 42 55.0 -0.6**
SNR=1.0
LASF *e*Sn **Sn 05 43 55.4 -1.8**
comp=Z,26nm,0.7s
LASF Ste Croix 5.29 245 *e*Pn **Pn 05 42 55.0 -0.6**
SNR=1.0
LASF *e*Sn **Sn 05 43 55.4 -1.8**
comp=Z,13nm,0.7s
BGF Bois d'Agland 5.29 273 *e*Pn **Pn 05 42 57.2 +1.5**
SNR=1.0
BGF *e*Sn **Sn 05 43 54.8 -2.5**
comp=Z,24nm,0.6s
BGF Bois d'Agland 5.29 273 *e*Pn **Pn 05 42 57.2 +1.5**
SNR=1.0
BGF *e*Sn **Sn 05 43 54.8 -2.5**
comp=Z,12nm,0.6s
UPC Upice 5.42 40 *e*SG **Sg 05 44 28.8 -0.8**
HYF Humbligny 5.45 281 *e*Pn **Pn 05 42 58.4 +0.5**
DPC Dobruska-Polom 5.46 43 *e*PN **Pn 05 43 00.1 +2.2**
DPC *e*SG **Sg 05 44 29.1 -1.6**
comp=Z,21nm,0.9s
DPC Dobruska-Polom 5.46 43 *e*Pn **Pn 05 43 00.1 +2.2**
comp=Z,21nm,0.9s
DPC *e*Sg **Sg 05 44 29.1 -1.6**
BAIF Baives 5.51 313 *e*Pn **Pn 05 42 57.3 -1.4**
MORC Moravsky Berou 5.73 53 *e*Pn **Pn 05 43 01.1 -0.7**
comp=Z,3.1nm,0.6s
MORC *e*Sn **Sn 05 44 08.2 0.0**
MORC Moravsky Berou 5.73 53 *e*Pn **Pn 05 43 01.1 -0.6**
comp=Z,3.1nm,0.6s
TCF Toulx Ste Croi 5.75 271 *e*Pn **Pn 05 43 03.0 +1.1**
SNR=1.0
TCF *e*Sn **Sn 05 44 05.1 -3.5**
comp=Z,11nm,0.6s
TCF Toulx Ste Croi 5.75 271 *e*Pn **Pn 05 43 03.0 +1.1**
SNR=1.0
TCF *e*Sn **Sn 05 44 05.1 -3.5**
comp=Z,5.6nm,0.6s
VYHS Vyhne 5.98 68 *e*SG **Sg 05 44 56.2 +8.6**
OKC Ostrava-Krasne 6.10 54 *e*SG **Sg 05 44 50.4 -0.9**
comp=Z,39nm,1.3s
CAF Calviac 6.12 258 *e*Pn **Pn 05 43 08.4 +1.3**
SNR=1.0
RJF Les Rejaudoux 6.39 262 *e*Pn **Pn 05 43 11.1 +0.3**
MTLF Montolieu 6.68 245 *e*Pn **Pn 05 43 16.3 +1.5**
LFF La Frestale 7.02 261 *e*Pn **Pn 05 43 18.3 -1.1**
MFF Saint Martin d 7.35 275 *e*Pn **Pn 05 43 23.9 0.0**
LDF La Druitiere 7.49 290 *e*Pn **Pn 05 43 25.6 -0.3**
FLN La Foliniere 7.76 291 *e*Pn **Pn 05 43 29.8 +0.2**
baz=109,SNR=1.0
GRR Gorron 7.94 288 *e*Pn **Pn 05 43 31.4 -0.6**

IDC 17 05:42:29.8±8.2,592S×15081E,h81km±58km,mb3.6/3, mb1 3.8/4,mb1mx3.4/14,mbtmp3.9/4,ML2.4/1,Error ellipse: s-maj=96.4km s-min=54.2km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**226**	P	Pn	05 43 43.0	+0.5
	0.9nm,0.3s,baz=127,slow=5.1,SNR=3.0						
PMG				S	Sn	05 44 39.8	+0.7
	6.8nm,0.3s,baz=213,slow=23,SNR=8.5						
WB2	**Warramunga Arr**	**21.22**	**227**	*e*P	P	05 47 08.6	-0.4
WRA	**Warramunga Arr**	**21.23**	**227**	P	P	05 47 09.1	0.0
	2.0nm,0.5s,baz=53,slow=10,SNR=32						
ASAR	**Alice Springs**	**24.00**	**221**	P	P	05 47 37.2	+0.3
	3.2nm,0.7s,baz=57,slow=9.3,SNR=36						
FITZ	**Fitzroy Crossi**	**27.39**	**242**	P	P	05 48 08.3	+0.8
	1.0nm,0.6s,baz=44,slow=6.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.74**	**286**	PKPbc	PKPbc	06 02 08.2	+0.5
	0.5nm,0.6s,baz=61,slow=3.0,SNR=9.4						

IDC 17 05:45:28.1±4.1,564S×15095E,h0km,mb3.4/2,mb1 3.7/2, mb1mx3.4/12,mbtmp3.5/2,MS3.2/1,Ms1 3.2/1, ms1mx2.8/12,Error ellipse: s-maj=170.2km s-min=51.1km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.68**	**113**	LR	LR	05 50 42.7	
	comp=Z,145nm,18.6s,baz=359,slow=32						
WRA	**Warramunga Arr**	**21.52**	**227**	P	P	05 50 19.0	+0.4
	0.5nm,0.3s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.30**	**221**	P	P	05 50 47.5	+0.3
	1.1nm,0.7s,baz=58,slow=9.0,SNR=9.3						
TORD	**Torodi Ar. Bea**	**148.79**	**286**	PKPbc	PKPbc	06 05 18.1	+0.7
	0.2nm,0.5s,baz=65,slow=2.1,SNR=4.5						

IDC 17 05:58:18.5±4.0,573S×15101E,h0km,mb3.2/2,mb1 3.6/2, mb1mx3.3/12,mbtmp3.3/2,MS3.1/1,Ms1 3.1/1, ms1mx2.6/15,Error ellipse: s-maj=160.2km s-min=51.0km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**226**	LR	LR	06 01 54.5	
	comp=Z,174nm,19.9s,baz=179,slow=41						
WRA	**Warramunga Arr**	**21.50**	**227**	P	P	06 03 08.8	0.0
	0.6nm,0.5s,baz=53,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**24.27**	**221**	P	P	06 03 37.8	+0.5
	0.6nm,0.6s,baz=62,slow=8.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	06 18 08.8	+0.7
	0.7nm,0.8s,baz=67,slow=2.9,SNR=5.0						

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*BJI **17** 06:10:44.6,553S×15104E,h21km,mB5.2,mb4.7,Ms4.9, Msz4.6*
*ISCJB **17** 06:10:45.1±0.2,582S±004×15105E±004,h32km, mb4.8/39,MS4.2/15,Error ellipse: s-maj=7.1km s-min=4.3km az=96.0*
*MOS **17** 06:10:45.0±1.0,571S×151.11E,h33km,mb5.1/11,Error ellipse: s-maj=13.4km s-min=10.4km az=54.6*
*NEIC **17** 06:10:46.2±0.2,579S×15109E,mb5.0/21,Error ellipse: s-maj=7.5km s-min=5.5km az=129.0*
*IDC **17** 06:10:48.0±1.6,585S×151.10E,h48km±14km,mb4.6/14, mb1 4.7/16,mb1mx4.7/18,mbtmp4.8/16,ML4.0/2,MS4.1/11, Ms1 4.1/11,ms1mx3.9/22,Error ellipse: s-maj=14.5km s-min=10.2km az=135.0*
ISC 17 06:10:47.1±0.2,582S±004×15106E±004,h34km, h34km±.9km:pP-P,n233,o6s79/219,mb4.8/39,MS4.2/15, 63C-52D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**227**	P	**Pn**	**06 12 06.2**	**+3.0**
	9.8nm,0.3s,baz=25,slow=9.7,SNR=27						
PMG				S	**Sn**	**06 13 05.4**	**+2.8**
	26nm,0.3s,baz=61,slow=19,SNR=6.9						
PMG	**Port Moresby**	**5.26**	**227**	*e*Pn	**Pn**	**06 12 07.5**	**+4.3**
PMG				*e*Sn	**Sn**	**06 13 06.0**	**+3.4**
HNR	**Honiara**	**9.51**	**113**	P	**Pn**	**06 13 02.0**	**+0.5**
	8.6nm,0.3s,baz=231,slow=1.7,SNR=3.3						
HNR				LR	LR	06 16 10.3	
	comp=Z,883nm,21.9s,baz=358,slow=34						
CTA	**Charters Tower**	**14.93**	**198**	*e*P	**Pn**	**06 14 22.2**	**+6.6**
	13nm,0.8s						
CTA	**Charters Tower**	**14.93**	**198**	P	**Pn**	**06 14 20.8**	**+5.2**
	1.2nm,0.3s,baz=14,slow=12,SNR=14						
CTA	**Charters Tower**	**14.93**	**198**	*e*P	**Pn**	**06 14 22.2**	**+6.6**
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**14.93**	**198**	*e*P	**Pn**	**06 14 22.3**	**+6.7**
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**14.93**	**198**	*e*P	**Pn**	**06 14 22.3**	**+6.8**
	comp=Z,19nm,1.0s						
KAKA	**Kakadu**	**19.60**	**248**	*e*P	**Pn**	**06 15 13.1**	**-0.7**
	comp=Z,26nm,0.4s						
GUMO	**Guam**	**20.24**	**342**	LR	LR	06 21 20.2	
	comp=Z,626nm,21.0s,MS3.9,baz=255,slow=31						
WRAB	**Tennant Creek**	**21.46**	**228**	P	**P**	**06 15 33.0**	**+0.5**
	comp=Z,413nm,0.6s,mb5.9,SNR=24						
WRAB	**Tennant Creek**	**21.46**	**228**	*e*P	**P**	**06 15 33.2**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,45nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**21.46**	**228**	*e*P	**P**	**06 15 33.1**	**+0.7**
	comp=Z,45nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**21.47**	**228**	⇑*e*P	**P**	**06 15 33.2**	**+0.7**
WB2				*e*S	**S**	**06 19 29.1**	**+0.4**
WB2				*e*PCP	PcP	06 19 35.6	+0.9
WB2				*e*PCS	PcS	06 23 13.0	+0.1
WRA	**Warramunga Arr**	**21.48**	**228**	P	**P**	**06 15 33.3**	**+0.7**
	comp=Z,32nm,0.6s,mb4.8,baz=53,slow=10,SNR=265						
WRA				S	**S**	**06 19 27.2**	**-1.7**
	comp=Z,7.4nm,1.1s,baz=50,slow=20,SNR=9.4						
WRA				PcP	PcP	06 19 34.9	+0.2
	comp=Z,6.8nm,0.7s,baz=48,slow=2.2,SNR=10						
WRA				ScP	ScP	06 23 09.7	+0.6
	comp=Z,3.3nm,1.0s,baz=44,slow=2.6,SNR=8.2						
WRA				LR	LR	06 24 03.6	
	comp=Z,298nm,21.4s,MS3.7,baz=100,slow=37						
WRA	**Warramunga Arr**	**21.48**	**228**	P	**P**	**06 15 33.3**	**+0.7**
WRA				S	**S**	**06 19 27.2**	**-1.7**
WRA						06 19 34.9	
DZM	**Mont Dzumac**	**21.96**	**139**	P	**P**	**06 15 36.8**	**-1.0**
	comp=Z,17nm,0.6s,mb4.7,baz=357,slow=13,SNR=15						
DZM				LR	LR	06 23 15.8	
	comp=Z,1μm,18.8s,MS4.3,baz=208,slow=34						
AS31	**Alice Springs**	**24.24**	**221**	*e*P	**P**	**06 16 01.2**	**+0.5**
ASAR	**Alice Springs**	**24.24**	**221**	P	**P**	**06 16 01.3**	**+0.6**
	comp=Z,51nm,0.7s,mb5.1,baz=55,slow=9.2,SNR=311						
ASAR				PcP	PcP	06 19 40.6	+0.2
	comp=Z,3.7nm,1.0s,baz=47,slow=2.3,SNR=5.2						
ASAR				S	**S**	**06 20 17.2**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=61,slow=10,SNR=2.7						
ASAR				ScP	ScP	06 23 17.2	+0.9
	comp=Z,3.5nm,1.2s,baz=27,slow=1.4,SNR=5.6						
ASAR				LR	LR	06 25 29.5	
	comp=Z,308nm,20.6s,MS3.8,baz=117,slow=36						
ASAR	**Alice Springs**	**24.24**	**221**	P	**P**	**06 16 01.3**	**+0.6**
ASAR						06 19 40.6	
ASAR				S	**S**	**06 20 17.2**	**+0.2**
ASPA	**Alice Springs**	**24.24**	**221**	*e*P	**P**	**06 16 01.2**	**+0.5**
STKA	**Stephens Creek**	**27.39**	**198**	*e*P	**P**	**06 16 28.4**	**-0.8**
	comp=Z,19nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**27.39**	**198**	P	**P**	**06 16 28.8**	**-0.5**
	comp=Z,22nm,0.8s,mb4.7,baz=349,slow=7.5,SNR=14						
STKA				PcP	PcP	06 19 47.0	-0.6
	comp=Z,4.6nm,0.8s,baz=131,slow=5.9,SNR=3.0						
STKA				LR	LR	06 27 53.5	
	comp=Z,453nm,19.2s,MS4.1,baz=24,slow=38						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	⇑*e*P	**P**	**06 16 32.0**	**+0.4**
	comp=Z,56nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**06 16 32.4**	**+0.8**
	comp=Z,25nm,0.6s,mb5.0,baz=82,slow=6.5,SNR=123						
FITZ				LR	LR	06 29 03.5	
	comp=Z,281nm,19.8s,MS3.8,baz=94,slow=40						
TOO	**Toolangi**	**32.01**	**188**	*e*P	**P**	**06 17 09.8**	**-0.3**
	comp=Z,12nm,1.0s,mb4.7						
TOO	**Toolangi**	**32.01**	**188**	*e*P	**P**	**06 17 09.8**	**-0.3**
TOO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
FORT	**Forrest**	**32.91**	**218**	*e*P	**P**	**06 17 17.6**	**-0.4**
	comp=Z,28nm,0.6s,mb5.4						
MBWA	**Marble Bar**	**33.96**	**240**	*e*P	**P**	**06 17 27.4**	**+0.3**
	comp=Z,19nm,1.0s,mb5.0						
URZ	**Urewera**	**40.02**	**147**	P	**P**	**06 18 17.8**	**-0.9**
	comp=Z,8.3nm,0.6s,mb4.6,baz=297,slow=2.2,SNR=11						
URZ				PcP	PcP	06 20 20.1	-3.1
	comp=Z,7.7nm,0.7s,baz=38,slow=1.6,SNR=5.5						
KLBR	**Kellerberrin**	**40.35**	**226**	*e*P	**P**	**06 18 21.1**	**-0.3**
	comp=Z,47nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**41.64**	**158**	P	**P**	**06 18 31.0**	**-1.1**
	comp=Z,19nm,0.7s,mb4.8,baz=12,slow=3.8,SNR=5.7						
MUN	**Mundaring**	**41.67**	**227**	*e*P	pP	06 18 42.6	+0.3
QIZ	**Qiongzhong**	**47.52**	**302**	P	**P**	**06 19 18.3**	**-0.6**
QIZ				S	**S**	**06 26 13.3**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,152nm,5.0s						
QIZ				LR	LR		
	comp=N,179nm,18.7s,MS4.2						
QIZ				LR	LR		
	comp=E,213nm,23.1s,MS4.2						
QIZ				LR	LR		
	comp=Z,396nm,23.6s,MS4.3						
NJ2	**Nanjing**	**48.57**	**323**	*e*P	**P**	**06 19 24.6**	**-2.4**
NJ2				PP	PP	06 21 16.6	-3.4
NJ2				S	**S**	**06 26 17.0**	**-9.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,680nm,5.8s						
NJ2				LR	LR		
	comp=N,410nm,20.6s,MS4.7						
NJ2				LR	LR		
	comp=E,650nm,18.2s,MS4.7						
WHN	**Wuhan**	**50.42**	**318**	*e*P	**P**	**06 19 42.0**	**+0.9**
MDJ	**Mudanjiang**	**53.79**	**341**	P	**P**	**06 20 06.4**	**+0.2**
MDJ				XP	sP	06 20 18.8	-1.7
MDJ				PP	PP	06 22 07.3	0.0
MDJ				S	**S**	**06 27 39.8**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,140nm,4.3s						
MDJ				LR	LR		
	comp=N,101nm,26.2s						
MDJ				LR	LR		
	comp=Z,130nm,23.9s,MS3.9						
KMI	**Kunming**	**56.14**	**305**	P	**P**	**06 20 25.6**	**+2.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
KMI	**Kunming**	**56.14**	**305**	P	**P**	**06 20 25.6**	**+2.5**
	comp=Z,6.0nm,0.5s,mb4.9						
XAN	**Xi'an**	**56.19**	**318**	P	**P**	**06 20 22.8**	**-0.7**
XAN				AP	pP	06 20 33.1	-0.8
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
CD2	**Chengdu**	**58.10**	**312**	*e*P	**P**	**06 20 37.8**	**+0.8**
CD2				AP	pP	06 20 47.8	+0.4
CD2				XP	sP	06 20 51.9	+0.4
CD2				PP	PP	06 22 48.3	+2.4
CD2				PCS	PcS	06 25 29.3	-0.6
CD2				S	**S**	**06 28 34.8**	**-1.0**
CD2				XS	sS	06 28 51.3	-1.6
CD2				SCS	ScS	06 30 21.0	-3.0
CD2				SS	SS	06 32 26.9	-0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.9s						
CD2				LR	LR		
	comp=N,300nm,16.3s,MS4.7						
CD2				LR	LR		
	comp=E,390nm,18.0s,MS4.7						
CD2				LR	LR		
	comp=Z,450nm,20.4s,MS4.6						
GTA	**Gaotai**	**65.24**	**318**	*e*P	**P**	**06 21 26.3**	**+1.2**
GTA				AP	pP	06 21 33.3	-2.4
GTA				XP	sP	06 21 36.4	-3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
SONM	**Songino Array**	**66.28**	**329**	P	**P**	**06 21 32.1**	**+0.3**
	comp=Z,2.2nm,0.9s,mb4.2,baz=144,slow=5.8,SNR=13						
SONM				LR	LR	06 50 16.9	
	comp=Z,241nm,20.6s,MS4.4,baz=288,slow=36						
CASY	**Casey**	**66.54**	**197**	*e*P	**P**	**06 21 32.3**	**-1.2**
	comp=Z,22nm,1.2s,mb5.1						
CASY				*e*pP	pP	06 21 42.0	-2.1
ZAK	**Zakamensk**	**69.47**	**330**	*e*P	**P**	**06 21 50.7**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BOD	**Bodaibo**	**70.13**	**340**	*e*P	**P**	**06 21 53.4**	**-2.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
VNDA	**Vanda**	**71.89**	**178**	P	**P**	**06 22 05.8**	**-0.8**
	comp=Z,7.8nm,0.8s,mb4.7,baz=329,slow=6.5,SNR=51						
VNDA	**Vanda**	**71.89**	**178**	*e*P	**P**	**06 22 05.6**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,16nm,1.3s						
VNDA	**Vanda**	**71.89**	**178**	*e*P	**P**	**06 22 05.6**	**-1.0**
	comp=Z,16nm,1.3s,mb4.8						
MIR	**Mirnyy**	**72.36**	**201**	*c i*P	**P**	**06 22 10.0**	**+0.6**
MIR				*i*		06 22 26.0	
MIR				pmax	pmax		
	comp=Z,350nm,1.0s						
SBA	**Scott Base**	**72.46**	**177**	*e*P	**P**	**06 22 10.1**	**0.0**
SBA				pmax	pmax		
	comp=Z,39nm,1.8s,mb5.0						
SBA	**Scott Base**	**72.46**	**177**	*e*P	**P**	**06 22 10.1**	**+0.1**
	comp=Z,39nm,1.8s,mb5.0						
WMQ	**Urumqi**	**75.32**	**318**	*e*P	**P**	**06 22 27.0**	**+0.2**
WMQ				AP	pP	06 22 37.5	0.0
WMQ				XP	sP	06 22 41.5	0.0
WMQ				PP	PP	06 25 18.0	+2.3
WMQ				*e*S	S	06 32 03.0	-0.9
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,156nm,5.0s						
WMQ				LR	LR		
	comp=N,576nm,20.4s,MS5.0						
WMQ				LR	LR		
	comp=E,483nm,22.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,505nm,23.7s,MS4.7						
MK31	**Makanchi Array**	**79.96**	**319**	*e*P	**P**	**06 22 51.9**	**-0.8**
MK31				*e**PP	pP	06 23 02.5	-0.9
MKAR	**Makanchi Array**	**79.96**	**319**	P	**P**	**06 22 52.5**	**-0.1**
	comp=Z,2.3nm,1.0s,mb4.1,baz=106,slow=6.0,SNR=12						
MKAR				LR	LR	06 58 56.3	
	comp=Z,95nm,18.4s,MS4.2,baz=6.4,slow=36						
ZAL	**Zalesovo**	**81.05**	**327**	P	**P**	**06 22 56.5**	**-2.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=39,slow=8.7,SNR=5.7						
COLA	**College**	**83.44**	**22**	*e*P	**P**	**06 23 08.2**	**-2.8**
COLA	**College**	**83.44**	**22**	*e*P	**P**	**06 23 08.1**	**-2.9**
	comp=Z,6.5nm,0.7s,mb4.8						
MAW	**Mawson**	**83.97**	**203**	P	**P**	**06 23 13.0**	**-0.8**
	comp=Z,11nm,0.7s,mb5.1,baz=94,slow=5.8,SNR=43						
MAW	**Mawson**	**83.97**	**203**	*e*P	**P**	**06 23 12.7**	**-1.0**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAW	**Mawson**	**83.97**	**203**	*e*P	**P**	**06 23 12.7**	**-1.0**
	comp=Z,5.8nm,0.5s,mb5.0						
AAK	**Ala-Archa**	**84.11**	**314**	*e*P	**P**	**06 23 13.3**	**-1.1**
AAK				*e**PP	pP	06 23 24.4	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**84.11**	**314**	*e*P	**P**	**06 23 13.3**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.4						
AAK				*e*pP	pP	06 23 24.4	-0.9
QSPA	**South Pole Qui**	**84.15**	**180**	*e*P	**P**	**06 23 13.6**	**-1.0**
	comp=Z,26nm,0.8s,mb5.4						
EGAK	**Eagle**	**85.98**	**23**	*e*P	**P**	**06 23 22.2**	**-1.6**
	comp=Z,5.1nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**89.02**	**323**	LR	LR	07 05 53.8	
	comp=Z,121nm,18.9s,MS4.3,baz=317,slow=37						
L02A	**Cave Junction**	**90.42**	**48**	⇓P	**P**	**06 23 45.8**	**+0.8**
	baz=90						
HUMO	**Hull Mountain**	**90.95**	**47**	*e*P	**P**	**06 23 46.9**	**-0.5**
	comp=Z,12nm,0.9s,mb5.2						
HUMO				*e*pP	pP	06 23 57.5	-0.8
HUMO	**Hull Mountain**	**90.95**	**47**	⇑P	**P**	**06 23 47.4**	**0.0**
	baz=91						
WDC	**Whiskeytown Da**	**91.01**	**49**	⇑P	**P**	**06 23 47.8**	**+0.1**
	baz=91						
YBH	**Yreka Blue Hor**	**91.02**	**48**	*e*P	**P**	**06 23 47.4**	**-0.4**
YBH				pmax	pmax		
	comp=Z,12nm,1.0s						
YBH	**Yreka Blue Hor**	**91.02**	**48**	*e*P	**P**	**06 23 47.4**	**-0.4**
	comp=Z,12nm,1.0s,mb5.2						
YBH	**Yreka Blue Hor**	**91.02**	**48**	⇓P	**P**	**06 23 47.6**	**-0.1**
	baz=91						
M04C	**Macdoel**	**91.68**	**48**	P	**P**	**06 23 51.2**	**+0.4**
	baz=92,SNR=7.2						
L04A	**Klamath Falls**	**91.68**	**48**	⇑P	**P**	**06 23 51.2**	**+0.4**

baz=92
LAVA Lava Cap Winer 92.20 51 ⇑P P 06 23 53.6 +0.3
baz=92
J05A Fort Rock 92.28 47 P P 06 23 54.0 +0.5
baz=92,SNR=9.7
S05C Merced 92.39 53 ⇑P P 06 23 54.8 +0.7
baz=92
CMB Columbia Colle 92.41 52 *e*P P **06 23 54.6 +0.4**
CMB *e**PP pP 06 24 05.0 -0.1
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
CMB Columbia Colle 92.41 52 *e*P P **06 23 54.6 +0.4**
comp=Z,6.1nm,0.9s,mb4.9
CMB *e*pP pP 06 24 05.0 -0.1
CMB Columbia Colle 92.41 52 ⇑P P 06 23 54.2 0.0
baz=92
L05A Lakeview 92.45 48 ⇑P P 06 23 54.9 +0.5
baz=92
SMMC Simmler 92.46 55 ⇓P P 06 23 55.2 +0.7
baz=92
K05A Summer Lake 92.47 47 ⇑P P 06 23 54.6 +0.1
baz=92
BEKR Beckwourth 92.60 50 ⇑P P 06 23 54.4 -0.7
baz=93,SNR=5.6
M06C Likely Place G 92.64 49 ⇑P P 06 23 55.4 +0.2
baz=93
R05C Kirkwood Meado 92.71 52 ⇓P P 06 23 56.2 +0.6
baz=93
MOD Modoc 92.83 48 *e*P P **06 23 56.0 -0.1**
MOD *e*pP pP 06 24 06.6 -0.4
MOD Modoc 92.83 48 P P 06 23 56.3 +0.2
baz=93,SNR=10
F06A Goldendale 92.84 44 ⇓P P 06 23 55.1 -1.1
baz=93
T06C Millerton Lake 92.85 53 ⇑P P 06 23 55.4 -0.8
baz=93,SNR=7.9
K06A Valley Falls 92.95 47 P P 06 23 56.8 +0.1
baz=93,SNR=5.7
WCN Washoe City 93.01 51 P P 06 23 57.7 +0.8
baz=93,SNR=7.1
O06A Flanigan 93.03 50 ⇑P P 06 23 56.7 -0.4
baz=93
J06A Christmas Vall 93.06 47 P P 06 23 57.0 -0.2
baz=93,SNR=5.7
H06A Lindquist Farm 93.06 46 ⇑P P 06 23 57.7 +0.5
baz=93
N06A Buffalo Meadow 93.08 50 P P 06 23 56.9 -0.4
baz=93,SNR=5.6
I06A Prineville 93.08 46 ⇑P P 06 23 57.4 +0.1
baz=93
KCC Kaiser Creek 93.19 53 ⇑P P 06 23 57.5 -0.3
baz=93,SNR=7.6
VES Vestal, Richgr 93.25 54 ⇓P P 06 23 57.8 -0.3
baz=93
PAHR Pah Rah Range 93.33 51 *e*P **P 06 23 58.6 +0.1**
comp=Z,12nm,1.1s,mb5.2
PAHR *e*pP pP 06 24 09.3 0.0
HELL Mitchell Peak, 93.37 54 ⇑P P 06 23 58.3 -0.3
baz=93
F07A Phinny Hill Vi 93.45 44 ⇓P P 06 23 58.6 -0.4
baz=94
C07A Waterville 93.50 43 ⇓P P 06 23 58.5 -0.7
baz=94
D07A Quincy 93.52 43 ⇑P P 06 23 58.2 -1.1
baz=94
B07A Winthrop 93.53 42 ⇑P P 06 23 58.5 -0.9
baz=94
L07A Adell 93.56 48 P P 06 24 00.0 +0.5
baz=94,SNR=8.4
G07A Ruggs Ranch, H 93.58 45 ⇑P P 06 23 58.7 -0.9
baz=94
H07A Lands Inn, Kim 93.60 46 ⇓P P 06 23 59.4 -0.3
baz=94
I07A Izee 93.60 46 ⇓P P 06 24 00.3 +0.7
baz=94
M07A Soldier Meadow 93.63 49 ⇑P P 06 23 59.8 0.0
baz=94
K07A Rock Creek Ran 93.68 48 ⇓P P 06 24 00.2 +0.2
baz=94
J07A Hines 93.68 47 ⇓P P 06 23 59.2 -0.9
baz=94
P07A Fallon 93.70 51 ⇓P P 06 24 00.0 -0.1
baz=94
ISA Isabella 93.73 55 *e*P **P 06 23 59.8 -0.5**
ISA Isabella 93.73 55 ⇓P P 06 24 00.6 +0.3
baz=94
N07B Gerlach 93.73 50 ⇑P P 06 23 59.5 -0.8
baz=94
DECC Green Verdugo 93.74 56 ⇓P P 06 24 00.8 +0.4
baz=94
O07A Toulon 93.76 50 ⇑P P 06 24 00.4 0.0
baz=94
MWC Mount Wilson 93.96 56 *e*P **P 06 24 02.3 +0.9**
MWC *e**PP pP 06 24 12.5 +0.2
EDW2 Edwards Air Fo 94.07 55 ⇓P P 06 24 02.0 +0.2
baz=94,SNR=6.3
NVAR Mina Array Bea 94.07 52 P P 06 24 02.4 +0.5
comp=Z,7.1nm,0.8s,mb5.1,baz=264,slow=6.6,SNR=41
G08A Pilot Rock 94.08 45 ⇓P P 06 24 02.0 +0.1
baz=94
S08C White Mtn Res 94.11 53 ⇑P P 06 24 02.0 0.0
baz=94,SNR=6.5
D08A Wollman Farm, 94.23 43 ⇑P P 06 24 02.1 -0.5
baz=94
H08A Prairie City 94.23 46 ⇑P P 06 24 02.5 -0.1
baz=94
M08A Happy Creek Ra 94.23 49 ⇓P P 06 24 02.5 -0.1
baz=94
K08A Mann Creek Ran 94.24 48 ⇓P P 06 24 02.6 -0.1
baz=94
F08A Pendleton 94.24 45 ⇑P P 06 24 02.0 -0.7
baz=94
I08A Drewsey 94.26 46 ⇓P P 06 24 02.7 -0.1
baz=94
J08A Circle Bar Ran 94.29 47 P P 06 24 02.8 -0.1
baz=94,SNR=5.2
BFSC Mount Baldy St 94.29 56 ⇓P P 06 24 02.5 -0.4
baz=94
L08A Fields 94.31 48 ⇓P P 06 24 03.5 +0.6
baz=94
LRMC Laurel Mountai 94.36 55 ⇓P P 06 24 03.3 +0.2
baz=94,SNR=6.2
N08A GE Springer Mi 94.37 50 ⇓P P 06 24 03.3 +0.1
baz=94
Q08A Gabbs 94.39 52 P P 06 24 03.8 +0.5
baz=94,SNR=6.0
DAC Darwin (Calif) 94.49 54 *e*P **P 06 24 03.8 0.0**
MPMC Manual Prospec 94.56 54 P P 06 24 04.9 +0.8
baz=95,SNR=11
A09A Danville 94.58 41 ⇑P P 06 24 03.3 -0.8
baz=95
MURC Murrieta 94.63 57 ⇑P P 06 24 04.6 +0.2
baz=95
D09A Jones Farm, Ri 94.65 43 ⇑P P 06 24 03.8 -0.7
baz=95
C09A Chrisman Ranch 94.72 43 ⇓P P 06 24 04.0 -0.9
baz=95
GRAC Grapevine Rang 94.72 53 ⇓P P 06 24 05.3 +0.5
baz=95
E09A Wood Farm, Sta 94.73 44 ⇑P P 06 24 03.6 -1.3
baz=95
K09A Rome 94.80 48 ⇑P P 06 24 04.8 -0.4
baz=95
L09A Wilkinson Ranc 94.80 48 ⇑P P 06 24 06.1 +0.9
baz=95
J09A Fry Pan Ranch, 94.81 47 ⇑P P 06 24 04.2 -1.1
baz=95,SNR=5.5
B09A Rice 94.83 42 ⇓P P 06 24 05.1 -0.3
baz=95
N09A Rock Creek Ran 94.83 50 ⇑P P 06 24 05.4 0.0
baz=95
F09A S2 Ranch, Elgi 94.84 45 ⇓P P 06 24 04.9 -0.5
baz=95
I09A Lost Marbles R 94.86 46 ⇓P P 06 24 05.1 -0.4
baz=95
S09A Goldfield 94.88 53 P P 06 24 05.9 +0.3
baz=95,SNR=16
M09A Marrel Ranch, 94.93 49 ⇑P P 06 24 05.4 -0.4
baz=95
R09A Tonopah 95.03 52 P P 06 24 06.7 +0.4
baz=95,SNR=6.5
O09A Fish Creek Ran 95.05 50 ⇓P P 06 24 05.8 -0.5
baz=95
P09A Austin 95.05 51 ⇓P P 06 24 06.7 +0.3
baz=95
GSC Goldstone 95.06 55 ⇓P P 06 24 06.8 +0.4
baz=95
FURC Furnace Creek, 95.09 54 P P 06 24 06.7 +0.1
baz=95,SNR=9.1
PFO Pinyon Flat Ob 95.25 57 *e*P **P 06 24 06.7 -0.6**
PFO *e**PP pP 06 24 18.4 +0.2
PFO pmax pmax
comp=Z,11nm,1.2s,mb5.2
PFO Pinyon Flat Ob 95.25 57 *e*P **P 06 24 06.7 -0.6**
comp=Z,11nm,1.2s,mb5.2
PFO *e*pP pP 06 24 18.4 +0.3
PFO Pinyon Flat Ob 95.25 57 ⇓P P 06 24 07.9 +0.6
baz=95
A10A Northport 95.25 41 ⇓P P 06 24 06.6 -0.6
baz=95
SHOC Shoshone 95.53 55 P P 06 24 08.9 +0.4
baz=96,SNR=6.0
P10A Eureka 95.58 51 ⇑P P 06 24 08.0 -0.8
baz=96
M10A I.L. Ranch, Tu 95.61 49 ⇑P P 06 24 08.0 -0.9
baz=96
R10A Warm Springs 95.64 52 ⇓P P 06 24 09.6 +0.6
baz=96
BELC Belle Mtn. 95.65 56 ⇑P P 06 24 09.5 +0.4
baz=96
TUQ Turquoise Mtn. 95.79 55 ⇓P P 06 24 10.4 +0.6
baz=96
BC3 Big Chuckw Mtn 96.09 57 ⇓P P 06 24 11.5 +0.5
baz=96
Q11A Duckwater 96.17 52 ⇓P P 06 24 11.9 +0.4
baz=96
V11A Goodsprings 96.21 55 ⇑P P 06 24 12.1 +0.4
baz=96
O11A Cowboy Ranch, 96.22 50 ⇑P P 06 24 11.8 +0.1
baz=96
IRM Iron Mountain 96.36 56 ⇓P P 06 24 13.1 +0.8
baz=96
AKTO Aktyubinsk 96.39 320 LR LR 07 07 09.3
comp=Z,140nm,21.9s,MS4.4,baz=252,slow=35
SHPR Sheep Range 96.46 54 *e*P **P 06 24 13.8 +1.0**
SHPR *e*pP pP 06 24 22.5 -1.2
A12A Yaak River Ran 96.51 42 ⇓P P 06 24 12.8 -0.2
baz=96
B12A Libby 96.54 42 ⇑P P 06 24 12.4 -0.8
baz=96
C12A Trout Creek 96.59 43 ⇑P P 06 24 12.8 -0.6
baz=97
V12A Nelson 96.68 55 ⇓P P 06 24 14.2 +0.5
baz=97
N12A Clover Valley, 96.72 50 ⇑P P 06 24 14.3 +0.3
baz=97
M12A Wells 96.83 49 ⇑P P 06 24 14.5 0.0
baz=97
Y12C Blythe 96.87 57 ⇓P P 06 24 15.5 +0.9
baz=97
O12A Currie 96.92 50 ⇑P P 06 24 14.6 -0.2
baz=97
YKA Yellowknife Ar 97.13 28 P P 06 24 14.0 -1.8
comp=Z,1.5nm,0.8s,mb4.5,baz=274,slow=4.8,SNR=3.5
YKA Yellowknife Ar 97.13 28 P P 06 24 14.0 -1.8
PDMCI Parker Dam,Lak 97.21 56 ⇓P P 06 24 17.5 +1.4
baz=97
HLID Hailey 97.25 47 *e*P **P 06 24 17.1 +0.7**
HLID Hailey 97.25 47 ⇑P P 06 24 15.6 -0.8
baz=97
B13A Whitefish 97.28 42 ⇑P P 06 24 16.4 -0.1
baz=97
A13A Flathead Natio 97.33 42 ⇓P P 06 24 16.7 0.0
baz=97
N13A Wendover, West 97.35 50 ⇑P P 06 24 17.2 +0.4
baz=97
M13A Montello 97.39 49 ⇑P P 06 24 17.5 +0.5
baz=97
W13A Hualapai Mount 97.44 55 ⇓P P 06 24 18.3 +1.1
baz=97
Y13A Salome 97.45 57 ⇑P P 06 24 18.3 +1.0
baz=98
X13A Yucca 97.47 56 ⇑P P 06 24 19.8 +2.4
baz=98
EDM Edmonton 97.98 37 *e*P **P 06 24 19.1 -0.5**
EDM *e**PP pP 06 24 29.7 -0.8
Y14A Wickenburg 98.14 57 ⇑P P 06 24 21.3 +1.0
baz=98
Z14A Wintersburg 98.17 57 ⇓P P 06 24 21.4 +0.9
baz=98
X14A Yava 98.24 56 ⇓P P 06 24 22.0 +1.2
baz=98
HVU Hansel Valley 98.44 49 *e*P **P 06 24 22.2 +0.5**
HVU *e**PP pP 06 24 33.0 +0.4
W15A Williams 98.77 55 ⇑P P 06 24 25.2 +2.0
baz=99
X15A Humboldt 98.78 56 ⇑P P 06 24 23.9 +0.7
baz=99
WUAZ Wupatki 99.50 55 ⇑P P 06 24 28.9 +2.5
baz=100
PDAR Pinedale Array 100.81 48 P Pdif 06 24 31.0 -1.3
comp=Z,1.5nm,0.8s,baz=237,slow=2.3,SNR=10
TXAR Lajitas Array 106.14 61 PP PP 06 29 18.8 -1.1
comp=Z,1.3nm,1.1s,baz=272,slow=8.6,SNR=5.1
OBN Obninsk 108.63 327 *e*P Pdif 06 25 03.9 -3.1
OBN pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 114.30 324 PKP PKiKP 06 29 21.6 -1.4
comp=Z,0.2nm,0.4s,baz=65,slow=2.2,SNR=4.2
BRTR Keskin Array B 114.67 311 PKP PKiKP 06 29 22.8 -1.0
comp=Z,2.0nm,1.0s,baz=185,slow=8.7,SNR=5.1
NOA NORSAR Array B 117.26 339 PKP PKPdf 06 29 27.3 -1.4
comp=Z,0.5nm,0.6s,baz=50,slow=2.0,SNR=2.9
SCHQ Schefferville 122.44 25 PKP PKPdf 06 29 36.5 -2.1
comp=Z,3.9nm,0.9s,baz=221,slow=9.3,SNR=3.4
KHC Kasperske Hory 123.89 328 *i* PKIKP PKPdf 06 29 39.0 -2.5
GERES GERESS Array B 123.99 327 PKP PKPdf 06 29 41.3 -0.3
comp=Z,1.5nm,0.6s,baz=90,slow=0.7,SNR=11
KEST Kesra 133.94 316 PKP PKPdf 06 30 01.4 +0.9
comp=Z,2.1nm,0.9s,baz=39,slow=6.5,SNR=4.2
ROSC El Rosal 134.81 89 PKP PKPdf 06 30 02.3 +0.1
comp=Z,5.2nm,0.9s,baz=253,slow=18,SNR=4.1
LPAZ La Paz 135.44 120 PKP PKPdf 06 30 04.2 +0.8
comp=Z,2.2nm,0.9s,baz=56,slow=1.7,SNR=8.8
LPAZ La Paz 135.44 120 *e*PKPdf PKPdf 06 30 04.6 +1.2
CPUP Villa Florida 137.82 141 PKP PKPdf 06 30 06.6 -1.2
comp=Z,0.5nm,0.6s,baz=191,slow=18,SNR=3.0
SDV Santo Domingo 138.56 83 *e*PKPdf PKPdf 06 30 10.0 +0.8
TOA0 Torodi Ar. Sit 148.94 286 *e*PKPbc PKPbc 06 30 31.2 0.0
TORD Torodi Ar. Bea 148.94 286 PKPbc PKPbc 06 30 31.1 -0.1
comp=Z,32nm,0.7s,baz=48,slow=2.3,SNR=167
BDFB Brasilia 151.51 139 PKPbc PKPbc 06 30 37.3 -0.2
comp=Z,14nm,0.9s,baz=196,slow=1.5,SNR=15
BDFB PKPab PKPab 06 30 46.4 +0.4
comp=Z,19nm,0.9s,baz=240,slow=3.2,SNR=16
DBIC Dimbokro 156.04 273 PKP PKPdf 06 30 38.3 +0.6
comp=Z,2.1nm,0.8s,baz=349,slow=5.6,SNR=2.6
DBIC PKPab PKPab 06 31 06.2 +1.1
comp=Z,3.9nm,0.8s,baz=114,slow=10,SNR=5.1
DBIC Dimbokro 156.04 273 PKP PKPdf 06 30 38.3 +0.6
DBIC PKPab PKPab 06 31 06.2 +1.1

IDC 17 06:22:03.1±5.5, 5705S×14368W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, MS4.2/11, Ms1 4.1/11, ms1mx3.9/24, Error ellipse: s-maj=1270.0km s-min=90.1km az=170.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.56**	**202**	LR		LR	06 35 44.7	
	comp=Z,321nm,21.4s,baz=76,slow=30							
URZ	**Urewera**	**31.81**	**289**	LR		LR	06 38 17.5	
	comp=Z,529nm,19.8s,baz=229,slow=31							
TBI	**Tubuai**	**33.93**	**350**	*e*LR		LR	06 37 23.4	
	1um,28.0s							
RKT	**Rikitea**	**34.48**	**14**	*e*LQ			06 36 13.0	
	660nm,32.8s							
RKT				*e*LR		LR	06 37 38.0	
	683nm,28.2s							
PPT	**Papeete**	**39.66**	**351**	*e*LR		LR	06 40 09.2	
	789nm,26.5s							
AFI	**Afiamalu**	**48.07**	**322**	LR		LR	06 46 49.6	
	comp=Z,210nm,18.3s,baz=152,slow=31							
TAOE	**Nuku Hiva Isla**	**48.16**	**5**	*e*LR		LR	06 44 00.5	
	1um,24.9s							
DZM	**Mont Dzumac**	**50.24**	**293**	LR		LR	06 48 16.1	
	comp=Z,218nm,20.2s,baz=208,slow=31							
MAW	**Mawson**	**54.11**	**192**	LR		LR	06 55 01.6	
	comp=Z,135nm,21.9s,baz=166,slow=37							
STKA	**Stephens Creek**	**55.76**	**263**	P		P	06 31 40.0	-1.6
	2.6nm,0.9s,baz=135,slow=13,SNR=2.0							
STKA				LR		LR	06 50 59.9	
	comp=Z,239nm,20.1s,baz=203,slow=31							
CTA Charters Tower 62.54 275 LR LR 06 56 17.8
comp=Z,102nm,18.4s,baz=317,slow=33
ASAR Alice Springs 66.39 263 P P 06 32 54.8 +0.9
1.5nm,0.9s,baz=143,slow=6.5,SNR=9.2
ASAR LR LR 06 58 05.0
comp=Z,157nm,20.2s,baz=195,slow=33
WRA Warramunga Arr 69.16 265 P P 06 33 11.7 +0.4
1.4nm,1.0s,baz=151,slow=5.1,SNR=6.2
FITZ Fitzroy Crossi 75.38 259 LR LR 07 03 20.4
comp=Z,172nm,21.4s,baz=164,slow=33
BDFB Brasilia 80.08 103 LR LR 07 05 33.3
comp=Z,161nm,19.3s,baz=199,slow=33
BOSA Boshof 94.16 170 LR LR 07 15 31.9
comp=Z,147nm,18.7s,baz=186,slow=34
MKAR Makanchi Array 150.39 270 PKPbc PKPbc 06 41 54.7 -1.7
0.8nm,0.8s,baz=111,slow=3.2,SNR=6.9

IDC 17 06:48:24.1±3.9, 542S×15081E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/12, mbtmp3.3/2, Error ellipse: s-maj=151.1km s-min=50.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**227**	P		P	06 53 15.5	+0.3
	0.5nm,0.5s,baz=53,slow=10,SNR=10							
ASAR	**Alice Springs**	**24.38**	**220**	P		P	06 53 44.4	+0.5
	0.7nm,0.6s,baz=54,slow=9.5,SNR=11							
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc		PKPbc	07 08 13.5	+0.5
	0.4nm,0.6s,baz=59,slow=3.5,SNR=5.2							

IDC 17 07:34:57.9±0.6, 2813S×6738W, h133km±6km, mb3.7/10, mb1 3.7/15, mb1mx3.7/22, mbtmp4.0/15, Error ellipse: s-maj=17.9km s-min=8.6km az=96.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.54**	**192**	P		Pn	07 35 51.4	-0.2
	1.6nm,0.3s,baz=358,slow=13,SNR=483							
CFAA				S		Sn	07 36 31.3	-2.0
	7.1nm,0.3s,baz=138,slow=20,SNR=11							
LVC	**Limon Verde**	**5.67**	**346**	P		Pn	07 36 21.4	+1.5
	13nm,0.3s,baz=172,slow=8.5,SNR=158							
LVC				S		Sn	07 37 20.9	-2.9
	2.9nm,0.3s,baz=172,slow=13,SNR=3.5							
CPUP	**Villa Florida**	**9.12**	**81**	P		Pn	07 37 04.5	-1.9
	1.6nm,0.3s,baz=243,slow=14,SNR=19							
LPAZ	**La Paz**	**11.80**	**356**	P		Pn	07 37 41.6	-0.4
	0.3nm,0.3s,baz=175,slow=7.5,SNR=11							
SIV	**San Ignacio**	**13.41**	**27**	P		Pn	07 38 01.5	-1.5
	0.3nm,0.3s,baz=204,slow=12,SNR=9.3							
BDFB	**Brasilia**	**21.81**	**59**	P		P	07 39 37.8	-1.5
	3.0nm,0.7s,baz=242,slow=12,SNR=6.3							
PMSA	**Palmer Station**	**36.72**	**178**	P		P	07 41 52.5	+0.4
	6.4nm,1.0s,baz=332,slow=14,SNR=3.0							
SNAA	**Sanae**	**55.60**	**160**	P		P	07 44 19.6	0.0
	1.0nm,0.5s,baz=286,slow=7.2,SNR=37							
TXAR	**Lajitas Array**	**66.86**	**326**	P		P	07 45 36.1	+0.6
	0.2nm,0.6s,baz=159,slow=7.7,SNR=2.9							
DBIC	**Dimbokro**	**69.47**	**70**	P		P	07 45 52.0	+0.2
	4.1nm,0.7s,baz=240,slow=3.6,SNR=6.7							
VNDA	**Vanda**	**70.59**	**190**	P		P	07 45 59.2	+0.5
	0.5nm,0.7s,baz=147,slow=8.1,SNR=4.2							
MAW	**Mawson**	**77.61**	**163**	P		P	07 46 39.5	+0.1
	2.3nm,0.9s,baz=257,slow=4.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**78.39**	**68**	P		P	07 46 44.2	+0.5
	5.0nm,0.7s,baz=268,slow=5.9,SNR=42							
BOSA	**Boshof**	**79.18**	**117**	P		P	07 46 48.7	+0.7
	1.8nm,0.5s,baz=356,slow=2.7,SNR=5.5							
PDAR	**Pinedale Array**	**80.52**	**330**	P		P	07 46 55.6	+0.4
	1.1nm,0.7s,baz=132,slow=7.7,SNR=9.6							
ASAR	**Alice Springs**	**124.57**	**204**	PKP		PKPdf	07 53 41.3	-0.1
	1.2nm,0.6s,baz=133,slow=1.9,SNR=20							
WRA	**Warramunga Arr**	**127.80**	**206**	PKP		PKPdf	07 53 47.6	-0.1
	1.4nm,0.6s,baz=168,slow=1.7,SNR=28							
WRA				pPKP		pPKPdf	07 54 25.2	+2.1
	0.3nm,0.5s,baz=172,slow=1.6,SNR=3.1							
ZAL	**Zalesovo**	**147.15**	**31**	PKPbc		PKPbc	07 54 24.1	-1.2
	3.2nm,0.7s,baz=136,slow=5.2,SNR=6.6							
ZAL				pPKPbc		pPKPbc	07 55 00.5	0.0
	1.6nm,0.6s,baz=139,slow=10.0,SNR=2.1							
MKAR	**Makanchi Array**	**149.83**	**44**	PKPbc		PKPbc	07 54 32.5	+0.3
	3.9nm,0.7s,baz=301,slow=2.6,SNR=16							
MKAR				pPKPbc		pPKPbc	07 55 08.8	+1.3
	1.3nm,0.7s,baz=304,slow=3.2,SNR=2.6							

IDC 17 07:37:35.6±3.7, 532S×15030E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/12, mbtmp3.2/2, Error ellipse: s-maj=140.8km s-min=49.2km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.27**	**225**	P		P	07 42 24.7	+1.3
	0.7nm,0.8s,baz=51,slow=10,SNR=6.7							
ASAR	**Alice Springs**	**24.13**	**219**	P		P	07 42 52.8	-0.3
	0.4nm,0.6s,baz=54,slow=9.2,SNR=7.3							
TORD	**Torodi Ar. Bea**	**148.08**	**286**	PKPbc		PKPbc	07 57 23.7	+0.6
	0.5nm,0.6s,baz=78,slow=2.6,SNR=6.7							

CASC 17 07:43:54.0±1.8, 984N×8418W, h68km±4km, MD3.8, 5C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.16**	**52**	⇓*i*P		Pn	07 44 04.4	+0.2
SJS				*e*S		Sn	07 44 13.0	+1.3
PRS1	**Puriscal**	**0.19**	**318**	⇑*i*P		Pn	07 44 04.4	+0.1
LCR2	**La Lucha 2**	**0.20**	**119**	⇓*i*P		Pn	07 44 04.5	+0.1
OCM	**Ochomogo**	**0.23**	**76**	⇓*i*P		Pn	07 44 04.3	-0.2
OCM				*e*S		Sn	07 44 12.7	+0.5
IRZ2	**Volcan Irazu 2**	**0.31**	**66**	⇓*i*P		Pn	07 44 05.3	+0.3
IRZ2				*e*S		Sn	07 44 16.3	+3.2
CGA2	**Cerro Gallo 2**	**0.33**	**302**	⇑*e*P		Pn	07 44 05.4	+0.2
CGA2				*e*S		Sn	07 44 13.4	+0.1
POA2	**Poas 2**	**0.34**	**349**	⇓*e*P		Pn	07 44 05.4	+0.1
POA2				*e*S		Sn	07 44 16.9	+3.4
EPA	**Esparza**	**0.43**	**290**	⇓*e*P		Pn	07 44 05.8	-0.2
EPA				*e*S		Sn	07 44 15.7	+0.9
VTU	**Volcan Turrial**	**0.46**	**67**	⇓*e*P		Pn	07 44 06.6	+0.4
FORC	**Fortuna**	**0.79**	**323**	*i* P		Pn	07 44 09.7	-0.1
FORC				*i* S		Sn	07 44 22.6	+1.1
VACR	**Volcan Arenal**	**0.80**	**322**	⇓*e*P		Pn	07 44 10.1	+0.2
VACR				*e*S		Sn	07 44 22.6	+1.0
JCR	**Jicaral**	**0.92**	**271**	⇑*i*P		Pn	07 44 11.5	+0.2
JCR				*e*S		Sn	07 44 25.0	+0.8
CAO	**Cobano**	**0.92**	**261**	⇓*i*P		Pn	07 44 11.4	0.0
CAO				*e*S		Sn	07 44 25.6	+1.3
LIO	**Limon**	**1.14**	**82**	*e*P		Pn	07 44 14.0	-0.2
LIO				*e*S		Sn	07 44 28.6	-0.7
LIM1	**Limonal**	**1.36**	**309**	⇑*e*P		Pn	07 44 16.9	0.0
LIM1				*e*S		Sn	07 44 35.9	+1.6
VCR	**Vista de Mar**	**1.45**	**281**	⇑*e*P		Pn	07 44 18.2	-0.1
VCR				*e*S		Sn	07 44 36.0	-0.6
CTCR	**Cotoan**	**1.69**	**124**	*e*P		Pn	07 44 21.9	+0.5
CNI	**Changuinola**	**1.70**	**104**	*e*P		Pn	07 44 21.2	-0.3
BRU	**Baru**	**1.90**	**123**	*e*P		Pn	07 44 25.9	+1.6
DVD	**David**	**2.21**	**129**	*e*P		Pn	07 44 28.3	-0.1

*IDC **17** 07:59:10.6±0.4, 1039N×92.18E, h0km, mb4.5/27, mb1 4.6/28, mb1mx4.6/28, mbtmp4.4/28, ML3.4/1, MS4.6/26, Ms1 4.6/26, ms1mx4.4/40, Error ellipse: s-maj=16.8km s-min=10.6km az=52.0*

*ISCJB **17** 07:59:16.0±0.2, 1055N±004×9180E±003, h35km, mb4.8/87, MS4.7/48, Error ellipse: s-maj=5.1km s-min=4.6km az=0.0*

*MOS **17** 07:59:16.1±1.0, 1059N×9180E, h33km, mb5.2/43, MS4.5/11, Error ellipse: s-maj=10.5km s-min=5.7km az=111.8*

*NEIC **17** 07:59:17.0±0.2, 1044N×9176E, mb5.0/46, Error ellipse: s-maj=7.2km s-min=6.8km az=96.0*

*BJI **17** 07:59:16.0, 1058N×9178E, h32km, mB5.2, mb4.7, Ms5.0, Msz4.7*

ISC 17 07:59:18.0±0.2, 1052N±003×9175E±003, h35km, h35km±2.3km: pP-P, n289, σ1⁝40/283, mb4.8/87, MS4.7/48, 8C-6D, Andaman Islands region

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

PBA	**Port Blair**	**1.49**	**41**	*ex*	x	07 59 32.5
PBA				*ex*	x	07 59 36.0
NNT	**Nongplab**	**8.09**	**75**	P	**Pn**	**08 01 12.0 -0.9**
SNG	**Songkhla**	**9.37**	**110**	P	**Pn**	**08 01 27.0 -3.5**
	180nm,1.0s					
NST	**Nakhon Sawan**	**9.64**	**57**	P	**Pn**	**08 01 34.0 -0.1**
BDT	**Bhumibol Dam**	**9.71**	**46**	P	**Pn**	**08 01 35.5 +0.5**
PSI	**Prapat**	**10.47**	**137**	Pn	**Pn**	**08 01 36.5 -9.0**
	0.4nm,0.3s,baz=341,slow=13,SNR=3.6					
CM31	**Chiang Mai Arr**	**10.52**	**41**	*e*Pn	**Pn**	**08 01 46.8 +0.6**
CHG	**Chiang Mai**	**10.79**	**39**	⇓P	**Pn**	**08 01 53.8 +4.0**
	30nm,0.9s					
CHTO	**Chiang Mai**	**10.79**	**39**	P	**Pn**	**08 01 54.4 +4.6**
	SNR=9.4					
CHTO	**Chiang Mai**	**10.79**	**39**	*e*P	**Pn**	**08 01 50.3 +0.5**
CHTO				pmax	pmax	
	comp=Z,21nm,1.0s					
CHTO	**Chiang Mai**	**10.79**	**39**	*e*Pn	**Pn**	**08 01 50.3 +0.5**
	comp=Z,21nm,1.0s					
VIS	**Vishakhapatnam**	**10.85**	**312**	*e*P	**Pn**	**08 01 46.4 -4.4**
VIS				*e*S	**Sn**	**08 03 40.2 -11**
PALK	**Pallekele**	**11.38**	**254**	*e*Pn	**Pn**	**08 01 51.4 -6.6**
PALK				*e*Sn	**Sn**	**08 03 48.3 -16**
MDRS	**Chennai**	**11.54**	**284**	*e*P	**Pn**	**08 01 54.4 -5.7**
MDRS				*ex*	x	08 03 53.7
CAL	**Calcutta**	**12.39**	**345**	*e*P	**Pn**	**08 02 08.3 -3.5**
CAL				*ex*	x	08 04 31.1
AGT	**Agartala**	**13.29**	**358**	*ex*	x	08 02 33.0
SALM	**Salem**	**13.35**	**276**	*e*P	**Pn**	**08 02 21.0 -3.8**
SALM				*e*S	**Sn**	**08 04 37.0 -15**
KGM	**Kluang**	**14.27**	**126**	P	**Pn**	**08 02 30.4 -7.0**
BOK	**Bokaro**	**14.33**	**338**	*e*P	**Pn**	**08 02 35.3 -3.0**
BOK				AMb	AMB	08 02 42.0
	comp=Z,45nm,1.0s					
BOK				*e*S	**Sn**	**08 05 13.8 -2.2**
IMP	**Imphal**	**14.33**	**8**	*ex*	x	08 02 45.0
HYB	**Hyderabad**	**14.52**	**300**	*i* P	**Pn**	**08 02 40.0 -0.8**
HYB				*e*		08 03 28.0
HYB				*e*S	**Sn**	**08 05 21.0 +0.5**
HYB	**Hyderabad**	**14.52**	**300**	*e*P	**Pn**	**08 02 35.0 -5.8**
HYB				*e*		08 03 28.0
HYB				*e*S	**Sn**	**08 05 18.0 -2.5**
TRD	**Trivandrum**	**14.72**	**263**	*e*P	**Pn**	**08 02 38.6 -5.0**
TRD				AMb	AMB	08 02 52.6
	comp=Z,80nm,1.2s					
SHL	**Shillong**	**14.96**	**0**	*e*P	**Pn**	**08 02 46.0 -0.8**
SHL				*ex*	x	08 05 50.0
NGP	**Nagpur**	**16.14**	**312**	*e*P	**Pn**	**08 02 59.4 -2.7**
NGP				*ex*	x	08 03 03.3
	comp=Z,66nm,1.5s					
NGP				*e*S	**S**	**08 05 56.2 -16**
LATR	**Latur**	**16.66**	**300**	*e*P	**Pn**	**08 03 06.0 -2.7**
MNGI	**Mangalore**	**16.75**	**280**	*e*P	**Pn**	**08 03 07.0 -2.8**
MNGI				*ex*	x	08 03 20.2
	comp=Z,66nm,0.9s					
MNGI				*i* x	x	08 06 28.5
JBP	**Jabalpur**	**16.86**	**320**	⇓*i*P	**Pn**	**08 03 10.7 -0.5**
JBP				*ex*	x	08 03 17.8
	comp=Z,63nm,1.4s					
JBP				*i* x	x	08 06 06.7
JIRN	**Jiri**	**17.83**	**344**	*e*P	**Pn**	**08 03 22.2 -1.0**
KMI	**Kunming**	**17.88**	**34**	P	**Pn**	**08 03 27.3 +3.5**
KMI				AP	pP	08 03 34.3 +0.9
KMI				XP	sP	08 03 38.6 +0.8
KMI				AMB	AMB	
	comp=Z,25nm,1.0s					
KMI				AMB	AMB	
	comp=Z,149nm,4.2s					
KMI				LR	LR	
	comp=N,1μm,14.9s					
KMI				LR	LR	
	comp=E,3μm,12.2s					
KMI				LR	LR	
	comp=Z,2μm,11.7s					
KMI	**Kunming**	**17.88**	**34**	P	**Pn**	**08 03 27.2 +3.4**
KMI				pmax	pmax	
	comp=Z,25nm,1.0s					
KMI	**Kunming**	**17.88**	**34**	P	**Pn**	**08 03 27.2 +3.4**
	comp=Z,25nm,1.0s					
KMI				pP	pP	08 03 34.2 +0.8
KMI				sP	sP	08 03 38.6 +0.8
KMI				PP		08 03 44.0
KMI				PPP		08 03 52.8
KMI				S	**S**	**08 06 49.9 +2.2**
KMI				sS	sS	08 06 59.2 -3.0
KMI				SS		08 07 11.2
KMI				SSS		08 07 23.9
PKI	**Pulchoki**	**17.98**	**341**	*e*P	**Pn**	**08 03 23.6 -1.4**
	comp=Z,415nm,1.4s					
DMN	**Daman**	**18.11**	**341**	*e*P	**Pn**	**08 03 25.7 -0.9**
	comp=Z,121nm,0.8s					
GUN	**Gumba**	**18.16**	**343**	*e*P	**Pn**	**08 03 25.7 -1.5**
	comp=Z,340nm,1.3s					
KKN	**Kakani**	**18.22**	**341**	*e*P	**Pn**	**08 03 27.5 -0.5**
	comp=Z,124nm,1.1s					
KAD	**Karad**	**18.33**	**294**	*e*P	**Pn**	**08 03 26.8 -2.5**
KAD				AMb	AMB	08 03 33.5
	comp=Z,36nm,0.9s					
KAD				*ex*	x	08 06 36.1
BHPL	**Bhopal**	**18.63**	**315**	*e*P	**Pn**	**08 03 31.9 -1.0**
BHPL				AMb	AMB	08 03 37.8
	comp=Z,48nm,1.0s					
GKN	**Gorkha**	**18.63**	**340**	*e*P	**Pn**	**08 03 31.5 -1.5**
	comp=Z,215nm,1.1s					
KOLN	**Koldanda**	**18.79**	**337**	*e*P	**Pn**	**08 03 32.1 -2.8**
	comp=Z,502nm,1.6s					
LSA	**Lhasa**	**19.09**	**358**	P	**Pn**	**08 03 39.0 +0.5**
LSA				S	**S**	**08 07 14.3 +2.2**
LSA				LR	LR	
	comp=N,2μm,14.9s					
LSA				LR	LR	
	comp=E,3μm,16.3s					
LSA				LR	LR	
	comp=Z,3μm,15.4s					
LSA	**Lhasa**	**19.09**	**358**	*e*P	**Pn**	**08 03 39.3 +0.8**
LSA				pmax	pmax	
	comp=Z,51nm,0.6s					
LSA	**Lhasa**	**19.09**	**358**	*e*P	**Pn**	**08 03 39.3 +0.8**
	comp=Z,51nm,0.6s					
QIZ	**Qiongzhong**	**19.42**	**62**	P	**Pn**	**08 03 40.5 -1.9**
QIZ				PP		08 03 59.4
QIZ				S	**S**	**08 07 18.8 +0.1**
QIZ				XS	sS	08 07 29.6 -3.8
QIZ				AMB	AMB	
	comp=Z,16nm,1.2s					
QIZ				LR	LR	
	comp=N,3μm,14.0s					
QIZ				LR	LR	
	comp=Z,3μm,15.2s					
QIZ	**Qiongzhong**	**19.42**	**62**	*e*P	**Pn**	**08 03 40.6 -1.9**
	comp=Z,24nm,1.0s					
BOM	**Bombay**	**20.10**	**297**	*ex*	x	08 03 37.3
BOM				*ex*	x	08 03 46.3
	comp=Z,88nm,1.3s					
BOM				*ex*	x	08 07 09.6
GYA	**Guiyang**	**21.21**	**40**	⇓*i*P	**P**	**08 03 58.0 -2.5**
GYA				AP		08 04 07.3
GYA				XP	sP	08 04 11.4 -2.8
GYA				AMB	AMB	
	comp=Z,20nm,1.2s,mb4.3					
GYA				AMB	AMB	
	comp=Z,90nm,5.4s					
GYA				LR	LR	
	comp=N,1μm,14.0s,MS4.6					
GYA				LR	LR	
	comp=E,970nm,13.7s,MS4.6					
GYA				LR	LR	
	comp=Z,1μm,14.3s,MS4.4					
NDI	**New Delhi**	**22.62**	**325**	*e*P	**P**	**08 04 13.1 -2.5**
NDI				AMb	AMB	08 04 20.0
	comp=Z,84nm,1.4s,mb5.0					
NDI				*e*S	**S**	**08 08 20.0 -1.5**
AJM	**Ajmer**	**22.65**	**317**	*e*P	**P**	**08 04 12.9 -2.9**
AJM				AMb	AMB	08 04 21.0
	comp=Z,99nm,0.9s,mb5.2					
COCO	**West Island**	**23.12**	**167**	*e*P	**P**	**08 04 18.8 -2.2**
	comp=Z,193nm,1.3s,mb5.4					
CD2	**Chengdu**	**23.15**	**27**	⇑*i*P	**P**	**08 04 19.6 -1.6**
CD2				AP		08 04 25.9
CD2				XP	sP	08 04 33.3 -1.7
CD2				S	**S**	**08 08 26.4 -3.7**
CD2				XS	sS	08 08 42.3 -4.2
CD2				SS		08 09 14.4
CD2				AMB	AMB	
	comp=Z,140nm,0.9s,mb5.4					
CD2				AMB	AMB	
	comp=Z,480nm,4.3s					
CD2				LR	LR	
	comp=N,3μm,15.0s,MS5.0					
CD2				LR	LR	
	comp=E,2μm,12.0s,MS5.0					
CD2				LR	LR	
	comp=Z,2μm,12.6s,MS4.8					
GZH	**Guangzhou**	**24.11**	**56**	P	**P**	**08 04 33.6 +3.3**
GZH				LR	LR	
	comp=N,1μm,14.3s,MS4.5					
GZH				LR	LR	
	comp=E,789nm,14.6s,MS4.5					
GZH				LR	LR	
	comp=Z,1μm,11.5s,MS4.7					
KKM	**Kota Kinabalu**	**24.61**	**98**	P	**P**	**08 04 32.3 -2.5**
SDNR	**Sundarnagar**	**24.96**	**329**	*ex*	x	08 04 39.1
TSM	**Tawau**	**26.62**	**102**	P	**P**	**08 04 49.1 -4.0**
LZH	**Lanzhou**	**27.71**	**21**	⇑P	**P**	**08 05 03.6 +0.7**
LZH				AP	pP	08 05 12.8 -0.1
LZH				XP	sP	08 05 16.5 -0.7
LZH				PP		08 05 53.6
LZH				*e*S	**S**	**08 09 44.1 +1.3**
LZH				XS	sS	08 09 59.8 +0.3
LZH				AMB	AMB	
	comp=Z,32nm,1.3s,mb4.8					
LZH				AMB	AMB	
	comp=Z,156nm,4.7s					
LZH				LR	LR	
	comp=E,939nm,12.8s					
LZH				LR	LR	
	comp=Z,2μm,16.5s,MS4.7					
LZH	**Lanzhou**	**27.71**	**21**	⇑P	**P**	**08 05 03.6 +0.7**
LZH				*PP	pP	08 05 12.7 -0.2
LZH				*SP	sP	08 05 16.5 -0.7
LZH						08 05 53.6
LZH				*e*S	**S**	**08 09 44.1 +1.3**
LZH				*SS	sS	08 09 59.7 +0.2
LZH				SS		08 11 06.8
LZH				pmax	pmax	
	comp=Z,32nm,1.3s,mb4.8					
LZH				MLR	MLR	
	comp=Z,2μm,16.5s,MS4.7					
LZH	**Lanzhou**	**27.71**	**21**	⇑P	**P**	**08 05 03.6 +0.7**
	comp=Z,32nm,1.3s,mb4.8					
LZH				pP	pP	08 05 12.7 -0.2
LZH				sP	sP	08 05 16.5 -0.7
LZH				PP		08 05 53.6
LZH				*e*S	**S**	**08 09 44.1 +1.3**
LZH				sS	sS	08 09 59.7 +0.2
LZH				SS		08 11 06.8
LZH				LR	LR	
	comp=Z,2μm,16.5s,MS4.7					
TGY	**Tagaytay City**	**28.73**	**80**	P	**P**	**08 05 07.7 -4.2**
	comp=Z,138nm,0.3s,baz=188,slow=4.9,SNR=3.2					
TGY				LR	LR	08 17 27.6
	comp=Z,8.3nm,19.3s,baz=52,slow=39					
WHN	**Wuhan**	**28.95**	**43**	*e*P	**P**	**08 05 15.3 +1.4**
WHN				S	**S**	**08 09 54.0 -8.3**
WHN				LR	LR	
	comp=Z,3μm,15.3s,MS5.1					
QZH	**Quanzhou**	**29.23**	**57**	*e*P	**P**	**08 05 19.0 +2.6**
QZH				S	**S**	**08 10 09.5 +2.8**
QZH				LR	LR	
	comp=N,2μm,14.0s,MS5.1					
QZH				LR	LR	
	comp=E,3μm,17.7s,MS5.1					
QZH				LR	LR	
	comp=Z,2μm,15.3s,MS4.8					
GTA	**Gaotai**	**29.65**	**13**	*e*P	**P**	**08 05 19.0 -1.1**
GTA				AP	pP	08 05 28.4 -1.8
GTA				XP	sP	08 05 32.3 -2.2
GTA				PP	PP	08 06 16.3 -11
GTA				PCP	PcP	08 08 26.6 +2.7
GTA				S	**S**	**08 10 12.0 -1.3**
GTA				XS	sS	08 10 28.8 -1.2
GTA				SS	SS	08 11 48.3 -32
GTA				AMB	AMB	
	comp=Z,5.0nm,1.3s,mb4.1					
GTA				AMB	AMB	
	comp=Z,225nm,7.2s					
GTA				LR	LR	
	comp=N,1μm,15.6s,MS4.7					
GTA				LR	LR	
	comp=E,929nm,15.6s,MS4.7					
GTA				LR	LR	
	comp=Z,952nm,16.0s,MS4.5					
YHNB	**Yeheng**	**31.46**	**60**	*e*P	**P**	**08 05 37.7 +1.6**
KSH	**Kashi**	**32.11**	**337**	*e*P	**P**	**08 05 43.5 +1.7**
KSH				*e*AP	pP	08 05 54.3 +2.4
KSH				*e*XP	sP	08 05 58.5 +2.4
KSH				*e*PP	PP	08 06 50.1 -4.5
KSH				*e*S	**S**	**08 10 51.6 -0.2**
KSH				*e*XS	sS	08 11 08.6 +0.1
KSH				*e*SCP	ScP	08 12 12.8 +1.5
KSH				*e*SS	SS	08 12 44.9 -25
KSH				*e*SCS	ScS	08 16 09.3 -0.7
KSH				AMB	AMB	
	comp=Z,416nm,4.8s					
KSH				LR	LR	
	comp=N,2μm,11.8s,MS5.4					
KSH				LR	LR	
	comp=E,5μm,13.6s,MS5.4					
KSH				LR	LR	
	comp=Z,1μm,21.3s					
NJ2	**Nanjing**	**32.95**	**45**	*e*P	**P**	**08 05 47.8 -1.3**
NJ2				PP	PP	08 06 57.4 -6.5
NJ2				S	**S**	**08 11 03.0 -1.8**
NJ2				AMB	AMB	
	comp=Z,30nm,0.6s,mb5.4					
NJ2				AMB	AMB	
	comp=Z,650nm,5.2s					
NJ2				LR	LR	
	comp=N,2μm,12.2s,MS5.2					
NJ2				LR	LR	
	comp=E,3μm,13.7s,MS5.2					
NJ2				LR	LR	
	comp=Z,2μm,9.0s					
WMQ	**Urumqi**	**33.36**	**355**	⇑*i*P	**P**	**08 05 54.3 +1.6**
WMQ				AP	pP	08 06 04.0 +1.1
WMQ				XP	sP	08 06 07.8 +0.7
WMQ				PP	PP	08 07 06.5 -2.0
WMQ				PCP	PcP	08 08 34.0 +0.1
WMQ				S	**S**	**08 11 14.0 +2.8**
WMQ				XS	sS	08 11 30.0 +2.1
WMQ				AMB	AMB	
	comp=Z,14nm,1.0s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,240nm,3.7s					
WMQ				LR	LR	
	comp=N,2μm,12.4s,MS5.3					
WMQ				LR	LR	
	comp=E,3μm,11.7s,MS5.3					
WMQ				LR	LR	
	comp=Z,2μm,22.0s					
SSE	**Sheshan**	**34.11**	**49**	P	**P**	**08 06 00.8 +1.5**
SSE				AP	pP	08 06 09.0 -0.4
SSE				S	**S**	**08 11 26.1 +3.2**
SSE				AMB	AMB	
	comp=Z,55nm,0.7s,mb5.6					
SSE				AMB	AMB	
	comp=Z,43nm,11.8s					
SSE				LR	LR	
	comp=N,679nm,18.0s,MS4.5					
SSE				LR	LR	
	comp=E,385nm,18.0s,MS4.5					
SSE				LR	LR	
	comp=Z,476nm,17.3s,MS4.3					
SSE	**Sheshan**	**34.11**	**49**	P	**P**	**08 06 00.7 +1.4**
	comp=Z,55nm,0.7s,mb5.6					
SSE				pP	pP	08 06 09.0 -0.4
SSE				S	**S**	**08 11 26.1 +3.2**
SSE				LR	LR	
	comp=Z,480nm,17.3s,MS4.3					
TIA	**Tai'an**	**34.38**	**38**	*e*P	**P**	**08 06 04.8 +3.2**
BIDO	**Bidbid**	**34.55**	**296**	P	**P**	**08 06 06.8 +3.7**
	SNR=7.6					
HHC	**Hu-ho-hao-te**	**34.91**	**27**	*e*P	**P**	**08 06 09.3 +3.1**
HHC				AP	pP	08 06 18.8 +2.5
HHC				XP	sP	08 06 23.4 +2.9
HHC				PP	PP	08 07 28.6 +3.0
HHC				PCS	PcS	08 12 22.8 -2.3
HHC				AMB	AMB	
	comp=Z,20nm,0.5s,mb5.3					
HHC				AMB	AMB	
	comp=Z,189nm,5.7s					
HHC				LR	LR	
	comp=N,1μm,14.1s,MS5.0					
HHC				LR	LR	
	comp=E,1μm,14.1s,MS5.0					
HHC				LR	LR	
	comp=Z,1μm,16.2s,MS4.7					
UCH	**Uchtor**	**35.00**	**337**	P	**P**	**08 06 10.8 +3.8**
	SNR=10					
BSY	**Bisya**	**35.17**	**295**	P	**P**	**08 06 12.2 +3.9**
	SNR=14					
KBK	**Karagaybulak**	**35.21**	**338**	P	**P**	**08 06 10.6 +1.8**
	SNR=9.9					
TKM2	**Tokmak 2**	**35.22**	**339**	P	**P**	**08 06 13.7 +4.9**
	SNR=6.5					
AML	**Almayashu**	**35.24**	**336**	P	**P**	**08 06 13.2 +4.2**
	SNR=11					
AAK	**Ala-Archa**	**35.36**	**338**	P	**P**	**08 06 14.6 +4.5**
	SNR=8.5					
AAK	**Ala-Archa**	**35.36**	**338**	P	**P**	**08 06 10.4 +0.3**
	comp=Z,116nm,1.0s,mb5.8,SNR=5.3					
AAK	**Ala-Archa**	**35.36**	**338**	*e*P	**P**	**08 06 09.2 -0.9**
AAK				pmax	pmax	
	comp=Z,21nm,1.0s,mb5.0					
AAK	**Ala-Archa**	**35.36**	**338**	*e*P	**P**	**08 06 09.2 -0.8**
	comp=Z,21nm,1.0s,mb5.0					
FRU	**Bishkek**	**35.49**	**338**	*e*P	**P**	**08 06 08.0 -3.2**
FRU				MLR	MLR	
	comp=Z,1μm,20.0s,MS4.7					
EKS2	**Erkin-Say**	**35.66**	**337**	P	**P**	**08 06 16.6 +4.0**
	SNR=14					
USP	**Ospenovka**	**35.91**	**338**	P	**P**	**08 06 18.5 +3.8**
	SNR=28					
BJT	**Baijiatuau**	**36.50**	**32**	*e*P	**P**	**08 06 21.7 +1.9**
BJT				pmax	pmax	
	comp=Z,23nm,0.8s					
BJT	**Baijiatuau**	**36.50**	**32**	*e*P	**P**	**08 06 21.7 +1.9**
	comp=Z,23nm,0.8s,mb5.2					
BJI	**Beijing**	**36.52**	**32**	P	**P**	**08 06 18.3 -1.7**
BJI				PP	PP	08 07 45.8 +2.4
BJI				AMB	AMB	
	comp=Z,12nm,1.0s,mb4.7					
BJI				AMB	AMB	
	comp=Z,275nm,6.0s					
BJI				LR	LR	
	comp=N,1μm,16.6s,MS5.1					
BJI				LR	LR	
	comp=E,2μm,14.0s,MS5.1					
BJI				LR	LR	
	comp=Z,930nm,22.8s					
BJI	**Beijing**	**36.52**	**32**	P	**P**	**08 06 18.3 -1.7**
	comp=Z,12nm,1.0s,mb4.7					
BJI				PP	PP	08 07 45.7 +2.3
BJI				S	**S**	**08 12 09.4 +10**
BJI				SS	SS	08 14 57.2 +17
BJI				LR	LR	
	comp=Z,930nm,22.8s,MS4.5					
HATD	**Hatta, Dubai**	**36.66**	**298**	P	**P**	**08 06 25.4 +4.2**
	SNR=6.5					
ASHO	**Ashiyiah**	**36.69**	**297**	P	**P**	**08 06 25.4 +4.1**
	SNR=7.1					
MK31	**Makanchi Array**	**37.03**	**349**	*e*P	**P**	**08 06 25.4 +1.1**
MK31				*e*PP	pP	08 06 32.6 -1.9
MKAR	**Makanchi Array**	**37.03**	**349**	P	**P**	**08 06 22.8 -1.5**
	comp=Z,7.6nm,0.7s,mb4.6,baz=167,slow=8.3,SNR=39					
MKAR				PcP	PcP	08 08 46.3 +1.7
	comp=Z,2.3nm,0.6s,baz=210,slow=3.5,SNR=5.1					
MKAR				LR	LR	08 23 33.7
	comp=Z,1μm,21.5s,MS4.6,baz=169,slow=39					
MKAR	**Makanchi Array**	**37.03**	**349**	P	**P**	**08 06 22.8 -1.5**
MKAR						08 08 46.3
WHFO	**Wadi Hawf**	**37.48**	**286**	P	**P**	**08 06 30.6 +2.5**
	SNR=7.6					
JOW	**Kunigami**	**38.04**	**60**	LR	LR	08 25 47.7
	comp=Z,970nm,18.4s,MS4.6,baz=247,slow=42					
SONM	**Songino Array**	**39.18**	**16**	P	**P**	**08 06 40.3 -2.1**
	comp=Z,9.3nm,1.0s,mb4.5,baz=196,slow=8.6,SNR=14					
SONM				PcP	PcP	08 08 51.8 +0.5
	comp=Z,3.2nm,1.0s,baz=217,slow=0.7,SNR=3.5					
SONM				LR	LR	08 24 45.0
	comp=Z,699nm,21.8s,MS4.5,baz=307,slow=39					
SONM	**Songino Array**	**39.18**	**16**	P	**P**	**08 06 40.3 -2.2**
SONM						08 08 51.8
ABKT	**Ailbek**	**40.66**	**318**	P	**P**	**08 06 54.9 +0.2**
	comp=Z,287nm,0.8s,SNR=5.8					
KURK	**Kurchatov**	**41.50**	**347**	P	**P**	**08 07 01.1 -0.6**
	comp=Z,63nm,1.1s,mb5.2,SNR=7.0					
MBWA	**Marble Bar**	**41.80**	**139**	*e*P	**P**	**08 07 01.5 -2.6**
	comp=Z,12nm,0.8s,mb4.6					
TLY	**Talaya**	**42.17**	**11**	*e*P	**P**	**08 07 08.6 +1.5**
TLY				*e*		08 08 50.2
TLY				*e*S	**S**	**08 13 15.9 -8.8**
TLY				pmax	pmax	
	comp=Z,19nm,1.1s,mb4.6					
TLY	**Talaya**	**42.17**	**11**	*e*P	**P**	**08 07 09.8 +2.7**
	comp=Z,17nm,1.2s,mb4.5					
TLY				*e*pP	pP	08 07 22.2 +4.8
ZAL	**Zalesovo**	**43.65**	**354**	P	**P**	**08 07 18.5 -0.6**
	comp=Z,4.5nm,0.7s,mb4.3,baz=301,slow=7.7,SNR=12					
ZAL				LR	LR	08 29 16.9
	comp=Z,962nm,19.0s,MS4.7,baz=291,slow=41					
ZAL	**Zalesovo**	**43.65**	**354**	*i* P	**P**	**08 07 20.2 +1.1**
ZAL				pmax	pmax	
	comp=Z,5.0nm,0.7s					
ZAL	**Zalesovo**	**43.65**	**354**	P	**P**	**08 07 18.5 -0.6**
ZAL				LR	LR	08 29 16.9
FITZ	**Fitzroy Crossi**	**43.91**	**130**	P	**P**	**08 07 14.6 -6.6**
	comp=Z,7.1nm,0.8s,mb4.4,baz=265,slow=5.4,SNR=5.1					
FITZ				LR	LR	08 29 31.1
	comp=Z,746nm,18.1s,MS4.6,baz=306,slow=42					
CN2	**Changchun**	**44.15**	**35**	*e*P	**P**	**08 07 20.3 -2.8**
CN2				*e*AP	pP	08 07 30.8 -2.6
CN2				*e*S	**S**	**08 13 52.8 -0.8**
CN2				AMB	AMB	
	comp=Z,20nm,1.0s,mb4.8					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,1μm,15.0s,MS5.2					
CN2				LR	LR	
	comp=E,2μm,15.0s,MS5.2					
CN2				LR	LR	
	comp=Z,1μm,15.0s,MS5.0					
NVS	**Novosibirsk**	**44.72**	**353**	*e*P	**P**	**08 07 27.1 -0.5**
NVS				*e*S	**S**	**08 14 03.3 +1.4**
NVS				pmax	pmax	
	comp=N,19nm,1.5s					
NVS				pmax	pmax	
	comp=E,10.0nm,1.5s					
NVS				pmax	pmax	
	comp=Z,14nm,1.5s,mb4.6					
NVS				smax		
	comp=N,18nm,2.4s					
NVS				smax		
	comp=E,43nm,3.1s					
CIT	**Chita**	**45.02**	**19**	*e*P	**P**	**08 07 29.2 -0.8**
BVAR	**Borovoye Array**	**45.75**	**342**	P	**P**	**08 07 36.0 +0.2**
	comp=E,3.4nm,0.9s,mb4.3,baz=142,slow=7.5,SNR=12					
BVAR				PcP	PcP	08 09 14.3 +1.2
	comp=E,3.9nm,0.8s,baz=170,slow=2.7,SNR=5.1					
BVAR				LR	LR	08 27 59.4
	comp=E,673nm,21.4s,MS4.5,baz=319,slow=38					
BVAR	**Borovoye Array**	**45.75**	**342**	P	**P**	**08 07 36.0 +0.2**
BVAR						08 09 14.3
BRVK	**Borovoye**	**45.81**	**342**	*e*P	**P**	**08 07 38.5 +2.2**
BRVK				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.6					
BRVK	**Borovoye**	**45.81**	**342**	*e*P	**P**	**08 07 38.5 +2.2**
	comp=Z,7.1nm,0.8s,mb4.7					
CHKZ	**Chkalovo**	**46.25**	**343**	*e*P	**P**	**08 07 38.6 -1.1**
CHKZ				pmax	pmax	
	comp=Z,15nm,0.9s,mb4.9					
CHKZ	**Chkalovo**	**46.25**	**343**	*e*P	**P**	**08 07 38.6 -1.1**
	comp=Z,15nm,0.9s,mb4.9					
AB31	**Akbulak array**	**46.79**	**332**	*i* P	**P**	**08 07 42.2 -1.8**
AB31				pmax	pmax	
	comp=Z,21nm,1.0s,mb5.0					
MDJ	**Mudanjiang**	**47.03**	**37**	P	**P**	**08 07 48.8 +2.9**
MDJ				AP	pP	08 07 57.3 +1.0
MDJ				XP	sP	08 08 01.1 +0.6
MDJ				PCP	PcP	08 09 19.3 +1.7
MDJ				PP	PP	08 09 38.8 +2.1
MDJ				SCP	ScP	08 13 11.8 +3.1
MDJ				S	**S**	**08 14 41.1 +5.9**
MDJ				AMB	AMB	

comp=Z,7.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,113nm,3.5s
MDJ LR LR
comp=N,270nm,17.2s,MS4.5
MDJ LR LR
comp=E,317nm,16.6s,MS4.5
MDJ LR LR
comp=Z,497nm,16.0s,MS4.6
AKTK Aktyubinsk 48.51 332 P **P 08 07 55.9 -1.5**
AKTO Aktyubinsk 48.51 332 P **P 08 07 55.9 -1.5**
comp=Z,5.5nm,0.7s,mb4.7,baz=149,slow=4.5,SNR=16
MAT Matsushiro 49.22 50 P **P 08 08 03.3 +0.5**
MJAR Matsushiro Arr 49.22 50 P **P 08 07 59.2 -3.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=193,slow=5.8,SNR=3.3
MJAR LR LR 08 31 24.5
comp=Z,672nm,19.5s,MS4.7,baz=245,slow=40
MJAR Matsushiro Arr 49.22 50 P **P 08 07 59.2 -3.6**
MJAR LR LR 08 31 24.4
JHJ Hachijo jima 2 49.42 55 LR LR 08 32 18.8
comp=Z,329nm,18.2s,MS4.4,baz=278,slow=40
NWAO Narrogin (SRO) 49.58 152 *eP* **P 08 08 04.4 -1.1**
NWAO pmax pmax
comp=Z,34nm,1.0s
NWAO Narrogin (SRO) 49.58 152 *eP* **P 08 08 04.4 -1.1**
comp=Z,34nm,1.0s,mb5.3
BOD Bodaibo 50.18 15 *eP* **P 08 08 03.0 -7.1**
BOD pmax pmax
comp=Z,13nm,1.4s,mb4.8
ORR Orenburg 50.84 331 *eP* **P 08 08 14.8 -0.2**
ORR pmax pmax
comp=Z,20nm,0.9s,mb5.0
GNI Garni 50.91 314 P **P 08 08 15.8 +0.2**
comp=Z,20nm,0.7s,mb5.1,baz=2.7,slow=2.9,SNR=16
GNI LR LR 08 34 21.5
comp=Z,251nm,18.1s,MS4.3,baz=350,slow=41
GNI Garni 50.91 314 P **P 08 08 19.1 +3.5**
SNR=8.1
GNI Garni 50.91 314 *eP* **P 08 08 16.4 +0.8**
GNI pmax pmax
comp=Z,86nm,1.6s
GNI MLR MLR
comp=Z,300nm,24.0s
GNI Garni 50.91 314 *eP* **P 08 08 16.3 +0.7**
comp=Z,87nm,1.2s,mb5.6
WRA Warramunga Arr 51.72 126 P **P 08 08 15.6 -6.0**
comp=Z,4.1nm,0.5s,mb4.6,baz=305,slow=8.6,SNR=22
WRA PcP PcP 08 09 34.5 -0.2
comp=Z,5.1nm,0.8s,baz=313,slow=3.2,SNR=4.8
WRA LR LR 08 35 23.4
comp=Z,348nm,18.3s,MS4.4,baz=290,slow=42
WRA Warramunga Arr 51.72 126 P **P 08 08 15.6 -6.0**
WRA 08 09 34.5
WRAB Tennant Creek 51.72 126 *eP* **P 08 08 16.3 -5.4**
WRAB Tennant Creek 51.72 126 *eP* **P 08 08 15.9 -5.8**
comp=Z,19nm,0.8s,mb5.1
WB2 Warramunga Arr 51.72 126 *eP* **P 08 08 15.8 -5.9**
GUMO Guam 51.96 81 LR LR 08 29 50.3
comp=Z,410nm,18.1s,MS4.5,baz=77,slow=36
SVE Sverdlovsk 52.09 339 *eP* **P 08 08 24.0 -0.4**
ZEI Tsey 52.50 317 *eP* **P 08 08 27.3 -0.2**
ARU Arti 52.55 337 ⇑ *iP* **P 08 08 27.7 -0.1**
ARU *e* 08 10 29.0
ARU *eS* **S 08 15 56.6 +4.4**
ARU pmax pmax
comp=Z,17nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,600nm,19.0s,MS4.7
ARU MLR MLR
comp=N,500nm,17.0s,MS4.7
ARU MLR MLR
comp=E,300nm,16.0s,MS4.7
ARU Arti 52.55 337 *eP* **P 08 08 27.4 -0.4**
comp=E,24nm,1.0s,mb5.1
AS31 Alice Springs 53.42 130 *eP* **P 08 08 33.5 -0.7**
ASAR Alice Springs 53.42 130 P **P 08 08 28.4 -5.8**
comp=E,3.0nm,0.7s,mb4.3,baz=305,slow=7.0,SNR=26
ASAR PcP PcP 08 09 36.8 -4.4
comp=E,3.6nm,0.9s,baz=309,slow=5.8,SNR=2.5
ASAR LR LR 08 35 34.3
comp=E,669nm,18.7s,MS4.7,baz=302,slow=41
ASAR Alice Springs 53.42 130 P **P 08 08 28.5 -5.7**
ASAR 08 09 36.8
KIV Kislovodsk 53.78 317 *eP* **P 08 08 37.1 +0.2**
KIV *eS* **S 08 16 09.6 +0.6**
KIV pmax pmax
comp=Z,60nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,97nm,1.7s,mb5.5
KIV Kislovodsk 53.78 317 *eP* **P 08 08 39.0 +2.1**
comp=Z,39nm,0.8s,mb5.4
ASF Jabal al Asfar 54.81 302 P **P 08 08 46.5 +2.1**
comp=Z,4.5nm,0.9s,mb4.5,baz=117,slow=6.8,SNR=4.8
ASF LR LR 08 35 25.6
comp=Z,442nm,18.1s,MS4.6,baz=137,slow=39
MALT Malatya 54.96 310 *eP* **P 08 08 47.6 +2.1**
MALT pmax pmax
comp=Z,22nm,1.2s,mb5.1
MALT Malatya 54.96 310 *eP* **P 08 08 47.6 +2.1**
comp=Z,22nm,1.2s,mb5.1
KMBO Kilima Mbogo 55.43 261 P **P 08 08 49.4 +0.6**
comp=Z,6.8nm,1.1s,mb4.6,baz=48,slow=12,SNR=7.0
KMBO PcP PcP 08 09 49.7 +0.9
comp=Z,2.1nm,0.8s,baz=46,slow=6.6,SNR=3.9
KMBO LR LR 08 31 17.8
comp=Z,639nm,18.3s,MS4.7,baz=278,slow=34
KMBO Kilima Mbogo 55.43 261 *i P* **P 08 08 50.5 +1.7**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 55.43 261 *eP* **P 08 08 50.4 +1.6**
comp=Z,8.4nm,1.0s,mb4.7
EIL Elat 56.08 299 *eP* **P 08 08 55.8 +2.3**
EIL *ep*P pP 08 09 07.9 +3.8
VRHR Novokhopersk 57.42 325 *eP* **P 08 09 02.3 -0.8**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
YAK Yakutsk 58.28 20 *eP* **P 08 09 09.4 +0.3**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.3
YAK pmax pmax
comp=E,20nm,1.5s
VRSR Storozhevoye 58.86 324 *eP* **P 08 09 14.0 +0.9**
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BR131 Keskin Array S 58.92 310 *eP* **P 08 09 13.8 +0.3**
comp=Z,2.1nm,0.7s,mb4.3
BRTR Keskin Array B 58.92 310 P **P 08 09 13.1 -0.5**
comp=Z,4.4nm,0.8s,mb4.5
MOS Moscow 61.60 329 *eP* **P 08 09 31.0 -0.9**
OBN Obninsk 61.89 328 *eP* **P 08 09 34.8 +1.0**
OBN pmax pmax
comp=Z,30nm,1.4s,mb5.2
STKA Stephens Creek 63.63 133 P **P 08 09 40.3 -5.1**
comp=Z,9.2nm,0.8s,mb4.9,baz=311,slow=3.6,SNR=11
STKA LR LR 08 37 15.9
comp=Z,713nm,19.8s,MS4.8,baz=115,slow=36
STKA Stephens Creek 63.63 133 *eP* **P 08 09 45.1 -0.3**
STKA LR LR 08 37 15.9
AKASG Malin Array Be 64.62 321 P **P 08 09 51.6 -0.3**
comp=Z,1.8nm,0.7s,mb4.2,baz=88,slow=5.4,SNR=12
AKASG LR LR 08 42 40.6
comp=Z,236nm,19.9s,MS4.4,baz=115,slow=40
AKASG Malin Array Be 64.62 321 *i P* **P 08 09 52.0 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
VRI Vrincioaia 65.17 316 ‖ *iP* **P 08 09 57.5 +2.1**
MLR Muntele Rosu 65.64 315 P **P 08 10 00.4 +1.9**
comp=Z,7.7nm,0.8s,mb4.8,baz=185,slow=7.7,SNR=6.5
MLR Muntele Rosu 65.64 315 ‖ *iP* **P 08 09 58.1 -0.4**
BURAR Bucovina Array 66.51 317 ‖ *iP* **P 08 10 05.6 +1.5**
JOF Joensuu 67.45 334 *ep* **P 08 10 10.9 +0.8**
comp=Z,14nm,0.7s,mb5.1
SEY Seymchan 67.54 26 *eP* **P 08 10 09.6 -1.1**
LSZ Lusaka 67.97 249 *eP* **P 08 10 14.4 +1.1**
LSZ pmax pmax
comp=Z,19nm,1.1s,mb5.0
LSZ Lusaka 67.97 249 *eP* **P 08 10 14.4 +1.0**
comp=Z,19nm,1.1s,mb5.0
FINES FINESS Array B 69.28 332 P **P 08 10 22.5 +1.0**
comp=Z,4.5nm,0.8s,mb4.5,baz=94,slow=8.0,SNR=9.2
FINES LR LR 08 43 44.3
comp=Z,366nm,18.3s,MS4.7,baz=116,slow=38
KAF Kangasniemi 69.37 333 *ep* **P 08 10 20.1 -2.0**
ARCES ARCESS Array B 71.99 340 P **P 08 10 37.8 -0.2**
comp=Z,4.8nm,0.7s,mb4.5,baz=90,slow=6.4,SNR=8.7
ARCES LR LR 08 44 19.7
comp=Z,781nm,19.4s,MS5.0,baz=329,slow=38
LBTB Lobatse 73.47 240 *eP* **P 08 10 47.9 +1.1**
LBTB pmax pmax
comp=Z,19nm,1.0s,mb5.0
LBTB Lobatse 73.47 240 *eP* **P 08 10 47.9 +1.1**
comp=Z,18nm,1.0s,mb5.0
GERES GERESS Array B 74.29 318 P **P 08 10 52.6 +1.0**
comp=Z,2.9nm,0.8s,mb4.2,baz=92,slow=4.5,SNR=15
GERES LR LR 08 47 41.0
comp=Z,224nm,19.4s,MS4.5,baz=294,slow=39
KHC Kasperske Hory 74.38 318 *eP* **P 08 10 51.8 -0.3**
BILL Bilibino 74.52 22 *eP* **P 08 10 51.3 -1.7**
BILL *eSS* SS 08 25 14.3 +1.6
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,700nm,20.0s,MS5.0
CLL Collm 74.83 320 *eP* **P 08 10 56.0 +1.3**
CLL LmV 08 52 00.0
comp=Z,300nm,18.5s
BOSA Boshof 75.02 237 P **P 08 10 55.1 -0.8**
comp=Z,15nm,0.9s,mb4.9,baz=81,slow=6.1,SNR=14
BOSA LR LR 08 39 33.8
comp=Z,503nm,18.9s,MS4.8,baz=68,slow=32
BOSA Boshof 75.02 237 *eP* **P 08 10 56.4 +0.6**
BOSA pmax pmax
comp=Z,19nm,1.0s,mb5.0
BOSA Boshof 75.02 237 *eP* **P 08 10 56.4 +0.5**
comp=Z,18nm,1.0s,mb5.0
NB2 NORSAR Subarra 76.28 330 P **P 08 11 03.3 +0.3**
comp=Z,14nm,1.2s,mb4.8,baz=91,slow=5.9
NB2 NORSAR Subarra 76.28 330 P **P 08 11 03.3 +0.3**
NB2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
NOA NORSAR Array B 76.28 330 P **P 08 11 01.9 -1.1**
comp=Z,3.3nm,1.0s,mb4.2,baz=92,slow=6.0,SNR=5.0
NOA LR LR 08 46 52.1
comp=Z,266nm,19.8s,MS4.5,baz=90,slow=37
NOA NORSAR Array B 76.28 330 P **P 08 11 01.9 -1.1**
NOA LR LR 08 46 52.1
MIR Mirnyy 76.87 179 *eP* **P 08 11 06.5 +0.1**
MIR *e* 08 11 20.0
MIR pmax pmax
comp=Z,120nm,1.6s,mb5.6
PGF Pioggiola 77.64 311 *eP* **P 08 11 10.7 0.0**
comp=Z,19nm,1.0s,mb4.7
PGF Pioggiola 77.64 311 *eP* **P 08 11 10.7 0.0**
PGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PGF Pioggiola 77.64 311 *eP* **P 08 11 10.7 0.0**
comp=Z,9.6nm,1.0s,mb4.7
KEST Kesra 77.80 304 P **P 08 11 12.3 +0.8**
comp=Z,5.5nm,0.9s,mb4.5,baz=316,slow=2.5,SNR=8.2
KEST LR LR 08 47 49.1
comp=Z,110nm,19.5s,MS4.2,baz=359,slow=37
CASY Casey 77.84 172 *eP* **P 08 11 10.2 -1.6**
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 78.56 317 *eP* **P 08 11 15.8 0.0**
TSUM Tsumeb 78.80 248 *eP* **P 08 11 18.5 +1.4**
comp=Z,5.0nm,0.9s,mb4.4
LPG La Plagne 79.09 314 *eP* **P 08 11 19.3 +0.6**
LPL La Plagne 79.10 314 *eP* **P 08 11 19.3 +0.5**
comp=Z,44nm,1.2s,mb4.9
LPL La Plagne 79.10 314 *eP* **P 08 11 19.3 +0.5**
LPL pmax pmax
comp=Z,22nm,1.2s,mb5.0
LPL La Plagne 79.10 314 *eP* **P 08 11 19.3 +0.5**
comp=Z,22nm,1.2s,mb5.0
HAU Haudompre 79.20 317 *eP* **P 08 11 19.2 -0.1**
HAU *eMLR* MLR
comp=Z,253nm,21.0s
HAU Haudompre 79.20 317 *eP* **P 08 11 19.2 -0.1**
HAU LR LR
comp=Z,250nm,21.0s,MS4.5
FRF La Foret Royal 79.30 313 *eP* **P 08 11 19.9 0.0**
CABF La Chapelle 79.47 316 *eP* **P 08 11 20.5 -0.3**
comp=Z,20nm,1.0s,mb4.7
CABF La Chapelle 79.47 316 *eP* **P 08 11 20.5 -0.3**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CABF La Chapelle 79.47 316 *eP* **P 08 11 20.5 -0.3**
comp=Z,10nm,1.0s,mb4.7
ORIF Oris-en-Rattie 79.75 314 *eP* **P 08 11 22.8 +0.5**
comp=Z,31nm,1.3s,mb4.8
ORIF *eMLR* MLR
comp=Z,242nm,20.2s
ORIF Oris-en-Rattie 79.75 314 *eP* **P 08 11 22.8 +0.5**
ORIF pmax pmax
comp=Z,16nm,1.3s,mb4.8
ORIF Oris-en-Rattie 79.75 314 *eP* **P 08 11 22.8 +0.5**
comp=Z,16nm,1.3s,mb4.8
SMRF Simiane la Rot 80.04 313 *eP* **P 08 11 24.7 +0.8**
comp=Z,34nm,1.2s,mb4.9
SMRF Simiane la Rot 80.04 313 *eP* **P 08 11 24.7 +0.8**
comp=Z,34nm,1.2s,mb5.2
VIVF Saint-Julien-I 80.61 314 *eP* **P 08 11 27.2 +0.3**
comp=Z,29nm,1.0s,mb4.9
VIVF Saint-Julien-I 80.61 314 *eP* **P 08 11 27.2 +0.3**
VIVF pmax pmax
comp=Z,15nm,1.0s,mb4.9
VIVF Saint-Julien-I 80.61 314 *eP* **P 08 11 27.2 +0.3**
comp=Z,15nm,1.0s,mb4.9
MAW Mawson 80.66 191 P **P 08 11 26.4 -0.7**
comp=Z,8.0nm,1.0s,mb4.6,baz=25,slow=7.1,SNR=14
MAW LR LR 08 43 31.1
comp=Z,234nm,19.2s,MS4.5,baz=48,slow=33
MAW Mawson 80.66 191 *eP* **P 08 11 26.3 -0.9**
MAW pmax pmax
comp=Z,25nm,1.4s
MAW Mawson 80.66 191 *eP* **P 08 11 26.3 -0.9**
comp=Z,25nm,1.4s,mb5.0
LOR Lormes 80.94 316 *eP* **P 08 11 28.6 -0.1**
comp=Z,39nm,1.2s,mb4.9
LOR *eMLR* MLR
comp=Z,210nm,18.8s
LOR Lormes 80.94 316 *eP* **P 08 11 28.6 -0.1**
LOR pmax pmax
comp=Z,20nm,1.2s,mb4.9
LOR MLR MLR
comp=Z,210nm,18.8s,MS4.5
LOR Lormes 80.94 316 *eP* **P 08 11 28.6 -0.1**
comp=Z,20nm,1.2s,mb4.9
LOR LR LR
comp=Z,210nm,18.8s,MS4.5
SMF Signal de Mont 81.01 316 *eP* **P 08 11 29.1 0.0**
comp=Z,30nm,1.1s,mb4.8
SMF Signal de Mont 81.01 316 *eP* **P 08 11 29.1 0.0**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF Signal de Mont 81.01 316 *eP* **P 08 11 29.1 0.0**
comp=Z,15nm,1.1s,mb4.8
SSF Saint Saulge 81.20 316 *eP* **P 08 11 30.2 +0.1**
comp=Z,31nm,1.2s,mb4.8
SSF Saint Saulge 81.20 316 *eP* **P 08 11 30.2 +0.1**
SSF pmax pmax
comp=Z,15nm,1.3s,mb4.8
SSF Saint Saulge 81.20 316 *eP* **P 08 11 30.2 +0.1**
comp=Z,15nm,1.3s,mb4.8
LASF Ste Croix 81.27 313 *eP* **P 08 11 30.2 -0.2**
comp=Z,25nm,1.1s,mb4.8
AVF Avril sur Loir 81.33 316 *eP* **P 08 11 30.9 +0.1**
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 81.33 316 *eP* **P 08 11 30.9 +0.1**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 81.33 316 *eP* **P 08 11 30.9 +0.1**
comp=Z,5.6nm,0.9s,mb4.5
BGF Bois d'Agland 81.70 316 *eP* **P 08 11 33.2 +0.5**
TCF Toulx Ste Croi 82.17 316 *eP* **P 08 11 35.7 +0.5**
MTLF Montolieu 82.53 313 *eP* **P 08 11 37.6 +0.5**
comp=Z,32nm,1.1s,mb5.0
MTLF Montolieu 82.53 313 *eP* **P 08 11 37.6 +0.5**
MTLF pmax pmax
comp=Z,16nm,1.1s,mb5.0
MTLF Montolieu 82.53 313 *eP* **P 08 11 37.6 +0.5**
comp=Z,16nm,1.1s,mb5.0
RJF Les Rejaudoux 82.78 315 *eP* **P 08 11 39.1 +0.8**
comp=Z,57nm,1.4s,mb5.1
RJF *eMLR* MLR
comp=Z,239nm,19.8s
RJF Les Rejaudoux 82.78 315 *eP* **P 08 11 39.1 +0.8**
RJF pmax pmax
comp=Z,29nm,1.4s,mb5.1
RJF MLR MLR
comp=Z,240nm,19.8s,MS4.6
RJF Les Rejaudoux 82.78 315 *eP* **P 08 11 39.1 +0.8**
comp=Z,28nm,1.4s,mb5.1
RJF LR LR
comp=Z,240nm,19.8s,MS4.6
LFF La Frestale 83.37 314 *eP* **P 08 11 42.2 +0.8**
LDF La Druitiere 83.43 318 *eP* **P 08 11 41.7 0.0**
comp=Z,24nm,1.0s,mb4.9
LDF La Druitiere 83.43 318 *eP* **P 08 11 41.7 0.0**
LDF pmax pmax
comp=Z,12nm,1.0s,mb4.9
LDF La Druitiere 83.43 318 *eP* **P 08 11 41.7 0.0**
comp=Z,12nm,1.0s,mb4.9
FLN La Foliniere 83.64 318 *eP* **P 08 11 42.8 0.0**
FLN *eMLR* MLR
comp=Z,272nm,21.0s
FLN La Foliniere 83.64 318 *eP* **P 08 11 42.8 0.0**
FLN LR LR
comp=Z,270nm,21.0s,MS4.6
MFF Saint Martin d 83.74 316 *eP* **P 08 11 43.5 +0.2**
comp=Z,60nm,1.3s,mb5.3
MFF Saint Martin d 83.74 316 *eP* **P 08 11 43.5 +0.2**
MFF pmax pmax
comp=Z,30nm,1.3s,mb5.3
MFF Saint Martin d 83.74 316 *eP* **P 08 11 43.5 +0.2**
comp=Z,30nm,1.3s,mb5.3
ETSF Etsaut 84.61 312 *eP* **P 08 11 48.7 +1.0**
comp=Z,24nm,1.2s,mb4.9
ETSF Etsaut 84.61 312 *eP* **P 08 11 48.7 +1.0**
ETSF pmax pmax
comp=Z,12nm,1.2s,mb4.9
ETSF Etsaut 84.61 312 *eP* **P 08 11 48.7 +1.0**
comp=Z,12nm,1.2s,mb4.9
SJPF Ste Jean 85.05 313 *eP* **P 08 11 51.0 +1.0**
comp=Z,42nm,1.4s,mb5.1
SJPF Ste Jean 85.05 313 *eP* **P 08 11 51.0 +1.0**
SJPF pmax pmax
comp=Z,21nm,1.4s,mb5.1
SJPF Ste Jean 85.05 313 *eP* **P 08 11 51.0 +1.0**
comp=Z,21nm,1.4s,mb5.1
SYO Syowa Base 87.24 197 ⇑ *eP* **P 08 12 00.2 -0.6**
SYO Syowa Base 87.24 197 ⇑ *e*PcP PcP 08 12 01.8 -1.0
TOA0 Torodi Ar. Sit 87.70 283 *eP* **P 08 12 04.6 +1.6**
TORD Torodi Ar. Bea 87.70 283 P **P 08 12 04.5 +1.6**
comp=Z,4.5nm,0.9s,mb4.7,baz=85,slow=4.6,SNR=25
TORD PP PP 08 15 30.6 +2.0
comp=Z,3.2nm,1.2s,baz=84,slow=7.7,SNR=5.4
TORD LR LR 08 53 41.6
comp=Z,311nm,18.2s,MS4.8,baz=85,slow=37
ESDC Sonseca Array 87.72 310 P **P 08 12 04.5 +1.4**
comp=Z,2.0nm,0.7s,mb4.5,baz=49,slow=4.7,SNR=5.6
SUMG Summit 91.04 347 *eP* **P 08 12 20.8 +2.2**
comp=Z,14nm,1.0s,mb5.2
DBIC Dimbokro 95.25 278 P **P 08 12 39.5 +1.5**
comp=Z,2.5nm,0.9s,mb4.6,baz=86,slow=8.7,SNR=3.1
DBIC LR LR 08 57 50.9
comp=Z,207nm,19.2s,MS4.6,baz=56,slow=37
VNDA Vanda 95.99 168 P **P 08 12 38.8 -2.6**
comp=Z,1.5nm,1.1s,mb4.3,baz=278,slow=5.2,SNR=5.8
VNDA LR LR 08 52 18.9
comp=Z,431nm,18.0s,MS5.0,baz=250,slow=33
SBA Scott Base 97.09 168 *eP* **P 08 12 46.3 -0.1**
SBA pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
SBA Scott Base 97.09 168 *eP* **P 08 12 46.3 -0.1**
comp=Z,9.6nm,1.2s,mb5.1
MSO Missoula 118.46 20 *e*PKPdf PKPdf 08 18 03.2 +1.4
HLID Hailey 121.13 22 *e*PKPdf PKPdf 08 18 09.3 +2.4
TPAW Teton Pass 122.40 19 *e*PKPdf PKPdf 08 18 11.0 +1.6
LOHW Long Hollow 122.40 19 *e*PKPdf PKPdf 08 18 11.3 +1.9
RRI2 Red Ridge 122.41 20 *e*PKPdf PKPdf 08 18 11.6 +2.2
SNOW Snow King Moun 122.49 19 *e*PKPdf PKPdf 08 18 11.8 +2.3
REDW Red Top Meadow 122.55 19 *e*PKPdf PKPdf 08 18 11.7 +2.0
BW06 Boulder Array 123.50 19 *e*PKPdf PKPdf 08 18 12.6 +1.1
PDAR Pinedale Array 123.50 19 PKP PKPdf 08 18 08.9 -2.5
comp=Z,1.6nm,1.0s,baz=57,slow=5.5,SNR=3.7
RSSD Black Hills 123.76 14 *e*PKIKP PKPdf 08 18 13.9 +1.9
NVAR Mina Array Bea 123.80 28 PKP PKPdf 08 18 10.2 -1.8
comp=Z,2.9nm,0.7s,baz=33,slow=2.2,SNR=2.6
HWUT Hardware Ranch 123.86 21 *e*PKPdf PKPdf 08 18 13.8 +1.7
DUG Dugway 124.64 23 *e*PKIKP PKPdf 08 18 16.2 +2.5
RWWY Rawlins 125.19 17 *e*PKPdf PKPdf 08 18 16.2 +1.4
MSU Marysvale 126.35 23 *e*PKIKP PKPdf 08 18 20.1 +3.2
MNTX Cornudas Mount 134.93 21 *e*PKPdf PKPdf 08 18 36.5 +3.3
TXAR Lajitas Array 137.68 20 PKP PKPdf 08 18 37.9 -0.4
comp=Z,2.2nm,1.0s,baz=186,slow=3.5,SNR=12
JCT Junction City 137.75 15 *e*PKIKP PKPdf 08 18 41.0 +2.6
LPIG La Paz 139.40 32 PKP PKPdf 08 18 42.0 +0.5
comp=Z,94nm,1.1s,baz=319,slow=6.7,SNR=2.5
BDFB Brasilia 140.52 258 PKP PKPdf 08 18 45.4 +1.9
comp=Z,5.3nm,0.8s,baz=96,slow=6.2,SNR=7.0
HUMP Col San Antoni 143.94 322 *e*PKPdf PKPdf 08 18 50.1 +0.5
MPR Mayaguez 144.65 324 *e*PKPdf PKPdf 08 18 52.1 +1.3
CPUP Villa Florida 146.84 237 PKPbc PKPbc 08 18 56.9 +0.5
comp=Z,6.1nm,0.8s,baz=73,slow=4.0,SNR=14
CPUP Villa Florida 146.84 237 *e*PKPdf PKPdf 08 18 55.7 +1.2
SDV Santo Domingo 153.94 317 *e*PKPdf PKPbc 08 19 14.9 +1.3
LPAZ La Paz 159.61 252 PKP PKPdf 08 19 14.6 +1.7
comp=Z,2.8nm,1.0s,baz=69,slow=4.9,SNR=9.1
LPAZ PKPab PKPab 08 19 53.2 +1.9
comp=Z,4.2nm,0.9s,baz=97,slow=8.3,SNR=11
LPAZ La Paz 159.61 252 PKP PKPdf 08 19 14.6 +1.7
LPAZ PKPab PKPab 08 19 53.2 +1.9

IDC 17 08:10:05.0±30.0, 1593S×17460W, h0^{km}, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=602.5km s-min=155.9km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.77**	**240**	P	P	08 18 04.7	+0.5
	1.0nm,0.4s,baz=94,slow=12,SNR=4.9						
WB2	**Warramunga Arr**	**48.58**	**257**	*eP*	P	08 18 50.0	-0.2
WRA	**Warramunga Arr**	**48.60**	**257**	P	P	08 18 50.2	-0.1
	0.6nm,0.4s,baz=94,slow=6.8,SNR=29						
ASAR	**Alice Springs**	**48.84**	**252**	P	P	08 18 52.3	+0.1
	6.2nm,0.5s,baz=88,slow=8.1,SNR=122						
ASPA	**Alice Springs**	**48.85**	**252**	*eP*	P	08 18 52.2	0.0
FITZ	**Fitzroy Crossi**	**56.97**	**259**	P	P	08 19 53.3	+1.1
	1.0nm,0.8s,baz=121,slow=5.9,SNR=3.2						

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*ISCJB **17** 08:18:53.2±1.2, 60S±0.1×1509E±02, h10^{km}, mb4.2/6, MS3.8/2, Error ellipse: s-maj=26.9km s-min=14.0km az=73.8*

*NEIC **17** 08:18:54.6±10.0, 592S×15101E, h13^{km}±58^{km}, mb4.6/3, Error ellipse: s-maj=31.6km s-min=21.4km az=57.0*

*IDC **17** 08:18:57.0±4.0, 594S×15080E, h21^{km}±28^{km}, mb4.2/5, mb1 4.3/7, mb1mx4.0/15, mbtmp4.3/7, ML3.0/2, MS3.8/3, Ms1 3.8/3, ms1mx3.3/28, Error ellipse: s-maj=51.8km s-min=21.2km az=116.0*

ISC 17 08:18:55.7±2.7, 59S±01×1509E±02, h14^{km}±19^{km}, n19, σ0^{s}43/19, mb4.2/6, MS3.8/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**227**	Pn	**Pn**	**08 20 10.8**	**-0.6**
	0.7nm,0.3s,baz=113,slow=13,SNR=2.3						
PMG				Sn	**Sn**	**08 21 10.3**	**+0.5**
	8.8nm,0.3s,baz=26,slow=14,SNR=11						
CTA	**Charters Tower**	**14.78**	**197**	Pn	**Pn**	**08 22 24.3**	**+0.1**
	0.2nm,0.3s,baz=27,slow=18,SNR=2.1						
CTA				LR	LR	08 27 09.1	
	comp=Z,245nm,21.2s,baz=97,slow=33						
CTA	**Charters Tower**	**14.78**	**197**	Pn	**Pn**	**08 22 24.3**	**+0.1**
CTA				LR	LR	08 27 09.1	
KAKA	**Kakadu**	**19.44**	**248**	*eP*	**Pn**	**08 23 22.8**	**0.0**
	11nm,0.6s						
WRAB	**Tennant Creek**	**21.29**	**228**	*eP*	**P**	**08 23 42.2**	**+0.4**
	18nm,0.8s,mb4.4						
WRAB				*eS*	**S**	**08 27 37.4**	**-0.4**
WB2	**Warramunga Arr**	**21.29**	**228**	*eP*	**P**	**08 23 41.8**	**0.0**
WRA	**Warramunga Arr**	**21.30**	**228**	P	**P**	**08 23 41.9**	**0.0**
	12nm,0.8s,mb4.3,baz=53,slow=11,SNR=55						
WRA				S	**S**	**08 27 36.6**	**-1.5**
	2.5nm,1.1s,baz=55,slow=20,SNR=9.0						
DZM	**Mont Dzumac**	**21.95**	**138**	LR	LR	08 30 44.2	
	comp=Z,292nm,19.8s,MS3.7,baz=347,slow=32						
AS31	**Alice Springs**	**24.06**	**221**	*eP*	**P**	**08 24 10.3**	**-0.1**
ASAR	**Alice Springs**	**24.06**	**221**	P	**P**	**08 24 10.5**	**+0.1**
	14nm,0.7s,mb4.5,baz=52,slow=9.4,SNR=96						

ASAR S **S** **08 28 28.2 +0.9**
0.3nm,0.7s,baz=216,slow=38,SNR=2.4
ASPA Alice Springs 24.07 221 *e*P **P** **08 24 10.4 0.0**
STKA Stephens Creek 27.24 198 P **P** **08 24 38.7 -0.5**
7.2nm,0.9s,mb4.2,baz=0.2,slow=11,SNR=4.6
STKA Stephens Creek 27.24 198 *e*P **P** **08 24 39.2 0.0**
FITZ Fitzroy Crossi 27.48 242 *e*P **P** **08 24 41.8 +0.4**
9.1nm,0.6s,mb4.5
FITZ Fitzroy Crossi 27.48 242 P **P** **08 24 41.9 +0.5**
2.3nm,0.5s,mb4.0,baz=122,slow=15,SNR=10
JOW Kunigami 39.28 327 LR LR 08 39 45.5
comp=Z,209nm,18.8s,MS4.0,baz=204,slow=32
MKAR Makanchi Array 79.97 319 P **P** **08 31 04.3 -0.1**
0.2nm,0.2s,mb3.6,baz=107,slow=4.8,SNR=3.5
PSZ Piszkesteto 121.03 324 *e*PKP PKPdf 08 37 40.2 -7.6
TORD Torodi Ar. Bea 148.86 286 PKPbc PKPbc 08 38 42.8 0.0
1.6nm,0.8s,baz=64,slow=2.8,SNR=8.9

IDC 17 08:31:14.4±2.6,1635S×17879W,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.8/14,mbtmp3.7/4,Error ellipse: s-maj=283.4km s-min=33.4km az=159.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.57 258**		P	P	08 39 28.7	+0.6
	0.2nm,0.5s,baz=93,slow=7.7,SNR=8.0						
ASAR	**Alice Springs**	**44.88 253**		P	P	08 39 31.1	+0.6
	2.8nm,0.5s,baz=90,slow=7.9,SNR=70						
ASPA	**Alice Springs**	**44.88 253**		*e*P	P	08 39 31.0	+0.4
FITZ	**Fitzroy Crossi**	**52.94 259**		P	P	08 40 32.5	+0.1
	1.0nm,0.8s,baz=156,slow=10.0,SNR=2.7						
TXAR	**Lajitas Array**	**85.48 58**		P	P	08 43 54.7	+0.6
	0.1nm,0.6s,baz=224,slow=6.8,SNR=3.5						

*ISCJB **17** 08:32:47.1±0.9,1509N±007×12286E±008,h10km, mb3.7/3,Error ellipse: s-maj=11.4km s-min=9.2km az=149.8*
*IDC **17** 08:32:47.7±1.5,1501N×12277E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=30.4km s-min=25.5km az=62.0*
ISC 17 08:32:49.1±0.9,1515N±006×12276E±009,h10km,n10, σ1§55/13,mb3.7/3,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.28 298**		*e*P	**Pn**	**08 33 10.5**	**-2.5**
BALP				*e*S	**Pg**	**08 33 16.8**	**+3.2**
BOAC	**Boac**	**1.90 208**		*e*P	**Pn**	**08 33 23.9**	**+2.4**
CAUP	**Cauayan**	**2.00 333**		*e*P	**Sn**	**08 33 40.9**	**-7.0**
CAUP				*e*S	**Sn**	**08 33 46.9**	**-1.1**
TGY	**Tagaytay City**	**2.04 240**		Pn	**Pn**	**08 33 22.8**	**-0.7**
	85nm,0.3s,baz=256,slow=4.2,SNR=2.9						
TGY				Sn	**Sn**	**08 33 49.4**	**+0.3**
	103nm,0.3s,baz=323,slow=23,SNR=6.7						
PVCP	**Virac**	**2.05 139**		*e*P	**Pn**	**08 33 31.1**	**+7.5**
CVP	**Callao Caves**	**2.69 341**		||*e*P	**Pn**	**08 33 34.0**	**+1.6**
SONM	**Songino Array**	**35.30 341**		P	**P**	**08 39 45.6**	**+1.5**
	0.4nm,0.3s,mb3.8,baz=150,slow=8.4,SNR=4.9						
WRA	**Warramunga Arr**	**36.68 162**		P	**P**	**08 39 54.9**	**-1.1**
	1.1nm,0.8s,mb3.8,baz=342,slow=9.2,SNR=9.8						
WB2	**Warramunga Arr**	**36.69 162**		*e*P	**P**	**08 39 54.9**	**-1.1**
ASAR	**Alice Springs**	**40.09 164**		P	**P**	**08 40 24.4**	**-0.2**
	0.5nm,0.4s,mb3.6,baz=338,slow=7.4,SNR=14						

*ISCJB **17** 08:42:49.8±0.8,4649N±003×1050E±005,h13km±8km, Error ellipse: s-maj=5.8km s-min=5.2km az=111.3*
*CSEM **17** 08:42:49.5±0.1,4643N×1051E,h12km,ML2.5/3,Error ellipse: s-maj=1.8km s-min=1.5km az=76.0*
*ROM **17** 08:42:49.6±0.2,4649N×1051E,h8km±2km,Md2.2/4, Ml1.7/4,Error ellipse: s-maj=3.0km s-min=2.1km az=137.0*
*VIE **17** 08:42:50.9±0.5,4652N×1051E,h8km,ML2.0/3,Error ellipse: s-maj=3.7km s-min=1.4km az=168.0 12 km ENE of Bormio*
ISC 17 08:42:50.2±0.7,4648N±003×1049E±005,h13km±8km,n10, σ0§63/18,4C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.08 269**		Pg	**Pg**	**08 42 52.3**	**-0.7**
BRMO				Sg	**Sg**	**08 42 53.9**	**-1.1**
	509nm,0.5s						
MABI	**Malga Bissina**	**0.42 178**		Pg	**Pg**	**08 42 59.0**	**+0.4**
MABI				Sg	**Sg**	**08 43 05.0**	**+0.7**
	11nm,0.3s						
APPI	**Appiano**	**0.51 90**		Pg	**Pg**	**08 43 00.5**	**+0.3**
APPI				Sg	**Sg**	**08 43 07.5**	**+0.5**
	65nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.52 306**		Pg	**Pg**	**08 43 00.6**	**+0.2**
DAVOX				Sg	**Sg**	**08 43 07.9**	**+0.6**
TUE	**Stuetta**	**0.79 270**		Pg	**Pg**	**08 43 05.3**	**-0.2**
SQTA	**Sankt Quirin**	**0.89 33**		⇑*i*Pg	**Pg**	**08 43 07.3**	**-0.1**
SQTA				⇑*i*Sg	**Sg**	**08 43 18.8**	**-0.4**
	17nm,0.3s						
SQTA	**Sankt Quirin**	**0.89 33**		Pg	**Pg**	**08 43 07.3**	**-0.1**
SQTA				Sg	**Sg**	**08 43 18.8**	**-0.3**
	17nm,0.3s						
DAVA	**Damuels**	**0.91 333**		⇓*i*Pg	**Pg**	**08 43 07.9**	**+0.1**
DAVA				⇓*i*Sg	**Sg**	**08 43 20.5**	**+0.7**
	6.1nm,0.3s						
MOTA	**Moosalm**	**0.96 26**		⇑*i*Pg	**Pg**	**08 43 08.9**	**+0.1**
MOTA				⇑*i*Sg	**Sg**	**08 43 21.7**	**+0.3**
	5.6nm,0.2s						
SEST	**Monte Rota**	**1.22 76**		Pg	**Pn**	**08 43 11.3**	**-1.6**
	25nm,0.5s						

*BJI **17** 08:58:20.4,6.18S×15181E,h42km,mB5.4,mb5.1,Ms5.3, Msz5.1*
*MOS **17** 08:58:24.9±1.0,558S×15099E,h33km,mb5.3/21, MS5.1/15,Error ellipse: s-maj=10.5km s-min=7.0km az=75.5*
*ISCJB **17** 08:58:24.8±0.1,582S±003×15107E±002,h36km, mb5.2/81,MS5.1/41,Error ellipse: s-maj=4.4km s-min=3.4km az=143.6*
*IDC **17** 08:58:25.8±0.6,579S×15107E,h36km±5km,mb4.7/18, mb1 4.8/21,mb1mx4.8/22,mbtmp4.9/21,ML3.8/2,MS4.9/15, Ms1 4.9/15,ms1mx4.7/23,Error ellipse: s-maj=13.2km s-min=9.8km az=111.0*
*GCMT **17** 08:58:25.8±0.1,594S×15145E,h35km,MW5.4/98, Moment Tensor Solution. s98,c170; s91,c156; Duration: 1§3 Moment tensor: Scale 10^17^Nm; Mrr1.79±.03; Mθθ-0.55±.02; Mφφ-1.24±.02; Mrθ0.28±.03; Mθφ-0.65±.02; Mφr-0.11±.03; Best double couple: M0=1.73400×10^17^ NP1:φs=203.00000°,δ=45.00000°, λ=78.00000°. NP2:φs=40.00000°,δ=46.00000°,λ=102.00000°. Principal axes: T 1.8360, Plg=81.0000°, Azm=26.0000°; N -0.2070, Plg=9.0000°, Azm=211.0000°; P -1.6310, Plg=1.0000°, Azm=121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 08:58:25.8±0.1,581S×15107E,h35km,mb5.4/50 Error ellipse: s-maj=5.4km s-min=4.4km az=129.0*
ISC 17 08:58:26.8±0.1,583S±003×15108E±002,h38km, h38km±1.3km:pP-P,n517,σ0§79/411,mb5.2/76,MS5.1/41, 99C-85D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27 227**		Pn	**Pn**	**08 59 44.0**	**+1.1**
	48nm,0.3s,baz=50,slow=11,SNR=73						
PMG				Sn	**Sn**	**09 00 42.9**	**+0.6**
	35nm,0.3s,baz=354,slow=8.2,SNR=6.8						
PMG	**Port Moresby**	**5.27 227**		*d*iP	**Pn**	**08 59 46.6**	**+3.7**
PMG	**Port Moresby**	**5.27 227**		*e*Pn	**Pn**	**08 59 46.8**	**+3.9**
HNR	**Honiara**	**9.49 113**		Pn	**Pn**	**09 00 41.1**	**+0.2**
	22nm,0.3s,baz=286,slow=0.5,SNR=12						
HNR				Sn	**Sn**	**09 02 27.0**	**+0.8**
	baz=92,slow=23,SNR=1.8						
HNR				LR	LR	09 03 48.2	
	comp=Z,7μm,21.6s,baz=355,slow=34						
HNR	**Honiara**	**9.49 113**		*e*P	**Pn**	**09 00 41.1**	**+0.2**
HNR				pmax	pmax		
	comp=Z,372nm,0.8s						
HNR	**Honiara**	**9.49 113**		*e*Pn	**Pn**	**09 00 41.1**	**+0.3**
	comp=Z,372nm,0.8s						
CTA	**Charters Tower**	**14.93 198**		*e*P	**Pn**	**09 02 01.1**	**+6.0**
	comp=Z,22nm,1.2s						
CTA				*e*S	Sn	09 05 01.2	+22
CTA	**Charters Tower**	**14.93 198**		Pn	**Pn**	**09 01 53.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=2.0						
CTA				LR	LR	09 05 48.2	
	comp=Z,1μm,20.6s,baz=28,slow=30						
CTA	**Charters Tower**	**14.93 198**		*e*P	**Pn**	**09 02 01.1**	**+6.0**
CTA				pmax	pmax		
	comp=Z,22nm,1.2s						
CTA	**Charters Tower**	**14.93 198**		*e*P	**Pn**	**09 02 01.1**	**+6.0**
	comp=Z,22nm,1.2s						
CTA				*e*S	Sn	09 05 01.2	+22
CTA				LR	LR	09 05 48.2	
CTAO	**Charters Tower**	**14.93 198**		*e*P	**Pn**	**09 01 59.3**	**+4.2**
KAKA	**Kakadu**	**19.61 248**		⇑*i*P	**Pn**	**09 02 52.5**	**-0.9**
	comp=Z,79nm,0.6s						
KAKA				*e*S	**S**	**09 06 29.3**	**-1.9**
GUMO	**Guam**	**20.25 342**		P	**P**	**09 02 58.8**	**0.0**
	comp=Z,364nm,1.1s,baz=199,slow=10,SNR=4.9						
GUMO				LR	LR	09 09 14.2	
	comp=Z,3μm,21.6s,MS4.7,baz=326,slow=32						
GUMO	**Guam**	**20.25 342**		*e*P	**P**	**09 03 01.5**	**+2.7**
GUMO				pmax	pmax		
	comp=Z,616nm,1.2s						
GUMO	**Guam**	**20.25 342**		*e*P	**P**	**09 03 01.5**	**+2.7**
	comp=Z,616nm,1.2s						
WRAB	**Tennant Creek**	**21.47 228**		P	**P**	**09 03 12.3**	**+0.4**
	comp=Z,416nm,0.5s,mb6.0,SNR=51						
WRAB	**Tennant Creek**	**21.47 228**		*e*P	**P**	**09 03 12.4**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**21.47 228**		*e*P	**P**	**09 03 12.4**	**+0.5**
	comp=Z,107nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**21.48 228**		⇑*i*P	**P**	**09 03 12.4**	**+0.4**
WB2				*i*S	**S**	**09 07 07.7**	**-0.3**
WRA	**Warramunga Arr**	**21.49 228**		P	**P**	**09 03 12.7**	**+0.6**
	comp=Z,24nm,0.5s,mb4.8,baz=54,slow=10,SNR=214						
WRA				S	**S**	**09 07 07.0**	**-1.2**
	comp=Z,29nm,1.4s,baz=54,slow=19,SNR=11						
WRA				LR	LR	09 11 43.0	
	comp=Z,3μm,20.8s,MS4.6,baz=45,slow=37						
WRA				PKiKP	PKiKP	09 14 59.8	-0.8
	comp=Z,0.4nm,0.8s,baz=316,slow=1.1,SNR=6.0						
WRA	**Warramunga Arr**	**21.49 228**		P	**P**	**09 03 12.7**	**+0.6**
WRA				S	**S**	**09 07 07.0**	**-1.2**
WRA	**Warramunga Arr**	**21.49 228**		P	**P**	**09 03 12.7**	**+0.6**
WRA				S	**S**	**09 07 07.0**	**-1.2**
WRA				LR	LR	09 11 43.0	
DZM	**Mont Dzumac**	**21.94 139**		P	**P**	**09 03 16.6**	**-0.4**
	comp=Z,23nm,0.7s,mb4.7,baz=318,slow=14,SNR=13						
DZM				LR	LR	09 10 34.7	
	comp=Z,8μm,21.0s,MS5.1,baz=22,slow=33						
AS31	**Alice Springs**	**24.24 221**		*e*P	**P**	**09 03 40.7**	**+0.7**
AS31				*i*S	**S**	**09 07 56.5**	**+0.3**
ASAR	**Alice Springs**	**24.25 221**		P	**P**	**09 03 40.6**	**+0.5**
	comp=Z,10nm,0.3s,mb4.7,baz=54,slow=9.4,SNR=227						
ASAR				pP		09 03 51.8	
	comp=Z,53nm,0.7s,baz=50,slow=8.5,SNR=29						
ASAR				LR	LR	09 13 17.4	
	comp=Z,3μm,19.9s,MS4.8,baz=143,slow=37						
ASAR	**Alice Springs**	**24.25 221**		P	**P**	**09 03 40.6**	**+0.5**
ASAR				*PP		09 03 51.8	
ASPA	**Alice Springs**	**24.25 221**		*e*P	**P**	**09 03 40.7**	**+0.6**
ASPA				*i*S	**S**	**09 07 56.5**	**+0.3**
ARMA	**Armidale**	**24.47 179**		*e*P	**P**	**09 03 42.0**	**-0.1**
ARMA				*e*S	**S**	**09 08 00.6**	**+0.8**
STKA	**Stephens Creek**	**27.39 198**		*e*P	**P**	**09 04 07.3**	**-1.3**
	comp=Z,14nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**27.39 198**		P	**P**	**09 04 08.4**	**-0.1**
	comp=Z,15nm,0.7s,mb4.6,baz=20,slow=10.0,SNR=13						
STKA				LR	LR	09 15 42.0	
	comp=Z,3μm,18.8s,MS4.8,baz=308,slow=38						
FITZ	**Fitzroy Crossi**	**27.67 242**		⇑*i*P	**P**	**09 04 11.3**	**+0.3**
	comp=Z,148nm,1.2s,mb5.5						
FITZ				*i*S	**S**	**09 08 50.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.67 242**		P	**P**	**09 04 11.4**	**+0.4**
	comp=Z,39nm,0.7s,mb5.2,baz=77,slow=7.0,SNR=73						
FITZ				LR	LR	09 16 43.3	
	comp=Z,3μm,18.8s,MS4.9,baz=355,slow=40						
FORT	**Forrest**	**32.92 218**		*e*P	**P**	**09 04 57.8**	**+0.4**
	comp=Z,65nm,0.9s,mb5.6						
MBWA	**Marble Bar**	**33.98 240**		*e*P	**P**	**09 05 06.7**	**+0.1**
	comp=Z,32nm,0.8s,mb5.3						
KKM	**Kota Kinabalu**	**36.74 288**		P	**P**	**09 05 31.9**	**+1.5**
TAU	**Tasmania Unive**	**37.08 185**		*e*P	**P**	**09 05 32.4**	**-0.9**
TAU				*e*PP	pP	09 05 43.6	-0.4
TAU				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
TAU	**Tasmania Unive**	**37.08 185**		*e*P	**P**	**09 05 32.4**	**-0.8**
	comp=Z,43nm,1.2s,mb5.2						
TAU				*e*pP	pP	09 05 43.6	-0.4
AFI	**Afiamalu**	**37.42 105**		LR	LR	09 19 31.5	
	comp=Z,2μm,19.1s,MS4.8,baz=286,slow=34						
URZ	**Urewera**	**40.01 147**		P	**P**	**09 05 57.5**	**-0.4**
	comp=Z,8.1nm,0.6s,mb4.7,baz=305,slow=11,SNR=7.7						
KLBR	**Kellerberrin**	**40.36 226**		*e*P	**P**	**09 05 59.9**	**-0.8**
	comp=Z,42nm,0.9s,mb5.2						
NACB	**Ninganchiao**	**41.41 317**		*e*P	**P**	**09 06 09.9**	**+0.5**
NACB				*e*pP	pP	09 06 21.7	+1.4
RPZ	**Rata Peaks**	**41.63 158**		P	**P**	**09 06 09.8**	**-1.5**
	comp=Z,29nm,0.9s,mb4.9,baz=40,slow=5.4,SNR=9.3						
RPZ				LR	LR	09 21 41.5	
	comp=Z,4μm,19.4s,MS5.3,baz=321,slow=34						
MUN	**Mundaring**	**41.68 227**		*e*P	pP	09 06 21.6	-0.9
YHNB	**Yeheng**	**41.90 318**		*e*P	**P**	**09 06 14.4**	**+1.0**
TATO	**Taipei**	**42.03 318**		*e*P	**P**	**09 06 16.0**	**+1.6**
	comp=Z,162nm,1.2s,mb5.5						
TATO				*e*pP	pP	09 06 31.2	+6.0
MJAR	**Matsushiro Arr**	**43.84 345**		P	**P**	**09 06 28.0**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=163,slow=9.1,SNR=7.3						
MAJO	**Matsushiro**	**43.84 345**		*e*P	**P**	**09 06 29.1**	**0.0**
MAJO				*e*	pP	09 06 39.0	-1.0
MAJO				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**43.84 345**		*e*P	**P**	**09 06 29.1**	**0.0**
	comp=Z,16nm,1.0s,mb4.7						
MAJO				*e*	pP	09 06 39.0	-1.0
MAT	**Matsushiro**	**43.84 345**		P	**P**	**09 06 28.0**	**-1.1**
QZH	**Quanzhou**	**43.98 315**		⇓*i*P	**P**	**09 06 31.8**	**+1.5**
QZH				S	**S**	**09 13 01.4**	**+1.9**
QZH				LR	LR		
	comp=N,5μm,25.7s,MS5.5						
QZH				LR	LR		
	comp=E,5μm,22.8s,MS5.5						
QZH				LR	LR		
	comp=Z,4μm,23.1s,MS5.2						
SSE	**Sheshan**	**46.52 324**		P	**P**	**09 06 51.3**	**+0.9**
SSE				AP	pP	09 07 00.4	-0.9
SSE				S	**S**	**09 13 38.3**	**+2.1**
SSE				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
SSE				AMB	AMB		
	comp=Z,165nm,3.8s						
SSE				LR	LR		
	comp=N,957nm,24.0s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,24.0s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,24.9s,MS4.9						
SSE	**Sheshan**	**46.52 324**		P	**P**	**09 06 51.3**	**+0.9**
	comp=Z,70nm,1.0s,mb5.5						
SSE				pP	pP	09 07 00.4	-0.9
SSE				S	**S**	**09 13 38.2**	**+2.0**
SSE				sS	sS	09 13 53.5	-0.8
SSE				LR	LR		
	comp=Z,2μm,24.9s,MS4.9						
GZH	**Guangzhou**	**46.74 309**		P	**P**	**09 06 54.1**	**+1.9**
GZH				S	**S**	**09 13 44.0**	**+4.6**
GZH				LR	LR		
	comp=N,1μm,19.3s,MS5.1						
GZH				LR	LR		
	comp=E,2μm,18.7s,MS5.1						
GZH				LR	LR		
	comp=Z,4μm,20.8s,MS5.3						
QIZ	**Qiongzhong**	**47.54 302**		P	**P**	**09 07 00.1**	**+1.8**
QIZ				AP	pP	09 07 09.3	0.0
QIZ				XP	sP	09 07 13.8	+0.1
QIZ				S	**S**	**09 13 56.5**	**+5.8**
QIZ				SS	SS	09 17 25.5	+6.6
QIZ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
QIZ				LR	LR		
	comp=N,860nm,21.2s,MS4.9						
QIZ				LR	LR		
	comp=E,1μm,24.1s,MS4.9						
QIZ				LR	LR		
	comp=Z,3μm,23.6s,MS5.2						
QIZ	**Qiongzhong**	**47.54 302**		*e*P	**P**	**09 07 00.6**	**+2.2**
	comp=Z,9.9nm,0.8s,mb4.9						
KS15	**Wonju Array Si**	**48.18 335**		*e*P	**P**	**09 07 03.8**	**+0.5**
KGM	**Kluang**	**48.33 278**		P	**P**	**09 07 06.0**	**+1.6**
NJ2	**Nanjing**	**48.59 323**		*e*P	**P**	**09 07 07.3**	**+0.8**
NJ2				AP	pP	09 07 18.1	+0.6
NJ2				XP	sP	09 07 21.8	-0.1
NJ2				PP	PP	09 08 59.9	+0.4
NJ2				S	**S**	**09 14 04.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,220nm,1.1s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,340nm,5.1s						
NJ2				LR	LR		
	comp=N,2μm,16.2s,MS5.4						
NJ2				LR	LR		
	comp=E,2μm,16.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
INCN	**Inchon**	**48.75 334**		*e*P	**P**	**09 07 09.2**	**+1.5**
	comp=Z,56nm,1.1s,mb5.5						
INCN				*e*pP	pP	09 07 24.5	+5.8
WHN	**Wuhan**	**50.44 318**		P	**P**	**09 07 23.6**	**+3.1**
WHN				AP	pP	09 07 37.5	+5.9
WHN				LR	LR		
	comp=Z,5μm,22.0s,MS5.4						
KULM	**Kulim**	**51.54 281**		*e*P	**P**	**09 07 28.2**	**-0.6**
GYA	**Guiyang**	**53.67 309**		⇓*i*P	**P**	**09 07 46.5**	**+1.9**
GYA				AP	pP	09 07 56.8	+1.1
GYA				XP	sP	09 08 01.4	+1.3
GYA				PP	PP	09 09 47.8	+2.2
GYA				S	**S**	**09 15 15.0**	**-0.8**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,180nm,6.1s						
GYA				LR	LR		
	comp=N,660nm,18.4s,MS4.9						
GYA				LR	LR		
	comp=E,860nm,18.2s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,17.6s,MS5.0						
MDJ	**Mudanjiang**	**53.80 341**		P	**P**	**09 07 45.3**	**-0.3**
MDJ				AP	pP	09 07 53.9	-2.8
MDJ				XP	sP	09 07 57.8	-3.3
MDJ				PP	PP	09 09 45.3	-1.5
MDJ				S	**S**	**09 15 21.5**	**+3.9**
MDJ				XS	sS	09 15 38.3	+2.4
MDJ				SS	SS	09 18 59.9	+1.2
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,311nm,4.2s						
MDJ				LR	LR		
	comp=N,310nm,25.6s						
MDJ				LR	LR		
	comp=E,595nm,36.3s						
MDJ				LR	LR		
	comp=Z,862nm,23.5s,MS4.7						
CN2	**Changchun**	**54.55 337**		*e*P	**P**	**09 07 51.9**	**+0.9**
CN2				*e*S	**S**	**09 15 27.0**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=E,700nm,19.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
KMI	**Kunming**	**56.16 305**		P	**P**	**09 08 06.3**	**+3.7**
KMI				AP	pP	09 08 16.9	+3.2
KMI				XP	sP	09 08 20.3	+2.2
KMI				PP	PP	09 10 13.6	+5.7
KMI				S	**S**	**09 15 51.6**	**+2.5**
KMI				XS	sS	09 16 10.0	+2.4
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,163nm,4.6s						
KMI				LR	LR		
	comp=N,638nm,24.4s,MS4.9						
KMI				LR	LR		
	comp=E,976nm,21.6s,MS4.9						
KMI				LR	LR		
	comp=Z,1μm,23.3s,MS5.0						
KMI	**Kunming**	**56.16 305**		P	**P**	**09 08 06.3**	**+3.7**
KMI				*PP	pP	09 08 16.9	+3.2
KMI				*SP	sP	09 08 20.3	+2.2
KMI						09 10 13.6	
KMI				PPP		09 11 26.8	
KMI				S	**S**	**09 15 51.6**	**+2.5**
KMI				*SS	sS	09 16 10.0	+2.4
KMI				SS	SS	09 19 37.1	+1.3
KMI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
KMI				MLR	MLR		
	comp=Z,1μm,23.3s,MS5.0						
KMI	**Kunming**	**56.16 305**		P	**P**	**09 08 06.3**	**+3.7**
	comp=Z,15nm,1.1s,mb4.9						
KMI				pP	pP	09 08 16.9	+3.2
KMI				sP	sP	09 08 20.3	+2.2
KMI				PP	PP	09 10 13.6	+5.7
KMI				PPP		09 11 26.8	
KMI				S	**S**	**09 15 51.6**	**+2.5**
KMI				sS	sS	09 16 10.0	+2.4
KMI				SS	SS	09 19 37.1	+1.3
KMI				SSS		09 21 48.7	
KMI				LR	LR		
	comp=Z,1μm,23.3s,MS5.0						
XAN	**Xi'an**	**56.20 318**		P	**P**	**09 08 02.3**	**-0.6**
XAN				AP	pP	09 08 14.8	+0.7
XAN				S	**S**	**09 15 43.8**	**-5.9**
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
XAN				AMB	AMB		
	comp=Z,272nm,9.5s						
XAN				LR	LR		
	comp=N,514nm,19.2s,MS4.8						
XAN				LR	LR		
	comp=E,528nm,19.2s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,19.7s,MS5.2						
HON	**Honolulu**	**56.75 60**		*e*P	**P**	**09 08 06.3**	**-0.5**
KIP	**Kipapa**	**56.78 60**		*e*P	**P**	**09 08 07.6**	**+0.6**
KIP	**Kipapa**	**56.78 60**		*e*P	**P**	**09 08 07.0**	**0.0**
	comp=Z,423nm,1.4s,mb6.3						
KLR	**Kul'dur**	**57.36 345**		*e*P	**P**	**09 08 07.2**	**-3.9**
CD2	**Chengdu**	**58.12 312**		P	**P**	**09 08 16.9**	**+0.5**
CD2				AP	pP	09 08 26.8	-0.9
CD2				XP	sP	09 08 30.8	-1.3
CD2				PCS	PcS	09 13 07.5	-1.8
CD2				S	**S**	**09 16 16.3**	**+1.3**
CD2				SCS	ScS	09 18 00.8	-2.2
CD2				SS	SS	09 20 10.3	+3.6
CD2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.3						
CD2				AMB	AMB		
	comp=Z,290nm,4.7s						
CD2				LR	LR		
	comp=N,2μm,20.4s,MS5.4						
CD2				LR	LR		
	comp=E,2μm,22.0s,MS5.4						
CD2				LR	LR		
	comp=Z,3μm,22.2s,MS5.3			

LZH XP sP 09 08 49.5 -1.0
LZH PP PP 09 10 51.8 +2.8
LZH SS SS 09 20 50.6 +2.0
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,232nm,6.7s
LZH LR LR
comp=E,1μm,15.3s
LZH LR LR
comp=Z,2μm,18.2s,MS5.2
LZH Lanzhou 60.79 317 ⇑P **P 09 08 35.2 +0.4**
LZH *PP pP 09 08 45.3 -0.8
LZH *SP sP 09 08 49.5 -1.0
LZH 09 10 51.8
LZH PPP 09 12 20.3
LZH S **S 09 16 39.7 -10**
LZH *SS sS 09 17 06.5 -1.5
LZH PS 09 17 09.8
LZH SS SS 09 20 50.6 +2.0
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,2μm,18.2s,MS5.2
LZH Lanzhou 60.79 317 ⇑P **P 09 08 35.2 +0.4**
comp=Z,69nm,1.5s,mb5.6
LZH pP pP 09 08 45.3 -0.8
LZH sP sP 09 08 49.5 -1.0
LZH PP PP 09 10 51.8 +2.8
LZH PPP 09 12 20.3
LZH S **S 09 16 39.7 -10**
LZH sS sS 09 17 06.5 -1.5
LZH PS 09 17 09.8
LZH SS SS 09 20 50.6 +2.0
LZH LR LR
comp=Z,2μm,18.2s,MS5.2
DRV Dumont d'Urvil 61.22 185 P **P 09 08 34.0 -3.8**
DRV S **S 09 17 02.0 +7.1**
DRV SS SS 09 20 53.0 -2.4
DRV R 09 28 00.0
HIA Hailar 61.28 337 *eP* **P 09 08 37.5 -0.7**
HIA pmax pmax
comp=Z,28nm,0.8s
HIA Hailar 61.28 337 *eP* **P 09 08 37.5 -0.8**
comp=Z,28nm,0.8s,mb5.5
MA2 Magadan 65.19 360 *eP* **P 09 09 02.4 -1.7**
MA2 *e* 09 11 30.9
MA2 *e*S S 09 17 41.0 -3.6
MA2 pmax pmax
comp=Z,60nm,1.0s,mb5.6
MA2 MLR MLR
comp=Z,1μm,18.2s,MS5.1
MA2 Magadan 65.19 360 *eP* **P 09 09 02.8 -1.3**
comp=Z,42nm,0.9s,mb5.5
GTA Gaotai 65.26 318 *eP* **P 09 09 04.8 +0.3**
GTA AP pP 09 09 15.3 -0.6
GTA XP sP 09 09 19.4 -0.8
GTA PCP PcP 09 09 37.5 +0.8
GTA PP PP 09 11 29.9 +1.6
GTA S S 09 17 43.3 -2.0
GTA AMB AMB
comp=Z,14nm,2.4s,mb4.6
GTA AMB AMB
comp=Z,225nm,4.9s
GTA LR LR
comp=N,479nm,20.1s,MS5.0
GTA LR LR
comp=E,704nm,17.9s,MS5.0
GTA LR LR
comp=Z,965nm,20.1s,MS5.0
SHL Shillong 65.36 301 *eP* **P 09 09 06.5 +1.3**
CIT Chita 65.90 336 *eP* **P 09 09 07.5 -1.2**
SONM Songino Array 66.29 329 P **P 09 09 11.1 -0.1**
comp=Z,9.1nm,0.9s,mb4.8,baz=143,slow=5.0,SNR=38
SONM LR LR 09 37 47.0
comp=Z,2μm,20.6s,MS5.2,baz=130,slow=36
CASY Casey 66.54 197 ⇑*iP* **P 09 09 11.6 -1.2**
LSA Lhasa 67.42 305 P **P 09 09 16.9 -1.4**
LSA S S 09 18 06.1 -5.4
LSA LR LR
comp=E,730nm,25.2s
LSA LR LR
comp=Z,1μm,26.7s,MS4.9
TAOE Nuku Hiva Isla 68.20 97 *e*LR LR 09 30 04.0
comp=Z,2μm,22.8s
SEY Seymchan 68.57 1 *eP* **P 09 09 23.9 -1.7**
ZAK Zakamensk 69.49 330 *i*P **P 09 09 30.5 -0.8**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.7
YAK Yakutsk 69.65 349 *eP* **P 09 09 31.5 -0.8**
TLY Talaya 70.12 331 *eP* **P 09 09 34.3 -0.9**
TLY pmax pmax
comp=Z,12nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,673nm,20.0s,MS4.9
TLY Talaya 70.12 331 *eP* **P 09 09 33.3 -1.9**
TLY *ep*P pP 09 09 46.5 -0.1
BOD Bodaibo 70.15 340 *eP* **P 09 09 32.6 -2.7**
BOD pmax pmax
comp=Z,15nm,1.4s,mb4.7
GUN Gumba 71.19 302 *eP* **P 09 09 41.9 +0.2**
comp=Z,36nm,0.9s,mb5.3
PALK Pallekele 71.41 280 *eP* **P 09 09 44.4 +1.4**
comp=Z,9.6nm,0.9s,mb4.7
PALK *ep*P pP 09 09 52.9 -1.6
PKI Pulchoki 71.49 301 *eP* **P 09 09 43.9 +0.4**
KKN Kakani 71.66 302 *eP* **P 09 09 44.8 +0.3**
comp=Z,25nm,0.8s,mb5.2
DMN Daman 71.76 301 *eP* **P 09 09 45.5 +0.4**
comp=Z,53nm,1.0s,mb5.4
VNDA Vanda 71.88 178 P **P 09 09 45.1 -0.8**
comp=Z,7.4nm,1.0s,mb4.6,baz=331,slow=6.5,SNR=29
VNDA LR LR 09 40 53.9
comp=Z,429nm,18.2s,MS4.8,baz=350,slow=35
VNDA Vanda 71.88 178 *eP* **P 09 09 45.3 -0.5**
VNDA *e**PP pP 09 10 03.5 +6.2
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 71.88 178 *eP* **P 09 09 45.3 -0.6**
comp=Z,11nm,1.0s,mb4.7
VNDA *ep*P pP 09 10 03.5 +6.2
GKN Gorkha 72.27 302 *eP* **P 09 09 47.7 -0.5**
comp=Z,33nm,0.7s,mb5.4
MIR Mirnyy 72.36 201 *c iP* **P 09 09 50.5 +1.8**
MIR *i* 09 10 07.0
MIR pmax pmax
comp=Z,400nm,2.0s,mb6.0
SBA Scott Base 72.45 177 *eP* **P 09 09 49.3 0.0**
SBA pmax pmax
comp=Z,104nm,2.0s,mb5.4
SBA Scott Base 72.45 177 *eP* **P 09 09 49.3 0.0**
comp=Z,104nm,2.0s,mb5.4
RKT Rikitea 72.98 112 *eS* S 09 19 17.6 +1.0
comp=Z,429nm,31.5s
RKT *e*SS SS 09 23 58.9 +1.3
comp=Z,402nm,34.2s
RKT *e*LR LR 09 32 19.0
comp=Z,1μm,28.0s
KOLN Koldanda 73.08 301 *eP* **P 09 09 52.6 -0.4**
comp=Z,42nm,0.9s,mb5.4
BILL Bilibino 74.47 6 *eP* **P 09 10 00.0 -1.1**
BILL *e* pP 09 10 11.9 -0.8
BILL *e* 09 12 44.9
BILL pmax pmax
comp=Z,19nm,1.1s,mb4.9
BILL Bilibino 74.47 6 *eP* **P 09 10 00.1 -1.0**
WMQ Urumqi 75.34 318 ⇓*iP* **P 09 10 07.3 +1.1**
WMQ AP pP 09 10 17.5 -0.2
WMQ XP sP 09 10 21.5 -0.5
WMQ PP PP 09 12 58.5 +3.3
WMQ S S 09 19 42.0 -1.0
WMQ XS sS 09 20 02.0 -0.2
WMQ SCS ScS 09 20 15.0 -1.3
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,345nm,5.4s
WMQ LR LR
comp=N,1μm,15.0s,MS5.4
WMQ LR LR
comp=E,1μm,18.4s,MS5.4
WMQ LR LR
comp=Z,1μm,22.6s,MS5.2
SVW2 Sparrevohn 78.44 23 *eP* **P 09 10 22.9 -0.7**
MK31 Makanchi Array 79.98 319 *eP* **P 09 10 31.4 -0.6**

MK31 *e**PP pP 09 10 46.0 +2.4
MKAR Makanchi Array 79.98 319 P **P 09 10 31.4 -0.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=101,slow=6.3,SNR=22
MKAR PP PP 09 13 33.6 -0.4
comp=Z,2.7nm,1.0s,baz=106,slow=7.7,SNR=4.1
MKAR LR LR 09 44 48.6
comp=Z,696nm,20.8s,MS5.0,baz=105,slow=35
MKAR Makanchi Array 79.98 319 P **P 09 10 31.5 -0.5**
MKAR 09 13 33.6
SLKM Skilak Lake 80.32 25 *eP* **P 09 10 31.8 -2.1**
SLKM *e**PP pP 09 10 43.3 -2.2
ZAL Zalesovo 81.06 327 P **P 09 10 35.5 -2.3**
comp=Z,4.3nm,0.9s,mb4.4,baz=354,slow=6.5,SNR=18
PMR Palmer 81.33 25 *eP* **P 09 10 37.8 -1.4**
PMR pmax pmax
comp=Z,15nm,1.0s,mb4.9
PMR MLR MLR
comp=Z,600nm,18.0s,MS5.0
PMR Palmer 81.33 25 *eP* **P 09 10 37.8 -1.4**
comp=Z,15nm,1.0s,mb4.9
PMR LR LR
comp=Z,600nm,18.0s,MS5.0
IMA2 Indian Mountai 81.99 20 *eP* **P 09 10 40.6 -2.1**
NVS Novosibirsk 82.25 327 *eP* **P 09 10 41.7 -2.4**
NVS pmax pmax
comp=Z,23nm,2.0s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.5s
KSH Kashi 82.30 311 *eP* **P 09 10 47.1 +2.7**
KSH *e*AP pP 09 10 57.8 +1.8
KSH *e*XP sP 09 11 03.9 +3.6
KSH *e*PP PP 09 13 59.0 +5.8
KSH *e*S S 09 21 00.8 +3.5
KSH *e*XS sS 09 21 19.1 +2.4
KSH *e*SS SS 09 26 27.5 +9.5
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,380nm,5.6s
KSH LR LR
comp=E,545nm,5.3s
KSH LR LR
comp=Z,4μm,11.6s,MS6.0
ULHL Ulahol 82.78 314 P **P 09 10 46.6 -0.3**
SNR=8.1
TKM2 Tokmak 2 83.41 314 P **P 09 10 47.1 -3.0**
SNR=5.0
COLA College 83.44 22 *eP* **P 09 10 47.6 -2.6**
COLA College 83.44 22 *eP* **P 09 10 47.2 -3.0**
comp=Z,14nm,0.8s,mb5.0
KURK Kurchatov 83.52 322 P **P 09 10 49.0 -1.7**
comp=Z,84nm,1.1s,mb5.8,SNR=12
MAW Mawson 83.97 203 ⇑*iP* **P 09 10 52.1 -0.9**
comp=Z,10.0nm,0.6s,mb5.1
MAW Mawson 83.97 203 P **P 09 10 52.2 -0.8**
comp=Z,12nm,0.6s,mb5.2,baz=94,slow=5.8,SNR=57
MAW LR LR 09 45 04.3
comp=Z,895nm,19.3s,MS5.2,baz=77,slow=33
MAW Mawson 83.97 203 ⇑*iP* **P 09 10 52.1 -0.9**
MAW pmax pmax
comp=Z,10.0nm,0.6s
UCH Uchtor 84.02 313 P **P 09 10 53.6 +0.3**
SNR=15
FRU Bishkek 84.09 314 *eP* **P 09 10 54.0 +0.4**
FRU pmax pmax
comp=Z,20nm,1.8s,mb5.0
AAK Ala-Archa 84.13 314 P **P 09 10 53.6 -0.2**
comp=Z,62nm,0.9s,mb5.7,SNR=5.0
AAK Ala-Archa 84.13 314 *eP* **P 09 10 53.8 0.0**
AAK pmax pmax
comp=Z,34nm,1.4s,mb5.3
AAK Ala-Archa 84.13 314 *eP* **P 09 10 53.8 +0.1**
comp=Z,34nm,1.4s,mb5.3
QSPA South Pole Qui 84.14 180 *eP* **P 09 10 52.9 -0.9**
comp=Z,43nm,1.1s,mb5.5
MENT Mentasta 84.19 25 *eP* **P 09 10 53.3 -0.8**
USP Ospenovka 84.27 314 P **P 09 10 54.0 -0.5**
SNR=15
AML Almayashu 84.59 313 P **P 09 10 56.8 +0.7**
SNR=21
EKS2 Erkin-Say 84.65 314 P **P 09 10 56.9 +0.5**
SNR=13
EGAK Eagle 85.97 23 *eP* **P 09 11 01.6 -1.5**
comp=Z,16nm,0.8s,mb5.3
DAWY Dawson 86.42 24 *eP* **P 09 11 04.7 -0.5**
SKAG Skagway 86.74 29 *eP* **P 09 11 06.2 -0.6**
comp=Z,95nm,2.0s,mb5.7
SKAG LR LR
comp=Z,1μm,18.0s,MS5.3
WRAK Wrangell Islan 87.45 33 *eP* **P 09 11 09.8 -0.5**
comp=Z,136nm,1.9s,mb5.9
WRAK *e* pP 09 11 21.2 -0.8
CHKZ Chkalovo 89.03 324 *eP* **P 09 11 14.8 -2.9**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
CHKZ Chkalovo 89.03 324 *eP* **P 09 11 14.8 -2.9**
comp=Z,5.3nm,0.9s,mb4.9
BVAR Borovoye Array 89.03 323 P **P 09 11 16.0 -1.8**
comp=Z,4.6nm,0.9s,mb4.8,baz=110,slow=8.1,SNR=11
BRVK Borovoye 89.10 323 *eP* **P 09 11 16.3 -1.8**
INK Inuvik 90.02 21 *eP* **P 09 11 21.2 -1.2**
INK pmax pmax
comp=Z,277nm,0.8s
INK Inuvik 90.02 21 *eP* **P 09 11 21.2 -1.2**
comp=Z,277nm,0.8s
KHMM Horse Mountain 90.14 49 *eP* **P 09 11 23.3 +0.3**
L02A Cave Junction 90.41 48 ⇑P **P 09 11 23.8 -0.4**
baz=90
N02C Big Bar 90.46 49 ⇓P **P 09 11 24.5 +0.1**
baz=90
K02A Glendale 90.57 47 ⇑P **P 09 11 24.7 -0.2**
baz=91,SNR=5.3
J02A Umpqua 90.58 47 ⇓P **P 09 11 24.8 -0.2**
baz=91
GASB Alder Springs 90.76 50 ⇓P **P 09 11 25.9 +0.1**
baz=91
O02C Red Bluff 90.77 50 ⇑P **P 09 11 26.2 +0.4**
baz=91,SNR=11
M02C Callahan 90.87 49 ⇑P **P 09 11 26.4 +0.1**
baz=91,SNR=11
MNRC McLaughlin Nat 90.88 51 ⇑P **P 09 11 26.7 +0.3**
baz=91
F03A Seaside 90.92 44 ⇑P **P 09 11 26.6 0.0**
baz=91
HUMO Hull Mountain 90.94 47 *eP* **P 09 11 26.2 -0.4**
comp=Z,53nm,1.0s,mb5.8
HUMO *ep*P pP 09 11 36.1 -2.3
HUMO Hull Mountain 90.94 47 ⇑P **P 09 11 26.9 +0.2**
baz=91,SNR=13
H03A Soo Creek Ran 90.95 45 ⇑P **P 09 11 26.8 +0.1**
baz=91
WDC Whiskeytown Da 91.00 49 *eP* **P 09 11 26.7 -0.2**
WDC *e**PP pP 09 11 37.3 -1.4
WDC pmax pmax
comp=Z,50nm,1.4s,mb5.7
WDC Whiskeytown Da 91.00 49 *eP* **P 09 11 26.6 -0.3**
comp=Z,50nm,1.4s,mb5.7
WDC *ep*P pP 09 11 37.3 -1.4
WDC Whiskeytown Da 91.00 49 ⇓P **P 09 11 27.3 +0.3**
baz=91,SNR=8.4
YBH Yreka Blue Hor 91.01 48 *eP* **P 09 11 26.6 -0.4**
YBH *e**PP pP 09 11 37.0 -1.8
YBH Yreka Blue Hor 91.01 48 ⇓P **P 09 11 27.1 +0.1**
baz=91,SNR=19
J03A Ideyld Park 91.02 47 ⇓P **P 09 11 27.3 +0.2**
baz=91
Q03C Winters 91.19 51 ⇑P **P 09 11 28.6 +0.8**
baz=91
B04A Port Angeles 91.23 42 ⇓P **P 09 11 28.1 +0.2**
baz=91
PGC Sidney 91.34 41 *eP* **P 09 11 28.8 +0.3**
SUTB Sutter Butte 91.43 51 ⇓P **P 09 11 28.7 -0.2**
baz=92
C04A Brinnon 91.54 42 ⇑P **P 09 11 29.2 -0.2**
baz=92,SNR=7.5
PACP Pacheco Peak 91.58 53 ⇑P **P 09 11 29.7 +0.1**
baz=92
GNW Green Mountain 91.62 43 *eP* **P 09 11 29.9 +0.1**
M04C Macdoel 91.67 48 P **P 09 11 30.1 +0.1**
baz=92,SNR=12
L04A Klamath Falls 91.67 48 P **P 09 11 30.1 +0.1**
baz=92,SNR=11
OHCM Honcut 91.67 51 *eP* **P 09 11 30.3 +0.3**
ORV Oroville 91.68 51 ⇑P **P 09 11 29.9 -0.2**

baz=92,SNR=18
F04A Amboy 91.71 44 ⇓P **P 09 11 30.9 +0.7**
baz=92
H04A Detroit Lake 91.73 45 ⇑P **P 09 11 31.0 +0.7**
baz=92
V04C Ramage Ranch, 91.77 55 ⇓P **P 09 11 31.1 +0.6**
baz=92
K04A Chiloquin 91.84 48 ⇓P **P 09 11 31.1 +0.3**
baz=92
A04A Legoe Bay, Lum 91.84 41 ⇑P **P 09 11 31.2 +0.4**
baz=92,SNR=7.0
HATC Hat Creek Radi 91.85 49 ⇑P **P 09 11 30.8 0.0**
baz=92
R04C Big Horse Ranc 91.99 52 ⇑P **P 09 11 31.4 -0.1**
baz=92
PKD Parkfield 92.07 54 ⇑P **P 09 11 31.7 -0.2**
baz=92
O04C Chester 92.08 50 ⇑P **P 09 11 32.0 +0.1**
baz=92
SYO Syowa Base 92.13 200 ‖*eP* **P 09 11 30.4 -1.8**
SYO Syowa Base 92.13 200 ‖*e*PcP PcP 09 11 32.4 -0.5
M05C Lookout 92.14 49 P **P 09 11 32.1 -0.1**
baz=92,SNR=17
D05A Enumclaw 92.15 43 ⇓P **P 09 11 31.7 -0.5**
baz=92
O05C Quincy 92.17 50 ⇓P **P 09 11 32.7 +0.3**
baz=92
HOOD Mount Hood Mea 92.18 45 *eP* **P 09 11 33.4 +1.0**
LAVA Lava Cap Winer 92.19 51 ⇓P **P 09 11 32.2 -0.2**
baz=92,SNR=12
B05A Bryant 92.19 42 ⇑P **P 09 11 32.8 +0.4**
baz=92
J05A Fort Rock 92.27 47 P **P 09 11 32.8 0.0**
baz=92,SNR=18
A05A Maple Falls 92.28 41 ⇓P **P 09 11 32.6 -0.2**
baz=92
PTRM Twissleman Ran 92.31 55 *eP* **P 09 11 34.6 +1.7**
PTRM *ep*P pP 09 11 47.0 +2.2
F05A White Salmon 92.37 44 ⇓P **P 09 11 33.3 +0.1**
baz=92
S05C Merced 92.38 53 ⇓P **P 09 11 33.0 -0.3**
baz=92
ELFS Eagle Lake Fie 92.38 50 ⇓P **P 09 11 33.4 +0.1**
baz=92
CMB Columbia Colle 92.40 52 *eP* **P 09 11 33.7 +0.3**
CMB *e**PP pP 09 11 44.0 -1.2
CMB pmax pmax
comp=Z,43nm,1.4s,mb5.6
CMB Columbia Colle 92.40 52 *eP* **P 09 11 33.7 +0.3**
comp=Z,43nm,1.4s,mb5.6
CMB *ep*P pP 09 11 44.0 -1.1
CMB Columbia Colle 92.40 52 ⇑P **P 09 11 33.1 -0.3**
baz=92,SNR=11
C05A Tolt Reservoir 92.40 42 ⇑P **P 09 11 32.6 -0.8**
baz=92
G05A Wamic 92.41 45 ⇓P **P 09 11 33.3 -0.1**
baz=92
H05A Madras 92.41 46 ⇓P **P 09 11 33.2 -0.3**
baz=92,SNR=6.0
L05A Lakeview 92.44 48 ⇓P **P 09 11 33.7 +0.1**
baz=92,SNR=8.5
U05C Westside ANR, 92.45 54 ⇓P **P 09 11 34.0 +0.4**
baz=92
SMMC Simmler 92.45 55 ⇓P **P 09 11 33.5 -0.1**
baz=92
K05A Summer Lake 92.46 47 ⇑P **P 09 11 34.0 +0.3**
baz=92,SNR=16
PKM Peak Mountain 92.56 55 ⇓P **P 09 11 34.8 +0.6**
baz=93
BEKR Beckwourth 92.59 50 P **P 09 11 34.2 -0.1**
baz=93,SNR=18
B06A Marblemount 92.62 42 ⇑P **P 09 11 34.8 +0.4**
baz=93
M06C Likely Place G 92.63 49 ⇓P **P 09 11 34.5 0.0**
baz=93,SNR=8.9
R05C Kirkwood Meado 92.70 52 ⇑P **P 09 11 34.2 -0.6**
baz=93,SNR=7.1
E06A Yakima 92.77 44 ⇓P **P 09 11 34.6 -0.5**
baz=93
MOD Modoc 92.82 48 *eP* **P 09 11 35.1 -0.2**
comp=Z,32nm,1.2s,mb5.6
MOD Modoc 92.82 48 P **P 09 11 35.3 -0.1**
baz=93,SNR=20
F06A Goldendale 92.83 44 ⇑P **P 09 11 35.4 0.0**
baz=93
T06C Millerton Lake 92.84 53 ⇑P **P 09 11 35.1 -0.3**
baz=93,SNR=17
G06A Carlson Farm, 92.89 45 ⇑P **P 09 11 35.4 -0.3**
baz=93
D06A Cle Elum 92.92 43 ⇓P **P 09 11 35.6 -0.2**
baz=93
P06A Stead Airport, 92.93 51 ⇑P **P 09 11 35.5 -0.3**
baz=93,SNR=6.3
K06A Valley Falls 92.94 47 P **P 09 11 35.9 0.0**
baz=93,SNR=13
WCN Washoe City 93.00 51 ⇑P **P 09 11 36.0 -0.2**
baz=93,SNR=20
O06A Flanigan 93.02 50 ⇑P **P 09 11 36.0 -0.3**
baz=93,SNR=12
J06A Christmas Vall 93.05 47 ⇑P **P 09 11 36.1 -0.3**
baz=93,SNR=14
H06A Lindquist Farm 93.05 46 ⇑P **P 09 11 36.1 -0.3**
baz=93,SNR=12
N06A Buffalo Meadow 93.07 50 P **P 09 11 36.5 0.0**
baz=93,SNR=20
I06A Prineville 93.07 46 P **P 09 11 36.4 -0.1**
baz=93,SNR=15
RCTC Rector, Farmer 93.15 54 ⇑P **P 09 11 36.5 -0.4**
baz=93
KCC Kaiser Creek 93.18 53 ⇑P **P 09 11 36.6 -0.3**
baz=93,SNR=18
WAKR Walker 93.18 52 *eP* **P 09 11 37.9 +0.8**
VES Vestal, Richgr 93.24 54 ⇓P **P 09 11 36.6 -0.7**
baz=93
PAHR Pah Rah Range 93.32 51 *eP* **P 09 11 37.5 -0.2**
comp=Z,19nm,0.9s,mb5.5
HELL Mitchell Peak, 93.36 54 ⇑P **P 09 11 37.2 -0.7**
baz=93,SNR=15
ARVC Arvin 93.39 55 ⇑P **P 09 11 37.8 -0.1**
baz=93
F07A Phinny Hill Vi 93.44 44 ⇓P **P 09 11 37.9 -0.3**
baz=94,SNR=7.4
C07A Waterville 93.50 43 ⇑P **P 09 11 37.7 -0.8**
baz=94,SNR=5.8
D07A Quincy 93.52 43 ⇓P **P 09 11 38.3 -0.3**
baz=94
B07A Winthrop 93.52 42 ⇓P **P 09 11 37.7 -0.9**
baz=94,SNR=6.7
E07A Sunnyside 93.54 44 ⇓P **P 09 11 38.7 0.0**
baz=94
L07A Adell 93.55 48 ⇑P **P 09 11 37.9 -0.8**
baz=94,SNR=19
G07A Ruggs Ranch, H 93.57 45 ⇓P **P 09 11 38.8 0.0**
baz=94
H07A Lands Inn, Kim 93.59 46 ⇑P **P 09 11 38.3 -0.5**
baz=94,SNR=12
I07A Izee 93.59 46 ⇓P **P 09 11 39.1 +0.2**
baz=94,SNR=20
M07A Soldier Meadow 93.62 49 ⇑P **P 09 11 38.9 -0.1**
baz=94,SNR=14
K07A Rock Creek Ran 93.67 48 ⇑P **P 09 11 39.4 +0.2**
baz=94,SNR=18
J07A Hines 93.67 47 ⇓P **P 09 11 39.6 +0.3**
baz=94,SNR=10
P07A Fallon 93.69 51 ⇓P **P 09 11 39.6 +0.3**
baz=94
Q07A Schurz 93.71 51 ⇑P **P 09 11 39.4 0.0**
baz=94,SNR=8.8
ISA Isabella 93.72 55 *eP* **P 09 11 39.8 +0.3**
comp=Z,0.1nm,1.4s
ISA Isabella 93.72 55 P **P 09 11 39.6 +0.1**
baz=94,SNR=7.8
N07B Gerlach 93.72 50 ⇓P **P 09 11 39.5 0.0**
baz=94
DECC Green Verdugo 93.73 56 ⇑P **P 09 11 39.5 0.0**
baz=94
O07A Toulon 93.75 50 P **P 09 11 40.0 +0.4**
baz=94,SNR=12
HAWA Hanford 93.75 44 *eP* **P 09 11 40.0 +0.4**
MTUM Tungsten Hills 93.78 53 *eP* **P 09 11 40.5 +0.8**
MWC Mount Wilson 93.95 56 *eP* **P 09 11 41.5 +1.0**
EDW2 Edwards Air Fo 94.06 55 P **P 09 11 41.7 +0.7**
baz=94,SNR=10
NVAR Mina Array Bea 94.06 52 P **P 09 11 41.3 +0.3**
comp=Z,15nm,0.7s,mb5.5,baz=263,slow=6.5,SNR=60
NVAR pP pP 09 11 51.8 -1.0
comp=Z,13nm,0.9s,baz=265,slow=6.5,SNR=12
G08A Pilot Rock 94.07 45 ⇓P **P 09 11 41.0 -0.1**

baz=94,SNR=12
CWC Cottonwood Cre 94.10 54 ⇑P **P 09 11 40.8 -0.4**
baz=94
WVOR Wild Horse Val 94.10 48 *e*P **P 09 11 42.1 +0.9**
WVOR pmax pmax
comp=Z,145nm,1.9s,mb6.1
WVOR Wild Horse Val 94.10 48 *e*P **P 09 11 42.1 +0.9**
comp=Z,145nm,1.9s,mb6.1
S08C White Mtn Res 94.10 53 ⇑P **P 09 11 41.2 0.0**
baz=94,SNR=16
C08A Higginbotham F 94.19 43 ⇑P **P 09 11 41.6 0.0**
baz=94
R08A Mina 94.21 52 ⇓P **P 09 11 42.0 +0.2**
baz=94,SNR=12
D08A Wollman Farm, 94.22 43 ⇓P **P 09 11 41.5 -0.3**
baz=94
H08A Prairie City 94.22 46 ⇓P **P 09 11 41.7 -0.1**
baz=94,SNR=9.7
M08A Happy Creek Ra 94.22 49 ⇑P **P 09 11 42.0 +0.3**
baz=94,SNR=10
K08A Mann Creek Ran 94.23 48 ⇓P **P 09 11 41.7 -0.1**
baz=94,SNR=7.0
F08A Pendleton 94.23 45 ⇑P **P 09 11 42.0 +0.2**
baz=94,SNR=9.1
I08A Drewsey 94.25 46 ⇓P **P 09 11 41.5 -0.5**
baz=94
BFSC Mount Baldy St 94.28 56 ⇑P **P 09 11 42.3 +0.2**
baz=94,SNR=5.3
J08A Circle Bar Ran 94.28 47 P **P 09 11 41.8 -0.3**
baz=94,SNR=17
L08A Fields 94.30 48 ⇓P **P 09 11 42.0 -0.1**
baz=94,SNR=17
P08A Dixie Valley 94.33 51 ⇓P **P 09 11 42.5 +0.2**
baz=94
LRMC Laurel Mountai 94.34 55 ⇑P **P 09 11 42.8 +0.5**
baz=94,SNR=20
N08A GE Springer Mi 94.36 50 P **P 09 11 42.9 +0.4**
baz=94,SNR=19
Q08A Gabbs 94.39 52 P **P 09 11 42.6 +0.1**
baz=94,SNR=14
DAC Darwin (Calif) 94.48 54 *e*P **P 09 11 43.3 +0.3**
DAC pmax pmax
comp=Z,44nm,1.2s,mb5.8
DAC Darwin (Calif) 94.48 54 *e*P **P 09 11 43.3 +0.3**
comp=Z,44nm,1.2s,mb5.8
MPMC Manual Prospec 94.55 54 P **P 09 11 43.9 +0.6**
baz=95,SNR=18
A09A Danville 94.57 41 ⇓P **P 09 11 43.3 -0.1**
baz=95,SNR=8.6
MURC Murrieta 94.62 57 ⇓P **P 09 11 44.1 +0.5**
baz=95
D09A Jones Farm, Ri 94.64 43 P **P 09 11 43.3 -0.4**
baz=95,SNR=8.8
109C Camp Elliot, M 94.65 58 ⇓P **P 09 11 43.6 -0.1**
baz=95
GRAC Grapevine Rang 94.70 53 ⇓P **P 09 11 44.2 +0.2**
baz=95
C09A Chrisman Ranch 94.71 43 ⇑P **P 09 11 43.7 -0.3**
baz=95
E09A Wood Farm, Sta 94.72 44 P **P 09 11 43.7 -0.3**
baz=95,SNR=17
K09A Rome 94.79 48 P **P 09 11 44.6 +0.3**
baz=95,SNR=12
L09A Wilkinson Ranc 94.79 48 ⇑P **P 09 11 44.3 -0.1**
baz=95,SNR=10
J09A Fry Pan Ranch, 94.81 47 ⇓P **P 09 11 44.2 -0.2**
baz=95,SNR=13
N09A Rock Creek Ran 94.83 50 ⇑P **P 09 11 44.2 -0.4**
baz=95,SNR=10.0
B09A Rice 94.83 42 P **P 09 11 45.5 +1.0**
baz=95,SNR=7.5
F09A S2 Ranch, Elgi 94.83 45 ⇑P **P 09 11 44.0 -0.6**
baz=95
I09A Lost Marbles R 94.85 46 ⇑P **P 09 11 44.1 -0.6**
baz=95,SNR=14
S09A Goldfield 94.87 53 ⇓P **P 09 11 44.2 -0.5**
baz=95,SNR=37
TPH Tonopah 94.89 52 *e*P **P 09 11 44.8 -0.1**
TPH pmax pmax
comp=Z,35nm,1.2s,mb5.7
TPH Tonopah 94.89 52 *e*P **P 09 11 44.8 -0.1**
comp=Z,35nm,1.2s,mb5.7
M09A Marrel Ranch, 94.92 49 ⇑P **P 09 11 44.8 -0.1**
baz=95,SNR=8.1
H09A Durkee 94.95 46 ⇓P **P 09 11 45.0 -0.1**
baz=95,SNR=7.0
Q09A Carvers 94.97 52 ⇑P **P 09 11 45.1 -0.1**
baz=95
R09A Tonopah 95.02 52 P **P 09 11 45.6 +0.2**
baz=95,SNR=18
BMN Battle Mountai 95.03 50 *e*P **P 09 11 45.8 +0.3**
BMN pmax pmax
comp=Z,17nm,1.2s,mb5.3
BMN Battle Mountai 95.03 50 *e*P **P 09 11 45.8 +0.3**
comp=Z,18nm,1.2s,mb5.4
O09A Fish Creek Ran 95.04 50 P **P 09 11 45.9 +0.4**
baz=95,SNR=15
P09A Austin 95.04 51 ⇓P **P 09 11 45.8 +0.2**
baz=95
GSC Goldstone 95.05 55 *e*P **P 09 11 46.4 +0.8**
GSC *e**PP pP 09 11 56.6 -0.8
GSC Goldstone 95.05 55 ⇑P **P 09 11 45.7 +0.1**
baz=95,SNR=8.2
FURC Furnace Creek, 95.08 54 ⇑P **P 09 11 45.8 +0.1**
baz=95,SNR=17
PFO Pinyon Flat Ob 95.24 57 *e*P **P 09 11 46.9 +0.5**
PFO pmax pmax
comp=Z,31nm,1.5s,mb5.5
PFO Pinyon Flat Ob 95.24 57 *e*P **P 09 11 46.9 +0.5**
comp=Z,31nm,1.5s,mb5.5
PFO Pinyon Flat Ob 95.24 57 ⇑P **P 09 11 46.6 +0.2**
baz=95
A10A Northport 95.25 41 P **P 09 11 45.5 -0.9**
baz=95,SNR=6.2
C10A Spilker Farm, 95.36 43 ⇓P **P 09 11 47.3 +0.3**
baz=95
HEC Hector,Ludlow 95.41 56 ⇑P **P 09 11 47.2 -0.1**
baz=95
B10A Chitwood Farm, 95.44 42 ⇓P **P 09 11 47.0 -0.4**
baz=96
NEW Newport 95.50 42 *e*P **P 09 11 46.6 -1.1**
NEW pmax pmax
comp=Z,19nm,1.3s
NEW Newport 95.50 42 *e*P **P 09 11 46.6 -1.1**
comp=Z,19nm,1.3s,mb5.4
SHOC Shoshone 95.52 55 ⇑P **P 09 11 47.4 -0.3**
baz=96
P10A Eureka 95.57 51 ⇑P **P 09 11 47.8 -0.1**
baz=96
N10A Dunphy 95.59 50 ⇑P **P 09 11 48.2 +0.2**
baz=96
M10A I.L. Ranch, Tu 95.61 49 ⇑P **P 09 11 48.3 +0.2**
baz=96
R10A Warm Springs 95.62 52 ⇓P **P 09 11 48.0 -0.2**
baz=96,SNR=6.6
BELC Belle Mtn. 95.64 56 ⇑P **P 09 11 48.7 +0.4**
baz=96,SNR=9.3
TUQ Turquoise Mtn. 95.78 55 ⇓P **P 09 11 49.7 +0.8**
baz=96
BC3 Big Chuckw Mtn 96.08 57 ⇑P **P 09 11 50.5 +0.2**
baz=96,SNR=5.8
P11A Circle Ranch, 96.11 51 ⇑P **P 09 11 50.6 +0.2**
baz=96
Q11A Duckwater 96.16 52 ⇑P **P 09 11 50.4 -0.2**
baz=96,SNR=14
M11A Holland Ranch, 96.16 49 ⇑P **P 09 11 50.6 -0.1**
baz=96
TRCR Troy Canyon 96.19 52 *e*P **P 09 11 52.4 +1.6**
V11A Goodsprings 96.20 55 ⇓P **P 09 11 51.0 +0.1**
baz=96,SNR=12
O11A Cowboy Ranch, 96.21 50 ⇓P **P 09 11 51.4 +0.5**
baz=96,SNR=10
U11A Corn Creek 96.27 54 ⇑P **P 09 11 51.6 +0.5**
baz=96
IRM Iron Mountain 96.35 56 ⇑P **P 09 11 52.4 +0.9**
baz=96,SNR=10
AKTK Aktyubinsk 96.40 320 P **P 09 11 49.6 -2.1**
AKTO Aktyubinsk 96.40 320 P **P 09 11 49.6 -2.1**
comp=Z,0.6nm,0.5s,mb4.3,baz=261,slow=0.5,SNR=3.2
SHPR Sheep Range 96.45 54 *e*P **P 09 11 52.7 +0.7**
A12A Yaak River Ran 96.50 42 ⇑P **P 09 11 52.1 -0.1**
baz=96
B12A Libby 96.53 42 ⇑P **P 09 11 52.6 +0.2**
baz=96
C12A Trout Creek 96.59 43 ⇓P **P 09 11 52.2 -0.4**
baz=97
W12A Cal Nev Ari 96.63 55 ⇓P **P 09 11 52.4 -0.4**
baz=97
V12A Nelson 96.67 55 ⇓P **P 09 11 53.1 +0.1**
baz=97,SNR=11
P12A McGill 96.76 51 ⇓P **P 09 11 53.5 +0.1**
baz=97,SNR=5.1
M12A Wells 96.82 49 ⇑P **P 09 11 53.8 +0.2**
baz=97
Y12C Blythe 96.85 57 ⇓P **P 09 11 54.2 +0.4**
baz=97
O12A Currie 96.91 50 ⇓P **P 09 11 54.2 +0.1**
baz=97,SNR=15
U12A Valley of Fire 96.95 54 ⇑P **P 09 11 54.9 +0.7**
baz=97
BSMT Bassoo Peak 97.06 43 *e*P **P 09 11 54.2 -0.6**
YKA Yellowknife Ar 97.13 28 P **P 09 11 53.7 -1.3**
comp=Z,1.8nm,0.6s,mb4.7,baz=271,slow=5.0,SNR=12
YKA LR LR 09 54 06.2
comp=Z,656nm,19.5s,MS5.1,baz=250,slow=34
YKA Yellowknife Ar 97.13 28 P **P 09 11 53.7 -1.3**
YKA LR LR 09 54 06.2
PDMCI Parker Dam,Lak 97.19 56 ⇑P **P 09 11 56.1 +0.8**
baz=97
HLID Hailey 97.25 47 ⇑P **P 09 11 55.7 +0.1**
baz=97
B13A Whitefish 97.28 42 P **P 09 11 55.1 -0.6**
baz=97,SNR=15
A13A Flathead Natio 97.32 42 ⇓P **P 09 11 55.2 -0.7**
baz=97,SNR=7.7
N13A Wendover, West 97.34 50 ⇓P **P 09 11 56.0 0.0**
baz=97
M13A Montello 97.38 49 P **P 09 11 55.9 -0.3**
baz=97,SNR=13
W13A Hualapai Mount 97.43 55 ⇑P **P 09 11 57.1 +0.7**
baz=97,SNR=6.0
Y13A Salome 97.44 57 ⇓P **P 09 11 57.2 +0.8**
baz=97
X13A Yucca 97.46 56 ⇓P **P 09 11 57.2 +0.7**
baz=98,SNR=6.3
WALA Waterton Lakes 97.65 41 *e*P **P 09 11 56.8 -0.6**
comp=Z,19nm,0.8s,mb5.7
WALA *e*pP pP 09 12 08.8 -0.4
ARUT Antelope Range 97.86 53 *e*P **P 09 11 59.2 +0.8**
CCUT Cedar City 97.92 53 *e*P **P 09 12 00.1 +1.5**
EDM Edmonton 97.97 37 *e*P **P 09 11 59.1 +0.3**
EDM *e**PP pP 09 12 08.6 -2.0
W14A Seligman 98.09 55 ⇓P **P 09 12 00.3 +1.0**
baz=98
CHMT Chamberlain Mo 98.09 44 *e*P **P 09 11 59.5 +0.2**
Y14A Wickenburg 98.12 57 ⇓P **P 09 12 00.2 +0.6**
baz=98
X14A Yava 98.23 56 ⇓P **P 09 12 00.7 +0.6**
baz=98,SNR=6.0
DUG Dugway 98.39 50 *e*P **P 09 12 00.6 -0.1**
DUG Dugway 98.39 50 ⇑Pdiff **P 09 12 00.9 +0.2**
baz=98
HVU Hansel Valley 98.43 49 *e*P **P 09 12 01.7 +0.8**
DLMT Dillon 98.56 45 *e*P **P 09 12 01.7 +0.3**
comp=Z,7.5nm,0.9s,mb5.2
115A Sonoran Desert 98.74 58 ⇓Pdiff **P 09 12 02.6 +0.3**
baz=99
W15A Williams 98.76 55 ⇓Pdiff **P 09 12 03.0 +0.6**
baz=99
X15A Humboldt 98.77 56 ⇑Pdiff **P 09 12 03.5 +1.1**
baz=99
116A Eloy 99.18 58 ⇓Pdiff **P 09 12 05.0 +0.7**
baz=99
HWUT Hardware Ranch 99.34 49 *e*P **P 09 12 05.1 +0.2**
WUAZ Wupatki 99.49 55 ⇓Pdiff **P 09 12 05.6 0.0**
baz=100
RRI2 Red Ridge 99.50 47 *e*P **P 09 12 05.8 +0.1**
comp=Z,6.4nm,0.8s,mb5.2
DCID1 Drake Creek 99.59 47 *e*P Pdif 09 12 06.3 +0.2
TMUT Trail Mountain 99.63 51 *e*P Pdif 09 12 07.0 +0.7
YMR Madison River 99.73 46 *e*P Pdif 09 12 07.5 +0.8
comp=Z,8.1nm,1.0s
IMW Indian Meadow 99.76 47 *e*P Pdif 09 12 06.3 -0.6
comp=Z,8.8nm,1.2s
TPAW Teton Pass 99.76 47 *e*Pdif Pdif 09 12 07.0 +0.2
comp=Z,8.2nm,1.1s
YFT Old Faithful 99.82 46 *e*Pdif Pdif 09 12 07.8 +0.7
REDW Red Top Meadow 99.84 47 *e*Pdif Pdif 09 12 07.1 -0.1
comp=Z,12nm,1.3s
MOOW Moose Ponds 99.91 47 *e*Pdif Pdif 09 12 07.4 -0.1
SNOW Snow King Moun 99.91 47 *e*Pdif Pdif 09 12 07.5 +0.1
comp=Z,11nm,1.3s
LOHW Long Hollow 100.01 47 *e*Pdif Pdif 09 12 07.8 -0.1
SRU San Rafael 100.16 51 *e*P Pdif 09 12 09.1 +0.5
EGMT Eagleton 100.44 42 ⇑Pdiff Pdif 09 12 09.9 0.0
baz=100
BW06 Boulder Array 100.80 48 *e*Pdif Pdif 09 12 10.8 -0.7
PDAR Pinedale Array 100.80 48 P Pdif 09 12 10.2 -1.3
comp=Z,3.9nm,0.7s,baz=245,slow=1.6,SNR=31
PDAR pP 09 12 20.6
comp=Z,3.3nm,0.8s,baz=162,slow=1.7,SNR=10
PV10 Paradox Valley 101.34 52 *e*Pdif Pdif 09 12 14.6 +0.7
MVCO Mesa Verde 101.80 53 ⇑Pdiff Pdif 09 12 15.8 0.0
baz=102
SDCO Great Sand Dun 104.15 53 *e*Pdif Pdif 09 12 28.5 +2.1
RSSD Black Hills 104.72 46 *e*P Pdif 09 12 28.5 -0.4
TXAR Lajitas Array 106.12 61 Pdiff Pdif 09 12 38.9 +3.7
comp=Z,0.0nm,0.3s,baz=161,slow=41,SNR=4.1
TXAR PP PP 09 16 57.3 -1.8
comp=Z,2.7nm,1.1s,baz=264,slow=3.5,SNR=12
ARCES ARCESS Array B 107.33 343 PKiKP PKiKP 09 16 47.9 -1.2
comp=Z,2.9nm,0.8s,baz=96,slow=1.8,SNR=12
OBN Obninsk 108.64 327 *e*P Pdif 09 12 44.3 -2.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.4
FINES FINESS Array B 111.26 335 Pdiff Pdif 09 12 54.8 -3.2
comp=Z,3.3nm,0.9s,baz=180,slow=32,SNR=2.9
FINES PKiKP PKiKP 09 16 55.6 -0.8
comp=Z,2.0nm,0.8s,baz=96,slow=3.2,SNR=5.2
AKASG Malin Array Be 114.31 324 PKP PKiKP 09 17 00.6 -1.7
comp=Z,1.7nm,0.5s,baz=65,slow=2.4,SNR=6.0
BR131 Keskin Array S 114.69 311 *e*PKPdf PKiKP 09 17 03.0 -0.1
EIL Elat 115.53 300 *e*PKPdf PKPdf 09 17 04.9 +0.3
HFS Hagfors 116.98 338 PKP PKPdf 09 17 06.2 -1.2
comp=Z,2.2nm,0.8s,baz=57,slow=5.5,SNR=5.7
SFJD Kangerlussuaq 117.13 9 PKP PKPdf 09 17 06.3 -1.4
comp=Z,4.1nm,0.6s,baz=49,slow=2.3,SNR=3.1
NB2 NORSAR Subarra117.28 339 PKPdf PKPdf 09 17 06.0 -2.0
comp=Z,1.2nm,0.6s,baz=44,slow=1.9
NOA NORSAR Array B117.28 339 PKP PKPdf 09 17 06.0 -2.0
comp=Z,1.4nm,0.6s,baz=49,slow=1.9,SNR=7.7
NOA NORSAR Array B117.28 339 PKP PKPdf 09 17 06.0 -2.0
BOSA Boshof 117.64 234 PKP PKPdf 09 17 09.8 +1.1
comp=Z,1.1nm,0.5s,baz=124,slow=7.8,SNR=4.1
BOSA Boshof 117.64 234 PKP PKPdf 09 17 09.8 +1.1
BURAR Bucovina Array 117.94 322 ⇑*i*P PKPdf 09 17 18.3 +9.0
MLR Muntele Rosu 118.32 319 PKP PKPdf 09 17 09.9 -0.1
comp=Z,3.8nm,0.8s,baz=91,slow=19,SNR=4.4
MLR Muntele Rosu 118.32 319 ⇑*i*P PKPdf 09 17 10.5 +0.5
KOLS Kolonicke sedl 119.14 324 *e*PKP PKPdf 09 17 11.9 +0.3
STHS Stebnicka Huta 119.51 325 *e*PKP PKPdf 09 17 12.6 +0.3
CRVS Cervenica-Dubn 119.63 324 *e*PKP PKPdf 09 17 13.2 +0.7
BZS Buzias 121.04 321 ⇑*i*P PKPdf 09 17 14.9 -0.3
OKC Ostrava-Krasne 121.04 326 AMS AMS 10 10 10.0
comp=Z,600nm,17.6s
VTS Vitosha 121.27 317 ⇓*i*P PKPdf 09 17 16.2 +0.5
VYHS Vyhne 121.35 325 *e*PKP PKPdf 09 17 16.4 +0.6
MORC Moravsky Berou 121.40 327 ⇓*i*P PKPdf 09 17 16.4 +0.5
DPC Dobruska-Polom 121.75 328 *e*PKPDF PKPdf 09 17 17.7 +1.1
DPC *e*pPKP pPKPdf 09 17 27.7 -1.0
DPC AMS AMS 10 10 00.0
comp=Z,500nm,16.0s
SCHQ Schefferville 122.44 25 PKP PKPdf 09 17 16.3 -1.6
comp=Z,2.7nm,0.6s,baz=244,slow=5.3,SNR=3.6
SCHQ Schefferville 122.44 25 PKP PKPdf 09 17 16.3 -1.6
ZST Bratislava 122.49 325 *e*PKP PKPdf 09 17 18.5 +0.5
ZST Bratislava 122.49 325 *e*PKP PKPdf 09 17 18.6 +0.6
PVCC Panska Ves 122.57 329 AMS AMS 10 10 30.0
comp=Z,900nm,23.4s
PKSM Moragy 122.60 323 ⇓*i*P PKPdf 09 17 18.3 +0.1
BRG Berggiesshubel 122.69 329 *e*PKP PKPdf 09 17 17.5 -0.9
comp=Z,12nm,1.4s
BRG
comp=N,399nm,17.5s
BRG
comp=E,287nm,19.7s
BRG
comp=Z,303nm,18.4s
DIVS Divcibare 122.75 320 *i*P PKPdf 09 17 18.0 -0.5
TREC Trest 122.79 327 AMS AMS 10 11 50.0
comp=Z,1μm,24.4s
PRU Pruhonice 122.90 328 *e*PKPDF PKPdf 09 17 19.6 +0.8
PRU *e*pPKP pPKPdf 09 17 29.2 -1.7
PRU AMS AMS 10 10 00.0
comp=Z,700nm,17.3s
CLL Collm 122.90 330 *e*PKIKP PKPdf 09 17 19.0 +0.2
CLL MLR MLR
comp=Z,800nm,23.6s,MS5.3
CLL Collm 122.90 330 *e*PKPdf PKPdf 09 17 19.0 +0.2
comp=Z,31nm,1.6s
BBLS Bajina Basta - 123.23 320 *i*P PKPdf 09 17 20.6 +1.1
KHC Kasperske Hory 123.91 328 *e*PKPDF PKPdf 09 17 21.6 +0.9
KHC *e*pPKP pPKPdf 09 17 31.3 -1.5
KHC AMS AMS 10 10 50.0
comp=Z,900nm,23.6s
GEC2 GERESS Array S 124.01 327 *e*PKIKP PKPdf 09 17 19.8 -1.1
GEC2 *e* 09 17 30.6
GERES GERESS Array B 124.01 327 PKP PKPdf 09 17 20.0 -0.9
comp=Z,2.0nm,0.5s,baz=34,slow=0.5,SNR=14
GERES pPKP pPKPdf 09 17 31.0 -2.1
comp=Z,3.7nm,0.7s,baz=70,slow=1.6,SNR=5.9
SSPA Standing Stone 124.23 44 *e*PKPdf PKPdf 09 17 20.5 -0.8
SSPA *e*pPKPdf pPKPdf 09 17 30.8 -2.6
GCIS Gornji Cirnik 124.58 323 *e*PKPdf PKPdf 09 17 22.4 +0.4
BOJS Bojanci 125.00 323 *e*PKPdf PKPdf 09 17 23.5 +0.7
FRNY Flat Rock 125.05 38 *e*PKPdf PKPdf 09 17 21.8 -1.2
FRNY *e*pPKPdf pPKPdf 09 17 32.3 -2.7
VISS Visnje 125.08 324 *e*PKPdf PKPdf 09 17 23.2 +0.2
LJU Ljubljana 125.13 324 *e*PKPdf PKPdf 09 17 23.5 +0.5
WTSB Winterswijk 125.38 334 *e*PKP PKPdf 09 17 24.5 +0.9
comp=Z,25nm,1.5s
CADS Cadrg 125.49 325 *e*PKPdf PKPdf 09 17 23.0 -0.7
WTTA Wattenberg 126.06 327 ⇑*i*P PKPdf 09 17 24.9 +0.1
comp=Z,32nm,1.5s
MOTA Moosalm 126.30 327 ⇑*i*P PKPdf 09 17 25.9 +0.6
comp=Z,13nm,1.1s
HNH Hanover 126.44 38 *e*PKPdf PKPdf 09 17 25.3 -0.3
HNH *e* 09 17 35.5
EKA Eskdalemuir Ar 126.49 342 PKP PKPdf 09 17 25.2 -0.5
comp=Z,3.0nm,0.5s,baz=17,slow=2.9,SNR=13
EKA pPKP pPKPdf 09 17 36.3 -1.5
comp=Z,2.7nm,0.8s,baz=25,slow=2.2,SNR=4.8
HGN Heimansgroeve 126.61 333 *e*PKP PKPdf 09 17 25.1 -0.8
comp=Z,19nm,1.2s
MEM Membach 126.69 333 PKP PKPdf 09 17 26.7 +0.7
MEM APKP 09 17 37.3
DAVA Damuels 126.99 328 ⇑*i*P PKPdf 09 17 27.5 +0.9
comp=Z,11nm,1.5s
GIVF Givet 127.58 333 *e*PKIKP PKPdf 09 17 26.5 -1.3
CDF Champ du Feu 127.60 330 *e*PKIKP PKPdf 09 17 26.2 -1.6
BAIF Baives 127.89 333 *e*PKIKP PKPdf 09 17 26.9 -1.4
TSUM Tsumeb 127.89 240 *e*PKPdf PKPdf 09 17 30.0 +1.7
HAU Haudompre 128.33 330 *e*PKIKP PKPdf 09 17 27.6 -1.6
HAU *e*MLR MLR
comp=Z,656nm,22.0s
HAU Haudompre 128.33 330 *e*PKPdf PKPdf 09 17 27.6 -1.6
HAU LR LR
comp=Z,660nm,22.0s,MS5.3
MEZF Maizieres J'vi 128.61 332 *e*PKIKP PKPdf 09 17 28.5 -1.2
CABF La Chapelle 129.41 329 *e*PKIKP PKPdf 09 17 30.4 -0.8
comp=Z,113nm,1.7s
LPL La Plagne 129.80 328 *e*PKIKP PKPdf 09 17 31.1 -0.9
comp=Z,47nm,1.5s
LPG La Plagne 129.80 328 *e*PKIKP PKPdf 09 17 31.2 -0.8
LOR Lormes 130.05 331 *e*PKIKP PKPdf 09 17 31.2 -1.3
comp=Z,22nm,1.0s
LOR *e*MLR MLR
comp=Z,812nm,22.2s
LOR Lormes 130.05 331 *e*PKPdf PKPdf 09 17 31.2 -1.3
LOR LR LR
comp=Z,810nm,22.3s,MS5.4
OTAV Otavalo 130.25 95 *e*PKPdf PKPdf 09 17 34.7 +1.9
OTAV *e* 09 17 45.8
MBDF Montbardon 130.29 327 *e*PKIKP PKPdf 09 17 31.5 -1.4
SSF Saint Saulge 130.37 331 *e*PKIKP PKPdf 09 17 31.8 -1.3
comp=Z,122nm,1.8s
PGF Pioggiola 130.38 323 *e*PKIKP PKPdf 09 17 31.7 -1.4
comp=Z,166nm,1.6s
SBF Sospel 130.48 326 *e*PKIKP PKPdf 09 17 31.7 -1.6
comp=Z,174nm,1.4s
SMF Signal de Mont 130.50 331 *e*PKIKP PKPdf 09 17 32.0 -1.3
AVF Avril sur Loir 130.64 331 *e*PKIKP PKPdf 09 17 32.2 -1.4
comp=Z,58nm,1.6s
ORIF Oris-en-Rattie 130.65 328 *e*PKIKP PKPdf 09 17 32.4 -1.2
comp=Z,16nm,0.9s
ORIF *e*MLR MLR
comp=Z,1μm,22.8s
LDF La Druitiere 130.86 335 *e*PKIKP PKPdf 09 17 32.5 -1.5
comp=Z,187nm,1.7s
FLN La Foliniere 130.88 335 *e*PKIKP PKPdf 09 17 32.4 -1.6
comp=Z,131nm,1.5s
FLN *e*MLR MLR
comp=Z,558nm,19.8s
FLN La Foliniere 130.88 335 *e*PKPdf PKPdf 09 17 32.4 -1.6
FLN LR LR
comp=Z,560nm,19.8s,MS5.3
BGF Bois d'Agland 131.05 331 *e*PKIKP PKPdf 09 17 33.3 -1.0
FRF La Foret Royal 131.11 326 *e*PKIKP PKPdf 09 17 32.8 -1.7
comp=Z,166nm,1.7s
VIVF Saint-Julien-l 131.32 328 *e*PKIKP PKPdf 09 17 33.8 -1.1
comp=Z,106nm,1.6s
GRR Gorron 131.33 335 *e*PKIKP PKPdf 09 17 33.5 -1.4
comp=Z,157nm,1.9s
LMR La Mourre 131.34 326 *e*PKIKP PKPdf 09 17 33.7 -1.2
comp=Z,183nm,1.8s
SMRF Simiane la Rot 131.43 327 *e*PKIKP PKPdf 09 17 34.0 -1.1
comp=Z,96nm,1.6s
TCF Toulx Ste Croi 131.55 331 *e*PKIKP PKPdf 09 17 34.1 -1.2
SGMF Saint Gilles 132.13 336 *e*PKIKP PKPdf 09 17 34.9 -1.5
LASF Ste Croix 132.28 328 *e*PKIKP PKPdf 09 17 35.7 -1.0
comp=Z,139nm,1.6s
MFF Saint Martin d 132.40 333 *e*PKIKP PKPdf 09 17 35.7 -1.2
comp=Z,74nm,1.5s
RJF Les Rejaudoux 132.59 331 *e*PKIKP PKPdf 09 17 36.4 -0.9
RJF *e*MLR MLR
comp=Z,405nm,22.0s
RJF Les Rejaudoux 132.59 331 *e*PKPdf PKPdf 09 17 36.4 -0.9
RJF LR LR
comp=Z,410nm,22.0s,MS5.1
QUIF Quistinic 132.64 337 *e*PKIKP PKPdf 09 17 35.6 -1.8
LFF La Frestale 133.24 331 *e*PKIKP PKPdf 09 17 37.3 -1.2
KEST Kesra 133.96 316 PKP PKPdf 09 17 41.0 +1.1
comp=Z,4.8nm,1.0s,baz=290,slow=2.6,SNR=8.1
ROSC El Rosal 134.79 89 PKP PKPdf 09 17 43.6 +2.3
comp=Z,5.3nm,0.4s,baz=96,slow=23,SNR=5.4
EPF Esparros 134.83 330 *e*PKIKP PKPdf 09 17 40.6 -0.9
LPAZ La Paz 135.42 120 PKhKP 09 17 32.5
comp=Z,1.0nm,0.6s,baz=308,slow=2.0,SNR=7.4
LPAZ PKP PKPdf 09 17 45.3 +2.8
comp=Z,3.4nm,0.7s,baz=88,slow=1.1,SNR=11
LPAZ La Paz 135.42 120 *e*PKIKP PKPdf 09 17 45.4 +2.8
CPUP Villa Florida 137.81 141 PKhKP 09 17 36.9
comp=Z,0.4nm,0.4s,baz=146,slow=2.4,SNR=3.0
CPUP PKP PKPdf 09 17 47.1 +0.1
comp=Z,0.7nm,0.4s,baz=81,slow=2.9,SNR=5.5
CPUP pPKP pPKPdf 09 17 58.1 -1.0
comp=Z,2.2nm,0.7s,baz=272,slow=1.9,SNR=3.5
CPUP Villa Florida 137.81 141 PKIKP PKPdf 09 17 47.1 +0.1
CPUP 09 17 58.2
SDV Santo Domingo 138.54 83 *e*PKPdf PKPdf 09 17 49.3 +0.9
ESDC Sonseca Array 139.49 330 PKP PKPdf 09 17 49.7 -0.3
comp=Z,0.2nm,0.3s,baz=79,slow=2.7,SNR=4.2
EVO Evora 142.32 333 *e*PKIKP PKPdf 09 17 52.3 -2.9
comp=Z,110nm,1.6s
EVO *e*MLR MLR
comp=Z,890nm,22.5s
MGG Marie-Galante 146.69 70 *e*P PKPdf 09 18 05.0 +2.2
DEG La Desirade 146.84 69 *e*P PKPdf 09 18 07.3 +4.3
TOA0 Torodi Ar. Sit 148.96 286 *e*PKPdf PKPdf 09 18 07.3 +0.8
TOA0 *e*PKPbc PKPbc 09 18 10.7 +0.1
TORD Torodi Ar. Bea 148.96 286 PKP PKPdf 09 18 06.6 +0.1
comp=Z,61nm,0.8s,baz=49,slow=2.2,SNR=77
TORD PKPbc PKPbc 09 18 09.9 -0.6
comp=Z,62nm,0.8s,baz=65,slow=2.1,SNR=178
TORD Torodi Ar. Bea 148.96 286 PKP PKPdf 09 18 06.6 +0.1
TORD PKPbc PKPbc 09 18 09.9 -0.6
BDFB Brasilia 151.50 139 PKPbc PKPbc 09 18 16.4 -0.3
comp=Z,12nm,0.6s,baz=244,slow=0.7,SNR=16
BDFB PKPab PKPab 09 18 25.1 0.0
comp=Z,32nm,1.0s,baz=205,slow=2.3,SNR=8.1
DBIC Dimbokro 156.06 273 PKP PKPdf 09 18 15.1 -1.8
comp=Z,4.4nm,1.0s,baz=135,slow=4.3,SNR=6.1
DBIC PKPab PKPab 09 18 43.8 -0.7
comp=Z,3.9nm,0.7s,baz=59,slow=3.2,SNR=4.2
DBIC Dimbokro 156.06 273 PKP PKPdf 09 18 15.1 -1.8
DBIC *e*PKPdf PKPdf 09 18 18.5 +1.6
DBIC PKPab PKPab 09 18 43.8 -0.7

IDC 17 09:05:38.2±9.0, 578S×15104E, h56km±65km, mb3.7/3, mb1 3.9/4, mb1mx3.5/14, mbtmp4.0/4, ML3.0/1, Error ellipse: s-maj=101.2km s-min=56.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**227**	P	Pn	09 06 54.9	+0.6
	3.1nm,0.3s,baz=38,slow=12,SNR=4.4						
PMG				S	Sn	09 07 55.1	+1.3
	6.5nm,0.3s,baz=134,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**21.49**	**228**	P	P	09 10 21.9	-0.3
	1.2nm,0.4s,baz=53,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**24.26**	**221**	P	P	09 10 49.7	-0.2
	2.0nm,0.7s,baz=56,slow=9.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**27.66**	**242**	P	P	09 11 21.1	+0.5
	3.2nm,0.7s,baz=42,slow=10,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.92**	**286**	PKPbc	PKPbc	09 25 20.6	+1.0
	1.0nm,0.7s,baz=83,slow=2.4,SNR=6.9						

ISCJB 17 09:31:06.6±2.1, 365S×007×13991E±009, h9km±15km, mb4.4/7, MS3.6/2, Error ellipse: s-maj=15.6km s-min=11.9km az=169.8
IDC 17 09:31:06.8±0.9, 370S×14007E, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.4/13, mbtmp4.5/9, MS3.8/2, Ms1 3.8/2, ms1mx3.2/24, Error ellipse: s-maj=26.2km s-min=16.8km az=87.0
NEIC 17 09:31:11.7±5.2, 368S×13993E, h32km±35km, mb4.5/5, Error ellipse: s-maj=21.4km s-min=13.6km az=198.0
ISC 17 09:31:13.4±1.4, 373S±007×13989E±008, h45km±12km, n26, σ1§12/30, mb4.4/7, MS3.8/1, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.16**	**128**	Pn	**Pn**	**09 33 22.7**	**-0.2**
	2.0nm,0.3s,baz=292,slow=9.5,SNR=6.4						
KAKA	**Kakadu**	**11.57**	**219**	⇑iP	**Pn**	**09 33 56.3**	**+0.4**
	50nm,0.4s						
KAKA				eS	**Sn**	**09 36 03.3**	**-0.4**
WRAB	**Tennant Creek**	**16.99**	**198**	eP	**Pn**	**09 35 06.1**	**-1.6**
	36nm,0.9s						
WRAB				eS	**S**	**09 38 15.6**	**-8.2**
WB2	**Warramunga Arr**	**17.00**	**198**	eP	**Pn**	**09 35 06.3**	**-1.5**
WB2				eSn	**Sn**	**09 38 16.3**	**+0.6**
WRA	**Warramunga Arr**	**17.00**	**198**	Pn	**Pn**	**09 35 06.3**	**-1.5**
	1.5nm,0.3s,baz=18,slow=13,SNR=58						
WRA				Sn	**Sn**	**09 38 15.7**	**-0.1**
	0.7nm,0.3s,baz=15,slow=22,SNR=4.8						
CTA	**Charters Tower**	**17.41**	**160**	P	**Pn**	**09 35 13.3**	**+0.5**
	0.6nm,0.3s,baz=352,slow=8.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**19.97**	**223**	eP	**Pn**	**09 35 44.0**	**+0.3**
	26nm,1.1s						
FITZ				eS	**S**	**09 39 21.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**19.97**	**223**	P	**Pn**	**09 35 44.0**	**+0.3**
	3.6nm,0.3s,baz=43,slow=10,SNR=35						
FITZ				S	**S**	**09 39 23.9**	**0.0**
	11nm,0.7s,baz=53,slow=19,SNR=4.4						
FITZ				LR	LR	09 44 32.1	
	comp=Z,200nm,18.2s,baz=345,slow=40						
AS31	**Alice Springs**	**20.65**	**196**	eP	**P**	**09 35 50.9**	**+1.8**
AS31				eS	**S**	**09 39 37.2**	**-0.1**
ASAR	**Alice Springs**	**20.65**	**196**	P	**P**	**09 35 50.9**	**+1.8**
	43nm,0.7s,baz=29,slow=9.5,SNR=244						
ASAR				S	**S**	**09 39 41.1**	**+3.8**
	3.0nm,0.8s,baz=14,slow=22,SNR=4.6						
ASAR				LR	LR	09 44 31.7	
	comp=Z,378nm,19.2s,MS3.8,baz=356,slow=39						
ASPA	**Alice Springs**	**20.65**	**196**	eP	**P**	**09 35 51.0**	**+1.9**
ASPA				eS	**S**	**09 39 37.2**	**-0.2**
STKA	**Stephens Creek**	**28.05**	**177**	P	**P**	**09 37 01.2**	**+0.9**
	0.7nm,0.3s,mb3.8,baz=315,slow=13,SNR=3.7						
KSM	**Kuching**	**30.01**	**279**	eP	**P**	**09 37 16.5**	**-1.2**
PSI	**Prapat**	**41.45**	**278**	P	**P**	**09 38 57.5**	**+1.9**
	32nm,0.9s,mb5.0,baz=90,slow=7.1,SNR=30						
URZ	**Urewera**	**48.29**	**140**	P	**P**	**09 39 48.3**	**-1.7**
	2.5nm,0.3s,mb4.7,baz=167,slow=12,SNR=11						
MKAR	**Makanchi Array**	**71.31**	**322**	P	**P**	**09 42 27.9**	**-0.3**
	0.3nm,0.7s,mb3.8,baz=108,slow=7.8,SNR=8.6						
VNDA	**Vanda**	**74.67**	**175**	P	**P**	**09 42 47.8**	**-0.3**
	1.5nm,0.6s,mb4.1,baz=328,slow=8.3,SNR=12						
VNDA	**Vanda**	**74.67**	**175**	eP	**P**	**09 42 47.4**	**-0.7**
	2.0nm,0.8s,mb4.1						
MAW	**Mawson**	**81.63**	**202**	P	**P**	**09 43 26.9**	**+0.3**
	2.6nm,0.8s,mb4.2,baz=98,slow=9.5,SNR=7.1						
MAW	**Mawson**	**81.63**	**202**	eP	**P**	**09 43 27.5**	**+0.9**
	2.8nm,0.7s,mb4.3						
QSPA	**South Pole Qui**	**86.23**	**180**	eP	**P**	**09 43 49.7**	**-0.3**
	7.4nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**144.77**	**276**	PKP	PKPdf	09 50 46.0	+0.8
	2.5nm,0.5s,baz=107,slow=5.5,SNR=8.2						
DBIC	**Dimbokro**	**144.77**	**276**	ePKPdf	PKPdf	09 50 46.6	+1.5
CPUP	**Villa Florida**	**145.79**	**152**	PKPbc	PKPbc	09 50 48.6	+1.1
	0.4nm,0.3s,baz=116,slow=1.7,SNR=3.6						
CPUP	**Villa Florida**	**145.79**	**152**	ePKPdf	PKPdf	09 50 48.3	+1.3
CPUP					PKPbc	09 50 48.6	+1.1
LPAZ	**La Paz**	**145.90**	**126**	PKPbc	PKPbc	09 50 49.5	+1.7
	1.3nm,0.7s,baz=250,slow=6.2,SNR=8.0						

BJI 17 09:51:28.8, 625S×15180E, h35km, mB5.1, mb4.7, Ms4.8, Msz4.6
NEIC 17 09:51:30.7±0.8, 597S×15103E, h35km, mb4.5/8, Error ellipse: s-maj=15.2km s-min=12.5km az=8.0
IDC 17 09:51:32.8±2.0, 598S×15097E, h55km±15km, mb4.2/10, mb1 4.3/13, mb1mx4.2/18, mbtmp4.5/13, ML3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/19, Error ellipse: s-maj=21.1km s-min=12.2km az=148.0
ISCJB 17 09:51:34.8±1.8, 63S±0.1×15100E±007, h78km±15km, mb4.3/14, Error ellipse: s-maj=18.2km s-min=10.9km az=157.9
ISC 17 09:51:36.2±1.5, 62S±01×15101E±007, h77km±12km, n36, σ1§05/33, mb4.3/14, 3C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.96**	**230**	P	**Pn**	**09 52 48.5**	**+0.2**
	8.1nm,0.3s,baz=28,slow=3.8,SNR=21						
PMG				S	**Sn**	**09 53 45.1**	**+0.8**
	30nm,0.3s,baz=301,slow=23,SNR=11						
PMG	**Port Moresby**	**4.96**	**230**	ePn	**Pn**	**09 52 48.5**	**+0.3**
	125nm,0.5s						
PMG				eSn	**Sn**	**09 53 42.7**	**-1.6**
HNR	**Honiara**	**9.42**	**110**	P	**Pn**	**09 53 49.3**	**+0.2**
	10.0nm,0.3s,baz=272,slow=5.1,SNR=3.7						
CTA	**Charters Tower**	**14.55**	**198**	P	**Pn**	**09 54 59.1**	**+1.1**
	0.2nm,0.3s,baz=51,slow=14,SNR=2.5						
CTAO	**Charters Tower**	**14.55**	**198**	ePn	**Pn**	**09 55 01.6**	**+3.5**
	8.2nm,0.7s						
KAKA	**Kakadu**	**19.41**	**249**	eP	**Pn**	**09 55 55.5**	**-2.5**
	14nm,0.5s						
WRAB	**Tennant Creek**	**21.17**	**228**	eP	**P**	**09 56 14.9**	**-0.2**
	18nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**21.17**	**228**	⇑iP	**P**	**09 56 15.1**	**-0.1**
WRA	**Warramunga Arr**	**21.18**	**228**	P	**P**	**09 56 15.2**	**-0.1**
	15nm,0.5s,mb4.5,baz=53,slow=10,SNR=130						
WRA				S	**S**	**10 00 08.9**	**+2.5**
	3.0nm,1.1s,baz=53,slow=19,SNR=6.3						
WRA				PcP	PcP	10 00 18.5	+0.5
	1.5nm,0.5s,baz=43,slow=2.1,SNR=8.2						
WRA				ScP	ScP	10 03 52.2	+4.2
	0.8nm,1.1s,baz=51,slow=2.6,SNR=5.5						
DZM	**Mont Dzumac**	**21.71**	**138**	P	**P**	**09 56 20.9**	**0.0**
	9.3nm,0.9s,mb4.1,baz=304,slow=11,SNR=6.3						
DZM				LR	LR	10 03 20.5	
	comp=Z,251nm,20.2s,baz=216,slow=32						
AS31	**Alice Springs**	**23.91**	**222**	⇓iP	**P**	**09 56 43.4**	**+0.5**
ASAR	**Alice Springs**	**23.92**	**222**	P	**P**	**09 56 43.4**	**+0.5**
	22nm,0.6s,mb4.6,baz=56,slow=9.3,SNR=227						
ASAR				ScP	ScP	10 03 59.0	+4.0
	0.6nm,0.9s,baz=51,slow=2.6,SNR=3.9						
ASPA	**Alice Springs**	**23.92**	**222**	⇓iP	**P**	**09 56 43.4**	**+0.5**
STKA	**Stephens Creek**	**27.01**	**198**	eP	**P**	**09 57 10.3**	**-0.6**
	2.5nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**09 57 11.1**	**+0.1**
	2.0nm,0.5s,mb3.9,baz=357,slow=13,SNR=7.1						
FITZ	**Fitzroy Crossi**	**27.43**	**242**	⇑iP	**P**	**09 57 14.0**	**-0.6**
	15nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**27.43**	**242**	P	**P**	**09 57 14.1**	**-0.5**
	6.4nm,0.6s,mb4.3,baz=76,slow=6.4,SNR=29						
MBWA	**Marble Bar**	**33.73**	**241**	eP	**P**	**09 58 10.3**	**+0.1**
	5.3nm,0.8s,mb4.4						
URZ	**Urewera**	**39.73**	**147**	P	**P**	**09 59 01.2**	**+0.1**
	12nm,1.1s,mb4.7,baz=159,slow=20,SNR=6.5						
NJ2	**Nanjing**	**48.85**	**323**	eP	**P**	**10 00 16.1**	**+2.2**
KMI	**Kunming**	**56.32**	**306**	P	**P**	**10 01 15.3**	**+6.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.8						
CASY	**Casey**	**66.16**	**197**	eP	**P**	**10 02 15.2**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.2						
SONM	**Songino Array**	**66.58**	**329**	P	**P**	**10 02 15.9**	**-2.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=149,slow=5.0,SNR=3.8						
VNDA	**Vanda**	**71.50**	**178**	P	**P**	**10 02 49.0**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=334,slow=5.3,SNR=9.0						
VNDA	**Vanda**	**71.50**	**178**	eP	**P**	**10 02 48.4**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.7						
WMQ	**Urumqi**	**75.57**	**318**	eP	**P**	**10 03 15.0**	**+2.5**
MAW	**Mawson**	**83.59**	**203**	P	**P**	**10 03 55.3**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.9,baz=98,slow=11,SNR=12						
MAW	**Mawson**	**83.59**	**203**	eP	**P**	**10 03 55.5**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.1						
SYO	**Syowa Base**	**91.76**	**200**	⇑eP	**P**	**10 04 34.2**	**-1.1**
NVAR	**Mina Array Bea**	**94.35**	**52**	P	**P**	**10 04 46.6**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.5,baz=262,slow=6.5,SNR=7.6						
PDAR	**Pinedale Array**	**101.11**	**48**	P	Pdif	10 05 15.8	-1.8
	comp=Z,0.3nm,0.6s,baz=224,slow=2.5,SNR=4.8						
GERES	**GERESS Array B**	**124.29**	**327**	PKP	PKPdf	10 10 24.8	-1.3
	comp=Z,0.4nm,0.3s,baz=55,slow=5.1,SNR=3.6						
LPAZ	**La Paz**	**135.29**	**121**	PKP	PKPdf	10 10 49.1	+2.2
	comp=Z,1.1nm,1.1s,baz=63,slow=2.3,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**149.00**	**285**	ePKPdf	PKPbc	10 11 14.5	-0.8
TORD	**Torodi Ar. Bea**	**149.00**	**285**	PKPbc	PKPbc	10 11 14.6	-0.7
	comp=Z,0.1nm,0.3s,baz=94,slow=2.5,SNR=16						
BDFB	**Brasilia**	**151.26**	**139**	PKPbc	PKPbc	10 11 20.1	-0.7
	comp=Z,2.0nm,0.5s,baz=260,slow=2.6,SNR=3.5						

IDC 17 09:52:27.8±8.1, 1030N×9241E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=420.6km s-min=32.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.39**	**14**	eP	Pg	09 52 45.1	-9.2
PBA				eS	Sg	09 52 53.7	-19
PBA				ex	x	09 52 59.3	
	comp=N,226nm,0.6s						
PBA				ex	x	09 52 59.5	
	comp=E,235nm,0.5s						
MKAR	**Makanchi Array**	**37.37**	**349**	P	P	09 59 42.2	0.0
	comp=E,0.2nm,0.3s,baz=164,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**51.06**	**126**	P	P	10 01 32.4	+0.6
	comp=E,0.2nm,0.4s,baz=306,slow=8.3,SNR=3.2						
ASAR	**Alice Springs**	**52.78**	**130**	P	P	10 01 44.9	+0.2
	comp=E,0.4nm,0.7s,baz=305,slow=6.7,SNR=3.1						

MOS 17 10:00:04.7±2.9, 5027N×8764E, h10km, mb4.2/1, 1C, Error ellipse: s-maj=89.2km s-min=30.0km az=102.8, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.06**	**349**	iPG	Pg	10 00 05.0	-1.7
UKR	**Ust'-Kan**	**1.94**	**291**	ePN	Pn	10 00 38.7	+0.9
UKR				e		10 01 07.3	
TASR	**Tashtagol**	**2.50**	**3**	ePN	Pn	10 00 47.9	+2.5
TASR				e		10 01 23.1	
MK31	**Makanchi Array**	**4.97**	**228**	Pn	Pn	10 01 18.2	-1.1
	0.2nm,0.2s,baz=62,slow=12,SNR=88						
MK31				⇑Lg		10 02 30.5	
	18nm,0.6s,baz=56,slow=27,SNR=8.4						
NVS	**Novosibirsk**	**5.31**	**331**	ePN	Pn	10 01 28.6	+4.6
NVS				e		10 01 39.9	

NSSP 17 10:15:29.9, 4058N×4510E, h10km, ML3.3
ISCJB 17 10:15:33.2±0.4, 4050N±002×4522E±004, h10km, mb3.5/4, Error ellipse: s-maj=4.2km s-min=3.1km az=0.6
CSEM 17 10:15:33.2±0.1, 4044N×4513E, h20km, ML3.3, Error ellipse: s-maj=3.2km s-min=3.0km az=137.0
MOS 17 10:15:41.1±2.2, 4088N×4543E, h89km, mb3.6/2, Error ellipse: s-maj=28.2km s-min=9.4km az=105.4
IDC 17 10:15:41.1±4.4, 4107N×4576E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=73.7km s-min=22.6km az=9.0
NEIC 17 10:15:48.0±2.7, 4153N×4567E, h35km, mb3.6/2, Error ellipse: s-maj=46.2km s-min=10.2km az=189.0
ISC 17 10:15:33.5±0.4, 4053N±002×4522E±004, h10km, n40, σ1§63/54, mb3.5/4, 3C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.53**	**224**	P	**Pg**	**10 15 44.5**	**+0.8**
GNI				S	**Sg**	**10 15 52.3**	**+1.6**
ERE	**Yerevan**	**0.68**	**238**	P	**Pg**	**10 15 44.0**	**-2.6**
ERE				S	**Sg**	**10 15 57.0**	**+1.6**
STE	**Stepanavan**	**0.80**	**306**	P	**Pg**	**10 15 47.5**	**-1.4**
STE				S	**Sg**	**10 15 57.7**	**-1.7**
DGRG	**David-gareji**	**0.93**	**7**	P	**Pg**	**10 15 51.7**	**+0.4**
DGRG				S	**Sg**	**10 16 04.7**	**+1.2**
HARI	**Harich**	**0.93**	**275**	P	**Pg**	**10 15 49.3**	**-2.2**
HARI				S	**Sg**	**10 16 02.6**	**-1.0**
KAMZ	**Kamo**	**1.01**	**287**	P	**Pg**	**10 15 50.9**	**-2.0**
KAMZ				S	**Sg**	**10 16 05.2**	**-0.9**
TBLG	**Delisi**	**1.26**	**343**	eP	**Pn**	**10 15 56.6**	**-0.5**
TBLG				eS	**Sb**	**10 16 13.2**	**-0.3**
TBLG	**Delisi**	**1.26**	**343**	P	**Pn**	**10 15 56.6**	**-0.4**
TBLG				S	**Sb**	**10 16 13.2**	**-0.2**
GRS	**Goris**	**1.34**	**140**	P	**Pn**	**10 15 57.0**	**-1.2**
GRS				S	**Sb**	**10 16 14.0**	**-1.8**
KARS	**Kars**	**1.62**	**274**	PN	**Pn**	**10 16 03.1**	**+1.0**
CLDR	**Caldiran**	**1.71**	**216**	PN	**Pn**	**10 16 05.5**	**+2.2**
VANB	**Van**	**2.40**	**217**	PN	**Pg**	**10 16 20.1**	**+0.7**
ZEI	**Tsey**	**2.45**	**337**	⇓iP	**Pb**	**10 16 16.8**	**-0.8**
ZEI				iS	**Sb**	**10 16 51.4**	**+3.6**
VLKR	**Vladikavkaz**	**2.55**	**351**	⇑iP	**Pn**	**10 16 18.6**	**+3.8**
SNJR	**Sundja**	**2.56**	**353**	⇓iP	**Pn**	**10 16 18.8**	**+3.8**
DIGR	**Digorskoe uzhe**	**2.67**	**333**	⇓iP	**Pb**	**10 16 19.2**	**-2.1**
DIGR				iS	**Sb**	**10 16 55.7**	**+1.6**
KORR	**Kora**	**2.70**	**342**	⇓iP	**Pb**	**10 16 20.2**	**-1.6**
KORR				iS	**Sb**	**10 16 57.3**	**+2.3**
ARNR	**Ardon**	**2.75**	**345**	⇑iP	**Pb**	**10 16 21.1**	**-1.6**
ARNR				iS	**Sb**	**10 16 58.9**	**+2.4**
BCA	**Borcka**	**2.87**	**290**	ePN	**Pn**	**10 16 23.9**	**+4.6**
EZM	**Erzurum**	**3.02**	**259**	PN	**Pn**	**10 16 22.3**	**+1.0**
HKR	**Hakkari**	**3.16**	**202**	ePN	**Pn**	**10 16 25.7**	**+2.4**
SEMD	**Semdili**	**3.22**	**190**	eP	**Pg**	**10 16 35.2**	**0.0**
CUKT	**Cukurca**	**3.51**	**202**	ePN	**Pn**	**10 16 27.1**	**-1.0**
KIV	**Kislovodsk**	**3.91**	**332**	eP	**Pn**	**10 16 35.0**	**+1.5**
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
KIV	**Kislovodsk**	**3.91**	**332**	ePn	**Pn**	**10 16 36.8**	**+3.3**
KIV	**Kislovodsk**	**3.91**	**332**	eP	**Pn**	**10 16 35.0**	**+1.5**
	comp=Z,26nm,1.1s						
AKTK	**Aktyubinsk**	**13.35**	**38**	Pn	**Pn**	**10 18 40.5**	**-2.5**
AKTK	**Aktyubinsk**	**13.35**	**38**	Pn	**Pn**	**10 18 40.5**	**-2.5**
AKTO	**Aktyubinsk**	**13.35**	**38**	Pn	**Pn**	**10 18 40.5**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=156,slow=3.8,SNR=4.3						
AKTO	**Aktyubinsk**	**13.35**	**38**	P	**Pn**	**10 18 40.5**	**-2.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AB31	**Akbulak array**	**13.58**	**45**	⇓Pn	**Pn**	**10 18 43.6**	**-2.6**
	comp=Z,0.5nm,0.4s,baz=233,slow=9.9,SNR=8.2						
AB31				⇑Sn	**Sn**	**10 21 04.4**	**-13**
	comp=Z,3.7nm,1.0s,baz=232,slow=19,SNR=5.5						
AKASG	**Malin Array Be**	**15.09**	**318**	Pn	**Pn**	**10 19 11.6**	**+4.9**
	comp=Z,0.6nm,0.3s,baz=126,slow=11,SNR=14						
AKASG	**Malin Array Be**	**15.09**	**318**	P	**Pn**	**10 19 11.6**	**+4.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**20.38**	**44**	eP	**P**	**10 20 11.4**	**+1.2**
	comp=Z,2.1nm,0.8s						
BVAR	**Borovoye Array**	**21.16**	**45**	P	**P**	**10 20 20.2**	**+1.5**
	comp=Z,2.2nm,0.8s,mb3.5,baz=242,slow=6.2,SNR=5.8						
BVAR	**Borovoye Array**	**21.16**	**45**	P	**P**	**10 20 20.2**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**21.57**	**44**	eP	**P**	**10 20 24.7**	**+1.5**
	comp=Z,3.1nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**23.98**	**337**	P	**P**	**10 20 51.9**	**+3.8**
	comp=Z,2.4nm,0.8s,mb3.7,baz=127,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**23.98**	**337**	P	**P**	**10 20 51.9**	**+3.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**27.35**	**64**	P	**P**	**10 21 22.6**	**+3.9**
	comp=Z,0.2nm,0.3s,mb3.2,baz=272,slow=8.4,SNR=3.5						

IDC 17 10:16:56.0±3.6, 561S×15090E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/11, mbtmp3.4/2, Error ellipse: s-maj=138.9km s-min=48.3km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.50**	**227**	P	P	10 21 46.7	+0.3
	0.5nm,0.4s,baz=53,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**24.30**	**221**	P	P	10 22 15.5	+0.5
	0.8nm,0.6s,baz=58,slow=9.2,SNR=13						
TORD	**Torodi Ar. Bea**	**148.73**	**286**	PKPbc	PKPbc	10 36 45.8	+0.6
	0.3nm,0.7s,baz=63,slow=3.1,SNR=2.2						

MOS 17 10:19:05.8±1.5, 4967N×15720E, h5km, mb4.0/3, Error ellipse: s-maj=42.9km s-min=12.3km az=81.1
KRSC 17 10:19:05, 4967N×15720E, h5km, ML4.3
ISCJB 17 10:19:08.0±1.6, 4966N±010×1570E±03, h55km±15km, mb3.8/5, Error ellipse: s-maj=33.4km s-min=12.3km az=40.0
IDC 17 10:19:07.2±0.9, 4995N×15568E, h50km±8km, mb3.5/5, mb1 3.7/5, mb1mx3.4/21, mbtmp3.8/5, Error ellipse: s-maj=37.0km s-min=23.6km az=138.0
ISC 17 10:19:09.0±1.6, 496N±01×1569E±03, h51km±16km, h52km±.5km: pP-P, n20, σ1§24/29, mb3.8/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.17**	**334**	⇓iPN	**Pn**	**10 19 19.5**	**-10**
SKR				pmax	pmax		
	comp=Z,310nm,0.5s						
SKR				pmax	pmax		
	comp=N,160nm,0.4s						
SKR				pmax	pmax		
	comp=E,110nm,0.4s						
RUS	**Russkaya**	**2.97**	**19**	eP	**Pn**	**10 19 52.7**	**-1.0**
RUS				iS	**Sn**	**10 20 26.7**	**-1.4**
GRL	**Gorelyy**	**3.01**	**13**	eP	**Pn**	**10 19 54.3**	**+0.2**
GRL				iS	**Sn**	**10 20 30.0**	**+1.1**
PET	**Petropavlovsk**	**3.56**	**17**	ePN	**Pn**	**10 20 02.5**	**+0.8**
PET				eS	**Sn**	**10 20 43.5**	**+1.0**
PET				pmax	pmax		
	comp=Z,53nm,0.6s						
PET				smax			
	comp=N,190nm,0.5s						
PET				smax			
	comp=E,222nm,0.5s						
PET	**Petropavlovsk**	**3.56**	**17**	eP	**Pn**	**10 20 01.7**	**0.0**
PET				iS	**Sn**	**10 20 42.3**	**-0.2**
NLC	**Nalytchevo**	**3.85**	**22**	eP	**Pn**	**10 20 04.4**	**-1.3**
NLC				iS	**Sn**	**10 20 47.7**	**-1.9**
SPN	**Mys Shipunski**	**3.97**	**28**	eP	**Pn**	**10 20 08.1**	**+0.7**
SPN				iS	**Sn**	**10 20 53.4**	**+0.7**
GNL	**Ganaly**	**4.11**	**8**	eP	**Pn**	**10 20 09.4**	**+0.1**
GNL				iS	**Sn**	**10 20 56.3**	**+0.2**
MKZ	**Mys Kozlova**	**5.75**	**29**	eP	**Pn**	**10 20 31.1**	**-0.6**
MKZ				iS	**Sn**	**10 21 34.8**	**-1.5**
TUMR	**Tumrok**	**5.99**	**18**	eP	**Pn**	**10 20 36.9**	**+1.9**
TUMR				iS	**Sn**	**10 21 42.9**	**+0.7**
ZLN	**Zelenaya**	**6.81**	**19**	eP	**Pn**	**10 20 49.0**	**+2.7**
KBTR	**Krutoberegovo**	**7.48**	**26**	eP	**Pn**	**10 20 55.2**	**-0.3**
AKTO	**Aktyubinsk**	**58.69**	**312**	P	**P**	**10 28 53.3**	**-8.0**
	comp=E,0.5nm,0.4s,mb3.9,baz=53,slow=5.1,SNR=3.5						
AKTO	**Aktyubinsk**	**58.69**	**312**	P	**P**	**10 28 53.3**	**-7.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**61.01**	**57**	P	**P**	**10 29 19.4**	**+2.2**
	comp=Z,0.4nm,0.7s,mb3.7,baz=304,slow=3.2,SNR=4.0						
PDAR				pP	pP	10 29 33.0	+1.7
	comp=Z,1.1nm,1.0s,baz=304,slow=2.7,SNR=4.1						
SCHQ	**Schefferville**	**69.63**	**25**	P	**P**	**10 30 11.4**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=323,slow=5.1,SNR=5.1						
TXAR	**Lajitas Array**	**73.89**	**64**	P	**P**	**10 30 39.9**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=294,slow=4.6,SNR=8.7						
TXAR				pP	pP	10 30 54.3	+1.3
	comp=Z,0.5nm,0.8s,baz=302,slow=4.0,SNR=3.5						
TXAR	**Lajitas Array**	**73.89**	**64**	P	**P**	**10 30 39.9**	**+1.4**
TXAR				*PP	pP	10 30 54.3	+1.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**75.80**	**202**	P	**P**	**10 30 47.8**	**-1.8**
	comp=Z,0.5nm,0.9s,mb3.5,baz=17,slow=5.1,SNR=

MOF	**Molkenrain**	0.60 144	Pg	Pg	10 32 43.7	+1.2
LOMF	**Lomont**	1.00 172	Pg	Pg	10 32 50.8	+0.8
LOMF			Sg	Sg	10 33 04.4	+1.2
LANF	**Langenberg**	1.02 50	Pg	Pg	10 32 49.9	-0.6
FELD	**Feldberg im Sc**	1.04 116	Pg	Pg	10 32 51.0	+0.2
MEZF	**Maizieres J'vi**	1.05 280	*e*Pg	Pg	10 32 52.0	+0.8
	baz=106					
MEZF			*e*Sg	Sg	10 33 05.2	+0.2
	18nm,0.3s,SNR=1.0					
MEZF	**Maizieres J'vi**	1.05 280	*e*Pg	Pg	10 32 52.0	+0.8
MEZF			*e*Sg	Sg	10 33 05.2	+0.2
	8.9nm,0.3s,SNR=1.0					
SFTF	**Sexfontaines**	1.06 263	*e*Pg	Pg	10 32 52.0	+0.7
	baz=85					
SFTF			*e*Sg	Sg	10 33 06.9	+1.7
	22nm,0.2s					
SFTF	**Sexfontaines**	1.06 263	*e*Pg	Pg	10 32 52.0	+0.7
SFTF			*e*Sg	Sg	10 33 06.9	+1.7
	11nm,0.2s					
BFO	**Black Forest**	1.14 90	*e*Pg	Pg	10 32 53.0	+0.1
	SNR=4.6					
BFO			*e*Sg	Sg	10 33 05.3	-2.5
	SNR=20					
BFO	**Black Forest**	1.14 90	*e*Pg	Pg	10 32 53.3	+0.4
BFO			*e*Sg	Sg	10 33 07.7	-0.1
BFO	**Black Forest**	1.14 90	Pg	Pg	10 32 53.0	+0.2
	SNR=4.6					
BFO			*e*Sg	Sg	10 33 07.7	-0.1
WLF	**Walferdange**	1.36 347	*e*Pg	Pg	10 32 57.8	+0.8
	SNR=1.5					
WLF			*e*Sg	Sg	10 33 14.9	0.0
	SNR=2.9					
CABF	**La Chapelle**	1.76 192	*e*Pg	Pg	10 33 05.2	+0.6
	SNR=1.0					
CABF			*e*Sg	Sg	10 33 27.8	+0.3
	12nm,0.4s,SNR=1.0					
CABF	**La Chapelle**	1.76 192	*e*Pn	Pn	10 33 01.2	+1.0
CABF			*e*Pg	Pg	10 33 05.2	+0.6
CABF			*e*Sg	Sg	10 33 27.8	+0.3
CABF	**La Chapelle**	1.76 192	*e*Pg	Pg	10 33 05.2	+0.6
	SNR=1.0					
CABF			*e*Sg	Sg	10 33 27.8	+0.3
	6.2nm,0.4s,SNR=1.0					
GIVF	**Givet**	2.12 327	*e*Pg	Pg	10 33 11.3	-0.1
GIVF			*e*Sg	Sg	10 33 37.9	-1.1
	5.9nm,0.2s,SNR=1.0					
GIVF	**Givet**	2.12 327	*e*Pg	Pg	10 33 11.3	-0.1
GIVF			*e*Sg	Sg	10 33 37.9	-1.1
	3.0nm,0.2s,SNR=1.0					
LOR	**Lormes**	2.14 241	*e*Pn	Pn	10 33 06.1	+0.7
	baz=62					
LOR	**Lormes**	2.14 241	*e*Pg	Pg	10 33 12.7	+0.9
	baz=63,SNR=1.0					
LOR			*e*Sg	Sg	10 33 39.9	+0.2
	15nm,0.2s,baz=65,SNR=1.0					
LOR	**Lormes**	2.14 241	*e*Pn	Pn	10 33 06.1	+0.7
LOR			*e*Pg	Pg	10 33 12.7	+0.9
LOR			*e*Sg	Sg	10 33 39.9	+0.2
LOR	**Lormes**	2.14 241	*e*Pg	Pg	10 33 12.7	+0.9
	SNR=1.0					
LOR			*e*Sg	Sg	10 33 39.9	+0.2
	7.3nm,0.2s,SNR=1.0					
TNS	**Taunus Mts**	2.24 32	*e*Sg	Sg	10 33 40.7	-2.0
	SNR=3.0					
BAIF	**Baives**	2.34 318	*e*Pg	Pg	10 33 15.4	-0.2
BAIF	**Baives**	2.34 318	*e*Pn	Pn	10 33 08.6	+0.5
BAIF			*e*Pg	Pg	10 33 15.4	-0.2
BAIF	**Baives**	2.34 318	*e*Pg	Pg	10 33 15.4	-0.2
SSF	**Saint Saulge**	2.46 240	*e*Pg	Pg	10 33 18.3	+0.5
	SNR=1.0					
SSF			*e*Sg	Sg	10 33 47.9	-1.8
	5.1nm,0.2s,SNR=1.0					
SSF	**Saint Saulge**	2.46 240	*e*Pn	Pn	10 33 10.2	+0.4
SSF			*e*Pg	Pg	10 33 18.3	+0.5
SSF			*e*Sg	Sg	10 33 47.9	-1.8
SSF	**Saint Saulge**	2.46 240	*e*Pg	Pg	10 33 18.3	+0.5
	SNR=1.0					
SSF			*e*Sg	Sg	10 33 47.9	-1.8
	2.5nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	2.53 229	*e*Pg	Pg	10 33 18.4	-0.8
	SNR=1.0					
SMF			*e*Sg	Sg	10 33 52.5	+0.5
	13nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	2.53 229	*e*Pn	Pn	10 33 11.0	+0.2
SMF			*e*Pg	Pg	10 33 18.4	-0.8
SMF			*e*Sg	Sg	10 33 52.5	+0.5
SMF	**Signal de Mont**	2.53 229	*e*Pg	Pg	10 33 18.4	-0.8
	SNR=1.0					
SMF			*e*Sg	Sg	10 33 52.5	+0.5
	6.3nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	2.70 236	*e*Pg	Pg	10 33 22.4	0.0
	SNR=1.0					
AVF			*e*Sn	Sn	10 33 43.9	-1.3
	SNR=1.0					
AVF			*e*Sg	Sg	10 33 56.5	-0.9
	3.7nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	2.70 236	*e*Pn	Pn	10 33 13.2	+0.1
AVF			*e*Pg	Pg	10 33 22.4	0.0
AVF			*e*Sn	Sn	10 33 43.9	-1.3
AVF			*e*Sg	Sg	10 33 56.5	-0.9
AVF	**Avril sur Loir**	2.70 236	*e*Pg	Pg	10 33 22.4	0.0
	SNR=1.0					
AVF			*e*Sn	Sn	10 33 43.9	-1.3
	SNR=1.0					
AVF			*e*Sg	Sg	10 33 56.5	-0.9
	1.9nm,0.2s,SNR=1.0					
LPG	**La Plagne**	2.84 178	*e*Pg	Pg	10 33 24.4	-0.8
LPG			*e*Sg	Sg	10 34 01.0	-1.0
	2.5nm,0.4s,SNR=1.0					
LPG	**La Plagne**	2.84 178	*e*Pg	Pg	10 33 24.4	-0.8
LPG			*e*Sg	Sg	10 34 01.0	-1.0
	1.2nm,0.4s,SNR=1.0					
HYF	**Humbligny**	2.88 250	*e*Pg	Pg	10 33 25.7	-0.3
BGF	**Bois d'Agland**	3.12 237	*e*Pg	Pg	10 33 29.7	-0.7
BGF			*e*Sg	Sg	10 34 09.6	-1.2
	14nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	3.12 237	*e*Pn	Pn	10 33 19.2	+0.4
BGF			*e*Pg	Pg	10 33 29.7	-0.7
BGF			*e*Sg	Sg	10 34 09.6	-1.2
BGF	**Bois d'Agland**	3.12 237	*e*Pg	Pg	10 33 29.7	-0.7
BGF			*e*Sg	Sg	10 34 09.6	-1.2
	6.8nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	3.63 237	*e*Pn	Pn	10 33 25.7	-0.2
	SNR=1.0					
TCF			*e*Sg	Sg	10 34 25.7	-1.6
	4.1nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	3.63 237	*e*Pn	Pn	10 33 25.7	-0.2
	SNR=1.0					
TCF			*e*Sg	Sg	10 34 25.7	-1.6
	2.0nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	3.73 202	*e*Pg	Pg	10 33 40.9	-1.2
VIVF			*e*Sg	Sg	10 34 27.7	-2.8
	3.1nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	3.73 202	*e*Pg	Pg	10 33 40.9	-1.2
VIVF			*e*Sg	Sg	10 34 27.7	-2.8
	1.5nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	4.63 231	*e*Sn	Sn	10 34 29.7	-3.2
	1.5nm,0.2s,SNR=1.0					
RJF	**Les Rejaudoux**	4.63 231	*e*Sn	Sn	10 34 29.7	-3.2
	0.8nm,0.2s,SNR=1.0					
FLN	**La Foliniere**	4.73 278	*e*Pn	Pn	10 33 41.2	+0.1
PGF	**Pioggiola**	6.03 163	*e*Pn	Pn	10 34 00.0	+1.2
	SNR=1.0					
ROSF	**Rostrenen**	6.59 274	*e*Pg	Px	10 34 33.5	
	SNR=1.0					
PKSG		7.98 92	⇑*i*P	Pn	10 34 26.5	+0.9
PKSG			*e*S		10 34 27.7	

IDC 17 10:39:03.4±2.4, 2253S×17007E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=108.1km s-min=38.2km az=173.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**277**	*e*P	Pn	10 39 58.9	+1.4
DZM				*e*S	Sn	10 40 39.4	+1.1
DZM	**Mont Dzumac**	**3.38**	**277**	Pn	Pn	10 39 58.9	+1.4
	20nm,0.3s,baz=254,slow=23,SNR=116						
DZM				Sn	Sn	10 40 40.2	+1.8
	9.2nm,0.3s,baz=159,slow=22,SNR=10						
HNR	**Honiara**	**16.25**	**322**	LR	LR	10 48 20.5	
	comp=Z,86nm,18.4s,baz=179,slow=34						
ASAR	**Alice Springs**	**33.23**	**261**	P	P	10 45 42.5	+0.5
	0.6nm,0.7s,baz=81,slow=9.5,SNR=9.8						
WRA	**Warramunga Arr**	**33.35**	**268**	P	P	10 45 42.3	-0.9
	0.5nm,0.5s,baz=100,slow=8.0,SNR=9.8						
WRA				LR	LR	10 59 01.6	
	comp=Z,45nm,19.4s,baz=115,slow=36						
FITZ	**Fitzroy Crossi**	**41.78**	**268**	P	P	10 46 54.8	+0.3
	1.0nm,0.7s,baz=79,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**138.59**	**323**	PKP	PKPdf	10 58 33.0	+1.9
	0.6nm,0.3s,baz=27,slow=0.2,SNR=4.7						
GERES	**GERESS Array B**	**147.74**	**330**	PKPbc	PKPbc	10 58 49.4	-0.6
	0.5nm,0.3s,baz=328,slow=3.5,SNR=4.6						

*ISCJB **17** 10:54:46.7±0.4, 2821S×0003×7023W±007, h92km±5km, mb4.0/9, Error ellipse: s-maj=9.6km s-min=4.6km az=6.3*
*NEIC **17** 10:54:46.9, 2823S×70.19W, h86km, MG4.9(GUC), After GUC.*
NEIC Felt [II] at Copiapo.
*GUC **17** 10:54:46.9±0.7, 2823S×70.19W, h86km±7km, ML4.9*
*IDC **17** 10:54:48.5±0.7, 28.17S×7007W, h90km±5km, mb3.8/9, mb1 3.9/14, mb1mx3.8/22, mbtmp4.1/14, Error ellipse: s-maj=21.6km s-min=10.2km az=73.0*
ISC 17 10:54:47.9±0.4, 2821S±003×7027W±006, h87km±4km, h92km±2.5km; pP-P, n34, σ0°82/44, mb4.0/9, 6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.57**	**230**	⇓*i*P	Pn	10 55 02.8	0.0
VACH				*i* S	Sn	10 55 14.1	0.0
VACH				AML	AML	10 55 15.2	
	comp=N,88μm,0.5s						
VACH	**Vallenar**	**0.57**	**230**	⇓*i*P	Pn	10 55 02.8	0.0
VACH				*i* S	Sn	10 55 14.1	0.0
CPCH	**Copiapo**	**0.85**	**355**	⇓*i*P	Pn	10 55 05.2	-0.5
CPCH				*i* S	Sn	10 55 19.1	+0.1
CPCH				AML	AML	10 55 20.5	
	comp=E,136μm,0.4s						
CPCH	**Copiapo**	**0.85**	**355**	⇓*i*P	Pn	10 55 05.2	-0.5
CPCH				*i* S	Sn	10 55 19.1	+0.1
CDCH	**Caldera**	**1.23**	**336**	⇓*i*P	Pn	10 55 10.3	+0.2
CDCH				*i* S	Sn	10 55 27.1	+0.2
LSCH	**La Serena**	**1.90**	**207**	*e*P	Pn	10 55 18.1	-0.5
LSCH				*i* S	Sn	10 55 41.7	-0.3
TLL	**Tololo Astrono**	**2.01**	**193**	*e*P	Pn	10 55 20.2	+0.1
TLL				*i* S	Sn	10 55 45.0	+0.4
TLL				AML	AML	10 55 48.1	
	comp=E,3μm,0.7s						
TLL	**Tololo Astrono**	**2.01**	**193**	*e*P	Pn	10 55 20.2	+0.1
TLL				*i* S	Sn	10 55 45.0	+0.4
CHNG	**Los Chungos**	**3.82**	**196**	⇓*i*P	Pn	10 55 43.5	-0.8
CFAA	**Coronel Fontan**	**3.82**	**153**	P	Pn	10 55 44.9	+0.6
	comp=E,1.3nm,0.3s,baz=335,slow=11,SNR=66						
CFAA				S	Sn	10 56 28.9	+0.8
	comp=E,2.2nm,0.3s,baz=229,slow=21,SNR=5.7						
CFAA	**Coronel Fontan**	**3.82**	**153**	P	Pn	10 55 44.9	+0.6
CFAA				S	Sn	10 56 28.9	+0.8
JACH	**Jahuel**	**4.47**	**184**	*e*P	Pn	10 55 53.0	-0.1
CEN1	**Los Morros**	**4.80**	**1**	*i* P	Pn	10 55 53.0	-4.6
FCH	**Farellones**	**5.10**	**180**	*e*P	Pn	10 56 02.0	+0.2
FCH				*i* S	Sn	10 56 58.8	-0.6
CLCH	**Cerro Calan**	**5.18**	**182**	*e*P	Pn	10 56 04.0	+1.2
LVC	**Limon Verde**	**5.70**	**13**	P	Pn	10 56 09.1	-0.9
	comp=E,4.2nm,0.3s,baz=182,slow=8.8,SNR=55						
LVC				S	Sn	10 57 22.3	+8.3
	comp=E,24nm,0.3s,baz=79,slow=23,SNR=6.5						
CICH	**Cipreses**	**6.09**	**181**	*e*P	Pn	10 56 15.0	-0.3
CPUP	**Villa Florida**	**11.66**	**84**	P	Pn	10 57 28.4	-2.7
	comp=E,0.9nm,0.3s,baz=246,slow=11,SNR=6.9						
CPUP	**Villa Florida**	**11.66**	**84**	P	Pn	10 57 28.4	-2.7
CPUP				*e*Pn	Pn	10 57 28.8	-2.4
CPUP				*e*Sn	Sn	10 59 40.7	+1.3
LPAZ	**La Paz**	**12.03**	**10**	P	Pn	10 57 37.6	+1.5
	comp=E,0.3nm,0.3s,baz=191,slow=7.2,SNR=11						
SIV	**San Ignacio**	**14.84**	**37**	P	Pn	10 58 11.3	-1.7
	comp=E,0.6nm,0.3s,baz=237,slow=9.5,SNR=12						
BDFB	**Brasilia**	**24.09**	**63**	P	P	10 59 54.7	-0.4
	comp=E,3.8nm,0.7s,mb3.9,baz=222,slow=6.1,SNR=4.6						
SNAA	**Sanae**	**56.41**	**159**	P	P	11 04 19.5	-0.7
	comp=E,1.0nm,0.5s,mb4.1,baz=278,slow=7.1,SNR=22						
SNAA				pP	pP	11 04 42.5	+0.6
	comp=E,0.3nm,0.5s,baz=301,slow=7.1,SNR=3.1						
TXAR	**Lajitas Array**	**65.53**	**328**	P	P	11 05 23.5	+1.5
	comp=E,0.8nm,0.8s,mb3.6,baz=148,slow=8.4,SNR=7.3						
TXAR				pP	pP	11 05 45.2	+1.0
	comp=E,0.1nm,0.4s,baz=156,slow=7.6,SNR=1.9						
DBIC	**Dimbokro**	**71.91**	**72**	P	P	11 06 01.6	0.0
	comp=E,3.1nm,0.7s,mb4.2,baz=204,slow=6.1,SNR=5.9						
MAW	**Mawson**	**78.28**	**163**	P	P	11 06 38.1	-0.2
	comp=E,1.7nm,0.5s,mb4.1,baz=209,slow=7.8,SNR=19						
PDAR	**Pinedale Array**	**79.34**	**332**	P	P	11 06 45.5	+1.5
	comp=E,0.4nm,0.6s,mb3.5,baz=129,slow=7.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**80.80**	**70**	P	P	11 06 51.8	-0.1
	comp=E,2.1nm,0.7s,mb4.0,baz=265,slow=6.0,SNR=12						
TORD				pP	pP	11 07 16.3	+1.5
	comp=E,0.8nm,0.6s,baz=274,slow=6.1,SNR=3.3						
ULM	**Lac du Bonnet**	**81.35**	**344**	P	P	11 06 54.2	-0.6
	comp=E,1.1nm,0.4s,mb4.1,baz=77,slow=9.2,SNR=6.3						
BOSA	**Boshof**	**81.41**	**118**	P	P	11 06 54.8	-0.3
	comp=E,3.4nm,0.7s,mb4.3,baz=319,slow=17,SNR=8.1						
WRA	**Warramunga Arr**	**126.55**	**209**	PKP	PKPdf	11 13 41.4	+0.6
	comp=E,1.2nm,0.4s,baz=157,slow=1.8,SNR=15						
ZAL	**Zalesovo**	**148.47**	**28**	PKPbc	PKPbc	11 14 24.6	+0.3
	baz=174,slow=3.8						
ZAL				pPKPbc	pPKPbc	11 14 48.3	-0.2
	comp=E,3.0nm,0.7s,baz=202,slow=5.7,SNR=3.5						
MKAR	**Makanchi Array**	**151.62**	**42**	PKPbc	PKPbc	11 14 31.9	-0.1
	comp=E,3.6nm,0.7s,baz=320,slow=2.2,SNR=20						
MKAR				pPKPbc	pPKPbc	11 14 55.9	-0.2
	comp=E,2.7nm,0.7s,baz=324,slow=1.8,SNR=5.1						
MKAR	**Makanchi Array**	**151.62**	**42**	PKPbc	PKPbc	11 14 31.9	-0.1
MKAR				pPKPbc	pPKPbc	11 14 55.9	-0.2

IDC 17 10:57:45.8±1.7, 1166S×12119E, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=63.3km s-min=26.7km az=61.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.71**	**147**	Pn	Pn	10 59 40.3	+0.9
	0.3nm,0.3s,baz=332,slow=12,SNR=9.2						
FITZ				Sn	Sn	11 01 03.8	-3.5
	0.9nm,0.3s,baz=186,slow=17,SNR=18						
WRA	**Warramunga Arr**	**15.09**	**125**	Pn	Pn	11 01 18.3	-1.9
	0.1nm,0.3s,baz=296,slow=14,SNR=8.4						
WRA				Sn	Sn	11 03 59.0	-9.0
	0.1nm,0.3s,baz=291,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**16.99**	**136**	Pn	Pn	11 01 45.5	+0.7
	0.1nm,0.3s,baz=307,slow=12,SNR=14						
ASAR				Sn	Sn	11 04 49.0	-5.3
	0.1nm,0.3s,baz=312,slow=23,SNR=4.9						
NWAO	**Narrogin (SRO)**	**21.48**	**189**	P	P	11 02 36.1	+0.2
	10.0nm,1.1s,baz=8.1,slow=16,SNR=2.3						
MKAR	**Makanchi Array**	**67.80**	**332**	P	P	11 08 45.6	+0.1
	0.1nm,0.3s,baz=148,slow=7.3,SNR=4.0						

*NIED **17** 11:04:00, 2370N×12440E, h14km, Mw4.4 Best double couple: M0=3.98000×10^15 NP1:φ=28.00000°, δ=83.00000°, λ=-171.00000°. NP2:φ=297.00000°, δ=81.00000°, λ=-8.00000°.*
*BJI **17** 11:04:35.9, 2305N×12523E, h36km, mB4.5, mb4.4, Ms3.9, Msz3.9*
*IDC **17** 11:04:41.6±0.7, 2369N×12433E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.3/22, mbtmp4.3/14, ML4.1/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/42, Error ellipse: s-maj=23.8km s-min=14.6km az=84.0*
*ISCJB **17** 11:04:44.0±0.7, 2360N±003×12440E±004, h30km±5km, mb4.2/15, MS3.7/5, Error ellipse: s-maj=5.7km s-min=4.3km az=60.3*
*MOS **17** 11:04:45.2±0.7, 2368N×12427E, h35km, mb4.7/4, Error ellipse: s-maj=18.4km s-min=12.4km az=103.4*
*JMA **17** 11:04:45.4±0.3, 2366N×12438E, h38km, M4.5*
*NEIC **17** 11:04:47.0±0.4, 2368N×12434E, mb4.3/4, Error ellipse: s-maj=8.7km s-min=7.9km az=3.0*
ISC 17 11:04:45.7±0.8, 2368N±003×12437E±003, h28km±5km, n62, σ0°88/73, mb4.2/15, MS3.7/5, Southwestern Ryukyu Islands

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

HATJ	**Hateruma jima**	**0.64**	**306**	P	Pb	11 04 58.1	-0.3
HATJ				*e*S	Sb	11 05 06.8	-0.2
JKRS	**Kuro-shima**	**0.65**	**329**	P	Pb	11 04 58.8	+0.3
JKRS				*e*S	Sb	11 05 08.1	+0.9
JIJ	**Ishigaki jima**	**0.72**	**343**	P	Pb	11 04 59.2	-0.4
JIJ				S	Sb	11 05 08.9	-0.1
IRIF	**Iriomote-Funau**	**0.88**	**318**	P	Pn	11 05 01.9	-0.3
IRIF				*e*S	Sb	11 05 14.2	+0.5
JTJ	**Tarama**	**1.01**	**17**	P	Pn	11 05 03.6	-0.3
JTJ				*e*S	Sn	11 05 17.5	+0.4
JMJ	**Miyako jima 2**	**1.41**	**36**	P	Pn	11 05 09.1	-0.4
JMJ				*e*S	Sn	11 05 27.0	-0.1
JOGS	**Gusukube**	**1.43**	**41**	P	Pn	11 05 09.7	-0.1
JOGS				*e*S	Sn	11 05 28.2	+0.5
YOJ	**Yonaguni jima**	**1.47**	**302**	P	Pn	11 05 10.6	+0.3
YOJ				*e*S	Sn	11 05 28.1	-0.5
NACB	**Ninganchiao**	**2.59**	**282**	*e*Pn	Pn	11 05 24.8	-0.9
NACB				*e*Sn	Sn	11 05 52.1	-4.1
YHNB	**Yeheng**	**2.91**	**290**	*e*Pn	Pn	11 05 30.9	+0.8
YHNB				*e*Sn	Sn	11 06 00.5	-3.6
TATO	**Taipei**	**2.93**	**297**	*e*Pn	Pn	11 05 31.2	+0.8
TATO				*e*Sn	Sn	11 06 02.1	-2.5
JKE	**Kume jima 2**	**3.43**	**39**	P	Pn	11 05 36.2	-1.0
JAGN	**Aguni-jima**	**3.90**	**41**	P	Pn	11 05 43.5	-0.1
JJT2	**Tamagusuku 2**	**3.92**	**51**	P	Pn	11 05 43.7	-0.3
JIH	**Iheya**	**4.66**	**43**	P	Pn	11 05 53.5	-0.7
JOW	**Kunigami**	**4.73**	**48**	Pn	Pn	11 05 54.0	-1.1
	15nm,0.3s,baz=213,slow=10,SNR=11						
JOW				Sn	Sn	11 06 45.2	-3.7
	10nm,0.3s,baz=308,slow=29,SNR=14						
JOW				LR	LR	11 07 54.1	
	comp=Z,538nm,21.1s,baz=203,slow=40						
JOW	**Kunigami**	**4.73**	**48**	P	Pn	11 05 54.4	-0.7
JOW				*e*S	Sn	11 06 45.0	-3.9
JTK	**Tokunoshima**	**5.81**	**44**	P	Pn	11 06 08.4	-1.6
CVP	**Callao Caves**	**6.40**	**202**	*e*P	Pn	11 06 19.0	+0.9
JMZ	**Minamidaito 2**	**6.58**	**70**	P	Pn	11 06 16.7	-3.8
JAM	**Amami Oshima**	**6.66**	**44**	P	Pn	11 06 19.5	-2.1
JAM				*e*S	Sn	11 07 30.8	-5.8
PALP	**Palanan**	**6.83**	**196**	*e*P	Sn	11 07 40.1	-0.6
CAUP	**Cauayan**	**7.11**	**200**	*e*P	Pn	11 06 28.5	+0.7
CAUP				*e*S	Sn	11 07 46.1	-1.5
PVCP	**Virac**	**10.03**	**181**	*e*P	Pn	11 07 07.2	-0.6
PVCP				*e*S	Sn	11 08 49.7	-10
GYA	**Guiyang**	**16.28**	**283**	P	Pn	11 08 36.5	+4.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s						
JHJ	**Hachijo jima 2**	**16.49**	**52**	LR	LR	11 14 54.9	
	comp=Z,142nm,19.0s,baz=295,slow=37						
MAJO	**Matsushiro**	**17.52**	**40**	*e*P	Pn	11 08 49.1	+1.3
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MAJO	**Matsushiro**	**17.52**	**40**	*e*P	Pn	11 08 49.1	+1.3
	comp=Z,8.3nm,0.6s						
MAT	**Matsushiro**	**17.52**	**40**	P	Pn	11 08 49.6	+1.8
MJAR	**Matsushiro Arr**	**17.52**	**40**	P	Pn	11 08 49.1	+1.3
	comp=Z,1.3nm,0.3s,baz=229,slow=9.4,SNR=36						
CN2	**Changchun**	**20.09**	**2**	*e*P	P	11 09 16.4	-0.6
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH	**Lanzhou**	**21.62**	**310**	*e*P	P	11 09 34.5	+1.0
LZH				AP		11 09 42.8	
LZH				XP	sP	11 09 46.8	+2.1
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.4						
LZH				AMB	AMB		
	comp=Z,86nm,4.1s						
LZH				LR	LR		
	comp=N,217nm,14.5s						
LZH				LR	LR		
	comp=Z,398nm,17.7s,MS3.9						
LZH	**Lanzhou**	**21.62**	**310**	*e*P	P	11 09 34.5	+1.0
	comp=Z,19nm,1.3s,mb4.4						
LZH				pP		11 09 42.7	
LZH				sP	sP	11 09 46.7	+2.0
LZH				LR	LR		
	comp=Z,400nm,17.7s,MS3.9						
ASAJ	**Asahikawa**	**25.28**	**32**	P	P	11 10 09.7	+0.1
	comp=Z,7.5nm,0.6s,mb4.4,baz=350,slow=32,SNR=9.0						
ASAJ				LR	LR	11 20 25.5	
	comp=Z,106nm,21.1s,MS3.3,baz=194,slow=37						
SONM	**Songino Array**	**28.04**	**334**	P	P	11 10 33.5	-0.9
	comp=Z,3.4nm,0.7s,mb4.1,baz=149,slow=8.9,SNR=34						
PSI	**Prapat**	**32.19**	**234**	P	P	11 11 12.7	+1.5
	comp=Z,6.6nm,0.9s,mb4.5,baz=358,slow=6.6,SNR=4.9						
MK31	**Makanchi Array**	**40.74**	**315**	*e*P	P	11 12 24.0	0.0
MKAR	**Makanchi Array**	**40.74**	**315**	P	P	11 12 24.0	0.0
	comp=Z,1.6nm,0.5s,mb3.9,baz=98,slow=11,SNR=21						
MKAR				LR	LR	11 28 57.5	
	comp=Z,50nm,21.2s,MS3.4,baz=295,slow=36						
MKAR	**Makanchi Array**	**40.74**	**315**	P	P	11 12 24.0	0.0
MKAR				LR	LR	11 28 57.5	
FITZ	**Fitzroy Crossi**	**41.54**	**178**	P	P	11 12 30.0	-0.6
	comp=Z,2.1nm,1.0s,mb3.7,baz=42,slow=12,SNR=2.6						
ZAL	**Zalesovo**	**42.28**	**326**	P	P	11 12 36.0	-0.7
	comp=Z,2.2nm,0.4s,mb4.2,baz=159,slow=2.8,SNR=9.5

3.6nm,0.3s,baz=35,slow=3.3,SNR=16
URZ S **S** **11 12 42.0 -0.2**
1.6nm,0.3s,baz=243,slow=21,SNR=16
BKZ Black Stump Fm 15.47 191 *e*PN **P** **11 10 19.2 -0.5**
SNZO South Karori 17.89 194 *e*P **P** **11 10 45.4 +0.4**
78nm,0.8s
SNZO South Karori 17.89 194 PN **P** **11 10 44.6 -0.5**
QRZ Quartz Range 18.01 199 PN **P** **11 10 47.2 +0.9**
NNZ Nelson 18.13 197 *e*PN **P** **11 10 45.4 -2.0**
THZ Tophouse 18.77 197 *e*PN **P** **11 10 53.1 -0.1**
THZ *e*SN **S** **11 13 54.9 -5.4**
KHZ Kahutara 19.21 195 *e*PN **P** **11 10 56.0 -1.3**
LTZ Lake Taylor 19.89 198 *e*PN **P** **11 11 02.4 -1.1**
RPZ Rata Peaks 21.09 199 P **P** **11 11 14.3 -0.1**
32nm,0.5s,mb5.1,baz=314,slow=1.3,SNR=25
ARMA Armidale 26.25 250 *e*P **P** **11 12 02.8 +2.2**
CNB Canberra Magne 29.05 240 *e*P **P** **11 12 27.0 +1.9**
67nm,0.7s,mb5.2
CTA Charters Tower 31.76 270⇓*i*P **P** **11 12 49.7 +1.1**
81nm,0.5s,mb5.4
CTA Charters Tower 31.76 270 P **P** **11 12 49.8 +1.2**
96nm,0.5s,mb5.5,baz=97,slow=10,SNR=160
CTAO Charters Tower 31.76 270 *e*P **P** **11 12 49.8 +1.2**
97nm,0.6s,mb5.4
TOO Toolangi 32.63 237⇓*i*P **P** **11 12 57.4 +1.3**
27nm,0.6s,mb4.9
PMG Port Moresby 34.79 289 P **P** **11 13 14.7 +0.4**
56nm,0.7s,mb5.1,baz=101,slow=5.4,SNR=16
STKA Stephens Creek 34.95 248⇓*i*P **P** **11 13 16.5 +0.8**
13nm,0.7s,mb4.5
STKA Stephens Creek 34.95 248 P **P** **11 13 16.6 +0.9**
12nm,0.5s,mb4.6,baz=92,slow=9.5,SNR=43
STKA Stephens Creek 34.95 248 *e*P **P** **11 13 16.5 +0.8**
STKA Stephens Creek 34.95 248⇓*i*P **P** **11 13 16.5 +0.8**
13nm,0.7s,mb4.5
AS31 Alice Springs 42.30 261 *e*P **P** **11 14 15.8 +0.2**
ASAR Alice Springs 42.30 261 P **P** **11 14 15.8 +0.2**
41nm,0.8s,mb4.9,baz=98,slow=7.2,SNR=250
ASAR ScP ScP 11 19 02.5 -2.4
6.0nm,0.9s,baz=115,slow=4.0,SNR=19
ASAR S **S** **11 19 57.3 -4.5**
1.2nm,0.9s,baz=94,slow=15,SNR=4.3
WB2 Warramunga Arr 42.67 266⇓*i*P **P** **11 14 18.0 -0.5**
WB2 *e*PCP sP 11 16 34.2 -3.1
WB2 *e*SCP ScP 11 19 04.5 -1.9
WB2 *e*S **S** **11 20 01.0 -6.2**
WRA Warramunga Arr 42.68 266 P **P** **11 14 18.3 -0.3**
49nm,0.4s,mb5.3,baz=95,slow=8.4,SNR=381
WRA PcP PcP 11 15 59.9 -0.3
2.6nm,0.8s,baz=107,slow=4.1,SNR=4.5
WRA ScP ScP 11 19 04.4 -2.0
5.6nm,0.9s,baz=98,slow=3.9,SNR=13
WRA S **S** **11 20 01.7 -5.7**
2.8nm,1.0s,baz=102,slow=14,SNR=5.3
FORT Forrest 46.54 250⇓*i*P **P** **11 14 47.8 -0.7**
188nm,0.6s,mb5.7
KAKA Kakadu 46.60 275⇓*i*P **P** **11 14 48.2 -0.7**
65nm,0.8s,mb5.1
FITZ Fitzroy Crossi 51.10 266⇓*i*P **P** **11 15 22.4 -0.1**
58nm,0.6s,mb5.1
FITZ Fitzroy Crossi 51.10 266 P **P** **11 15 22.6 +0.1**
32nm,0.6s,mb4.8,baz=134,slow=6.0,SNR=76
SBA Scott Base 54.30 184 *e*P **P** **11 15 48.2 +2.7**
18nm,1.0s,mb4.4
VNDA Vanda 54.31 185 P **P** **11 15 47.1 +1.5**
2.9nm,0.7s,mb3.8,baz=359,slow=8.4,SNR=28
VNDA Vanda 54.31 185 *e*P **P** **11 15 46.4 +0.8**
VNDA P 11 15 47.1
KLBR Kellerberrin 55.21 247⇓*i*P **P** **11 15 51.2 -0.7**
30nm,0.6s,mb4.8
NWAO Narrogin (SRO) 55.45 246 P **P** **11 15 53.2 -0.4**
8.5nm,0.6s,mb4.3,baz=145,slow=9.5,SNR=13
MBWA Marble Bar 55.63 260 *e*P **P** **11 15 54.2 -0.6**
34nm,0.9s,mb4.7
MUN Mundaring 56.45 247⇓*i*P **P** **11 16 10.3 +10**
QSPA South Pole Qui 66.09 180 *e*P **P** **11 17 04.9 +0.9**
11nm,0.8s,mb4.5
KKM Kota Kinabalu 69.20 287 *e*P **P** **11 17 22.5 -0.6**
MJAR Matsushiro Arr 72.13 325 P **P** **11 17 39.3 -1.2**
2.6nm,0.6s,mb3.9,baz=160,slow=4.8,SNR=9.9
KSM Kuching 72.40 280 *e*P **P** **11 17 41.6 -0.4**
MAW Mawson 77.76 200⇓*i*P **P** **11 18 12.0 -0.2**
6.6nm,0.6s,mb4.2
MAW Mawson 77.76 200 P **P** **11 18 12.1 0.0**
8.0nm,0.6s,mb4.3,baz=126,slow=6.4,SNR=47
MDJ Mudanjiang 82.50 326 P **P** **11 18 36.4 -0.6**
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb4.2
MDJ AMB AMB
comp=Z,87nm,3.6s
SYO Syowa Base 82.99 193⇑*e*P **P** **11 18 37.8 -1.7**
CMB Columbia Colle 83.07 43 *e*P **P** **11 18 40.5 +0.6**
comp=Z,5.0nm,0.8s,mb4.1
PSI Prapat 83.27 276 P **P** **11 18 39.4 -1.5**
comp=Z,5.8nm,0.7s,mb4.2,baz=187,slow=3.0,SNR=6.1
NVAR Mina Array Bea 84.62 44 P **P** **11 18 48.2 +0.6**
comp=Z,2.1nm,0.8s,mb3.8,baz=228,slow=7.9,SNR=8.4
XAN Xi'an 89.02 308 P **P** **11 19 08.3 -0.2**
XAN AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
KMI Kunming 89.56 298 P **P** **11 19 11.6 +0.6**
comp=Z,8.0nm,1.0s,mb4.5
KMI LR LR
comp=Z,220nm,15.2s
CHTO Chiang Mai 89.97 291 *e*P **P** **11 19 13.6 +0.6**
comp=Z,8.0nm,0.9s,mb4.5
TXAR Lajitas Array 90.24 58 P **P** **11 19 15.4 +1.3**
comp=Z,4.0nm,0.7s,mb4.3,baz=214,slow=6.4,SNR=56
PDAR Pinedale Array 92.56 44 P **P** **11 19 24.6 -0.3**
comp=Z,1.8nm,0.7s,mb4.2,baz=216,slow=3.5,SNR=17
MKAR Makanchi Array 112.42 313 PKiKP PKiKP 11 24 44.1 -2.3
comp=Z,0.3nm,0.3s,baz=123,slow=0.1,SNR=4.2
ARCES ARCESS Array B 132.03 348 SKPbc SKPbc 11 28 01.0 -5.4
comp=Z,4.4nm,0.8s,baz=66,slow=2.9,SNR=5.1
FINES FINESS Array B 138.62 342 SKPbc SKPbc 11 28 21.0 -5.8
comp=Z,4.5nm,0.7s,baz=56,slow=3.2,SNR=8.9
NB2 NORSAR Subarra 142.22 351 PKPab SKPdf 11 28 30.6 -2.2
NOA NORSAR Array B 142.22 351 SKPbc SKPbc 11 28 29.2 -6.9
comp=Z,1.9nm,0.9s,baz=15,slow=4.6,SNR=4.7
AKASG Malin Array Be 145.20 327 PKPbc PKPbc 11 25 46.3 -2.4
comp=Z,1.7nm,0.3s,baz=42,slow=4.3,SNR=12
AKASG SKPbc SKPbc 11 28 38.2 -5.0
comp=Z,4.0nm,0.6s,baz=41,slow=2.9,SNR=12
AKASG Malin Array Be 145.20 327 PKPbc PKPbc 11 25 46.3 -2.4
AKASG SKPbc SKPbc 11 28 38.2 -5.0
BR131 Keskin Array S 147.86 307 *e*PKPbc PKPbc 11 25 54.8 -1.2
BR131 *e*PKPab PKPab 11 25 59.1 -1.0
TORD Torodi Ar. Bea 169.13 187 PKPab PKPab 11 27 31.9 -0.2
comp=Z,1.8nm,0.6s,baz=176,slow=4.0,SNR=14

IDC 17 11:28:08.6±8.9,567S×15050E,h83km±63km,mb3.0/2, mb1 3.3/3,mb1mx3.1/13,mbtmp3.4/3,ML2.4/1,Error ellipse: s-maj=127.0km s-min=57.5km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**222**	P	Pn	11 29 20.9	+0.1
PMG	1.1nm,0.3s,baz=34,slow=7.3,SNR=4.0			S	Sn	11 30 18.3	+1.3
	1.4nm,0.3s,baz=167,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**21.17**	**226**	P	P	11 32 47.0	-0.1
	0.6nm,0.5s,baz=52,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**23.99**	**220**	P	P	11 33 15.5	+0.1
	0.9nm,0.7s,baz=57,slow=9.0,SNR=15						
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc	PKPbc	11 47 46.3	+0.9
	0.4nm,0.9s,baz=74,slow=3.6,SNR=3.3						

*ISCJB **17** 11:51:23.9±1.8,68N±06×730W±06,h179km±40km, mb3.6/3,Error ellipse: s-maj=131.4km s-min=10.2km az=88.0*
*IDC **17** 11:51:24.1±0.8,666N×7285W,h174km±9km,mb3.3/3, mb1 3.6/5,mb1mx3.2/21,mbtmp3.8/5,Error ellipse: s-maj=34.3km s-min=7.6km az=131.0*
*NEIC **17** 11:51:24.6±1.0,663N×7285W,h182km±11km,Error ellipse: s-maj=34.6km s-min=15.2km az=126.0*
ISC 17 11:51:25.0±2.0,67N±06×729W±06,h175km±38km,n7, σ0≥54/7,mb3.6/3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**217**	P	**Pn**	**11 52 05.5**	**+0.1**
	36nm,0.3s,baz=32,slow=2.0,SNR=69						
ROSC				S	**Sn**	**11 52 36.6**	**-0.2**
	52nm,0.3s,baz=274,slow=21,SNR=14						
SDV	**Santo Domingo**	**3.11**	**46**	P	**Pn**	**11 52 15.3**	**+0.6**
	4.7nm,0.3s,baz=247,slow=3.9,SNR=19						
SDV				S	**Sn**	**11 52 53.1**	**-0.3**
	16nm,0.3s,baz=65,slow=21,SNR=24						
TXAR	**Lajitas Array**	**36.67**	**312**	P	**P**	**11 58 15.3**	**+0.5**
	0.4nm,0.6s,mb3.2,baz=124,slow=8.9,SNR=7.0						
ULM	**Lac du Bonnet**	**47.44**	**340**	P	**P**	**11 59 41.3**	**-0.6**
	3.2nm,1.1s,mb3.9,baz=168,slow=9.3,SNR=3.7						
YKA	**Yellowknife Ar**	**63.41**	**340**	P	**P**	**12 01 35.9**	**0.0**
	0.7nm,0.6s,mb3.7,baz=127,slow=6.4,SNR=4.4						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	12 10 51.5	-1.4
	0.2nm,0.5s,baz=119,slow=3.4,SNR=7.2						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	12 10 56.9	+1.1
	0.2nm,0.3s,baz=110,slow=2.3,SNR=6.3						

*NEIC **17** 11:54:07.4±5.6,3614N×7075E,h132km±45km,mb4.2/1, Error ellipse: s-maj=50.9km s-min=21.0km az=218.0*
*ISCJB **17** 11:54:13.0±0.6,3652N±007×709E±0.1,h186km±10km, mb3.7/5,Error ellipse: s-maj=15.9km s-min=6.8km az=104.5*
*IDC **17** 11:54:20.9±16.0,3661N×7120E,h252km±154km,mb3.4/5, mb1 3.5/5,mb1mx3.1/18,mbtmp4.0/5,Error ellipse: s-maj=107.1km s-min=20.9km az=35.0*
ISC 17 11:54:13.8±0.7,3653N±007×709E±01,h179km±9km,n26, σ1≥23/29,mb3.7/5,3C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**162**	⇑P	**Pn**	**11 55 02.5**	**+2.1**
CEP				S	**Sn**	**11 55 35.0**	**+2.1**
CHCP	**Chirah Chowk**	**3.48**	**145**	P	**Pn**	**11 55 10.5**	**+2.3**
SBDP	**Sheikh Budin**	**4.22**	**181**	P	**Pn**	**11 55 18.1**	**+0.4**
THN	**Thein Dam**	**5.72**	**134**	*e*P	**Pn**	**11 55 37.9**	**+0.8**
THN				*e*S	**Sn**	**11 56 41.6**	**-0.5**
DLH	**Dalhousie**	**5.79**	**132**	*e*P	**Pn**	**11 55 38.0**	**0.0**
DLH				*e*S	**Sn**	**11 56 43.0**	**-0.8**
AAK	**Ala-Archa**	**6.71**	**24**	*e*Pn	**Pn**	**11 55 48.1**	**-1.8**
	2.5nm,0.3s						
AAK				*e*S		11 56 39.1	
						11 56 35.2	
SDNR	**Sundarnagar**	**7.13**	**133**	*ex*			
SDNR				*e*S	**Sn**	**11 57 12.4**	**-3.4**
SONA	**Sohna**	**9.79**	**146**	*e*S	**Sn**	**11 58 11.9**	**-7.5**
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**11 57 18.1**	**+2.0**
	0.1nm,0.3s,baz=220,slow=11,SNR=3.3						
KOLN	**Koldanda**	**13.87**	**125**	*e*P	**Pn**	**11 57 22.5**	**-0.4**
	3.5nm,0.3s						
GKN	**Gorkha**	**14.41**	**122**	*e*P	**Pn**	**11 57 29.0**	**-0.6**
	8.8nm,0.3s						
DMN	**Daman**	**14.98**	**122**	*e*P	**Pn**	**11 57 37.1**	**+0.4**
KKN	**Kakani**	**14.99**	**121**	*e*P	**Pn**	**11 57 37.3**	**+0.6**
	17nm,0.5s						
AB31	**Akbulak array**	**15.00**	**331**	Pn	**Pn**	**11 57 36.2**	**-0.7**
	0.7nm,0.5s,baz=143,slow=12,SNR=4.2						
AB31				⇑Sn	**Sn**	**12 00 17.9**	**-6.3**
	0.6nm,0.6s,baz=151,slow=23,SNR=4.8						
PKI	**Pulchoki**	**15.21**	**122**	*e*P	**Pn**	**11 57 40.3**	**+0.8**
	28nm,0.7s						
GUN	**Gumba**	**15.33**	**120**	*e*P	**Pn**	**11 57 42.4**	**+1.5**
JIRN	**Jiri**	**15.70**	**120**	*e*P	**Pn**	**11 57 47.3**	**+1.9**
AKTO	**Aktyubinsk**	**16.70**	**330**	⇑P	**Pn**	**11 57 56.5**	**-1.0**
	0.2nm,1.2s						
ZAL	**Zalesovo**	**19.91**	**25**	P	**P**	**11 58 31.5**	**-0.1**
	0.4nm,0.3s,baz=259,slow=9.2,SNR=4.9						
ZAL	**Zalesovo**	**19.91**	**25**	P	**P**	**11 58 31.5**	**-0.1**
MDRS	**Chennai**	**24.84**	**158**	*ex*	x	11 59 39.7	
MDRS				*ex*	x	12 03 40.7	
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**12 01 09.7**	**+0.3**
	4.0nm,1.0s,mb4.0,baz=106,slow=14,SNR=4.4						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**12 01 39.8**	**0.0**
	13nm,1.2s,mb4.4,baz=123,slow=8.8,SNR=6.4						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**12 02 06.4**	**+0.7**
	0.7nm,0.9s,mb3.3,baz=96,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**12 06 12.5**	**-1.7**
	0.3nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**12 06 24.1**	**-1.7**
	0.4nm,0.6s,mb3.3,baz=312,slow=4.8,SNR=8.1						

*IDC **17** 12:17:16.9±0.8,2705N×5322E,h0km,mb4.2/16, mb1 4.3/17,mb1mx4.2/25,mbtmp4.2/17,ML4.1/1,MS3.7/2, Ms1 3.7/2,ms1mx2.6/36,Error ellipse: s-maj=19.0km s-min=16.7km az=141.0*
*BJI **17** 12:17:17.5,2700N×5320E,h12km,mb4.7*
*THR **17** 12:17:18.2±0.5,2694N×5320E,h37km±6km,ML4.0*
*TEH **17** 12:17:18.8,2686N×5298E,h18km,Mn3.9*
*ISCJB **17** 12:17:18.6±1.3,2695N±003×5318E±005,h27km±10km, mb4.3/30,Error ellipse: s-maj=7.7km s-min=4.3km az=127.5*
*NEIC **17** 12:17:18.6±1.5,2705N×5319E,h12km±9km,mb4.4/8, ML4.1(THR),Error ellipse: s-maj=8.4km s-min=5.7km az=196.0*
*CSEM **17** 12:17:19.4±0.1,2698N×5320E,h35km,mb4.3/20,Error ellipse: s-maj=2.9km s-min=1.7km az=65.0*
*MOS **17** 12:17:19.0±1.0,2690N×5317E,h33km,mb4.5/18,Error ellipse: s-maj=15.4km s-min=9.9km az=106.0*
ISC 17 12:17:19.7±1.1,2700N±003×5319E±005,h19km±7km, n111,σ0≥90/117,mb4.3/30,5C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.29**	**352**	*e*PG	**Pg**	**12 17 43.2**	**-1.5**
GHIR				*e*SG	**Sg**	**12 18 01.2**	**-0.3**
GHIR				AML	AML	12 18 08.5	
	comp=E,2μm,0.6s						
GHIR	**Ghir-Karzin**	**1.29**	**352**	*e*Pg	**Pg**	**12 17 43.0**	**-1.7**
GHIR				*e*Sg	**Sg**	**12 18 01.0**	**-0.6**
GHIR	**Ghir-Karzin**	**1.29**	**352**	*e*Pg	**Pg**	**12 17 43.2**	**-1.5**
	SNR=100						
GHIR				*e*Sg	**Sg**	**12 18 01.2**	**-0.4**
	SNR=100						
IMOK	**Mook**	**2.08**	**348**	*e*Pn	**Pn**	**12 17 54.5**	**+0.9**
ISRV	**Sarvestan**	**2.37**	**358**	*e*Pn	**Pn**	**12 17 59.0**	**+1.4**
BNDS	**Bandar-Abbas**	**2.68**	**81**	*e*PN	**Pn**	**12 18 01.0**	**-0.9**
BNDS				AML	AML	12 18 50.5	
	comp=E,730nm,0.5s						
BNDS				AML	AML	12 18 52.9	
	comp=N,640nm,0.5s						
BNDS	**Bandar-Abbas**	**2.68**	**81**	*e*Pn	**Pn**	**12 18 00.0**	**-1.9**
BNDS				*e*Sg	**Sg**	**12 18 42.0**	**-3.9**
BNDS	**Bandar-Abbas**	**2.68**	**81**	*e*Pn	**Pn**	**12 18 01.0**	**-0.9**
	SNR=54						
BNDS				*e*Sg	**Sg**	**12 18 42.0**	**-3.9**
HATD	**Hatta, Dubai**	**3.42**	**129**	P	**Pn**	**12 18 12.9**	**+0.9**
	SNR=13						
ASHO	**Ashiyiah**	**3.46**	**131**	⇑P	**Pn**	**12 18 13.6**	**+1.0**
	SNR=64						
KRBR	**Kerman**	**4.32**	**46**	*e*PN	**Pn**	**12 18 24.4**	**0.0**
KRBR				AML	AML	12 19 42.0	
	comp=N,181nm,0.5s						
KRBR				AML	AML	12 19 46.6	
	comp=E,174nm,0.6s						
KRBR	**Kerman**	**4.32**	**46**	*e*Pn	**Pn**	**12 18 24.0**	**-0.4**
IMEH	**Mehriz**	**4.55**	**16**	*e*Pn	**Pn**	**12 18 29.1**	**+1.6**
ARQ	**Araqi**	**4.73**	**140**	P	**Pn**	**12 18 31.0**	**+0.9**
	SNR=14						
ISAD	**Sadrabad**	**4.91**	**5**	*e*Pn	**Pn**	**12 18 33.7**	**+1.2**
IBAF	**Bafgh**	**5.02**	**24**	*e*Pn	**Pn**	**12 18 34.8**	**+0.8**
HOQ	**Hoqain**	**5.05**	**132**	P	**Pn**	**12 18 33.6**	**-0.8**
	SNR=17						
ICHK	**Chekchek**	**5.33**	**11**	*e*Pn	**Pn**	**12 18 39.2**	**+0.9**
BSY	**Bisya**	**5.59**	**138**	⇑P	**Pn**	**12 18 42.8**	**+1.0**
	SNR=15						
BSYO	**Bisya**	**5.62**	**138**	P	**Pn**	**12 18 42.8**	**+0.6**
	SNR=15						
BIDO	**Bidbid**	**5.65**	**127**	⇓P	**Pn**	**12 18 43.3**	**+0.6**
	SNR=8.9						
NASN	**Na'in**	**5.79**	**357**	*e*Pn	**Pn**	**12 18 45.0**	**+0.4**
NASN	**Na'in**	**5.79**	**357**	*e*Pn	**Pn**	**12 18 44.0**	**-0.5**
SMDO	**Samad**	**5.90**	**131**	P	**Pn**	**12 18 46.4**	**+0.3**
	SNR=29						
IZEF	**Zefreh**	**5.92**	**353**	*e*Pn	**Pn**	**12 18 46.7**	**+0.3**
WSAR	**Wadi Sarin**	**6.19**	**126**	Pn	**Pn**	**12 18 49.8**	**-0.3**
	comp=E,4.8nm,0.3s,baz=316,slow=11,SNR=57						
WSAR				Sn	**Sn**	**12 19 56.6**	**-3.7**
	comp=E,4.7nm,0.3s,baz=163,slow=20,SNR=11						
WSAR				LR	LR	12 21 38.6	
	comp=E,121nm,19.1s,baz=112,slow=42						
WSAR	**Wadi Sarin**	**6.19**	**126**	Pn	**Pn**	**12 18 49.8**	**-0.3**
WSAR				Sn	**Sn**	**12 19 56.7**	**-3.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMDO	**Jabal Madar**	**6.42**	**135**	⇑P	**Pn**	**12 18 52.9**	**-0.3**
	SNR=6.8						
IKLH	**Kalahroud**	**6.45**	**348**	*e*Pn	**Pn**	**12 18 55.7**	**+2.1**
WBK	**Wadi Bani Khal**	**6.83**	**129**	⇓P	**Pn**	**12 18 58.2**	**-0.7**
ISFB	**Sefidab**	**7.37**	**354**	*e*Pn	**Pn**	**12 19 06.1**	**-0.2**
ASAO	**Ashtian**	**8.00**	**341**	*e*Pn	**Pn**	**12 19 15.7**	**+0.8**
WHFO	**Wadi Hawf**	**9.05**	**177**	⇓P	**Pn**	**12 19 28.7**	**-0.7**
SNGE	**Sanandaj**	**9.49**	**330**	*e*Pn	**Pn**	**12 19 35.5**	**+0.1**
RBK	**Rabkut**	**9.50**	**174**	⇑P	**Pn**	**12 19 36.2**	**+0.7**
ABTO	**Aybut**	**9.60**	**179**	⇑P	**Pn**	**12 19 36.0**	**-0.9**
NDI	**New Delhi**	**21.30**	**80**	*e*P	**P**	**12 22 06.0**	**+0.7**
AAK	**Ala-Archa**	**23.34**	**43**	*e*P	**P**	**12 22 27.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**23.34**	**43**	*e*P	**P**	**12 22 27.2**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**23.34**	**43**	*e*P	**P**	**12 22 27.2**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.0						
AKTK	**Aktyubinsk**	**23.69**	**8**	P	**P**	**12 22 31.5**	**+1.2**
	comp=Z,1.0nm,0.4s,mb3.6						
AKTO	**Aktyubinsk**	**23.69**	**8**	P	**P**	**12 22 31.5**	**+1.2**
	comp=Z,0.9nm,0.4s,mb3.5,baz=179,slow=10,SNR=5.2						
AKTO	**Aktyubinsk**	**23.69**	**8**	P	**P**	**12 22 31.5**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ORR	**Orenburg**	**24.61**	**2**	*e*P	**P**	**12 22 38.9**	**+0.1**
ORR				pmax	pmax		
	comp=Z,100nm,5.7s						
ORR	**Orenburg**	**24.61**	**2**	*e*P	**P**	**12 22 38.9**	**+0.1**
	comp=Z,100nm,5.7s						
KOLN	**Koldanda**	**26.98**	**81**	*e*P	**P**	**12 23 00.1**	**-0.1**
GKN	**Gorkha**	**27.87**	**81**	*e*P	**P**	**12 23 06.3**	**-1.9**
DMN	**Daman**	**28.32**	**81**	*e*P	**P**	**12 23 12.1**	**-0.1**
KKN	**Kakani**	**28.46**	**81**	*e*P	**P**	**12 23 12.6**	**-0.8**
	comp=Z,20nm,0.9s,mb4.8						
PKI	**Pulchoki**	**28.60**	**81**	*e*P	**P**	**12 23 14.4**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9						
GUN	**Gumba**	**28.98**	**81**	*e*P	**P**	**12 23 17.5**	**-0.5**
	comp=Z,15nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**28.98**	**22**	P	**P**	**12 23 17.4**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.0,baz=207,slow=9.3,SNR=9.4						
BVAR	**Borovoye Array**	**28.98**	**22**	P	**P**	**12 23 17.4**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**29.89**	**329**	P	**P**	**12 23 26.0**	**-0.1**
	comp=Z,1.1nm,0.4s,mb3.9,baz=136,slow=7.9,SNR=7.9						
AKASG	**Malin Array Be**	**29.89**	**329**	P	**P**	**12 23 26.0**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**30.26**	**42**	*e*P	**P**	**12 23 29.0**	**-0.4**
MKAR	**Makanchi Array**	**30.26**	**42**	P	**P**	**12 23 29.1**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.0,baz=230,slow=9.4,SNR=17						
MKAR	**Makanchi Array**	**30.26**	**42**	P	**P**	**12 23 29.1**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**35.56**	**32**	P	**P**	**12 24 15.4**	**-0.2**
	comp=Z,10nm,1.2s,mb4.6,baz=224,slow=6.6,SNR=13						
ZAL	**Zalesovo**	**35.56**	**32**	P	**P**	**12 24 15.5**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
JOF	**Joensuu**	**38.70**	**344**	*e*p	**P**	**12 24 39.7**	**-2.6**
FINES	**FINESS Array B**	**38.95**	**340**	P	**P**	**12 24 44.1**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.1,baz=146,slow=9.6,SNR=14						
FINES	**FINESS Array B**	**38.95**	**340**	P	**P**	**12 24 44.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PGF	**Pioggiola**	**39.01**	**305**	*e*P	**P**	**12 24 45.0**	**0.0**
SBF	**Sospel**	**40.35**	**307**	*e*P	**P**	**12 24 56.3**	**+0.2**
	comp=Z,49nm,1.0s,mb4.9						
SBF	**Sospel**	**40.35**	**307**	*e*P	**P**	**12 24 56.3**	**+0.2**
SBF				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
SBF	**Sospel**	**40.35**	**307**	*e*P	**P**	**12 24 56.3**	**+0.2**
	comp=Z,25nm,1.0s,mb4.9						
GTA	**Gaotai**	**40.51**	**60**	*e*P	**P**	**12 24 57.5**	**+0.1**
GTA				AP	pP	12 25 02.3	-1.0
GTA				XP	sP	12 25 05.1	-0.5
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
FRF	**La Foret Royal**	**40.87**	**306**	*e*P	**P**	**12 25 00.7**	**+0.3**
MBDF	**Montbardon**	**40.96**	**308**	*e*P	**P**	**12 25 00.8**	**-0.4**
	comp=Z,8.1nm,0.7s,mb4.2						
MBDF	**Montbardon**	**40.96**	**308**	*e*P	**P**	**12 25 00.8**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
MBDF	**Montbardon**	**40.96**	**308**	*e*P	**P**	**12 25 00.8**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.2						
LPL	**La Plagne**	**41.13**	**309**	*e*P	**P**	**12 25 02.0**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.1						
LPL	**La Plagne**	**41.13**	**309**	*e*P	**P**	**12 25 02.0**	**-0.5**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
LPL	**La Plagne**	**41.13**	**309**	*e*P	**P**	**12 25 02.0**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.1						
CABF	**La Chapelle**	**41.77**	**311**	*e*P	**P**	**12 25 06.8**	**-1.0**
SMF	**Signal de Mont**	**43.30**	**310**	*e*P	**P**	**12 25 18.9**	**-1.4**
	comp=Z,12nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**43.30**	**310**	*e*P	**P**	**12 25 18.9**	**-1.4**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**43.30**	**310**	*e*P	**P**	**12 25 18.9**	**-1.4**
	comp=Z,5.9nm,0.8s,mb4.4						
LOR	**Lormes**	**43.39**	**311**	*e*P	**P**	**12 25 20.6**	**-0.4**
	comp=Z,18nm,1.1s,mb4.

SCHQ	**Schefferville**	**83.68 330**	P	**P**	**12 29 46.9**	**-0.3**
YKA	**Yellowknife Ar**	**90.28 354**	P	**P**	**12 30 19.2**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.5,baz=6.8,slow=4.9,SNR=8.7					
YKA	**Yellowknife Ar**	**90.28 354**	P	**P**	**12 30 19.2**	**-0.1**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
YKA	**Yellowknife Ar**	**90.28 354**	P	**P**	**12 30 19.2**	**-0.1**

*ISCJB **17** 12:20:05.9±1.2,251S±01×1796E±01,h516km±17km, mb4.0/9, Error ellipse: s-maj=18.9km s-min=14.7km az=91.6*
*IDC **17** 12:20:06.6±1.6,2497S×17959E,h507km±21km,mb3.5/8, mb1 3.8/10,mb1mx3.6/15,mbtmp4.5/10,Error ellipse: s-maj=36.6km s-min=14.8km az=164.0*
*NEIC **17** 12:20:06.6±1.4,2509S×17967E,h516km±22km,mb4.3/3, Error ellipse: s-maj=31.5km s-min=13.6km az=169.0*

ISC 17 12:20:07.3±1.2,252S±01×1797E±01,h524km±17km,n18, σ0°69/24,mb4.0/9,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.52**	**153**	P	**P**	**12 21 31.7**	**+0.3**
	91nm,0.3s,baz=67,slow=8.2,SNR=5.6						
URZ	**Urewera**	**13.17**	**189**	P	**P**	**12 22 57.8**	**-0.1**
	0.8nm,0.3s,baz=303,slow=9.0,SNR=6.7						
URZ				S	**S**	**12 25 18.0**	**-0.6**
	0.5nm,0.3s,baz=257,slow=21,SNR=8.9						
CTA	**Charters Tower**	**31.25**	**273**	*e*P	**P**	**12 25 44.5**	**+0.6**
	11nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.25**	**273**	P	**P**	**12 25 44.8**	**+0.9**
	17nm,0.5s,mb4.8,baz=98,slow=12,SNR=24						
STKA	**Stephens Creek**	**34.00**	**250**	P	**P**	**12 26 08.0**	**+0.7**
	1.9nm,0.5s,mb3.9,baz=7.1,slow=23,SNR=9.9						
STKA	**Stephens Creek**	**34.00**	**250**	P	**P**	**12 26 08.0**	**+0.7**
AS31	**Alice Springs**	**41.58**	**262**	*e*P	**P**	**12 27 09.3**	**+0.3**
AS31				*e*P		12 27 09.6	
AS31				*e*S	**S**	**12 32 47.6**	**+0.5**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**12 27 09.3**	**+0.2**
	2.6nm,0.4s,mb4.1,baz=90,slow=8.5,SNR=68						
ASAR				S	**S**	**12 32 47.5**	**+0.4**
	0.7nm,0.9s,baz=95,slow=14,SNR=4.2						
ASPA	**Alice Springs**	**41.58**	**262**	*e*P	**P**	**12 27 09.3**	**+0.2**
ASPA				*e*S	**S**	**12 32 47.6**	**+0.5**
WB2	**Warramunga Arr**	**42.06**	**268**	⇓*i*P	**P**	**12 27 12.2**	**-0.7**
WB2				*e*P		12 27 12.5	
WB2				*e*S	**S**	**12 32 54.1**	**0.0**
WRA	**Warramunga Arr**	**42.08**	**268**	P	**P**	**12 27 12.6**	**-0.4**
	3.8nm,0.3s,mb4.4,baz=99,slow=6.9,SNR=341						
WRA				ScP	ScP	12 32 00.9	+4.8
	0.7nm,0.8s,baz=99,slow=3.9,SNR=5.8						
WRA				S	**S**	**12 32 53.7**	**-0.6**
	1.4nm,0.9s,baz=98,slow=15,SNR=7.1						
KAKA	**Kakadu**	**46.19**	**277**	*e*P	**P**	**12 27 44.2**	**-0.6**
	6.7nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.48**	**267**	*e*P	**P**	**12 28 17.3**	**+0.5**
	6.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.48**	**267**	P	**P**	**12 28 16.5**	**-0.3**
	15nm,1.2s,mb4.3,baz=121,slow=7.5,SNR=19						
MJAR	**Matsushiro Arr**	**72.86**	**326**	P	**P**	**12 30 41.0**	**-1.8**
	0.6nm,0.5s,mb3.3,baz=159,slow=6.2,SNR=4.2						
MJAR	**Matsushiro Arr**	**72.86**	**326**	P	**P**	**12 30 41.0**	**-1.8**
NVAR	**Mina Array Bea**	**85.89**	**44**	P	**P**	**12 31 51.2**	**-0.4**
	0.6nm,0.7s,mb3.3,baz=225,slow=8.7,SNR=4.5						
TXAR	**Lajitas Array**	**91.36**	**58**	P	**P**	**12 32 18.4**	**+1.3**
	0.8nm,0.8s,mb3.7,baz=214,slow=6.2,SNR=10						

*ISCJB **17** 12:56:48.7±0.4,5578N±003×12509E±007,h10km, mb3.7/1,Error ellipse: s-maj=6.3km s-min=3.4km az=118.9*
*SKHL **17** 12:56:49.3±0.1,5583N×12484E,h9km±1km,mb4.9/8, Ms4.2/2*
SKHL Felt (II) at Yuktali.
*MOS **17** 12:56:49.0±0.9,5582N×12501E,h14km,mb4.2/2,Error ellipse: s-maj=40.8km s-min=11.9km az=89.9*
MOS Felt (II) at Yuktali.

ISC 17 12:56:50.2±0.4,5581N±003×12510E±007,h10km,n22, σ1°31/37,mb3.7/1,3C-1D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRGR	**Nerungri**	**0.87**	**346**	*i*P	**Pg**	**12 57 05.2**	**-1.7**
NRGR				S	**Sg**	**12 57 14.4**	**-3.9**
NRGR				smax			
	comp=N,14μm,0.3s						
CLNS	**Chul'man**	**1.03**	**354**	*e*Pg	**Pg**	**12 57 08.3**	**-1.7**
CLNS				AMB	AMB	12 57 08.7	
	comp=N,938nm,0.3s						
CLNS				AMB	AMB	12 57 08.7	
	comp=N,210nm,0.3s						
CLNS				AMB	AMB	12 57 08.7	
	comp=N,696nm,0.3s						
CLNS				*e*Sg	**Sg**	**12 57 25.0**	**+1.6**
CLNS				A		12 57 25.7	
	comp=N,13μm,0.3s						
CLNS				A		12 57 25.7	
	comp=N,5μm,0.3s						
CLNS	**Chul'man**	**1.03**	**354**	*e*P	**Pg**	**12 57 08.3**	**-1.7**
CLNS				*e*		12 57 25.0	
CLNS				pmax	pmax		
	comp=Z,696nm,0.3s						
CLNS				pmax	pmax		
	comp=N,938nm,0.4s						
CLNS				pmax	pmax		
	comp=E,210nm,0.2s						
CLNS				smax			
	comp=N,13μm,0.4s						
CLNS				smax			
	comp=E,5μm,0.3s						
CLNS				smax			
	comp=Z,2μm,0.3s						
KROS	**Kirovskiy**	**1.75**	**141**	⇑*i*Pn	**Pn**	**12 57 21.5**	**+0.9**
KROS				*e*Pg	**Pg**	**12 57 23.2**	**-0.6**
KROS				AMB	AMB	12 57 24.2	
	comp=Z,296nm,0.4s						
KROS				pPg		12 57 25.9	
KROS				*e*Sg	**Sg**	**12 57 48.0**	**+1.5**
KROS				A		12 57 48.9	
	comp=Z,1μm,0.4s						
BMKR	**Bomnak**	**2.41**	**116**	*e*Pn	**Pn**	**12 57 29.7**	**+0.1**
BMKR				pPn		12 57 32.6	
BMKR				*e*Pg	**Pg**	**12 57 34.5**	**-1.8**
BMKR				AMB	AMB	12 57 37.2	
	comp=Z,275nm,0.4s						
ZEA	**Zeya**	**2.42**	**148**	⇑*e*Pn	**Pn**	**12 57 30.5**	**+0.7**
ZEA				⇓*e*Pg	**Pg**	**12 57 34.4**	**-2.2**
ZEA				AMB	AMB	12 57 35.2	
	comp=Z,88nm,0.4s						
ZEA				AMB	AMB	12 57 35.2	
	comp=Z,150nm,0.4s						
ZEA				pPg		12 57 38.5	
ZEA				*e*Sn	**Sn**	**12 58 01.6**	**+2.1**
ZEA				*i* Sg	**Sg**	**12 58 07.0**	**-1.1**
ZEA				A		12 58 09.0	
	comp=Z,4μm,1.0s						
ZEA				A		12 58 09.3	
	comp=Z,4μm,0.5s						
ZEA				A		12 58 09.3	
	comp=Z,3μm,0.5s						
ZEA				AMS	AMS	12 58 55.0	
	comp=Z,1μm,4.0s						
ZEA				AMS	AMS	12 58 55.0	
	comp=Z,600nm,4.0s						
ZEA				AMS	AMS	12 58 55.0	
	comp=Z,700nm,4.0s						
YASR	**Yasnyy**	**3.04**	**145**	*e*Pn	**Pn**	**12 57 38.7**	**+0.5**
YASR				sPn		12 57 43.2	
YASR				*e*Pg	**Pg**	**12 57 46.0**	**-2.3**
YASR				AMB	AMB	12 57 53.7	
	comp=Z,80nm,0.4s						
YASR				AMB	AMB	12 57 53.7	
	comp=Z,50nm,0.4s						
YASR				AMB	AMB	12 57 53.7	
	comp=Z,90nm,0.4s						
YASR				*e*Sn	**Sn**	**12 58 17.7**	**+3.1**
YASR				*e*Sg	**Sg**	**12 58 27.1**	**-0.5**
YASR				A		12 58 29.5	
	comp=Z,800nm,0.4s						
YASR				A		12 58 29.5	
	comp=Z,600nm,0.4s						
TUP	**Tupik**	**3.27**	**247**	*e*Pn	**Pn**	**12 57 41.5**	**+0.1**
TUP				*e*Pg	**Pg**	**12 57 47.9**	**-4.9**
TUP				AMB	AMB	12 57 54.3	
	comp=Z,243nm,0.3s						
TUP				*e*Sn	**Sn**	**12 58 18.8**	**-1.5**
TUP				*e*Sg	**Sg**	**12 58 28.1**	**-7.0**
TUP				A		12 58 30.4	
	comp=Z,3μm,0.9s						
CRS	**Chara**	**3.95**	**289**	*e*P	**Pn**	**12 57 50.8**	**0.0**
CRS				*e*Pg	**Pg**	**12 57 59.3**	**-6.6**
CRS				AMB	AMB	12 58 02.6	
	comp=Z,719nm,0.9s						
CRS				*e*Sg	**Sg**	**12 58 48.2**	**-8.9**
CRS				A		12 58 57.3	
	comp=Z,2μm,1.2s						
EKMR	**Ekimchan**	**5.34**	**118**	*e*Pn	**Pn**	**12 58 11.5**	**+1.6**
EKMR				pPn		12 58 15.2	
EKMR				*e*Pg	**Pg**	**12 58 28.1**	**-4.4**
EKMR				AMB	AMB	12 58 32.8	
	comp=Z,27nm,0.4s						
EKMR				AMB	AMB	12 58 32.8	
	comp=Z,38nm,0.4s						
EKMR				AMB	AMB	12 58 32.8	
	comp=Z,55nm,0.4s						
EKMR				*e*Sg	**Sg**	**12 59 39.9**	**-1.8**
EKMR				A		12 59 50.4	
	comp=Z,340nm,0.6s						
EKMR				A		12 59 50.4	
	comp=Z,250nm,0.6s						
YAK	**Yakutsk**	**6.67**	**19**	*e*P	**Pn**	**12 58 28.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,159nm,0.7s						
YAK				pmax	pmax		
	comp=N,43nm,0.9s						
YAK				pmax	pmax		
	comp=E,24nm,0.9s						
YAK				pmax	pmax		
	comp=Z,60nm,0.7s						
YAK				pmax	pmax		
	comp=N,20nm,0.6s						
YAK				pmax	pmax		
	comp=E,13nm,0.5s						
YAK				MLR	MLR		
	comp=Z,137nm,6.0s						
HIA	**Hailar**	**7.33**	**209**	*c i*P	**Pn**	**12 58 37.3**	**+0.1**
KLR	**Kul'dur**	**7.74**	**146**	*e*Sg	**Sg**	**13 00 52.7**	**-5.8**
KLR				*e*Pn	**Pn**	**12 58 43.9**	**+1.1**
KLR				AMS	AMS	13 01 13.0	
	comp=Z,1μm,8.0s						
KLR	**Kul'dur**	**7.74**	**146**	*e*P	**Pn**	**12 58 43.9**	**+1.1**
KLR				*e*		13 00 05.8	
KLR				MLR	MLR		
	comp=E,1μm,8.0s						
GRNR	**Gornyy**	**8.45**	**122**	*e*Pg	Px	12 59 23.0	
GRNR				*e*Sg	Sx	13 01 16.2	
GRNR				A		13 01 22.5	
	comp=E,69nm,0.9s						
NKL	**Nikolayevsk**	**9.45**	**100**	*e*Sg	Sx	13 01 48.0	
NKL				A		13 01 56.2	
	comp=E,180nm,0.9s						
TEY	**Ternei**	**13.02**	**141**	*e*rx	rx	13 03 39.0	
SEY	**Seymchan**	**15.52**	**52**	*e*P	pP	13 00 36.1	-0.2
BILL	**Bilibino**	**22.38**	**41**	*e*P	**P**	**13 01 49.6**	**+1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
MKAR	**Makanchi Array**	**27.84**	**269**	*i* P	**P**	**13 02 40.7**	**+1.0**
FINES	**FINESS Array B**	**47.05**	**320**	*i* P	**P**	**13 05 22.5**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**75.86**	**171**	*e*P	**P**	**13 08 37.5**	**+0.8**

*ISCJB **17** 12:59:07.4±0.4,3939N±002×2308E±004,h7km±5km, Error ellipse: s-maj=5.1km s-min=3.7km az=15.2*
*ATH **17** 12:59:07.9,3936N×2305E,h5km±1km,MD3.1/5,ML3.1*
*NEIC **17** 12:59:08.2,3936N×2306E,h8km,ML3.1(ATH),After ATH.*
*CSEM **17** 12:59:08.3±0.1,3937N×2306E,h2km,ML3.4,Error ellipse: s-maj=1.7km s-min=1.5km az=93.0*
*THE **17** 12:59:08.3,3934N×2309E,h12km,ML3.4*

ISC 17 12:59:07.8±0.4,3938N±002×2308E±004,h15km±5km,n23, σ0°86/38,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.09**	**98**	*e*Pg	**Pg**	**12 59 10.5**	**-0.3**
NEO	**Neokhori**	**0.13**	**123**	*e*PG	**Pg**	**12 59 10.9**	**-0.5**
AOS	**Alonnisos**	**0.65**	**108**	*e*Pg	**Pg**	**12 59 20.7**	**+0.2**
AOS				*e*Sg	**Sg**	**12 59 29.8**	**+0.5**
AGG	**Agios Georgios**	**0.68**	**239**	*e*Pg	**Pg**	**12 59 20.5**	**-0.6**
AGG				*e*Sg	**Sg**	**12 59 30.5**	**+0.4**
LKR	**Lokris**	**0.73**	**185**	*e*PB	**Pg**	**12 59 21.6**	**-0.4**
LKR				*e*SB	**Sg**	**12 59 31.7**	**+0.1**
LKR	**Lokris**	**0.73**	**185**	*e*Pg	**Pg**	**12 59 21.6**	**-0.4**
LKR				*e*Sb	**Sg**	**12 59 32.2**	**+0.6**
THL	**Klokotos Trika**	**0.85**	**283**	*e*PB	**Pg**	**12 59 24.0**	**-0.2**
THL				*e*SB	**Sg**	**12 59 35.6**	**+0.3**
LIT	**Litokhoron**	**0.85**	**328**	*e*Pg	**Pg**	**12 59 25.6**	**+1.3**
LIT				*e*Sg	**Sg**	**12 59 38.1**	**+2.6**
PLG	**Polygyros**	**1.03**	**16**	*e*Pg	**Pg**	**12 59 27.9**	**+0.2**
PLG				*e*Sg	**Sg**	**12 59 42.7**	**+1.4**
PLG	**Polygyros**	**1.03**	**16**	*e*PN	**Pn**	**12 59 28.1**	**+0.4**
PLG				*e*SB	**Sb**	**12 59 42.3**	**+1.5**
PLG	**Polygyros**	**1.03**	**16**	*e*Pg	**Pn**	**12 59 28.1**	**+0.4**
PLG				*e*Sb	**Sb**	**12 59 42.5**	**+1.7**
PLG	**Polygyros**	**1.03**	**16**	*e*Pg	**Pg**	**12 59 27.9**	**+0.2**
PLG				*e*Sb	**Sb**	**12 59 42.5**	**+1.7**
PLG				*e*Sg	**Sg**	**12 59 42.7**	**+1.5**
OUR	**Ouranopolis**	**1.18**	**36**	*e*Pg	**Pg**	**12 59 30.5**	**0.0**
THE	**Thessaloniki**	**1.26**	**356**	*e*Pg	**Pg**	**12 59 30.7**	**-1.3**
THE				*e*Sg	**Sg**	**12 59 48.1**	**-0.2**
SOH	**Sokhos**	**1.46**	**8**	*e*Pg	**Pg**	**12 59 34.4**	**-1.4**
SOH				*e*Sg	**Sg**	**12 59 54.1**	**-0.7**
SOH	**Sokhos**	**1.46**	**8**	*e*Pg	**Pg**	**12 59 34.3**	**-1.5**
SOH				*e*Sg	**Sg**	**12 59 54.1**	**-0.6**
ATH	**Athens Observa**	**1.49**	**160**	*e*PB	**Pb**	**12 59 36.0**	**+0.8**
GRG	**Griva**	**1.66**	**342**	*e*Pb	**Pb**	**12 59 37.4**	**-0.7**
KNT	**Kendrikon**	**1.79**	**356**	*e*Pb	**Pb**	**12 59 39.2**	**-1.0**
KNT				*e*Sb	**Sb**	**13 00 02.1**	**-0.3**
FNA	**Florina**	**1.92**	**318**	*e*Pb	**Pb**	**12 59 41.7**	**-0.8**
NVR	**Nevrokopi**	**2.06**	**17**	*e*Pb	**Pb**	**12 59 43.8**	**-1.0**
MMB	**Musomiste**	**2.26**	**12**	*e*Pn	**Pn**	**12 59 45.0**	**+0.4**
MMB	**Musomiste**	**2.26**	**12**	*e*Pn	**Pn**	**12 59 45.0**	**+0.3**

*IDC **17** 13:10:29.7±65.0,1757S×17677E,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.9/12,mbtmp4.3/3,Error ellipse: s-maj=1143.0km s-min=138.3km az=76.0*
*ISCJB **17** 13:10:36.2±1.4,178S±06×1764E±02,h33km,mb4.2/4, Error ellipse: s-maj=87.2km s-min=24.5km az=163.4*
*NEIC **17** 13:10:37.7±1.1,1760S×17636E,h35km,mb4.3/1,Error ellipse: s-maj=67.7km s-min=19.2km az=172.0*

ISC 17 13:10:38.5±1.4,177S±06×1764E±02,h35km,n9,σ0°30/9, mb4.2/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.38**	**239**	P	**P**	**13 17 22.0**	**-0.2**
	3.2nm,0.7s,mb4.4,baz=85,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**34.38**	**239**	P	**P**	**13 17 22.0**	**-0.2**
WB2	**Warramunga Arr**	**39.74**	**260**	*e*P	**P**	**13 18 08.1**	**+0.5**
WRA	**Warramunga Arr**	**39.75**	**260**	P	**P**	**13 18 08.1**	**+0.4**
	0.6nm,0.4s,mb3.7,baz=92,slow=7.9,SNR=42						
AS31	**Alice Springs**	**40.03**	**254**	*e*P	**P**	**13 18 09.8**	**-0.3**
AS31				*e*P		13 18 10.1	
ASAR	**Alice Springs**	**40.03**	**254**	P	**P**	**13 18 10.2**	**+0.1**
	7.5nm,0.6s,mb4.6,baz=88,slow=8.4,SNR=144						
ASPA	**Alice Springs**	**40.03**	**254**	*e*P	**P**	**13 18 10.1**	**0.0**
KAKA	**Kakadu**	**42.59**	**270**	*e*P	**P**	**13 18 30.6**	**-0.5**
	3.5nm,0.6s,mb4.3						
PAYG	**Puerto Ayora**	**93.01**	**92**	*e*P	**P**	**13 23 48.3**	**0.0**
	71nm,0.6s						

IDC 17 13:32:25.3±8.4,599S×15085E,h105km±57km,mb3.1/2, mb1 3.2/3,mb1mx3.0/13,mbtmp3.4/3,MS3.9/1,Ms1 3.9/1, ms1mx2.7/12,Error ellipse: s-maj=114.2km s-min=55.6km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**227**	P	Pn	13 33 38.2	+0.3
	0.7nm,0.3s,baz=34,slow=7.3,SNR=3.0						
PMG				S	Sn	13 34 35.2	+0.9
	0.5nm,0.3s,baz=137,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**21.28**	**228**	P	P	13 37 02.3	-0.2
	0.7nm,0.5s,baz=54,slow=10,SNR=17						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	13 37 30.5	+0.6
	0.7nm,0.7s,baz=56,slow=9.1,SNR=14						
AFI	**Afiamalu**	**37.60**	**105**	LR	LR	13 53 26.6	
	comp=Z,156nm,18.3s,baz=110,slow=34						
TORD	**Torodi Ar. Bea**	**148.79**	**285**	PKPbc	PKPbc	13 52 01.1	+0.6
	1.0nm,0.7s,baz=69,slow=1.3,SNR=5.2						

IDC 17 13:36:09.3±13.0,1476S×16616E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/15,mbtmp3.8/4,ML4.3/1,Error ellipse: s-maj=233.3km s-min=37.3km az=59.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.28**	**178**	Pn	Pn	13 37 57.1	+0.2
	4.5nm,0.3s,baz=6.5,slow=19,SNR=33						
DZM				Sn	Sn	13 39 20.0	-0.2
	0.9nm,0.3s,baz=323,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**28.16**	**229**	P	P	13 42 04.0	+0.7
	1.0nm,0.5s,baz=67,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**30.77**	**256**	P	P	13 42 26.5	0.0
	0.3nm,0.6s,baz=86,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**31.66**	**249**	P	P	13 42 34.8	+0.5
	0.5nm,0.4s,baz=78,slow=9.3,SNR=19						

IDC 17 13:39:20.2±8.2,599S×15056E,h108km±56km,mb2.6/2, mb1 2.9/3,mb1mx2.8/13,mbtmp3.1/3,Error ellipse: s-maj=118.1km s-min=57.0km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**225**	P	Pn	13 40 30.3	+0.3
	0.6nm,0.3s,baz=34,slow=7.3,SNR=2.7						
PMG				S	Sn	13 41 25.0	+0.7
	0.5nm,0.3s,baz=162,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**21.00**	**227**	P	P	13 43 55.2	+0.3
	0.3nm,0.4s,baz=53,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**23.79**	**221**	P	P	13 44 23.4	+0.5
	0.4nm,0.8s,baz=60,slow=8.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	PKPbc	13 58 54.6	+0.4
	0.7nm,0.7s,baz=72,slow=2.5,SNR=4.0						

GUC 17 13:40:00.7±0.6,3154S×7181W,h30km±2km,MD4.0, ML3.7,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.44**	**142**	⇓*i*P	Pb	13 40 09.8	-0.4
CHNG				*i* S	Sb	13 40 16.6	0.0
CMCH	**Combarbala**	**0.78**	**63**	⇑*i*P	Pn	13 40 15.2	-0.5
CMCH				*i* S	Sb	13 40 26.4	+0.2
CMCH				AML	AML	13 40 30.8	
	comp=E,6μm,0.5s						
PTCH	**Petorca**	**1.04**	**134**	*i* P	Pn	13 40 19.4	+0.1
PTCH				*i* S	Sn	13 40 33.2	+0.5
PTCH				AML	AML	13 40 34.8	
	comp=N,5μm,0.2s						
PACH	**Papudo**	**1.05**	**162**	*i* P	Pn	13 40 19.3	0.0
PACH				*i* S	Sn	13 40 33.5	+0.7
OVCH	**Ovalle**	**1.07**	**30**	⇑*i*P	Pn	13 40 19.7	+0.1
OVCH				*i* S	Sn	13 40 33.9	+0.6
OVCH				AML	AML	13 40 38.1	
	comp=E,4μm,0.5s						
JACH	**Jahuel**	**1.54**	**138**	*e*P	Pn	13 40 27.3	+1.2
JACH				*i* S	Sn	13 40 47.5	+2.5
ROCH	**El Roble**	**1.58**	**155**	*i* P	Pn	13 40 28.0	+1.4
ROCH				*i* S	Sn	13 40 49.3	+3.2
TLL	**Tololo Astrono**	**1.62**	**33**	*i* P	Pn	13 40 28.7	+1.6
TLL				*i* S	Sn	13 40 50.5	+3.6
TLL				AML	AML	13 40 57.0	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.86**	**149**	*e*P	Pn	13 40 31.7	+1.2
PEL				*i* S	Sn	13 40 55.7	+2.7
PEL				AML	AML	13 40 59.9	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**2.12**	**157**	AML	AML	13 41 07.8	
	comp=N,558nm,0.4s						
CLCH	**Cerro Calan**	**2.14**	**150**	*i* P	Pn	13 40 36.2	+1.9
CLCH				*i* S	Sn	13 41 02.7	+2.8
CLCH				AML	AML	13 41 14.0	
	comp=E,980nm,0.8s						
SAN	**Santiago**	**2.14**	**153**	AML	AML	13 41 09.3	
	comp=N,493nm,0.3s						
FCH	**Farellones**	**2.20**	**145**	*e*P	Pn	13 40 37.3	+2.2
FCH				*i* S	Sn	13 41 04.8	+3.4
FCH				AML	AML	13 41 11.2	
	comp=E,453nm,0.3s						
ANTU	**Antumapu**	**2.26**	**154**	AML	AML	13 41 16.1	
	comp=E,558nm,0.5s						
ZON	**Zonda**	**2.68**	**91**	AML	AML	13 41 32.5	
	comp=E,197nm,0.3s						

*IDC **17** 14:04:45.8±1.5,2312S×17588W,h0km,mb4.5/5, mb1 4.6/8,mb1mx4.3/18,mbtmp4.6/8,ML4.2/1,MS3.1/3, Ms1 3.1/3,ms1mx2.7/33,Error ellipse: s-maj=36.0km s-min=25.0km az=103.0*
*ISCJB **17** 14:04:46.8±1.0,2318S±007×1756W±02,h33km,mb4.6/9, Error ellipse: s-maj=23.3km s-min=9.0km az=22.5*
*NEIC **17** 14:04:46.9±0.8,2309S×17580W,h10km,mb4.8/7,Error ellipse: s-maj=20.0km s-min=12.4km az=104.0*

ISC 17 14:04:50.1±0.9,2315S±007×1757W±02,h35km,n25, σ0°95/28,mb4.6/9,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.40**	**198**	Pn	**Pn**	**14 06 19.4**	**-2.4**
	72nm,0.3s,baz=45,slow=20,SNR=3.4						
RAO				Sn	**Sn**	**14 07 33.8**	**+0.3**
	6.3nm,0.3s,baz=90,slow=20,SNR=3.7						
RAO				LR	LR	14 08 29.8	
	comp=Z,149nm,21.0s,baz=1.1,slow=35						
RAO	**Raoul Island**	**6.40**	**198**	Pn	**Pn**	**14 06 19.4**	**-2.4**
RAO				Sn	**Sn**	**14 07 33.8**	**+0.3**
RAO				LR	LR	14 08 29.8	
AFI	**Afiamalu**	**9.91**	**23**	Pn	**Pn**	**14 07 10.1**	**+0.1**
	5.1nm,0.3s,baz=258,slow=21,SNR=7.5						
AFI				Sn	**Sn**	**14 08 49.1**	**-11**
	2.1nm,0.3s,baz=198,slow=20,SNR=2.6						
AFI	**Afiamalu**	**9.91**	**23**	*e*P	**Pn**	**14 07 08.6**	**-1.4**
AFI				*e*S	**Sn**	**14 08 48.2**	**-12**
AFI				Sn	**Sn**	**14 08 49.1**	**-11**
URZ	**Urewera**	**16.27**	**201**	Pn	**Pn**	**14 08 35.4**	**-0.5**
	1.0nm,0.3s,baz=4.1,slow=7.3,SNR=9.6						
URZ				Sn	**Sn**	**14 11 18.8**	**-16**
	0.6nm,0.3s,baz=199,slow=18,SNR=3.8						
DZM	**Mont Dzumac**	**16.53**	**270**	Pn	**Pn**	**14 08 44.1**	**+4.9**
	0.3nm,0.3s,baz=94,slow=17,SNR=2.9						
CTA	**Charters Tower**	**35.45**	**268**	*e*P	**P**	**14 11 44.2**	**+1.3**
	7.9nm,0.6s,mb4.8						
CTA	**Charters T

comp=Z,3.2nm,18.3s,baz=8.3,slow=34
MAW Mawson 79.80 199 P **P 14 16 56.1 +1.4**
2.9nm,0.8s,mb4.3,baz=157,slow=4.5,SNR=12
AKASG Malin Array Be 146.36 331 PKPbc PKPbc 14 24 26.7 -0.4
1.5nm,0.4s,baz=41,slow=3.9,SNR=5.2
CLL Collm 151.10 349 *i* PKPbc PKPbc 14 24 41.1 +1.7

ISC 17 14:09:04.9±0.9, 4014N±006×389E±01, h30km±11km, n9, σ0°89/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.31**	**88**	*i* P	**Pb**	**14 09 11.8**	**-0.6**
KELT				*i* S	**Sb**	**14 09 17.8**	**+0.3**
EZC	**Erzincan**	**0.84**	**118**	PG	**Pn**	**14 09 14.5**	**-6.1**
GRSN	**GIRESUNGRSN**	**0.90**	**330**	*i* P	**Pn**	**14 09 21.1**	**-0.4**
GRSN				*i* S	**Sb**	**14 09 34.5**	**+0.9**
KTUT	**Trabzon**	**1.09**	**39**	*e*PN	**Pn**	**14 09 24.7**	**+0.5**
PTK	**Pertek**	**1.31**	**161**	*e*PN	**Pn**	**14 09 26.0**	**-1.2**
SVSK	**Karacayir**	**1.44**	**262**	*e*PN	**Pn**	**14 09 28.2**	**-0.8**
ELZG	**Elazig**	**1.64**	**176**	*i* P	**Pn**	**14 09 32.4**	**+0.7**
ELZG				*i* S	**Sn**	**14 09 53.9**	**+2.0**
BINT	**Bingol**	**1.79**	**134**	*e*PN	**Pn**	**14 09 33.2**	**-0.5**
MYA	**Malataya**	**1.84**	**191**	*e*PN	**Pn**	**14 09 33.8**	**-0.7**

BJI 17 14:35:43.0, 4677N×8495E, h22km, ML3.3, 3C, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.83**	**272**	P	Pn	14 36 15.8	+2.8
9.7nm,0.3s,baz=106,slow=11,SNR=503							
MK31				⇑S	Sn	14 36 40.1	+4.5
62nm,0.4s,baz=90,slow=34,SNR=25							
WMQ	**Urumqi**	**3.53**	**146**	*e*P	Pn	14 36 38.9	+2.4
WMQ				S	Sn	14 37 20.8	+3.3
WMQ				Smax			
comp=N,63nm,0.6s							
WMQ				Smax			
comp=E,46nm,0.7s							
TKM2	**Tokmak 2**	**7.68**	**243**	⇑Pn	Pn	14 37 35.3	+1.8
comp=E,0.3nm,0.7s							
TKM2				⇑Lg		14 39 45.4	
comp=E,0.4nm,0.7s							

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*BJI **17** 14:37:48.8, 6307N×15046W, h117km, mB5.5, mb5.8*
*SZGRF **17** 14:37:48.5, 6385N×15038W, h120km, mb5.1, Central Alaska, United States*
*MOS **17** 14:37:49.7±0.8, 6329N×15067W, h103km, mb5.4/62, MS4.0/7, Error ellipse: s-maj=9.9km s-min=3.8km az=95.5*
*ISCJB **17** 14:37:51.3±0.1, 6326N±002×15071W±004, h117km, mb5.4/213, Error ellipse: s-maj=3.3km s-min=1.6km az=88.4*
*GCMT **17** 14:37:52.4±0.1, 6329N×15060W, h126km±1km, MW5.3/100, Moment Tensor Solution. s77, c118; s100, c196; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.32±.02; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-0.39±.02; $M_{r\theta}$0.12±.01; $M_{\theta\phi}$0.56±.02; $M_{\phi r}$0.68±.01; Best double couple: $M_0$0.95400×10^{17} NP1:ϕ_s108.00000°, δ39.00000°, λ20.00000°. NP2:ϕ_s3.00000°, δ78.00000°, λ128.00000°. Principal axes: T 0.9270, Plg44.0000°, Azm310.0000°; N 0.0530, Plg37.0000°, Azm173.0000°; P -0.9800, Plg23.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 14:37:52.4, 6310N×15054W, h116km, mb5.3/146, After AEIC.*
NEIC Felt [III] at Anchorage, Eagle River, Elmendorf AFB, Palmer, Talkeetna, Wasilla and Willow; [II] at Chugiak, Fort Richardson, Girdwood, Indian and Kenai. Felt at Bethel, Cantwell, Denali National Park, Fairbanks, Glennallen, Healy, Homer, Salcha, Soldotna, Sterling and Valdez.
*IDC **17** 14:37:52.9±0.6, 6326N×15072W, h118km±4km, mb4.9/28, mb1 5.0/31, mb1mx5.0/32, mbtmp5.3/31, MS4.0/14, Ms1 4.0/14, ms1mx3.6/40, Error ellipse: s-maj=10.9km s-min=7.6km az=37.0*

ISC 17 14:37:53.0±0.1, 6330N±002×15066W±004, h119km, h119km±1.0km; pP-P, n772, σ0°75/769, mb5.4/213, 136C-77D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.22**	**48**	P	**Pn**	**14 38 09.7**	**+0.1**
TRF				S	**Sn**	**14 38 22.1**	**0.0**
KTH	**Kantishna Hill**	**0.28**	**335**	P	**Pn**	**14 38 10.1**	**+0.4**
KTH				S	**Sn**	**14 38 22.9**	**+0.6**
MCK	**McKinley**	**0.89**	**60**	P	**Pn**	**14 38 13.8**	**0.0**
PMR	**Palmer**	**1.86**	**157**	P	**Pn**	**14 38 21.2**	**-3.4**
PMR				S	**Sn**	**14 38 43.6**	**-5.2**
COLA	**College**	**2.00**	**37**	⇓*i*Pn	**Pn**	**14 38 27.2**	**+0.8**
COLA				*e*Sn	**Sn**	**14 38 54.1**	**+2.1**
FIB	**Fire Island**	**2.16**	**174**	P	**Pn**	**14 38 25.5**	**-2.8**
SLKM	**Skilak Lake**	**2.81**	**176**	*e*P	**Pn**	**14 38 33.1**	**-3.7**
DOT	**Dot Lake**	**2.98**	**80**	P	**Pn**	**14 38 37.6**	**-1.3**
IMA2	**Indian Mountai**	**3.07**	**336**	*e*Pn	**Pn**	**14 38 41.7**	**+1.6**
DIV	**Divide**	**3.16**	**131**	P	**Pn**	**14 38 37.3**	**-4.0**
SVW2	**Sparrevohn**	**3.20**	**228**	P	**Pn**	**14 38 39.5**	**-2.3**
SVW2				*e*Pn	**Pn**	**14 38 39.9**	**-1.9**
EYAK	**Cordova Ski Ar**	**3.61**	**138**	P	**Pn**	**14 38 43.3**	**-3.9**
BMRM	**Bremner River**	**3.68**	**127**	P	**Pn**	**14 38 44.6**	**-3.6**
RAGM	**Ragged Mountai**	**4.07**	**133**	P	**Pn**	**14 38 49.7**	**-3.8**
EGAK	**Eagle**	**4.43**	**66**	P	**Pn**	**14 38 57.3**	**-0.9**
DAWY	**Dawson**	**5.07**	**76**	⇓*i*Pn	**Pn**	**14 39 06.0**	**-0.9**
KDAK	**Kodiak Island**	**5.62**	**191**	Pn	**Pn**	**14 39 10.0**	**-4.2**
4μm,0.7s							
KDAK	**Kodiak Island**	**5.62**	**191**	P	**Pn**	**14 39 09.9**	**-4.3**
102nm,0.3s,baz=52,slow=9.6,SNR=1535							
KDAK				S	**Sn**	**14 40 08.2**	**-9.4**
159nm,0.3s,baz=162,slow=17,SNR=9.8							
KDAK				LR	LR	14 41 42.5	
comp=Z,1μm,18.6s,baz=202,slow=41							
KDAK				ScP	ScP	14 49 28.3	-1.9
1.0nm,0.3s,baz=290,slow=1.8,SNR=8.6							
KDAK	**Kodiak Island**	**5.62**	**191**	*e*Pn	**Pn**	**14 39 09.0**	**-5.2**
1μm,0.8s							
PNL	**Peninsula**	**6.51**	**119**	P	**Pn**	**14 39 22.7**	**-3.5**
CHGN	**Chignik**	**8.03**	**213**	P	**Pn**	**14 39 43.0**	**-3.8**
SKAG	**Skagway**	**8.30**	**111**	P	**Pn**	**14 39 47.8**	**-2.7**
INK	**Inuvik**	**8.62**	**47**	P	**Pn**	**14 39 53.5**	**-1.3**
12nm,0.3s,baz=238,slow=16,SNR=283							
INK				S	**Sn**	**14 41 31.9**	**+1.6**
3.1nm,0.3s,baz=218,slow=32,SNR=3.7							
INK				LR	LR	14 43 34.9	
comp=Z,888nm,19.6s,baz=250,slow=39							
INK				ScP	ScP	14 49 31.1	-1.8
0.3nm,0.3s,baz=22,slow=4.2,SNR=4.8							
INK	**Inuvik**	**8.62**	**47**	*e*P	**Pn**	**14 39 53.6**	**-1.2**
INK				pmax	pmax		
comp=Z,10μm,1.3s							
INK	**Inuvik**	**8.62**	**47**	*e*Pn	**Pn**	**14 39 53.6**	**-1.3**
comp=Z,54μm,1.3s							
SDPT	**Sand Point**	**9.41**	**217**	P	**Pn**	**14 40 02.1**	**-3.4**
SIT	**Sitka**	**9.86**	**122**	P	**Pn**	**14 40 07.7**	**-3.8**
WRAK	**Wrangell Islan**	**11.47**	**119**	*e*Pn	**Pn**	**14 40 29.4**	**-3.6**
comp=Z,112nm,0.6s							
CRAG	**Craig**	**11.86**	**123**	*e*Pn	**Pn**	**14 40 34.8**	**-3.4**
comp=Z,86nm,0.8s							
CRAG				*e*Sn	**Sn**	**14 42 37.3**	**-11**
AKUT	**Akutan**	**12.05**	**227**	*e*Pn	**Pn**	**14 40 39.6**	**-1.1**
comp=Z,297nm,1.0s							
BBB	**Bella Bella**	**16.29**	**123**	P	**Pn**	**14 41 33.6**	**-1.1**
comp=Z,2.5nm,0.3s,baz=321,slow=10,SNR=47							
BBB				S	**S**	**14 44 29.4**	**-10**
comp=Z,0.7nm,0.3s,baz=2.8,slow=15,SNR=7.5							
BBB				ScP	ScP	14 49 43.5	-1.0
comp=Z,0.4nm,0.3s,baz=265,slow=0.9,SNR=4.3							
BBB	**Bella Bella**	**16.29**	**123**	P	**Pn**	**14 41 33.6**	**-1.1**
BBB				S	**S**	**14 44 29.4**	**-10**
BBB				ScP	ScP	14 49 43.5	-1.0
YKA	**Yellowknife Ar**	**16.32**	**77**	P	**Pn**	**14 41 33.7**	**-1.3**
comp=Z,7.8nm,0.3s,baz=65,slow=10,SNR=109							
YKA				PcP	PcP	14 46 20.2	-0.8
comp=Z,0.5nm,0.3s,baz=286,slow=1.4,SNR=5.5							
YKA				LR	LR	14 47 39.1	
comp=Z,546nm,21.2s,baz=235,slow=36							
YKA				ScP	ScP	14 49 43.1	-1.4
comp=Z,0.5nm,0.3s,baz=290,slow=2.1,SNR=10							
BILL	**Bilibino**	**18.05**	**304**	*c* *i*P	**P**	**14 41 55.1**	**+0.2**
BILL				*e*S	**S**	**14 45 16.4**	**+0.8**
BILL				pmax	pmax		
comp=Z,87nm,1.1s							
BILL	**Bilibino**	**18.05**	**304**	*e*P	**P**	**14 41 55.6**	**+0.7**
comp=Z,140nm,1.2s							
AMKA	**Amchitka**	**19.90**	**247**	*e*P	**P**	**14 42 12.0**	**-3.0**
PGC	**Sidney**	**20.91**	**122**	*e*P	**P**	**14 42 25.5**	**-0.3**
comp=Z,127nm,0.8s							
A04A	**Legoe Bay, Lum**	**21.14**	**121**	⇑P	**P**	**14 42 28.2**	**-0.1**
baz=21,SNR=17							
A05A	**Maple Falls**	**21.16**	**119**	⇑P	**P**	**14 42 28.1**	**-0.3**
baz=21,SNR=31							
B04A	**Port Angeles**	**21.37**	**123**	⇓P	**P**	**14 42 30.6**	**-0.1**
baz=21,SNR=26							
OSD	**Olympics--Snow**	**21.49**	**124**	P	**P**	**14 42 33.7**	**+1.6**
EDM	**Edmonton**	**21.74**	**100**	*e*P	**P**	**14 42 34.2**	**-0.4**
B05A	**Bryant**	**21.74**	**120**	⇑P	**P**	**14 42 34.5**	**-0.2**
baz=22,SNR=24							
B06A	**Marblemount**	**21.78**	**119**	⇑P	**P**	**14 42 34.5**	**-0.6**
baz=22,SNR=7.0							
C04A	**Brinnon**	**21.86**	**123**	⇑P	**P**	**14 42 36.1**	**+0.2**
baz=22,SNR=14							
PNT	**Penticton**	**21.89**	**115**	P	**P**	**14 42 36.3**	**0.0**
RES	**Resolute Bay**	**21.93**	**36**	P	**P**	**14 42 36.9**	**+0.2**
RES				pmax	pmax		
comp=Z,3μm,0.8s							
RES	**Resolute Bay**	**21.93**	**36**	P	**P**	**14 42 36.9**	**+0.3**
comp=Z,3μm,0.8s							
C05A	**Tolt Reservoir**	**22.37**	**121**	⇑P	**P**	**14 42 40.8**	**-0.5**
baz=22,SNR=23							
B07A	**Winthrop**	**22.37**	**117**	P	**P**	**14 42 40.9**	**-0.4**
baz=22,SNR=25							
WRW	**Wenatchee Ridg**	**22.55**	**119**	P	**P**	**14 42 42.8**	**-0.4**
A09A	**Danville**	**22.59**	**114**	⇓P	**P**	**14 42 43.3**	**-0.3**
baz=22,SNR=26							
D05A	**Enumclaw**	**22.67**	**122**	⇑P	**P**	**14 42 44.4**	**0.0**
baz=22,SNR=9.1							
SLFW	**Sugar Loaf**	**22.77**	**119**	P	**P**	**14 42 45.2**	**-0.1**
E04A	**Onalaska**	**22.89**	**124**	⇓P	**P**	**14 42 46.3**	**0.0**
baz=23							
A10A	**Northport**	**23.00**	**113**	⇑P	**P**	**14 42 47.0**	**-0.4**
baz=23,SNR=47							
C07A	**Waterville**	**23.01**	**118**	⇓P	**P**	**14 42 46.8**	**-0.6**
baz=23,SNR=17							
D06A	**Cle Elum**	**23.11**	**120**	⇑P	**P**	**14 42 48.0**	**-0.4**
baz=23							
F03A	**Seaside**	**23.14**	**126**	⇑P	**P**	**14 42 48.6**	**0.0**
baz=23							
B09A	**Rice**	**23.20**	**115**	⇓P	**P**	**14 42 49.1**	**-0.1**
baz=23,SNR=35							
C08A	**Higginbotham F**	**23.34**	**117**	⇑P	**P**	**14 42 49.9**	**-0.6**
baz=23,SNR=25							
F04A	**Amboy**	**23.55**	**124**	⇓P	**P**	**14 42 52.1**	**-0.3**
baz=23,SNR=15							
E06A	**Yakima**	**23.59**	**121**	P	**P**	**14 42 52.6**	**-0.2**
baz=23,SNR=20							
C09A	**Chrisman Ranch**	**23.64**	**116**	⇑P	**P**	**14 42 52.5**	**-0.7**
baz=23							
B10A	**Chitwood Farm,**	**23.68**	**114**	⇓P	**P**	**14 42 53.3**	**-0.2**
baz=24,SNR=6.5							
NEW	**Newport**	**23.75**	**114**	P	**P**	**14 42 54.0**	**-0.2**
comp=Z,66nm,1.0s,mb4.9,baz=326,slow=7.1,SNR=37							
NEW				pP		14 43 18.6	
comp=Z,101nm,1.0s,baz=341,slow=13,SNR=9.3							
NEW				ScP	ScP	14 50 00.9	-1.1
comp=Z,6.1nm,0.8s,baz=324,slow=2.5,SNR=6.4							
NEW				LR	LR	14 52 37.3	
comp=Z,459nm,18.4s,baz=316,slow=37							
NEW	**Newport**	**23.75**	**114**	*e*P	**P**	**14 42 53.7**	**-0.5**
NEW				pmax	pmax		
comp=Z,117nm,1.0s							
NEW	**Newport**	**23.75**	**114**	*e*P	**P**	**14 42 53.7**	**-0.5**
comp=Z,117nm,1.0s,mb5.2							
G03A	**Yamhill**	**23.76**	**126**	⇑P	**P**	**14 42 54.2**	**-0.1**
baz=24							
MXC	**Moxie City**	**23.83**	**120**	P	**P**	**14 42 54.7**	**-0.2**
A12A	**Yaak River Ran**	**23.84**	**111**	⇓P	**P**	**14 42 55.0**	**0.0**
baz=24,SNR=34							
D08A	**Wollman Farm,**	**23.98**	**118**	⇓P	**P**	**14 42 55.6**	**-0.7**
baz=24							
E07A	**Sunnyside**	**24.02**	**120**	⇑P	**P**	**14 42 56.0**	**-0.6**
baz=24,SNR=14							
C10A	**Spilker Farm,**	**24.02**	**114**	⇓P	**P**	**14 42 56.6**	**-0.1**
baz=24							
G04A	**Mulino**	**24.15**	**125**	⇓P	**P**	**14 42 57.3**	**-0.5**
baz=24,SNR=8.2							
D09A	**Jones Farm, Ri**	**24.22**	**117**	P	**P**	**14 42 57.8**	**-0.7**
baz=24,SNR=21							
B12A	**Libby**	**24.23**	**111**	P	**P**	**14 42 59.1**	**+0.5**
baz=24,SNR=46							
HAWA	**Hanford**	**24.28**	**120**	*e*P	**P**	**14 42 57.8**	**-1.2**
comp=Z,211nm,1.8s,mb5.2							
H03A	**Soap Creek Ran**	**24.31**	**127**	⇓P	**P**	**14 42 59.1**	**-0.1**
baz=24							
A13A	**Flathead Natio**	**24.37**	**109**	⇓P	**P**	**14 42 59.9**	**+0.1**
baz=24							
WALA	**Waterton Lakes**	**24.49**	**108**	*e*P	**P**	**14 43 00.8**	**-0.1**
comp=Z,241nm,1.1s,mb5.4							
F07A	**Phinny Hill Vi**	**24.54**	**121**	⇑P	**P**	**14 43 01.2**	**-0.2**
baz=24,SNR=18							
G05A	**Wamic**	**24.55**	**124**	P	**P**	**14 43 01.5**	**0.0**
baz=24,SNR=12							
I02A	**Mapleton**	**24.70**	**129**	⇑P	**P**	**14 43 02.7**	**-0.2**
baz=24							
H04A	**Detroit Lake**	**24.70**	**126**	P	**P**	**14 43 02.7**	**-0.2**
baz=24,SNR=7.3							
E09A	**Wood Farm, Sta**	**24.73**	**117**	P	**P**	**14 43 02.5**	**-0.6**
baz=24,SNR=14							
B13A	**Whitefish**	**24.77**	**110**	P	**P**	**14 43 03.7**	**+0.2**
baz=25,SNR=70							
G06A	**Carlson Farm,**	**24.82**	**123**	P	**P**	**14 43 03.8**	**-0.1**
baz=25,SNR=5.7							
C12A	**Trout Creek**	**24.87**	**112**	⇑P	**P**	**14 43 03.9**	**-0.4**
baz=25,SNR=6.6							
I03A	**Eugene**	**24.92**	**128**	⇑P	**P**	**14 43 05.2**	**+0.4**
baz=25,SNR=9.4							
SEY	**Seymchan**	**25.04**	**295**	*e*P	**P**	**14 43 05.9**	**0.0**
SEY	**Seymchan**	**25.04**	**295**	*e*P	**P**	**14 43 05.0**	**-0.9**
F08A	**Pendleton**	**25.07**	**119**	P	**P**	**14 43 05.7**	**-0.5**
baz=25,SNR=18							
H05A	**Madras**	**25.09**	**124**	⇑P	**P**	**14 43 05.9**	**-0.5**
baz=25							
G07A	**Ruggs Ranch, H**	**25.16**	**121**	⇑P	**P**	**14 43 06.7**	**-0.4**
baz=25							
C13A	**Hot Springs**	**25.27**	**111**	⇓P	**P**	**14 43 07.8**	**-0.2**
baz=25,SNR=62							
J02A	**Umpqua**	**25.35**	**129**	⇓P	**P**	**14 43 09.0**	**+0.3**
baz=25							
H06A	**Lindquist Farm**	**25.35**	**123**	⇑P	**P**	**14 43 08.3**	**-0.5**
baz=25,SNR=10							
G08A	**Pilot Rock**	**25.42**	**120**	P	**P**	**14 43 08.9**	**-0.5**
baz=25,SNR=17							
F09A	**S2 Ranch, Elgi**	**25.48**	**118**	⇑P	**P**	**14 43 09.7**	**-0.2**
baz=25							
KEBM	**Edson Butte**	**25.52**	**131**	*e*P	**P**	**14 43 11.3**	**+1.0**
KEBM				*e*pP	pP	14 43 36.6	+0.6
F10A	**Beach Ranch, E**	**25.54**	**117**	⇓P	**P**	**14 43 09.7**	**-0.7**
baz=25							
J03A	**Ideyld Park**	**25.56**	**128**	⇑P	**P**	**14 43 11.0**	**+0.4**
baz=25,SNR=15							
H07A	**Lands Inn, Kim**	**25.77**	**122**	P	**P**	**14 43 12.0**	**-0.5**
baz=26,SNR=23							
FFC	**Flin Flon**	**25.88**	**87**	P	**P**	**14 43 13.0**	**-0.5**
comp=Z,351nm,1.2s,mb5.7,SNR=20							
K02A	**Glendale**	**25.91**	**130**	P	**P**	**14 43 14.4**	**+0.7**
baz=26,SNR=14							
I06A	**Prineville**	**26.07**	**124**	⇑P	**P**	**14 43 15.4**	**+0.1**
baz=26							
H08A	**Prairie City**	**26.17**	**121**	P	**P**	**14 43 16.2**	**+0.1**
baz=26,SNR=20							
MSO	**Missoula**	**26.20**	**112**	*e*P	**P**	**14 43 15.6**	**-0.9**
comp=Z,14nm,0.5s,mb4.6							
I07A	**Izee**	**26.22**	**122**	P	**P**	**14 43 16.6**	**0.0**
baz=26,SNR=14							
HUMO	**Hull Mountain**	**26.23**	**129**	*e*P	**P**	**14 43 17.0**	**+0.3**
comp=Z,54nm,0.9s,mb5.0							
HUMO				*e*pP	pP	14 43 42.7	+0.3
HUMO				*e*PcP	PcP	14 46 40.1	-0.2
HUMO				*e*ScP	ScP	14 50 09.3	+0.3
HUMO	**Hull Mountain**	**26.23**	**129**	P	**P**	**14 43 17.3**	**+0.6**
baz=26,SNR=14							
J05A	**Fort Rock**	**26.26**	**126**	⇓P	**P**	**14 43 17.2**	**+0.2**
baz=26,SNR=13							
L02A	**Cave Junction**	**26.41**	**130**	⇓P	**P**	**14 43 18.6**	**+0.3**
baz=26							
CHMT	**Chamberlain Mo**	**26.43**	**111**	*e*P	**P**	**14 43 17.8**	**-0.6**
H09A	**Durkee**	**26.45**	**119**	⇑P	**P**	**14 43 18.5**	**-0.1**
baz=26,SNR=14							
K04A	**Chilquin**	**26.66**	**127**	⇓P	**P**	**14 43 20.8**	**+0.2**
baz=26							
J06A	**Christmas Vall**	**26.69**	**124**	P	**P**	**14 43 20.9**	**+0.1**
baz=26,SNR=31							
I08A	**Drewsey**	**26.73**	**121**	⇓P	**P**	**14 43 21.0**	**-0.2**
baz=26							
K05A	**Summer Lake**	**26.87**	**126**	⇓P	**P**	**14 43 22.7**	**+0.3**
baz=27,SNR=9.1							
J07A	**Hines**	**26.90**	**123**	⇓P	**P**	**14 43 22.9**	**+0.2**
baz=27,SNR=6.8							
FCC	**Fort Churchill**	**26.99**	**73**	*e*P	**P**	**14 43 23.4**	**-0.1**
FCC				pmax	pmax		
comp=Z,70nm,1.1s,mb5.1							
FCC	**Fort Churchill**	**26.99**	**73**	*e*P	**P**	**14 43 23.4**	**-0.1**
comp=Z,70nm,1.1s,mb5.1							
L04A	**Klamath Falls**	**26.99**	**128**	P	**P**	**14 43 23.9**	**+0.4**
baz=27,SNR=8.9							
I09A	**Lost Marbles R**	**26.99**	**120**	P	**P**	**14 43 23.6**	**0.0**
baz=27,SNR=6.9							
K06A	**Valley Falls**	**27.04**	**125**	P	**P**	**14 43 24.5**	**+0.5**
baz=27,SNR=15							
EGMT	**Eagleton**	**27.07**	**105**	*e*P	**P**	**14 43 23.7**	**-0.5**
comp=Z,120nm,0.9s,mb5.4							
EGMT	**Eagleton**	**27.07**	**105**	⇓P	**P**	**14 43 24.2**	**0.0**
baz=27							
YBH	**Yreka Blue Hor**	**27.09**	**130**	P	**P**	**14 43 25.1**	**+0.7**
comp=Z,22nm,0.9s,mb4.7,baz=349,slow=4.0,SNR=37							
YBH				pP	pP	14 43 49.5	-0.7
comp=Z,45nm,0.9s,baz=5.4,slow=3.3,SNR=13							
YBH				ScP	ScP	14 50 10.3	-1.2
comp=Z,7.3nm,1.0s,baz=24,slow=2.0,SNR=6.5							
YBH				LR	LR	14 53 32.8	
comp=Z,196nm,19.9s,baz=324,slow=35							
YBH	**Yreka Blue Hor**	**27.09**	**130**	*e*P	**P**	**14 43 24.5**	**+0.1**
YBH				*e**PP	pP	14 43 49.6	-0.6
YBH				pmax	pmax		
comp=Z,71nm,1.1s							
YBH	**Yreka Blue Hor**	**27.09**	**130**	*e*P	**P**	**14 43 24.5**	**+0.1**
comp=Z,71nm,1.1s,mb5.1							
YBH				*e*pP	pP	14 43 49.6	-0.5
YBH	**Yreka Blue Hor**	**27.09**	**130**	⇑P	**P**	**14 43 24.8**	**+0.4**
baz=27,SNR=15							
J08A	**Circle Bar Ran**	**27.23**	**122**	P	**P**	**14 43 25.9**	**+0.2**
baz=27,SNR=14							
M02C	**Callahan**	**27.34**	**130**	⇑P	**P**	**14 43 27.4**	**+0.8**
baz=27,SNR=7.6							
M04C	**Macdoel**	**27.35**	**128**	P	**P**	**14 43 27.1**	**+0.3**
baz=27,SNR=17							
MA2	**Magadan**	**27.40**	**289**	*e*P	**P**	**14 43 26.9**	**-0.2**
MA2				pmax	pmax		
comp=Z,172nm,1.1s,mb5.5							
MA2	**Magadan**	**27.40**	**289**	*e*P	**P**	**14 43 26.9**	**-0.2**
comp=Z,172nm,1.1s,mb5.5							
L05A	**Lakeview**	**27.48**	**127**	⇑P	**P**	**14 43 28.3**	**+0.4**
baz=27,SNR=12							
KHMM	**Horse Mountain**	**27.50**	**132**	*e*P	**P**	**14 43 29.1**	**+1.0**
KHMM				*e*pP	pP	14 43 54.8	+0.9
K07A	**Rock Creek Ran**	**27.51**	**124**	P	**P**	**14 43 28.6**	**+0.5**
baz=27,SNR=25							
J09A	**Fry Pan Ranch,**	**27.52**	**121**	P	**P**	**14 43 28.5**	**+0.3**
baz=27,SNR=34							
ALE	**Alert**	**27.60**	**16**	P	**P**	**14 43 29.0**	**+0.1**
comp=Z,304nm,0.8s,mb5.9,SNR=12							
N02C	**Big Bar**	**27.69**	**131**	P	**P**	**14 43 30.3**	**+0.5**
baz=28,SNR=6.3							
K08A	**Mann Creek Ran**	**27.76**	**123**	P	**P**	**14 43 30.8**	**+0.4**
baz=28,SNR=13							
MOD	**Modoc**	**27.80**	**126**	*e*P	**P**	**14 43 29.9**	**-0.9**
comp=Z,18nm,1.1s,mb4.5							
MOD	**Modoc**	**27.80**	**126**	⇑P	**P**	**14 43 30.9**	**+0.2**
baz=28,SNR=8.7							
PET	**Petropavlovsk**	**27.89**	**272**	*e*P	**P**	**14 43 31.9**	**+0.4**
PET				*e*S	**S**	**14 47 58.3**	**-7.9**
PET				pmax	pmax		
comp=Z,97nm,1.1s,mb5.2							
PET				MLR	MLR		
comp=Z,100nm,20.0s							
PET	**Petropavlovsk**	**27.89**	**272**	*e*P	**P**	**14 43 31.1**	**-0.5**
comp=Z,68nm,1.1s,mb5.1							
DLMT	**Dillon**	**27.94**	**112**	*e*P	**P**	**14 43 32.0**	**0.0**
comp=Z,101nm,1.4s,mb5.2							
WVOR	**Wild Horse Val**	**27.96**	**123**	*e*P	**P**	**14 43 32.2**	**+0.1**
WVOR				pmax	pmax		
comp=Z,59nm,1.0s,mb5.1							
WVOR	**Wild Horse Val**	**27.96**	**123**	*e*P	**P**	**14 43 32.2**	**+0.1**
comp=Z,60nm,1.0s,mb5.1							
M05C	**Lookout**	**27.97**	**128**	⇓P	**P**	**14 43 32.4**	**+0.2**
baz=28,SNR=11							
L07A	**Adell**	**28.05**	**125**	⇑P	**P**	**14 43 33.4**	**+0.4**
baz=28,SNR=19							
K09A	**Rome**	**28.08**	**122**	P	**P**	**14 43 33.5**	**+0.2**
baz=28,SNR=16							
O01C	**Eel River Cons**	**28.13**	**133**	⇑P	**P**	**14 43 34.0**	**+0.4**
baz=28							
WDC	**Whiskeytown Da**	**28.17**	**131**	*e*P	**P**	**14 43 33.9**	**-0.1**
WDC				pmax	pmax		
comp=Z,128nm,1.3s,mb5.3							
WDC	**Whiskeytown Da**	**28.17**	**131**	*e*P	**P**	**14 43 33.9**	**-0.2**
comp=Z,128nm,1.3s,mb5.3							
WDC	**Whiskeytown Da**	**28.17**	**131**

LAO **LASA Array** 29.64 103 *e*P P 14 43 47.2 +0.1
comp=Z,105nm,0.9s,mb5.5
OHCM **Honcut** 29.65 130 *e*P P 14 43 46.2 -0.9
MNRC **McLaughlin Nat** 29.73 132 ⇑P P 14 43 48.1 +0.2
baz=30
N09A **Rock Creek Ran** 29.74 123 ⇑P P 14 43 48.4 +0.4
baz=30
FLWY **Flagg Ranch** 29.77 111 *e*P P 14 43 49.5 +1.3
comp=Z,71nm,0.9s,mb5.3
IMW **Indian Meadow** 29.82 112 *e*P P 14 43 49.5 +0.8
comp=Z,184nm,1.4s,mb5.5
O07A **Toulon** 29.84 126 ⇓P P 14 43 49.3 +0.4
baz=30
M11A **Holland Ranch,** 29.91 120 ⇑P P 14 43 50.1 +0.6
baz=30,SNR=9.4
DCID1 **Drake Creek** 29.96 112 *e*P P 14 43 51.2 +1.3
DCID1 *e*pP pP 14 44 16.5 +0.6
O08A **Rochester Mine** 30.00 125 ⇑P P 14 43 50.9 +0.7
baz=30
MOOW **Moose Ponds** 30.02 112 *e*P P 14 43 51.5 +1.1
comp=Z,24nm,0.9s,mb4.8
RRI2 **Red Ridge** 30.11 113 *e*P P 14 43 52.2 +1.0
comp=Z,65nm,0.8s,mb5.3
TPAW **Teton Pass** 30.15 112 *e*P P 14 43 52.4 +0.9
comp=Z,180nm,1.3s,mb5.5
TPAW *e*pP pP 14 44 16.4 -1.1
LOHW **Long Hollow** 30.19 112 *e*P P 14 43 52.4 +0.5
comp=Z,16nm,0.7s,mb4.8
CVS **Carmenet Viney** 30.21 132 ⇓P P 14 43 52.2 +0.2
baz=30
BMN **Battle Mountai** 30.22 123 *e*P P 14 43 52.5 +0.3
BMN *PP pP 14 44 13.8 -4.4
BMN pmax pmax
comp=Z,4.0nm,0.6s
BMN **Battle Mountai** 30.22 123 *e*P P 14 43 52.5 +0.3
comp=Z,4.4nm,0.6s,mb4.3
BMN pP pP 14 44 13.8 -4.4
N10A **Dunphy** 30.25 122 ⇓P P 14 43 52.7 +0.3
baz=30
SNOW **Snow King Moun** 30.25 112 *e*P P 14 43 53.4 +1.0
comp=Z,66nm,1.3s,mb5.1
SNOW *e*pP pP 14 44 18.8 +0.4
M12A **Wells** 30.27 119 ⇑P P 14 43 52.9 +0.4
baz=30,SNR=36
WCN **Washoe City** 30.28 128 ⇑P P 14 43 52.9 +0.1
baz=30,SNR=5.3
REDW **Red Top Meadow** 30.29 112 *e*P P 14 43 53.4 +0.6
comp=Z,207nm,1.4s,mb5.6
LAVA **Lava Cap Winer** 30.42 130 ⇑P P 14 43 53.1 -0.8
baz=30,SNR=6.1
N11A **Elko Archery C** 30.46 121 ⇑P P 14 43 54.8 +0.6
baz=30,SNR=5.7
O09A **Fish Creek Ran** 30.46 124 ⇑P P 14 43 54.5 +0.2
baz=30,SNR=15
P08A **Dixie Valley** 30.55 125 ⇓P P 14 43 55.4 +0.4
baz=30
M13A **Montello** 30.61 118 ⇓P P 14 43 56.5 +0.9
baz=30
O10A **Cortez Mining,** 30.62 123 ⇓P P 14 43 56.3 +0.6
baz=30
AHID **Auburn Hatcher** 30.68 113 *e*P P 14 43 55.1 -1.1
comp=Z,38nm,1.0s,mb5.1
AHID *e*pP pP 14 44 22.4 +0.2
R05C **Kirkwood Meado** 30.70 129 ⇑P P 14 43 56.3 -0.1
baz=30,SNR=13
HVU **Hansel Valley** 30.81 116 *e*P P 14 43 57.7 +0.3
HVU *e*PP pP 14 44 23.7 +0.2
HVU pmax pmax
comp=Z,35nm,1.2s,mb5.0
HVU **Hansel Valley** 30.81 116 *e*P P 14 43 57.7 +0.3
comp=Z,35nm,1.2s,mb5.0
HVU *e*pP pP 14 44 23.7 +0.2
Q07A **Schurz** 30.95 127 ⇑P P 14 43 58.5 -0.1
baz=31
P09A **Austin** 31.02 124 ⇑P P 14 43 59.9 +0.7
baz=31
N13A **Wendover, West** 31.02 119 P P 14 43 59.9 +0.6
baz=31,SNR=16
O11A **Cowboy Ranch,** 31.08 122 P P 14 44 00.4 +0.7
baz=31,SNR=36
CMB **Columbia Colle** 31.19 130 *e*P P 14 44 00.1 -0.6
CMB *e*PP pP 14 44 25.5 -1.3
CMB pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CMB **Columbia Colle** 31.19 130 *e*P P 14 44 00.1 -0.6
comp=Z,4.9nm,0.8s,mb4.3
CMB *e*pP pP 14 44 25.4 -1.3
CMB **Columbia Colle** 31.19 130 ⇑P P 14 44 00.4 -0.3
baz=31
P10A **Eureka** 31.21 123 ⇑P P 14 44 01.4 +0.5
baz=31,SNR=6.6
O12A **Currie** 31.32 120 P P 14 44 02.2 +0.5
baz=31,SNR=21
BW06 **Boulder Array** 31.32 111 *e*P P 14 44 02.2 +0.4
comp=Z,77nm,1.0s,mb5.4
BW06 *e*pP pP 14 44 28.1 +0.1
PDAR **Pinedale Array** 31.32 111 P P 14 44 02.3 +0.4
comp=Z,46nm,0.9s,mb5.2,baz=316,slow=6.2,SNR=219
PDAR pP pP 14 44 27.4 -0.6
comp=Z,33nm,1.0s,baz=323,slow=6.3,SNR=6.6
PDAR PcP PcP 14 46 52.2 -0.8
comp=Z,7.8nm,0.6s,baz=114,slow=1.6,SNR=9.6
PDAR ScP ScP 14 50 23.8 -1.2
comp=Z,3.9nm,0.9s,baz=354,slow=1.8,SNR=8.2
PDAR LR LR 14 56 47.9
comp=Z,249nm,19.1s,baz=340,slow=36
Q08A **Gabbs** 31.33 126 P P 14 44 02.5 +0.6
baz=31,SNR=8.2
HWUT **Hardware Ranch** 31.45 115 *e*P P 14 44 02.1 -0.9
comp=Z,45nm,1.4s,mb5.0
HWUT *e*pP pP 14 44 28.3 -0.8
S06C **San Francisco** 31.52 129 ⇓P P 14 44 03.3 -0.2
baz=31
P11A **Circle Ranch,** 31.54 122 ⇑P P 14 44 04.5 +0.7
baz=31,SNR=9.7
NVAR **Mina Array Bea** 31.58 127 P P 14 44 04.5 +0.4
comp=Z,14nm,0.8s,mb4.8,baz=312,slow=8.8,SNR=71
NVAR pP pP 14 44 30.6 +0.3
comp=Z,18nm,0.7s,baz=312,slow=8.8,SNR=8.6
NVAR PcP PcP 14 46 53.9 +0.2
comp=Z,6.3nm,0.7s,baz=298,slow=3.6,SNR=4.9
NVAR ScP ScP 14 50 25.8 -0.1
comp=Z,1.7nm,0.8s,baz=304,slow=3.4,SNR=5.9
R07C **Lee Vining** 31.61 128 ⇓P P 14 44 04.8 +0.4
baz=31
Q09A **Carvers** 31.63 125 ⇑P P 14 44 05.2 +0.6
baz=31
ULM **Lac du Bonnet** 31.65 88 P P 14 44 04.6 -0.1
comp=Z,31nm,0.8s,mb5.1,baz=310,slow=8.6,SNR=47
ULM pP pP 14 44 30.7 -0.1
comp=Z,40nm,1.0s,baz=321,slow=9.2,SNR=6.6
ULM PcP PcP 14 46 52.7 -1.3
comp=Z,10nm,0.6s,baz=282,slow=8.4,SNR=3.7
ULM ScP ScP 14 50 25.2 -0.9
comp=Z,7.8nm,0.8s,baz=227,slow=3.8,SNR=3.5
ULM **Lac du Bonnet** 31.65 88 *e*P P 14 44 04.3 -0.5
comp=Z,66nm,1.0s,mb5.3
R08A **Mina** 31.72 126 ⇑P P 14 44 05.7 +0.4
baz=32,SNR=7.1
PACP **Pacheco Peak** 31.81 132 ⇓P P 14 44 06.3 +0.2
baz=32
S05C **Merced** 31.83 130 ⇓P P 14 44 06.2 -0.1
baz=32
TCUT **Toone Canyon** 31.93 115 *e*P P 14 44 07.3 +0.1
P12A **McGill** 31.94 121 ⇑P P 14 44 07.4 +0.1
baz=32,SNR=12
DUG **Dugway** 32.14 118 *e*P P 14 44 09.1 +0.1
DUG *e*PP pP 14 44 35.0 -0.2
DUG pmax pmax
comp=Z,20nm,0.8s,mb4.9
DUG **Dugway** 32.14 118 *e*P P 14 44 09.1 +0.1
comp=Z,20nm,0.8s,mb4.9
DUG *e*pP pP 14 44 35.0 -0.2
DUG **Dugway** 32.14 118 ⇓P P 14 44 09.1 +0.1
baz=32,SNR=11
CTU **Camp Tracy** 32.15 116 *e*P P 14 44 09.2 +0.1
comp=Z,46nm,1.1s,mb5.1
CTU *e*pP pP 14 44 35.0 -0.2
Q11A **Duckwater** 32.20 123 ⇑P P 14 44 09.8 +0.3
baz=32,SNR=21
R09A **Tonopah** 32.20 125 ⇑P P 14 44 09.5 -0.1
baz=32,SNR=28
KCC **Kaiser Creek** 32.20 129 ⇑P P 14 44 09.7 +0.2
baz=32,SNR=7.3
HAST **UC Hastings Re** 32.28 133 ⇓P P 14 44 10.2 -0.1
baz=32
TPH **Tonopah** 32.29 126 *e*P P 14 44 10.6 +0.3
TPH *e*PP pP 14 44 36.8 +0.3
TPH pmax pmax
comp=Z,23nm,0.9s,mb4.9
TPH **Tonopah** 32.29 126 *e*P P 14 44 10.6 +0.3
comp=Z,23nm,0.9s,mb4.9
TPH *e*pP pP 14 44 36.8 +0.3
T06C **Millerton Lake** 32.35 130 ⇑P P 14 44 10.5 -0.3
baz=32
LRV **Little Rabbit** 32.43 132 *e*P P 14 44 12.4 +0.8
LRV *e*pP pP 14 44 38.0 +0.3
R10A **Warm Springs** 32.44 124 ⇓P P 14 44 11.5 -0.1
baz=32,SNR=22
MTUM **Tungsten Hills** 32.44 128 *e*P P 14 44 12.5 +0.8
S08C **White Mtn Res** 32.45 127 ⇓P P 14 44 12.2 +0.5
baz=32,SNR=20
DAU **Daniels Canyon** 32.58 116 *e*P P 14 44 13.6 +0.7
S09A **Goldfield** 32.60 126 P P 14 44 13.2 +0.2
baz=32,SNR=17
RSSD **Black Hills** 32.61 104 *e*P P 14 44 13.2 +0.1
RSSD *e*PP pP 14 44 39.3 0.0
RSSD *e* 14 46 55.9
RSSD pmax pmax
comp=Z,63nm,0.8s,mb5.5
RSSD **Black Hills** 32.61 104 *e*P P 14 44 13.2 +0.1
comp=Z,63nm,0.8s,mb5.5
RSSD *e*pP pP 14 44 39.3 0.0
RSSD *e*PcP PcP 14 46 55.9 -0.7
RSSD *e*ScP ScP 14 50 28.4 -1.0
NLU **North Lily Min** 32.64 117 *e*P P 14 44 13.3 -0.1
MPU **Maple Canyon** 32.77 117 *e*P P 14 44 14.8 +0.4
comp=Z,20nm,0.9s,mb4.9
TIN **Tinemaha** 32.83 128 ⇓P P 14 44 15.9 +0.9
baz=33
HELL **Mitchell Peak,** 32.88 129 ⇑P P 14 44 15.0 -0.5
baz=33,SNR=6.6
PKD **Parkfield** 33.02 132 ⇓P P 14 44 16.8 +0.1
baz=33
AGMN **Agassiz Refuge** 33.07 91 *e*P P 14 44 16.5 -0.6
comp=Z,31nm,0.9s,mb5.1
GRAC **Grapevine Rang** 33.19 127 ⇑P P 14 44 18.6 +0.5
baz=33
RWWY **Rawlins** 33.20 110 *e*P P 14 44 18.1 -0.1
comp=Z,64nm,0.8s,mb5.5
V05C **Boulder Hill,** 33.31 131 ⇑P P 14 44 20.4 +1.1
baz=33
PTRM **Twissleman Ran** 33.40 131 *e*P P 14 44 21.4 +1.4
CWC **Cottonwood Cre** 33.43 128 ⇑P P 14 44 21.2 +0.9
baz=33
TMUT **Trail Mountain** 33.55 117 *e*P P 14 44 21.1 -0.2
VES **Vestal, Richgr** 33.62 130 ⇓P P 14 44 22.0 +0.1
baz=33
DAC **Darwin (Calif)** 33.75 127 *e*P P 14 44 23.5 +0.5
DAC *e*PP pP 14 44 49.2 -0.1
DAC pmax pmax
comp=Z,31nm,1.0s,mb5.1
DAC **Darwin (Calif)** 33.75 127 *e*P P 14 44 23.5 +0.4
comp=Z,32nm,1.0s,mb5.1
DAC *e*pP pP 14 44 49.2 -0.1
MSU **Marysvale** 33.84 119 *e*P P 14 44 24.7 +0.9
MSU *e*PP pP 14 44 50.1 +0.1
MSU **Marysvale** 33.84 119 *e*P P 14 44 24.7 +0.9
MSU *e*pP pP 14 44 50.1 +0.1
MSU *e*ScP ScP 14 50 34.0 +0.3
FURC **Furnace Creek,** 33.84 126 ⇑P P 14 44 24.4 +0.5
baz=34
ARUT **Antelope Range** 33.97 121 *e*P P 14 44 25.3 +0.4
MPMC **Manual Prospec** 33.98 128 ⇓P P 14 44 25.6 +0.6
baz=34,SNR=22
SRU **San Rafael** 33.98 116 *e*P P 14 44 25.6 +0.5
SRU pmax pmax
comp=Z,91nm,1.0s,mb5.6
SRU **San Rafael** 33.98 116 *e*P P 14 44 25.6 +0.5
comp=Z,91nm,1.0s,mb5.6
ISA **Isabella** 33.99 129 *e*P P 14 44 24.8 -0.3
ISA *e*PP pP 14 44 50.9 -0.5
ISA **Isabella** 33.99 129 ⇑P P 14 44 24.8 -0.3
baz=34,SNR=9.2
CCUT **Cedar City** 34.20 121 *e*P P 14 44 27.3 +0.3
PKM **Peak Mountain** 34.22 131 ⇑P P 14 44 27.7 +0.6
baz=34,SNR=7.3
FRB **Frobisher Bay** 34.24 52 P P 14 44 27.3 0.0
comp=Z,87nm,0.8s,mb5.7,baz=310,slow=9.5,SNR=31
FRB ScP ScP 14 50 32.8 -2.4
comp=Z,17nm,0.9s,baz=232,slow=8.8,SNR=4.0
FRB LR LR 14 58 58.9
comp=Z,466nm,19.8s,baz=202,slow=37
FRB **Frobisher Bay** 34.24 52 P P 14 44 27.3 0.0
FRB ScP ScP 14 50 32.8 -2.4
FRB LR LR 14 58 58.9
PHWY **Pilot Hill** 34.27 108 *e*P P 14 44 27.1 -0.4
YAK **Yakutsk** 34.41 305 *c i*P P 14 44 28.3 -0.4
YAK *e* 14 45 48.6
YAK *e*S S 14 49 54.8 +6.9
YAK *i* 14 54 33.4
YAK pmax pmax
comp=Z,110nm,0.8s,mb5.7
YAK pmax pmax
comp=N,34nm,1.6s
YAK pmax pmax
comp=E,59nm,1.3s
YAK pmax pmax
comp=Z,258nm,2.8s,mb5.6
YAK pmax pmax
comp=N,298nm,3.4s
YAK pmax pmax
comp=E,72nm,1.3s
YAK **Yakutsk** 34.41 305 *e*P P 14 44 28.2 -0.6
comp=E,102nm,0.8s,mb5.7
YAK *e*PP PP 14 45 50.8 +1.9
YAK *e*ScP ScP 14 50 32.2 -3.5
U11A **Corn Creek** 34.43 125 ⇓P P 14 44 29.2 +0.3
baz=34
LRMC **Laurel Mountai** 34.43 128 ⇓P P 14 44 29.1 +0.1
baz=34,SNR=14
SBC **Santa Barbara** 34.67 132 ⇑P P 14 44 31.3 +0.3
baz=34
U12A **Valley of Fire** 34.74 123 ⇑P P 14 44 31.7 +0.2
baz=34,SNR=5.7
OSI **Osito Adit** 34.85 130 ⇑P P 14 44 32.5 0.0
baz=35
EDW2 **Edwards Air Fo** 34.87 129 ⇑P P 14 44 32.5 -0.2
baz=35
GSC **Goldstone** 34.91 127 *e*P P 14 44 32.1 -0.9
GSC **Goldstone** 34.91 127 ⇓P P 14 44 33.1 +0.1
baz=35,SNR=26
V11A **Goodsprings** 34.93 125 ⇑P P 14 44 33.9 +0.7
baz=35
BSC **Santa Cruz Isl** 35.10 132 ⇓P P 14 44 35.4 +0.7
baz=35
TUQ **Turquoise Mtn.** 35.11 126 P P 14 44 35.4 +0.7
baz=35,SNR=7.8
PV10 **Paradox Valley** 35.22 115 P P 14 44 34.8 -0.9
RRX **Edison Barstow** 35.22 128 ⇑P P 14 44 36.0 +0.4
baz=35
V12A **Nelson** 35.24 124 ⇑P P 14 44 36.5 +0.6
baz=35,SNR=21
EYMN **Ely** 35.30 87 *e*P P 14 44 36.4 0.0
comp=E,138nm,0.9s,mb5.8
EYMN *e*pP pP 14 45 02.2 -0.6
ISCO **Idaho Springs** 35.44 110 *e*P P 14 44 38.1 +0.5
ISCO pmax pmax
comp=Z,24nm,1.1s,mb4.9
ISCO **Idaho Springs** 35.44 110 *e*P P 14 44 38.1 +0.5
comp=Z,24nm,1.1s,mb4.9
ISCO *e*ScP ScP 14 50 38.9 -0.6
HEC **Hector,Ludlow** 35.50 127 ⇓P P 14 44 38.3 +0.2
baz=35
BFSC **Mount Baldy St** 35.56 129 ⇑P P 14 44 38.6 0.0
baz=35,SNR=11
PV01 **Paradox Valley** 35.61 115 *e*P P 14 44 39.1 +0.1
W12A **Cal Nev Ari** 35.62 125 ⇑P P 14 44 39.6 +0.5
baz=35
SNCC **San Nicolas Is** 35.82 132 ⇑P P 14 44 40.9 +0.1
baz=36
W13A **Hualapai Mount** 36.16 124 ⇓P P 14 44 44.2 +0.4
baz=36,SNR=20
ECSD **EROS,Sioux Fal** 36.21 97 *e*P P 14 44 43.2 -0.9
comp=Z,60nm,0.9s,mb5.5
ECSD *e*pP pP 14 45 09.6 -1.1
W14A **Seligman** 36.36 123 ⇓P P 14 44 45.9 +0.4
baz=36,SNR=19
BELC **Belle Mtn.** 36.37 127 ⇑P P 14 44 45.6 +0.2
baz=36,SNR=8.4
MVCO **Mesa Verde** 36.43 116 *e*P P 14 44 45.6 -0.5
comp=Z,18nm,0.8s,mb5.0
MVCO **Mesa Verde** 36.43 116 ⇑P P 14 44 45.8 -0.2
baz=36
IRM **Iron Mountain** 36.53 126 ⇑P P 14 44 47.2 +0.4
baz=36,SNR=5.5
PFO **Pinyon Flat Ob** 36.55 128 *e*P P 14 44 45.9 -1.2
PFO pmax pmax
comp=Z,35nm,1.2s,mb5.2
PFO **Pinyon Flat Ob** 36.55 128 *e*P P 14 44 45.9 -1.2
comp=Z,35nm,1.2s,mb5.2
PFO **Pinyon Flat Ob** 36.55 128 P P 14 44 46.5 -0.5
baz=36,SNR=6.5
X13A **Yucca** 36.63 124 P P 14 44 48.0 +0.2
baz=36,SNR=6.6
W15A **Williams** 36.71 122 ⇑P P 14 44 48.9 +0.5
baz=36,SNR=9.0
WUAZ **Wupatki** 36.76 120 *e*P P 14 44 49.1 +0.4
comp=Z,84nm,0.8s,mb5.7
WUAZ *e*pP pP 14 45 15.6 +0.3
WUAZ *e*ScP ScP 14 50 44.5 +0.2
WUAZ **Wupatki** 36.76 120 ⇑P P 14 44 49.6 +0.8
baz=36
PDMCI **Parker Dam,Lak** 36.78 125 ⇑P P 14 44 48.8 -0.2
baz=37,SNR=6.2
BC3 **Big Chuckw Mtn** 36.87 127 ⇑P P 14 44 49.6 -0.1
baz=37,SNR=7.8
SUMG **Summit** 36.94 28 *e*P P 14 44 50.6 +0.3
comp=Z,46nm,1.0s,mb5.4
109C **Camp Elliot, M** 36.98 129 ⇑P P 14 44 50.4 -0.2
baz=37
DAG **Danmarks Havn** 37.01 17⇑ *i*P P 14 44 51.2 +0.3
comp=Z,34nm,0.7s,mb5.4
DAG **Danmarks Havn** 37.01 17⇑ *i*P P 14 44 51.2 +0.3
DAG pmax pmax
comp=Z,34nm,0.7s,mb5.4
X14A **Yava** 37.10 123 ⇑P P 14 44 52.2 +0.5
baz=37,SNR=27
Y12C **Blythe** 37.13 126 ⇑P P 14 44 52.1 +0.2
baz=37,SNR=9.7
SDCO **Great Sand Dun** 37.22 112 *e*P P 14 44 53.2 +0.5
comp=Z,113nm,1.4s,mb5.6
SDCO *e*pP pP 14 45 19.6 +0.3
SDCO *e*ScP ScP 14 50 45.4 -0.6
Y13A **Salome** 37.33 125 ⇓P P 14 44 53.8 +0.2
baz=37,SNR=16
X15A **Humboldt** 37.33 122 P P 14 44 54.4 +0.7
baz=37,SNR=5.7
SWSC **Sam W. Stewart** 37.39 128 ⇑P P 14 44 54.2 +0.1
baz=37
Y14A **Wickenburg** 37.52 124 ⇓P P 14 44 55.7 +0.5
baz=37,SNR=19
DVTC **Desert V Tower** 37.54 128 ⇑P P 14 44 55.5 +0.1
baz=37,SNR=5.8
KBS **Kingsbay** 37.63 5 *e*P P 14 44 56.5 +0.4
GLA **Glamis** 37.64 126 *e*P P 14 44 56.4 +0.1
GLA **Glamis** 37.64 126 ⇑P P 14 44 56.3 0.0
baz=37,SNR=10
SFJD **Kangerlussuaq** 37.87 39 P P 14 44 58.1 -0.1
comp=Z,24nm,0.7s,mb5.1,baz=301,slow=9.3,SNR=8.4
SFJD **Kangerlussuaq** 37.87 39 *e*P P 14 44 58.4 +0.2
SFJD pmax pmax
comp=Z,40nm,1.0s,mb5.2
SFJD **Kangerlussuaq** 37.87 39 *e*P P 14 44 58.4 +0.2
comp=Z,40nm,1.0s,mb5.2
Z14A **Wintersburg** 38.06 124 ⇑P P 14 45 00.1 +0.4
baz=38,SNR=10.0
SPB4 **Spitsbergen Ar** 38.53 4 *e*P P 14 45 04.0 +0.3
CBKS **Cedar Bluff** 38.80 105 *e*P P 14 45 06.0 +0.1
CBKS pmax pmax
comp=Z,114nm,0.9s,mb5.7
CBKS **Cedar Bluff** 38.80 105 *e*P P 14 45 06.0 +0.1
comp=Z,114nm,0.9s,mb5.7
115A **Sonoran Desert** 38.92 123 ⇑P P 14 45 07.5 +0.6
baz=39,SNR=6.4
SCIA **State Center** 39.18 95 *e*P P 14 45 09.1 -0.1
comp=Z,35nm,0.5s,mb5.4
ANMO **Albuquerque** 39.21 115 P P 14 45 10.0 +0.6
comp=Z,18nm,1.0s,mb4.8,baz=329,slow=9.2,SNR=27
ANMO **Albuquerque** 39.21 115 *d i*P P 14 45 10.0 +0.6
ANMO **Albuquerque** 39.21 115 *e*P P 14 45 09.7 +0.3
comp=Z,83nm,1.6s,mb5.3
116A **Eloy** 39.24 123 P P 14 45 10.2 +0.6
baz=39,SNR=6.0
YSS **Yuzh-Sakhalins** 39.38 278 *e*P P 14 45 10.5 -0.3
YSS pmax pmax
comp=Z,307nm,1.2s,mb6.0
YSS **Yuzh-Sakhalins** 39.38 278 *e*P P 14 45 09.9 -0.9
comp=Z,288nm,1.0s,mb6.1
LAZ **Ladron** 39.41 116 *e*P P 14 45 09.1 -2.0
LENM **Lemitar** 39.69 116 *e*P P 14 45 14.0 +0.7
LPM **Los Pinos Moun** 39.70 116 *e*P P 14 45 13.9 +0.5
CLNS **Chul'man** 39.70 301 *e*P P 14 45 13.8 +0.3
CLNS pmax pmax
comp=N,71nm,0.8s
CLNS pmax pmax
comp=Z,153nm,0.8s,mb5.9
CLNS pmax pmax
comp=E,140nm,1.0s
JFWS **Jewell Farm** 39.72 92 *e*P P 14 45 11.8 -1.8
TUC **Tucson** 39.82 122 *e*P P 14 45 15.0 +0.6
TUC pmax pmax
comp=Z,14nm,0.9s,mb4.8
TUC **Tucson** 39.82 122 *e*P P 14 45 15.0 +0.6
comp=Z,14nm,0.9s,mb4.8
TUC *e*ScP ScP 14 50 55.2 -0.8
KSU1 **Kansas State U** 39.94 101 *e*P P 14 45 14.8 -0.7
comp=Z,146nm,0.5s,mb6.1
SCHQ **Schefferville** 40.91 61 P P 14 45 23.1 -0.2
comp=Z,10nm,0.4s,mb5.1,baz=322,slow=7.2,SNR=39
SCHQ PcP PcP 14 47 20.8 -0.8
comp=Z,14nm,0.6s,baz=348,slow=4.4,SNR=5.1
SCHQ LR LR 15 02 56.7
comp=Z,309nm,18.6s,baz=355,slow=37
SCHQ **Schefferville** 40.91 61 *e*P P 14 45 23.1 -0.3
comp=Z,103nm,1.3s,mb5.5
ASAJ **Asahikawa** 41.64 275 P P 14 45 28.1 -1.3
comp=Z,24nm,0.7s,mb5.1,baz=273,slow=1.4,SNR=11
MNTX **Cornudas Mount** 42.49 116 *e*P P 14 45 36.4 +0.1
comp=Z,27nm,1.1s,mb4.9
MNTX *e*ScP ScP 14 51 06.0 -0.6
KLR **Kul'dur** 42.49 289 ⇓ *i*P P 14 45 32.7 -3.6
KLR pmax pmax
comp=E,80nm,1.4s
KLR pmax pmax
comp=Z,180nm,1.4s,mb5.6
WMOK **Wichita Mounta** 42.63 107 *e*P P 14 45 36.9 -0.5
WMOK *e*PP pP 14 46 03.4 -1.2
WMOK pmax pmax
comp=Z,93nm,1.0s,mb5.5
WMOK **Wichita Mounta** 42.63 107 *e*P P 14 45 36.9 -0.5
comp=Z,94nm,1.0s,mb5.5
WMOK *e*pP pP 14 46 03.4 -1.2
WMOK *e*ScP ScP 14 51 05.8 -1.3
BOD **Bodaibo** 43.02 309 ⇓ *i*P P 14 45 39.4 -1.1
BOD pmax pmax
comp=Z,145nm,1.6s,mb5.5
ERM **Erimo** 43.04 273 P P 14 45 41.9 +1.2
comp=Z,547nm,1.3s,mb6.1,SNR=6.4
ERM **Erimo** 43.04 273 *e*P P 14 45 40.9 +0.2
ERM pmax pmax
comp=Z,179nm,1.3s,mb5.6
ERM **Erimo** 43.04 273 *e*P P 14 45 40.9 +0.2
comp=Z,179nm,1.3s,mb5.6
SLM **Saint Louis** 43.17 95 *e*P P 14 45 40.8 -0.9
SLM pmax pmax
comp=Z,26nm,0.4s,mb5.3
SLM **Saint Louis** 43.17 95 *e*P P 14 45 40.8 -0.9
comp=Z,26nm,0.4s,mb5.3
CCM **Cathedral Cave** 43.19 97 *e*P P 14 45 38.0 -3.9
CCM pmax pmax
comp=Z,34nm,1.2s,mb5.0
CCM **Cathedral Cave** 43.19 97 *e*P P 14 45 38.0 -3.9
comp=Z,34nm,1.2s,mb5.0
FVM **French Village** 43.62 96 *e*P P 14 45 44.3 -1.0
FVM pmax pmax
comp=Z,27nm,0.4s,mb5.3
FVM **French Village** 43.62 96 *e*P P 14 45 44.3 -1.0
comp=Z,27nm,0.4s,mb5.3
FVM *e*ScP ScP 14 51 09.8 -1.3
SIUC **Southern Illin** 44.38 95 *e*P P 14 45 50.6 -0.9
comp=Z,168nm,0.9s,mb5.8
SIUC *e*pP pP 14 46 17.2 -1.6
USIN **University of** 44.87 94 *e*P P 14 45 54.3 -1.0
comp=Z,204nm,1.3s,mb5.7
MSNY **Massena** 44.98 77 *e*P P 14 45 55.3 -0.9
ACSO **Alum Creek Sta** 45.14 87 *e*P P 14 45 56.6 -0.9
comp=Z,61nm,0.8s,mb5.4
ACSO *e*pP pP 14 46 23.7 -1.2

ACSO eScP ScP 14 51 16.2 -1.2
PVMO Portageville 45.24 97 eP **P 14 45 56.8 -1.5**
comp=Z,408nm,0.3s
TXAR Lajitas Array 45.26 116 P **P 14 45 58.7 +0.3**
comp=Z,35nm,1.0s,mb5.0,baz=329,slow=6.0,SNR=133
TXAR ScP ScP 14 51 17.3 -0.6
comp=Z,6.3nm,1.0s,baz=270,slow=2.5,SNR=13
TXAR PKiKP PKiKP 14 54 31.9 -2.1
comp=Z,0.2nm,0.4s,baz=202,slow=2.3,SNR=4.1
TXAR LR LR 15 05 52.5
comp=Z,226nm,20.1s,baz=0.0,slow=37
TXAR Lajitas Array 45.26 116 P **P 14 45 58.7 +0.2**
TXAR ScP ScP 14 51 17.3 -0.6
WCI Wyandotte Cave 45.28 92 eP **P 14 45 57.4 -1.1**
WCI pmax pmax
comp=Z,52nm,0.8s,mb5.3
WCI Wyandotte Cave 45.28 92 eP **P 14 45 57.4 -1.1**
comp=Z,52nm,0.8s,mb5.3
ALLY Alegheny Colle 45.28 84 eP **P 14 45 58.5 -0.1**
LONY Lake Ozonia 45.40 77 eP **P 14 45 58.3 -1.2**
comp=Z,44nm,1.1s,mb5.1
UALR University of 45.42 100 eP **P 14 45 58.3 -1.4**
comp=Z,80nm,1.1s,mb5.4
FRNY Flat Rock 45.67 76 eP **P 14 46 00.2 -1.4**
UTMT University of 45.67 96 eP **P 14 46 01.4 -0.2**
JCT Junction City 45.86 111 eP **P 14 46 02.6 -0.5**
JCT pmax pmax
comp=Z,73nm,0.8s,mb5.5
JCT Junction City 45.86 111 eP **P 14 46 02.6 -0.5**
comp=Z,73nm,0.8s,mb5.5
NCB Newcomb 46.07 77 eP **P 14 46 03.5 -1.3**
comp=Z,18nm,0.8s,mb4.8
WVT Waverly 46.31 95 eP **P 14 46 06.0 -0.7**
WVT pmax pmax
comp=Z,62nm,1.0s,mb5.3
WVT Waverly 46.31 95 eP **P 14 46 06.0 -0.6**
comp=Z,62nm,1.0s,mb5.3
BINY Binghamton 46.70 80 eP **P 14 46 09.0 -0.7**
comp=Z,18nm,0.6s,mb5.0
ACCN Adirondack Com 46.78 77 eP **P 14 46 09.3 -1.0**
LBNH Lisbon 46.87 75 eP **P 14 46 09.7 -1.3**
LBNH pmax pmax
comp=Z,22nm,1.0s,mb4.8
LBNH Lisbon 46.87 75 eP **P 14 46 09.7 -1.3**
comp=Z,22nm,1.0s,mb4.8
OXF Oxford 46.95 98 eP **P 14 46 11.3 -0.4**
OXF pmax pmax
comp=Z,450nm,1.1s,mb6.1
OXF Oxford 46.95 98 eP **P 14 46 11.3 -0.4**
comp=Z,450nm,1.1s,mb6.1
NATX Nacogdoches 46.96 105 eP **P 14 46 11.5 -0.2**
comp=Z,123nm,1.1s,mb5.5
MDJ Mudanjiang 47.01 286 P **P 14 46 11.5 -0.6**
MDJ AP pP 14 46 35.3 -4.4
MDJ XP sP 14 46 47.3 -5.8
MDJ PP PP 14 48 06.0 +2.2
MDJ AMB AMB
comp=Z,114nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,81nm,3.2s
MDJ LR LR
comp=N,105nm,25.4s
MDJ LR LR
comp=E,147nm,23.5s
MDJ LR LR
comp=Z,172nm,23.5s
MDJ Mudanjiang 47.01 286 eP **P 14 46 11.6 -0.5**
comp=Z,97nm,0.9s,mb5.5
MCWV Mont Chateau 47.02 85 eP **P 14 46 11.9 -0.3**
comp=Z,38nm,0.8s,mb5.2
HNH Hanover 47.13 76 eP **P 14 46 12.8 -0.3**
comp=Z,1.1nm,0.7s
TRO Tromso 47.14 5 eP **P 14 46 12.6 -0.6**
PLAL Pickwick Lake 47.16 96 eP **P 14 46 12.6 -0.7**
comp=Z,82nm,0.9s,mb5.5
PKME Peaks-Kenny Pk 47.19 72 eP **P 14 46 13.1 -0.4**
comp=Z,165nm,0.9s,mb5.8
VLA Vladivostok 47.20 283 eP **P 14 46 13.0 -0.5**
KEV Kevo 47.21 1 ep **P 14 46 12.7 -1.0**
ARCES ARCESS Array B 47.42 2 P **P 14 46 14.6 -0.7**
comp=Z,34nm,0.8s,mb5.1,baz=349,slow=7.3,SNR=44
HIA Hailar 47.45 297 eP **P 14 46 15.7 +0.1**
HIA pmax pmax
comp=Z,235nm,0.9s
HIA Hailar 47.45 297 eP **P 14 46 15.7 +0.2**
comp=Z,235nm,0.9s,mb5.9
CIT Chita 47.68 304⇑ iP **P 14 46 18.7 +1.4**
CIT pmax pmax
comp=Z,309nm,1.4s,mb5.9
KTK1 Kautokeino 47.90 3 eP **P 14 46 19.4 +0.4**
KTK1 AMb AMB 14 46 20.9
comp=Z,160nm,1.2s,mb5.7
KTK1 Kautokeino 47.90 3 eP **P 14 46 19.4 +0.4**
comp=Z,160nm,1.2s,mb5.7
TZTN Tazewell 47.90 91 eP **P 14 46 18.5 -0.5**
comp=Z,66nm,1.0s,mb5.4
HKT Hockley 48.01 107 eP **P 14 46 19.0 -0.8**
HKT pmax pmax
comp=Z,84nm,1.4s,mb5.4
HKT Hockley 48.01 107 eP **P 14 46 19.0 -0.9**
comp=Z,84nm,1.4s,mb5.4
QUA2 Belchertown 48.25 77 eP **P 14 46 20.8 -0.9**
comp=Z,14nm,0.6s,mb5.0
FWV Forest Hill 48.28 88 eP **P 14 46 21.5 -0.5**
MVL Millersville 48.31 82 eP **P 14 46 21.4 -0.7**
ELN Prospectdale 48.60 88 eP **P 14 46 23.5 -0.9**
WES Weston 48.61 76 eP **P 14 46 23.7 -0.8**
WES pmax pmax
comp=Z,22nm,0.5s,mb5.3
WES Weston 48.61 76 eP **P 14 46 23.7 -0.8**
comp=Z,22nm,0.5s,mb5.3
BLA Blacksburg 48.76 88 eP **P 14 46 25.0 -0.6**
BLA pmax pmax
comp=Z,31nm,0.8s,mb5.3
BLA Blacksburg 48.76 88 eP **P 14 46 25.0 -0.6**
comp=Z,31nm,0.8s,mb5.3
LVZ Lovozero 49.03 357 P **P 14 46 28.9 +1.2**
comp=Z,472nm,1.1s,mb6.3,SNR=6.1
LVZ Lovozero 49.03 357 eP **P 14 46 27.8 +0.1**
LVZ pmax pmax
comp=Z,109nm,1.2s,mb5.7
LVZ pmax pmax
comp=N,39nm,1.0s
LVZ Lovozero 49.03 357 eP **P 14 46 27.5 -0.2**
APA Apatity 49.39 358⇓ iP **P 14 46 30.0 -0.4**
APA i 14 47 04.0
APA pmax pmax
comp=Z,55nm,1.0s,mb5.4
CN2 Changchun 49.45 289 eP **P 14 46 32.6 +1.8**
MAJO Matsushiro 49.72 273 eP **P 14 46 32.6 -0.3**
MAJO pmax pmax
comp=Z,96nm,0.8s,mb5.8
MAJO Matsushiro 49.72 273 eP **P 14 46 32.5 -0.3**
comp=Z,96nm,0.8s,mb5.8
MAT Matsushiro 49.72 273 P **P 14 46 32.2 -0.7**
MJAR Matsushiro Arr 49.72 273 P **P 14 46 32.7 -0.2**
comp=Z,74nm,1.1s,mb5.5,baz=10.0,slow=7.8,SNR=87
MJAR ScP ScP 14 51 35.2 -1.5
comp=Z,3.8nm,1.0s,baz=1.5,slow=3.9,SNR=5.9
MOR8 Moi Rana 50.37 8 eP **P 14 46 36.5 -1.2**
MOR8 AMb AMB 14 46 46.2
comp=Z,54nm,1.5s,mb5.3
MOR8 Moi Rana 50.37 8 eP **P 14 46 36.5 -1.2**
comp=Z,54nm,1.5s,mb5.3
IRK Irkutsk 50.85 310 eP **P 14 46 40.9 -0.5**
IRK pmax pmax
comp=Z,266nm,1.4s,mb6.1
KRAR Krasnoyarsk 51.31 320 eP **P 14 46 44.0 -0.8**
KRAR pmax pmax
comp=Z,417nm,1.1s,mb6.4
TLY Talaya 51.53 310 P **P 14 46 47.0 +0.5**
comp=Z,355nm,0.9s,mb6.4,SNR=19
TLY Talaya 51.53 310 ⇓P **P 14 46 45.3 -1.2**
SNR=28
TLY Talaya 51.53 310 eP **P 14 46 48.6 +2.1**
TLY eS **S 14 53 52.9 -4.9**
TLY eSS SS 14 57 29.7 -5.5
TLY pmax pmax
comp=Z,156nm,1.8s,mb5.7
TLY MLR MLR
comp=Z,105nm,14.0s
TLY Talaya 51.53 310 eP **P 14 46 47.2 +0.7**
comp=Z,143nm,1.4s,mb5.8
NSS Namsos 51.83 9 eP **P 14 46 48.2 -0.5**
NSS AMb AMB 14 46 49.4
comp=Z,98nm,1.3s,mb5.7
NSS Namsos 51.83 9 eP **P 14 46 48.2 -0.5**
comp=Z,98nm,1.3s,mb5.7
MOY Mondy 52.45 312 eP **P 14 46 53.2 -0.1**
MOY pmax pmax
comp=Z,262nm,2.0s,mb5.9
TMCR Tamitsa 52.68 355 P **P 14 46 54.8 -0.2**
TMCR pmax pmax
comp=Z,93nm,1.4s,mb5.6
ZAK Zakamensk 52.75 309⇓ iP **P 14 46 55.9 +0.4**
ZAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
SONM Songino Array 53.77 306 P **P 14 47 04.4 +1.4**
comp=Z,102nm,0.8s,mb5.9,baz=22,slow=6.9,SNR=525
SONM ScP ScP 14 51 52.5 -1.7
comp=Z,1.8nm,0.7s,baz=12,slow=4.9,SNR=4.1
JOF Joensuu 54.08 359 ep **P 14 47 03.9 -1.3**
comp=Z,9.9nm,0.4s,mb5.2
INCN Inchon 54.11 283 ⇓P **P 14 47 05.4 -0.1**
SNR=6.3
INCN Inchon 54.11 283 eP **P 14 47 05.3 -0.1**
comp=Z,175nm,1.1s,mb6.0
KAF Kangasniemi 54.88 2 ep **P 14 47 09.8 -1.2**
comp=Z,7.4nm,0.5s,mb5.0,baz=355,slow=7.0
KAF Kangasniemi 54.88 2 eP **P 14 47 09.8 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
NVS Novosibirsk 54.98 325⇑ iP **P 14 47 10.4 -1.4**
NVS e*PP pP 14 47 30.9 -9.2
NVS eS **S 14 54 39.0 -5.5**
NVS e 14 56 43.3
NVS pmax pmax
comp=Z,280nm,1.2s,mb6.2
NVS pmax pmax
comp=N,130nm,1.3s
NVS pmax pmax
comp=E,152nm,1.3s
NVS smax
comp=N,70nm,2.1s
NVS smax
comp=E,27nm,1.6s
DL2 Dalian 55.10 288⇑ P **P 14 47 13.0 +0.4**
DL2 AMB AMB
comp=Z,180nm,0.9s,mb6.1
NB2 NORSAR Subarra 55.22 11 P **P 14 47 12.6 -0.8**
comp=Z,24nm,0.8s,mb5.3,baz=351,slow=7.4
NB2 NORSAR Subarra 55.22 11 P **P 14 47 12.6 -0.8**
NB2 pmax pmax
comp=Z,24nm,0.8s,mb5.3
NB2 NORSAR Subarra 55.22 11 P **P 14 47 12.6 -0.8**
comp=Z,24nm,0.8s,mb5.3
NOA NORSAR Array B 55.22 11 P **P 14 47 12.7 -0.8**
comp=Z,18nm,0.8s,mb5.2,baz=351,slow=7.0,SNR=46
NAO01 NORSAR Array S 55.38 11 eP **P 14 47 13.9 -0.7**
comp=Z,36nm,1.1s,mb5.3
ZAL Zalesovo 55.38 324 P **P 14 47 14.3 -0.3**
comp=Z,78nm,0.9s,mb5.8,baz=80,slow=7.3,SNR=330
ZAL LR LR 15 12 42.1
comp=Z,79nm,19.4s,baz=88,slow=38
FIA1 FINESS Array S 55.55 2 eP **P 14 47 15.0 -0.8**
FINES FINESS Array B 55.55 2 P **P 14 47 15.2 -0.6**
comp=Z,13nm,0.6s,mb5.1,baz=6.6,slow=8.9,SNR=54
FINES FINESS Array B 55.55 2 i P **P 14 47 15.1 -0.7**
FINES pmax pmax
comp=Z,13nm,0.6s
CBIJ Chichi jima 55.91 263 P **P 14 47 17.4 -0.9**
comp=Z,186nm,0.8s,mb6.2,baz=247,slow=14,SNR=4.8
CBIJ LR LR 15 07 50.9
comp=Z,190nm,21.9s,baz=112,slow=32
KONO Kongsberg 56.45 12 eP **P 14 47 22.1 -0.1**
BJI Beijing 56.46 293 P **P 14 47 22.5 +0.2**
BJI AMB AMB
comp=Z,146nm,1.2s,mb5.9
BJI AMB AMB
comp=Z,503nm,2.8s,mb6.0
BJI LR LR
comp=N,255nm,16.1s
BJI LR LR
comp=E,238nm,15.2s
BJI LR LR
comp=Z,236nm,44.9s
BJI Beijing 56.46 293 P **P 14 47 22.5 +0.2**
comp=Z,146nm,1.2s,mb5.9
BJI S **S 14 55 15.8 +12**
BJI SS SS 14 59 25.8 +33
BJI LR LR
comp=Z,240nm,44.9s
BJT Baijiatuau 56.48 293 eP **P 14 47 22.2 -0.2**
BJT pmax pmax
comp=Z,209nm,1.2s
BJT Baijiatuau 56.48 293 eP **P 14 47 22.2 -0.2**
comp=Z,208nm,1.2s,mb6.0
HHC Hu-ho-hao-te 57.66 297 eP **P 14 47 31.3 +0.6**
HHC AP pP 14 47 55.3 -4.0
HHC PP PP 14 49 42.3 +2.5
HHC S **S 14 55 16.4 -3.4**
HHC SS SS 14 59 15.9 +4.1
HHC AMB AMB
comp=Z,86nm,1.3s,mb5.6
HHC AMB AMB
comp=Z,277nm,4.4s
HHC LR LR
comp=N,184nm,6.7s
HHC LR LR
comp=E,302nm,7.6s
HHC LR LR
comp=Z,138nm,25.1s
SVE Sverdlovsk 57.79 340 eP **P 14 47 33.0 +1.4**
SVE pmax pmax
comp=Z,62nm,1.5s,mb5.4
ARU Arti 58.48 341 P **P 14 47 36.3 -0.1**
comp=Z,2μm,0.8s,SNR=95
ARU Arti 58.48 341⇑ iP **P 14 47 36.5 +0.1**
ARU e pP 14 48 06.7 +1.6
ARU e 14 48 24.3
ARU e 14 49 45.0
ARU eS **S 14 55 30.3 -0.2**
ARU eSS SS 14 59 26.6 +2.0
ARU pmax pmax
comp=Z,216nm,0.7s,mb6.3
ARU Arti 58.48 341 eP **P 14 47 36.3 -0.1**
comp=Z,241nm,0.8s,mb6.3
BTO Baotou 58.49 298 eP **P 14 47 36.1 -0.4**
VSU Vasula 58.55 2 eP **P 14 47 36.2 -0.7**
CHKZ Chkalovo 58.99 333 i P **P 14 47 39.3 -0.7**
CHKZ pmax pmax
comp=Z,75nm,0.6s,mb5.9
CHKZ Chkalovo 58.99 333 eP **P 14 47 39.2 -0.8**
comp=Z,143nm,0.8s,mb6.0
ESK Eskdalemuir 59.04 21 eP **P 14 47 39.7 -0.6**
ESK pmax pmax
comp=Z,35nm,1.1s,mb5.3
ESK Eskdalemuir 59.04 21 eP **P 14 47 39.7 -0.6**
comp=Z,35nm,1.1s,mb5.3
TIA Tai'an 59.30 290⇑ P **P 14 47 41.8 -0.3**
TIA AMB AMB
comp=Z,67nm,1.2s,mb5.5
BRVK Borovoye 59.64 333 P **P 14 47 44.8 +0.3**
comp=Z,952nm,1.1s,SNR=84
BRVK Borovoye 59.64 333 P **P 14 47 44.5 0.0**
SNR=67
BRVK Borovoye 59.64 333 eP **P 14 47 43.9 -0.6**
BRVK pmax pmax
comp=Z,141nm,0.9s,mb6.0
BRVK Borovoye 59.64 333 eP **P 14 47 43.9 -0.6**
comp=Z,140nm,0.9s,mb6.0
BVA0 Borovoye Array 59.65 333 P **P 14 47 44.1 -0.4**
BVA0 pmax pmax
comp=Z,50nm,1.4s,mb5.3
BVAR Borovoye Array 59.65 333 P **P 14 47 44.2 -0.3**
comp=Z,71nm,0.5s,mb5.9,baz=42,slow=6.8,SNR=448
BVAR LR LR 15 15 28.0
comp=Z,79nm,19.9s,baz=133,slow=38
BVAR PKiPKiP 15 17 09.8
comp=Z,0.5nm,0.3s,baz=147,slow=2.9,SNR=5.0
CMIG Matias Romero 59.76 114 P **P 14 47 44.1 -1.1**
comp=Z,3.0nm,0.5s,mb4.6,baz=310,slow=7.9,SNR=3.4
KURK Kurchatov 59.91 326 P **P 14 47 46.2 -0.1**
comp=Z,740nm,0.9s,SNR=19
ZRNK Zerenda 60.01 334 eP **P 14 47 46.6 -0.3**
ZRNK pmax pmax
comp=Z,200nm,0.9s,mb6.2
ZRNK Zerenda 60.01 334 eP **P 14 47 46.6 -0.3**
comp=Z,200nm,0.9s,mb6.2
MOS Moscow 61.12 355 eP **P 14 47 54.6 +0.1**
MOS pmax pmax
comp=Z,400nm,1.5s,mb6.2
MOS pmax pmax
comp=Z,252nm,1.4s,mb6.1
OBN Obninsk 61.79 355 P **P 14 47 59.6 +0.6**
comp=Z,2μm,0.4s,SNR=14
OBN Obninsk 61.79 355 c iP **P 14 47 59.0 0.0**
OBN e 14 48 35.1
OBN e 14 50 13.4
OBN eS **S 14 56 11.8 -0.9**
OBN eSS SS 15 00 12.7 -3.8
OBN pmax pmax
comp=Z,227nm,1.2s,mb6.1
OBN Obninsk 61.79 355 eP **P 14 47 58.9 0.0**
comp=Z,116nm,0.4s,mb6.3
MNK Minsk 62.53 1 eP **P 14 48 01.0 -2.9**
MK31 Makanchi Array 62.53 322 eP **P 14 48 03.1 -0.9**
MKAR Makanchi Array 62.53 322 P **P 14 48 03.2 -0.7**
comp=Z,60nm,0.6s,mb5.7,baz=44,slow=6.7,SNR=582
MKAR LR LR 15 15 59.0
comp=Z,68nm,21.9s,baz=14,slow=37
MKAR PKPPKP 15 17 03.7
comp=Z,0.1nm,0.3s,baz=174,slow=2.9,SNR=3.7
MKAR Makanchi Array 62.53 322 P **P 14 48 03.2 -0.7**
MKAR LR LR 15 15 59.0
MKAR P'P' 15 17 03.7
SUW Suwalki 62.92 4 eP **P 14 48 06.1 -0.5**
SUW pmax pmax
comp=Z,38nm,0.8s,mb5.4
SUW Suwalki 62.92 4 eP **P 14 48 06.1 -0.4**
comp=Z,38nm,0.8s,mb5.4
GTA Gaotai 63.44 305 P **P 14 48 10.8 +0.9**
GTA AP pP 14 48 38.0 -1.0
GTA XP sP 14 48 50.0 -2.0
GTA PP PP 14 50 30.9 +0.1
GTA SCP 14 52 35.9
GTA S **S 14 56 34.1 +0.7**
GTA XS sS 14 57 20.8 -2.6
GTA SCS ScS 14 57 49.6 -2.2
GTA SS SS 15 00 42.3 0.0
GTA AMB AMB
comp=Z,220nm,1.1s,mb6.0
GTA AMB AMB
comp=Z,590nm,6.5s
GTA LR LR
comp=N,157nm,11.4s
GTA LR LR
comp=E,105nm,10.6s
GTA LR LR
comp=Z,115nm,10.7s
WMQ Urumqi 63.64 317⇑ iP **P 14 48 11.8 +0.5**
WMQ AP pP 14 48 40.0 -0.3
WMQ PCP PcP 14 48 47.0 +0.5
WMQ XP sP 14 48 53.0 -0.3
WMQ PP PP 14 50 35.0 +2.5
WMQ XS sS 14 57 23.0 -2.9
WMQ SCS ScS 14 57 51.0 -2.3
WMQ AMB AMB
comp=Z,69nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,304nm,3.7s
WMQ LR LR
comp=N,385nm,23.8s
WMQ LR LR
comp=E,500nm,26.2s
WMQ LR LR
comp=Z,413nm,24.5s
ORR Orenburg 63.69 343 eP **P 14 48 11.1 -0.5**
ORR pmax pmax
comp=Z,640nm,1.6s,mb6.2
AKTK Aktyubinsk 64.38 340 P **P 14 48 16.1 0.0**
AKTO Aktyubinsk 64.38 340 P **P 14 48 16.1 0.0**
comp=Z,130nm,0.8s,mb5.8,baz=24,slow=7.0,SNR=312
XAN Xi'an 64.58 295 P **P 14 48 16.8 -0.6**
XAN AMB AMB
comp=Z,47nm,1.1s,mb5.2
LZH Lanzhou 64.82 300⇑ iP **P 14 48 19.5 +0.5**
LZH PCP PcP 14 48 52.9 +1.5
LZH PP PP 14 50 44.5 +1.6
LZH S **S 14 56 52.6 +2.1**
LZH SS SS 15 01 06.9 +3.0
LZH AMB AMB
comp=Z,67nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,242nm,6.5s
LZH LR LR
comp=E,677nm,15.5s
LZH LR LR
comp=Z,982nm,17.8s
LZH Lanzhou 64.82 300⇑ iP **P 14 48 19.5 +0.5**
LZH *SP sP 14 48 48.7 -12
LZH pP 14 48 52.9 +4.7
LZH 14 50 44.5
LZH PPP 14 52 19.8
LZH S **S 14 56 52.6 +2.1**
LZH *SS sS 14 57 16.2 -24
LZH PS 14 57 23.7
LZH SS SS 15 01 06.9 +3.0
LZH pmax pmax
comp=Z,67nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,980nm,17.8s
LZH Lanzhou 64.82 300⇑ iP **P 14 48 19.5 +0.5**
comp=Z,67nm,1.3s,mb5.3
LZH pP pP 14 48 40.1 -8.1
LZH sP sP 14 48 48.7 -12
LZH PcP PcP 14 48 52.9 +1.5
LZH PP PP 14 50 44.5 +1.6
LZH PPP 14 52 19.8
LZH S **S 14 56 52.6 +2.1**
LZH sS sS 14 57 16.2 -24
LZH PS 14 57 23.7
LZH SS SS 15 01 06.9 +3.0
LZH LR LR
comp=Z,980nm,17.8s
SNF Seneffe 64.83 17 P **P 14 48 21.6 +2.6**
SNF AP pP 14 48 48.5 +0.3
MEM Membach 64.95 16 P **P 14 48 21.6 +1.8**
MEM AP pP 14 48 50.1 +1.1
CLL Collm 65.01 11 eP **P 14 48 21.0 +0.8**
CLL i *PP pP 14 48 49.9 +0.5
CLL pmax pmax
comp=Z,19nm,1.2s,mb4.8
CLL Collm 65.01 11 eP **P 14 48 21.0 +0.8**
comp=Z,19nm,1.2s,mb4.8
CLL i pP pP 14 48 49.9 +0.5
comp=Z,34nm,1.5s
VOR Voronezh 65.05 353 eP **P 14 48 20.0 -0.4**
VOR pmax pmax
comp=Z,150nm,1.3s,mb5.7
AB31 Akbulak array 65.21 338⇑ eP **P 14 48 21.4 -0.1**
BAIF Baives 65.26 18 eP **P 14 48 21.5 -0.3**
BAIF epP pP 14 48 51.8 +0.8
DOU Dourbes 65.27 17 P **P 14 48 23.7 +1.8**
DOU AP pP 14 48 51.5 +0.4
GIVF Givet 65.30 17 eP **P 14 48 21.7 -0.4**
BRG Berggiesshubel 65.52 11 eP **P 14 48 24.2 +0.7**
comp=Z,9.3nm,1.1s,mb4.5
BRG e pP 14 48 53.3 +0.6
comp=Z,9.6nm,1.3s
BRG Berggiesshubel 65.52 11 eP **P 14 48 24.2 +0.7**
BRG e pP 14 48 53.3 +0.6
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
BRG Berggiesshubel 65.52 11 eP **P 14 48 24.2 +0.7**
comp=Z,9.3nm,1.0s,mb4.6
BRG e pP 14 48 53.3 +0.6
VRHR Novokhopersk 65.54 352 eP **P 14 48 23.5 -0.1**
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.5
VRHR pmax pmax
comp=N,70nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.5s
MOX Moxa 65.54 12 eP **P 14 48 21.7 -1.9**
comp=E,28nm,1.4s,mb4.9
MOX Moxa 65.54 12 eP **P 14 48 21.7 -1.9**
MOX pmax pmax
comp=Z,28nm,1.4s,mb4.9
VRSR Storozhevoye 65.56 353 c iP **P 14 48 23.6 -0.2**
VRSR eS S 14 56 59.1 -0.4
VRSR e 14 58 02.3
VRSR eSS SS 15 01 17.7 +2.3
VRSR pmax pmax

comp=Z,130nm,1.2s,mb5.6
VRSR pmax pmax
comp=N,140nm,1.0s
VRSR pmax pmax
comp=E,60nm,1.0s
VRSR smax
comp=N,110nm,1.4s
VRSR smax
comp=Z,20nm,1.2s
VRSR smax
comp=E,130nm,1.7s
KSP Ksiaz 65.73 9 eP P 14 48 23.6 -1.3
KSP e*PP pP 14 48 52.5 -1.6
VORD Divnogorie 65.81 353 eP P 14 48 24.7 -0.6
VORD pmax pmax
comp=Z,120nm,1.2s,mb5.6
VORD pmax pmax
comp=N,100nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
FLN La Foliniere 65.82 21 eP P 14 48 24.8 -0.6
FLN epP pP 14 48 54.7 0.0
FLN eMLR MLR
comp=Z,90nm,18.0s
FLN La Foliniere 65.82 21 eP P 14 48 24.8 -0.6
FLN epP pP 14 48 54.7 0.0
FLN LR LR
comp=Z,90nm,18.0s
WLF Walferdange 65.90 16 P P 14 48 27.6 +1.7
WLF AP pP 14 48 56.3 +1.1
PVCC Panska Ves 65.92 10 eP P 14 48 27.2 +1.2
PVCC epP pP 14 48 55.6 +0.3
LDF La Druitiere 66.04 21 eP P 14 48 26.1 -0.7
UPC Upice 66.05 9 eP P 14 48 28.2 +1.3
UPC epP pP 14 48 57.1 +1.0
GRR Gorron 66.12 22 eP P 14 48 27.0 -0.3
GRR epP pP 14 48 57.0 +0.4
DPC Dobruska-Polom 66.23 9 eP P 14 48 28.4 +0.4
DPC epP pP 14 48 58.1 +0.8
AKASG Malin Array Be 66.34 0 P P 14 48 28.2 -0.5
comp=Z,16nm,0.4s,mb5.2,baz=360,slow=6.2,SNR=80
AKBB Malin Array Si 66.34 0 eP P 14 48 27.9 -0.8
GRA1 Grafenberg Arr 66.44 13 eP P 14 48 29.2 -0.2
comp=Z,14nm,1.2s,mb4.7
GRA1 epP pP 14 48 58.8 +0.1
GRA1 esP sP 14 49 11.8 +0.1
GRF Grafenberg Arr 66.44 13 eP P 14 48 29.2 -0.2
comp=Z,14nm,1.2s,mb4.7
GRF epP pP 14 48 58.8 +0.1
GRF esP sP 14 49 11.8 +0.1
GRF Grafenberg Arr 66.44 13 eP P 14 48 29.2 -0.2
GRF e*PP pP 14 48 58.8 +0.1
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.7
GRF Grafenberg Arr 66.44 13 eP P 14 48 29.2 -0.2
GRF e*PP pP 14 48 58.8 +0.1
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.7
PRU Pruhonice 66.45 10 eP P 14 48 29.5 +0.1
PRU epP pP 14 48 59.2 +0.5
OJC Ojcow 66.57 7 eP P 14 48 31.0 +0.8
OKC Ostrava-Krasne 66.86 8 eP P 14 48 32.0 0.0
MORC Moravsky Berou 66.88 8⇑iP P 14 48 32.3 +0.1
MORC Moravsky Berou 66.88 8 eP P 14 48 31.8 -0.4
MORC pmax pmax
comp=Z,15nm,1.0s,mb4.8
MORC Moravsky Berou 66.88 8 eP P 14 48 31.8 -0.4
comp=Z,15nm,1.0s,mb4.8
MEZF Maizieres J'vi 66.89 17 eP P 14 48 32.0 -0.3
LVV L'vov 67.15 4 eP P 14 48 34.6 +0.8
TREC Trest 67.22 10 eP P 14 48 32.6 -1.7
TREC epP pP 14 49 02.1 -1.5
KHC Kasperske Hory 67.22 11 eP P 14 48 34.6 +0.3
KHC epP pP 14 49 04.2 +0.5
CDF Champ du Feu 67.27 16 eP P 14 48 34.4 -0.2
comp=Z,60nm,1.4s,mb4.9
CDF epP pP 14 49 04.9 +0.9
CDF Champ du Feu 67.27 16 eP P 14 48 34.4 -0.2
CDF e*PP pP 14 49 04.9 +0.9
CDF pmax pmax
comp=Z,30nm,1.4s,mb4.9
CDF Champ du Feu 67.27 16 eP P 14 48 34.4 -0.2
comp=Z,30nm,1.4s,mb4.9
CDF epP pP 14 49 04.9 +0.9
VRAC Vranov 67.28 9⇑iP P 14 48 35.5 +0.8
VRAC Vranov 67.28 9⇑P P 14 48 35.5 +0.8
YHNB Yeheng 67.36 280 eP P 14 48 34.0 -1.2
STHS Stebnicka Huta 67.44 6 eP P 14 48 36.6 +0.9
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.7
STHS Stebnicka Huta 67.44 6 eP P 14 48 36.6 +0.9
comp=Z,11nm,0.8s,mb4.7
GEC2 GERESS Array S 67.52 11 eP P 14 48 36.2 0.0
GERES GERESS Array B 67.52 11 P P 14 48 36.1 -0.1
comp=Z,5.9nm,0.9s,mb4.4,baz=350,slow=4.1,SNR=16
HAU Haudompre 67.55 16 eP P 14 48 36.1 -0.3
HAU eMLR MLR
comp=Z,117nm,19.0s
HAU Haudompre 67.55 16 eP P 14 48 36.1 -0.3
HAU LR LR
comp=Z,120nm,19.0s
NACB Ninganchiao 67.70 279 eP P 14 48 36.6 -0.7
USP Ospenovka 67.87 326 P P 14 48 39.0 +0.6
SNR=9.4
TKM2 Tokmak 2 67.92 325 P P 14 48 39.3 +0.6
SNR=115
LOR Lormes 67.94 18 eP P 14 48 38.5 -0.3
comp=Z,14nm,0.6s,mb4.7
LOR epP pP 14 49 08.7 +0.5
LOR eMLR MLR
comp=Z,95nm,18.8s
LOR Lormes 67.94 18 eP P 14 48 38.5 -0.3
LOR e*PP pP 14 49 08.7 +0.5
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LOR MLR MLR
comp=Z,100nm,18.8s
LOR Lormes 67.94 18 eP P 14 48 38.5 -0.3
comp=Z,6.9nm,0.6s,mb4.7
LOR epP pP 14 49 08.7 +0.5
LOR LR LR
comp=Z,100nm,18.8s
CRVS Cervenica-Dubn 67.97 6 eP P 14 48 39.1 +0.1
MFF Saint Martin d 67.97 21 eP P 14 48 38.8 -0.2
MFF epP pP 14 49 08.9 +0.5
KOLS Kolonicke sedl 67.97 5 eP P 14 48 41.0 +2.0
CHMS Chumysh 68.06 326 P P 14 48 40.2 +0.6
SNR=107
SSF Saint Saulge 68.09 19 eP P 14 48 39.5 -0.3
comp=Z,19nm,0.8s,mb4.7
SSF epP pP 14 49 09.7 +0.5
SSF Saint Saulge 68.09 19 eP P 14 48 39.5 -0.3
SSF e*PP pP 14 49 09.7 +0.5
SSF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SSF Saint Saulge 68.09 19 eP P 14 48 39.5 -0.3
comp=Z,9.6nm,0.8s,mb4.7
SSF epP pP 14 49 09.7 +0.5
VYHS Vyhne 68.24 8 eP P 14 48 40.6 -0.1
VYHS epP pP 14 49 10.8 +0.7
VYHS Vyhne 68.24 8 eP P 14 48 40.6 -0.1
VYHS e pP 14 49 10.8 +0.7
VYHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
VYHS Vyhne 68.24 8 eP P 14 48 40.6 -0.1
comp=Z,7.8nm,1.1s,mb4.5
VYHS e pP 14 49 10.8 +0.7
FRU Bishkek 68.25 326⇑iP P 14 48 42.0 +1.2
FRU pmax pmax
comp=Z,396nm,1.5s,mb6.0
UZH Uzhgorod 68.27 5 eP P 14 48 40.5 -0.4
UZH pmax pmax
comp=Z,24nm,1.0s,mb5.0
AVF Avril sur Loir 68.33 19 eP P 14 48 40.7 -0.6
comp=Z,6.1nm,0.5s,mb4.4
AVF epP pP 14 49 11.0 +0.3
AVF Avril sur Loir 68.33 19 eP P 14 48 40.7 -0.6
AVF e*PP pP 14 49 11.0 +0.3
AVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
AVF Avril sur Loir 68.33 19 eP P 14 48 40.7 -0.6
comp=Z,3.0nm,0.5s,mb4.4
AVF epP pP 14 49 11.0 +0.3
KBK Karagaybulak 68.33 325 P P 14 48 42.1 +0.8
SNR=176
KECS Kecovo 68.34 6 eP P 14 48 41.5 +0.2
KECS Kecovo 68.34 6 eP P 14 48 41.6 +0.3
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KECS Kecovo 68.34 6 eP P 14 48 41.6 +0.3
comp=Z,5.0nm,0.8s,mb4.4
QZH Quanzhou 68.36 282⇓iP P 14 48 41.0 -0.5
QZH AMB AMB
comp=Z,420nm,1.8s,mb6.0
ULHL Ulahol 68.38 324 P P 14 48 42.3 +0.7
SNR=12
AAK Ala-Archa 68.47 326 P P 14 48 42.8 +0.6
SNR=144
AAK Ala-Archa 68.47 326 P P 14 48 41.7 -0.4
comp=Z,825nm,1.0s
AAK Ala-Archa 68.47 326⇑P P 14 48 41.9 -0.2
SNR=73
AAK Ala-Archa 68.47 326c iP P 14 48 41.6 -0.5
AAK pmax pmax
comp=Z,227nm,1.2s,mb5.9
AAK Ala-Archa 68.47 326 eP P 14 48 41.5 -0.6
comp=Z,185nm,1.1s,mb5.8
BGF Bois d'Agland 68.48 19 eP P 14 48 41.6 -0.6
SMF Signal de Mont 68.55 19 eP P 14 48 42.0 -0.6
MOA Molln 68.55 11⇑iP P 14 48 43.4 +0.7
comp=Z,15nm,1.3s,mb4.7
CONA Conrad Observa 68.60 10⇑iP P 14 48 43.4 +0.4
comp=Z,10nm,0.9s,mb4.7
EKS2 Erkin-Say 68.62 326 P P 14 48 44.2 +1.1
SNR=13
TCF Toulx Ste Croi 68.65 20 eP P 14 48 42.6 -0.7
UCH Uchtor 68.85 326 P P 14 48 45.4 +0.9
SNR=39
PSZ Piszkesteto 68.87 7⇑iP P 14 48 45.6 +0.9
PSZ Piszkesteto 68.87 7 eP P 14 48 44.8 +0.2
comp=Z,20nm,1.1s,mb4.9
CABF La Chapelle 68.89 17 eP P 14 48 43.1 -1.6
comp=Z,14nm,0.6s,mb4.7
CABF epP pP 14 49 15.0 +0.8
CABF La Chapelle 68.89 17 eP P 14 48 43.1 -1.6
CABF e*PP pP 14 49 15.0 +0.8
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CABF La Chapelle 68.89 17 eP P 14 48 43.1 -1.6
comp=Z,6.8nm,0.6s,mb4.7
CABF epP pP 14 49 15.0 +0.8
WTTA Wattenberg 68.89 13⇑iP P 14 48 45.3 +0.5
comp=Z,18nm,0.8s,mb5.0
WTTA Wattenberg 68.89 13⇑iP P 14 48 45.3 +0.6
WTTA pmax pmax
comp=Z,18nm,0.8s,mb5.0
AML Almayashu 69.14 326 P P 14 48 47.7 +1.4
SNR=87
KBA Koelnbreinsper 69.24 12⇑iP P 14 48 47.6 +0.7
comp=Z,25nm,0.8s,mb5.1
KBA Koelnbreinsper 69.24 12⇑iP P 14 48 47.6 +0.7
KBA pmax pmax
comp=Z,25nm,0.8s,mb5.1
ARSA Arzberg 69.25 10⇑iP P 14 48 48.3 +1.3
comp=Z,7.4nm,0.8s,mb4.6
BURAR Bucovina Array 69.38 3⇑iP P 14 48 47.5 -0.3
CD2 Chengdu 69.41 298 P P 14 48 47.8 -0.1
CD2 AP pP 14 49 17.3 -0.2
CD2 XP sP 14 49 30.3 -0.1
CD2 PP PP 14 51 23.9 +1.1
CD2 S S 14 57 43.5 -2.0
CD2 XS sS 14 58 33.6 -2.6
CD2 SS SS 15 02 13.3 -1.5
CD2 AMB AMB
comp=Z,170nm,1.0s,mb5.8
CD2 AMB AMB
comp=Z,290nm,4.7s
RJF Les Rejaudoux 69.50 21 eP P 14 48 48.1 -0.4
RJF eMLR MLR
comp=Z,112nm,19.5s
RJF Les Rejaudoux 69.50 21 eP P 14 48 48.1 -0.4
RJF LR LR
comp=Z,110nm,19.5s
OBKA Obir 69.91 11⇑iP P 14 48 51.3 +0.3
comp=Z,40nm,1.0s,mb5.2
LPL La Plagne 70.05 17 eP P 14 48 51.4 -0.5
LPL epP pP 14 49 23.0 +1.6
LPG La Plagne 70.07 17 eP P 14 48 51.8 -0.2
PKSM Moragy 70.50 8⇓iP P 14 48 54.4 -0.2
PKSM Moragy 70.50 8⇓P P 14 48 54.4 -0.2
ORIF Oris-en-Rattie 70.52 17 eP P 14 48 54.8 0.0
ORIF eMLR MLR
comp=Z,87nm,19.2s
MBDF Montbardon 70.83 17 eP P 14 48 56.4 -0.2
comp=Z,22nm,0.9s,mb4.7
MBDF epP pP 14 49 27.7 +1.5
MBDF Montbardon 70.83 17 eP P 14 48 56.4 -0.2
MBDF e*PP pP 14 49 27.7 +1.5
MBDF pmax pmax
comp=Z,11nm,0.9s,mb4.7
MBDF Montbardon 70.83 17 eP P 14 48 56.4 -0.2
comp=Z,11nm,0.9s,mb4.7
MBDF epP pP 14 49 27.7 +1.5
KSH Kashi 71.00 324 ⇑P P 14 48 58.6 +0.9
KSH ePCP PcP 14 49 18.6 +1.3
KSH eAP pP 14 49 26.1 -1.2
KSH eXP sP 14 49 38.5 -1.7
KSH ePP PP 14 51 37.8 +1.3
KSH eS S 14 58 00.1 -4.0
KSH eSKS 14 58 44.5
KSH eSCS ScS 14 58 48.6 -2.1
KSH eXS sS 14 58 52.0 -3.1
KSH eSS SS 15 02 37.5 -1.9
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,438nm,5.1s
KSH LR LR
comp=E,225nm,4.6s
KSH LR LR
comp=Z,4μm,11.6s
SJPF Ste Jean 71.17 23 eP P 14 48 58.1 -0.6
PLOR Plostina 71.17 2⇑iP P 14 48 58.8 +0.1
BZS Buzias 71.25 6⇑iP P 14 48 58.9 -0.3
BZS Buzias 71.25 6 ⇑P P 14 48 58.9 -0.3
SMRF Simiane la Rot 71.41 18 eP P 14 48 59.4 -0.7
ETSF Etsaut 71.50 23 eP P 14 49 00.9 +0.3
MLR Muntele Rosu 71.52 3 P P 14 49 01.3 +0.5
comp=Z,5.8nm,0.5s,mb4.7,baz=325,slow=5.1,SNR=8.6
MLR Muntele Rosu 71.52 3⇑iP P 14 49 02.3 +1.5
MLR Muntele Rosu 71.52 3 ⇑P P 14 49 02.3 +1.5
GZR Gura Zlata 71.53 5⇑iP P 14 49 01.0 +0.2
GZR Gura Zlata 71.53 5 ⇑P P 14 49 01.0 +0.2
VOIR 71.55 3⇑iP P 14 49 01.7 +0.7
VOIR 71.55 3 ⇑P P 14 49 01.7 +0.7
SBF Sospel 71.77 17 eP P 14 49 02.1 -0.1
SBF epP pP 14 49 32.4 +0.5
CFR Carcaliu 71.86 1⇑iP P 14 49 03.0 +0.2
CFR Carcaliu 71.86 1 ⇑P P 14 49 03.0 +0.2
FRF La Foret Royal 71.96 17 eP P 14 49 02.9 -0.5
ANN Anapa 72.05 354 eP P 14 49 03.2 -0.8
ANN e 14 49 15.9
ANN i *PP pP 14 49 34.3 +0.6
ANN e 14 51 49.5
ANN eS S 14 58 15.4 -0.7
ANN eSS SS 15 02 57.4 +2.0
ANN pmax pmax
comp=Z,81nm,1.3s,mb5.4
GYA Guiyang 72.15 293⇑iP P 14 49 03.9 -0.7
GYA AP pP 14 49 31.8 -2.5
GYA XP sP 14 49 44.0 -3.1
GYA PP PP 14 51 45.4 -0.9
GYA S S 14 58 16.6 -0.6
GYA AMB AMB
comp=Z,60nm,1.4s,mb5.2
GYA AMB AMB
comp=Z,180nm,4.8s
GYA LR LR
comp=N,140nm,18.6s
GYA LR LR
comp=E,250nm,18.5s
GYA LR LR
comp=Z,290nm,17.5s
LMR La Mourre 72.16 17 eP P 14 49 04.6 0.0
GZH Guangzhou 72.28 286 P P 14 49 01.8 -3.5
HARR Harsova 72.35 1⇓iP P 14 49 05.9 +0.2
HARR Harsova 72.35 1 ⇓P P 14 49 05.9 +0.2
KIV Kislovodsk 72.56 350 P P 14 49 07.6 +0.6
comp=Z,635nm,0.9s,SNR=17
KIV Kislovodsk 72.56 350 ⇑P P 14 49 07.5 +0.5
SNR=14
KIV Kislovodsk 72.56 350 eP P 14 49 07.1 +0.1
KIV eS S 14 58 20.3 -1.6
KIV pmax pmax
comp=Z,174nm,1.1s,mb5.8
KIV pmax pmax
comp=Z,245nm,1.5s,mb5.8
KIV Kislovodsk 72.56 350 eP P 14 49 07.2 +0.2
comp=Z,157nm,1.0s,mb5.8
ZEI Tsey 73.64 349 eP P 14 49 12.6 -0.7
ZEI e 14 51 58.5
ZEI pmax pmax
comp=Z,54nm,1.0s,mb5.2
ESDC Sonseca Array 73.98 26 P P 14 49 14.9 -0.4
comp=Z,1.0nm,0.4s,baz=340,slow=5.5,SNR=11
ESDC pP pP 14 49 45.3 +0.1
comp=Z,19nm,0.9s,baz=346,slow=5.5,SNR=7.9
VTS Vitosha 74.34 5⇓iP P 14 49 15.8 -1.6
VTS Vitosha 74.34 5 ⇓P P 14 49 15.8 -1.6
TBLG Delisi 74.59 348 eP P 14 49 19.8 +0.9
TBLG Delisi 74.59 348 P P 14 49 19.8 +0.9
MTA Mtatsminda 74.62 348 P P 14 49 19.4 +0.4
KMI Kunming 74.95 296 P P 14 49 20.8 -0.1
KMI AP pP 14 49 47.3 -3.5
KMI XP sP 14 49 58.3 -5.3
KMI AMB AMB
comp=Z,45nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,263nm,3.7s
KMI LR LR
comp=N,196nm,19.6s
KMI LR LR
comp=E,177nm,23.7s
KMI LR LR
comp=Z,176nm,33.0s
KMI Kunming 74.95 296 P P 14 49 20.8 -0.1
KMI *PP pP 14 49 47.2 -3.6
KMI *SP sP 14 49 58.2 -5.4
KMI 14 52 09.5
KMI PPP 14 53 56.1
KMI S S 14 58 45.4 -3.3
KMI *SS sS 14 59 27.6 -13
KMI pmax pmax
comp=Z,45nm,1.2s,mb5.1
KMI MLR MLR
comp=Z,180nm,33.0s
KMI Kunming 74.95 296 P P 14 49 20.8 -0.1
comp=Z,45nm,1.2s,mb5.1
KMI pP pP 14 49 47.2 -3.6
KMI sP sP 14 49 58.2 -5.4
KMI PP PP 14 52 09.5 -0.6
KMI PPP 14 53 56.1
KMI S S 14 58 45.4 -3.3
KMI sS sS 14 59 27.6 -13
KMI SS SS 15 03 31.8 -7.7
KMI SSS 15 06 48.6
KMI LR LR
comp=Z,180nm,33.0s
LSA Lhasa 75.28 308 P P 14 49 24.8 +2.0
BOYT Boyabat 75.53 356 i P P 14 49 25.3 +1.0
GNI Garni 76.16 348 P P 14 49 29.5 +1.7
SNR=7.5
GNI Garni 76.16 348 eP P 14 49 28.9 +1.1
GNI pmax pmax
comp=Z,152nm,1.7s
GNI Garni 76.16 348 eP P 14 49 28.6 +0.8
comp=Z,100nm,1.2s,mb5.4
CTKT Corum 76.33 356 i P P 14 49 29.7 +1.0
ELDT Eldivan 76.50 357 i P P 14 49 30.8 +1.0
ABKT Ailbek 76.52 337 P P 14 49 30.5 +0.6
comp=Z,376nm,1.6s,mb5.9,SNR=19
ERZM Erzurum 76.69 351 i P P 14 49 32.3 +1.5
TGY Tagaytay City 76.81 275 P P 14 49 31.6 +0.1
comp=Z,48nm,0.3s,baz=212,slow=18,SNR=6.1
ULDT Uludag 76.90 0 i P P 14 49 32.5 +0.6
ANTO Ankara 77.14 357 P P 14 49 34.8 +1.4
SNR=5.2
ANTO Ankara 77.14 357 P P 14 49 33.9 +0.6
ANTO pmax pmax
comp=Z,38nm,0.9s,mb5.1
ANTO Ankara 77.14 357 P P 14 49 33.9 +0.6
comp=Z,38nm,0.9s,mb5.1
NIL Nilore 77.25 324 P P 14 49 34.6 +0.6
comp=Z,177nm,1.3s,mb5.6,SNR=9.0
BR131 Keskin Array S 77.26 357 P P 14 49 33.5 -0.5
comp=Z,25nm,1.0s,mb4.9
QIZ Qiongzhong 77.37 287 P P 14 49 34.0 -0.6
QIZ XP sP 14 50 16.3 -1.2
QIZ S S 14 59 17.0 +1.8
QIZ AMB AMB
comp=Z,39nm,1.2s,mb5.0
QIZ AMB AMB
comp=Z,144nm,5.5s
SDV Santo Domingo 77.63 95 eP P 14 49 34.5 -1.6
comp=Z,13nm,0.8s,mb4.7
TVAN Van 77.89 349 i P P 14 49 39.2 +1.7
AVNT Avonos 78.17 356 i P P 14 49 39.0 0.0
SDNR Sundarnagar 78.24 320 ex PcP 14 49 49.2 +0.8
MALT Malatya 78.47 353⇑iP P 14 49 41.9 +1.2
MALT Malatya 78.47 353 eP P 14 49 41.2 +0.6
comp=Z,30nm,1.0s,mb5.0
GUN Gumba 78.75 311 eP P 14 49 43.2 +0.9
comp=Z,400nm,1.2s,mb6.1
SHL Shillong 78.77 305 eP P 14 49 43.0 +0.7
JIRN Jiri 78.88 311 eP P 14 49 44.2 +1.3
TKTP Tekketepe 79.00 359 i P P 14 49 45.0 +1.5
KKN Kakani 79.07 312 eP P 14 49 44.7 +0.7
GKN Gorkha 79.09 312 eP P 14 49 44.6 +0.5
PKI Pulchoki 79.23 311 eP P 14 49 45.3 +0.5
comp=Z,320nm,1.2s,mb6.0
DMN Daman 79.29 312 eP P 14 49 46.1 +0.9
GZT Gaziantep 79.47 353 i P P 14 49 47.1 +0.9
ROSC El Rosal 79.55 100 LR LR 15 29 36.7
comp=Z,65nm,18.2s,baz=32,slow=39
KOLN Koldanda 79.65 313 eP P 14 49 47.5 +0.4
comp=Z,327nm,1.3s,mb6.0
KEST Kesra 80.02 16 P P 14 49 48.7 -0.4
comp=Z,3.2nm,0.9s,baz=276,slow=5.1,SNR=7.9
COBT Iskenderun 80.36 354 i P P 14 49 51.4 +0.4
NDI New Delhi 80.81 319 eP P 14 49 53.0 -0.3
NDI AMb AMB 14 49 55.5
comp=Z,148nm,1.4s,mb5.6
CSS Prodhromos 82.02 357 eP P 14 49 60.0 +0.3
comp=Z,65nm,1.3s,mb5.3
CHTO Chiang Mai 82.13 296 P P 14 49 59.9 -0.5
SNR=16
CHTO Chiang Mai 82.13 296 eP P 14 49 59.3 -1.0
CHTO pmax pmax
comp=Z,68nm,1.6s,mb5.2
CHTO Chiang Mai 82.13 296 eP P 14 49 59.3 -1.0
comp=Z,68nm,1.6s,mb5.2
BOK Bokaro 82.54 310 eP P 14 50 02.3 -0.1
BOK AMb AMB 14 50 05.3
comp=Z,76nm,1.7s,mb5.2
AJM Ajmer 83.63 320 eP P 14 50 07.3 -0.8
AJM AMb AMB 14 50 09.8
comp=Z,80nm,1.5s,mb5.3
BHPL Bhopal 85.84 317 eP P 14 50 18.8 -0.4
BHPL AMb AMB 14 50 20.8
comp=Z,102nm,1.3s,mb5.6
KKM Kota Kinabalu 86.05 276 eP P 14 50 20.3 +0.2
MIB Mutribah 86.11 344 eP P 14 50 20.6 +0.1
MIB AMb AMB 14 50 22.2
comp=Z,147nm,0.8s,mb6.0
UMR Umm Al-Rimmam 86.31 344 eP P 14 50 21.3 -0.1
UMR AMb AMB 14 50 23.2
comp=Z,136nm,0.8s,mb5.9
PMG Port Moresby 86.38 241 eP P 14 50 20.3 -1.5
RST Umm Al-Ruwaisa 86.45 345 eP P 14 50 21.6 -0.6
RST AMb AMB 14 50 25.0
comp=Z,56nm,1.0s,mb5.5
NAY Al-Naaiem 86.67 344 eP P 14 50 22.9 -0.3
NAY AMb AMB 14 50 25.7
comp=Z,34nm,1.0s,mb5.2
RDF Al-Radifah 86.95 344 eP P 14 50 24.4 -0.1
RDF AMb AMB 14 50 27.4
comp=Z,99nm,1.1s,mb5.7
EIL Elat 87.24 355 eP P 14 50 25.6 -0.4
comp=Z,564nm,1.3s,mb6.3
VIS Vishakhapatnam 89.04 310 eP P 14 50 33.9 -0.6
VIS AMb AMB 14 50 36.9
comp=Z,30nm,1.5s,mb5.1
HATD Hatta, Dubai 89.65 336 P P 14 50 36.8 -0.5

SNR=6.5
ASHO Ashiyiah 89.80 336 P **P 14 50 37.9 -0.1**
SNR=8.5
HYB Hyderabad 90.93 314 *i* P **P 14 50 43.0 -0.3**
HYB *e*PP PP 14 54 21.0 +0.1
HYB Hyderabad 90.93 314 *e*P **P 14 50 42.0 -1.3**
SMDO Samad 91.00 334 P **P 14 50 44.1 +0.5**
SNR=8.0
ARQ Araqi 91.03 335 P **P 14 50 43.9 +0.2**
SNR=13
WBK Wadi Bani Khal 91.25 333 P **P 14 50 45.4 +0.6**
SNR=8.2
POO Poona 91.36 318 *e*P **P 14 50 42.5 -2.8**
BSY Bisya 91.47 334 P **P 14 50 45.5 -0.3**
SNR=14
JMDO Jabal Madar 91.66 334 P **P 14 50 46.7 0.0**
SNR=12
JMDO P 14 50 46.7
SNR=7.4
KAD Karad 92.42 318 *e*P **P 14 50 50.4 +0.2**
KAD AMb AMB 14 50 52.1
comp=Z,34nm,1.8s,mb5.3
KSM Kuching 92.76 279 *e*P **P 14 50 49.4 -2.3**
TORD Torodi Ar. Bea 100.84 27 P Pdif 14 51 26.8 -1.5
comp=Z,0.5nm,0.7s,baz=343,slow=2.9,SNR=3.5
TORD PKKPbc PKKPbc 15 07 37.7 -2.7
comp=Z,1.1nm,0.6s,baz=139,slow=0.6,SNR=7.9
TORD Torodi Ar. Bea 100.84 27 P Pdif 14 51 26.8 -1.5
TORD PKKPbc PKKPbc 15 07 37.7 -2.7
WRA Warramunga Arr 101.10 248 P Pdif 14 51 26.8 -2.6
comp=Z,1.1nm,0.7s,baz=31,slow=5.7,SNR=5.1
WRA PKiKP PKiKP 14 55 52.0 -1.8
comp=Z,0.8nm,0.6s,baz=0.2,slow=1.9,SNR=11
WRA PKKPbc PKKPbc 15 07 37.3 -2.3
comp=Z,0.4nm,0.8s,baz=222,slow=3.2,SNR=9.3
WRA Warramunga Arr 101.10 248 *i* P Pdif 14 51 27.2 -2.2
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 104.59 246 PKiKP PKiKP 14 55 58.1 -2.1
comp=Z,2.8nm,0.9s,baz=52,slow=1.5,SNR=16
ASAR PKKPbc PKKPbc 15 07 26.7 -2.6
comp=Z,0.8nm,0.5s,baz=195,slow=2.2,SNR=12
STKA Stephens Creek 108.86 236 PKiKP PKiKP 14 56 05.6 -2.5
comp=Z,3.5nm,0.8s,baz=337,slow=2.7,SNR=4.3
KLBR Kellerberrin 118.41 256 *e*P PKPdf 14 56 23.7 -2.6
comp=Z,10nm,0.3s
MUN Mundaring 119.42 257 *e*P PKPdf 14 56 36.1 +7.8
LSZ Lusaka 132.02 1 *e*PKIKP PKPdf 14 56 53.7 +1.3
PMSA Palmer Station 142.62 135 PKP PKPdf 14 57 07.0 -4.8
comp=Z,6.9nm,0.7s,baz=305,slow=4.2,SNR=4.6
PMSA SKPbc SKPbc 15 00 37.0 -1.8
comp=Z,41nm,1.0s,baz=262,slow=1.6,SNR=15
PMSA Palmer Station 142.62 135 *e*PKPpre 14 57 06.8
SBA Scott Base 143.27 194 *e*PKIKP PKPdf 14 57 07.2 -5.8
VNDA Vanda 143.55 196 PKP PKPdf 14 57 08.4 -5.1
comp=Z,9.6nm,1.0s,baz=338,slow=4.4,SNR=35
VNDA SKPbc SKPbc 15 00 38.0 -3.0
comp=Z,2.0nm,0.9s,baz=135,slow=3.6,SNR=3.0
VNDA Vanda 143.55 196 *e*PKPpre 14 57 07.8
BOSA Boshof 145.20 6 PKPbc PKPbc 14 57 15.6 -0.7
comp=Z,59nm,0.9s,baz=0.3,slow=2.6,SNR=38
BOSA SKPbc SKPbc 15 00 43.5 -1.4
comp=Z,10nm,1.0s,baz=358,slow=2.4,SNR=3.0
BOSA Boshof 145.20 6 *e*PKP PKPdf 14 57 14.8 -1.6
BOSA *ep*PKP pPKPdf 14 57 47.6 -1.0
CASY Casey 147.55 228 *e*P PKPdf 14 57 20.2 -0.1
CASY Casey 147.55 228 *e*PKPdf PKPdf 14 57 17.0 -3.3
CASY *e*PKPbc PKPbc 14 57 20.0 -3.1
SUR Sutherland 148.59 14 PKPbc PKPbc 14 57 25.3 -0.6
comp=Z,22nm,0.8s,baz=208,slow=1.7,SNR=8.7
SUR Sutherland 148.59 14 *e*PKPbc PKPbc 14 57 25.4 -0.4
QSPA South Pole Qui 153.12 180 *e*P PKPdf 14 57 32.1 +3.1
MIR Mirnyy 153.87 235 *d*PKIKP PKPbc 14 57 37.0 -1.1
MIR *i* 14 58 10.0
MIR pmax pmax
comp=Z,300nm,1.5s
SNAA Sanae 165.31 138 PKPab PKPab 14 58 38.5 -2.9
comp=Z,0.4nm,0.5s,baz=268,slow=13,SNR=7.2
MAW Mawson 165.55 238 PKP PKPdf 14 57 39.9 -3.4
comp=Z,1.6nm,0.8s,baz=45,slow=1.8,SNR=3.6

SZGRF ***17*** *14:39:19.5, 1768S×17694W, h33km, Fiji Islands region*
BJI ***17*** *14:40:03.0, 1810S×17820W, h425km, mB5.2, mb4.7*
ISCJB ***17*** *14:40:05.3±1.3, 1812S±007×1782W±01, h454km±16km, mb4.3/23, Error ellipse: s-maj=15.1km s-min=10.5km az=26.1*
NEIC ***17*** *14:40:06.2±1.1, 1809S×17825W, h446km±11km, mb4.3/13, Error ellipse: s-maj=12.3km s-min=8.2km az=132.0*
IDC ***17*** *14:40:11.9±2.0, 1826S×17839W, h508km±23km, mb3.8/12, mb1 3.9/12, mb1mx3.8/19, mbtmp4.7/12, Error ellipse: s-maj=14.7km s-min=11.7km az=121.0*
ISC 17 14:40:07.1±1.2, 1814S±007×1781W±01, h465km±16km, n141, σ0°91/44, mb4.3/23, 19C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.40**	**56**	P	**P**	**14 41 56.1**	**-0.3**
	8.3nm,0.3s,baz=165,slow=23,SNR=10						
AFI	**Afiamalu**	**7.40**	**56**	*e*P	**P**	**14 41 56.6**	**+0.3**
URZ	**Urewera**	**20.48**	**191**	P	**P**	**14 44 10.8**	**-1.1**
	10nm,0.3s,baz=26,slow=8.3,SNR=33						
SNZO	**South Karori**	**23.90**	**193**	*e*P	**P**	**14 44 41.9**	**-0.9**
	12nm,0.5s,mb4.6						
QRZ	**Quartz Range**	**24.00**	**198**	*e*PN	**P**	**14 44 44.2**	**+0.5**
NNZ	**Nelson**	**24.14**	**196**	*e*PN	**P**	**14 44 45.0**	**+0.2**
THZ	**Tophouse**	**24.77**	**196**	*e*PN	**P**	**14 44 49.4**	**-1.1**
LTZ	**Lake Taylor**	**25.89**	**196**	PN	**P**	**14 44 59.1**	**-1.4**
RPZ	**Rata Peaks**	**27.09**	**197**	P	**P**	**14 45 10.6**	**-0.4**
	8.9nm,0.4s,mb4.6,baz=155,slow=3.4,SNR=17						
CNB	**Canberra Magne**	**33.52**	**233**	⇑*i*P	**P**	**14 46 07.9**	**+1.3**
	9.0nm,0.5s,mb4.5						
CTA	**Charters Tower**	**33.69**	**261**	*e*P	**P**	**14 46 08.7**	**+0.6**
	12nm,1.8s,mb4.0						
CTA	**Charters Tower**	**33.69**	**261**	P	**P**	**14 46 08.4**	**+0.3**
	4.1nm,0.6s,mb4.1,baz=76,slow=13,SNR=5.9						
CTAO	**Charters Tower**	**33.69**	**261**	*e*P	**P**	**14 46 08.3**	**+0.2**
TOO	**Toolangi**	**37.25**	**231**	*e*P	**P**	**14 46 38.9**	**+1.0**
	8.1nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.77**	**241**	⇑*i*P	**P**	**14 46 51.3**	**+1.0**
	6.7nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**14 46 50.9**	**+0.5**
	6.6nm,0.6s,mb4.3,baz=89,slow=9.5,SNR=19						
WB2	**Warramunga Arr**	**44.86**	**260**	⇓*i*P	**P**	**14 47 38.0**	**-0.7**
WRAB	**Tennant Creek**	**44.86**	**260**	*e*P	**P**	**14 47 38.0**	**-0.7**
	2.1nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**44.87**	**260**	P	**P**	**14 47 38.0**	**-0.7**
	1.7nm,0.3s,mb4.0,baz=93,slow=7.2,SNR=123						
WRA				S	**S**	**14 53 34.9**	**-6.6**
	0.6nm,0.6s,baz=97,slow=13,SNR=4.9						
AS31	**Alice Springs**	**45.00**	**254**	⇑*i*P	**P**	**14 47 40.0**	**+0.2**
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**14 47 40.1**	**+0.3**
	24nm,0.6s,mb4.8,baz=88,slow=8.4,SNR=412						
ASAR				S	**S**	**14 53 40.1**	**-3.3**
	6.1nm,0.8s,baz=91,slow=16,SNR=26						
ASPA	**Alice Springs**	**45.01**	**254**	⇑*i*P	**P**	**14 47 40.0**	**+0.2**
KAKA	**Kakadu**	**47.87**	**269**	⇓*i*P	**P**	**14 48 01.5**	**-0.1**
	26nm,0.3s,mb5.0						
FORT	**Forrest**	**50.17**	**245**	*e*P	**P**	**14 48 18.8**	**+0.1**
	9.9nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.27**	**261**	*e*P	**P**	**14 48 42.0**	**+0.8**
	9.1nm,0.9s,mb4.1						
MBWA	**Marble Bar**	**58.30**	**256**	*e*P	**P**	**14 49 16.1**	**-0.1**
SBA	**Scott Base**	**60.21**	**184**	*e*P	**P**	**14 49 31.2**	**+2.1**
	12nm,1.3s,mb4.2						
VNDA	**Vanda**	**60.24**	**185**	P	**P**	**14 49 30.8**	**+1.5**
	1.8nm,0.6s,mb3.7,baz=354,slow=6.5,SNR=17						
VNDA	**Vanda**	**60.24**	**185**	*e*P	**P**	**14 49 30.5**	**+1.2**
	10nm,1.4s,mb4.1						
CASY	**Casey**	**66.05**	**205**	*e*P	**P**	**14 50 06.9**	**+0.1**
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**14 50 20.7**	**+0.3**
	6.7nm,0.5s,mb4.6,baz=153,slow=5.7,SNR=20						
MAT	**Matsushiro**	**68.26**	**323**	P	**P**	**14 50 20.6**	**+0.1**
ASAJ	**Asahikawa**	**71.61**	**331**	P	**P**	**14 50 42.4**	**+1.9**
	23nm,0.6s,mb4.9,baz=193,slow=9.5,SNR=27						
QSPA	**South Pole Qui**	**71.92**	**180**	*e*P	**P**	**14 50 43.3**	**+1.0**
	11nm,1.0s,mb4.3						
NJ2	**Nanjing**	**78.31**	**309**	*e*P	**P**	**14 51 15.8**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,472nm,5.5s						
MDJ	**Mudanjiang**	**78.54**	**325**	P	**P**	**14 51 19.9**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,139nm,3.1s						
KDAK	**Kodiak Island**	**78.56**	**14**	P	**P**	**14 51 19.2**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.1,baz=231,slow=1.8,SNR=6.9						
SLKM	**Skilak Lake**	**81.55**	**14**	*e*P	**P**	**14 51 34.5**	**-0.7**
MAW	**Mawson**	**83.74**	**200**	P	**P**	**14 51 45.9**	**-0.4**
	comp=Z,2.7nm,1.0s,mb3.7,baz=144,slow=6.3,SNR=13						
KMI	**Kunming**	**88.19**	**297**	P	**P**	**14 52 06.4**	**-1.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KMI	**Kunming**	**88.19**	**297**	P	**P**	**14 52 06.4**	**-1.3**
	comp=Z,10.0nm,0.9s,mb4.5						
SNAA	**Sanae**	**90.36**	**179**	P	**P**	**14 52 17.1**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=204,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**109.50**	**314**	PKKPbc	PKKPbc	15 08 51.1	+1.5
	comp=Z,0.1nm,0.3s,baz=289,slow=3.7,SNR=4.0						
BVAR	**Borovoye Array**	**117.20**	**321**	PKP	PKPdf	14 57 57.8	-0.8
	comp=Z,0.9nm,0.5s,baz=182,slow=1.1,SNR=6.0						
AKTK	**Aktyubinsk**	**125.23**	**319**	PKP	PKPdf	14 58 14.4	+0.3
AKTO	**Aktyubinsk**	**125.23**	**319**	PKP	PKPdf	14 58 14.4	+0.3
	comp=Z,0.5nm,0.3s,baz=228,slow=2.7,SNR=4.0						
ARCES	**ARCESS Array B**	**126.59**	**350**	PKP	PKPdf	14 58 15.6	-1.1
	comp=Z,3.4nm,0.7s,baz=2.5,slow=2.2,SNR=9.7						
FINES	**FINESS Array B**	**133.49**	**344**	PKP	PKPdf	14 58 29.5	-0.3
	comp=Z,3.0nm,1.0s,baz=90,slow=3.8,SNR=5.0						
FINES				PP	PP	15 01 13.9	+10
	comp=Z,3.5nm,0.8s,baz=76,slow=5.9,SNR=5.0						
NB2	**NORSAR Subarra**	**136.64**	**353**	PKP	PKPdf	14 58 36.7	+1.1
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**136.64**	**353**		PKPdf	14 58 36.7	+1.1
NB2	**NORSAR Subarra**	**136.64**	**353**	PKPab	PKPdf	14 58 36.7	+1.1
NOA	**NORSAR Array B**	**136.64**	**353**	PKP	PKPdf	14 58 37.0	+1.4
	comp=Z,1.3nm,0.6s,baz=14,slow=4.0,SNR=4.9						
NOA				PP	PP	15 01 22.6	-1.3
	comp=Z,1.8nm,0.9s,baz=16,slow=4.2,SNR=3.3						
HFS	**Hagfors**	**137.20**	**351**	PP	PP	15 01 26.1	-1.3
	comp=Z,5.1nm,0.9s,baz=72,slow=9.7,SNR=4.5						
AKASG	**Malin Array Be**	**140.90**	**332**	PKhKP		14 58 36.8	
	comp=Z,0.8nm,0.4s,baz=38,slow=3.8,SNR=6.2						
AKASG				PKP	PKPdf	14 58 45.5	+2.1
	comp=Z,0.7nm,0.4s,baz=42,slow=2.5,SNR=4.7						
BSEG	**Bad Segeberg**	**143.68**	**352**	*e*PKPbc	PKPdf	14 58 46.8	-1.5
OJC	**Ojcow**	**144.93**	**340**	*e*PX	PKPdf	14 58 51.0	+0.6
BURAR	**Bucovina Array**	**144.95**	**332**	⇑*i*P	PKPdf	14 58 53.0	+2.5
BURAR	**Bucovina Array**	**144.95**	**332**	⇑P	PKPdf	14 58 53.0	+2.5
STHS	**Stebnicka Huta**	**145.11**	**338**	*e*PKP	PKPab	14 58 52.6	+0.4
NRDL	**Niedersach Rie**	**145.11**	**351**	*e*PKPbc	PKPbc	14 58 51.6	+0.2
KOLS	**Kolonicke sedl**	**145.13**	**336**	*e*PKP	PKPab	14 58 52.4	+0.1
KOLS	**Kolonicke sedl**	**145.13**	**336**	*e*	PKPab	14 58 52.4	+0.1
BR131	**Keskin Array S**	**145.15**	**315**	*e*PKP	PKPdf	14 58 51.6	+0.8
BRTR	**Keskin Array B**	**145.15**	**315**	PKPbc	PKPbc	14 58 51.8	+0.3
KSP	**Ksiaz**	**145.41**	**344**	*e*PKP	PKPab	14 58 53.0	-0.4
NIE	**Niedzica**	**145.44**	**339**	*e*P	PKPab	14 58 53.5	0.0
CRVS	**Cervenica-Dubn**	**145.46**	**337**	*e*PKP	PKPdf	14 58 53.2	+1.9
CRVS	**Cervenica-Dubn**	**145.46**	**337**	*e*	PKPab	14 58 53.3	-0.2
CLZ	**Clausthal**	**145.71**	**351**	*e*PKPbc	PKPbc	14 58 53.7	+0.5
CLL	**Collm**	**145.75**	**348**	*e*PKPbc	PKPbc	14 58 53.5	+0.2
CLL	**Collm**	**145.75**	**348**	⇓*i*PKPbc	PKPbc	14 58 53.4	+0.1
	comp=Z,37nm,0.9s						
OKC	**Ostrava-Krasne**	**145.78**	**341**	*e*PKPbc	PKPbc	14 58 54.0	+0.6
OKC				*e*PKPab	PKPab	14 58 56.5	+1.7
UPC	**Upice**	**145.79**	**344**	*e*PKPbc	PKPbc	14 58 54.3	+0.9
UPC				*e*PKPab	PKPab	14 58 55.7	+0.9
DPC	**Dobruska-Polom**	**145.85**	**343**	*e*PKPbc	PKPbc	14 58 54.4	+0.8
DPC				*e*PKPab	PKPab	14 58 56.1	+1.0
BRG	**Berggiesshubel**	**145.96**	**346**	*e*PKPbc	PKPbc	14 58 54.1	+0.2
BRG	**Berggiesshubel**	**145.96**	**346**	*i* PKP	PKPbc	14 58 54.3	+0.4
	comp=Z,9.8nm,0.8s						
MORC	**Moravsky Berou**	**146.02**	**342**	⇑*i*P	PKPbc	14 58 54.2	+0.1
PVCC	**Panska Ves**	**146.13**	**345**	*e*PKPbc	PKPbc	14 58 54.9	+0.5
KECS	**Kecovo**	**146.17**	**338**	*e*PKP	PKPbc	14 58 55.4	+0.9
MLR	**Muntele Rosu**	**146.18**	**329**	⇓*i*P	PKPbc	14 58 53.9	-0.6
MLR	**Muntele Rosu**	**146.18**	**329**	⇓P	PKPdf	14 58 53.9	+1.3
PRU	**Pruhonice**	**146.64**	**345**	*e*PKPbc	PKPbc	14 58 56.3	+0.5
PRU				*e*PKPab	PKPab	14 58 58.7	+0.5
VOIR		**146.65**	**330**	⇑*i*P	PKPbc	14 58 59.6	+3.8
VOIR		**146.65**	**330**	⇑P	PKPbc	14 58 59.6	+3.8
MOX	**Moxa**	**146.65**	**349**	*e*PKP	PKPbc	14 58 56.0	+0.2
TANN	**Tannenbergstha**	**146.71**	**348**	*e*PKPbc	PKPbc	14 58 56.4	+0.4
VRAC	**Vranov**	**146.72**	**342**	⇑*i*P	PKPbc	14 58 59.6	+3.6
VRAC	**Vranov**	**146.72**	**342**	⇑P	PKPbc	14 58 59.6	+3.6
VYHS	**Vyhne**	**146.73**	**339**	*e*PKP	PKPbc	14 58 57.0	+1.0
VYHS	**Vyhne**	**146.73**	**339**	*e*	PKPbc	14 58 57.0	+1.0
TREC	**Trest**	**147.04**	**344**	*e*PKPbc	PKPbc	14 58 55.7	-1.2
TREC				*e*PKPab	PKPab	14 58 58.5	-1.3
MANZ	**Manzenberg**	**147.19**	**348**	*e*PKPbc	PKPbc	14 58 57.9	+0.6
ROTZ	**Rotzenmuhle**	**147.37**	**348**	*e*PKPbc	PKPbc	14 58 58.4	+0.7
MEM	**Membach**	**147.44**	**355**	PKPbc	PKPbc	14 58 58.5	+0.6
TNS	**Taunus Mts**	**147.56**	**352**	*e*PKPbc	PKPbc	14 58 58.8	+0.6
GRA1	**Grafenberg Arr**	**147.64**	**349**	*e*PKPbc	PKPbc	14 58 59.2	+0.8
GRF	**Grafenberg Arr**	**147.64**	**349**	*e*PKPbc	PKPbc	14 58 59.2	+0.8
KHC	**Kasperske Hory**	**147.67**	**346**	*e*PKPbc	PKPbc	14 58 59.2	+0.7
KHC				*e*PKPab	PKPab	14 59 03.1	+0.7
GEC2	**GERESS Array S**	**147.91**	**345**	*e*PKPbc	PKPbc	14 58 59.7	+0.6
GERES	**GERESS Array B**	**147.91**	**345**	PKPbc	PKPbc	14 58 59.7	+0.5
	comp=Z,7.7nm,0.5s,baz=28,slow=3.2,SNR=47						
GIVF	**Givet**	**148.03**	**356**	*e*PKP1	PKPbc	14 58 59.6	+0.2
	comp=Z,34nm,0.8s						
DOU	**Dourbes**	**148.04**	**357**	PKPbc	PKPbc	14 59 00.1	+0.6
BAIF	**Baives**	**148.10**	**357**	*e*PKP1	PKPbc	14 58 59.9	+0.3
	comp=Z,17nm,0.6s						
CONA	**Conrad Observa**	**148.17**	**342**	⇑*i*PKiKP	PKiKP	14 59 01.0	-0.2
	comp=Z,11nm,0.7s						
WLF	**Walferdange**	**148.36**	**355**	*e*PKPbc	PKPbc	14 59 01.2	+0.9
WLF	**Walferdange**	**148.36**	**355**	PKPbc	PKPbc	14 59 01.3	+1.1
MOA	**Molln**	**148.69**	**344**	⇑*i*P	PKPbc	14 59 01.7	+0.7
	comp=Z,13nm,1.2s						
PKSM	**Moragy**	**148.76**	**337**	⇑*i*P	PKPbc	14 59 01.7	+0.4
FLN	**La Foiniere**	**149.39**	**3**	*e*PKP1	PKPbc	14 59 02.7	-0.1
	comp=Z,32nm,0.8s						
BFO	**Black Forest**	**149.43**	**352**	*e*PKPbc	PKPbc	14 59 03.3	+0.4
CDF	**Champ du Feu**	**149.49**	**353**	*e*PKP1	PKPbc	14 59 03.2	+0.2
	comp=Z,18nm,0.6s						
LDF	**La Druitiere**	**149.58**	**3**	*e*PKP1	PKPbc	14 59 02.9	-0.3
	comp=Z,17nm,0.6s						
ROSF	**Rostrenen**	**149.59**	**7**	*e*PKP1	PKPbc	14 59 02.8	-0.5
MEZF	**Maizieres J'vi**	**149.60**	**356**	*e*PKP1	PKPbc	14 59 03.8	+0.5
	comp=Z,16nm,0.6s						
VTS	**Vitosha**	**149.63**	**328**	⇑*i*P	PKPbc	14 59 04.1	+0.7
KBA	**Koelnbreinsper**	**149.64**	**344**	⇑*i*P	PKPbc	14 59 03.5	+0.1
	comp=Z,10.0nm,0.7s						
SGMF	**Saint Gilles**	**149.74**	**6**	*e*PKP1	PKPbc	14 59 03.2	-0.4
GRR	**Gorron**	**149.75**	**4**	*e*PKP1	PKPbc	14 59 03.6	0.0
	comp=Z,17nm,0.5s						
WATA	**Walderalm**	**149.81**	**347**	⇓*i*P	PKPbc	14 59 04.1	+0.3
	comp=Z,11nm,1.2s						
WTTA	**Wattenberg**	**149.87**	**347**	⇓*i*P	PKPbc	14 59 04.5	+0.5
	comp=Z,20nm,0.5s						
MOTA	**Moosalm**	**149.91**	**347**	⇑*i*P	PKPbc	14 59 04.4	+0.4
	comp=Z,5.6nm,0.9s						
HAU	**Haudompre**	**149.99**	**354**	*e*PKP1	PKPbc	14 59 04.2	0.0
	comp=Z,21nm,0.6s						
SQTA	**Sankt Quirin**	**150.00**	**347**	⇑*i*P	PKPbc	14 59 04.8	+0.6
	comp=Z,6.0nm,0.7s						
PDKS	**Podkum**	**150.11**	**342**	*e*PKPbc	PKPbc	14 59 04.9	+0.4
CRES	**Cresnjev**	**150.18**	**341**	*i* PKPbc	PKPbc	14 59 05.2	+0.6
CRES				*e*PKPab	PKPab	14 59 12.6	-0.1
DAVA	**Damuels**	**150.20**	**349**	⇑*i*P	PKPbc	14 59 06.0	+1.3
	comp=Z,11nm,0.7s						
LJU	**Ljubljana**	**150.26**	**342**	*e*PKPbc	PKPbc	14 59 05.4	+0.5
LJU				*e*PKPab	PKPab	14 59 12.8	-0.3
VISS	**Visnje**	**150.39**	**342**	*e*PKPbc	PKPbc	14 59 05.7	+0.5
VISS				*e*PKPab	PKPab	14 59 13.5	-0.1
LOR	**Lormes**	**150.90**	**357**	*e*PKP1	PKPbc	14 59 06.5	+0.2
	comp=Z,23nm,0.6s						
SSF	**Saint Saulge**	**151.12**	**358**	*e*PKP1	PKPbc	14 59 07.1	+0.2
	comp=Z,20nm,0.6s						
CABF	**La Chapelle**	**151.40**	**354**	*e*PKP1	PKPbc	14 59 08.1	+0.6
	comp=Z,17nm,0.8s						
AVF	**Avril sur Loir**	**151.40**	**358**	*e*PKP1	PKPbc	14 59 07.3	-0.2
	comp=Z,7.6nm,0.6s						
MFF	**Saint Martin d**	**151.56**	**3**	*e*PKP1	PKPbc	14 59 07.7	-0.1
	comp=Z,26nm,0.9s						
BGF	**Bois d'Agland**	**151.65**	**359**	*e*PKP1	PKPbc	14 59 08.2	+0.2
	comp=Z,24nm,0.8s						
TCF	**Toulx Ste Croi**	**151.93**	**360**	*e*PKP1	PKPbc	14 59 08.6	-0.1
	comp=Z,15nm,0.8s						
LPG	**La Plagne**	**152.42**	**353**	*e*PKP1	PKPbc	14 59 10.8	+1.1
	comp=Z,5.9nm,0.6s						
RJF	**Les Rejaudoux**	**152.91**	**1**	*e*PKP1	PKPbc	14 59 10.8	0.0
ORIF	**Oris-en-Rattie**	**153.09**	**354**	*e*PKP1	PKPbc	14 59 12.2	+1.0
	comp=Z,8.5nm,0.6s						
MBDF	**Montbardon**	**153.18**	**352**	*e*PKP1	PKPbc	14 59 11.8	+0.4
	comp=Z,12nm,0.6s						
VIVF	**Saint-Julien-l**	**153.26**	**356**	*e*PKP1	PKPbc	14 59 12.0	+0.4
	comp=Z,3.7nm,0.5s						
SBF	**Sospel**	**153.93**	**351**	*e*PKP1	PKPbc	14 59 11.9	-1.1
	comp=Z,53nm,1.0s						

NEIC ***17*** *14:43:22.2±2.8, 1732S×17458W, h60km±41km, mb4.2/1, Error ellipse: s-maj=33.6km s-min=20.6km az=73.0*
ISCJB ***17*** *14:43:24.8±3.9, 1705S±02×1742W±03, h133km±59km, mb4.1/5, Error ellipse: s-maj=50.0km s-min=33.3km az=129.6*
IDC ***17*** *14:43:28.8±7.2, 1703S×17334W, h218km±203km, mb3.9/4, mb1 4.0/5, mb1mx3.6/16, mbtmp4.4/5, ML2.7/1, Error ellipse: s-maj=236.5km s-min=30.6km az=68.0*
ISC 17 14:43:24.3±3.2, 1725S±02×1742W±03, h103km±48km, n11, σ0°84/13, mb4.3/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.04**	**36**	P	**Pn**	**14 44 25.8**	**+1.8**
	41nm,0.3s,baz=234,slow=8.7,SNR=58						
AFI				S	**Sn**	**14 45 08.8**	**-1.5**
	62nm,0.3s,baz=214,slow=21,SNR=12						
AFI	**Afiamalu**	**4.04**	**36**	*e*P	**Pn**	**14 44 25.6**	**+1.6**
AFI				*e*S	**Sn**	**14 45 09.1**	**-1.2**
URZ	**Urewera**	**22.32**	**198**	P	**P**	**14 48 12.2**	**-1.2**
	10nm,0.4s,mb4.5,baz=18,slow=3.2,SNR=17						
STKA	**Stephens Creek**	**42.46**	**241**	P	**P**	**14 51 09.1**	**0.0**
	1.6nm,0.8s,mb3.8,baz=82,slow=8.3,SNR=4.9						
WB2	**Warramunga Arr**	**48.66**	**258**	*e*P	**P**	**14 51 57.8**	**-0.1**
WB2	**Warramunga Arr**	**48.66**	**258**	*e*P	**P**	**14 51 57.5**	**-0.3**
WRA	**Warramunga Arr**	**48.67**	**258**	P	**P**	**14 51 57.9**	**-0.1**
	1.6nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=16						
AS31	**Alice Springs**	**48.80**	**253**	*e*P	**P**	**14 51 59.1**	**+0.1**
ASAR	**Alice Springs**	**48.80**	**253**	P	**P**	**14 51 59.0**	**0.0**
	6.3nm,0.5s,mb4.8,baz=90,slow=9.0,SNR=44						
ASPA	**Alice Springs**	**48.81**	**253**	*e*P	**P**	**14 51 59.1**	**0.0**
SBA	**Scott Base**	**61.41**	**185**	*e*P	**P**	**14 53 30.6**	**+0.9**
	1.2nm,0.6s,mb4.1						

ISCJB ***17*** *14:55:22.9±4.1, 56S±03×1509E±03, h59km±32km, mb3.9/6, Error ellipse: s-maj=68.3km s-min=27.7km az=98.5*
NEIC ***17*** *14:55:22.8±2.6, 555S×15091E, h48km±20km, mb4.0/3, Error ellipse: s-maj=36.5km s-min=18.9km az=140.0*
IDC ***17*** *14:55:24.9±6.3, 574S×15098E, h63km±50km, mb3.9/4, mb1 4.1/5, mb1mx3.7/14, mbtmp4.1/5, ML2.5/1, Error ellipse: s-maj=83.6km s-min=36.9km az=141.0*
ISC 17 14:55:24.7±3.7, 57S±03×1510E±03, h60km±29km, n13, σ0°37/14, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.27**	**225**	P	**Pn**	**14 56 42.0**	**+1.1**
	1.1nm,0.3s,baz=39,slow=6.5,SNR=4.7						
PMG				S	**Sn**	**14 57 40.3**	**0.0**
	3.8nm,0.3s,baz=75,slow=18,SNR=6.8						
PMG	**Port Moresby**	**5.27

WRA S **S** **15 52 09.4 -2.9**
3.0nm,1.1s,baz=106,slow=14,SNR=7.3
FORT Forrest 46.03 250 *eP* **P** **15 46 59.1 -0.3**
10nm,0.6s,mb4.5
KAKA Kakadu 46.24 276 *eP* **P** **15 47 00.6 -0.3**
5.8nm,0.6s,mb4.3
FITZ Fitzroy Crossi 50.68 266⇑ *iP* **P** **15 47 34.8 +0.9**
8.2nm,1.0s,mb4.0
SBA Scott Base 53.88 183 *eP* **P** **15 47 59.0 +2.1**
VNDA Vanda 53.88 185 P **P** **15 47 57.8 +0.9**
0.7nm,0.6s,mb3.2,baz=5.2,slow=6.2,SNR=7.2
VNDA PcP PcP 15 48 54.4 +0.3
0.7nm,0.7s,baz=335,slow=3.1,SNR=7.9
CASY Casey 59.62 206 *eP* **P** **15 48 35.5 -0.8**
QSPA South Pole Qui 65.70 180 *eP* **P** **15 49 16.2 +0.7**
11nm,0.6s,mb4.6
MJAR Matsushiro Arr 72.23 326 P **P** **15 49 52.8 -2.1**
2.7nm,0.7s,mb3.8,baz=162,slow=5.2,SNR=7.8
MAW Mawson 77.25 200 *eP* **P** **15 50 23.2 +0.2**
3.5nm,0.5s,mb4.0
MAW Mawson 77.25 200 P **P** **15 50 23.3 +0.3**
4.3nm,0.6s,mb4.1,baz=124,slow=5.9,SNR=38
YSS Yuzh-Sakhalins 78.53 335 *eP* **P** **15 50 30.7 +0.8**
8.7nm,0.5s,mb4.3
NVAR Mina Array Bea 85.18 44 P **P** **15 51 03.7 -0.1**
1.3nm,0.6s,mb3.6,baz=231,slow=7.7,SNR=8.5
TUC Tucson 86.91 53 *eP* **P** **15 51 13.2 +1.2**
3.1nm,0.8s,mb4.0
MSU Marysvale 89.20 47 *eP* **P** **15 51 23.3 +0.6**
TMUT Trail Mountain 90.26 46 *eP* **P** **15 51 27.8 +0.2**
HLID Hailey 90.54 42 *eP* **P** **15 51 29.0 +0.1**
1.3nm,0.8s,mb3.9
TXAR Lajitas Array 90.79 58 P **P** **15 51 30.2 +0.1**
4.5nm,0.7s,mb4.5,baz=215,slow=6.6,SNR=44
BW06 Boulder Array 93.12 44 P **P** **15 51 39.6 -1.2**
1.3nm,0.7s,mb4.1
PDAR Pinedale Array 93.12 44 P **P** **15 51 38.8 -2.0**
1.4nm,0.8s,mb4.0,baz=220,slow=2.7,SNR=12
MK31 Makanchi Array 112.40 313 *eP* PKiKP 15 56 58.0 -1.2
MKAR Makanchi Array 112.40 313 PKiKP PKiKP 15 56 57.8 -1.4
0.5nm,0.4s,baz=187,slow=1.0,SNR=6.8
CHKZ Chkalovo 120.59 319 *e*PKPdf PKPdf 15 57 13.1 -1.9
BRVK Borovoye 120.79 319 *e*PKPdf PKPdf 15 57 14.0 -1.3
ARCES ARCESS Array B 132.34 348 PKP PKPdf 15 57 35.3 -2.1
2.7nm,0.5s,baz=38,slow=1.7,SNR=14
JOF Joensuu 136.15 340 *ep* PKPdf 15 57 38.5 -6.0
KAF Kangasniemi 138.27 342 *ep* PKPdf 15 57 38.7 -10
FINES FINESS Array B 138.87 341 PKhKP 15 57 39.0
1.6nm,0.5s,baz=57,slow=4.0,SNR=15
NB2 NORSAR Subarra142.54 351 PKP PKPdf 15 57 51.6 -4.4
comp=Z,1.4nm,0.6s,baz=14,slow=3.1
NOA NORSAR Array B142.54 351 PKhKP 15 57 51.5
comp=Z,3.6nm,0.9s,baz=16,slow=4.6,SNR=8.4
MALT Malatya 144.53 302⇑ *iP* PKPdf 15 58 00.6 +1.1
MALT Malatya 144.53 302⇑ P PKPdf 15 58 00.6 +1.1
AKASG Malin Array Be 145.31 327 PKPbc PKPbc 15 57 59.7 -1.1
comp=Z,6.2nm,0.5s,baz=45,slow=3.9,SNR=32
AKASG Malin Array Be 145.31 327 PKPbc PKPbc 15 57 59.7 -2.2
AKBB Malin Array Si 145.31 327 *e*PKP PKPdf 15 57 59.9 -1.0
SUW Suwalki 145.66 336 *e*PKPbc PKPbc 15 58 02.6 -0.4
KAC Achnashellach 146.71 5 *eP* PKPdf 15 58 04.6 +1.4
MCD Coleburn Disti 146.76 3 *eP* PKPdf 15 58 04.3 +1.0
KAR1 Arisaig 147.24 6 *eP* PKPdf 15 58 06.0 +1.9
BR131 Keskin Array S 147.78 306 *e*PKPdf PKPdf 15 58 04.4 -0.6
BR131 *e*PKPbc PKPbc 15 58 08.0 -0.7
EAB Aberfoyle 148.09 4⇑ *eP* PKPbc 15 58 08.3 -1.1
ANTO Ankara 148.35 307⇑ *iP* PKPbc 15 58 10.7 +0.6
ANTO Ankara 148.35 307⇑ P PKPbc 15 58 10.7 +0.6
EIL Elat 148.39 287 *e*PKPbc PKPbc 15 58 11.2 +1.0
PGBU Glenifferbraes 148.45 5 *eP* PKPbc 15 58 09.1 -1.3
PGBU AMb AMB 15 58 10.5
comp=Z,39nm,1.4s
ESY Stoneypath 148.45 3⇑ *eP* PKPbc 15 58 09.0 -1.4
EAU Auchinoon 148.48 4⇑ *eP* PKPbc 15 58 09.4 -1.0
EBL Broad Law 148.58 3⇑ *eP* PKPbc 15 58 09.5 -1.2
XSO Sourhope Farm 148.89 2 *eP* PKPbc 15 58 10.4 -1.1
CLL *e*pPKPab 16 00 21.0
BURAR Bucovina Array 149.31 325⇓ *iP* PKPbc 15 58 13.7 +1.3
BURAR Bucovina Array 149.31 325⇓ P PKPbc 15 58 13.7 +1.2
GAL1 Galloway 149.37 5 *eP* PKPbc 15 58 11.1 -1.4
GAL1 AMb AMB 15 58 11.7
comp=Z,42nm,1.0s
BSEG Bad Segeberg 149.47 348 *e*PKPbc PKPbc 15 58 12.2 -0.6
XAL Allendale 149.52 2 *eP* PKPbc 15 58 11.5 -1.4
KOLS Kolonicke sedl 149.84 330 *e*PKP PKPbc 15 58 14.1 +0.4
OJC Ojcow 149.92 334 *e*PX PKPbc 15 58 13.4 -0.5
STHS Stebnicka Huta 149.94 332 *e*PKP PKPbc 15 58 14.3 +0.4
MLR Muntele Rosu 150.22 321⇓ *iP* PKPbc 15 58 14.0 -0.6
MLR Muntele Rosu 150.22 321⇓ P PKPbc 15 58 14.0 -0.6
CRVS Cervenica-Dubn 150.23 331 *e*PKP PKPbc 15 58 14.7 +0.1
NIE Niedzica 150.33 333 *eP* PKPbc 15 58 15.0 +0.1
OKC Ostrava-Krasne 150.87 335 *e*PKPbc PKPbc 15 58 15.8 -0.3
NRDL Niedersach Rie 150.87 347 *e*PKPbc PKPbc 15 58 15.4 -0.7
UPC Upice 151.08 338 *e*PKPbc PKPbc 15 58 16.4 -0.2
UPC *e*PKPab PKPab 15 58 26.7 0.0
DPC Dobruska-Polom 151.11 338 *e*PKPbc PKPbc 15 58 16.6 0.0
DPC *ex* x 15 58 37.2
MORC Moravsky Berou 151.15 336⇓ *iP* PKPbc 15 58 16.6 -0.1
MORC Moravsky Berou 151.15 336⇓ P PKPbc 15 58 16.6 -0.1
CLL Collm 151.29 343 *e*PKPbc PKPbc 15 58 16.4 -0.6
CLL Collm 151.29 343 *eP* PKPbc 15 58 17.0 0.0
CLL Collm 151.29 343 *i* PKPbc PKPbc 15 58 16.5 -0.5
comp=Z,23nm,0.8s
BRG Berggiesshubel 151.41 341 *e*PKPbc PKPbc 15 58 16.8 -0.5
BRG Berggiesshubel 151.41 341 *i* PKP PKPbc 15 58 16.9 -0.4
comp=Z,8.7nm,0.5s
BRG *e* 16 00 21.0
comp=Z,8.2nm,1.6s
SBD1 Bryn Du 151.43 4 *eP* PKPbc 15 58 15.2 -2.1
CLZ Clausthal 151.43 346 *e*PKPbc PKPbc 15 58 17.0 -0.4
PVCC Panska Ves 151.53 340 *e*PKPbc PKPbc 15 58 17.2 -0.4
PVCC *ex* x 15 58 28.3
VYHS Vyhne 151.67 333 *e*PKP PKPbc 15 58 17.5 -0.4
PRU Pruhonice 152.00 340 *e*PKPbc PKPbc 15 58 17.9 -0.7
GZR Gura Zlata 152.03 324⇓ *iP* PKPbc 15 58 18.2 -0.5
GZR Gura Zlata 152.03 324⇓ P PKPbc 15 58 18.2 -0.5
MANZ Manzenberg 152.72 343 *e*PKPbc PKPbc 15 58 20.0 -0.2
KHC Kasperske Hory 153.06 340 *e*PKPbc PKPbc 15 58 20.7 -0.2
KHC *e*PKPab PKPab 15 58 34.6 -0.5
GERES GERESS Array B 153.27 339 PKPbc PKPbc 15 58 20.5 -0.9
comp=Z,2.4nm,1.0s,baz=48,slow=2.0,SNR=8.2
GERES PKPab PKPab 15 58 34.4 -1.6
comp=Z,0.8nm,0.6s,baz=49,slow=4.1,SNR=5.2
PKSM Moragy 153.50 330⇑ *iP* PKPbc 15 58 21.3 -0.6
PKSM Moragy 153.50 330⇑ P PKPbc 15 58 21.3 -0.6
VTS Vitosha 153.53 319⇓ *iP* PKPab 15 58 38.4 +1.3
DBIC Dimbokro 161.81 165 PKP PKPdf 15 58 23.4 -0.4
comp=Z,6.0nm,1.1s,baz=232,slow=5.6,SNR=3.2
DBIC PKPab PKPab 15 59 13.0 -0.1
comp=Z,2.3nm,0.9s,baz=176,slow=15,SNR=2.4
ESDC Sonseca Array 164.42 11 PKPab PKPab 15 59 23.2 -1.4
comp=Z,0.3nm,0.3s,baz=2.9,slow=5.9,SNR=4.8
TORD Torodi Ar. Bea 168.69 189 PKP PKPdf 15 58 28.4 -1.1
comp=Z,1.8nm,1.0s,baz=283,slow=1.1,SNR=7.2
TORD PKPab PKPab 15 59 43.0 -0.5
comp=Z,2.2nm,0.9s,baz=175,slow=3.5,SNR=10

IDC 17 15:56:12.2±2.1, 141S×12704E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=192.7km s-min=26.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.75**	**159**	P	Pn	16 00 43.9	-1.1
0.1nm,0.3s,baz=341,slow=12,SNR=6.4							
ASAR	**Alice Springs**	**23.10**	**164**	P	P	16 01 19.9	+0.3
0.4nm,0.8s,baz=342,slow=9.1,SNR=5.5							
MKAR	**Makanchi Array**	**61.96**	**327**	P	P	16 06 34.0	+0.1
0.3nm,0.3s,baz=116,slow=8.2,SNR=6.5							

NIED 17 15:58:00, 41.10N×14.320E, h26km, Mw3.9 Best double couple: M0:9.32000×10^14 NP1:φs=27.00000°, δ=62.00000°, λ=96.00000°. NP2:φs=194.00000°, δ=28.00000°, λ=78.00000°.
IDC 17 15:58:48.3±1.6, 4107N×14346E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.8/23, mbtmp3.8/8, ML3.2/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=49.2km s-min=19.3km az=77.0
MOS 17 15:58:51.4±1.1, 4100N×14333E, h33km, mb4.2/7, Error ellipse: s-maj=20.1km s-min=10.8km az=86.8
NEIC 17 15:58:53.0±3.8, 4107N×14337E, h30km±25km, mb4.4/1, Error ellipse: s-maj=26.9km s-min=9.9km az=94.0
ISCJB 17 15:58:52.4±0.8, 4106N±004×14340E±007, h46km±7km, mb3.9/8, MS3.5/3, Error ellipse: s-maj=10.5km s-min=5.0km az=74.2
JMA 17 15:58:53.6±0.1, 41.10N×143.25E, h46km, M3.8
ISC 17 15:58:53.7±0.7, 4108N±004×14336E±007, h37km±8km, n36, σ0:70/44, mb3.9/8, MS3.5/3, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.94**	**351**	*eP*	**Pn**	**15 59 10.4**	**0.0**
ERM				*eS*	**Sn**	**15 59 24.6**	**+1.9**
JEM	**Erimo**	**0.95**	**351**	P	**Pn**	**15 59 10.2**	**-0.3**
JEM				*eS*	**Sn**	**15 59 22.0**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.28**	**339**	⇑P	**Pn**	**15 59 15.1**	**0.0**
JCH	**Churui**	**1.53**	**360**	P	**Pn**	**15 59 18.4**	**-0.1**
JCH				*eS*	**Sn**	**15 59 36.8**	**-0.4**
JANG	**Nango**	**1.57**	**244**	P	**Pn**	**15 59 18.3**	**-0.8**
JTM	**Tenmabayashi**	**1.76**	**261**	P	**Pn**	**15 59 21.8**	**+0.1**
JTM				*eS*	**Sn**	**15 59 43.0**	**+0.1**
JOT	**Ohata**	**1.77**	**280**	P	**Pn**	**15 59 21.4**	**-0.4**
JKB	**Kayabe**	**1.93**	**295**	P	**Pn**	**15 59 23.8**	**-0.1**
JKB				*eS*	**Sn**	**15 59 46.3**	**-0.6**
JAK	**Akkeshi**	**2.15**	**27**	P	**Pn**	**15 59 27.2**	**+0.1**
JAK				*eS*	**Sn**	**15 59 52.4**	**-0.2**
JFR	**Furan**	**2.16**	**345**	P	**Pn**	**15 59 28.4**	**+1.3**
JAR	**Ashorobuto**	**2.23**	**8**	⇓P	**Pn**	**15 59 28.0**	**-0.2**
JAR				*eS*	**Sn**	**15 59 53.3**	**-1.2**
JOM	**Ohasama**	**2.26**	**225**	P	**Pn**	**15 59 29.2**	**+0.7**
JEW	**Eniwo**	**2.26**	**322**	P	**Pn**	**15 59 29.7**	**+1.1**
ASAJ	**Asahikawa**	**3.08**	**350**	Pn	**Pn**	**15 59 40.4**	**+0.5**
baz=0.0,slow=0.0							
ASAJ				Sn	**Sn**	**16 00 22.9**	**+7.3**
YUK	**Yuzh-Kuril'sk**	**3.48**	**31**	*eP*	**Pn**	**15 59 45.7**	**+0.4**
YUK				*eS*	**Sn**	**16 00 24.9**	**-0.4**
YUK				pmax	pmax		
comp=Z,140nm,0.4s							
YUK				smax			
comp=E,260nm,0.4s							
YUK				smax			
comp=N,500nm,0.5s							
MJAR	**Matsushiro Arr**	**6.06**	**223**	Pn	**Pn**	**16 00 21.3**	**+0.6**
comp=N,0.6nm,0.3s,baz=31,slow=13,SNR=6.0							
MJAR	**Matsushiro Arr**	**6.06**	**223**	P	**Pn**	**16 00 21.3**	**+0.5**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**6.06**	**223**	*eP*	**Pn**	**16 00 19.4**	**-1.4**
MAJO				pmax	pmax		
comp=Z,6.0nm,0.5s							
MAJO	**Matsushiro**	**6.06**	**223**	*e*Pn	**Pn**	**16 00 19.4**	**-1.4**
comp=Z,6.4nm,0.5s							
SONM	**Songino Array**	**27.04**	**297**	P	**P**	**16 04 32.1**	**-0.3**
comp=Z,1.2nm,0.7s,mb3.5,baz=86,slow=8.1,SNR=9.0							
SONM				LR	LR	16 15 49.7	
comp=Z,47nm,18.3s,MS3.1,baz=230,slow=38							
SONM	**Songino Array**	**27.04**	**297**	P	**P**	**16 04 32.1**	**-0.3**
SONM				pmax	pmax		
comp=Z,1.0nm,0.7s							
SONM				MLR	MLR		
comp=Z,47nm,18.3s							
ZAL	**Zalesovo**	**40.44**	**309**	P	**P**	**16 06 30.1**	**+1.6**
comp=Z,1.8nm,0.5s,mb4.1,baz=22,slow=9.6,SNR=8.5							
ZAL	**Zalesovo**	**40.44**	**309**	P	**P**	**16 06 30.1**	**+1.6**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.5s							
MK31	**Makanchi Array**	**43.38**	**299**	*eP*	**P**	**16 06 52.5**	**+0.1**
MKAR	**Makanchi Array**	**43.38**	**299**	P	**P**	**16 06 51.9**	**-0.6**
comp=Z,0.6nm,0.4s,mb3.7,baz=86,slow=11,SNR=7.5							
MKAR				LR	LR	16 25 30.5	
comp=Z,27nm,18.6s,MS3.2,baz=33,slow=37							
MKAR	**Makanchi Array**	**43.38**	**299**	P	**P**	**16 06 51.9**	**-0.5**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MKAR				MLR	MLR		
comp=Z,27nm,18.6s							
ZRNK	**Zerenda**	**49.87**	**310**	P	**P**	**16 07 43.6**	**+0.3**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**49.87**	**310**	P	**P**	**16 07 43.6**	**+0.3**
comp=Z,2.4nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**61.29**	**190**	P	**P**	**16 09 05.3**	**0.0**
comp=Z,0.3nm,0.5s,mb3.6,baz=6.8,slow=6.8,SNR=9.2							
JOF	**Joensuu**	**63.12**	**332**	*ep*	**P**	**16 09 16.6**	**-0.9**
comp=Z,1.1nm,0.5s,mb4.2							
JOF	**Joensuu**	**63.12**	**332**	*eP*	**P**	**16 09 16.6**	**-0.9**
JOF				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.2							
ASAR	**Alice Springs**	**65.01**	**190**	P	**P**	**16 09 30.3**	**+0.3**
comp=Z,0.5nm,0.7s,mb3.7,baz=6.4,slow=6.8,SNR=6.1							
ASAR	**Alice Springs**	**65.01**	**190**	P	**P**	**16 09 30.3**	**+0.3**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**65.95**	**332**	P	**P**	**16 09 35.6**	**-0.4**
comp=Z,1.5nm,0.5s,mb4.3,baz=48,slow=8.5,SNR=11							
FINES	**FINESS Array B**	**65.95**	**332**	P	**P**	**16 09 35.6**	**-0.4**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
BRTR	**Keskin Array B**	**77.30**	**312**	LR	LR	16 46 15.8	
comp=Z,122nm,20.6s,MS4.2,baz=125,slow=37							

MAN 17 16:00:36.2, 1150N×12618E, h3km, mb3.3, ML4.5, MS2.6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.73**	**278**	*eP*	Pg	16 00 50.6	+0.3
PLP	**Palo**	**1.22**	**254**	*eP*	Pg	16 00 57.4	-2.3
PLP				*eS*	Sg	16 01 07.7	-7.7
OCLP	**Ormoc**	**1.60**	**254**	*eP*	Pn	16 01 04.6	-0.8
SCPH	**Surigao**	**1.83**	**202**	*eP*	Pn	16 01 08.6	0.0
SCPH				*eS*	Sn	16 01 31.7	-0.6
MSLP	**Maasin**	**1.87**	**224**	*eP*	Pn	16 01 09.3	+0.2
MSLP				*eS*	Sn	16 01 35.2	+1.9
PVCP	**Virac**	**2.87**	**317**	*eP*	Pn	16 01 24.2	+1.3

IDC 17 16:14:44.7±8.3, 616S×15072E, h133km±55km, mb2.6/2, mb1 2.8/3, mb1mx2.7/13, mbtmp3.1/3, Error ellipse: s-maj=128.1km s-min=58.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**227**	P	Pn	16 15 54.5	-0.4
1.0nm,0.3s,baz=37,slow=5.1,SNR=3.9							
PMG				S	Sn	16 16 50.7	+1.2
3.2nm,0.3s,baz=342,slow=20,SNR=9.0							
WRA	**Warramunga Arr**	**21.00**	**228**	P	P	16 19 17.9	+0.4
0.3nm,0.5s,baz=53,slow=10,SNR=5.3							
ASAR	**Alice Springs**	**23.76**	**221**	P	P	16 19 44.4	-0.4
0.1nm,0.3s,baz=55,slow=9.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	PKPbc	16 34 17.4	+1.1
0.5nm,0.5s,baz=67,slow=3.3,SNR=4.0							

DHMR 17 16:29:10.2±1.8, 1217N×4521E, h13km±22km, ML4.1
CSEM 17 16:29:10.2, 1217N×4521E, h13km, ML4.1, After DHMR
ISCJB 17 16:29:15.9±2.3, 1248N±008×4506E±007, h15km±12km, Error ellipse: s-maj=14.5km s-min=8.9km az=104.6
ISC 17 16:29:14.1±2.3, 1236N±007×4516E±007, h11km±13km, n10, σ19:15/18, 3C-2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.45**	**337**	AML	AML	16 29 42.0	
comp=N,11μm,0.6s							
TRBA	**At Turbah**	**1.34**	**311**⇓	*iP*	**Pn**	**16 29 38.3**	**-0.4**
TRBA				*i* S	**Sb**	**16 29 58.0**	**+1.7**
TRBA				AML	AML	16 30 07.3	
comp=N,3μm,0.6s							
LBOS		**1.51**	**3**⇑	*iP*	**Pn**	**16 29 39.9**	**-1.1**
LBOS				*i* S	**Sg**	**16 30 04.0**	**+1.5**
BDHA	**Al Bayda'**	**1.66**	**14**⇑	*iP*	**Pn**	**16 29 42.9**	**-0.2**
BDHA				AML	AML	16 29 55.2	
comp=N,2μm,0.4s							
BDHA				*i* S	**Sg**	**16 30 08.2**	**+0.8**
BDHA	**Al Bayda'**	**1.66**	**14**⇑	*iP*	**Pn**	**16 29 42.9**	**-0.2**
comp=N,934nm,0.4s							
BDHA				*i* S	**Sg**	**16 30 08.2**	**+0.9**
UDYN	**Al 'Udayn**	**1.98**	**324**⇓	*eP*	**Pn**	**16 29 48.0**	**+0.5**
UDYN				*i* S	**Sg**	**16 30 17.1**	**-0.6**
UDYN				AML	AML	16 30 32.6	
comp=N,1μm,0.5s							
DHBB	**Dhamar BB**	**2.32**	**341**	*i* P	**Pn**	**16 29 53.0**	**+0.7**
DHBB				*i* S	**Sg**	**16 30 26.9**	**-1.9**
HAJJ	**Hajjah**	**3.65**	**336**	*i* P	**Pn**	**16 30 10.9**	**+0.4**
HAJJ				*i* S	**Sb**	**16 30 59.9**	**-3.0**
HAJJ				AML	AML	16 31 31.7	
comp=Z,658nm,0.7s							
HAJJ	**Hajjah**	**3.65**	**336**	*i* P	**Pn**	**16 30 10.9**	**+0.4**
HAJJ				*i* S	**Sb**	**16 30 59.9**	**-3.0**
comp=Z,329nm,0.7s							
FURI	**Furi**	**7.24**	**242**	*eP*	**Pn**	**16 30 58.4**	**-1.4**
FURI				S	**Sb**	**16 32 47.2**	**+1.0**

JMA 17 16:31:47.8±0.7, 4483N×14900E, h30km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.77**	**239**	P	Pn	16 32 28.9	-1.2
NEM2				*eS*	Sn	16 32 58.8	-3.6
JRA	**Rausu**	**2.92**	**254**	P	Pn	16 32 33.5	+1.3
JNK	**Nakash**	**3.32**	**249**	P	Pn	16 32 38.7	+1.0
JAK	**Akkeshi**	**3.61**	**241**	P	Pn	16 32 40.9	-0.8
JAK				*eS*	Sn	16 33 20.5	-2.7
JTKR	**Abashiri--Toko**	**3.75**	**259**	P	Pn	16 32 45.4	+1.8
JAR	**Ashorobuto**	**4.07**	**250**	P	Pn	16 32 49.4	+1.4
JAR				*eS*	Sn	16 33 35.7	+1.1
JMP	**Maruseppu**	**4.12**	**260**	P	Pn	16 32 50.6	+1.9
JOB	**Onbets**	**4.20**	**245**	P	Pn	16 32 50.3	+0.5
JOB				*eS*	Sn	16 33 36.8	-1.1
JCH	**Churui**	**4.65**	**244**	P	Pn	16 32 55.7	-0.2
JCH				*eS*	Sn	16 33 46.0	-2.8
JNBK	**Urakawa-nobuka**	**5.21**	**243**	P	Pn	16 33 03.1	-0.5
JNB	**Noboribetsu**	**6.24**	**251**	P	Pn	16 33 18.1	+0.3
JNB				*eS*	Sn	16 34 26.7	-1.4
JKB	**Kayabe**	**6.51**	**246**	P	Pn	16 33 21.1	-0.4
JKB				*eS*	Sn	16 34 29.9	-4.8
JYM2	**Yakumo 2**	**6.84**	**250**	P	Pn	16 33 26.0	0.0
JANG	**Nango**	**7.09**	**234**	*eS*	Sn	16 34 40.5	-8.6

NEIC 17 16:57:33.0, 1999N×15603W, h44km, MD3.5(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.33**	**178**	*e*Pg	Pn	16 57 41.9	+0.1
HKL	**Haleakala**	**0.75**	**343**	*e*Pg	Pn	16 57 47.4	+0.2
HON	**Honolulu**	**2.28**	**306**	*e*Pn	Pn	16 58 06.7	-1.4
HON				*eS*	Sn	16 58 26.6	-8.3
KIP	**Kipapa**	**2.34**	**308**	*e*Pn	Pn	16 58 08.3	-0.7
KIP				*eS*	Sn	16 58 30.2	-6.3

GUC 17 17:13:49.6±0.7, 3148S×7181W, h6km±9km, MD3.5, ML3.0, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.76**	**66**⇑	*iP*	Pg	17 14 04.6	+0.4
CMCH				AML	AML	17 14 21.1	
comp=N,1μm,0.9s							
OVCH	**Ovalle**	**1.02**	**31**	AML	AML	17 14 24.9	
comp=N,438nm,0.5s							
PTCH	**Petorca**	**1.08**	**136**	*eP*	Pg	17 14 09.8	-0.6
PTCH				*i* S	Sg	17 14 24.9	+0.4
PTCH				AML	AML	17 14 28.3	
comp=N,944nm,0.2s							
TLL	**Tololo Astrono**	**1.57**	**34**	*eP*	Pn	17 14 18.0	-0.1
TLL				*i* S	Sn	17 14 39.6	+0.8
TLL				AML	AML	17 14 49.1	
comp=N,378nm,0.5s							
PEL	**Peldehue**	**1.91**	**150**⇑	*iP*	Pn	17 14 23.3	+0.6
PEL				*i* S	Sn	17 14 48.2	+1.0
PEL				AML	AML	17 14 53.8	
comp=N,242nm,0.5s							
FCH	**Farellones**	**2.25**	**145**	*eP*	Pn	17 14 28.5	+1.1
FCH				*i* S	Sn	17 14 58.7	+3.3
FCH				AML	AML	17 15 08.6	
comp=N,65nm,0.6s							

BJI 17 17:19:47.8, 4197N×8355E, h10km, ML2.7, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.56**	**57**	*eP*	Pn	17 20 46.3	+3.2
WMQ				S	Sn	17 21 29.6	+4.3
WMQ				Smax			
comp=N,20nm,0.6s							
WMQ				Smax			
comp=E,22nm,0.4s							
MK31	**Makanchi Array**	**4.91**	**350**	Pn	Pn	17 21 14.1	+12
comp=E,1.3nm,0.5s,baz=156,slow=15,SNR=14							
MK31				⇑Lg		17 22 15.8	
comp=E,5.4nm,0.5s,baz=167,slow=34,SNR=7.3							

NEIC 17 17:30:17.1, 1678N×9523W, h95km, MD3.7(MEX), After MEX.
MEX 17 17:30:16.5±0.7, 1679N×9524W, h99km±11km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**48**	*i* P	Pn	17 30 30.7	-1.1
CMIG				*i* S	Sn	17 30 41.3	-1.9
HUIG	**Huatulco**	**1.32**	**220**	*i* P	Pn	17 30 38.8	-1.7
HUIG				*i* S	Sn	17 30 57.5	-1.1
OXX	**Oaxaca**	**1.45**	**282**	*i* P	Pn	17 30 42.3	+0.2
OXX				*i* S	Sn	17 31 00.8	-0.6
VHO	**Vista Hermosa**	**1.46**	**281**	*i* P	Pn	17 30 41.5	-0.6
VHO				*i* S	Sn	17 31 00.3	-1.3
UTMO	**Huajuapan**	**2.66**	**293**	*i* P	Pn	17 30 56.5	-1.2
UTMO				*i* S	Sn	17 31 26.8	-2.5

MEX 17 17:37:43.1±0.6, 1601N×9842W, h2km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**36**	*i* P	Pg	17 37 51.9	-0.3
PNIG				*i* S	Sg	17 37 58.7	+0.4
UTMO	**Huajuapan**	**1.90**	**18**	*i* P	Pn	17 38 13.9	-2.6
UTMO				*i* S	Sn	17 38 36.4	-4.6
VHO	**Vista Hermosa**	**1.93**	**57**	*i* P	Pn	17 38 11.8	-5.1
VHO				*i* S	Sn	17 38 37.3	-4.4
OXX	**Oaxaca**	**1.94**	**57**	*i* P	Pn	17 38 15.0	-2.1
OXX				*i* S	Sn	17 38 38.0	-4.0

*IDC 17 18:05:13.5±8.9, 577S×150.17E, h67km±66km, mb3.3/

MEX 17 18:14:08.8±1.1, 1902N×10305W, h24km±56km, MD4.0, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.78**	**201**	*e*P	Pb	18 14 20.8	-2.9
MMIG				*i* S	Sb	18 14 30.6	-3.2
SFJM	**Santa Fe**	**1.46**	**0**	*i* P	Pn	18 14 30.2	-3.5
SFJM				*i* S	Sn	18 14 48.0	-4.1
MOIG	**Morelia**	**1.87**	**69**	*i* P	Pn	18 14 37.5	-1.9
MOIG				*i* S	Sn	18 14 59.6	-2.7
CJM	**Chamela**	**1.94**	**285**	*i* P	Pn	18 14 39.0	-1.4
CJM				*i* S	Sn	18 15 01.9	-2.1
ZIIG	**Zihuatanejo**	**2.06**	**133**	*i* P	Pn	18 14 41.5	-0.4
ZIIG				*i* S	Sn	18 15 04.2	-2.6
ANIG	**Ahuacatlan**	**2.45**	**326**	*i* P	Pn	18 14 45.2	-2.1
ANIG				*i* S	Sn	18 15 13.2	-3.4
CAIG	**El Cayaco**	**3.29**	**126**	*i* P	Pn	18 14 56.6	-2.3
CAIG				*i* S	Sn	18 15 34.2	-3.1
PLIG	**Platanillo**	**3.42**	**100**	*i* P	Pn	18 14 59.4	-1.2
PLIG				*i* S	Sn	18 15 36.4	-3.9
MEIG	**Mezcala**	**3.43**	**108**	*i* P	Pn	18 14 59.8	-0.9
MEIG				*i* S	Sn	18 15 38.3	-2.4
ACX	**Acapulco**	**3.67**	**125**	*e*P	Pn	18 15 10.0	+5.9
IIO	**Organos**	**4.12**	**81**	*e*P	Pn	18 15 06.6	-3.7
PPM	**Popocatepetl**	**4.18**	**89**	*e*P	Pn	18 15 10.0	-1.1

*ISCJB **17** 18:37:17.7±4.4, 56S±05×1508E±05, h42km±34km, mb4.0/4, Error ellipse: s-maj=118.5km s-min=29.2km az=93.3*
*NEIC **17** 18:37:17.3±0.9, 554S×15104E, h35km, mb4.3/1, Error ellipse: s-maj=65.9km s-min=13.8km az=134.0*
*IDC **17** 18:37:18.8±6.2, 566S×15105E, h44km±54km, mb3.8/4, mb1 4.0/5, mb1mx3.6/14, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=88.6km s-min=39.8km az=141.0*

ISC 17 18:37:19.9±3.9, 58S±06×1510E±05, h44km±31km, n11, σ0 77/10, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**227**	P	**Pn**	**18 38 36.5**	**+0.9**
	0.3nm,0.3s,baz=174,slow=20,SNR=2.8						
PMG				S	**Sn**	**18 39 33.2**	**-1.5**
	0.8nm,0.3s,baz=15,slow=22,SNR=1.8						
WB2	**Warramunga Arr**	**21.45**	**228**	*e*P	**P**	**18 42 04.5**	**+0.2**
WRA	**Warramunga Arr**	**21.46**	**228**	P	**P**	**18 42 04.5**	**+0.1**
	1.9nm,0.6s,mb3.6,baz=53,slow=10,SNR=46						
AS31	**Alice Springs**	**24.22**	**221**	*e*P	**P**	**18 42 32.9**	**+0.5**
ASAR	**Alice Springs**	**24.22**	**221**	P	**P**	**18 42 32.6**	**+0.2**
	2.7nm,0.7s,mb3.8,baz=56,slow=8.9,SNR=40						
ASPA	**Alice Springs**	**24.23**	**221**	*e*P	**P**	**18 42 32.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.62**	**242**	*e*P	**P**	**18 43 03.4**	**+0.3**
	4.6nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.62**	**242**	P	**P**	**18 43 03.3**	**+0.2**
	2.2nm,0.6s,mb3.9,baz=71,slow=6.8,SNR=12						
NVAR	**Mina Array Bea**	**94.10**	**52**	P	**P**	**18 50 32.3**	**-1.3**
	3.0nm,1.1s,mb4.6,baz=248,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	PKPbc	18 57 02.5	-0.3
	2.8nm,0.7s,baz=65,slow=3.0,SNR=32						
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	PKPbc	18 57 02.5	-0.3

*NEIC **17** 18:38:52.3±2.9, 557S×15093E, h35km, mb3.8/1, Error ellipse: s-maj=121.0km s-min=31.1km az=123.0*
*ISCJB **17** 18:39:01.8±5.4, 56S±05×1500E±06, h87km±36km, mb3.5/2, Error ellipse: s-maj=124.1km s-min=44.2km az=69.8*
*IDC **17** 18:39:01.6±8.0, 601S×15058E, h88km±56km, mb3.4/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.8/4, ML2.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/16, Error ellipse: s-maj=98.2km s-min=54.1km az=127.0*

ISC 17 18:39:02.8±5.4, 59S±05×1504E±06, h88km±33km, n9, σ0 47/9, mb3.5/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**222**	P	**Pn**	**18 40 11.9**	**+0.1**
	1.4nm,0.3s,baz=324,slow=3.0,SNR=2.2						
PMG				S	**Sn**	**18 41 05.6**	**+0.1**
	2.2nm,0.3s,baz=304,slow=21,SNR=2.2						
PMG				LR	LR	18 41 25.7	
	comp=Z,94nm,20.3s,baz=14,slow=30						
WRAB	**Tennant Creek**	**20.93**	**227**	*e*P	**P**	**18 43 37.0**	**-1.3**
	2.9nm,0.7s						
WB2	**Warramunga Arr**	**20.93**	**227**	*e*P	**P**	**18 43 38.3**	**0.0**
WRA	**Warramunga Arr**	**20.94**	**227**	P	**P**	**18 43 38.2**	**-0.1**
	1.3nm,0.5s,baz=54,slow=10,SNR=5.0						
AS31	**Alice Springs**	**23.75**	**220**	*e*P	**P**	**18 44 07.2**	**+0.3**
ASAR	**Alice Springs**	**23.75**	**220**	P	**P**	**18 44 07.0**	**+0.1**
	1.1nm,0.5s,mb3.4,baz=60,slow=9.1,SNR=8.9						
ASPA	**Alice Springs**	**23.75**	**220**	*e*P	**P**	**18 44 07.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.03**	**241**	P	**P**	**18 44 37.1**	**+0.5**
	1.5nm,0.8s,mb3.6,baz=42,slow=12,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.31**	**285**	PKPbc	PKPbc	18 58 38.2	-0.5
	2.6nm,0.7s,baz=61,slow=3.2,SNR=17						

*ISCJB **17** 18:46:35.7±1.0, 60S±02×1511E±02, h33km, mb3.9/7, MS3.5/4, Error ellipse: s-maj=43.6km s-min=11.5km az=88.1*
*NEIC **17** 18:46:36.1±0.9, 628S×15147E, h35km, mb4.1/2, Error ellipse: s-maj=39.2km s-min=14.8km az=129.0*
*IDC **17** 18:46:37.6±6.4, 617S×15126E, h41km±52km, mb3.8/6, mb1 4.0/7, mb1mx3.8/14, mbtmp4.0/7, ML2.2/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/24, Error ellipse: s-maj=46.4km s-min=33.7km az=121.0*

ISC 17 18:46:37.5±1.0, 61S±02×1512E±02, h35km, n21, σ0 86/16, mb3.9/7, MS3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**230**	P	**Pn**	**18 47 54.2**	**+1.6**
	0.6nm,0.3s,baz=11,slow=5.4,SNR=3.4						
PMG				S	**Sn**	**18 48 50.6**	**-0.6**
	2.7nm,0.3s,baz=58,slow=20,SNR=6.2						
PMG				LR	LR	18 49 52.3	
	comp=Z,234nm,21.8s,baz=146,slow=38						
PMG	**Port Moresby**	**5.19**	**230**	*e*Pn	**Pn**	**18 47 52.0**	**-0.6**
PMG				S	**Sn**	**18 48 50.6**	**-0.6**
PMG				LR	LR	18 49 52.3	
HNR	**Honiara**	**9.29**	**112**	LR	LR	18 52 03.8	
	comp=Z,134nm,21.3s,baz=359,slow=35						
CTA	**Charters Tower**	**14.73**	**199**	LR	LR	18 55 05.5	
	comp=Z,131nm,20.6s,baz=227,slow=35						
GUMO	**Guam**	**20.52**	**342**	LR	LR	18 57 08.4	
	comp=Z,70nm,19.9s,MS3.0,baz=250,slow=31						
WRAB	**Tennant Creek**	**21.39**	**228**	*e*P	**P**	**18 51 20.6**	**-1.4**
	5.1nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**21.40**	**228**	*e*P	**P**	**18 51 22.2**	**+0.1**
WRA	**Warramunga Arr**	**21.41**	**228**	P	**P**	**18 51 22.1**	**-0.1**
	5.2nm,0.8s,mb3.9,baz=53,slow=11,SNR=29						
DZM	**Mont Dzumac**	**21.68**	**139**	LR	LR	18 58 28.7	
	comp=Z,141nm,19.9s,MS3.4,baz=219,slow=33						
AS31	**Alice Springs**	**24.13**	**222**	*e*P	**P**	**18 51 50.9**	**+0.9**
ASAR	**Alice Springs**	**24.14**	**222**	P	**P**	**18 51 51.0**	**+0.9**
	6.7nm,0.7s,mb4.2,baz=54,slow=8.9,SNR=49						
ASPA	**Alice Springs**	**24.14**	**222**	*e*P	**P**	**18 51 50.9**	**+0.8**
STKA	**Stephens Creek**	**27.19**	**198**	P	**P**	**18 52 16.0**	**-1.8**
	2.4nm,0.8s,mb3.8,baz=109,slow=16,SNR=2.2						
STKA				LR	LR	19 02 35.2	
	comp=Z,97nm,19.1s,MS3.4,baz=26,slow=35						
STKA	**Stephens Creek**	**27.19**	**198**	P	**P**	**18 52 13.6**	**-4.1**
STKA				LR	LR	19 02 35.2	
FITZ	**Fitzroy Crossi**	**27.65**	**242**	*e*P	**P**	**18 52 22.7**	**+0.8**
	4.5nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**18 52 21.9**	**+0.1**
	1.9nm,0.8s,mb3.8,baz=198,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**18 58 44.1**	**-0.4**
	0.5nm,0.9s,mb3.5,baz=101,slow=6.3,SNR=3.9						
MAW	**Mawson**	**83.78**	**203**	LR	LR	19 35 46.6	
	comp=Z,62nm,18.5s,MS4.0,baz=242,slow=35						
NVAR	**Mina Array Bea**	**94.13**	**52**	P	**P**	**18 59 52.0**	**-0.4**
	0.2nm,0.2s,mb4.1,baz=264,slow=7.8,SNR=2.3						
GERES	**GERESS Array B**	**124.28**	**327**	PKP	PKPdf	19 05 32.3	-0.2
	0.7nm,0.7s,baz=90,slow=1.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.14**	**285**	PKPbc	PKPbc	19 06 22.5	+0.4
	1.8nm,0.7s,baz=63,slow=3.3,SNR=12						

*NIED **17** 19:19:00, 3750N×14300E, h20km, Mw4.7 Best double couple: M0 1.43000×10^16 NP1:φs 14.00000°, δ68.00000°, λ83.00000°. NP2:φs 212.00000°, δ23.00000°, λ106.00000°.*
*BJI **17** 19:19:07.4, 3759N×14275E, h13km, mB5.0, mb4.8, Ms4.6, Msz4.5*
*JMA **17** 19:19:08.4±0.2, 3753N×14302E, h44km, M5.0*
JMA Felt I J1.
*ISCJB **17** 19:19:09.5±0.2, 3753N±002×14288E±003, h27km, mb4.8/100, MS4.5/41, Error ellipse: s-maj=3.8km s-min=3.0km az=76.8*
*GCMT **17** 19:19:10.7±0.7, 3745N×14298E, h28km±2km, MW4.8/44, Moment Tensor Solution. s6,c7; s44,c66; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.27±.18; Mθθ -0.09±.10; Mφφ -1.18±.11; Mrθ 0.62±.15; Mθφ -0.44±.05; Mφr 1.06±.14; Best double couple: M0 1.79000×10^16 NP1:φs 191.00000°, δ24.00000°, λ76.00000°. NP2: φs 27.00000°, δ67.00000°, λ96.00000°. Principal axes: T 1.7700, Plg68.0000°, Azm309.0000°; N 0.0400, Plg6.0000°, Azm204.0000°; P -1.8100, Plg22.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 19:19:10.7±0.2, 3751N×14286E, mb4.9/55, MS4.5/6, MW4.7(NIED) Error ellipse: s-maj=5.9km s-min=4.6km az=124.0*
NEIC Recorded [1 JMA] in Miyagi Prefecture.
*IDC **17** 19:19:11.1±7.0, 3749N×14291E, h28km±48km, mb4.3/23, mb1 4.5/26, mb1mx4.4/32, mbtmp4.5/26, ML4.3/3, MS4.1/17, Ms1 4.1/17, ms1mx3.8/37, Error ellipse: s-maj=17.8km s-min=13.3km az=84.0*
*SZGRF **17** 19:19:12.8, 3787N×14374E, h33km, mb5.4, Off east coast of Honshu, Japan*
*MOS **17** 19:19:13.9±0.8, 3787N×14254E, h42km, mb5.1/62, MS4.5/26, Error ellipse: s-maj=9.0km s-min=4.6km az=115.6*

ISC 17 19:19:11.5±0.2, 3759N±002×14286E±003, h29km, h29km±1.1km: pP-P, n316, σ0 99/342, mb4.8/100, MS4.5/41, 23C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.48**	**306**	⇑P	**Pn**	**19 19 35.3**	**-0.8**
JIO				*e*S	**Sn**	**19 19 54.9**	**+0.5**
JFK	**Kawauchi**	**1.59**	**263**	⇑P	**Pn**	**19 19 36.5**	**-1.2**
JFK				*e*S	**Sn**	**19 19 57.0**	**-0.3**
JMM	**Marumori**	**1.66**	**280**	⇑P	**Pn**	**19 19 37.5**	**-1.2**
JMM				*e*S	**Sn**	**19 19 58.9**	**-0.1**
OFUJ	**Ofunato**	**1.76**	**328**	⇑P	**Pn**	**19 19 38.5**	**-1.5**
JMK	**Ichinoseki**	**1.88**	**317**	⇑P	**Pn**	**19 19 40.5**	**-1.1**
JMK				*e*S	**Sn**	**19 20 04.8**	**+0.5**
JOU	**Okura**	**1.90**	**295**	⇑P	**Pn**	**19 19 41.8**	**-0.2**
JOM	**Ohasama**	**2.25**	**327**	⇑P	**Pn**	**19 19 45.9**	**-0.8**
JOM				*e*S	**Sn**	**19 20 13.3**	**-0.2**
JYK	**Kaneyama**	**2.38**	**305**	⇑P	**Pn**	**19 19 48.2**	**-0.3**
JNS	**Sasagawa**	**2.82**	**276**	⇑P	**Pn**	**19 19 54.7**	**+0.1**
JAG	**Ashikaga**	**2.96**	**248**	⇑P	**Pn**	**19 19 55.8**	**-0.7**
JANG	**Nango**	**2.98**	**340**	P	**Pn**	**19 19 55.1**	**-1.6**
JANG				*e*S	**Sn**	**19 20 31.0**	**-0.4**
JAW	**Awa shima**	**2.98**	**288**	⇓P	**Pn**	**19 19 57.7**	**+0.9**
JHK	**Hiroka**	**3.08**	**265**	⇑P	**Pn**	**19 19 58.1**	**0.0**
BSO1	**Boso 1**	**3.30**	**208**	P	**Pn**	**19 19 58.9**	**-2.3**
BSO1				*e*S	**Sn**	**19 20 37.1**	**-2.3**
BSO3	**Boso 3**	**3.37**	**215**	⇓P	**Pn**	**19 20 00.6**	**-1.5**
JRY	**Ryogami san**	**3.54**	**245**	P	**Pn**	**19 20 04.0**	**-0.5**
JSD	**Sado**	**3.67**	**278**	⇑P	**Pn**	**19 20 06.9**	**+0.6**
JOD2	**Odawara 2**	**3.82**	**234**	P	**Pn**	**19 20 07.6**	**-0.8**
MJAR	**Matsushiro Ar**	**3.86**	**256**	Pn	**Pn**	**19 20 09.4**	**+0.5**
	15nm,0.3s,baz=76,slow=14,SNR=249						
MJAR				LR	LR	19 21 38.0	
	comp=Z,1μm,20.6s,baz=70,slow=38						
MJAR	**Matsushiro Ar**	**3.86**	**256**	P	**Pn**	**19 20 09.5**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,20.6s						
MAJO	**Matsushiro**	**3.86**	**256**	⇑*e*P	**Pn**	**19 20 09.2**	**+0.3**
MAT	**Matsushiro**	**3.86**	**256**	P	**Pn**	**19 20 09.9**	**+1.0**
MAT				*e*S	**Sn**	**19 20 51.7**	**-1.6**
JNG	**Nsakai**	**3.99**	**254**	P	**Pn**	**19 20 11.5**	**+0.9**
JYN	**Shimob**	**4.05**	**240**	P	**Pn**	**19 20 11.8**	**+0.3**
JNT	**Takato**	**4.16**	**247**	⇑P	**Pn**	**19 20 14.0**	**+1.0**
ERM	**Erimo**	**4.43**	**3**	*e*Pn	**Pn**	**19 20 14.2**	**-2.5**
ERM				*e*Sn	**Sn**	**19 21 05.3**	**-2.0**
JNY	**Yasuok**	**4.60**	**243**	P	**Pn**	**19 20 20.0**	**+0.9**
JGN	**Niukaw**	**4.65**	**255**	P	**Pn**	**19 20 21.3**	**+1.6**
HMMJ	**Hamamatsu 2**	**4.97**	**238**	P	**Pn**	**19 20 24.9**	**+0.8**
JHJ	**Hachijo jima 2**	**5.12**	**210**	Pn	**Pn**	**19 20 23.9**	**-2.2**
	comp=Z,35nm,0.3s,baz=95,slow=20,SNR=5.8						
JHJ				Sn	**Sn**	**19 21 16.5**	**-7.7**
	comp=Z,93nm,0.3s,baz=68,slow=24,SNR=6.4						
JHJ				LR	LR	19 22 30.4	
	comp=Z,338nm,18.5s,baz=237,slow=40						
JGM	**Miyama**	**5.28**	**251**	P	**Pn**	**19 20 29.9**	**+1.4**
JKN2	**Miekihoku**	**6.30**	**240**	P	**Pn**	**19 20 42.6**	**+0.2**
JWT	**Wachi**	**6.44**	**251**	⇓P	**Pn**	**19 20 45.6**	**+1.3**
ASAJ	**Asahikawa**	**6.53**	**358**	Pn	**Pn**	**19 20 45.4**	**-0.2**
	comp=Z,5.9nm,0.3s,baz=223,slow=15,SNR=31						
ASAJ				Sn	**Sn**	**19 21 55.9**	**-3.1**
	comp=Z,4.6nm,0.3s,baz=41,slow=28,SNR=5.6						
ASAJ				LR	LR	19 24 07.3	
	comp=Z,2μm,18.3s,baz=183,slow=45						
ASAJ	**Asahikawa**	**6.53**	**358**	P	**Pn**	**19 20 45.4**	**-0.1**
ASAJ						19 21 55.9	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.3s						
YUK	**Yuzh-Kuril'sk**	**6.83**	**19**	*e*P	**Pn**	**19 20 49.6**	**-0.1**
YUK				*i* S	**Sn**	**19 21 58.5**	**-8.0**
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=E,5μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,880nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.36**	**360**	*e*P	**Pn**	**19 21 24.0**	**-0.4**
YSS				*e*S	**Sn**	**19 23 06.6**	**-2.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,900nm,14.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.36**	**360**	*e*Pn	**Pn**	**19 21 23.5**	**-0.9**
	comp=E,58nm,1.0s						
VLA	**Vladivostok**	**10.03**	**307**	*e*P	**Pn**	**19 21 33.5**	**0.0**
VLA				pmax	pmax		
	comp=Z,39nm,0.8s						
CBIJ	**Chichi jima**	**10.47**	**183**	Pn	**Pn**	**19 21 34.5**	**-5.1**
	comp=Z,3.5nm,0.3s,baz=274,slow=16,SNR=4.3						
CBIJ				Sn	**Sn**	**19 23 21.6**	**-14**
	comp=Z,21nm,0.3s,baz=298,slow=22,SNR=6.4						
CBIJ				LR	LR	19 25 33.7	
	comp=Z,385nm,18.9s,baz=71,slow=37						
MDJ	**Mudanjiang**	**12.22**	**309**	P	**Pn**	**19 22 04.8**	**+1.3**
MDJ				PP		19 22 15.5	
MDJ				S	**Sn**	**19 24 22.0**	**+3.3**
MDJ				SS		19 24 37.0	
MDJ				SCP	ScP	19 31 20.8	+4.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,199nm,5.6s						
MDJ				LR	LR		
	comp=N,455nm,13.8s						
MDJ				LR	LR		
	comp=E,982nm,11.6s						
MDJ				LR	LR		
	comp=Z,2μm,13.3s						
MDJ	**Mudanjiang**	**12.22**	**309**	*e*Pn	**Pn**	**19 22 04.4**	**+0.9**
KLR	**Kul'dur**	**14.15**	**329**	*e*P	**Pn**	**19 22 24.7**	**-5.1**
KLR				MLR	MLR		
	comp=Z,9μm,12.5s						
CN2	**Changchun**	**14.59**	**301**	*e*P	**Pn**	**19 22 35.1**	**-0.7**
DL2	**Dalian**	**16.73**	**281**	P	**Pn**	**19 23 04.3**	**+0.6**
DL2				S	**Sn**	**19 26 13.9**	**+5.3**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s						
DL2				AMB	AMB		
	comp=Z,180nm,6.5s						
DL2				LR	LR		
	comp=N,240nm,14.2s						
DL2				LR	LR		
	comp=E,400nm,15.6s						
DL2				LR	LR		
	comp=Z,440nm,16.5s						
SSE	**Sheshan**	**19.01**	**257**	P	**Pn**	**19 23 28.0**	**-3.8**
SSE				AP	pP	19 23 36.3	-2.4
SSE				XP	sP	19 23 40.4	-2.0
SSE				S	**Sn**	**19 27 00.8**	**-3.0**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s						
SSE				AMB	AMB		
	comp=Z,176nm,9.0s						
SSE				LR	LR		
	comp=N,641nm,21.2s						
SSE				LR	LR		
	comp=E,178nm,21.2s						
SSE				LR	LR		
	comp=Z,546nm,20.1s						
SSE	**Sheshan**	**19.01**	**257**	P	**Pn**	**19 23 28.0**	**-3.8**
	comp=Z,28nm,0.7s						
SSE				pP	pP	19 23 36.2	-2.5
SSE				sP	sP	19 23 40.4	-2.0
SSE				S	**Sn**	**19 27 00.8**	**-3.0**
HIA	**Hailar**	**20.36**	**312**	*e*P	**P**	**19 23 42.6**	**-3.0**
HIA				pmax	pmax		
	comp=Z,32nm,0.8s						
HIA	**Hailar**	**20.36**	**312**	*e*P	**P**	**19 23 42.6**	**-3.0**
	comp=Z,32nm,0.8s						
NJ2	**Nanjing**	**20.44**	**262**	*e*P	**P**	**19 23 47.8**	**+1.3**
NJ2				AP		19 23 56.4	
NJ2				XP	sP	19 24 00.8	+2.8
NJ2				PP		19 24 07.5	
NJ2				S	**S**	**19 27 21.0**	**-13**
NJ2				XS	sS	19 27 36.0	-10
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,60nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,12.7s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,10.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,4μm,13.0s,MS5.0						
TIA	**Tai'an**	**20.61**	**274**	*e*P	**P**	**19 23 46.6**	**-1.7**
BJI	**Beijing**	**20.91**	**285**	P	**P**	**19 23 49.8**	**-1.8**
BJI				AMB	AMB		
	comp=Z,16nm,0.9s						
BJI				LR	LR		
	comp=N,464nm,15.5s,MS4.1						
BJI				LR	LR		
	comp=E,409nm,14.2s,MS4.1						
BJI				LR	LR		
	comp=Z,363nm,20.8s						
BJI	**Beijing**	**20.91**	**285**	P	**P**	**19 23 49.7**	**-1.9**
BJI				S	**S**	**19 27 25.2**	**-18**
BJI				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI				MLR	MLR		
	comp=Z,360nm,20.8s,MS3.7						
BJI	**Beijing**	**20.91**	**285**	P	**P**	**19 23 49.7**	**-1.9**
	comp=Z,16nm,0.9s						
BJI				S	**S**	**19 27 25.2**	**-18**
BJI				LR	LR		
	comp=Z,360nm,20.8s,MS3.7						
BJT	**Baijiatuau**	**20.92**	**285**	*e*P	**P**	**19 23 49.8**	**-1.9**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuau**	**20.92**	**285**	*e*P	**P**	**19 23 49.8**	**-1.9**
	comp=Z,25nm,0.8s						
YHNB	**Yeheng**	**22.39**	**241**	P	**P**	**19 24 07.0**	**-0.4**
MA2	**Magadan**	**22.59**	**11**	*e*P	pP	19 24 21.3	+3.9
MA2				*e*	**S**	**19 28 13.7**	**-2.1**
MA2	**Magadan**	**22.59**	**11**	*e*P	**P**	**19 24 07.8**	**-1.7**
	comp=Z,18nm,0.8s,mb4.5						
NRGR	**Nerungri**	**22.59**	**333**	*e*P	**P**	**19 24 09.3**	**-0.3**
CLNS	**Chul'man**	**22.67**	**334**	*e*P	**P**	**19 24 09.6**	**-0.8**
CLNS				*e*		19 24 33.4	
CLNS				*e*S	**S**	**19 28 14.5**	**-2.6**
CLNS				*e*SS		19 29 02.2	
CLNS				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,48nm,1.3s						
CLNS				pmax	pmax		
	comp=E,45nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,52nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,61nm,1.0s						
CLNS				pmax	pmax		
	comp=E,48nm,0.9s						
CLNS				smax			
	comp=N,135nm,12.2s						
CLNS				smax			
	comp=Z,72nm,12.4s						
CLNS				smax			
	comp=E,145nm,12.7s						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.4						
CLNS				MLR	MLR		
	comp=E,800nm,14.0s,MS4.4						
GUMO	**Guam**	**23.96**	**175**	LR	LR	19 32 04.5	
	comp=E,224nm,18.8s,MS3.7,baz=171,slow=32						
HHC	**Hu-ho-hao-te**	**24.40**	**287**	*e*P	**P**	**19 24 27.9**	**+0.7**
HHC				AP		19 24 32.0	
HHC				XP	sP	19 24 35.0	-4.2
HHC				PP		19 25 02.8	
HHC				PCP	PcP	19 28 09.9	+4.0
HHC				S	**S**	**19 28 46.9**	**+1.8**
HHC				XS	sS	19 28 51.5	-7.5
HHC				PCS	PcS	19 31 44.9	-0.9
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,191nm,3.2s						
HHC				LR	LR		
	comp=N,320nm,12.4s,MS4.4						
HHC				LR	LR		
	comp=E,786nm,15.1s,MS4.4						
HHC				LR	LR		
	comp=Z,839nm,14.4s,MS4.4						
WHN	**Wuhan**	**24.58**	**262**	⇓P	**P**	**19 24 29.0**	**+0.1**
WHN				AP		19 24 37.6	
WHN				AMB	AMB		
	comp=Z,83nm,1.0s,mb5.2						
WHN				LR	LR		
	comp=Z,2μm,13.6s,MS4.7						
CIT	**Chita**	**25.10**	**315**	*e*P	**P**	**19 24 33.1**	**-0.5**
CIT				*e*		19 24 43.5	
CIT				pmax	pmax		
	comp=Z,281nm,1.9s,mb5.5						

YAK MLR MLR
comp=N,524nm,14.0s,MS4.3
YAK MLR MLR
comp=E,369nm,13.0s,MS4.3
YAK Yakutsk 25.80 346 *eP* **P 19 24 39.5 -0.5**
comp=E,50nm,0.7s,mb5.2
SEY Seymchan 26.04 10 *eP* **P 19 24 42.6 +0.5**
XAN Xi'an 27.66 273 P **P 19 24 56.3 -0.4**
XAN AP pP 19 25 04.8 -0.4
XAN S **S 19 29 42.3 +5.4**
XAN AMB AMB
comp=Z,13nm,0.9s,mb4.6
XAN LR LR
comp=N,219nm,11.3s,MS4.2
XAN LR LR
comp=E,366nm,15.1s,MS4.2
XAN LR LR
comp=Z,477nm,14.8s,MS4.2
BOD Bodaibo 27.70 326⇑ *iP* **P 19 24 56.3 -0.8**
BOD pmax pmax
comp=Z,63nm,0.9s,mb5.2
SONM Songino Array 28.45 303 P **P 19 25 04.7 +1.0**
comp=Z,17nm,0.9s,mb4.7,baz=103,slow=9.2,SNR=67
SONM LR LR 19 36 44.1
comp=Z,553nm,18.9s,MS4.2,baz=278,slow=37
SONM Songino Array 28.45 303 P **P 19 25 04.7 +1.0**
SONM pmax pmax
comp=Z,17nm,0.9s
SONM MLR MLR
comp=Z,553nm,18.9s
ZAK Zakamensk 30.84 307 *eP* **P 19 25 24.7 -0.3**
ZAK pmax pmax
comp=Z,11nm,0.9s,mb4.7
TLY Talaya 30.85 310 P **P 19 25 26.0 +1.0**
SNR=6.0
TLY Talaya 30.85 310 *eP* **P 19 25 24.6 -0.5**
TLY *e* 19 26 35.2
TLY *e*SS SS 19 32 10.5 -29
TLY pmax pmax
comp=Z,14nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,764nm,15.0s,MS4.5
TLY Talaya 30.85 310 *eP* **P 19 25 25.5 +0.4**
comp=Z,14nm,0.8s,mb4.8
TLY *e* pP 19 25 34.5 +1.0
LZH Lanzhou 31.11 279 *eP* **P 19 25 27.5 +0.1**
LZH AP pP 19 25 32.9 -3.0
LZH XP sP 19 25 35.6 -3.8
LZH *e*PP PP 19 26 29.8 -8.0
LZH *e*S **S 19 30 30.3 -0.8**
LZH XS sS 19 30 39.5 -5.6
LZH *e*SS SS 19 32 13.8 -31
LZH AMB AMB
comp=Z,28nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,96nm,4.9s
LZH LR LR
comp=N,638nm,13.2s
LZH LR LR
comp=Z,1μm,17.5s,MS4.6
LZH Lanzhou 31.11 279 *eP* **P 19 25 27.5 +0.1**
LZH *SP sP 19 25 35.6 -3.8
LZH *e* 19 26 29.7
LZH *e*S **S 19 30 30.2 -0.9**
LZH *e*SS SS 19 32 13.8 -31
LZH pmax pmax
comp=Z,28nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,1μm,17.5s,MS4.6
LZH Lanzhou 31.11 279 *eP* **P 19 25 27.5 +0.1**
comp=Z,28nm,1.2s,mb5.0
LZH pP pP 19 25 32.9 -3.0
LZH sP sP 19 25 35.6 -3.8
LZH *e*PP PP 19 26 29.7 -8.1
LZH *e*S **S 19 30 30.2 -0.9**
LZH sS sS 19 30 39.5 -5.6
LZH *e*SS SS 19 32 13.8 -31
LZH LR LR
comp=Z,1μm,17.5s,MS4.6
GYA Guiyang 32.45 261⇑ *iP* **P 19 25 38.4 -0.7**
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,150nm,5.7s
CD2 Chengdu 32.83 270 *eP* **P 19 25 41.8 -0.6**
CD2 AP pP 19 25 46.1 -4.8
CD2 XP sP 19 25 48.8 -5.6
CD2 PP PP 19 26 51.4 -5.4
CD2 XS sS 19 31 04.5 -7.3
CD2 SS SS 19 32 55.4 -24
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,60nm,5.8s
CD2 LR LR
comp=N,840nm,13.2s,MS4.7
CD2 LR LR
comp=E,560nm,14.4s,MS4.7
CD2 LR LR
comp=Z,730nm,13.2s,MS4.6
BILL Bilibino 33.18 16 *eP* **P 19 25 46.1 +0.6**
BILL pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
BILL MLR MLR
comp=Z,200nm,18.0s,MS3.9
GTA Gaotai 33.51 287 *eP* **P 19 25 49.3 +1.0**
GTA AP pP 19 25 55.9 -1.0
GTA XP sP 19 25 59.1 -1.3
GTA AMB AMB
comp=Z,20nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,162nm,6.5s
GTA LR LR
comp=N,301nm,18.2s,MS4.5
GTA LR LR
comp=E,737nm,17.5s,MS4.5
GTA LR LR
comp=Z,855nm,17.1s,MS4.5
QIZ Qiongzhong 34.21 246 P **P 19 25 55.3 +0.9**
QIZ S **S 19 31 24.6 +5.4**
QIZ LR LR
comp=N,299nm,13.6s,MS4.3
QIZ LR LR
comp=E,269nm,14.6s,MS4.3
QIZ LR LR
comp=Z,299nm,17.7s,MS4.1
KMI Kunming 36.18 262 P **P 19 26 11.0 -0.4**
KMI AP pP 19 26 18.6 -1.4
KMI XP sP 19 26 21.5 -2.0
KMI PP PP 19 27 32.6 -1.3
KMI S **S 19 31 49.3 -0.3**
KMI XS sS 19 32 02.3 -1.4
KMI SS SS 19 34 12.8 -15
KMI AMB AMB
comp=Z,12nm,1.6s,mb4.6
KMI AMB AMB
comp=Z,101nm,4.3s
KMI LR LR
comp=N,291nm,14.9s,MS4.4
KMI LR LR
comp=E,507nm,18.3s,MS4.4
KMI LR LR
comp=Z,584nm,20.8s,MS4.3
KMI Kunming 36.18 262 P **P 19 26 11.0 -0.4**
KMI *SP sP 19 26 21.5 -2.0
KMI 19 27 32.6
KMI S **S 19 31 49.3 -0.3**
KMI SS SS 19 34 12.7 -15
KMI pmax pmax
comp=Z,12nm,1.6s,mb4.6
KMI MLR MLR
comp=Z,580nm,20.8s,MS4.3
KMI Kunming 36.18 262 P **P 19 26 11.0 -0.4**
comp=Z,12nm,1.6s,mb4.6
KMI pP pP 19 26 18.6 -1.4
KMI sP sP 19 26 21.5 -2.0
KMI PP PP 19 27 32.6 -1.3
KMI S **S 19 31 49.3 -0.3**
KMI sS sS 19 32 02.2 -1.5
KMI SS SS 19 34 12.7 -15
KMI LR LR
comp=Z,580nm,20.8s,MS4.3
KRAR Krasnoyarsk 37.87 316 *eP* **P 19 26 25.8 0.0**
KRAR pmax pmax
comp=Z,32nm,1.6s,mb4.8
KRAR MLR MLR
comp=Z,500nm,17.0s,MS4.4
KKM Kota Kinabalu 39.67 224 *eP* **P 19 26 46.1 +5.2**
WMQ Urumqi 41.62 297 *eP* **P 19 26 58.1 +1.1**
WMQ AP pP 19 27 02.5 -3.1
WMQ XP sP 19 27 05.0 -4.1
WMQ PP PP 19 28 37.0 +3.6
WMQ S **S 19 33 14.0 +2.5**
WMQ XS sS 19 33 22.0 -3.7
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,153nm,3.9s
WMQ LR LR
comp=N,873nm,12.5s,MS4.9
WMQ LR LR
comp=E,781nm,15.4s,MS4.9
WMQ LR LR
comp=Z,1μm,20.8s
ZAL Zalesovo 42.41 312 P **P 19 27 03.7 +0.3**
comp=Z,14nm,1.0s,mb4.5,baz=23,slow=8.5,SNR=64
ZAL LR LR 19 45 54.9
comp=Z,471nm,18.4s,MS4.4,baz=29,slow=38
ZAL Zalesovo 42.41 312 P **P 19 27 03.7 +0.3**
ZAL pmax pmax
comp=Z,14nm,1.0s
ZAL MLR MLR
comp=Z,471nm,18.4s
CHTO Chiang Mai 42.54 256 P **P 19 27 05.7 +1.2**
SNR=7.6
CHTO Chiang Mai 42.54 256 *eP* **P 19 27 05.2 +0.7**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb4.6
CHTO Chiang Mai 42.54 256 *eP* **P 19 27 05.2 +0.8**
comp=Z,14nm,1.1s,mb4.6
CM31 Chiang Mai Arr 42.75 256 *eP* **P 19 27 04.3 -1.9**
comp=Z,2.8nm,0.7s,mb4.1
NVS Novosibirsk 43.30 313⇑ *iP* **P 19 27 09.9 -0.7**
NVS pmax pmax
comp=E,36nm,1.1s
NVS pmax pmax
comp=Z,42nm,1.1s,mb5.1
LSA Lhasa 43.31 275 P **P 19 27 09.5 -1.2**
LSA Lhasa 43.31 275 *eP* **P 19 27 12.2 +1.5**
LSA *e* pP 19 27 21.5 +2.1
LSA pmax pmax
comp=Z,22nm,1.0s,mb4.8
LSA Lhasa 43.31 275 *eP* **P 19 27 12.2 +1.6**
comp=Z,22nm,1.0s,mb4.8
LSA *e* pP 19 27 21.5 +2.2
SVW2 Sparrevohn 44.38 38 *eP* **P 19 27 19.6 +0.3**
MK31 Makanchi Array 44.80 302 *iP* **P 19 27 22.9 +0.2**
MK31 pmax pmax
comp=Z,30nm,0.9s,mb5.1
MK31 Makanchi Array 44.80 302 *eP* **P 19 27 22.9 +0.2**
MK31 *e* pP 19 27 31.6 +0.2
MKAR Makanchi Array 44.80 302 P **P 19 27 22.9 +0.2**
comp=Z,8.2nm,0.7s,mb4.7,baz=87,slow=9.5,SNR=88
MKAR LR LR 19 46 41.8
comp=Z,157nm,19.4s,MS4.0,baz=84,slow=37
MKAR Makanchi Array 44.80 302 *iP* **P 19 27 22.8 +0.1**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
KDAK Kodiak Island 45.92 42 P **P 19 27 31.4 -0.1**
comp=Z,4.2nm,0.6s,mb4.5,baz=228,slow=9.6,SNR=6.4
KSM Kuching 46.77 228 *eP* **P 19 27 38.7 +0.5**
KSM *e* pP 19 27 48.4 +1.5
COLA College 48.00 33 P **P 19 27 50.4 +2.7**
COLA pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
COLA College 48.00 33 P **P 19 27 50.4 +2.7**
comp=Z,3.1nm,0.5s,mb4.6
GUN Gumba 48.25 276 *eP* **P 19 27 50.6 +0.9**
PKI Pulchoki 48.77 276 *eP* **P 19 27 54.1 +0.4**
comp=Z,28nm,1.0s,mb5.2
KKN Kakani 48.77 276 *eP* **P 19 27 54.4 +0.7**
comp=Z,56nm,0.9s,mb5.6
DMN Daman 48.99 276 *eP* **P 19 27 56.0 +0.6**
GKN Gorkha 49.19 277 *eP* **P 19 27 57.4 +0.5**
comp=Z,111nm,1.0s,mb5.8
HNR Honiara 49.43 158 LR LR 19 47 21.5
comp=Z,207nm,19.6s,MS4.1,baz=360,slow=34
KULM Kulim 50.09 241 P **P 19 28 04.6 +0.8**
KOLN Koldanda 50.11 277 *eP* **P 19 28 04.5 +0.6**
comp=Z,49nm,1.2s,mb5.4
TKM2 Tokmak 2 50.38 298 P **P 19 28 07.2 +1.2**
SNR=19
TKM2 Tokmak 2 50.38 298 *iP* **P 19 28 07.2 +1.2**
TKM2 pmax pmax
comp=Z,33nm,0.8s,mb5.4
VOSK Vostochnaya 50.77 312 P **P 19 28 08.7 -0.2**
VOSK pmax pmax
comp=Z,21nm,0.9s,mb5.1
CHKZ Chkalovo 50.78 313 *eP* **P 19 28 08.2 -0.8**
CHKZ *e* pP 19 28 17.4 -0.4
CHKZ pmax pmax
comp=Z,19nm,0.8s,mb5.1
CHKZ Chkalovo 50.78 313 *eP* **P 19 28 08.2 -0.8**
comp=Z,19nm,0.8s,mb5.1
CHKZ *e* pP 19 28 17.4 -0.4
KBK Karagaybulak 50.92 298 P **P 19 28 11.1 +1.0**
SNR=22
KAKA Kakadu 50.98 193 *eP* **P 19 28 09.6 -0.9**
comp=Z,12nm,0.8s,mb4.9
USP Ospenovka 51.04 299 P **P 19 28 11.6 +0.6**
SNR=8.2
BVA0 Borovoye Array 51.06 312 *iP* **P 19 28 10.6 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 51.06 312 P **P 19 28 11.2 +0.1**
comp=Z,11nm,0.8s,mb4.9,baz=73,slow=7.4,SNR=67
BVAR Borovoye Array 51.06 312 P **P 19 28 11.2 +0.1**
BVAR pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 51.11 312 P **P 19 28 12.0 +0.6**
SNR=7.7
BRVK Borovoye 51.11 312 *eP* **P 19 28 11.5 0.0**
BRVK *e* pP 19 28 20.7 +0.4
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.0
BRVK Borovoye 51.11 312 *eP* **P 19 28 11.5 0.0**
comp=Z,18nm,0.8s,mb5.0
BRVK *e* pP 19 28 20.7 +0.4
KSH Kashi 51.23 294 *eP* **P 19 28 14.8 +2.4**
KSH *e*AP pP 19 28 20.1 -1.1
KSH *e*XP sP 19 28 23.3 -1.4
KSH *e*PCP PcP 19 29 29.1 +1.8
KSH *e*PP PP 19 30 13.3 +4.0
KSH *e*SCP ScP 19 33 23.3 +1.6
KSH *e*S **S 19 35 32.4 +3.3**
KSH *e*XS sS 19 35 41.4 -2.2
KSH *e*SCS ScS 19 38 02.0 +1.2
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,543nm,5.5s
KSH LR LR
comp=E,429nm,4.6s
KSH LR LR
comp=Z,968nm,10.2s,MS5.1
AAK Ala-Archa 51.24 298 P **P 19 28 13.2 +0.7**
SNR=7.7
AAK Ala-Archa 51.24 298 P **P 19 28 12.4 0.0**
SNR=7.9
AAK Ala-Archa 51.24 298*c* *iP* **P 19 28 12.0 -0.5**
AAK pmax pmax
comp=Z,20nm,2.6s,mb4.6
AAK MLR MLR
comp=Z,400nm,14.0s,MS4.6
AAK Ala-Archa 51.24 298 *eP* **P 19 28 11.9 -0.6**
comp=Z,14nm,0.9s,mb4.9
UCH Uchtor 51.36 298 P **P 19 28 14.9 +1.5**
SNR=6.5
EKS2 Erkin-Say 51.73 299 P **P 19 28 17.2 +1.1**
SNR=6.8
ZRNK Zerenda 51.89 312 *eP* **P 19 28 17.0 -0.3**
ZRNK *e* pP 19 28 26.4 +0.3
ZRNK pmax pmax
comp=Z,27nm,0.9s,mb5.2
ZRNK Zerenda 51.89 312 *eP* **P 19 28 17.0 -0.3**
comp=Z,27nm,0.9s,mb5.2
ZRNK *e* pP 19 28 26.4 +0.3
AML Almayashu 51.97 298 P **P 19 28 19.4 +1.5**
SNR=15
PSI Prapat 53.07 240 P **P 19 28 26.6 +0.6**
comp=Z,3.1nm,0.4s,mb4.6,baz=317,slow=6.6,SNR=5.2
PSI Prapat 53.07 240 P **P 19 28 26.6 +0.6**
PSI pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
THN Thein Dam 54.19 286 *eP* **P 19 28 34.3 +0.1**
ARU Arti 56.71 319‖ *iP* **P 19 28 52.2 -0.2**
ARU *e* 19 29 45.0
ARU *e* 19 30 56.8
ARU *e*S **S 19 36 43.4 +0.3**
ARU *e*SS SS 19 40 31.0 -0.1
ARU pmax pmax
comp=Z,25nm,0.7s,mb5.3
ARU MLR MLR
comp=N,200nm,18.0s,MS4.8
ARU MLR MLR
comp=E,600nm,18.0s,MS4.8
ARU MLR MLR
comp=Z,700nm,18.0s,MS4.8
ARU Arti 56.71 319 *eP* **P 19 29 01.4 +9.0**
comp=Z,30nm,0.8s,mb5.4
FITZ Fitzroy Crossi 57.71 199 *eP* **P 19 28 50.3 -9.2**
comp=Z,3.8nm,0.7s,mb4.5
WRAB Tennant Creek 57.77 189 *eP* **P 19 28 58.0 -1.8**
WRAB *e* 19 29 08.6
WRAB pmax pmax
comp=Z,13nm,0.8s,mb5.0
WRAB Tennant Creek 57.77 189 *eP* **P 19 28 58.0 -1.8**
comp=Z,13nm,0.8s,mb5.0
WRAB *e* 19 29 08.6
WB2 Warramunga Arr 57.78 189 *eP* **P 19 28 58.5 -1.4**
WRA Warramunga Arr 57.78 189 P **P 19 28 58.6 -1.3**
comp=Z,4.8nm,0.8s,mb4.6,baz=8.7,slow=7.2,SNR=51
WRA Warramunga Arr 57.78 189 *iP* **P 19 28 58.0 -1.9**
WRA pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 59.16 312 *iP* **P 19 29 09.3 -0.3**
HYB Hyderabad 59.37 269 *iP* **P 19 29 10.0 -1.0**
HYB Hyderabad 59.37 269 *eP* **P 19 29 11.0 0.0**
ORR Orenburg 60.58 314 *eP* **P 19 29 19.2 -0.1**
ORR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ORR MLR MLR
comp=Z,300nm,17.0s,MS4.5
AS31 Alice Springs 61.50 189 *eP* **P 19 29 24.8 -0.8**
ASAR Alice Springs 61.50 189 P **P 19 29 24.5 -1.1**
comp=Z,1.8nm,0.7s,mb4.3,baz=2.6,slow=6.2,SNR=24
ASAR Alice Springs 61.50 189 P **P 19 29 24.5 -1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASPA Alice Springs 61.51 189 *eP* **P 19 29 24.8 -0.8**
RES Resolute Bay 61.78 15 *eP* **P 19 29 30.3 +2.9**
RES pmax pmax
comp=Z,683nm,0.8s
RES Resolute Bay 61.78 15 *eP* **P 19 29 30.3 +2.9**
comp=Z,683nm,0.8s
MBWA Marble Bar 62.36 204 P **P 19 29 30.6 -0.8**
comp=Z,31nm,1.4s,mb5.2
YKA Yellowknife Ar 62.75 31 LR LR 19 57 22.3
comp=Z,52nm,18.2s,MS3.7,baz=280,slow=36
ARCES ARCESS Array B 63.88 340 P **P 19 29 41.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.5,baz=46,slow=6.9,SNR=5.9
ARCES LR LR 20 03 28.1
comp=Z,264nm,18.5s,MS4.5,baz=241,slow=42
ARCES ARCESS Array B 63.88 340 P **P 19 29 41.1 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,264nm,18.5s
ARCES ARCESS Array B 63.88 340 P **P 19 29 41.1 -0.3**
ARCES LR LR 20 03 28.1
JOF Joensuu 66.02 332 *ep* **P 19 29 53.4 -1.9**
MOS Moscow 67.49 324 *eP* **P 19 30 03.9 -0.8**
MOS pmax pmax
comp=Z,59nm,1.4s,mb5.4
MOS MLR MLR
comp=Z,900nm,17.0s,MS5.1
OBN Obninsk 68.34 324 *eP* **P 19 30 09.0 -1.1**
OBN *e**PP pP 19 30 19.5 +0.3
OBN *e* 19 32 40.6
OBN *e*SS SS 19 43 32.8 0.0
OBN pmax pmax
comp=Z,31nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,400nm,14.0s,MS4.8
OBN Obninsk 68.34 324 P **P 19 30 18.6 +8.6**
comp=Z,27nm,0.9s,mb5.3
KAF Kangasniemi 68.34 333 *ep* **P 19 30 08.7 -1.4**
comp=Z,6.2nm,0.5s,mb4.9,baz=48,slow=6.0
KAF Kangasniemi 68.34 333 *eP* **P 19 30 08.7 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
FINES FINESS Array B 68.86 333 P **P 19 30 12.9 -0.4**
comp=Z,8.2nm,0.7s,mb4.8,baz=44,slow=9.4,SNR=24
FINES LR LR 20 03 16.1
comp=Z,299nm,18.3s,MS4.6,baz=156,slow=38
FINES FINESS Array B 68.86 333 *iP* **P 19 30 12.8 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.7s
STKA Stephens Creek 69.11 181 P **P 19 30 13.8 -1.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=87,slow=23,SNR=2.6
STKA Stephens Creek 69.11 181 P **P 19 30 14.7 -0.1**
VRSR Storozhevoye 69.26 319 *eP* **P 19 30 16.1 +0.3**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
SUMG Summit 70.13 0 *eP* **P 19 30 21.2 +0.1**
comp=E,6.0nm,0.7s,mb4.6
ZEI Tsey 71.35 310 *eP* **P 19 30 27.9 -0.7**
ZEI *e**PP pP 19 30 37.4 -0.3
ZEI pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV Kislovodsk 71.41 311 P **P 19 30 30.0 +1.1**
SNR=12
KIV Kislovodsk 71.41 311 *eP* **P 19 30 29.7 +0.8**
KIV *e* pP 19 30 39.5 +1.4
KIV pmax pmax
comp=Z,43nm,0.9s,mb5.4
KIV Kislovodsk 71.41 311 *eP* **P 19 30 29.7 +0.7**
comp=Z,43nm,0.9s,mb5.4
KIV *e* pP 19 30 39.5 +1.4
WSAR Wadi Sarin 71.83 286 P **P 19 30 32.5 +1.0**
comp=Z,3.2nm,0.9s,mb4.2,baz=78,slow=6.4,SNR=4.2
GNI Garni 72.30 307 *eP* **P 19 30 34.9 +0.6**
GNI pmax pmax
comp=Z,18nm,1.3s
GNI MLR MLR
comp=Z,200nm,16.0s
GNI Garni 72.30 307 *eP* **P 19 30 35.0 +0.7**
comp=Z,26nm,1.2s,mb5.0
CMB Columbia Colle 72.61 55 P **P 19 30 39.7 +3.6**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CMB Columbia Colle 72.61 55 P **P 19 30 39.6 +3.5**
comp=Z,5.8nm,1.0s,mb4.5
HLID Hailey 73.15 48 P **P 19 30 41.0 +1.7**
comp=Z,4.3nm,1.1s,mb4.3
NVAR Mina Array Bea 73.73 54 P **P 19 30 44.1 +1.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=296,slow=6.9,SNR=6.4
HFS Hagfors 74.06 336 P **P 19 30 44.0 -0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=72,slow=4.8,SNR=7.2
HFS Hagfors 74.06 336 P **P 19 30 44.0 -0.6**
HFS pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 74.12 338 P **P 19 30 44.5 -0.5**
comp=Z,0.7nm,0.7s,baz=45,slow=6.2
NB2 NORSAR Subarra 74.12 338 P **P 19 30 44.5 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 74.12 338 P **P 19 30 45.0 0.0**
comp=Z,6.7nm,0.8s,mb4.6,baz=38,slow=5.8,SNR=23
NOA LR LR 20 06 31.3
comp=Z,337nm,18.1s,MS4.7,baz=25,slow=38
NOA NORSAR Array B 74.12 338 P **P 19 30 45.0 0.0**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,337nm,18.1s
AKASG Malin Array Be 74.56 323 P **P 19 30 47.3 -0.3**
comp=Z,12nm,0.8s,mb4.9,baz=44,slow=5.8,SNR=33
AKASG Malin Array Be 74.56 323 *iP* **P 19 30 47.2 -0.4**
AKASG pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 74.56 323 *eP* **P 19 30 47.0 -0.6**
AKBB *e* pP 19 30 56.2 -0.6

SUW Suwalki 75.04 328 P **P** **19 30 49.7 -0.7**
SUW pmax pmax
comp=Z,29nm,1.0s,mb5.2
SUW Suwalki 75.04 328 P **P** **19 30 49.6 -0.7**
comp=Z,29nm,1.0s,mb5.2
SIM Simferopol' 75.74 316 P **P** **19 30 54.2 -0.2**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,200nm,15.0s,MS4.5
HWUT Hardware Ranch 76.01 48 *e*P **P** **19 30 56.0 +0.1**
comp=Z,4.7nm,1.0s,mb4.4
PDAR Pinedale Array 76.46 46 P **P** **19 30 59.0 +0.6**
comp=Z,0.9nm,0.6s,mb3.9,baz=315,slow=2.5,SNR=6.5
MALT Malatya 77.34 309 ⇓*i*P **P** **19 31 05.4 +2.0**
MALT Malatya 77.34 309 *e*P **P** **19 31 05.0 +1.6**
MALT *e* pP 19 31 12.5 -0.1
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.7
MALT Malatya 77.34 309 *e*P **P** **19 31 05.0 +1.5**
comp=Z,11nm,1.0s,mb4.8
MALT *e* pP 19 31 12.5 -0.1
KWP Kalwaria 78.35 325 *e*P **P** **19 31 09.6 +0.6**
KWP pmax pmax
comp=Z,12nm,0.7s,mb4.9
KWP Kalwaria 78.35 325 *e*P **P** **19 31 09.6 +0.5**
comp=Z,12nm,0.7s,mb4.9
BURAR Bucovina Array 78.59 322 ⇑*i*P **P** **19 31 11.1 +0.7**
BURAR Bucovina Array 78.59 322 ⇑P **P** **19 31 11.1 +0.7**
RSSD Black Hills 78.65 43 *e*P **P** **19 31 12.3 +1.6**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
RSSD Black Hills 78.65 43 *e*P **P** **19 31 12.3 +1.6**
comp=Z,1.8nm,0.6s,mb4.2
KOLS Kolonicke sedl 79.05 325 *e*P **P** **19 31 14.1 +1.2**
KOLS *e* 19 31 37.9
STHS Stebnicka Huta 79.17 326 *e*P **P** **19 31 15.1 +1.6**
STHS *e* 19 31 26.9
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 79.17 326 *e*P **P** **19 31 15.1 +1.6**
comp=Z,3.9nm,1.1s,mb4.2
STHS *e* 19 31 26.9
OJC Ojcow 79.22 327 *e*P **P** **19 31 14.1 +0.3**
BRTR Keskin Array B 79.34 312 P **P** **19 31 15.1 +0.6**
comp=Z,3.9nm,1.0s,mb4.3
BRTR LR LR 20 15 40.1
comp=Z,104nm,18.2s,MS4.2,baz=117,slow=43
BRTR Keskin Array B 79.34 312 P **P** **19 31 15.1 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR MLR MLR
comp=Z,104nm,18.2s
CRVS Cervenica-Dubn 79.44 325 *e*P **P** **19 31 15.2 +0.2**
CRVS *e*sP sP 19 31 28.3 +0.7
NIE Niedzica 79.58 326 *e*P **P** **19 31 16.6 +0.8**
MLR Muntele Rosu 79.70 320 P **P** **19 31 17.1 +0.7**
comp=Z,2.1nm,0.6s,mb4.2,baz=268,slow=2.2,SNR=3.2
MLR Muntele Rosu 79.70 320 P **P** **19 31 17.1 +0.6**
MLR pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 80.19 325 *e*P **P** **19 31 21.6 +2.5**
KECS *e* pP 19 31 29.5 +1.2
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 80.19 325 *e*P **P** **19 31 21.6 +2.5**
comp=Z,1.5nm,0.8s,mb4.0
KECS *e* pP 19 31 29.5 +1.2
OKC Ostrava-Krasne 80.22 327 *e*P **P** **19 31 20.0 +0.8**
OKC MLR MLR
comp=Z,900nm,6.1s
MORC Moravsky Berou 80.52 328 ⇑*i*P **P** **19 31 22.0 +1.1**
MORC Moravsky Berou 80.52 328 *e*P **P** **19 31 20.9 0.0**
MORC *e* pP 19 31 30.2 +0.1
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 80.52 328 *e*P **P** **19 31 20.9 0.0**
comp=Z,6.5nm,1.0s,mb4.5
MORC *e* pP 19 31 30.2 +0.1
DPC Dobruska-Polom 80.60 329 *e*P **P** **19 31 22.5 +1.2**
DPC *e*pP pP 19 31 28.7 -1.8
DPC AMS AMS 20 11 30.0
comp=Z,400nm,15.0s
UPC Upice 80.61 329 *e*P **P** **19 31 22.2 +0.9**
UPC *e*pP pP 19 31 31.5 +0.9
PSZ Piszkesteto 80.87 325 ⇓*i*P **P** **19 31 24.0 +1.3**
PSZ Piszkesteto 80.87 325 *e*P **P** **19 31 23.1 +0.4**
PSZ *e* pP 19 31 32.4 +0.4
PSZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
PSZ Piszkesteto 80.87 325 *e*P **P** **19 31 23.1 +0.3**
comp=Z,10nm,1.3s,mb4.6
PSZ *e* pP 19 31 32.4 +0.3
VYHS Vyhne 80.92 326 *e*P **P** **19 31 23.6 +0.6**
VYHS *e* pP 19 31 32.7 +0.4
VYHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
VYHS Vyhne 80.92 326 *e*P **P** **19 31 23.6 +0.6**
comp=Z,5.5nm,1.4s,mb4.3
VYHS *e* pP 19 31 32.7 +0.4
VYHS *e* 19 31 48.2
BRG Berggiesshubel 81.16 330 *e*P **P** **19 31 24.5 +0.2**
comp=Z,2.7nm,1.0s,mb4.1
BRG *e* pP 19 31 34.3 +0.7
comp=Z,2.9nm,1.1s
BRG Berggiesshubel 81.16 330 *e*P **P** **19 31 24.5 +0.2**
BRG *e* pP 19 31 34.3 +0.8
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
PVCC Panska Ves 81.18 330 *e*P **P** **19 31 25.2 +0.8**
PVCC *e*pP pP 19 31 33.8 +0.2
PVCC AMS AMS 20 10 40.0
comp=Z,500nm,15.1s
CLL Collm 81.19 331 *e*P **P** **19 31 23.0 -1.4**
CLL pmax pmax
comp=Z,16nm,1.4s,mb4.8
CLL Collm 81.19 331 *e*P **P** **19 31 23.0 -1.4**
comp=Z,16nm,1.4s,mb4.8
VRAC Vranov 81.28 328 P **P** **19 31 25.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.3,baz=56,slow=4.4,SNR=5.6
VRAC Vranov 81.28 328 P **P** **19 31 25.2 +0.3**
VRAC pmax pmax
comp=Z,4.0nm,0.9s
GZR Gura Zlata 81.35 322 ⇓*i*P **P** **19 31 25.2 -0.1**
GZR Gura Zlata 81.35 322 ⇓P **P** **19 31 25.2 -0.1**
PRU Pruhonice 81.61 329 *e*P **P** **19 31 25.6 -1.1**
PRU *e*pP pP 19 31 33.5 -2.4
PRU AMS AMS 20 13 30.0
comp=Z,400nm,14.7s
BZS Buzias 81.75 323 ⇑*i*P **P** **19 31 27.5 +0.1**
BZS Buzias 81.75 323 ⇑P **P** **19 31 27.5 +0.1**
TREC Trest 81.76 328 AMS AMS 20 13 20.0
comp=Z,400nm,7.9s
ASF Jabal al Asfar 82.15 305 P **P** **19 31 30.5 +1.0**
comp=Z,2.2nm,0.8s,mb4.2,baz=224,slow=0.4,SNR=3.6
ASF Jabal al Asfar 82.15 305 P **P** **19 31 30.5 +1.0**
ASF pmax pmax
comp=Z,2.0nm,0.8s
MOX Moxa 82.25 331 *e*P **P** **19 31 30.0 0.0**
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
NKC Novy Kostel 82.25 330 *e*P **P** **19 31 28.7 -1.3**
NKC AMS AMS 20 11 20.0
comp=Z,600nm,18.5s
NKC Novy Kostel 82.25 330 *e*pP **P** **19 31 28.7 -1.3**
KHC Kasperske Hory 82.67 329 *e*P **P** **19 31 32.6 +0.4**
KHC *e*pP pP 19 31 42.2 +0.7
KHC AMS AMS 20 13 30.0
comp=Z,400nm,15.4s
GERES GERESS Array B 82.84 329 P **P** **19 31 33.1 0.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=38,slow=5.0,SNR=10
GERES LR LR 20 13 46.5
comp=Z,194nm,19.6s,MS4.5,baz=219,slow=40
GERES GERESS Array B 82.84 329 P **P** **19 31 33.1 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,194nm,19.6s
VTS Vitosha 83.15 320 ⇓*i*P **P** **19 31 35.0 +0.3**
GRA1 Grafenberg Arr 83.16 331 *e*P **P** **19 31 34.8 0.0**
comp=Z,42nm,1.7s,mb5.2
GRF Grafenberg Arr 83.16 331 *e*P **P** **19 31 34.8 0.0**
comp=Z,42nm,1.7s,mb5.2
GRF Grafenberg Arr 83.16 331 *e*P **P** **19 31 34.8 0.0**
GRF pmax pmax
comp=Z,42nm,1.7s,mb5.2
GRF Grafenberg Arr 83.16 331 *e*P **P** **19 31 34.8 0.0**
GRF pmax pmax
comp=Z,42nm,1.7s,mb5.2
ANMO Albuquerque 83.34 51 *e*P **P** **19 31 35.5 -0.2**
ANMO Albuquerque 83.34 51 P **P** **19 31 38.5 +2.8**
comp=Z,4.6nm,1.1s,mb4.4
GIVF Givet 85.17 334 *e*P **P** **19 31 44.7 -0.3**
BFO Black Forest 85.38 331 *e*P **P** **19 31 45.7 -0.3**
BFO *e* pP 19 31 54.7 -0.6
BFO pmax pmax
comp=Z,23nm,1.4s,mb5.1
BFO Black Forest 85.38 331 *e*P **P** **19 31 45.6 -0.4**
comp=Z,22nm,1.4s,mb5.1
BFO *e* pP 19 31 54.7 -0.6
BAIF Baives 85.41 335 *e*P **P** **19 31 46.1 -0.1**
CDF Champ du Feu 85.71 332 *e*P **P** **19 31 47.6 -0.1**
comp=Z,31nm,1.2s,mb5.1
CDF Champ du Feu 85.71 332 *e*P **P** **19 31 47.6 -0.1**
CDF pmax pmax
comp=Z,16nm,1.2s,mb5.1
CDF Champ du Feu 85.71 332 *e*P **P** **19 31 47.6 -0.1**
comp=Z,16nm,1.2s,mb5.1
HAU Haudompre 86.39 332 *e*P **P** **19 31 50.6 -0.4**
HAU *e*MLR MLR
comp=Z,200nm,18.8s
HAU Haudompre 86.39 332 *e*P **P** **19 31 50.6 -0.4**
HAU LR LR
comp=Z,200nm,18.8s,MS4.5
MEZF Maizieres J'vi 86.44 333 *e*P **P** **19 31 51.4 +0.1**
comp=Z,16nm,1.0s,mb4.9
MEZF Maizieres J'vi 86.44 333 *e*P **P** **19 31 51.4 +0.1**
comp=Z,16nm,1.0s,mb5.2
CABF La Chapelle 87.66 332 *e*P **P** **19 31 56.9 -0.3**
LOR Lormes 87.91 333 *e*P **P** **19 31 58.3 -0.1**
comp=Z,21nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,172nm,19.8s
LOR Lormes 87.91 333 *e*P **P** **19 31 58.3 -0.1**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,170nm,19.8s,MS4.5
LOR Lormes 87.91 333 *e*P **P** **19 31 58.3 -0.1**
comp=Z,10nm,1.0s,mb5.0
LOR LR LR
comp=Z,170nm,19.8s,MS4.5
FLN La Foliniere 88.07 337 *e*P **P** **19 31 59.6 +0.5**
FLN *e*MLR MLR
comp=Z,293nm,19.2s
FLN La Foliniere 88.07 337 *e*P **P** **19 31 59.6 +0.5**
FLN LR LR
comp=Z,290nm,19.3s,MS4.7
SSF Saint Saulge 88.22 334 *e*P **P** **19 31 59.8 0.0**
LPL La Plagne 88.33 331 *e*P **P** **19 32 00.4 0.0**
comp=Z,39nm,1.6s,mb5.1
LPL La Plagne 88.33 331 *e*P **P** **19 32 00.4 0.0**
LPL pmax pmax
comp=Z,19nm,1.6s,mb5.1
LPL La Plagne 88.33 331 *e*P **P** **19 32 00.4 0.0**
comp=Z,20nm,1.6s,mb5.1
LPG La Plagne 88.33 331 *e*P **P** **19 32 00.2 -0.2**
SMF Signal de Mont 88.45 333 *e*P **P** **19 32 00.9 -0.1**
comp=Z,12nm,1.1s,mb4.7
SMF Signal de Mont 88.45 333 *e*P **P** **19 32 00.9 -0.1**
SMF pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
SMF Signal de Mont 88.45 333 *e*P **P** **19 32 00.9 -0.1**
comp=Z,5.8nm,1.1s,mb4.7
AVF Avril sur Loir 88.50 333 *e*P **P** **19 32 01.2 0.0**
comp=Z,13nm,1.1s,mb4.9
AVF Avril sur Loir 88.50 333 *e*P **P** **19 32 01.2 0.0**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
AVF Avril sur Loir 88.50 333 *e*P **P** **19 32 01.2 0.0**
comp=Z,6.7nm,1.0s,mb4.9
GRR Gorron 88.52 337 *e*P **P** **19 32 01.2 -0.1**
TXAR Lajitas Array 88.87 53 P **P** **19 32 02.1 -0.9**
comp=Z,0.9nm,0.6s,mb4.2,baz=319,slow=2.6,SNR=10.0
TXAR Lajitas Array 88.87 53 P **P** **19 32 02.1 -0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
BGF Bois d'Agland 88.88 334 *e*P **P** **19 32 03.1 +0.1**
TCF Toulx Ste Croi 89.34 334 *e*P **P** **19 32 05.3 +0.2**
comp=Z,25nm,1.3s,mb5.1
TCF Toulx Ste Croi 89.34 334 *e*P **P** **19 32 05.3 +0.2**
TCF pmax pmax
comp=Z,12nm,1.3s,mb5.1
TCF Toulx Ste Croi 89.34 334 *e*P **P** **19 32 05.3 +0.2**
comp=Z,12nm,1.3s,mb5.1
QUIF Quistinic 89.64 338 *e*P **P** **19 32 07.2 +0.6**
comp=Z,72nm,1.4s,mb5.5
QUIF Quistinic 89.64 338 *e*P **P** **19 32 07.2 +0.6**
QUIF pmax pmax
comp=Z,36nm,1.4s,mb5.5
QUIF Quistinic 89.64 338 *e*P **P** **19 32 07.2 +0.6**
comp=Z,36nm,1.4s,mb5.5
MFF Saint Martin d 89.86 335 *e*P **P** **19 32 07.1 -0.5**
RJF Les Rejaudoux 90.43 334 *e*P **P** **19 32 10.6 +0.4**
RJF *e*MLR MLR
comp=Z,243nm,17.0s
RJF Les Rejaudoux 90.43 334 *e*P **P** **19 32 10.6 +0.4**
RJF LR LR
comp=Z,240nm,17.0s,MS4.7
CAF Calviac 90.56 333 *e*P **P** **19 32 11.4 +0.6**
comp=Z,12nm,0.9s,mb4.9
CAF Calviac 90.56 333 *e*P **P** **19 32 11.4 +0.6**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
CAF Calviac 90.56 333 *e*P **P** **19 32 11.4 +0.6**
comp=Z,5.9nm,0.9s,mb4.9
LFF La Frestale 91.02 334 *e*P **P** **19 32 13.4 +0.4**
comp=Z,34nm,1.2s,mb5.3
LFF La Frestale 91.02 334 *e*P **P** **19 32 13.4 +0.4**
LFF pmax pmax
comp=Z,17nm,1.2s,mb5.2
LFF La Frestale 91.02 334 *e*P **P** **19 32 13.4 +0.4**
comp=Z,17nm,1.2s,mb5.2
KEST Kesra 95.27 324 LR LR 20 20 43.4
comp=Z,118nm,18.2s,MS4.4,baz=250,slow=39
ESDC Sonseca Array 97.30 335 LR LR 20 20 51.1
comp=Z,126nm,21.0s,MS4.4,baz=70,slow=38
TORD Torodi Ar. Bea 117.75 316 PP PP 19 39 06.6 -1.5
comp=Z,1.3nm,0.9s,baz=22,slow=8.2,SNR=4.5
LPAZ La Paz 145.42 61 PKPbc PKPbc 19 38 47.1 +0.5
comp=Z,0.9nm,0.5s,baz=317,slow=7.8,SNR=6.0
LPAZ La Paz 145.42 61 PKP2 PKPbc 19 38 47.1 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

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*ISCJB **17** 19:40:35.2±0.5, 4083N±002×3108E±002, h3km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=141.4*
*ISK **17** 19:40:35.6, 4085N×3106E, h9km, MD3.4*
*CSEM **17** 19:40:35.4±0.1, 4084N×3104E, h5km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.6km az=168.0*
*MOS **17** 19:40:35.2±2.5, 4043N×3221E, h33km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=18.5km az=75.8*

ISC 17 19:40:36.5±0.4, 4083N±002×3107E±002, h7km±3km, n42, σ1°02/60, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.13**	**267**	*i* P	**Pg**	**19 40 39.3**	**+0.1**
HENT				*i* S	**Sg**	**19 40 43.3**	**+2.2**
KDZE	**Karadeniz Ereo**	**0.56**	**30**	*i* PG	**Pg**	**19 40 46.6**	**-0.6**
KDZE				*i* SG	**Sg**	**19 40 54.5**	**0.0**
GPA	**Golpazari**	**0.79**	**227**	*i* PG	**Pg**	**19 40 50.9**	**-0.8**
SGKT	**Sivrigoynuk**	**0.79**	**109**	*i* P	**Pg**	**19 40 52.0**	**+0.4**
SGKT				*i* S	**Sg**	**19 41 00.3**	**-1.7**
HRT	**Hereke**	**1.06**	**270**	*i* PG	**Pg**	**19 40 55.7**	**-1.2**
ADVT	**Abdulvahap**	**1.09**	**249**	PN	**Pn**	**19 40 57.4**	**-0.7**
SAFT	**Safranbolu**	**1.29**	**71**	PN	**Pn**	**19 40 59.8**	**-1.1**
IZI	**Izmik**	**1.31**	**249**	PN	**Pn**	**19 41 00.2**	**-1.0**
YLV	**Yalova**	**1.32**	**259**	PN	**Pn**	**19 41 00.1**	**-1.2**
ESKT	**Eskisehir**	**1.32**	**187**	PN	**Pn**	**19 41 01.9**	**+0.6**
GEMT	**Gemlik**	**1.48**	**255**	PN	**Pn**	**19 41 03.8**	**+0.2**
ISK	**Istanbul-Kandi**	**1.54**	**279**	PN	**Pn**	**19 41 04.1**	**-0.3**
KLYT	**Kilyos**	**1.59**	**286**	PN	**Pn**	**19 41 05.1**	**0.0**
ULDT	**Uludag**	**1.63**	**246**	*i* P	**Pn**	**19 41 05.3**	**-0.3**
ULDT				*i* S	**Sn**	**19 41 25.9**	**-0.9**
ANTO	**Ankara**	**1.63**	**126**	*e*PN	**Pn**	**19 41 05.5**	**-0.1**
ELDT	**Eldivan**	**1.82**	**100**	*i* P	**Pn**	**19 41 08.9**	**+0.6**
ELDT				*i* S	**Sn**	**19 41 29.6**	**-2.0**
BALT	**Daday**	**1.88**	**67**	*i* P	**Pn**	**19 41 09.8**	**+0.7**
BALT				*i* S	**Sg**	**19 41 36.7**	**-0.3**
CANT	**Cankiri**	**1.95**	**96**	*e*PN	**Pn**	**19 41 10.7**	**+0.7**
CTT	**Catalca**	**2.02**	**280**	*e*PN	**Pn**	**19 41 10.7**	**-0.3**
ELBA	**Catalca**	**2.02**	**280**	*i* P	**Pn**	**19 41 11.2**	**+0.2**
ELBA				*i* S	**Sn**	**19 41 35.3**	**-1.3**
GDZ	**Gediz**	**2.12**	**216**	*i* P	**Pg**	**19 41 15.5**	**-1.7**
GDZ				*i* S	**Sg**	**19 41 45.3**	**+0.5**
KDHN	**Kadinhani**	**2.44**	**160**	*i* P	**Pn**	**19 41 16.9**	**+0.2**
KDHN				*i* S	**Sg**	**19 41 55.8**	**+0.9**
BZK	**Bozkurt**	**2.48**	**62**	*e*PN	**Pn**	**19 41 18.1**	**+0.8**
KAMT	**Kaman**	**2.50**	**125**	*e*PN	**Pn**	**19 41 17.9**	**+0.4**
CDAG	**Cicekdag**	**2.80**	**114**	*i* P	**Pn**	**19 41 22.2**	**+0.5**
CDAG				*i* S	**Sg**	**19 42 06.0**	**-0.3**
CTKT	**Corum**	**2.83**	**93**	*i* P	**Pn**	**19 41 23.2**	**+1.1**
CTKT				*i* S	**Sn**	**19 42 00.1**	**+3.6**
CTKT	**Corum**	**2.83**	**93**	*i* P	**Pn**	**19 41 23.2**	**+1.1**
TKTP	**Tekketepe**	**2.85**	**192**	*i* P	**Pg**	**19 41 30.5**	**-0.5**
TKTP				*i* S	**Sg**	**19 42 11.0**	**+3.1**
BOYT	**Boyabat**	**2.96**	**77**	*i* P	**Pn**	**19 41 24.7**	**+0.9**
BOYT				*i* S	**Sg**	**19 42 10.1**	**-1.3**
SEV	**Sevastopol'**	**4.18**	**26**	*e*P	**Pn**	**19 41 36.8**	**-3.8**
SEV				*e*S	**Sn**	**19 42 25.0**	**-4.7**
SEV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEV				smax			
	comp=E,5.0nm,0.3s						
SEV	**Sevastopol'**	**4.18**	**26**	*e*P	**Pn**	**19 41 36.8**	**-3.8**
	comp=E,2.0nm,0.3s						
YAL	**Yalta**	**4.30**	**31**	*e*P	**Pn**	**19 41 43.0**	**+0.6**
YAL				*e*S	**Sn**	**19 42 32.5**	**-0.3**
YAL				pmax	pmax		
	comp=Z,34nm,0.3s						
YAL				smax			
	comp=N,20nm,0.2s						
YAL				smax			
	comp=E,30nm,0.2s						
YAL	**Yalta**	**4.30**	**31**	*e*P	**Pn**	**19 41 43.0**	**+0.6**
	comp=E,34nm,0.3s						
ALU	**Alushta**	**4.56**	**31**	*e*P	**Pn**	**19 41 47.1**	**+1.2**
ALU				*e*S	**Sn**	**19 42 37.3**	**-1.9**
ALU				smax			
	comp=E,11nm,0.3s						
ALU				smax			
	comp=N,4.0nm,0.2s						
SVSK	**Karacayir**	**4.62**	**99**	*e*PN	**Pn**	**19 41 47.4**	**+0.7**
SIM	**Simferopol'**	**4.69**	**28**	*e*P	**Pn**	**19 41 47.8**	**+0.2**
SIM				*e*S	**Sn**	**19 42 43.5**	**+1.3**
SIM				pmax	pmax		
	comp=Z,100nm,0.5s						
SIM				smax			
	comp=E,140nm,1.0s						
SIM	**Simferopol'**	**4.69**	**28**	*e*P	**Pn**	**19 41 47.8**	**+0.2**
	comp=E,100nm,0.5s						
SUDU	**Sudak**	**4.98**	**34**	*e*P	**Pn**	**19 41 47.7**	**-4.0**
SUDU				*e*S	**Sn**	**19 42 44.4**	**-5.1**
SUDU				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SUDU				smax			
	comp=N,10.0nm,0.3s						
SUDU	**Sudak**	**4.98**	**34**	*e*P	**Pn**	**19 41 47.7**	**-4.0**
	comp=N,6.0nm,0.4s						
VRI	**Vrincioaia**	**5.95**	**329**	⇑*i*P	**Pn**	**19 42 05.2**	**+0.3**
MLR	**Muntele Rosu**	**5.98**	**323**	⇑*i*P	**Pn**	**19 42 07.4**	**+2.0**
VOIR		**6.37**	**318**	⇓*i*P	**Pn**	**19 42 12.1**	**+1.3**

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*ISCJB **17** 19:47:45.0±0.7, 2098S±005×6864W±009, h115km±7km, mb4.3/15, Error ellipse: s-maj=13.7km s-min=8.6km az=159.0*
*NEIC **17** 19:47:45.8±0.8, 2098S×6861W, h106km±7km, mb4.5/12, Error ellipse: s-maj=10.9km s-min=7.2km az=78.0*
*BJI **17** 19:47:45.7, 2100S×6860W, h106km, mB5.0*
*IDC **17** 19:47:47.4±0.5, 2113S×6862W, h126km±5km, mb4.1/9, mb1 4.1/13, mb1mx3.9/23, mbtmp4.5/13, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=17.1km s-min=7.2km az=102.0*

ISC 17 19:47:47.0±0.6, 2106S±005×6865W±009, h116km±6km, n47, σ1°26/43, mb4.3/15, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.57**	**189**	P	**Pn**	**19 48 15.6**	**+0.6**
	177nm,0.3s,baz=6.4,slow=8.4,SNR=1489						
LVC				S	**Sn**	**19 48 36.5**	**+0.3**
	364nm,0.3s,baz=103,slow=22,SNR=44						
LVC	**Limon Verde**	**1.57**	**189**	*e*Pn	**Pn**	**19 48 15.3**	**+0.4**
LVC				*e*Sn	**Sn**	**19 48 36.5**	**+0.3**
LPAZ	**La Paz**	**4.77**	**6**	P	**Pn**	**19 48 59.5**	**+2.8**
	6.3nm,0.3s,baz=176,slow=7.6,SNR=148						
LPAZ				S	**Sn**	**19 49 54.4**	**+3.5**
	0.7nm,0.3s,baz=181,slow=22,SNR=1.7						
LPAZ	**La Paz**	**4.77**	**6**	*e*Pn	**Pn**	**19 48 59.3**	**+2.6**
ARE	**Arequipa**	**5.31**	**329**	*e*P	**Pn**	**19 49 02.0**	**-2.0**
ARE				*e*S	**Sn**	**19 50 00.0**	**-3.9**
SIV	**San Ignacio**	**8.77**	**56**	P	**Pn**	**19 49 49.8**	**-1.2**
	13nm,0.3s,baz=248,slow=11,SNR=204						
SIV				S	**Sn**	**19 51 15.0**	**-13**
	0.3nm,0.3s,baz=246,slow=16,SNR=2.4						
CFAA	**Coronel Fontan**	**10.51**	**178**	P	**Pn**	**19 50 10.1**	**-4.3**
	0.3nm,0.3s,baz=355,slow=12,SNR=16						
CFAA				S	**Sn**	**19 51 58.5**	**-12**
	0.1nm,0.3s,baz=215,slow=16,SNR=3.3						
CPUP	**Villa Florida**	**11.62**	**119**	P	**Pn**	**19 50 27.1**	**-2.0**
	0.8nm,0.3s,baz=290,slow=12,SNR=13						
CPUP	**Villa Florida**	**11.62**	**119**	*e*Pn	**Pn**	**19 50 26.7**	**-2.4**
	18nm,0.6s						
TRQA	**Tornquist**	**17.90**	**163**	*e*Pn	**Pn**	**19 51 46.9**	**-1.5**
	54nm,1.5s						
PLCA	**Paso Flores**	**19.68**	**184**	P	**P**	**19 52 07.0**	**+0.1**
	0.2nm,0.3s,baz=20,slow=9.6,SNR=13						
PLCA	**Paso Flores**	**19.68**	**184**	*e*P	**P**	**19 52 07.4**	**+0.4**
BDFB	**Brasilia**	**20.30**	**78**	P	**P**	**19 52 13.7**	**+0.1**
	8.2nm,0.5s,baz=261,slow=9.4,SNR=14						
SDV	**Santo Domingo**	**29.82**	**356**	P	**P**	**19 53 42.4**	**-0.6**
	2.8nm,0.3s,mb4.3,baz=276,slow=20,SNR=7.6						
SDV				LR	LR	20 06 55.7	
	comp=Z,50nm,18.9s,baz=326,slow=38						
SDV	**Santo Domingo**	**29.82**	**356**	*e*P	**P**	**19 53 42.1**	**-0.9**
	6.4nm,0.8s,mb4.3						
PCRV	**Puerto La Cruz**	**31.29**	**8**	P	**P**	**19 53 56.7**	**+0.8**
	5.8nm,0.5s,mb4.6,baz=227,slow=21,SNR=3.6						
EFI	**East Falkland**	**31.66**	**167**	P	**P**	**19 54 00.1**	**+0.9**
	46nm,0.9s,mb5.2						
RCBR	**Riachuelo**	**35.15**	**69**	P	**P**	**19 54 32.0**	**+2.6**
	5.4nm,0.7s,mb4.5						
SJG	**San Juan**	**39.00**	**4**	P	**P**	**19 55 00.3**	**-1.7**
	18nm,0.5s,mb5.2,baz=70,slow=2.3,SNR=8.7						
SJG	**San Juan**	**39.00**	**4**	*e*P	**P**	**19 55 00.0**	**-2.0**
	21nm,0.6s,mb5.2						
CMIG	**Matias Romero**	**45.82**	**324**	P	**P**	**19 55 57.4**	**+0.2**
	2.2nm,0.5s,mb4.1,baz=68,slow=5.6,SNR=3.7						
CMIG	**Matias Romero**	**45.82**	**324**	P	**P**	**19 55 57.4**	**+0.2**
SNAA	**Sanae**	**62.62**	**161**	*e*P	**P**	**19 57 59.2**	**+0.3**
	3.8nm,0.8s,mb4.4						
SNAA				*e*	pP	19 58 29.5	+2.3
DBIC	**Dimbokro**	**68.37**	**73**	P	**P**	**19 58 35.1**	**-0.8**
	5.1nm,0.9s,mb4.4,baz=202,slow=4.3,SNR=7.2						
DBIC	**Dimbokro**	**68.37**	**73**	*e*P	**P**	**19 58 36.1**	**+0.1**
	7.9nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**69.13**	**180**	*e*P	**P**	**19 58 41.9**	**+1.2**
	3.5nm,0.8s,mb4.2						
PV01	**Paradox Valley**	**69.81**	**327**	*e*P	**P**	**19 58 43.5**	**-1.3**
PV10	**Paradox Valley**	**70.23**	**327**	*e*P	**P**	**19 58 54.1**	**+6.8**
PDAR	**Pinedale Array**	**73.85**	**330**	P	**P**	**19 59 08.9**	**0.0**
	0.3nm,0.8s,mb3.1,baz=123,slow=3.3,SNR=2.7						
ULM	**Lac du Bonnet**	**74.97**	**342**	P	**P**	**19 59 14.9**	**-0.5**
	2.8nm,0.6s,mb4.1,baz=256,slow=4.7,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**76.97**	**70**	*e*P	**P**	**19 59 26.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**19 59 26.7**	**-0.1**
	0.7nm,0.3s,mb3.9,baz=260,slow=5.4,SNR=24						
TORD				pP	pP	19 59 59.2	+3.1
	1.2nm,0.5s,baz=253,slow=5.7,SNR=3.2						
TORD				sP	sP	20 00 12.4	+3.9
	2.2nm,0.8s,baz=249,slow=4.7,SNR=3.4						
TORD				LR	LR	20 35 21.2	
	comp=Z,57nm,19.3s,baz=310,slow=37						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**19 59 26.7**	**-0.1**
TORD				pP	pP	19 59 59.2	+3.1
TORD				sP	sP	20 00 12.4	+3.9
TORD				LR	LR	20 35 21.2	
TSUM	**Tsumeb**	**79.93**	**107**	*e*P	**P**	**19 59 44.9**	**+1.9**

4.7nm,0.9s,mb4.3
MAW Mawson 84.68 163 P **P 20 00 08.3 +0.5**
1.0nm,0.6s,mb3.9,baz=263,slow=4.2,SNR=3.5
MAW Mawson 84.68 163 *e*P **P 20 00 08.3 +0.5**
1.1nm,0.5s,mb4.0
LBTB Lobatse 84.98 115 *e*P **P 20 00 13.2 +4.0**
6.3nm,1.1s,mb4.5
WRA Warramunga Arr 133.46 210 PKP PKPdf 20 06 50.3 +0.8
0.1nm,0.5s,baz=150,slow=2.0,SNR=6.6
MK31 Makanchi Array 145.13 36 *e*P PKPbc 20 07 11.1 +0.6
MKAR Makanchi Array 145.13 36 PKPbc PKPbc 20 07 11.2 +0.7
3.4nm,0.7s,baz=321,slow=3.2,SNR=28
MKAR pPKPbc 20 07 44.2
1.5nm,0.8s,baz=298,slow=2.6,SNR=3.9
WMQ Urumqi 149.96 35 *e*PKP PKPdf 20 07 17.0 -1.7
MDJ Mudanjiang 152.08 331 PKP PKPdf 20 07 20.0 -1.9
SONM Songino Array 152.99 7 PKP PKPdf 20 07 22.0 -1.3
0.2nm,0.4s,baz=199,slow=25,SNR=2.9
SONM PKPbc PKPbc 20 07 30.6 -0.1
0.4nm,0.4s,baz=348,slow=3.6,SNR=4.8
SONM pPKP pPKPdf 20 07 56.4 +1.7
0.2nm,0.3s,baz=106,slow=16,SNR=3.5
HHC Hu-ho-hao-te 160.27 360 *e*PKP PKPdf 20 07 31.1 -1.5
LZH Lanzhou 163.65 22 *e*PKP PKPdf 20 07 33.5 -2.6
LZH APKP 20 08 00.6
LZH XPKP 20 08 11.3
LZH PKP2 PKPab 20 08 27.6 -0.9
LZH LR LR
comp=E,147nm,18.1s
LZH LR LR
comp=Z,223nm,20.3s
NJ2 Nanjing 167.16 330 *e*PKP PKPdf 20 07 39.6 +0.6
CD2 Chengdu 168.05 33 *e*PKP PKPdf 20 07 37.4 -2.2

IDC 17 19:52:53.0±3.9, 2079N×12111E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=312.1km s-min=28.4km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.78**	**319**	P	P	20 00 35.8	-0.1
	0.1nm,0.2s,baz=113,slow=8.3,SNR=3.7						
WRA	**Warramunga Arr**	**42.50**	**161**	P	P	20 00 50.2	+0.2
	0.8nm,0.5s,baz=342,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**45.91**	**164**	P	P	20 01 17.6	+0.2
	0.2nm,0.4s,baz=346,slow=7.0,SNR=6.9						

*MOS **17** 20:01:05.5±1.5, 5374N×16931E, h30km, mb4.4/1, Error ellipse: s-maj=40.1km s-min=17.2km az=23.8*
KRSC 17 20:01:05, 5374N×16931E, h30km, ML4.3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**4.48**	**306**	*e*P	Pn	20 02 13.1	+2.2
KBTR				*i* S	Sn	20 03 02.5	+0.5
MKZ	**Mys Kozlova**	**4.53**	**283**	*e*P	Pn	20 02 15.0	+3.5
MKZ				*i* S	Sn	20 03 05.4	+2.2
ZLN	**Zelenaya**	**5.42**	**298**	*e*P	Pn	20 02 28.1	+4.4
ZLN				*i* S	Sn	20 03 28.8	+3.8
BDR	**Baidarnaya**	**5.44**	**305**	*e*P	Pn	20 02 28.7	+4.7
SRDR	**Sorokina**	**5.50**	**305**	*e*P	Pn	20 02 29.6	+4.7
TUMR	**Tumrok**	**5.56**	**290**	*e*P	Pn	20 02 30.4	+4.8
TUMR				*i* S	Sn	20 03 32.7	+4.2
SPN	**Mys Shipunski**	**5.59**	**267**	*e*P	Pn	20 02 30.0	+3.9
SPN				*i* S	Sn	20 03 31.5	+2.2
KLY	**Klyuchi**	**5.61**	**301**	*e*P	Pn	20 02 29.3	+3.0
KMNR	**Kamenistaya**	**5.63**	**295**	*e*P	Pn	20 02 31.2	+4.6
KMNR				*i* S	Sn	20 03 34.2	+4.0
KPT	**Kopyto**	**5.70**	**297**	*e*P	Pn	20 02 32.2	+4.6
KPT				*i* S	Sn	20 03 36.0	+3.9
KII	**Karymskiy**	**5.84**	**277**	*e*P	Pn	20 02 34.2	+4.7
KII				*i* S	Sn	20 03 38.3	+2.9
KOZR	**Kozyr**	**5.91**	**297**	PN	Pn	20 02 35.1	+4.6
KOZ	**Kozyrevsk**	**5.92**	**297**	*e*P	Pn	20 02 35.1	+4.5
SRDR	**Sredinnyy**	**6.09**	**299**	*e*P	Pn	20 02 37.3	+4.4
SRDR				*i* S	Sn	20 03 44.1	+2.5
AVH	**Avacha**	**6.33**	**270**	*e*P	Pn	20 02 41.0	+4.8
AVH				*i* S	Sn	20 03 51.5	+4.1
PET	**Petropavlovsk**	**6.42**	**268**	*e*P	Pn	20 02 42.0	+4.6
RUS	**Russkaya**	**6.64**	**263**	*e*P	Pn	20 02 44.4	+4.0
RUS				*i* S	Sn	20 03 57.1	+2.1
GNL	**Ganaly**	**6.75**	**274**	*e*P	Pn	20 02 47.4	+5.4
GNL				*i* S	Sn	20 04 01.2	+3.4
GRL	**Gorelyy**	**6.87**	**265**	*e*P	Pn	20 02 48.9	+5.3

*IDC **17** 20:11:50.2±2.2, 664S×12902E, h0km, mb3.6/1, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=99.2km s-min=27.5km az=75.0*
NEIC 17 20:11:51.3±1.0, 665S×12923E, h10km, Error ellipse: s-maj=22.2km s-min=10.0km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.91**	**197**	Pn	Pn	20 14 41.6	+0.4
	1.5nm,0.3s,baz=23,slow=12,SNR=58						
FITZ				Sn	Sn	20 16 38.6	-15
	1.6nm,0.3s,baz=86,slow=16,SNR=5.6						
DAV	**Davao City (W)**	**14.11**	**345**	Pn	Pn	20 15 03.8	-7.4
	323nm,0.4s						
WRAB	**Tennant Creek**	**14.11**	**160**	*e*Pn	Pn	20 15 11.2	0.0
WRAB				*e*Sn	Sn	20 17 33.8	-14
WRA	**Warramunga Arr**	**14.11**	**160**	Pn	Pn	20 15 11.9	+0.7
	0.8nm,0.3s,baz=330,slow=14,SNR=77						
WRA				Sn	Sn	20 17 33.6	-14
	1.6nm,0.3s,baz=334,slow=22,SNR=11						
WB2	**Warramunga Arr**	**14.12**	**160**	*e*Pn	Pn	20 15 10.8	-0.5
WB2				*e*Sn	Sn	20 17 34.7	-13
MBWA	**Marble Bar**	**17.10**	**212**	*e*Pn	Pn	20 15 50.1	-0.3
MBWA				*e*		20 15 56.8	
MBWA				*e*S	Sn	20 18 37.2	-23
ASAR	**Alice Springs**	**17.50**	**166**	P	Pn	20 15 56.5	+1.0
	0.3nm,0.3s,baz=342,slow=10,SNR=19						
ASAR				S	Sn	20 18 57.9	-12
	0.9nm,0.3s,baz=324,slow=22,SNR=5.5						
KULM	**Kulim**	**30.89**	**292**	P	P	20 18 08.8	+0.9
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	20 22 47.5	-0.2
	0.2nm,0.3s,baz=130,slow=4.5,SNR=6.7						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	20 22 47.5	-0.2

*KRSC **17** 20:16:31, 5291N×15763E, h250km, ML4.2*
*MOS **17** 20:16:32.1±1.4, 5322N×15720E, h245km, mb3.8/6, Error ellipse: s-maj=22.3km s-min=13.9km az=71.6*
*ISCJB **17** 20:16:33.1±0.5, 5289N×007×1579E±02, h248km±5km, mb3.6/8, Error ellipse: s-maj=20.9km s-min=6.5km az=50.5*
*IDC **17** 20:16:40.2±4.9, 5321N×15657E, h298km±48km, mb3.3/8, mb1 3.5/9, mb1mx3.3/23, mbtmp4.0/9, Error ellipse: s-maj=22.3km s-min=15.6km az=94.0*
ISC 17 20:16:32.9±0.5, 5301N±006×1574E±02, h243km±6km, n35, σ1§29/49, mb3.6/8, 1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.61**	**138**	*e*P	**Pn**	**20 17 05.8**	**+0.5**
PET	**Petropavlovsk**	**0.76**	**88**	⇓*i*PN	**Pn**	**20 17 06.0**	**+0.1**
PET				*i* S	**S**	**20 17 31.3**	**-0.5**
PET				pmax	pmax		
	comp=Z,547nm,0.4s						
PET				smax			
	comp=E,200nm,0.6s						
PET				smax			
	comp=N,252nm,0.7s						
PET	**Petropavlovsk**	**0.76**	**88**	*e*P	**Pn**	**20 17 05.9**	**0.0**
PET				*i* S	**S**	**20 17 31.6**	**-0.2**
GNL	**Ganaly**	**0.77**	**25**	*e*P	**Pn**	**20 17 05.6**	**-0.3**
AVH	**Avacha**	**0.85**	**72**	*e*P	**Pn**	**20 17 06.8**	**+0.5**
AVH				*i* S	**S**	**20 17 32.1**	**-0.5**
RUS	**Russkaya**	**0.89**	**130**	*e*P	**Pn**	**20 17 06.0**	**-0.5**
RUS				*i* S	**S**	**20 17 31.4**	**-1.5**
NLC	**Nalytchevo**	**1.19**	**81**	*e*P	**Pn**	**20 17 08.2**	**-0.1**
NLC				*i* S	**S**	**20 17 35.4**	**-0.6**
SPN	**Mys Shipunski**	**1.59**	**86**	*e*P	**Pn**	**20 17 10.8**	**-0.4**
SPN				*i* S	**S**	**20 17 38.6**	**-2.7**
KII	**Karymskiy**	**1.60**	**49**	*e*P	**Pn**	**20 17 12.5**	**+1.2**
KII				*i* S	**S**	**20 17 42.9**	**+1.4**
TUMR	**Tumrok**	**2.80**	**34**	*e*P	**Pn**	**20 17 23.9**	**+1.2**
TUMR				*i* S	**S**	**20 18 03.4**	**+1.3**
MKZ	**Mys Kozlova**	**3.00**	**57**	*e*P	**Pn**	**20 17 24.6**	**-0.4**
MKZ				*i* S	**S**	**20 18 03.1**	**-3.0**
KMNR	**Kamenistaya**	**3.22**	**30**	*e*P	**Pn**	**20 17 28.3**	**+1.0**
KMNR				*i* S	**S**	**20 18 09.4**	**-1.0**
SRDR	**Sredinnyy**	**3.58**	**21**	*e*P	**Pn**	**20 17 32.3**	**+0.8**
ZLN	**Zelenaya**	**3.61**	**32**	*e*P	**Pn**	**20 17 33.3**	**+1.5**
ZLN				*i* S	**S**	**20 18 17.8**	**-0.7**
KRSR	**Krestovskiy**	**3.71**	**29**	*e*P	**Pn**	**20 17 33.7**	**+0.8**
KLY	**Klyuchi**	**3.82**	**28**	*e*P	**Pn**	**20 17 36.1**	**+1.9**
KLY				*i* S	**S**	**20 18 24.5**	**+1.7**
SRKR	**Sorokina**	**4.26**	**29**	*e*P	**Pn**	**20 17 40.2**	**+0.8**
SRKR				*i* S	**S**	**20 18 31.9**	**-0.3**
KBTR	**Krutoberegovo**	**4.50**	**42**	*e*P	**Pn**	**20 17 41.8**	**-0.5**
KBTR				*i* S	**S**	**20 18 34.6**	**-2.9**
ASAJ	**Asahikawa**	**13.21**	**234**	P	**Pn**	**20 19 34.4**	**+2.8**
	comp=N,1.3nm,0.3s,baz=17,slow=4.0,SNR=9.7						
ASAJ	**Asahikawa**	**13.21**	**234**	PN	**Pn**	**20 19 34.4**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**17.28**	**312**	*e*P	**P**	**20 20 15.6**	**-2.5**
YAK				pmax	pmax		
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**21.25**	**227**	P	**P**	**20 21 01.3**	**+0.8**
	comp=Z,3.1nm,0.6s,mb4.0,baz=23,slow=9.1,SNR=13						
MJAR	**Matsushiro Arr**	**21.25**	**227**	P	**P**	**20 21 01.3**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**46.72**	**294**	P	**P**	**20 24 35.6**	**-2.1**
	comp=Z,1.0nm,0.5s,mb3.4,baz=52,slow=6.6,SNR=15						
MKAR	**Makanchi Array**	**46.72**	**294**	*i* P	**P**	**20 24 35.5**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**49.16**	**307**	P	**P**	**20 24 54.0**	**-2.4**
	comp=Z,1.4nm,0.3s,mb3.7,baz=59,slow=7.8,SNR=12						
BVAR				PcP	PcP	20 26 14.2	-1.6
	comp=Z,0.8nm,0.4s,baz=88,slow=1.7,SNR=6.0						
BVAR	**Borovoye Array**	**49.16**	**307**	P	**P**	**20 24 54.0**	**-2.3**
BVAR						20 26 14.2	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**58.98**	**59**	P	**P**	**20 26 11.2**	**+4.1**
	comp=Z,0.3nm,0.7s,mb3.0,baz=346,slow=1.9,SNR=3.3						
FINES	**FINESS Array B**	**59.54**	**335**	P	**P**	**20 26 09.4**	**-1.5**
	comp=Z,2.1nm,1.0s,mb3.7,baz=32,slow=5.4,SNR=4.7						
FINES	**FINESS Array B**	**59.54**	**335**	P	**P**	**20 26 09.4**	**-1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**73.95**	**336**	P	**P**	**20 27 40.5**	**-1.2**
	comp=Z,0.1nm,0.3s,mb3.0,baz=4.0,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**75.34**	**202**	P	**P**	**20 27 50.8**	**+1.1**
	comp=Z,2.2nm,0.5s,mb4.0,baz=17,slow=6.1,SNR=47						
WRA	**Warramunga Arr**	**75.34**	**202**	*i* P	**P**	**20 27 50.7**	**+1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**79.04**	**202**	P	**P**	**20 28 11.9**	**+1.8**
	comp=Z,2.3nm,0.7s,mb3.9,baz=15,slow=5.3,SNR=26						
ASAR	**Alice Springs**	**79.04**	**202**	P	**P**	**20 28 12.0**	**+1.9**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*CSEM **17** 20:17:10.5±1.1, 3861N×2958W, h5km, ML2.8, Error ellipse: s-maj=8.0km s-min=6.7km az=171.0, After PDA*
*PDA **17** 20:17:10.5±1.1, 3861N×2958W, h5km, MD3.6, ML2.8, Error ellipse: s-maj=8.0km s-min=6.7km az=171.0*
SVSA 17 20:17:10.5±1.1, 3861N×2958W, h5km, MD3.6, ML2.8, Error ellipse: s-maj=8.0km s-min=6.7km az=171.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.69**	**88**	*i* P	Pg	20 17 21.3	-2.4
PCED				*i* S	Sg	20 17 29.8	-2.8
PCED							
	274nm,0.3s						
PCED	**Cedros**	**0.69**	**88**	*i* S	Sg	20 17 29.8	-2.8
HOR	**Horta**	**0.75**	**96**	*e*S	Sg	20 17 31.5	-3.0
PCND	**Candelaria**	**0.88**	**99**	*e*S	Sg	20 17 35.4	-3.5
PCND							
	49nm,0.2s						
PICO	**Pico**	**0.91**	**96**	*i* P	Pg	20 17 25.1	-2.8
PICO				*e*S	Sg	20 17 35.8	-3.9
PBOI	**Pico dos Bois**	**0.96**	**100**	*e*S	Sg	20 17 37.5	-3.8
PBOI							
	64nm,0.1s						
PTEI	**Pico do Teixo**	**0.96**	**96**	*e*S	Sg	20 17 37.7	-3.8
PTEI							
	121nm,0.3s						
ROSA	**Rosais**	**1.05**	**83**	*i* P	Pg	20 17 27.0	-3.7
ROSA				*e*S	Sg	20 17 39.2	-5.1
PAMA	**Santo Amaro**	**1.10**	**86**	*e*P	Pg	20 17 27.9	-3.6
PAMA				*e*S	Sg	20 17 40.5	-5.2
PAMA							
	115nm,0.2s						
PAMA	**Santo Amaro**	**1.10**	**86**	*e*P	Pg	20 17 27.9	-3.6
PAMA				*e*S	Sg	20 17 40.5	-5.2
PID	**Ribeirinha**	**1.15**	**98**	*e*P	Pg	20 17 28.5	-4.1
PID				*e*S	Sg	20 17 41.7	-5.9
PMAN	**Manadas**	**1.17**	**88**	*e*P	Pg	20 17 28.5	-4.3
PMAN				*e*S	Sg	20 17 41.7	-6.3
PMAN							
	102nm,0.2s						
PMAN	**Manadas**	**1.17**	**88**	*e*P	Pg	20 17 28.5	-4.3
PMAN				*e*S	Sg	20 17 41.7	-6.3
SRBC	**Serra Branca**	**1.27**	**70**	*e*S	Sg	20 17 44.9	-6.5
PGRA	**Graciosa**	**1.32**	**71**	*e*S	Sg	20 17 45.8	-7.0
PGRA							
	37nm,0.3s						
ASBA	**Santa Barbara**	**1.77**	**86**	*e*S	Sn	20 17 56.7	-7.8
ASBA				*e*P		20 17 56.8	
ASBA							
	17nm,0.1s						
PSBA	**Serra de Santa**	**1.77**	**84**	*e*P	Pn	20 17 36.9	-4.9
PSBA				*e*S	Sn	20 17 56.9	-7.7
PSBA							
	80nm,0.3s						
PSBA	**Serra de Santa**	**1.77**	**84**	*e*P	Pn	20 17 36.9	-4.9
PSBA				*e*S	Sn	20 17 56.9	-7.7
PPAD	**Pico dos Padre**	**1.79**	**86**	*e*S	Sn	20 17 57.6	-7.7
PPAD							
	32nm,0.3s						
PBIS	**Biscoitos**	**1.82**	**84**	*e*S	Sn	20 17 58.4	-7.6
PBIS							
	21nm,0.1s						
RIB2	**Ribeirinha**	**1.88**	**87**	*e*S	Sn	20 17 59.6	-7.8
RIB2							
	37nm,0.2s						
PVNV	**Vila Nova**	**1.90**	**85**	*e*S	Sn	20 18 00.1	-7.8
PVNV							
	12nm,0.3s						
PFAV	**Pico das Favas**	**1.95**	**86**	*e*S	Sn	20 18 01.2	-8.0
PFAV							
	16nm,0.1s						

*IDC **17** 20:29:29.4±7.8, 608S×15064E, h80km±58km, mb3.7/3, mb1 3.8/4, mb1mx3.5/14, mbtmp4.0/4, ML2.2/1, MS4.1/1, Ms1 4.1/1, ms1mx2.6/25, Error ellipse: s-maj=76.2km s-min=51.4km az=145.0*
NEIC 17 20:29:23.1±1.4, 581S×15071E, h35km, mb4.0/2, Error ellipse: s-maj=68.5km s-min=21.3km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**224**	P	Pn	20 30 37.8	+2.0
	0.7nm,0.3s,baz=35,slow=12,SNR=2.0						
PMG				S	Sn	20 31 34.8	+2.2
	3.6nm,0.3s,baz=142,slow=19,SNR=4.8						
PMG	**Port Moresby**	**5.02**	**224**	P	Pn	20 30 37.8	+2.0
PMG				*e*Sn	Sn	20 31 31.6	-0.9
PMG				S	Sn	20 31 34.8	+2.2
WRAB	**Tennant Creek**	**21.22**	**227**	*e*P	P	20 34 05.8	0.0
	4.0nm,0.7s						
WB2	**Warramunga Arr**	**21.22**	**227**	*e*P	P	20 34 05.8	0.0
WRA	**Warramunga Arr**	**21.23**	**227**	P	P	20 34 05.9	0.0
	2.0nm,0.5s,baz=53,slow=11,SNR=44						
AS31	**Alice Springs**	**24.02**	**221**	*e*P	P	20 34 33.6	-0.9
ASAR	**Alice Springs**	**24.02**	**221**	P	P	20 34 34.0	-0.6
	2.7nm,0.5s,baz=58,slow=8.9,SNR=52						
ASPA	**Alice Springs**	**24.02**	**221**	*e*P	P	20 34 34.6	0.0
FITZ	**Fitzroy Crossi**	**27.35**	**241**	*e*P	P	20 35 05.6	+0.8
	6.4nm,1.3s						
FITZ	**Fitzroy Crossi**	**27.35**	**241**	P	P	20 35 05.8	+1.0
	2.9nm,1.0s,baz=84,slow=9.7,SNR=6.5						
PLCA	**Paso Flores**	**120.20**	**145**	PKP	PKPdf	20 48 11.8	+1.6
	0.9nm,0.3s,baz=206,slow=3.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc	PKPbc	20 49 07.8	+1.5
	0.3nm,0.6s,baz=96,slow=2.5,SNR=5.5						

*ISCJB **17** 20:31:14.5±0.8, 1063N±005×6271W±004, h86km±9km, Error ellipse: s-maj=8.6km s-min=5.1km az=120.1*
*NEIC **17** 20:31:15.1, 1064N×6267W, h84km, MD3.1(TRN), After TRN.*
*TRN **17** 20:31:15.1, 1064N×6267W, h84km, MD3.1*
*FUNV **17** 20:31:15.8, 1068N×6271W, h82km, MW3.4*
ISC 17 20:31:15.0±0.9, 1064N±005×6271W±004, h85km±9km, n13, σ0§81/24, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.48**	**88**	*e*P	**Pn**	**20 31 29.3**	**+0.2**
GUIV				*e*S	**Sn**	**20 31 39.5**	**0.0**
CRUV	**Carupano**	**0.52**	**275**	*e*P	**Pn**	**20 31 30.1**	**+0.8**
CRUV				*e*S	**Sn**	**20 31 38.7**	**-1.2**
GUNV	**Guanoco**	**0.52**	**206**	*e*P	**Pn**	**20 31 30.5**	**+1.2**
GUNV				*e*S	**Sn**	**20 31 41.3**	**+1.3**
ITEV	**Isla Los Testi**	**0.82**	**330**	*e*P	**Pn**	**20 31 32.3**	**-0.1**
TCE	**Chacachacare**	**0.95**	**86**	*e*P	**Pn**	**20 31 33.8**	**+0.1**
TCE				*e*S	**Sn**	**20 31 47.0**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.28**	**104**	*e*P	**Pn**	**20 31 37.9**	**+0.1**
TRN	**Trinidad (W)**	**1.29**	**89**	⇑*i*P	**Pn**	**20 31 37.4**	**-0.4**
TRN				*e*S	**Sn**	**20 31 53.0**	**-1.9**
TBH	**Brigand Hill**	**1.63**	**95**	*e*P	**Pn**	**20 31 41.7**	**-0.4**
TBH				*e*S	**Sn**	**20 32 03.2**	**+0.5**
ORIV	**Oritupano**	**1.70**	**204**	*e*P	**Pn**	**20 31 43.2**	**+0.1**
ORIV				*e*S	**Sn**	**20 32 04.5**	**+0.2**
GRW	**Mount Saint Ca**	**1.83**	**34**	*e*P	**Pn**	**20 31 44.7**	**-0.1**
GRW				*e*S	**Sn**	**20 32 06.8**	**-0.7**
PCRV	**Puerto La Cruz**	**1.94**	**257**	*e*P	**Pn**	**20 31 46.4**	**+0.1**
PCRV				*e*S	**Sn**	**20 32 08.6**	**-1.5**
GRSS	**Sisters**	**1.98**	**33**	*e*P	**Pn**	**20 31 47.0**	**+0.3**
GRSS				*e*S	**Sn**	**20 32 12.1**	**+1.2**
GRCU	**Cariacou**	**2.20**	**34**	*e*P	**Pn**	**20 31 49.1**	**-0.6**
GRCU				*e*S	**Sn**	**20 32 17.4**	**+1.2**

*NEIC **17** 20:34:09.5±2.7, 632S×15151E, h35km, mb4.3/3, Error ellipse: s-maj=83.0km s-min=20.4km az=111.0*
*ISCJB **17** 20:34:22.5±4.9, 613S±02×1504E±05, h122km±30km, mb4.3/3, Error ellipse: s-maj=79.5km s-min=27.6km az=34.8*
*IDC **17** 20:34:22.5±7.0, 598S×15041E, h118km±48km, mb3.8/3, mb1 3.9/4, mb1mx3.5/14, mbtmp4.2/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=85.0km s-min=50.4km az=127.0*
ISC 17 20:34:22.3±4.8, 62S±02×1507E±04, h112km±29km, n14, σ0§59/14, mb4.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.69**	**228**	P	**Pn**	**20 35 32.0**	**+1.1**
	1.7nm,0.3s,baz=32,slow=13,SNR=2.9						
PMG				S	**Sn**	**20 36 24.8**	**+0.5**
	2.2nm,0.3s,baz=104,slow=20,SNR=9.7						
PMG				LR	LR	20 37 12.4	
	comp=Z,134nm,19.6s,baz=151,slow=36						
PMG	**Port Moresby**	**4.69**	**228**	Pn	**Pn**	**20 35 29.3**	**-1.6**
PMG				P		20 35 32.0	
PMG				*e*Sn	**Sn**	**20 36 24.2**	**0.0**
PMG				S	**Sn**	**20 36 24.8**	**+0.5**
PMG				LR	LR	20 37 12.4	
CTA	**Charters Tower**	**14.42**	**197**	LR	LR	20 42 28.7	
	comp=Z,68nm,20.0s,baz=233,slow=33						
WRAB	**Tennant Creek**	**20.90**	**228**	*e*P	**P**	**20 38 55.0**	**-0.6**
	4.8nm,0.6s						
WB2	**Warramunga Arr**	**20.90**	**228**	*e*P	**P**	**20 38 55.4**	**-0.3**
WRA	**Warramunga Arr**	**20.91**	**228**	P	**P**	**20 38 55.5**	**-0.3**
	4.2nm,0.6s,baz=53,slow=10,SNR=26						
WRA				PcP	PcP	20 42 58.4	-0.8
	0.4nm,0.6s,baz=42,slow=2.2,SNR=5.1						
AS31	**Alice Springs**	**23.67**	**221**	*e*P	**P**	**20 39 23.4**	**-0.2**
ASAR	**Alice Springs**	**23.67**	**221**	P	**P**	**20 39 23.9**	**+0.3**
	7.0nm,0.7s,mb4.1,baz=55,slow=9.4,SNR=49						
ASPA	**Alice Springs**	**23.67**	**221**	*e*P	**P**	**20 39 24.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.11**	**242**	*e*P	**P**	**20 39 54.3**	**-0.4**
	3.8nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.11**	**242**	P	**P**	**20 39 54.4**	**-0.3**
	2.8nm,0.8s,mb3.9,baz=76,slow=6.4,SNR=7.5						
BJT	**Baijiatuau**	**55.94**	**328**	*e*P	**P**	**20 43 49.0**	**+0.3**
	9.7nm,0.8s,mb4.9						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	PKPbc	20 53 55.2	-1.1
	3.1nm,0.6s,baz=59,slow=3.0,SNR=32						
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	PKPbc	20 53 55.2	-1.1

IDC 17 20:43:11.0±7.4, 595S×15057E, h118km±50km, mb3.2/3, mb1 3.3/4, mb1mx3.2/14, mbtmp3.6/4, Error ellipse: s-maj=95.0km s-min=53.0km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.82**	**224**	P	Pn	20 44 22.0	+0.6
	1.1nm,0.3s,baz=28,slow=15,SNR=3.2						
PMG				S	Sn	20 45 16.6	+0.4
	3.3nm,0.3s,baz=232,slow=19,SNR=3.8						
WB2	**Warramunga Arr**	**21.02**	**227**	*e*P	P	20 47 45.1	-0.1
WRA	**Warramunga Arr**	**21.03**	**227**	P	P	20 47 45.2	0.0
	0.6nm,0.5s,baz=53,slow=10,SNR=12						
ASAR	**Alice Springs**	**23.82**	**221**	P	P	20 48 13.5	+0.5
	1.3nm,0.7s,baz=55,slow=8.9,SNR=19						
FITZ	**Fitzroy Crossi**	**27.16**	**241**	P	P	20 48 44.0	+0.8
	0.7nm,0.5s,baz=61,slow=10,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	PKPbc	21 02 44.0	+0.2
	0.6nm,0.6s,baz=87,slow=1.9,SNR=8.1						

**IDC 17 20:52:35.0±8.4, 587S×15067E, h95km

nsta2 refers to surface waves, cutoff=50s.
BJI 17 20:53:14.0, 40.40N±0.12, 630W±0.1, h10km, mB5.3, mb4.8, Ms5.1, Ms4.7
ISC 17 20:53:16.3±0.8, 40.40N±0.002×126.07W±0.003, h13km±5km, h14km±1.3km: pP-P, n350, σ1§12/351, mb4.6/39, MS4.2/33, 100C-88D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**1.61**	**74**	P	**Pn**	**20 53 42.1**	**-2.3**
	baz=1.6,SNR=836						
JCC				⇑S	**Sn**	**20 54 02.6**	**-2.4**
	baz=1.6						
O01C	**Eel River Cons**	**1.74**	**98**	⇓P	**Pn**	**20 53 45.3**	**-0.9**
	baz=1.7,SNR=37						
O01C				⇓S	**Sn**	**20 54 08.2**	**0.0**
	baz=1.7						
KHMM	**Horse Mountain**	**1.84**	**74**	⇑*i*Pn	**Pn**	**20 53 45.6**	**-2.0**
KRMB	**Red Mountain**	**1.98**	**55**	⇑*i*Pn	**Pn**	**20 53 47.2**	**-2.3**
M01C	**Crescent City**	**2.06**	**45**	P	**Pn**	**20 53 48.6**	**-2.1**
	baz=2.0,SNR=1000						
M01C				⇓S	**Sn**	**20 54 11.9**	**-4.3**
	baz=2.0						
KIPM	**Iron Peak**	**2.07**	**106**	*e*Pn	**Pn**	**20 53 49.7**	**-1.0**
N02C	**Big Bar**	**2.14**	**78**	P	**Pn**	**20 53 49.9**	**-1.9**
	baz=2.1,SNR=1000						
N02C				⇓S	**Sn**	**20 54 17.8**	**-0.5**
	baz=2.1						
KBO	**Bosley Butte**	**2.28**	**37**	⇑*i*Pn	**Pn**	**20 53 51.7**	**-1.9**
P01C	**Double 8 Ranch**	**2.29**	**113**	⇑P	**Pn**	**20 53 52.2**	**-1.7**
	baz=2.2,SNR=977						
P01C				⇑S	**Sn**	**20 54 20.7**	**-1.3**
	baz=2.2						
O02C	**Red Bluff**	**2.52**	**94**	⇑P	**Pn**	**20 53 56.2**	**-0.8**
	baz=2.5,SNR=1000						
O02C				⇑S	**Sn**	**20 54 27.6**	**+0.2**
	baz=2.5						
L02A	**Cave Junction**	**2.56**	**46**	P	**Pn**	**20 53 56.1**	**-1.4**
	baz=2.5,SNR=1000						
M02C	**Callahan**	**2.63**	**67**	⇓P	**Pn**	**20 53 56.6**	**-1.8**
	baz=2.6,SNR=209						
M02C				⇑S	**Sn**	**20 54 28.2**	**-2.0**
	baz=2.6						
GASB	**Alder Springs**	**2.68**	**105**	⇑P	**Pn**	**20 53 58.3**	**-0.8**
	baz=2.6,SNR=911						
GASB				⇓S	**Sn**	**20 54 31.2**	**-0.2**
	baz=2.6						
K01A	**Sixes**	**2.69**	**26**	P	**Pn**	**20 53 57.2**	**-2.1**
	baz=2.7,SNR=25						
WDC	**Whiskeytown Da**	**2.69**	**85**	⇑*e*Pn	**Pn**	**20 53 58.0**	**-1.4**
WDC	**Whiskeytown Da**	**2.69**	**85**	⇑P	**Pn**	**20 53 58.1**	**-1.3**
	baz=2.6,SNR=1000						
WDC				⇑S	**Sn**	**20 54 31.7**	**-0.1**
	baz=2.6						
HOPS	**Hopland**	**2.70**	**120**	*e*Pn	**Pn**	**20 53 57.5**	**-2.0**
HOPS	**Hopland**	**2.70**	**120**	⇑P	**Pn**	**20 53 57.5**	**-1.9**
	baz=2.7,SNR=241						
HOPS				⇑S	**Sn**	**20 54 33.4**	**+1.3**
	baz=2.7						
KEBM	**Edson Butte**	**2.79**	**27**	⇑*i*Pn	**Pn**	**20 53 58.3**	**-2.4**
YBH	**Yreka Blue Hor**	**2.87**	**61**	Pn	**Pn**	**20 54 00.8**	**-0.9**
	82nm,0.3s,baz=253,slow=13,SNR=427						
YBH				Sn	**Sn**	**20 54 36.0**	**0.0**
	65nm,0.3s,baz=140,slow=17,SNR=14						
YBH				LR	LR	20 55 21.6	
	comp=Z,6μm,18.8s,baz=239,slow=45						
YBH	**Yreka Blue Hor**	**2.87**	**61**	*e*P	**Pn**	**20 54 00.4**	**-1.3**
YBH	**Yreka Blue Hor**	**2.87**	**61**	⇑P	**Pn**	**20 54 00.3**	**-1.4**
	baz=2.8,SNR=551						
YBH				⇓S	**Sn**	**20 54 34.3**	**-1.8**
	baz=2.8						
K02A	**Glendale**	**3.06**	**38**	⇓P	**Pn**	**20 54 03.5**	**-0.8**
	baz=3.0,SNR=1000						
K02A				⇓S	**Sn**	**20 54 38.9**	**-1.9**
	baz=3.0						
O03C	**Acorn Hollow,**	**3.12**	**96**	⇑P	**Pn**	**20 54 04.5**	**-0.7**
	baz=3.1,SNR=62						
O03C				⇑S	**Sn**	**20 54 42.5**	**+0.3**
	baz=3.1						
MNRC	**McLaughlin Nat**	**3.18**	**117**	⇑P	**Pn**	**20 54 06.8**	**+0.7**
	baz=3.1						
HUMO	**Hull Mountain**	**3.21**	**46**	⇑*i*Pn	**Pn**	**20 54 05.3**	**-1.1**
HUMO	**Hull Mountain**	**3.21**	**46**	P	**Pn**	**20 54 05.5**	**-0.9**
	baz=3.2,SNR=1000						
DBO	**Dodson Butte**	**3.44**	**37**	P	**Pn**	**20 54 08.9**	**-0.7**
CVS	**Carmenet Viney**	**3.47**	**125**	⇑P	**Pn**	**20 54 08.8**	**-1.2**
	baz=3.4,SNR=28						
CVS				⇑S	**Sn**	**20 54 50.6**	**-0.3**
	baz=3.4						
M04C	**Macdoel**	**3.48**	**65**	⇑P	**Pn**	**20 54 09.3**	**-0.8**
	baz=3.4						
SUTB	**Sutter Butte**	**3.50**	**108**	⇑P	**Pn**	**20 54 09.0**	**-1.4**
	baz=3.4,SNR=92						
SUTB				⇓S	**Sn**	**20 54 51.5**	**-0.1**
	baz=3.4						
J02A	**Umpqua**	**3.50**	**31**	⇑P	**Pn**	**20 54 09.1**	**-1.3**
	baz=3.5,SNR=216						
HATC	**Hat Creek Radi**	**3.53**	**82**	⇓P	**Pn**	**20 54 09.8**	**-1.1**
	baz=3.5						
HATC				⇑S	**Sn**	**20 54 53.3**	**+0.9**
	baz=3.5						
BBOR	**Butler Butte**	**3.55**	**44**	P	**Pn**	**20 54 10.9**	**-0.3**
Q03C	**Winters**	**3.60**	**118**	⇑P	**Pn**	**20 54 14.1**	**+2.4**
	baz=3.5,SNR=18						
FARB	**Farallon Islan**	**3.60**	**138**	⇓P	**Pn**	**20 54 10.0**	**-1.8**
	baz=3.6,SNR=95						
LASM	**Arnica Sink**	**3.60**	**69**	P	**Pn**	**20 54 11.2**	**-0.7**
ORV	**Oroville**	**3.61**	**102**	⇑P	**Pn**	**20 54 10.4**	**-1.5**
	baz=3.6,SNR=95						
ORV				⇓S	**Sn**	**20 54 54.6**	**+0.2**
	baz=3.6						
L04A	**Klamath Falls**	**3.61**	**59**	⇓P	**Pn**	**20 54 11.3**	**-0.7**
	baz=3.6,SNR=100						
LBCM	**Butte Creek Ri**	**3.62**	**82**	P	**Pn**	**20 54 11.5**	**-0.5**
OHCM	**Honcut**	**3.68**	**105**	*e*Pn	**Pn**	**20 54 11.9**	**-1.1**
J03A	**Ideyld Park**	**3.77**	**37**	P	**Pn**	**20 54 13.6**	**-0.5**
	baz=3.7,SNR=825						
O04C	**Chester**	**3.81**	**90**	⇑P	**Pn**	**20 54 14.6**	**-0.1**
	baz=3.8						
O04C				⇓S	**Sn**	**20 54 60.0**	**+0.7**
	baz=3.8						
HSO	**Harness Mounta**	**3.83**	**34**	P	**Pn**	**20 54 14.3**	**-0.7**
M05C	**Lookout**	**3.85**	**74**	⇓P	**Pn**	**20 54 14.7**	**-0.6**
	baz=3.8						
M05C				⇓S	**Sn**	**20 55 00.3**	**-0.1**
	baz=3.8						
RNO	**Roman Nose**	**3.91**	**25**	P	**Pn**	**20 54 14.6**	**-1.5**
K04A	**Chilquin**	**3.94**	**54**	⇑P	**Pn**	**20 54 16.5**	**+0.1**
	baz=3.9,SNR=181						
Q04C	**Lincoln**	**3.94**	**112**	⇓P	**Pn**	**20 54 15.8**	**-0.7**
	baz=3.9,SNR=18						
I02A	**Mapleton**	**3.97**	**24**	⇑P	**Pn**	**20 54 15.1**	**-1.8**
	baz=4.0,SNR=21						
O05C	**Quincy**	**3.97**	**95**	⇑P	**Pn**	**20 54 17.2**	**+0.4**
	baz=3.9,SNR=298						
SAC	**San Andreas**	**4.00**	**134**	*e*Pn	**Pn**	**20 54 16.0**	**-1.3**
BDM	**Black Diamond**	**4.08**	**125**	⇑P	**Pn**	**20 54 18.1**	**-0.2**
	baz=4.0,SNR=14						
ELFS	**Eagle Lake Fie**	**4.08**	**85**	⇓P	**Pn**	**20 54 18.1**	**-0.2**
	baz=4.0,SNR=50						
I03A	**Eugene**	**4.13**	**29**	⇓P	**Pn**	**20 54 17.6**	**-1.5**
	baz=4.1,SNR=82						
JRSC	**Jasper Ridge**	**4.23**	**134**	P	**Pn**	**20 54 18.8**	**-1.6**
	baz=4.2,SNR=70						
L05A	**Lakeview**	**4.28**	**66**	⇑P	**Pn**	**20 54 20.8**	**-0.3**
	baz=4.2,SNR=121						
M06C	**Likely Place G**	**4.32**	**77**	⇓P	**Pn**	**20 54 21.1**	**-0.6**
	baz=4.3,SNR=21						
WENL	**Wente Brothers**	**4.35**	**128**	⇑P	**Pn**	**20 54 21.7**	**-0.5**
	baz=4.3,SNR=29						
BEKR	**Beckwourth**	**4.41**	**95**	⇓P	**Pn**	**20 54 22.0**	**-0.9**
	baz=4.3,SNR=63						
HBO	**Huckleberry Mo**	**4.43**	**38**	P	**Pn**	**20 54 23.4**	**+0.2**
LAVA	**Lava Cap Winer**	**4.43**	**110**	⇓P	**Pn**	**20 54 22.6**	**-0.6**
	baz=4.4,SNR=66						
BNLO	**Ben Lomond (Sa**	**4.46**	**136**	⇑P	**Pn**	**20 54 21.6**	**-2.0**
	baz=4.4,SNR=1000						
R04C	**Big Horse Ranc**	**4.52**	**117**	⇑P	**Pn**	**20 54 24.4**	**0.0**
	baz=4.5,SNR=20						
K05A	**Summer Lake**	**4.52**	**57**	⇓P	**Pn**	**20 54 24.3**	**-0.2**
	baz=4.5,SNR=578						
H02A	**Toledo**	**4.54**	**19**	⇓P	**Pn**	**20 54 24.1**	**-0.6**
	baz=4.5,SNR=14						
IRO	**Indian Ridge**	**4.58**	**37**	P	**Pn**	**20 54 25.4**	**0.0**
MOD	**Modoc**	**4.60**	**69**	⇓*e*Pn	**Pn**	**20 54 25.1**	**-0.5**
MOD	**Modoc**	**4.60**	**69**	⇑P	**Pn**	**20 54 24.8**	**-0.8**
	baz=4.6,SNR=70						
J05A	**Fort Rock**	**4.62**	**50**	⇑P	**Pn**	**20 54 26.2**	**+0.3**
	baz=4.6,SNR=1000						
COR	**Corvallis**	**4.66**	**25**	*e*Pn	**Pn**	**20 54 25.5**	**-0.8**
BROR	**Big Rock Looko**	**4.70**	**34**	P	**Pn**	**20 54 26.6**	**-0.3**
H03A	**Soap Creek Ran**	**4.74**	**25**	⇓P	**Pn**	**20 54 26.8**	**-0.7**
	baz=4.7						
N06A	**Buffalo Meadow**	**4.76**	**84**	⇑P	**Pn**	**20 54 27.4**	**-0.4**
	baz=4.7,SNR=81						
O06A	**Flanigan**	**4.78**	**91**	⇑P	**Pn**	**20 54 27.8**	**-0.2**
	baz=4.7,SNR=7.9						
FRIS	**Frissel Point**	**4.81**	**36**	P	**Pn**	**20 54 28.6**	**+0.1**
WIFE	**Three Sisters-**	**4.83**	**39**	P	**Pn**	**20 54 28.9**	**+0.1**
HUOR	**Husband**	**4.86**	**39**	P	**Pn**	**20 54 29.4**	**+0.3**
R05C	**Kirkwood Meado**	**4.93**	**108**	⇑P	**Pn**	**20 54 30.9**	**+0.8**
	baz=4.9,SNR=25						
NCOR	**Newberry Crate**	**4.94**	**46**	P	**Pn**	**20 54 30.8**	**+0.7**
K06A	**Valley Falls**	**4.98**	**59**	P	**Pn**	**20 54 30.4**	**-0.3**
	baz=4.9,SNR=402						
WCN	**Washoe City**	**4.98**	**101**	⇓P	**Pn**	**20 54 31.5**	**+0.8**
	baz=4.9,SNR=50						
CMB	**Columbia Colle**	**5.00**	**116**	⇑*i*Pn	**Pn**	**20 54 32.6**	**+1.5**
	173nm,0.5s						
CMB				*e*Sn	**Sn**	**20 55 26.8**	**-2.0**
CMB	**Columbia Colle**	**5.00**	**116**	⇑P	**Pn**	**20 54 31.7**	**+0.6**
	baz=5.0,SNR=87						
PACP	**Pacheco Peak**	**5.04**	**131**	P	**Pn**	**20 54 30.4**	**-1.2**
	baz=5.0,SNR=119						
BKCOR	**Black Crater**	**5.07**	**38**	P	**Pn**	**20 54 32.1**	**+0.1**
SAO	**San Andreas Ge**	**5.12**	**134**	⇑*i*Pn	**Pn**	**20 54 30.8**	**-1.9**
	160nm,0.7s						
H04A	**Detroit Lake**	**5.15**	**33**	P	**Pn**	**20 54 32.8**	**-0.4**
	baz=5.1,SNR=187						
PINOR	**Pine Mountain**	**5.15**	**47**	P	**Pn**	**20 54 33.8**	**+0.6**
PAHR	**Pah Rah Range**	**5.17**	**96**	⇓*i*Pn	**Pn**	**20 54 33.3**	**-0.1**
	135nm,0.8s						
J06A	**Christmas Vall**	**5.26**	**55**	P	**Pn**	**20 54 34.6**	**0.0**
	baz=5.2,SNR=568						
M07A	**Soldier Meadow**	**5.32**	**77**	⇓P	**Pn**	**20 54 34.2**	**-1.2**
	baz=5.3						
G03A	**Yamhill**	**5.32**	**22**	⇑P	**Pn**	**20 54 35.3**	**-0.2**
	baz=5.3,SNR=14						
L07A	**Adell**	**5.33**	**70**	⇓P	**Pn**	**20 54 35.0**	**-0.6**
	baz=5.3,SNR=15						
BPO	**Bald Peter**	**5.34**	**36**	P	**Pn**	**20 54 36.0**	**+0.3**
HAST	**UC Hastings Re**	**5.35**	**137**	⇑P	**Pn**	**20 54 34.1**	**-1.7**
	baz=5.3,SNR=772						
N07B	**Gerlach**	**5.42**	**84**	⇓P	**Pn**	**20 54 36.6**	**-0.1**
	baz=5.4						
S05C	**Merced**	**5.42**	**122**	⇑P	**Pn**	**20 54 36.1**	**-0.7**
	baz=5.4,SNR=28						
S06C	**San Francisco**	**5.45**	**115**	⇑P	**Pn**	**20 54 37.6**	**+0.4**
	baz=5.4,SNR=178						
G04A	**Mulino**	**5.48**	**28**	⇓P	**Pn**	**20 54 37.7**	**0.0**
	baz=5.5						
T05C	**Eagle Field, D**	**5.48**	**128**	⇑P	**Pn**	**20 54 37.6**	**-0.1**
	baz=5.4,SNR=11						
O07A	**Toulon**	**5.50**	**90**	⇑P	**Pn**	**20 54 37.6**	**-0.4**
	baz=5.4						
H05A	**Madras**	**5.55**	**39**	⇓P	**Pn**	**20 54 38.4**	**-0.2**
	baz=5.5,SNR=199						
P07A	**Fallon**	**5.58**	**97**	⇑P	**Pn**	**20 54 38.8**	**-0.3**
	baz=5.5						
K07A	**Rock Creek Ran**	**5.61**	**64**	⇑P	**Pn**	**20 54 38.8**	**-0.6**
	baz=5.6,SNR=500						
LRV	**Little Rabbit**	**5.61**	**133**	*e*Pn	**Pn**	**20 54 38.5**	**-0.9**
I06A	**Prineville**	**5.61**	**49**	⇑P	**Pn**	**20 54 39.7**	**+0.3**
	baz=5.6,SNR=17						
VIPM	**Ingram Point**	**5.75**	**43**	P	**Pn**	**20 54 41.9**	**+0.5**
V03C	**Hunter Liggett**	**5.79**	**137**	⇑P	**Pn**	**20 54 40.3**	**-1.6**
	baz=5.8,SNR=186						
TDH	**Tom, Dick, Har**	**5.81**	**31**	P	**Pn**	**20 54 42.2**	**+0.1**
F03A	**Seaside**	**5.83**	**18**	⇑P	**Pn**	**20 54 42.5**	**+0.1**
	baz=5.8,SNR=12						
J07A	**Hines**	**5.85**	**57**	⇓P	**Pn**	**20 54 42.8**	**0.0**
	baz=5.8						
M08A	**Happy Creek Ra**	**5.92**	**77**	⇓P	**Pn**	**20 54 43.1**	**-0.5**
	baz=5.9						
R07C	**Lee Vining**	**5.92**	**111**	⇑P	**Pn**	**20 54 43.7**	**0.0**
	baz=5.9,SNR=8.8						
WVOR	**Wild Horse Val**	**5.94**	**68**	*e*Pn	**Pn**	**20 54 42.9**	**-1.1**
	85nm,0.8s						
G05A	**Wamic**	**5.97**	**34**	⇓P	**Pn**	**20 54 44.2**	**-0.1**
	baz=5.9,SNR=31						
T06C	**Millerton Lake**	**6.01**	**122**	⇑P	**Pn**	**20 54 44.6**	**-0.4**
	baz=6.0,SNR=50						
H06A	**Lindquist Farm**	**6.06**	**42**	⇑P	**Pn**	**20 54 46.1**	**+0.5**
	baz=6.0,SNR=70						
L08A	**Fields**	**6.08**	**70**	⇑P	**Pn**	**20 54 45.4**	**-0.6**
	baz=6.0						
KCC	**Kaiser Creek**	**6.09**	**118**	⇓P	**Pn**	**20 54 47.1**	**+1.0**
	baz=6.0,SNR=44						
I07A	**Izee**	**6.10**	**51**	⇑P	**Pn**	**20 54 46.0**	**-0.2**
	baz=6.1,SNR=187						
F04A	**Amboy**	**6.14**	**25**	⇓P	**Pn**	**20 54 46.2**	**-0.5**
	baz=6.1,SNR=8.1						
K08A	**Mann Creek Ran**	**6.14**	**65**	⇓P	**Pn**	**20 54 45.2**	**-1.6**
	baz=6.1,SNR=36						
PKD	**Parkfield**	**6.22**	**134**	⇑P	**Pn**	**20 54 45.8**	**-2.0**
	baz=6.2,SNR=136						
VTHM	**Trough**	**6.26**	**38**	P	**Pn**	**20 54 48.7**	**+0.3**
G06A	**Carlson Farm,**	**6.27**	**38**	⇓P	**Pn**	**20 54 48.6**	**+0.1**
	baz=6.2,SNR=55						
MLAC	**Mammoth Lakes**	**6.27**	**114**	⇑P	**Pn**	**20 54 47.2**	**-1.3**
	baz=6.2						
V04C	**Ramage Ranch,**	**6.28**	**138**	⇓P	**Pn**	**20 54 47.0**	**-1.6**
	baz=6.2,SNR=26						
NVAR	**Mina Array Bea**	**6.32**	**106**	Pn	**Pn**	**20 54 49.9**	**+0.6**
	35nm,0.3s,baz=286,slow=15,SNR=136						
NVAR				Sn	**Sn**	**20 56 04.1**	**+2.7**
	baz=281,slow=28,SNR=1.9						
H07A	**Lands Inn, Kim**	**6.38**	**47**	⇓P	**Pn**	**20 54 51.2**	**+1.3**
	baz=6.3,SNR=145						
J08A	**Circle Bar Ran**	**6.39**	**60**	⇓P	**Pn**	**20 54 49.7**	**-0.4**
	baz=6.3,SNR=63						
E03A	**Lebam**	**6.41**	**16**	⇑P	**Pn**	**20 54 50.4**	**0.0**
	baz=6.4,SNR=11						
VGB	**Gordon Butte**	**6.42**	**35**	P	**Pn**	**20 54 50.9**	**+0.4**
F05A	**White Salmon**	**6.43**	**30**	⇓P	**Pn**	**20 54 50.9**	**+0.1**
	baz=6.4						
L09A	**Wilkinson Ranc**	**6.54**	**73**	⇑P	**Pn**	**20 54 51.1**	**-1.1**
	baz=6.5						
I08A	**Drewsey**	**6.58**	**55**	⇑P	**Pn**	**20 54 52.4**	**-0.4**
	baz=6.5						
MTUM	**Tungsten Hills**	**6.59**	**115**	*e*Pn	**Pn**	**20 54 55.9**	**+2.9**
PTRM	**Twissleman Ran**	**6.62**	**134**	*e*Pn	**Pn**	**20 54 51.4**	**-1.8**
V05C	**Boulder Hill,**	**6.64**	**131**	⇓P	**Pn**	**20 54 53.7**	**+0.1**
	baz=6.6,SNR=5.2						
E04A	**Onalaska**	**6.65**	**20**	⇓P	**Pn**	**20 54 54.8**	**+1.0**
	baz=6.6						
HELL	**Mitchell Peak,**	**6.65**	**122**	⇓P	**Pn**	**20 54 54.9**	**+1.1**
	baz=6.6,SNR=8.6						
K09A	**Rome**	**6.67**	**67**	⇓P	**Pn**	**20 54 53.4**	**-0.6**
	baz=6.6						
G07A	**Ruggs Ranch, H**	**6.76**	**42**	⇑P	**Pn**	**20 54 56.3**	**+1.0**
	baz=6.7,SNR=84						
S08C	**White Mtn Res**	**6.80**	**113**	⇓P	**Pn**	**20 54 56.9**	**+1.1**
	baz=6.7						
H08A	**Prairie City**	**6.84**	**51**	⇑P	**Pn**	**20 54 57.7**	**+1.3**
	baz=6.8,SNR=32						
J09A	**Fry Pan Ranch,**	**6.87**	**62**	⇓P	**Pn**	**20 54 56.6**	**-0.1**
	baz=6.8						
F07A	**Phinny Hill Vi**	**7.09**	**37**	⇑P	**Pn**	**20 54 59.9**	**+0.1**
	baz=7.1,SNR=12						
I09A	**Lost Marbles R**	**7.14**	**57**	⇓P	**Pn**	**20 55 00.8**	**+0.4**
	baz=7.1						
VES	**Vestal, Richgr**	**7.14**	**127**	⇑P	**Pn**	**20 55 00.4**	**0.0**
	baz=7.1						
VES				P		20 55 00.8	
	baz=7.1,SNR=83						
G08A	**Pilot Rock**	**7.15**	**45**	⇑P	**Pn**	**20 55 01.3**	**+0.7**
	baz=7.1,SNR=29						
E06A	**Yakima**	**7.17**	**29**	⇑P	**Pn**	**20 55 01.0**	**+0.2**
	baz=7.1,SNR=38						
NLWA	**Neilton Lookou**	**7.17**	**12**	⇑P	**Pn**	**20 55 01.2**	**+0.4**
	baz=7.2						
TPH	**Tonopah**	**7.25**	**106**	*e*Pn	**Pn**	**20 54 58.1**	**-3.8**
	20nm,0.6s						
S09A	**Goldfield**	**7.38**	**108**	⇓P	**Pn**	**20 55 03.4**	**-0.3**
	baz=7.3						
PKM	**Peak Mountain**	**7.40**	**136**	⇓P	**Pn**	**20 55 02.8**	**-1.1**
	baz=7.4,SNR=32						
D05A	**Enumclaw**	**7.40**	**22**	⇓P	**Pn**	**20 55 04.0**	**0.0**
	baz=7.4						
H09A	**Durkee**	**7.53**	**53**	⇑P	**Pn**	**20 55 06.3**	**+0.5**
	baz=7.5						
F08A	**Pendleton**	**7.58**	**42**	⇓P	**Pn**	**20 55 07.0**	**+0.5**
	baz=7.5,SNR=10						
ISA	**Isabella**	**7.63**	**126**	*e*Pn	**Pn**	**20 55 07.8**	**+0.6**
	0.2nm,0.5s						
ISA				*e*Sn	**Sn**	**20 56 35.0**	**+1.5**
ISA	**Isabella**	**7.63**	**126**	⇓P	**Pn**	**20 55 08.2**	**+1.0**
	baz=7.6,SNR=59						
E07A	**Sunnyside**	**7.63**	**34**	⇓P	**Pn**	**20 55 07.5**	**+0.3**
	baz=7.6,SNR=8.7						
C04A	**Brinnon**	**7.65**	**16**	⇓P	**Pn**	**20 55 07.6**	**+0.2**
	baz=7.6						
HAWA	**Hanford**	**7.65**	**36**	*e*Pn	**Pn**	**20 55 07.2**	**-0.2**
	121nm,0.5s						
ARVC	**Arvin**	**7.78**	**130**	⇓P	**Pn**	**20 55 08.5**	**-0.7**
	baz=7.7						
DAC	**Darwin (Calif)**	**7.83**	**119**	*e*Pn	**Pn**	**20 55 11.2**	**+1.3**
	29nm,0.8s						
B04A	**Port Angeles**	**7.88**	**13**	⇑P	**Pn**	**20 55 11.1**	**+0.6**
	baz=7.9						
C05A	**Tolt Reservoir**	**7.95**	**22**	⇑P	**Pn**	**20 55 12.3**	**+0.8**
	baz=7.9						
F09A	**S2 Ranch, Elgi**	**7.99**	**46**	⇓P	**Pn**	**20 55 13.6**	**+1.5**
	baz=7.9						
MPMC	**Manual Prospec**	**8.02**	**120**	⇑P	**Pn**	**20 55 13.7**	**+1.2**
	baz=8.0,SNR=18						
D07A	**Quincy**	**8.09**	**31**	⇓P	**Pn**	**20 55 14.2**	**+0.7**
	baz=8.1						
Q11A	**Duckwater**	**8.19**	**98**	⇓P	**Pn**	**20 55 14.4**	**-0.4**
	baz=8.1						
BSC	**Santa Cruz Isl**	**8.20**	**139**	⇓P	**Pn**	**20 55 14.7**	**-0.2**
	baz=8.2						
OSI	**Osito Adit**	**8.21**	**132**	⇓P	**Pn**	**20 55 14.9**	**-0.2**
	baz=8.2						
LRMC	**Laurel Mountai**	**8.24**	**124**	⇑P	**Pn**	**20 55 16.2**	**+0.7**
	baz=8.2,SNR=19						
B05A	**Bryant**	**8.36**	**19**	⇓P	**Pn**	**20 55 17.8**	**+0.6**
	baz=8.3,SNR=5.9						
TRCR	**Troy Canyon**	**8.37**	**101**	*e*Pn	**Pn**	**20 55 18.2**	**+0.9**
E09A	**Wood Farm, Sta**	**8.40**	**41**	⇓P	**Pn**	**20 55 17.4**	**-0.3**
	baz=8.4						
D08A	**Wollman Farm,**	**8.43**	**35**	⇓P	**Pn**	**20 55 17.8**	**-0.3**
	baz=8.4						
PGC	**Sidney**	**8.46**	**12**	*e*Pn	**Pn**	**20 55 18.8**	**+0.3**
	68nm,1.0s						
C07A	**Waterville**	**8.47**	**29**	⇑P	**Pn**	**20 55 19.5**	**+0.8**
	baz=8.4,SNR=25						
F10A	**Beach Ranch, E**	**8.53**	**46**	⇑P	**Pn**	**20 55 20.8**	**+1.3**
	baz=8.5,SNR=5.2						
O12A	**Currie**	**8.65**	**87**	⇑P	**Pn**	**20 55 21.2**	**0.0**
	baz=8.6						
A04A	**Legoe Bay, Lum**	**8.66**	**15**	⇓P	**Pn**	**20 55 21.3**	**0.0**
	baz=8.6						
D09A	**Jones Farm, Ri**	**8.71**	**38**	⇓P	**Pn**	**20 55 21.0**	**-0.9**
	baz=8.7						
B06A	**Marblemount**	**8.75**	**20**	⇓P	**Pn**	**20 55 22.8**	**+0.3**
	baz=8.7						
GSC	**Goldstone**	**8.92**	**122**	*e*Pn	**Pn**	**20 55 26.1**	**+1.3**
GSC	**Goldstone**	**8.92**	**122**	⇓P	**Pn**	**20 55 25.6**	**+0.8**
	baz=8.9						
C08A	**Higginbotham F**	**8.94**	**32**	⇓P	**Pn**	**20 55 25.5**	**+0.3**
	baz=8.9						
A05A	**Maple Falls**	**9.05**	**17**	⇑P	**Pn**	**20 55 27.3**	**+0.6**
	baz=9.0						
B07A	**Winthrop**	**9.11**	**26**	⇓P	**Pn**	**20 55 28.2**	**+0.7**
	baz=9.1						
HLID	**Hailey**	**9.24**	**66**	*e*Pn	**Pn**	**20 55 30.8**	**+1.6**
	75nm,1.0s						
HLID	**Hailey**	**9.24**	**66**	⇓P	**Pn**	**20 55 30.2**	**+1.0**
	baz=9.2						
HEC	**Hector,Ludlow**	**9.51**	**123**	⇓P	**Pn**	**20 55 33.0**	**0.0**
	baz=9.5,SNR=39						
B09A	**Rice**	**9.81**	**33**	⇑P	**Pn**	**20 55 37.0**	**-0.1**
	baz=9.8,SNR=5.9						
BGU	**Big Grassy Mou**	**9.92**	**83**	*e*Pn	**Pn**	**20 55 39.9**	**+1.3**
V12A	**Nelson**	**10.00**	**114**	⇓P	**Pn**	**20 55 42.9**	**+3.3**
	baz=9.9						
A09A	**Danville**	**10.09**	**29**	⇑P	**Pn**	**20 55 41.6**	**+0.7**

FLWY	**Flagg Ranch**	11.97	67	*e*Pn		**Pn**	**20 56 09.4 +2.7**
	117nm,1.2s						
SRU	**San Rafael**	12.04	91	*e*Pn		**Pn**	**20 56 11.5 +3.9**
	37nm,0.5s						
HRY	**Holter Researc**	12.09	54	*e*Pn		**Pn**	**20 56 09.5 +1.2**
WALA	**Waterton Lakes**	12.22	41	*e*Pn		**Pn**	**20 56 10.4 +0.4**
	36nm,0.9s						
LKWY	**Lake**	12.29	65	Pn		**Pn**	**20 56 15.1 +4.1**
WUAZ	**Wupatki**	12.57	108	*e*Pn		**Pn**	**20 56 05.2 -10**
	36nm,0.4s						
PDAR	**Pinedale Array**	12.59	74	Pn		**Pn**	**20 56 16.9 +1.8**
	0.3nm,0.3s,baz=284,slow=10,SNR=14						
PDAR				LR		LR	21 01 23.1
	comp=Z,762nm,21.4s,baz=267,slow=39						
PDAR	**Pinedale Array**	12.59	74	Pn		**Pn**	**20 56 16.9 +1.8**
PDAR				LR		LR	21 01 23.1
GCMT	**Greycliff**	13.13	60	*e*Pn		**Pn**	**20 56 23.4 +0.9**
RLMT	**Red Lodge**	13.21	64	*e*Pn		**Pn**	**20 56 24.4 +0.8**
	16nm,0.9s						
115A	**Sonoran Desert**	13.51	120	⇓P		**Pn**	**20 56 29.1 +1.4**
	baz=14						
116A	**Eloy**	13.94	120	⇓P		**Pn**	**20 56 35.4 +1.8**
	baz=14						
EGMT	**Eagleton**	13.95	51	*e*Pn		**Pn**	**20 56 33.0 -0.7**
	70nm,0.9s						
TUC	**Tucson**	14.71	118	*e*Pn		**Pn**	**20 56 46.8 +2.8**
EDM	**Edmonton**	15.47	30	*e*Pn		**Pn**	**20 56 53.1 -1.1**
PHWY	**Pilot Hill**	15.62	80	*e*Pn		**Pn**	**20 56 53.2 -3.0**
ISCO	**Idaho Springs**	15.67	86	*e*Pn		**Pn**	**20 56 53.8 -2.9**
	13nm,1.0s						
LAO	**LASA Array**	15.68	60	Pn		**Pn**	**20 56 57.6 +0.7**
	76nm,1.0s						
LAZ	**Ladron**	16.18	106	*e*Pn		**Pn**	**20 57 06.9 +3.6**
SDCO	**Great Sand Dun**	16.19	93	*e*Pn		**Pn**	**20 57 06.1 +2.6**
	94nm,1.4s						
LENM	**Lemitar**	16.41	106	*e*Pn		**Pn**	**20 57 09.0 +2.7**
ANMO	**Albuquerque**	16.44	103	Pn		**Pn**	**20 57 10.2 +3.5**
	0.4nm,0.3s,baz=307,slow=12,SNR=18						
ANMO				LR		LR	21 03 55.0
	comp=Z,687nm,18.2s,baz=110,slow=39						
ANMO	**Albuquerque**	16.44	103	*e*Pn		**Pn**	**20 57 10.3 +3.6**
	25nm,0.9s						
LPM	**Los Pinos Moun**	16.59	105	*e*Pn		**Pn**	**20 57 13.3 +4.7**
RSSD	**Black Hills**	16.72	70	*e*Pn		**Pn**	**20 57 08.7 -1.5**
	22nm,1.3s						
DGMT	**Dagmar**	17.54	55	*e*Pn		**Pn**	**20 57 20.5 0.0**
	70nm,0.9s						
MNTX	**Cornudas Mount**	18.81	111	*e*P		**Pn**	**20 57 39.2 +3.1**
	39nm,1.3s						
SKAG	**Skagway**	19.95	346	*e*P		**Pn**	**20 57 48.6 -1.2**
	29nm,1.1s						
CBKS	**Cedar Bluff**	20.33	86	*e*P		**P**	**20 57 53.8 +1.6**
	157nm,1.3s						
LPIG	**La Paz**	20.96	136	P		**P**	**20 58 03.4 +4.4**
	19nm,0.3s,baz=149,slow=7.6,SNR=5.9						
LPIG				LR		LR	21 05 26.1
	comp=Z,542nm,18.7s,MS4.0,baz=223,slow=35						
LPIG	**La Paz**	20.96	136	P		**P**	**20 58 03.4 +4.4**
LPIG				LR		LR	21 05 26.1
TXAR	**Lajitas Array**	21.38	114	P		**P**	**20 58 06.2 +2.7**
	18nm,0.9s,mb4.4,baz=299,slow=8.3,SNR=115						
TXAR				LR		LR	21 07 10.1
	comp=Z,360nm,19.3s,MS3.8,baz=5.0,slow=39						
ECSD	**EROS,Sioux Fal**	22.06	72	*e*P		**P**	**20 58 10.6 -0.3**
	62nm,1.1s,mb5.0						
WMOK	**Wichita Mounta**	22.31	96	*e*P		**P**	**20 58 15.7 +2.2**
	11nm,0.7s,mb4.4						
KSU1	**Kansas State U**	22.64	84	*e*P		**P**	**20 58 19.2 +2.2**
	66nm,1.1s,mb5.0						
AGMN	**Agassiz Refuge**	22.89	60	*e*P		**P**	**20 58 19.8 +0.2**
	106nm,1.3s,mb5.1						
YKA	**Yellowknife Ar**	23.18	14	P		**P**	**20 58 22.0 -0.7**
	2.6nm,0.7s,mb3.8,baz=196,slow=11,SNR=4.6						
YKA				LR		LR	21 08 19.0
	comp=Z,302nm,18.1s,MS3.8,baz=205,slow=39						
ULM	**Lac du Bonnet**	23.26	55	P		**P**	**20 58 23.2 -0.3**
	27nm,0.9s,mb4.7,baz=263,slow=10,SNR=20						
ULM				LR		LR	21 07 49.1
	comp=Z,1μm,19.2s,MS4.3,baz=9.1,slow=38						
ULM	**Lac du Bonnet**	23.26	55	*e*P		**P**	**20 58 23.2 -0.3**
	114nm,1.1s,mb5.2						
JCT	**Junction City**	23.50	107	⇓*e*P		**P**	**20 58 27.4 +1.4**
	80nm,1.6s,mb4.9						
KDAK	**Kodiak Island**	24.33	325	P		**P**	**20 58 39.2 +5.5**
	8.7nm,0.9s,mb4.2,baz=115,slow=7.7,SNR=4.7						
KDAK				LR		LR	21 05 32.2
	comp=Z,416nm,21.1s,MS3.9,baz=123,slow=30						
KDAK	**Kodiak Island**	24.33	325	*e*P		**P**	**20 58 34.5 +0.8**
	56nm,1.5s,mb4.8						
KDAK				LR		LR	21 05 32.2
MENT	**Mentasta**	24.91	341	*e*P		**P**	**20 58 39.9 +0.9**
DAWY	**Dawson**	24.96	346	P		**P**	**20 58 39.0 -0.5**
PMR	**Palmer**	25.45	334	P		**P**	**20 58 49.5 +5.6**
	14nm,0.8s,mb4.6						
HKT	**Hockley**	26.70	103	*e*P		**P**	**20 58 56.9 +1.6**
	69nm,1.4s,mb5.0						
JFWS	**Jewell Farm**	26.76	73	*e*P		**P**	**20 58 57.1 +1.4**
	69nm,1.2s,mb5.1						
CCM	**Cathedral Cave**	26.98	84	*e*P		**P**	**20 58 57.6 -0.1**
	68nm,1.5s,mb5.0						
FCC	**Fort Churchill**	27.31	37	*e*P		**P**	**20 59 02.5 +1.8**
	30nm,0.7s,mb4.9						
INK	**Inuvik**	28.26	354	LR		LR	21 11 02.8
	comp=Z,202nm,18.5s,MS3.8,baz=350,slow=38						
OXF	**Oxford**	29.54	90	*e*P		**P**	**20 59 21.0 +0.5**
	34nm,0.8s,mb5.1						
IMA2	**Indian Mountai**	30.07	338	*e*P		**P**	**20 59 27.7 +2.5**
WVT	**Waverly**	30.16	86	P		**P**	**20 59 23.8 -2.3**
	9.0nm,0.7s,mb4.6						
PLAL	**Pickwick Lake**	30.38	88	*e*P		**P**	**20 59 29.6 +1.5**
	37nm,1.2s,mb5.0						
CPCT	**Cooper Cave**	32.92	85	*e*P		**P**	**20 59 49.9 -0.4**
SCHQ	**Schefferville**	41.19	49	LR		LR	21 18 23.7
	comp=Z,353nm,20.4s,MS4.2,baz=286,slow=37						
SUMG	**Summit**	51.31	23	*e*P		**P**	**21 02 19.7 -0.4**
	15nm,1.1s,mb4.8						
SDV	**Santo Domingo**	58.18	107	P		**P**	**21 03 10.4 +0.4**
	3.9nm,0.8s,mb4.5						
ROSC	**El Rosal**	58.29	113	LR		LR	21 32 01.6
	comp=Z,88nm,19.9s,MS3.9,baz=12,slow=40						
BORG	**Borgarnes**	60.01	29	LR		LR	21 28 19.6
	comp=Z,212nm,20.1s,MS4.3,baz=151,slow=35						
JMIC	**Jan Mayen**	60.39	20	LR		LR	21 28 37.0
	comp=Z,196nm,18.1s,MS4.3,baz=80,slow=35						
PPT	**Papeete**	61.68	206	*e*LR		LR	21 21 21.1
	274nm,22.2s						
PPT	**Papeete**	61.68	206	LR		LR	21 23 49.8
	comp=Z,342nm,18.8s,MS4.5,baz=336,slow=30						
RKT	**Rikitea**	63.73	189	*e*LR		LR	21 22 16.2
	192nm,25.5s						
TBI	**Tubuai**	67.06	203	*e*LR		LR	21 23 50.2
	313nm,30.5s						
ARCES	**ARCESS Array B**	68.40	10	P		**P**	**21 04 18.1 +0.4**
	4.1nm,0.9s,mb4.4,baz=332,slow=7.4,SNR=2.8						
ARCES				LR		LR	21 34 25.4
	comp=Z,142nm,18.2s,MS4.2,baz=173,slow=36						
MJAR	**Matsushiro Arr**	71.25	302	P		**P**	**21 04 33.8 -1.5**
	1.0nm,0.6s,mb3.9,baz=41,slow=6.1,SNR=4.5						
NOA	**NORSAR Array B**	73.09	20	P		**P**	**21 04 43.7 -2.5**
	0.4nm,0.7s,mb3.5,baz=243,slow=12,SNR=2.4						
NOA				LR		LR	21 36 02.9
	comp=Z,111nm,19.7s,MS4.2,baz=325,slow=35						
NOA	**NORSAR Array B**	73.09	20	P		**P**	**21 04 43.7 -2.5**
NOA				LR		LR	21 36 02.9
CN2	**Changchun**	74.34	315	*e*P		**P**	**21 04 56.0 +2.4**
HFS	**Hagfors**	74.51	20	LR		LR	21 34 59.5
	comp=Z,197nm,21.4s,MS4.4,baz=156,slow=34						
FINES	**FINESS Array B**	76.01	13	P		**P**	**21 05 02.8 -0.4**
	2.4nm,0.7s,mb4.2,baz=25,slow=5.0,SNR=4.0						
FINES				LR		LR	21 39 45.1
	comp=Z,102nm,19.8s,MS4.1,baz=153,slow=37						
FINES	**FINESS Array B**	76.01	13	P		**P**	**21 05 02.8 -0.4**
FINES				LR		LR	21 39 45.1
LPAZ	**La Paz**	77.91	124	P		**P**	**21 05 14.9 +1.0**
	5.7nm,0.8s,mb4.5,baz=334,slow=5.9,SNR=29						
LPAZ	**La Paz**	77.91	124	*e*P		**P**	**21 05 14.6 +0.6**
	12nm,1.0s,mb4.8						
SONM	**Songino Array**	80.59	327	P		**P**	**21 05 28.4 -0.1**
	1.8nm,0.9s,mb4.0,baz=46,slow=3.7,SNR=4.7						
SONM				LR		LR	21 41 00.5
	comp=Z,108nm,19.2s,MS4.2,baz=167,slow=36						
LVC	**Limon Verde**	82.19	128	P		**P**	**21 05 37.2 +0.2**
	6.9nm,0.9s,mb4.6						
ZAL	**Zalesovo**	82.36	342	P		**P**	**21 05 37.7 -0.2**
	0.7nm,0.3s,mb4.0,baz=109,slow=5.0,SNR=3.7						
ZAL				LR		LR	21 44 32.0
	comp=Z,101nm,18.8s,MS4.2,baz=93,slow=37						
HHC	**Hu-ho-hao-te**	83.66	320	*e*P		**P**	**21 05 46.3 +1.6**
HHC				S		S	21 16 01.5 -5.4
HHC				AMB		AMB	
	comp=Z,10.0nm,0.3s,mb5.4						
HHC				AMB		AMB	
	comp=Z,105nm,5.5s						
HHC				LR		LR	
	comp=N,75nm,4.2s						
HHC				LR		LR	
	comp=E,82nm,4.2s						
HHC				LR		LR	
	comp=Z,73nm,6.7s						
GERES	**GERESS Array B**	84.29	25	P		**P**	**21 05 46.8 -1.0**
	comp=Z,0.1nm,0.4s,mb3.3,baz=343,slow=4.2,SNR=3.6						
GERES				LR		LR	21 45 04.6
	comp=Z,143nm,18.3s,MS4.4,baz=324,slow=37						
ESDC	**Sonseca Array**	84.42	41	P		**P**	**21 05 49.1 +0.5**
	comp=Z,0.9nm,0.7s,mb4.0,baz=314,slow=6.7,SNR=5.5						
ESDC				LR		LR	21 39 40.5
	comp=Z,106nm,20.1s,MS4.2,baz=290,slow=33						
DAVOX	**Davos/Dischmat**	84.74	29	LR		LR	21 44 46.3
	comp=Z,159nm,19.6s,MS4.4,baz=326,slow=36						
VRAC	**Vranov**	84.80	23	LR		LR	21 42 36.1
	comp=Z,214nm,21.7s,MS4.5,baz=330,slow=35						
CHKZ	**Chkalovo**	85.20	350	*e*P		**P**	**21 05 51.7 -0.8**
	comp=Z,3.4nm,0.9s,mb4.5						
BRVK	**Borovoye**	85.85	350	*e*P		**P**	**21 05 56.1 +0.4**
	comp=Z,6.5nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	85.87	350	LR		LR	21 46 21.3
	comp=Z,74nm,19.1s,MS4.1,baz=139,slow=37						
ZRNK	**Zerenda**	86.11	351	*e*P		**P**	**21 05 55.8 -1.2**
	comp=Z,6.0nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	86.73	15	P		**P**	**21 05 59.6 -0.4**
	comp=Z,0.7nm,0.5s,mb4.1,baz=347,slow=4.2,SNR=5.0						
AKASG				LR		LR	21 45 33.6
	comp=Z,85nm,18.6s,MS4.2,baz=290,slow=36						
MKAR	**Makanchi Array**	89.58	341	P		**P**	**21 06 12.7 -0.9**
	comp=Z,0.2nm,0.3s,mb4.0,baz=12,slow=4.1,SNR=3.6						
MKAR				LR		LR	21 48 48.8
	comp=Z,46nm,20.0s,MS3.9,baz=10.0,slow=37						
GTA	**Gaotai**	90.21	326	*e*P		**P**	**21 06 15.1 -1.5**
GTA				AP		pP	21 06 19.6 -1.2
GTA				XP		sP	21 06 22.8 +0.5
GTA				AMB		AMB	
	comp=Z,2.0nm,2.4s,mb4.0						
WMQ	**Urumqi**	90.81	336	*e*P		**P**	**21 06 23.0 +3.6**
WMQ				AP		pP	21 06 27.5 +3.9
WMQ				XP		sP	21 06 30.0 +4.9
WMQ				SKS			21 16 52.0
WMQ				*e*S		S	21 17 17.0 +1.3
WMQ				AMB		AMB	
	comp=Z,5.0nm,0.6s,mb5.0						
WMQ				AMB		AMB	
	comp=Z,117nm,4.4s						
WMQ				LR		LR	
	comp=N,330nm,26.8s,MS4.8						
WMQ				LR		LR	
	comp=E,378nm,23.4s,MS4.8						
WMQ				LR		LR	
	comp=Z,312nm,20.0s,MS4.7						
MLR	**Muntele Rosu**	90.89	19	LR		LR	21 45 36.7
	comp=Z,232nm,20.7s,MS4.6,baz=108,slow=35						
LZH	**Lanzhou**	91.14	322	*e*P		**P**	**21 06 19.8 -1.1**
LZH				AP		pP	21 06 23.1 -2.0
LZH				PP		PP	21 09 58.6 +1.1
LZH				SKS			21 16 48.5
LZH				*e*S		S	21 17 13.8 -4.9
LZH				*e*SS		SS	21 23 20.9 -1.7
LZH				AMB		AMB	
	comp=Z,21nm,1.5s,mb5.2						
LZH				AMB		AMB	
	comp=Z,89nm,9.2s						
LZH				LR		LR	
	comp=N,307nm,15.6s						
LZH				LR		LR	
	comp=Z,396nm,18.3s,MS4.9						
LZH	**Lanzhou**	91.14	322	*e*P		**P**	**21 06 19.7 -1.2**
	comp=Z,21nm,1.5s,mb5.2						
LZH				pP		pP	21 06 23.1 -2.0
LZH				sP		sP	21 06 24.5 -2.1
LZH				PP		PP	21 09 58.6 +1.1
LZH				SKS			21 16 48.5
LZH				*e*S		S	21 17 13.7 -5.0
LZH				sS		sS	21 17 21.8 -3.9
LZH				PS		PS	21 18 27.5 -0.6
LZH				*e*SS		SS	21 23 20.9 -1.7
LZH				LR		LR	
	comp=Z,400nm,18.3s,MS4.9						
BDFB	**Brasilia**	91.18	109	LR		LR	21 50 48.5
	comp=Z,137nm,19.0s,MS4.4,baz=216,slow=38						
CPUP	**Villa Florida**	92.08	123	LR		LR	21 48 26.8
	comp=Z,81nm,18.1s,MS4.2,baz=108,slow=36						
KEST	**Kesra**	93.85	35	LR		LR	21 48 54.8
	comp=Z,48nm,18.3s,MS4.0,baz=278,slow=36						
PLCA	**Paso Flores**	95.22	141	LR		LR	21 39 27.3
	comp=Z,83nm,20.7s,MS4.2,baz=184,slow=29						
CD2	**Chengdu**	95.36	319	*e*P		**P**	**21 06 43.6 +3.3**
CD2				AP		pP	21 06 48.4 +3.8
CD2				XP		sP	21 06 50.8 +4.7
CD2				PP		PP	21 10 35.8 +5.1
CD2				SKS			21 17 17.4
CD2				S		S	21 17 55.3 -0.8
CD2				SS		SS	21 24 25.6 +2.4
CD2				AMB		AMB	
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB		AMB	
	comp=Z,30nm,6.2s						
CD2				LR		LR	
	comp=E,170nm,15.6s						
CD2				LR		LR	
	comp=Z,130nm,13.2s,MS4.6						
KMI	**Kunming**	100.57	316	P		Pdif	21 07 05.5 +1.8
KMI				AP			21 07 12.1
KMI				XP			21 07 15.6
KMI				PP		PP	21 11 13.3 +2.7
KMI				S		Sdif	21 18 32.8 -7.5
KMI				SS		SS	21 25 38.5 +2.1
KMI				AMB		AMB	
	comp=Z,2.0nm,1.4s						
KMI				AMB		AMB	
	comp=Z,75nm,3.3s						
KMI				LR		LR	
	comp=Z,45nm,35.3s,MS3.7						
KMI	**Kunming**	100.57	316	P		Pdif	21 07 05.5 +1.8
KMI				pP			21 07 12.1
KMI				sP			21 07 15.6
KMI				PP		PP	21 11 13.3 +2.7
KMI				S		Sdif	21 18 32.8 -7.5
KMI				SS		SS	21 25 38.5 +2.1
SYO	**Syowa Base**	150.32	170	⇓*e*P		PKPbc	21 13 08.4 +1.1
MAW	**Mawson**	152.30	187	PKPbc		PKPbc	21 13 09.7 -2.2
	comp=Z,2.1nm,0.7s,baz=190,slow=1.6,SNR=5.2						
MAW				PKPab		PKPab	21 13 17.6 -4.2
	comp=Z,3.1nm,0.9s,baz=241,slow=3.5,SNR=5.0						

MAN 17 20:56:48.9, 1036N×12521E, h11km, mb3.5, ML4.6, MS1.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	0.41	237	*e*P	Pg	20 56 57.1	0.0
MSLP				*e*S	Sg	20 57 04.2	+1.6
SCPH	**Surigao**	0.64	154	*e*P	Pg	20 57 01.7	+0.4
SCPH				*e*S	Sg	20 57 09.8	+0.2
PLP	**Palo**	0.83	344	*e*P	Pg	20 57 04.6	-0.4
PLP				*e*S	Sg	20 57 16.8	+0.9
OCLP	**Ormoc**	0.91	319	*e*P	Pg	20 57 06.4	0.0
OCLP				*e*S	Sg	20 57 18.9	+0.7
LLP	**Lapu-Lapu**	1.23	268	⇓*e*P	Pn	20 57 10.5	-1.5
LLP				*e*S	Sb	20 57 23.7	-4.2
BESP	**Borongan**	1.25	10	*e*P	Pn	20 57 11.1	-1.3
BESP				*e*S	Sb	20 57 29.1	+0.3
BUKP	**Musuan**	2.47	183	*e*P	Pn	20 57 29.7	+0.7
GUIM	**Jordan**	2.59	276	*e*P	Pn	20 57 32.2	+1.4
GUIM				*e*S	Sn	20 58 03.5	+1.3

*ISCJB **17** 21:34:15.8±0.4, 404S±01×15577E±009, h10km, mb3.8/3, MS3.3/1, Error ellipse: s-maj=17.6km s-min=5.2km az=58.0*

*IDC **17** 21:34:17.5±1.7, 4001S×15603E, h0km, mb4.1/2, mb1 4.3/4, mb1mx4.0/11, mbtmp4.2/4, ML4.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=103.5km s-min=28.7km az=35.0*

*NEIC **17** 21:34:18.2±0.5, 4043S×15570E, h10km, mb3.9/1, Error ellipse: s-maj=13.9km s-min=7.8km az=212.0*

ISC 17 21:34:18.3±0.4, 404S±01×15574E±009, h10km, n25, σ0:66/30, mb3.8/3, MS3.3/1, Southeast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	6.78	246	*e*Pn		**Pn**	**21 35 57.2 -0.6**
TAU				*e*Sn		**Sn**	**21 37 08.9 -6.2**
CNB	**Canberra Magne**	7.16	313	*e*P		**Pn**	**21 36 02.7 -0.3**
	42nm,0.3s						
CNB				*e*S		**Sn**	**21 37 14.3 -10**
RIV	**Riverview**	7.51	329	*e*P		**Pn**	**21 36 07.3 -0.6**
RIV				*e*S		**Sn**	**21 37 22.1 -11**
TOO	**Toolangi**	8.47	286	*e*P		**Pn**	**21 36 20.9 -0.1**
	17nm,0.2s						
TOO				*e*S		**Sn**	**21 37 48.0 -8.6**
DCZ	**Deep Cove**	9.78	125	PN		**Pn**	**21 36 37.3 -1.7**
DCZ				SN		**Sn**	**21 38 17.9 -11**
JCZ	**Jackson Bay**	10.32	115	*e*PN		**Pn**	**21 36 46.0 -0.5**
JCZ				SN		**Sn**	**21 38 30.9 -11**
MLZ	**Mavora Lakes**	10.37	123	PN		**Pn**	**21 36 47.8 +0.7**
WHZ	**Wether Hill Ro**	10.47	126	*e*PN		**Pn**	**21 36 48.6 +0.3**
EAZ	**Earnscleugh**	11.07	120	PN		**Pn**	**21 36 57.7 +1.0**
RPZ	**Rata Peaks**	11.86	111	Pn		**Pn**	**21 37 08.3 +0.9**
	5.2nm,0.3s,baz=280,slow=11,SNR=20						
RPZ				Sn		**Sn**	**21 39 12.6 -7.1**
	0.5nm,0.3s,baz=349,slow=19,SNR=3.7						
ODZ	**Otahua Downs**	11.90	118	PN		**Pn**	**21 37 08.4 +0.4**
DSZ	**Denniston Nort**	12.20	102	*e*PN		**Pn**	**21 37 11.3 -0.8**
THZ	**Tophouse**	13.03	102	*e*PN		**Pn**	**21 37 22.9 -0.5**
STKA	**Stephens Creek**	14.24	302	Pn		**Pn**	**21 37 41.2 +1.3**
	0.3nm,0.3s,baz=126,slow=12,SNR=3.9						
STKA				Sn		**Sn**	**21 40 06.7 -11**
	0.4nm,0.3s,baz=273,slow=17,SNR=4.0						
STKA	**Stephens Creek**	14.24	302	Pn		**Pn**	**21 37 40.0 +0.1**
STKA				Sn		**Sn**	**21 40 06.7 -11**
ASAR	**Alice Springs**	24.82	306	P		**P**	**21 39 41.2 +0.6**
	3.4nm,0.7s,mb4.0,baz=131,slow=8.5,SNR=62						
AS31	**Alice Springs**	24.82	306	*e*P		**P**	**21 39 40.9 +0.3**
ASPA	**Alice Springs**	24.82	306	*e*P		**P**	**21 39 40.9 +0.3**
WB2	**Warramunga Arr**	27.40	312	*e*P		**P**	**21 40 03.7 -0.2**
WRA	**Warramunga Arr**	27.41	312	P		**P**	**21 40 04.1 +0.1**
	1.2nm,0.5s,mb3.7,baz=142,slow=8.1,SNR=34						
WRAB	**Tennant Creek**	27.41	312	*e*P		**P**	**21 40 03.8 -0.2**
	1.5nm,0.5s,mb3.8						
VNDA	**Vanda**	37.31	178	LR		LR	21 53 07.8
	comp=Z,55nm,21.6s,MS3.3,baz=130,slow=30						
TOA0	**Torodi Ar. Sit**	144.56	227	*e*PKPdf		PKPdf	21 53 54.7 -0.3
TORD	**Torodi Ar. Bea**	144.56	227	PKPbc		PKPdf	21 53 54.7 -0.3
	1.5nm,1.1s,baz=150,slow=3.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	144.56	227	PKPbc		PKPdf	21 53 54.7 -0.3

*IDC **17** 22:24:18.0±0.7, 003S×12552E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/17, mbtmp4.2/9, ML4.0/1, MS3.9/2, Ms1 3.8/2, ms1mx2.9/30, Error ellipse: s-maj=58.7km s-min=14.8km az=73.0*

*ISCJB **17** 22:24:20.9±3.9, 002S±008×1256E±0.1, h33km±37km, mb4.2/11, MS3.9/2, Error ellipse: s-maj=23.7km s-min=10.5km az=136.1*

*NEIC **17** 22:24:23.2±0.3, 005S×12559E, h35km, mb4.2/6, Error ellipse: s-maj=15.4km s-min=6.3km az=68.0*

ISC 17 22:24:21.7±5.4, 005S±008×1255E±01, h24km±40km, n36, σ0:89/30, mb4.2/11, MS3.9/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	11.11	303	Pn		**Pn**	**22 26 56.7 -2.3**
KSM	**Kuching**	15.31	276	*e*P		**Pn**	**22 28 03.2 +7.1**
FITZ	**Fitzroy Crossi**	17.94	180	*e*P		**Pn**	**22 28 30.5 +1.0**
	7.3nm,0.9s						
FITZ	**Fitzroy Crossi**	17.94	180	P		**Pn**	**22 28 30.6 +1.1**
	0.4nm,0.3s,baz=23,slow=10,SNR=12						
WRA	**Warramunga Arr**	21.57	157	P		**P**	**22 29 08.5 -1.0**
	6.1nm,0.5s,mb4.3,baz=335,slow=11,SNR=36						
WB2	**Warramunga Arr**	21.57	157	*e*P		**P**	**22 29 08.4 -1.1**
GUMO	**Guam**	23.45	54	LR		LR	22 37 25.9
	comp=Z,214nm,19.7s,MS3.6,baz=264,slow=34						
AS31	**Alice Springs**	24.84	161	*e*P		**P**	**22 29 42.7 +0.5**
ASAR	**Alice Springs**	24.84	161	P		**P**	**22 29 42.5 +0.4**
	4.3nm,0.6s,mb4.2,baz=341,slow=7.0,SNR=60						
ASAR				PcP		PcP	22 33 18.4 +0.4
	0.5nm,0.7s,baz=356,slow=2.1,SNR=4.7						
ASPA	**Alice Springs**	24.84	162	*e*P		**P**	**22 29 42.7 +0.5**
YHNB	**Yeheng**	24.90	351	P		**P**	**22 29 42.6 -0.1**
KULM	**Kulim**	25.42	282	*e*P		**P**	**22 29 49.0 +1.5**
CTAO	**Charters Tower**	28.42	136	*e*P		**P**	**22 30 13.4 -1.1**
STKA	**Stephens Creek**	35.11	156	*e*P		**P**	**22 31 13.1 -0.1**
	6.9nm,0.6s,mb4.8						
STKA	**Stephens Creek**	35.11	156	P		**P**	**22 31 13.6 +0.4**
	9.4nm,0.7s,mb4.8,baz=321,slow=8.8,SNR=6.6						
HNR	**Honiara**	35.49	106	P		**P**	**22 31 18.2 +1.7**
MJAR	**Matsushiro Arr**	38.26	17	P		**P**	**22 31 40.0 +0.1**
	0.7nm,0.4s,mb3.7,baz=184

az=141.0
NEIC Recorded [2 JMA] in Chiba, Ibaraki, Kanagawa, Saitama, Shizuoka, Tochigi and Tokyo; [1 JMA] in Fukushima, Gumma and Yamanashi Prefectures.
*IDC **17** 22:53:27.3±1.5, 3558N×13992E, h63km±13km, mb3.9/13, mb1 4.1/16, mb1mx4.0/24, mbtmp4.3/16, MS3.2/2, Ms1 3.2/2, ms1mx2.7/33, Error ellipse: s-maj=22.0km s-min=6.0km az=66.0*
*JMA **17** 22:53:27.0±0.1, 3570N×13992E, h56km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs99.00000°, δ48.00000°, λ-24.00000°. NP2:φs206.00000°, δ73.00000°, λ-136.00000°. Principal axes: T Plg15.0000°, Azm327.0000°; N Plg43.0000°, Azm223.0000°; P Plg43.0000°, Azm72.0000°;*
JMA Felt II J1.

ISC 17 22:53:26.3±0.3, 3567N±003×14000E±004, h55km±2km, n122, σ0§93/134, mb4.5/36, MS3.6/4, 7C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.20**	**275**	⇓P	**Pn**	**22 53 36.1**	**+1.0**
JCN	**Nagara**	**0.30**	**146**	⇑P	**Pn**	**22 53 37.8**	**+2.0**
JYT	**Yasato**	**0.58**	**16**	P	**Pn**	**22 53 39.3**	**+0.5**
JYT				S	**Sn**	**22 53 48.0**	**+0.2**
JHU	**Hanno**	**0.61**	**288**	⇓P	**Pn**	**22 53 39.4**	**+0.3**
JHU				S	**Sn**	**22 53 48.4**	**0.0**
JOD2	**Odawara 2**	**0.84**	**242**	⇓P	**Pn**	**22 53 42.0**	**-0.1**
JOD2				S	**Sn**	**22 53 52.8**	**-0.9**
JAG	**Ashikaga**	**0.88**	**330**	⇑P	**Pn**	**22 53 42.7**	**+0.2**
JAG				S	**Sn**	**22 53 54.4**	**+0.1**
JRY	**Ryogami san**	**0.96**	**292**	⇓P	**Pn**	**22 53 43.9**	**+0.4**
JRY				S	**Sn**	**22 53 56.1**	**-0.1**
BSO3	**Boso 3**	**0.96**	**154**	⇑P	**Pn**	**22 53 44.0**	**+0.4**
JIM2	**Oshima 3**	**1.06**	**206**	P	**Pn**	**22 53 44.5**	**-0.4**
JIM2				S	**Sn**	**22 53 57.8**	**-0.8**
JYN	**Shimob**	**1.20**	**262**	⇓P	**Pn**	**22 53 46.8**	**+0.1**
JYN				S	**Sn**	**22 54 01.6**	**-0.4**
JKT	**Katashina**	**1.25**	**331**	⇑P	**Pn**	**22 53 47.6**	**+0.1**
BSO1	**Boso 1**	**1.29**	**141**	⇑P	**Pn**	**22 53 47.9**	**-0.1**
JIZS	**Izushimoda**	**1.32**	**224**	⇓P	**Pn**	**22 53 48.5**	**+0.1**
JIZS				S	**Sn**	**22 54 04.0**	**-0.9**
MJAR	**Matsushiro Arr**	**1.69**	**302**	P	**Pn**	**22 53 53.5**	**+0.1**
	102nm,0.3s,baz=99,slow=14,SNR=556						
MJAR				S	**Sn**	**22 54 14.9**	**+1.0**
	129nm,0.3s,baz=144,slow=13,SNR=14						
MJAR				LR	LR	22 54 20.4	
	comp=Z,446nm,20.1s,baz=155,slow=32						
MJAR	**Matsushiro Arr**	**1.69**	**302**	P	**Pn**	**22 53 53.5**	**+0.1**
MJAR				S	**Sn**	**22 54 14.9**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,102nm,0.3s						
MJAR				smax			
	comp=N,129nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,446nm,20.1s						
MAJO	**Matsushiro**	**1.69**	**302**	⇑iPn	**Pn**	**22 53 53.8**	**+0.3**
MAJO				eSn	**Sn**	**22 54 09.4**	**-4.6**
MAT	**Matsushiro**	**1.69**	**302**	P	**Pn**	**22 53 53.9**	**+0.5**
MAT				S	**Sn**	**22 54 14.8**	**+0.8**
JHJ	**Hachijo jima 2**	**2.55**	**184**	P	**Pn**	**22 54 05.3**	**+0.2**
	comp=Z,444nm,0.3s,baz=117,slow=0.9,SNR=54						
JHJ				S	**Sn**	**22 54 34.4**	**-0.6**
	comp=Z,492nm,0.3s,baz=237,slow=23,SNR=19						
ASAJ	**Asahikawa**	**8.67**	**13**	P	**Pn**	**22 55 29.6**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=77,slow=29,SNR=5.7						
ASAJ	**Asahikawa**	**8.67**	**13**	P	**Pn**	**22 55 29.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CBIJ	**Chichi jima**	**8.75**	**167**	P	**Pn**	**22 55 28.9**	**-1.2**
	comp=Z,32nm,0.3s,baz=299,slow=21,SNR=15						
INCN	**Inchon**	**10.90**	**283**	ePn	**Pn**	**22 55 58.4**	**-1.1**
YSS	**Yuzh-Sakhalins**	**11.46**	**10**	P	**Pn**	**22 56 05.1**	**-2.1**
MDJ	**Mudanjiang**	**11.96**	**322**	eP	**Pn**	**22 56 11.4**	**-2.6**
BJT	**Baijiatuan**	**19.30**	**290**	eP	**Pn**	**22 57 46.0**	**-2.1**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BJT	**Baijiatuan**	**19.30**	**290**	eP	**Pn**	**22 57 46.0**	**-2.1**
	comp=Z,4.1nm,0.4s						
HIA	**Hailar**	**20.11**	**319**	eP	**P**	**22 57 54.0**	**-1.5**
PET	**Petropavlovsk**	**21.77**	**31**	P	**P**	**22 58 11.8**	**-1.6**
MA2	**Magadan**	**24.93**	**13**	P	**P**	**22 58 45.6**	**+1.3**
MA2				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
MA2	**Magadan**	**24.93**	**13**	P	**P**	**22 58 45.6**	**+1.3**
	comp=Z,19nm,0.6s,mb4.8						
SONM	**Songino Array**	**27.64**	**307**	P	**P**	**22 59 07.7**	**-1.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=108,slow=9.3,SNR=12						
SONM				LR	LR	23 09 46.2	
	comp=Z,71nm,20.8s,MS3.2,baz=303,slow=35						
SONM	**Songino Array**	**27.64**	**307**	P	**P**	**22 59 07.7**	**-1.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,71nm,20.8s						
BOD	**Bodaibo**	**28.11**	**330**	⇑iP	**P**	**22 59 11.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
TLY	**Talaya**	**30.39**	**313**	eP	**P**	**22 59 34.0**	**+0.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
TLY	**Talaya**	**30.39**	**313**	eP	**P**	**22 59 34.0**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.0						
CD2	**Chengdu**	**30.55**	**272**	eP	**P**	**22 59 35.1**	**+0.6**
CD2				PP	PP	23 00 35.0	-9.2
CD2				S	**S**	**23 04 33.1**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,170nm,19.2s						
CD2				LR	LR		
	comp=Z,130nm,15.5s,MS3.7						
QIZ	**Qiongzhong**	**31.33**	**246**	P	**P**	**22 59 42.0**	**+0.6**
KMI	**Kunming**	**33.63**	**262**	P	**P**	**23 00 04.0**	**+2.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
KMI	**Kunming**	**33.63**	**262**	P	**P**	**23 00 04.0**	**+2.4**
	comp=Z,6.0nm,0.9s,mb4.5						
WMQ	**Urumqi**	**40.45**	**298**	eP	**P**	**23 01 01.3**	**+1.9**
WMQ				AP	pP	23 01 11.0	-2.5
WMQ				PP	PP	23 02 41.0	+7.7
WMQ				eS	**S**	**23 07 08.0**	**+3.9**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,109nm,4.6s						
WMQ				LR	LR		
	comp=N,286nm,18.2s,MS4.3						
WMQ				LR	LR		
	comp=E,384nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,354nm,21.5s,MS4.2						
ZAL	**Zalesovo**	**42.02**	**314**	P	**P**	**23 01 12.2**	**0.0**
	comp=Z,6.3nm,0.6s,mb4.4,baz=13,slow=8.0,SNR=42						
ZAL	**Zalesovo**	**42.02**	**314**	P	**P**	**23 01 12.2**	**0.0**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NVS	**Novosibirsk**	**42.97**	**315**	iP	**P**	**23 01 19.1**	**-0.9**
NVS				pmax	pmax		
	comp=E,24nm,1.1s						
NVS				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.9						
MK31	**Makanchi Array**	**43.89**	**303**	eP	**P**	**23 01 27.4**	**0.0**
MKAR	**Makanchi Array**	**43.89**	**303**	P	**P**	**23 01 27.6**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.5,baz=89,slow=9.8,SNR=52						
MKAR				LR	LR	23 20 28.6	
	comp=Z,24nm,19.4s,MS3.1,baz=272,slow=37						
MKAR	**Makanchi Array**	**43.89**	**303**	P	**P**	**23 01 27.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,24nm,19.4s						
GUN	**Gumba**	**46.16**	**276**	eP	**P**	**23 01 45.6**	**+0.2**
PKI	**Pulchoki**	**46.68**	**276**	eP	**P**	**23 01 49.3**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.7						
KKN	**Kakani**	**46.69**	**276**	eP	**P**	**23 01 49.6**	**0.0**
	comp=Z,13nm,0.8s,mb4.9						
DMN	**Daman**	**46.91**	**276**	eP	**P**	**23 01 51.4**	**+0.2**
GKN	**Gorkha**	**47.13**	**277**	eP	**P**	**23 01 53.0**	**+0.1**
	comp=Z,19nm,0.8s,mb5.1						
KOLN	**Koldanda**	**48.06**	**277**	eP	**P**	**23 02 00.1**	**-0.1**
	comp=Z,9.4nm,0.7s,mb4.9						
TKM2	**Tokmak 2**	**49.28**	**299**	P	**P**	**23 02 10.6**	**+1.0**
	SNR=10						
KBK	**Karagaybulak**	**49.81**	**299**	P	**P**	**23 02 14.4**	**+0.8**
	SNR=13						
USP	**Ospenovka**	**49.98**	**300**	P	**P**	**23 02 15.1**	**+0.2**
	SNR=8.2						
AAK	**Ala-Archa**	**50.14**	**299**	P	**P**	**23 02 16.4**	**+0.3**
	SNR=6.2						
AAK	**Ala-Archa**	**50.14**	**299**	eP	**P**	**23 02 15.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**50.14**	**299**	eP	**P**	**23 02 15.3**	**-0.8**
	comp=Z,5.9nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**50.42**	**314**	eP	**P**	**23 02 17.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**50.42**	**314**	eP	**P**	**23 02 17.4**	**-0.8**
	comp=Z,5.8nm,0.5s,mb4.9						
BRVK	**Borovoye**	**50.71**	**313**	eP	**P**	**23 02 20.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.7						
BRVK	**Borovoye**	**50.71**	**313**	eP	**P**	**23 02 20.9**	**+0.5**
	comp=Z,3.3nm,0.3s,mb4.7						
COLA	**College**	**50.84**	**32**	eP	**P**	**23 02 19.3**	**-2.1**
AML	**Almayashu**	**50.85**	**299**	P	**P**	**23 02 23.0**	**+1.6**
	SNR=12						
ZRNK	**Zerenda**	**51.49**	**313**	eP	**P**	**23 02 26.0**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ZRNK	**Zerenda**	**51.49**	**313**	eP	**P**	**23 02 26.0**	**-0.3**
	comp=Z,3.1nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**55.56**	**186**	eP	**P**	**23 02 57.5**	**+1.5**
WRA	**Warramunga Arr**	**55.56**	**186**	P	**P**	**23 02 55.6**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=4.8,slow=7.5,SNR=50						
WRA	**Warramunga Arr**	**55.56**	**186**	P	**P**	**23 02 55.6**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTAO	**Charters Tower**	**55.77**	**173**	eP	**P**	**23 02 57.6**	**+0.1**
INK	**Inuvik**	**56.12**	**27**	eP	**P**	**23 02 59.0**	**-1.0**
INK				pmax	pmax		
	comp=Z,30nm,0.4s						
INK	**Inuvik**	**56.12**	**27**	eP	**P**	**23 02 59.0**	**-1.0**
	comp=Z,30nm,0.4s,mb5.7						
ARU	**Arti**	**56.63**	**319**	eP	**P**	**23 03 03.4**	**-0.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.2						
ARU	**Arti**	**56.63**	**319**	eP	**P**	**23 03 03.4**	**-0.2**
	comp=Z,9.1nm,0.4s,mb5.2						
ASAR	**Alice Springs**	**59.29**	**186**	P	**P**	**23 03 22.4**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=17,slow=12,SNR=11						
ASAR	**Alice Springs**	**59.29**	**186**	P	**P**	**23 03 22.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MBWA	**Marble Bar**	**59.69**	**202**	eP	**P**	**23 03 25.6**	**+0.5**
PALK	**Pallekele**	**60.96**	**257**	eP	**P**	**23 03 35.0**	**+1.3**
ARCES	**ARCESS Array B**	**64.87**	**339**	P	**P**	**23 03 59.2**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.6,baz=52,slow=7.1,SNR=5.3						
ARCES	**ARCESS Array B**	**64.87**	**339**	P	**P**	**23 03 59.2**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	**ARCESS Array B**	**64.87**	**339**	P	**P**	**23 03 59.2**	**-0.5**
JOF	**Joensuu**	**66.63**	**332**	ep	**P**	**23 04 09.7**	**-1.3**
	comp=Z,2.5nm,0.5s,mb4.5						
JOF	**Joensuu**	**66.63**	**332**	eP	**P**	**23 04 09.7**	**-1.3**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**67.21**	**179**	P	**P**	**23 04 14.7**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=34,slow=7.3,SNR=2.8						
OBN	**Obninsk**	**68.50**	**323**	eP	**P**	**23 04 22.1**	**-0.8**
KAF	**Kangasniemi**	**68.99**	**333**	ep	**P**	**23 04 24.1**	**-1.8**
	comp=Z,2.9nm,0.5s,mb4.5,baz=50,slow=5.9						
KAF	**Kangasniemi**	**68.99**	**333**	eP	**P**	**23 04 24.1**	**-1.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**69.49**	**332**	P	**P**	**23 04 28.5**	**-0.4**
	comp=Z,3.5nm,0.7s,mb4.4,baz=56,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**69.49**	**332**	P	**P**	**23 04 28.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**70.93**	**311**	eP	**P**	**23 04 38.4**	**+0.6**
KIV	**Kislovodsk**	**70.93**	**311**	eP	**P**	**23 04 38.4**	**+0.6**
NEW	**Newport**	**71.90**	**43**	P	**P**	**23 04 42.8**	**-0.8**
SUMG	**Summit**	**72.04**	**360**	eP	**P**	**23 04 45.3**	**+0.8**
	comp=Z,3.2nm,0.6s,mb4.4						
WALA	**Waterton Lakes**	**73.22**	**41**	eP	**P**	**23 04 51.0**	**-0.4**
AKASG	**Malin Array Be**	**74.67**	**322**	P	**P**	**23 04 59.5**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.3,baz=48,slow=5.8,SNR=13						
AKASG	**Malin Array Be**	**74.67**	**322**	P	**P**	**23 04 59.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**75.00**	**337**	P	**P**	**23 05 01.4**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=42,slow=5.9						
NB2	**NORSAR Subarra**	**75.00**	**337**	P	**P**	**23 05 01.4**	**-0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**75.00**	**337**	P	**P**	**23 05 01.5**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=40,slow=5.8,SNR=8.8						
NOA	**NORSAR Array B**	**75.00**	**337**	P	**P**	**23 05 01.5**	**-0.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**75.00**	**337**	P	**P**	**23 05 01.5**	**-0.3**
SUW	**Suwalki**	**75.42**	**327**	eP	**P**	**23 05 04.0**	**-0.2**
CMB	**Columbia Colle**	**75.60**	**53**	P	**P**	**23 05 04.4**	**-0.8**
HLID	**Hailey**	**76.14**	**46**	eP	**P**	**23 05 08.9**	**+0.6**
MALT	**Malatya**	**76.71**	**308**	eP	**P**	**23 05 12.4**	**+0.8**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
MALT	**Malatya**	**76.71**	**308**	eP	**P**	**23 05 12.4**	**+0.8**
	comp=Z,3.3nm,1.1s,mb4.2						
BW06	**Boulder Array**	**79.44**	**45**	P	**P**	**23 05 27.0**	**+0.3**
PDAR	**Pinedale Array**	**79.44**	**45**	P	**P**	**23 05 28.4**	**+1.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=277,slow=1.4,SNR=8.2						
MORC	**Moravsky Berou**	**80.87**	**326**	eP	**P**	**23 05 32.0**	**-2.4**
PSZ	**Piszkesteto**	**81.09**	**324**	eP	**P**	**23 05 35.8**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
PSZ	**Piszkesteto**	**81.09**	**324**	eP	**P**	**23 05 35.8**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2						
RSSD	**Black Hills**	**81.61**	**41**	P	**P**	**23 05 37.8**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
RSSD	**Black Hills**	**81.61**	**41**	P	**P**	**23 05 37.8**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.0						
CLL	**Collm**	**81.70**	**330**	eP	**P**	**23 05 40.0**	**+1.2**
CLL				esPcP		23 06 04.0	
GERES	**GERESS Array B**	**83.26**	**328**	P	**P**	**23 05 47.0**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=27,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**83.26**	**328**	P	**P**	**23 05 47.0**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**86.34**	**49**	eP	**P**	**23 06 04.1**	**+1.7**
WMOK	**Wichita Mounta**	**91.05**	**45**	eP	**P**	**23 06 24.3**	**-0.4**
TXAR	**Lajitas Array**	**91.86**	**52**	P	**P**	**23 06 30.4**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.8,baz=329,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**117.45**	**313**	PKP	PKPdf	23 12 05.8	0.0
	comp=Z,0.3nm,0.8s,baz=348,slow=2.4,SNR=6.6						
LPAZ	**La Paz**	**148.37**	**60**	PKPbc	PKPbc	23 13 08.8	+2.3
	comp=Z,0.8nm,0.6s,baz=333,slow=4.5,SNR=5.6						
LPAZ	**La Paz**	**148.37**	**60**	PKPdf	PKPdf	23 13 07.0	+4.1
LPAZ				PKPbc	PKPbc	23 13 08.8	+2.3

NEIC 17 22:58:58.7, 6151N×15086W, h4km, ML3.2(PMR), ML3.5(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.83**	**83**	eP	Pg	22 59 13.4	-1.3
SLKM	**Skilak Lake**	**1.05**	**162**	eP	Pg	22 59 17.4	-1.4
SLKM				eS	Sg	22 59 32.1	-0.3
SVW2	**Sparrevohn**	**2.31**	**262**	eP	Pn	22 59 35.8	-1.8
SVW2				Pg	Pg	22 59 43.4	+0.3
SVW2				eSn	Sn	23 00 05.9	-0.6
EYAK	**Cordova Ski Ar**	**2.67**	**109**	ePn	Pn	22 59 40.0	-2.5
EYAK				ePg	Pg	22 59 50.1	+0.3
EYAK				eSn	Sn	23 00 14.3	-0.9
MENT	**Mentasta**	**3.64**	**64**	eP	Pn	22 59 51.8	-4.0
KDAK	**Kodiak Island**	**3.83**	**194**	ePn	Pn	22 59 58.8	+0.3
KDAK				eSn	Sn	23 00 48.6	+4.5
IMA2	**Indian Mountai**	**4.75**	**346**	eP	Pn	23 00 09.1	-2.0
IMA2				Sn	Sn	23 01 00.9	-5.7
EGAK	**Eagle**	**5.49**	**49**	ePn	Pn	23 00 18.0	-3.2
EGAK				eSn	Sn	23 01 25.7	+0.9
DAWY	**Dawson**	**5.86**	**59**	ePn	Pn	23 00 23.1	-3.1
DAWY				eS	Sn	23 01 51.7	+18
PNL	**Peninsula**	**5.94**	**103**	P	Pn	23 00 24.8	-2.7
BM3	**Burnt Mountain**	**6.52**	**22**	P	Pn	23 00 33.2	-2.2
TNA	**Tin City**	**8.62**	**305**	P	Pn	23 01 01.4	-2.9

CSEM 17 23:14:53.5, 4012N×1984E, h0km, ML3.5, After TIR, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.22**	**37**	iPg	Pg	23 14 57.8	+0.1
TPE				iSg	Sg	23 15 02.8	+2.3
SRN	**Sarande**	**0.27**	**153**	iPg	Pg	23 14 58.4	-0.3
SRN				iSg	Sg	23 15 03.9	+1.7
VLO	**Vlora**	**0.44**	**323**	iPg	Pg	23 15 01.4	-0.5
VLO				iSg	Sg	23 15 09.3	+1.8
PUK	**Puka**	**1.92**	**1**	iPn	Pn	23 15 24.9	-2.5
PUK				iSn	Sn	23 15 47.8	-4.5

*CSEM **17** 23:17:21.2±0.2, 6785N×1996E, h1km, ML2.8, Error ellipse: s-maj=7.8km s-min=1.9km az=90.0, Mining explosion.*
*UPP **17** 23:17:22.0, 6783N×2021E, h0km, ML2.8, Mining explosion.*

HEL 17 23:17:22.7±0.1, 6783N×2019E, h0km, ML1.8, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	iP	Pg	23 17 24.8	-0.5
KUA				iS	Sg	23 17 26.8	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	iP	Pg	23 17 30.5	-0.6
LANU	**Lannavaara**	**0.71**	**71**	iP	Pg	23 17 35.3	-1.0
DUNU	**Dundret**	**0.73**	**168**	iP	Pg	23 17 35.5	-1.2
MASU	**Masugnsbyn**	**0.79**	**118**	iP	Pg	23 17 36.7	-1.1
SALU	**Saltoluokta**	**0.79**	**236**	iP	Pg	23 17 36.9	-1.0
KIF	**Kilpisjarvi**	**1.20**	**11**	eP	Pg	23 17 45.1	-0.6
KIF				eS	Sg	23 18 01.0	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	23 17 45.0	-0.7
PAJU	**Pajala**	**1.39**	**124**	eP	Pn	23 17 47.2	-2.1
ERTU	**Ertsjaerv**	**1.50**	**148**	eP	Pn	23 17 50.2	-0.7
HARU	**Harads**	**1.71**	**169**	eP	Pn	23 17 52.9	-0.7
KALU	**Kalix**	**2.34**	**146**	eP	Pn	23 18 02.5	+0.1
KALU	**Kalix**	**2.34**	**146**	P	Pn	23 18 02.5	0.0
SGF	**Sodankyl**	**2.45**	**96**	eP	Pn	23 18 04.9	+0.9
SGF				eS	Sn	23 18 35.6	+0.9
SGF				MSG		23 18 41.5	
	comp=Z,5.3nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	eP	Pn	23 18 13.7	+0.3
KEV				eS	Sn	23 18 52.0	+0.4
KEV	**Kevo**	**3.14**	**49**	P	Pn	23 18 13.6	+0.2
KU4	**Liikasenvaara**	**3.95**	**108**	ePG	Pg	23 18 33.8	-4.7
KU4				eSG	Sg	23 19 26.2	-3.5
KU4				MSG		23 19 29.6	
	comp=Z,1.3nm,0.3s						

*ISCJB **17** 23:32:15.8±0.3, 4459N±002×12.13E±003, h2km, Error ellipse: s-maj=3.5km s-min=2.3km az=51.7*
*ROM **17** 23:32:15.4±0.2, 4463N×1207E, h2km, Md2.6/17, Ml2.1/9, Error ellipse: s-maj=3.3km s-min=2.7km az=44.0*
*CSEM **17** 23:32:16.2±0.1, 4453N×1207E, h20km, ML2.8/5, Error ellipse: s-maj=2.4km s-min=1.4km az=127.0*
*VIE **17** 23:32:17.1±0.4, 4454N×1226E, h10km, ML2.4/6, Error ellipse: s-maj=3.0km s-min=2.3km az=176.0 72 km NNW of San Marino*

ISC 17 23:32:16.6±0.4, 4458N±002×1213E±004, h2km±4km, n32, σ1§15/53, 11C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIU	**Minerbio Fiu**	**0.46**	**278**	Pg	**Pg**	**23 32 24.8**	**-0.6**
	166nm,0.2s						
RSM	**Repubblica di**	**0.68**	**160**	Pg	**Pg**	**23 32 31.0**	**+1.3**
	117nm,1.6s						
SFI	**Santa Sofia**	**0.70**	**197**	Pg	**Pg**	**23 32 27.9**	**-2.1**
	36nm,0.3s						
RAVA	**Ravarino**	**0.74**	**284**	Pg	**Pg**	**23 32 32.3**	**+1.4**
SEI	**Scarperia**	**0.76**	**227**	Pg	**Pg**	**23 32 30.4**	**-0.8**
	180nm,0.4s						
PESA	**Pesaro**	**0.81**	**141**	Pg	**Pg**	**23 32 33.7**	**+1.5**
FNVD	**Fontana Vidola**	**0.83**	**241**	Pg	**Pg**	**23 32 31.3**	**-1.2**
FNVD				Sg	**Sg**	**23 32 44.0**	**+0.7**
	43nm,0.4s						
TEOL	**Teolo**	**0.85**	**338**	⇑iPg	**Pg**	**23 32 33.0**	**+0.1**
TEOL				iSg	**Sg**	**23 32 44.6**	**+0.7**
ZCCA	**Zocca**	**0.86**	**255**	Pg	**Pg**	**23 32 33.2**	**+0.2**
	13nm,0.4s						
CRE	**Caprese Michel**	**0.96**	**188**	Pg	**Pg**	**23 32 36.0**	**+1.0**
CRE				Sg	**Sg**	**23 32 50.6**	**+3.1**
	13nm,0.3s						
IESO	**Jesolo**	**0.99**	**17**	⇑iPg	**Pg**	**23 32 37.2**	**+1.7**
IESO	**Jesolo**	**0.99**	**17**	iPg	**Pg**	**23 32 37.2**	**+1.6**
FSSB	**Fossombrone**	**1.00**	**152**	Pg	**Pg**	**23 32 36.2**	**+0.5**
FSSB				Sg	**Sg**	**23 32 51.8**	**+3.2**
	66

mb1mx3.9/13, mbtmp4.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/19, Error ellipse: s-maj=158.8km s-min=37.8km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**120**	LR	LR	23 35 34.7	
	comp=Z,316nm,18.4s,baz=178,slow=32						
WRA	**Warramunga Arr**	**24.27**	**236**	P	P	23 38 14.1	+0.7
	1.8nm,1.0s,baz=62,slow=9.6,SNR=3.5						
SONM	**Songino Array**	**69.58**	**327**	P	P	23 44 06.2	+0.8
	1.2nm,0.9s,baz=134,slow=5.0,SNR=6.1						
MKAR	**Makanchi Array**	**83.72**	**319**	P	P	23 45 26.0	+0.7
	3.4nm,0.7s,baz=104,slow=5.8,SNR=30						
ZAL	**Zalesovo**	**84.45**	**326**	P	P	23 45 27.6	-1.4
	1.0nm,0.6s,baz=347,slow=4.3,SNR=7.0						

CASC 17 23:41:27.3±2.1, 837N×8280W, h8km, MD3.9, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.35**	**79**	⇓*i*P	Pg	23 41 34.8	+0.6
DVD				*e*S	Sg	23 41 41.3	+2.4
BRU	**Baru**	**0.50**	**29**	*e*P	Pg	23 41 35.5	-1.4
CNI	**Changuinola**	**1.08**	**15**	*e*P	Pg	23 41 47.0	-1.0
LCR2	**La Lucha 2**	**1.81**	**319**	*e*P	Pn	23 41 58.3	-0.5
LCR2				*e*S	Sn	23 42 23.0	+1.1
LAJ	**Bijagual**	**1.98**	**319**	*e*P	Pn	23 42 04.1	+3.1
PRS1	**Puriscal**	**2.19**	**317**	*e*P	Pn	23 42 02.9	-1.1
PRS1				*e*S	Sn	23 42 32.1	+0.8
CGA2	**Cerro Gallo 2**	**2.32**	**315**	*e*P	Pn	23 42 04.5	-1.2
CGA2				*e*S	Sn	23 42 36.2	+1.7
PTP	**Ponta Puerca**	**19.37**	**58**	⇑*i*P		23 41 31.4	

*NEIC **17** 23:58:43.7, 17.13N×101.21W, h7km, MD3.6(MEX), After MEX.*

MEX 17 23:58:43.7±1.1, 1713N×10121W, h8km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.53**	**332**	*i*P	Pg	23 58 53.3	-0.6
ZIIG				*i*S	Sg	23 59 01.2	+0.3
CAIG	**El Cayaco**	**0.90**	**95**	*i*P	Pg	23 58 58.3	-2.8
CAIG				*i*S	Sg	23 59 09.7	-3.1
ACX	**Acapulco**	**1.26**	**102**	*i*P	Pn	23 59 05.0	-2.7
ACX				*i*S	Sb	23 59 21.0	-3.2
MEIG	**Mezcala**	**1.71**	**62**	*i*P	Pn	23 59 10.7	-3.2
MEIG				*i*S	Sn	23 59 32.2	-3.6
PLIG	**Platanillo**	**2.05**	**52**	*i*P	Pn	23 59 15.2	-3.4
PLIG				*i*S	Sn	23 59 39.0	-5.4
UTMO	**Huajupan**	**3.32**	**77**	*i*P	Pn	23 59 35.8	-0.2
UTMO				*i*S	Sn	00 00 12.4	-3.3

IDC 18 00:00:28.8±3.6, 547S×15056E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.3/11, mbtmp3.1/2, Error ellipse: s-maj=147.2km s-min=46.9km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.35**	**226**	P	P	00 05 17.9	+0.4
	0.4nm,0.4s,baz=52,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	00 05 47.2	+0.4
	0.3nm,0.5s,baz=58,slow=9.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc	PKPbc	00 20 17.7	+0.5
	1.2nm,0.7s,baz=94,slow=2.5,SNR=21						

*ISCJB **18** 00:02:41.7±1.9, 231S±0.1×17990W±0.10, h393km±22km, mb4.1/10, Error ellipse: s-maj=18.2km s-min=12.2km az=120.5*
*IDC **18** 00:02:44.7±21.0, 2305S×17988W, h414km±250km, mb3.4/4, mb1 3.7/5, mb1mx3.4/13, mbtmp4.3/5, Error ellipse: s-maj=165.4km s-min=29.6km az=3.0*
*NEIC **18** 00:02:45.0±1.5, 2308S×17986W, h417km±19km, mb4.5/7, Error ellipse: s-maj=14.8km s-min=10.4km az=152.0*

ISC 18 00:02:45.0±1.7, 231S±01×17986W±010, h415km±21km, n26, σ0°88/26, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.93**	**41**	P	P	00 05 23.1	-0.3
URZ	**Urewera**	**15.33**	**189**	P	P	00 06 00.7	+0.3
	3.1nm,0.3s,baz=327,slow=2.3,SNR=16						
CTA	**Charters Tower**	**31.61**	**269**	*e*P	P	00 08 33.9	+2.4
	12nm,0.3s,mb4.7						
CTAO	**Charters Tower**	**31.61**	**269**	*e*P	P	00 08 34.1	+2.6
	16nm,0.3s,mb4.8						
TAU	**Tasmania Unive**	**33.57**	**226**	P	P	00 08 49.2	+0.9
PMG	**Port Moresby**	**34.36**	**288**	P	P	00 08 54.7	-0.3
STKA	**Stephens Creek**	**35.14**	**247**	*e*P	P	00 09 01.8	+0.2
	2.0nm,0.9s,mb3.5						
STKA	**Stephens Creek**	**35.14**	**247**	P	P	00 09 01.4	-0.2
	1.5nm,0.5s,mb3.6,baz=83,slow=8.1,SNR=4.9						
STKA	**Stephens Creek**	**35.14**	**247**	*e*P	P	00 09 02.0	+0.3
AS31	**Alice Springs**	**42.29**	**260**	*e*P	P	00 10 00.3	+0.2
ASAR	**Alice Springs**	**42.29**	**260**	P	P	00 10 00.3	+0.2
	3.2nm,0.5s,mb3.9,baz=102,slow=7.2,SNR=32						
ASPA	**Alice Springs**	**42.30**	**260**	*e*P	P	00 10 00.3	+0.2
WB2	**Warramunga Arr**	**42.58**	**265**	*e*P	P	00 10 02.4	0.0
WRAB	**Tennant Creek**	**42.58**	**265**	*e*P	P	00 10 02.3	-0.1
	3.8nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**42.59**	**265**	P	P	00 10 02.3	-0.2
	2.6nm,0.3s,mb4.0,baz=102,slow=8.4,SNR=257						
KAKA	**Kakadu**	**46.37**	**274**	*e*P	P	00 10 31.5	-0.4
	25nm,1.5s,mb4.3						
FORT	**Forrest**	**46.71**	**249**	*e*P	P	00 10 32.7	-1.8
	11nm,0.7s,mb4.3						
GUMO	**Guam**	**50.22**	**313**	*e*P	P	00 11 01.0	+0.2
FITZ	**Fitzroy Crossi**	**51.02**	**265**	*e*P	P	00 11 06.8	0.0
	3.5nm,0.8s,mb3.6						
SBA	**Scott Base**	**55.18**	**183**	*e*P	P	00 11 34.8	-1.8
CASY	**Casey**	**60.88**	**206**	P	P	00 12 15.0	-0.6
PMR	**Palmer**	**87.94**	**14**	P	P	00 14 48.2	-0.9
PLCA	**Paso Flores**	**88.73**	**134**	P	P	00 14 54.8	+1.9
TXAR	**Lajitas Array**	**89.90**	**58**	P	P	00 14 58.4	+0.1
	1.1nm,1.2s,mb3.6,baz=201,slow=4.8,SNR=3.9						
ANMO	**Albuquerque**	**90.37**	**52**	P	P	00 15 00.1	-0.3
AHID	**Auburn Hatcher**	**91.05**	**43**	P	P	00 15 04.6	+1.0
	3.9nm,0.3s,mb4.7						

*NEIC **18** 00:08:56.1, 3303S×72.11W, h23km, ML3.2(GUC), After GUC.*

GUC 18 00:08:56.1±0.8, 3303S×7211W, h23km±9km, MD3.9, ML3.2, 5C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.39**	**90**	⇓*i*P	Pb	00 09 04.5	+0.1
IHA				*i*S	Sb	00 09 10.4	+0.4
LCCH	**Las Cruces**	**0.63**	**135**	⇓*i*P	Pb	00 09 08.0	-0.5
LCCH				*i*S	Sb	00 09 16.8	-0.1
PACH	**Papudo**	**0.75**	**49**	⇓*i*P	Pb	00 09 10.3	-0.2
ROCH	**El Roble**	**0.92**	**87**	*e*P	Pb	00 09 12.5	-0.9
ROCH				*i*S	Sb	00 09 25.7	+0.5
TACH	**Talagante**	**1.16**	**123**	⇑*i*P	Pn	00 09 16.4	-0.6
TACH				*i*S	Sb	00 09 31.8	-0.3
RCDM	**Rinconada Maip**	**1.18**	**113**	*e*P	Pn	00 09 16.6	-0.7
RCDM				*i*S	Sn	00 09 34.0	+1.3
PEL	**Peldehue**	**1.20**	**96**	⇑*i*P	Pn	00 09 18.0	+0.5
PEL				*i*S	Sn	00 09 34.1	+1.0
PEL				AML	AML	00 09 37.9	
	comp=N,638nm,0.1s						
PEL	**Peldehue**	**1.20**	**96**	⇑*i*P	Pn	00 09 18.0	+0.5
PEL				*i*S	Sn	00 09 34.1	+1.0
CHNG	**Los Chungos**	**1.25**	**24**	*e*P	Pn	00 09 17.7	-0.5
CHNG				*i*S	Sn	00 09 33.8	-0.6
JACH	**Jahuel**	**1.32**	**75**	⇑*i*P	Pn	00 09 19.5	+0.3
JACH				*i*S	Sn	00 09 36.6	+0.5
ANTU	**Antumapu**	**1.35**	**114**	*i*S	Sn	00 09 36.8	+0.1
CLCH	**Cerro Calan**	**1.37**	**106**	⇓*i*P	Pn	00 09 20.1	+0.3
CLCH				*i*S	Sn	00 09 37.8	+0.6
CLCH				AML	AML	00 09 44.2	
	comp=N,463nm,0.6s						
PCH	**Pirque**	**1.46**	**114**	⇑*i*P	Pn	00 09 21.8	+0.7
PCH				*i*S	Sn	00 09 41.1	+1.6
CHCH	**Chadas Angostu**	**1.52**	**127**	⇓*i*P	Pn	00 09 21.6	-0.2
FCH	**Farellones**	**1.55**	**102**	*e*P	Pn	00 09 23.5	+1.2
FCH				*i*S	Sn	00 09 44.4	+2.6
FCH				AML	AML	00 09 51.8	
	comp=N,249nm,0.8s						
CMCH	**Combarbala**	**2.08**	**27**	⇓*i*P	Pn	00 09 31.0	+1.4
CMCH				AML	AML	00 10 05.9	
	comp=E,942nm,0.5s						

*NEIC **18** 00:28:41.6±1.0, 595S×15137E, h35km, Error ellipse: s-maj=30.0km s-min=12.4km az=108.0*
*ISCJB **18** 00:28:45.3±4.2, 6.1S±02×1510E±02, h63km±33km, mb3.6/4, Error ellipse: s-maj=36.8km s-min=29.4km az=44.6*
*IDC **18** 00:28:45.7±9.4, 6.14S×15107E, h53km±68km, mb3.6/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.8/5, ML2.5/1, MS3.2/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=63.3km s-min=55.0km az=96.0*

ISC 18 00:28:45.6±4.0, 60S±02×1510E±02, h55km±31km, n12, σ0°88/10, mb3.6/4, MS3.2/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**228**	P	Pn	00 30 00.4	+0.9
	1.2nm,0.3s,baz=8.2,slow=19,SNR=3.4						
PMG				S	Sn	00 30 55.7	-1.4
	2.6nm,0.3s,baz=120,slow=13,SNR=3.6						
HNR	**Honiara**	**9.47**	**112**	LR	LR	00 34 03.7	
	comp=Z,88nm,21.2s,baz=156,slow=34						
CTAO	**Charters Tower**	**14.74**	**198**	P	Pn	00 32 10.4	-0.4
WB2	**Warramunga Arr**	**21.32**	**228**	*e*P	P	00 33 29.1	+1.2
WRA	**Warramunga Arr**	**21.32**	**228**	P	P	00 33 27.8	-0.1
	1.2nm,0.5s,mb3.5,baz=54,slow=11,SNR=16						
ASAR	**Alice Springs**	**24.07**	**221**	P	P	00 33 56.2	+0.5
	2.3nm,0.7s,mb3.7,baz=56,slow=9.1,SNR=22						
STKA	**Stephens Creek**	**27.20**	**198**	P	P	00 34 23.6	-0.5
	1.1nm,0.5s,mb3.6,baz=50,slow=7.9,SNR=3.1						
STKA				LR	LR	00 43 53.2	
	comp=Z,68nm,19.0s,MS3.2,baz=204,slow=34						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	P	00 34 28.3	+1.2
	0.6nm,0.4s,mb3.6,baz=69,slow=10,SNR=4.6						
CHKZ	**Chkalovo**	**89.15**	**324**	P	P	00 41 34.8	-0.4
ZRNK	**Zerenda**	**89.96**	**323**	P	P	00 41 37.9	-1.1
TORD	**Torodi Ar. Bea**	**148.97**	**285**	PKPbc	PKPbc	00 48 27.7	+0.3
	0.3nm,0.4s,baz=94,slow=2.7,SNR=13						
TORD	**Torodi Ar. Bea**	**148.97**	**285**	PKPbc	PKPbc	00 48 27.7	+0.3

*NEIC **18** 00:56:22.3±0.5, 935S×10822E, h10km, mb3.9/4, Error ellipse: s-maj=17.3km s-min=7.0km az=54.0*
*ISCJB **18** 00:56:24.0±0.8, 93S±01×1083E±01, h35km, mb3.7/10, Error ellipse: s-maj=25.3km s-min=10.2km az=106.7*
*IDC **18** 00:56:25.9±0.9, 933S×10829E, h35km±6km, mb3.6/6, mb1 3.6/7, mb1mx3.5/18, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=39.7km s-min=15.6km az=59.0*

ISC 18 00:56:26.3±0.8, 93S±01×1083E±02, h37km, h37km±7km: pP-P, n15, σ0°50/15, mb3.7/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**17.21**	**28**	*e*P	Pn	01 00 23.3	-0.4
FITZ	**Fitzroy Crossi**	**18.98**	**119**	P	Pn	01 00 45.1	-0.3
	0.1nm,0.3s,baz=300,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**27.30**	**116**	P	P	01 02 06.9	-0.4
	0.3nm,0.6s,mb3.0,baz=284,slow=12,SNR=5.4						
WRA				pP	pP	01 02 17.2	-0.5
	0.8nm,1.0s,baz=286,slow=11,SNR=3.7						
WRAB	**Tennant Creek**	**27.30**	**116**	*e*P	P	01 02 07.5	+0.1
	0.7nm,0.4s,mb3.5						
WB2	**Warramunga Arr**	**27.31**	**116**	*e*P	P	01 02 08.5	+1.1
WB2				*e*	pP	01 02 18.4	+0.6
ASAR	**Alice Springs**	**28.34**	**123**	P	P	01 02 16.9	+0.3
	0.5nm,0.5s,mb3.4,baz=301,slow=9.4,SNR=11						
ASAR				pPcP		01 05 41.2	
	0.6nm,0.6s,baz=285,slow=1.9,SNR=8.7						
STKA	**Stephens Creek**	**38.16**	**131**	P	P	01 03 41.8	-0.3
	1.8nm,0.7s,mb3.9,baz=300,slow=8.9,SNR=4.0						
LSA	**Lhasa**	**42.17**	**338**	P	P	01 04 16.3	+1.1
SONM	**Songino Array**	**56.94**	**358**	P	P	01 06 07.9	+0.1
	0.6nm,0.6s,mb3.8,baz=184,slow=7.9,SNR=5.1						
SONM				pP	pP	01 06 18.5	-0.3
	0.8nm,0.6s,baz=174,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**60.50**	**340**	P	P	01 06 32.3	-0.2
	0.7nm,0.5s,mb3.9,baz=146,slow=8.4,SNR=7.2						
MKAR				pP	pP	01 06 42.9	-0.7
	1.2nm,0.6s,baz=143,slow=7.8,SNR=7.2						
BRVK	**Borovoye**	**70.06**	**337**	P	P	01 07 33.9	-0.5
	0.6nm,0.3s,mb4.0						
CHKZ	**Chkalovo**	**70.41**	**337**	*e*P	P	01 07 36.4	-0.1
	0.6nm,0.5s,mb3.8						
CHKZ				*e*	pP	01 07 47.1	-0.7
ZRNK	**Zerenda**	**70.49**	**336**	*e*P	P	01 07 37.1	0.0
	0.6nm,0.6s,mb3.7						
ZRNK				*e*	pP	01 07 47.0	-1.3
VNDA	**Vanda**	**73.46**	**169**	P	P	01 07 54.4	-0.4
	1.1nm,0.8s,mb3.9,baz=300,slow=6.6,SNR=10						
VNDA				pP	pP	01 08 05.4	-0.7
	1.5nm,0.9s,baz=299,slow=6.5,SNR=6.4						
VNDA	**Vanda**	**73.46**	**169**	P	P	01 07 54.4	-0.4
VNDA				pP	pP	01 08 05.4	-0.7

*ISCJB **18** 01:09:15.3±0.5, 19.12N±007×3906E±007, h10km, mb3.9/11, MS3.6/8, Error ellipse: s-maj=10.5km s-min=8.8km az=124.9*
*IDC **18** 01:09:15.7±1.4, 19.12N×39.12E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/22, mbtmp3.9/11, ML3.3/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/28, Error ellipse: s-maj=33.9km s-min=19.1km az=157.0*
*NEIC **18** 01:09:17.0±0.5, 1909N×39.14E, h10km, mb3.8/4, Error ellipse: s-maj=12.5km s-min=9.1km az=118.0*
*CSEM **18** 01:09:17.0, 1909N×3914E, h10km, mb3.8/3, After NEIC*

ISC 18 01:09:17.5±0.5, 1913N±007×3908E±007, h10km, n44, σ1°13/41, mb3.9/11, MS3.6/8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASF	**Jabal al Asfar**	**13.13**	**352**	Pn	Pn	01 12 24.3	+0.3
	0.1nm,0.3s,baz=148,slow=2.7,SNR=4.1						
ASF				LR	LR	01 17 02.2	
	comp=Z,188nm,19.2s,baz=278,slow=36						
JMDO	**Jabal Madar**	**18.08**	**76**	P	Pn	01 13 28.5	-0.3
	SNR=7.7						
SMDO	**Samad**	**18.12**	**74**	P	Pn	01 13 31.2	+2.0
	SNR=9.6						
BIDO	**Bidbid**	**18.27**	**73**	P	Pn	01 13 33.3	+2.2
	SNR=7.9						
WSAR	**Wadi Sarin**	**18.68**	**74**	P	Pn	01 13 36.6	+0.5
	0.1nm,0.3s,baz=318,slow=8.7,SNR=6.3						
WSAR				LR	LR	01 21 39.2	
	comp=Z,343nm,18.3s,baz=279,slow=40						
MALT	**Malatya**	**19.12**	**358**	*e*P	Pn	01 13 43.0	+1.6
	7.4nm,1.0s						
MALT	**Malatya**	**19.12**	**358**	*e*P	Pn	01 13 43.0	+1.6
	7.4nm,1.0s						
KMBO	**Kilima Mbogo**	**20.21**	**185**	LR	LR	01 21 33.9	
	comp=Z,258nm,18.4s,MS3.6,baz=273,slow=36						
KMBO	**Kilima Mbogo**	**20.21**	**185**	P	P	01 13 51.6	-1.0
KMBO	**Kilima Mbogo**	**20.21**	**185**	P	P	01 13 51.6	-0.9
BRTR	**Keskin Array B**	**21.05**	**348**	P	P	01 14 03.6	+2.0
	4.0nm,0.7s,mb3.8,baz=164,slow=13,SNR=19						
GNI	**Garni**	**21.50**	**12**	LR	LR	01 23 06.3	
	comp=Z,147nm,19.0s,MS3.4,baz=158,slow=39						
GNI	**Garni**	**21.50**	**12**	P	P	01 14 06.2	-0.3
GNI	**Garni**	**21.50**	**12**	P	P	01 14 06.2	-0.3
KIV	**Kislovodsk**	**24.93**	**6**	P	P	01 14 42.8	+2.0
AKASG	**Malin Array Be**	**32.46**	**348**	P	P	01 15 47.0	-0.9
	0.2nm,0.3s,mb3.5,baz=163,slow=7.3,SNR=5.8						
KWP	**Kalwaria**	**33.14**	**340**	P	P	01 15 53.6	-0.2
KWP	**Kalwaria**	**33.14**	**340**	P	P	01 15 53.6	-0.3
LSZ	**Lusaka**	**35.84**	**198**	*e*P	P	01 16 17.4	+0.2
	0.5nm,0.6s,mb3.6						
LSZ	**Lusaka**	**35.84**	**198**	*e*P	P	01 16 17.4	+0.2
	0.5nm,0.6s,mb3.6						
OBN	**Obninsk**	**35.97**	**358**	P	P	01 16 15.9	-2.5
GERES	**GERESS Array B**	**36.01**	**331**	P	P	01 16 19.1	+0.4
	0.7nm,0.8s,mb3.6,baz=126,slow=6.8,SNR=7.1						
TOA0	**Torodi Ar. Sit**	**36.35**	**266**	*e*P	P	01 16 22.4	+0.8
TOA0	**Torodi Ar. Sit**	**36.35**	**266**	*e*P	P	01 16 22.4	+0.8
TORD	**Torodi Ar. Bea**	**36.35**	**266**	P	P	01 16 22.2	+0.6
	4.5nm,0.9s,mb4.4,baz=75,slow=7.2,SNR=19						
TORD				LR	LR	01 31 37.6	
	comp=Z,86nm,20.0s,MS3.5,baz=50,slow=37						
AAK	**Ala-Archa**	**37.96**	**44**	P	P	01 16 34.2	-1.1
AAK	**Ala-Archa**	**37.96**	**44**	P	P	01 16 34.2	-1.1
ZRNK	**Zerenda**	**40.96**	**27**	P	P	01 16 59.7	-0.6
ZRNK	**Zerenda**	**40.96**	**27**	P	P	01 16 59.7	-0.6
BRVK	**Borovoye**	**41.59**	**28**	*e*P	P	01 17 03.9	-1.6
	1.6nm,0.6s,mb3.8						
BRVK	**Borovoye**	**41.59**	**28**	*e*P	P	01 17 03.9	-1.6
	1.6nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**42.16**	**28**	P	P	01 17 09.2	-1.0
CHKZ	**Chkalovo**	**42.16**	**28**	P	P	01 17 09.2	-1.0
DBIC	**Dimbokro**	**44.45**	**260**	P	P	01 17 29.2	+0.5
	2.0nm,0.8s,mb3.9,baz=70,slow=12,SNR=3.4						
DBIC				LR	LR	01 35 59.0	
	comp=Z,91nm,18.1s,MS3.7,baz=48,slow=36						
DBIC	**Dimbokro**	**44.45**	**260**	*e*P	P	01 17 29.5	+0.9
	2.7nm,0.9s,mb4.0						
DBIC				LR	LR	01 35 59.0	
DBIC	**Dimbokro**	**44.45**	**260**	*e*P	P	01 17 29.5	+0.8
	2.7nm,0.9s,mb4.0						
DBIC				LR	LR	01 35 59.0	
MK31	**Makanchi Array**	**44.75**	**42**	*e*P	P	01 17 30.9	-0.2
MK31	**Makanchi Array**	**44.75**	**42**	*e*P	P	01 17 30.9	-0.2
MKAR	**Makanchi Array**	**44.75**	**42**	P	P	01 17 30.4	-0.7
	1.6nm,0.8s,mb3.9,baz=242,slow=7.4,SNR=9.8						
MKAR				LR	LR	01 37 50.4	
	comp=Z,52nm,19.8s,MS3.5,baz=84,slow=38						
NOA	**NORSAR Array B**	**46.26**	**342**	P	P	01 17 41.3	-1.7
	1.5nm,0.9s,mb3.9,baz=137,slow=8.6,SNR=3.6						
ZAL	**Zalesovo**	**49.23**	**34**	P	P	01 18 05.5	-0.6
	1.1nm,0.4s,mb4.2,baz=237,slow=18,SNR=4.4						
ZAL				LR	LR	01 43 33.5	
	comp=Z,88nm,18.6s,MS3.8,baz=206,slow=42						
ZAL	**Zalesovo**	**49.23**	**34**	P	P	01 18 05.4	-0.6
ZAL				LR	LR	01 43 33.5	
BOSA	**Boshof**	**49.31**	**196**	LR	LR	01 38 38.0	
	comp=Z,110nm,18.4s,MS3.9,baz=271,slow=36						
SONM	**Songino Array**	**60.89**	**45**	P	P	01 19 30.0	-0.4
	0.7nm,0.8s,mb3.8,baz=262,slow=6.4,SNR=5.4						
SONM				LR	LR	01 49 10.0	
	comp=Z,44nm,18.2s,MS3.6,baz=230,slow=39						

*ISCJB **18** 01:11:09.6±0.6, 1650S±008×6966W±006, h205km±6km, mb4.0/4, Error ellipse: s-maj=13.2km s-min=9.4km az=34.2*
*NEIC **18** 01:11:09.9±0.6, 1651S×6970W, h191km±7km, mb3.6/2, Error ellipse: s-maj=11.8km s-min=8.7km az=217.0*
*IDC **18** 01:11:10.7±1.3, 1648S×6963W, h197km±8km, mb3.6/2, mb1 3.3/5, mb1mx3.1/22, mbtmp3.9/5, Error ellipse: s-maj=28.0km s-min=20.1km az=1.0*

ISC 18 01:11:10.8±0.6, 1653S±008×6965W±006, h199km±6km, n14, σ0°95/16, mb4.0/4, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.48**	**81**	P	Pn	01 11 45.2	+1.0
	33nm,0.3s,baz=280,slow=7.6,SNR=959						
LPAZ				S	Sn	01 12 10.3	+0.1
	4.0nm,0.3s,baz=357,slow=22,SNR=6.5						
ARE	**Arequipa**	**1.77**	**272**	⇑*i*P	Pn	01 11 43.8	-3.1
ARE				*e*S	Sn	01 12 16.0	+1.0
LVC	**Limon Verde**	**6.09**	**174**	P	Pn	01 12 39.2	+0.1
	1.1nm,0.3s,baz=345,slow=9.6,SNR=9.6						
LVC				S	Sn	01 13 44.7	-4.4
	4.9nm,0.3s,baz=134,slow=23,SNR=14						
SIV	**San Ignacio**	**8.25**	**87**	P	Pn	01 13 07.5	+0.2
	0.3nm,0.3s,baz=268,slow=12,SNR=9.7						
NNA	**Nana**	**8.31**	**302**	P	Pn	01 13 06.6	-1.4
	1.5nm,0.3s,baz=131,slow=12,SNR=3.6						
SAML	**Samuel**	**9.82**	**41**	*e*Pn	Pn	01 13 26.3	-1.4
CPUP	**Villa Florida**	**15.04**	**132**	P	Pn	01 14 33.5	-0.1
OTAV	**Otavalo**	**18.79**	**332**	*e*P	P	01 15 16.0	+0.8
	0.9nm,0.5s						
TRQA	**Tornquist**	**22.48**	**164**	P	P	01 15 53.5	+0.2
SDV	**Santo Domingo**	**25.27**	**358**	P	P	01 16 19.0	+0.2
	1.0nm,0.6s,mb3.6						
PAYG	**Puerto Ayora**	**25.73**	**306**	P	P	01 16 23.7	+0.9
	30nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**68.09**	**76**	P	P	01 21 48.9	-0.1
	1.1nm,0.4s,mb3.8,baz=236,slow=6.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**76.41**	**72**	P	P	01 22 38.3	+0.1
	0.9nm,0.7s,mb3.5,baz=250,slow=4.7,SNR=13						
SONM	**Songino Array**	**148.62**	**5**	PKPbc	PKPbc	01 30 35.4	+1.2
	0.5nm,0.4s,baz=331,slow=3.8,SNR=7.0						

*IDC **18** 01:46:51.1±0.9, 1028N×9242E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=42.6km s-min=17.7km az=62.0*
*ISCJB **18** 01:46:53.5±0.5, 1032N±009×9239E±010, h30km, mb4.2/16, Error ellipse: s-maj=17.5km s-min=6.9km az=97.2*
*NEIC **18** 01:46:55.8±0.5, 1031N×9238E, h30km, mb4.4/4, Error ellipse: s-maj=15.8km s-min=7.2km az=52.0*

ISC 18 01:46:54.1±5.2, 104N±01×924E±01, h17km±33km, n33, σ0°82/32, mb4.2/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.35**	**15**	*e*P	Px	01 47 11.6	
PBA				*e*S	Sx	01 47 24.4	
KULM	**Kulim**	**9.61**	**121**	*e*Pn	Pn	01 49 11.9

*IDC **18** 01:48:20.4±1.8, 1152N×12548E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.6/18, mbtmp3.6/3, ML5.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/29, Error ellipse: s-maj=90.7km s-min=26.2km az=64.0*
*ISCJB **18** 01:48:21.7±0.6, 1132N±004×12459E±004, h10km, mb3.6/3, MS3.8/2, Error ellipse: s-maj=6.1km s-min=5.4km az=58.8*
*MAN **18** 01:48:21.1, 1128N×12459E, h3km, mb3.5, ML4.7, MS2.1*
ISC 18 01:48:22.3±0.6, 1129N±004×12459E±004, h10km, n20, σ1§30/20, mb3.6/3, MS3.8/2, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.24**	**175**	*eP*	**Pg**	**01 48 26.4**	**-0.8**
PLP	**Palo**	**0.41**	**108**	*i P*	**Pg**	**01 48 29.4**	**-0.8**
PLP				*eS*	**Sg**	**01 48 36.0**	**+0.4**
BESP	**Borongan**	**0.89**	**70**	*eP*	**Pg**	**01 48 38.1**	**-1.3**
LLP	**Lapu-Lapu**	**1.15**	**212⇓**	*eP*	**Pb**	**01 48 41.4**	**-2.8**
LLP				*i S*	**Sb**	**01 48 58.2**	**-0.9**
MSLP	**Maasin**	**1.18**	**167**	*eP*	**Pb**	**01 48 43.1**	**-1.7**
MSLP				*eS*	**Sb**	**01 49 02.0**	**+1.9**
SCPH	**Surigao**	**1.74**	**149**	*eP*	**Pn**	**01 48 53.1**	**+0.5**
RCP	**Roxas**	**1.83**	**279⇑**	*eP*	**Pn**	**01 48 53.3**	**-0.4**
GUIM	**Jordan**	**2.07**	**252**	*eP*	**Pn**	**01 48 57.1**	**0.0**
PVCP	**Virac**	**2.33**	**350**	*eP*	**Pn**	**01 49 00.5**	**-0.1**
SNPH	**Sibulan**	**2.35**	**215**	*eP*	**Pn**	**01 49 00.5**	**-0.4**
OTRP	**Odiongan**	**2.73**	**293**	*eP*	**Pn**	**01 49 07.7**	**+1.5**
CGP	**Cagayan de Oro**	**2.82**	**178⇓**	*i P*	**Pn**	**01 49 10.1**	**+2.7**
BUKP	**Musuan**	**3.42**	**172**	*eP*	**Pn**	**01 49 18.7**	**+3.0**
TGY	**Tagaytay City**	**4.53**	**308**	Pn	**Pn**	**01 49 37.8**	**+6.9**
	56nm,0.3s,baz=252,slow=13,SNR=2.7						
GUMO	**Guam**	**19.94**	**81**	LR	LR	01 59 11.1	
	comp=Z,143nm,19.2s,baz=310,slow=34						
MJAR	**Matsushiro Arr**	**27.99**	**24**	LR	LR	02 03 13.2	
	comp=Z,104nm,19.4s,MS3.4,baz=260,slow=32						
ASAR	**Alice Springs**	**35.92**	**165**	P	**P**	**01 55 22.6**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=344,slow=8.5,SNR=5.5						
SONM	**Songino Array**	**39.50**	**341**	P	**P**	**01 55 53.0**	**0.0**
	0.8nm,0.9s,mb3.5,baz=147,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**50.22**	**323**	P	**P**	**01 57 21.8**	**+3.4**
	0.3nm,0.3s,mb3.6,baz=108,slow=12,SNR=2.9						
URZ	**Urewera**	**69.52**	**138**	LR	LR	02 27 39.0	
	comp=Z,127nm,18.5s,MS4.2,baz=168,slow=34						

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*ISCJB **18** 01:56:42.9±0.5, 4031N±006×47.14E±005, h10km, mb3.9/4, Error ellipse: s-maj=8.4km s-min=5.7km az=154.2*
*IDC **18** 01:56:44.2±2.2, 4036N×4709E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=44.2km s-min=10.0km az=160.0*
*CSEM **18** 01:56:46.9±0.2, 4034N×4699E, h18km, ML3.4/2, Error ellipse: s-maj=7.2km s-min=4.7km az=129.0*
*THR **18** 01:56:46.9±0.4, 4031N×4699E, h14km±7km, ML3.2*
*MOS **18** 01:56:47.0±2.2, 4043N×4711E, h33km, mb3.7/3, Error ellipse: s-maj=11.4km s-min=10.8km az=123.6*
*NEIC **18** 01:56:50.4±1.0, 4061N×4706E, h35km, mb3.5/4, Error ellipse: s-maj=19.8km s-min=8.4km az=173.0*
*NSSP **18** 01:56:58.7, 4035N×4649E, h5km, ML2.8*
ISC 18 01:56:44.9±0.5, 4028N±005×4711E±005, h10km, n35, σ1§39/44, mb3.9/4, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.59**	**157**	*e*PG	**Pg**	**01 57 17.1**	**+1.8**
GRMI				AML	AML	01 57 41.0	
	comp=E,314nm,0.2s						
GRMI				AML	AML	01 57 45.9	
	comp=N,241nm,0.3s						
GRMI	**Germi**	**1.59**	**157**	*e*Pg	**Pg**	**01 57 17.1**	**+1.7**
	SNR=90						
GNI	**Garni**	**1.82**	**267**	Pg	**Pg**	**01 57 19.8**	**0.0**
	comp=N,60nm,0.3s,baz=28,slow=0.5,SNR=300						
GNI				Lg		01 57 43.7	
	baz=293,slow=7.7						
MAKU	**Maku**	**2.09**	**245**	*e*PG	**Pg**	**01 57 23.6**	**-1.3**
MAKU				*e*SG	**Sg**	**01 57 50.7**	**-1.3**
MAKU				AML	AML	01 57 55.4	
	comp=N,218nm,0.3s						
MAKU				AML	AML	01 57 57.5	
	comp=E,186nm,0.3s						
MAKU	**Maku**	**2.09**	**245**	*e*Pg	**Pg**	**01 57 23.6**	**-1.3**
	SNR=90						
MAKU				*e*Sg	**Sg**	**01 57 50.7**	**-1.2**
	comp=E,186nm,0.3s,SNR=90						
MTA	**Mtatsminda**	**2.25**	**310**	P	**Pn**	**01 57 23.7**	**+1.5**
MTA				S	**Sn**	**01 57 51.2**	**+1.1**
TBLG	**Delisi**	**2.31**	**310**	*e*PN	**Pn**	**01 57 24.3**	**+1.3**
TBLG				*e*S	**Sn**	**01 57 53.6**	**+2.2**
TBLG	**Delisi**	**2.31**	**310**	P	**Pn**	**01 57 24.3**	**+1.3**
TBLG				S	**Sn**	**01 57 53.6**	**+2.2**
ZEI	**Tsey**	**3.47**	**317**	*e*PN	**Pn**	**01 57 40.6**	**+1.7**
ZEI				*i*		01 58 29.1	
CHTH	**Charan**	**5.39**	**143**	*e*PN	**Pn**	**01 58 10.5**	**+5.1**
MALT	**Malatya**	**7.01**	**257**	P	**Pn**	**01 58 26.2**	**-1.5**
AKTK	**Aktyubinsk**	**12.71**	**33**	Pn	**Pn**	**01 59 43.0**	**-2.6**
AKTK				Sn	**Sn**	**02 01 55.2**	**-12**
AKTO	**Aktyubinsk**	**12.71**	**33**	Pn	**Pn**	**01 59 43.0**	**-2.7**
	comp=E,0.5nm,0.3s,baz=207,slow=12,SNR=13						
AKTO				Sn	**Sn**	**02 01 55.2**	**-12**
	comp=E,0.3nm,0.3s,baz=346,slow=20,SNR=7.7						
AKTO	**Aktyubinsk**	**12.71**	**33**	Pn	**Pn**	**01 59 43.9**	**-1.8**
	comp=E,0.1nm,0.8s						
AKTO				Sn	**Sn**	**02 01 58.4**	**-8.8**
	comp=E,0.1nm,0.7s						
AB31	**Akbulak array**	**12.78**	**41**	⇑Pn	**Pn**	**01 59 45.1**	**-1.5**
	comp=E,0.3nm,0.3s,baz=212,slow=13,SNR=14						
AB31				⇓Sn	**Sn**	**02 01 54.6**	**-14**
	comp=E,1.4nm,0.5s,baz=213,slow=25						
TIRR	**Tirgusor**	**14.44**	**293**	*e*P	**Pn**	**02 00 08.6**	**-0.6**
AKASG	**Malin Array Be**	**16.26**	**316**	Pn	**Pn**	**02 00 31.1**	**-2.3**
	baz=123,slow=12,SNR=2.1						
OBN	**Obninsk**	**16.42**	**338**	Pn	**Pn**	**02 00 35.9**	**+0.5**
ZRNK	**Zerenda**	**19.57**	**42**	*e*P	**Pn**	**02 01 12.6**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**19.57**	**42**	*e*P	**Pn**	**02 01 12.6**	**-1.6**
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	**20.29**	**43**	*e*P	**P**	**02 01 20.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**20.29**	**43**	*e*P	**P**	**02 01 20.8**	**+0.1**
	comp=Z,1.6nm,0.5s						
BVAR	**Borovoye Array**	**20.33**	**43**	P	**P**	**02 01 21.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=254,slow=11,SNR=5.8						
AAK	**Ala-Archa**	**20.63**	**74**	P	**P**	**02 01 25.6**	**+1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**20.63**	**74**	P	**P**	**02 01 25.6**	**+1.2**
	comp=Z,2.5nm,0.9s						
CHKZ	**Chkalovo**	**20.77**	**42**	*e*P	**P**	**02 01 25.8**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**20.77**	**42**	*e*P	**P**	**02 01 25.8**	**-0.1**
	comp=Z,1.1nm,0.4s						
PSZ	**Piszkesteto**	**20.91**	**300**	P	**P**	**02 01 26.9**	**-0.6**
FINES	**FINESS Array B**	**24.79**	**336**	P	**P**	**02 02 05.3**	**-1.6**
	comp=Z,2.1nm,0.8s,mb3.7,baz=148,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**24.79**	**336**	P	**P**	**02 02 05.3**	**-1.6**
GERES	**GERESS Array B**	**25.13**	**301**	P	**P**	**02 02 11.2**	**+1.2**
	comp=Z,1.3nm,0.5s,mb3.7,baz=98,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**26.16**	**64**	P	**P**	**02 02 21.7**	**+2.3**
	comp=Z,0.4nm,0.4s,mb3.3,baz=266,slow=8.5,SNR=4.1						
WLF	**Walferdange**	**30.13**	**302**	P	**P**	**02 02 54.8**	**0.0**
KBS	**Kingsbay**	**41.17**	**350**	*e*P	**P**	**02 04 30.2**	**+0.7**
	comp=Z,20nm,0.6s,mb4.9						
YHNB	**Yeheng**	**62.87**	**80**	P	**P**	**02 07 12.6**	**+1.6**

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*IDC **18** 02:01:22.4±0.4, 135N×9709E, h0km, mb4.5/30, mb1 4.6/31, mb1mx4.5/33, mbtmp4.5/31, ML3.4/1, MS4.1/3, Ms1 4.1/3, ms1mx3.5/27, Error ellipse: s-maj=15.7km s-min=11.4km az=53.0*
*MOS **18** 02:01:24.6±0.9, 141N×9719E, h26km, mb5.2/37, Error ellipse: s-maj=10.5km s-min=5.5km az=110.5*
*ISCJB **18** 02:01:24.5±0.2, 131N±003×9714E±003, h25km, mb4.9/104, MS4.6/22, Error ellipse: s-maj=5.0km s-min=4.3km az=71.9*
*BJI **18** 02:01:24.1, 133N×9726E, h22km, mB5.2, mb5.1, Ms4.8, Msz4.7*
*NEIC **18** 02:01:26.5±0.2, 133N×9713E, mb5.0/41, Error ellipse: s-maj=5.2km s-min=4.4km az=224.0*
*SZGRF **18** 02:01:30.1, 153N×9642E, h33km, mb5.0, Off west coast of northern Sumatera, Indonesia*
ISC 18 02:01:26.9±0.2, 132N±003×9714E±003, h27km, h27km±1.0km: pP-P, n229, σ1§01/239, mb4.9/104, MS4.6/22, 11C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.31**	**50**	Pn	**Pn**	**02 02 03.2**	**0.0**
	11nm,0.3s,baz=223,slow=5.1,SNR=229						
PSI	**Prapat**	**2.31**	**50**	Pn	**Pn**	**02 02 03.2**	**0.0**
PPI	**Padang Panjang**	**3.70**	**118**	P	**Pn**	**02 02 23.3**	**+1.0**
	389nm,1.2s						
BSI	**Banda Aceh**	**4.54**	**336**	P	**Pn**	**02 02 31.0**	**-2.9**
	104nm,0.8s						
IPM	**Ipoh**	**4.99**	**51**	P	**Pn**	**02 02 41.2**	**+1.2**
KULM	**Kulim**	**5.28**	**41**	*e*Pn	**Pn**	**02 02 43.9**	**0.0**
KGM	**Kluang**	**6.21**	**84**	P	**Pn**	**02 02 58.7**	**+1.8**
KSM	**Kuching**	**13.16**	**89**	*e*Pn	**Pn**	**02 04 37.9**	**+5.9**
BDT	**Bhumibol Dam**	**15.93**	**6**	P	**Pn**	**02 05 10.5**	**+1.3**
KKTK	**Khon Kaen**	**15.94**	**20**	P	**Pn**	**02 05 11.5**	**+2.2**
CM31	**Chiang Mai Arr**	**17.12**	**6**	*e*P	**Pn**	**02 05 23.4**	**-0.9**
PALK	**Pallekele**	**17.42**	**290**	*e*P	**Pn**	**02 05 28.8**	**+0.8**
CHG	**Chiang Mai**	**17.48**	**6**	⇑P	**Pn**	**02 05 26.8**	**-1.9**
	22nm,1.1s						
CHTO	**Chiang Mai**	**17.48**	**6**	*e*P	**Pn**	**02 05 27.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
CHTO	**Chiang Mai**	**17.48**	**6**	*e*P	**Pn**	**02 05 27.0**	**-1.7**
	comp=Z,21nm,0.9s						
KKM	**Kota Kinabalu**	**19.60**	**76**	P	**Pn**	**02 05 55.2**	**+0.8**
KKM	**Kota Kinabalu**	**19.60**	**76**	*e*P	**Pn**	**02 05 53.4**	**-1.0**
TSM	**Tawau**	**20.91**	**81**	P	**P**	**02 06 07.3**	**+0.1**
VIS	**Vishakhapatnam**	**21.21**	**321**	*e*P	**P**	**02 06 11.4**	**+0.9**
VIS				AMb	AMB	02 06 18.7	
	comp=Z,47nm,1.9s,mb4.5						
VIS				*ex*	x	02 09 54.3	
TRD	**Trivandrum**	**21.33**	**290**	*e*P	**P**	**02 06 12.7**	**+1.0**
TRD				AMb	AMB	02 06 27.7	
	comp=Z,46nm,1.1s,mb4.7						
TRD				*ex*	x	02 10 05.3	
QIZ	**Qiongzhong**	**21.56**	**34**	P	**P**	**02 06 14.1**	**-0.1**
QIZ				PP		02 06 38.1	
QIZ				S	**S**	**02 10 15.5**	**+3.8**
QIZ				AMB	AMB		
	comp=Z,27nm,1.7s,mb4.4						
QIZ				AMB	AMB		
	comp=Z,203nm,3.0s						
QIZ				LR	LR		
	comp=N,607nm,15.9s,MS4.3						
QIZ				LR	LR		
	comp=E,869nm,15.5s,MS4.3						
QIZ				LR	LR		
	comp=Z,608nm,15.5s,MS4.1						
QIZ	**Qiongzhong**	**21.56**	**34**	*e*P	**P**	**02 06 14.5**	**+0.3**
	comp=Z,18nm,0.8s,mb4.5						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**02 06 42.8**	**+1.0**
KMI				AP		02 06 50.0	
KMI				XP	sP	02 06 52.8	-0.2
KMI				PP		02 07 20.5	
KMI				S	**S**	**02 11 00.8**	**+1.8**
KMI				XS	sS	02 11 12.8	+0.8
KMI				AMB	AMB		
	comp=Z,105nm,1.3s,mb5.1						
KMI				AMB	AMB		
	comp=Z,347nm,3.3s						
KMI				LR	LR		
	comp=N,2μm,15.2s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,14.1s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,14.9s,MS4.8						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**02 06 42.8**	**+1.0**
KMI				*PP		02 06 50.0	
KMI				*SP	sP	02 06 52.8	-0.2
KMI						02 07 20.5	
KMI				S	**S**	**02 11 00.7**	**+1.7**
KMI				*SS	sS	02 11 12.8	+0.8
KMI				SS		02 11 57.2	
KMI				pmax	pmax		
	comp=Z,105nm,1.3s,mb5.1						
KMI				MLR	MLR		
	comp=Z,3μm,14.9s,MS4.8						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**02 06 42.8**	**+1.0**
	comp=Z,105nm,1.3s,mb5.1						
KMI				pP		02 06 50.0	
KMI				sP	sP	02 06 52.8	-0.2
KMI				PP		02 07 20.5	
KMI				PPP		02 07 29.9	
KMI				S	**S**	**02 11 00.7**	**+1.7**
KMI				sS	sS	02 11 12.8	+0.8
KMI				SS		02 11 57.2	
KMI				SSS		02 12 14.4	
KMI				LR	LR		
	comp=Z,3μm,14.9s,MS4.8						
HYB	**Hyderabad**	**24.29**	**312**	*i* P	**P**	**02 06 44.0**	**+2.1**
HYB	**Hyderabad**	**24.29**	**312**	*e*P	**P**	**02 06 44.0**	**+2.1**
SHL	**Shillong**	**24.64**	**349**	*i* P	**P**	**02 06 44.0**	**-1.1**
SHL				*e*S	**S**	**02 11 09.0**	**+4.2**
BOK	**Bokaro**	**24.86**	**335**	*e*P	**P**	**02 06 48.2**	**+1.0**
BOK				AMb	AMB	02 06 49.7	
	comp=Z,47nm,0.6s,mb5.2						
BOK				*e*S	**S**	**02 11 12.6**	**+4.1**
GYA	**Guiyang**	**26.62**	**19⇑**	*i*P	**P**	**02 07 02.8**	**-0.3**
GYA				AP	pP	02 07 09.8	-1.2
GYA				XP	sP	02 07 12.9	-1.4
GYA				S	**S**	**02 11 34.6**	**-1.7**
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
GYA				AMB	AMB		
	comp=Z,100nm,5.1s						
GYA				LR	LR		
	comp=N,600nm,14.8s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,15.3s,MS4.6						
GYA				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
PKI	**Pulchoki**	**28.42**	**338**	*e*P	**P**	**02 07 20.1**	**+0.9**
	comp=Z,93nm,1.1s,mb5.3						
GUN	**Gumba**	**28.56**	**339**	*e*P	**P**	**02 07 21.8**	**+1.4**
	comp=Z,86nm,0.8s,mb5.6						
DMN	**Daman**	**28.57**	**337**	*e*P	**P**	**02 07 21.7**	**+1.1**
	comp=Z,81nm,1.0s,mb5.4						
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**02 07 22.3**	**+0.9**
	comp=Z,112nm,1.0s,mb5.5						
LSA	**Lhasa**	**28.80**	**349**	P	**P**	**02 07 24.6**	**+2.1**
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**02 07 22.7**	**+0.2**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**02 07 22.7**	**+0.2**
	comp=Z,28nm,0.8s,mb5.0						
GKN	**Gorkha**	**29.11**	**337**	*e*P	**P**	**02 07 26.2**	**+0.9**
	comp=Z,140nm,1.0s,mb5.7						
KOLN	**Koldanda**	**29.33**	**335**	*e*P	**P**	**02 07 28.6**	**+1.3**
	comp=Z,85nm,0.8s,mb5.5						
CD2	**Chengdu**	**30.09**	**11**	*e*P	**P**	**02 07 33.3**	**-0.7**
CD2				AP	pP	02 07 40.6	-1.4
CD2				XP	sP	02 07 43.6	-1.7
CD2				PP	PP	02 08 30.9	-11
CD2				S	**S**	**02 12 26.6**	**-4.3**
CD2				XS	sS	02 12 40.9	-3.1
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CD2				AMB	AMB		
	comp=Z,120nm,5.5s						
CD2				LR	LR		
	comp=N,950nm,15.6s,MS4.9						
CD2				LR	LR		
	comp=E,2μm,15.0s,MS4.9						
CD2				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
QZH	**Quanzhou**	**31.32**	**40**	*e*P	**P**	**02 07 47.1**	**+2.3**
QZH				S	**S**	**02 12 51.8**	**+1.7**
QZH				LR	LR		
	comp=N,1μm,12.8s,MS5.0						
QZH				LR	LR		
	comp=E,2μm,14.8s,MS5.0						
QZH				LR	LR		
	comp=Z,2μm,14.5s,MS5.0						
MBWA	**Marble Bar**	**31.42**	**137**	*e*P	**P**	**02 07 46.5**	**+0.7**
	comp=Z,30nm,1.3s,mb5.0						
SONA	**Sohna**	**32.94**	**326**	*e*P	**P**	**02 07 58.6**	**-0.5**
SONA				AMb	AMB	02 08 04.9	
	comp=Z,18nm,0.6s,mb5.2						
AYAN	**Aya Nagar**	**33.10**	**327**	*e*P	**P**	**02 08 00.6**	**+0.1**
AYAN				AMb	AMB	02 08 01.8	
	comp=Z,10nm,0.4s,mb5.1						
WHN	**Wuhan**	**33.34**	**28**	P	**P**	**02 08 02.5**	**0.0**
FITZ	**Fitzroy Crossi**	**34.04**	**126⇑**	*i*P	**P**	**02 08 07.5**	**-1.2**
	comp=Z,9.4nm,0.7s,mb4.8						
XAN	**Xi'an**	**34.37**	**17**	P	**P**	**02 08 10.0**	**-1.5**
XAN				AP	pP	02 08 16.3	-3.2
XAN				S	**S**	**02 13 44.1**	**+6.6**
XAN				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.0						
XAN				LR	LR		
	comp=N,627nm,15.2s,MS4.7						
XAN				LR	LR		
	comp=E,777nm,16.2s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,14.2s,MS4.8						
KLP	**Kalpa**	**34.96**	**331**	*e*P	**P**	**02 08 17.3**	**+0.7**
KLP				AMb	AMB	02 08 22.3	
	comp=Z,29nm,1.1s,mb5.1						
KLP				*e*S	**S**	**02 13 49.4**	**+2.8**
LZH	**Lanzhou**	**35.15**	**9**	*e*P	**P**	**02 08 18.8**	**+0.6**
LZH				PP	PP	02 09 40.0	+1.8
LZH				*e*S	**S**	**02 13 45.0**	**-4.6**
LZH				PCS	PcS	02 14 29.9	-6.2
LZH				*e*SS	SS	02 16 05.0	-18
LZH				AMB	AMB		
	comp=Z,67nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,16.1s						
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
LZH	**Lanzhou**	**35.15**	**9**	*e*P	**P**	**02 08 18.7**	**+0.5**
LZH						02 09 40.0	
LZH				*e*S	**S**	**02 13 45.0**	**-4.6**
LZH				*e*SS	SS	02 16 05.0	-18
LZH				pmax	pmax		
	comp=Z,67nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.8						
LZH	**Lanzhou**	**35.15**	**9**	*e*P	**P**	**02 08 18.7**	**+0.5**
	comp=Z,67nm,1.5s,mb5.3						
LZH				pP	pP	02 08 38.4	+12
LZH				sP	sP	02 08 46.5	+17
LZH				PP	PP	02 09 40.0	+1.8
LZH				*e*S	**S**	**02 13 45.0**	**-4.6**
LZH				sS	sS	02 14 21.0	+18
LZH				ScP	ScP	02 14 22.5	-10
LZH				PcS	PcS	02 14 29.9	-6.2
LZH				*e*SS	SS	02 16 05.0	-18
LZH				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
NJ2	**Nanjing**	**36.79**	**32**	*e*P	**P**	**02 08 30.8**	**-1.5**
NJ2				AP	pP	02 08 40.0	-0.4
NJ2				XP	sP	02 08 45.1	+1.4
NJ2				PP	PP	02 09 55.1	-1.2
NJ2				S	**S**	**02 14 13.0**	**-1.8**
NJ2				XS	sS	02 14 30.0	+2.0
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,17.0s,MS4.7						
NJ2				LR	LR		
	comp=E,410nm,15.2s,MS4.7						
NJ2				LR	LR		
	comp=Z,8μm,17.4s,MS5.5						
SSE	**Sheshan**	**37.35**	**35**	P	**P**	**02 08 38.4**	**+1.3**
SSE				XP	sP	02 08 51.3	+2.9
SSE				S	**S**	**02 14 24.4**	**+1.2**
SSE				PCS	PcS	02 14 45.6	+1.4
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,95nm,5.8s						
SSE				LR	LR		
	comp=N,541nm,19.5s,MS4.4						
SSE				LR	LR		
	comp=E,275nm,19.5s,MS4.4						
SSE				LR	LR		
	comp=Z,422nm,17.2s,MS4.3						
SSE	**Sheshan**	**37.35**	**35**	P	**P**	**02 08 38.4**	**+1.3**
	comp=Z,39nm,0.7s,mb5.3						
SSE				sP	sP	02 08 51.2	+2.8
SSE				S	**S**	**02 14 24.4**	**+1.2**
SSE				PcS	PcS	02 14 45.6	+1.4
SSE				LR	LR		
	comp=Z,420nm,17.2s,MS4.3						
KAKA	**Kakadu**	**37.70**	**113**	*e*P	**P**	**02 08 38.4**	**-1.6**
	comp=Z,16nm,0.8s,mb4.8						
GTA	**Gaotai**	**37.99**	**3**	P	**P**	**02 08 42.5**	**0.0**
GTA				AP	pP	02 08 50.0	-0.5
GTA				XP	sP	02 08 53.3	-0.5
GTA				PP	PP	02 10 13.0	+3.5
GTA				S	**S**	**02 14 32.9**	**0.0**
GTA				XS	sS	02 14 44.8	-1.4
GTA				SS	SS	02 17 09.8	-11
GTA				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,120nm,8.4s						
GTA				LR	LR		
	comp=N,637nm,13.7s,MS4.7						
GTA				LR	LR		
	comp=E,564nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=Z,724nm,14.9s,MS4.6						
NWAO	**Narrogin (SRO)**	**38.99**	**153**	P	**P**	**02 08 52.2**	**+1.4**
	comp=Z,8.4nm,1.0s,mb4.4,baz=274,slow=14,SNR=3.3						
HHC	**Hu-ho-hao-te**	**41.46**	**17**	*e*P	**P**	**02 09 12.3**	**+0.9**
HHC				AP	pP	02 09 19.4	-0.1
HHC				XP	sP	02 09 22.8	+0.1
HHC				PCP	PcP	02 11 08.6	-0.2
HHC				PCS	PcS	02 14 57.8	-2.3
HHC				S	**S**	**02 15 27.3**	**+2.3**
HHC				XS	sS	02 15 42.3	+4.0
HHC				SS	SS	02 18 28.3	-1.4
HHC				SCS	ScS	02 19 07.5	-5.7
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,160nm,5.7s						
HHC				LR	LR		
	comp=N,878nm,16.3s,MS4.8						
HHC				LR	LR		
	comp=E,619nm,14.7s,MS4.8						
HHC				LR	LR		
	comp=Z,971nm,15.5s,MS4.8						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**02 09 16.5**	**-0.4**
	comp=Z,7.5nm,0.7s,mb4.5,baz=300,slow=9.1,SNR=47						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**02 09 15.7**	**-1.3**
WB2	**Warramunga Arr**	**42.16**	**122⇑**	*i*P	**P**	**02 09 16.3**	**-0.7**
BJT	**Baijiatuau**	**42.23**	**22**	*e*

comp=Z,37nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,98nm,4.0s
WMQ LR LR
comp=N,523nm,18.0s,MS4.7
WMQ LR LR
comp=E,620nm,15.3s,MS4.7
WMQ LR LR
comp=Z,682nm,23.0s
WSAR Wadi Sarin 43.24 303 P **P** **02 09 25.8 0.0**
comp=Z,1.7nm,1.0s,mb3.7,baz=85,slow=11,SNR=1.9
ASPA Alice Springs 43.51 127 *e*P **P** **02 09 28.2 +0.2**
ASAR Alice Springs 43.51 127 P **P** **02 09 28.2 +0.2**
comp=Z,6.4nm,0.8s,mb4.4,baz=301,slow=7.3,SNR=48
ASAR PcP PcP 02 11 16.7 +1.1
comp=Z,2.6nm,0.9s,baz=299,slow=3.5,SNR=5.4
AS31 Alice Springs 43.51 127 *e*P **P** **02 09 28.2 +0.2**
DL2 Dalian 43.60 28 P **P** **02 09 29.1 +0.4**
DL2 *e*S **S** **02 15 58.5 +2.1**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
DL2 AMB AMB
comp=Z,100nm,4.2s
DL2 LR LR
comp=N,320nm,18.8s,MS4.4
DL2 LR LR
comp=E,240nm,17.4s,MS4.4
DL2 LR LR
comp=Z,290nm,16.0s,MS4.3
UCH Uchtor 45.52 336 P **P** **02 09 45.8 +1.8**
SNR=17
TKM2 Tokmak 2 45.69 338 P **P** **02 09 46.1 +0.8**
SNR=7.2
KBK Karagaybulak 45.71 337 P **P** **02 09 47.1 +1.6**
SNR=11
AAK Ala-Archa 45.87 337 *e*P **P** **02 09 46.4 -0.4**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.8
AAK Ala-Archa 45.87 337 *e*P **P** **02 09 46.4 -0.5**
comp=Z,16nm,1.3s,mb4.8
FRU Bishkek 45.99 337 *e*P **P** **02 09 49.0 +1.2**
EKS2 Erkin-Say 46.18 336 P **P** **02 09 50.6 +1.3**
SNR=6.0
USP Ospenovka 46.40 337 P **P** **02 09 51.7 +0.7**
SNR=23
SNY Shenyang 46.82 27 ⇓P **P** **02 09 54.1 -0.2**
SNY AP pP 02 10 04.4 +1.9
SNY XP sP 02 10 07.9 +2.1
SNY S **S** **02 16 41.3 -1.7**
SNY XS sS 02 16 57.1 +0.6
SNY AMB AMB
comp=Z,12nm,1.2s,mb4.7
SNY AMB AMB
comp=Z,249nm,3.7s
SNY LR LR
comp=N,595nm,15.5s
SNY LR LR
comp=Z,738nm,15.7s,MS4.8
SONM Songino Array 47.02 9 P **P** **02 09 56.1 +0.3**
comp=Z,21nm,0.8s,mb5.1,baz=187,slow=8.7,SNR=127
SONM PcP PcP 02 11 27.9 +0.1
comp=Z,3.3nm,0.8s,baz=196,slow=3.8,SNR=3.5
MK31 Makanchi Array 47.11 346 *i* P **P** **02 09 56.6 0.0**
MK31 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MK31 Makanchi Array 47.11 346 *e*P **P** **02 09 56.7 +0.1**
MKAR Makanchi Array 47.11 346 P **P** **02 09 57.0 +0.4**
comp=Z,14nm,0.8s,mb5.0,baz=156,slow=7.9,SNR=75
MKAR LR LR 02 33 30.8
comp=Z,167nm,20.5s,MS4.0,baz=164,slow=41
MKAR Makanchi Array 47.11 346 *i* P **P** **02 09 56.6 0.0**
MKAR pmax pmax
comp=Z,16nm,0.8s
ZAK Zakamensk 49.16 5 *e*P **P** **02 10 12.4 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CN2 Changchun 49.23 27 *e*P **P** **02 10 12.1 -0.8**
CN2 *e*S **S** **02 17 15.3 -1.7**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.8
CN2 LR LR
comp=E,600nm,16.0s,MS4.8
CN2 LR LR
comp=Z,700nm,16.0s,MS4.8
TLY Talaya 50.48 5 *e*P **P** **02 10 22.5 +0.1**
TLY *e* 02 12 19.4
TLY *e*S **S** **02 17 45.3 +11**
TLY *e*SS SS 02 21 10.1 +1.5
TLY pmax pmax
comp=Z,13nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,466nm,16.0s,MS4.6
TLY Talaya 50.48 5 *e*P **P** **02 10 23.1 +0.6**
comp=Z,12nm,0.8s,mb5.0
PMG Port Moresby 50.94 103 *e*P **P** **02 10 25.3 -0.6**
HIA Hailar 51.55 19 *e*P **P** **02 10 30.1 -0.3**
HIA Hailar 51.55 19 *e*P **P** **02 10 30.2 -0.2**
MJAR Matsushiro Arr 51.64 42 P **P** **02 10 30.0 -1.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=226,slow=6.7,SNR=9.8
KURK Kurchatov 51.66 345 P **P** **02 10 31.5 +0.2**
comp=Z,119nm,1.0s,mb5.8,SNR=12
MDJ Mudanjiang 51.79 29 P **P** **02 10 33.1 +0.8**
MDJ AP pP 02 10 38.4 -2.2
MDJ XP sP 02 10 40.8 -3.0
MDJ PP PP 02 12 30.9 +0.8
MDJ SCP ScP 02 15 41.3 +1.2
MDJ PCS PcS 02 15 43.8 +0.6
MDJ S **S** **02 17 56.1 +3.4**
MDJ XS sS 02 18 05.3 -1.0
MDJ AMB AMB
comp=Z,19nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,105nm,7.2s
MDJ LR LR
comp=N,242nm,23.6s,MS4.2
MDJ LR LR
comp=E,168nm,24.2s,MS4.2
MDJ LR LR
comp=Z,195nm,23.6s,MS4.1
VLA Vladivostok 51.90 32 *e*P **P** **02 10 32.2 -0.9**
VLA pmax pmax
comp=Z,65nm,1.4s,mb5.4
VLA Vladivostok 51.90 32 *e*P **P** **02 10 32.3 -0.8**
CIT Chita 52.37 13 *e*P **P** **02 10 37.3 +0.7**
CIT *e* pP 02 10 43.9 -0.9
CIT *e* 02 10 51.7
CTA Charters Tower 52.60 117 P **P** **02 10 38.8 +0.5**
comp=Z,13nm,1.0s,mb4.8,baz=334,slow=8.0,SNR=3.7
CTA LR LR 02 36 16.0
comp=Z,194nm,18.9s,MS4.2,baz=31,slow=40
OPO Ambohidratompo 52.92 246 P **P** **02 10 39.9 -0.8**
comp=Z,2.4nm,0.9s,mb4.1,baz=70,slow=15,SNR=2.7
ZAL Zalesovo 53.42 351 P **P** **02 10 44.1 -0.3**
comp=Z,17nm,0.8s,mb5.0,baz=308,slow=5.7,SNR=83
ZAL Zalesovo 53.42 351 *i* P **P** **02 10 44.2 -0.2**
ZAL *i* 02 18 27.5
ZAL pmax pmax
comp=Z,17nm,0.8s
ZAL pmax pmax
comp=Z,1.0nm,0.3s
STKA Stephens Creek 53.48 132 ⇑*i*P **P** **02 10 45.4 +0.7**
comp=Z,8.0nm,0.6s,mb4.8
STKA Stephens Creek 53.48 132 P **P** **02 10 44.6 -0.1**
comp=Z,12nm,0.9s,mb4.8,baz=298,slow=4.8,SNR=12
NVS Novosibirsk 54.55 350 *e*P **P** **02 10 51.1 -1.5**
NVS *e* 02 11 02.9
NVS *e*S **S** **02 18 28.7 -1.5**
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,23nm,0.9s,mb5.2
NVS pmax pmax
comp=N,22nm,1.5s
NVS smax
comp=N,27nm,2.1s
RDF Al-Radifah 54.62 305 *e*P **P** **02 10 59.9 +6.9**
RDF AMb AMB 02 11 02.7
comp=Z,62nm,1.2s,mb5.5
NAY Al-Naaiem 54.98 305 *e*P **P** **02 11 01.6 +5.9**
NAY AMb AMB 02 11 05.0
comp=Z,25nm,0.8s,mb5.3
MIB Mutribah 55.10 306 *e*P **P** **02 11 03.1 +6.5**
MIB AMb AMB 02 11 06.2
comp=Z,66nm,0.9s,mb5.7
VOSK Vostochnaya 55.67 341 P **P** **02 10 59.9 -0.8**
BVA0 Borovoye Array 56.12 341 *i* P **P** **02 11 03.0 -0.9**
BVAR Borovoye Array 56.12 341 P **P** **02 11 03.1 -0.7**
comp=Z,16nm,0.7s,mb5.1,baz=144,slow=8.4,SNR=84
KLR Kul'dur 56.17 27 *e*P **P** **02 11 01.7 -2.6**
KLR pmax pmax
comp=E,32nm,1.0s
KLR pmax pmax
comp=Z,52nm,1.0s,mb5.5
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
BRVK Borovoye 56.18 341 *e*P **P** **02 11 03.1 -1.2**
BRVK pmax pmax
comp=Z,17nm,0.9s,mb5.1
BRVK Borovoye 56.18 341 *e*P **P** **02 11 03.1 -1.2**
comp=Z,17nm,0.9s,mb5.1
ZRNK Zerenda 56.52 340 *e*P **P** **02 11 05.7 -1.0**
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb4.9
ZRNK Zerenda 56.52 340 *e*P **P** **02 11 05.7 -1.1**
comp=Z,12nm,0.9s,mb4.9
CHKZ Chkalovo 56.60 341 *i* P **P** **02 11 06.6 -0.7**
CHKZ Chkalovo 56.60 341 *e*P **P** **02 11 06.7 -0.6**
comp=Z,31nm,0.8s,mb5.4
BOD Bodaibo 57.91 11 *e*P **P** **02 11 15.8 -0.7**
BOD pmax pmax
comp=Z,24nm,1.1s,mb5.1
AKTK Aktyubinsk 59.10 332 P **P** **02 11 23.7 -1.1**
AKTO Aktyubinsk 59.10 332 P **P** **02 11 23.7 -1.1**
comp=Z,10nm,0.8s,mb4.9,baz=129,slow=6.8,SNR=38
AKTO Aktyubinsk 59.10 332 *i* P **P** **02 11 23.6 -1.3**
AKTO pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
KMBO Kilima Mbogo 59.94 268 P **P** **02 11 30.8 +0.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=66,slow=19,SNR=3.3
KMBO LR LR 02 36 23.9
comp=Z,182nm,18.1s,MS4.2,baz=274,slow=35
KMBO Kilima Mbogo 59.94 268 *e*P **P** **02 11 31.3 +0.7**
YSS Yuzh-Sakhalins 60.28 34 *e*P **P** **02 11 32.3 -0.7**
YSS pmax pmax
comp=Z,60nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 60.28 34 *e*P **P** **02 11 33.1 +0.1**
comp=Z,60nm,1.2s,mb5.5
ARMA Armidale 60.65 126 *e*P **P** **02 11 38.2 +2.7**
GNI Garni 61.17 316 *e*P **P** **02 11 38.7 -0.3**
GNI pmax pmax
comp=Z,22nm,1.1s
GNI Garni 61.17 316 *e*P **P** **02 11 39.5 +0.4**
comp=Z,27nm,1.0s,mb5.3
ORR Orenburg 61.43 331 *e*P **P** **02 11 39.0 -1.8**
ORR pmax pmax
comp=Z,20nm,1.3s,mb5.1
ZEI Tsey 62.87 318 *e*P **P** **02 11 50.9 +0.4**
ZEI *e**PP pP 02 11 59.1 +0.2
ARU Arti 63.05 337 ⇓*i*P **P** **02 11 50.3 -1.4**
ARU *e*PPP 02 15 35.7
ARU *e*S **S** **02 20 20.4 -0.2**
ARU *e*SS SS 02 24 29.2 +2.7
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.2
ARU Arti 63.05 337 *e*P **P** **02 11 50.2 -1.5**
comp=Z,14nm,0.9s,mb5.1
ARU *e*pP pP 02 11 58.3 -1.8
KIV Kislovodsk 64.18 319 *e*P **P** **02 11 58.9 -0.2**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.1
KIV Kislovodsk 64.18 319 *e*P **P** **02 11 59.1 0.0**
comp=Z,24nm,1.0s,mb5.2
KIV *e*pP pP 02 12 07.1 -0.5
ASF Jabal al Asfar 64.35 305 P **P** **02 12 00.9 +0.6**
comp=Z,2.3nm,0.9s,mb4.2,baz=8.8,slow=7.5,SNR=4.5
MALT Malatya 65.01 312 *e*P **P** **02 12 04.9 +0.4**
MALT *e**PP pP 02 12 13.2 +0.2
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MALT Malatya 65.01 312 *e*P **P** **02 12 04.9 +0.4**
comp=Z,10nm,1.2s,mb4.7
MALT *e*pP pP 02 12 13.2 +0.2
YAK Yakutsk 65.32 16 *e*P **P** **02 12 05.5 -1.1**
YAK pmax pmax
comp=Z,127nm,1.2s,mb5.8
YAK Yakutsk 65.32 16 *e*P **P** **02 12 05.3 -1.3**
comp=Z,62nm,0.8s,mb5.7
YAK *e*pP pP 02 12 13.0 -2.0
EIL Elat 65.34 302 *e*P **P** **02 12 07.4 +0.7**
VRHR Novokhopersk 68.00 326 *e*P **P** **02 12 22.4 -1.2**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,8.0nm,0.4s
BRTR Keskin Array B 68.99 312 P **P** **02 12 28.8 -1.0**
comp=E,1.7nm,0.7s,mb4.1,baz=122,slow=6.5,SNR=9.0
BRTR Keskin Array B 68.99 312 P **P** **02 12 28.8 -1.0**
VRSR Storozhevoye 69.43 325 *e*P **P** **02 12 30.8 -1.7**
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,1.0s
MATP Matopo 70.52 248 P **P** **02 12 40.2 +1.0**
comp=N,4.0nm,0.9s,mb4.4,baz=94,slow=9.0,SNR=6.8
MA2 Magadan 71.25 26 *e*P **P** **02 12 43.2 -0.5**
MA2 pmax pmax
comp=Z,19nm,0.8s,mb5.1
MA2 Magadan 71.25 26 *e*P **P** **02 12 43.2 -0.4**
comp=Z,19nm,0.8s,mb5.1
OBN Obninsk 72.49 328 ⇓*e*P **P** **02 12 50.4 -0.7**
OBN *e* 02 15 32.5
OBN pmax pmax
comp=Z,26nm,1.2s,mb5.0
MAW Mawson 72.81 193 P **P** **02 12 52.8 -0.2**
comp=Z,1.5nm,0.6s,mb4.1,baz=61,slow=6.6,SNR=3.8
SEY Seymchan 73.68 23 *e*P **P** **02 12 57.5 -0.6**
LBTB Lobatse 73.89 244 *e*P **P** **02 13 00.1 +0.7**
LBTB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LBTB Lobatse 73.89 244 *e*P **P** **02 13 00.1 +0.7**
comp=Z,8.0nm,1.0s,mb4.6
BOSA Boshof 74.79 240 P **P** **02 13 05.2 +0.5**
comp=Z,1.5nm,0.7s,mb4.0,baz=106,slow=7.4,SNR=3.5
AKASG Malin Array Be 75.13 322 P **P** **02 13 05.2 -1.4**
comp=Z,3.7nm,0.7s,mb4.4,baz=91,slow=4.8,SNR=17
AKASG Malin Array Be 75.13 322 *i* P **P** **02 13 05.1 -1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 75.13 322 *e*P **P** **02 13 05.1 -1.5**
AKBB *e**PP pP 02 13 13.2 -2.0
VRI Vrincioaia 75.49 317 ⇓P **P** **02 13 09.2 +0.5**
MLR Muntele Rosu 75.94 317 P **P** **02 13 10.2 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=231,slow=9.9,SNR=4.0
MLR Muntele Rosu 75.94 317 ⇓P **P** **02 13 11.3 +0.1**
BURAR Bucovina Array 76.90 319 ⇑P **P** **02 13 17.1 +0.4**
JOF Joensuu 78.02 335 *ep* **P** **02 13 20.6 -2.3**
comp=Z,12nm,0.9s,mb4.8
KWP Kalwaria 78.94 320 *e*P **P** **02 13 27.6 -0.4**
KOLS Kolonicke sedl 79.09 320 *e*P **P** **02 13 29.5 +0.7**
SUW Suwalki 79.55 325 *e*P **P** **02 13 30.6 -0.7**
CRVS Cervenica-Dubn 79.61 319 *e*P **P** **02 13 32.6 +0.9**
STHS Stebnicka Huta 79.84 320 *e*P **P** **02 13 34.1 +1.2**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 79.84 320 *e*P **P** **02 13 34.1 +1.2**
comp=Z,3.6nm,0.9s,mb4.3
FINES FINESS Array B 79.87 333 P **P** **02 13 32.0 -1.0**
comp=Z,5.0nm,0.8s,mb4.5,baz=101,slow=6.2,SNR=9.2
FINES FINESS Array B 79.87 333 *i* P **P** **02 13 32.0 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 79.95 333 *ep* **P** **02 13 32.0 -1.5**
comp=Z,12nm,0.7s,mb4.9,baz=102,slow=5.0
KAF Kangasniemi 79.95 333 *e*P **P** **02 13 32.0 -1.5**
KAF pmax pmax
comp=Z,12nm,0.7s,mb4.9
SYO Syowa Base 80.10 198 ⇑*e*PcP PcP 02 13 41.2 -0.4
KECS Kecovo 80.18 319 *e*P **P** **02 13 34.9 +0.2**
KECS Kecovo 80.18 319 *e*P **P** **02 13 35.0 +0.3**
KECS pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
KECS Kecovo 80.18 319 *e*P **P** **02 13 35.0 +0.3**
comp=Z,1.4nm,0.8s,mb3.9
PSZ Piszkesteto 80.48 318 *e*P **P** **02 13 36.3 -0.1**
PSZ pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
PSZ Piszkesteto 80.48 318 *e*P **P** **02 13 36.3 0.0**
comp=Z,10nm,1.2s,mb4.6
TSUM Tsumeb 80.58 250 P **P** **02 13 38.1 +1.2**
comp=Z,2.6nm,0.9s,mb4.2,baz=98,slow=14,SNR=2.6
TSUM Tsumeb 80.58 250 *e*P **P** **02 13 38.6 +1.8**
comp=Z,8.2nm,1.0s,mb4.6
PKSM Moragy 81.09 316 ⇑P **P** **02 13 39.3 -0.3**
VYHS Vyhne 81.27 319 *e*P **P** **02 13 40.3 -0.3**
VYHS pmax pmax
comp=Z,36nm,2.8s,mb4.8
VYHS Vyhne 81.27 319 *e*P **P** **02 13 40.3 -0.3**
comp=Z,36nm,2.8s,mb4.8
MORC Moravsky Berou 82.28 320 *e*P **P** **02 13 45.8 -0.1**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MORC Moravsky Berou 82.28 320 *e*P **P** **02 13 45.8 -0.1**
comp=Z,3.9nm,0.8s,mb4.4
ZST Bratislava 82.38 318 *e*P **P** **02 13 45.8 -0.6**
ZST pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZST Bratislava 82.38 318 *e*P **P** **02 13 45.8 -0.6**
comp=Z,6.8nm,0.9s,mb4.6
ARCES ARCESS Array B 82.41 340 P **P** **02 13 45.8 -0.8**
comp=Z,7.3nm,0.8s,mb4.6,baz=81,slow=7.6,SNR=5.8
ARSA Arzberg 83.34 317 ⇑*i*P **P** **02 13 51.6 +0.2**
comp=Z,2.6nm,0.7s,mb4.4
BOJS Bojanci 83.37 316 *e*P **P** **02 13 51.6 +0.1**
PERS Pernice 83.56 317 *e*P **P** **02 13 53.1 +0.5**
PERS *i* pP 02 14 02.4 +1.2
GEC2 GERESS Array S 84.69 319 *e*P **P** **02 13 58.5 +0.2**
GERES GERESS Array B 84.69 319 P **P** **02 13 57.8 -0.4**
comp=Z,2.6nm,0.8s,mb4.4,baz=101,slow=4.2,SNR=18
KHC Kasperske Hory 84.79 319 *e*P **P** **02 13 57.7 -1.1**
CLL Collm 85.31 321 *e*P **P** **02 14 01.0 -0.4**
comp=Z,7.0nm,1.2s,mb4.7
CLL LmV 03 22 00.0
comp=Z,200nm,19.2s
HFS Hagfors 85.59 330 P **P** **02 14 02.8 0.0**
comp=Z,5.0nm,1.1s,mb4.7,baz=102,slow=13,SNR=3.9
VNDA Vanda 85.95 169 P **P** **02 14 04.3 -0.3**
comp=Z,2.1nm,0.9s,mb4.4,baz=274,slow=7.5,SNR=3.7
VNDA Vanda 85.95 169 *e*P **P** **02 14 04.6 0.0**
VNDA pmax pmax
comp=Z,11nm,1.2s
VNDA Vanda 85.95 169 *e*P **P** **02 14 04.6 0.0**
comp=Z,11nm,1.2s,mb5.0
GRA1 Grafenberg Arr 86.36 320 *e*P **P** **02 14 06.2 -0.4**
comp=Z,48nm,1.8s,mb5.4
GRF Grafenberg Arr 86.36 320 *e*P **P** **02 14 06.2 -0.4**
comp=Z,48nm,1.8s,mb5.4
GRF Grafenberg Arr 86.36 320 *e*P **P** **02 14 06.2 -0.4**
GRF pmax pmax
comp=Z,48nm,1.8s,mb5.4
GRF Grafenberg Arr 86.36 320 *e*P **P** **02 14 06.2 -0.4**
GRF pmax pmax
comp=Z,48nm,1.8s,mb5.4
NB2 NORSAR Subarra 86.88 331 P **P** **02 14 08.2 -0.9**
comp=Z,2.0nm,0.8s,mb4.4,baz=95,slow=4.8
NB2 NORSAR Subarra 86.88 331 P **P** **02 14 08.2 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
NOA NORSAR Array B 86.88 331 P **P** **02 14 08.5 -0.6**
comp=Z,3.4nm,0.8s,mb4.6,baz=94,slow=5.0,SNR=10.0
DAVOX Davos/Dischmat 87.17 317 P **P** **02 14 09.5 -1.1**
comp=Z,2.6nm,0.7s,mb4.5,baz=117,slow=16,SNR=3.8
KEST Kesra 87.45 306 P **P** **02 14 13.1 +1.2**
comp=Z,1.2nm,0.8s,mb4.2,baz=263,slow=17,SNR=4.3
LPG La Plagne 89.34 315 *e*P **P** **02 14 20.6 -0.3**
comp=Z,11nm,1.0s,mb4.9
LPG La Plagne 89.34 315 *e*P **P** **02 14 20.6 -0.3**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
LPG La Plagne 89.34 315 *e*P **P** **02 14 20.6 -0.3**
comp=Z,5.7nm,1.0s,mb4.9
NVL N'lazarevskaya 89.68 199 *c* *i*P pP 02 14 31.2 0.0
NVL pmax pmax
comp=Z,19nm,0.9s,mb5.4
QSPA South Pole Qui 91.26 180 *e*P **P** **02 14 36.5 +6.7**
comp=Z,7.7nm,1.1s,mb5.0
DLMT Dillon 126.57 26 *e*PKPdf PKPdf 02 20 28.3 +0.8
NVAR Mina Array Bea 128.72 36 PKP PKPdf 02 20 33.9 +2.2
comp=Z,1.2nm,0.9s,baz=262,slow=2.7,SNR=7.3
LOHW Long Hollow 128.83 26 *e*PKPdf PKPdf 02 20 33.0 +1.2
BW06 Boulder Array 129.96 26 *e*PKPdf PKPdf 02 20 34.1 +0.1
PDAR Pinedale Array 129.96 26 PKP PKPdf 02 20 34.8 +0.8
comp=Z,0.5nm,0.7s,baz=39,slow=0.9,SNR=4.4
DUG Dugway 130.45 30 *e*PKIKP PKPdf 02 20 36.5 +1.6
ANMO Albuquerque 137.69 29 *i*PKIKP PKPdf 02 20 49.5 +1.0
PLCA Paso Flores 139.21 194 PKP PKPdf 02 20 51.6 +0.3
comp=Z,0.9nm,0.9s,baz=236,slow=3.6,SNR=2.1
MNTX Cornudas Mount 140.83 31 *e*PKPdf PKPdf 02 20 55.1 +0.9
TXAR Lajitas Array 143.60 32 PKP PKPdf 02 20 57.3 -1.8
comp=Z,1.5nm,0.8s,baz=353,slow=2.2,SNR=13
JCT Junction City 144.50 26 *e*PKIKP PKPdf 02 20 59.6 -1.1
CPUP Villa Florida 145.05 222 *e*PKPbc PKPbc 02 21 02.2 +1.1
comp=Z,2.2nm,0.7s,baz=98,slow=3.8,SNR=8.1
CPUP Villa Florida 145.05 222 *e*PKPbc PKPbc 02 21 02.1 +0.9
CPUP *e* 02 21 08.9
SAML Samuel 159.00 248 *e*PKPdf PKPdf 02 21 21.9 -0.4
SAML *e*PKPab PKPab 02 22 00.2 +1.3
LPAZ La Paz 159.22 223 *e*PKPdf PKPdf 02 21 24.5 +1.9
OTAV Otavalo 175.33 289 *e*PKPdf PKPdf 02 21 36.2 +1.9

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*NEIC **18** 02:07:47.8, 3262S×7168W, h20km, ML3.4(GUC), After GUC.*

GUC 18 02:07:47.8±0.8, 3262S×7168W, h20km±5km, MD4.2, ML3.4, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
PACH	**Papudo**	**0.22**	**68**	⇓*i*P	Pg	02 07 53.7	+0.5
PACH				*i* S	Sg	02 07 57.6	+0.8
IHA	**Instituto Hidr**	**0.41**	**176**	*e*P	Pg	02 07 56.1	-0.2
IHA				*e* S	Sg	02 08 02.2	+0.1
ROCH	**El Roble**	**0.66**	**123**	⇑*i*P	Pb	02 08 00.7	0.0
ROCH				*i* S	Sb	02 08 10.5	+1.0
PTCH	**Petorca**	**0.72**	**61**	⇓*i*P	Pb	02 08 00.8	-0.9
PTCH				*i* S	Sb	02 08 11.0	-0.2
PTCH				AML	AML	02 08 13.1	
	comp=N,6μm,0.3s						
PTCH	**Petorca**	**0.72**	**61**	⇓*i*P	Pb	02 08 00.8	-0.9
PTCH				*i* S	Sb	02 08 11.0	-0.2
LCCH	**Las Cruces**	**0.86**	**174**	*e*P	Pb	02 08 03.2	-0.9
LCCH				*i* S	Sb	02 08 14.6	-0.5
JACH	**Jahuel**	**0.92**	**94**	⇑*i*P	Pb	02 08 04.2	-0.8
JACH				*i* S	Sb	02 08 17.1	+0.4
PEL	**Peldehue**	**0.98**	**123**	⇑*i*P	Pb	02 08 05.7	-0.5
PEL				*i* S	Sb	02 08 18.6	-0.1
PEL				AML	AML	02 08 21.8	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**0.98**	**123**	⇑*i*P	Pb	02 08 05.7	-0.5
PEL				*i* S	Sb	02 08 18.6	-0.1
RCDM	**Rinconada Maip**	**1.14**	**140**	*e*P	Pn	02 08 07.9	-0.7
RCDM				*i* S	Sb	02 08 23.6	+0.5
RCDM				AML	AML	02 08 25.2	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**1.14**	**140**	*e*P	Pn	02 08 07.9	-0.7
RCDM				S	Sb	02 08 23.6	+0.5
STL	**Santa Lucia**	**1.19**	**134**	*e*P	Pn	02 08 08.0	-1.4
STL				*i* S	Sb	02 08 24.3	-0.4
TACH	**Talagante**	**1.20**	**149**	⇓*i*P	Pn	02 08 09.4	-0.1
TACH				*i* S	Sb	02 08 24.3	-0.7
CLCH	**Cerro Calan**	**1.23**	**129**	*e*P	Pn	02 08 09.2	-0.7
CLCH				*i* S	Sb	02 08 25.9	0.0
CLCH				AML	AML	02 08 37.0	
	comp=N,1μm,0.6s						
LNV	**Longovilo**	**1.35**	**171**	⇑*i*P	Pn	02 08 10.5	-1.1
FCH	**Farellones**	**1.36**	**122**	⇓*i*P	Pn	02 08 11.9	+0.2
FCH				*i* S	Sn	02 08 30.5	+1.3
FCH				AML	AML	02 08 33.4	
	comp=N,475nm,0.6s						
PCH	**Pirque**	**1.40**	**136**	*i* P	Pn	02 08 12.1	-0.1
PCH				*i* S	Sn	02 08 30.4	+0.4
SJCH	**San Jose de Ma**	**1.51**	**133**	*e*P	Pn	02 08 13.5	-0.1
SJCH				*i* S	Sn	02 08 33.3	+0.6
SJCH				AML	AML	02 08 39.5	
	comp=N,412nm,0.4s						
SJCH	**San Jose de Ma**	**1.51**	**133**	*e*P	Pn	02 08 13.5	-0.1

SJCH				*i* S	Sn	02 08 33.3	+0.6
CMCH	**Combarbala**	**1.55**	**22**	⇑*i*P	Pn	02 08 12.2	-2.0
CHCH	**Chadas Angostu**	**1.57**	**147**	*e*P	Pn	02 08 15.1	+0.6
CACH	**El Canelo**	**1.75**	**149**	*e*P	Pn	02 08 18.2	+1.2
CACH				*i* S	Sn	02 08 41.6	+3.0
CICH	**Cipreses**	**2.00**	**149**	⇓*i*P	Pn	02 08 21.4	+1.0
SFDO	**San Fernando**	**2.07**	**165**	*e*P	Pn	02 08 21.4	+0.1
TLL	**Tololo Astrono**	**2.55**	**17**	*e*P	Pn	02 08 29.6	+1.5
TLL				*i* S	Sn	02 09 02.0	+3.4
TLL				AML	AML	02 09 16.6	
	comp=N,646nm,0.6s						
TLL	**Tololo Astrono**	**2.55**	**17**	*e*P	Pn	02 08 29.6	+1.5
TLL				*i* S	Sn	02 09 02.0	+3.4
ZON	**Zonda**	**2.76**	**68**	*e*P	Pn	02 08 33.2	+2.3

*IDC **18** 02:09:05.9±0.6, 6.14S×150.89E, h0km, mb4.5/11, mb1 4.7/11, mb1mx4.7/14, mbtmp4.5/11, MS4.5/14, Ms1 4.5/14, ms1mx4.3/18, Error ellipse: s-maj=20.8km s-min=12.6km az=125.0*

*BJI **18** 02:09:10.4, 6.58S×150.32E, h34km, mB5.2, mb4.7, Ms5.0, Msz4.8*

*NEIC **18** 02:09:11.4±0.3, 6.08S×150.99E, h35km, mb5.0/16, Error ellipse: s-maj=10.9km s-min=6.6km az=121.0*

*GCMT **18** 02:09:11.4±0.2, 6.42S×151.22E, h19km, MW5.3/93, Moment Tensor Solution. s78,c128; s93,c176; Duration: 1ŝ1 Moment tensor: Scale 10^17^Nm; Mrr0.72±.02; Mθθ-0.76±.01; Mφφ0.04±.01; Mrθ0.88±.04; Mθφ-0.17±.01; Mφr0.40±.04; Best double couple: M0 1.22800×10^17^ NP1:φs270.00000°, δ20.00000°, λ111.00000°. NP2:φs68.00000°, δ71.00000°, λ82.00000°. Principal axes: T 1.2020, Plg63.0000°, Azm326.0000°; N 0.0540, Plg7.0000°, Azm70.0000°; P -1.2550, Plg26.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **18** 02:09:12.4±1.6, 6.13S±006×150.92E±008, h57km±13km, mb4.7/24, MS4.5/16 Error ellipse: s-maj=13.6km s-min=8.8km az=61.4*

ISC 18 02:09:15.3±1.4, 6.19S±006×150.95E±007, h70km±11km, n72, σ0.98/59, mb4.6/24, 1C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.93**	**229**	Pn	**Pn**	**02 10 25.9**	**-0.9**
	8.4nm,0.3s,baz=52,slow=11,SNR=31						
PMG				Sn	**Sn**	**02 11 23.0**	**+0.6**
	38nm,0.3s,baz=110,slow=20,SNR=7.9						
PMG				LR	LR	02 11 41.2	
	comp=Z,2μm,18.6s,baz=46,slow=32						
PMG	**Port Moresby**	**4.93**	**229**	*e*P	**Pn**	**02 10 26.7**	**-0.1**
	155nm,0.8s						
CTA	**Charters Tower**	**14.55**	**198**	*e*P	**Pn**	**02 12 38.1**	**+0.7**
	24nm,1.4s						
CTA	**Charters Tower**	**14.55**	**198**	Pn	**Pn**	**02 12 37.2**	**-0.1**
	0.3nm,0.3s,baz=22,slow=17,SNR=2.7						
CTAO	**Charters Tower**	**14.55**	**198**	*e*P	**Pn**	**02 12 42.5**	**+5.1**
	116nm,1.7s						
KAKA	**Kakadu**	**19.36**	**249**	*e*P	**Pn**	**02 13 35.5**	**-1.4**
	24nm,0.5s						
GUMO	**Guam**	**20.55**	**343**	LR	LR	02 20 02.2	
	comp=Z,577nm,18.9s,baz=180,slow=32						
WRAB	**Tennant Creek**	**21.13**	**228**	*e*P	**P**	**02 13 54.4**	**0.0**
	44nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**21.14**	**228**	⇓*i*P	**P**	**02 13 54.3**	**-0.1**
WB2				*e*S	**S**	**02 17 43.4**	**-2.2**
WRA	**Warramunga Arr**	**21.15**	**228**	P	**P**	**02 13 54.3**	**-0.2**
	23nm,0.5s,mb4.8,baz=54,slow=11,SNR=126						
WRA				S	**S**	**02 17 46.5**	**+0.7**
	2.4nm,1.1s,baz=28,slow=16,SNR=13						
WRA				ScP	ScP	02 21 35.7	+7.2
	4.4nm,1.1s,baz=36,slow=2.1,SNR=5.5						
WRA				LR	LR	02 22 22.1	
	comp=Z,826nm,19.0s,baz=55,slow=38						
DZM	**Mont Dzumac**	**21.76**	**138**	P	**P**	**02 13 59.1**	**-2.0**
	26nm,1.0s,mb4.5,baz=118,slow=23,SNR=11						
DZM				LR	LR	02 20 51.1	
	comp=Z,3μm,19.2s,baz=345,slow=32						
AS31	**Alice Springs**	**23.89**	**222**	*e*P	**P**	**02 14 23.0**	**+0.7**
AS31				*e*S	**S**	**02 18 42.9**	**+9.4**
ASAR	**Alice Springs**	**23.89**	**222**	P	**P**	**02 14 22.9**	**+0.6**
	40nm,0.8s,mb4.8,baz=58,slow=9.0,SNR=310						
ASAR				S	**S**	**02 18 43.4**	**+10**
	3.2nm,1.0s,baz=44,slow=16,SNR=3.4						
ASAR				ScP	ScP	02 21 43.6	+8.0
	4.8nm,1.1s,baz=53,slow=2.5,SNR=11						
ASAR				LR	LR	02 23 46.5	
	comp=Z,1μm,18.2s,baz=150,slow=37						
ASPA	**Alice Springs**	**23.89**	**222**	*e*P	**P**	**02 14 23.0**	**+0.6**
ASPA				*e*S	**S**	**02 18 42.9**	**+9.3**
STKA	**Stephens Creek**	**27.01**	**198**	*e*P	**P**	**02 14 50.6**	**0.0**
	18nm,0.8s,mb4.6						
STKA				*e*S	**S**	**02 19 23.5**	**+0.4**
STKA	**Stephens Creek**	**27.01**	**198**	P	**P**	**02 14 50.8**	**+0.2**
	24nm,1.0s,mb4.7,baz=20,slow=9.7,SNR=12						
STKA				LR	LR	02 25 25.4	
	comp=Z,2μm,18.8s,baz=19,slow=36						
FITZ	**Fitzroy Crossi**	**27.38**	**242**	⇓*i*P	**P**	**02 14 54.5**	**+0.6**
	88nm,1.6s,mb5.0						
FITZ				*e*S	**S**	**02 19 23.0**	**-5.9**
FITZ	**Fitzroy Crossi**	**27.38**	**242**	P	**P**	**02 14 54.5**	**+0.6**
	17nm,0.8s,mb4.6,baz=67,slow=6.3,SNR=38						
FORT	**Forrest**	**32.55**	**218**	*e*P	**P**	**02 15 35.6**	**-4.1**
	14nm,1.0s,mb4.8						
JOW	**Kunigami**	**39.49**	**327**	LR	LR	02 32 26.5	
	comp=Z,629nm,18.4s,baz=314,slow=36						
KLBR	**Kellerberrin**	**40.02**	**227**	*e*P	**P**	**02 16 37.6**	**-5.6**
	67nm,1.7s,mb5.2						
MJAR	**Matsushiro Arr**	**44.15**	**345**	LR	LR	02 35 33.8	
	comp=Z,584nm,18.1s,baz=165,slow=36						
WHN	**Wuhan**	**50.62**	**318**	*e*P	**P**	**02 18 08.5**	**+1.4**
KMI	**Kunming**	**56.26**	**306**	P	**P**	**02 18 47.8**	**-0.6**
KMI				S	**S**	**02 26 32.0**	**-0.9**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KMI				LR	LR		
	comp=Z,347nm,21.6s						
KMI	**Kunming**	**56.26**	**306**	P	**P**	**02 18 47.7**	**-0.7**
	comp=Z,10.0nm,0.5s,mb5.1						
KMI				S	**S**	**02 26 32.0**	**-0.9**
KMI				LR	LR		
	comp=Z,350nm,21.6s						
CD2	**Chengdu**	**58.26**	**312**	*e*P	**P**	**02 19 03.8**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
PPT	**Papeete**	**59.08**	**107**	*e*LQ		02 34 04.3	
	comp=Z,621nm,23.0s						
PPT				*e*LR	LR	02 36 36.9	
	comp=Z,201nm,24.0s						
PPT	**Papeete**	**59.08**	**107**	LR	LR	02 39 02.2	
	comp=Z,339nm,18.7s,baz=304,slow=30						
TBI	**Tubuai**	**59.69**	**113**	*e*LQ		02 34 24.0	
	comp=Z,1μm,36.2s						
TBI				*e*LR	LR	02 36 53.8	
	comp=Z,659nm,34.5s						
LZH	**Lanzhou**	**60.96**	**317**	*e*P	**P**	**02 19 22.3**	**+1.2**
LZH				AP	pP	02 19 29.1	-10
LZH				XP	sP	02 19 32.3	-15
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,83nm,4.2s						
LZH				LR	LR		
	comp=E,432nm,16.0s						
LZH				LR	LR		
	comp=Z,710nm,17.1s						
LZH	**Lanzhou**	**60.96**	**317**	*e*P	**P**	**02 19 22.2**	**+1.1**
	comp=Z,23nm,1.2s,mb5.1						
LZH				pP	pP	02 19 29.1	-10
LZH				sP	sP	02 19 32.2	-15
LZH				LR	LR		
	comp=Z,710nm,17.1s						
CASY	**Casey**	**66.16**	**197**	*e*P	**P**	**02 19 55.1**	**-0.2**
SONM	**Songino Array**	**66.53**	**329**	P	**P**	**02 19 57.6**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=134,slow=4.3,SNR=9.4						
SONM				LR	LR	02 51 24.0	
	comp=Z,590nm,18.2s,baz=140,slow=38						
VNDA	**Vanda**	**71.52**	**178**	P	**P**	**02 20 28.4**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=331,slow=6.5,SNR=20						
VNDA	**Vanda**	**71.52**	**178**	*e*P	**P**	**02 20 28.4**	**-0.2**
	comp=Z,23nm,1.8s,mb4.7						
RKT	**Rikitea**	**72.97**	**112**	*e*LR	LR	02 43 03.8	
	comp=Z,417nm,33.5s						
WMQ	**Urumqi**	**75.52**	**318**	*e*P	**P**	**02 20 52.5**	**+0.4**
WMQ				PCP	PcP	02 21 06.0	+1.2
WMQ				PP	PP	02 23 45.0	+3.0
WMQ				S	S	02 30 25.0	-2.1
WMQ				SKS		02 30 50.0	
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,146nm,4.3s						
WMQ				LR	LR		
	comp=N,383nm,20.3s						
WMQ				LR	LR		
	comp=E,284nm,20.5s						
WMQ				LR	LR		
	comp=Z,379nm,22.2s						
SVW2	**Sparrevohn**	**78.82**	**23**	*e*P	**P**	**02 21 12.5**	**+2.0**
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**02 21 17.2**	**-0.7**
	comp=Z,1.4nm,0.7s,mb3.9,baz=99,slow=5.9,SNR=8.0						
MKAR				LR	LR	02 57 10.2	
	comp=Z,213nm,18.9s,baz=224,slow=36						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**02 21 17.2**	**-0.7**
MKAR				LR	LR	02 57 10.2	
SLKM	**Skilak Lake**	**80.70**	**25**	*e*P	**P**	**02 21 20.4**	**-0.3**
ZAL	**Zalesovo**	**81.29**	**327**	P	**P**	**02 21 22.6**	**-1.3**
	comp=Z,0.9nm,0.4s,mb3.9,baz=63,slow=7.7,SNR=4.3						
ZAL				LR	LR	02 58 40.3	
	comp=Z,350nm,19.0s,baz=339,slow=37						
MAW	**Mawson**	**83.59**	**203**	*e*P	**P**	**02 21 36.4**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.1						
MAW	**Mawson**	**83.59**	**203**	P	**P**	**02 21 36.1**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=77,slow=6.8,SNR=5.8						
MAW				LR	LR	02 56 13.9	
	comp=Z,399nm,21.1s,baz=74,slow=34						
QSPA	**South Pole Qui**	**83.78**	**180**	*e*P	**P**	**02 21 37.1**	**+0.3**
	comp=Z,5.3nm,0.6s,mb4.5						
COLA	**College**	**83.82**	**22**	*e*P	**P**	**02 21 36.0**	**-1.0**
	comp=Z,8.9nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**84.28**	**314**	*e*P	**P**	**02 21 39.8**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.3						
EGAK	**Eagle**	**86.36**	**23**	*e*P	**P**	**02 21 49.4**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8						
DAWY	**Dawson**	**86.80**	**24**	*e*P	**P**	**02 21 50.6**	**-1.2**
CHKZ	**Chkalovo**	**89.24**	**324**	*e*P	**P**	**02 22 01.8**	**-1.7**
ZRNK	**Zerenda**	**90.05**	**323**	*e*P	**P**	**02 22 05.5**	**-1.8**
INK	**Inuvik**	**90.41**	**21**	*e*P	**P**	**02 22 08.0**	**-0.9**
	comp=Z,393nm,1.4s						
NVAR	**Mina Array Bea**	**94.39**	**52**	P	**P**	**02 22 27.6**	**+0.3**
	comp=Z,0.7nm,0.7s,mb4.1,baz=264,slow=6.2,SNR=5.4						
WVOR	**Wild Horse Val**	**94.44**	**48**	*e*P	**P**	**02 22 29.2**	**+1.7**
	comp=Z,16nm,1.8s,mb5.0						
DAC	**Darwin (Calif)**	**94.79**	**54**	*e*P	**P**	**02 22 30.6**	**+1.4**
	comp=Z,12nm,1.2s,mb5.2						
NEW	**Newport**	**95.86**	**42**	*e*P	**P**	**02 22 35.0**	**+1.0**
YKA	**Yellowknife Ar**	**97.51**	**28**	LR	LR	03 03 26.8	
	comp=Z,172nm,20.9s,baz=220,slow=34						
TXAR	**Lajitas Array**	**106.41**	**61**	PP	PP	02 27 52.9	+6.6
	comp=Z,0.4nm,1.0s,baz=256,slow=3.7,SNR=4.3						
NB2	**NORSAR Subarra**	**117.57**	**339**	PKPdf	PKPdf	02 27 53.0	-0.1
	comp=Z,0.7nm,0.7s,baz=45,slow=1.9						
NOA	**NORSAR Array B**	**117.57**	**339**	PKP	PKPdf	02 27 53.0	0.0
	comp=Z,1.0nm,0.7s,baz=50,slow=1.8,SNR=4.7						
BRG	**Bergjesshubel**	**122.93**	**329**	*e*P	PKPdf	02 28 05.6	+2.2
	comp=Z,4.1nm,1.2s						
BRG				*e*		02 28 14.9	
	comp=Z,5.2nm,1.1s						
CONA	**Conrad Observa**	**123.56**	**325**	⇑*i*PKiKP	PKiKP	02 28 05.9	+1.0
	comp=Z,5.7nm,1.8s						
GERES	**GERESS Array B**	**124.24**	**327**	PKP	PKPdf	02 28 06.7	+0.8
	comp=Z,0.7nm,0.7s,baz=64,slow=3.1,SNR=6.6						
WTTA	**Wattenberg**	**126.29**	**327**	⇓*i*P	PKPdf	02 28 11.1	+1.3
	comp=Z,10nm,1.1s						
LPAZ	**La Paz**	**135.35**	**121**	PKP	PKPdf	02 28 31.4	+4.4
	comp=Z,1.2nm,0.7s,baz=340,slow=2.4,SNR=5.5						
LPAZ	**La Paz**	**135.35**	**121**	*e*PKPdf	PKPdf	02 28 29.3	+2.3
CPUP	**Villa Florida**	**137.61**	**141**	PKP	PKPdf	02 28 33.0	+1.8
	comp=Z,1.0nm,0.7s,baz=355,slow=1.7,SNR=4.5						
SDV	**Santo Domingo**	**138.71**	**84**	*e*PKPdf	PKPdf	02 28 35.4	+2.2
TOA0	**Torodi Ar. Sit**	**148.93**	**285**	*e*PKPbc	PKPbc	02 28 55.9	+0.9
TORD	**Torodi Ar. Bea**	**148.93**	**285**	PKPbc	PKPbc	02 28 56.3	+1.3
	comp=Z,9.9nm,0.6s,baz=64,slow=2.8,SNR=107						
BDFB	**Brasilia**	**151.31**	**139**	PKPbc	PKPbc	02 29 02.0	+1.2
	comp=Z,5.9nm,0.6s,baz=236,slow=4.3,SNR=12						
DBIC	**Dimbokro**	**155.95**	**272**	PKPab	PKPab	02 29 31.1	+2.5
	comp=Z,3.1nm,0.7s,baz=88,slow=3.5,SNR=7.3						

IDC 18 02:27:56.1±3.4, 582S×15073E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=113.8km s-min=47.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.23**	**227**	P	P	02 32 44.1	+0.5
	1.4nm,0.8s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.02**	**221**	P	P	02 33 12.4	-0.1
	1.7nm,0.7s,baz=58,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**27.36**	**241**	P	P	02 33 43.6	+0.7
	1.3nm,0.7s,baz=73,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc	PKPbc	02 47 45.6	+0.5
	0.3nm,0.6s,baz=85,slow=2.4,SNR=6.7						

IDC 18 03:19:06.9±1.2, 2029N×11955E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.6/5, Error ellipse: s-maj=45.7km s-min=23.8km az=73.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**22.99**	**41**	P	P	03 24 13.7	+0.6
	1.4nm,0.7s,baz=237,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**40.20**	**320**	P	P	03 26 45.5	+0.6
	0.2nm,0.5s,baz=122,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**42.52**	**159**	P	P	03 27 04.6	+0.6
	1.5nm,0.8s,baz=341,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**45.87**	**162**	P	P	03 27 30.8	-0.1
	0.6nm,0.9s,baz=345,slow=6.8,SNR=4.6						
NOA	**NORSAR Array B**	**80.95**	**332**	P	P	03 31 22.3	-0.9
	0.4nm,0.5s,baz=62,slow=5.3,SNR=2.8						

*ISCJB **18** 03:24:59.7±0.7, 2151S±004×6644W±005, h181km±6km, mb4.5/76, Error ellipse: s-maj=8.6km s-min=5.2km az=119.5*

*MOS **18** 03:25:01.6±1.2, 2142S×6667W, h197km, mb5.0/25, Error ellipse: s-maj=11.6km s-min=7.8km az=104.3*

*BJI **18** 03:25:02.6, 2160S×6660W, h197km, mB5.2*

*NEIC **18** 03:25:02.7±0.5, 2158S×6662W, h198km±4km, mb4.7/65, MD4.5(GUC), Error ellipse: s-maj=6.3km s-min=4.4km az=71.0*

*LDG **18** 03:25:03.7, 2092S×6653W, h200km*

*IDC **18** 03:25:03.4±0.7, 2157S×6668W, h202km±5km, mb4.2/20, mb1 4.3/28, mb1mx4.3/30, mbtmp4.8/28, Error ellipse: s-maj=9.5km s-min=7.2km az=84.0*

*GUC **18** 03:25:07.1±0.7, 2255S×6676W, h230km, MD4.5*

ISC 18 03:25:00.8±0.6, 2154S±003×6640W±005, h178km±5km, h223km±1.1km: pP-P, n410, σ0.74/373, mb4.5/76, 81C-74D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.57**	**245**	P	**Pn**	**03 25 46.6**	**+2.5**
	107nm,0.3s,baz=54,slow=7.5,SNR=1095						
LVC				S	**Sn**	**03 26 18.5**	**+0.7**
	143nm,0.3s,baz=232,slow=20,SNR=54						
LVC	**Limon Verde**	**2.57**	**245**	⇓*e*Pn	**Pn**	**03 25 46.5**	**+2.4**
LVC				*e*S	**Sn**	**03 26 18.4**	**+0.7**
CEN1	**Los Morros**	**3.97**	**242**	⇓*i*P	**Pn**	**03 26 03.9**	**+2.5**
CEN1				*i* S	**Sn**	**03 26 48.3**	**-0.5**
ANCH	**Antofagasta**	**4.28**	**239**	⇓*i*P	**Pn**	**03 26 06.6**	**+1.2**
ANCH				*i* S	**Sn**	**03 26 52.5**	**-3.4**
LPAZ	**La Paz**	**5.47**	**342**	P	**Pn**	**03 26 25.6**	**+4.9**
	78nm,0.3s,baz=157,slow=9.0,SNR=1760						
LPAZ				S	**Sn**	**03 27 25.9**	**+2.3**
	baz=311,slow=20,SNR=1.3						
LPAZ	**La Paz**	**5.47**	**342**	⇑*i*P	**Pn**	**03 26 25.5**	**+4.7**
LPAZ				*e*S	**Sn**	**03 27 29.7**	**+6.1**
LPAZ				pmax	pmax		
	comp=Z,648nm,0.8s						
LPAZ	**La Paz**	**5.47**	**342**	⇑*i*Pn	**Pn**	**03 26 25.5**	**+4.7**
	comp=Z,648nm,0.8s						
LPAZ				*e*S	**Sn**	**03 27 29.7**	**+6.0**
CPCH	**Copiapo**	**6.83**	**211**	*e*P	**Pn**	**03 26 36.7**	**-1.9**
CPCH				*i* S	**Sn**	**03 27 44.0**	**-12**
CDCH	**Caldera**	**6.83**	**215**	*e*P	**Pn**	**03 26 35.4**	**-3.3**
ARE	**Arequipa**	**6.98**	**315**	⇑*i*P	**Pn**	**03 26 39.3**	**-1.2**
ARE				*e*S	**Sn**	**03 27 52.0**	**-7.3**
SIV	**San Ignacio**	**7.47**	**43**	P	**Pn**	**03 26 52.7**	**+5.6**
	comp=Z,52nm,0.3s,baz=251,slow=12,SNR=929						
SIV				S	**Sn**	**03 28 02.5**	**-8.6**
	baz=229,slow=16,SNR=1.7						
VACH	**Vallenar**	**8.05**	**209**	*e*P	**Pn**	**03 26 52.9**	**-1.7**
CPUP	**Villa Florida**	**9.57**	**122**	P	**Pn**	**03 27 19.9**	**+5.3**
	comp=Z,1.3nm,0.3s,baz=282,slow=11,SNR=27						
CPUP	**Villa Florida**	**9.57**	**122**	*e*P	**Pn**	**03 27 20.0**	**+5.4**
CPUP				pmax	pmax		
	comp=Z,180nm,0.9s						
CPUP	**Villa Florida**	**9.57**	**122**	*e*Pn	**Pn**	**03 27 19.9**	**+5.3**
	comp=Z,180nm,0.9s						
CFAA	**Coronel Fontan**	**10.16**	**189**	P	**Pn**	**03 27 21.3**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=6.9,slow=12,SNR=108						
CFAA				S	**Sn**	**03 29 07.7**	**-7.7**
	comp=Z,1.1nm,0.3s,baz=95,slow=22,SNR=9.0						
CFAA	**Coronel Fontan**	**10.16**	**189**	P	**Pn**	**03 27 21.3**	**-1.1**
CFAA				S	**Sn**	**03 29 07.7**	**-7.7**
ZON	**Zonda**	**10.18**	**191**	⇑*e*P	**Pn**	**03 27 21.7**	**-0.9**
MDZ	**Mendoza**	**11.51**	**190**	*e*P	**Pn**	**03 27 40.7**	**+0.8**
FCH	**Farellones**	**12.24**	**196**	⇑*e*P	**Pn**	**03 27 50.7**	**+1.4**
CLCH	**Cerro Calan**	**12.37**	**196**	*e*P	**Pn**	**03 27 50.3**	**-0.6**
NNA	**Nana**	**13.78**	**312**	P	**Pn**	**03 28 08.4**	**-0.4**
	comp=Z,6.1nm,0.3s,baz=152,slow=12,SNR=24						
NNA				S	**Sn**	**03 30 30.5**	**-12**
	comp=Z,2.5nm,0.3s,baz=234,slow=18,SNR=4.3						
NNA	**Nana**	**13.78**	**312**	*e*Pn	**Pn**	**03 28 08.2**	**-0.6**
	comp=Z,103nm,0.8s						
NNA				*e*P		03 28 12.0	
NNA				*e*S	**Sn**	**03 30 34.2**	**-7.9**
TRQA	**Tornquist**	**16.90**	**168**	*e*P	**Pn**	**03 28 45.2**	**-1.8**
	comp=Z,14nm,0.4s						
BDFB	**Brasilia**	**18.38**	**75**	P	**P**	**03 29 07.6**	**+5.4**
	comp=Z,1.7nm,0.3s,baz=253,slow=12,SNR=13						
ATAH	**Atahualpa**	**18.52**	**320**	P	**P**	**03 29 04.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=164,slow=6.0,SNR=18						
PLCA	**Paso Flores**	**19.46**	**190**	P	**P**	**03 29 13.7**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=14,slow=12,SNR=25						
PLCA				PcP	PcP	03 33 26.9	-0.1
	comp=Z,0.1nm,0.3s,baz=334,slow=9.1,SNR=3.9						
PLCA	**Paso Flores**	**19.46**	**190**	*e*P	**P**	**03 29 13.7**	**-0.1**
PLCA				*e*S	**S**	**03 32 44.1**	**0.0**
PLCA				pmax	pmax		
	comp=Z,26nm,0.8s						
PLCA	**Paso Flores**	**19.46**	**190**	*e*P	**P**	**03 29 13.7**	**-0.2**
	comp=Z,26nm,0.8s						
PLCA				*e*S	**S**	**03 32 44.1**	**-0.1**
OTAV	**Otavalo**	**24.63**	**330**	*e*P	**P**	**03 30 06.5**	**+1.7**
	comp=Z,19nm,1.1s,mb4.5						
ROSC	**El Rosal**	**27.36**	**343**	P	**P**	**03 30 29.7**	**+0.5**
	comp=Z,6.7nm,0.4s,mb4.6,baz=100,slow=17,SNR=7.5						
ROSC	**El Rosal**	**27.36**	**343**	*e*P	**P**	**03 30 30.0**	**+0.7**
SDV	**Santo Domingo**	**30.52**	**352**	*e*P	**P**	**03 30 56.7**	**-0.5**
	comp=Z,17nm,0.8s,mb4.8						
USHA	**Ushuaia**	**33.28**	**182**	P	**P**	**03 31 20.7**	**-0.7**
	comp=Z,10nm,0.7s,mb4.7,baz=342,slow=5.7,SNR=16						
SVB	**Belmont**	**34.96**	**9**	*e*P	**P**	**03 31 37.3**	**+1.5**
SSV	**Crater Summit**	**35.02**	**9**	*e*P	**P**	**03 31 34.8**	**-1.5**
BIM	**Bigot**	**36.21**	**9**	*e*P	**P**	**03 31 46.5**	**+0.1**
MVM	**Montagne Vaucl**	**36.27**	**9**	*e*P	**P**	**03 31 47.1**	**+0.2**
FDF	**Fort de France**	**36.41**	**9**	*e*P	**P**	**03 31 48.2**	**+0.1**
SJG	**San Juan**	**39.40**	**0**	*e*P	**P**	**03 32 11.8**	**-1.4**
SJG				pmax	pmax		
	comp=Z,39nm,0.8s						
SJG	**San Juan**	**39.40**	**0**	*e*P	**P**	**03 32 11.8**	**-1.3**
	comp=Z,39nm,0.8s,mb5.1						
PMSA	**Palmer Station**	**43.25**	**179**	P	**P**	**03 32 42.5**	**-2.0**
	comp=Z,9.7nm,0.6s,mb4.6,baz=14,slow=8.5,SNR=5.1						
CMIG	**Matias Romero**	**47.47**	**322**	P	**P**	**03 33 17.4**	**-0.3**
	comp=Z,5.1nm,0.5s,mb4.4,baz=101,slow=5.8,SNR=11						
HKT	**Hockley**	**58.50**	**330**	*e*P	**P**	**03 34 36.9**	**-1.4**
TKL	**Tuckaleechee C**	**59.22**	**344**	P	**P**	**03 34 41.6**	**-1.5**
	comp=Z,5.3nm,0.7s,mb4.5,baz=155,slow=8.9,SNR=6.6						
SWET	**Sewanee**	**59.41**	**341**	*e*P	**P**	**03 34 43.2**	**-1.3**
NATX	**Nacogdoches**	**59.51**	**332**	*e*P	**P**	**03 34 45.5**	**+0.3**
	comp=Z,18nm,0.8s,mb5.0						
ELN	**Prospectdale**	**59.99**	**347**	*e*P	**P**	**03 34 48.1**	**-0.5**
FWV	**Forest Hill**	**60.35**	**347**	*e*P	**P**	**03 34 50.3**	**-0.6**
WVT	**Waverly**	**60.83**	**340**	*e*P	**P**	**03 34 52.3**	**-1.9**
WVT				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.0						
WVT	**Waverly**	**60.83**	**340**	*e*P	**P**	**03 34 52.3**	**-1.8**
	comp=Z,18nm,0.7s,mb

MVCO **Mesa Verde** 70.62 325 *e*P P 03 35 56.4 -0.4
comp=Z,10.0nm,0.7s,mb4.7
MVCO **Mesa Verde** 70.62 325 ⇑P P 03 35 57.2 +0.4
baz=71
X15A **Humboldt** 70.72 321 ⇑P P 03 35 58.0 +0.6
baz=71,SNR=11
Y14A **Wickenburg** 70.79 320 ⇑P P 03 35 58.0 +0.2
baz=71,SNR=6.7
WUAZ **Wupatki** 70.96 322 *e*P P 03 35 59.1 +0.3
WUAZ **Wupatki** 70.96 322 P P 03 35 59.5 +0.7
baz=71,SNR=8.4
X14A **Yava** 71.10 321 P P 03 36 00.2 +0.6
baz=71,SNR=6.3
Y13A **Salome** 71.20 320 ⇑P P 03 36 00.7 +0.4
baz=71,SNR=6.5
W15A **Williams** 71.23 322 ⇓P P 03 36 01.5 +1.1
baz=71
GLA **Glamis** 71.29 318 ⇑P P 03 36 01.0 +0.2
baz=71
PV01 **Paradox Valley** 71.35 326 *e*P P 03 36 01.3 +0.1
Y12C **Blythe** 71.58 319 ⇑P P 03 36 02.8 +0.2
baz=72,SNR=5.7
PDMCI **Parker Dam,Lak** 71.72 320 ⇑P P 03 36 03.7 +0.3
baz=72
W14A **Seligman** 71.73 321 ⇑P P 03 36 04.0 +0.6
baz=72,SNR=7.2
X13A **Yucca** 71.74 320 ⇑P P 03 36 03.8 +0.3
baz=72,SNR=8.5
BC3 **Big Chuckw Mtn** 72.08 319 P P 03 36 05.9 +0.3
baz=72,SNR=6.4
W13A **Hualapai Mount** 72.12 321 ⇓P P 03 36 06.6 +0.8
baz=72
MONP **Monument Peak** 72.18 317 ⇓P P 03 36 06.7 +0.6
baz=72
IRM **Iron Mountain** 72.24 319 ⇑P P 03 36 06.8 +0.3
baz=72,SNR=6.1
BELC **Belle Mtn.** 72.65 318 ⇑P P 03 36 09.4 +0.5
baz=73
PFO **Pinyon Flat Ob** 72.67 318 ⇑P P 03 36 09.6 +0.6
baz=73
W12A **Cal Nev Ari** 72.84 320 ⇓P P 03 36 10.5 +0.4
baz=73
V12A **Nelson** 73.12 320 ⇑P P 03 36 12.0 +0.3
baz=73
MURC **Murrieta** 73.14 317 ⇑P P 03 36 12.0 +0.3
baz=73
HEC **Hector,Ludlow** 73.41 319 ⇑P P 03 36 14.0 +0.6
baz=74,SNR=7.4
U12A **Valley of Fire** 73.42 321 ⇓P P 03 36 14.0 +0.5
baz=74,SNR=6.8
CCUT **Cedar City** 73.53 323 *e*P P 03 36 15.2 +1.1
V11A **Goodsprings** 73.55 320 ⇑P P 03 36 14.5 +0.3
baz=74
ARUT **Antelope Range** 73.74 323 *e*P P 03 36 16.1 +0.8
BFSC **Mount Baldy St** 73.84 318 ⇑P P 03 36 16.3 +0.4
baz=74
RSSD **Black Hills** 73.87 333 *e*P P 03 36 15.8 -0.2
RSSD pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
RSSD **Black Hills** 73.87 333 *e*P P 03 36 15.8 -0.2
comp=Z,4.6nm,1.0s,mb4.2
GSC **Goldstone** 74.01 319 ⇑P P 03 36 17.1 +0.2
baz=74
DECC **Green Verdugo** 74.27 317 ⇓P P 03 36 18.6 +0.3
baz=74
EDW2 **Edwards Air Fo** 74.47 318 ⇑P P 03 36 19.3 -0.2
baz=75,SNR=7.0
OSI **Osito Adit** 74.75 317 ⇓P P 03 36 21.3 +0.1
baz=75
FURC **Furnace Creek,** 74.82 320 ⇓P P 03 36 22.1 +0.5
baz=75,SNR=5.1
MPMC **Manual Prospec** 74.93 319 ⇑P P 03 36 22.3 +0.1
baz=75,SNR=6.7
TCUT **Toone Canyon** 75.03 326 *e*P P 03 36 22.9 +0.1
DUG **Dugway** 75.10 325 *e*P P 03 36 23.7 +0.6
DUG pmax pmax
comp=Z,15nm,1.3s,mb4.5
DUG **Dugway** 75.10 325 *e*P P 03 36 23.7 +0.5
comp=Z,16nm,1.3s,mb4.5
DUG **Dugway** 75.10 325 P P 03 36 23.7 +0.6
baz=75,SNR=5.1
DAC **Darwin (Calif)** 75.14 319 *e*P P 03 36 24.0 +0.6
DAC pmax pmax
comp=Z,11nm,0.8s,mb4.5
DAC **Darwin (Calif)** 75.14 319 *e*P P 03 36 24.0 +0.6
comp=Z,11nm,0.8s,mb4.5
ARVC **Arvin** 75.15 318 ⇑P P 03 36 23.5 +0.1
baz=75
TOA0 **Torodi Ar. Sit** 75.17 69 ⇓*i*P P 03 36 24.3 +0.7
TOA0 *e*pP pP 03 37 17.3 +11
TORD **Torodi Ar. Bea** 75.17 69 P P 03 36 24.6 +1.0
comp=Z,22nm,0.7s,mb4.9,baz=256,slow=5.5,SNR=326
TORD pP pP 03 37 17.9 +11
comp=Z,10nm,0.7s,baz=251,slow=5.5,SNR=6.8
TORD S S 03 45 43.9 -3.6
comp=Z,1.5nm,1.1s,baz=235,slow=11,SNR=5.9
TORD **Torodi Ar. Bea** 75.17 69 P P 03 36 24.6 +1.0
TORD pP pP 03 37 17.9 +11
TORD S S 03 45 43.9 -3.6
ISA **Isabella** 75.28 318 ⇓*e*P P 03 36 24.3 +0.2
ISA **Isabella** 75.28 318 ⇓P P 03 36 24.6 +0.5
baz=75,SNR=12
BW06 **Boulder Array** 75.33 329 *e*P P 03 36 23.7 -0.7
comp=Z,1.9nm,0.5s,mb4.0
PDAR **Pinedale Array** 75.33 329 P P 03 36 24.0 -0.5
comp=Z,2.4nm,0.5s,mb4.1,baz=125,slow=8.2,SNR=33
HWUT **Hardware Ranch** 75.47 327 *e*P P 03 36 25.0 -0.3
comp=Z,5.6nm,0.8s,mb4.2
GRAC **Grapevine Rang** 75.48 320 ⇓P P 03 36 25.6 +0.3
baz=76
CWC **Cottonwood Cre** 75.54 319 ⇓P P 03 36 26.0 +0.3
baz=76
PKM **Peak Mountain** 75.63 317 ⇓P P 03 36 26.5 +0.4
baz=76
SYO **Syowa Base** 75.64 159 ⇑*i*P P 03 36 26.2 0.0
SYO **Syowa Base** 75.64 159 ⇑*i*PcP PcP 03 36 34.8 -3.4
SYO **Syowa Base** 75.64 159 ⇑*e*pP pP 03 37 12.0 +2.8
R10A **Warm Springs** 75.72 322 ⇑P P 03 36 27.6 +1.0
baz=76,SNR=16
Q11A **Duckwater** 75.72 322 P P 03 36 27.3 +0.6
baz=76,SNR=8.2
VES **Vestal, Richgr** 75.77 318 P P 03 36 27.2 +0.2
baz=76,SNR=8.0
S09A **Goldfield** 75.88 321 P P 03 36 27.9 +0.3
baz=76,SNR=7.7
SMMC **Simmler** 76.00 317 ⇓P P 03 36 28.8 +0.5
baz=76
SCHQ **Schefferville** 76.05 360 P P 03 36 27.5 -1.0
comp=Z,4.4nm,1.0s,mb4.1,baz=182,slow=6.2,SNR=6.5
SCHQ **Schefferville** 76.05 360 P P 03 36 27.5 -1.0
ULM **Lac du Bonnet** 76.08 341 P P 03 36 27.4 -1.3
comp=Z,7.5nm,0.6s,mb4.5,baz=153,slow=6.6,SNR=19
ULM **Lac du Bonnet** 76.08 341 *e*P P 03 36 27.0 -1.7
AHID **Auburn Hatcher** 76.09 328 *e*P P 03 36 28.8 0.0
comp=Z,6.3nm,0.5s,mb4.5
R09A **Tonopah** 76.13 321 ⇓P P 03 36 29.3 +0.3
baz=76
RCTC **Rector, Farmer** 76.17 318 ⇓P P 03 36 29.3 +0.1
baz=76
O12A **Currie** 76.20 324 P P 03 36 29.9 +0.5
baz=76,SNR=7.7
HELL **Mitchell Peak,** 76.27 319 ⇓P P 03 36 29.6 -0.2
baz=76,SNR=9.3
S08C **White Mtn Res** 76.29 320 ⇓P P 03 36 30.4 +0.5
baz=76
N13A **Wendover, West** 76.32 325 ⇑P P 03 36 30.7 +0.6
baz=76
REDW **Red Top Meadow** 76.41 328 *e*P P 03 36 30.3 -0.2
comp=Z,6.5nm,0.7s,mb4.4
SNOW **Snow King Moun** 76.43 328 *e*P P 03 36 30.6 -0.1
comp=Z,5.7nm,0.6s,mb4.4
LOHW **Long Hollow** 76.47 329 *e*P P 03 36 30.8 -0.1
comp=Z,8.1nm,0.7s,mb4.5
LOHW *e*pP pP 03 37 25.3 +11
TPAW **Teton Pass** 76.55 328 *e*P P 03 36 31.6 +0.2
comp=Z,6.2nm,0.6s,mb4.4
Q09A **Carvers** 76.59 322 ⇓P P 03 36 32.1 +0.5
baz=77
O11A **Cowboy Ranch,** 76.61 323 ⇑P P 03 36 32.0 +0.4
baz=77,SNR=5.7
RRI2 **Red Ridge** 76.62 328 *e*P P 03 36 31.7 0.0
comp=Z,15nm,1.1s,mb4.5
RRI2 *e*pP pP 03 37 24.6 +10
MOOW **Moose Ponds** 76.64 329 *e*P P 03 36 31.7 -0.2
M13A **Montello** 76.65 325 P P 03 36 32.1 +0.2
baz=77,SNR=5.3
P10A **Eureka** 76.71 323 ⇓P P 03 36 32.9 +0.6
baz=77
PKD **Parkfield** 76.75 317 ⇓P P 03 36 33.3 +0.8
baz=77
N12A **Clover Valley,** 76.77 324 ⇓P P 03 36 32.6 0.0
baz=77
MLAC **Mammoth Lakes** 76.78 320 ⇓P P 03 36 33.2 +0.6
baz=77
IMW **Indian Meadow** 76.84 329 *e*P P 03 36 33.3 +0.3
comp=Z,30nm,1.3s,mb4.8
IMW *e*pP pP 03 37 25.2 +9.2
FLWY **Flagg Ranch** 76.87 329 *e*P P 03 36 33.1 0.0
comp=Z,7.0nm,0.6s,mb4.5
FLWY *e*pP pP 03 37 26.6 +10
KCC **Kaiser Creek** 76.87 319 ⇓P P 03 36 32.9 -0.2
baz=77
RLMT **Red Lodge** 76.97 330 *e*P P 03 36 33.6 -0.1
comp=Z,5.8nm,0.5s,mb4.5
RLMT *e*pP pP 03 37 27.1 +10
NVAR **Mina Array Bea** 76.98 321 P P 03 36 34.0 +0.3
comp=Z,3.7nm,0.8s,mb4.1,baz=162,slow=6.5,SNR=21
Q08A **Gabbs** 77.05 321 ⇑P P 03 36 34.1 0.0
baz=77,SNR=9.9
P09A **Austin** 77.05 322 ⇓P P 03 36 34.3 +0.2
baz=77
M12A **Wells** 77.09 325 ⇑P P 03 36 34.5 +0.1
baz=77,SNR=6.0
O10A **Cortez Mining,** 77.19 323 ⇓P P 03 36 35.1 +0.2
baz=77
R07C **Lee Vining** 77.20 320 ⇑P P 03 36 35.5 +0.6
baz=77
VNDA **Vanda** 77.21 190 P P 03 36 35.6 +0.5
comp=Z,3.7nm,0.8s,mb4.1,baz=129,slow=4.2,SNR=29
VNDA **Vanda** 77.21 190 *e*P P 03 36 35.2 +0.1
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA **Vanda** 77.21 190 *e*P P 03 36 35.2 +0.1
comp=Z,2.9nm,0.8s,mb4.0
YMR **Madson River** 77.43 329 *e*P P 03 36 37.2 +0.9
comp=Z,7.4nm,0.7s,mb4.4
N10A **Dunphy** 77.48 323 ⇓P P 03 36 36.6 0.0
baz=78
O09A **Fish Creek Ran** 77.50 323 ⇑P P 03 36 36.9 +0.3
baz=78
S05C **Merced** 77.50 319 ⇓P P 03 36 36.5 -0.1
baz=78
S06C **San Francisco** 77.55 319 ⇑P P 03 36 37.0 +0.1
baz=78,SNR=5.9
M11A **Holland Ranch,** 77.58 324 ⇓P P 03 36 37.3 +0.2
baz=78
P08A **Dixie Valley** 77.69 322 ⇑P P 03 36 38.0 +0.3
baz=78
QLMT **Earthquake Lak** 77.77 329 *e*P P 03 36 38.8 +0.6
TSUM **Tsumeb** 77.79 106 *e*P P 03 36 40.4 +2.1
comp=Z,13nm,0.9s,mb4.6
CMB **Columbia Colle** 77.97 319 *e*P P 03 36 38.9 -0.4
CMB pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
CMB **Columbia Colle** 77.97 319 *e*P P 03 36 38.9 -0.4
comp=Z,2.4nm,0.7s,mb3.9
CMB **Columbia Colle** 77.97 319 ⇓P P 03 36 39.7 +0.5
baz=78
M10A **I.L. Ranch, Tu** 78.05 324 ⇓P P 03 36 40.0 +0.3
baz=78
R05C **Kirkwood Meado** 78.21 320 ⇓P P 03 36 41.2 +0.6
baz=78
HLID **Hailey** 78.34 327 *e*P P 03 36 41.8 +0.5
comp=Z,10nm,0.8s,mb4.5
HLID *e*pP pP 03 37 34.5 +10
HLID **Hailey** 78.34 327 P P 03 36 42.0 +0.8
baz=78,SNR=19
WCN **Washoe City** 78.41 321 ⇓P P 03 36 42.0 +0.4
baz=78
PAHR **Pah Rah Range** 78.45 321 *e*P P 03 36 42.6 +0.7
comp=Z,27nm,0.9s,mb4.9
PAHR *e*pP pP 03 37 35.9 +11
O07A **Toulon** 78.45 322 ⇓P P 03 36 42.1 +0.2
baz=79
MCMT **McKenzie Canyo** 78.46 328 *e*P P 03 36 42.3 +0.4
M09A **Marrel Ranch,** 78.48 323 ⇑P P 03 36 42.1 0.0
baz=79
LAVA **Lava Cap Winer** 78.65 320 ⇓P P 03 36 42.9 0.0
baz=79
JRSC **Jasper Ridge** 78.72 318 ⇑P P 03 36 43.3 0.0
baz=79
N07B **Gerlach** 78.92 322 ⇑P P 03 36 44.4 -0.1
baz=79,SNR=11
L09A **Wilkinson Ranc** 79.01 324 ⇓P P 03 36 45.0 +0.1
baz=79
O06A **Flanigan** 79.01 321 ⇑P P 03 36 45.5 +0.5
baz=79
M08A **Happy Creek Ra** 79.02 323 ⇓P P 03 36 45.2 +0.2
baz=79
Q04C **Lincoln** 79.08 319 ⇑P P 03 36 45.7 +0.4
baz=79
BEKR **Beckwourth** 79.13 321 ⇓P P 03 36 45.9 +0.3
baz=79,SNR=6.6
Q03C **Winters** 79.34 319 ⇓P P 03 36 47.1 +0.4
baz=79
N06A **Buffalo Meadow** 79.39 322 P P 03 36 47.1 +0.1
baz=80,SNR=12
EGMT **Eagleton** 79.40 332 ⇓P P 03 36 47.0 0.0
baz=80
M07A **Soldier Meadow** 79.43 322 P P 03 36 47.3 +0.1
baz=80,SNR=7.1
CVS **Carmenet Viney** 79.44 318 ⇓P P 03 36 47.2 -0.1
baz=80
L08A **Fields** 79.50 323 P P 03 36 47.5 -0.1
baz=80,SNR=6.4
K09A **Rome** 79.50 324 P P 03 36 47.6 +0.1
baz=80,SNR=5.1
O05C **Quincy** 79.52 320 ⇑P P 03 36 47.7 0.0
baz=80
SUTB **Sutter Butte** 79.58 319 ⇑P P 03 36 47.9 -0.1
baz=80
ORV **Oroville** 79.61 320 ⇑P P 03 36 48.3 +0.1
baz=80,SNR=7.4
ELFS **Eagle Lake Fie** 79.83 321 ⇑P P 03 36 49.4 +0.1
baz=80
O04C **Chester** 79.85 321 ⇓P P 03 36 49.3 -0.1
baz=80,SNR=5.4
K08A **Mann Creek Ran** 79.93 324 ⇑P P 03 36 49.9 0.0
baz=80
L07A **Adell** 79.94 323 ⇑P P 03 36 50.0 +0.1
baz=80
J09A **Fry Pan Ranch,** 79.95 325 ⇑P P 03 36 50.8 +0.8
baz=80
MDT **Midelt** 79.99 49 P P 03 36 51.5 +1.3
comp=Z,2.6nm,0.7s,mb4.0,baz=236,slow=6.5,SNR=7.3
M06C **Likely Place G** 80.06 322 P P 03 36 50.7 +0.1
baz=80,SNR=5.8
CHMT **Chamberlain Mo** 80.17 329 *e*P P 03 36 50.7 -0.5
O03C **Acorn Hollow,** 80.21 320 ⇑P P 03 36 51.1 -0.3
baz=80
K07A **Rock Creek Ran** 80.33 323 ⇓P P 03 36 52.7 +0.7
baz=80,SNR=6.8
J08A **Circle Bar Ran** 80.34 324 P P 03 36 52.4 +0.3
baz=80,SNR=8.4
I09A **Lost Marbles R** 80.36 325 P P 03 36 52.4 +0.2
baz=80,SNR=13
HATC **Hat Creek Radi** 80.38 321 ⇓P P 03 36 52.2 -0.1
baz=80
GASB **Alder Springs** 80.41 319 ⇓P P 03 36 53.0 +0.6
baz=80
D14A **Greenough** 80.41 329 ⇓P P 03 36 52.4 0.0
baz=81
MOD **Modoc** 80.41 322 *e*P P 03 36 52.4 -0.1
comp=Z,5.1nm,1.1s,mb4.1
MOD **Modoc** 80.41 322 ⇓P P 03 36 52.8 +0.3
baz=80,SNR=5.7
M05C **Lookout** 80.54 321 ⇑P P 03 36 53.0 -0.1
baz=81
I08A **Drewsey** 80.76 325 P P 03 36 54.8 +0.4
baz=81,SNR=14
H09A **Durkee** 80.79 326 ⇑P P 03 36 55.0 +0.6
baz=81
L05A **Lakeview** 80.80 322 ⇑P P 03 36 54.9 +0.4
baz=81
J07A **Hines** 80.81 324 ⇓P P 03 36 54.8 +0.1
baz=81
D13A **Huson** 80.87 329 P P 03 36 54.8 -0.1
baz=81,SNR=6.8
WDC **Whiskeytown Da** 80.87 320 *e*P P 03 36 52.8 -2.1
WDC pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
WDC **Whiskeytown Da** 80.87 320 *e*P P 03 36 52.8 -2.1
comp=Z,5.4nm,0.6s,mb4.3
WDC **Whiskeytown Da** 80.87 320 ⇓P P 03 36 53.3 -1.7
baz=81
K06A **Valley Falls** 80.96 323 P P 03 36 55.9 +0.5
baz=81,SNR=9.2
C14A **Swan Lake** 81.02 330 ⇑P P 03 36 55.5 -0.2
baz=81,SNR=7.6
J06A **Christmas Vall** 81.20 323 P P 03 36 56.7 +0.1
baz=81,SNR=9.3
M04C **Macdoel** 81.21 321 ⇓P P 03 36 56.4 -0.3
baz=81
H08A **Prairie City** 81.22 325 ⇓P P 03 36 56.8 0.0
baz=81
K05A **Summer Lake** 81.27 323 P P 03 36 57.9 +0.9
baz=81,SNR=9.3
C13A **Hot Springs** 81.34 329 P P 03 36 57.4 0.0
baz=82,SNR=7.3
BOSA **Boshof** 81.36 117 P P 03 36 58.9 +1.4
comp=Z,13nm,0.8s,mb4.6,baz=251,slow=5.4,SNR=20
BOSA **Boshof** 81.36 117 *e*P P 03 36 58.8 +1.3
BOSA pmax pmax
comp=Z,16nm,0.9s,mb4.7
BOSA **Boshof** 81.36 117 *e*P P 03 36 58.8 +1.3
comp=Z,16nm,0.9s,mb4.6
I07A **Izee** 81.38 324 ⇓P P 03 36 57.7 +0.1
baz=82,SNR=9.8
F10A **Beach Ranch, E** 81.45 327 P P 03 36 57.8 -0.2
baz=82,SNR=12
N02C **Big Bar** 81.48 320 ⇑P P 03 36 58.0 -0.1
baz=82
L04A **Klamath Falls** 81.49 322 ⇓P P 03 36 58.0 -0.2
baz=82
F09A **S2 Ranch, Elgi** 81.62 326 ⇑P P 03 36 58.7 -0.2
baz=82
K04A **Chilquin** 81.68 322 ⇓P P 03 36 58.9 -0.3
baz=82
I06A **Prineville** 81.68 324 ⇑P P 03 36 59.5 +0.3
baz=82,SNR=7.2
YBH **Yreka Blue Hor** 81.69 321 P P 03 36 57.9 -1.4
comp=Z,2.5nm,0.7s,mb4.0,baz=100,slow=7.1,SNR=5.6
YBH **Yreka Blue Hor** 81.69 321 ⇑P P 03 36 58.2 -1.0
baz=82
H07A **Lands Inn, Kim** 81.75 325 ⇓P P 03 36 59.3 -0.2
baz=82
B13A **Whitefish** 81.79 330 P P 03 36 59.4 -0.3
baz=82,SNR=5.3
C12A **Trout Creek** 81.79 329 ⇑P P 03 36 59.4 -0.4
baz=82
J05A **Fort Rock** 81.82 323 ⇓P P 03 36 59.9 -0.1
baz=82,SNR=6.1
G08A **Pilot Rock** 81.89 326 P P 03 37 00.1 -0.1
baz=82,SNR=8.8
A13A **Flathead Natio** 82.16 330 ⇑P P 03 37 01.6 -0.1
baz=82,SNR=14
G07A **Ruggs Ranch, H** 82.25 325 ⇓P P 03 37 02.5 +0.3
baz=82,SNR=5.3
H06A **Lindquist Farm** 82.26 324 ⇓P P 03 37 02.5 +0.3
baz=82,SNR=5.8
B12A **Libby** 82.38 329 ⇓P P 03 37 02.7 -0.1
baz=82,SNR=5.3
B11A **Sandpoint** 82.73 329 ⇑P P 03 37 03.6 -1.0
baz=83
A12A **Yaak River Ran** 82.74 330 ⇓P P 03 37 04.1 -0.5
baz=83,SNR=5.5
D09A **Jones Farm, Ri** 82.74 327 ⇓P P 03 37 04.1 -0.6
baz=83,SNR=8.9
G06A **Carlson Farm,** 82.75 325 ⇓P P 03 37 04.8 0.0
baz=83
C10A **Spilker Farm,** 82.76 328 ⇓P P 03 37 04.1 -0.6
baz=83
K02A **Glendale** 82.78 321 ⇓P P 03 37 04.3 -0.6
baz=83
LBTB **Lobatse** 82.87 114 *e*P P 03 37 07.2 +1.8
LBTB pmax pmax
comp=Z,28nm,1.1s,mb4.9
LBTB **Lobatse** 82.87 114 *e*P P 03 37 07.2 +1.8
comp=Z,28nm,1.1s,mb4.9
HAWA **Hanford** 82.92 326 *e*P P 03 37 05.4 -0.2
comp=Z,9.0nm,0.6s,mb4.7
D08A **Wollman Farm,** 83.05 327 ⇑P P 03 37 05.9 -0.3
baz=83
G05A **Wamic** 83.12 324 ⇓P P 03 37 06.5 -0.1
baz=83
F06A **Goldendale** 83.17 325 ⇓P P 03 37 06.9 0.0
baz=83
E07A **Sunnyside** 83.20 326 ⇑P P 03 37 07.4 +0.4
baz=83
C09A **Chrisman Ranch** 83.22 328 ⇑P P 03 37 06.8 -0.4
baz=83
H04A **Detroit Lake** 83.24 324 ⇑P P 03 37 06.7 -0.5
baz=83
B09A **Rice** 83.58 328 ⇑P P 03 37 09.3 +0.3
baz=84
C08A **Higginbotham F** 83.60 327 ⇑P P 03 37 08.8 -0.3
baz=84
F05A **White Salmon** 83.61 325 ⇑P P 03 37 08.9 -0.2
baz=84
MAW **Mawson** 83.61 163 P P 03 37 09.6 +0.4
comp=Z,14nm,0.7s,mb4.8,baz=216,slow=6.2,SNR=35
MAW **Mawson** 83.61 163 *e*P P 03 37 09.2 0.0
MAW pmax pmax
comp=Z,30nm,1.2s
MAW **Mawson** 83.61 163 *e*P P 03 37 09.2 +0.1
comp=Z,30nm,1.2s,mb4.9
D07A **Quincy** 83.68 326 P P 03 37 09.5 0.0
baz=84,SNR=5.6
E06A **Yakima** 83.78 326 ⇑P P 03 37 09.3 -0.7
baz=84
C07A **Waterville** 84.05 327 ⇑P P 03 37 10.8 -0.6
baz=84,SNR=9.9
D06A **Cle Elum** 84.13 326 ⇑P P 03 37 11.6 -0.1
baz=84
F04A **Amboy** 84.16 324 ⇑P P 03 37 11.4 -0.5
baz=84
A09A **Danville** 84.17 328 ⇑P P 03 37 11.1 -0.8
baz=84
ESDC **Sonseca Array** 84.23 43 P P 03 37 13.9 +1.6
comp=Z,4.5nm,0.9s,mb4.2,baz=238,slow=4.7,SNR=11
B07A **Winthrop** 84.58 327 P P 03 37 13.1 -0.9
baz=85,SNR=6.8
D05A **Enumclaw** 84.72 326 ⇑P P 03 37 13.9 -0.8
baz=85
C05A **Tolt Reservoir** 84.89 326 ⇓P P 03 37 14.9 -0.7
baz=85
B06A **Marblemount** 85.31 327 ⇑P P 03 37 16.2 -1.5
baz=86,SNR=5.5
B05A **Bryant** 85.46 326 ⇑P P 03 37 17.1 -1.3
baz=86,SNR=10.0
C04A **Brinnon** 85.57 326 ⇑P P 03 37 18.2 -0.8
baz=86
A05A **Maple Falls** 85.93 327 ⇓P P 03 37 19.5 -1.2
baz=86,SNR=5.3
A04A **Legoe Bay, Lum** 86.07 326 ⇑P P 03 37 21.1 -0.3
baz=86
PGC **Sidney** 86.41 326 *e*P P 03 37 22.7 -0.4
comp=Z,35nm,1.0s,mb5.0
ETSF **Etsaut** 88.14 42 *e*P P 03 37 31.3 0.0
comp=Z,3.6nm,0.8s,mb4.0
ETSF **Etsaut** 88.14 42 *e*P P 03 37 31.3 0.0
ETSF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
ETSF **Etsaut** 88.14 42 *e*P P 03 37 31.3 0.0
comp=Z,1.8nm,0.8s,mb4.0
LSZ **Lusaka** 88.64 106 *e*P P 03 37 36.9 +3.2
LSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSZ **Lusaka** 88.64 106 *e*P P 03 37 36.9 +3.2
comp=Z,9.0nm,0.8s,mb4.8
LFF **La Frestale** 90.00 41 *e*P P 03 37 39.7 -0.3
comp=Z,39nm,1.3s,mb4.9
LFF **La Frestale** 90.00 41 *e*P P 03 37 39.7 -0.3
LFF pmax pmax
comp=Z,20nm,1.3s,mb4.9
LFF **La Frestale** 90.00 41 *e*P P 03 37 39.7 -0.3
comp=Z,20nm,1.3s,mb4.9
MTLF **Montolieu** 90.11 43 *e*P P 03 37 40.3 -0.3
comp=Z,13nm,1.0s,mb4.5
MTLF **Montolieu** 90.11 43 *e*P P 03 37 40.3 -0.3
MTLF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MTLF **Montolieu** 90.11 43 *e*P P 03 37 40.3 -0.3
comp=Z,6.7nm,1.0s,mb4.5
MFF **Saint Martin d** 90.33 39 *e*P P 03 37 41.1 -0.5
comp=Z,28nm,1.0s,mb4.8
MFF **Saint Martin d** 90.33 39 *e*P P 03 37 41.1 -0.5
MFF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MFF **Saint Martin d** 90.33 39 *e*P P 03 37 41.1 -0.5
comp=Z,14nm,1.0s,mb4.8
RJF **Les Rejaudoux** 90.66 41 *e*P P 03 37 42.7 -0.4
comp=Z,7.8nm,0.8s,mb4.5

RJF	**Les Rejaudoux**	**90.66**	**41**	*e*P	**P**	**03 37 42.7**	**-0.4**
RJF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
RJF	**Les Rejaudoux**	**90.66**	**41**	*e*P	**P**	**03 37 42.7**	**-0.4**
comp=Z,3.9nm,0.8s,mb4.5							
CAF	**Calviac**	**90.80**	**41**	*e*P	**P**	**03 37 43.4**	**-0.4**
GRR	**Gorron**	**90.86**	**37**	*e*P	**P**	**03 37 43.0**	**-1.1**
comp=Z,15nm,0.8s,mb4.8							
GRR	**Gorron**	**90.86**	**37**	*e*P	**P**	**03 37 43.0**	**-1.1**
GRR				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
GRR	**Gorron**	**90.86**	**37**	*e*P	**P**	**03 37 43.0**	**-1.1**
comp=Z,7.7nm,0.8s,mb4.8							
FLN	**La Foliniere**	**91.27**	**37**	*e*P	**P**	**03 37 45.3**	**-0.7**
LDF	**La Druitiere**	**91.39**	**37**	*e*P	**P**	**03 37 45.6**	**-0.9**
comp=Z,22nm,1.0s,mb4.8							
LDF	**La Druitiere**	**91.39**	**37**	*e*P	**P**	**03 37 45.6**	**-0.9**
LDF				pmax	pmax		
comp=Z,11nm,1.0s,mb4.8							
LDF	**La Druitiere**	**91.39**	**37**	*e*P	**P**	**03 37 45.6**	**-0.9**
comp=Z,11nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**91.57**	**40**	*e*P	**P**	**03 37 46.6**	**-0.7**
comp=Z,15nm,1.0s,mb4.7							
TCF	**Toulx Ste Croi**	**91.57**	**40**	*e*P	**P**	**03 37 46.6**	**-0.7**
TCF				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.7							
TCF	**Toulx Ste Croi**	**91.57**	**40**	*e*P	**P**	**03 37 46.6**	**-0.7**
comp=Z,7.7nm,1.0s,mb4.7							
YKA	**Yellowknife Ar**	**92.01**	**340**	P	**P**	**03 37 48.3**	**-1.1**
comp=Z,4.6nm,0.5s,mb4.8,baz=132,slow=4.6,SNR=28							
YKA				pP	pP	03 38 41.5	+7.8
comp=Z,3.1nm,0.8s,baz=124,slow=5.7,SNR=4.2							
YKA	**Yellowknife Ar**	**92.01**	**340**	P	**P**	**03 37 48.3**	**-1.1**
YKA				pP	pP	03 38 41.5	+7.8
BGF	**Bois d'Agland**	**92.09**	**40**	*e*P	**P**	**03 37 50.1**	**+0.4**
CASY	**Casey**	**92.43**	**179**	⇓*i*P	**P**	**03 37 51.5**	**+0.2**
comp=Z,21nm,1.0s,mb5.1							
AVF	**Avril sur Loir**	**92.51**	**40**	*e*P	**P**	**03 37 50.8**	**-0.9**
comp=Z,14nm,1.4s,mb4.6							
AVF	**Avril sur Loir**	**92.51**	**40**	*e*P	**P**	**03 37 50.8**	**-0.9**
AVF				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.6							
AVF	**Avril sur Loir**	**92.51**	**40**	*e*P	**P**	**03 37 50.8**	**-0.9**
comp=Z,7.1nm,1.4s,mb4.6							
SMRF	**Simiane la Rot**	**92.55**	**43**	*e*P	**P**	**03 37 51.2**	**-0.7**
comp=Z,15nm,1.0s,mb4.8							
SMRF	**Simiane la Rot**	**92.55**	**43**	*e*P	**P**	**03 37 51.2**	**-0.7**
comp=Z,15nm,1.0s,mb5.1							
SSF	**Saint Saulge**	**92.73**	**40**	*e*P	**P**	**03 37 51.9**	**-0.8**
SMF	**Signal de Mont**	**92.73**	**40**	*e*P	**P**	**03 37 52.3**	**-0.4**
LOR	**Lormes**	**93.04**	**40**	*e*P	**P**	**03 37 53.2**	**-0.9**
ORIF	**Oris-en-Rattie**	**93.18**	**43**	*e*P	**P**	**03 37 55.3**	**+0.6**
LPL	**La Plagne**	**93.99**	**42**	*e*P	**P**	**03 37 59.2**	**+0.7**
LPG	**La Plagne**	**93.99**	**42**	*e*P	**P**	**03 37 59.4**	**+0.9**
comp=Z,19nm,1.2s,mb4.8							
LPG	**La Plagne**	**93.99**	**42**	*e*P	**P**	**03 37 59.4**	**+0.9**
LPG				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.8							
LPG	**La Plagne**	**93.99**	**42**	*e*P	**P**	**03 37 59.4**	**+0.9**
comp=Z,9.6nm,1.2s,mb4.8							
CABF	**La Chapelle**	**94.08**	**41**	*e*P	**P**	**03 37 57.7**	**-1.2**
comp=Z,10.0nm,1.1s,mb4.6							
CABF	**La Chapelle**	**94.08**	**41**	*e*P	**P**	**03 37 57.7**	**-1.2**
CABF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.6							
CABF	**La Chapelle**	**94.08**	**41**	*e*P	**P**	**03 37 57.7**	**-1.2**
comp=Z,5.0nm,1.1s,mb4.6							
GERES	**GERESS Array B**	**99.68**	**41**	PKKPbc	PKKPbc	03 54 43.9	-0.5
comp=Z,0.4nm,0.6s,baz=103,slow=3.1,SNR=3.9							
CLL	**Collm**	**100.17**	**39**	*e*P	Pdif	03 38 27.0	+0.7
CLL				pmax	pmax		
comp=Z,4.0nm,0.5s							
CLL	**Collm**	**100.17**	**39**	*e*Pdif	Pdif	03 38 27.0	+0.7
comp=Z,4.0nm,0.5s							
LVZ	**Lovozero**	**113.91**	**24**	*i* PKIKP	PKiKP	03 43 15.2	-3.2
FORT	**Forrest**	**126.17**	**195**	*e*P	PKPdf	03 43 41.2	-0.7
comp=Z,12nm,0.7s							
KLBR	**Kellerberrin**	**127.03**	**184**	*e*P	PKPdf	03 43 43.3	-0.3
comp=Z,25nm,1.4s							
AKTK	**Aktyubinsk**	**128.10**	**42**	PKP	PKPdf	03 43 46.2	+0.6
AKTO	**Aktyubinsk**	**128.10**	**42**	PKP	PKPdf	03 43 46.2	+0.6
comp=Z,2.5nm,0.9s,baz=256,slow=4.2,SNR=6.4							
AS31	**Alice Springs**	**130.92**	**205**	*e*PKPdf	PKPdf	03 43 50.7	-0.3
ASAR	**Alice Springs**	**130.92**	**205**	PKP	PKPdf	03 43 50.7	-0.3
comp=Z,3.3nm,0.6s,baz=152,slow=2.0,SNR=26							
ASAR				SKPbc	SKPbc	03 46 54.5	-4.1
comp=Z,1.5nm,0.7s,baz=146,slow=3.2,SNR=9.3							
SEY	**Seymchan**	**131.04**	**338**	*i* PKIKP	PKPdf	03 43 49.9	-1.3
ZRNK	**Zerenda**	**133.76**	**36**	*e*PKIKP	PKPdf	03 43 56.9	+0.5
WRA	**Warramunga Arr**	**134.06**	**208**	PKhKP		03 43 45.2	
comp=Z,0.6nm,0.6s,baz=142,slow=2.2,SNR=7.7							
WRA				PKP	PKPdf	03 43 56.8	-0.1
comp=Z,3.2nm,0.5s,baz=159,slow=1.8,SNR=26							
WRA				SKPbc	SKPbc	03 47 05.2	-4.3
comp=Z,1.1nm,0.8s,baz=148,slow=3.7,SNR=5.7							
WRA	**Warramunga Arr**	**134.06**	**208**	PKHKP		03 43 45.2	
WRA						03 43 56.8	
WRAB	**Tennant Creek**	**134.06**	**208**	*i* PKIKP	PKPdf	03 43 57.6	+0.7
WRAB	**Tennant Creek**	**134.06**	**208**	*e*PKPdf	PKPdf	03 43 56.9	-0.1
CHKZ	**Chkalovo**	**134.31**	**35**	*e*PKPdf	PKPdf	03 43 57.5	+0.1
CHKZ				*e*SKP		03 47 08.2	
BRVK	**Borovoye**	**134.41**	**35**	*e*PKIKP	PKPdf	03 43 57.9	+0.3
BVAR	**Borovoye Array**	**134.48**	**35**	PKP	PKPdf	03 43 58.2	+0.5
comp=Z,2.1nm,0.7s,baz=270,slow=2.9,SNR=7.2							
BVAR				SKPbc	SKPbc	03 47 08.1	-2.8
comp=Z,0.5nm,0.5s,baz=299,slow=5.9,SNR=3.6							
YAK	**Yakutsk**	**138.04**	**349**	*i* PKIKP	PKPdf	03 44 03.1	-1.2
FITZ	**Fitzroy Crossi**	**138.88**	**198**	*e*P		03 43 55.0	
comp=Z,7.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**138.88**	**198**	PKP	PKPdf	03 44 06.5	+0.6
comp=Z,3.5nm,0.7s,baz=187,slow=3.0,SNR=12							
FITZ	**Fitzroy Crossi**	**138.88**	**198**	*e*P		03 43 55.0	
FITZ				PKP	PKPdf	03 44 06.5	+0.6
NVS	**Novosibirsk**	**139.67**	**27**	*e*PKIKP	PKPdf	03 44 05.4	-1.9
ZAL	**Zalesovo**	**140.96**	**27**	PKP	PKPdf	03 44 09.8	+0.2
comp=Z,4.8nm,0.8s,baz=184,slow=5.4,SNR=16							
ZAL				SKPbc	SKPbc	03 47 24.7	-4.9
comp=Z,3.5nm,0.9s,baz=187,slow=3.7,SNR=14							
ZAL	**Zalesovo**	**140.96**	**27**	PKP	PKPdf	03 44 09.8	+0.2
ZAL				SKPbc	SKPbc	03 47 24.7	-4.9
AAK	**Ala-Archa**	**141.21**	**48**	*e*PKPpre		03 44 05.6	
AAK				*e*PKPdf	PKPdf	03 44 10.7	+0.7
AAK				*e*SKP		03 47 28.1	
BOD	**Bodaibo**	**143.76**	**360**	*e*PKIKP	PKPdf	03 44 10.6	-4.0
BOD				pmax	pmax		
comp=Z,11nm,1.0s							
MK31	**Makanchi Array**	**144.26**	**38**	*i* PKIKP	PKPdf	03 44 14.6	-0.9
MK31	**Makanchi Array**	**144.26**	**38**	*e*PKPdf	PKPdf	03 44 14.5	-1.0
MKAR	**Makanchi Array**	**144.26**	**38**	PKP	PKPdf	03 44 14.8	-0.7
comp=Z,33nm,0.7s,baz=313,slow=3.8,SNR=163							
MKAR				SKPbc	SKPbc	03 47 35.1	-2.5
comp=Z,2.0nm,0.9s,baz=358,slow=3.8,SNR=4.2							
YSS	**Yuzh-Sakhalins**	**145.37**	**324**	*e*PKIKP	PKPdf	03 44 17.0	-0.4
YSS	**Yuzh-Sakhalins**	**145.37**	**324**	*e*PKPbc	PKPbc	03 44 17.2	-0.5
NDI	**New Delhi**	**146.39**	**70**	*e*P	PKPdf	03 44 19.0	-0.1
HYB	**Hyderabad**	**146.75**	**91**	*i* PKP	PKPdf	03 44 22.0	+2.3
HYB	**Hyderabad**	**146.75**	**91**	*e*P	PKPab	03 44 24.0	+0.7
KLR	**Kul'dur**	**148.82**	**337**	*e*PKIKP	PKPdf	03 44 22.7	-0.4
TLY	**Talaya**	**148.93**	**12**	*i* PKHKP	PKPdf	03 44 24.4	+1.1
TLY	**Talaya**	**148.93**	**12**	*e*PKPdf	PKPdf	03 44 23.9	+0.6
TLY				*e*PKPbc	PKPbc	03 44 27.8	+0.3
WMQ	**Urumqi**	**149.09**	**38**	PKP	PKPbc	03 44 27.6	-0.3
ZAK	**Zakamensk**	**150.08**	**13**	*e*PKIKP	PKPdf	03 44 25.7	+0.6
ZAK				pmax	pmax		
comp=Z,2.0nm,1.3s							
SONM	**Songino Array**	**153.13**	**11**	PKP	PKPdf	03 44 30.4	+0.7
comp=Z,5.0nm,0.9s,baz=312,slow=1.0,SNR=25							
SONM				PKPbc	PKPbc	03 44 37.4	+0.1
comp=Z,12nm,0.9s,baz=293,slow=1.4,SNR=31							
SONM				PKPab	PKPab	03 44 49.6	+0.1
comp=Z,0.6nm,0.5s,baz=317,slow=3.7,SNR=4.5							
MJAR	**Matsushiro Arr**	**153.90**	**310**	PKPbc	PKPbc	03 44 38.1	-0.8
comp=Z,2.4nm,0.7s,baz=90,slow=2.4,SNR=5.0							
MJAR				PKPab	PKPab	03 44 51.8	-1.1
comp=Z,0.9nm,0.5s,baz=55,slow=2.9,SNR=4.5							
CN2	**Changchun**	**155.71**	**339**	*e*PKP	PKPdf	03 44 29.3	-4.0
PSI	**Prapat**	**156.53**	**141**	PKP	PKPdf	03 44 35.2	+0.8
comp=Z,2.5nm,0.6s,baz=207,slow=6.8,SNR=4.1							
PSI				PKPab	PKPab	03 45 05.9	+1.8
comp=Z,5.8nm,0.7s,baz=144,slow=2.5,SNR=8.9							
GTA	**Gaotai**	**158.63**	**30**	PKP	PKPdf	03 44 37.8	+0.8
GTA				PKS		03 48 09.9	
GTA				PP	PP	03 49 00.8	+6.7
GTA				SKS	SKSdf	03 51 18.8	-7.0
GTA				SKKS	SKKSac	03 55 23.0	-2.6
GTA				SS	SS	04 08 37.3	-3.9
GTA				PP	PP		
comp=Z,91nm,4.2s							
GTA				LR	LR		
comp=N,104nm,6.1s							
GTA				LR	LR		
comp=E,109nm,4.9s							
GTA				LR	LR		
comp=Z,83nm,8.0s							
HHC	**Hu-ho-hao-te**	**160.67**	**5**	*e*PKP	PKPdf	03 44 36.4	-2.9
LZH	**Lanzhou**	**163.18**	**28**	*e*PKP	PKPdf	03 44 38.0	-3.8
LZH				PKP2	PKPab	03 45 31.0	-2.1
LZH				APKP		03 45 35.0	
LZH				XPKP		03 45 52.5	
LZH				LR	LR		
comp=N,125nm,19.2s							
LZH				LR	LR		
comp=Z,254nm,20.4s							
CD2	**Chengdu**	**167.15**	**41**	*e*PKP	PKPdf	03 44 44.5	-0.7
NJ2	**Nanjing**	**168.53**	**337**	*e*PKP	PKPdf	03 44 46.1	0.0
GYA	**Guiyang**	**171.99**	**51**	PKP	PKPdf	03 44 48.6	+0.5

IDC 18 04:08:27.9±3.7, 573S×15114E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/12, mbtmp3.3/2, Error ellipse: s-maj=150.5km s-min=49.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.59**	**228**	P	P	04 13 19.3	+0.1
0.4nm,0.4s,baz=54,slow=10,SNR=2.8							
ASAR	**Alice Springs**	**24.36**	**221**	P	P	04 13 48.0	+0.6
0.6nm,0.7s,baz=59,slow=9.0,SNR=7.9							
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	04 28 18.4	+0.6
0.6nm,0.7s,baz=68,slow=2.6,SNR=7.7							

*NEIC **18** 04:18:16.1, 1524N×9557W, h12km, MD4.3(MEX), After MEX.*

MEX 18 04:18:15.2±0.5, 1514N×9562W, h21km±22km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.78**	**323**	*i* P	Pb	04 18 27.8	-2.3
HUIG				*i* S	Sb	04 18 37.0	-3.2
HUIG	**Huatulco**	**0.78**	**323**	*i* P	Pb	04 18 27.8	-2.3
HUIG				*i* S	Sb	04 18 38.0	-2.2
CMIG	**Matias Romero**	**2.07**	**20**	*i* P	Pn	04 18 45.8	-2.8
CMIG				*i* S	Sn	04 19 10.3	-3.4
CMIG	**Matias Romero**	**2.07**	**20**	*i* P	Pn	04 18 45.8	-2.8
CMIG				*i* S	Sn	04 19 08.4	-5.3
VHO	**Vista Hermosa**	**2.20**	**331**	*i* P	Pn	04 18 48.6	-1.8
VHO				*i* S	Sn	04 19 14.3	-2.7
VHO	**Vista Hermosa**	**2.20**	**331**	*i* P	Pn	04 18 49.4	-1.0
VHO				*i* S	Sn	04 19 13.1	-3.8
OXX	**Oaxaca**	**2.20**	**331**	*i* P	Pn	04 18 48.7	-1.8
OXX				*i* S	Sn	04 19 13.0	-4.0
UTMO	**Huajuapan**	**3.40**	**322**	*e*P	Pn	04 19 05.4	-1.5
UTMO				*i* S	Sn	04 19 43.9	-2.7
CCIG	**Comitan**	**3.54**	**71**	*i* P	Pn	04 19 07.1	-1.9
CCIG				*i* S	Sn	04 19 47.6	-2.6
CCIG	**Comitan**	**3.54**	**71**	*i* P	Pn	04 19 07.1	-1.9
CCIG				*i* S	Sn	04 19 48.5	-1.7
TPIG	**Tehuac#an**	**3.66**	**333**	*i* S	Sn	04 19 49.9	-3.2

MAN 18 04:52:51.3, 1694N×12004E, h23km, MS3.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.57**	**193**	*e*P	Pb	04 53 03.8	+1.2
BOLP				*e*S	Sb	04 53 13.1	+2.7
BCPH	**Baguio City Da**	**0.76**	**137**	⇓*e*P	Pb	04 53 05.3	-0.6
BCPH				*e*S	Sb	04 53 14.8	-1.0
ABRA	**Dolores**	**0.95**	**42**	*e*P	Pb	04 53 08.5	-0.6
SCZP	**Santa Cruz**	**1.17**	**186**	*e*P	Pn	04 53 11.7	-0.6
BALP	**Baler**	**1.90**	**129**	*e*P	Pn	04 53 23.5	+1.2

IDC 18 04:53:41.2±2.2, 932S×12327E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=266.4km s-min=31.5km az=55.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.03**	**136**	Pn	Pn	04 57 13.4	-1.5
0.3nm,0.3s,baz=311,slow=14,SNR=5.4							
WRA				Sn	Sn	04 59 46.5	-16
1.2nm,0.3s,baz=323,slow=4.5,SNR=11							
ASAR	**Alice Springs**	**17.52**	**146**	P	Pn	04 57 48.2	+1.4
0.3nm,0.3s,baz=322,slow=12,SNR=24							
ASAR				S	Sn	05 00 49.1	-13
0.5nm,0.3s,baz=321,slow=23,SNR=18							
GUMO	**Guam**	**31.27**	**44**	LR	LR	05 11 25.8	
comp=Z,52nm,19.2s,baz=313,slow=34							
MKAR	**Makanchi Array**	**66.73**	**331**	P	P	05 04 34.3	+0.1
0.5nm,0.5s,baz=139,slow=7.3,SNR=7.5							

*BGR **18** 05:07:18.4±0.9, 4794N×834E, h10km, ML1.1/1, Error ellipse: s-maj=10.0km s-min=3.3km az=114.0*
*LEDBW **18** 05:07:18.9±0.0, 47989N±0001×8232E±0001, h3km±1km, ML1.6, Error ellipse: s-maj=0.4km s-min=0.2km az=148.0*
*STR **18** 05:07:18.6±0.7, 4790N×825E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **18** 05:07:18.8, 4797N×823E, h2km±5km, ML1.5/3*
*ISCJB **18** 05:07:18.6±0.4, 4796N±002×822E±003, h10km±4km, Error ellipse: s-maj=4.1km s-min=3.2km az=131.1*
*LDG **18** 05:07:19.2±0.1, 4797N×825E, h9km, Md2.2/1, Ml2.3/8, Error ellipse: s-maj=1.8km s-min=0.9km az=167.0*

ISC 18 05:07:19.0±0.4, 4795N±002×824E±003, h11km±4km, n37, σ0§87/48, 5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FELD	**Feldberg im Sc**	**0.17**	**246**	*e*Pg	**Pg**	**05 07 22.8**	**0.0**
SNR=13							
FELD				*e*Sg	**Sg**	**05 07 25.4**	**+0.1**
FELD	**Feldberg im Sc**	**0.17**	**246**	⇓*i*Pg	**Pg**	**05 07 22.8**	**+0.1**
FELD				Sg	**Sg**	**05 07 25.6**	**+0.3**
KIZ	**Kirchzarten**	**0.21**	**273**	⇑*i*Pg	**Pg**	**05 07 23.2**	**-0.3**
KIZ				*i* Sg	**Sg**	**05 07 26.3**	**-0.2**
KIZ	**Kirchzarten**	**0.21**	**273**	PmP		05 07 27.8	
SLE	**Schleitheim**	**0.25**	**136**	*e*Sg	**Sg**	**05 07 24.3**	**-3.3**
290nm,0.3s							
SLE	**Schleitheim**	**0.25**	**136**	⇓*i*Pg	**Pg**	**05 07 28.2**	**+4.1**
290nm,0.3s							
BFO	**Black Forest**	**0.39**	**9**	*e*Pg	**Pg**	**05 07 25.7**	**-1.0**
SNR=8.2							
BFO				*e*Sg	**Sg**	**05 07 30.9**	**-1.0**
BFO	**Black Forest**	**0.39**	**9**	⇓*i*Pg	**Pg**	**05 07 25.7**	**-1.0**
BFO				Sg	**Sg**	**05 07 30.6**	**-1.3**
SPAK	**Spaichingen-Ko**	**0.40**	**67**	Pg	**Pg**	**05 07 26.5**	**-0.3**
TRULL	**Truellikon**	**0.42**	**134**	*e*Sg	**Sg**	**05 07 27.9**	**-5.0**
56nm,0.4s							
SULZ	**Cheisacher**	**0.43**	**191**	⇓*i*Pg	**Pg**	**05 07 28.1**	**+0.7**
42nm,0.3s							
SULZ				*i* Sg	**Sg**	**05 07 34.2**	**+1.2**
42nm,0.3s							
SISB	**Singen-Schiene**	**0.56**	**118**	⇓*i*Pg	**Pg**	**05 07 30.1**	**+0.3**
GUT	**Gutenstein**	**0.60**	**78**	⇑*i*Pg	**Pg**	**05 07 30.2**	**-0.5**
GUT	**Gutenstein**	**0.60**	**78**	PmP		05 07 32.5	
GUT				SmS		05 07 42.2	
BBS	**Basel-Blauen**	**0.69**	**226**	*e*Sg	**Sg**	**05 07 42.3**	**+1.0**
MOF	**Molkenrain**	**0.75**	**263**	Pg	**Pg**	**05 07 33.8**	**+0.4**
MOF	**Molkenrain**	**0.75**	**263**	*e*Pg	**Pg**	**05 07 34.6**	**+1.2**
SNR=2.3							
WLS	**Welschbruch**	**0.75**	**309**	*e*Pg	**Pg**	**05 07 33.8**	**+0.2**
SNR=3.0							
WLS				*e*Sg	**Sg**	**05 07 44.7**	**+1.3**
ECH	**Echery**	**0.77**	**291**	Pg	**Pg**	**05 07 33.9**	**0.0**
ECH				Sg	**Sg**	**05 07 45.1**	**+1.1**
ECH	**Echery**	**0.77**	**291**	*e*Pg	**Pg**	**05 07 34.2**	**+0.3**
SNR=4.3							
ECH	**Echery**	**0.77**	**291**	Px	Px	05 07 34.2	
CDF	**Champ du Feu**	**0.79**	**306**	*e*Pg	**Pg**	**05 07 34.4**	**+0.1**
CDF				*e*Sg	**Sg**	**05 07 45.1**	**+0.4**
9.3nm,0.2s							
LBG	**Lerchenberg**	**0.81**	**27**	SmS		05 07 46.3	
BUCH	**Bad Urach**	**0.90**	**56**	Pg	**Pg**	**05 07 36.2**	**-0.1**
BUCH				S	**Sg**	**05 07 47.6**	**-0.5**
HINF	**Hinteralfeld**	**0.94**	**263**	*e*Pn	**Pn**	**05 07 36.8**	**-1.3**
HINF	**Hinteralfeld**	**0.94**	**263**	*e*Pg	**Pg**	**05 07 37.1**	**0.0**
HINF				*e*Sg	**Sg**	**05 07 49.9**	**+0.6**
31nm,0.4s							
LANF	**Langenberg**	**1.07**	**345**	Pg	**Pg**	**05 07 39.4**	**-0.3**
LANF	**Langenberg**	**1.07**	**345**	*e*Pg	**Pg**	**05 07 39.2**	**-0.5**
SNR=4.5							
LANF				*e*Sg	**Sg**	**05 07 54.0**	**+0.3**
LOMF	**Lomont**	**1.12**	**239**	*e*Pg	**Pg**	**05 07 41.1**	**+0.5**
SNR=2.3							
HAU	**Haudompre**	**1.27**	**273**	*e*Pn	**Pn**	**05 07 42.5**	**-0.2**
HAU	**Haudompre**	**1.27**	**273**	*e*Pg	**Pg**	**05 07 43.2**	**-0.2**
HAU				*e*Sn	**Sn**	**05 07 57.7**	**-2.0**
HAU				*e*Sg	**Sg**	**05 08 00.1**	**+0.2**
11nm,0.2s							
HDH	**Heidenheim-Cha**	**1.46**	**63**	S	**Sn**	**05 08 05.3**	**+0.8**
SIND	**Sindeldorf**	**1.67**	**32**	P	**Pn**	**05 07 49.6**	**+1.4**
SIND				S	**Sn**	**05 08 10.8**	**+1.1**
CABF	**La Chapelle**	**1.98**	**228**	*e*Sg	**Sg**	**05 08 22.2**	**-0.4**
1.3nm,0.2s							
SFTF	**Sexfontaines**	**2.16**	**278**	*e*Sg	**Sg**	**05 08 27.9**	**-0.5**
1.9nm,0.2s							
LOR	**Lormes**	**3.04**	**259**	*e*Sg	**Sg**	**05 08 55.0**	**-1.6**
1.3nm,0.2s							
SMF	**Signal de Mont**	**3.26**	**248**	*e*Sg	**Sg**	**05 09 02.3**	**-1.4**
1.8nm,0.3s							

WEL 18 05:14:58.2±0.3, 3778S×17588E, h234km±5km, ML3.7/15, Error ellipse: s-maj=7.7km s-min=7.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.09**	**117**	PN	Pn	05 15 32.0	-0.1
URZ				SN	S	05 15 58.1	-0.5
MWZ	**Matawai**	**1.42**	**114**	PN	Pn	05 15 34.6	+0.3
MWZ				SN	S	05 16 02.9	+0.2
BKZ	**Black Stump Fm**	**1.47**	**161**	PN	Pn	05 15 34.8	+0.1
BKZ				SN	S	05 16 03.4	0.0
TUVZ	**Tukino**	**1.50**	**187**	PN	Pn	05 15 35.5	+0.5
WNVZ	**Wahianoa**	**1.56**	**188**	PN	Pn	05 15 35.8	+0.3
PKVZ	**Pokaka**	**1.57**	**195**	PN	Pn	05 15 35.9	+0.3
MOVZ	**Moawhango**	**1.63**	**183**	PN	Pn	05 15 35.8	-0.3
MXZ	**Matakaoa Point**	**1.94**	**84**	PN	Pn	05 15 38.9	+0.1
WAZ	**Wanganui**	**2.10**	**199**	PN	Pn	05 15 40.0	-0.2
TSZ	**Takapari Road**	**2.28**	**178**	PN	Pn	05 15 41.2	-0.8
PXZ	**Pawanui**	**2.38**	**161**	PN	Pn	05 15 42.3	-0.7
MRZ	**Mangatainoka R**	**2.89**	**184**	PN	Pn	05 15 46.6	-1.9
BFZ	**Birch Farm**	**2.92**	**174**	PN	Pn	05 15 47.1	-1.7
KIW	**Kapiti Island**	**3.17**	**193**	PN	Pn	05 15 49.5	-2.1
DUWZ	**D'Urville Isla**	**3.38**	**206**	PN	Pn	05 15 51.8	-2.2
CAW	**Cannon Point**	**3.39**	**190**	PN	Pn	05 15 51.8	-2.3
MTW	**Mount Morrison**	**3.39**	**185**	PN	Pn	05 15 51.6	-2.5
MRW	**Makara Radio**	**3.57**	**194**	PN	Pn	05 15 53.6	-2.5
TCW	**Tory Channel**	**3.65**	**199**	PN	Pn	05 15 54.7	-2.4
NNZ	**Nelson**	**3.94**	**209**	PN	Pn	05 15 57.5	-3.1
QRZ	**Quartz Range**	**4.00**	**219**	PN	Pn	05 15 58.0	-3.3
THZ	**Tophouse**	**4.59**	**209**	PN	Pn	05 16 05.6	-2.8
KHZ	**Kahutara**	**4.97**	**200**	PN	Pn	05 16 10.2	-2.9

*ISCJB **18** 05:24:26.7±0.9, 1084N±005×6232W±003, h68km±11km, Error ellipse: s-maj=7.8km s-min=5.3km az=176.9*
*FUNV **18** 05:24:26.8, 1090N×6229W, h68km, MW2.5*
*NEIC **18** 05:24:28.4, 1093N×62.12W, h70km, MD3.0(TRN), After TRN.*
*TRN **18** 05:24:28.4, 1093N×62.12W, h70km, MD3.0*

ISC 18 05:24:27.2±0.9, 1083N±005×6232W±003, h66km±11km, n12, σ1§26/23, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**

ASAR			PcP	PcP		05 47 11.9	+0.4
	0.9nm,0.7s,baz=39,slow=2.7,SNR=6.2						
ASPA	**Alice Springs**	**22.22 216**	*eP*	**P**		**05 43 18.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.89 239**	*eP*	**P**		**05 43 44.7**	**+1.4**
	16nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.89 239**	P	**P**		**05 43 44.9**	**+1.6**
	8.9nm,0.7s,mb4.3,baz=61,slow=9.2,SNR=33						
FITZ			LR	LR		05 53 42.7	
	comp=Z,46nm,18.6s,baz=219,slow=37						
MJAR	**Matsushiro Arr**	**43.19 349**	P	**P**		**05 46 21.8**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=167,slow=8.1,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.19 349**	P	**P**		**05 46 21.8**	**+0.8**
MKAR	**Makanchi Array**	**78.00 320**	P	**P**		**05 50 16.7**	**-1.0**
	0.4nm,0.5s,mb3.4,baz=94,slow=6.1,SNR=8.6						
MKAR	**Makanchi Array**	**78.00 320**	P	**P**		**05 50 16.7**	**-1.0**
CHKZ	**Chkalovo**	**87.25 324**	*eP*	**P**		**05 51 02.9**	**-2.8**
	1.3nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**145.94 285**	PKPbc	PKPbc		05 57 58.3	-0.2
	0.7nm,0.5s,baz=60,slow=2.6,SNR=12						
BDFB	**Brasilia**	**153.41 144**	PKPbc	PKPbc		05 58 15.9	-1.2
	1.7nm,0.5s,baz=249,slow=0.7,SNR=4.5						

*TRN **18** 05:53:49.6, 1757N×6065W, h20km, M3.5(FDF)*
*ISCJB **18** 05:53:53.9±1.9, 1756N±009×609W±01, h33km, Error ellipse: s-maj=19.8km s-min=5.7km az=104.0*
*RSPR **18** 05:53:55.9, 1820N×6094W, h162km±30km*
ISC 18 05:53:54.2±1.9, 1754N±009×607W±01, h35km, n11, σ0:89/18, 3C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.26**	**195**	*eP*	**Pn**	**05 54 13.7**	**-1.6**
DEG				*eS*	**Sn**	**05 54 30.5**	**-0.5**
BCG	**Bois Riant Cap**	**1.68**	**211**	*eP*	**Pn**	**05 54 20.4**	**-0.6**
LZG	**Guadaloupe-1**	**1.72**	**216**	*eP*	**Pn**	**05 54 21.2**	**-0.4**
SCG	**Saint Claude**	**1.76**	**211**	*eP*	**Pn**	**05 54 21.9**	**-0.2**
TBG	**Guadaloupe-3**	**1.90**	**208**	⇓*eP*	**Pn**	**05 54 23.8**	**-0.2**
DWS	**Wesley**	**2.04**	**196**	*eP*	**Pn**	**05 54 26.9**	**+1.0**
DWS				*eS*	**Sn**	**05 54 52.0**	**+1.7**
SABT	**Saba**	**2.40**	**272**	*eP*	**Pn**	**05 54 29.8**	**-1.1**
SABT				*eS*	**Sn**	**05 55 03.9**	**+4.8**
HUMP	**Col San Antoni**	**4.91**	**278**	⇑*eP*	**Pn**	**05 55 06.1**	**+0.6**
HUMP				*eS*	**Sn**	**05 56 01.1**	**-0.1**
AOPR	**Arecibo Observ**	**5.79**	**279**	⇑*eP*	**Pn**	**05 55 18.9**	**+1.4**
AOPR				*eS*	**Sn**	**05 56 21.4**	**-1.3**
LRS	**Lares**	**5.87**	**278**	⇑*eP*	**Pn**	**05 55 18.5**	**-0.1**
LRS				*eS*	**Sn**	**05 56 24.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**6.10**	**275**	*eP*	**Pn**	**05 55 22.7**	**+0.9**
CRPR				*eS*	**Sn**	**05 56 30.7**	**+0.5**

*ISCJB **18** 06:07:59.6±7.3, 59S±06×1508E±07, h29km±59km, mb3.6/3, Error ellipse: s-maj=156.0km s-min=25.7km az=85.1*
*IDC **18** 06:08:00.8±3.5, 593S×1540E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML2.3/1, Error ellipse: s-maj=122.0km s-min=39.9km az=122.0*
*NEIC **18** 06:08:04.3±2.3, 6435S×1509.5E, h35km, mb4.0/1, Error ellipse: s-maj=105.0km s-min=26.9km az=129.0*
ISC 18 06:08:00.4±7.5, 61S±07×1510E±06, h22km±61km, n8, σ0:58/8, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**229**	Pn	**Pn**	**06 09 14.8**	**+0.2**
	0.9nm,0.3s,baz=83,slow=8.1,SNR=4.0						
PMG				Sn	**Sn**	**06 10 12.2**	**0.0**
	3.0nm,0.3s,baz=108,slow=20,SNR=3.1						
WB2	**Warramunga Arr**	**21.25**	**228**	*eP*	**P**	**06 12 45.4**	**+0.5**
WB2	**Warramunga Arr**	**21.25**	**228**	*eP*	**P**	**06 12 43.9**	**-1.1**
WRA	**Warramunga Arr**	**21.26**	**228**	P	**P**	**06 12 44.7**	**-0.4**
	1.5nm,0.6s,mb3.5,baz=52,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.01**	**221**	P	**P**	**06 13 13.8**	**+0.3**
	1.7nm,0.5s,mb3.8,baz=58,slow=8.9,SNR=30						
FITZ	**Fitzroy Crossi**	**27.48**	**242**	*eP*	**P**	**06 13 45.3**	**+0.4**
	4.5nm,1.2s,mb3.9						
FITZ	**Fitzroy Crossi**	**27.48**	**242**	P	**P**	**06 13 44.7**	**-0.2**
	0.8nm,0.6s,mb3.4,baz=74,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.95**	**285**	PKPbc	PKPbc	06 27 50.4	+4.0
	0.4nm,0.8s,baz=77,slow=2.7,SNR=3.1						

*ISCJB **18** 06:14:27.7±0.7, 4306N±004×7494E±004, h10km, Error ellipse: s-maj=6.5km s-min=4.2km az=43.1*
*KNET **18** 06:14:27.4±0.3, 4303N×7490E, h11km±2km, ml1.7, Error ellipse: s-maj=2.2km s-min=1.7km az=37.0*
ISC 18 06:14:27.9±0.7, 4305N±004×7493E±004, h10km, n9, σ0:72/17, 14C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**248**	⇑P	**Pg**	**06 14 30.4**	**-0.8**
	152nm,0.1s,SNR=93						
CHMS				⇑S	**Sg**	**06 14 32.4**	**-1.0**
	685nm,0.3s						
USP	**Ospenovka**	**0.38**	**304**	⇑P	**Pg**	**06 14 35.3**	**-0.2**
	72nm,0.1s,SNR=51						
USP				⇑S	**Sg**	**06 14 40.7**	**+0.1**
	93nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**178**	⇑P	**Pg**	**06 14 35.8**	**+0.1**
	124nm,0.2s,SNR=189						
KBK				⇑S	**Sg**	**06 14 41.8**	**+0.8**
	208nm,0.2s						
TKM2	**Tokmak 2**	**0.51**	**105**	⇑P	**Pg**	**06 14 37.6**	**-0.2**
	15nm,0.1s,SNR=76						
TKM2				⇑S	**Sg**	**06 14 44.9**	**+0.5**
	108nm,0.1s						
TKM2	**Tokmak 2**	**0.51**	**105**	⇑P	**Pg**	**06 14 37.4**	**-0.3**
	0.9nm,0.6s						
TKM2				⇑S	**Sg**	**06 14 44.9**	**+0.5**
	0.3nm,0.1s						
UCH	**Uchtor**	**0.88**	**201**	⇑P	**Pg**	**06 14 44.3**	**-0.5**
	9.2nm,0.3s,SNR=23						
UCH				S	**Sg**	**06 14 56.3**	**0.0**
	7.1nm,0.2s						
EKS2	**Erkin-Say**	**0.94**	**246**	P	**Pg**	**06 14 45.4**	**-0.5**
	11nm,0.1s,SNR=12						
EKS2				⇓S	**Sg**	**06 14 58.4**	**+0.3**
	14nm,0.3s						
ULHL	**Ulahol**	**1.26**	**129**	⇑P	**Pn**	**06 14 51.3**	**-0.3**
	6.0nm,0.2s,SNR=13						
KK31	**Karatay Array**	**3.24**	**272**	⇑Pn	**Pb**	**06 15 25.7**	**+0.2**
	baz=89,slow=16						
KK31				⇑Sn	**Sb**	**06 16 07.7**	**+2.7**
	baz=80,slow=33						

MOS 18 06:22:06.3±1.4, 5020N×9132E, h10km, mb4.3/1, 1C-2D, Error ellipse: s-maj=21.7km s-min=13.4km az=75.9, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**5.49**	**315**	*i* PN	Pn	06 23 30.0	+1.9
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KRAR	**Krasnoyarsk**	**5.90**	**9**	*e*PN	Pn	06 23 35.4	+1.7
NVS	**Novosibirsk**	**6.77**	**316**	*e*PN	Pb	06 24 06.8	+2.7
NVS				*e*		06 25 31.4	
MK31	**Makanchi Array**	**6.90**	**244**	⇓Pn	Pn	06 23 50.4	+3.0
	comp=Z,0.3nm,0.2s,baz=355,slow=26,SNR=11						
MK31				⇑Pg	Pg	06 24 14.6	-3.8
	comp=Z,5.5nm,0.8s,baz=65,slow=16,SNR=5.1						
MK31				⇓Lg		06 25 40.5	
	comp=Z,30nm,0.8s,baz=60,slow=35,SNR=8.7						
MKAR	**Makanchi Array**	**6.90**	**244**	*e*PN	Pn	06 23 50.5	+3.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
TLY	**Talaya**	**7.93**	**74**	*eP*	Pn	06 24 03.9	+2.3
BRVK	**Borovoye**	**13.37**	**290**	*eP*	Pn	06 25 20.8	+4.8
AKASG	**Malin Array Be**	**38.50**	**295**	*i* P	P	06 29 31.7	+3.0
AKASG				pmax	pmax		
	comp=Z,20nm,0.3s						

*NEIC **18** 06:23:19.9, 3224S×7177W, h18km, ML3.5(GUC), After GUC.*
GUC 18 06:23:19.9±0.7, 3224S×7177W, h18km±5km, MD4.2, ML3.5, 7C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.41**	**136**	⇓*i*P	Pg	06 23 28.5	+0.2
PACH				*i* S	Sg	06 23 35.0	+1.0
CHNG	**Los Chungos**	**0.43**	**33**	⇓*i*P	Pg	06 23 28.7	0.0
CHNG				*i* S	Sg	06 23 35.0	+0.5
CHNG				AML	AML	06 23 35.7	
	comp=N,7μm,0.5s						
PTCH	**Petorca**	**0.71**	**92**	⇓*i*P	Pb	06 23 33.3	-0.5
PTCH				*i* S	Sb	06 23 43.3	+0.1
PTCH				AML	AML	06 23 45.6	
	comp=E,3μm,0.3s						
PTCH	**Petorca**	**0.71**	**92**	⇓*i*P	Pb	06 23 33.3	-0.5
PTCH				*i* S	Sb	06 23 43.3	+0.1
IHA	**Instituto Hidr**	**0.79**	**172**	⇓*i*P	Pb	06 23 34.5	-0.6
IHA				*i* S	Sb	06 23 45.1	-0.2
ROCH	**El Roble**	**0.97**	**139**	⇑*i*P	Pb	06 23 37.4	-0.7
ROCH				*i* S	Sb	06 23 50.6	0.0
JACH	**Jahuel**	**1.09**	**114**	⇑*i*P	Pb	06 23 39.0	-1.1
JACH				*i* S	Sb	06 23 53.5	-0.5
LCCH	**Las Cruces**	**1.24**	**172**	*eP*	Pn	06 23 41.4	-0.9
LCCH				*i* S	Sb	06 23 57.4	-1.0
CMCH	**Combarbala**	**1.25**	**32**	⇑*i*P	Pn	06 23 41.3	-1.2
CMCH				*i* S	Sb	06 23 57.4	-1.4
CMCH				AML	AML	06 24 04.4	
	comp=N,5μm,0.8s						
CMCH	**Combarbala**	**1.25**	**32**	⇑*i*P	Pn	06 23 41.3	-1.2
CMCH				S	Sb	06 23 57.4	-1.4
PEL	**Peldehue**	**1.28**	**135**	⇑*i*P	Pn	06 23 42.2	-0.7
PEL				*i* S	Sn	06 23 59.4	-0.2
PEL				AML	AML	06 24 03.6	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.28**	**135**	⇑*i*P	Pn	06 23 42.2	-0.7
PEL				*i* S	Sn	06 23 59.4	-0.2
RCDM	**Rinconada Maip**	**1.48**	**147**	*eP*	Pn	06 23 45.4	-0.3
RCDM				*i* S	Sn	06 24 04.4	-0.2
RCDM				AML	AML	06 24 06.4	
	comp=E,793nm,0.1s						
RCDM	**Rinconada Maip**	**1.48**	**147**	*eP*	Pn	06 23 45.4	-0.3
RCDM				*i* S	Sn	06 24 04.4	-0.2
STL	**Santa Lucia**	**1.52**	**142**	⇑*i*P	Pn	06 23 45.2	-1.0
STL				*i* S	Sn	06 24 05.2	-0.4
CLCH	**Cerro Calan**	**1.55**	**138**	⇓*eP*	Pn	06 23 46.1	-0.4
CLCH				*i* S	Sn	06 24 06.5	+0.3
CLCH				AML	AML	06 24 10.7	
	comp=E,930nm,0.5s						
TACH	**Talagante**	**1.57**	**154**	⇓*i*P	Pn	06 23 47.0	+0.2
FCH	**Farellones**	**1.65**	**131**	⇓*i*P	Pn	06 23 47.8	-0.2
FCH				*i* S	Sn	06 24 09.7	+1.0
FCH				AML	AML	06 24 12.6	
	comp=E,371nm,0.4s						
OVCH	**Ovalle**	**1.70**	**17**	*eP*	Pn	06 23 48.7	+0.1
OVCH				*i* S	Sn	06 24 10.5	+0.6
OVCH				AML	AML	06 24 16.4	
	comp=E,2μm,0.6s						
OVCH	**Ovalle**	**1.70**	**17**	*eP*	Pn	06 23 48.7	+0.1
OVCH				*i* S	Sn	06 24 10.5	+0.6
PCH	**Pirque**	**1.73**	**143**	*eP*	Pn	06 23 49.2	+0.2
CHCH	**Chadas Angostu**	**1.93**	**151**	⇓*eP*	Pn	06 23 52.2	+0.4
CACH	**El Canelo**	**2.11**	**153**	*eP*	Pn	06 23 55.5	+1.2
TLL	**Tololo Astrono**	**2.23**	**22**	⇓*i*P	Pn	06 23 57.6	+1.7
TLL				*i* S	Sn	06 24 26.3	+3.4
ZON	**Zonda**	**2.72**	**76**	*eP*	Pn	06 24 06.6	+4.0

GUC 18 06:31:34.8±0.8, 3223S×7174W, h34km±3km, MD3.6, ML2.3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.40**	**31**	*eP*	Pb	06 31 43.9	-0.1
CHNG				*i* S	Sb	06 31 50.3	0.0
PACH	**Papudo**	**0.40**	**141**	⇑*i*P	Pb	06 31 43.9	-0.1
PACH				*i* S	Sb	06 31 50.4	+0.1
PTCH	**Petorca**	**0.69**	**93**	⇓*i*P	Pn	06 31 48.6	+0.5
PTCH				*i* S	Sn	06 31 58.1	+0.5
PTCH				AML	AML	06 31 59.8	
	comp=E,279nm,0.1s						
JACH	**Jahuel**	**1.07**	**115**	⇓*i*P	Pn	06 31 54.3	+0.9
CMCH	**Combarbala**	**1.22**	**31**	⇑*i*P	Pn	06 31 56.4	+0.9
CMCH				*i* S	Sn	06 32 12.6	+1.8
CMCH				AML	AML	06 32 18.9	
	comp=N,184nm,0.5s						
PEL	**Peldehue**	**1.27**	**136**	*eP*	Pn	06 31 57.1	+1.0
PEL				*i* S	Sn	06 32 14.4	+2.3
PEL				AML	AML	06 32 17.8	
	comp=N,90nm,0.3s						
RCDM	**Rinconada Maip**	**1.48**	**148**	*eP*	Pn	06 32 00.7	+1.6
RCDM				*i* S	Sn	06 32 18.3	+1.1
RCDM				AML	AML	06 32 20.7	
	comp=E,77nm,0.1s						
CLCH	**Cerro Calan**	**1.54**	**139**	*eP*	Pn	06 32 01.3	+1.4
CLCH				*i* S	Sn	06 32 21.4	+2.7
CLCH				AML	AML	06 32 26.0	
	comp=E,54nm,0.5s						
FCH	**Farellones**	**1.64**	**132**	*eP*	Pn	06 32 03.5	+2.3
FCH				*i* S	Sn	06 32 25.0	+3.9
FCH				AML	AML	06 32 28.5	
	comp=E,43nm,0.2s						

*NNC **18** 07:07:00.7±4.7, 3675N×6981E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=40.9km s-min=35.6km az=105.0*
ISC 18 07:07:06.5±2.6, 368N±02×698E±02, h94km±53km, n11, σ0:77/15, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.13**	**28**	P	**Pn**	**07 08 34.7**	**+0.3**
	SNR=14						
KK31	**Karatay Array**	**6.34**	**5**	⇓Pn	**Pn**	**07 08 39.0**	**+1.7**
KK31				⇑Sn	**Sn**	**07 09 56.2**	**+8.0**
	baz=169,slow=27						
UCH	**Uchtor**	**6.54**	**32**	P	**Pn**	**07 08 39.7**	**-0.3**
	SNR=13						
EKS2	**Erkin-Say**	**6.62**	**26**	P	**Pn**	**07 08 41.5**	**+0.4**
	SNR=9.0						
AAK	**Ala-Archa**	**6.87**	**30**	P	**Pn**	**07 08 44.3**	**-0.2**
	SNR=12						
CHMS	**Chumysh**	**7.28**	**30**	P	**Pn**	**07 08 49.6**	**-0.5**
	SNR=8.1						
USP	**Ospenovka**	**7.41**	**28**	P	**Pn**	**07 08 51.8**	**-0.1**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.57**	**34**	P	**Pn**	**07 08 53.0**	**-1.1**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.57**	**34**	⇓Pn	**Pn**	**07 08 52.1**	**-2.1**
	0.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**07 10 18.9**	**+0.6**
	2.5nm,0.9s						
AB31	**Akbulak array**	**14.39**	**333**	⇓Pn	**Pn**	**07 10 26.2**	**+0.6**
	5.4nm,0.6s,baz=160,slow=12,SNR=74						
AB31				⇑Sn	**Sn**	**07 13 03.0**	**-1.1**
	1.2nm,0.5s,baz=162,slow=24,SNR=4.1						
AKTO	**Aktyubinsk**	**16.07**	**332**	⇑Pn	**Pn**	**07 10 47.0**	**0.0**
	0.2nm,1.4s						
AKTO				⇓Sn	**Sn**	**07 13 45.0**	**+0.2**
	0.6nm,1.5s						

TRN 18 07:53:33.8, 1762N×6032W, h35km, M3.6(FDF), 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.48**	**209**	⇓*eP*	Pn	07 53 59.0	+1.1
DEG				*e*S	Sn	07 54 18.5	+2.5
MGG	**Marie-Galante**	**1.94**	**210**	*eP*	Pn	07 54 06.7	+2.4
BCG	**Bois Riant Cap**	**1.97**	**219**	*eP*	Pn	07 54 06.3	+1.7
LZG	**Guadaloupe-1**	**2.02**	**224**	*eP*	Pn	07 54 07.2	+1.8
SCG	**Saint Claude**	**2.05**	**220**	⇓*eP*	Pn	07 54 07.5	+1.8
TBG	**Guadaloupe-3**	**2.17**	**216**	⇓*eP*	Pn	07 54 09.4	+2.0

*IDC **18** 08:18:02.5±1.1, 1369N×9096W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/25, mbtmp4.0/8, ML4.2/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=44.1km s-min=16.3km az=52.0*
*CASC **18** 08:18:07.5±3.5, 1365N×9120W, h21km±18km, MD4.3, mb4.1(NEIC)*
*ISCJB **18** 08:18:08.1±0.8, 1364N±009×9117W±007, h61km±9km, mb4.0/6, Error ellipse: s-maj=17.6km s-min=5.1km az=71.8*
*NEIC **18** 08:18:08.8±1.9, 1370N×9108W, h52km±24km, mb4.1/1, Error ellipse: s-maj=31.9km s-min=14.9km az=222.0*
ISC 18 08:18:09.5±0.7, 1375N±009×9117W±006, h54km±9km, n44, σ1:21/38, mb3.9/6, MS3.4/5, 5C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TER	**Terranova**	**0.72**	**41**	⇑*i*P	**Pn**	**08 18 23.6**	**-0.1**
JAT	**Jato**	**0.72**	**321**	⇑*eP*	**Pn**	**08 18 22.8**	**-0.9**
JAT				*e*S	**Sn**	**08 18 31.8**	**-2.2**
FUG	**Fuego 3**	**0.76**	**25**	⇓*i*P	**Pn**	**08 18 24.2**	**0.0**
PCG	**Pacaya**	**0.84**	**40**	⇓*eP*	**Pn**	**08 18 25.7**	**+0.5**
GCG	**Guatemala City**	**1.03**	**37**	⇓*eP*	**Pn**	**08 18 29.0**	**+1.3**
RTR	**El Retiro**	**1.48**	**84**	*eP*	x	08 18 44.3	
RTR				*e*S	x	08 19 06.9	
SBLS	**San Blas**	**1.50**	**87**	⇑*eP*	x	08 18 44.5	
SBLS				*e*S	x	08 19 03.9	
BOQS	**Boqueron**	**1.83**	**90**	⇓*eP*	x	08 18 49.2	
BOQS				*e*S	x	08 19 12.4	
MTO2	**Montecristo 2**	**1.87**	**70**	*eP*	x	08 18 50.1	
MTO2				*e*S	x	08 19 16.8	
SNET	**Serv Nac Est T**	**1.88**	**92**	*eP*	x	08 18 39.4	
SNET				*e*S	x	08 19 02.7	
LFU	**La Fuente**	**2.00**	**90**	⇓*eP*	x	08 18 52.4	
LFU				*e*S	x	08 19 17.3	
LBRS	**Las Brisas**	**2.06**	**90**	*eP*	x	08 18 52.6	
LBRS				*e*S	x	08 19 21.5	
CCIG	**Comitan**	**2.68**	**340**	*i* P	**Pn**	**08 18 51.5**	**+1.3**
CCIG				*i* S	**Sn**	**08 19 26.6**	**+5.1**
VSM	**San Miguel**	**2.83**	**96**	*eP*	x	08 19 03.9	
VSM				*e*S	x	08 19 40.4	
BLLM	**Bellamira**	**2.87**	**96**	⇓*eP*	x	08 19 05.4	
BLLM				*e*S	x	08 19 38.1	
CNCH	**Conchagua**	**3.28**	**98**	*eP*	x	08 19 09.6	
CNCH				*e*S	x	08 19 49.7	
LEON	**Leon**	**4.37**	**107**	*eP*	**Pn**	**08 19 13.4**	**0.0**
CNGN	**Cerro Negro**	**4.53**	**105**	*eP*	**Pn**	**08 19 15.3**	**-0.2**
MIRN	**Miramar**	**4.53**	**106**	⇓*eP*	**Pn**	**08 19 15.6**	**0.0**
MOMJ	**Momotombo**	**4.70**	**106**	*eP*	**Pn**	**08 19 18.1**	**+0.2**
MOMJ				*e*S	**Sn**	**08 20 10.4**	**-0.8**
COPN	**Copaltepe**	**4.73**	**109**	⇑*eP*	**Pn**	**08 19 18.4**	**+0.1**
CMIG	**Matias Romero**	**4.88**	**313**	Pn	**Pn**	**08 19 18.3**	**-2.1**
	5.2nm,0.3s,baz=122,slow=9.3,SNR=43						
CMIG				Sn	**Sn**	**08 20 11.4**	**-4.2**
	15nm,0.3s,baz=97,slow=15,SNR=6.6						
CMIG	**Matias Romero**	**4.88**	**313**	Pn	**Pn**	**08 19 18.3**	**-2.1**
CMIG				Sn	**Sn**	**08 20 11.4**	**-4.2**
CMIG				*i* S	**Sn**	**08 20 12.4**	**-3.2**
XAVN	**Gruta Xavier**	**4.98**	**108**	*eP*	**Pn**	**08 19 23.6**	**+1.8**
XAVN				*e*S	**Sn**	**08 20 17.1**	**-0.8**
TISN	**Laguna Tiscapa**	**5.04**	**108**	*eP*	**Pn**	**08 19 22.4**	**-0.1**
TICN	**Ticuantepe**	**5.11**	**109**	*eP*	**Pn**	**08 19 24.6**	**+1.1**
SSNN	**San Juan del S**	**5.74**	**115**	*eP*	**Pn**	**08 19 31.9**	**-0.3**
OXX	**Oaxaca**	**6.30**	**302**	*eP*	**Pn**	**08 19 42.0**	**+2.2**
VHO	**Vista Hermosa**	**6.30**	**302**	*i* P	**Pn**	**08 19 41.5**	**+1.7**
VHO				*i* S	**Sn**	**08 20 45.1**	**-5.3**
ROSC	**El Rosal**	**18.81**	**116**	P	**Pn**	**08 22 26.3**	**+0.8**
	2.1nm,0.3s,baz=98,slow=21,SNR=6.8						
TXAR	**Lajitas Array**	**19.35**	**325**	P	**Pn**	**08 22 32.5**	**+0.5**
	0.2nm,0.3s,baz=152,slow=12,SNR=24						
SDV	**Santo Domingo**	**20.70**	**101**	P	**P**	**08 22 42.9**	**-2.3**
	5.0nm,0.7s,baz=303,slow=6.7,SNR=6.4						
SDV				LR	LR	08 31 13.2	
	comp=Z,60nm,21.0s,MS2.9,baz=146,slow=39						
MNTX	**Cornudas Mount**	**22.11**	**326**	*eP*	**P**	**08 22 60.0**	**-0.4**
	5.1nm,0.7s,mb4.1						
TKL	**Tuckaleechee C**	**22.80**	**16**	P	**P**	**08 23 07.0**	**-0.6**
	1.6nm,0.5s,mb3.7,baz=186,slow=14,SNR=4.3						
ATAH	**Atahualpa**	**24.21**	**148**	P	**P**	**08 23 22.4**	**+1.4**
	7.2nm,0.8s,mb4.2,baz=333,slow=4.5,SNR=4.6						
SJG	**San Juan**	**24.43**	**76**	LR	LR	08 32 55.7	
	comp=Z,95nm,20.5s,MS3.3,baz=270,slow=37						
PCRV	**Puerto La Cruz**	**26.19**	**95**	LR	LR	08 34 06.2	
	comp=Z,67nm,18.9s,MS3.2,baz=40,slow=37						
NVAR	**Mina Array Bea**	**34.37**	**321**	P	**P**	**08 24 53.2**	**+1.9**
	1.4nm,0.7s,mb4.0,baz=136,slow=7.8,SNR=9.7						
NVAR	**Mina Array Bea**	**34.37**	**321**	P	**P**	**08 24 53.2**	**+1.9**
LPAZ	**La Paz**	**37.54**	**142**	P	**P**	**08 25 16.7**	**-1.7**
	0.9nm,0.7s,mb3.6,baz=339,slow=8.6,SNR=4.3						
LPAZ	**La Paz**	**37.54**	**142**	P	**P**	**08 25 16.7**	**-1.7**
SIV	**San Ignacio**	**41.94**	**134**	P	**P**	**08 25 53.3**	**-1.6**
	3.4nm,0.8s,mb4.0,baz=316,slow=9.3,SNR=22						
CPUP	**Villa Florida**	**51.68**	**140**	LR	LR	08 50 49.5	
	comp=Z,49nm,20.6s,MS3.5,baz=124,slow=38						
TORD	**Torodi Ar. Bea**	**89.65**	**77**	LR	LR	09 09 09.0	
	comp=Z,46nm,19.3s,MS3.9,baz=310,slow=34						

*CSEM **18** 08:24:40.6±1.2, 3848N×2842W, h5km, ML1.4, Error ellipse: s-maj=4.8km s-min=4.3km az=45.0, After PDA*
*PDA **18** 08:24:40.6±1.2, 3848N×2842W, h5km, MD2.7, ML1.4, Error ellipse: s-maj=4.8km s-min=4.3km az=45.0*
SVSA 18 08:24:40.6±1.2, 3848N×2842W, h5km, MD2.7, ML1.4, Error ellipse: s-maj=4.8km s-min=4.3km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.03**	**342**	*i* P	Pg	08 24 41.3	-0.3
PICO				*i* S	Sg	08 24 42.3	0.0
PICO	**Pico**	**0.03**	**342**	*i* S	Sg	08 24 42.3	0.0
PCND	**Candelaria**	**0.04**	**261**	*i* P	Pg	08 24 42.0	+0.3
PCND				*i* S	Sg	08 24 43.1	+0.6
	112nm,0.2s						
PBOI	**Pico dos Bois**	**0.05**	**141**	*i* P	Pg	08 24 41.9	0.0
PBOI			

RCDM				*i* S	Sn	08 27 35.2	+2.7
FCH	**Farellones**	**2.29**	**151**⇓	*e*P	Pn	08 27 08.4	+2.3
FCH				*i* S	Sn	08 27 36.8	+3.5
FCH				AML	AML	08 27 45.7	
	comp=E,154nm,0.2s						
ZON	**Zonda**	**2.54**	**96**	*e*P	Pn	08 27 14.5	+5.0

IDC 18 08:29:57.6±3.2, 928S×10719E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/24, Error ellipse: s-maj=139.5km s-min=19.9km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**14.55**	**325**	LR	LR	08 40 07.3	
	comp=Z,44nm,21.1s,baz=218,slow=42						
FITZ	**Fitzroy Crossi**	**19.94**	**118**	P	Pn	08 34 32.0	-0.6
	0.1nm,0.3s,baz=315,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**28.29**	**115**	P	P	08 35 52.2	-0.4
	0.2nm,0.6s,baz=290,slow=9.8,SNR=3.3						
ASAR	**Alice Springs**	**29.27**	**123**	P	P	08 36 02.7	+1.3
	0.2nm,0.6s,baz=300,slow=7.4,SNR=3.8						
STKA	**Stephens Creek**	**39.01**	**130**	P	P	08 37 25.3	-0.5
	2.4nm,0.9s,baz=302,slow=19,SNR=2.9						
SONM	**Songino Array**	**56.86**	**359**	P	P	08 39 44.1	+0.1
	0.6nm,0.5s,baz=168,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**60.08**	**341**	P	P	08 40 06.5	+0.1
	1.3nm,0.5s,baz=152,slow=7.7,SNR=11						

*ISCJB **18** 08:36:13.1±0.8, 3058S±009×1795W±02, h314km±14km, mb3.0/3, Error ellipse: s-maj=34.4km s-min=9.4km az=35.8*
*IDC **18** 08:36:14.1±1.3, 3060S×17946W, h302km±15km, mb2.6/2, mb1 3.0/3, mb1mx2.9/13, mbtmp3.6/3, Error ellipse: s-maj=31.9km s-min=21.3km az=111.0*
*NEIC **18** 08:36:14.1±1.0, 3062S×17943W, h304km±14km, mb3.9/1, Error ellipse: s-maj=32.9km s-min=12.4km az=103.0*
ISC 18 08:36:14.4±0.9, 3065S±009×1794W±02, h303km±13km, n44, σ0§97/53, mb2.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.91**	**44**	P	**Pn**	**08 37 00.3**	**-0.4**
	195nm,0.3s,baz=71,slow=23,SNR=9.6						
RAO				S	**S**	**08 37 26.5**	**-11**
	120nm,0.3s,baz=108,slow=20,SNR=2.6						
MXZ	**Matakaoa Point**	**7.15**	**195**	*e*P	**Pn**	**08 37 57.4**	**-0.1**
MXZ				S	**S**	**08 39 20.4**	**-0.6**
MXZ	**Matakaoa Point**	**7.15**	**195**	*e*PN	**Pn**	**08 37 57.4**	**-0.1**
MXZ				SN	**S**	**08 39 20.4**	**-0.6**
PUZ	**Puketiti**	**7.65**	**194**	*e*P	**Pn**	**08 38 03.4**	**-0.2**
PUZ				S	**S**	**08 39 32.5**	**+0.3**
PUZ	**Puketiti**	**7.65**	**194**	PN	**Pn**	**08 38 03.4**	**-0.2**
PUZ				SN	**S**	**08 39 32.5**	**+0.3**
MWZ	**Matawai**	**8.07**	**197**	*e*P	**Pn**	**08 38 08.7**	**0.0**
MWZ	**Matawai**	**8.07**	**197**	PN	**Pn**	**08 38 08.7**	**0.0**
MWZ				SN	**S**	**08 39 41.5**	**-0.1**
URZ	**Urewera**	**8.11**	**200**	P	**Pn**	**08 38 09.7**	**+0.4**
	1.1nm,0.3s,baz=17,slow=14,SNR=49						
URZ				S	**S**	**08 39 41.9**	**-0.6**
	3.9nm,0.3s,baz=115,slow=21,SNR=14						
URZ	**Urewera**	**8.11**	**200**	*e*P	**Pn**	**08 38 11.1**	**+1.8**
URZ	**Urewera**	**8.11**	**200**	PN	**Pn**	**08 38 11.1**	**+1.8**
URZ				*e*SN	**S**	**08 39 42.4**	**-0.2**
KNZ	**Kokohu**	**8.69**	**195**	PN	**Pn**	**08 38 18.5**	**+2.3**
BKZ	**Black Stump Fm**	**9.13**	**200**	*e*P	**Pn**	**08 38 21.3**	**-0.5**
BKZ	**Black Stump Fm**	**9.13**	**200**	PN	**Pn**	**08 38 21.3**	**-0.4**
TUVZ	**Tukino**	**9.50**	**204**	PN	**Pn**	**08 38 29.4**	**+3.2**
WNVZ	**Wahianoa**	**9.57**	**204**	P	**Pn**	**08 38 29.1**	**+2.0**
WNVZ	**Wahianoa**	**9.57**	**204**	PN	**Pn**	**08 38 29.1**	**+2.0**
MOVZ	**Moawhango**	**9.59**	**203**	PN	**Pn**	**08 38 29.4**	**+2.0**
PXZ	**Pawanui**	**9.84**	**197**	PN	**Pn**	**08 38 30.6**	**+0.2**
TSZ	**Takapari Road**	**10.11**	**201**	*e*P	**Pn**	**08 38 34.6**	**+0.8**
TSZ	**Takapari Road**	**10.11**	**201**	*e*PN	**Pn**	**08 38 32.7**	**-1.1**
BFZ	**Birch Farm**	**10.61**	**198**	*e*P	**Pn**	**08 38 38.2**	**-1.6**
BFZ	**Birch Farm**	**10.61**	**198**	PN	**Pn**	**08 38 40.2**	**+0.3**
MRZ	**Mangatainoka R**	**10.78**	**201**	*e*PN	**Pn**	**08 38 40.6**	**-1.4**
MRZ				*e*SN	**S**	**08 40 35.8**	**-7.0**
KIW	**Kapiti Island**	**11.18**	**203**	P	**Pn**	**08 38 46.7**	**-0.1**
KIW	**Kapiti Island**	**11.18**	**203**	*e*PN	**Pn**	**08 38 46.3**	**-0.5**
MTW	**Mount Morrison**	**11.26**	**200**	P	**Pn**	**08 38 47.6**	**-0.2**
MTW	**Mount Morrison**	**11.26**	**200**	*e*PN	**Pn**	**08 38 47.6**	**-0.2**
CAW	**Cannon Point**	**11.35**	**202**	P	**Pn**	**08 38 47.0**	**-1.9**
CAW	**Cannon Point**	**11.35**	**202**	*e*PN	**Pn**	**08 38 47.0**	**-1.9**
MRW	**Makara Radio**	**11.58**	**203**	P	**Pn**	**08 38 52.1**	**+0.5**
MRW	**Makara Radio**	**11.58**	**203**	PN	**Pn**	**08 38 52.1**	**+0.5**
TCW	**Tory Channel**	**11.71**	**204**	P	**Pn**	**08 38 52.5**	**-0.7**
TCW	**Tory Channel**	**11.71**	**204**	*e*PN	**Pn**	**08 38 52.4**	**-0.8**
TUWZ	**Tuamarina**	**12.02**	**205**	PN	**Pn**	**08 38 56.9**	**-0.1**
NNZ	**Nelson**	**12.04**	**207**	*e*P	**Pn**	**08 38 56.4**	**-0.9**
NNZ	**Nelson**	**12.04**	**207**	PN	**Pn**	**08 38 56.9**	**-0.4**
NNZ				*e*SN	**S**	**08 41 06.7**	**-4.6**
QRZ	**Quartz Range**	**12.07**	**211**	PN	**Pn**	**08 38 58.1**	**+0.5**
THZ	**Tophouse**	**12.69**	**207**	*e*P	**Pn**	**08 39 04.2**	**-1.0**
THZ	**Tophouse**	**12.69**	**207**	PN	**Pn**	**08 39 04.2**	**-0.9**
THZ				*e*SN	**S**	**08 41 20.6**	**-5.3**
ASAR	**Alice Springs**	**41.86**	**268**	P	**P**	**08 43 35.5**	**+0.2**
	0.1nm,0.3s,mb2.5,baz=107,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**42.88**	**273**	P	**P**	**08 43 43.2**	**-0.2**
	0.1nm,0.3s,mb2.5,baz=111,slow=7.9,SNR=5.0						
QSPA	**South Pole Qui**	**59.46**	**180**	*e*P	**P**	**08 45 46.1**	**+0.2**
	3.1nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**144.94**	**339**	PKP	PKPdf	08 55 12.4	-3.0
	1.7nm,0.8s,baz=72,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**162.55**	**184**	PKPab	PKPab	08 56 30.4	+0.5
	0.7nm,0.4s,baz=181,slow=3.4,SNR=16						

IDC 18 09:06:41.3±7.2, 608S×15074E, h108km±47km, mb3.3/4, mb1 3.4/5, mb1mx3.3/14, mbtmp3.7/5, Error ellipse: s-maj=90.5km s-min=33.6km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**227**	P	Pn	09 07 50.7	-1.2
	2.4nm,0.3s,baz=35,slow=5.8,SNR=5.1						
PMG				S	Sn	09 08 49.6	+2.6
	1.9nm,0.3s,baz=55,slow=22,SNR=3.1						
WB2	**Warramunga Arr**	**21.06**	**228**	*e*P	P	09 11 15.4	-1.3
WRA	**Warramunga Arr**	**21.07**	**228**	P	P	09 11 15.3	-1.5
	0.7nm,0.3s,baz=51,slow=11,SNR=24						
ASAR	**Alice Springs**	**23.84**	**221**	P	P	09 11 44.5	+0.1
	0.6nm,0.8s,baz=48,slow=8.4,SNR=5.5						
FITZ	**Fitzroy Crossi**	**27.25**	**242**	*e*P	P	09 12 17.3	+2.0
	6.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.25**	**242**	P	P	09 12 16.2	+0.9
	3.7nm,0.8s,baz=50,slow=13,SNR=6.5						
SONM	**Songino Array**	**66.33**	**329**	P	P	09 17 19.1	+0.8
	0.3nm,0.4s,baz=142,slow=7.5,SNR=5.2						

*IDC **18** 09:15:57.0±9.4, 594S×15095E, h68km±63km, mb3.8/3, mb1 4.0/4, mb1mx3.6/14, mbtmp4.1/4, ML2.3/1, MS3.7/4, Ms1 3.7/4, ms1mx3.0/26, Error ellipse: s-maj=108.1km s-min=65.8km az=112.0*
NEIC 18 09:15:50.8±2.3, 577S×15130E, h35km, mb4.1/1, Error ellipse: s-maj=99.3km s-min=27.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**228**	P	Pn	09 17 11.1	+1.5
	0.7nm,0.3s,baz=45,slow=19,SNR=2.0						
HNR	**Honiara**	**9.31**	**113**	LR	LR	09 20 26.4	
	comp=Z,51nm,20.8s,baz=179,slow=28						
WB2	**Warramunga Arr**	**21.67**	**228**	*e*P	P	09 20 37.8	-0.5
WRA	**Warramunga Arr**	**21.68**	**228**	P	P	09 20 37.9	-0.5
	3.5nm,0.5s,baz=54,slow=10,SNR=52						
AS31	**Alice Springs**	**24.43**	**222**	*e*P	P	09 21 06.5	+0.5
ASAR	**Alice Springs**	**24.43**	**222**	P	P	09 21 06.4	+0.4
	6.1nm,0.8s,baz=58,slow=9.1,SNR=68						
ASAR				LR	LR	09 31 43.7	
	comp=Z,74nm,18.1s,baz=353,slow=39						
ASPA	**Alice Springs**	**24.43**	**222**	*e*P	P	09 21 06.9	+0.9
FITZ	**Fitzroy Crossi**	**27.88**	**242**	*e*P	P	09 21 37.1	-0.1
	3.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	P	09 21 37.4	+0.2
	1.5nm,0.6s,baz=62,slow=9.2,SNR=6.8						
AFI	**Afiamalu**	**37.23**	**105**	LR	LR	09 34 55.6	
	comp=Z,734nm,18.9s,baz=226,slow=30						

JHJ	**Hachijo jima 2**	**40.19**	**345**	LR	LR	09 36 11.1		
	comp=Z,298nm,20.9s,baz=304,slow=30							
TORD	**Torodi Ar. Bea**	**149.16**	**286**	PKPbc	PKPbc	09 35 37.5	+2.1	
	1.2nm,0.6s,baz=92,slow=2.5,SNR=11							

*NEIC **18** 09:16:29.7±0.9, 564S×151.15E, h35km, mb4.5/1, Error ellipse: s-maj=40.9km s-min=14.7km az=139.0*
*ISCJB **18** 09:16:32.1±4.0, 58S±03×1510E±03, h61km±31km, mb4.0/6, Error ellipse: s-maj=69.0km s-min=26.6km az=96.3*
*IDC **18** 09:16:33.2±6.0, 584S×15107E, h59km±47km, mb3.9/6, mb1 4.1/7, mb1mx3.8/14, mbtmp4.2/7, ML3.4/1, Error ellipse: s-maj=51.3km s-min=35.7km az=136.0*
ISC 18 09:16:33.9±3.7, 59S±03×1511E±03, h63km±29km, n12, σ0§36/12, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**228**	P	**Pn**	**09 17 49.9**	**+0.2**
	8.0nm,0.3s,baz=46,slow=10,SNR=9.5						
PMG				S	**Sn**	**09 18 48.6**	**-0.3**
	8.2nm,0.3s,baz=84,slow=18,SNR=6.9						
WB2	**Warramunga Arr**	**21.46**	**228**	*e*P	**P**	**09 21 16.8**	**-0.2**
WRA	**Warramunga Arr**	**21.47**	**228**	P	**P**	**09 21 17.1**	**0.0**
	3.6nm,0.6s,mb3.9,baz=53,slow=11,SNR=16						
WRA				PcP	PcP	09 25 18.3	+0.3
	0.7nm,0.6s,baz=45,slow=2.0,SNR=6.5						
AS31	**Alice Springs**	**24.21**	**221**	*e*P	**P**	**09 21 45.3**	**+0.7**
ASAR	**Alice Springs**	**24.22**	**221**	P	**P**	**09 21 44.9**	**+0.2**
	3.8nm,0.6s,mb4.0,baz=57,slow=8.9,SNR=13						
ASPA	**Alice Springs**	**24.22**	**221**	*e*P	**P**	**09 21 45.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.67**	**242**	*e*P	**P**	**09 22 15.5**	**-0.4**
	7.1nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	**P**	**09 22 15.6**	**-0.3**
	2.5nm,0.3s,mb4.2,baz=78,slow=8.3,SNR=13						
VNDA	**Vanda**	**71.79**	**178**	P	**P**	**09 27 49.4**	**-0.3**
	0.6nm,0.8s,mb3.6,baz=331,slow=6.1,SNR=5.1						
MAW	**Mawson**	**83.91**	**203**	P	**P**	**09 28 56.6**	**-0.4**
	1.0nm,0.4s,mb4.3,baz=81,slow=11,SNR=4.1						
NVAR	**Mina Array Bea**	**94.07**	**52**	P	**P**	**09 29 45.3**	**-0.1**
	0.6nm,0.7s,mb4.2,baz=270,slow=6.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.04**	**286**	PKPbc	PKPbc	09 36 14.8	0.0
	4.5nm,0.7s,baz=71,slow=3.0,SNR=26						

MAN 18 09:25:15.5, 1027N×12612E, h12km, mb3.1, ML4.4, MS1.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.79**	**232**	*e*P	Pg	09 25 30.1	-0.6
SCPH				*e*S	Sg	09 25 42.2	+1.1
MSLP	**Maasin**	**1.25**	**264**	*e*P	Pn	09 25 38.1	-0.6
MSLP				*e*S	Sb	09 25 55.9	+0.9
BUTP	**Butuan**	**1.39**	**201**	*e*P	Pn	09 25 39.2	-1.4
PLP	**Palo**	**1.43**	**308**	*e*P	Pn	09 25 40.6	-0.6
PLP				*e*S	Sn	09 26 00.0	+0.1
BUKP	**Musuan**	**2.60**	**204**	*e*P	Pn	09 25 58.1	+0.8

*ISCJB **18** 09:34:32.3±0.6, 3.12S±007×1298E±01, h10km, mb4.2/9, Error ellipse: s-maj=22.1km s-min=6.5km az=134.1*
*IDC **18** 09:34:32.7±0.8, 308S×12964E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.3/18, mbtmp4.3/10, ML4.2/1, MS3.4/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=70.0km s-min=15.6km az=67.0*
*NEIC **18** 09:34:34.1±0.5, 309S×12978E, h10km, mb4.3/4, Error ellipse: s-maj=16.9km s-min=7.1km az=64.0*
ISC 18 09:34:36.5±3.4, 315S±008×1297E±01, h24km±24km, n25, σ1§04/27, mb4.2/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.87**	**164**	*e*P	**Pn**	**09 36 57.3**	**+0.4**
	6.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.40**	**195**	*e*P	**Pn**	**09 38 13.3**	**+1.2**
	7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.40**	**195**	Pn	**Pn**	**09 38 12.8**	**+0.7**
	0.8nm,0.3s,baz=38,slow=9.7,SNR=12						
WRAB	**Tennant Creek**	**17.28**	**165**	*e*Pn	**Pn**	**09 38 34.7**	**-1.5**
WRAB				*e*Sn	**Sn**	**09 41 47.2**	**-0.4**
WRA	**Warramunga Arr**	**17.29**	**165**	P	**Pn**	**09 38 33.0**	**-3.2**
	0.4nm,0.3s,baz=344,slow=13,SNR=29						
WRA				S	**Sn**	**09 41 43.5**	**-4.3**
	0.2nm,0.3s,baz=342,slow=18,SNR=3.1						
WB2	**Warramunga Arr**	**17.29**	**165**	*e*P	**Pn**	**09 38 35.0**	**-1.3**
KSM	**Kuching**	**19.96**	**283**	*e*P	**Pn**	**09 39 07.3**	**-1.3**
MBWA	**Marble Bar**	**20.38**	**208**	*e*P	**P**	**09 39 11.1**	**-0.4**
	6.0nm,0.9s						
AS31	**Alice Springs**	**20.79**	**169**	*e*P	**P**	**09 39 17.0**	**+1.1**
ASAR	**Alice Springs**	**20.79**	**169**	P	**P**	**09 39 16.9**	**+1.0**
	22nm,0.6s,baz=352,slow=10,SNR=328						
ASAR				S	**S**	**09 43 06.5**	**-0.2**
	2.2nm,0.9s,baz=353,slow=22,SNR=6.1						
ASPA	**Alice Springs**	**20.79**	**169**	*e*P	**P**	**09 39 17.0**	**+1.1**
CTA	**Charters Tower**	**23.30**	**138**	P	**P**	**09 39 44.3**	**+1.6**
	8.7nm,0.8s,mb4.3,baz=312,slow=13,SNR=3.8						
CTAO	**Charters Tower**	**23.30**	**138**	*e*P	**P**	**09 39 42.1**	**-0.6**
	9.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**30.68**	**160**	P	**P**	**09 40 50.0**	**+0.8**
	3.1nm,0.3s,mb4.6,baz=337,slow=7.4,SNR=23						
STKA	**Stephens Creek**	**30.68**	**160**	*e*P	**P**	**09 40 50.0**	**+0.8**
KKTK	**Khon Kaen**	**32.90**	**307**	P	**P**	**09 41 11.0**	**+2.3**
CHG	**Chiang Mai**	**37.35**	**307**	P	**P**	**09 41 48.1**	**+1.1**
CHTO	**Chiang Mai**	**37.35**	**307**	*e*P	**P**	**09 41 47.6**	**+0.6**
	6.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**54.73**	**341**	P	**P**	**09 44 03.2**	**-0.7**
	0.4nm,0.5s,mb3.7,baz=169,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**64.89**	**326**	P	**P**	**09 45 13.1**	**-0.7**
	0.7nm,0.5s,mb4.0,baz=110,slow=6.8,SNR=4.4						
ZAL	**Zalesovo**	**68.04**	**333**	P	**P**	**09 45 33.3**	**-0.6**
	2.9nm,0.3s,mb4.8,baz=37,slow=1.7,SNR=6.5						
BVAR	**Borovoye Array**	**74.69**	**327**	P	**P**	**09 46 13.8**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=131,slow=6.7,SNR=11						
VNDA	**Vanda**	**76.28**	**173**	P	**P**	**09 46 22.8**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=301,slow=7.7,SNR=4.7						
AKTO	**Aktyubinsk**	**80.89**	**322**	P	**P**	**09 46 48.8**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=93,slow=9.3,SNR=4.9						
CPUP	**Villa Florida**	**149.91**	**167**	PKPbc	PKPbc	09 54 24.9	+0.2
	0.8nm,0.4s,baz=68,slow=0.8,SNR=4.3						

*ISCJB **18** 09:47:20.2±0.6, 1557N±005×9405W±003, h33km, Error ellipse: s-maj=7.9km s-min=3.6km az=33.0*
*NEIC **18** 09:47:21.5, 1553N×9402W, h66km, MD4.6(MEX), After MEX.*
*MEX **18** 09:47:21.5±0.8, 1553N×9402W, h67km±34km, MD4.6*
*CASC **18** 09:47:26.2±2.7, 1502N×9388W, h36km±999km, MD4.4*
ISC 18 09:47:21.9±0.5, 1562N±005×9401W±003, h35km, n22, σ1§26/32, 2C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.69**	**330**	*i* P	**Pn**	**09 47 48.5**	**-0.3**
CMIG				*i* S	**Sn**	**09 48 09.4**	**+0.2**
CCIG	**Comitan**	**1.92**	**70**	*i* P	**Pn**	**09 47 51.4**	**-0.6**
CCIG				*i* S	**Sn**	**09 48 14.9**	**0.0**
HUIG	**Huatulco**	**2.03**	**274**	*i* P	**Pn**	**09 47 51.7**	**-1.8**
HUIG				*i* S	**Sn**	**09 48 16.0**	**-1.5**
TUIG	**Tuzandepetl**	**2.43**	**351**	*i* P	**Pn**	**09 47 58.4**	**-0.7**
TUIG				*i* S	**Sn**	**09 48 28.7**	**+1.1**
JAT	**Jato**	**2.63**	**119**⇑	*e*P	**Pn**	**09 48 02.5**	**+0.7**
JAT				*e*S	**Sn**	**09 48 27.5**	**-5.0**
OXX	**Oaxaca**	**2.98**	**300**	*i* P	**Pn**	**09 48 08.0**	**+1.4**
OXX				*i* S	**Sn**	**09 48 39.0**	**-2.2**
VHO	**Vista Hermosa**	**2.99**	**299**	*i* P	**Pn**	**09 48 07.0**	**+0.3**
VHO				*i* S	**Sn**	**09 48 41.7**	**+0.5**
TER	**Terranova**	**3.47**	**112**	*e*P	**Pn**	**09 48 14.1**	**+0.7**
TER				*e*S	**Sn**	**09 48 53.9**	**+0.7**
PNIG	**Pinotepa**	**4.03**	**282**	*i* S	**Sn**	**09 49 05.5**	**-1.5**
TPIG	**Tehuac#an**	**4.25**	**311**	*e*P	**Pn**	**09 48 22.9**	**-1.1**
TPIG				*i* S	**Sn**	**09 49 13.4**	**+1.1**
UTMO	**Huajuapan**	**4.25**	**302**	*i* P	**Pn**	**09 48 24.1**	**+0.1**
UTMO				*i* S	**Sn**	**09 49 17.4**	**+5.1**
SCIG	**Sabancuy**	**4.29**	**39**	*i* P	**Pn**	**09 48 23.1**	**-1.4**
SCIG				*i* S	**Sn**	**09 49 11.1**	**-2.2**
BOQS	**Boqueron**	**4.95**	**112**	*e*P	x	09 48 48.5	
BOQS				*e*S	x	09 49 42.1	
SNET	**Serv Nac Est T**	**5.01**	**112**	*e*P	x	09 48 36.9	
LBRS	**Las Brisas**	**5.16**	**111**	*e*P	x	09 48 49.8	
LBRS				*e*S	x	09 49 45.2	

LFRS	**El Faro**	**5.18**	**112**⇑	*e*P	x	09 48 49.9		
LFRS				*e*S	x	09 49 44.7		
PPM	**Popocatepetl**	**5.58**	**309**	*i* P	**Pn**	**09 48 45.7**	**+3.3**	
PPM				*i* P		09 48 46.7		
PPM				*i* S	**Sn**	**09 49 48.6**	**+3.3**	
ACX	**Acapulco**	**5.81**	**283**	*i* P	**Pn**	**09 48 44.2**	**-1.3**	
MEIG	**Mezcala**	**5.84**	**294**	*i* P	**Pn**	**09 48 47.0**	**+1.1**	
MEIG				*i* S	**Sn**	**09 49 51.7**	**0.0**	
PLIG	**Platanillo**	**5.93**	**298**	*i* S	**Sn**	**09 49 54.5**	**+0.6**	
IIO	**Organos**	**5.98**	**312**	*i* P	**Pn**	**09 48 50.5**	**+2.6**	
IIO				*i* S	**Sn**	**09 49 50.4**	**-4.7**	
MOIG	**Morelia**	**7.94**	**302**	*i* P	**Pn**	**09 49 16.7**	**+1.9**	

IDC 18 09:48:59.1±8.1, 607S×15075E, h85km±57km, mb3.4/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.7/4, ML2.2/1, Error ellipse: s-maj=95.5km s-min=54.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**227**	P	Pn	09 50 10.4	+0.7
	0.6nm,0.3s,baz=39,slow=13,SNR=2.1						
PMG				S	Sn	09 51 04.8	+0.1
	1.4nm,0.3s,baz=66,slow=21,SNR=3.0						
WB2	**Warramunga Arr**	**21.07**	**228**	*e*P	P	09 53 36.6	+0.3
WRA	**Warramunga Arr**	**21.08**	**228**	P	P	09 53 36.6	+0.2
	1.2nm,0.4s,baz=54,slow=10,SNR=23						
ASAR	**Alice Springs**	**23.85**	**221**	P	P	09 54 05.0	+0.6
	1.9nm,0.7s,baz=58,slow=9.1,SNR=22						
ASPA	**Alice Springs**	**23.85**	**221**	*e*P	P	09 54 05.6	+1.2
FITZ	**Fitzroy Crossi**	**27.26**	**242**	P	P	09 54 36.0	+0.8
	0.8nm,0.5s,baz=50,slow=13,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.71**	**285**	PKPbc	PKPbc	10 08 36.6	+0.2
	1.9nm,0.7s,baz=62,slow=3.1,SNR=15						

IDC 18 09:54:41.6±2.3, 1750S×6638W, h55km±25km, mb3.3/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.8/4, ML4.3/3, Error ellipse: s-maj=35.9km s-min=10.3km az=15.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.06**	**305**	P	Pn	09 55 13.7	-0.1
	99nm,0.3s,baz=120,slow=16,SNR=1266						
LPAZ				S	Sn	09 55 40.0	+1.6
	108nm,0.3s,baz=43,slow=24,SNR=14						
SIV	**San Ignacio**	**5.30**	**74**	P	Pn	09 55 59.1	+0.9
	5.4nm,0.3s,baz=257,slow=14,SNR=271						
SIV				S	Sn	09 56 59.0	+1.0
	13nm,0.3s,baz=152,slow=16,SNR=8.6						
SIV				Lg		09 57 23.3	
	8.7nm,0.3s,baz=333,slow=20,SNR=7.1						
CPUP	**Villa Florida**	**12.15**	**138**	P	Pn	09 57 31.3	-0.7
	0.5nm,0.3s,baz=316,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**73.77**	**70**	P	P	10 06 10.7	+0.7
	0.4nm,0.6s,baz=244,slow=4.8,SNR=4.4						

*SZGRF **18** 10:45:23.6, 1659S×16762E, h114km, Vanuatu Islands*
*BJI **18** 10:45:30.3, 1477S×16746E, h106km, mB5.8, mb5.2*
*NEIC **18** 10:45:32.9±0.1, 1505S×16727E, h115km, mb5.5/59, ME5.4, MW6.3, Error ellipse: s-maj=5.8km s-min=4.5km az=79.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^18Nm; Mrr3.40; Mtt0.23; Mpp-3.63; Mrt-0.92; Mrp-0.45; Mtp-0.42; Best double couple: M0 3.70000×10^18 NP1:φs201.00000°, δ51.00000°, λ108.00000°. NP2: φs353.00000°, δ43.00000°, λ69.00000°. Principal axes: T 3.6600, Plg75.0000°, Azm171.0000°; N 0.0600, Plg14.0000°, Azm9.0000°; P -3.7200, Plg4.0000°, Azm278.0000°; Broadband fault plane solution: P waves. NP1:φs350.00000°, δ44.00000°, λ68.00000°. NP2: φs200.00000°, δ50.00000°, λ110.00000°. Principal axes: T Plg74.0000°, Azm175.0000°; N Plg0.0000°, Azm0.0000°; P Plg3.0000°, Azm276.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Port-Vila.
*GCMT **18** 10:45:32.9±0.1, 1512S×16727E, h127km, MW6.4/115, Moment Tensor Solution. s115,c277; s113,c464; Duration: 3§7 Moment tensor: Scale 10^18Nm; Mrr3.91±.02; Mtt0.30±.02; Mpp-4.22±.02; Mrt-1.01±.02; Mrp-0.73±.02; Mtp-0.23±.02; Best double couple: M0 4.26400×10^18 NP1:φs355.00000°, δ44.00000°, λ69.00000°. NP2:φs203.00000°, δ49.00000°, λ109.00000°. Principal axes: T 4.1740, Plg75.0000°,

CTA ScP ScP 10 57 35.4 +3.1
comp=Z,14nm,1.1s,baz=339,slow=8.6,SNR=3.4
CTA Charters Tower 20.62 253 *e*P **P** **10 50 06.2 +2.4**
CTA *e* 11 01 21.0
CTA pmax pmax
comp=Z,76nm,0.8s
CTAO Charters Tower 20.62 253 P **P** **10 50 05.8 +2.0**
CTAO S **S** **10 53 45.2 -1.4**
CTAO ScS ScS 11 01 20.8 +5.2
CTAO Charters Tower 20.62 253 *e*P **P** **10 50 06.1 +2.3**
CTAO pmax pmax
comp=Z,130nm,0.9s
CTAO Charters Tower 20.62 253 *e*P **P** **10 50 05.7 +1.9**
comp=Z,126nm,0.9s
OUZ Omahuta 20.84 165 *e*P **P** **10 50 05.2 -0.9**
OUZ Omahuta 20.84 165 PN **P** **10 50 06.5 +0.4**
comp=Z,361nm,0.6s
ARMA Armidale 20.94 221 *e*P **P** **10 50 08.7 +1.4**
ARMA *e*S **S** **10 54 02.1 +9.3**
ARMA *e*SCS ScS 11 01 25.2 +8.5
WCZ Waipu Caves 21.71 164 *e*P **P** **10 50 15.7 +0.3**
WCZ Waipu Caves 21.71 164 PN **P** **10 50 15.9 +0.5**
comp=Z,388nm,0.7s,mb6.0
KAAZ Kauri Point 22.64 164 P **P** **10 50 26.2 +1.4**
MTAZ Motutapu 22.66 164 *e*P **P** **10 50 25.1 +0.1**
MTAZ Motutapu 22.66 164 PN **P** **10 50 25.1 0.0**
WTAZ Waiatarua 22.71 165 *e*P **P** **10 50 26.5 +1.0**
WTAZ Waiatarua 22.71 165 PN **P** **10 50 26.5 +1.0**
KUZ Kuaotunu 22.85 162 *e*P **P** **10 50 26.1 -0.7**
KUZ Kuaotunu 22.85 162 PN **P** **10 50 26.1 -0.7**
MKAZ Moumakai 23.03 164 *e*P **P** **10 50 28.6 +0.2**
RIV Riverview 23.66 215 *e*P **P** **10 50 33.1 -1.1**
RIV *e*S **S** **10 54 45.1 +6.4**
HIZ Hauiti 24.27 165 *e*P **P** **10 50 39.8 0.0**
HIZ Hauiti 24.27 165 *e*PN **P** **10 50 39.9 +0.2**
MXZ Matakaoa Point 24.43 158 *e*P **P** **10 50 39.9 -1.3**
MXZ Matakaoa Point 24.43 158 PN **P** **10 50 39.1 -2.1**
MXZ SN **S** **10 54 48.7 -2.4**
URZ Urewera 24.66 161 P **P** **10 50 41.3 -2.0**
comp=Z,183nm,0.6s,mb5.8,baz=331,slow=4.6,SNR=44
URZ S **S** **10 54 54.8 +0.1**
comp=Z,35nm,0.6s,baz=0.0,slow=20,SNR=10
VRZ Vera Road 24.83 166 *e*P **P** **10 50 47.3 +2.5**
PUZ Puketiti 24.87 159 *e*P **P** **10 50 43.5 -1.7**
PUZ Puketiti 24.87 159 PN **P** **10 50 43.2 -2.0**
comp=Z,232nm,0.5s,mb5.9
PUZ *e*SN **S** **10 54 53.1 -4.9**
KATZ Kakaramea 24.92 164 P **P** **10 50 46.0 +0.3**
KATZ S 10 50 52.9
KATZ Kakaramea 24.92 164 PN **P** **10 50 45.8 +0.1**
KRVZ Karewarewa 25.02 164 PN **P** **10 50 46.9 +0.3**
WTVZ West Tongariro 25.03 165 P **P** **10 50 50.4 +3.8**
WTVZ West Tongariro 25.03 165 PN **P** **10 50 47.4 +0.8**
NGZ Ngauruhoe 25.09 165 *e*P **P** **10 50 48.4 +1.2**
NGZ Ngauruhoe 25.09 165 PN **P** **10 50 48.4 +1.2**
WPVZ Whakapapa 25.10 165 *e*P **P** **10 50 48.9 +1.6**
WPVZ Whakapapa 25.10 165 PN **P** **10 50 48.4 +1.1**
FWVZ Far West T-bar 25.15 165 *e*P **P** **10 50 49.0 +1.3**
TUVZ Tukino 25.19 165 P **P** **10 50 50.2 +2.1**
WNVZ Wahianoa 25.23 165 *e*P **P** **10 50 49.2 +0.8**
WNVZ Wahianoa 25.23 165 PN **P** **10 50 49.2 +0.8**
BKZ Black Stump Fm 25.32 163 *e*P **P** **10 50 48.3 -1.0**
BKZ Black Stump Fm 25.32 163 PN **P** **10 50 48.0 -1.3**
BKZ *e*SN **S** **10 55 02.1 -2.9**
MOVZ Moawhango 25.34 164 P **P** **10 50 49.0 -0.5**
WAZ Wanganui 25.48 166 *e*P **P** **10 50 53.2 +2.4**
WAZ Wanganui 25.48 166 PN **P** **10 50 52.1 +1.3**
KNZ Kokohu 25.54 161 *e*P **P** **10 50 48.2 -3.0**
KNZ Kokohu 25.54 161 *e*PN **P** **10 50 51.4 +0.2**
CNB Canberra Magne 25.75 215 *e*P **P** **10 50 54.2 +1.0**
comp=Z,108nm,0.8s,mb5.5
CNB *e*PCP PcP 10 54 23.4 +4.0
TSZ Takapari Road 26.01 165 *e*P **P** **10 50 54.0 -1.5**
TSZ Takapari Road 26.01 165 PN **P** **10 50 54.0 -1.6**
QRZ Quartz Range 26.05 171 *e*P **P** **10 50 57.5 +1.7**
PXZ Pawanui 26.23 163 PN **P** **10 50 55.5 -2.0**
PXZ *e*SN **S** **10 55 15.2 -4.2**
MRZ Mangatainoka R 26.49 166 *e*P **P** **10 50 58.6 -1.2**
MRZ Mangatainoka R 26.49 166 PN **P** **10 50 57.5 -2.2**
KIW Kapiti Island 26.52 167 P **P** **10 51 00.4 +0.3**
NNZ Nelson 26.57 170 *e*P **P** **10 51 02.2 +1.7**
NNZ Nelson 26.57 170 PN **P** **10 51 01.8 +1.3**
NNZ *e*SN **S** **10 55 31.2 +6.5**
TCW Tory Channel 26.73 168 *e*P **P** **10 51 01.6 -0.3**
CAW Cannon Point 26.79 167 P **P** **10 51 02.4 -0.1**
SNZO South Karori 26.91 168 *e*P **P** **10 51 02.4 -1.2**
comp=Z,121nm,0.7s,mb5.6
MTW Mount Morrison 26.94 166 P **P** **10 51 01.8 -2.0**
THZ Tophouse 27.02 171 *e*P **P** **10 51 04.0 -0.5**
THZ Tophouse 27.02 171 *e*PN **P** **10 51 03.4 -1.1**
THZ *e*SN **S** **10 55 36.2 +4.3**
KHZ Kahutara 27.76 170 *e*P **P** **10 51 10.2 -1.0**
RPZ Rata Peaks 28.71 174 P **P** **10 51 19.3 -0.3**
comp=Z,160nm,0.7s,mb5.9,baz=294,slow=2.0,SNR=19
RPZ S **S** **10 55 58.0 -0.4**
comp=Z,16nm,0.9s,baz=129,slow=9.6,SNR=5.5
RPZ LR LR 11 01 20.3
comp=Z,10μm,18.5s,baz=341,slow=33
STKA Stephens Creek 28.75 230 ⇑*i*P **P** **10 51 21.1 +1.2**
comp=Z,294nm,0.9s,mb6.0
STKA *e*PCP PcP 10 54 28.7 +2.1
STKA *e*S **S** **10 56 04.0 +5.0**
STKA *e*SCP ScP 10 57 59.2 +4.2
STKA *e*PCS PcS 10 58 13.4 +4.1
STKA Stephens Creek 28.75 230 P **P** **10 51 21.1 +1.2**
comp=Z,179nm,0.7s,mb5.9,baz=43,slow=7.6,SNR=116
STKA PcP PcP 10 54 27.6 +1.1
comp=Z,60nm,0.8s,baz=27,slow=2.6,SNR=8.6
STKA ScP ScP 10 57 58.9 +3.9
comp=Z,15nm,0.9s,baz=70,slow=2.7,SNR=6.3
STKA LR LR 11 01 12.5
comp=Z,14μm,21.8s,baz=55,slow=33
MQZ McQueen's Vall 28.89 172 *e*P **P** **10 51 22.2 +1.1**
LBZ Lake Benmore 29.30 176 *e*P **P** **10 51 21.0 -3.8**
LBZ Lake Benmore 29.30 176 *e*PN **P** **10 51 23.4 -1.5**
TOO Toolangi 29.55 217 *e*P **P** **10 51 27.5 +0.5**
comp=Z,78nm,0.7s,mb5.5
TOO Toolangi 29.55 217 *e*P **P** **10 51 27.5 +0.5**
TOO pmax pmax
comp=Z,78nm,0.7s,mb5.5
TUZ Tuapeka 30.83 177 *e*P **P** **10 51 37.9 -0.4**
TUZ Tuapeka 30.83 177 *e*PN **P** **10 51 37.8 -0.5**
WB2 Warramunga Arr 31.71 256 *e*P **P** **10 51 45.1 -0.9**
WB2 *e*PCP PcP 10 54 38.9 +4.6
WB2 *e*S **S** **10 56 49.4 +4.0**
WB2 *e*SCP ScP 10 58 11.2 +6.5
WB2 *e*SCS ScS 11 02 04.9 +1.8
WRAB Tennant Creek 31.71 256 P **P** **10 51 45.5 -0.5**
comp=Z,340nm,1.1s,mb6.0,SNR=14
WRAB Tennant Creek 31.71 256 *e*P **P** **10 51 45.5 -0.5**
WRA Warramunga Arr 31.72 256 P **P** **10 51 45.4 -0.7**
comp=Z,31nm,0.9s,mb5.0,baz=84,slow=8.6,SNR=48
WRA PcP PcP 10 54 35.2 +0.8
comp=Z,26nm,0.9s,baz=78,slow=2.4,SNR=9.0
WRA S **S** **10 56 44.7 -0.9**
comp=Z,2.5nm,0.7s,baz=87,slow=13,SNR=4.2
WRA ScP ScP 10 58 07.6 +2.8
comp=Z,43nm,1.2s,baz=84,slow=3.6,SNR=14
WRA PKiKP PKiKP 11 02 01.5 -1.4
comp=Z,3.4nm,0.7s,baz=354,slow=0.4,SNR=29
WRA LR LR 11 03 59.7
comp=Z,17μm,20.5s,baz=85,slow=35
WRA Warramunga Arr 31.72 256 P **P** **10 51 45.4 -0.7**
WRA 10 54 35.2
WRA S **S** **10 56 44.7 -0.9**
WRA Warramunga Arr 31.72 256 P **P** **10 51 45.4 -0.8**
WRA PcP PcP 10 54 35.2 +0.8
WRA S **S** **10 56 44.7 -0.9**
WRA ScP ScP 10 58 07.6 +2.8
ADE Adelaide 32.38 227 *e*P **P** **10 51 53.0 +1.1**
AS31 Alice Springs 32.53 250 *e*P **P** **10 51 52.5 -0.7**
AS31 *e*PP PP 10 53 03.4 -6.0
AS31 *e*S **S** **10 56 58.9 +0.8**
AS31 *e*ScP ScP 10 58 14.2 +6.7
AS31 *e*ScS ScS 11 02 07.9 +0.7
ASAR Alice Springs 32.53 250 P **P** **10 51 52.6 -0.6**
comp=Z,61nm,0.8s,mb5.4,baz=78,slow=8.6,SNR=111
ASAR PcP PcP 10 54 36.5 -0.1
comp=Z,6.6nm,0.6s,baz=90,slow=2.4,SNR=3.5
ASAR S **S** **10 56 56.7 -1.5**
ASAR comp=Z,1.1nm,0.6s,baz=99,slow=5.7,SNR=3.4
ASAR ScP ScP 10 58 11.3 +3.8
comp=Z,42nm,1.2s,baz=97,slow=3.3,SNR=18

ASAR PKiKP PKiKP 11 02 01.6 -1.9
comp=Z,2.5nm,0.8s,baz=88,slow=1.1,SNR=13
ASAR LR LR 11 05 21.1
comp=Z,14μm,18.8s,baz=88,slow=36
ASAR Alice Springs 32.53 250 P **P** **10 51 52.6 -0.6**
ASAR 10 54 36.5
ASAR S **S** **10 56 56.7 -1.4**
ASAR Alice Springs 32.53 250 P **P** **10 51 52.6 -0.6**
ASAR PcP PcP 10 54 36.5 -0.1
ASAR S **S** **10 56 56.7 -1.5**
ASAR ScP ScP 10 58 11.3 +3.8
ASPA Alice Springs 32.53 250 *e*P **P** **10 51 52.5 -0.7**
ASPA *e*PP PP 10 53 03.4 -6.0
ASPA *e*S **S** **10 56 58.9 +0.7**
ASPA *e*SCP ScP 10 58 14.2 +6.7
ASPA *e*SCS ScS 11 02 07.9 +0.6
TAU Tasmania Unive 32.57 208 P **P** **10 51 55.4 +1.9**
comp=Z,692nm,0.7s,SNR=8.8
TAU Tasmania Unive 32.57 208 *e*P **P** **10 51 55.4 +1.9**
TAU pmax pmax
comp=Z,79nm,0.8s,mb5.5
TAU Tasmania Unive 32.57 208 *e*P **P** **10 51 54.2 +0.7**
comp=Z,79nm,0.8s,mb5.5
KAKA Kakadu 33.86 270 *e*P **P** **10 52 05.3 +0.6**
comp=Z,16nm,0.4s,mb5.1
FORT Forrest 39.10 240 *e*P **P** **10 52 49.5 +0.4**
comp=Z,362nm,0.7s,mb6.1
FITZ Fitzroy Crossi 39.93 260 *e*P **P** **10 52 56.0 -0.1**
comp=Z,113nm,0.6s,mb5.7
FITZ *e*SCP ScP 10 58 42.9 +8.1
FITZ *e*S **S** **10 58 53.7 +2.9**
FITZ Fitzroy Crossi 39.93 260 P **P** **10 52 56.4 +0.3**
comp=Z,60nm,0.8s,mb5.3,baz=88,slow=9.9
FITZ ScP ScP 10 58 38.9 +4.1
comp=Z,12nm,1.1s,baz=43,slow=6.2,SNR=3.9
FITZ S **S** **10 58 50.2 -0.7**
comp=Z,3.8nm,1.1s,baz=121,slow=18,SNR=1.8
PAE Paea 41.43 100 *e*P **P** **10 53 07.5 -0.8**
comp=Z,978nm,1.1s,mb6.4
PAE Paea 41.43 100 *e*P **P** **10 53 07.5 -0.8**
PAE pmax pmax
comp=Z,978nm,1.1s,mb6.3
PPT Papeete 41.44 100 *e*P **P** **10 53 07.9 -0.5**
comp=Z,479nm,1.2s,mb6.0
PPT Papeete 41.44 100 *e*S **S** **10 59 14.7 +1.6**
comp=Z,9μm,24.8s
PPT *e*LQ 11 02 54.9
comp=Z,27μm,23.5s
PPT *e*LR LR 11 04 42.8
comp=Z,50μm,31.5s,baz=265
PPT Papeete 41.44 100 P **P** **10 53 08.1 -0.3**
comp=Z,364nm,0.8s,mb6.0,baz=253,slow=4.9,SNR=16
TBI Tubuai 41.56 108 *e*LQ 11 03 00.2
comp=Z,17μm,32.5s
TBI Tubuai 41.56 108 *e*S **S** **10 59 16.6 +1.7**
comp=Z,6μm,26.8s
TBI *e*LR LR 11 04 53.1
comp=Z,38μm,34.2s,baz=275
TBI Tubuai 41.56 108 *e*P **P** **10 53 09.2 -0.2**
comp=Z,309nm,1.1s,mb5.8
TBI *e*S **S** **10 59 16.6 +1.7**
TBI *e*LQ 11 03 00.2
TVO Taravao 41.74 100 *e*P **P** **10 53 10.2 -0.6**
comp=Z,922nm,0.9s,mb6.4
TVO Taravao 41.74 100 *e*P **P** **10 53 10.2 -0.6**
TVO pmax pmax
comp=Z,922nm,0.9s,mb6.4
PMOR Pomariorio Ree 43.26 96 *e*P **P** **10 53 23.1 0.0**
comp=Z,908nm,1.2s,mb6.3
VAH Vaihoa 43.49 96 *e*P **P** **10 53 24.7 -0.3**
comp=Z,862nm,1.2s,mb6.3
MBWA Marble Bar 45.44 255 *e*P **P** **10 53 41.1 +0.7**
comp=Z,81nm,0.8s,mb5.4
KAPI Kapiang 47.73 277 P **P** **10 53 58.4 +0.1**
comp=Z,548nm,1.2s,mb6.1,SNR=7.3
KLBR Kellerberrin 47.91 241 *e*P **P** **10 53 58.9 -0.8**
comp=Z,93nm,0.7s,mb5.5
KLBR *e*S **S** **11 00 52.8 +6.3**
NWAO Narrogin (SRO) 48.55 239 P **P** **10 54 04.5 -0.1**
comp=Z,67nm,0.8s,mb5.3,baz=80,slow=6.7,SNR=33
NWAO S **S** **11 00 56.9 +1.4**
comp=Z,4.8nm,0.9s,baz=194,slow=17,SNR=1.8
NWAO LR LR 11 16 07.3
comp=Z,10μm,19.1s,baz=277,slow=38
MUN Mundaring 49.27 241 *e*P **P** **10 54 20.4 +10**
MUN *e*S **S** **11 01 19.9 +14**
TAOE Nuku Hiva Isla 51.73 89 *e*S **S** **11 01 40.2 +0.7**
comp=Z,27μm,26.6s
TAOE *e*LR LR 11 09 25.2
comp=Z,63μm,35.1s,baz=263
TAOE Nuku Hiva Isla 51.73 89 *e*P **P** **10 54 28.8 +0.3**
comp=Z,3μm,1.1s
TAOE *e*S **S** **11 01 40.2 +0.7**
TSM Tawau 52.56 288 P **P** **10 54 36.1 +1.4**
DRV Dumont d'Urvil 54.59 193 P **P** **10 54 52.0 +2.6**
DRV S **S** **11 02 30.0 +12**
DRV SS SS 11 06 09.0 +6.2
DRV R 11 12 00.0
KKM Kota Kinabalu 54.76 289 P **P** **10 54 52.8 +2.1**
KKM Kota Kinabalu 54.76 289 *e*P **P** **10 54 51.6 +0.9**
RKT Rikitea 54.88 108 *e*S **S** **11 02 22.8 +0.6**
comp=Z,13μm,29.2s
RKT *e*LQ 11 08 36.4
comp=Z,15μm,28.0s
RKT *e*LR LR 11 10 58.0
comp=Z,31μm,32.8s,baz=270
RKT Rikitea 54.88 108 *e*P **P** **10 54 49.8 -1.8**
RKT *e*S **S** **11 02 22.8 +0.6**
RKT pmax pmax
comp=Z,289nm,1.1s,mb5.9
RKT Rikitea 54.88 108 *e*P **P** **10 54 49.8 -1.8**
comp=Z,289nm,1.1s,mb5.9
RKT *e*S **S** **11 02 22.8 +0.6**
RKT *e*LQ 11 08 36.4
JOW Kunigami 56.30 318 LR LR 11 16 50.6
comp=Z,3μm,21.0s,baz=23,slow=33
MJAR Matsushiro Arr 58.22 333 P **P** **10 55 13.4 -1.7**
comp=Z,4.8nm,0.5s,mb4.6,baz=168,slow=8.2,SNR=12
MAJO Matsushiro 58.22 333 *e*P **P** **10 55 13.5 -1.7**
MAJO pmax pmax
comp=Z,110nm,1.5s,mb5.5
MAJO Matsushiro 58.22 333 *e*P **P** **10 55 13.5 -1.7**
comp=Z,113nm,1.5s,mb5.5
MAT Matsushiro 58.22 333 P **P** **10 55 13.4 -1.8**
MAT S **S** **11 03 05.0 -1.1**
KSM Kuching 58.66 281 *e*P **P** **10 55 18.7 +0.5**
NACB Ninganchiao 59.25 311 *e*P **P** **10 55 22.4 +0.1**
YHNB Yeheng 59.71 311 *e*P **P** **10 55 24.8 -0.6**
TATO Taipei 59.81 311 *e*P **P** **10 55 30.6 +4.5**
QZH Quanzhou 61.92 309 ⇑*i*P **P** **10 55 41.0 +0.6**
QZH S **S** **11 03 54.0 +0.6**
QZH AMB AMB
comp=Z,340nm,1.6s,mb5.9
QZH AMB AMB
comp=Z,1μm,6.0s
QZH LR LR
comp=N,5μm,16.5s
QZH LR LR
comp=E,3μm,15.0s
QZH LR LR
comp=Z,17μm,39.0s
VNDA Vanda 62.50 181 P **P** **10 55 43.0 -1.2**
VNDA S **S** **11 03 57.4 -3.2**
VNDA Vanda 62.50 181 P **P** **10 55 43.2 -1.0**
comp=Z,43nm,0.6s,mb5.5,baz=357,slow=7.3,SNR=78
VNDA S **S** **11 03 59.4 -1.2**
comp=Z,1.3nm,1.2s,baz=299,slow=6.6,SNR=2.3
VNDA LR LR 11 21 17.8
comp=Z,2μm,18.0s,baz=35,slow=34
VNDA Vanda 62.50 181 *e*P **P** **10 55 43.1 -1.1**
VNDA pmax pmax
comp=Z,54nm,0.7s
VNDA Vanda 62.50 181 *e*P **P** **10 55 43.1 -1.1**
comp=Z,54nm,0.7s,mb5.5
SBA Scott Base 62.77 180 *e*P **P** **10 55 45.9 -0.2**
comp=Z,118nm,0.8s,mb5.8
CASY Casey 63.19 202 *e*P **P** **10 55 47.8 -1.0**
CASY *e*S **S** **11 04 12.0 +2.8**
SSE Sheshan 63.77 316 P **P** **10 55 53.5 +0.9**
SSE S **S** **11 04 20.3 +3.8**
SSE SCS ScS 11 05 35.3 +2.4
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,854nm,11.8s

SSE LR LR
comp=N,2μm,25.0s
SSE LR LR
comp=E,4μm,25.0s
SSE LR LR
comp=Z,5μm,25.0s
SSE Sheshan 63.77 316 P **P** **10 55 53.5 +0.9**
comp=Z,29nm,0.8s,mb5.2
SSE pP pP 10 56 27.0 +1.2
SSE S **S** **11 04 20.3 +3.8**
SSE ScS ScS 11 05 35.2 +2.3
SSE LR LR
comp=Z,5μm,25.0s
KS15 Wonju Array Si 64.04 326 *e*P **P** **10 55 54.3 -0.1**
GZH Guangzhou 64.97 305 P **P** **10 56 01.9 +1.5**
GZH S **S** **11 04 33.8 +2.6**
GZH LR LR
comp=N,1μm,16.8s
GZH LR LR
comp=E,2μm,20.5s
GZH LR LR
comp=Z,5μm,20.0s
KGM Kluang 65.47 279 P **P** **10 56 05.2 +1.5**
YSS Yuzh-Sakhalins 65.57 342 *e*P **P** **10 56 05.0 +0.7**
YSS *e* pP 10 56 36.0 -1.6
YSS *e* pP 10 56 39.0 +1.4
YSS *e**SP sP 10 56 48.5 -4.1
YSS *i* S S 11 04 42.0 +3.5
YSS *e*PPS 11 05 18.0
YSS *e* 11 05 48.0
YSS *e*SS SS 11 09 02.0 +7.2
YSS *e*SSS 11 11 50.0
YSS pmax pmax
comp=Z,2μm,0.6s
YSS smax
comp=N,4μm,18.0s
YSS Yuzh-Sakhalins 65.57 342 *e*P **P** **10 56 04.0 -0.3**
comp=N,34nm,0.7s,mb5.3
QIZ Qiongzhong 65.90 299 P **P** **10 56 06.9 +0.5**
QIZ AP pP 10 56 33.0 -6.8
QIZ S S 11 04 45.0 +2.5
QIZ XS sS 11 05 33.3 -6.8
QIZ AMB AMB
comp=Z,1μm,12.0s
QIZ Qiongzhong 65.90 299 *e*P **P** **10 56 10.6 +4.2**
comp=Z,50nm,1.1s,mb5.3
NJ2 Nanjing 65.93 316 *e*P **P** **10 56 07.1 +0.5**
NJ2 PP PP 10 58 37.3 +4.0
NJ2 S S 11 04 42.0 -0.8
NJ2 AMB AMB
comp=Z,60nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,5.4s
NJ2 LR LR
comp=N,8μm,17.0s
NJ2 LR LR
comp=E,6μm,22.2s
NJ2 LR LR
comp=Z,7μm,17.4s
SKR Severo-Kuril's 66.22 352 *e*P **P** **10 56 04.0 -4.4**
SKR MLR MLR
comp=Z,5μm,16.0s
WHN Wuhan 68.17 312 P **P** **10 56 20.8 0.0**
WHN S S 11 05 09.0 -0.8
WHN AMB AMB
comp=Z,3μm,5.8s
WHN AMB AMB
comp=Z,2μm,13.7s
WHN LR LR
comp=Z,5μm,21.0s
PET Petropavlovsk 68.24 354 *c i*P **P** **10 56 18.7 -2.5**
PET *e**PP pP 10 56 53.3 -1.5
PET *i* S S 11 05 06.5 -4.1
PET *e**SS sS 11 06 06.5 -2.0
PET *e*SS SS 11 09 41.9 +5.8
PET pmax pmax
comp=Z,2μm,8.8s
PET pmax pmax
comp=Z,2μm,15.3s
PET smax
comp=N,3μm,15.6s
PET smax
comp=E,2μm,14.2s
IPM Ipoh 68.40 281 P **P** **10 56 23.5 +1.4**
DL2 Dalian 68.58 323 ⇑*i*P **P** **10 56 22.1 -1.2**
DL2 AP pP 10 56 50.8 -6.1
DL2 S S 11 05 17.1 +2.5
DL2 SCS ScS 11 06 13.4 +3.3
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,600nm,7.3s
MDJ Mudanjiang 68.59 332 P **P** **10 56 23.3 -0.1**
MDJ AP pP 10 56 50.5 -6.5
MDJ XP sP 10 57 02.9 -9.0
MDJ PP PP 10 58 55.6 -0.9
MDJ S S 11 05 17.8 +3.0
MDJ XS sS 11 06 05.9 -6.8
MDJ SS SS 11 09 40.0 -1.6
MDJ AMB AMB
comp=Z,38nm,1.7s,mb4.8
MDJ Mudanjiang 68.59 332 *e*P **P** **10 56 23.3 -0.1**
comp=Z,87nm,1.1s,mb5.4
KULM Kulim 69.01 282 *e*P **P** **10 56 26.6 +0.7**
SNY Shenyang 69.50 327 ⇓P **P** **10 56 33.3 +4.3**
SNY S S 11 05 23.5 -1.9
SNY AMB AMB
comp=Z,20nm,1.0s,mb4.8
SNY AMB AMB
comp=Z,1μm,10.8s
SNY LR LR
comp=E,3μm,24.7s
SNY LR LR
comp=Z,4μm,27.0s
TIA Tai'an 69.60 319 *e*P **P** **10 56 28.4 -1.2**
TIA AMB AMB
comp=Z,640nm,9.0s
TIA LR LR
comp=N,2μm,20.0s
TIA LR LR
comp=E,2μm,19.0s
SNG Songkhla 69.64 284 P **P** **10 56 31.0 +1.2**
comp=E,170nm,1.0s,mb5.7
PSI Prapat 69.90 279 S S 11 05 31.6 +1.5
comp=E,2.1nm,0.5s,baz=317,slow=19,SNR=2.4
CN2 Changchun 69.95 329 *e*P **P** **10 56 30.6 -1.1**
CN2 *e*S S 11 05 34.0 +3.3
CN2 SS SS 11 10 06.8 +4.4
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,22.0s
CN2 LR LR
comp=E,2μm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
MIR Mirnyy 69.99 204 *c i*P **P** **10 56 33.0 +1.0**
MIR *i* pP 10 57 08.5 +2.8
MIR *e* 10 59 08.0
MIR *e* 11 05 36.0
MIR pmax pmax
comp=Z,4μm,12.0s
KKTK Khon Kaen 70.86 294 P **P** **10 56 38.0 +0.8**
KLR Kul'dur 71.33 336 *e*P **P** **10 56 36.2 -3.9**
KLR *e*S S 11 05 47.0 +0.3
KLR *e* 11 06 31.0
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,350nm,1.8s,mb5.8
KLR pmax pmax
comp=Z,3μm,9.5s
KLR smax
comp=N,2μm,8.5s
KLR smax
comp=E,1μm,8.5s
GYA Guiyang 71.91 305 ⇑*i*P **P** **10 56 42.8 -0.7**
GYA PP PP 10 59 29.3 +4.3
GYA S S 11 05 56.8 +3.5
GYA AMB AMB
comp=Z,90nm,0.6s,mb5.7
GYA AMB AMB
comp=Z,1μm,12.0s

GYA LR LR
comp=N,2μm,18.0s
GYA LR LR
comp=E,2μm,17.1s
GYA LR LR
comp=Z,3μm,19.0s
BJT Baijiatuau 72.53 321 *e*P **P 10 56 46.9 -0.3**
BJT pmax pmax
comp=Z,98nm,1.3s
BJT Baijiatuau 72.53 321 *e*P **P 10 56 46.9 -0.3**
comp=Z,98nm,1.3s,mb5.4
BJI Beijing 72.54 321 P **P 10 56 46.9 -0.4**
BJI S S 11 05 56.9 -3.6
BJI AMB AMB
comp=Z,23nm,1.6s,mb4.7
BJI AMB AMB
comp=Z,2μm,9.0s
BJI LR LR
comp=N,2μm,23.5s
BJI LR LR
comp=E,4μm,24.4s
BJI LR LR
comp=Z,4μm,25.9s
BJI Beijing 72.54 321 P **P 10 56 46.9 -0.4**
comp=Z,23nm,1.6s,mb4.7
BJI pP pP 10 57 20.9 -0.3
BJI S S 11 05 56.9 -3.6
NST Nakhon Sawan 73.00 292 P **P 10 56 51.2 +1.2**
XAN Xi'an 73.92 313 P **P 10 56 53.9 -1.5**
XAN AP pP 10 57 20.3 -9.2
XAN S S 11 06 13.6 -2.5
XAN AMB AMB
comp=Z,17nm,0.8s,mb4.8
XAN AMB AMB
comp=Z,1μm,13.1s
XAN LR LR
comp=N,435nm,17.4s
XAN LR LR
comp=E,776nm,16.1s
XAN LR LR
comp=Z,1μm,19.8s
KMI Kunming 74.48 302 P **P 10 56 59.8 +1.1**
KMI AP pP 10 57 29.4 -3.4
KMI XP sP 10 57 42.9 -4.6
KMI PP PP 10 59 48.6 +1.7
KMI S S 11 06 23.8 +1.4
KMI XS sS 11 07 15.0 -6.2
KMI AMB AMB
comp=Z,77nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,1μm,8.5s
KMI LR LR
comp=N,1μm,23.8s
KMI LR LR
comp=E,2μm,23.8s
KMI LR LR
comp=Z,5μm,49.7s
KMI Kunming 74.48 302 P **P 10 56 59.7 +1.0**
KMI *PP pP 10 57 29.4 -3.4
KMI *SP sP 10 57 42.9 -4.6
KMI 10 59 48.6
KMI PPP 11 01 31.8
KMI S S 11 06 23.8 +1.4
KMI *SS sS 11 07 15.0 -6.2
KMI SS SS 11 11 08.6 -3.1
KMI pmax pmax
comp=Z,77nm,1.5s,mb5.2
KMI MLR MLR
comp=Z,5μm,49.7s
KMI Kunming 74.48 302 P **P 10 56 59.7 +1.0**
comp=Z,77nm,1.5s,mb5.2
KMI pP pP 10 57 29.4 -3.4
KMI sP sP 10 57 42.9 -4.6
KMI PP PP 10 59 48.6 +1.7
KMI PPP 11 01 31.8
KMI S S 11 06 23.8 +1.4
KMI sS sS 11 07 15.0 -6.2
KMI SS SS 11 11 08.6 -3.1
KMI SSS 11 14 18.3
KMI LR LR
comp=Z,5μm,49.7s
BDT Bhumibol Dam 74.59 293 P **P 10 57 00.0 +0.8**
QSPA South Pole Qui 74.94 180⇑*i*P **P 10 57 00.3 -1.0**
comp=Z,169nm,0.8s,mb5.7
CHG Chiang Mai 75.21 294 ⇑P **P 10 57 03.8 +0.9**
comp=Z,72nm,1.0s,mb5.3
CHTO Chiang Mai 75.21 294 P **P 10 57 04.3 +1.4**
CHTO pmax pmax
comp=Z,62nm,1.0s,mb5.2
CHTO Chiang Mai 75.21 294 *e*P **P 10 57 04.1 +1.3**
comp=Z,63nm,1.0s,mb5.2
MA2 Magadan 75.60 351 *e*P **P 10 57 00.5 -4.6**
MA2 *e* 11 07 16.6
HHC Hu-ho-hao-te 75.85 320 *e*P **P 10 57 08.0 +1.5**
HHC AP pP 10 57 36.3 -4.4
HHC XP sP 10 57 48.4 -7.0
HHC PP PP 11 00 00.3 +1.9
HHC S S 11 06 40.5 +3.0
HHC SKS 11 07 06.0
HHC SCS ScS 11 07 09.0 +0.9
HHC XS sS 11 07 29.8 -6.7
HHC AMB AMB
comp=Z,31nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,2μm,10.0s
HHC LR LR
comp=N,3μm,26.5s
HHC LR LR
comp=E,3μm,26.0s
HHC LR LR
comp=Z,6μm,44.1s
CD2 Chengdu 76.22 308 P **P 10 57 09.4 +0.8**
CD2 PP PP 11 00 03.1 +1.6
CD2 S S 11 06 40.6 -0.9
CD2 SS SS 11 11 41.8 +3.9
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,2μm,7.8s
CD2 LR LR
comp=N,3μm,18.0s
CD2 LR LR
comp=E,4μm,21.5s
CD2 LR LR
comp=Z,5μm,32.9s
HIA Hailar 76.59 330 *e*P **P 10 57 10.4 -0.3**
HIA pmax pmax
comp=Z,116nm,1.4s
HIA Hailar 76.59 330 *e*P **P 10 57 10.4 -0.3**
comp=Z,116nm,1.4s,mb5.3
BTO Baotou 76.69 319 *e*P **P 10 57 13.0 +1.8**
BTO S S 11 06 52.1 +5.5
RPN Rapa Nui 77.52 115 LR LR 11 23 06.8
comp=Z,3μm,21.6s,baz=251,slow=29
LZH Lanzhou 78.55 312 *e*P **P 10 57 22.6 +1.0**
LZH PP PP 11 00 24.3 +3.3
LZH *e*S S 11 07 05.8 -0.9
LZH SS SS 11 12 16.8 +3.7
LZH AMB AMB
comp=Z,267nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,1μm,5.6s
LZH Lanzhou 78.55 312 *e*P **P 10 57 22.6 +1.0**
LZH *PP pP 10 57 57.2 +1.2
LZH 11 00 24.3
LZH PPP 11 02 14.5
LZH *e*S S 11 07 05.7 -1.0
LZH *SS sS 11 08 05.5 -0.6
LZH SS SS 11 12 16.8 +3.7
LZH pmax pmax
comp=Z,267nm,1.5s,mb5.7
LZH Lanzhou 78.55 312 *e*P **P 10 57 22.6 +1.0**
comp=Z,267nm,1.5s,mb5.7
LZH pP pP 10 57 57.2 +1.2
LZH sP sP 10 58 13.2 +2.5
LZH PP PP 11 00 24.3 +3.3
LZH PPP 11 02 14.5
LZH *e*S S 11 07 05.7 -1.0
LZH sS sS 11 08 05.5 -0.6
LZH SS SS 11 12 16.8 +3.7
SEY Seymchan 78.64 353 *e*P **P 10 57 20.7 -1.3**
CLNS Chul'man 79.86 338 *e*P **P 10 57 28.3 -0.3**
CLNS *e* 10 57 40.0
CLNS *e*S S 11 07 16.8 -3.7
CLNS pmax pmax
comp=N,38nm,1.1s
CLNS pmax pmax
comp=Z,610nm,1.1s,mb6.1
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS smax
comp=N,2μm,12.0s
CLNS smax
comp=Z,907nm,13.2s
CLNS smax
comp=E,984nm,12.7s
CLNS MLR MLR
comp=E,500nm,15.0s
CLNS MLR MLR
comp=Z,600nm,15.0s
CLNS MLR MLR
comp=N,200nm,14.0s
CIT Chita 81.38 330 *e*P **P 10 57 36.1 -0.6**
CIT pmax pmax
comp=Z,198nm,1.8s,mb5.4
SVW2 Sparrevohn 81.50 17 *e*P **P 10 57 41.6 +4.2**
MAW Mawson 81.54 202 *e*S S 11 07 42.0 +4.0
MAW Mawson 81.54 202 P **P 10 57 37.1 -0.5**
comp=Z,67nm,0.9s,mb5.3,baz=106,slow=6.9,SNR=27
MAW S S 11 07 40.5 +2.6
comp=Z,0.5nm,0.5s,baz=326,slow=15,SNR=1.5
MAW LR LR 11 29 18.2
comp=Z,2μm,18.5s,baz=87,slow=32
MAW Mawson 81.54 202 *e*P **P 10 57 37.0 -0.6**
MAW *e*S S 11 07 42.0 +4.0
MAW pmax pmax
comp=Z,53nm,1.0s
MAW Mawson 81.54 202 *e*P **P 10 57 37.0 -0.6**
comp=Z,53nm,1.0s,mb5.1
MAW *e*S S 11 07 42.0 +4.0
IMP Imphal 81.71 298 *e*P **P 10 57 38.0 -0.5**
YAK Yakutsk 82.37 343 *e*P **P 10 57 40.4 -1.5**
YAK *e*S S 11 07 46.4 -0.1
YAK pmax pmax
comp=Z,100nm,1.4s,mb5.2
YAK pmax pmax
comp=N,62nm,1.5s
YAK pmax pmax
comp=E,39nm,1.5s
YAK smax
comp=N,622nm,5.2s
YAK smax
comp=E,457nm,5.2s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=E,998nm,19.0s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK Yakutsk 82.37 343 *e*P **P 10 57 40.9 -1.1**
comp=Z,112nm,0.8s,mb5.5
SLKM Skilak Lake 82.68 20 P **P 10 57 43.4 -0.1**
SLKM Skilak Lake 82.68 20 *e*P **P 10 57 42.9 -0.7**
SONM Songino Array 82.78 324 P **P 10 57 43.6 -0.4**
comp=Z,12nm,0.7s,mb4.8,baz=149,slow=6.5,SNR=39
SONM S S 11 07 52.6 +2.0
comp=Z,0.2nm,0.4s,baz=180,slow=1.0,SNR=2.7
BILL Bilibino 82.91 360*d i*P **P 10 57 44.3 -0.4**
BILL pmax pmax
comp=Z,63nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,1μm,23.0s
BILL Bilibino 82.91 360 *e*P **P 10 57 43.9 -0.8**
comp=Z,82nm,1.3s,mb5.3
GTA Gaotai 82.91 314 P **P 10 57 45.1 +0.4**
GTA PP PP 11 01 00.5 +3.5
GTA SKS 11 07 49.4
GTA S S 11 07 52.8 +0.9
GTA SS SS 11 13 23.3 +5.3
GTA AMB AMB
comp=Z,51nm,1.7s,mb5.0
GTA AMB AMB
comp=Z,2μm,10.3s
GTA LR LR
comp=N,924nm,17.5s
GTA LR LR
comp=E,2μm,23.6s
GTA LR LR
comp=Z,2μm,23.6s
AGT Agartala 83.70 297 *e*x x 10 57 41.0
SHL Shillong 83.73 298 *i* P **P 10 57 48.5 -0.4**
SHL *i* x x 11 08 02.5
PMR Palmer 83.85 19 P **P 10 57 48.9 -0.6**
PMR pmax pmax
comp=Z,70nm,1.3s,mb5.2
PMR Palmer 83.85 19 *e*P **P 10 57 48.8 -0.7**
comp=Z,91nm,1.6s,mb5.2
PMR LR LR
comp=Z,2μm,23.0s
JRSC Jasper Ridge 84.25 49 ⇓P **P 10 57 52.3 +0.7**
baz=84
HOPS Hopland 84.30 47 ⇑P **P 10 57 53.3 +1.5**
baz=84
P01C Double 8 Ranch 84.31 47 ⇑P **P 10 57 53.4 +1.5**
baz=84
HAST UC Hastings Re 84.35 50 ⇑P **P 10 57 53.4 +1.3**
baz=84
CVS Carmenet Viney 84.47 48 ⇑P **P 10 57 53.8 +1.1**
baz=85
KHMM Horse Mountain 84.63 45 *e*P **P 10 57 55.3 +1.9**
MNRC McLaughlin Nat 84.70 48 ⇑P **P 10 57 55.0 +1.1**
baz=85
PACP Pacheco Peak 84.79 50 ⇑P **P 10 57 55.8 +1.5**
baz=85
BOD Bodaibo 84.80 334 *e*P **P 10 57 52.2 -2.1**
BOD pmax pmax
comp=Z,85nm,1.5s,mb5.2
GASB Alder Springs 84.82 47 ⇓P **P 10 57 55.8 +1.4**
baz=85
N02C Big Bar 84.90 46 ⇓P **P 10 57 55.9 +1.1**
baz=85
Q03C Winters 84.91 48 ⇑P **P 10 57 56.2 +1.4**
baz=85
PKD Parkfield 84.93 51 ⇓P **P 10 57 56.1 +1.1**
baz=85
O02C Red Bluff 84.99 46 ⇓P **P 10 57 56.5 +1.2**
baz=85,SNR=7.0
PKM Peak Mountain 85.08 52 ⇑P **P 10 57 56.7 +0.9**
baz=85,SNR=5.2
L02A Cave Junction 85.26 44 ⇑P **P 10 57 58.0 +1.4**
baz=85
SUTB Sutter Butte 85.31 47 ⇓P **P 10 57 57.2 +0.3**
baz=85,SNR=5.9
WDC Whiskeytown Da 85.33 46 P **P 10 57 57.4 +0.5**
WDC pmax pmax
comp=Z,35nm,1.4s,mb4.9
WDC Whiskeytown Da 85.33 46 *e*P **P 10 57 57.0 0.0**
comp=Z,36nm,1.4s,mb4.9
WDC *e*pP pP 10 58 37.7 +5.8
WDC Whiskeytown Da 85.33 46 ⇓P **P 10 57 57.6 +0.7**
baz=85
V05C Boulder Hill, 85.38 51 ⇓P **P 10 57 58.7 +1.5**
baz=86
U05C Westside ANR, 85.40 51 ⇑P **P 10 57 58.5 +1.2**
baz=86
M02C Callahan 85.45 45 ⇑P **P 10 57 58.7 +1.1**
baz=86,SNR=6.9
O03C Acorn Hollow, 85.45 47 ⇑P **P 10 57 58.8 +1.3**
baz=86
Q04C Lincoln 85.45 48 ⇓P **P 10 57 58.3 +0.7**
baz=86
R04C Big Horse Ranc 85.54 49 ⇑P **P 10 57 58.2 +0.2**
baz=86
OHCM Honcut 85.57 47 *e*P **P 10 57 58.5 +0.4**
OHCM *e*pP pP 10 58 34.8 +1.8
K02A Glendale 85.59 44 ⇑P **P 10 57 59.1 +0.8**
baz=86
S05C Merced 85.63 50 ⇑P **P 10 57 58.8 +0.4**
baz=86
ORV Oroville 85.64 47 ⇓P **P 10 57 58.7 +0.2**
baz=86
YBH Yreka Blue Hor 85.69 45 *e*P **P 10 57 58.9 +0.2**
YBH *e**PP pP 10 58 35.3 +1.6
YBH Yreka Blue Hor 85.69 45 ⇓P **P 10 57 59.6 +0.9**
baz=86
LSA Lhasa 85.74 302 *e*P **P 10 58 00.3 +1.3**
LSA pmax pmax
comp=Z,33nm,0.6s,mb5.2
LSA Lhasa 85.74 302 *e*P **P 10 58 00.3 +1.3**
comp=Z,33nm,0.6s,mb5.2
J02A Umpqua 85.79 43 ⇑P **P 10 58 00.4 +1.2**
baz=86
CAL Calcutta 85.82 295 *e*P **P 10 58 02.1 +2.8**
CAL *ex* x 11 08 20.8
CAL AMP 11 09 10.4
comp=Z,2μm,18.1s
ZAK Zakamensk 85.84 325⇑*i*P **P 10 57 58.6 -0.9**
ZAK pmax pmax
comp=Z,65nm,1.6s,mb5.1
CMB Columbia Colle 85.85 49 *e*P **P 10 57 59.6 +0.1**
comp=Z,14nm,0.9s,mb4.7
CMB Columbia Colle 85.85 49 ⇓P **P 10 57 59.8 +0.3**
baz=86,SNR=8.0
LAVA Lava Cap Winer 85.87 48 ⇑P **P 10 58 00.1 +0.4**
baz=86
HUMO Hull Mountain 85.88 44 *e*P **P 10 58 01.4 +1.7**
comp=Z,26nm,1.1s,mb4.9
HUMO Hull Mountain 85.88 44 ⇑P **P 10 58 00.2 +0.6**
baz=86
I02A Mapleton 85.89 42 ⇑P **P 10 58 00.5 +0.7**
baz=86
ARVC Arvin 85.92 52 ⇓P **P 10 58 00.2 +0.3**
baz=86
T06C Millerton Lake 85.96 50 ⇓P **P 10 58 00.4 +0.4**
baz=86,SNR=16
VES Vestal, Richgr 85.99 51 ⇓P **P 10 58 00.5 +0.3**
baz=86
IMA2 Indian Mountai 86.00 15 *e*P **P 10 57 58.6 -1.7**
RCTC Rector, Farmer 86.05 51 ⇑P **P 10 58 00.4 -0.1**
baz=86
HATC Hat Creek Radi 86.17 46 ⇑P **P 10 58 01.6 +0.5**
baz=86
S06C San Francisco 86.19 49 ⇓P **P 10 58 01.7 +0.6**
baz=86,SNR=21
MWC Mount Wilson 86.19 53 *e*P **P 10 58 02.4 +1.2**
O05C Quincy 86.22 47 ⇑P **P 10 58 02.1 +0.8**
baz=86
O04C Chester 86.24 47 ⇑P **P 10 58 01.1 -0.4**
baz=86,SNR=5.4
TLY Talaya 86.28 326 P **P 10 58 01.7 0.0**
comp=Z,337nm,1.6s,mb5.8,SNR=10
TLY Talaya 86.28 326*c i*P **P 10 58 00.0 -1.7**
TLY *e* 10 58 28.1
TLY *e*S SKSac 11 08 14.3 -0.7
TLY *e*PS 11 09 18.8
TLY *e*SSS 11 17 39.3
TLY pmax pmax
comp=Z,82nm,1.1s,mb5.4
TLY Talaya 86.28 326 *e*P **P 10 58 02.9 +1.3**
comp=Z,32nm,0.8s,mb5.1
M04C Macdoel 86.30 45 ⇑P **P 10 58 02.1 +0.3**
baz=86
R05C Kirkwood Meado 86.33 48 ⇑P **P 10 58 01.3 -0.6**
baz=86,SNR=7.0
HELL Mitchell Peak, 86.35 51 ⇑P **P 10 58 00.6 -1.3**
baz=86,SNR=24
KCC Kaiser Creek 86.36 50 ⇓P **P 10 58 01.4 -0.6**
baz=86,SNR=12
ISA Isabella 86.39 52 *e*P **P 10 58 02.7 +0.5**
comp=Z,0.1nm,1.4s
ISA Isabella 86.39 52 ⇓P **P 10 58 01.3 -0.9**
baz=86,SNR=8.9
L04A Klamath Falls 86.42 45 ⇑P **P 10 58 01.5 -0.8**
baz=86
109C Camp Elliot, M 86.46 55 ⇓P **P 10 58 02.7 +0.1**
baz=87
EDW2 Edwards Air Fo 86.47 53 ⇓P **P 10 58 02.1 -0.5**
baz=87,SNR=11
BFSC Mount Baldy St 86.50 53 ⇓P **P 10 58 00.5 -2.3**
baz=87
H03A Soap Creek Ran 86.53 42 ⇑P **P 10 58 02.5 -0.3**
baz=87
BEKR Beckwourth 86.58 47 ⇑P **P 10 58 02.0 -1.1**
baz=87,SNR=6.8
ELFS Eagle Lake Fie 86.61 46 ⇓P **P 10 58 02.0 -1.3**
baz=87
M05C Lookout 86.61 46 ⇓P **P 10 58 01.7 -1.5**
baz=87
MURC Murrieta 86.64 54 ⇑P **P 10 58 02.2 -1.1**
baz=87
COLA College 86.67 18 *e*P **P 10 58 03.0 -0.5**
COLA pmax pmax
comp=Z,15nm,0.9s,mb4.8
COLA College 86.67 18 *e*P **P 10 58 03.0 -0.5**
comp=Z,15nm,0.9s,mb4.8
WCN Washoe City 86.79 48 ⇓P **P 10 58 02.8 -1.3**
baz=87,SNR=5.3
P06A Stead Airport, 86.83 48 ⇑P **P 10 58 03.2 -1.1**
baz=87
LRMC Laurel Mountai 86.92 52 ⇓P **P 10 58 03.9 -0.9**
baz=87
MTUM Tungsten Hills 86.94 50 *e*P **P 10 58 05.8 +1.0**
MTUM *e*pP pP 10 58 43.3 +3.4
MONP Monument Peak 87.00 55 ⇓P **P 10 58 05.1 -0.1**
baz=87
M06C Likely Place G 87.01 46 ⇓P **P 10 58 04.8 -0.4**
baz=87,SNR=6.4
O06A Flanigan 87.07 47 ⇑P **P 10 58 04.2 -1.3**
baz=87,SNR=6.1
TIN Tinemaha 87.08 51 ⇓P **P 10 58 05.5 0.0**
baz=87
DVTC Desert V Tower 87.18 55 ⇓P **P 10 58 04.4 -1.6**
baz=87
PAHR Pah Rah Range 87.21 48 *e*P **P 10 58 06.3 +0.2**
comp=Z,76nm,1.7s,mb5.2
PAHR *e*pP pP 10 58 38.4 -2.8
PFO Pinyon Flat Ob 87.22 54 P **P 10 58 06.1 -0.1**
comp=Z,67nm,1.2s,mb5.3,SNR=5.1
PFO Pinyon Flat Ob 87.22 54 P **P 10 58 06.8 +0.6**
PFO *e**PP pP 10 58 42.4 +1.1
PFO *e* 11 01 34.4
PFO pmax pmax
comp=Z,170nm,2.3s,mb5.5
PFO Pinyon Flat Ob 87.22 54 *e*P **P 10 58 06.4 +0.2**
comp=Z,170nm,2.3s,mb5.5
PFO *e*PP PP 11 01 31.6 -0.3
PFO Pinyon Flat Ob 87.22 54 ⇑P **P 10 58 05.9 -0.3**
baz=87
DAC Darwin (Calif) 87.27 51 *e*P **P 10 58 07.0 +0.6**
comp=Z,23nm,1.1s,mb4.9
DAC *e*pP pP 10 58 38.1 -3.4
MPMC Manual Prospec 87.28 52 ⇓P **P 10 58 05.8 -0.7**
baz=87,SNR=17
S08C White Mtn Res 87.28 50 ⇓P **P 10 58 05.8 -0.7**
baz=87,SNR=21
N06A Buffalo Meadow 87.28 47 ⇑P **P 10 58 05.4 -1.1**
baz=87,SNR=14
J05A Fort Rock 87.31 44 ⇓P **P 10 58 07.6 +1.0**
baz=87
K05A Summer Lake 87.32 45 ⇑P **P 10 58 05.2 -1.5**
baz=87
NLWA Neilton Lookou 87.33 39 ⇓P **P 10 58 06.8 +0.1**
baz=88
MOD Modoc 87.40 45 ⇑P **P 10 58 06.4 -0.6**
baz=88
SWSC Sam W. Stewart 87.52 55 ⇑P **P 10 58 06.9 -0.8**
baz=88
NVAR Mina Array Bea 87.52 49 P **P 10 58 07.0 -0.7**
comp=Z,8.2nm,1.1s,mb4.5,baz=228,slow=7.1,SNR=17
NVAR PKKPbc PKKPbc 11 16 00.2 +4.6
comp=Z,2.1nm,0.7s,baz=99,slow=1.4,SNR=14
NVAR PKPPKP 11 24 03.5
comp=Z,2.0nm,1.0s,baz=77,slow=2.1,SNR=8.0
NVAR Mina Array Bea 87.52 49 P **P 10 58 07.0 -0.7**
NVAR PKKPbc PKKPbc 11 16 00.2 +4.6
NVAR P'P' 11 24 03.5
GSC Goldstone 87.53 53 P **P 10 58 08.9 +1.2**
GSC Goldstone 87.53 53 *e*P **P 10 58 07.9 +0.2**
GSC Goldstone 87.53 53 ⇑P **P 10 58 06.3 -1.4**
baz=88,SNR=11
F04A Amboy 87.61 41 ⇓P **P 10 58 07.3 -0.8**
baz=88
GRAC Grapevine Rang 87.70 51 ⇑P **P 10 58 06.9 -1.6**
baz=88
BELC Belle Mtn. 87.71 54 ⇓P **P 10 58 08.2 -0.3**
baz=88
MOY Mondy 87.72 325 *e*P **P 10 58 09.6 +1.0**
MOY pmax pmax
comp=Z,120nm,2.5s,mb5.3
HEC Hector,Ludlow 87.74 53 ⇓P **P 10 58 09.2 +0.6**
baz=88
O07A Toulon 87.74 47 ⇑P **P 10 58 07.6 -1.1**
baz=88,SNR=7.7
K06A Valley Falls 87.78 45 ⇓P **P 10 58 08.2 -0.6**
baz=88,SNR=6.7
B04A Port Angeles 87.84 39 ⇑P **P 10 58 08.8 -0.4**
baz=88
HOOD Mount Hood Mea 87.86 42 *e*P **P 10 58 10.2 +0.9**

H05A	Madras	87.86	43	⇓P	P	10 58 07.7	-1.5
	baz=88						
FURC	Furnace Creek,	87.90	51	⇓P	P	10 58 08.7	-0.7
	baz=88,SNR=16						
Q08A	Gabbs	87.95	49	⇓P	P	10 58 07.8	-1.8
	baz=88,SNR=5.5						
M07A	Soldier Meadow	87.99	46	⇓P	P	10 58 09.6	-0.2
	baz=88,SNR=7.2						
C04A	Brinnon	88.02	39	⇑P	P	10 58 10.5	+0.5
	baz=88						
BC3	Big Chuckw Mtn	88.03	55	⇓P	P	10 58 08.8	-1.2
	baz=88						
J06A	Christmas Vall	88.03	44	⇓P	P	10 58 08.7	-1.3
	baz=88,SNR=14						
G05A	Wamic	88.04	42	⇓P	P	10 58 11.1	+1.0
	baz=88						
GNW	Green Mountain	88.04	40	eP	P	10 58 09.9	-0.2
S09A	Goldfield	88.06	50	⇓P	P	10 58 08.8	-1.4
	baz=88,SNR=7.0						
L07A	Adell	88.11	46	⇓P	P	10 58 09.5	-0.9
	baz=88,SNR=16						
PGC	Sidney	88.12	38	epP	pP	10 58 49.8	+4.2
P08A	Dixie Valley	88.14	48	⇑P	P	10 58 09.9	-0.7
	baz=88						
SHOC	Shoshone	88.14	52	⇓P	P	10 58 09.6	-0.9
	baz=88						
TPH	Tonopah	88.19	50	eP	P	10 58 11.4	+0.7
	comp=Z,6.4nm,0.7s,mb4.6						
TPH				epP	pP	10 58 47.9	+1.9
F05A	White Salmon	88.21	41	⇓P	P	10 58 10.5	-0.4
	baz=88,SNR=5.2						
I06A	Prineville	88.25	44	⇓P	P	10 58 10.5	-0.6
	baz=88,SNR=23						
TUQ	Turquoise Mtn.	88.25	53	⇓P	P	10 58 10.1	-1.0
	baz=88,SNR=12						
GLA	Glamis	88.32	55	eP	P	10 58 12.9	+1.5
GLA	Glamis	88.32	55	⇑P	P	10 58 11.5	+0.1
	baz=88						
SYO	Syowa Base	88.35	197	⇑eP	P	10 58 09.0	-2.6
SYO	Syowa Base	88.35	197	⇓/PcP	PcP	10 58 11.4	-1.7
R09A	Tonopah	88.36	50	P	P	10 58 11.7	+0.1
	baz=88,SNR=19						
D05A	Enumclaw	88.40	40	⇑P	P	10 58 12.5	+0.7
	baz=88,SNR=5.9						
K07A	Rock Creek Ran	88.43	45	⇑P	P	10 58 10.8	-1.1
	baz=88,SNR=12						
IRM	Iron Mountain	88.43	54	P	P	10 58 11.4	-0.5
	baz=88,SNR=13						
G06A	Carlson Farm,	88.48	42	⇓P	P	10 58 12.4	+0.3
	baz=89						
H06A	Lindquist Farm	88.48	43	⇑P	P	10 58 11.1	-1.1
	baz=89,SNR=8.0						
Q09A	Carvers	88.48	49	⇓P	P	10 58 12.6	+0.4
	baz=89,SNR=6.2						
PALK	Pallekele	88.56	278	P	P	10 58 14.4	+1.8
	comp=Z,201nm,1.3s,mb5.9,SNR=6.1						
PALK	Pallekele	88.56	278	eP	P	10 58 14.0	+1.4
	comp=Z,40nm,1.0s,mb5.3						
M08A	Happy Creek Ra	88.57	46	⇓P	P	10 58 12.6	0.0
	baz=89,SNR=7.6						
F06A	Goldendale	88.59	42	⇑P	P	10 58 13.2	+0.5
	baz=89,SNR=6.3						
A04A	Legoe Bay, Lum	88.60	39	⇑P	P	10 58 11.9	-0.8
	baz=89						
J07A	Hines	88.64	44	⇓P	P	10 58 12.9	0.0
	baz=89						
EGAK	Eagle	88.66	20	eP	P	10 58 12.7	-0.3
	comp=Z,17nm,1.4s,mb4.8						
WVOR	Wild Horse Val	88.75	45	eP	P	10 58 13.7	+0.3
WVOR				e*PP	pP	10 58 48.9	+0.3
WVOR				e		11 01 43.4	
WVOR				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.2						
WVOR	Wild Horse Val	88.75	45	eP	P	10 58 13.7	+0.2
	comp=Z,45nm,1.4s,mb5.2						
WVOR				epP	pP	10 58 48.9	+0.2
WVOR				ePP	PP	11 01 43.4	-0.8
P09A	Austin	88.77	49	⇑P	P	10 58 12.1	-1.4
	baz=89						
V11A	Goodsprings	88.77	52	⇑P	P	10 58 12.5	-1.0
	baz=89,SNR=14						
E06A	Yakima	88.78	41	⇑P	P	10 58 12.3	-1.3
	baz=89,SNR=6.3						
B05A	Bryant	88.78	39	⇑P	P	10 58 13.2	-0.4
	baz=89,SNR=5.7						
I07A	Izee	88.78	44	⇑P	P	10 58 12.7	-0.9
	baz=89,SNR=25						
Y12C	Blythe	88.79	55	⇑P	P	10 58 12.6	-1.0
	baz=89						
C05A	Tolt Reservoir	88.80	40	⇓P	P	10 58 13.3	-0.4
	baz=89						
L08A	Fields	88.86	46	⇑P	P	10 58 14.0	0.0
	baz=89,SNR=21						
H07A	Lands Inn, Kim	88.93	43	P	P	10 58 14.2	-0.1
	baz=89,SNR=20						
R10A	Warm Springs	88.94	50	P	P	10 58 14.9	+0.5
	baz=89,SNR=19						
O09A	Fish Creek Ran	88.95	48	P	P	10 58 15.1	+0.7
	baz=89,SNR=16						
N09A	Rock Creek Ran	88.95	47	⇓P	P	10 58 14.6	+0.2
	baz=89,SNR=5.3						
K08A	Mann Creek Ran	88.96	45	⇑P	P	10 58 15.1	+0.7
	baz=89,SNR=6.7						
U11A	Corn Creek	89.00	52	⇓P	P	10 58 14.5	-0.1
	baz=89						
BMN	Battle Mountai	89.02	48	eP	P	10 58 15.6	+0.9
BMN				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.2						
BMN	Battle Mountai	89.02	48	eP	P	10 58 15.6	+0.9
	comp=Z,41nm,1.4s,mb5.2						
BMN				esP	sP	10 58 56.7	-7.7
W12A	Cal Nev Ari	89.02	53	⇑P	P	10 58 15.4	+0.7
	baz=89						
A05A	Maple Falls	89.09	38	⇑P	P	10 58 14.4	-0.6
	baz=89						
D06A	Cle Elum	89.12	40	⇑P	P	10 58 15.0	-0.2
	baz=89						
G07A	Ruggs Ranch, H	89.12	43	P	P	10 58 15.4	+0.2
	baz=89,SNR=16						
V12A	Nelson	89.18	53	⇓P	P	10 58 15.8	+0.4
	baz=89,SNR=7.6						
F07A	Phinny Hill Vi	89.19	42	⇑P	P	10 58 15.7	+0.2
	baz=89						
SHPR	Sheep Range	89.20	52	eP	P	10 58 16.0	+0.5
J08A	Circle Bar Ran	89.20	45	⇑P	P	10 58 16.0	+0.4
	baz=89,SNR=23						
M09A	Marrel Ranch,	89.21	47	⇑P	P	10 58 15.8	+0.2
	baz=89,SNR=7.2						
B06A	Marblemount	89.25	39	⇓P	P	10 58 14.5	-1.3
	baz=89						
PDMCI	Parker Dam,Lak	89.27	54	⇓P	P	10 58 16.2	+0.4
	baz=89						
L09A	Wilkinson Ranc	89.27	46	⇑P	P	10 58 15.9	0.0
	baz=89,SNR=6.4						
P10A	Eureka	89.28	49	⇓P	P	10 58 15.9	0.0
	baz=89						
I08A	Drewsey	89.34	44	P	P	10 58 16.3	+0.1
	baz=90,SNR=15						
Y13A	Salome	89.36	55	⇑P	P	10 58 16.6	+0.3
	baz=89,SNR=8.8						
LPIG	La Paz	89.37	65	LR	LR	11 28 41.4	
	comp=Z,2μm,20.4s,baz=247,slow=29						
K09A	Rome	89.47	45	P	P	10 58 16.7	-0.1
	baz=90,SNR=21						
O10A	Cortez Mining,	89.49	48	⇑P	P	10 58 17.0	+0.1
	baz=90,SNR=6.6						
E07A	Sunnyside	89.50	41	⇑P	P	10 58 16.5	-0.4
	baz=90						
H08A	Prairie City	89.50	43	⇓P	P	10 58 16.5	-0.4
	baz=90						
GUN	Gumba	89.56	299	eP	P	10 58 17.2	0.0
	comp=Z,65nm,0.8s,mb5.6						
G08A	Pilot Rock	89.59	43	⇓P	P	10 58 17.8	+0.5
	baz=90,SNR=24						
X13A	Yucca	89.60	54	⇑P	P	10 58 18.2	+0.8
	baz=90						
Q11A	Duckwater	89.61	50	P	P	10 58 17.8	+0.4
	baz=90,SNR=29						
N10A	Dunphy	89.63	48	⇑P	P	10 58 18.0	+0.4
	baz=90						
HAWA	Hanford	89.64	42	eP	P	10 58 17.5	-0.1
	comp=Z,42nm,1.4s,mb5.2						
HAWA				epP	pP	10 58 53.5	+0.7
U12A	Valley of Fire	89.65	52	⇓P	P	10 58 17.8	+0.1
	baz=90,SNR=9.7						
D07A	Quincy	89.67	41	⇑P	P	10 58 17.5	-0.2
	baz=90						
J09A	Fry Pan Ranch,	89.69	45	P	P	10 58 17.9	+0.1
	baz=90,SNR=30						
W13A	Hualapai Mount	89.72	54	⇑P	P	10 58 18.1	+0.1
	baz=90,SNR=16						
P11A	Circle Ranch,	89.77	49	⇓P	P	10 58 18.6	+0.4
	baz=90						
C07A	Waterville	89.80	40	⇓P	P	10 58 17.7	-0.6
	baz=90,SNR=6.7						
PKI	Pulchoki	89.86	299	eP	P	10 58 18.2	-0.4
	comp=Z,98nm,1.1s,mb5.7						
M10A	I.L. Ranch, Tu	89.88	47	P	P	10 58 19.7	+1.0
	baz=90,SNR=19						
F08A	Pendleton	89.90	42	⇑P	P	10 58 19.1	+0.2
	baz=90						
Z14A	Wintersburg	89.91	55	⇓P	P	10 58 19.2	+0.3
	baz=90						
I09A	Lost Marbles R	89.92	44	P	P	10 58 19.9	+1.0
	baz=90,SNR=14						
KKN	Kakani	90.03	299	eP	P	10 58 18.9	-0.5
	comp=Z,149nm,1.4s,mb5.7						
O11A	Cowboy Ranch,	90.04	48	⇑P	P	10 58 19.6	+0.2
	baz=90,SNR=18						
Y14A	Wickenburg	90.05	55	⇑P	P	10 58 19.6	+0.1
	baz=90						
B07A	Winthrop	90.06	39	⇑P	P	10 58 19.8	+0.3
	baz=90,SNR=6.9						
DMN	Daman	90.12	298	eP	P	10 58 19.9	0.0
	comp=Z,82nm,0.9s,mb5.7						
H09A	Durkee	90.22	44	⇑P	P	10 58 21.4	+1.1
	baz=90						
D08A	Wollman Farm,	90.28	41	⇑P	P	10 58 20.8	+0.2
	baz=90						
115A	Sonoran Desert	90.28	56	⇓P	P	10 58 21.1	+0.5
	baz=90						
X14A	Yava	90.30	54	⇑P	P	10 58 21.7	+1.0
	baz=90,SNR=18						
TIXI	Tiksi	90.32	349	eP	P	10 58 16.8	-4.0
TIXI				eS	SKSac	11 08 31.7	-7.4
TIXI				e		11 08 59.5	
TIXI				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
TIXI	Tiksi	90.32	349	eP	P	10 58 19.8	-1.0
P12A	McGill	90.36	49	⇓P	P	10 58 21.4	+0.4
	baz=90						
W14A	Seligman	90.38	54	⇑P	P	10 58 22.5	+1.5
	baz=90,SNR=12						
M11A	Holland Ranch,	90.38	47	⇓P	P	10 58 21.8	+0.7
	baz=90						
F09A	S2 Ranch, Elgi	90.44	43	⇑P	P	10 58 22.2	+0.9
	baz=90,SNR=5.5						
C08A	Higginbotham F	90.47	40	⇑P	P	10 58 21.3	-0.2
	baz=91						
MDRS	Chennai	90.52	283	ex	x	10 58 16.7	
E09A	Wood Farm, Sta	90.57	42	⇓P	P	10 58 21.8	-0.1
	baz=91						
GKN	Gorkha	90.64	299	eP	P	10 58 21.1	-1.1
	comp=Z,68nm,1.0s,mb5.6						
116A	Eloy	90.67	57	⇓P	P	10 58 22.2	-0.2
	baz=91						
D09A	Jones Farm, Ri	90.67	41	⇑P	P	10 58 21.9	-0.5
	baz=91						
O12A	Currie	90.74	48	⇓P	P	10 58 22.0	-0.7
	baz=91						
X15A	Humboldt	90.82	55	⇓P	P	10 58 22.7	-0.4
	baz=91,SNR=16						
CCUT	Cedar City	90.89	51	eP	P	10 58 23.7	+0.3
ARUT	Antelope Range	90.91	51	P	P	10 58 25.1	+1.6
ARUT	Antelope Range	90.91	51	eP	P	10 58 24.1	+0.6
C09A	Chrisman Ranch	90.96	41	⇓P	P	10 58 23.9	+0.2
	baz=91						
F10A	Beach Ranch, E	90.97	42	P	P	10 58 23.2	-0.6
	baz=91,SNR=16						
M12A	Wells	91.00	47	⇑P	P	10 58 24.0	+0.1
	baz=91						
W15A	Williams	91.01	54	⇑P	P	10 58 24.6	+0.6
	baz=91						
A09A	Danville	91.20	39	⇓P	P	10 58 24.7	-0.1
	baz=91						
B09A	Rice	91.27	40	⇓P	P	10 58 25.0	-0.1
	baz=91						
N13A	Wendover, West	91.32	48	⇑P	P	10 58 25.2	-0.2
	baz=91						
TUC	Tucson	91.33	57	eP	P	10 58 25.9	+0.4
TUC				e*PP	pP	10 59 01.3	+0.6
PMSA	Palmer Station	91.43	160	eP	P	10 58 25.4	-0.5
	comp=Z,50nm,1.0s,mb5.5						
KOLN	Koldanda	91.45	298	eP	P	10 58 24.6	-1.4
	comp=Z,27nm,0.9s,mb5.3						
M13A	Montello	91.51	48	⇓P	P	10 58 26.9	+0.6
	baz=92						
C10A	Spilker Farm,	91.58	41	⇓P	P	10 58 26.7	+0.1
	baz=92						
B10A	Chitwood Farm,	91.80	40	⇑P	P	10 58 27.5	-0.2
	baz=92						
WUAZ	Wupatki	91.80	54	eP	P	10 58 27.9	+0.3
	comp=Z,29nm,1.1s,mb5.2						
WUAZ				epP	pP	10 59 01.4	-1.5
WUAZ	Wupatki	91.80	54	⇓P	P	10 58 27.7	0.0
	baz=92						
A10A	Northport	91.83	40	⇑P	P	10 58 27.6	-0.2
	baz=92						
NEW	Newport	91.85	40	eP	P	10 58 28.3	+0.5
	comp=Z,4.1nm,0.9s,mb4.5						
NEW				epP	pP	10 59 04.9	+1.8
HLID	Hailey	92.05	45	⇑P	P	10 58 28.7	-0.1
	baz=92						
MSU	Marysvale	92.08	51	eP	P	10 58 29.8	+0.9
MSU				e*PP	pP	10 59 03.3	-0.9
DUG	Dugway	92.12	49	P	P	10 58 29.9	+0.8
DUG				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
DUG	Dugway	92.12	49	eP	P	10 58 29.1	-0.1
	comp=Z,13nm,1.5s,mb4.7						
DUG	Dugway	92.12	49	⇑P	P	10 58 29.5	+0.3
	baz=92						
B11A	Sandpoint	92.38	40	⇓P	P	10 58 30.1	-0.2
	baz=92						
TRD	Trivandrum	92.46	278	⇑eP	P	10 58 29.1	-1.6
HVU	Hansel Valley	92.64	48	eP	P	10 58 32.2	+0.8
HVU				epP	pP	10 59 12.1	+5.3
NVL	N'lazarevskaya	92.69	188c	iP	P	10 58 30.2	-1.5
NVL				i		11 02 14.1	
NVL				i		11 09 22.8	
NVL				pmax	pmax		
	comp=N,41nm,1.2s						
NVL				pmax	pmax		
	comp=Z,125nm,1.2s,mb5.9						
NVL				pmax	pmax		
	comp=E,26nm,1.3s						
NVL				pmax	pmax		
	comp=Z,2μm,14.5s						
MAIT	Maitri	92.69	188	eP	P	10 58 30.6	-1.2
B12A	Libby	92.88	41	⇑P	P	10 58 33.0	+0.4
	baz=93						
WMQ	Urumqi	92.97	315	⇑iP	P	10 58 32.8	-0.2
WMQ				PP	PP	11 02 20.0	+2.5
WMQ				SKS		11 08 52.0	
WMQ				SS	SS	11 15 44.0	-0.4
WMQ				AMB	AMB		
	comp=Z,89nm,1.6s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,1μm,5.4s						
WMQ				LR	LR		
	comp=N,3μm,21.5s						
WMQ				LR	LR		
	comp=E,3μm,17.2s						
WMQ				LR	LR		
	comp=Z,5μm,32.8s						
A12A	Yaak River Ran	93.00	40	⇑P	P	10 58 33.8	+0.6
	baz=93						
CTU	Camp Tracy	93.05	49	eP	P	10 58 36.4	+3.0
CTU				epP	pP	10 59 13.3	+4.7
SNAA	Sanae	93.19	183	LR	LR	11 36 13.4	
	comp=Z,405nm,21.6s,baz=307,slow=33						
SNAA	Sanae	93.19	183	eP	P	10 58 31.8	-2.2
	comp=Z,43nm,0.6s,mb5.8						
HYB	Hyderabad	93.21	287	iP	P	10 58 34.0	-0.2
HYB				eSKS		11 08 56.0	
HYB				eS	S	11 09 30.0	+0.7
HYB	Hyderabad	93.21	287	eP	P	10 58 34.0	-0.2
HYB				eS	SKSac	11 08 56.0	+0.7
C13A	Hot Springs	93.27	41	⇓P	P	10 58 36.1	+1.7
	baz=93						
JBP	Jabalpur	93.38	293	⇓eP	P	10 58 34.0	-0.9
JBP				⇓ex	x	11 07 21.0	
HWUT	Hardware Ranch	93.45	48	epP	pP	10 59 14.6	+4.1
SRU	San Rafael	93.49	51	epP	pP	10 59 16.7	+6.0
B13A	Whitefish	93.56	41	⇓P	P	10 58 36.1	+0.4
	baz=94						
NGP	Nagpur	93.70	291	eP	P	10 58 37.0	+0.6
NGP				ex	x	11 10 35.8	
NGP				AMP		11 18 32.8	
	comp=Z,1μm,20.4s						
D14A	Greenough	93.77	42	⇓P	P	10 58 36.6	-0.1
	baz=94						
DLMT	Dillon	93.84	44	eP	P	10 58 37.0	0.0
RRI2	Red Ridge	94.13	46	epP	pP	10 59 20.6	+7.0
PV10	Paradox Valley	94.40	52	eP	P	10 58 39.3	-0.3
PV01	Paradox Valley	94.69	52	eP	P	10 58 42.2	+1.2
PV01				epP	pP	10 59 12.9	-3.3
BW06	Boulder Array	95.20	47	ePP	PP	11 02 33.4	-1.5
PDAR	Pinedale Array	95.20	47	P	P	10 58 44.0	+0.8
	comp=Z,0.9nm,0.6s,baz=215,slow=4.6,SNR=6.7						
PDAR				PP	PP	11 02 32.6	-2.2
	comp=Z,1.0nm,1.0s,baz=241,slow=4.9,SNR=5.0						
PDAR				PKKPbc	PKKPbc	11 15 37.5	+1.4
	comp=Z,2.2nm,0.8s,baz=92,slow=4.2,SNR=16						
PDAR				LR	LR	11 38 58.7	
	comp=Z,1μm,19.1s,baz=262,slow=34						
ANMO	Albuquerque	95.52	55	eP	P	10 58 47.4	+2.7
ANMO				e*PP	pP	10 59 20.9	+0.9
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ANMO	Albuquerque	95.52	55	eP	P	10 58 47.4	+2.7
	comp=Z,6.5nm,1.4s,mb4.8						
ANMO				epP	pP	10 59 20.9	+0.9
MNTX	Cornudas Mount	95.59	59	epP	pP	10 59 21.1	+0.7
MNTX				ePP	PP	11 02 37.5	-0.4
MNGI	Mangalore	95.60	282	i x	PP	11 02 43.1	+5.2
MNGI				i S	SKSac	11 09 09.0	+0.8
MNGI				ex	x	11 12 38.1	
	comp=E,2μm,15.5s						
TXAR	Lajitas Array	96.46	61	P	P	10 58 48.6	-0.4
	comp=E,0.5nm,0.7s,baz=194,slow=4.6,SNR=6.5						
TXAR				PP	PP	11 02 44.1	-0.5
	comp=E,6.0nm,1.2s,baz=238,slow=7.2,SNR=9.5						
TXAR				PKKPbc	PKKPbc	11 15 34.2	+1.5
	comp=E,0.7nm,0.6s,baz=124,slow=5.6,SNR=5.7						
TXAR				PKPPKP		11 23 44.5	
	comp=E,0.8nm,1.1s,baz=54,slow=4.7,SNR=4.1						
TXAR				LR	LR	11 37 15.6	
	comp=E,1μm,19.6s,baz=120,slow=32						
TXAR	Lajitas Array	96.46	61	P	P	10 58 48.6	-0.4
TXAR						11 02 44.2	
GDL2	Guadalupe Moun	96.55	59	ePP	PP	11 02 45.9	+0.6
MK31	Makanchi Array	97.46	316	P	P	10 58 53.7	+0.2
MK31	Makanchi Array	97.46	316	eP	P	10 58 53.5	0.0
MKAR	Makanchi Array	97.46	316	P	P	10 58 52.9	-0.6
	comp=E,8.9nm,0.6s,mb5.3,baz=85,slow=7.4,SNR=43						
MKAR				PKiKP	PKiKP	11 03 28.6	+1.1
	comp=E,0.7nm,0.6s,baz=96,slow=5.8,SNR=7.8						
MKAR				S	SKSac	11 09 13.5	-4.3
	comp=E,0.1nm,0.3s,baz=98,slow=6.4,SNR=2.0						
MKAR	Makanchi Array	97.46	316	i P	P	10 58 52.9	-0.6
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	Makanchi Array	97.46	316	P	P	10 58 52.9	-0.6
ZAL	Zalesovo	97.68	324	P	P	10 58 53.1	-1.4
	comp=Z,5.1nm,0.9s,mb5.0,baz=4.6,slow=5.5,SNR=8.3						
ZAL				S	SKSac	11 09 16.4	-2.6
	comp=Z,1.1nm,0.5s,baz=210,slow=20,SNR=2.8						
ZAL				LR	LR	11 47 12.1	
	comp=Z,844nm,18.6s,baz=236,slow=38						
ZAL	Zalesovo	97.68	324	i P	P	10 58 53.0	-1.5
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
POO	Poona	97.83	287	eP	P	10 58 53.0	-2.1
YKA	Yellowknife Ar	97.88	27	P	P	10 58 52.8	-2.5
	comp=Z,5.6nm,0.9s,mb5.0,baz=258,slow=4.4,SNR=7.2						
YKA				PKKPbc	PKKPbc	11 15 28.4	-0.5
	comp=Z,3.2nm,0.9s,baz=63,slow=3.2,SNR=6.8						
YKA				LR	LR	11 35 20.4	
	comp=Z,1μm,21.9s,baz=240,slow=30						
NVS	Novosibirsk	98.79	324	i P	P	10 58 59.1	-0.4
NVS				pmax	pmax		
	comp=N,35nm,1.7s						
NVS				pmax	pmax		
	comp=Z,64nm,1.7s,mb5.8						
NVS				pmax	pmax		
	comp=E,52nm,1.6s						
JCT	Junction City	99.99	61	eP	Pdif	10 59 03.7	-1.1
JCT				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb5.4						
CHKZ	Chkalovo	105.93	322	eP	Pdif	10 59 32.5	+1.3
BVAR	Borovoye Array	106.02	321	Pdiff	Pdif	10 59 30.8	-0.8
	comp=Z,1.4nm,0.6s,baz=113,slow=4.7,SNR=9.1						
BVAR				PKiKP	PKiKP	11 03 43.6	+0.6
	comp=Z,1.1nm,0.4s,baz=90,slow=1.5,SNR=7.1						
BRVK	Borovoye	106.09	321	eP	Pdif	10 59 36.0	+4.1
ARU	Arti	112.78	325	i PKIKP	PKiKP	11 03 54.6	-1.1
ARU				e		11 04 39.5	
ARU				e		11 10 24.2	
ARU				ePS	PS	11 14 10.0	-12
ARU	Arti	112.78	325	ePKP	PKiKP	11 03 54.8	-0.9
AKTK	Aktyubinsk	113.73	319	PKPdf	PKiKP	11 03 56.0	-1.5
AKTK				PKKPbc	PKKPbc	11 14 42.5	+2.0
AKTO	Aktyubinsk	113.73	319	PKiKP	PKiKP	11 03 56.0	-1.5
	comp=Z,2.8nm,0.6s,baz=136,slow=3.4,SNR=11						
AKTO				PKKPbc	PKKPbc	11 14 42.5	+2.0
	comp=Z,0.7nm,0.3s,baz=166,slow=4.2,SNR=2.9						
LPAZ	La Paz	117.06	117	PKP	PKPdf	11 04 04.5	+0.6
	comp=Z,2.6nm,1.0s,baz=15,slow=6.9,SNR=6.3						
LPAZ				PKKPbc	PKKPbc	11 14 28.6	-0.4
	comp=Z,0.6nm,0.5s,baz=198,slow=6.4,SNR=3.1						
LPAZ	La Paz	117.06	117	ePKPdf	PKPdf	11 04 05.9	+2.0
KEV	Kevo	120.07	345	ep	PKPdf	11 04 06.8	-2.9
	comp=Z,13nm,0.5s						
KEV	Kevo	120.07	345	ePKIKP	PKPdf	11 04 06.8	-2.9
KEV				pmax	pmax		
	comp=Z,13nm,0.5s						
CPUP	Villa Florida	120.22	133	PKP	PKPdf	11 04 10.0	0.0
	comp=Z,2.4nm,0.8s,baz=264,slow=1.8,SNR=7.5						
CPUP				PKKPbc	PKKPbc	11 14 16.6	-1.0
	comp=Z,0.5nm,0.4s,baz=0.0,slow=4.0,SNR=2.7						
CPUP	Villa Florida	120.22	133	PKIKP	PKPdf	11 04 10.4	+0.4
CPUP	Villa Florida	120.22	133	ePKPdf	PKPdf	11 04 10.1	0.0
SUMG	Summit	120.60	9	ePKPdf	PKPdf	11 04 10.5	-0.3
ARCES	ARCESS Array B	120.60	345	PKP	PKPdf	11 04 08.6	-2.2
	comp=Z,27nm,0.5s,baz=71,slow=1.4,SNR=75						
ARCES				PKKPbc	PKKPbc	11 14 16.0	-0.2
	comp=Z,3.7nm,0.8s,baz=235,slow=2.1,SNR=8.2						
ARCES	ARCESS

RST	**Umm Al-Ruwaisa**	**123.44 296**	*e*P	PKPdf	11 04 15.3	-0.9
RST			AMb	AMB	11 04 22.9	
	comp=Z,106nm,1.1s					
MOS	**Moscow**	**124.18 328**	*e*PKIKP	PKPdf	11 04 16.8	-0.8
MOS			pmax	pmax		
	comp=Z,66nm,1.3s					
VOR	**Voronezh**	**124.96 323**	PKIKP	PKPdf	11 04 20.0	+0.9
VOR			pmax	pmax		
	comp=Z,170nm,1.4s					
OBN	**Obninsk**	**125.00 328**	⇑*i*PKIKP	PKPdf	11 04 17.1	-2.1
OBN			*e*		11 06 08.2	
OBN			*e*		11 11 09.1	
OBN			*e*PS	SP	11 15 57.1	+1.7
OBN			*i* SS	SS	11 23 02.2	+7.8
OBN			pmax	pmax		
	comp=Z,115nm,1.6s					
OBN			MLR	MLR		
	comp=Z,1μm,23.0s					
OBN	**Obninsk**	**125.00 328**	*e*PKP	PKPdf	11 04 17.2	-2.0
KIV	**Kislovodsk**	**125.09 313**	*e*P	Pdif	11 00 54.4	-2.0
KIV			*i*		11 04 19.9	
KIV			*e*		11 06 11.5	
KIV			*e*SP	SP	11 15 57.2	+1.1
KIV			*e*PS	PS	11 16 11.9	-0.1
KIV			*e*SS	SS	11 22 56.2	+0.8
KIV			pmax	pmax		
	comp=Z,35nm,1.1s					
KIV	**Kislovodsk**	**125.09 313**	*e*PKP	PKPdf	11 04 19.9	+0.5
VRSR	**Storozhevoye**	**125.15 323**	*e*PKIKP	PKPdf	11 04 18.7	-0.8
VRSR			pmax	pmax		
	comp=N,7.0nm,0.8s					
VRSR			pmax	pmax		
	comp=Z,9.0nm,0.8s					
VRSR			pmax	pmax		
	comp=E,5.0nm,0.9s					
LBTB	**Lobatse**	**125.35 224**	PKIKP	PKPdf	11 04 20.4	+0.5
LBTB	**Lobatse**	**125.35 224**	*e*PKPdf	PKPdf	11 04 20.2	+0.3
KAF	**Kangasniemi**	**125.53 339**	*e*p	PKPdf	11 04 17.9	-2.3
	comp=E,17nm,0.6s					
KAF	**Kangasniemi**	**125.53 339**	*e*PKIKP	PKPdf	11 04 17.9	-2.3
KAF			pmax	pmax		
	comp=Z,17nm,0.6s					
FIA1	**FINESS Array S**	**126.05 338**	*e*PKPdf	PKPdf	11 04 21.2	0.0
FINES	**FINESS Array B**	**126.06 338**	PKhKP		11 04 15.4	
	comp=Z,2.0nm,0.4s,baz=52,slow=3.1,SNR=5.6					
KMBO	**Kilima Mbogo**	**128.00 256**	PKP	PKPdf	11 04 26.7	+1.8
	comp=Z,19nm,0.8s,baz=92,slow=2.1,SNR=17					
KMBO	**Kilima Mbogo**	**128.00 256**	*e*PKPdf	PKPdf	11 04 26.7	+1.7
ANN	**Anapa**	**128.47 316**	*i* PKIKP	PKPdf	11 04 23.0	-2.8
ANN			*e*		11 06 30.6	
ANN			*e*		11 11 11.9	
ANN			*e*SS	SS	11 23 44.3	+6.7
ANN			pmax	pmax		
	comp=Z,92nm,2.2s					
ANN			MLR	MLR		
	comp=N,1μm,20.0s					
ANN			MLR	MLR		
	comp=Z,1μm,20.0s					
SJG	**San Juan**	**128.88 79**	PKIKP	PKPdf	11 04 27.1	+0.5
LSZ	**Lusaka**	**129.53 235**	*e*PKIKP	PKPdf	11 04 29.6	+1.8
LSZ			*e*		11 06 37.4	
LSZ	**Lusaka**	**129.53 235**	*e*PKPdf	PKPdf	11 04 29.6	+1.8
LSZ			*e*PP	PP	11 06 37.4	-2.0
LSZ			*e*SKPdf	SKPdf	11 07 42.5	-7.7
SIM	**Simferopol'**	**130.63 317**	PKIKP	PKPdf	11 04 30.1	+0.2
SIM					11 06 45.4	
SIM			pmax	pmax		
	comp=Z,140nm,9.7s					
SIM			MLR	MLR		
	comp=Z,2μm,28.0s					
NB2	**NORSAR Subarra**	**130.97 345**	PKPdf	PKPdf	11 04 29.8	-0.8
	comp=Z,18nm,1.2s,baz=31,slow=1.9					
NB2	**NORSAR Subarra**	**130.97 345**	PKPdf	PKPdf	11 04 29.8	-0.8
	baz=31,slow=1.9					
NOA	**NORSAR Array B**	**130.97 345**	PKP	PKPdf	11 04 28.7	-1.9
	comp=Z,6.6nm,0.6s,baz=33,slow=2.0,SNR=22					
NOA			SKPbc	SKPbc	11 07 42.9	+0.7
	comp=Z,1.5nm,0.8s,baz=32,slow=2.8,SNR=4.2					
NOA	**NORSAR Array B**	**130.97 345**	PKP	PKPdf	11 04 28.7	-1.9
NOA			SKPbc	SKPbc	11 07 42.9	+0.7
AKASG	**Malin Array Be**	**131.03 326**	PKP	PKPdf	11 04 29.6	-1.0
	comp=Z,2.1nm,0.5s,baz=49,slow=1.7,SNR=20					
AKASG			SKPbc	SKPbc	11 07 42.5	+0.2
	comp=Z,0.8nm,0.4s,baz=49,slow=4.8,SNR=6.9					
AKBB	**Malin Array Si**	**131.03 326**	PKIKP	PKPdf	11 04 31.3	+0.6
AKBB	**Malin Array Si**	**131.03 326**	*e*PKPdf	PKPdf	11 04 31.2	+0.6
BR131	**Keskin Array S**	**132.74 311**	*e*PKPdf	PKPdf	11 04 35.1	+1.2
BRTR	**Keskin Array B**	**132.74 311**	PKP	PKPdf	11 04 33.3	-0.6
	comp=Z,3.7nm,0.8s,baz=137,slow=2.9,SNR=8.2					
BRTR			SKPbc	SKPbc	11 07 51.0	+2.5
	comp=Z,3.2nm,1.0s,baz=117,slow=4.3,SNR=5.3					
KIS	**Kishinev**	**133.11 322**	*e*PKIKP	PKPdf	11 04 32.0	-2.6
KIS			*e*		11 17 05.0	
KIS			MLR	MLR		
	comp=Z,1μm,20.0s					
KIS			MLR	MLR		
	comp=Z,1μm,20.0s					
KIS	**Kishinev**	**133.11 322**	*e*PKP	PKPdf	11 04 32.0	-2.6
KIS			*ep*PKP	pPKPdf	11 05 13.0	+1.5
ANTO	**Ankara**	**133.31 311**	*e*PKIKP	PKPdf	11 04 36.1	+1.1
ANTO	**Ankara**	**133.31 311**	*e*PKPdf	PKPdf	11 04 35.7	+0.8
BDFB	**Brasilia**	**133.67 130**	PKP	PKPdf	11 04 35.1	-0.5
	comp=Z,5.3nm,0.7s,baz=41,slow=2.3,SNR=4.7					
BDFB			SKPbc	SKPbc	11 07 53.7	+2.1
	comp=Z,12nm,0.7s,baz=252,slow=2.8,SNR=12					
EIL	**Elat**	**133.89 297**	*e*PKPdf	PKPdf	11 04 38.6	+2.5
LVV	**L'vov**	**134.29 327**	*e*PKHKP		11 04 17.2	
TSUM	**Tsumeb**	**134.69 222**	*e*PKPdf	PKPdf	11 04 39.6	+2.0
BSD	**Bornholm Skovb**	**134.70 338**	*i* P	PKPdf	11 04 37.4	-0.2
BSD			*i*		11 07 12.9	
BSD			*i*		11 20 17.2	
BSD						
	comp=Z,940nm,21.0s					
BSD	**Bornholm Skovb**	**134.70 338**	*i* PKIKP	PKPdf	11 04 37.4	-0.2
BSD			*i*		11 07 12.9	
BSD			MLR	MLR		
	comp=Z,940nm,21.0s					
BSD	**Bornholm Skovb**	**134.70 338**	*i* P	PKPdf	11 04 37.4	-0.2
BSD			*i*		11 07 12.9	
BSD			*i*		11 20 17.2	
COP	**Copenhagen**	**135.10 340**	*i* P	PKPdf	11 04 43.8	+5.5
COP			*i*		11 07 15.3	
COP			*i*		11 08 18.1	
COP			*i*		11 14 02.9	
COP			*i*		11 19 09.9	
COP			*i*		11 20 24.7	
COP						
	comp=Z,570nm,21.0s					
COP	**Copenhagen**	**135.10 340**	*i* PKIKP	PKPdf	11 04 43.8	+5.5
COP			*i*		11 07 15.3	
COP			*i*		11 19 09.9	
COP			MLR	MLR		
	comp=Z,570nm,21.0s					
MUD	**Monsted U'grnd**	**135.46 343**	*i* P	PKPdf	11 04 41.1	+2.1
MUD			*e*		11 07 19.8	
MUD			*i*		11 07 56.3	
MUD			*i*		11 20 27.1	
MUD						
	comp=Z,1μm,20.0s					
MUD	**Monsted U'grnd**	**135.46 343**	*i* PKIKP	PKPdf	11 04 41.1	+2.1
MUD			*e*		11 07 19.8	
MUD			MLR	MLR		
	comp=Z,1μm,20.0s					
MUD	**Monsted U'grnd**	**135.46 343**	*i* P	PKPdf	11 04 41.1	+2.1
MUD			*e*		11 07 19.8	
MUD			*i*		11 07 56.3	
MUD			*i*		11 20 27.1	
KOLS	**Kolonicke sedl**	**135.74 327**	*e*PKP	PKPdf	11 04 39.1	-0.4
KOLS			*e*		11 04 42.0	
UZH	**Uzhgorod**	**135.91 327**	*e*PKIKP	PKPdf	11 04 39.0	-0.9
UZH			*e*		11 05 21.0	
UZH			*e*SS	SS	11 25 14.0	+6.1
UZH			pmax	pmax		
	comp=Z,58nm,1.2s					
OJC	**Ojcow**	**136.17 330**	*e*PKPdf	PKPdf	11 04 34.6	-5.7
OJC			*e*PP	PP	11 07 20.1	-1.6
OJC			*e*SS	SS	11 25 12.7	+1.7
OJC			L		11 54 43.3	
	comp=Z,8.1nm,23.5s					
OJC	**Ojcow**	**136.17 330**	*e*PKIKP	PKPdf	11 04 34.6	-5.7
OJC			*e*		11 07 20.1	
OJC			*e*SS	SS	11 25 12.7	+1.7
CRVS	**Cervenica-Dubn**	**136.18 328**	*e*PKP	PKPdf	11 04 40.7	+0.3
CRVS			*e*		11 04 44.7	
NIE	**Niedzica**	**136.44 329**	*e*P	PKPdf	11 04 42.7	+1.9
KECS	**Kecovo**	**136.95 328**	*e*PKP	PKPdf	11 04 42.0	+0.2
OKC	**Ostrava-Krasne**	**137.22 331**	*e*PKPdf	PKPdf	11 04 40.9	-1.4
OKC			*e*PP	PP	11 07 29.4	+1.1
OKC			AMS	AMS	11 58 50.0	
	comp=Z,1μm,23.3s					
OKC	**Ostrava-Krasne**	**137.22 331**	*e*PKP	PKPdf	11 04 40.9	-1.4
OKC			*e*		11 07 29.4	
BSEG	**Bad Segeberg**	**137.24 340**	*e*PKPdf	PKPdf	11 04 37.4	-4.9
BSEG			*e*PP	PP	11 07 29.2	+0.8
KSP	**Ksiaz**	**137.35 333**	*e*PKIKP	PKPdf	11 04 43.7	+1.2
KSP			*e*		11 07 30.0	
KSP			*e*SS	SS	11 25 29.0	+4.0
KSP	**Ksiaz**	**137.35 333**	*e*PKP	PKPdf	11 04 43.7	+1.2
KSP			*e*PP	PP	11 07 30.0	+0.9
KSP			*e*		11 20 05.5	
KSP			*e*SS	SS	11 25 29.0	+4.0
MORC	**Moravsky Berou**	**137.54 331**	PKIKP	PKPdf	11 04 43.1	+0.2
MORC	**Moravsky Berou**	**137.54 331**	*e*PKPdf	PKPdf	11 04 42.7	-0.2
PSZ	**Piszkesteto**	**137.62 327**	⇑*e*PKP	PKPdf	11 04 44.3	+1.3
PSZ	**Piszkesteto**	**137.62 327**	*e*PKPdf	PKPdf	11 04 43.1	+0.1
DPC	**Dobruska-Polom**	**137.70 332**	*e*PKPpre		11 04 33.6	
DPC			*e*PP	PP	11 07 31.2	0.0
DPC			AMS	AMS	11 53 00.0	
	comp=Z,2μm,39.0s					
UPC	**Upice**	**137.72 333**	*e*PKPpre		11 04 35.6	
VYHS	**Vyhne**	**137.78 329**	*e*PKP	PKPdf	11 04 42.7	-0.6
PVCC	**Panska Ves**	**138.33 334**	*e*PKPdf		11 04 34.2	
PVCC			*e*PP	PP	11 07 37.8	+2.6
BRG	**Berggiesshubel**	**138.33 335**	*e*PKPdf	PKPdf	11 04 38.2	-6.1
BRG			*e*PP	PP	11 07 34.4	-0.8
BRG	**Berggiesshubel**	**138.33 335**	*e*PKP	PKPdf	11 04 37.4	-7.0
	comp=Z,3.4nm,0.9s					
BRG			*i*		11 04 43.2	
	comp=Z,8.4nm,1.1s					
BRG			pPKP	pPKPdf	11 05 24.0	+2.8
BRG			PP	PP	11 07 38.0	+2.8
BRG			*i*		11 08 12.7	
	comp=Z,5.0nm,0.9s					
BRG			SS	SS	11 25 25.0	-12
BRG						
	comp=N,1μm,27.1s					
BRG						
	comp=E,876nm,22.6s					
BRG						
	comp=Z,2μm,38.4s					
BRG	**Berggiesshubel**	**138.33 335**	*e*PKHKP		11 04 37.4	
BRG			*i*		11 04 43.2	
BRG					11 07 38.0	
BRG						
			pmax	pmax		
	comp=Z,3.0nm,0.9s					
BRG			MLR	MLR		
	comp=N,1μm,27.1s					
BRG			MLR	MLR		
	comp=E,876nm,22.6s					
BRG			MLR	MLR		
	comp=Z,2μm,38.4s					
BUD	**Budapest**	**138.34 327**	⇑*e*PKP	PKPdf	11 04 44.4	0.0
BUD	**Budapest**	**138.34 327**	⇑*e*P	PKPdf	11 04 44.5	+0.1
CLL	**Collm**	**138.38 336**	*e*PKPdf	PKPdf	11 04 38.0	-6.4
CLL			*e*PP	PP	11 07 34.5	-1.0
CLL	**Collm**	**138.38 336**	*e*PKP	PKPdf	11 04 47.0	+2.6
CLL			*es*PKP		11 05 43.0	
CLL			LR	LR		
	comp=Z,2μm,21.5s					
CLL	**Collm**	**138.38 336**	*e*PKPpre		11 04 39.0	
	comp=Z,11nm,1.1s					
CLL			*e*PKPdf	PKPdf	11 04 45.0	+0.6
	comp=Z,14nm,1.0s					
CLL			*i* PKiKP	PKiKP	11 04 48.2	+1.7
	comp=Z,76nm,1.7s					
CLL			*es*PKPdf		11 05 27.0	
CLL			*e*PP	PP	11 07 37.0	+1.5
	comp=Z,1μm,16.5s					
CLL			*e*PKSdf		11 08 20.0	
CLL			*e*PKSab		11 08 29.0	
CLL			*e*PPPP		11 12 48.0	
CLL			*e*SKKSac	SKKSac	11 14 10.0	-6.3
CLL			*e*PSKS		11 17 45.0	
CLL			*e*SPP		11 19 36.0	
CLL			*e*(SKKSdf)		11 21 00.0	
CLL			*e*SS	SS	11 25 33.0	-4.1
CLL			*e*SSS		11 30 36.0	
CLL			LmV		12 10 00.0	
	comp=Z,2μm,21.5s					
PRU	**Pruhonice**	**138.74 333**	*e*PKPpre		11 04 36.7	
PRU			*e*PP	PP	11 07 38.6	+0.9
PRU			AMS	AMS	11 59 00.0	
	comp=Z,2μm,25.9s					
TREC	**Trest**	**138.83 332**	*e*PKPdf	PKPdf	11 04 35.6	-10
TREC			*ex*	x	11 07 29.0	
ZST	**Bratislava**	**138.84 330**	*e*PKP	PKPdf	11 04 48.1	+2.8
CLZ	**Clausthal**	**138.95 338**	*e*PKPdf	PKPdf	11 04 39.4	-6.1
CLZ			*e*PP	PP	11 07 38.7	-0.3
TANN	**Tannenbergstha**	**139.29 335**	*e*PKPdf	PKPdf	11 04 40.1	-6.0
TANN			*e*PP	PP	11 07 41.1	0.0
PKSM	**Moragy**	**139.36 326**	⇑*e*PKIKP	PKPdf	11 04 47.0	+0.8
NKC	**Novy Kostel**	**139.44 335**	*e*PKPpre		11 04 41.6	
MOX	**Moxa**	**139.45 336**	*e*PKPdf	PKPdf	11 04 40.1	-6.3
MOX			*e*PP	PP	11 07 41.7	-0.3
MOX			*ep*PP		11 08 11.7	
MOX	**Moxa**	**139.45 336**	*e*PKP	PKPdf	11 04 42.3	-4.1
MOX			*e*		11 04 47.4	
	comp=Z,51nm,1.6s					
MOX						
	comp=Z,400nm,19.0s					
MOX	**Moxa**	**139.45 336**	*e*PKP	PKPdf	11 04 42.3	-4.1
MOX			*e*PKPdf	PKPdf	11 04 47.4	+1.0
CONA	**Conrad Observa**	**139.63 330**	⇑*i*PKPdf	PKPdf	11 04 41.1	-5.6
	comp=Z,55nm,1.8s,SNR=6.6					
MANZ	**Manzenberg**	**139.77 335**	*e*PKPdf	PKPdf	11 04 41.1	-5.8
MANZ			*e*PP	PP	11 07 44.2	+0.2
MANZ			*ep*PP		11 08 13.0	
KHC	**Kasperske Hory**	**139.80 333**	*e*PKPpre		11 04 37.5	
KHC			*e*PP	PP	11 07 41.6	-2.6
KHC			AMS	AMS	11 56 50.0	
	comp=Z,2μm,28.3s					
VAY	**Valandovo**	**139.81 318**	*e*PKP	PKPdf	11 04 42.3	-4.8
ROTZ	**Rotzenmuhle**	**139.90 335**	*e*PKPdf	PKPdf	11 04 41.3	-5.9
ROTZ			*e*PP	PP	11 07 44.7	-0.1
ROTZ			*ep*PP		11 08 13.1	
UBBA	**Unterbreizbach**	**139.92 338**	*e*PKPdf	PKPdf	11 04 41.0	-6.2
UBBA			*e*PP	PP	11 07 45.4	+0.5
UBBA			*ep*PP		11 08 13.0	
GEC2	**GERESS Array S**	**139.96 333**	*e*PKPdf	PKPdf	11 04 41.2	-6.1
GEC2			*e*PP	PP	11 07 45.2	0.0
GEC2			*ep*PP		11 08 12.7	
GEC2	**GERESS Array S**	**139.96 333**	*e*PKHKP		11 04 41.2	
GEC2			*e*		11 07 45.2	
GERES	**GERESS Array B**	**139.96 333**	PKhKP		11 04 39.9	
	comp=Z,3.1nm,0.6s,baz=36,slow=2.9,SNR=13					
GERES			SKPbc	SKPbc	11 08 10.6	+0.3
	comp=Z,0.3nm,0.3s,baz=49,slow=1.8,SNR=1.8					
WET	**Wettzell**	**140.09 334**	*e*PKPdf	PKPdf	11 04 41.7	-5.8
WET			*e*PP	PP	11 07 46.5	+0.5
WET			*ep*PP		11 08 13.5	
WET	**Wettzell**	**140.09 334**	*e*PKHKP		11 04 41.7	
WET			*e*		11 07 46.5	
SKO	**Skopje**	**140.20 319**	*e*PKP	PKPdf	11 04 44.8	-3.0
ARSA	**Arzberg**	**140.26 330**	⇑*i*P	PKPdf	11 04 44.9	-2.9
	comp=Z,22nm,1.4s					
GRF	**Grafenberg Arr**	**140.35 336**	*e*PKPdf	PKPdf	11 04 42.0	-6.0
GRF			*e*PP	PP	11 07 47.7	+0.1
GRF			*ep*PP		11 08 15.8	
GRF	**Grafenberg Arr**	**140.35 336**	*e*PKHKP		11 04 42.0	
GRF			*e*		11 07 47.7	
PERS	**Pernice**	**140.89 329**	*i* PKPdf	PKPdf	11 04 47.2	-1.8
OHR	**Ohrid**	**141.06 318**	*e*PKP	PKPdf	11 04 49.3	0.0
OBKA	**Obir**	**141.26 330**	⇑*i*P	PKPdf	11 04 45.7	-4.0
	comp=Z,21nm,1.6s					
KBA	**Koelnbreinsper**	**141.43 331**	⇑*i*P	PKPdf	11 04 44.1	-5.8
	comp=Z,44nm,0.9s					
LJU	**Ljubljana**	**141.60 329**	*i* PKPdf	PKPdf	11 04 50.3	+0.1
LJU			*e*PKiKP	PKiKP	11 04 55.1	+1.9
LJU			*e*PP	PP	11 07 56.1	+0.9
LJU			*e*		11 09 13.5	
LJU	**Ljubljana**	**141.60 329**	*i* PKIKP	PKPdf	11 04 50.3	0.0
LJU			*e*		11 07 56.1	
BOJS	**Bojanci**	**141.61 328**	*e*PKPdf	PKPdf	11 04 50.0	-0.2
BCLA	**Clavier**	**141.85 341**	PKP	PKPdf	11 04 49.4	-1.3
PTCC	**Patocco-Chiusa**	**141.91 330**	PKP	PKPdf	11 04 47.1	-3.7
VOY	**Vojsko**	**141.92 330**	*e*PKPdf	PKPdf	11 04 45.6	-5.2
VOY			*e*		11 04 49.8	
ROBS	**Robic**	**141.96 330**	*e*PKPdf	PKPdf	11 04 49.5	-1.4
GMNA	**Gemona**	**142.06 330**	PKP	PKPdf	11 04 50.3	-0.8
WTTA	**Wattenberg**	**142.06 333**	⇓*i*P	PKPdf	11 04 46.7	-4.4
	comp=Z,89nm,1.8s,SNR=16					
SNF	**Seneffe**	**142.08 342**	PKP	PKPdf	11 04 49.5	-1.6
MOTA	**Moosalm**	**142.24 333**	⇓*i*P	PKPdf	11 04 46.1	-5.3
	comp=Z,85nm,1.2s,SNR=13					
WLF	**Walferdange**	**142.24 340**	PKP	PKPdf	11 04 49.6	-1.8
LANF	**Langenberg**	**142.24 338**	PKP	PKPdf	11 04 49.0	-2.4
GIVF	**Givet**	**142.28 341**	*e*PKP1	PKPdf	11 04 48.3	-3.2
SQTA	**Sankt Quirin**	**142.28 333**	⇓*i*P	PKPdf	11 04 47.2	-4.3
	comp=Z,80nm,1.1s,SNR=14					
DOU	**Dourbes**	**142.35 342**	PKP	PKPdf	11 04 50.5	-1.1
BAIF	**Baives**	**142.50 342**	*e*PKP1	PKPdf	11 04 47.9	-4.0
	comp=Z,52nm,1.2s					
BFO	**Black Forest**	**142.58 337**	*e*PKPdf	PKPdf	11 04 46.1	-5.9
MENF	**Mencas**	**142.63 344**	PKP	PKPdf	11 04 54.2	+2.1
DAVA	**Damuels**	**142.80 334**	⇑*i*P	PKPdf	11 04 49.0	-3.4
	comp=Z,57nm,0.8s,SNR=12					
APPI	**Appiano**	**142.84 332**	PKP	PKPdf	11 04 50.2	-2.3
WLS	**Welschbruch**	**142.88 338**	PKP	PKPdf	11 04 50.5	-2.0
CDF	**Champ du Feu**	**142.91 338**	*e*PKP1	PKPdf	11 04 48.0	-4.6
	comp=Z,34nm,0.6s					
CTI	**Castel Tesino**	**142.98 331**	PKIKP	PKPdf	11 04 49.5	-3.2
FELD	**Feldberg im Sc**	**143.08 337**	⇓*e*P	PKPdf	11 04 51.3	-1.6
ECH	**Echery**	**143.11 338**	PKP	PKPdf	11 04 51.6	-1.3
DAVOX	**Davos/Dischmat**	**143.20 334**	PKP	PKPdf	11 04 50.1	-3.0
	comp=Z,83nm,1.6s,baz=195,slow=4.0,SNR=42					
MOF	**Molkenrain**	**143.43 337**	PKP	PKPdf	11 04 51.4	-2.1
MABI	**Malga Bissina**	**143.49 332**	PKP	PKPdf	11 04 52.0	-1.6
THEF	**They Montfort**	**143.52 339**	PKP	PKPdf	11 04 52.0	-1.7
HINF	**Hinteralfeld**	**143.56 338**	*e*PKP1	PKPdf	11 04 49.9	-3.8
	comp=Z,52nm,0.7s					
HAU	**Haudompre**	**143.59 338**	*e*PKP1	PKPdf	11 04 50.3	-3.5
HAU			*e*MLR	MLR		
	comp=Z,612nm,22.0s					
HAU	**Haudompre**	**143.59 338**	*e*PKP	PKPdf	11 04 50.3	-3.5
HAU			LR	LR		
	comp=Z,610nm,22.0s					
MEZF	**Maizieres J'vi**	**143.60 340**	*e*PKP1	PKPdf	11 04 50.7	-3.1
	comp=Z,104nm,0.7s					
BBS	**Basel-Blauen**	**143.61 337**	PKIKP	PKPdf	11 04 52.5	-1.3
TUE	**Stuetta**	**143.67 334**	PKP	PKPdf	11 04 52.0	-1.9
FGMS	**Monte Sant'Ang**	**143.70 323**	PKP	PKPdf	11 04 50.5	-3.5
LOMF	**Lomont**	**143.96 337**	PKP	PKPdf	11 04 54.0	-0.4
CING	**Cingoli**	**144.14 327**	PKP	PKPdf	11 04 53.2	-1.5
ORI	**Oriolo Calabro**	**144.40 320**	PKIKP	PKIKP	11 04 54.1	-1.1
MURB	**Monte Urbino**	**144.57 327**	PKP	PKPdf	11 04 54.5	-1.0
FNVD	**Fontana Vidola**	**144.62 330**	PKP	PKPdf	11 04 55.0	-0.6
TIP	**Timpagrande**	**144.71 319**	*e*PKPdf	PKPdf	11 04 55.1	-0.6
MIDA	**Miranda**	**144.73 324**	PKP	PKPdf	11 04 54.3	-1.5
AQU	**L'Aquila**	**144.73 326**	*e*PKIKP	PKPdf	11 04 55.8	0.0
CUC	**Castrocucco**	**144.83 320**	PKP	PKPdf	11 04 53.9	-2.0
CABF	**La Chapelle**	**144.86 337**	*e*PKP1	PKPdf	11 04 55.3	-0.7
	comp=Z,347nm,0.5s					
OG01	**Vacheresse**	**144.87 336**	PKP	PKPdf	11 04 55.8	-0.2
FLN	**La Foliniere**	**144.94 346**	*e*PKP1	PKPdf	11 04 54.5	-1.6
	comp=Z,372nm,0.6s					
FLN			*e*MLR	MLR		
	comp=Z,2μm,21.8s					
FLN	**La Foliniere**	**144.94 346**	*e*PKP	PKPdf	11 04 54.5	-1.6
FLN			LR	LR		
	comp=Z,2μm,21.8s					
BOB	**Bobbio (Coli)**	**144.96 332**	PKIKP	PKPdf	11 04 56.2	0.0
VLC	**Villacollemand**	**144.98 330**	*e*PKPdf	PKPdf	11 04 54.6	-1.6
LDF	**La Druitiere**	**145.02 345**	*e*PKP1	PKPbc	11 04 54.7	-1.2
	comp=Z,203nm,0.7s					
CSNT	**Castellina Chi**	**145.05 329**	PKP	PKPdf	11 04 54.7	-1.6
LOR	**Lormes**	**145.07 340**	*e*PKP1	PKPbc	11 04 55.5	-0.6
	comp=Z,803nm,1.1s					
LOR			*e*MLR	MLR		
	comp=Z,566nm,20.2s					
LOR	**Lormes**	**145.07 340**	*e*PKP	PKPdf	11 04 55.5	-0.9
LOR			LR	LR		
	comp=Z,570nm,20.3s					
CERT	**Cerreto**	**145.23 325**	PKP	PKPdf	11 04 55.5	-1.1
PII	**Pisa**	**145.24 330**	PKP2	PKPab	11 04 55.1	-1.8
SSF	**Saint Saulge**	**145.37 340**	*e*PKP1	PKPbc	11 04 56.7	-0.3
	comp=Z,811nm,1.0s					
GRR	**Gorron**	**145.38 346**	*e*PKP1	PKPbc	11 04 56.2	-0.9
	comp=Z,920nm,1.0s					
RSL	**Roselend**	**145.42 336**	PKP	PKPdf	11 04 57.6	+0.6
HYF	**Humbligny**	**145.46 341**	*e*PKP1	PKPbc	11 04 57.1	-0.2
LPL	**La Plagne**	**145.52 336**	*e*PKP1	PKPbc	11 04 57.5	0.0
	comp=Z,257nm,0.8s					
LPG	**La Plagne**	**145.53 335**	*e*PKP1	PKPbc	11 04 57.7	+0.2
	comp=Z,268nm,0.7s					
OG05	**Jujurieux**	**145.57 337**	PKP	PKPdf	11 04 58.7	+1.5
SMF	**Signal de Mont**	**145.62 340**	*e*PKP1	PKPbc	11 04 57.2	-0.6
	comp=Z,2μm,1.5s					
AVF	**Avril sur Loir**	**145.66 340**	*e*PKP1	PKPbc	11 04 57.3	-0.6
	comp=Z,137nm,0.6s					
SGMF	**Saint Gilles**	**145.88 348**	*e*PKP1	PKPbc	11 04 57.6	-1.0
	comp=Z,289nm,0.7s					
BNI	**Bardonecchia**	**145.92 335**	*e*PKP2	PKPab	11 04 58.7	-0.7
ROSF	**Rostrenen**	**145.94 349**	*e*PKP1	PKPbc	11 04 57.7	-1.1
	comp=Z,

MELF	**Melles**	**149.99 340**	PKP	PKPbc	11 05 11.9	+2.4
LABF	**Labassere**	**150.05 341**	PKP	PKPbc	11 05 09.1	-0.6
REYF	**Montagne du Re**	**150.18 342**	PKP	PKPbc	11 05 13.2	+3.2
RESF	**Ens**	**150.18 340**	PKP	PKPbc	11 05 10.1	+0.1
VIEF	**Viey**	**150.21 341**	PKP	PKPbc	11 05 10.7	+0.6
ATE	**Arette**	**150.25 342**	PKP	PKPbc	11 05 09.7	-0.5
EBIE	**Bielsa**	**150.35 341**	PKP	PKPdf	11 05 07.9	+2.9
EALK	**Alkurruntz**	**150.36 343**	PKP	PKPbc	11 05 08.7	-1.8
ETSF	**Etsaut**	**150.38 342**	*e*PKP1	PKPdf	11 05 07.0	+1.9
	comp=Z,102nm,0.6s					
LARF	**Larrau**	**150.38 342**	PKP	PKPbc	11 05 10.7	+0.2
SJPF	**Ste Jean**	**150.38 343**	*e*PKP1	PKPbc	11 05 08.1	-2.4
	comp=Z,87nm,0.9s					
ELIZ	**Elizondo**	**150.42 343**	PKIKP	PKPdf	11 05 08.1	+2.9
EMIR	**Miracle**	**150.57 338**	PKP	PKPdf	11 05 08.0	+2.6
ELAN	**Lanestosa**	**150.85 346**	PKP	PKPdf	11 05 08.5	+2.7
EARI	**Arriondas**	**151.16 349**	PKP	PKPdf	11 05 09.3	+3.0
EPOB	**Poblet**	**151.22 338**	PKP	PKPdf	11 05 09.5	+3.1
ESAC	**San Caprasio**	**151.42 341**	PKP	PKPdf	11 05 10.3	+3.6
EPON	**Pontenova**	**151.46 351**	PKP	PKPdf	11 05 09.4	+2.7
KEST	**Kesra**	**151.48 320**	PKPbc	PKPbc	11 05 11.7	-1.4
	comp=Z,8.7nm,0.6s,baz=263,slow=1.6,SNR=20					
ERTA	**Horta de San J**	**151.83 339**	PKP	PKPdf	11 05 10.4	+3.1
ETOS	**Mallorca**	**151.90 334**	PKP	PKPdf	11 05 11.0	+3.6
CMAH	**Djebel Manchou**	**152.03 324**	P	PKPbc	11 05 12.5	-1.8
EMAZ	**Mazaricos**	**152.05 354**	PKP	PKPdf	11 05 10.5	+2.9
STS	**Santiago**	**152.07 353**	PKIKP	PKPdf	11 05 09.6	+1.9
CGMA	**Guelma**	**152.15 324**	P	PKPbc	11 05 15.0	+0.4
ERUA	**La Rua**	**152.37 351**	PKIKP	PKPdf	11 05 10.4	+2.3
CKFL	**Kef-Lekhel**	**152.58 324**	P	PKPbc	11 05 14.0	-1.5
EMOS	**Mosqueruela**	**152.64 339**	PKP	PKPdf	11 05 10.9	+2.4
ETOR	**Torete**	**152.73 342**	PKIKP	PKPdf	11 05 11.2	+2.6
ECAL	**Calabor**	**152.75 350**	PKP	PKPdf	11 05 11.4	+2.7
CASM	**Ain Smara**	**152.81 324**	P	PKPbc	11 05 13.5	-2.5
DFRA	**Djebel Bou Aff**	**152.94 326**	P	PKPbc	11 05 15.5	-0.8
CTEI	**Djebel Teioual**	**153.00 324**	P	PKPbc	11 05 13.0	-3.4
ADH	**Angra Heroismo**	**153.28 26**	*e*PKP	PKPab	11 05 32.5	+3.0
ADH	**Angra Heroismo**	**153.28 26**	*e*PP	PP	11 09 42.5	+39
ADH	**Angra Heroismo**	**153.28 26**	*e*LR	LR	11 56 22.5	
SET	**Setif**	**153.46 326**	P	PKPbc	11 05 15.0	-2.4
GUD	**Guadarrama**	**153.47 345**	PKIKP	PKPdf	11 05 12.0	+2.3
PVRL	**Vila Real**	**153.55 351**	*e*PKPdf	PKPdf	11 05 09.5	-0.3
PVRL	**Vila Real**	**153.55 351**	*e*PKPab	PKPab	11 05 31.4	+0.8
PVIS	**Viseu**	**154.13 352**	*e*PKPdf	PKPdf	11 05 12.3	+1.7
PVIS	**Viseu**	**154.13 352**	*e*PKPab	PKPab	11 05 35.3	+2.2
ESDC	**Sonseca Array**	**154.33 344**	PKP	PKPdf	11 05 09.9	-1.0
	comp=Z,0.3nm,0.3s,baz=337,slow=3.7,SNR=7.4					
ESDC			PKPbc	PKPbc	11 05 21.1	+1.8
	comp=Z,3.4nm,0.7s,baz=359,slow=3.0,SNR=5.5					
ESDC	**Sonseca Array**	**154.33 344**	PKP	PKPdf	11 05 09.9	-1.0
ESDC			PKP	PKPdf	11 05 13.4	+2.5
ESDC			PKPbc	PKPbc	11 05 21.1	+1.8
ESLA	**Sonseca Array**	**154.33 344**	*e*PKPbc	PKPbc	11 05 23.6	+4.2
MTE	**Manteigas**	**154.38 351**	*e*PKPdf	PKPdf	11 05 07.4	-3.6
MTE	**Manteigas**	**154.38 351**	*e*PP	PP	11 09 12.7	+3.0
ETOB	**Tobarra**	**154.55 339**	PKP	PKPdf	11 05 13.7	+2.5
EMHD	**Djebel Mahouad**	**154.73 329**	P	PKPdf	11 05 15.5	+4.0
EVIA	**Vianos**	**154.87 341**	PKIKP	PKPdf	11 05 13.8	+2.1
PCBR	**Castelo Branco**	**154.92 350**	*e*PKPdf	PKPdf	11 05 13.3	+1.6
EHUE	**Huescar**	**155.65 340**	PKIKP	PKPdf	11 05 14.5	+1.8
EBAN	**Banos Encina**	**155.69 343**	PKIKP	PKPdf	11 05 15.6	+2.8
EQES	**Quesada**	**155.81 341**	PKP	PKPdf	11 05 15.7	+2.8
EANR	**`Ain N'Sour**	**155.82 332**	P	PKPdf	11 05 14.0	+1.0
PESTR	**Estremoz**	**155.89 350**	*e*PKPdf	PKPdf	11 05 09.1	-3.9
PESTR	**Estremoz**	**155.89 350**	*e*PKPab	PKPab	11 05 44.1	+3.5
PESTR	**Estremoz**	**155.89 350**	*e*PP	PP	11 09 19.8	+1.7
EADA	**Adamuz**	**155.91 344**	PKP	PKPdf	11 05 15.7	+2.6
PMAFR	**Mafra**	**156.04 353**	*e*PKPdf	PKPdf	11 05 08.5	-4.7
PMAFR	**Mafra**	**156.04 353**	*e*PKPab	PKPab	11 05 44.7	+3.5
PMAFR	**Mafra**	**156.04 353**	*e*PP	PP	11 09 15.3	-3.6
ETRT	**Tiaret**	**156.18 331**	P	PKPdf	11 05 17.0	+3.6
ELUQ	**Luque**	**156.39 343**	PKIKP	PKPdf	11 05 15.8	+2.1
ECOG	**Cogollos-Vega**	**156.45 341**	PKIKP	PKPdf	11 05 17.4	+3.6
PBEJ	**Beja**	**156.75 350**	PKPdf	PKPdf	11 05 17.0	+2.8
PBEJ	**Beja**	**156.75 350**	*e*PKPab	PKPab	11 05 45.5	+1.2
PTEO	**Sao Teotonio**	**157.36 352**	*e*PKPdf	PKPdf	11 05 13.5	-1.4
ESPR	**Espera**	**157.46 345**	PKP	PKPdf	11 05 17.6	+2.5
TOA0	**Torodi Ar. Sit**	**165.86 264**	*e*PKPdf	PKPdf	11 05 23.4	-0.4
TORD	**Torodi Ar. Bea**	**165.86 264**	PKP	PKPdf	11 05 23.0	-0.7
	comp=Z,12nm,0.6s,baz=48,slow=0.8,SNR=47					
TORD			PKPab	PKPab	11 06 25.1	+0.9
	comp=Z,6.3nm,0.7s,baz=92,slow=3.9,SNR=4.7					
TORD	**Torodi Ar. Bea**	**165.86 264**	PKP	PKPdf	11 05 23.0	-0.7
TORD			PKPab	PKPab	11 06 25.1	+0.9
DBIC	**Dimbokro**	**168.60 224**	PKPdf	PKPdf	11 05 25.0	-0.7
DBIC			PP	PP	11 10 25.1	-0.4
DBIC	**Dimbokro**	**168.60 224**	PKP	PKPdf	11 05 25.1	-0.7
	comp=Z,31nm,1.0s,baz=112,slow=1.9,SNR=13					
DBIC			PKPab	PKPab	11 06 38.5	+2.3
	comp=Z,20nm,0.9s,baz=108,slow=5.2,SNR=8.3					
DBIC	**Dimbokro**	**168.60 224**	PKIKP	PKPdf	11 05 25.5	-0.2
DBIC	**Dimbokro**	**168.60 224**	*e*PKPdf	PKPdf	11 05 25.3	-0.4
DBIC			*e*PKPab	PKPab	11 06 41.8	+5.5

JMA 18 11:00:11.9±0.4, 4383N×14817E, h0km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**256**	P	Pn	11 00 44.8	+0.3
NEM2				*e*S	Sn	11 01 08.5	+0.2
JRA	**Rausu**	**2.21**	**274**	P	Pn	11 00 50.7	+0.9
JNK	**Nakash**	**2.51**	**266**	P	Pn	11 00 54.6	+0.6
JAK	**Akkeshi**	**2.67**	**253**	P	Pn	11 00 56.8	+0.7
JTKR	**Abashiri--Toko**	**3.08**	**274**	P	Pn	11 01 02.7	+0.9
JAR	**Ashorobuto**	**3.24**	**262**	P	Pn	11 01 05.7	+1.7
JCH	**Churui**	**3.72**	**253**	P	Pn	11 01 11.6	+1.1
JFR	**Furan**	**4.11**	**263**	P	Pn	11 01 18.8	+2.8
JNBK	**Urakawa-nobuka**	**4.26**	**251**	P	Pn	11 01 19.3	+1.3
JKB	**Kayabe**	**5.59**	**252**	*e*S	Sn	11 02 40.9	-0.4
JOT	**Ohata**	**5.80**	**247**	P	Pn	11 01 39.9	+0.8
JOT				*e*S	Sn	11 02 44.8	-1.5
JANG	**Nango**	**6.04**	**237**	P	Pn	11 01 42.4	0.0
JANG				*e*S	Sn	11 02 48.9	-3.3

*ISCJB **18** 11:17:07.4±1.0, 2001S×007×685W±0.1, h126km±8km, mb4.0/7, Error ellipse: s-maj=21.0km s-min=9.9km az=36.7*
*IDC **18** 11:17:07.4±1.5, 1999S×6857W, h117km±12km, mb3.7/8, mb1 3.8/12, mb1mx3.6/23, mbtmp4.1/12, MS3.3/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=26.2km s-min=11.9km az=111.0*
*NEIC **18** 11:17:08.4±0.9, 2001S×6850W, h121km±10km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=9.0km az=110.0*

ISC 18 11:17:08.4±1.0, 2000S±007×686W±01, h122km±8km, n22, σ0.971/20, mb4.0/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.62**	**187**	P	**Pn**	**11 17 49.6**	**-0.2**
	54nm,0.3s,baz=18,slow=10,SNR=224						
LVC				S	**Sn**	**11 18 21.0**	**-0.6**
	40nm,0.3s,baz=289,slow=21,SNR=12						
LVC				LR	LR	11 18 53.6	
	comp=Z,448nm,18.9s,baz=126,slow=40						
LVC	**Limon Verde**	**2.62**	**187**	*e*Pn	**Pn**	**11 17 49.6**	**-0.1**
LPAZ	**La Paz**	**3.71**	**6**	P	**Pn**	**11 18 05.2**	**+1.1**
	13nm,0.3s,baz=182,slow=7.3,SNR=280						
LPAZ				LR	LR	11 19 26.9	
	comp=Z,496nm,21.9s,baz=318,slow=38						
LPAZ	**La Paz**	**3.71**	**6**	*e*Pn	**Pn**	**11 18 05.3**	**+1.1**
SIV	**San Ignacio**	**8.15**	**62**	P	**Pn**	**11 19 03.3**	**-0.7**
	10nm,0.3s,baz=251,slow=13,SNR=193						
CPUP	**Villa Florida**	**12.08**	**123**	P	**Pn**	**11 19 57.0**	**+0.5**
	0.3nm,0.3s,baz=287,slow=12,SNR=4.9						
CPUP	**Villa Florida**	**12.08**	**123**	P	**Pn**	**11 19 57.0**	**+0.5**
TRQA	**Tornquist**	**18.87**	**164**	*e*P	**P**	**11 21 19.4**	**+0.3**
	3.1nm,0.6s						
BDFB	**Brasilia**	**20.02**	**81**	P	**P**	**11 21 31.2**	**-0.3**
	3.4nm,0.7s,baz=227,slow=6.5,SNR=3.2						
PLCA	**Paso Flores**	**20.73**	**184**	P	**P**	**11 21 39.6**	**+0.4**
	2.2nm,0.7s,baz=14,slow=14,SNR=5.4						
PLCA	**Paso Flores**	**20.73**	**184**	*e*P	**P**	**11 21 39.0**	**-0.2**
	2.1nm,0.8s						
SNAA	**Sanae**	**63.58**	**161**	P	**P**	**11 27 26.1**	**+0.1**
	0.6nm,0.7s,mb3.5,baz=324,slow=9.6,SNR=4.4						
DBIC	**Dimbokro**	**67.99**	**74**	P	**P**	**11 27 54.3**	**0.0**
	3.4nm,0.4s,mb4.5,baz=226,slow=6.6,SNR=9.6						
DBIC	**Dimbokro**	**67.99**	**74**	*e*P	**P**	**11 27 54.3**	**0.0**
	3.7nm,0.5s,mb4.5						

QSPA	**South Pole Qui**	**70.18**	**180**	*e*P	**P**	**11 28 08.6**	**+0.7**
	2.9nm,0.4s,mb4.5						
TORD	**Torodi Ar. Bea**	**76.53**	**71**	P	**P**	**11 28 45.0**	**-0.1**
	0.9nm,0.3s,mb4.0,baz=254,slow=5.3,SNR=32						
TORD				pP	pP	11 29 14.8	-0.8
	0.8nm,0.7s,baz=253,slow=5.6,SNR=2.9						
VNDA	**Vanda**	**78.38**	**190**	P	**P**	**11 28 56.0**	**+0.7**
	0.3nm,0.8s,mb3.1,baz=106,slow=4.8,SNR=3.5						
MAW	**Mawson**	**85.66**	**163**	P	**P**	**11 29 33.5**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=196,slow=4.0,SNR=6.4						
YKA	**Yellowknife Ar**	**89.89**	**340**	P	**P**	**11 29 51.4**	**-2.2**
	0.9nm,0.6s,mb4.1,baz=134,slow=6.1,SNR=5.3						
ASAR	**Alice Springs**	**131.39**	**208**	PKP	PKPdf	11 36 05.7	-0.6
	0.4nm,0.5s,baz=128,slow=1.9,SNR=8.0						
WRA	**Warramunga Arr**	**134.41**	**211**	PKP	PKPdf	11 36 11.6	-0.4
	0.3nm,0.4s,baz=141,slow=1.5,SNR=13						
SONM	**Songino Array**	**151.93**	**7**	PKPbc	PKPbc	11 36 48.2	-0.7
	0.3nm,0.4s,baz=321,slow=3.0,SNR=4.2						

*ISCJB **18** 11:20:50.2±1.0, 2986N±005×3629E±006, h0km, Error ellipse: s-maj=8.0km s-min=7.7km az=60.4*
*CSEM **18** 11:20:51.3±0.2, 2980N×3620E, h1km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.1km az=108.0, Mining explosion.*
*GII **18** 11:20:51.9±0.8, 2993N×3617E, h0km±10km, ML2.2/4*
*HLW **18** 11:20:53.2, 2961N×3653E, h18km, Mb3.1*

ISC 18 11:20:50.2±1.0, 2987N±006×3634E±006, h0km, n24, σ0.975/28, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.13**	**263**	Pg	**Pg**	**11 21 11.8**	**-0.1**
HRFI	**Mount Harif**	**1.14**	**279**	Pg	**Pg**	**11 21 11.4**	**-0.8**
HRFI				Sg	**Sg**	**11 21 27.7**	**+0.8**
ZFRI	**Zfri**	**1.22**	**304**	Pg	**Pg**	**11 21 12.2**	**-1.3**
EIL	**Elat**	**1.22**	**261**	Pg	**Pg**	**11 21 13.3**	**-0.4**
EIL	**Elat**	**1.22**	**261**	Pg	**Pg**	**11 21 14.1**	**+0.4**
MBH	**Mount Berech**	**1.24**	**267**	Pg	**Pg**	**11 21 13.3**	**-0.7**
MBH				Sg	**Sg**	**11 21 30.6**	**+0.5**
MBH	**Mount Berech**	**1.24**	**267**	Pg	**Pg**	**11 21 13.3**	**-0.7**
MBH				Sg	**Sg**	**11 21 30.6**	**+0.5**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**11 21 13.1**	**-1.2**
PRNI				Sg	**Sg**	**11 21 30.5**	**0.0**
HBST	**Basata**	**1.54**	**246**	P	**Pn**	**11 21 19.6**	**+0.6**
RMNI	**Mount Ramon**	**1.55**	**298**	Pn	**Pn**	**11 21 18.8**	**-0.2**
MZDA	**Masada**	**1.67**	**330**	Pn	**Pn**	**11 21 20.8**	**+0.1**
MASH	**Mash'abbe Sade**	**1.75**	**310**	Pn	**Pn**	**11 21 22.2**	**+0.4**
MASH	**Mash'abbe Sade**	**1.75**	**310**	Pn	**Pn**	**11 21 22.2**	**+0.4**
YTIR	**Yattir**	**1.83**	**325**	Pn	**Pn**	**11 21 23.4**	**+0.5**
RTMI	**Retamim**	**1.85**	**310**	Pn	**Pn**	**11 21 23.7**	**+0.5**
HDHB	**Dhahab**	**1.89**	**233**	P	**Pn**	**11 21 23.3**	**-0.4**
DRGI	**Dragot**	**1.90**	**335**	Pn	**Pn**	**11 21 24.3**	**+0.4**
KZIT	**Kziot**	**1.97**	**302**	Pn	**Pn**	**11 21 24.3**	**-0.6**
HNKL	**Nakhl**	**2.05**	**272**	P	**Pn**	**11 21 27.8**	**+1.8**
HKAT	**Jabal Katrina**	**2.45**	**237**	P	**Pn**	**11 21 31.2**	**-0.3**
TR2		**2.73**	**238**	P	**Pn**	**11 21 34.8**	**-0.4**
TR1		**2.80**	**229**	P	**Pn**	**11 21 36.4**	**+0.1**
TR1		**2.80**	**229**	P	**Pn**	**11 21 36.3**	**+0.1**
AMAG	**Maghara**	**2.82**	**287**	P	**Pn**	**11 21 40.0**	**+3.5**

IDC 18 11:28:09.8±3.7, 6145×15049E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML2.1/1, Error ellipse: s-maj=115.5km s-min=47.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**225**	Pn	Pn	11 29 20.9	-0.1
	0.6nm,0.3s,baz=221,slow=9.3,SNR=2.4						
PMG				Sn	Sn	11 30 21.5	+6.2
	0.6nm,0.3s,baz=162,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**20.84**	**227**	P	P	11 32 53.0	0.0
	0.7nm,0.6s,baz=52,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.62**	**221**	P	P	11 33 21.9	-0.8
	0.4nm,0.5s,baz=54,slow=9.2,SNR=10						
FITZ	**Fitzroy Crossi**	**27.00**	**242**	P	P	11 33 55.6	+2.2
	1.1nm,0.7s,baz=73,slow=14,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.48**	**285**	PKPbc	PKPbc	11 47 58.7	+0.2
	0.6nm,1.0s,baz=32,slow=1.8,SNR=2.6						

CASC 18 11:45:46.1±3.1, 1084N×8665W, h35km±34km, MD4.0, ML3.1, 5C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.91**	**60**	*e*P	Pn	11 46 02.0	-0.3
VCR	**Vista de Mar**	**1.23**	**125**	*e*P	Pn	11 46 10.2	+3.5
CONN	**Concepcion**	**1.24**	**54**	*e*P	Pn	11 46 06.7	-0.2
TICN	**Ticuantepe**	**1.26**	**19**	*e*P	Pn	11 46 07.3	+0.1
COPN	**Copaltepe**	**1.34**	**3**	*e*P	Pn	11 46 07.9	-0.4
XAVN	**Gruta Xavier**	**1.34**	**14**	*e*P	Pn	11 46 08.4	0.0
TISN	**Laguna Tiscapa**	**1.35**	**16**	*e*P	Pn	11 46 08.3	-0.2
MGAN	**Managua**	**1.36**	**17**	*i* P	Pn	11 46 08.7	0.0
LIM1	**Limonal**	**1.38**	**95**	*e*P	Pn	11 46 07.9	-0.9
LIM1				*e*S	Sn	11 46 26.5	+0.6
LEON	**Leon**	**1.59**	**352**	P	Pn	11 46 11.0	-0.7
MIRN	**Miramar**	**1.60**	**358**	*e*P	Pn	11 46 11.3	-0.5
CNGN	**Cerro Negro**	**1.66**	**358**	*e*P	Pn	11 46 12.0	-0.7
CNGN				*e*S	Sn	11 46 34.3	+1.6
VACR	**Volcan Arenal**	**1.98**	**100**	*e*P	Pn	11 46 18.5	+1.5
POA2	**Poas 2**	**2.45**	**105**	*e*P	Pn	11 46 25.8	+2.2
PRS1	**Puriscal**	**2.45**	**110**	*e*P	Pn	11 46 23.3	-0.3
OCM	**Ochomogo**	**2.81**	**109**	*i*P	Pn	11 46 29.7	+1.2
LCR2	**La Lucha 2**	**2.83**	**112**	*e*P	Pn	11 46 29.3	+0.5
IRZ2	**Volcan Irazu 2**	**2.84**	**107**	*e*P	Pn	11 46 30.9	+1.9
CTCR	**Cotoan**	**4.29**	**116**	*e*P	Pn	11 46 49.8	+0.9

*ISCJB **18** 12:10:00.8±0.4, 177N±002×12751E±004, h136km±4km, mb5.0/81, Error ellipse: s-maj=6.8km s-min=3.3km az=144.2*
*BJI **18** 12:10:00.4, 150N×12777E, h158km, mB5.1, mb5.1*
*MOS **18** 12:10:01.2±1.0, 179N×12748E, h139km, mb4.9/27, Error ellipse: s-maj=13.9km s-min=6.1km az=113.7*
*NEIC **18** 12:10:01.8±0.2, 176N×12753E, mb4.9/34, Error ellipse: s-maj=7.8km s-min=3.7km az=67.0*
*IDC **18** 12:10:03.5±1.3, 172N×12749E, h149km±10km, mb4.7/17, mb1 4.7/19, mb1mx4.6/23, mbtmp5.2/19, Error ellipse: s-maj=14.4km s-min=6.6km az=67.0*

ISC 18 12:10:01.9±0.4, 175N±002×12757E±004, h131km±3km, h134km±4.0km: pP-P, n234, σ1.907/252, mb5.0/81, 11C-14D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.51**	**125**	P	**Pn**	**12 11 10.7**	**+2.3**
	0.0nm,0.0s						
MATI	**Mati**	**5.32**	**346**	*e*P	**Pn**	**12 11 18.6**	**-0.7**
MATI				*e*S	**Sn**	**12 12 18.3**	**-1.2**
AAI	**Ambon**	**5.44**	**173**	P	**Pn**	**12 11 22.5**	**+1.7**
	0.0nm,0.0s						
DAV	**Davao City (W)**	**5.64**	**340**	P	**Pn**	**12 11 23.5**	**-0.1**
	SNR=11						
DAV	**Davao City (W)**	**5.64**	**340**	*e*Pn	**Pn**	**12 11 22.8**	**-0.8**
DAV				*e*Sn	**Sn**	**12 12 29.7**	**+2.5**
KCP	**Kidapawan**	**5.78**	**335**	*i*P	**Pn**	**12 11 26.9**	**+1.5**
KCP				*i* S	**Sn**	**12 12 31.4**	**+0.9**
BUKP	**Musuan**	**6.58**	**338**	*e*P	**Pn**	**12 11 34.9**	**-1.2**
CGP	**Cagayan de Oro**	**7.25**	**337**	*i*P	**Pn**	**12 11 46.7**	**+1.5**
CGP				*i* S	**Sn**	**12 13 01.6**	**-4.3**
PAGZ	**Pagadian**	**7.35**	**326**	*e*P	**Pn**	**12 11 43.9**	**-2.7**
BUTP	**Butuan**	**7.43**	**345**	*e*P	**Pn**	**12 11 46.9**	**-0.7**
PCI	**Palu**	**8.17**	**251**	P	**Pn**	**12 11 55.9**	**-1.6**
	0.0nm,0.0s						
SCPH	**Surigao**	**8.24**	**346**	*e*P	**Pn**	**12 11 57.8**	**-0.7**
SCPH				*i* S	**Sn**	**12 13 30.2**	**+0.2**
MSLP	**Maasin**	**8.75**	**342**	*e*P	**Pn**	**12 12 04.0**	**-1.4**
MSLP	**Maasin**	**8.75**	**342**	*e*P	**Pn**	**12 12 03.9**	**-1.6**
TSM	**Tawau**	**10.01**	**285**	P	**Pn**	**12 12 20.6**	**-1.6**
GUIM	**Jordan**	**10.11**	**331**	*e*P	**Pn**	**12 12 21.7**	**-1.9**
GUIM	**Jordan**	**10.11**	**331**	*e*P	**Pn**	**12 12 21.5**	**-2.1**
TARAI	**Tarakan**	**10.11**	**279**	P	**Pn**	**12 12 23.0**	**-0.6**
	0.0nm,0.0s						
CUYO	**Cuyo Island**	**11.14**	**325**	*e*P	**Pn**	**12 12 35.3**	**-1.9**
CUYO	**Cuyo Island**	**11.14**	**325**	*e*P	**Pn**	**12 12 35.2**	**-2.0**
OTRP	**Odiongan**	**11.89**	**333**	*e*P	**Pn**	**12 12 47.3**	**+0.1**
OTRP	**Odiongan**	**11.89**	**333**	*e*P	**Pn**	**12 12 47.8**	**+0.7**
KKM	**Kota Kinabalu**	**12.10**	**291**	P	**Pn**	**12 12 50.6**	**+0.7**

KKM	**Kota Kinabalu**	**12.10**	**291**	*e*Pn	**Pn**	**12 12 49.4**	**-0.5**
PVCP	**Virac**	**12.24**	**344**	*e*P	**Pn**	**12 12 51.6**	**-0.2**
PVCP	**Virac**	**12.24**	**344**	*e*P	**Pn**	**12 12 50.6**	**-1.2**
JAY	**Jayapura**	**13.80**	**108**	P	**Pn**	**12 13 16.9**	**+5.0**
	0.0nm,0.0s						
TGY	**Tagaytay City**	**13.91**	**332**	P	**Pn**	**12 13 15.6**	**+2.2**
	36nm,0.3s,baz=247,slow=15,SNR=2.5						
LUBP	**Lubang**	**13.94**	**329**	*e*P	**Pn**	**12 13 13.1**	**-0.6**
BALP	**Baler**	**15.11**	**337**	*e*P	**Pn**	**12 13 26.6**	**-1.7**
BALP	**Baler**	**15.11**	**337**	*e*P	**Pn**	**12 13 24.1**	**-4.3**
KAKA	**Kakadu**	**15.16**	**162**	*e*P	**Pn**	**12 13 27.9**	**-1.1**
	38nm,0.5s						
KAKA				*e*S	**S**	**12 16 22.3**	**-2.1**
SCZP	**Santa Cruz**	**15.85**	**332**	*e*P	**Pn**	**12 13 32.2**	**-5.4**
SCZP	**Santa Cruz**	**15.85**	**332**	*e*P	**Pn**	**12 13 32.4**	**-5.2**
CAUP	**Cauayan**	**16.12**	**340**	*e*P	**Pn**	**12 13 39.6**	**-1.3**
CAUP	**Cauayan**	**16.12**	**340**	*e*P	**Pn**	**12 13 40.0**	**-0.9**
BOLP	**Bolinao**	**16.38**	**333**	*e*P	**Pn**	**12 13 42.8**	**-1.3**
BOLP	**Bolinao**	**16.38**	**333**	*e*P	**Pn**	**12 13 42.8**	**-1.3**
CVP	**Callao Caves**	**16.83**	**341**	*e*P	**Pn**	**12 13 50.0**	**+0.4**
KSM	**Kuching**	**17.25**	**269**	*e*P	**Pn**	**12 13 54.0**	**-0.7**
KRKI	**Karangkates**	**18.00**	**237**	P	**P**	**12 14 06.0**	**+3.6**
	248nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.82**	**185**	*e*P	**P**	**12 14 21.6**	**-0.5**
	46nm,0.9s						
FITZ				*e*S	**S**	**12 17 52.5**	**-5.7**
FITZ	**Fitzroy Crossi**	**19.82**	**185**	P	**P**	**12 14 21.6**	**-0.5**
	2.1nm,0.3s,baz=20,slow=8.5,SNR=71						
FITZ				S	**S**	**12 17 52.2**	**-6.0**
	0.3nm,0.3s,baz=180,slow=13,SNR=5.0						
BJII	**Banjamegara**	**19.97**	**243**	P	**P**	**12 14 26.0**	**+2.2**
	81nm,0.8s						
LEM	**Lembang**	**21.66**	**247**	P	**P**	**12 14 44.8**	**+3.0**
	75nm,1.1s,mb5.0						
PMG	**Port Moresby**	**22.44**	**120**	P	**P**	**12 14 50.2**	**+0.1**
	45nm,1.1s,mb4.8,baz=317,slow=2.8,SNR=9.2						
PMG	**Port Moresby**	**22.44**	**120**	*c i*P	**P**	**12 14 50.2**	**+0.1**
PMG	**Port Moresby**	**22.44**	**120**	*e*P	**P**	**12 14 49.9**	**-0.2**
	18nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**22.55**	**163**	*e*P	**P**	**12 14 51.2**	**+0.1**
WRAB				*e*S	**S**	**12 18 47.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,172nm,0.4s,mb5.8						
WRAB	**Tennant Creek**	**22.55**	**163**	*e*P	**P**	**12 14 51.2**	**+0.1**
	comp=Z,172nm,0.4s,mb5.8						
WRAB				*e*S	**S**	**12 18 47.5**	**-0.8**
WRA	**Warramunga Arr**	**22.56**	**163**	P	**P**	**12 14 50.6**	**-0.6**
	comp=Z,194nm,0.5s,mb5.8,baz=345,slow=11,SNR=703						
WRA				PcP	PcP	12 18 38.7	-1.0
	comp=

comp=Z,43nm,1.2s,mb5.0
KMI Kunming 33.37 316 P **P 12 16 28.8 +1.3**
comp=Z,43nm,1.2s,mb5.0
KMI pP pP 12 16 57.7 +1.7
KMI sP sP 12 17 12.3 +1.3
HNR Honiara 34.11 110 P **P 12 16 34.0 0.0**
comp=Z,38nm,0.5s,mb5.4,baz=259,slow=3.5,SNR=2.8
KLBR Kellerberrin 34.44 195 *e*P **P 12 16 36.5 -0.3**
comp=Z,14nm,0.4s,mb5.0
KS15 Wonju Array Si 35.52 0 *e*P **P 12 16 46.0 0.0**
TIA Tai'an 35.63 345 ⇓P **P 12 16 47.0 0.0**
TIA AMB AMB
comp=Z,27nm,1.0s,mb4.8
NWAO Narrogin (SRO) 35.84 195 P **P 12 16 48.2 -0.6**
comp=Z,11nm,0.3s,mb4.9,baz=29,slow=8.7
NWAO Narrogin (SRO) 35.84 195 *e*P **P 12 16 48.8 0.0**
NWAO pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 35.84 195 *e*P **P 12 16 48.8 0.0**
comp=Z,10nm,0.6s,mb4.6
MJAR Matsushiro Arr 35.99 15 P **P 12 16 48.9 -1.2**
comp=Z,9.1nm,0.7s,mb4.5,baz=185,slow=9.2,SNR=25
MAJO Matsushiro 35.99 15 *e*P **P 12 16 49.1 -1.0**
MAJO pmax pmax
comp=Z,23nm,1.0s,mb4.8
MAJO Matsushiro 35.99 15 *e*P **P 12 16 49.1 -1.0**
comp=Z,23nm,1.0s,mb4.8
MAT Matsushiro 35.99 15 P **P 12 16 48.7 -1.4**
STKA Stephens Creek 35.99 159 *e*P **P 12 16 50.8 +0.7**
comp=Z,98nm,0.8s,mb5.5
STKA *e*PCP PcP 12 19 14.0 +0.2
STKA *e*S **S 12 22 16.7 -2.3**
STKA Stephens Creek 35.99 159 P **P 12 16 50.7 +0.6**
comp=Z,111nm,0.6s,mb5.7,baz=333,slow=8.5,SNR=242
STKA PcP PcP 12 19 13.3 -0.5
comp=Z,6.0nm,0.5s,baz=61,slow=3.2,SNR=3.7
STKA S **S 12 22 18.4 -0.6**
comp=Z,5.6nm,1.0s,baz=102,slow=24,SNR=7.8
XAN Xi'an 36.55 334 P **P 12 16 55.1 +0.3**
XAN AMB AMB
comp=Z,109nm,1.2s,mb5.4
CD2 Chengdu 36.73 325 P **P 12 16 56.6 +0.3**
CD2 PP PP 12 18 26.1 +3.6
CD2 S **S 12 22 30.8 +0.6**
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.2
CD2 AMB AMB
comp=Z,120nm,5.2s
ADE Adelaide 37.99 165⇑*i*P **P 12 17 08.3 +1.4**
ARMA Armidale 39.36 146 *e*P **P 12 17 20.4 +2.0**
BJT Baijiatuan 39.48 346 *e*P **P 12 17 19.5 +0.2**
BJT pmax pmax
comp=Z,134nm,1.1s
BJT Baijiatuan 39.48 346 *e*P **P 12 17 19.5 +0.2**
comp=Z,134nm,1.1s,mb5.5
BJI Beijing 39.49 346 P **P 12 17 19.8 +0.3**
BJI AMB AMB
comp=Z,98nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,230nm,5.3s
BJI Beijing 39.49 346 P **P 12 17 19.7 +0.2**
BJI pmax pmax
comp=Z,98nm,0.7s,mb5.5
BJI Beijing 39.49 346 P **P 12 17 19.7 +0.2**
comp=Z,98nm,0.7s,mb5.5
SNY Shenyang 40.06 355 ⇓P **P 12 17 24.4 +0.2**
SNY S **S 12 23 20.4 +0.1**
SNY SS SS 12 26 14.6 -8.3
SNY AMB AMB
comp=Z,23nm,0.6s,mb5.0
SNY AMB AMB
comp=Z,240nm,6.7s
SNY LR LR
comp=E,219nm,20.6s
SNY LR LR
comp=Z,311nm,19.4s
LZH Lanzhou 40.62 330 *e*P **P 12 17 30.4 +1.6**
LZH AP pP 12 17 59.3 +1.3
LZH PP PP 12 19 09.3 +4.3
LZH PCP PcP 12 19 32.0 +3.8
LZH PCS PcS 12 23 20.0 +0.9
LZH *e*S **S 12 23 30.0 +1.3**
LZH SS SS 12 26 31.3 -2.7
LZH AMB AMB
comp=Z,208nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,518nm,4.0s
LZH Lanzhou 40.62 330 *e*P **P 12 17 30.4 +1.6**
LZH *PP pP 12 17 59.2 +1.2
LZH *SP sP 12 18 13.6 +0.7
LZH 12 19 09.3
LZH 12 19 32.0
LZH *e*S **S 12 23 30.0 +1.3**
LZH *SS sS 12 24 24.1 +4.7
LZH SS SS 12 26 31.2 -2.8
LZH pmax pmax
comp=Z,208nm,1.5s,mb5.5
LZH Lanzhou 40.62 330 *e*P **P 12 17 30.4 +1.6**
comp=Z,208nm,1.5s,mb5.5
LZH pP pP 12 17 59.2 +1.2
LZH sP sP 12 18 13.6 +0.7
LZH PP PP 12 19 09.3 +4.3
LZH PcP PcP 12 19 32.0 +3.8
LZH ScP ScP 12 23 06.2 +0.7
LZH PcS PcS 12 23 20.0 +0.9
LZH *e*S **S 12 23 30.0 +1.3**
LZH sS sS 12 24 24.1 +4.7
LZH SS SS 12 26 31.2 -2.8
HHC Hu-ho-hao-te 41.53 342 *e*P **P 12 17 36.9 +0.7**
HHC AMB AMB
comp=Z,37nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,219nm,7.3s
SHL Shillong 41.73 308 *e*P **P 12 17 38.6 +0.7**
SHL AMb AMB 12 18 01.0
comp=Z,737nm,0.8s
CN2 Changchun 41.91 358 *e*P **P 12 17 39.0 -0.3**
CNB Canberra Magne 42.14 153 *e*P **P 12 17 42.9 +1.7**
comp=Z,24nm,1.2s,mb4.7
TOO Toolangi 42.50 159 *e*P **P 12 17 45.9 +1.8**
comp=Z,15nm,0.8s,mb4.7
TOO Toolangi 42.50 159 *e*P **P 12 17 45.9 +1.8**
TOO pmax pmax
comp=Z,15nm,0.8s,mb4.7
MDJ Mudanjiang 42.72 2 P **P 12 17 46.1 +0.2**
MDJ AMB AMB
comp=Z,42nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,110nm,4.8s
MDJ Mudanjiang 42.72 2 *e*P **P 12 17 46.6 +0.7**
comp=Z,48nm,1.0s,mb5.1
LSA Lhasa 44.37 312 P **P 12 18 00.9 +1.8**
LSA Lhasa 44.37 312 *e*P **P 12 18 00.8 +1.7**
LSA pmax pmax
comp=Z,32nm,1.1s,mb4.9
LSA Lhasa 44.37 312 *e*P **P 12 18 00.8 +1.7**
comp=Z,32nm,1.1s,mb4.9
GTA Gaotai 45.21 329 P **P 12 18 06.8 +1.0**
GTA PP PP 12 19 54.3 +0.3
GTA S **S 12 24 38.3 +2.5**
GTA SS SS 12 27 55.3 -5.4
GTA AMB AMB
comp=Z,38nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,137nm,7.2s
GTA LR LR
comp=N,164nm,18.3s
GTA LR LR
comp=E,152nm,16.7s
GTA LR LR
comp=Z,298nm,19.4s
BOK Bokaro 45.90 302 *e*P **P 12 18 11.2 0.0**
BOK AMb AMB 12 18 14.1
comp=Z,16nm,1.2s,mb4.5
VIS Vishakhapatnam 46.23 293 *e*P **P 12 18 14.7 +0.9**
VIS AMb AMB 12 18 16.7
comp=Z,27nm,1.4s,mb4.7
YSS Yuzh-Sakhalins 46.93 14 *e*P **P 12 18 19.4 +0.2**
YSS pmax pmax
comp=Z,24nm,1.3s,mb4.7
JIRN Jiri 47.21 307 *e*P **P 12 18 23.1 +1.7**
comp=Z,5.5nm,0.3s,mb4.7
KLR Kul'dur 47.44 4 *e*P **P 12 18 20.0 -3.1**
KLR pmax pmax
comp=Z,24nm,1.0s,mb4.8
GUN Gumba 47.57 307 *e*P **P 12 18 25.0 +0.8**
comp=Z,73nm,0.7s,mb5.4
PKI Pulchoki 47.80 306 *e*P **P 12 18 26.4 +0.5**
HIA Hailar 47.81 353 *e*P **P 12 18 26.4 +0.4**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 47.81 353 *e*P **P 12 18 26.4 +0.3**
comp=Z,11nm,0.8s,mb4.5
KKN Kakani 48.00 307 *e*P **P 12 18 27.7 +0.3**
comp=Z,73nm,1.0s,mb5.3
DMN Daman 48.06 306 *e*P **P 12 18 28.6 +0.7**
comp=Z,81nm,1.0s,mb5.3
GKN Gorkha 48.60 307 *e*P **P 12 18 32.1 0.0**
comp=Z,74nm,1.0s,mb5.3
KOLN Koldanda 49.34 306 *e*P **P 12 18 38.6 +0.9**
comp=Z,169nm,0.9s,mb5.7
SONM Songino Array 49.43 341 P **P 12 18 38.6 +0.2**
comp=Z,18nm,0.7s,mb4.8,baz=155,slow=8.2,SNR=145
SONM ScP ScP 12 23 40.5 -1.3
comp=Z,1.3nm,0.8s,baz=170,slow=4.5,SNR=4.5
HYB Hyderabad 50.59 291⇓*i*P **P 12 18 46.0 -1.1**
HYB Hyderabad 50.59 291⇓*e*P **P 12 18 47.0 -0.1**
CIT Chita 51.45 349 *e*P **P 12 18 54.4 +0.8**
ZAK Zakamensk 52.66 341 *e*P **P 12 19 02.1 -0.4**
BHPL Bhopal 53.05 298 *e*P **P 12 19 04.9 -0.5**
BHPL AMb AMB 12 19 07.6
comp=Z,60nm,1.3s,mb5.2
MNGI Mangalore 53.37 285 *e*P **P 12 19 07.4 -0.3**
MNGI AMb AMB 12 19 25.2
comp=Z,28nm,1.6s,mb4.7
TLY Talaya 53.66 342 *e*P **P 12 19 08.9 -0.9**
TLY pmax pmax
comp=Z,12nm,1.0s,mb4.6
TLY Talaya 53.66 342 *e*P **P 12 19 08.4 -1.4**
comp=Z,22nm,1.1s,mb4.8
MOY Mondy 54.52 340 *e*P **P 12 19 16.9 +0.9**
KAD Karad 54.66 290 *e*P **P 12 19 16.7 -0.4**
comp=Z,22nm,1.3s,mb4.8
KAD AMb AMB 12 19 18.6
comp=Z,22nm,1.3s,mb4.8
WMQ Urumqi 54.82 325⇓*i*P **P 12 19 19.5 +1.3**
WMQ PCP PcP 12 20 21.0 +2.1
WMQ PP PP 12 21 25.0 +2.7
WMQ *e*S **S 12 26 49.0 0.0**
WMQ AMB AMB
comp=Z,70nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,232nm,4.4s
WMQ LR LR
comp=N,723nm,28.0s
WMQ LR LR
comp=E,674nm,26.5s
WMQ LR LR
comp=Z,601nm,25.7s
NDI New Delhi 54.91 304 *e*P **P 12 19 17.3 -1.6**
NDI AMb AMB 12 19 19.9
comp=Z,57nm,1.6s,mb5.1
POO Poona 55.20 291⇓*i*P **P 12 19 18.0 -2.9**
comp=Z,40nm,1.0s,mb5.1
AJM Ajmer 56.39 301 *e*P **P 12 19 28.6 -0.8**
AJM AMb AMB 12 19 31.2
comp=Z,35nm,1.2s,mb5.1
AJM *ex* x 12 22 05.2
BOD Bodaibo 56.93 351⇓*i*P **P 12 19 33.3 0.0**
BOD pmax pmax
comp=Z,23nm,1.1s,mb4.9
DLH Dalhousie 57.27 308 *ex* x 12 18 27.0
THN Thein Dam 57.43 308 *e*P **P 12 19 36.6 -0.2**
MK31 Makanchi Array 59.65 326 *i*P **P 12 19 52.4 +0.2**
MK31 pmax pmax
comp=Z,29nm,0.4s,mb5.5
MK31 Makanchi Array 59.65 326 *e*P **P 12 19 52.6 +0.5**
MKAR Makanchi Array 59.65 326 P **P 12 19 52.5 +0.4**
comp=Z,33nm,0.4s,mb5.5,baz=111,slow=8.3,SNR=229
MKAR S **S 12 27 51.9 -0.4**
comp=Z,1.4nm,1.1s,baz=125,slow=7.2,SNR=4.9
MKAR Makanchi Array 59.65 326 P **P 12 19 52.4 +0.2**
MKAR pmax pmax
comp=Z,13nm,0.5s
KSH Kashi 60.03 316 *e*P **P 12 19 57.4 +2.6**
KSH *e*PP PP 12 22 12.8 +4.2
KSH *e*PCS PcS 12 24 39.9 -2.0
KSH *e*S **S 12 27 56.9 -0.3**
KSH *e*SS SS 12 31 57.3 +1.4
KSH AMB AMB
comp=Z,416nm,4.8s
KSH LR LR
comp=N,342nm,6.6s
KSH LR LR
comp=E,350nm,5.5s
KSH LR LR
comp=Z,968nm,10.2s
YAK Yakutsk 60.15 1*de*P **P 12 19 55.5 -0.1**
YAK pmax pmax
comp=Z,46nm,0.8s,mb5.4
YAK pmax pmax
comp=N,26nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK Yakutsk 60.15 1 *e*P **P 12 19 55.4 -0.2**
comp=E,43nm,0.7s,mb5.4
TKM2 Tokmak 2 61.78 319 P **P 12 20 07.4 +0.8**
SNR=6.8
KBK Karagaybulak 62.09 318 P **P 12 20 09.8 +1.2**
SNR=5.6
UCH Uchtor 62.19 318 P **P 12 20 11.0 +1.7**
SNR=25
AAK Ala-Archa 62.38 318 P **P 12 20 10.8 +0.2**
SNR=8.7
AAK Ala-Archa 62.38 318 *e*P **P 12 20 10.7 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
AAK Ala-Archa 62.38 318 *e*P **P 12 20 10.7 +0.1**
comp=Z,3.4nm,0.4s,mb4.5
USP Ospenovka 62.65 319 P **P 12 20 12.8 +0.4**
SNR=23
AML Almayashu 62.70 317 P **P 12 20 14.2 +1.5**
SNR=11
ZAL Zalesovo 62.72 333 P **P 12 20 11.8 -1.1**
comp=Z,8.0nm,1.0s,mb4.5,baz=355,slow=5.6,SNR=29
ZAL S **S 12 28 27.4 -3.8**
comp=Z,0.8nm,0.5s,baz=94,slow=25,SNR=3.1
ZAL Zalesovo 62.72 333 P **P 12 20 11.8 -1.1**
ZAL S **S 12 28 27.4 -3.8**
EKS2 Erkin-Say 62.87 318 P **P 12 20 15.0 +1.2**
SNR=13
SEY Seymchan 63.77 12 *e*P **P 12 20 20.6 +0.9**
NVS Novosibirsk 64.00 333⇓*i*P **P 12 20 20.2 -1.1**
NVS *e* 12 21 04.5
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
NVS pmax pmax
comp=Z,25nm,1.2s,mb4.9
KK31 Karatay Array 65.24 317 *i*P **P 12 20 28.9 -0.4**
KKAR Karatay Array 65.24 317 P **P 12 20 28.9 -0.4**
VOSK Vostochnaya 68.97 327 P **P 12 20 51.9 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
BVA0 Borovoye Array 69.42 327 *i*P **P 12 20 54.9 -0.8**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BRVK Borovoye 69.50 327 P **P 12 20 56.2 +0.1**
SNR=9.6
BRVK Borovoye 69.50 327 *e*P **P 12 20 55.9 -0.2**
BRVK pmax pmax
comp=Z,34nm,0.9s,mb5.1
BRVK Borovoye 69.50 327 *e*P **P 12 20 55.9 -0.2**
comp=Z,34nm,0.9s,mb5.1
CHKZ Chkalovo 69.59 328 *e*P **P 12 20 56.0 -0.7**
CHKZ pmax pmax
comp=Z,26nm,1.1s,mb4.9
CHKZ Chkalovo 69.59 328 *e*P **P 12 20 56.0 -0.7**
comp=Z,26nm,1.1s,mb4.9
WBK Wadi Bani Khal 69.59 293⇑P **P 12 20 57.3 +0.5**
TIXI Tiksi 69.80 0⇑*i*P **P 12 20 55.0 -3.0**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
TIXI Tiksi 69.80 0 *e*P **P 12 20 56.9 -1.1**
JMDO Jabal Madar 70.36 293 P **P 12 21 01.8 +0.4**
SNR=8.4
BIDO Bidbid 70.47 294 P **P 12 21 02.6 +0.5**
SNR=7.7
BSY Bisya 71.23 293 P **P 12 21 07.2 +0.5**
SNR=6.5
BILL Bilibino 71.25 14 *e*P **P 12 21 06.5 -0.2**
BILL pmax pmax
comp=Z,27nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,100nm,18.0s
ARQ Araqi 71.92 294 P **P 12 21 11.4 +0.6**
SNR=5.4
HATD Hatta, Dubai 72.43 295⇑P **P 12 21 14.6 +0.8**
WHFO Wadi Hawf 74.05 288 P **P 12 21 23.3 0.0**
SNR=6.9
AB31 Akbulak array 74.20 321 P **P 12 21 23.3 -0.9**
ABTO Aybut 74.47 287⇑P **P 12 21 25.4 -0.4**
AKTO Aktyubinsk 75.72 322 *i*P **P 12 21 30.8 -2.1**
ARU Arti 77.05 328 *e*P **P 12 21 39.4 -1.0**
ARU pmax pmax
comp=Z,23nm,1.0s,mb4.8
ARU Arti 77.05 328 *e*P **P 12 21 39.4 -1.0**
comp=Z,23nm,1.0s,mb4.8
ORR Orenburg 78.00 322 *e*P **P 12 21 45.6 -0.1**
ORR pmax pmax
comp=Z,30nm,1.1s,mb4.8
VNDA Vanda 81.37 173 P **P 12 22 03.5 -0.4**
comp=Z,16nm,0.8s,mb4.7,baz=318,slow=6.2,SNR=101
VNDA Vanda 81.37 173 *e*P **P 12 22 03.6 -0.3**
VNDA pmax pmax
comp=Z,13nm,0.7s
VNDA Vanda 81.37 173 *e*P **P 12 22 03.6 -0.3**
comp=Z,13nm,0.7s,mb4.7
MAW Mawson 82.20 200 *e*P **P 12 22 08.1 -0.1**
comp=Z,7.6nm,0.9s,mb4.3
MAW Mawson 82.20 200 P **P 12 22 08.1 -0.2**
comp=Z,9.3nm,0.9s,mb4.4,baz=47,slow=5.1,SNR=16
MAW Mawson 82.20 200 *e*P **P 12 22 08.1 -0.1**
MAW pmax pmax
comp=Z,8.0nm,0.9s
SBA Scott Base 82.27 172 *e*P **P 12 22 09.1 +0.5**
SBA pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
SBA Scott Base 82.27 172 *e*P **P 12 22 09.1 +0.5**
comp=Z,7.5nm,0.7s,mb4.4
IMA2 Indian Mountai 83.84 24 *e*P **P 12 22 15.9 -0.8**
KIV Kislovodsk 85.10 314 *e*P **P 12 22 22.2 -0.8**
KIV pmax pmax
comp=Z,13nm,1.7s,mb4.4
PMR Palmer 85.27 28 *e*P **P 12 22 24.1 +0.2**
PMR pmax pmax
comp=Z,15nm,1.1s,mb4.6
PMR Palmer 85.27 28 *e*P **P 12 22 24.1 +0.2**
comp=Z,15nm,1.1s,mb4.7
OBN Obninsk 89.15 325⇑*e*P **P 12 22 41.1 -1.4**
OBN *e*S SKSac 12 32 57.8 -2.4
OBN pmax pmax
comp=Z,34nm,1.7s,mb5.0
DAWY Dawson 89.78 26 *e*P **P 12 22 46.4 +0.9**
SYO Syowa Base 90.89 201⇑*e*P **P 12 22 50.2 -0.4**
SYO Syowa Base 90.89 201⇑*e*PcP PcP 12 22 52.0 +0.4
QSPA South Pole Qui 91.67 180 *e*P **P 12 22 54.1 -0.1**
comp=Z,3.1nm,0.9s,mb4.3
ARCES ARCESS Array B 92.58 340 P **P 12 22 57.0 -1.4**
comp=Z,1.8nm,0.4s,mb4.5,baz=69,slow=6.6,SNR=9.5
FINES FINESS Array B 93.96 332 P **P 12 23 03.5 -1.3**
comp=Z,0.7nm,0.7s,mb3.9,baz=22,slow=2.1,SNR=4.2
PDAR Pinedale Array 112.27 42 PKKPbc PKKPbc 12 39 13.1 +0.5
comp=Z,0.5nm,0.6s,baz=118,slow=3.2,SNR=4.9
ECSD EROS,Sioux Fal 119.92 36 *e*PKPdf PKPdf 12 28 36.6 -0.1
TXAR Lajitas Array 122.12 54 PKP PKPdf 12 28 42.3 +1.4
comp=Z,1.1nm,0.7s,baz=234,slow=0.6,SNR=16
TXAR PKKPbc PKKPbc 12 38 38.6 +0.9
comp=Z,0.5nm,0.7s,baz=114,slow=6.5,SNR=6.8
TOA0 Torodi Ar. Sit 124.31 287 *e*PKPdf PKPdf 12 28 45.8 +0.6
TORD Torodi Ar. Bea 124.31 287 PKP PKPdf 12 28 45.2 +0.1
comp=Z,2.1nm,0.4s,baz=87,slow=1.7,SNR=44
TORD PP PP 12 30 32.8 +0.7
comp=Z,1.5nm,1.1s,baz=98,slow=4.5,SNR=3.7
TORD PKKPbc PKKPbc 12 38 30.2 +1.1
comp=Z,1.7nm,0.7s,baz=272,slow=3.1,SNR=8.8
TORD Torodi Ar. Bea 124.31 287 PKP PKPdf 12 28 45.2 +0.1
TORD PP PP 12 30 32.8 +0.7
TORD PKKPbc PKKPbc 12 38 30.2 +1.1
JCT Junction City 124.69 51 *e*PKIKP PKPdf 12 28 47.1 +1.2
DBIC Dimbokro 131.78 280 SKPbc SKPbc 12 32 13.6 +0.5
comp=Z,14nm,0.8s,baz=49,slow=2.4,SNR=14
PLCA Paso Flores 137.87 159 PKP PKPdf 12 29 12.2 +1.4
comp=Z,2.0nm,0.7s,baz=195,slow=6.6,SNR=6.4
PLCA SKPbc SKPbc 12 32 32.1 -0.4
comp=Z,2.3nm,0.8s,baz=203,slow=5.1,SNR=5.1
MDZ Mendoza 145.40 155 *e*PKP2 PKPab 12 29 26.6 +1.9
LVC Limon Verde 153.80 144 *e*PKPab PKPab 12 30 02.8 +3.9
CPUP Villa Florida 155.11 170 PKPbc PKPdf 12 29 49.4 +10
comp=Z,2.6nm,0.6s,baz=33,slow=1.9,SNR=11
CPUP PKPab PKPab 12 30 05.7 +1.1
comp=Z,4.8nm,0.8s,baz=164,slow=3.5,SNR=9.0
CPUP Villa Florida 155.11 170 *e*PKPbc PKPdf 12 29 49.6 +10
CPUP *e*PKPab PKPab 12 30 06.1 +1.6
LPAZ La Paz 158.84 134 PKP PKPdf 12 29 46.6 +2.6
comp=Z,0.7nm,0.7s,baz=94,slow=8.8,SNR=3.8
LPAZ PKPab PKPab 12 30 23.4 +2.8
comp=Z,4.7nm,0.8s,baz=178,slow=4.8,SNR=13
LPAZ La Paz 158.84 134 *e*PKP2 PKPab 12 30 23.8 +3.2

MOS 18 12:19:19.4±2.5, 4307N×4632E, h17km, mb3.6/1, Error ellipse: s-maj=44.2km s-min=19.9km az=132.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.23**	**90**	*i*PG	Pg	12 19 24.6	0.0
DLMR				*e*S	Sg	12 19 28.4	+0.2
DLMR				pmax	pmax		
comp=Z,1μm,0.2s							
DBC	**Dubki**	**0.38**	**97**	*i*PG	Pg	12 19 24.2	-3.0
DBC				pmax	pmax		
comp=Z,124nm,0.1s							
KRNR	**Karanay**	**0.49**	**119**	*e*PG	Pg	12 19 28.7	-0.6
KRNR				*i*S	Sg	12 19 34.7	-1.3
KRNR				pmax	pmax		
comp=Z,25nm,0.2s							
UNCR	**Uncukul**	**0.50**	**135**	*e*PG	Pg	12 19 31.5	+2.1
UNCR				*e*S	Sg	12 19 38.5	+2.4
UNCR				pmax	pmax		
comp=Z,29nm,0.2s							
XNZR	**Khunzakh**	**0.60**	**152**	*i*PG	Pg	12 19 24.6	-6.6
XNZR				pmax	pmax		
comp=Z,254nm,0.2s							
KMKR	**Kumukh**	**1.10**	**148**	*e*PG	Pg	12 19 42.0	+1.3
KMKR				*i*S	Sb	12 19 58.0	+4.0
KMKR				pmax	pmax		
comp=Z,16nm,0.2s							

IDC 18 12:47:22.1±1.7, 1609S×17777W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/14, mbtmp3.9/5, MS3.9/6, Ms1 3.9/6, ms1mx3.5/23, Error ellipse: s-maj=171.8km s-min=25.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.18**	**70**	LR	LR	12 50 48.2	
comp=Z,787nm,21.4s,baz=25,slow=33							
RAO	**Raoul Island**	**13.10**	**181**	LR	LR	12 54 19.4	
comp=Z,582nm,19.9s,baz=2.0,slow=32							
DZM	**Mont Dzumac**	**16.06**	**246**	LR	LR	12 55 09.7	
comp=Z,170nm,19.1s,baz=34,slow=29							
RAR	**Rarotonga**	**17.79**	**109**	LR	LR	12 56 15.5	
comp=Z,364nm,19.5s,baz=227,slow=30							
URZ	**Urewera**	**22.54**	**191**	LR	LR	12 59 25.7	
comp=Z,327nm,21.7s,baz=0.8,slow=32							
PPT	**Papeete**	**27.02**	**97**	*e*LR	LR	12 59 26.8	
614nm,26.5s,baz=265							
TBI	**Tubuai**	**27.57**	**110**	*e*LR	LR	12 59 33.4	
674nm,29.8s,baz=283							
TAOE	**Nuku Hiva Isla**	**37.38**	**84**	*e*LR	LR	13 04 20.0	
833nm,27.0s							
STKA	**Stephens Creek**	**40.06**	**239**	P	P	12 54 59.2	+0.2
6.6nm,0.9s,baz=68,slow=9.1,SNR=7.6							
RKT	**Rikitea**	**40.80**	**107**	*e*LR	LR	13 05 53.5	
478nm,26.8s							
WRA	**Warramunga Arr**	**45.59**	**258**	P	P	12 55 44.1	+0.2
0.9nm,1.0s,baz=91,slow=8.1,SNR=3.9							
ASAR	**Alice Springs**	**45.90**	**253**	P	P	12 55 46.7	+0.4
2.8nm,0.8s,baz=86,slow=8.4,SNR=16							
ASAR				LR	LR	13 13 44.5	
comp=Z,446nm,18.6s,baz=283,slow=34							
TXAR	**Lajitas Array**	**84.51**	**58**	P	P	12 59 57.5	+0.6
1.1nm,1.1s,baz=262,slow=6.3,SNR=4.7							

PDAR	**Pinedale Array**	**85.61**	**43**	P	P	13 00 02.7	+0.2
	0.4nm,0.9s,baz=248,slow=8.7,SNR=2.8						
BRTR	**Keskin Array B**	**143.91**	**317**	PKP	PKPdf	13 07 00.5	+1.0
	3.3nm,0.8s,baz=82,slow=2.8,SNR=12						

*ISCJB **18** 13:57:41.1±0.3, 690N±004×7307W±004, h153km±4km, mb3.9/10, Error ellipse: s-maj=8.2km s-min=3.4km az=85.1*
*IDC **18** 13:57:41.6±0.6, 681N×7302W, h153km±9km, mb3.6/6, mb1 3.9/9, mb1mx3.6/24, mbtmp4.1/9, Error ellipse: s-maj=24.3km s-min=7.0km az=133.0*
*FUNV **18** 13:57:41.4, 676N×7324W, h150km, MW3.7*
*NEIC **18** 13:57:42.2±0.4, 679N×7305W, h157km±5km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=6.9km az=125.0*
ISC 18 13:57:42.3±0.3, 689N±004×7306W±004, h148km±4km, n37, σ0§81/51, mb3.9/10, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**206**	*i* P	**Pn**	**13 58 03.1**	**+0.6**
BARC				*e*S	**Sn**	**13 58 17.7**	**-0.1**
RUSC	**La Rusia**	**0.96**	**181**	*i* P	**Pn**	**13 58 07.0**	**+0.5**
RUSC				*e*S	**Sn**	**13 58 25.0**	**+0.1**
OCAC	**Ocana**	**1.36**	**349**	*e*P	**Pn**	**13 58 11.1**	**+0.9**
OCAC				*e*S	**Sn**	**13 58 32.4**	**+0.8**
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**13 58 23.2**	**+1.4**
	95nm,0.3s,baz=348,slow=1.0,SNR=130						
ROSC				S	**Sn**	**13 58 52.0**	**-0.3**
	217nm,0.3s,baz=270,slow=23,SNR=27						
VIGV	**El Vigia**	**2.56**	**41**	*e*S	**Sn**	**13 58 54.8**	**-1.5**
SDV	**Santo Domingo**	**3.11**	**50**	P	**Pn**	**13 58 32.4**	**+1.4**
	73nm,0.3s,baz=234,slow=6.3,SNR=250						
SDV				S	**Sn**	**13 59 09.1**	**+0.5**
	74nm,0.3s,baz=84,slow=23,SNR=36						
SDV	**Santo Domingo**	**3.11**	**50**	*e*Pn	**Pn**	**13 58 32.4**	**+1.4**
SDV				*e*Sn	**Sn**	**13 59 11.0**	**+2.4**
TOLC	**Tolima**	**3.22**	**225**	*e*P	**Pn**	**13 58 32.2**	**-0.1**
TOLC				*e*S	**Sn**	**13 59 11.2**	**+0.1**
ELOV	**Elorza**	**3.55**	**88**	*e*P	**Pn**	**13 58 37.2**	**+0.6**
ELOV				*e*S	**Sn**	**13 59 18.5**	**-0.2**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	**Pn**	**13 58 37.6**	**-0.2**
VIRV				*e*S	**Sn**	**13 59 19.9**	**-1.0**
PRAC	**Prado**	**3.67**	**210**	*e*P	**Pn**	**13 58 36.5**	**-1.6**
PRAC				*e*S	**Sn**	**13 59 20.4**	**-1.0**
QARV	**Quebrada Arrib**	**4.14**	**37**	⇓*i*P	**Pn**	**13 58 45.3**	**+1.0**
QARV				*e*S	**Sn**	**13 59 31.8**	**-0.7**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**Pn**	**13 58 47.0**	**0.0**
SANV				*e*S	**Sn**	**13 59 36.5**	**-0.8**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**13 58 47.6**	**+0.4**
CURV				*e*S	**Sn**	**13 59 36.6**	**-1.0**
DABV	**Dabajuro**	**4.67**	**31**	*e*P	**Pn**	**13 58 51.9**	**+0.7**
DABV				*e*S	**Sn**	**13 59 44.1**	**-0.8**
TEPV	**Terepaima**	**4.89**	**51**	*e*P	**Pn**	**13 58 54.6**	**+0.4**
TEPV				*e*S	**Sn**	**13 59 49.6**	**-0.7**
SIQV	**Siquisique**	**4.92**	**40**	⇓*i*P	**Pn**	**13 58 54.7**	**+0.1**
SIQV				*e*S	**Sn**	**13 59 50.0**	**-1.0**
JACV	**Jacura**	**5.90**	**45**	*e*P	**Pn**	**13 59 07.4**	**-0.2**
TURV	**Turiamo**	**6.25**	**55**	*e*P	**Pn**	**13 59 12.4**	**+0.1**
OTAV	**Otavalo**	**8.52**	**219**	*e*Pn	**Pn**	**13 59 42.7**	**+0.1**
	5.1nm,0.5s						
OTAV				*e*Sn	**Sn**	**14 01 16.0**	**-1.2**
PCRV	**Puerto La Cruz**	**8.95**	**68**	P	**Pn**	**13 59 49.5**	**+1.2**
	2.3nm,0.3s,baz=291,slow=7.8,SNR=8.4						
PCRV				S	**Sn**	**14 01 28.0**	**+0.6**
	1.0nm,0.3s,baz=304,slow=21,SNR=2.9						
TEIG	**Tepich**	**19.84**	**313**	*e*P	**P**	**14 02 03.0**	**+1.4**
	7.8nm,0.5s						
LPAZ	**La Paz**	**23.54**	**168**	pP	pP	14 03 08.1	+0.3
	1.0nm,0.7s,baz=300,slow=11,SNR=4.1						
SIV	**San Ignacio**	**25.64**	**153**	pP	pP	14 03 29.3	+0.3
	1.2nm,0.8s,baz=333,slow=11,SNR=4.0						
WVT	**Waverly**	**32.09**	**337**	*e*P	**P**	**14 03 55.5**	**+0.2**
	2.2nm,0.4s,mb4.2						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**14 04 33.3**	**+0.4**
	1.3nm,0.6s,mb3.7,baz=125,slow=9.3,SNR=18						
TXAR				PcP	PcP	14 06 54.4	+0.8
	0.3nm,0.6s,baz=137,slow=7.4,SNR=3.9						
SDCO	**Great Sand Dun**	**42.53**	**321**	*e*P	**P**	**14 05 24.1**	**+1.0**
	1.5nm,0.6s,mb3.8						
WUAZ	**Wupatki**	**45.22**	**315**	*e*P	**P**	**14 05 45.3**	**+0.8**
	6.3nm,1.0s,mb4.2						
ULM	**Lac du Bonnet**	**47.24**	**340**	P	**P**	**14 05 59.3**	**-1.0**
	1.6nm,0.4s,mb4.0,baz=135,slow=5.0,SNR=6.6						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**14 06 06.2**	**-0.4**
	0.8nm,0.6s,mb3.5,baz=133,slow=10,SNR=5.3						
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**14 06 07.0**	**+0.3**
	2.8nm,0.8s,mb3.9,baz=216,slow=8.7,SNR=4.3						
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**14 06 07.0**	**+0.3**
NVAR	**Mina Array Bea**	**51.48**	**315**	P	**P**	**14 06 31.4**	**-1.1**
	0.5nm,0.5s,mb3.4,baz=140,slow=6.9,SNR=5.0						
WVOR	**Wild Horse Val**	**53.52**	**319**	*e*P	**P**	**14 06 47.3**	**-0.2**
	1.5nm,0.8s,mb3.8						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**14 07 53.8**	**-0.9**
	1.4nm,0.5s,mb4.0,baz=135,slow=6.5,SNR=9.3						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	PKPbc	14 17 12.0	-1.2
	1.5nm,0.7s,baz=119,slow=3.7,SNR=13						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	14 17 15.2	-1.0
	1.1nm,0.4s,baz=109,slow=2.6,SNR=13						

*LDG **18** 14:00:25.6±0.1, 4282N×068E, h14km, Md1.6/1, Ml1.7/3, Error ellipse: s-maj=1.5km s-min=1.1km az=26.0*
*NEIC **18** 14:00:26.2, 4278N×073E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 18 14:00:26.2±0.3, 4281N×068E, h11km±1km, mbLg1.4/4, Error ellipse: s-maj=3.5km s-min=2.2km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.09**	**46**	Pg	Pg	14 00 28.8	+0.1
MELF				Sg	Sg	14 00 30.7	+0.2
MELF	**Melles**	**0.09**	**46**	P	Pg	14 00 28.8	+0.1
MELF				S	Sg	14 00 30.8	+0.2
EPF	**Esparros**	**0.33**	**311**	*e*Pg	Pg	14 00 32.4	-0.4
EPF				*e*Sg	Sg	14 00 37.1	-0.1
	19nm,0.3s						
EPF	**Esparros**	**0.33**	**311**	Pg	Pg	14 00 32.4	-0.4
EPF				Lg		14 00 37.1	
	9.3nm,0.3s						
SALF	**Salau**	**0.38**	**98**	Pg	Pg	14 00 33.1	-0.6
SALF				Sg	Sg	14 00 38.0	-0.8
SALF	**Salau**	**0.38**	**98**	P	Pg	14 00 33.0	-0.7
SALF				S	Sg	14 00 37.8	-1.1
EBIE	**Bielsa**	**0.41**	**252**	Pg	Pg	14 00 34.1	-0.2
	9.4nm,0.3s,SNR=11						
EBIE				Lg		14 00 39.6	
	6.0nm,0.1s,SNR=7.9						
CSOR	**Sort**	**0.55**	**142**	P	Pg	14 00 36.4	-0.5
CSOR				S	Sg	14 00 43.9	-0.3
CORG	**Organya**	**0.75**	**141**	S	Sg	14 00 49.9	-0.6
ETSF	**Etsaut**	**0.91**	**276**	*e*Pg	Pg	14 00 42.8	-1.0
ETSF				*e*Sg	Sg	14 00 55.2	-0.5
	1.3nm,0.2s						
ETSF	**Etsaut**	**0.91**	**276**	Pg	Pg	14 00 42.8	-1.0
ETSF				Lg		14 00 55.2	
	0.6nm,0.2s						
CAVN	**Les Avellanes**	**0.93**	**177**	P	Pg	14 00 43.4	-0.7
CAVN				S	Sg	14 00 56.1	-0.2
	4.4nm,0.3s						
CLLI	**Llivia**	**1.01**	**109**	P	Pg	14 00 45.3	-0.4
CLLI				S	Sg	14 00 59.0	+0.1
MTLF	**Montolieu**	**1.25**	**64**	*e*Pg	Pg	14 00 48.9	-1.2
MTLF				*e*Sg	Sg	14 01 04.7	-1.6
	1.7nm,0.3s						
MTLF	**Montolieu**	**1.25**	**64**	Pg	Pg	14 00 48.9	-1.2
MTLF				Lg		14 01 04.7	
	0.9nm,0.3s						
SJPF	**Ste Jean**	**1.43**	**283**	*e*Sg	Sg	14 01 10.8	-1.3
	1.3nm,0.2s						
SJPF	**Ste Jean**	**1.43**	**283**	Lg		14 01 10.8	
	0.6nm,0.2s						
EPOB	**Poblet**	**1.49**	**168**	Pg	Pg	14 00 53.5	-1.3
	SNR=4.0						
EPOB				Lg		14 01 12.8	
	3.4nm,0.2s,SNR=7.9						

*ISCJB **18** 14:02:20.0±1.1, 74S±04×1203E±05, h500km, mb3.6/2, Error ellipse: s-maj=83.9km s-min=13.8km az=113.4*
*NEIC **18** 14:02:21.5±0.9, 720S×12069E, h500km, mb4.0/2, Error ellipse: s-maj=74.5km s-min=12.7km az=58.0*
*IDC **18** 14:02:23.4±6.0, 760S×12025E, h537km±98km, mb3.0/3, mb1 3.0/5, mb1mx2.8/17, mbtmp3.8/5, Error ellipse: s-maj=184.0km s-min=30.2km az=50.0*
ISC 18 14:02:21.5±1.1, 72S±03×1206E±05, h500km, n11, σ0§54/11, mb3.6/2, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.86**	**156**	*e*P	**P**	**14 04 59.0**	**+0.5**
	2.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.86**	**156**	P	**P**	**14 04 58.9**	**+0.4**
	0.1nm,0.3s,baz=319,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**18.34**	**135**	P	**P**	**14 06 05.1**	**+0.2**
	0.3nm,0.3s,baz=313,slow=10,SNR=29						
WRAB	**Tennant Creek**	**18.35**	**135**	*e*P	**P**	**14 06 05.3**	**+0.4**
	5.5nm,1.1s						
WB2	**Warramunga Arr**	**18.35**	**135**	*e*P	**P**	**14 06 04.7**	**-0.3**
WB2	**Warramunga Arr**	**18.35**	**135**	*e*P	**P**	**14 06 04.6**	**-0.3**
ASPA	**Alice Springs**	**20.73**	**144**	*e*P	**P**	**14 06 26.1**	**-0.5**
AS31	**Alice Springs**	**20.73**	**144**	*e*P	**P**	**14 06 26.6**	**+0.1**
ASAR	**Alice Springs**	**20.73**	**144**	P	**P**	**14 06 26.2**	**-0.3**
	0.5nm,0.4s,baz=318,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**63.65**	**332**	P	**P**	**14 12 02.0**	**-0.9**
	0.9nm,0.7s,mb3.4,baz=149,slow=6.7,SNR=4.5						
ZAL	**Zalesovo**	**67.98**	**338**	P	**P**	**14 12 31.1**	**+1.0**
	0.7nm,0.3s,mb3.8,baz=43,slow=2.4,SNR=3.2						

*ISCJB **18** 14:21:07.3±2.0, 491N±02×1552E±04, h77km±20km, mb3.4/3, Error ellipse: s-maj=49.3km s-min=16.9km az=74.7*
*MOS **18** 14:21:07.1±0.7, 4905N×15520E, h75km, mb4.1/1, Error ellipse: s-maj=81.4km s-min=32.5km az=70.1*
*IDC **18** 14:21:40.3±4.2, 4887N×15127E, h312km±40km, mb3.0/4, mb1 3.2/5, mb1mx2.9/22, mbtmp3.7/5, Error ellipse: s-maj=47.8km s-min=23.0km az=97.0*
ISC 18 14:21:08.4±2.0, 491N±02×1553E±04, h73km±19km, n8, σ0§54/8, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.71**	**18**	*e*PN	**Pn**	**14 21 36.0**	**-0.2**
SKR				*e*S	**Sn**	**14 21 57.5**	**+0.2**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,730nm,0.2s						
SKR				smax			
	comp=E,330nm,0.2s						
ASAJ	**Asahikawa**	**10.03**	**245**	P	**Pn**	**14 23 29.6**	**0.0**
	comp=E,1.2nm,0.3s,baz=67,slow=12,SNR=14						
ASAJ	**Asahikawa**	**10.03**	**245**	PN	**Pn**	**14 23 29.6**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**62.57**	**335**	P	**P**	**14 31 24.6**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=45,slow=4.1,SNR=6.2						
FINES	**FINESS Array B**	**62.57**	**335**	P	**P**	**14 31 24.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**71.18**	**201**	P	**P**	**14 32 18.8**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=16,slow=6.3,SNR=7.1						
ASAR	**Alice Springs**	**74.87**	**200**	P	**P**	**14 32 41.8**	**+0.7**
	comp=Z,0.2nm,0.6s,mb3.0,baz=13,slow=5.5,SNR=6.3						
TXAR	**Lajitas Array**	**75.11**	**62**	P	pP	14 33 02.0	+0.2
	comp=Z,0.3nm,0.6s,baz=287,slow=4.9,SNR=3.8						

*IDC **18** 14:36:48.1±3.3, 4151S×75.17W, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.0/19, mbtmp3.9/8, ML4.2/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/25, Error ellipse: s-maj=69.7km s-min=32.2km az=178.0*
*ISCJB **18** 14:36:53.3±1.3, 412S±01×750W±0.1, h33km, mb3.8/6, MS3.8/1, Error ellipse: s-maj=18.1km s-min=15.7km az=138.8*
*NEIC **18** 14:36:57.7±1.1, 4092S×7486W, h35km, mb4.3/3, Error ellipse: s-maj=19.2km s-min=18.3km az=159.0*
ISC 18 14:36:57.6±1.0, 409S±01×749W±02, h35km, n16, σ1§26/15, mb3.8/6, MS3.8/1, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.29**	**88**	Pn	**Pn**	**14 37 46.0**	**-0.6**
	3.4nm,0.3s,baz=260,slow=12,SNR=64						
PLCA	**Paso Flores**	**3.29**	**88**	*e*Pn	**Pn**	**14 37 45.9**	**-0.7**
TRQA	**Tornquist**	**10.38**	**78**	*e*Pn	**Pn**	**14 39 23.3**	**-0.5**
CFAA	**Coronel Fontan**	**10.74**	**32**	Pn	**Pn**	**14 39 28.2**	**-0.5**
	0.3nm,0.3s,baz=206,slow=12,SNR=12						
CFAA				Sn	**Sn**	**14 41 34.6**	**+7.0**
	0.1nm,0.3s,baz=295,slow=21,SNR=6.8						
USHA	**Ushuaia**	**14.56**	**165**	LR	LR	14 46 20.0	
	comp=Z,220nm,18.6s,baz=42,slow=41						
LVC	**Limon Verde**	**18.94**	**17**	P	**Pn**	**14 41 17.6**	**+1.2**
	0.2nm,0.3s,baz=180,slow=15,SNR=4.0						
CPUP	**Villa Florida**	**20.57**	**50**	P	**P**	**14 41 35.2**	**+1.9**
	5.4nm,0.6s,baz=217,slow=8.8,SNR=28						
CPUP	**Villa Florida**	**20.57**	**50**	*e*P	**P**	**14 41 34.2**	**+0.9**
	27nm,0.6s						
LPAZ	**La Paz**	**25.24**	**15**	P	**P**	**14 42 23.3**	**+3.1**
	1.9nm,0.8s,mb3.7,baz=189,slow=7.9,SNR=5.7						
LPAZ	**La Paz**	**25.24**	**15**	*e*P	**P**	**14 42 22.9**	**+2.7**
	4.3nm,1.2s,mb3.9						
SIV	**San Ignacio**	**27.58**	**30**	P	**P**	**14 42 41.4**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=195,slow=12,SNR=3.7						
BDFB	**Brasilia**	**34.31**	**51**	P	**P**	**14 43 39.8**	**-0.8**
	1.1nm,0.3s,mb4.2,baz=193,slow=14,SNR=4.0						
QSPA	**South Pole Qui**	**49.32**	**180**	*e*P	**P**	**14 45 44.6**	**+1.5**
	2.6nm,0.8s,mb4.3						
MAW	**Mawson**	**67.18**	**164**	LR	LR	15 14 43.6	
	comp=Z,56nm,20.8s,MS3.8,baz=244,slow=34						
TXAR	**Lajitas Array**	**74.82**	**334**	P	**P**	**14 48 32.9**	**-1.4**
	0.3nm,0.6s,mb3.4,baz=155,slow=9.7,SNR=3.5						
PDAR	**Pinedale Array**	**89.00**	**335**	P	**P**	**14 49 46.9**	**-1.8**
	0.2nm,0.4s,mb3.8,baz=180,slow=1.5,SNR=4.0						

*ISCJB **18** 15:39:08.0±1.3, 4465N±007×1749E±007, h5km±8km, Error ellipse: s-maj=13.1km s-min=4.8km az=62.8*
*VIE **18** 15:39:10.5±0.5, 4469N×1744E, h10km, mb2.3/2, ML2.3/3, Error ellipse: s-maj=6.5km s-min=3.1km az=27.0 69 km SW of Slavonsky Brod*
ISC 18 15:39:09.1±1.4, 4457N±007×1747E±007, h9km±8km, n10, σ0§79/19, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISC	**Sisak**	**1.19**	**320**	Sn	**Sn**	**15 39 51.0**	**+2.7**
BBLS	**Bajina Basta -**	**1.56**	**116**	*i* Pg	**Pn**	**15 39 37.1**	**+0.1**
BBLS				Sg	**Sn**	**15 39 57.1**	**-0.3**
BOJS	**Bojanci**	**1.83**	**302**	*i* Pn	**Pn**	**15 39 40.3**	**-0.4**
BOJS				*e*Sg	**Sn**	**15 40 04.2**	**+0.1**
NVLJ	**Novalja**	**1.86**	**271**	*i* Pn	**Pn**	**15 39 40.5**	**-0.6**
NVLJ				*i* Sn	**Sn**	**15 40 05.2**	**+0.4**
DIVS	**Divcibare**	**1.87**	**104**	*i* Pn	**Pn**	**15 39 43.2**	**+1.9**
DIVS				Sn	**Sn**	**15 40 04.6**	**-0.4**
VISS	**Visnje**	**2.23**	**305**	*i* Pn	**Pn**	**15 39 45.7**	**-0.6**
VISS				*i* Sn	**Sg**	**15 40 20.3**	**-0.5**
OBKA	**Obir**	**2.83**	**314**	⇓*i*Pn	**Pn**	**15 39 54.5**	**+0.1**
OBKA				⇓*i*Sn	**Sn**	**15 40 28.4**	**-0.2**
OBKA				⇑*i*Sg	**Sg**	**15 40 40.5**	**+0.7**
	6.4nm,0.4s						
ARSA	**Arzberg**	**3.01**	**334**	⇑*i*Pn	**Pn**	**15 39 56.1**	**-0.8**
ARSA				⇑*i*Sn	**Sn**	**15 40 32.4**	**-0.8**
MOA	**Moln**	**3.96**	**327**	⇓*i*Sn	**Sn**	**15 40 56.6**	**-0.1**
MOA	**Moln**	**3.96**	**327**	⇑*i*Pn	**Pn**	**15 40 10.3**	**+0.2**
MOA				⇓*i*Sn	**Sn**	**15 40 56.6**	**-0.1**

*ISCJB **18** 15:40:04.5±0.8, 1073N±003×6149W±005, h72km±7km, Error ellipse: s-maj=8.8km s-min=5.3km az=40.4*
*FUNV **18** 15:40:06.7, 1070N×6146W, h61km, MW3.1*
*NEIC **18** 15:40:07.2, 1080N×6145W, h42km, MD2.7(TRN), After TRN.*
*TRN **18** 15:40:07.1, 1080N×6145W, h44km, MD2.7*
ISC 18 15:40:05.8±0.8, 1074N±003×6148W±005, h61km±7km, n24, σ0§77/44, 4C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.12**	**142**	⇑*i*P	**Pn**	**15 40 14.1**	**-0.9**
TRN				*e*S	**Sn**	**15 40 19.3**	**-2.4**
TCE	**Chacachacare**	**0.28**	**261**	⇓*i*P	**Pn**	**15 40 16.3**	**+0.5**
TCE				*e*S	**Sn**	**15 40 22.6**	**-0.5**
TPP	**Pointe-a-Pierr**	**0.42**	**177**	⇑*e*P	**Pn**	**15 40 18.2**	**+1.2**
TPP				*e*S	**Sn**	**15 40 26.9**	**+1.7**
TBH	**Brigand Hill**	**0.48**	**122**	⇑*i*P	**Pn**	**15 40 17.5**	**-0.1**
TBH				*e*S	**Sn**	**15 40 26.4**	**+0.2**
GUIV	**Guiria**	**0.74**	**263**	*e*P	**Pn**	**15 40 21.2**	**+0.6**
GUIV				*e*S	**Sn**	**15 40 32.0**	**+0.6**
TPR	**Prospect**	**0.82**	**57**	⇑*i*P	**Pn**	**15 40 21.3**	**-0.2**
TPR				*e*S	**Sn**	**15 40 33.0**	**-0.1**
GRW	**Mount Saint Ca**	**1.42**	**353**	⇓*i*P	**Pn**	**15 40 29.9**	**+0.4**
GRW				*e*S	**Sn**	**15 40 47.2**	**-0.1**
GRHS	**Sauteurs**	**1.48**	**354**	*e*P	**Pn**	**15 40 29.9**	**-0.4**
GRHS	**Sauteurs**	**1.48**	**354**	*e*P	**Pn**	**15 40 31.1**	**+0.9**
GRHS	**Sauteurs**	**1.48**	**354**	*e*P	**Pn**	**15 40 31.1**	**+0.9**
GRHS				*e*S	**Sn**	**15 40 47.6**	**-1.1**
GRHS				*e*S	**Sn**	**15 40 50.2**	**+1.5**
GRHS	**Sauteurs**	**1.48**	**354**	*e*P	**Pn**	**15 40 31.1**	**+0.9**
GRHS				*e*S	**Sn**	**15 40 47.6**	**-1.1**
GRIC	**Isle de Caille**	**1.54**	**356**	*e*P	**Pn**	**15 40 31.0**	**-0.1**
GRIC	**Isle de Caille**	**1.54**	**356**	*e*P	**Pn**	**15 40 31.7**	**+0.7**
GRIC				*e*S	**Sn**	**15 40 49.9**	**-0.1**
GRSS	**Sisters**	**1.55**	**355**	*e*P	**Pn**	**15 40 31.4**	**+0.1**
GRSS	**Sisters**	**1.55**	**355**	*e*P	**Pn**	**15 40 31.8**	**+0.6**
GRSS				*e*S	**Sn**	**15 40 50.9**	**+0.5**
GRCU	**Cariacou**	**1.72**	**1**	*e*P	**Pn**	**15 40 33.5**	**+0.1**
GRCU	**Cariacou**	**1.72**	**1**	*e*P	**Pn**	**15 40 33.8**	**+0.3**
GRCU				*e*S	**Sn**	**15 40 54.7**	**+0.3**
GRCU				*e*S	**Sn**	**15 40 55.6**	**+1.2**
GRCU	**Cariacou**	**1.72**	**1**	*e*P	**Pn**	**15 40 33.8**	**+0.3**
GRCU				*e*S	**Sn**	**15 40 54.7**	**+0.3**
FCV	**Fort Charlotte**	**2.41**	**5**	*e*P	**Pn**	**15 40 37.8**	**-5.1**
FCV				*e*S	**Sn**	**15 41 10.2**	**-1.1**
SVB	**Belmont**	**2.52**	**5**	*e*P	**Pn**	**15 40 44.4**	**0.0**
SVB				*e*S	**Sn**	**15 41 13.9**	**-0.2**
SSV	**Crater Summit**	**2.59**	**6**	*e*P	**Pn**	**15 40 45.4**	**+0.1**
SSV				*e*S	**Sn**	**15 41 15.7**	**+0.2**
GURV	**El Guri**	**3.36**	**208**	*e*P	**Pn**	**15 40 55.4**	**-0.4**
CAOV	**Caicara del Or**	**5.87**	**235**	*e*P	**Pn**	**15 41 28.9**	**-1.3**
CAOV				*e*S	**Sn**	**15 42 30.1**	**-5.9**
BAUV	**El Baul**	**6.71**	**255**	*e*P	**Pn**	**15 41 40.8**	**-0.9**
BAUV				*e*S	**Sn**	**15 42 50.2**	**-6.5**

*IPEC **18** 15:42:55.2±0.3, 5156N×1622E, h0km, ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*NEIC **18** 15:42:56.4±1.1, 5147N×1607E, h5km, ML2.7(SZGRF), Error ellipse: s-maj=12.4km s-min=5.0km az=191.0*
*CSEM **18** 15:42:56.5±0.2, 5149N×1613E, h2km, ML3.1/6, Error ellipse: s-maj=2.7km s-min=1.5km az=12.0*
*PRU **18** 15:42:57.6, 5142N×1607E, h0km*
*VIE **18** 15:42:57.6±0.4, 5134N×1616E, h0km, mb2.2/2, ML2.6/4, Error ellipse: s-maj=2.7km s-min=2.6km az=169.0 65 km WNW of Breslau Suspected Mining induced.*
WAR 18 15:42:56.7, 5151N×1611E, ML2.5, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	Pg	15 43 09.1	-0.7
KSP				*e*Sg	Sg	15 43 18.5	-0.1
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	Pg	15 43 09.1	-0.7
KSP				*e*Sg	Sg	15 43 17.8	-0.8
UPC	**Upice**	**1.01**	**184**	*e*PG	Pg	15 43 14.9	-1.2
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	Pg	15 43 17.8	-1.4
DPC				*e*PG	Pg	15 43 17.9	-1.3
DPC				*e*SG	Sg	15 43 32.8	-1.6
	30nm,0.8s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	Pg	15 43 17.9	-1.3
DPC				*e*Sg	Sg	15 43 33.0	-1.4
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	Pg	15 43 21.8	-1.5
PVCC				*e*SG	Sg	15 43 40.8	-0.4
	70nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pg	Pg	15 43 22.3	-1.0
PVCC				*e*Sg	Sg	15 43 40.8	-0.4
BRG	**Berggiesshubel**	**1.51**	**246**	PG	Pg	15 43 24.3	-1.3
BRG				SG	Sg	15 43 44.8	-0.4
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	Pg	15 43 28.8	-2.9
PRU				*e*SG	Sg	15 43 53.1	-2.2
	22nm,0.3s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	Pn	15 43 29.1	-2.0
CLL				*e*Pg	Pg	15 43 32.0	-2.2
CLL				*e*Sg	Sg	15 43 59.0	-0.6
CLL	**Collm**	**1.96**	**265**	*i* Pn	Pn	15 43 29.1	-2.0
	comp=Z,5.0nm,0.4s						
CLL				*e*Pg	Pg	15 43 32.0	-2.2
CLL				*e*x	x	15 43 37.0	
CLL				*e*Sg	Sg	15 43 59.0	-0.

2.7nm,0.2s
MEZF Maizieres J'vi 1.25 284 *e*Pg **Pg 16 21 40.3 +0.2**
baz=108
MEZF *e*Sg **Sg 16 21 56.8 +0.4**
3.3nm,0.2s
CABF La Chapelle 1.69 199 *e*Pn **Pn 16 21 45.5 +0.1**
LOR Lormes 2.24 246 *e*Pn **Pn 16 21 52.2 -0.9**
LOR Lormes 2.24 246 *e*P **Pn 16 21 55.1 +2.0**
LOR *e*Sg **Sg 16 22 27.5 -0.7**
0.9nm,0.2s
SMF Signal de Mont 2.59 234 *e*Pn **Pn 16 21 57.2 -0.6**
SMF Signal de Mont 2.59 234 *e*Pg **Pg 16 22 04.9 -0.7**
SMF *e*Sg **Sg 16 22 38.1 -1.1**
0.9nm,0.2s

IGQ 18 16:31:59.0, 454S×7949W, h25km±6km, Mb4.3, Ms4.1, 3C-2D, Error ellipse: s-maj=36.4km s-min=6.5km az=16.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.15**	**16**	P	Pn	16 32 48.9	+2.0
IGUA				S	Sn	16 33 24.4	+0.8
ARRY	**Arrayan**	**3.19**	**19**	⇑P	Pn	16 32 48.1	+0.7
ARRY				S	Sn	16 33 25.4	+0.8
PATA	**Patacocha**	**3.20**	**19**	P	Pn	16 32 49.5	+1.9
PATA				S	Sn	16 33 27.2	+2.3
RETU	**Refugio**	**3.24**	**19**	⇓P	Pn	16 32 51.9	+3.7
RETU				S	Sn	16 33 27.5	+1.6
ULBA	**Ulba**	**3.25**	**19**	P	Pn	16 32 52.1	+3.7
ULBA				S	Sn	16 33 29.1	+2.7
JUIV	**Juive**	**3.26**	**18**	P	Pn	16 32 51.3	+2.8
JUIV				S	Sn	16 33 27.4	+1.0
CAMI	**Rancho Maria**	**3.96**	**14**	P	Pn	16 33 01.9	+3.8
VC1	**Cotopaxi 1**	**4.02**	**16**	P	Pn	16 33 01.1	+2.2
ANTI	**Antisana**	**4.28**	**18**	⇑P	Pn	16 33 06.3	+3.9
JUA2	**San Juan 2**	**4.39**	**12**	P	Pn	16 33 09.2	+5.2
TERV	**Terraza Guagua**	**4.43**	**12**	⇑P	Pn	16 33 06.7	+2.2
GGP	**Refugio Guagua**	**4.43**	**12**	P	Pn	16 33 06.3	+1.8
GGP				S	Sn	16 33 57.6	+2.3
PINO	**Pino**	**4.44**	**11**	⇓P	Pn	16 33 06.6	+1.9
PINO				S	Sn	16 33 59.4	+3.8
YANA	**Yana**	**4.49**	**12**	P	Pn	16 33 08.6	+3.2
CAYR	**Refugio Cayamb**	**4.76**	**18**	P	Pn	16 33 14.5	+5.4
CONE	**Cono NE Rev Vo**	**4.81**	**23**	P	Pn	16 33 22.9	+13
CAYA	**Cayambe**	**4.82**	**18**	P	Pn	16 33 16.1	+6.2

IDC 18 16:42:29.3±3.1, 552S×15097E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML2.1/1, MS3.9/1, Ms1 3.9/1, ms1mx2.4/20, Error ellipse: s-maj=112.0km s-min=38.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**224**	Pn	Pn	16 43 52.3	+1.2
	0.4nm,0.3s,baz=121,slow=14,SNR=2.5						
PMG				Sn	Sn	16 44 53.6	-0.3
	0.7nm,0.3s,baz=153,slow=15,SNR=2.8						
WB2	**Warramunga Arr**	**21.60**	**227**	*e*P	P	16 47 20.6	-0.1
WRA	**Warramunga Arr**	**21.61**	**227**	P	P	16 47 21.2	+0.4
	0.6nm,0.5s,baz=53,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.40**	**221**	P	P	16 47 49.5	+0.3
	0.6nm,0.5s,baz=54,slow=9.3,SNR=17						
ASPA	**Alice Springs**	**24.40**	**221**	*e*P	P	16 47 49.6	+0.3
FITZ	**Fitzroy Crossi**	**27.71**	**241**	P	P	16 48 19.7	+0.4
	0.9nm,0.7s,baz=61,slow=10,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc	PKPbc	17 02 19.1	+0.5
	0.9nm,0.7s,baz=104,slow=2.9,SNR=6.1						

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*ROM **18** 17:17:35.8±0.2, 4594N×745E, h11km±3km, Md2.2/6, Ml2.3/2, Error ellipse: s-maj=4.0km s-min=1.9km az=93.0*
*ISCJB **18** 17:17:35.3±0.2, 4594N±001×738E±002, h10km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=10.6*
*NEIC **18** 17:17:35.8, 4594N×745E, h11km, ML2.0(ZUR), ML2.3(ROM), ML2.6(STR), ML2.7(LDG), After ROM.*
*CSEM **18** 17:17:36.5±0.1, 4587N×749E, h8km, ML2.7/21, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0*
*STR **18** 17:17:36.8±0.3, 4591N×743E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **18** 17:17:36.4, 4593N×745E, h4km, ML2.0*
*ZUR **18** 17:17:36.8, 4595N×747E, h2km±2km, ML2.0/7*
*LDG **18** 17:17:37.2±0.1, 4591N×745E, h2km, Md2.7/2, Ml2.7/21, Error ellipse: s-maj=1.9km s-min=0.9km az=98.0*
ISC 18 17:17:36.3±0.2, 4592N±001×741E±002, h12km±2km, n85, σ0s78/171, 9C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.16**	**359**	⇑*i*Pg	**Pg**	**17 17 39.9**	**-0.1**
	3μm,0.2s						
DIX				*i* Sg	**Sg**	**17 17 41.9**	**-0.7**
	3μm,0.2s						
DIX	**Grande Dixence**	**0.16**	**359**	⇑*i*Pg	**Pg**	**17 17 39.9**	**-0.1**
	3μm,0.2s						
DIX				Sg	**Sg**	**17 17 41.8**	**-0.8**
MRGE	**Morge**	**0.29**	**239**	Pg	**Pg**	**17 17 42.7**	**+0.5**
MRGE				Sg	**Sg**	**17 17 46.7**	**+0.6**
	196nm,0.1s						
SALAN	**Lac Salanfe**	**0.38**	**307**	⇑*i*Pg	**Pg**	**17 17 44.4**	**+0.5**
	85nm,0.3s						
EMV	**Vieux Emosson**	**0.39**	**292**	⇑*i*Pg	**Pg**	**17 17 44.7**	**+0.7**
	571nm,0.2s						
EMV				*e*Sg	**Sg**	**17 17 49.8**	**+0.6**
	571nm,0.2s						
GRYON	**Gryon**	**0.39**	**328**	⇑*i*Pg	**Pg**	**17 17 44.3**	**+0.2**
	58nm,0.2s						
MMK	**Mattmark**	**0.41**	**71**	⇓*i*Pg	**Pg**	**17 17 43.6**	**-0.7**
	259nm,0.1s						
MMK	**Mattmark**	**0.41**	**71**	Pg	**Pg**	**17 17 43.7**	**-0.6**
MMK				Sg	**Sg**	**17 17 49.5**	**-0.3**
SENIN	**Lac Senin/Sane**	**0.45**	**350**	⇑*i*Pg	**Pg**	**17 17 45.1**	**-0.1**
	94nm,0.3s						
ORX	**Oropa**	**0.49**	**125**	P	**Pg**	**17 17 45.8**	**-0.1**
ORO	**Oropa**	**0.49**	**126**	Pg	**Pg**	**17 17 45.8**	**-0.1**
ORO				Sg	**Sg**	**17 17 52.2**	**-0.3**
	86nm,0.2s						
LSD	**Ceresole Reale**	**0.49**	**202**	P	**Pg**	**17 17 46.6**	**+0.6**
RSL	**Roselend**	**0.60**	**248**	Pg	**Pg**	**17 17 48.6**	**+0.7**
RSL				Sg	**Sg**	**17 17 56.6**	**+0.8**
LPL	**La Plagne**	**0.62**	**230**	*e*Pg	**Pg**	**17 17 48.9**	**+0.5**
LPL				*e*Sg	**Sg**	**17 17 58.2**	**+1.6**
	32nm,0.3s						
LPL	**La Plagne**	**0.62**	**230**	*e*Pg	**Pg**	**17 17 48.9**	**+0.5**
LPL				*e*Sg	**Sg**	**17 17 58.2**	**+1.6**
	16nm,0.3s						
LPG	**La Plagne**	**0.63**	**228**	*e*Pg	**Pg**	**17 17 48.9**	**+0.4**
LPG				*e*Sg	**Sg**	**17 17 58.1**	**+1.4**
	17nm,0.2s						
LPG	**La Plagne**	**0.63**	**228**	*e*Pg	**Pg**	**17 17 48.9**	**+0.4**
LPG				*e*Sg	**Sg**	**17 17 58.1**	**+1.4**
	8.4nm,0.2s						
OG01	**Vacheresse**	**0.65**	**309**	Pg	**Pg**	**17 17 49.9**	**+0.9**
RSP	**Reno Superiore**	**0.77**	**188**	Pg	**Pg**	**17 17 51.4**	**+0.1**
RSP				Sg	**Sg**	**17 18 01.8**	**+0.4**
	108nm,0.2s						
RRL	**Cesana Torines**	**1.09**	**204**	P	**Pb**	**17 17 57.1**	**0.0**
OG22	**Abries**	**1.14**	**197**	Pg	**Pg**	**17 17 58.5**	**+0.2**
OG22				Sg	**Sg**	**17 18 13.8**	**+0.6**
CABF	**La Chapelle**	**1.15**	**307**	*e*Pg	**Pg**	**17 17 59.4**	**+1.0**
CABF				*e*Sg	**Sg**	**17 18 14.6**	**+1.2**
	18nm,0.3s						
CABF	**La Chapelle**	**1.15**	**307**	*e*Pg	**Pg**	**17 17 59.4**	**+1.0**
CABF				*e*Sg	**Sg**	**17 18 14.6**	**+1.2**
	8.9nm,0.3s						
MBDF	**Montbardon**	**1.27**	**201**	*e*Pg	**Pg**	**17 18 01.6**	**+0.8**
MBDF				*e*Sg	**Sg**	**17 18 17.2**	**-0.1**
	34nm,0.4s						
MBDF	**Montbardon**	**1.27**	**201**	*e*Pn	**Pn**	**17 18 00.9**	**+1.0**
MBDF				*e*Pg	**Pg**	**17 18 01.6**	**+0.8**
MBDF				*e*Sg	**Sg**	**17 18 17.2**	**-0.1**
MBDF	**Montbardon**	**1.27**	**201**	*e*Pg	**Pg**	**17 18 01.6**	**+0.8**
MBDF				*e*Sg	**Sg**	**17 18 17.2**	**-0.1**
	17nm,0.4s						
PZZ	**Prazzo**	**1.43**	**189**	P	**Pn**	**17 18 01.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**1.47**	**228**	*e*Pg	**Pg**	**17 18 05.3**	**+0.8**
ORIF				*e*Sg	**Sg**	**17 18 24.4**	**+0.7**
	19nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.47**	**228**	*e*Pg	**Pg**	**17 18 05.3**	**+0.8**
ORIF				*e*Sg	**Sg**	**17 18 24.4**	**+0.7**
	9.4nm,0.4s						
LOMF	**Lomont**	**1.49**	**344**	Pg	**Pg**	**17 18 04.3**	**-0.6**
BBS	**Basel-Blauen**	**1.55**	**2**	Pg	**Pg**	**17 18 06.7**	**+0.7**
BBS				Sg	**Sg**	**17 18 27.8**	**+1.7**
ROB	**Roburent**	**1.66**	**169**	P	**Pn**	**17 18 05.3**	**+0.1**
STV	**Sta Anna Valdi**	**1.68**	**182**	P	**Pn**	**17 18 05.1**	**-0.3**
ENR	**Entracque**	**1.69**	**180**	P	**Pn**	**17 18 05.1**	**-0.6**
FIN	**Finale Ligure**	**1.80**	**161**	P	**Pn**	**17 18 06.3**	**-0.8**
MONE	**Monesi**	**1.85**	**172**	P	**Pn**	**17 18 08.0**	**+0.1**
HINF	**Hinteralfeld**	**1.94**	**349**	*e*Pg	**Pg**	**17 18 13.4**	**-0.1**
HINF				*e*Sn	**Sn**	**17 18 33.3**	**0.0**
	9.7nm,0.2s						
HINF	**Hinteralfeld**	**1.94**	**349**	*e*Pn	**Pn**	**17 18 09.9**	**+0.8**
HINF				*e*Pg	**Pg**	**17 18 13.4**	**-0.1**
HINF				*e*Sn	**Sn**	**17 18 33.3**	**0.0**
HINF	**Hinteralfeld**	**1.94**	**349**	*e*Pg	**Pg**	**17 18 13.4**	**-0.1**
HINF				*e*Sn	**Sn**	**17 18 33.3**	**0.0**
	4.8nm,0.2s						
MOF	**Molkenrain**	**1.94**	**354**	Pg	**Pg**	**17 18 13.4**	**-0.2**
SBF	**Sospel**	**2.06**	**180**	*e*Pn	**Pn**	**17 18 10.9**	**+0.2**
SBF				*e*Sn	**Sn**	**17 18 34.8**	**-1.4**
SBF				*e*Sg	**Sg**	**17 18 41.1**	**-1.2**
	14nm,0.4s						
SBF	**Sospel**	**2.06**	**180**	*e*Pn	**Pn**	**17 18 10.9**	**+0.2**
SBF				*e*Sn	**Sn**	**17 18 34.8**	**-1.4**
SBF				*e*Sg	**Sg**	**17 18 41.1**	**-1.2**
	6.9nm,0.4s						
NEGI	**Negi**	**2.08**	**174**	P	**Pn**	**17 18 10.4**	**-0.6**
DAVA	**Damuels**	**2.18**	**50**	⇑*i*Pg	**Pg**	**17 18 18.1**	**0.0**
DAVA				⇑*i*Sg	**Sg**	**17 18 47.6**	**+1.2**
	comp=Z,6.6nm,0.4s						
DAVA	**Damuels**	**2.18**	**50**	⇑*i*Pg	**Pg**	**17 18 18.1**	**0.0**
DAVA				*i* Sg	**Sg**	**17 18 47.6**	**+1.2**
VIVF	**Saint-Julien-l**	**2.20**	**242**	*e*Pg	**Pg**	**17 18 18.6**	**+0.1**
VIVF				*e*Sn	**Sn**	**17 18 40.0**	**+0.1**
VIVF				*e*Sg	**Sg**	**17 18 47.4**	**+0.3**
	12nm,0.4s						
VIVF	**Saint-Julien-l**	**2.20**	**242**	*e*Pg	**Pg**	**17 18 18.6**	**+0.1**
VIVF				*e*Sn	**Sn**	**17 18 40.0**	**+0.1**
VIVF				*e*Sg	**Sg**	**17 18 47.4**	**+0.3**
	6.0nm,0.4s						
HAU	**Haudompre**	**2.21**	**341**	*e*Pg	**Pg**	**17 18 18.7**	**0.0**
HAU				*e*Sg	**Sg**	**17 18 47.2**	**-0.2**
	10.0nm,0.3s						
HAU	**Haudompre**	**2.21**	**341**	*e*Pn	**Pn**	**17 18 13.4**	**+0.6**
HAU				*e*Pg	**Pg**	**17 18 18.7**	**0.0**
HAU				*e*Sg	**Sg**	**17 18 47.2**	**-0.2**
HAU	**Haudompre**	**2.21**	**341**	*e*Pg	**Pg**	**17 18 18.7**	**0.0**
HAU				*e*Sg	**Sg**	**17 18 47.2**	**-0.2**
	5.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.34**	**215**	*e*Pg	**Pg**	**17 18 20.5**	**-0.6**
SMRF				*e*Sg	**Sg**	**17 18 51.3**	**-0.2**
	1.9nm,0.3s						
SMRF	**Simiane la Rot**	**2.34**	**215**	*e*Pg	**Pg**	**17 18 20.5**	**-0.6**
SMRF				*e*Sg	**Sg**	**17 18 51.3**	**-0.2**
	0.9nm,0.3s						
FRF	**La Foret Royal**	**2.42**	**193**	*e*Pg	**Pg**	**17 18 21.1**	**-1.6**
FRF				*e*Sg	**Sg**	**17 18 53.0**	**-1.0**
	5.7nm,0.3s						
FRF	**La Foret Royal**	**2.42**	**193**	*e*Pg	**Pg**	**17 18 21.1**	**-1.6**
FRF				*e*Sg	**Sg**	**17 18 53.0**	**-1.0**
	2.8nm,0.3s						
CDF	**Champ du Feu**	**2.50**	**358**	*e*Pg	**Pg**	**17 18 23.6**	**-0.6**
CDF				*e*Sn	**Sn**	**17 18 46.6**	**-0.5**
CDF				*e*Sg	**Sg**	**17 18 55.7**	**-0.8**
	7.5nm,0.4s						
CDF	**Champ du Feu**	**2.50**	**358**	*e*Pn	**Pn**	**17 18 17.4**	**+0.7**
CDF				*e*Pg	**Pg**	**17 18 23.6**	**-0.6**
CDF				*e*Sn	**Sn**	**17 18 46.6**	**-0.5**
CDF				*e*Sg	**Sg**	**17 18 55.7**	**-0.8**
CDF	**Champ du Feu**	**2.50**	**358**	*e*Pg	**Pg**	**17 18 23.6**	**-0.6**
CDF				*e*Sn	**Sn**	**17 18 46.6**	**-0.5**
CDF				*e*Sg	**Sg**	**17 18 55.7**	**-0.8**
	3.8nm,0.4s						
SMF	**Signal de Mont**	**2.58**	**288**	*e*Pg	**Pg**	**17 18 26.1**	**+0.3**
SMF				*e*Sg	**Sg**	**17 18 57.8**	**-1.5**
	8.8nm,0.2s						
SMF	**Signal de Mont**	**2.58**	**288**	*e*Pn	**Pn**	**17 18 19.4**	**+1.5**
SMF				*e*Pg	**Pg**	**17 18 26.1**	**+0.3**
SMF				*e*Sg	**Sg**	**17 18 57.8**	**-1.5**
SMF	**Signal de Mont**	**2.58**	**288**	*e*Pg	**Pg**	**17 18 26.1**	**+0.3**
SMF				*e*Sg	**Sg**	**17 18 57.8**	**-1.5**
	4.4nm,0.2s						
LMR	**La Mourre**	**2.66**	**194**	*e*Sg	**Sg**	**17 19 00.4**	**-1.5**
	1.7nm,0.2s						
LMR	**La Mourre**	**2.66**	**194**	*e*Sg	**Sg**	**17 19 00.4**	**-1.5**
	0.9nm,0.2s						
LOR	**Lormes**	**2.80**	**300**	*e*Pg	**Pg**	**17 18 29.5**	**-0.4**
LOR				*e*Sg	**Sg**	**17 19 04.3**	**-1.9**
	11nm,0.3s						
LOR	**Lormes**	**2.80**	**300**	*e*Pn	**Pn**	**17 18 21.4**	**+0.5**
LOR				*e*Pg	**Pg**	**17 18 29.5**	**-0.4**
LOR				*e*Sg	**Sg**	**17 19 04.3**	**-1.9**
LOR	**Lormes**	**2.80**	**300**	*e*Pg	**Pg**	**17 18 29.5**	**-0.4**
LOR				*e*Sg	**Sg**	**17 19 04.3**	**-1.9**
	5.4nm,0.3s						
SFTF	**Sexfontaines**	**2.81**	**325**	*e*Pg	**Pg**	**17 18 29.4**	**-0.7**
SFTF				*e*Sg	**Sg**	**17 19 06.0**	**-0.4**
	4.5nm,0.3s						
SFTF	**Sexfontaines**	**2.81**	**325**	*e*Pn	**Pn**	**17 18 21.4**	**+0.4**
SFTF				*e*Pg	**Pg**	**17 18 29.4**	**-0.7**
SFTF				*e*Sg	**Sg**	**17 19 06.0**	**-0.4**
SFTF	**Sexfontaines**	**2.81**	**325**	*e*Pg	**Pg**	**17 18 29.4**	**-0.7**
SFTF				*e*Sg	**Sg**	**17 19 06.0**	**-0.4**
	2.2nm,0.3s						
SSF	**Saint Saulge**	**2.93**	**294**	*e*Pg	**Pg**	**17 18 32.1**	**-0.4**
SSF				*e*Sn	**Sn**	**17 18 57.5**	**-0.4**
SSF				*e*Sg	**Sg**	**17 19 10.1**	**-0.4**
	5.6nm,0.4s						
SSF	**Saint Saulge**	**2.93**	**294**	*e*Pn	**Pn**	**17 18 23.8**	**+1.1**
SSF				*e*Pg	**Pg**	**17 18 32.1**	**-0.4**
SSF				*e*Sn	**Sn**	**17 18 57.5**	**-0.4**
SSF				*e*Sg	**Sg**	**17 19 10.1**	**-0.4**
SSF	**Saint Saulge**	**2.93**	**294**	*e*Pg	**Pg**	**17 18 32.1**	**-0.4**
SSF				*e*Sn	**Sn**	**17 18 57.5**	**-0.4**
SSF				*e*Sg	**Sg**	**17 19 10.1**	**-0.4**
	2.8nm,0.4s						
AVF	**Avril sur Loir**	**2.94**	**289**	*e*Pn	**Pn**	**17 18 24.7**	**+1.8**
AVF				*e*Sn	**Sn**	**17 18 57.4**	**-0.8**
AVF				*e*Sg	**Sg**	**17 19 08.9**	**-2.0**
	3.8nm,0.3s						
AVF	**Avril sur Loir**	**2.94**	**289**	*e*Pn	**Pn**	**17 18 24.7**	**+1.8**
AVF				*e*Sn	**Sn**	**17 18 57.4**	**-0.8**
AVF				*e*Sg	**Sg**	**17 19 08.9**	**-2.0**
	1.9nm,0.3s						
RFYF	**Reffroy**	**3.02**	**335**	*e*Pg	**Pg**	**17 18 33.8**	**-0.3**
RFYF				*e*Sg	**Sg**	**17 19 12.1**	**-1.1**
	6.7nm,0.2s						
RFYF	**Reffroy**	**3.02**	**335**	*e*Pn	**Pn**	**17 18 23.8**	**-0.1**
RFYF				*e*Pg	**Pg**	**17 18 33.8**	**-0.3**
RFYF				*e*Sg	**Sg**	**17 19 12.1**	**-1.1**
RFYF	**Reffroy**	**3.02**	**335**	*e*Pg	**Pg**	**17 18 33.8**	**-0.3**
RFYF				*e*Sg	**Sg**	**17 19 12.1**	**-1.1**
	3.3nm,0.2s						
MEZF	**Maizieres J'vi**	**3.04**	**329**	*e*Pn	**Pn**	**17 18 24.8**	**+0.5**
LASF	**Ste Croix**	**3.12**	**235**	*e*Pg	**Pg**	**17 18 35.4**	**-0.7**
LASF				*e*Sg	**Sg**	**17 19 16.0**	**-0.6**
	0.7nm,0.2s						
LASF	**Ste Croix**	**3.12**	**235**	*e*Pg	**Pg**	**17 18 35.4**	**-0.7**
LASF				*e*Sg	**Sg**	**17 19 16.0**	**-0.6**
	0.3nm,0.2s						
BGF	**Bois d'Agland**	**3.23**	**283**	*e*Pg	**Pg**	**17 18 38.1**	**-0.1**
BGF				*e*Sg	**Sg**	**17 19 19.7**	**-0.5**
	10nm,0.3s						
BGF	**Bois d'Agland**	**3.23**	**283**	*e*Pn	**Pn**	**17 18 27.9**	**+1.0**
BGF				*e*Pg	**Pg**	**17 18 38.1**	**-0.1**
BGF				*e*Sg	**Sg**	**17 19 19.7**	**-0.5**
BGF	**Bois d'Agland**	**3.23**	**283**	*e*Pg	**Pg**	**17 18 38.1**	**-0.1**
BGF				*e*Sg	**Sg**	**17 19 19.7**	**-0.5**
	5.2nm,0.3s						
HYF	**Humbligny**	**3.56**	**294**	*e*Sg	**Sg**	**17 19 29.6**	**-1.0**
TCF	**Toulx Ste Croi**	**3.64**	**278**	*e*Pg	**Pg**	**17 18 45.1**	**-0.9**
TCF				*e*Sg	**Sg**	**17 19 32.0**	**-1.2**
	3.0nm,0.2s						
TCF	**Toulx Ste Croi**	**3.64**	**278**	*e*Pg	**Pg**	**17 18 45.1**	**-0.9**
TCF				*e*Sg	**Sg**	**17 19 32.0**	**-1.2**
	1.5nm,0.2s						

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*NEIC **18** 17:25:29.9, 3928N×2096E, h28km, MD3.2(ATH), After ATH.*
*ATH **18** 17:25:29.9, 3929N×2096E, h28km±2km, MD3.2/4*
*ISCJB **18** 17:25:30.2±0.6, 3926N±003×2090E±004, h4km±6km, Error ellipse: s-maj=5.8km s-min=4.6km az=43.0*
*CSEM **18** 17:25:31.0±0.1, 3923N×2091E, h0km, MD3.2, Error ellipse: s-maj=2.5km s-min=2.4km az=54.0*
*THE **18** 17:25:31.9, 3923N×2077E, h16km, ML2.5*
ISC 18 17:25:30.9±0.6, 3925N±003×2089E±004, h6km±6km, n11, σ0s81/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.41**	**356**	*e*PB	**Pg**	**17 25 38.2**	**-0.5**
JAN				*e*SB	**Sg**	**17 25 44.5**	**+0.4**
IGT	**Igoumenitsa**	**0.52**	**303**	*e*Pg	**Pg**	**17 25 41.1**	**+0.2**
IGT				*e*Sg	**Sg**	**17 25 47.8**	**+0.2**
LKD	**Levkas**	**0.57**	**199**	*e*Pg	**Pg**	**17 25 41.7**	**-0.2**
LKD				*e*Sg	**Sg**	**17 25 50.5**	**+1.0**
EVR	**Evrytania**	**0.79**	**115**	*e*PN	**Pg**	**17 25 45.0**	**-1.0**
KEK	**Kerkira**	**0.96**	**299**	*e*PN	**Pg**	**17 25 49.4**	**0.0**
VLS	**Valsamata**	**1.10**	**192**	*e*PN	**Pn**	**17 25 51.7**	**-1.0**
VLS				*e*SN	**Sn**	**17 26 08.0**	**-0.2**
VLS	**Valsamata**	**1.10**	**192**	*e*Pn	**Pn**	**17 25 51.4**	**-1.3**
VLS				*e*Sn	**Sn**	**17 26 08.0**	**-0.2**
AGG	**Agios Georgios**	**1.14**	**101**	*e*Pg	**Pg**	**17 25 53.2**	**+0.4**
AGG				*e*Sg	**Sg**	**17 26 11.0**	**+3.4**
LIT	**Litokhoron**	**1.50**	**55**	*e*Pg	**Pg**	**17 25 59.2**	**-0.4**
LIT				*e*Sg	**Sg**	**17 26 18.5**	**-0.5**
FNA	**Florina**	**1.57**	**14**	*e*Pb	**Pb**	**17 25 59.3**	**-1.1**
FNA				*e*Sb	**Sb**	**17 26 20.2**	**-0.3**
GRG	**Griva**	**2.06**	**34**	*e*Pn	**Pn**	**17 26 07.0**	**+1.1**
GRG				*e*Sn	**Sn**	**17 26 33.1**	**+1.2**

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*ISCJB **18** 17:29:31.1±3.2, 276N±006×1288E±0.1, h243km±34km, mb4.3/26, Error ellipse: s-maj=18.1km s-min=9.1km az=152.0*
*IDC **18** 17:29:31.2±1.9, 274N×12866E, h225km±19km, mb3.8/12, mb1 3.9/12, mb1mx3.8/19, mbtmp4.4/12, Error ellipse: s-maj=23.1km s-min=9.1km az=80.0*
*NEIC **18** 17:29:32.7±2.7, 277N×12880E, h243km±30km, mb4.4/11, Error ellipse: s-maj=14.9km s-min=6.7km az=76.0*
*BJI **18** 17:29:32.4, 310N×12876E, h228km, mB4.6, mb4.5*
ISC 18 17:29:32.9±3.1, 276N±006×1288E±01, h244km±34km, n44, σ0s74/44, mb4.3/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.78**	**167**	*e*P	**Pn**	**17 33 02.0**	**-0.6**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.97**	**189**	*e*P	**P**	**17 33 56.5**	**-1.0**
	4.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.97**	**189**	P	**P**	**17 33 56.2**	**-1.3**
	2.7nm,0.4s,baz=18,slow=10,SNR=29						
WRA	**Warramunga Arr**	**23.20**	**167**	P	**P**	**17 34 18.3**	**0.0**
	4.5nm,0.3s,mb4.4,baz=340,slow=11,SNR=65						
WRA				ScP	ScP	17 41 15.5	+2.4
	0.2nm,0.4s,baz=343,slow=2.7,SNR=6.6						
WB2	**Warramunga Arr**	**23.20**	**167**	*e*P	**P**	**17 34 18.1**	**-0.2**
WB2	**Warramunga Arr**	**23.20**	**167**	*e*P	**P**	**17 34 18.8**	**+0.5**
MBWA	**Marble Bar**	**25.39**	**200**	*e*P	**P**	**17 34 37.4**	**-0.6**
AS31	**Alice Springs**	**26.73**	**170**	*e*P	**P**	**17 34 50.5**	**+0.5**
ASAR	**Alice Springs**	**26.73**	**170**	P	**P**	**17 34 50.6**	**+0.6**
	2.5nm,0.4s,mb4.2,baz=350,slow=7.0,SNR=146						
ASAR				ScP	ScP	17 41 25.7	+2.6
	0.4nm,0.5s,baz=350,slow=3.2,SNR=9.7						
ASPA	**Alice Springs**	**26.73**	**170**	*e*P	**P**	**17 34 50.8**	**+0.8**
PSI	**Prapat**	**29.87**	**271**	P	**P**	**17 35 17.4**	**-0.4**
	7.4nm,0.8s,mb4.4,baz=27,slow=4.5,SNR=6.1						
CM31	**Chiang Mai Arr**	**33.17**	**300**	*e*P	**P**	**17 35 47.0**	**+0.4**
FORT	**Forrest**	**33.36**	**181**	*e*P	**P**	**17 35 48.7**	**+0.5**
	18nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**34.71**	**13**	P	**P**	**17 35 59.7**	**-0.1**
	4.6nm,0.7s,mb4.1,baz=187,slow=9.2,SNR=15						
MJAR	**Matsushiro Arr**	**34.71**	**13**	P	**P**	**17 35 59.7**	**-0.1**
MAJO	**Matsushiro**	**34.71**	**13**	*e*P	**P**	**17 35 58.8**	**-1.1**
	2.4nm,0.6s,mb3.9						
MAT	**Matsushiro**	**34.71**	**13**	P	**P**	**17 35 59.3**	**-0.5**
KLBR	**Kellerberrin**	**35.75**	**196**	*e*P	**P**	**17 36 08.3**	**-0.3**
	50nm,1.6s,mb4.8						
STKA	**Stephens Creek**	**36.52**	**162**	P	**P**	**17 36 15.7**	**+0.5**
	4.2nm,0.4s,mb4.4,baz=335,slow=8.1,SNR=31						
STKA	**Stephens Creek**	**36.52**	**162**	*e*P	**P**	**17 36 15.8**	**+0.7**
BJI	**Beijing**	**38.84**	**344**	P	**P**	**17 36 34.8**	**+0.2**

mb1 3.2/4, mb1mx3.0/14, mbtmp3.9/4, Error ellipse: s-maj=101.8km s-min=39.2km az=5.0

ISC 18 17:53:23.5±2.2, 320S±01×1797E±04, h450km, n14, σ0§93/17, mb3.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.63**	**192**	PN	**P**	**17 54 52.5**	**-1.5**
MXZ				SN	**S**	**17 56 07.4**	**-0.6**
PUZ	**Puketiti**	**6.14**	**191**	PN	**P**	**17 54 58.6**	**-0.6**
PUZ				SN	**S**	**17 56 17.0**	**-0.4**
MWZ	**Matawai**	**6.53**	**195**	PN	**P**	**17 55 02.9**	**-0.4**
URZ	**Urewera**	**6.56**	**198**	P	**P**	**17 55 02.4**	**-1.2**
	12nm,0.3s,baz=285,slow=2.8,SNR=66						
URZ				S	**S**	**17 56 24.5**	**-1.0**
	2.9nm,0.3s,baz=231,slow=20,SNR=12						
URZ	**Urewera**	**6.56**	**198**	PN	**P**	**17 55 02.5**	**-1.1**
URZ				SN	**S**	**17 56 26.4**	**+0.9**
KNZ	**Kokohu**	**7.16**	**193**	*e*PN	**P**	**17 55 11.7**	**+1.8**
BKZ	**Black Stump Fm**	**7.58**	**199**	PN	**P**	**17 55 14.6**	**+0.2**
WNVZ	**Wahianoa**	**8.01**	**204**	PN	**P**	**17 55 20.5**	**+1.5**
PXZ	**Pawanui**	**8.30**	**195**	PN	**P**	**17 55 23.0**	**+0.9**
TCW	**Tory Channel**	**10.14**	**204**	PN	**P**	**17 55 43.0**	**+0.9**
ASAR	**Alice Springs**	**41.12**	**270**	P	**P**	**18 00 26.6**	**-0.1**
	0.3nm,0.6s,mb2.9,baz=109,slow=7.7,SNR=9.2						
WRA	**Warramunga Arr**	**42.26**	**275**	P	**P**	**18 00 35.0**	**-0.8**
	0.4nm,0.3s,mb3.3,baz=111,slow=8.0,SNR=24						
FITZ	**Fitzroy Crossi**	**50.45**	**272**	P	**P**	**18 01 38.6**	**+0.3**
	2.5nm,1.1s,mb3.4,baz=108,slow=6.3,SNR=5.0						
FINES	**FINESS Array B**	**145.97**	**338**	PKPbc	PKPdf	18 12 09.3	-0.9
	5.0nm,1.1s,baz=66,slow=4.7,SNR=7.7						

*ISCJB **18** 17:57:09.9±0.9, 31.15S±008×179.4W±0.3, h430km±17km, mb3.9/8, Error ellipse: s-maj=39.2km s-min=8.7km az=27.0*

*IDC **18** 17:57:11.0±1.4, 3100S×17981W, h392km±20km, mb3.5/4, mb1 3.7/5, mb1mx3.4/14, mbtmp4.3/5, Error ellipse: s-maj=41.0km s-min=20.4km az=124.0*

*NEIC **18** 17:57:11.6±0.7, 3096S×17997W, h389km±8km, mb4.2/4, Error ellipse: s-maj=17.3km s-min=7.9km az=95.0*

ISC 18 17:57:12.2±0.8, 3102S±007×1799E±02, h379km±12km, n68, σ0§94/82, mb3.8/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**48**	P	**Pn**	**17 58 09.1**	**-1.4**
	70nm,0.3s,baz=45,slow=15,SNR=6.4						
RAO				S	**S**	**17 58 51.6**	**-5.8**
	131nm,0.3s,baz=44,slow=20,SNR=4.3						
RAO	**Raoul Island**	**2.60**	**48**	P	**Pn**	**17 58 10.0**	**-0.4**
RAO				S	**S**	**17 58 51.6**	**-5.8**
MXZ	**Matakaoa Point**	**6.65**	**191**	*e*P	**Pn**	**17 58 52.2**	**+0.9**
MXZ				S	**S**	**18 00 12.2**	**+0.2**
MXZ	**Matakaoa Point**	**6.65**	**191**	PN	**Pn**	**17 58 51.7**	**+0.4**
MXZ				SN	**S**	**18 00 12.2**	**+0.2**
PUZ	**Puketiti**	**7.16**	**190**	*e*P	**Pn**	**17 58 57.3**	**+0.3**
PUZ				S	**S**	**18 00 19.4**	**-3.2**
PUZ	**Puketiti**	**7.16**	**190**	PN	**Pn**	**17 58 57.3**	**+0.3**
PUZ				SN	**S**	**18 00 23.4**	**+0.9**
MWZ	**Matawai**	**7.55**	**194**	P	**Pn**	**17 59 02.2**	**+0.7**
MWZ				S	**S**	**18 00 31.7**	**+0.9**
MWZ	**Matawai**	**7.55**	**194**	PN	**Pn**	**17 59 01.7**	**+0.3**
MWZ				SN	**S**	**18 00 31.7**	**+1.0**
URZ	**Urewera**	**7.57**	**197**	P	**Pn**	**17 59 01.7**	**-0.1**
	31nm,0.3s,baz=311,slow=2.3,SNR=93						
URZ				S	**S**	**18 00 32.6**	**+1.3**
	50nm,0.3s,baz=234,slow=23,SNR=16						
URZ	**Urewera**	**7.57**	**197**	*e*P	**Pn**	**17 59 01.7**	**-0.1**
URZ	**Urewera**	**7.57**	**197**	PN	**Pn**	**17 59 01.4**	**-0.4**
URZ				SN	**S**	**18 00 31.1**	**-0.1**
KNZ	**Kokohu**	**8.18**	**192**	PN	**Pn**	**17 59 09.3**	**+0.5**
BKZ	**Black Stump Fm**	**8.59**	**198**	*e*P	**Pn**	**17 59 13.6**	**+0.1**
BKZ	**Black Stump Fm**	**8.59**	**198**	PN	**Pn**	**17 59 13.2**	**-0.3**
BKZ				*e*SN	**S**	**18 00 51.8**	**-1.1**
OTVZ	**Oturere**	**8.82**	**202**	PN	**Pn**	**17 59 16.6**	**+0.3**
NGZ	**Ngauruhoe**	**8.86**	**202**	P	**Pn**	**17 59 19.0**	**+2.3**
TUVZ	**Tukino**	**8.92**	**202**	PN	**Pn**	**17 59 18.8**	**+1.4**
FWVZ	**Far West T-bar**	**8.95**	**202**	P	**Pn**	**17 59 19.4**	**+1.7**
FWVZ	**Far West T-bar**	**8.95**	**202**	PN	**Pn**	**17 59 19.4**	**+1.7**
WNVZ	**Wahianoa**	**9.00**	**202**	P	**Pn**	**17 59 19.0**	**+0.7**
WNVZ	**Wahianoa**	**9.00**	**202**	PN	**Pn**	**17 59 19.0**	**+0.7**
MOVZ	**Moawhango**	**9.02**	**201**	PN	**Pn**	**17 59 19.4**	**+0.8**
PXZ	**Pawanui**	**9.32**	**194**	PN	**Pn**	**17 59 20.7**	**-1.4**
PXZ				*e*SN	**S**	**18 01 05.1**	**-3.6**
TSZ	**Takapari Road**	**9.56**	**198**	P	**Pn**	**17 59 24.5**	**-0.5**
TSZ	**Takapari Road**	**9.56**	**198**	PN	**Pn**	**17 59 24.1**	**-0.9**
TSZ				*e*SN	**S**	**18 01 09.9**	**-4.1**
WAZ	**Wanganui**	**9.58**	**203**	P	**Pn**	**17 59 26.7**	**+1.5**
WAZ	**Wanganui**	**9.58**	**203**	PN	**Pn**	**17 59 26.7**	**+1.5**
MRZ	**Mangatainoka R**	**10.23**	**199**	*e*PN	**Pn**	**17 59 31.3**	**-1.4**
MRZ				*e*SN	**S**	**18 01 25.0**	**-3.5**
KIW	**Kapiti Island**	**10.61**	**201**	P	**Pn**	**17 59 37.0**	**-0.2**
KIW	**Kapiti Island**	**10.61**	**201**	*e*PN	**Pn**	**17 59 37.0**	**-0.2**
MTW	**Mount Morrison**	**10.71**	**198**	P	**Pn**	**17 59 38.7**	**+0.2**
MTW	**Mount Morrison**	**10.71**	**198**	*e*PN	**Pn**	**17 59 38.7**	**+0.2**
CAW	**Cannon Point**	**10.79**	**200**	P	**Pn**	**17 59 38.7**	**-0.6**
CAW	**Cannon Point**	**10.79**	**200**	PN	**Pn**	**17 59 38.7**	**-0.6**
DUWZ	**D'Urville Isla**	**10.89**	**205**	PN	**Pn**	**17 59 40.5**	**0.0**
TRWZ	**Traveller**	**10.89**	**197**	PN	**Pn**	**17 59 41.2**	**+0.6**
MRW	**Makara Radio**	**11.01**	**201**	P	**Pn**	**17 59 41.7**	**-0.2**
MRW	**Makara Radio**	**11.01**	**201**	*e*PN	**Pn**	**17 59 41.7**	**-0.2**
MSWZ	**Moikau Station**	**11.02**	**199**	P	**Pn**	**17 59 42.1**	**0.0**
MSWZ	**Moikau Station**	**11.02**	**199**	*e*PN	**Pn**	**17 59 42.1**	**0.0**
SNZO	**South Karori**	**11.08**	**201**	*e*P	**Pn**	**17 59 42.4**	**-0.3**
SNZO				*e*S	**S**	**18 01 42.7**	**-3.8**
SNZO	**South Karori**	**11.08**	**201**	*e*PN	**Pn**	**17 59 42.6**	**-0.2**
TCW	**Tory Channel**	**11.13**	**202**	PN	**Pn**	**17 59 42.4**	**-0.9**
NNZ	**Nelson**	**11.45**	**205**	*e*P	**Pn**	**17 59 46.0**	**-1.0**
NNZ	**Nelson**	**11.45**	**205**	*e*PN	**Pn**	**17 59 46.0**	**-1.0**
QRZ	**Quartz Range**	**11.45**	**209**	*e*P	**Pn**	**17 59 46.5**	**-0.6**
BSWZ	**Blackbirch Sta**	**11.71**	**203**	P	**Pn**	**17 59 49.4**	**-0.7**
BSWZ	**Blackbirch Sta**	**11.71**	**203**	PN	**Pn**	**17 59 49.4**	**-0.7**
THZ	**Tophouse**	**12.10**	**206**	PN	**Pn**	**17 59 53.1**	**-1.6**
KHZ	**Kahutara**	**12.45**	**202**	*e*P	**P**	**17 59 57.8**	**+0.2**
KHZ	**Kahutara**	**12.45**	**202**	PN	**Pn**	**17 59 57.8**	**-1.0**
LTZ	**Lake Taylor**	**13.21**	**205**	*e*P	**P**	**18 00 05.5**	**-0.4**
MQZ	**McQueen's Vall**	**13.90**	**202**	*e*P	**P**	**18 00 14.5**	**+1.1**
ODZ	**Otahua Downs**	**15.76**	**205**	*e*P	**P**	**18 00 39.0**	**+5.3**
CTA	**Charters Tower**	**32.12**	**282**	*e*P	**P**	**18 03 07.4**	**+1.6**
	4.6nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**32.56**	**258**	P	**P**	**18 03 11.0**	**+1.4**
	2.3nm,0.6s,mb3.6,baz=106,slow=9.4,SNR=8.4						
STKA	**Stephens Creek**	**32.56**	**258**	*e*P	**P**	**18 03 11.2**	**+1.6**
AS31	**Alice Springs**	**41.26**	**269**	*e*P	**P**	**18 04 21.4**	**-0.6**
ASAR	**Alice Springs**	**41.26**	**269**	P	**P**	**18 04 21.1**	**-0.9**
	1.5nm,0.5s,mb3.5,baz=106,slow=7.3,SNR=68						
ASPA	**Alice Springs**	**41.27**	**269**	*e*P	**P**	**18 04 21.8**	**-0.2**
WB2	**Warramunga Arr**	**42.30**	**274**	*e*P	**P**	**18 04 29.8**	**-0.4**
WB2	**Warramunga Arr**	**42.30**	**274**	*e*P	**P**	**18 04 29.8**	**-0.4**
WRAB	**Tennant Creek**	**42.30**	**274**	*e*P	**P**	**18 04 29.8**	**-0.5**
	3.2nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**42.31**	**274**	P	**P**	**18 04 30.0**	**-0.3**
	3.6nm,0.4s,mb3.8,baz=111,slow=8.1,SNR=140						
FORT	**Forrest**	**44.13**	**256**	*e*P	**P**	**18 04 44.6**	**-0.1**
	13nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.54**	**271**	P	**P**	**18 05 33.8**	**+0.3**
	1.0nm,0.4s,mb3.4,baz=164,slow=9.1,SNR=11						
QSPA	**South Pole Qui**	**59.09**	**180**	*e*P	**P**	**18 06 34.9**	**+0.9**
	7.1nm,1.0s,mb4.0						
FINES	**FINESS Array B**	**145.07**	**338**	PKPbc	PKPbc	18 16 01.3	-4.0
	0.6nm,0.3s,baz=50,slow=3.4,SNR=8.6						

IDC 18 18:00:05.9±1.3, 510N×12671E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, Error ellipse: s-maj=126.0km s-min=18.3km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.07**	**183**	*e*P	P	18 05 16.0	+3.0
	10.0nm,1.7s						
FITZ	**Fitzroy Crossi**	**23.07**	**183**	P	P	18 05 12.3	-0.7
	0.8nm,0.8s,baz=336,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**25.99**	**163**	P	P	18 05 41.5	+1.2
	0.8nm,0.6s,baz=346,slow=10.0,SNR=8.0						
ASAR	**Alice Springs**	**29.43**	**166**	P	P	18 06 11.4	+0.3
	0.4nm,0.8s,baz=338,slow=7.1,SNR=5.2						
SONM	**Songino Array**	**46.01**	**341**	P	P	18 08 31.3	+0.3
	0.8nm,0.7s,baz=155,slow=8.4,SNR=7.4						
MKAR	**Makanchi Array**	**56.43**	**325**	P	P	18 09 50.3	+1.0
	2.4nm,0.5s,baz=118,slow=7.6,SNR=48						
ARCES	**ARCESS Array B**	**89.17**	**340**	P	P	18 13 02.3	-1.2
	3.6nm,0.9s,baz=67,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**90.63**	**332**	P	P	18 13 08.9	-1.4
	1.1nm,0.9s,baz=115,slow=6.3,SNR=3.9						

*ISCJB **18** 18:21:58.5±5.2, 52S±02×1513E±05, h41km±37km, mb4.0/4, Error ellipse: s-maj=82.0km s-min=23.9km az=48.8*

*NEIC **18** 18:22:00.8±5.0, 533S×15133E, h47km±27km, mb4.8/2, Error ellipse: s-maj=91.0km s-min=19.3km az=108.0*

*IDC **18** 18:22:02.6±8.9, 563S×15150E, h62km±63km, mb3.5/3, mb1 3.7/4, mb1mx3.4/14, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=104.7km s-min=55.2km az=126.0*

ISC 18 18:21:59.5±4.8, 53S±02×1515E±04, h40km±34km, n11, σ0§44/11, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.90**	**227**	P	**Pn**	**18 23 24.3**	**-0.1**
	2.3nm,0.3s,baz=47,slow=4.6,SNR=8.2						
PMG				S	**Sn**	**18 24 31.0**	**+0.3**
	1.6nm,0.3s,baz=161,slow=7.3,SNR=3.7						
WB2	**Warramunga Arr**	**22.11**	**227**	*e*P	**P**	**18 26 51.3**	**-0.1**
WRA	**Warramunga Arr**	**22.12**	**227**	P	**P**	**18 26 50.5**	**-1.0**
	0.7nm,0.6s,mb3.3,baz=53,slow=9.8,SNR=14						
AS31	**Alice Springs**	**24.89**	**221**	*e*P	**P**	**18 27 18.9**	**+0.5**
ASAR	**Alice Springs**	**24.89**	**221**	P	**P**	**18 27 18.3**	**-0.1**
	1.9nm,1.0s,mb3.6,baz=53,slow=9.9,SNR=20						
ASPA	**Alice Springs**	**24.89**	**221**	*e*P	**P**	**18 27 18.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.27**	**241**	*e*P	**P**	**18 27 49.0**	**+0.1**
	3.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**28.27**	**241**	P	**P**	**18 27 48.3**	**-0.5**
	2.3nm,0.6s,mb4.0,baz=81,slow=8.7,SNR=6.2						
MDJ	**Mudanjiang**	**53.49**	**341**	P	**P**	**18 31 16.1**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,48nm,3.7s						
MDJ	**Mudanjiang**	**53.49**	**341**	*e*P	**P**	**18 31 15.8**	**0.0**
	comp=Z,15nm,0.4s,mb5.3						
TORD	**Torodi Ar. Bea**	**149.24**	**287**	PKPbc	PKPbc	18 41 45.4	+1.7
	comp=Z,0.5nm,0.6s,baz=76,slow=4.0,SNR=3.2						

*ISCJB **18** 18:25:32.3±0.9, 3367N±008×1424E±009, h10km, mb4.2/6, Error ellipse: s-maj=11.6km s-min=10.4km az=84.3*

*IDC **18** 18:25:32.6±1.3, 3377N×1408E, h0km, mb4.1/6, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.4/2, MS2.9/3, Ms1 3.0/3, ms1mx2.6/35, Error ellipse: s-maj=27.3km s-min=22.2km az=143.0*

*CSEM **18** 18:25:37.5, 3375N×1407E, h35km±12km, mb4.8/1, After NEIC*

*NEIC **18** 18:25:37.5±1.5, 3375N×1407E, h35km±12km, mb4.1/2, Error ellipse: s-maj=15.1km s-min=13.1km az=163.0*

ISC 18 18:25:34.0±0.8, 3370N±008×1410E±007, h10km, n37, σ0§97/37, mb4.2/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDC	**Modica**	**3.30**	**10**	Pn	**Pn**	**18 26 25.8**	**+0.1**
HAVL	**Avola**	**3.36**	**14**	Pn	**Pn**	**18 26 25.2**	**-1.3**
HVZN	**Vizzini**	**3.51**	**8**	Pn	**Pn**	**18 26 28.5**	**-0.1**
RAFF	**Raffo Rosso**	**3.53**	**3**	Pn	**Pn**	**18 26 28.9**	**+0.1**
SSY	**Sortino**	**3.54**	**13**	Pn	**Pn**	**18 26 29.2**	**+0.2**
FAVR	**Favara**	**3.58**	**354**	Pn	**Pn**	**18 26 30.9**	**+1.4**
AGST	**Augusta-Monte**	**3.67**	**14**	Pn	**Pn**	**18 26 30.9**	**+0.1**
VAE	**Valguarnera**	**3.78**	**4**	Pn	**Pn**	**18 26 34.1**	**+1.8**
	11nm,0.3s,baz=127,slow=1.5,SNR=16						
VAE				Sn	**Sn**	**18 27 22.6**	**+5.7**
	34nm,0.3s,baz=253,slow=12,SNR=6.0						
GIB	**Gibilmanna**	**4.29**	**359**	Pn	**Pn**	**18 26 40.6**	**+1.4**
KEST	**Kesra**	**4.41**	**299**	Pn	**Pn**	**18 26 41.6**	**+0.6**
	1.6nm,0.3s,baz=80,slow=10.0,SNR=78						
KEST				Sn	**Sn**	**18 27 30.1**	**-2.3**
	4.9nm,0.3s,baz=274,slow=22,SNR=11						
MTTG	**Motta San Giov**	**4.49**	**16**	Pn	**Pn**	**18 26 42.3**	**+0.3**
ERC	**Erice**	**4.50**	**345**	Pn	**Pn**	**18 26 42.7**	**+0.5**
SOI	**Samo**	**4.65**	**19**	Pn	**Pn**	**18 26 44.4**	**+0.2**
SCLL	**Scilla**	**4.74**	**16**	Pn	**Pn**	**18 26 45.8**	**+0.4**
TIP	**Timpagrande**	**5.88**	**21**	*e*P	**Pn**	**18 27 00.4**	**-0.7**
TIP	**Timpagrande**	**5.88**	**21**	*e*P	**Pn**	**18 27 00.4**	**-0.7**
VLS	**Valsamata**	**6.91**	**48**	*e*PB	**Pn**	**18 27 14.6**	**-0.6**
RLS	**Riolos of Patr**	**7.39**	**52**	*e*PN	**Pn**	**18 27 25.8**	**+3.9**
KEK	**Kerkira**	**7.55**	**36**	*e*PN	**Pn**	**18 27 29.5**	**+5.5**
JAN	**Janina**	**8.05**	**40**	*e*PN	**Pn**	**18 27 30.2**	**-0.7**
EVR	**Evrytania**	**8.11**	**48**	*e*PN	**Pn**	**18 27 30.5**	**-1.3**
MLR	**Muntele Rosu**	**14.88**	**34**	Pn	**Pn**	**18 29 11.5**	**+7.1**
	0.5nm,0.3s,baz=191,slow=18,SNR=4.9						
GERES	**GERESS Array B**	**15.14**	**359**	Pn	**Pn**	**18 29 08.7**	**+0.9**
	0.1nm,0.3s,baz=167,slow=12,SNR=9.5						
ESDC	**Sonseca Array**	**15.66**	**298**	LR	LR	18 35 41.5	
	comp=Z,46nm,20.6s,baz=155,slow=39						
MDT	**Midelt**	**15.68**	**272**	LR	LR	18 36 21.7	
	comp=Z,58nm,18.3s,baz=145,slow=41						
BR131	**Keskin Array S**	**16.77**	**63**	*e*P	**Pn**	**18 29 31.8**	**+2.9**
	2.8nm,0.7s						
BR131	**Keskin Array S**	**16.77**	**63**	*e*P	**Pn**	**18 29 31.8**	**+2.9**
	2.8nm,0.7s						
BRTR	**Keskin Array B**	**16.77**	**63**	Pn	**Pn**	**18 29 29.1**	**+0.2**
	0.1nm,0.3s,baz=246,slow=11,SNR=13						
AKASG	**Malin Array Be**	**20.29**	**29**	P	**P**	**18 30 08.2**	**-1.5**
	1.9nm,0.5s,baz=221,slow=10,SNR=13						
SUW	**Suwalki**	**21.31**	**15**	*e*P	**P**	**18 30 21.0**	**+0.2**
	38nm,0.9s,mb4.7						
SUW	**Suwalki**	**21.31**	**15**	*e*P	**P**	**18 30 21.0**	**+0.2**
	38nm,0.9s,mb4.7						
TORD	**Torodi Ar. Bea**	**23.37**	**212**	P	**P**	**18 30 43.4**	**+0.6**
	0.2nm,0.8s,baz=28,slow=10,SNR=5.4						
HFS	**Hagfors**	**26.45**	**360**	P	**P**	**18 31 09.9**	**-1.1**
	5.5nm,0.9s,mb4.1,baz=171,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**28.82**	**12**	P	**P**	**18 31 31.1**	**-1.1**
	1.9nm,0.8s,mb3.9,baz=203,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**52.12**	**54**	P	**P**	**18 34 44.6**	**+0.3**
	1.4nm,0.7s,mb4.0,baz=297,slow=6.7,SNR=7.7						
ZAL	**Zalesovo**	**52.54**	**45**	P	**P**	**18 34 46.6**	**-0.8**
	2.7nm,0.7s,mb4.3,baz=188,slow=7.7,SNR=12						
SONM	**Songino Array**	**67.32**	**47**	P	**P**	**18 36 29.6**	**+0.6**
	1.8nm,0.7s,mb4.2,baz=285,slow=7.8,SNR=11						

*NIED **18** 18:28:00, 4640N×14540E, h400km, Mw4.2 Best double couple: M0=2.05000×10^15 NP1:φs=55.00000°, δ76.00000°, λ-150.00000°. NP2:φs=318.00000°, δ61.00000°, λ-16.00000°.*

*BJI **18** 18:28:43.1, 4686N×14522E, h357km, mB4.5, mb4.5*

*MOS **18** 18:28:44.6±1.3, 4681N×14503E, h361km, mb4.0/27, Error ellipse: s-maj=11.7km s-min=7.3km az=107.9*

*NEIC **18** 18:28:44.8±1.0, 4677N×14523E, h354km±8km, mb4.2/12, Error ellipse: s-maj=18.7km s-min=10.4km az=90.0*

*JMA **18** 18:28:44.9±0.5, 4640N×14536E, h387km, M3.7*

*ISCJB **18** 18:28:44.2±0.4, 4668N±004×14521E±009, h365km±3km, mb4.1/41, Error ellipse: s-maj=9.9km s-min=6.6km az=6.3*

*IDC **18** 18:28:44.7±1.7, 4680N×14530E, h356km±13km, mb3.7/15, mb1 3.8/16, mb1mx3.6/28, mbtmp4.4/16, Error ellipse: s-maj=30.3km s-min=12.5km az=80.0*

*SKHL **18** 18:28:48.6±1.5, 4660N×14570E, h318km±28km, mb5.3/4, mbv6.2/1, msh5.6/1, msha5.2/3*

ISC 18 18:28:45.0±0.4, 4668N±004×14520E±009, h361km±3km, n116, σ1§29/137, mb4.1/41, 6C-2D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.70**	**280**	⇑*i*P	**Pn**	**18 29 36.6**	**+1.3**
YSS				AMB	AMB	18 29 37.0	
	1μm,0.8s						
YSS				AMB	AMB	18 29 37.0	
	290nm,0.2s						
YSS				*i* S	**S**	**18 30 15.2**	**-0.6**
YSS				A		18 30 15.5	
	360nm,1.0s						
YSS	**Yuzh-Sakhalins**	**1.70**	**280**	⇑*i*PN	**Pn**	**18 29 36.6**	**+1.3**
YSS				*i* S	**S**	**18 30 15.2**	**-0.6**
YSS				pmax	pmax		
	comp=Z,1μm,0.8s						
YSS				pmax	pmax		
	comp=E,290nm,0.2s						
YSS				smax			
	comp=N,360nm,1.0s						
YSS	**Yuzh-Sakhalins**	**1.70**	**280**	*e*P	**Pn**	**18 29 36.3**	**+1.0**
KUR	**Kuril'sk**	**2.36**	**127**	*e*P	**Pn**	**18 29 36.5**	**-3.3**
KUR				AMB	AMB	18 29 38.8	
	comp=N,180nm,0.9s						
KUR				A		18 30 22.4	
	comp=N,90nm,0.7s						
JSE	**Soyaes**	**2.51**	**228**	P	**Pn**	**18 29 43.0**	**+2.0**
JWK2	**Keihoku**	**2.68**	**241**	P	**Pn**	**18 29 44.2**	**+1.9**
JWK2				*e*S	**S**	**18 30 30.3**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**2.69**	**170**	*e*P	**Pn**	**18 29 44.5**	**+2.1**
YUK				AMB	AMB	18 29 47.7	
	comp=N,250nm,0.2s						
YUK				*e*S	**S**	**18 30 27.0**	**-1.7**
YUK				A		18 30 34.2	
	comp=N,3μm,1.5s						
YUK				A		18 30 39.9	
	comp=N,1μm,0.6s						
YUK				A		18 30 39.9	
	comp=N,360nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.69**	**170**	*e*PN	**Pn**	**18 29 44.5**	**+2.1**
YUK				*e*S	**S**	**18 30 27.0**	**-1.7**
YUK				pmax	pmax		
	comp=Z,250nm,0.3s						
YUK				smax			
	comp=E,3μm,1.5s						
YUK				smax			
	comp=N,1μm,0.8s						
YUK				smax			
	comp=E,360nm,0.5s						
JRA	**Rausu**	**2.74**	**181**	P	**Pn**	**18 29 43.5**	**+0.6**
JRA				*e*S	**S**	**18 30 30.0**	**+0.5**
JTKR	**Abashiri--Toko**	**2.86**	**199**	P	**Pn**	**18 29 44.7**	**+0.8**
JTKR				*e*S	**S**	**18 30 31.7**	**+0.4**
ASAJ	**Asahikawa**	**3.15**	**217**	P	**Pn**	**18 29 47.5**	**+1.0**
	comp=E,2.8nm,0.3s,baz=357,slow=5.5,SNR=21						
ASAJ				S	**S**	**18 30 38.1**	**+2.1**
	comp=E,1.7nm,0.3s,baz=180,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**3.15**	**217**	PN	**Pn**	**18 29 47.5**	**+1.0**
ASAJ				S	**S**	**18 30 38.1**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
UGL	**Uglegorsk**	**3.19**	**320**	*e*P	**Pn**	**18 29 47.2**	**+0.3**
UGL				AMB	AMB	18 29 48.0	
	comp=N,710nm,0.7s						
UGL				AMB	AMB	18 29 48.0	
	comp=N,2μm,0.8s						
JKK2	**Kamakawa 2**	**3.30**	**213**	P	**Pn**	**18 29 49.1**	**+1.3**
NEM2	**Nemuro 2**	**3.34**	**173**	P	**Pn**	**18 29 46.5**	**-1.7**
NEM2				*e*S	**S**	**18 30 34.7**	**-4.4**
JAR	**Ashorobuto**	**3.53**	**197**	P	**Pn**	**18 29 50.5**	**+0.5**
JAR				*e*S	**S**	**18 30 41.4**	**-1.0**
JAK	**Akkeshi**	**3.70**	**186**	P	**Pn**	**18 29 50.7**	**-0.9**
JAK				*e*S	**S**	**18 30 41.4**	**-4.0**
JFR	**Furan**	**3.97**	**209**	P	**Pn**	**18 29 55.4**	**+1.1**
JCH	**Churui**	**4.27**	**199**	P	**Pn**	**18 29 56.1**	**-1.2**
JCH				*e*S	**S**	**18 30 50.4**	**-5.4**
JEW	**Eniwo**	**4.68**	**216**	P	**Pn**	**18 30 02.5**	**+0.9**
JEW				*e*S	**S**	**18 31 01.8**	**-1.7**
JSK	**Shakotan**	**4.72**	**227**	P	**Pn**	**18 30 03.5**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.73**	**203**	P	**Pn**	**18 30 01.0**	**-1.2**
JNBK				*e*S	**S**	**18 30 58.1**	**-6.6**
ERM	**Erimo**	**4.89**	**198**	*e*PN	**Pn**	**18 30 03.8**	**0.0**
JKB	**Kayabe**	**5.65**	**213**	P	**Pn**	**18 30 11.1**	**-1.1**
JKB				*e*S	**S**	**18 31 15.9**	**-7.0**
JOT	**Ohata**	**6.08**	**211**	P	**Pn**	**18 30 15.1**	**-1.9**
JOT				*e*S	**S**	**18 31 24.8**	**-7.0**
JOSM	**Okushiri--Mats**	**6.16**	**224**	P	**Pn**	**18 30 17.2**	**-0.7**
JANG	**Nango**	**6.85**	**204**	P	**Pn**	**18 30 23.4**	**-2.4**
JANG				*e*S	**S**	**18 31 40.2**	**-7.6**
JMK	**Ichinoseki**	**8.26**	**202**	P	**Pn**	**18 30 41.1**	**-1.2**
JMK				*e*S	**S**	**18 32 12.0**	**-6.1**
KLR	**Kul'dur**	**9.38**	**291**	*e*PN	**Pn**	**18 30 53.7**	**-1.

BRVK	**Borovoye**	**46.66 307**	*eP*	**P**	**18 36 38.1**	**-0.6**
AAK	**Ala-Archa**	**48.91 292**	*eP*	**P**	**18 36 53.4**	**-2.3**
AAK			pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.2					
JIRN	**Jiri**	**49.51 269**	*eP*	**P**	**18 37 01.7**	**+1.5**
	comp=Z,7.4nm,0.2s,mb4.5					
KKN	**Kakani**	**50.05 270**	*eP*	**P**	**18 37 05.5**	**+1.2**
	comp=Z,6.8nm,0.3s,mb4.4					
PKI	**Pulchoki**	**50.10 269**	*eP*	**P**	**18 37 05.5**	**+0.8**
	comp=Z,9.8nm,0.6s,mb4.2					
DMN	**Daman**	**50.29 270**	*eP*	**P**	**18 37 07.6**	**+1.6**
	comp=Z,15nm,0.7s,mb4.3					
GKN	**Gorkha**	**50.36 270**	*eP*	**P**	**18 37 07.3**	**+0.7**
	comp=Z,32nm,0.9s,mb4.6					
KOLN	**Koldanda**	**51.22 271**	*eP*	**P**	**18 37 14.1**	**+1.2**
	comp=Z,27nm,0.9s,mb4.5					
ARU	**Arti**	**51.29 315**⇑	*iP*	**P**	**18 37 12.6**	**-0.8**
ARU			*e*		18 38 20.4	
ARU			*e*		18 39 10.6	
ARU			*e*SS	**S**	**18 44 00.0**	**-4.0**
ARU			*e*SS	SS	18 47 41.6	-3.2
ARU			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.0					
JOF	**Joensuu**	**58.86 331**	*ep*	**P**	**18 38 05.1**	**-1.9**
	comp=Z,3.1nm,0.4s,mb4.1					
JOF	**Joensuu**	**58.86 331**	*eP*	**P**	**18 38 05.1**	**-1.9**
JOF			pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1					
KAF	**Kangasniemi**	**61.08 332**	*ep*	**P**	**18 38 19.0**	**-2.9**
	comp=Z,1.8nm,0.4s,mb3.9,baz=43,slow=6.5					
KAF	**Kangasniemi**	**61.08 332**	*eP*	**P**	**18 38 19.0**	**-2.9**
KAF			pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9					
FINES	**FINESS Array B**	**61.64 332**	P	**P**	**18 38 24.1**	**-1.6**
	comp=Z,4.4nm,0.5s,mb4.2,baz=45,slow=7.9,SNR=38					
FINES	**FINESS Array B**	**61.64 332**	*i* P	**P**	**18 38 24.6**	**-1.0**
FINES			pmax	pmax		
	comp=Z,4.0nm,0.5s					
OBN	**Obninsk**	**62.15 322**⇓	*eP*	**P**	**18 38 26.5**	**-2.5**
OBN			*e*		18 40 52.9	
OBN			pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.9					
NB2	**NORSAR Subarra**	**66.37 338**	P	**P**	**18 38 55.1**	**-1.0**
	comp=Z,1.9nm,0.5s,mb4.1,baz=32,slow=6.5					
NB2	**NORSAR Subarra**	**66.37 338**	P	**P**	**18 38 55.1**	**-1.0**
NB2			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1					
NOA	**NORSAR Array B**	**66.37 338**	P	**P**	**18 38 55.0**	**-1.1**
	comp=Z,3.5nm,0.7s,mb4.2,baz=33,slow=6.3,SNR=13					
NOA	**NORSAR Array B**	**66.37 338**	P	**P**	**18 38 55.1**	**-1.0**
NOA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
HFS	**Hagfors**	**66.46 336**	P	**P**	**18 38 55.0**	**-1.6**
	comp=Z,4.5nm,0.5s,mb4.5,baz=55,slow=5.6,SNR=24					
HFS	**Hagfors**	**66.46 336**	P	**P**	**18 38 55.0**	**-1.7**
HFS			pmax	pmax		
	comp=Z,5.0nm,0.5s					
KIV	**Kislovodsk**	**66.81 310**⇑	*eP*	**P**	**18 38 59.3**	**+0.5**
KIV			pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7					
WRAB	**Tennant Creek**	**67.02 191**	*i* P	**P**	**18 39 02.2**	**+2.0**
WRA	**Warramunga Arr**	**67.03 191**	P	**P**	**18 39 01.0**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.7,baz=8.1,slow=6.7,SNR=18					
WRA	**Warramunga Arr**	**67.03 191**	P	**P**	**18 39 01.0**	**+0.8**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
AKASG	**Malin Array Be**	**68.41 322**	P	**P**	**18 39 08.1**	**-0.7**
	comp=Z,2.7nm,0.5s,mb4.2,baz=38,slow=6.2,SNR=14					
AKASG	**Malin Array Be**	**68.41 322**	P	**P**	**18 39 08.1**	**-0.7**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.5s					
ANN	**Anapa**	**68.92 313**	*eP*	**P**	**18 39 05.9**	**-6.0**
ANN			*e**PP	pP	18 40 26.8	-4.5
ANN			*e*S	S	18 47 36.7	-10
ANN			pmax	pmax		
	comp=Z,45nm,1.2s,mb5.1					
ASAR	**Alice Springs**	**70.75 191**	P	**P**	**18 39 23.9**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.5,baz=4.0,slow=5.7,SNR=9.2					
ASAR	**Alice Springs**	**70.75 191**	P	**P**	**18 39 24.0**	**+1.0**
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KOLS	**Kolonicke sedl**	**72.64 325**	*eP*	**P**	**18 39 34.5**	**+0.4**
STHS	**Stebnicka Huta**	**72.66 325**	*eP*	**P**	**18 39 34.8**	**+0.6**
STHS			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1					
STHS	**Stebnicka Huta**	**72.66 325**	*eP*	**P**	**18 39 34.8**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.1					
CRVS	**Cervenica-Dubn**	**72.99 325**	*eP*	**P**	**18 39 38.2**	**+2.1**
MLR	**Muntele Rosu**	**73.81 320**	P	**P**	**18 39 41.4**	**+0.5**
	comp=Z,2.3nm,0.4s,mb4.3,baz=172,slow=5.9,SNR=5.7					
MLR	**Muntele Rosu**	**73.81 320**	P	**P**	**18 39 41.4**	**+0.5**
MLR			pmax	pmax		
	comp=Z,2.0nm,0.4s					
CLL	**Collm**	**74.08 331**	*i* P	**P**	**18 39 42.0**	**-0.4**
VYHS	**Vyhne**	**74.34 326**	*eP*	**P**	**18 39 44.7**	**+0.8**
VYHS			pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6					
VYHS	**Vyhne**	**74.34 326**	*eP*	**P**	**18 39 44.7**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.8					
VRAC	**Vranov**	**74.51 328**	P	**P**	**18 39 45.5**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.2,baz=34,slow=3.6,SNR=4.4					
VRAC	**Vranov**	**74.51 328**	P	**P**	**18 39 45.5**	**+0.7**
VRAC			pmax	pmax		
	comp=Z,2.0nm,0.5s					
EKA	**Eskdalemuir Ar**	**74.92 342**	P	**P**	**18 39 46.7**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.0,baz=22,slow=5.6,SNR=9.1					
EKA	**Eskdalemuir Ar**	**74.92 342**	P	**P**	**18 39 46.7**	**-0.5**
EKA			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ZST	**Bratislava**	**75.24 327**	*eP*	**P**	**18 39 50.2**	**+1.2**
KHC	**Kasperske Hory**	**75.73 330**⇑	*eP*	**P**	**18 39 52.6**	**+0.8**
GERES	**GERESS Array B**	**75.93 329**	P	**P**	**18 39 52.7**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=46,slow=5.6,SNR=15					
GERES	**GERESS Array B**	**75.93 329**	P	**P**	**18 39 52.7**	**-0.2**
GERES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ASF	**Jabal al Asfar**	**78.41 305**	P	**P**	**18 40 08.3**	**+1.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=242,slow=2.1,SNR=3.3					
ASF	**Jabal al Asfar**	**78.41 305**	P	**P**	**18 40 08.3**	**+1.8**
ASF			pmax	pmax		
	comp=Z,2.0nm,0.6s					
DAVOX	**Davos/Dischmat**	**79.03 331**	P	**P**	**18 40 10.3**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.1,baz=22,slow=10,SNR=3.5					

MAN 18 18:34:49.4, 1365N×12099E, h6km, mb1.9, ML3.6, MS2.3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.15**	**194**⇓	*eP*	Pg	18 34 54.1	+1.6
PGP				*eS*	Sg	18 34 55.0	+0.5
TGY	**Tagaytay City**	**0.45**	**353**⇓	*eP*	Pg	18 34 59.3	+1.2
TGY				*eS*	Sg	18 35 03.2	-0.9
LUBP	**Lubang**	**0.73**	**277**	*eP*	Pg	18 35 02.6	-0.8
BOAC	**Boac**	**0.85**	**103**	*eP*	Pg	18 35 05.0	-0.7
BOAC				*eS*	Sg	18 35 18.2	+1.4
POLP	**Polilio Island**	**1.41**	**41**	*eP*	Pn	18 35 14.9	-0.7
OTRP	**Odiongan**	**1.63**	**142**	*eP*	Pn	18 35 18.2	-0.4
BUSP	**Coron**	**1.81**	**205**	*eP*	Pn	18 35 21.0	-0.1

IDC ***18*** *18:38:23.6±0.4, 008S×12562E, h0km, mb4.8/24, mb1 4.8/26, mb1mx4.8/29, mbtmp4.8/26, ML4.4/1, MS4.5/7, Ms1 4.5/7, ms1mx4.3/19, Error ellipse: s-maj=18.9km s-min=10.5km az=72.0*

BJI ***18*** *18:38:25.8, 020S×12597E, h40km, mB5.0, mb4.8, Ms4.7, Msz4.8*

MOS ***18*** *18:38:26.7±1.5, 001S×12568E, h33km, mb5.2/21, MS4.8/9, Error ellipse: s-maj=13.0km s-min=6.1km az=113.2*

NEIC ***18*** *18:38:27.4±2.5, 005S×12567E, h27km±18km, mb4.9/25, Error ellipse: s-maj=11.5km s-min=5.5km az=71.0*

ISCJB ***18*** *18:38:28.2±0.6, 005S±003×12571E±004, h50km±6km, mb4.8/74, MS4.8/25, Error ellipse: s-maj=7.1km s-min=4.4km az=146.0*

ISC 18 18:38:30.4±0.5, 006S±003×12573E±004, h53km±5km, h32km±4.4km: pP-P, n169, σ1§33/172, mb4.8/74, MS4.8/25, 8C-2D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.36**	**146**	P	**Pn**	**18 39 38.1**	**+4.0**
	0.0nm,0.0s						
SWI	**Sorong**	**5.59**	**98**	P	**Pn**	**18 39 52.3**	**+1.4**
	0.0nm,0.0s						
PCI	**Palu**	**5.95**	**262**	P	**Pn**	**18 39 57.4**	**+1.6**
	0.0nm,0.0s						
MATI	**Mati**	**6.98**	**4**	*eP*	**Pn**	**18 40 09.7**	**-0.4**
DAV	**Davao City (W)**	**7.09**	**359**	*eP*	**Pn**	**18 40 12.2**	**+0.8**
BUKP	**Musuan**	**7.92**	**355**	*eP*	**Pn**	**18 40 24.8**	**+2.0**
TSM	**Tawau**	**8.96**	**299**	P	**Pn**	**18 40 37.0**	**-0.1**
MSLP	**Maasin**	**10.17**	**355**	*eP*	**Pn**	**18 40 52.2**	**-1.4**
KKM	**Kota Kinabalu**	**11.27**	**303**	P	**Pn**	**18 41 10.9**	**+2.3**
KKM	**Kota Kinabalu**	**11.27**	**303**	*eP*	**Pn**	**18 41 11.2**	**+2.6**
BATP	**Bataraza**	**11.82**	**318**	*eP*	**Pn**	**18 41 18.6**	**+2.4**
ENPP	**El Nido**	**12.83**	**331**	*eP*	**Pn**	**18 41 31.5**	**+1.6**
PVCP	**Virac**	**13.66**	**354**	*eP*	**Pn**	**18 41 39.1**	**-2.2**
KAKA	**Kakadu**	**14.22**	**152**	*eP*	**Pn**	**18 41 47.4**	**-1.4**
	28nm,0.7s						
TGY	**Tagaytay City**	**14.85**	**342**	Pn	**Pn**	**18 41 56.1**	**-1.0**
	3.6nm,0.3s,baz=193,slow=14,SNR=2.3						
KSM	**Kuching**	**15.49**	**276**	*eP*	**Pn**	**18 42 05.0**	**-0.4**
BALP	**Baler**	**16.23**	**346**	*eP*	**Pn**	**18 42 15.7**	**+0.9**
CAUP	**Cauayan**	**17.33**	**347**	*eP*	**Pn**	**18 42 27.6**	**-0.9**
BJII	**Banjamegara**	**17.53**	**245**	P	**Pn**	**18 42 32.8**	**+1.9**
	235nm,2.4s						
FITZ	**Fitzroy Crossi**	**17.93**	**180**	*eP*	**Pn**	**18 42 34.7**	**-1.1**
	40nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.93**	**180**	P	**Pn**	**18 42 34.8**	**-1.0**
	1.1nm,0.3s,baz=19,slow=11,SNR=45						
ABRA	**Dolores**	**18.28**	**345**	*eP*	**Pn**	**18 42 37.5**	**-2.6**
LEM	**Lembang**	**19.27**	**249**	P	**Pn**	**18 42 53.0**	**+0.9**
	186nm,1.1s						
CBJI	**Citeko**	**19.87**	**251**	P	**Pn**	**18 42 59.6**	**+0.5**
	185nm,1.0s						
WRAB	**Tennant Creek**	**21.48**	**157**	*eP*	**P**	**18 43 12.2**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**21.48**	**157**	*eP*	**P**	**18 43 12.2**	**-2.3**
	comp=Z,83nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**21.48**	**157**	P	**P**	**18 43 13.0**	**-1.5**
	comp=Z,29nm,0.9s,mb4.6,baz=336,slow=11,SNR=107						
WRA				PcP	PcP	18 47 19.1	+3.4
	comp=Z,1.3nm,0.8s,baz=329,slow=2.2,SNR=4.6						
WB2	**Warramunga Arr**	**21.49**	**157**	*eP*	**P**	**18 43 13.5**	**-1.1**
MBWA	**Marble Bar**	**21.77**	**195**	*eP*	**P**	**18 43 15.8**	**-1.8**
	comp=Z,62nm,1.2s,mb4.9						
PMG	**Port Moresby**	**23.27**	**114**	P	**P**	**18 43 33.5**	**+0.1**
	comp=Z,27nm,0.8s,mb4.7,baz=277,slow=5.5,SNR=5.5						
PMG	**Port Moresby**	**23.27**	**114**	*d iP*	**P**	**18 43 34.4**	**+1.0**
GUMO	**Guam**	**23.32**	**54**	P	**P**	**18 43 33.1**	**-0.7**
	comp=Z,110nm,0.9s,mb5.3,baz=327,slow=15,SNR=5.0						
QIZ	**Qiongzhong**	**24.56**	**321**	P	**P**	**18 43 42.8**	**-2.3**
QIZ				XP	sP	18 43 57.6	-7.0
QIZ				S	**S**	**18 48 00.3**	**-2.0**
QIZ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,189nm,4.3s						
QIZ				LR	LR		
	comp=N,803nm,23.8s,MS4.3						
QIZ				LR	LR		
	comp=E,1μm,25.9s,MS4.3						
QIZ				LR	LR		
	comp=Z,3μm,24.6s,MS4.7						
AS31	**Alice Springs**	**24.77**	**162**	*eP*	**P**	**18 43 47.5**	**+0.4**
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**18 43 47.1**	**+0.1**
	comp=Z,20nm,0.5s,mb4.9,baz=342,slow=6.4,SNR=202						
ASAR				PcP	PcP	18 47 24.0	+1.5
	comp=Z,4.2nm,0.7s,baz=345,slow=2.3,SNR=9.3						
ASPA	**Alice Springs**	**24.77**	**162**	*eP*	**P**	**18 43 47.5**	**+0.4**
IPM	**Ipoh**	**25.08**	**281**	P	**P**	**18 43 47.5**	**-2.5**
QZH	**Quanzhou**	**25.80**	**345**	*eP*	**P**	**18 43 58.3**	**+1.9**
QZH				S	**S**	**18 48 24.3**	**+2.2**
QZH				LR	LR		
	comp=N,5μm,27.3s,MS5.2						
QZH				LR	LR		
	comp=E,10μm,30.6s,MS5.2						
QZH				LR	LR		
	comp=Z,6μm,29.0s,MS5.0						
GZH	**Guangzhou**	**25.97**	**333**	P	**P**	**18 44 00.8**	**+2.8**
GZH				S	**S**	**18 48 27.3**	**+2.5**
GZH				LR	LR		
	comp=N,2μm,22.4s,MS4.6						
GZH				LR	LR		
	comp=E,596nm,22.7s,MS4.6						
GZH				LR	LR		
	comp=Z,3μm,23.6s,MS4.8						
JOW	**Kunigami**	**26.85**	**5**	P	**P**	**18 44 07.3**	**+1.4**
	comp=Z,25nm,0.6s,mb4.9,baz=248,slow=10,SNR=6.7						
PSI	**Prapat**	**26.94**	**276**	P	**P**	**18 44 05.6**	**-1.1**
	comp=Z,2.0nm,0.3s,mb4.1,baz=131,slow=7.0,SNR=4.6						
KKTK	**Khon Kaen**	**27.86**	**307**	P	**P**	**18 44 13.0**	**-1.9**
CTA	**Charters Tower**	**28.29**	**136**	P	**P**	**18 44 21.2**	**+2.5**
	comp=Z,5.2nm,0.8s,mb4.2,baz=339,slow=8.6,SNR=3.3						
CTAO	**Charters Tower**	**28.29**	**136**	P	**P**	**18 44 19.1**	**+0.4**
FORT	**Forrest**	**30.63**	**176**	*eP*	**P**	**18 44 40.3**	**+0.8**
	comp=Z,18nm,0.7s,mb5.0						
SSE	**Sheshan**	**31.29**	**352**	P	**P**	**18 44 43.3**	**-2.0**
SSE				AP	pP	18 44 51.8	-6.9
SSE				S	**S**	**18 49 49.3**	**+1.0**
SSE				XS	sS	18 50 03.1	-7.9
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,87nm,6.7s						
SSE				LR	LR		
	comp=N,847nm,25.0s,MS4.4						
SSE				LR	LR		
	comp=E,603nm,25.0s,MS4.4						
SSE				LR	LR		
	comp=Z,2μm,26.0s,MS4.5						
SSE	**Sheshan**	**31.29**	**352**	P	**P**	**18 44 43.2**	**-2.1**
	comp=Z,30nm,0.8s,mb5.2						
SSE				pP	pP	18 44 51.7	-7.0
SSE				sP	sP	18 44 55.6	-9.3
SSE				S	**S**	**18 49 49.2**	**+0.9**
SSE				sS	sS	18 50 03.1	-7.9
SSE				LR	LR		
	comp=Z,2μm,26.0s,MS4.5						
KLBR	**Kellerberrin**	**32.25**	**193**	*eP*	**P**	**18 44 53.9**	**+0.1**
	comp=Z,25nm,1.6s,mb4.8						
CHG	**Chiang Mai**	**32.30**	**307**	P	**P**	**18 44 56.0**	**+1.8**
CHTO	**Chiang Mai**	**32.30**	**307**	*eP*	**P**	**18 44 52.7**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**32.30**	**307**	*eP*	**P**	**18 44 52.7**	**-1.5**
	comp=Z,9.1nm,1.0s,mb4.6						
WHN	**Wuhan**	**32.30**	**341**	*eP*	**P**	**18 44 58.3**	**+4.1**
NJ2	**Nanjing**	**32.60**	**349**	*eP*	**P**	**18 44 57.8**	**+1.0**
NJ2				AP	pP	18 45 05.3	-5.0
NJ2				XP	sP	18 45 08.1	-8.4
NJ2				PP	PP	18 46 07.5	-3.7
NJ2				S	**S**	**18 50 10.0**	**+1.3**
NJ2				XS	sS	18 50 25.0	-6.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,6μm,16.9s,MS5.4						
NJ2				LR	LR		
	comp=E,2μm,14.8s,MS5.4						
NJ2				LR	LR		
	comp=Z,5μm,20.2s						
MUN	**Mundaring**	**32.99**	**195**	*eP*	pP	18 45 10.9	-2.8
KMI	**Kunming**	**33.48**	**320**	P	**P**	**18 45 04.5**	**0.0**
KMI				AP	pP	18 45 14.0	-4.0
KMI				XP	sP	18 45 19.5	-4.7
KMI				PP	PP	18 46 13.9	-7.1
KMI				S	**S**	**18 50 18.5**	**-4.0**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.1						
KMI				AMB	AMB		
	comp=Z,116nm,4.1s						
KMI				LR	LR		
	comp=N,611nm,26.4s,MS4.5						
KMI				LR	LR		
	comp=E,1μm,24.3s,MS4.5						
KMI				LR	LR		
	comp=Z,2μm,23.6s,MS4.7						
KMI	**Kunming**	**33.48**	**320**	P	**P**	**18 45 04.5**	**0.0**
KMI				*PP	pP	18 45 14.0	-4.0
KMI				*SP	sP	18 45 19.5	-4.7
KMI						18 46 13.9	
KMI				PPP		18 46 30.9	
KMI				S	**S**	**18 50 18.5**	**-4.0**
KMI				*SS	sS	18 50 37.9	-7.4
KMI				SSS		18 52 44.4	
KMI				MLR	MLR		
	comp=Z,2μm,23.6s,MS4.7						
KMI	**Kunming**	**33.48**	**320**	P	**P**	**18 45 04.5**	**0.0**
	comp=Z,4.0nm,1.7s,mb4.1						
KMI				pP	pP	18 45 14.0	-4.0
KMI				sP	sP	18 45 19.5	-4.7
KMI				PP	PP	18 46 13.9	-7.1
KMI				PPP		18 46 30.9	
KMI				S	**S**	**18 50 18.5**	**-4.0**
KMI				SS	sS	18 50 37.9	-7.4
KMI				SSS		18 52 44.4	
KMI				LR	LR		
	comp=Z,2μm,23.6s,MS4.7						
NWAO	**Narrogin (SRO)**	**33.65**	**193**	P	**P**	**18 45 04.9**	**-1.1**
	comp=Z,3.7nm,0.5s,mb4.5,baz=60,slow=4.3,SNR=3.5						
STKA	**Stephens Creek**	**35.02**	**156**	*eP*	**P**	**18 45 18.7**	**+0.8**
	comp=Z,31nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**35.02**	**156**	P	**P**	**18 45 18.1**	**+0.2**
	comp=Z,44nm,0.8s,mb5.5,baz=328,slow=8.4,SNR=55						
XAN	**Xi'an**	**37.41**	**337**	P	**P**	**18 45 36.3**	**-1.9**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
XAN				LR	LR		
	comp=N,659nm,26.2s,MS4.5						
XAN				LR	LR		
	comp=E,868nm,25.7s,MS4.5						
XAN				LR	LR		
	comp=Z,2μm,24.2s,MS4.9						
MAJO	**Matsushiro**	**38.22**	**16**	*eP*	**P**	**18 45 42.9**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**38.22**	**16**	*eP*	**P**	**18 45 42.9**	**-2.1**
	comp=Z,10nm,0.6s,mb4.7						
MAT	**Matsushiro**	**38.22**	**16**	P	**P**	**18 45 43.2**	**-1.9**
MAT				S	**S**	**18 51 41.0**	**+6.0**
MJAR	**Matsushiro Arr**	**38.22**	**16**	P	**P**	**18 45 45.3**	**+0.2**
	comp=Z,5.6nm,0.7s,mb4.4,baz=187,slow=7.7,SNR=18						
MJAR				LR	LR	19 00 52.9	
	comp=Z,555nm,21.2s,MS4.3,baz=195,slow=35						
ARMA	**Armidale**	**38.96**	**143**	*eP*	**P**	**18 45 53.8**	**+2.5**
BJT	**Baijiatuau**	**40.83**	**349**	*eP*	**P**	**18 46 05.3**	**-1.5**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**40.83**	**349**	*eP*	**P**	**18 46 05.3**	**-1.6**
	comp=Z,7.5nm,0.6s,mb4.5						
BJI	**Beijing**	**40.85**	**349**	P	**P**	**18 46 04.8**	**-2.2**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.0						
BJI				LR	LR		
	comp=N,288nm,24.2s,MS4.7						
BJI				LR	LR		
	comp=E,1μm,24.1s,MS4.7						
BJI				LR	LR		
	comp=Z,1μm,27.5s,MS4.7						
BJI	**Beijing**	**40.85**	**349**	P	**P**	**18 46 04.8**	**-2.2**
	comp=Z,5.0nm,1.3s,mb4.0						
BJI				S	**S**	**18 52 01.7**	**-13**
BJI				LR	LR		
	comp=Z,2μm,27.5s,MS4.7						
LZH	**Lanzhou**	**41.32**	**333**	*eP*	**P**	**18 46 13.5**	**+2.7**
LZH				XP	sP	18 46 32.3	+1.6
LZH				PP	PP	18 47 51.5	+4.5
LZH				*e*S	**S**	**18 52 18.0**	**-3.4**
LZH				XS	sS	18 52 40.0	-4.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,115nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,17.3s						
LZH				LR	LR		
	comp=Z,2μm,18.5s,MS5.1						
LZH	**Lanzhou**	**41.32**	**333**	*eP*	**P**	**18 46 13.5**	**+2.7**
LZH				*PP	pP	18 46 28.8	+4.2
LZH						18 47 51.5	
LZH				*e*S	**S**	**18 52 18.0**	**-3.4**
LZH				SS	SS	18 55 18.0	-8.6
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.7						
LZH				MLR	MLR		
	comp=Z,2μm,18.5s,MS5.1						
LZH	**Lanzhou**	**41.32**	**333**	*eP*	**P**	**18 46 13.5**	**+2.7**
	comp=Z,26nm,1.2s,mb4.7						
LZH				pP	pP	18 46 28.8	+4.2
LZH				sP	sP	18 46 32.2	+1.5
LZH				PP	PP	18 47 51.5	+4.5
LZH				*e*S	**S**	**18 52 18.0**	**-3.4**
LZH				sS	sS	18 52 40.0	-4.6
LZH				SS	SS	18 55 18.0	-8.6
LZH				LR	LR		
	comp=Z,2μm,18.5s,MS5.1						
CNB	**Canberra Magne**	**41.42**	**150**	*eP*	**P**	**18 46 14.3**	**+2.6**
SHL	**Shillong**	**41.44**	**311**	*eP*	**P**	**18 46 11.5**	**-0.3**
SHL				*ex*	x	18 52 17.0	
TOO	**Toolangi**	**41.55**	**156**	*eP*	**P**	**18 46 16.0**	**+3.3**
	comp=Z,9.9nm,0.6s,mb4.6						
TOO	**Toolangi**	**41.55**	**156**	*eP*	**P**	**18 46 16.0**	**+3.3**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
SNY	**Shenyang**	**41.74**	**358**	⇑P	**P**	**18 46 13.8**	**-0.5**
SNY				S	**S**	**18 52 27.5**	**-0.2**
SNY				SS	SS	18 55 35.4	+0.5
SNY				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.9						
SNY				AMB	AMB		
	comp=Z,210nm,3.5s						
SNY				LR	LR		
	comp=E,611nm,22.0s						
SNY				LR	LR		
	comp=Z,612nm,34.3s						
LSA	**Lhasa**	**44.29**	**315**	P	**P**	**18 46 33.4**	**-1.4**
LSA	**Lhasa**	**44.29**	**315**	*eP*	**P**	**18 46 35.7**	**+0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**44.29**	**315**	*eP*	**P**	**18 46 35.7**	**+0.8**
	comp=Z,8.2nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**44.62**	**4**	P	**P**	**18 46 37.9**	**+0.4**
MDJ				S	**S**	**18 53 10.6**	**+0.8**
MDJ				SS	SS	18 56 24.3	-6.8
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,136nm,5

comp=Z,17nm,0.8s
HIA Hailar 49.41 355 *e*P **P 18 47 14.6 -0.3**
comp=Z,17nm,0.8s,mb5.1
SONM Songino Array 50.58 343 P **P 18 47 23.3 -0.5**
comp=Z,4.9nm,0.8s,mb4.5,baz=159,slow=8.7,SNR=21
BHPL Bhopal 52.31 300 *e*P **P 18 47 34.8 -1.8**
BHPL AMb AMB 18 47 36.8
CIT Chita 52.90 351 *e*P **P 18 47 39.9 -1.1**
KAD Karad 53.57 292 *e*P **P 18 47 46.3 +0.4**
KAD AMb AMB 18 47 47.4
ZAK Zakamensk 53.78 342 *e*P **P 18 47 49.4 +1.9**
TLY Talaya 54.82 343 *e*P **P 18 47 59.6 +4.5**
TLY *e* 18 49 57.9
TLY *e*PPP 18 51 12.3
TLY *e*S **S 18 55 35.4 +3.2**
TLY pmax pmax
comp=Z,12nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,897nm,28.0s,MS4.7
WMQ Urumqi 55.29 327 P **P 18 47 59.5 +1.1**
WMQ AP pP 18 48 09.6 -3.1
WMQ XP sP 18 48 13.4 -5.3
WMQ PCP PcP 18 49 00.0 +1.4
WMQ PP PP 18 50 04.0 +1.6
WMQ S **S 18 55 39.0 +0.5**
WMQ XS sS 18 55 56.0 -6.5
WMQ AMB AMB
comp=Z,19nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,153nm,5.8s
WMQ LR LR
comp=N,762nm,16.3s,MS5.0
WMQ LR LR
comp=E,1μm,20.2s,MS5.0
WMQ LR LR
comp=Z,2μm,26.7s
AJM Ajmer 55.77 302 *e*P **P 18 48 03.0 +1.2**
AJM AMb AMB 18 48 06.0
comp=Z,15nm,0.3s,mb5.5
BOD Bodaibo 58.46 353 *e*P **P 18 48 21.6 +0.7**
BOD pmax pmax
comp=Z,11nm,1.9s,mb4.6
PET Petropavlovsk 59.59 22 *e*P **P 18 48 30.4 +1.7**
PET *e*S **S 18 56 37.7 +2.8**
PET pmax pmax
comp=Z,200nm,12.2s
MK31 Makanchi Array 60.12 327 *e*P **P 18 48 31.5 -0.8**
MKAR Makanchi Array 60.12 327 P **P 18 48 32.8 +0.5**
comp=Z,6.8nm,0.5s,mb4.9,baz=121,slow=8.7,SNR=45
MKAR LR LR 19 16 38.7
comp=Z,765nm,18.5s,MS4.9,baz=121,slow=38
MKAR Makanchi Array 60.12 327⇑ *e*P **P 18 48 31.0 -1.3**
YAK Yakutsk 62.01 2 *e*P **P 18 48 44.4 -0.7**
YAK pmax pmax
comp=Z,47nm,0.8s,mb5.7
YAK Yakutsk 62.01 2 *e*P **P 18 48 44.4 -0.7**
comp=Z,47nm,0.8s,mb5.7
AAK Ala-Archa 62.52 320⇑ *e*P **P 18 48 48.3 -0.3**
AAK Ala-Archa 62.52 320 *e*P **P 18 48 46.6 -2.0**
comp=Z,6.9nm,0.9s,mb4.8
MA2 Magadan 62.60 14⇑ *e*P **P 18 48 48.8 -0.3**
MA2 pmax pmax
comp=Z,33nm,1.0s,mb5.4
ZAL Zalesovo 63.52 334 P **P 18 48 55.0 -0.2**
comp=Z,4.6nm,0.4s,mb4.8,baz=360,slow=6.3,SNR=15
NVS Novosibirsk 64.81 334 *i* P **P 18 49 03.3 -0.3**
NVS *e**PP PcP 18 49 34.6 -2.1
NVS *i* S **S 18 57 37.3 -3.3**
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,12nm,0.7s,mb5.0
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS smax
comp=N,20nm,2.0s
NVS smax
comp=E,28nm,2.0s
SEY Seymchan 65.93 13⇑ *e*P **P 18 49 11.9 +1.0**
CASY Casey 66.96 187 *e*P **P 18 49 16.9 -0.5**
BVAR Borovoye Array 69.96 328 P **P 18 49 35.3 -0.8**
comp=E,7.2nm,0.8s,mb4.6,baz=134,slow=5.8,SNR=23
BRVK Borovoye 70.03 328 *e*P **P 18 49 36.4 -0.2**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb4.9
BRVK Borovoye 70.03 328 *e*P **P 18 49 36.4 -0.2**
comp=Z,13nm,0.9s,mb4.9
CHKZ Chkalovo 70.16 329 *e*P **P 18 49 35.7 -1.7**
CHKZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CHKZ Chkalovo 70.16 329 *e*P **P 18 49 35.7 -1.7**
comp=Z,9.0nm,0.9s,mb4.7
TIXI Tiksi 71.62 1⇑ *e*P **P 18 49 45.0 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BILL Bilibino 73.45 15⇑ *e*P **P 18 49 57.3 +0.2**
BILL *e* 18 52 45.0
BILL *e*S S 18 59 19.6 -3.0
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BILL MLR MLR
comp=Z,500nm,21.0s,MS4.8
AKTK Aktyubinsk 76.01 322 P **P 18 50 11.2 -0.7**
AKTO Aktyubinsk 76.01 322 P **P 18 50 11.2 -0.7**
comp=Z,4.8nm,0.5s,mb4.7,baz=94,slow=6.1,SNR=18
ARU Arti 77.60 328⇓ *i*P **P 18 50 19.2 -1.7**
ARU *e* pP 18 50 29.7 -6.2
ARU *e* 18 53 12.6
ARU *e*S S 19 00 06.1 -2.4
ARU pmax pmax
comp=Z,22nm,1.2s,mb5.0
ARU Arti 77.60 328 *e*P **P 18 50 19.0 -1.9**
comp=Z,19nm,0.9s,mb5.0
ORR Orenburg 78.32 323 *e*P **P 18 50 25.3 +0.4**
ORR pmax pmax
comp=Z,60nm,0.9s,mb5.5
ORR MLR MLR
comp=Z,1μm,28.0s,MS5.2
VNDA Vanda 79.82 173 P **P 18 50 32.5 -0.5**
comp=Z,2.9nm,0.8s,mb4.3,baz=309,slow=6.5,SNR=12
VNDA LR LR 19 24 49.7
comp=Z,464nm,21.2s,MS4.8,baz=324,slow=35
VNDA Vanda 79.82 173 *e*P **P 18 50 32.6 -0.4**
VNDA LR LR 19 24 49.7
MAW Mawson 79.87 200 *e*P **P 18 50 34.0 +0.6**
comp=Z,6.6nm,1.0s,mb4.5
MAW Mawson 79.87 200 P **P 18 50 33.5 +0.1**
comp=Z,7.9nm,1.0s,mb4.6,baz=44,slow=8.0,SNR=11
MAW LR LR 19 24 16.5
comp=Z,145nm,19.4s,MS4.3,baz=58,slow=34
MAW Mawson 79.87 200 *e*P **P 18 50 34.0 +0.6**
MAW pmax pmax
comp=Z,7.0nm,1.0s
SBA Scott Base 80.74 172 *e*P **P 18 50 38.0 0.0**
SBA pmax pmax
comp=Z,53nm,1.9s,mb5.2
SBA Scott Base 80.74 172 *e*P **P 18 50 38.0 -0.1**
comp=Z,53nm,1.9s,mb5.1
GNI Garni 83.14 310 P **P 18 50 53.5 +2.8**
comp=Z,2.6nm,0.5s,mb4.5,baz=18,slow=20,SNR=2.8
ZEI Tsey 84.03 313 *e*P **P 18 50 56.9 +1.7**
ZEI *e**PP pP 18 51 02.7 -7.6
ZEI pmax pmax
comp=Z,22nm,0.9s,mb5.3
GOF Gofitskoye 84.87 315 *e*P **P 18 50 54.8 -4.6**
PPT Papeete 84.92 108 *e*SS SS 19 06 59.2 +1.4
comp=Z,563nm,36.2s
PPT *e*LR LR 19 17 50.4
comp=Z,771nm,25.2s
KIV Kislovodsk 85.02 314 *e*P **P 18 50 58.8 -1.4**
KIV *e* 18 54 19.1
KIV *e* 19 01 20.0
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,293nm,18.0s,MS4.7
TBI Tubuai 85.21 113 *e*LR LR 19 17 59.4
comp=Z,912nm,27.2s
VRHR Novokhopersk 86.33 321 *e*P **P 18 51 07.2 +0.5**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 87.87 321 *e*P **P 18 51 14.9 +0.8**
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,6.0nm,0.7s
KMBO Kilima Mbogo 88.47 269 P **P 18 51 19.4 +2.4**
comp=N,7.2nm,1.0s,mb4.9,baz=50,slow=7.0,SNR=9.6
KMBO LR LR 19 28 25.5
comp=N,230nm,20.5s,MS4.6,baz=97,slow=34
KMBO Kilima Mbogo 88.47 269 *e*P **P 18 51 19.4 +2.5**
KMBO LR LR 19 28 25.5
ANN Anapa 88.83 315 *e*P **P 18 51 19.2 +0.5**
ANN pmax pmax
comp=Z,42nm,1.0s,mb5.7
ANN MLR MLR
comp=E,588nm,21.0s
ANN MLR MLR
comp=Z,538nm,21.0s,MS4.9
ASF Jabal al Asfar 89.04 302 P **P 18 51 22.3 +2.6**
comp=Z,5.4nm,0.8s,mb4.9,baz=314,slow=4.7,SNR=9.2
OBN Obninsk 89.57 325⇑ *e*P **P 18 51 22.2 +0.1**
OBN *e* 18 54 53.4
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,800nm,24.0s,MS5.1
QSPA South Pole Qui 89.87 180 *e*P **P 18 51 24.2 +0.7**
comp=Z,12nm,1.0s,mb5.2
BRTR Keskin Array B 91.65 310 P **P 18 51 31.8 0.0**
comp=Z,2.2nm,0.8s,mb4.6,baz=124,slow=4.9,SNR=6.6
ARCES ARCESS Array B 93.64 340 LR LR 19 34 04.9
comp=Z,390nm,19.5s,MS4.9,baz=295,slow=36
TAOE Nuku Hiva Isla 94.07 99 *e*LR LR 19 22 06.0
comp=Z,2μm,25.1s
AKASG Malin Array Be 94.18 321 LR LR 19 37 38.8
comp=Z,201nm,21.6s,MS4.5,baz=85,slow=38
FINES FINESS Array B 94.67 332 P **P 18 51 46.5 +0.8**
comp=Z,0.8nm,0.6s,mb4.3,baz=38,slow=9.6,SNR=3.4
MLR Muntele Rosu 96.91 316 P **P 18 51 57.5 +1.6**
comp=Z,3.5nm,1.0s,mb4.8,baz=76,slow=11,SNR=3.4
RKT Rikitea 98.53 113 *e*LR LR 19 24 08.4
comp=Z,600nm,29.5s
TOA0 Torodi Ar. Sit 123.05 286 *e*PKPdf PKPdf 18 57 23.5 +2.6
TORD Torodi Ar. Bea 123.05 286 PKP PKPdf 18 57 22.2 +1.4
comp=Z,4.3nm,0.8s,baz=52,slow=2.3,SNR=15
TORD PKKPbc PKKPbc 19 07 14.4 +2.5
comp=Z,1.8nm,0.8s,baz=283,slow=3.6,SNR=9.5
TXAR Lajitas Array 124.67 54 PKP PKPdf 18 57 25.2 +1.3
comp=Z,1.8nm,0.8s,baz=255,slow=1.9,SNR=9.1
DBIC Dimbokro 130.26 279 PKP PKPdf 18 57 37.8 +3.1
comp=Z,3.0nm,0.9s,baz=357,slow=5.2,SNR=4.8
PLCA Paso Flores 136.78 162 PKP PKPdf 18 57 50.1 +3.2
comp=Z,2.1nm,0.9s,baz=121,slow=4.0,SNR=5.6
CFAA Coronel Fontan 145.84 158 PKPbc PKPbc 18 58 04.8 +1.1
comp=Z,1.0nm,0.5s,baz=208,slow=3.7,SNR=13
CFAA Coronel Fontan 145.84 158 PKPbc PKPbc 18 58 04.8 +1.1
CPUP Villa Florida 153.59 174 PKP PKPdf 18 58 16.8 +1.5
comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=2.5
CPUP PKPbc PKPbc 18 58 25.7 +2.6
comp=Z,0.4nm,0.3s,baz=228,slow=8.8,SNR=3.3
CPUP Villa Florida 153.59 174 *e*PKPdf PKPdf 18 58 16.3 +0.9
CPUP PKP PKPdf 18 58 16.8 +1.5
CPUP *e*PKPbc PKPbc 18 58 24.9 +1.8
CPUP PKPbc PKPbc 18 58 25.7 +2.5
LPAZ La Paz 158.77 141 PKP PKPdf 18 58 26.0 +3.8
comp=Z,1.9nm,0.8s,baz=219,slow=1.1,SNR=9.0

IDC 18 18:43:02.2±1.2, 012S×12543E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML3.8/1, MS4.4/3, Ms1 4.4/3, ms1mx3.8/27, Error ellipse: s-maj=104.1km s-min=19.1km az=68.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.88**	**179**	P	Pn	18 47 13.3	+1.0
0.2nm,0.3s,baz=22,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**21.55**	**157**	P	P	18 47 52.6	-0.6
4.9nm,1.0s,baz=335,slow=10,SNR=9.0							
ASAR	**Alice Springs**	**24.81**	**161**	P	P	18 48 26.9	+0.9
1.8nm,0.5s,baz=344,slow=7.5,SNR=15							
STKA	**Stephens Creek**	**35.10**	**156**	P	P	18 49 57.1	-0.1
2.9nm,0.7s,baz=323,slow=10,SNR=6.4							
DZM	**Mont Dzumac**	**45.52**	**121**	LR	LR	19 07 39.1	
comp=Z,462nm,20.9s,baz=197,slow=32							
SONM	**Songino Array**	**50.55**	**343**	P	P	18 52 03.1	+0.8
0.3nm,0.5s,baz=158,slow=9.2,SNR=2.2							
MKAR	**Makanchi Array**	**60.01**	**327**	P	P	18 53 10.4	-0.3
0.7nm,0.4s,baz=118,slow=8.5,SNR=8.8							
URZ	**Urewera**	**60.70**	**135**	LR	LR	19 17 09.8	
comp=Z,521nm,21.5s,baz=308,slow=34							
BRTR	**Keskin Array B**	**91.45**	**310**	LR	LR	19 44 18.6	
comp=Z,94nm,20.5s,baz=266,slow=40							

MAN 18 19:02:39.9, 1376N×12055E, h87km, MS4.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**264**	*e*P	Pn	19 02 54.7	+1.8
LUBP				*e*S	Sn	19 03 05.4	+2.8
TGY	**Tagaytay City**	**0.51**	**48⇓**	*e*P	Pn	19 03 00.6	+6.3
TGY				*e*S	Sn	19 03 09.2	+4.0
BOAC	**Boac**	**1.30**	**103**	*e*P	Pn	19 03 03.3	+0.3
BUSP	**Coron**	**1.78**	**191**	*e*P	Pn	19 03 09.8	+0.7
OTRP	**Odiongan**	**2.00**	**134**	*e*P	Pn	19 03 13.3	+1.4
ENPP	**El Nido**	**2.77**	**203**	*e*P	Pn	19 03 23.1	+0.9

IDC 18 19:04:20.3±7.5, 3038S×17828W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.6/2, Error ellipse: s-maj=313.9km s-min=55.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.87**	**267**	P	P	19 12 20.4	+0.1
0.2nm,0.4s,baz=104,slow=7.4,SNR=7.9							
WRA	**Warramunga Arr**	**43.85**	**272**	P	P	19 12 28.5	+0.3
0.6nm,0.4s,baz=110,slow=8.1,SNR=16							
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc	PKPbc	19 23 57.5	-1.4
4.4nm,1.0s,baz=47,slow=4.2,SNR=9.3							

IDC 18 19:04:29.7±2.4, 583S×15123E, h48km±9km, mb3.2/2, mb1 3.6/2, mb1mx3.2/12, mbtmp3.5/2, Error ellipse: s-maj=100.8km s-min=31.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**21.59**	**228**	*e*P	P	19 09 14.2	-1.1
WRA	**Warramunga Arr**	**21.59**	**228**	P	P	19 09 14.6	-0.8
0.7nm,0.5s,baz=54,slow=11,SNR=11							
WRA				pP	pP	19 09 27.9	+1.3
1.2nm,0.5s,baz=54,slow=10,SNR=7.4							
ASAR	**Alice Springs**	**24.34**	**221**	P	P	19 09 43.0	0.0
1.3nm,0.7s,baz=56,slow=9.2,SNR=19							
ASAR				pP	pP	19 09 56.5	+1.2
1.4nm,0.6s,baz=58,slow=9.3,SNR=10.0							
ASPA	**Alice Springs**	**24.34**	**221**	*e*P	P	19 09 43.3	+0.3
TORD	**Torodi Ar. Bea**	**149.11**	**286**	PKPbc	PKPbc	19 24 13.9	+1.3
0.8nm,0.6s,baz=66,slow=2.7,SNR=6.5							
TORD				pPKPbc	pPKPbc	19 24 27.3	+0.2
1.3nm,0.7s,baz=65,slow=2.9,SNR=7.7							

ISCJB ***18*** *19:10:46.4±0.3, 4314N±003×053W±002, h14km±3km, Error ellipse: s-maj=4.8km s-min=2.8km az=2.3*
MDD ***18*** *19:10:47.9±0.2, 4309N×056W, h10km±2km, mbLg1.7/13, Error ellipse: s-maj=3.1km s-min=1.5km az=12.0, PRXIMO*
LDG ***18*** *19:10:47.6±0.1, 4309N×056W, h10km, Md2.2/3, Ml2.1/3, Error ellipse: s-maj=1.7km s-min=1.0km az=175.0*
CSEM ***18*** *19:10:47.8±0.1, 4312N×055W, h5km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.3km az=175.0*
STR ***18*** *19:10:47.7±0.1, 4307N×056W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 19:10:47.1±0.3, 4312N±003×054W±002, h13km±4km, n44, σ0°76/67, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.12**	**115**	Pg	**Pg**	**19 10 50.7**	**+0.4**
REYF				Sg	**Sg**	**19 10 53.2**	**+0.6**
REYF	**Montagne du Re**	**0.12**	**115**	P	**Pg**	**19 10 50.7**	**+0.4**
REYF				S	**Sg**	**19 10 53.1**	**+0.5**
ATE	**Arette**	**0.12**	**253**	Pg	**Pg**	**19 10 50.2**	**-0.1**
ATE	**Arette**	**0.12**	**253**	P	**Pg**	**19 10 50.2**	**-0.1**
ATE				S	**Sg**	**19 10 52.2**	**-0.4**
ETSF	**Etsaut**	**0.22**	**184**	*e*Pg	**Pg**	**19 10 52.0**	**+0.1**
ETSF				*e*Sg	**Sg**	**19 10 54.3**	**-0.9**
124nm,0.2s							
ETSF	**Etsaut**	**0.22**	**184**	*e*Pg	**Pg**	**19 10 52.0**	**+0.1**
ETSF				*e*Sg	**Sg**	**19 10 54.3**	**-0.9**
62nm,0.2s							
ORDF	**Ordiarp**	**0.30**	**288**	P	**Pg**	**19 10 53.4**	**+0.1**
ORDF				S	**Sg**	**19 10 57.8**	**+0.3**
LARF	**Larrau**	**0.34**	**256**	Pg	**Pg**	**19 10 54.0**	**+0.1**
LARF				Sg	**Sg**	**19 10 59.0**	**+0.5**
LARF	**Larrau**	**0.34**	**256**	P	**Pg**	**19 10 54.0**	**+0.1**
LARF				S	**Sg**	**19 10 59.0**	**+0.5**
LABF	**Labassere**	**0.46**	**99**	P	**Pg**	**19 10 56.8**	**+0.7**
LABF				S	**Sg**	**19 11 03.1**	**+0.9**
VIEF	**Viey**	**0.48**	**120**	Pg	**Pg**	**19 10 56.7**	**+0.2**
VIEF				Sg	**Sg**	**19 11 03.3**	**+0.4**
VIEF	**Viey**	**0.48**	**120**	P	**Pg**	**19 10 56.5**	**0.0**
VIEF				S	**Sg**	**19 11 03.0**	**+0.2**
SJPF	**Ste Jean**	**0.50**	**269**	*e*Pg	**Pg**	**19 10 56.9**	**0.0**
SJPF				*e*Sg	**Sg**	**19 11 03.3**	**-0.3**
16nm,0.2s							
SJPF	**Ste Jean**	**0.50**	**269**	*e*Pg	**Pg**	**19 10 56.9**	**0.0**
SJPF				*e*Sg	**Sg**	**19 11 03.3**	**-0.3**
8.1nm,0.2s							
OSSF	**Osses**	**0.55**	**285**	P	**Pg**	**19 10 57.0**	**-0.8**
OSSF				S	**Sg**	**19 11 05.6**	**+0.6**
EPF	**Esparros**	**0.65**	**98**	*e*Pg	**Pg**	**19 11 00.4**	**+0.6**
EPF				*e*Sg	**Sg**	**19 11 09.3**	**+0.9**
8.3nm,0.2s							
EPF	**Esparros**	**0.65**	**98**	*e*Pg	**Pg**	**19 11 00.4**	**+0.6**
EPF				*e*Sg	**Sg**	**19 11 09.3**	**+0.9**
4.2nm,0.2s							
EBIE	**Bielsa**	**0.66**	**131**	⇑Pg	**Pg**	**19 11 00.1**	**+0.1**
2.5nm,0.1s,SNR=18							
EBIE				Lg		19 11 08.4	
11nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**0.66**	**131**	Pg	**Pg**	**19 11 00.1**	**+0.1**
2.5nm,0.1s,SNR=18							
IPRE	**Itoiz**	**0.68**	**243**	Pg	**Pg**	**19 11 00.5**	**+0.2**
0.8nm,0.1s,SNR=7.9							
IPRE				Lg		19 11 09.8	
5.9nm,0.2s,SNR=11							
IPRE	**Itoiz**	**0.68**	**243**	Pg	**Pg**	**19 11 00.5**	**+0.3**
0.8nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**0.71**	**278**	Pg	**Pg**	**19 11 02.2**	**+1.2**
3.6nm,0.1s,SNR=4.0							
EALK				Lg		19 11 10.7	
14nm,0.1s,SNR=5.2							
ELIZ	**Elizondo**	**0.72**	**274**	Pg	**Pg**	**19 11 01.3**	**+0.1**
1.0nm,0.1s,SNR=7.9							
ELIZ				Lg		19 11 10.5	
4.3nm,0.2s,SNR=8.4							
IUSE	**Utxeti**	**0.76**	**257**	Pg	**Pg**	**19 11 00.3**	**-1.5**
0.3nm,0.1s,SNR=4.0							
IUSE				Lg		19 11 11.1	
3.4nm,0.1s,SNR=5.8							
IUSE	**Utxeti**	**0.76**	**257**	Pg	**Pg**	**19 11 00.3**	**-1.5**
0.3nm,0.1s,SNR=4.0							
ESAC	**San Caprasio**	**1.40**	**178**	Pg	**Pg**	**19 11 13.8**	**-0.2**
22nm,0.3s,SNR=5.4							
ESAC				Lg		19 11 32.2	
42nm,0.2s,SNR=12							
ESAC	**San Caprasio**	**1.40**	**178**	Pg	**Pg**	**19 11 13.8**	**-0.2**
22nm,0.3s,SNR=5.4							
EMIR	**Miracle**	**1.95**	**128**	Lg		19 11 49.9	
1.6nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**2.03**	**83**	*e*Pn	**Pn**	**19 11 20.5**	**-0.5**
MTLF	**Montolieu**	**2.03**	**83**	*e*Pg	**Pg**	**19 11 25.5**	**-0.5**
MTLF				*e*Sg	**Sg**	**19 11 51.1**	**-1.2**
1.7nm,0.3s							
MTLF	**Montolieu**	**2.03**	**83**	Pn	**Pn**	**19 11 20.5**	**-0.5**
MTLF				Pg	**Pg**	**19 11 25.5**	**-0.5**
MTLF				Lg		19 11 51.1	
0.9nm,0.3s							
MTLF	**Montolieu**	**2.03**	**83**	*e*Pg	**Pg**	**19 11 25.5**	**-0.5**
MTLF				*e*Sg	**Sg**	**19 11 51.1**	**-1.2**
0.9nm,0.3s							
LFF	**La Frestale**	**2.04**	**26**	*e*Pn	**Pn**	**19 11 20.9**	**-0.2**
LFF	**La Frestale**	**2.04**	**26**	*e*Pg	**Pg**	**19 11 26.2**	**0.0**
LFF				*e*Sg	**Sg**	**19 11 53.4**	**+0.7**
3.0nm,0.3s							
LFF	**La Frestale**	**2.04**	**26**	Pn	**Pn**	**19 11 20.9**	**-0.2**
LFF				Pg	**Pg**	**19 11 26.2**	**0.0**
LFF				Lg		19 11 53.4	
1.5nm,0.3s							
LFF	**La Frestale**	**2.04**	**26**	*e*Pg	**Pg**	**19 11 26.2**	**0.0**
LFF				*e*Sg	**Sg**	**19 11 53.4**	**+0.7**
1.5nm,0.3s							
EPOB	**Poblet**	**2.14**	**145**	Pg	**Pg**	**19 11 27.3**	**-0.8**
0.8nm,0.2s,SNR=4.0							
EPOB				Lg		19 11 54.3	
0.8nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.14**	**145**	Pg	**Pg**	**19 11 27.3**	**-0.8**
0.8nm,0.2s,SNR=4.0							
ERTA	**Horta de San J**	**2.26**	**163**	Pg	**Pg**	**19 11 28.0**	**-2.4**
0.3nm,0.2s,SNR=4.0							
ERTA				Lg		19 11 58.3	
4.7nm,0.4s,SNR=6.8							
ERTA	**Horta de San J**	**2.26**	**163**	Pg	**Pg**	**19 11 28.0**	**-2.4**
0.3nm,0.2s,SNR=4.0							
ETOR	**Torete**	**2.56**	**207**	Pn	**Pn**	**19 11 29.9**	**+1.6**
1.4nm,0.2s,SNR=7.9							
ETOR				Sn	**Sn**	**19 11 59.7**	**+0.3**
SNR=7.9							
ETOR				Lg		19 12 09.0	
4.0nm,0.3s,SNR=7.9							
ETOR	**Torete**	**2.56**	**207**	Pn	**Pn**	**19 11 29.9**	**+1.6**
1.4nm,0.2s,SNR=7.9							
ETOR				Sn	**Sn**	**19 11 59.7**	**+0.4**
SNR=7.9							
RJF	**Les Rejaudoux**	**2.64**	**33**	*e*Sg	**Sg**	**19 12 10.3**	**-1.5**
4.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.64**	**33**	*e*Sg	**Sg**	**19 12 10.3**	**-1.5**
2.3nm,0.2s							

IDC ***18*** *19:25:18.4±2.1, 994S×10785E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML3.6/1, Error ellipse: s-maj=99.8km s-min=18.6km az=51.0*
NEIC ***18*** *19:25:18.1±1.8, 1031S×10746E, h10km, mb4.2/4, Error ellipse: s-maj=83.8km s-min=12.2km az=50.0*
ISCJB ***18*** *19:25:21.8±2.0, 98S±04×108.1E±05, h33km, mb4.0/8, Error ellipse: s-maj=93.2km s-min=12.6km az=95.3*

ISC 18 19:25:24.1±2.0, 98S±04×1080E±05, h35km, n12, σ0°40/11, mb4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.98**	**136**	*e*P	**Pn**	**19 29 00.9**	**-5.2**
6.3nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.01**	**118**	P	**Pn**	**19 29 43.6**	**0.0**
0.1nm,0.3s,baz=314,slow=9.6,SNR=8.7							
WRA	**Warramunga Arr**	**27.36**	**115**	P	**P**	**19 31 05.5**	**-0.4**
1.7nm,0.7s,mb3.7,baz=284,slow=11,SNR=17							
WRAB	**Tennant Creek**	**27.37**	**115**	*e*P	**P**	**19 31 06.0**	**+0.1**
2.2nm,0.7s,mb3.8							
ASAR	**Alice Springs**	**28.33**	**122**	P	**P**	**19 31 14.6**	**+0.1**
1.4nm,0.7s,mb3.7,baz=298,slow=8.4,SNR=17							
ASAR				PcP	PcP	19 34 25.9	-0.8
0.2nm,0.7s,baz=264,slow=1.7,SNR=4.8							
STKA	**Stephens Creek**	**38.08**	**130**	P	**P**	**19 32 39.3**	**+0.1**
4.1nm,0.6s,mb4.3,baz=284,slow=7.4,SNR=13							
STKA	**Stephens Creek**	**38.08**	**130**	*e*P	**P**	**19 32 39.3**	**0.0**
LSA	**Lhasa**	**42.49**	**338**	*e*P	**P**	**19 33 15.3**	**-0.6**
5.0nm,0.7s,mb4.2							
SONM	**Songino Array**	**57.41**	**359**	P	**P**	**19 35 09.2**	**+0.1**
1.1nm,0.7s,mb4.0,baz=171,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**60.84**	**340**	P	**P**	**19 35 33.7**	**+0.9**
1.6nm,0.7s,mb4.3,baz=144,slow=9.1,SNR=15							
CHKZ	**Chkalovo**	**70.73**	**338**	*e*P	**P**	**19 36 36.1**	**-0.4**
1.5nm,0.8s,mb4.0							
TXAR	**Lajitas Array**	**144.60**	**52**	PKP	PKPdf	19 44 57.6	+0.7
0.6nm,0.7s,baz=184,slow=1.5,SNR=6.6							

ISCJB ***18*** *20:15:48.8±0.4, 5454S±007×1187W±01, h10km, mb4.6/18, MS5.0/18, Error ellipse: s-maj=11.2km s-min=10.6km az=128.2*

*IDC **18** 20:15:48.9±0.6,5456S×11863W,h0km,mb4.2/12, mb1 4.5/12,mb1mx4.4/15,mbtmp4.2/12,MS4.9/16, Ms1 4.9/16,ms1mx4.7/25,Error ellipse: s-maj=25.6km s-min=15.5km az=151.0*

*MOS **18** 20:15:50.9±2.5,5481S×11880W,h10km,mb5.0/5,Error ellipse: s-maj=35.6km s-min=17.4km az=82.1*

*NEIC **18** 20:15:50.6±0.4,5458S×11853W,h10km,mb5.0/7,Error ellipse: s-maj=17.4km s-min=11.0km az=150.0*

*GCMT **18** 20:15:50.6±0.1,5476S×11864W,h12km,MW5.3/93, Moment Tensor Solution. s71,c119; s93,c168; Duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$0.52±.02; $M_{\phi\phi}$-0.38±.02; $M_{r\theta}$0.21±.04; $M_{\theta\phi}$0.97±.01; $M_{\phi r}$0.21±.04; Best double couple: $M_0$1.10900×10^{17} NP1:ϕ_s103.00000°,δ78.00000°, λ6.00000°. NP2:ϕ_s12.00000°,δ84.00000°,λ168.00000°. Principal axes: T 1.2030, Plg12.0000°, Azm327.0000°; N -0.1880, Plg77.0000°, Azm167.0000°; P -1.0150, Plg4.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **18** 20:15:51.6,5460S×11850W,h10km,mB5.1,Ms5.3, Msz5.1*

ISC 18 20:15:50.1±0.4,5453S±007×1187W±01,h10km,n82, σ1ŝ19/35,mb4.6/18,MS5.0/18,5C-1D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**28.23**	**18**	LR	LR	20 30 15.0	
	comp=Z,1μm,18.8s,MS4.5,baz=206,slow=31						
PMSA	**Palmer Station**	**28.51**	**133**	LR	LR	20 30 16.5	
	comp=Z,4μm,18.6s,MS5.0,baz=284,slow=30						
USHA	**Ushuaia**	**28.55**	**111**	LR	LR	20 29 55.4	
	comp=Z,3μm,21.5s,MS4.8,baz=223,slow=30						
RKT	**Rikitea**	**33.66**	**332**	*e*S	**S**	**20 27 52.5**	**-1.3**
RKT	427nm,29.2s						
	6μm,27.5s,baz=164			*e*LR	LR	20 31 32.4	
PLCA	**Paso Flores**	**34.54**	**87**	P	**P**	**20 22 39.8**	**+1.2**
	1.6nm,0.7s,mb4.1,baz=206,slow=11,SNR=5.1						
PLCA				LR	LR	20 33 16.1	
	comp=Z,1μm,18.7s,MS4.6,baz=116,slow=30						
VNDA	**Vanda**	**35.28**	**202**	P	**P**	**20 22 46.5**	**+1.5**
	2.1nm,0.8s,mb4.1,baz=98,slow=7.8,SNR=15						
VNDA	**Vanda**	**35.28**	**202**	*e*P	**P**	**20 22 46.7**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**35.28**	**202**	*e*P	**P**	**20 22 46.7**	**+1.6**
	comp=Z,6.7nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**35.66**	**180**	*e*P	**P**	**20 22 48.6**	**+0.3**
	comp=Z,22nm,1.1s,mb5.0						
TBI	**Tubuai**	**38.69**	**311**	*e*S	**S**	**20 29 09.5**	**-1.3**
	comp=Z,304nm,30.0s						
TBI				*e*LR	LR	20 33 55.7	
	comp=Z,4μm,26.8s,baz=154						
CFAA	**Coronel Fontan**	**42.23**	**78**	P	**P**	**20 23 42.0**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=246,slow=7.3,SNR=8.8						
CFAA				LR	LR	20 37 23.5	
	comp=Z,164nm,18.6s,baz=218,slow=31						
PPT	**Papeete**	**43.87**	**315**	*e*S	**S**	**20 30 26.1**	**-1.5**
	comp=Z,432nm,26.5s						
PPT				*e*LQ		20 33 58.1	
	comp=Z,4μm,28.2s						
PPT				*e*LR	LR	20 36 23.0	
	comp=Z,6μm,25.5s,baz=159						
PPT	**Papeete**	**43.87**	**315**	LR	LR	20 37 12.5	
	comp=Z,2μm,21.9s,MS5.1,baz=150,slow=29						
SNAA	**Sanae**	**46.34**	**157**	P	**P**	**20 24 15.6**	**-0.6**
	comp=Z,1.3nm,0.9s,mb3.9,baz=220,slow=1.2,SNR=9.7						
LVC	**Limon Verde**	**48.82**	**70**	LR	LR	20 40 10.4	
	comp=Z,957nm,18.2s,MS4.8,baz=218,slow=30						
LVC	**Limon Verde**	**48.82**	**70**	*e*P	**P**	**20 24 34.2**	**-1.2**
	comp=Z,21nm,1.4s,mb5.0						
NVL	**N'lazarevskaya**	**50.12**	**161**	*c i*P	**P**	**20 24 46.4**	**+1.0**
NVL				*e*		20 26 44.4	
NVL				*i* S	**S**	**20 32 00.8**	**+3.9**
NVL				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
NVL				MLR	MLR		
	comp=Z,2μm,15.8s,MS5.2						
NVL				MLR	MLR		
	comp=N,1μm,16.9s,MS5.0						
NVL				MLR	MLR		
	comp=E,985nm,17.2s,MS5.0						
CPUP	**Villa Florida**	**52.47**	**83**	P	**P**	**20 25 01.1**	**-1.9**
	comp=E,0.3nm,0.3s,mb3.7,baz=189,slow=6.2,SNR=4.1						
CPUP				LR	LR	20 44 40.4	
	comp=E,2μm,18.2s,MS5.2,baz=211,slow=33						
CPUP	**Villa Florida**	**52.47**	**83**	*e*P	**P**	**20 25 00.6**	**-2.4**
CPUP				pmax	pmax		
	comp=Z,44nm,1.4s						
CPUP	**Villa Florida**	**52.47**	**83**	*e*P	**P**	**20 25 00.6**	**-2.4**
	comp=Z,44nm,1.4s,mb5.2						
CPUP				LR	LR	20 44 40.4	
NNA	**Nana**	**53.66**	**54**	LR	LR	20 42 25.4	
	comp=Z,695nm,18.1s,MS4.8,baz=158,slow=30						
LPAZ	**La Paz**	**54.40**	**66**	P	**P**	**20 25 18.9**	**+1.7**
	comp=Z,3.5nm,1.1s,mb4.2,baz=198,slow=6.8,SNR=15						
LPAZ				LR	LR	20 42 43.2	
	comp=Z,1μm,21.6s,MS4.9,baz=29,slow=30						
SYO	**Syowa Base**	**55.75**	**171**	‖*e*P	**P**	**20 25 25.0**	**-1.9**
MIR	**Mirnyy**	**56.89**	**195**	*c i*P	**P**	**20 25 33.0**	**-2.1**
MIR				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ATAH	**Atahualpa**	**57.34**	**50**	LR	LR	20 44 21.2	
	comp=Z,2μm,19.5s,MS5.1,baz=191,slow=30						
MAW	**Mawson**	**58.18**	**181**	P	**P**	**20 25 43.2**	**-1.0**
	comp=Z,8.6nm,1.1s,mb4.7,baz=167,slow=4.8,SNR=6.9						
MAW				LR	LR	20 51 27.2	
	comp=Z,527nm,19.1s,MS4.7,baz=175,slow=37						
BDFB	**Brasilia**	**66.20**	**84**	LR	LR	20 53 14.1	
	comp=Z,1μm,18.2s,MS5.1,baz=58,slow=34						
STKA	**Stephens Creek**	**69.92**	**243**	P	**P**	**20 27 01.5**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=117,slow=4.5,SNR=3.5						
STKA				LR	LR	20 52 00.5	
	comp=Z,1μm,19.3s,MS5.2,baz=103,slow=31						
AS31	**Alice Springs**	**80.54**	**242**	*e*P	**P**	**20 28 03.1**	**+0.6**
ASAR	**Alice Springs**	**80.54**	**242**	P	**P**	**20 28 02.5**	**+0.1**
	comp=Z,8.1nm,1.2s,mb4.5,baz=152,slow=5.0,SNR=15						
ASAR				LR	LR	20 59 03.1	
	comp=Z,1μm,18.8s,MS5.2,baz=150,slow=32						
ASPA	**Alice Springs**	**80.54**	**242**	*e*P	**P**	**20 28 03.1**	**+0.6**
WB2	**Warramunga Arr**	**83.37**	**245**	*e*P	**P**	**20 28 18.3**	**+0.9**
WRA	**Warramunga Arr**	**83.37**	**245**	P	**P**	**20 28 17.2**	**-0.2**
	comp=Z,14nm,1.1s,mb4.9,baz=146,slow=4.6,SNR=31						
WRA				LR	LR	21 01 28.6	
	comp=Z,526nm,18.1s,MS5.0,baz=135,slow=33						
WRA	**Warramunga Arr**	**83.37**	**245**	P	**P**	**20 28 17.2**	**-0.2**
WRA				LR	LR	21 01 28.6	
WRAB	**Tennant Creek**	**83.37**	**245**	*e*P	**P**	**20 28 16.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**83.37**	**245**	*e*P	**P**	**20 28 16.6**	**-0.8**
	comp=Z,31nm,1.3s,mb5.2						
TXAR	**Lajitas Array**	**84.52**	**13**	P	**P**	**20 28 24.4**	**+1.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=181,slow=7.5,SNR=6.6						
TXAR	**Lajitas Array**	**84.52**	**13**	P	**P**	**20 28 24.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**89.38**	**239**	*e*P	**P**	**20 28 47.9**	**+1.0**
	comp=Z,8.9nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**89.38**	**239**	P	**P**	**20 28 47.0**	**+0.1**
	comp=Z,7.1nm,1.1s,mb4.9,baz=145,slow=5.2,SNR=7.3						
MVCO	**Mesa Verde**	**91.79**	**8**	*e*P	**P**	**20 28 59.2**	**+1.1**
	comp=Z,4.3nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**92.59**	**0**	P	**P**	**20 29 03.2**	**+1.4**
	comp=Z,1.0nm,0.9s,mb4.2,baz=193,slow=8.2,SNR=3.8						
EKA	**Eskdalemuir Ar**	**144.13**	**62**	PKP	PKPdf	20 35 23.6	-2.5
	comp=Z,2.9nm,0.8s,baz=256,slow=3.4,SNR=6.6						
HIA	**Hailar**	**144.47**	**286**	*e*PKHKP		20 35 23.5	
YAK	**Yakutsk**	**144.87**	**310**	*e*PKP2	PKPdf	20 35 24.2	-3.1
YAK				pmax	pmax		
	comp=Z,29nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.7s						
YAK				pmax	pmax		
	comp=E,11nm,1.4s						
CLNS	**Chul'man**	**145.22**	**300**	*e*PKP2	PKPab	20 35 25.7	-1.9
CLNS				pmax	pmax		
	comp=N,22nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,34nm,1.1s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
LZH	**Lanzhou**	**145.53**	**255**	*e*PKP	PKPbc	20 35 30.8	+2.2
LZH	**Lanzhou**	**145.53**	**255**	*e*P	PKPbc	20 35 30.7	+2.1
LZH				pP		20 35 43.6	
LZH				sP		20 35 48.3	
TIP	**Timpagrande**	**146.52**	**99**	*e*PKPdf	PKPdf	20 35 30.9	+0.8
LSA	**Lhasa**	**147.19**	**233**	PKP	PKPbc	20 35 33.3	-0.2
LSA	**Lhasa**	**147.19**	**233**	*e*PKPdf	PKPdf	20 35 33.1	+1.8
TIXI	**Tiksi**	**147.27**	**327**	*e*PKIKP	PKPdf	20 35 30.5	-0.9
TIXI				*i*		20 35 35.7	
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s						
DAVA	**Damuels**	**147.41**	**81**	⇑*i*P	PKPbc	20 35 33.9	-0.2
	comp=Z,12nm,1.1s						
PKI	**Pulchoki**	**147.83**	**223**	*e*P	PKPbc	20 35 35.5	+0.3
	comp=Z,54nm,1.2s						
GUN	**Gumba**	**147.94**	**224**	*e*P	PKPbc	20 35 35.2	-0.3
	comp=Z,51nm,0.9s						
DMN	**Daman**	**147.98**	**222**	*e*P	PKPbc	20 35 34.7	-0.9
	comp=Z,80nm,1.2s						
KKN	**Kakani**	**148.07**	**223**	*e*P	PKPbc	20 35 35.2	-0.7
	comp=Z,65nm,1.1s						
MOTA	**Moosalm**	**148.15**	**82**	⇑*i*P	PKPbc	20 35 35.3	-0.8
	comp=Z,11nm,1.1s						
GKN	**Gorkha**	**148.52**	**222**	*e*P	PKPbc	20 35 36.0	-1.0
	comp=Z,65nm,1.3s						
KOLN	**Koldanda**	**148.71**	**220**	*e*P	PKPbc	20 35 37.0	-0.5
	comp=Z,83nm,1.5s						
CIT	**Chita**	**149.25**	**287**	*e*PKIKP	PKPdf	20 35 35.8	+1.2
GRA1	**Grafenberg Arr**	**149.40**	**78**	*e*PKP	PKPbc	20 35 38.4	-0.9
GRF	**Grafenberg Arr**	**149.40**	**78**	*e*PKHKP	PKPbc	20 35 38.4	-0.9
MOX	**Moxa**	**150.07**	**77**	*e*P	PKPbc	20 35 43.0	+2.1
	comp=Z,46nm,2.0s						
GTA	**Gaotai**	**150.13**	**256**	*e*PKP	PKPbc	20 35 40.8	-0.3
GTA				APKP		20 35 44.8	
GTA				PKS		20 39 16.3	
GTA				SKS	SKSdf	20 42 46.5	+2.5
GTA				PP	PP		
	comp=Z,103nm,6.9s						
GTA				LR	LR		
	comp=N,152nm,13.0s,MS5.1						
GTA				LR	LR		
	comp=E,143nm,15.7s,MS5.1						
GTA				LR	LR		
	comp=Z,238nm,19.1s,MS5.0						
NKC	**Novy Kostel**	**150.35**	**78**	*e*PKPbc	PKPbc	20 35 44.0	+2.4
GEC2	**GERESS Array S**	**150.41**	**81**	*e*PKIKP	PKPbc	20 35 39.6	-2.1
GERES	**GERESS Array B**	**150.41**	**81**	PKPbc	PKPbc	20 35 40.9	-0.8
	comp=Z,3.8nm,0.8s,baz=242,slow=2.3,SNR=14						
KHC	**Kasperske Hory**	**150.48**	**81**	*e*PKPbc	PKPbc	20 35 43.2	+1.3
ARSA	**Arzberg**	**150.66**	**85**	⇑*i*P	PKPbc	20 35 42.0	-0.3
	comp=Z,8.1nm,0.9s						
BOD	**Bodaibo**	**151.10**	**298**	*e*PKIKP	PKPdf	20 35 40.7	+3.2
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**151.15**	**76**	*e*PKPbc	PKPbc	20 35 45.0	+1.5
	comp=Z,10.0nm,1.1s						
CLL				*e*PKPab	PKPab	20 35 50.0	-1.2
	comp=Z,17nm,1.4s						
CLL				*e*pPKPab	pPKPab	20 36 00.0	+5.4
CLL				LmV		21 36 00.0	
	comp=Z,200nm,20.5s						
SONM	**Songino Array**	**151.37**	**275**	PKPbc	PKPbc	20 35 43.2	-0.8
	comp=Z,1.1nm,0.6s,baz=119,slow=1.4,SNR=8.8						
PRU	**Pruhonice**	**151.44**	**80**	*e*PKPbc	PKPbc	20 35 46.1	+1.9
BRG	**Berggiesshubel**	**151.49**	**78**	*e*P	PKPbc	20 35 44.1	-0.1
BRG				*e*		20 36 06.2	
	comp=Z,9.6nm,1.7s						
BRG							
	comp=N,403nm,17.3s						
BRG							
	comp=E,298nm,22.4s						
BRG							
	comp=Z,391nm,26.1s						
BRG	**Berggiesshubel**	**151.49**	**78**	*e*P	PKPbc	20 35 44.1	-0.1
BRG				*e*		20 36 06.2	
BRG				LR	LR		
	comp=Z,390nm,26.0s,MS5.1						
DPC	**Dobruska-Polom**	**152.62**	**80**	*e*PKPbc	PKPbc	20 35 49.6	+2.8
ZAK	**Zakamensk**	**154.38**	**278**	*e*PKP2	PKPab	20 36 05.3	+0.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MLR	**Muntele Rosu**	**155.77**	**97**	PKPab	PKPab	20 36 10.3	-0.5
	comp=Z,10nm,1.1s,baz=62,slow=7.2,SNR=5.2						
BRTR	**Keskin Array B**	**156.25**	**117**	PKPab	PKPab	20 36 13.1	+0.3
	comp=Z,4.2nm,0.8s,baz=192,slow=3.4,SNR=13						
BR131	**Keskin Array S**	**156.26**	**117**	*e*PKPab	PKPab	20 36 13.0	+0.1
MKAR	**Makanchi Array**	**164.65**	**248**	PKPab	PKPab	20 36 50.0	+0.6
	comp=Z,2.4nm,1.0s,baz=108,slow=4.0,SNR=5.6						

*ISCJB **18** 20:34:26.7±1.3,16.14S±009×749W±0.1,h68km±16km, mb3.9/5,Error ellipse: s-maj=23.7km s-min=10.5km az=117.5*

*IDC **18** 20:34:28.4±2.2,16.13S×7482W,h59km±20km,mb3.5/4, mb1 3.7/10,mb1mx3.6/21,mbtmp3.8/10,ML4.2/5,Error ellipse: s-maj=29.9km s-min=16.0km az=57.0*

*NEIC **18** 20:34:28.6±1.4,16.12S×7480W,h65km±13km,mb4.2/1, Error ellipse: s-maj=21.2km s-min=10.9km az=60.0*

ISC 18 20:34:28.6±1.1,1616S±009×749W±01,h66km±13km,n19, σ0ŝ78/18,mb3.9/5,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.55**	**336**	P	**Pn**	**20 35 35.0**	**0.0**
	5.4nm,0.3s,baz=144,slow=16,SNR=9.5						
NNA				S	**Sn**	**20 36 36.5**	**+10**
	18nm,0.3s,baz=240,slow=15,SNR=3.5						
LPAZ	**La Paz**	**6.52**	**92**	P	**Pn**	**20 36 02.3**	**+0.5**
	2.1nm,0.3s,baz=280,slow=8.2,SNR=43						
LPAZ				S	**Sn**	**20 37 26.9**	**+12**
	baz=330,slow=20,SNR=2.2						
LVC	**Limon Verde**	**8.56**	**139**	P	**Pn**	**20 36 29.4**	**-0.3**
	1.6nm,0.3s,baz=306,slow=10,SNR=18						
LVC				S	**Sn**	**20 37 58.3**	**-6.4**
	1.0nm,0.3s,baz=288,slow=23,SNR=2.6						
LVC				Lg		20 39 01.1	
	0.2nm,0.3s,baz=88,slow=16,SNR=4.1						
ATAH	**Atahualpa**	**9.72**	**339**	P	**Pn**	**20 36 45.5**	**-0.1**
	0.4nm,0.3s,baz=39,slow=15,SNR=2.3						
SIV	**San Ignacio**	**13.31**	**91**	P	**Pn**	**20 37 28.9**	**-5.6**
	0.3nm,0.3s,baz=290,slow=10,SNR=6.2						
SAML	**Samuel**	**13.51**	**59**	*e*P	**Pn**	**20 37 31.7**	**-5.4**
	3.7nm,0.8s						
CFAA	**Coronel Fontan**	**16.53**	**160**	P	**Pn**	**20 38 17.1**	**+1.0**
	0.1nm,0.3s,baz=25,slow=4.7,SNR=2.7						
CPUP	**Villa Florida**	**19.24**	**125**	P	**Pn**	**20 38 47.6**	**-1.4**
	0.4nm,0.3s,baz=279,slow=7.9,SNR=5.0						
CPUP	**Villa Florida**	**19.24**	**125**	*e*P	**Pn**	**20 38 44.8**	**-4.2**
	23nm,1.4s						
PLCA	**Paso Flores**	**24.77**	**172**	P	**P**	**20 39 43.1**	**-0.9**
	0.7nm,0.7s,mb3.2,baz=221,slow=7.3,SNR=2.0						
SDV	**Santo Domingo**	**25.25**	**10**	P	**P**	**20 39 47.3**	**-1.1**
	1.3nm,0.3s,mb3.8,baz=246,slow=19,SNR=4.1						
BDFB	**Brasilia**	**25.87**	**93**	P	**P**	**20 39 53.7**	**-0.3**
	1.9nm,0.4s,mb3.9,baz=249,slow=8.8,SNR=4.4						
TXAR	**Lajitas Array**	**53.07**	**328**	P	**P**	**20 43 39.7**	**+0.7**
	0.3nm,0.5s,mb3.6,baz=142,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**81.13**	**74**	P	**P**	**20 46 37.9**	**+1.2**
	14nm,0.7s,mb5.0,baz=262,slow=5.5,SNR=246						
TORD	**Torodi Ar. Bea**	**81.13**	**74**	P	**P**	**20 46 37.9**	**+1.2**
ASAR	**Alice Springs**	**131.42**	**216**	PKP	PKPdf	20 53 35.9	+2.5
	0.6nm,0.8s,baz=126,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**134.02**	**220**	PKP	PKPdf	20 53 41.4	+3.2
	0.7nm,0.7s,baz=136,slow=1.7,SNR=9.5						
MKAR	**Makanchi Array**	**144.07**	**27**	PKP	PKPdf	20 53 55.4	-1.2
	0.4nm,0.6s,baz=270,slow=3.6,SNR=3.7						
SONM	**Songino Array**	**148.40**	**358**	PKPbc	PKPbc	20 54 08.6	+1.1
	1.4nm,0.7s,baz=352,slow=1.7,SNR=11						

*STR **18** 20:40:01.1±0.4,4633N×343E,h5km±1km,Ml1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 18 20:39:59.9±0.1,4638N×345E,h19km,Md1.8/6,Ml1.7/2, Error ellipse: s-maj=3.0km s-min=1.3km az=139.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMF	**Signal de Mont**	**0.39**	**45**	*e*Pg	Pg	20 40 07.8	-0.2
SMF				*e*Sg	Sg	20 40 12.9	-0.5
	6.3nm,0.3s						
AGO	**Saint Agoulin**	**0.39**	**214**	Pg	Pg	20 40 08.0	0.0
AGO				Sg	Sg	20 40 13.4	-0.1
AVF	**Avril sur Loir**	**0.42**	**351**	*e*Pg	Pg	20 40 08.7	+0.1
AVF				*e*Sg	Sg	20 40 14.6	+0.2
	0.8nm,0.2s						
PLDF	**La Plantade**	**0.42**	**163**	Pg	Pg	20 40 08.9	+0.3
PLDF				Sg	Sg	20 40 14.2	-0.3
BGF	**Bois d'Agland**	**0.45**	**294**	*e*Pg	Pg	20 40 09.4	+0.2
BGF				*e*Sg	Sg	20 40 15.2	-0.2
	2.2nm,0.3s						
SSF	**Saint Saulge**	**0.69**	**4**	*e*Pg	Pg	20 40 13.2	-0.3
SSF				*e*Sg	Sg	20 40 22.6	-0.1
	0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**0.86**	**265**	*e*Pg	Pg	20 40 16.1	-0.6
TCF				*e*Sg	Sg	20 40 27.7	-0.4
	1.2nm,0.2s						
LOR	**Lormes**	**0.94**	**18**	*e*Pg	Pg	20 40 18.0	-0.2
LOR				*e*Sg	Sg	20 40 30.4	-0.2
	2.5nm,0.2s						
HYF	**Humbligny**	**1.05**	**329**	*e*Pg	Pg	20 40 19.6	-0.7

NEIC 18 20:59:21.0,3654N×8964W,h8km,MD3.4(CERI),After CERI.,New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVMO	**Portageville**	**0.14**	**201**	*e*P	Pg	20 59 23.3	-0.6
PARMO	**Parma**	**0.15**	**324**	*e*P	Pg	20 59 23.7	-0.6
GLAT	**Glass**	**0.39**	**133**	*e*P	Pg	20 59 28.5	-0.2
UTMT	**University of**	**0.66**	**107**	*e*P	Pg	20 59 33.1	-0.6
UTMT				*e*S	Sg	20 59 41.9	-0.3
SIUC	**Southern Illin**	**1.22**	**16**	*e*P	Pb	20 59 42.7	-1.6
SIUC				*e*Sb	Sb	20 59 58.4	-1.8
HBAR	**Harrisburg**	**1.28**	**220**	*e*P	Pn	20 59 43.9	-1.3
HBAR				*e*S	Sb	20 59 59.1	-2.9
MET	**Memphis--Engin**	**1.44**	**190**	*e*P	Pn	20 59 45.5	-1.7
MET				*e*Sb	Sb	21 00 05.5	-0.9
PLAL	**Pickwick Lake**	**2.01**	**140**	*e*P	Pn	20 59 53.8	-1.3
PLAL				*e*Sb	Sb	21 00 21.2	-1.7
OXF	**Oxford**	**2.03**	**175**	*e*Pn	Pn	20 59 54.7	-0.8
OXF				*e*Sb	Sb	21 00 22.5	-1.1
USIN	**University of**	**2.12**	**47**	*e*Pn	Pn	20 59 57.0	+0.3
USIN				*e*Sb	Sb	21 00 25.9	-0.2
SLM	**Saint Louis**	**2.15**	**347**	*e*Pn	Pn	20 59 57.9	+0.8
SLM				*e*Sn	Sn	21 00 25.6	+1.8
UALR	**University of**	**2.82**	**232**	*e*Pn	Pn	21 00 05.8	-0.5
WCI	**Wyandotte Cave**	**3.15**	**57**	*e*Pn	Pn	21 00 10.4	-0.5
SWET	**Sewanee**	**3.29**	**113**	*e*Pn	Pn	21 00 13.3	+0.5
SWET				*e*Pb	Pb	21 00 19.6	0.0
BLO	**Bloomington**	**3.60**	**42**	*e*Pn	Pn	21 00 18.1	+1.0
BLO				*e*Sb	Sb	21 01 10.4	+1.6
CPCT	**Cooper Cave**	**4.29**	**103**	*e*Pn	Pn	21 00 27.5	+1.0
CPCT				*e*Sb	Sb	21 01 30.1	+1.6
TZTN	**Tazewell**	**4.91**	**88**	*e*Sb	Sb	21 01 49.1	+2.9
SCIA	**State Center**	**6.04**	**334**	*e*Pn	Pn	21 00 49.7	-0.8
KSU1	**Kansas State U**	**6.08**	**297**	*e*Pn	Pn	21 00 50.4	-0.8
KSU1				*e*Pb	Pb	21 01 05.8	-1.4
KSU1				*e*Pg	Pg	21 01 12.5	-4.9
KSU1				*e*Sn	Sn	21 01 58.0	-2.8
KSU1				*e*Sg	Sg	21 02 29.4	-6.8
JFWS	**Jewell Farm**	**6.38**	**356**	*e*Pn	Pn	21 00 57.9	+2.6
ACSO	**Alum Creek Sta**	**6.40**	**53**	*e*Pn	Pn	21 00 53.1	-2.4
FWV	**Forest Hill**	**7.14**	**79**	*e*Pn	Pn	21 00 57.3	-8.3
FWV				*e*S	Sn	21 02 58.5	+32
ELN	**Prospectdale**	**7.16**	**82**	*e*Pn	Pn	21 01 02.4	-3.5
AAM	**Ann Arbor**	**7.38**	**37**	*e*Sg	Sg	21 03 07.4	-11
BLA	**Blacksburg**	**7.42**	**82**	*e*Pn	Pn	21 01 11.5	+2.0
	237nm,0.8s						
WMOK	**Wichita Mounta**	**7.66**	**259**	*e*Pn	Pn	21 01 12.9	+0.1
ECSD	**EROS,Sioux Fal**	**8.95**	**326**	*e*Pn	Pn	21 01 28.9	-1.7
MNTX	**Cornudas Mount**	**13.90**	**254**	*e*Pn	Pn	21 02 35.4	-2.9
MNTX				Sn	Sn	21 05 09.0	-3.8

IDC 18 21:12:04.6±59.0,1835S×17994W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/13,mbtmp3.9/3,Error ellipse: s-maj=1069.0km s-min=156.8km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.14**	**241**	P	P	21 19 17.9	+0.9
	0.9nm,0.5s,baz=83,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**43.12**	**260**	P	P	21 20 06.9	+0.3
	0.8nm,0.4s,baz=97,slow=7.6,SNR=35						
ASAR	**Alice Springs**	**43.27**	**255**	P	P	21 20 07.7	-0.1
	1.2nm,0.6s,baz=90,slow=7.6,SNR=19						

*IDC **18** 21:15:45.8±0.5,483N×8266W,h0km,mb4.5/18, mb1 4.7/22,mb1mx4.6/27,mbtmp4.6/22,ML4.2/4,MS4.8/28, Ms1 4.8/28,ms1mx4.7/33,Error ellipse: s-maj=20.6km s-min=10.9km az=62.0*

*ISCJB **18** 21:15:47.4±1.1,499N±003×8265W±002,h13km±7km, mb4.9/58,MS4.9/153,Error ellipse: s-maj=4.9km s-min=3.6km az=70.5*

*CASC **18** 21:15:48.1±2.4,483N×8278W,h35km±

baz=88,slow=17,SNR=2.2
ROSC LR LR 21 20 33.4
comp=Z,3µm,20.8s,baz=19,slow=35
ROSC El Rosal 8.28 90 *eP* **Pn 21 17 52.1 +3.4**
ROSC El Rosal 8.28 90 *eP* **Pn 21 17 49.6 +0.9**
PAYG Puerto Ayora 9.47 234 *eP* **Pn 21 18 04.1 -1.0**
409nm,1.3s
OCAC Ocana 9.81 70 *eP* **Pn 21 18 11.0 +1.2**
TGUH Tegucigalpa,Un 10.13 334 *eP* **Pn 21 18 17.7 +3.5**
100nm,0.8s
SDV Santo Domingo 12.54 71 Pn **Pn 21 18 47.2 +0.1**
0.5nm,0.3s,baz=260,slow=11,SNR=25
SDV LR LR 21 23 43.4
comp=Z,4µm,20.6s,baz=262,slow=38
SDV Santo Domingo 12.54 71 *eP* **Pn 21 18 47.1 +0.1**
42nm,0.8s
ATAH Atahualpa 12.61 160 Pn **Pn 21 18 43.6 -4.5**
0.7nm,0.3s,baz=267,slow=14,SNR=2.2
ATAH Sn **Sn 21 21 06.1 -2.6**
1.7nm,0.3s,baz=105,slow=20,SNR=3.0
ATAH LR LR 21 23 15.6
comp=Z,35µm,19.4s,baz=333,slow=36
CCIG Comitan 14.62 321 *eP* **Pn 21 19 13.8 -1.6**
RCC Rio Carpintero 16.40 24 *eP* **Pn 21 19 33.5 -5.5**
RCC *eP* 21 19 56.9
CMIG Matias Romero 17.01 316 P **Pn 21 19 44.8 -1.9**
0.5nm,0.3s,baz=121,slow=6.8,SNR=13
CMIG LR LR 21 25 28.6
comp=Z,3µm,19.1s,baz=121,slow=34
NNA Nana 17.79 161 Pn **Pn 21 19 55.3 -1.1**
495nm,0.8s,SNR=6.8
NNA Nana 17.79 161 P **Pn 21 19 53.9 -2.5**
3.5nm,0.3s,baz=326,slow=7.3,SNR=15
NNA S **Sn 21 23 00.9 -14**
4.4nm,0.3s,baz=142,slow=9.8,SNR=5.3
NNA LR LR 21 26 08.3
comp=Z,5µm,20.6s,baz=317,slow=35
NNA Nana 17.79 161 *eP* **Pn 21 19 53.5 -2.9**
105nm,1.0s
OXX Oaxaca 18.32 312 *eP* **Pn 21 20 04.0 +1.1**
VHO Vista Hermosa 18.32 312 *eP* **Pn 21 19 58.1 -4.8**
PCRV Puerto La Cruz 18.58 73 P **Pn 21 20 06.4 +0.4**
0.8nm,0.3s,baz=257,slow=4.6,SNR=13
SJG San Juan 20.75 50 P **P 21 20 31.4 +1.8**
69nm,0.8s,baz=274,slow=6.4,SNR=13
SJG LR LR 21 27 32.8
comp=Z,1µm,21.4s,MS4.3,baz=270,slow=34
SJG San Juan 20.75 50 *eP* **P 21 20 30.0 +0.4**
SJG pmax pmax
comp=Z,89nm,0.9s
SJG MLR MLR
comp=Z,1µm,22.0s
SJG San Juan 20.75 50 *eP* **P 21 20 30.0 +0.4**
comp=Z,89nm,0.9s
SJG LR LR
comp=Z,1µm,22.0s,MS4.3
CPD Cerro la Pandu 20.89 50 *eP* **P 21 20 31.6 +0.6**
PPM Popocatepetl 20.98 313 *i P* **P 21 20 32.4 +0.4**
MTP Monte Pirata 21.20 51 *eP* **P 21 20 33.8 -0.6**
PLIG Platanillo 21.21 310 *i P* **P 21 20 42.7 +8.2**
UNM Universidad Na 21.54 313 *eP* **P 21 20 40.0 +1.9**
SVB Belmont 22.66 67 *eP* **P 21 20 51.7 +1.7**
SSV Crater Summit 22.73 67 *eP* **P 21 20 51.1 +0.3**
DWPF Disney 23.05 3 *eP* **P 21 20 52.9 -1.3**
comp=Z,257nm,1.6s,mb5.4
DWPF LR LR
comp=Z,2µm,22.0s,MS4.4
MGG Marie-Galante 23.60 61 *eP* **P 21 21 01.4 +1.6**
SAML Samuel 23.81 125 PFAKE 21 21 10.0 +8.2
SAML LR LR
comp=Z,8µm,20.0s,MS5.2
ARE Arequipa 23.97 153 *eP* **P 21 21 03.0 -0.2**
DEG La Desirade 23.99 60 *eP* **P 21 21 02.9 -0.6**
LPAZ La Paz 25.52 146 P **P 21 21 16.2 -1.2**
comp=Z,16nm,0.7s,mb4.7,baz=334,slow=8.1,SNR=51
LPAZ LR LR 21 32 23.3
comp=Z,5µm,19.8s,MS5.1,baz=304,slow=39
LPAZ La Paz 25.52 146 *eP* **P 21 21 14.8 -2.6**
LPAZ pmax pmax
comp=Z,47nm,1.2s
LPAZ MLR MLR
comp=Z,6µm,20.0s
LPAZ La Paz 25.52 146 *eP* **P 21 21 14.8 -2.7**
comp=Z,47nm,1.2s,mb4.9
LPAZ LR LR
comp=Z,6µm,20.0s,MS5.1
HKT Hockley 27.81 335 PFAKE 21 21 50.0 +12
HKT LR LR
comp=Z,2µm,20.0s,MS4.6
NATX Nacogdoches 28.95 338 PFAKE 21 22 00.0 +12
NATX LR LR
comp=Z,1µm,22.0s,MS4.5
SIV San Ignacio 29.81 135 P **P 21 21 52.8 -3.0**
comp=Z,13nm,1.2s,mb4.5,baz=312,slow=9.4,SNR=16
OXF Oxford 30.07 349 *eP* **P 21 21 56.9 -1.2**
OXF pmax pmax
comp=Z,16nm,0.8s,mb4.8
OXF MLR MLR
comp=Z,1µm,19.0s,MS4.6
OXF Oxford 30.07 349 *eP* **P 21 21 56.9 -1.2**
comp=Z,16nm,0.8s,mb4.8
OXF LR LR
comp=Z,1µm,19.0s,MS4.6
JCT Junction City 30.10 329 PFAKE 21 22 10.0 +12
JCT LR LR
comp=Z,987nm,20.0s,MS4.5
PLAL Pickwick Lake 30.30 351 PFAKE 21 22 10.0 +10
PLAL LR LR
comp=Z,1µm,21.0s,MS4.6
LVC Limon Verde 30.51 154 P **P 21 21 59.9 -2.1**
comp=Z,9.9nm,1.0s,mb4.6,baz=326,slow=5.2,SNR=6.9
LVC Limon Verde 30.51 154 *eP* **P 21 21 59.4 -2.6**
comp=Z,37nm,1.5s,mb5.0
LVC LR LR
comp=Z,3µm,20.0s,MS4.9
TXAR Lajitas Array 31.37 323 P **P 21 22 09.2 -0.4**
comp=Z,2.7nm,0.9s,mb4.1,baz=143,slow=10,SNR=12
TXAR PcP PcP 21 25 02.7 -0.6
comp=Z,0.6nm,0.8s,baz=171,slow=6.4,SNR=3.7
TXAR LR LR 21 36 07.8
comp=Z,591nm,21.3s,MS4.2,baz=0.0,slow=39
TXAR Lajitas Array 31.37 323 P **P 21 22 09.2 -0.4**
TXAR 21 25 02.7
WVT Waverly 31.39 352 *eP* **P 21 22 07.5 -2.3**
WVT pmax pmax
comp=Z,21nm,1.1s,mb4.9
WVT MLR MLR
comp=Z,1µm,20.0s,MS4.6
WVT Waverly 31.39 352 *eP* **P 21 22 07.5 -2.3**
comp=Z,21nm,1.1s,mb4.9
WVT LR LR
comp=Z,1µm,20.0s,MS4.6
BBSR BB Station 32.02 29 PFAKE 21 22 30.0 +15
BBSR LR LR
comp=Z,1µm,21.0s,MS4.6
BLA Blacksburg 32.17 3 PFAKE 21 22 30.0 +13
BLA LR LR
comp=Z,2µm,22.0s,MS4.6
WMOK Wichita Mounta 33.19 335 *eP* **P 21 22 24.5 -1.1**
WMOK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WMOK MLR MLR
comp=Z,1µm,22.0s,MS4.5
WMOK Wichita Mounta 33.19 335 *eP* **P 21 22 24.5 -1.1**
comp=Z,9.4nm,1.1s,mb4.6
WMOK LR LR
comp=Z,1µm,22.0s,MS4.5
WCI Wyandotte Cave 33.28 355 PFAKE 21 22 40.0 +14
WCI LR LR
comp=Z,840nm,22.0s,MS4.4
CBN Corbin 33.44 8 PFAKE 21 22 40.0 +12
CBN LR LR
comp=Z,1µm,20.0s,MS4.7
CCM Cathedral Cave 33.87 348 PFAKE 21 22 40.0 +8.5
CCM LR LR
comp=Z,823nm,22.0s,MS4.4
MNTX Cornudas Mount 34.10 324 *eP* **P 21 22 33.6 +0.1**
comp=Z,33nm,1.4s,mb5.1
MNTX LR LR
comp=Z,941nm,20.0s,MS4.5
AMTX Amarillo 34.60 332 PFAKE 21 22 50.0 +12
AMTX LR LR
comp=Z,2µm,20.0s,MS4.8
MCWV Mont Chateau 34.64 4 PFAKE 21 22 50.0 +12
MCWV LR LR
comp=Z,1µm,19.0s,MS4.8

ACSO Alum Creek Sta 35.12 360 PFAKE 21 22 50.0 +7.7
ACSO LR LR
comp=Z,1µm,20.0s,MS4.7
MVL Millersville 35.34 8 *eP* **P 21 22 44.5 +0.2**
SSPA Standing Stone 35.78 6 *eP* **P 21 22 47.4 -0.6**
comp=Z,27nm,1.2s,mb5.0
SSPA LR LR
comp=Z,1µm,21.0s,MS4.7
ANMO Albuquerque 37.10 327 P **P 21 22 59.9 +0.6**
comp=Z,23nm,1.1s,mb4.9,baz=152,slow=8.5,SNR=29
ANMO Albuquerque 37.10 327 *c i P* **P 21 23 00.2 +1.0**
ANMO Albuquerque 37.10 327 *eP* **P 21 23 00.5 +1.2**
comp=Z,37nm,1.2s,mb5.1
ANMO LR LR
comp=Z,1µm,21.0s,MS4.7
CBKS Cedar Bluff 37.11 338 PFAKE 21 23 10.0 +11
CBKS LR LR
comp=Z,1µm,22.0s,MS4.7
AAM Ann Arbor 37.20 359 PFAKE 21 23 10.0 +10
AAM LR LR
comp=Z,1µm,19.0s,MS4.8
BINY Binghamton 37.55 8 PFAKE 21 23 20.0 +17
BINY LR LR
comp=Z,906nm,20.0s,MS4.6
TUC Tucson 37.86 319 *eP* **P 21 23 06.3 +0.6**
TUC pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
TUC MLR MLR
comp=Z,3µm,20.0s,MS5.0
TUC Tucson 37.86 319 *eP* **P 21 23 06.3 +0.6**
comp=Z,10.0nm,0.9s,mb4.5
TUC LR LR
comp=Z,3µm,20.0s,MS5.0
JFWS Jewell Farm 38.40 351 PFAKE 21 23 20.0 +10
JFWS LR LR
comp=Z,971nm,20.0s,MS4.6
WES Weston 38.61 13 PFAKE 21 23 20.0 +8.0
WES LR LR
comp=Z,1µm,22.0s,MS4.7
116A Eloy 38.62 319 ⇑P **P 21 23 13.1 +1.0**
baz=39,SNR=8.3
HRV Harvard--Oak R 38.67 13 PFAKE 21 23 20.0 +7.5
HRV LR LR
comp=Z,1µm,20.0s,MS4.8
SDCO Great Sand Dun 38.73 331 *eP* **P 21 23 14.2 +1.2**
comp=Z,58nm,1.1s,mb5.2
SDCO LR LR
comp=Z,1µm,22.0s,MS4.8
CFAA Coronel Fontan 38.86 160 P **P 21 23 12.3 -1.9**
comp=Z,1.5nm,0.9s,baz=339,slow=6.8,SNR=12
CFAA Coronel Fontan 38.86 160 P **P 21 23 12.3 -1.9**
115A Sonoran Desert 39.05 319 ⇑P **P 21 23 16.6 +0.9**
baz=39
NCB Newcomb 39.56 10 PFAKE 21 23 30.0 +10
NCB LR LR
comp=Z,1µm,22.0s,MS4.8
CPUP Villa Florida 39.60 143 P **P 21 23 18.0 -2.4**
comp=Z,5.0nm,0.7s,mb4.3,baz=315,slow=10,SNR=16
CPUP LR LR 21 41 06.0
comp=Z,4µm,19.5s,MS5.2,baz=298,slow=38
CPUP Villa Florida 39.60 143 *eP* **P 21 23 16.3 -4.1**
CPUP pmax pmax
comp=Z,27nm,0.8s
CPUP MLR MLR
comp=Z,688nm,19.0s
CPUP Villa Florida 39.60 143 *eP* **P 21 23 16.3 -4.0**
comp=Z,27nm,0.8s,mb5.0
CPUP LR LR
comp=Z,688nm,19.0s,MS4.5
MVCO Mesa Verde 39.88 327 *eP* **P 21 23 23.6 +1.0**
comp=Z,87nm,1.4s,mb5.3
MVCO Mesa Verde 39.88 327 ⇓P **P 21 23 24.0 +1.4**
baz=40
BDFB Brasilia 39.92 121 P **P 21 23 21.6 -1.4**
comp=Z,6.8nm,0.9s,mb4.4,baz=320,slow=8.8,SNR=5.9
BDFB LR LR 21 40 18.5
comp=Z,6µm,19.6s,MS5.4,baz=297,slow=37
Z14A Wintersburg 39.93 319 ⇓P **P 21 23 24.1 +1.0**
baz=40
X15A Humboldt 40.19 321 ⇑P **P 21 23 26.4 +1.2**
baz=40,SNR=14
LBNH Lisbon 40.24 12 PFAKE 21 23 40.0 +14
LBNH LR LR
comp=Z,1µm,20.0s,MS4.8
Y14A Wickenburg 40.33 319 ⇓P **P 21 23 27.2 +0.8**
baz=40,SNR=8.5
WUAZ Wupatki 40.33 323 *eP* **P 21 23 27.8 +1.4**
comp=Z,62nm,1.0s,mb5.3
WUAZ LR LR
comp=Z,2µm,21.0s,MS4.8
WUAZ Wupatki 40.33 323 ⇓P **P 21 23 27.8 +1.4**
baz=41
ISCO Idaho Springs 40.41 332 *eP* **P 21 23 27.9 +0.8**
ISCO pmax pmax
comp=Z,21nm,1.2s,mb4.7
ISCO MLR MLR
comp=Z,1µm,21.0s,MS4.7
ISCO Idaho Springs 40.41 332 *eP* **P 21 23 27.9 +0.9**
comp=Z,22nm,1.2s,mb4.8
ISCO LR LR
comp=Z,1µm,21.0s,MS4.7
MSNY Massena 40.46 9 *eP* **P 21 23 26.7 -0.7**
SMCO Snowmass 40.57 330 *eP* **P 21 23 29.1 +0.7**
comp=Z,41nm,1.0s,mb5.0
X14A Yava 40.59 320 ⇑P **P 21 23 29.8 +1.3**
baz=41,SNR=19
PV01 Paradox Valley 40.59 328 *eP* **P 21 23 28.3 -0.3**
W15A Williams 40.65 322 ⇑P **P 21 23 30.6 +1.5**
baz=41
Y13A Salome 40.79 319 ⇓P **P 21 23 31.3 +1.2**
baz=41,SNR=8.2
GLA Glamis 41.00 317 ⇓P **P 21 23 32.6 +0.7**
baz=41
PV10 Paradox Valley 41.02 328 *eP* **P 21 23 32.4 +0.3**
RPN Rapa Nui 41.03 218 PFAKE 21 23 40.0 +7.8
RPN LR LR
comp=Z,1µm,21.0s,MS4.7
W14A Seligman 41.19 321 P **P 21 23 34.9 +1.5**
baz=41,SNR=15
Y12C Blythe 41.21 318 ⇑P **P 21 23 34.5 +0.8**
baz=41
X13A Yucca 41.27 320 ⇑P **P 21 23 34.9 +0.8**
baz=42,SNR=8.7
PDMCI Parker Dam,Lak 41.29 319 ⇓P **P 21 23 34.9 +0.6**
baz=42
SWSC Sam W. Stewart 41.60 316 ⇑P **P 21 23 37.5 +0.7**
baz=42
W13A Hualapai Mount 41.62 320 ⇑P **P 21 23 38.4 +1.4**
baz=42,SNR=20
DVTC Desert V Tower 41.65 316 ⇑P **P 21 23 37.9 +0.6**
baz=42
BC3 Big Chuckw Mtn 41.78 317 ⇑P **P 21 23 39.0 +0.7**
baz=42,SNR=8.6
IRM Iron Mountain 41.87 318 ⇑P **P 21 23 39.7 +0.6**
baz=42,SNR=7.8
MONP Monument Peak 42.00 316 ⇑P **P 21 23 40.8 +0.7**
baz=42
BELC Belle Mtn. 42.35 317 ⇓P **P 21 23 43.9 +0.9**
baz=43,SNR=6.8
SRU San Rafael 42.35 327 *eP* **P 21 23 43.6 +0.6**
SRU pmax pmax
comp=Z,29nm,0.5s,mb5.2
SRU San Rafael 42.35 327 *eP* **P 21 23 43.6 +0.6**
comp=Z,29nm,0.5s,mb5.2
PFO Pinyon Flat Ob 42.43 316 *eP* **P 21 23 41.4 -2.3**
PFO pmax pmax
comp=Z,17nm,1.1s,mb4.6
PFO MLR MLR
comp=Z,383nm,21.0s,MS4.3
PFO Pinyon Flat Ob 42.43 316 *eP* **P 21 23 41.4 -2.2**
comp=Z,16nm,1.1s,mb4.6
PFO LR LR
comp=Z,383nm,21.0s,MS4.3
PFO Pinyon Flat Ob 42.43 316 ⇓P **P 21 23 44.5 +0.8**
baz=43
109C Camp Elliot, M 42.48 315 ⇓P **P 21 23 44.7 +0.6**
baz=43
V12A Nelson 42.63 320 ⇓P **P 21 23 46.3 +1.1**
baz=43,SNR=15
RWWY Rawlins 42.65 333 *eP* **P 21 23 46.1 +0.7**
comp=Z,41nm,1.0s,mb5.1
MSU Marysvale 42.84 325 *eP* **P 21 23 47.9 +0.9**
MVU Marysvale 42.86 325 PFAKE 21 24 00.0 +13
MVU LR LR
comp=Z,3µm,19.0s,MS5.1
U12A Valley of Fire 42.87 321 ⇑P **P 21 23 48.1 +0.9**
baz=43

CCUT Cedar City 42.88 323 *eP* **P 21 23 47.4 +0.1**
MURC Murrieta 42.94 316 ⇑P **P 21 23 48.5 +0.7**
baz=43
HEC Hector,Ludlow 43.05 318 ⇑P **P 21 23 49.6 +0.9**
baz=43,SNR=8.5
V11A Goodsprings 43.07 320 ⇑P **P 21 23 49.8 +1.0**
baz=43
ARUT Antelope Range 43.08 324 *eP* **P 21 23 50.2 +1.3**
TUQ Turquoise Mtn. 43.14 319 ⇑P **P 21 23 50.2 +0.8**
baz=43
RSSD Black Hills 43.31 337 *eP* **P 21 23 51.6 +0.8**
RSSD pmax pmax
comp=Z,32nm,1.3s,mb4.9
RSSD MLR MLR
comp=Z,1µm,19.0s,MS4.8
RSSD Black Hills 43.31 337 *eP* **P 21 23 51.6 +0.8**
comp=Z,32nm,1.3s,mb4.9
RSSD LR LR
comp=Z,1µm,19.0s,MS4.8
MPU Maple Canyon 43.60 327 PFAKE 21 24 00.0 +6.9
MPU LR LR
comp=Z,3µm,21.0s,MS5.1
BFSC Mount Baldy St 43.61 316 ⇓P **P 21 23 53.6 +0.4**
baz=44
GSC Goldstone 43.65 318 *eP* **P 21 23 54.4 +0.9**
GSC Goldstone 43.65 318 ⇓P **P 21 23 54.3 +0.8**
baz=44,SNR=11
SHOC Shoshone 43.65 319 ⇑P **P 21 23 54.3 +0.8**
baz=44
CIS Catalina Islan 43.68 315 ⇑P **P 21 23 53.8 0.0**
baz=44
DECC Green Verdugo 44.08 316 ⇑P **P 21 23 57.6 +0.6**
baz=44
EDW2 Edwards Air Fo 44.20 317 ⇓P **P 21 23 58.3 +0.4**
baz=44,SNR=9.5
LRMC Laurel Mountai 44.34 318 ⇓P **P 21 23 59.5 +0.5**
baz=44,SNR=10
DUG Dugway 44.36 327 PFAKE 21 24 10.0 +11
DUG LR LR
comp=Z,2µm,20.0s,MS5.1
FURC Furnace Creek, 44.37 320 ⇓P **P 21 23 60.0 +0.7**
baz=45,SNR=9.6
SNCC San Nicolas Is 44.39 314 PFAKE 21 24 10.0 +11
SNCC LR LR
comp=Z,2µm,22.0s,MS5.0
MPMC Manual Prospec 44.54 319 ⇓P **P 21 24 01.0 +0.3**
baz=45,SNR=11
BW06 Boulder Array 44.58 332 PFAKE 21 24 10.0 +9.0
BW06 LR LR
comp=Z,1µm,20.0s,MS4.9
PDAR Pinedale Array 44.58 332 P **P 21 24 00.3 -0.6**
comp=Z,3.6nm,0.8s,mb4.2,baz=127,slow=9.9,SNR=26
PDAR LR LR 21 44 55.2
comp=Z,1µm,18.1s,MS4.8,baz=359,slow=39
HWUT Hardware Ranch 44.71 329 PFAKE 21 24 10.0 +8.0
HWUT LR LR
comp=Z,2µm,20.0s,MS5.0
TRCR Troy Canyon 44.73 323 *eP* **P 21 24 03.1 +0.9**
DAC Darwin (Calif) 44.73 319 *eP* **P 21 24 01.9 -0.3**
DAC pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
DAC MLR MLR
comp=Z,1µm,20.0s,MS4.9
DAC Darwin (Calif) 44.73 319 *eP* **P 21 24 01.9 -0.3**
comp=Z,7.0nm,0.9s,mb4.5
DAC LR LR
comp=Z,1µm,20.0s,MS4.9
ARVC Arvin 44.91 317 ⇑P **P 21 24 04.1 +0.5**
baz=45
ISA Isabella 44.97 318 *eP* **P 21 24 04.0 0.0**
ISA MLR MLR
comp=Z,235nm,22.0s,MS4.1
ISA Isabella 44.97 318 P **P 21 24 04.7 +0.6**
baz=45,SNR=8.3
GRAC Grapevine Rang 45.02 320 ⇑P **P 21 24 05.2 +0.8**
baz=45,SNR=7.3
P12A McGill 45.06 324 ⇑P **P 21 24 05.7 +0.9**
baz=45,SNR=6.3
Q11A Duckwater 45.09 323 ⇑P **P 21 24 06.0 +0.9**
baz=45,SNR=29
R10A Warm Springs 45.13 322 ⇑P **P 21 24 06.6 +1.3**
baz=45,SNR=20
CWC Cottonwood Cre 45.15 319 ⇑P **P 21 24 05.9 +0.4**
baz=45
AHID Auburn Hatcher 45.33 330 PFAKE 21 24 20.0 +13
AHID LR LR
comp=Z,1µm,20.0s,MS4.8
S09A Goldfield 45.36 321 P **P 21 24 07.7 +0.5**
baz=46,SNR=29
PKM Peak Mountain 45.46 316 ⇓P **P 21 24 08.6 +0.6**
baz=46,SNR=8.2
VES Vestal, Richgr 45.47 317 ⇑P **P 21 24 08.5 +0.4**
baz=46
O12A Currie 45.49 325 ⇑P **P 21 24 09.0 +0.7**
baz=46,SNR=8.7
TPH Tonopah 45.57 321 *eP* **P 21 24 08.9 +0.1**
TPH pmax pmax
comp=Z,35nm,1.2s,mb5.2
TPH MLR MLR
comp=Z,1µm,20.0s,MS4.9
TPH Tonopah 45.57 321 *eP* **P 21 24 08.9 0.0**
comp=Z,35nm,1.2s,mb5.2
TPH LR LR
comp=Z,1µm,20.0s,MS4.9
R09A Tonopah 45.58 321 P **P 21 24 09.6 +0.7**
baz=46,SNR=26
N13A Wendover, West 45.59 326 ⇑P **P 21 24 09.7 +0.7**
baz=46
TPAW Teton Pass 45.80 331 *eP* **P 21 24 10.2 -0.4**
comp=Z,35nm,1.2s,mb5.2
SMMC Simmler 45.81 316 ⇑P **P 21 24 11.5 +0.8**
baz=46
S08C White Mtn Res 45.83 320 ⇓P **P 21 24 11.7 +0.9**
baz=46,SNR=22
RRI2 Red Ridge 45.87 331 *eP* **P 21 24 11.3 +0.1**
comp=Z,57nm,1.5s,mb5.3
HELL Mitchell Peak, 45.91 318 P **P 21 24 12.0 +0.5**
baz=46,SNR=15
O11A Cowboy Ranch, 45.93 324 ⇓P **P 21 24 12.5 +0.9**
baz=46,SNR=8.1
MTUM Tungsten Hills 45.99 319 *eP* **P 21 24 12.5 +0.3**
Q09A Carvers 46.01 322 ⇓P **P 21 24 12.9 +0.6**
baz=46
P10A Eureka 46.07 323 ⇑P **P 21 24 13.7 +0.9**
baz=46,SNR=6.2
FLWY Flagg Ranch 46.12 332 *eP* **P 21 24 13.5 +0.2**
comp=Z,68nm,1.6s,mb5.3
R08A Mina 46.29 321 ⇑P **P 21 24 15.6 +1.0**
baz=46
LAO LASA Array 46.30 338 PFAKE 21 24 30.0 +15
LAO LR LR
comp=Z,1µm,22.0s,MS4.8
LKWY Lake 46.35 333 PFAKE 21 24 30.0 +15
LKWY LR LR
comp=Z,1µm,19.0s,MS4.9
M12A Wells 46.36 326 P **P 21 24 15.6 +0.5**
baz=47,SNR=16
N11A Elko Archery C 46.42 325 ⇑P **P 21 24 16.0 +0.5**
baz=47
KCC Kaiser Creek 46.47 319 ⇑P **P 21 24 15.9 0.0**
baz=47
ULM Lac du Bonnet 46.49 348 P **P 21 24 13.7 -2.4**
comp=Z,7.7nm,1.0s,mb4.6,baz=156,slow=8.0,SNR=5.5
ULM LR LR 21 46 16.1
comp=Z,588nm,21.7s,MS4.5,baz=163,slow=39
O10A Cortez Mining, 46.52 324 ⇑P **P 21 24 16.5 +0.2**
baz=47
PKD Parkfield 46.52 317 ⇑P **P 21 24 15.9 -0.4**
baz=47
YMR Madison River 46.69 332 *eP* **P 21 24 17.9 +0.2**
comp=Z,18nm,0.8s,mb5.0
YMR LR LR
comp=Z,2µm,21.0s,MS5.0
R07C Lee Vining 46.73 320 ⇓P **P 21 24 18.8 +0.8**
baz=47,SNR=15
PLCA Paso Flores 46.80 167 P **P 21 24 15.6 -2.9**
comp=Z,11nm,1.3s,mb4.7,baz=344,slow=9.7,SNR=5.6
PLCA Paso Flores 46.80 167 *eP* **P 21 24 16.5 -2.0**
PLCA pmax pmax
comp=Z,11nm,1.1s
PLCA MLR MLR
comp=Z,1µm,19.0s
PLCA Paso Flores 46.80 167 *eP* **P 21 24 16.5 -2.0**
comp=Z,11nm,1.1s,mb4.7
PLCA LR LR
comp=Z,1µm,19.0s,MS4.9
O09A Fish Creek Ran 46.85 323 P **P 21 24 19.7 +0.8**

baz=47,SNR=30
M11A Holland Ranch, 46.86 326 ⇓P **P 21 24 19.3 +0.3**
baz=47
TRQA Tornquist 46.90 158 *e*P **P 21 24 19.0 -0.3**
comp=Z,61nm,1.9s,mb5.2
TRQA LR LR
comp=Z,3μm,20.0s,MS5.2
QLMT Earthquake Lak 47.03 332 *e*P **P 21 24 21.6 +1.3**
BMN Battle Mountai 47.03 324 *e*P **P 21 24 20.9 +0.5**
BMN pmax pmax
comp=Z,46nm,1.1s,mb5.3
BMN MLR MLR
comp=Z,2μm,21.0s,MS5.0
BMN Battle Mountai 47.03 324 *e*P **P 21 24 20.9 +0.6**
comp=Z,46nm,1.1s,mb5.3
BMN LR LR
comp=Z,2μm,21.0s,MS5.0
DGMT Dagmar 47.10 340 *e*P **P 21 24 21.1 +0.2**
comp=Z,50nm,1.0s,mb5.4
DGMT LR LR
comp=Z,974nm,22.0s,MS4.7
S06C San Francisco 47.13 319 ⇓P **P 21 24 21.3 +0.1**
baz=47,SNR=8.2
S05C Merced 47.15 318 ⇓P **P 21 24 20.9 -0.3**
baz=47
M10A I.L. Ranch, Tu 47.34 325 ⇓P **P 21 24 22.8 +0.1**
baz=48,SNR=5.6
HAST UC Hastings Re 47.45 317 ⇑P **P 21 24 23.4 -0.2**
baz=48
N09A Rock Creek Ran 47.48 324 ⇓P **P 21 24 23.7 -0.1**
baz=48,SNR=7.2
P07A Fallon 47.49 322 ⇑P **P 21 24 24.1 +0.1**
baz=48
O08A Rochester Mine 47.50 323 ⇑P **P 21 24 24.5 +0.5**
baz=48
CMB Columbia Colle 47.57 319 P **P 21 24 24.8 +0.3**
CMB pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
CMB Columbia Colle 47.57 319 P **P 21 24 24.8 +0.3**
comp=Z,7.8nm,1.2s,mb4.6
CMB Columbia Colle 47.57 319 ⇑P **P 21 24 24.8 +0.3**
baz=48
HLID Hailey 47.58 329 *e*P **P 21 24 23.9 -0.6**
comp=Z,6.1nm,0.8s,mb4.7
HLID LR LR
comp=Z,2μm,20.0s,MS5.1
HLID Hailey 47.58 329 P **P 21 24 24.8 +0.3**
baz=48,SNR=8.9
PACP Pacheco Peak 47.60 317 ⇓P **P 21 24 24.5 -0.2**
baz=48
MCMT McKenzie Canyo 47.70 331 *e*P **P 21 24 26.2 +0.6**
R05C Kirkwood Meado 47.75 320 ⇓P **P 21 24 26.2 +0.3**
baz=48,SNR=8.6
N08A GE Springer Mi 47.79 323 ⇓P **P 21 24 26.6 +0.3**
baz=48
M09A Marrel Ranch, 47.80 325 ⇑P **P 21 24 26.7 +0.4**
baz=48
O07A Toulon 47.86 322 P **P 21 24 26.9 +0.1**
baz=48,SNR=18
WCN Washoe City 47.89 321 ⇑P **P 21 24 27.3 +0.3**
baz=48
PAHR Pah Rah Range 47.90 322 *e*P **P 21 24 27.6 +0.6**
comp=Z,23nm,1.2s,mb5.1
S04C Ingram Canyon, 47.90 318 ⇓P **P 21 24 27.0 -0.1**
baz=48
R04C Big Horse Ranc 48.05 319 ⇑P **P 21 24 28.8 +0.6**
baz=48
LAVA Lava Cap Winer 48.20 320 ⇓P **P 21 24 29.6 +0.2**
baz=48
N07B Gerlach 48.29 323 ⇑P **P 21 24 29.5 -0.6**
baz=48
L09A Wilkinson Ranc 48.31 325 ⇑P **P 21 24 30.0 -0.3**
baz=48
M08A Happy Creek Ra 48.36 324 ⇓P **P 21 24 30.5 -0.1**
baz=49,SNR=10.0
O06A Flanigan 48.44 322 P **P 21 24 31.7 +0.4**
baz=49,SNR=11
BDM Black Diamond 48.50 318 ⇑P **P 21 24 32.0 +0.3**
baz=49
BEKR Beckwourth 48.60 321 ⇓P **P 21 24 32.7 +0.2**
baz=49,SNR=10
K09A Rome 48.78 326 ⇓P **P 21 24 34.1 +0.3**
baz=49,SNR=68
EGMT Eagleton 48.78 336 PFAKE 21 24 50.0 +16
EGMT LR LR
comp=Z,1μm,22.0s,MS4.9
EGMT Eagleton 48.78 336 ⇑P **P 21 24 33.7 -0.2**
baz=49
M07A Soldier Meadow 48.78 323 ⇑P **P 21 24 33.5 -0.5**
baz=49,SNR=7.8
E15A Deer Lodge 48.79 333 ⇑P **P 21 24 33.8 -0.2**
baz=49
N06A Buffalo Meadow 48.80 322 ⇓P **P 21 24 34.1 +0.1**
baz=49,SNR=18
L08A Fields 48.80 325 ⇑P **P 21 24 33.8 -0.3**
baz=49,SNR=21
O05C Quincy 49.00 321 ⇓P **P 21 24 35.9 +0.3**
baz=49
OHCM Honcut 49.01 320 *e*P **P 21 24 35.5 -0.1**
CVS Carmenet Viney 49.10 318 ⇓P **P 21 24 36.3 0.0**
baz=49
WVOR Wild Horse Val 49.12 325 *e*P **P 21 24 36.2 -0.3**
WVOR pmax pmax
comp=Z,65nm,1.1s,mb5.6
WVOR MLR MLR
comp=Z,2μm,20.0s,MS5.0
WVOR Wild Horse Val 49.12 325 *e*P **P 21 24 36.2 -0.3**
comp=Z,65nm,1.1s,mb5.6
WVOR LR LR
comp=Z,2μm,20.0s,MS5.0
ORV Oroville 49.14 320 ⇓P **P 21 24 36.9 +0.3**
baz=49,SNR=12
SUTB Sutter Butte 49.14 320 ⇓P **P 21 24 36.6 -0.1**
baz=49
E14A Clinton 49.18 332 ⇓P **P 21 24 36.8 -0.2**
baz=49
J09A Fry Pan Ranch, 49.22 326 P **P 21 24 37.2 0.0**
baz=50,SNR=19
K08A Mann Creek Ran 49.23 325 P **P 21 24 37.4 0.0**
baz=50,SNR=25
ELFS Eagle Lake Fie 49.27 322 ⇓P **P 21 24 37.8 +0.1**
baz=50,SNR=12
L07A Adell 49.27 324 ⇑P **P 21 24 37.6 -0.1**
baz=50,SNR=15
O04C Chester 49.31 321 ⇑P **P 21 24 38.0 0.0**
baz=50,SNR=6.0
MNRC McLaughlin Nat 49.38 319 ⇓P **P 21 24 38.0 -0.5**
baz=50
M06C Likely Place G 49.46 322 ⇓P **P 21 24 38.9 -0.2**
baz=50
I09A Lost Marbles R 49.62 327 P **P 21 24 39.9 -0.4**
baz=50,SNR=13
J08A Circle Bar Ran 49.62 326 ⇓P **P 21 24 40.1 -0.3**
baz=50,SNR=7.8
K07A Rock Creek Ran 49.64 325 ⇑P **P 21 24 40.4 0.0**
baz=50,SNR=6.1
D14A Greenough 49.68 333 ⇓P **P 21 24 40.8 0.0**
baz=50
MSO Missoula 49.69 332 PFAKE 21 24 50.0 +9.1
MSO LR LR
comp=Z,997nm,21.0s,MS4.8
MOD Modoc 49.77 323 PFAKE 21 24 50.0 +8.5
MOD LR LR
comp=Z,999nm,20.0s,MS4.8
MOD Modoc 49.77 323 P **P 21 24 41.3 -0.2**
baz=50,SNR=8.4
HATC Hat Creek Radi 49.84 321 ⇓P **P 21 24 41.8 -0.1**
baz=50
HOPS Hopland 49.85 319 PFAKE 21 24 50.0 +7.9
HOPS LR LR
comp=Z,546nm,19.0s,MS4.6
HOPS Hopland 49.85 319 ⇑P **P 21 24 42.0 -0.1**
baz=50
GASB Alder Springs 49.98 320 ⇑P **P 21 24 43.3 +0.3**
baz=50
I08A Drewsey 50.03 326 ⇑P **P 21 24 43.2 -0.3**
baz=50
H09A Durkee 50.04 328 ⇓P **P 21 24 43.3 -0.2**
baz=50
LTIM Timbered Crate 50.06 322 P **P 21 24 43.9 +0.2**
J07A Hines 50.10 325 ⇓P **P 21 24 43.2 -0.8**
baz=50
D13A Huson 50.13 332 ⇑P **P 21 24 43.6 -0.5**
baz=50
P01C Double 8 Ranch 50.28 319 ⇓P **P 21 24 45.0 -0.3**
baz=50
K06A Valley Falls 50.28 324 P **P 21 24 45.2 -0.1**
baz=50,SNR=6.7
C14A Swan Lake 50.30 333 ⇓P **P 21 24 45.2 -0.3**
baz=51
O02C Red Bluff 50.31 320 ⇑P **P 21 24 45.0 -0.6**
baz=50
WDC Whiskeytown Da 50.38 321 *e*P **P 21 24 43.8 -2.3**
WDC pmax pmax
comp=Z,14nm,1.3s,mb4.8
WDC Whiskeytown Da 50.38 321 *e*P **P 21 24 43.8 -2.3**
comp=Z,14nm,1.3s,mb4.8
WDC Whiskeytown Da 50.38 321 ⇑P **P 21 24 45.5 -0.5**
baz=51
H08A Prairie City 50.48 327 ⇑P **P 21 24 46.3 -0.5**
baz=51
J06A Christmas Vall 50.51 325 ⇑P **P 21 24 46.4 -0.6**
baz=51,SNR=7.1
C13A Hot Springs 50.61 332 ⇑P **P 21 24 47.7 -0.2**
baz=51
K05A Summer Lake 50.62 324 ⇑P **P 21 24 47.9 0.0**
baz=51,SNR=6.0
M04C Macdoel 50.62 322 ⇑P **P 21 24 47.6 -0.3**
baz=51,SNR=5.9
I07A Izee 50.66 326 P **P 21 24 47.6 -0.5**
baz=51,SNR=15
F10A Beach Ranch, E 50.69 329 ⇓P **P 21 24 48.1 -0.3**
baz=51
BSMT Bassoo Peak 50.83 332 P **P 21 24 50.0 +0.5**
F09A S2 Ranch, Elgi 50.86 329 ⇑P **P 21 24 49.2 -0.5**
baz=51
L04A Klamath Falls 50.88 323 ⇑P **P 21 24 49.4 -0.5**
baz=51
I06A Prineville 50.97 325 ⇑P **P 21 24 50.1 -0.4**
baz=51,SNR=6.7
N02C Big Bar 50.99 320 ⇓P **P 21 24 49.7 -1.1**
baz=51
H07A Lands Inn, Kim 51.02 326 P **P 21 24 50.4 -0.5**
baz=51,SNR=7.1
M02C Callahan 51.03 321 ⇓P **P 21 24 49.9 -1.0**
baz=51
K04A Chilquin 51.05 323 ⇓P **P 21 24 50.4 -0.7**
baz=51
C12A Trout Creek 51.05 332 ⇑P **P 21 24 50.9 -0.2**
baz=51
B13A Whitefish 51.07 333 ⇑P **P 21 24 51.1 -0.2**
baz=51
YBH Yreka Blue Hor 51.13 322 *e*P **P 21 24 49.9 -1.8**
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH MLR MLR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 51.13 322 *e*P **P 21 24 49.9 -1.8**
comp=Z,9.0nm,0.9s,mb4.7
YBH LR LR
comp=Z,1μm,20.0s,MS5.0
YBH Yreka Blue Hor 51.13 322 P **P 21 24 50.3 -1.5**
baz=51,SNR=9.0
G08A Pilot Rock 51.14 328 ⇓P **P 21 24 51.9 +0.1**
baz=51,SNR=7.2
J05A Fort Rock 51.15 324 ⇓P **P 21 24 51.8 -0.1**
baz=51,SNR=8.0
SCHQ Schefferville 51.34 12 P **P 21 24 52.0 -1.3**
comp=Z,27nm,1.1s,mb5.1,baz=195,slow=7.6,SNR=7.1
SCHQ LR LR 21 46 06.1
comp=Z,710nm,21.0s,MS4.7,baz=202,slow=35
F08A Pendleton 51.38 328 P **P 21 24 53.4 -0.2**
baz=52,SNR=7.9
G07A Ruggs Ranch, H 51.51 327 ⇓P **P 21 24 54.2 -0.4**
baz=52,SNR=5.4
E09A Wood Farm, Sta 51.52 329 ⇑P **P 21 24 54.2 -0.5**
baz=52,SNR=6.7
H06A Lindquist Farm 51.53 326 ⇑P **P 21 24 54.6 -0.1**
baz=52,SNR=11
B12A Libby 51.65 333 ⇓P **P 21 24 55.5 -0.1**
baz=52
KRMB Red Mountain 51.76 321 *e*P **P 21 24 56.6 +0.1**
HUMO Hull Mountain 51.78 323 PFAKE 21 25 10.0 +13
HUMO LR LR
comp=Z,1μm,20.0s,MS5.0
L02A Cave Junction 51.92 322 ⇑P **P 21 24 57.5 -0.2**
baz=52
VTHM Trough 51.94 326 P **P 21 24 58.5 +0.7**
H05A Madras 51.98 326 ⇑P **P 21 24 57.9 -0.1**
baz=52
D09A Jones Farm, Ri 51.98 330 ⇑P **P 21 24 57.5 -0.6**
baz=52
B11A Sandpoint 51.99 332 ⇑P **P 21 24 57.6 -0.6**
baz=52
G06A Carlson Farm, 52.01 327 P **P 21 24 58.8 +0.5**
baz=52,SNR=13
F07A Phinny Hill Vi 52.05 328 ⇓P **P 21 24 58.4 -0.2**
baz=52
M01C Crescent City 52.07 321 ⇓P **P 21 24 58.4 -0.3**
baz=52
HAWA Hanford 52.16 328 PFAKE 21 25 10.0 +11
HAWA LR LR
comp=Z,1μm,22.0s,MS5.0
K02A Glendale 52.19 322 P **P 21 24 59.4 -0.3**
baz=52,SNR=9.1
J03A Ideyld Park 52.22 323 ⇑P **P 21 24 59.5 -0.4**
baz=52
NEW Newport 52.22 331 PFAKE 21 25 10.0 +10
NEW LR LR
comp=Z,1μm,21.0s,MS5.0
D08A Wollman Farm, 52.28 329 ⇓P **P 21 25 00.2 -0.2**
baz=52
G05A Wamic 52.39 326 ⇑P **P 21 25 01.1 -0.1**
baz=53
E07A Sunnyside 52.44 328 ⇓P **P 21 25 01.4 -0.1**
baz=53
VFP Flag Point 52.52 326 P **P 21 25 02.6 +0.4**
H04A Detroit Lake 52.54 325 P **P 21 25 02.0 -0.2**
baz=53,SNR=11
J02A Umpqua 52.58 323 P **P 21 25 03.2 +0.7**
baz=53,SNR=6.5
MXC Moxie City 52.68 328 P **P 21 25 04.0 +0.7**
I03A Eugene 52.76 324 ⇓P **P 21 25 03.6 -0.3**
baz=53
B09A Rice 52.83 331 P **P 21 25 04.4 0.0**
baz=53,SNR=8.3
F05A White Salmon 52.87 327 ⇑P **P 21 25 04.9 +0.2**
baz=53
D07A Quincy 52.91 329 ⇑P **P 21 25 05.1 +0.1**
baz=53
E06A Yakima 53.02 328 ⇓P **P 21 25 05.7 -0.1**
baz=53,SNR=8.6
I02A Mapleton 53.10 324 ⇑P **P 21 25 06.6 +0.2**
baz=53
COR Corvallis 53.13 324 PFAKE 21 25 20.0 +13
COR LR LR
comp=Z,1μm,22.0s,MS4.8
H03A Soap Creek Ran 53.17 324 ⇑P **P 21 25 06.3 -0.6**
baz=53,SNR=6.2
C07A Waterville 53.28 329 ⇑P **P 21 25 07.6 -0.2**
baz=54
D06A Cle Elum 53.37 328 ⇑P **P 21 25 08.6 +0.2**
baz=54
A09A Danville 53.42 331 P **P 21 25 08.8 +0.1**
baz=54,SNR=6.9
F04A Amboy 53.43 326 ⇓P **P 21 25 08.6 -0.3**
baz=54
D05A Enumclaw 53.97 328 ⇑P **P 21 25 12.2 -0.6**
baz=54,SNR=5.9
C05A Tolt Reservoir 54.13 328 ⇑P **P 21 25 13.6 -0.4**
baz=54
EDM Edmonton 54.29 338 *e*P **P 21 25 14.0 -1.2**
B06A Marblemount 54.55 329 ⇓P **P 21 25 16.8 -0.2**
baz=55
B05A Bryant 54.70 329 ⇑P **P 21 25 17.7 -0.4**
baz=55
C04A Brinnon 54.82 328 ⇑P **P 21 25 18.7 -0.3**
baz=55
NLWA Neilton Lookou 55.11 327 ⇓P **P 21 25 20.8 -0.2**
baz=55
A05A Maple Falls 55.16 329 ⇓P **P 21 25 20.6 -0.8**
baz=55
A04A Legoe Bay, Lum 55.30 329 ⇑P **P 21 25 21.2 -1.2**
baz=56
B04A Port Angeles 55.31 328 ⇑P **P 21 25 22.3 -0.2**
baz=56
RKT Rikitea 58.20 239 *e*S **S 21 33 41.5 -3.6**
comp=Z,2μm,30.2s
RKT *e*LQ 21 40 29.4
comp=Z,2μm,28.5s
RKT *e*LR LR 21 42 51.5
comp=Z,4μm,29.8s,baz=67
TAOE Nuku Hiva Isla 58.95 257 *e*S **S 21 33 51.6 -3.3**
comp=Z,576nm,25.6s
TAOE *e*LQ 21 40 40.3
comp=Z,9μm,27.9s
TAOE *e*LR LR 21 43 17.1
comp=Z,4μm,26.6s
EFI East Falkland 60.19 163 PFAKE 21 26 10.0 +13
EFI LR LR
comp=Z,443nm,20.0s,MS4.6
YKA Yellowknife Ar 62.07 344 P **P 21 26 08.3 -1.3**
comp=Z,3.9nm,0.8s,mb4.6,baz=134,slow=7.0,SNR=11
YKA LR LR 21 56 09.1
comp=Z,345nm,19.1s,MS4.5,baz=210,slow=39
SIT Sitka 66.31 332 PFAKE 21 26 50.0 +13
SIT LR LR
comp=Z,1μm,21.0s,MS5.1
ASCN Ascension 69.30 100 PFAKE 21 27 10.0 +14
ASCN LR LR
comp=Z,236nm,20.0s,MS4.4
PPT Papeete 69.72 249 *e*S S 21 36 04.0 -4.1
comp=Z,1μm,28.2s
PPT *e*SS SS 21 40 33.2 -3.1
comp=Z,703nm,26.2s
PPT *e*LQ 21 45 11.1
comp=Z,3μm,28.0s
PPT *e*LR LR 21 48 12.7
comp=Z,3μm,31.2s
PPT Papeete 69.72 249 LR LR 21 50 21.7
comp=Z,749nm,19.2s,MS5.0,baz=192,slow=30
HOPE Hope Point 70.41 153 PFAKE 21 27 10.0 +6.9
HOPE LR LR
comp=Z,541nm,22.0s,MS4.8
PMSA Palmer Station 70.90 172 PFAKE 21 27 20.0 +14
PMSA LR LR
comp=Z,683nm,19.0s,MS4.9
TBI Tubuai 70.94 243 *e*S S 21 36 18.2 -4.1
comp=Z,721nm,36.0s
TBI *e*LQ 21 45 47.6
comp=Z,3μm,32.8s
TBI *e*LR LR 21 48 45.9
comp=Z,6μm,28.0s,baz=72
DAWY Dawson 71.50 337 *e*P **P 21 27 08.6 -1.1**
INK Inuvik 71.74 342 *e*P **P 21 27 09.6 -1.6**
comp=Z,2μm,1.7s
SUMG Summit 72.72 13 *e*P **P 21 27 15.0 -2.0**
comp=Z,19nm,0.8s,mb5.1
BORG Borgarnes 73.58 23 PFAKE 21 27 30.0 +7.9
BORG LR LR
comp=Z,219nm,19.0s,MS4.5
PMR Palmer 74.61 333 PFAKE 21 27 40.0 +12
PMR LR LR
comp=Z,1μm,21.0s,MS5.1
EVO Evora 74.90 52 *e*P **P 21 27 29.7 -0.1**
comp=Z,53nm,1.2s,mb5.0
EVO *e*MLR MLR
comp=Z,733nm,23.0s
COLA College 75.17 336 PFAKE 21 27 40.0 +8.6
COLA LR LR
comp=Z,754nm,21.0s,MS5.0
KDAK Kodiak Island 75.20 329 PFAKE 21 27 40.0 +8.5
KDAK LR LR
comp=Z,139nm,19.0s,MS4.3
MDT Midelt 77.27 58 LR LR 21 57 47.7
comp=Z,277nm,18.3s,MS4.6,baz=112,slow=33
TRIS Tristan da Cun 77.48 130 PFAKE 21 27 50.0 +5.5
TRIS LR LR
comp=Z,3μm,20.0s,MS5.6
ESDC Sonseca Array 78.14 51 P **P 21 27 47.5 -0.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=272,slow=5.4,SNR=6.0
ESDC LR LR 21 55 26.9
comp=Z,266nm,21.0s,MS4.5,baz=270,slow=30
ESLA Sonseca Array 78.14 51 PFAKE 21 28 00.0 +12
ESLA LR LR
comp=Z,6μm,21.0s,MS5.9
SHEL Horse Pasture 78.82 107 PFAKE 21 28 00.0 +8.1
SHEL LR LR
comp=Z,291nm,19.0s,MS4.6
QUIF Quistinic 79.28 42 *e*P **P 21 27 55.2 +0.8**
comp=Z,169nm,1.4s,mb5.5
QUIF Quistinic 79.28 42 *e*P **P 21 27 55.2 +0.8**
QUIF pmax pmax
comp=Z,85nm,1.4s,mb5.5
QUIF Quistinic 79.28 42 *e*P **P 21 27 55.2 +0.8**
comp=Z,84nm,1.4s,mb5.5
SGMF Saint Gilles 79.71 42 *e*P **P 21 27 57.9 +1.1**
RAR Rarotonga 79.86 248 LR LR 21 53 35.9
comp=Z,608nm,20.5s,MS4.9,baz=101,slow=28
JMIC Jan Mayen 80.19 19 LR LR 21 59 25.3
comp=Z,234nm,20.1s,MS4.5,baz=62,slow=33
SJPF Ste Jean 80.36 47 *e*P **P 21 28 00.9 +0.6**
FLN La Foliniere 81.12 42 *e*P **P 21 28 05.3 +0.9**
FLN *e*MLR MLR
comp=Z,342nm,22.5s
FLN La Foliniere 81.12 42 *e*P **P 21 28 05.3 +0.9**
FLN LR LR
comp=Z,340nm,22.5s,MS4.7
MFF Saint Martin d 81.26 44 *e*P **P 21 28 07.0 +1.9**
LDF La Druitiere 81.35 42 *e*P **P 21 28 06.4 +0.8**
comp=Z,53nm,1.2s,mb5.0
LDF La Druitiere 81.35 42 *e*P **P 21 28 06.4 +0.8**
LDF pmax pmax
comp=Z,26nm,1.3s,mb5.0
LDF La Druitiere 81.35 42 *e*P **P 21 28 06.4 +0.8**
comp=Z,26nm,1.3s,mb5.0
RJF Les Rejaudoux 82.39 45 *e*P **P 21 28 11.9 +0.8**
comp=Z,90nm,1.5s,mb5.2
RJF *e*MLR MLR
comp=Z,379nm,20.0s
RJF Les Rejaudoux 82.39 45 *e*P **P 21 28 11.9 +0.8**
RJF pmax pmax
comp=Z,45nm,1.5s,mb5.2
RJF MLR MLR
comp=Z,380nm,20.0s,MS4.8
RJF Les Rejaudoux 82.39 45 *e*P **P 21 28 11.9 +0.8**
comp=Z,45nm,1.5s,mb5.2
RJF LR LR
comp=Z,380nm,20.0s,MS4.8
TCF Toulx Ste Croi 82.88 44 *e*P **P 21 28 14.0 +0.4**
comp=Z,43nm,1.2s,mb5.0
TCF Toulx Ste Croi 82.88 44 *e*P **P 21 28 14.0 +0.4**
TCF pmax pmax
comp=Z,22nm,1.2s,mb5.1
TCF Toulx Ste Croi 82.88 44 *e*P **P 21 28 14.0 +0.4**
comp=Z,22nm,1.2s,mb5.0
TOA0 Torodi Ar. Sit 83.38 77 *e*P **P 21 28 17.5 +1.3**
TORD Torodi Ar. Bea 83.38 77 P **P 21 28 17.3 +1.1**
comp=Z,3.3nm,1.0s,mb4.3,baz=284,slow=5.6,SNR=12
TORD LR LR 22 05 19.9
comp=Z,440nm,20.0s,MS4.8,baz=260,slow=36
SMF Signal de Mont 84.01 44 *e*P **P 21 28 18.4 -1.0**
ORIF Oris-en-Rattie 85.48 45 *e*P **P 21 28 27.5 +0.6**
comp=Z,42nm,1.2s,mb5.2
ORIF *e*MLR MLR
comp=Z,364nm,19.5s
ORIF Oris-en-Rattie 85.48 45 *e*P **P 21 28 27.5 +0.6**
ORIF pmax pmax
comp=Z,21nm,1.2s,mb5.1
ORIF Oris-en-Rattie 85.48 45 *e*P **P 21 28 27.5 +0.6**
comp=Z,21nm,1.2s,mb5.1
KBS Kingsbay 86.05 11 PFAKE 21 28 40.0 +10
KBS LR LR
comp=Z,615nm,19.0s,MS5.0
LPL La Plagne 86.06 45 *e*P **P 21 28 29.8 +0.1**
comp=Z,56nm,1.6s,mb5.2
LPL La Plagne 86.06 45 *e*P **P 21 28 29.8 +0.1**
LPL pmax pmax
comp=Z,28nm,1.6s,mb5.2
LPL La Plagne 86.06 45 *e*P **P 21 28 29.8 +0.1**
comp=Z,28nm,1.6s,mb5.2
LPG La Plagne 86.07 45 *e*P **P 21 28 30.2 +0.4**
FRF La Foret Royal 86.10 47 *e*P **P 21 28 30.0 +0.1**
KONO Kongsberg 86.89 31 PFAKE 21 28 40.0 +6.2
KONO LR LR
comp=Z,907nm,21.0s,MS5.2
NOA NORSAR Array B 87.57 29 P **P 21 28 36.4 -0.7**
comp=Z,2.7nm,1.0s,mb4.4,baz=275,slow=4.5,SNR=3.0
NOA LR LR 22 03 38.1
comp=Z,226nm,21.2s,MS4.5,baz=270,slow=33
DAVOX Davos/Dischmat 88.15 43 LR LR 22 01 32.2
comp=Z,349nm,18.9s,MS4.8,baz=265,slow=31
HFS Hagfors 88.89 30 LR LR 22 02 32.7
comp=Z,431nm,20.5s,MS4.9,baz=267,slow=32
NKC Novy Kostel 89.48 40 AMS AMS 22 00 20.0
comp=Z,1μm,21.8s
CLL Collm 89.69 39 *e*P **P 21 28 49.0 +1.9**
CLL *e*S S 21 39 26.0 -13
CLL pmax pmax
comp=Z,23nm,1.9s,mb5.2
CLL Collm 89.69 39 *e*P **P 21 28 49.0 +1.9**
comp=Z,23nm,1.9s,mb5.2
CLL *e*S S 21 39 26.0 -13

CLL	**Collm**	**89.69**	**39**	*e*(P)	**P**	**21 28 49.0**	**+1.9**
	comp=Z,23nm,1.9s,mb5.2						
CLL				*e*S	S	21 39 30.0	-9.0
CLL				*e*PS	PS	21 40 48.0	+3.1
CLL				*e*SS	SS	21 45 48.0	+13
KHC	**Kasperske Hory**	**90.35**	**41**	*e*P	**P**	**21 28 50.7**	**+0.5**
KHC				*e*SS	SS	21 46 05.4	+21
KHC				AMS	AMS	22 00 10.0	
	comp=Z,900nm,33.5s						
KHC	**Kasperske Hory**	**90.35**	**41**	*e*P	**P**	**21 28 48.4**	**-1.8**
GERES	**GERESS Array B**	**90.47**	**41**	P	**P**	**21 28 49.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=246,slow=7.4,SNR=3.3						
GERES				LR	LR	22 02 19.7	
	comp=Z,411nm,20.9s,MS4.8,baz=292,slow=31						
PVCC	**Panska Ves**	**90.78**	**39**	AMS	AMS	22 01 50.0	
	comp=Z,800nm,17.1s						
PRU	**Pruhonice**	**90.85**	**40**	*e*PKKP	PKKPbc	21 46 15.5	-1.8
PRU				AMS	AMS	22 01 30.0	
	comp=Z,1μm,29.2s						
SNAA	**Sanae**	**91.47**	**162**	*e*P	**P**	**21 28 55.3**	**-0.1**
SNAA	**Sanae**	**91.47**	**162**	*e*P	**P**	**21 28 55.4**	**0.0**
	comp=Z,10.0nm,1.5s,mb4.9						
TREC	**Trest**	**91.56**	**40**	*e*PKKP	PKKPbc	21 46 21.0	+5.5
TREC				AMS	AMS	22 01 50.0	
	comp=Z,1μm,26.4s						
ARCES	**ARCESS Array B**	**91.65**	**20**	LR	LR	22 04 36.8	
	comp=Z,516nm,20.5s,MS5.0,baz=106,slow=32						
DPC	**Dobruska-Polom**	**91.92**	**39**	*e*P	**P**	**21 28 55.3**	**-2.2**
DPC				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.3						
DPC	**Dobruska-Polom**	**91.92**	**39**	*e*P	**P**	**21 28 55.3**	**-2.2**
DPC				*e*SS	SS	21 46 30.0	+23
DPC				LR	LR		
	comp=Z,900nm,18.0s,MS5.3						
KEV	**Kevo**	**92.07**	**19**	PFAKE		21 29 10.0	+12
KEV				LR	LR		
	comp=Z,502nm,20.0s,MS5.0						
VAE	**Valguarnera**	**92.59**	**52**	LR	LR	22 04 35.9	
	comp=Z,413nm,19.0s,MS4.9,baz=156,slow=32						
BILL	**Bilibino**	**93.17**	**339**	*e*P	**P**	**21 29 01.9**	**-1.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
BILL				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.9						
BILL	**Bilibino**	**93.17**	**339**	PFAKE		21 29 10.0	+6.8
BILL				LR	LR		
	comp=Z,369nm,20.0s,MS4.8						
SMY	**Shemya**	**94.07**	**324**	PFAKE		21 29 20.0	+13
SMY				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
FINES	**FINESS Array B**	**94.49**	**27**	LR	LR	22 06 18.6	
	comp=Z,364nm,20.7s,MS4.8,baz=282,slow=32						
QSPA	**South Pole Qui**	**94.97**	**180**	*e*P	**P**	**21 29 10.3**	**-1.2**
	comp=Z,7.7nm,0.9s,mb5.1						
QSPA				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
APA	**Apatity**	**95.08**	**20**	⇑*i*P	**P**	**21 29 09.4**	**-2.6**
APA				pmax	pmax		
	comp=Z,110nm,15.0s						
FUNA	**Funafuti**	**98.78**	**262**	PFAKE		21 29 40.0	+11
FUNA				LR	LR		
	comp=Z,6μm,21.0s						
SBA	**Scott Base**	**99.10**	**192**	PFAKE		21 29 40.0	+10
SBA				LR	LR		
	comp=Z,673nm,19.0s,MS5.2						
AKASG	**Malin Array Be**	**99.77**	**37**	LR	LR	22 15 38.8	
	comp=Z,204nm,18.8s,MS4.7,baz=290,slow=36						
VNDA	**Vanda**	**100.20**	**192**	PFAKE		21 29 40.0	+4.9
VNDA				LR	LR		
	comp=Z,866nm,20.0s,MS5.3						
TIXI	**Tiksi**	**100.82**	**350**	PFAKE		21 29 50.0	+12
TIXI				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
TSUM	**Tsumeb**	**101.25**	**109**	PFAKE		21 29 50.0	+10
TSUM				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
OBN	**Obninsk**	**102.07**	**31**	⇑*e*P	Pdif	21 29 37.5	-5.9
OBN				pmax	pmax		
	comp=Z,11nm,1.3s						
OBN	**Obninsk**	**102.07**	**31**	PFAKE		21 29 50.0	+6.6
OBN				LR	LR		
	comp=Z,168nm,21.0s,MS4.5						
PET	**Petropavlovsk**	**102.75**	**327**	PFAKE		21 30 00.0	+14
PET				LR	LR		
	comp=Z,524nm,20.0s,MS5.1						
MA2	**Magadan**	**103.20**	**335**	PFAKE		21 30 00.0	+12
MA2				LR	LR		
	comp=Z,349nm,21.0s,MS4.9						
SUR	**Sutherland**	**103.99**	**122**	PFAKE		21 30 00.0	+8.1
SUR				LR	LR		
	comp=Z,856nm,20.0s,MS5.3						
ANTO	**Ankara**	**105.93**	**46**	PFAKE		21 34 20.0	+7.1
ANTO				LR	LR		
	comp=Z,252nm,22.0s,MS4.7						
LBTB	**Lobatse**	**108.60**	**115**	PFAKE		21 34 30.0	+12
LBTB				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
YAK	**Yakutsk**	**108.74**	**345**	PFAKE		21 34 30.0	+12
YAK				LR	LR		
	comp=Z,426nm,21.0s,MS5.0						
KIV	**Kislovodsk**	**110.90**	**39**	PFAKE		21 34 30.0	+7.8
KIV				LR	LR		
	comp=Z,78nm,20.0s,MS4.3						
ARU	**Arti**	**111.10**	**22**	PFAKE		21 34 30.0	+7.4
ARU				LR	LR		
	comp=Z,130nm,22.0s,MS4.5						
LSZ	**Lusaka**	**111.36**	**104**	PFAKE		21 34 30.0	+6.9
LSZ				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
DRV	**Dumont d'Urvil**	**111.76**	**197**	SP	SP	21 44 33.0	-4.6
GNI	**Garni**	**114.11**	**42**	PFAKE		21 34 40.0	+12
GNI				LR	LR		
	comp=Z,259nm,20.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**114.63**	**328**	PFAKE		21 34 40.0	+11
YSS				LR	LR		
	comp=Z,382nm,20.0s,MS5.0						
ERM	**Erimo**	**117.42**	**323**	PFAKE		21 34 50.0	+15
ERM				LR	LR		
	comp=Z,151nm,22.0s,MS4.6						
BRVK	**Borovoye**	**117.84**	**18**	PFAKE		21 34 50.0	+15
BRVK				LR	LR		
	comp=Z,103nm,22.0s,MS4.4						
CASY	**Casey**	**118.10**	**186**	PFAKE		21 34 50.0	+14
CASY				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
KMBO	**Kilima Mbogo**	**119.87**	**88**	PFAKE		21 34 50.0	+11
KMBO				LR	LR		
	comp=Z,678nm,19.0s,MS5.3						
HIA	**Hailar**	**122.59**	**343**	PFAKE		21 35 00.0	+15
HIA				LR	LR		
	comp=Z,502nm,22.0s,MS5.1						
MDJ	**Mudanjiang**	**122.81**	**333**	PKP	PKPdf	21 34 43.8	-1.2
MDJ				XPKP		21 34 55.9	
MDJ				PP	PP		
	comp=Z,71nm,24.1s						
MDJ				LR	LR		
	comp=N,310nm,34.4s,MS5.0						
MDJ				LR	LR		
	comp=E,454nm,33.1s,MS5.0						
MDJ				LR	LR		
	comp=Z,227nm,34.4s,MS4.6						
MDJ	**Mudanjiang**	**122.81**	**333**	PFAKE		21 35 00.0	+15
MDJ				LR	LR		
	comp=Z,291nm,21.0s,MS4.9						
TLY	**Talaya**	**123.33**	**355**	PFAKE		21 35 00.0	+14
TLY				LR	LR		
	comp=Z,55nm,20.0s,MS4.2						
MAJO	**Matsushiro**	**123.79**	**321**	PFAKE		21 35 00.0	+13
MAJO				LR	LR		
	comp=Z,291nm,19.0s,MS5.0						
CN2	**Changchun**	**125.26**	**335**	*e*PKP	PKPdf	21 34 47.9	-1.8
CN2				*e*XPKP		21 35 03.0	
CN2				PP	PP	21 36 41.9	+2.4
CN2				*e*SS	SS	21 53 33.9	-3.2
CN2				PP	PP		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,500nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=E,400nm,21.0s,MS5.3						
CN2				LR	LR		
	comp=Z,700nm,21.0s,MS5.3						
MK31	**Makanchi Array**	**126.77**	**13**	*e*PKIKP	PKPdf	21 34 51.4	-1.2
MKAR	**Makanchi Array**	**126.77**	**13**	PKhKP		21 34 48.4	
	comp=Z,0.7nm,0.9s,baz=0.0,slow=5.8,SNR=3.3						
MKAR				PKP	PKPdf	21 34 51.5	-1.2
	comp=Z,1.2nm,0.8s,baz=0.0,slow=1.2,SNR=7.6						
SONM	**Songino Array**	**126.84**	**352**	PKP	PKPdf	21 34 51.0	-1.7
	comp=Z,1.1nm,0.8s,baz=3.0,slow=2.0,SNR=7.5						
AAK	**Ala-Archa**	**128.28**	**21**	*e*PKIKP	PKPdf	21 34 54.3	-1.2
AAK				MLR	MLR		
	comp=Z,77nm,19.0s,MS4.4						
KSRS	**Korea Array**	**129.11**	**329**	PKP	PKPdf	21 34 56.3	-0.8
	comp=Z,1.4nm,0.8s,baz=36,slow=3.2,SNR=7.1						
INCN	**Inchon**	**129.75**	**330**	PFAKE		21 35 10.0	+12
INCN				LR	LR		
	comp=Z,386nm,22.0s,MS5.0						
PMG	**Port Moresby**	**130.43**	**262**	PFAKE		21 35 10.0	+10
PMG				LR	LR		
	comp=Z,461nm,22.0s,MS5.1						
WMQ	**Urumqi**	**130.67**	**9**	*e*PKP	PKPdf	21 34 59.0	-1.1
WMQ				XPKP		21 35 13.5	
WMQ				PP	PP	21 37 20.0	+4.9
WMQ				SKS	SKSdf	21 42 05.0	-7.0
WMQ				SKKS	SKKSac	21 44 07.0	-5.4
WMQ				PP	PP		
	comp=Z,147nm,5.5s						
WMQ				LR	LR		
	comp=N,529nm,29.4s,MS5.2						
WMQ				LR	LR		
	comp=E,489nm,29.4s,MS5.2						
WMQ				LR	LR		
	comp=Z,463nm,26.0s,MS5.1						
STKA	**Stephens Creek**	**130.73**	**232**	PKP	PKPdf	21 34 59.3	-0.9
	comp=Z,0.8nm,0.5s,baz=27,slow=4.5,SNR=3.2						
BJI	**Beijing**	**131.99**	**341**	PKP	PKPdf	21 35 04.0	+1.4
BJI				SS	SS	21 55 01.1	+0.6
BJI				LR	LR		
	comp=N,352nm,24.2s,MS5.1						
BJI				LR	LR		
	comp=E,352nm,24.2s,MS5.1						
BJI				LR	LR		
	comp=Z,587nm,25.7s,MS5.2						
BJT	**Baijiatuan**	**132.02**	**341**	PFAKE		21 35 10.0	+7.4
BJT				LR	LR		
	comp=Z,349nm,20.0s,MS5.1						
HHC	**Hu-ho-hao-te**	**132.59**	**345**	*e*PKP	PKPdf	21 35 01.1	-2.6
HHC				XPKP		21 35 15.5	
HHC				PP	PP	21 37 28.4	+0.9
HHC				SKKS	SKKSac	21 44 14.8	-9.4
HHC				LR	LR		
	comp=N,213nm,29.4s						
HHC				LR	LR		
	comp=E,297nm,36.8s						
HHC				LR	LR		
	comp=Z,391nm,44.0s						
SSE	**Sheshan**	**137.54**	**329**	PKP	PKPdf	21 35 11.5	-1.4
SSE				SS	SS	21 56 03.5	-3.7
SSE				LR	LR		
	comp=N,148nm,25.0s,MS5.2						
SSE				LR	LR		
	comp=E,471nm,25.0s,MS5.2						
SSE				LR	LR		
	comp=Z,211nm,25.0s,MS4.8						
NJ2	**Nanjing**	**137.89**	**332**	*e*PKP	PKPdf	21 35 12.0	-1.6
NJ2				XPKP		21 35 26.4	
NJ2				PP	PP	21 38 02.0	+1.0
NJ2				PKS		21 38 47.0	
NJ2				SKS	SKSdf	21 42 18.0	-6.7
NJ2				PP	PP		
	comp=Z,190nm,11.4s						
NJ2				LR	LR		
	comp=N,2μm,24.4s,MS5.8						
NJ2				LR	LR		
	comp=E,2μm,25.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,2μm,22.3s,MS5.8						
MSEY	**Mahe Island**	**138.27**	**91**	PFAKE		21 35 30.0	+16
MSEY				LR	LR		
	comp=Z,192nm,20.0s,MS4.8						
LZH	**Lanzhou**	**138.72**	**352**	*e*PKP	PKPdf	21 35 13.6	-1.5
LZH				PP	PP	21 38 09.0	+2.9
LZH				SKKS	SKKSac	21 44 55.0	-6.0
LZH				SS	SS	21 56 17.0	-4.2
LZH				PP	PP		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=E,510nm,19.9s						
LZH				LR	LR		
	comp=Z,615nm,20.4s,MS5.3						
LZH	**Lanzhou**	**138.72**	**352**	*e*PKIKP	PKPdf	21 35 13.6	-1.5
LZH						21 35 22.8	
LZH						21 38 09.0	
LZH				SS	SS	21 56 17.0	-4.2
LZH				MLR	MLR		
	comp=Z,620nm,20.4s,MS5.3						
LZH	**Lanzhou**	**138.72**	**352**	*e*PKP	PKPdf	21 35 13.6	-1.5
LZH				pPKP	pPKPdf	21 35 22.8	+5.4
LZH				sPKP		21 35 28.9	
LZH				PP	PP	21 38 09.0	+2.9
LZH				SKKS	SKKSac	21 44 55.0	-6.0
LZH				SS	SS	21 56 17.0	-4.2
LZH				LR	LR		
	comp=Z,620nm,20.4s,MS5.3						
ASAR	**Alice Springs**	**140.19**	**239**	PKP	PKPdf	21 35 16.9	-0.9
	comp=Z,1.4nm,0.7s,baz=118,slow=2.2,SNR=12						
WB2	**Warramunga Arr**	**141.06**	**244**	*e*P	PKPdf	21 35 20.2	+0.9
WRA	**Warramunga Arr**	**141.07**	**244**	PKhKP		21 35 13.6	
	comp=Z,1.6nm,1.1s,baz=114,slow=2.6,SNR=5.3						
WRA				PKP	PKPdf	21 35 20.4	+1.0
	comp=Z,3.2nm,0.9s,baz=102,slow=2.1,SNR=13						
WRA	**Warramunga Arr**	**141.07**	**244**	PKP	PKPdf	21 35 20.4	+1.0
TATO	**Taipei**	**142.11**	**323**	PFAKE		21 35 30.0	+8.8
TATO				LR	LR		
	comp=Z,304nm,19.0s,MS5.1						
CD2	**Chengdu**	**143.82**	**351**	*e*PKP	PKPdf	21 35 21.8	-2.4
CD2				XPKP		21 35 36.1	
CD2				PP	PP	21 38 38.8	+1.6
CD2				PKS		21 38 56.0	
CD2				SKS	SKSdf	21 42 25.9	-8.3
CD2				SKKS	SKKSac	21 45 23.9	-6.7
CD2				SS	SS	21 57 16.6	-4.0
CD2				PP	PP		
	comp=Z,80nm,8.2s						
CD2				LR	LR		
	comp=E,120nm,26.8s						
CD2				LR	LR		
	comp=Z,110nm,25.4s,MS4.5						
KOLN	**Koldanda**	**144.86**	**21**	*e*P	PKPdf	21 35 23.7	-2.4
	comp=Z,20nm,0.7s						
GKN	**Gorkha**	**145.01**	**20**	*e*P	PKPbc	21 35 24.4	-1.2
	comp=Z,75nm,0.9s						
LSA	**Lhasa**	**145.03**	**9**	*e*PKIKP	PKPdf	21 35 25.6	-0.8
LSA				MLR	MLR		
	comp=Z,401nm,20.0s,MS5.2						
KKN	**Kakani**	**145.42**	**19**	*e*P	PKPbc	21 35 25.0	-2.0
	comp=Z,86nm,0.7s						
GUN	**Gumba**	**145.50**	**18**	*e*P	PKPdf	21 35 26.7	-0.5
	comp=Z,151nm,1.0s						
DMN	**Daman**	**145.53**	**19**	*e*P	PKPdf	21 35 26.4	-0.8
	comp=Z,82nm,0.9s						
PKI	**Pulchoki**	**145.66**	**19**	*e*P	PKPdf	21 35 27.4	0.0
JIRN	**Jiri**	**145.83**	**18**	*e*P	PKPdf	21 35 27.8	+0.1
NWAO	**Narrogin (SRO)**	**146.56**	**211**	PKPbc	PKPbc	21 35 30.2	-0.2
	comp=Z,5.7nm,0.9s,baz=258,slow=14,SNR=2.1						
POO	**Poona**	**147.11**	**44**	*e*P	PKPdf	21 35 28.0	-1.9
GYA	**Guiyang**	**147.50**	**344**	⇓PKP	PKPdf	21 35 33.8	+3.3
GYA				SKKS	SKKSac	21 45 48.3	-3.1
GYA				PP	PP		
	comp=Z,130nm,7.6s						
GYA				LR	LR		
	comp=N,240nm,20.8s,MS5.2						
GYA				LR	LR		
	comp=E,310nm,21.4s,MS5.2						
GYA				LR	LR		
	comp=Z,370nm,20.6s,MS5.2						
FITZ	**Fitzroy Crossi**	**149.43**	**242**	PKPbc	PKPbc	21 35 39.5	+1.4
	comp=Z,5.1nm,0.9s,baz=130,slow=3.0,SNR=6.6						
KMI	**Kunming**	**149.65**	**350**	PKP	PKPdf	21 35 33.8	-0.2
KMI				APKP		21 35 45.3	
KMI				PP	PP	21 39 12.0	+0.4
KMI				SS	SS	21 58 21.1	-5.6
KMI				PP	PP		
	comp=Z,91nm,7.1s						
KMI				LR	LR		
	comp=N,355nm,27.0s,MS5.1						
KMI				LR	LR		
	comp=E,223nm,25.6s,MS5.1						
KMI				LR	LR		
	comp=Z,328nm,28.3s,MS5.0						
KMI	**Kunming**	**149.65**	**350**	PKP	PKPdf	21 35 33.7	-0.3
KMI				pPKP	pPKPdf	21 35 45.3	+8.9
KMI				sPKP		21 35 50.9	
KMI				PP	PP	21 39 12.0	+0.4
KMI				SS	SS	21 58 21.1	-5.6
KMI				SSS		22 04 04.7	
KMI				LR	LR		
	comp=Z,330nm,28.3s,MS5.0						
MBWA	**Marble Bar**	**152.97**	**231**	PFAKE		21 35 50.0	+11
MBWA				LR	LR		
	comp=Z,706nm,20.0s,MS5.5						
QIZ	**Qiongzhong**	**153.18**	**333**	PKP	PKPdf	21 35 40.9	+1.5
QIZ				PP	PP	21 39 36.0	+4.2
QIZ				SS	SS	21 59 07.8	+2.1
QIZ				LR	LR		
	comp=E,249nm,27.2s						
QIZ				LR	LR		
	comp=Z,340nm,36.8s						
QIZ	**Qiongzhong**	**153.18**	**333**	PFAKE		21 35 50.0	+11
QIZ				LR	LR		
	comp=Z,314nm,21.0s,MS5.1						
CHTO	**Chiang Mai**	**156.33**	**356**	PFAKE		21 35 50.0	+6.2
CHTO				LR	LR		
	comp=Z,226nm,20.0s,MS5.0						
CM31	**Chiang Mai Arr**	**156.68**	**356**	PFAKE		21 36 00.0	+16
CM31				LR	LR		
	comp=Z,278nm,20.0s,MS5.1						
PALK	**Pallekele**	**159.41**	**54**	PFAKE		21 36 00.0	+12
PALK				LR	LR		
	comp=Z,190nm,22.0s,MS4.9						

IDC 18 21:26:14.7±2.7, 623S×13088E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=110.1km s-min=30.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.86**	**203**	Pn	Pn	21 29 18.4	-0.3
	0.1nm,0.3s,baz=21,slow=14,SNR=14						
FITZ				Sn	Sn	21 31 28.8	-14
	0.1nm,0.3s,baz=115,slow=23,SNR=4.5						
WRA	**Warramunga Arr**	**14.04**	**166**	Pn	Pn	21 29 34.8	0.0
	0.1nm,0.3s,baz=348,slow=14,SNR=11						
WRA				Sn	Sn	21 32 00.9	-10
	0.3nm,0.3s,baz=341,slow=20,SNR=7.9						
ASAR	**Alice Springs**	**17.57**	**171**	P	Pn	21 30 21.8	+0.8
	0.1nm,0.3s,baz=350,slow=8.6,SNR=7.4						
MKAR	**Makanchi Array**	**68.07**	**326**	P	P	21 37 16.3	+0.2
	0.5nm,0.8s,baz=119,slow=7.5,SNR=2.9						

*NNC **18** 21:43:18.5±2.4, 4288N×77.16E, h0km, mb2.2, mpv2.5, Error ellipse: s-maj=14.6km s-min=9.9km az=114.0*
*ISCJB **18** 21:43:20.7±0.8, 4298N±005×7695E±006, h7km, Error ellipse: s-maj=7.9km s-min=4.3km az=101.7*
*KNET **18** 21:43:22.0±1.0, 4292N×7688E, h7km±3km, ml2.4, Error ellipse: s-maj=5.5km s-min=2.9km az=63.0*

ISC 18 21:43:21.1±1.2, 4295N±005×7699E±007, h2km±11km, n11, σ0=96/19, 14C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.27**	**357**	⇑P	**Pg**	**21 43 26.4**	**+0.1**
	21nm,0.2s						
KNDC				⇓S	**Sg**	**21 43 30.7**	**+0.9**
	115nm,0.5s						
ULHL	**Ulahol**	**0.89**	**218**	P	**Pg**	**21 43 38.1**	**-0.1**
	11nm,0.1s,SNR=108						
ULHL				⇑S	**Sg**	**21 43 50.2**	**+0.5**
	28nm,0.1s						
TKM2	**Tokmak 2**	**1.02**	**269**	⇑P	**Pg**	**21 43 40.5**	**-0.2**
	17nm,0.1s,SNR=134						
TKM2				⇑S	**Sg**	**21 43 54.7**	**+0.8**
	84nm,0.1s						
TKM2	**Tokmak 2**	**1.02**	**269**	⇑P	**Pg**	**21 43 40.5**	**-0.2**
	0.6nm,0.5s						
TKM2				⇑S	**Sg**	**21 43 55.9**	**+1.9**
	0.2nm,0.1s						
KBK	**Karagaybulak**	**1.53**	**260**	⇑P	**Pg**	**21 43 49.8**	**-0.6**
	26nm,0.1s,SNR=18						
KBK				⇓S	**Sg**	**21 44 11.4**	**+1.2**
	56nm,0.2s						
CHMS	**Chumysh**	**1.64**	**273**	⇓P	**Pg**	**21 43 51.3**	**-1.2**
	8.7nm,0.1s,SNR=15						
CHMS				⇑S	**Sg**	**21 44 13.3**	**-0.5**
	46nm,0.2s						
USP	**Ospenovka**	**1.85**	**281**	⇑P	**Pg**	**21 43 54.8**	**-1.8**
	15nm,0.2s,SNR=14						
USP				⇑S	**Sg**	**21 44 19.8**	**-0.7**
	32nm,0.2s						
UCH	**Uchtor**	**1.96**	**249**	⇓P	**Pb**	**21 43 57.4**	**-0.1**
	5.7nm,0.1s,SNR=17						
EKS2	**Erkin-Say**	**2.38**	**264**	⇓P	**Pb**	**21 44 04.2**	**-0.5**
	7.9nm,0.1s,SNR=16						
KK31	**Karatay Array**	**4.75**	**274**	⇑Pg	**Pb**	**21 44 47.7**	**+2.6**
KK31				⇑Lg		21 45 49.3	
MK31	**Makanchi Array**	**5.38**	**43**	⇑Pn	**Pn**	**21 44 43.2**	**+0.8**
	0.4nm,0.5s,baz=255,slow=8.3,SNR=2.6						
MK31				⇑Sn	**Sn**	**21 45 44.3**	**-0.7**
	0.3nm,0.3s,baz=218,slow=26,SNR=4.0						
MK31				⇓Lg		21 46 03.9	
	1.0nm,0.5s,baz=224,slow=28,SNR=6.5						

*ISCJB **18** 21:46:48.8±1.2, 4309N±007×058W±004, h11km±9km, Error ellipse: s-maj=11.4km s-min=5.0km az=14.0*
*STR **18** 21:46:48.8±0.2, 4311N×056W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 21:46:49.7±0.6, 4308N×057W, h5km±8km, mbLg1.2/4, Error ellipse: s-maj=4.1km s-min=2.0km az=8.0, PRXIMO*
*LDG **18** 21:46:49.6±0.1, 4307N×058W, h2km, Md1.9/3, Error ellipse: s-maj=3.4km s-min=1.7km az=20.0*
*CSEM **18** 21:46:49.7±0.1, 4308N×059W, h2km, ML2.1, Error ellipse: s-maj=3.0km s-min=1.5km az=30.0*

ISC 18 21:46:49.4±1.1, 4308N±006×058W±004, h8km±10km, n13, σ0=37/22, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.09**	**273**	Pg	**Pg**	**21 46 51.6**	**-0.1**
ATE				Sg	**Sg**	**21 46 53.5**	**+0.2**
ATE	**Arette**	**0.09**	**273**	P	**Pg**	**21 46 51.5**	**-0.1**
ATE				S	**Sg**	**21 46 53.5**	**+0.2**
REYF	**Montagne du Re**	**0.14**	**95**	Pg	**Pg**	**21 46 51.8**	**-0.6**
REYF				Sg	**Sg**	**21 46 54.2**	**-0.2**
REYF	**Montagne du Re**	**0.14**	**95**	P	**Pg**	**21 46 51.9**	**-0.5**
REYF				S	**Sg**	**21 46 54.2**	**-0.2**
ETSF	**Etsaut**	**0.18**	**176**	*e*Pg	**Pg**	**21 46 53.2**	**0.0**
ETSF				*e*Sg	**Sg**	**21 46 56.0**	**+0.2**
	22nm,0.2s						
ETSF	**Etsaut**	**0.18**	**176**	*e*Pg	**Pg**	**21 46 53.2**	**0.0**
ETSF				*e*Sg	**Sg**	**21 46 56.0**	**+0.2**
	11nm,0.2s						
SJPF	**Ste Jean**	**0.47**	**274**	*e*Pg	**Pg**	**21 46 58.6**	**0.0**
SJPF				*e*Sg	**Sg**	**21 47 04.9**	**0.0**
	2.0nm,0.2s						
SJPF	**Ste Jean**	**0.47**	**274**	*e*Pg	**Pg**	**21 46 58.6**	**0.0**
SJPF				*e*Sg	**Sg**	**21 47 04.9**	**0.0**
	1.0nm,0.2s						
IPRE	**Itoiz**	**0.64**	**245**	Lg		21 47 10.8	
	0.4nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.66**	**126**	Pg	**Pg**	**21 47 01.5**	**-0.6**
	SNR=7.9						
EBIE				Lg		21 47 09.5	
	2.5nm,0.1s,SNR=7.9						
EPF	**

ms1mx3.0/32, Error ellipse: s-maj=108.9km s-min=36.5km az=134.0
*CSEM **18** 22:25:43.2, 6824N×2160W, h10km, mb4.2/2, After NEIC*
*NEIC **18** 22:25:43.2±0.9, 6824N×2160W, h10km, mb4.1/3, Error ellipse: s-maj=17.6km s-min=12.6km az=224.0*

ISC 18 22:25:43.2±0.9, 682N±01×215W±03, h10km, n22, σ1§17/21, mb4.0/5, MS3.6/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.49**	**179**	Pn	**Pn**	**22 26 36.2**	**-1.3**
	7.1nm,0.3s,baz=10,slow=7.0,SNR=13						
BORG				Sn	**Sn**	**22 27 13.9**	**-5.0**
	4.1nm,0.3s,baz=238,slow=22,SNR=7.8						
SUMG	**Summit**	**7.17**	**315**	Pn	**Pn**	**22 27 28.5**	**+0.5**
SUMG	**Summit**	**7.17**	**315**	Pn	**Pn**	**22 27 28.5**	**+0.4**
EKA	**Eskdalemuir Ar**	**15.46**	**138**	Pn	**Pn**	**22 29 24.1**	**+2.8**
	0.1nm,0.3s,baz=334,slow=13,SNR=4.4						
EKA	**Eskdalemuir Ar**	**15.46**	**138**	Pn	**Pn**	**22 29 24.1**	**+2.7**
ESK	**Eskdalemuir**	**15.47**	**138**	*e*Pn	**Pn**	**22 29 22.0**	**+0.6**
	6.1nm,0.9s						
ESK	**Eskdalemuir**	**15.47**	**138**	*e*Pn	**Pn**	**22 29 22.0**	**+0.6**
	6.1nm,0.9s						
NOA	**NORSAR Array B**	**15.57**	**102**	Pn	**Pn**	**22 29 24.3**	**+1.5**
	0.1nm,0.3s,baz=312,slow=10,SNR=3.8						
NOA	**NORSAR Array B**	**15.57**	**102**	Pn	**Pn**	**22 29 24.3**	**+1.5**
HFS	**Hagfors**	**17.09**	**101**	Pn	**Pn**	**22 29 42.4**	**+0.2**
	0.1nm,0.3s,baz=317,slow=7.9,SNR=7.0						
KAF	**Kangasniemi**	**20.50**	**84**	*e*p	**P**	**22 30 16.1**	**-5.3**
FINES	**FINESS Array B**	**20.83**	**86**	P	**P**	**22 30 24.4**	**-0.5**
	2.9nm,0.9s,baz=302,slow=8.0,SNR=7.0						
FINES				LR	LR	22 36 57.5	
	comp=Z,139nm,20.9s,MS3.3,baz=157,slow=32						
JOF	**Joensuu**	**21.86**	**78**	*e*p	**P**	**22 30 34.6**	**-1.4**
	14nm,0.8s,mb4.5						
CLL	**Collm**	**23.75**	**118**	*e*P	**P**	**22 30 54.0**	**-1.8**
	comp=Z,12nm,1.3s,mb4.2						
MOX	**Moxa**	**23.87**	**121**	*e*P	**P**	**22 30 56.6**	**-0.3**
GERES	**GERESS Array B**	**26.11**	**120**	P	**P**	**22 31 17.3**	**+0.1**
	comp=Z,2.9nm,0.8s,mb3.9,baz=330,slow=7.7,SNR=21						
MORC	**Moravsky Berou**	**26.58**	**114**	*e*P	**P**	**22 31 21.5**	**0.0**
	comp=Z,3.9nm,0.9s,mb3.9						
MORC	**Moravsky Berou**	**26.58**	**114**	*e*P	**P**	**22 31 21.5**	**0.0**
	comp=Z,3.8nm,0.9s,mb3.9						
DAVOX	**Davos/Dischmat**	**26.76**	**127**	LR	LR	22 41 22.9	
	comp=Z,132nm,20.9s,MS3.5,baz=84,slow=35						
PSZ	**Piszkesteto**	**28.98**	**113**	P	**P**	**22 31 42.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**57.05**	**153**	P	**P**	**22 35 32.0**	**+2.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=344,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**60.23**	**275**	LR	LR	23 01 27.0	
	comp=Z,92nm,18.4s,MS4.0,baz=5.0,slow=36						

IDC 18 23:02:04.9±3.4, 586S×15094E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, Error ellipse: s-maj=112.7km s-min=47.3km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.37**	**228**	P	P	23 06 54.5	+0.7
	1.3nm,0.5s,baz=54,slow=11,SNR=16						
ASAR	**Alice Springs**	**24.13**	**221**	P	P	23 07 22.6	+0.2
	2.5nm,0.7s,baz=54,slow=9.1,SNR=24						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	P	23 07 53.5	+0.3
	0.7nm,0.6s,baz=40,slow=7.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc	23 21 55.0	+0.6
	0.3nm,0.7s,baz=97,slow=2.7,SNR=6.8						

*TIR **18** 23:25:52.4, 4059N×2080E, h5km, Ml3.3*
*ATH **18** 23:25:53.3, 4056N×2067E, h12km±1km, MD3.5/11*
*ISCJB **18** 23:25:53.4±0.4, 4056N±002×2074E±002, h2km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=98.1*
*CSEM **18** 23:25:54.9±0.1, 4048N×2073E, h2km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.3km az=33.0*
*NEIC **18** 23:25:54.9, 4062N×2073E, h11km, ML3.0(ATH), ML3.2(PDG), After PDG.*
*PDG **18** 23:25:54.9±0.4, 4063N×2073E, h11km±1km*
*THE **18** 23:25:55.0, 4060N×2078E, h1km, ML3.3*

ISC 18 23:25:54.3±0.4, 4055N±002×2077E±002, h4km±3km, n73, σ1§07/111, 4C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.42**	**198**	*i* Pg	**Pg**	**23 26 01.6**	**-0.8**
LSK				*i* Sg	**Sg**	**23 26 08.8**	**+0.9**
FNA	**Florina**	**0.52**	**63**	*e*Pg	**Pg**	**23 26 04.1**	**0.0**
FNA				*e*Sg	**Sg**	**23 26 11.5**	**+0.6**
OHR	**Ohrid**	**0.56**	**2**	*i* Pg	**Pg**	**23 26 04.0**	**-1.0**
OHR				*i* Sg	**Sg**	**23 26 12.2**	**-0.1**
OHR	**Ohrid**	**0.56**	**2**	*i* Pg	**Pg**	**23 26 03.9**	**-1.1**
OHR				*i* Sg	**Sg**	**23 26 12.1**	**-0.1**
BIA	**Bitola**	**0.63**	**42**	*i* Pg	**Pg**	**23 26 05.1**	**-1.2**
BIA				*i* Sg	**Sg**	**23 26 16.4**	**+2.0**
BIA	**Bitola**	**0.63**	**42**	*i* Pg	**Pg**	**23 26 05.1**	**-1.2**
BIA				*i* Sg	**Sg**	**23 26 16.4**	**+1.9**
TPE	**Tepelena**	**0.63**	**246**	*i* Pg	**Pg**	**23 26 04.5**	**-1.9**
KZN	**Kozani**	**0.80**	**107**	*e*PG	**Pg**	**23 26 09.8**	**+0.1**
KZN				*e*SB	**Sb**	**23 26 22.6**	**+0.6**
KZN	**Kozani**	**0.80**	**107**	Pg	**Pg**	**23 26 09.8**	**+0.1**
KZN				*e*Sb	**Sb**	**23 26 22.8**	**+0.8**
KRUS	**Krusevo**	**0.89**	**24**	*i* Pg	**Pg**	**23 26 10.8**	**-0.6**
SRN	**Sarande**	**0.89**	**222**	*i* Pg	**Pg**	**23 26 10.7**	**-0.7**
SRN				*i* Sg	**Sg**	**23 26 25.0**	**+2.0**
JAN	**Janina**	**0.90**	**176**	*e*PB	**Pb**	**23 26 10.5**	**-1.9**
JAN				*e*SB	**Sb**	**23 26 23.2**	**-1.5**
JAN	**Janina**	**0.90**	**176**	Pb	**Pb**	**23 26 10.5**	**-1.9**
JAN				P		23 26 13.9	
JAN				*e*Sb	**Sb**	**23 26 23.3**	**-1.4**
JAN	**Janina**	**0.90**	**176**	P	**Pg**	**23 26 13.9**	**+2.4**
JAN				*e*Sb	**Sb**	**23 26 23.3**	**-1.4**
VLO	**Vlora**	**0.98**	**265**	*i* Pg	**Pg**	**23 26 14.4**	**+1.4**
VLO				*i* Sg	**Sg**	**23 26 29.5**	**+3.9**
TIR	**Tirane**	**1.05**	**319**	*i* Pg	**Pg**	**23 26 12.4**	**-2.0**
TIR				*i* Sg	**Sg**	**23 26 30.1**	**+2.1**
TIR	**Tirane**	**1.05**	**319**	P	**Pg**	**23 26 12.5**	**-1.9**
IGT	**Igoumenitsa**	**1.07**	**198**	*e*Pg	**Pg**	**23 26 15.2**	**+0.3**
KEK	**Kerkira**	**1.12**	**222**	*e*PN	**Pn**	**23 26 13.9**	**-2.9**
KEK				*e*SB	**Sb**	**23 26 28.3**	**-2.9**
KEK	**Kerkira**	**1.12**	**222**	Pn	**Pn**	**23 26 13.9**	**-2.9**
KEK				*e*Sb	**Sb**	**23 26 27.9**	**-3.3**
PHP	**Peshkopia**	**1.16**	**348**	*i* Pn	**Pn**	**23 26 15.0**	**-2.3**
PHP				*i* Sn	**Sn**	**23 26 31.6**	**-1.9**
THL	**Klokotos Trika**	**1.37**	**136**	*e*PG	**Pg**	**23 26 19.7**	**-0.9**
THL				*e*SB	**Sb**	**23 26 39.5**	**+1.1**
LIT	**Litokhoron**	**1.39**	**108**	*e*Pg	**Pg**	**23 26 21.0**	**+0.1**
LIT				*e*Sg	**Sg**	**23 26 41.0**	**+2.0**
SKO	**Skopje**	**1.50**	**19**	*i* Pn	**Pn**	**23 26 23.2**	**+1.2**
STIP	**Stip**	**1.56**	**43**	*i* Pn	**Pn**	**23 26 23.1**	**+0.3**
STIP	**Stip**	**1.56**	**43**	*i* Pn	**Pn**	**23 26 23.0**	**+0.2**
VAY	**Valandovo**	**1.56**	**60**	*i* Pn	**Pn**	**23 26 22.9**	**+0.1**
PUK	**Puka**	**1.63**	**336**	*i* Pn	**Pn**	**23 26 24.7**	**+1.0**
PUK				*i* Sn	**Sn**	**23 26 49.8**	**+4.6**
THE	**Thessaloniki**	**1.67**	**87**	*e*Pb	**Pb**	**23 26 24.2**	**-1.4**
THE				*e*Sb	**Sb**	**23 26 46.9**	**-0.2**
KNT	**Kendrikon**	**1.73**	**69**	*e*Pb	**Pb**	**23 26 25.4**	**-1.1**
KNT				*e*Sb	**Sb**	**23 26 48.1**	**-0.4**
HORT	**Hortiatis**	**1.77**	**88**	*e*Pb	**Pb**	**23 26 25.9**	**-1.5**
HORT				*e*Sb	**Sb**	**23 26 49.7**	**-0.3**
ULC	**Ulcinj**	**1.82**	**321**	⇑*i*Pn	**Pn**	**23 26 25.9**	**-0.4**
ULC				*e*Sn	**Sn**	**23 26 50.8**	**+1.0**
EVR	**Evrytania**	**1.82**	**154**	*e*PN	**Pn**	**23 26 27.1**	**+0.7**
EVR	**Evrytania**	**1.82**	**154**	Pn	**Pn**	**23 26 27.1**	**+0.7**
EVR				P		23 26 30.2	
EVR	**Evrytania**	**1.82**	**154**	P	**Pn**	**23 26 30.2**	**+3.8**
LKD	**Levkas**	**1.84**	**183**	*e*Pb	**Pb**	**23 26 27.8**	**-0.8**
BCI	**Bajram Curri**	**1.89**	**344**	*i* Pn	**Pn**	**23 26 29.7**	**+2.4**
BCI				*i* Sn	**Sn**	**23 26 56.4**	**+4.8**
AGG	**Agios Georgios**	**1.94**	**141**	*e*Pb	**Pb**	**23 26 29.3**	**-1.0**
AGG				*e*Sb	**Sb**	**23 26 55.2**	**+0.3**
SOH	**Sokhos**	**1.98**	**81**	*e*Pb	**Pb**	**23 26 29.1**	**-1.8**
SOH				*e*Sb	**Sb**	**23 26 55.0**	**-0.9**
SOH	**Sokhos**	**1.98**	**81**	*e*Pb	**Pb**	**23 26 29.1**	**-1.8**
SOH				*e*Sb	**Sb**	**23 26 55.0**	**-1.0**
LCI	**Lecce**	**2.04**	**265**	Pn	**Pn**	**23 26 29.7**	**+0.3**
PLG	**Polygyros**	**2.05**	**94**	*e*PN	**Pn**	**23 26 30.3**	**+0.8**
PLG	**Polygyros**	**2.05**	**94**	Pn	**Pn**	**23 26 30.1**	**+0.6**
PVY	**Plav**	**2.13**	**344**	*e*Pn	**Pn**	**23 26 31.0**	**+0.4**
PVY				*e*Sn	**Sn**	**23 26 58.0**	**+0.5**
TTG	**Podgorica**	**2.19**	**329**	⇓*i*Pn	**Pn**	**23 26 31.0**	**-0.5**
TTG				*e*Sn	**Sn**	**23 26 59.8**	**+0.8**
XOR	**Xorichti**	**2.21**	**122**	*e*Pn	**Pn**	**23 26 32.1**	**+0.5**
BUM	**Brajici-Budva**	**2.24**	**322**	⇓*i*Pn	**Pn**	**23 26 32.1**	**-0.1**
BUM				*e*Sn	**Sn**	**23 27 01.0**	**+0.7**
NEO	**Neokhori**	**2.26**	**123**	*e*PN	**Pn**	**23 26 33.4**	**+1.0**
NEO	**Neokhori**	**2.26**	**123**	Pn	**Pn**	**23 26 33.3**	**+0.9**
VLS	**Valsamata**	**2.38**	**183**	*e*PN	**Pn**	**23 26 34.8**	**+0.8**
BARS	**Barje**	**2.40**	**19**	*i* Pn	**Pn**	**23 26 33.4**	**-0.9**
IVA	**Berane**	**2.41**	**345**	*e*Pn	**Pn**	**23 26 34.5**	**+0.1**
IVA				*e*Sn	**Sn**	**23 27 04.8**	**+0.4**
IVA	**Berane**	**2.41**	**345**	*e*Pn	**Pn**	**23 26 34.5**	**+0.1**
IVA				*e*Sn	**Sn**	**23 27 04.8**	**+0.4**
NVR	**Nevrokopi**	**2.47**	**70**	*e*PN	**Pn**	**23 26 36.9**	**+1.6**
NVR	**Nevrokopi**	**2.47**	**70**	Pn	**Pn**	**23 26 37.1**	**+1.8**
HCY	**Herceg Novi**	**2.55**	**319**	⇑*i*Pn	**Pn**	**23 26 35.7**	**-0.7**
HCY				*e*Sn	**Sn**	**23 27 08.4**	**+0.5**
RLS	**Riolos of Patr**	**2.55**	**168**	*e*PN	**Pn**	**23 26 37.1**	**+0.7**
RLS	**Riolos of Patr**	**2.55**	**168**	Pn	**Pn**	**23 26 38.1**	**+1.7**
LKR	**Lokris**	**2.56**	**137**	*e*PN	**Pn**	**23 26 37.8**	**+1.2**
NKY	**Niksic**	**2.62**	**330**	⇑*i*Pn	**Pn**	**23 26 37.1**	**-0.3**
NKY				*e*Sn	**Sn**	**23 27 09.9**	**+0.3**
BRY	**Bratogost**	**2.88**	**325**	⇑*i*Pn	**Pn**	**23 26 40.6**	**-0.3**
BRY				*e*Sn	**Sn**	**23 27 16.3**	**+0.3**
PLE	**Pljevlja**	**2.96**	**340**	*e*Pn	**Pn**	**23 26 42.2**	**+0.2**
PLE				*e*Sn	**Sn**	**23 27 17.8**	**-0.2**
UPM	**Unac-Piva**	**2.99**	**333**	⇓*i*Pn	**Pn**	**23 26 42.4**	**0.0**
UPM				*e*Sn	**Sn**	**23 27 18.7**	**0.0**
GRUS	**Gruza**	**3.33**	**359**	*i* Pn	**Pn**	**23 26 47.1**	**-0.1**
BBLS	**Bajina Basta -**	**3.46**	**343**	*i* Pn	**Pg**	**23 27 01.1**	**+0.5**
ITM	**Ithomi**	**3.49**	**165**	P	**Pn**	**23 26 53.8**	**+4.5**
DIVS	**Divcibare**	**3.59**	**351**	*i* Pn	**Pn**	**23 26 50.5**	**-0.3**
FGMS	**Monte Sant'Ang**	**3.82**	**289**	Pn	**Pn**	**23 26 52.4**	**-1.4**
SLCN	**Sala Consilina**	**3.92**	**269**	Pn	**Pn**	**23 26 55.6**	**+0.3**
ALN	**Alexandroupoli**	**4.02**	**83**	*e*Pn	**Pn**	**23 26 57.1**	**+0.5**
RGNG	**Rignano Grg**	**4.07**	**288**	Pn	**Pn**	**23 26 55.9**	**-1.4**
FG5	**Orsara di Pugl**	**4.23**	**282**	Pn	**Pn**	**23 27 00.2**	**+0.7**
SGG	**Gregorio Mates**	**4.91**	**282**	Pn	**Pn**	**23 27 08.7**	**-0.1**

*ISCJB **18** 23:32:55.1±0.5, 10S×01×2441W±008, h10km, mb3.9/13, MS3.7/1, Error ellipse: s-maj=17.6km s-min=10.1km az=130.3*
*IDC **18** 23:32:55.3±0.7, 107S×2440W, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, MS3.8/1, Ms1 3.8/1, ms1mx3.2/21, Error ellipse: s-maj=29.9km s-min=15.0km az=144.0*
*NEIC **18** 23:32:56.6±0.3, 109S×2441W, h10km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=7.4km az=157.0*

ISC 18 23:32:57.4±0.5, 10S±01×2442W±008, h10km, n26, σ0§64/23, mb3.9/13, MS3.7/1, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.41**	**247**	*e*Pn	**Pn**	**23 35 49.0**	**-5.2**
	16nm,0.5s						
BDFB	**Brasilia**		**27.44**	**237**	P	**23 38 44.6**	**+1.2**
	4.1nm,0.9s,mb4.0,baz=45,slow=7.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.48**	**61**	P	**P**	**23 39 01.8**	**+0.2**
	2.2nm,1.0s,mb3.8,baz=244,slow=8.7,SNR=7.8						
TORD				LR	LR	23 49 24.1	
	comp=Z,191nm,20.8s,MS3.7,baz=230,slow=34						
MDT	**Midelt**	**38.50**	**27**	P	**P**	**23 40 21.0**	**+1.2**
	1.5nm,0.7s,mb3.8,baz=209,slow=10,SNR=3.3						
SIV	**San Ignacio**	**39.07**	**246**	P	**P**	**23 40 24.5**	**-0.1**
	1.0nm,0.7s,mb3.6,baz=106,slow=11,SNR=6.7						
SAML	**Samuel**	**39.38**	**257**	*e*P	**P**	**23 40 26.7**	**-0.3**
	3.2nm,0.9s,mb4.0						
SAML				*e*PP	PP	23 41 54.7	-2.7
CPUP	**Villa Florida**	**40.44**	**229**	P	**P**	**23 40 35.4**	**-0.5**
	0.4nm,0.4s,mb3.5,baz=56,slow=3.6,SNR=3.3						
CPUP	**Villa Florida**	**40.44**	**229**	P	**P**	**23 40 34.3**	**-1.7**
PCRV	**Puerto La Cruz**	**41.53**	**287**	P	**P**	**23 40 44.8**	**-0.2**
	2.2nm,0.4s,mb4.1,baz=336,slow=13,SNR=2.3						
CART	**Cartagena**	**44.10**	**27**	P	**P**	**23 41 05.3**	**-0.5**
ESDC	**Sonseca Array**	**44.62**	**23**	P	**P**	**23 41 10.3**	**+0.4**
	1.1nm,0.7s,mb3.8,baz=225,slow=8.0,SNR=5.3						
MTP	**Monte Pirata**	**44.70**	**297**	P	**P**	**23 41 10.5**	**0.0**
TSUM	**Tsumeb**	**44.94**	**116**	P	**P**	**23 41 12.0**	**-0.4**
SJG	**San Juan**	**45.23**	**297**	*e*P	**P**	**23 41 14.8**	**0.0**
	6.4nm,0.4s,mb4.8						
LPAZ	**La Paz**	**45.65**	**248**	P	**P**	**23 41 18.2**	**+0.1**
	2.1nm,0.8s,mb4.1,baz=60,slow=4.1,SNR=10						
LPAZ	**La Paz**	**45.65**	**248**	*e*P	**P**	**23 41 19.1**	**+0.9**
	1.9nm,0.7s,mb4.1						
SDV	**Santo Domingo**	**47.08**	**283**	P	**P**	**23 41 29.4**	**+0.1**
LSZ	**Lusaka**	**53.80**	**108**	P	**P**	**23 42 20.8**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=34,slow=3.3,SNR=5.5						
GERES	**GERESS Array B**	**59.58**	**28**	P	**P**	**23 43 00.7**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=223,slow=5.5,SNR=7.9						
AKASG	**Malin Array Be**	**68.70**	**33**	P	**P**	**23 44 00.2**	**-0.9**
	0.5nm,0.4s,mb3.8,baz=241,slow=7.4,SNR=7.3						
AKASG	**Malin Array Be**	**68.70**	**33**	P	**P**	**23 44 00.2**	**-0.9**
TBLG	**Delisi**	**75.25**	**46**	P	**P**	**23 44 33.9**	**-6.5**
DGRG	**David-gareji**	**75.64**	**47**	P	**P**	**23 44 35.6**	**-7.1**
STKA	**Stephens Creek**	**144.70**	**159**	PKP	PKPdf	23 52 33.1	-1.3
	2.9nm,0.7s,baz=138,slow=0.5,SNR=8.0						
ASAR	**Alice Springs**	**147.66**	**141**	PKPbc	PKPbc	23 52 41.6	-0.5
	2.3nm,0.6s,baz=210,slow=2.3,SNR=40						
WRA	**Warramunga Arr**	**150.54**	**136**	PKPbc	PKPbc	23 52 49.3	-0.2
	0.9nm,0.7s,baz=246,slow=2.6,SNR=9.3						

*ISCJB **18** 23:33:31.0±0.3, 1392N±004×12049E±007, h125km±3km, mb4.2/13, Error ellipse: s-maj=10.6km s-min=5.9km az=8.4*
*IDC **18** 23:33:31.7±0.7, 1393N×12071E, h121km±7km, mb3.8/9, mb1 3.9/9, mb1mx3.6/21, mbtmp4.1/9, Error ellipse: s-maj=35.6km s-min=14.9km az=72.0*
*NEIC **18** 23:33:31.6±0.4, 1394N×12063E, mb4.3/4, Error ellipse: s-maj=12.0km s-min=6.9km az=80.0*
*MAN **18** 23:33:32.5, 1390N×12048E, h102km, mb2.5, ML4.0, MS3.0*

ISC 18 23:33:32.0±0.3, 1392N±004×12050E±007, h120km±3km, h118km±1.3km; pP-P, n35, σ0§88/39, mb4.2/13, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**233**	*e*P	**Pn**	**23 33 49.0**	**0.0**
LUBP				*e*S	**Sn**	**23 34 00.7**	**-1.0**
TGY	**Tagaytay City**	**0.47**	**67**	P	**Pn**	**23 33 49.3**	**-0.5**
	480nm,0.3s,baz=250,slow=2.0,SNR=68						
TGY				S	**Sn**	**23 34 03.2**	**+0.1**
	3μm,0.3s,baz=143,slow=20,SNR=41						
BOAC	**Boac**	**1.39**	**109**	*e*P	**Pn**	**23 33 57.8**	**-0.4**
POLP	**Polilio Island**	**1.61**	**60**	*e*P	**Pn**	**23 34 01.6**	**+0.8**
PCPH	**Palayan**	**1.74**	**19**	⇓*e*P	**Pn**	**23 34 00.6**	**-1.7**
PCPH				*e*S	**Sn**	**23 34 26.1**	**+0.8**
BUSP	**Coron**	**1.92**	**189**	*e*P	**Pn**	**23 34 04.5**	**-0.1**
BUSP				*e*S	**Sn**	**23 34 28.6**	**-0.8**
SCZP	**Santa Cruz**	**1.93**	**343**	*e*P	**Pn**	**23 34 04.6**	**-0.1**
BALP	**Baler**	**2.09**	**30**	*e*P	**Pn**	**23 34 07.2**	**+0.5**
OTRP	**Odiongan**	**2.14**	**136**	*e*P	**Pn**	**23 34 07.7**	**+0.4**
BOLP	**Bolinao**	**2.52**	**347**	*e*P	**Pn**	**23 34 12.5**	**+0.5**
ENPP	**El Nido**	**2.89**	**201**	*e*P	**Pn**	**23 34 17.8**	**+0.9**
CUYO	**Cuyo Island**	**3.09**	**170**	*e*P	**Pn**	**23 34 19.8**	**+0.3**
PVCP	**Virac**	**3.57**	**95**	*e*P	**Pn**	**23 34 27.3**	**+1.5**
CVP	**Callao Caves**	**3.98**	**19**	*e*P	**Pn**	**23 34 33.0**	**+1.8**
NACB	**Ninganchiao**	**10.26**	**6**	*e*Pn	**Pn**	**23 35 55.1**	**-0.9**
YHNB	**Yeheng**	**10.73**	**4**	*e*Pn	**Pn**	**23 36 02.2**	**0.0**
TATO	**Taipei**	**11.04**	**5**	*e*Pn	**Pn**	**23 36 04.7**	**-1.8**
GUMO	**Guam**	**23.68**	**88**	P	**P**	**23 38 31.7**	**-0.8**
PSI	**Prapat**	**24.00**	**245**	P	**P**	**23 38 37.6**	**+2.1**
	3.4nm,0.6s,mb3.9,baz=34,slow=7.3,SNR=7.3						
MDJ	**Mudanjiang**	**31.57**	**12**	P	**P**	**23 39 42.1**	**-0.9**
SONM	**Songino Array**	**35.80**	**344**	P	**P**	**23 40 20.2**	**+0.6**
	4.5nm,0.5s,mb4.7,baz=164,slow=9.8,SNR=44						
WRA	**Warramunga Arr**	**36.30**	**158**	P	**P**	**23 40 23.3**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=334,slow=9.8,SNR=9.6						
WRA				pP	pP	23 40 49.8	-0.7
	1.9nm,0.8s,baz=336,slow=9.7,SNR=9.1						
WB2	**Warramunga Arr**	**36.30**	**158**	*e*P	**P**	**23 40 24.1**	**+0.2**
WB2				*e*	pP	23 40 49.9	-0.7
ASAR	**Alice Springs**	**39.59**	**161**	P	**P**	**23 40 51.4**	**-0.1**
	0.3nm,0.5s,mb3.4,baz=336,slow=6.9,SNR=5.0						
ASAR				pP	pP	23 41 18.4	-0.1
	1.2nm,0.7s,baz=336,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**45.74**	**324**	P	**P**	**23 41 42.7**	**+1.5**
	0.7nm,0.4s,mb3.8,baz=118,slow=8.4,SNR=20						
ZAL	**Zalesovo**	**48.78**	**333**	P	**P**	**23 42 05.0**	**+0.3**
	1.8nm,0.4s,mb4.4,baz=9.9,slow=4.0,SNR=8.4						
BRVK	**Borovoye**	**55.56**	**326**	*e*P	**P**	**23 42 55.6**	**+0.7**
	11nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**55.64**	**327**	*e*P	**P**	**23 42 56.0**	**+0.5**
	1.7nm,0.5s,mb4.3						
MCK	**McKinley**	**77.89**	**27**	*e*P	**P**	**23 45 16.0**	**-0.5**
	3.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**78.81**	**339**	P	**P**	**23 45 21.0**	**-0.6**
	3.8nm,0.9s,mb4.2,baz=64,slow=5.5,SNR=3.9						
FINES	**FINESS Array B**	**80.00**	**331**	P	**P**	**23 45 27.3**	**-0.8**
	0.9nm,0.6s,mb3.8,baz=76,slow=8.0,SNR=6.1						
FINES	**FINESS Array B**	**80.00**	**331**	P	**P**	**23 45 27.3**	**-0.8**
INK	**Inuvik**	**82.97**	**21**	*e*P	**P**	**23 45 43.2**	**-0.5**
	62nm,0.6s,mb5.6						
NB2	**NORSAR Subarra**	**86.98**	**333**	P	**P**	**23 46 02.8**	**-0.9**
	comp=Z,5.3nm,1.2s,mb4.3,baz=62,slow=4.6						
NOA	**NORSAR Array B**	**86.98**	**333**	P	**P**	**23 46 02.0**	**-1.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=65,slow=4.6,SNR=3.9						

*ISCJB **18** 23:33:42.3±0.7, 1.1S±01×2463W±0.10, h10km, mb3.8/6, Error ellipse: s-maj=19.6km s-min=12.4km az=122.9*
*IDC **18** 23:33:43.4±1.0, 0.98S×2467W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, Error ellipse: s-maj=59.4km s-min=23.6km az=130.0*
*NEIC **18** 23:33:44.8±0.5, 1.04S×2461W, h10km, mb3.7/1, Error ellipse: s-maj=16.9km s-min=10.3km az=152.0*

ISC 18 23:33:44.9±0.7, 10S±01×2464W±010, h10km, n14, σ0§89/11, mb3.8/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.20**	**247**	*e*P	**Pn**	**23 36 37.5**	**-1.2**
ASCN	**Ascension**	**12.32**	**124**	*e*Pn	**Pn**	**23 36 40.2**	**-0.1**
BDFB	**Brasilia**	**27.24**	**237**	P	**P**	**23 39 29.6**	**+0.5**
	3.8nm,0.8s,mb4.0,baz=66,slow=3.9,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**29.68**	**61**	*e*P	**P**	**23 39 50.8**	**0.0**
TORD	**Torodi Ar. Bea**	**29.68**	**61**	P	**P**	**23 39 51.0**	**+0.2**
	1.2nm,0.8s,mb3.7,baz=242,slow=9.1,SNR=5.6						
MDT	**Midelt**	**38.62**	**28**	P	**P**	**23 41 09.2**	**+1.0**
	2.3nm,0.9s,mb3.9,baz=234,slow=8.7,SNR=3.0						
SAML	**Samuel**	**39.16**	**257**	*e*P	**P**	**23 41 15.8**	**+3.1**
	2.0nm,1.0s,mb3.8						
SFS	**San Fernando**	**41.07**	**23**	P	**P**	**23 41 28.2**	**-0.4**
GERES	**GERESS Array B**	**59.70**	**28**	P	**P**	**23 43 48.8**	**-0.8**
	0.6nm,0.7s,mb3.7,baz=225,slow=8.9,SNR=4.1						
AKASG	**Malin Array Be**	**68.84**	**33**	P	**P**	**23 44 49.0**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=238,slow=7.1,SNR=4.2						
AKASG	**Malin Array Be**	**68.84**	**33**	P	**P**	**23 44 49.0**	**-0.5**
STKA	**Stephens Cre

THN				*e*S		**Sn**	**23 49 43.1**	**+0.6**
AML	**Almayashu**	**6.70**	**26**	P		**Pn**	**23 48 39.8**	**+0.1**
	SNR=14							
KK31	**Karatay Array**	**6.95**	**5**	⇑P		**Pn**	**23 48 44.2**	**+1.1**
	baz=175,slow=12							
KK31				⇑S		**Sn**	**23 49 53.3**	**-7.2**
	baz=194,slow=35							
UCH	**Uchtor**	**7.09**	**30**	P		**Pn**	**23 48 44.8**	**-0.3**
	SNR=31							
EKS2	**Erkin-Say**	**7.19**	**25**	P		**Pn**	**23 48 46.5**	**-0.1**
	SNR=20							
AAK	**Ala-Archa**	**7.43**	**28**	P		**Pn**	**23 48 49.6**	**-0.1**
	SNR=10							
USP	**Ospenovka**	**7.98**	**26**	P		**Pn**	**23 48 57.8**	**+0.6**
	SNR=8.7							
TKM2	**Tokmak 2**	**8.12**	**32**	P		**Pn**	**23 48 58.2**	**-0.9**
	SNR=5.1							
TKM2	**Tokmak 2**	**8.12**	**32**	⇑P		**Pn**	**23 48 57.8**	**-1.3**
	0.5nm,0.5s							
TKM2				⇑S		**Sn**	**23 50 19.6**	**-10**
	0.6nm,0.7s							
AB31	**Akbulak array**	**14.90**	**334**	⇑P		**Pn**	**23 50 28.8**	**-0.7**
	1.2nm,0.8s,baz=145,slow=12,SNR=7.0							
AB31				⇑S		**Sn**	**23 53 04.9**	**-8.8**
	0.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.57**	**333**	⇑P		**Pn**	**23 50 50.8**	**+0.5**
	0.1nm,0.8s							

HLW ***18*** *23:48:39.7, 34.63N×33.40E, h33km, Mb3.5*
CSEM ***18*** *23:48:40.2±0.1, 34.52N×33.29E, h60km, Mw2.8, Error ellipse: s-maj=2.4km s-min=1.8km az=106.0*
GII ***18*** *23:48:41.3±0.0, 34.44N×33.35E, h15km, ML2.7/14, Mw3.0/4*
ISCJB ***18*** *23:48:41.3±0.5, 34.42N±0.005×33.32E±0.004, h45km±22km, Error ellipse: s-maj=7.9km s-min=5.2km az=14.0*
NIC ***18*** *23:48:42.3±0.2, 34.47N×33.33E, h20km, ML3.4, MW3.1*
NEIC ***18*** *23:48:42.3, 34.47N×33.33E, h20km, ML3.4(NIC), After NIC.*
GRAL ***18*** *23:48:42.8±1.8, 34.48N×33.37E, h33km±9km, MD3.6*

ISC 18 23:48:42.3±0.5, 34.48N±0.003×33.32E±0.004, h33km±6km, n64, σ0.85/89, 7C-7D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.46**	**308**	⇑P		**Pb**	**23 48 52.2**	**0.0**
SZAC				S		**Sb**	**23 48 58.9**	**-0.2**
SZAC	**Souni-Zanaja**	**0.46**	**308**	⇑*i*P		**Pb**	**23 48 52.2**	**0.0**
SZAC				S		**Sb**	**23 48 58.9**	**-0.2**
CSS	**Prodhromos**	**0.48**	**1**	P		**Pb**	**23 48 52.4**	**-0.2**
	37nm,0.2s							
CSS				S		**Sb**	**23 48 59.8**	**+0.1**
MAMC	**Mammari**	**0.70**	**353**	⇑*e*P		**Pn**	**23 48 55.7**	**-0.2**
PHNC	**Paralimni**	**0.79**	**48**	P		**Pn**	**23 48 56.9**	**-0.2**
ALFC	**Alevga**	**0.90**	**319**	P		**Pn**	**23 48 58.7**	**0.0**
	37nm,0.2s							
ALFC				S		**Sn**	**23 49 11.6**	**+1.0**
PPCY	**Paphos**	**0.90**	**297**	⇑*e*P		**Pn**	**23 48 58.5**	**-0.2**
AKMC	**Akamas**	**0.98**	**304**	P		**Pn**	**23 49 00.0**	**+0.2**
BHL	**Bhannes**	**2.01**	**106**	*e*P		**Pn**	**23 49 13.3**	**-0.7**
BHL				*e*S		**Sn**	**23 49 34.4**	**-3.7**
HNTI	**Hanita**	**2.08**	**132**	Pn		**Pn**	**23 49 13.9**	**-0.9**
HNTI				Sn		**Sn**	**23 49 38.7**	**-0.9**
HWQ	**Hawqa**	**2.18**	**94**	*e*P		**Pn**	**23 49 16.3**	**+0.1**
HWQ				*e*S		**Sn**	**23 49 40.3**	**-1.8**
MMA0	**Mount Meron ar**	**2.26**	**129**	Pn		**Pn**	**23 49 16.8**	**-0.7**
RCY	**Rachaya**	**2.30**	**115**	*e*P		**Pn**	**23 49 17.4**	**-0.4**
RCY				*e*S		**Sn**	**23 49 43.4**	**-1.7**
OFRI	**'Ofer**	**2.31**	**143**	Pn		**Pn**	**23 49 16.7**	**-1.4**
KSDI	**Kefar Szold**	**2.33**	**123**	Pn		**Pn**	**23 49 18.0**	**-0.4**
HRI	**Mount Hermon**	**2.34**	**120**	Pn		**Pn**	**23 49 18.4**	**-0.1**
KSHT	**Keshet**	**2.55**	**125**	Pn		**Pn**	**23 49 21.8**	**+0.3**
SLTI	**Sal'it**	**2.65**	**147**	Pn		**Pn**	**23 49 21.5**	**-1.2**
SLTI				Sn		**Sn**	**23 49 54.0**	**+0.2**
MMLI	**Mount Malkishu**	**2.69**	**139**	Pn		**Pn**	**23 49 22.5**	**-0.7**
MMLI				Sn		**Sn**	**23 49 55.1**	**+0.6**
HMDT	**Nahal Hemdat**	**2.88**	**140**	Pn		**Pn**	**23 49 26.0**	**+0.1**
DRGI	**Dragot**	**3.36**	**148**	Pn		**Pn**	**23 49 32.5**	**0.0**
DSI	**Dead Sea**	**3.37**	**149**	Pn		**Pn**	**23 49 32.9**	**+0.2**
DSI	**Dead Sea**	**3.37**	**149**	Pn		**Pn**	**23 49 32.8**	**+0.1**
YTIR	**Yattir**	**3.45**	**154**	Pn		**Pn**	**23 49 34.3**	**+0.5**
MZDA	**Masada**	**3.59**	**151**	Pn		**Pn**	**23 49 35.9**	**+0.2**
MZDA				Sn		**Sn**	**23 50 17.8**	**+0.8**
RTMI	**Retamim**	**3.60**	**161**	Pn		**Pn**	**23 49 36.1**	**+0.3**
KZIT	**Kziot**	**3.67**	**165**	Pn		**Pn**	**23 49 36.9**	**+0.1**
KZIT				Sn		**Sn**	**23 50 18.3**	**-0.7**
MASH	**Mash'abbe Sade**	**3.68**	**160**	Pn		**Pn**	**23 49 36.8**	**-0.2**
SVTA	**Shivta**	**3.70**	**162**	Pn		**Pn**	**23 49 37.2**	**0.0**
AMAG	**Maghara**	**3.82**	**181**	⇓P		**Pn**	**23 49 38.9**	**0.0**
RMNI	**Mount Ramon**	**4.05**	**162**	Pn		**Pn**	**23 49 42.4**	**+0.4**
PRNI	**Paran**	**4.35**	**160**	Pn		**Pn**	**23 49 45.9**	**-0.2**
PRNI				Sn		**Sn**	**23 50 36.1**	**+0.4**
KMTI	**Karmit**	**4.52**	**164**	Pn		**Pn**	**23 49 48.6**	**+0.2**
HNKL	**Nakhl**	**4.57**	**173**	⇓P		**Pn**	**23 49 49.0**	**-0.1**
HNKL				S		**Sn**	**23 50 39.1**	**-1.9**
SUZ		**4.64**	**185**	⇑P		**Pn**	**23 49 50.3**	**+0.2**
HRFI	**Mount Harif**	**4.66**	**161**	Pn		**Pn**	**23 49 50.4**	**0.0**
HRFI				Sn		**Sn**	**23 50 40.8**	**-2.4**
KOT	**Kottamia**	**4.71**	**196**	⇓P		**Pn**	**23 49 50.9**	**-0.2**
KOT				S		**Sn**	**23 50 43.1**	**-1.4**
KOT	**Kottamia**	**4.71**	**196**	P		**Pn**	**23 49 50.8**	**-0.2**
MBH	**Mount Berech**	**4.86**	**163**	Pn		**Pn**	**23 49 53.2**	**+0.1**
AQBJ	**Aqaba**	**4.96**	**162**	Pn		**Pn**	**23 49 54.7**	**+0.3**
EIL	**Elat**	**4.99**	**163**	Pn		**Pn**	**23 49 54.9**	**+0.1**
GLL	**Jalalah**	**5.07**	**196**	⇑P		**Pn**	**23 49 55.7**	**-0.3**
HNAT	**Natroun**	**5.35**	**206**	⇓P		**Pn**	**23 49 59.9**	**+0.1**
HBST	**Basata**	**5.38**	**167**	P		**Pn**	**23 50 00.2**	**-0.1**
HDHB	**Dhahab**	**5.84**	**169**	⇓P		**Pn**	**23 50 05.4**	**-1.2**
HKAT	**Jabal Katrina**	**5.96**	**174**	⇓P		**Pn**	**23 50 08.2**	**-0.1**
TR2		**6.08**	**177**	⇑P		**Pn**	**23 50 09.6**	**-0.3**
AWBH		**7.21**	**213**	⇓P		**Pn**	**23 50 25.6**	**+0.2**
AWBH		**7.21**	**213**	P		**Pn**	**23 50 25.5**	**+0.2**

IDC 18 23:55:14.8±8.5, 595S×15050E, h85km±57km, mb3.5/3, mb1 3.6/4, mb1mx3.3/15, mbtmp3.8/4, ML2.3/1, Error ellipse: s-maj=102.6km s-min=64.1km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.76**	**224**	P		23 56 23.9	-0.3
	0.9nm,0.3s,baz=37,slow=15,SNR=2.5						
PMG				S		Sn 23 57 22.4	+4.3
	4.1nm,0.3s,baz=212,slow=2.6,SNR=3.5						
WRA	**Warramunga Arr**	**20.98**	**227**	P		P 23 59 51.3	+0.3
	1.6nm,0.5s,baz=54,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.77**	**221**	P		P 00 00 20.0	+0.6
	2.8nm,0.7s,baz=54,slow=9.3,SNR=28						
FITZ	**Fitzroy Crossi**	**27.10**	**241**	P		P 00 00 49.8	+0.3
	0.5nm,0.4s,baz=40,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.44**	**285**	PKPbc		PKPbc 00 14 51.9	+0.4
	0.9nm,0.7s,baz=81,slow=2.4,SNR=13						

NEIC ***18*** *23:59:22.1, 20.26N×70.24W, h124km, MD4.4(RSPR), After RSPR.*

RSPR 18 23:59:22.1, 20.26N×70.24W, h124km±77km, MD4.5/12, MD4.5/12, 11C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**3.63**	**124**	⇑*e*P		Pn 00 00 16.4	-0.4
CRPR	**Cabo Rojo, PR**	**3.71**	**127**	⇑*e*P		Pn 00 00 18.0	+0.2
LRS	**Lares**	**3.75**	**121**	⇑*e*P		Pn 00 00 18.2	-0.2
AOPR	**Arecibo Observ**	**3.80**	**119**	⇑*e*P		Pn 00 00 21.1	+2.1
GBPR	**Guanica, Bosqu**	**3.90**	**125**	⇑*e*P		Pn 00 00 19.9	-0.4
OBIP	**Obispado Ponce**	**4.08**	**122**	*e*S		Sn 00 01 12.4	+2.7
OBIP	**Obispado Ponce**	**4.08**	**122**	⇑*e*P		Pn 00 00 24.3	+1.6
OBIP				*e*S		Sn 00 01 12.4	+2.7
CELP	**Cerrillos**	**4.08**	**122**	⇑*e*P		Pn 00 00 23.7	+0.9
ICM	**Isla Caja Muer**	**4.23**	**123**	*e*S		Sn 00 01 12.7	-0.6
ICM	**Isla Caja Muer**	**4.23**	**123**	⇑*e*P		Pn 00 00 27.0	+2.3
ICM				*e*S		Sn 00 01 12.7	-0.6
SJG	**San Juan**	**4.41**	**118**	⇑*e*P		Pn 00 00 26.5	-0.7
CPD	**Cerro la Pandu**	**4.64**	**118**	⇑*e*P		Pn 00 00 30.9	+0.6
HUMP	**Col San Antoni**	**4.65**	**116**	⇓*e*P		Pn 00 00 30.7	+0.4
MTP	**Monte Pirata**	**4.92**	**115**	*e*S		Sn 00 01 32.3	+2.4
MTP	**Monte Pirata**	**4.92**	**115**	⇑*e*P		Pn 00 00 33.8	-0.2
MTP				*e*S		Sn 00 01 32.3	+2.4

MOS 19 00:27:03.5±2.0, 43.12N×42.91E, h10km, mb3.7/1, 8C-2D, Error ellipse: s-maj=10.9km s-min=9.2km az=66.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.81**	**116**	⇑*i*PG		Pg 00 27 19.2	+0.2
ZEI				*i* S		Sg 00 27 28.4	-1.1
KORR	**Kora**	**0.85**	**92**	⇓*e*PG		Pg 00 27 19.9	+0.1
KORR				*i* S		Sg 00 27 29.3	-1.5
KIV	**Kislovodsk**	**0.85**	**349**	⇑*e*PG		Pg 00 27 18.7	-1.1
KIV				*e*S		Sg 00 27 28.6	-2.3
BEYR	**Belyy Ugol+**	**0.89**	**355**	⇓*e*PG		Pg 00 27 19.3	-1.4
BEYR				*e*S		Sg 00 27 29.6	-2.6
PYA	**Pyatigorsk**	**0.92**	**7**	*e*PG		Pg 00 27 19.9	-1.2
PYA				*e*S		Sg 00 27 30.3	-2.7
ARNR	**Ardon**	**1.00**	**86**	⇑*i*PG		Pg 00 27 22.8	0.0
ARNR				*i* S		Sg 00 27 34.3	-1.5
KMSR	**Komsomolskaya**	**1.04**	**76**	⇑*e*PG		Pg 00 27 23.6	+0.2
KMSR				*i* S		Sg 00 27 35.8	-1.1
LACR	**Lac**	**1.06**	**106**	⇑*i*PG		Pg 00 27 23.7	-0.1
LACR				*i* S		Sg 00 27 36.1	-1.5
PRTR	**Priterechnaya**	**1.18**	**57**	⇑*e*PG		Pg 00 27 26.6	+0.5
PRTR				*i* S		Sb 00 27 41.0	-0.2
VLKR	**Vladikavkaz**	**1.29**	**93**	⇑*e*PG		Pg 00 27 27.7	-0.7
VLKR				*e*S		Sb 00 27 42.9	-1.7
TRKR	**Terskaya**	**1.45**	**65**	⇑*e*PG		Pg 00 27 30.7	-0.7
TRKR				*e*S		Sn 00 27 47.9	-1.0
GOF	**Gofitskoye**	**1.94**	**3**	*e*PN		Pn 00 27 43.2	+6.8
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						

IDC ***19*** *00:39:41.5±0.6, 0.15S×125.45E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/17, mbtmp4.4/13, ML4.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.6/19, Error ellipse: s-maj=46.6km s-min=13.7km az=72.0*
MOS ***19*** *00:39:44.1±1.4, 0.11S×125.56E, h33km, mb4.8/11, Error ellipse: s-maj=21.8km s-min=8.7km az=115.3*
NEIC ***19*** *00:39:46.5±0.3, 0.13S×125.52E, h35km, mb4.5/14, Error ellipse: s-maj=13.1km s-min=5.8km az=69.0*
BJI ***19*** *00:39:47.2, 0.61N×125.55E, h15km, mB5.1, mb4.7, Ms3.9, Msz3.8*
ISCJB ***19*** *00:39:50.1±1.8, 0.05S±0.005×125.75E±0.007, h87km±16km, mb4.5/34, Error ellipse: s-maj=13.1km s-min=6.9km az=121.6*

ISC 19 00:39:52.3±1.6, 0.08S±0.005×125.72E±0.007, h90km±15km, n82, σ1.32/76, mb4.5/34, 1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**5.94**	**262**	P		**Pn**	**00 41 17.7**	**+0.1**
	73nm,1.0s							
KSM	**Kuching**	**15.48**	**276**	*e*P		**Pn**	**00 43 27.2**	**+1.8**
BJII	**Banjamegara**	**17.51**	**245**	P		**Pn**	**00 43 52.3**	**+1.7**
	97nm,1.6s							
FITZ	**Fitzroy Crossi**	**17.91**	**180**	*e*P		**Pn**	**00 43 52.5**	**-2.9**
	26nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.91**	**180**	P		**Pn**	**00 43 52.7**	**-2.7**
	0.4nm,0.3s,baz=18,slow=9.9,SNR=27							
JCJI	**Jatiwangi**	**18.54**	**250**	P		**Pn**	**00 44 04.0**	**+1.1**
	230nm,1.6s							
LEM	**Lembang**	**19.26**	**249**	P		**Pn**	**00 44 11.2**	**-0.2**
	87nm,1.8s							
CBJI	**Citeko**	**19.85**	**251**	P		**Pn**	**00 44 20.1**	**+1.7**
	253nm,0.3s							
WRAB	**Tennant Creek**	**21.47**	**157**	*e*P		**P**	**00 44 31.1**	**-2.3**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.4s,mb4.5							
WRAB	**Tennant Creek**	**21.47**	**157**	*e*P		**P**	**00 44 31.1**	**-2.2**
	comp=Z,9.2nm,0.4s,mb4.5							
WRA	**Warramunga Arr**	**21.48**	**157**	P		**P**	**00 44 30.9**	**-2.6**
	comp=Z,9.2nm,0.9s,mb4.1,baz=335,slow=11,SNR=34							
WRA				PcP	PcP		00 48 35.5	+2.5
	comp=Z,0.6nm,0.9s,baz=322,slow=2.7,SNR=3.8							
WB2	**Warramunga Arr**	**21.48**	**157**	*e*P		**P**	**00 44 30.7**	**-2.8**
MBWA	**Marble Bar**	**21.75**	**195**	*e*P		**P**	**00 44 35.2**	**-1.2**
	comp=Z,38nm,1.0s,mb4.7							
QIZ	**Qiongzhong**	**24.56**	**322**	P		**P**	**00 45 01.3**	**-2.3**
QIZ				S		**S**	**00 49 22.4**	**+4.5**
QIZ				SS			00 50 08.1	
QIZ				LR	LR			
	comp=E,171nm,23.9s							
QIZ				LR	LR			
	comp=Z,354nm,21.8s							
AS31	**Alice Springs**	**24.76**	**162**	*e*P		**P**	**00 45 06.6**	**+1.2**
ASPA	**Alice Springs**	**24.76**	**162**	*e*P		**P**	**00 45 06.6**	**+1.2**
ASAR	**Alice Springs**	**24.76**	**162**	P		**P**	**00 45 05.5**	**+0.1**
	comp=Z,5.4nm,0.5s,mb4.2,baz=342,slow=7.2,SNR=54							
ASAR				PcP	PcP		00 48 41.1	+1.3
	comp=Z,0.8nm,0.7s,baz=351,slow=2.0,SNR=4.8							
YHNB	**Yeheng**	**24.96**	**351**	*e*P		**P**	**00 45 08.0**	**+0.8**
KULM	**Kulim**	**25.59**	**282**	*e*P		**P**	**00 45 11.7**	**-1.2**
CTAO	**Charters Tower**	**28.28**	**136**	P		**P**	**00 45 38.2**	**+1.1**
FORT	**Forrest**	**30.61**	**176**	*e*P		**P**	**00 45 58.0**	**+0.3**
	comp=Z,9.7nm,0.8s,mb4.6							
CBIJ	**Chichi jima**	**31.32**	**29**	LR	LR		00 56 41.2	
	comp=Z,369nm,20.9s,baz=158,slow=32							
NJ2	**Nanjing**	**32.61**	**349**	*e*P		**P**	**00 46 12.3**	**-2.9**
NJ2				AP	pP		00 46 21.6	-14
NJ2				XP	sP		00 46 25.3	-21
NJ2				PP	PP		00 47 21.3	-9.1
NJ2				S	**S**		**00 51 24.0**	**-0.3**
NJ2				XS	sS		00 51 41.0	-19
NJ2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,600nm,4.2s							
NJ2				LR	LR			
	comp=N,360nm,16.9s							
NJ2				LR	LR			
	comp=E,130nm,18.1s							
NWAO	**Narrogin (SRO)**	**33.64**	**193**	P		**P**	**00 46 20.9**	**-3.3**
STKA	**Stephens Creek**	**35.02**	**156**	*e*P		**P**	**00 46 36.3**	**+0.3**
	comp=E,5.8nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**35.02**	**156**	P		**P**	**00 46 36.3**	**+0.3**
	comp=E,6.0nm,0.8s,mb4.5,baz=345,slow=8.7,SNR=14							
HNR	**Honiara**	**35.32**	**106**	*e*P		**P**	**00 46 40.6**	**+1.9**
HNR				pmax	pmax			
	comp=Z,35nm,0.5s,mb5.5							
HNR	**Honiara**	**35.32**	**106**	*e*P		**P**	**00 46 40.6**	**+1.9**
	comp=Z,35nm,0.5s,mb5.4							
KSRS	**Korea Array**	**37.40**	**3**	P		**P**	**00 46 58.0**	**+1.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=176,slow=9.6,SNR=12							
MAJO	**Matsushiro**	**38.23**	**16**	*e*P		**P**	**00 47 04.3**	**+0.9**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.3s,mb4.6							
MAJO	**Matsushiro**	**38.23**	**16**	*e*P		**P**	**00 47 04.3**	**+0.9**
	comp=Z,3.0nm,0.3s,mb4.6							
LSA	**Lhasa**	**44.29**	**315**	P		**P**	**00 47 52.2**	**-0.7**
MDJ	**Mudanjiang**	**44.63**	**4**	*e*P		**P**	**00 47 55.5**	**-0.2**
PALK	**Pallekele**	**45.48**	**280**	*e*P		**P**	**00 47 59.9**	**-2.5**
	comp=Z,3.0nm,0.7s,mb4.1							
GTA	**Gaotai**	**45.89**	**332**	*e*P		**P**	**00 48 04.8**	**-0.8**
GTA				AP	pP		00 48 09.0	-18
GTA				XP	sP		00 48 12.8	-25
GTA				AMB	AMB			
	comp=Z,3.0nm,1.4s,mb3.8							
TAU	**Tasmania Unive**	**46.84**	**158**	*e*P		**P**	**00 48 13.1**	**0.0**
SONM	**Songino Array**	**50.59**	**343**	P		**P**	**00 48 41.4**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=149,slow=7.9,SNR=8.1							
TLY	**Talaya**	**54.83**	**343**	P		**P**	**00 49 15.0**	**+2.0**
BOD	**Bodaibo**	**58.47**	**353**	*e*P		**P**	**00 49 40.1**	**+1.3**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.8s,mb4.3							
MK31	**Makanchi Array**	**60.13**	**327**	*e*P		**P**	**00 49 49.5**	**-0.7**
MKAR	**Makanchi Array**	**60.13**	**327**	P		**P**	**00 49 49.0**	**-1.2**
	comp=Z,3.1nm,0.4s,mb4.7,baz=122,slow=8.3,SNR=38							
MKAR				LR	LR		01 17 08.5	
	comp=Z,170nm,21.9s,baz=123,slow=37							
MKAR	**Makanchi Array**	**60.13**	**327**	P		**P**	**00 49 49.0**	**-1.2**
MKAR				LR	LR		01 17 08.5	
RAO	**Raoul Island**	**61.01**	**124**	*e*P		**P**	**00 49 58.1**	**+1.9**
YAK	**Yakutsk**	**62.02**	**2**	*e*P		**P**	**00 50 02.7**	**-0.3**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1							
YAK	**Yakutsk**	**62.02**	**2**	*e*P		**P**	**00 50 02.9**	**-0.1**
	comp=Z,21nm,0.4s,mb5.5							
AAK	**Ala-Archa**	**62.53**	**320**	*e*P		**P**	**00 50 06.0**	**-0.4**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
AAK	**Ala-Archa**	**62.53**	**320**	*e*P		**P**	**00 50 06.0**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8							
ZAL	**Zalesovo**	**63.53**	**334**	P		**P**	**00 50 13.3**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.0,baz=346,slow=11,SNR=5.1							
ZAL				LR	LR		01 20 12.7	
	comp=Z,148nm,20.5s,baz=350,slow=38							
ZAL	**Zalesovo**	**63.53**	**334**	P		**P**	**00 50 13.3**	**+0.3**
ZAL				LR	LR		01 20 12.7	
NVS	**Novosibirsk**	**64.81**	**334**	*e*P		**P**	**00 50 19.5**	**-1.9**
NVS				pmax	pmax			
	comp=Z,18nm,2.5s,mb4.5							
NVS				pmax	pmax			
	comp=N,8.0nm,1.9s							
NVS				pmax	pmax			
	comp=E,11nm,1.8s							
CASY	**Casey**	**66.94**	**187**	*e*P		**P**	**00 50 34.7**	**-0.4**
	comp=E,2.4nm,0.6s,mb4.2							
BRVK	**Borovoye**	**70.04**	**328**	P		**P**	**00 50 53.8**	**-0.5**
TIXI	**Tiksi**	**71.64**	**1**	*e*P		**P**	**00 51 01.6**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.6s,mb4.2							
BILL	**Bilibino**	**73.47**	**15**	*e*P		**P**	**00 51 10.6**	**-4.3**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.3							
ARU	**Arti**	**77.61**	**328**	⇓*i*P		**P**	**00 51 38.8**	**+0.3**
ARU				*e*			00 51 48.0	
ARU				*e*			00 54 34.2	
ARU				*e*PPP			00 56 19.5	
ARU				*e*S		S	01 01 29.4	+6.5
ARU				*e*SS		SS	01 06 31.1	+7.1
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
ARU	**Arti**	**77.61**	**328**	*e*P		**P**	**00 51 38.0**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.3							
ORR	**Orenburg**	**78.33**	**323**	*e*P		**P**	**00 51 43.0**	**+0.5**
ORR				pmax	pmax			
	comp=Z,30nm,1.2s,mb4.9							
VNDA	**Vanda**	**79.81**	**173**	P		**P**	**00 51 51.0**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.0,baz=297,slow=5.8,SNR=7.2							
VNDA				LR	LR		01 26 06.8	
	comp=Z,107nm,20.6s,baz=323,slow=35							
VNDA	**Vanda**	**79.81**	**173**	*e*P		**P**	**00 51 41.7**	**-8.9**
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**79.81**	**173**	*e*P		**P**	**00 51 41.7**	**-8.9**
	comp=Z,3.1nm,1.0s,mb4.1							
MAW	**Mawson**	**79.86**	**200**	*e*P		**P**	**00 51 52.1**	**+1.2**
	comp=Z,2.4nm,0.9s,mb4.0							
MAW	**Mawson**	**79.86**	**200**	P		**P**	**00 51 50.9**	**+0.1**
	comp=Z,3.1nm,1.0s,mb4.1,baz=47,slow=10,SNR=5.0							
MAW				LR	LR		01 23 08.7	
	comp=Z,74nm,20.0s,baz=66,slow=33							
MAW	**Mawson**	**79.86**	**200**	*e*P		**P**	**00 51 52.1**	**+1.2**
MAW				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MAW	**Mawson**	**79.86**	**200**	*e*P		**P**	**00 51 52.1**	**+1.3**
	comp=Z,5.9nm,1.1s,mb4.3							
MIB	**Mutribah**	**79.95**	**300**	*e*P		**P**	**00 51 51.3**	**-0.1**
MIB				AMb	AMB		00 51 55.7	
	comp=Z,16nm,0.7s,mb5.0							
NAY	**Al-Naaiem**	**79.98**	**300**	*e*P		**P**	**00 51 51.6**	**0.0**
NAY				AMb	AMB		00 51 56.5	
	comp=Z,6.4nm,0.9s,mb4.5							
RST	**Umm Al-Ruwaisa**	**80.22**	**300**	*e*P		**P**	**00 51 51.8**	**-1.1**
RST				AMb	AMB		00 51 57.6	
	comp=Z,26nm,0.9s,mb5.1							
GNI	**Garni**	**83.14**	**310**	*e*P		**P**	**00 52 08.3**	**+0.1**
GNI				*e*			00 52 14.0	
PPT	**Papeete**	**84.93**	**108**	*e*LR	LR		01 19 08.3	
	comp=Z,135nm,25.5s							
TBI	**Tubuai**	**85.21**	**113**	*e*LR	LR		01 19 15.3	
	comp=Z,138nm,27.2s							
VRHR	**Novokhopersk**	**86.34**	**321**	*e*P		**P**	**00 52 24.6**	**+0.4**
VRHR				pmax	pmax			
	comp=Z,7.0nm,0.5s,mb4.8							
VRHR				pmax	pmax			
	comp=N,7.0nm,0.9s							
VRHR				pmax	pmax			
	comp=E,3.0nm,0.7s							
KMBO	**Kilima Mbogo**	**88.46**	**269**	P		**P**

GRSS	**Sisters**	**2.33 307**	*e*P	Pn	01 56 25.6 -0.1
GRSS			*e*S	Sn	01 56 54.7 +0.5
GRSS	**Sisters**	**2.33 307**	*e*P	Pn	01 56 25.6 -0.1
GRSS			*e*S	Sn	01 56 54.7 +0.5
GRSS			*e*S	Sn	01 56 55.9 +1.7
FCV	**Fort Charlotte**	**2.71 326**	*e*P	Pn	01 56 32.4 +1.5
FCV			*e*S	Sn	01 57 03.6 +0.2
FCV	**Fort Charlotte**	**2.71 326**	*e*P	Pn	01 56 31.6 +0.8
FCV			*e*P		01 56 32.4
FCV			*e*S	Sn	01 57 03.6 +0.2
SVB	**Belmont**	**2.81 328**	*e*P	Pn	01 56 32.5 +0.3
SVB			*e*S	Sn	01 57 05.7 -0.2
SVB	**Belmont**	**2.81 328**	*e*P	Pn	01 56 32.3 +0.1
SVB			*e*P		01 56 32.5
SVB			*e*S	Sn	01 57 05.6 -0.3
SSV	**Crater Summit**	**2.82 329**	*e*P	Pn	01 56 34.0 +1.6
SSV			*e*S	Sn	01 57 08.2 +1.9
SSV	**Crater Summit**	**2.82 329**	*e*P	Pn	01 56 33.3 +0.9
SSV			*e*P		01 56 34.0
SSV			*e*S	Sn	01 57 08.2 +1.9
SSV			*e*S	Sn	01 57 10.2 +3.9
SDV	**Santo Domingo**	**10.95 260**	*e*Pn	Pn	01 58 22.0 -2.0
	5.2nm,0.8s				

IDC 19 02:12:06.6±1.1, 004S×12547E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=102.8km s-min=18.4km az=69.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.95**	**179**	P	Pn	02 16 18.6	+1.0
	0.1nm,0.3s,baz=11,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**21.61**	**157**	P	P	02 16 57.8	-0.3
	1.2nm,0.3s,baz=335,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**24.88**	**161**	P	P	02 17 30.7	-0.2
	0.9nm,0.5s,baz=345,slow=8.0,SNR=15						
STKA	**Stephens Creek**	**35.15**	**156**	P	P	02 19 02.8	+0.9
	0.9nm,0.4s,baz=320,slow=7.9,SNR=5.4						
SONM	**Songino Array**	**50.48**	**343**	P	P	02 21 06.4	+0.1
	0.4nm,0.3s,baz=131,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**59.96**	**327**	P	P	02 22 14.8	+0.1
	0.3nm,0.4s,baz=124,slow=7.2,SNR=5.7						

*CSEM **19** 02:17:37.8, 67.19N×2069E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **19** 02:17:37.8, 67.19N×2069E, h0km, ML3.0, Mining explosion.*

HEL 19 02:17:38.4±0.1, 6719N×2069E, h0km, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**216**	*i* P	Pg	02 17 39.7	-0.2
MASU	**Masugnsbyn**	**0.57**	**61**	*i* P	Pg	02 17 48.8	-0.6
KUA	**Kurravaara**	**0.78**	**350**	*i* P	Pg	02 17 52.3	-1.1
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	02 17 54.4	-0.7
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	02 17 55.1	-1.2
PAJU	**Pajala**	**0.96**	**99**	*e*P	Pg	02 17 55.7	-1.1
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	02 17 56.3	-1.2
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	02 17 56.8	-1.4
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	02 18 09.0	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	02 18 10.8	-0.2
KIF				*e*SG	Sg	02 18 37.1	0.0
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	Pn	02 18 12.6	0.0
SGF	**Sodankyl**	**2.28**	**81**	*e*P	Pn	02 18 16.3	-0.9
SGF				*e*S	Sn	02 18 46.3	+0.3

*NEIC **19** 02:19:04.7, 1891N×10265W, h20km, MD4.0(MEX), After MEX.*

MEX 19 02:19:03.1±0.9, 1899N×10269W, h8km±10km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.94**	**222**	*i* P	Pg	02 19 18.0	-3.1
MMIG				*i* S	Sg	02 19 30.9	-2.3
SFJM	**Santa Fe**	**1.53**	**347**	*i* P	Pn	02 19 26.5	-4.2
SFJM				*i* S	Sn	02 19 45.0	-5.7
MOIG	**Morelia**	**1.57**	**64**	*i* P	Pn	02 19 28.2	-3.1
MOIG				*i* S	Sn	02 19 47.6	-4.2
MOIG	**Morelia**	**1.57**	**64**	*i* P	Pn	02 19 28.2	-3.1
MOIG				*i* S	Sn	02 19 48.3	-3.5
CJM	**Chamela**	**2.28**	**283**	*i* P	Pn	02 19 38.9	-2.2
CJM				*i* S	Sn	02 20 05.4	-4.0
CJM	**Chamela**	**2.28**	**283**	*i* P	Pn	02 19 38.9	-2.2
CJM				*i* S	Sn	02 20 07.7	-1.7
ANIG	**Ahuacatlan**	**2.68**	**320**	*i* P	Pn	02 19 44.3	-2.2
ANIG				*i* S	Sn	02 20 15.0	-4.2
CAIG	**El Cayaco**	**3.00**	**130**	*e*P	Pn	02 19 48.4	-2.6
CAIG				*i* S	Sn	02 20 23.9	-3.3
PLIG	**Platanillo**	**3.08**	**101**	*i* P	Pn	02 19 50.0	-1.9
PLIG				*i* S	Sn	02 20 25.1	-3.8
PLIG	**Platanillo**	**3.08**	**101**	*i* P	Pn	02 19 50.7	-1.2
PLIG				*i* S	Sn	02 20 26.1	-2.8
MEIG	**Mezcala**	**3.10**	**109**	*e*P	Pn	02 19 50.0	-2.3
MEIG				*i* S	Sn	02 20 25.6	-3.9
ACX	**Acapulco**	**3.38**	**128**	*e*P	Pn	02 19 57.0	+0.9
IIO	**Organos**	**3.79**	**80**	*i* P	Pn	02 20 08.5	+6.7
UTMO	**Huajuapan**	**4.78**	**103**	*e*P	Pn	02 20 23.6	+8.2
UTMO				*i* S	Sn	02 21 07.1	-3.8
LNIG	**Linares**	**6.60**	**26**	*e*P	Pn	02 20 38.8	-1.5
LNIG				*i* S	Sn	02 21 52.1	-3.6

*CSEM **19** 02:20:28.4±0.1, 3508N×382W, h5km, mb3.2/6, Error ellipse: s-maj=4.7km s-min=2.8km az=109.0*
*ISCJB **19** 02:20:29.7±0.4, 3508N±002×384W±003, h16km±4km, Error ellipse: s-maj=4.9km s-min=3.7km az=56.3*
*NEIC **19** 02:20:29.6, 3508N×387W, h0km, MG3.2(MDD), After MDD.*
*CNRM **19** 02:20:30.5, 3507N×377W, h5km, MD3.1*
*MDD **19** 02:20:30.1±0.9, 3508N×384W, h2km±9km, mb3.3/6, Error ellipse: s-maj=8.1km s-min=3.6km az=109.0, PRXIMO*

ISC 19 02:20:29.7±0.5, 3508N±002×383W±003, h13km±3km, n24, σ0±97/47, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.13**	**153**	*i* P	**Pg**	**02 20 32.0**	**-1.1**
TOU				*i* S	**Sg**	**02 20 35.0**	**-0.5**
MPAL	**Palemas**	**0.17**	**327**	*i* P	**Pg**	**02 20 34.0**	**+0.3**
MPAL				*i* S	**Sg**	**02 20 37.5**	**+1.1**
EMEL	**Melilla**	**0.74**	**73**	P	**Pg**	**02 20 43.3**	**-0.9**
	97nm,0.2s,SNR=9.8						
EMEL				S	**Sg**	**02 20 54.7**	**+0.7**
	173nm,0.2s,SNR=9.7						
EMLI	**Melilla**	**0.75**	**73**	P	**Pg**	**02 20 43.3**	**-1.0**
	97nm,0.2s,SNR=9.8						
EMLI				S	**Sg**	**02 20 54.7**	**+0.6**
	173nm,0.2s,SNR=9.7						
ZAI	**Zaio**	**0.89**	**97**	*i* P	**Pg**	**02 20 47.0**	**0.0**
ZAI				*i* S	**Sg**	**02 20 57.0**	**-1.7**
EALB	**Alboran**	**1.07**	**37**	P	**Pb**	**02 20 50.5**	**+0.4**
	10nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**02 21 04.1**	**0.0**
	20nm,0.2s,SNR=5.6						
EALB	**Alboran**	**1.07**	**37**	P	**Pb**	**02 20 50.5**	**+0.4**
EALB				S	**Sb**	**02 21 04.1**	**0.0**
EALB	**Alboran**	**1.07**	**37**	P	**Pb**	**02 20 50.5**	**+0.3**
	10nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**02 21 04.1**	**0.0**
	20nm,0.2s,SNR=5.6						
TGT	**Taghat**	**1.43**	**225**	*e*P	**Pn**	**02 20 56.0**	**+0.6**
TGT				*e*S	**Sn**	**02 21 15.0**	**+0.9**
EMIJ	**Mijas**	**1.67**	**333**	P	**Pn**	**02 20 58.3**	**-0.3**
	7.4nm,0.6s,SNR=5.6						
EMIJ				S	**Sn**	**02 21 18.1**	**-1.9**
	2.8nm,0.2s,SNR=5.9						
EGUA	**Guajares**	**1.76**	**7**	P	**Pn**	**02 21 00.1**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**02 21 22.4**	**+0.2**
	0.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.91**	**316**	P	**Pn**	**02 21 02.2**	**+0.2**
	1.7nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**02 21 24.8**	**-1.1**
	1.9nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**02 21 03.7**	**+0.9**
	SNR=7.9						
EBER				S	**Sn**	**02 21 27.5**	**+0.2**
	6.6nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**02 21 03.7**	**+0.9**
	SNR=7.9						
EBER				S	**Sn**	**02 21 27.5**	**+0.2**
	6.6nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**2.03**	**215**	*e*P	**Pn**	**02 21 04.0**	**+0.3**
MIF				*i* S	**Sn**	**02 21 29.0**	**0.0**
EQUE	**Quentar**	**2.14**	**8**	P	**Pn**	**02 21 06.3**	**+1.1**
	0.9nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**02 21 30.0**	**-1.6**
	1.4nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.28**	**207**	*e*P	**Pn**	**02 21 07.5**	**+0.4**
CZD				*i* S	**Sn**	**02 21 35.0**	**0.0**
EQES	**Quesada**	**2.78**	**12**	P	**Pn**	**02 21 15.4**	**+1.3**
	0.8nm,0.2s,SNR=7.2						
EQES				S	**Sn**	**02 21 48.7**	**+1.2**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.78**	**12**	P	**Pn**	**02 21 15.4**	**+1.4**
	0.8nm,0.2s,SNR=7.2						
EQES				S	**Sn**	**02 21 48.7**	**+1.2**
	1.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.14**	**349**	P	**Pn**	**02 21 19.9**	**+1.0**
	0.6nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**02 21 56.8**	**+0.5**
	1.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.14**	**349**	P	**Pn**	**02 21 19.9**	**+1.0**
	0.6nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**02 21 56.8**	**+0.5**
	1.0nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.53**	**320**	P	**Pn**	**02 21 25.4**	**+1.1**
	1.1nm,0.5s,SNR=7.9						
EMIN				S	**Sn**	**02 22 03.4**	**-2.5**
	1.5nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.53**	**320**	P	**Pn**	**02 21 25.4**	**+1.1**
	1.1nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**3.83**	**311**	P	**Pn**	**02 21 28.1**	**-0.4**
	1.8nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**02 22 10.8**	**-2.7**
	1.6nm,0.3s,SNR=7.9						

MOS 19 02:36:39.6±1.5, 4300N×4258E, h28km, mb3.7/1, 7C-5D, Error ellipse: s-maj=11.6km s-min=8.3km az=46.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	**Shatzhatmas**	**0.74**	**5**	↑*i*PG	Pb	02 36 53.7	-0.3
SHAR				*e*S	Sb	02 37 02.4	-1.3
DIGR	**Digorskoe uzhe**	**0.74**	**98**	↑*i*PG	Pb	02 36 52.7	-1.3
KIV	**Kislovodsk**	**0.95**	**5**	↑*i*PG	Pn	02 36 57.1	0.0
KIV				*e*S	Sb	02 37 07.2	-2.6
ZEI	**Tsey**	**1.00**	**103**	↓*i*PG	Pn	02 36 57.3	-0.4
KUBR	**Kubataba**	**1.00**	**37**	↓*e*PG	Pn	02 36 55.6	-2.2
BEYR	**Belyy Ugol+**	**1.02**	**10**	↑*i*PG	Pn	02 36 57.6	-0.5
PYA	**Pyatigorsk**	**1.09**	**19**	*e*PG	Pn	02 36 58.9	-0.1
KORR	**Kora**	**1.09**	**85**	↓*i*PG	Pn	02 36 58.9	-0.2
ARNR	**Ardon**	**1.26**	**81**	↑*i*PG	Pn	02 37 01.8	+0.5
LACR	**Lac**	**1.27**	**97**	↓*i*PG	Pn	02 37 02.0	+0.5
KMSR	**Komsomolskaya**	**1.31**	**73**	↑*i*PG	Pn	02 37 02.8	+0.8
BTKR	**Batakoyurt**	**1.48**	**75**	↓*i*PG	Pn	02 37 05.5	+1.1
VLKR	**Vladikavkaz**	**1.54**	**88**	*e*PG	Pn	02 37 06.2	+1.0
SNJR	**Sundja**	**1.64**	**87**	*e*PN	Pn	02 37 07.8	+1.3
TRKR	**Terskaya**	**1.73**	**65**	↑*i*PN	Pn	02 37 09.8	+2.0
GOF	**Gofitskoye**	**2.08**	**9**	*e*PN	Pn	02 37 16.2	+3.6
GOF				pmax	pmax		
	comp=Z,50nm,1.3s						

*NIED **19** 02:37:00, 4680N×15350E, h20km, Mw4.1 Best double couple: M0=1.35000×10^15 NP1:φs=227.00000°, δ=89.00000°, λ=153.00000°. NP2:φs=317.00000°, δ=63.00000°, λ=1.00000°.*
*BJI **19** 02:37:13.6, 4673N×15342E, h10km, mB4.7, mb4.5, Ms4.1, Msz3.7*
*IDC **19** 02:37:13.8±0.8, 4636N×15343E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, ML3.7/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/32, Error ellipse: s-maj=23.2km s-min=16.0km az=167.0*
*ISCJB **19** 02:37:14.7±2.4, 4641N±009×15325E±009, h10km±15km, mb4.4/35, MS3.5/5, Error ellipse: s-maj=17.2km s-min=6.3km az=116.3*
*NEIC **19** 02:37:15.5±0.5, 4632N×15341E, h10km, mb4.6/13, Error ellipse: s-maj=13.0km s-min=7.9km az=145.0*
*MOS **19** 02:37:17.5±1.3, 4639N×15316E, h30km, mb4.5/23, Error ellipse: s-maj=10.6km s-min=7.7km az=99.3*

ISC 19 02:37:15.9±3.0, 4644N±009×15330E±010, h8km±18km, h20km±4.0km: pP-P, n103, σ1§14/105, mb4.4/35, MS3.5/5, 12C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**254**	*e*PN	**Pn**	**02 38 15.2**	**-2.1**
KUR				*e*S	**Sn**	**02 39 02.5**	**-1.6**
KUR				pmax	pmax		
	comp=N,100nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,430nm,0.5s						
KUR				smax			
	comp=N,290nm,0.8s						
KUR				smax			
	comp=E,240nm,0.8s						
SKR	**Severo-Kuril's**	**4.64**	**23**	*e*PN	**Pn**	**02 38 26.5**	**+0.2**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.78**	**248**	*e*PN	**Pn**	**02 38 42.2**	**+0.3**
YUK				S	**Sn**	**02 39 52.5**	**+4.2**
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				smax			
	comp=N,230nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.27**	**278**	*e*PN	**Pn**	**02 39 07.9**	**+5.5**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
ASAJ	**Asahikawa**	**7.90**	**257**	Pn	**Pn**	**02 39 12.8**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=124,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**7.90**	**257**	PN	**Pn**	**02 39 12.8**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.73**	**289**	*e*P	**Pn**	**02 40 49.4**	**+4.9**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
MAJO	**Matsushiro**	**15.00**	**234**	*e*P	**Pn**	**02 40 46.5**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**15.00**	**234**	*e*Pn	**Pn**	**02 40 46.5**	**-1.7**
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**15.00**	**234**	Pn	**Pn**	**02 40 47.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=30,slow=12,SNR=6.5						
MJAR	**Matsushiro Arr**	**15.00**	**234**	P	**Pn**	**02 40 47.0**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	**15.00**	**234**	P	**Pn**	**02 40 54.0**	**+5.8**
MDJ	**Mudanjiang**	**16.70**	**272**	P	**Pn**	**02 41 09.1**	**-1.1**
MDJ				AP	pP	02 41 14.8	0.0
MDJ				XP	sP	02 41 16.3	+0.4
MDJ				S	**Sn**	**02 44 12.0**	**-3.8**
MDJ				XS	sS	02 44 28.8	-1.9
MDJ				PCP	PcP	02 46 01.4	+2.0
MDJ				SCP	ScP	02 49 35.8	+1.5
MDJ				PCS	PcS	02 49 37.3	+2.0
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,44nm,5.2s						
MDJ				LR	LR		
	comp=Z,39nm,17.3s						
MDJ	**Mudanjiang**	**16.70**	**272**	*e*P	**Pn**	**02 41 11.6**	**+1.3**
	comp=Z,9.9nm,0.6s						
CN2	**Changchun**	**19.79**	**272**	*e*P	**Pn**	**02 41 48.0**	**-0.1**
CN2				AMB	AMB		
	comp=Z,100nm,0.8s						
KSRS	**Korea Array**	**20.83**	**254**	P	**P**	**02 41 59.4**	**+1.5**
	comp=Z,5.0nm,0.8s,baz=59,slow=10,SNR=16						
BILL	**Bilibino**	**22.66**	**13**	*e*P	**P**	**02 42 18.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.0						
BOD	**Bodaibo**	**26.28**	**310**	*e*P	**P**	**02 42 50.1**	**-1.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.9						
BJI	**Beijing**	**27.60**	**270**	*e*P	**P**	**02 43 06.8**	**+3.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=N,89nm,18.5s,MS3.7						
BJI				LR	LR		
	comp=E,148nm,17.5s,MS3.7						
BJI				LR	LR		
	comp=Z,130nm,16.6s,MS3.6						
BJI	**Beijing**	**27.60**	**270**	*e*P	**P**	**02 43 06.8**	**+3.1**
	comp=Z,8.0nm,0.8s,mb4.4						
BJI				S	**S**	**02 48 03.9**	**+19**
BJI				SS		02 50 16.2	
BJI				LR	LR		
	comp=Z,130nm,16.6s,MS3.6						
NJ2	**Nanjing**	**30.03**	**254**	*e*P	**P**	**02 43 25.3**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
SONM	**Songino Array**	**31.56**	**290**	P	**P**	**02 43 37.5**	**-1.2**
	comp=Z,1.0nm,0.6s,mb3.8,baz=104,slow=11,SNR=4.9						
SONM				LR	LR	02 56 48.2	
	comp=Z,27nm,18.9s,MS2.9,baz=86,slow=37						
ZAK	**Zakamensk**	**32.92**	**296**	*e*P	**P**	**02 43 49.8**	**-0.9**
XAN	**Xi'an**	**35.62**	**266**	P	**P**	**02 44 14.3**	**+0.2**
XAN				AP	pP	02 44 22.4	+5.9
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
COLA	**College**	**36.30**	**38**	*e*P	**P**	**02 44 22.0**	**+2.1**
LZH	**Lanzhou**	**38.03**	**272**	*e*P	**P**	**02 44 36.5**	**+1.9**
LZH				AP	pP	02 44 42.5	+5.4
LZH				XP	sP	02 44 44.5	+6.4
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,80nm,4.1s						
LZH	**Lanzhou**	**38.03**	**272**	*e*P	**P**	**02 44 36.5**	**+1.9**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	02 44 42.5	+5.4
LZH				sP	sP	02 44 44.5	+6.4
GTA	**Gaotai**	**39.15**	**280**	*e*P	**P**	**02 44 45.3**	**+1.3**
GTA				AP	pP	02 44 50.6	+4.1
GTA				XP	sP	02 44 53.8	+6.3
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.5						
INK	**Inuvik**	**41.85**	**32**	P	**P**	**02 45 06.0**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.0,baz=243,slow=5.5,SNR=5.1						
INK	**Inuvik**	**41.85**	**32**	*e*P	**P**	**02 45 06.2**	**-0.2**
	comp=Z,89nm,0.8s,mb5.4						
ZAL	**Zalesovo**	**42.91**	**306**	P	**P**	**02 45 14.2**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.0,baz=42,slow=12,SNR=2.9						
ZAL				PcP	PcP	02 47 06.0	+0.3
	comp=Z,1.4nm,0.3s,baz=260,slow=1.3,SNR=3.1						
ZAL				LR	LR	03 05 52.0	
	comp=Z,78nm,18.2s,MS3.6,baz=152,slow=40						
ZAL	**Zalesovo**	**42.91**	**306**	P	**P**	**02 45 14.2**	**-0.8**
ZAL						02 47 06.0	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,78nm,18.2s						
WMQ	**Urumqi**	**45.16**	**292**	*e*P	**P**	**02 45 34.0**	**+1.0**
KMI	**Kunming**	**45.31**	**260**	P	**P**	**02 45 36.3**	**+2.0**
KMI				AP	pP	02 45 39.6	+2.8
KMI				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.0						
KMI	**Kunming**	**45.31**	**260**	P	**P**	**02 45 36.3**	**+2.0**
	comp=Z,12nm,0.5s,mb5.0						
KMI				pP	pP	02 45 39.6	+2.8
MK31	**Makanchi Array**	**47.20**	**298**	*e*P	**P**	**02 45 48.2**	**-0.9**
MKAR	**Makanchi Array**	**47.20**	**298**	P	**P**	**02 45 48.5**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.4,baz=67,slow=7.7,SNR=20						
MKAR				PcP	PcP	02 47 19.7	-0.8
	comp=Z,0.9nm,0.6s,baz=59,slow=3.0,SNR=4.2						
MKAR				LR	LR	03 06 31.8	
	comp=Z,65nm,19.2s,MS3.6,baz=251,slow=37						
MKAR	**Makanchi Array**	**47.20**	**298**	P	**P**	**02 45 48.5**	**-0.6**
MKAR						02 47 19.7	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,65nm,19.2s						
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**02 46 14.6**	**-1.6**
CHKZ				*e*		02 46 26.2	
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CHKZ	**Chkalovo**	**50.73**	**310**	*e*P	**P**	**02 46 14.6**	**-1.6**
	comp=Z,7.9nm,1.0s,mb4.6						
CHKZ				*e*		02 46 26.2	
BVAR	**Borovoye Array**	**51.15**	**310**	P	**P**	**02 46 18.7**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=57,slow=9.0,SNR=5.6						
BVAR				PcP	PcP	02 47 34.4	-0.5
	comp=Z,1.0nm,0.7s,baz=90,slow=3.0,SNR=3.9						
BRVK	**Borovoye**	**51.19**	**310**	*e*P	**P**	**02 46 18.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.19**	**310**	*e*P	**P**	**02 46 18.7**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**54.09**	**297**	*e*P	**P**	**02 46 40.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**54.09**	**297**	*e*P	**P**	**02 46 40.5**	**-0.6**
	comp=Z,3.9nm,1.1s,mb4.2						
GUN	**Gumba**	**55.16**	**275**	*e*P	**P**	**02 46 50.1**	**+1.2**
	comp=Z,25nm,1.0s,mb5.2						
KKN	**Kakani**	**55.64**	**276**	*e*P	**P**	**02 46 53.9**	**+1.5**
	comp=Z,14nm,0.5s,mb5.2						
PKI	**Pulchoki**	**55.69**	**275**	*e*P	**P**	**02 46 53.8**	**+1.1**
DMN	**Daman**	**55.88**	**276**	*e*P	**P**	**02 46 55.4**	**+1.4**
	comp=Z,29nm,0.9s,mb5.3						
GKN	**Gorkha**	**55.95**	**276**	*e*P	**P**	**02 46 55.8**	**+1.2**
	comp=Z,31nm,0.8s,mb5.4						
KOLN	**Koldanda**	**56.81**	**277**	*e*P	**P**	**02 47 02.1**	**+1.4**
	comp=Z,23nm,0.8s,mb5.2						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**02 47 09.4**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.4,baz=27,slow=6.4,SNR=5.7						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**02 47 09.4**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						

BURAR	Bucovina Array	75.92 327	⇑iP		P	02 49 03.0	-0.1
BURAR	Bucovina Array	75.92 327	⇑P		P	02 49 03.0	-0.1
CRVS	Cervenica-Dubn	76.21 330	eP		P	02 49 05.2	+0.4
UPC	Upice	76.62 334	eP		P	02 49 07.1	0.0
DPC	Dobruska-Polom	76.66 333	eP		P	02 49 09.0	+1.7
MORC	Moravsky Berou	76.77 332	⇑iP		P	02 49 08.6	+0.6
MORC	Moravsky Berou	76.77 332	⇑P		P	02 49 08.6	+0.6
CLL	Collm	76.80 336	⇓iP		P	02 49 08.8	+0.7
CLL			pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	Collm	76.80 336	⇓iP		P	02 49 08.8	+0.7
	comp=Z,9.0nm,0.9s,mb4.7						
MLR	Muntele Rosu	77.39 325	⇑iP		P	02 49 12.5	+1.1
MLR	Muntele Rosu	77.39 325	⇑P		P	02 49 12.5	+1.1
VYHS	Vyhne	77.46 331	eP		P	02 49 12.2	+0.4
VYHS			pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1						
VYHS	Vyhne	77.46 331	eP		P	02 49 12.2	+0.4
	comp=Z,2.8nm,1.2s,mb4.1						
PRU	Pruhonice	77.52 334	eP		P	02 49 12.2	0.0
TXAR	Lajitas Array	77.53 61	P		P	02 49 10.7	-1.6
	comp=Z,1.6nm,0.8s,mb4.0,baz=287,slow=4.0,SNR=9.4						
TXAR	Lajitas Array	77.53 61	P		P	02 49 10.7	-1.5
TXAR			pmax	pmax			
	comp=Z,2.0nm,0.8s						
DRGR		77.54 328	⇑iP		P	02 49 12.5	+0.2
DRGR		77.54 328	⇑P		P	02 49 12.5	+0.2
VOIR		77.79 326	⇑iP		P	02 49 14.4	+0.7
VOIR		77.79 326	⇑P		P	02 49 14.4	+0.8
KHC	Kasperske Hory	78.57 334	eP		P	02 49 18.3	+0.3
BRTR	Keskin Array B	78.70 317	P		P	02 49 18.8	0.0
	comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=8.6,SNR=3.8						
BRTR	Keskin Array B	78.70 317	iP		P	02 49 18.7	0.0
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	78.79 334	P		P	02 49 18.9	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=29,slow=6.1,SNR=9.5						
GERES	GERESS Array B	78.79 334	P		P	02 49 18.9	-0.3
GERES			pmax	pmax			
	comp=Z,1.0nm,0.6s						
PKSM	Moragy	79.50 330	⇓iP		P	02 49 23.4	+0.3
VTS	Vitosha	80.90 325	⇑iP		P	02 49 31.0	+0.4
VTS	Vitosha	80.90 325	⇑P		P	02 49 30.9	+0.3
CPUP	Villa Florida	148.51 61	PKPbc	PKPbc		02 57 01.5	-1.8
	comp=Z,0.5nm,0.5s,baz=155,slow=1.1,SNR=3.4						
CPUP	Villa Florida	148.51 61	PKP2	PKPbc		02 57 01.5	-1.7
CPUP			pmax	pmax			
	comp=Z,1.0nm,0.5s						

IDC 19 02:49:26.7±3.5, 4902S×12452E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, MS3.5/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=134.6km s-min=26.6km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.98	339	LR		LR	02 58 14.6	
	comp=Z,161nm,18.7s,baz=13,slow=31							
STKA	Stephens Creek	21.42	43	P		P	02 54 16.2	+0.1
	2.4nm,0.7s,baz=199,slow=10,SNR=4.6							
STKA				LR		LR	03 01 50.7	
	comp=Z,149nm,20.9s,baz=206,slow=35							
ASAR	Alice Springs	26.37	20	P		P	02 55 04.5	0.0
	1.0nm,0.8s,baz=188,slow=9.8,SNR=8.1							
ASAR				LR		LR	03 03 57.4	
	comp=Z,124nm,21.2s,baz=167,slow=33							
WRA	Warramunga Arr	30.07	19	LR		LR	03 06 18.8	
	comp=Z,87nm,18.9s,baz=155,slow=34							
VNDA	Vanda	31.94	166	P		P	02 55 53.5	-0.5
	1.7nm,0.9s,baz=313,slow=9.7,SNR=11							

*NEIC **19** 02:51:01.0, 1658N×9386W, h139km, MD4.0(MEX), After MEX.*

MEX 19 02:51:00.9±1.1, 1658N×9386W, h140km±14km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.10	298	iP		Pn	02 51 24.4	-1.1
CMIG				iS		Sn	02 51 42.9	-1.5
TUIG	Tuzandepetl	1.54	340	iP		Pn	02 51 28.6	-1.5
TUIG				iS		Sn	02 51 50.2	-2.2
CCIG	Comitan	1.68	100	iP		Pn	02 51 30.8	-0.8
CCIG				iS		Sn	02 51 53.6	-1.6
HUIG	Huatulco	2.30	250	iP		Pn	02 51 36.3	-2.8
HUIG				iS		Sn	02 52 07.3	-1.1
OXX	Oaxaca	2.79	281	iP		Pn	02 51 45.0	-0.1
OXX				iS		Sn	02 52 16.0	-3.2
VHO	Vista Hermosa	2.79	281	iP		Pn	02 51 45.4	+0.2
VHO				iS		Sn	02 52 16.5	-2.8
TPIG	Tehuac#an	3.81	299	iP		Pn	02 51 57.9	-0.4
TPIG				iS		Sn	02 52 41.5	-1.4
UTMO	Huajuapan	3.97	289	iP		Pn	02 52 00.7	+0.2
UTMO				iS		Sn	02 52 44.0	-2.6
MEIG	Mezcala	5.66	285	iP		Pn	02 52 23.4	+0.5
MEIG				iS		Sn	02 53 23.7	-3.3
TEIG	Tepich	6.42	55	iP		Pn	02 52 30.4	-2.7
TEIG				iS		Sn	02 53 43.8	-1.5

MEX 19 02:54:25.7±0.6, 1757N×10218W, h15km±10km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.68	87	iP		Pg	02 54 37.3	-1.7
ZIIG				iS		Sg	02 54 45.0	-3.0
MMIG	Aquila	1.32	303	iP		Pn	02 54 45.8	-3.8
MMIG				iS		Sb	02 55 02.1	-4.9
MOIG	Morelia	2.29	24	iP		Pn	02 54 59.8	-3.2
MOIG				iS		Sn	02 55 27.4	-3.6
PLIG	Platanillo	2.67	72	eP		Pn	02 55 05.4	-2.8
PLIG				iS		Sn	02 55 36.6	-3.6
SFJM	Santa Fe	3.01	344	eP		Pn	02 55 10.0	-2.8
SFJM				iS		Sn	02 55 46.0	-2.7

*IDC **19** 03:43:27.0±1.5, 1853S×17924E, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.2/14, mbtmp4.2/5, MS3.5/8, Ms1 3.5/8, ms1mx3.3/25, Error ellipse: s-maj=114.0km s-min=22.6km az=153.0*

*ISCJB **19** 03:43:30.8±1.3, 185S±06×1792E±03, h33km, mb4.3/7, MS3.5/7, Error ellipse: s-maj=89.3km s-min=18.2km az=135.5*

ISC 19 03:43:32.8±1.3, 186S±06×1793E±03, h35km, n21, σ0$59/9, mb4.3/7, MS3.5/7, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.76	63	LR		LR	03 48 42.7	
	comp=Z,297nm,19.8s,baz=254,slow=32							
HNR	Honiara	20.81	293	LR		LR	03 53 40.4	
	comp=Z,39nm,21.9s,MS2.7,baz=177,slow=30							
TBI	Tubuai	29.55	105	eLR		LR	03 56 59.5	
	95nm,25.8s							
PPT	Papeete	29.62	93	eLR		LR	03 57 00.8	
	163nm,24.5s							
PPT	Papeete	29.62	93	LR		LR	03 57 31.4	
	comp=Z,142nm,20.2s,MS3.6,baz=261,slow=28							
STKA	Stephens Creek	36.39	241	eP		P	03 50 33.9	+0.2
	3.6nm,0.9s,mb4.3							
STKA	Stephens Creek	36.39	241	P		P	03 50 33.8	+0.1
	1.2nm,0.4s,mb4.2,baz=101,slow=8.5,SNR=7.2							
STKA				LR		LR	04 03 06.9	
	comp=Z,175nm,19.4s,MS3.8,baz=205,slow=32							
WB2	Warramunga Arr	42.34	261	eP		P	03 51 23.5	+0.2
WRA	Warramunga Arr	42.35	261	P		P	03 51 22.3	-1.2
	5.2nm,0.9s,mb4.2,baz=93,slow=7.7,SNR=26							
WRA				LR		LR	04 07 57.7	
	comp=Z,74nm,21.4s,MS3.5,baz=165,slow=35							
ASAR	Alice Springs	42.49	255	P		P	03 51 24.4	-0.3
	3.0nm,0.8s,mb4.0,baz=86,slow=8.3,SNR=32							
ASAR				PcP		PcP	03 53 15.2	-1.7
	0.7nm,0.8s,baz=88,slow=4.3,SNR=4.3							
RKT	Rikitea	42.88	104	eLR		LR	04 03 09.6	
KAKA	Kakadu	45.37	270	eP		P	03 51 48.3	+0.6
	8.6nm,0.6s,mb4.8							
FITZ	Fitzroy Crossi	50.75	261	eP		P	03 52 29.9	+0.6
	8.3nm,1.1s,mb4.6							
MJAR	Matsushiro Arr	67.14	325	LR		LR	04 19 22.1	
	comp=Z,42nm,20.9s,MS3.6,baz=130,slow=32							
ASAJ	Asahikawa	70.81	333	LR		LR	04 22 50.9	
	comp=Z,46nm,18.4s,MS3.8,baz=335,slow=33							
KSRS	Korea Array	73.74	320	LR		LR	04 23 46.7	
	comp=Z,22nm,18.0s,MS3.5,baz=80,slow=33							
TXAR	Lajitas Array	88.21	58	P		P	03 56 20.8	+0.5
	2.2nm,0.8s,mb4.4,baz=221,slow=5.6,SNR=17							
PDAR	Pinedale Array	89.34	44	P		P	03 56 25.0	-0.6
	0.5nm,1.0s,mb3.8,baz=204,slow=3.3,SNR=3.8							
CLL	Collm	145.56	345	e(P)		PKPdf	04 03 08.0	+0.7
CLL				ex		x	04 03 19.0	
GERES	GERESS Array B	147.60	342	PKPbc		PKPbc	04 03 13.5	+0.1
	0.4nm,0.4s,baz=5.7,slow=2.7,SNR=7.5							
DAVOX	Davos/Dischmat	150.53	345	PKPbc		PKPbc	04 03 20.7	-0.1
	5.8nm,0.7s,baz=190,slow=3.0,SNR=7.9							

*NEIC **19** 03:43:43.4, 3392S×7039W, h107km, MD3.6(GUC), After GUC.*

GUC 19 03:43:43.4±0.9, 3392S×7039W, h107km±2km, MD3.6, ML3.7, 10C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHCH	Chadas Angostu	0.22	267	⇓iP		Pn	03 43 58.9	+0.4
CHCH				iS		Sn	03 44 10.5	+0.7
CACH	El Canelo	0.26	222	⇑iP		Pn	03 43 59.2	+0.6
CACH				iS		Sn	03 44 10.8	+0.7
PCH	Pirque	0.32	341	⇓iP		Pn	03 43 59.5	+0.6
PCH				iS		Sn	03 44 11.2	+0.6
CICH	Cipreses	0.40	184	⇑iP		Pn	03 43 59.8	+0.5
CICH				iS		Sn	03 44 12.7	+1.5
ANTU	Antumapu	0.41	330	eP		Pn	03 43 59.6	+0.2
ANTU				iS		Sn	03 44 12.0	+0.6
ANTU					AML	AML	03 44 12.9	
	comp=N,2μm,0.3s							
ANTU	Antumapu	0.41	330	eP		Pn	03 43 59.6	+0.2
ANTU				iS		Sn	03 44 12.0	+0.6
LACH	Colegio Las Am	0.48	346	⇓iP		Pn	03 43 59.9	0.0
LACH				iS		Sn	03 44 12.7	+0.5
SAN	Santiago	0.52	334	⇑iP		Pn	03 44 00.6	+0.6
SAN				iS		Sn	03 44 13.2	+0.6
SAN					AML	AML	03 44 13.8	
	comp=E,2μm,0.3s							
TACH	Talagante	0.53	300	⇓iP		Pn	03 44 00.6	+0.4
TACH				iS		Sn	03 44 13.4	+0.7
CLCH	Cerro Calan	0.54	347	⇑iP		Pn	03 44 00.8	+0.6
CLCH				iS		Sn	03 44 14.2	+1.4
CLCH					AML	AML	03 44 15.7	
	comp=E,4μm,0.7s							
CLCH					AML	AML	03 44 16.3	
	comp=E,4μm,0.6s							
DSCH	Colegio Aleman	0.54	344	⇑iP		Pn	03 44 00.2	-0.1
DSCH				iS		Sn	03 44 13.6	+0.7
RCDM	Rinconada Maip	0.55	321	eP		Pn	03 44 00.4	+0.1
RCDM				iS		Sn	03 44 13.8	+0.8
RCDM					AML	AML	03 44 14.8	
	comp=N,6μm,0.4s							
RCDM	Rinconada Maip	0.55	321	eP		Pn	03 44 00.4	+0.1
RCDM				iS		Sn	03 44 13.8	+0.8
FCH	Farellones	0.60	8	⇓iP		Pn	03 44 01.5	+0.8
FCH				iS		Sn	03 44 15.4	+1.8
FCH					AML	AML	03 44 16.9	
	comp=N,2μm,0.7s							
PEL	Peldehue	0.81	342	⇓iP		Pn	03 44 03.2	+0.7
PEL				iS		Sn	03 44 17.8	+0.9
PEL					AML	AML	03 44 19.7	
	comp=N,4μm,0.7s							
PEL	Peldehue	0.81	342	⇓iP		Pn	03 44 03.2	+0.7
PEL				iS		Sn	03 44 17.8	+0.9
LNV	Longovilo	0.85	267	⇑iP		Pn	03 44 02.8	0.0
LNV				iS		Sn	03 44 17.5	0.0
SFDO	San Fernando	0.86	217	⇓iP		Pn	03 44 03.5	+0.5
SFDO				iS		Sn	03 44 18.1	+0.4
LCCH	Las Cruces	1.08	294	⇓iP		Pn	03 44 05.5	+0.3
LCCH				iS		Sn	03 44 22.3	+0.6
ROCH	El Roble	1.08	331	⇑iP		Pn	03 44 05.9	+0.7
ROCH				iS		Sn	03 44 23.1	+1.4
JACH	Jahuel	1.25	352	eP		Pn	03 44 07.9	+0.8
JACH				iS		Sn	03 44 26.4	+1.4
NICH	Los Niches	1.28	213	eP		Pn	03 44 07.8	+0.4
NICH				iS		Sn	03 44 26.6	+0.9
IHA	Instituto Hidr	1.38	310	eP		Pn	03 44 09.1	+0.5
IHA				iS		Sn	03 44 28.3	+0.7
PACH	Papudo	1.64	327	⇑iP		Pn	03 44 11.8	+0.1
PTCH	Petorca	1.71	345	⇑iP		Pn	03 44 13.1	+0.4
PTCH				iS		Sn	03 44 35.4	+0.4
PTCH					AML	AML	03 44 36.9	
	comp=E,939nm,0.3s							
PTCH	Petorca	1.71	345	⇑iP		Pn	03 44 13.1	+0.4
PTCH				iS		Sn	03 44 35.4	+0.4
TALC	Talca	1.79	215	⇓iP		Pn	03 44 13.5	-0.1
CHNG	Los Chungos	2.24	335	⇓iP		Pn	03 44 19.7	+0.4
CMCH	Combarbala	2.79	349	eP		Pn	03 44 25.7	-0.8
CMCH				iS		Sn	03 44 58.5	-1.2
CMCH					AML	AML	03 45 05.9	
	comp=E,287nm,0.5s							
CMCH	Combarbala	2.79	349	eP		Pn	03 44 25.7	-0.8
CMCH				iS		Sn	03 44 58.5	-1.2

*NEIC **19** 03:43:54.9, 3727S×17668E, h199km, MG3.9(WEL), After WEL.*

WEL 19 03:43:55.0±0.4, 3731S×17669E, h202km±3km, ML3.6/11, Error ellipse: s-maj=4.2km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.01	161	P		Pn	03 44 24.9	0.0
URZ	Urewera	1.01	161	PN		Pn	03 44 24.9	-0.1
URZ				SN		Sn	03 44 48.0	-0.2
MWZ	Matawai	1.22	147	P		Pn	03 44 26.7	+0.2
MWZ				S		Sn	03 44 50.9	-0.1
MWZ	Matawai	1.22	147	PN		Pn	03 44 26.7	+0.2
MWZ				SN		Sn	03 44 50.9	0.0
MXZ	Matakaoa Point	1.31	102	eP		Pn	03 44 26.9	-0.3
MXZ	Matakaoa Point	1.31	102	PN		Pn	03 44 26.9	-0.3
PUZ	Puketiti	1.46	122	P		Pn	03 44 28.4	0.0
PUZ	Puketiti	1.46	122	PN		Pn	03 44 28.4	0.0
BKZ	Black Stump Fm	1.86	185	P		Pn	03 44 32.5	+0.3
BKZ	Black Stump Fm	1.86	185	PN		Pn	03 44 32.5	+0.3
KNZ	Kokohu	1.88	156	P		Pn	03 44 32.7	+0.3
KNZ	Kokohu	1.88	156	PN		Pn	03 44 32.7	+0.4
KNZ				SN		Sn	03 45 01.3	-0.2
TUVZ	Tukino	2.12	202	P		Pn	03 44 35.8	+1.0
TUVZ	Tukino	2.12	202	ePN		Pn	03 44 35.8	+0.9
MOVZ	Moawhango	2.22	199	P		Pn	03 44 36.2	+0.3
MOVZ	Moawhango	2.22	199	PN		Pn	03 44 36.2	+0.3
PXZ	Pawanui	2.73	177	PN		Pn	03 44 41.2	-0.2
PXZ				SN		Sn	03 45 16.4	-1.4
MRZ	Mangatainoka R	3.46	194	PN		Pn	03 44 48.9	-1.2
KIW	Kapiti Island	3.81	201	P		Pn	03 44 52.8	-1.6
KIW	Kapiti Island	3.81	201	PN		Pn	03 44 52.8	-1.7
MTW	Mount Morrison	3.96	193	P		Pn	03 44 54.2	-2.0
MTW	Mount Morrison	3.96	193	PN		Pn	03 44 54.2	-2.0
TCW	Tory Channel	4.33	205	P		Pn	03 44 59.0	-1.9
TCW	Tory Channel	4.33	205	PN		Pn	03 44 59.0	-1.9
TUWZ	Tuamarina	4.63	206	PN		Pn	03 45 02.8	-2.0
KHZ	Kahutara	5.65	204	eP		Pn	03 45 15.1	-2.6
KHZ	Kahutara	5.65	204	PN		Pn	03 45 15.1	-2.6

*ISCJB **19** 03:44:50.5±0.3, 4273N±002×1.19W±002, h7km, Error ellipse: s-maj=2.7km s-min=2.1km az=120.5*

*NEIC **19** 03:44:51.8, 4275N×120W, h5km, ML2.3(STR), ML2.5(LDG), MN2.2(MDD), After STR.*

*STR **19** 03:44:51.8±0.2, 4275N×120W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*CSEM **19** 03:44:52.6±0.1, 4276N×1.16W, h5km, ML2.6/17, Error ellipse: s-maj=0.9km s-min=0.9km az=60.0*

*LDG **19** 03:44:52.2±0.1, 4275N×1.16W, h3km, Md2.4/2, Ml2.5/12, Error ellipse: s-maj=2.3km s-min=1.2km az=37.0*

*MDD **19** 03:44:52.9±0.2, 4279N×1.16W, h7km±2km, mbLg2.1/17, Error ellipse: s-maj=1.6km s-min=1.1km az=161.0, PRXIMO*

ISC 19 03:44:52.0±0.3, 4279N±002×115W±002, h17km±2km, n85, σ1$02/155, 2C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IPRE	Itoiz	0.15	278	⇑Pg		Pg	03 44 55.5	-0.7
	7.8nm,0.1s,SNR=18							
IPRE					Lg		03 44 57.9	
	90nm,0.2s,SNR=7.9							
IPRE	Itoiz	0.15	278	Pg		Pg	03 44 55.5	-0.7
	7.8nm,0.1s,SNR=18							
IPRE					Lg		03 44 57.9	
	90nm,0.2s,SNR=7.9							
LARF	Larrau	0.28	25	Pg		Pg	03 44 58.5	+0.4
LARF				Sg		Sg	03 45 03.0	+0.7
LARF	Larrau	0.28	25	P		Pg	03 44 58.5	+0.3
LARF				S		Sg	03 45 03.4	+1.1
EARA	Aranguren	0.32	268	Pg		Pg	03 44 59.0	+0.2
	18nm,0.1s,SNR=36							
EARA					Lg		03 45 03.7	
	109nm,0.2s,SNR=18							
SJPF	Ste Jean	0.33	351	ePg		Pg	03 44 59.3	+0.3
SJPF				eSg		Sg	03 45 04.3	+0.5
	86nm,0.2s							
SJPF	Ste Jean	0.33	351	ePg		Pg	03 44 59.3	+0.3
SJPF				eSg		Sg	03 45 04.3	+0.5
	43nm,0.2s							
IUSE	Utxeti	0.33	299	⇓Pg		Pg	03 44 59.1	0.0
	2.4nm,0.1s,SNR=18							
IUSE					Lg		03 45 04.0	
	36nm,0.2s,SNR=7.9							
IUSE	Utxeti	0.33	299	Pg		Pg	03 44 59.1	0.0
	2.4nm,0.1s,SNR=18							
FDAF	Les Forges d'A	0.43	85	P		Pg	03 45 01.3	+0.5
FDAF				S		Sg	03 45 07.5	+0.8
ATE	Arette	0.45	48	Pg		Pg	03 45 01.5	+0.4
ATE				Sg		Sg	03 45 08.5	+1.3
ATE	Arette	0.45	48	P		Pg	03 45 01.6	+0.5
ATE				S		Sg	03 45 08.2	+1.1
ETSF	Etsaut	0.45	75	ePg		Pg	03 45 01.3	+0.2
ETSF				eSg		Sg	03 45 07.1	-0.1
	72nm,0.3s							
ETSF	Etsaut	0.45	75	ePg		Pg	03 45 01.3	+0.2
ETSF				eSg		Sg	03 45 07.1	-0.1
	36nm,0.3s							
ORDF	Ordiarp	0.46	20	Pg		Pg	03 45 01.7	+0.5
ORDF				Sg		Sg	03 45 08.8	+1.4
ORDF	Ordiarp	0.46	20	P		Pg	03 45 01.7	+0.5
ORDF				S		Sg	03 45 08.8	+1.3
ELIZ	Elizondo	0.47	324	⇑Pg		Pg	03 45 01.0	-0.5
	16nm,0.2s,SNR=18							
ELIZ					Lg		03 45 07.6	
	15nm,0.1s,SNR=13							
OSSF	Osses	0.48	350	Pg		Pg	03 45 01.6	0.0
OSSF				Sg		Sg	03 45 08.4	+0.3
OSSF	Osses	0.48	350	P		Pg	03 45 01.8	+0.2
OSSF				S		Sg	03 45 08.5	+0.4
EALK	Alkurruntz	0.51	329	Pg		Pg	03 45 02.2	0.0
	6.2nm,0.1s,SNR=16							
EALK					Lg		03 45 08.2	
	41nm,0.3s,SNR=20							
REYF	Montagne du Re	0.62	63	P		Pg	03 45 04.5	+0.1
REYF				S		Sg	03 45 13.6	+0.9
VIEF	Viey	0.87	83	S		Sb	03 45 20.5	+0.5
LABF	Labassere	0.94	73	S		Sb	03 45 23.4	+1.5
EBIE	Bielsa	0.96	95	Pg		Pg	03 45 10.7	+0.1
	9.8nm,0.2s,SNR=17							
EBIE					Lg		03 45 23.2	
	13nm,0.1s,SNR=20							
EBIE	Bielsa	0.96	95	Pg		Pg	03 45 10.7	+0.1
	9.8nm,0.2s,SNR=17							
RESF	Ens	1.10	88	Pg		Pg	03 45 13.1	-0.1
RESF				Sg		Sg	03 45 29.0	+1.4
RESF	Ens	1.10	88	P		Pb	03 45 13.2	+0.7
RESF				S		Sb	03 45 28.5	+2.0
EPF	Esparros	1.12	77	ePg		Pg	03 45 13.6	-0.1
EPF				eSg		Sg	03 45 28.2	-0.2
	21nm,0.2s							
EPF	Esparros	1.12	77	ePg		Pg	03 45 13.6	-0.1
EPF				eSg		Sg	03 45 28.2	-0.2
	10nm,0.2s							
ESAC	San Caprasio	1.18	154	Pg		Pg	03 45 13.9	-0.9
	18nm,0.2s,SNR=14							
ESAC					Lg		03 45 30.8	
	98nm,0.2s,SNR=22							
ESAC	San Caprasio	1.18	154	Pg		Pg	03 45 13.9	-0.8
	18nm,0.2s,SNR=14							
MELF	Melles	1.41	86	S		Sn	03 45 39.0	+4.1
SALF	Salau	1.72	90	S		Sn	03 45 48.4	+5.7
ELAN	Lanestosa	1.73	286	Pn		Pn	03 45 22.9	+1.6
	0.7nm,0.1s,SNR=8.7							
ELAN					Sn	Sn	03 45 45.7	+2.6
	4.7nm,0.3s,SNR=5.3							
ELAN	Lanestosa	1.73	286	Pn		Pn	03 45 22.9	+1.6
	0.7nm,0.1s,SNR=8.7							
ELAN					Sn	Sn	03 45 45.7	+2.7
	4.7nm,0.3s,SNR=5.3							
GRBF	Gourbit	1.98	87	S		Sn	03 45 56.0	+7.0
ETOR	Torete	2.08	199	Pn		Pn	03 45 27.3	+1.3
	2.6nm,0.2s,SNR=7.9							
ETOR					Pg	Pg	03 45 31.3	-0.6
	15nm,0.2s,SNR=18							
ETOR					Sn	Sn	03 45 53.1	+1.6
	11nm,0.2s,SNR=7.9							
ETOR					Lg		03 45 58.2	
	35nm,0.2s,SNR=7.9							
ETOR	Torete	2.08	199	Pg		Pg	03 45 31.3	-0.6
	15nm,0.2s,SNR=18							
ETOR					Sn	Sn	03 45 53.1	+1.6
	11nm,0.2s,SNR=7.9							
ERTA	Horta de San J	2.14	148	Pg		Pg	03 45 30.7	-2.4
	0.4nm,0.1s,SNR=7.9							
ERTA					Lg		03 45 58.9	
	6.9nm,0.3s,SNR=7.9							
ERTA	Horta de San J	2.14	148	Pg		Pg	03 45 30.7	-2.3
	0.4nm,0.1s,SNR=7.9							
EMIR	Miracle	2.17	113	Pn		Pn	03 45 28.5	+1.3
	1.1nm,0.1s,SNR=7.9							
EMIR					Pg	Pg	03 45 32.0	-1.6
	1.3nm,0.2s,SNR=7.9							
EMIR					Lg		03 45 59.8	
	4.1nm,0.1s,SNR=7.9							
EMIR	Miracle	2.17	113	Pn		Pn	03 45 28.5	+1.2
	1.1nm,0.1s,SNR=7.9		

LFF					Sn	Sn	03 46 02.6	-0.6
LFF					Lg		03 46 12.7	
	2.2nm,0.3s							
LFF	**La Frestale**	**2.55**	**32**	*e*Pn		**Pn**	**03 45 33.3**	**+0.7**
LFF				*e*Pg		**Pg**	**03 45 40.0**	**-0.9**
LFF				*e*Sn		**Sn**	**03 46 02.6**	**-0.6**
LFF				*e*Sg		**Sg**	**03 46 12.7**	**-1.3**
LFF	**La Frestale**	**2.55**	**32**	*e*Pg		**Pg**	**03 45 40.0**	**-0.9**
LFF				*e*Sn		**Sn**	**03 46 02.6**	**-0.6**
LFF				*e*Sg		**Sg**	**03 46 12.7**	**-1.3**
	2.2nm,0.3s							
EJON	**La Jonquera**	**3.00**	**95**	Lg			03 46 26.7	
	4.4nm,0.3s,SNR=4.0							
EARI	**Arriondas**	**3.02**	**281**	Pn		**Pn**	**03 45 38.9**	**-0.1**
	1.2nm,0.4s,SNR=7.9							
EARI					Sn	**Sn**	**03 46 15.1**	**+0.3**
	0.9nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**3.02**	**281**	Pn		**Pn**	**03 45 38.9**	**-0.1**
	1.2nm,0.4s,SNR=7.9							
EARI					Sn	**Sn**	**03 46 15.1**	**+0.3**
	0.9nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.10**	**227**	Pn		**Pn**	**03 45 40.7**	**+0.6**
	0.6nm,0.2s,SNR=7.9							
GUD					Sn	**Sn**	**03 46 16.5**	**-0.3**
	1.3nm,0.2s,SNR=7.9							
CAF	**Calviac**	**3.16**	**46**	*e*Pn		**Pn**	**03 45 41.5**	**+0.6**
CAF				*e*Sn		**Sn**	**03 46 17.6**	**-0.6**
	1.8nm,0.2s							
CAF	**Calviac**	**3.16**	**46**	*e*Pn		**Pn**	**03 45 41.5**	**+0.6**
CAF				*e*Sn		**Sn**	**03 46 17.6**	**-0.6**
	0.9nm,0.2s							
RJF	**Les Rejaudoux**	**3.17**	**36**	*e*Pn		**Pn**	**03 45 41.3**	**+0.3**
RJF				*e*Sn		**Sn**	**03 46 18.0**	**-0.4**
	3.4nm,0.3s							
RJF	**Les Rejaudoux**	**3.17**	**36**	*e*Pn		**Pn**	**03 45 41.3**	**+0.3**
RJF				*e*Sn		**Sn**	**03 46 18.0**	**-0.4**
	1.7nm,0.3s							
ESDC	**Sonseca Array**	**3.76**	**215**	Pn		**Pn**	**03 45 49.3**	**+0.1**
	0.2nm,0.1s,baz=38,slow=13,SNR=4.0							
ESDC					Pg	**Pg**	**03 46 01.5**	**-2.6**
	0.7nm,0.2s,baz=40,slow=14,SNR=4.0							
ESDC					Sn	**Sn**	**03 46 33.1**	**0.0**
	0.5nm,0.1s,baz=37,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**3.76**	**215**	Pn		**Pn**	**03 45 49.3**	**+0.1**
	0.2nm,0.1s,SNR=4.0							
ESDC	**Sonseca Array**	**3.76**	**215**	Pg		**Pg**	**03 46 01.5**	**-2.6**
	0.7nm,0.2s,SNR=4.0							
ESDC					Sn	**Sn**	**03 46 33.1**	**0.0**
	0.5nm,0.1s,SNR=7.9							
LASF	**Ste Croix**	**3.87**	**69**	*e*Pg		**Pg**	**03 46 03.8**	**-2.3**
LASF				*e*Sg		**Sg**	**03 46 53.0**	**-3.2**
	1.1nm,0.3s							
LASF	**Ste Croix**	**3.87**	**69**	Pn		**Pn**	**03 45 50.9**	**+0.2**
LASF				Pg		**Pg**	**03 46 03.8**	**-2.3**
LASF				Lg			03 46 53.0	
	0.6nm,0.3s							
LASF	**Ste Croix**	**3.87**	**69**	*e*Pn		**Pn**	**03 45 50.9**	**+0.2**
LASF				*e*Pg		**Pg**	**03 46 03.8**	**-2.3**
LASF				*e*Sg		**Sg**	**03 46 53.0**	**-3.2**
LASF	**Ste Croix**	**3.87**	**69**	*e*Pg		**Pg**	**03 46 03.8**	**-2.3**
LASF				*e*Sg		**Sg**	**03 46 53.0**	**-3.2**
	0.6nm,0.3s							
MFF	**Saint Martin d**	**3.88**	**10**	*e*Pn		**Pn**	**03 45 51.0**	**+0.1**
MFF				*e*Sn		**Sn**	**03 46 35.1**	**-1.0**
	1.3nm,0.2s							
MFF	**Saint Martin d**	**3.88**	**10**	*e*Pn		**Pn**	**03 45 51.0**	**+0.1**
MFF				*e*Sn		**Sn**	**03 46 35.1**	**-1.0**
	0.6nm,0.2s							
ECAL	**Calabor**	**4.22**	**260**	Pn		**Pn**	**03 45 56.3**	**+0.7**
	1.1nm,0.1s,SNR=7.9							
ECAL					Sn	**Sn**	**03 46 43.5**	**-1.0**
	3.5nm,0.3s,SNR=4.0							
ECAL	**Calabor**	**4.22**	**260**	Pn		**Pn**	**03 45 56.3**	**+0.7**
	1.1nm,0.1s,SNR=7.9							
ECAL					Sn	**Sn**	**03 46 43.5**	**-1.0**
TCF	**Toulx Ste Croi**	**4.25**	**33**	*e*Pn		**Pn**	**03 45 56.4**	**+0.5**
TCF				*e*Sn		**Sn**	**03 46 43.6**	**-1.4**
	0.7nm,0.2s							
TCF	**Toulx Ste Croi**	**4.25**	**33**	*e*Pn		**Pn**	**03 45 56.4**	**+0.5**
TCF				*e*Sn		**Sn**	**03 46 43.6**	**-1.4**
	0.3nm,0.2s							
BGF	**Bois d'Agland**	**4.73**	**36**	*e*Sn		**Sn**	**03 46 55.0**	**-1.9**
	3.0nm,0.3s							
BGF	**Bois d'Agland**	**4.73**	**36**	*e*Sn		**Sn**	**03 46 55.0**	**-1.9**
	1.5nm,0.3s							
AVF	**Avril sur Loir**	**5.13**	**37**	*e*Pn		**Pn**	**03 46 08.2**	**+0.2**
QUIF	**Quistinic**	**5.33**	**345**	*e*Pn		**Pn**	**03 46 11.5**	**+0.8**
QUIF				*e*Sn		**Sn**	**03 47 09.7**	**-1.9**
	1.6nm,0.2s							
QUIF	**Quistinic**	**5.33**	**345**	*e*Pn		**Pn**	**03 46 11.5**	**+0.8**
QUIF				*e*Sn		**Sn**	**03 47 09.7**	**-1.9**
	0.8nm,0.2s							
ROSF	**Rostrenen**	**5.75**	**346**	*e*Pn		**Pn**	**03 46 16.8**	**+0.3**
ROSF				*e*Sn		**Sn**	**03 47 19.6**	**-2.4**
	0.7nm,0.2s							
ROSF	**Rostrenen**	**5.75**	**346**	*e*Pn		**Pn**	**03 46 16.8**	**+0.3**
ROSF				*e*Sn		**Sn**	**03 47 19.6**	**-2.4**
	0.3nm,0.2s							

LDG ***19*** *03:47:36.9±0.2, 4276N×1.15W, h2km, Md1.9/2, Ml1.8/1, Error ellipse: s-maj=4.7km s-min=1.4km az=30.0*

MDD 19 03:47:37.5±0.3, 4278N×115W, h0km, mbLg1.1/10, Error ellipse: s-maj=3.1km s-min=2.0km az=1.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.16**	**279**	Pg	Pg	03 47 40.0	-0.5
	0.7nm,0.1s,SNR=14						
IPRE				Lg		03 47 42.1	
	7.4nm,0.3s,SNR=4.5						
EARA	**Aranguren**	**0.32**	**268**	Pg	Pg	03 47 43.3	-0.3
	1.3nm,0.1s,SNR=4.0						
EARA				Lg		03 47 49.3	
	6.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.34**	**350**	*e*Pg	Pg	03 47 43.8	-0.1
SJPF				*e*Sg	Sg	03 47 48.9	+0.6
	15nm,0.3s						
SJPF	**Ste Jean**	**0.34**	**350**	Pg	Pg	03 47 43.8	-0.1
SJPF				Lg		03 47 48.9	
	7.3nm,0.3s						
IUSE	**Utxeti**	**0.34**	**299**	Pg	Pg	03 47 43.7	-0.3
	0.8nm,0.1s,SNR=7.9						
IUSE				Lg		03 47 49.0	
	2.4nm,0.1s,SNR=5.7						
ETSF	**Etsaut**	**0.45**	**75**	*e*Pg	Pg	03 47 45.8	-0.2
ETSF				*e*Sg	Sg	03 47 51.6	-0.2
	6.9nm,0.4s						
ETSF	**Etsaut**	**0.45**	**75**	Pg	Pg	03 47 45.8	-0.2
ETSF				Lg		03 47 51.6	
	3.5nm,0.4s						
ELIZ	**Elizondo**	**0.47**	**324**	Pg	Pg	03 47 45.6	-1.0
	1.5nm,0.1s,SNR=7.9						
ELIZ				Lg		03 47 52.2	
	1.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.51**	**329**	Pg	Pg	03 47 46.2	-1.1
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		03 47 54.2	
	4.4nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.95**	**95**	Lg		03 48 09.8	
	2.1nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.12**	**77**	*e*Pg	Pg	03 47 58.2	-0.7
EPF				*e*Sg	Sg	03 48 12.7	-0.7
	2.6nm,0.3s						
EPF	**Esparros**	**1.12**	**77**	Pg	Pg	03 47 58.2	-0.7
EPF				Lg		03 48 12.7	
	1.3nm,0.3s						
ESAC	**San Caprasio**	**1.17**	**154**	Pg	Pg	03 47 59.4	-0.5
	1.4nm,0.1s,SNR=7.9						
ESAC				Lg		03 48 15.4	
	13nm,0.3s,SNR=6.1						

NIED ***19*** *03:47:00, 3760N×143.10E, h14km, Mw3.7 Best double couple: M0=3.68000×10^14 NP1:φ=5.00000°, δ=67.00000°, λ=81.00000°. NP2:φ=207.00000°, δ=24.00000°, λ=111.00000°.*

JMA 19 03:47:46.0±0.2, 3757N×14306E, h51km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.61**	**304**	P	Pn	03 48 12.9	+0.8
JIO				S	Sn	03 48 32.8	+1.1
JFK	**Kawauchi**	**1.75**	**264**	P	Pn	03 48 14.6	+0.7
JFK				S	Sn	03 48 36.2	+1.2
JMM	**Marumori**	**1.82**	**280**	P	Pn	03 48 15.5	+0.6
JMK	**Ichinoseki**	**2.00**	**314**	P	Pn	03 48 18.3	+1.0
JOM	**Ohasama**	**2.35**	**324**	P	Pn	03 48 23.4	+1.3
JOM				*e*S	Sn	03 48 51.6	+1.8
JANG	**Nango**	**3.05**	**337**	P	Pn	03 48 32.3	+0.6
JAG	**Ashikaga**	**3.10**	**249**	P	Pn	03 48 34.2	+1.7
JRY	**Ryogami san**	**3.68**	**246**	P	Pn	03 48 42.3	+2.0
JOD2	**Odawara 2**	**3.94**	**235**	P	Pn	03 48 44.5	+0.5
JOD2				*e*S	Sn	03 49 29.8	+0.8
MAT	**Matsushiro**	**4.01**	**257**	P	Pn	03 48 47.8	+2.9
MAT				*e*S	Sn	03 49 39.7	+9.0

IDC 19 03:55:41.3±35.0, 1201N×14702E, h0km, mb4.4/4, mb1 4.4/4, mb1mx3.9/20, mbtmp4.3/4, Error ellipse: s-maj=1238.0km s-min=120.8km az=8.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**64.08**	**316**	P	P	04 06 18.0	+1.0
	0.7nm,0.4s,baz=89,slow=8.2,SNR=12						
BVAR	**Borovoye Array**	**72.46**	**322**	P	P	04 07 08.6	-0.9
	1.9nm,0.6s,baz=93,slow=9.1,SNR=8.6						
ARCES	**ARCESS Array B**	**89.22**	**343**	P	P	04 08 39.2	+0.2
	6.6nm,1.0s,baz=74,slow=6.8,SNR=7.0						
FINES	**FINESS Array B**	**93.46**	**336**	P	P	04 08 58.4	-0.3
	0.5nm,0.5s,baz=49,slow=5.8,SNR=6.5						

ISCJB ***19*** *04:27:28.0±0.9, 2865S×0.10×1296E±02, h10km, mb4.2/6, Error ellipse: s-maj=26.7km s-min=9.4km az=130.1*

IDC ***19*** *04:27:28.5±1.1, 2985S×12943E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.1/18, mbtmp4.3/8, ML4.1/2, Error ellipse: s-maj=71.8km s-min=15.1km az=69.0*

NEIC ***19*** *04:27:30.2±0.8, 2945S×12968E, h10km, Error ellipse: s-maj=25.0km s-min=10.6km az=61.0*

ISC 19 04:27:30.2±3.6, 2935S×010×1296E±02, h11km±23km, n13, σ0§90/16, mb4.2/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.58**	**194**	Pn	**Pn**	**04 31 09.6**	**-0.2**
	0.4nm,0.3s,baz=43,slow=10,SNR=28						
WRA	**Warramunga Arr**	**17.53**	**165**	P	**Pn**	**04 31 33.3**	**-1.3**
	0.8nm,0.3s,baz=346,slow=12,SNR=35						
WRA				S	**Sn**	**04 34 50.7**	**+0.9**
	0.2nm,0.3s,baz=345,slow=19,SNR=3.4						
WB2	**Warramunga Arr**	**17.54**	**165**	*e*P	**Pn**	**04 31 33.4**	**-1.3**
KSM	**Kuching**	**19.79**	**283**	P	**Pn**	**04 32 02.7**	**+0.7**
AS31	**Alice Springs**	**21.03**	**169**	*e*P	**P**	**04 32 14.7**	**+0.7**
AS31				*e*S	**S**	**04 36 08.5**	**+0.4**
ASAR	**Alice Springs**	**21.03**	**169**	P	**P**	**04 32 14.9**	**+0.9**
	17nm,0.6s,mb4.5,baz=346,slow=9.5,SNR=226						
ASAR				S	**S**	**04 36 05.7**	**-2.4**
	3.2nm,0.8s,baz=346,slow=20,SNR=9.7						
CTA	**Charters Tower**	**23.55**	**138**	P	**P**	**04 32 41.8**	**+0.9**
	9.0nm,1.0s,mb4.2,baz=348,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**30.93**	**160**	P	**P**	**04 33 47.7**	**+0.6**
	0.7nm,0.4s,mb3.9,baz=26,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**30.93**	**160**	P	**P**	**04 33 47.7**	**+0.6**
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**04 38 07.1**	**-0.8**
	1.3nm,0.6s,mb4.1,baz=125,slow=8.3,SNR=12						
ZAL	**Zalesovo**	**67.79**	**333**	P	**P**	**04 38 28.4**	**+0.3**
	4.4nm,0.9s,mb4.5,baz=157,slow=3.2,SNR=4.8						
ZAL	**Zalesovo**	**67.79**	**333**	P	**P**	**04 38 28.4**	**+0.3**
VNDA	**Vanda**	**76.51**	**173**	P	**P**	**04 39 19.6**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=291,slow=6.8,SNR=6.2						

ISCJB ***19*** *04:43:36.2±3.9, 5305S×0.02×1448E±02, h67km±36km, mb3.7/4, Error ellipse: s-maj=32.1km s-min=26.5km az=53.0*

IDC ***19*** *04:43:38.0±4.9, 5245S×14489E, h75km±47km, mb3.5/4, mb1 3.8/7, mb1mx3.6/15, mbtmp3.9/7, ML3.5/3, Error ellipse: s-maj=33.5km s-min=31.6km az=24.0*

NEIC ***19*** *04:43:37.7±3.5, 5185S×14485E, h77km±33km, Error ellipse: s-maj=32.6km s-min=24.0km az=143.0*

ISC 19 04:43:37.9±3.6, 5205S×0.02×1448E±02, h69km±34km, n11, σ0§64/12, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**151**	P	**Pn**	**04 44 47.3**	**+0.5**
	4.0nm,0.3s,baz=315,slow=3.8,SNR=7.4						
PMG				S	**Sn**	**04 45 40.0**	**-0.4**
	3.4nm,0.3s,baz=133,slow=19,SNR=4.2						
PMG	**Port Moresby**	**4.74**	**151**	P	**Pn**	**04 44 47.4**	**+0.5**
PMG				S	**Sn**	**04 45 40.0**	**-0.4**
CTA	**Charters Tower**	**14.82**	**175**	P	**Pn**	**04 47 03.6**	**0.0**
	0.2nm,0.3s,baz=353,slow=8.1,SNR=2.1						
WRA	**Warramunga Arr**	**17.82**	**214**	P	**Pn**	**04 47 39.8**	**-1.4**
	0.4nm,0.3s,baz=40,slow=11,SNR=18						
AS31	**Alice Springs**	**21.13**	**209**	*e*P	**P**	**04 48 17.6**	**+0.6**
ASAR	**Alice Springs**	**21.13**	**209**	P	**P**	**04 48 17.9**	**+0.8**
	3.5nm,0.7s,mb3.8,baz=40,slow=8.8,SNR=26						
FITZ	**Fitzroy Crossi**	**22.69**	**234**	P	**P**	**04 48 34.0**	**+0.3**
	1.9nm,0.5s,mb3.7,baz=63,slow=8.3,SNR=16						
VNDA	**Vanda**	**72.80**	**176**	P	**P**	**04 54 58.9**	**-0.1**
	0.8nm,0.9s,mb3.5,baz=336,slow=6.5,SNR=3.5						
VNDA	**Vanda**	**72.80**	**176**	P	**P**	**04 54 58.9**	**-0.1**
MKAR	**Makanchi Array**	**75.55**	**321**	P	**P**	**04 55 14.7**	**-0.3**
	0.5nm,0.4s,mb3.6,baz=108,slow=4.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**142.81**	**285**	PKP	PKPdf	05 03 02.0	-1.5
	0.4nm,0.7s,baz=65,slow=3.1,SNR=6.6						

IDC 19 04:50:56.5±13.0, 359S×12866E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.7/16, mbtmp4.0/3, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/27, Error ellipse: s-maj=189.3km s-min=124.1km az=150.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.73**	**191**	Pn	Pn	04 54 33.7	+7.7
	0.1nm,0.3s,baz=32,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**17.18**	**162**	P	Pn	04 54 58.5	+0.7
	0.4nm,0.3s,baz=340,slow=13,SNR=8.5						
ASAR	**Alice Springs**	**20.60**	**166**	P	P	04 55 38.6	+1.6
	4.8nm,0.6s,baz=351,slow=10,SNR=52						
STKA	**Stephens Creek**	**30.66**	**158**	P	P	04 57 11.6	-0.9
	0.7nm,0.3s,baz=339,slow=8.6,SNR=3.8						
ASAJ	**Asahikawa**	**49.11**	**13**	LR	LR	05 17 32.5	
	comp=Z,105nm,19.3s,baz=8.1,slow=32						

IDC 19 04:53:07.5±8.5, 574S×15097E, h70km±60km, mb3.8/3, mb1 4.0/4, mb1mx3.5/14, mbtmp4.1/4, ML3.0/1, Error ellipse: s-maj=94.9km s-min=54.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**226**	P	Pn	04 54 23.7	+0.4
	3.9nm,0.3s,baz=55,slow=15,SNR=7.4						
PMG				S	Sn	04 55 23.5	+1.1
	3.0nm,0.3s,baz=60,slow=20,SNR=6.3						
WRA	**Warramunga Arr**	**21.46**	**227**	P	P	04 57 49.8	-0.3
	2.6nm,0.5s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.23**	**221**	P	P	04 58 18.1	+0.3
	2.0nm,0.6s,baz=55,slow=9.2,SNR=19						
FITZ	**Fitzroy Crossi**	**27.61**	**241**	P	P	04 58 48.7	+0.4
	3.6nm,0.7s,baz=82,slow=7.3,SNR=14						
TORD	**Torodi Ar. Bea**	**148.83**	**286**	PKPbc	PKPbc	05 12 47.9	+0.8
	0.9nm,0.6s,baz=88,slow=2.3,SNR=12						

NEIC ***19*** *05:11:12.7±1.3, 4884N×15579E, h10km, mb4.1/3, Error ellipse: s-maj=32.9km s-min=15.5km az=167.0*

ISCJB ***19*** *05:11:17.1±1.2, 4939N±0.08×1559E±0.1, h36km±10km, mb4.0/14, MS3.5/4, Error ellipse: s-maj=19.1km s-min=8.4km az=81.2*

MOS ***19*** *05:11:19.9±1.6, 4933N×15571E, h63km, mb4.3/11, Error ellipse: s-maj=22.2km s-min=12.8km az=87.1*

KRSC ***19*** *05:11:19, 4929N×15737E, h95km, ML4.5*

IDC ***19*** *05:11:22.7±5.7, 4913N×15576E, h81km±58km, mb3.7/11, mb1 3.9/13, mb1mx3.7/25, mbtmp4.0/13, ML4.3/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/27, Error ellipse: s-maj=41.8km s-min=24.9km az=178.0*

ISC 19 05:11:19.3±1.1, 4945N±008×1559E±01, h39km±9km, n42, σ1§37/48, mb4.0/14, MS3.4/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.25**	**8**	*e*PN	**Pn**	**05 11 40.0**	**-0.2**
SKR				*i* S	**Sn**	**05 11 55.4**	**-0.3**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,180nm,0.5s						
SKR				smax			
	comp=N,1μm,0.6s						
SKR				smax			
	comp=Z,720nm,0.6s						
SKR				smax			
	comp=E,570nm,0.5s						
GRL	**Gorelyy**	**3.41**	**23**	*e*P	**Pn**	**05 12 11.8**	**+1.9**
GRL				*i* S	**Sn**	**05 12 51.0**	**+2.0**
RUS	**Russkaya**	**3.43**	**28**	*e*P	**Pn**	**05 12 10.2**	**0.0**
RUS				*i* S	**Sn**	**05 12 47.8**	**-1.7**
PET	**Petropavlovsk**	**3.99**	**25**	*e*PN	**Pn**	**05 12 22.4**	**+4.5**
PET				*e*S	**Sn**	**05 13 10.4**	**+7.1**
PET				pmax	pmax		
	comp=Z,101nm,1.2s						
PET				smax			
	comp=E,283nm,0.6s						
PET	**Petropavlovsk**	**3.99**	**25**	*e*Pn	**Pn**	**05 12 21.7**	**+3.9**
PET				*e*Sn	**Sn**	**05 13 08.1**	**+4.8**
AVH	**Avacha**	**4.22**	**24**	*e*P	**Pn**	**05 12 22.7**	**+1.6**
AVH				*i* S	**Sn**	**05 13 07.5**	**-1.7**
GNL	**Ganaly**	**4.45**	**16**	*e*P	**Pn**	**05 12 27.1**	**+2.9**
SPN	**Mys Shipunski**	**4.49**	**34**	*e*P	**Pn**	**05 12 23.8**	**-1.0**
SPN				*i* S	**Sn**	**05 13 09.4**	**-6.4**
MKZ	**Mys Kozlova**	**6.27**	**33**	*e*P	**Pn**	**05 12 47.4**	**-1.8**
MKZ				*i* S	**Sn**	**05 13 53.3**	**-6.2**
KBTR	**Krutoberegovo**	**7.97**	**29**	*e*P	**Pn**	**05 13 12.4**	**-0.2**
KBTR				*i* S	**Sn**	**05 14 34.1**	**-7.3**
ASAJ	**Asahikawa**	**10.54**	**245**	P	**Pn**	**05 13 49.6**	**+1.9**
	comp=E,3.9nm,0.3s,baz=79,slow=15,SNR=13						
ASAJ	**Asahikawa**	**10.54**	**245**	PN	**Pn**	**05 13 49.6**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**18.19**	**231**	P	**Pn**	**05 15 26.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=21,slow=11,SNR=4.5						
KSRS	**Korea Array**	**23.41**	**250**	P	**P**	**05 16 22.9**	**-2.0**
	comp=Z,3.8nm,0.9s,mb3.8,baz=46,slow=10,SNR=8.6						
TIXI	**Tiksi**	**25.46**	**340**	⇑*i*P	**P**	**05 16 42.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**32.26**	**286**	LR	LR	05 31 44.5	
	comp=Z,52nm,21.9s,MS3.2,baz=98,slow=38						
INK	**Inuvik**	**38.38**	**34**	*e*P	**P**	**05 18 37.7**	**+1.0**
	comp=Z,74nm,0.8s						
ZAL	**Zalesovo**	**42.58**	**304**	LR	LR	05 39 04.4	
	comp=Z,52nm,18.1s,MS3.5,baz=222,slow=39						
MKAR	**Makanchi Array**	**47.36**	**296**	P	**P**	**05 19 47.4**	**-2.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=62,slow=8.4,SNR=11						
MKAR				LR	LR	05 41 39.9	
	comp=Z,67nm,18.3s,MS3.6,baz=3.4,slow=38						
MKAR	**Makanchi Array**	**47.36**	**296**	P	**P**	**05 19 47.4**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,67nm,18.3s						
CHKZ	**Chkalovo**	**50.12**	**309**	*e*P	**P**	**05 20 10.3**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**50.12**	**309**	*e*P	**P**	**05 20 10.3**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**05 20 12.5**	**-1.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=57,slow=11,SNR=5.6						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**05 20 12.5**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**51.33**	**309**	*e*P	**P**	**05 20 20.6**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**51.33**	**309**	*e*P	**P**	**05 20 20.6**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**55.90**	**341**	LR	LR	05 47 18.5	
	comp=Z,40nm,20.8s,MS3.5,baz=3.6,slow=38						
PDAR	**Pinedale Array**	**61.69**	**56**	P	**P**	**05 21 34.1**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.7,baz=328,slow=5.3,SNR=3.7						
FINES	**FINESS Array B**	**62.37**	**335**	P	**P**	**05 21 37.0**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.4,baz=19,slow=12,SNR=5.6						
FINES	**FINESS Array B**	**62.37**	**335**	P	**P**	**05 21 37.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**66.25**	**342**	P	**P**	**05 22 03.1**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=23,slow=6.6,SNR=3.1						
NOA	**NORSAR Array B**	**66.25**	**342**	P	**P**	**05 22 03.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**66.55**	**340**	P	**P**	**05 22 06.8**	**+1.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=99,slow=9.2,SNR=4.1						
HFS	**Hagfors**	**66.55**	**340**	P	**P**	**05 22 06.8**	**+1.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STHS	**Stebnicka Huta**	**74.07**	**331**	*e*P	**P**	**05 22 53.1**	**+1.9**
EKA	**Eskdalemuir Ar**	**74.12**	**348**	P	**P**	**05 22 52.0**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.3,baz=15,slow=4.7,SNR=12						
EKA

ANTU	**Antumapu**	**2.16 146**	⇑*i*P	Pn	05 35 04.2	+1.7
ANTU			*i*S	Sn	05 35 31.1	+2.7
FCH	**Farellones**	**2.16 136**	*e*P	Pn	05 35 04.2	+1.7
FCH			*i*S	Sn	05 35 31.7	+3.2
FCH			AML	AML	05 35 39.6	
	comp=E,76nm,0.3s					

WEL 19 06:38:11.2±0.5, 3906S×17490E, h207km±4km, ML3.5/9, Error ellipse: s-maj=4.5km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.13**	**240**	*e*PN	Pn	06 38 37.9	-0.3
HIZ	**Hauiti**	**0.55**	**356**	PN	Pn	06 38 38.7	-0.5
WAZ	**Wanganui**	**0.70**	**175**	PN	Pn	06 38 40.3	+0.5
WAZ				SN	Sn	06 39 02.3	+0.1
BKZ	**Black Stump Fm**	**1.24**	**95**	PN	Pn	06 38 43.5	+0.1
BKZ				SN	Sn	06 39 07.9	-0.4
TSZ	**Takapari Road**	**1.29**	**141**	PN	Pn	06 38 43.9	+0.2
TSZ				SN	Sn	06 39 07.8	-1.2
MRZ	**Mangatainoka R**	**1.68**	**162**	PN	Pn	06 38 46.8	-0.3
MRZ				SN	Sn	06 39 13.0	-2.0
KIW	**Kapiti Island**	**1.80**	**180**	PN	Pn	06 38 47.7	-0.5
KIW				*e*SN	Sn	06 39 15.0	-2.0
PXZ	**Pawanui**	**1.80**	**123**	PN	Pn	06 38 48.4	+0.2
URZ	**Urewera**	**1.91**	**66**	PN	Pn	06 38 48.2	-1.1
CAW	**Cannon Point**	**2.05**	**176**	PN	Pn	06 38 49.9	-0.7
CAW				SN	Sn	06 39 18.9	-2.6
KNZ	**Kokohu**	**2.16**	**90**	PN	Pn	06 38 51.4	-0.4
TCW	**Tory Channel**	**2.20**	**192**	PN	Pn	06 38 51.7	-0.6
TCW				SN	Sn	06 39 21.2	-3.1
NNZ	**Nelson**	**2.45**	**208**	PN	Pn	06 38 53.5	-1.4
NNZ				SN	Sn	06 39 26.2	-2.9
TUWZ	**Tuamarina**	**2.48**	**197**	PN	Pn	06 38 54.3	-0.9
QRZ	**Quartz Range**	**2.54**	**225**	PN	Pn	06 38 53.9	-1.9
BSWZ	**Blackbirch Sta**	**2.76**	**196**	PN	Pn	06 38 57.8	-0.6
THZ	**Tophouse**	**3.10**	**209**	PN	Pn	06 39 00.5	-1.8

IDC 19 06:46:44.1±1.4, 2838N×13866E, h513km±32km, mb2.8/4, mb1 2.9/5, mb1mx2.8/19, mbtmp3.7/5, Error ellipse: s-maj=71.4km s-min=17.3km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.38**	**111**	P	P	06 48 00.7	+2.0
	3.5nm,0.3s,baz=292,slow=19,SNR=3.0						
CBIJ				S	S	06 48 59.0	-0.4
	20nm,0.3s,baz=328,slow=24,SNR=8.0						
MKAR	**Makanchi Array**	**47.25**	**309**	P	P	06 54 30.5	+0.1
	0.2nm,0.5s,baz=101,slow=7.6,SNR=2.2						
WRA	**Warramunga Arr**	**48.21**	**185**	P	P	06 54 37.7	+0.1
	0.6nm,0.3s,baz=0.4,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**51.94**	**186**	P	P	06 55 05.1	+0.1
	0.2nm,0.3s,baz=3.9,slow=6.9,SNR=6.5						
FINES	**FINESS Array B**	**75.40**	**333**	P	P	06 57 34.3	-0.6
	0.7nm,0.3s,baz=61,slow=4.9,SNR=8.7						

*BER **19** 06:52:40.0±3.1, 7002N×1566E, h12km±48km, MD2.5, ML1.7*
*CSEM **19** 06:52:40.1±0.2, 6962N×1592E, h10km, ML2.5, Error ellipse: s-maj=5.2km s-min=1.9km az=150.0*
*NAO **19** 06:52:44.4±3.6, 6923N×1668E, ML1.9*

HEL 19 06:52:41.0±0.3, 6970N×1576E, h7km±1km, ML2.5, MD2.5(BER), ML1.7(BER), Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**1.11**	**92**	*e*P	Pg	06 53 01.4	-1.0
TRO				*e*Sg	Sg	06 53 17.7	+1.0
TRO				AML	AML	06 53 18.1	
	comp=Z,19nm,0.3s						
TRO	**Tromso**	**1.11**	**92**	*e*P	Pg	06 53 01.1	-1.3
TRO				*e*S	Sg	06 53 14.6	-2.1
TRO	**Tromso**	**1.11**	**92**	P	Pg	06 53 01.0	-1.3
TRO				*e*Sg	Sg	06 53 17.7	+1.0
	comp=Z,19nm,0.3s,SNR=90						
KIF	**Kilpisjarvi**	**1.92**	**109**	*e*P	Pn	06 53 15.5	+1.4
KIF				*e*S	Sn	06 53 37.6	-0.9
KIF				*e*SG	Sg	06 53 40.2	-2.5
KIF	**Kilpisjarvi**	**1.92**	**109**	P	Pn	06 53 15.4	+1.3
KIF				Sg	Sg	06 53 40.1	-2.6
KTK1	**Kautokeino**	**2.74**	**101**	*e*Pg	Pg	06 53 28.1	-5.4
KTK1				*e*Sg	Sg	06 54 02.9	-6.1
KTK1				AML	AML	06 54 14.6	
	comp=Z,8.4nm,0.5s						
KTK1	**Kautokeino**	**2.74**	**101**	*e*P	Pn	06 53 27.2	+1.9
KTK1				*e*S	Sn	06 53 58.1	-0.7
KTK1				*e*SB	Sb	06 54 02.1	-2.0
KTK1	**Kautokeino**	**2.74**	**101**	*e*Pg	Pg	06 53 28.1	-5.4
	SNR=90						
KTK1				*e*Sg	Sg	06 54 02.9	-6.1
	SNR=90						
ARA0	**ARCESS Array S**	**3.42**	**88**	Pn	Pn	06 53 34.3	-0.4
	baz=274,slow=12						
ARA0				Sn	Sn	06 54 13.7	-1.7
	baz=268,slow=22						
ARA0	**ARCESS Array S**	**3.42**	**88**	*e*P	Pn	06 53 34.5	-0.2
ARA0				*e*S	Sn	06 54 14.6	-0.8
MOR8	**Moi Rana**	**3.58**	**189**	*e*P	Pn	06 53 36.0	-0.9
MOR8				*e*S	Sn	06 54 18.0	-1.4
MOR8	**Moi Rana**	**3.58**	**189**	*e*P	Pn	06 53 35.3	-1.6
MOR8				*e*S	Sn	06 54 15.1	-4.3
KEV	**Kevo**	**3.92**	**84**	*e*P	Pn	06 53 41.0	-0.5
KEV				*e*S	Sn	06 54 27.0	-0.8
KEV				MSN		06 54 28.6	
	comp=Z,2.2nm,0.3s						
SGF	**Sodankyl**	**4.55**	**115**	*e*P	Pn	06 53 51.1	+0.8
SGF				*e*PG	Pg	06 54 02.0	-6.2
SGF				*e*S	Sn	06 54 41.5	-1.9
SGF				*e*SG	Sg	06 55 01.3	-5.9
SGF				MSN		06 55 04.1	
	comp=Z,3.5nm,0.3s						
OUL	**Oulu**	**6.05**	**135**	*e*S	Sn	06 55 17.4	-3.1
KU4	**Liikasenvaara**	**6.16**	**116**	*e*P	Pn	06 54 13.7	+1.2
KU4				*e*S	Sn	06 55 19.8	-3.4
KU4				MSN		06 55 24.2	
	comp=Z,0.6nm,0.3s						
KU4	**Liikasenvaara**	**6.16**	**116**	P	Pn	06 54 13.6	+1.1
MSF	**Maaselka**	**6.30**	**121**	*e*P	Pn	06 54 14.8	+0.6
MSF				*e*S	Sn	06 55 23.0	-3.5
MSF	**Maaselka**	**6.30**	**121**	P	Pn	06 54 14.8	+0.5
KU6	**Riekki**	**6.48**	**118**	*e*P	Pn	06 54 16.4	-0.4
KU6				*e*S	Sn	06 55 29.2	-1.7
KU6	**Riekki**	**6.48**	**118**	P	Pn	06 54 16.3	-0.5
APA0	**Apatity Array**	**6.62**	**100**	Pn	Pn	06 54 18.8	0.0
	baz=301,slow=12						
APA0				Sn	Sn	06 55 30.8	-3.8
	baz=294,slow=28						
KJN	**Kajaani**	**7.33**	**134**	*e*P	Pn	06 54 27.2	-1.2
KJN				*e*S	Sn	06 55 48.0	-3.9
KJN				MSN		06 55 53.6	
	comp=Z,0.8nm,0.3s						
KJN	**Kajaani**	**7.33**	**134**	P	Pn	06 54 27.1	-1.3
SPA0	**Spitsbergen Ar**	**8.53**	**1**	Pn	Pn	06 54 52.6	+7.7
	baz=167,slow=16						
JOF	**Joensuu**	**9.21**	**130**	*e*P	Pn	06 54 52.2	-2.1
JOF				*e*S	Sn	06 56 31.9	-6.4
JOF				MSN		06 56 34.7	
	comp=Z,0.6nm,0.4s						

*NEIC **19** 07:04:30.2, 1742N×9707W, h75km, MD3.9(MEX), After MEX.*

MEX 19 07:04:30.2±0.5, 1742N×9707W, h75km±4km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.47**	**136**	*i*P	Pn	07 04 42.0	-1.2
OXX				*i*S	Sn	07 04 51.5	-1.2
VHO	**Vista Hermosa**	**0.47**	**137**	*i*P	Pn	07 04 42.0	-1.2
VHO				*i*S	Sn	07 04 51.2	-1.5
UTMO	**Huajuapan**	**0.81**	**300**	*i*P	Pn	07 04 45.7	-1.0
UTMO				*i*S	Sn	07 04 57.5	-1.5
TPIG	**Tehuac#an**	**1.04**	**344**	*i*P	Pn	07 04 48.0	-1.3
TPIG				*i*S	Sn	07 05 02.5	-1.2
PNIG	**Pinotepa**	**1.44**	**225**	*i*P	Pn	07 04 53.5	-1.0
PNIG				*i*S	Sn	07 05 10.8	-2.1
CMIG	**Matias Romero**	**2.11**	**99**	*i*P	Pn	07 05 02.3	-1.1
CMIG				*i*S	Sn	07 05 26.6	-2.2
IIO	**Organos**	**2.67**	**324**	*i*P	Pn	07 05 15.2	+4.2

*ISCJB **19** 07:07:09.5±0.3, 4632N×093E±003, h10km, Error ellipse: s-maj=3.6km s-min=2.6km az=65.5*
*NEIC **19** 07:07:11.5, 4627N×090E, h12km, ML2.8(LDG), After LDG.*
*CSEM **19** 07:07:11.6±0.1, 4628N×090E, h8km, ML2.9/9, Error ellipse: s-maj=2.5km s-min=1.9km az=171.0*
*LDG **19** 07:07:11.5±0.2, 4627N×090E, h12km±2km, Ml2.8/9*
*STR **19** 07:07:11.8±0.3, 4606N×090E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 07:07:10.4±0.4, 4630N±003×091E±003, h10km, n38, σ1§11/81, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.80**	**293**	*e*Pg	**Pg**	**07 07 27.5**	**+1.7**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**07 07 36.0**	**-0.1**
	94nm,0.2s,SNR=1.0						
MFF				*e*Sn	**Sn**	**07 07 37.2**	**-2.4**
	SNR=1.0						
MFF	**Saint Martin d**	**0.80**	**293**	*e*Pn	**Pn**	**07 07 27.2**	**-0.5**
MFF				*e*Pg	**Pg**	**07 07 27.5**	**+1.7**
MFF				*e*Sg	**Sg**	**07 07 36.0**	**-0.1**
MFF				*e*Sn	**Sn**	**07 07 37.2**	**-2.4**
MFF	**Saint Martin d**	**0.80**	**293**	*e*Pg	**Pg**	**07 07 27.5**	**+1.7**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**07 07 36.0**	**-0.1**
	47nm,0.2s,SNR=1.0						
MFF				*e*Sn	**Sn**	**07 07 37.2**	**-2.4**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**0.90**	**90**	*e*Pg	**Pg**	**07 07 29.8**	**+2.1**
TCF	**Toulx Ste Croi**	**0.90**	**90**	*e*Pn	**Pn**	**07 07 29.2**	**+0.1**
TCF				*e*Pg	**Pg**	**07 07 29.8**	**+2.1**
TCF	**Toulx Ste Croi**	**0.90**	**90**	*e*Pg	**Pg**	**07 07 29.8**	**+2.1**
CHIF	**Chize**	**0.93**	**260**	Pg	**Pg**	**07 07 29.2**	**+0.8**
CHIF				Sg	**Sg**	**07 07 41.4**	**+0.9**
RJF	**Les Rejaudoux**	**1.08**	**157**	*e*Pg	**Pg**	**07 07 31.4**	**+0.3**
RJF				*e*Sg	**Sg**	**07 07 44.9**	**-0.2**
	47nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.08**	**157**	*e*Pn	**Pn**	**07 07 30.5**	**-1.0**
RJF				*e*Pg	**Pg**	**07 07 31.4**	**+0.3**
RJF				*e*Sg	**Sg**	**07 07 44.9**	**-0.2**
RJF	**Les Rejaudoux**	**1.08**	**157**	*e*Pg	**Pg**	**07 07 31.4**	**+0.3**
RJF				*e*Sg	**Sg**	**07 07 44.9**	**-0.2**
	24nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.36**	**185**	*e*Pg	**Pg**	**07 07 36.5**	**-0.1**
LFF				*e*Sg	**Sg**	**07 07 49.3**	**-4.9**
	30nm,0.3s,SNR=1.0						
LFF				*e*Sn	**Sn**	**07 07 52.9**	**-0.7**
	SNR=1.0						
LFF	**La Frestale**	**1.36**	**185**	*e*Pn	**Pn**	**07 07 33.2**	**-2.3**
LFF				*e*Pg	**Pg**	**07 07 36.5**	**-0.1**
LFF				*e*Sg	**Sg**	**07 07 49.3**	**-4.9**
LFF				*e*Sn	**Sn**	**07 07 52.9**	**-0.7**
LFF	**La Frestale**	**1.36**	**185**	*e*Pg	**Pg**	**07 07 36.5**	**-0.1**
LFF				*e*Sn	**Sn**	**07 07 52.9**	**-0.7**
	SNR=1.0						
BGF	**Bois d'Agland**	**1.36**	**78**	*e*Pg	**Pg**	**07 07 37.7**	**+1.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**07 07 52.3**	**-1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**07 07 55.1**	**+0.8**
	62nm,0.4s						
BGF	**Bois d'Agland**	**1.36**	**78**	*e*Pn	**Pn**	**07 07 35.8**	**+0.3**
BGF				*e*Pg	**Pg**	**07 07 37.7**	**+1.1**
BGF				*e*Sn	**Sn**	**07 07 52.3**	**-1.3**
BGF				*e*Sg	**Sg**	**07 07 55.1**	**+0.8**
BGF	**Bois d'Agland**	**1.36**	**78**	*e*Pg	**Pg**	**07 07 37.7**	**+1.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**07 07 52.3**	**-1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**07 07 55.1**	**+0.8**
	31nm,0.4s						
HYF	**Humbligny**	**1.54**	**50**	*e*Pg	**Pg**	**07 07 41.1**	**+1.2**
HYF	**Humbligny**	**1.54**	**50**	*e*Pn	**Pn**	**07 07 39.0**	**+1.1**
HYF				*e*Pg	**Pg**	**07 07 41.1**	**+1.2**
HYF	**Humbligny**	**1.54**	**50**	*e*Pg	**Pg**	**07 07 41.1**	**+1.2**
PYM	**Petit Puy Mans**	**1.56**	**110**	Pg	**Pg**	**07 07 41.2**	**+0.9**
AGO	**Saint Agoulin**	**1.56**	**98**	Pg	**Pg**	**07 07 41.8**	**+1.5**
AGO				Sg	**Sg**	**07 08 02.2**	**+1.6**
AVF	**Avril sur Loir**	**1.75**	**73**	*e*Pg	**Pg**	**07 07 44.3**	**+0.2**
AVF				*e*Sn	**Sn**	**07 08 00.0**	**-3.3**
	11nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**1.75**	**73**	*e*Pn	**Pn**	**07 07 41.0**	**+0.1**
AVF				*e*Pg	**Pg**	**07 07 44.3**	**+0.2**
AVF				*e*Sn	**Sn**	**07 08 00.0**	**-3.3**
AVF	**Avril sur Loir**	**1.75**	**73**	*e*Pg	**Pg**	**07 07 44.3**	**+0.2**
AVF				*e*Sn	**Sn**	**07 08 00.0**	**-3.3**
	5.7nm,0.3s,SNR=1.0						
PLDF	**La Plantade**	**1.91**	**99**	Pg	**Pg**	**07 07 47.6**	**+0.5**
SSF	**Saint Saulge**	**1.94**	**66**	*e*Pg	**Pg**	**07 07 47.4**	**-0.3**
SSF				*e*Sn	**Sn**	**07 08 05.5**	**-2.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**07 08 12.1**	**-0.8**
	6.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**1.94**	**66**	*e*Pn	**Pn**	**07 07 43.4**	**-0.1**
SSF				*e*Pg	**Pg**	**07 07 47.4**	**-0.3**
SSF				*e*Sn	**Sn**	**07 08 05.5**	**-2.4**
SSF				*e*Sg	**Sg**	**07 08 12.1**	**-0.8**
SSF	**Saint Saulge**	**1.94**	**66**	*e*Pg	**Pg**	**07 07 47.4**	**-0.3**
SSF				*e*Sn	**Sn**	**07 08 05.5**	**-2.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**07 08 12.1**	**-0.8**
	3.3nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.05**	**79**	*e*Pg	**Pg**	**07 07 48.5**	**-1.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**07 08 15.6**	**-0.8**
	8.1nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.05**	**79**	*e*Pg	**Pg**	**07 07 48.5**	**-1.3**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**07 08 15.6**	**-0.8**
	4.1nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.25**	**63**	*e*Pg	**Pg**	**07 07 51.8**	**-1.7**
LOR	**Lormes**	**2.25**	**63**	*e*Pn	**Pn**	**07 07 47.5**	**-0.1**
LOR				*e*Pg	**Pg**	**07 07 51.8**	**-1.7**
LOR	**Lormes**	**2.25**	**63**	*e*Pg	**Pg**	**07 07 51.8**	**-1.7**
LDF	**La Druitiere**	**2.41**	**343**	*e*Sg	**Sg**	**07 08 28.2**	**+0.5**
	7.1nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.41**	**343**	*e*Sg	**Sg**	**07 08 28.2**	**+0.5**
	3.5nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.64**	**340**	*e*Sn	**Sn**	**07 08 20.6**	**-4.6**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**07 08 35.2**	**-0.2**
	4.0nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**3.50**	**307**	*e*Sn	**Sn**	**07 08 41.2**	**-5.3**
	8.4nm,0.5s,SNR=1.0						
ROSF	**Rostrenen**	**3.50**	**307**	*e*Sn	**Sn**	**07 08 41.2**	**-5.3**
	4.2nm,0.5s,SNR=1.0						

*MOS **19** 07:15:33.4±0.8, 6413N×14887E, h13km, mb5.1/83, MS4.7/42, Error ellipse: s-maj=10.3km s-min=3.8km az=97.8*
MOS Felt (V) at Susuman, (IV) at Seimchan, Omchak, (II) at Magadan, Stekol'ny.
*NERS **19** 07:15:34.4, 6409N×149.13E, h25km, MSH5.4, Felt I=V MSK at Susuman, I=IV at Seimchan, Omchak, I=II at Magadan, Stekolniy*
*ISCJB **19** 07:15:34.7±0.1, 6415N±002×14883E±003, h20km, mb4.9/156, MS4.7/61, Error ellipse: s-maj=3.2km s-min=2.1km az=161.0*
*GCMT **19** 07:15:36.5±0.2, 6410N×14889E, h29km±1km, MW5.2/87, Moment Tensor Solution. s56,c77; s87,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_0=1.70±.18; $M_{\theta\theta}$=4.35±.15; $M_{\phi\phi}$=-6.05±.15; $M_{r\theta}$=2.99±.28; $M_{\phi\phi}$=2.30±.12; $M_{\phi r}$=-2.27±.24; Best double couple: M_0=6.90200×10^{16} NP1:ϕ_s=31.00000°, δ54.00000°, λ170.00000°. NP2: ϕ_s=128.00000°, δ82.00000°, λ36.00000°. Principal axes: T 6.3390, Plg31.0000°, Azm356.0000°; N 1.1260, Plg53.0000°, Azm139.0000°; P -7.4650, Plg18.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 07:15:36.5±0.1, 6407N×14886E, mb5.1/109 Error ellipse: s-maj=3.5km s-min=2.4km az=180.0*

NEIC Felt [V] at Susuman; [IV] at Omchak and Seymchan; [II] at Magadan and Stekol'nyy.
*BJI **19** 07:15:36.5, 6398N×14828E, h11km, mB5.1, mb4.8, Ms5.5, Msz5.3*
*IDC **19** 07:15:38.5±6.3, 6414N×14897E, h33km±49km, mb4.3/27, mb1 4.5/27, mb1mx4.4/31, mbtmp4.5/27, MS4.5/29, Ms1 4.5/29, ms1mx4.4/34, Error ellipse: s-maj=13.2km s-min=10.9km az=149.0*
*SZGRF **19** 07:15:42.7, 6440N×14745E, h33km, mb5.4, Eastern Siberia, Russia*

ISC 19 07:15:36.6±0.1, 6416N±002×14879E±003, h21km, h21km±.8km: pP-P, n620, σ0§80/634, mb4.9/156, MS4.7/61, 79C-75D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUUS	**Susuman**	**1.41**	**192**	⇑*i*Pg	**Pn**	**07 15 59.9**	**-1.1**
SUUS				Pgmax		07 16 03.3	
	7μm,0.4s						
SUUS				Pgmax		07 16 03.3	
	9μm,0.4s						
SUUS				*e*Sg	**Sn**	**07 16 17.8**	**-1.2**
SUUS				Sgmax		07 16 21.8	
	50μm,0.8s						
SUUS	**Susuman**	**1.41**	**192**	*c i*P	**Pn**	**07 15 59.9**	**-1.1**
SUUS				*e*		07 16 17.7	
SUUS				pmax	pmax		
	comp=N,7μm,0.4s						
SUUS				pmax	pmax		
	comp=Z,9μm,0.4s						
SUUS				smax			
	comp=N,50μm,0.8s						
SEY	**Seymchan**	**2.02**	**126**	*i* P	**Pn**	**07 16 07.4**	**-2.0**
SNGR	**Sinegor'e**	**2.22**	**160**	*e*	**Pn**	**07 16 11.3**	**-0.9**
SNGR				*e*Pg	**Pn**	**07 16 13.5**	**+1.3**
SNGR				Pgmax		07 16 14.6	
	comp=N,3μm,0.6s						
SNGR				Pgmax		07 16 14.6	
	comp=N,7μm,0.6s						
SNGR				Pgmax		07 16 14.6	
	comp=N,600nm,0.2s						
SNGR				Pgmax		07 16 14.6	
	comp=N,7μm,0.2s						
SNGR				*e*Sg	**Sn**	**07 16 41.6**	**+2.6**
SNGR				Sgmax		07 16 46.8	
	comp=N,8μm,0.5s						
SNGR				Sgmax		07 16 46.8	
	comp=N,36μm,0.5s						
OMS	**Omsukchan**	**3.55**	**114**	*e*P	**Pn**	**07 16 25.5**	**-5.0**
OMS				Pmax		07 16 27.0	
	comp=N,350nm,0.8s						
OMS				*e*		07 16 52.5	
OMS	**Omsukchan**	**3.55**	**114**	*e*P	**Pn**	**07 16 25.5**	**-5.0**
OMS				pmax	pmax		
	comp=Z,350nm,0.8s						
MGD	**Magadan 1**	**4.22**	**167**	*e*P	**Pn**	**07 16 38.3**	**-1.4**
MGD				*e*Pg	**Pn**	**07 16 49.6**	**+10**
MGD				Pgmax		07 16 52.7	
	comp=Z,2μm,0.5s						
MGD				*e*		07 17 32.7	
MGD				*e*Sg	**Sn**	**07 17 44.9**	**+17**
MGD				Pgmax		07 17 50.8	
	comp=Z,14μm,0.5s						
MGD				Pgmax		07 17 50.8	
	comp=Z,30μm,0.5s						
MGD	**Magadan 1**	**4.22**	**167**	*e*P	**Pn**	**07 16 38.3**	**-1.4**
MGD				*e*		07 17 32.7	
MGD				smax			
	comp=N,30μm,0.5s						
MGD				smax			
	comp=E,14μm,0.5s						
MA2	**Magadan**	**4.69**	**168**	*e*Pg	**Pn**	**07 16 58.4**	**+12**
MA2				Pgmax		07 17 00.3	
	comp=E,2μm,1.0s						
MA2				*e*Sg	**Sn**	**07 17 59.6**	**+20**
MA2				Sgmax		07 18 10.3	
	comp=E,26μm,1.2s						
MA2				Sgmax		07 18 10.3	
	comp=E,7μm,0.9s						
EVNR	**Evensk**	**5.27**	**110**	*e*P	**Pn**	**07 16 52.3**	**-1.7**
EVNR				*e*Pg	**Pn**	**07 17 07.3**	**+13**
EVNR				Pgmax		07 17 16.6	
	comp=E,730nm,0.6s						
EVNR				*e*Sg	Sn	07 18 15.5	+21
EVNR				Sgmax		07 18 24.7	
	comp=E,2μm,0.5s						
EVNR				Sgmax		07 18 24.7	
	comp=E,6μm,0.6s						
BILL	**Bilibino**	**8.08**	**53**	*e*P	**Pn**	**07 17 32.9**	**+0.3**
BILL				Pmax		07 17 47.8	
	comp=E,260nm,1.0s						
BILL				*e*S	**Sn**	**07 19 00.5**	**-2.8**
BILL				*e*Sb	Sn	07 19 40.6	+37
BILL				*e*Sg	Sn	07 19 49.4	+46
BILL				Sgmax		07 19 59.8	
	comp=E,5μm,1.0s						
BILL				Sgmax		07 19 59.8	
	comp=E,2μm,1.0s						
BILL	**Bilibino**	**8.08**	**53**	*e*P	**Pn**	**07 17 32.9**	**+0.3**
BILL				*e*S	**Sn**	**07 19 00.5**	**-2.8**
BILL				pmax	pmax		
	comp=Z,260nm,1.0s						
BILL				smax			
	comp=N,5μm,1.0s						
BILL				smax			
	comp=E,2μm,1.0s						
BILL	**Bilibino**	**8.08**	**53**	*e*Pn	**Pn**	**07 17 32.6**	**0.0**
	comp=E,123nm,0.8s						
BILL				*e*Sn	**Sn**	**07 19 01.5**	**-1.8**
YAK	**Yakutsk**	**8.92**	**265**	*e*P	**Pn**	**07 17 44.6**	**+0.5**
YAK				*e*		07 19 27.8	
YAK				pmax	pmax		
	comp=Z,157nm,0.9s						
YAK				pmax	pmax		
	comp=N,30nm,1.1s						
YAK				pmax	pmax		
	comp=E,101nm,1.4s						
YAK				smax			
	comp=E,330nm,1.3s						
YAK				smax			
	comp=N,320nm,1.4s						
YAK				smax			
	comp=Z,273nm,1.4s						
YAK				MLR	MLR		
	comp=Z,8μm,9.0s						
YAK				MLR	MLR		
	comp=N,2μm,7.0s						
YAK				MLR	MLR		
	comp=E,7μm,10.0s						
YAK	**Yakutsk**	**8.92**	**265**	*e*Pn	**Pn**	**07 17 45.0**	**+0.9**
YAK				*e*Sn	**Sn**	**07 19 22.0**	**-1.9**
TIXI	**Tiksi**	**10.56**	**324**	⇑*i*P	**Pn**	**07 18 08.9**	**+2.3**
TIXI				*e*S	**Sn**	**07 20 02.0**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,24nm,0.7s						
TIXI	**Tiksi**	**10.56**	**324**	*e*Pn	**Pn**	**07 18 09.8**	**+3.2**
PET	**Petropavlovsk**	**12.27**	**151**	*e*Pn	**Pn**	**07 18 29.7**	**-0.3**
	comp=Z,23nm,0.7s						
CLNS	**Chul'man**	**13.80**	**249**	*e*P	**Pn**	**07 18 46.0**	**-4.9**
CLNS				*e*S	**Sn**	**07 21 24.7**	**+1.2**
CLNS	

UGL MLR MLR
comp=N,7μm,14.0s
UGL MLR MLR
comp=E,2μm,14.0s
UGL MLR MLR
comp=Z,6μm,14.0s
KLR Kul'dur 17.55 220 *e*P **Pn 07 19 36.5 -3.3**
KLR pmax pmax
comp=Z,74nm,1.8s
KLR MLR MLR
comp=Z,18μm,12.0s
YSS Yuzh-Sakhalins 17.56 194 P **Pn 07 19 35.9 -4.1**
YSS pmax pmax
comp=Z,90nm,1.5s
YSS MLR MLR
comp=Z,4μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=E,3μm,16.0s
YSS Yuzh-Sakhalins 17.56 194 *e*Pn **Pn 07 19 37.8 -2.2**
comp=E,8.4nm,0.5s
BOD Bodaibo 17.84 265 *e*P **Pn 07 19 39.9 -3.5**
TNA Tin City 18.18 66 *e*Pn **Pn 07 19 47.8 +0.2**
comp=E,38nm,0.7s
KUR Kuril'sk 18.97 182 *e*P **Pn 07 19 57.0 -0.2**
KUR pmax pmax
comp=N,320nm,1.2s
KUR pmax pmax
comp=Z,640nm,1.2s
KUR MLR MLR
comp=N,4μm,15.0s
KUR MLR MLR
comp=E,2μm,15.0s
KUR MLR MLR
comp=Z,4μm,15.0s
YUK Yuzh-Kuril'sk 20.23 186 *e*P **P 07 20 09.5 -0.7**
YUK pmax pmax
comp=Z,190nm,0.8s
YUK MLR MLR
comp=Z,3μm,15.0s,MS4.7
ASAJ Asahikawa 20.39 193 P **P 07 20 12.3 +0.4**
comp=Z,35nm,0.9s,baz=12,slow=11,SNR=7.8
ASAJ LR LR 07 27 57.0
comp=Z,563nm,21.1s,MS3.9,baz=16,slow=36
ASAJ Asahikawa 20.39 193 P **P 07 20 12.4 +0.5**
ASAJ pmax pmax
comp=Z,35nm,0.9s
ASAJ MLR MLR
comp=Z,563nm,21.1s
HIA Hailar 21.55 240 *e*P **P 07 20 24.5 +0.1**
HIA pmax pmax
comp=Z,111nm,1.4s
HIA Hailar 21.55 240 *e*P **P 07 20 24.5 +0.1**
comp=Z,111nm,1.4s,mb5.1
CIT Chita 21.89 253 *e*P **P 07 20 28.5 +0.4**
CIT *e* 07 24 31.5
CIT pmax pmax
comp=Z,124nm,1.9s,mb5.0
MDJ Mudanjiang 22.37 218 P **P 07 20 32.3 -0.9**
MDJ AP 07 20 38.0
MDJ XP sP 07 20 40.6 -1.5
MDJ S **S 07 24 36.1 -2.1**
MDJ AMB AMB
comp=Z,24nm,1.3s,mb4.5
MDJ AMB AMB
comp=Z,230nm,4.1s
MDJ LR LR
comp=N,2μm,17.8s,MS4.7
MDJ LR LR
comp=E,2μm,20.6s,MS4.7
MDJ LR LR
comp=Z,3μm,17.8s,MS4.7
MDJ Mudanjiang 22.37 218 *e*P **P 07 20 32.7 -0.5**
comp=Z,172nm,1.4s,mb5.3
ERM Erimo 22.42 191 P **P 07 20 30.5 -3.3**
comp=Z,427nm,0.7s,mb6.0,SNR=5.5
ERM Erimo 22.42 191 *e*P **P 07 20 30.0 -3.8**
ERM pmax pmax
comp=Z,46nm,0.8s,mb5.0
ERM Erimo 22.42 191 *e*P **P 07 20 30.0 -3.7**
comp=Z,46nm,0.8s,mb5.0
VLA Vladivostok 23.19 213 *i*P **P 07 20 40.5 -1.4**
CN2 Changchun 24.31 224 ⇑P **P 07 20 51.5 -1.0**
CN2 *e*XP sP 07 21 02.0 +0.3
CN2 *e*S **S 07 25 05.5 -5.0**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,6μm,14.0s,MS5.5
CN2 LR LR
comp=E,8μm,14.0s,MS5.5
CN2 LR LR
comp=Z,6μm,15.0s,MS5.2
UNV Unalaska Valle 24.68 93 *e*P **P 07 20 56.0 +0.1**
comp=Z,265nm,1.1s,mb5.7
SVW2 Sparrevohn 25.06 71 *e*P **P 07 20 58.7 -0.7**
IRK Irkutsk 25.71 264 *e*P **P 07 21 07.0 +1.7**
COLA College 26.27 60 ⇑*i*P **P 07 21 11.0 +0.7**
COLA College 26.27 60 *e*P **P 07 21 10.6 +0.3**
comp=Z,38nm,0.9s,mb4.9
TLY Talaya 26.39 263 *e*P **P 07 21 16.3 +4.9**
TLY *e* 07 21 52.3
TLY *e*S **S 07 25 48.9 +5.4**
TLY *e*SS 07 26 50.6
TLY pmax pmax
comp=Z,17nm,1.3s,mb4.4
TLY MLR MLR
comp=Z,982nm,11.0s,MS4.6
MCK McKinley 26.40 62 *e*P **P 07 21 10.9 -0.6**
MCK pmax pmax
comp=Z,14nm,0.9s,mb4.5
MCK McKinley 26.40 62 *e*P **P 07 21 10.9 -0.6**
comp=Z,14nm,0.9s,mb4.5
SNY Shenyang 26.68 225 ⇑P **P 07 21 15.3 +1.3**
SNY AMB AMB
comp=Z,38nm,0.5s,mb5.2
SNY LR LR
comp=N,4μm,10.8s,MS5.4
SNY LR LR
comp=E,4μm,10.2s,MS5.4
SNY LR LR
comp=Z,5μm,12.0s,MS5.2
PMR Palmer 27.43 67 *e*P **P 07 21 20.8 0.0**
PMR pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
PMR Palmer 27.43 67 *e*P **P 07 21 20.8 0.0**
comp=Z,8.1nm,0.9s,mb4.2
ZAK Zakamensk 27.49 262 *e*P **P 07 21 26.8 +5.5**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 27.55 266 *e*P **P 07 21 27.9 +6.0**
SONM Songino Array 28.08 255 P **P 07 21 27.9 +1.3**
comp=Z,1.6nm,0.7s,baz=32,slow=6.3,SNR=12
SONM LR LR 07 33 13.9
comp=Z,3μm,18.6s,baz=70,slow=38
SONM Songino Array 28.08 255 P **P 07 21 27.9 +1.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,3μm,18.6s
KDAK Kodiak Island 28.21 75 P **P 07 21 25.9 -1.8**
comp=Z,6.9nm,0.8s,mb4.3,baz=179,slow=9.8,SNR=4.5
KDAK LR LR 07 33 49.3
comp=Z,1μm,19.1s,MS4.5,baz=296,slow=39
KDAK Kodiak Island 28.21 75 P **P 07 21 25.9 -1.8**
KDAK LR LR 07 33 49.3
MAJO Matsushiro 28.38 198 *e*P **P 07 21 26.8 -2.5**
MAJO pmax pmax
comp=Z,36nm,0.9s,mb5.0
MAJO Matsushiro 28.38 198 *e*Pn **P 07 21 26.8 -2.5**
comp=Z,36nm,0.9s,mb5.0
MAT Matsushiro 28.38 198 P **P 07 21 29.5 +0.2**
MAT S **S 07 26 20.0 +5.1**
MJAR Matsushiro Arr 28.38 198 P **P 07 21 29.9 +0.7**
comp=Z,15nm,0.9s,mb4.6,baz=358,slow=10,SNR=27
MJAR LR LR 07 33 52.0
comp=Z,814nm,19.3s,MS4.3,baz=65,slow=38
MJAR Matsushiro Arr 28.38 198 P **P 07 21 29.9 +0.6**
MJAR pmax pmax
comp=Z,15nm,0.9s
MJAR MLR MLR
comp=Z,814nm,19.3s
MJAR Matsushiro Arr 28.38 198 P **P 07 21 29.9 +0.7**
MJAR LR LR 07 33 52.0
EGAK Eagle 28.81 57 *e*P **P 07 21 31.9 -1.2**
comp=Z,26nm,1.2s,mb4.8
MENT Mentasta 28.83 61 *e*P **P 07 21 31.7 -1.6**
KSRS Korea Array 29.52 215 P **P 07 21 41.4 +2.0**
comp=Z,3.6nm,0.8s,mb4.2,baz=17,slow=8.6,SNR=11
KSRS LR LR 07 34 30.8
comp=Z,1μm,19.5s,MS4.5,baz=22,slow=38
INK Inuvik 29.64 47 P **P 07 21 40.4 -0.1**
comp=Z,23nm,1.3s,mb4.7,baz=306,slow=9.7,SNR=12
INK LR LR 07 36 21.5
comp=Z,664nm,21.5s,MS4.2,baz=132,slow=42
INK Inuvik 29.64 47 P **P 07 21 40.4 0.0**
INK pmax pmax
comp=Z,23nm,1.3s
INK MLR MLR
comp=Z,664nm,21.5s
INK Inuvik 29.64 47 *e*P **P 07 21 40.0 -0.4**
comp=Z,2μm,1.6s
DAWY Dawson 29.84 57 *e*P **P 07 21 41.5 -0.7**
BJI Beijing 30.75 234 *e*P **P 07 21 49.8 -0.5**
BJI AMB AMB
comp=Z,16nm,0.8s,mb4.9
BJI LR LR
comp=N,5μm,8.7s
BJI LR LR
comp=E,2μm,5.4s
BJI LR LR
comp=Z,2μm,16.3s,MS4.8
BJI Beijing 30.75 234 *e*P **P 07 21 49.8 -0.5**
comp=Z,16nm,0.8s,mb4.9
BJI Lg 07 31 55.6
BJI LR LR
comp=Z,2μm,16.3s,MS4.8
ZAL Zalesovo 33.02 283 LR LR 07 36 19.9
comp=Z,819nm,18.1s,MS4.5,baz=68,slow=38
SKAG Skagway 34.17 62 *e*P **P 07 22 19.2 -1.0**
comp=Z,19nm,0.9s,mb5.0
KBS Kingsbay 34.91 347 *e*P **P 07 22 26.1 -0.5**
SPB4 Spitsbergen Ar 35.06 345 *e*P **P 07 22 27.6 -0.3**
SPB4 *e*PcP PcP 07 24 58.1 -1.3
DLBC Dease Lake 36.89 60 *e*P **P 07 22 44.6 +1.0**
SSE Sheshan 37.34 221 P **P 07 22 41.8 -5.6**
comp=Z,42nm,0.8s,mb5.3
SSE PP PP 07 24 05.8 -6.8
SSE S **S 07 28 27.3 -6.6**
SSE sS sS 07 28 39.4 -5.3
SSE ScS ScS 07 32 58.1 -2.0
SSE LR LR
comp=Z,3μm,14.2s,MS5.3
GTA Gaotai 37.70 253 *e*P **P 07 22 51.3 +0.8**
GTA AP pP 07 22 56.9 -0.1
GTA XP sP 07 23 00.3 +0.6
GTA PP PP 07 24 21.4 +4.8
GTA S **S 07 28 41.9 +2.4**
GTA XS sS 07 28 51.3 +1.0
GTA SCS ScS 07 33 00.5 -1.7
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,125nm,3.8s
GTA LR LR
comp=N,2μm,9.6s
GTA LR LR
comp=E,3μm,13.4s
GTA LR LR
comp=Z,3μm,11.1s,MS5.4
XAN Xi'an 38.73 238 P **P 07 22 58.8 -0.3**
XAN S **S 07 28 49.4 -5.6**
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.5
XAN LR LR
comp=N,3μm,11.6s,MS5.5
XAN LR LR
comp=E,1μm,10.4s,MS5.5
XAN LR LR
comp=Z,4μm,12.0s,MS5.5
LZH Lanzhou 38.89 246 *e*P **P 07 23 01.8 +1.3**
LZH AP pP 07 23 05.5 -1.6
LZH XP sP 07 23 08.5 -1.2
LZH PP PP 07 24 34.8 +5.1
LZH PCP PcP 07 25 14.4 +3.3
LZH *e*S **S 07 28 59.4 +2.0**
LZH XS sS 07 29 08.0 -0.3
LZH SS SS 07 31 42.1 -7.0
LZH AMB AMB
comp=Z,26nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,101nm,4.0s
LZH LR LR
comp=N,2μm,12.0s
LZH LR LR
comp=Z,3μm,12.4s,MS5.3
LZH Lanzhou 38.89 246 *e*P **P 07 23 01.8 +1.3**
LZH *PP pP 07 23 05.5 -1.6
LZH *SP sP 07 23 08.5 -1.2
LZH 07 24 34.8
LZH 07 25 14.4
LZH *e*S **S 07 28 59.4 +2.0**
LZH *SS sS 07 29 08.0 -0.3
LZH SS SS 07 31 42.1 -7.0
LZH pmax pmax
comp=Z,26nm,1.4s,mb4.8
LZH MLR MLR
comp=Z,3μm,12.4s,MS5.3
LZH Lanzhou 38.89 246 *e*P **P 07 23 01.8 +1.3**
comp=Z,26nm,1.4s,mb4.8
LZH pP pP 07 23 05.5 -1.6
LZH sP sP 07 23 08.5 -1.2
LZH PP PP 07 24 34.8 +5.1
LZH PcP PcP 07 25 14.4 +3.3
LZH *e*S **S 07 28 59.4 +2.0**
LZH sS sS 07 29 08.0 -0.3
LZH SS SS 07 31 42.1 -7.0
LZH LR LR
comp=Z,3μm,12.4s,MS5.3
DAG Danmarks Havn 39.09 355 ⇑*i*P **P 07 23 02.4 +0.2**
comp=Z,14nm,1.0s,mb4.7
DAG Danmarks Havn 39.09 355 ⇑*i*P **P 07 23 02.4 +0.2**
DAG pmax pmax
comp=Z,14nm,1.0s,mb4.7
CHKZ Chkalovo 39.12 293 *e*P **P 07 23 01.8 -0.6**
CHKZ pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
CHKZ Chkalovo 39.12 293 *e*P **P 07 23 01.8 -0.6**
comp=Z,8.1nm,0.5s,mb4.7
WMQ Urumqi 39.33 269 *e*P **P 07 23 04.5 +0.3**
WMQ AP pP 07 23 12.0 +1.2
WMQ XP sP 07 23 15.0 +1.6
WMQ PP PP 07 24 39.0 +4.5
WMQ PCP PcP 07 25 14.0 +1.5
WMQ S **S 07 29 04.0 -0.1**
WMQ XS sS 07 29 17.0 +2.1
WMQ SS SS 07 31 49.0 -9.0
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,150nm,4.6s
WMQ LR LR
comp=N,1μm,12.0s,MS5.1
WMQ LR LR
comp=E,1μm,10.4s,MS5.1
WMQ LR LR
comp=Z,1μm,19.7s
YKW3 Yellowknife Ar 39.35 47 *e*P **P 07 23 03.9 -0.4**
MK31 Makanchi Array 39.36 277 *e*P **P 07 23 04.0 -0.4**
MKAR Makanchi Array 39.36 277 P **P 07 23 04.6 +0.2**
comp=Z,1.9nm,0.6s,mb4.0,baz=56,slow=8.6,SNR=15
MKAR LR LR 07 40 40.8
comp=Z,693nm,18.3s,MS4.5,baz=32,slow=38
MKAR Makanchi Array 39.36 277 P **P 07 23 04.6 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,693nm,18.3s
MKAR Makanchi Array 39.36 277 P **P 07 23 04.6 +0.1**
MKAR LR LR 07 40 40.8
YKA Yellowknife Ar 39.41 47 P **P 07 23 02.9 -1.8**
comp=Z,7.5nm,0.8s,mb4.5,baz=315,slow=8.4,SNR=16
YKA LR LR 07 42 38.7
comp=Z,440nm,18.3s,MS4.3,baz=230,slow=41
YKA Yellowknife Ar 39.41 47 P **P 07 23 02.9 -1.9**
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA MLR MLR
comp=Z,440nm,18.3s
YKA Yellowknife Ar 39.41 47 P **P 07 23 02.9 -1.8**
YKA LR LR 07 42 38.7
JOW Kunigami 39.62 209 LR LR 07 38 32.2
comp=Z,710nm,19.9s,MS4.5,baz=58,slow=35
VOSK Vostochnaya 39.67 291 P **P 07 23 05.1 -1.9**
BVA0 Borovoye Array 39.69 292 *i*P **P 07 23 06.9 -0.2**
BVAR Borovoye Array 39.69 292 P **P 07 23 07.1 -0.1**
comp=Z,2.2nm,0.4s,mb4.2,baz=47,slow=6.7,SNR=13
BVAR PcP PcP 07 25 12.8 -0.8
comp=Z,2.5nm,0.5s,baz=59,slow=2.5,SNR=6.3
BVAR Borovoye Array 39.69 292 P **P 07 23 07.1 0.0**
BVAR 07 25 12.8
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 39.71 292 *e*P **P 07 23 06.8 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
BRVK Borovoye 39.71 292 *e*P **P 07 23 06.8 -0.5**
comp=Z,2.9nm,0.4s,mb4.4
WHN Wuhan 39.97 229 P **P 07 23 09.0 -0.5**
WHN S **S 07 29 16.0 +2.3**
WHN LR LR
comp=Z,5μm,16.6s,MS5.4
ZRNK Zerenda 40.30 293 *e*P **P 07 23 11.8 -0.4**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
ZRNK Zerenda 40.30 293 *e*P **P 07 23 11.8 -0.4**
comp=Z,4.3nm,0.5s,mb4.4
KEV Kevo 40.34 333 *e*p **P 07 23 12.0 -0.5**
comp=Z,2.0nm,0.3s,mb4.3
KEV Kevo 40.34 333 *e*P **P 07 23 12.0 -0.5**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
ARCES ARCESS Array B 40.82 333 P **P 07 23 16.3 -0.2**
comp=Z,4.0nm,0.5s,mb4.3,baz=39,slow=8.2,SNR=29
ARCES PcP PcP 07 25 16.9 -0.3
comp=Z,3.7nm,0.6s,baz=52,slow=4.8,SNR=6.5
ARCES LR LR 07 43 57.8
comp=Z,1μm,19.0s,MS4.7,baz=24,slow=42
ARCES ARCESS Array B 40.82 333 P **P 07 23 16.3 -0.2**
ARCES 07 25 16.9
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES MLR MLR
comp=Z,1μm,19.0s
ARU Arti 41.72 303 ⇑*i*P **P 07 23 23.7 -0.2**
ARU *e* 07 24 58.3
ARU *e*S **S 07 29 41.5 +1.8**
ARU *e*SS SS 07 32 45.7 +0.1
ARU pmax pmax
comp=Z,27nm,1.3s,mb4.7
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.3
ARU MLR MLR
comp=N,400nm,17.0s,MS4.4
ARU MLR MLR
comp=E,100nm,14.0s,MS4.4
ARU Arti 41.72 303 *e*P **P 07 23 23.9 0.0**
comp=E,26nm,0.9s,mb4.9
CD2 Chengdu 43.48 242 *e*P **P 07 23 37.5 -0.7**
CD2 AP pP 07 23 42.8 -2.0
CD2 XP sP 07 23 46.8 -0.7
CD2 PP PP 07 25 21.5 +2.1
CD2 S **S 07 30 03.1 -2.5**
CD2 SS SS 07 33 08.0 -12
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,130nm,4.1s
CD2 LR LR
comp=N,4μm,12.0s
CD2 LR LR
comp=Z,4μm,12.6s,MS5.5
QZH Quanzhou 43.88 221 *e*P **P 07 23 42.8 +1.4**
QZH *e*S **S 07 30 13.0 +1.6**
QZH LR LR
comp=N,3μm,9.7s
QZH LR LR
comp=E,3μm,16.0s
QZH LR LR
comp=Z,6μm,12.7s,MS5.7
JOF Joensuu 45.04 325 *e*p **P 07 23 51.0 +0.3**
comp=Z,15nm,0.4s,mb5.2
JOF Joensuu 45.04 325 *e*P **P 07 23 51.0 +0.3**
JOF pmax pmax
comp=Z,15nm,0.4s,mb5.2
AAK Ala-Archa 46.05 279 *e*P **P 07 23 58.2 -0.4**
AAK *e* 07 25 31.8
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AAK Ala-Archa 46.05 279 *e*P **P 07 23 58.2 -0.4**
comp=Z,4.8nm,0.6s,mb4.6
AAK *e*PcP PcP 07 25 31.8 -3.1
GYA Guiyang 46.39 236 ⇑*i*P **P 07 24 01.0 -0.4**
GYA AP pP 07 24 13.4 +5.3
GYA PP PP 07 25 49.8 -0.6
GYA S **S 07 30 43.3 -4.5**
GYA SS SS 07 34 01.3 -12
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,540nm,17.9s,MS4.7
GYA LR LR
comp=E,490nm,18.0s,MS4.7
GYA LR LR
comp=Z,530nm,18.4s,MS4.5
AKTK Aktyubinsk 46.59 298 P **P 07 24 03.5 +0.6**
AKTO Aktyubinsk 46.59 298 P **P 07 24 03.5 +0.6**
comp=Z,2.4nm,0.3s,mb4.5,baz=33,slow=7.1,SNR=12
AKTO Aktyubinsk 46.59 298 P **P 07 24 03.5 +0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
AB31 Akbulak array 46.78 296 *i*P **P 07 24 04.2 -0.2**
ORR Orenburg 46.88 302 *e*P **P 07 24 05.2 0.0**
ORR pmax pmax
comp=Z,70nm,1.5s,mb5.4
ORR MLR MLR
comp=Z,640nm,14.0s,MS4.7
KAF Kangasniemi 46.95 327 *e*p **P 07 24 05.7 -0.1**
comp=Z,38nm,0.5s,mb5.6,baz=29,slow=7.6
KAF Kangasniemi 46.95 327 *e*P **P 07 24 05.7 -0.1**
KAF pmax pmax
comp=Z,38nm,0.5s,mb5.6
EDM Edmonton 46.99 55 *e*P **P 07 24 05.6 -0.4**
EDM *e* 07 25 38.4
KKAR Karatay Array 47.38 283 P **P 07 24 08.6 -0.5**
FIA1 FINESS Array S 47.59 327 *e*P **P 07 24 10.8 0.0**
FINES FINESS Array B 47.59 327 P **P 07 24 10.7 -0.1**
comp=Z,14nm,0.5s,mb5.3,baz=31,slow=9.4,SNR=108
FINES LR LR 07 47 18.0
comp=Z,804nm,18.7s,MS4.7,baz=8.7,slow=40
FINES FINESS Array B 47.59 327 *i*P **P 07 24 10.6 -0.1**
FINES pmax pmax
comp=Z,14nm,0.5s
B07A Winthrop 48.30 63 ⇓P **P 07 24 15.7 -0.5**
baz=48
D04A Dobbs Creek Ra 48.33 66 ⇑P **P 07 24 16.4 -0.1**
baz=48
SFJD Kangerlussuaq 48.39 10 *i*P **P 07 24 15.9 -1.0**
comp=Z,29nm,1.2s,mb5.2
SFJD
comp=Z,670nm,17.0s
SFJD Kangerlussuaq 48.39 10 *i*P **P 07 24 15.9 -1.0**
SFJD pmax pmax
comp=Z,29nm,1.2s,mb5.2
SFJD MLR MLR
comp=Z,680nm,17.0s,MS4.7
A09A Danville 48.48 62 ⇓P **P 07 24 17.1 -0.5**
baz=48
D05A Enumclaw 48.59 65 ⇑P **P 07 24 18.4 -0.1**
baz=48
E04A Onalaska 48.78 66 ⇑P **P 07 24 19.5 -0.4**
baz=49
A10A Northport 48.87 61 ⇓P **P 07 24 20.0 -0.5**
baz=49
C07A Waterville 48.95 64 ⇑P **P 07 24 21.2 0.0**
baz=49,SNR=5.4
KMI Kunming 49.06 240 P **P 07 24 23.5 +1.4**
KMI AP pP 07 24 30.3 +1.5
KMI XP sP 07 24 32.9 +1.5
KMI PP PP 07 26 18.8 +3.1
KMI S **S 07 31 25.8 +0.1**
KMI XS sS 07 31 36.9 +0.2

KMI SCS ScS 07 34 10.9 -2.1
KMI SS SS 07 34 52.1 -4.6
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb5.0
KMI AMB AMB
comp=Z,134nm,4.7s
KMI LR LR
comp=N,2µm,10.6s,MS5.5
KMI LR LR
comp=E,2µm,13.9s,MS5.5
KMI LR LR
comp=Z,3µm,12.2s,MS5.4
KMI Kunming 49.06 240 P P 07 24 23.5 +1.4
KMI *PP pP 07 24 30.3 +1.5
KMI 07 26 18.7
KMI S **S 07 31 25.7 0.0**
KMI *SS sS 07 31 36.9 +0.2
KMI 07 34 10.9
KMI SS SS 07 34 52.1 -4.6
KMI SSS 07 36 13.6
KMI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
KMI MLR MLR
comp=Z,3µm,12.2s,MS5.4
KMI Kunming 49.06 240 P P 07 24 23.5 +1.4
comp=Z,7.0nm,0.5s,mb5.0
KMI pP pP 07 24 30.3 +1.5
KMI sP sP 07 24 32.9 +1.5
KMI PP PP 07 26 18.7 +3.0
KMI S **S 07 31 25.7 0.0**
KMI sS sS 07 31 36.9 +0.2
KMI ScS ScS 07 34 10.9 -2.1
KMI SS SS 07 34 52.1 -4.6
KMI SSS 07 36 13.6
KMI LR LR
comp=Z,3µm,12.2s,MS5.4
B09A Rice 49.09 62 ⇑P P 07 24 22.2 -0.2
baz=49
C08A Higginbotham F 49.27 63 ⇑P P 07 24 23.5 -0.2
baz=49
MOS Moscow 49.33 316 eP P 07 24 23.3 -0.8
D07A Quincy 49.39 64 ⇓P P 07 24 24.1 -0.5
baz=49
E06A Yakima 49.52 65 ⇓P P 07 24 25.1 -0.4
baz=49
C09A Chrisman Ranch 49.55 62 ⇓P P 07 24 25.7 -0.2
baz=49
NEW Newport 49.62 61 P P 07 24 25.9 -0.5
comp=Z,1.1nm,0.5s,mb4.2,baz=330,slow=6.2,SNR=5.8
A12A Yaak River Ran 49.63 59 ⇓P P 07 24 26.5 +0.1
baz=49
LSA Lhasa 49.67 255 P P 07 24 32.6 +5.9
B11A Sandpoint 49.77 60 ⇑P P 07 24 27.3 -0.2
baz=50
F05A White Salmon 49.87 66 ⇑P P 07 24 28.5 +0.3
baz=50
D08A Wollman Farm, 49.91 63 P P 07 24 28.1 -0.5
baz=50
E07A Sunnyside 49.95 64 P P 07 24 29.1 +0.2
baz=50
G04A Mulino 50.02 67 ⇓P P 07 24 29.2 -0.2
baz=50
B12A Libby 50.04 60 ⇑P P 07 24 29.6 +0.1
baz=50
D09A Jones Farm, Ri 50.15 63 ⇓P P 07 24 29.9 -0.5
baz=50
OBN Obninsk 50.18 316 *d iP* **P 07 24 31.0 +0.4**
OBN *i* pP 07 24 37.3 0.0
OBN *eS* **S 07 31 45.5 +4.2**
OBN pmax pmax
comp=Z,84nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.7
WALA Waterton Lakes 50.18 58 eP P 07 24 29.8 -0.8
comp=Z,32nm,1.5s,mb5.1
HAWA Hanford 50.22 64 eP P 07 24 31.4 +0.5
F06A Goldendale 50.24 66 ⇓P P 07 24 30.9 -0.1
baz=50
F07A Phinny Hill Vi 50.47 65 ⇓P P 07 24 33.0 +0.2
baz=50
B13A Whitefish 50.54 59 ⇓P P 07 24 33.1 -0.2
baz=50
H04A Detroit Lake 50.56 67 ⇓P P 07 24 33.1 -0.4
baz=50
C12A Trout Creek 50.71 60 ⇓P P 07 24 32.9 -1.7
baz=50
G06A Carlson Farm, 50.73 66 ⇓P P 07 24 33.2 -1.5
baz=50
BSMT Bassoo Peak 50.85 60 eP P 07 24 35.8 +0.2
H05A Madras 50.98 67 ⇑P P 07 24 36.2 -0.4
baz=51
F08A Pendleton 51.01 64 ⇓P P 07 24 37.1 +0.2
baz=51
C13A Hot Springs 51.07 60 ⇓P P 07 24 36.8 -0.5
baz=51
G07A Ruggs Ranch, H 51.09 65 ⇓P P 07 24 37.4 -0.1
baz=51
NB2 NORSAR Subarra 51.12 335 P P 07 24 37.1 -0.6
comp=Z,36nm,0.6s,mb5.5,baz=22,slow=7.9
NB2 NORSAR Subarra 51.12 335 P P 07 24 37.1 -0.6
NB2 pmax pmax
comp=Z,36nm,0.6s,mb5.5
NOA NORSAR Array B 51.12 335 P P 07 24 37.0 -0.7
comp=Z,23nm,0.5s,mb5.3,baz=23,slow=7.4,SNR=70
NOA LR LR 07 47 57.5
comp=Z,344nm,20.0s,MS4.4,baz=20,slow=38
NOA NORSAR Array B 51.12 335 P P 07 24 37.0 -0.7
NOA pmax pmax
comp=Z,23nm,0.5s
NOA MLR MLR
comp=Z,344nm,20.0s
H06A Lindquist Farm 51.27 66 ⇑P P 07 24 38.4 -0.4
baz=51
C14A Swan Lake 51.31 59 ⇑P P 07 24 38.5 -0.6
baz=51
J03A Ideyld Park 51.33 69 ⇓P P 07 24 38.6 -0.7
baz=51
G08A Pilot Rock 51.35 65 ⇑P P 07 24 39.0 -0.5
baz=51
NAO01 NORSAR Array S 51.36 335 *eP* **P 07 24 39.0 -0.5**
comp=Z,8.2nm,0.4s,mb5.0
F09A S2 Ranch, Elgi 51.42 63 P P 07 24 39.8 -0.1
baz=51
D13A Huson 51.60 60 ⇑P P 07 24 41.1 -0.2
baz=51
H07A Lands Inn, Kim 51.69 66 ⇓P P 07 24 41.6 -0.4
baz=52
I06A Prineville 51.97 66 ⇓P P 07 24 44.0 -0.1
baz=52
D14A Greenough 51.97 59 P P 07 24 44.0 0.0
baz=52,SNR=15
MSO Missoula 52.02 60 *eP* **P 07 24 44.5 +0.1**
comp=Z,29nm,1.6s,mb5.0
H08A Prairie City 52.11 65 ⇓P P 07 24 45.3 +0.2
baz=52,SNR=7.8
QIZ Qiongzhong 52.14 229 P P 07 24 48.5 +3.2
QIZ S **S 07 32 09.3 +0.9**
QIZ XS sS 07 32 19.4 -0.1
QIZ SCS ScS 07 34 34.4 +0.3
QIZ AMB AMB
comp=Z,120nm,4.5s
QIZ LR LR
comp=N,948nm,18.5s,MS5.2
QIZ LR LR
comp=E,2µm,17.0s,MS5.2
QIZ LR LR
comp=Z,1µm,15.5s,MS5.1
I07A Izee 52.14 66 P P 07 24 45.2 -0.1
baz=52
CHMT Chamberlain Mo 52.21 59 *eP* **P 07 24 45.8 0.0**
VOR Voronezh 52.23 312 *eP* **P 07 24 45.0 -1.0**
VOR pmax pmax
comp=Z,110nm,1.9s,mb5.5
H09A Durkee 52.38 64 P P 07 24 47.4 +0.2
baz=52
E14A Clinton 52.53 60 ⇓P P 07 24 48.4 +0.2
baz=52
J06A Christmas Vall 52.57 67 ⇓P P 07 24 49.0 +0.4
baz=52
I08A Drewsey 52.66 65 P P 07 24 49.1 -0.1
baz=52
VRSR Storozhevoye 52.68 312 *eP* **P 07 24 49.6 +0.3**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.2s
K05A Summer Lake 52.71 68 ⇓P P 07 24 49.2 -0.4
baz=52
L04A Klamath Falls 52.76 69 ⇓P P 07 24 48.9 -1.0
baz=53
YBH Yreka Blue Hor 52.80 70 ⇑P P 07 24 48.8 -1.3
baz=53
J07A Hines 52.81 66 ⇑P P 07 24 49.2 -1.1
baz=53
E15A Deer Lodge 52.85 59 ⇑P P 07 24 49.7 -0.9
baz=53
K06A Valley Falls 52.91 67 ⇑P P 07 24 50.6 -0.4
baz=53
HRY Holter Researc 52.91 58 *eP* **P 07 24 51.3 +0.3**
SHL Shillong 52.99 251 *eP* **P 07 24 51.0 -0.6**
SHL *eS* **S 07 32 16.0 -4.1**
M04C Macdoel 53.11 69 ⇓P P 07 24 51.8 -0.7
baz=53
J08A Circle Bar Ran 53.16 66 ⇓P P 07 24 53.1 +0.3
baz=53
MNK Minsk 53.23 321 *⇓eP* **P 07 24 50.0 -3.4**
L05A Lakeview 53.30 68 ⇑P P 07 24 54.2 +0.3
baz=53
K07A Rock Creek Ran 53.40 67 P P 07 24 55.5 +0.8
baz=53,SNR=9.6
LRM Limekiln Ridge 53.43 59 *eP* **P 07 24 54.7 -0.2**
J09A Fry Pan Ranch, 53.45 65 P P 07 24 55.7 +0.7
baz=53,SNR=8.7
GUN Gumba 53.48 259 *eP* **P 07 24 55.4 +0.2**
comp=E,34nm,0.5s,mb5.5
MOD Modoc 53.64 68 *eP* **P 07 24 57.0 +0.6**
MOD Modoc 53.64 68 ⇓P P 07 24 57.1 +0.7
baz=54
K08A Mann Creek Ran 53.68 66 ⇓P P 07 24 56.9 +0.3
baz=54
M05C Lookout 53.75 69 ⇓P P 07 24 56.9 -0.3
baz=54
DLMT Dillon 53.76 60 *eP* **P 07 24 57.1 -0.2**
comp=E,24nm,1.3s,mb5.0
WDC Whiskeytown Da 53.83 71 ⇑P P 07 24 57.2 -0.6
baz=54
KKN Kakani 53.84 259 *eP* **P 07 24 58.6 +0.7**
comp=E,49nm,0.7s,mb5.5
WVOR Wild Horse Val 53.86 66 *eP* **P 07 24 58.2 +0.2**
WVOR pmax pmax
comp=Z,11nm,1.1s,mb4.7
WVOR Wild Horse Val 53.86 66 *eP* **P 07 24 58.2 +0.1**
comp=Z,11nm,1.1s,mb4.7
L07A Adell 53.93 67 ⇑P P 07 24 58.2 -0.4
baz=54
GKN Gorkha 53.93 260 *eP* **P 07 24 59.2 +0.7**
comp=Z,64nm,0.6s,mb5.7
K09A Rome 54.01 65 P P 07 24 59.9 +0.8
baz=54,SNR=9.3
DMN Daman 54.07 259 *eP* **P 07 24 59.9 +0.3**
comp=Z,21nm,0.6s,mb5.2
HATC Hat Creek Radi 54.08 70 ⇑P P 07 24 59.6 0.0
baz=54
MCMT McKenzie Canyo 54.11 60 *eP* **P 07 25 00.1 +0.2**
DGMT Dagmar 54.16 52 *eP* **P 07 25 00.3 +0.1**
comp=Z,47nm,1.3s,mb5.3
L08A Fields 54.19 66 ⇑P P 07 25 01.0 +0.6
baz=54
M07A Soldier Meadow 54.53 67 ⇑P P 07 25 03.2 +0.3
baz=54
HLID Hailey 54.58 62 *eP* **P 07 25 03.0 -0.3**
comp=Z,6.4nm,0.8s,mb4.7
HLID Hailey 54.58 62 P P 07 25 03.6 +0.3
baz=54,SNR=13
KOLN Koldanda 54.58 261 *eP* **P 07 25 03.7 +0.4**
comp=Z,46nm,1.0s,mb5.5
L09A Wilkinson Ranc 54.60 66 P P 07 25 03.7 +0.3
baz=54
QLMT Earthquake Lak 54.65 59 *eP* **P 07 25 04.0 +0.3**
M08A Happy Creek Ra 54.80 67 ⇑P P 07 25 05.2 +0.3
baz=55
N06A Buffalo Meadow 54.80 68 ⇑P P 07 25 04.9 0.0
baz=55
SUW Suwalki 54.90 324 *eP* **P 07 25 04.9 -0.7**
ORV Oroville 55.12 70 P P 07 25 06.9 -0.3
baz=55
N07B Gerlach 55.12 68 ⇑P P 07 25 07.6 +0.4
baz=55
RLMT Red Lodge 55.21 58 *eP* **P 07 25 08.2 +0.4**
comp=Z,72nm,1.5s,mb5.5
RLMT *ep*P pP 07 25 15.5 +0.9
BEKR Beckwourth 55.33 69 ⇓P P 07 25 08.7 +0.1
baz=55
ULM Lac du Bonnet 55.34 45 P P 07 25 08.2 -0.5
comp=Z,5.4nm,1.1s,mb4.5,baz=0.4,slow=7.6,SNR=3.9
ULM LR LR 07 51 47.0
comp=Z,352nm,18.8s,MS4.5,baz=357,slow=39
ULM Lac du Bonnet 55.34 45 *eP* **P 07 25 07.8 -0.9**
comp=Z,8.9nm,0.9s,mb4.8
ULM *ep*P pP 07 25 13.9 -1.6
N08A GE Springer Mi 55.46 67 ⇓P P 07 25 09.6 0.0
baz=55
M10A I.L. Ranch, Tu 55.47 65 ⇓P P 07 25 09.3 -0.4
baz=55
FLWY Flagg Ranch 55.56 59 *eP* **P 07 25 11.8 +1.5**
comp=Z,12nm,0.7s,mb5.0
IMW Indian Meadow 55.63 60 *eP* **P 07 25 11.1 +0.3**
comp=Z,6.4nm,0.9s,mb4.7
IMW *ep*P pP 07 25 18.9 +1.3
N09A Rock Creek Ran 55.65 66 ⇓P P 07 25 11.3 +0.3
baz=56
P06A Stead Airport, 55.68 69 P P 07 25 11.9 +0.7
baz=56
O07A Toulon 55.68 68 ⇓P P 07 25 12.3 +1.1
baz=56
MUD Monsted U'grnd 55.79 334 *i P* **P 07 25 11.4 -0.6**
comp=Z,51nm,1.4s,mb5.4
MUD Monsted U'grnd 55.79 334 *eP* **P 07 25 11.4 -0.6**
MUD pmax pmax
comp=Z,51nm,1.4s,mb5.4
MUD Monsted U'grnd 55.79 334 *eP* **P 07 25 11.4 -0.6**
comp=Z,51nm,1.4s,mb5.4
DCID1 Drake Creek 55.79 60 *eP* **P 07 25 12.2 +0.2**
MOOW Moose Ponds 55.83 59 *eP* **P 07 25 13.3 +1.1**
comp=Z,25nm,1.7s,mb5.0
BSD Bornholm Skovb 55.87 330 *⇑iP* **P 07 25 12.0 -0.5**
comp=Z,27nm,0.6s,mb5.5
BSD Bornholm Skovb 55.87 330 *⇑iP* **P 07 25 12.0 -0.5**
BSD pmax pmax
comp=Z,27nm,0.6s,mb5.5
RRI2 Red Ridge 55.95 60 *eP* **P 07 25 13.5 +0.4**
TPAW Teton Pass 55.97 60 *eP* **P 07 25 14.4 +1.1**
comp=Z,17nm,1.1s,mb5.0
TPAW *ep*P pP 07 25 20.7 +0.6
LOHW Long Hollow 56.00 59 *eP* **P 07 25 14.8 +1.4**
comp=Z,43nm,1.6s,mb5.2
WCN Washoe City 56.05 69 ⇑P P 07 25 14.6 +0.8
baz=56
SNOW Snow King Moun 56.07 60 *eP* **P 07 25 15.5 +1.6**
comp=Z,6.1nm,0.6s,mb4.8
REDW Red Top Meadow 56.12 60 *eP* **P 07 25 15.5 +1.2**
comp=Z,40nm,1.5s,mb5.2
M12A Wells 56.21 64 ⇑P P 07 25 15.2 +0.3
baz=56
AKASG Malin Array Be 56.21 318 P P 07 25 14.2 -0.7
comp=Z,14nm,0.6s,mb5.2,baz=28,slow=7.5,SNR=40
AKASG LR LR 07 49 53.2
comp=Z,188nm,19.3s,MS4.2,baz=20,slow=36
AKASG Malin Array Be 56.21 318 P P 07 25 14.3 -0.7
AKASG pmax pmax
comp=Z,14nm,0.6s
AKASG MLR MLR
comp=Z,188nm,19.3s
AKBB Malin Array Si 56.21 318 *eP* **P 07 25 14.2 -0.8**
CHTO Chiang Mai 56.23 241 *eP* **P 07 25 14.0 -1.1**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHTO Chiang Mai 56.23 241 *eP* **P 07 25 13.9 -1.2**
comp=Z,5.2nm,0.8s,mb4.6
O09A Fish Creek Ran 56.36 67 P P 07 25 17.0 +0.9
baz=56,SNR=5.6
R05C Kirkwood Meado 56.43 70 ⇓P P 07 25 16.7 +0.1
baz=56
O10A Cortez Mining, 56.53 66 ⇑P P 07 25 17.3 0.0
baz=56
CM31 Chiang Mai Arr 56.56 240 *eP* **P 07 25 16.9 -0.6**
comp=Z,1.8nm,0.3s,mb4.6
CM31 *ep*PcP PcP 07 26 13.2 -0.7
N12A Clover Valley, 56.64 65 ⇓P P 07 25 18.7 +0.6
baz=56
HVU Hansel Valley 56.73 62 *eP* **P 07 25 18.8 +0.1**
HVU *e**PP pP 07 25 26.0 +0.5
HVU pmax pmax
comp=Z,13nm,1.1s,mb4.9
HVU Hansel Valley 56.73 62 *eP* **P 07 25 18.8 +0.1**
comp=Z,13nm,1.1s,mb4.9
HVU *ep*P pP 07 25 26.0 +0.5
WAKR Walker 56.86 69 *eP* **P 07 25 20.1 +0.5**
CMB Columbia Colle 56.87 71 ⇑P P 07 25 19.5 -0.2
baz=57
S04C Ingram Canyon, 56.93 72 ⇑P P 07 25 21.0 +0.8
baz=57
O11A Cowboy Ranch, 57.01 65 P P 07 25 21.8 +1.1
baz=57,SNR=6.4
BW06 Boulder Array 57.12 59 *eP* **P 07 25 21.6 +0.1**
comp=Z,9.4nm,1.0s,mb4.8
PDAR Pinedale Array 57.12 59 P P 07 25 21.2 -0.2
comp=Z,2.4nm,0.6s,mb4.4,baz=321,slow=1.9,SNR=18
PDAR LR LR 07 53 46.0
comp=Z,569nm,18.0s,MS4.7,baz=342,slow=40
S06C San Francisco 57.22 70 ⇑P P 07 25 22.0 -0.2
baz=57
O12A Currie 57.25 65 P P 07 25 22.4 0.0
baz=57
HWUT Hardware Ranch 57.35 61 *eP* **P 07 25 23.2 +0.2**
comp=Z,37nm,1.5s,mb5.2
PACP Pacheco Peak 57.37 72 ⇑P P 07 25 23.0 -0.2
baz=57
NVAR Mina Array Bea 57.39 69 P P 07 25 23.9 +0.6
comp=Z,1.5nm,0.7s,mb4.2,baz=321,slow=7.0
P11A Circle Ranch, 57.46 66 ⇓P P 07 25 23.9 0.0
baz=57
S05C Merced 57.48 71 ⇓P P 07 25 23.8 -0.2
baz=57
Q09A Carvers 57.50 67 P P 07 25 24.5 +0.4
baz=57
KIV Kislovodsk 57.73 305 *eP* **P 07 25 26.5 +0.7**
KIV *e* 07 26 17.4
KIV *eS* **S 07 33 24.4 +1.0**
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,265nm,16.0s,MS4.4
HAST UC Hastings Re 57.79 72 ⇓P P 07 25 26.7 +0.5
baz=58
TCUT Toone Canyon 57.83 62 *eP* **P 07 25 25.9 -0.6**
TCUT *ep*P pP 07 25 33.7 +0.4
P12A McGill 57.87 65 ⇓P P 07 25 27.1 +0.3
baz=58
KCC Kaiser Creek 57.92 70 ⇓P P 07 25 27.5 +0.5
baz=58
BSEG Bad Segeberg 57.94 332 *eP* **P 07 25 27.3 +0.1**
comp=Z,61nm,1.3s,mb5.5
BSEG Bad Segeberg 57.94 332 *eP* **P 07 25 27.3 +0.1**
BSEG pmax pmax
comp=Z,61nm,1.3s,mb5.5
RSSD Black Hills 57.97 54 *eP* **P 07 25 27.3 -0.1**
RSSD *e* 07 26 20.1
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RSSD Black Hills 57.97 54 *eP* **P 07 25 27.3 -0.2**
comp=Z,4.3nm,0.6s,mb4.7
RSSD *e*PcP PcP 07 26 20.1 +0.7
LRV Little Rabbit 57.98 72 *eP* **P 07 25 26.2 -1.4**
T06C Millerton Lake 58.03 71 ⇑P P 07 25 27.3 -0.5
baz=58
R09A Tonopah 58.05 68 P P 07 25 28.8 +0.8
baz=58,SNR=11
DUG Dugway 58.08 63 *eP* **P 07 25 28.4 +0.2**
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
DUG Dugway 58.08 63 *eP* **P 07 25 28.4 +0.2**
comp=Z,5.0nm,0.8s,mb4.6
DUG Dugway 58.08 63 ⇓P P 07 25 28.9 +0.8
baz=58,SNR=7.0
Q11A Duckwater 58.11 66 P P 07 25 29.4 +1.0
baz=58,SNR=9.8
SCHQ Schefferville 58.20 23 LR LR 07 53 51.6
comp=Z,553nm,18.6s,MS4.7,baz=8.8,slow=39
ZEI Tsey 58.32 303 *eP* **P 07 25 30.1 +0.2**
ZEI *e**PP pP 07 25 37.0 +0.3
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
R10A Warm Springs 58.32 67 P P 07 25 31.0 +1.1
baz=58,SNR=9.0
S09A Goldfield 58.43 68 ⇑P P 07 25 31.4 +0.8
baz=58
LVV L'vov 58.47 321 *eP* **P 07 25 30.4 -0.6**
LVV *e* 07 27 36.8
LVV *eS* **S 07 33 23.0 -10**
LVV MLR MLR
comp=Z,300nm,15.0s,MS4.5
LVV MLR MLR
comp=E,200nm,13.0s,MS5.2
LVV MLR MLR
comp=N,1µm,17.0s,MS5.2
DAU Daniels Canyon 58.49 62 *eP* **P 07 25 32.5 +1.4**
NLU North Lily Min 58.57 63 *eP* **P 07 25 32.0 +0.4**
NLU *ep*P pP 07 25 38.6 +0.1
HELL Mitchell Peak, 58.59 70 ⇑P P 07 25 32.3 +0.5
baz=58
PKD Parkfield 58.59 72 ⇓P P 07 25 32.3 +0.5
baz=58
MPU Maple Canyon 58.69 62 *eP* **P 07 25 32.3 -0.2**
comp=N,17nm,1.3s,mb4.9
EYMN Ely 58.71 43 *eP* **P 07 25 30.3 -2.3**
ANN Anapa 58.83 309 *eP* **P 07 25 32.4 -1.1**
ANN *e**PP pP 07 25 38.1 -2.2
ANN *eS* **S 07 33 37.5 -0.3**
ANN pmax pmax
comp=Z,59nm,1.7s,mb5.3
ANN MLR MLR
comp=Z,574nm,14.0s,MS4.8
GRAC Grapevine Rang 58.99 69 ⇑P P 07 25 35.3 +0.7
baz=59,SNR=6.4
KWP Kalwaria 59.00 322 *eP* **P 07 25 35.1 +0.5**
KWP *e* 07 25 35.9
OJC Ojcow 59.23 324 *eP* **P 07 25 36.4 +0.2**
VES Vestal, Richgr 59.29 71 ⇓P P 07 25 37.1 +0.5
baz=59
NRDL Niedersach Rie 59.34 332 *eP* **P 07 25 36.8 -0.2**
KSP Ksiaz 59.51 327 *eP* **P 07 25 38.5 +0.3**
KSP Ksiaz 59.51 327 *eP* **P 07 25 37.7 -0.5**
DAC Darwin (Calif) 59.52 69 *eP* **P 07 25 38.0 -0.2**
DAC pmax pmax
comp=Z,6.0nm,0.2s,mb5.3
DAC Darwin (Calif) 59.52 69 *eP* **P 07 25 38.0 -0.3**
comp=Z,5.9nm,0.2s,mb5.3
STHS Stebnicka Huta 59.59 323 *eP* **P 07 25 39.4 +0.7**
STHS pmax pmax
comp=Z,25nm,0.9s,mb5.2
STHS Stebnicka Huta 59.59 323 *eP* **P 07 25 39.4 +0.7**
comp=Z,25nm,0.9s,mb5.2
KIS Kishinev 59.64 317 *eP* **P 07 25 37.0 -2.1**
KIS *e* 07 27 50.0
KIS *eS* **S 07 33 40.0 -8.3**
KIS MLR MLR
comp=E,600nm,13.0s,MS5.1
KIS MLR MLR
comp=Z,1µm,13.0s,MS5.1
KIS MLR MLR
comp=N,700nm,14.0s,MS5.1
KIS Kishinev 59.64 317 *eP* **P 07 25 37.0 -2.1**
KIS *eS* **S 07 33 40.0 -8.3**
KIS LRM 07 54 28.0
comp=N,1µm,16.0s
FURC Furnace Creek, 59.66 69 ⇓P P 07 25 40.0 +0.8
baz=60
MPMC Manual Prospec 59.75 69 ⇓P P 07 25 40.2 +0.4
baz=60
KOLS Kolonicke sedl 59.76 322 *eP* **P 07 25 39.8 0.0**
MSU Marysvale 59.77 64 *eP* **P 07 25 40.7 +0.7**
MSU *e**PP pP 07 25 47.4 +0.6
NIE Niedzica 59.83 324 *eP* **P 07 25 40.8 +0.5**
CLL Collm 59.84 330 *eP* **P 07 25 39.6 -0.8**
comp=Z,70nm,1.0s,mb5.7
CLL Collm 59.84 330 *⇑iP* **P 07 25 40.0 -0.4**
comp=Z,70nm,1.0s,mb5.7
CLL *ep*P pP 07 25 46.0 -1.2
CLL *e*(sP) sP 07 25 53.0 +3.2
CLL LmV 07 52 00.0
comp=Z,600nm,21.6s
UPC Upice 59.89 327 *eP* **P 07 25 41.0 +0.2**
UPC *ep*P pP 07 25 46.7 -0.9
CLZ Clausthal 59.90 332 *eP* **P 07 25 41.1 +0.3**
comp=Z,100nm,1.4s,mb5.7
ARUT Antelope Range 59.90 65 *eP* **P 07 25 41.5 +0.7**

SRU San Rafael 59.90 62 *e*P **P 07 25 41.4 +0.6**
SRU *e**PP pP 07 25 48.5 +0.8
SRU pmax pmax
comp=Z,14nm,0.8s,mb5.0
SRU San Rafael 59.90 62 *e*P **P 07 25 41.4 +0.5**
comp=Z,14nm,0.8s,mb5.0
SRU *e*pP pP 07 25 48.5 +0.8
DPC Dobruska-Polom 59.96 327 *e*P **P 07 25 41.6 +0.3**
DPC *e*pP pP 07 25 47.2 -0.9
DPC AMS AMS 07 54 30.0
comp=Z,800nm,16.5s
IBBN Ibbenburen 59.99 334 *e*P **P 07 25 41.1 -0.3**
OKC Ostrava-Krasne 59.99 325 *e*P **P 07 25 41.7 +0.2**
OKC *e*pP pP 07 25 47.7 -0.6
OKC AMS AMS 07 54 20.0
comp=Z,900nm,16.2s
OKC Ostrava-Krasne 59.99 325 *e*P **P 07 25 41.7 +0.2**
OKC *e*pP pP 07 25 47.7 -0.6
CRVS Cervenica-Dubn 60.00 323 *e*P **P 07 25 41.6 +0.1**
CRVS Cervenica-Dubn 60.00 323 *e*P **P 07 25 41.7 +0.2**
UZH Uzhgorod 60.03 322 *e*P **P 07 25 40.4 -1.3**
UZH MLR MLR
comp=Z,750nm,16.0s,MS4.9
BRG Berggiesshubel 60.03 329 *e*P **P 07 25 41.2 -0.5**
comp=Z,4.0nm,0.9s,mb4.5
BRG *i* 07 25 42.2
comp=Z,24nm,1.6s
BRG
comp=N,423nm,21.8s
BRG
comp=E,236nm,15.6s
BRG
comp=Z,407nm,17.0s
BRG Berggiesshubel 60.03 329 *e*P **P 07 25 41.2 -0.5**
BRG *i* 07 25 42.2
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG MLR MLR
comp=N,423nm,21.8s
BRG MLR MLR
comp=E,236nm,15.6s
BRG MLR MLR
comp=Z,407nm,17.0s,MS4.6
CCUT Cedar City 60.14 65 *e*P **P 07 25 43.1 +0.6**
BURAR Bucovina Array 60.14 319⇑*i*P **P 07 25 42.4 -0.1**
LRMC Laurel Mountai 60.17 70⇑P **P 07 25 42.5 -0.2**
baz=60
MORC Moravsky Berou 60.20 326⇓*i*P **P 07 25 43.4 +0.5**
MORC Moravsky Berou 60.20 326 P **P 07 25 43.3 +0.4**
PVCC Panska Ves 60.21 328 *e*P **P 07 25 43.2 +0.2**
PVCC AMS AMS 07 54 20.0
comp=Z,800nm,15.4s
GNI Garni 60.28 301 LR LR 07 56 23.6
comp=Z,687nm,19.4s,MS4.8,baz=30,slow=40
SHPR Sheep Range 60.32 67 *e*P **P 07 25 44.6 +0.9**
OSI Osito Adit 60.49 71⇓P **P 07 25 44.8 -0.1**
baz=60
WTSB Winterswijk 60.50 334 *e*P **P 07 25 44.9 0.0**
comp=Z,48nm,1.4s,mb5.3
EDW2 Edwards Air Fo 60.56 70⇓P **P 07 25 45.6 +0.2**
baz=60
U12A Valley of Fire 60.63 67⇑P **P 07 25 45.9 +0.1**
baz=60
KECS Kecovo 60.64 323 *e*P **P 07 25 45.8 -0.1**
KECS *e* pP 07 25 51.3 -1.5
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KECS Kecovo 60.64 323 *e*P **P 07 25 45.8 -0.1**
comp=Z,8.3nm,0.9s,mb4.9
KECS *e* pP 07 25 51.3 -1.5
GSC Goldstone 60.69 69 *e*P **P 07 25 47.1 +0.9**
GSC Goldstone 60.69 69⇑P **P 07 25 46.4 +0.2**
baz=60
PRU Pruhonice 60.72 328 *e*P **P 07 25 47.5 +1.1**
PRU *e*pP pP 07 25 52.3 -1.0
PRU AMS AMS 07 55 20.0
comp=Z,800nm,13.9s
MOX Moxa 60.76 330 *e*P **P 07 25 46.6 -0.1**
comp=Z,71nm,1.6s,mb5.5
MOX *e* pP 07 25 52.6 -1.0
MOX
comp=Z,300nm,22.0s
MOX Moxa 60.76 330 *e*P **P 07 25 46.6 -0.1**
MOX *e* pP 07 25 52.6 -1.0
MOX pmax pmax
comp=Z,71nm,1.6s,mb5.5
MOX MLR MLR
comp=Z,300nm,22.0s,MS4.4
V11A Goodsprings 60.78 68⇓P **P 07 25 47.5 +0.6**
baz=61
TANN Tannenbergstha 60.79 330 *e*P **P 07 25 46.9 0.0**
VRAC Vranov 60.87 326⇑*i*P **P 07 25 48.0 +0.6**
VRAC Vranov 60.87 326 P **P 07 25 48.1 +0.6**
BUG Bochum--Univer 60.91 334 *e*P **P 07 25 47.4 -0.3**
TUQ Turquoise Mtn. 60.93 68⇑P **P 07 25 48.4 +0.5**
baz=61
UBBA Unterbreizbach 60.94 331 *e*P **P 07 25 47.5 -0.5**
NKC Novy Kostel 60.97 330 *e*P **P 07 25 48.3 +0.2**
NKC AMS AMS 07 55 30.0
comp=Z,600nm,19.7s
VYHS Vyhne 61.06 324 *i* P **P 07 25 49.1 +0.3**
VYHS *e*pP pP 07 25 55.2 -0.4
PV10 Paradox Valley 61.11 61 *e*P **P 07 25 50.5 +1.3**
V12A Nelson 61.12 67⇑P **P 07 25 49.8 +0.7**
baz=61,SNR=7.0
TREC Trest 61.14 327 *e*P **P 07 25 48.4 -0.9**
TREC *e*pP pP 07 25 53.8 -2.4
TREC AMS AMS 07 56 20.0
comp=Z,800nm,11.6s
ISCO Idaho Springs 61.16 58 *e*P **P 07 25 50.2 +0.7**
ISCO pmax pmax
comp=Z,27nm,1.5s,mb5.2
ISCO Idaho Springs 61.16 58 *e*P **P 07 25 50.2 +0.8**
comp=Z,27nm,1.5s,mb5.2
SMCO Snowmass 61.20 59 *e*P **P 07 25 50.0 +0.3**
comp=Z,41nm,1.4s,mb5.4
BFSC Mount Baldy St 61.26 71 P **P 07 25 50.4 +0.3**
baz=61
MANZ Manzenberg 61.27 330 *e*P **P 07 25 50.1 -0.1**
VRI Vrincioaia 61.29 318⇑*i*P **P 07 25 51.3 +1.0**
VRI Vrincioaia 61.29 318⇑P **P 07 25 51.2 +0.9**
HEC Hector,Ludlow 61.29 69⇓P **P 07 25 50.6 +0.3**
baz=61
PSZ Piszkesteto 61.32 323⇑*i*P **P 07 25 52.7 +2.2**
PSZ Piszkesteto 61.32 323 P **P 07 25 51.5 +1.0**
PLOR Plostina 61.33 318⇑*i*P **P 07 25 50.8 +0.2**
ROTZ Rotzenmuhle 61.46 330 *e*P **P 07 25 51.6 +0.1**
W12A Cal Nev Ari 61.48 68⇓P **P 07 25 51.7 +0.2**
baz=61
PV01 Paradox Valley 61.50 61 *e*P **P 07 25 51.8 0.0**
DRGR 61.60 321⇓*i*P **P 07 25 52.8 +0.4**
DRGR 61.60 321 P **P 07 25 52.2 -0.2**
KHC Kasperske Hory 61.74 328 *e*P **P 07 25 53.9 +0.5**
KHC *e*pP pP 07 25 59.9 -0.4
KHC AMS AMS 07 55 10.0
comp=Z,1μm,15.1s
GRFO Grafenberg 61.75 330 *e*P **P 07 25 51.9 -1.5**
comp=Z,107nm,1.6s,mb5.7
GRFO Grafenberg 61.75 330 *e*P **P 07 25 51.9 -1.5**
GRFO pmax pmax
comp=Z,107nm,1.6s,mb5.7
ZST Bratislava 61.77 325 *e*P **P 07 25 55.2 +1.6**
comp=Z,32nm,1.3s,mb5.3
ZST LR LR
comp=Z,600nm,18.0s,MS4.8
HGN Heimansgroeve 61.81 334 *e*P **P 07 25 54.1 +0.3**
comp=Z,40nm,1.6s,mb5.3
HGN *e*S PKiKP 07 32 54.4 +5.7
TNS Taunus Mts 61.83 332 *e*P **P 07 25 53.9 0.0**
comp=Z,32nm,1.3s,mb5.3
TNS Taunus Mts 61.83 332 *e*P **P 07 25 53.9 0.0**
TNS pmax pmax
comp=Z,32nm,1.3s,mb5.3
MLR Muntele Rosu 61.86 318⇓*i*P **P 07 25 55.8 +1.6**
MLR Muntele Rosu 61.86 318 P **P 07 25 56.0 +1.8**
WET Wettzell 61.89 329 *e*P **P 07 25 54.6 +0.2**
comp=Z,46nm,1.5s,mb5.4
WET Wettzell 61.89 329 *e*P **P 07 25 54.6 +0.2**
WET pmax pmax
comp=Z,46nm,1.5s,mb5.4
MEM Membach 61.94 334 P **P 07 25 54.4 -0.3**
GEC2 GERESS Array S 61.98 328 *e*P **P 07 25 54.9 -0.1**
comp=Z,38nm,1.2s,mb5.4
GEC2 GERESS Array S 61.98 328 *e*P **P 07 25 54.9 -0.1**
GEC2 pmax pmax
comp=Z,38nm,1.2s,mb5.4
GERES GERESS Array B 61.98 328 P **P 07 25 55.5 +0.5**
comp=Z,9.1nm,0.8s,mb5.0,baz=32,slow=5.3,SNR=39
GERES LR LR 07 56 02.5
comp=Z,529nm,18.4s,MS4.7,baz=23,slow=39
GERES GERESS Array B 61.98 328 P **P 07 25 55.5 +0.5**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES MLR MLR
comp=Z,529nm,18.4s
MURC Murrieta 62.00 71⇓P **P 07 25 55.7 +0.6**
baz=62
W13A Hualapai Mount 62.05 67⇑P **P 07 25 56.3 +0.8**
baz=62
VOIR 62.17 319⇑*i*P **P 07 25 57.9 +1.7**
VOIR 62.17 319⇑P **P 07 25 57.9 +1.7**
BCLA Clavier 62.26 335 P **P 07 25 57.9 +1.1**
W14A Seligman 62.27 66⇓P **P 07 25 57.6 +0.7**
baz=62
PFO Pinyon Flat Ob 62.30 70⇓P **P 07 25 58.0 +0.9**
baz=62
CONA Conrad Observa 62.33 326⇑*i*P **P 07 25 58.2 +0.9**
comp=Z,26nm,1.6s,mb5.1,SNR=9.7
MVCO Mesa Verde 62.34 62⇓P **P 07 25 58.1 +0.7**
baz=62
IRM Iron Mountain 62.35 69 P **P 07 25 58.6 +1.1**
baz=62,SNR=9.3
X13A Yucca 62.51 67 P **P 07 25 59.5 +1.0**
baz=62,SNR=7.1
W15A Williams 62.63 66⇑P **P 07 26 00.5 +1.2**
baz=62
PDMCI Parker Dam,Lak 62.64 68⇓P **P 07 26 00.6 +1.2**
baz=62
GIVF Givet 62.65 335 *e*P **P 07 25 59.4 -0.1**
BC3 Big Chuckw Mtn 62.67 69⇑P **P 07 26 00.0 +0.5**
baz=62
WUAZ Wupatki 62.69 65 *e*P **P 07 25 59.6 -0.2**
comp=Z,3.7nm,0.8s,mb4.6
WUAZ Wupatki 62.69 65⇓P **P 07 26 00.6 +0.9**
baz=62
DOU Dourbes 62.70 335 P **P 07 25 53.0 -6.8**
MOA Molln 62.78 327⇓*i*P **P 07 26 00.8 +0.4**
comp=Z,41nm,2.0s,mb5.2
BAIF Baives 62.81 335 *e*P **P 07 26 00.3 -0.2**
WLF Walferdange 62.82 334 *e*P **P 07 26 00.7 +0.1**
GZR Gura Zlata 62.86 320⇑*i*P **P 07 26 01.2 +0.4**
GZR Gura Zlata 62.86 320 P **P 07 26 01.4 +0.5**
MONP Monument Peak 62.94 70⇓P **P 07 26 01.3 -0.1**
baz=63
Y12C Blythe 62.97 68⇓P **P 07 26 02.1 +0.6**
baz=63
BZS Buzias 62.98 321⇑*i*P **P 07 26 01.6 0.0**
BZS Buzias 62.98 321 P **P 07 26 01.9 +0.3**
X14A Yava 63.00 67⇓P **P 07 26 01.9 +0.2**
baz=63
SDCO Great Sand Dun 63.01 59 *e*P **P 07 26 01.9 +0.1**
comp=Z,6.9nm,0.8s,mb4.8
ARSA Arzberg 63.04 326⇑*i*P **P 07 26 02.9 +0.8**
comp=Z,18nm,1.1s,mb5.1
STU Stuttgart 63.05 331 *e*P **P 07 26 01.9 -0.2**
FUR Furstenfeldbru 63.17 330 *e*P **P 07 26 02.8 -0.1**
comp=Z,53nm,1.1s,mb5.6
FUR Furstenfeldbru 63.17 330 *e*P **P 07 26 02.8 -0.1**
FUR pmax pmax
comp=Z,53nm,1.1s,mb5.6
Y13A Salome 63.19 68⇓P **P 07 26 03.6 +0.5**
baz=63
PKSM Moragy 63.22 324⇑*i*P **P 07 26 03.8 +0.5**
PKSM Moragy 63.22 324 P **P 07 26 04.4 +1.2**
X15A Humboldt 63.25 66⇓P **P 07 26 04.4 +1.0**
baz=63,SNR=7.6
Y14A Wickenburg 63.42 67⇑P **P 07 26 05.1 +0.5**
baz=63
GLA Glamis 63.45 69⇑P **P 07 26 05.0 +0.2**
baz=63
SCIA State Center 63.60 47 *e*P **P 07 26 04.3 -1.5**
comp=Z,29nm,0.8s,mb5.4
BFO Black Forest 63.65 332 *e*P **P 07 26 05.7 -0.4**
comp=Z,33nm,1.4s,mb5.2
BFO Black Forest 63.65 332 *e*P **P 07 26 05.7 -0.4**
BFO pmax pmax
comp=Z,33nm,1.4s,mb5.2
PERS Pernice 63.72 326 *e*P **P 07 26 07.0 +0.5**
KBA Koelnbreinsper 63.73 328⇑*i*P **P 07 26 07.9 +1.3**
comp=Z,37nm,1.1s,mb5.3,SNR=11
KBA Koelnbreinsper 63.73 328⇑*i*P **P 07 26 07.9 +1.3**
KBA pmax pmax
comp=Z,37nm,1.1s,mb5.3
CDF Champ du Feu 63.79 332 *e*P **P 07 26 06.9 -0.1**
comp=Z,18nm,0.5s,mb5.1
CDF Champ du Feu 63.79 332 *e*P **P 07 26 06.9 -0.1**
CDF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
CDF Champ du Feu 63.79 332 *e*P **P 07 26 06.9 -0.1**
comp=Z,9.0nm,0.5s,mb5.1
WTTA Wattenberg 63.94 329 *i* P **P 07 26 09.2 +1.2**
comp=Z,36nm,1.0s,mb5.3,SNR=11
WTTA Wattenberg 63.94 329 *i* P **P 07 26 09.2 +1.2**
WTTA pmax pmax
comp=Z,36nm,1.0s,mb5.4
OBKA Obir 63.97 327 *i* P **P 07 26 09.1 +0.9**
comp=Z,70nm,0.9s,mb5.7,SNR=18
MEZF Maizieres J'vi 64.14 334 *e*P **P 07 26 09.4 +0.1**
comp=Z,26nm,0.6s,mb5.2
MEZF Maizieres J'vi 64.14 334 *e*P **P 07 26 09.4 +0.1**
comp=Z,26nm,0.6s,mb5.4
CBKS Cedar Bluff 64.17 54 *e*P **P 07 26 07.5 -2.0**
CBKS pmax pmax
comp=Z,26nm,1.3s,mb5.1
CBKS Cedar Bluff 64.17 54 *e*P **P 07 26 07.5 -2.0**
comp=Z,26nm,1.3s,mb5.1
DAVA Damuels 64.31 330⇑*i*P **P 07 26 11.6 +1.1**
comp=Z,18nm,1.2s,mb5.0
PTCC Patocco-Chiusa 64.36 327 P **P 07 26 10.6 -0.1**
HAU Haudompre 64.36 333 *e*P **P 07 26 10.5 -0.3**
HAU *e*MLR MLR
comp=Z,446nm,20.2s
HAU Haudompre 64.36 333 *e*P **P 07 26 10.5 -0.3**
HAU LR LR
comp=Z,450nm,20.3s,MS4.7
CADS Cadrg 64.43 327 *e*P **P 07 26 11.0 -0.2**
HINF Hinteralfeld 64.44 333 *e*P **P 07 26 11.0 -0.3**
GMNA Gemona 64.51 327 P **P 07 26 11.6 -0.1**
comp=Z,250nm,1.1s
VOJS Vojsko 64.58 327 *e*P **P 07 26 11.7 -0.5**
BR131 Keskin Array S 64.63 309 *e*P **P 07 26 13.2 +0.7**
comp=Z,4.8nm,0.7s,mb4.6
BRTR Keskin Array B 64.63 309 P **P 07 26 13.2 +0.7**
comp=Z,5.0nm,0.8s,mb4.6,baz=36,slow=5.0,SNR=14
BRTR LR LR 07 56 48.9
comp=Z,341nm,19.4s,MS4.5,baz=20,slow=38
BRTR Keskin Array B 64.63 309 P **P 07 26 13.3 +0.8**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR MLR MLR
comp=Z,341nm,19.4s
JAVS Javornik 64.67 327 *e*P **P 07 26 12.4 -0.4**
BOJS Bojanci 64.74 326 *e*P **P 07 26 13.4 +0.2**
115A Sonoran Desert 64.81 67⇓P **P 07 26 14.6 +0.9**
baz=65
FLN La Foliniere 64.87 338 *e*P **P 07 26 13.4 -0.7**
comp=Z,28nm,0.7s,mb5.1
FLN *e*MLR MLR
comp=Z,398nm,21.2s
FLN La Foliniere 64.87 338 *e*P **P 07 26 13.4 -0.7**
FLN pmax pmax
comp=Z,14nm,0.7s,mb5.1
FLN MLR MLR
comp=Z,400nm,21.3s,MS4.6
FLN La Foliniere 64.87 338 *e*P **P 07 26 13.4 -0.7**
comp=Z,14nm,0.7s,mb5.1
FLN LR LR
comp=Z,400nm,21.3s,MS4.6
LDF La Druitiere 64.98 338 *e*P **P 07 26 14.0 -0.8**
comp=Z,16nm,0.6s,mb4.9
LDF La Druitiere 64.98 338 *e*P **P 07 26 14.0 -0.8**
LDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
LDF La Druitiere 64.98 338 *e*P **P 07 26 14.0 -0.8**
comp=Z,8.2nm,0.6s,mb4.9
KSU1 Kansas State U 65.00 51 *e*P **P 07 26 13.0 -1.9**
comp=Z,12nm,0.6s,mb5.1
CTI Castel Tesino 65.09 329 P **P 07 26 15.9 +0.4**
CTI pmax pmax
comp=Z,47nm,1.1s,mb5.4
CTI Castel Tesino 65.09 329 P **P 07 26 15.9 +0.4**
comp=Z,47nm,1.1s,mb5.4
ANMO Albuquerque 65.11 61 *d i*P **P 07 26 16.2 +0.6**
ANMO Albuquerque 65.11 61 *e*P **P 07 26 15.9 +0.3**
116A Eloy 65.14 67⇓P **P 07 26 16.4 +0.6**
baz=65
GRR Gorron 65.30 338 *e*P **P 07 26 16.2 -0.7**
comp=Z,35nm,0.6s,mb5.2
GRR Gorron 65.30 338 *e*P **P 07 26 16.2 -0.7**
GRR pmax pmax
comp=Z,17nm,0.6s,mb5.2
GRR Gorron 65.30 338 *e*P **P 07 26 16.2 -0.7**
comp=Z,17nm,0.6s,mb5.3
VTS Vitosha 65.31 319⇑*i*P **P 07 26 17.3 +0.4**
VTS Vitosha 65.31 319⇑P **P 07 26 17.3 +0.4**
LOR Lormes 65.55 335 *e*P **P 07 26 17.9 -0.6**
comp=Z,14nm,0.6s,mb4.9
LOR *e*MLR MLR
comp=Z,581nm,19.5s
LOR Lormes 65.55 335 *e*P **P 07 26 17.9 -0.6**
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LOR MLR MLR
comp=Z,580nm,19.5s,MS4.8
LOR Lormes 65.55 335 *e*P **P 07 26 17.9 -0.6**
comp=Z,7.1nm,0.6s,mb4.9
LOR LR LR
comp=Z,580nm,19.5s,MS4.8
LPM Los Pinos Moun 65.60 62 *e*P **P 07 26 19.4 +0.5**
SGMF Saint Gilles 65.70 339 *e*P **P 07 26 18.9 -0.5**
ROSF Rostrenen 65.73 340 *e*P **P 07 26 19.1 -0.5**
comp=Z,24nm,0.8s,mb5.0
ROSF Rostrenen 65.73 340 *e*P **P 07 26 19.1 -0.5**
ROSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
ROSF Rostrenen 65.73 340 *e*P **P 07 26 19.1 -0.5**
comp=Z,12nm,0.8s,mb5.0
CABF La Chapelle 65.75 333 *e*P **P 07 26 19.7 -0.1**
comp=Z,17nm,0.6s,mb4.9
CABF La Chapelle 65.75 333 *e*P **P 07 26 19.7 -0.1**
CABF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CABF La Chapelle 65.75 333 *e*P **P 07 26 19.7 -0.1**
comp=Z,8.6nm,0.6s,mb5.0
SSF Saint Saulge 65.82 335 *e*P **P 07 26 19.6 -0.6**
comp=Z,12nm,0.6s,mb4.8
SSF Saint Saulge 65.82 335 *e*P **P 07 26 19.6 -0.6**
SSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SSF Saint Saulge 65.82 335 *e*P **P 07 26 19.6 -0.6**
comp=Z,6.2nm,0.6s,mb4.8
HYB Hyderabad 65.87 260 *i* P **P 07 26 20.0 -0.5**
AVF Avril sur Loir 66.11 335 *e*P **P 07 26 21.4 -0.7**
comp=Z,16nm,0.7s,mb4.8
AVF Avril sur Loir 66.11 335 *e*P **P 07 26 21.4 -0.7**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
AVF Avril sur Loir 66.11 335 *e*P **P 07 26 21.4 -0.7**
comp=Z,7.8nm,0.7s,mb4.8
QUIF Quistinic 66.12 340 *e*P **P 07 26 21.7 -0.5**
SMF Signal de Mont 66.16 334 *e*P **P 07 26 21.9 -0.5**
BGF Bois d'Agland 66.42 335 *e*P **P 07 26 24.0 -0.1**
LPL La Plagne 66.67 332 *e*P **P 07 26 26.2 +0.5**
comp=Z,14nm,0.6s,mb4.9
LPL La Plagne 66.67 332 *e*P **P 07 26 26.2 +0.5**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LPL La Plagne 66.67 332 *e*P **P 07 26 26.2 +0.5**
comp=Z,6.9nm,0.6s,mb4.9
LPG La Plagne 66.68 332 *e*P **P 07 26 26.5 +0.8**
comp=Z,19nm,0.7s,mb5.0
LPG La Plagne 66.68 332 *e*P **P 07 26 26.5 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LPG La Plagne 66.68 332 *e*P **P 07 26 26.5 +0.8**
comp=Z,9.4nm,0.7s,mb4.9
TCF Toulx Ste Croi 66.80 335 *e*P **P 07 26 26.1 -0.4**
comp=Z,8.3nm,0.6s,mb4.7
TCF Toulx Ste Croi 66.80 335 *e*P **P 07 26 26.1 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TCF Toulx Ste Croi 66.80 335 *e*P **P 07 26 26.1 -0.4**
comp=Z,4.2nm,0.6s,mb4.7
MFF Saint Martin d 66.91 337 *e*P **P 07 26 27.0 -0.2**
AMTX Amarillo 66.97 57 *e*P **P 07 26 27.1 -0.5**
comp=Z,4.9nm,0.7s,mb4.7
MBDF Montbardon 67.41 332 *e*P **P 07 26 30.3 -0.1**
comp=Z,6.1nm,0.5s,mb4.5
MBDF Montbardon 67.41 332 *e*P **P 07 26 30.3 -0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
MBDF Montbardon 67.41 332 *e*P **P 07 26 30.3 -0.1**
comp=Z,3.0nm,0.5s,mb4.6
ORIF Oris-en-Rattie 67.41 332 *e*P **P 07 26 30.6 +0.2**
comp=Z,9.9nm,0.5s,mb4.8
ORIF *e*MLR MLR
comp=Z,553nm,19.5s
ORIF Oris-en-Rattie 67.41 332 *e*P **P 07 26 30.6 +0.2**
ORIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ORIF Oris-en-Rattie 67.41 332 *e*P **P 07 26 30.6 +0.2**
comp=Z,4.9nm,0.5s,mb4.8
VIVF Saint-Julien-l 67.71 333 *e*P **P 07 26 32.0 -0.3**
comp=Z,5.5nm,0.6s,mb4.5
VIVF Saint-Julien-l 67.71 333 *e*P **P 07 26 32.0 -0.3**
VIVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
VIVF Saint-Julien-l 67.71 333 *e*P **P 07 26 32.0 -0.3**
comp=Z,2.8nm,0.6s,mb4.5
RJF Les Rejaudoux 67.88 336 *e*P **P 07 26 33.1 -0.2**
RJF *e*MLR MLR
comp=Z,731nm,20.5s
RJF Les Rejaudoux 67.88 336 *e*P **P 07 26 33.1 -0.2**
RJF LR LR
comp=Z,730nm,20.5s,MS4.9
SBF Sospel 68.10 331 *e*P **P 07 26 34.0 -0.7**
CAF Calviac 68.14 335 *e*P **P 07 26 35.3 +0.3**
WMOK Wichita Mounta 68.15 55 *e*P **P 07 26 34.7 -0.4**
comp=Z,0.3nm,0.8s
LFF La Frestale 68.37 336 *e*P **P 07 26 36.4 0.0**
comp=Z,17nm,0.5s,mb5.0
LFF La Frestale 68.37 336 *e*P **P 07 26 36.4 0.0**
LFF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
LFF La Frestale 68.37 336 *e*P **P 07 26 36.4 0.0**
comp=Z,8.5nm,0.5s,mb5.0
SMRF Simiane la Rot 68.38 332 *e*P **P 07 26 36.3 -0.2**
MNTX Cornudas Mount 68.40 62 *e*P **P 07 26 38.1 +1.4**
KSM Kuching 68.53 222 *e*P **P 07 26 37.3 -0.2**
FRF La Foret Royal 68.55 331 *e*P **P 07 26 37.7 +0.1**
LASF Ste Croix 68.62 334 *e*P **P 07 26 38.2 +0.2**
SIUC Southern Illin 68.69 46 *e*P **P 07 26 38.2 -0.2**
comp=Z,18nm,0.9s,mb5.0
LMR La Mourre 68.80 331 *e*P **P 07 26 38.4 -0.7**
PGF Pioggiola 69.01 329 *e*P **P 07 26 40.2 -0.2**
MTLF Montolieu 69.65 335 *e*P **P 07 26 44.7 +0.3**
comp=Z,18nm,0.7s,mb4.8
MTLF Montolieu 69.65 335 *e*P **P 07 26 44.7 +0.3**
MTLF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MTLF Montolieu 69.65 335 *e*P **P 07 26 44.7 +0.3**
comp=Z,8.9nm,0.7s,mb4.8
HBAR Harrisburg 70.20 48 *e*P **P 07 26 47.0 -0.8**
EPF Esparros 70.29 336 *e*P **P 07 26 47.9 -0.4**
SJPF Ste Jean 70.48 337 *e*P **P 07 26 49.8 +0.3**
ETSF Etsaut 70.58 337 *e*P **P 07 26 50.4 +0.3**
comp=Z,5.1nm,0.5s,mb4.4
ETSF Etsaut 70.58 337 *e*P **P 07 26 50.4 +0.3**
ETSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ETSF Etsaut 70.58 337 *e*P **P 07 26 50.4 +0.3**
comp=Z,2.5nm,0.5s,mb4.4
WVT Waverly 70.58 46 *e*P **P 07 26 48.7 -1.4**
WVT pmax pmax
comp=Z,21nm,1.2s,mb4.9
WVT Waverly 70.58 46 *e*P **P 07 26 48.7 -1.4**
comp=Z,21nm,1.2s,mb5.0
PSI Prapat 70.99 234 P **P 07 26 54.5 +1.9**
comp=Z,8.7nm,0.9s,mb4.7,baz=345,slow=7.9,SNR=4.4
PSI Prapat 70.99 234 P **P 07 26 54.5 +1.9**
PSI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TXAR Lajitas Array 71.17 62 P **P 07 26 53.9 +0.2**
comp=Z,0.5nm,0.7s,baz=355,slow=7.5,SNR=6.4
TXAR LR LR 08 00 54.7
comp=Z,365nm,19.2s,MS4.7,baz=0.0,slow=38
TZTN Tazewell 71.50 42 *e*P **P 07 26 55.2 -0.5**
comp=Z,12nm,1.1s,mb4.8

PLAL	**Pickwick Lake**	**71.56**	**46**	*e*P	**P**	**07 26 54.4**	**-1.6**
	comp=Z,12nm,1.0s,mb4.8						
OXF	**Oxford**	**71.57**	**48**	*e*P	**P**	**07 26 54.6**	**-1.5**
OXF				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.2						
OXF	**Oxford**	**71.57**	**48**	*e*P	**P**	**07 26 54.6**	**-1.4**
	comp=Z,41nm,1.3s,mb5.2						
JCT	**Junction City**	**71.61**	**58**	*e*P	**P**	**07 26 55.7**	**-0.6**
JCT				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
JCT	**Junction City**	**71.61**	**58**	*e*P	**P**	**07 26 55.7**	**-0.6**
	comp=Z,27nm,1.0s,mb5.1						
SWET	**Sewanee**	**72.02**	**45**	*e*P	**P**	**07 26 57.4**	**-1.4**
CPCT	**Cooper Cave**	**72.23**	**43**	*e*P	**P**	**07 26 58.4**	**-1.6**
NATX	**Nacogdoches**	**72.31**	**53**	*e*P	**P**	**07 27 00.3**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1						
HKT	**Hockley**	**73.53**	**55**	*e*P	**P**	**07 27 07.8**	**0.0**
HKT				*e**PP	pP	07 27 14.7	-0.1
HKT				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
HKT	**Hockley**	**73.53**	**55**	*e*P	**P**	**07 27 07.8**	**0.0**
	comp=Z,27nm,1.6s,mb4.9						
HKT				*e*pP	pP	07 27 14.7	-0.1
ESDC	**Sonseca Array**	**74.29**	**338**	P	**P**	**07 27 12.3**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=5.4,slow=6.0,SNR=6.5						
ESDC				LR	LR	08 05 35.0	
	comp=Z,347nm,18.4s,MS4.7,baz=55,slow=40						
KEST	**Kesra**	**75.43**	**327**	P	**P**	**07 27 19.1**	**+0.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=220,slow=9.9,SNR=4.1						
KEST				LR	LR	08 03 40.7	
	comp=Z,218nm,19.1s,MS4.5,baz=176,slow=38						
KAKA	**Kakadu**	**77.65**	**196**	*e*P	**P**	**07 27 29.6**	**-1.8**
	comp=Z,9.9nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**83.93**	**202**	*e*P	**P**	**07 28 02.9**	**-2.0**
	comp=Z,6.9nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**84.58**	**194**	*e*P	**P**	**07 28 06.2**	**-2.0**
WRA	**Warramunga Arr**	**84.58**	**194**	P	**P**	**07 28 06.3**	**-1.9**
	comp=Z,1.9nm,0.6s,mb4.4,baz=6.5,slow=5.6,SNR=49						
WRA				LR	LR	08 03 38.8	
	comp=Z,121nm,21.6s,MS4.2,baz=195,slow=34						
DZM	**Mont Dzumac**	**87.04**	**164**	LR	LR	08 04 18.1	
	comp=Z,215nm,19.8s,MS4.6,baz=22,slow=34						
AS31	**Alice Springs**	**88.30**	**194**	*e*P	**P**	**07 28 25.2**	**-1.2**
ASAR	**Alice Springs**	**88.30**	**194**	P	**P**	**07 28 24.4**	**-2.0**
	comp=Z,1.7nm,0.8s,mb4.4,baz=5.3,slow=5.1,SNR=17						
ASAR				LR	LR	08 08 03.0	
	comp=Z,129nm,18.2s,MS4.4,baz=2.4,slow=36						
ASAR	**Alice Springs**	**88.30**	**194**	P	**P**	**07 28 24.5**	**-2.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,129nm,18.2s						
TAOE	**Nuku Hiva Isla**	**89.82**	**111**	*e*LR	LR	07 57 10.0	
	comp=Z,539nm,22.2s						
PPT	**Papeete**	**94.07**	**123**	*e*LR	LR	07 59 08.1	
	comp=Z,197nm,25.0s						
PPT	**Papeete**	**94.07**	**123**	LR	LR	08 05 52.4	
	comp=Z,190nm,19.8s,MS4.6,baz=321,slow=32						
STKA	**Stephens Creek**	**95.88**	**186**	LR	LR	08 09 18.9	
	comp=Z,210nm,20.4s,MS4.6,baz=203,slow=34						
TORD	**Torodi Ar. Bea**	**98.94**	**328**	P	**P**	**07 29 15.8**	**+0.4**
	comp=Z,0.5nm,0.8s,mb4.1,baz=5.3,slow=6.8,SNR=2.6						
TORD				PP	PP	07 33 12.8	-4.4
	comp=Z,2.5nm,0.9s,baz=3.7,slow=6.3,SNR=9.6						
TORD				LR	LR	08 20 31.0	
	comp=Z,217nm,18.0s,MS4.7,baz=30,slow=39						
TORD	**Torodi Ar. Bea**	**98.94**	**328**	P	**P**	**07 29 15.8**	**+0.4**
TORD				PP	PP	07 33 12.8	-4.4
TORD				LR	LR	08 20 31.1	
TBI	**Tubuai**	**99.41**	**125**	*e*LR	LR	08 01 36.3	
	comp=Z,90nm,34.2s						
RKT	**Rikitea**	**104.77**	**112**	*e*LR	LR	08 04 06.2	
	comp=Z,97nm,31.8s						
BDFB	**Brasilia**	**130.17**	**21**	PKP	PKPdf	07 34 45.0	0.0
	comp=Z,1.5nm,0.7s,baz=189,slow=2.7,SNR=3.1						
BDFB	**Brasilia**	**130.17**	**21**	PKIKP	PKPdf	07 34 45.0	+0.1
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**138.56**	**37**	PKhKP		07 34 49.6	
	comp=Z,1.6nm,0.7s,baz=335,slow=2.7,SNR=7.7						
CPUP				PKP	PKPdf	07 34 59.3	-1.3
	comp=Z,0.9nm,0.5s,baz=314,slow=4.5,SNR=5.3						
CPUP	**Villa Florida**	**138.56**	**37**	PKHKP		07 34 49.6	
CPUP						07 34 59.3	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**138.56**	**37**	PKP	PKPdf	07 34 59.3	-1.3
VNDA	**Vanda**	**141.67**	**175**	PKhKP		07 34 57.2	
	comp=Z,0.5nm,0.7s,baz=254,slow=3.5,SNR=6.4						
VNDA				PKP	PKPdf	07 35 05.2	-1.1
	comp=Z,0.8nm,0.5s,baz=328,slow=4.9,SNR=12						
VNDA	**Vanda**	**141.67**	**175**	PKP	PKPdf	07 35 05.2	-1.1
MAW	**Mawson**	**144.91**	**222**	PKP	PKPdf	07 35 08.5	-3.4
	comp=Z,3.7nm,0.6s,baz=26,slow=3.4,SNR=18						
MAW	**Mawson**	**144.91**	**222**	PKIKP	PKPdf	07 35 08.5	-3.5
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAW	**Mawson**	**144.91**	**222**	*e*PKPdf	PKPdf	07 35 08.5	-3.5
PLCA	**Paso Flores**	**147.33**	**63**	PKPbc	PKPbc	07 35 17.1	-1.4
	comp=Z,3.4nm,0.6s,baz=336,slow=1.8,SNR=12						
PLCA	**Paso Flores**	**147.33**	**63**	*e*PKPbc	PKPbc	07 35 17.8	-0.7
TRQA	**Tornquist**	**148.11**	**50**	*e*PKPdf	PKPdf	07 35 15.9	-1.5
TRQA				*e*PKPbc	PKPbc	07 35 19.3	-1.3
TRQA				*e*PKPab	PKPab	07 35 23.0	-0.4
SYO	**Syowa Base**	**152.92**	**228**‖	*e*P	PKPdf	07 35 28.8	+3.9
SYO	**Syowa Base**	**152.92**	**228**‖	*e*P	PKPbc	07 35 30.0	-2.1
SNAA	**Sanae**	**167.08**	**222**	PKPab	PKPab	07 36 43.9	-0.8
	comp=Z,0.9nm,1.1s,baz=75,slow=7.5,SNR=2.1						

*NEIC **19** 07:27:55.2,3140S×7173W,h28km,ML2.7(GUC),After GUC.*

GUC 19 07:27:55.2±0.6,3140S×7173W,h28km±2km,MD3.5, ML2.7,5C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**158**⇑	*i*P	Pb	07 28 05.5	-0.3
CHNG				*i* S	Sb	07 28 12.9	0.0
CMCH	**Combarbala**	**0.66**	**70**⇑	*i*P	Pb	07 28 07.7	-0.5
CMCH				*i* S	Sb	07 28 17.3	+0.3
CMCH				AML	AML	07 28 19.1	
	comp=E,564nm,0.5s						
CMCH	**Combarbala**	**0.66**	**70**⇑	*i*P	Pb	07 28 07.7	-0.5
CMCH				*i* S	Sb	07 28 17.3	+0.3
PTCH	**Petorca**	**1.09**	**142**⇑	*i*P	Pn	07 28 14.6	-0.1
PTCH				*i* S	Sn	07 28 29.2	+0.3
PTCH				AML	AML	07 28 31.1	
	comp=E,462nm,0.3s						
PTCH	**Petorca**	**1.09**	**142**⇑	*i*P	Pn	07 28 14.6	-0.1
PTCH				*i* S	Sn	07 28 29.2	+0.3
TLL	**Tololo Astrono**	**1.46**	**33**	*e*P	Pn	07 28 21.2	+1.4
TLL				*i* S	Sn	07 28 40.4	+2.4
TLL				AML	AML	07 28 44.7	
	comp=E,128nm,0.4s						
TLL	**Tololo Astrono**	**1.46**	**33**	*e*P	Pn	07 28 21.2	+1.4
TLL				*i* S	Sn	07 28 40.4	+2.4
PEL	**Peldehue**	**1.95**	**153**	*e*P	Pn	07 28 27.4	+1.0
PEL				*e*S	Sn	07 28 52.8	+2.9
PEL				AML	AML	07 28 58.0	
	comp=E,124nm,1.2s						
PEL	**Peldehue**	**1.95**	**153**	*e*P	Pn	07 28 27.4	+1.0
PEL				*e*S	Sn	07 28 52.8	+2.9
CLCH	**Cerro Calan**	**2.23**	**153**	*e*P	Pn	07 28 31.8	+1.5
CLCH				*i* S	Sn	07 28 59.7	+2.9
CLCH				AML	AML	07 29 10.6	
	comp=E,76nm,0.5s						
FCH	**Farellones**	**2.27**	**148**	*e*P	Pn	07 28 32.9	+2.0
FCH				*i* S	Sn	07 29 01.6	+3.6
FCH				AML	AML	07 29 08.8	
	comp=E,31nm,0.7s						

*IDC **19** 07:38:38.3±2.6,740S×105.77E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.6/21,mbtmp3.8/5,MS4.0/1,Ms1 4.0/1, ms1mx2.9/34,Error ellipse: s-maj=147.8km s-min=25.9km az=47.0*

*ISCJB **19** 07:38:46.6±5.3,72S±02×106.1E±02,h77km±53km, mb3.7/6,Error ellipse: s-maj=44.2km s-min=22.4km az=54.8*

*NEIC **19** 07:38:47.9±2.7,7.17S×106.14E,h68km±28km,mb4.2/1, Error ellipse: s-maj=28.3km s-min=13.7km az=208.0*

ISC 19 07:38:48.7±3.9,72S±02×106.1E±02,h76km±40km,n11, σ0.23/8,mb3.7/6,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**10.39**	**241**	*e*Pn	**Pn**	**07 41 14.7**	**0.0**
FITZ	**Fitzroy Crossi**	**21.91**	**121**	P	**P**	**07 43 35.5**	**-0.1**
	1.6nm,0.7s,mb3.5,baz=285,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**30.18**	**118**	P	**P**	**07 44 51.8**	**+0.2**
	0.4nm,0.5s,mb3.3,baz=288,slow=10,SNR=9.5						
AS31	**Alice Springs**	**31.32**	**125**	*e*P	**P**	**07 45 01.4**	**-0.2**
ASAR	**Alice Springs**	**31.32**	**125**	P	**P**	**07 45 01.6**	**-0.1**
	1.0nm,0.9s,mb3.5,baz=300,slow=8.0,SNR=7.9						
CAL	**Calcutta**	**34.29**	**330**	*ex*	x	07 46 09.9	
POO	**Poona**	**40.80**	**309**	*ex*	x	07 45 25.5	
STKA	**Stephens Creek**	**41.19**	**131**	P	**P**	**07 46 26.0**	**+0.3**
	2.4nm,0.6s,mb4.2,baz=304,slow=9.6,SNR=8.1						
KSRS	**Korea Array**	**48.88**	**23**	LR	LR	08 10 26.3	
	comp=Z,136nm,18.1s,baz=240,slow=39						
CASY	**Casey**	**59.07**	**178**	*e*P	**P**	**07 48 40.8**	**-0.1**
	0.8nm,0.4s,mb4.1						
BVAR	**Borovoye Array**	**67.20**	**338**	P	**P**	**07 49 34.6**	**0.0**
	0.7nm,0.5s,mb3.8,baz=133,slow=10.0,SNR=4.4						

*NIED **19** 07:54:00,4680N×15320E,h32km,Mw4.5 Best double couple: M0:5.56000×10^15 NP1:φ=69.00000°,δ82.00000°, λ-104.00000°. NP2:φ=311.00000°,δ16.00000°, λ-29.00000°.*

*BJI **19** 07:54:16.8,4636N×15355E,h21km,mB4.9,mb4.6,Ms4.3, Msz4.1*

*IDC **19** 07:54:16.3±0.7,4625N×15345E,h0km,mb4.3/15, mb1 4.5/17,mb1mx4.4/25,mbtmp4.3/17,ML3.5/2,MS3.9/8, Ms1 3.9/8,ms1mx3.5/36,Error ellipse: s-maj=19.1km s-min=16.2km az=157.0*

*NEIC **19** 07:54:18.2±0.4,4626N×15330E,h10km,mb4.8/34,Error ellipse: s-maj=11.1km s-min=6.5km az=146.0*

*ISCJB **19** 07:54:20.1±0.8,4623N±006×15324E±006,h33km±7km, mb4.7/68,MS4.1/17,Error ellipse: s-maj=10.7km s-min=5.5km az=120.4*

*MOS **19** 07:54:21.5±1.2,4629N×153.13E,h44km,mb4.8/35,Error ellipse: s-maj=9.4km s-min=7.1km az=107.4*

ISC 19 07:54:22.5±0.7,4630N±006×15321E±007,h35km±6km, h44km±1.9km:pP-P,n193,σ1.9±27/205,mb4.7/68,MS4.1/17, 8C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.89**	**256**	*e*PN	**Pn**	**07 55 18.0**	**-1.8**
KUR				*e*S	**Sn**	**07 56 07.0**	**+2.7**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,430nm,0.7s						
KUR				smax			
	comp=N,380nm,0.8s						
KUR				smax			
	comp=E,210nm,0.8s						
KUR				smax			
	comp=N,3μm,2.0s						
KUR				smax			
	comp=E,2μm,2.0s						
KUR				MLR	MLR		
	comp=N,3μm,15.0s						
KUR				MLR	MLR		
	comp=E,3μm,15.0s						
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
SKR	**Severo-Kuril's**	**4.79**	**23**	*e*PN	**Pn**	**07 55 27.5**	**-4.6**
SKR				pmax	pmax		
	comp=Z,200nm,0.9s						
NEM2	**Nemuro 2**	**6.07**	**244**	P	**Pn**	**07 55 48.1**	**-1.6**
NEM2				*e*S	**Sn**	**07 56 56.3**	**-1.7**
JRA	**Rausu**	**6.19**	**250**	P	**Pn**	**07 55 52.9**	**+1.4**
JNK	**Nakash**	**6.61**	**249**	P	**Pn**	**07 55 58.0**	**+0.8**
JAK	**Akkeshi**	**6.92**	**244**	P	**Pn**	**07 56 01.6**	**+0.2**
JAK				*e*S	**Sn**	**07 57 17.5**	**-1.3**
JTKR	**Abashiri--Toko**	**6.98**	**254**	P	**Pn**	**07 56 03.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.23**	**279**⇑	*e*PN	**Pn**	**07 56 11.0**	**+5.3**
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.23**	**279**	*e*Pn	**Pn**	**07 56 11.2**	**+5.5**
JMP	**Maruseppu**	**7.33**	**255**	P	**Pn**	**07 56 08.7**	**+1.6**
JAR	**Ashorobuto**	**7.36**	**249**	P	**Pn**	**07 56 07.8**	**+0.4**
JAR				*e*S	**Sn**	**07 57 30.9**	**+1.2**
JOB	**Onbets**	**7.51**	**246**	P	**Pn**	**07 56 08.8**	**-0.7**
JOB				*e*S	**Sn**	**07 57 29.3**	**-4.0**
PET	**Petropavlovsk**	**7.59**	**26**	*e*PN	**Pn**	**07 56 16.8**	**+6.1**
PET				pmax	pmax		
	comp=Z,48nm,1.1s						
PET	**Petropavlovsk**	**7.59**	**26**	*e*Pn	**Pn**	**07 56 16.8**	**+6.1**
	comp=Z,48nm,1.1s						
JKK2	**Kamakawa 2**	**7.79**	**256**	P	**Pn**	**07 56 15.4**	**+2.0**
ASAJ	**Asahikawa**	**7.81**	**258**	Pn	**Pn**	**07 56 14.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=98,slow=13,SNR=8.2						
ASAJ	**Asahikawa**	**7.81**	**258**	P	**Pn**	**07 56 15.9**	**+2.3**
ASAJ	**Asahikawa**	**7.81**	**258**	PN	**Pn**	**07 56 14.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.95**	**246**	P	**Pn**	**07 56 14.7**	**-0.9**
JCH				*e*S	**Sn**	**07 57 40.2**	**-4.1**
UGL	**Uglegorsk**	**8.02**	**294**	*e*PN	**Pn**	**07 56 21.0**	**+4.5**
UGL				pmax	pmax		
	comp=Z,54nm,0.8s						
UGL				MLR	MLR		
	comp=Z,1μm,14.0s						
UGL				MLR	MLR		
	comp=N,300nm,13.0s						
UGL				MLR	MLR		
	comp=E,1μm,13.0s						
JEM	**Erimo**	**8.40**	**243**	P	**Pn**	**07 56 22.2**	**+0.4**
JEM				*e*S	**Sn**	**07 57 52.1**	**-3.3**
ERM	**Erimo**	**8.40**	**243**	*e*PN	**Pn**	**07 56 22.2**	**+0.4**
ERM				*e*		07 57 59.8	
ERM				pmax	pmax		
	comp=Z,28nm,0.9s						
ERM	**Erimo**	**8.40**	**243**	*e*Pn	**Pn**	**07 56 22.2**	**+0.5**
	comp=Z,28nm,0.9s						
ERM				*e*Sn	**Sn**	**07 57 59.8**	**+4.5**
JNBK	**Urakawa-nobuka**	**8.51**	**246**	P	**Pn**	**07 56 22.9**	**-0.4**
JYM2	**Yakumo 2**	**10.12**	**250**	P	**Pn**	**07 56 45.2**	**-0.2**
JTM	**Tenmabayashi**	**10.39**	**242**	P	**Pn**	**07 56 46.4**	**-2.7**
JTM				*e*S	**Sn**	**07 58 37.7**	**-6.5**
JTH	**Tanohata**	**10.45**	**237**	*e*S	**Sn**	**07 58 35.4**	**-10**
JRG	**Rokugo**	**11.52**	**238**	*e*S	**Sn**	**07 59 03.0**	**-8.8**
KLR	**Kul'dur**	**14.72**	**289**	*e*P	**Pn**	**07 57 48.8**	**+0.7**
MAJO	**Matsushiro**	**14.87**	**234**	*e*P	**Pn**	**07 57 50.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,21nm,0.7s						
MAJO	**Matsushiro**	**14.87**	**234**	*e*Pn	**Pn**	**07 57 50.1**	**0.0**
	comp=Z,21nm,0.7s						
MAT	**Matsushiro**	**14.87**	**234**	P	**Pn**	**07 57 50.1**	**0.0**
MAT				S	**Sn**	**08 00 34.0**	**+0.4**
MJAR	**Matsushiro Arr**	**14.87**	**234**	Pn	**Pn**	**07 57 49.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=10						
MDJ	**Mudanjiang**	**16.65**	**273**	P	**Pn**	**07 58 13.9**	**+0.8**
MDJ				S	**S**	**08 01 16.9**	**-10**
MDJ				PCP	PcP	08 02 58.4	-3.1
MDJ				PCS	PcS	08 06 35.6	-1.8
MDJ				SCS	ScS	08 10 07.4	-5.4
MDJ				AMB	AMB		
	comp=Z,30nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,118nm,5.2s						
MDJ				LR	LR		
	comp=N,305nm,11.4s						
MDJ				LR	LR		
	comp=E,215nm,11.7s						
MDJ				LR	LR		
	comp=Z,270nm,11.4s						
MDJ	**Mudanjiang**	**16.65**	**273**	*e*Pn	**Pn**	**07 58 15.1**	**+2.1**
	comp=Z,30nm,0.9s						
SEY	**Seymchan**	**16.67**	**359**	*e*P	**Pn**	**07 58 11.3**	**-2.1**
CN2	**Changchun**	**19.74**	**273**	*e*P	**Pn**	**07 58 47.6**	**-3.2**
CN2				*e*S	**S**	**08 02 19.3**	**-10**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
KSRS	**Korea Array**	**20.73**	**254**	P	**P**	**07 59 01.9**	**+1.9**
	comp=Z,6.2nm,0.7s,baz=60,slow=10,SNR=26						
YAK	**Yakutsk**	**20.73**	**328**	*e*P	**P**	**07 58 59.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK	**Yakutsk**	**20.73**	**328**	*e*P	**P**	**07 58 59.4**	**-0.6**
	comp=Z,18nm,0.5s						
INCN	**Inchon**	**21.58**	**255**	*e*P	**P**	**07 59 07.2**	**-1.9**
	comp=Z,16nm,0.3s,mb4.9						
SNY	**Shenyang**	**21.69**	**269**	⇓P	**P**	**07 59 11.5**	**+1.2**
SNY				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.6						
SNY				LR	LR		
	comp=N,201nm,12.3s,MS4.0						
SNY				LR	LR		
	comp=E,364nm,14.1s,MS4.0						
SNY				LR	LR		
	comp=Z,382nm,17.4s,MS3.9						
HIA	**Hailar**	**22.58**	**290**	P	**P**	**07 59 19.7**	**0.0**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HIA	**Hailar**	**22.58**	**290**	P	**P**	**07 59 19.7**	**0.0**
	comp=Z,3.6nm,0.3s,mb4.3						
BILL	**Bilibino**	**22.81**	**13**	*e*P	**P**	**07 59 19.5**	**-2.7**
BILL				pmax	pmax		
	comp=Z,32nm,1.6s,mb4.5						
BILL	**Bilibino**	**22.81**	**13**	*e*P	**P**	**07 59 20.6**	**-1.6**
	comp=Z,15nm,0.3s,mb4.9						
BOD	**Bodaibo**	**26.33**	**310**	*e*P	**P**	**07 59 52.9**	**-2.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
BJI	**Beijing**	**27.55**	**270**	*e*P	**P**	**08 00 09.9**	**+4.0**
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,234nm,10.7s						
BJI				LR	LR		
	comp=E,348nm,16.2s						
BJI				LR	LR		
	comp=Z,216nm,16.9s						
BJI	**Beijing**	**27.55**	**270**	*e*P	**P**	**08 00 09.9**	**+4.0**
	comp=Z,18nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=Z,220nm,16.9s,MS3.8						
BJT	**Baijiatuau**	**27.56**	**270**	P	**P**	**08 00 05.9**	**-0.2**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**27.56**	**270**	P	**P**	**08 00 05.9**	**-0.2**
	comp=Z,16nm,0.8s,mb4.7						
NJ2	**Nanjing**	**29.93**	**254**	*e*P	**P**	**08 00 30.9**	**+3.7**
NJ2				PP	PP	08 01 29.3	-5.8
NJ2				S	**S**	**08 05 20.0**	**-2.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,230nm,13.4s,MS4.2						
NJ2				LR	LR		
	comp=E,340nm,14.6s,MS4.2						
HHC	**Hu-ho-hao-te**	**30.40**	**275**	*e*P	**P**	**08 00 32.8**	**+1.5**
HHC				PP	PP	08 01 35.9	-4.3
HHC				PCP	PcP	08 03 32.3	+1.9
HHC				S	**S**	**08 05 34.1**	**+4.5**
HHC				SCP	ScP	08 07 11.9	+1.8
HHC				AMB	AMB		
	comp=Z,36nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,88nm,4.5s						
HHC				LR	LR		
	comp=N,152nm,11.8s,MS4.2						
HHC				LR	LR		
	comp=E,282nm,13.7s,MS4.2						
HHC				LR	LR		
	comp=Z,303nm,13.6s,MS4.1						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**08 00 41.5**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=60,slow=9.0,SNR=8.7						
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**08 00 41.5**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TLY	**Talaya**	**32.45**	**298**	*e*P	**P**	**08 00 52.8**	**+3.5**
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,411nm,15.0s,MS4.2						
TLY	**Talaya**	**32.45**	**298**	*e*P	**P**	**08 00 47.8**	**-1.5**
	comp=Z,9.0nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**32.93**	**296**	*e*P	**P**	**08 00 53.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
WHN	**Wuhan**	**33.89**	**256**	*e*P	**P**	**08 01 02.0**	**+0.1**
IMA2	**Indian Mountai**	**34.13**	**36**	*e*P	**P**	**08 01 02.4**	**-1.5**
XAN	**Xi'an**	**35.55**	**266**	P	**P**	**08 01 17.3**	**+1.1**
XAN				AP	pP	08 01 28.3	+1.9
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
COLA	**College**	**36.45**	**38**⇑	*i*P	**P**	**08 01 22.2**	**-1.7**
COLA	**College**	**36.45**	**38**	*e*P	**P**	**08 01 22.0**	**-1.9**
	comp=Z,4.0nm,0.7s,mb4.5						
KRAR	**Krasnoyarsk**	**37.91**	**307**	*e*P	**P**	**08 01 35.6**	**-0.7**
LZH	**Lanzhou**	**37.97**	**272**	*e*P	**P**	**08 01 33.6**	**-3.3**
LZH				PP	PP	08 03 04.9	+0.9
LZH				PCP	PcP	08 03 48.5	-3.6
LZH				*e*S	**S**	**08 07 21.0**	**-5.5**
LZH				XS	sS	08 07 47.0	+3.6
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,98nm,4.4s						
LZH				LR	LR		
	comp=E,485nm,12.0s						
LZH				LR	LR		
	comp=Z,776nm,13.0s,MS4.7						
LZH	**Lanzhou**	**37.97**	**272**	*e*P	**P**	**08 01 33.6**	**-3.3**
LZH				*PP	pP	08 01 53.2	+6.1
LZH						08 03 04.9	
LZH						08 03 48.5	
LZH				*e*S	**S**	**08 07 21.0**	**-5.5**
LZH				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.0						
LZH				MLR	MLR		
	comp=Z,780nm,13.0s,MS4.7						
LZH	**Lanzhou**	**37.97**	**272**	*e*P	**P**	**08 01 33.6**	**-3.3**
	comp=Z,39nm,1.2s,mb5.0						
LZH				pP	pP	08 01 53.2	+6.1
LZH				sP	sP	08 02 01.1	+10
LZH				PP	PP

INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 41.99 32 *eP* **P 08 02 09.2 -1.1**
comp=Z,78nm,0.6s,mb5.5
ZAL Zalesovo 42.95 306 LR LR 08 22 05.0
comp=Z,214nm,19.9s,MS4.0,baz=43,slow=39
WMQ Urumqi 45.15 292 P **P 08 02 36.8 +1.1**
WMQ PCP PcP 08 04 16.0 +0.4
WMQ *eS* **S 08 09 09.0 -3.8**
WMQ SS SS 08 12 25.0 -11
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,112nm,3.8s
WMQ LR LR
comp=N,382nm,13.4s,MS4.7
WMQ LR LR
comp=E,331nm,10.2s,MS4.7
WMQ LR LR
comp=Z,275nm,15.2s,MS4.3
KMI Kunming 45.23 260 P **P 08 02 38.0 +1.7**
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.6
KMI Kunming 45.23 260 P **P 08 02 38.0 +1.7**
comp=Z,11nm,1.2s,mb4.6
MK31 Makanchi Array 47.21 298 *eP* **P 08 02 51.1 -0.7**
MKAR Makanchi Array 47.21 298 P **P 08 02 51.4 -0.4**
comp=Z,7.9nm,0.8s,mb4.7,baz=65,slow=8.6,SNR=42
MKAR LR LR 08 23 47.6
comp=Z,123nm,20.8s,MS3.9,baz=20,slow=37
MKAR Makanchi Array 47.21 298 P **P 08 02 51.4 -0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR MLR MLR
comp=Z,123nm,20.8s
MKAR Makanchi Array 47.21 298 P **P 08 02 51.4 -0.4**
MKAR LR LR 08 23 47.6
LSA Lhasa 50.37 274 P **P 08 03 14.8 -1.3**
LSA pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
LSA Lhasa 50.37 274 P **P 08 03 14.8 -1.3**
comp=Z,6.5nm,0.3s,mb5.1
CHKZ Chkalovo 50.77 310 *eP* **P 08 03 17.5 -1.6**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CHKZ Chkalovo 50.77 310 *eP* **P 08 03 17.5 -1.6**
comp=Z,7.5nm,0.8s,mb4.7
BVAR Borovoye Array 51.20 310 P **P 08 03 21.4 -0.9**
comp=Z,4.2nm,1.0s,mb4.3,baz=52,slow=9.6,SNR=8.3
BVAR PcP PcP 08 04 37.2 -0.1
comp=Z,1.6nm,0.7s,baz=90,slow=4.4,SNR=4.5
BVAR LR LR 08 28 07.9
comp=Z,147nm,18.4s,MS4.0,baz=317,slow=40
BVAR Borovoye Array 51.20 310 P **P 08 03 21.4 -0.9**
BVAR 08 04 37.2
BVAR pmax pmax
comp=Z,4.0nm,1.0s
BVAR MLR MLR
comp=Z,147nm,18.4s
BRVK Borovoye 51.24 310 *eP* **P 08 03 21.1 -1.5**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 51.24 310 *eP* **P 08 03 21.1 -1.5**
comp=Z,4.7nm,0.8s,mb4.5
ZRNK Zerenda 51.97 310 *eP* **P 08 03 26.8 -1.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 51.97 310 *eP* **P 08 03 26.8 -1.2**
comp=Z,2.2nm,0.7s,mb4.2
CHTO Chiang Mai 52.08 257 *eP* **P 08 03 27.4 -1.5**
CHTO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CHTO Chiang Mai 52.08 257 *eP* **P 08 03 27.4 -1.5**
comp=Z,6.3nm,1.0s,mb4.5
SHL Shillong 52.43 269 *eP* **P 08 03 29.5 -2.0**
AAK Ala-Archa 54.10 297⇑*iP* **P 08 03 42.8 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AAK Ala-Archa 54.10 297 *eP* **P 08 03 42.0 -1.7**
comp=Z,4.7nm,0.7s,mb4.5
GUN Gumba 55.11 275 *eP* **P 08 03 52.8 +1.7**
comp=Z,44nm,1.0s,mb5.5
ARU Arti 55.39 318⇓*iP* **P 08 03 51.6 -1.5**
ARU *e* 08 04 50.2
ARU *e* 08 05 55.9
ARU *eS* **S 08 11 28.8 -6.4**
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KKN Kakani 55.60 276 *eP* **P 08 03 56.6 +2.0**
comp=Z,27nm,0.7s,mb5.4
PKI Pulchoki 55.65 275 *eP* **P 08 03 56.5 +1.5**
PMG Port Moresby 55.72 187 *eP* **P 08 03 50.0 -5.5**
PMG pmax pmax
comp=Z,29nm,1.0s
PMG Port Moresby 55.72 187 *eP* **P 08 03 50.0 -5.5**
comp=Z,29nm,1.0s,mb5.3
DMN Daman 55.83 276 *eP* **P 08 03 58.1 +1.8**
comp=Z,56nm,0.9s,mb5.6
GKN Gorkha 55.91 276 *eP* **P 08 03 58.5 +1.6**
comp=Z,61nm,0.9s,mb5.6
KOLN Koldanda 56.77 277 *eP* **P 08 04 04.6 +1.6**
comp=Z,42nm,0.9s,mb5.5
KLP Kalpa 58.09 284 *eP* **P 08 04 13.5 +1.3**
KLP AMb AMB 08 04 15.1
comp=Z,12nm,0.8s,mb5.0
AKTK Aktyubinsk 59.08 312 P **P 08 04 19.5 +0.4**
AKTK LR LR 08 31 59.5
AKTO Aktyubinsk 59.08 312 P **P 08 04 19.5 +0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=61,slow=7.4,SNR=6.9
AKTO LR LR 08 31 59.5
comp=Z,171nm,18.3s,MS4.2,baz=235,slow=38
AKTO Aktyubinsk 59.08 312 P **P 08 04 19.5 +0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AKTO MLR MLR
comp=Z,171nm,18.3s,MS4.2
NDI New Delhi 60.56 282 *eP* **P 08 04 29.4 0.0**
NDI AMb AMB 08 04 32.7
comp=Z,18nm,0.8s,mb5.3
AYAN Aya Nagar 60.75 282 *eP* **P 08 04 31.4 +0.8**
AYAN AMb AMB 08 04 33.9
comp=Z,12nm,0.9s,mb5.0
SONA Sohna 60.92 281 *eP* **P 08 04 31.8 0.0**
SONA AMb AMB 08 04 35.0
comp=Z,12nm,0.9s,mb5.0
AGRA Agra 60.99 280 *eP* **P 08 04 33.7 +1.4**
HRY Holter Researc 61.20 51 *eP* **P 08 04 34.8 +1.0**
RRI2 Red Ridge 63.59 54 *eP* **P 08 04 52.3 +2.6**
TPAW Teton Pass 63.71 54 *eP* **P 08 04 50.9 +0.4**
comp=Z,8.5nm,1.1s,mb4.7
REDW Red Top Meadow 63.85 54 *eP* **P 08 04 52.9 +1.5**
comp=Z,6.2nm,1.0s,mb4.6
KAF Kangasniemi 63.88 335 *ep* **P 08 04 49.8 -1.8**
comp=Z,14nm,0.8s,mb5.0,baz=36,slow=6.3
KAF Kangasniemi 63.88 335 *eP* **P 08 04 49.8 -1.8**
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.0
BHPL Bhopal 63.94 277 *eP* **P 08 04 53.1 +1.1**
BHPL AMb AMB 08 04 54.5
comp=Z,22nm,0.7s,mb5.3
FINES FINESS Array B 64.47 335 P **P 08 04 54.5 -0.9**
comp=Z,12nm,0.8s,mb5.0,baz=42,slow=8.8,SNR=24
FINES LR LR 08 39 58.9
comp=Z,65nm,18.6s,MS3.9,baz=3.5,slow=42
FINES FINESS Array B 64.47 335 *i P* **P 08 04 54.5 -1.0**
FINES pmax pmax
comp=Z,12nm,0.8s
DUG Dugway 64.75 58 *eP* **P 08 04 58.6 +1.3**
PDAR Pinedale Array 64.95 54 P **P 08 04 57.6 -1.0**
comp=Z,1.2nm,0.8s,mb4.0,baz=267,slow=3.0,SNR=9.8
OBN Obninsk 65.72 326⇑*eP* **P 08 05 02.8 -0.8**
OBN *e* pP 08 05 15.4 +1.0
OBN *e* 08 05 33.6
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CTAO Charters Tower 66.38 187 *eP* **P 08 05 04.2 -3.6**
CTAO pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
CTAO Charters Tower 66.38 187 *eP* **P 08 05 04.2 -3.6**
comp=Z,0.7nm,0.3s,mb4.2
WRA Warramunga Arr 68.11 199 P **P 08 05 17.1 -1.7**
comp=Z,1.9nm,1.0s,mb4.1,baz=21,slow=6.8,SNR=9.3
WRA Warramunga Arr 68.11 199 P **P 08 05 17.1 -1.7**
WRA pmax pmax
comp=Z,2.0nm,1.0s
NB2 NORSAR Subarra 68.67 341 P **P 08 05 21.3 -1.0**
comp=Z,7.7nm,0.8s,mb4.7,baz=26,slow=6.5
NB2 NORSAR Subarra 68.67 341 P **P 08 05 21.3 -1.0**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 68.67 341 P **P 08 05 21.4 -1.0**
comp=Z,7.1nm,0.7s,mb4.7,baz=26,slow=6.2,SNR=23
NOA NORSAR Array B 68.67 341 P **P 08 05 21.4 -0.9**
NOA pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 71.16 314 *eP* **P 08 05 38.3 +0.7**
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 71.16 314 P **P 08 05 37.0 -0.6**
comp=Z,6.2nm,0.5s,mb4.8
ZEI Tsey 71.41 313 *eP* **P 08 05 38.9 -0.2**
ZEI pmax pmax
comp=Z,12nm,1.2s,mb4.7
ASAR Alice Springs 71.81 199 P **P 08 05 40.9 -0.6**
comp=Z,2.1nm,1.0s,mb4.0,baz=15,slow=5.2,SNR=8.3
ASAR Alice Springs 71.81 199 P **P 08 05 40.9 -0.6**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 71.96 326 P **P 08 05 41.8 -0.6**
comp=Z,9.3nm,0.8s,mb4.8,baz=33,slow=6.1,SNR=32
AKASG Malin Array Be 71.96 326 P **P 08 05 41.8 -0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 71.96 326 *eP* **P 08 05 41.7 -0.7**
ANMO Albuquerque 72.01 58 *eP* **P 08 05 42.9 +0.2**
PALK Pallekele 72.70 262 *eP* **P 08 05 44.9 -1.9**
comp=Z,9.3nm,1.4s,mb4.5
MNGI Mangalore 72.76 271 *ex* x 08 04 06.8
GNI Garni 72.87 310 LR LR 08 43 09.9
comp=Z,64nm,18.2s,MS3.9,baz=11,slow=40
ANN Anapa 73.06 318 *eP* **P 08 05 56.0 +7.1**
ANN *e*PP* pP 08 06 08.9 +9.1
ANN *eS* S 08 15 17.0 +3.3
ANN pmax pmax
comp=Z,28nm,1.0s,mb5.2
OJC Ojcow 75.75 331 *eP* **P 08 06 04.4 -0.2**
STHS Stebnicka Huta 75.94 330 *eP* **P 08 06 06.5 +0.9**
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 75.94 330 *eP* **P 08 06 06.5 +0.9**
comp=Z,6.3nm,0.9s,mb4.5
KOLS Kolonicke sedl 75.98 329 *eP* **P 08 06 05.7 -0.2**
BURAR Bucovina Array 76.00 327⇓*iP* **P 08 06 06.1 +0.1**
CRVS Cervenica-Dubn 76.30 330 *eP* **P 08 06 08.3 +0.6**
WSAR Wadi Sarin 76.60 290 LR LR 08 45 30.3
comp=Z,96nm,18.0s,MS4.2,baz=359,slow=40
DPC Dobruska-Polom 76.75 333 *eP* **P 08 06 11.3 +1.0**
CLL Collm 76.90 336⇓*iP* **P 08 06 10.7 -0.4**
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLL Collm 76.90 336⇓*iP* **P 08 06 10.7 -0.4**
comp=Z,10.0nm,0.8s,mb4.8
KECS Kecovo 76.99 330 *eP* **P 08 06 11.0 -0.6**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 76.99 330 *eP* **P 08 06 11.0 -0.6**
comp=Z,2.7nm,0.9s,mb4.2
MLR Muntele Rosu 77.47 325⇑*iP* **P 08 06 15.9 +1.6**
VYHS Vyhne 77.55 331 *eP* **P 08 06 14.9 +0.1**
VYHS pmax pmax
comp=Z,26nm,2.3s,mb4.8
VYHS Vyhne 77.55 331 *eP* **P 08 06 14.9 +0.1**
comp=Z,26nm,2.3s,mb4.8
TXAR Lajitas Array 77.65 61 P **P 08 06 13.9 -1.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=316,slow=3.5,SNR=22
TXAR Lajitas Array 77.65 61 P **P 08 06 13.9 -1.4**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
VOIR 77.87 326⇓*iP* **P 08 06 17.2 +0.7**
NKC Novy Kostel 78.02 335 *eP* **P 08 06 17.9 +0.5**
KHC Kasperske Hory 78.67 334 *eP* **P 08 06 21.2 +0.2**
BRTR Keskin Array B 78.76 317 P **P 08 06 22.4 +1.0**
comp=Z,2.5nm,0.8s,mb4.2,baz=43,slow=5.9,SNR=7.0
BRTR Keskin Array B 78.76 317 P **P 08 06 22.5 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 78.89 334 P **P 08 06 22.2 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=46,slow=5.8,SNR=8.0
GERES GERESS Array B 78.89 334 P **P 08 06 22.2 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CONA Conrad Observa 79.02 332⇑*iP* **P 08 06 23.8 +0.9**
comp=Z,3.1nm,0.7s,mb4.3
MEM Membach 79.39 339 P **P 08 06 25.2 +0.3**
BAIF Baives 80.33 340 *eP* **P 08 06 30.0 0.0**
KBA Koelnbreinsper 80.57 333⇑*iP* **P 08 06 32.4 +1.1**
comp=Z,22nm,1.0s,mb5.0
KBA Koelnbreinsper 80.57 333⇑*iP* **P 08 06 32.4 +1.1**
KBA pmax pmax
comp=Z,22nm,1.0s,mb5.0
CDF Champ du Feu 81.10 338 *eP* **P 08 06 33.9 -0.2**
ASF Jabal al Asfar 83.04 310 LR LR 08 49 36.1
comp=Z,24nm,18.8s,MS3.6,baz=3,9,slow=40
AVF Avril sur Loir 83.59 340 *eP* **P 08 06 47.0 -0.1**
comp=Z,33nm,1.2s,mb5.0
AVF Avril sur Loir 83.59 340 *eP* **P 08 06 47.0 -0.1**
AVF pmax pmax
comp=Z,16nm,1.2s,mb5.0
AVF Avril sur Loir 83.59 340 *eP* **P 08 06 47.0 -0.1**
comp=Z,16nm,1.2s,mb5.0
SMF Signal de Mont 83.61 339 *eP* **P 08 06 47.2 0.0**
comp=Z,52nm,1.2s,mb5.2
SMF Signal de Mont 83.61 339 *eP* **P 08 06 47.2 0.0**
SMF pmax pmax
comp=Z,26nm,1.2s,mb5.2
SMF Signal de Mont 83.61 339 *eP* **P 08 06 47.2 0.0**
comp=Z,26nm,1.2s,mb5.2
PLCA Paso Flores 148.09 96 PKPbc PKPbc 08 14 02.9 -1.5
comp=Z,3.7nm,1.1s,baz=281,slow=3.4,SNR=4.6
PLCA Paso Flores 148.09 96 PKP2 PKPab 08 14 02.9 -4.4
PLCA pmax pmax
comp=Z,4.0nm,1.1s
CPUP Villa Florida 148.62 61 PKPbc PKPbc 08 14 03.4 -2.4
comp=Z,2.3nm,0.8s,baz=348,slow=0.7,SNR=8.3
CPUP Villa Florida 148.62 61 PKP2 PKPab 08 14 03.4 -6.0
CPUP pmax pmax
comp=Z,2.0nm,0.8s

NEIC ***19*** *07:59:03.6,3175S×6972W,h115km,MG2.5(GUC),After GUC.*
GUC 19 07:59:03.6±0.6,3175S×6972W,h115km±7km,ML2.5,
3C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.91**	**78**	⇑*iP*	Pn	07 59 24.6	+0.3
ZON				*i* S	Sn	07 59 40.5	+0.6
PTCH	**Petorca**	**1.15**	**243**	⇑*iP*	Pn	07 59 27.0	+0.2
PTCH				*i* S	Sn	07 59 44.8	+0.5
PTCH				AML	AML	07 59 48.0	
	comp=N,252nm,0.3s						
PTCH	**Petorca**	**1.15**	**243**	⇑*iP*	Pn	07 59 27.0	+0.2
PTCH				*i* S	Sn	07 59 44.8	+0.5
CMCH	**Combarbala**	**1.24**	**297**	⇓*iP*	Pn	07 59 28.1	+0.4
CMCH				*i* S	Sn	07 59 46.8	+0.9
CMCH				AML	AML	07 59 48.6	
	comp=N,371nm,0.9s						
CMCH	**Combarbala**	**1.24**	**297**	⇓*iP*	Pn	07 59 28.1	+0.4
CMCH				*i* S	Sn	07 59 46.8	+0.9
FCH	**Farellones**	**1.65**	**197**	⇓*iP*	Pn	07 59 33.8	+1.3
FCH				*e*S	Sn	07 59 56.7	+2.2
FCH				AML	AML	07 59 59.5	
	comp=E,19nm,0.2s						
RCDM	**Rinconada Maip**	**1.97**	**208**	*i* S	Sn	08 00 01.9	+0.5
RCDM				AML	AML	08 00 03.9	
	comp=E,52nm,0.6s						
LVC	**Limon Verde**	**9.12**	**5**	*e*Pn	Pn	08 01 12.6	+0.3
LPAZ	**La Paz**	**15.46**	**6**	*e*Pn	Pn	08 02 33.9	-1.4
	comp=E,1.7nm,1.4s						

NIED ***19*** *08:34:00,39.10N×143.70E,h23km,Mw4.0 Best double couple: M₀1.26000×10¹⁵ NP1:φ₀=20.00000°,δ52.00000°,λ90.00000°. NP2:φ₀=200.00000°,δ38.00000°,λ90.00000°.*
NEIC ***19*** *08:34:01.9,3908N×14369E,h11km,MG4.2(JMA),After JMA.*
ISCJB ***19*** *08:34:01.7±0.9,3914N±006×14372E±008,h10km, mb3.6/6,MS3.7/2,Error ellipse: s-maj=9.4km s-min=8.5km az=67.8*
JMA ***19*** *08:34:01.8±0.2,3908N×14369E,h11km±4km,M4.2*
IDC ***19*** *08:34:02.2±2.4,3922N×14372E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/23,mbtmp3.8/6,ML3.4/1,MS3.5/3, Ms1 3.5/3,ms1mx3.0/30,Error ellipse: s-maj=63.8km s-min=27.2km az=72.0*
MOS ***19*** *08:34:08.3±1.5,3949N×14308E,h33km,mb4.0/5,Error ellipse: s-maj=27.3km s-min=25.1km az=135.9*
ISC 19 08:34:03.9±1.0,3914N±007×14360E±009,h10km,n26,
σ0§88/30,mb3.6/6,MS3.7/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.45**	**288**	P	**Pn**	**08 34 29.3**	**-0.8**
MIYJ				*e*S	**Sn**	**08 34 49.3**	**+0.2**
OFUJ	**Ofunato**	**1.50**	**268**	P	**Pn**	**08 34 30.0**	**-0.9**
JTH	**Tanohata**	**1.56**	**301**	P	**Pn**	**08 34 31.2**	**-0.5**
JTH				*e*S	**Sn**	**08 34 53.0**	**+1.0**
JOM	**Ohasama**	**1.82**	**281**	P	**Pn**	**08 34 35.0**	**-0.2**
JOM				*e*S	**Sn**	**08 34 59.3**	**+0.9**
JMK	**Ichinoseki**	**1.86**	**265**	P	**Pn**	**08 34 35.3**	**-0.5**
JIO	**Ouri**	**1.89**	**249**	P	**Pn**	**08 34 35.2**	**-0.9**
JANG	**Nango**	**2.03**	**308**	P	**Pn**	**08 34 37.3**	**-0.7**
JYK	**Kaneyama**	**2.54**	**266**	P	**Pn**	**08 34 45.2**	**+0.2**
JYK				*e*S	**Sn**	**08 35 16.0**	**0.0**
JMM	**Marumori**	**2.54**	**241**	P	**Pn**	**08 34 44.3**	**-0.9**
JMM				*e*S	**Sn**	**08 35 14.4**	**-1.8**
MJAR	**Matsushiro Arr**	**4.99**	**240**	Pn	**Pn**	**08 35 20.4**	**+1.6**
	1.5nm,0.3s,baz=52,slow=12,SNR=43						
MJAR	**Matsushiro Arr**	**4.99**	**240**	P	**Pn**	**08 35 20.5**	**+1.7**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**4.99**	**240**	*e*P	**Pn**	**08 35 20.3**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s						
MAJO	**Matsushiro**	**4.99**	**240**	*e*P	**Pn**	**08 35 20.3**	**+1.5**
	comp=Z,24nm,0.8s						
MAT	**Matsushiro**	**4.99**	**240**	P	**Pn**	**08 35 20.3**	**+1.5**
MAT				S	**Sn**	**08 36 21.8**	**+5.2**
KSRS	**Korea Array**	**12.43**	**267**	LR	LR	08 41 16.0	
	comp=Z,83nm,18.5s,baz=70,slow=34						
BOD	**Bodaibo**	**26.75**	**324**	*e*P	**P**	**08 39 39.2**	**-4.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.6						
SONM	**Songino Array**	**28.13**	**300**	P	**P**	**08 39 55.3**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.4,baz=97,slow=7.5,SNR=4.2						
SONM				LR	LR	08 52 44.4	
	comp=Z,52nm,18.4s,MS3.2,baz=250,slow=40						
SONM	**Songino Array**	**28.13**	**300**	P	**P**	**08 39 55.3**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,52nm,18.4s						
ZAL	**Zalesovo**	**41.83**	**311**	P	**P**	**08 41 53.6**	**-0.1**
	comp=Z,1.3nm,0.3s,mb4.0,baz=315,slow=4.6,SNR=2.1						
ZAL	**Zalesovo**	**41.83**	**311**	P	**P**	**08 41 53.6**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**44.50**	**301**	P	**P**	**08 42 15.7**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=80,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**44.50**	**301**	P	**P**	**08 42 15.7**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**58.56**	**312**	P	**P**	**08 44 01.0**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=42,slow=12,SNR=3.4						
AKTO	**Aktyubinsk**	**58.56**	**312**	P	**P**	**08 44 01.0**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**59.41**	**190**	P	**P**	**08 44 07.0**	**+0.5**
	comp=Z,0.4nm,0.9s,mb3.4,baz=9.0,slow=7.2,SNR=3.1						
ULM	**Lac du Bonnet**	**76.80**	**35**	LR	LR	09 18 52.9	
	comp=Z,128nm,18.6s,MS4.3,baz=265,slow=35						

GII ***19*** *08:43:10.1±0.3,2985N×3619E,h0km±4km,ML2.3/4*
ISCJB ***19*** *08:43:13.5±1.0,2989N±004×3612E±005,h10km,Error ellipse: s-maj=7.1km s-min=5.3km az=73.4*
HLW ***19*** *08:43:22.3,2974N×3547E,h3km,Mb2.7*
ISC 19 08:43:13.7±1.0,2988N±004×3616E±005,h10km,n18,
σ1§39/23,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**0.97**	**261**	Sg	**Sg**	**08 43 45.7**	**+0.6**
HRFI	**Mount Harif**	**0.98**	**279**	Pg	**Pg**	**08 43 29.7**	**-2.9**
HRFI				Sg	**Sg**	**08 43 45.9**	**+0.4**
EIL	**Elat**	**1.07**	**259**	Pg	**Pg**	**08 43 32.0**	**-2.3**
EIL				Sg	**Sg**	**08 43 47.7**	**-0.5**
MBH	**Mount Berech**	**1.08**	**265**	Sg	**Sg**	**08 43 49.5**	**+0.9**
PRNI	**Paran**	**1.10**	**295**	Pg	**Pg**	**08 43 32.3**	**-2.6**
PRNI	**Paran**	**1.10**	**295**	Sg	**Sg**	**08 43 49.5**	**+0.3**
KMTI	**Karmit**	**1.26**	**280**	Pg	**Pg**	**08 43 35.1**	**-2.8**
KMTI				Sg	**Sg**	**08 43 53.7**	**-0.6**
HBST	**Basata**	**1.41**	**242**	P	**Pn**	**08 43 38.3**	**-1.0**
MZDA	**Masada**	**1.58**	**334**	Pn	**Pn**	**08 43 39.9**	**-1.8**
MZDA				Sn	**Sn**	**08 44 02.5**	**+0.3**
HDHB	**Dhahab**	**1.77**	**230**	P	**Pn**	**08 43 45.9**	**+1.6**
DSI	**Dead Sea**	**1.81**	**338**	Pn	**Pn**	**08 43 43.7**	**-1.2**
KZIT	**Kziot**	**1.83**	**304**	Pn	**Pn**	**08 43 43.8**	**-1.3**
KZIT				Sn	**Sn**	**08 44 09.3**	**+0.9**
HNKL	**Nakhl**	**1.89**	**272**	P	**Pn**	**08 43 46.6**	**+0.6**
AMAZ	**Amatzia**	**1.96**	**327**	Sn	**Sn**	**08 44 13.1**	**+1.5**
HKAT	**Jabal Katrina**	**2.33**	**235**	P	**Pn**	**08 43 53.4**	**+1.3**
HMDT	**Nahal Hemdat**	**2.42**	**347**	Sn	**Sn**	**08 44 24.4**	**+1.4**
TR2		**2.60**	**236**	P	**Pn**	**08 43 57.2**	**+1.4**
AMAG	**Maghara**	**2.66**	**287**	P	**Pn**	**08 43 58.6**	**+2.0**

IDC 19 08:45:15.1±1.2,036N×12177E,h0km,mb3.5/4,mb1 3.7/4,
mb1mx3.6/18,mbtmp3.5/4,Error ellipse:
s-maj=140.4km s-min=20.4km az=64.0,Minahassa
Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.64**	**149**	P	P	08 50 27.9	-0.2
	1.3nm,0.6s,baz=326,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.63**	**155**	P	P	08 50 56.0	+0.7
	0.3nm,0.5s,baz=344,slow=14,SNR=9.0						
SONM	**Songino Array**	**49.14**	**346**	P	P	08 54 04.9	+0.4
	0.4nm,0.5s,baz=160,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.67**	**329**	P	P	08 55 07.0	-0.1
	0.5nm,0.3s,baz=131,slow=8.5,SNR=9.1						

BJI ***19*** *08:52:40.5,1540N×9570W,h20km,mB5.4,Ms4.8,Msz4.6*
IDC ***19*** *08:52:40.1±0.9,1562N×9568W,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.0/23,mbtmp4.0/12,ML4.3/1,MS3.9/10, Ms1 3.9/10,ms1mx3.6/33,Error ellipse: s-maj=19.5km s-min=12.4km az=88.0*
NEIC ***19*** *08:52:41.5,1536N×9571W,h20km,mb4.5/17, MD4.6(MEX),After MEX.*
ISCJB ***19*** *08:52:41.3±0.9,1555N±004×9573W±003,h23km±7km, mb4.2/23,MS4.0/10,Error ellipse: s-maj=6.7km s-min=4.2km az=59.7*
GCMT ***19*** *08:52:41.5±0.7,1574N×9563W,h23km±1km,MW4.8/43, Moment Tensor Solution. s17,c18; s43,c55; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.10±.20; Mθθ-1.45±.13; Mφφ-0.65±.14; Mrθ0.78±.15; Mrφ0.76±.10; Mθφ-0.68±.21; Best double couple: M₀2.25500×10¹⁶ NP1:φ₀=297.00000°,δ32.00000°,λ83.00000°. NP2: φ₀=125.00000°,δ59.00000°,λ94.00000°. Principal axes: T 2.3580, Plg76.0000°, Azm48.0000°; N -0.2090, Plg4.0000°, Azm303.0000°; P -2.1520, Plg14.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MEX ***19*** *08:52:41.4±0.9,1535N×9571W,h15km±18km,MD4.6*
ISC 19 08:52:41.6±0.9,1562N±004×9566W±003,h9km±6km,n87,
σ1§42/95,mb4.2/23,MS4.0/10,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.45**	**290**	*i* P	**Pg**	**08 52 50.5**	**0.0**
HUIG				*i* S	**Sg**	**08 52 57.6**	**+1.1**
CMIG	**Matias Romero**	**1.65**	**27**	Pg	**Pg**	**08 53 08.9**	**-4.4**
	331nm,0.3s,baz=202,slow=10,SNR=565						
CMIG				Lg		08 53 33.5	
	1μm,0.3s,baz=334,slow=8.3,SNR=23						
CMIG	**Matias Romero**	**1.65**	**27**	*i* P	**Pn**	**08 53 08.9**	**-1.7**
CMIG				*i* S	**Sn**	**08 53 33.1**	**+1.2**
CMIG	**Matias Romero**	**1.65**	**27**	Pg	**Pg**	**08 53 08.9**	**-4.4**

CMIG			*i* S	Sn	08 53 33.1	+1.2	
CMIG			Lg		08 53 33.5		
VHO	**Vista Hermosa**	**1.78 325**	*i* P	Pn	08 53 12.0	-0.4	
VHO			*i* S	Sn	08 53 34.7	-0.4	
PNIG	**Pinotepa**	**2.49 288**	*i* P	Pn	08 53 20.4	-1.9	
PNIG			*i* S	Sn	08 53 47.9	-4.8	
TUIG	**Tuzandepetl**	**2.68 26**	*e*P	Pn	08 53 24.4	-0.6	
TUIG			*i* S	Sn	08 53 58.2	+0.7	
UTMO	**Huajuapan**	**3.01 317**	*e*P	Pn	08 53 28.4	-1.0	
UTMO			*i* S	Sn	08 54 04.7	-0.8	
TPIG	**Tehuac#an**	**3.23 330**	*e*P	Pn	08 53 31.8	-0.6	
TPIG			*i* S	Sn	08 54 11.6	+0.7	
CCIG	**Comitan**	**3.46 78**	*i* P	Pn	08 53 34.6	-1.0	
CCIG			*i* S	Sn	08 54 14.7	-2.0	
LVIG	**Laguna Verde**	**4.15 350**	*e*P	Pn	08 53 47.0	+1.9	
LVIG			*i* S	Sn	08 54 35.9	+2.2	
ACX	**Acapulco**	**4.27 288**	*e*P	Pn	08 53 44.0	-2.8	
MEIG	**Mezcala**	**4.43 302**	*i* P	Pn	08 53 47.1	-1.8	
MEIG			*i* S	Sn	08 54 38.0	-2.6	
PPM	**Popocatepetl**	**4.45 321**	*e*P	Pn	08 53 49.4	+0.2	
PPM			*e*P		08 53 50.0		
PPM			*i* S	Sn	08 54 40.7	-0.3	
PPM	**Popocatepetl**	**4.45 321**	*e*P	Pn	08 53 50.0	+0.8	
PPM			*i* S	Sn	08 54 40.7	-0.3	
YAIG	**Yautepec**	**4.58 315**	*e*P	Pn	08 53 49.5	-1.5	
YAIG			*i* S	Sn	08 54 43.2	-1.1	
YAIG	**Yautepec**	**4.58 315**	*e*P	Pn	08 53 49.5	-1.5	
YAIG			*i* S	Sn	08 54 42.0	-2.3	
PLIG	**Platanillo**	**4.59 307**	*e*P	Pn	08 53 50.2	-1.0	
PLIG			*i* S	Sn	08 54 43.5	-1.2	
UNM	**Universidad Na**	**4.99 318**	*e*P	Pn	08 54 00.0	+3.4	
UNM			*i* S	Sn	08 54 55.8	+1.4	
UNM	**Universidad Na**	**4.99 318**	*e*P	Pn	08 54 00.0	+3.4	
UNM			*i* S	Sn	08 54 59.5	+5.1	
SCIG	**Sabancuy**	**5.42 51**	*i* P	Pn	08 54 00.3	-2.3	
ZIIG	**Zihuatanejo**	**5.90 290**	*i* S	Sn	08 55 14.5	-2.4	
ZIIG	**Zihuatanejo**	**5.90 290**	*i* S	Sn	08 55 09.7	-7.2	
MOIG	**Morelia**	**6.64 308**	*i* S	Sn	08 55 36.7	+1.6	
MOIG	**Morelia**	**6.64 308**	*i* S	Sn	08 55 31.2	-3.8	
MMIG	**Aquila**	**7.82 291**	*e*P	Pn	08 54 33.5	-1.9	
MMIG			*i* S	Sn	08 56 01.3	-2.7	
TEIG	**Tepich**	**8.39 56**	*i* P	Pn	08 54 39.6	-3.7	
TEIG	**Tepich**	**8.39 56**	*e*Pn	Pn	08 54 40.7	-2.7	
TEIG			*e*Sn	Sn	08 56 09.6	-8.6	
SFJM	**Santa Fe**	**8.53 306**	*e*P	Pn	08 54 48.0	+2.8	
LNIG	**Linares**	**9.90 339**	*e*P	Pn	08 55 11.1	+7.1	
LNIG			*i* S	Sn	08 57 01.4	+6.1	
ANIG	**Ahuacatlan**	**10.00 304**	*e*P	Pn	08 55 05.9	+0.6	
ANIG			*i* S	Sn	08 56 59.2	+1.6	
JCT	**Junction City**	**15.28 346**	*e*Pn	Pn	08 56 17.4	0.0	
TXAR	**Lajitas Array**	**15.52 333**	Pn	Pn	08 56 21.4	+0.9	
	0.3nm,0.3s,baz=148,slow=12,SNR=7.2						
TXAR			LR	LR	09 02 12.7		
	comp=Z,249nm,18.3s,baz=155,slow=37						
TXAR	**Lajitas Array**	**15.52 333**	Pn	Pn	08 56 21.4	+0.9	
TXAR			LR	LR	09 02 12.7		
PAYG	**Puerto Ayora**	**17.04 161**	*e*Pn	Pn	08 56 41.0	+1.1	
	59nm,1.1s						
MNTX	**Cornudas Mount**	**18.30 333**	*e*Pn	Pn	08 56 56.3	+0.7	
GDL2	**Guadalupe Moun**	**18.31 336**	*e*P	Pn	08 56 57.5	+1.7	
WMOK	**Wichita Mounta**	**19.25 352**	*e*Pn	Pn	08 57 05.7	-1.5	
UALR	**University of**	**19.31 8**	*e*P	Pn	08 57 06.0	-1.9	
	9.7nm,0.6s						
LPM	**Los Pinos Moun**	**21.08 334**	*e*P	P	08 57 26.7	+0.6	
LENM	**Lemitar**	**21.10 333**	*e*P	P	08 57 28.5	+2.2	
ANMO	**Albuquerque**	**21.56 335**	P	P	08 57 32.3	+1.1	
	2.6nm,1.0s,mb3.6,baz=156,slow=13,SNR=5.2						
TUC	**Tucson**	**21.57 323**	*e*P	P	08 57 33.7	+2.4	
	15nm,1.5s,mb4.2						
TKL	**Tuckaleechee C**	**22.62 26**	P	P	08 57 42.6	0.0	
	1.8nm,0.6s,mb3.6,baz=174,slow=9.6,SNR=3.8						
TKL			LR	LR	09 09 09.9		
	comp=Z,240nm,19.3s,MS3.6,baz=346,slow=44						
OTAV	**Otavalo**	**22.85 130**	*e*P	P	08 57 45.6	+0.5	
	8.4nm,1.3s,mb4.0						
CBKS	**Cedar Bluff**	**23.39 352**	*e*P	P	08 57 50.0	-0.7	
	21nm,0.9s,mb4.6						
KSU1	**Kansas State U**	**23.41 358**	*e*P	P	08 57 49.5	-1.4	
	24nm,1.0s,mb4.6						
KSU1			*e*pP		08 57 55.2		
ROSC	**El Rosal**	**23.53 115**	P	P	08 57 54.4	+2.2	
	11nm,0.8s,mb4.4,baz=288,slow=20,SNR=11						
ROSC	**El Rosal**	**23.53 115**	*e*P	P	08 57 52.9	+0.6	
ROSC			*e*pP		08 57 56.5		
SDCO	**Great Sand Dun**	**23.70 340**	*e*P	P	08 57 55.1	+1.3	
	17nm,1.5s,mb4.2						
WUAZ	**Wupatki**	**24.30 328**	*e*P	P	08 58 01.4	+2.2	
	12nm,1.1s,mb4.3						
SDV	**Santo Domingo**	**25.34 102**	P	P	08 58 09.6	+0.9	
	9.1nm,0.9s,mb4.3,baz=317,slow=4.1,SNR=10						
SDV	**Santo Domingo**	**25.34 102**	*e*P	P	08 58 08.4	-0.3	
	11nm,1.0s,mb4.3						
SMCO	**Snowmass**	**25.48 339**	*e*P	P	08 58 11.8	+1.8	
	19nm,1.4s,mb4.4						
ISCO	**Idaho Springs**	**25.62 342**	*e*P	P	08 58 12.8	+1.6	
	8.5nm,1.2s,mb4.2						
SCIA	**State Center**	**26.29 4**	*e*P	P	08 58 16.3	-1.0	
	49nm,1.0s,mb5.0						
JFWS	**Jewell Farm**	**27.60 9**	*e*P	P	08 58 27.4	-1.7	
	15nm,0.6s,mb4.8						
JFWS			*e*pP	pP	08 58 34.3	+2.3	
MPU	**Maple Canyon**	**28.02 333**	*e*P	P	08 58 31.2	-1.7	
ATAH	**Atahualpa**	**28.24 141**	LR	LR	09 06 50.0		
	comp=Z,82nm,19.2s,MS3.3,baz=110,slow=30						
PDAR	**Pinedale Array**	**29.57 339**	P	P	08 58 47.0	+0.4	
	0.4nm,0.6s,mb3.3,baz=138,slow=14,SNR=2.8						
PDAR			LR	LR	09 13 44.2		
	comp=Z,212nm,19.5s,MS3.8,baz=74,slow=43						
NVAR	**Mina Array Bea**	**30.23 323**	P	P	08 58 54.0	+1.5	
	1.3nm,0.8s,mb3.7,baz=144,slow=9.5,SNR=9.6						
REDW	**Red Top Meadow**	**30.55 338**	*e*P	P	08 58 57.4	+2.1	
SNOW	**Snow King Moun**	**30.60 338**	*e*P	P	08 58 57.2	+1.5	
LOHW	**Long Hollow**	**30.68 338**	*e*P	P	08 58 57.9	+1.4	
	2.7nm,0.3s,mb4.5						
PCRV	**Puerto La Cruz**	**30.70 96**	LR	LR	09 12 50.5		
	comp=Z,230nm,19.2s,MS3.9,baz=93,slow=39						
AGMN	**Agassiz Refuge**	**32.59 360**	*e*P	P	08 59 12.1	-1.2	
	6.3nm,0.4s,mb4.9						
AGMN			*e*pP	pP	08 59 18.5	+2.3	
DLMT	**Dillon**	**32.91 338**	*e*P	P	08 59 17.8	+1.7	
ULM	**Lac du Bonnet**	**34.55 360**	P	P	08 59 28.4	-1.9	
	2.0nm,0.7s,mb4.2,baz=169,slow=10,SNR=3.4						
LPAZ	**La Paz**	**41.75 138**	P	P	09 00 31.2	+0.2	
	0.6nm,0.7s,mb3.3,baz=297,slow=9.0,SNR=3.6						
LPAZ	**La Paz**	**41.75 138**	*e*P	P	09 00 31.6	+0.5	
	1.2nm,0.8s,mb3.6						
SCHQ	**Schefferville**	**45.04 23**	LR	LR	09 23 30.1		
	comp=Z,254nm,18.1s,MS4.2,baz=302,slow=41						
YKA	**Yellowknife Ar**	**48.70 348**	LR	LR	09 23 53.0		
	comp=Z,109nm,18.9s,MS3.9,baz=165,slow=38						
RKT	**Rikitea**	**54.41 226**	*e*LR	LR	09 17 54.6		
	113nm,28.5s						
RKT	**Rikitea**	**54.41 226**	*e*T		10 00 33.5		
	10.0nm,0.3s						
CPUP	**Villa Florida**	**55.92 138**	LR	LR	09 25 54.2		
	comp=Z,130nm,20.4s,MS4.0,baz=311,slow=36						
BDFB	**Brasilia**	**56.38 121**	P	P	09 02 23.2	+0.1	
	2.4nm,0.5s,mb4.5,baz=273,slow=9.2,SNR=4.5						
BDFB			LR	LR	09 29 07.3		
	comp=Z,104nm,18.9s,MS4.0,baz=63,slow=39						
PLCA	**Paso Flores**	**60.72 158**	P	P	09 02 53.6	+0.3	
	1.9nm,1.0s,mb4.2,baz=1.0,slow=7.2,SNR=3.3						
PLCA			LR	LR	09 24 18.6		
	comp=Z,122nm,19.8s,MS4.0,baz=116,slow=31						
PLCA	**Paso Flores**	**60.72 158**	*e*P	P	09 02 53.7	+0.3	
	3.3nm,1.1s,mb4.4						
PPT	**Papeete**	**62.54 240**	*e*LR	LR	09 21 41.8		
	105nm,25.8s						
TBI	**Tubuai**	**65.31 235**	*e*LR	LR	09 22 58.4		
	98nm,28.0s						
NB2	**NORSAR Subarra**	**84.40 28**	P	P	09 05 14.0	-0.3	
	comp=Z,2.8nm,0.8s,mb4.4,baz=294,slow=5.1						
NOA	**NORSAR Array B**	**84.40 28**	P	P	09 05 14.5	+0.2	
	comp=Z,1.5nm,0.7s,mb4.2,baz=294,slow=5.0,SNR=4.9						
HHC	**Hu-ho-hao-te**	**118.40 337**	*e*PKP	PKPdf	09 11 25.1	-4.4	
WMQ	**Urumqi**	**120.78 357**	*e*PKP	PKPdf	09 11 35.0	+1.0	
LZH	**Lanzhou**	**125.37 341**	*e*PKP	PKPdf	09 11 40.6	-2.3	
LZH			XPKP		09 11 49.8		
LZH			LR	LR			
	comp=E,126nm,19.3s						
LZH			LR	LR			
	comp=Z,269nm,20.2s,MS4.9						
ASAR	**Alice Springs**	**132.82 252**	PKP	PKPdf	09 11 57.6	+0.6	
	comp=Z,0.3nm,0.9s,baz=108,slow=2.1,SNR=3.6						
MBWA	**Marble Bar**	**146.01 255**	*e*PKPdf	PKPdf	09 12 23.7	+2.8	

MEX 19 09:00:33.8±0.5, 1543N×9571W, h19km±27km, MD4.1, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.51**	**311**	⇓*i*P	Pg	09 00 42.2	-1.8
HUIG				*i* S	Sg	09 00 49.0	-1.9
CMIG	**Matias Romero**	**1.83**	**26**	*i* P	Pn	09 01 01.1	-3.2
CMIG				*i* S	Sn	09 01 22.7	-4.2
VHO	**Vista Hermosa**	**1.90**	**329**	*i* P	Pn	09 01 03.3	-1.9
VHO				*i* S	Sn	09 01 25.1	-3.6
UTMO	**Huajuapan**	**3.12**	**320**	*e*P	Pn	09 01 20.6	-1.3
UTMO				*i* S	Sn	09 01 53.8	-4.8
TPIG	**Tehuac#an**	**3.36**	**332**	*e*P	Pn	09 01 24.0	-1.3
TPIG				*i* S	Sn	09 02 02.4	-2.3
PPM	**Popocatepetl**	**4.56**	**323**	*e*P	Pn	09 01 43.0	+1.2
PPM				*i* S	Sn	09 02 37.0	+2.7

ISCJB ***19*** *09:34:51.7±0.1, 42.377N±0.009×1983E±0.01, h1km, mb4.8/49, MS4.1/28, Error ellipse: s-maj=1.4km s-min=1.0km az=67.9*
NEIC ***19*** *09:34:51.0, 42.30N×1980E, h6km, mb5.0/23, ML4.3(PDG), After PDG.*
NEIC Felt [IV] at Plav, Podgorica and Ulcinj, Montenegro.
TIR ***19*** *09:34:51.6, 42.36N×1980E, h5km, Ml4.3*
CSEM ***19*** *09:34:51.6±0.0, 42.38N×1983E, h2km, ML5.0/4, Error ellipse: s-maj=1.0km s-min=0.8km az=16.0*
SOF ***19*** *09:34:51.8, 42.64N×1990E, h2km, MD4.4*
PRU ***19*** *09:34:52.4, 42.27N×2004E, h0km, M5.0*
MOS ***19*** *09:34:52.4±0.9, 42.37N×1976E, h9km, mb4.9/19, Error ellipse: s-maj=3.6km s-min=2.6km az=108.3*
IDC ***19*** *09:34:52.5±0.5, 42.34N×1981E, h0km, mb4.5/16, mb1 4.4/30, mb1mx4.4/35, mbtmp4.3/30, ML4.0/12, MS3.8/28, Ms1 3.8/28, ms1mx3.8/42, Error ellipse: s-maj=10.4km s-min=9.3km az=10.0*
PDG ***19*** *09:34:52.2±0.5, 42.35N×1983E, h1km±1km*
PDG Felt at: Podgorica, Plav, Ulcinj III-IV MCS.
BJI ***19*** *09:34:52.8, 42.91N×1965E, h10km, mB5.1, mb4.8, Ms4.9, Msz4.5*
LDG ***19*** *09:34:53.1±0.1, 42.35N×1979E, h10km, Ml4.5/6, ms3.3/6, Error ellipse: s-maj=2.7km s-min=1.9km az=25.0*
SZGRF ***19*** *09:34:53.9, 42.11N×1981E, h10km, Northwestern Balkan Peninsula*
SKO ***19*** *09:34:53.9, 42.39N×1993E, h15km, M2.8, ML4.2*
THE ***19*** *09:34:54.2, 42.35N×1984E, h3km, ML4.8*
NAO ***19*** *09:34:57.3, 42.37N×1981E, h33km, mb4.2*
STR ***19*** *09:35:04.3±0.0, 42.56N×1880E, h10km±1km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 09:34:53.2±0.1, 42.355N±0.009×1984E±0.01, h1km, n473, σ1§20/591, mb4.8/49, MS4.1/28, 29C-40D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.17**	**86**	*i* Pg	**Pg**	**09 34 55.7**	**-0.8**
BCI				*i* Sg	**Sg**	**09 34 59.3**	**+0.5**
PVY	**Plav**	**0.26**	**23**	⇑*i*Pg	**Pg**	**09 34 56.9**	**-1.3**
PVY				*e*Sg	**Sg**	**09 35 01.3**	**-0.3**
PUK	**Puka**	**0.32**	**172**	*i* Pg	**Pg**	**09 34 58.8**	**-0.5**
PUK				*i* Sg	**Sg**	**09 35 04.5**	**+1.2**
TTG	**Podgorica**	**0.43**	**280**	⇑*i*Pg	**Pg**	**09 34 59.7**	**-1.8**
TTG				*e*Sg	**Sg**	**09 35 06.7**	**-0.4**
IVA	**Berane**	**0.52**	**5**	⇑*i*Pg	**Pg**	**09 35 01.8**	**-1.4**
IVA				*e*Sg	**Sg**	**09 35 09.8**	**0.0**
ULC	**Ulcinj**	**0.58**	**228**	⇑*i*Pg	**Pg**	**09 35 03.1**	**-1.4**
ULC				*e*Sg	**Sg**	**09 35 11.9**	**-0.1**
BUM	**Brajici-Budva**	**0.70**	**266**	⇓*i*Pg	**Pg**	**09 35 04.6**	**-2.0**
BUM				*e*Sg	**Sg**	**09 35 15.8**	**+0.2**
NKY	**Niksic**	**0.77**	**307**	⇑*i*Pg	**Pg**	**09 35 05.7**	**-2.3**
NKY				*e*Sg	**Sg**	**09 35 18.4**	**+0.4**
PHP	**Peshkopia**	**0.81**	**146**	*i* Pg	**Pg**	**09 35 07.1**	**-1.6**
PHP				*i* Sg	**Sg**	**09 35 19.9**	**+0.7**
SJES	**Sjenica**	**0.92**	**5**	Pg	**Pg**	**09 35 09.4**	**-1.4**
SJES				Sg	**Sg**	**09 35 23.7**	**+1.0**
HCY	**Herceg Novi**	**0.99**	**276**	⇓*i*Pg	**Pg**	**09 35 10.2**	**-2.1**
HCY				*e*Sg	**Sg**	**09 35 25.9**	**+0.7**
TIR	**Tirane**	**1.01**	**179**	*i* Pn	**Pg**	**09 35 11.4**	**-1.1**
TIR				*i* Sn	**Sn**	**09 35 29.1**	**-0.2**
TIR	**Tirane**	**1.01**	**179**	P	**Pg**	**09 35 11.6**	**-0.9**
TIR				*i* Sn	**Sn**	**09 35 29.1**	**-0.2**
PLE	**Pljevlja**	**1.03**	**342**	⇑*i*Pg	**Pg**	**09 35 10.9**	**-2.0**
PLE				*e*Sg	**Sg**	**09 35 27.0**	**+0.8**
UPM	**Unac-Piva**	**1.09**	**322**	⇓*i*Pg	**Pg**	**09 35 11.9**	**-2.2**
UPM				*e*Sg	**Sg**	**09 35 29.2**	**+1.0**
BRY	**Bratogost**	**1.10**	**300**	⇑*i*Pg	**Pg**	**09 35 11.1**	**-3.2**
BRY				*e*Sg	**Sg**	**09 35 29.5**	**+1.0**
TREB	**Trebinje**	**1.16**	**289**	P	**Pn**	**09 35 12.9**	**-3.7**
SKO	**Skopje**	**1.25**	**107**	*e*Pg	**Pn**	**09 35 15.2**	**-2.6**
SKO				*e*Sg	**Sg**	**09 35 31.8**	**-1.7**
SKO				*e*Lg		09 35 36.0	
	comp=N,10μm,0.9s						
SKO				*e*Lg		09 35 37.2	
	comp=E,21μm,1.3s						
SKO	**Skopje**	**1.25**	**107**	*e*Pg	**Pn**	**09 35 15.2**	**-2.7**
SKO				*e*Sg	**Sg**	**09 35 31.7**	**-1.8**
OHR	**Ohrid**	**1.44**	**150**	*e*Pg	**Pg**	**09 35 20.1**	**-0.6**
OHR				*e*Sg	**Sg**	**09 35 39.6**	**+0.2**
OHR				*e*Lg		09 35 41.3	
	comp=N,6μm,0.7s						
OHR				*e*Lg		09 35 42.6	
	comp=E,6μm,0.9s						
OHR	**Ohrid**	**1.44**	**150**	P	**Pn**	**09 35 19.2**	**-1.2**
OHR	**Ohrid**	**1.44**	**150**	*e*Pg	**Pg**	**09 35 20.1**	**-0.7**
OHR				*e*Sg	**Sg**	**09 35 39.6**	**+0.2**
KRUS	**Krusevo**	**1.44**	**133**	*e*Pg	**Pg**	**09 35 19.4**	**-1.5**
KRUS				*e*Sg	**Sg**	**09 35 38.4**	**-1.3**
KRUS	**Krusevo**	**1.44**	**133**	*e*Pg	**Pg**	**09 35 19.3**	**-1.6**
KRUS				*e*Sg	**Sg**	**09 35 38.3**	**-1.3**
BARS	**Barje**	**1.54**	**72**	*i* Pn	**Pn**	**09 35 20.5**	**-1.4**
BARS				Sg	**Sg**	**09 35 42.7**	**-0.1**
STON	**Ston**	**1.66**	**289**	*i* Pn	**Pn**	**09 35 17.8**	**-1.8**
STON				*i* Pg	**Pg**	**09 35 24.0**	**-1.0**
STON				*i* Sn	**Sn**	**09 35 46.1**	**+0.6**
STON				*i* Sg	**Sg**	**09 35 48.6**	**+2.1**
BIA	**Bitola**	**1.74**	**140**	*e*Pn	**Pn**	**09 35 23.9**	**-0.7**
BIA				*e*Sn	**Sn**	**09 35 44.5**	**-2.9**
BIA				*e*Lg		09 35 48.5	
	comp=E,2μm,0.7s						
BIA				*e*Lg		09 35 50.2	
	comp=N,1μm,0.7s						
BIA	**Bitola**	**1.74**	**140**	P	**Pn**	**09 35 24.4**	**-0.2**
BIA				*e*Sn	**Sn**	**09 35 44.5**	**-2.9**
DIVS	**Divcibare**	**1.75**	**4**	*i* Pn	**Pn**	**09 35 23.7**	**-0.9**
KBN	**Korca**	**1.87**	**157**	*i* Pn	**Pg**	**09 35 28.6**	**-0.5**
KBN				*i* Sn	**Sg**	**09 35 55.9**	**+2.5**
STIP	**Stip**	**1.87**	**110**	*e*Pn	**Pn**	**09 35 25.1**	**-1.3**
STIP				*e*Sn	**Sn**	**09 35 50.6**	**-0.1**
STIP				*e*Lg		09 35 54.3	
	comp=N,2μm,1.1s						
STIP				*e*Lg		09 35 55.0	
	comp=E,598nm,0.7s						
STIP	**Stip**	**1.87**	**110**	*e*Pn	**Pn**	**09 35 25.1**	**-1.3**
STIP				*e*Sn	**Sn**	**09 35 50.5**	**-0.2**
VLO	**Vlora**	**1.90**	**188**	*i* Pn	**Pg**	**09 35 28.3**	**-1.4**
VLO				*i* Sn	**Sg**	**09 35 57.2**	**+2.9**
FNA	**Florina**	**1.95**	**143**	*e*Pb	**Pb**	**09 35 27.5**	**-2.0**
FNA				*e*Sb	**Sb**	**09 35 52.8**	**-1.6**
BOLS	**Boljevac**	**2.14**	**46**	⇓*i*Pn	**Pn**	**09 35 29.3**	**-0.8**
BOLS				Sn	**Sn**	**09 35 56.5**	**-0.9**
SVIS	**Svilajnac**	**2.19**	**27**	*i* Pn	**Pg**	**09 35 32.7**	**-2.4**
VAY	**Valandovo**	**2.29**	**116**	*e*Pn	**Pn**	**09 35 30.6**	**-1.5**
VAY				*e*Sn	**Sn**	**09 35 59.7**	**-1.3**
VAY				*e*Lg		09 36 06.2	
	comp=N,3μm,1.2s						
VAY				*e*Lg		09 36 06.8	
	comp=E,5μm,1.6s						
VAY	**Valandovo**	**2.29**	**116**	P	**Pn**	**09 35 31.3**	**-0.9**
VAY				*e*Sn	**Sn**	**09 35 59.7**	**-1.3**
GRG	**Griva**	**2.38**	**125**	*e*Pn	**Pn**	**09 35 33.7**	**+0.3**
GRG				*e*Sn	**Sn**	**09 36 04.6**	**+1.4**
LCI	**Lecce**	**2.40**	**213**	P	**Pn**	**09 35 33.2**	**-0.5**
KKB	**Krupnik**	**2.47**	**100**	*i* P	**Pn**	**09 35 35.1**	**+0.5**
KKB				*i* S	**Sg**	**09 36 15.0**	**+2.6**
KKB	**Krupnik**	**2.47**	**100**	*i* P	**Pn**	**09 35 34.9**	**+0.3**
SRN	**Sarande**	**2.48**	**177**	*i* Pn	**Pn**	**09 35 34.4**	**-0.3**
SRN				*i* Sn	**Sn**	**09 36 08.4**	**+2.8**
BEO	**Belgrade**	**2.51**	**10**	*i* Pn	**Pn**	**09 35 34.3**	**-0.8**
BEO	**Belgrade**	**2.51**	**10**	P	**Pn**	**09 35 36.8**	**+1.7**
VTS	**Vitosha**	**2.51**	**83**	*i* P	**Pn**	**09 35 35.6**	**+0.5**
VTS				*i* Pg	**Pg**	**09 35 40.6**	**-0.7**
VTS				*i* S	**Sn**	**09 36 08.2**	**+1.8**
VTS				*i* Sg	**Sg**	**09 36 14.4**	**+0.6**
VTS	**Vitosha**	**2.51**	**83**	*i* P	**Pn**	**09 35 35.4**	**+0.3**
VTS	**Vitosha**	**2.51**	**83**	P	**Pg**	**09 35 41.5**	**+0.2**
KZN	**Kozani**	**2.51**	**144**	*e*P	**Pn**	**09 35 36.0**	**+0.8**
BAI	**Bari**	**2.54**	**242**	*e*Pn	**Pn**	**09 35 34.5**	**-1.1**
KNT	**Kendrikon**	**2.58**	**116**	*e*Pn	**Pn**	**09 35 36.4**	**+0.2**
KNT	**Kendrikon**	**2.58**	**116**	*e*Pn	**Pn**	**09 35 36.3**	**+0.1**
KEK	**Kerkira**	**2.64**	**181**	*e*P	**Pn**	**09 35 36.5**	**-0.5**
KEK	**Kerkira**	**2.64**	**181**	P	**Pn**	**09 35 36.3**	**-0.7**
JAN	**Janina**	**2.80**	**164**	*e*P	**Pn**	**09 35 42.0**	**+2.8**
SG1	**Sgolgore (BA)**	**2.81**	**238**	*e*Pn	**Pn**	**09 35 39.1**	**-0.2**
IGT	**Igoumenitsa**	**2.84**	**172**	*e*Pn	**Pn**	**09 35 40.5**	**+0.8**
IGT				*e*Sn	**Sn**	**09 36 15.4**	**+0.7**
IGT	**Igoumenitsa**	**2.84**	**172**	*e*Pn	**Pn**	**09 35 40.5**	**+0.7**
IGT				*e*Sn	**Sn**	**09 36 15.4**	**+0.7**
THE	**Thessaloniki**	**2.91**	**125**	*e*Pn	**Pn**	**09 35 40.9**	**+0.2**
THE				*e*Sn	**Sn**	**09 36 16.9**	**+0.5**
CDT	**Castel del Mon**	**2.95**	**246**	*e*Pn	**Pn**	**09 35 41.0**	**-0.3**
FGMS	**Monte Sant'Ang**	**2.96**	**259**	P	**Pn**	**09 35 40.4**	**-1.0**
MS1	**Monte Sant'Ang**	**2.97**	**259**	*e*Pn	**Pn**	**09 35 40.5**	**-1.0**
MSAG	**Monte S. Angel**	**2.99**	**259**	P	**Pn**	**09 35 40.8**	**-1.0**
MMB	**Musomiste**	**3.00**	**103**	*i* P	**Pn**	**09 35 43.5**	**+1.6**
MMB				*i* Pg	**Pg**	**09 35 48.8**	**-2.0**
MMB				*i* S	**Sb**	**09 36 28.2**	**+3.5**
MMB				*i* Sg	**Sg**	**09 36 32.4**	**+2.7**
MMB	**Musomiste**	**3.00**	**103**	*i* P	**Pn**	**09 35 42.9**	**+0.7**
MMB				*i* S	**Sg**	**09 36 27.9**	**-1.8**
LIT	**Litokhoron**	**3.01**	**137**	*e*Pn	**Pn**	**09 35 42.5**	**+0.4**
LIT				*e*Sn	**Sn**	**09 36 19.8**	**+0.9**
HORT	**Hortiatis**	**3.02**	**125**	*e*Pn	**Pn**	**09 35 42.5**	**+0.3**
SOH	**Sokhos**	**3.05**	**119**	*e*Pn	**Pn**	**09 35 42.8**	**+0.1**
SOH				*e*Sn	**Sn**	**09 36 21.4**	**+1.6**
BLY	**Banja Luka**	**3.07**	**322**	P	**Pn**	**09 35 43.3**	**+0.4**
SGRT	**San Giovanni R**	**3.10**	**260**	P	**Pn**	**09 35 42.3**	**-1.1**
NVR	**Nevrokopi**	**3.17**	**107**	*e*P	**Pn**	**09 35 43.5**	**-0.8**
PGB	**Panagyurishte**	**3.21**	**85**	*i* P	**Pn**	**09 35 45.2**	**+0.4**
PGB				*i* S	**Sg**	**09 36 36.6**	**+0.2**
RGNG	**Rignano Grg**	**3.24**	**259**	P	**Pn**	**09 35 44.1**	**-1.1**
PLG	**Polygyros**	**3.36**	**125**	*e*P	**Pn**	**09 35 48.0**	**+1.1**
ORI	**Oriolo Calabro**	**3.43**	**229**	P	**Pn**	**09 35 47.3**	**-0.5**
FG4	**Candela**	**3.45**	**251**	P	**Pn**	**09 35 48.0**	**-0.2**
BZS	**Buzias**	**3.50**	**21**	⇓*i*P	**Pn**	**09 35 48.3**	**-0.6**
BZS	**Buzias**	**3.50**	**21**	⇓P	**Pn**	**09 35 48.4**	**-0.5**
BZS	**Buzias**	**3.50**	**21**	P	**Pn**	**09 35 48.2**	**-0.6**
FG2	**Serracapriola**	**3.52**	**263**	P	**Pn**	**09 35 49.5**	**+0.4**
SCHR	**S. Chirico Rap**	**3.56**	**234**	P	**Pn**	**09 35 49.0**	**-0.6**
FG5	**Orsara di Pugl**	**3.58**	**254**	P	**Pn**	**09 35 49.8**	**-0.1**
PLD	**Plovdiv**	**3.62**	**92**	*i* P	**Pn**	**09 35 51.4**	**+0.9**
PLD				*i* Sg	**

CEY eSn Sn 09 37 13.5 +1.7
SOI Samo 5.16 215 P Pn 09 36 10.6 -1.1
MTCE Montecelio 5.28 269 P Pn 09 36 14.6 +1.3
MNS Montasola 5.30 273 P Pn 09 36 13.9 +0.4
LJU Ljubljana 5.31 316 ePn Pn 09 36 15.3 +1.7
LJU eSn Sn 09 37 16.4 +1.0
LJU eSg Sg 09 37 45.4 +1.7
LJU
comp=Z,4μm,2.5s
LJU Ljubljana 5.31 316 eP Pn 09 36 15.3 +1.7
LJU e 09 37 16.4
LJU Ljubljana 5.31 316 ePn Pn 09 36 15.3 +1.7
LJU eSn Sn 09 37 16.4 +1.0
LJU eSg Sg 09 37 45.4 +1.7
LJU Ljubljana 5.31 316 ePn Pn 09 36 15.3 +1.7
LJU eSn Sn 09 37 16.4 +1.0
LJU eSg Sg 09 37 45.4 +1.7
comp=Z,4μm,2.5s
RDP Rocca di Papa 5.33 266 P Pn 09 36 15.3 +1.3
ASS Assisi 5.34 280 P Pn 09 36 14.5 +0.4
FSSB Fossombrone 5.34 287 P Pn 09 36 13.8 -0.3
PESA Pesaro 5.36 290 P Pn 09 36 15.2 +0.9
PESA S Sn 09 37 18.4 +1.7
MA9 Marino 5.37 266 P Pn 09 36 15.7 +1.2
MTTG Motta San Giov 5.38 217 P Pn 09 36 14.4 -0.2
MLR Muntele Rosu 5.41 53 Pn Pn 09 36 15.6 +0.5
comp=Z,2.1nm,0.3s,baz=166,slow=8.8,SNR=20
MLR Lg 09 37 42.1
comp=Z,1.8nm,0.3s,baz=129,slow=19,SNR=3.2
MLR Muntele Rosu 5.41 53 P Pn 09 36 16.7 +1.6
MLR Muntele Rosu 5.41 53⇑ iP Pn 09 36 16.0 +0.9
ITM Ithomi 5.41 162 eP Pn 09 36 16.0 +0.9
ITM Ithomi 5.41 162 P Pn 09 36 14.8 -0.3
PENC Penc 5.45 356 eP Pn 09 36 15.2 -0.4
MURB Monte Urbino 5.45 282 P Pn 09 36 16.0 +0.3
TRI Trieste 5.51 310 P Pn 09 36 17.3 +0.8
PSZ Piszkesteto 5.56 0⇓ ePn Pn 09 36 16.0 -1.2
PSZ eSn Sn 09 37 18.8 -3.0
PSZ Piszkesteto 5.56 0⇓ iPn Pn 09 36 16.3 -0.9
PSZ Piszkesteto 5.56 0 P Pn 09 36 15.8 -1.3
OBKA Obir 5.62 319⇓ iPn Pn 09 36 18.6 +0.7
SNR=21
OBKA ⇓ iSn Sn 09 37 26.5 +3.4
RSM Repubblica di 5.63 289 P Pn 09 36 18.9 +0.9
PRD Provadia 5.63 79 iS Sg 09 37 50.0 -4.1
VOY Vojsko 5.63 313 ePn Pn 09 36 18.8 +0.7
VOY eSn Sn 09 37 27.5 +4.0
BADI Badiali 5.69 284 P Pn 09 36 20.1 +1.2
CDCA Citt' di Caste 5.69 284 P Pn 09 36 20.5 +1.6
SART Tekirdag 5.76 104 iP Sg 09 37 50.6 -7.6
ARSA Arzberg 5.78 329 iPn Pn 09 36 20.2 +0.1
SNR=21
ARSA ⇑ iSn Sn 09 37 27.9 +0.9
PRK Paraskevi 5.79 120 eP Pn 09 36 20.5 +0.3
SOP Sopron 5.81 338 ePn Pn 09 36 23.4 +2.8
SOP Sopron 5.81 338 P Pn 09 36 22.3 +1.7
DRE Drenchia 5.86 313⇓ eP Pn 09 36 22.0 +0.8
CRE Caprese Michel 5.92 285 P Pn 09 36 23.0 +1.0
PLOR Plostina 6.02 52⇑ iP Pn 09 36 24.0 +0.5
AYVA Ayvalik 6.02 118 iP Pn 09 36 24.1 +0.6
SFI Santa Sofia 6.05 288 P Pn 09 36 25.0 +1.2
VRI Vrincioaia 6.08 52⇓ iP Pn 09 36 24.9 +0.7
VRI Vrincioaia 6.08 52 P Pn 09 36 25.8 +1.6
LSR Lussari 6.11 315⇓ iP Pn 09 36 26.0 +1.3
BAD Bernadia 6.12 312⇓ eP Pn 09 36 25.0 +0.2
VLI Veliai 6.12 156 eP Pn 09 36 21.5 -3.3
GMNA Gemona 6.14 312 P Pn 09 36 26.9 +1.8
KECS Kecovo 6.15 4 iPN Pn 09 36 25.0 -0.2
KECS eSN Sn 09 37 32.6 -3.5
ZST Bratislava 6.15 343 ePB Pb 09 36 40.4 -0.7
ZST eSN Sn 09 37 32.2 -4.0
ZST Bratislava 6.15 343 eP Pn 09 36 31.2 +6.0
ZST e 09 37 32.2
ZST MLR MLR
comp=Z,2μm,12.4s
ZST Bratislava 6.15 343 eP Pn 09 36 31.2 +6.0
ZST e 09 36 40.4
ZST eSn Sn 09 37 32.2 -4.0
PTCC Patocco-Chiusa 6.16 313 P Pn 09 36 26.9 +1.5
CHOS Chios island 6.18 128 ePn Pn 09 36 26.9 +1.2
GIB Gibilmanna 6.23 227 P Pn 09 36 27.4 +1.1
CONA Conrad Observa 6.24 335⇑ iPn Pn 09 36 26.2 -0.2
SNR=9.5
CSLB Castelbuono 6.25 227 P Pn 09 36 26.2 -0.4
MPRI Monte Prat 6.26 311⇓ eP Pn 09 36 27.0 +0.2
VMG Vicchio 6.27 288 P Pn 09 36 28.4 +1.5
HARR Harsova 6.33 66⇓ iP Pn 09 36 28.3 +0.6
HARR Harsova 6.33 66⇓ P Pn 09 36 28.3 +0.6
PLRQ Paularo 6.36 314⇓ iP Pn 09 36 29.0 +0.9
CSNT Castellina Chi 6.37 283 P Pn 09 36 28.6 +0.3
VAE Valguarnera 6.41 222 Pn Pn 09 36 34.4 +5.6
comp=Z,7.7nm,0.3s,baz=258,slow=9.0,SNR=3.3
VAE LR LR 09 38 58.1
comp=Z,584nm,19.6s,baz=140,slow=38
SEI Scarperia 6.42 288 P Pn 09 36 30.8 +1.8
ZOU Zoufplan 6.46 313⇓ eP Pn 09 36 31.0 +1.5
BURAR Bucovina Array 6.50 34⇓ iP Pn 09 36 30.7 +0.7
BURAR Bucovina Array 6.50 34 P Pn 09 36 31.7 +1.7
UZH Uzhgorod 6.51 15⇓ iP Pn 09 36 30.0 -0.2
UZH eS Sn 09 37 47.0 +1.9
UZH pmax pmax
comp=Z,50nm,0.9s
UZH MLR MLR
comp=Z,2μm,11.0s
URLA Izmir 6.52 125 iP Pn 09 36 23.4 -7.0
GRFL Gerfalco 6.57 280 P Pn 09 36 31.5 +0.5
FVI Forni Avoltri 6.59 312 P Pn 09 36 32.8 +1.5
KBA Koelnbreinsper 6.61 318⇓ iPn Pn 09 36 33.5 +2.0
SNR=22
KBA ⇑ iSn Sn 09 37 48.1 +0.7
FNVD Fontana Vidola 6.61 289 P Pn 09 36 33.6 +2.0
CRVS Cervenica-Dubn 6.65 9 ePN Pn 09 36 31.6 -0.4
BTOK Tokmak 6.71 110 iP Pn 09 36 33.9 +0.9
MOA Molln 6.76 326⇑ iPn Pn 09 36 34.7 +1.1
SNR=17
MOA ⇓ iSn Sn 09 37 52.1 +0.9
KOLS Kolonicke sedl 6.80 14 ePN Pn 09 36 34.6 +0.5
APE Apeiranthos 6.87 138⇓ iP Pn 09 36 39.7 +4.7
APE Apeiranthos 6.87 138c iP Pn 09 36 39.4 +4.4
APE Apeiranthos 6.87 138⇓ P Pn 09 36 39.7 +4.7
KDAG Bornova 6.91 122 iP Pn 09 36 39.4 +3.8
CTI Castel Tesino 6.94 305 P Pn 09 36 35.7 -0.4
PII Pisa 6.96 284 P Pn 09 36 36.5 +0.2
SEST Monte Rota 6.99 312 P Pn 09 36 38.5 +1.7
GSCL Gusciola 7.03 290 P Pn 09 36 38.8 +1.5
NIE Niedzica 7.07 3 eP Pn 09 36 39.0 +1.1
VLC Villacollemand 7.13 288 ePn Pn 09 36 38.8 +0.2
VLC eSn Sn 09 38 01.6 +1.2
STHS Stebnicka Huta 7.13 7 ePN Pn 09 36 39.1 +0.4
ERBM Eremo 7.17 290 P Pn 09 36 41.7 +2.5
VRAC Vranov 7.31 343 Pn Pn 09 36 41.1 -0.1
comp=Z,0.6nm,0.3s,baz=162,slow=15,SNR=3.6
VRAC Vranov 7.31 343 P Pn 09 36 41.1 -0.1
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 7.31 343⇑ iP Pn 09 36 40.9 -0.3
ULDT Uludag 7.35 104 iP Pn 09 36 43.8 +2.1
SANT Santorini 7.39 142 P Pn 09 36 43.7 +1.4
APPI Appiano 7.41 307 P Pn 09 36 43.1 +0.6
TREC Trest 7.57 338 AMS AMS 09 39 50.0
comp=Z,2μm,8.6s
OKC Ostrava-Krasne 7.58 352 AMS AMS 09 40 10.0
comp=Z,1μm,6.7s
WTTA Wattenberg 7.62 313⇑ iPn Pn 09 36 46.1 +0.8
SNR=18
WTTA ⇓ iSn Sn 09 38 17.1 +4.7
MABI Malga Bissina 7.65 302 P Pn 09 36 46.0 +0.2
WATA Walderalm 7.69 313⇓ iPn Pn 09 36 47.2 +0.7
SNR=18
WATA ⇓ iSn Sn 09 38 17.2 +2.9
AYDN Tasoluk 7.75 125 iP Pn 09 36 48.7 +1.5
GEC2 GERESS Array S 7.78 329 ePn Pn 09 36 49.1 +1.5
GERES GERESS Array B 7.78 329 Pn Pn 09 36 48.2 +0.6
comp=Z,1.0nm,0.3s,baz=153,slow=13,SNR=23
GERES Sn Sn 09 38 16.9 +0.5
comp=Z,1.5nm,0.3s,baz=140,slow=20,SNR=3.6
GERES LR LR 09 40 22.6
comp=Z,482nm,19.1s,baz=143,slow=42
GERES GERESS Array B 7.78 329 P Pn 09 36 48.2 +0.6
GERES 09 38 16.9
GERES pmax pmax
comp=Z,1.0nm,0.3s

GERES smax
comp=N,2.0nm,0.3s
GERES MLR MLR
comp=Z,482nm,19.1s
SQTA Sankt Quirin 7.83 311⇓ iPn Pn 09 36 49.4 +1.2
SNR=10
SQTA ⇓ iSn Sn 09 38 21.6 +4.1
OJC Ojcow 7.87 360 eP Pn 09 36 47.6 -1.2
KIS Kishinev 7.91 51 eP Pn 09 36 50.0 +0.7
KIS e 09 38 12.0
KIS MLR MLR
comp=Z,3μm,13.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=Z,3μm,14.0s
BRMO Bormio 7.93 305 P Pn 09 36 50.7 +1.1
MOTA Moosalm 7.96 312⇑ iPn Pn 09 36 50.7 +0.7
SNR=13
MOTA ⇑ iSn Sn 09 38 24.6 +3.9
LVV L'vov 8.01 20 eP Pb 09 37 09.0 -3.9
PGF Pioggiola 8.02 275 ePn Pn 09 36 47.5 -3.3
KHC Kasperske Hory 8.06 329 ePN Pn 09 36 52.9 +1.4
KHC eSN Sn 09 38 21.9 -1.4
KHC AMS AMS 09 40 00.0
comp=Z,1μm,7.7s
KHC Kasperske Hory 8.06 329 ePn Pn 09 36 52.9 +1.4
KHC eSn Sn 09 38 21.9 -1.4
WET Wettzell 8.35 327 ePn Pn 09 36 56.8 +1.4
DPC Dobruska-Polom 8.36 344 AMS AMS 09 40 40.0
comp=Z,2μm,8.9s
DAVOX Davos/Dischmat 8.37 305 Pn Pn 09 36 56.2 +0.5
baz=128,slow=17,SNR=19
DAVOX Sn Sn 09 38 31.3 +0.4
baz=11,slow=22,SNR=3.8
HENT Hendek 8.43 97 iP Pn 09 36 46.6 -10
DNZL Cakiroluk 8.46 120 iP Pn 09 37 05.4 +8.4
PRU Pruhonice 8.47 336 ePN Pn 09 36 58.8 +1.7
PRU eSN Sn 09 38 31.6 -1.7
PRU AMS AMS 09 40 30.0
comp=Z,2μm,8.7s
PRU Pruhonice 8.47 336 ePn Pn 09 36 58.8 +1.7
PRU eSn Sn 09 38 31.6 -1.7
TUE Stuetta 8.56 302 P Pn 09 37 00.0 +1.7
DAVA Damuels 8.62 300⇓ iPn Pn 09 36 59.9 +0.7
DAVA ⇑ iSn Sn 09 38 41.4 +4.4
KSP Ksiaz 8.83 345 eP Pn 09 37 04.5 +2.5
PVCC Panska Ves 8.94 338 eSN Sn 09 38 41.9 -3.1
PVCC AMS AMS 09 40 50.0
comp=Z,2μm,8.1s
TKTP Tekketepe 9.11 115 iP Pn 09 37 12.9 +7.1
SAOF Saorge 9.12 284 P Pn 09 37 05.2 -0.8
ORO Oropa 9.15 295 P Pn 09 37 04.8 -1.6
SBF Sospel 9.20 284 ePn Pn 09 37 04.0 -3.0
MANZ Manzenberg 9.32 328 ePn Pn 09 37 09.3 +0.6
NKC Novy Kostel 9.39 330 ePN Pn 09 37 10.3 +0.6
NKC eSN Sn 09 38 53.8 -2.1
NKC AMS AMS 09 41 10.0
comp=Z,900nm,6.3s
NKC Novy Kostel 9.39 330 ePn Pn 09 37 10.3 +0.6
NKC eSn Sn 09 38 53.8 -2.1
DOI San Damiano 9.41 287 P Pn 09 37 09.3 -0.6
BRG Berggiesshubel 9.43 337 e(PG) Pn 09 37 09.8 -0.4
BRG e 09 37 18.1
BRG Berggiesshubel 9.43 337 SG Sx 09 39 20.0
comp=Z,16nm,1.0s
BRG
comp=N,971nm,7.3s
BRG
comp=E,475nm,8.3s
BRG
comp=Z,666nm,10.6s
BRG Berggiesshubel 9.43 337 eP Pn 09 37 09.8 -0.5
BRG MLR MLR
comp=N,971nm,7.3s
BRG MLR MLR
comp=E,475nm,8.3s
BRG MLR MLR
comp=Z,666nm,10.6s
BRG Berggiesshubel 9.43 337 Pg Pn 09 37 09.8 -0.4
comp=Z,16nm,1.0s
BRG Sg Sn 09 39 20.0 +23
GRA1 Grafenberg Arr 9.47 324 ePn Pn 09 37 11.7 +1.0
GRF Grafenberg Arr 9.47 324 ePn Pn 09 37 11.7 +1.0
AKAS Kas 9.73 126 iP Pn 09 37 16.8 +2.5
FRF La Foret Royal 9.75 282 ePn Pn 09 37 12.2 -2.4
MBDF Montbardon 9.78 288 ePn Pn 09 37 12.6 -2.4
MBDF eSn Sn 09 38 52.7 -13
comp=Z,33nm,0.8s
MBDF Montbardon 9.78 288 ePn Pn 09 37 12.6 -2.4
MBDF eSn Sn 09 38 52.7 -13
comp=Z,16nm,0.8s
STU Stuttgart 9.84 314 P Pn 09 37 15.6 -0.2
BNI Bardonecchia 9.90 290 ePn Pn 09 37 14.8 -1.9
BNI eSn Sn 09 39 05.0 -3.5
LPG La Plagne 9.95 293 ePn Pn 09 37 15.2 -2.1
LPG eSn Sn 09 38 58.0 -12
comp=Z,135nm,1.2s
LPG La Plagne 9.95 293 ePn Pn 09 37 15.2 -2.1
LPG eSn Sn 09 38 58.0 -12
comp=Z,68nm,1.2s
LPL La Plagne 9.97 293 ePn Pn 09 37 15.9 -1.7
LPL eSn Sn 09 38 58.5 -12
comp=Z,43nm,0.6s
LPL La Plagne 9.97 293 ePn Pn 09 37 15.9 -1.7
LPL eSn Sn 09 38 58.5 -12
comp=Z,21nm,0.6s
FELD Feldberg im Sc 10.02 307 P Pn 09 37 17.6 -0.7
MOX Moxa 10.04 329 ePn Pn 09 37 19.0 +0.5
MOX Moxa 10.04 329 ePN Pn 09 37 19.2 +0.7
MOX
comp=Z,600nm,17.0s
BFO Black Forest 10.06 310 ePn Pn 09 37 18.7 -0.1
BFO eSn Sn 09 39 08.5 -3.9
RSL Roselend 10.08 294 P Pn 09 37 19.0 -0.1
CLL Collm 10.10 335 eP Pn 09 37 26.0 +6.6
CLL pmax pmax
comp=Z,13nm,1.2s
CLL MLR MLR
comp=Z,1μm,8.9s
CLL Collm 10.10 335 ePn Pn 09 37 26.0 +6.6
comp=Z,13nm,1.2s
CLL ePg Pn 09 38 19.0 +60
CLL eSg 09 40 33.0
CLL Collm 10.10 335 ePn Pn 09 37 26.0 +6.6
comp=Z,13nm,1.2s
CLL ePg Pn 09 38 19.0 +60
CLL ex x 09 39 36.0
CLL eSg 09 40 33.0
comp=Z,82nm,1.4s
BBS Basel-Blauen 10.12 305 P Pn 09 37 19.8 +0.1
ORIF Oris-en-Rattie 10.44 289 eP Pn 09 37 25.1 +1.1
ORIF eSn Sn 09 39 09.0 -13
comp=Z,355nm,0.7s
ORIF eMLR MLR
comp=Z,547nm,22.6s
ORIF Oris-en-Rattie 10.44 289 eP Pn 09 37 25.1 +1.1
ORIF eSn Sn 09 39 09.0 -13
comp=Z,18nm,0.7s
KEST Kesra 10.50 234 Pn Pn 09 37 26.0 +1.1
comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=4.1
LOMF Lomont 10.50 303 P Pn 09 37 24.5 -0.3
MOF Molkenrain 10.52 306 P Pn 09 37 24.5 -0.7
TOD Tromm 10.55 317 P Pn 09 37 25.8 +0.2
AKASG Malin Array Be 10.55 35 Pn Pn 09 37 25.8 +0.1
comp=Z,0.5nm,0.3s,baz=222,slow=13,SNR=18
AKASG Lg 09 40 29.7
comp=Z,0.5nm,0.3s,baz=222,slow=29,SNR=4.2
AKASG LR LR 09 41 52.2
comp=Z,814nm,18.2s,baz=225,slow=40
AKBB Malin Array Si 10.55 35 eP Pn 09 37 26.0 +0.4
WLS Welschbruch 10.66 309 P Pn 09 37 26.3 -0.8
HINF Hinteralfeld 10.68 305 ePn Pn 09 37 23.9 -3.4
HINF eSn Sn 09 39 15.2 -12
comp=Z,44nm,0.7s
HINF Hinteralfeld 10.68 305 ePn Pn 09 37 23.9 -3.4
HINF eSn Sn 09 39 15.2 -12
comp=Z,22nm,0.7s
ECH Echery 10.68 308 P Pn 09 37 25.8 -1.5
CABF La Chapelle 10.70 298 ePn Pn 09 37 25.2 -2.5
CDF Champ du Feu 10.70 309 ePn Pn 09 37 24.4 -3.3
LANF Langenberg 10.71 312 P Pn 09 37 28.2 +0.5
BRTR Keskin Array B 10.75 100 Pn Pn 09 37 29.2 +0.8
comp=Z,0.2nm,0.3s,baz=278,slow=12,SNR=3.8

BRTR LR LR 09 42 23.1
comp=Z,464nm,19.0s,baz=290,slow=42
BRTR Keskin Array B 10.75 100 iP Pn 09 37 31.7 +3.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
OG05 Jujurieux 10.96 295 P Pn 09 37 29.2 -2.0
HAU Haudompre 11.06 305 ePn Pn 09 37 29.0 -3.6
HAU eSn Sn 09 39 24.6 -12
comp=Z,45nm,0.8s
HAU eMLR MLR
comp=Z,302nm,18.7s
HAU Haudompre 11.06 305 ePn Pn 09 37 29.0 -3.6
HAU eSn Sn 09 39 24.6 -12
comp=Z,22nm,0.8s
TNS Taunus Mts 11.12 319 ePn Pn 09 37 34.0 +0.6
VIVF Saint-Julien-l 11.28 288 ePn Pn 09 37 31.9 -3.6
PLDF La Plantade 12.19 293 P Pn 09 37 44.7 -3.3
SMF Signal de Mont 12.20 296 ePn Pn 09 37 44.4 -3.7
LOR Lormes 12.36 299 ePn Pn 09 37 47.9 -2.4
baz=123
LOR eMLR MLR
comp=Z,359nm,21.0s
SSF Saint Saulge 12.53 298 ePn Pn 09 37 48.5 -4.1
AVF Avril sur Loir 12.56 296 ePn Pn 09 37 50.6 -2.4
BGF Bois d'Agland 12.84 295 ePn Pn 09 37 53.9 -3.0
ANN Anapa 12.99 73 eP Pn 09 37 58.2 -0.8
ANN eS Sn 09 40 24.4 +0.2
ANN pmax pmax
comp=Z,28nm,0.9s
MNK Minsk 13.25 21 eP Pn 09 37 53.0 -10
GZT Gaziantep 14.50 104 iP Pn 09 38 22.5 +2.9
VOR Voronezh 16.15 48 P Pn 09 38 43.0 +1.6
VOR pmax pmax
comp=Z,110nm,1.9s
VSU Vasula 16.70 13 P Pn 09 38 49.7 +1.2
KIV Kislovodsk 16.75 77 eP Pn 09 38 50.0 +1.0
KIV eS Sn 09 41 58.1 +2.5
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,128nm,8.0s
OBN Obninsk 16.82 35⇑ eP Pn 09 38 48.6 -1.4
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,600nm,18.0s
OBN Obninsk 16.82 35 P Pn 09 38 50.9 +0.9
MARD Mardin 16.84 100 iP Pn 09 38 45.2 -5.1
ASF Jabal al Asfar 16.93 121 Pn Pn 09 38 52.0 +0.6
comp=Z,0.3nm,0.3s,baz=136,slow=9.2,SNR=5.7
ASF LR LR 09 46 01.6
comp=Z,94nm,18.9s,baz=23,slow=40
EIL Elat 17.57 131 P Pn 09 38 58.2 -1.1
MOS Moscow 17.68 35 eP Pn 09 38 58.5 -2.3
MOS pmax pmax
comp=Z,61nm,1.0s
MOS MLR MLR
comp=Z,1μm,19.0s
ZEI Tsey 17.72 81 eP Pn 09 39 03.0 +1.7
ESDC Sonseca Array 18.15 270 P Pn 09 39 06.6 +0.1
comp=Z,0.3nm,0.3s,baz=67,slow=12,SNR=2.5
ESDC LR LR 09 46 21.0
comp=Z,186nm,20.5s,baz=105,slow=38
HFS Hagfors 18.20 350 P Pn 09 39 07.7 +0.6
comp=Z,0.4nm,0.3s,baz=177,slow=10,SNR=8.1
HFS LR LR 09 45 37.8
comp=Z,142nm,19.0s,baz=172,slow=35
GNI Garni 18.84 88 P Pn 09 39 16.1 +1.1
comp=Z,1.4nm,0.3s,baz=55,slow=3.3,SNR=6.3
GNI Garni 18.84 88 P Pn 09 39 16.1 +1.1
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 18.84 88 eP Pn 09 39 16.8 +1.8
comp=Z,13nm,0.7s
HAKT HAKKARI 18.90 97 iP Pn 09 39 08.7 -6.9
HAKT HAKKARI 18.90 97 iP Pn 09 39 08.7 -6.9
NAO01 NORSAR Array S 19.30 347 eP Pn 09 39 19.3 -1.2
comp=Z,4.1nm,0.5s
NB2 NORSAR Subarra 19.43 347 P Pn 09 39 20.4 -1.7
comp=Z,20nm,1.4s,baz=160,slow=11
NB2 NORSAR Subarra 19.43 347 P Pn 09 39 20.4 -1.7
NB2 pmax pmax
comp=Z,20nm,1.4s
NOA NORSAR Array B 19.43 347 P Pn 09 39 20.6 -1.4
comp=Z,1.0nm,0.3s,baz=153,slow=10,SNR=11
NOA LR LR 09 46 38.5
comp=Z,101nm,18.6s,baz=175,slow=36
NOA NORSAR Array B 19.43 347 P Pn 09 39 20.6 -1.5
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,101nm,18.6s
FINES FINESS Array B 19.48 9 P Pn 09 39 20.4 -2.4
comp=Z,0.5nm,0.3s,baz=173,slow=11,SNR=14
FINES LR LR 09 47 17.7
comp=Z,242nm,21.8s,baz=179,slow=38
FINES FINESS Array B 19.48 9 iP Pn 09 39 22.2 -0.5
FINES pmax pmax
comp=Z,10.0nm,0.8s
FIA1 FINESS Array S 19.49 9 eP Pn 09 39 21.6 -1.2
EKA Eskdalemuir Ar 19.82 319 P Pn 09 39 25.1 -1.7
comp=Z,0.6nm,0.3s,baz=119,slow=9.6,SNR=17
EKA Eskdalemuir Ar 19.82 319 P Pn 09 39 25.1 -1.7
EKA pmax pmax
comp=Z,1.0nm,0.3s
ESK Eskdalemuir 19.83 319 P Pn 09 39 25.6 -1.3
KAF Kangasniemi 20.16 9 ep P 09 39 28.0 -1.0
comp=Z,8.2nm,0.7s
KAF Kangasniemi 20.16 9 eP P 09 39 28.0 -1.0
KAF pmax pmax
comp=Z,8.0nm,0.7s
MDT Midelt 21.52 252 P P 09 39 43.0 -0.8
comp=Z,4.7nm,1.0s,mb3.9,baz=68,slow=12,SNR=3.9
MDT LR LR 09 47 36.3
comp=Z,230nm,20.0s,MS3.6,baz=334,slow=36
JOF Joensuu 21.68 14 ep P 09 39 44.7 -0.7
comp=Z,11nm,0.6s,mb4.5
JOF Joensuu 21.68 14 eP P 09 39 44.7 -0.7
JOF pmax pmax
comp=Z,11nm,0.6s,mb4.5
RST Umm Al-Ruwaisa 25.34 112 eP P 09 40 19.7 -2.0
RST AMb AMB 09 40 26.5
comp=Z,58nm,0.7s,mb5.4
ORR Orenburg 25.34 56 eP P 09 40 21.1 -0.6
ORR pmax pmax
comp=Z,20nm,0.9s,mb4.8
ORR MLR MLR
comp=Z,330nm,23.0s,MS3.8
MIB Mutribah 25.39 111 eP P 09 40 20.5 -1.6
MIB AMb AMB 09 40 22.1
comp=Z,69nm,0.8s,mb5.5
NAY Al-Naaiem 25.66 112 eP P 09 40 22.5 -2.1
NAY AMb AMB 09 40 26.8
comp=Z,28nm,1.0s,mb4.9
AKTK Aktyubinsk 27.30 60 P P 09 40 38.4 -0.9
AKTK LR LR 09 53 37.1
AKTO Aktyubinsk 27.30 60 P P 09 40 38.4 -0.9
comp=Z,1.2nm,0.6s,mb3.8,baz=275,slow=9.9,SNR=4.9
AKTO LR LR 09 53 37.1
comp=Z,213nm,20.0s,MS3.7,baz=90,slow=41
AKTO Aktyubinsk 27.30 60 P P 09 40 38.4 -0.9
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
AKTO MLR MLR
comp=Z,213nm,20.0s,MS3.7
ARCES ARCESS Array B 27.41 4 P P 09 40 38.4 -1.9
comp=Z,2.2nm,0.6s,mb4.1,baz=191,slow=11,SNR=9.6
ARCES LR LR 09 51 28.1
comp=Z,202nm,20.5s,MS3.7,baz=9.0,slow=36
ARCES ARCESS Array B 27.41 4 P P 09 40 38.4 -1.9
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,202nm,20.5s
ARU Arti 28.43 47⇓ iP P 09 40 48.0 -1.5
ARU eS S 09 45 35.4 -2.2
ARU eSSS 09 47 06.1
ARU pmax pmax
comp=Z,17nm,0.9s,mb4.9
ARU MLR MLR
comp=N,200nm,18.0s,MS4.0
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.1
ARU MLR MLR
comp=E,300nm,17.0s,MS4.0
TOA0 Torodi Ar. Sit 33.08 214 eP P 09 41 30.0 -0.5

TOA0 *e*PcP PcP 09 44 12.7 -1.3
TORD Torodi Ar. Bea 33.08 214 P **P** **09 41 30.2 -0.4**
comp=E,5.1nm,0.8s,mb4.5,baz=18,slow=8.8,SNR=26
TORD LR LR 09 57 48.9
comp=E,90nm,20.1s,MS3.5,baz=335,slow=42
TORD Torodi Ar. Bea 33.08 214 P **P** **09 41 30.2 -0.4**
TORD LR LR 09 57 48.9
ZRNK Zerenda 34.14 55 *e*P **P** **09 41 40.1 +0.4**
ZRNK *e* 09 44 16.5
ZRNK pmax pmax
comp=Z,16nm,1.3s,mb4.8
ZRNK Zerenda 34.14 55 *e*P **P** **09 41 40.1 +0.4**
comp=Z,16nm,1.3s,mb4.8
ZRNK *e*PcP PcP 09 44 16.5 -0.5
BRVK Borovoye 34.91 54 *e*P **P** **09 41 46.6 +0.2**
BRVK pmax pmax
comp=Z,23nm,0.8s,mb5.2
BRVK Borovoye 34.91 54 *e*P **P** **09 41 46.6 +0.2**
comp=Z,23nm,0.8s,mb5.2
BVAR Borovoye Array 34.97 54 P **P** **09 41 46.8 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=269,slow=6.8,SNR=33
BVAR Borovoye Array 34.97 54 P **P** **09 41 46.8 -0.1**
BVAR pmax pmax
comp=Z,11nm,0.8s
CHKZ Chkalovo 35.08 53 *e*P **P** **09 41 48.1 +0.3**
comp=Z,6.4nm,0.8s,mb4.6
AAK Ala-Archa 39.70 70 *d i*P **P** **09 42 28.2 +1.1**
AAK pmax pmax
comp=Z,25nm,1.7s,mb4.6
FRU Bishkek 39.72 70 *e*P **P** **09 42 28.0 +0.8**
FRU pmax pmax
comp=Z,40nm,1.8s,mb4.8
NVS Novosibirsk 42.31 50 *e*P **P** **09 42 49.2 +0.7**
NVS pmax pmax
comp=Z,30nm,1.6s,mb4.8
NVS pmax pmax
comp=E,11nm,1.8s
ZAL Zalesovo 43.38 51 P **P** **09 42 56.9 -0.3**
comp=E,2.5nm,0.7s,mb4.0,baz=193,slow=7.9,SNR=7.4
ZAL LR LR 10 03 58.1
comp=E,466nm,18.6s,MS4.4,baz=205,slow=40
ZAL Zalesovo 43.38 51 P **P** **09 42 56.9 -0.3**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
ZAL MLR MLR
comp=Z,466nm,18.6s
MK31 Makanchi Array 43.68 62 *e*P **P** **09 42 57.6 -2.0**
MK31 *e* 09 44 46.3
MKAR Makanchi Array 43.68 62 P **P** **09 42 59.5 -0.1**
comp=Z,2.8nm,0.9s,mb4.0,baz=295,slow=26,SNR=4.9
MKAR PcP PcP 09 44 46.4 -0.5
comp=Z,2.8nm,0.8s,baz=299,slow=3.5,SNR=8.1
MKAR LR LR 10 03 02.3
comp=Z,140nm,21.0s,MS3.9,baz=298,slow=39
MKAR Makanchi Array 43.68 62 P **P** **09 42 59.5 -0.1**
MKAR 09 44 46.4
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR MLR MLR
comp=Z,141nm,21.0s
WMQ Urumqi 48.29 64 *e*P **P** **09 43 37.8 +1.8**
WMQ AP 09 43 42.0
WMQ XP sP 09 43 45.0 +8.7
WMQ PCP PcP 09 45 05.0 +2.1
WMQ *e*S **S** **09 50 36.0 -0.8**
WMQ XS sS 09 50 44.0 +6.9
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,109nm,4.8s
WMQ LR LR
comp=N,336nm,13.0s,MS4.7
WMQ LR LR
comp=E,302nm,10.7s,MS4.7
WMQ LR LR
comp=Z,197nm,15.8s
SCHQ Schefferville 55.08 315 P **P** **09 44 24.9 -1.9**
comp=Z,5.4nm,0.7s,mb4.7,baz=96,slow=1.7,SNR=5.1
SCHQ LR LR 10 04 32.8
comp=Z,158nm,19.5s,MS4.1,baz=9.1,slow=32
BOD Bodaibo 57.44 39 *e*P **P** **09 44 41.6 -2.0**
SONM Songino Array 58.27 52 P **P** **09 44 49.7 +0.2**
comp=Z,3.8nm,1.0s,mb4.4,baz=286,slow=7.4,SNR=18
SONM LR LR 10 11 50.5
comp=Z,298nm,20.4s,MS4.4,baz=149,slow=38
SONM Songino Array 58.27 52 P **P** **09 44 49.7 +0.3**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,298nm,20.4s
GTA Gaotai 58.38 64 *e*P **P** **09 44 50.3 +0.1**
GTA AP 09 44 54.6
GTA XP sP 09 44 57.9 +7.4
GTA PP PP 09 47 01.0 +1.7
GTA S **S** **09 52 52.3 -1.6**
GTA XS sS 09 52 59.1 +4.9
GTA SS SS 09 56 44.6 -1.2
GTA AMB AMB
comp=Z,3.0nm,1.4s,mb4.1
GTA AMB AMB
comp=Z,86nm,3.8s
GTA LR LR
comp=N,137nm,18.3s,MS4.3
GTA LR LR
comp=E,131nm,17.2s,MS4.3
GTA LR LR
comp=Z,191nm,24.8s
LZH Lanzhou 62.85 65 *e*P **P** **09 45 21.6 +0.9**
LZH AP 09 45 25.1
LZH PP PP 09 47 41.5 +2.6
LZH *e*S **S** **09 53 47.0 -4.2**
LZH *e*SS SS 09 57 54.0 -2.0
LZH AMB AMB
comp=Z,16nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,101nm,5.5s
LZH LR LR
comp=E,386nm,15.8s
LZH LR LR
comp=Z,669nm,16.2s,MS4.9
LZH Lanzhou 62.85 65 *e*P **P** **09 45 21.6 +0.9**
LZH *PP 09 45 25.1
LZH 09 47 41.5
LZH *e*S **S** **09 53 47.0 -4.2**
LZH *e*SS SS 09 57 54.0 -2.0
LZH pmax pmax
comp=Z,16nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,670nm,16.2s,MS4.9
LZH Lanzhou 62.85 65 *e*P **P** **09 45 21.6 +0.9**
comp=Z,16nm,1.2s,mb5.0
LZH pP 09 45 25.1
LZH PP PP 09 47 41.5 +2.6
LZH *e*S **S** **09 53 47.0 -4.2**
LZH sS sS 09 53 53.0 +1.5
LZH *e*SS SS 09 57 54.0 -2.0
LZH LR LR
comp=Z,670nm,16.2s,MS4.9
HHC Hu-ho-hao-te 65.14 57 *e*P **P** **09 45 35.8 0.0**
HHC AP 09 45 41.3
HHC XP sP 09 45 43.0 +6.9
HHC S S 09 54 13.8 -5.8
HHC AMB AMB
comp=Z,20nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,75nm,5.7s
HHC LR LR
comp=N,122nm,8.8s
HHC LR LR
comp=E,134nm,9.3s
HHC LR LR
comp=Z,109nm,5.9s
CD2 Chengdu 65.76 70 *e*P **P** **09 45 39.3 -0.5**
CD2 AP 09 45 43.9
CD2 XP sP 09 45 46.3 +6.2
CD2 S S 09 54 22.8 -4.4
CD2 SS SS 09 58 38.0 -3.4
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.3
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,140nm,13.2s,MS4.5
CD2 LR LR
comp=E,160nm,15.6s,MS4.5
CD2 LR LR
comp=Z,160nm,12.0s,MS4.4
SEY Seymchan 68.43 21 *e*P **P** **09 45 55.0 -1.8**
KMI Kunming 68.51 75 P **P** **09 45 59.4 +2.1**
KMI AP 09 46 02.1
KMI XP sP 09 46 03.3 +5.8
KMI PP PP 09 48 34.0 +5.7
KMI S S 09 54 58.4 -1.9
KMI SS SS 09 59 25.4 +1.5
KMI AMB AMB
comp=Z,7.0nm,0.6s,mb5.1
KMI AMB AMB
comp=Z,90nm,3.8s
KMI LR LR
comp=Z,45nm,25.4s,MS3.6
KMI Kunming 68.51 75 P **P** **09 45 59.4 +2.1**
KMI *PP 09 46 02.1
KMI *SP sP 09 46 03.2 +5.7
KMI 09 48 34.0
KMI S S 09 54 58.4 -1.9
KMI SS SS 09 59 25.4 +1.5
KMI SSS 10 02 24.2
KMI pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
KMI MLR MLR
comp=Z,50nm,25.4s,MS3.6
KMI Kunming 68.51 75 P **P** **09 45 59.4 +2.1**
comp=Z,7.0nm,0.6s,mb5.1
KMI pP 09 46 02.1
KMI sP sP 09 46 03.2 +5.7
KMI PP PP 09 48 34.0 +5.7
KMI S S 09 54 58.4 -1.9
KMI sS sS 09 55 04.0 +3.4
KMI SS SS 09 59 25.4 +1.5
KMI SSS 10 02 24.2
KMI LR LR
comp=Z,50nm,25.4s,MS3.6
YKA Yellowknife Ar 69.30 339 P **P** **09 46 01.0 -1.2**
comp=Z,9.3nm,1.0s,mb5.0,baz=32,slow=6.5,SNR=9.2
YKA LR LR 10 18 13.9
comp=Z,58nm,19.7s,MS3.8,baz=220,slow=38
YKA Yellowknife Ar 69.30 339 P **P** **09 46 01.0 -1.2**
YKA pmax pmax
comp=Z,9.0nm,1.0s
YKA MLR MLR
comp=Z,58nm,19.7s
CHTO Chiang Mai 69.65 83 *e*P **P** **09 46 03.1 -1.2**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CHTO Chiang Mai 69.65 83 *e*P **P** **09 46 03.1 -1.2**
comp=Z,8.6nm,1.0s,mb4.8
BOSA Boshof 70.79 175 P **P** **09 46 10.8 -0.5**
comp=Z,4.1nm,0.7s,mb4.6,baz=346,slow=5.4,SNR=8.8
BOSA LR LR 10 19 38.6
comp=Z,108nm,18.2s,MS4.1,baz=13,slow=38
BOSA Boshof 70.79 175 P **P** **09 46 10.9 -0.5**
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BOSA MLR MLR
comp=Z,108nm,18.2s,MS4.1
CN2 Changchun 71.43 47 *e*P **P** **09 46 14.8 -0.4**
CN2 *e*XP sP 09 46 21.0 +5.5
CN2 *e*S S 09 55 30.3 -4.2
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.7
CN2 LR LR
comp=E,300nm,19.0s,MS4.7
CN2 LR LR
comp=Z,400nm,21.0s,MS4.7
IMA2 Indian Mountai 71.80 357 *e*P **P** **09 46 16.5 -1.0**
ULM Lac du Bonnet 72.05 323 P **P** **09 46 17.7 -1.2**
comp=Z,9.0nm,1.0s,mb4.8,baz=49,slow=6.9,SNR=6.6
ULM Lac du Bonnet 72.05 323 *e*P **P** **09 46 12.2 -6.7**
comp=Z,29nm,1.3s,mb5.2
ULM P 09 46 17.7
EGAK Eagle 72.17 352 *e*P **P** **09 46 19.2 -0.5**
comp=Z,17nm,1.7s,mb4.9
DAWY Dawson 72.66 351 *e*P **P** **09 46 21.8 -0.8**
MDJ Mudanjiang 73.09 45 P **P** **09 46 23.1 -2.1**
MDJ AP 09 46 26.1
MDJ XP sP 09 46 28.4 +3.0
MDJ PCP PcP 09 46 37.8 -4.1
MDJ S S 09 55 48.8 -4.8
MDJ LR LR
comp=N,70nm,24.8s,MS4.2
MDJ LR LR
comp=E,111nm,20.0s,MS4.2
MDJ LR LR
comp=Z,196nm,17.9s,MS4.4
WHN Wuhan 73.20 64 *e*P **P** **09 46 26.8 +1.0**
EDM Edmonton 76.63 333 *e*P **P** **09 46 44.9 -0.7**
KSRS Korea Array 77.10 51 P **P** **09 46 47.5 -0.8**
comp=Z,6.1nm,0.9s,mb4.7,baz=319,slow=4.8,SNR=15
ECSD EROS,Sioux Fal 77.11 318 *e*P **P** **09 46 47.0 -1.3**
comp=Z,19nm,1.4s,mb5.0
YSS Yuzh-Sakhalins 77.70 36 *e*P **P** **09 46 50.9 -0.8**
LAO LASA Array 79.25 325 *e*P **P** **09 47 00.5 +0.3**
comp=Z,34nm,1.0s,mb5.3
EGMT Eagleton 79.61 328 *e*P **P** **09 47 02.0 -0.1**
comp=Z,57nm,1.2s,mb5.4
KDAK Kodiak Island 80.03 356 *e*P **P** **09 46 57.0 -7.4**
KSU1 Kansas State U 80.52 315 *e*P **P** **09 47 06.7 -0.4**
comp=Z,19nm,1.2s,mb5.0
QLMT Earthquake Lak 82.89 327 *e*P **P** **09 47 20.8 +1.1**
FLWY Flagg Ranch 83.21 327 *e*P **P** **09 47 21.9 +0.6**
comp=Z,15nm,1.0s,mb5.2
MJAR Matsuhiro Arr 83.44 46 P **P** **09 47 22.2 -0.3**
comp=Z,6.1nm,1.0s,mb4.8,baz=313,slow=5.2,SNR=14
MJAR LR LR 10 27 08.4
comp=Z,146nm,18.2s,MS4.4,baz=230,slow=38
MJAR Matsushiro Arr 83.44 46 P **P** **09 47 22.2 -0.3**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR MLR MLR
comp=Z,146nm,18.2s
MCMT McKenzie Canyo 83.45 328 *e*P **P** **09 47 22.0 -0.5**
IMW Indian Meadow 83.46 327 *e*P **P** **09 47 23.7 +1.1**
comp=Z,30nm,1.2s,mb5.4
TPAW Teton Pass 83.81 326 *e*P **P** **09 47 25.0 +0.6**
comp=Z,15nm,1.0s,mb5.2
DCID1 Drake Creek 83.81 327 *e*P **P** **09 47 25.6 +1.2**
PDAR Pinedale Array 83.82 325 P **P** **09 47 23.0 -1.4**
comp=Z,3.7nm,0.9s,mb4.6,baz=50,slow=4.6,SNR=28
PDAR LR LR 10 26 57.9
comp=Z,84nm,19.1s,MS4.1,baz=247,slow=37
RRI2 Red Ridge 84.07 326 *e*P **P** **09 47 26.3 +0.6**
comp=Z,20nm,1.2s,mb5.2
SDV Santo Domingo 84.43 277 *e*P **P** **09 47 27.9 +0.4**
comp=Z,11nm,0.9s,mb5.1
HAWA Hanford 84.54 333 *e*P **P** **09 47 28.5 +0.4**
comp=Z,14nm,0.9s,mb5.2
JOW Kunigami 84.73 58 LR LR 10 28 03.4
comp=Z,110nm,20.6s,MS4.2,baz=128,slow=38
BDFB Brasilia 84.87 244 LR LR 10 25 21.3
comp=Z,68nm,19.1s,MS4.0,baz=33,slow=36
PV10 Paradox Valley 87.17 322 *e*P **P** **09 47 40.6 -0.5**
DUG Dugway 87.32 326 *e*P **P** **09 47 41.6 -0.2**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
DUG Dugway 87.32 326 *e*P **P** **09 47 41.6 -0.2**
comp=Z,6.2nm,1.0s,mb4.8
MSU Marysvale 88.45 324 *e*P **P** **09 47 47.2 0.0**
ANMO Albuquerque 88.72 319⇑ *e*P **P** **09 47 47.2 -1.3**
ARUT Antelope Range 89.60 325 *e*P **P** **09 47 51.9 -0.7**
ROSC El Rosal 89.84 276 LR LR 10 23 42.3
comp=Z,84nm,20.7s,MS4.2,baz=79,slow=33
WUAZ Wupatki 90.58 322 *e*P **P** **09 47 57.7 +0.5**
MNTX Cornudas Mount 90.77 316 *e*P **P** **09 47 57.5 -0.6**
comp=Z,7.6nm,1.5s,mb4.8
NVAR Mina Array Bea 91.04 328 LR LR 10 32 25.7
comp=Z,6.6nm,21.2s,MS3.0,baz=305,slow=38
TXAR Lajitas Array 91.72 313 P **P** **09 48 02.8 +0.3**
comp=Z,4.5nm,1.0s,mb4.7,baz=53,slow=4.8,SNR=18
TXAR LR LR 10 28 54.5
comp=Z,75nm,18.6s,MS4.2,baz=5.0,slow=35
ISA Isabella 93.50 327 *e*P **P** **09 48 11.2 +0.5**
CPUP Villa Florida 98.53 242 LR LR 10 31 49.2
comp=Z,65nm,19.5s,MS4.1,baz=216,slow=35
LPAZ La Paz 99.31 257 LR LR 10 30 37.5
comp=Z,64nm,18.5s,MS4.2,baz=196,slow=34
WRA Warramunga Arr 121.12 89 PKP PKPdf 09 53 45.3 -2.5
comp=Z,1.3nm,0.8s,baz=302,slow=2.0,SNR=10
WRA Warramunga Arr 121.12 89 PKIKP PKPdf 09 53 45.3 -2.5
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 123.03 93 PKP PKPdf 09 53 49.6 -1.8
comp=Z,2.8nm,0.7s,baz=316,slow=1.4,SNR=40
ASAR Alice Springs 123.03 93 PKIKP PKPdf 09 53 49.7 -1.8
ASAR pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 133.21 97 PKP PKPdf 09 54 09.4 -1.5
comp=Z,2.1nm,0.7s,baz=321,slow=7.0,SNR=5.4
DZM Mont Dzumac 145.57 65 PKPbc PKPbc 09 54 33.4 0.0
comp=Z,11nm,0.9s,baz=121,slow=14,SNR=4.3

IDC 19 09:51:17.4±6.8,391S×13380E,h0km,mb3.6/1,mb1 3.7/3, mb1mx3.4/13,mbtmp3.5/3,Error ellipse: s-maj=392.5km s-min=31.1km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.94**	**178**	Pn	Pn	09 55 01.0	-1.9
	0.1nm,0.3s,baz=357,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**19.64**	**180**	P	Pn	09 55 48.7	-0.1
	0.2nm,0.3s,baz=5.4,slow=12,SNR=19						
MKAR	**Makanchi Array**	**67.83**	**324**	P	P	10 02 17.4	+0.2
	0.4nm,0.5s,baz=117,slow=8.2,SNR=4.7						

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*IDC **19** 09:52:15.4±2.3,475S×138.84E,h0km,mb3.9/2,mb1 4.3/4, mb1mx3.8/11,mbtmp4.1/4,ML4.6/1,Error ellipse: s-maj=70.1km s-min=18.4km az=94.0*
*NEIC **19** 09:52:15.9±1.1,462S×139.05E,h10km,mb4.4/1,Error ellipse: s-maj=17.7km s-min=15.2km az=50.0*
*ISCJB **19** 09:52:17.0±1.1,48S±0.1×139.1E±0.1,h33km,mb3.7/2, Error ellipse: s-maj=17.1km s-min=14.7km az=92.8*
ISC 19 09:52:19.3±1.0,471S±009×1391E±01,h35km,n14, σ1§38/16,mb3.7/2,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.27**	**121**	*e*Pn	**Pn**	**09 54 30.3**	**-0.2**
KAKA	**Kakadu**	**10.31**	**219**	*e*P	**Pn**	**09 54 44.7**	**-0.1**
	35nm,0.6s						
WRAB	**Tennant Creek**	**15.82**	**197**	*e*P	**Pn**	**09 56 02.3**	**+2.9**
	22nm,0.7s						
WB2	**Warramunga Arr**	**15.83**	**197**	*e*P	**Pn**	**09 55 55.3**	**-4.2**
WB2	**Warramunga Arr**	**15.83**	**197**	*e*Pn	**Pn**	**09 55 55.3**	**-4.2**
WRA	**Warramunga Arr**	**15.84**	**197**	Pn	**Pn**	**09 55 54.5**	**-5.1**
	1.0nm,0.3s,baz=19,slow=13,SNR=27						
WRA				Sn	**Sn**	**09 59 03.5**	**+10**
	0.4nm,0.3s,baz=18,slow=22,SNR=4.9						
FITZ	**Fitzroy Crossi**	**18.71**	**224**	*e*P	**Pn**	**09 56 37.5**	**+2.1**
	26nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.71**	**224**	P	**Pn**	**09 56 34.3**	**-1.1**
	baz=56,slow=15						
AS31	**Alice Springs**	**19.50**	**194**	*e*P	**Pn**	**09 56 43.1**	**-1.7**
ASAR	**Alice Springs**	**19.50**	**194**	P	**Pn**	**09 56 43.5**	**-1.4**
	1.7nm,0.3s,baz=28,slow=9.4,SNR=84						
ASAR				S	**S**	**10 00 23.0**	**+1.1**
	0.1nm,0.3s,baz=23,slow=26,SNR=7.0						
ASPA	**Alice Springs**	**19.50**	**194**	*e*P	**Pn**	**09 56 43.1**	**-1.8**
KKM	**Kota Kinabalu**	**25.21**	**295**	*e*P	**P**	**09 57 41.5**	**-0.2**
STKA	**Stephens Creek**	**27.13**	**175**	P	**P**	**09 58 01.0**	**+1.9**
	2.3nm,0.9s,mb3.7,baz=360,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**71.59**	**323**	P	**P**	**10 03 37.5**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=114,slow=7.0,SNR=2.7						

IDC 19 09:55:10.8±62.0,1682S×17750W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/15,mbtmp4.1/3,Error ellipse: s-maj=1141.0km s-min=161.6km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.91**	**240**	P	P	10 02 47.0	+0.4
	1.3nm,0.5s,baz=100,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**45.69**	**258**	P	P	10 03 33.8	+0.4
	1.0nm,0.5s,baz=94,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**45.92**	**253**	P	P	10 03 35.4	+0.1
	3.5nm,0.5s,baz=90,slow=8.3,SNR=18						

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*NEIC **19** 09:59:21.2,3172S×7150W,h34km,ML3.1(GUC),After GUC.*
GUC 19 09:59:21.2±0.7,3172S×7150W,h34km±1km,MD3.8, ML3.1,9C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.16**	**179**	*e*P	Pb	09 59 27.4	-0.1
CHNG				*i* S	Sb	09 59 31.9	+0.1
CHNG				AML	AML	09 59 32.3	
	comp=N,3μm,0.3s						
CMCH	**Combarbala**	**0.69**	**38**⇑	*i*P	Pn	09 59 34.5	-0.2
CMCH				*i* S	Sn	09 59 44.7	+0.5
CMCH				AML	AML	09 59 46.4	
	comp=N,2μm,0.7s						
CMCH	**Combarbala**	**0.69**	**38**⇑	*i*P	Pn	09 59 34.5	-0.2
CMCH				*i* S	Sn	09 59 44.7	+0.5
PTCH	**Petorca**	**0.73**	**138**⇑	*i*P	Pn	09 59 35.1	0.0
PTCH				*i* S	Sn	09 59 45.4	+0.4
PTCH				AML	AML	09 59 45.9	
	comp=N,2μm,0.1s						
OVCH	**Ovalle**	**1.14**	**13**⇓	*i*P	Pn	09 59 41.9	+1.2
OVCH				*i* S	Sn	09 59 56.9	+1.7
OVCH				AML	AML	10 00 00.0	
	comp=E,560nm,0.4s						
OVCH	**Ovalle**	**1.14**	**13**⇓	*i*P	Pn	09 59 41.9	+1.2
OVCH				*i* S	Sn	09 59 56.9	+1.7
JACH	**Jahuel**	**1.23**	**141**⇓	*i*P	Pn	09 59 43.4	+1.4
JACH				*i* S	Sn	09 59 59.4	+1.9
ROCH	**El Roble**	**1.32**	**162**⇑	*i*P	Pn	09 59 44.4	+1.2
ROCH				*i* S	Sn	10 00 02.6	+3.0
PEL	**Peldehue**	**1.58**	**154**⇑	*i*P	Pn	09 59 48.2	+1.4
PEL				*i* S	Sn	10 00 08.8	+2.8
PEL				AML	AML	10 00 11.6	
	comp=N,406nm,0.9s						
PEL	**Peldehue**	**1.58**	**154**⇑	*i*P	Pn	09 59 48.2	+1.4
PEL				*i* S	Sn	10 00 08.8	+2.8
TLL	**Tololo Astrono**	**1.66**	**21**⇑	*i*P	Pn	09 59 49.7	+1.8
TLL				*i* S	Sn	10 00 11.7	+3.6
TLL				AML	AML	10 00 15.1	
	comp=N,379nm,0.3s						
TLL	**Tololo Astrono**	**1.66**	**21**⇑	*i*P	Pn	09 59 49.7	+1.8
TLL				*i* S	Sn	10 00 11.7	+3.6
CLCH	**Cerro Calan**	**1.86**	**154**	*e*P	Pn	09 59 52.0	+1.3
CLCH				*i* S	Sn	10 00 16.2	+3.2
CLCH				AML	AML	10 00 18.3	
	comp=N,303nm,0.5s						
RCDM	**Rinconada Maip**	**1.86**	**162**	*e*P	Pn	09 59 52.1	+1.4
RCDM				*i* S	Sn	10 00 16.1	+3.1
RCDM				AML	AML	10 00 21.1	
	comp=E,362nm,0.1s						
RCDM	**Rinconada Maip**	**1.86**	**162**	*e*P	Pn	09 59 52.1	+1.4
RCDM				*i* S	Sn	10 00 16.1	+3.1
FCH	**Farellones**	**1.90**	**148**⇓	*i*P	Pn	09 59 53.5	+2.3
FCH				*i* S	Sn	10 00 17.9	+3.8
FCH				AML	AML	10 00 20.8	
	comp=E,197nm,0.2s						
TACH	**Talagante**	**1.99**	**166**⇑	*i*P	Pn	09 59 53.9	+1.5

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*NIED **19** 10:10:00,4640N×153.50E,h8km,Mw4.6 Best double couple: M0 7.63000×10^15 NP1:φ=250.00000°,δ=80.00000°, λ=98.00000°. NP2:φ=31.00000°,δ=13.00000°,λ=51.00000°.*
*IDC **19** 10:10:16.8±0.6,4645N×153.24E,h0km,mb4.3/17, mb1 4.5/18,mb1mx4.3/25,mbtmp4.3/18,ML3.6/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/35,Error ellipse: s-maj=18.8km s-min=16.5km az=145.0*
*BJI **19** 10:10:17.1,4677N×153.71E,h25km,mB4.7,mb4.6,Ms4.1, Msz3.8*
*NEIC **19** 10:10:18.6±0.6,4652N×153.35E,h10km,mb4.8/17,Error ellipse: s-maj=14.7km s-min=8.5km az=141.0*
*SKHL **19** 10:10:18.9±1.2,4630N×153.60E,h60km±26km,mb5.0/7, ms4.1/4,msh5.5/1*
*ISCJB **19** 10:10:20.7±0.9,4640N±006×153.20E±008,h33km±7km, mb4.8/50,MS3.8/10,Error ellipse: s-maj=12.0km s-min=5.9km az=101.9*
*MOS **19** 10:10:20.2±1.4,4651N×153.32E,h36km,mb4.8/24,Error*

ellipse: s-maj=9.2km s-min=7.3km az=91.7
*JMA **19** 10:10:20.5±1.0, 46.45N×153.46E, h30km, M4.7*
ISC 19 10:10:22.7±0.8, 46.43N±006×153.26E±008, h38km±6km, h24km±5.6km:pP-P, n160, σ1.9±38/176, mb4.8/50, MS3.8/10, 10C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**254**	*i* P	**Pn**	**10 11 19.8**	**-1.0**
KUR				AMB	AMB	10 11 20.3	
	300nm,0.4s						
KUR				AMB	AMB	10 11 20.3	
	130nm,0.4s						
KUR				AMB	AMB	10 11 20.3	
	960nm,0.4s						
KUR				*i* S	**Sn**	**10 12 06.0**	**+0.1**
KUR				A		10 12 17.6	
	3μm,2.0s						
KUR				A		10 12 17.6	
	2μm,2.0s						
KUR				A		10 12 18.8	
	780nm,0.8s						
KUR				A		10 12 18.8	
	610nm,0.8s						
KUR	**Kuril'sk**	**3.95**	**254**	α *i*PN	**Pn**	**10 11 19.8**	**-1.0**
KUR				pmax	pmax		
	comp=N,300nm,0.4s						
KUR				pmax	pmax		
	comp=E,130nm,0.4s						
KUR				pmax	pmax		
	comp=Z,960nm,0.4s						
SKR	**Severo-Kuril's**	**4.67**	**23**	*e*P	**Pn**	**10 11 25.2**	**-5.4**
SKR				AMB	AMB	10 11 28.0	
	comp=Z,70nm,0.4s						
SKR				AMB	AMB	10 11 28.0	
	comp=Z,80nm,0.4s						
SKR				*e*S	**Sn**	**10 12 15.5**	**-8.0**
SKR				A		10 12 24.0	
	comp=Z,330nm,0.9s						
SKR				A		10 12 24.0	
	comp=Z,360nm,0.9s						
SKR				A		10 12 24.0	
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.74**	**248**	*e*P	**Pn**	**10 11 46.3**	**+0.9**
YUK				AMB	AMB	10 11 54.2	
	comp=Z,230nm,0.5s						
YUK				AMB	AMB	10 11 54.2	
	comp=Z,380nm,0.5s						
YUK				*e*S	**Sn**	**10 12 50.8**	**+0.7**
YUK				A		10 12 58.3	
	comp=Z,420nm,0.5s						
YUK				A		10 12 58.3	
	comp=Z,150nm,0.5s						
YUK				A		10 13 22.0	
	comp=Z,2μm,1.0s						
NEM2	**Nemuro 2**	**6.15**	**243**	P	**Pn**	**10 11 50.0**	**-1.0**
NEM2				*e*S	**Sn**	**10 12 57.1**	**-3.0**
JRA	**Rausu**	**6.26**	**250**	P	**Pn**	**10 11 54.3**	**+1.7**
JRA				*e*S	**Sn**	**10 13 04.5**	**+1.6**
JNK	**Nakash**	**6.68**	**248**	P	**Pn**	**10 11 59.4**	**+1.1**
JNK				*e*S	**Sn**	**10 13 13.5**	**+0.3**
JAK	**Akkeshi**	**7.00**	**244**	P	**Pn**	**10 12 01.5**	**-1.1**
JAK				*e*S	**Sn**	**10 13 17.9**	**-3.0**
JTKR	**Abashiri--Toko**	**7.04**	**253**	P	**Pn**	**10 12 05.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.24**	**278**	*e*P	**Pn**	**10 12 12.0**	**+6.0**
YSS				AMB	AMB	10 12 13.3	
	comp=Z,40nm,0.9s						
YSS				AMB	AMB	10 12 13.3	
	comp=Z,20nm,0.9s						
YSS				AMS	AMS	10 14 49.0	
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.24**	**278**	*e*PN	**Pn**	**10 12 08.3**	**+2.3**
YSS				pmax	pmax		
	comp=Z,18nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.24**	**278**	*e*Pn	**Pn**	**10 12 08.2**	**+2.2**
	comp=Z,18nm,0.6s						
JMP	**Maruseppu**	**7.39**	**254**	P	**Pn**	**10 12 10.3**	**+2.2**
JAR	**Ashorobuto**	**7.43**	**249**	P	**Pn**	**10 12 09.5**	**+0.9**
JAR				*e*S	**Sn**	**10 13 32.4**	**+0.8**
PET	**Petropavlovsk**	**7.47**	**26**	*e*P	**Pn**	**10 12 10.4**	**+1.3**
PET				*e*S	**Sn**	**10 13 24.2**	**-8.4**
PET				A		10 13 26.9	
	comp=Z,100nm,1.1s						
PET				AMS	AMS	10 14 51.8	
	comp=Z,270nm,14.0s						
JOB	**Onbets**	**7.58**	**246**	P	**Pn**	**10 12 10.9**	**+0.2**
JOB				*e*S	**Sn**	**10 13 34.2**	**-1.1**
JSE	**Soyaes**	**7.62**	**263**	P	**Pn**	**10 12 16.6**	**+5.5**
JKK2	**Kamakawa 2**	**7.86**	**255**	P	**Pn**	**10 12 16.8**	**+2.4**
ASAJ	**Asahikawa**	**7.87**	**257**	Pn	**Pn**	**10 12 17.1**	**+2.5**
	comp=Z,2.2nm,0.3s,baz=96,slow=18,SNR=16						
ASAJ				LR	LR	10 15 00.0	
	comp=Z,154nm,21.4s,baz=307,slow=36						
ASAJ	**Asahikawa**	**7.87**	**257**	P	**Pn**	**10 12 17.5**	**+2.9**
UGL	**Uglegorsk**	**8.00**	**293**	*e*PN	**Pn**	**10 12 20.0**	**+3.7**
UGL				*e*		10 13 55.5	
UGL				pmax	pmax		
	comp=Z,39nm,0.5s						
UGL				MLR	MLR		
	comp=Z,800nm,16.0s						
UGL				MLR	MLR		
	comp=N,600nm,15.0s						
UGL				MLR	MLR		
	comp=E,950nm,15.0s						
JCH	**Churui**	**8.03**	**245**	P	**Pn**	**10 12 16.4**	**-0.4**
JCH				*e*S	**Sn**	**10 13 43.1**	**-3.2**
JFR	**Furan**	**8.25**	**251**	P	**Pn**	**10 12 22.4**	**+2.5**
TYV	**Tymovskoe**	**8.30**	**306**	*e*P	**Pn**	**10 12 20.5**	**-0.1**
TYV				AMB	AMB	10 12 24.2	
	comp=E,13nm,0.8s						
TYV				AMB	AMB	10 12 24.2	
	comp=E,24nm,0.8s						
TYV				AMS	AMS	10 16 10.0	
	comp=E,500nm,10.0s						
TYV				AMS	AMS	10 16 10.0	
	comp=E,500nm,15.0s						
TYV				AMS	AMS	10 16 10.0	
	comp=E,1μm,15.0s						
JAB	**Ashibetsu**	**8.35**	**253**	P	**Pn**	**10 12 24.1**	**+2.9**
JEM	**Erimo**	**8.48**	**242**	P	**Pn**	**10 12 24.1**	**+1.1**
ERM	**Erimo**	**8.49**	**242**	*e*PN	**Pn**	**10 12 24.3**	**+1.2**
ERM				pmax	pmax		
	comp=Z,70nm,0.6s						
ERM	**Erimo**	**8.49**	**242**	*e*Pn	**Pn**	**10 12 24.3**	**+1.3**
	comp=Z,70nm,0.6s						
ERM				*e*Sn	**Sn**	**10 13 53.7**	**-3.8**
JBT2	**Biratori 2**	**8.58**	**249**	P	**Pn**	**10 12 24.9**	**+0.5**
JBT2				*e*S	**Sn**	**10 13 59.0**	**-0.9**
JNBK	**Urakawa-nobuka**	**8.59**	**245**	P	**Pn**	**10 12 23.4**	**-1.1**
JNBK				*e*S	**Sn**	**10 13 58.7**	**-1.4**
JNB	**Noboribetsu**	**9.59**	**250**	P	**Pn**	**10 12 38.3**	**+0.1**
JNB				*e*S	**Sn**	**10 14 23.3**	**-1.3**
JKB	**Kayabe**	**9.88**	**247**	P	**Pn**	**10 12 41.1**	**-1.1**
JKB				*e*S	**Sn**	**10 14 26.1**	**-5.8**
JYM2	**Yakumo 2**	**10.19**	**250**	P	**Pn**	**10 12 46.4**	**-0.1**
JANG	**Nango**	**10.46**	**239**	P	**Pn**	**10 12 46.5**	**-3.6**
JANG				*e*S	**Sn**	**10 14 35.6**	**-10**
JSR	**Shiriuchi**	**10.46**	**247**	P	**Pn**	**10 12 48.7**	**-1.5**
JTM	**Tenmabayashi**	**10.48**	**242**	P	**Pn**	**10 12 48.3**	**-2.0**
JTM				*e*S	**Sn**	**10 14 39.1**	**-7.3**
JTH	**Tanohata**	**10.54**	**236**	P	**Pn**	**10 12 47.5**	**-3.7**
JTH				*e*S	**Sn**	**10 14 37.6**	**-10**
JOSM	**Okushiri--Mats**	**10.79**	**251**	P	**Pn**	**10 12 54.8**	**+0.1**
OFUJ	**Ofunato**	**11.24**	**233**	P	**Pn**	**10 12 57.8**	**-2.9**
OFUJ				*e*S	**Sn**	**10 14 55.5**	**-10**
JRG	**Rokugo**	**11.61**	**237**	P	**Pn**	**10 13 03.0**	**-2.8**
JRG				*e*S	**Sn**	**10 15 05.5**	**-8.7**
JIO	**Ouri**	**11.86**	**232**	*e*S	**Sn**	**10 15 08.5**	**-12**
EKMR	**Ekimchan**	**14.69**	**304**	*e*P	**Pn**	**10 13 48.2**	**+0.4**
EKMR				AMB	AMB	10 13 58.3	
	comp=Z,6.0nm,0.5s						
KLR	**Kul'dur**	**14.71**	**289**	*e*P	**Pn**	**10 13 51.4**	**+3.3**
KLR				AMS	AMS	10 21 20.5	
	comp=Z,400nm,12.0s						
KLR				AMS	AMS	10 21 20.5	
	comp=Z,2μm,12.0s						
MJAR	**Matsushiro Arr**	**14.96**	**234**	Pn	**Pn**	**10 13 49.0**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=10.0						
MAJO	**Matsushiro**	**14.97**	**234**	*e*P	**Pn**	**10 13 51.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s						
MAJO	**Matsushiro**	**14.97**	**234**	*e*Pn	**Pn**	**10 13 51.2**	**-0.3**
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**14.97**	**234**	P	**Pn**	**10 13 51.2**	**-0.3**
SEY	**Seymchan**	**16.55**	**359**	*e*P	**Pn**	**10 14 07.8**	**-4.1**
BMKR	**Bomnak**	**17.51**	**307**	*e*P	**Pn**	**10 14 23.0**	**-0.9**
BMKR				AMB	AMB	10 14 28.0	
	comp=Z,7.0nm,0.5s						
YAK	**Yakutsk**	**20.65**	**328**	*e*P	**P**	**10 15 05.7**	**+6.7**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
KSRS	**Korea Array**	**20.80**	**254**	P	**P**	**10 15 01.3**	**+0.7**
	comp=Z,6.2nm,0.8s,baz=59,slow=10,SNR=24						
INCN	**Inchon**	**21.64**	**255**	*e*P	**P**	**10 15 11.6**	**+1.9**
	comp=Z,22nm,0.8s,mb4.7						
BJI	**Beijing**	**27.57**	**270**	*e*P	**P**	**10 16 09.8**	**+3.7**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,85nm,16.7s,MS3.4						
BJI	**Beijing**	**27.57**	**270**	*e*P	**P**	**10 16 09.8**	**+3.7**
	comp=Z,11nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,90nm,16.7s,MS3.4						
TIXI	**Tiksi**	**27.81**	**344**	*e*P	**P**	**10 16 04.5**	**-3.7**
NJ2	**Nanjing**	**30.00**	**254**	*e*P	**P**	**10 16 28.8**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
SONM	**Songino Array**	**31.54**	**290**	P	**P**	**10 16 40.6**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.8,baz=82,slow=8.1,SNR=6.4						
SONM				PcP	PcP	10 19 33.5	+0.2
	comp=Z,0.9nm,0.9s,baz=151,slow=6.8,SNR=3.7						
SONM				LR	LR	10 30 18.1	
	comp=Z,108nm,19.4s,MS3.5,baz=69,slow=38						
SONM	**Songino Array**	**31.54**	**290**	P	**P**	**10 16 40.6**	**-0.6**
SONM						10 19 33.5	
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,108nm,19.4s						
SONM	**Songino Array**	**31.54**	**290**	P	**P**	**10 16 40.6**	**-0.7**
SONM				PcP	PcP	10 19 33.5	+0.2
TLY	**Talaya**	**32.42**	**298**	*i* P	**P**	**10 16 45.6**	**-3.4**
ZAK	**Zakamensk**	**32.91**	**296**	*e*P	**P**	**10 16 52.6**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
XAN	**Xi'an**	**35.59**	**266**	P	**P**	**10 17 17.5**	**+1.0**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
LZH	**Lanzhou**	**38.00**	**272**	*e*P	**P**	**10 17 39.1**	**+2.1**
LZH				AP	pP	10 17 46.5	-1.3
LZH				XP	sP	10 17 49.5	-2.8
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,127nm,4.4s						
LZH	**Lanzhou**	**38.00**	**272**	*e*P	**P**	**10 17 39.1**	**+2.1**
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	10 17 46.5	-1.3
LZH				sP	sP	10 17 49.5	-2.8
GTA	**Gaotai**	**39.12**	**280**	*e*P	**P**	**10 17 48.4**	**+2.0**
GTA				AP	pP	10 17 53.6	-3.6
GTA				XP	sP	10 17 56.5	-5.2
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.3						
GYA	**Guiyang**	**41.74**	**258**	⇑ *i*P	**P**	**10 18 09.3**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
INK	**Inuvik**	**41.87**	**32**	P	**P**	**10 18 08.8**	**-0.4**
	comp=Z,1.9nm,0.7s,mb3.8,baz=300,slow=3.4,SNR=2.9						
INK	**Inuvik**	**41.87**	**32**	*e*P	**P**	**10 18 09.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,57nm,0.6s						
INK	**Inuvik**	**41.87**	**32**	*e*P	**P**	**10 18 09.3**	**+0.1**
	comp=Z,57nm,0.6s,mb5.4						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**10 18 15.1**	**-2.4**
	comp=Z,3.0nm,0.4s,mb4.4,baz=357,slow=3.9,SNR=4.1						
ZAL				PcP	PcP	10 20 07.9	+0.1
	comp=Z,1.4nm,0.3s,baz=6.4,slow=2.9,SNR=5.5						
ZAL				LR	LR	10 37 51.0	
	comp=Z,186nm,18.2s,MS4.0,baz=54,slow=39						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**10 18 15.1**	**-2.4**
ZAL						10 20 07.9	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,186nm,18.2s						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**10 18 15.1**	**-2.3**
ZAL				PcP	PcP	10 20 07.9	+0.1
MK31	**Makanchi Array**	**47.18**	**298**	*e*P	**P**	**10 18 50.7**	**-0.8**
MKAR	**Makanchi Array**	**47.18**	**298**	P	**P**	**10 18 50.4**	**-1.1**
	comp=Z,5.3nm,0.7s,mb4.6,baz=67,slow=7.7,SNR=54						
MKAR				PcP	PcP	10 20 22.4	-0.2
	comp=Z,1.6nm,0.7s,baz=63,slow=4.5,SNR=5.3						
MKAR				LR	LR	10 40 08.9	
	comp=Z,174nm,18.4s,MS4.1,baz=244,slow=38						
MKAR	**Makanchi Array**	**47.18**	**298**	P	**P**	**10 18 50.4**	**-1.1**
MKAR						10 20 22.4	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,175nm,18.4s						
LSA	**Lhasa**	**50.39**	**274**	*e*P	**P**	**10 19 19.1**	**+3.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
LSA	**Lhasa**	**50.39**	**274**	*e*P	**P**	**10 19 19.1**	**+2.9**
	comp=Z,12nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**	**10 19 16.8**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**	**10 19 16.8**	**-1.9**
	comp=Z,12nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**10 19 20.3**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=296,slow=6.0,SNR=4.3						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**10 19 20.3**	**-1.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**10 19 20.3**	**-1.3**
BVAR	**Borovoye Array**	**51.14**	**310**	P	**P**	**10 19 20.9**	**-0.9**
	comp=Z,3.0nm,0.4s,mb4.6,baz=57,slow=9.2,SNR=17						
BVAR				PcP	PcP	10 20 37.0	+0.1
	comp=Z,1.2nm,0.7s,baz=122,slow=1.9,SNR=4.2						
BVAR	**Borovoye Array**	**51.14**	**310**	P	**P**	**10 19 20.9**	**-0.9**
BVAR						10 20 37.0	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BRVK	**Borovoye**	**51.18**	**310**	*e*P	**P**	**10 19 21.0**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**51.18**	**310**	*e*P	**P**	**10 19 21.0**	**-1.1**
	comp=Z,3.5nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**51.91**	**310**	*e*P	**P**	**10 19 26.2**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**51.91**	**310**	*e*P	**P**	**10 19 26.2**	**-1.3**
	comp=Z,5.0nm,0.7s,mb4.5						
CHTO	**Chiang Mai**	**52.14**	**257**	*e*P	**P**	**10 19 31.1**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
CHTO	**Chiang Mai**	**52.14**	**257**	*e*P	**P**	**10 19 31.1**	**+1.9**
	comp=Z,12nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**54.07**	**297**	*c i*P	**P**	**10 19 42.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
AAK	**Ala-Archa**	**54.07**	**297**	*e*P	**P**	**10 19 42.4**	**-1.1**
	comp=Z,5.6nm,0.9s,mb4.5						
GUN	**Gumba**	**55.13**	**275**	*e*P	**P**	**10 19 53.1**	**+2.0**
	comp=Z,14nm,0.3s,mb5.4						
ARU	**Arti**	**55.32**	**318**	⇑ *i*P	**P**	**10 19 50.9**	**-1.6**
ARU				*e*		10 21 50.0	
ARU				*e*S	**S**	**10 27 27.5**	**-6.4**
ARU				*e*SS	SS	10 31 08.8	-10
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	**Arti**	**55.32**	**318**	P	**P**	**10 19 51.1**	**-1.4**
	comp=Z,8.0nm,0.4s,mb5.1						
KKN	**Kakani**	**55.62**	**276**	*e*P	**P**	**10 19 57.0**	**+2.3**
	comp=Z,31nm,0.6s,mb5.5						
PKI	**Pulchoki**	**55.66**	**275**	*e*P	**P**	**10 19 56.7**	**+1.7**
	comp=Z,14nm,0.5s,mb5.2						
DMN	**Daman**	**55.85**	**276**	*e*P	**P**	**10 19 58.4**	**+2.1**
	comp=Z,22nm,0.5s,mb5.5						
HNR	**Honiara**	**55.92**	**172**	LR	LR	10 43 26.9	
	comp=Z,98nm,18.8s,MS3.9,baz=0.0,slow=36						
GKN	**Gorkha**	**55.92**	**276**	*e*P	**P**	**10 19 58.7**	**+1.8**
	comp=Z,34nm,0.5s,mb5.6						
KOLN	**Koldanda**	**56.78**	**277**	*e*P	**P**	**10 20 05.0**	**+2.0**
	comp=Z,29nm,0.8s,mb5.4						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**10 20 11.4**	**-1.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=44,slow=7.1,SNR=3.8						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**10 20 11.5**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	**Joensuu**	**61.67**	**334**	*e*p	**P**	**10 20 34.1**	**-2.7**
	comp=Z,2.1nm,0.4s,mb4.6						
JOF	**Joensuu**	**61.67**	**334**	*e*P	**P**	**10 20 34.1**	**-2.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**63.78**	**335**	*e*p	**P**	**10 20 48.9**	**-1.9**
	baz=37,slow=6.2						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**10 20 53.2**	**-1.5**
	comp=Z,7.6nm,0.6s,mb4.9,baz=36,slow=7.5,SNR=40						
FINES				LR	LR	10 51 46.5	
	comp=Z,66nm,18.0s,MS3.9,baz=355,slow=39						
FINES	**FINESS Array B**	**64.38**	**335**	⇑ *e*P	**P**	**10 20 53.5**	**-1.2**
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**10 20 53.2**	**-1.5**
PDAR	**Pinedale Array**	**64.86**	**54**	P	**P**	**10 20 58.5**	**+0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=266,slow=2.2,SNR=4.4						
OBN	**Obninsk**	**65.63**	**326**	*e*P	**P**	**10 21 01.3**	**-1.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
PV10	**Paradox Valley**	**68.06**	**57**	*e*P	**P**	**10 21 19.0**	**+0.7**
PV10				*e*	pP	10 21 29.0	-0.8
WRA	**Warramunga Arr**	**68.24**	**199**	P	**P**	**10 21 17.7**	**-1.8**
	comp=Z,1.2nm,0.9s,mb3.9,baz=16,slow=7.0,SNR=6.0						
WRA	**Warramunga Arr**	**68.24**	**199**	P	**P**	**10 21 17.7**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.57**	**341**	P	**P**	**10 21 20.5**	**-1.0**
	comp=Z,8.5nm,0.8s,mb4.7,baz=28,slow=6.2						
NB2	**NORSAR Subarra**	**68.57**	**341**	P	**P**	**10 21 20.5**	**-1.0**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
NOA	**NORSAR Array B**	**68.57**	**341**	P	**P**	**10 21 20.9**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=22						
NOA				LR	LR	10 57 24.5	
	comp=Z,36nm,18.3s,MS3.6,baz=340,slow=41						
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**10 21 40.9**	**-0.9**
	comp=Z,6.2nm,0.5s,mb4.8,baz=34,slow=6.2,SNR=36						
AKASG				LR	LR	10 55 04.0	
	comp=Z,39nm,18.2s,MS3.7,baz=320,slow=37						
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**10 21 40.9**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,39nm,18.2s						
AKBB	**Malin Array Si**	**71.87**	**326**	*e*P	**P**	**10 21 40.7**	**-1.0**
ANMO	**Albuquerque**	**71.92**	**58**	⇑ *i*P	pP	10 21 52.4	-1.1
ASAR	**Alice Springs**	**71.93**	**199**	P	**P**	**10 21 42.7**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=11,slow=5.7,SNR=17						
ASAR	**Alice Springs**	**71.93**	**199**	P	**P**	**10 21 42.7**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OJC	**Ojcow**	**75.65**	**331**	*e*P	**P**	**10 22 04.2**	**+0.3**
BURAR	**Bucovina Array**	**75.91**	**327**	⇓ *i*P	**P**	**10 22 04.3**	**-1.1**
CLL	**Collm**	**76.80**	**336**	*i* P	**P**	**10 22 10.3**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8						
MLR	**Muntele Rosu**	**77.39**	**325**	⇑ *i*P	**P**	**10 22 14.8**	**+1.1**
TXAR	**Lajitas Array**	**77.57**	**61**	P	**P**	**10 22 14.4**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=301,slow=4.1,SNR=8.6						
TXAR	**Lajitas Array**	**77.57**	**61**	P	**P**	**10 22 14.4**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VOIR		**77.78**	**326**	⇓ *i*P	**P**	**10 22 16.7**	**+0.8**
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**10 22 21.1**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=75,slow=5.2,SNR=4.9						
BRTR	**Keskin Array B**	**78.69**	**317**	⇑ *e*P	**P**	**10 22 20.0**	**+1.0**
GZR	**Gura Zlata**	**78.70**	**327**	⇑ *i*P	**P**	**10 22 21.0**	**0.0**
GERES	**GERESS Array B**	**78.79**	**334**	P	**P**	**10 22 21.4**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=46,slow=7.6,SNR=9.7						
GERES	**GERESS Array B**	**78.79**	**334**	P	**P**	**10 22 21.4**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
UMR	**Umm Al-Rimmam**	**78.88**	**301**	*e*P	**P**	**10 22 23.1**	**+1.1**
UMR				AMb	AMB	10 22 24.1	
	comp=Z,31nm,0.7s,mb5.3						
MIB	**Mutribah**	**78.92**	**302**	*e*P	**P**	**10 22 23.3**	**+1.1**
MIB				AMb	AMB	10 22 25.0	
	comp=Z,36nm,0.7s,mb5.4						
MEM	**Membach**	**79.29**	**339**	P	**P**	**10 22 25.5**	**+1.3**
RST	**Umm Al-Ruwaisa**	**79.34**	**302**	*e*P	**P**	**10 22 25.1**	**+0.6**
RST				AMb	AMB	10 22 26.4	
	comp=Z,35nm,0.6s,mb5.5						
QRN	**Al-Qurain**	**79.35**	**300**	*e*P	**P**	**10 22 25.8**	**+1.3**
QRN				AMb	AMB	10 22 26.9	
	comp=Z,32nm,0.4s,mb5.6						
NAY	**Al-Naaiem**	**79.38**	**301**	*e*P	**P**	**10 22 25.8**	**+1.1**
NAY				AMb	AMB	10 22 27.6	
	comp=Z,13nm,0.8s,mb4.9						
RDF	**Al-Radifah**	**79.44**	**301**	*e*P	**P**	**10 22 26.0**	**+1.0**
RDF				AMb	AMB	10 22 27.4	
	comp=Z,26nm,0.8s,mb5.2						
BAIF	**Baives**	**80.22**	**340**	*e*P	**P**	**10 22 28.6**	**-0.7**
CDF	**Champ du Feu**	**81.00**	**338**	*e*P	**P**	**10 22 32.8**	**-0.6**
	comp=

STKA	**Stephens Creek**	**43.03 161**	P		**P**	**10 21 35.8**	**+0.1**
	1.3nm,0.4s,mb4.0,baz=334,slow=10.0,SNR=5.7						
MKAR	**Makanchi Array**	**53.23 323**	P		**P**	**10 22 54.6**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=120,slow=5.7,SNR=4.5						
VNDA	**Vanda**	**88.52 173**	P		**P**	**10 26 28.0**	**-0.1**
	0.8nm,0.8s,mb4.1,baz=333,slow=7.5,SNR=11						

IDC 19 10:18:13.4±2.0, 664S×12968E, h0km, mb4.1/1, mb1 4.0/4, mb1mx3.6/15, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=77.7km s-min=27.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.06**	**199**	Pn	Pn	10 21 08.6	+2.1
	0.3nm,0.3s,baz=28,slow=13,SNR=11						
FITZ				Sn	Sn	10 23 12.7	-9.0
	0.5nm,0.3s,baz=81,slow=7.8,SNR=6.4						
WRA	**Warramunga Arr**	**13.98**	**162**	Pn	Pn	10 21 30.9	-1.8
	0.5nm,0.3s,baz=339,slow=13,SNR=18						
WRA				Sn	Sn	10 23 55.4	-13
	0.5nm,0.3s,baz=335,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.41**	**167**	P	Pn	10 22 17.8	+0.1
	0.3nm,0.3s,baz=342,slow=9.4,SNR=12						
ASAR				S	Sn	10 25 20.9	-11
	0.1nm,0.3s,baz=358,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	10 29 12.9	+0.1
	0.9nm,0.5s,baz=119,slow=8.0,SNR=12						

*ISCJB **19** 10:55:51.0±1.2, 3609N×003×3167E×005, h2km±9km, Error ellipse: s-maj=7.7km s-min=4.3km az=102.1*
*CSEM **19** 10:55:52.5±1.0, 3601N×3161E, h28km±9km, Mw3.0, Error ellipse: s-maj=6.0km s-min=3.7km az=39.0*
*ISK **19** 10:55:52.2, 3595N×3163E, h32km, MD3.5*
*NIC **19** 10:55:55.4±0.3, 3606N×3213E, h11km, ML3.2, MW3.0*

ISC 19 10:55:52.5±1.2, 3603N±003×3165E±004, h11km±9km, n21, σ1§31/32, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**1.15**	**151**	P	**Pb**	**10 56 14.7**	**+0.4**
ALFC	**Alevga**	**1.17**	**138**	⇑P	**Pb**	**10 56 14.3**	**-0.4**
	37nm,0.1s						
ALFC				S	**Sb**	**10 56 27.9**	**-1.9**
ALFC	**Alevga**	**1.17**	**138**	⇑*e*P	**Pb**	**10 56 14.3**	**-0.4**
	37nm,0.1s						
ERMK	**Ermenek**	**1.19**	**59**	*i* P	**Pb**	**10 56 16.3**	**+1.3**
ERMK				*i* S	**Sb**	**10 56 32.8**	**+2.4**
PPCY	**Paphos**	**1.28**	**153**	P	**Pn**	**10 56 17.7**	**+1.4**
PPCY				S	**Sb**	**10 56 34.4**	**+1.4**
SZAC	**Souni-Zanaja**	**1.63**	**141**	P	**Pn**	**10 56 23.9**	**+2.9**
BCK	**Bucak**	**1.66**	**329**	PN	**Pn**	**10 56 21.4**	**-0.1**
AKAS	**Kas**	**1.67**	**277**	*i* P	**Pn**	**10 56 21.0**	**-0.6**
AKAS				*i* S	**Sn**	**10 56 45.4**	**+2.4**
CSS	**Prodhromos**	**1.74**	**127**	P	**Pn**	**10 56 21.8**	**-0.8**
	2.6nm,0.3s						
CSS				S	**Sn**	**10 56 41.0**	**-3.8**
CSS	**Prodhromos**	**1.74**	**127**	PN	**Pn**	**10 56 21.1**	**-1.5**
CSS				SN	**Sn**	**10 56 40.5**	**-4.3**
CSS	**Prodhromos**	**1.74**	**127**	P	**Pn**	**10 56 21.8**	**-0.8**
	2.6nm,0.3s						
CSS				*e*Sn	**Sn**	**10 56 40.5**	**-4.3**
KONT	**Konya--Tatoy**	**1.99**	**16**	*e*PN	**Pn**	**10 56 26.0**	**-0.1**
KONT				*e*SN	**Sn**	**10 56 50.1**	**-0.8**
ISP	**Isparta**	**2.02**	**334**	PN	**Pn**	**10 56 24.7**	**-1.8**
TKTP	**Tekketepe**	**2.27**	**332**	*i* P	**Pn**	**10 56 29.6**	**-0.3**
TKTP				*i* S	**Sn**	**10 56 58.1**	**+0.4**
TKTP	**Tekketepe**	**2.27**	**332**	*i* P	**Pn**	**10 56 29.5**	**-0.3**
KDHN	**Kadinhani**	**2.51**	**8**	*i* P	**Pn**	**10 56 32.7**	**-0.5**
KDHN				*i* S	**Sn**	**10 57 07.3**	**+3.5**
DALT	**Dalyan (Mudla)**	**2.54**	**288**	*e*PN	**Pn**	**10 56 32.5**	**-1.1**
DNZL	**Cakiroluk**	**2.66**	**309**	*i* P	**Pg**	**10 56 42.4**	**-1.1**
DNZL				*i* S	**Sg**	**10 57 20.3**	**+2.3**
KARA	**Karaisali**	**3.00**	**65**	*e*PN	**Pn**	**10 56 38.7**	**-1.2**
BODT	**Bodrum**	**3.64**	**288**	*e*PN	**Pn**	**10 56 47.7**	**-1.0**
KOZT	**Kozan**	**3.65**	**65**	*e*PN	**Pn**	**10 56 48.7**	**-0.2**

IDC 19 11:12:01.8±3.5, 887S×10948E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=178.1km s-min=25.7km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.66**	**317**	LR	LR	11 23 18.4	
	comp=Z,91nm,19.8s,baz=31,slow=43						
FITZ	**Fitzroy Crossi**	**18.18**	**122**	P	Pn	11 16 14.5	-1.1
	0.1nm,0.3s,baz=291,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**26.43**	**117**	P	P	11 17 40.5	+0.2
	0.9nm,0.9s,baz=289,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**27.61**	**125**	P	P	11 17 51.9	+1.1
	0.3nm,0.8s,baz=303,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**60.49**	**339**	P	P	11 22 13.5	0.0
	0.6nm,0.6s,baz=142,slow=8.5,SNR=6.1						

*IDC **19** 11:15:45.4±1.2, 1849N×65.14W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/20, mbtmp3.8/4, MS3.6/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=48.9km s-min=20.4km az=34.0*
*ISCJB **19** 11:15:46.0±1.5, 1924N±006×6469W±005, h6km±10km, mb3.8/4, MS3.6/3, Error ellipse: s-maj=10.8km s-min=6.8km az=144.8*
*NEIC **19** 11:15:48.1, 1920N×6447W, h55km, MD3.8(RSPR), After RSPR.*
*RSPR **19** 11:15:48.1, 1920N×6447W, h55km±9km, MD3.8/14, MD3.8/14*

ISC 19 11:15:46.6±1.5, 1919N±006×6468W±005, h2km±7km, n25, σ0§54/34, mb3.8/4, MS3.6/3, 7C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.36**	**217**	⇓*e*P	**Pn**	**11 16 12.4**	**-0.2**
MTP				*e*S	**Sg**	**11 16 30.1**	**-0.3**
CBYP	**Canovanas**	**1.44**	**231**	⇑*e*P	**Pn**	**11 16 13.1**	**-0.6**
CBYP				*e*S	**Sg**	**11 16 33.3**	**+0.5**
HUMP	**Col San Antoni**	**1.52**	**227**	⇑*e*P	**Pn**	**11 16 14.2**	**-0.5**
HUMP				*e*S	**Sn**	**11 16 34.6**	**-0.5**
CPD	**Cerro la Pandu**	**1.64**	**226**	⇑*e*P	**Pn**	**11 16 15.7**	**-0.7**
CPD				*e*S	**Sn**	**11 16 37.7**	**-0.3**
SJG	**San Juan**	**1.75**	**233**	⇑*e*P	**Pn**	**11 16 17.6**	**-0.4**
SJG				*e*S	**Sn**	**11 16 40.9**	**-0.1**
SJG	**San Juan**	**1.75**	**233**	⇓*e*P	**Pn**	**11 16 17.6**	**-0.4**
SJG				*e*S	**Sn**	**11 16 40.3**	**-0.7**
STMA	**St. Maarten, A**	**1.88**	**127**	*e*S	**Sn**	**11 16 44.1**	**+0.1**
CELP	**Cerrillos**	**2.11**	**239**	⇓*i*P	**Pn**	**11 16 22.9**	**0.0**
CELP				*e*S	**Sn**	**11 16 50.1**	**+0.4**
AOPR	**Arecibo Observ**	**2.13**	**247**	⇓*e*P	**Pn**	**11 16 23.3**	**+0.1**
AOPR				*e*S	**Sn**	**11 16 50.8**	**+0.6**
ICM	**Isla Caja Muer**	**2.17**	**234**	⇑*e*P	**Pn**	**11 16 24.0**	**+0.3**
ICM				*e*S	**Sn**	**11 16 51.0**	**-0.1**
LRS	**Lares**	**2.23**	**247**	⇑*e*P	**Pn**	**11 16 24.6**	**0.0**
GBPR	**Guanica, Bosqu**	**2.41**	**240**	⇓*e*P	**Pn**	**11 16 27.1**	**+0.1**
GBPR	**Guanica, Bosqu**	**2.41**	**240**	*e*S	**Sn**	**11 16 56.8**	**-0.2**
AGPR	**Aguadilla, PR**	**2.41**	**253**	⇓*e*P	**Pn**	**11 16 27.2**	**+0.2**
AGPR				*e*S	**Sn**	**11 16 57.3**	**+0.3**
LSP	**Las Mesas**	**2.49**	**247**	⇑*e*P	**Pn**	**11 16 28.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.58**	**243**	⇓*e*P	**Pn**	**11 16 29.4**	**-0.1**
CRPR				*e*S	**Sn**	**11 17 01.8**	**+0.4**
SDV	**Santo Domingo**	**11.75**	**210**	*e*Pn	**Pn**	**11 18 36.9**	**+1.6**
	13nm,0.7s						
ROSC	**El Rosal**	**17.07**	**215**	Pn	**Pn**	**11 19 45.2**	**-1.2**
	1.2nm,0.3s,baz=90,slow=20,SNR=3.9						
ROSC	**El Rosal**	**17.07**	**215**	*e*P	**Pn**	**11 19 47.4**	**+1.0**
TXAR	**Lajitas Array**	**36.80**	**294**	P	**P**	**11 22 56.0**	**+0.3**
	0.6nm,0.8s,mb3.5,baz=104,slow=11,SNR=4.3						
BDFB	**Brasilia**	**38.30**	**154**	LR	LR	11 38 39.4	
	comp=Z,66nm,19.4s,MS3.5,baz=16,slow=36						
PDAR	**Pinedale Array**	**44.42**	**312**	P	**P**	**11 23 58.0**	**-0.7**
	2.0nm,0.7s,mb4.0,baz=108,slow=8.5,SNR=17						
CPUP	**Villa Florida**	**45.81**	**171**	P	**P**	**11 24 03.7**	**-6.0**
	0.8nm,0.5s,mb4.0,baz=0.0,slow=8.1,SNR=4.4						
MDT	**Midelt**	**55.02**	**63**	LR	LR	11 43 20.5	
	comp=Z,43nm,20.9s,MS3.5,baz=9.6,slow=30						
TORD	**Torodi Ar. Bea**	**63.72**	**84**	P	**P**	**11 26 23.4**	**+3.7**
	0.6nm,0.7s,mb3.7,baz=289,slow=7.1,SNR=3.5						
TORD				LR	LR	11 48 42.7	
	comp=Z,55nm,20.2s,MS3.7,baz=235,slow=31						

*ISCJB **19** 11:26:57.1±1.1, 6006N×003×44E±01, h0km, Error ellipse: s-maj=9.2km s-min=4.8km az=172.8*
*CSEM **19** 11:26:59.2±0.2, 6010N×455E, h15km, ML2.0, Error ellipse: s-maj=5.6km s-min=2.8km az=65.0*
*BER **19** 11:26:59.6±2.4, 6007N×438E, h0km, ML2.0, ML2.6(NAO), Explosion*
*NAO **19** 11:27:00.4±3.8, 5997N×462E, ML2.6*

ISC 19 11:26:58.2±1.1, 6007N±003×44E±01, h0km, n12, σ0§93/22, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.47**	**64**	*e*P	**Pg**	**11 27 07.5**	**+0.4**
EGD				*e*S	**Sg**	**11 27 13.4**	**+0.3**
BER	**Bergen**	**0.57**	**56**	*e*P	**Pg**	**11 27 09.6**	**+0.6**
ASK	**Askoy**	**0.58**	**44**	*e*P	**Pg**	**11 27 10.1**	**+0.9**
ASK				*e*S	**Sg**	**11 27 17.6**	**+1.0**
KMY	**Karmoy**	**0.97**	**153**	*e*P	**Pg**	**11 27 16.6**	**-0.1**
KMY				*e*Pg	**Pg**	**11 27 18.2**	**+1.5**
KMY				*e*S	**Sg**	**11 27 31.0**	**+1.7**
KMY				AML	AML	11 27 32.1	
	comp=Z,58nm,0.2s						
ODD1	**Odda**	**1.14**	**97**	*e*P	**Pg**	**11 27 18.2**	**-1.8**
ODD1				*e*Pg	**Pg**	**11 27 19.4**	**-0.6**
ODD1				*e*S	**Sg**	**11 27 33.2**	**-1.6**
ODD1				AML	AML	11 27 35.2	
	comp=Z,49nm,0.5s						
BLS5	**Blasjo**	**1.23**	**121**	*e*P	**Pg**	**11 27 21.4**	**-0.5**
BLS5				*e*S	**Sg**	**11 27 38.0**	**+0.2**
BLS5				AML	AML	11 27 39.8	
	comp=Z,50nm,0.3s						
HYA	**Hoyanger**	**1.41**	**38**	*e*P	**Pn**	**11 27 25.8**	**+0.7**
HYA				*e*S	**Sg**	**11 27 44.3**	**+0.8**
FOO	**Floro**	**1.56**	**12**	*e*P	**Pn**	**11 27 26.3**	**-0.9**
FOO				*e*Pg	**Pg**	**11 27 27.4**	**-0.8**
FOO				AML	AML	11 27 52.3	
	comp=Z,28nm,0.2s						
NB2	**NORSAR Subarra**	**3.51**	**71**	Pn	**Pn**	**11 27 53.2**	**-0.7**
	baz=257,slow=14						
NB2				Pg	**Pg**	**11 28 00.8**	**-4.7**
	baz=248,slow=16						
NB2				Lg		11 28 49.0	
NB2	**NORSAR Subarra**	**3.51**	**71**	Pg	**Pg**	**11 28 00.8**	**-4.6**
	SNR=90						
HFS	**Hagfors**	**4.66**	**85**	Pn	**Pn**	**11 28 08.3**	**-1.5**
	baz=265,slow=12						
HFS				Lg		11 29 24.0	
	baz=270,slow=37						
FIA0	**FINESS Array S**	**10.69**	**73**	Pn	**Pn**	**11 29 32.5**	**0.0**
	baz=262,slow=12						

JMA 19 11:32:43.5±0.2, 4362N×14768E, h12km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.43**	**260**	P	Pn	11 33 09.4	+0.1
NEM2				*e*S	Sn	11 33 28.0	0.0
JRA	**Rausu**	**1.88**	**281**	P	Pn	11 33 16.0	+0.6
JRA				*e*S	Sn	11 33 39.5	+0.4
JNK	**Nakash**	**2.15**	**270**	P	Pn	11 33 19.6	+0.4
JNK				*e*S	Sn	11 33 46.3	+0.5
JAK	**Akkeshi**	**2.27**	**255**	P	Pn	11 33 21.5	+0.8
JAK				*e*S	Sn	11 33 49.2	+0.6
JTKR	**Abashiri--Toko**	**2.75**	**279**	P	Pn	11 33 28.5	+1.1
JAR	**Ashorobuto**	**2.87**	**265**	P	Pn	11 33 30.1	+1.1
JAR				*e*S	Sn	11 34 04.5	+1.1
JOB	**Onbets**	**2.90**	**257**	P	Pn	11 33 30.9	+1.5
JOB				*e*S	Sn	11 34 05.5	+1.3
JCH	**Churui**	**3.32**	**254**	P	Pn	11 33 36.6	+1.4
JCH				*e*S	Sn	11 34 15.6	+1.1
JNBK	**Urakawa-nobuka**	**3.86**	**251**	P	Pn	11 33 43.9	+1.3

*IDC **19** 11:43:23.9±5.5, 992S×12463E, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=77.9km s-min=58.2km az=90.0*
*ISCJB **19** 11:43:26.3±2.0, 993S±010×1247E±0.1, h33km, mb3.6/1, Error ellipse: s-maj=19.1km s-min=13.4km az=43.7*

ISC 19 11:43:27.9±2.0, 99S±01×1246E±01, h35km, n7, σ0§82/13, mb3.6/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.16**	**111**	*e*P	**Pn**	**11 45 24.9**	**+1.1**
	5.5nm,0.8s						
KAKA				*e*S	**Sn**	**11 47 01.5**	**+6.7**
FITZ	**Fitzroy Crossi**	**8.27**	**173**	*e*P	**Pn**	**11 45 24.8**	**-0.4**
	6.5nm,1.5s						
FITZ				*e*S	**Sn**	**11 46 57.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**8.27**	**173**	Pn	**Pn**	**11 45 23.8**	**-1.4**
	0.1nm,0.3s,baz=356,slow=9.5,SNR=12						
FITZ				Sn	**Sn**	**11 46 59.0**	**+1.7**
	0.6nm,0.3s,baz=160,slow=13,SNR=8.6						
WRA	**Warramunga Arr**	**13.73**	**138**	Pn	**Pn**	**11 46 39.1**	**-0.8**
	0.2nm,0.3s,baz=316,slow=12,SNR=20						
WRA				Sn	**Sn**	**11 49 11.0**	**-0.1**
	0.3nm,0.3s,baz=317,slow=24,SNR=8.7						
WB2	**Warramunga Arr**	**13.73**	**138**	*e*P	**Pn**	**11 46 39.1**	**-0.9**
WB2				*e*S	**Sn**	**11 49 11.1**	**-0.2**
ASAR	**Alice Springs**	**16.34**	**148**	Pn	**Pn**	**11 47 14.7**	**+0.1**
	0.1nm,0.3s,baz=318,slow=11,SNR=16						
ASAR				Sn	**Sn**	**11 50 19.2**	**+4.4**
	0.1nm,0.3s,baz=317,slow=22,SNR=4.3						
STKA	**Stephens Creek**	**26.97**	**147**	P	**P**	**11 49 06.9**	**+0.8**
	1.1nm,0.6s,mb3.6,baz=338,slow=8.6,SNR=2.4						

MAN 19 11:58:46.8, 683N×12626E, h32km, mb3.3, ML4.5, MS5.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.12**	**358**	*e*P	Pb	11 58 53.6	+1.1
KCP	**Kidapawan**	**1.18**	**279**	⇑*i*P	Pn	11 59 07.1	+0.1
KCP				*i* S	Sn	11 59 22.1	+0.2
CGP	**Cagayan de Oro**	**2.24**	**316**	⇑*i*P	Pn	11 59 22.9	+1.2
CGP				*i* S	Sn	11 59 49.0	+0.8

*NEIC **19** 12:19:39.9, 4119S×17281E, h178km, MG3.7(WEL), After WEL.*

WEL 19 12:19:39.8±0.3, 4119S×17279E, h178km±1km, ML3.7/13, 5C-3D, Error ellipse: s-maj=2.3km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.41**	**331**	P	Pn	12 20 03.9	-0.1
QRZ				S	Sn	12 20 20.3	-2.3
QRZ	**Quartz Range**	**0.41**	**331**	⇑PN	Pn	12 20 03.9	-0.1
QRZ				SN	Sn	12 20 21.2	-1.5
NNZ	**Nelson**	**0.45**	**95**	P	Pn	12 20 04.1	0.0
NNZ				S	Sn	12 20 20.7	-2.2
NNZ	**Nelson**	**0.45**	**95**	PN	Pn	12 20 04.1	-0.1
NNZ				SN	Sn	12 20 22.1	-0.8
THZ	**Tophouse**	**0.58**	**172**	P	Pn	12 20 04.8	+0.1
THZ	**Tophouse**	**0.58**	**172**	⇓PN	Pn	12 20 04.8	+0.1
THZ				SN	Sn	12 20 23.3	-0.7
TUWZ	**Tuamarina**	**0.90**	**106**	PN	Pn	12 20 06.8	+0.1
DUWZ	**D'Urville Isla**	**0.94**	**66**	⇑PN	Pn	12 20 06.8	0.0
DUWZ				SN	Sn	12 20 27.5	-0.2
BSWZ	**Blackbirch Sta**	**0.97**	**123**	P	Pn	12 20 07.3	+0.2
BSWZ				S	Sn	12 20 27.5	-0.7
BSWZ	**Blackbirch Sta**	**0.97**	**123**	PN	Pn	12 20 07.3	+0.2
BSWZ				SN	Sn	12 20 27.5	-0.7
TCW	**Tory Channel**	**1.12**	**92**	P	Pn	12 20 08.3	+0.1
TCW	**Tory Channel**	**1.12**	**92**	⇑PN	Pn	12 20 08.3	+0.1
KHZ	**Kahutara**	**1.35**	**156**	P	Pn	12 20 10.0	-0.2
KHZ	**Kahutara**	**1.35**	**156**	⇓PN	Pn	12 20 10.0	-0.2
MRW	**Makara Radio**	**1.44**	**92**	P	Pn	12 20 10.8	-0.2
MRW	**Makara Radio**	**1.44**	**92**	PN	Pn	12 20 10.8	-0.2
SNZO	**South Karori**	**1.45**	**96**	P	Pn	12 20 10.8	-0.3
SNZO	**South Karori**	**1.45**	**96**	⇑PN	Pn	12 20 10.8	-0.3
WEL	**Wellington**	**1.50**	**95**	P	Pn	12 20 11.3	-0.2
WEL	**Wellington**	**1.50**	**95**	PN	Pn	12 20 11.3	-0.3
KIW	**Kapiti Island**	**1.64**	**79**	P	Pn	12 20 12.6	-0.3
KIW	**Kapiti Island**	**1.64**	**79**	⇑PN	Pn	12 20 12.6	-0.3
LTZ	**Lake Taylor**	**1.64**	**194**	P	Pn	12 20 12.6	-0.4
LTZ	**Lake Taylor**	**1.64**	**194**	⇓PN	Pn	12 20 12.6	-0.4
CAW	**Cannon Point**	**1.72**	**88**	PN	Pn	12 20 13.4	-0.4
MSWZ	**Moikau Station**	**1.87**	**98**	P	Pn	12 20 14.8	-0.5
MSWZ	**Moikau Station**	**1.87**	**98**	PN	Pn	12 20 14.8	-0.4
PAWZ	**Paruwai Farm**	**2.00**	**97**	P	Pn	12 20 16.3	-0.4
PAWZ	**Paruwai Farm**	**2.00**	**97**	PN	Pn	12 20 16.3	-0.4
NRZ	**Ngariki Road**	**2.04**	**26**	P	Pn	12 20 16.7	-0.5
NRZ	**Ngariki Road**	**2.04**	**26**	PN	Pn	12 20 16.7	-0.4
MTW	**Mount Morrison**	**2.05**	**90**	P	Pn	12 20 16.7	-0.5
MTW	**Mount Morrison**	**2.05**	**90**	PN	Pn	12 20 16.7	-0.5
NWEZ	**Newall Road**	**2.08**	**24**	P	Pn	12 20 17.1	-0.5
NWEZ	**Newall Road**	**2.08**	**24**	PN	Pn	12 20 17.1	-0.4
NEZ	**North Egmont**	**2.16**	**28**	P	Pn	12 20 17.9	-0.5
NEZ	**North Egmont**	**2.16**	**28**	PN	Pn	12 20 17.9	-0.5
MRZ	**Mangatainoka R**	**2.18**	**77**	P	Pn	12 20 17.9	-0.7
MRZ	**Mangatainoka R**	**2.18**	**77**	PN	Pn	12 20 17.9	-0.7
TRWZ	**Traveller**	**2.19**	**97**	PN	Pn	12 20 18.6	-0.2
WAZ	**Wanganui**	**2.20**	**50**	P	Pn	12 20 18.8	-0.1
WAZ	**Wanganui**	**2.20**	**50**	PN	Pn	12 20 18.8	-0.1
RAEZ	**Rainy Point**	**2.26**	**33**	P	Pn	12 20 19.0	-0.6
RAEZ	**Rainy Point**	**2.26**	**33**	PN	Pn	12 20 19.0	-0.5
CRLZ	**Canterbury Las**	**2.39**	**183**	*e*P	Pn	12 20 19.7	-1.4
CRLZ	**Canterbury Las**	**2.39**	**183**	PN	Pn	12 20 19.7	-1.5
WVZ	**Waitaha Valley**	**2.43**	**218**	PN	Pn	12 20 20.0	-1.6
MQZ	**McQueen's Vall**	**2.52**	**182**	*e*P	Pn	12 20 20.6	-2.0
MQZ	**McQueen's Vall**	**2.52**	**182**	PN	Pn	12 20 20.6	-2.0
VRZ	**Vera Road**	**2.55**	**37**	P	Pn	12 20 21.2	-1.7
VRZ	**Vera Road**	**2.55**	**37**	PN	Pn	12 20 21.2	-1.7
TSZ	**Takapari Road**	**2.66**	**66**	P	Pn	12 20 23.3	-0.9
TSZ	**Takapari Road**	**2.66**	**66**	PN	Pn	12 20 23.3	-1.0
PKVZ	**Pokaka**	**2.72**	**47**	PN	Pn	12 20 23.9	-1.0
FWVZ	**Far West T-bar**	**2.86**	**49**	P	Pn	12 20 25.7	-0.9
FWVZ	**Far West T-bar**	**2.86**	**49**	PN	Pn	12 20 25.7	-0.9
MOVZ	**Moawhango**	**2.88**	**53**	P	Pn	12 20 25.3	-1.5
MOVZ	**Moawhango**	**2.88**	**53**	PN	Pn	12 20 25.3	-1.5
WPVZ	**Whakapapa**	**2.89**	**48**	P	Pn	12 20 25.8	-1.2
WPVZ	**Whakapapa**	**2.89**	**48**	PN	Pn	12 20 25.8	-1.2
TUVZ	**Tukino**	**2.91**	**50**	P	Pn	12 20 26.4	-0.8
TUVZ	**Tukino**	**2.91**	**50**	PN	Pn	12 20 26.4	-0.8
TWVZ	**Taurewa**	**2.93**	**45**	P	Pn	12 20 25.8	-1.6
TWVZ	**Taurewa**	**2.93**	**45**	PN	Pn	12 20 25.8	-1.6
NGZ	**Ngauruhoe**	**2.94**	**48**	P	Pn	12 20 26.6	-1.0
NGZ	**Ngauruhoe**	**2.94**	**48**	PN	Pn	12 20 26.6	-1.0
WTVZ	**West Tongariro**	**2.98**	**47**	PN	Pn	12 20 26.4	-1.6
KRVZ	**Karewarewa**	**3.02**	**47**	PN	Pn	12 20 26.9	-1.7
HIZ	**Hauiti**	**3.10**	**31**	*e*P	Pn	12 20 27.2	-2.4
HIZ	**Hauiti**	**3.10**	**31**	PN	Pn	12 20 27.2	-2.4
FOZ	**Fox Glacier**	**3.31**	**223**	*e*P	Pn	12 20 29.0	-3.1
FOZ	**Fox Glacier**	**3.31**	**223**	PN	Pn	12 20 29.0	-3.1
BKZ	**Black Stump Fm**	**3.48**	**56**	P	Pn	12 20 32.3	-1.9
BKZ	**Black Stump Fm**	**3.48**	**56**	PN	Pn	12 20 32.3	-1.9
ODZ	**Otahua Downs**	**4.17**	**201**	*e*P	Pn	12 20 41.2	-1.7
ODZ	**Otahua Downs**	**4.17**	**201**	PN	Pn	12 20 41.2	-1.7
URZ	**Urewera**	**4.43**	**50**	*e*P	Pn	12 20 42.8	-3.5
WKZ	**Wanaka**	**4.57**	**216**	*e*P	Pn	12 20 45.5	-2.6
MWZ	**Matawai**	**4.63**	**54**	P	Pn	12 20 45.8	-3.0
PUZ	**Puketiti**	**5.24**	**55**	*e*P	Pn	12 20 53.2	-3.6
PUZ	**Puketiti**	**5.24**	**55**	PN	Pn	12 20 53.2	-3.5

MEX 19 12:22:51.5±0.5, 1962N×10637W, h20km±16km, MD4.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**1.26**	**95**	*i* P	Pn	12 23 11.0	-3.0
CJM				*i* S	Sn	12 23 26.0	-4.3
ANIG	**Ahuacatlan**	**2.25**	**50**	*i* P	Pn	12 23 25.4	-2.2
ANIG				*i* S	Sn	12 23 52.0	-2.7
MMIG	**Aquila**	**3.16**	**114**	*i* P	Pn	12 23 37.7	-2.3
MMIG				*i* S	Sn	12 24 13.3	-3.8
SFJM	**Santa Fe**	**3.25**	**74**	*i* P	Pn	12 23 40.0	-1.3
SFJM				*i* S	Sn	12 24 17.5	-1.9

IDC 19 12:26:52.6±0.8, 011S×12557E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=77.6km s-min=15.1km az=71.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.88**	**180**	P	Pn	12 31 04.1	+1.3
	0.2nm,0.3s,baz=10,slow=10.0,SNR=6.7						
WRA	**Warramunga Arr**	**21.50**	**

TXAR	**Lajitas Array**	**32.68 294**	P	**P**	**12 35 10.2**	**-0.6**
	comp=E,0.2nm,0.4s,mb3.3,baz=122,slow=8.6,SNR=3.7					
PDAR	**Pinedale Array**	**41.01 314**	P	**P**	**12 36 21.6**	**+0.1**
	comp=E,0.2nm,0.6s,mb3.1,baz=114,slow=4.0,SNR=2.9					
NVAR	**Mina Array Bea**	**46.26 305**	P	**P**	**12 37 04.8**	**+1.1**
	comp=E,0.5nm,0.5s,mb3.5,baz=84,slow=6.0,SNR=7.6					
TORD	**Torodi Ar. Bea**	**68.05 83**	P	**P**	**12 39 36.3**	**-1.1**
	comp=E,0.7nm,0.6s,mb3.7,baz=291,slow=6.8,SNR=6.7					
ARCES	**ARCESS Array B**	**73.61 21**	P	**P**	**12 40 12.2**	**+1.0**
	comp=E,5.5nm,1.1s,mb4.2,baz=294,slow=4.4,SNR=6.4					
WRA	**Warramunga Arr**	**157.72 265**	PKP	PKPdf	12 48 29.6	-4.2
	comp=E,0.5nm,0.9s,baz=60,slow=1.1,SNR=4.7					
WRA			PKPab	PKPab	12 49 02.0	-4.4
	comp=E,0.1nm,0.5s,baz=86,slow=3.9,SNR=4.6					
ASAR	**Alice Springs**	**158.00 255**	PKPab	PKPab	12 49 03.2	-4.5
	comp=E,0.3nm,0.5s,baz=108,slow=4.2,SNR=6.8					

*ISCJB **19** 12:30:17.9±0.4, 3837N±003×2201E±003, h11km, Error ellipse: s-maj=3.7km s-min=3.4km az=170.5*
*NEIC **19** 12:30:17.6, 3838N×2197E, h13km, ML3.3(ATH), After ATH.*
*ATH **19** 12:30:17.6, 3838N×2197E, h11km±1km, MD3.4/14, ML3.3*
*CSEM **19** 12:30:18.1±0.1, 3835N×2197E, h2km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.9km az=176.0*
*THE **19** 12:30:19.1, 3845N×2202E, h1km, ML2.9*
ISC 19 12:30:18.2±0.4, 3836N±003×2201E±003, h11km, n32, σ0°97/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.53**	**235**	*e*PB	**Pg**	**12 30 27.9**	**-0.6**
RLS	**Riolos of Patr**	**0.53**	**235**	*e*Pb	**Pg**	**12 30 28.1**	**-0.4**
EVR	**Evrytania**	**0.57**	**344**	*e*PB	**Pg**	**12 30 28.3**	**-1.1**
AGG	**Agios Georgios**	**0.70**	**21**	*e*Pg	**Pg**	**12 30 30.6**	**-1.3**
AGG				*e*Sg	**Sg**	**12 30 40.5**	**-0.6**
LKR	**Lokris**	**0.83**	**69**	*e*PG	**Pg**	**12 30 33.3**	**-0.9**
LKR				*e*SB	**Sb**	**12 30 45.9**	**+0.1**
LKR	**Lokris**	**0.83**	**69**	*e*Pg	**Pg**	**12 30 33.3**	**-0.9**
LKR				*e*Sb	**Sb**	**12 30 46.1**	**+0.3**
LKD	**Levkas**	**1.12**	**288**	*e*Pg	**Pg**	**12 30 38.4**	**-1.4**
LKD				*e*Sg	**Sg**	**12 30 55.7**	**+1.4**
VLS	**Valsamata**	**1.13**	**261**	*e*PG	**Pg**	**12 30 38.3**	**-1.7**
ITM	**Ithomi**	**1.18**	**183**	*e*PB	**Pb**	**12 30 40.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.32**	**117**	*e*PB	**Pb**	**12 30 43.0**	**0.0**
NEO	**Neokhori**	**1.34**	**45**	*e*PB	**Pb**	**12 30 43.3**	**0.0**
NEO	**Neokhori**	**1.34**	**45**	*e*Pb	**Pb**	**12 30 43.4**	**+0.1**
XOR	**Xorichti**	**1.36**	**42**	*e*Pg	**Pg**	**12 30 43.7**	**-0.7**
XOR				*e*Sg	**Sg**	**12 31 01.3**	**-0.8**
ATH	**Athens Observa**	**1.40**	**106**	*e*PG	**Pg**	**12 30 44.2**	**-1.0**
KVR	**Kavouri**	**1.49**	**111**	*e*PG	**Pg**	**12 30 46.0**	**-0.8**
PTL	**Penteli**	**1.50**	**102**	*e*PB	**Pb**	**12 30 45.7**	**-0.3**
JAN	**Janina**	**1.57**	**325**	*e*PB	**Pb**	**12 30 46.5**	**-0.9**
AOS	**Alonnisos**	**1.67**	**61**	*e*Pb	**Pb**	**12 30 48.1**	**-0.9**
AOS				*e*Sb	**Sb**	**12 31 10.6**	**+0.5**
IGT	**Igoumenitsa**	**1.75**	**312**	*e*Pb	**Pb**	**12 30 49.9**	**-0.5**
IGT				*e*Sb	**Sb**	**12 31 12.4**	**0.0**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**12 30 49.2**	**-1.6**
LIT				*e*Sb	**Sb**	**12 31 12.8**	**-0.2**
VLI	**Veliai**	**1.80**	**156**	*e*PN	**Pn**	**12 30 50.8**	**+1.6**
VLI	**Veliai**	**1.80**	**156**	*e*Pn	**Pn**	**12 30 50.3**	**+1.1**
KEK	**Kerkira**	**2.19**	**309**	*e*PN	**Pn**	**12 30 55.7**	**+1.2**
KYTH	**Kithira**	**2.23**	**158**	*e*PN	**Pn**	**12 30 57.5**	**+2.3**
HORT	**Hortiatis**	**2.39**	**20**	*e*Pn	**Pn**	**12 30 57.2**	**-0.1**
HORT				*e*Sn	**Sn**	**12 31 27.6**	**+1.1**
FNA	**Florina**	**2.47**	**349**	*e*Pn	**Pn**	**12 30 59.6**	**+1.2**
FNA				*e*Sn	**Sn**	**12 31 29.7**	**+1.2**
OUR	**Ouranopolis**	**2.49**	**37**	*e*Pn	**Pn**	**12 30 59.2**	**+0.5**
OUR				*e*Sn	**Sn**	**12 31 30.7**	**+1.6**
GRG	**Griva**	**2.61**	**7**	*e*Pn	**Pn**	**12 31 00.9**	**+0.6**
GRG				*e*Sn	**Sn**	**12 31 32.5**	**+0.5**
KNT	**Kendrikon**	**2.88**	**14**	*e*Pn	**Pn**	**12 31 04.5**	**+0.5**
KNT				*e*Sn	**Sn**	**12 31 38.9**	**+0.3**
KRUS	**Krusevo**	**3.06**	**349**	*i* Pn	**Pn**	**12 31 12.2**	**+5.6**
KRUS	**Krusevo**	**3.06**	**349**	*i* Pn	**Pn**	**12 31 12.1**	**+5.6**
CHOS	**Chios island**	**3.18**	**88**	*e*Pn	**Pn**	**12 31 09.6**	**+1.4**

*ISCJB **19** 12:35:25.2±0.6, 3785N±002×2198E±003, h3km±5km, mb3.8/8, Error ellipse: s-maj=4.5km s-min=3.9km az=120.1*
*NEIC **19** 12:35:26.6, 3784N×2191E, h11km, ML3.6(ATH), After ATH.*
*ATH **19** 12:35:26.6, 3784N×2191E, h11km±1km, MD3.6/10, ML3.6*
*CSEM **19** 12:35:26.2±0.2, 3783N×2206E, h1km±1km, ML3.6, Error ellipse: s-maj=1.9km s-min=1.8km az=115.0*
*THE **19** 12:35:26.4, 3787N×2200E, h2km, ML3.5*
*IDC **19** 12:35:32.4±3.6, 3788N×2197E, h60km±36km, mb3.6/9, mb1 3.7/11, mb1mx3.6/27, mbtmp3.8/11, ML3.6/2, Error ellipse: s-maj=25.6km s-min=19.3km az=160.0*
ISC 19 12:35:26.1±0.6, 3786N±002×2199E±003, h2km±5km, n62, σ1°11/82, mb3.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.46**	**296**	*e*PB	**Pg**	**12 35 35.0**	**0.0**
ITM	**Ithomi**	**0.68**	**184**	*e*PB	**Pg**	**12 35 39.3**	**+0.1**
ITM				*e*SB	**Sg**	**12 35 48.8**	**+0.8**
ITM	**Ithomi**	**0.68**	**184**	*e*Pb	**Pg**	**12 35 39.3**	**+0.1**
ITM				*e*Sb	**Sg**	**12 35 49.0**	**+1.0**
EVR	**Evrytania**	**1.07**	**352**	*e*PB	**Pb**	**12 35 46.9**	**-0.4**
LKR	**Lokris**	**1.12**	**45**	*e*PN	**Pn**	**12 35 48.4**	**-0.5**
VLS	**Valsamata**	**1.15**	**286**	*e*PN	**Pn**	**12 35 47.2**	**-2.1**
AGG	**Agios Georgios**	**1.19**	**13**	*e*Pg	**Pg**	**12 35 48.5**	**-0.5**
AGG				*e*Sg	**Sg**	**12 36 04.9**	**+0.5**
AGG	**Agios Georgios**	**1.19**	**13**	P	**Pg**	**12 35 48.7**	**-0.3**
AGG				S	**Sg**	**12 36 06.3**	**+1.8**
LKD	**Levkas**	**1.35**	**309**	*e*Pg	**Pg**	**12 35 50.8**	**-1.3**
LKD				*e*Sg	**Sg**	**12 36 11.1**	**+1.4**
LKD	**Levkas**	**1.35**	**309**	P	**Pn**	**12 35 51.0**	**-1.0**
LKD				S	**Sg**	**12 36 11.9**	**+2.2**
VLI	**Veliai**	**1.36**	**146**	*e*PG	**Pg**	**12 35 52.4**	**+0.1**
VLI				*e*SB	**Sb**	**12 36 11.8**	**+1.5**
VLI	**Veliai**	**1.36**	**146**	*e*Pg	**Pg**	**12 35 52.2**	**-0.1**
VLI				*e*Sb	**Sb**	**12 36 11.8**	**+1.5**
ATH	**Athens Observa**	**1.37**	**85**	*e*PB	**Pb**	**12 35 53.5**	**+1.0**
NEO	**Neokhori**	**1.74**	**33**	P	**Pn**	**12 35 57.2**	**-0.2**
XOR	**Xorichti**	**1.77**	**32**	*e*Pb	**Pb**	**12 35 57.4**	**-2.0**
XOR				*e*Sb	**Sb**	**12 36 21.6**	**-0.5**
XOR	**Xorichti**	**1.77**	**32**	P	**Pn**	**12 35 57.4**	**-0.5**
AOS	**Alonnisos**	**1.98**	**48**	*e*Pb	**Pb**	**12 35 59.9**	**-2.9**
AOS				*e*Sb	**Sb**	**12 36 26.4**	**-1.5**
AOS	**Alonnisos**	**1.98**	**48**	P	**Pn**	**12 35 59.7**	**-1.0**
JAN	**Janina**	**2.00**	**334**	*e*PN	**Pn**	**12 36 02.5**	**+1.5**
JAN	**Janina**	**2.00**	**334**	*e*Pn	**Pn**	**12 36 02.6**	**+1.6**
IGT	**Igoumenitsa**	**2.12**	**323**	*e*Pn	**Pn**	**12 36 02.5**	**-0.1**
IGT				*e*Sn	**Sn**	**12 36 29.2**	**-0.3**
IGT	**Igoumenitsa**	**2.12**	**323**	P	**Pg**	**12 36 06.0**	**-0.7**
LIT	**Litokhoron**	**2.27**	**10**	*e*Pn	**Pn**	**12 36 04.1**	**-0.6**
LIT				*e*Sn	**Sn**	**12 36 33.0**	**-0.3**
LIT	**Litokhoron**	**2.27**	**10**	P	**Pn**	**12 36 04.2**	**-0.5**
LIT				S	**Sn**	**12 36 34.8**	**+1.5**
KZN	**Kozani**	**2.45**	**356**	*e*PN	**Pn**	**12 36 09.0**	**+1.8**
KEK	**Kerkira**	**2.52**	**318**	*e*PN	**Pn**	**12 36 09.4**	**+1.2**
PLG	**Polygyros**	**2.75**	**24**	P	**Pn**	**12 36 11.6**	**+0.3**
HORT	**Hortiatis**	**2.87**	**17**	*e*Pn	**Pn**	**12 36 12.2**	**-0.7**
HORT				*e*Sn	**Sn**	**12 36 48.3**	**+0.3**
HORT	**Hortiatis**	**2.87**	**17**	P	**Pn**	**12 36 12.1**	**-0.8**
THE	**Thessaloniki**	**2.87**	**15**	*e*Pn	**Pn**	**12 36 12.9**	**0.0**
THE				*e*Sn	**Sn**	**12 36 49.3**	**+1.2**
THE	**Thessaloniki**	**2.87**	**15**	P	**Pn**	**12 36 12.9**	**0.0**
OUR	**Ouranopolis**	**2.92**	**31**	*e*Pn	**Pn**	**12 36 12.8**	**-0.8**
OUR	**Ouranopolis**	**2.92**	**31**	P	**Pn**	**12 36 13.0**	**-0.6**
FNA	**Florina**	**2.96**	**351**	*e*Pn	**Pn**	**12 36 14.4**	**+0.2**
FNA				*e*Sn	**Sn**	**12 36 51.6**	**+1.4**
FNA	**Florina**	**2.96**	**351**	P	**Pn**	**12 36 14.3**	**+0.2**
FNA				S	**Sn**	**12 36 51.5**	**+1.2**
SOH	**Sokhos**	**3.14**	**19**	*e*Pn	**Pn**	**12 36 16.9**	**+0.2**
SOH	**Sokhos**	**3.14**	**19**	P	**Pn**	**12 36 16.8**	**+0.2**
SOH				S	**Sn**	**12 36 55.5**	**+0.8**
LOS	**Limnos**	**3.18**	**48**	*e*Pn	**Pn**	**12 36 16.6**	**-0.5**
LOS	**Limnos**	**3.18**	**48**	P	**Pn**	**12 36 16.5**	**-0.7**
LIA	**Limnos Island**	**3.22**	**50**	P	**Pn**	**12 36 18.6**	**+0.9**
CHOS	**Chios island**	**3.25**	**79**	*e*Pn	**Pn**	**12 36 18.8**	**+0.7**
CHOS				*e*Sn	**Sn**	**12 36 57.4**	**0.0**
KNT	**Kendrikon**	**3.37**	**12**	*e*Pn	**Pn**	**12 36 20.2**	**+0.4**
KNT				*e*Sn	**Sn**	**12 37 01.8**	**+1.4**
KRUS	**Krusevo**	**3.55**	**351**	*i* Pn	**Pn**	**12 36 24.8**	**+2.5**
KRUS	**Krusevo**	**3.55**	**351**	*i* Pn	**Pn**	**12 36 24.7**	**+2.4**
SMG	**Samos**	**3.84**	**91**	P	**Pn**	**12 36 27.7**	**+1.4**
TIP	**Timpagrande**	**4.31**	**289**	*e*Pn	**Pn**	**12 36 33.8**	**+1.0**
TIP	**Timpagrande**	**4.31**	**289**	*e*Pn	**Pn**	**12 36 33.8**	**+1.1**
ALN	**Alexandroupoli**	**4.37**	**45**	*e*Pn	**Pn**	**12 36 33.0**	**-0.5**
ALN	**Alexandroupoli**	**4.37**	**45**	P	**Pn**	**12 36 33.0**	**-0.5**
DIVS	**Divcibare**	**6.41**	**347**	*i* Pn	**Pn**	**12 37 01.9**	**+0.3**
MLR	**Muntele Rosu**	**8.18**	**20**	P	**Pn**	**12 37 28.8**	**+3.0**
	0.3nm,0.3s,baz=205,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**9.28**	**75**	P	**Pn**	**12 37 44.0**	**+3.0**
	0.2nm,0.3s,baz=268,slow=12,SNR=4.5						
CRES	**Cresnjev**	**9.33**	**331**	*i* Pn	**Pn**	**12 37 40.2**	**-1.5**
ESDC	**Sonseca Array**	**20.30**	**283**	P	**P**	**12 40 03.5**	**+0.2**
	0.8nm,0.6s,baz=66,slow=12,SNR=2.9						
HFS	**Hagfors**	**22.91**	**349**	P	**P**	**12 40 29.6**	**-1.7**
	4.1nm,0.6s,mb4.0,baz=156,slow=11,SNR=16						
FINES	**FINESS Array B**	**23.75**	**5**	P	**P**	**12 40 39.0**	**-0.8**
	3.2nm,0.9s,mb3.7,baz=188,slow=12,SNR=4.0						
NOA	**NORSAR Array B**	**24.17**	**347**	P	**P**	**12 40 42.1**	**-1.7**
	1.1nm,0.4s,mb3.6,baz=153,slow=9.1,SNR=7.3						
EKA	**Eskdalemuir Ar**	**24.36**	**324**	P	**P**	**12 40 45.4**	**-0.1**
	1.9nm,0.6s,mb3.7,baz=123,slow=9.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**30.54**	**222**	P	**P**	**12 41 39.9**	**-1.0**
	0.8nm,0.7s,mb3.7,baz=34,slow=9.2,SNR=5.6						
BVAR	**Borovoye Array**	**36.44**	**50**	P	**P**	**12 42 32.0**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=264,slow=2.9,SNR=3.3						
MKAR	**Makanchi Array**	**44.48**	**58**	P	**P**	**12 43 37.2**	**-1.6**
	1.1nm,0.5s,mb3.9,baz=282,slow=7.5,SNR=7.9						
ZAL	**Zalesovo**	**45.03**	**48**	P	**P**	**12 43 41.7**	**-1.5**
	2.0nm,0.4s,mb4.3,baz=156,slow=6.6,SNR=4.7						

*IDC **19** 12:51:59.6±0.6, 4642N×15323E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.4/23, mbtmp4.3/17, ML3.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/32, Error ellipse: s-maj=19.0km s-min=15.7km az=162.0*
*NIED **19** 12:52:00, 4660N×15320E, h8km, Mw4.4 Best double couple: M0=4.19000×10^15 NP1:φ=227.00000°, δ=79.00000°, λ=108.00000°. NP2:φ=349.00000°, δ=21.00000°, λ=33.00000°.*
*ISCJB **19** 12:52:01.3±1.7, 4621N±006×153.19E±008, h23km±11km, mb4.6/52, MS4.0/10, Error ellipse: s-maj=12.7km s-min=6.2km az=105.8*
*NEIC **19** 12:52:01.6±0.5, 4645N×15332E, h10km, mb4.5/15, Error ellipse: s-maj=13.3km s-min=8.7km az=151.0*
*JMA **19** 12:52:02.7±0.8, 4659N×153.18E, h30km, M4.5*
*MOS **19** 12:52:06.7±1.2, 4641N×153.15E, h62km, mb4.6/30, Error ellipse: s-maj=12.6km s-min=7.5km az=117.0*
*BJI **19** 12:52:09.0, 4667N×15299E, h80km, mB5.0, mb4.6, Ms4.3, Msz4.0*
ISC 19 12:52:03.8±1.6, 4632N±006×15320E±008, h26km±11km, h60km±10.6km; pP-P, n157, σ1°25/168, mb4.6/52, MS4.0/10, 9C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**256**	PN	**Pn**	**12 53 00.5**	**-1.3**
KUR				*i* S	**Sn**	**12 53 46.0**	**-0.6**
KUR				pmax	pmax		
	comp=N,170nm,0.7s						
KUR				pmax	pmax		
	comp=E,110nm,0.7s						
KUR				pmax	pmax		
	comp=Z,520nm,0.7s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,480nm,0.8s						
KUR				smax			
	comp=E,240nm,0.8s						
KUR				MLR	MLR		
	comp=Z,3μm,14.0s						
SKR	**Severo-Kuril's**	**4.78**	**23**	*e*PN	**Pn**	**12 53 11.0**	**-3.2**
NEM2	**Nemuro 2**	**6.07**	**244**	P	**Pn**	**12 53 30.4**	**-1.4**
NEM2				*e*S	**Sn**	**12 54 36.6**	**-3.8**
JRA	**Rausu**	**6.19**	**250**	P	**Pn**	**12 53 35.3**	**+1.8**
JNK	**Nakash**	**6.61**	**249**	P	**Pn**	**12 53 39.9**	**+0.7**
JAK	**Akkeshi**	**6.91**	**244**	P	**Pn**	**12 53 42.5**	**-0.9**
JAK				*e*S	**Sn**	**12 54 56.7**	**-4.5**
JTKR	**Abashiri--Toko**	**6.97**	**254**	P	**Pn**	**12 53 45.9**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.22**	**279**	*e*PN	**Pn**	**12 53 53.6**	**+6.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.22**	**279**	*e*Pn	**Pn**	**12 53 52.5**	**+4.9**
	comp=Z,45nm,1.0s						
JMP	**Maruseppu**	**7.33**	**255**	P	**Pn**	**12 53 51.2**	**+2.1**
JAR	**Ashorobuto**	**7.35**	**249**	P	**Pn**	**12 53 50.3**	**+0.8**
JAR				*e*S	**Sn**	**12 55 12.0**	**-0.1**
JOB	**Onbets**	**7.50**	**246**	P	**Pn**	**12 53 52.0**	**+0.5**
JOB				*e*S	**Sn**	**12 55 13.3**	**-2.4**
JKK2	**Kamakawa 2**	**7.79**	**255**	P	**Pn**	**12 53 57.7**	**+2.3**
ASAJ	**Asahikawa**	**7.80**	**257**	Pn	**Pn**	**12 53 54.3**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=98,slow=17,SNR=9.2						
ASAJ	**Asahikawa**	**7.80**	**257**	P	**Pn**	**12 53 58.5**	**+2.9**
ASAJ	**Asahikawa**	**7.80**	**257**	PN	**Pn**	**12 53 54.3**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.95**	**246**	P	**Pn**	**12 53 57.1**	**-0.5**
JCH				*e*S	**Sn**	**12 55 22.1**	**-4.6**
UGL	**Uglegorsk**	**8.00**	**294**	*e*PN	**Pn**	**12 54 02.0**	**+3.6**
UGL				*e*		12 55 40.0	
UGL				pmax	pmax		
	comp=Z,72nm,0.8s						
UGL				MLR	MLR		
	comp=N,700nm,13.0s						
UGL				MLR	MLR		
	comp=E,950nm,13.0s						
UGL				MLR	MLR		
	comp=Z,1μm,13.0s						
JEM	**Erimo**	**8.40**	**243**	P	**Pn**	**12 54 03.2**	**-0.6**
JEM				*e*S	**Sn**	**12 55 33.5**	**-4.3**
JBT2	**Biratori 2**	**8.51**	**249**	P	**Pn**	**12 54 05.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**8.51**	**245**	P	**Pn**	**12 54 04.6**	**-0.7**
JNBK				*e*S	**Sn**	**12 55 34.2**	**-6.2**
JNB	**Noboribetsu**	**9.52**	**251**	P	**Pn**	**12 54 19.0**	**-0.1**
JNB				*e*S	**Sn**	**12 56 02.8**	**-2.4**
JKB	**Kayabe**	**9.80**	**248**	P	**Pn**	**12 54 21.6**	**-1.5**
JKB				*e*S	**Sn**	**12 56 05.9**	**-6.4**
JYM2	**Yakumo 2**	**10.12**	**250**	P	**Pn**	**12 54 27.5**	**+0.1**
JANG	**Nango**	**10.37**	**239**	P	**Pn**	**12 54 27.2**	**-3.7**
JANG				*e*S	**Sn**	**12 56 15.8**	**-10**
JTM	**Tenmabayashi**	**10.39**	**242**	P	**Pn**	**12 54 28.5**	**-2.6**
JTM				*e*S	**Sn**	**12 56 17.4**	**-9.3**
JTH	**Tanohata**	**10.45**	**236**	*e*S	**Sn**	**12 56 17.0**	**-11**
JOSM	**Okushiri--Mats**	**10.72**	**252**	P	**Pn**	**12 54 35.3**	**-0.3**
OFUJ	**Ofunato**	**11.14**	**234**	*e*S	**Sn**	**12 56 35.2**	**-10**
JRG	**Rokugo**	**11.52**	**238**	P	**Pn**	**12 54 43.9**	**-2.7**
JRG				*e*S	**Sn**	**12 56 44.3**	**-10**
JIO	**Ouri**	**11.76**	**232**	*e*S	**Sn**	**12 56 48.7**	**-11**
KLR	**Kul'dur**	**14.71**	**289**	*e*P	**Pn**	**12 55 30.0**	**-0.1**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
MJAR	**Matsushiro Arr**	**14.87**	**234**	Pn	**Pn**	**12 55 29.2**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=7.5						
MAJO	**Matsushiro**	**14.87**	**234**	*e*P	**Pn**	**12 55 34.6**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**14.87**	**234**	*e*Pn	**Pn**	**12 55 34.6**	**+2.3**
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**14.87**	**234**	P	**Pn**	**12 55 31.8**	**-0.5**
MDJ	**Mudanjiang**	**16.64**	**273**	P	**Pn**	**12 55 56.5**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,59nm,4.6s						
MDJ	**Mudanjiang**	**16.64**	**273**	*e*P	**Pn**	**12 55 57.1**	**+1.9**
	comp=Z,33nm,1.1s						
SEY	**Seymchan**	**16.66**	**359**	*e*P	**Pn**	**12 55 56.6**	**+1.1**
CN2	**Changchun**	**19.73**	**273**	*e*P	**Pn**	**12 56 32.4**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**20.72**	**328**	*e*P	**P**	**12 56 42.4**	**+0.2**
YAK				*e*S	**S**	**13 00 44.7**	**+12**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK	**Yakutsk**	**20.72**	**328**	*e*P	**P**	**12 56 41.9**	**-0.3**
	comp=E,12nm,0.5s						
KSRS	**Korea Array**	**20.73**	**254**	P	**P**	**12 56 43.2**	**+1.0**
	comp=E,5.1nm,0.7s,baz=58,slow=11,SNR=20						
BILL	**Biiibino**	**22.80**	**13**	*e*P	**P**	**12 57 05.3**	**+0.8**
BILL				*e*PP		12 57 30.6	
BILL				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
BOD	**Bodaibo**	**26.31**	**310**	*e*P	**P**	**12 57 29.6**	**-7.7**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.9						
BJI	**Beijing**	**27.53**	**270**	*e*P	**P**	**12 57 51.3**	**+3.0**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,192nm,12.0s,MS4.0						
BJI				LR	LR		
	comp=E,213nm,14.9s,MS4.0						
BJI				LR	LR		
	comp=Z,146nm,16.5s,MS3.6						
BJI	**Beijing**	**27.53**	**270**	*e*P	**P**	**12 57 51.2**	**+2.9**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				MLR	MLR		
	comp=Z,150nm,16.5s,MS3.6						
BJI	**Beijing**	**27.53**	**270**	*e*P	**P**	**12 57 51.2**	**+2.9**
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=Z,150nm,16.5s,MS3.6						
NJ2	**Nanjing**	**29.93**	**254**	*e*P	**P**	**12 58 10.3**	**+0.7**
NJ2				AP	pP	12 58 32.1	+15
NJ2				XP	sP	12 58 43.9	+23
NJ2				PP	PP	12 59 10.3	-7.1
NJ2				S	**S**	**13 02 58.0**	**-7.5**
NJ2				XS	sS	13 03 36.0	+18
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,70nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,18.2s						
NJ2				LR	LR		
	comp=E,2μm,23.6s						
NJ2				LR	LR		
	comp=Z,3μm,22.6s,MS4.9						
HHC	**Hu-ho-hao-te**	**30.38**	**275**	*e*P	**P**	**12 58 14.1**	**+0.4**
HHC				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
HHC				AMB	AMB		
	comp=Z,110nm,3.8s						
HHC				LR	LR		
	comp=N,150nm,9.1s						
HHC				LR	LR		
	comp=E,208nm,12.7s						
HHC				LR	LR		
	comp=Z,231nm,14.5s,MS4.0						
SONM	**Songino Array**	**31.53**	**290**	P	**P**	**12 58 23.5**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.8,baz=62,slow=7.9,SNR=8.8						
SONM				LR	LR	13 12 02.6	
	comp=Z,96nm,18.3s,MS3.5,baz=164,slow=38						
ZAK	**Zakamensk**	**32.92**	**296**	*e*P	**P**	**12 58 35.6**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
XAN	**Xi'an**	**35.54**	**266**	P	**P**	**12 58 59.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
COLA	**College**	**36.44**	**38**	*e*P	**P**	**12 59 06.3**	**-0.1**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
COLA	**College**	**36.44**	**38**	*e*P	**P**	**12 59 06.3**	**-0.1**
	comp=Z,6.3nm,1.1s,mb4.5						
LZH	**Lanzhou**	**37.96**	**272**	*e*P	**P**	**12 59 21.1**	**+1.8**
LZH				AP	pP	12 59 37.5	+10
LZH				XP	sP	12 59 47.3	+17
LZH				PP	PP	13 00 53.0	+6.8
LZH				PCP	PcP	13 01 36.1	+1.3
LZH				XS	sS	13 05 42.3	+20
LZH				SS	SS	13 07 43.3	-14
LZH				AMB	AMB		
	comp=Z,51nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=E,485nm,12.0s						
LZH				LR	LR		
	comp=Z,776nm,13.0s,MS4.7						
LZH	**Lanzhou**	**37.96**	**272**	*e*P	**P**	**12 59 21.1**	**+1.8**

CHKZ Chkalovo 50.76 310 *eP* **P 13 01 00.4 -1.2**
comp=Z,12nm,1.0s,mb4.8
CHKZ *epP* pP 13 01 21.6 +12
BVAR Borovoye Array 51.18 310 LR LR 13 26 09.9
comp=Z,103nm,18.6s,MS3.9,baz=327,slow=40
BRVK Borovoye 51.22 310 *eP* **P 13 01 04.4 -0.7**
ZRNK Zerenda 51.95 310 *eP* **P 13 01 10.0 -0.5**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 51.95 310 *eP* **P 13 01 10.0 -0.5**
comp=Z,2.6nm,0.6s,mb4.3
SHL Shillong 52.42 269 *eP* **P 13 01 16.8 +2.8**
AAK Ala-Archa 54.08 297 *eP* **P 13 01 25.6 -0.6**
AAK *e**PP pP 13 01 48.4 +14
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 54.08 297 *eP* **P 13 01 25.6 -0.6**
comp=Z,3.3nm,0.8s,mb4.3
AAK *ep*P pP 13 01 48.4 +14
GUN Gumba 55.10 275 *eP* **P 13 01 35.6 +2.0**
comp=Z,40nm,1.0s,mb5.4
ARU Arti 55.37 318⇑*iP* **P 13 01 34.2 -1.4**
ARU *e* 13 01 56.0
ARU *e* 13 02 34.0
ARU *e* 13 03 37.9
ARU *eS* **S 13 09 11.2 -7.2**
ARU *eSS* SS 13 12 56.4 -6.6
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KKN Kakani 55.59 276 *eP* **P 13 01 38.6 +1.5**
PKI Pulchoki 55.63 275 *eP* **P 13 01 38.8 +1.3**
comp=Z,41nm,1.2s,mb5.3
DMN Daman 55.82 276 *eP* **P 13 01 40.6 +1.8**
comp=Z,47nm,1.0s,mb5.5
GKN Gorkha 55.90 276 *eP* **P 13 01 41.0 +1.6**
comp=Z,50nm,0.9s,mb5.5
KOLN Koldanda 56.76 277 *eP* **P 13 01 47.2 +1.7**
comp=Z,44nm,0.9s,mb5.5
BOK Bokaro 57.72 272 *eP* **P 13 01 53.1 +0.8**
BOK AMb AMB 13 01 56.3
comp=Z,9.8nm,0.7s,mb4.9
ARCES ARCESS Array B 58.28 341 P **P 13 01 55.4 -0.9**
comp=Z,4.3nm,0.9s,mb4.5,baz=30,slow=7.4,SNR=4.9
ARCES LR LR 13 34 43.5
comp=Z,49nm,18.3s,MS3.7,baz=189,slow=44
AB31 Akbulak array 58.75 310 P **P 13 01 58.4 -1.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTK Aktyubinsk 59.06 312 P **P 13 02 00.7 -1.0**
AKTK LR LR 13 31 09.4
AKTO Aktyubinsk 59.06 312 P **P 13 02 00.7 -1.0**
comp=Z,1.9nm,0.5s,mb4.3,baz=65,slow=6.5,SNR=4.8
AKTO LR LR 13 31 09.4
comp=Z,234nm,18.1s,MS4.3,baz=278,slow=40
AKTO Aktyubinsk 59.06 312 P **P 13 02 00.7 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO MLR MLR
comp=Z,234nm,18.1s,MS4.3
NDI New Delhi 60.55 282 *eP* **P 13 02 12.6 +0.7**
NDI AMb AMB 13 02 14.2
comp=Z,17nm,6.0s
JOF Joensuu 61.75 334 *ep* **P 13 02 17.8 -2.2**
comp=Z,1.4nm,0.5s,mb4.3
JOF Joensuu 61.75 334 *eP* **P 13 02 17.8 -2.2**
JOF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
NVAR Mina Array Bea 62.59 62 P **P 13 02 25.6 0.0**
comp=Z,1.2nm,0.9s,mb4.0,baz=292,slow=7.4,SNR=7.8
VIS Vishakhapatnam 63.55 268 *eP* **P 13 02 30.6 -1.4**
AJM Ajmer 63.71 282 *eP* **P 13 02 32.9 -0.2**
AJM AMb AMB 13 02 44.0
comp=Z,12nm,1.8s,mb4.6
KAF Kangasniemi 63.86 335 *ep* **P 13 02 32.2 -1.9**
comp=Z,7.9nm,0.8s,mb4.8,baz=37,slow=6.2
KAF Kangasniemi 63.86 335 *eP* **P 13 02 32.2 -1.9**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BHPL Bhopal 63.93 277 *eP* **P 13 02 34.5 0.0**
FINES FINESS Array B 64.46 335 P **P 13 02 37.4 -0.6**
comp=Z,5.2nm,0.6s,mb4.7,baz=33,slow=7.4,SNR=20
FINES FINESS Array B 64.46 335 P **P 13 02 37.4 -0.6**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 64.46 335 P **P 13 02 37.4 -0.6**
PDAR Pinedale Array 64.96 54 P **P 13 02 40.5 -0.7**
comp=Z,0.9nm,1.0s,mb3.8,baz=327,slow=2.5,SNR=5.1
OBN Obninsk 65.70 326 *eP* **P 13 02 45.3 -0.8**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ULM Lac du Bonnet 66.81 41 P **P 13 02 51.7 -1.5**
comp=Z,2.1nm,0.7s,mb4.3,baz=297,slow=9.0,SNR=2.8
ULM Lac du Bonnet 66.81 41 P **P 13 02 51.7 -1.5**
WRA Warramunga Arr 68.12 199 P **P 13 03 02.2 +0.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=18,slow=6.8,SNR=9.2
WRA Warramunga Arr 68.12 199 P **P 13 03 02.2 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 68.66 341 P **P 13 03 04.2 -0.6**
comp=Z,3.2nm,0.6s,mb4.4,baz=27,slow=6.5
NB2 NORSAR Subarra 68.66 341 P **P 13 03 04.2 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NOA NORSAR Array B 68.66 341 P **P 13 03 03.8 -1.0**
comp=Z,4.6nm,0.7s,mb4.5,baz=27,slow=6.3,SNR=17
NOA LR LR 13 35 47.1
comp=Z,27nm,18.6s,MS3.5,baz=55,slow=38
NOA NORSAR Array B 68.66 341 P **P 13 03 03.8 -1.0**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,27nm,18.6s
MDRS Chennai 68.90 267 *eP* **P 13 03 08.3 +2.0**
KIV Kislovodsk 71.14 314 *eP* **P 13 03 19.5 -0.6**
KIV *eS* S 13 12 25.0 -10
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
ASAR Alice Springs 71.81 199 P **P 13 03 24.5 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=13,slow=5.2,SNR=8.3
ASAR Alice Springs 71.81 199 P **P 13 03 24.5 +0.3**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 71.94 326 P **P 13 03 23.9 -1.1**
comp=Z,4.1nm,0.5s,mb4.7,baz=32,slow=6.0,SNR=25
AKASG Malin Array Be 71.94 326 P **P 13 03 23.9 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 71.94 326 *eP* **P 13 03 24.3 -0.6**
MNGI Mangalore 72.75 271 *eP* **P 13 03 29.8 +0.1**
STHS Stebnicka Huta 75.92 330 *eP* **P 13 03 48.8 +0.6**
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
STHS Stebnicka Huta 75.92 330 *eP* **P 13 03 48.8 +0.6**
comp=Z,3.9nm,1.0s,mb4.3
BURAR Bucovina Array 75.98 327⇑*iP* **P 13 03 48.8 +0.3**
BURAR Bucovina Array 75.98 327⇑⇑P **P 13 03 48.8 +0.3**
CRVS Cervenica-Dubn 76.28 330 *eP* **P 13 03 50.3 +0.1**
MORC Moravsky Berou 76.85 332⇑*iP* **P 13 03 53.7 +0.2**
MORC Moravsky Berou 76.85 332⇑⇑P **P 13 03 53.7 +0.3**
CLL Collm 76.88 336 *eP* **P 13 03 54.0 +0.3**
comp=Z,11nm,0.8s,mb4.8
KECS Kecovo 76.98 330 *eP* **P 13 03 54.9 +0.7**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 76.98 330 *eP* **P 13 03 54.9 +0.7**
comp=Z,2.4nm,0.9s,mb4.1
MLR Muntele Rosu 77.45 325⇑*iP* **P 13 03 58.7 +1.8**
TXAR Lajitas Array 77.66 61 P **P 13 03 57.2 -0.8**
comp=Z,1.7nm,0.8s,mb4.0,baz=298,slow=4.1,SNR=12
TXAR Lajitas Array 77.66 61 P **P 13 03 57.2 -0.8**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 77.66 61 P **P 13 03 57.2 -0.8**
VOIR 77.85 326⇑*iP* **P 13 04 00.3 +1.2**
VOIR 77.85 326⇑⇑P **P 13 04 00.3 +1.2**
BRTR Keskin Array B 78.75 317 P **P 13 04 01.8 -2.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=350,slow=7.3,SNR=4.6
BRTR Keskin Array B 78.75 317 P **P 13 04 01.8 -2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 78.87 334 P **P 13 04 02.8 -1.9**
comp=Z,0.7nm,0.2s,mb4.2,baz=47,slow=5.9,SNR=9.0
GERES GERESS Array B 78.87 334 P **P 13 04 02.8 -1.9**
GERES pmax pmax
comp=Z,1.0nm,0.2s

BZS Buzias 79.01 328⇓*iP* **P 13 04 03.6 -1.9**
BZS Buzias 79.01 328⇓⇓P **P 13 04 03.6 -1.8**
VTS Vitosha 80.96 325⇑*iP* **P 13 04 18.0 +2.0**
CDF Champ du Feu 81.08 338 *eP* **P 13 04 16.5 -0.2**
AVF Avril sur Loir 83.57 340 *eP* **P 13 04 29.6 -0.1**
SMF Signal de Mont 83.59 339 *eP* **P 13 04 29.9 +0.1**
comp=Z,23nm,1.0s,mb5.0
MBDF Montbardon 84.61 337 *eP* **P 13 04 35.3 +0.3**
comp=Z,35nm,1.3s,mb5.0
CFAA Coronel Fontan 145.01 80 PKP PKPdf 13 11 38.7 0.0
comp=Z,0.3nm,0.6s,baz=250,slow=7.4,SNR=4.4
PLCA Paso Flores 148.11 96 PKPbc PKPbc 13 11 46.3 -0.9
comp=Z,1.7nm,0.7s,baz=213,slow=5.0,SNR=3.8
PLCA Paso Flores 148.11 96 PKP2 PKPbc 13 11 46.3 -0.8
PLCA pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 148.63 61 PKPbc PKPbc 13 11 46.9 -1.6
comp=Z,0.4nm,0.4s,baz=174,slow=1.4,SNR=3.2

IDC 19 13:07:07.7±9.2, 595S×15078E, h94km±64km, mb2.8/2, mb1 3.1/3, mb1mx3.0/13, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=130.6km s-min=61.9km az=123.0, Near Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**226**	P	Pn	13 08 20.8	+0.9
	0.6nm,0.3s,baz=9.5,slow=6.1,SNR=2.0						
PMG				S	Sn	13 09 16.3	+0.1
	0.6nm,0.3s,baz=245,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**21.19**	**227**	P	P	13 11 45.8	+0.2
	0.4nm,0.5s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**23.96**	**221**	P	P	13 12 14.4	+1.1
	0.6nm,0.8s,baz=54,slow=9.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.71**	**286**	PKPbc	PKPbc	13 26 44.0	0.0
	0.5nm,0.6s,baz=61,slow=3.1,SNR=2.9						

*ISCJB **19** 13:14:03.8±0.7, 3062N±006×7000E±004, h10km, mb3.7/9, MS3.4/1, Error ellipse: s-maj=8.9km s-min=4.9km az=27.0*
*IDC **19** 13:14:06.4±1.7, 3100N×6996E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=40.0km s-min=26.3km az=41.0*
*NEIC **19** 13:14:08.3±1.5, 3103N×7002E, h10km, mb3.9/3, Error ellipse: s-maj=23.4km s-min=22.4km az=219.0*
*MOS **19** 13:14:10.6±1.3, 31.12N×7009E, h33km, mb4.0/8, Error ellipse: s-maj=32.3km s-min=11.6km az=82.8*
ISC 19 13:14:04.5±1.5, 3065N±006×6985E±006, h7km±8km, n39, σ1§44/45, mb3.7/9, MS3.4/1, 3C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**1.13**	**16**	⇑P	**Pg**	13 14 25.7	-0.5
SBDP	**Sheikh Budin**	**1.84**	**26**	⇓P	**Pn**	13 14 37.0	+0.5
THW	**Thamme Wali**	**2.68**	**37**	⇓P	**Pn**	13 14 48.9	+0.9
CEP	**Cherat**	**3.61**	**28**	⇑P	**Pn**	13 15 02.0	+1.1
CHCP	**Chirah Chowk**	**4.17**	**43**	⇑P	**Pn**	13 15 09.7	+1.2
CHCP				S	**Pg**	13 15 23.0	-1.3
THN	**Thein Dam**	**5.32**	**69**	*ex*	**Pn**	13 15 27.1	+2.8
THN				*ex*	**Sg**	13 16 57.6	+2.4
DLH	**Dalhousie**	**5.55**	**69**	*ex*	**Sn**	13 16 30.0	-1.6
DLH				*ex*	**Sg**	13 17 04.0	+1.3
BHK	**Bhakra**	**5.69**	**81**	*ex*	**Pb**	13 15 39.6	-4.5
SDNR	**Sundarnagar**	**6.17**	**80**	*eP*	**Pn**	13 15 40.0	+4.0
SDNR				*eS*	**Sn**	13 16 47.1	+0.3
NDI	**New Delhi**	**6.71**	**105**	*ex*	**Pb**	13 16 00.0	-1.4
NDI				*ex*	**Sg**	13 17 40.0	+0.3
KOLN	**Koldanda**	**12.35**	**100**	*eP*	**Pn**	13 17 01.8	+1.1
	12nm,0.6s						
KOLN				*eS*	**Sn**	13 19 13.8	-4.9
AAK	**Ala-Archa**	**12.52**	**16**	*eP*	**Pn**	13 17 00.7	-2.4
AAK				pmax	pmax		
	comp=Z,11nm,0.6s						
AAK	**Ala-Archa**	**12.52**	**16**	*ePn*	**Pn**	13 17 00.7	-2.5
	comp=Z,11nm,0.6s						
GKN	**Gorkha**	**13.17**	**98**	*eP*	**Pn**	13 17 10.6	-1.3
	comp=Z,9.8nm,0.5s						
GKN				*eS*	**Sn**	13 19 32.6	-6.1
KKN	**Kakani**	**13.78**	**98**	*eP*	**Pn**	13 17 19.6	-0.6
PKI	**Pulchoki**	**13.95**	**99**	*eP*	**Pn**	13 17 21.9	-0.6
GUN	**Gumba**	**14.26**	**97**	*eP*	**Pn**	13 17 25.8	-1.0
	comp=Z,105nm,0.8s						
MK31	**Makanchi Array**	**18.78**	**27**	*eP*	**Pn**	13 18 23.5	-1.2
MKAR	**Makanchi Array**	**18.78**	**27**	P	**Pn**	13 18 22.0	-2.7
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=20						
AKTK	**Aktyubinsk**	**21.66**	**339**	P	**P**	13 18 56.5	+1.0
AKTO	**Aktyubinsk**	**21.66**	**339**	P	**P**	13 18 56.5	+1.0
	comp=Z,1.6nm,0.4s,mb3.8,baz=166,slow=10,SNR=8.4						
AKTO	**Aktyubinsk**	**21.66**	**339**	P	**P**	13 18 56.6	+1.0
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
ZRNK	**Zerenda**	**22.29**	**359**	*eP*	**P**	13 19 03.3	+1.0
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**22.29**	**359**	*eP*	**P**	13 19 03.3	+1.0
	comp=Z,4.5nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**22.36**	**1**	P	**P**	13 19 00.6	-2.5
	comp=Z,2.0nm,0.6s,mb3.8,baz=181,slow=11,SNR=12						
BVAR	**Borovoye Array**	**22.36**	**1**	P	**P**	13 19 00.6	-2.5
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**22.39**	**1**	*eP*	**P**	13 19 01.8	-1.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**22.39**	**1**	*eP*	**P**	13 19 01.8	-1.6
	comp=Z,4.2nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**23.02**	**1**	*eP*	**P**	13 19 10.0	0.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
CHKZ	**Chkalovo**	**23.02**	**1**	*eP*	**P**	13 19 10.0	-0.1
	comp=Z,2.3nm,0.8s,mb3.7						
SONM	**Songino Array**	**32.72**	**48**	P	**P**	13 20 39.9	+2.2
	comp=Z,0.9nm,0.8s,mb3.8,baz=239,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**32.72**	**48**	P	**P**	13 20 39.9	+2.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**36.15**	**315**	P	**P**	13 21 10.4	+3.0
	comp=Z,0.2nm,0.3s,mb3.5,baz=97,slow=7.5,SNR=4.0						
KMBO	**Kilima Mbogo**	**44.27**	**230**	LR	LR	13 41 43.4	
	comp=Z,43nm,19.2s,MS3.4,baz=94,slow=37						
NOA	**NORSAR Array B**	**48.59**	**326**	P	**P**	13 22 48.0	-0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=87,slow=9.3,SNR=2.5						
NOA	**NORSAR Array B**	**48.59**	**326**	P	**P**	13 22 48.0	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**48.59**	**326**	P	**P**	13 22 48.0	-0.7
WRA	**Warramunga Arr**	**79.80**	**120**	P	**P**	13 26 16.8	+3.4
	comp=Z,0.7nm,1.0s,mb3.5,baz=323,slow=5.2,SNR=5.3						
WRA	**Warramunga Arr**	**79.80**	**120**	P	**P**	13 26 16.8	+3.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*IDC **19** 13:47:43.6±55.0, 4233N×14565E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=1247.0km s-min=83.1km az=157.0*
*ISCJB **19** 13:47:52.5±1.3, 4294N±010×1455E±01, h53km±7km, mb3.6/3, Error ellipse: s-maj=18.0km s-min=10.8km az=109.9*
*JMA **19** 13:47:53.4±0.1, 4293N×14548E, h45km±1km, M3.3*
JMA Felt I J1.
ISC 19 13:47:53.2±1.4, 4293N±010×1455E±01, h45km±9km, n10, σ0§42/14, mb3.6/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.47**	**23**	P	**Pn**	13 48 03.8	-0.1
NEM2				S	**Sn**	13 48 11.1	-0.3
JAK	**Akkeshi**	**0.58**	**277**	P	**Pn**	13 48 05.2	-0.1
JAK				*eS*	**Sn**	13 48 13.8	-0.1
JNK	**Nakash**	**0.86**	**320**	P	**Pn**	13 48 08.9	-0.1
JNK				*eS*	**Sn**	13 48 19.7	-0.7
JRA	**Rausu**	**1.04**	**345**	P	**Pn**	13 48 11.6	+0.2
JRA				*eS*	**Sn**	13 48 25.3	+0.5
JOB	**Onbets**	**1.21**	**269**	P	**Pn**	13 48 13.8	+0.1
JAR	**Ashorobuto**	**1.31**	**287**	P	**Pn**	13 48 15.3	+0.2
JTKR	**Abashiri--Toko**	**1.55**	**313**	P	**Pn**	13 48 19.2	+0.9
SONM	**Songino Array**	**27.68**	**294**	P	**P**	13 53 36.7	-0.1
	0.6nm,0.7s,mb3.3,baz=78,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**43.89**	**298**	P	**P**	13 55 54.5	-0.7
	0.9nm,0.8s,mb3.5,baz=74,slow=8.9,SNR=7.7						

FINES FINESS Array B 65.05 333 P **P 13 58 29.1 +0.3**
0.8nm,0.5s,mb4.0,baz=31,slow=9.2,SNR=4.8

MAN 19 13:48:29.4, 994N×12623E, h17km, mb2.7, ML4.1, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.74**	**258**	*eP*	Pb	13 48 43.1	-0.8
SCPH				*eS*	Sb	13 48 53.6	-0.1
PLP	**Palo**	**1.73**	**315**	*eP*	Pn	13 48 58.5	-0.1
PLP				*eS*	Sn	13 49 17.0	-3.3
BESP	**Borongan**	**1.83**	**335**	*eP*	Pn	13 49 00.7	+0.7
CGP	**Cagayan de Oro**	**2.11**	**226**⇑	*eP*	Pn	13 49 03.4	-0.6
CGP				*i* S	Sn	13 49 28.9	-0.8
PAGZ	**Pagadian**	**3.49**	**234**	*eP*	Pn	13 49 24.4	+1.5

*DHMR **19** 14:13:54.3±1.0, 1328N×3950E, h5km±80km, ML3.9*
*CSEM **19** 14:14:00.9±0.1, 1359N×3993E, h2km, ML3.9, Error ellipse: s-maj=3.6km s-min=2.7km az=11.0*
*ISCJB **19** 14:14:02.8±0.5, 1368N±004×3986E±005, h10km, mb3.9/10, MS3.1/1, Error ellipse: s-maj=6.7km s-min=5.9km az=177.4*
*IDC **19** 14:14:02.2±1.6, 1352N×3985E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/25, Error ellipse: s-maj=32.8km s-min=21.8km az=15.0*
*NEIC **19** 14:14:04.0±0.5, 1355N×3985E, h10km, mb4.1/1, Error ellipse: s-maj=11.4km s-min=9.6km az=58.0*
ISC 19 14:14:04.8±0.4, 1368N±004×3981E±005, h10km, n27, σ1§25/33, mb3.9/10, MS3.1/1, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.65**	**125**	Pn	**Pn**	**14 14 58.7**	**-2.7**
	22nm,0.3s,baz=268,slow=14,SNR=33						
ATD				Sn	**Sn**	**14 15 45.2**	**+0.7**
	18nm,0.3s,baz=226,slow=22,SNR=8.3						
ATD				LR	LR	14 16 35.3	
	comp=Z,220nm,19.4s,baz=340,slow=43						
ATD	**Arta Tunnel**	**3.65**	**125**	Pn	**Pn**	**14 14 58.7**	**-2.7**
ATD				Sn	**Sn**	**14 15 45.2**	**+0.7**
ATD				LR	LR	14 16 35.3	
UDYN	**Al 'Udayn**	**4.05**	**85**	*i* P	**Pn**	**14 15 04.1**	**-2.7**
UDYN				*i* S	**Sn**	**14 15 59.1**	**+4.9**
UDYN				AML	AML	14 16 16.4	
	comp=N,367nm,0.8s						
TRBA	**At Turbah**	**4.21**	**96**	*i* P	**Pn**	**14 15 06.1**	**-2.9**
TRBA				*i* S	**Sn**	**14 16 00.8**	**+2.6**
TRBA				AML	AML	14 16 23.9	
	comp=N,394nm,0.8s						
DHBB	**Dhamar BB**	**4.53**	**78**	*i* P	**Pn**	**14 15 09.4**	**-4.0**
FURI	**Furi**	**4.88**	**193**	*eP*	**Pn**	**14 15 17.1**	**-1.2**
FURI				S	**Sb**	**14 16 28.4**	**-0.8**
LBOS		**5.29**	**87**	⇓*iP*	**Pn**	**14 15 18.6**	**-5.2**
LBOS				*i* S	**Sn**	**14 16 25.3**	**+0.5**
BDHA	**Al Bayda'**	**5.60**	**86**	*i* P	**Pn**	**14 15 22.7**	**-5.4**
WNDE	**Wendo Genet**	**6.64**	**190**	*eP*	**Pb**	**14 16 02.2**	**+1.8**
WNDE				S	**Sb**	**14 17 22.5**	**+2.6**
KMBO	**Kilima Mbogo**	**14.93**	**190**	LR	LR	14 22 39.7	
	comp=N,87nm,18.7s,baz=88,slow=35						
ASF	**Jabal al Asfar**	**18.60**	**352**	P	**Pn**	**14 18 22.7**	**+0.3**
	comp=N,0.3nm,0.3s,baz=172,slow=7.1,SNR=1.9						
WSAR	**Wadi Sarin**	**20.20**	**59**	P	**P**	**14 18 40.3**	**+0.6**
	comp=N,7.7nm,1.0s,baz=18,slow=3.2,SNR=3.2						
BRTR	**Keskin Array B**	**26.51**	**349**	P	**P**	**14 19 44.2**	**+1.8**
	comp=N,1.5nm,0.8s,mb3.6,baz=175,slow=16,SNR=6.6						
LSZ	**Lusaka**	**30.98**	**202**	P	**P**	**14 20 21.7**	**-0.5**
LSZ	**Lusaka**	**30.98**	**202**	P	**P**	**14 20 21.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**37.06**	**274**	P	**P**	**14 21 15.0**	**0.0**
	comp=N,1.3nm,1.1s,mb3.7,baz=69,slow=8.1,SNR=4.6						
TORD				LR	LR	14 36 12.8	
	comp=N,28nm,19.8s,MS3.1,baz=180,slow=36						
AKASG	**Malin Array Be**	**37.91**	**349**	P	**P**	**14 21 22.2**	**0.0**
	comp=N,2.1nm,0.7s,mb4.0,baz=171,slow=7.4,SNR=7.7						
AKTK	**Aktyubinsk**	**39.54**	**18**	P	**P**	**14 21 36.6**	**+0.7**
AKTK	**Aktyubinsk**	**39.54**	**18**	P	**P**	**14 21 36.6**	**+0.7**
AKTO	**Aktyubinsk**	**39.54**	**18**	P	**P**	**14 21 36.6**	**+0.7**
	comp=N,2.4nm,1.0s,mb3.9,baz=221,slow=9.2,SNR=5.3						
GERES	**GERESS Array B**	**41.15**	**334**	P	**P**	**14 21 49.2**	**0.0**
	comp=N,1.2nm,0.5s,mb3.8,baz=64,slow=3.4,SNR=9.3						
ZRNK	**Zerenda**	**45.53**	**24**	*eP*	**P**	**14 22 24.8**	**+0.2**
	comp=N,1.9nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**48.45**	**38**	P	**P**	**14 22 46.9**	**-0.5**
	comp=N,1.6nm,0.8s,mb4.1,baz=225,slow=8.4,SNR=9.0						
NOA	**NORSAR Array B**	**51.63**	**343**	P	**P**	**14 23 11.1**	**-0.5**
	comp=N,1.7nm,0.9s,mb4.0,baz=142,slow=7.4,SNR=3.4						
ZAL	**Zalesovo**	**53.41**	**31**	P	**P**	**14 23 23.7**	**-1.1**
	comp=N,1.5nm,0.9s,mb3.9,baz=234,slow=8.1,SNR=5.5						
ZAL	**Zalesovo**	**53.41**	**31**	P	**P**	**14 23 23.7**	**-1.1**
SONM	**Songino Array**	**64.28**	**43**	P	**P**	**14 24 40.0**	**-0.3**
	comp=N,1.5nm,0.8s,mb4.1,baz=246,slow=7.0,SNR=11						

IDC 19 14:31:32.6±1.6, 2391S×6703W, h172km±19km, mb1 3.0/5, mb1mx2.9/18, mbtmp3.4/5, Error ellipse: s-maj=25.3km s-min=19.8km az=111.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16**	**306**	P	Pn	14 32 11.6	+0.8
	11nm,0.3s,baz=133,slow=5.8,SNR=117						
LVC				S	Sn	14 32 41.2	+0.8
	30nm,0.3s,baz=266,slow=21,SNR=65						
LPAZ	**La Paz**	**7.65**	**352**	P	Pn	14 33 23.6	+2.4
	0.1nm,0.3s,baz=135,slow=13,SNR=4.5						
LPAZ				S	Sn	14 34 48.6	+1.6
	0.2nm,0.3s,baz=201,slow=14,SNR=4.4						
CFAA	**Coronel Fontan**	**7.74**	**188**	P	Pn	14 33 23.1	+0.7
	0.1nm,0.3s,baz=48,slow=12,SNR=3.0						
SIV	**San Ignacio**	**9.66**	**37**	P	Pn	14 33 47.2	-0.5
	0.3nm,0.3s,baz=216,slow=16,SNR=8.0						
BDFB	**Brasilia**	**19.68**	**69**	P	P	14 35 48.4	0.0
	0.5nm,0.3s,baz=235,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**131.70**	**207**	PKP	PKPdf	14 50 24.6	-0.3
	0.2nm,0.4s,baz=153,slow=1.8,SNR=8.4						
MKAR	**Makanchi Array**	**146.47**	**39**	PKPbc	PKPbc	14 50 53.1	-0.3
	0.3nm,0.5s,baz=299,slow=2.1,SNR=4.9						

*ISCJB **19** 15:11:12.0±0.2, 4569N±001×692E±002, h7km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=9.4*
*ROM **19** 15:11:12.9±0.2, 4569N×702E, h11km±2km, Md2.0/5, Ml2.0/1, Error ellipse: s-maj=4.1km s-min=1.9km az=144.0*
*NEIC **19** 15:11:13.8, 4567N×700E, h5km, ML2.0(ZUR), ML2.0(ROM), ML2.5(STR), ML2.6(LDG), After LDG.*
*LDG **19** 15:11:13.8±0.1, 4567N×700E, h5km, Md2.4/2, Ml2.6/17, Error ellipse: s-maj=1.7km s-min=0.9km az=94.0*
*CSEM **19** 15:11:13.3±0.1, 4566N×702E, h8km, ML2.6/17, Error ellip

LSD	**Ceresole Reale**	**0.25**	**150**	*e*P	**Pg**	**15 11 18.4**	**+0.2**
EMV	**Vieux Emosson**	**0.39**	**352**	⇑*i*Pg	**Pg**	**15 11 21.4**	**+0.7**
	232nm,0.3s						
EMV				*e*Sg	**Sg**	**15 11 26.4**	**+0.4**
	232nm,0.3s						
SALAN	**Lac Salanfe**	**0.47**	**360**	*i* Sg	**Sg**	**15 11 22.7**	**-5.7**
	40nm,0.2s						
SALAN	**Lac Salanfe**	**0.47**	**360**	⇑*i*Pg	**Pg**	**15 11 28.8**	**+6.7**
	40nm,0.2s						
DIX	**Grande Dixence**	**0.51**	**37**	Pg	**Pg**	**15 11 22.9**	**+0.1**
DIX				Sg	**Sg**	**15 11 29.1**	**-0.5**
DIX	**Grande Dixence**	**0.51**	**37**	*e*Pg	**Pg**	**15 11 22.9**	**+0.1**
	210nm,0.2s						
RSP	**Reno Superiore**	**0.56**	**159**	Pg	**Pg**	**15 11 24.0**	**+0.1**
RSP				Sg	**Sg**	**15 11 31.6**	**+0.3**
	67nm,0.2s						
GRYON	**Gryon**	**0.58**	**9**	⇑*i*Pg	**Pg**	**15 11 24.7**	**+0.4**
	36nm,0.2s						
BNI	**Bardonecchia**	**0.66**	**199**	Pg	**Pg**	**15 11 26.1**	**+0.4**
BNI				Sg	**Sg**	**15 11 34.7**	**+0.3**
AIGLE	**Aigle**	**0.67**	**359**	⇑*i*Pg	**Pg**	**15 11 26.4**	**+0.5**
	98nm,1.4s						
ORO	**Oropa**	**0.71**	**94**	Pg	**Pg**	**15 11 26.1**	**-0.5**
ORO				Sg	**Sg**	**15 11 35.8**	**-0.1**
	34nm,0.2s						
ORX	**Oropa**	**0.71**	**93**	*e*P	**Pg**	**15 11 26.3**	**-0.3**
SENIN	**Lac Senin/Sane**	**0.72**	**18**	*i* Sg	**Pg**	**15 11 27.2**	**+0.2**
	103nm,0.4s						
SENIN	**Lac Senin/Sane**	**0.72**	**18**	*e*Pg	**Pg**	**15 11 36.8**	**+10**
	103nm,0.4s						
SENIN	**Lac Senin/Sane**	**0.72**	**18**	*e*P	**Pg**	**15 11 27.2**	**+0.2**
RRL	**Cesana Torines**	**0.77**	**190**	Pg	**Pg**	**15 11 28.2**	**+0.4**
RRL	**Cesana Torines**	**0.77**	**190**	*e*P	**Pg**	**15 11 28.2**	**+0.4**
MMK	**Mattmark**	**0.79**	**61**	Pg	**Pg**	**15 11 27.0**	**-1.2**
MMK				Sg	**Sg**	**15 11 36.7**	**-1.8**
MMK	**Mattmark**	**0.79**	**61**	*e*Pg	**Pg**	**15 11 27.6**	**-0.6**
	49nm,0.3s						
OG22	**Abries**	**0.85**	**181**	Pg	**Pg**	**15 11 29.6**	**+0.2**
OG22				Sg	**Sg**	**15 11 40.2**	**-0.4**
MBDF	**Montbardon**	**0.96**	**189**	*e*Pn	**Pn**	**15 11 32.6**	**+0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 11 44.1**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 11 45.9**	**+0.1**
	20nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.96**	**189**	*e*Pg	**Pg**	**15 11 31.6**	**+0.2**
MBDF				*e*Pn	**Pn**	**15 11 32.6**	**+0.4**
MBDF				*e*Sg	**Sg**	**15 11 44.1**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 11 45.9**	**+0.1**
MBDF	**Montbardon**	**0.96**	**189**	*e*Pn	**Pn**	**15 11 32.6**	**+0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 11 44.1**	**+0.1**
MBDF				*e*Sn	**Sn**	**15 11 45.9**	**+0.1**
	10nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.08**	**226**	*e*Pn	**Pn**	**15 11 34.5**	**+0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**15 11 47.9**	**0.0**
ORIF				*e*Sn	**Sn**	**15 11 48.8**	**0.0**
	16nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.08**	**226**	*e*Pg	**Pg**	**15 11 34.1**	**+0.3**
ORIF				*e*Pn	**Pn**	**15 11 34.5**	**+0.6**
ORIF				*e*Sg	**Sg**	**15 11 47.9**	**0.0**
ORIF				*e*Sn	**Sn**	**15 11 48.8**	**0.0**
ORIF	**Oris-en-Rattie**	**1.08**	**226**	*e*Pn	**Pn**	**15 11 34.5**	**+0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**15 11 47.9**	**0.0**
ORIF				*e*Sn	**Sn**	**15 11 48.8**	**0.0**
	7.8nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.12**	**327**	*e*Pg	**Pg**	**15 11 35.3**	**+0.8**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**15 11 50.5**	**+0.8**
	12nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.12**	**327**	*e*Pg	**Pg**	**15 11 35.3**	**+0.8**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**15 11 50.5**	**+0.8**
	5.9nm,0.2s,SNR=1.0						
OG05	**Jujurieux**	**1.12**	**290**	Pg	**Pg**	**15 11 35.9**	**+1.4**
PZZ	**Prazzo**	**1.17**	**176**	P	**Pb**	**15 11 35.3**	**+0.2**
LOMF	**Lomont**	**1.68**	**357**	Pg	**Pg**	**15 11 46.1**	**+1.0**
LOMF				Sg	**Sg**	**15 12 07.8**	**+0.9**
VIVF	**Saint-Julien-l**	**1.82**	**244**	*e*Pg	**Pg**	**15 11 47.7**	**-0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**15 12 06.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**15 12 11.2**	**-0.3**
	6.5nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.82**	**244**	*e*Pn	**Pn**	**15 11 44.4**	**+0.4**
VIVF				*e*Pg	**Pg**	**15 11 47.7**	**-0.2**
VIVF				*e*Sn	**Sn**	**15 12 06.4**	**-0.6**
VIVF				*e*Sg	**Sg**	**15 12 11.2**	**-0.3**
VIVF	**Saint-Julien-l**	**1.82**	**244**	*e*Pg	**Pg**	**15 11 47.7**	**-0.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**15 12 06.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**15 12 11.2**	**-0.3**
	3.2nm,0.3s,SNR=1.0						
BBS	**Basel-Blauen**	**1.83**	**11**	Pg	**Pg**	**15 11 48.5**	**+0.5**
BBS				Sg	**Sg**	**15 12 12.1**	**+0.4**
SBF	**Sospel**	**1.84**	**170**	*e*Pg	**Pg**	**15 11 47.9**	**-0.4**
SBF				*e*Sg	**Sg**	**15 12 11.7**	**-0.5**
	18nm,0.4s						
SBF	**Sospel**	**1.84**	**170**	*e*Pg	**Pg**	**15 11 47.9**	**-0.4**
SBF				*e*Sg	**Sg**	**15 12 11.7**	**-0.5**
	8.8nm,0.4s						
SMRF	**Simiane la Rot**	**1.97**	**211**	*e*Pg	**Pg**	**15 11 50.2**	**-0.5**
SMRF				*e*Sg	**Sg**	**15 12 15.7**	**-0.6**
	2.6nm,0.3s						
SMRF	**Simiane la Rot**	**1.97**	**211**	*e*Pg	**Pg**	**15 11 50.2**	**-0.5**
SMRF				*e*Sg	**Sg**	**15 12 15.7**	**-0.6**
	1.3nm,0.3s						
FRF	**La Foret Royal**	**2.13**	**186**	*e*Pg	**Pg**	**15 11 54.0**	**+0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**15 12 20.3**	**-1.0**
	5.3nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**2.13**	**186**	*e*Pn	**Pn**	**15 11 48.6**	**+0.3**
FRF				*e*Pg	**Pg**	**15 11 54.0**	**+0.3**
FRF				*e*Sg	**Sg**	**15 12 20.3**	**-1.0**
FRF	**La Foret Royal**	**2.13**	**186**	*e*Pg	**Pg**	**15 11 54.0**	**+0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**15 12 20.3**	**-1.0**
	2.7nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.14**	**358**	*e*Pg	**Pg**	**15 11 54.0**	**0.0**
HINF				*e*Sg	**Sg**	**15 12 20.7**	**-1.1**
	6.2nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**2.14**	**358**	*e*Pn	**Pn**	**15 11 49.0**	**+0.5**
HINF				*e*Pg	**Pg**	**15 11 54.0**	**0.0**
HINF				*e*Sg	**Sg**	**15 12 20.7**	**-1.1**
HINF	**Hinteralfeld**	**2.14**	**358**	*e*Pg	**Pg**	**15 11 54.0**	**0.0**
HINF				*e*Sg	**Sg**	**15 12 20.7**	**-1.1**
	3.1nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**2.37**	**188**	*e*Pg	**Pg**	**15 11 57.5**	**-0.8**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**15 12 27.8**	**-1.1**
	7.9nm,0.5s,SNR=1.0						
LMR	**La Mourre**	**2.37**	**188**	*e*Pn	**Pn**	**15 11 51.7**	**+0.2**
LMR				*e*Pg	**Pg**	**15 11 57.5**	**-0.8**
LMR				*e*Sg	**Sg**	**15 12 27.8**	**-1.1**
LMR	**La Mourre**	**2.37**	**188**	*e*Pg	**Pg**	**15 11 57.5**	**-0.8**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**15 12 27.8**	**-1.1**
	4.0nm,0.5s,SNR=1.0						
HAU	**Haudompre**	**2.37**	**350**	*e*Pg	**Pg**	**15 11 59.1**	**+0.7**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**15 12 20.2**	**-0.4**
HAU				*e*Sg	**Sg**	**15 12 28.8**	**-0.3**
	4.0nm,0.3s						
HAU	**Haudompre**	**2.37**	**350**	*e*Pn	**Pn**	**15 11 52.3**	**+0.7**
HAU				*e*Pg	**Pg**	**15 11 59.1**	**+0.7**
HAU				*e*Sn	**Sn**	**15 12 20.2**	**-0.4**
HAU				*e*Sg	**Sg**	**15 12 28.8**	**-0.3**
HAU	**Haudompre**	**2.37**	**350**	*e*Pg	**Pg**	**15 11 59.1**	**+0.7**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**15 12 20.2**	**-0.4**
HAU				*e*Sg	**Sg**	**15 12 28.8**	**-0.3**
	2.0nm,0.3s						
SMF	**Signal de Mont**	**2.38**	**295**	*e*Pg	**Pg**	**15 11 58.1**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 12 28.7**	**-0.9**
	5.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.38**	**295**	*e*Pn	**Pn**	**15 11 52.0**	**+0.2**
SMF				*e*Pg	**Pg**	**15 11 58.1**	**-0.5**
SMF				*e*Sg	**Sg**	**15 12 28.7**	**-0.9**
SMF	**Signal de Mont**	**2.38**	**295**	*e*Pg	**Pg**	**15 11 58.1**	**-0.5**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 12 28.7**	**-0.9**
	2.9nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.68**	**308**	*e*Pg	**Pg**	**15 12 03.6**	**-0.7**
	baz=130,SNR=1.0						
LOR				*e*Sg	**Sg**	**15 12 38.4**	**-0.6**
	5.3nm,0.3s						
LOR	**Lormes**	**2.68**	**308**	*e*Pn	**Pn**	**15 11 56.3**	**+0.5**
LOR				*e*Pg	**Pg**	**15 12 03.6**	**-0.7**
LOR				*e*Sg	**Sg**	**15 12 38.4**	**-0.6**
LOR	**Lormes**	**2.68**	**308**	*e*Pg	**Pg**	**15 12 03.6**	**-0.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 12 38.4**	**-0.6**
	2.7nm,0.3s						
LASF	**Ste Croix**	**2.73**	**235**	*e*Pg	**Pg**	**15 12 04.4**	**-0.9**
CDF	**Champ du Feu**	**2.75**	**4**	*e*Pn	**Pn**	**15 11 57.0**	**+0.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.75**	**295**	*e*Pg	**Pg**	**15 12 05.3**	**-0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 12 40.3**	**-1.0**
	2.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.75**	**295**	*e*Pn	**Pn**	**15 11 57.1**	**+0.3**
AVF				*e*Pg	**Pg**	**15 12 05.3**	**-0.4**
AVF				*e*Sg	**Sg**	**15 12 40.3**	**-1.0**
AVF	**Avril sur Loir**	**2.75**	**295**	*e*Pg	**Pg**	**15 12 05.3**	**-0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 12 40.3**	**-1.0**
	1.0nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.77**	**301**	*e*Pn	**Pn**	**15 11 57.7**	**+0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 12 41.8**	**-0.2**
	3.8nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.77**	**301**	*e*Pn	**Pn**	**15 11 57.7**	**+0.6**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 12 41.8**	**-0.2**
	1.9nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**2.86**	**333**	*e*Sn	**Sn**	**15 12 31.7**	**-0.9**
SFTF				*e*Sg	**Sg**	**15 12 44.0**	**-0.7**
	3.7nm,0.2s						
SFTF	**Sexfontaines**	**2.86**	**333**	*e*Sn	**Sn**	**15 12 31.7**	**-0.9**
SFTF				*e*Sg	**Sg**	**15 12 44.0**	**-0.7**
	1.9nm,0.2s						
BGF	**Bois d'Agland**	**3.00**	**289**	*e*Pg	**Pg**	**15 12 09.6**	**-0.9**
BGF				*e*Sg	**Sg**	**15 12 48.4**	**-1.0**
	9.8nm,0.3s						
BGF	**Bois d'Agland**	**3.00**	**289**	*e*Pn	**Pn**	**15 12 00.9**	**+0.6**
BGF				*e*Pg	**Pg**	**15 12 09.6**	**-0.9**
BGF				*e*Sg	**Sg**	**15 12 48.4**	**-1.0**
BGF	**Bois d'Agland**	**3.00**	**289**	*e*Pg	**Pg**	**15 12 09.6**	**-0.9**
BGF				*e*Sg	**Sg**	**15 12 48.4**	**-1.0**
	4.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.38**	**282**	*e*Sg	**Sg**	**15 12 58.9**	**-2.5**
	3.8nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.38**	**282**	*e*Sg	**Sg**	**15 12 58.9**	**-2.5**
	1.9nm,0.4s,SNR=1.0						

IDC 19 15:14:21.4±1.7, 143N×12323E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=197.1km s-min=25.0km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**153**	P	P	15 19 36.5	0.0
	2.2nm,0.6s,baz=331,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.01**	**158**	P	P	15 20 06.1	+1.1
	0.3nm,0.5s,baz=338,slow=7.0,SNR=9.1						
MKAR	**Makanchi Array**	**57.53**	**328**	P	P	15 24 12.3	-0.3
	0.2nm,0.3s,baz=124,slow=7.2,SNR=5.9						

*NEIC **19** 15:19:51.9±1.6, 4041N×12534W, h10km, MD3.7(NCEDC), Error ellipse: s-maj=22.0km s-min=6.4km az=82.0*
*ISCJB **19** 15:19:52.5±0.7, 4039N±002×125.19W±006, h10km, Error ellipse: s-maj=7.1km s-min=3.3km az=157.9*

ISC 19 15:19:55.2±1.2, 4040N±003×12520W±007, h24km±11km, n75, σ0°83/86, 27C-34D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.99**	**64**	⇑P	**Pn**	**15 20 12.4**	**-1.2**
	baz=1.0,SNR=405						
JCC				⇑S	**Sb**	**15 20 25.5**	**-0.7**
	baz=1.0						
KCPM	**Cahto Peak**	**1.43**	**119**	*e*Pn	**Pn**	**15 20 19.1**	**-0.5**
KIPM	**Iron Peak**	**1.44**	**113**	*e*Pn	**Pn**	**15 20 19.3**	**-0.5**
KRMB	**Red Mountain**	**1.49**	**41**	*e*Pn	**Pn**	**15 20 18.6**	**-1.8**
N02C	**Big Bar**	**1.50**	**73**	P	**Pn**	**15 20 20.0**	**-0.6**
	baz=1.5,SNR=489						
M01C	**Crescent City**	**1.67**	**29**	⇓P	**Pn**	**15 20 21.9**	**-1.0**
	baz=1.6						
P01C	**Double 8 Ranch**	**1.71**	**122**	⇑P	**Pn**	**15 20 22.4**	**-1.0**
	baz=1.7,SNR=179						
P01C				⇓S	**Sn**	**15 20 44.4**	**-0.1**
	baz=1.7						
O02C	**Red Bluff**	**1.86**	**96**	⇑P	**Pn**	**15 20 25.5**	**0.0**
	baz=1.8,SNR=589						
KBO	**Bosley Butte**	**1.96**	**22**	*e*Pn	**Pn**	**15 20 25.2**	**-1.7**
WDC	**Whiskeytown Da**	**2.04**	**84**	*e*Pn	**Pn**	**15 20 27.8**	**-0.1**
WDC	**Whiskeytown Da**	**2.04**	**84**	P	**Pn**	**15 20 28.0**	**+0.1**
	baz=2.0,SNR=140						
WDC				⇓S	**Sn**	**15 20 52.1**	**-0.5**
	baz=2.0						
M02C	**Callahan**	**2.04**	**60**	⇓P	**Pn**	**15 20 27.4**	**-0.6**
	baz=2.0,SNR=22						
GASB	**Alder Springs**	**2.05**	**111**	⇓P	**Pn**	**15 20 27.8**	**-0.3**
	baz=2.0,SNR=120						
GASB				⇑S	**Sn**	**15 20 53.8**	**+1.0**
	baz=2.0						
HOPS	**Hopland**	**2.16**	**130**	*e*Pn	**Pn**	**15 20 29.4**	**-0.2**
HOPS	**Hopland**	**2.16**	**130**	⇓P	**Pn**	**15 20 29.3**	**-0.4**
	baz=2.2,SNR=108						
YBH	**Yreka Blue Hor**	**2.31**	**54**	*e*Pn	**Pn**	**15 20 31.0**	**-0.7**
YBH	**Yreka Blue Hor**	**2.31**	**54**	⇑P	**Pn**	**15 20 31.1**	**-0.6**
	baz=2.3,SNR=15						
YBH				⇓S	**Sn**	**15 20 59.8**	**+0.5**
	baz=2.3						
KEBM	**Edson Butte**	**2.56**	**14**	*e*Pn	**Pn**	**15 20 34.0**	**-1.2**
K02A	**Glendale**	**2.70**	**28**	P	**Pn**	**15 20 36.9**	**-0.1**
	baz=2.7,SNR=17						
HUMO	**Hull Mountain**	**2.78**	**37**	*e*Pn	**Pn**	**15 20 37.8**	**-0.4**
HUMO	**Hull Mountain**	**2.78**	**37**	⇓P	**Pn**	**15 20 38.2**	**0.0**
	baz=2.7						
SUTB	**Sutter Butte**	**2.88**	**113**	⇓P	**Pn**	**15 20 38.9**	**-0.6**
	baz=2.9						
SUTB				⇑S	**Sn**	**15 21 12.5**	**-0.8**
	baz=2.9						
HATC	**Hat Creek Radi**	**2.88**	**80**	⇓P	**Pn**	**15 20 39.9**	**+0.4**
	baz=2.9,SNR=28						
HATC				⇓S	**Sn**	**15 21 12.8**	**-0.6**
	baz=2.9						
MCCM	**Marconi Confer**	**2.88**	**141**	*e*Pn	**Pn**	**15 20 38.5**	**-1.1**
MCCM	**Marconi Confer**	**2.88**	**141**	⇓P	**Pn**	**15 20 39.3**	**-0.3**
	baz=2.9,SNR=10						
MCCM				⇓S	**Sn**	**15 21 13.5**	**+0.1**
	baz=2.9						
M04C	**Macdoel**	**2.90**	**60**	⇑P	**Pn**	**15 20 39.9**	**+0.1**
	baz=2.9						
CVS	**Carmenet Viney**	**2.95**	**133**	⇓S	**Sn**	**15 21 15.4**	**+0.2**
	baz=3.0						
ORV	**Oroville**	**2.96**	**105**	⇓P	**Pn**	**15 20 40.5**	**-0.2**
	baz=3.0,SNR=6.3						
ORV				⇑S	**Sn**	**15 21 15.1**	**-0.5**
	baz=3.0						
Q03C	**Winters**	**3.03**	**124**	⇑P	**Pn**	**15 20 42.7**	**+1.1**
	baz=3.0						
OHCM	**Honcut**	**3.05**	**109**	*e*Pn	**Pn**	**15 20 40.5**	**-1.5**
L04A	**Klamath Falls**	**3.06**	**53**	⇓P	**Pn**	**15 20 42.5**	**+0.4**
	baz=3.0						
O04C	**Chester**	**3.15**	**90**	⇑P	**Pn**	**15 20 43.8**	**+0.6**
	baz=3.1						
FARB	**Farallon Islan**	**3.19**	**147**	⇓P	**Pn**	**15 20 42.9**	**-0.9**
	baz=3.2						
J02A	**Umpqua**	**3.21**	**22**	⇑P	**Pn**	**15 20 44.2**	**+0.2**
	baz=3.2,SNR=12						
J02A				⇓S	**Sn**	**15 21 21.9**	**+0.4**
	baz=3.2						
M05C	**Lookout**	**3.22**	**71**	⇑P	**Pn**	**15 20 44.8**	**+0.5**
	baz=3.2						
O05C	**Quincy**	**3.31**	**96**	⇑P	**Pn**	**15 20 46.2**	**+0.7**
	baz=3.3						
J03A	**Ideyld Park**	**3.41**	**29**	⇑P	**Pn**	**15 20 47.4**	**+0.6**
	baz=3.4						
ELFS	**Eagle Lake Fie**	**3.42**	**85**	P	**Pn**	**15 20 47.9**	**+1.0**
	baz=3.4,SNR=13						
K04A	**Chilquin**	**3.42**	**48**	⇓P	**Pn**	**15 20 45.7**	**-1.3**
	baz=3.4						
SAC	**San Andreas**	**3.55**	**141**	*e*Pn	**Pn**	**15 20 47.1**	**-1.7**
M06C	**Likely Place G**	**3.68**	**76**	⇓P	**Pn**	**15 20 49.9**	**-0.6**
	baz=3.6						
L05A	**Lakeview**	**3.69**	**62**	⇑P	**Pn**	**15 20 50.9**	**+0.3**
	baz=3.6,SNR=12						
I02A	**Mapleton**	**3.75**	**15**	⇑P	**Pn**	**15 20 51.7**	**+0.2**
	baz=3.7,SNR=15						
BEKR	**Beckwourth**	**3.75**	**97**	⇓P	**Pn**	**15 20 53.0**	**+1.4**
	baz=3.7						
LAVA	**Lava Cap Winer**	**3.82**	**114**	⇑P	**Pn**	**15 20 52.6**	**+0.1**
	baz=3.8						
I03A	**Eugene**	**3.85**	**21**	⇓S	**Sn**	**15 21 36.7**	**-0.7**
	baz=3.8						
K05A	**Summer Lake**	**3.98**	**53**	⇑P	**Pn**	**15 20 56.3**	**+1.6**
	baz=3.9						
MOD	**Modoc**	**3.99**	**66**	*e*Pn	**Pn**	**15 20 54.4**	**-0.4**
MOD	**Modoc**	**3.99**	**66**	⇓P	**Pn**	**15 20 55.6**	**+0.8**
	baz=4.0						
N06A	**Buffalo Meadow**	**4.10**	**83**	⇓P	**Pn**	**15 20 56.3**	**0.0**
	baz=4.1,SNR=29						
O06A	**Flanigan**	**4.12**	**91**	⇓P	**Pn**	**15 20 56.6**	**0.0**
	baz=4.1						
J05A	**Fort Rock**	**4.14**	**44**	⇑P	**Pn**	**15 20 58.7**	**+1.9**
	baz=4.1						
S04C	**Ingram Canyon,**	**4.18**	**132**	⇑P	**Pn**	**15 20 56.7**	**-0.7**
	baz=4.2						
R05C	**Kirkwood Meado**	**4.31**	**111**	⇓P	**Pn**	**15 20 59.5**	**+0.4**
	baz=4.3						
CMB	**Columbia Colle**	**4.42**	**121**	*e*Pn	**Pn**	**15 21 02.0**	**+1.3**
CMB	**Columbia Colle**	**4.42**	**121**	⇓P	**Pn**	**15 21 02.0**	**+1.2**
	baz=4.4						
K06A	**Valley Falls**	**4.42**	**55**	P	**Pn**	**15 21 01.9**	**+1.1**
	baz=4.4,SNR=15						
PAHR	**Pah Rah Range**	**4.52**	**97**	*e*Pn	**Pn**	**15 21 01.9**	**-0.2**
SAO	**San Andreas Ge**	**4.67**	**140**	Pn	**Pn**	**15 21 04.7**	**+0.6**
M07A	**Soldier Meadow**	**4.68**	**76**	⇑P	**Pn**	**15 21 04.5**	**+0.3**
	baz=4.6						
L07A	**Adell**	**4.71**	**68**	⇓P	**Pn**	**15 21 04.5**	**-0.2**
	baz=4.7						
J06A	**Christmas Vall**	**4.73**	**51**	⇑P	**Pn**	**15 21 05.9**	**+0.9**
	baz=4.7						
N07B	**Gerlach**	**4.76**	**83**	⇓P	**Pn**	**15 21 05.2**	**-0.2**
	baz=4.7						
H04A	**Detroit Lake**	**4.83**	**26**	⇓P	**Pn**	**15 21 07.8**	**+1.4**
	baz=4.8						
O07A	**Toulon**	**4.84**	**91**	⇑P	**Pn**	**15 21 07.0**	**+0.4**
	baz=4.8,SNR=14						
S06C	**San Francisco**	**4.86**	**119**	⇓P	**Pn**	**15 21 08.1**	**+1.3**
	baz=4.9,SNR=8.2						
S05C	**Merced**	**4.87**	**127**	⇓P	**Pn**	**15 21 08.2**	**+1.3**
	baz=4.9						
HAST	**UC Hastings Re**	**4.92**	**143**	⇑P	**Pn**	**15 21 07.7**	**+0.1**
	baz=4.9						
HAST				⇑S	**Sn**	**15 22 02.9**	**-0.8**
	baz=4.9						
K07A	**Rock Creek Ran**	**5.02**	**61**	⇑P	**Pn**	**15 21 09.5**	**+0.5**
	baz=5.0						
M08A	**Happy Creek Ra**	**5.28**	**76**	⇓P	**Pn**	**15 21 12.7**	**+0.2**
	baz=5.2						
WVOR	**Wild Horse Val**	**5.34**	**65**	*e*Pn	**Pn**	**15 21 08.6**	**-4.8**
N08A	**GE Springer Mi**	**5.39**	**84**	⇓P	**Pn**	**15 21 13.9**	**-0.2**
	baz=5.4,SNR=20						
ISA	**Isabella**	**7.11**	**130**	*e*Pn	**Pn**	**15 21 40.1**	**+2.5**
HLID	**Hailey**	**8.64**	**65**	*e*Pn	**Pn**	**15 21 59.2**	**+0.5**
	2.0nm,1.0s						
NLU	**North Lily Min**	**10.06**	**88**	*e*Pn	**Pn**	**15 22 24.4**	**+6.3**

IDC 19 15:20:56.0±8.5, 638S×15091E, h99km±59km, mb2.9/2, mb1 3.1/3, mb1mx3.0/13, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/6, Error ellipse: s-maj=110.6km s-min=55.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**231**	P	Pn	15 22 04.6	-1.0
	0.6nm,0.3s,baz=128,slow=19,SNR=2.7						
PMG				S	Sn	15 23 01.7	+1.9
	1.1nm,0.3s,baz=116,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**21.00**	**228**	P	P	15 25 30.8	-0.5
	0.4nm,0.5s,baz=53,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.73**	**222**	P	P	15 25 58.8	0.0
	1.2nm,0.9s,baz=56,slow=8.9,SNR=10						
CBIJ	**Chichi jima**	**34.33**	**346**	LR	LR	15 39 38.8	
	comp=Z,140nm,20.0s,baz=118,slow=33						
TORD	**Torodi Ar. Bea**	**148.95**	**285**	PKPbc	PKP

BILL Bilibino 25.82 14 *eP* **P 15 36 17.2 -3.9**
BILL pmax pmax
comp=Z,12nm,1.6s,mb4.2
SONM Songino Array 30.58 293 P **P 15 37 05.5 +1.9**
comp=Z,1.1nm,0.6s,mb3.9,baz=76,slow=8.2,SNR=10
SONM Songino Array 30.58 293 P **P 15 37 05.5 +1.9**
SONM pmax pmax
comp=Z,1.0nm,0.6s
KDAK Kodiak Island 37.61 48 P **P 15 38 03.5 -1.1**
comp=Z,11nm,0.7s,mb4.7,baz=26,slow=13,SNR=7.0
KDAK Kodiak Island 37.61 48 P **P 15 38 03.5 -1.1**
INK Inuvik 45.29 31 P **P 15 39 06.5 -1.1**
comp=Z,127nm,1.0s
MKAR Makanchi Array 46.61 299 P **P 15 39 19.4 +1.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=72,slow=8.1,SNR=18
MKAR Makanchi Array 46.61 299 P **P 15 39 19.4 +1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 46.61 299 P **P 15 39 19.4 +1.4**
BRVK Borovoye 51.32 310 P **P 15 39 54.0 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 51.32 310 P **P 15 39 54.0 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
ZRNK Zerenda 52.07 311 *eP* **P 15 40 00.3 +0.6**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 52.07 311 *eP* **P 15 40 00.3 +0.6**
comp=Z,2.3nm,0.6s,mb4.3
JOF Joensuu 63.17 333 *ep* **P 15 41 17.4 -0.5**
comp=Z,3.5nm,0.6s,mb4.7
JOF Joensuu 63.17 333 *eP* **P 15 41 17.4 -0.5**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
WRA Warramunga Arr 65.00 197 P **P 15 41 29.0 -1.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=17,slow=6.9,SNR=7.5
WRA Warramunga Arr 65.00 197 P **P 15 41 29.0 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 65.66 60 P **P 15 41 34.2 0.0**
comp=Z,0.7nm,0.7s,mb3.8,baz=295,slow=7.7,SNR=4.8
NVAR Mina Array Bea 65.66 60 P **P 15 41 34.2 0.0**
FINES FINESS Array B 65.93 334 P **P 15 41 35.8 -0.1**
comp=Z,2.3nm,0.7s,mb4.3,baz=25,slow=10,SNR=8.7
FINES FINESS Array B 65.93 334 *i P* **P 15 41 36.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
PDAR Pinedale Array 68.18 51 P **P 15 41 49.7 -0.6**
comp=Z,0.2nm,0.6s,mb3.4,baz=293,slow=2.7,SNR=2.5
ASAR Alice Springs 68.71 196 P **P 15 41 53.9 +0.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=9.6,slow=5.3,SNR=11
ASAR Alice Springs 68.71 196 P **P 15 41 53.9 +0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 70.44 340 P **P 15 42 04.0 -0.2**
comp=Z,0.9nm,0.6s,mb3.9,baz=29,slow=6.5
NOA NORSAR Array B 70.44 340 P **P 15 42 03.1 -1.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=29,slow=6.3,SNR=5.0
NOA NORSAR Array B 70.44 340 P **P 15 42 03.1 -1.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 72.94 325 P **P 15 42 19.1 -0.2**
comp=Z,0.5nm,0.4s,mb3.8,baz=38,slow=6.1,SNR=6.6
AKASG Malin Array Be 72.94 325 *i P* **P 15 42 20.7 +1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 80.76 58 P **P 15 43 02.5 -0.9**
comp=Z,0.7nm,0.7s,mb3.7,baz=290,slow=2.9,SNR=7.7
TXAR Lajitas Array 80.76 58 P **P 15 43 02.5 -0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 149.83 99 PKPbc PKPbc 15 50 39.1 -0.9
comp=Z,1.1nm,0.8s,baz=239,slow=4.0,SNR=2.9
PLCA Paso Flores 149.83 99 PKP2 PKPbc 15 50 39.1 -0.9
PLCA pmax pmax
comp=Z,1.0nm,0.9s

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*ISCJB **19** 15:39:08.8±1.8, 49.14N±0.05×156.01E±0.08, h12km±11km, mb4.4/35, MS4.2/4, Error ellipse: s-maj=11.2km s-min=6.0km az=85.0*
*IDC **19** 15:39:08.1±0.9, 49.08N×156.00E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.1/23, mbtmp4.0/14, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/33, Error ellipse: s-maj=25.7km s-min=17.9km az=174.0*
*BJI **19** 15:39:09.8, 48.98N×156.06E, h28km, mB4.8, mb4.6, Ms4.2, Msz4.2*
*NEIC **19** 15:39:12.3±0.5, 49.09N×156.00E, mb4.4/12, Error ellipse: s-maj=11.7km s-min=7.6km az=141.0*
*MOS **19** 15:39:12.8±1.3, 49.17N×155.98E, h41km, mb4.5/19, Error ellipse: s-maj=11.5km s-min=7.3km az=100.0*
ISC 19 15:39:09.8±2.3, 4921N±006×15588E±009, h6km±14km, h29km±2.1km; pP-P, n101, σ0=96/107, mb4.4/35, MS4.2/4, 7C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**6**	*e*PN	**Pn**	**15 39 35.9**	**-1.1**
SKR				*i* S	**Sn**	**15 39 56.5**	**-0.2**
SKR				pmax	pmax		
	comp=N,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,570nm,0.5s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,5μm,2.0s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,1μm,0.6s						
PET	**Petropavlovsk**	**4.20**	**23**	*e*PN	**Pn**	**15 40 18.2**	**+3.8**
PET				*e*S	**Sn**	**15 41 03.4**	**-0.3**
PET				pmax	pmax		
	comp=Z,101nm,1.1s						
PET				smax			
	comp=E,309nm,0.7s						
PET	**Petropavlovsk**	**4.20**	**23**	*e*Pn	**Pn**	**15 40 15.0**	**+0.7**
UGL	**Uglegorsk**	**9.06**	**274**	PN	**Pn**	**15 41 25.5**	**+4.4**
UGL				pmax	pmax		
	comp=Z,57nm,0.9s						
UGL				MLR	MLR		
	comp=N,400nm,14.0s						
UGL				MLR	MLR		
	comp=E,900nm,14.0s						
UGL				MLR	MLR		
	comp=Z,850nm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.07**	**261**	*e*PN	**Pn**	**15 41 16.2**	**-5.0**
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**9.07**	**261**	*e*Pn	**Pn**	**15 41 14.6**	**-6.7**
ASAJ	**Asahikawa**	**10.45**	**246**	Pn	**Pn**	**15 41 45.5**	**+5.3**
	comp=E,4.3nm,0.3s,baz=78,slow=17,SNR=12						
ASAJ				LR	LR	15 45 08.1	
	comp=E,196nm,21.2s,baz=133,slow=34						
ASAJ	**Asahikawa**	**10.45**	**246**	PN	**Pn**	**15 41 45.5**	**+5.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,196nm,21.2s						
KLR	**Kul'dur**	**15.76**	**279**	*e*P	**Pn**	**15 42 56.6**	**+4.4**
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
MAJO	**Matsushiro**	**18.05**	**232**	P	**Pn**	**15 43 20.3**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAJO	**Matsushiro**	**18.05**	**232**	P	**Pn**	**15 43 20.3**	**-0.9**
	comp=Z,6.7nm,0.7s						
MJAR	**Matsushiro Arr**	**18.05**	**232**	P	**Pn**	**15 43 21.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=11,SNR=6.1						
MJAR				LR	LR	15 51 26.5	
	comp=Z,155nm,18.5s,baz=40,slow=41						
MDJ	**Mudanjiang**	**18.50**	**266**	P	**Pn**	**15 43 25.3**	**-1.3**
MDJ				AP	pP	15 43 31.3	+3.0
MDJ				XP	sP	15 43 33.9	+4.8
MDJ				S	**Sn**	**15 46 50.9**	**-2.6**
MDJ				XS	sS	15 47 04.8	+4.1
MDJ				SCP	ScP	15 51 29.8	-2.7
MDJ				PCS	PcS	15 51 32.3	-0.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,50nm,4.3s						
MDJ				LR	LR		
	comp=N,60nm,18.3s						
MDJ				LR	LR		
	comp=E,44nm,19.7s						
YAK	**Yakutsk**	**19.41**	**321**	*e*P	**Pn**	**15 43 37.7**	**0.0**
YAK				pmax	pmax		
	comp=Z,23nm,1.2s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,135nm,18.0s						
YAK				MLR	MLR		
	comp=N,118nm,16.0s						
YAK				MLR	MLR		
	comp=E,125nm,14.0s						
YAK	**Yakutsk**	**19.41**	**321**	*e*P	**Pn**	**15 43 37.6**	**-0.1**
	comp=E,16nm,0.8s						
BILL	**Biiibino**	**19.59**	**12**	*e*P	**Pn**	**15 43 39.8**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s						
BILL	**Bilibino**	**19.59**	**12**	P	**Pn**	**15 43 43.4**	**+3.5**
TIXI	**Tiksi**	**25.70**	**341**	*i* P	**P**	**15 44 39.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**32.02**	**272**	*e*P	**P**	**15 45 37.8**	**+0.8**
HHC				AP	pP	15 45 45.0	+6.1
HHC				XP	sP	15 45 48.1	+8.4
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,57nm,3.8s						
SONM	**Songino Array**	**32.34**	**287**	P	**P**	**15 45 41.4**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=68,slow=8.0,SNR=3.7						
NJ2	**Nanjing**	**32.51**	**252**	*e*P	**P**	**15 45 39.6**	**-1.6**
NJ2				AP	pP	15 45 49.3	+6.1
NJ2				XP	sP	15 45 54.1	+10
NJ2				PP	PP	15 46 48.0	-6.6
NJ2				S	**S**	**15 50 52.0**	**-4.6**
NJ2				XS	sS	15 51 09.0	+9.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,842nm,5.2s						
NJ2				LR	LR		
	comp=N,210nm,11.6s,MS4.0						
NJ2				LR	LR		
	comp=E,110nm,16.4s,MS4.0						
NJ2				LR	LR		
	comp=Z,2μm,14.9s,MS4.8						
COLA	**College**	**33.06**	**41⇑**	*e*P	**P**	**15 45 46.1**	**+0.1**
ZAK	**Zakamensk**	**33.39**	**292**	*e*P	**P**	**15 45 49.9**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
WHN	**Wuhan**	**36.36**	**255**	P	**P**	**15 46 15.9**	**+1.3**
INK	**Inuvik**	**38.58**	**34**	P	**P**	**15 46 33.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=282,slow=7.4,SNR=2.9						
INK	**Inuvik**	**38.58**	**34**	*e*P	**P**	**15 46 33.1**	**-0.3**
	comp=Z,139nm,0.9s						
LZH	**Lanzhou**	**39.69**	**271**	*e*P	**P**	**15 46 43.4**	**+0.7**
LZH				AP	pP	15 46 50.9	+6.3
LZH				XP	sP	15 46 54.4	+9.0
LZH				PP	PP	15 48 19.0	+5.2
LZH				*e*S	**S**	**15 52 48.0**	**+1.5**
LZH				XS	sS	15 53 01.3	+12
LZH				SS	SS	15 55 30.0	-12
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,100nm,4.8s						
LZH				LR	LR		
	comp=N,442nm,12.3s						
LZH				LR	LR		
	comp=Z,660nm,12.9s,MS4.7						
LZH	**Lanzhou**	**39.69**	**271**	*e*P	**P**	**15 46 43.4**	**+0.7**
LZH				*SP	sP	15 46 54.4	+9.0
LZH						15 48 19.0	
LZH				*e*S	**S**	**15 52 48.0**	**+1.5**
LZH				SS	SS	15 55 30.0	-12
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
LZH				MLR	MLR		
	comp=Z,660nm,12.9s,MS4.7						
LZH	**Lanzhou**	**39.69**	**271**	*e*P	**P**	**15 46 43.4**	**+0.7**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	15 46 50.9	+6.3
LZH				sP	sP	15 46 54.4	+9.0
LZH				PP	PP	15 48 19.0	+5.2
LZH				*e*S	**S**	**15 52 48.0**	**+1.5**
LZH				sS	sS	15 53 01.2	+11
LZH				SS	SS	15 55 30.0	-12
LZH				LR	LR		
	comp=Z,660nm,12.9s,MS4.7						
ZAL	**Zalesovo**	**42.73**	**304**	P	**P**	**15 47 06.8**	**-0.9**
	comp=Z,0.8nm,0.3s,mb3.9,baz=145,slow=7.8,SNR=3.5						
ZAL	**Zalesovo**	**42.73**	**304**	P	**P**	**15 47 06.8**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMQ	**Urumqi**	**45.79**	**290**	*e*P	**P**	**15 47 34.0**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**15 47 45.7**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=65,slow=7.2,SNR=20						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**15 47 45.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**47.48**	**297**	P	**P**	**15 47 45.8**	**+0.3**
KMI	**Kunming**	**47.52**	**260**	P	**P**	**15 47 47.6**	**+1.9**
KMI				AP	pP	15 47 55.3	+7.6
KMI				XP	sP	15 47 59.0	+11
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
KMI	**Kunming**	**47.52**	**260**	P	**P**	**15 47 47.6**	**+1.9**
	comp=Z,7.0nm,0.9s,mb4.7						
KMI				pP	pP	15 47 55.2	+7.5
KMI				sP	sP	15 47 59.0	+11
CHKZ	**Chkalovo**	**50.29**	**310**	*e*P	**P**	**15 48 06.3**	**-0.7**
CHKZ				*e*		15 48 21.3	
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**50.29**	**310**	*e*P	**P**	**15 48 06.3**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ				*e*		15 48 21.3	
BVAR	**Borovoye Array**	**50.75**	**309**	P	**P**	**15 48 10.3**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=43,slow=6.7,SNR=8.9						
BVAR	**Borovoye Array**	**50.75**	**309**	P	**P**	**15 48 10.3**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**50.78**	**309**	*e*P	**P**	**15 48 08.6**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**50.78**	**309**	*e*P	**P**	**15 48 08.6**	**-2.2**
	comp=Z,1.7nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.49**	**309**	*e*P	**P**	**15 48 15.5**	**-0.6**
ZRNK				*e*		15 48 30.4	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.49**	**309**	*e*P	**P**	**15 48 15.5**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.2						
ZRNK				*e*		15 48 30.4	
AAK	**Ala-Archa**	**54.41**	**296⇓**	*e*P	**P**	**15 48 37.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**54.41**	**296**	P	**P**	**15 48 37.8**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3						
ARU	**Arti**	**54.46**	**317⇑**	*i* P	**P**	**15 48 37.5**	**-0.5**
ARU				*e*		15 50 39.6	
ARU				*e*S	**S**	**15 56 15.6**	**-1.5**
ARU				*e*SS	SS	16 00 00.9	+1.5
ARU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ARU	**Arti**	**54.46**	**317**	*e*P	**P**	**15 48 37.2**	**-0.8**
	comp=Z,10nm,0.8s,mb4.8						
GUN	**Gumba**	**56.63**	**275**	*e*P	**P**	**15 48 53.4**	**-0.2**
	comp=Z,6.2nm,0.5s,mb4.9						
NVAR	**Mina Array Bea**	**59.68**	**65**	P	**P**	**15 49 14.8**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.5,baz=306,slow=7.7,SNR=3.1						
PDAR	**Pinedale Array**	**61.82**	**56**	P	**P**	**15 49 29.0**	**-0.5**
	comp=Z,0.8nm,0.9s,mb3.9,baz=328,slow=5.3,SNR=4.8						
FINES	**FINESS Array B**	**62.59**	**335**	P	**P**	**15 49 34.3**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.2,baz=46,slow=8.2,SNR=5.4						
FINES	**FINESS Array B**	**62.59**	**335**	P	**P**	**15 49 34.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**64.32**	**326⇑**	*e*P	**P**	**15 49 45.6**	**-0.5**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
NOA	**NORSAR Array B**	**66.48**	**342**	P	**P**	**15 49 59.5**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=25,slow=6.4,SNR=3.7						
NOA	**NORSAR Array B**	**66.48**	**342**	P	**P**	**15 49 59.5**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**68.98**	**61⇓**	*e*P	**P**	**15 50 15.3**	**-0.6**
KIV	**Kislovodsk**	**70.39**	**315**	*e*P	**P**	**15 50 22.9**	**-1.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIV				MLR	MLR		
	comp=Z,32nm,16.0s,MS3.7						
AKASG	**Malin Array Be**	**70.51**	**327**	P	**P**	**15 50 24.2**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=30,slow=6.3,SNR=5.5						
AKASG	**Malin Array Be**	**70.51**	**327**	*i* P	**P**	**15 50 24.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**71.46**	**201**	P	**P**	**15 50 29.4**	**-1.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=24,slow=7.0,SNR=5.9						
WRA	**Warramunga Arr**	**71.46**	**201**	P	**P**	**15 50 29.4**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OJC	**Ojcow**	**74.04**	**332**	*e*P	**P**	**15 50 46.8**	**+0.4**
STHS	**Stebnicka Huta**	**74.29**	**331**	*e*P	**P**	**15 50 49.1**	**+1.2**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
STHS	**Stebnicka Huta**	**74.29**	**331**	*e*P	**P**	**15 50 49.1**	**+1.2**
	comp=Z,3.7nm,0.9s,mb4.3						
KOLS	**Kolonicke sedl**	**74.39**	**330**	*e*P	**P**	**15 50 49.0**	**+0.6**
BURAR	**Bucovina Array**	**74.53**	**328⇑**	*i*P	**P**	**15 50 50.0**	**+0.7**
BURAR	**Bucovina Array**	**74.53**	**328⇑**	P	**P**	**15 50 50.0**	**+0.7**
CRVS	**Cervenica-Dubn**	**74.67**	**331**	*e*P	**P**	**15 50 50.1**	**0.0**
TXAR	**Lajitas Array**	**74.69**	**63**	P	**P**	**15 50 49.0**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.4,baz=267,slow=7.7,SNR=6.5						
TXAR	**Lajitas Array**	**74.69**	**63**	P	**P**	**15 50 49.0**	**-1.2**
CLL	**Collm**	**74.97**	**337**	*e*P	**P**	**15 50 52.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	**Collm**	**74.97**	**337**	*e*P	**P**	**15 50 52.0**	**+0.2**
	comp=Z,8.0nm,1.0s,mb4.6						
MORC	**Moravsky Berou**	**75.10**	**334⇓**	*i*P	**P**	**15 50 53.6**	**+1.0**
MORC	**Moravsky Berou**	**75.10**	**334⇓**	P	**P**	**15 50 53.6**	**+1.1**
KECS	**Kecovo**	**75.35**	**331**	*e*P	**P**	**15 50 54.2**	**+0.2**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KECS	**Kecovo**	**75.35**	**331**	*e*P	**P**	**15 50 54.2**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0						
VRAC	**Vranov**	**75.80**	**334⇓**	*i*P	**P**	**15 50 57.8**	**+1.2**
VRAC	**Vranov**	**75.80**	**334⇓**	P	**P**	**15 50 57.8**	**+1.2**
MLR	**Muntele Rosu**	**76.09**	**326**	P	**P**	**15 50 58.5**	**+0.3**
	comp=Z,6.3nm,0.8s,mb4.6,baz=90,slow=6.1,SNR=7.3						
MLR	**Muntele Rosu**	**76.09**	**326⇓**	*i*P	**P**	**15 50 59.9**	**+1.7**
MLR	**Muntele Rosu**	**76.09**	**326**	P	**P**	**15 50 58.5**	**+0.3**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VOIR		**76.46**	**327⇓**	*i*P	**P**	**15 51 01.8**	**+1.4**
VOIR		**76.46**	**327⇓**	P	**P**	**15 51 01.8**	**+1.4**
GERES	**GERESS Array B**	**77.03**	**335**	P	**P**	**15 51 03.7**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=29,slow=6.1,SNR=13						
GERES	**GERESS Array B**	**77.03**	**335**	P	**P**	**15 51 03.7**	**+0.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GZR	**Gura Zlata**	**77.30**	**328⇓**	*i*P	**P**	**15 51 05.7**	**+0.6**
GZR	**Gura Zlata**	**77.30**	**328⇓**	P	**P**	**15 51 05.7**	**+0.6**
BZS	**Buzias**	**77.50**	**329⇑**	*i*P	**P**	**15 51 06.5**	**+0.3**
BZS	**Buzias**	**77.50**	**329⇑**	P	**P**	**15 51 06.5**	**+0.3**
BRTR	**Keskin Array B**	**77.84**	**318**	P	**P**	**15 51 07.8**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.3,baz=57,slow=2.3,SNR=13						
BRTR	**Keskin Array B**	**77.84**	**318**	P	**P**	**15 51 07.8**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
UMR	**Umm Al-Rimmam**	**78.92**	**302**	*e*P	**P**	**15 51 14.4**	**+0.4**
UMR				AMb	AMB	15 51 15.7	
	comp=Z,14nm,0.5s,mb5.2						
MIB	**Mutribah**	**78.93**	**303**	*e*P	**P**	**15 51 14.7**	**+0.5**
MIB				AMb	AMB	15 51 16.4	
	comp=Z,30nm,0.8s,mb5.2						
NAY	**Al-Naaiem**	**79.41**	**303**	*e*P	**P**	**15 51 17.4**	**+0.6**
NAY				AMb	AMB	15 51 19.1	
	comp=Z,13nm,0.9s,mb4.8						
RDF	**Al-Radifah**	**79.49**	**302**	*e*P	**P**	**15 51 17.6**	**+0.4**
RDF				AMb	AMB	15 51 19.9	
	comp=Z,28nm,0.9s,mb5.2						
VTS	**Vitosha**	**79.59**	**326⇓**	*i*P	**P**	**15 51 18.4**	**+0.7**
VTS	**Vitosha**	**79.59**	**326⇓**	P	**P**	**15 51 18.4**	**+0.7**
CPUP	**Villa Florida**	**145.64**	**61**	PKPbc	PKPbc	15 58 47.5	-1.8
	comp=Z,0.8nm,0.6s,baz=320,slow=7.9,SNR=4.3						
CPUP	**Villa Florida**	**145.64**	**61**	PKP2	PKPbc	15 58 47.5	-1.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*IDC **19** 15:39:22.1±1.2, 46.49N×153.15E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/31, Error ellipse: s-maj=34.5km s-min=29.0km az=87.0*
*ISCJB **19** 15:39:31.5±1.7, 46.2N±02×152.7E±02, h89km±16km, mb4.1/11, Error ellipse: s-maj=30.9km s-min=13.1km az=119.1*
ISC 19 15:39:31.7±1.6, 463N±01×1528E±02, h71km±14km, n30, σ1=35/35, mb4.1/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.81**	**242**	P	**Pn**	**15 40 53.8**	**-1.4**
NEM2				*e*S	**Sn**	**15 42 00.4**	**-0.1**
JRA	**Rausu**	**5.92**	**249**	P	**Pn**	**15 40 57.7**	**+1.0**
JNK	**Nakash**	**6.34**	**247**	P	**Pn**	**15 41 02.8**	**+0.3**
JAK	**Akkeshi**	**6.65**	**243**	P	**Pn**	**15 41 06.1**	**-0.7**
JAK				*e*S	**Sn**	**15 42 21.7**	**+0.6**
JTKR	**Abashiri--Toko**	**6.70**	**253**	P	**Pn**	**15 41 08.7**	**+1.3**
JAR	**Ashorobuto**	**7.08**	**248**	P	**Pn**	**15 41 13.5**	**+0.8**
JAR				*e*S	**Sn**	**15 42 35.2**	**+3.5**
JKK2	**Kamakawa 2**	**7.51**	**255**	P	**Pn**	**15 41 20.5**	**+2.0**
ASAJ	**Asahikawa**	**7.52**	**257**	Pn	**Pn**	**15 41 20.9**	**+2.2**
	0.8nm,0.3s,baz=67,slow=13,SNR=7.0						
ASAJ	**Asahikawa**	**7.52**	**257**	P	**Pn**	**15 41 21.6**	**+3.0**
JCH	**Churui**	**7.69**	**245**	P	**Pn**	**15 41 20.6**	**-0.3**
JCH				*e*S	**Sn**	**15 42 45.4**	**-1.0**
JNBK	**Urakawa-nobuka**	**8.25**	**244**	P	**Pn**	**15 41 28.1**	**-0.4**
JNBK				*e*S	**Sn**	**15 42 58.5**	**-1.6**
JKB	**Kayabe**	**9.54**	**247**	P	**Pn**	**15 41 44.8**	**-1.4**
JKB				*e*S	**Sn**	**15 43 29.3**	**-2.4**
JANG	**Nango**	**10.13**	**238**	P	**Pn**	**15 41 50.7**	**-3.5**
JANG				*e*S	**Sn**	**15 43 40.2**	**-5.9**
JTH	**Tanohata**	**10.21**	**235**	*e*S	**Sn**	**15 43 41.3**	**-6.8**
MJAR	**Matsushiro Arr**	**14.64**	**233**	Pn	**Pn**	**15 42 55.5**

comp=Z,0.6nm,0.5s,mb3.7,baz=30,slow=8.0,SNR=3.2
KEST Kesra 91.93 331 LR LR 16 40 30.6
comp=Z,31nm,19.3s,baz=245,slow=40

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*TRN **19** 16:04:54.4, 1806N×6072W, h42km, MD4.0, MD4.4(FDF)*
*IDC **19** 16:04:55.1±0.6, 1780N×6095W, h0km, mb4.0/11, mb1 4.3/14, mb1mx4.1/24, mbtmp4.2/14, ML3.4/2, MS3.7/9, Ms1 3.8/9, ms1mx3.5/31, Error ellipse: s-maj=17.9km s-min=12.3km az=96.0*
*ISCJB **19** 16:04:59.5±1.5, 1780N±003×61.13W±003, h30km±11km, mb4.3/22, MS3.8/7, Error ellipse: s-maj=6.6km s-min=4.2km az=85.7*
*RSPR **19** 16:05:01.3, 18.18N×61.12W, h12km±51km, MD4.6/10, MD4.6/10*
*NEIC **19** 16:05:01.1±1.0, 1777N×6105W, h42km±9km, mb4.5/11, MD4.6(RSPR), Error ellipse: s-maj=11.0km s-min=5.9km az=64.0*
*BJI **19** 16:05:05.1, 1780N×61.10W, h41km, mB5.2, Ms4.8, Msz4.6*

ISC 19 16:04:60.0±1.6, 1779N±003×6108W±003, h20km±11km, n102, σ1°07/108, mb4.3/22, MS3.8/7, 26C-22D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.47**	**179**	*e*P	**Pn**	**16 05 23.6**	**-1.7**
SFG	**Saint Francois**	**1.53**	**184**	*e*P	**Pn**	**16 05 25.1**	**-1.0**
STAT	**Sint Eustatius**	**1.84**	**261**	*e*P	**Pn**	**16 05 31.4**	**+1.0**
TBG	**Guadaloupe-3**	**2.00**	**196**	*e*P	**Pn**	**16 05 32.3**	**-0.3**
DWS	**Wesley**	**2.22**	**186**	*e*P	**Pn**	**16 05 36.5**	**+0.9**
DWS				*e*S	**Sn**	**16 06 02.3**	**-0.1**
FDF	**Fort de France**	**3.04**	**181⇑**	*e*P	**Pn**	**16 05 45.5**	**-1.4**
FDF				*e*S	**Sn**	**16 06 24.2**	**+1.6**
BIM	**Bigot**	**3.25**	**180**	*e*P	**Pn**	**16 05 48.0**	**-1.7**
BIM				*e*S	**Sn**	**16 06 28.8**	**+0.9**
MTP	**Monte Pirata**	**4.27**	**275⇓**	*e*P	**Pn**	**16 06 03.5**	**-0.3**
MTP				*e*S	**Sn**	**16 06 51.0**	**-2.1**
HUMP	**Col San Antoni**	**4.56**	**275⇑**	*e*P	**Pn**	**16 06 08.1**	**+0.3**
HUMP				*e*S	**Sn**	**16 06 59.0**	**-1.2**
CBYP	**Canovanas**	**4.58**	**277⇓**	*e*P	**Pn**	**16 06 07.5**	**-0.5**
CPD	**Cerro la Pandu**	**4.62**	**274⇓**	*e*P	**Pn**	**16 06 08.8**	**+0.3**
CPD				*e*S	**Sn**	**16 07 00.8**	**-0.7**
SJG	**San Juan**	**4.84**	**275⇓**	*e*P	**Pn**	**16 06 11.5**	**-0.1**
SJG				*e*S	**Sn**	**16 07 02.3**	**-4.9**
SJG	**San Juan**	**4.84**	**275**	Pn	**Pn**	**16 06 11.5**	**-0.2**
	18nm,0.3s,baz=100,slow=15,SNR=31						
SJG				Sn	**Sn**	**16 07 05.7**	**-1.5**
	20nm,0.3s,baz=76,slow=23,SNR=5.0						
SJG	**San Juan**	**4.84**	**275⇓**	*e*P	**Pn**	**16 06 11.5**	**-0.1**
SJG				*e*S	**Sn**	**16 07 02.3**	**-4.9**
ICM	**Isla Caja Muer**	**5.19**	**272⇑**	*e*P	**Pn**	**16 06 16.0**	**-0.4**
CELP	**Cerrillos**	**5.25**	**274⇓**	*e*P	**Pn**	**16 06 17.1**	**-0.2**
GRCU	**Cariacou**	**5.30**	**184**	*e*P	**Pn**	**16 06 21.5**	**+3.6**
AOPR	**Arecibo Observ**	**5.43**	**277⇑**	*e*P	**Pn**	**16 06 19.9**	**+0.2**
AOPR				*e*S	**Sn**	**16 07 21.8**	**+0.1**
GRSS	**Sisters**	**5.48**	**186**	*e*P	**Pn**	**16 06 22.6**	**+2.2**
GRIC	**Isle de Caille**	**5.49**	**185**	*e*P	**Pn**	**16 06 24.6**	**+4.1**
LRS	**Lares**	**5.51**	**276⇑**	*e*P	**Pn**	**16 06 19.9**	**-1.0**
LRS				*e*S	**Sn**	**16 07 22.6**	**-1.1**
GBPR	**Guanica, Bosqu**	**5.53**	**273⇓**	*e*P	**Pn**	**16 06 22.6**	**+1.5**
GBPR	**Guanica, Bosqu**	**5.53**	**273**	*e*S	**Sn**	**16 07 24.5**	**+0.4**
GRW	**Mount Saint Ca**	**5.62**	**186**	*e*P	**Pn**	**16 06 23.0**	**+0.6**
LSP	**Las Mesas**	**5.73**	**275⇑**	*e*P	**Pn**	**16 06 24.3**	**+0.3**
LSP				*e*S	**Sn**	**16 07 26.9**	**-2.2**
CRPR	**Cabo Rojo, PR**	**5.75**	**273⇓**	*e*P	**Pn**	**16 06 23.1**	**-1.0**
CRPR				*e*S	**Sn**	**16 07 30.1**	**+0.5**
PCRV	**Puerto La Cruz**	**8.32**	**205**	Pn	**Pn**	**16 07 00.6**	**+1.2**
	1.6nm,0.3s,baz=346,slow=5.7,SNR=4.6						
PCRV				LR	LR	16 10 28.0	
	comp=Z,442nm,18.8s,baz=88,slow=40						
SDV	**Santo Domingo**	**12.83**	**228**	Pn	**Pn**	**16 08 01.8**	**+0.6**
	0.5nm,0.3s,baz=354,slow=4.7,SNR=13						
SDV	**Santo Domingo**	**12.83**	**228**	*e*Pn	**Pn**	**16 08 01.8**	**+0.6**
	20nm,0.8s						
ROSC	**El Rosal**	**18.26**	**227**	P	**Pn**	**16 09 12.9**	**+0.9**
	1.5nm,0.3s,baz=82,slow=13,SNR=20						
ROSC				LR	LR	16 16 09.9	
	comp=Z,167nm,20.0s,baz=200,slow=37						
ROSC	**El Rosal**	**18.26**	**227**	*e*P	**Pn**	**16 09 12.4**	**+0.4**
OTAV	**Otavalo**	**24.42**	**226**	*e*P	**P**	**16 10 15.0**	**-2.1**
	8.2nm,0.9s,mb4.2						
BLA	**Blacksburg**	**25.77**	**323**	*e*P	**P**	**16 10 29.6**	**+0.2**
	23nm,0.9s,mb4.7						
BLA				*e*		16 10 41.7	
TEIG	**Tepich**	**25.82**	**280**	P	**P**	**16 10 28.9**	**-0.9**
	37nm,1.3s,mb4.8						
WVT	**Waverly**	**29.89**	**313**	P	**P**	**16 11 05.3**	**-0.9**
	3.6nm,0.7s,mb4.2						
ATAH	**Atahualpa**	**29.99**	**216**	LR	LR	16 24 30.3	
	comp=Z,206nm,20.6s,MS3.8,baz=258,slow=39						
OXF	**Oxford**	**30.26**	**309**	*e*P	**P**	**16 11 08.9**	**-0.6**
	56nm,1.0s,mb5.2						
SIV	**San Ignacio**	**33.56**	**180**	P	**P**	**16 11 38.4**	**-0.1**
	21nm,0.7s,mb5.2,baz=12,slow=9.0,SNR=111						
LPAZ	**La Paz**	**34.56**	**192**	P	**P**	**16 11 45.2**	**-2.0**
	1.9nm,1.0s,mb4.0,baz=16,slow=12,SNR=4.9						
LPAZ				LR	LR	16 27 31.2	
	comp=Z,195nm,18.2s,MS3.9,baz=360,slow=39						
LPAZ	**La Paz**	**34.56**	**192**	P	**P**	**16 11 45.2**	**-2.0**
LPAZ				LR	LR	16 27 31.2	
SCHQ	**Schefferville**	**37.24**	**354**	P	**P**	**16 12 07.8**	**-2.3**
	2.0nm,0.6s,mb4.1,baz=79,slow=18,SNR=5.4						
TXAR	**Lajitas Array**	**40.49**	**294**	P	**P**	**16 12 35.9**	**-1.5**
	1.1nm,0.6s,mb3.7,baz=126,slow=7.4,SNR=9.1						
TXAR				PcP	PcP	16 14 39.5	-0.3
	1.3nm,1.0s,baz=126,slow=3.6,SNR=3.5						
SDCO	**Great Sand Dun**	**43.58**	**306**	*e*P	**P**	**16 13 02.5**	**-0.1**
	3.9nm,0.9s,mb4.1						
ANMO	**Albuquerque**	**43.71**	**302**	P	**P**	**16 13 03.2**	**-0.4**
	0.8nm,0.4s,mb3.9,baz=90,slow=7.7,SNR=3.7						
ANMO	**Albuquerque**	**43.71**	**302**	*e*P	**P**	**16 13 03.0**	**-0.6**
	3.9nm,1.0s,mb4.1						
CPUP	**Villa Florida**	**44.00**	**175**	P	**P**	**16 13 03.7**	**-2.3**
	0.8nm,0.5s,mb3.7,baz=358,slow=11,SNR=4.5						
CPUP				LR	LR	16 33 46.2	
	comp=Z,72nm,19.6s,MS3.6,baz=173,slow=39						
CPUP	**Villa Florida**	**44.00**	**175**	P	**P**	**16 13 03.7**	**-2.3**
CPUP				LR	LR	16 33 46.2	
116A	**Eloy**	**47.70**	**298**	⇑P	**P**	**16 13 36.6**	**+1.4**
	baz=46						
WUAZ	**Wupatki**	**47.77**	**302**	⇑P	**P**	**16 13 36.6**	**+0.9**
	baz=47						
PDAR	**Pinedale Array**	**47.90**	**312**	P	**P**	**16 13 36.4**	**-0.3**
	5.1nm,0.9s,mb4.5,baz=106,slow=8.9,SNR=36						
115A	**Sonoran Desert**	**48.15**	**298**	⇑P	**P**	**16 13 40.1**	**+1.4**
	baz=47						
X15A	**Humboldt**	**48.34**	**301**	⇑P	**P**	**16 13 41.1**	**+1.0**
	baz=47						
W15A	**Williams**	**48.45**	**301**	⇓P	**P**	**16 13 41.8**	**+0.9**
	baz=47						
Y14A	**Wickenburg**	**48.92**	**300**	⇓P	**P**	**16 13 45.6**	**+1.1**
	baz=48						
HWUT	**Hardware Ranch**	**49.05**	**310**	*e*P	**P**	**16 13 45.1**	**-0.5**
	14nm,1.3s,mb4.8						
W14A	**Seligman**	**49.12**	**301**	⇑P	**P**	**16 13 47.0**	**+0.9**
	baz=48						
RRI2	**Red Ridge**	**49.30**	**312**	*e*P	**P**	**16 13 47.1**	**-0.4**
	10.0nm,1.0s,mb4.8						
Y13A	**Salome**	**49.59**	**299**	⇓P	**P**	**16 13 50.9**	**+1.3**
	baz=48						
EGMT	**Eagleton**	**49.66**	**319**	⇓P	**P**	**16 13 49.6**	**-0.6**
	baz=49						
DUG	**Dugway**	**49.67**	**308**	⇓P	**P**	**16 13 51.1**	**+0.8**
	baz=49						
W13A	**Hualapai Mount**	**49.76**	**301**	⇑P	**P**	**16 13 52.1**	**+1.1**
	baz=49						
QLMT	**Earthquake Lak**	**49.77**	**314**	*e*P	**P**	**16 13 52.7**	**+1.7**
IRM	**Iron Mountain**	**50.71**	**300**	⇓P	**P**	**16 13 59.4**	**+1.2**
	baz=50						
M13A	**Montello**	**50.91**	**309**	⇓P	**P**	**16 14 00.1**	**+0.4**
	baz=50						
BC3	**Big Chuckw Mtn**	**50.92**	**299**	⇓P	**P**	**16 14 01.0**	**+1.2**
	baz=50						
E15A	**Deer Lodge**	**51.03**	**316**	⇑P	**P**	**16 14 00.4**	**-0.2**
	baz=50						
P12A	**McGill**	**51.14**	**307**	⇓P	**P**	**16 14 01.6**	**+0.2**
	baz=50						
O12A	**Currie**	**51.14**	**308**	⇑P	**P**	**16 14 01.6**	**+0.1**
	baz=50						
DVTC	**Desert V Tower**	**51.41**	**298**	⇑P	**P**	**16 14 04.6**	**+1.1**
	baz=50						
TUQ	**Turquoise Mtn.**	**51.45**	**301**	⇑P	**P**	**16 14 04.7**	**+0.9**
	baz=50						
N12A	**Clover Valley,**	**51.46**	**308**	⇓P	**P**	**16 14 04.1**	**+0.2**
	baz=50						
M12A	**Wells**	**51.47**	**309**	P	**P**	**16 14 04.5**	**+0.7**
	baz=50,SNR=6.3						
HLID	**Hailey**	**51.53**	**312**	*e*P	**P**	**16 14 04.3**	**-0.1**
	2.4nm,0.9s,mb4.1						
HLID	**Hailey**	**51.53**	**312**	⇑P	**P**	**16 14 04.7**	**+0.4**
	baz=50						
Q11A	**Duckwater**	**51.62**	**306**	⇑P	**P**	**16 14 05.5**	**+0.5**
	baz=50						
MONP	**Monument Peak**	**51.69**	**298**	⇓P	**P**	**16 14 07.0**	**+1.5**
	baz=50						
HEC	**Hector,Ludlow**	**51.73**	**301**	⇓P	**P**	**16 14 07.0**	**+1.2**
	baz=50						
O11A	**Cowboy Ranch,**	**51.81**	**307**	P	**P**	**16 14 07.2**	**+0.8**
	baz=51,SNR=11						
M11A	**Holland Ranch,**	**52.12**	**309**	⇑P	**P**	**16 14 09.3**	**+0.5**
	baz=51						
C14A	**Swan Lake**	**52.13**	**317**	⇓P	**P**	**16 14 08.3**	**-0.5**
	baz=51						
GSC	**Goldstone**	**52.16**	**301**	⇑P	**P**	**16 14 09.8**	**+0.8**
	baz=51						
P10A	**Eureka**	**52.35**	**307**	⇑P	**P**	**16 14 11.0**	**+0.5**
	baz=51						
D13A	**Huson**	**52.41**	**316**	⇓P	**P**	**16 14 10.7**	**-0.2**
	baz=52						
R09A	**Tonopah**	**52.65**	**305**	⇑P	**P**	**16 14 13.3**	**+0.7**
	baz=52						
M10A	**I.L. Ranch, Tu**	**52.69**	**309**	⇓P	**P**	**16 14 13.1**	**+0.1**
	baz=52						
S09A	**Goldfield**	**52.71**	**304**	⇑P	**P**	**16 14 13.6**	**+0.5**
	baz=52						
GRAC	**Grapevine Rang**	**52.76**	**303**	⇑P	**P**	**16 14 14.4**	**+0.9**
	baz=52						
NEW	**Newport**	**54.45**	**317**	*e*P	**P**	**16 14 25.0**	**-0.9**
	3.6nm,0.9s,mb4.3						
PLCA	**Paso Flores**	**58.88**	**188**	P	**P**	**16 14 55.5**	**-1.9**
	8.2nm,0.9s,mb4.8,baz=5.7,slow=8.7,SNR=15						
PLCA				LR	LR	16 44 20.6	
	comp=Z,79nm,19.2s,MS3.9,baz=3.9,slow=40						
PLCA	**Paso Flores**	**58.88**	**188**	P	**P**	**16 14 55.5**	**-1.9**
PLCA				LR	LR	16 44 20.6	
TORD	**Torodi Ar. Bea**	**60.44**	**85**	P	**P**	**16 15 05.8**	**-2.4**
	2.4nm,0.8s,mb4.3,baz=292,slow=6.0,SNR=9.3						
TORD				LR	LR	16 40 17.0	
	comp=Z,82nm,18.5s,MS3.9,baz=280,slow=35						
DLBC	**Dease Lake**	**64.01**	**327**	*e*P	**P**	**16 15 32.1**	**+0.1**
NOA	**NORSAR Array B**	**66.03**	**30**	P	**P**	**16 15 43.3**	**-1.8**
	0.5nm,0.7s,mb3.6,baz=265,slow=6.2,SNR=2.4						
NOA				LR	LR	16 41 12.5	
	comp=Z,64nm,18.6s,MS3.9,baz=345,slow=33						
GERES	**GERESS Array B**	**66.85**	**44**	P	**P**	**16 15 49.1**	**-1.3**
	0.4nm,0.8s,mb3.5,baz=280,slow=5.9,SNR=2.6						
INK	**Inuvik**	**67.13**	**337**	*e*P	**P**	**16 15 49.5**	**-2.6**
	202nm,0.9s						
BRTR	**Keskin Array B**	**82.36**	**51**	P	**P**	**16 17 19.4**	**-1.1**
	1.1nm,1.0s,mb3.7,baz=268,slow=8.2,SNR=2.6						
BRTR				LR	LR	16 52 05.7	
	comp=Z,28nm,19.5s,MS3.6,baz=292,slow=34						
WMQ	**Urumqi**	**112.35**	**24**	*e*PKP	PKiKP	16 23 40.0	+5.6
HHC	**Hu-ho-hao-te**	**121.27**	**7**	*e*PKP	PKPdf	16 23 59.3	+7.8
NJ2	**Nanjing**	**130.45**	**0**	*e*PKP	PKPdf	16 24 09.5	+0.5
ASAR	**Alice Springs**	**164.82**	**245**	PKP	PKPdf	16 25 00.6	-1.9
	1.1nm,1.0s,baz=164,slow=0.7,SNR=6.3						
WB2	**Warramunga Arr**	**165.24**	**259**	⇑*i*P	PKPdf	16 25 22.2	+19
WRA	**Warramunga Arr**	**165.25**	**259**	PKP	PKPdf	16 25 01.4	-1.4
	2.1nm,1.1s,baz=98,slow=0.9,SNR=6.9						

IDC 19 16:13:18.5±57.0, 1591S×17404W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=1086.0km s-min=188.5km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.25**	**240**	P	P	16 21 22.1	+0.4
	0.8nm,0.6s,baz=77,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**49.13**	**257**	P	P	16 22 08.4	+0.5
	0.3nm,0.6s,baz=94,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**49.37**	**252**	P	P	16 22 09.9	+0.2
	0.4nm,0.4s,baz=90,slow=7.9,SNR=19						

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*ISCJB **19** 16:15:02.2±0.3, 4681N±002×042E±002, h4km±3km, Error ellipse: s-maj=3.3km s-min=2.2km az=76.7*
*NEIC **19** 16:15:05.4, 4680N×041E, h3km, ML2.7(LDG), After LDG.*
*CSEM **19** 16:15:05.3±0.0, 4680N×042E, h2km, ML2.7/18, Error ellipse: s-maj=0.7km s-min=0.5km az=40.0*
*LDG **19** 16:15:05.4±0.0, 4680N×041E, h3km, Md2.8/1, Ml2.7/22, Error ellipse: s-maj=0.6km s-min=0.4km az=42.0*
*STR **19** 16:15:06.7±0.7, 4666N×051E, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 16:15:03.9±0.3, 4679N±001×041E±002, h12km±3km, n57, σ0°86/137, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.43**	**244**	*e*Pg	**Pg**	**16 15 13.7**	**+1.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**16 15 18.6**	**+0.6**
	8.0nm,0.1s,SNR=1.0						
MFF	**Saint Martin d**	**0.43**	**244**	*e*Pg	**Pg**	**16 15 13.7**	**+1.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**16 15 18.6**	**+0.6**
	4.0nm,0.1s,SNR=1.0						
CHIF	**Chize**	**0.87**	**221**	Pg	**Pg**	**16 15 22.2**	**+1.5**
CHIF				Sg	**Sg**	**16 15 34.1**	**+2.1**
TCF	**Toulx Ste Croi**	**1.34**	**111**	*e*Pg	**Pg**	**16 15 30.5**	**+0.9**
TCF	**Toulx Ste Croi**	**1.34**	**111**	*e*P	**Pn**	**16 15 31.3**	**+2.9**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**16 15 47.8**	**+0.8**
	20nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**1.34**	**111**	*e*Pn	**Pn**	**16 15 29.4**	**+1.0**
TCF				*e*Pg	**Pg**	**16 15 30.5**	**+0.9**
TCF				*e*P		16 15 31.3	
TCF				*e*Sg	**Sg**	**16 15 47.8**	**+0.8**
TCF	**Toulx Ste Croi**	**1.34**	**111**	*e*Pg	**Pg**	**16 15 30.5**	**+0.9**
TCF	**Toulx Ste Croi**	**1.34**	**111**	*e*P	**Pn**	**16 15 31.3**	**+2.9**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**16 15 47.8**	**+0.8**
	9.9nm,0.2s,SNR=1.0						
HYF	**Humbligny**	**1.60**	**72**	*e*Pn	**Pn**	**16 15 32.9**	**+0.9**
HYF				*e*Sg	**Sg**	**16 15 55.6**	**+0.3**
RJF	**Les Rejaudoux**	**1.67**	**152**	*e*Pg	**Pg**	**16 15 36.7**	**+0.7**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**16 15 54.9**	**+0.5**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**16 15 58.3**	**+0.6**
	20nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.67**	**152**	*e*Pg	**Pg**	**16 15 36.7**	**+0.7**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**16 15 54.9**	**+0.5**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**16 15 58.3**	**+0.6**
	9.9nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**1.69**	**97**	*e*Pg	**Pg**	**16 15 37.0**	**+0.6**
BGF				*e*Sg	**Sg**	**16 15 58.8**	**+0.4**
	25nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**1.69**	**97**	*e*Pg	**Pg**	**16 15 37.0**	**+0.6**
BGF				*e*Sg	**Sg**	**16 15 58.8**	**+0.4**
	13nm,0.3s,SNR=1.0						
GRR	**Gorron**	**1.82**	**332**	*e*Pg	**Pg**	**16 15 38.8**	**+0.1**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**16 16 02.6**	**+0.3**
	6.8nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.82**	**332**	*e*Pn	**Pn**	**16 15 35.8**	**+0.8**
GRR				*e*Pg	**Pg**	**16 15 38.8**	**+0.1**
GRR				*e*Sg	**Sg**	**16 16 02.6**	**+0.3**
GRR	**Gorron**	**1.82**	**332**	*e*Pg	**Pg**	**16 15 38.8**	**+0.1**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**16 16 02.6**	**+0.3**
	3.4nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**1.84**	**349**	*e*Pg	**Pg**	**16 15 39.6**	**+0.4**
LDF				*e*Sn	**Sn**	**16 15 58.1**	**-0.5**
LDF				*e*Sg	**Sg**	**16 16 03.0**	**-0.1**
	8.6nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**1.84**	**349**	*e*Pn	**Pn**	**16 15 35.8**	**+0.5**
LDF				*e*Pg	**Pg**	**16 15 39.6**	**+0.4**
LDF				*e*Sn	**Sn**	**16 15 58.1**	**-0.5**
LDF				*e*Sg	**Sg**	**16 16 03.0**	**-0.1**
LDF	**La Druitiere**	**1.84**	**349**	*e*Pg	**Pg**	**16 15 39.6**	**+0.4**
LDF				*e*Sn	**Sn**	**16 15 58.1**	**-0.5**
LDF				*e*Sg	**Sg**	**16 16 03.0**	**-0.1**
	4.3nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**1.86**	**173**	*e*Pg	**Pg**	**16 15 40.0**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**16 15 59.5**	**+0.3**
LFF				*e*Sg	**Sg**	**16 16 04.5**	**+0.6**
	38nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.86**	**173**	*e*Pg	**Pg**	**16 15 40.0**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**16 15 59.5**	**+0.3**
LFF				*e*Sg	**Sg**	**16 16 04.5**	**+0.6**
	19nm,0.4s,SNR=1.0						
AGO	**Saint Agoulin**	**2.02**	**110**	Pg	**Pg**	**16 15 42.5**	**-0.2**
AGO				Sg	**Sg**	**16 16 09.6**	**+0.7**
AVF	**Avril sur Loir**	**2.02**	**89**	*e*Pg	**Pg**	**16 15 43.0**	**+0.3**
AVF				*e*Sg	**Sg**	**16 16 08.9**	**0.0**
	4.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.02**	**89**	*e*Pn	**Pn**	**16 15 38.7**	**+0.9**
AVF				*e*Pg	**Pg**	**16 15 43.0**	**+0.3**
AVF				*e*Sg	**Sg**	**16 16 08.9**	**0.0**
AVF	**Avril sur Loir**	**2.02**	**89**	*e*Pg	**Pg**	**16 15 43.0**	**+0.3**
AVF				*e*Sg	**Sg**	**16 16 08.9**	**0.0**
	2.2nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.06**	**343**	*e*Pg	**Pg**	**16 15 43.4**	**-0.1**
	baz=163,SNR=1.0						
FLN				*e*Sn	**Sn**	**16 16 03.5**	**-0.6**
FLN				*e*Sg	**Sg**	**16 16 10.1**	**-0.2**
	5.0nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.06**	**343**	*e*Pn	**Pn**	**16 15 39.0**	**+0.6**
FLN				*e*Pg	**Pg**	**16 15 43.4**	**-0.1**
FLN				*e*Sn	**Sn**	**16 16 03.5**	**-0.6**
FLN				*e*Sg	**Sg**	**16 16 10.1**	**-0.2**
FLN	**La Foliniere**	**2.06**	**343**	*e*Pg	**Pg**	**16 15 43.4**	**-0.1**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**16 16 03.5**	**-0.6**
FLN				*e*Sg	**Sg**	**16 16 10.1**	**-0.2**
	2.5nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.14**	**82**	*e*Pg	**Pg**	**16 15 44.9**	**0.0**
SSF				*e*Sn	**Sn**	**16 16 05.9**	**0.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**16 16 12.3**	**-0.3**
	7.1nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.14**	**82**	*e*Pg	**Pg**	**16 15 44.9**	**0.0**
SSF				*e*Sn	**Sn**	**16 16 05.9**	**0.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**16 16 12.3**	**-0.3**
	3.5nm,0.4s,SNR=1.0						
CAF	**Calviac**	**2.19**	**148**	*e*Pg	**Pg**	**16 15 46.2**	**+0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**16 16 07.3**	**0.0**
CAF				*e*Sg	**Sg**	**16 16 14.6**	**+0.2**
	7.2nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.19**	**148**	*e*Pn	**Pn**	**16 15 41.3**	**+1.1**
CAF				*e*Pg	**Pg**	**16 15 46.2**	**+0.2**
CAF				*e*Sn	**Sn**	**16 16 07.3**	**0.0**
CAF				*e*Sg	**Sg**	**16 16 14.6**	**+0.2**
CAF	**Calviac**	**2.19**	**148**	*e*Pg	**Pg**	**16 15 46.2**	**+0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**16 16 07.3**	**0.0**
CAF				*e*Sg	**Sg**	**16 16 14.6**	**+0.2**
	3.6nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.36**	**92**	*e*Pg	**Pg**	**16 15 49.2**	**0.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**16 16 19.5**	**-0.4**
	3.2nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.36**	**92**	*e*Pn	**Pn**	**16 15 43.3**	**+0.8**
SMF				*e*Pg	**Pg**	**16 15 49.2**	**0.0**
SMF				*e*Sg	**Sg**	**16 16 19.5**	**-0.4**
SMF	**Signal de Mont**	**2.36**	**92**	*e*Pg	**Pg**	**16 15 49.2**	**0.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**16 16 19.5**	**-0.4**
	1.6nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.41**	**77**	*e*Pg	**Pg**	**16 15 49.0**	**-1.0**
	baz=262,SNR=1.0						
LOR				*e*Sg	**Sg**	**16 16 20.3**	**-0.9**
	7.3nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.41**	**77**	*e*Pg	**Pg**	**16 15 49.0**	**-1.0**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**16 16 20.3**	**-0.9**
	3.7nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**2.49**	**307**	*e*Pg	**Pg**	**16 15 51.5**	**-0.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**16 16 14.0**	**-0.6**
SGMF				*e*Sg	**Sg**	**16 16 23.6**	**-0.3**
	6.1nm,0.4s,SNR=1.0						
SGMF	**Saint Gilles**	**2.49**	**307**	*e

WB2	**Warramunga Arr**	**17.34 165**	*e*P		**Pn**	**16 28 00.2**	**-1.2**
AS31	**Alice Springs**	**20.85 169**	*e*P		**P**	**16 28 41.9**	**+1.6**
ASAR	**Alice Springs**	**20.85 169**	P		**P**	**16 28 41.7**	**+1.4**
ASAR	4.2nm,0.5s,baz=346,slow=11,SNR=117		S		**S**	**16 32 26.5**	**-3.0**
ASPA	**Alice Springs**	**20.85 169**	*e*P		**P**	**16 28 41.9**	**+1.6**
CASY	**Casey**	**64.51 188**	*e*P		**P**	**16 34 35.0**	**+1.0**
MKAR	**Makanchi Array**	**64.85 326**	P		**P**	**16 34 35.6**	**-0.7**
ZAL	**Zalesovo**	**68.00 333**	P		**P**	**16 34 55.9**	**-0.4**
ZAL	**Zalesovo**	**68.00 333**	P		**P**	**16 34 55.9**	**-0.4**

0.3nm,0.8s,baz=349,slow=20,SNR=3.7
0.3nm,0.6s,mb3.5,baz=114,slow=7.0,SNR=4.6
0.8nm,0.3s,mb4.3,baz=177,slow=14,SNR=3.1

*NEIC **19** 17:02:07.6, 1675N×9977W, h29km, MD3.9(MEX), After MEX.*

MEX 19 17:02:07.9±0.6, 1677N×9975W, h14km±2km, MD3.9, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**301**	*i* P	Pg	17 02 11.5	-0.7
ACX				*i* S	Sg	17 02 15.0	-0.2
ACX	**Acapulco**	**0.18**	**301**	*i* P	Pg	17 02 11.0	-1.2
ACX				*i* S	Sg	17 02 17.0	+1.8
CAIG	**El Cayaco**	**0.56**	**299**	*i* P	Pg	17 02 17.2	-1.7
CAIG				*i* S	Sg	17 02 25.1	-1.4
MEIG	**Mezcala**	**1.15**	**6**	||*i* P	Pn	17 02 25.6	-4.0
MEIG				*i* S	Sb	17 02 40.3	-4.1
PNIG	**Pinotepa**	**1.60**	**103**	*e*P	Pn	17 02 33.0	-2.7
PNIG				*i* S	Sn	17 02 51.4	-4.8
PLIG	**Platanillo**	**1.63**	**8**	*i* P	Pn	17 02 33.0	-3.1
PLIG				*i* S	Sn	17 02 52.3	-4.6
ZIIG	**Zihuatanejo**	**1.83**	**297**	*e*P	Pn	17 02 35.4	-3.6
ZIIG				*i* S	Sn	17 02 57.9	-4.1
ZIIG	**Zihuatanejo**	**1.83**	**297**	*i* P	Pn	17 02 34.7	-4.3
ZIIG				*i* S	Sn	17 02 58.2	-3.8
UTMO	**Huajuapan**	**2.14**	**60**	*i* P	Pn	17 02 39.6	-3.6
UTMO				*i* S	Sn	17 03 05.7	-3.7
PPM	**Popocatepetl**	**2.52**	**25**	*i* P	Pn	17 02 45.8	-2.6
PPM				*e*P		17 02 49.0	
PPM				*i* S	Sn	17 03 16.4	-2.5
PPM				*i* S	Sn	17 03 22.0	+3.1
PPM	**Popocatepetl**	**2.52**	**25**	*i* P	Pn	17 02 45.3	-3.0
PPM				*e*P		17 02 49.0	
PPM				*i* S	Sn	17 03 17.4	-1.5
PPM				*i* S	Sn	17 03 22.0	+3.1
TPIG	**Tehuac#an**	**2.81**	**54**	*e*P	Pn	17 02 48.8	-3.5
TPIG				*e*S	Sn	17 03 22.0	-3.9
VHO	**Vista Hermosa**	**2.91**	**84**	*e*P	Pn	17 02 51.2	-2.5
VHO				*i* S	Sn	17 03 25.1	-3.3
OXX	**Oaxaca**	**2.92**	**84**	*e*P	Pn	17 02 51.0	-2.8
OXX				*i* S	Sn	17 03 23.0	-5.6
IIO	**Organos**	**2.97**	**19**	*e*P	Pn	17 02 54.9	+0.3
IIO				*i* S	Sn	17 03 34.1	+4.2
SFJM	**Santa Fe**	**4.83**	**320**	*e*P	Pn	17 03 20.0	-0.2

IDC 19 17:09:47.8±3.2, 737S×11126E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=187.5km s-min=27.3km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.63**	**121**	P	P	17 15 18.8	-0.2
ASAR	**Alice Springs**	**27.11**	**129**	P	P	17 15 33.2	+0.9
MKAR	**Makanchi Array**	**59.76**	**337**	P	P	17 19 54.6	+0.1

0.5nm,0.6s,baz=295,slow=11,SNR=7.4
0.4nm,0.6s,baz=305,slow=8.5,SNR=12
0.2nm,0.4s,baz=155,slow=7.5,SNR=5.0

IDC 19 17:16:36.0±2.4, 905S×10996E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=121.6km s-min=24.5km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.68**	**122**	P	Pn	17 20 44.2	+0.5
WRA	**Warramunga Arr**	**25.93**	**117**	P	P	17 22 09.2	-0.7
ASAR	**Alice Springs**	**27.12**	**125**	P	P	17 22 21.9	+1.3
STKA	**Stephens Creek**	**37.10**	**132**	P	P	17 23 48.5	+0.4
MKAR	**Makanchi Array**	**60.83**	**339**	P	P	17 26 50.0	0.0

0.3nm,0.3s,baz=260,slow=5.6,SNR=9.1
0.8nm,0.6s,baz=289,slow=11,SNR=14
0.2nm,0.4s,baz=309,slow=9.2,SNR=12
0.7nm,0.4s,baz=342,slow=6.4,SNR=2.6
0.4nm,0.4s,baz=151,slow=7.6,SNR=5.6

*ISCJB **19** 17:31:08.8±1.1, 152S±02×175.1W±01, h245km±15km, mb4.1/11, Error ellipse: s-maj=38.0km s-min=17.8km az=132.9*
*IDC **19** 17:31:09.8±1.7, 1499S×175.15W, h237km±26km, mb3.9/5, mb1 4.1/6, mb1mx3.8/15, mbtmp4.5/6, Error ellipse: s-maj=122.7km s-min=18.6km az=153.0*
*NEIC **19** 17:31:09.9±1.2, 1515S×17505W, h241km±13km, mb4.2/7, Error ellipse: s-maj=27.5km s-min=13.6km az=153.0*
ISC 19 17:31:10.2±1.1, 152S±02×1750W±01, h243km±15km, n20, σ0§81/20, mb4.1/11, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.37**	**68**	P	**Pn**	**17 32 06.6**	**+0.3**
AFI	83nm,0.3s,baz=17,slow=3.2,SNR=81			S	**S**	**17 32 51.7**	**+1.0**
AFI	**Afiamalu**	**3.37**	**68**	P	**Pn**	**17 32 06.7**	**+0.3**
AFI	19nm,0.3s,baz=5.8,slow=19,SNR=3.2			*e*Sn	**S**	**17 32 49.4**	**-1.4**
STKA	**Stephens Creek**	**42.80**	**239**	*e*P	**P**	**17 38 43.8**	**-0.4**
STKA	**Stephens Creek**	**42.80**	**239**	P	**P**	**17 38 44.1**	**-0.1**
WB2	**Warramunga Arr**	**48.38**	**257**	||*i* P	**P**	**17 39 27.4**	**-0.3**
WRA	**Warramunga Arr**	**48.40**	**257**	P	**P**	**17 39 27.1**	**-0.7**
AS31	**Alice Springs**	**48.71**	**252**	*e*P	**P**	**17 39 30.0**	**-0.2**
ASAR	**Alice Springs**	**48.71**	**252**	P	**P**	**17 39 30.1**	**-0.1**
ASPA	**Alice Springs**	**48.72**	**252**	*e*P	**P**	**17 39 30.0**	**-0.2**
KAKA	**Kakadu**	**50.99**	**266**	*e*P	**P**	**17 39 48.0**	**+0.7**
FORT	**Forrest**	**54.13**	**243**	*e*P	**P**	**17 40 09.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**56.75**	**258**	P	**P**	**17 40 29.3**	**+0.5**
MBWA	**Marble Bar**	**61.94**	**254**	P	**P**	**17 41 00.4**	**-3.9**
SBA	**Scott Base**	**63.30**	**184**	*e*P	**P**	**17 41 12.7**	**-0.6**
CASY	**Casey**	**69.93**	**205**	P	**P**	**17 41 57.0**	**+1.9**
KSM	**Kuching**	**75.65**	**276**	P	**P**	**17 42 29.9**	**+1.2**
ANMO	**Albuquerque**	**81.87**	**51**	*e*P	**P**	**17 43 02.2**	**-0.2**
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**17 43 08.6**	**-0.4**
KMBO	**Kilima Mbogo**	**144.22**	**246**	PKP	PKPdf	17 50 17.9	+0.9
BRTR	**Keskin Array B**	**145.05**	**320**	PKP	PKPdf	17 50 20.1	+1.7

83nm,0.3s,baz=17,slow=3.2,SNR=81
19nm,0.3s,baz=5.8,slow=19,SNR=3.2
4.0nm,0.8s,mb3.9
2.3nm,1.0s,mb3.6,baz=80,slow=8.9,SNR=4.8
5.7nm,0.8s,mb4.0,baz=90,slow=7.3,SNR=86
42nm,0.8s,mb4.8,baz=86,slow=8.5,SNR=484
6.3nm,0.6s,mb4.2
21nm,0.7s,mb4.8
1.7nm,0.8s,mb3.7,baz=90,slow=4.0,SNR=3.2
12nm,1.1s,mb4.5
4.3nm,0.9s,mb4.1
3.8nm,1.1s,mb3.9
1.7nm,0.8s,mb3.7
1.7nm,0.7s,mb3.9,baz=212,slow=3.6,SNR=13
3.3nm,0.8s,baz=49,slow=7.1,SNR=7.5
1.3nm,0.7s,baz=91,slow=2.1,SNR=5.8

*IDC **19** 17:34:39.5±1.2, 3708S×9627W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, MS4.5/16, Ms1 4.4/16, ms1mx4.3/26, Error ellipse: s-maj=28.4km s-min=23.7km az=38.0*
*BJI **19** 17:34:39.1, 37.16S×9591W, h10km, mB5.4, Ms5.0, Msz4.9*
*ISCJB **19** 17:34:40.1±0.4, 37.12S±007×961W±0.1, h10km, mb4.4/27, MS4.5/17, Error ellipse: s-maj=12.9km s-min=10.0km az=122.2*
*NEIC **19** 17:34:41.9±0.4, 37.10S×96.16W, h10km, mb4.6/18, Error ellipse: s-maj=12.8km s-min=9.5km az=59.0*
*GCMT **19** 17:34:41.9±0.2, 3700S×9622W, h16km±1km, MW5.1/78, Moment Tensor Solution. s51,c71; s78,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.22±.15; $M_{\theta\theta}$-0.18±.12; $M_{\phi\phi}$1.40±.13; $M_{r\theta}$0.79±.35; $M_{\theta\phi}$-5.44±.13; $M_{\phi r}$-0.56±.35; Best double couple: $M_0$5.56500×10^{16} NP1:ϕ_s184.00000°, δ82.00000°, λ3.00000°. NP2: ϕ_s94.00000°, δ88.00000°, λ172.00000°. Principal axes: T 6.2250, Plg7.0000°, Azm49.0000°; N -1.3250, Plg82.0000°, Azm256.0000°; P -4.9040, Plg4.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 17:34:41.7±0.4, 3713S±007×962W±01, h10km, n58, σ1§04/37, mb4.4/27, MS4.5/17, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**20.26**	**108**	P	**P**	**17 39 18.1**	**+1.0**
PLCA	3.5nm,0.8s,baz=269,slow=11,SNR=5.4			LR	LR	17 45 11.8	
CFAA	**Coronel Fontan**	**23.69**	**85**	P	**P**	**17 39 51.8**	**-1.8**
CFAA	0.6nm,0.9s,mb3.0,baz=239,slow=9.0,SNR=8.6			LR	LR	17 46 54.8	
USHA	**Ushuaia**	**25.93**	**142**	LR	LR	17 48 06.5	
TRQA	**Tornquist**	**27.05**	**102**	P	**P**	**17 40 25.6**	**+1.5**
LVC	**Limon Verde**	**27.62**	**66**	P	**P**	**17 40 28.8**	**-0.4**
LVC	2.5nm,0.8s,mb3.9,baz=166,slow=19,SNR=2.7			LR	LR	17 48 37.3	
LVC	**Limon Verde**	**27.62**	**66**	P	**P**	**17 40 29.6**	**+0.3**
LPAZ	**La Paz**	**32.35**	**58**	P	**P**	**17 41 10.8**	**-0.3**
LPAZ	**La Paz**	**32.35**	**58**	P	**P**	**17 41 10.8**	**-0.4**
ATAH	**Atahualpa**	**34.10**	**33**	P	**P**	**17 41 25.4**	**-0.9**
ATAH	3.1nm,0.3s,mb4.7,baz=131,slow=17,SNR=3.6			LR	LR	17 51 48.5	
CPUP	**Villa Florida**	**34.56**	**83**	P	**P**	**17 41 31.5**	**+1.1**
CPUP	0.3nm,0.3s,mb3.6,baz=246,slow=10.0,SNR=3.3			LR	LR	17 53 24.7	
RKT	**Rikitea**	**36.06**	**282**	*e*LQ		17 49 50.6	
RKT	890nm,27.5s			*e*LQ		17 49 50.6	
RKT	**Rikitea**	**36.06**	**282**	*e*T		18 19 08.4	
SIV	**San Ignacio**	**37.52**	**65**	P	**P**	**17 41 55.5**	**-0.2**
ROSC	**El Rosal**	**46.49**	**31**	LR	LR	18 00 05.7	
TBI	**Tubuai**	**47.44**	**271**	*e*LR	LR	17 56 43.0	
BDFB	**Brasilia**	**47.60**	**77**	LR	LR	18 02 05.4	
PPT	**Papeete**	**50.56**	**278**	*e*LR	LR	17 58 05.0	
QSPA	**South Pole Qui**	**53.09**	**180**	*e*P	**P**	**17 43 59.9**	**+0.7**
SBA	**Scott Base**	**55.48**	**195**	*e*P	**P**	**17 44 16.9**	**+0.3**
PCRV	**Puerto La Cruz**	**55.61**	**39**	P	**P**	**17 44 17.7**	**+0.2**
PPM	**Popocatepetl**	**55.94**	**357**	*e*P	**P**	**17 44 17.0**	**-2.9**
PPM				*i* P	pP	17 44 18.8	-4.3
SNAA	**Sanae**	**56.27**	**158**	*e*P	**P**	**17 44 21.6**	**-0.7**
IIO	**Organos**	**56.46**	**357**	*i* P	**P**	**17 44 21.5**	**-2.2**
VNDA	**Vanda**	**56.59**	**195**	LR	LR	18 03 03.7	
URZ	**Urewera**	**65.98**	**239**	LR	LR	18 06 40.4	
TXAR	**Lajitas Array**	**66.48**	**353**	P	**P**	**17 45 31.2**	**-0.2**
TXAR	**Lajitas Array**	**66.48**	**353**	P	**P**	**17 45 31.2**	**-0.2**
RAO	**Raoul Island**	**66.86**	**250**	LR	LR	18 06 51.5	
RPZ	**Rata Peaks**	**67.28**	**232**	LR	LR	18 06 54.3	
JCT	**Junction City**	**67.33**	**357**	*e*P	**P**	**17 45 37.0**	**+0.2**
SYO	**Syowa Base**	**69.26**	**164**	||*e*pP	pP	17 45 49.8	-2.3
WMOK	**Wichita Mounta**	**71.54**	**358**	*e*P	**P**	**17 46 01.4**	**-1.5**
AMTX	**Amarillo**	**71.82**	**355**	*e*P	**P**	**17 46 04.2**	**-0.3**
ANMO	**Albuquerque**	**72.34**	**351**	*e*P	**P**	**17 46 07.5**	**-0.1**
MAW	**Mawson**	**74.39**	**172**	P	**P**	**17 46 18.9**	**-0.9**
MAW	1.2nm,0.6s,mb4.0,baz=205,slow=12,SNR=6.2			LR	LR	18 18 02.5	
MVCO	**Mesa Verde**	**74.83**	**350**	*e*P	**P**	**17 46 23.5**	**+1.2**
CASY	**Casey**	**74.88**	**191**	*e*P	**P**	**17 46 21.0**	**-1.6**
SDCO	**Great Sand Dun**	**74.99**	**352**	*e*P	**P**	**17 46 24.5**	**+1.3**
PV01	**Paradox Valley**	**75.75**	**350**	P	**P**	**17 46 28.8**	**+1.2**
CCUT	**Cedar City**	**75.98**	**346**	*e*P	**P**	**17 46 29.3**	**+0.4**
CMB	**Columbia Colle**	**78.05**	**341**	*e*P	**P**	**17 46 41.1**	**+0.6**
DAU	**Daniels Canyon**	**78.39**	**348**	*e*P	**P**	**17 46 43.9**	**+1.5**
DUG	**Dugway**	**78.44**	**347**	*e*P	**P**	**17 46 43.8**	**+1.1**
PDAR	**Pinedale Array**	**80.44**	**350**	P	**P**	**17 46 52.1**	**-1.5**
RSSD	**Black Hills**	**81.18**	**354**	*e*P	**P**	**17 46 57.4**	**-0.1**
TPAW	**Teton Pass**	**81.35**	**349**	*e*P	**P**	**17 46 58.7**	**+0.3**
MOD	**Modoc**	**81.67**	**342**	*e*P	**P**	**17 47 01.6**	**+1.4**
WVOR	**Wild Horse Val**	**81.78**	**343**	*e*P	**P**	**17 47 01.1**	**+0.3**
HLID	**Hailey**	**82.00**	**347**	*e*P	**P**	**17 47 00.9**	**-0.9**
STKA	**Stephens Creek**	**92.66**	**226**	LR	LR	18 21 34.2	
SCHQ	**Schefferville**	**95.00**	**17**	LR	LR	18 25 23.8	
CTA	**Charters Tower**	**98.17**	**237**	LR	LR	18 24 09.8	
NJ2	**Nanjing**	**150.80**	**271**	*e*PKP	PKPdf	17 54 25.4	-3.3
HHC	**Hu-ho-hao-te**	**158.13**	**288**	*e*PKP	PKPdf	17 54 40.0	+1.1
HHC				LR	LR		
HHC				LR	LR		
HHC				LR	LR		
KMI	**Kunming**	**159.88**	**239**	PKP	PKPdf	17 54 42.0	+1.1
CD2	**Chengdu**	**162.34**	**255**	*e*PKP	PKPdf	17 54 42.4	-1.1
LZH	**Lanzhou**	**163.86**	**272**	*e*PKP	PKPdf	17 54 42.4	-2.6
LZH				APKP		17 54 45.8	
LZH				XPKP		17 54 48.0	
LZH				LR	LR		
LZH				LR	LR		
WMQ	**Urumqi**	**172.68**	**337**	*e*PKP	PKPdf	17 54 50.0	-0.9

comp=E,165nm,19.2s
comp=Z,278nm,20.3s

*BJI **19** 17:35:17.8, 2172N×9299E, h36km, mB4.8, mb4.3, ML4.0, Ms3.9, Msz3.6*
*ISCJB **19** 17:35:21.4±0.3, 2215N±004×9299E±003, h44km, mb4.2/21, MS3.9/5, Error ellipse: s-maj=5.5km s-min=3.6km az=45.2*
*IDC **19** 17:35:23.5±0.6, 2225N×9310E, h45km±5km, mb3.9/15, mb1 4.0/15, mb1mx3.9/21, mbtmp4.2/15, MS3.9/2, Ms1 3.9/2, ms1mx3.0/26, Error ellipse: s-maj=23.7km s-min=10.9km az=54.0*
*NEIC **19** 17:35:23.3±0.3, 2215N×9305E, mb4.3/6, Error ellipse: s-maj=8.6km s-min=5.6km az=52.0*
ISC 19 17:35:24.0±0.3, 2219N±003×9294E±003, h46km, h46km±.9km: pP-P, n77, σ1§27/93, mb4.2/21, MS3.9/5, 1D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**2.29**	**318**	*i* P	**Pn**	**17 36 10.0**	**+11**
AGT				*i* S	**Sn**	**17 36 37.0**	**+11**
IMP	**Imphal**	**2.74**	**19**	*e*P	**Pn**	**17 36 07.0**	**+1.5**
SHL	**Shillong**	**3.50**	**344**	*e*P	**Pn**	**17 36 17.0**	**+1.1**
SHL				*e*S	**Sn**	**17 36 56.4**	**+0.4**
SHL				AML	AML	17 36 58.5	
SHL				AML	AML	17 37 00.1	
CAL	**Calcutta**	**4.28**	**276**	*e*S	**Sn**	**17 37 17.6**	**+2.3**
SLGI	**Shiliguri**	**6.09**	**318**	*ex*	**Sn**	**17 37 54.8**	**-5.1**
CHG	**Chiang Mai**	**6.55**	**120**	||P	**Pn**	**17 36 57.4**	**-0.4**
CHTO	**Chiang Mai**	**6.55**	**120**	*e*Pn	**Pn**	**17 36 55.5**	**-2.4**
BOK	**Bokaro**	**6.69**	**285**	*e*P	**Pn**	**17 37 01.4**	**+1.7**
BOK				*e*S	**Sn**	**17 38 14.5**	**-0.1**
BOK				AML	AML	17 38 18.5	
BOK				AML	AML	17 38 19.3	
BDT	**Bhumibol Dam**	**7.54**	**130**	P	**Pn**	**17 37 12.0**	**+0.7**
LSA	**Lhasa**	**7.65**	**348**	P	**Pn**	**17 37 14.3**	**+1.4**
LSA				S	**Sn**	**17 38 37.3**	**-0.9**
LSA				Smax			
LSA				Smax			
LSA	**Lhasa**	**7.65**	**348**	*e*Pn	**Pn**	**17 37 13.7**	**+0.8**
LSA				*e*Sn	**Sn**	**17 38 37.2**	**-1.0**
JIRN	**Jiri**	**8.19**	**313**	*e*Pn	**Pn**	**17 37 21.8**	**+1.5**
JIRN				*e*Sn	**Sn**	**17 38 51.2**	**-0.3**
GUN	**Gumba**	**8.57**	**313**	*e*Pn	**Pn**	**17 37 26.8**	**+1.4**
GUN				*e*Sn	**Sn**	**17 38 59.4**	**-1.3**
PKI	**Pulchoki**	**8.68**	**310**	*e*Pn	**Pn**	**17 37 27.5**	**+0.5**
PKI				*e*Sn	**Sn**	**17 39 01.3**	**-2.2**
KKN	**Kakani**	**8.91**	**310**	*e*Pn	**Pn**	**17 37 30.9**	**+0.8**
KKN				*e*Sn	**Sn**	**17 39 06.4**	**-2.6**
DMN	**Daman**	**8.92**	**309**	*e*Pn	**Pn**	**17 37 31.4**	**+1.1**
DMN				*e*Sn	**Sn**	**17 39 06.3**	**-3.1**
KMI	**Kunming**	**9.45**	**70**	P	**Pn**	**17 37 37.8**	**+0.3**
KMI				S	**Sn**	**17 39 23.3**	**+1.0**
KMI				SS		17 39 37.0	
KMI				AMB	AMB		
KMI				AMB	AMB		
KMI				LR	LR		
KMI				LR	LR		
KMI				LR	LR		
KMI	**Kunming**	**9.45**	**70**	P	**Pn**	**17 37 37.8**	**+0.3**
KMI				sP		17 37 41.6	
KMI				S	**Sn**	**17 39 23.3**	**+1.0**
KMI				SS		17 39 37.0	
GKN	**Gorkha**	**9.49**	**309**	*e*Pn	**Pn**	**17 37 38.2**	**+0.2**
GKN				*e*Sn	**Sn**	**17 39 20.8**	**-2.5**
VIS	**Vishakhapatnam**	**10.07**	**246**	*e*P	**Pn**	**17 37 46.6**	**+0.7**
VIS				*e*S	**Sn**	**17 39 30.6**	**-6.9**
VIS				AML	AML	17 39 32.7	
VIS				AML	AML	17 39 33.0	
KOLN	**Koldanda**	**10.13**	**305**	*e*Pn	**Pn**	**17 37 47.1**	**+0.3**
KOLN				*e*Sn	**Sn**	**17 39 35.4**	**-3.5**
PBA	**Port Blair**	**10.48**	**181**	*ex*	Px	17 39 29.6	
PBA				*e*S	Sx	17 39 36.2	
JBP	**Jabalpur**	**12.00**	**277**	*i* P	**Pn**	**17 38 17.4**	**+5.0**
JBP				*ex*	x	17 38 18.6	
JBP				*e*S	**Sn**	**17 40 22.3**	**-2.4**
NGP	**Nagpur**	**12.96**	**268**	*ex*	**Pn**	**17 38 34.9**	**+10**
NGP				*e*S	**Sn**	**17 40 41.0**	**-7.1**
CD2	**Chengdu**	**13.00**	**46**	*e*P	**Pn**	**17 38 30.4**	**+4.4**
CD2				XP		17 38 37.3	
CD2				PP		17 38 41.5	
CD2				S	**Sn**	**17 41 00.3**	**+11**
CD2				AMB	AMB		
CD2				LR	LR		
CD2				LR	LR		
CD2				LR	LR		
CD2				LR	LR		
LGTI	**Lohaghat**	**13.52**	**305**	*i* x	x	17 38 53.7	
HYB	**Hyderabad**	**14.34**	**253**	*i* P	**Pn**	**17 38 50.0**	**+5.7**
HYB				*e*S	Sn	17 41 41.5	+20
HYB	**Hyderabad**	**14.34**	**253**	*e*P	**Pn**	**17 38 52.0**	**+7.7**
HYB				*e*S	**Sn**	**17 41 12.0**	**-10**
BHPL	**Bhopal**	**14.36**	**277**	*e*P	**Pn**	**17 38 44.7**	**+0.2**
BHPL				*ex*	**Sn**	**17 41 13.7**	**-8.5**
NDI	**New Delhi**	**15.60**	**298**	*e*P	**Pn**	**17 39 01.8**	**+1.1**
NDI				*ex*	S	17 41 41.2	-25
LATR	**Latur**	**15.81**	**259**	*e*P	**Pn**	**17 39 03.7**	**+0.3**
QIZ	**Qiongzhong**	**16.14**	**98**	P	**Pn**	**17 39 05.3**	**-2.3**
QIZ				S	**S**	**17 42 00.8**	**-16**
QIZ				LR	LR		
LZH	**Lanzhou**	**16.79**	**32**	*e*P	**Pn**	**17 39 16.1**	**+0.3**
LZH				AP	pP	17 39 19.9	-8.3
LZH				AMB	AMB		
LZH				AMB	AMB		
LZH	**Lanzhou**	**16.79**	**32**	*e*P	**Pn**	**17 39 16.1**	**+0.3**
LZH				pP	pP	17 39 19.9	-8.3
LZH				sP	sP	17 39 22.8	-11
GTA	**Gaotai**	**18.14**	**17**	*e*P	**Pn**	**17 39 35.6**	**+3.1**
GTA				AP	pP	17 39 40.1	-3.0
GTA				XP	sP	17 39 43.8	-5.2
POO	**Poona**	**18.26**	**262**	*e*P	**Pn**	**17 39 35.0**	**+1.0**
POO				*ex*	**S**	**17 42 42.0**	**-18**
KAD	**Karad**	**18.30**	**258**	*ex*	**S**	**17 42 46.0**	**-15**
KULM	**Kulim**	**18.38**	**155**	P	**Pn**	**17 39 29.1**	**-6.3**
PALK	**Pallekele**	**18.95**	**220**	*e*P	**Pn**	**17 39 43.0**	**+0.8**
PSI	**Prapat**	**20.13**	**162**	P	**P**	**17 39 56.9**	**+2.8**
WMQ	**Urumqi**	**22.01**	**350**	*e*P	**P**	**17 40 15.5**	**+1.2**
WMQ				PP		17 40 40.0	
WMQ				*e*S	**S**	**17 44 13.0**	**-1.5**
WMQ				AMB	AMB		
WMQ				AMB	AMB		
WMQ				LR	LR		
WMQ				LR	LR		
WMQ				LR	LR		
KSH	**Kashi**	**22.53**	**324**	*e*P	**P**	**17 40 23.1**	**+3.3**
KSH				*e*AP		17 40 28.8	
KSH				*e*XP	sP	17 40 31.3	-5.3
KSH				AMB	AMB		
KSH				LR	LR		
KSH				LR	LR		
KSH				LR	LR		
AAK	**Ala-Archa**	**25.55**	**327**	*e*P	**P**	**17 40 49.5**	**+1.0**
MKAR	**Makanchi Array**	**26.02**	**343**	P	**P**	**17 40 53.0**	**+0.3**
MKAR				pP	pP	17 41 04.6	-0.1
KSM	**Kuching**	**26.64**	**138**	*e*P	**P**	**17 40 56.5**	**-1.8**
SONM	**Songino Array**	**27.78**	**20**	P	**P**	**17 41 08.1**	**-0.4**
SONM				pP	pP	17 41 19.4	-1.2
CHKZ	**Chkalovo**	**35.72**	**337**	*e*P	**P**	**17 42 18.1**	**-0.1**
CHKZ				*e*pP	pP	17 42 29.2	-1.2
ZRNK	**Zerenda**	**35.75**	**335**	*e*P	**P**	**17 42 18.5**	**0.0**

comp=N,5μm,0.5s
comp=E,5μm,0.6s
comp=N,275nm,0.3s
comp=E,308nm,0.4s
comp=N,40nm,0.7s
comp=E,90nm,0.7s
comp=E,49nm,0.6s
comp=E,126nm,0.2s
comp=E,276nm,0.6s
comp=E,145nm,0.5s
comp=E,145nm,0.5s
comp=E,777nm,1.2s
comp=E,208nm,12.9s
comp=Z,230nm,15.1s
comp=Z,5.0nm,0.5s
comp=Z,201nm,0.4s
comp=E,84nm,0.5s
comp=Z,222nm,0.5s
comp=E,222nm,0.5s
comp=E,180nm,12.0s
comp=Z,150nm,12.0s
comp=Z,14nm,1.0s
comp=Z,70nm,4.0s
comp=Z,14nm,1.0s
comp=Z,139nm,15.9s
comp=Z,2.7nm,0.3s,baz=338,slow=13,SNR=4.3
comp=Z,22nm,0.8s,mb4.6
comp=Z,141nm,4.2s
comp=N,332nm,7.0s
comp=E,278nm,5.9s
comp=Z,328nm,11.0s,MS4.0
comp=Z,416nm,4.8s
comp=N,298nm,5.9s
comp=E,373nm,6.1s
comp=Z,968nm,10.2s,MS4.5
comp=Z,11nm,1.0s,mb4.3
comp=Z,4.6nm,0.7s,mb4.1,baz=155,slow=10.0,SNR=52
comp=Z,5.8nm,0.6s,baz=157,slow=9.3,SNR=14
comp=Z,0.9nm,0.6s,mb3.6,baz=200,slow=8.5,SNR=8.8
comp=Z,3.2nm,0.8s,baz=197,slow=9.5,SNR=14
comp=Z,3.4nm,0.7s,mb4.4

comp=Z,2.0nm,0.7s,mb4.2
ZRNK eP P 17 42 30.5 -0.2
MDJ Mudanjiang 37.45 45 P **P 17 42 31.3 -1.6**
MDJ PCP PcP 17 44 49.9 -0.8
MDJ S **S 17 48 20.6 +2.4**
MDJ SCP ScP 17 48 37.1 +3.0
MDJ PCS PcS 17 48 39.3 +0.1
MDJ AMB AMB
comp=Z,5.0nm,1.5s,mb4.1
MDJ AMB AMB
comp=Z,72nm,3.1s
MDJ LR LR
comp=N,42nm,22.6s,MS3.2
MDJ LR LR
comp=E,19nm,22.6s,MS3.2
MDJ LR LR
comp=Z,38nm,20.7s,MS3.2
AKTK Aktyubinsk 39.23 325 P **P 17 42 48.6 +0.8**
AKTK pP pP 17 43 00.4 +0.2
AKTO Aktyubinsk 39.23 325 P **P 17 42 48.6 +0.8**
comp=Z,2.0nm,0.5s,mb4.1,baz=110,slow=7.7,SNR=7.9
AKTO pP pP 17 43 00.4 +0.2
comp=Z,2.8nm,0.7s,baz=131,slow=7.3,SNR=3.8
MJAR Matsushiro Arr 41.59 60 P **P 17 43 04.8 -2.6**
comp=Z,1.2nm,0.6s,mb3.7,baz=270,slow=11,SNR=5.6
MJAR LR LR 18 00 29.1
comp=Z,72nm,21.4s,MS3.5,baz=10.0,slow=36
ARU Arti 42.51 332 eP **P 17 43 14.8 0.0**
comp=Z,4.7nm,0.7s,mb4.3
FITZ Fitzroy Crossi 51.26 139 P **P 17 44 21.6 -1.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=338,slow=8.6,SNR=4.2
EIL Elat 52.23 291 P **P 17 44 31.7 +1.3**
comp=Z,78nm,0.9s
AKASG Malin Array Be 56.58 317 P **P 17 45 01.1 -0.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=83,slow=6.8,SNR=5.1
AKASG pP pP 17 45 13.4 -1.5
comp=Z,1.1nm,0.6s,baz=78,slow=6.4,SNR=3.4
JOF Joensuu 57.63 332 ep **P 17 45 08.8 -0.6**
comp=Z,3.9nm,0.5s,mb4.7
WRA Warramunga Arr 58.22 133 P **P 17 45 12.7 -0.8**
comp=Z,2.5nm,0.5s,mb4.5,baz=320,slow=7.5,SNR=41
WRA pP pP 17 45 26.8 +0.4
comp=Z,2.0nm,0.5s,baz=320,slow=7.5,SNR=8.3
WB2 Warramunga Arr 58.22 133 eP **P 17 45 12.6 -1.0**
FINES FINESS Array B 59.72 329 P **P 17 45 22.3 -1.6**
comp=Z,2.0nm,0.8s,mb4.2,baz=90,slow=9.5,SNR=7.0
FINES pP pP 17 45 35.5 -1.4
comp=Z,2.8nm,0.8s,baz=120,slow=11,SNR=2.8
ASPA Alice Springs 60.54 136 eP **P 17 45 29.4 -0.2**
AS31 Alice Springs 60.54 136 eP **P 17 45 29.4 -0.2**
ASAR Alice Springs 60.54 136 P **P 17 45 29.3 -0.3**
comp=Z,2.1nm,0.6s,mb4.5,baz=316,slow=6.9,SNR=52
ARCES ARCESS Array B 61.54 338 P **P 17 45 35.2 -1.1**
comp=Z,2.7nm,0.9s,mb4.4,baz=76,slow=10,SNR=3.9
ARCES ARCESS Array B 61.54 338 P **P 17 45 35.2 -1.1**
GERES GERESS Array B 66.66 315 P **P 17 46 10.3 +0.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=78,slow=5.7,SNR=16
GERES pP pP 17 46 23.0 0.0
comp=Z,1.1nm,0.6s,baz=64,slow=6.1,SNR=4.9
NB2 NORSAR Subarra 66.86 328 P **P 17 46 10.3 -0.9**
comp=Z,1.5nm,0.7s,mb4.1,baz=84,slow=6.5
NOA NORSAR Array B 66.86 328 P **P 17 46 10.6 -0.6**
comp=Z,2.1nm,0.7s,mb4.3,baz=86,slow=6.4,SNR=8.9
NOA pP pP 17 46 22.8 -1.6
comp=Z,2.7nm,0.8s,baz=86,slow=6.5,SNR=6.7
STKA Stephens Creek 71.12 138 P **P 17 46 36.2 -1.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=359,slow=11,SNR=2.9
STKA Stephens Creek 71.12 138 P **P 17 46 36.2 -1.5**
TORD Torodi Ar. Bea 86.26 283 P **P 17 48 01.8 +1.1**
comp=Z,1.0nm,0.9s,mb4.0,baz=68,slow=4.0,SNR=6.8
YKA Yellowknife Ar 92.81 12 LR LR 18 33 39.6
comp=Z,134nm,20.8s,MS4.4,baz=170,slow=38
TXAR Lajitas Array 126.34 18 PKP PKPdf 17 54 22.1 +0.5
comp=Z,0.5nm,0.9s,baz=224,slow=3.8,SNR=3.3
SDV Santo Domingo 145.17 331 PKPbc PKPbc 17 54 56.8 +0.7
comp=Z,7.9nm,0.8s,baz=86,slow=3.7,SNR=9.1
SDV Santo Domingo 145.17 331 ePKPdf PKPdf 17 54 56.8 +0.3
SDV e 17 55 08.7
ROSC El Rosal 150.37 334 PKPbc PKPbc 17 55 12.0 +1.7
comp=Z,4.3nm,0.4s,baz=114,slow=11,SNR=4.3
CPUP Villa Florida 152.61 255 PKPbc PKPbc 17 55 15.7 +0.2
comp=Z,2.3nm,0.5s,baz=68,slow=2.8,SNR=9.5

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*ISCJB **19** 17:41:59.7±0.4, 1370N±006×9055W±004, h102km±4km, mb4.4/9, Error ellipse: s-maj=11.0km s-min=3.7km az=67.8.*
*IDC **19** 17:42:00.2±2.4, 1400N×9024W, h73km±21km, mb4.1/4, mb1 4.1/7, mb1mx3.7/22, mbtmp4.2/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/31, Error ellipse: s-maj=28.7km s-min=15.9km az=40.0*
*CASC **19** 17:42:00.8±1.5, 1370N×9053W, h80km±13km, MD4.2, ML4.4, mb4.5(NEIC)*
*NEIC **19** 17:42:01.1±0.7, 1378N×9045W, mb4.5/7, MD5.1(SNET), Error ellipse: s-maj=13.9km s-min=8.8km az=210.0*
NEIC Felt [II] at San Salvador, El Salvador.
ISC 19 17:42:01.1±0.4, 1374N±006×9054W±004, h98km±4km, n60, σ0=98/53, mb4.4/9, 7C-12D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TER	**Terranova**	**0.58**	**346**	*e*P	**Pn**	**17 42 15.5**	**-1.7**
PCG	**Pacaya**	**0.66**	**354**	*e*P	**Pn**	**17 42 17.0**	**-0.9**
FUG	**Fuego 3**	**0.77**	**337⇓**	*e*P	**Pn**	**17 42 17.7**	**-1.2**
GCG	**Guatemala City**	**0.85**	**0⇑**	*e*P	**Pn**	**17 42 19.5**	**-0.1**
GCG				*e*S	**Sn**	**17 42 33.7**	**+0.1**
RTR	**El Retiro**	**0.88**	**79⇓**	*e*P	x	17 42 26.7	
RTR				*e*S	x	17 42 40.1	
SBLS	**San Blas**	**0.89**	**83⇓**	*e*P	x	17 42 26.9	
SBLS				*e*S	x	17 42 41.1	
SNJE	**San Jose**	**0.91**	**82⇓**	*e*P	x	17 42 27.1	
SNJE				*e*S	x	17 42 41.8	
TP2	**Tecpan 2**	**1.14**	**336⇑**	*e*P	**Pn**	**17 42 22.6**	**-0.4**
TP2				*e*S	**Sn**	**17 42 39.5**	**+0.2**
JAT	**Jato**	**1.22**	**299**	*e*P	**Pn**	**17 42 23.6**	**-0.2**
BOQS	**Boqueron**	**1.22**	**90⇑**	*e*P	x	17 42 31.0	
BOQS				*e*S	x	17 42 48.2	
SNET	**Serv Nac Est T**	**1.27**	**92⇑**	*e*P	x	17 42 23.1	
SNET				*e*S	x	17 42 40.6	
SNET				*i*		17 42 42.3	
	comp=E,29μm,0.5s						
MTO2	**Montecristo 2**	**1.32**	**60⇓**	*e*P	x	17 42 31.9	
MTO2				*e*S	x	17 42 49.6	
LFU	**La Fuente**	**1.38**	**89⇑**	*e*P	x	17 42 33.0	
LFU				*e*S	x	17 42 51.6	
LFRS	**El Faro**	**1.44**	**94⇓**	*e*P	x	17 42 33.4	
LFRS				*e*S	x	17 42 53.4	
LBRS	**Las Brisas**	**1.45**	**90⇓**	*e*P	x	17 42 33.9	
LBRS				*e*S	x	17 42 52.9	
LCBS	**La Ceiba**	**1.52**	**93⇓**	*e*P	x	17 42 34.4	
LCBS				*e*S	x	17 42 54.2	
SNVI	**San Vicente**	**1.65**	**94⇑**	*e*P	x	17 42 37.1	
SNVI				*e*S	x	17 42 58.2	
VSM	**San Miguel**	**2.22**	**98⇓**	*e*P	x	17 42 44.9	
VSM				*e*S	x	17 43 12.3	
BLLM	**Bellamira**	**2.25**	**97⇑**	*e*P	x	17 42 44.8	
BLLM				*e*S	x	17 43 12.0	
CNCH	**Conchagua**	**2.67**	**100⇓**	*e*P	x	17 42 50.4	
CNCH				*e*S	x	17 43 23.2	
CCIG	**Comitan**	**2.97**	**329**	*i* P	**Pn**	**17 42 48.2**	**+1.9**
CCIG				*i* S	**Sn**	**17 43 24.5**	**+3.3**
TGUH	**Tegucigalpa,Un**	**3.18**	**84**	*e*Pn	**Pn**	**17 42 49.0**	**-0.2**
TELN	**Telica**	**3.78**	**107⇓**	*e*P	**Pn**	**17 42 57.2**	**0.0**
LEON	**Leon**	**3.78**	**110**	*e*P	**Pn**	**17 42 56.4**	**-0.8**
CNGN	**Cerro Negro**	**3.93**	**108**	*e*P	**Pn**	**17 42 59.1**	**-0.1**
MIRN	**Miramar**	**3.94**	**109**	*e*P	**Pn**	**17 42 59.3**	**-0.1**
MIRN				*i*		17 43 50.4	
	comp=Z,830nm,0.3s						
MOMJ	**Momotombo**	**4.11**	**108**	*e*P	**Pn**	**17 43 01.4**	**-0.2**
MOMJ				*e*S	**Sn**	**17 43 49.7**	**+1.0**
COPN	**Copaltepe**	**4.14**	**111⇓**	*e*P	**Pn**	**17 43 01.8**	**-0.3**
COPN				*e*S	**Sn**	**17 43 51.3**	**+1.8**
XAVN	**Gruta Xavier**	**4.39**	**111**	*e*P	**Pn**	**17 43 05.6**	**0.0**
MGAN	**Managua**	**4.47**	**110**	*e*P	**Pn**	**17 43 06.5**	**-0.1**
MGAN				*i*		17 43 54.2	
	comp=N,487nm,0.3s						
MGAN				*e*S	**Sn**	**17 43 58.2**	**+0.9**
TICN	**Ticuantepe**	**4.52**	**111**	*e*P	**Pn**	**17 43 07.6**	**+0.3**
CONN	**Concepcion**	**5.25**	**114**	*e*P	**Pn**	**17 43 16.7**	**-0.5**
CMIG	**Matias Romero**	**5.36**	**309**	P	**Pn**	**17 43 18.8**	**+0.2**
	comp=N,6.4nm,0.3s,baz=86,slow=10,SNR=51						
CMIG				S	**Sn**	**17 44 20.2**	**+1.2**
	comp=N,18nm,0.3s,baz=138,slow=19,SNR=7.1						
CMIG				LR	LR	17 44 52.4	
	comp=N,66nm,18.0s,baz=133,slow=32						
CMIG	**Matias Romero**	**5.36**	**309**	P	**Pn**	**17 43 18.8**	**+0.2**
CMIG				S	**Sn**	**17 44 20.2**	**+1.2**
CMIG				LR	LR	17 44 52.4	
MADN	**Villa Maderas**	**5.40**	**115**	*e*P	**Pn**	**17 43 18.9**	**-0.3**
HUIG	**Huatulco**	**5.76**	**291**	*e*P	**Pn**	**17 43 22.8**	**-1.2**
HUIG				*i* S	**Sn**	**17 44 29.0**	**+0.3**
TEIG	**Tepich**	**6.81**	**18**	*e*Pn	**Pn**	**17 43 38.1**	**-0.1**
	comp=N,1.4nm,1.1s						
TEIG				*e*		17 43 56.9	
OXX	**Oaxaca**	**6.83**	**300**	*e*P	**Pn**	**17 43 40.0**	**+1.4**
VHO	**Vista Hermosa**	**6.84**	**300**	*i* P	**Pn**	**17 43 39.2**	**+0.5**
VHO				*i* S	**Sn**	**17 44 49.5**	**-5.5**
SOR	**Soroa**	**11.50**	**37**	*e*P	**Pn**	**17 44 43.1**	**+1.1**
OTAV	**Otavalo**	**17.97**	**137**	*e*P	**Pn**	**17 46 04.1**	**-0.4**
	comp=N,2.0nm,0.5s						
TXAR	**Lajitas Array**	**19.72**	**324**	P	**Pn**	**17 46 24.6**	**-0.6**
	comp=N,0.1nm,0.3s,baz=153,slow=8.0,SNR=4.5						
TXAR				PcP	PcP	17 50 39.5	+1.9
	baz=158,slow=3.5,SNR=4.3						
TXAR				ScP	ScP	17 54 09.7	+4.9
	comp=N,0.0nm,0.3s,baz=162,slow=4.9,SNR=4.3						
TXAR	**Lajitas Array**	**19.72**	**324**	P	**Pn**	**17 46 24.6**	**-0.6**
TXAR				PcP	PcP	17 50 39.5	+1.9
TXAR				ScP	ScP	17 54 09.7	+4.9
SDV	**Santo Domingo**	**20.10**	**102**	P	**P**	**17 46 25.7**	**-1.1**
	comp=N,0.6nm,0.3s,baz=323,slow=13,SNR=12						
SDV	**Santo Domingo**	**20.10**	**102**	*e*P	**P**	**17 46 25.5**	**-1.4**
	comp=N,6.7nm,0.7s						
SWET	**Sewanee**	**21.79**	**10**	*e*P	**P**	**17 46 45.5**	**+0.5**
WVT	**Waverly**	**22.43**	**6**	*e*P	**P**	**17 46 52.2**	**+0.4**
	comp=N,18nm,0.9s,mb4.4						
WVT				*e*pP		17 47 12.1	
TKL	**Tuckaleechee C**	**22.66**	**14**	P	**P**	**17 46 53.8**	**-0.5**
	comp=N,6.6nm,0.5s,mb4.2,baz=188,slow=12,SNR=11						
TKL				LR	LR	17 55 09.0	
	comp=N,77nm,20.4s,baz=175,slow=35						
WCI	**Wyandotte Cave**	**24.68**	**8**	*e*P	**P**	**17 47 13.3**	**+0.5**
	comp=N,16nm,0.6s,mb4.6						
WCI				pP		17 47 33.6	
WCI				*es*P	sP	17 47 41.0	-4.8
ACSO	**Alum Creek Sta**	**27.21**	**13**	P	**P**	**17 47 35.6**	**-0.1**
	comp=N,41nm,1.4s,mb4.8						
AGMN	**Agassiz Refuge**	**34.74**	**354**	*e*P	**P**	**17 48 41.0**	**-0.8**
	comp=N,3.8nm,0.7s,mb4.3						
MCMT	**McKenzie Canyo**	**36.34**	**333**	P	**P**	**17 48 58.7**	**+3.2**
ULM	**Lac du Bonnet**	**36.67**	**354**	P	**P**	**17 48 56.6**	**-1.7**
	comp=N,2.7nm,0.5s,mb4.5,baz=177,slow=8.4,SNR=7.3						
WALA	**Waterton Lakes**	**40.14**	**336**	P	**P**	**17 49 29.1**	**+1.7**
	comp=N,12nm,1.3s,mb4.5						
SIV	**San Ignacio**	**41.48**	**134**	P	**P**	**17 49 40.0**	**+1.6**
	comp=N,2.0nm,0.7s,mb4.1,baz=304,slow=8.8,SNR=12						
SCHQ	**Schefferville**	**44.99**	**19**	P	**P**	**17 50 04.9**	**-1.7**
	comp=N,5.8nm,0.6s,mb4.5,baz=223,slow=6.1,SNR=11						
INK	**Inuvik**	**61.10**	**343**	P	**P**	**17 52 02.6**	**-2.2**
	comp=N,159nm,1.1s						
WRA	**Warramunga Arr**	**136.71**	**255**	PKP	PKPdf	18 01 17.0	+5.0
	comp=N,0.6nm,0.6s,baz=88,slow=2.8,SNR=12						
ASAR	**Alice Springs**	**136.91**	**250**	PKP	PKPdf	18 01 16.1	+3.9
	comp=N,0.4nm,0.7s,baz=111,slow=2.5,SNR=5.4						
FITZ	**Fitzroy Crossi**	**144.98**	**258**	*e*P	PKPdf	18 01 29.4	+2.6
	comp=N,3.7nm,1.1s						

IDC 19 17:55:27.4±77.0, 2341S×17521W, h334km±221km, mb3.4/3, mb1 3.6/3, mb1mx3.1/13, mbtmp4.2/3, Error ellipse: s-maj=1039.0km s-min=125.6km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.98**	**248**	P	P	18 02 21.6	-0.6
	1.4nm,0.3s,baz=113,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**46.44**	**259**	P	P	18 03 22.1	+0.4
	0.6nm,0.3s,baz=92,slow=6.6,SNR=33						
ASPA	**Alice Springs**	**46.45**	**259**	*e*P	P	18 03 22.2	+0.5
WB2	**Warramunga Arr**	**46.81**	**264**	*e*P	P	18 03 25.3	+0.8
WRA	**Warramunga Arr**	**46.82**	**264**	P	P	18 03 25.2	+0.6
	1.7nm,0.3s,baz=100,slow=7.0,SNR=78						
WRA				ScP	ScP	18 08 12.6	0.0
	0.7nm,0.8s,baz=98,slow=3.7,SNR=7.1						

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*ISCJB **19** 18:10:48.9±0.4, 4375N±004×10523W±005, h0km, mb4.1/3, MS4.1/5, Error ellipse: s-maj=5.8km s-min=5.0km az=91.1*
*NEIC **19** 18:10:50.5±0.4, 4377N×10523W, h0km, ML3.5, Error ellipse: s-maj=5.1km s-min=4.1km az=142.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **19** 18:10:50.9±0.9, 4409N×10575W, h0km, mb4.0/3, mb1 4.0/7, mb1mx3.8/23, mbtmp3.8/7, ML3.5/4, MS4.0/5, Ms1 4.0/5, ms1mx3.3/39, Error ellipse: s-maj=25.0km s-min=7.7km az=146.0*
ISC 19 18:10:50.4±0.4, 4379N±004×10522W±005, h0km, n59, σ0=94/60, mb4.1/3, MS4.1/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**68**	*e*P	**Pg**	**18 11 09.0**	**+1.0**
PHWY	**Pilot Hill**	**2.49**	**184**	*e*Pn	**Pn**	**18 11 32.0**	**-0.2**
RWWY	**Rawlins**	**2.56**	**216**	*e*Pn	**Pn**	**18 11 33.5**	**+0.3**
LAO	**LASA Array**	**2.99**	**347**	*e*P	**Pn**	**18 11 39.0**	**-0.1**
RLMT	**Red Lodge**	**3.19**	**296**	*e*P	**Pn**	**18 11 41.9**	**0.0**
BW06	**Boulder Array**	**3.33**	**254**	*e*P	**Pn**	**18 11 43.5**	**-0.2**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**18 11 43.6**	**-0.2**
	6.9nm,0.3s,baz=70,slow=15,SNR=106						
PDAR				Pg	**Pg**	**18 11 48.8**	**-5.4**
	17nm,0.3s,baz=66,slow=20,SNR=76						
PDAR				Lg		18 12 27.5	
	18nm,0.3s,baz=75,slow=29,SNR=8.4						
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**18 11 43.6**	**-0.2**
PDAR				Pg	**Pg**	**18 11 48.8**	**-5.4**
PDAR				Lg		18 12 27.5	
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**18 11 50.3**	**+0.8**
LKWY	**Lake**	**3.81**	**284**	*e*Pn	**Pn**	**18 11 51.6**	**+1.3**
LOHW	**Long Hollow**	**3.91**	**269**	*e*Pn	**Pn**	**18 11 52.2**	**+0.5**
FLWY	**Flagg Ranch**	**3.97**	**276**	*e*Pn	**Pn**	**18 11 52.3**	**-0.3**
FLWY				*e*Pg	**Pg**	**18 12 03.0**	**-3.5**
ISCO	**Idaho Springs**	**3.99**	**184**	*e*Pn	**Pn**	**18 11 53.3**	**+0.5**
MOOW	**Moose Ponds**	**4.01**	**271**	*e*Pn	**Pn**	**18 11 53.8**	**+0.8**
YNR	**Norris Junctio**	**4.04**	**285**	*e*Pn	**Pn**	**18 11 52.2**	**-1.2**
YNR				*e*Pg	**Pg**	**18 12 01.9**	**-5.8**
SNOW	**Snow King Moun**	**4.04**	**267**	Pn	**Pn**	**18 11 54.9**	**+1.5**
REDW	**Red Top Meadow**	**4.12**	**266**	*e*Pn	**Pn**	**18 11 55.9**	**+1.3**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**18 11 54.2**	**-0.7**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**18 11 55.3**	**0.0**
TPAW				*e*Pb	**Pb**	**18 12 04.7**	**-0.1**
YMR	**Madison River**	**4.23**	**284**	*e*Pn	**Pn**	**18 11 54.9**	**-1.2**
AHID	**Auburn Hatcher**	**4.42**	**259**	Pn	**Pn**	**18 11 58.5**	**-0.2**
RRI2	**Red Ridge**	**4.46**	**266**	*e*Pn	**Pn**	**18 11 59.3**	**0.0**
QLMT	**Earthquake Lak**	**4.58**	**285**	*e*Pn	**Pn**	**18 12 02.4**	**+1.4**
DGMT	**Dagmar**	**4.74**	**8**	*e*Pn	**Pn**	**18 12 05.0**	**+1.9**
SMCO	**Snowmass**	**4.79**	**197**	*e*Pg	**Pg**	**18 12 14.2**	**-8.0**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn	**Pn**	**18 12 08.6**	**-0.3**
	20nm,0.5s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**18 12 10.5**	**-0.2**
	48nm,0.5s						
TCUT	**Toone Canyon**	**5.30**	**242**	*e*Pn	**Pn**	**18 12 10.4**	**-0.4**
DLMT	**Dillon**	**5.50**	**289**	*e*Pn	**Pn**	**18 12 12.4**	**-1.2**
	9.5nm,0.4s						
MCMT	**McKenzie Canyo**	**5.58**	**283**	*e*Pn	**Pn**	**18 12 16.3**	**+1.7**
DAU	**Daniels Canyon**	**5.62**	**235**	*e*Pn	**Pn**	**18 12 16.1**	**+0.9**
CTU	**Camp Tracy**	**5.75**	**240**	*e*Pn	**Pn**	**18 12 15.9**	**-1.1**
	9.1nm,0.4s						
SPUT	**South Promonto**	**5.89**	**248**	*e*Pn	**Pn**	**18 12 17.3**	**-1.6**
HVU	**Hansel Valley**	**5.91**	**253**	*e*Pn	**Pn**	**18 12 18.9**	**-0.3**
	11nm,0.6s						
SDCO	**Great Sand Dun**	**6.04**	**182**	*e*Pn	**Pn**	**18 12 21.8**	**+0.9**
	6.6nm,0.6s						
MPU	**Maple Canyon**	**6.09**	**234**	*e*Pn	**Pn**	**18 12 21.8**	**+0.1**
	17nm,0.7s						
SRU	**San Rafael**	**6.14**	**222**	*e*Pn	**Pn**	**18 12 21.2**	**-1.1**
	9.4nm,0.4s						
ECSD	**EROS,Sioux Fal**	**6.23**	**88**	*e*Pn	**Pn**	**18 12 24.2**	**+0.6**
	12nm,0.5s						
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn	**Pn**	**18 12 25.3**	**+0.1**
NLU	**North Lily Min**	**6.39**	**236**	*e*Pn	**Pn**	**18 12 25.4**	**-0.4**
BGU	**Big Grassy Mou**	**6.46**	**246**	*e*Pn	**Pn**	**18 12 24.0**	**-2.7**
CHMT	**Chamberlain Mo**	**6.47**	**302**	*e*Pn	**Pn**	**18 12 26.9**	**0.0**
HLID	**Hailey**	**6.67**	**271**	*e*Pn	**Pn**	**18 12 31.0**	**+1.3**
	2.7nm,0.6s						
DUG	**Dugway**	**6.70**	**240**	*e*Pn	**Pn**	**18 12 29.5**	**-0.5**
	6.5nm,0.5s						
MSO	**Missoula**	**6.86**	**299**	*e*Pn	**Pn**	**18 12 31.9**	**-0.4**
	2.4nm,0.5s						
MSU	**Marysvale**	**7.44**	**227**	*e*Pn	**Pn**	**18 12 40.1**	**-0.1**
AGMN	**Agassiz Refuge**	**7.92**	**52**	*e*Pn	**Pn**	**18 12 45.6**	**-1.2**
	24nm,0.5s						
ARUT	**Antelope Range**	**8.65**	**229**	*e*Pn	**Pn**	**18 12 57.4**	**+0.6**
CCUT	**Cedar City**	**8.78**	**228**	*e*Pn	**Pn**	**18 12 59.0**	**+0.4**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**18 13 01.3**	**-1.4**
	1.5nm,0.3s,baz=234,slow=11,SNR=15						
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn	**Pn**	**18 13 33.2**	**+1.1**
	0.2nm,0.3s,baz=49,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**14.48**	**175**	Pn	**Pn**	**18 14 23.2**	**+6.7**
	0.1nm,0.3s,baz=358,slow=8.9,SNR=5.9						
FRB	**Frobisher Bay**	**28.84**	**33**	LR	LR	18 27 40.3	
	comp=Z,238nm,18.5s,MS3.8,baz=217,slow=35						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**18 21 05.3**	**-2.8**
	3.7nm,1.0s,mb4.5,baz=349,slow=5.6,SNR=6.7						
ARCES				LR	LR	18 51 46.5	
	comp=Z,56nm,18.3s,MS3.8,baz=11,slow=40						
BVAR	**Borovoye Array**	**83.49**	**3**	LR	LR	19 08 40.2	
	comp=Z,87nm,18.4s,MS4.2,baz=318,slow=42						
SONM	**Songino Array**	**84.61**	**339**	P	**P**	**18 23 25.7**	**0.0**
	0.4nm,0.5s,mb3.9,baz=358,slow=3.4,SNR=4.7						
AKTO	**Aktyubinsk**	**85.03**	**11**	LR	LR	19 03 15.0	
	comp=Z,92nm,18.5s,MS4.2,baz=20,slow=37						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**18 23 49.4**	**-0.4**
	0.6nm,0.6s,mb4.0,baz=15,slow=4.2,SNR=7.2						
RAO	**Raoul Island**	**98.45**	**238**	LR	LR	19 04 27.6	
	comp=Z,132nm,18.5s,MS4.5,baz=62,slow=33						

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*NEIC **19** 18:44:12.2, 3144S×7168W, h27km, ML3.1(GUC), After GUC.*
GUC 19 18:44:12.2±0.8, 3144S×7168W, h27km±3km, MD3.7, ML3.1, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.46**	**161⇓**	*i*P	Pb	18 44 21.2	-0.7
CHNG				*i* S	Sb	18 44 28.3	-0.2
CMCH	**Combarbala**	**0.64**	**65⇑**	*i*P	Pb	18 44 24.3	-0.5
CMCH				*i* S	Sb	18 44 33.7	+0.4
CMCH				AML	AML	18 44 35.6	
	comp=N,3μm,0.5s						
CMCH	**Combarbala**	**0.64**	**65⇑**	*i*P	Pb	18 44 24.3	-0.5
CMCH				*i* S	Sb	18 44 33.7	+0.4
OVCH	**Ovalle**	**0.93**	**26**	*i* P	Pn	18 44 28.9	-0.6
OVCH				*i* S	Sb	18 44 41.5	0.0
OVCH				AML	AML	18 44 44.2	
	comp=E,742nm,0.5s						
OVCH	**Ovalle**	**0.93**	**26**	*i* P	Pn	18 44 28.9	-0.6
OVCH				*i* S	Sb	18 44 41.5	0.0
PTCH	**Petorca**	**1.04**	**142**	*e*P	Pn	18 44 31.1	+0.1
PTCH				*i* S	Sn	18 44 44.3	-0.3
PTCH				AML	AML	18 44 47.6	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**1.04**	**142**	*e*P	Pn	18 44 31.1	+0.1
PTCH				*i* S	Sn	18 44 44.3	-0.3
TLL	**Tololo Astrono**	**1.48**	**31**	*e*P	Pn	18 44 37.9	+0.9
TLL				*i* S	Sn	18 44 57.7	+2.3
TLL				AML	AML	18 45 04.3	
	comp=E,472nm,0.5s						
TLL	**Tololo Astrono**	**1.48**	**31**	*e*P	Pn	18 44 37.9	+0.9
TLL				*i* S	Sn	18 44 57.7	+2.3
JACH	**Jahuel**	**1.54**	**144⇑**	*i*P	Pn	18 44 39.1	+1.2
JACH				*i* S	Sn	18 44 59.4	+2.4
ROCH	**El Roble**	**1.63**	**160**	*e*P	Pn	18 44 40.6	+1.5
PEL	**Peldehue**	**1.89**	**154**	*e*P	Pn	18 44 44.2	+1.5
PEL				*i* S	Sn	18 45 08.5	+2.8
PEL				AML	AML	18 45 17.6	
	comp=E,411nm,0.4s						
PEL	**Peldehue**	**1.89**	**154**	*e*P	Pn	18 44 44.2	+1.5
PEL				*i* S	Sn	18 45 08.5	+2.8
CLCH	**Cerro Calan**	**2.17**	**154**	*e*P	Pn	18 44 47.8	+1.2
CLCH				*i* S	Sn	18 45 15.1	+2.4
CLCH				AML	AML	18 45 24.4	
	comp=N,185nm,1.3s						
FCH	**Farellones**	**2.22**	**148**	*e*P	Pn	18 44 49.6	+2.4
FCH				*i* S	Sn	18 45 17.2	+3.5
FCH				AML	AML	18 45 25.7	
	comp=E,111nm,0.7s						
PCH	**Pirque**	**2.38**	**156**	*e*P	Pn	18 44 51.2	+1.7

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*CSEM **19** 18:50:19.3, 1230N×4472E, h17km, ML3.7, After DHMR*
DHMR 19 18:50:19.3±1.7, 1230N×4472E, h18km±6km, ML3.7, 3C-3D, Western Arabian Peninsula

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---

comp=N,456nm,0.2s
ZEI Tsey 0.29 35 *e*Pg Pg 19 01 58.8 +0.9
comp=N,393nm,0.1s
ZEI *e*Sg Sg 19 02 04.5 +2.6
comp=N,456nm,0.2s
DIGR Digorskoe uzhe 0.37 349 *e*Pg Pg 19 01 59.3 -0.1
DIGR *i* Sg Sg 19 02 05.6 +1.2
LACR Lac 0.54 57 *i* Pg Pg 19 02 03.0 +0.4
LACR *i* Sg Sg 19 02 11.6 +1.8
KORR Kora 0.62 28 *i* Pg Pg 19 02 04.5 +0.4
KORR *i* Sg Sg 19 02 14.3 +1.9
ARNR Ardon 0.79 34 *e*Pg Pg 19 02 07.6 +0.3
ARNR *i* Sg Sg 19 02 19.8 +2.1
VLKR Vladikavkaz 0.90 55 *i* Pg Pg 19 02 09.5 +0.1
VLKR *i* Sg Sg 19 02 23.1 +2.0
KMSR Komsomolskaya 0.95 28 *i* Pg Pg 19 02 10.5 +0.1
KMSR *i* Sg Sg 19 02 24.7 +1.9
SNJR Sundja 0.99 57 *i* Pg Pg 19 02 11.3 +0.1
SNJR *i* Sg Sg 19 02 26.1 +2.0
BTKR Batakoyurt 1.05 37 *i* Pg Pg 19 02 12.4 +0.1
BTKR *i* Sg Sg 19 02 28.2 +2.2
TBLG Delisi 1.13 135 P Pb 19 02 13.2 -0.2
TBLG S Sb 19 02 29.2 +1.2
TBLG Delisi 1.13 135 *e*Pg Pg 19 02 13.2 -0.5
TBLG *e*Sg Sg 19 02 29.2 +0.9
MTA Mtatsminda 1.18 135 P Pn 19 02 14.1 -0.2
MTA S Sb 19 02 30.0 +0.4
KUBR Kubataba 1.28 351 *e*Pg Pg 19 02 16.9 +0.3
KUBR *e*Sg Sg 19 02 36.5 +3.2
PRTR Priterechnaya 1.30 20 *i* Pg Pg 19 02 16.5 -0.4
PRTR *i* Sg Sg 19 02 35.2 +1.4
SHAR Shatzhatmas 1.42 329⇑ *i*PG Pg 19 02 17.3 -1.9
SHAR *i* S Sn 19 02 37.3 +1.2
TRKR Terskaya 1.42 33 *e*Pg Pg 19 02 18.5 -0.8
TRKR *i* Sg Sg 19 02 38.7 +1.0
KIV Kislovodsk 1.59 333⇑ *e*PG Pg 19 02 20.5 -2.1
KIV *e*S Sn 19 02 42.9 +2.4
DGRG David-gareji 1.67 130 P Pn 19 02 23.1 +2.2
DGRG S Sn 19 02 46.5 +4.2

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*NEIC **19** 19:07:48.8, 3760S×17843E, h50km, ML3.7(WEL), After WEL.*
WEL 19 19:07:48.8±0.8, 3760S×17844E, h50km±5km, ML3.7/4, 1D, Error ellipse: s-maj=7.0km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.11 289**		P	Pn	19 07 56.5	-0.1
MXZ				S	Sn	19 08 01.7	-0.5
MXZ	**Matakaoa Point**	**0.11 289**	⇓	PN	Pn	19 07 56.5	-0.1
MXZ				SN	Sn	19 08 01.7	-0.5
PUZ	**Puketiti**	**0.49 197**		P	Pn	19 08 00.1	+0.2
PUZ				S	Sn	19 08 07.8	-0.1
PUZ	**Puketiti**	**0.49 197**		PN	Pn	19 08 00.1	+0.1
PUZ				SN	Sn	19 08 07.8	-0.1
MWZ	**Matawai**	**1.03 224**		P	Pn	19 08 07.0	+0.2
MWZ				S	Sn	19 08 19.8	-0.4
MWZ	**Matawai**	**1.03 224**		PN	Pn	19 08 07.0	+0.2
MWZ				SN	Sn	19 08 19.8	-0.4
URZ	**Urewera**	**1.24 237**		P	Pn	19 08 09.3	-0.4
URZ	**Urewera**	**1.24 237**		PN	Pn	19 08 09.3	-0.4
URZ				SN	Sn	19 08 24.6	-0.7
KNZ	**Kokohu**	**1.54 203**		*e*P	Pn	19 08 12.7	-1.1
KNZ	**Kokohu**	**1.54 203**		PN	Pn	19 08 12.7	-1.1
BKZ	**Black Stump Fm**	**2.19 224**		*e*P	Pn	19 08 22.8	+0.1
BKZ	**Black Stump Fm**	**2.19 224**		PN	Pn	19 08 22.8	+0.2

IDC 19 19:16:45.8±25.0, 2045S×17191W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=474.1km s-min=149.0km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.17 263**		P	P	19 24 16.1	+0.8
	1.5nm,0.4s,baz=84,slow=9.2,SNR=3.6						
STKA	**Stephens Creek**	**42.97 245**		P	P	19 24 46.8	+0.3
	1.2nm,0.7s,baz=103,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**50.08 256**		P	P	19 25 41.5	-0.8
	0.4nm,0.7s,baz=98,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**50.25 261**		P	P	19 25 44.8	+1.1
	0.5nm,0.3s,baz=99,slow=8.2,SNR=35						

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*IDC **19** 19:44:57.4±1.2, 1780N×6088W, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.8/25, mbtmp4.1/8, ML3.6/1, Error ellipse: s-maj=25.5km s-min=16.9km az=75.0*
*ISCJB **19** 19:44:59.3±1.7, 1789N±005×6093W±006, h26km±12km, mb3.9/5, Error ellipse: s-maj=11.1km s-min=7.5km az=110.8*
*NEIC **19** 19:45:00.9, 1757N×61.18W, h3km, MD3.7(TRN), After TRN.*
*TRN **19** 19:45:00.9, 1756N×61.17W, h3km, MD3.7, M3.6(FDF)*
ISC 19 19:44:59.0±1.5, 1783N±005×6093W±006, h7km±7km, n23, σ1⅊01/33, mb3.9/5, 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.88 258**		*e*P	**Pg**	**19 45 17.4**	**+1.5**
CPB				*e*S	**Sg**	**19 45 27.1**	**-0.1**
CPB	**Codrington**	**0.88 258**		*e*P	**Pg**	**19 45 17.4**	**+1.5**
CPB				*e*S	**Sg**	**19 45 26.6**	**-0.7**
BPA	**Boggy Peak**	**1.18 229**		*e*P	**Pg**	**19 45 20.6**	**-1.1**
BPA				*e*S	**Sg**	**19 45 36.1**	**-1.0**
BPA	**Boggy Peak**	**1.18 229**		*e*P	**Pg**	**19 45 20.6**	**-1.1**
BPA				*e*S	**Sg**	**19 45 37.2**	**+0.2**
DEG	**La Desirade**	**1.51 185**		*e*P	**Pn**	**19 45 25.7**	**-0.8**
DEG				*e*S	**Sn**	**19 45 44.6**	**-1.9**
LZG	**Guadaloupe-1**	**1.87 206**		*e*P	**Pn**	**19 45 31.5**	**+0.2**
SCG	**Saint Claude**	**1.93 202**	⇓	*i*P	**Pn**	**19 45 32.5**	**+0.3**
SCG				*e*S	**Sn**	**19 45 58.6**	**+1.8**
MGG	**Marie-Galante**	**1.94 191**	⇓	*e*P	**Pn**	**19 45 32.4**	**0.0**
STAT	**Sint Eustatius**	**1.98 261**		*e*P	**Pn**	**19 45 34.4**	**+1.4**
STAT				*e*S	**Sn**	**19 45 59.6**	**+1.6**
TBG	**Guadaloupe-3**	**2.08 199**	⇓	*e*P	**Pn**	**19 45 34.4**	**0.0**
MTP	**Monte Pirata**	**4.41 274**		*e*P	**Pn**	**19 46 05.3**	**-1.0**
SSV	**Crater Summit**	**4.49 183**		*e*P	**Pn**	**19 46 07.6**	**+0.2**
SSV				*e*S	**Sn**	**19 46 58.7**	**-1.1**
SSV	**Crater Summit**	**4.49 183**		*e*P	**Pn**	**19 46 07.2**	**-0.2**
SSV				*e*S	**Sn**	**19 46 52.1**	**-7.7**
FCV	**Fort Charlotte**	**4.66 184**		*e*P	**Pn**	**19 46 11.9**	**+2.2**
CPD	**Cerro la Pandu**	**4.75 273**		*e*P	**Pn**	**19 46 10.5**	**-0.5**
SJG	**San Juan**	**4.98 274**	Pn		**Pn**	**19 46 13.6**	**-0.6**
	6.4nm,0.3s,baz=105,slow=22,SNR=7.4						
SJG				Sn	**Sn**	**19 47 09.9**	**-2.0**
	5.4nm,0.3s,baz=296,slow=16,SNR=4.2						
SDV	**Santo Domingo**	**12.96 228**	Pn		**Pn**	**19 48 03.6**	**0.0**
	0.3nm,0.3s,baz=30,slow=14,SNR=2.9						
ROSC	**El Rosal**	**18.39 227**	P		**Pn**	**19 49 15.0**	**+0.6**
	1.0nm,0.3s,baz=304,slow=7.8,SNR=4.9						
SIV	**San Ignacio**	**33.61 180**	P		**P**	**19 51 40.4**	**+0.5**
	6.0nm,0.5s,mb4.8,baz=12,slow=8.8,SNR=38						
TXAR	**Lajitas Array**	**40.60 294**	P		**P**	**19 52 39.6**	**+0.3**
	0.2nm,0.6s,mb2.9,baz=90,slow=12,SNR=3.2						
PDAR	**Pinedale Array**	**47.97 312**	P		**P**	**19 53 38.6**	**+0.3**
	1.0nm,0.8s,mb3.9,baz=96,slow=9.1,SNR=5.7						
PLCA	**Paso Flores**	**58.94 189**	P		**P**	**19 54 58.1**	**-0.8**
	1.9nm,0.8s,mb4.2,baz=5.6,slow=8.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**60.30 85**	P		**P**	**19 55 07.8**	**-0.5**
	1.1nm,1.1s,mb3.8,baz=291,slow=7.4,SNR=4.5						

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*INMG **19** 19:45:13.7±1.0, 42.15N×7.13W, h0km, ML1.1, Error ellipse: s-maj=2.5km s-min=1.9km az=83.0*
MDD 19 19:45:13.5±0.3, 4216N×713W, h1km±16km, mbLg1.4/6, Error ellipse: s-maj=4.4km s-min=2.1km az=67.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.24 357**		Pg	Pg	19 45 17.8	-0.3
	7.7nm,0.1s,SNR=12						
ERUA				Lg		19 45 21.3	
	15nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.36 127**		Pg	Pg	19 45 20.3	-0.1
	4.0nm,0.1s,SNR=8.8						
ECAL				Lg		19 45 25.4	
	8.6nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**0.45 141**		*e*Pg	Pg	19 45 21.8	-0.4
PBRG				*e*Sg	Sg	19 45 27.7	-0.4
PBRG							
	3.9nm,0.1s						
PCAB	**Cabril**	**0.81 237**		*e*P	Pg	19 45 28.8	-0.2
PCAB				*e*S	Sg	19 45 39.3	-0.2
PCAB							
	6.7nm,0.1s						
PVRL	**Vila Real**	**0.99 207**		*e*P	Pg	19 45 31.7	-0.7
PVRL				*e*S	Sg	19 45 44.2	-1.0
PVRL							
	8.8nm,0.2s						
EPON	**Pontenova**	**1.17 359**		Lg		19 45 49.6	
	1.6nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.55 202**		*e*S	Sn	19 46 01.5	-1.6

IDC 19 19:53:36.5±2.1, 1513N×14713E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=49.9km s-min=28.5km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.67 235**		Pn	Pn	19 54 21.3	+0.5
	9.8nm,0.3s,baz=350,slow=11,SNR=4.8						
GUMO				Sn	Sn	19 54 54.6	+0.7
	18nm,0.3s,baz=355,slow=23,SNR=7.6						
GUMO				LR	LR	19 54 55.2	
	comp=Z,338nm,20.1s,baz=262,slow=29						
WRA	**Warramunga Arr**	**37.05 200**		P	P	20 00 47.7	-0.4
	1.4nm,0.8s,baz=24,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**40.67 199**		P	P	20 01 19.2	+0.8
	0.2nm,0.7s,baz=21,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**61.93 315**		P	P	20 03 58.1	+0.1
	0.8nm,0.5s,baz=91,slow=8.1,SNR=7.7						

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*BJI **19** 19:53:54.1, 983N×9356E, h32km, mB4.9, mb4.6, Ms4.1, Msz3.8*
*ISCJB **19** 19:53:56.7±0.3, 1020N±004×9370E±004, h26km, mb4.6/58, MS3.9/24, Error ellipse: s-maj=6.2km s-min=4.7km az=89.7*
*NEIC **19** 19:53:58.5±0.2, 1025N×9373E, mb4.7/16, Error ellipse: s-maj=7.5km s-min=4.4km az=47.0*
*MOS **19** 19:53:58.1±0.8, 1034N×9376E, h33km, mb4.9/17, Error ellipse: s-maj=11.9km s-min=5.2km az=120.1*
*IDC **19** 19:54:02.0±3.4, 1031N×9374E, h52km±30km, mb4.2/26, mb1 4.3/27, mb1mx4.3/27, mbtmp4.4/27, ML3.6/1, MS3.8/20, Ms1 3.8/20, ms1mx3.7/36, Error ellipse: s-maj=16.8km s-min=9.6km az=54.0*
ISC 19 19:53:59.1±0.3, 1020N±004×9366E±004, h28km, h28km±1.9km: pP-P, n188, σ0⅊999/178, mb4.6/58, MS3.9/24, 10C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.70 328**		*e*P	x	19 54 16.7	
PBA				*e*S	x	19 54 27.4	
NST	**Nakhon Sawan**	**8.33 49**		P	**Pn**	**19 55 59.0**	**+1.0**
PSI	**Prapat**	**9.02 144**		P	**Pn**	**19 56 12.5**	**+5.0**
	0.7nm,0.3s,baz=319,slow=13,SNR=27						
PSI				LR	LR	19 59 50.0	
	comp=Z,788nm,21.5s,baz=303,slow=38						
CHG	**Chiang Mai**	**9.97 30**	⇓	P	**Pn**	**19 56 22.0**	**+1.5**
	12nm,1.3s						
CHTO	**Chiang Mai**	**9.97 30**		*e*P	**Pn**	**19 56 19.5**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**9.97 30**		*e*P	**Pn**	**19 56 19.5**	**-1.0**
	comp=Z,16nm,1.2s						
VIS	**Vishakhapatnam**	**12.50 308**		*e*P	**Pn**	**19 56 53.0**	**-2.0**
VIS				AMb	AMB	19 57 05.5	
	comp=Z,87nm,2.1s						
VIS				*e*S	Sn	19 58 52.9	-20
MDRS	**Chennai**	**13.44 284**		*e*P	**Pn**	**19 57 06.2**	**-1.7**
IMP	**Imphal**	**14.51 1**		*ex*	**Sn**	**20 00 22.0**	**+20**
SHL	**Shillong**	**15.38 354**		*e*P	**Pn**	**19 57 30.8**	**-3.2**
SHL				*e*S	**Sn**	**20 00 25.0**	**+1.5**
BOK	**Bokaro**	**15.42 332**		*e*P	**Pn**	**19 57 32.2**	**-2.4**
BOK				AMb	AMB	19 57 48.5	
	comp=Z,25nm,0.8s						
BOK				*e*S	**Sn**	**20 00 21.1**	**-3.5**
HYB	**Hyderabad**	**16.32 298**		*i*P	**Pn**	**19 57 48.0**	**+1.7**
HYB				*e*S	**Sn**	**20 00 47.5**	**+1.0**
HYB	**Hyderabad**	**16.32 298**		*e*P	**Pn**	**19 57 48.0**	**+1.7**
HYB				*e*S	**Sn**	**20 00 40.0**	**-6.5**
TRD	**Trivandrum**	**16.57 266**		*e*P	**Pn**	**19 57 47.8**	**-1.6**
TRD				AMb	AMB	19 57 56.9	
	comp=Z,24nm,1.4s						
KMI	**Kunming**	**17.17 29**		P	**Pn**	**19 58 00.0**	**+3.1**
KMI				AP	pP	19 58 03.3	-2.4
KMI				XP	sP	19 58 05.9	-3.4
KMI				PP		19 58 15.3	
KMI				S	**Sn**	**20 01 18.3**	**+11**
KMI				XS	sS	20 01 27.9	+0.5
KMI				AMB	AMB		
	comp=Z,15nm,1.5s						
KMI				AMB	AMB		
	comp=Z,165nm,3.8s						
KMI				LR	LR		
	comp=N,370nm,12.5s						
KMI				LR	LR		
	comp=E,297nm,12.5s						
KMI				LR	LR		
	comp=Z,246nm,22.3s						
KMI	**Kunming**	**17.17 29**		P	**Pn**	**19 58 00.0**	**+3.1**
	comp=Z,15nm,1.5s						
KMI				pP	pP	19 58 03.2	-2.5
KMI				sP	sP	19 58 05.9	-3.4
KMI				PP		19 58 15.3	
KMI				S	**Sn**	**20 01 18.2**	**+11**
KMI				sS	sS	20 01 27.9	+0.5
KMI				SS		20 01 42.0	
KSM	**Kuching**	**18.68 117**		*e*P	**Pn**	**19 58 15.8**	**+0.3**
PKI	**Pulchoki**	**18.95 337**		*e*P	**Pn**	**19 58 21.6**	**+2.9**
	comp=Z,81nm,0.9s						
GUN	**Gumba**	**19.08 338**		*e*P	**Pn**	**19 58 21.3**	**+1.0**
	comp=Z,59nm,0.7s						
DMN	**Daman**	**19.10 336**		*e*P	**Pn**	**19 58 21.7**	**+1.1**
	comp=Z,84nm,0.9s						
KKN	**Kakani**	**19.19 337**		*e*P	**Pn**	**19 58 22.0**	**+0.3**
	comp=Z,34nm,0.7s						
LSA	**Lhasa**	**19.54 353**		P	**Pn**	**19 58 24.1**	**-1.8**
LSA	**Lhasa**	**19.54 353**		*e*P	**Pn**	**19 58 24.7**	**-1.2**
LSA				pmax	pmax		
	comp=Z,29nm,0.6s						
LSA	**Lhasa**	**19.54 353**		*e*P	**Pn**	**19 58 24.7**	**-1.2**
	comp=Z,29nm,0.6s						
GKN	**Gorkha**	**19.64 336**		*e*P	**Pn**	**19 58 26.5**	**-0.5**
	comp=Z,95nm,0.8s						
KOLN	**Koldanda**	**19.88 333**		*e*P	**Pn**	**19 58 29.2**	**-0.6**
	comp=Z,49nm,0.7s						
KAD	**Karad**	**20.18 293**		*e*P	**P**	**19 58 32.6**	**+1.2**
KAD				AMb	AMB	19 58 46.5	
	comp=Z,72nm,1.6s						
KAD				*ex*	x	20 02 06.0	
BHPL	**Bhopal**	**20.22 312**		*e*P	**P**	**19 58 32.7**	**+0.9**
BHPL				AMb	AMB	19 58 53.7	
	comp=Z,65nm,2.3s						
GYA	**Guiyang**	**20.32 36**		P	**P**	**19 58 34.0**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
POO	**Poona**	**20.88 296**	⇑	*i*P	**P**	**19 58 39.0**	**0.0**
	comp=Z,40nm,1.0s						
POO				*e*S	**S**	**20 02 26.0**	**-4.5**
CD2	**Chengdu**	**22.64 23**		P	**P**	**19 58 57.6**	**-0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
AJM	**Ajmer**	**24.19 315**		*e*P	**P**	**19 59 13.4**	**+0.2**
AJM				AMb	AMB	19 59 32.2	
	comp=Z,33nm,1.7s,mb4.5						
AJM				*e*S	**S**	**20 03 29.1**	**-0.6**
TGY	**Tagaytay City**	**26.94 79**		P	**P**	**19 59 42.9**	**+4.9**
	comp=Z,115nm,0.3s,baz=170,slow=21,SNR=3.2						
LZH	**Lanzhou**	**27.38 18**		*e*P	**P**	**19 59 42.5**	**+0.5**
LZH				AP	pP	19 59 50.0	-0.1
LZH				XP	sP	19 59 53.3	-0.1
LZH				PP		20 00 31.0	
LZH				*e*S	**S**	**20 04 19.0**	**-1.3**
LZH				XS	sS	20 04 34.0	+0.3
LZH				SS		20 05 39.0	
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,60nm,4.1s						
LZH				LR	LR		
	comp=E,465nm,13.5s						
LZH				LR	LR		
	comp=Z,668nm,14.0s,MS4.4						
LZH	**Lanzhou**	**27.38 18**		*e*P	**P**	**19 59 42.5**	**+0.5**
LZH				*SP	sP	19 59 53.2	-0.2
LZH						20 00 31.0	
LZH				*e*S	**S**	**20 04 19.0**	**-1.3**
LZH				*SS	sS	20 04 34.0	+0.3
LZH				SS		20 05 39.0	
LZH				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
LZH				MLR	MLR		
	comp=Z,670nm,14.0s,MS4.4						
LZH	**Lanzhou**	**27.38 18**		*e*P	**P**	**19 59 42.5**	**+0.5**
	comp=Z,16nm,1.2s,mb4.4						
LZH				pP	pP	19 59 50.0	-0.1
LZH				sP	sP	19 59 53.2	-0.2
LZH				PP		20 00 31.0	
LZH				*e*S	**S**	**20 04 19.0**	**-1.3**
LZH				sS	sS	20 04 34.0	+0.3
LZH				SS		20 05 39.0	
LZH				LR	LR		
	comp=Z,670nm,14.0s,MS4.4						
XAN	**Xi'an**	**27.55 28**		P	**P**	**19 59 42.4**	**-1.1**
XAN				AP	pP	19 59 55.4	+3.8
XAN				S	**S**	**20 04 30.8**	**+7.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.2						
XAN				LR	LR		
	comp=N,117nm,13.6s,MS3.8						
XAN				LR	LR		
	comp=E,117nm,13.6s,MS3.8						
XAN				LR	LR		
	comp=Z,179nm,13.2s,MS3.8						
GTA	**Gaotai**	**29.60 10**		*e*P	**P**	**20 00 02.4**	**+0.6**
GTA				AP	pP	20 00 06.8	-3.1
GTA				XP	sP	20 00 10.3	-3.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
NJ2	**Nanjing**	**31.86 43**		*e*P	**P**	**20 00 21.3**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
KSH	**Kashi**	**33.18 335**		*e*P	**P**	**20 00 33.6**	**+0.4**
KSH				*e*AP	pP	20 00 44.0	+2.6
KSH				*e*XP	sP	20 00 48.8	+4.1
KSH				AMB	AMB		
	comp=Z,87nm,1.8s,mb5.4						
KSH				LR	LR		
	comp=N,209nm,4.7s						
KSH				LR	LR		
	comp=E,238nm,6.5s						
WMQ	**Urumqi**	**33.89 352**		P	**P**	**20 00 40.0**	**+0.5**
WMQ				AP	pP	20 00 49.6	+2.0
WMQ				XP	sP	20 00 53.5	+2.5
WMQ				PP	PP	20 01 54.0	-2.4
WMQ				*e*S	**S**	**20 06 02.0**	**-0.2**
WMQ				XS	sS	20 06 18.0	+2.3
WMQ				SS	SS	20 08 10.0	-19
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,106nm,4.6s						
WMQ				LR	LR		
	comp=N,364nm,26.5s,MS4.1						
WMQ				LR	LR		
	comp=E,227nm,22.2s,MS4.1						
WMQ				LR	LR		
	comp=Z,316nm,26.7s,MS3.9						
WSAR	**Wadi Sarin**	**35.86 296**		P	**P**	**20 00 59.4**	**+3.0**
	comp=Z,5.1nm,1.0s,mb4.4,baz=173,slow=7.0,SNR=3.0						
WSAR				PcP	PcP	20 03 23.2	-0.2
	comp=Z,3.3nm,0.8s,baz=135,slow=2.9,SNR=2.9						
WSAR				LR	LR	20 14 17.4	
	comp=Z,202nm,21.9s,MS3.8,baz=146,slow=34						
UCH	**Uchtor**	**36.05 336**		P	**P**	**20 00 59.5**	**+1.5**
	SNR=6.8						
KBK	**Karagaybulak**	**36.23 336**		P	**P**	**20 01 01.0**	**+1.3**
	SNR=12						
AML	**Almayashu**	**36.31 335**		P	**P**	**20 01 01.6**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**36.40 336**		P	**P**	**20 01 02.6**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**36.40 336**		P	**P**	**20 01 01.9**	**+0.9**
	SNR=7.4						
AAK	**Ala-Archa**	**36.40 336**		*e*P	**P**	**20 01 01.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**36.40 336**		*e*P	**P**	**20 01 00.9**	**-0.1**
	comp=Z,19nm,1.1s,mb4.9						
FRU	**Bishkek**	**36.52 336**		*e*P	**P**	**20 01 03.0**	**+1.0**
FRU				*e*	pP	20 01 09.0	-1.2
FRU				*e*		20 01 20.5	
JOW	**Kunigami**	**36.59 58**		LR	LR	20 18 14.7	
	comp=Z,99nm,19.6s,MS3.6,baz=306,slow=40						
CHMS	**Chumysh**	**36.60 337**		P	**P**	**20 01 03.0**	**+0.2**
	SNR=7.5						
EKS2	**Erkin-Say**	**36.71 335**		P	**P**	**20 01 05.0**	**+1.2**
	SNR=12						
USP	**Ospenovka**	**36.93 336**		P	**P**	**20 01 06.1**	**+0.6**
	SNR=9.2						
BSY	**Bisya**	**37.01 294**		P	**P**	**20 01 10.3**	**+4.1**
	SNR=10						
MK31	**Makanchi Array**	**37.73 347**		*e*P	**P**	**20 01 11.9**	**-0.4**
MKAR	**Makanchi Array**	**37.73 347**		P	**P**	**20 01 11.8**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.5,baz=161,slow=7.7,SNR=59						
MKAR				PcP	PcP	20 03 28.9	-0.2
	comp=Z,1.9nm,0.9s,baz=134,slow=3.5,SNR=3.6						
MKAR				LR	LR	20 19 37.8	
	comp=Z,167nm,20.4s,MS3.8,baz=166,slow=41						
MKAR	**Makanchi Array**	**37.73 347**		*i*P	**P**	**20 01 18.8**	**+6.5**
MKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**38.49 332**		P	**P**	**20 01 18.6**	**-0.1**
SONM	**Songino Array**	**39.02 14**		P	**P**	**20 01 22.8**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.0,baz=198,slow=8.7,SNR=19						
SONM				PcP	PcP	20 03 32.3	-0.7
	comp=Z,2.1nm,0.8s,baz=208,slow=2.4,SNR=7.5						
SONM				LR	LR	20 19 05.2	
	comp=Z,173nm,19.1s,MS3.9,baz=192,slow=39						
SONM	**Songino Array**	**39.02 14**		P	**P**	**20 01 22.8**	**-0.4**
SONM						20 03 32.3	
WHFO	**Wadi Hawf**	**39.38 286**		P	**P**	**20 01 29.3**	**+3.1**
	SNR=6.9						
FITZ	**Fitzroy Crossi**	**42.28 132**		P	**P**	**20 01 50.1**	**-0.1**
	comp=Z,5.7nm,1.2s,mb4.1,baz=322,slow=13,SNR=4.3						
FITZ				PcP	PcP	20 03 43.9	+0.4
	comp=Z,4.3nm,0.9s,baz=326,slow=3.6,SNR=3.7						
FITZ				LR	LR	20 22 47.6	
	comp=Z,153nm,19.7s,MS3.9,baz=284,slow=41						
ZAL	**Zalesovo**	**44.19 352**		P	**P**	**20 02 05.3**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.5,baz=299,slow=8.7,SNR=47						
ZAL	**Zalesovo**	**44.19 352**		P	**P**	**20 02 05.3**	**-0.3**
HIA	**Hailar**	**44.59 24**		P	**P**	**20 02 08.6**	**-0.2**
NVS	**Novosibirsk**	**45.29 352**		*i*P	**P**	**20 02 13.0**	**-1.3**
VOSK	**Vostochnaya**	**46.20 341**		P	**P**	**20 02 20.0**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,40nm,1.9s,mb5.0						
BVA2	**Borovoye Array**	**46.64 341**		P	**P**	**20

CHKZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 47.13 341 *e*P **P 20 02 28.2 -0.6**
comp=Z,16nm,0.6s,mb5.1
CHKZ *e*pP pP 20 02 35.9 -1.3
CHKZ *e*PcP PcP 20 03 59.8 -0.5
AB31 Akbulak array 47.98 331 *i* P **P 20 02 35.3 -0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MJAR Matsushiro Arr 47.99 49 P **P 20 02 35.7 +0.2**
comp=Z,1.2nm,0.8s,mb4.0,baz=249,slow=9.8,SNR=5.8
MJAR PcP PcP 20 04 03.6 +0.3
comp=Z,3.2nm,0.8s,baz=244,slow=2.9,SNR=10.0
AKTK Aktyubinsk 49.70 331 P **P 20 02 48.2 -0.3**
AKTO Aktyubinsk 49.70 331 P **P 20 02 48.2 -0.3**
comp=Z,4.7nm,0.6s,mb4.7,baz=121,slow=8.4,SNR=22
ATD Arta Tunnel 49.87 276 LR LR 20 23 00.3
comp=Z,49nm,18.5s,MS3.5,baz=63,slow=35
WRA Warramunga Arr 50.01 127 P **P 20 02 50.6 -0.3**
comp=Z,3.4nm,0.6s,mb4.6,baz=306,slow=8.5,SNR=43
WRA LR LR 20 25 07.9
comp=Z,90nm,21.3s,MS3.8,baz=175,slow=37
WRAB Tennant Creek 50.01 127 *e*P **P 20 02 50.8 -0.2**
WRAB pmax pmax
comp=Z,28nm,1.4s,mb5.1
WRAB Tennant Creek 50.01 127 *e*P **P 20 02 50.8 -0.2**
comp=Z,28nm,1.4s,mb5.1
WB2 Warramunga Arr 50.02 127 *e*P **P 20 02 51.0 0.0**
KLR Kul'dur 50.15 32 *e*P pP 20 03 02.2 +1.8
GUMO Guam 50.15 81 LR LR 20 23 33.7
comp=Z,81nm,18.5s,MS3.8,baz=331,slow=35
AS31 Alice Springs 51.78 131 *e*P **P 20 03 03.8 -0.4**
ASAR Alice Springs 51.78 131 P **P 20 03 04.2 -0.1**
comp=Z,6.9nm,0.8s,mb4.6,baz=306,slow=7.3,SNR=61
ASAR LR LR 20 29 45.6
comp=Z,79nm,18.3s,MS3.8,baz=287,slow=41
ORR Orenburg 52.04 330 *e*P **P 20 03 06.5 +0.3**
ORR pmax pmax
comp=Z,40nm,1.9s,mb5.0
GNI Garni 52.49 313 P **P 20 03 10.3 +0.7**
comp=Z,4.0nm,0.6s,mb4.5,baz=100,slow=4.0,SNR=7.7
SVE Sverdlovsk 53.08 338 *e*P **P 20 03 14.0 +0.1**
ARU Arti 53.58 337⇓ *i*P **P 20 03 16.6 -1.0**
ARU *e* 20 05 15.0
ARU *e*PPP 20 06 22.2
ARU *e*S **S 20 10 48.8 -0.3**
ARU *e*SS SS 20 14 25.6 -4.0
ARU *e*SSS 20 16 18.3
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ARU MLR MLR
comp=Z,300nm,21.0s,MS4.3
ARU MLR MLR
comp=N,100nm,20.0s,MS4.2
ARU MLR MLR
comp=E,200nm,22.0s,MS4.2
OPO Ambohidratompo 54.03 238 P **P 20 03 23.9 +3.0**
comp=E,1.8nm,0.6s,mb4.2,baz=61,slow=7.5,SNR=5.1
ZEI Tsey 54.03 316 *e*P **P 20 03 22.6 +1.7**
ZEI *e**PP pP 20 03 31.8 +2.4
ZEI pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV Kislovodsk 55.29 317 P **P 20 03 31.6 +1.5**
SNR=5.7
KIV Kislovodsk 55.29 317 *e*P **P 20 03 30.7 +0.7**
KIV pmax pmax
comp=Z,45nm,1.0s,mb5.5
KIV Kislovodsk 55.29 317 *e*P **P 20 03 30.7 +0.7**
comp=Z,45nm,1.0s,mb5.5
ASF Jabal al Asfar 56.58 302 LR LR 20 30 54.7
comp=Z,64nm,20.6s,MS3.7,baz=312,slow=39
PMG Port Moresby 56.69 108 P **P 20 03 41.6 +1.6**
comp=Z,25nm,0.9s,mb5.2,baz=286,slow=7.4,SNR=3.8
KMBO Kilima Mbogo 57.24 262 P **P 20 03 47.2 +3.3**
comp=Z,0.4nm,0.3s,mb3.9,baz=129,slow=8.1,SNR=3.3
KMBO LR LR 20 24 43.6
comp=Z,59nm,18.7s,MS3.7,baz=90,slow=32
VRHR Novokhopersk 58.77 324 *e*P **P 20 03 54.5 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,9.0nm,1.0s
CTA Charters Tower 59.87 120 P **P 20 04 02.8 +0.6**
comp=E,12nm,1.0s,mb4.9,baz=282,slow=6.4,SNR=4.6
CTAO Charters Tower 59.87 120 *e*P **P 20 04 03.1 +0.9**
CTAO *e**PP pP 20 04 10.6 -0.2
VRSR Storozhevoye 60.23 324 *e*P **P 20 04 03.8 -0.9**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
BR131 Keskin Array S 60.57 310 *e*P **P 20 04 05.8 -1.2**
comp=E,6.7nm,0.8s,mb4.8
BR131 *e*pP pP 20 04 13.8 -1.9
BRTR Keskin Array B 60.57 310 P **P 20 04 06.2 -0.8**
comp=E,7.8nm,0.8s,mb4.9,baz=128,slow=7.7,SNR=40
BRTR LR LR 20 32 31.5
comp=E,37nm,18.9s,MS3.5,baz=186,slow=38
BRTR Keskin Array B 60.57 310 *i* P **P 20 04 06.1 -0.9**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 62.05 134 P **P 20 04 16.9 -0.1**
comp=Z,9.5nm,0.8s,mb5.0,baz=313,slow=6.9,SNR=11
STKA LR LR 20 35 31.0
comp=Z,174nm,19.4s,MS4.2,baz=318,slow=40
STKA Stephens Creek 62.05 134 P **P 20 04 16.9 -0.1**
STKA *e*pP pP 20 04 24.8 -0.9
STKA LR LR 20 35 31.0
MOS Moscow 62.86 328 *e*P **P 20 04 20.5 -2.0**
MOS pmax pmax
comp=Z,38nm,0.7s,mb5.6
OBN Obninsk 63.17 327⇑ *i*P **P 20 04 24.1 -0.4**
OBN *e* 20 06 43.4
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,23.0s,MS3.9
TIXI Tiksi 65.06 12 *e*P **P 20 04 33.5 -3.4**
TIXI pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
AKASG Malin Array Be 66.05 321 P **P 20 04 42.1 -1.2**
comp=Z,3.8nm,0.9s,mb4.4,baz=92,slow=4.4,SNR=15
AKASG Malin Array Be 66.05 321 *i* P **P 20 04 42.0 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
VRI Vrincioaia 66.71 316⇑ *i*P **P 20 04 48.1 +0.6**
VRI Vrincioaia 66.71 316⇑ P **P 20 04 48.1 +0.6**
PLOR Plostina 66.76 316⇑ *i*P **P 20 04 48.5 +0.6**
MLR Muntele Rosu 67.19 315⇓ *i*P **P 20 04 50.8 +0.2**
BURAR Bucovina Array 68.02 317⇓ *i*P **P 20 04 56.1 +0.3**
BURAR Bucovina Array 68.02 317⇓ P **P 20 04 56.1 +0.3**
JOF Joensuu 68.56 334 *e*p **P 20 04 58.0 -1.2**
comp=Z,12nm,0.8s,mb4.9
DRGR 69.60 316⇑ *i*P **P 20 05 05.9 +0.2**
DRGR 69.60 316 P **P 20 05 05.9 +0.3**
KOLS Kolonicke sedl 70.16 318 *e*P **P 20 05 09.0 -0.1**
BZS Buzias 70.22 315⇑ *i*P **P 20 05 09.6 +0.1**
FINES FINESS Array B 70.45 332 P **P 20 05 10.0 -0.9**
comp=Z,3.4nm,0.8s,mb4.3,baz=126,slow=9.7,SNR=5.6
FINES LR LR 20 38 21.3
comp=Z,64nm,18.6s,MS3.9,baz=171,slow=38
KAF Kangasniemi 70.52 333 *e*p **P 20 05 14.8 +3.5**
comp=Z,2.0nm,0.5s,mb4.3
KAF Kangasniemi 70.52 333 *e*P **P 20 05 14.8 +3.5**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CRVS Cervenica-Dubn 70.68 318 *e*P **P 20 05 12.5 +0.2**
STHS Stebnicka Huta 70.89 319 *e*P **P 20 05 13.5 0.0**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 70.89 319 *e*P **P 20 05 13.5 0.0**
comp=Z,3.1nm,0.8s,mb4.3
KECS Kecovo 71.28 318 *e*P **P 20 05 15.5 -0.4**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 71.28 318 *e*P **P 20 05 15.5 -0.4**
comp=Z,2.8nm,1.0s,mb4.2
NIE Niedzica 71.49 319 *e*P **P 20 05 17.6 +0.4**
OJC Ojcow 71.90 320 *e*P **P 20 05 18.9 -0.8**
VYHS Vyhne 72.37 318 *i* P **P 20 05 22.3 -0.2**
ARCES ARCESS Array B 72.93 340 P **P 20 05 25.2 -0.6**
comp=Z,5.3nm,0.8s,mb4.5,baz=81,slow=7.5,SNR=17
ARCES LR LR 20 40 15.3
comp=Z,162nm,19.3s,MS4.3,baz=184,slow=38
OKC Ostrava-Krasne 72.93 319 *e*P **P 20 05 25.5 -0.3**
MORC Moravsky Berou 73.32 319⇓ *i*P **P 20 05 28.0 -0.1**
MORC Moravsky Berou 73.32 319⇓ P **P 20 05 28.1 0.0**
DPC Dobruska-Polom 74.14 319 *e*P **P 20 05 33.1 +0.2**
KSP Ksiaz 74.18 320 *e*P **P 20 05 33.4 +0.2**
UPC Upice 74.34 320 *e*P **P 20 05 34.7 +0.6**
PVCC Panska Ves 75.26 320 *e*P **P 20 05 39.8 +0.4**
PRU Pruhonice 75.27 319 *e*P **P 20 05 39.7 +0.3**
BRG Berggiesshubel 75.67 320 *e*P **P 20 05 41.7 -0.1**
comp=Z,3.2nm,1.1s,mb4.2
BRG Berggiesshubel 75.67 320 *e*P **P 20 05 41.7 -0.1**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
GERES GERESS Array B 75.79 318 P **P 20 05 42.3 -0.1**
comp=Z,5.1nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=31
KHC Kasperske Hory 75.87 318 *e*P **P 20 05 42.8 -0.1**
HFS Hagfors 76.22 330 LR LR 20 43 37.3
comp=Z,88nm,18.8s,MS4.1,baz=68,slow=39
CLL Collm 76.27 320 *e*P **P 20 05 38.0 -7.2**
CLL Collm 76.27 320 *e*P **P 20 05 45.0 -0.2**
NKC Novy Kostel 76.62 319 *e*P **P 20 05 47.9 +0.8**
NB2 NORSAR Subarra 77.48 330 P **P 20 05 50.4 -1.6**
comp=Z,4.9nm,0.9s,mb4.4,baz=91,slow=5.9
NB2 NORSAR Subarra 77.48 330 P **P 20 05 50.4 -1.6**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
NOA NORSAR Array B 77.48 330 P **P 20 05 50.9 -1.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=5.9,SNR=6.3
NOA LR LR 20 46 16.1
comp=Z,46nm,18.0s,MS3.8,baz=110,slow=40
KEST Kesra 79.53 305 P **P 20 06 03.8 +0.5**
comp=Z,6.1nm,0.9s,mb4.5,baz=259,slow=1.3,SNR=18
LPG La Plagne 80.65 315 *e*P **P 20 06 09.3 -0.1**
comp=Z,18nm,0.8s,mb4.8
LPG La Plagne 80.65 315 *e*P **P 20 06 09.3 -0.1**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 80.65 315 *e*P **P 20 06 09.3 -0.1**
comp=Z,8.9nm,0.8s,mb4.8
MAW Mawson 80.70 191 P **P 20 06 09.9 +0.3**
comp=Z,2.9nm,1.0s,mb4.2,baz=19,slow=7.8,SNR=7.0
MAW Mawson 80.70 191 P **P 20 06 09.9 +0.3**
MAW *e*pP pP 20 06 17.2 -1.2
SYO Syowa Base 87.48 197⇑ *e*P **P 20 06 44.0 -0.1**
ESDC Sonseca Array 89.36 310 P **P 20 06 53.3 +0.2**
comp=Z,1.2nm,0.6s,mb4.4,baz=55,slow=4.5,SNR=8.0
TORD Torodi Ar. Bea 89.61 283 P **P 20 06 55.0 +0.9**
comp=Z,1.3nm,0.8s,mb4.3,baz=91,slow=3.3,SNR=14
TORD PP PP 20 10 29.1 +3.1
comp=Z,0.7nm,0.9s,baz=64,slow=8.4,SNR=4.1
COLA College 92.37 22⇑ *e*P **P 20 07 04.1 -2.9**
VNDA Vanda 95.29 168 P **P 20 07 18.8 -1.7**
comp=Z,0.1nm,0.3s,mb3.8,baz=291,slow=6.8,SNR=2.5
VNDA LR LR 20 45 07.7
comp=Z,73nm,18.7s,MS4.2,baz=332,slow=32
VNDA Vanda 95.29 168 P **P 20 07 18.8 -1.7**
VNDA LR LR 20 45 07.7
ULM Lac du Bonnet 119.23 7 PKP PKPdf 20 12 44.6 -0.9
comp=Z,2.8nm,0.7s,baz=307,slow=5.1,SNR=4.2
ECSD EROS,Sioux Fal 125.52 9 *e*PKPdf PKPdf 20 12 57.5 -0.1
MSU Marysvale 125.87 25 *e*PKIKP PKPdf 20 13 00.0 +1.7
TXAR Lajitas Array 137.29 23 PKP PKPdf 20 13 20.7 +0.9
comp=Z,0.6nm,0.6s,baz=186,slow=1.3,SNR=5.3
BDFB Brasilia 142.29 258 PKP PKPdf 20 13 29.5 +0.6
comp=Z,7.1nm,0.9s,baz=183,slow=4.2,SNR=6.7
TRQA Tornquist 144.68 214 *e*PKPdf PKPdf 20 13 31.7 -1.4
MTP Monte Pirata 145.19 324 *e*PKPdf PKPdf 20 13 34.4 +0.4
CPD Cerro la Pandu 145.45 324 *e*PKIKP PKPdf 20 13 35.3 +0.9
CPD *e* 20 13 43.2
SJG San Juan 145.52 325 PKPbc PKPbc 20 13 35.5 +0.8
comp=Z,5.5nm,0.3s,baz=311,slow=22,SNR=2.9
PLCA Paso Flores 146.53 202 PKPbc PKPbc 20 13 38.2 +0.5
comp=Z,9.3nm,0.7s,baz=160,slow=3.4,SNR=17
PLCA Paso Flores 146.53 202 PKPbc PKPbc 20 13 38.2 +0.5
CPUP Villa Florida 148.23 236 PKPbc PKPbc 20 13 42.6 +0.1
comp=Z,7.0nm,1.0s,baz=45,slow=3.9,SNR=7.1
PCRV Puerto La Cruz 150.40 313 PKPbc PKPbc 20 13 48.0 +0.2
comp=Z,13nm,0.6s,baz=55,slow=7.9,SNR=5.6
CMIG Matias Romero 151.60 17 PKPbc PKPbc 20 13 50.8 +0.2
CMIG PKPab PKPab 20 13 59.1 -0.2
comp=Z,4.9nm,0.8s,baz=345,slow=3.3,SNR=6.7
SDV Santo Domingo 155.42 320 PKPbc PKPdf 20 13 59.8 +10
comp=Z,1.4nm,0.3s,baz=24,slow=7.1,SNR=3.2
SDV PKPab PKPab 20 14 16.1 +0.6
comp=Z,7.1nm,0.9s,baz=50,slow=4.9,SNR=7.3
LPAZ La Paz 161.28 249 PKPab PKPab 20 14 42.4 +1.6
comp=Z,0.9nm,0.6s,baz=117,slow=2.3,SNR=3.1
LPAZ La Paz 161.28 249 *e*PKIKP PKPdf 20 13 56.5 -0.5

*NEIC **19** 19:55:41.2, 3138S×7163W, h28km, ML2.9(GUC), After GUC.*

GUC 19 19:55:41.2±0.6, 3138S×7163W, h28km±2km, MD3.5, ML2.9, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.51**	**168⇑**	*i*P	Pb	19 55 51.4	-0.3
CHNG				*i* S	Sb	19 55 58.9	0.0
CHNG				AML	AML	19 55 59.5	
comp=E,1μm,0.3s							
CMCH	**Combarbala**	**0.57**	**69⇑**	*i*P	Pb	19 55 52.4	-0.3
CMCH				*i* S	Sb	19 56 01.1	+0.7
CMCH				AML	AML	19 56 01.8	
comp=N,2μm,0.4s							
PTCH	**Petorca**	**1.06**	**146**	*e*P	Pn	19 55 59.8	-0.5
PTCH				*i* S	Sn	19 56 14.1	0.0
PTCH				AML	AML	19 56 17.3	
comp=E,568nm,0.6s							
PTCH	**Petorca**	**1.06**	**146**	*e*P	Pn	19 55 59.8	-0.5
PTCH				*i* S	Sn	19 56 14.1	0.0
TLL	**Tololo Astrono**	**1.40**	**31⇑**	*i*P	Pn	19 56 05.8	+0.9
TLL				*i* S	Sn	19 56 24.4	+2.0
TLL				AML	AML	19 56 26.4	
comp=E,171nm,0.5s							
TLL	**Tololo Astrono**	**1.40**	**31⇑**	*i*P	Pn	19 56 05.8	+0.9
TLL				*i* S	Sn	19 56 24.4	+2.0
PEL	**Peldehue**	**1.93**	**156**	*e*P	Pn	19 56 13.8	+1.6
PEL				*i* S	Sn	19 56 38.6	+3.0
PEL				AML	AML	19 56 41.5	
comp=E,252nm,0.3s							
PEL	**Peldehue**	**1.93**	**156**	*e*P	Pn	19 56 13.8	+1.6
PEL				*i* S	Sn	19 56 38.6	+3.0
FCH	**Farellones**	**2.25**	**150⇑**	*i*P	Pn	19 56 18.5	+2.0
FCH				*i* S	Sn	19 56 46.6	+3.3
FCH				AML	AML	19 56 57.4	
comp=E,52nm,0.3s							

*ISCJB **19** 20:02:16.5±0.5, 4375N±004×10508W±006, h0km, mb4.6/1, Error ellipse: s-maj=6.1km s-min=5.2km az=71.4*
*NEIC **19** 20:02:18.6±0.3, 4371N×105.19W, h0km, ML3.4, Error ellipse: s-maj=4.8km s-min=3.8km az=148.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **19** 20:02:18.8±1.5, 4398N×10572W, h0km, mb4.4/1, mb1 4.3/3, mb1mx3.6/23, mbtmp4.1/3, ML3.4/2, Error ellipse: s-maj=47.7km s-min=7.5km az=147.0*

ISC 19 20:02:18.6±0.4, 4373N±004×10517W±005, h0km, n37, σ0§92/39, mb4.6/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**64**	*e*P	**Pg**	**20 02 37.7**	**+1.7**
PHWY	**Pilot Hill**	**2.44**	**185**	*e*Pn	**Pn**	**20 02 59.3**	**-0.4**
RWWY	**Rawlins**	**2.54**	**217**	*e*Pn	**Pn**	**20 03 01.3**	**+0.3**
RWWY				*e*S	**Sn**	**20 03 34.0**	**+1.4**
LAO	**LASA Array**	**3.05**	**346**	*e*Pn	**Pn**	**20 03 08.0**	**-0.1**
RLMT	**Red Lodge**	**3.25**	**297**	*e*Pn	**Pn**	**20 03 11.0**	**+0.1**
PDAR	**Pinedale Array**	**3.35**	**255**	Pn	**Pn**	**20 03 11.8**	**-0.3**
2.4nm,0.3s,baz=76,slow=15,SNR=35							
PDAR				Pg	**Pg**	**20 03 15.9**	**-6.9**
7.4nm,0.3s,baz=68,slow=20,SNR=50							
PDAR				Lg		20 03 56.0	
14nm,0.3s,baz=66,slow=31,SNR=17							
ISCO	**Idaho Springs**	**3.94**	**185**	*e*Pn	**Pn**	**20 03 20.5**	**+0.1**
LOHW	**Long Hollow**	**3.94**	**270**	*e*Pn	**Pn**	**20 03 20.1**	**-0.3**
FLWY	**Flagg Ranch**	**4.01**	**277**	*e*Pn	**Pn**	**20 03 20.9**	**-0.4**
MOOW	**Moose Ponds**	**4.04**	**272**	*e*Pn	**Pn**	**20 03 23.1**	**+1.4**
SNOW	**Snow King Moun**	**4.07**	**268**	*e*Pb	**Pb**	**20 03 30.1**	**-1.0**
YNR	**Norris Junctio**	**4.08**	**286**	*e*Pb	**Pb**	**20 03 31.1**	**-0.3**
YFT	**Old Faithful**	**4.14**	**282**	*e*Pb	**Pb**	**20 03 32.6**	**+0.1**
REDW	**Red Top Meadow**	**4.15**	**267**	*e*Pn	**Pn**	**20 03 23.7**	**+0.5**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**20 03 23.9**	**+0.3**
TPAW	**Teton Pass**	**4.21**	**269**	*e*Pn	**Pn**	**20 03 25.6**	**+1.6**
DCID1	**Drake Creek**	**4.37**	**270**	*e*Pn	**Pn**	**20 03 26.7**	**+0.5**
AHID	**Auburn Hatcher**	**4.44**	**259**	*e*Pb	**Pb**	**20 03 38.0**	**+0.6**
RRI2	**Red Ridge**	**4.49**	**267**	*e*Pn	**Pn**	**20 03 27.8**	**-0.1**
SMCO	**Snowmass**	**4.75**	**197**	*e*Pb	**Pb**	**20 03 42.4**	**-0.3**
DGMT	**Dagmar**	**4.79**	**8**	*e*Pn	**Pn**	**20 03 34.1**	**+2.1**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*Pn	**Pn**	**20 03 36.8**	**-0.5**
12nm,0.6s							
TCUT	**Toone Canyon**	**5.30**	**243**	*e*Pn	**Pn**	**20 03 38.2**	**-0.9**
EGMT	**Eagleton**	**5.36**	**325**	*e*Pn	**Pn**	**20 03 38.7**	**-1.1**
12nm,0.7s							
DLMT	**Dillon**	**5.55**	**290**	*e*Pg	**Pg**	**20 04 00.9**	**-4.1**
11nm,0.9s							
HRY	**Holter Researc**	**5.57**	**305**	Pn	**Pn**	**20 03 41.5**	**-1.2**
DAU	**Daniels Canyon**	**5.61**	**236**	*e*Pn	**Pn**	**20 03 43.5**	**+0.2**
MCMT	**McKenzie Canyo**	**5.62**	**284**	Pn	**Pn**	**20 03 45.5**	**+2.1**
SDCO	**Great Sand Dun**	**5.99**	**183**	*e*Pn	**Pn**	**20 03 48.8**	**+0.3**
3.5nm,0.8s							
SRU	**San Rafael**	**6.12**	**223**	*e*Pn	**Pn**	**20 03 49.1**	**-1.2**
5.2nm,0.3s							
ECSD	**EROS,Sioux Fal**	**6.20**	**87**	*e*Pn	**Pn**	**20 03 51.5**	**+0.1**
CHMT	**Chamberlain Mo**	**6.53**	**302**	*e*Pn	**Pn**	**20 03 56.2**	**+0.3**
DUG	**Dugway**	**6.70**	**241**	*e*Pn	**Pn**	**20 03 57.3**	**-1.0**
MSU	**Marysvale**	**7.42**	**228**	*e*Pn	**Pn**	**20 04 07.8**	**-0.4**
AGMN	**Agassiz Refuge**	**7.92**	**52**	*e*Pn	**Pn**	**20 04 14.1**	**-0.9**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**20 04 30.7**	**-0.5**
1.9nm,0.3s,baz=229,slow=11,SNR=16							
ULM				Lg		20 07 05.4	
0.3nm,0.3s,baz=141,slow=22,SNR=4.2							
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**20 12 34.5**	**-2.0**
4.8nm,0.9s,mb4.6,baz=320,slow=6.8,SNR=6.0							

MAN 19 20:08:20.5, 1232N×12461E, h65km, mb2.0, ML3.7, MS4.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.08**	**131**	*e*P	Pn	20 08 40.6	+0.9
PLP	**Palo**	**1.20**	**163**	*i* P	Pn	20 08 42.6	+1.3
PLP				*e*S	Sn	20 08 58.3	+1.4
PVCP	**Virac**	**1.35**	**341**	*e*P	Pn	20 08 44.1	+0.9
PVCP				*e*S	Sn	20 09 06.2	+5.9

*ISCJB **19** 20:29:34.6±1.2, 575S±005×1288E±01, h255km±13km, mb3.6/5, Error ellipse: s-maj=17.3km s-min=8.1km az=156.2*
*NEIC **19** 20:29:35.7±1.8, 571S×12877E, h250km±20km, mb4.3/3, Error ellipse: s-maj=14.2km s-min=11.8km az=66.0*
*IDC **19** 20:29:44.0±4.5, 584S×12892E, h344km±50km, mb3.3/5, mb1 3.7/8, mb1mx3.5/14, mbtmp4.4/8, Error ellipse: s-maj=37.0km s-min=10.9km az=75.0*

ISC 19 20:29:39.1±1.1, 595S±006×1288E±01, h285km±13km, n18, σ1§28/26, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.64**	**152**	*e*P	**Pn**	**20 31 26.7**	**-1.3**
68nm,0.6s							
KAKA				*e*S	**S**	**20 32 46.1**	**-10**
FITZ	**Fitzroy Crossi**	**12.45**	**194**	*e*P	**Pn**	**20 32 27.6**	**+0.3**
4.5nm,0.3s							
FITZ				*e*		20 32 30.9	
FITZ	**Fitzroy Crossi**	**12.45**	**194**	P	**Pn**	**20 32 27.5**	**+0.2**
6.0nm,0.3s,baz=25,slow=10.0,SNR=57							
FITZ				S	**S**	**20 34 44.0**	**-1.7**
0.2nm,0.3s,baz=319,slow=22,SNR=2.5							
WRAB	**Tennant Creek**	**14.92**	**159**	*e*P	**Pn**	**20 32 56.5**	**-0.6**
WRAB				*e*S	**S**	**20 35 36.0**	**-3.5**
WRA	**Warramunga Arr**	**14.93**	**159**	P	**Pn**	**20 32 56.7**	**-0.4**
5.5nm,0.3s,baz=341,slow=12,SNR=330							
WRA				S	**S**	**20 35 38.5**	**-1.1**
1.8nm,0.3s,baz=336,slow=22,SNR=11							
WB2	**Warramunga Arr**	**14.93**	**159**	*e*P	**Pn**	**20 32 56.8**	**-0.3**
WB2				*e*S	**S**	**20 35 38.2**	**-1.5**
MBWA	**Marble Bar**	**17.46**	**209**	*e*P	**P**	**20 33 25.6**	**+1.8**
AS31	**Alice Springs**	**18.29**	**165**	*e*P	**P**	**20 33 34.4**	**+1.7**
AS31				*e*S	**S**	**20 36 47.0**	**+0.4**
ASAR	**Alice Springs**	**18.30**	**165**	P	**P**	**20 33 34.5**	**+1.8**
3.9nm,0.3s,baz=347,slow=12,SNR=419							
ASAR				S	**S**	**20 36 46.7**	**0.0**
0.9nm,0.3s,baz=342,slow=19,SNR=13							
ASPA	**Alice Springs**	**18.30**	**165**	*e*P	**P**	**20 33 34.4**	**+1.7**
ASPA				*e*S	**S**	**20 36 47.0**	**+0.3**
PMG	**Port Moresby**	**18.56**	**102**	P	**P**	**20 33 36.2**	**+0.7**
2.1nm,0.3s,baz=133,slow=8.2,SNR=6.3							
CTA	**Charters Tower**	**22.06**	**131**	P	**P**	**20 34 11.2**	**+0.5**
4.3nm,0.7s,mb3.9,baz=259,slow=6.2,SNR=3.9							
CTAO	**Charters Tower**	**22.06**	**131**	*e*P	**P**	**20 34 11.2**	**+0.5**
8.0nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**28.45**	**157**	P	**P**	**20 35 10.4**	**+2.4**
1.6nm,0.7s,mb3.6,baz=317,slow=11,SNR=2.8							
MJAR	**Matsushiro Arr**	**43.19**	**11**	P	**P**	**20 37 09.3**	**-3.0**
0.5nm,0.3s,mb3.1,baz=190,slow=8.0,SNR=4.8							
SONM	**Songino Array**	**57.07**	**342**	P	**P**	**20 38 55.1**	**-0.8**
0.4nm,0.4s,mb3.2,baz=155,slow=7.6,SNR=6.9							
MKAR	**Makanchi Array**	**66.68**	**327**	P	**P**	**20 39 58.7**	**-0.8**
1.8nm,0.5s,mb4.1,baz=116,slow=8.4,SNR=50							
MKAR	**Makanchi Array**	**66.68**	**327**	P	**P**	**20 39 58.7**	**-0.8**

IDC 19 20:54:33.6±1.7, 381N×12496E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=112.3km s-min=23.4km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.79**	**178**	P	P	20 59 28.5	+1.4
2.7nm,0.4s,baz=12,slow=7.9,SNR=18							
WRA	**Warramunga Arr**	**25.34**	**159**	P	P	21 00 02.2	+0.1
2.6nm,0.3s,baz=335,slow=10,SNR=53							
ASAR	**Alice Springs**	**26.67**	**163**	P	P	21 00 31.9	-0.1
0.4nm,0.4s,baz=338,slow=7.4,SNR=11							
STKA	**Stephens Creek**	**38.86**	**157**	P	P	21 02 00.4	-0.1
3.3nm,0.9s,baz=354,slow=9.2,SNR=3.3							
MKAR	**Makanchi Array**	**56.49**	**326**	P	P	21 04 17.6	+0.2
0.2nm,0.4s,baz=122,slow=8.0,SNR=6.5							

*BJI **19** 21:00:44.9, 4062N×4027E, h15km, mB5.0, mb4.5, Ms4.4, Msz4.2*
*IDC **19** 21:00:45.7±0.8, 3980N×4085E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML4.6/2, MS3.8/23, Ms1 3.8/23, ms1mx3.8/30, Error ellipse: s-maj=17.6km s-min=7.7km az=8.0*
*ISK **19** 21:00:45.3, 3994N×4076E, h5km, ML4.4*
*NEIC **19** 21:00:45.0, 3993N×4077E, h5km, mb4.4/12, ML4.3(ISK), After ISK.*
*ISCJB **19** 21:00:46.8±0.6, 3993N±002×4081E±002, h7km±4km, mb4.3/26, MS3.9/21, Error ellipse: s-maj=3.0km s-min=2.5km az=43.8*
*CSEM **19** 21:00:47.2±0.1, 3994N×4076E, h15km, mb4.6/5, Error ellipse: s-maj=2.0km s-min=1.5km az=38.0*
*SZGRF **19** 21:00:49.7, 3998N×4106E, h33km, mb4.8, Turkey*
*MOS **19** 21:00:49.5±1.6, 3994N×4088E, h32km, mb4.3/11, Error ellipse: s-maj=7.0km s-min=4.2km az=119.9*

ISC 19 21:00:47.5±0.5, 3992N±002×4084E±002, h3km±3km, n211, σ1§23/229, mb4.3/26, MS3.9/21, 17C-9D, Turkey

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

BCA *i* SN **Sn** **21 01 39.2 +0.4**
AGRT Agri 1.69 100 PN **Pn** **21 01 18.2 +0.3**
BTMT Batman 1.80 163 PN **Pn** **21 01 20.2 +0.7**
KARS Kars 1.86 67 PN **Pn** **21 01 20.2 -0.1**
ELZG Elazig 2.02 226 *i* P **Pn** **21 01 22.3 -0.3**
ELZG *i* S **Sn** **21 01 43.4 -5.0**
DIY Diyarbakir 2.08 193 PN **Pn** **21 01 21.9 -1.4**
GRSN GiRESUNGRSN 2.20 298 *i* P **Pn** **21 01 24.4 -0.6**
GRSN *i* S **Sn** **21 01 53.8 +1.0**
VANB Van 2.38 123 PN **Pn** **21 01 28.6 +1.1**
TVAN Van 2.43 124 *i* P **Pn** **21 01 29.6 +1.5**
MYA Malataya 2.46 230 PN **Pn** **21 01 27.6 -1.0**
VANT Van 2.47 126 PN **Pn** **21 01 28.8 +0.1**
CLDR Caldiran 2.50 107 PN **Pn** **21 01 29.2 0.0**
MARD Mardin 2.60 181 *i* P **Pn** **21 01 30.2 -0.3**
MARD *i* S **Sn** **21 02 03.9 +1.2**
SIRT Sirnak 2.72 152 PN **Pn** **21 01 32.7 +0.5**
URFA Urfa 2.94 213 PN **Pn** **21 01 35.2 +0.1**
SVSK Karacayir 2.95 271 PN **Pn** **21 01 34.7 -0.7**
GNI Garni 3.00 84 Pn **Pn** **21 01 35.3 -0.8**
1.2nm,0.3s,baz=28,slow=3.6,SNR=12
GNI Pg **Pg** **21 01 42.4 -2.7**
10nm,0.3s,baz=301,slow=5.8,SNR=49
GNI Lg 21 02 17.7
12nm,0.3s,baz=115,slow=9.6,SNR=3.1
GNI Garni 3.00 84 P **Pn** **21 01 35.3 -0.8**
GNI 21 02 17.7
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI pmax pmax
comp=Z,10.0nm,0.3s
GNI Garni 3.00 84 Pg **Pg** **21 01 42.4 -2.7**
ATAB Bozova 3.15 220 *i* P **Pg** **21 01 44.2 -3.8**
ATAB *i* S **Sg** **21 02 32.8 +3.9**
HAKT HAKKARI 3.26 136 *i* P **Pb** **21 01 44.7 -1.3**
HAKT *i* S **Sb** **21 02 28.3 +2.3**
HKR Hakkari 3.26 135 *e*PN **Pn** **21 01 40.7 +1.1**
TOKT Tokat 3.32 278 *e*PN **Pn** **21 01 40.0 -0.3**
CUKT Cukurca 3.44 140 *e*PN **Pn** **21 01 42.8 +0.7**
GZT Gaziantep 3.62 226 *i* P **Pn** **21 01 44.0 -0.6**
GZT *i* S **Sg** **21 02 45.8 +1.8**
ZEI Tsey 3.66 38 *e*P **Pn** **21 01 46.1 +1.0**
ZEI pmax pmax
comp=Z,13nm,0.2s
ZEI pmax pmax
comp=Z,227nm,0.6s
ZEI Tsey 3.66 38 *e*P **Pn** **21 01 46.1 +1.0**
comp=Z,227nm,0.6s
SEMD Semdilli 3.86 131 *e*PN **Pn** **21 01 49.1 +1.2**
KMRS Kahramanmaras 3.91 233 *e*PN **Pn** **21 01 48.4 -0.1**
GAZ Gaziantep 3.95 227 *e*PN **Pn** **21 01 48.7 -0.4**
MSL Mosul 4.04 153 *ex* x 21 01 49.0
MSL *ex* x 21 01 56.0
MSL *i* x 21 02 23.0
MSL *ex* x 21 02 23.0
KIV Kislovodsk 4.26 18 P **Pg** **21 02 07.5 -1.7**
SNR=16
KIV Kislovodsk 4.26 18 *e*P **Pn** **21 01 54.5 +1.2**
KIV *e*S **Sn** **21 02 45.4 +1.9**
KIV pmax pmax
comp=Z,34nm,0.6s
KIV MLR MLR
comp=Z,1µm,8.0s
KIV Kislovodsk 4.26 18 *e*P **Pn** **21 01 54.3 +1.0**
KIV Kislovodsk 4.26 18 *e*P **Pn** **21 01 54.3 +1.0**
DIKM Dikmen 4.58 294 *e*PN **Pn** **21 01 56.7 -0.9**
CTKT Corum 4.68 281 *i* P **Pb** **21 02 06.3 -3.9**
CTKT *i* S **Sg** **21 03 17.6 -0.3**
BOYT Boyabat 4.75 290 *i* P **Pn** **21 02 06.2 +6.1**
AVNT Avonos 4.78 258 *i* P **Pn** **21 02 05.4 +5.0**
CEYT Ceyhan 4.94 236 *e*PN **Pn** **21 02 02.6 -0.1**
COBT Iskenderun 4.96 228 *i* P **Pn** **21 02 02.1 -0.8**
COBT *i* S **Sg** **21 03 20.0 -6.7**
CDAG Cicekdag 4.99 269 *i* P **Pb** **21 02 16.1 +0.5**
CDAG *i* S **Sg** **21 03 23.2 -4.6**
KARA Karaisali 5.25 241 *e*PN **Pn** **21 02 07.9 +0.9**
HTY Hatay 5.31 226 *e*PN **Pn** **21 02 07.9 +0.2**
GOF Gofitskoye 5.38 17 *e*P **Pn** **21 02 04.6 -4.2**
GOF *i* S **Sn** **21 03 07.8 -3.5**
GOF pmax pmax
comp=Z,60nm,2.5s
GOF smax
comp=N,110nm,1.6s
GOF smax
comp=E,310nm,1.6s
GOF Gofitskoye 5.38 17 *e*P **Pn** **21 02 04.6 -4.2**
comp=E,60nm,2.5s
ANN Anapa 5.49 334 *e*P **Pn** **21 02 12.1 +1.9**
ANN *e*S **Sn** **21 03 18.1 +4.2**
ANN pmax pmax
comp=Z,57nm,0.9s
ANN MLR MLR
comp=Z,811nm,13.0s
ANN Anapa 5.49 334 *e*P **Pn** **21 02 12.1 +1.9**
comp=Z,57nm,0.9s
BRTR Keskin Array B 5.55 270 Pn **Pn** **21 02 09.7 -1.3**
comp=Z,0.1nm,0.3s,baz=88,slow=14,SNR=3.1
BRTR Pg **Pb** **21 02 24.0 -1.0**
comp=Z,0.7nm,0.3s,baz=98,slow=13,SNR=35
BRTR Lg 21 03 44.1
baz=76,slow=40,SNR=1.9
BRTR LR LR 21 04 31.5
comp=Z,691nm,18.2s,baz=78,slow=41
BRTR Keskin Array B 5.55 270 P **Pn** **21 02 09.7 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR MLR MLR
comp=Z,691nm,18.3s
ELDT Eldivan 5.70 278 *i* P **Pb** **21 02 25.7 -2.0**
BALT Daday 5.89 288 *i* P **Pn** **21 02 21.5 +5.8**
ANTO Ankara 6.19 272 ⇓*i*P **Pb** **21 02 30.5 -5.4**
ANTO Ankara 6.19 272 ⇓P **Pb** **21 02 30.5 -5.4**
SUDU Sudak 6.58 321 *e*P **Pn** **21 02 24.8 -0.4**
SUDU *e*S **Sn** **21 03 41.0 +0.2**
SUDU smax
comp=E,95nm,0.7s
ALU Alushta 6.74 317 *e*P **Pn** **21 02 30.6 +3.3**
ALU *e*S **Sn** **21 03 44.5 -0.1**
ALU pmax pmax
comp=Z,96nm,0.7s
ALU smax
comp=N,120nm,1.0s
YAL Yalta 6.74 315⇑*e*P **Pn** **21 02 28.7 +1.3**
YAL *e*S **Sn** **21 03 45.2 +0.5**
YAL pmax pmax
comp=Z,96nm,0.7s
YAL smax
comp=N,90nm,1.2s
YAL smax
comp=E,90nm,0.7s
YAL Yalta 6.74 315 *e*P **Pn** **21 02 28.7 +1.3**
comp=E,96nm,0.7s
HWQ Hawqa 6.86 216 *e*Pn **Pn** **21 02 30.1 +1.1**
SEV Sevastopol' 7.04 313 *e*P **Pn** **21 02 31.6 0.0**
SEV *e*S **Sn** **21 03 51.1 -1.1**
SEV pmax pmax
comp=Z,3.0nm,0.3s
SEV smax
comp=N,3.0nm,0.3s
SEV smax
comp=E,10.0nm,0.8s
SEV Sevastopol' 7.04 313 *e*P **Pn** **21 02 31.6 0.0**
comp=E,3.0nm,0.3s
SIM Simferopol' 7.07 317⇓*e*P **Pn** **21 02 34.9 +3.0**
SIM *e*S **Sn** **21 03 55.3 +2.6**
SIM pmax pmax
comp=Z,50nm,0.6s
SIM smax
comp=N,30nm,0.9s
SIM smax
comp=E,90nm,0.9s
BHD Baghdad 7.22 156 *ex* x 21 02 34.0
BHD *ex* x 21 03 04.0
BHD *ex* x 21 03 55.0
BHD *ex* x 21 04 43.0
BHL Bhannes 7.30 216 *e*Pn **Pn** **21 02 35.9 +0.8**
ASF Jabal al Asfar 8.36 204 Pn **Pn** **21 02 49.5 -0.1**
comp=E,0.3nm,0.3s,baz=271,slow=10,SNR=11
ASF Sn **Sn** **21 04 22.3 -2.3**
comp=E,0.2nm,0.3s,baz=289,slow=3.2,SNR=3.4
ASF Lg 21 05 13.8
comp=E,0.3nm,0.3s,baz=270,slow=20,SNR=3.3
ASF Jabal al Asfar 8.36 204 P **Pn** **21 02 49.5 -0.2**
ASF 21 04 22.3

TIRR Tirgusor 10.27 300⇑*i*P **Pn** **21 03 15.6 -0.2**
TIRR Tirgusor 10.27 300⇑P **Pn** **21 03 15.6 -0.3**
VRSR Storozhevoye 11.35 355 *e*P **Pn** **21 03 29.9 -0.7**
VRSR pmax pmax
comp=Z,5.0nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,7.0nm,0.9s
VRSR Storozhevoye 11.35 355 *e*P **Pn** **21 03 29.9 -0.7**
comp=E,10.0nm,1.4s
PLOR Plostina 11.97 304⇓*i*P **Pn** **21 03 40.9 +1.8**
MLR Muntele Rosu 12.28 302 Pn **Pn** **21 03 44.5 +1.1**
comp=E,0.5nm,0.3s,baz=302,slow=1.8,SNR=9.5
MLR Sn **Sn** **21 06 03.6 +2.8**
comp=E,0.2nm,0.3s,baz=173,slow=16,SNR=3.3
MLR Muntele Rosu 12.28 302⇑*i*P **Pn** **21 03 46.0 +2.7**
MLR Muntele Rosu 12.28 302 P **Pn** **21 03 44.5 +1.2**
MLR 21 06 03.6
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 12.28 302⇑P **Pn** **21 03 46.0 +2.6**
VOIR 12.85 301⇑*i*P **Pn** **21 03 53.9 +2.8**
VOIR 12.85 301⇑P **Pn** **21 03 53.9 +2.7**
AKASG Malin Array Be 13.51 327 Pn **Pn** **21 03 58.3 -1.8**
AKASG Sn **Sn** **21 06 26.6 -4.2**
AKASG Malin Array Be 13.51 327 P **Pn** **21 03 58.3 -1.8**
AKASG 21 06 26.6
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 13.51 327 *e*P **Pn** **21 03 58.4 -1.7**
BURAR Bucovina Array 13.64 309⇓*i*P **Pn** **21 04 02.4 +0.5**
BURAR Bucovina Array 13.64 309⇓P **Pn** **21 04 02.4 +0.4**
ORR Orenburg 15.17 35 *e*P **Pn** **21 04 25.4 +2.7**
ORR pmax pmax
comp=Z,10.0nm,1.2s
ORR Orenburg 15.17 35 *e*P **Pn** **21 04 25.4 +2.7**
comp=Z,10.0nm,1.2s
OBN Obninsk 15.47 351 *c*e**P** **Pn** **21 04 24.6 -2.0**
OBN pmax pmax
comp=Z,41nm,1.4s
OBN MLR MLR
comp=Z,300nm,20.0s
OBN Obninsk 15.47 351 *e*P **Pn** **21 04 25.8 -0.8**
comp=Z,31nm,0.7s
OBN Obninsk 15.47 351 *e*P **Pn** **21 04 25.8 -0.8**
comp=Z,31nm,0.7s
UZH Uzhgorod 15.85 309 *e*P **Pn** **21 04 33.0 +1.4**
MOS Moscow 15.97 353 *e*P **Pn** **21 04 30.6 -2.6**
AKTK Aktyubinsk 16.00 43 Pn **Pn** **21 04 29.0 -4.5**
AKTK LR LR 21 12 24.7
AKTK Aktyubinsk 16.00 43 P **Pn** **21 04 35.3 +1.8**
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 16.00 43 Pn **Pn** **21 04 29.0 -4.5**
comp=Z,0.0nm,0.3s,baz=243,slow=13,SNR=4.0
AKTO LR LR 21 12 24.7
comp=Z,144nm,18.4s,baz=237,slow=44
AKTO Aktyubinsk 16.00 43 P **Pn** **21 04 35.3 +1.8**
AKTO pmax pmax
comp=Z,2.0nm,0.9s
KOLS Kolonicke sedl 16.00 310 *e*P **Pn** **21 04 35.6 +2.0**
AB31 Akbulak array 16.46 49 P **Pn** **21 04 35.8 -3.7**
AB31 pmax pmax
comp=Z,30nm,1.2s
CRVS Cervenica-Dubn 16.46 309 *e*P **Pn** **21 04 40.9 +1.4**
STHS Stebnicka Huta 16.82 311 *e*P **Pn** **21 04 47.5 +3.4**
KECS Kecovo 16.88 307 *e*P **Pn** **21 04 49.5 +4.7**
MNK Minsk 17.01 333 *e*P **Pn** **21 04 39.0 -7.4**
NIE Niedzica 17.37 310 *e*P **Pn** **21 04 53.7 +2.8**
PKSM Moragy 17.37 298⇑*i*P **Pn** **21 04 51.4 +0.5**
PKSM Moragy 17.37 298⇑P **Pn** **21 04 51.4 +0.5**
VYHS Vyhne 17.90 306 *e*P **Pn** **21 04 59.1 +1.5**
VYHS pmax pmax
comp=Z,13nm,1.7s
VYHS Vyhne 17.90 306 *e*P **Pn** **21 04 59.1 +1.5**
comp=Z,13nm,1.7s
OJC Ojcow 18.02 312 *e*P **Pn** **21 05 00.7 +1.7**
OKC Ostrava-Krasne 18.82 309 *e*P **Pn** **21 05 12.7 +3.9**
OKC AMS AMS 21 16 00.0
comp=Z,400nm,5.6s
ZST Bratislava 18.90 304 *e*P **Pn** **21 05 10.2 +0.4**
ZST pmax pmax
comp=Z,144nm,3.4s
ZST Bratislava 18.90 304 *e*P **Pn** **21 05 10.2 +0.4**
comp=Z,144nm,3.4s
VRAC Vranov 19.57 307 LR LR 21 14 06.7
comp=Z,81nm,21.2s,baz=117,slow=41
CONA Conrad Observa 19.63 302⇓*i*Pn **Pn** **21 05 15.3 -3.2**
comp=Z,10nm,1.4s
ARSA Arzberg 19.69 300⇑*i*P **Pn** **21 05 26.0 +6.8**
comp=Z,10.0nm,1.8s
ARSA Arzberg 19.69 300⇑*e*Pn **Pn** **21 05 14.7 -4.6**
comp=Z,10.0nm,1.8s
ARSA ⇑*e*Sn **Sn** **21 08 53.2 -7.6**
DPC Dobruska-Polom 20.11 309 *e*P **P** **21 05 26.8 +4.4**
DPC AMS AMS 21 16 10.0
comp=Z,300nm,10.4s
ARU Arti 20.21 29⇓*i*P **P** **21 05 22.6 -0.9**
ARU *e* 21 05 38.3
ARU *e*PPP 21 05 48.1
ARU *e*S **S** **21 09 10.3 -0.6**
ARU *e*SS 21 09 30.0
ARU pmax pmax
comp=Z,10.0nm,1.1s
ARU MLR MLR
comp=E,300nm,19.0s,MS3.7
ARU MLR MLR
comp=Z,300nm,19.0s,MS3.7
ARU MLR MLR
comp=N,200nm,22.0s,MS3.7
ARU Arti 20.21 29 *e*P **P** **21 05 21.0 -2.5**
comp=N,12nm,1.0s
ARU Arti 20.21 29 *i* P **P** **21 05 22.6 -0.9**
comp=N,10.0nm,1.1s
UPC Upice 20.35 310 *e*P **P** **21 05 34.4 +9.4**
MOA Molln 20.65 301⇑*i*P **P** **21 05 33.1 +4.7**
comp=N,14nm,1.3s
MOA Molln 20.65 301⇓*i*P **P** **21 05 28.2 -0.2**
comp=N,14nm,1.3s
PRU Pruhonice 21.05 307 *e*P **P** **21 05 33.5 +0.8**
PRU AMS AMS 21 17 00.0
comp=N,400nm,5.4s
PRU Pruhonice 21.05 307 *e*P **P** **21 05 33.5 +0.8**
comp=N,400nm,5.4s
KBA Koelnbreinsper 21.12 299⇑*i*P **P** **21 05 33.4 0.0**
comp=N,29nm,1.8s,mb4.3
KBA Koelnbreinsper 21.12 299⇑*i*P **P** **21 05 33.4 0.0**
KBA pmax pmax
comp=Z,29nm,1.8s,mb4.3
ARQ Araqi 21.20 137 P **P** **21 05 34.1 -0.1**
SNR=12
PVCC Panska Ves 21.22 309 *e*P **P** **21 05 34.2 -0.2**
PVCC AMS AMS 21 17 10.0
comp=Z,400nm,6.1s
PVCC Panska Ves 21.22 309 *e*P **P** **21 05 34.2 -0.2**
comp=Z,400nm,6.1s
GERES GERESS Array B 21.25 304 P **P** **21 05 34.0 -0.8**
comp=Z,1.0nm,0.6s,baz=108,slow=8.6,SNR=8.3
GERES LR LR 21 14 52.2
comp=Z,91nm,19.8s,baz=114,slow=40
GERES GERESS Array B 21.25 304 P **P** **21 05 34.0 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,91nm,19.8s
SVE Sverdlovsk 21.29 31 *e*P **P** **21 05 35.0 -0.3**
KHC Kasperske Hory 21.41 304 *e*P **P** **21 05 36.0 -0.5**
KHC AMS AMS 21 17 10.0
comp=Z,400nm,6.4s
KHC Kasperske Hory 21.41 304 *e*P **P** **21 05 36.0 -0.5**
comp=Z,400nm,6.4s
HOQ Hoqain 21.43 135 P **P** **21 05 37.0 +0.4**
SNR=8.0
BRG Berggiesshubel 21.71 309 *e*P **P** **21 05 45.5 +5.8**
comp=Z,9.0nm,1.5s,mb4.0
BRG Berggiesshubel 21.71 309 *e*P **P** **21 05 45.5 +5.8**
BRG pmax pmax
comp=Z,9.0nm,1.5s,mb4.0
BSY Bisya 22.04 136⇑P **P** **21 05 43.3 0.0**
SMDO Samad 22.25 134 P **P** **21 05 46.0 +0.5**
SNR=8.5
KKAR Karatay Array 22.39 72 P **P** **21 05 46.6 -0.4**
CLL Collm 22.41 310 *e*(P) **P** **21 05 47.0 -0.3**

comp=Z,30nm,1.7s,mb4.5
NKC Novy Kostel 22.41 307 *e*P **P** **21 05 48.6 +1.3**
WSAR Wadi Sarin 22.43 133 P **P** **21 05 45.9 -1.6**
comp=Z,5.4nm,1.0s,mb3.9,baz=334,slow=14,SNR=3.2
WSAR LR LR 21 16 32.9
comp=Z,174nm,18.6s,MS3.5,baz=111,slow=42
GRA1 Grafenberg Arr 23.04 305 *e*P **P** **21 05 53.0 -0.9**
comp=Z,54nm,1.5s,mb4.8
GRF Grafenberg Arr 23.04 305 *e*P **P** **21 05 53.0 -0.9**
comp=Z,54nm,1.5s,mb4.8
GRF Grafenberg Arr 23.04 305 *e*P **P** **21 05 53.0 -0.9**
GRF pmax pmax
comp=Z,54nm,1.5s,mb4.8
GRF Grafenberg Arr 23.04 305 *e*P **P** **21 05 53.0 -0.9**
GRF pmax pmax
comp=Z,54nm,1.5s,mb4.8
FINES FINESS Array B 23.38 342 P **P** **21 05 58.0 +0.5**
comp=Z,5.3nm,0.8s,mb4.0,baz=143,slow=9.6,SNR=14
FINES LR LR 21 15 47.6
comp=Z,219nm,19.8s,MS3.6,baz=165,slow=38
FINES FINESS Array B 23.38 342 P **P** **21 05 58.0 +0.5**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES MLR MLR
comp=Z,219nm,19.8s
FINES FINESS Array B 23.38 342 P **P** **21 05 58.0 +0.5**
FINES LR LR 21 15 47.6
DAVOX Davos/Dischmat 23.43 297 LR LR 21 16 07.7
comp=Z,138nm,18.1s,MS3.5,baz=88,slow=39
JOF Joensuu 23.73 349 *ep* **P** **21 06 01.1 +0.1**
comp=Z,7.1nm,0.7s,mb4.2
JOF Joensuu 23.73 349 *e*P **P** **21 06 01.1 +0.1**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
KAF Kangasniemi 23.91 343 *ep* **P** **21 06 03.2 +0.6**
comp=Z,4.8nm,0.7s,mb4.0
KAF Kangasniemi 23.91 343 *e*P **P** **21 06 03.2 +0.6**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
ANR Andizhan 23.98 78 *e*P **P** **21 06 01.5 -1.8**
BVAR Borovoye Array 24.00 47 P **P** **21 06 02.8 -0.7**
comp=Z,2.0nm,1.0s,mb3.5,baz=230,slow=3.7,SNR=7.8
BVAR LR LR 21 17 02.9
comp=Z,79nm,19.5s,MS3.2,baz=228,slow=41
BVAR Borovoye Array 24.00 47 P **P** **21 06 02.8 -0.7**
BVAR pmax pmax
comp=Z,2.0nm,1.0s
BVAR MLR MLR
comp=Z,79nm,19.5s
CHKZ Chkalovo 24.37 46 P **P** **21 06 05.3 -1.5**
KEST Kesra 25.15 270 P **P** **21 06 14.5 +0.5**
comp=Z,6.4nm,0.9s,mb4.1,baz=49,slow=9.1,SNR=7.5
KEST LR LR 21 17 40.9
comp=Z,84nm,19.9s,MS3.2,baz=44,slow=40
AAK Ala-Archa 25.34 73 *i* P **P** **21 06 14.4 -1.3**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.2
AAK MLR MLR
comp=Z,300nm,17.0s,MS3.9
AAK Ala-Archa 25.34 73 *e*P **P** **21 06 14.7 -1.0**
comp=Z,8.8nm,1.1s,mb4.2
FRU Bishkek 25.42 72 *e*P **P** **21 06 14.0 -2.3**
FRU pmax pmax
comp=Z,20nm,1.4s,mb4.5
MBDF Montbardon 25.52 292 *e*P **P** **21 06 17.8 +0.5**
comp=Z,97nm,1.6s,mb4.8
MBDF Montbardon 25.52 292 *e*P **P** **21 06 17.8 +0.5**
MBDF pmax pmax
comp=Z,49nm,1.6s,mb4.8
MBDF Montbardon 25.52 292 *e*P **P** **21 06 17.8 +0.5**
comp=Z,49nm,1.6s,mb4.8
LPG La Plagne 25.53 294 *e*P **P** **21 06 17.6 +0.2**
LPL La Plagne 25.55 294 *e*P **P** **21 06 18.4 +0.9**
CABF La Chapelle 26.02 296 *e*P **P** **21 06 21.7 -0.1**
comp=Z,76nm,1.3s,mb4.8
CABF La Chapelle 26.02 296 *e*P **P** **21 06 21.7 -0.1**
CABF pmax pmax
comp=Z,38nm,1.3s,mb4.8
CABF La Chapelle 26.02 296 *e*P **P** **21 06 21.7 -0.1**
comp=Z,38nm,1.3s,mb4.8
HFS Hagfors 26.38 329 P **P** **21 06 24.5 -0.6**
comp=Z,9.4nm,0.9s,mb4.3,baz=126,slow=7.4,SNR=4.2
HFS LR LR 21 18 01.5
comp=Z,285nm,20.4s,MS3.8,baz=314,slow=39
HFS Hagfors 26.38 329 P **P** **21 06 24.5 -0.5**
HFS pmax pmax
comp=Z,9.0nm,1.0s
HFS MLR MLR
comp=Z,285nm,20.4s
SMF Signal de Mont 27.57 296 *e*P **P** **21 06 36.3 +0.5**
NOA NORSAR Array B 27.90 329 P **P** **21 06 37.9 -0.9**
comp=Z,0.7nm,0.8s,mb3.4,baz=104,slow=8.6,SNR=2.6
NOA LR LR 21 18 57.5
comp=Z,243nm,19.2s,MS3.8,baz=90,slow=39
NOA NORSAR Array B 27.90 329 P **P** **21 06 37.9 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,243nm,19.3s
NOA NORSAR Array B 27.90 329 P **P** **21 06 37.9 -0.9**
NOA LR LR 21 18 57.5
ATD Arta Tunnel 28.33 176 LR LR 21 16 55.4
comp=Z,157nm,20.4s,MS3.6,baz=71,slow=34
MKAR Makanchi Array 30.63 63 P **P** **21 07 01.9 -1.1**
comp=Z,1.5nm,0.8s,mb3.9,baz=279,slow=6.3,SNR=10
MKAR LR LR 21 21 15.4
comp=Z,271nm,20.5s,MS3.9,baz=266,slow=40
MKAR Makanchi Array 30.63 63 P **P** **21 07 01.9 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,271nm,20.5s
MKAR Makanchi Array 30.63 63 P **P** **21 07 01.9 -1.1**
MKAR LR LR 21 21 15.4
ARCES ARCESS Array B 30.77 350 LR LR 21 20 10.1
comp=Z,354nm,19.1s,MS4.0,baz=183,slow=38
ZAL Zalesovo 32.56 50 LR LR 21 23 08.1
comp=Z,101nm,20.9s,MS3.5,baz=207,slow=41
EKA Eskdalemuir Ar 32.79 313 P **P** **21 07 20.5 -1.5**
comp=Z,2.4nm,0.7s,mb4.2,baz=108,slow=8.4,SNR=5.6
EKA Eskdalemuir Ar 32.79 313 P **P** **21 07 20.5 -1.5**
EKA pmax pmax
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 34.15 284 P **P** **21 07 34.2 +0.4**
comp=Z,1.6nm,0.7s,mb4.0,baz=63,slow=9.5,SNR=4.0
WMQ Urumqi 34.75 68 *e*P **P** **21 07 39.3 +0.3**
KOLN Koldanda 37.20 96 *e*P **P** **21 07 59.9 -0.1**
comp=Z,8.3nm,0.9s,mb4.5
GKN Gorkha 37.88 95 *e*P **P** **21 08 05.2 -0.5**
comp=Z,12nm,0.9s,mb4.6
DMN Daman 38.43 95 *e*P **P** **21 08 10.2 -0.2**
comp=Z,19nm,0.9s,mb4.8
KKN Kakani 38.47 94 *e*P **P** **21 08 10.5 -0.3**
GUN Gumba 38.87 94 *e*P **P** **21 08 13.9 -0.2**
comp=Z,35nm,1.1s,mb5.0
LSA Lhasa 42.06 88 P **P** **21 08 40.3 -0.2**
TOA0 Torodi Ar. Sit 43.49 243 *e*P **P** **21 08 50.6 -1.5**
TORD Torodi Ar. Bea 43.49 243 P **P** **21 08 48.9 -3.2**
comp=Z,6.3nm,0.9s,mb4.3,baz=52,slow=4.9,SNR=26
TORD LR LR 21 31 57.3
comp=Z,55nm,18.1s,MS3.5,baz=85,slow=43
TORD Torodi Ar. Bea 43.49 243 P **P** **21 08 48.9 -3.2**
TORD LR LR 21 31 57.3
GTA Gaotai 44.66 71 *e*P **P** **21 09 01.9 +0.4**
GTA AP pP 21 09 06.3 +3.9
GTA XP sP 21 09 09.3 +6.6
GTA AMB AMB
comp=Z,2.0nm,1.4s,mb3.8
SONM Songino Array 46.63 58 LR LR 21 31 04.2
comp=Z,750nm,19.0s,MS4.7,baz=295,slow=39
LSZ Lusaka 56.16 195 LR LR 21 33 13.2
comp=Z,114nm,18.1s,MS4.0,baz=29,slow=35
NJ2 Nanjing 61.76 71 *e*P **P** **21 11 09.8 +2.4**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
MJAR Matsushiro Arr 72.57 57 LR LR 21 46 58.3
comp=Z,261nm,19.3s,MS4.5,baz=285,slow=38
YKA Yellowknife Ar 76.03 349 LR LR 21 47 21.1
comp=Z,148nm,20.0s,MS4.3,baz=65,slow=37
ULM Lac du Bonnet 82.49 334 LR LR 21 49 49.4
comp=Z,84nm,19.7s,MS4.1,baz=4.8,slow=36
PDAR Pinedale Array 93.44 339 LR LR 21 55 31.1
comp=Z,107nm,19.3s,MS4.3,baz=219,slow=35
BDFB Brasília 99.00 257 LR LR 22 03 44.4
comp=Z,73nm,19.9s,MS4.2,baz=198,slow=38

KRSC 19 21:00:56, 5398N×16027E, h76km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.90**	**190**	*eP*	Pn	21 01 16.6	+3.1
SPN				*eS*	Sn	21 01 30.9	+4.3
NLC	**Nalytchevo**	**0.98**	**215**	*eP*	Pn	21 01 17.7	+3.1
NLC				*eS*	Sn	21 01 32.8	+4.4
MKZ	**Mys Kozlova**	**1.03**	**55**	*eP*	Pn	21 01 18.2	+3.0
MKZ				*eS*	Sn	21 01 33.2	+3.7
AVH	**Avacha**	**1.16**	**232**	*eP*	Pn	21 01 20.1	+3.3
AVH				*eS*	Sn	21 01 37.1	+4.8
TUMR	**Tumrok**	**1.31**	**357**	*eP*	Pn	21 01 21.5	+2.9
TUMR				*eS*	Sn	21 01 40.2	+4.5
GNL	**Ganaly**	**1.41**	**259**	*eP*	Pn	21 01 22.6	+2.6
GNL				*eS*	Sn	21 01 41.6	+3.6
KMNR	**Kamenistaya**	**1.78**	**359**	*eP*	Pn	21 01 27.1	+2.3
RUS	**Russkaya**	**1.88**	**215**	*eP*	Pn	21 01 28.4	+2.3
RUS				*eS*	Sn	21 01 51.3	+2.3
GRL	**Gorelyy**	**1.95**	**224**	*eP*	Pn	21 01 30.7	+3.7
ZLN	**Zelenaya**	**2.06**	**8**	*eP*	Pn	21 01 32.5	+3.9
KRSR	**Krestovskiy**	**2.25**	**4**	*eS*	Sn	21 02 00.7	+2.8
KBTR	**Krutoberegovo**	**2.67**	**32**	*eP*	Pn	21 01 39.8	+3.0
KBTR				*eS*	Sn	21 02 11.8	+3.7
SRKR	**Sorokina**	**2.73**	**10**	*eP*	Pn	21 01 42.0	+4.4

GUC 19 21:02:02.8±0.8, 2501S×7071W, h50km, MD4.3, ML3.9, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.47**	**36**	*eP*	Pn	21 02 14.9	+1.2
CPN1				*i* S	Sn	21 02 23.4	+1.9
CPN1				AML	AML	21 02 24.3	
	comp=E,23μm,0.3s						
ANCH	**Antofagasta**	**1.35**	**12**	⇑*i* P	Pn	21 02 25.7	+0.5
ANCH				*i* S	Sn	21 02 42.8	+0.8
ANCH				AML	AML	21 02 43.5	
	comp=N,3μm,0.1s						
CEN1	**Los Morros**	**1.68**	**16**	*eP*	Pn	21 02 28.1	-1.6
CEN1				*i* S	Sn	21 02 46.2	-3.8
CEN1				AML	AML	21 03 00.8	
	comp=E,382nm,0.8s						
CPCH	**Copiapo**	**2.36**	**172**	*eP*	Pn	21 02 40.3	+1.2
CPCH				*i* S	Sn	21 03 08.3	+1.5
CPCH				AML	AML	21 03 16.5	
	comp=N,4μm,0.1s						

*IDC **19** 21:03:08.8±1.6, 102N×9699E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML2.6/1, Error ellipse: s-maj=48.4km s-min=20.1km az=56.0*
*ISCJB **19** 21:03:12.1±1.0, 11N±01×97.1E±01, h33km, mb3.9/9, MS2.9/1, Error ellipse: s-maj=20.7km s-min=14.1km az=125.8*
*NEIC **19** 21:03:13.6±0.7, 109N×9709E, h30km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=10.0km az=62.0*
ISC 19 21:03:14.8±1.0, 12N±01×971E±01, h35km, n11, σ0§53/11, mb3.9/9, MS2.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.43**	**47**	Pn	**Pn**	**21 03 51.6**	**-0.3**
	1.3nm,0.3s,baz=227,slow=5.9,SNR=18						
KULM	**Kulim**	**5.41**	**40**	*eP*	**Pn**	**21 04 32.6**	**-0.3**
KMI	**Kunming**	**24.45**	**12**	P	**P**	**21 08 31.3**	**+1.2**
	6.0nm,1.1s,mb3.9						
KMI				LR	LR		
	comp=Z,60nm,30.7s,MS2.9						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**21 11 03.6**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.5,baz=300,slow=9.1,SNR=7.9						
WRAB	**Tennant Creek**	**42.07**	**122**	P	**P**	**21 11 03.4**	**+0.3**
	comp=Z,6.8nm,1.4s,mb4.1						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**21 11 13.3**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.2,baz=306,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**47.19**	**9**	P	**P**	**21 11 44.3**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=186,slow=8.9,SNR=8.8						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**21 11 44.8**	**+0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=160,slow=9.0,SNR=16						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**21 12 32.1**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=268,slow=6.2,SNR=8.7						
BVAR	**Borovoye Array**	**56.28**	**341**	P	**P**	**21 12 51.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=139,slow=9.9,SNR=7.9						
CHKZ	**Chkalovo**	**56.75**	**341**	*eP*	**P**	**21 12 54.6**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2						

*IDC **19** 21:12:19.5±1.1, 1.17N×9700E, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.0/23, mbtmp4.3/11, ML3.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=37.3km s-min=16.6km az=54.0*
*BJI **19** 21:12:22.8, 1.12N×9743E, h33km, mB4.8, mb4.6, Ms4.3, Msz4.1*
*ISCJB **19** 21:12:23.1±0.7, 120N±009×97.11E±009, h33km, mb4.4/18, MS3.7/2, Error ellipse: s-maj=15.6km s-min=10.0km az=99.0*
*NEIC **19** 21:12:24.2±0.6, 1.18N×9708E, h30km, mb4.5/3, Error ellipse: s-maj=15.9km s-min=10.4km az=56.0*
ISC 19 21:12:25.8±0.7, 124N±009×9717E±010, h35km, n31, σ0§98/30, mb4.4/18, MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.34**	**48**	Pn	**Pn**	**21 13 00.7**	**-1.0**
	5.3nm,0.3s,baz=240,slow=6.4,SNR=40						
PSI				LR	LR	21 13 51.7	
	comp=Z,422nm,20.5s,baz=307,slow=38						
KULM	**Kulim**	**5.32**	**41**	*eP*	**Pn**	**21 13 42.6**	**0.0**
KMI	**Kunming**	**24.35**	**12**	P	**P**	**21 17 41.8**	**+1.5**
KMI				AP		21 17 51.0	
KMI				XP	sP	21 17 54.5	0.0
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,56nm,3.7s						
KMI				LR	LR		
	comp=N,323nm,12.6s,MS4.1						
KMI				LR	LR		
	comp=E,237nm,11.2s,MS4.1						
KMI				LR	LR		
	comp=Z,376nm,14.0s,MS4.0						
KMI	**Kunming**	**24.35**	**12**	P	**P**	**21 17 41.8**	**+1.5**
	comp=Z,18nm,1.1s,mb4.4						
KMI				pP		21 17 51.0	
KMI				sP	sP	21 17 54.5	0.0
KMI				PP		21 18 25.4	
KMI				S	**S**	**21 22 11.7**	**+14**
KMI				sS	sS	21 22 27.6	+14
KMI				SS		21 23 25.8	
KMI				LR	LR		
	comp=Z,380nm,14.0s,MS4.0						
GYA	**Guiyang**	**26.69**	**19**	P	**P**	**21 18 01.3**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GUN	**Gumba**	**28.64**	**339**	*eP*	**P**	**21 18 20.1**	**+1.2**
	comp=Z,18nm,0.8s,mb4.9						
KKN	**Kakani**	**28.75**	**338**	*eP*	**P**	**21 18 20.6**	**+0.7**
LSA	**Lhasa**	**28.88**	**349**	P	**P**	**21 18 23.3**	**+2.2**
LSA	**Lhasa**	**28.88**	**349**	*eP*	**P**	**21 18 22.8**	**+1.7**
	comp=Z,3.9nm,0.8s,mb4.2						
GKN	**Gorkha**	**29.19**	**337**	*eP*	**P**	**21 18 24.4**	**+0.6**
	comp=Z,23nm,1.1s,mb4.8						
KOLN	**Koldanda**	**29.41**	**335**	*eP*	**P**	**21 18 27.0**	**+1.2**
XAN	**Xi'an**	**34.44**	**17**	P	**P**	**21 19 09.0**	**-0.9**
XAN				AP	pP	21 19 15.8	-4.2
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**38.07**	**3**	*eP*	**P**	**21 19 41.3**	**+0.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
JOW	**Kunigami**	**39.24**	**47**	P	**P**	**21 19 51.6**	**+0.9**
	comp=Z,23nm,0.8s,mb5.0,baz=278,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**21 20 13.7**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=20						
WB2	**Warramunga Arr**	**42.09**	**122**	*eP*	**P**	**21 20 14.4**	**+0.1**
ASAR	**Alice Springs**	**43.44**	**127**	P	**P**	**21 20 25.4**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.7,baz=300,slow=6.9,SNR=11						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**21 20 54.6**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=186,slow=8.7,SNR=30						
MK31	**Makanchi Array**	**47.20**	**346**	*eP*	**P**	**21 20 54.5**	**-0.5**
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**21 20 55.1**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.3,baz=161,slow=8.9,SNR=38						
MKAR				LR	LR	21 43 53.9	
	comp=Z,40nm,19.2s,MS3.4,baz=65,slow=40						
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**21 20 55.1**	**+0.1**
MKAR				LR	LR	21 43 53.9	
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**21 21 43.0**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=292,slow=11,SNR=3.5						
ZAL	**Zalesovo**	**53.51**	**351**	P	**P**	**21 21 40.2**	**-2.5**
	comp=Z,3.5nm,0.6s,mb4.5,baz=289,slow=5.1,SNR=14						
ZAL	**Zalesovo**	**53.51**	**351**	P	**P**	**21 21 40.2**	**-2.5**
BVAR	**Borovoye Array**	**56.20**	**341**	P	**P**	**21 22 01.5**	**-0.7**
	comp=Z,3.1nm,0.7s,mb4.5,baz=142,slow=8.4,SNR=20						
CHKZ	**Chkalovo**	**56.68**	**341**	*eP*	**P**	**21 22 04.3**	**-1.3**
	comp=Z,4.5nm,0.8s,mb4.5						
AKTK	**Aktyubinsk**	**59.18**	**332**	P	**P**	**21 22 21.9**	**-1.2**
AKTO	**Aktyubinsk**	**59.18**	**332**	P	**P**	**21 22 21.9**	**-1.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=84,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**21 24 44.0**	**-0.6**
	comp=Z,4.1nm,1.0s,mb4.3,baz=108,slow=4.0,SNR=3.5						
TXAR	**Lajitas Array**	**143.65**	**32**	PKP	PKPdf	21 31 55.4	-1.4
	comp=Z,0.1nm,0.4s,baz=309,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**143.65**	**32**	PKP	PKPdf	21 31 55.4	-1.4

OTT 19 21:15:08.1±4.2, 7124N×7132W, h18km, MN2.9/5, 130km northwest from Clyde River, Nu Baffin Island Seismic Zone, Nt., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**2.54**	**308**	PN		21 20 06.2	
PINU				SN		21 20 35.7	
PINU				SG		21 20 41.8	
PINU				Trac		21 20 45.9	
	comp=Z,12nm,0.2s						
GIFN	**Gifford Fjord,**	**3.66**	**255**	PN	Pn	21 16 03.5	-0.3
GIFN				PG	Pg	21 16 11.7	-6.5
GIFN				SN	Sn	21 16 45.0	-1.5
GIFN				SG	Sg	21 16 58.8	-6.9
GIFN				Trac		21 17 04.7	
	comp=Z,9.6nm,0.2s						
ILON	**Igloolik, Nuna**	**4.02**	**247**	SN	Sn	21 16 53.7	-1.7
ILON				SG	Sg	21 17 11.6	-5.5
ILON				Trac		21 17 12.2	
	comp=Z,13nm,0.3s						
SRLN	**Sarcpa Lake, N**	**4.94**	**243**	PN	Pn	21 16 21.2	-0.2
SRLN				PG	Pg	21 16 34.7	-8.0
SRLN				SN	Sn	21 17 15.2	-2.9
SRLN				LG		21 17 37.4	
SRLN				Trac		21 17 44.3	
	comp=Z,8.7nm,0.4s						
QILN	**Qililugaq Expl**	**7.09**	**237**	PN	Pn	21 16 47.7	-3.3
QILN				SN	Sn	21 18 04.2	-7.0
QILN				LG		21 18 45.6	
FRB	**Frobisher Bay**	**7.60**	**171**	SN	Sn	21 18 15.8	-7.8
FRB				LG		21 18 55.5	
FRB				Trac		21 19 10.8	
	comp=Z,0.8nm,0.1s						
SEDN	**First Sedna Si**	**11.05**	**233**	PN	Pn	21 17 34.3	-11
SEDN				SN	Sn	21 19 39.1	-9.1

*ISCJB **19** 21:29:27.3±1.7, 4305N±008×002E±006, h14km±11km, Error ellipse: s-maj=14.4km s-min=7.3km az=149.8*
*LDG **19** 21:29:27.8±0.1, 4304N×002E, h10km, Md1.2/2, Error ellipse: s-maj=2.3km s-min=1.1km az=166.0*
*CSEM **19** 21:29:27.8±0.0, 4304N×003E, h12km, ML2.2, Error ellipse: s-maj=1.3km s-min=0.6km az=166.0*
*MDD **19** 21:29:28.1±0.6, 4303N×003E, h12km±4km, mbLg0.5/3, Error ellipse: s-maj=4.4km s-min=3.2km az=170.0, PRXIMO*
*STR **19** 21:29:28.0±0.0, 4305N×006W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 19 21:29:27.7±1.7, 4304N±009×002E±007, h13km±11km, n9, σ0§06/16, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**83**	Pg	**Pg**	**21 29 30.1**	**0.0**
LABF				Sg	**Sg**	**21 29 31.7**	**-0.1**
LABF	**Labassere**	**0.04**	**83**	P	**Pg**	**21 29 30.1**	**+0.1**
LABF				S	**Sg**	**21 29 31.7**	**0.0**
VIEF	**Viey**	**0.16**	**180**	Pg	**Pg**	**21 29 31.5**	**0.0**
VIEF				Sg	**Sg**	**21 29 34.1**	**0.0**
VIEF	**Viey**	**0.16**	**180**	P	**Pg**	**21 29 31.5**	**0.0**
VIEF				S	**Sg**	**21 29 34.1**	**0.0**
EPF	**Esparros**	**0.23**	**93**	*e*Pg	**Pg**	**21 29 32.6**	**-0.1**
EPF				*e*Sg	**Sg**	**21 29 36.2**	**+0.1**
	5.0nm,0.3s						
EPF	**Esparros**	**0.23**	**93**	*e*Pg	**Pg**	**21 29 32.6**	**-0.1**
EPF				*e*Sg	**Sg**	**21 29 36.2**	**+0.1**
	2.5nm,0.3s						
EBIE	**Bielsa**	**0.37**	**166**	Lg		21 29 39.9	
	0.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.45**	**252**	*e*Pg	**Pg**	**21 29 36.6**	**0.0**
ETSF				*e*Sg	**Sg**	**21 29 42.7**	**0.0**
	5.3nm,0.3s						
ETSF	**Etsaut**	**0.45**	**252**	*e*Pg	**Pg**	**21 29 36.6**	**0.0**
ETSF				*e*Sg	**Sg**	**21 29 42.7**	**0.0**
	2.7nm,0.3s						

*IDC **19** 22:14:12.0±5.4, 258N×12886E, h193km±54km, mb3.3/7, mb1 3.4/7, mb1mx3.3/17, mbtmp3.8/7, Error ellipse: s-maj=46.1km s-min=14.2km az=78.0*
*ISCJB **19** 22:14:14.2±3.8, 26N±01×1288E±02, h236km±39km, mb3.5/7, Error ellipse: s-maj=35.0km s-min=13.1km az=132.2*
*NEIC **19** 22:14:14.4±2.7, 259N×12882E, h220km±27km, mb3.6/1, Error ellipse: s-maj=22.9km s-min=8.9km az=66.0*
ISC 19 22:14:14.0±4.2, 26N±01×1288E±02, h214km±44km, n13, σ0§68/12, mb3.5/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**13.05**	**286**	Pn	**Pn**	**22 17 11.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.80**	**189**	*eP*	**P**	**22 18 38.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.80**	**189**	P	**P**	**22 18 37.9**	**-1.0**
	3.5nm,1.2s,baz=17,slow=10,SNR=8.4						
WRA	**Warramunga Arr**	**23.04**	**167**	P	**P**	**22 19 00.2**	**-0.2**
	0.7nm,0.3s,mb3.7,baz=346,slow=11,SNR=39						
WB2	**Warramunga Arr**	**23.04**	**167**	*eP*	**P**	**22 19 01.2**	**+0.8**
ASAR	**Alice Springs**	**26.56**	**170**	P	**P**	**22 19 33.0**	**+0.8**
	0.9nm,0.5s,mb3.7,baz=354,slow=8.0,SNR=13						
ASAR				PcP	PcP	22 22 51.8	+1.1
	0.3nm,0.4s,baz=349,slow=2.6,SNR=5.1						
KULM	**Kulim**	**28.25**	**276**	P	**P**	**22 19 47.3**	**+0.1**
MJAR	**Matsushiro Arr**	**34.87**	**13**	P	**P**	**22 20 44.7**	**-0.2**
	0.2nm,0.4s,mb3.0,baz=183,slow=7.1,SNR=4.7						
STKA	**Stephens Creek**	**36.36**	**162**	P	**P**	**22 20 56.5**	**-1.0**
	4.0nm,1.1s,mb3.9,baz=333,slow=12,SNR=3.2						
SONM	**Songino Array**	**49.06**	**340**	P	**P**	**22 22 40.2**	**+0.8**
	0.6nm,0.8s,mb3.0,baz=153,slow=9.6,SNR=5.2						
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**22 23 56.3**	**+0.4**
	1.0nm,0.4s,mb3.8,baz=112,slow=8.0,SNR=28						
BRVK	**Borovoye**	**69.49**	**327**	*eP*	**P**	**22 24 58.1**	**-1.1**
	1.8nm,0.8s,mb3.8						
TORD	**Torodi Ar. Bea**	**125.28**	**288**	PKP	PKPdf	22 32 49.8	+0.7
	0.1nm,0.4s,baz=87,slow=1.6,SNR=7.4						

*ISK **19** 22:19:28.0, 3993N×4077E, h5km, ML4.0*
*NEIC **19** 22:19:28.6, 3994N×4078E, h4km, mb3.8/2, ML3.8(ISK), After ISK.*
*ISCJB **19** 22:19:29.9±0.2, 3989N±002×4082E±002, h10km, mb3.6/11, MS3.4/7, Error ellipse: s-maj=3.0km s-min=2.4km az=0.9*
*CSEM **19** 22:19:29.5±0.1, 3993N×4077E, h10km, mb4.0/7, Error ellipse: s-maj=1.8km s-min=1.6km az=24.0*
*IDC **19** 22:19:30.3±0.9, 3984N×4058E, h0km, mb3.8/9, mb1 3.9/14, mb1mx3.8/24, mbtmp3.8/14, ML3.9/4, MS3.3/10, Ms1 3.3/10, ms1mx3.1/38, Error ellipse: s-maj=20.2km s-min=11.1km az=4.0*
*MOS **19** 22:19:32.2±2.1, 3991N×4068E, h26km, mb3.7/8, Error ellipse: s-maj=8.0km s-min=6.2km az=97.2*
ISC 19 22:19:31.1±0.2, 3987N±002×4083E±002, h10km, n105, σ1§38/121, mb3.6/11, MS3.4/7, 3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.41**	**85**	*i* PG	**Pg**	**22 19 37.3**	**-2.0**
EZM	**Erzurum**	**0.41**	**85**	Pg	**Pg**	**22 19 37.4**	**-1.9**
EZM				Sg	**Sg**	**22 19 44.4**	**-0.4**
ERZM	**Erzurum**	**0.42**	**85**	*i* P	**Pg**	**22 19 36.7**	**-2.6**
ERZM				*i* S	**Sg**	**22 19 44.4**	**-0.5**
EZC	**Erzincan**	**0.79**	**261**	PN	**Pn**	**22 19 50.1**	**+1.8**
EZC	**Erzincan**	**0.79**	**261**	Pn	**Pn**	**22 19 50.3**	**+2.0**
BNGL	**BINGOL**	**0.95**	**165**	*i* P	**Pg**	**22 19 47.7**	**-1.8**
BNGL				*i* S	**Sg**	**22 20 09.4**	**+7.6**
BINT	**Bingol**	**1.03**	**195**	PG	**Pg**	**22 19 49.0**	**-1.9**
BINT				SG	**Sg**	**22 20 05.0**	**+0.8**
BINT	**Bingol**	**1.03**	**195**	*e*Pg	**Pg**	**22 19 49.0**	**-1.9**
BINT				Sg	**Sg**	**22 20 05.1**	**+0.9**
KELT	**Kelkit**	**1.24**	**283**	*i* P	**Pn**	**22 19 51.3**	**-3.2**
KELT				*i* S	**Sb**	**22 20 09.5**	**-1.1**
MACK	**Trabzon**	**1.34**	**323**	*i* P	**Pn**	**22 19 53.3**	**-2.6**
MACK				*i* S	**Sb**	**22 20 12.4**	**-1.1**
KTUT	**Trabzon**	**1.38**	**324**	PN	**Pn**	**22 19 54.1**	**-2.3**
KTUT				SN	**Sn**	**22 20 12.7**	**-1.9**
PTK	**Pertek**	**1.48**	**229**	PN	**Pn**	**22 19 56.5**	**-1.3**
BCA	**Borcka**	**1.69**	**21**	PN	**Pn**	**22 19 58.7**	**-1.9**
BCA	**Borcka**	**1.69**	**21**	Pn	**Pn**	**22 19 58.8**	**-1.8**
BCA	**Borcka**	**1.69**	**21**	Pn	**Pn**	**22 19 58.8**	**-1.8**
AGRT	**Agri**	**1.69**	**98**	PN	**Pn**	**22 20 01.0**	**+0.3**
BTMT	**Batman**	**1.75**	**163**	PN	**Pn**	**22 20 02.7**	**+1.1**
KARS	**Kars**	**1.89**	**66**	PN	**Pn**	**22 20 03.1**	**-0.3**
KARS	**Kars**	**1.89**	**66**	Pn	**Pn**	**22 20 03.1**	**-0.3**
ELZG	**Elazig**	**1.98**	**227**	*i* P	**Pn**	**22 20 03.8**	**-0.9**
ELZG				*i* S	**Sg**	**22 20 34.4**	**-0.5**
DIY	**Diyarbakir**	**2.03**	**194**	PN	**Pn**	**22 20 05.1**	**-0.2**
DIY	**Diyarbakir**	**2.03**	**194**	Pn	**Pn**	**22 20 05.1**	**-0.2**
GRSN	**GIRESUNGRSN**	**2.22**	**299**	*i* P	**Pn**	**22 20 08.4**	**+0.5**
GRSN				*i* S	**Sb**	**22 20 38.9**	**+0.1**
VANB	**Van**	**2.36**	**122**	PN	**Pn**	**22 20 10.1**	**+0.1**
VANB	**Van**	**2.36**	**122**	Pn	**Pn**	**22 20 10.1**	**+0.2**
MYA	**Malataya**	**2.42**	**231**	PN	**Pn**	**22 20 10.8**	**+0.1**
MYA	**Malataya**	**2.42**	**231**	Pn	**Pn**	**22 20 10.8**	**+0.1**
SIRT	**Sirnak**	**2.68**	**151**	PN	**Pn**	**22 20 15.1**	**+0.8**
URFA	**Urfa**	**2.89**	**214**	PN	**Pn**	**22 20 17.8**	**+0.6**
SVSK	**Karacayir**	**2.94**	**272**	PN	**Pn**	**22 20 17.4**	**-0.5**
GNI	**Garni**	**3.02**	**83**	PN	**Pn**	**22 20 19.5**	**+0.5**
GNI	**Garni**	**3.02**	**83**	Pn	**Pb**	**22 20 23.7**	**-1.3**
	2.9nm,0.3s,baz=292,slow=3.2,SNR=19						
GNI	**Garni**	**3.02**	**83**	P	**Pb**	**22 20 23.7**	**-1.3**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
HKR	**Hakkari**	**3.23**	**134**	PN	**Pn**	**22 20 22.9**	**+1.0**
HKR	**Hakkari**	**3.23**	**134**	Pn	**Pn**	**22 20 23.0**	**+1.1**
HKR	**Hakkari**	**3.23**	**134**	Pn	**Pn**	**22 20 23.0**	**+1.1**
ONI	**Oni**	**3.35**	**35**	P	**Pn**	**22 20 23.0**	**-0.5**
ONI				S	**Sb**	**22 21 13.7**	**+2.2**
CUKT	**Cukurca**	**3.41**	**139**	PN	**Pn**	**22 20 25.7**	**+1.4**
MTA	**Mtatsminda**	**3.52**	**58**	P	**Pn**	**22 20 25.0**	**-0.8**
MTA				S	**Sg**	**22 21 25.2**	**+1.0**
ZEI	**Tsey**	**3.71**	**38**	*e*P	**Pn**	**22 20 31.2**	**+2.8**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ZEI	**Tsey**	**3.71**	**38**	*e*P	**Pn**	**22 20 31.2**	**+2.8**
	comp=Z,5.0nm,0.1s						
KMRS	**Kahramanmaras**	**3.87**	**234**	PN	**Pn**	**22 20 31.3**	**+0.6**
MSL	**Mosul**	**4.00**	**153**	*ex*	x	22 20 45.0	
MSL				*ex*	x	22 21 24.0	
KIV	**Kislovodsk**	**4.31**	**18**	*e*P	**Pn**	**22 20 38.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,238nm,8.0s						
KIV	**Kislovodsk**	**4.31**	**18**	*e*Pn	**Pn**	**22 20 35.8**	**-1.0**
KIV	**Kislovodsk**	**4.31**	**18**	*e*Pn	**Pn**	**22 20 35.8**	**-0.9**
KIV	**Kislovodsk**	**4.31**	**18**	*e*P	**Pn**	**22 20 38.1**	**+1.4**
	comp=Z,238nm,8.0s						
KOZT	**Kozan**	**4.58**	**240**	PN	**Pn**	**22 20 41.4**	**+1.0**
DIKM	**Dikmen**	**4.58**	**295**	PN	**Pn**	**22 20 40.7**	**+0.2**
KARA	**Karaisali**	**5.22**	**242**	PN	**Pn**	**22 20 49.7**	**+0.5**
BR131	**Keskin Array S**	**5.54**	**271**	*e*Pn	**Pn**	**22 20 50.6**	**-2.9**
	comp=Z,12nm,0.7s						
BR131				*e*Pg	**Pb**	**22 21 05.8**	**-2.0**
BR131				*e*Sg	**Sg**	**22 22 33.5**	**+4.6**
BRTR	**Keskin Array B**	**5.54**	**271**	Pn	**Pn**	**22 20 51.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=103,slow=14,SNR=2.6						
BRTR				Pg	**Pb**	**22 21 04.5**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=95,slow=13,SNR=16						
BRTR				Lg		22 22 27.9	
	baz=315,slow=30,SNR=1.7						
BRTR				LR	LR	22 23 14.3	
	comp=Z,175nm,19.1s,baz=287,slow=42						
ANTO	**Ankara**	**6.18**	**273**	‖*i* P	**Pb**	**22 21 20.8**	**+2.0**
ANTO	**Ankara**	**6.18**	**273**	*e*P	**Pn**	**22 21 04.9**	**+2.5**
ANTO				pmax	pmax		
	comp=Z,42nm,1.1s						
ANTO	**Ankara**	**6.18**	**273**	*e*Pn	**Pn**	**22 21 04.9**	**+2.5**
	comp=Z,42nm,1.1s						
ANTO				*e*Sg	**Sg**	**22 22 48.5**	**-1.0**
ANTO	**Ankara**	**6.18**	**273**	*e*Pn	**Pn**	**22 21 04.9**	**+2.5**
	comp=Z,42nm,1.1s						
ANTO				*e*Sg	**Sg**	**22 22 48.5**	**-1.0**
SUDU	**Sudak**	**6.61**	**321**	*e*P	**Pn**	**22 21 08.0**	**-0.3**
SUDU				*e*S	**Sn**	**22 22 29.0**	**+5.2**
SUDU				smax			
	comp=E,80nm,0.8s						
ALU	**Alushta**	**6.76**	**317**	*e*P	**Pn

comp=Z,39nm,19.4s,baz=259,slow=42
GERES **GERESS Array B 21.27 304** P **P** 22 24 15.2 -2.4
comp=Z,0.8nm,0.8s,mb3.1,baz=111,slow=11,SNR=4.3
ZRNK **Zerenda 23.24 46** *e*P **P** 22 24 36.8 -1.8
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb3.6
ZRNK **Zerenda 23.24 46** *e*P **P** 22 24 36.8 -1.8
comp=Z,1.6nm,0.8s,mb3.5
ZRNK **Zerenda 23.24 46** *e*P **P** 22 24 36.8 -1.8
comp=Z,1.6nm,0.8s,mb3.5
FINES **FINESS Array B 23.42 342** P **P** 22 24 40.6 +0.1
comp=Z,6.7nm,1.0s,mb4.0,baz=175,slow=25,SNR=4.5
FINES LR LR 22 34 30.9
comp=Z,56nm,20.0s,MS3.0,baz=289,slow=38
FINES **FINESS Array B 23.42 342** P **P** 22 24 40.6 +0.1
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES MLR MLR
comp=Z,56nm,20.0s
BVAR **Borovoye Array 24.05 47** P **P** 22 24 49.3 +3.0
comp=Z,0.6nm,0.7s,mb3.1,baz=230,slow=9.3,SNR=3.8
BVAR **Borovoye Array 24.05 47** P **P** 22 24 49.3 +3.0
BVAR pmax pmax
comp=Z,1.0nm,0.7s
CHKZ **Chkalovo 24.41 46** *e*P **P** 22 24 49.0 -0.7
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
CHKZ **Chkalovo 24.41 46** *e*P **P** 22 24 49.0 -0.7
comp=Z,2.7nm,0.8s,mb3.7
CHKZ **Chkalovo 24.41 46** *e*P **P** 22 24 49.0 -0.7
comp=Z,2.7nm,0.8s,mb3.7
KEST **Kesra 25.14 271** P **P** 22 24 55.9 -0.5
comp=Z,3.0nm,1.1s,mb3.7,baz=240,slow=20,SNR=2.5
HFS **Hagfors 26.41 329** P **P** 22 25 07.2 -0.6
comp=Z,5.3nm,1.0s,mb4.0,baz=121,slow=19,SNR=3.4
HFS LR LR 22 35 14.7
comp=Z,80nm,18.7s,MS3.3,baz=72,slow=36
HFS **Hagfors 26.41 329** P **P** 22 25 07.2 -0.7
HFS pmax pmax
comp=Z,5.0nm,1.0s
HFS MLR MLR
comp=Z,80nm,18.7s
NOA **NORSAR Array B 27.94 329** P **P** 22 25 22.9 +1.4
comp=Z,0.6nm,0.7s,mb3.4,baz=121,slow=9.7,SNR=2.9
NOA LR LR 22 37 49.2
comp=Z,57nm,19.6s,MS3.2,baz=100,slow=39
NOA **NORSAR Array B 27.94 329** P **P** 22 25 22.9 +1.3
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,57nm,19.6s
MKAR **Makanchi Array 30.66 63** P **P** 22 25 48.7 +2.9
comp=Z,0.7nm,0.9s,mb3.5,baz=274,slow=5.6,SNR=5.1
MKAR LR LR 22 39 57.9
comp=Z,80nm,20.8s,MS3.4,baz=85,slow=40
MKAR **Makanchi Array 30.66 63** P **P** 22 25 48.7 +3.0
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,80nm,20.8s
MKAR **Makanchi Array 30.66 63** P **P** 22 25 48.7 +2.9
MKAR LR LR 22 39 57.9
ARCES **ARCESS Array B 30.82 350** LR LR 22 38 31.2
comp=Z,55nm,21.6s,MS3.2,baz=183,slow=37
ZAL **Zalesovo 32.60 50** P **P** 22 26 03.7 +0.9
comp=Z,0.6nm,0.5s,mb3.8,baz=158,slow=7.4,SNR=3.3
ZAL **Zalesovo 32.60 50** P **P** 22 26 03.7 +0.9
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL **Zalesovo 32.60 50** P **P** 22 26 03.7 +0.9
TORD **Torodi Ar. Bea 43.46 243** P **P** 22 27 33.2 -1.1
comp=Z,1.7nm,1.0s,mb3.8,baz=37,slow=7.7,SNR=7.7
TORD **Torodi Ar. Bea 43.46 243** P **P** 22 27 33.2 -1.1
SONM **Songino Array 46.66 58** LR LR 22 49 56.2
comp=Z,168nm,18.9s,MS4.0,baz=304,slow=39
ASAJ **Asahikawa 70.74 48** LR LR 23 08 40.2
comp=Z,38nm,18.0s,MS3.7,baz=227,slow=42

BJI 19 22:27:46.9, 4202N×8363E, h14km, ML3.2, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.49**	**58**	*e*P	Pn	22 28 41.5	+0.8
WMQ				S	Sn	22 29 25.0	+3.3
WMQ				Smax			
comp=N,49nm,0.7s							
WMQ				Smax			
comp=E,103nm,0.4s							
MK31	**Makanchi Array**	**4.87**	**349**	⇓Pn	Pn	22 29 00.9	+1.2
comp=E,0.7nm,0.4s,baz=176,slow=14,SNR=34							
MK31				⇓Pg	Pg	22 29 14.6	-5.6
comp=E,4.1nm,0.5s,baz=168,slow=16,SNR=17							
MK31				⇑Lg		22 30 14.2	
comp=E,19nm,0.5s,baz=175,slow=31,SNR=10							
TKM2	**Tokmak 2**	**6.01**	**281**	⇓Pn	Pn	22 29 14.8	-0.6
comp=E,0.1nm,0.6s							
TKM2				⇑Lg		22 30 54.1	
comp=E,0.7nm,0.6s							

ISCJB 19 22:28:15.9±1.4, 3147N±002×3543E±007, h13km±10km, Error ellipse: s-maj=10.8km s-min=3.9km az=17.5
HLW 19 22:28:17.9, 3147N×3550E, h23km, Mb3.1
GII 19 22:28:17.3±0.1, 3148N×3549E, h17km±1km, ML2.6/8, Mw2.4/3
ISC 19 22:28:17.1±0.7, 3147N±003×3550E±007, h23km±4km, n26, σ0§52/34, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSI	**Dead Sea**	**0.14**	**314**	Pn	**Pb**	**22 28 22.1**	**+0.2**
DRGI	**Dragot**	**0.15**	**323**	Pn	**Pb**	**22 28 21.7**	**-0.3**
MZDA	**Masada**	**0.20**	**216**	Pn	**Pb**	**22 28 22.5**	**0.0**
MZDA				Sn	**Sb**	**22 28 26.1**	**-0.1**
YTIR	**Yattir**	**0.35**	**252**	Pn	**Pb**	**22 28 25.1**	**+0.4**
AMAZ	**Amatzia**	**0.50**	**277**	Pn	**Pb**	**22 28 27.1**	**-0.2**
AMAZ				Sn	**Sb**	**22 28 35.0**	**+0.8**
MASH	**Mash'abbe Sade**	**0.77**	**233**	Pn	**Pn**	**22 28 31.8**	**-0.9**
HMDT	**Nahal Hemdat**	**0.78**	**2**	Pn	**Pn**	**22 28 31.7**	**-1.0**
RTMI	**Retamim**	**0.81**	**239**	Pn	**Pn**	**22 28 32.4**	**-0.7**
SLTI	**Sal'it**	**0.86**	**333**	Pn	**Pn**	**22 28 33.3**	**-0.6**
SLTI				Sn	**Sn**	**22 28 44.9**	**-0.8**
SVTA	**Shivta**	**0.93**	**235**	Pn	**Pn**	**22 28 34.3**	**-0.4**
ZFRI	**Zfri**	**0.95**	**197**	Pn	**Pn**	**22 28 34.5**	**-0.6**
MMLI	**Mount Malkishu**	**0.97**	**356**	Pn	**Pn**	**22 28 34.8**	**-0.5**
MMLI				Sn	**Sn**	**22 28 48.4**	**+0.1**
RMNI	**Mount Ramon**	**1.08**	**216**	Pn	**Pn**	**22 28 37.1**	**+0.3**
KZIT	**Kziot**	**1.10**	**240**	Pn	**Pn**	**22 28 36.9**	**-0.2**
KZIT				Sn	**Sn**	**22 28 52.0**	**+0.4**
PRNI	**Paran**	**1.19**	**201**	Pn	**Pn**	**22 28 38.3**	**-0.1**
PRNI				Sn	**Sn**	**22 28 54.4**	**+0.5**
OFRI	**'Ofer**	**1.23**	**339**	Pn	**Pn**	**22 28 39.1**	**+0.2**
HRFI	**Mount Harif**	**1.48**	**196**	Pn	**Pn**	**22 28 42.4**	**0.0**
HRFI				Sn	**Sn**	**22 29 01.7**	**+0.7**
KMTI	**Karmit**	**1.52**	**206**	Pn	**Pn**	**22 28 43.2**	**+0.3**
MMA0	**Mount Meron ar**	**1.54**	**357**	Pn	**Pn**	**22 28 44.1**	**+0.9**
MMA0B	**Mount Meron ar**	**1.54**	**357**	Pn	**Pn**	**22 28 44.1**	**+0.9**
MMA0B				Sn	**Sn**	**22 29 03.6**	**+1.1**
MBH	**Mount Berech**	**1.75**	**197**	Pn	**Pn**	**22 28 46.3**	**+0.3**
EIL	**Elat**	**1.86**	**195**	Pn	**Pn**	**22 28 47.8**	**+0.3**
HNKL	**Nakhl**	**2.02**	**221**	P	**Pn**	**22 28 49.5**	**-0.3**
AMAG	**Maghara**	**2.13**	**248**	P	**Pn**	**22 28 51.0**	**-0.3**
SUZ		**2.81**	**235**	P	**Pn**	**22 29 00.4**	**-0.3**
HKAT	**Jabal Katrina**	**3.21**	**204**	P	**Pn**	**22 29 06.2**	**0.0**

CSEM 19 22:42:42.4, 1207N×4477E, h23km, ML4.5, After DHMR
DHMR 19 22:42:42.4±1.4, 1207N×4477E, h23km±6km, ML4.5, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.73**	**16**	⇓*i*P	Pb	22 42 56.6	+0.1
ADEN				*i* S	Sb	22 43 06.6	+0.5
ADEN				AML	AML	22 43 07.8	
comp=N,18μm,0.5s							
ADEN	**Aden**	**0.73**	**16**	⇓*i*P	Pb	22 42 56.6	+0.1
ADEN				*i* S	Sb	22 43 06.6	+0.5
comp=N,9μm,0.5s							
TRBA	**At Turbah**	**1.32**	**331**	⇓*e*P	Pn	22 43 06.1	+0.7
TRBA				*i* S	Sn	22 43 22.9	+0.7
LBOS		**1.85**	**15**	⇑*i*P	Pn	22 43 14.7	+2.0
LBOS				*i* S	Sn	22 43 39.9	+4.5
UDYN	**Al 'Udayn**	**2.04**	**338**	*i* P	Pn	22 43 17.7	+2.4
UDYN				*i* S	Sn	22 43 44.7	+4.6
UDYN				AML	AML	22 43 52.5	
comp=N,6μm,0.6s							
BDHA	**Al Bayda'**	**2.05**	**22**	⇑*e*P	Pn	22 43 17.0	+1.6
BDHA				*i* S	Sn	22 43 44.7	+4.5
DHBB	**Dhamar BB**	**2.52**	**352**	*e*P	Pn	22 43 25.0	+3.2
DHBB				*i* S	Sn	22 43 58.8	+7.0
HAJJ	**Hajjah**	**3.79**	**343**	*i* P	Pn	22 43 42.0	+2.8
HAJJ				*i* S	Sn	22 44 28.8	+5.7
HAJJ				AML	AML	22 44 57.0	
comp=Z,2μm,0.6s							
HAJJ	**Hajjah**	**3.79**	**343**	*i* P	Pn	22 43 42.0	+2.7
HAJJ				*i* S	Sn	22 44 28.8	+5.8
comp=Z,1μm,0.6s							
MUKL	**Al Mukalla**	**4.79**	**60**	*i* P	Pn	22 43 55.0	+1.9

CSEM 19 22:48:24.4, 1209N×4471E, h19km, ML4.3, After DHMR
DHMR 19 22:48:24.4±1.0, 1209N×4471E, h20km±4km, ML4.3, 1C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.73**	**21**	⇓*e*P	Pb	22 48 38.6	+0.1
ADEN				*i* S	Sb	22 48 48.3	+0.3
ADEN				AML	AML	22 48 52.7	
comp=E,16μm,0.5s							
ADEN	**Aden**	**0.73**	**21**	⇓*e*P	Pb	22 48 38.6	+0.1
ADEN				*i* S	Sb	22 48 48.3	+0.3
comp=E,8μm,0.5s							
TRBA	**At Turbah**	**1.27**	**333**	*i* P	Pn	22 48 47.4	+0.3
TRBA				*i* S	Sn	22 49 04.9	+1.3
LBOS		**1.85**	**16**	⇑*i*P	Pn	22 48 57.0	+2.1
LBOS				*i* S	Sn	22 49 21.2	+3.5
UDYN	**Al 'Udayn**	**2.00**	**339**	*i* P	Pn	22 48 58.8	+1.7
UDYN				*i* S	Sn	22 49 26.0	+4.5
UDYN				AML	AML	22 49 34.8	
comp=N,3μm,0.5s							
BDHA	**Al Bayda'**	**2.05**	**24**	*i* P	Pn	22 48 59.5	+1.8
BDHA				*i* S	Sn	22 49 27.4	+4.7
DHBB	**Dhamar BB**	**2.49**	**353**	*i* P	Pn	22 49 06.7	+2.9
DHBB				*i* S	Sn	22 49 40.1	+6.6
HAJJ	**Hajjah**	**3.75**	**343**	*i* P	Pn	22 49 23.5	+2.4
HAJJ				*i* S	Sn	22 50 10.6	+6.0
HAJJ				AML	AML	22 50 35.0	
comp=Z,960nm,0.7s							
HAJJ	**Hajjah**	**3.75**	**343**	*i* P	Pn	22 49 23.5	+2.4
HAJJ				*i* S	Sn	22 50 10.6	+6.0
comp=Z,480nm,0.7s							
MUKL	**Al Mukalla**	**4.83**	**60**	*i* P	Pn	22 49 37.9	+1.9
MUKL				*i* S	Sn	22 50 35.9	+4.6

CRAAG 19 22:52:10.7, 3551N×122E, Ml5.0
IDC 19 22:52:11.6±0.9, 3569N×135E, h0km, mb3.9/12, mb1 4.0/19, mb1mx4.0/31, mbtmp3.9/19, ML4.0/7, MS3.5/11, Ms1 3.5/11, ms1mx3.2/43, Error ellipse: s-maj=19.7km s-min=15.3km az=140.0
CSEM 19 22:52:11.8±0.1, 3559N×122E, h12km, mb4.7/5, ML3.9/5, Error ellipse: s-maj=2.1km s-min=1.9km az=30.0
ISCJB 19 22:52:12.2±0.2, 3578N±002×128E±002, h10km, mb4.1/19, MS3.6/8, Error ellipse: s-maj=2.5km s-min=1.8km az=153.5
CNRM 19 22:52:12.7, 3566N×177W, h30km, MD4.5
BJI 19 22:52:12.8, 3570N×130E, h10km, mB5.1, mb4.5
MOS 19 22:52:12.6±1.2, 3580N×127E, h10km, mb4.3/14, Error ellipse: s-maj=6.1km s-min=3.1km az=81.2
MDD 19 22:52:13.4±0.5, 3562N×142E, h4km±4km, mb4.8/26, Error ellipse: s-maj=4.4km s-min=3.6km az=156.0, PRXIMO
NEIC 19 22:52:13.8±0.4, 3567N×128E, h10km, mb4.1/15, Error ellipse: s-maj=5.3km s-min=3.8km az=174.0
INMG 19 22:52:14.2±2.5, 3565N×125E, h3km±22km, Mb4.6, ML3.7, Error ellipse: s-maj=21.5km s-min=6.4km az=129.0
LDG 19 22:52:14.9±0.2, 3545N×148E, h30km, Ml3.9/12, Error ellipse: s-maj=4.1km s-min=2.1km az=158.0
ISC 19 22:52:14.1±0.2, 3575N±002×128E±001, h10km, n293, σ1§39/373, mb4.1/19, MS3.6/8, 8C-14D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.25**	**324**	P	**Sg**	**22 52 22.0**	**-0.5**
ETRT	**Tiaret**	**0.36**	**177**	P	**Pg**	**22 52 18.0**	**-3.3**
ECHA	**Ech Chlef**	**0.40**	**10**	P	**Pg**	**22 52 23.0**	**+0.9**
ECHF	**Ech Chlef**	**0.41**	**7**	P	**Pg**	**22 52 23.0**	**+0.9**
OJGS	**Djebel Guires**	**0.50**	**240**	P	**Pg**	**22 52 21.0**	**-2.8**
EBNR	**Beni Rached**	**0.57**	**21**	P	**Pg**	**22 52 26.0**	**+0.7**
OKGL	**Djebel Kef Gue**	**0.59**	**299**	P	**Pg**	**22 52 27.0**	**+1.4**
EMHD	**Djebel Mahouad**	**1.43**	**71**	P	**Pn**	**22 52 37.0**	**-3.1**
USTO	**Oran**	**1.49**	**270**	P	**Pn**	**22 52 48.0**	**+7.1**
ABA	**Alger-Bouzarea**	**1.76**	**53**	P	**Pn**	**22 52 42.0**	**-2.7**
ADJB	**Djebel Djouab**	**1.80**	**76**	P	**Pn**	**22 52 43.0**	**-2.2**
ABMS	**Boumerdes**	**2.04**	**60**	P	**Pn**	**22 52 45.3**	**-3.2**
ODZI	**Dzioua**	**2.10**	**258**	P	**Pn**	**22 52 46.0**	**-3.3**
AKET	**Djebel Ketaf**	**2.13**	**81**	P	**Pn**	**22 52 48.6**	**-1.2**
CART	**Cartagena**	**2.59**	**316**	⇓P	**Pn**	**22 52 55.0**	**-1.1**
CART				S	**Sn**	**22 53 22.6**	**-5.0**
CART	**Cartagena**	**2.59**	**316**	*e*Pn	**Pn**	**22 52 55.5**	**-0.6**
CART				*e*Sn	**Sn**	**22 53 23.4**	**-4.2**
CART	**Cartagena**	**2.59**	**316**	*i* P	**Pn**	**22 52 55.0**	**-1.1**
CART	**Cartagena**	**2.59**	**316**	*e*Pn	**Pn**	**22 52 55.5**	**-0.6**
CART				*e*Sn	**Sn**	**22 53 23.4**	**-4.3**
AKF	**Akfadou**	**2.80**	**71**	P	**Pn**	**22 52 58.5**	**-0.5**
OUJ	**Oujda**	**2.83**	**248**	P	**Pn**	**22 53 00.5**	**+1.2**
OUJ				S	**Sn**	**22 53 36.0**	**+2.6**
OUJ	**Oujda**	**2.83**	**248**	*i* P	**Pn**	**22 53 00.5**	**+1.2**
ENIJ	**Nijar**	**3.07**	**294**	P	**Pn**	**22 53 01.2**	**-1.4**
16nm,0.3s,SNR=24							
ENIJ				S	**Sn**	**22 53 40.1**	**+0.7**
20nm,0.3s,SNR=7.9							
TAF	**Taforalt**	**3.16**	**254**	P	**Pn**	**22 53 03.5**	**-0.5**
EBEN	**Beniarda**	**3.18**	**338**	P	**Pn**	**22 53 05.2**	**+0.9**
9.0nm,0.2s,SNR=35							
EBEN				S	**Sn**	**22 53 44.3**	**+2.1**
30nm,0.3s,SNR=5.6							
EBEN	**Beniarda**	**3.18**	**338**	P	**Pn**	**22 53 05.2**	**+1.0**
9.0nm,0.2s,SNR=35							
EIBI	**Ibiza**	**3.27**	**1**	⇓P	**Pn**	**22 53 05.7**	**+0.3**
32nm,0.1s,SNR=18							
EIBI				S	**Sn**	**22 53 42.1**	**-2.3**
188nm,0.2s,SNR=71							
EIBI	**Ibiza**	**3.27**	**1**	P	**Pn**	**22 53 05.7**	**+0.3**
32nm,0.1s,SNR=18							
SET	**Setif**	**3.37**	**81**	P	**Pn**	**22 53 05.0**	**-1.8**
ZAI	**Zaio**	**3.38**	**258**	P	**Pn**	**22 53 07.0**	**0.0**
ZAI				S	**Sn**	**22 53 48.0**	**+0.9**
ZAI	**Zaio**	**3.38**	**258**	*i* P	**Pn**	**22 53 07.0**	**0.0**
EMLI	**Melilla**	**3.48**	**264**	P	**Pn**	**22 53 08.6**	**+0.3**
26nm,0.1s,SNR=6.5							
EMEL	**Melilla**	**3.48**	**264**	P	**Pn**	**22 53 08.6**	**+0.2**
26nm,0.1s,SNR=6.5							
EMEL				S	**Sn**	**22 53 47.5**	**-2.2**
104nm,0.2s							
EALB	**Alboran**	**3.51**	**274**	P	**Pn**	**22 53 08.4**	**-0.4**
27nm,0.3s,SNR=7.5							
EALB				S	**Sn**	**22 53 48.7**	**-1.6**
55nm,0.4s							
EALB	**Alboran**	**3.51**	**274**	P	**Pn**	**22 53 08.4**	**-0.3**
27nm,0.3s,SNR=7.5							
EBER	**Berja**	**3.56**	**290**	⇑P	**Pn**	**22 53 09.7**	**+0.4**
56nm,0.2s,SNR=18							
EBER				S	**Sn**	**22 53 53.1**	**+1.7**
57nm,0.3s							
EBER	**Berja**	**3.56**	**290**	P	**Pn**	**22 53 09.7**	**+0.3**
56nm,0.2s,SNR=18							
ETOB	**Tobarra**	**3.67**	**323**	⇓P	**Pn**	**22 53 12.3**	**+1.5**
70nm,0.2s,SNR=18							
ETOB				S	**Sn**	**22 53 56.7**	**+2.5**
57nm,0.3s							
ETOB	**Tobarra**	**3.67**	**323**	P	**Pn**	**22 53 12.3**	**+1.4**
70nm,0.2s,SNR=18							
EHUE	**Huescar**	**3.73**	**305**	⇓P	**Pn**	**22 53 12.3**	**+0.5**
32nm,0.4s,SNR=18							
EHUE				S	**Sn**	**22 53 57.1**	**+1.4**
16nm,0.4s,SNR=7.9							
CMER	**Merouana**	**3.76**	**91**	P	**Pn**	**22 53 13.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**3.80**	**77**	P	**Pn**	**22 53 11.0**	**-1.8**
EQES	**Quesada**	**4.05**	**302**	⇓P	**Pn**	**22 53 18.3**	**+2.2**
186nm,0.3s,SNR=18							
EQES				S	**Sn**	**22 54 08.2**	**+4.6**
34nm,0.3s							
EQES	**Quesada**	**4.05**	**302**	P	**Pn**	**22 53 18.3**	**+2.2**
186nm,0.3s,SNR=18							
EGUA	**Guajares**	**4.06**	**287**	P	**Pn**	**22 53 15.0**	**-1.3**
1.3nm,0.2s,SNR=7.9							
EGUA				S	**Sn**	**22 54 02.0**	**-1.9**
3.0nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**4.07**	**292**	⇓P	**Pn**	**22 53 17.7**	**+1.2**
133nm,0.5s,SNR=18							
EQUE				S	**Sn**	**22 54 05.3**	**+1.1**
54nm,0.5s,SNR=5.8							
EVIA	**Vianos**	**4.17**	**315**	⇑P	**Pn**	**22 53 18.5**	**+0.7**
18nm,0.2s,SNR=18							
EVIA				S	**Sn**	**22 54 09.1**	**+2.5**
64nm,0.4s							
ETOS	**Mallorca**	**4.19**	**16**	P	**Pn**	**22 53 16.7**	**-1.4**
3.6nm,0.2s,SNR=7.9							
ETOS				S	**Sn**	**22 54 04.7**	**-2.3**
65nm,0.4s,SNR=7.9							
ETOS	**Mallorca**	**4.19**	**16**	P	**Pn**	**22 53 16.7**	**-1.4**
3.6nm,0.2s,SNR=7.9							
TOU	**Touzarine**	**4.19**	**261**	P	**Pn**	**22 53 19.0**	**+0.9**
TOU				S	**Sn**	**22 54 08.0**	**+0.9**
TOU	**Touzarine**	**4.19**	**261**	*i* P	**Pn**	**22 53 19.0**	**+0.9**
ECOG	**Cogollos-Vega**	**4.19**	**293**	P	**Pn**	**22 53 18.6**	**+0.5**
26nm,0.4s,SNR=7.9							
ECOG				S	**Sn**	**22 54 06.4**	**-0.7**
13nm,0.4s,SNR=7.9							
ERON	**Agron**	**4.29**	**289**	P	**Pn**	**22 53 19.3**	**-0.2**
39nm,0.4s,SNR=24							
ERON				S	**Sn**	**22 54 09.2**	**-0.4**
11nm,0.4s							
ELOJ	**Sierra Loja**	**4.60**	**289**	P	**Pn**	**22 53 24.5**	**+0.8**
13nm,0.4s,SNR=7.9							
ELOJ				S	**Sn**	**22 54 18.3**	**+1.2**
2.7nm,0.2s,SNR=7.9							
MAL	**Malaga**	**4.70**	**284**	*e*P	**Pn**	**22 53 24.4**	**-0.7**
EBAN	**Banos Encina**	**4.72**	**302**	P	**Pn**	**22 53 25.7**	**+0.4**
24nm,0.4s,SNR=18							
EBAN				S	**Sn**	**22 54 21.1**	**+1.0**
10nm,0.3s							
MAHO	**Mahon**	**4.76**	**29**	P	**Pn**	**22 53 19.7**	**-6.3**
MAHO				S	**Sn**	**22 54 10.1**	**-11**
EMOS	**Mosqueruela**	**4.81**	**344**	P	**Pn**	**22 53 28.5**	**+1.9**
14nm,0.3s,SNR=35							
EMOS				S	**Sn**	**22 54 21.1**	**-1.2**
22nm,0.3s							
EMOS	**Mosqueruela**	**4.81**	**344**	P	**Pn**	**22 53 28.5**	**+1.9**
14nm,0.3s,SNR=35							
ELUQ	**Luque**	**4.81**	**294**	P	**Pn**	**22 53 27.6**	**+1.0**
4.0nm,0.2s,SNR=13							
ELUQ				S	**Sn**	**22 54 22.8**	**+0.4**
4.5nm,0.3s							
EMIJ	**Mijas**	**4.96**	**281**	P	**Pn**	**22 53 26.9**	**-1.8**
4.3nm,0.1s,SNR=22							
EMIJ				S	**Sn**	**22 54 22.1**	**-4.1**
18nm,0.4s,SNR=35							
CMAH	**Djebel Manchou**	**5.04**	**78**	P	**Pn**	**22 53 29.0**	**-0.8**
ABSA	**Djebel Ababsia**	**5.05**	**82**	P	**Pn**	**22 53 28.5**	**-1.4**
CABS	**Djebel Ababsia**	**5.05**	**82**	P	**Pn**	**22 53 28.5**	**-1.4**
ERTA	**Horta de San J**	**5.25**	**352**	P	**Pn**	**22 53 33.6**	**+1.0**
15nm,0.3s,SNR=40							
ERTA				S	**Sn**	**22 54 32.1**	**-1.1**
14nm,0.3s							
ERTA	**Horta de San J**	**5.25**	**352**	P	**Pn**	**22 53 33.6**	**+1.0**
15nm,0.3s,SNR=40							
EADA	**Adamuz**	**5.27**	**299**	P	**Pn**	**22 53 33.5**	**+0.6**
9.7nm,0.4s,SNR=20							
EADA				S	**Sn**	**22 54 34.2**	**+0.5**
18nm,0.4s							
EADA	**Adamuz**	**5.27**	**299**	P	**Pn**	**22 53 33.5**	**+0.5**
9.7nm,0.4s,SNR=20							
TGT	**Taghat**	**5.47**	**254**	P	**Pn**	**22 53 37.0**	**+1.3**
TGT				S	**Sn**	**22 54 38.0**	**-0.6**
TGT	**Taghat**	**5.47**	**254**	*i* P	**Pn**	**22 53 37.0**	**+1.3**
EJIF	**Jimena Fronter**	**5.51**	**279**	P	**Pn**	**22 53 34.7**	**-1.5**
11nm,0.4s,SNR=12							
EJIF				S	**Sn**	**22 54 37.5**	**-2.1**
5.8nm,0.4s							
LIJA	**Lijar**	**5.52**	**284**	P	**Pn**	**22 53 40.0**	**+3.7**
LIJA				S	**Sn**	**22 54 45.3**	**+5.5**
EPOB	**Poblet**	**5.59**	**358**	P	**Pn**	**22 53 37.9**	**+0.5**
10nm,0.3s,SNR=32							
EPOB				S	**Sn**	**22 54 38.4**	**-3.3**
14nm,0.3s							
EPOB	**Poblet**	**5.59**	**358**	P	**Pn**	**22 53 37.9**	**+0.5**
10nm,0.3s,SNR=32							
MDT	**Midelt**	**5.69**	**241**	Pn	**Pn**	**22 53 38.7**	**0.0**
3.0nm,0.3s,baz=71,slow=16,SNR=176							
MDT				Lg		22 55 12.8	
11nm,0.3s,baz=152,slow=12,SNR=4.3							
ETOR	**Torete**	**5.70**	**334**	P	**Pn**	**22 53 42.3**	**+3.5**
8.3nm,0.2s,SNR=11							
ESDC	**Sonseca Array**	**5.71**	**315**	Pn	**Pn**	**22 53 39.8**	**+0.8**
11nm,0.3s,baz=131,slow=12,SNR=132							
ESDC				Sn	**Sn**	**22 54 45.5**	**+0.9**
6.7nm,0.3s,baz=134,slow=25,SNR=4.8							
ESDC				Lg		22 55 02.8	
11nm,0.3s,baz=135,slow=30,SNR=8.2							
ESDC	**Sonseca Array**	**5.71**	**315**	P	**Pn**	**22 53 39.6**	**+0.6**
11nm,0.3s,baz=138,slow=12,SNR=115							
ESDC				S	**Sn**	**22 54 44.5**	**0.0**
13nm,0.7s,baz=126,slow=24,SNR=3.7							
ESDC	**Sonseca Array**	**5.71**	**315**	P	**Pn**	**22 53 39.6**	**+0.6**
11nm,0.3s,SNR=115							
ESLA	**Sonseca Array**	**5.71**	**315**	*e*Pn	**Pn**	**22 53 39.8**	**+0.9**
3.1nm,0.5s							
ESLA				*e*Sn	**Sn**	**22 54 42.0**	**-2.5**
IFR	**Ifrane**	**5.73**	**249**	P	**Pn**	**22 53 39.0**	**-0.3**
MIF	**Mishlifen**	**5.86**	**248**	P	**Pn**	**22 53 40.5**	**-0.5**
MIF				S	**Sn**	**22 54 46.0**	**-2.1**
ESPR	**Espera**	**5.87**	**283**	P	**Pn**	**22 53 39.9**	**-1.2**
4.5nm,0.4s,SNR=6.4							
ESPR	**Espera**	**5.87**	**283**	P	**Pn**	**22 53 39.9**	**-1.3**
4.5nm,0.4s,SNR=6.4							
CZD	**Col de Zad**	**5.89**	**244**	P	**Pn**	**22 53 43.0**	**+1.6**
CZD				S	**Sn**	**22 54 49.0**	**0.0**
ZFT	**Errachidia**	**5.97**	**233**	P	**Pn**	**22 53 42.0**	**-0.6**
ZFT				S

EPF	Esparros	7.30	355	ePn		Pn	22 54 02.3 +1.4
	SNR=1.0						
EPF				eSn		Sn	22 55 22.0 -1.9
	27nm,0.5s						
EPF	Esparros	7.30	355	ePn		Pn	22 54 02.3 +1.4
	SNR=1.0						
EPF				eSn		Sn	22 55 22.0 -1.9
	13nm,0.5s						
IPRE	Itoiz	7.33	345	P		Pn	22 54 03.5 +2.2
	0.8nm,0.2s,SNR=6.4						
IPRE				S		Sn	22 55 23.9 -0.6
	4.2nm,0.3s,SNR=5.2						
IPRE	Itoiz	7.33	345	P		Pn	22 54 03.5 +2.2
	0.8nm,0.2s,SNR=6.4						
TZC	Tazercounte	7.39	243	P		Pn	22 54 02.0 0.0
TZC				S		Sn	22 55 24.0 -1.9
VSL	Villasalto	7.43	57	ePn		Pn	22 54 00.1 -2.5
	35nm,0.4s						
VSL				eSn		Sn	22 55 20.1 -6.9
VSL	Villasalto	7.43	57	ePn		Pn	22 54 00.1 -2.5
	35nm,0.4s						
SJPF	Ste Jean	7.60	346	ePn		Pn	22 54 06.9 +1.9
	SNR=1.0						
SJPF				eSn		Sn	22 55 28.5 -2.7
	40nm,0.9s						
SJPF	Ste Jean	7.60	346	ePn		Pn	22 54 06.9 +1.9
	SNR=1.0						
SJPF				eSn		Sn	22 55 28.5 -2.7
	20nm,0.9s						
MTLF	Montolieu	7.61	5	ePn		Pn	22 54 06.7 +1.6
MTLF				eSn		Sn	22 55 26.1 -5.3
	8.8nm,0.5s						
MTLF	Montolieu	7.61	5	Pn		Pn	22 54 06.7 +1.6
MTLF				Sn		Sn	22 55 26.1 -5.3
	4.4nm,0.5s						
PBEJ	Beja	7.67	290	ePn		Pn	22 54 06.1 +0.2
ELIZ	Elizondo	7.71	345	P		Pn	22 54 07.9 +1.5
	4.5nm,0.4s,SNR=11						
ELIZ				S		Sn	22 55 32.2 -1.7
	2.7nm,0.4s,SNR=4.0						
PESTR	Estremoz	7.72	296	ePn		Pn	22 54 06.8 +0.2
PESTR							
	19nm,0.5s						
EVO	Evora	7.92	293	ePn		Pn	22 54 10.3 +0.9
EVO				eSn		Sn	22 55 37.5 -1.5
	24nm,0.5s						
PCBR	Castelo Branco	8.04	303	ePn		Pn	22 54 12.1 +1.1
PCBR				eSn		Sn	22 55 40.7 -1.3
PCBR							
	14nm,0.8s						
PCBR	Castelo Branco	8.04	303	ePn		Pn	22 54 12.1 +1.1
PCBR				eSn		Sn	22 55 40.7 -1.3
	14nm,0.8s						
MORF	Marmelete	8.14	284	ePn		Pn	22 54 12.1 -0.3
MORF				eSn		Sn	22 55 39.5 -5.0
MOE	Montemor	8.17	293	ePn		Pn	22 54 14.8 +2.0
MOE				eSn		Sn	22 55 42.1 -3.1
PTEO	Sao Teotonio	8.24	285	ePn		Pn	22 54 13.6 -0.1
ELAN	Lanestosa	8.31	335	P		Pn	22 54 16.8 +2.1
	4.4nm,0.2s,SNR=17						
ELAN				S		Sn	22 55 48.7 +0.1
	7.3nm,0.3s,SNR=11						
ELAN	Lanestosa	8.31	335	P		Pn	22 54 16.8 +2.1
	4.4nm,0.2s,SNR=17						
MTE	Manteigas	8.36	306	ePn		Pn	22 54 16.6 +1.2
MTE				eSn		Sn	22 55 47.8 -2.0
MTE							
	16nm,0.8s						
MTE	Manteigas	8.36	306	ePn		Pn	22 54 19.5 +4.1
MTE				Sn		Sn	22 55 37.2 -13
MTE	Manteigas	8.36	306	ePn		Pn	22 54 16.6 +1.2
MTE				eSn		Sn	22 55 47.8 -2.0
	16nm,0.8s						
LMR	La Mourre	8.58	26	ePn		Pn	22 54 17.8 -0.6
	SNR=1.0						
LMR				eSn		Sn	22 55 47.7 -7.5
	9.2nm,0.4s						
LMR	La Mourre	8.58	26	Pn		Pn	22 54 17.8 -0.6
LMR				Sn		Sn	22 55 47.7 -7.5
	4.6nm,0.4s						
PBRG	Braganca	8.70	316	ePn		Pn	22 54 21.4 +1.4
PBRG				eSn		Sn	22 55 56.3 -1.9
PBRG							
	14nm,0.9s						
PVIS	Viseu	8.75	307	ePn		Pn	22 54 22.3 +1.5
PVIS				eSn		Sn	22 55 57.1 -2.4
PVIS							
	4μm,0.7s						
ECAL	Calabor	8.79	317	P		Pn	22 54 22.3 +1.0
	11nm,0.3s,SNR=8.2						
ECAL				S		Sn	22 55 58.3 -2.0
	17nm,0.5s						
ECAL	Calabor	8.79	317	P		Pn	22 54 22.3 +1.1
	11nm,0.3s,SNR=8.2						
FRF	La Foret Royal	8.83	26	ePn		Pn	22 54 21.9 +0.2
	SNR=1.0						
FRF				eSn		Sn	22 55 55.4 -5.9
	19nm,0.5s						
FRF	La Foret Royal	8.83	26	Pn		Pn	22 54 21.9 +0.2
FRF				Sn		Sn	22 55 55.4 -5.9
	9.6nm,0.5s						
SMRF	Simiane la Rot	8.85	21	ePn		Pn	22 54 22.2 +0.1
PVRL	Vila Real	8.95	311	ePn		Pn	22 54 25.1 +1.7
PVRL				eSn		Sn	22 56 01.8 -2.5
PVRL							
	9.5nm,0.7s						
EARI	Arriondas	9.05	328	P		Pn	22 54 26.7 +1.9
	29nm,0.9s,SNR=19						
EARI	Arriondas	9.05	328	P		Pn	22 54 26.7 +1.9
PGF	Pioggiola	9.05	39	ePn		Pn	22 54 22.7 -2.1
PGF				eSn		Sn	22 55 58.5 -8.3
	6.8nm,0.3s						
PGF	Pioggiola	9.05	39	ePn		Pn	22 54 22.7 -2.1
PGF				eSn		Sn	22 55 58.5 -8.3
	3.4nm,0.3s						
CAF	Calviac	9.18	3	ePn		Pn	22 54 27.4 +0.8
CAF				eSn		Sn	22 56 06.6 -3.4
	4.7nm,0.4s						
CAF	Calviac	9.18	3	Pn		Pn	22 54 27.4 +0.8
CAF				Sn		Sn	22 56 06.6 -3.4
	2.3nm,0.4s						
LFF	La Frestale	9.19	358	eSn		Sn	22 56 07.4 -2.7
	20nm,0.6s						
LFF	La Frestale	9.19	358	Pn		Pn	22 54 27.9 +1.2
LFF				Sn		Sn	22 56 07.4 -2.7
	9.9nm,0.6s						
LFF	La Frestale	9.19	358	ePn		Pn	22 54 27.9 +1.2
LFF				eSn		Sn	22 56 07.4 -2.7
ERUA	La Rua	9.32	318	P		Pn	22 54 29.0 +0.5
	6.0nm,0.3s,SNR=7.4						
ERUA				S		Sn	22 56 10.3 -3.0
	19nm,0.7s,SNR=4.0						
SBF	Sospel	9.38	28	eSn		Sn	22 56 07.8 -7.1
	8.2nm,0.3s						
SBF	Sospel	9.38	28	Pn		Pn	22 54 27.9 -1.4
SBF				Sn		Sn	22 56 07.8 -7.1
	4.1nm,0.3s						
SBF	Sospel	9.38	28	ePn		Pn	22 54 27.9 -1.4
SBF				eSn		Sn	22 56 07.8 -7.1
VIVF	Saint-Julien-l	9.45	15	ePn		Pn	22 54 30.6 +0.2
RJF	Les Rejaudoux	9.54	1	ePn		Pn	22 54 32.3 +0.7
RJF				eSn		Sn	22 56 15.0 -3.9
	5.1nm,0.6s						
RJF	Les Rejaudoux	9.54	1	Pn		Pn	22 54 32.3 +0.7
RJF				Sn		Sn	22 56 15.0 -3.9
	2.5nm,0.6s						
ORIF	Oris-en-Rattie	9.80	20	ePn		Pn	22 54 35.5 +0.4
MBDF	Montbardon	9.89	23	eP		Pn	22 54 41.7 +5.3
MBDF	Montbardon	9.89	23	ePn		Pn	22 54 36.1 -0.3
MBDF				eP			22 54 41.7
MBDF	Montbardon	9.89	23	eP		Pn	22 54 41.7 +5.3
EPON	Pontenova	9.97	322	P		Pn	22 54 38.1 +0.6
	5.3nm,0.3s,SNR=11						
EPON				S		Sn	22 56 26.3 -3.2
	SNR=7.9						
EPON	Pontenova	9.97	322	P		Pn	22 54 38.1 +0.6
	5.3nm,0.3s						
BNI	Bardonecchia	10.16	22	Pn		Pn	22 54 40.0 0.0
STS	Santiago	10.42	316	P		Pn	22 54 44.0 +0.4
	4.8nm,0.4s,SNR=7.9						
STS	Santiago	10.42	316	P		Pn	22 54 44.0 +0.4
STS				pmax		pmax	
	comp=Z,5.0nm,0.4s						
TCF	Toulx Ste Croi	10.55	4	ePn		Pn	22 54 45.5 +0.1
LPG	La Plagne	10.58	21	eP		Pn	22 54 50.9 +5.1
	SNR=1.0						
LPG	La Plagne	10.58	21	eP		Pn	22 54 45.7 -0.1
LPG				eP			22 54 50.9
LPG	La Plagne	10.58	21	eP		Pn	22 54 50.9 +5.1
	SNR=1.0						
LPL	La Plagne	10.59	21	eP		Pn	22 54 50.5 +4.5
	SNR=1.0						
LPL	La Plagne	10.59	21	ePn		Pn	22 54 45.3 -0.7
LPL				eP			22 54 50.5
LPL	La Plagne	10.59	21	eP		Pn	22 54 50.5 +4.5
	SNR=1.0						
BGF	Bois d'Agland	10.86	6	ePn		Pn	22 54 50.2 +0.6
MFF	Saint Martin d	10.89	355	ePn		Pn	22 54 50.5 +0.4
SMF	Signal de Mont	11.05	9	ePn		Pn	22 54 52.3 +0.1
AVF	Avril sur Loir	11.14	7	ePn		Pn	22 54 53.4 0.0
CABF	La Chapelle	11.43	17	ePn		Pn	22 54 57.5 0.0
AQU	L'Aquila	11.49	51	ePn		Pn	22 54 59.3 +1.0
LOR	Lormes	11.67	9	ePn		Pn	22 55 00.5 -0.2
QUIF	Quistinic	12.60	346	ePn		Pn	22 55 14.4 +1.0
GRR	Gorron	12.73	354	ePn		Pn	22 55 15.5 +0.4
HINF	Hinteralfeld	12.75	17	ePn		Pn	22 55 14.8 -0.6
DAVOX	Davos/Dischmat	12.77	28	Pn		Pn	22 55 15.7 0.0
	baz=309,slow=6.5,SNR=3.2						
DAVOX				LR		LR	22 59 56.9
	comp=Z,197nm,19.1s,baz=166,slow=36						
HAU	Haudompre	12.81	16	eP		Pn	22 55 21.4 +5.1
	SNR=1.0						
SGMF	Saint Gilles	12.81	348	ePn		Pn	22 55 16.7 +0.4
	SNR=1.0						
LDF	La Druitiere	12.88	356	ePn		Pn	22 55 17.3 +0.1
ROSF	Rostrenen	13.02	346	ePn		Pn	22 55 19.3 +0.2
FLN	La Foliniere	13.07	355	ePn		Pn	22 55 20.0 +0.2
CDF	Champ du Feu	13.40	17	ePn		Pn	22 55 24.5 +0.1
MOA	Molln	15.46	35	⇑iP		Pn	22 55 57.2 +4.9
	comp=Z,15nm,1.2s						
ARSA	Arzberg	15.65	38	⇓iP		Pn	22 56 01.3 +6.6
	comp=Z,24nm,1.2s						
GEC2	GERESS Array S	15.96	31	eP		Pn	22 55 58.6 -0.1
GERES	GERESS Array B	15.96	31	Pn		Pn	22 55 58.5 -0.2
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=16						
GERES				LR		LR	23 02 30.4
	comp=Z,56nm,19.6s,baz=131,slow=39						
KHC	Kasperske Hory	16.13	30	eP		Pn	22 56 03.0 +2.1
MOX	Moxa	16.66	23	eP		Pn	22 56 11.2 +3.5
ZST	Bratislava	17.07	38	eP		Pn	22 56 16.6 +3.7
ZST				pmax		pmax	
	comp=Z,13nm,1.8s						
ZST	Bratislava	17.07	38	eP		Pn	22 56 16.6 +3.7
	comp=Z,13nm,1.8s						
VRAC	Vranov	17.59	35	Pn		Pn	22 56 20.6 +1.3
	comp=Z,0.5nm,0.3s,baz=222,slow=9.9,SNR=7.0						
VRAC				LR		LR	23 02 38.0
	comp=Z,90nm,19.8s,baz=256,slow=36						
VRAC	Vranov	17.59	35	P		Pn	22 56 20.6 +1.3
VRAC				pmax		pmax	
	comp=Z,1.0nm,0.3s						
VRAC				MLR		MLR	
	comp=Z,90nm,19.8s						
BRG	Berggiesshubel	17.66	27	e(P)		Pn	22 56 26.0 +5.7
	comp=Z,2.5nm,0.9s						
BRG	Berggiesshubel	17.66	27	eP		Pn	22 56 26.0 +5.8
BRG				pmax		pmax	
	comp=Z,3.0nm,0.9s						
VYHS	Vyhne	18.16	40	eP		Pn	22 56 25.8 -0.5
VYHS	Vyhne	18.16	40	eP		Pn	22 56 25.9 -0.4
VYHS				pmax		pmax	
	comp=Z,5.0nm,1.1s						
VYHS	Vyhne	18.16	40	eP		Pn	22 56 25.9 -0.4
	comp=Z,5.1nm,1.1s						
UPC	Upice	18.20	31	eP		Pn	22 56 29.5 +2.7
DPC	Dobruska-Polom	18.21	32	eP		Pn	22 56 30.2 +3.2
BZS	Buzias	18.26	51	⇓iP		Pn	22 56 29.3 +1.7
BZS	Buzias	18.26	51	⇓iP		Pn	22 56 29.3 +1.7
MORC	Moravsky Berou	18.36	35	eP		Pn	22 56 27.5 -1.3
MORC				pmax		pmax	
	comp=Z,3.0nm,0.6s						
MORC	Moravsky Berou	18.36	35	eP		Pn	22 56 27.5 -1.3
	comp=Z,2.7nm,0.6s						
PSZ	Piszkesteto	18.39	43	⇑iP		Pn	22 56 32.2 +3.1
PSZ	Piszkesteto	18.39	43	eP		Pn	22 56 29.2 +0.1
PSZ				pmax		pmax	
	comp=Z,15nm,1.0s						
PSZ	Piszkesteto	18.39	43	eP		Pn	22 56 29.2 0.0
	comp=Z,15nm,1.0s						
PSZ	Piszkesteto	18.39	43	eP		Pn	22 56 29.2 +0.1
	comp=Z,15nm,1.0s						
GVD	Gavdhos	18.64	86	P		Pn	22 56 32.4 +0.2
GVD	Gavdhos	18.64	86	P		Pn	22 56 32.3 +0.1
OKC	Ostrava-Krasne	18.68	36	eP		Pn	22 56 35.0 +2.3
KECS	Kecovo	19.03	42	eP		Pn	22 56 37.8 +0.8
KECS				pmax		pmax	
	comp=Z,4.0nm,1.0s						
KECS	Kecovo	19.03	42	eP		Pn	22 56 37.8 +0.8
	comp=Z,3.9nm,1.0s						
DRGR		19.46	49	⇑iP		Pn	22 56 42.7 +0.6
DRGR		19.46	49	⇑iP		Pn	22 56 42.7 +0.6
NIE	Niedzica	19.49	40	eP		Pn	22 56 44.5 +2.0
CRVS	Cervenica-Dubn	19.80	42	eP		Pn	22 56 48.7 +2.5
EKA	Eskdalemuir Ar	19.82	353	P		Pn	22 56 44.5 -1.9
	comp=Z,0.0nm,0.3s,baz=161,slow=14,SNR=3.1						
STHS	Stebnicka Huta	19.98	41	eP		Pn	22 56 49.0 +0.7
STHS				pmax		pmax	
	comp=Z,5.0nm,0.9s						
STHS	Stebnicka Huta	19.98	41	eP		Pn	22 56 49.0 +0.7
	comp=Z,4.5nm,0.9s						
STHS				e			22 56 58.7
UZH	Uzhgorod	20.12	44	⇓iP		P	22 56 49.4 +1.3
UZH				i			22 56 57.0
UZH				e			22 57 15.0
UZH				pmax		pmax	
	comp=Z,36nm,1.2s						
UZH	Uzhgorod	20.12	44	iP		P	22 56 49.4 +1.3
	comp=Z,36nm,1.2s						
KOLS	Kolonicke sedl	20.27	43	eP		P	22 56 52.4 +2.7
VOIR		20.41	54	⇓iP		P	22 56 53.2 +1.9
VOIR		20.41	54	⇓P		P	22 56 53.2 +1.9
MLR	Muntele Rosu	21.03	55	P		P	22 56 57.9 -0.1
	comp=Z,14nm,1.1s,mb4.2,baz=130,slow=20,SNR=9.3						
MLR	Muntele Rosu	21.03	55	P		P	22 56 57.9 -0.1
MLR				pmax		pmax	
	comp=Z,14nm,1.1s						
MLR	Muntele Rosu	21.03	55	⇑P		P	22 57 00.3 +2.3
MLR	Muntele Rosu	21.03	55	⇑iP		P	22 57 00.3 +2.3
BURAR	Bucovina Array	21.36	49	⇓iP		P	22 57 04.3 +2.8
BURAR	Bucovina Array	21.36	49	⇓P		P	22 57 04.3 +2.8
TOA0	Torodi Ar. Sit	22.51	179	eP		P	22 57 11.9 -1.9
TOA0	Torodi Ar. Sit	22.51	179	eP		P	22 57 11.9 -2.0
TORD	Torodi Ar. Bea	22.51	179	P		P	22 57 11.3 -2.6
	comp=Z,3.6nm,0.6s,mb4.0,baz=358,slow=10,SNR=25						
TORD	Torodi Ar. Bea	22.51	179	P		P	22 57 11.3 -2.6
SUW	Suwalki	23.79	33	eP		P	22 57 26.2 -0.9
SUW				pmax		pmax	
	comp=Z,27nm,0.9s,mb4.7						
SUW	Suwalki	23.79	33	eP		P	22 57 26.2 -0.8
	comp=Z,27nm,0.9s,mb4.7						
SUW	Suwalki	23.79	33	eP		P	22 57 26.2 -0.9
	comp=Z,27nm,0.9s,mb4.7						
AKASG	Malin Array Be	25.06	45	P		P	22 57 36.0 -2.6
	comp=Z,1.1nm,0.4s,mb3.7,baz=243,slow=11,SNR=6.4						
AKASG	Malin Array Be	25.06	45	P		P	22 57 36.0 -2.6
AKASG				pmax		pmax	
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	25.69	14	P		P	22 57 42.8 -1.5
	comp=Z,2.2nm,0.7s,mb3.8,baz=205,slow=6.6,SNR=6.9						
HFS	Hagfors	25.69	14	P		P	22 57 42.8 -1.5
HFS				pmax		pmax	
	comp=Z,2.0nm,0.7s						
BR131	Keskin Array S	25.82	71	P		P	22 57 45.6 +0.2
BR131	Keskin Array S	25.82	71	P		P	22 57 45.6 +0.1
BRTR	Keskin Array B	25.82	71	P		P	22 57 45.0 -0.5
	comp=Z,0.3nm,0.5s,baz=276,slow=6.8,SNR=2.6						
NOA	NORSAR Array B	26.09	11	P		P	22 57 47.1 -0.9
	comp=Z,0.8nm,0.7s,mb3.3,baz=188,slow=6.4,SNR=2.5						
NOA				LR		LR	23 09 14.3
	comp=Z,35nm,18.5s,MS2.9,baz=235,slow=39						
NOA	NORSAR Array B	26.09	11	P		P	22 57 47.1 -0.9
NOA				pmax		pmax	
	comp=Z,1.0nm,0.7s						
NOA				MLR		MLR	
	comp=Z,35nm,18.5s						
EIL	Elat	28.88	92	eP		P	22 58 13.6 +0.7
	comp=Z,31nm,0.4s						
EIL	Elat	28.88	92	eP		P	22 58 13.6 +0.6
	comp=Z,31nm,0.4s						
FINES	FINESS Array B	30.12	24	P		P	22 58 21.7 -2.3
	comp=Z,2.2nm,0.7s,mb4.0,baz=228,slow=7.4,SNR=6.6						
FINES				LR		LR	23 10 30.7
	comp=Z,48nm,18.1s,MS3.2,baz=171,slow=36						
FINES	FINESS Array B	30.12	24	P		P	22 58 21.7 -2.3
FINES				pmax		pmax	
	comp=Z,2.0nm,0.7s						
FINES				MLR		MLR	
	comp=Z,48nm,18.1s						
OBN	Obninsk	30.96	40	P		P	22 58 31.0 -0.4
OBN	Obninsk	30.96	40	P		P	22 58 31.0 -0.3
ARCES	ARCESS Array B	36.35	14	P		P	22 59 17.1 -1.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=210,slow=7.0,SNR=8.8						
ARCES	ARCESS Array B	36.35	14	P		P	22 59 17.1 -1.2
ARCES				pmax		pmax	
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	36.35	14	P		P	22 59 17.0 -1.3
AKTK	Aktyubinsk	42.90	52	P		P	23 00 11.8 -1.0
AKTK	Aktyubinsk	42.90	52	P		P	23 00 11.9 -0.9
AKTO	Aktyubinsk	42.90	52	P		P	23 00 11.8 -1.0
	comp=Z,1.5nm,0.8s,mb3.8,baz=286,slow=10,SNR=5.1						
AKTO	Aktyubinsk	42.90	52	P		P	23 00 11.9 -0.9
AKTO				pmax		pmax	
	comp=Z,2.0nm,0.8s,mb3.9						
ARU	Arti	43.29	43	eP		P	23 00 15.7 -0.3
ARU				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb4.6						
ARU	Arti	43.29	43	eP		P	23 00 15.7 -0.3
	comp=Z,8.1nm,0.6s,mb4.6						
ARU	Arti	43.29	43	eP		P	23 00 15.7 -0.3
	comp=Z,8.1nm,0.6s,mb4.6						
ZRNK	Zerenda	49.48	47	eP		P	23 01 06.2 +1.6
ZRNK				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	Zerenda	49.48	47	eP		P	23 01 06.2 +1.6
	comp=Z,2.3nm,0.6s,mb4.4						
ZRNK	Zerenda	49.48	47	eP		P	23 01 06.2 +1.6
	comp=Z,2.3nm,0.6s,mb4.4						
KMBO	Kilima Mbogo	49.70	130	LR		LR	23 22 29.6
	comp=Z,36nm,18.3s,MS3.4,baz=82,slow=37						
KMBO	Kilima Mbogo	49.70	130	P		P	23 01 06.1 -0.2
KMBO				pmax		pmax	
	comp=Z,5.0nm,0.8s						
KMBO	Kilima Mbogo	49.70	130	P		P	23 01 06.1 -0.2
	comp=Z,5.0nm,0.8s,mb4.6						
BVAR	Borovoye Array	50.30	47	P		P	23 01 10.6 -0.2
	comp=Z,0.3nm,0.4s,mb3.7,baz=274,slow=5.8,SNR=3.9						
LSZ	Lusaka	56.79	149	eP		P	23 01 59.1 +0.7
ZAL	Zalesovo	58.44	44	LR		LR	23 29 29.0
	comp=Z,61nm,18.4s,MS3.8,baz=353,slow=38						
MK31	Makanchi Array	59.34	52	P		P	23 02 15.6 -0.7
MKAR	Makanchi Array	59.34	52	P		P	23 02 15.7 -0.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=297,slow=5.3,SNR=7.9						
MKAR				LR		LR	23 32 13.2
	comp=Z,46nm,18.5s,MS3.6,baz=178,slow=40						
MKAR	Makanchi Array	59.34	52	P		P	23 02 15.7 -0.6
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.7s						
MKAR				MLR		MLR	
	comp=Z,46nm,18.5s						
WMQ	Urumqi	64.01	53	eP		P	23 02 49.0 +1.2
LBTB	Lobatse	64.66	156	eP		P	23 02 52.3 +0.2
LBTB				pmax		pmax	
	comp=Z,3.0nm,1.0s,mb4.3						
LBTB	Lobatse	64.66	156	eP		P	23 02 52.3 +0.2
	comp=Z,2.8nm,1.0s,mb4.2						
BDFB	Brasilia	69.19	231	LR		LR	23 31 04.7
	comp=Z,82nm,20.0s,MS4.0,baz=273,slow=34						
LSA	Lhasa	73.24	65	eP		P	23 03 47.6 +2.2
LSA				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	Lhasa	73.24	65	eP		P	23 03 47.6 +2.1
	comp=Z,2.4nm,0.6s,mb4.3						
SONM	Songino Array	73.33	43	P		P	23 03 45.7 -0.3
	comp=Z,0.5nm,0.6s,mb3.6,baz=292,slow=10,SNR=5.2						
SONM	Songino Array	73.33	43	P		P	23 03 45.7 -0.2
SONM				pmax		pmax	
	comp=Z,1.0nm,0.6s						
CPUP	Villa Florida	82.90	231	LR		LR	23 41 44.8
	comp=Z,65nm,20.1s,MS4.0,baz=237,slow=36						
BMW	Boistfort Moun	84.15	325	P		P	23 04 47.1 +1.6
KMI	Kunming	84.31	63	P		P	23 04 49.1 +2.8
KMI				AP		pP	23 04 56.3 +6.7
KMI				AMB		AMB	
	comp=Z,4.0nm,0.9s,mb4.5						
MDJ	Mudanjiang	87.31	34	P		P	23 04 58.6 -2.5
MDJ				AMB		AMB	
	comp=Z,3.0nm,0.7s,mb4.6						
MDJ				AMB		AMB	
	comp=Z,75nm,6.9s						
KSRS	Korea Array	91.95	40	LR		LR	23 51 48.7
	comp=Z,22nm,18.2s,MS3.6,baz=210,slow=39						
ASAR	Alice Springs	137.50	87	PKP		PKPdf	23 11 38.6 +0.4
	comp=Z,0.5nm,0.7s,baz=302,slow=1.3,SNR=5.6						
ASAR	Alice Springs	137.50	87	PKIKP		PKPdf	23 11 38.6 +0.4
ASAR				pmax		pmax	
	comp=Z,1.0nm,0.7s						

*CSEM **19** 23:04:32.3, 12.16N×4466E, h9km, ML4.1, After DHMR*
DHMR 19 23:04:32.3±1.6, 1216N×4466E, h9km±7km, ML4.1, 1C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADEN	Aden	0.68	27	⇓iP		Pg	23 04 45.0	-0.5
ADEN				i	S	Sg	23 04 55.1	+0.6
ADEN					AML	AML	23 04 59.3	
	comp=E,11μm,0.5s							
ADEN	Aden	0.68	27	⇓iP		Pg	23 04 45.0	-0.5
ADEN				i	S	Sg	23 04 55.1	+0.7
TRBA	At Turbah	1.19	333	i	P	Pb	23 04 54.5	-0.5
TRBA				i	S	Sb	23 05 10.7	+0.2
LBOS		1.79	18	⇑iP		Pn	23 05 03.7	+0.3
LBOS				i	S	Sn	23 05 29.4	+3.1
UDYN	Al 'Udayn	1.92	339	i	P	Pn	23 05 06.5	+1.5
UDYN				i	S	Sn	23 05 33.4	+4.0
UDYN					AML	AML	23 05 41.5	
	comp=N,2μm,0.5s							
UDYN	Al 'Udayn	1.

LCR2	La Lucha 2	2.19 132⇑	*e*P	Pn	23 07 57.8 +0.5
LCR2			*e*S	Sn	23 08 27.5 +0.3

ISCJB ***19*** *23:08:09.4±0.4, 4935N×002×682E±003, h0km, Error ellipse: s-maj=3.0km s-min=2.6km az=29.6*
LDG ***19*** *23:08:10.7±0.1, 4938N×689E, h1km, Md2.4/1, Ml2.3/10, Error ellipse: s-maj=1.0km s-min=0.8km az=110.0, Suspected Mining induced.*
BGR ***19*** *23:08:11.3±0.4, 4936N×686E, h1km, ML1.9/2, Error ellipse: s-maj=4.4km s-min=2.2km az=106.0*

ISC 19 23:08:10.4±0.4, 4937N±002×683E±003, h0km, n24, σ0§59/39, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**24**	*e*Pg	**Pg**	**23 08 17.9**	**+0.5**
	SNR=3.2						
RUP				*e*Sg	**Sg**	**23 08 23.0**	**+0.8**
LANF	**Langenberg**	**0.75**	**121**	*e*Pg	**Pg**	**23 08 24.5**	**-0.2**
	SNR=3.5						
KTD	**Kalmit**	**0.82**	**93**	*e*Pg	**Pg**	**23 08 26.9**	**+0.8**
	SNR=3.0						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**23 08 29.7**	**+0.2**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**23 08 30.3**	**-1.3**
CDF				*e*Sg	**Sg**	**23 08 41.8**	**-0.7**
	9.3nm,0.3s						
WLS	**Welschbruch**	**1.01**	**160**	*e*Pg	**Pg**	**23 08 30.7**	**+0.8**
	SNR=2.6						
RFYF	**Reffroy**	**1.16**	**231**	*e*Sg	**Sg**	**23 08 48.3**	**+0.7**
	14nm,0.2s						
ECH	**Echery**	**1.17**	**169**	*e*Pg	**Pg**	**23 08 33.2**	**+0.3**
	SNR=2.3						
ECH				*e*Sg	**Sg**	**23 08 48.4**	**+0.4**
THEF	**They Montfort**	**1.27**	**206**	*e*Pg	**Pg**	**23 08 35.3**	**+0.5**
	SNR=2.7						
THEF				*e*Sg	**Sg**	**23 08 51.7**	**+0.5**
TOD	**Tromm**	**1.31**	**79**	*e*Pg	**Pg**	**23 08 34.7**	**-0.8**
	SNR=3.0						
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**23 08 36.4**	**0.0**
	SNR=1.3						
TNS				*e*Sg	**Sg**	**23 08 54.2**	**+0.3**
MEM	**Membach**	**1.35**	**337**	P	**Pg**	**23 08 36.7**	**+0.3**
HAU	**Haudompre**	**1.40**	**193**	*e*Pg	**Pg**	**23 08 37.2**	**0.0**
HAU				*e*Sg	**Sg**	**23 08 55.3**	**0.0**
	5.4nm,0.2s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**23 08 37.8**	**-0.1**
	SNR=2.4						
BFO				*e*Sg	**Sg**	**23 08 56.5**	**0.0**
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Pg	**Pg**	**23 08 38.6**	**+0.2**
MEZF				*e*Sg	**Sg**	**23 08 58.0**	**+0.8**
	3.8nm,0.3s						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**23 08 37.5**	**-1.0**
GIVF				*e*Sg	**Sg**	**23 08 58.9**	**+0.4**
	6.9nm,0.3s						
MOF	**Molkenrain**	**1.53**	**172**	*e*Pg	**Pg**	**23 08 40.3**	**+0.6**
	SNR=1.9						
MOF				*e*Sg	**Sg**	**23 08 59.7**	**+0.2**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**23 08 40.0**	**-0.1**
HINF				*e*Sg	**Sg**	**23 09 00.4**	**+0.2**
	12nm,0.3s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Pg	**Pg**	**23 08 42.1**	**-0.1**
SFTF				*e*Sg	**Sg**	**23 09 04.2**	**+0.4**
	3.9nm,0.3s						
FELD	**Feldberg im Sc**	**1.68**	**152**	*e*Pg	**Pg**	**23 08 42.3**	**-0.3**
	SNR=1.7						
FELD				*e*Sg	**Sg**	**23 09 04.2**	**-0.2**
BAIF	**Baives**	**1.84**	**293**	*e*Pn	**Pn**	**23 08 42.2**	**-1.0**
BAIF				*e*Sg	**Sg**	**23 09 09.6**	**+0.1**
	0.2nm,0.1s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**23 08 56.4**	**-1.2**
LOR				*e*Sg	**Sg**	**23 09 42.6**	**-0.6**
	0.9nm,0.2s						
SSF	**Saint Saulge**	**3.20**	**225**	*e*Pn	**Pn**	**23 09 00.6**	**-1.4**
GEC2	**GERESS Array S**	**4.54**	**94**	*e*Pn	**Pn**	**23 09 20.4**	**0.0**

ISCJB ***19*** *23:12:45.5±2.6, 390N±02×766E±02, h12km, Error ellipse: s-maj=33.5km s-min=13.6km az=48.4*
BJI ***19*** *23:12:52.3, 3958N×7653E, h12km, ML3.1*

ISC 19 23:12:47.5±5.8, 390N±03×765E±03, h15km±22km, n12, σ0§74/14, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.66**	**322**	PG	**Pg**	**23 13 00.6**	**+0.1**
KSH				SG	**Sg**	**23 13 09.1**	**-0.1**
KSH				Smax			
	comp=N,4μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.2s						
KZA	**Kyzart**	**3.22**	**343**	P	**Pn**	**23 13 38.3**	**+0.7**
	SNR=36						
ULHL	**Ulahol**	**3.25**	**357**	P	**Pn**	**23 13 36.9**	**-1.1**
	SNR=150						
UCH	**Uchtor**	**3.56**	**336**	P	**Pn**	**23 13 42.3**	**0.0**
	SNR=102						
AML	**Almayashu**	**3.79**	**327**	P	**Pn**	**23 13 45.7**	**+0.3**
	SNR=31						
KBK	**Karagaybulak**	**3.84**	**343**	P	**Pn**	**23 13 46.1**	**-0.1**
	SNR=46						
AAK	**Ala-Archa**	**3.94**	**338**	P	**Pn**	**23 13 47.2**	**-0.2**
	SNR=20						
TKM2	**Tokmak 2**	**3.98**	**350**	P	**Pn**	**23 13 48.0**	**-0.1**
	SNR=15						
TKM2	**Tokmak 2**	**3.98**	**350**	⇑Pn	**Pn**	**23 13 47.8**	**-0.3**
	comp=E,2.3nm,0.6s						
TKM2				⇓Lg		23 14 35.0	
	comp=E,3.2nm,0.6s						
CHMS	**Chumysh**	**4.21**	**342**	P	**Pn**	**23 13 53.8**	**+2.6**
	SNR=16						
USP	**Ospenovka**	**4.53**	**341**	P	**Pn**	**23 13 55.1**	**-0.4**
	SNR=16						
KK31	**Karatay Array**	**6.11**	**314**	⇓Pn	**Pn**	**23 14 16.5**	**-0.8**
	baz=124,slow=13						
KK31				⇑Pg	**Pb**	**23 14 33.8**	**+0.2**
	baz=128,slow=17						
KK31				⇑Lg		23 15 45.6	
	baz=128,slow=30						

IDC ***19*** *23:13:59.0±3.1, 4935×1064E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=150.1km s-min=18.8km az=53.0*
NEIC ***19*** *23:13:59.4±1.2, 520S×1060E, h10km, mb4.2/1, Error ellipse: s-maj=31.9km s-min=13.2km az=63.0*
ISCJB ***19*** *23:14:14.1±5.1, 46S±01×1070E±03, h133km±43km, mb3.7/6, Error ellipse: s-maj=48.0km s-min=15.0km az=129.2*

ISC 19 23:14:14.5±4.6, 47S±02×1069E±03, h118km±38km, n12, σ0§88/13, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**6.96**	**29**	*e*Pn	**Pn**	**23 15 54.7**	**+0.8**
KSM				*e*Sn	**Sn**	**23 17 10.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.66**	**128**	*e*P	**P**	**23 19 05.9**	**-0.1**
	8.5nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**22.66**	**128**	P	**P**	**23 19 04.9**	**-1.1**
	4.9nm,0.9s,mb3.8,baz=340,slow=4.7,SNR=8.2						
WRA	**Warramunga Arr**	**30.71**	**122**	P	**P**	**23 20 17.3**	**-0.9**
	1.3nm,0.8s,mb3.7,baz=295,slow=10,SNR=7.7						
WB2	**Warramunga Arr**	**30.72**	**122**	*e*P	**P**	**23 20 17.8**	**-0.5**
ASAR	**Alice Springs**	**32.16**	**129**	P	**P**	**23 20 31.1**	**+0.3**
	0.9nm,0.8s,mb3.5,baz=303,slow=8.7,SNR=8.5						
PMG	**Port Moresby**	**40.19**	**99**	P	**P**	**23 21 40.9**	**+1.7**
STKA	**Stephens Creek**	**42.29**	**134**	*e*P	**P**	**23 21 56.6**	**+0.2**
SONM	**Songino Array**	**52.27**	**360**	P	**P**	**23 23 14.4**	**+0.7**
	0.7nm,0.9s,mb3.7,baz=191,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**55.67**	**340**	P	**P**	**23 23 36.9**	**-1.5**
	0.8nm,0.6s,mb3.9,baz=155,slow=6.8,SNR=15						
MKAR	**Makanchi Array**	**55.67**	**340**	P	**P**	**23 23 36.9**	**-1.5**
ZAL	**Zalesovo**	**61.25**	**345**	P	**P**	**23 24 17.7**	**+0.6**
	1.1nm,0.4s,mb4.2,baz=230,slow=4.4,SNR=4.6						

CSEM ***19*** *23:24:24.1, 6783N×2020E, h4km, ML2.8, Mining explosion. After UPP*
UPP ***19*** *23:24:24.1, 6783N×2020E, h4km, ML2.8, Mining explosion.*

HEL 19 23:24:24.6±0.1, 6783N×2020E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	23 24 26.9	-0.4
KUA				*i* S	Sg	23 24 28.8	-0.3
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 24 32.4	-0.7
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	23 24 37.3	-0.9
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 24 37.3	-1.0
	baz=307						
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	23 24 37.5	-1.0
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 24 38.9	-0.8
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 24 47.9	+0.2
KIF				*e*S	Sg	23 25 03.6	+0.2
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 24 49.1	-2.1
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	23 24 52.0	-0.7
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 24 52.0	-0.7
	baz=323						
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 24 54.6	-0.8
HARU	**Harads**	**1.70**	**169**	P	Pn	23 24 54.6	-0.9
	baz=339						
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 25 04.9	-0.9
SGF				*e*S	Sn	23 25 36.9	+0.4

CSEM ***19*** *23:25:43.6, 6783N×2020E, h0km, ML2.6, Mining explosion. After UPP*
UPP ***19*** *23:25:43.6, 6783N×2020E, h0km, ML2.6, Mining explosion.*

HEL 19 23:25:44.2±0.1, 6784N×2017E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**28**	*i* P	Pg	23 25 46.5	-0.3
KUA				*i* S	Sg	23 25 48.5	0.0
NIKU	**Nikkaluokta**	**0.43**	**275**	*i* P	Pg	23 25 52.1	-0.4
LANU	**Lannavaara**	**0.72**	**72**	*i* P	Pg	23 25 57.0	-1.0
LANU	**Lannavaara**	**0.72**	**72**	P	Pg	23 25 57.0	-1.0
	baz=304						
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 25 57.2	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 25 57.2	-1.1
	baz=35						
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	23 25 58.4	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 26 05.7	-1.5
KIF				*e*S	Sg	23 26 22.6	0.0
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pn	23 26 08.9	-2.0
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 26 11.8	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 26 11.8	-0.7
	baz=336						
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 26 14.5	-0.8
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 26 26.1	+0.5
SGF				*e*S	Sn	23 26 56.6	+0.3

NEIC ***20*** *00:05:02.3, 2860S×7028W, h104km, MG3.5(GUC), After GUC.*

GUC 20 00:05:02.3±0.9, 2860S×7028W, h104km±10km, ML3.5, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.42**	**273**	*e*P	Pn	00 05 18.4	+0.5
VACH				*i* S	Sn	00 05 30.3	+0.7
VACH				AML	AML	00 05 31.1	
	comp=E,8μm,0.1s						
VACH	**Vallenar**	**0.42**	**273**	*e*P	Pn	00 05 18.4	+0.5
VACH				*i* S	Sn	00 05 30.3	+0.7
CPCH	**Copiapo**	**1.23**	**357**	*e*P	Pn	00 05 26.0	+0.5
CPCH				*i* S	Sn	00 05 43.6	+0.4
CPCH				AML	AML	00 05 44.4	
	comp=N,3μm,0.1s						
CPCH	**Copiapo**	**1.23**	**357**	*e*P	Pn	00 05 26.0	+0.5
CPCH				*i* S	Sn	00 05 43.6	+0.4
CDCH	**Caldera**	**1.59**	**342**	*e*P	Pn	00 05 30.6	+0.7
CDCH				*i* S	Sn	00 05 50.8	0.0
TLL	**Tololo Astrono**	**1.63**	**196**⇓	*e*P	Pn	00 05 31.3	+0.9
TLL				*i* S	Sn	00 05 53.2	+1.5
TLL				AML	AML	00 05 54.5	
	comp=E,116nm,0.1s						
TLL	**Tololo Astrono**	**1.63**	**196**⇓	*e*P	Pn	00 05 31.3	+0.9
TLL				*i* S	Sn	00 05 53.2	+1.5

NEIC ***20*** *00:08:54.9, 3730S×17670E, h250km, MG4.1(WEL), After WEL.*

WEL 20 00:08:54.7±0.3, 3721S×17658E, h243km±3km, ML3.9/10, 1C, Error ellipse: s-maj=5.4km s-min=4.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.13**	**159**	P	Pn	00 09 29.8	+0.1
URZ	**Urewera**	**1.13**	**159**	PN	Pn	00 09 29.8	0.0
URZ				SN	S	00 09 57.5	+0.2
MWZ	**Matawai**	**1.35**	**147**	P	Pn	00 09 31.4	+0.2
MWZ	**Matawai**	**1.35**	**147**	PN	Pn	00 09 31.4	+0.2
MXZ	**Matakaoa Point**	**1.42**	**105**	P	Pn	00 09 31.7	0.0
MXZ				S	S	00 10 00.5	-0.3
MXZ	**Matakaoa Point**	**1.42**	**105**	PN	Pn	00 09 31.8	+0.1
MXZ				SN	S	00 10 00.4	-0.4
PUZ	**Puketiti**	**1.59**	**124**	P	Pn	00 09 33.2	+0.2
PUZ	**Puketiti**	**1.59**	**124**	⇑PN	Pn	00 09 33.2	+0.2
PUZ				SN	S	00 10 02.1	-1.0
BKZ	**Black Stump Fm**	**1.96**	**182**	P	Pn	00 09 36.3	+0.1
BKZ	**Black Stump Fm**	**1.96**	**182**	PN	Pn	00 09 36.3	+0.1
KNZ	**Kokohu**	**2.01**	**155**	P	Pn	00 09 36.8	+0.2
KNZ	**Kokohu**	**2.01**	**155**	PN	Pn	00 09 36.7	+0.1
WTVZ	**West Tongariro**	**2.06**	**202**	P	Pn	00 09 37.9	+0.8
WTVZ	**West Tongariro**	**2.06**	**202**	PN	Pn	00 09 37.9	+0.8
NGZ	**Ngauruhoe**	**2.12**	**201**	P	Pn	00 09 38.9	+1.3
NGZ	**Ngauruhoe**	**2.12**	**201**	PN	Pn	00 09 38.9	+1.3
WPVZ	**Whakapapa**	**2.16**	**202**	*e*P	Pn	00 09 38.7	+0.7
WPVZ	**Whakapapa**	**2.16**	**202**	PN	Pn	00 09 38.6	+0.6
TUVZ	**Tukino**	**2.19**	**199**	P	Pn	00 09 39.0	+0.7
TUVZ	**Tukino**	**2.19**	**199**	PN	Pn	00 09 39.0	+0.7
WNVZ	**Wahianoa**	**2.26**	**200**	P	Pn	00 09 39.6	+0.6
WNVZ	**Wahianoa**	**2.26**	**200**	PN	Pn	00 09 39.6	+0.6
MOVZ	**Moawhango**	**2.29**	**196**	P	Pn	00 09 39.4	0.0
MOVZ	**Moawhango**	**2.29**	**196**	PN	Pn	00 09 39.4	0.0
MTVZ	**Mangateitei**	**2.35**	**202**	PN	Pn	00 09 40.3	+0.4
VRZ	**Vera Road**	**2.40**	**216**	P	Pn	00 09 41.7	+1.3
VRZ	**Vera Road**	**2.40**	**216**	PN	Pn	00 09 41.9	+1.5
PXZ	**Pawanui**	**2.83**	**176**	PN	Pn	00 09 44.3	-0.6
WPHZ	**Waipukurau**	**2.86**	**182**	PN	Pn	00 09 44.9	-0.3
TSZ	**Takapari Road**	**2.89**	**190**	P	Pn	00 09 44.9	-0.6
TSZ	**Takapari Road**	**2.89**	**190**	PN	Pn	00 09 44.9	-0.6
BFZ	**Birch Farm**	**3.48**	**184**	P	Pn	00 09 50.9	-1.2
MRZ	**Mangatainoka R**	**3.54**	**192**	*e*P	Pn	00 09 51.1	-1.7
MRZ	**Mangatainoka R**	**3.54**	**192**	PN	Pn	00 09 51.1	-1.7
KIW	**Kapiti Island**	**3.88**	**199**	P	Pn	00 09 54.9	-1.8
KIW	**Kapiti Island**	**3.88**	**199**	PN	Pn	00 09 55.0	-1.7
MTW	**Mount Morrison**	**4.04**	**192**	P	Pn	00 09 56.4	-2.2
MTW	**Mount Morrison**	**4.04**	**192**	PN	Pn	00 09 56.4	-2.1
CAW	**Cannon Point**	**4.07**	**196**	P	Pn	00 09 57.2	-1.8
CAW	**Cannon Point**	**4.07**	**196**	PN	Pn	00 09 57.2	-1.8
DUWZ	**D'Urville Isla**	**4.15**	**209**	PN	Pn	00 09 58.0	-1.9
TRWZ	**Traveller**	**4.25**	**189**	PN	Pn	00 09 58.9	-2.2
MRW	**Makara Radio**	**4.28**	**199**	P	Pn	00 09 59.4	-2.0
MRW	**Makara Radio**	**4.28**	**199**	PN	Pn	00 09 59.4	-2.1
MSWZ	**Moikau Station**	**4.33**	**193**	P	Pn	00 09 59.5	-2.6
MSWZ	**Moikau Station**	**4.33**	**193**	PN	Pn	00 09 59.5	-2.6
TCW	**Tory Channel**	**4.38**	**203**	P	Pn	00 10 00.8	-1.9
TCW	**Tory Channel**	**4.38**	**203**	PN	Pn	00 10 00.8	-2.0
TUWZ	**Tuamarina**	**4.69**	**205**	PN	Pn	00 10 04.0	-2.4
NNZ	**Nelson**	**4.72**	**211**	*e*P	Pn	00 10 04.3	-2.5
NNZ	**Nelson**	**4.72**	**211**	PN	Pn	00 10 04.3	-2.5
QRZ	**Quartz Range**	**4.80**	**220**	*e*P	Pn	00 10 05.0	-2.8
QRZ	**Quartz Range**	**4.80**	**220**	PN	Pn	00 10 05.0	-2.8
BSWZ	**Blackbirch Sta**	**4.97**	**204**	P	Pn	00 10 07.6	-2.2
BSWZ	**Blackbirch Sta**	**4.97**	**204**	PN	Pn	00 10 07.6	-2.2
THZ	**Tophouse**	**5.37**	**211**	*e*P	Pn	00 10 12.5	-2.3
THZ	**Tophouse**	**5.37**	**211**	PN	Pn	00 10 12.5	-2.2
KHZ	**Kahutara**	**5.71**	**203**	PN	Pn	00 10 16.6	-2.4
LTZ	**Lake Taylor**	**6.48**	**209**	*e*P	Pn	00 10 25.7	-3.0
LTZ	**Lake Taylor**	**6.48**	**209**	PN	Pn	00 10 25.7	-2.9
MQZ	**McQueen's Vall**	**7.15**	**204**	*e*P	Pn	00 10 33.4	-3.8

PRU ***20*** *00:11:56.3, 4549N×1055E, h0km*
ISCJB ***20*** *00:11:57.0±0.2, 4568N±001×1033E±001, h1km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=153.5*

CSEM ***20*** *00:11:58.1±0.0, 4566N×1044E, h12km, ML3.9/22, Error ellipse: s-maj=0.9km s-min=0.6km az=169.0*
ROM ***20*** *00:11:58.1±0.1, 4572N×1034E, h2km, Md3.2/4, Ml3.7/16, Error ellipse: s-maj=1.3km s-min=1.0km az=115.0*
ZUR ***20*** *00:11:58.1, 4568N×1037E, h5km, ML3.6/6*
NEIC ***20*** *00:11:59.0, 4572N×1036E, h5km, ML3.8(SZGRF), ML3.6(LEDBW), ML3.8(ROM), After ROM.*
SZGRF ***20*** *00:11:59.2, 4560N×1053E, h10km, mb3.8, Northern Italy*
STR ***20*** *00:12:00.0±0.6, 4567N×1032E, h10km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *00:12:00.8±0.1, 4571N×1039E, h10km, Ml3.8/30, Error ellipse: s-maj=2.5km s-min=2.1km az=38.0*

ISC 20 00:11:58.2±0.2, 45660N±0009×1033E±001, h3km±1km, n302, σ1§14/477, 33C-43D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	**Salr**	**0.14**	**107**	Pg	**Pg**	**00 12 01.7**	**+0.7**
SALO				Sg	**Sg**	**00 12 04.6**	**+1.8**
	135μm,0.5s						
MABI	**Malga Bissina**	**0.41**	**18**	Pg	**Pg**	**00 12 06.6**	**+0.4**
MABI				Sg	**Sg**	**00 12 12.2**	**+0.6**
	441nm,0.4s						
MDI	**Monti di Nese**	**0.45**	**285**	Pg	**Pg**	**00 12 07.2**	**+0.3**
MDI				Sg	**Sg**	**00 12 15.0**	**+2.3**
	4μm,0.5s						
BERNI	**Berninapass**	**0.78**	**344**⇓	*i*Pg	**Pg**	**00 12 07.2**	**-6.0**
	2μm,0.6s						
BERNI	**Berninapass**	**0.78**	**344**⇓	*i*P	**Pg**	**00 12 13.7**	**+0.5**
BRMO	**Bormio**	**0.82**	**2**	Pg	**Pg**	**00 12 13.9**	**0.0**
BRMO				Sg	**Sg**	**00 12 24.4**	**-0.1**
	318nm,0.5s						
NOVE	**Novellara**	**0.90**	**162**	Pg	**Pg**	**00 12 16.8**	**+1.3**
NOVE				Sg	**Sg**	**00 12 31.4**	**+4.1**
	11μm,0.3s						
MUGIO	**Muggio**	**0.94**	**287**	Pg	**Pg**	**00 12 16.5**	**+0.3**
MUGIO				Sg	**Sg**	**00 12 31.1**	**+2.7**
MUGIO	**Muggio**	**0.94**	**287**	*e*Pg	**Pg**	**00 12 16.9**	**+0.7**
	5μm,0.6s						
MUGIO	**Muggio**	**0.94**	**287**	*e*P	**Pg**	**00 12 16.1**	**-0.1**
MUGIO	**Muggio**	**0.94**	**287**	*e*Pg	**Pg**	**00 12 16.9**	**+0.7**
	5μm,0.6s						
FUORN	**Ofenpass-Fuorn**	**0.96**	**357**⇓	*i*Pg	**Pg**	**00 12 15.1**	**-1.5**
	2μm,0.6s						
FUORN	**Ofenpass-Fuorn**	**0.96**	**357**⇓	*i*P	**Pg**	**00 12 16.6**	**0.0**
TEOL	**Teolo**	**0.99**	**107**⇓	*i*Pg	**Pg**	**00 12 16.8**	**-0.3**
TEOL				*i* Sg	**Sg**	**00 12 30.2**	**+0.3**
CTI	**Castel Tesino**	**1.00**	**67**	Pg	**Pg**	**00 12 16.8**	**-0.6**
CTI				Sg	**Sg**	**00 12 30.9**	**+0.6**
VDL	**Val di Lei**	**1.02**	**324**	*e*Pg	**Pg**	**00 12 16.6**	**-1.2**
	3μm,0.4s						
VDL	**Val di Lei**	**1.02**	**324**	*e*P	**Pg**	**00 12 17.9**	**+0.1**
CGRP	**Cima Grappa**	**1.05**	**77**⇑	*i*Pg	**Pg**	**00 12 18.2**	**-0.1**
CGRP				*i* Sg	**Sg**	**00 12 32.7**	**+0.7**
RAVA	**Ravarino**	**1.06**	**148**	Pg	**Pg**	**00 12 19.7**	**+1.1**
	11μm,0.5s						
BOB	**Bobbio (Coli)**	**1.09**	**215**	Pg	**Pg**	**00 12 20.8**	**+1.7**
	2μm,0.2s						
DAVOX	**Davos/Dischmat**	**1.16**	**344**⇓	*i*Pg	**Pg**	**00 12 17.2**	**-3.3**
	2μm,1.0s						
DAVOX	**Davos/Dischmat**	**1.16**	**344**⇓	*i*P	**Pg**	**00 12 20.6**	**+0.1**
DAVOX	**Davos/Dischmat**	**1.16**	**344**	Pg	**Pg**	**00 12 20.6**	**+0.1**
DAVOX				Sg	**Sg**	**00 12 35.9**	**+0.3**
GRAM		**1.18**	**189**	P	**Pg**	**00 12 21.9**	**+1.0**
ERBM	**Eremo**	**1.24**	**177**	Pg	**Pg**	**00 12 23.5**	**+1.5**
	2μm,1.1s						
MTLO	**Montello**	**1.25**	**82**⇑	*e*Pg	**Pg**	**00 12 22.1**	**0.0**
MTLO				*e*Sg	**Sg**	**00 12 38.1**	**-0.1**
FAU	**Forcella Aurin**	**1.28**	**63**⇑	*e*Pg	**Pg**	**00 12 22.5**	**-0.3**
FIU	**Minerbio Fiu**	**1.31**	**141**	Pg	**Pg**	**00 12 24.1**	**+0.8**
	5μm,0.4s						
VALM		**1.31**	**183**	P	**Pn**	**00 12 23.9**	**+0.5**
CODM		**1.31**	**195**	P	**Pn**	**00 12 24.5**	**+1.1**
GSCL	**Gusciola**	**1.32**	**172**	Pg	**Pg**	**00 12 24.4**	**+0.8**
GSCL				Sg	**Sg**	**00 12 44.1**	**+3.4**
SC2M	**Scurtabr**	**1.38**	**205**	P	**Pn**	**00 12 25.5**	**+1.2**
ZCCA	**Zocca**	**1.39**	**161**	Pg	**Pg**	**00 12 25.6**	**+0.8**
	69nm,0.4s						
BACM		**1.39**	**188**	P	**Pn**	**00 12 25.1**	**+0.6**
FUSIO	**Fusio**	**1.41**	**305**	*e*P*	**Pn**	**00 12 17.9**	**-6.8**
	3μm,0.7s						
FUSIO	**Fusio**	**1.41**	**305**	*e*P	**Pn**	**00 12 24.7**	**0.0**
SARO	**Sassorosso**	**1.48**	**178**	P	**Pn**	**00 12 26.6**	**+0.9**
VLC	**Villacollemand**	**1.50**	**179**	Pg	**Pg**	**00 12 27.1**	**+0.1**
	570nm,0.7s						
LLS	**Linth-Limmern**	**1.50**	**323**	*e*P*	**Pn**	**00 12 20.5**	**-5.5**
	852nm,0.6s						
LLS	**Linth-Limmern**	**1.50**	**323**	*e*P	**Pn**	**00 12 26.6**	**+0.6**
CAE	**Caneva**	**1.51**	**76**⇑	*i*Pg	**Pg**	**00 12 25.8**	**-1.4**
CAE				*i* Sg	**Sg**	**00 12 47.4**	**+0.6**
CSO	**Casso**	**1.52**	**65**⇑	*i*Pg	**Pg**	**00 12 26.4**	**-0.9**
CSO				*i* Sg	**Sg**	**00 12 47.0**	**0.0**
VINC	**Vinca**	**1.52**	**185**	P	**Pn**	**00 12 26.8**	**+0.5**
PLONS	**Plons/SG

FVI	Forni Avoltri	1.94	60	Pg	Pn	00 12 33.1	+1.0
	631nm,0.8s						
TLI	Talmassons	1.96	81⇑	ePn	Pn	00 12 31.7	-0.5
WILA	Wila	2.01	331⇓	iPn	Pn	00 12 29.6	-3.4
	2µm,0.4s						
WILA	Wila	2.01	331⇓	iP	Pn	00 12 34.6	+1.6
LKBD	Leukerbad	2.02	292⇓	iPn	Pn	00 12 31.6	-1.5
	460nm,0.5s						
LKBD	Leukerbad	2.02	292⇓	iP	Pn	00 12 33.6	+0.5
BUA	Buia	2.02	73⇑	ePn	Pn	00 12 33.1	-0.1
BUA				eSn	Sn	00 13 01.8	+2.8
UBR	Ueberruh	2.03	356	⇑P	Pn	00 12 35.4	+2.2
UBR				S	Sn	00 13 03.0	+3.9
BOO	Bordano	2.04	70⇑	iPn	Pn	00 12 33.1	-0.2
ZOU	Zoufplan	2.04	63⇑	iPn	Pn	00 12 34.2	+0.7
ZOU				i Sn	Sn	00 13 02.2	+2.8
DIX	Grande Dixence	2.08	283	Pg	Pn	00 12 34.7	+0.7
DIX	Grande Dixence	2.08	283	ePn	Pn	00 12 33.4	-0.6
	964nm,0.5s						
DIX	Grande Dixence	2.08	283	eP	Pn	00 12 33.8	-0.2
WEIN	Weingarten	2.09	334⇓	iPn	Pn	00 12 31.7	-2.4
	658nm,0.4s						
WEIN	Weingarten	2.09	334⇓	iP	Pn	00 12 35.4	+1.3
FIN	Finale Ligure	2.09	227	P	Pn	00 12 34.6	+0.5
ZUR	Degenried	2.09	325	ePn	Pn	00 12 31.9	-2.3
	2µm,1.0s						
ZUR	Degenried	2.09	325	eP	Pn	00 12 35.4	+1.2
BAD	Bernadia	2.11	73⇑	iPn	Pn	00 12 34.0	-0.4
BAD				i Sn	Sg	00 13 04.7	-1.3
GMNA	Gemona	2.12	72	Pg	Pn	00 12 33.4	-1.1
WIMIS	Wimmis	2.13	299⇓	iPn	Pn	00 12 33.6	-1.1
	625nm,0.8s						
WIMIS	Wimmis	2.13	299⇓	iP	Pn	00 12 36.3	+1.6
PLRO	Paularo	2.15	65⇑	iPn	Pn	00 12 35.5	+0.6
PLRO				i Sn	Sn	00 13 04.3	+2.2
COLI	Coloredo	2.18	76⇑	iPn	Pn	00 12 35.0	-0.3
COLI				i Sn	Sg	00 13 07.6	-0.6
ROB	Roburent	2.22	233	P	Pn	00 12 36.3	+0.4
RSP	Reno Superiore	2.23	258	P	Pn	00 12 33.8	-2.2
RORO		2.23	227	P	Pn	00 12 36.7	+0.6
LSD	Ceresole Reale	2.24	266	P	Pn	00 12 36.5	+0.3
STEIN	Stein am Rhein	2.25	334	ePn	Pn	00 12 33.8	-2.5
	420nm,1.0s						
STEIN	Stein am Rhein	2.25	334	eP	Pn	00 12 37.5	+1.2
FLACH	Flaach	2.27	328	eP	Pn	00 12 37.7	+1.2
ROBS	Robic	2.29	74	ePn	Pn	00 12 36.3	-0.6
ROBS				i		00 12 43.1	
ROBS				Sn	Sn	00 13 09.9	+4.4
ROBS				i Sg	Sg	00 13 11.0	-0.8
MRGE	Morge	2.29	274	Pg	Pn	00 12 37.7	+0.8
	524nm,0.7s						
DRE	Drenchia	2.37	76⇑	iPn	Pn	00 12 37.6	-0.3
DRE				i Sn	Sn	00 13 06.9	-0.6
LSR	Lussari	2.37	69⇓	ePn	Pn	00 12 38.2	+0.3
SULZ	Cheisacher	2.41	321	ePn	Pn	00 12 35.4	-3.2
	2µm,0.6s						
SULZ	Cheisacher	2.41	321	eP	Pn	00 12 39.4	+0.8
CADS	Cadrg	2.44	75	ePn	Pn	00 12 38.3	-0.6
CADS				eSn	Sg	00 13 15.4	-1.3
AIGLE	Aigle	2.45	287⇓	iPn	Pn	00 12 37.5	-1.6
AIGLE	Aigle	2.45	287⇓	iP	Pn	00 12 40.3	+1.2
SLE	Schleitheim	2.46	330	ePn	Pn	00 12 36.3	-2.9
SLE	Schleitheim	2.46	330	eP	Pn	00 12 39.7	+0.5
BALST	Balsthal	2.48	314⇓	iPn	Pn	00 12 37.7	-1.7
BALST	Balsthal	2.48	314⇓	iP	Pn	00 12 40.2	+0.8
VOJS	Vojsko	2.51	80	ePn	Pn	00 12 39.2	-0.7
VOJS				eSn	Sb	00 13 16.8	+1.6
LPG	La Plagne	2.52	268	ePn	Pn	00 12 40.5	+0.5
	SNR=1.0						
LPG				eSn	Sn	00 13 10.4	-0.8
	219nm,0.6s,SNR=1.0						
LPG	La Plagne	2.52	268	ePn	Pn	00 12 40.5	+0.5
	SNR=1.0						
LPG				eSn	Sn	00 13 10.4	-0.8
	110nm,0.6s,SNR=1.0						
KBA	Koelnbreinsper	2.52	55⇑	ePn	Pn	00 12 41.4	+1.4
	SNR=22						
KBA				⇓iSn	Sn	00 13 12.1	+0.8
KBA	Koelnbreinsper	2.52	55	ePg	Pb	00 12 42.1	-2.0
KBA				eSg	Sg	00 13 17.5	-1.7
KBA	Koelnbreinsper	2.52	55⇑	ePn	Pn	00 12 41.4	+1.4
KBA				i Sn	Sn	00 13 12.1	+0.8
KBA	Koelnbreinsper	2.52	55	Pn	Pn	00 12 41.4	+1.4
	22nm,3.0s						
KBA				Sn	Sn	00 13 12.1	+0.8
LPL	La Plagne	2.53	268	ePn	Pn	00 12 40.2	0.0
	SNR=1.0						
LPL				eSn	Sn	00 13 10.2	-1.3
	107nm,0.4s,SNR=1.0						
LPL	La Plagne	2.53	268	ePn	Pn	00 12 40.2	0.0
	SNR=1.0						
LPL				eSn	Sn	00 13 10.2	-1.3
	54nm,0.4s,SNR=1.0						
GUT	Gutenstein	2.55	341	P	Pn	00 12 41.3	+0.8
GUT				S	Sn	00 13 12.3	+0.3
STV	Sta Anna Valdi	2.56	238	P	Pn	00 12 39.8	-0.8
PZZ	Prazzo	2.56	244	P	Pn	00 12 38.6	-2.0
FUR	Furstenfeldbru	2.59	14	ePn	Pn	00 12 42.0	+1.0
FUR				eSn	Sn	00 13 13.8	+0.9
SAOF	Saorge	2.59	231	P	Pn	00 12 42.0	+1.0
TORNY	Torny/Romont	2.59	297⇓	iPn	Pn	00 12 37.7	-3.3
TORNY	Torny/Romont	2.59	297⇓	iP	Pn	00 12 42.0	+1.0
RRL	Cesana Torines	2.61	255	P	Pn	00 12 40.1	-1.2
JAVS	Javornik	2.62	84	ePn	Pn	00 12 40.7	-0.7
JAVS				Sn	Sn	00 13 19.6	+5.8
GORS	Gorjuse	2.64	74	ePn	Pn	00 12 41.4	-0.2
GORS				eSn	Sn	00 13 18.7	+4.6
BNI	Bardonecchia	2.65	258	ePn	Pn	00 12 41.9	+0.2
BNI				ePg	Pg	00 12 50.6	+1.7
BNI				eSn	Sn	00 13 14.6	+0.2
BNI				eSg	Sg	00 13 22.3	-0.9
BNI	Bardonecchia	2.65	258	ePn	Pn	00 12 41.9	+0.1
BNI	Bardonecchia	2.65	258	ePg	Pg	00 12 50.6	+1.7
BBS	Basel-Blauen	2.66	314	P	Pn	00 12 42.5	+0.6
SPAK	Spaichingen-Ko	2.66	337	P	Pn	00 12 43.1	+1.1
MBDF	Montbardon	2.69	251	ePn	Pn	00 12 41.3	-1.0
	SNR=1.0						
MBDF				eSn	Sn	00 13 14.0	-1.3
	169nm,0.4s,SNR=1.0						
MBDF	Montbardon	2.69	251	ePn	Pn	00 12 41.3	-1.0
	SNR=1.0						
MBDF				eSn	Sn	00 13 14.0	-1.3
	85nm,0.4s,SNR=1.0						
FELD	Feldberg im Sc	2.73	325	⇓P	Pn	00 12 43.5	+0.5
SBF	Sospel	2.74	230	ePn	Pn	00 12 43.1	+0.1
	SNR=1.0						
SBF				eSn	Sn	00 13 15.3	-1.3
	358nm,0.4s,SNR=1.0						
SBF	Sospel	2.74	230	ePn	Pn	00 12 43.1	+0.1
	SNR=1.0						
SBF				eSn	Sn	00 13 15.3	-1.3
	179nm,0.4s,SNR=1.0						
TOUF	Mont Tournerai	2.74	234	P	Pn	00 12 44.0	+0.9
BOURR	Bourrignon	2.76	310⇓	iPn	Pn	00 12 39.2	-4.1
BOURR	Bourrignon	2.76	310⇓	iP	Pn	00 12 43.8	+0.5
SURF	Saint Ours	2.76	246	P	Pn	00 12 43.0	-0.3
KIZ	Kirchzarten	2.83	325	⇓P	Pn	00 12 44.6	+0.3
KIZ				Pg	Pg	00 12 53.1	+0.6
KIZ				S	Sn	00 13 20.1	+1.2
KIZ				Sg	Sg	00 13 29.6	+0.4
KIZ	Kirchzarten	2.83	325	Pg	Pg	00 12 53.1	+0.6
KNDS	Knezji Dol	2.84	91	i Pn	Pn	00 12 43.7	-0.7
KNDS				i Sn	Sn	00 13 19.9	+0.6
KNDS				i Sg	Sg	00 13 29.6	0.0
REVF	Revere	2.86	229	P	Pn	00 12 45.7	+1.1
BUCH	Bad Urach	2.87	347	P	Pn	00 12 45.4	+0.6
BUCH				S	Sn	00 13 19.5	-0.4
CEY	Cerknica	2.87	87	ePn	Pn	00 12 44.0	-0.8
CEY				eSn	Sn	00 13 18.2	-1.7
MVIF	Mont Vial	2.87	233	P	Pn	00 12 45.7	+0.9
LOMF	Lomont	2.95	306	P	Pn	00 12 46.7	+0.7
LJU	Ljubljana	2.96	81	i Pn	Pn	00 12 46.6	+0.6
LJU				i		00 12 53.4	
LJU				eSn	Sn	00 13 22.1	+0.1
LJU				i Sg	Sg	00 13 31.0	-2.1
GIMEL	St. Georges /	2.96	289⇓	iPn	Pn	00 12 39.7	-6.4
GIMEL	St. Georges /	2.96	289⇓	iP	Pn	00 12 46.9	+0.8
BRANT	Les Verrieres	2.97	297⇓	iPn	Pn	00 12 39.4	-6.7
BRANT	Les Verrieres	2.97	297⇓	iP	Pn	00 12 46.8	+0.7
BFO	Black Forest	3.00	334	ePn	Pn	00 12 47.5	+0.9
GDM	Grand'Maison	3.00	263	P	Pn	00 12 48.7	+2.0
OBKA	Obir	3.05	72	i Pn	Pn	00 12 47.6	+0.2
	SNR=8.4						
OBKA				⇑iSn	Sn	00 13 26.5	+2.1
OBKA	Obir	3.05	72	i Pn	Pn	00 12 47.6	+0.2
OBKA				i Sn	Sn	00 13 26.5	+2.1
OBKA	Obir	3.05	72	Pn	Pn	00 12 47.6	+0.2
	8.0nm,4.0s						
OBKA				Sn	Sn	00 13 26.5	+2.1
CABF	La Chapelle	3.10	289	ePn	Pn	00 12 48.7	+0.7
	SNR=1.0						
CABF				eSn	Sn	00 13 23.1	-2.5
CABF				eSg	Sg	00 13 38.8	+1.0
	284nm,0.8s,SNR=1.0						
CABF	La Chapelle	3.10	289	ePn	Pn	00 12 48.7	+0.7
	SNR=1.0						
CABF				eSn	Sn	00 13 23.1	-2.5
CABF				eSg	Sg	00 13 38.8	+1.0
	142nm,0.8s,SNR=1.0						
MOF	Molkenrain	3.10	316	P	Pn	00 12 48.7	+0.6
LIBD	Limburg	3.12	324	P	Pn	00 12 49.5	+1.3
VISS	Visnje	3.16	86	ePn	Pn	00 12 48.5	-0.3
VISS				eSn	Sn	00 13 25.9	-1.0
LBG	Lerchenberg	3.18	341	P	Pn	00 12 49.7	+0.6
LBG				S	Sn	00 13 27.1	-0.5
HINF	Hinteralfeld	3.22	313	ePn	Pn	00 12 49.7	0.0
	SNR=1.0						
HINF				eSn	Sn	00 13 25.4	-3.1
HINF				eSg	Sg	00 13 41.7	0.0
	53nm,0.5s						
ORIF	Oris-en-Rattie	3.23	258	ePn	Pn	00 12 49.7	-0.1
	SNR=1.0						
ORIF				eSn	Sn	00 13 27.4	-1.3
	101nm,0.6s,SNR=1.0						
GRN	Grenoble	3.26	264	P	Pn	00 12 51.7	+1.6
PGF	Pioggiola	3.26	198	ePn	Pn	00 12 50.2	+0.1
	SNR=1.0						
PGF				eSn	Sn	00 13 27.5	-1.9
	89nm,0.3s,SNR=1.0						
PGF	Pioggiola	3.26	198	ePn	Pn	00 12 50.2	+0.1
	SNR=1.0						
PGF				eSn	Sn	00 13 27.5	-1.9
	44nm,0.3s,SNR=1.0						
PDKS	Podkum	3.28	81	ePg	Pn	00 12 50.7	+0.2
ECH	Echery	3.36	321	P	Pn	00 12 52.2	+0.7
ECH				S	Sn	00 13 32.1	+0.2
FRF	La Foret Royal	3.37	233	ePn	Pn	00 12 51.7	0.0
	SNR=1.0						
FRF				eSn	Sn	00 13 30.4	-1.7
	238nm,0.7s,SNR=1.0						
FRF	La Foret Royal	3.37	233	ePn	Pn	00 12 51.7	0.0
	SNR=1.0						
FRF				eSn	Sn	00 13 30.4	-1.7
	119nm,0.7s,SNR=1.0						
NVLJ	Novalja	3.40	107	i Pn	Pn	00 12 50.7	-1.3
NVLJ				i Sn	Sn	00 13 28.8	-4.0
WLS	Welschbruch	3.43	325	P	Pn	00 12 53.2	+0.7
BOJS	Bojanci	3.46	91	ePn	Pn	00 12 52.5	-0.4
CDF	Champ du Feu	3.46	324	ePn	Pn	00 12 53.2	+0.3
	SNR=1.0						
CDF				eSn	Sn	00 13 30.8	-3.5
	37nm,0.2s,SNR=1.0						
CDF	Champ du Feu	3.46	324	ePn	Pn	00 12 53.2	+0.3
	SNR=1.0						
CDF				eSn	Sn	00 13 30.8	-3.5
	18nm,0.2s,SNR=1.0						
PERS	Pernice	3.46	72	i Pn	Pn	00 12 53.1	+0.1
PERS				i		00 13 02.8	
PERS				eSg	Sg	00 13 49.9	+0.4
MOA	Molln	3.48	50⇓	iPn	Pn	00 12 54.0	+0.8
	SNR=25						
MOA				⇑iSn	Sn	00 13 35.9	+1.0
MOA	Molln	3.48	50	ePn	Pn	00 12 53.9	+0.7
MOA	Molln	3.48	50	Pn	Pn	00 12 54.0	+0.8
	25nm,2.0s						
MOA				Sn	Sn	00 13 35.9	+1.0
LEGS	Legarje	3.50	83	ePn	Pn	00 12 53.0	-0.4
STOF	St-Étienne Org	3.56	244	P	Pn	00 12 56.9	+2.6
CRES	Cresnjev	3.59	86	ePn	Pn	00 12 54.3	-0.5
LMR	La Mourre	3.59	231	ePg	Pg	00 13 04.8	-2.2
	SNR=1.0						
LMR				eSn	Sn	00 13 35.9	-1.7
	46nm,0.3s,SNR=1.0						
LMR	La Mourre	3.59	231	ePn	Pn	00 12 54.1	-0.6
LMR				ePg	Pg	00 13 04.8	-2.2
LMR				eSn	Sn	00 13 35.9	-1.7
LMR	La Mourre	3.59	231	ePg	Pg	00 13 04.8	-2.2
	SNR=1.0						
LMR				eSn	Sn	00 13 35.9	-1.7
	23nm,0.3s,SNR=1.0						
HAU	Haudompre	3.60	312	ePg	Pg	00 13 07.1	-0.2
	SNR=1.0						
HAU				eSn	Sn	00 13 34.3	-3.7
	91nm,0.3s,SNR=1.0						
HAU	Haudompre	3.60	312	ePn	Pn	00 12 55.2	+0.3
HAU				ePg	Pg	00 13 07.1	-0.2
HAU				eSn	Sn	00 13 34.3	-3.7
HAU	Haudompre	3.60	312	ePg	Pg	00 13 07.1	-0.2
	SNR=1.0						
HAU				eSn	Sn	00 13 34.3	-3.7
	46nm,0.3s,SNR=1.0						
DOBS	Dobrina	3.62	80	ePn	Pn	00 12 54.5	-0.6
TAVF	Tavernes	3.67	238	P	Pn	00 12 55.9	0.0
GOLS	Golise	3.71	83	ePn	Pn	00 12 56.0	-0.4
SIND	Sindeldorf	3.72	353	P	Pn	00 12 56.7	+0.1
SIND				S	Sn	00 13 40.4	-0.5
LANF	Langenberg	3.74	334	P	Pn	00 12 57.6	+0.8
SMRF	Simiane la Rot	3.78	245	ePn	Pn	00 12 57.8	+0.4
	SNR=1.0						
SMRF				eSg	Sg	00 14 00.2	+0.5
	92nm,0.7s						
SMRF	Simiane la Rot	3.78	245	ePn	Pn	00 12 57.8	+0.4
	SNR=1.0						
SMRF				eSg	Sg	00 14 00.2	+0.5
	46nm,0.7s						
WET	Wettzell	3.89	25	ePn	Pn	00 12 58.7	-0.2
WET				eSn	Sn	00 13 42.8	-2.2
ARSA	Arzberg	3.92	64	i Pn	Pn	00 12 59.2	-0.1
	SNR=20						
ARSA				⇑iSn	Sn	00 13 46.5	+0.7
ARSA	Arzberg	3.92	64	ePn	Pn	00 12 59.3	0.0
ARSA	Arzberg	3.92	64	Pn	Pn	00 12 59.2	-0.1
	20nm,2.0s						
ARSA				Sn	Sn	00 13 46.5	+0.6
GEC2	GERESS Array S	3.93	35	ePn	Pn	00 12 59.1	-0.2
GEC2				eSn	Sn	00 13 44.4	-1.5
THEF	They Montfort	3.93	312	P	Pn	00 13 00.1	+0.7
AQU	L'Aquila	3.98	145	ePn	Pn	00 13 01.1	+1.1
AQU				ePg	Pg	00 13 13.5	-0.9
AQU				eSn	Sn	00 13 49.2	+2.0
AQU				eSg	Sg	00 14 03.3	-2.7
AQU	L'Aquila	3.98	145	ePn	Pn	00 13 01.1	+1.0
AQU	L'Aquila	3.98	145	ePg	Pg	00 13 13.5	-0.9
SWS	Schriesheim-Wi	3.98	344	P	Pn	00 13 00.0	-0.1
VIVF	Saint-Julien-l	4.08	261	ePn	Pn	00 13 01.4	0.0
	SNR=1.0						
VIVF				eSn	Sn	00 13 47.5	-2.1
	31nm,0.5s						
VIVF	Saint-Julien-l	4.08	261	ePn	Pn	00 13 01.4	0.0
	SNR=1.0						
VIVF				eSn	Sn	00 13 47.5	-2.1
	16nm,0.5s						
GRA1	Grafenberg Arr	4.08	8	ePn	Pn	00 13 00.3	-1.1
GRA1				eSn	Sn	00 13 49.3	-0.4
GRF	Grafenberg Arr	4.08	8	ePn	Pn	00 13 00.3	-1.1
GRF				eSn	Sn	00 13 49.3	-0.4
TOD	Tromm	4.08	346	P	Pn	00 13 02.2	+0.7
KHC	Kasperske Hory	4.11	31	ePN	Pn	00 13 01.8	-0.1
KHC				ePG	Pg	00 13 13.4	-3.6
KHC				eSN	Sn	00 13 49.7	-0.8
KHC				eSG	Sg	00 14 09.1	-1.2
	49nm,0.8s						
KHC	Kasperske Hory	4.11	31	ePn	Pn	00 13 01.8	-0.1
KHC				ePg	Pg	00 13 13.4	-3.6
KHC				eSn	Sn	00 13 49.7	-0.8
KHC				eSg	Sg	00 14 09.1	-1.2
GELF	Grande-Etoile	4.18	239	P	Pn	00 13 03.6	+0.7
SISC	Sisak	4.25	90	ePn	Pn	00 13 03.1	-0.6
SISC	Sisak	4.25	90	ePn	Pn	00 13 03.1	-0.6
CONA	Conrad Observa	4.42	57⇑	iPn	Pn	00 13 06.4	+0.2
	SNR=8.3						
CONA				⇓iSn	Sn	00 13 59.4	+1.2
SFTF	Sexfontaines	4.43	307	ePn	Pn	00 13 06.9	+0.6
	baz=130						
SFTF				eSn	Sn	00 13 54.8	-3.6
	22nm,0.2s						
SFTF	Sexfontaines	4.43	307	ePn	Pn	00 13 06.9	+0.6
SFTF				eSn	Sn	00 13 54.8	-3.6
	11nm,0.2s						
RFYF	Reffroy	4.45	314	ePn	Pn	00 13 07.0	+0.4
	baz=127						
RFYF				eSn	Sn	00 13 54.7	-4.2
RFYF				eSg	Sg	00 14 19.5	-1.7
	83nm,0.5s						
RFYF	Reffroy	4.45	314	ePn	Pn	00 13 07.0	+0.4
RFYF				eSn	Sn	00 13 54.7	-4.2
RFYF				eSg	Sg	00 14 19.5	-1.7
	42nm,0.5s						
MEZF	Maizieres J'vi	4.59	310	ePn	Pn	00 13 09.5	+1.0
	baz=126,SNR=1.0						
MEZF				eSn	Sn	00 13 59.1	-3.3
	SNR=1.0						
MEZF				eSg	Sg	00 14 24.1	-1.6
	47nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	4.59	310	ePn	Pn	00 13 09.5	+1.0
	SNR=1.0						
MEZF				eSn	Sn	00 13 59.1	-3.3
	SNR=1.0						
MEZF				eSg	Sg	00 14 24.1	-1.6
	24nm,0.5s,SNR=1.0						
SMF	Signal de Mont	4.62	285	ePg	Pg	00 13 27.9	+1.2
	SNR=1.0						
SMF				eSn	Sn	00 13 59.7	-3.3
	60nm,0.3s						
SMF	Signal de Mont	4.62	285	ePn	Pn	00 13 09.3	+0.4
SMF				ePg	Pg	00 13 27.9	+1.2
SMF				eSn	Sn	00 13 59.7	-3.3
SMF	Signal de Mont	4.62	285	ePg	Pg	00 13 27.9	+1.2
	SNR=1.0						
SMF				eSn	Sn	00 13 59.7	-3.3
	30nm,0.3s						
ABH	Alteburg	4.62	337	P	Pn	00 13 10.0	+1.1
PLDF	La Plantade	4.70	276	P	Pn	00 13 10.1	+0.1
TNS	Taunus Mts	4.74	345	ePn	Pn	00 13 11.4	+0.9
TNS				eSn	Sn	00 14 07.6	+1.7
LOR	Lormes	4.75	292	ePn	Pn	00 13 10.3	-0.4
	baz=114,SNR=1.0						
LOR				eSn	Sn	00 14 03.0	-3.3
	58nm,0.3s,SNR=1.0						
LOR	Lormes	4.75	292	ePn	Pn	00 13 10.3	-0.4
	SNR=1.0						
LOR				eSn	Sn	00 14 03.0	-3.3
	29nm,0.3s,SNR=1.0						
NKC	Novy Kostel	4.79	16	ePN	Pn	00 13 10.5	-0.7
NKC				ePG	Pg	00 13 31.6	+1.6
NKC				eSN	Sn	00 14 06.8	-0.4
NKC				eSG	Sg	00 14 32.2	+0.1
	20nm,0.4s						
LASF	Ste Croix	4.87	253	ePn	Pn	00 13 12.3	0.0
	SNR=1.0						
LASF				eSn	Sn	00 14 06.4	-2.8
	60nm,0.6s,SNR=1.0						
LASF	Ste Croix	4.87	253	ePn	Pn	00 13 12.3	0.0
	SNR=1.0						
LASF				eSn	Sn	00 14 06.4	-2.8
	30nm,0.6s,SNR=1.0						
WLF	Walferdange	4.90	326	ePn	Pn	00 13 14.8	+2.0
WLF				eSn	Sn	00 14 12.1	+2.1
WLF	Walferdange	4.90	326	P	Pn	00 13 20.2	+7.5
BLY	Banja Luka	4.93	98	P	Pn	00 13 13.2	+0.1
SSF	Saint Saulge	4.93	289	ePg	Pg	00 13 30.9	-1.8
	SNR=1.0						
SSF				eSn	Sn	00 14 07.0	-3.7
	29nm,0.4s,SNR=1.0						
SSF	Saint Saulge	4.93	289	ePn	Pn	00 13 11.8	-1.3
SSF				ePg	Pg	00 13 30.9	-1.8
SSF				eSn	Sn	00 14 07.0	-3.7
SSF	Saint Saulge	4.93	289	ePg	Pg	00 13 30.9	-1.8
	SNR=1.0						
SSF				eSn	Sn	00 14 07.0	-3.7
	15nm,0.4s,SNR=1.0						
TANN	Tannenbergstha	4.97	16	ePn	Pn	00 13 12.3	-1.4
TANN				eSn	Sn	00 14 08.3	-3.3
AVF	Avril sur Loir	4.97	286	ePn	Pn	00 13 13.3	-0.5
	SNR=1.0						
AVF				eSn	Sn	00 14 08.2	-3.6
	34nm,0.8s,SNR=1.0						
AVF	Avril sur Loir	4.97	286	ePn	Pn	00 13 13.3	-0.5
	SNR=1.0						
AVF				eSn	Sn	00 14 08.2	-3.6
	17nm,0.8s,SNR=1.0						
LBL	Lubilhac	5.00	268	P	Pn	00 13 14.7	+0.5
AGO	Saint Agoulin	5.05	277	P	Pn	00 13 14.7	-0.1
MOX	Moxa	5.06	9	ePn	Pn	00 13 14.0	-0.9
MOX				eSn	Sn	00 14 12.0	-1.9
MOX	Moxa	5.06	9	ePN	Pn	00 13 13.7	-1.2
MOX				ePG	Pg	00 13 36.5	+1.3
MOX				eSN	Sn	00 14 11.8	-2.1
MOX				eSG	Sg	00 14 45.6	+4.8
PYM	Petit Puy Mans	5.13	274	P	Pn	00 13 16.5	+0.6
PRU	Pruhonice	5.17	32	ePN	Pn	00 13 15.8	-0.7
PRU				eSN	Sn	00 14 13.7	-3.0
PRU				eSG	Sg	00 14 44.6	+0.2
	53nm,1.4s						
BGF	Bois d'Agland	5.28	282	ePn	Pn	00 13 18.3	+0.3
	SNR=1.0						
BGF				eSn	Sn	00 14 15.5	-3.9
	68nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	5.28	282	ePn	Pn	00 13 18.3	+0.3
	SNR=1.0						
BGF				eSn	Sn	00 14 15.5	-3.9
	34nm,0.4s,SNR=1.0						
HYF	Humbligny	5.55	290	ePn	Pn	00 13 22.1	+0.4
HYF				eSn	Sn	00 14 21.8	-4.2
VRAC	Vranov	5.60	47	ePg	Pg	00 13 42.8	-2.6
VRAC				eSg	Sg	00 14 57.2	-0.7
TCF	Toulx Ste Croi	5.70	279	ePn	Pn	00

baz=114,SNR=1.0
GRR Gorron 8.12 294 ePn Pn 00 13 56.3 -0.6
SNR=1.0
SGMF Saint Gilles 9.19 291 ePn Pn 00 14 10.5 -1.1
ROSF Rostrenen 9.68 291 ePn Pn 00 14 18.0 -0.3

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*ISCJB **20** 00:12:32.0±0.6, 5004N±004×1845E±004, h0km, Error ellipse: s-maj=6.1km s-min=3.3km az=179.2*
*PRU **20** 00:12:34.2, 5002N×1834E, h0km*
ISC 20 00:12:32.9±0.6, 5002N±004×1843E±003, h0km, n15, σ1§22/24, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.16	292	ePg	Pg	00 12 36.4	+0.4
RAC				eSg	Sg	00 12 39.7	+1.6
OKC	Ostrava-Krasne	0.26	224	ePG	Pg	00 12 38.2	+0.3
OKC				eSG	Sg	00 12 42.6	+1.4
	29nm,0.5s						
MORC	Moravsky Berou	0.62	247	⇓iP	Pg	00 12 44.9	+0.1
MORC				S	Sg	00 12 54.2	+1.3
MORC	Moravsky Berou	0.62	247	⇓P	Pg	00 12 44.9	0.0
MORC				S	Sg	00 12 54.2	+1.3
OJC	Ojcow	0.91	77	ePg	Pg	00 12 48.6	-1.6
OJC				eSg	Sg	00 13 01.7	-0.3
NIE	Niedzica	1.37	116	ePg	Pg	00 12 58.1	-1.0
NIE				eSg	Sg	00 13 17.8	+1.0
VRAC	Vranov	1.39	240	⇓iP	Pg	00 12 58.2	-1.3
VRAC	Vranov	1.39	240	S	Sg	00 13 16.9	-0.6
VRAC	Vranov	1.39	240	⇓P	Pg	00 12 58.2	-1.4
DPC	Dobruska-Polom	1.39	284	ePG	Pg	00 12 58.3	-1.3
DPC				eSG	Sg	00 13 16.9	-0.7
	8.0nm,0.3s						
VYHS	Vyhne	1.55	170	ePN	Pn	00 13 01.1	-0.7
VYHS				eSN	Sn	00 13 22.1	-0.5
SMOL	Smolenice	1.65	204	eSN	Sn	00 13 23.3	-1.6
STHS	Stebnicka Huta	1.93	107	ePN	Pn	00 13 08.0	+1.1
STHS				eSN	Sn	00 13 35.6	+3.8
CRVS	Cervenica-Dubn	2.28	118	ePN	Pn	00 13 14.7	+3.0
PSZ	Piszkesteto	2.32	155	⇑iP	Pn	00 13 16.8	+4.5

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*CSEM **20** 00:23:47.3±0.1, 4569N×1033E, h10km, ML2.7/4, Error ellipse: s-maj=1.6km s-min=1.4km az=40.0*
*ROM **20** 00:23:47.9±0.2, 4570N×1033E, h1km, Md2.1/6, Ml1.9/5, Error ellipse: s-maj=2.0km s-min=1.4km az=15.0*
*ISCJB **20** 00:23:48.5±0.6, 4572N±003×1036E±004, h1km, Error ellipse: s-maj=4.8km s-min=3.6km az=57.6*
*VIE **20** 00:23:53.2±0.8, 4591N×1047E, h7km, ML1.9/2, Error ellipse: s-maj=4.6km s-min=2.7km az=174.0 36 km SW of Pinzolo*
ISC 20 00:23:48.6±1.1, 4569N±004×1035E±004, h13km±12km, n9, σ0§80/18, 2C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	Salr	0.14	119	Pg	Pg	00 23 51.4	-0.7
SALO				Sg	Sg	00 23 54.4	-0.2
	2μm,0.3s						
MABI	Malga Bissina	0.39	17	Pg	Pg	00 23 56.4	0.0
MABI				Sg	Sg	00 24 02.1	+0.5
	15nm,0.3s						
MDI	Monti di Nese	0.46	282	Pg	Pg	00 23 57.2	-0.4
MDI				Sg	Sg	00 24 04.6	+0.9
	51nm,0.3s						
CTI	Castel Tesino	0.98	68	Pg	Pg	00 24 07.0	-0.5
CTI				Sg	Sg	00 24 21.7	+1.4
	34nm,0.2s						
TEOL	Teolo	0.98	109	⇓iPg	Pg	00 24 06.9	-0.7
TEOL				iSg	Sg	00 24 21.1	+0.6
APPI	Appiano	1.00	37	Pg	Pg	00 24 08.5	+0.5
APPI				Sg	Sg	00 24 22.1	+1.1
	28nm,0.4s						
TUE	Stuetta	1.05	319	Pg	Pg	00 24 08.8	-0.1
TUE				Sg	Sg	00 24 22.9	+0.3
SQTA	Sankt Quirin	1.65	21	⇑iPg	Pg	00 24 20.9	+0.6
SQTA				⇓iSg	Sg	00 24 39.8	-1.8
	2.3nm,0.3s						
MOTA	Moosalm	1.74	17	⇑iPg	Pg	00 24 21.7	-0.3
MOTA				⇓iSg	Sg	00 24 43.3	-1.3
	1.8nm,0.2s						

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*IDC **20** 00:53:37.1±3.8, 2079N×121.11E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/24, Error ellipse: s-maj=306.6km s-min=26.4km az=60.0*
*ISCJB **20** 00:53:40.3±2.2, 2090N±009×1212E±02, h38km±21km, mb3.8/5, Error ellipse: s-maj=33.3km s-min=13.7km az=162.6*
*NEIC **20** 00:53:41.9±0.5, 2086N×121.13E, h35km, mb4.1/2, Error ellipse: s-maj=20.6km s-min=7.1km az=85.0*
ISC 20 00:53:42.1±2.1, 2091N±009×1212E±02, h35km±22km, n13, σ0§80/14, mb3.8/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	3.27	7	ePn	Pn	00 54 32.6	+1.8
NACB				eSn	Sn	00 55 08.5	0.0
YHNB	Yeheng	3.74	3	ePn	Pn	00 54 36.5	-0.8
YHNB				eSn	Sn	00 55 18.4	-1.8
TATO	Taipei	4.05	4	P	Pn	00 54 42.0	+0.4
KSRS	Korea Array	17.50	18	LR	LR	01 05 35.8	
	comp=Z,19nm,18.3s,baz=351,slow=41						
MAJO	Matsushiro	21.54	40	eP	P	00 58 29.2	+1.0
	3.3nm,0.4s,mb4.1						
MKAR	Makanchi Array	40.71	319	P	P	01 01 19.9	+0.6
	0.6nm,0.7s,mb3.3,baz=109,slow=9.8,SNR=5.9						
WRAB	Tennant Creek	42.60	161	eP	P	01 01 34.4	-0.3
	1.2nm,0.5s,mb3.9						
WRA	Warramunga Arr	42.61	162	P	P	01 01 34.3	-0.5
	1.2nm,0.5s,mb3.9,baz=342,slow=9.0,SNR=9.4						
WB2	Warramunga Arr	42.61	161	eP	P	01 01 34.2	-0.5
ASAR	Alice Springs	46.02	164	P	P	01 02 01.7	-0.3
	0.4nm,0.5s,mb3.6,baz=344,slow=7.0,SNR=14						
ZRNK	Zerenda	50.97	322	P	P	01 02 40.2	+0.1
STKA	Stephens Creek	56.03	159	P	P	01 03 17.6	+0.4
INK	Inuvik	76.26	22	P	P	01 05 26.9	-0.2

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*ISCJB **20** 01:01:13.4±0.6, 3836N±002×2203E±003, h2km±4km, Error ellipse: s-maj=3.9km s-min=3.7km az=163.4*
*NEIC **20** 01:01:13.7, 3838N×2200E, h17km, ML3.3(ATH), After ATH.*
*CSEM **20** 01:01:13.9±0.1, 3831N×2201E, h2km, ML3.3, Error ellipse: s-maj=3.3km s-min=3.1km az=50.0*
*ATH **20** 01:01:13.6, 3838N×2200E, h16km±1km, MD3.4/17, ML3.3*
*THE **20** 01:01:14.5, 3838N×2202E, h1km, ML2.9*
ISC 20 01:01:13.7±0.6, 3835N±002×2202E±003, h2km±4km, n46, σ0§89/67, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.52	237	ePN	Pg	01 01 24.0	+0.3
RLS				eSN	Sg	01 01 31.8	+1.3
RLS	Riolos of Patr	0.52	237	ePn	Pg	01 01 24.0	+0.3
RLS				eSn	Sg	01 01 32.4	+1.9
EVR	Evrytania	0.59	344	ePN	Pg	01 01 24.3	-0.8
EVR				eSN	Sg	01 01 32.8	0.0
EVR	Evrytania	0.59	344	ePn	Pg	01 01 24.3	-0.8
EVR				eSn	Sg	01 01 33.2	+0.4
AGG	Agios Georgios	0.72	20	ePg	Pg	01 01 26.6	-0.9
AGG				eSg	Sg	01 01 37.7	+0.8
LKR	Lokris	0.83	68	ePB	Pg	01 01 29.1	-0.5
MGER	Gerania Oros	1.04	110	ePN	Pn	01 01 34.0	-1.4
MGER	Gerania Oros	1.04	110	ePn	Pn	01 01 34.5	-0.9
LKD	Levkas	1.13	289	ePg	Pg	01 01 34.7	-0.8
LKD				eSg	Sg	01 01 51.6	+1.5
VLS	Valsamata	1.14	262	ePN	Pn	01 01 35.1	-1.6
VLS	Valsamata	1.14	262	ePb	Pg	01 01 34.5	-1.0
ITM	Ithomi	1.17	184	ePN	Pn	01 01 36.0	-1.1
THL	Klokotos Trika	1.22	360	ePN	Pn	01 01 35.9	-1.9
THL				eSN	Sn	01 01 52.6	-2.3
NAIG	Nisos Aigina	1.30	116	ePN	Pn	01 01 39.0	+0.1
NEO	Neokhori	1.34	44	ePN	Pn	01 01 38.9	-0.6
XOR	Xorichti	1.37	42	ePg	Pn	01 01 39.3	-0.6
XOR				eSg	Sg	01 01 58.7	+0.9
ATH	Athens Observa	1.39	105	ePN	Pn	01 01 40.1	-0.1
KVR	Kavouri	1.48	110	ePN	Pn	01 01 42.0	+0.7
PTL	Penteli	1.48	101	ePN	Pn	01 01 41.5	0.0
JAN	Janina	1.59	326	ePN	Pn	01 01 42.9	-0.1
AOS	Alonnisos	1.67	60	ePb	Pn	01 01 43.7	-0.4
AOS				eSb	Sn	01 02 06.9	+0.8
IGT	Igoumenitsa	1.77	313	ePb	Pn	01 01 47.1	+1.7
IGT				eSb	Sn	01 02 08.4	-0.1
VLI	Veliai	1.78	156	ePN	Pn	01 01 46.2	+0.7
LIT	Litokhoron	1.79	12	ePb	Pn	01 01 45.2	-0.5
LIT				eSb	Sn	01 02 08.9	-0.1
KZN	Kozani	1.97	354	ePN	Pn	01 01 48.0	-0.1
LSK	Leskovik	2.11	329	iPg	Pb	01 01 52.4	-0.4
KYTH	Kithira	2.21	158	ePN	Pn	01 01 52.9	+1.4
KYTH	Kithira	2.21	158	ePn	Pn	01 01 53.0	+1.5
PLG	Polygyros	2.31	28	ePN	Pn	01 01 53.0	+0.2
PLG	Polygyros	2.31	28	ePb	Pn	01 01 53.1	+0.3
THE	Thessaloniki	2.40	17	ePn	Pn	01 01 53.4	-0.7
THE				eSn	Sn	01 02 24.3	+0.2
HORT	Hortiatis	2.40	20	ePn	Pn	01 01 53.5	-0.5
HORT				eSn	Sn	01 02 24.8	+0.8
FNA	Florina	2.49	349	ePn	Pn	01 01 55.5	+0.2
FNA				eSn	Sn	01 02 26.4	+0.2
OUR	Ouranopolis	2.50	37	ePn	Pn	01 01 54.9	-0.6
OUR				eSn	Sn	01 02 26.8	+0.2
GRG	Griva	2.62	6	ePn	Pn	01 01 57.4	+0.2
SOH	Sokhos	2.68	22	ePn	Pn	01 01 57.9	0.0
SOH				eSn	Sn	01 02 31.3	+0.3
BIA	Bitola	2.73	349	ePn	Pb	01 02 04.0	+0.8
BIA				i Sn	Sb	01 02 38.7	+1.7
LOS	Limnos	2.86	55	ePn	Pn	01 02 00.7	+0.2
KNT	Kendrikon	2.89	13	ePn	Pn	01 02 00.7	-0.2
KNT				eSn	Sn	01 02 36.7	+0.5
OHR	Ohrid	2.92	342	ePn	Pb	01 02 07.7	+1.2
VAY	Valandovo	3.00	8	i Pn	Pn	01 02 00.9	-1.5
VAY	Valandovo	3.00	8	i Pn	Pn	01 02 00.8	-1.5
KRUS	Krusevo	3.08	349	i Pn	Pb	01 02 06.7	-2.5
KRUS				i Sn	Sb	01 02 47.7	+0.4
KRUS	Krusevo	3.08	349	i Pn	Pb	01 02 06.7	-2.5
KRUS				i Sn	Sb	01 02 47.6	+0.4
CHOS	Chios island	3.17	88	ePn	Pn	01 02 05.3	+0.6
CHOS				eSn	Sn	01 02 44.0	+0.9
STIP	Stip	3.35	2	i Pn	Pn	01 02 07.3	+0.2

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*ISK **20** 01:14:11.9, 3693N×2797E, h26km, MD2.6*
*ATH **20** 01:14:11.4, 3699N×2818E, h31km, MD3.1/3*
*NEIC **20** 01:14:11.4, 3699N×2818E, h31km, MD3.1(ATH), After ATH.*
*CSEM **20** 01:14:12.6±0.1, 3697N×2800E, h10km, MD2.6, Error ellipse: s-maj=2.7km s-min=1.8km az=33.0*
*ISCJB **20** 01:14:13.1±0.7, 3692N±005×2798E±005, h24km±9km, Error ellipse: s-maj=8.6km s-min=6.6km az=58.6*
ISC 20 01:14:13.1±0.7, 3692N±005×2798E±005, h22km±10km, n7, σ0§62/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.37	240	PG	Pb	01 14 20.6	-0.4
DAT				SG	Sb	01 14 27.0	+0.6
MLSB	Milas	0.41	337	PG	Pb	01 14 20.6	-1.1
MLSB				SG	Sb	01 14 27.7	+0.2
DALT	Dalyan (Mudla)	0.55	105	PG	Pb	01 14 23.6	-0.4
DALT				SG	Sb	01 14 32.5	+1.0
BODT	Bodrum	0.55	285	PG	Pb	01 14 24.2	+0.1
BODT				SG	Sb	01 14 32.0	+0.4
ARG	Arkhangelos	0.71	170	ePN	Pn	01 14 26.9	-0.9
ARG				eSN	Sn	01 14 38.4	+0.3
SMG	Samos	1.20	311	ePN	Pn	01 14 35.3	+0.7
KARP	Karpathos	1.52	206	ePB	Pb	01 14 40.2	-0.4

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*IDC **20** 01:25:32.2±2.4, 2735N×9229E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=82.3km s-min=27.4km az=72.0*
*ISCJB **20** 01:25:37.7±1.5, 2743N±008×923E±02, h56km±16km, mb3.8/5, Error ellipse: s-maj=27.0km s-min=12.3km az=164.6*
*NEIC **20** 01:25:37.3±0.7, 2740N×9227E, h35km, mb3.8/4, Error ellipse: s-maj=15.6km s-min=10.9km az=54.0*
ISC 20 01:25:38.3±1.5, 2744N±007×923E±02, h41km±17km, n13, σ0§43/16, mb3.8/5, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	1.91	191	i PN	Pn	01 26 07.5	-0.7
SHL				eSN	Sn	01 26 31.5	+0.5
LSA	Lhasa	2.46	336	ePn	Pn	01 26 15.8	-0.1
LSA				ePg	Pn	01 26 20.4	+4.5
LSA				eSg	Sn	01 26 53.8	+9.0
MK31	Makanchi Array	20.86	340	eP	P	01 30 16.4	-0.2
MKAR	Makanchi Array	20.86	340	P	P	01 30 16.5	-0.1
	1.4nm,0.6s,baz=156,slow=9.3,SNR=13						
AAK	Ala-Archa	20.96	321	eP	P	01 30 17.7	0.0
	0.9nm,0.6s						
SONM	Songino Array	23.14	25	P	P	01 30 41.3	+0.4
	0.2nm,0.3s,mb3.0,baz=216,slow=12,SNR=3.4						
CHKZ	Chkalovo	30.70	335	eP	P	01 31 49.1	0.0
	1.0nm,0.7s,mb3.8						
ZRNK	Zerenda	30.80	332	eP	P	01 31 49.9	-0.1
	0.9nm,0.5s,mb3.9						
GNI	Garni	41.05	301	P	P	01 33 17.7	+0.1
KIV	Kislovodsk	42.86	306	P	P	01 33 32.5	+0.1
OBN	Obninsk	48.49	321	eP	P	01 34 17.0	+0.2
	3.0nm,0.4s,mb4.7						
BR131	Keskin Array S	49.58	300	P	P	01 34 25.1	-0.1
WRA	Warramunga Arr	62.26	135	P	P	01 35 55.8	-0.1
	0.2nm,0.4s,mb3.6,baz=326,slow=6.9,SNR=11						

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*ISCJB **20** 01:27:41.3±1.4, 365N±02×140W±01, h10km, Error ellipse: s-maj=26.4km s-min=6.9km az=108.5*
*MDD **20** 01:27:41.9±3.5, 3680N×1436W, h0km, mb3.6/3, mbLg4.0/3, Error ellipse: s-maj=63.6km s-min=16.7km az=143.0, PRXIMO*
*CSEM **20** 01:27:44.0±0.5, 3697N×1459W, h30km, mb3.6/3, Error ellipse: s-maj=19.1km s-min=6.0km az=136.0*
*NEIC **20** 01:27:48.8, 3704N×1369W, h0km, MN3.8(MDD), After MDD.*
ISC 20 01:27:46.7±1.7, 371N±02×140W±01, h10km, n18, σ0§66/26, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	4.16	62	ePn	Pn	01 28 49.8	-0.3
PMAFR				eSn	Sn	01 29 39.5	+0.7
PTEO	Sao Teotonio	4.22	82	ePn	Pn	01 28 50.8	-0.3
PTEO				eSn	Sn	01 29 40.9	+0.5
MORF	Marmelete	4.27	86	ePn	Pn	01 28 52.2	+0.5
PBEJ	Beja	4.96	77	ePn	Pn	01 29 00.8	-0.3
PBEJ				eSn	Sn	01 29 58.1	-0.4
PMAR	Madeira	4.98	210	eSn	Sn	01 29 41.7	-17
EGRO	El Granado	5.21	83	P	Pn	01 29 05.8	+1.2
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	01 30 05.0	+0.3
	360nm,2.9s,SNR=7.9						
EGRO	El Granado	5.21	83	P	Pn	01 29 05.8	+1.2
	0.4nm,0.1s,SNR=7.9						
PESTR	Estremoz	5.36	69	ePn	Pn	01 29 06.6	-0.1
EMIN	Mina Concepcio	5.87	81	P	Pn	01 29 14.2	+0.6
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	01 30 21.2	+0.3
	484nm,3.3s,SNR=7.9						
EMIN	Mina Concepcio	5.87	81	P	Pn	01 29 14.2	+0.6
EMIN				S	Sn	01 30 21.2	+0.3
EMIN	Mina Concepcio	5.87	81	P	Pn	01 29 14.2	+0.6
	0.3nm,0.2s,SNR=7.9						
PVIS	Viseu	5.97	51	eSn	Sn	01 30 18.6	-4.9
ESPR	Espera	6.52	90	P	Pn	01 29 21.7	-0.9
ESPR				S	Sn	01 30 27.2	-10
ESPR	Espera	6.52	90	P	Pn	01 29 21.7	-0.9
EADA	Adamuz	7.55	79	P	Pn	01 29 37.2	+0.5
	0.3nm,0.1s,SNR=5.5						
EADA				S	Sn	01 31 01.0	-1.4
	231nm,2.6s						
EADA	Adamuz	7.55	79	P	Pn	01 29 37.2	+0.5
	0.3nm,0.1s,SNR=5.5						
ESDC	Sonseca Array	8.29	69	P	Pn	01 29 46.0	-0.8
	0.8nm,0.2s,baz=255,slow=13,SNR=6.5						
ESDC	Sonseca Array	8.29	69	P	Pn	01 29 46.0	-0.9
	0.8nm,0.2s,SNR=6.5						

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*IDC **20** 01:37:08.8±1.1, 0.10S×125.54E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, ML3.3/1, Error ellipse: s-maj=115.8km s-min=18.0km az=68.0*
*ISCJB **20** 01:37:11.5±0.7, 0.1S±0.1×125.5E±0.2, h33km, mb4.0/9, Error ellipse: s-maj=31.2km s-min=9.9km az=136.3*
*NEIC **20** 01:37:13.8±0.4, 0.15S×125.45E, h35km, mb4.0/3, Error ellipse: s-maj=20.5km s-min=6.4km az=69.0*
ISC 20 01:37:14.0±0.7, 01S±01×125.5E±02, h35km, n15, σ0§44/14, mb4.0/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.85	179	P	Pn	01 41 20.2	+0.8
	0.1nm,0.3s,baz=6.3,slow=5.2,SNR=3.4						
WRA	Warramunga Arr	21.52	157	P	P	01 41 59.3	-0.5
	2.3nm,0.8s,mb3.6,baz=337,slow=10,SNR=18						
WB2	Warramunga Arr	21.52	157	eP	P	01 41 59.6	-0.2
MBWA	Marble Bar	21.63	195	eP	P	01 42 00.4	-0.6
	4.1nm,0.7s,mb4.0						
ASAR	Alice Springs	24.78	161	P	P	01 42 32.4	-0.1
	0.7nm,0.4s,mb3.5,baz=336,slow=8.5,SNR=8.6						
KULM	Kulim	25.36	283	P	P	01 42 37.8	+0.2
STKA	Stephens Creek	35.06	156	P	P	01 44 04.2	+0.7
	4.1nm,1.1s,mb4.3,baz=342,slow=11,SNR=3.6						
SONM	Songino Array	50.58	343	P	P	01 46 09.5	+0.3
	1.5nm,0.7s,mb4.0,baz=154,slow=8.8,SNR=7.6						
MK31	Makanchi Array	60.05	327	eP	P	01 47 17.5	+0.2
MKAR	Makanchi Array	60.05	327	P	P	01 47 17.5	+0.2
	1.0nm,0.3s,mb4.3,baz=121,slow=8.3,SNR=21						
MKAR	Makanchi Array	60.05	327	P	P	01 47 17.5	+0.2
BRVK	Borovoye	69.96	328	eP	P	01 48 21.4	-0.3
	0.7nm,0.3s,mb4.1						
CHKZ	Chkalovo	70.09	329	eP	P	01 48 22.0	-0.5
	0.7nm,0.4s,mb3.9						
ZRNK	Zerenda	70.58	328	eP	P	01 48 25.3	-0.3
	1.9nm,0.4s,mb4.4						
TORD	Torodi Ar. Bea	122.82	286	PKP	PKPdf	01 56 07.3	+1.1
	0.4nm,0.7s,baz=47,slow=1.3,SNR=5.5						

GUC 20 01:54:49.5±0.7, 3482S×7264W, h15km±9km, MD4.0, ML3.6, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	Chanco	0.91	175	⇑iP	Pb	01 55 06.2	-0.8
CNCO				i S	Sb	01 55 17.7	-1.3
CNCO				AML	AML	01 55 18.6	
	comp=E,2μm,0.5s						
TALC	Talca	1.00	125	eP	Pb	01 55 07.1	-1.4
TALC				i S	Sb	01 55 20.5	-1.1
NICH	Los Niches	1.17	99	⇓iP	Pn	01 55 10.8	-0.5
LNCH	Linares	1.33	141	⇑iP	Pn	01 55 12.4	-1.1
LNCH				i S	Sn	01 55 29.9	-1.0
LNCH				AML	AML	01 55 39.2	
	comp=N,2μm,0.5s						
LNV	Longovilo	1.33	50	⇓iP	Pn	01 55 12.8	-0.8
LNV				i S	Sn	01 55 31.7	+0.7
SFDO	San Fernando	1.36	82	⇓iP	Pn	01 55 13.3	-0.6
LCCH	Las Cruces	1.61	34	⇑iP	Pn	01 55 16.6	-0.8
CACH	El Canelo	1.83	68	⇓iP	Pn	01 55 20.9	+0.5
TACH	Talagante	1.83	51	eP	Pn	01 55 19.9	-0.5
CCHI	Chillan	1.83	166	⇓iP	Pn	01 55 20.3	-0.1
CCHI				i S	Sn	01 55 44.0	+0.6
CCHI				AML	AML	01 55 50.6	
	comp=N,841nm,0.6s						
CCHI				AML	AML	01 55 50.8	
	comp=N,1μm,0.8s						
CHCH	Chadas Ångostu	1.87	62	⇓iP	Pn	01 55 21.6	+0.7
CHCH				i S	Sn	01 55 45.1	+0.9
CICH	Cipreses	1.90	75	eP	Pn	01 55 21.8	+0.5
RCDM	Rinconada Maip	2.02	49	⇓iP	Pn	01 55 23.0	0.0
RCDM				AML	AML	01 55 59.2	
	comp=N,442nm,0.6s						
ANTU	Antumapu	2.08	54	AML	AML	01 56 00.1	
	comp=E,962nm,0.4s						
PCH	Pirque	2.13	56	eP	Pn	01 55 25.1	+0.6
DSCH	Colegio Aleman	2.23	51	AML	AML	01 56 00.9	
	comp=E,163nm,0.6s						
SJCH	San Jose de Ma	2.23	59	AML	AML	01 55 59.9	
	comp=N,656nm,0.4s						
CLCH	Cerro Calan	2.25	51	eP	Pn	01 55 27.0	+0.8
PEL	Peldehue	2.33	45	⇓iP	Pn	01 55 28.5	+1.2
PEL				AML	AML	01 56 06.5	
	comp=N,1μm,0.5s						
FCH	Farellones	2.46	53	⇑iP	Pn	01 55 28.9	0.0
FCH				i S	Sn	01 56 00.3	+1.6
FCH				AML	AML	01 56 11.1	
	comp=N,460nm,0.3s						

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*BJI **20** 02:29:08.7, 4658N×153.26E, h18km, mB4.8, mb4.5, Ms3.9, Msz3.5*
*IDC **20** 02:29:09.6±0.7, 4662N×153.22E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.2/26, mbtmp4.1/18, ML3.7/1, Error ellipse: s-maj=19.9km s-min=16.8km az=2.0*
*SZGRF **20** 02:29:10.0, 4496N×153.03E, h33km, mb4.4, East of Kuril Islands, Russia*
*NEIC **20** 02:29:11.7±0.5, 4663N×153.10E, h10km, mb4.6/14, Error ellipse: s-maj=12.7km s-min=8.5km az=145.0*
*ISCJB **20** 02:29:13.5±2.0, 4670N±006×152.96E±008, h32km±14km, mb4.4/42, MS4.5/1, Error ellipse: s-maj=12.5km s-min=6.3km az=110.9*
*MOS **20** 02:29:15.8±1.2, 4671N×152.86E, h47km, mb4.7/21, Error ellipse: s-maj=12.3km s-min=8.2km az=111.8*
ISC 20 02:29:16.0±1.0, 4668N±006×15300E±009, h39km±8km, h12km±7.8km: pP-P, n105, σ1§05/104, mb4.4/42, MS4.5/1, 9C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.86	250	⇓iPN	Pn	02 30 07.8	-5.0
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
SKR	Severo-Kuril's	4.51	26	ePN	Pn	02 30 19.4	-2.4
SKR				eS	Sn	02 31 13.4	+0.5
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,220nm,1.0s						
YSS	Yuzh-Sakhalins	7.03	276	PN	Pn	02 31 03.8	+7.4
ASAJ	Asahikawa	7.75	254	Pn	Pn	02 31 07.1	+0.8
	comp=N,1.2nm,0.3s,baz=240,slow=13,SNR=3.1						
ASAJ	Asahikawa	7.75	254	PN	Pn	02 31 07.1	+0.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	Kul'dur	14.46	288	eP	Pn	02 32 38.0	0.0
KLR				MLR	MLR		
	comp=Z,800nm,14.0s						
MAJO	Matsushiro	14.97	233	eP	Pn	02 32 45.9	+1.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	Matsushiro	14.97	233	ePn	Pn	02 32 45

YAK Yakutsk 20.34 328⇑ eP P 02 33 49.3 +0.5
YAK pmax pmax
comp=Z,16nm,0.7s
BILL Bilibino 22.48 13⇑ iP P 02 34 14.7 +2.9
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.1
BOD Bodaibo 25.97 310 eP P 02 34 43.8 -1.1
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
TIXI Tiksi 27.51 344⇑ eP P 02 34 57.5 -1.2
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb3.6
SONM Songino Array 31.28 289 P P 02 35 31.5 -0.6
comp=Z,0.7nm,0.5s,mb3.7,baz=73,slow=7.4,SNR=4.0
SONM Songino Array 31.28 289 P P 02 35 31.5 -0.7
SONM pmax pmax
comp=Z,1.0nm,0.5s
ZAK Zakamensk 32.64 295 eP P 02 35 43.6 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
WHN Wuhan 33.84 255 eP P 02 35 50.6 -3.9
IMA2 Indian Mountai 33.91 36 eP P 02 35 55.5 +0.4
COLA College 36.24 38⇑ eP P 02 36 15.8 +0.6
LZH Lanzhou 37.81 272 eP P 02 36 29.9 +1.3
LZH AP pP 02 36 34.0 -5.6
LZH XP sP 02 36 36.9 -7.4
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,69nm,4.0s
LZH LR LR
comp=E,423nm,14.1s
LZH Lanzhou 37.81 272 eP P 02 36 29.9 +1.3
comp=E,20nm,1.0s,mb4.8
LZH pP pP 02 36 34.0 -5.6
LZH sP sP 02 36 36.9 -7.4
LZH LR LR
comp=Z,650nm,15.1s,MS4.5
GTA Gaotai 38.90 279 eP P 02 36 38.3 +0.6
GTA AP pP 02 36 42.8 -6.0
GTA XP sP 02 36 46.0 -7.5
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
EGAK Eagle 39.11 38 eP P 02 36 39.4 -0.1
comp=Z,5.8nm,1.0s,mb4.3
GYA Guiyang 41.62 258 P P 02 36 58.9 -1.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
INK Inuvik 41.76 32 P P 02 37 00.0 -1.3
comp=Z,2.9nm,0.6s,mb4.1,baz=287,slow=3.5,SNR=7.4
INK Inuvik 41.76 32 P P 02 37 00.0 -1.3
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 41.76 32 eP P 02 37 02.1 +0.8
comp=Z,97nm,0.6s,mb5.6
ZAL Zalesovo 42.60 306 P P 02 37 07.3 -0.9
comp=Z,1.2nm,0.4s,mb4.0,baz=161,slow=6.2,SNR=5.1
ZAL Zalesovo 42.60 306 i P P 02 37 09.1 +0.8
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL Zalesovo 42.60 306 P P 02 37 07.3 -0.9
WMQ Urumqi 44.88 291 eP P 02 37 27.0 +0.5
KMI Kunming 45.15 259 P P 02 37 26.8 -1.9
KMI AP pP 02 37 33.1 -6.9
KMI XP sP 02 37 35.6 -9.0
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
KMI Kunming 45.15 259 P P 02 37 26.8 -1.9
comp=Z,10.0nm,1.1s,mb4.6
KMI pP pP 02 37 33.1 -6.9
KMI sP sP 02 37 35.6 -9.0
MK31 Makanchi Array 46.90 297 eP P 02 37 42.0 -0.5
MKAR Makanchi Array 46.90 297 P P 02 37 42.4 -0.1
comp=Z,4.8nm,0.8s,mb4.5,baz=67,slow=7.6,SNR=28
MKAR Makanchi Array 46.90 297 P P 02 37 42.3 -0.2
MKAR pmax pmax
comp=Z,5.0nm,0.8s
CHKZ Chkalovo 50.42 310 eP P 02 38 08.7 -0.8
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
CHKZ Chkalovo 50.42 310 eP P 02 38 08.7 -0.8
comp=Z,5.9nm,0.6s,mb4.8
BVAR Borovoye Array 50.84 309 P P 02 38 12.7 0.0
comp=Z,1.7nm,0.6s,mb4.2,baz=37,slow=6.8,SNR=8.7
BVAR Borovoye Array 50.84 309 P P 02 38 12.7 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.88 309 eP P 02 38 12.7 -0.3
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 50.88 309 eP P 02 38 12.7 -0.3
comp=Z,2.8nm,0.6s,mb4.4
ZRNK Zerenda 51.61 310 eP P 02 38 18.2 -0.3
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 51.61 310 eP P 02 38 18.2 -0.2
comp=Z,1.9nm,0.6s,mb4.2
AAK Ala-Archa 53.80 296 eP P 02 38 34.0 -0.6
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.80 296 eP P 02 38 34.0 -0.6
comp=Z,3.0nm,0.8s,mb4.3
GUN Gumba 54.93 275 eP P 02 38 43.4 +0.6
comp=Z,24nm,1.0s,mb5.2
ARU Arti 55.01 317⇓ iP P 02 38 44.3 +0.9
ARU e 02 40 44.1
ARU ePPP 02 41 57.6
ARU eS S 02 46 20.8 -2.0
ARU eSS SS 02 50 04.0 -2.8
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
ARU Arti 55.01 317 eP P 02 38 42.2 -1.2
comp=Z,3.1nm,0.5s,mb4.6
KKN Kakani 55.41 275 eP P 02 38 46.1 -0.2
comp=Z,21nm,0.8s,mb5.2
DMN Daman 55.65 275 eP P 02 38 48.6 +0.6
comp=Z,29nm,0.8s,mb5.4
GKN Gorkha 55.72 276 eP P 02 38 49.0 +0.5
comp=Z,26nm,0.9s,mb5.3
EDM Edmonton 56.42 46 eP P 02 38 53.6 0.0
KOLN Koldanda 56.58 276 eP P 02 38 55.3 +0.6
comp=Z,24nm,0.9s,mb5.2
KEV Kevo 57.38 340 ep P 02 39 01.2 +0.8
ARCES ARCESS Array B 57.89 341 P P 02 39 03.5 -0.4
comp=Z,3.5nm,0.8s,mb4.4,baz=44,slow=7.2,SNR=5.4
ARCES ARCESS Array B 57.89 341 P P 02 39 03.5 -0.5
ARCES pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 61.36 334 ep P 02 39 27.7 -0.1
NVAR Mina Array Bea 62.54 62 P P 02 39 34.6 -1.1
comp=Z,0.6nm,0.8s,mb3.8,baz=297,slow=8.0,SNR=3.6
KAF Kangasniemi 63.47 335 ep P 02 39 41.7 -0.2
baz=37,slow=6.2
FINES FINESS Array B 64.07 335 P P 02 39 46.0 +0.1
comp=Z,5.3nm,0.8s,mb4.6,baz=39,slow=8.3,SNR=16
FINES FINESS Array B 64.07 335 P P 02 39 46.0 +0.1
FINES pmax pmax
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 64.85 54 P P 02 39 49.6 -1.4
comp=Z,0.9nm,0.9s,mb3.8,baz=299,slow=1.9,SNR=4.6
OBN Obninsk 65.32 326 P pP 02 40 04.0 -1.8
OBN e 02 42 15.3
OBN e 02 43 59.6
OBN e 02 49 02.2
NB2 NORSAR Subarra 68.27 341 P P 02 40 13.0 +0.2
comp=Z,1.3nm,0.5s,mb4.2,baz=28,slow=6.5
NB2 NORSAR Subarra 68.27 341 P P 02 40 13.0 +0.2
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NOA NORSAR Array B 68.27 341 P P 02 40 13.3 +0.5
comp=Z,3.0nm,0.8s,mb4.3,baz=28,slow=6.4,SNR=8.3
NOA NORSAR Array B 68.27 341 P P 02 40 13.3 +0.5
NOA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 68.42 199 P P 02 40 14.0 +0.3
comp=Z,0.3nm,0.7s,mb3.4,baz=20,slow=7.0,SNR=4.0
GOF Gofitskoye 69.82 315 eP P 02 40 20.5 -1.9
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
KIV Kislovodsk 70.79 314 deP P 02 40 29.3 +0.9
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
AKASG Malin Array Be 71.56 326 P P 02 40 33.0 0.0
comp=Z,2.1nm,0.5s,mb4.3,baz=34,slow=6.5,SNR=16
AKASG Malin Array Be 71.56 326 P P 02 40 32.9 -0.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.56 326 P P 02 40 33.0 0.0
ASAR Alice Springs 72.11 198 P P 02 40 34.5 -1.9
comp=Z,0.5nm,0.7s,mb3.6,baz=6.0,slow=5.2,SNR=4.3
CLL Collm 76.50 335 eP P 02 41 02.0 +0.2
TXAR Lajitas Array 77.60 60 P P 02 41 06.8 -1.2
comp=Z,0.6nm,0.6s,mb3.7,baz=311,slow=3.9,SNR=13
TXAR Lajitas Array 77.60 60 P P 02 41 06.8 -1.2
TXAR pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 78.27 334⇑ eP P 02 41 12.1 +0.4
BRTR Keskin Array B 78.39 317 P P 02 41 12.8 +0.4
comp=Z,0.7nm,0.7s,mb3.7,baz=83,slow=4.8,SNR=3.1
BRTR Keskin Array B 78.39 317 P P 02 41 12.8 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GRA1 Grafenberg Arr 78.45 336 eP P 02 41 14.7 +1.9
comp=Z,8.0nm,1.5s,mb4.4
GRF Grafenberg Arr 78.45 336 eP P 02 41 14.7 +1.9
comp=Z,8.0nm,1.5s,mb4.4
GRF Grafenberg Arr 78.45 336 eP P 02 41 14.7 +1.9
GRF pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
GERES GERESS Array B 78.48 334 P P 02 41 13.1 +0.1
comp=Z,0.9nm,0.8s,mb3.8,baz=29,slow=3.0,SNR=3.9
GERES GERESS Array B 78.48 334 P P 02 41 13.1 +0.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
KBA Koelnbreinsper 80.17 333⇑ iP P 02 41 25.1 +3.0
comp=Z,13nm,1.0s,mb4.8
KBA Koelnbreinsper 80.17 333⇑ iP P 02 41 25.1 +3.0
KBA pmax pmax
comp=Z,13nm,1.0s,mb4.8
WTTA Wattenberg 80.52 334⇑ iP P 02 41 27.0 +3.0
comp=Z,6.1nm,0.7s,mb4.7
WTTA Wattenberg 80.52 334⇑ iP P 02 41 27.0 +3.0
WTTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CDF Champ du Feu 80.69 338 eP P 02 41 25.4 +0.5
comp=Z,22nm,1.2s,mb4.7
CDF Champ du Feu 80.69 338 eP P 02 41 25.4 +0.5
CDF pmax pmax
comp=Z,11nm,1.2s,mb4.7
CDF Champ du Feu 80.69 338 eP P 02 41 25.4 +0.5
comp=Z,11nm,1.2s,mb4.7
LOR Lormes 82.62 339 eP P 02 41 35.3 +0.2
comp=Z,17nm,1.0s,mb4.8
LOR Lormes 82.62 339 eP P 02 41 35.3 +0.2
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LOR Lormes 82.62 339 eP P 02 41 35.3 +0.2
comp=Z,8.7nm,1.0s,mb4.7
AVF Avril sur Loir 83.19 340 eP P 02 41 39.6 +1.6
SMF Signal de Mont 83.20 339 eP P 02 41 39.0 +0.9
LPL La Plagne 83.51 337 eP P 02 41 42.0 +2.3
CPUP Villa Florida 148.57 60 PKPbc PKPbc 02 48 56.3 -2.3
comp=Z,0.8nm,0.6s,baz=12,slow=6.0,SNR=3.4
CPUP Villa Florida 148.57 60 PKIKP PKPdf 02 48 56.3 +1.4
CPUP pmax pmax
comp=Z,1.0nm,0.6s
USHA Ushuaia 152.90 123 PKPbc PKPbc 02 49 07.8 -1.0
comp=Z,3.7nm,0.9s,baz=240,slow=4.3,SNR=2.0
USHA PKPab PKPab 02 49 18.1 -2.0
comp=Z,6.3nm,0.9s,baz=307,slow=4.1,SNR=2.9

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*CSEM **20** 02:55:14.9±0.8, 3893N×2937W, h5km, ML2.2, Error ellipse: s-maj=7.2km s-min=4.7km az=78.0, After PDA*
*PDA **20** 02:55:14.9±0.8, 3893N×2937W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=4.7km az=78.0*
SVSA 20 02:55:14.9±0.8, 3893N×2937W, h5km, MD3.2, ML2.2, Error ellipse: s-maj=7.2km s-min=4.7km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.60**	**120**	*e*P	Pg	02 55 25.0	-1.5
PCED				*e*S	Sg	02 55 32.5	-1.8
PCED							
	81nm,0.1s						
PCED	**Cedros**	**0.60**	**120**	*e*P	Pg	02 55 25.0	-1.5
PCED				*e*S	Sg	02 55 32.5	-1.8
CALA	**Caldeira**	**0.63**	**124**	*e*S	Sg	02 55 33.5	-1.6
HOR	**Horta**	**0.71**	**125**	*e*S	Sg	02 55 35.2	-2.4
PCND	**Candelaria**	**0.85**	**123**	*e*S	Sg	02 55 39.3	-2.8
PCND							
	40nm,0.1s						
PICO	**Pico**	**0.85**	**120**	*e*P	Pg	02 55 28.7	-2.6
PICO				*e*S	Sg	02 55 39.3	-3.1
PTEI	**Pico do Teixo**	**0.91**	**118**	*e*S	Sg	02 55 40.2	-3.8
PTEI							
	24nm,0.2s						
ROSA	**Rosais**	**0.91**	**103**	*e*P	Pg	02 55 29.4	-2.9
ROSA				*e*S	Sg	02 55 40.2	-3.9
PBOI	**Pico dos Bois**	**0.92**	**122**	*e*S	Sg	02 55 41.0	-3.6
PBOI							
	16nm,0.1s						
SRBC	**Serra Branca**	**1.04**	**84**	*e*S	Sg	02 55 43.5	-4.9
PMAN	**Manadas**	**1.04**	**106**	*e*P	Pg	02 55 31.3	-3.6
PMAN				*e*S	Sg	02 55 43.7	-4.8
PMAN							
	26nm,0.2s						
PMAN	**Manadas**	**1.04**	**106**	*e*P	Pg	02 55 31.3	-3.6
PMAN				*e*S	Sg	02 55 43.7	-4.8
PID	**Ribeirinha**	**1.09**	**116**	*e*S	Sg	02 55 44.2	-5.9

IDC 20 02:56:52.8±3.8, 545S×15078E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/12, mbtmp3.3/2, MS4.3/1, Ms1 4.3/1, ms1mx3.2/8, Error ellipse: s-maj=148.0km s-min=50.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**227**	P	P	03 01 43.6	+0.2
	0.5nm,0.4s,baz=52,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.34**	**220**	P	P	03 02 12.7	+0.5
	0.6nm,0.6s,baz=58,slow=10,SNR=7.4						
RAO	**Raoul Island**	**37.89**	**132**	LR	LR	03 15 28.1	
	comp=Z,394nm,20.3s,baz=79,slow=29						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	03 16 42.2	+0.6
	0.3nm,0.8s,baz=60,slow=2.1,SNR=6.1						

IDC 20 03:19:30.6±4.8, 576S×14798E, h205km±43km, mb3.0/2, mb1 3.2/4, mb1mx3.0/15, mbtmp3.6/4, Error ellipse: s-maj=81.5km s-min=43.5km az=127.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**193**	P	Pn	03 20 29.8	+0.8
	4.9nm,0.3s,baz=354,slow=10,SNR=9.0						
PMG				S	Sn	03 21 15.3	+0.4
	3.6nm,0.3s,baz=323,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**19.35**	**222**	P	P	03 23 40.2	-0.4
	0.4nm,0.3s,baz=48,slow=12,SNR=23						
ASAR	**Alice Springs**	**22.37**	**216**	P	P	03 24 13.0	+1.4
	0.7nm,0.5s,baz=48,slow=8.8,SNR=7.9						
FITZ	**Fitzroy Crossi**	**25.02**	**239**	P	P	03 24 36.3	+0.6
	0.5nm,0.4s,baz=52,slow=9.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**145.97**	**285**	PKPbc	PKPbc	03 38 45.8	-0.2
	0.3nm,0.6s,baz=64,slow=2.6,SNR=5.9						

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*LDG **20** 03:25:24.5±0.4, 4309N×144W, h5km, Md2.1/2, Ml2.2/1, Error ellipse: s-maj=6.4km s-min=3.3km az=53.0*
*STR **20** 03:25:25.0±0.2, 43.10N×141W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 20 03:25:25.1±0.1, 4310N×144W, h0km, mbLg1.6/12, 1C-2D, Error ellipse: s-maj=1.4km s-min=0.9km az=75.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.09**	**315**	⇑Pg	Pg	03 25 26.4	-0.4
	25nm,0.2s,SNR=18						
ELIZ				Lg		03 25 28.5	
	36nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.13**	**338**	⇓Pg	Pg	03 25 27.9	+0.3
	27nm,0.1s,SNR=18						
EALK				Lg		03 25 29.9	
	196nm,0.1s,SNR=4.8						
SJPF	**Ste Jean**	**0.16**	**85**	*e*Pg	Pg	03 25 28.0	-0.1
SJPF				*e*Sg	Sg	03 25 30.1	-0.1
	87nm,0.2s						
SJPF	**Ste Jean**	**0.16**	**85**	Pg	Pg	03 25 28.0	-0.1
SJPF				Lg		03 25 30.1	
	44nm,0.2s						
IUSE	**Utxeti**	**0.17**	**207**	⇓Pg	Pg	03 25 28.3	-0.1
	33nm,0.1s,SNR=18						
IUSE				Lg		03 25 30.7	
	92nm,0.1s,SNR=9.5						
OSSF	**Osses**	**0.20**	**40**	Pg	Pg	03 25 28.8	-0.2
OSSF				Sg	Sg	03 25 31.4	-0.3
OSSF	**Osses**	**0.20**	**40**	P	Pg	03 25 28.8	-0.2
OSSF				S	Sg	03 25 31.6	0.0
IPRE	**Itoiz**	**0.30**	**168**	Pg	Pg	03 25 30.6	-0.2
	0.6nm,0.1s,SNR=30						
IPRE				Lg		03 25 34.7	
	3.5nm,0.1s,SNR=5.0						
LARF	**Larrau**	**0.34**	**100**	Pg	Pg	03 25 31.1	-0.5
LARF				Sg	Sg	03 25 35.4	-0.6
LARF	**Larrau**	**0.34**	**100**	P	Pg	03 25 31.1	-0.5
LARF				S	Sg	03 25 35.6	-0.3
EARA	**Aranguren**	**0.34**	**197**	Pg	Pg	03 25 31.7	0.0
	3.4nm,0.1s,SNR=7.9						
EARA				Lg		03 25 36.1	
	13nm,0.1s,SNR=6.1						
ORDF	**Ordiarp**	**0.39**	**73**	P	Pg	03 25 32.1	-0.5
ORDF				S	Sg	03 25 37.6	0.0
ATE	**Arette**	**0.54**	**91**	Pg	Pg	03 25 34.7	-0.8
ATE				Sg	Sg	03 25 42.2	-0.3
ATE	**Arette**	**0.54**	**91**	P	Pg	03 25 35.0	-0.5
ATE				S	Sg	03 25 42.2	-0.3
ETSF	**Etsaut**	**0.68**	**107**	*e*Pg	Pg	03 25 36.7	-1.4
ETSF				*e*Sg	Sg	03 25 45.4	-1.5
	6.5nm,0.2s						
ETSF	**Etsaut**	**0.68**	**107**	Pg	Pg	03 25 36.7	-1.4
ETSF				Lg		03 25 45.4	
	3.2nm,0.2s						
EBIE	**Bielsa**	**1.23**	**109**	Pg	Pg	03 25 48.1	-0.7
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		03 26 04.6	
	3.6nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.31**	**92**	*e*Pg	Pg	03 25 49.5	-0.6
EPF				*e*Sg	Sg	03 26 06.6	-0.5
	4.5nm,0.3s						
EPF	**Esparros**	**1.31**	**92**	Pg	Pg	03 25 49.5	-0.6
EPF				Lg		03 26 06.6	
	2.2nm,0.3s						
ELAN	**Lanestosa**	**1.46**	**276**	Lg		03 26 11.0	
	2.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.55**	**152**	Pg	Pg	03 25 53.7	-1.2
	3.4nm,0.3s,SNR=7.9						
ESAC				Lg		03 26 14.2	
	6.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.32**	**192**	Pg	Pg	03 26 08.9	-0.7
	1.6nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	03 26 33.0	-0.9
	1.9nm,0.2s,SNR=7.9						
ETOR				Lg		03 26 39.0	
	4.6nm,0.3s,SNR=7.9						

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*ISCJB **20** 03:26:43.5±0.5, 3964N±003×2552E±003, h2km±5km, Error ellipse: s-maj=4.7km s-min=3.2km az=61.5*
*NEIC **20** 03:26:44.2, 3965N×2551E, h25km, MD3.3(ATH), After ATH.*
*ATH **20** 03:26:44.2, 3965N×2551E, h25km, MD3.3/6*
*CSEM **20** 03:26:44.5±0.1, 3966N×2558E, h5km±1km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.1km az=43.0*
*THE **20** 03:26:45.2, 3964N×2559E, h6km, ML3.0*
ISC 20 03:26:44.7±0.4, 3964N±003×2554E±003, h9km±4km, n30, σ0§84/42, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**313**	*e*PB	**Pg**	**03 26 52.4**	**+0.2**
LIA				*e*SB	**Sg**	**03 26 57.8**	**+0.6**
BOZC	**Bozcaada**	**0.44**	**63**	*i* P	**Pg**	**03 26 52.9**	**-0.5**
BOZC				*i* S	**Sg**	**03 26 58.7**	**-0.5**
LOS	**Limnos**	**0.46**	**310**	*e*Pg	**Pg**	**03 26 54.8**	**+1.1**
LOS				*e*Sg	**Sg**	**03 27 03.1**	**+3.3**
PRK	**Paraskevi**	**0.69**	**125**	*e*PN	**Pg**	**03 26 58.4**	**+0.4**
PRK				*e*SN	**Sg**	**03 27 08.5**	**+1.5**
AYVA	**Ayvalik**	**0.95**	**110**	*i* P	**Pg**	**03 27 04.0**	**+1.0**
AYVA				*i* S	**Sg**	**03 27 15.0**	**-0.3**
CHOS	**Chios island**	**1.31**	**162**	*e*Pg	**Pg**	**03 27 09.2**	**-0.8**
CHOS				*e*Sg	**Sg**	**03 27 27.2**	**+0.2**
ALN	**Alexandroupoli**	**1.31**	**17**	*e*Pg	**Pg**	**03 27 08.4**	**-1.6**
ALN				*e*Sg	**Sg**	**03 27 27.1**	**+0.1**
AOS	**Alonnisos**	**1.37**	**251**	*e*Pg	**Pg**	**03 27 10.1**	**-0.9**
OUR	**Ouranopolis**	**1.39**	**301**	*e*Pg	**Pg**	**03 27 10.0**	**-1.4**
RDO	**Rodhopi**	**1.50**	**360**	*e*PN	**Pn**	**03 27 11.4**	**-0.5**
URLA	**Izmir**	**1.52**	**147**	*i* P	**Pn**	**03 27 11.9**	**-0.2**
URLA				*i* S	**Sn**	**03 27 27.5**	**-4.5**
SART	**Tekirdag**	**1.64**	**50**	*i* P	**Pn**	**03 27 13.7**	**-0.1**
SART				*i* S	**Sn**	**03 27 36.2**	**+1.3**
SART	**Tekirdag**	**1.64**	**50**	*i* P	**Pn**	**03 27 13.6**	**-0.1**
PLG	**Polygyros**	**1.77**	**295**	*e*PN	**Pn**	**03 27 14.7**	**-0.9**
KDAG	**Bornova**	**1.82**	**132**	*i* P	**Pn**	**03 27 16.9**	**+0.6**
KDAG				*i* S	**Sn**	**03 27 39.1**	**-0.4**
NEO	**Neokhori**	**1.82**	**260**	*e*PN	**Pn**	**03 27 15.7**	**-0.6**
XOR	**Xorichti**	**1.84**	**262**	*e*Pb	**Pn**	**03 27 16.0**	**-0.5**
BTOK	**Tokmak**	**1.92**	**86**	*i* P	**Pn**	**03 27 18.0**	**+0.3**
BTOK				*i* S	**Sn**	**03 27 41.0**	**-1.0**
SOH	**Sokhos**	**2.05**	**306**	*e*Pn	**Pn**	**03 27 19.4**	**0.0**
HORT	**Hortiatis**	**2.10**	**298**	*e*Pn	**Pn**	**03 27 20.5**	**+0.4**
NVR	**Nevrokopi**	**2.14**	**324**	*e*PN	**Pn**	**03 27 20.3**	**-0.3**
THE	**Thessaloniki**	**2.21**	**297**	*e*Pn	**Pn**	**03 27 22.4**	**+0.8**
KNT	**Kendrikon**	**2.53**	**308**	*e*Pn	**Pn**	**03 27 26.6**	**-0.7**
AGG	**Agios Georgios**	**2.57**	**257**	*e*Pn	**Pn**	**03 27 26.9**	**+0.4**
GRG	**Griva**	**2.74**	**300**	*e*Pn	**Pn**	**03 27 30.3**	**+1.4**
VAY	**Valandovo**	**2.82**	**307**	*e*Pn	**Pg**	**03 27 37.2**	**-1.6**
VAY				*e*Sn	**Sg**	**03 28 15.7**	**+0.3**
MLR	**Muntele Rosu**	**5.86**	**3⇑**	*i*P	**Pn**	**03 28 16.2**	**+4.5**
GZR	**Gura Zlata**	**6.10**	**341⇓**	*i*P	**Pn**	**03 28 14.9**	**-0.2**
PLOR	**Plostina**	**6.26**	**7⇓**	*i*P	**Pn**	**03 28 22.5**	**+5.2**
BURAR	**Bucovina Array**	**7.98**	**358⇑**	*i*P	**Pn**	**03 28 46.1**	**+5.3**

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*ATH **20** 03:27:50.9, 3974N×2577E, h10km, MD3.4/3*
*ISCJB **20** 03:27:51.2±0.4, 3966N±003×2556E±003, h9km, Error ellipse: s-maj=4.0km s-min=3.0km az=13.3*
*CSEM **20** 03:27:51.5±0.1, 3966N×2563E, h2km, MD3.4, Error ellipse: s-maj=3.5km s-min=3.1km az=38.0*
*THE **20** 03:27:52.4, 3969N×2558E, h9km*
ISC 20 03:27:51.6±0.5, 3969N±003×2556E±003, h1km±4km, n18, σ1§12/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.41**	**68**	*i* P	**Pg**	**03 27 59.3**	**-0.1**
BOZC				*i* S	**Sg**	**03 28 05.3**	**+0.5**
LOS	**Limnos**	**0.44**	**304**	*e*Pg	**Pg**	**03 28 01.4**	**+1.3**
LOS				*e*Sg	**Sg**	**03 28 08.6**	**+2.8**
PRK	**Paraskevi**	**0.70**	**128**	*e*PB	**Pg**	**03 28 03.0**	**-2.1**
AYVA	**Ayvalik**	**0.95**	**113**	*i* P	**Pg**	**03 28 09.8**	**-0.1**
AYVA				*i* S	**Sg**	**03 28 23.8**	**+1.6**
ALN	**Alexandroupoli**	**1.27**	**17**	*e*Pg	**Pg**	**03 28 15.2**	**-0.7**
ALN				*e*Sg	**Sg**	**03 28 32.5**	**+0.2**
CHOS	**Chios island**	**1.35**	**163**	*e*Pg	**Pg**	**03 28 16.0**	**-1.5**
CHOS				*e*Sg	**Sg**	**03 28 35.0**	**-0.1**
OUR	**Ouranopolis**	**1.37**	**299**	*e*Pg	**Pg**	**03 28 16.6**	**-1.3**
OUR				*e*Sg	**Sg**	**03 28 35.4**	**-0.3**
OUR	**Ouranopolis**	**1.37**	**299**	*e*Pg	**Pg**	**03 28 16.5**	**-1.4**
OUR				*e*Sg	**Sg**	**03 28 35.4**	**-0.3**
AOS	**Alonnisos**	**1.40**	**249**	*e*Pg	**Pg**	**03 28 18.1**	**-0.2**
AOS				*e*Sg	**Sg**	**03 28 37.5**	**+1.0**
RDO	**Rodhopi**	**1.46**	**359**	*e*PB	**Pn**	**03 28 17.5**	**-1.5**
URLA	**Izmir**	**1.55**	**148**	*i* P	**Pn**	**03 28 19.5**	**-0.8**
URLA				*i* S	**Sn**	**03 28 43.2**	**+2.2**
SART	**Tekirdag**	**1.60**	**51**	*i* P	**Pn**	**03 28 21.4**	**+0.5**
SART				*i* S	**Sn**	**03 28 42.7**	**+0.5**
PLG	**Polygyros**	**1.76**	**294**	*e*PN	**Pn**	**03 28 25.0**	**+1.8**
XOR	**Xorichti**	**1.86**	**261**	*e*Sb	**Sn**	**03 28 48.0**	**-0.7**
XOR				*e*Sb	**Sb**	**03 28 51.5**	**+1.5**
XOR	**Xorichti**	**1.86**	**261**	*e*Sb	**Sb**	**03 28 51.5**	**+1.5**
HORT	**Hortiatis**	**2.09**	**297**	*e*Pn	**Pn**	**03 28 27.4**	**-0.4**
HORT				*e*Sn	**Sn**	**03 28 53.4**	**-1.1**
KNT	**Kendrikon**	**2.51**	**307**	*e*Pn	**Pn**	**03 28 32.2**	**-1.3**
KNT				*e*Sn	**Sn**	**03 29 05.3**	**+0.5**
AGG	**Agios Georgios**	**2.59**	**256**	*e*Sn	**Sn**	**03 29 06.0**	**-0.7**

*ISCJB **20** 03:36:42.7±0.5, 4104N±002×708W±003, h4km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=26.5*
*MDD **20** 03:36:45.3±0.4, 4109N×7.19W, h3km±6km, mbLg2.1/17, Error ellipse: s-maj=3.6km s-min=2.8km az=118.0, PRXIMO*
*INMG **20** 03:36:45.8±1.4, 4109N×721W, h11km±6km, ML2.1, Error ellipse: s-maj=3.1km s-min=2.2km az=91.0*
ISC 20 03:36:43.8±0.4, 4105N±002×713W±003, h4km±4km, n21, σ0§97/36, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVRL	**Vila Real**	**0.50**	**297**	*e*Pg	**Pg**	**03 36 53.8**	**+0.4**
PVRL				*e*Sg	**Sg**	**03 36 59.2**	**-0.7**
PVRL							
	120nnm,0.1s						
PVIS	**Viseu**	**0.67**	**240**	*e*Pg	**Pg**	**03 36 57.6**	**+0.9**
PVIS				*e*Sg	**Sg**	**03 37 06.5**	**+1.0**
PVIS							
	50nm,0.1s						
MTE	**Manteigas**	**0.72**	**206**	*e*Pg	**Pg**	**03 36 59.2**	**+1.5**
MTE				*e*Sg	**Sg**	**03 37 08.8**	**+1.7**
MTE							
	33nm,0.2s						
PBRG	**Braganca**	**0.81**	**21**	*e*P	**Pg**	**03 36 59.8**	**+0.5**
PBRG				*e*S	**Sg**	**03 37 09.7**	**0.0**
PBRG							
	40nm,0.1s						
ECAL	**Calabor**	**0.94**	**18**	Pg	**Pg**	**03 37 02.5**	**+0.7**
	1.5nm,0.1s,SNR=24						
ECAL				Lg		03 37 15.2	
	35nm,0.1s,SNR=5.0						
PCAB	**Cabril**	**0.94**	**314**	*e*P	**Pg**	**03 37 01.2**	**-0.7**
PCAB				*e*S	**Sg**	**03 37 13.4**	**-0.8**
PCAB							
	57nm,0.2s						
PTO	**Porto**	**1.12**	**275**	*e*P	**Pg**	**03 37 04.5**	**-0.8**
PTO				*e*S	**Sg**	**03 37 19.2**	**-0.6**
PTO							
	44nm,0.1s						
PCBR	**Castelo Branco**	**1.24**	**193**	*e*P	**Pg**	**03 37 08.7**	**+1.1**
PCBR				*e*S	**Sg**	**03 37 25.0**	**+1.3**
PCBR							
	40nm,0.3s						
PESTR	**Estremoz**	**2.21**	**189**	*e*Pn	**Pn**	**03 37 21.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**03 37 48.5**	**-0.4**
PESTR				*e*Sg	**Sg**	**03 37 53.6**	**-1.2**
PESTR							
	4.4nm,0.3s						
EPON	**Pontenova**	**2.27**	**360**	Pg	**Pg**	**03 37 25.5**	**-1.9**
	13nm,0.7s,SNR=7.9						
EPON				Lg		03 37 54.6	
	2.1nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**2.29**	**99**	Pg	**Pg**	**03 37 27.0**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
GUD				Lg		03 37 55.8	
	4.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**2.34**	**325**	Pn	**Pn**	**03 37 23.7**	**+0.7**
	0.6nm,0.1s,SNR=7.9						
EMAZ				Lg		03 37 56.6	
	5.9nm,0.2s,SNR=5.4						
EARI	**Arriondas**	**2.66**	**32**	Pn	**Pn**	**03 37 28.4**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EARI				Pg	**Pg**	**03 37 34.3**	**-0.5**
	5.1nm,0.8s,SNR=7.9						
EARI				Sn	**Sn**	**03 38 01.0**	**+1.0**
	1.3nm,0.4s,SNR=7.9						
EARI				Lg		03 38 07.6	
	1.3nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.67**	**219**	*e*Sn	**Sn**	**03 37 59.7**	**-0.6**
ESDC	**Sonseca Array**	**2.78**	**119**	Pn	**Pn**	**03 37 29.5**	**+0.5**
	0.6nm,0.1s,baz=300,slow=12,SNR=4.7						
ESDC				Pg	**Pg**	**03 37 36.5**	**-0.6**
	0.9nm,0.2s,baz=300,slow=17,SNR=7.9						
ESDC				Lg		03 38 10.4	
	0.7nm,0.3s,baz=240,slow=34,SNR=4.5						
PBEJ	**Beja**	**3.08**	**191**	*e*Sn	**Sn**	**03 38 09.3**	**-1.0**
PBEJ				*e*Sg	**Sg**	**03 38 21.1**	**-1.5**
PBEJ							
	2.8nm,0.6s						
EMIN	**Mina Concepcio**	**3.30**	**174**	Pn	**Pn**	**03 37 36.6**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**03 38 14.9**	**-0.9**
	0.4nm,0.2s,SNR=7.9						
EMIN				Lg		03 38 28.4	
	1.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.49**	**145**	Pn	**Pn**	**03 37 39.0**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**03 37 50.1**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**03 38 19.3**	**-1.2**
	0.2nm,0.1s,SNR=7.9						
EADA				Lg		03 38 34.3	
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.52**	**185**	Lg		03 38 36.0	
	2.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	**3.85**	**92**	Pn	**Pn**	**03 37 46.2**	**+2.5**
	2.0nm,0.4s,SNR=7.9						
ETOR				Pg	**Pg**	**03 37 56.8**	**-0.7**
	2.0nm,0.2s,SNR=7.9						
ETOR				Lg		03 38 47.5	
	8.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.51**	**135**	Lg		03 39 06.2	
	0.8nm,0.4s,SNR=7.9						

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*NEIC **20** 03:53:01.9, 32.17S×71.78W, h10km, ML2.8(GUC), After GUC.*
GUC 20 03:53:01.9±0.8, 3217S×7178W, h10km±2km, MD3.6, ML2.8, 5C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.37**	**40**	⇓*i*P	Pg	03 53 09.5	+0.3
CHNG				*i* S	Sg	03 53 15.4	+1.4
CHNG				AML	AML	03 53 15.8	
	comp=E,1μm,0.3s						
PACH	**Papudo**	**0.47**	**142**	*i* S	Sg	03 53 19.2	+2.0
PTCH	**Petorca**	**0.72**	**98**	⇓*i*P	Pg	03 53 15.7	-0.2
PTCH				*i* S	Sg	03 53 26.3	+1.0
PTCH				AML	AML	03 53 27.3	
	comp=N,1000nm,0.3s						
PTCH	**Petorca**	**0.72**	**98**	⇓*i*P	Pg	03 53 15.7	-0.2
PTCH				*i* S	Sg	03 53 26.3	+1.0
ROCH	**El Roble**	**1.03**	**141**	⇓*i*P	Pg	03 53 20.9	-0.9
ROCH				*i* S	Sg	03 53 35.2	+0.1
JACH	**Jahuel**	**1.12**	**117**	⇑*i*P	Pb	03 53 22.1	-1.4
JACH				*i* S	Sg	03 53 37.6	-0.5
CMCH	**Combarbala**	**1.19**	**34**	*i* P	Pb	03 53 21.8	-2.8
CMCH				*i* S	Sb	03 53 37.6	-2.4
CMCH				AML	AML	03 53 43.1	
	comp=E,786nm,0.7s						
CMCH	**Combarbala**	**1.19**	**34**	*i* P	Pb	03 53 21.8	-2.8
CMCH				*i* S	Sb	03 53 37.6	-2.4
LCCH	**Las Cruces**	**1.32**	**172**	⇑*i*P	Pn	03 53 24.8	-1.6
PEL	**Peldehue**	**1.34**	**137**	⇓*i*P	Pn	03 53 25.9	-0.8
PEL				*i* S	Sb	03 53 44.0	-0.3
PEL				AML	AML	03 53 48.3	
	comp=E,371nm,0.1s						
PEL	**Peldehue**	**1.34**	**137**	⇓*i*P	Pn	03 53 25.9	-0.8
PEL				*i* S	Sb	03 53 44.0	-0.3
RCDM	**Rinconada Maip**	**1.55**	**148**	⇓*i*P	Pn	03 53 29.0	-0.6
RCDM				*i* S	Sn	03 53 49.7	0.0
RCDM				AML	AML	03 53 54.5	
	comp=E,152nm,0.1s						
RCDM	**Rinconada Maip**	**1.55**	**148**	⇓*i*P	Pn	03 53 29.0	-0.6
RCDM				*i* S	Sn	03 53 49.7	0.0
CLCH	**Cerro Calan**	**1.61**	**140**	⇑*i*P	Pn	03 53 30.3	-0.1
CLCH				*i* S	Sn	03 53 52.1	+0.8
CLCH				AML	AML	03 53 56.3	
	comp=N,195nm,0.3s						
TACH	**Talagante**	**1.64**	**155**	⇑*i*P	Pn	03 53 30.4	-0.4
ANTU	**Antumapu**	**1.70**	**146**	*e*P	Pn	03 53 31.9	+0.3
ANTU				*i* S	Sn	03 53 54.4	+1.1
ANTU				AML	AML	03 54 01.2	
	comp=N,100nm,0.3s						
ANTU	**Antumapu**	**1.70**	**146**	*e*P	Pn	03 53 31.9	+0.3
ANTU				*i* S	Sn	03 53 54.4	+1.1
FCH	**Farellones**	**1.71**	**133**	⇑*i*P	Pn	03 53 31.4	-0.3
FCH				*i* S	Sn	03 53 54.8	+1.2
FCH				AML	AML	03 53 57.2	
	comp=N,115nm,0.2s						
PCH	**Pirque**	**1.80**	**144**	*e*P	Pn	03 53 33.2	+0.2
PCH				*i* S	Sn	03 53 57.2	+1.4
LNV	**Longovilo**	**1.81**	**170**	*e*P	Pn	03 53 33.0	-0.1
CHCH	**Chadas Angostu**	**2.00**	**152**	*e*P	Pn	03 53 36.2	+0.5
CHCH				*i* S	Sn	03 54 01.7	+0.9
TLL	**Tololo Astrono**	**2.16**	**23**	*e*P	Pn	03 53 39.5	+1.5
TLL				*i* S	Sn	03 54 07.4	+2.6
TLL				AML	AML	03 54 13.3	
	comp=N,142nm,0.5s						
TLL	**Tololo Astrono**	**2.16**	**23**	*e*P	Pn	03 53 39.5	+1.5
TLL				*i* S	Sn	03 54 07.4	+2.6

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*IDC **20** 03:53:30.1±1.1, 4668N×15357E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=33.3km s-min=29.3km az=84.0*
*NEIC **20** 03:53:31.8±0.8, 4668N×15349E, h10km, mb4.0/2, Error ellipse: s-maj=21.5km s-min=20.2km az=225.0*
*ISCJB **20** 03:53:33.5±0.9, 468N±0.1×1533E±02, h33km, mb4.0/11, Error ellipse: s-maj=21.3km s-min=7.6km az=95.8*
*MOS **20** 03:53:35.0±2.0, 4675N×15330E, h52km, mb4.3/6, Error ellipse: s-maj=26.5km s-min=16.6km az=84.9*
ISC 20 03:53:35.4±0.9, 468N±01×1533E±02, h35km, n21, σ1§13/23, mb4.0/11, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.09**	**250**	⇓*i*PN	**Pn**	**03 54 33.0**	**-2.4**
KUR				*e*S	**Sn**	**03 55 21.0**	**-1.1**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,230nm,0.6s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
SKR	**Severo-Kuril's**	**4.33**	**24**	*e*PN	**Pn**	**03 54 36.0**	**-2.7**
SKR				*e*S	**Sn**	**03 55 27.0**	**-0.9**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=E,70nm,0.7s						
SKR				smax			
	comp=N,180nm,1.0s						
SKR				smax			
	comp=Z,180nm,1.0s						
SONM	**Songino Array**	**31.45**	**289**	P	**P**	**04 00 02.0**	**+8.5**
	comp=Z,0.2nm,0.3s,mb3.4,baz=54,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**04 02 03.9**	**+0.4**
	comp=Z,1.2nm,0.9s,mb3.8,baz=66,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**47.05**	**297**	P	**P**	**04 02 03.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CHKZ	**Chkalovo**	**50.52**	**310**	*e*P	**P**	**04 02 30.3**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**50.52**	**310**	*e*P	**P**	**04 02 30.2**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**51.71**	**310**	*e*P	**P**	**04 02 40.3**	**+1.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.71**	**310**	*e*P	**P**	**04 02 40.3**	**+1.2**
	comp=Z,0.7nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**64.07**	**335**	P	**P**	**04 04 06.7**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=28,slow=6.7,SNR=8.9						
FINES	**FINESS Array B**	**64.07**	**335**	P	**P**	**04 04 06.7**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FRB	**Frobisher Bay**	**64.98**	**19**	P	**P**	**04 04 12.3**	**+0.6**
	comp=Z,26nm,0.9s,mb5.2,baz=301,slow=5.9,SNR=3.1						
FRB	**Frobisher Bay**	**64.98**	**19**	P	**P**	**04 04 12.3**	**+0.6**
FRB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FRB	**Frobisher Bay**	**64.98**	**19**	P	**P**	**04 04 12.3**	**+0.6**
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**04 04 33.6**	**+1.1**
	comp=Z,2.1nm,1.0s,mb4.1,baz=28,slow=6.5,SNR=3.5						
NOA	**NORSAR Array B**	**68.25**	**341**	P	**P**	**04 04 33.7**	**+1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	**Hagfors**	**68.48**	**340**	P	**P**	**04 04 34.7**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.3,baz=47,slow=6.3,SNR=4.0						
HFS	**Hagfors**	**68.48**	**340**	P	**P**	**04 04 34.7**	**+0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**68.58**	**199**	P	**P**	**04 04 34.9**	**+0.3**
	comp=Z,0.3nm,1.0s,mb3.2,baz=12,slow=7.4,SNR=5.7						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**04 04 53.8**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=34,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**04 05 25.6**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=314,slow=4.7,SNR=8.3						

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*NEIC **20** 03:55:50.7, 2841S×7104W, h51km, MD3.7(GUC), After GUC.*
GUC 20 03:55:50.7±0.5, 2841S×7104W, h51km±6km, MD3.7, ML3.0, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.30**	**124**	⇑*i*P	Pn	03 56 00.2	+0.3
VACH				*i* S	Sn	03 56 07.2	+0.7
VACH				AML	AML	03 56 07.4	
	comp=N,17μm,0.1s						
CPCH	**Copiapo**	**1.21**	**30**	*i* S	Sn	03 56 27.9	+1.3
CDCH	**Caldera**	**1.34**	**8**	⇓*i*P	Pn	03 56 13.4	+0.3
CDCH				*i* S	Sn	03 56 30.8	+1.0
CDCH				AML	AML	03 56 36.6	
	comp=N,161nm,0.1s						
CDCH	**Caldera**	**1.34**	**8**	⇓*i*P	Pn	03 56 13.4	+0.3
CDCH				*i* S	Sn	03 56 30.8	+1.0
LSCH	**La Serena**	**1.50**	**187**	*e*P	Pn	03 56 15.7	+0.5
LSCH				*i* S	Sn	03 56 34.9	+1.2
LSCH				AML	AML	03 56 39.0	
	comp=E,80nm,0.6s						
LSCH	**La Serena**	**1.50**	**187**	*e*P	Pn	03 56 15.7	+0.5
LSCH				*i* S	Sn	03 56 34.9	+1.2
TLL	**Tololo Astrono**	**1.76**	**173**	⇑*i*P	Pn	03 56 19.6	+0.8
TLL				AML	AML	03 56 48.2	
	comp=E,223nm,0.4s						

SKHL 20 04:20:46.3±0.1, 5586N×12485E, h8km±1km, mb3.8/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**0.98**	**1**	*e*Pg	Pg	04 21 05.2	+0.1
CLNS				AMB	AMB	04 21 08.1	
	8.0nm,0.2s						
CLNS				AMB	AMB	04 21 08.1	
	36nm,0.2s						
CLNS				*e*Sg	Sg	04 21 21.7	+3.8
CLNS				A		04 21 22.6	
	457nm,0.7s						
CLNS				A		04 21 22.6	
	741nm,0.7s						
KROS	**Kirovskiy**	**1.88**	**139**	*e*Pn	Pn	04 21 19.2	+0.5
KROS				*e*Pg	Pg	04 21 20.5	-1.8
KROS				AMB	AMB	04 21 21.3	
	12nm,0.4s						
KROS				pPg		04 21 23.8	
KROS				*e*Sn	Sn	04 21 42.4	-0.2
KROS				*e*Sg	Sg	04 21 45.9	-0.8
KROS				A		04 21 47.4	
	110nm,0.5s						
KROS				A		04 21 47.4	
	150nm,0.5s						
ZEA	**Zeya**	**2.54**	**146**	*e*Sg	Sg	04 22 04.4	-3.5
ZEA				A		04 22 06.2	
	68nm,0.5s						
ZEA				A		04 22 06.2	
	78nm,0.5s						
BMKR	**Bomnak**	**2.56**	**115**	*e*Pn	Pn	04 21 29.0	+1.0
BMKR				⇓*i*Pg	Pg	04 21 32.0	-3.3
BMKR				AMB	AMB	04 21 32.4	
	33nm,0.3s						
BMKR				pPg		04 21 34.5	
BMKR				*e*Sn	Sn	04 21 59.5	+0.2
BMKR				*e*Sg	Sg	04 22 05.7	-2.8
BMKR				A		04 22 07.4	
	56nm,0.4s						
BMKR				A		04 22 07.4	
	42nm,0.4s						
YASR	**Yasnyy**	**3.15**	**143**	*e*Pn	Pn	04 21 37.2	+1.0
YASR				sPn		04 21 40.6	
YASR				*e*Pg	Pg	04 21 42.5	-4.2
YASR				*e*Sg	Sg	04 22 24.2	-3.4
YASR				A		04 22 30.7	
	24nm,0.7s						
YASR				A		04 22 30.7	
	21nm,0.7s						
TUP	**Tupik**	**3.16**	**245**	*e*Pn	Pn	04 21 38.8	+2.5
TUP				*e*Pg	Pg	04 21 41.0	-5.8
TUP				AMB	AMB	04 21 49.8	
	8.0nm,0.4s						
TUP				*e*Sg	Sg	04 22 25.0	-2.7
TUP				A		04 22 27.4	
	49nm,0.9s						
CRS	**Chara**	**3.81**	**289**	*e*Pg	Pg	04 21 56.4	-2.8
CRS				*e*Sg	Sg	04 22 45.3	-3.2
EKMR	**Ekimchan**	**5.49**	**117**	*e*Pg	Pg	04 22 26.5	-4.9
EKMR				*e*Sg	Sg	04 23 36.5	-6.0
EKMR				A		04 23 46.3	
	8.0nm,0.5s						
EKMR				A		04 23 46.3	
	4.0nm,0.5s						

IDC 20 04:26:60.0±1.7, 486S×15275E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.6/3, MS3.3/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=79.9km s-min=35.5km az=142.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.15**	**231**	LR	LR	04 31 28.0	
	comp=Z,96nm,18.8s,baz=203,slow=37						
WRA	**Warramunga Arr**	**23.37**	**229**	P	P	04 32 10.9	+0.7
	0.7nm,0.6s,baz=53,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**26.07**	**222**	P	P	04 32 35.5	+0.3
	0.6nm,0.6s,baz=62,slow=9.1,SNR=6.7						
STKA	**Stephens Creek**	**28.84**	**200**	LR	LR	04 44 30.9	
	comp=Z,116nm,20.4s,baz=208,slow=36						
FITZ	**Fitzroy Crossi**	**29.59**	**241**	P	P	04 33 06.1	-0.5
	1.1nm,0.6s,baz=80,slow=11,SNR=6.7						
TORD	**Torodi Ar. Bea**	**150.28**	**288**	PKPbc	PKPbc	04 46 54.4	+1.3
	1.8nm,0.7s,baz=72,slow=2.5,SNR=11						
BDFB	**Brasilia**	**151.06**	**135**	PKPbc	PKPbc	04 46 55.9	+1.0
	2.7nm,0.7s,baz=254,slow=4.6,SNR=5.1						

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*ISCJB **20** 04:32:09.6±0.4, 4834S±006×315E±0.1, h10km, mb4.2/19, MS3.6/12, Error ellipse: s-maj=14.4km s-min=8.7km az=151.5*
*IDC **20** 04:32:09.4±0.6, 4835S×3151E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.2/22, mbtmp4.3/15, ML4.4/1, MS3.7/12, Ms1 3.6/12, ms1mx3.5/25, Error ellipse: s-maj=20.7km s-min=15.1km az=62.0*
*NEIC **20** 04:32:11.3±0.2, 4832S×3150E, h10km, mb4.4/9, Error ellipse: s-maj=10.2km s-min=6.7km az=67.0*
*BJI **20** 04:32:11.2, 4830S×3150E, h10km, mB5.2, Ms4.7, Msz4.5*
ISC 20 04:32:11.1±0.4, 4836S±006×315E±01, h10km, n58, σ0§65/34, mb4.2/19, MS3.6/12, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.88**	**329**	P	**Pn**	**04 36 19.2**	**-0.7**
	1.6nm,0.3s,baz=136,slow=14,SNR=18						
SUR				S	**Sn**	**04 39 26.1**	**-13**
	0.5nm,0.3s,baz=230,slow=6.7,SNR=3.2						
SUR				LR	LR	04 41 34.3	
	comp=Z,360nm,19.6s,baz=201,slow=32						
SUR	**Sutherland**	**17.88**	**329**	*e*P	**Pn**	**04 36 20.0**	**+0.1**
	10.0nm,0.7s						
SYO	**Syowa Base**	**21.10**	**172**	⇑*e*P	**P**	**04 36 55.0**	**-0.7**
SYO	**Syowa Base**	**21.10**	**172**	⇓*e*Pn		04 37 00.2	
LBTB	**Lobatse**	**23.76**	**347**	P	**P**	**04 37 23.2**	**-0.5**
	3.5nm,1.0s,mb3.8,baz=204,slow=12,SNR=2.9						
LBTB				LR	LR	04 45 11.5	
	comp=Z,119nm,18.6s,MS3.4,baz=10.0,slow=33						
LBTB	**Lobatse**	**23.76**	**347**	P	**P**	**04 37 23.2**	**-0.5**
LBTB				LR	LR	04 45 11.5	
MAIT	**Maitri**	**24.36**	**196**	*e*P	**P**	**04 37 29.6**	**+0.4**
MAW	**Mawson**	**24.99**	**152**	*e*P	**P**	**04 37 35.8**	**+0.9**
	8.6nm,0.9s,mb4.3						
MAW	**Mawson**	**24.99**	**152**	P	**P**	**04 37 34.3**	**-0.6**
	9.0nm,0.9s,mb4.3,baz=307,slow=10.0,SNR=13						
MAW				S	**S**	**04 42 04.5**	**+5.9**
	1.4nm,0.9s,baz=115,slow=19,SNR=2.7						
MAW				LR	LR	04 45 04.8	
	comp=Z,123nm,20.5s,MS3.4,baz=243,slow=31						
MATP	**Matopo**	**27.97**	**354**	P	**P**	**04 38 01.2**	**-0.6**
	3.2nm,0.8s,mb4.0,baz=183,slow=9.5,SNR=7.4						
MATP				LR	LR	04 47 38.4	
	comp=Z,162nm,18.1s,MS3.6,baz=176,slow=33						
MATP	**Matopo**	**27.97**	**354**	P	**P**	**04 38 01.2**	**-0.6**
MATP				LR	LR	04 47 38.4	
SNAA	**Sanae**	**28.23**	**202**	P	**P**	**04 38 04.0**	**-0.1**
	1.0nm,0.9s,mb3.4,baz=77,slow=4.6,SNR=11						
SNAA				LR	LR	04 46 37.0	
	comp=Z,26nm,21.4s,MS2.8,baz=33,slow=31						
LSZ	**Lusaka**	**33.10**	**354**	*e*P	**P**	**04 38 47.1**	**0.0**
	6.7nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**41.86**	**180**	*e*P	**P**	**04 40 00.8**	**-0.5**
	17nm,0.9s,mb4.7						
CASY	**Casey**	**42.89**	**144**	*e*P	**P**	**04 40 09.6**	**0.0**
	3.0nm,1.0s,mb4.0						
KMBO	**Kilima Mbogo**	**47.31**	**8**	LR	LR	04 57 48.3	
	comp=Z,49nm,20.1s,MS3.5,baz=102,slow=32						
VNDA	**Vanda**	**50.71**	**168**	P	**P**	**04 41 10.7**	**-0.2**
	3.1nm,0.8s,mb4.3,baz=243,slow=7.3,SNR=17						
VNDA				LR	LR	05 01 59.7	
	comp=Z,138nm,19.6s,MS4.0,baz=250,slow=35						
VNDA	**Vanda**	**50.71**	**168**	*e*P	**P**	**04 41 10.6**	**-0.3**
	5.2nm,0.8s,mb4.5						
SBA	**Scott Base**	**51.11**	**169**	*e*P	**P**	**04 41 14.7**	**+0.8**
	7.3nm,0.9s,mb4.6						
TRQA	**Tornquist**	**64.82**	**241**	*e*P	**P**	**04 42 49.4**	**-0.6**
	4.8nm,0.9s,mb4.5						
TORD	**Torodi Ar. Bea**	**66.71**	**328**	P	**P**	**04 43 03.0**	**+0.8**
	1.8nm,0.6s,mb4.3,baz=164,slow=7.3,SNR=38						
TORD				LR	LR	05 08 09.5	
	comp=Z,46nm,21.3s,MS3.7,baz=140,slow=32						
PLCA	**Paso Flores**	**67.76**	**233**	P	**P**	**04 43 08.4**	**-0.5**
	1.0nm,0.7s,mb3.9,baz=117,slow=13,SNR=3.3						
CPUP	**Villa Florida**	**70.06**	**253**	P	**P**	**04 43 23.5**	**+0.2**
	3.2nm,0.7s,mb4.3,baz=100,slow=5.0,SNR=8.5						
BDFB	**Brasilia**	**71.54**	**267**	LR	LR	05 07 21.9	
	comp=Z,62nm,19.6s,MS3.9,baz=62,slow=30						
PSI	**Prapat**	**77.32**	**71**	P	**P**	**04 44 07.0**	**+1.1**
	2.5nm,0.2s,mb4.8,baz=240,slow=8.4,SNR=4.5						
PSI	**Prapat**	**77.32**	**71**	P	**P**	**04 44 07.0**	**+1.1**
STKA	**Stephens Creek**	**78.67**	**125**	P	**P**	**04 44 13.8**	**+0.4**
	3.1nm,0.8s,mb4.3,baz=160,slow=8.3,SNR=5.8						
STKA				LR	LR	05 10 27.5	
	comp=Z,188nm,21.7s,MS4.4,baz=204,slow=29						
STKA	**Stephens Creek**	**78.67**	**125**	P	**P**	**04 44 13.8**	**+0

MSU	**Marysvale**	**152.07 263**	*e*PKPbc	PKPbc	04 52 07.2	+0.6
MSU			*e*PKPab	PKPab	04 52 17.6	+1.5
CCUT	**Cedar City**	**152.33 260**	*e*PKPdf	PKPdf	04 52 01.8	+1.4
CCUT			*e*PKPbc	PKPbc	04 52 08.3	+1.1
CCUT			*e*PKPab	PKPab	04 52 18.9	+1.8
PDAR	**Pinedale Array**	**152.38 273**	PKP	PKPdf	04 51 59.2	-1.3
	comp=Z,0.3nm,0.7s,baz=114,slow=36,SNR=3.2					
PDAR			PKPbc	PKPbc	04 52 05.5	-1.8
	comp=Z,3.5nm,1.0s,baz=102,slow=3.4,SNR=15					
DAU	**Daniels Canyon**	**152.44 267**	*e*PKPbc	PKPbc	04 52 08.1	+0.6
MPU	**Maple Canyon**	**152.49 266**	*e*PKPbc	PKPbc	04 52 07.6	+0.1
NLU	**North Lily Min**	**152.76 266**	*e*PKPbc	PKPbc	04 52 08.3	+0.2
NLU			*e*PKPab	PKPab	04 52 19.9	+0.9
HWUT	**Hardware Ranch**	**153.21 269**	*e*PKPbc	PKPbc	04 52 08.7	-0.4
HWUT			*e*PKPab	PKPab	04 52 19.6	-1.2
DUG	**Dugway**	**153.37 266**	*e*PKPbc	PKPbc	04 52 09.6	+0.1
YMR	**Madison River**	**154.07 276**	*e*PKPdf	PKPdf	04 52 01.8	-1.2
NVAR	**Mina Array Bea**	**156.05 257**	PKP	PKPdf	04 52 05.6	0.0
	comp=Z,0.3nm,0.6s,baz=168,slow=2.9,SNR=3.6					

IDC 20 04:32:56.3±2.3, 2224S×14805E, h0^{km}, mb1 3.4/4, mb1mx3.3/12, mbtmp3.2/4, ML3.3/4, Error ellipse: s-maj=32.1km s-min=19.9km az=64.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.71**	**322**	Pn	Pn	04 33 41.6	+0.4
	1.3nm,0.3s,baz=131,slow=16,SNR=26						
CTA				Pg	Pg	04 33 46.1	-2.3
	3.4nm,0.3s,baz=137,slow=18,SNR=38						
CTA				Lg		04 34 22.4	
	3.6nm,0.3s,baz=66,slow=22,SNR=4.2						
STKA	**Stephens Creek**	**11.19**	**210**	Pn	Pn	04 35 36.9	-0.6
	0.3nm,0.3s,baz=36,slow=12,SNR=6.8						
STKA				Sn	Sn	04 37 47.5	+4.2
	0.4nm,0.3s,baz=85,slow=22,SNR=2.7						
WRA	**Warramunga Arr**	**13.00**	**278**	Pn	Pn	04 36 01.0	-1.2
	0.1nm,0.3s,baz=93,slow=12,SNR=4.9						
WRA				Lg		04 39 50.1	
	0.2nm,0.3s,baz=103,slow=24,SNR=7.5						
ASAR	**Alice Springs**	**13.11**	**261**	Pn	Pn	04 36 05.0	+1.3
	0.1nm,0.3s,baz=73,slow=13,SNR=3.7						
ASAR				Sn	Sn	04 38 30.1	-0.2
	0.1nm,0.3s,baz=82,slow=23,SNR=4.6						
ASAR				Lg		04 39 53.8	
	0.1nm,0.3s,baz=96,slow=27,SNR=3.7						
TORD	**Torodi Ar. Bea**	**146.76**	**260**	PKPbc	PKPbc	04 52 40.5	+0.3
	0.4nm,0.5s,baz=107,slow=4.4,SNR=15						

*NEIC **20** 04:34:26.5, 3136S×7169W, h23^{km}, ML3.1(GUC), After GUC.*

GUC 20 04:34:26.5±0.8, 3136S×7169W, h23^{km}±4^{km}, MD3.8, ML3.1, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**163**	⇓*i*P	Pb	04 34 37.0	-0.4
CHNG				*i* S	Sb	04 34 44.7	-0.1
CHNG				AML	AML	04 34 45.4	
	comp=E,2μm,0.3s						
CMCH	**Combarbala**	**0.62**	**73**	⇑*i*P	Pb	04 34 38.0	-0.6
CMCH				*i* S	Sb	04 34 47.1	+0.3
CMCH				AML	AML	04 34 47.6	
	comp=N,3μm,0.3s						
OVCH	**Ovalle**	**0.86**	**29**	⇑*i*P	Pb	04 34 43.0	+0.3
OVCH				*i* S	Sb	04 34 55.4	+1.6
OVCH				AML	AML	04 34 57.3	
	comp=E,979nm,0.4s						
OVCH	**Ovalle**	**0.86**	**29**	⇑*i*P	Pb	04 34 43.0	+0.3
OVCH				*i* S	Sb	04 34 55.4	+1.6
PTCH	**Petorca**	**1.11**	**145**	⇑*i*P	Pn	04 34 45.8	-0.8
PTCH				*i* S	Sb	04 35 00.6	-0.4
PTCH				AML	AML	04 35 02.0	
	comp=E,2μm,0.1s						
PTCH	**Petorca**	**1.11**	**145**	⇑*i*P	Pn	04 34 45.8	-0.8
PTCH				*i* S	Sb	04 35 00.6	-0.4
PACH	**Papudo**	**1.19**	**170**	*i* S	Sn	04 35 03.1	-0.1
TLL	**Tololo Astrono**	**1.41**	**33**	⇓*i*P	Pn	04 34 51.3	+0.5
TLL				*i* S	Sn	04 35 10.5	+1.8
TLL				AML	AML	04 35 13.8	
	comp=E,320nm,0.3s						
TLL	**Tololo Astrono**	**1.41**	**33**	⇓*i*P	Pn	04 34 51.3	+0.5
TLL				*i* S	Sn	04 35 10.5	+1.8
JACH	**Jahuel**	**1.61**	**145**	⇓*i*P	Pn	04 34 54.5	+0.9
JACH				*i* S	Sn	04 35 15.5	+1.8
ROCH	**El Roble**	**1.71**	**161**	*e*P	Pn	04 34 56.3	+1.5
ROCH				*e*S	Sn	04 35 18.3	+2.3
PEL	**Peldehue**	**1.97**	**155**	⇓*i*P	Pn	04 34 59.4	+0.9
PEL				*i* S	Sn	04 35 25.6	+3.1
PEL				AML	AML	04 35 28.3	
	comp=E,323nm,0.3s						
PEL	**Peldehue**	**1.97**	**155**	⇓*i*P	Pn	04 34 59.4	+0.9
PEL				*i* S	Sn	04 35 25.6	+3.1
CLCH	**Cerro Calan**	**2.25**	**155**	*e*P	Pn	04 35 03.6	+1.2
CLCH				*e*S	Sn	04 35 32.0	+2.6
CLCH				AML	AML	04 35 39.9	
	comp=E,230nm,0.7s						
FCH	**Farellones**	**2.29**	**149**	⇑*i*P	Pn	04 35 04.6	+1.7
FCH				*i* S	Sn	04 35 34.4	+4.0
FCH				AML	AML	04 35 47.8	
	comp=E,83nm,0.1s						
ANTU	**Antumapu**	**2.38**	**158**	*e*P	Pn	04 35 04.8	+0.7
ANTU				*i* S	Sn	04 35 34.0	+1.5
ANTU				AML	AML	04 35 42.1	
	comp=E,130nm,0.3s						
ANTU	**Antumapu**	**2.38**	**158**	*e*P	Pn	04 35 04.8	+0.7
ANTU				*i* S	Sn	04 35 34.0	+1.5

*NEIC **20** 04:49:41.7, 4080S×17466E, h47^{km}, ML3.8(WEL), After WEL.*

WEL 20 04:49:40.8±0.1, 4073S×17458E, h46^{km}±2^{km}, ML3.8/18, 2C-3D, Error ellipse: s-maj=1.3km s-min=1.0km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.28**	**118**	P	Pn	04 49 49.4	0.0
KIW				S	Sn	04 49 55.6	+0.1
KIW	**Kapiti Island**	**0.28**	**118**	⇓PN	Pn	04 49 49.4	0.0
KIW				SN	Sn	04 49 55.6	+0.1
DUWZ	**D'Urville Isla**	**0.51**	**262**	⇑PN	Pn	04 49 51.4	-0.5
MRW	**Makara Radio**	**0.51**	**170**	P	Pn	04 49 51.9	0.0
MRW				S	Sn	04 49 59.8	0.0
MRW	**Makara Radio**	**0.51**	**170**	⇓PN	Pn	04 49 51.9	0.0
MRW				SN	Sn	04 49 59.8	0.0
CAW	**Cannon Point**	**0.53**	**136**	P	Pn	04 49 52.3	+0.1
CAW	**Cannon Point**	**0.53**	**136**	⇑PN	Pn	04 49 52.3	+0.1
TCW	**Tory Channel**	**0.53**	**205**	P	Pn	04 49 52.0	-0.3
TCW	**Tory Channel**	**0.53**	**205**	⇓PN	Pn	04 49 52.0	-0.3
WEL	**Wellington**	**0.57**	**166**	P	Pn	04 49 52.8	+0.1
WEL	**Wellington**	**0.57**	**166**	PN	Pn	04 49 52.8	0.0
SNZO	**South Karori**	**0.59**	**171**	P	Pn	04 49 52.9	0.0
SNZO	**South Karori**	**0.59**	**171**	PN	Pn	04 49 52.9	-0.1
BHW	**Baring Head**	**0.71**	**162**	P	Pn	04 49 54.3	-0.3
BHW	**Baring Head**	**0.71**	**162**	PN	Pn	04 49 54.3	-0.3
MRZ	**Mangatainoka R**	**0.76**	**85**	P	Pn	04 49 55.4	+0.2
MRZ	**Mangatainoka R**	**0.76**	**85**	PN	Pn	04 49 55.3	+0.1
MTW	**Mount Morrison**	**0.82**	**122**	P	Pn	04 49 55.6	-0.4
MTW	**Mount Morrison**	**0.82**	**122**	PN	Pn	04 49 55.6	-0.4
TUWZ	**Tuamarina**	**0.85**	**214**	PN	Pn	04 49 56.3	-0.1
MSWZ	**Moikau Station**	**0.85**	**144**	P	Pn	04 49 56.0	-0.4
MSWZ	**Moikau Station**	**0.85**	**144**	PN	Pn	04 49 56.0	-0.5
PAWZ	**Paruwai Farm**	**0.91**	**136**	P	Pn	04 49 56.7	-0.5
PAWZ	**Paruwai Farm**	**0.91**	**136**	PN	Pn	04 49 56.6	-0.6
TIWZ	**Tintock**	**0.99**	**93**	PN	Pn	04 49 58.0	-0.3
WAZ	**Wanganui**	**1.02**	**18**	P	Pn	04 50 00.0	+1.3
WAZ	**Wanganui**	**1.02**	**18**	PN	Pn	04 50 00.0	+1.3
NNZ	**Nelson**	**1.03**	**241**	P	Pn	04 49 58.6	-0.3
NNZ	**Nelson**	**1.03**	**241**	PN	Pn	04 49 58.7	-0.2
TRWZ	**Traveller**	**1.07**	**129**	PN	Pn	04 49 58.6	-0.8
BSWZ	**Blackbirch Sta**	**1.12**	**208**	P	Pn	04 50 00.2	+0.2
BSWZ	**Blackbirch Sta**	**1.12**	**208**	PN	Pn	04 50 00.2	+0.2
TSZ	**Takapari Road**	**1.25**	**58**	P	Pn	04 50 01.9	+0.1
TSZ	**Takapari Road**	**1.25**	**58**	PN	Pn	04 50 01.9	0.0
BFZ	**Birch Farm**	**1.27**	**88**	P	Pn	04 50 01.3	-0.8
BFZ	**Birch Farm**	**1.27**	**88**	PN	Pn	04 50 01.3	-0.7
DFE	**Dawson Falls**	**1.45**	**345**	P	Pn	04 50 09.2	+4.6
RAEZ	**Rainy Point**	**1.45**	**354**	P	Pn	04 50 06.3	+1.8
RAEZ	**Rainy Point**	**1.45**	**354**	PN	Pn	04 50 06.3	+1.8
NRZ	**Ngariki Road**	**1.48**	**340**	P	Pn	04 50 07.2	+2.2
PKVZ	**Pokaka**	**1.55**	**22**	PN	Pn	04 50 07.6	+1.6
NWEZ	**Newall Road**	**1.56**	**339**	P	Pn	04 50 07.8	+1.8
NWEZ	**Newall Road**	**1.56**	**339**	PN	Pn	04 50 07.8	+1.8
QRZ	**Quartz Range**	**1.56**	**266**	P	Pn	04 50 06.0	-0.1
QRZ	**Quartz Range**	**1.56**	**266**	PN	Pn	04 50 05.9	-0.2
MOVZ	**Moawhango**	**1.60**	**35**	PN	Pn	04 50 07.2	+0.6
PKE	**Pukeiti**	**1.60**	**343**	P	Pn	04 50 08.9	+2.3
WNVZ	**Wahianoa**	**1.60**	**29**	P	Pn	04 50 08.3	+1.6
WNVZ	**Wahianoa**	**1.60**	**29**	PN	Pn	04 50 08.3	+1.6
VRZ	**Vera Road**	**1.61**	**5**	PN	Pn	04 50 08.2	+1.5
THZ	**Tophouse**	**1.63**	**230**	P	Pn	04 50 07.1	+0.1
THZ	**Tophouse**	**1.63**	**230**	PN	Pn	04 50 07.1	0.0
FWVZ	**Far West T-bar**	**1.65**	**27**	P	Pn	04 50 08.8	+1.5
TUVZ	**Tukino**	**1.68**	**30**	P	Pn	04 50 09.1	+1.4
WPVZ	**Whakapapa**	**1.69**	**26**	P	Pn	04 50 09.5	+1.6
NGZ	**Ngauruhoe**	**1.74**	**27**	P	Pn	04 50 10.0	+1.5
TWVZ	**Taurewa**	**1.78**	**22**	P	Pn	04 50 10.3	+1.2
WTVZ	**West Tongariro**	**1.79**	**26**	P	Pn	04 50 10.7	+1.5
KHZ	**Kahutara**	**1.86**	**205**	P	Pn	04 50 09.7	-0.4
BKZ	**Black Stump Fm**	**2.15**	**44**	*e*P	Pn	04 50 13.5	-0.6
HIZ	**Hauiti**	**2.22**	**6**	P	Pn	04 50 16.5	+1.3
DSZ	**Denniston Nort**	**2.33**	**243**	*e*P	Pn	04 50 16.3	-0.3
MQZ	**McQueen's Vall**	**3.30**	**205**	*e*P	Pn	04 50 26.9	-3.1
FOZ	**Fox Glacier**	**4.61**	**230**	*e*P	Pn	04 50 47.8	-0.1
ODZ	**Otahua Downs**	**5.19**	**213**	*e*P	Pn	04 50 52.7	-3.2
JCZ	**Jackson Bay**	**5.45**	**230**	*e*P	Pn	04 50 57.0	-2.5

*IDC **20** 04:57:13.9±1.5, 1239N×14051E, h0^{km}, mb3.6/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, MS3.3/4, Ms1 3.3/4, ms1mx2.9/23, Error ellipse: s-maj=68.0km s-min=23.2km az=78.0*

NEIC 20 04:57:18.7±1.1, 1232N×14067E, mb4.5/3, Error ellipse: s-maj=55.7km s-min=15.8km az=76.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**20.71**	**358**	LR	LR	05 08 38.3	
	comp=Z,44nm,21.3s,baz=141,slow=33						
PMG	**Port Moresby**	**22.53**	**163**	LR	LR	05 09 22.7	
	comp=Z,73nm,21.2s,baz=194,slow=32						
KSRS	**Korea Array**	**27.51**	**338**	LR	LR	05 11 58.9	
	comp=Z,55nm,19.9s,baz=275,slow=32						
WRA	**Warramunga Arr**	**32.66**	**191**	P	P	05 03 48.1	-0.1
	0.5nm,0.5s,baz=11,slow=9.9,SNR=8.2						
ASAR	**Alice Springs**	**36.38**	**191**	P	P	05 04 20.8	+0.5
	0.1nm,0.4s,baz=17,slow=13,SNR=4.3						
SONM	**Songino Array**	**45.51**	**328**	P	P	05 05 33.8	-1.6
	0.9nm,0.7s,baz=131,slow=8.1,SNR=5.8						
MK31	**Makanchi Array**	**59.60**	**317**	*e*P	P	05 07 21.2	+1.4
MKAR	**Makanchi Array**	**59.60**	**317**	P	P	05 07 18.9	-0.8
	2.4nm,0.8s,baz=111,slow=6.6,SNR=7.2						
MKAR	**Makanchi Array**	**59.60**	**317**	P	P	05 07 18.9	-0.8
CHKZ	**Chkalovo**	**68.36**	**323**	*e*P	P	05 08 17.6	+0.3
	6.5nm,1.6s						
CHKZ				*e*pP	pP	05 08 27.0	+0.4
BRVK	**Borovoye**	**68.47**	**322**	*e*P	P	05 08 18.9	+0.9
	5.2nm,0.7s						
ZRNK	**Zerenda**	**69.22**	**322**	*e*P	P	05 08 23.5	+0.8
	3.5nm,0.8s						
ZRNK				*e*pP	pP	05 08 32.5	+0.6
FINES	**FINESS Array B**	**90.54**	**334**	LR	LR	05 50 46.7	
	comp=Z,32nm,18.6s,baz=207,slow=36						
LPAZ	**La Paz**	**151.82**	**101**	PKPbc	PKPbc	05 17 12.4	+1.9
	0.9nm,0.8s,baz=247,slow=3.8,SNR=4.9						

*NAO **20** 05:07:36.9±0.8, 6206N×1769E, ML2.4*
*ISCJB **20** 05:07:37.0±0.2, 6210N±002×1765E±003, h11^{km}, Error ellipse: s-maj=2.7km s-min=2.1km az=96.9*
*UPP **20** 05:07:38.8, 6203N×1762E, h11^{km}, ML2.6*
*CSEM **20** 05:07:38.0±0.1, 6206N×1757E, h10^{km}, ML2.6, Error ellipse: s-maj=2.2km s-min=1.5km az=113.0*
*HEL **20** 05:07:38.9±0.1, 6204N×1762E, h10^{km}±1^{km}, ML2.6, ML2.6(UPP), ML2.4(BER)*
*BER **20** 05:07:40.4±3.8, 6208N×1783E, h15^{km}, MD3.0, ML2.4, ML2.4(NAO)*

ISC 20 05:07:38.2±0.5, 6207N±001×1766E±004, h9^{km}±4^{km}, n83, σ1°20/150, 3C-2D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNU	**Arnoeviken**	**0.40**	**200**	⇑*i*P	**Pg**	**05 07 45.5**	**-0.4**
ARNU				*i* S	**Sg**	**05 07 50.3**	**-0.9**
HUDU	**Hudiksvall**	**0.42**	**218**	*i* P	**Pg**	**05 07 45.9**	**-0.4**
HUDU				*i* S	**Sg**	**05 07 51.1**	**-0.8**
HASU	**Hassela**	**0.50**	**281**	⇓*i*P	**Pg**	**05 07 47.9**	**0.0**
HASU				*i* S	**Sg**	**05 07 54.5**	**0.0**
HEMU	**Hemsoen**	**0.64**	**16**	⇑*i*P	**Pg**	**05 07 51.3**	**+0.8**
HEMU				*i* S	**Sg**	**05 07 60.0**	**+1.1**
SOLU	**Sollefteaa**	**1.20**	**351**	⇓*e*P	**Pg**	**05 08 00.8**	**-0.4**
SOLU				*e*S	**Sg**	**05 08 17.0**	**+0.2**
HUSU	**Husum**	**1.47**	**29**	*e*P	**Pn**	**05 08 06.1**	**+1.3**
HUSU				*e*S	**Sb**	**05 08 26.3**	**+1.8**
FORU	**Forsmark**	**1.70**	**171**	*e*P	**Pn**	**05 08 08.1**	**+0.1**
FORU				*e*S	**Sn**	**05 08 28.9**	**-1.0**
GRAU	**Graesoe**	**1.79**	**166**	*e*P	**Pn**	**05 08 09.2**	**0.0**
GRAU				*e*S	**Sn**	**05 08 31.8**	**-0.3**
FALU	**Falun**	**1.81**	**210**	⇑*e*P	**Pn**	**05 08 09.5**	**0.0**
FALU				*e*S	**Sn**	**05 08 31.4**	**-1.1**
OSTU	**Oestervaala**	**1.86**	**188**	*e*P	**Pn**	**05 08 10.4**	**+0.2**
OSTU				*e*S	**Sn**	**05 08 33.2**	**-0.5**
BREU	**Bredtraesk**	**1.88**	**13**	*e*P	**Pn**	**05 08 11.1**	**+0.6**
NOD	**Norderasen**	**1.89**	**318**	*e*P	**Pn**	**05 08 11.3**	**+0.7**
NOD				*e*S	**Sn**	**05 08 36.2**	**+1.6**
AAL	**Aland**	**2.21**	**148**	*e*P	**Pn**	**05 08 14.8**	**-0.2**
RAF	**Rauma**	**2.23**	**116**	*e*P	**Pn**	**05 08 16.4**	**+1.1**
RAF				*e*S	**Sn**	**05 08 44.0**	**+1.1**
RAF				*e*SB	**Sb**	**05 08 45.8**	**-0.4**
RAF				MSG		05 08 46.2	
	comp=Z,38nm,0.2s						
RAF	**Rauma**	**2.23**	**116**	P	**Pn**	**05 08 16.3**	**+1.0**
UMAU	**Umeaa**	**2.29**	**36**	*e*P	**Pn**	**05 08 18.2**	**+2.1**
NRTU	**Norrtaelje**	**2.44**	**168**	*e*P	**Pn**	**05 08 17.8**	**-0.5**
VAF	**Ylistaro**	**2.52**	**65**	*e*P	**Pn**	**05 08 21.3**	**+2.0**
VAF				*e*S	**Sn**	**05 08 50.7**	**+0.6**
VAF				*e*SB	**Sb**	**05 08 54.6**	**-0.1**
VAF				MSG		05 08 55.0	
	comp=Z,28nm,0.1s						
VAF	**Ylistaro**	**2.52**	**65**	P	**Pn**	**05 08 21.3**	**+2.0**
VAF				Sg	**Sg**	**05 08 54.6**	**-4.6**
SVAU	**Svanoeiden**	**2.59**	**19**	*e*P	**Pn**	**05 08 21.6**	**+1.3**
SVAU	**Svanoeiden**	**2.59**	**19**	P	**Pn**	**05 08 21.5**	**+1.3**
HFS	**Hagfors**	**2.73**	**227**	Pn	**Pn**	**05 08 22.5**	**+0.3**
	baz=48,slow=11						
HFS				Sn	**Sn**	**05 08 55.5**	**+0.3**
	baz=38,slow=28						
HFS	**Hagfors**	**2.73**	**227**	*e*P	**Pn**	**05 08 22.5**	**+0.3**
HFS				*e*S	**Sn**	**05 08 55.5**	**+0.3**
HFS	**Hagfors**	**2.73**	**227**	Pn	**Pn**	**05 08 22.5**	**+0.3**
	SNR=55						
HFS				Sn	**Sn**	**05 08 55.5**	**+0.2**
	SNR=55						
UDD	**Uddeholm**	**2.79**	**227**	*e*P	**Pn**	**05 08 23.5**	**+0.5**
NRAU	**Nora**	**2.81**	**208**	*e*P	**Pn**	**05 08 23.4**	**+0.1**
BURU	**Burvik**	**3.04**	**32**	*e*P	**Pn**	**05 08 27.6**	**+1.3**
NYNU	**Nynaeshamn**	**3.08**	**177**	*e*P	**Pn**	**05 08 25.8**	**-1.1**
NB2	**NORSAR Subarra**	**3.25**	**254**	Pn	**Pn**	**05 08 28.9**	**-0.4**
	baz=70,slow=12						
NB2				Sg	**Sg**	**05 09 18.5**	**-4.1**
	baz=71,slow=37						
NB2	**NORSAR Subarra**	**3.25**	**254**	*e*P	**Pn**	**05 08 28.9**	**-0.4**
NB2				*e*SG	**Sg**	**05 09 18.5**	**-4.1**
LILU	**Lilltraesk**	**3.38**	**16**	*e*P	**Pn**	**05 08 31.3**	**+0.3**
KEF	**Keuruu**	**3.39**	**85**	*e*P	**Pn**	**05 08 33.0**	**+1.7**
KEF				*e*S	**Sn**	**05 09 12.6**	**+1.0**
KEF				*e*SB	**Sb**	**05 09 18.6**	**-1.1**
KEF				MSG		05 09 20.6	
	comp=Z,8.6nm,0.2s						
KEF	**Keuruu**	**3.39**	**85**	P	**Pn**	**05 08 32.9**	**+1.6**
ASKU	**Askersund**	**3.48**	**205**	*e*P	**Pn**	**05 08 33.2**	**+0.7**
NSS	**Namsos**	**3.57**	**316**	*e*P	**Pn**	**05 08 32.6**	**-1.1**
NSS				*e*		05 09 13.9	
NSS				*e*Sg	**Sg**	**05 09 27.5**	**-5.2**
NSS				AML	AML	05 09 36.1	
	comp=Z,12nm,0.5s						
NSS	**Namsos**	**3.57**	**316**	*e*PB	**Pb**	**05 08 40.5**	**-0.9**
NSS				*e*S	**Sn**	**05 09 13.9**	**-1.9**
NSS				*e*SG	**Sg**	**05 09 27.5**	**-5.2**
NSS				AML	AML	05 09 36.1	
	comp=Z,12nm,0.5s						
NSS	**Namsos**	**3.57**	**316**	*e*P	**Pn**	**05 08 32.6**	**-1.1**
NSS				*e*Sg	**Sg**	**05 09 27.5**	**-5.2**
	SNR=90						
MEF	**Metsahovi**	**3.76**	**117**	*e*P	**Pn**	**05 08 37.0**	**+0.8**
MEF				*e*S	**Sn**	**05 09 20.7**	**+0.1**
MEF				*e*SB	**Sb**	**05 09 31.4**	**+1.1**
MEF				MSG		05 09 36.0	
	comp=Z,11nm,0.2s						
NASU	**Vaermlandsnaes**	**3.85**	**217**	P	**Pn**	**05 08 37.3**	**-0.2**
SJUU	**Sjulsmark**	**3.88**	**25**	*e*P	**Pn**	**05 08 38.5**	**+0.6**
LNKU	**Linkoeping**	**4.00**	**197**	*e*P	**Pn**	**05 08 40.9**	**+1.2**
LNKU	**Linkoeping**	**4.00**	**197**	P	**Pn**	**05 08 40.8**	**+1.1**
SUF	**Sumiainen**	**4.01**	**77**	*e*P	**Pn**	**05 08 41.3**	**+1.6**
SUF				*e*S	**Sn**	**05 09 26.6**	**-0.2**
SUF				*e*SG	**Sg**	**05 09 40.5**	**-6.4**
SUF				MSG		05 09 46.2	
	comp=Z,21nm,0.3s						
SUF	**Sumiainen**	**4.01**	**77**	P	**Pn**	**05 08 41.3**	**+1.6**
SUF				Sg	**Sg**	**05 09 40.5**	**-6.4**
FIA0	**FINESS Array S**	**4.05**	**95**	Pn	**Pn**	**05 08 41.7**	**+1.3**
FIA0				Sn	**Sn**	**05 09 27.1**	**-0.8**
	baz=285,slow=22						
FIA0				Lg		05 09 42.1	
	baz=287,slow=28						
FIA0	**FINESS Array S**	**4.05**	**95**	*e*P	**Pn**	**05 08 41.7**	**+1.4**
FIA0				*e*S	**Sn**	**05 09 27.1**	**-0.8**
FIA0				*e*SG	**Sg**	**05 09 43.1**	**-5.2**
FIA0				MSG		05 09 44.8	
	comp=Z,9.6nm,0.2s						
FIA0	**FINESS Array S**	**4.05**	**95**	Pn	**Pn**	**05 08 41.7**	**+1.4**
	SNR=55						
FIA0				Sn	**Sn**	**05 09 27.1**	**-0.8**
	SNR=55						
FIA0				Sg	**Sg**	**05 09 43.1**	**-5.2**
	comp=Z,9.6nm,0.2s						
KAF	**Kangasniemi**	**4.07**	**86**	*e*P	**Pn**	**05 08 42.3**	**+1.7**
KAF				*e*S	**Sn**	**05 09 27.8**	**-0.5**
KAF				*e*SG	**Sg**	**05 09 43.0**	**-5.8**
KAF				MSG		05 09 45.4	
	comp=Z,17nm,0.3s						
KAF	**Kangasniemi**	**4.07**	**86**	P	**Pn**	**05 08 42.2**	**+1.6**
KAF				Sg	**Sg**	**05 09 43.0**	**-5.8**
	comp=Z,17nm,0.3s						
PVF	**Pernaja**	**4.24**	**107**	*e*P	**Pn**	**05 08 43.7**	**+0.7**
PVF				*e*S	**Sn**	**05 09 32.8**	**+0.3**
PVF				*e*SG	**Sg**	**05 09 49.0**	**-5.4**
PVF				MSG		05 09 50.8	
	comp=Z,8.7nm,0.2s						
PVF	**Pernaja**	**4.24**	**107**	P	**Pn**	**05 08 43.6**	**+0.7**
PVF				Sg	**Sg**	**05 09 48.9**	**-5.5**
	comp=Z,8.7nm,0.2s						
MOR8	**Moi Rana**	**4.36**	**343**	*e*P	**Pn**	**05 08 46.5**	**+1.9**
MOR8				*e*S	**Sn**	**05 09 36.8**	**+1.4**
MOR8				*e*SG	**Sg**	**05 09 56.2**	**-1.9**
MOR8				AML	AML	05 10 00.8	
	comp=Z,16nm,0.1s						
STRU	**Stroemstad**	**4.41**	**229**	*e*P	**Pn**	**05 08 44.9**	**-0.4**
VSTU	**Vaestervik**	**4.46**	**188**	*e*P	**Pn**	**05 08 46.9**	**+1.1**
MOL	**Molde**	**4.74**	**281**	*e*	**Sg**	**05 10 03.0**	**-7.4**
MOL	**Molde**	**4.74**	**281**	*e*SG	**Sg**	**05 10 03.0**	**-7.4**
OUL	**Oulu**	**4.77**	**47**	*e*P	**Pn**	**05 08 51.0**	**+0.8**
OUL				*e*S	**Sn**	**05 09 45.1**	**-0.4**
OUL				*e*SG	**Sg**	**05 10 03.3**	**-7.9**
OUL				MSG		05 10 12.6	
	comp=Z,7.3nm,0.2s						
OUL	**Oulu**	**4.77**	**47**	P	**Pn**	**05 08 50.9**	**+0.7**
OUL				Sg	**Sg**	**05 10 03.3**	**-8.0**
	comp=Z,7.3nm,0.2s						
ERTU	**Ertsjaerv**	**4.92**	**22**	*e*P	**Pn**	**05 08 53.1**	**+0.8**
KJN	**Kajaani**	**5.00**	**62**	*e*P	**Pn**	**05 08 54.4**	**+1.0**
KJN				*e*S	**Sn**	**05 09 51.0**	**-0.3**
KJN				*e*SB	**Sb**	**05 10 05.2**	**-0.8**
KJN				MSG		05 10 16.0	
	comp=Z,9.2nm,0.2s						
KJN	**Kajaani

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIS							
	21nm,0.1s						
MTE	**Manteigas**	**0.75**	**205**	*e*P	**Pg**	**05 27 53.5**	**+0.3**
MTE				*e*S	**Sg**	**05 28 03.2**	**+0.1**
MTE							
	11nm,0.2s						
PBRG	**Braganca**	**0.78**	**22**	*e*P	**Pg**	**05 27 54.2**	**+0.6**
PBRG				*e*S	**Sg**	**05 28 04.1**	**+0.3**
PBRG							
	13nm,0.1s						
ECAL	**Calabor**	**0.91**	**19**	Pg	**Pg**	**05 27 56.7**	**+0.7**
	3.3nm,0.2s,SNR=7.9						
ECAL				Lg		05 28 08.7	
	17nm,0.2s,SNR=12						
PCAB	**Cabril**	**0.92**	**313**	*e*P	**Pg**	**05 27 56.3**	**0.0**
PCAB				*e*S	**Sg**	**05 28 08.0**	**-0.3**
PCAB							
	18nm,0.1s						
PCBR	**Castelo Branco**	**1.27**	**192**	*e*P	**Pn**	**05 28 02.9**	**+0.8**
PCBR				*e*S	**Sb**	**05 28 19.2**	**+0.5**
PCBR							
	15nm,0.3s						
EPON	**Pontenova**	**2.24**	**360**	Pg	**Pg**	**05 28 17.9**	**-3.6**
	0.1nm,0.2s,SNR=7.9						
EPON				Lg		05 28 48.9	
	1.5nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**2.30**	**100**	Pg	**Pg**	**05 28 21.9**	**-0.8**
	0.4nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**05 28 49.9**	**+5.5**
	1.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**2.31**	**324**	Lg		05 28 49.9	
	2.9nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.63**	**32**	Lg		05 29 03.4	
	0.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.33**	**174**	Pn	**Pn**	**05 28 30.4**	**0.0**
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		05 29 24.2	
	1.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.52**	**145**	Sn	**Sn**	**05 29 13.5**	**-1.0**
	0.3nm,0.2s,SNR=7.9						
EADA				Lg		05 29 28.4	
	0.6nm,0.2s,SNR=7.9						

*NEIC **20** 05:36:39.8, 31.37S×71.47W, h46km, MD3.5(GUC), After GUC.*

GUC 20 05:36:39.8±0.8, 31.37S×71.47W, h46km±2km, MD3.5, ML2.9, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.45**	**65**	*e*P	Pn	05 36 50.6	+0.4
CMCH				*i* S	Sn	05 36 58.9	+1.3
CMCH				AML	AML	05 36 59.9	
	comp=N,5μm,0.4s						
CMCH	**Combarbala**	**0.45**	**65**	*e*P	Pn	05 36 50.6	+0.4
CMCH				*i* S	Sn	05 36 58.9	+1.3
CHNG	**Los Chungos**	**0.52**	**183**	*e*P	Pn	05 36 51.1	+0.1
CHNG				*i* S	Sn	05 36 59.5	+0.5
CHNG				AML	AML	05 37 00.0	
	comp=N,396nm,0.5s						
OVCH	**Ovalle**	**0.79**	**17**	⇑*i*P	Pn	05 36 55.3	+0.7
OVCH				*i* S	Sn	05 37 06.9	+1.5
OVCH				AML	AML	05 37 08.8	
	comp=E,726nm,0.3s						
OVCH	**Ovalle**	**0.79**	**17**	⇑*i*P	Pn	05 36 55.3	+0.7
OVCH				*i* S	Sn	05 37 06.9	+1.5
PTCH	**Petorca**	**1.01**	**153**	⇓*i*P	Pn	05 36 58.1	+0.6
PTCH				*i* S	Sn	05 37 11.4	+0.9
PTCH				AML	AML	05 37 12.9	
	comp=N,1μm,0.2s						
PTCH	**Petorca**	**1.01**	**153**	⇓*i*P	Pn	05 36 58.1	+0.6
PTCH				*i* S	Sn	05 37 11.4	+0.9
TLL	**Tololo Astrono**	**1.33**	**26**	⇑*i*P	Pn	05 37 02.9	+1.0
TLL				*i* S	Sn	05 37 20.0	+1.7
TLL				AML	AML	05 37 21.6	
	comp=E,321nm,0.3s						
TLL	**Tololo Astrono**	**1.33**	**26**	⇑*i*P	Pn	05 37 02.9	+1.0
TLL				*i* S	Sn	05 37 20.0	+1.7
PEL	**Peldehue**	**1.89**	**160**	⇓*i*P	Pn	05 37 10.6	+1.0
PEL				*i* S	Sn	05 37 35.1	+2.8
PEL				AML	AML	05 37 37.4	
	comp=N,193nm,0.3s						
PEL	**Peldehue**	**1.89**	**160**	⇓*i*P	Pn	05 37 10.6	+1.0
PEL				S	Sn	05 37 35.1	+2.8
CLCH	**Cerro Calan**	**2.17**	**159**	*e*P	Pn	05 37 14.8	+1.4
CLCH				AML	AML	05 37 53.1	
	comp=E,95nm,0.6s						
RCDM	**Rinconada Maip**	**2.19**	**165**	⇓*i*P	Pn	05 37 14.5	+0.8
RCDM				*i* S	Sn	05 37 40.6	+1.0
RCDM				AML	AML	05 37 46.5	
	comp=E,115nm,0.1s						
RCDM	**Rinconada Maip**	**2.19**	**165**	⇓*i*P	Pn	05 37 14.5	+0.8
RCDM				*i* S	Sn	05 37 40.6	+1.0

*NEIC **20** 05:38:42.5, 17.04N×95.35W, h110km, MD3.9(MEX), After MEX.*

MEX 20 05:38:42.5±0.7, 17.03N×95.35W, h110km±6km, MD3.9, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**82**	⇓*i*P	Pn	05 38 57.6	-1.4
CMIG				*e*S	Sn	05 39 09.6	-1.8
OXX	**Oaxaca**	**1.32**	**273**	*i* P	Pn	05 39 06.0	-1.2
OXX				*i* S	Sn	05 39 25.0	-0.9
VHO	**Vista Hermosa**	**1.33**	**272**	⇑*i*P	Pn	05 39 06.1	-1.2
VHO				*i* S	Sn	05 39 25.1	-0.9
HUIG	**Huatulco**	**1.45**	**210**	*i* P	Pn	05 39 06.7	-2.0
HUIG				*e*S	Sn	05 39 27.5	-1.1
TPIG	**Tehuac#an**	**2.37**	**306**	*i* P	Pn	05 39 19.1	-1.1
TPIG				*i* S	Sn	05 39 47.6	-1.5
UTMO	**Huajuapan**	**2.48**	**289**	*i* P	Pn	05 39 20.2	-1.4
CCIG	**Comitan**	**3.16**	**103**	*i* P	Pn	05 39 30.4	-0.2
CCIG				*i* S	Sn	05 40 07.5	-0.3
IIO	**Organos**	**4.10**	**309**	*i* P	Pn	05 39 23.3	-20

*IDC **20** 05:39:05.5±0.6, 26.66S×140.32E, h0km, mb4.8/13, mb1 4.8/16, mb1mx4.8/18, mbtmp4.8/16, ML4.1/3, MS4.5/17, Ms1 4.5/17, ms1mx4.3/23, Error ellipse: s-maj=15.6km s-min=9.3km az=98.0*

*ISCJB **20** 05:39:08.5±0.3, 25.8S±0.03×140.50E±0.06, h34km, mb4.9/48, MS4.5/30, Error ellipse: s-maj=8.2km s-min=4.4km az=163.9*

*BJI **20** 05:39:08.0, 25.8S×140.76E, h42km, mB5.2, mb4.9, Ms4.8, Msz4.5*

*MOS **20** 05:39:09.3±1.0, 26.0S×140.43E, h42km, mb5.1/20, MS4.7/5, Error ellipse: s-maj=13.4km s-min=7.2km az=106.8*

*NEIC **20** 05:39:10.8±1.4, 25.9S×140.46E, h38km±13km, mb4.9/20, Error ellipse: s-maj=8.8km s-min=6.7km az=60.0*

NEIC Felt [V] at Jayapura.

*GCMT **20** 05:39:10.8±0.2, 24.8S×140.71E, h12km, MW5.1/82, Moment Tensor Solution. s42,c54; s82,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18±.10; $M_{\theta\theta}$0.65±.10; $M_{\phi\phi}$-1.83±.11; $M_{r\theta}$0.22±.26; $M_{r\phi}$4.37±.07; $M_{\theta\phi}$1.96±.26; Best double couple: $M_0$4.99400×10^{16} NP1:ϕ_s99.00000°, δ64.00000°, λ8.00000°. NP2: ϕ_s5.00000°, δ83.00000°, λ154.00000°. Principal axes: T 4.5370, Plg23.0000°, Azm319.0000°; N 0.9150, Plg63.0000°, Azm171.0000°; P -5.4510, Plg13.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 05:39:09.6±1.5, 26.0S±0.03×140.53E±0.06, h28km±11km, h36km±2.0km: pP-P, n136, σ1.9 05/129, mb4.9/48, MS4.5/30, 3C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.44**	**136**	Pn	**Pn**	**05 41 26.3**	**+2.6**
	1.3nm,0.3s,baz=342,slow=6.4,SNR=4.7						
PMG	**Port Moresby**	**9.44**	**136**	*e*P	**Pn**	**05 41 26.7**	**+3.0**
PMG	**Port Moresby**	**9.44**	**136**	*e*Pn	**Pn**	**05 41 27.9**	**+4.3**
	69nm,0.9s						
KAKA	**Kakadu**	**12.84**	**218**	*e*P	**Pn**	**05 42 09.8**	**-0.4**
	118nm,0.4s						
WRAB	**Tennant Creek**	**18.25**	**199**	*e*P	**Pn**	**05 43 19.9**	**-0.8**
CTA	**Charters Tower**	**18.26**	**163**	*e*P	**Pn**	**05 43 25.0**	**+4.2**
	10.0nm,0.8s						
CTA	**Charters Tower**	**18.26**	**163**	P	**Pn**	**05 43 20.8**	**-0.1**
	0.4nm,0.3s,baz=356,slow=15,SNR=2.4						
CTA				LR	LR	05 50 35.0	
	comp=Z,2μm,20.7s,baz=93,slow=38						
CTA	**Charters Tower**	**18.26**	**163**	*e*P	**Pn**	**05 43 25.0**	**+4.2**
CTA				LR	LR	05 50 35.0	
CTAO	**Charters Tower**	**18.26**	**163**	*e*P	**Pn**	**05 43 21.4**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,18nm,1.0s						
CTAO	**Charters Tower**	**18.26**	**163**	*e*P	**Pn**	**05 43 21.4**	**+0.6**
	comp=Z,18nm,1.0s						
WB2	**Warramunga Arr**	**18.26**	**199**	*e*P	**Pn**	**05 43 19.7**	**-1.1**
WB2				*e*S	**Sn**	**05 46 50.2**	**+6.4**
WRA	**Warramunga Arr**	**18.26**	**199**	P	**Pn**	**05 43 20.0**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=25,slow=12,SNR=53						
WRA				S	**Sn**	**05 46 42.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=13,slow=22,SNR=5.3						
WRA	**Warramunga Arr**	**18.26**	**199**	*i* P	**Pn**	**05 43 19.5**	**-1.4**
WRA				pmax	pmax		
	comp=Z,22nm,0.7s						
HNR	**Honiara**	**20.46**	**110**	P	**P**	**05 43 43.6**	**-1.3**
	comp=Z,224nm,0.7s,baz=65,slow=2.4,SNR=6.3						
FITZ	**Fitzroy Crossi**	**21.22**	**222**	*e*P	**P**	**05 43 53.3**	**+0.2**
	comp=Z,65nm,1.2s,mb4.8						
FITZ				*e*S	**S**	**05 47 47.5**	**0.0**
FITZ	**Fitzroy Crossi**	**21.22**	**222**	P	**P**	**05 43 52.1**	**-1.0**
	comp=Z,42nm,1.1s,mb4.7,baz=47,slow=12,SNR=21						
FITZ				S	**S**	**05 47 47.7**	**+0.2**
	comp=Z,13nm,0.7s,baz=170,slow=11,SNR=4.5						
FITZ				LR	LR	05 52 56.1	
	comp=Z,2μm,19.5s,MS4.5,baz=42,slow=40						
AS31	**Alice Springs**	**21.90**	**196**	*e*P	**P**	**05 44 01.4**	**+1.0**
AS31				*e*S	**S**	**05 48 00.5**	**-0.3**
ASAR	**Alice Springs**	**21.90**	**196**	P	**P**	**05 44 00.1**	**-0.2**
	comp=Z,25nm,0.7s,mb4.7,baz=31,slow=10,SNR=177						
ASAR				S	**S**	**05 48 00.5**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=13,slow=28,SNR=4.6						
ASAR				LR	LR	05 52 43.7	
	comp=Z,2μm,20.3s,MS4.6,baz=22,slow=38						
ASAR	**Alice Springs**	**21.90**	**196**	P	**P**	**05 44 00.2**	**-0.2**
ASAR				S	**S**	**05 48 00.5**	**-0.3**
ASPA	**Alice Springs**	**21.90**	**196**	*e*P	**P**	**05 44 01.4**	**+1.0**
ASPA				*e*S	**S**	**05 48 00.5**	**-0.3**
TGY	**Tagaytay City**	**25.55**	**311**	P	**P**	**05 44 35.4**	**-0.5**
	comp=Z,108nm,0.3s,baz=164,slow=7.4,SNR=2.1						
KKM	**Kota Kinabalu**	**25.75**	**290**	*e*P	**P**	**05 44 39.8**	**+2.1**
MBWA	**Marble Bar**	**27.39**	**226**	*e*P	**P**	**05 44 52.7**	**+0.2**
	comp=Z,76nm,1.4s,mb5.0						
STKA	**Stephens Creek**	**29.14**	**178**	*e*P	**P**	**05 45 07.6**	**-0.5**
	comp=Z,6.2nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**29.14**	**178**	P	**P**	**05 45 08.0**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.4,baz=355,slow=9.5,SNR=4.8						
STKA				LR	LR	05 56 23.1	
	comp=Z,951nm,21.1s,MS4.4,baz=351,slow=36						
FORT	**Forrest**	**30.40**	**202**	*e*P	**P**	**05 45 19.9**	**+0.6**
	comp=Z,28nm,0.7s,mb5.1						
JOW	**Kunigami**	**31.56**	**339**	LR	LR	05 55 36.2	
	comp=Z,790nm,19.8s,MS4.4,baz=128,slow=31						
DZM	**Mont Dzumac**	**31.76**	**130**	P	**P**	**05 45 32.2**	**+0.9**
	comp=Z,5.6nm,0.8s,mb4.5,baz=108,slow=23,SNR=3.1						
JHJ	**Hachijo jima 2**	**35.53**	**359**	LR	LR	05 57 37.1	
	comp=Z,518nm,19.0s,MS4.3,baz=163,slow=31						
KLBR	**Kellerberrin**	**35.95**	**214**	*e*P	**P**	**05 46 09.4**	**+1.8**
	comp=Z,24nm,1.1s,mb5.0						
QIZ	**Qiongzhong**	**37.05**	**307**	P	**P**	**05 46 15.3**	**-1.7**
QIZ				XP	sP	05 46 30.3	+1.6
QIZ				S	**S**	**05 52 00.3**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,26nm,1.8s,mb4.8						
QIZ				LR	LR		
	comp=N,434nm,15.4s,MS4.4						
QIZ				LR	LR		
	comp=E,286nm,19.3s,MS4.4						
QIZ				LR	LR		
	comp=Z,555nm,14.8s,MS4.5						
NWAO	**Narrogin (SRO)**	**37.24**	**213**	P	**P**	**05 46 18.9**	**+0.3**
	comp=Z,15nm,0.9s,mb4.8,baz=54,slow=13,SNR=5.1						
NWAO	**Narrogin (SRO)**	**37.24**	**213**	P	**P**	**05 46 18.9**	**+0.3**
SSE	**Sheshan**	**38.24**	**333**	*e*P	**P**	**05 46 25.5**	**-1.6**
SSE				AP	pP	05 46 35.0	-0.4
SSE				XP	sP	05 46 38.3	-0.5
SSE				S	**S**	**05 52 15.8**	**-3.3**
SSE				SCS	ScS	05 56 34.8	-1.8
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,46nm,3.7s						
SSE				LR	LR		
	comp=N,473nm,18.6s,MS4.4						
SSE				LR	LR		
	comp=E,223nm,18.6s,MS4.4						
SSE				LR	LR		
	comp=Z,623nm,19.6s,MS4.4						
SSE	**Sheshan**	**38.24**	**333**	*e*P	**P**	**05 46 25.5**	**-1.6**
	comp=Z,33nm,0.7s,mb5.2						
SSE				pP	pP	05 46 35.0	-0.4
SSE				sP	sP	05 46 38.3	-0.5
SSE				S	**S**	**05 52 15.8**	**-3.3**
SSE				sS	sS	05 52 30.4	-2.4
SSE				ScS	ScS	05 56 34.7	-1.9
SSE				LR	LR		
	comp=Z,620nm,19.6s,MS4.4						
MJAR	**Matsushiro Arr**	**39.00**	**357**	P	**P**	**05 46 33.9**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.0,baz=179,slow=9.7,SNR=5.6						
MJAR				LR	LR	06 01 21.5	
	comp=Z,241nm,20.8s,MS4.0,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**39.00**	**357**	P	**P**	**05 46 33.9**	**+0.4**
MJAR				LR	LR	06 01 21.5	
KULM	**Kulim**	**40.60**	**281**	*e*P	**P**	**05 46 45.3**	**-1.5**
WHN	**Wuhan**	**41.35**	**325**	*e*P	**P**	**05 46 52.8**	**-0.2**
KSRS	**Korea Array**	**41.54**	**345**	LR	LR	06 01 10.8	
	comp=Z,373nm,19.1s,MS4.3,baz=167,slow=32						
PSI	**Prapat**	**41.93**	**277**	P	**P**	**05 46 56.9**	**-0.8**
	comp=Z,14nm,0.8s,mb4.6,baz=129,slow=4.5,SNR=13						
GYA	**Guiyang**	**43.64**	**314**	*e*P	**P**	**05 47 14.0**	**+2.4**
GYA				XP	sP	05 47 31.8	+8.5
GYA				PP	PP	05 48 57.8	+4.5
GYA				S	**S**	**05 53 39.8**	**+0.3**
GYA				XS	sS	05 54 00.5	+7.2
GYA				SS	SS	05 56 48.0	-7.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=E,430nm,18.0s,MS4.6						
GYA				LR	LR		
	comp=Z,470nm,18.2s,MS4.4						
NST	**Nakhon Sawan**	**43.88**	**296**	P	**P**	**05 47 13.5**	**0.0**
KMI	**Kunming**	**45.84**	**309**	P	**P**	**05 47 31.1**	**+2.0**
KMI				AP	pP	05 47 41.1	+3.6
KMI				XP	sP	05 47 45.0	+4.1
KMI				PP	PP	05 49 19.3	+2.6
KMI				S	**S**	**05 54 16.3**	**+4.9**
KMI				XS	sS	05 54 35.8	+11
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,143nm,4.3s						
KMI				LR	LR		
	comp=N,300nm,21.2s,MS4.4						
KMI				LR	LR		
	comp=E,323nm,23.2s,MS4.4						
KMI				LR	LR		
	comp=Z,564nm,22.8s,MS4.5						
KMI	**Kunming**	**45.84**	**309**	P	**P**	**05 47 31.1**	**+2.0**
KMI				*PP	pP	05 47 41.1	+3.6
KMI				*SP	sP	05 47 45.0	+4.1
KMI						05 49 19.3	
KMI				S	**S**	**05 54 16.3**	**+4.9**
KMI				*SS	sS	05 54 35.7	+10
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
KMI				MLR	MLR		
	comp=Z,560nm,22.8s,MS4.5						
KMI	**Kunming**	**45.84**	**309**	P	**P**	**05 47 31.1**	**+2.0**
	comp=Z,10.0nm,1.1s,mb4.7						
KMI				pP	pP	05 47 41.1	+3.6
KMI				sP	sP	05 47 45.0	+4.1
KMI				PP	PP	05 49 19.3	+2.6
KMI				S	**S**	**05 54 16.3**	**+4.9**
KMI				sS	sS	05 54 35.7	+10
KMI				SS	SS	05 57 34.1	-2.0
KMI				LR	LR		
	comp=Z,560nm,22.8s,MS4.5						
CHG	**Chiang Mai**	**46.10**	**299**	⇑P	**P**	**05 47 32.2**	**+1.0**
	comp=Z,14nm,1.3s,mb4.7						
CHTO	**Chiang Mai**	**46.10**	**299**	*e*P	**P**	**05 47 30.5**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
CHTO	**Chiang Mai**	**46.10**	**299**	*e*P	**P**	**05 47 30.5**	**-0.7**
	comp=Z,20nm,1.4s,mb4.9						
XAN	**Xi'an**	**47.05**	**324**	P	**P**	**05 47 37.9**	**-0.7**
XAN				PP	PP	05 49 26.3	-3.1
XAN				S	**S**	**05 54 24.4**	**-4.3**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
XAN				LR	LR		
	comp=N,185nm,17.6s,MS4.3						
XAN				LR	LR		
	comp=E,226nm,18.3s,MS4.3						
XAN				LR	LR		
	comp=Z,422nm,24.4s						
BJT	**Baijiatuau**	**47.93**	**335**	*e*P	**P**	**05 47 45.6**	**+0.1**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**47.93**	**335**	*e*P	**P**	**05 47 45.6**	**+0.1**
	comp=Z,5.4nm,0.4s,mb4.9						
BJI	**Beijing**	**47.95**	**335**	PP	PP	05 49 33.9	-3.7
BJI				S	**S**	**05 54 42.7**	**+1.2**
BJI				SS	SS	05 58 12.8	+2.5
BJI				LR	LR		
	comp=Z,580nm,20.0s,MS4.5						
MDJ	**Mudanjiang**	**48.01**	**350**	P	**P**	**05 47 47.9**	**+1.8**
MDJ				AP	pP	05 47 59.3	+4.8
MDJ				XP	sP	05 48 04.3	+6.4
MDJ				PCP	PcP	05 49 15.3	+1.5
MDJ				PP	PP	05 49 40.6	+2.3
MDJ				S	**S**	**05 54 43.9**	**+1.5**
MDJ				XS	sS	05 55 03.1	+6.8
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,50nm,4.3s						
MDJ				LR	LR		
	comp=N,193nm,21.7s,MS4.5						
MDJ				LR	LR		
	comp=E,488nm,23.9s,MS4.5						
MDJ				LR	LR		
	comp=Z,403nm,20.9s,MS4.4						
CD2	**Chengdu**	**48.34**	**316**	*e*P	**P**	**05 47 50.0**	**+1.4**
CD2				AP	pP	05 48 02.4	+5.4
CD2				XP	sP	05 48 07.8	+7.4
CD2				PP	PP	05 49 42.0	+0.8
CD2				S	**S**	**05 54 45.3**	**-1.6**
CD2				XS	sS	05 55 07.5	+6.6
CD2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
CD2				AMB	AMB		
	comp=Z,50nm,6.2s						
CD2				LR	LR		
	comp=N,510nm,18.0s,MS4.8						
CD2				LR	LR		
	comp=E,830nm,19.2s,MS4.8						
CD2				LR	LR		
	comp=Z,670nm,20.4s,MS4.6						
AFI	**Afiamalu**	**48.42**	**106**	LR	LR	06 06 43.4	
	comp=Z,614nm,18.6s,MS4.6,baz=253,slow=34						
URZ	**Urewera**	**48.75**	**141**	P	**P**	**05 47 51.9**	**+0.1**
	comp=Z,18nm,0.8s,mb5.2,baz=300,slow=5.1,SNR=9.9						
RPZ	**Rata Peaks**	**49.08**	**151**	P	**P**	**05 47 54.7**	**+0.4**
	comp=Z,65nm,0.9s,mb5.7,baz=0.2,slow=14,SNR=17						
YSS	**Yuzh-Sakhalins**	**49.38**	**2**	*e*P	**P**	**05 47 55.0**	**-1.6**
YSS				pmax	pmax		
	comp=Z,65nm,2.3s,mb5.2						
HHC	**Hu-ho-hao-te**	**50.68**	**332**	*e*P	**P**	**05 48 07.3**	**+0.9**
HHC				PCP	PcP	05 49 21.0	-2.5
HHC				PP	PP	05 50 05.3	+2.8
HHC				PCS	PcS	05 53 21.8	+0.9
HHC				S	**S**	**05 55 26.1**	**+6.4**
HHC				SCS	ScS	05 57 54.0	-1.3
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,194nm,5.1s						
HHC				LR	LR		
	comp=N,451nm,18.0s,MS4.7						
HHC				LR	LR		
	comp=E,471nm,18.8s,MS4.7						
HHC				LR	LR		
	comp=Z,565nm,18.6s,MS4.6						
LZH	**Lanzhou**	**51.50**	**322**	*e*P	**P**	**05 48 13.8**	**+1.2**
LZH				AP	pP	05 48 24.8	+3.7
LZH				XP	sP	05 48 29.4	+4.9
LZH				AMB	AMB		
	comp=Z,64nm,1.7s,mb5.3						
LZH				AMB	AMB		
	comp=Z,144nm,4.7s						
LZH				LR	LR		
	comp=N,896nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,15.4s,MS5.0						
LZH	**Lanzhou**	**51.50**	**322**	*e*P	**P**	**05 48 13.8**	**+1.2**
	comp=Z,64nm,1.7s,mb5.3						
LZH				pP	pP	05 48 24.7	+3.6
LZH				sP	sP	05 48 29.4	+4.9
LZH				LR	LR		
	comp=Z,1μm,15.4s,MS5.0						
KLR	**Kul'dur**	**52.18**	**353**	*e*P	**P**	**05 48 13.7**	**-4.0**
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.1						
LSA	**Lhasa**	**57.06**	**308**	P	**P**	**05 48 52.6**	**-0.5**
LSA	**Lhasa**	**57.06**	**308**	*e*P	**P**	**05 48 53.7**	**+0.6**
SONM	**Songino Array**	**58.41**	**334**	P	**P**	**05 49 01.6**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=157,slow=4.8,SNR=6.5						
SONM				LR	LR	06 12 59.8	
	comp=Z,529nm,19.7s,MS4.7,baz=78,slow=35						
CIT	**Chita**	**59.02**	**341**	*e*P	**P**	**05 49 06.5**	**-0.3**
CIT				*e*	pP	05 49 15.1	-0.4
CIT				*e*		05 49 51.0	
CIT				pmax	pmax		
	comp=Z,57nm,2.0s,mb5.2						
ZAK	**Zakamensk**	**61.67**	**334**	*e*P	**P**	**05 49 23.4**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
TLY	**Talaya**	**62.47**	**335**	*e*P	**P**	**05 49 30.5**	**+0.2**
TLY				*e*S	**S**	**05 57 46.1**	**-10**
TLY				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
TLY				MLR	MLR		
	comp=Z,392nm,19.0s,MS4.6						
BOD	**Bodaibo**	**63.88**	**345**	*e*P	**P**	**05 49 37.7**	**-1.9**
YAK	**Yakutsk**	**64.99**	**354**	*e*P	**P**	**05 49 46.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.3						
SEY	**Seymchan**	**65.97**	**6**	*e*P	**P**	**05 49 52.7**	**-0.6**
WMQ	**Urumqi**	**66.06**	**321**	P	**P**	**05 49 54.3**	**+0.5**
WMQ				PP	PP	05 52 22.0	+2.6
WMQ				S	S	05 58 36.0	-4.2
WMQ

MKAR LR LR 06 21 39.1
MIR Mirnyy 71.86 198 *d iP* **P 05 50 31.0 +1.1**
MIR *i* pP 05 50 40.0 +1.4
MIR *i* 05 50 55.0
MIR pmax pmax
comp=Z,120nm,1.5s,mb5.6
BILL Bilibino 72.74 10 *eP* **P 05 50 36.4 +1.3**
BILL *e* 05 50 52.0
BILL pmax pmax
comp=Z,13nm,1.8s,mb4.6
ZAL Zalesovo 72.77 329 P **P 05 50 35.3 0.0**
comp=Z,2.7nm,0.3s,mb4.6,baz=58,slow=6.1,SNR=4.7
ZAL LR LR 06 21 12.8
comp=Z,128nm,22.0s,MS4.2,baz=165,slow=35
FRU Bishkek 74.37 316 *eP* **P 05 50 45.0 +0.3**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
AAK Ala-Archa 74.39 316 P **P 05 50 45.6 +0.8**
SNR=6.7
AAK Ala-Archa 74.39 316 *eP* **P 05 50 44.3 -0.5**
AAK pmax pmax
comp=Z,12nm,1.6s,mb4.6
AAK Ala-Archa 74.39 316 *eP* **P 05 50 44.7 -0.2**
comp=Z,9.4nm,1.2s,mb4.6
TIXI Tiksi 74.51 356 *eP* **P 05 50 40.8 -4.7**
TIXI pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
VNDA Vanda 75.73 175 P **P 05 50 52.3 -0.2**
comp=Z,3.6nm,0.5s,mb4.6,baz=326,slow=6.5,SNR=51
VNDA LR LR 06 23 32.2
comp=Z,371nm,18.0s,MS4.7,baz=346,slow=35
VNDA Vanda 75.73 175 *eP* **P 05 50 52.5 -0.1**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA Vanda 75.73 175 *eP* **P 05 50 52.5 -0.1**
comp=Z,6.6nm,0.8s,mb4.6
TAOE Nuku Hiva Isla 79.06 98 *e*LR LR 06 15 56.0
comp=Z,1μm,22.2s
KDAK Kodiak Island 80.10 30 P **P 05 51 15.1 -1.8**
comp=Z,12nm,0.8s,mb4.9,baz=114,slow=15,SNR=5.2
KDAK Kodiak Island 80.10 30 P **P 05 51 15.1 -1.8**
BVAR Borovoye Array 80.27 325 LR LR 06 30 54.5
comp=Z,226nm,18.8s,MS4.5,baz=321,slow=39
CHKZ Chkalovo 80.33 325 *eP* **P 05 51 17.4 -0.7**
CHKZ pmax pmax
comp=Z,27nm,1.3s,mb5.0
CHKZ Chkalovo 80.33 325 *eP* **P 05 51 17.4 -0.7**
comp=Z,27nm,1.3s,mb5.0
BRVK Borovoye 80.34 325 P **P 05 51 18.1 0.0**
SNR=13
BRVK Borovoye 80.34 325 *eP* **P 05 51 17.9 -0.2**
BRVK pmax pmax
comp=Z,100nm,1.8s,mb5.4
BRVK Borovoye 80.34 325 *eP* **P 05 51 17.9 -0.3**
comp=Z,100nm,1.8s,mb5.4
ZRNK Zerenda 81.04 324 *eP* **P 05 51 21.4 -0.5**
ZRNK pmax pmax
comp=Z,23nm,1.2s,mb5.0
ZRNK Zerenda 81.04 324 *eP* **P 05 51 21.4 -0.5**
comp=Z,23nm,1.2s,mb5.0
IMA2 Indian Mountai 82.76 22 *eP* **P 05 51 33.1 +2.2**
MAW Mawson 82.91 202 *eP* **P 05 51 31.3 -0.4**
comp=Z,3.3nm,1.0s,mb4.3
MAW Mawson 82.91 202 P **P 05 51 31.4 -0.3**
comp=Z,7.5nm,1.2s,mb4.6,baz=73,slow=9.5,SNR=4.5
MAW LR LR 06 30 07.1
comp=Z,377nm,18.1s,MS4.8,baz=71,slow=37
MAW Mawson 82.91 202 *eP* **P 05 51 31.3 -0.4**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MCK McKinley 83.82 25 *eP* **P 05 51 34.7 -1.7**
MCK pmax pmax
comp=Z,25nm,1.6s,mb5.1
MCK McKinley 83.82 25 *eP* **P 05 51 34.6 -1.7**
comp=Z,25nm,1.6s,mb5.1
RKT Rikitea 83.93 113 *e*LR LR 06 18 15.7
comp=Z,221nm,22.0s
BIDO Bidbid 84.06 294 P **P 05 51 39.7 +2.1**
SNR=6.2
HOQ Hoqain 84.82 294 P **P 05 51 42.9 +1.4**
SNR=9.9
ARQ Araqi 85.52 294 P **P 05 51 45.5 +0.5**
SNR=6.1
RBK Rabkut 87.27 288 P **P 05 51 54.5 +0.9**
SNR=5.5
QSPA South Pole Qui 87.34 180 *eP* **P 05 51 54.0 +0.1**
comp=Z,12nm,0.9s,mb5.1
ARU Arti 87.70 327⇑ *iP* **P 05 51 54.8 -0.8**
ARU *e* 05 55 19.2
ARU *e*S SKSac 06 02 19.0 -2.8
ARU *e*SS SS 06 08 15.2 -7.2
ARU pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
ARU Arti 87.70 327 *eP* **P 05 51 55.4 -0.3**
DAWY Dawson 87.99 26 *eP* **P 05 51 56.7 -0.3**
INK Inuvik 90.90 22 *eP* **P 05 52 09.8 -0.9**
comp=Z,330nm,1.2s
YKA Yellowknife Ar 99.15 27 LR LR 06 34 39.0
comp=Z,325nm,21.7s,MS4.8,baz=225,slow=34
WVOR Wild Horse Val 99.75 48 *eP* Pdif 05 52 52.8 +1.8
WVOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
WVOR Wild Horse Val 99.75 48 *eP* Pdif 05 52 52.8 +1.8
comp=Z,1.5nm,0.8s
OBN Obninsk 100.10 326 P Pdif 05 52 44.0 -8.5
OBN *e* 06 11 36.7
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.7
ANN Anapa 101.11 315 *eP* Pdif 05 52 55.4 -1.6
ANN pmax pmax
comp=Z,55nm,1.3s
PLCA Paso Flores 128.38 150 PKP PKPdf 05 58 16.0 +2.5
comp=Z,1.8nm,0.8s,baz=183,slow=12,SNR=3.9
TORD Torodi Ar. Bea 137.97 287 PKhKP 05 58 23.4
comp=Z,0.6nm,0.8s,baz=22,slow=3.0,SNR=3.3
TORD PKP PKPdf 05 58 32.3 +0.8
comp=Z,0.8nm,0.9s,baz=60,slow=3.6,SNR=3.6
TORD Torodi Ar. Bea 137.97 287 PKP 05 58 23.4
TORD PKP PKPdf 05 58 32.3 +0.8
OTAV Otavalo 140.97 93 *e*PKPdf PKPdf 05 58 39.7 +2.7
ROSC El Rosal 145.15 85 PKP PKPdf 05 58 45.5 +1.1
comp=Z,3.4nm,0.6s,baz=267,slow=23,SNR=4.5
LPAZ La Paz 146.03 124 PKPbc PKPbc 05 58 49.1 +2.4
comp=Z,6.8nm,0.7s,baz=264,slow=3.2,SNR=38
LPAZ La Paz 146.03 124 *e*PKPbc PKPbc 05 58 49.1 +2.4
CPUP Villa Florida 146.46 150 PKPbc PKPbc 05 58 49.4 +1.4
comp=Z,3.3nm,0.5s,baz=200,slow=2.5,SNR=18
CPUP Villa Florida 146.46 150 *e*PKPbc PKPbc 05 58 49.1 +1.1
SDV Santo Domingo 148.39 77 *e*PKPbc PKPbc 05 58 54.3 +0.9
SAML Samuel 153.73 116 *e*PKPbc PKPbc 05 59 06.7 +0.8
BDFB Brasilia 160.00 155 PKPab PKPab 05 59 46.7 +1.0
comp=Z,1.9nm,0.5s,baz=318,slow=5.8,SNR=5.0

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*BJI **20** 06:12:24.5, 1108N×9280E, h40km, mB4.7, mb4.5*
*IDC **20** 06:12:25.1±0.8, 1169N×9284E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=40.1km s-min=15.8km az=51.0*
*ISCJB **20** 06:12:26.7±0.8, 1160N±007×9282E±007, h23km±4km, mb4.1/19, Error ellipse: s-maj=12.2km s-min=10.7km az=102.8*
*NEIC **20** 06:12:29.5±0.7, 1159N×9270E, h30km, mb4.5/2, Error ellipse: s-maj=21.0km s-min=13.9km az=52.0*
ISC 20 06:12:28.3±0.9, 1157N±007×9279E±006, h19km±4km, n34, σ1§17/39, mb4.1/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.10**	**331**	*eP*	**Pg**	**06 12 29.0**	**-3.1**
PBA				*e*S	**Sg**	**06 12 35.1**	**+0.5**
PBA				*e*S	**Sg**	**06 12 35.1**	**+0.5**
BDT	**Bhumibol Dam**	**8.25**	**46**	P	**Pn**	**06 14 29.0**	**+2.0**
CHG	**Chiang Mai**	**9.33**	**39**	PG	**Pn**	**06 14 41.5**	**-0.3**
CHTO	**Chiang Mai**	**9.33**	**39**	*e*Pn	**Pn**	**06 14 44.0**	**+2.2**
	11nm,0.6s						
VIS	**Vishakhapatnam**	**11.01**	**305**	*eP*	**Pn**	**06 15 05.8**	**+1.0**
VIS				*e*S	**Sn**	**06 16 58.1**	**-9.3**
BOK	**Bokaro**	**13.82**	**333**	*eP*	**Pn**	**06 15 43.4**	**+0.2**
BOK				AMb	AMB	06 15 55.4	
	comp=Z,7.8nm,0.6s						
BOK				*ex*	x	06 18 09.0	
SHL	**Shillong**	**13.95**	**357**	*eP*	**Pn**	**06 15 45.0**	**0.0**
SHL				*eP*		06 15 45.4	
SHL				*e*S	**Sn**	**06 18 20.2**	**+1.0**
PKI	**Pulchoki**	**17.36**	**338**	*eP*	**Pn**	**06 16 38.7**	**+9.2**
KKN	**Kakani**	**17.61**	**337**	*eP*	**Pn**	**06 16 40.1**	**+7.5**
	comp=Z,7.7nm,0.5s						
GKN	**Gorkha**	**18.05**	**336**	*eP*	**Pn**	**06 16 42.8**	**+4.8**
	comp=Z,15nm,0.3s						
KOLN	**Koldanda**	**18.28**	**333**	*eP*	**Pn**	**06 16 47.3**	**+6.5**
	comp=Z,17nm,0.7s						
BHPL	**Bhopal**	**18.68**	**310**	*eP*	**Pn**	**06 16 46.5**	**+0.8**
BHPL				AMb	AMB	06 16 50.9	
	comp=Z,12nm,0.9s						
BHPL				*e*S	**Sn**	**06 20 13.9**	**-0.2**
GYA	**Guiyang**	**19.75**	**39**	P	**Pn**	**06 16 57.8**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2	**Chengdu**	**21.76**	**26**	*eP*	**P**	**06 17 17.8**	**-1.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.0						
LZH	**Lanzhou**	**26.38**	**20**	*eP*	**P**	**06 18 07.0**	**+3.6**
LZH				AP	pP	06 18 11.5	+2.4
LZH				XP	sP	06 18 15.1	+3.7
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.5						
LZH	**Lanzhou**	**26.38**	**20**	*eP*	**P**	**06 18 07.0**	**+3.6**
LZH				pP	pP	06 18 11.5	+2.4
LZH				sP	sP	06 18 15.1	+3.7
XAN	**Xi'an**	**26.78**	**31**	P	**P**	**06 18 04.5**	**-2.6**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.5						
GTA	**Gaotai**	**28.42**	**11**	*eP*	**P**	**06 18 22.3**	**+0.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.0						
MKAR	**Makanchi Array**	**36.22**	**348**	P	**P**	**06 19 29.8**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=170,slow=8.1,SNR=7.5						
SONM	**Songjino Array**	**37.91**	**15**	P	**P**	**06 19 42.8**	**-1.6**
	comp=Z,2.3nm,0.7s,mb4.0,baz=196,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**43.82**	**132**	P	**P**	**06 20 35.1**	**+2.0**
	comp=Z,1.1nm,0.7s,mb3.7,baz=46,slow=17,SNR=6.8						
BVAR	**Borovoye Array**	**45.08**	**341**	P	**P**	**06 20 42.7**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.9,baz=145,slow=8.2,SNR=8.7						
ZRNK	**Zerenda**	**45.47**	**340**	P	**P**	**06 20 42.7**	**-3.5**
	comp=Z,3.1nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**45.57**	**342**	*eP*	**P**	**06 20 47.3**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**51.51**	**127**	P	**P**	**06 21 32.1**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=300,slow=10,SNR=22						
ASAR	**Alice Springs**	**53.32**	**131**	P	**P**	**06 21 46.5**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=304,slow=6.8,SNR=6.4						
BRTR	**Keskin Array B**	**59.04**	**309**	P	**P**	**06 22 27.1**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=137,slow=8.5,SNR=5.6						
AKASG	**Malin Array Be**	**64.46**	**321**	P	**P**	**06 23 01.9**	**-1.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=93,slow=4.6,SNR=5.6						
JOF	**Joensuu**	**66.96**	**334**	*ep*	**P**	**06 23 19.8**	**+0.1**
FINES	**FINESS Array B**	**68.84**	**332**	P	**P**	**06 23 30.6**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=108,slow=6.2,SNR=4.8						
GERES	**GERESS Array B**	**74.21**	**318**	P	**P**	**06 24 04.1**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=77,slow=6.0,SNR=10						
NOA	**NORSAR Array B**	**75.88**	**330**	P	**P**	**06 24 11.7**	**-1.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=92,slow=5.7,SNR=3.3						
LPG	**La Plagne**	**79.09**	**314**	*eP*	**P**	**06 24 32.5**	**+1.0**
	comp=Z,18nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**88.47**	**283**	P	**P**	**06 25 20.9**	**+1.5**
	comp=Z,0.4nm,0.8s,mb3.7,baz=82,slow=4.2,SNR=3.5						

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*IDC **20** 06:21:37.4±0.8, 1576N×9724W, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/25, mbtmp4.2/19, ML3.5/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/26, Error ellipse: s-maj=16.3km s-min=13.9km az=48.0*
*NEIC **20** 06:21:39.3, 1557N×9730W, h10km, mb4.7/42, MD4.7(MEX), After MEX.*
*BJI **20** 06:21:39.3, 1560N×9730W, h9km, mB5.4, Ms4.9, Msz4.6*
*MEX **20** 06:21:39.3±0.9, 1553N×9737W, h13km±10km, MD4.7*
*ISCJB **20** 06:21:40.1±0.3, 1577N±003×97.13W±002, h18km, mb4.5/46, MS4.2/4, Error ellipse: s-maj=4.3km s-min=3.1km az=43.5*
ISC 20 06:21:42.4±0.3, 1584N±003×9700W±003, h19km, h19km±.4km: pP-P, n285, σ0§88/315, mb4.5/46, MS4.2/4, 77C-57D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.86**	**95**⇑	*iP*	**Pb**	**06 21 57.9**	**-0.8**
HUIG				*i* S	**Sb**	**06 22 13.9**	**+4.0**
HUIG	**Huatulco**	**0.86**	**95**⇑	*iP*	**Pb**	**06 21 57.9**	**-0.8**
HUIG				*e*S	**Sb**	**06 22 12.5**	**+2.6**
PNIG	**Pinotepa**	**1.22**	**297**⇑	*eP*	**Pn**	**06 21 57.7**	**-6.7**
PNIG				*e*S	**Sb**	**06 22 10.7**	**-9.4**
VHO	**Vista Hermosa**	**1.25**	**12**⇑	*iP*	**Pn**	**06 22 04.2**	**-0.6**
VHO				*i* S	**Sb**	**06 22 24.3**	**+3.2**
VHO	**Vista Hermosa**	**1.25**	**12**⇑	*iP*	**Pn**	**06 22 04.2**	**-0.6**
VHO				*e*S	**Sb**	**06 22 24.2**	**+3.1**
OXX	**Oaxaca**	**1.26**	**12**	*i P*	**Pn**	**06 22 04.8**	**-0.3**
OXX				*i P*		06 22 05.0	
OXX				*i* S	**Sn**	**06 22 23.8**	**+2.4**
OXX	**Oaxaca**	**1.26**	**12**	*i P*	**Pn**	**06 22 05.0**	**0.0**
UTMO	**Huajuapan**	**2.12**	**339**	*eP*	**Pn**	**06 22 14.5**	**-2.3**
UTMO				*i* S	**Sn**	**06 22 41.7**	**-1.0**
CMIG	**Matias Romero**	**2.38**	**58**	Pn	**Pn**	**06 22 20.4**	**0.0**
	27nm,0.3s,baz=244,slow=10,SNR=194						
CMIG				Pg	**Pg**	**06 22 26.2**	**-1.9**
	135nm,0.3s,baz=241,slow=15,SNR=55						
CMIG				Sn	**Sn**	**06 22 54.0**	**+5.0**
	121nm,0.3s,baz=246,slow=7.9,SNR=7.5						
CMIG				Lg		06 23 01.4	
	345nm,0.3s,baz=185,slow=6.6,SNR=13						
CMIG	**Matias Romero**	**2.38**	**58**	*i P*	**Pn**	**06 22 19.9**	**-0.5**
CMIG				*i* S	**Sn**	**06 22 56.6**	**+7.6**
CMIG	**Matias Romero**	**2.38**	**58**	Pn	**Pn**	**06 22 20.4**	**0.0**
CMIG				Pg	**Pg**	**06 22 26.2**	**-1.9**
CMIG				Sn	**Sn**	**06 22 54.0**	**+5.0**
CMIG				*i* S	**Sn**	**06 22 54.2**	**+5.2**
CMIG				Lg		06 23 01.4	
TPIG	**Tehuac#an**	**2.59**	**352**	*eP*	**Pn**	**06 22 22.4**	**-0.8**
TPIG				*i* S	**Sn**	**06 22 55.4**	**+1.3**
ACX	**Acapulco**	**2.98**	**290**	*eP*	**Pn**	**06 22 21.2**	**-7.5**
ACX				*i* S	**Sn**	**06 22 50.9**	**-13**
ACX	**Acapulco**	**2.98**	**290**	*i P*	**Pn**	**06 22 25.0**	**-3.7**
ACX				*i* S	**Sn**	**06 22 58.0**	**-5.9**
MEIG	**Mezcala**	**3.25**	**310**	*eP*	**Pn**	**06 22 27.0**	**-5.4**
MEIG				*i* S	**Sn**	**06 23 04.5**	**-6.1**
TUIG	**Tuzandepetl**	**3.29**	**48**	*eP*	**Pn**	**06 22 31.6**	**-1.3**
TUIG				*i* S	**Sn**	**06 23 16.6**	**+5.1**
CAIG	**El Cayaco**	**3.36**	**291**	*eP*	**Pn**	**06 22 27.0**	**-6.8**
CAIG				*i* S	**Sn**	**06 23 01.4**	**-12**
CAIG	**El Cayaco**	**3.36**	**291**	*eP*	**Pn**	**06 22 27.5**	**-6.3**
CAIG				*i* S	**Sn**	**06 23 06.1**	**-7.1**
PLIG	**Platanillo**	**3.49**	**317**	*eP*	**Pn**	**06 22 31.8**	**-3.8**
PLIG				*i* S	**Sn**	**06 23 12.0**	**-4.4**
PLIG	**Platanillo**	**3.49**	**317**	*eP*	**Pn**	**06 22 32.5**	**-3.1**
PLIG				*i* S	**Sn**	**06 23 12.7**	**-3.6**
PPM	**Popocatepetl**	**3.56**	**334**	*eP*	**Pn**	**06 22 33.7**	**-3.0**
PPM				*eP*		06 22 35.8	
PPM				*i* S	**Sn**	**06 23 16.7**	**-1.6**
PPM				*i* S	**Sn**	**06 23 20.0**	**+1.7**
PPM	**Popocatepetl**	**3.56**	**334**	*eP*	**Pn**	**06 22 38.0**	**+1.4**
PPM				*i* S	**Sn**	**06 23 20.0**	**+1.7**
PPM				*i* S	**Sn**	**06 23 22.2**	**+3.9**
YAIG	**Yautepec**	**3.59**	**327**	*eP*	**Pn**	**06 22 34.5**	**-2.6**
YAIG				*i* S	**Sn**	**06 23 17.3**	**-1.7**
YAIG	**Yautepec**	**3.59**	**327**	*eP*	**Pn**	**06 22 34.5**	**-2.6**
YAIG				*i* S	**Sn**	**06 23 18.1**	**-1.0**
LVIG	**Laguna Verde**	**3.90**	**8**	*eP*	**Pn**	**06 22 42.4**	**+1.1**
LVIG				*i* S	**Sn**	**06 23 30.3**	**+3.8**
UNM	**Universidad Na**	**4.04**	**329**	*eP*	**Pn**	**06 22 40.3**	**-3.0**
UNM				*i* S	**Sn**	**06 23 28.0**	**-2.1**
UNM	**Universidad Na**	**4.04**	**329**	*eP*	**Pn**	**06 22 41.3**	**-2.0**
UNM				*i* S	**Sn**	**06 23 29.7**	**-0.3**
IIO	**Organos**	**4.08**	**336**	*eP*	**Pn**	**06 22 45.6**	**+1.9**
IIO				*i* S	**Sn**	**06 23 30.7**	**-0.1**
SZVM	**Salazar**	**4.14**	**327**	*eP*	**Pn**	**06 22 40.6**	**-4.0**
SZVM				*i* S	**Sn**	**06 23 31.1**	**-1.4**
ZIIG	**Zihuatanejo**	**4.62**	**293**	*i* S	**Sn**	**06 23 33.7**	**-11**
ZIIG	**Zihuatanejo**	**4.62**	**293**	*i* S	**Sn**	**06 23 38.1**	**-6.3**
CCIG	**Comitan**	**4.70**	**84**	*eP*	**Pn**	**06 22 53.3**	**+1.0**
CCIG				*i* S	**Sn**	**06 23 49.1**	**+3.0**
CCIG	**Comitan**	**4.70**	**84**	*eP*	**Pn**	**06 22 54.4**	**+2.2**
CCIG				*i* S	**Sn**	**06 23 51.1**	**+5.0**
MOIG	**Morelia**	**5.52**	**314**	*eP*	**Pn**	**06 22 58.7**	**-4.9**
MOIG				*i* S	**Sn**	**06 24 01.6**	**-4.9**
MOIG	**Morelia**	**5.52**	**314**	*eP*	**Pn**	**06 23 00.7**	**-2.9**
MOIG				*i* S	**Sn**	**06 24 02.6**	**-3.9**
MMIG	**Aquila**	**6.54**	**293**	*eP*	**Pn**	**06 23 13.7**	**-3.9**
MMIG				*i* S	**Sn**	**06 24 25.2**	**-6.4**
SFJM	**Santa Fe**	**7.37**	**310**	*i P*	**Pn**	**06 23 30.0**	**+1.1**
ZAIG	**Zacatecas**	**8.67**	**324**	*eP*	**Pn**	**06 23 48.9**	**+2.2**
ZAIG				*i* S	**Sn**	**06 25 24.2**	**+0.3**
ANIG	**Ahuacatlan**	**8.82**	**307**	*eP*	**Pn**	**06 23 44.8**	**-4.1**
ANIG				*i* S	**Sn**	**06 25 22.9**	**-4.8**
LNIG	**Linares**	**9.30**	**346**	*eP*	**Pn**	**06 23 56.7**	**+1.2**
LNIG				*i* S	**Sn**	**06 25 40.0**	**+0.4**
TEIG	**Tepich**	**9.37**	**61**	*i P*	**Pn**	**06 23 54.7**	**-1.7**
TEIG				*i* S	**Sn**	**06 25 42.4**	**+1.1**
TEIG	**Tepich**	**9.37**	**61**	*e*Pn	**Pn**	**06 23 53.8**	**-2.6**
TEIG				*e*Sn	**Sn**	**06 25 36.8**	**-4.5**
TEIG				*i* S	**Sn**	**06 25 38.6**	**-2.6**
TXAR	**Lajitas Array**	**14.77**	**337**	Pn	**Pn**	**06 25 09.9**	**-0.2**
	0.0nm,0.3s,baz=153,slow=14,SNR=10.0						
TXAR				Lg		06 29 30.9	
	0.0nm,0.3s,baz=141,slow=32,SNR=3.3						
JCT	**Junction City**	**14.79**	**350**	*e*Pn	**Pn**	**06 25 11.0**	**+0.5**
	23nm,0.8s						
NATX	**Nacogdoches**	**15.99**	**7**	*eP*	**Pn**	**06 25 29.4**	**+3.2**
	15nm,0.6s						
MNTX	**Cornudas Mount**	**17.54**	**336**	*e*Pn	**Pn**	**06 25 45.3**	**-0.5**
	12nm,0.9s						
GDL2	**Guadalupe Moun**	**17.61**	**339**	*e*Pn	**Pn**	**06 25 47.0**	**+0.4**
WMOK	**Wichita Mounta**	**18.89**	**355**	*eP*	**Pn**	**06 26 00.3**	**-2.0**
	5.8nm,0.7s						
UALR	**University of**	**19.31**	**12**	*eP*	**Pn**	**06 26 06.1**	**-1.3**
	27nm,0.8s						
AMTX	**Amarillo**	**19.42**	**348**	*eP*	**Pn**	**06 26 07.2**	**-1.5**
	13nm,0.6s						
OXF	**Oxford**	**19.80**	**19**	*eP*	**Pn**	**06 26 11.1**	**-2.2**
	56nm,0.9s						
Y22C	**IRIS PASSCAL I**	**20.24**	**336**	⇑P	**P**	**06 26 16.9**	**+0.5**
	baz=20						
LPM	**Los Pinos Moun**	**20.33**	**337**	*eP*	**P**	**06 26 18.2**	**+0.8**
LENM	**Lemitar**	**20.34**	**336**	*eP*	**P**	**06 26 18.7**	**+1.2**
LENM				*ep*P		06 26 22.9	
HBAR	**Harrisburg**	**20.43**	**15**	*eP*	**P**	**06 26 18.5**	**-0.1**
LAZ	**Ladron**	**20.61**	**336**	*eP*	**P**	**06 26 21.5**	**+1.1**
TUC	**Tucson**	**20.63**	**325**	*eP*	**P**	**06 26 21.6**	**+0.9**
	6.4nm,0.9s						
PLAL	**Pickwick Lake**	**20.67**	**21**	*eP*	**P**	**06 26 20.1**	**-1.0**
	23nm,0.9s						
ANMO	**Albuquerque**	**20.84**	**338**	P	**P**	**06 26 21.1**	**-1.8**
	9.3nm,0.9s,baz=151,slow=12,SNR=28						
ANMO	**Albuquerque**	**20.84**	**338**	*eP*	**P**	**06 26 23.3**	**+0.4**
	17nm,1.1s						
HALT	**Halls**	**21.12**	**17**	*eP*	**P**	**06 26 25.8**	**-0.2**
HALT				*ep*P		06 26 29.4	
116A	**Eloy**	**21.34**	**324**	⇑P	**P**	**06 26 28.2**	**-0.1**
	baz=21,SNR=5.3						
UTMT	**University of**	**21.67**	**18**	*eP*	**P**	**06 26 30.0**	**-1.8**
UTMT				*ep*P		06 26 34.5	
SWET	**Sewanee**	**21.69**	**25**	*eP*	**P**	**06 26 31.3**	**-0.8**
SWET				*ep*P		06 26 35.8	
PARMO	**Parma**	**21.72**	**16**	*eP*	**P**	**06 26 31.9**	**-0.5**
115A	**Sonoran Desert**	**21.74**	**323**	⇑P	**P**	**06 26 32.8**	**+0.2**
	baz=22						
CPCT	**Cooper Cave**	**22.49**	**27**	*eP*	**P**	**06 26 39.0**	**-1.7**
Z14A	**Wintersburg**	**22.63**	**323**	⇑P	**P**	**06 26 41.9**	**-0.2**
	baz=23						
SIUC	**Southern Illin**	**22.85**	**16**	*eP*	**P**	**06 26 45.1**	**+0.7**
	33nm,0.8s,mb4.8						
SIUC				*ep*P		06 26 49.3	
TKL	**Tuckaleechee C**	**23.00**	**28**	P	**P**	**06 26 45.7**	**-0.4**
	11nm,0.8s,mb4.3,baz=194,slow=10,SNR=11						
CBKS	**Cedar Bluff**	**23.01**	**355**	*eP*	**P**	**06 26 45.1**	**-1.0**
	40nm,1.0s,mb4.8						
X15A	**Humboldt**	**23.07**	**326**	⇓P	**P**	**06 26 46.8**	**0.0**
	baz=23,SNR=20						
SDCO	**Great Sand Dun**	**23.08**	**343**	*eP*	**P**	**06 26 46.7**	**-0.1**
	20nm,0.9s,mb4.5						
Y14A	**Wickenburg**	**23.08**	**324**	P	**P**	**06 26 47.0**	**+0.1**
	baz=23,SNR=7.4						
KSU1	**Kansas State U**	**23.17**	**1**	*eP*	**P**	**06 26 47.8**	**-0.1**
	34nm,0.9s,mb4.8						
X14A	**Yava**	**23.41**	**325**	⇓P	**P**	**06 26 50.6**	**+0.2**
	baz=23						
WUAZ	**Wupatki**	**23.43**	**329**	*eP*	**P**	**06 26 51.2**	**+0.5**
	15nm,0.9s,mb4.4						
WUAZ				*ep*P		06 26 56.3	
WUAZ	**Wupatki**	**23.43**	**329**	⇑P	**P**	**06 26 50.8**	**+0.2**
	baz=23,SNR=12						
Y13A	**Salome**	**23.47**	**323**	⇑P	**P**	**06 26 50.8**	**-0.2**
	baz=24						
SLM	**Saint Louis**	**23.47**	**13**	*eP*	**P**	**06 26 50.6**	**-0.4**
	20nm,0.4s,mb4.9						
USIN	**University of**	**23.53**	**19**	*eP*	**P**	**06 26 51.0**	**-0.6**
	72nm,0.9s,mb5.1						
GLA	**Glamis**	**23.54**	**320**	*eP*	**P**	**06 26 51.4**	**-0.2**
GLA				*ep*P		06 26 57.4	
GLA	**Glamis**	**23.54**	**320**	P	**P**	**06 26 51.4**	**-0.2**
	baz=24,SNR=8.2						
MVCO	**Mesa Verde**	**23.60**	**337**	*eP*	**P**	**06 26 52.0**	**-0.2**
	45nm,1.4s,mb4.7						
MVCO				*e*		06 26 58.7	
MVCO	**Mesa Verde**	**23.60**	**337**	⇓P	**P**	**06 26 51.9**	**-0.3**
	baz=24						
W15A	**Williams**	**23.62**	**327**	⇑P	**P**	**06 26 53.0**	**+0.6**
	baz=24,SNR=8.4						
Y12C	**Blythe**	**23.83**	**322**	⇑P	**P**	**06 26 53.9**	**-0.4**
	baz=24,SNR=6.5						
TZTN	**Tazewell**	**23.84**	**28**	*eP*	**P**	**06 26 54.5**	**+0.2**
	37nm,1.3s,mb4.7						
PDMCI	**Parker Dam,Lak**	**23.99**	**323**	⇑P	**P**	**06 26 55.9**	**+0.1**
	baz=24						
X13A	**Yucca**	**24.03**	**324**	⇑P	**P**	**06 26 55.9**	**-0.2**
	baz=24						
SWSC	**Sam

ARUT	Antelope Range	26.25	330	eP	P	06 27 17.4 +1.1
GSC	Goldstone	26.26	321	eP	P	06 27 16.6 +0.2
GSC	Goldstone baz=26	26.26	321	⇑P	P	06 27 16.6 +0.2
SHOC	Shoshone baz=26	26.36	323	⇑P	P	06 27 17.0 -0.3
TMUT	Trail Mountain	26.47	335	eP	P	06 27 19.2 +0.8
SDV	Santo Domingo 8.0nm,0.9s,mb4.3,baz=304,slow=4.1,SNR=6.9	26.65	102	P	P	06 27 21.4 +1.5
SDV				LR	LR	06 38 21.1
	comp=Z,108nm,20.2s,MS3.4,baz=342,slow=37					
SDV	Santo Domingo 9.8nm,0.9s,mb4.3	26.65	102	eP	P	06 27 21.5 +1.6
EDW2	Edwards Air Fo baz=27	26.72	319	⇑P	P	06 27 20.8 +0.2
LRMC	Laurel Mountai baz=27	26.92	320	⇑P	P	06 27 22.1 -0.2
FURC	Furnace Creek, baz=27	27.10	323	⇑P	P	06 27 23.8 -0.1
MPMC	Manual Prospec baz=27	27.19	322	⇑P	P	06 27 23.8 -0.9
DAC	Darwin (Calif)	27.39	322	eP	P	06 27 26.9 +0.3
DAU	Daniels Canyon	27.44	336	eP	P	06 27 29.8 +2.7
JFWS	Jewell Farm 23nm,0.8s,mb4.9	27.59	11	eP	P	06 27 27.9 -0.5
GRAC	Grapevine Rang baz=28	27.76	323	⇑P	P	06 27 29.4 -0.4
DUG	Dugway baz=28	27.90	334	⇑P	P	06 27 31.0 -0.2
VES	Vestal, Richgr baz=28	28.02	319	⇓P	P	06 27 32.2 0.0
MCWV	Mont Chateau 17nm,1.0s,mb4.6	28.07	29	eP	P	06 27 33.2 +0.6
R10A	Warm Springs baz=28	28.09	326	⇓P	P	06 27 33.0 +0.2
Q11A	Duckwater baz=28,SNR=11	28.17	328	⇑P	P	06 27 33.8 +0.3
S09A	Goldfield baz=28,SNR=7.2	28.18	325	⇑P	P	06 27 33.7 +0.1
SMMC	Simmler baz=28	28.27	318	⇑P	P	06 27 34.3 -0.2
P12A	McGill baz=28	28.28	330	⇓P	P	06 27 34.3 -0.2
RCTC	Rector, Farmer baz=28	28.41	320	⇓P	P	06 27 35.7 0.0
R09A	Tonopah baz=28	28.47	325	⇑P	P	06 27 36.5 +0.3
HELL	Mitchell Peak, baz=28	28.52	321	⇑P	P	06 27 36.5 -0.2
S08C	White Mtn Res baz=29	28.56	323	⇑P	P	06 27 37.2 +0.2
HWUT	Hardware Ranch	28.59	337	eP	P	06 27 36.5 -0.8
P11A	Circle Ranch, baz=29	28.75	329	⇑P	P	06 27 38.8 +0.1
RSSD	Black Hills	28.81	349	eP	P	06 27 39.4 +0.1
O12A	Currie baz=29	28.83	331	⇓P	P	06 27 39.7 +0.4
PDAR	Pinedale Array 1.5nm,0.8s,mb3.8,baz=152,slow=7.8,SNR=7.8	28.91	341	P	P	06 27 39.3 -0.8
MLAC	Mammoth Lakes baz=29	29.04	323	⇓P	P	06 27 41.4 +0.1
KCC	Kaiser Creek baz=29	29.12	322	⇑P	P	06 27 42.1 +0.1
O11A	Cowboy Ranch, baz=29,SNR=7.2	29.15	330	⇑P	P	06 27 42.6 +0.4
P10A	Eureka baz=29,SNR=5.1	29.16	328	⇓P	P	06 27 43.1 +0.8
NVAR	Mina Array Bea 0.5nm,0.6s,baz=97,slow=2.1,SNR=4.1	29.28	324	PcP	PcP	06 30 50.0 +0.1
Q08A	Gabbs baz=29	29.38	325	⇓P	P	06 27 44.8 +0.5
P09A	Austin baz=30	29.46	327	⇓P	P	06 27 45.4 +0.4
O10A	Cortez Mining, baz=30	29.69	329	⇓P	P	06 27 47.2 +0.2
N11A	Elko Archery C baz=30	29.72	331	⇓P	P	06 27 47.5 +0.2
S05C	Merced baz=30	29.75	320	⇑P	P	06 27 48.0 +0.4
S06C	San Francisco baz=30	29.81	322	⇑P	P	06 27 48.1 0.0
M12A	Wells baz=30	29.82	332	⇓P	P	06 27 48.4 +0.2
SNOW	Snow King Moun 8.5nm,1.0s,mb4.4	29.93	340	eP	P	06 27 50.0 +0.8
O09A	Fish Creek Ran baz=30,SNR=10	29.94	328	⇑P	P	06 27 49.6 +0.3
WAKR	Walker	29.98	323	eP	P	06 27 56.9 +7.2
LOHW	Long Hollow 6.1nm,1.0s,mb4.3	30.01	340	eP	P	06 27 49.9 +0.1
TPAW	Teton Pass 5.3nm,0.9s,mb4.3	30.02	339	eP	P	06 27 51.6 +1.6
P08A	Dixie Valley baz=30	30.06	326	⇑P	P	06 27 51.1 +0.8
BMN	Battle Mountai 8.8nm,0.9s,mb4.5	30.16	328	eP	P	06 27 52.1 +0.9
BMN				epP	pP	06 27 57.0 0.0
MOOW	Moose Ponds 9.7nm,1.4s,mb4.3	30.18	340	eP	P	06 27 51.7 +0.3
CMB	Columbia Colle baz=30	30.23	321	⇑P	P	06 27 52.2 +0.4
M11A	Holland Ranch, baz=30	30.23	331	⇑P	P	06 27 52.2 +0.3
S04C	Ingram Canyon, baz=30	30.46	320	⇑P	P	06 27 54.0 +0.1
R05C	Kirkwood Meado baz=30	30.48	323	⇓P	P	06 27 54.2 +0.2
N09A	Rock Creek Ran baz=31,SNR=6.5	30.62	329	⇑P	P	06 27 55.7 +0.5
M10A	I.L. Ranch, Tu baz=31	30.65	330	⇓P	P	06 27 56.1 +0.5
WCN	Washoe City baz=31	30.70	324	⇑P	P	06 27 56.4 +0.4
O07A	Toulon baz=31,SNR=11	30.82	326	⇓P	P	06 27 57.1 +0.1
N08A	GE Springer Mi baz=31	30.88	328	⇓P	P	06 27 57.9 +0.4
LAVA	Lava Cap Winer baz=31	30.91	322	⇑P	P	06 27 58.3 +0.5
RLMT	Red Lodge 13nm,0.9s,mb4.8	30.97	343	eP	P	06 27 58.2 -0.1
RLMT				epP	pP	06 28 03.0 -1.1
M09A	Marrel Ranch, baz=31,SNR=5.5	31.02	329	⇑P	P	06 27 59.3 +0.5
HLID	Hailey	31.36	335	eP	P	06 28 02.4 +0.6
HLID	Hailey baz=31	31.36	335	⇓P	P	06 28 01.8 0.0
BEKR	Beckwourth baz=31,SNR=7.1	31.43	324	⇓P	P	06 28 02.9 +0.5
M08A	Happy Creek Ra baz=32	31.50	328	⇓P	P	06 28 03.4 +0.4
L09A	Wilkinson Ranc baz=32,SNR=6.5	31.57	330	⇑P	P	06 28 03.8 +0.1
Q03C	Winters baz=32	31.59	321	⇓P	P	06 28 04.1 +0.3
LAO	LASA Array 7.6nm,0.9s,mb4.5	31.70	348	eP	P	06 28 04.6 -0.2
N06A	Buffalo Meadow baz=32,SNR=10	31.75	326	P	P	06 28 05.8 +0.6
SUTB	Sutter Butte baz=32	31.84	322	⇑P	P	06 28 05.7 -0.2
M07A	Soldier Meadow baz=32	31.86	327	⇑P	P	06 28 07.0 +0.8
BINY	Binghamton	31.88	30	eP	P	06 28 06.3 0.0
ORV	Oroville baz=32	31.88	323	⇑P	P	06 28 06.8 +0.4
L08A	Fields baz=32,SNR=8.8	32.03	329	⇓P	P	06 28 08.0 +0.3
K09A	Rome baz=32,SNR=6.7	32.12	331	⇑P	P	06 28 09.0 +0.5
O04C	Chester baz=32	32.15	324	⇓P	P	06 28 09.4 +0.6
WVOR	Wild Horse Val 8.6nm,1.0s,mb4.5	32.36	329	eP	P	06 28 10.8 +0.2
WVOR				epP	pP	06 28 16.1 -0.3
AGMN	Agassiz Refuge 9.4nm,0.8s,mb4.7	32.38	1	eP	P	06 28 09.8 -1.0
L07A	Adell baz=32,SNR=9.9	32.40	328	⇑P	P	06 28 11.4 +0.4
M06C	Likely Place G baz=32,SNR=14	32.42	326	⇑P	P	06 28 11.6 +0.5
K08A	Mann Creek Ran baz=32	32.51	330	⇑P	P	06 28 12.4 +0.5
J09A	Fry Pan Ranch, baz=33	32.63	331	⇑P	P	06 28 13.6 +0.6
MOD	Modoc 4.7nm,0.8s,mb4.5	32.82	327	eP	P	06 28 15.0 +0.4
MOD				epP	pP	06 28 20.2 -0.1
MOD	Modoc baz=33,SNR=9.7	32.82	327	P	P	06 28 14.8 +0.2
K07A	Rock Creek Ran baz=33,SNR=9.1	32.85	329	P	P	06 28 15.6 +0.7
M05C	Lookout baz=33	32.89	325	⇓P	P	06 28 15.5 +0.3
DGMT	Dagmar	33.07	351	eP	P	06 28 17.1 +0.3
I09A	Lost Marbles R baz=33	33.12	332	⇑P	P	06 28 17.4 +0.2
E15A	Deer Lodge baz=33	33.17	340	⇑P	P	06 28 17.7 0.0
L05A	Lakeview baz=33,SNR=12	33.20	327	⇑P	P	06 28 18.7 +0.8
J07A	Hines baz=33	33.39	330	⇑P	P	06 28 19.5 -0.1
K06A	Valley Falls baz=33	33.43	328	⇑P	P	06 28 19.5 -0.5
E14A	Clinton baz=34	33.45	339	⇑P	P	06 28 19.9 -0.2
BMO	Blue Mountains 2.4nm,0.6s,mb4.3	33.62	334	eP	P	06 28 17.4 -4.2
H09A	Durkee baz=34	33.62	333	⇑P	P	06 28 21.6 0.0
K05A	Summer Lake baz=34	33.71	327	⇓P	P	06 28 22.7 +0.3
E13A	Victor baz=34	33.71	338	⇑P	P	06 28 22.5 +0.1
N02C	Big Bar baz=34	33.75	323	⇓P	P	06 28 22.9 +0.2
EGMT	Eagleton 20nm,1.3s,mb4.9	33.77	345	eP	P	06 28 22.4 -0.6
EGMT				epP	pP	06 28 27.6 -1.1
EGMT	Eagleton baz=34	33.77	345	⇑P	P	06 28 22.9 0.0
CHMT	Chamberlain Mo	33.80	340	eP	P	06 28 23.2 +0.1
CHMT				epP	pP	06 28 29.0 0.0
H08A	Prairie City baz=34	33.96	332	⇓P	P	06 28 24.4 -0.1
I07A	Izee baz=34	34.01	330	⇑P	P	06 28 24.8 -0.2
D14A	Greenough baz=34	34.03	340	⇓P	P	06 28 24.7 -0.5
K04A	Chilquin baz=34	34.07	327	⇓P	P	06 28 25.3 -0.2
ULM	Lac du Bonnet 3.1nm,1.0s,mb4.2,baz=201,slow=9.7,SNR=4.6	34.33	1	P	P	06 28 26.9 -0.9
D13A	Huson baz=34,SNR=5.6	34.37	339	P	P	06 28 28.1 0.0
H07A	Lands Inn, Kim baz=34,SNR=9.3	34.43	331	⇓P	P	06 28 28.0 -0.7
F10A	Beach Ranch, E baz=34,SNR=6.6	34.48	335	⇓P	P	06 28 28.6 -0.5
F09A	S2 Ranch, Elgi baz=35	34.56	334	⇓P	P	06 28 29.6 -0.2
G08A	Pilot Rock baz=35	34.69	332	⇓P	P	06 28 30.8 -0.1
C13A	Hot Springs baz=35	34.91	339	⇓P	P	06 28 32.4 -0.4
G07A	Ruggs Ranch, H baz=35	34.99	332	⇑P	P	06 28 32.7 -0.8
F08A	Pendleton baz=35	35.00	333	⇓P	P	06 28 32.7 -0.9
C12A	Trout Creek baz=35	35.25	338	⇑P	P	06 28 34.7 -1.0
B13A	Whitefish baz=36	35.48	340	⇓P	P	06 28 37.6 0.0
F07A	Phinny Hill Vi baz=36	35.59	332	⇑P	P	06 28 38.5 -0.1
H04A	Detroit Lake baz=36	35.76	329	⇓P	P	06 28 39.9 -0.2
D09A	Jones Farm, Ri baz=36	35.80	335	⇓P	P	06 28 39.9 -0.6
I03A	Eugene baz=36	35.83	327	⇑P	P	06 28 40.3 -0.4
F06A	Goldendale baz=36	35.88	331	⇓P	P	06 28 41.0 -0.1
B12A	Libby baz=36	35.94	339	⇓P	P	06 28 41.7 +0.1
C10A	Spilker Farm, baz=36	36.02	337	⇑P	P	06 28 42.3 0.0
F05A	White Salmon baz=36	36.28	331	⇑P	P	06 28 44.8 +0.2
NEW	Newport 3.1nm,1.0s,mb4.2,baz=148,slow=13,SNR=5.1	36.32	337	P	P	06 28 42.7 -2.2
NEW	Newport 3.9nm,1.0s,mb4.3	36.32	337	eP	P	06 28 44.2 -0.7
NEW				epP	pP	06 28 49.8 -1.0
A12A	Yaak River Ran baz=36,SNR=5.0	36.36	339	P	P	06 28 45.7 +0.4
C09A	Chrisman Ranch baz=36	36.39	336	⇓P	P	06 28 45.9 +0.5
E06A	Yakima baz=37	36.55	332	⇓P	P	06 28 47.2 +0.3
C08A	Higginbotham F baz=37	36.68	335	⇓P	P	06 28 48.1 +0.1
G03A	Yamhill baz=37	36.76	329	⇓P	P	06 28 48.5 -0.1
B09A	Rice baz=37,SNR=7.0	36.84	336	P	P	06 28 48.8 -0.6
D06A	Cle Elum baz=37	36.99	333	⇓P	P	06 28 50.4 -0.1
C07A	Waterville baz=37	37.03	334	⇓P	P	06 28 50.4 -0.5
A09A	Danville baz=38	37.46	337	⇓P	P	06 28 54.3 -0.3
D05A	Enumclaw baz=38	37.49	332	⇑P	P	06 28 54.4 -0.4
EDM	Edmonton	39.46	345	eP	P	06 29 10.3 -1.0
EDM				epP	pP	06 29 15.5 -1.7
LPAZ	La Paz 0.9nm,0.7s,mb3.6,baz=323,slow=7.9,SNR=4.1	42.79	137	P	P	06 29 39.3 +0.6
SCHQ	Schefferville 3.1nm,0.7s,mb4.3,baz=248,slow=6.4,SNR=3.8	45.35	24	P	P	06 29 56.8 -2.5
SIV	San Ignacio 2.4nm,0.9s,mb4.2,baz=293,slow=9.3,SNR=7.0	47.52	130	P	P	06 30 14.8 -1.5
YKA	Yellowknife Ar 2.6nm,0.7s,mb4.3,baz=145,slow=7.0,SNR=4.1	48.22	349	P	P	06 30 19.3 -2.5
TAOE	Nuku Hiva Isla 47nm,0.2s	49.27	243	eT		07 22 54.3
RKT	Rikitea 108nm,23.2s	53.66	225	eLR	LR	06 46 12.9
RKT	Rikitea 17nm,0.3s	53.66	225	eT		07 28 26.3
CPUP	Villa Florida 1.9nm,0.8s,mb4.2,baz=302,slow=6.4,SNR=3.2	56.96	137	P	P	06 31 24.8 -1.7
INK	Inuvik 283nm,0.9s	57.36	345	eP	P	06 31 27.9 -1.4
INK				epP	pP	06 31 33.8 -1.5
BDFB	Brasilia 1.6nm,0.7s,mb4.2,baz=232,slow=12,SNR=3.0	57.60	121	P	P	06 31 30.7 -0.3
PPT	Papeete 116nm,26.0s	61.54	240	eLR	LR	06 49 51.3
PPT	Papeete comp=Z,142nm,21.6s,MS4.1,baz=72,slow=30	61.54	240	LR	LR	06 52 46.8
TBI	Tubuai 132nm,26.2s	64.40	234	eLR	LR	06 51 09.5
TBI	Tubuai 3.5nm,0.3s	64.40	234	eT		07 41 50.6
ESDC	Sonseca Array 1.6nm,0.6s,mb4.1,baz=305,slow=4.6,SNR=8.7	82.35	51	P	P	06 34 02.5 -0.4
NOA	NORSAR Array B 2.7nm,0.9s,mb4.4,baz=298,slow=5.4,SNR=5.7	84.80	28	P	P	06 34 15.3 -0.2
NOA	NORSAR Array B	84.80	28	P	P	06 34 15.3 -0.2
FINES	FINESS Array B 2.5nm,0.9s,mb4.5,baz=179,slow=24,SNR=3.6	90.83	24	P	P	06 34 41.5 -3.1
GERES	GERESS Array B 0.3nm,0.3s,mb4.2,baz=0.0,slow=1.3,SNR=4.0	91.21	38	P	P	06 34 45.4 -0.9
HHC	Hu-ho-hao-te	117.68	336	ePKP	PKPdf	06 40 29.6 +2.4
HHC				LR	LR	
	comp=N,93nm,5.7s					
HHC				LR	LR	
	comp=E,86nm,6.4s					
HHC				LR	LR	
	comp=Z,72nm,14.9s,MS4.4					
WMQ	Urumqi	120.48	356	ePKP	PKPdf	06 40 30.0 -2.6
NJ2	Nanjing	121.28	324	ePKP	PKPdf	06 40 32.4 -1.8
LZH	Lanzhou	124.72	339	ePKP	PKPdf	06 40 38.5 -2.3
LZH				XPKP		06 40 45.9
LZH				LR	LR	
	comp=N,126nm,19.2s					
LZH				LR	LR	
	comp=Z,256nm,20.3s,MS4.9					
WRA	Warramunga Arr comp=Z,0.3nm,0.7s,baz=80,slow=2.6,SNR=3.9	131.12	257	PKP	PKPdf	06 40 51.8 -1.1
KMI	Kunming	134.97	334	PKP	PKPdf	06 41 00.1 -0.1

ISCJB ***20*** *06:41:21.3±0.8, 4783N×003×749E±005, h5km, Error ellipse: s-maj=6.0km s-min=3.8km az=91.8*
STR ***20*** *06:41:22.3±0.2, 4785N×748E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *06:41:22.5±0.1, 4785N×749E, h5km, Md1.6/2, Ml2.0/3, Error ellipse: s-maj=1.5km s-min=1.2km az=159.0*

ISC 20 06:41:21.9±1.0, 4785N±004×747E±006, h18km±14km, n9, σ0°38/17, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	Molkenrain	0.23	271	Pg	Pg	06 41 27.3	+0.1
MOF				Sg	Sg	06 41 30.7	-0.2
HINF	Hinteralfeld	0.42	266	ePg	Pg	06 41 31.2	+0.7
HINF				eSg	Sg	06 41 36.0	-0.2
	2.0nm,0.2s						
ECH	Echery	0.42	330	Pg	Pg	06 41 31.4	+0.8
ECH				Sg	Sg	06 41 36.5	+0.1
WLS	Welschbruch	0.57	352	Pg	Pg	06 41 33.4	+0.1
WLS				Sg	Sg	06 41 41.1	+0.1
CDF	Champ du Feu	0.58	347	ePg	Pg	06 41 33.8	+0.4
CDF				eSg	Sg	06 41 40.5	-0.7
	3.7nm,0.2s						
BFO	Black Forest SNR=1.7	0.75	50	ePg	Pg	06 41 36.2	-0.4
BFO				eSg	Sg	06 41 46.4	-0.2
	SNR=1.7						
HAU	Haudompre	0.77	282	ePg	Pg	06 41 37.2	+0.2
HAU				eSg	Sg	06 41 47.2	-0.1
	9.8nm,0.2s						
CABF	La Chapelle	1.56	218	ePg	Pg	06 41 51.8	-0.1
CABF				eSg	Sg	06 42 11.9	-0.2
	0.8nm,0.2s						
SFTF	Sexfontaines 3.1nm,0.2s	1.67	283	eSg	Sg	06 42 15.4	-0.5

ISCJB ***20*** *06:43:14.9±1.9, 213S±03×1783W±02, h573km±26km, mb3.8/9, Error ellipse: s-maj=44.7km s-min=15.0km az=136.1*
NEIC ***20*** *06:43:16.4±1.6, 2105S×17830W, h585km±18km, mb4.0/5, Error ellipse: s-maj=41.2km s-min=14.9km az=154.0*
IDC ***20*** *06:43:19.1±2.4, 2017S×17880W, h588km±24km, mb3.2/6, mb1 3.5/8, mb1mx3.3/16, mbtmp4.2/8, Error ellipse: s-maj=88.6km s-min=15.2km az=153.0*

ISC 20 06:43:15.2±1.7, 2145S±03×1782W±01, h559km±22km, n22, σ1°02/17, mb3.8/9, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.62	41	P	P	06 45 28.6	-0.6
	3.0nm,0.3s,baz=240,slow=20,SNR=3.5						
DZM	Mont Dzumac	14.29	264	P	P	06 46 18.1	+1.0
	0.6nm,0.3s,baz=80,slow=19,SNR=5.3						
CTA	Charters Tower	33.22	266	eP	P	06 49 06.4	0.0
	1.9nm,0.3s,mb4.1						
STKA	Stephens Creek	37.25	245	eP	P	06 49 42.3	+2.5
	4.5nm,1.5s,mb3.8						
STKA	Stephens Creek	37.25	245	P	P	06 49 41.7	+1.9
	2.1nm,0.5s,mb3.9,baz=79,slow=10.0,SNR=6.0						
AS31	Alice Springs	44.14	258	eP	P	06 50 34.9	+0.4
ASAR	Alice Springs	44.14	258	P	P	06 50 34.9	+0.4
	4.6nm,0.7s,mb4.1,baz=96,slow=7.5,SNR=77						
ASAR				PcP	PcP	06 52 07.0	-0.1
	0.8nm,0.5s,baz=104,slow=3.7,SNR=7.6						
ASPA	Alice Springs	44.14	258	eP	P	06 50 34.9	+0.4
WB2	Warramunga Arr	44.29	263	eP	P	06 50 34.9	-0.7
WRA	Warramunga Arr	44.30	263	P	P	06 50 34.6	-1.1
	1.6nm,0.3s,mb4.0,baz=97,slow=7.4,SNR=70						
KAKA	Kakadu	47.81	272	eP	P	06 51 00.5	-1.8
	2.3nm,0.3s,mb4.2						
FITZ	Fitzroy Crossi	52.73	263	eP	P	06 51 38.0	-0.2
	2.3nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	52.73	263	P	P	06 51 37.8	-0.4
	1.3nm,0.6s,mb3.5,baz=108,slow=7.4,SNR=10						
QSPA	South Pole Qui	68.71	180	eP	P	06 53 22.0	-1.2
	1.0nm,0.4s,mb3.7						
TXAR	Lajitas Array	87.68	57	P	P	06 55 06.2	+1.6
	0.3nm,0.7s,mb3.1,baz=219,slow=5.8,SNR=5.1						
TXAR	Lajitas Array	87.68	57	P	P	06 55 06.2	+1.6
PDAR	Pinedale Array	89.72	43	P	P	06 55 14.3	+0.2
	0.7nm,0.6s,mb3.7,baz=221,slow=4.4,SNR=8.2						
ARCES	ARCESS Array B 129.73 349			PKP	PKPdf	07 01 17.6	-3.5
	1.0nm,0.7s,baz=29,slow=2.8,SNR=8.1						
AKASG	Malin Array Be	143.67	330	PKhKP		07 01 41.4	
	2.9nm,0.4s,baz=41,slow=4.2,SNR=15						
BRTR	Keskin Array B	147.27	311	PKPbc	PKPbc	07 01 53.7	-2.4
	0.9nm,0.5s,baz=127,slow=4.9,SNR=4.5						
CLL	Collm	148.86	346	⇑/PKPbc	PKPbc	07 01 58.1	-2.0
	comp=Z,8.0nm,0.8s						
GERES	GERESS Array B 150.97 344			PKPbc	PKPbc	07 02 02.7	-2.3
	comp=Z,0.4nm,0.2s,baz=25,slow=3.5,SNR=6.1						

IDC 20 06:48:17.4±1.1, 1058S×7523W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.7/22, mbtmp3.7/6, ML3.4/4, Error ellipse: s-maj=18.7km s-min=15.5km az=161.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.11	228	Pn	Pn	06 48 54.4	+0.4
	21nm,0.3s,baz=33,slow=19,SNR=72						
NNA				Lg		06 49 24.4	
	96nm,0.3s,baz=218,slow=17,SNR=13						
ATAH	Atahualpa	4.74	318	Pn	Pn	06 49 31.3	+1.2
	8.4nm,0.3s,baz=129,slow=9.4,SNR=32						
ATAH				Sn	Sn	06 50 25.5	-0.2
	3.6nm,0.3s,baz=301,slow=18,SNR=2.1						
LPAZ	La Paz	8.94	130	Pn	Pn	06 50 29.4	+1.6
	0.1nm,0.3s,baz=344,slow=20,SNR=2.2						
LPAZ				Lg		06 53 00.9	
	0.1nm,0.3s,baz=168,slow=14,SNR=3.2						
SIV	San Ignacio	14.79	113	Pn	Pn	06 51 49.5	+1.8
	0.0nm,0.3s,baz=256,slow=16,SNR=2.2						
SIV				Lg		06 56 08.4	
	0.2nm,0.3s,baz=50,slow=18,SNR=5.9						
TXAR	Lajitas Array	48.24	326	P	P	06 56 59.7	-0.2
	0.6nm,0.7s,baz=140,slow=9.9,SNR=8.7						
TORD	Torodi Ar. Bea	79.89	75	P	P	07 00 28.5	+0.5
	1.7nm,0.8s,baz=271,slow=5.3,SNR=7.6						
WRA	Warramunga Arr	137.96	224	PKP	PKPdf	07 07 43.9	-0.1
	0.4nm,0.6s,baz=119,slow=1.9,SNR=5.1						

IDC 20 06:49:48.1±5.0, 631S×10124E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=178.5km s-min=26.6km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	26.52	118	P	P	06 55 27.8	+0.5
	1.5nm,0.9s,baz=278,slow=7.1,SNR=3.0						
WRA	Warramunga Arr	34.87	116	P	P	06 56 40.4	-0.6
	0.6nm,0.4s,baz=288,slow=12,SNR=9.8						
ASAR	Alice Springs	35.82	122	P	P	06 56 50.9	+1.7
	0.4nm,0.4s,baz=297,slow=7.7,SNR=10						
SONM	Songino Array	54.10	4	P	P	06 59 15.9	+1.2
	0.8nm,0.6s,baz=182,slow=9.1,SNR=3.7						
TXAR	Lajitas Array	147.19	43	PKPbc	PKPbc	07 09 31.1	-2.1
	0.3nm,0.6s,baz=279,slow=0.3,SNR=4.8						

IDC 20 07:31:38.1±9.1, 593S×15063E, h124km±55km, mb2.9/2, mb1 3.1/3, mb1mx3.0/14, mbtmp3.4/3, Error ellipse: s-maj=147.3km s-min=64.5km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.88	225	P	Pn	07 32 49.6	+0.2
	0.8nm,0.3s,baz=355,slow=12,SNR=2.1						
WRA	Warramunga Arr	21.09	227	P	P	07 36 12.5	-0.1
	0.4nm,0.5s,baz=53,slow=10,SNR=9.7						
ASAR	Alice Springs	23.88	221	P	P	07 36 40.8	+0.6
	1.0nm,0.8s,baz=58,slow=9.3,SNR=9.7						
TORD	Torodi Ar. Bea	148.56	285	PKPbc	PKPbc	07 51 10.9	+0.6
	0.6nm,0.6s,baz=52,slow=2.2,SNR=4.6						

IDC 20 07:32:13.3±6.1, 580S×15079E, h88km±51km, mb3.4/3, mb1 3.7/4, mb1mx3.4/14, mbtmp3.7/4, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/9, Error ellipse: s-maj=96.4km

s-min=39.6km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**225**	P	Pn	07 33 28.4	+1.4
	2.4nm,0.3s,baz=61,slow=10,SNR=4.0						
PMG				S	Sn	07 34 24.4	+0.1
	3.7nm,0.3s,baz=56,slow=20,SNR=3.7						
PMG				LR	LR	07 35 28.1	
	comp=Z,90nm,19.1s,baz=58,slow=38						
WRA	**Warramunga Arr**	**21.30**	**227**	P	P	07 36 52.8	+0.1
	0.7nm,0.4s,baz=53,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**24.08**	**221**	P	P	07 37 20.9	+0.5
	1.3nm,0.7s,baz=52,slow=9.4,SNR=9.1						
NVAR	**Mina Array Bea**	**94.27**	**52**	P	P	07 45 22.5	-0.1
	0.4nm,0.6s,baz=265,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.68**	**286**	PKPbc	PKPbc	07 51 51.2	+1.0
	1.7nm,0.6s,baz=58,slow=3.1,SNR=11						

*NEIC **20** 08:12:07.3±0.3, 2184N×143.16E, h35km, mb4.6/12, Error ellipse: s-maj=9.8km s-min=7.4km az=77.0*
*BJI **20** 08:12:12.2, 2181N×14331E, h113km, mB4.8, mb4.7*
*MOS **20** 08:12:13.9±1.0, 2186N×143.11E, h114km, mb4.7/19, Error ellipse: s-maj=15.6km s-min=8.5km az=113.7*
*ISCJB **20** 08:12:14.4±1.6, 2178N±006×14304E±008, h115km±15km, mb4.4/37, Error ellipse: s-maj=12.0km s-min=8.8km az=146.2*
*IDC **20** 08:12:19.7±5.1, 2177N×14289E, h148km±46km, mb3.8/17, mb1 3.9/18, mb1mx3.9/27, mbtmp4.2/18, MS3.8/6, Ms1 3.8/6, ms1mx3.3/27, Error ellipse: s-maj=21.7km s-min=11.3km az=77.0*

ISC 20 08:12:17.0±1.6, 2181N±006×14307E±008, h124km±14km, h107km±3.8km: pP-P, n72, σ0:95/74, mb4.4/37, 3C-4D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.28**	**345**	P	**Pn**	**08 15 47.7**	**+1.7**
	0.3nm,0.3s,baz=334,slow=16,SNR=4.5						
MJAR	**Matsushiro Arr**	**15.28**	**345**	P	**Pn**	**08 15 47.7**	**+1.7**
MAJO	**Matsushiro**	**15.28**	**345**	*e*P	**Pn**	**08 15 45.0**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	**Matsushiro**	**15.28**	**345**	*e*Pn	**Pn**	**08 15 45.0**	**-1.0**
	comp=Z,2.5nm,0.4s						
YHNB	**Yeheng**	**20.13**	**282**	*e*P	**P**	**08 16 41.2**	**0.0**
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**08 16 45.1**	**+1.4**
	comp=Z,9.4nm,1.0s,baz=143,slow=12,SNR=15						
ASAJ	**Asahikawa**	**22.25**	**359**	LR	LR	08 24 10.6	
	comp=Z,139nm,20.9s,baz=199,slow=32						
MDJ	**Mudanjiang**	**25.32**	**337**	P	**P**	**08 17 33.0**	**+0.9**
MDJ				AP	pP	08 17 54.9	-3.7
MDJ				XP	sP	08 18 07.1	-5.9
MDJ				S	**S**	**08 21 53.1**	**+4.1**
MDJ				XS	sS	08 22 32.3	-3.2
MDJ				SCP	ScP	08 24 32.3	+2.9
MDJ				PCS	PcS	08 24 43.0	+0.8
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,48nm,3.5s						
MDJ				LR	LR		
	comp=N,39nm,27.4s						
MDJ				LR	LR		
	comp=E,36nm,27.4s						
MDJ				LR	LR		
	comp=Z,55nm,32.8s						
KLR	**Kul'dur**	**28.80**	**345**	*e*P	**P**	**08 17 57.6**	**-5.7**
HNR	**Honiara**	**35.19**	**150**	LR	LR	08 31 09.4	
	comp=Z,98nm,21.4s,baz=89,slow=32						
CD2	**Chengdu**	**36.22**	**293**	*e*P	**P**	**08 19 07.9**	**+0.1**
CD2				AP	pP	08 19 33.0	-2.2
CD2				XP	sP	08 19 46.1	-3.3
CD2				PP	PP	08 20 34.1	+1.5
CD2				S	**S**	**08 24 38.9**	**+0.1**
CD2				XS	sS	08 25 22.8	-3.7
CD2				SS	SS	08 27 09.5	-11
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,150nm,14.4s						
CD2				LR	LR		
	comp=E,170nm,16.8s						
CD2				LR	LR		
	comp=Z,140nm,15.6s						
LZH	**Lanzhou**	**36.90**	**301**	*e*P	**P**	**08 19 14.0**	**+0.4**
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,72nm,4.5s						
LZH	**Lanzhou**	**36.90**	**301**	*e*P	**P**	**08 19 14.0**	**+0.4**
	comp=Z,17nm,1.2s,mb4.8						
LZH				pP	pP	08 19 23.0	-18
LZH				sP	sP	08 19 27.6	-28
KMI	**Kunming**	**37.05**	**283**	P	**P**	**08 19 16.3**	**+1.4**
KMI				AP	pP	08 19 39.6	-2.7
KMI				XP	sP	08 19 49.9	-6.6
KMI				PP	PP	08 20 44.8	+3.1
KMI				S	**S**	**08 24 52.0**	**+0.6**
KMI				SS	SS	08 27 27.0	-12
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				AMB	AMB		
	comp=Z,79nm,7.1s						
KMI				LR	LR		
	comp=N,99nm,16.2s						
KMI				LR	LR		
	comp=E,86nm,22.9s						
KMI				LR	LR		
	comp=Z,123nm,14.8s						
KMI	**Kunming**	**37.05**	**283**	P	**P**	**08 19 16.2**	**+1.3**
KMI				*PP	pP	08 19 39.6	-2.7
KMI						08 20 44.7	
KMI				S	**S**	**08 24 52.0**	**+0.6**
KMI				*SS	sS	08 25 32.5	-6.7
KMI				SS	SS	08 27 27.0	-12
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				MLR	MLR		
	comp=Z,120nm,14.8s						
KMI	**Kunming**	**37.05**	**283**	P	**P**	**08 19 16.2**	**+1.3**
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				pP	pP	08 19 39.6	-2.7
KMI				sP	sP	08 19 49.9	-6.6
KMI				PP	PP	08 20 44.7	+3.0
KMI				S	**S**	**08 24 52.0**	**+0.6**
KMI				sS	sS	08 25 32.5	-6.7
KMI				SS	SS	08 27 27.0	-12
KMI				LR	LR		
	comp=Z,120nm,14.8s						
SONM	**Songino Array**	**39.18**	**320**	P	**P**	**08 19 32.3**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.2,baz=124,slow=8.4,SNR=15						
GTA	**Gaotai**	**40.72**	**306**	*e*P	**P**	**08 19 45.6**	**+0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb4.0						
YAK	**Yakutsk**	**41.24**	**350⇑**	*e*P	**P**	**08 19 46.5**	**-3.2**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
CHTO	**Chiang Mai**	**41.39**	**274**	*e*P	**P**	**08 19 52.1**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**41.39**	**274**	*e*P	**P**	**08 19 52.1**	**+1.2**
	comp=Z,6.5nm,0.9s,mb4.5						
SEY	**Seymchan**	**41.58**	**6⇑**	*e*P	**P**	**08 19 50.9**	**-1.6**
CTA	**Charters Tower**	**41.76**	**176**	P	**P**	**08 19 54.0**	**+0.1**
	comp=Z,12nm,1.0s,mb4.6,baz=27,slow=10,SNR=5.4						
CTAO	**Charters Tower**	**41.76**	**176**	*e*P	**P**	**08 19 53.8**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**41.76**	**176**	*e*P	**P**	**08 19 53.8**	**-0.2**
	comp=Z,14nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**42.19**	**322**	*e*P	**P**	**08 19 56.3**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**42.35**	**192**	*e*P	**P**	**08 19 58.5**	**-0.3**
WRAB				*e*PP	pP	08 20 21.4	-5.4
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**42.35**	**192**	*e*P	**P**	**08 19 58.5**	**-0.3**
	comp=Z,7.9nm,1.0s,mb4.4						
WRAB				*e*pP	pP	08 20 21.4	-5.4
WB2	**Warramunga Arr**	**42.36**	**192**	*e*P	**P**	**08 19 58.4**	**-0.5**
WRA	**Warramunga Arr**	**42.37**	**192**	P	**P**	**08 19 58.6**	**-0.3**
	comp=Z,5.5nm,1.0s,mb4.2,baz=13,slow=8.6,SNR=19						
WRA				LR	LR	08 37 45.7	
	comp=Z,104nm,18.2s,baz=30,slow=36						
TLY	**Talaya**	**42.61**	**324**	*e*P	**P**	**08 19 59.9**	**-1.0**
TLY				*e*S	**S**	**08 26 04.4**	**-10**
TLY				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
TLY				MLR	MLR		
	comp=Z,86nm,21.0s						
AS31	**Alice Springs**	**46.07**	**192**	*e*P	**P**	**08 20 28.2**	**-0.2**
ASAR	**Alice Springs**	**46.07**	**192**	P	**P**	**08 20 28.1**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.0,baz=14,slow=9.1,SNR=32						
PSI	**Prapat**	**46.84**	**252**	P	**P**	**08 20 34.5**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.2,baz=255,slow=4.0,SNR=5.5						
LSA	**Lhasa**	**47.09**	**291**	P	**P**	**08 20 38.2**	**+1.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**47.09**	**291**	P	**P**	**08 20 38.2**	**+1.9**
	comp=Z,5.1nm,0.6s,mb4.4						
WMQ	**Urumqi**	**50.42**	**309⇓**	*i*P	**P**	**08 21 02.3**	**+0.5**
WMQ				AP	pP	08 21 28.0	-2.7
WMQ				XP	sP	08 21 40.0	-4.5
WMQ				PCP	PcP	08 22 20.0	+1.6
WMQ				S	**S**	**08 28 06.0**	**+0.2**
WMQ				XS	sS	08 28 52.0	-3.6
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,136nm,6.0s						
TIXI	**Tiksi**	**50.53**	**354⇑**	*e*P	**P**	**08 21 00.8**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb4.4						
STKA	**Stephens Creek**	**53.40**	**182**	P	**P**	**08 21 23.7**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.4,baz=314,slow=17,SNR=3.7						
STKA	**Stephens Creek**	**53.40**	**182**	*e*P	**P**	**08 21 23.3**	**-0.6**
ZAL	**Zalesovo**	**54.06**	**322**	P	**P**	**08 21 28.1**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.4,baz=8.8,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**54.54**	**313**	P	**P**	**08 21 32.1**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.3,baz=94,slow=11,SNR=7.3						
MKAR				LR	LR	08 46 28.4	
	comp=Z,43nm,18.2s,baz=181,slow=38						
MKAR	**Makanchi Array**	**54.54**	**313**	*i*P	**P**	**08 21 32.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHKZ	**Chkalovo**	**62.38**	**320**	*e*P	**P**	**08 22 25.3**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
CHKZ	**Chkalovo**	**62.38**	**320**	*e*P	**P**	**08 22 25.3**	**-1.2**
	comp=Z,11nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**62.52**	**319**	P	**P**	**08 22 27.2**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=94,slow=7.7,SNR=45						
BRVK	**Borovoye**	**62.58**	**319**	*e*P	**P**	**08 22 27.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
BRVK	**Borovoye**	**62.58**	**319**	*e*P	**P**	**08 22 27.5**	**-0.4**
	comp=Z,13nm,0.9s,mb4.9						
ZRNK	**Zerenda**	**63.35**	**319**	*e*P	**P**	**08 22 32.7**	**-0.3**
ZRNK				*e*PP	pP	08 23 01.0	-2.0
ZRNK				*e*		08 24 53.7	
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**63.35**	**319**	*e*P	**P**	**08 22 32.7**	**-0.2**
	comp=Z,9.2nm,1.0s,mb4.7						
ZRNK				*e*pP	pP	08 23 01.0	-2.0
ZRNK				*e*PP	PP	08 24 53.7	0.0
INK	**Inuvik**	**67.51**	**24**	P	**P**	**08 22 58.7**	**-1.0**
	comp=Z,4.1nm,0.9s,mb4.2,baz=294,slow=7.0,SNR=5.5						
ARU	**Arti**	**69.11**	**324⇓**	*i*P	**P**	**08 23 08.8**	**-0.9**
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
AKTK	**Aktyubinsk**	**70.41**	**317**	P	**P**	**08 23 17.4**	**-0.2**
AKTO	**Aktyubinsk**	**70.41**	**317**	P	**P**	**08 23 17.4**	**-0.2**
	comp=Z,1.4nm,0.7s,mb3.9,baz=72,slow=12,SNR=6.0						
YKA	**Yellowknife Ar**	**76.41**	**28**	LR	LR	08 57 29.6	
	comp=Z,112nm,18.1s,baz=185,slow=35						
JOF	**Joensuu**	**80.17**	**334**	*e*p	**P**	**08 24 09.0**	**-4.5**
NEW	**Newport**	**80.27**	**42**	*e*P	**P**	**08 24 14.8**	**+0.8**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NEW	**Newport**	**80.27**	**42**	*e*P	**P**	**08 24 14.8**	**+0.7**
	comp=Z,6.4nm,1.1s,mb4.4						
OBN	**Obninsk**	**81.33**	**326⇓**	*e*P	**P**	**08 24 20.0**	**+0.3**
OBN				pmax	pmax		
	comp=Z,29nm,2.1s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
CMB	**Columbia Colle**	**81.78**	**52**	*e*P	**P**	**08 24 23.1**	**+1.1**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
CMB	**Columbia Colle**	**81.78**	**52**	*e*P	**P**	**08 24 23.1**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.2						
KIV	**Kislovodsk**	**82.27**	**314**	*d i*P	**P**	**08 24 25.7**	**+1.1**
KIV				pmax	pmax		
	comp=Z,38nm,1.9s,mb4.9						
PTRM	**Twissleman Ran**	**82.77**	**55**	*e*P	**P**	**08 24 29.1**	**+1.9**
FINES	**FINESS Array B**	**83.03**	**334**	P	**P**	**08 24 27.6**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.9,baz=90,slow=5.6,SNR=4.4						
NVAR	**Mina Array Bea**	**83.16**	**51**	P	**P**	**08 24 30.7**	**+1.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=276,slow=6.2,SNR=15						
QLMT	**Earthquake Lak**	**85.25**	**43**	*e*P	**P**	**08 24 41.1**	**+1.3**
AKASG	**Malin Array Be**	**87.35**	**324**	P	**P**	**08 24 49.0**	**-1.0**
	comp=Z,0.3nm,0.2s,mb3.8,baz=43,slow=4.3,SNR=8.7						
PDAR	**Pinedale Array**	**87.39**	**45**	P	**P**	**08 24 50.7**	**+0.5**
	comp=Z,0.7nm,1.0s,mb3.6,baz=242,slow=3.2,SNR=4.4						
PDAR				LR	LR	09 03 28.4	
	comp=Z,81nm,19.6s,baz=299,slow=35						
BRTR	**Keskin Array B**	**90.19**	**313**	P	**P**	**08 25 02.8**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.3,baz=149,slow=5.8,SNR=6.2						
BRTR	**Keskin Array B**	**90.19**	**313**	*i*P	**P**	**08 25 02.7**	**-0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**105.09**	**275**	*e*PKPdf	PKiKP	08 30 21.8	-2.9
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	PKPbc	08 31 55.8	+2.8
	comp=Z,3.1nm,1.0s,baz=324,slow=4.2,SNR=9.3						
LPAZ				PKPab	PKPab	08 32 02.2	+3.1
	comp=Z,2.6nm,1.0s,baz=80,slow=0.6,SNR=7.4						

IDC 20 08:14:51.1±5.1, 2157N×14209E, h229km±48km, mb3.5/9, mb1 3.6/10, mb1mx3.5/24, mbtmp4.1/10, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=35.2km s-min=13.1km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**13.65**	**295**	LR	LR	08 22 48.0	
	comp=Z,165nm,18.7s,baz=136,slow=35						
MJAR	**Matsushiro Arr**	**15.30**	**348**	P	Pn	08 18 15.0	-0.6
	0.3nm,0.3s,baz=114,slow=14,SNR=4.0						
KSRS	**Korea Array**	**20.02**	**325**	P	P	08 19 06.1	-0.6
	2.1nm,0.5s,baz=142,slow=9.5,SNR=5.2						
KSRS				LR	LR	08 25 59.5	
	comp=Z,91nm,21.4s,baz=135,slow=33						
SONM	**Songino Array**	**38.79**	**321**	P	P	08 21 53.5	-0.1
	1.4nm,0.5s,baz=132,slow=7.0,SNR=5.8						
WRA	**Warramunga Arr**	**41.94**	**191**	P	P	08 22 19.3	-0.1
	1.4nm,0.7s,baz=16,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**45.66**	**191**	P	P	08 22 49.5	+0.6
	1.1nm,0.6s,baz=14,slow=9.3,SNR=15						
ZAL	**Zalesovo**	**53.69**	**322**	P	P	08 23 49.4	0.0
	1.1nm,0.3s,baz=8.5,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**62.11**	**320**	P	P	08 24 48.3	+0.6
	2.7nm,0.7s,baz=89,slow=7.8,SNR=12						
AKTO	**Aktyubinsk**	**69.97**	**317**	P	P	08 25 38.5	+0.8
	0.9nm,0.6s,baz=84,slow=14,SNR=3.5						
YKA	**Yellowknife Ar**	**77.05**	**28**	P	P	08 26 19.6	+0.8
	1.4nm,0.4s,baz=292,slow=5.9,SNR=7.6						
FINES	**FINESS Array B**	**82.86**	**334**	P	P	08 26 48.4	-1.5
	3.0nm,0.9s,baz=262,slow=26,SNR=2.7						
LPAZ	**La Paz**	**150.97**	**85**	PKPbc	PKPbc	08 34 17.0	+0.4
	1.2nm,0.9s,baz=323,slow=5.1,SNR=3.8						

*IDC **20** 08:31:45.1±2.0, 108N×9705E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=53.3km s-min=23.5km az=63.0*
*ISCJB **20** 08:31:48.1±1.3, 12N±01×97.1E±02, h33km, mb3.8/5, Error ellipse: s-maj=24.0km s-min=18.6km az=147.1*
*NEIC **20** 08:31:49.5±0.9, 1.13N×97.10E, h30km, mb4.1/1, Error ellipse: s-maj=18.2km s-min=14.0km az=71.0*

ISC 20 08:31:50.7±1.3, 12N±01×972E±02, h35km, n7, σ0:25/7, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**48**	Pn	**Pn**	**08 32 27.3**	**-0.1**
	6.2nm,0.3s,baz=288,slow=6.8,SNR=22						
KULM	**Kulim**	**5.37**	**41**	*e*P	**Pn**	**08 33 08.3**	**0.0**
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**08 39 39.2**	**+0.1**
	0.5nm,0.4s,mb3.5,baz=302,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**08 39 50.0**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=306,slow=8.0,SNR=7.7						
SONM	**Songino Array**	**47.15**	**8**	P	**P**	**08 40 19.8**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=185,slow=8.3,SNR=7.0						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**08 40 20.6**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=164,slow=8.8,SNR=6.7						
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**08 41 30.3**	**-0.5**
	1.8nm,0.9s,mb4.1						

*NEIC **20** 08:34:43.6, 1556N×9736W, h15km, MD4.1(MEX), After MEX.*

MEX 20 08:34:43.5±0.5, 1554N×9737W, h20km±14km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.11**	**319**	*i*P	Pn	08 35 01.0	-3.0
PNIG				*i*S	Sb	08 35 14.1	-4.1
HUIG	**Huatulco**	**1.24**	**79**	*i*P	Pn	08 35 02.2	-3.4
HUIG				*i*S	Sb	08 35 17.6	-4.1
VHO	**Vista Hermosa**	**1.64**	**22**	*i*P	Pn	08 35 08.5	-2.7
VHO				*i*S	Sn	08 35 27.8	-3.9
UTMO	**Huajuapan**	**2.31**	**350**	*i*P	Pn	08 35 19.9	-0.6
UTMO				*i*S	Sn	08 35 46.0	-2.3
ACX	**Acapulco**	**2.78**	**299**	*e*P	Pn	08 35 29.0	+2.2
CMIG	**Matias Romero**	**2.84**	**57**	*i*P	Pn	08 35 25.6	-2.1
CMIG				*i*S	Sn	08 35 58.4	-2.9
TPIG	**Tehuac#an**	**2.86**	**0**	*e*P	Pn	08 35 25.2	-2.8
TPIG				*i*S	Sn	08 35 58.1	-3.7
CAIG	**El Cayaco**	**3.16**	**299**	*e*P	Pn	08 35 30.6	-1.5
CAIG				*i*S	Sn	08 36 05.4	-3.7
CAIG	**El Cayaco**	**3.16**	**299**	*e*P	Pn	08 35 30.6	-1.5
CAIG				*i*S	Sn	08 36 09.1	0.0
MEIG	**Mezcala**	**3.20**	**318**	*i*S	Sn	08 36 07.2	-3.0
PLIG	**Platanillo**	**3.49**	**325**	*e*P	Pn	08 35 34.8	-1.8
PLIG				*i*S	Sn	08 36 14.1	-3.2
PPM	**Popocatepetl**	**3.70**	**341**	*e*P	Pn	08 35 37.5	-2.0
PPM				*e*P		08 35 40.0	
PPM				*i*S	Sn	08 36 21.2	-1.4
PPM	**Popocatepetl**	**3.70**	**341**	*e*P	Pn	08 35 40.0	+0.4
PPM				*i*S	Sn	08 36 21.2	-1.4
IIO	**Organos**	**4.23**	**342**	*i*P	Pn	08 36 00.2	+13
IIO				*i*S	Sn	08 36 46.8	+11

IDC 20 08:36:36.0±1.3, 2183N×14322E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/21, mbtmp3.6/4, Error ellipse: s-maj=52.1km s-min=27.0km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.26**	**320**	P	P	08 44 06.1	-0.1
	1.1nm,0.9s,baz=126,slow=8.4,SNR=5.1						
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	08 44 32.8	+0.5
	0.5nm,0.7s,baz=17,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**46.12**	**192**	P	P	08 45 01.8	-0.2
	0.4nm,0.6s,baz=15,slow=8.9,SNR=9.2						
NVAR	**Mina Array Bea**	**83.03**	**52**	P	P	08 49 04.1	+0.9
	0.3nm,0.6s,baz=272,slow=7.1,SNR=4.6						

*ISCJB **20** 08:41:49.8±2.3, 2183N±006×143.1E±0.1, h23km±16km, mb4.3/26, MS3.9/4, Error ellipse: s-maj=16.2km s-min=8.9km az=154.1*
*BJI **20** 08:41:51.3, 2181N×14364E, h53km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **20** 08:41:53.9±1.7, 2188N×14306E, h43km±15km, mb4.6/5, Error ellipse: s-maj=15.0km s-min=7.3km az=83.0*
*IDC **20** 08:41:55.2±3.5, 2186N×14299E, h52km±31km, mb3.9/14, mb1 4.0/16, mb1mx4.0/24, mbtmp4.2/16, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/30, Error ellipse: s-maj=26.9km s-min=13.7km az=85.0*
*MOS **20** 08:41:56.3±1.1, 2181N×143.13E, h80km, mb4.6/8, Error ellipse: s-maj=22.1km s-min=10.8km az=107.7*

ISC 20 08:41:53.8±1.4, 2189N±006×1432E±01, h40km±12km, h44km±1.6km: pP-P, n58, σ0:84/53, mb4.3/26, MS3.9/4, 5C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.27**	**350**	P	**Pn**	**08 43 10.1**	**0.0**
	30nm,0.3s,baz=279,slow=20,SNR=15						
JHJ	**Hachijo jima 2**	**11.60**	**346**	LR	LR	08 48 48.8	
	comp=Z,164nm,19.2s,baz=153,slow=36						
JOW	**Kunigami**	**14.47**	**293**	LR	LR	08 49 42.6	
	comp=Z,167nm,18.4s,baz=23,slow=33						
MJAR	**Matsushiro Arr**	**15.24**	**344**	P	**Pn**	**08 45 25.2**	**-0.9**
	0.4nm,0.3s,baz=199,slow=7.5,SNR=4.2						
MAJO	**Matsushiro**	**15.24**	**344**	*e*P	**Pn**	**08 45 25.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**15.24**	**344**	*e*Pn	**Pn**	**08 45 25.6**	**-0.5**
	comp=Z,5.2nm,0.5s						
NACB	**Ninganchiao**	**20.03**	**281**	*e*P	**P**	**08 46 22.5**	**-0.7**
NACB				*e*pP		08 46 36.5	
KSRS	**Korea Array**	**20.38**	**323**	P	**P**	**08 46 28.0**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=142,slow=8.7,SNR=16						
MDJ	**Mudanjiang**	**25.30**	**337**	P	**P**	**08 47 16.3**	**-0.3**
MDJ				AP	pP	08 47 27.1	-0.3
MDJ				XP	sP	08 47 32.3	+0.2
MDJ				PCP	PcP	08 50 47.8	-1.0
MDJ				S	**S**	**08 51 38.5**	**-1.3**
MDJ				XS	sS	08 51 59.5	+1.6
MDJ				SCP	ScP	08 54 23.8	-1.0
MDJ				PCS	PcS

comp=Z,4.0nm,1.6s,mb3.8
YAK Yakutsk 41.19 350⇑ *e*P **P 08 49 34.2 -0.3**
YAK pmax pmax
comp=Z,13nm,0.7s,mb4.7
SEY Seymchan 41.49 6⇑ *e*P **P 08 49 38.2 +1.2**
CTA Charters Tower 41.82 176 P **P 08 49 40.3 +0.6**
comp=Z,3.3nm,0.7s,mb4.0,baz=31,slow=5.9,SNR=2.2
ZAK Zakamensk 42.21 322⇓ *i*P **P 08 49 42.7 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
WRAB Tennant Creek 42.46 192 *i*P **P 08 49 44.5 -0.3**
WRAB Tennant Creek 42.46 192 *e*P **P 08 49 44.4 -0.4**
comp=Z,12nm,1.3s,mb4.3
WRA Warramunga Arr 42.47 192 P **P 08 49 44.5 -0.4**
comp=Z,2.4nm,0.9s,mb3.8,baz=17,slow=8.9,SNR=20
WRA Warramunga Arr 42.47 192 *i*P **P 08 49 44.4 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 46.17 192 P **P 08 50 14.2 -0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=19,slow=9.9,SNR=25
WMQ Urumqi 50.48 309 P **P 08 50 48.5 +0.7**
WMQ AMB AMB
comp=Z,28nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,125nm,3.7s
WMQ LR LR
comp=Z,132nm,17.3s,MS4.0
STKA Stephens Creek 53.48 182 P **P 08 51 09.7 -0.4**
comp=Z,3.1nm,0.9s,mb4.2,baz=351,slow=7.3,SNR=4.8
STKA Stephens Creek 53.48 182 *e*P **P 08 51 10.1 0.0**
MKAR Makanchi Array 54.59 313 P **P 08 51 17.6 -0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=89,slow=9.7,SNR=7.9
MKAR Makanchi Array 54.59 313⇑ *e*P **P 08 51 18.2 0.0**
AAK Ala-Archa 60.08 307⇑ *e*P **P 08 51 56.7 -0.1**
AAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
CHKZ Chkalovo 62.41 320 *e*P **P 08 52 11.4 -1.2**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
CHKZ Chkalovo 62.41 320 *e*P **P 08 52 11.4 -1.2**
comp=Z,5.1nm,0.9s,mb4.7
BRVK Borovoye 62.61 319 *e*P **P 08 52 14.0 0.0**
ZRNK Zerenda 63.38 319 *e*P **P 08 52 18.4 -0.7**
ZRNK pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
ZRNK Zerenda 63.38 319 *e*P **P 08 52 18.4 -0.7**
comp=Z,6.6nm,1.1s,mb4.7
INK Inuvik 67.39 24 P **P 08 52 45.9 +0.9**
comp=Z,1.9nm,0.8s,mb4.2,baz=252,slow=10.0,SNR=4.2
YKA Yellowknife Ar 76.28 28 P **P 08 53 38.5 +0.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=295,slow=5.8,SNR=5.2
YKA Yellowknife Ar 76.28 28 P **P 08 53 38.5 +0.1**
PPT Papeete 76.58 115 LR LR 09 23 51.9
comp=Z,110nm,18.3s,MS4.2,baz=63,slow=33
ARCES ARCESS Array B 78.75 341 P **P 08 53 52.3 +0.1**
comp=Z,5.4nm,1.0s,mb4.4,baz=70,slow=7.9,SNR=6.3
OBN Obninsk 81.35 326 *e*P **P 08 54 06.8 +0.6**
NVAR Mina Array Bea 83.00 52 P **P 08 54 16.1 +1.3**
comp=Z,1.1nm,0.7s,mb4.0,baz=271,slow=6.1,SNR=9.5
FINES FINESS Array B 83.02 334 P **P 08 54 13.3 -1.7**
comp=Z,3.5nm,1.1s,mb4.3,baz=83,slow=6.0,SNR=4.9
FINES FINESS Array B 83.02 334 *i*P **P 08 54 14.1 -0.9**
FINES pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 83.02 334 P **P 08 54 13.3 -1.7**
AKASG Malin Array Be 87.37 324 P **P 08 54 34.6 -2.1**
comp=Z,0.4nm,0.4s,mb4.0,baz=46,slow=4.0,SNR=4.4
AKASG Malin Array Be 87.37 324 *i*P **P 08 54 36.7 0.0**
BRTR Keskin Array B 90.23 313 P **P 08 54 48.5 -1.6**
comp=Z,1.1nm,0.8s,mb4.2,baz=67,slow=4.3,SNR=3.8
BRTR Keskin Array B 90.23 313⇑ *e*P **P 08 54 48.5 -1.7**
TORD Torodi Ar. Bea 128.65 309 PKP PKPdf 09 00 56.6 0.0
comp=Z,0.3nm,0.5s,baz=25,slow=1.5,SNR=5.1
LPAZ La Paz 149.89 85 PKPab PKPab 09 01 48.1 +2.8
comp=Z,1.7nm,0.6s,baz=246,slow=3.4,SNR=10
LPAZ La Paz 149.89 85 *e*PKPbc PKPbc 09 01 40.8 +1.2
LPAZ *e*PKPab PKPab 09 01 47.6 +2.3

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*HLW **20** 08:57:00.1,31.36N×35.29E,h1km,Mb3.3*
*GII **20** 08:57:01.9±1.4,31.09N×35.46E,h6km±2km,ML3.4/10, Mw3.0/7*
*ISCJB **20** 08:57:02.2±0.6,31.11N±003×35.37E±006,h15km±4km, Error ellipse: s-maj=9.5km s-min=4.2km az=33.2*
*CSEM **20** 08:57:02.5±0.1,31.13N×35.35E,h12km,Mw2.4,Error ellipse: s-maj=3.2km s-min=1.6km az=108.0*

ISC 20 08:57:01.8±0.3,3110N±002×3548E±003,h10km±3km,n48, σ0983/60,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.24**	**335**	Pg	**Pg**		**08 57 07.4**	**+0.7**
MZDA				Sg	**Sg**		**08 57 10.4**	**+0.5**
DRGI	**Dragot**	**0.50**	**352**	Pg	**Pg**		**08 57 12.1**	**+0.5**
ZFRI	**Zfri**	**0.60**	**206**	Pg	**Pg**		**08 57 13.4**	**0.0**
MASH	**Mash'abbe Sade**	**0.60**	**261**	Pg	**Pg**		**08 57 13.0**	**-0.5**
RTMI	**Retamim**	**0.68**	**267**	Pg	**Pg**		**08 57 14.9**	**0.0**
SVTA	**Shivta**	**0.75**	**258**	Pg	**Pg**		**08 57 16.2**	**-0.1**
PRNI	**Paran**	**0.84**	**209**	Pg	**Pg**		**08 57 17.9**	**-0.2**
PRNI				Sg	**Sg**		**08 57 29.6**	**+0.5**
KZIT	**Kziot**	**0.95**	**259**	Pg	**Pg**		**08 57 19.6**	**-0.4**
KZIT				Sg	**Sg**		**08 57 32.6**	**+0.3**
HMDT	**Nahal Hemdat**	**1.16**	**2**	Pg	**Pg**		**08 57 23.5**	**-0.5**
SLTI	**Sal'it**	**1.20**	**342**	Pg	**Pg**		**08 57 24.2**	**-0.7**
SLTI				Sg	**Sg**		**08 57 41.4**	**+0.9**
MMLI	**Mount Malkishu**	**1.34**	**358**	Pn	**Pn**		**08 57 26.6**	**0.0**
MBH	**Mount Berech**	**1.39**	**201**	Pn	**Pn**		**08 57 26.8**	**-0.4**
AQBJ	**Aqaba**	**1.41**	**195**	Pn	**Pn**		**08 57 27.4**	**-0.2**
EIL	**Elat**	**1.49**	**198**	Pn	**Pn**		**08 57 28.4**	**-0.3**
OFRI	**'Ofer**	**1.58**	**345**	Pn	**Pn**		**08 57 30.2**	**+0.3**
HNKL	**Nakhl**	**1.74**	**228**	P	**Pn**		**08 57 31.4**	**-0.7**
MMA0	**Mount Meron ar**	**1.92**	**358**	Pn	**Pn**		**08 57 35.5**	**+1.0**
HBST	**Basata**	**1.98**	**199**	P	**Pn**		**08 57 37.0**	**+1.7**
AMAG	**Maghara**	**2.00**	**258**	P	**Pn**		**08 57 33.4**	**-2.3**
HDHB	**Dhahab**	**2.48**	**198**	P	**Pn**		**08 57 44.0**	**+1.7**
SUZ		**2.60**	**242**	P	**Pn**		**08 57 43.0**	**-1.0**
ZNM		**2.83**	**233**	P	**Pn**		**08 57 46.6**	**-0.4**
HKAT	**Jabal Katrina**	**2.87**	**207**	P	**Pn**		**08 57 49.2**	**+1.6**
HKAT	**Jabal Katrina**	**2.87**	**207**	P	**Pn**		**08 57 49.2**	**+1.6**
HRDS	**Abu Rudays**	**3.04**	**219**	P	**Pn**		**08 57 51.0**	**+1.1**
ZAF		**3.11**	**235**	P	**Pn**		**08 57 50.1**	**-0.8**
HHAG	**Hagoal**	**3.13**	**250**	P	**Pn**		**08 57 49.7**	**-1.5**
KOT	**Kottamia**	**3.36**	**251**	P	**Pn**		**08 57 52.8**	**-1.5**
GLL	**Jalalah**	**3.59**	**246**	P	**Pn**		**08 57 56.4**	**-1.2**
GRB	**Gharib**	**3.66**	**220**	P	**Pn**		**08 57 59.3**	**+0.8**

IDC 20 08:59:13.1±1.9,1949S×17760W,h0km,mb3.9/6, mb1 4.3/6,mb1mx4.1/14,mbtmp3.9/6,Error ellipse: s-maj=168.2km s-min=21.5km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.57**	**243**	P	P		09 06 37.7	+0.1
	0.9nm,0.6s,baz=81,slow=12,SNR=4.6							
WB2	**Warramunga Arr**	**45.11**	**261**	*e*P	P		09 07 31.2	+0.1
WRA	**Warramunga Arr**	**45.12**	**261**	P	P		09 07 31.6	+0.3
	0.8nm,0.3s,baz=97,slow=7.5,SNR=29							
ASAR	**Alice Springs**	**45.13**	**256**	P	P		09 07 31.7	+0.5
	3.7nm,0.6s,baz=94,slow=8.1,SNR=64							
NVAR	**Mina Array Bea**	**80.03**	**43**	P	P		09 11 25.7	+1.2
	0.4nm,0.6s,baz=231,slow=7.7,SNR=5.0							
TXAR	**Lajitas Array**	**86.19**	**57**	P	P		09 11 57.1	+0.7
	0.4nm,0.6s,baz=223,slow=5.4,SNR=6.1							
PDAR	**Pinedale Array**	**87.97**	**43**	P	P		09 12 04.2	-0.8
	0.4nm,0.6s,baz=224,slow=2.5,SNR=4.6							

IDC 20 09:07:56.7±7.5,2228N×14492E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.7/18,mbtmp3.7/4,Error ellipse: s-maj=280.3km s-min=23.8km az=75.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.94**	**319**	P	P		09 15 33.0	+0.4
	1.4nm,0.8s,baz=128,slow=7.3,SNR=7.2							
WRA	**Warramunga Arr**	**43.22**	**195**	P	P		09 15 59.7	+0.1
	0.5nm,0.5s,baz=17,slow=9.3,SNR=8.5							
ASAR	**Alice Springs**	**46.91**	**194**	P	P		09 16 29.2	+0.3
	0.6nm,0.6s,baz=15,slow=10.0,SNR=15							
MKAR	**Makanchi Array**	**55.50**	**312**	P	P		09 17 33.1	-0.3
	0.5nm,0.4s,baz=92,slow=10.0,SNR=2.6							

2006 OCT

IDC 20 09:27:48.5±32.0,1545S×17879W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/14,mbtmp4.0/4,Error ellipse: s-maj=599.6km s-min=143.9km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.55**	**238**	P	P		09 35 20.2	-1.0
	1.0nm,0.5s,baz=101,slow=12,SNR=4.5							
WB2	**Warramunga Arr**	**44.76**	**257**	*e*P	P		09 36 04.7	+1.0
WRA	**Warramunga Arr**	**44.77**	**257**	P	P		09 36 04.8	+1.0
	0.4nm,0.2s,baz=89,slow=8.1,SNR=18							
ASAR	**Alice Springs**	**45.16**	**252**	P	P		09 36 07.2	+0.4
	3.8nm,0.6s,baz=89,slow=8.1,SNR=47							
ASPA	**Alice Springs**	**45.16**	**252**	*e*P	P		09 36 07.1	+0.2
FITZ	**Fitzroy Crossi**	**53.11**	**259**	P	P		09 37 08.5	+0.7
	0.7nm,0.4s,baz=120,slow=8.1,SNR=5.7							

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*NIED **20** 09:59:00,20.10N×121.80E,h20km,Mw4.6 Best double couple: M0=7.82000×10^15 NP1:φ=186.00000°,δ=64.00000°, λ=81.00000°. NP2:φ=26.00000°,δ=27.00000°,λ=108.00000°.*
*IDC **20** 09:59:16.9±0.5,1979N×121.32E,h0km,mb4.4/17, mb1 4.6/19,mb1mx4.5/25,mbtmp4.4/19,ML4.5/2,MS3.9/8, Ms1 3.9/8,ms1mx3.4/34,Error ellipse: s-maj=26.7km s-min=11.5km az=70.0*
*ISCJB **20** 09:59:17.1±1.6,1984N±003×121.42E±006,h15km±11km, mb4.5/39,MS4.0/13,Error ellipse: s-maj=8.8km s-min=4.6km az=160.2*
*NEIC **20** 09:59:19.1±2.4,1982N×121.38E,h15km±15km,mb4.7/15, Error ellipse: s-maj=7.9km s-min=4.5km az=81.0*
*MOS **20** 09:59:20.8±1.0,1982N×121.43E,h40km,mb4.8/19,Error ellipse: s-maj=13.9km s-min=6.7km az=114.1*
*BJI **20** 09:59:26.5,2041N×121.10E,h53km,mB4.7,mb4.4,ML4.1, Ms4.2,Msz4.2*

ISC 20 09:59:21.4±1.5,1984N±003×12142E±005,h29km±10km, n103,σ1§05/110,mb4.5/39,MS4.0/13,9C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.16**	**170⇑**	*e*P	**Pn**		**09 59 59.0**	**+3.6**
PCPH	**Palayan**	**4.27**	**184**	*e*P	**Pn**		**10 00 27.7**	**+3.4**
NACB	**Ninganchiao**	**4.31**	**2**	*e*Pn	**Pn**		**10 00 22.5**	**-2.4**
NACB				*e*Sn	**Sn**		**10 01 15.4**	**+1.2**
YHNB	**Yeheng**	**4.80**	**360**	*e*Pn	**Pn**		**10 00 32.4**	**+0.7**
YHNB				*e*Sn	**Sn**		**10 01 26.4**	**0.0**
QZH	**Quanzhou**	**5.71**	**333**	P	**Pn**		**10 00 40.6**	**-3.5**
QZH				S	**Sn**		**10 01 40.4**	**-8.2**
QZH				Smax				
comp=N,160nm,0.7s								
QZH				Smax				
comp=E,290nm,0.8s								
QZH				LR	LR			
comp=N,3μm,16.9s								
QZH				LR	LR			
comp=E,800nm,9.7s								
QZH				LR	LR			
comp=Z,3μm,14.7s								
TGY	**Tagaytay City**	**5.73**	**185**	Pn	**Pn**		**10 00 44.0**	**-0.4**
comp=Z,26nm,0.3s,baz=253,slow=11,SNR=1.8								
JOW	**Kunigami**	**9.38**	**41**	Pn	**Pn**		**10 01 34.7**	**+0.1**
comp=Z,7.0nm,0.3s,baz=198,slow=13,SNR=16								
JOW				LR	LR		10 05 24.0	
comp=Z,565nm,21.9s,baz=244,slow=39								
QIZ	**Qiongzhong**	**10.95**	**268**	*e*Pn	**Pn**		**10 01 53.5**	**-2.5**
comp=Z,28nm,0.6s								
SSE	**Sheshan**	**11.21**	**359**	*e*P	**Pn**		**10 01 56.8**	**-2.7**
SSE				S	**Sn**		**10 04 02.8**	**-1.0**
SSE				XS			10 04 13.6	
SSE				AMB	AMB			
comp=Z,39nm,0.7s								
SSE				AMB	AMB			
comp=Z,51nm,3.5s								
SSE				LR	LR			
comp=N,398nm,17.7s								
SSE				LR	LR			
comp=E,573nm,17.7s								
SSE				LR	LR			
comp=Z,592nm,16.4s								
SSE	**Sheshan**	**11.21**	**359**	*e*P	**Pn**		**10 01 56.7**	**-2.8**
SSE				S	**Sn**		**10 04 02.8**	**-1.0**
SSE				sS			10 04 13.6	
NJ2	**Nanjing**	**12.37**	**350**	*e*P	**Pn**		**10 02 15.3**	**-0.2**
NJ2				AP			10 02 22.1	
NJ2				XP			10 02 27.1	
NJ2				S	**Sn**		**10 04 32.9**	**+0.6**
NJ2				AMB	AMB			
comp=Z,20nm,0.6s								
NJ2				LR	LR			
comp=N,1μm,16.8s								
NJ2				LR	LR			
comp=E,890nm,20.9s								
NJ2				LR	LR			
comp=Z,5μm,16.7s								
WHN	**Wuhan**	**12.42**	**330**	P	**Pn**		**10 02 18.3**	**+2.2**
WHN				AP			10 02 26.3	
WHN				LR	LR			
comp=Z,3μm,13.8s								
XAN	**Xi'an**	**17.98**	**324**	P	**Pn**		**10 03 28.5**	**-0.5**
XAN				AP	pP		10 03 39.1	+2.0
XAN				AMB	AMB			
comp=Z,16nm,1.3s								
XAN				AMB	AMB			
comp=Z,157nm,5.8s								
XAN				LR	LR			
comp=N,473nm,13.9s								
XAN				LR	LR			
comp=E,235nm,13.9s								
XAN				LR	LR			
comp=Z,846nm,14.8s								
KMI	**Kunming**	**18.03**	**290**	P	**Pn**		**10 03 31.6**	**+1.9**
KMI				AP	pP		10 03 39.6	+1.8
KMI				XP	sP		10 03 43.9	+2.4
KMI				PP			10 03 48.5	
KMI				AMB	AMB			
comp=Z,9.0nm,0.5s								
KMI				AMB	AMB			
comp=Z,98nm,3.8s								
KMI				LR	LR			
comp=N,465nm,14.5s								
KMI				LR	LR			
comp=E,680nm,14.2s								
KMI				LR	LR			
comp=Z,791nm,14.4s								
KMI	**Kunming**	**18.03**	**290**	P	**Pn**		**10 03 31.6**	**+1.9**
KMI				pP	pP		10 03 39.6	+1.8
KMI				sP	sP		10 03 43.9	+2.4
KMI				PP			10 03 48.5	
KMI				S	**Sn**		**10 06 54.6**	**+4.6**
KMI				sS	sS		10 07 11.9	+4.3
KMI				SS			10 07 18.1	
CD2	**Chengdu**	**19.36**	**308**	P	**Pn**		**10 03 44.0**	**-1.8**
CD2				AP	pP		10 03 52.8	+0.4
CD2				XP	sP		10 03 56.6	+0.5
CD2				PP			10 04 02.0	
CD2				S	**Sn**		**10 07 15.8**	**-6.3**
CD2				XS	sS		10 07 29.0	-5.5
CD2				AMB	AMB			
comp=Z,30nm,0.5s								
CD2				AMB	AMB			
comp=Z,300nm,4.6s								
CD2				LR	LR			
comp=E,1μm,15.0s								
CD2				LR	LR			
comp=N,780nm,15.0s								
CD2				LR	LR			
comp=Z,1μm,15.6s								
BJT	**Baijiatuau**	**20.61**	**348**	*e*P	**P**		**10 03 58.2**	**+0.1**
BJT				pmax	pmax			
comp=Z,63nm,0.9s								
BJT	**Baijiatuau**	**20.61**	**348**	*e*P	**P**		**10 03 58.2**	**+0.1**
comp=Z,63nm,0.9s								
CHTO	**Chiang Mai**	**21.23**	**271**	*e*P	**P**		**10 04 05.0**	**+0.2**
CHTO				pmax	pmax			
comp=Z,18nm,1.1s,mb4.3								
CHTO	**Chiang Mai**	**21.23**	**271**	*e*P	**P**		**10 04 05.0**	**+0.2**
comp=Z,18nm,1.1s,mb4.3								
KSM	**Kuching**	**21.25**	**212**	*e*P	**P**		**10 04 05.9**	**+0.9**
MAT	**Matsushiro**	**22.21**	**38**	P	**P**		**10 04 16.8**	**+1.5**
MAT				S	**S**		**10 08 19.0**	**+0.6**
MJAR	**Matsushiro Arr**	**22.21**	**38**	P	**P**		**10 04 17.2**	**+1.8**
comp=Z,6.0nm,0.9s,mb4.0,baz=228,slow=8.6,SNR=10								
MJAR	**Matsushiro Arr**	**22.21**	**38**	P	**P**		**10 04 17.2**	**+1.8**
LZH	**Lanzhou**	**22.36**	**320**	*e*P	**P**		**10 04 18.0**	**+1.0**
LZH				AP			10 04 23.3	
LZH				XS	sS		10 08 29.5	-4.5
LZH				AMB	AMB			
comp=Z,39nm,1.4s,mb4.6								
LZH				AMB	AMB			
comp=Z,132nm,4.0s								
LZH				LR	LR			
comp=N,596nm,14.4s								
LZH				LR	LR			
comp=Z,876nm,15.2s,MS4.3								
LZH	**Lanzhou**	**22.36**	**320**	*e*P	**P**		**10 04 18.0**	**+1.0**
LZH				*SP	sP		10 04 26.7	-1.9
LZH							10 04 46.2	
LZH				*e*S	**S**		**10 08 20.0**	**-1.3**
LZH				SS			10 09 02.5	
LZH	**Lanzhou**	**22.36**	**320**	*e*P	**P**		**10 04 18.0**	**+1.0**
LZH				pP			10 04 23.2	
LZH				sP	sP		10 04 26.7	-1.9
LZH				PP			10 04 46.2	
LZH				*e*S	**S**		**10 08 20.0**	**-1.3**
LZH				sS	sS		10 08 29.5	-4.5
LZH				SS			10 09 02.5	
MDJ	**Mudanjiang**	**25.62**	**14**	P	**P**		**10 04 48.6**	**+0.4**
MDJ				AP	pP		10 04 59.5	+2.8
MDJ				XP	sP		10 05 04.5	+4.3
MDJ				PCP	PcP		10 08 17.5	-1.0
MDJ				S	**S**		**10 09 14.8**	**+0.3**
MDJ				XS	sS		10 09 33.6	+5.1
MDJ				AMB	AMB			
comp=Z,9.0nm,0.9s,mb4.3								
MDJ				AMB	AMB			
comp=Z,38nm,4.0s								
MDJ				LR	LR			
comp=N,70nm,32.2s								
MDJ				LR	LR			
comp=E,179nm,26.5s								
MDJ				LR	LR			
comp=Z,147nm,21.5s								
PSI	**Prapat**	**27.74**	**235**	LR	LR		10 15 59.6	
comp=Z,207nm,18.0s,MS3.8,baz=302,slow=36								
SONM	**Songino Array**	**30.47**	**340**	P	**P**		**10 05 31.7**	**+0.2**
comp=Z,0.9nm,0.5s,mb3.8,baz=157,slow=8.2,SNR=9.4								
SONM				LR	LR		10 19 47.1	
comp=Z,342nm,18.2s,MS4.0,baz=266,slow=40								
KLR	**Kul'dur**	**30.47**	**13**	*e*P	**P**		**10 05 28.8**	**-2.7**
KLR				MLR	MLR			
comp=E,400nm,13.5s								
KLR				MLR	MLR			
comp=Z,900nm,13.5s,MS4.6								
YSS	**Yuzh-Sakhalins**	**32.17**	**28⇑**	*e*P	**P**		**10 05 45.1**	**-1.4**
YSS				pmax	pmax			
comp=Z,45nm,2.2s,mb4.9								
ZAK	**Zakamensk**	**33.70**	**339**	*e*P	**P**		**10 05 57.7**	**-2.2**
KAKA	**Kakadu**	**34.12**	**161**	*e*P	**P**		**10 06 01.8**	**-1.7**
comp=Z,6.6nm,0.6s,mb4.7								
TLY	**Talaya**	**34.70**	**340**	*e*P	**P**		**10 06 10.0**	**+1.5**
TLY				*e*			10 07 22.4	
TLY				pmax	pmax			
comp=Z,6.0nm,0.7s,mb4.6								
TLY				MLR	MLR			
comp=Z,166nm,15.0s,MS3.9								
WMQ	**Urumqi**	**36.91**	**318**	*e*P	**P**		**10 06 29.0**	**+1.5**
WMQ				AP	pP		10 06 41.0	+4.9
WMQ				XP	sP		10 06 47.0	+7.4
WMQ				*e*S	**S**		**10 12 10.0**	**-0.5**
WMQ				XS	sS		10 12 30.0	+5.3
WMQ				AMB	AMB			
comp=Z,12nm,0.6s,mb4.9								
WMQ				AMB	AMB			
comp=Z,149nm,5.2s								
WMQ				LR	LR			
comp=N,628nm,10.7s								
WMQ				LR	LR			
comp=E,650nm,17.8s								
WMQ				LR	LR			
comp=Z,700nm,18.3s								
FITZ	**Fitzroy Crossi**	**37.94**	**173**	*e*P	**P**		**10 06 34.6**	**-1.6**
comp=Z,6.9nm,0.6s,mb4.6								
FITZ	**Fitzroy Crossi**	**37.94**	**173**	P	**P**		**10 06 35.0**	**-1.1**
comp=Z,4.1nm,0.6s,mb4.3,baz=14,slow=17,SNR=6.8								
MBWA	**Marble Bar**	**40.78**	**182**	*e*P	**P**		**10 06 59.6**	**-0.3**
comp=Z,11nm,0.6s,mb4.7								
WRAB	**Tennant Creek**	**41.51**	**161⇓**	*e*P	**P**		**10 07 05.5**	**-0.4**
WRA	**Warramunga Arr**	**41.52**	**161**	P	**P**		**10 07 05.4**	**-0.6**
comp=Z,21nm,0.6s,mb5.0,baz=343,slow=9.1,SNR=306								
WRA				PcP	PcP		10 09 04.1	+1.0
comp=Z,3.1nm,0.6s,baz=343,slow=3.2,SNR=6.6								
WB2	**Warramunga Arr**	**41.52**	**161**	*e*P	**P**		**10 07 05.3**	**-0.7**
MK31	**Makanchi Array**	**41.67**	**319**	*e*P	**P**		**10 07 07.7**	**+0.5**
MKAR	**Makanchi Array**	**41.67**	**319**	P	**P**		**10 07 07.8**	**+0.6**
comp=Z,2.0nm,0.6s,mb3.9,baz=110,slow=11,SNR=8.3								
MKAR				PcP	PcP		10 09 03.7	+0.1
comp=Z,1.8nm,0.7s,baz=151,slow=2.8,SNR=3.9								
MKAR				LR	LR		10 27 37.1	
comp=Z,164nm,18.5s,MS3.9,baz=2.0,slow=41								
MKAR	**Makanchi Array**	**41.67**	**319**	P	**P**		**10 07 07.9**	**+0.7**
MKAR							10 09 03.7	
PET	**Petropavlovsk**	**43.81**	**32**	*i*P	**P**		**10 07 24.7**	**+0.1**
PET				*e*			10 07 36.5	
PET				pmax	pmax			
comp=Z,28nm,1.1s,mb4.9								
ZAL	**Zalesovo**	**44.04**	**330**	P	**P**		**10 07 27.2**	**+0.9**
comp=Z,1.8nm,0.7s,mb3.9,baz=19,slow=9.2,SNR=9.9								
ZAL				LR	LR		10 28 14.1	
comp=Z,165nm,20.0s,MS3.9,baz=209,slow=39								
AS31	**Alice Springs**	**44.93**	**164**	*e*P	**P**		**10 07 33.5**	**0.0**
ASAR	**Alice Springs**	**44.93**	**164**	P	**P**		**10 07 33.7**	**+0.2**
comp=Z,12nm,0.5s,mb5.0,baz=341,slow=6.6,SNR=230								
ASAR				LR	LR		10 25 35.4	
comp=Z,103nm,19.4s,MS3.8,baz=349,slow=35								
ASPA	**Alice Springs**	**44.93**	**164**	*e*P	**P**		**10 07 33.5**	**0.0**
AAK	**Ala-Archa**	**45.40**	**311**	*i*P	**P**		**10 07 36.7**	**-0.5**
CTA	**Charters Tower**	**46.55**	**147**	P	**P**		**10 07 46.9**	**+0.6**
comp=Z,6.3nm,0.6s,mb4.7,baz=327,slow=10.0,SNR=10								
HNR	**Honiara**	**47.81**	**124**	LR	LR		10 24 43.0	
comp=Z,142nm,19.1s,MS4.0,baz=359,slow=32								
FORT	**Forrest**	**50.73**	**173⇑**	*i*P	**P**		**10 08 18.9**	**+0.4**
comp=Z,77nm,0.7s								
BVAR	**Borovoye Array**	**51.20**	**323**	P	**P**		**10 08 22.3**	**+0.3**
comp=Z,1.1nm,0.6s,mb3.9,baz=82,slow=11,SNR=6.9								
BVAR				PcP	PcP		10 09 36.3	-0.8
comp=Z,3.1nm,0.6s,baz=113,slow=3.7,SNR=7.4								
KLBR	**Kellerberrin**	**51.26**	**184**	*e*P	**P**		**10 08 22.4**	**0.0**
comp=Z,5.9nm,0.5s,mb4.8								
BRVK	**Borovoye**	**51.27**	**323**	*e*P	**P**		**10 08 22.7**	**+0.2**
BRVK				pmax	pmax			
comp=Z,8.0nm,0.9s,mb4.7								
BRVK	**Borovoye**	**51.27**	**323**	*e*P	**P**		**10 08 22.7**	**+0.2**
comp=Z,8.4nm,0.9s,mb4.7								
CHKZ	**Chkalovo**	**51.30**	**324**	*e*P	**P**		**10 08 22.8

GNI pmax pmax
comp=Z,29nm,1.9s
KIV Kislovodsk 68.51 310 *eP* **P 10 10 21.6 +0.6**
KIV *e* 10 10 32.8
KIV *e* 10 10 47.2
KIV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.1
IMA2 Indian Mountai 69.99 26 *eP* **P 10 10 29.8 -0.3**
OBN Obninsk 71.05 323 P **P 10 10 37.0 +0.4**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
JOF Joensuu 72.59 331 *ep* **P 10 10 44.5 -1.3**
comp=Z,2.3nm,0.5s,mb4.4
KEV Kevo 73.07 339 *ep* **P 10 10 47.6 -1.1**
comp=Z,2.5nm,0.6s,mb4.3
KEV Kevo 73.07 339 *eP* **P 10 10 47.6 -1.1**
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ARCES ARCESS Array B 73.63 339 P **P 10 10 51.9 -0.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=80,slow=8.9,SNR=8.1
KAF Kangasniemi 75.03 331 *ep* **P 10 10 58.8 -1.3**
baz=74,slow=5.3
FINES FINESS Array B 75.30 330 P **P 10 11 01.5 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=110,slow=10,SNR=6.2
FINES FINESS Array B 75.30 330 *i P* **P 10 11 02.2 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 75.30 330 P **P 10 11 01.5 -0.1**
BRTR Keskin Array B 75.94 307 P **P 10 11 07.0 +1.7**
comp=Z,0.5nm,0.5s,mb3.7,baz=68,slow=1.8,SNR=3.2
AKASG Malin Array Be 76.26 319 P **P 10 11 06.1 -1.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=63,slow=4.8,SNR=8.5
AKASG Malin Array Be 76.26 319 *i P* **P 10 11 06.0 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
DAWY Dawson 76.30 27 *eP* **P 10 11 07.2 -0.2**
DAWY *e*PcP PcP 10 11 18.3 -0.9
SUW Suwalki 78.88 323 *eP* **P 10 11 22.2 +0.4**
KWP Kalwaria 80.58 319 *eP* **P 10 11 31.6 +0.6**
DAG Danmarks Havn 80.67 351⇑*iP* **P 10 11 30.9 -0.6**
comp=Z,5.3nm,0.6s,mb4.7
DAG Danmarks Havn 80.67 351⇑*iP* **P 10 11 30.9 -0.6**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
OJC Ojcow 82.14 321 *eP* **P 10 11 39.6 +0.3**
NB2 NORSAR Subarra 82.15 333 P **P 10 11 38.2 -1.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=63,slow=5.3
NB2 NORSAR Subarra 82.15 333 P **P 10 11 38.2 -1.1**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 82.15 333 P **P 10 11 38.5 -0.8**
comp=Z,2.1nm,0.7s,mb4.2,baz=63,slow=5.1,SNR=6.8
VYHS Vyhne 83.36 319 *eP* **P 10 11 46.5 +0.9**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
VYHS Vyhne 83.36 319 *eP* **P 10 11 46.5 +0.9**
comp=Z,3.8nm,1.4s,mb4.2
KSP Ksiaz 83.96 322 *eP* **P 10 11 49.0 +0.3**
KSP Ksiaz 83.96 322 *eP* **P 10 11 48.8 +0.1**
CLL Collm 85.64 323 *eP* **P 10 11 56.0 -1.2**
GERES GERESS Array B 86.32 321 P **P 10 12 00.4 -0.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=80,slow=8.3,SNR=4.0
YKA Yellowknife Ar 86.87 23 P **P 10 12 03.6 +0.4**
comp=Z,4.1nm,0.6s,mb4.8,baz=310,slow=4.6,SNR=11
YKA Yellowknife Ar 86.87 23⇑*eP* **P 10 12 03.5 +0.3**
TXAR Lajitas Array 114.58 43 PKP PKiKP 10 17 59.8 +1.2
comp=Z,0.5nm,0.6s,baz=223,slow=1.0,SNR=7.3
SDV Santo Domingo 149.09 24 *e*PKPdf PKPdf 10 19 03.8 +1.2
SDV *e*PKPbc PKPbc 10 19 07.8 +1.1

IDC 20 10:16:54.0±8.8, 654S×15300E, h48km±64km, mb3.4/3, mb1 3.7/4, mb1mx3.4/15, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=91.5km s-min=59.9km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.44**	**243**	P	Pn	10 18 27.3	+1.1
	2.8nm,0.3s,baz=67,slow=13,SNR=8.0						
PMG				S	Sn	10 19 39.8	+1.4
	1.7nm,0.3s,baz=188,slow=11,SNR=2.6						
KAKA	**Kakadu**	**21.17**	**252**	*eP*	P	10 21 34.6	-0.4
	12nm,0.4s						
WRA	**Warramunga Arr**	**22.49**	**232**	P	P	10 21 48.6	-0.5
	0.7nm,0.8s,baz=55,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**25.03**	**225**	P	P	10 22 13.7	+0.2
	1.0nm,0.7s,baz=55,slow=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**29.04**	**244**	P	P	10 22 49.2	-0.2
	1.2nm,0.4s,baz=59,slow=9.1,SNR=11						
TORD	**Torodi Ar. Bea**	**150.99**	**285**	PKPbc	PKPbc	10 36 43.4	+2.0
	0.7nm,0.8s,baz=43,slow=1.4,SNR=3.9						

*CSEM **20** 10:36:18.5±0.1, 3704N×2809E, h10km, MD2.9, Error ellipse: s-maj=3.3km s-min=2.6km az=34.0*
*ATH **20** 10:36:18.0, 3708N×2826E, h36km±2km, MD3.1/3*
*ISK **20** 10:36:18.6, 3702N×2809E, h16km, MD2.9*
*ISCJB **20** 10:36:19.5±0.5, 3704N±003×2805E±003, h9km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=64.7*
ISC 20 10:36:19.7±0.5, 3703N±003×**2807E**±003, **h10**km±4km, **n17**, σ0$92/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.35**	**318**	PG	**Pg**	**10 36 25.9**	**-0.7**
MLSB				SG	**Sg**	**10 36 33.1**	**+1.8**
DAT	**Datca**	**0.50**	**232**	PG	**Pg**	**10 36 28.5**	**-0.9**
DAT				SG	**Sg**	**10 36 37.5**	**+1.6**
BDRM	**Kayabasi**	**0.50**	**274**	*i P*	**Pg**	**10 36 28.7**	**-0.7**
BDRM				*i* S	**Sg**	**10 36 37.3**	**+1.3**
DALT	**Dalyan (Mudla)**	**0.53**	**120**	PG	**Pg**	**10 36 28.7**	**-1.2**
DALT				SG	**Sg**	**10 36 37.3**	**+0.5**
BODT	**Bodrum**	**0.61**	**273**	PG	**Pg**	**10 36 30.8**	**-0.6**
AYDN	**Tasoluk**	**0.64**	**346**	*i P*	**Pg**	**10 36 31.7**	**-0.4**
AYDN				*i* S	**Sg**	**10 36 41.1**	**+0.5**
ARG	**Arkhangelos**	**0.82**	**177**	*e*PN	**Pg**	**10 36 34.9**	**-0.5**
ARG	**Arkhangelos**	**0.82**	**177**	*e*Pn	**Pg**	**10 36 34.1**	**-1.3**
DNZL	**Cakiroluk**	**1.02**	**50**	*i P*	**Pg**	**10 36 44.9**	**+5.7**
DNZL				*i* S	**Sg**	**10 36 59.4**	**+7.0**
DENT	**Denizli**	**1.05**	**47**	PG	**Pg**	**10 36 39.3**	**-0.6**
SMG	**Samos**	**1.19**	**305**	*e*PN	**Pn**	**10 36 41.7**	**-0.7**
SMG				*e*SN	**Sn**	**10 36 58.4**	**-0.3**
GOLH	**Golhisar**	**1.21**	**80**	*i P*	**Pn**	**10 36 43.1**	**+0.5**
GOLH				*i* S	**Sb**	**10 37 00.4**	**+2.0**
AKAS	**Kas**	**1.47**	**122**	*i P*	**Pn**	**10 36 47.0**	**+0.8**
AKAS				*i* S	**Sg**	**10 37 11.3**	**+4.3**
IZM	**Izmir**	**1.50**	**335**	PN	**Pn**	**10 36 46.1**	**-0.6**
KDAG	**Bornova**	**1.51**	**335**	*i P*	**Pn**	**10 36 47.0**	**+0.3**
KDAG				*i* S	**Sn**	**10 37 05.7**	**-0.8**
KARP	**Karpathos**	**1.66**	**207**	*e*PN	**Pn**	**10 36 48.3**	**-0.5**
KARP				*e*SN	**Sn**	**10 37 10.2**	**+0.1**
TKTP	**Tekketepe**	**2.05**	**60**	*i P*	**Pn**	**10 36 55.0**	**+0.8**
TKTP				*i* S	**Sg**	**10 37 24.6**	**-1.0**

IDC 20 10:43:12.4±10.0, 4207S×8175E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=329.9km s-min=31.0km az=136.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**27.56**	**196**	P	P	10 49 00.6	-0.4
	1.7nm,0.8s,baz=45,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**46.74**	**84**	P	P	10 51 43.6	+0.4
	0.9nm,1.1s,baz=241,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**49.32**	**80**	P	P	10 52 03.0	-0.2
	1.5nm,1.2s,baz=231,slow=7.8,SNR=5.4						

*ISCJB **20** 10:45:48.9±1.3, 1347S±007×768W±0.1, h46km±12km, mb4.3/16, Error ellipse: s-maj=21.0km s-min=7.0km az=121.9*
*NEIC **20** 10:45:50.7±1.0, 1339S×7670W, h43km±9km, mb4.7/6, Error ellipse: s-maj=13.8km s-min=5.7km az=63.0*
NEIC Felt [III] at Chincha Alta and Pisco.
*IDC **20** 10:45:51.1±1.7, 1345S×7676W, h47km±15km, mb4.0/11, mb1 4.2/16, mb1mx4.1/22, mbtmp4.2/16, ML4.3/3, Error ellipse: s-maj=29.0km s-min=9.5km az=68.0*
ISC 20 10:45:50.6±1.1, 1345S±006×**768W**±01, **h41**km±10km, **n40**, σ1$00/39, **mb4.3/16, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.46**	**356**	P	**Pn**	**10 46 13.1**	**-1.5**
	531nm,0.3s,baz=177,slow=12,SNR=219						
NNA				S	**Sn**	**10 46 33.4**	**+0.9**
	4μm,0.3s,baz=291,slow=17,SNR=43						
NNA	**Nana**	**1.46**	**356**	P	**Pn**	**10 46 13.1**	**-1.5**
NNA				S	**Sn**	**10 46 33.4**	**+0.9**
ARE	**Arequipa**	**5.89**	**121**	*eP*	**Pn**	**10 47 17.0**	**+1.6**
ARE				*eS*	**Sn**	**10 48 39.0**	**+17**
ATAH	**Atahualpa**	**6.61**	**346**	P	**Pn**	**10 47 25.0**	**-0.3**
	8.5nm,0.3s,baz=141,slow=6.5,SNR=15						
ATAH				S	**Sn**	**10 48 50.6**	**+11**
	7.3nm,0.3s,baz=239,slow=20,SNR=6.2						
LPAZ	**La Paz**	**8.79**	**110**	P	**Pn**	**10 47 58.0**	**+2.8**
	1.7nm,0.3s,baz=292,slow=10,SNR=26						
LPAZ	**La Paz**	**8.79**	**110**	P	**Pn**	**10 47 58.0**	**+2.8**
LVC	**Limon Verde**	**11.77**	**142**	P	**Pn**	**10 48 35.0**	**-0.8**
	2.9nm,0.3s,baz=309,slow=9.5,SNR=28						
OTAV	**Otavalo**	**13.71**	**353**	*eP*	**Pn**	**10 49 03.0**	**+0.7**
	22nm,0.8s						
SAML	**Samuel**	**14.04**	**73**	*eP*	**Pn**	**10 49 04.6**	**-2.2**
SIV	**San Ignacio**	**15.37**	**101**	P	**Pn**	**10 49 24.1**	**-0.4**
	0.3nm,0.3s,baz=280,slow=15,SNR=11						
CFAA	**Coronel Fontan**	**19.68**	**158**	P	**Pn**	**10 50 16.4**	**-1.5**
	0.1nm,0.3s,baz=331,slow=9.3,SNR=19						
CPUP	**Villa Florida**	**22.27**	**128**	P	**P**	**10 50 43.5**	**-0.5**
	6.8nm,0.9s,mb4.1,baz=293,slow=9.6,SNR=14						
SDV	**Santo Domingo**	**23.01**	**16**	P	**P**	**10 50 52.6**	**+0.7**
	7.7nm,0.6s,mb4.3,baz=289,slow=13,SNR=10						
SDV	**Santo Domingo**	**23.01**	**16**	*eP*	**P**	**10 50 51.9**	**0.0**
	26nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**27.71**	**170**	P	**P**	**10 51 35.6**	**+0.7**
	1.6nm,0.6s,mb3.8,baz=329,slow=12,SNR=5.4						
TXAR	**Lajitas Array**	**49.85**	**329**	P	**P**	**10 54 40.0**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=155,slow=8.7,SNR=16						
LAZ	**Ladron**	**55.67**	**330**	*eP*	**P**	**10 55 23.4**	**+0.8**
ANMO	**Albuquerque**	**55.78**	**331**	*eP*	**P**	**10 55 23.1**	**-0.3**
	5.3nm,1.1s,mb4.5						
SDCO	**Great Sand Dun**	**57.64**	**333**	*eP*	**P**	**10 55 35.9**	**-0.7**
	1.6nm,0.9s,mb4.0						
FRNY	**Flat Rock**	**58.08**	**3**	*eP*	**P**	**10 55 39.8**	**+0.1**
SMCO	**Snowmass**	**59.47**	**333**	P	**P**	**10 55 50.4**	**+1.1**
	7.0nm,1.1s,mb4.6						
ARUT	**Antelope Range**	**61.51**	**327**	*eP*	**P**	**10 56 04.5**	**+1.3**
PDAR	**Pinedale Array**	**63.53**	**334**	P	**P**	**10 56 16.3**	**-0.4**
	0.9nm,0.9s,mb3.8,baz=142,slow=7.5,SNR=5.4						
AGMN	**Agassiz Refuge**	**63.78**	**346**	*eP*	**P**	**10 56 17.8**	**-0.6**
	6.9nm,0.7s,mb4.8						
MTUM	**Tungsten Hills**	**64.01**	**324**	*eP*	**P**	**10 56 21.0**	**+1.1**
NVAR	**Mina Array Bea**	**64.61**	**325**	P	**P**	**10 56 23.6**	**-0.2**
	0.8nm,0.9s,mb3.8,baz=155,slow=7.2,SNR=5.4						
ULM	**Lac du Bonnet**	**65.61**	**347**	P	**P**	**10 56 29.4**	**-0.9**
	8.3nm,0.7s,mb4.9,baz=171,slow=5.9,SNR=12						
SCHQ	**Schefferville**	**68.53**	**6**	P	**P**	**10 56 47.7**	**-1.1**
	7.3nm,0.9s,mb4.6,baz=175,slow=3.2,SNR=7.1						
SCHQ	**Schefferville**	**68.53**	**6**	P	**P**	**10 56 47.7**	**-1.1**
EDM	**Edmonton**	**73.44**	**338**	*eP*	**P**	**10 57 17.6**	**-1.1**
QSPA	**South Pole Qui**	**76.69**	**180**	*eP*	**P**	**10 57 37.2**	**-0.1**
	12nm,1.4s,mb4.6						
YKA	**Yellowknife Ar**	**81.26**	**343**	P	**P**	**10 58 01.2**	**-1.1**
	1.1nm,0.5s,mb4.0,baz=141,slow=5.0,SNR=6.4						
TOAO	**Torodi Ar. Sit**	**82.09**	**74**	*eP*	**P**	**10 58 07.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**82.09**	**74**	P	**P**	**10 58 07.8**	**+1.0**
	12nm,0.8s,mb4.9,baz=264,slow=5.0,SNR=59						
VNDA	**Vanda**	**83.37**	**191**	P	**P**	**10 58 14.2**	**+0.8**
	0.9nm,0.8s,mb3.9,baz=125,slow=6.1,SNR=6.3						
ASAR	**Alice Springs**	**132.46**	**219**	PKP	PKPdf	11 05 00.6	+0.1
	0.4nm,0.8s,baz=124,slow=1.7,SNR=7.0						
ASAR	**Alice Springs**	**132.46**	**219**	P	PKPdf	11 05 00.6	+0.1
ASAR	**Alice Springs**	**132.46**	**219**	PKP	PKPdf	11 05 00.6	+0.1
WRA	**Warramunga Arr**	**134.87**	**223**	PKP	PKPdf	11 05 05.4	+0.4
	0.7nm,0.5s,baz=132,slow=1.8,SNR=17						
SONM	**Songino Arrey**	**145.62**	**356**	PKPbc	PKPbc	11 05 25.2	+0.5
	4.3nm,0.8s,baz=311,slow=1.6,SNR=34						

*NEIC **20** 10:48:23.1, 3964S×17433E, h188km, MG4.2(WEL), After WEL.*
WEL 20 10:48:23.2±0.4, 3963S×17433E, h187km±3km, **ML4.2/23, 3C-1D, Error ellipse: s-maj=2.7km s-min=1.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.34**	**9**	P	Pn	10 48 48.0	-0.2
RAEZ	**Rainy Point**	**0.34**	**9**	PN	Pn	10 48 48.0	-0.2
NEZ	**North Egmont**	**0.40**	**333**	P	Pn	10 48 48.3	0.0
NEZ	**North Egmont**	**0.40**	**333**	PN	Pn	10 48 48.3	-0.1
NRZ	**Ngariki Road**	**0.42**	**314**	P	Pn	10 48 48.4	0.0
NRZ	**Ngariki Road**	**0.42**	**314**	⇑PN	Pn	10 48 48.3	-0.1
NWEZ	**Newall Road**	**0.50**	**315**	P	Pn	10 48 48.7	0.0
NWEZ	**Newall Road**	**0.50**	**315**	PN	Pn	10 48 48.7	0.0
WAZ	**Wanganui**	**0.53**	**104**	P	Pn	10 48 49.5	+0.7
WAZ				S	Sn	10 49 08.3	-0.3
WAZ	**Wanganui**	**0.53**	**104**	PN	Pn	10 48 49.5	+0.7
WAZ				SN	Sn	10 49 08.1	-0.5
VRZ	**Vera Road**	**0.60**	**34**	*eP*	Pn	10 48 48.6	-0.6
VRZ	**Vera Road**	**0.60**	**34**	PN	Pn	10 48 48.5	-0.6
PKVZ	**Pokaka**	**0.86**	**67**	PN	Pn	10 48 50.4	-0.2
PKVZ				SN	Sn	10 49 10.5	-1.2
MTVZ	**Mangateitei**	**0.92**	**75**	⇓PN	Pn	10 48 50.9	0.0
FWVZ	**Far West T-bar**	**1.02**	**69**	P	Pn	10 48 51.8	+0.1
FWVZ	**Far West T-bar**	**1.02**	**69**	PN	Pn	10 48 51.7	+0.1
TWVZ	**Taurewa**	**1.03**	**58**	P	Pn	10 48 51.3	-0.4
TWVZ	**Taurewa**	**1.03**	**58**	PN	Pn	10 48 51.3	-0.4
WNVZ	**Wahianoa**	**1.03**	**73**	P	Pn	10 48 51.9	+0.1
WNVZ				S	Sn	10 49 12.6	-1.2
WNVZ	**Wahianoa**	**1.03**	**73**	PN	Pn	10 48 51.9	+0.1
WNVZ				SN	Sn	10 49 12.6	-1.2
WPVZ	**Whakapapa**	**1.04**	**66**	P	Pn	10 48 51.8	0.0
WPVZ	**Whakapapa**	**1.04**	**66**	PN	Pn	10 48 51.8	0.0
NGZ	**Ngauruhoe**	**1.09**	**66**	P	Pn	10 48 52.2	0.0
NGZ	**Ngauruhoe**	**1.09**	**66**	PN	Pn	10 48 52.2	0.0
TUVZ	**Tukino**	**1.09**	**71**	P	Pn	10 48 52.5	+0.3
TUVZ	**Tukino**	**1.09**	**71**	PN	Pn	10 48 52.5	+0.3
WTVZ	**West Tongariro**	**1.10**	**63**	P	Pn	10 48 52.3	0.0
WTVZ	**West Tongariro**	**1.10**	**63**	PN	Pn	10 48 52.3	-0.1
MOVZ	**Moawhango**	**1.13**	**79**	P	Pn	10 48 52.1	-0.4
MOVZ	**Moawhango**	**1.13**	**79**	PN	Pn	10 48 52.1	-0.3
OTVZ	**Otutere**	**1.14**	**66**	PN	Pn	10 48 52.8	+0.2
KRVZ	**Karewarewa**	**1.15**	**63**	PN	Pn	10 48 52.7	0.0
HIZ	**Hauiti**	**1.19**	**21**	P	Pn	10 48 52.2	-0.8
HIZ	**Hauiti**	**1.19**	**21**	⇑PN	Pn	10 48 52.2	-0.7
DUWZ	**D'Urville Isla**	**1.21**	**195**	⇑PN	Pn	10 48 52.9	-0.2
KATZ	**Kakaramea**	**1.25**	**59**	P	Pn	10 48 53.6	+0.2
KATZ	**Kakaramea**	**1.25**	**59**	PN	Pn	10 48 53.6	+0.1
KIW	**Kapiti Island**	**1.31**	**160**	P	Pn	10 48 53.8	-0.2
KIW	**Kapiti Island**	**1.31**	**160**	PN	Pn	10 48 53.8	-0.2
TSZ	**Takapari Road**	**1.33**	**109**	PN	Pn	10 48 54.3	+0.2
RATZ	**Rangitukua**	**1.35**	**56**	P	Pn	10 48 54.5	+0.1
RATZ	**Rangitukua**	**1.35**	**56**	PN	Pn	10 48 54.5	+0.2
MRZ	**Mangatainoka R**	**1.41**	**137**	P	Pn	10 48 54.8	-0.1
MRZ	**Mangatainoka R**	**1.41**	**137**	PN	Pn	10 48 54.7	-0.1
CAW	**Cannon Point**	**1.58**	**159**	P	Pn	10 48 56.4	-0.1
CAW	**Cannon Point**	**1.58**	**159**	PN	Pn	10 48 56.4	-0.1
TCW	**Tory Channel**	**1.58**	**181**	P	Pn	10 48 56.6	+0.1
TCW	**Tory Channel**	**1.58**	**181**	PN	Pn	10 48 56.6	+0.1
MRW	**Makara Radio**	**1.62**	**170**	P	Pn	10 48 56.8	-0.1
MRW	**Makara Radio**	**1.62**	**170**	PN	Pn	10 48 56.8	-0.1
TIWZ	**Tintock**	**1.66**	**134**	PN	Pn	10 48 57.2	0.0
WPHZ	**Waipukurau**	**1.69**	**106**	PN	Pn	10 48 57.7	+0.3
WEL	**Wellington**	**1.69**	**169**	P	Pn	10 48 57.3	-0.2
WEL	**Wellington**	**1.69**	**169**	PN	Pn	10 48 57.3	-0.2
SNZO	**South Karori**	**1.70**	**170**	P	Pn	10 48 57.4	-0.2
SNZO	**South Karori**	**1.70**	**170**	PN	Pn	10 48 57.4	-0.2
BKZ	**Black Stump Fm**	**1.74**	**75**	PN	Pn	10 48 57.7	-0.3
NNZ	**Nelson**	**1.74**	**204**	PN	Pn	10 48 57.6	-0.5
MTW	**Mount Morrison**	**1.77**	**150**	P	Pn	10 48 58.0	-0.3
MTW	**Mount Morrison**	**1.77**	**150**	PN	Pn	10 48 58.0	-0.3
BFZ	**Birch Farm**	**1.81**	**126**	PN	Pn	10 48 58.7	0.0
QRZ	**Quartz Range**	**1.82**	**228**	PN	Pn	10 48 57.8	-1.0
TUWZ	**Tuamarina**	**1.82**	**189**	PN	Pn	10 48 58.4	-0.5
BHW	**Baring Head**	**1.83**	**167**	P	Pn	10 48 58.5	-0.4
BHW	**Baring Head**	**1.83**	**167**	PN	Pn	10 48 58.5	-0.4
MSWZ	**Moikau Station**	**1.92**	**159**	P	Pn	10 48 59.4	-0.4
MSWZ	**Moikau Station**	**1.92**	**159**	PN	Pn	10 48 59.4	-0.5
PAWZ	**Paruwai Farm**	**1.94**	**155**	P	Pn	10 48 59.7	-0.4
PAWZ	**Paruwai Farm**	**1.94**	**155**	PN	Pn	10 48 59.7	-0.4
PXZ	**Pawanui**	**2.00**	**102**	PN	Pn	10 49 00.8	+0.2
TRWZ	**Traveller**	**2.05**	**150**	PN	Pn	10 49 00.9	-0.3
BSWZ	**Blackbirch Sta**	**2.11**	**189**	PN	Pn	10 49 01.8	-0.1
CMWZ	**Cape Campbell**	**2.12**	**182**	P	Pn	10 49 02.0	0.0
CMWZ	**Cape Campbell**	**2.12**	**182**	PN	Pn	10 49 02.0	0.0
THZ	**Tophouse**	**2.39**	**206**	P	Pn	10 49 04.2	-0.8
THZ	**Tophouse**	**2.39**	**206**	PN	Pn	10 49 04.2	-0.8
URZ	**Urewera**	**2.57**	**59**	P	Pn	10 49 05.7	-1.3
URZ	**Urewera**	**2.57**	**59**	PN	Pn	10 49 05.7	-1.3
KNZ	**Kokohu**	**2.67**	**78**	*eP*	Pn	10 49 07.6	-0.6
KNZ	**Kokohu**	**2.67**	**78**	PN	Pn	10 49 07.7	-0.4
MWZ	**Matawai**	**2.81**	**64**	P	Pn	10 49 08.8	-1.0
MWZ	**Matawai**	**2.81**	**64**	PN	Pn	10 49 08.8	-1.0
KHZ	**Kahutara**	**2.85**	**192**	PN	Pn	10 49 09.6	-0.7
DSZ	**Denniston Nort**	**2.85**	**221**	P	Pn	10 49 09.2	-1.2
DSZ	**Denniston Nort**	**2.85**	**221**	PN	Pn	10 49 09.2	-1.2
KUZ	**Kuaotunu**	**3.08**	**21**	P	Pn	10 49 13.0	-0.1
KUZ	**Kuaotunu**	**3.08**	**21**	PN	Pn	10 49 13.0	0.0
PUZ	**Puketiti**	**3.44**	**64**	PN	Pn	10 49 16.3	-1.2
LTZ	**Lake Taylor**	**3.51**	**206**	*eP*	Pn	10 49 16.9	-1.5
LTZ	**Lake Taylor**	**3.51**	**206**	PN	Pn	10 49 16.9	-1.5
MXZ	**Matakaoa Point**	**3.74**	**58**	P	Pn	10 49 19.9	-1.3
MXZ	**Matakaoa Point**	**3.74**	**58**	PN	Pn	10 49 19.9	-1.3
CRLZ	**Canterbury Las**	**4.15**	**197**	*eP*	Pn	10 49 23.9	-2.4
CRLZ	**Canterbury Las**	**4.15**	**197**	PN	Pn	10 49 23.9	-2.4
MQZ	**McQueen's Vall**	**4.26**	**197**	P	Pn	10 49 25.1	-2.7
MQZ	**McQueen's Vall**	**4.26**	**197**	PN	Pn	10 49 25.1	-2.6
WVZ	**Waitaha Valley**	**4.38**	**217**	PN	Pn	10 49 28.3	-0.9
RPZ	**Rata Peaks**	**4.76**	**210**	*eP*	Pn	10 49 32.2	-2.0
RPZ	**Rata Peaks**	**4.76**	**210**	PN	Pn	10 49 32.2	-2.0
FOZ	**Fox Glacier**	**5.25**	**220**	*eP*	Pn	10 49 38.4	-2.0
FOZ	**Fox Glacier**	**5.25**	**220**	PN	Pn	10 49 38.4	-2.0
LBZ	**Lake Benmore**	**5.67**	**212**	*eP*	Pn	10 49 43.4	-2.5
LBZ	**Lake Benmore**	**5.67**	**212**	PN	Pn	10 49 43.4	-2.4
ODZ	**Otahua Downs**	**6.06**	**206**	*eP*	Pn	10 49 48.9	-2.1
ODZ	**Otahua Downs**	**6.06**	**206**	PN	Pn	10 49 48.9	-2.1
JCZ	**Jackson Bay**	**6.08**	**221**	*eP*	Pn	10 49 48.8	-2.5
JCZ	**Jackson Bay**	**6.08**	**221**	PN	Pn	10 49 48.8	-2.5
WKZ	**Wanaka**	**6.52**	**215**	*eP*	Pn	10 49 54.0	-3.0
WKZ	**Wanaka**	**6.52**	**215**	PN	Pn	10 49 54.0	-3.0
EAZ	**Earnscleugh**	**6.72**	**212**	*eP*	Pn	10 49 56.8	-2.8
EAZ	**Earnscleugh**	**6.72**	**212**	PN	Pn	10 49 56.8	-2.7
TUZ	**Tuapeka**	**7.20**	**207**	*eP*	Pn	10 50 04.5	-1.4
TUZ	**Tuapeka**	**7.20**	**207**	PN	Pn	10 50 04.5	-1.4

*ISCJB **20** 10:48:55.4±0.1, 1349S±002×7677W±002, h32km, mb5.8/182, MS6.6/232, Error ellipse: s-maj=3.8km s-min=2.4km az=95.1*
*NEIC **20** 10:48:56.0±0.1, 1346S×7668W, h23km, mb5.9/148, ME6.5, MS6.6/170, MW6.6, MD6.5(IGQ), ML6.2(LIM), Error ellipse: s-maj=4.1km s-min=2.7km az=53.0, Moment Tensor Solution. s77 Moment tensor: Scale 10^{19}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.00000×10^{19} NP1:ϕ_s177.00000°, δ74.00000°, λ90.00000°. NP2:ϕ_b356.00000°, δ16.00000°, λ89.00000°. Principal axes: T 1.0000, Plg61.0000°, Azm87.0000°; N 0.0200, Plg0.0000°, Azm357.0000°; P -1.0200, Plg29.0000°, Azm267.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s355.00000°, δ15.00000°, λ90.00000°. NP2:ϕ_s175.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Minor damage [IV] to some houses at Pisco. Felt [IV] at Chincha Alta and Lima. Felt at Chaclacayo, Chosica, Ica, Nuevo Imperial, Pachacamac and San Luis. Also felt at Guayaquil, Ecuador.
*MOS **20** 10:48:56.7±1.9, 1334S×7670W, h33km, mb6.1/87 Error ellipse: s-maj=12.4km s-min=6.5km az=109.1*
*GCMT **20** 10:48:56.0±

CPUP S S 10 57 55.9 +2.6
16nm,0.9s,baz=239,slow=8.0,SNR=1.7
CPUP LR LR 11 04 34.1
comp=Z,307µm,18.6s,MS6.8,baz=292,slow=42
CPUP Villa Florida 22.18 128 *e*P P 10 53 50.5 -0.3
574nm,1.0s,mb6.0
CPUP LR LR
comp=Z,38µm,19.0s,MS5.8
UPA Univ. de Panam 22.51 353⇑ *i*P P 10 53 56.7 +2.4
baz=169,slow=12
UPA *e*S S 10 58 03.5 +3.8
SDV Santo Domingo 23.03 15 P P 10 53 59.9 +0.1
comp=Z,378nm,1.0s,mb5.8,baz=223,slow=9.5,SNR=41
SDV S S 10 58 08.3 +0.2
comp=Z,46nm,1.0s,baz=263,slow=17,SNR=2.0
SDV LR LR 11 04 08.6
comp=Z,366µm,18.6s,MS6.9,baz=334,slow=40
SDV Santo Domingo 23.03 15 *e*P P 10 53 59.6 -0.2
comp=Z,611nm,0.8s,mb6.1
SDV LR LR
comp=Z,196µm,19.0s,MS6.6
CCHI Chillan 23.37 171 *e*P P 10 54 02.7 -0.7
CCHI AMb AMB 10 54 36.6
comp=Z,2µm,2.3s,mb6.0
LIM1 Limonal 25.50 340 *e*P P 10 54 26.1 +3.2
SSNN San Juan del S 26.25 339 *e*P P 10 54 33.6 +3.9
MADN Villa Maderas 26.26 340 *e*P P 10 54 32.1 +2.4
PCRV Puerto La Cruz 26.38 28 P P 10 54 31.6 +0.8
comp=Z,108nm,0.6s,mb5.5,baz=204,slow=3.0,SNR=26
PCRV S S 10 59 04.0 +2.3
comp=Z,40nm,1.0s,baz=299,slow=19,SNR=2.0
PCRV LR LR 11 05 52.3
comp=Z,700µm,18.8s,MS7.2,baz=205,slow=38
CONN Concepcion 26.44 340 *e*P P 10 54 35.6 +4.3
APON Apoyo 26.91 339 *e*P P 10 54 39.2 +3.6
MGAN Managua 27.19 339 *e*P P 10 54 41.9 +3.8
TISN Laguna Tiscapa 27.19 339 *e*P P 10 54 40.9 +2.7
XAVN Gruta Xavier 27.22 339 *e*P P 10 54 41.5 +3.1
LPA La Plata 27.23 145*c* *i*P P 10 54 39.0 +0.5
LPA *e*PCP PcP 10 57 58.0 +0.1
LPA *e*S S 10 59 18.0 +2.9
COPN Copaltepe 27.34 338 *e*P P 10 54 42.0 +2.5
MOMJ Momotombo 27.54 339 *e*P P 10 54 42.6 +1.4
MIRN Miramar 27.62 338 *e*P P 10 54 45.0 +3.0
PLCA Paso Flores 27.66 170 P P 10 54 41.8 -0.5
comp=Z,119nm,1.0s,mb5.5,baz=343,slow=10,SNR=59
PLCA S S 10 59 20.0 -1.9
comp=Z,9.2nm,1.0s,baz=334,slow=11,SNR=1.6
PLCA LR LR 11 03 35.9
comp=Z,83µm,19.2s,MS6.3,baz=334,slow=32
PLCA Paso Flores 27.66 170 *e*P P 10 54 41.6 -0.7
PLCA LR LR
comp=Z,71µm,21.0s,MS6.2
LEON Leon 27.67 338 *e*P P 10 54 44.2 +1.7
LEON *e*P 10 54 44.2
CNGN Cerro Negro 27.68 339 *e*P P 10 54 44.3 +1.8
TRQA Tornquist 27.73 155 *e*P P 10 54 42.0 -1.0
TRQA LR LR
comp=Z,91µm,19.0s,MS6.4
BDFB Brasilia 27.81 98 P P 10 54 43.5 -0.1
comp=Z,166nm,0.9s,mb5.7,baz=273,slow=11,SNR=53
BDFB S S 10 59 21.5 -2.8
comp=Z,43nm,1.0s,baz=157,slow=12,SNR=2.3
BDFB LR LR 11 06 34.9
comp=Z,230µm,20.7s,MS6.7,baz=118,slow=38
BDFB Brasilia 27.81 98 P P 10 54 43.6 0.0
BDFB S S 10 59 21.5 -2.8
TPP Pointe-a-Pierr 28.07 33 *e*P P 10 54 48.8 +2.9
TCE Chacachacare 28.23 32 *e*P P 10 54 49.5 +2.1
TRN Trinidad (W) 28.37 33 *e*P P 10 54 49.8 +1.1
TBH Brigand Hill 28.41 34 *e*P P 10 54 52.5 +3.5
TPR Prospect 29.15 33 *e*P P 10 54 57.2 +1.6
TGUH Tegucigalpa,Un 29.32 339 *e*P P 10 54 58.2 +1.1
comp=Z,394nm,1.1s,mb6.0
TGUH LR LR
comp=Z,139µm,22.0s,MS6.5
GRW Mount Saint Ca 29.52 31 *e*P P 10 54 59.5 +0.6
GRHS Sauteurs 29.58 31 *e*P P 10 54 59.0 -0.4
GRIC Isle de Caille 29.66 31 *e*P P 10 55 00.7 +0.6
GRCU Cariacou 29.89 31 *e*P P 10 55 02.0 -0.1
PCJ Portland Cotta 31.04 359⇑ *e*P P 10 55 13.2 +0.9
YHJ Yallahs 31.19 0⇑ *e*P P 10 55 14.4 +0.7
MCJ Malvern 31.24 358⇑ *e*P P 10 55 16.6 +2.6
GWJ Greenwich 31.37 360⇑ *e*P P 10 55 16.2 +1.0
STH Stony Hill 31.37 360⇑ *e*P P 10 55 16.2 +0.9
CMJ Castle Mountai 31.43 1⇑ *e*P P 10 55 17.2 +1.4
BBGH Gun Hill 31.43 33 *e*P P 10 55 17.4 +1.6
comp=Z,2µm,1.0s,mb6.8
BBGH LR LR
comp=Z,336µm,22.0s,MS7.0
CVJ Coleyville 31.53 358⇑ *e*P P 10 55 17.8 +1.1
BNJ Bonny Gate 31.62 359⇑ *e*P P 10 55 18.1 +0.7
BIM Bigot 31.83 30 *e*P P 10 55 16.1 -3.2
FDF Fort de France 31.98 29⇑ *e*P P 10 55 17.8 -2.8
MPR Mayaguez 32.88 17 *e*P P 10 55 28.6 +0.2
LZG Guadaloupe-1 32.92 27 *e*P P 10 55 27.3 -1.5
SJG San Juan 33.08 19 *e*P P 10 55 29.4 -0.8
comp=Z,164nm,0.8s,mb6.0
SJG LR LR
comp=Z,123µm,19.0s,MS6.6
CPD Cerro la Pandu 33.08 19 *e*P P 10 55 28.8 -1.4
HUMP Col San Antoni 33.20 19 *e*P P 10 55 30.1 -1.2
MTP Monte Pirata 33.25 20 *e*P P 10 55 30.3 -1.4
RCC Rio Carpintero 33.29 2 *e*P P 10 55 32.6 +0.5
baz=181
RCC *e*S S 11 00 42.2 -8.0
comp=N,3µm,19.1s
RCC *e*
comp=E,31µm,20.2s
CCIG Comitan 33.30 332 *i*P P 10 55 30.4 -1.8
CBYP Canovanas 33.32 19 *e*P P 10 55 31.2 -1.1
LMGC Las Mercedes 33.35 359 *e*P P 10 55 33.9 +1.3
RPN Rapa Nui 33.38 241 P P 10 55 33.9 +1.0
comp=E,16nm,0.3s,mb5.4,baz=338,slow=10,SNR=1.9
RPN LR LR 11 05 17.7
comp=E,161µm,21.6s,MS6.7,baz=64,slow=29
RPN Rapa Nui 33.38 241 *e*P P 10 55 32.6 -0.2
RPN *e*pP pP 10 55 51.3 +8.5
RPN LR LR
comp=Z,33µm,19.0s,MS6.1
DEG La Desirade 33.40 28 *e*P P 10 55 30.4 -2.6
MASC Masc 33.55 4 *e*P P 10 55 35.8 +1.5
MASC *e*S ScP 11 01 58.2 +1.9
comp=N,46nm,14.6s
MASC *e*
comp=E,3.1nm,5.5s
CAM4 Nova Friburgo 33.56 110⇑ *i*P P 10 55 34.7 +0.3
CAM4 *i* 10 55 40.3
CAM4 *i* pP 10 55 47.0 +2.7
CAM4 *i* 10 55 50.1
BPA Boggy Peak 33.69 26 *e*P P 10 55 34.3 -1.2
MOAC Moa 33.98 3 *e*P P 10 55 39.5 +1.4
MOAC *e*S S 11 00 57.4 -3.5
comp=N,38µm,16.3s
MOAC *e*
comp=E,39µm,17.4s
HLGC Holguin 34.18 1 *e*P P 10 55 41.2 +1.4
CPB Codrington 34.23 26 *e*P P 10 55 39.0 -1.3
HUIG Huatulco 34.86 326 *i*P P 10 55 45.8 +0.1
CAM3 Guarapari 35.23 107⇑ *i*P P 10 55 48.8 0.0
CAM3 *i* pP 10 55 56.4 -2.4
CAM3 *i* 10 56 02.3
CAM3 *i* 10 56 13.1
CMIG Matias Romero 35.32 329 *i*P P 10 55 49.9 +0.3
TEIG Tepich 35.40 341 *e*P P 10 55 50.4 +0.1
TEIG LR LR
comp=Z,91µm,22.0s,MS6.5
VHO Vista Hermosa 36.27 326 *i*P P 10 56 01.4 +3.7
PNIG Pinotepa 36.49 324 *i*P P 10 56 03.1 +3.4
SOR Soroa 36.59 350 *e*P P 10 55 58.9 -1.6
baz=172
SOR *e*S S 11 01 37.9 -3.1
comp=N,3.5nm,4.8s
SOR *e*
comp=E,3.4nm,4.8s
CAIG El Cayaco 38.27 322 *i*P P 10 56 15.1 +0.4
LVIG Laguna Verde 38.31 329 *e*P P 10 56 13.8 -1.3
PLIG Platanillo 38.87 324 *i*P P 10 56 23.5 +3.7
PPM Popocatepetl 38.92 326 *e*P P 10 56 20.6 +0.4
YAIG Yautepec 39.00 325 *i*P P 10 56 21.3 +0.5
ZIIG Zihuatanejo 39.42 321 *i*P P 10 56 23.3 -1.1
UNM Universidad Na 39.44 325 *i*P P 10 56 29.0 +4.5
RCBR Riachuelo 40.85 83 PFAKE 10 56 50.0 +14
RCBR LR LR
comp=Z,238µm,21.0s,MS7.0
MOIG Morelia 40.86 323 *i*P P 10 56 40.0 +3.7
EFI East Falkland 40.93 162*c* *i*P P 10 56 36.7 -0.2
EFI East Falkland 40.93 162 *e*P P 10 56 37.1 +0.3
EFI *e*pP pP 10 56 47.8 +0.8
EFI LR LR
comp=Z,18µm,22.0s,MS5.9
DWPF Disney 41.62 354 *e*P P 10 56 43.4 +0.9
comp=Z,113nm,0.7s,mb5.6
DWPF LR LR
comp=Z,58µm,20.0s,MS6.5
USHA Ushuaia 41.74 173 P P 10 56 44.4 +0.9
comp=Z,124nm,0.9s,mb5.5,baz=287,slow=4.9,SNR=23
USHA LR LR 11 11 18.1
comp=Z,68µm,20.9s,MS6.5,baz=329,slow=32
CJM Chamela 43.08 319 *e*P P 10 56 57.0 +2.6
ZAIG Zacatecas 44.08 325 *i*P P 10 57 00.5 -2.0
HKT Hockley 46.98 337 P P 10 57 25.2 -0.2
HKT pmax pmax
comp=Z,740nm,1.9s,mb6.3
HKT Hockley 46.98 337 *e*P P 10 57 25.0 -0.4
comp=Z,736nm,1.9s,mb6.3
HKT LR LR
comp=Z,35µm,19.0s,MS6.3
BBSR BB Station 47.02 14 *e*P P 10 57 25.2 -0.5
comp=Z,214nm,1.1s,mb6.0
BBSR LR LR
comp=Z,45µm,20.0s,MS6.4
NATX Nacogdoches 48.19 339 *e*P P 10 57 35.1 +0.2
NATX *e*pP pP 10 57 44.2 -0.8
NATX LR LR
comp=Z,28µm,22.0s,MS6.2
CNNC Cliffs of the 48.48 359 *e*P P 10 57 36.1 -1.0
comp=Z,81nm,0.6s,mb5.9
CNNC LR LR
comp=Z,68µm,20.0s,MS6.6
JCT Junction City 49.06 333 *e*P P 10 57 42.2 +0.7
JCT *e**PP pP 10 57 51.6 -0.2
JCT Junction City 49.06 333 *e*P P 10 57 42.2 +0.7
JCT *e*pP pP 10 57 51.6 -0.2
JCT LR LR
comp=Z,23µm,20.0s,MS6.2
SWET Sewanee 49.23 350 *e*P P 10 57 41.4 -1.4
CPCT Cooper Cave 49.24 352 *e*P P 10 57 41.8 -1.1
OXF Oxford 49.25 346 *e*P P 10 57 41.5 -1.5
OXF *e**PP pP 10 57 51.7 -1.5
OXF Oxford 49.25 346 *e*P P 10 57 41.5 -1.5
OXF *e*pP pP 10 57 51.7 -1.5
OXF LR LR
comp=Z,27µm,19.0s,MS6.3
PLAL Pickwick Lake 49.41 348 *e*P P 10 57 42.3 -1.9
PLAL *e*pP pP 10 57 52.6 -1.8
PLAL LR LR
comp=Z,45µm,19.0s,MS6.5
TXAR Lajitas Array 49.93 329 P P 10 57 47.6 -0.5
comp=Z,7.7nm,0.7s,mb4.8,baz=148,slow=7.6,SNR=25
TXAR LR LR 11 17 47.3
comp=Z,109µm,18.2s,MS6.9,baz=350,slow=35
TXAR PKPPKP 11 28 38.0
comp=Z,1.3nm,1.1s,baz=186,slow=1.3,SNR=3.5
TZTN Tazewell 50.19 353 *e*P P 10 57 49.0 -1.1
TZTN *e*pP pP 10 57 59.4 -1.0
TZTN LR LR
comp=Z,84µm,19.0s,MS6.8
UALR University of 50.26 343 *e*P P 10 57 49.3 -1.4
comp=Z,166nm,1.0s,mb6.0
UALR *e*pP pP 10 58 00.7 -0.2
WVT Waverly 50.47 348 PFAKE 10 58 00.0 +7.8
WVT LR LR
comp=Z,36µm,20.0s,MS6.4
HBAR Harrisburg 50.55 345 *e*P P 10 57 50.8 -2.1
BLA Blacksburg 50.56 356 P P 10 57 52.0 -0.9
BLA Blacksburg 50.56 356 *e*P P 10 57 51.7 -1.2
comp=Z,105nm,0.9s,mb5.8
BLA LR LR
comp=Z,100µm,22.0s,MS6.8
ELN Prospectdale 50.60 356 *e*P P 10 57 52.0 -1.2
UTMT University of 50.89 347 *e*P P 10 57 54.2 -1.1
comp=Z,218nm,0.9s,mb6.1
UTMT *e*pP pP 10 58 04.7 -1.0
GLAT Glass 50.91 347 *e*P P 10 57 54.0 -1.6
GLAT *e*pP pP 10 58 05.0 -0.8
FWV Forest Hill 50.95 356 *e*P P 10 57 54.1 -1.7
PVMO Portageville 51.14 346 *e*P P 10 57 55.5 -1.8
comp=Z,169nm,0.3s,mb6.5
PARMO Parma 51.39 347 *e*P P 10 57 57.4 -1.7
HOPE Hope Point 51.42 151 P P 10 57 59.9 +0.6
comp=Z,1µm,0.9s,mb6.8,SNR=13
HOPE Hope Point 51.42 151 *e*P P 10 57 59.9 +0.6
comp=Z,257nm,1.0s,mb6.1
HOPE LR LR
comp=Z,16µm,22.0s,MS6.0
CBN Corbin 51.43 359 *e*P P 10 57 58.9 -0.6
CBN LR LR
comp=Z,66µm,19.0s,MS6.7
PMSA Palmer Station 51.95 173 P P 10 58 04.1 +0.8
comp=Z,118nm,1.1s,mb5.8,baz=19,slow=8.9,SNR=3.7
PMSA LR LR 11 18 59.3
comp=Z,19µm,18.9s,MS6.2,baz=350,slow=35
PMSA Palmer Station 51.95 173 *e*P P 10 58 03.1 -0.2
comp=Z,165nm,1.1s,mb5.9
PMSA LR LR
comp=Z,21µm,19.0s,MS6.2
USIN University of 52.22 349 *e*P P 10 58 03.2 -2.1
USIN *e*pP pP 10 58 14.0 -1.6
WCI Wyandotte Cave 52.24 350 P P 10 58 03.3 -2.1
WCI pmax pmax
comp=Z,200nm,1.0s,mb6.0
WCI Wyandotte Cave 52.24 350 *e*P P 10 58 03.1 -2.3
comp=Z,196nm,1.0s,mb6.0
WCI LR LR
comp=Z,50µm,20.0s,MS6.5
SIUC Southern Illin 52.28 347 *e*P P 10 58 04.1 -1.7
comp=Z,194nm,0.9s,mb6.0
WMOK Wichita Mounta 52.36 337 *e*P P 10 58 04.6 -1.8
comp=Z,189nm,1.3s,mb5.9
WMOK LR LR
comp=Z,34µm,21.0s,MS6.4
GDL2 Guadalupe Moun 52.61 330 *e*P P 10 58 08.3 +0.1
GDL2 *e*pP pP 10 58 17.5 -1.1
MNTX Cornudas Mount 52.70 329 *e*P P 10 58 07.7 -1.3
comp=Z,357nm,1.5s,mb6.1
MNTX LR LR
comp=Z,63µm,19.0s,MS6.7
MCWV Mont Chateau 52.96 357 *e*P P 10 58 10.0 -0.8
MCWV LR LR
comp=Z,47µm,22.0s,MS6.5
CCM Cathedral Cave 53.07 346 PFAKE 10 58 20.0 +8.4
CCM LR LR
comp=Z,31µm,22.0s,MS6.3
BLO Bloomington 53.20 350 *e*P P 10 58 10.7 -1.8
BLO *e**PP pP 10 58 21.7 -1.2
MVL Millersville 53.22 0 *e*P P 10 58 12.4 -0.3
SLM Saint Louis 53.39 347 *e*P P 10 58 13.1 -0.9
SLM pmax pmax
comp=Z,300nm,1.3s,mb6.1
SLM Saint Louis 53.39 347 *e*P P 10 58 13.1 -0.8
comp=Z,295nm,1.3s,mb6.1
AMTX Amarillo 53.65 334 *e*P P 10 58 16.0 +0.1
AMTX LR LR
comp=Z,37µm,22.0s,MS6.4
SSPA Standing Stone 53.87 359 *e*P P 10 58 16.4 -1.1
comp=Z,144nm,1.0s,mb5.9
SSPA LR LR
comp=Z,72µm,20.0s,MS6.7
BRNJ Basking Ridge 53.94 2 *e*P P 10 58 19.2 +1.3
CPNY Central Park 54.07 3 *e*P P 10 58 18.5 -0.5
PAL Palisades 54.28 3 *e*P P 10 58 19.9 -0.6
PAL pmax pmax
comp=Z,140nm,1.0s,mb5.8
PAL Palisades 54.28 3 *e*P P 10 58 19.9 -0.6
comp=Z,136nm,1.0s,mb5.8
ALLY Alegheny Colle 54.96 357 *e*P P 10 58 24.2 -1.2
ALLY *e*pP pP 10 58 34.3 -1.5
HDIL Hopedale 55.04 348 PFAKE 10 58 40.0 +14
HDIL LR LR
comp=Z,33µm,21.0s,MS6.4
BNM Barren Site 55.30 330 *e*P P 10 58 28.1 +0.2
BNM *e*pP pP 10 58 38.3 +0.1
Y22C IRIS PASSCAL I 55.38 329⇓P P 10 58 28.4 0.0
baz=56
Y22C ⇓S S 11 06 13.8 +3.3
baz=56
BINY Binghamton 55.42 1 *e*P P 10 58 28.2 -0.5
BINY LR LR
comp=Z,59µm,21.0s,MS6.7
LPM Los Pinos Moun 55.43 330 *e*P P 10 58 28.6 -0.2
LENM Lemitar 55.48 329 *e*P P 10 58 31.3 +2.2
KSU1 Kansas State U 55.54 341 *e*P P 10 58 27.8 -1.8
comp=Z,117nm,0.7s,mb6.0
KSU1 LR LR
comp=Z,35µm,21.0s,MS6.4
QUA2 Belchertown 55.64 4 *e*P P 10 58 29.3 -1.0
comp=Z,282nm,1.1s,mb6.2
LAZ Ladron 55.75 330 *e*P P 10 58 30.9 -0.1
WES Weston 55.82 5 *e*P P 10 58 31.4 -0.2
comp=Z,236nm,1.2s,mb6.1
WES LR LR
comp=Z,46µm,21.0s,MS6.5
ANMO Albuquerque 55.86 330 *e*P P 10 58 31.6 -0.3
comp=Z,306nm,1.4s,mb6.1
ANMO LR LR
comp=Z,51µm,19.0s,MS6.6
RKT Rikitea 55.87 251 *e*S S 11 06 18.3 +1.2
comp=Z,137µm,25.8s
RKT *e*SS SS 11 10 06.4 +3.4
comp=Z,23µm,27.2s
RKT *e*LQ 11 12 32.2
comp=Z,18µm,25.8s
RKT *e*LR LR 11 14 46.7
comp=Z,147µm,25.8s,baz=86
RKT Rikitea 55.87 251 *e*P P 10 58 34.4 +2.4
RKT *e*S S 11 06 18.3 +1.2
RKT *e*SS SS 11 10 06.4 +3.4
RKT pmax pmax
comp=Z,267nm,1.4s,mb6.1
RKT Rikitea 55.87 251 *e*P P 10 58 34.4 +2.4
comp=Z,267nm,1.4s,mb6.1
RKT *e*S S 11 06 18.3 +1.2
RKT *e*SS SS 11 10 06.4 +3.4
RKT *e*LQ 11 12 32.2
AAM Ann Arbor 55.89 354 *e*P P 10 58 30.9 -1.2
comp=Z,164nm,0.9s,mb6.1
AAM LR LR
comp=Z,92µm,19.0s,MS6.9
HRV Harvard--Oak R 55.92 5 *e*P P 10 58 32.1 -0.2
comp=Z,153nm,0.9s,mb6.0
HRV LR LR
comp=Z,75µm,22.0s,MS6.7
TUC Tucson 56.04 325 *e*P P 10 58 33.4 +0.2
comp=Z,337nm,1.7s,mb6.1
TUC LR LR
comp=Z,68µm,20.0s,MS6.7
CBKS Cedar Bluff 56.33 338 *e*P P 10 58 34.6 -0.6
CBKS LR LR
comp=Z,34µm,21.0s,MS6.4
116A Eloy 56.74 325⇓P P 10 58 37.8 -0.4
baz=57,SNR=25
116A ⇓S S 11 06 31.7 +3.0
baz=57
HNH Hanover 57.06 4 *e*P P 10 58 40.6 +0.2
115A Sonoran Desert 57.14 324⇓P P 10 58 41.0 -0.1
baz=57,SNR=9.6
115A ⇑S S 11 06 37.6 +3.7
baz=57
SCIA State Center 57.20 345 *e*P P 10 58 39.5 -2.0
comp=Z,88nm,0.7s,mb5.9
SCIA LR LR
comp=Z,32µm,19.0s,MS6.5
NCB Newcomb 57.23 2 *e*P P 10 58 41.0 -0.6
comp=Z,136nm,1.0s,mb5.9
NCB LR LR
comp=Z,36µm,20.0s,MS6.5
JFWS Jewell Farm 57.50 348 *e*P P 10 58 41.7 -1.8
JFWS Jewell Farm 57.50 348 *e*P P 10 58 41.0 -2.5
JFWS LR LR
comp=Z,34µm,21.0s,MS6.4
LBNH Lisbon 57.62 4 *e*P P 10 58 44.4 0.0
comp=Z,207nm,1.0s,mb6.1
LBNH LR LR
comp=Z,67µm,21.0s,MS6.7
SDCO Great Sand Dun 57.71 333 *e*P P 10 58 44.7 -0.3
comp=Z,275nm,1.2s,mb6.2
SDCO LR LR
comp=Z,55µm,21.0s,MS6.6
LONY Lake Ozonia 57.87 2 *e*P P 10 58 45.3 -0.8
LONY LR LR
comp=Z,42µm,20.0s,MS6.5
Z14A Wintersburg 58.04 324⇑P P 10 58 47.6 +0.3
baz=58
Z14A ⇑S S 11 06 49.4 +3.8
baz=58
FRNY Flat Rock 58.12 3 *e*P P 10 58 47.5 -0.4
WVL Waterville 58.13 6 *e*P P 10 58 48.1 +0.2
MSNY Massena 58.24 2 *e*P P 10 58 47.6 -1.1
X15A Humboldt 58.47 326 P P 10 58 50.8 +0.4
baz=59,SNR=44
X15A ⇑S S 11 06 54.4 +3.1
baz=59
Y14A Wickenburg 58.49 325⇑P P 10 58 50.8 +0.3
baz=59,SNR=27
Y14A ⇓S S 11 06 55.9 +4.3
baz=59
EMMW East Machias 58.53 8 *e*P P 10 58 51.0 +0.3
MVCO Mesa Verde 58.66 330 *e*P P 10 58 51.2 -0.4
comp=Z,85nm,0.9s,mb5.8
MVCO LR LR
comp=Z,40µm,19.0s,MS6.6
MVCO Mesa Verde 58.66 330 P P 10 58 51.1 -0.5
baz=59,SNR=44
MVCO ⇑S S 11 06 55.5 +1.9
baz=59
WUAZ Wupatki 58.79 327 *e*P P 10 58 52.9 +0.4
WUAZ LR LR
comp=Z,75µm,19.0s,MS6.8
WUAZ Wupatki 58.79 327⇑P P 10 58 52.5 0.0
baz=59,SNR=36
WUAZ ⇑S S 11 06 59.7 +4.3
baz=59
X14A Yava 58.82 325⇑P P 10 58 52.0 -0.7
baz=59,SNR=36
X14A ⇓S S 11 07 00.9 +5.0
baz=59
PKME Peaks-Kenny Pk 58.86 6 PFAKE 10 59 00.0 +7.0
PKME LR LR
comp=Z,65µm,21.0s,MS6.7
Y13A Salome 58.87 324⇓P P 10 58 52.4 -0.8
baz=59,SNR=14
Y13A ⇑S S 11 07 01.0 +4.5
baz=59
GLA Glamis 58.90 323 *e*P P 10 58 56.1 +2.8
GLA Glamis 58.90 323⇑P P 10 58 53.3 -0.1
baz=59,SNR=9.2
GLA ⇓S S 11 07 00.8 +3.9
baz=59
W15A Williams 59.01 326⇑P P 10 58 54.4 +0.3
baz=59,SNR=12
W15A ⇑S S 11 07 02.9 +4.7
baz=59
Y12C Blythe 59.22 323 P P 10 58 55.8 +0.3
baz=59,SNR=26
Y12C ⇑S S 11 07 05.2 +4.1
baz=59
DVTC Desert V Tower 59.39 321⇓P P 10 58 56.6 -0.1
baz=60,SNR=11
DVTC ⇑S S 11 07 08.4 +5.2
baz=60
PDMCI Parker Dam,Lak 59.40 324⇓P P 10 58 56.0 -0.7
baz=60,SNR=11
PDMCI ⇑S S 11 07 08.1 +4.8
baz=60
SWSC Sam W. Stewart 59.40 322⇓P P 10 58 56.3 -0.4
baz=60
SWSC ⇓S S 11 07 08.8 +5.5
baz=60
X13A Yucca 59.44 325⇑P P 10 58 57.0 -0.1
baz=60,SNR=31
X13A ⇓S S 11 07 08.4 +4.5
baz=60
ISCO Idaho Springs 59.47 334 *e*P P 10 58 56.9 -0.4
comp=Z,128nm,1.4s,mb5.8
ISCO LR LR
comp=Z,37µm,20.0s,MS6.5
W14A Seligman 59.48 326 P P 10 58 57.9 +0.6
baz=60,SNR=45
W14A ⇓S S 11 07 09.4 +5.1
baz=60
BC3 Big Chuckw Mtn 59.70 323⇑P P 10 58 59.1 +0.3
baz=60,SNR=20
BC3 ⇑S S 11 07 12.4 +5.3
baz=60
MONP Monument Peak 59.74 321⇑P P 10 59 00.1 +1.0

baz=60,SNR=8.5
MONP ⇓S **S** **11 07 12.5 +4.8**
baz=60
BAR Barrett 59.75 321 *e*P **P** **10 59 01.9 +2.7**
ECSD EROS,Sioux Fal 59.80 343 *e*P **P** **10 58 57.5 -2.0**
comp=Z,490nm,1.6s,mb6.3
ECSD LR LR
comp=Z,29μm,20.0s,MS6.4
W13A Hualapai Mount 59.84 325 ⇓P **P** **10 59 00.1 +0.3**
baz=60,SNR=40
W13A ⇑S **S** **11 07 13.8 +4.8**
baz=60
IRM Iron Mountain 59.88 323 ⇓P **P** **10 58 59.6 -0.5**
baz=60,SNR=58
IRM ⇑S **S** **11 07 13.3 +3.8**
baz=60
109C Camp Elliot, M 60.16 321 ⇓P **P** **10 59 00.8 -1.2**
baz=60
109C ⇑S **S** **11 07 17.3 +4.2**
baz=60
PFO Pinyon Flat Ob 60.26 322 P **P** **10 59 03.7 +1.0**
comp=Z,363nm,1.2s,mb6.3,SNR=22
PFO Pinyon Flat Ob 60.26 322 *e*P **P** **10 59 03.1 +0.4**
comp=Z,271nm,1.6s,mb6.0
PFO LR LR
comp=Z,14μm,20.0s,MS6.1
PFO Pinyon Flat Ob 60.26 322 ⇓P **P** **10 59 03.3 +0.6**
baz=60,SNR=21
PFO ⇓S **S** **11 07 20.9 +6.5**
baz=60
BELC Belle Mtn. 60.26 323 ⇓P **P** **10 59 03.0 +0.3**
baz=60,SNR=21
BELC ⇑S **S** **11 07 19.8 +5.3**
baz=60
W12A Cal Nev Ari 60.54 324 ⇑P **P** **10 59 04.5 -0.1**
baz=61
W12A ⇑S **S** **11 07 22.0 +4.1**
baz=61
PHWY Pilot Hill 60.67 335 *e*P **P** **10 59 05.2 -0.3**
MURC Murrieta 60.70 322 ⇓P **P** **10 59 06.3 +0.6**
baz=61,SNR=10
MURC ⇑S **S** **11 07 25.6 +5.5**
baz=61
V12A Nelson 60.84 325 P **P** **10 59 06.5 -0.1**
baz=61,SNR=37
V12A ⇑S **S** **11 07 26.0 +4.2**
baz=61
BBRC Big Bear Sol-O 60.99 322 ⇑P **P** **10 59 07.6 -0.1**
baz=61,SNR=26
BBRC ⇑S **S** **11 07 29.3 +5.6**
baz=61
HEC Hector,Ludlow 61.04 323 ⇓P **P** **10 59 08.3 +0.3**
baz=61,SNR=15
HEC ⇑S **S** **11 07 29.5 +5.1**
baz=61
SCI San Clemente I 61.11 320 ⇑P **P** **10 59 08.0 -0.5**
baz=61
SCI ⇓S **S** **11 07 31.4 +6.2**
baz=61
SRU San Rafael 61.13 330 *e*P **P** **10 59 08.3 -0.3**
U12A Valley of Fire 61.17 326 ⇓P **P** **10 59 09.2 +0.3**
baz=61,SNR=12
U12A ⇑S **S** **11 07 30.6 +4.5**
baz=61
TUQ Turquoise Mtn. 61.23 324 ⇓P **P** **10 59 09.6 +0.3**
baz=61,SNR=18
TUQ ⇑S **S** **11 07 31.4 +4.5**
baz=61
V11A Goodsprings 61.24 325 ⇑P **P** **10 59 08.9 -0.4**
baz=62,SNR=13
V11A ⇑S **S** **11 07 30.5 +3.5**
baz=62
CIS Catalina Islan 61.31 321 ⇓P **P** **10 59 10.1 +0.3**
baz=62,SNR=11
CIS ⇑S **S** **11 07 32.8 +5.0**
baz=62
ASCN Ascension 61.34 92 PFAKE 10 59 20.0 +10
ASCN LR LR
comp=Z,30μm,21.0s,MS6.4
CCUT Cedar City 61.37 327 *e*P **P** **10 59 10.8 +0.6**
BFSC Mount Baldy St 61.42 322 ⇑P **P** **10 59 10.5 -0.1**
baz=62,SNR=35
BFSC ⇑S **S** **11 07 34.3 +5.1**
baz=62
FMP Fort Macarthur 61.44 321 ⇑P **P** **10 59 10.6 -0.1**
baz=62
FMP ⇑S **S** **11 07 34.9 +5.4**
baz=62
RRX Edison Barstow 61.47 323 ⇓P **P** **10 59 10.8 -0.1**
baz=62
RRX ⇑S **S** **11 07 34.6 +4.8**
baz=62
MSU Marysvale 61.48 329 *e*P **P** **10 59 11.2 +0.2**
MVU Marysvale 61.50 329 PFAKE 10 59 20.0 +8.9
MVU LR LR
comp=Z,80μm,19.0s,MS6.9
SHPR Sheep Range 61.57 325 *e*P **P** **10 59 11.9 +0.3**
TRIS Tristan da Cun 61.58 125 PFAKE 10 59 20.0 +8.4
TRIS LR LR
comp=Z,60μm,22.0s,MS6.7
ARUT Antelope Range 61.59 327 *e*P **P** **10 59 12.0 +0.3**
ARUT Antelope Range 61.59 327 *e*P **P** **10 59 11.8 +0.2**
TMUT Trail Mountain 61.61 330 *e*P **P** **10 59 11.8 -0.1**
TMUT *e*pP pP 10 59 20.9 -1.4
U11A Corn Creek 61.63 325 ⇑P **P** **10 59 13.0 +1.0**
baz=62,SNR=6.8
U11A ⇓S **S** **11 07 36.6 +4.6**
baz=62
MWC Mount Wilson 61.65 321 *e*P **P** **10 59 13.0 +0.9**
GSC Goldstone 61.65 323 *e*P **P** **10 59 13.0 +0.9**
GSC Goldstone 61.65 323 *e*P **P** **10 59 12.7 +0.6**
GSC Goldstone 61.65 323 P **P** **10 59 12.6 +0.5**
baz=62,SNR=25
GSC ⇓S **S** **11 07 37.8 +5.7**
baz=62
RWWY Rawlins 61.72 334 *e*P **P** **10 59 10.7 -1.9**
SHOC Shoshone 61.77 324 ⇑P **P** **10 59 13.9 +1.0**
baz=62,SNR=11
SHOC ⇑S **S** **11 07 38.2 +4.6**
baz=62
DECC Green Verdugo 61.83 321 ⇑P **P** **10 59 14.3 +1.0**
baz=62
DECC ⇓S **S** **11 07 39.6 +5.2**
baz=62
SNCC San Nicolas Is 61.90 320 *e*P **P** **10 59 15.0 +1.2**
SNCC *e*pP pP 10 59 22.8 -1.5
SNCC LR LR
comp=Z,22μm,21.0s,MS6.3
SNCC San Nicolas Is 61.90 320 ⇓P **P** **10 59 13.3 -0.5**
baz=62
SNCC ⇓S **S** **11 07 40.4 +5.1**
baz=62
EDW2 Edwards Air Fo 62.06 322 ⇑P **P** **10 59 14.4 -0.4**
baz=62,SNR=91
EDW2 ⇑S **S** **11 07 41.1 +3.9**
baz=62
BLG Laguna Peak 62.19 321 ⇓P **P** **10 59 15.6 -0.1**
baz=62
BLG ⇓S **S** **11 07 43.7 +4.8**
baz=62
LRMC Laurel Mountai 62.29 323 ⇓P **P** **10 59 16.0 -0.5**
baz=62,SNR=50
LRMC ⇑S **S** **11 07 45.1 +5.0**
baz=62
TAOE Nuku Hiva Isla 62.31 267 *e*S **S** **11 07 41.7 +1.3**
comp=Z,350μm,25.9s
TAOE *e*LQ 11 15 12.0
comp=Z,152μm,27.7s
TAOE *e*LR LR 11 17 55.1
comp=Z,650μm,25.3s,baz=106
OSI Osito Adit 62.32 321 ⇑P **P** **10 59 15.8 -0.8**
baz=62
OSI ⇑S **S** **11 07 44.7 +4.2**
baz=62
MPU Maple Canyon 62.37 330 *e*P **P** **10 59 16.2 -0.7**
MPU *e*pP pP 10 59 26.2 -1.3
MPU LR LR
comp=Z,31μm,19.0s,MS6.5
BSC Santa Cruz Isl 62.46 320 ⇓P **P** **10 59 17.8 +0.2**
baz=63
BSC ⇓S **S** **11 07 47.0 +4.7**
baz=63
FURC Furnace Creek, 62.50 324 ⇓P **P** **10 59 17.8 -0.1**
baz=63,SNR=39
FURC ⇑S **S** **11 07 47.9 +5.1**
baz=63
DAU Daniels Canyon 62.50 331 *e*P **P** **10 59 18.0 +0.1**

DAU *e*pP pP 10 59 27.2 -1.1
RSSD Black Hills 62.53 338 *e*P **P** **10 59 17.4 -0.7**
RSSD *e*pP pP 10 59 28.1 -0.5
RSSD LR LR
comp=Z,31μm,21.0s,MS6.5
NLU North Lily Min 62.54 330 *e*P **P** **10 59 18.1 0.0**
NLU *e*pP pP 10 59 28.5 -0.1
MPMC Manual Prospec 62.58 323 P **P** **10 59 18.2 -0.1**
baz=63,SNR=24
MPMC ⇓S **S** **11 07 49.6 +5.8**
baz=63
EYMN Ely 62.58 349 *e*P **P** **10 59 16.2 -2.1**
EYMN *e*pP pP 10 59 26.8 -2.1
EYMN LR LR
comp=Z,61μm,20.0s,MS6.8
ARVC Arvin 62.73 322 ⇓P **P** **10 59 19.6 +0.3**
baz=63,SNR=17
ARVC ⇓S **S** **11 07 50.4 +4.7**
baz=63
DAC Darwin (Calif) 62.79 323 *e*P **P** **10 59 19.8 0.0**
DAC LR LR
comp=Z,56μm,21.0s,MS6.7
SBC Santa Barbara 62.81 321 ⇓P **P** **10 59 19.1 -0.8**
baz=63
SBC ⇑S **S** **11 07 51.8 +5.1**
baz=63
ISA Isabella 62.88 322 *e*P **P** **10 59 21.4 +1.0**
ISA Isabella 62.88 322 *e*P **P** **10 59 20.6 +0.3**
ISA *e*pP pP 10 59 29.1 -1.8
ISA LR LR
comp=Z,8μm,20.0s,MS5.9
ISA Isabella 62.88 322 ⇓P **P** **10 59 20.6 +0.3**
baz=63,SNR=31
ISA ⇓S **S** **11 07 52.9 +5.3**
baz=63
CTU Camp Tracy 62.96 331 *e*P **P** **10 59 20.4 -0.5**
CTU *e*pP pP 10 59 30.1 -1.3
DUG Dugway 63.09 330 *e*P **P** **10 59 21.7 0.0**
DUG *e**PP pP 10 59 31.9 -0.4
DUG Dugway 63.09 330 *e*P **P** **10 59 21.7 0.0**
DUG *e*pP pP 10 59 29.8 -2.4
DUG LR LR
comp=Z,53μm,20.0s,MS6.7
DUG Dugway 63.09 330 ⇑P **P** **10 59 21.7 0.0**
baz=63,SNR=59
DUG ⇑S **S** **11 07 53.8 +3.6**
baz=63
TCUT Toone Canyon 63.13 331 *e*P **P** **10 59 21.9 -0.1**
TRCR Troy Canyon 63.14 326 *e*P **P** **10 59 22.4 +0.3**
GRAC Grapevine Rang 63.16 324 ⇓P **P** **10 59 22.5 +0.2**
baz=63
GRAC ⇓S **S** **11 07 56.3 +5.2**
baz=63
PKM Peak Mountain 63.17 321 ⇑P **P** **10 59 22.5 +0.2**
baz=63,SNR=25
PKM ⇓S **S** **11 07 55.8 +4.5**
baz=63
CWC Cottonwood Cre 63.18 323 ⇑P **P** **10 59 22.6 +0.3**
baz=63,SNR=13
CWC ⇓S **S** **11 07 56.9 +5.5**
baz=63
VES Vestal, Richgr 63.36 322 ⇓P **P** **10 59 23.5 -0.1**
baz=64,SNR=25
VES ⇓S **S** **11 07 58.4 +4.8**
baz=64
R10A Warm Springs 63.49 326 ⇑P **P** **10 59 25.0 +0.6**
baz=64,SNR=35
R10A ⇑S **S** **11 08 00.8 +5.6**
baz=64
Q11A Duckwater 63.54 327 P **P** **10 59 25.2 +0.5**
baz=64,SNR=86
Q11A ⇓S **S** **11 08 00.4 +4.6**
baz=64
SMMC Simmler 63.56 321 P **P** **10 59 25.6 +0.7**
baz=64,SNR=34
SMMC ⇑S **S** **11 08 00.7 +4.6**
baz=64
HWUT Hardware Ranch 63.58 331 *e*P **P** **10 59 24.5 -0.6**
HWUT LR LR
comp=Z,68μm,20.0s,MS6.8
S09A Goldfield 63.59 325 ⇑P **P** **10 59 25.7 +0.6**
baz=64,SNR=48
S09A ⇓S **S** **11 08 00.9 +4.4**
baz=64
BW06 Boulder Array 63.60 333 *e*P **P** **10 59 24.1 -1.0**
BW06 *e*pP pP 10 59 33.1 -2.5
BW06 LR LR
comp=Z,61μm,21.0s,MS6.8
PDAR Pinedale Array 63.60 333 P **P** **10 59 24.0 -1.1**
comp=Z,8.6nm,0.8s,mb4.8,baz=134,slow=8.4,SNR=22
PDAR LR LR 11 26 58.9
comp=Z,52μm,20.6s,MS6.7,baz=147,slow=36
PDAR PKP2bc 11 28 21.7
comp=Z,1.5nm,1.1s,baz=292,slow=0.8,SNR=4.6
PDAR Pinedale Array 63.60 333 P **P** **10 59 24.0 -1.1**
PDAR LR LR 11 26 58.9
PDAR ⇑*e* 11 28 21.7
P12A McGill 63.61 328 ⇑P **P** **10 59 25.8 +0.7**
baz=64,SNR=31
P12A ⇑S **S** **11 08 00.5 +3.8**
baz=64
TIN Tinemaha 63.70 324 ⇓P **P** **10 59 26.0 +0.3**
baz=64
TIN ⇓S **S** **11 08 02.5 +4.8**
baz=64
BGU Big Grassy Mou 63.75 330 *e*P **P** **10 59 25.5 -0.6**
SPUT South Promonto 63.77 331 *e*P **P** **10 59 25.1 -1.1**
RCTC Rector, Farmer 63.77 322 ⇑P **P** **10 59 26.2 -0.1**
baz=64
RCTC ⇓S **S** **11 08 01.9 +3.1**
baz=64
TPH Tonopah 63.84 325 P **P** **10 59 28.5 +1.8**
TPH *e**PP pP 10 59 45.1 +7.8
TPH pmax pmax
comp=Z,81nm,0.9s,mb5.8
TPH Tonopah 63.84 325 *e*P **P** **10 59 28.1 +1.4**
comp=Z,81nm,0.9s,mb5.8
TPH LR LR
comp=Z,44μm,20.0s,MS6.6
AGMN Agassiz Refuge 63.84 346 *e*P **P** **10 59 25.3 -1.4**
comp=Z,207nm,0.9s,mb6.2
AGMN LR LR
comp=Z,52μm,21.0s,MS6.7
V05C Boulder Hill, 63.87 322 ⇓P **P** **10 59 27.5 +0.6**
baz=64
V05C ⇑S **S** **11 08 05.0 +5.0**
baz=64
R09A Tonopah 63.87 325 P **P** **10 59 27.1 +0.2**
baz=64,SNR=60
R09A ⇑S **S** **11 08 04.3 +4.3**
baz=64
HELL Mitchell Peak, 63.90 323 ⇓P **P** **10 59 26.3 -0.8**
baz=64,SNR=33
HELL ⇑S **S** **11 08 03.9 +3.6**
baz=64
PTRM Twissleman Ran 63.92 321 *e*P **P** **10 59 29.1 +1.9**
S08C White Mtn Res 63.97 324 ⇑P **P** **10 59 27.8 +0.3**
baz=64,SNR=74
S08C ⇓S **S** **11 08 06.1 +4.9**
baz=64
MTUM Tungsten Hills 64.09 324 *e*P **P** **10 59 28.9 +0.6**
P11A Circle Ranch, 64.11 327 ⇓P **P** **10 59 28.4 0.0**
baz=64
P11A ⇓S **S** **11 08 06.6 +3.7**
baz=64
O12A Currie 64.11 328 P **P** **10 59 28.8 +0.2**
baz=64,SNR=37
O12A ⇓S **S** **11 08 06.9 +3.9**
baz=64
N13A Wendover, West 64.28 329 ⇑P **P** **10 59 29.6 0.0**
baz=64
N13A ⇓S **S** **11 08 08.0 +2.9**
baz=64
AHID Auburn Hatcher 64.28 332 *e*P **P** **10 59 30.2 +0.6**
AHID *e*pP pP 10 59 37.9 -2.3
AHID LR LR
comp=Z,67μm,21.0s,MS6.8
HVU Hansel Valley 64.29 331 *e*P **P** **10 59 28.7 -0.9**
HVU *e**PP pP 10 59 38.9 -1.3
HVU Hansel Valley 64.29 331 *e*P **P** **10 59 28.6 -1.0**
HVU *e*pP pP 10 59 38.5 -1.7
V04C Ramage Ranch, 64.31 321 ⇑P **P** **10 59 29.7 -0.1**
baz=64,SNR=14
V04C ⇑S **S** **11 08 09.8 +4.4**
baz=64
PKD Parkfield 64.31 321 ⇓P **P** **10 59 29.3 -0.5**

baz=64,SNR=14
PKD ⇓S **S** **11 08 09.8 +4.4**
baz=64
U05C Westside ANR, 64.32 322 ⇓P **P** **10 59 29.4 -0.5**
baz=64
U05C ⇓S **S** **11 08 09.9 +4.4**
baz=64
Q09A Carvers 64.36 326 P **P** **10 59 30.7 +0.6**
baz=65,SNR=27
Q09A ⇓S **S** **11 08 10.7 +4.8**
baz=65
MLAC Mammoth Lakes 64.44 324 ⇑P **P** **10 59 31.3 +0.6**
baz=65,SNR=38
MLAC ⇓S **S** **11 08 11.3 +4.2**
baz=65
O11A Cowboy Ranch, 64.48 328 P **P** **10 59 31.1 +0.2**
baz=65,SNR=28
O11A ⇑S **S** **11 08 11.2 +3.7**
baz=65
KCC Kaiser Creek 64.51 323 ⇑P **P** **10 59 30.7 -0.4**
baz=65,SNR=21
KCC ⇑S **S** **11 08 10.2 +2.3**
baz=65
T06C Millerton Lake 64.52 323 ⇑P **P** **10 59 29.7 -1.5**
baz=65,SNR=14
T06C ⇓S **S** **11 08 09.3 +1.3**
baz=65
R08A Mina 64.53 325 ⇑P **P** **10 59 31.5 +0.3**
baz=65,SNR=12
R08A ⇑S **S** **11 08 12.6 +4.5**
baz=65
P10A Eureka 64.53 327 P **P** **10 59 32.0 +0.7**
baz=65,SNR=26
P10A ⇓S **S** **11 08 12.7 +4.5**
baz=65
REDW Red Top Meadow 64.64 333 *e*P **P** **10 59 31.1 -0.9**
SNOW Snow King Moun 64.68 333 *e*P **P** **10 59 31.7 -0.5**
comp=Z,161nm,1.2s,mb5.9
SNOW *e*pP pP 10 59 39.7 -3.1
NVAR Mina Array Bea 64.69 325 P **P** **10 59 32.2 -0.1**
comp=Z,16nm,0.8s,mb5.1,baz=144,slow=4.7,SNR=31
N12A Clover Valley, 64.70 329 P **P** **10 59 32.7 +0.4**
baz=65,SNR=11
N12A ⇑S **S** **11 08 13.2 +3.0**
baz=65
U04C Hernandez Rese 64.73 322 ⇑P **P** **10 59 32.1 -0.5**
baz=65,SNR=20
U04C ⇓S **S** **11 08 15.8 +5.2**
baz=65
LOHW Long Hollow 64.74 333 *e*P **P** **10 59 32.0 -0.6**
V03C Hunter Liggett 64.78 321 ⇑P **P** **10 59 33.5 +0.6**
baz=65,SNR=13
V03C ⇓S **S** **11 08 17.3 +6.1**
baz=65
Q08A Gabbs 64.79 325 ⇑P **P** **10 59 32.1 -0.8**
baz=65,SNR=15
Q08A ⇑S **S** **11 08 15.1 +3.8**
baz=65
TPAW Teton Pass 64.79 333 *e*P **P** **10 59 33.0 +0.1**
RRI2 Red Ridge 64.84 333 *e*P **P** **10 59 33.6 +0.3**
RRI2 *e*pP pP 10 59 44.2 +0.4
P09A Austin 64.85 326 ⇑P **P** **10 59 33.6 +0.3**
baz=65,SNR=26
P09A ⇓S **S** **11 08 14.9 +2.9**
baz=65
R07C Lee Vining 64.88 324 ⇓P **P** **10 59 34.1 +0.6**
baz=65,SNR=30
R07C ⇑S **S** **11 08 17.8 +5.4**
baz=65
MOOW Moose Ponds 64.91 333 *e*P **P** **10 59 32.9 -0.8**
comp=Z,184nm,1.7s,mb5.8
LRV Little Rabbit 64.92 322 *e*P **P** **10 59 35.0 +1.2**
DCID1 Drake Creek 64.98 333 *e*P **P** **10 59 33.8 -0.3**
DCID1 *e*pP pP 10 59 44.6 -0.1
T05C Eagle Field, D 65.02 322 ⇑P **P** **10 59 34.3 -0.1**
baz=65
T05C ⇑S S 11 08 19.8 +5.6
baz=65
N11A Elko Archery C 65.03 328 ⇑P **P** **10 59 34.4 -0.1**
baz=65
N11A ⇑S S 11 08 17.2 +3.0
baz=65
O10A Cortez Mining, 65.04 327 ⇓P **P** **10 59 34.8 +0.3**
baz=65,SNR=38
O10A ⇓S S 11 08 17.5 +3.1
baz=65
M12A Wells 65.05 329 ⇑P **P** **10 59 34.6 0.0**
baz=65,SNR=16
M12A ⇑S S 11 08 17.4 +2.9
baz=65
IMW Indian Meadow 65.11 333 *e*P **P** **10 59 35.1 +0.1**
comp=Z,223nm,1.4s,mb6.0
S05C Merced 65.12 323 ⇓P **P** **10 59 34.3 -0.8**
baz=65,SNR=25
S05C ⇑S S 11 08 18.7 +3.4
baz=65
FLWY Flagg Ranch 65.15 334 *e*P **P** **10 59 35.3 0.0**
S06C San Francisco 65.20 323 ⇑P **P** **10 59 35.5 -0.1**
baz=65,SNR=54
S06C ⇓S S 11 08 20.0 +3.7
baz=65
HAST UC Hastings Re 65.22 321 ⇓P **P** **10 59 35.2 -0.5**
baz=65,SNR=12
HAST ⇓S S 11 08 21.8 +5.3
baz=65
O09A Fish Creek Ran 65.32 327 ⇓P **P** **10 59 35.9 -0.4**
baz=66,SNR=29
O09A ⇑S S 11 08 21.0 +3.2
baz=66
Q07A Schurz 65.33 325 ⇑P **P** **10 59 36.7 +0.3**
baz=66
Q07A ⇑S S 11 08 23.2 +5.2
baz=66
WAKR Walker 65.39 324 *e*P **P** **10 59 37.4 +0.6**
RLMT Red Lodge 65.39 335 *e*P **P** **10 59 36.0 -0.9**
comp=Z,793nm,1.3s,mb6.6
RLMT LR LR
comp=Z,37μm,20.0s,MS6.6
SAO San Andreas Ge 65.40 322 *e*P **P** **10 59 39.1 +2.2**
SAO pmax pmax
comp=Z,220nm,1.6s,mb5.9
SAO San Andreas Ge 65.40 322 *e*P **P** **10 59 37.7 +0.8**
comp=Z,218nm,1.7s,mb5.9
SAO LR LR
comp=Z,26μm,19.0s,MS6.5
LKWY Lake 65.41 334 *e*P **P** **10 59 39.6 +2.6**
LKWY pmax pmax
comp=Z,141nm,1.1s,mb5.9
LKWY MLR MLR
comp=Z,34μm,20.0s,MS6.5
LKWY Lake 65.41 334 *e*P **P** **10 59 39.6 +2.7**
comp=Z,141nm,1.1s,mb5.9
LKWY LR LR
comp=Z,34μm,20.0s,MS6.5
P08A Dixie Valley 65.46 326 ⇓P **P** **10 59 37.9 +0.6**
baz=66,SNR=10
P08A ⇓S S 11 08 22.9 +3.4
baz=66
PACP Pacheco Peak 65.46 322 ⇓P **P** **10 59 37.2 -0.1**
baz=66,SNR=12
PACP ⇑S S 11 08 23.4 +3.9
baz=66
M11A Holland Ranch, 65.51 329 ⇑P **P** **10 59 37.5 -0.1**
baz=66,SNR=20
M11A ⇑S S 11 08 22.6 +2.5
baz=66
YFT Old Faithful 65.51 334 *e*P **P** **10 59 39.1 +1.5**
BMN Battle Mountai 65.52 327 *e*P **P** **10 59 38.7 +1.0**
BMN pmax pmax
comp=Z,150nm,1.4s,mb5.8
BMN Battle Mountai 65.52 327 *e*P **P** **10 59 37.7 0.0**
comp=Z,146nm,1.4s,mb5.8
BMN LR LR
comp=Z,40μm,22.0s,MS6.6
LAO LASA Array 65.53 338 *e*P **P** **10 59 36.4 -1.3**
LAO LR LR
comp=Z,41μm,22.0s,MS6.6
CMB Columbia Colle 65.61 323 P **P** **10 59 38.1 -0.2**
CMB *e**PP pP 10 59 53.2 +4.4
CMB pmax pmax
comp=Z,170nm,1.4s,mb5.9
CMB Columbia Colle 65.61 323 *e*P **P** **10 59 37.9 -0.4**
comp=Z,172nm,1.4s,mb5.9
CMB LR LR
comp=Z,38μm,19.0s,MS6.6
CMB Columbia Colle 65.61 323 ⇓P **P** **10 59 37.5 -0.8**
baz=66,SNR=26

CMB ⇑S S 11 08 24.8 +3.4
baz=66
YNR Norris Junctio 65.65 334 *e*P **P 10 59 39.0 +0.5**
ULM Lac du Bonnet 65.67 347 P **P 10 59 37.0 -1.7**
comp=Z,230nm,0.9s,mb6.2,baz=157,slow=6.2,SNR=56
ULM S S 11 08 14.5 -7.7
comp=Z,5.7nm,1.0s,baz=124,slow=17,SNR=2.1
ULM Lac du Bonnet 65.67 347 *e*P **P 10 59 36.6 -2.0**
comp=Z,303nm,0.9s,mb6.3
ULM LR LR
comp=Z,60µm,19.0s,MS6.8
YMR Madison River 65.74 334 *e*P **P 10 59 35.5 -3.5**
comp=Z,378nm,1.5s,mb6.2
YMR LR LR
comp=Z,39µm,19.0s,MS6.6
P07A Fallon 65.80 325 ⇑P **P 10 59 39.0 -0.4**
baz=66
P07A ⇓S S 11 08 28.9 +5.2
baz=66
S04C Ingram Canyon, 65.82 322 ⇑P **P 10 59 39.5 -0.1**
baz=66
S04C ⇓S S 11 08 29.4 +5.5
baz=66
R05C Kirkwood Meado 65.89 324 ⇓P **P 10 59 40.6 +0.6**
baz=66,SNR=47
R05C ⇓S S 11 08 29.6 +4.9
baz=66
O08A Rochester Mine 65.92 326 ⇑P **P 10 59 38.4 -1.8**
baz=66
O08A ⇓S S 11 08 28.3 +3.2
baz=66
M10A I.L. Ranch, Tu 65.95 328 ⇓P **P 10 59 40.1 -0.4**
baz=66
M10A ⇑S S 11 08 29.5 +4.0
baz=66
N09A Rock Creek Ran 65.98 327 ⇑P **P 10 59 40.2 -0.4**
baz=66
N09A ⇓S S 11 08 28.8 +2.8
baz=66
QLMT Earthquake Lak 66.06 334 *e*P **P 10 59 42.1 +1.0**
BNLO Ben Lomond (Sa 66.08 321 ⇑P **P 10 59 40.4 -0.8**
baz=66
BNLO ⇑S S 11 08 32.0 +4.9
baz=66
R04C Big Horse Ranc 66.08 323 ⇑P **P 10 59 42.2 +0.9**
baz=66,SNR=10.0
R04C ⇑S S 11 08 32.2 +5.1
baz=66
GCMT Greycliff 66.10 335 *e*P **P 10 59 41.0 -0.4**
WCN Washoe City 66.11 325 P **P 10 59 42.2 +0.7**
baz=66,SNR=75
WCN ⇓S S 11 08 32.6 +5.1
baz=66
WENL Wente Brothers 66.15 322 ⇑P **P 10 59 41.9 +0.2**
baz=66
WENL ⇑S S 11 08 33.2 +5.3
baz=66
PAHR Pah Rah Range 66.19 325 *e*P **P 10 59 42.0 +0.1**
O07A Toulon 66.22 326 P **P 10 59 42.2 +0.1**
baz=66,SNR=77
O07A ⇑S S 11 08 31.8 +3.0
baz=66
N08A GE Springer Mi 66.26 327 ⇑P **P 10 59 42.3 -0.1**
baz=66,SNR=22
N08A ⇑S S 11 08 32.2 +3.0
baz=66
JRSC Jasper Ridge 66.30 322 ⇑P **P 10 59 43.6 +0.9**
baz=66
JRSC ⇓S S 11 08 34.2 +4.4
baz=66
LAVA Lava Cap Winer 66.31 324 ⇓P **P 10 59 41.9 -0.8**
baz=66,SNR=12
LAVA ⇓S S 11 08 34.0 +4.2
baz=66
M09A Marrel Ranch, 66.35 328 ⇓P **P 10 59 42.6 -0.4**
baz=67,SNR=45
M09A ⇓S S 11 08 33.8 +3.4
baz=67
DGMT Dagmar 66.36 340 *e*P **P 10 59 42.6 -0.4**
DGMT LR LR
comp=Z,21µm,20.0s,MS6.3
HLID Hailey 66.43 331 *e*P **P 10 59 43.3 -0.2**
comp=Z,206nm,1.6s,mb5.9
HLID LR LR
comp=Z,38µm,21.0s,MS6.6
HLID Hailey 66.43 331 ⇑P **P 10 59 44.2 +0.7**
baz=67,SNR=38
HLID ⇑S S 11 08 35.3 +3.9
baz=67
BDM Black Diamond 66.43 322 ⇑P **P 10 59 42.0 -1.5**
baz=67
BDM ⇑S S 11 08 37.3 +5.9
baz=67
P06A Stead Airport, 66.45 325 ⇓P **P 10 59 44.3 +0.6**
baz=67,SNR=14
P06A ⇓S S 11 08 36.5 +4.9
baz=67
SAC San Andreas 66.52 322 *e*P **P 10 59 48.0 +3.9**
SAC San Andreas 66.52 322 *e*P **P 10 59 46.9 +2.8**
MCMT McKenzie Canyo 66.69 333 *e*P **P 10 59 45.3 +0.2**
Q04C Lincoln 66.73 323 ⇓P **P 10 59 46.0 +0.6**
baz=67,SNR=30
Q04C ⇓S S 11 08 39.6 +4.6
baz=67
O06A Flanigan 66.75 325 P **P 10 59 45.8 +0.2**
baz=67,SNR=31
O06A ⇓S S 11 08 39.2 +4.0
baz=67
BEKR Beckwourth 66.84 325 ⇑P **P 10 59 46.7 +0.6**
baz=67
BEKR ⇓S S 11 08 40.5 +4.2
baz=67
M08A Happy Creek Ra 66.86 327 ⇓P **P 10 59 46.2 -0.1**
baz=67,SNR=12
M08A ⇑S S 11 08 39.7 +3.2
baz=67
L09A Wilkinson Ranc 66.90 328 ⇓P **P 10 59 46.1 -0.4**
baz=67,SNR=54
L09A ⇑S S 11 08 40.0 +3.0
baz=67
FARB Farallon Islan 66.95 321 ⇑P **P 10 59 47.0 +0.2**
baz=67
FARB ⇑S S 11 08 42.1 +4.5
baz=67
Q03C Winters 66.97 323 ⇑P **P 10 59 48.2 +1.3**
baz=67
Q03C ⇓S S 11 08 44.8 +6.9
baz=67
DLMT Dillon 66.99 333 P **P 10 59 46.8 -0.3**
comp=Z,286nm,1.5s,mb6.1
CVS Carmenet Viney 67.04 322 ⇑P **P 10 59 47.6 +0.2**
baz=67,SNR=9.3
CVS ⇑S S 11 08 43.5 +4.8
baz=67
OHCM Honcut 67.12 324 *e*P **P 10 59 47.9 0.0**
N06A Buffalo Meadow 67.16 326 P **P 10 59 48.4 +0.3**
baz=67,SNR=65
N06A ⇓S S 11 08 44.6 +4.5
baz=67
MCCM Marconi Confer 67.16 322 *e*P **P 10 59 52.6 +4.4**
comp=Z,169nm,1.1s,mb6.0
MCCM LR LR
comp=Z,22µm,20.0s,MS6.4
MCCM Marconi Confer 67.16 322 ⇓P **P 10 59 47.7 -0.5**
baz=67
MCCM ⇑S S 11 08 44.7 +4.4
baz=67
O05C Quincy 67.22 324 ⇓P **P 10 59 48.4 -0.1**
baz=67,SNR=40
O05C ⇑S S 11 08 44.9 +4.0
baz=67
SUTB Sutter Butte 67.23 323 ⇓P **P 10 59 48.1 -0.5**
baz=67,SNR=24
SUTB ⇑S S 11 08 45.1 +4.1
baz=67
M07A Soldier Meadow 67.24 327 ⇑P **P 10 59 48.6 -0.1**
baz=68,SNR=22
M07A ⇑S S 11 08 44.8 +3.7
baz=68
ORV Oroville 67.28 324 ⇓P **P 10 59 49.5 +0.6**
baz=68,SNR=190
ORV ⇓S S 11 08 46.2 +4.6
baz=68
LRM Limekiln Ridge 67.29 334 *e*P **P 10 59 48.7 -0.3**
L08A Fields 67.37 328 ⇓P **P 10 59 48.7 -0.8**
baz=68,SNR=29
L08A ⇑S S 11 08 45.4 +2.7
baz=68
MNRC McLaughlin Nat 67.38 323 ⇓P **P 10 59 49.8 +0.2**
baz=68
MNRC ⇑S S 11 08 48.7 +5.9
baz=68
K09A Rome 67.42 328 P **P 10 59 49.8 0.0**
baz=68,SNR=47
K09A ⇑S S 11 08 46.7 +3.4
baz=68
O04C Chester 67.56 325 P **P 10 59 51.0 +0.4**
baz=68,SNR=25
O04C ⇓S S 11 08 48.9 +3.9
baz=68
ELFS Eagle Lake Fie 67.56 325 ⇓P **P 10 59 50.2 -0.5**
baz=68,SNR=41
ELFS ⇑S S 11 08 50.1 +5.1
baz=68
WVOR Wild Horse Val 67.70 328 P **P 10 59 51.1 -0.5**
WVOR pmax pmax
comp=Z,120nm,1.2s,mb5.8
WVOR Wild Horse Val 67.70 328 *e*P **P 10 59 50.8 -0.8**
comp=Z,110nm,1.3s,mb5.7
WVOR LR LR
comp=Z,44µm,21.0s,MS6.7
L07A Adell 67.77 327 P **P 10 59 51.6 -0.4**
baz=68,SNR=24
L07A ⇓S S 11 08 51.6 +4.1
baz=68
M06C Likely Place G 67.82 326 P **P 10 59 52.2 -0.1**
baz=68,SNR=37
M06C ⇓S S 11 08 52.9 +4.8
baz=68
HOPS Hopland 67.83 322 P **P 10 59 52.8 +0.4**
HOPS LR LR
comp=Z,36µm,21.0s,MS6.6
HOPS Hopland 67.83 322 ⇓P **P 10 59 52.6 +0.2**
baz=68
HOPS ⇓S S 11 08 54.2 +6.0
baz=68
K08A Mann Creek Ran 67.83 328 ⇓P **P 10 59 51.9 -0.4**
baz=68,SNR=10
K08A ⇑S S 11 08 51.8 +3.6
baz=68
E15A Deer Lodge 67.85 334 ⇑P **P 10 59 52.5 0.0**
baz=68
E15A ⇑S S 11 08 49.8 +1.4
baz=68
O03C Acorn Hollow, 67.88 324 ⇓P **P 10 59 52.6 -0.1**
baz=68
O03C ⇑S S 11 08 52.3 +3.5
baz=68
J09A Fry Pan Ranch, 67.90 329 ⇑P **P 10 59 52.7 -0.1**
baz=68,SNR=28
J09A ⇑S S 11 08 52.2 +3.2
baz=68
EGMT Eagleton 67.96 337 *e*P **P 10 59 53.0 -0.3**
comp=Z,160nm,1.3s,mb5.9
EGMT LR LR
comp=Z,43µm,20.0s,MS6.7
EGMT Eagleton 67.96 337 ⇑P **P 10 59 52.8 -0.4**
baz=68
EGMT ⇑S S 11 08 50.0 +0.2
baz=68
GASB Alder Springs 68.05 323 ⇑P **P 10 59 54.3 +0.6**
baz=68,SNR=22
GASB ⇓S S 11 08 56.4 +5.6
baz=68
HATC Hat Creek Radi 68.10 325 ⇑P **P 10 59 53.6 -0.5**
baz=68,SNR=8.9
HATC ⇑S S 11 08 55.4 +3.9
baz=68
K07A Rock Creek Ran 68.20 328 ⇑P **P 10 59 54.6 -0.1**
baz=68,SNR=9.0
E14A Clinton 68.21 333 ⇓P **P 10 59 54.7 -0.1**
baz=68
E14A ⇑S S 11 08 54.2 +1.5
baz=68
MOD Modoc 68.21 326 PFAKE 11 00 10.0 +15
MOD LR LR
comp=Z,18µm,21.0s,MS6.3
MOD Modoc 68.21 326 ⇓P **P 10 59 54.3 -0.5**
baz=68
MOD ⇑S S 11 08 56.4 +3.7
baz=68
J08A Circle Bar Ran 68.27 328 ⇑P **P 10 59 54.7 -0.4**
baz=68,SNR=9.4
J08A ⇓S S 11 08 56.7 +3.2
baz=68
P01C Double 8 Ranch 68.29 323 ⇑P **P 10 59 54.8 -0.5**
baz=68,SNR=10
P01C ⇑S S 11 08 57.9 +4.2
baz=68
M05C Lookout 68.30 325 P **P 10 59 55.3 0.0**
baz=68,SNR=64
M05C ⇑S S 11 08 57.6 +3.8
baz=68
SHEL Horse Pasture 68.33 102 *e*P **P 10 59 56.3 +0.8**
comp=Z,146nm,0.9s,mb6.0
SHEL LR LR
comp=Z,14µm,19.0s,MS6.2
I09A Lost Marbles R 68.35 329 ⇓P **P 10 59 54.8 -0.8**
baz=69,SNR=12
I09A ⇑S S 11 08 57.1 +2.8
baz=69
O02C Red Bluff 68.43 324 ⇑P **P 10 59 54.6 -1.5**
baz=69
O02C ⇑S S 11 08 57.2 +1.8
baz=69
VAH Vaihoa 68.48 259 *e*P **P 10 59 58.6 +2.2**
comp=Z,95nm,1.0s,mb5.8
CHMT Chamberlain Mo 68.49 334 *e*P **P 10 59 56.3 -0.3**
E13A Victor 68.53 333 ⇑P **P 10 59 56.4 -0.4**
baz=69
E13A ⇑S S 11 08 58.3 +1.8
baz=69
WDC Whiskeytown Da 68.56 324 *e*P **P 10 59 56.4 -0.6**
comp=Z,234nm,1.7s,mb5.8
WDC LR LR
comp=Z,24µm,22.0s,MS6.4
WDC Whiskeytown Da 68.56 324 ⇑P **P 10 59 56.5 -0.5**
baz=69,SNR=10
WDC ⇑S S 11 08 56.9 0.0
baz=69
SCHQ Schefferville 68.57 6 P **P 10 59 55.9 -1.2**
comp=Z,149nm,0.9s,mb5.9,baz=184,slow=5.0,SNR=34
SCHQ S S 11 08 47.4 -10
comp=Z,1.7nm,0.6s,baz=190,slow=13,SNR=2.5
SCHQ LR LR 11 30 00.7
comp=Z,35µm,21.8s,MS6.6,baz=193,slow=36
SCHQ Schefferville 68.57 6 *e*P **P 10 59 55.3 -1.7**
comp=Z,250nm,1.0s,mb6.1
SCHQ LR LR
comp=Z,57µm,22.0s,MS6.8
KCPM Cahto Peak 68.58 323 *e*P **P 10 59 59.2 +2.1**
L05A Lakeview 68.59 326 ⇑P **P 10 59 58.1 +0.9**
baz=69,SNR=21
L05A ⇑S S 11 09 02.5 +5.2
baz=69
KIPM Iron Peak 68.60 323 *e*P **P 10 59 59.4 +2.2**
J07A Hines 68.71 328 ⇑P **P 10 59 57.5 -0.5**
baz=69,SNR=16
J07A ⇑S S 11 09 03.4 +4.7
baz=69
I08A Drewsey 68.72 329 ⇑P **P 10 59 57.8 -0.1**
baz=69,SNR=24
I08A ⇓S S 11 09 02.1 +3.4
baz=69
MSO Missoula 68.72 333 *e*P **P 10 59 58.1 +0.1**
comp=Z,288nm,1.6s,mb6.0
MSO LR LR
comp=Z,20µm,19.0s,MS6.4
D14A Greenough 68.73 334 P **P 10 59 58.3 +0.3**
baz=69,SNR=21
D14A ⇑S S 11 09 01.1 +2.2
baz=69
BMO Blue Mountains 68.77 330 *e*P **P 10 59 57.9 -0.4**
comp=Z,192nm,1.6s,mb5.8
BMO LR LR
comp=Z,55µm,19.0s,MS6.8
K06A Valley Falls 68.80 327 ⇑P **P 10 59 58.0 -0.5**
baz=69,SNR=84
K06A ⇓S S 11 09 04.2 +4.4
baz=69
H09A Durkee 68.81 330 ⇓P **P 10 59 58.1 -0.4**
baz=69
H09A ⇓S S 11 09 02.0 +2.1
baz=69
M04C Macdoel 68.96 325 P **P 10 59 59.5 0.0**
baz=69,SNR=24
M04C ⇓S S 11 09 05.4 +3.7
baz=69
O01C Eel River Cons 69.01 323 ⇑P **P 11 00 00.3 +0.5**
baz=69
O01C ⇓S S 11 09 07.5 +5.3
baz=69
J06A Christmas Vall 69.06 327 ⇓P **P 10 59 60.0 -0.1**
baz=69,SNR=90
J06A ⇑S S 11 09 06.9 +4.1
baz=69
K05A Summer Lake 69.09 327 ⇑P **P 11 00 00.5 +0.2**
baz=69,SNR=14
K05A ⇑S S 11 09 07.9 +4.7
baz=69
D13A Huson 69.15 333 ⇓P **P 11 00 00.6 -0.1**
baz=69,SNR=8.4
D13A ⇓S S 11 09 06.6 +2.7
baz=69
N02C Big Bar 69.15 324 ⇑P **P 11 00 00.2 -0.5**
baz=69,SNR=40
N02C ⇓S S 11 09 06.3 +2.4
baz=69
TBI Tubuai 69.15 250 *e*S S 11 09 05.0 +1.1
comp=Z,14µm,28.8s
TBI *e*LR LR 11 20 55.4
comp=Z,141µm,26.0s,baz=89
H08A Prairie City 69.20 329 ⇑P **P 11 00 01.2 +0.2**
baz=69
H08A ⇓S S 11 09 07.4 +2.9
baz=69
L04A Klamath Falls 69.26 326 ⇓P **P 11 00 01.9 +0.6**
baz=70,SNR=23
L04A ⇓S S 11 09 09.3 +4.1
baz=70
M02C Callahan 69.27 325 ⇓P **P 11 00 00.2 -1.2**
baz=70
M02C ⇑S S 11 09 06.7 +1.3
baz=70
I07A Izee 69.31 328 ⇓P **P 11 00 00.8 -0.8**
baz=70,SNR=67
I07A ⇑S S 11 09 09.8 +4.0
baz=70
C14A Swan Lake 69.37 334 ⇑P **P 11 00 02.1 +0.1**
baz=70
YBH Yreka Blue Hor 69.42 325 *e*P **P 11 00 01.4 -0.9**
YBH LR LR
comp=Z,24µm,19.0s,MS6.5
YBH Yreka Blue Hor 69.42 325 ⇑P **P 11 00 00.4 -1.9**
baz=70,SNR=24
YBH ⇓S S 11 09 07.6 +0.5
baz=70
KHMM Horse Mountain 69.43 324 *e*P **P 11 00 04.1 +1.7**
K04A Chilquin 69.47 326 ⇑P **P 11 00 02.5 -0.1**
baz=70,SNR=13
K04A ⇑S S 11 09 11.9 +4.3
baz=70
F10A Beach Ranch, E 69.56 331 ⇓P **P 11 00 02.7 -0.5**
baz=70,SNR=37
F10A ⇑S S 11 09 11.6 +2.8
baz=70
JCC Jacoby Creek 69.57 323 ⇑P **P 11 00 03.8 +0.5**
baz=70
JCC ⇑S S 11 09 12.9 +4.1
baz=70
I06A Prineville 69.58 328 ⇓P **P 11 00 03.2 -0.1**
baz=70,SNR=24
I06A ⇓S S 11 09 13.8 +4.8
baz=70
C13A Hot Springs 69.65 334 P **P 11 00 03.7 0.0**
baz=70,SNR=34
C13A ⇓S S 11 09 12.3 +2.5
baz=70
J05A Fort Rock 69.66 327 ⇓P **P 11 00 03.3 -0.5**
baz=70,SNR=20
J05A ⇑S S 11 09 15.4 +5.5
baz=70
F09A S2 Ranch, Elgi 69.69 330 ⇓P **P 11 00 04.2 +0.2**
baz=70,SNR=21
F09A ⇓S S 11 09 13.3 +3.1
baz=70
H07A Lands Inn, Kim 69.70 329 ⇑P **P 11 00 02.9 -1.2**
baz=70,SNR=14
H07A ⇑S S 11 09 14.0 +3.6
baz=70
BSMT Bassoo Peak 69.88 334 P **P 11 00 05.1 0.0**
PDA Ponta Delgada 69.89 41 *i* P **P 11 00 06.0 +0.8**
PDA *i* pP pP 11 00 20.0 +4.2
PDA Ponta Delgada 69.89 41 *i* PP PP 11 02 43.0 +3.0
PDA *i* S S 11 09 30.0 +17
PDA *i* SS SS 11 13 44.0 +2.2
PDA *i* LR LR 11 21 49.0
G08A Pilot Rock 69.90 330 P **P 11 00 05.2 -0.1**
baz=70,SNR=38
G08A ⇑S S 11 09 15.4 +2.7
baz=70
KRMB Red Mountain 69.95 324 *e*P **P 11 00 06.9 +1.3**
PAE Paea 69.97 256 *e*P **P 11 00 07.2 +1.5**
comp=Z,168nm,1.3s,mb5.8
PAE Paea 69.97 256 *e*P **P 11 00 07.2 +1.5**
PAE pmax pmax
comp=Z,168nm,1.3s,mb5.8
PPT Papeete 69.98 256 *e*S S 11 09 14.6 +0.9
comp=Z,148µm,29.2s
PPT *e*LR LR 11 21 11.4
comp=Z,99µm,28.0s,baz=100
PPT Papeete 69.98 256 LR LR 11 23 49.9
comp=Z,6µm,21.1s,MS5.8,baz=92,slow=30
C12A Trout Creek 70.07 333 ⇑P **P 11 00 06.5 +0.3**
baz=70,SNR=32
C12A ⇓S S 11 09 17.0 +2.3
baz=70
HUMO Hull Mountain 70.13 325 *e*P **P 11 00 07.7 +1.0**
comp=Z,85nm,1.4s,mb5.5
HUMO LR LR
comp=Z,32µm,20.0s,MS6.6
HUMO Hull Mountain 70.13 325 ⇑P **P 11 00 05.1 -1.6**
baz=70
HUMO ⇓S S 11 09 16.0 +0.5
baz=70
B13A Whitefish 70.14 334 P **P 11 00 06.5 -0.3**
baz=70,SNR=6.5
B13A ⇑S S 11 09 18.0 +2.5
baz=70
F08A Pendleton 70.17 330 ⇓P **P 11 00 06.1 -0.8**
baz=70,SNR=9.9
F08A ⇑S S 11 09 18.4 +2.5
baz=70
VIPM Ingram Point 70.18 328 P **P 11 00 07.4 +0.4**
H06A Lindquist Farm 70.19 328 ⇓P **P 11 00 06.6 -0.5**
baz=70,SNR=44
H06A ⇑S S 11 09 21.0 +4.8
baz=70
L02A Cave Junction 70.19 325 ⇑P **P 11 00 06.6 -0.5**
baz=70,SNR=8.5
L02A ⇑S S 11 09 19.1 +2.9
baz=70
G07A Ruggs Ranch, H 70.23 329 ⇓P **P 11 00 07.9 +0.6**
baz=70,SNR=18
G07A ⇓S S 11 09 20.9 +4.2
baz=70
M01C Crescent City 70.29 324 ⇓P **P 11 00 07.1 -0.5**
baz=70
M01C ⇓S S 11 09 21.5 +4.3
baz=70
E09A Wood Farm, Sta 70.39 331 P **P 11 00 07.7 -0.6**
baz=71,SNR=24
E09A ⇓S S 11 09 20.7 +2.2
baz=71
WALA Waterton Lakes 70.44 335 *e*P **P 11 00 07.2 -1.4**
comp=Z,139nm,1.2s,mb5.8
K02A Glendale 70.53 325 P **P 11 00 09.2 0.0**
baz=71,SNR=22
K02A ⇑S S 11 09 22.1 +1.9
baz=71
A13A Flathead Natio 70.56 335 ⇓P **P 11 00 09.4 +0.2**
baz=71
KBO Bosley Butte 70.58 324 *e*P **P 11 00 07.9 -1.6**
H05A Madras 70.59 328 ⇑P **P 11 00 09.7 +0.2**
baz=71,SNR=7.5
H05A ⇑S S 11 09 24.9 +4.1
baz=71
J03A Ideyld Park 70.64 326 ⇓P **P 11 00 09.3 -0.5**
baz=71
J03A ⇑S S 11 09 22.6 +1.1
baz=71
B12A Libby 70.70 334 P **P 11 00 10.5 +0.4**
baz=71,SNR=21
B12A ⇑S S 11 09 24.7 +2.6

baz=71
G06A Carlson Farm, 70.70 329 ⇑P **P 11 00 10.3 +0.2**
baz=71,SNR=8.1
G06A ⇓S S 11 09 26.7 +4.7
baz=71
F07A Phinny Hill Vi 70.81 330 P **P 11 00 11.5 +0.7**
baz=71,SNR=21
F07A ⇑S S 11 09 27.8 +4.5
baz=71
D09A Jones Farm, Ri 70.87 331 P **P 11 00 10.9 -0.3**
baz=71,SNR=31
D09A ⇑S S 11 09 27.0 +3.0
baz=71
EGOM La Gomera 70.88 54 P **P 11 00 11.5 +0.2**
comp=Z,5μm,5.3s
C10A Spilker Farm, 70.97 332 ⇓P **P 11 00 10.9 -0.8**
baz=71
C10A ⇑S S 11 09 27.2 +2.1
baz=71
HAWA Hanford 70.97 330 *e*P **P 11 00 11.6 -0.2**
HAWA LR LR
comp=Z,105μm,19.0s,MS7.1
BROR Big Rock Looko 70.97 327 P **P 11 00 10.9 -0.9**
J02A Umpqua 70.97 326 ⇑P **P 11 00 11.3 -0.5**
baz=71,SNR=16
J02A ⇓S S 11 09 28.2 +2.9
baz=71
B11A Sandpoint 71.01 333 P **P 11 00 11.9 -0.1**
baz=71,SNR=16
B11A ⇓S S 11 09 27.9 +2.2
baz=71
G05A Wamic 71.05 328 ⇓P **P 11 00 12.1 -0.1**
baz=71,SNR=12
G05A ⇑S S 11 09 30.8 +4.7
baz=71
KEBM Edson Butte 71.07 325 *e*P **P 11 00 13.0 +0.6**
A12A Yaak River Ran 71.08 334 P **P 11 00 12.8 +0.3**
baz=71,SNR=52
A12A ⇑S S 11 09 28.3 +1.8
baz=71
GBL Gable Mountain 71.08 330 P **P 11 00 12.4 -0.1**
SNIWA Snively Ranch 71.08 330 P **P 11 00 13.1 +0.6**
K01A Sixes 71.11 325 ⇓P **P 11 00 13.5 +0.9**
baz=71
K01A ⇓S S 11 09 31.1 +4.3
baz=71
H04A Detroit Lake 71.11 327 ⇓P **P 11 00 11.8 -0.9**
baz=71,SNR=15
H04A ⇑S S 11 09 28.1 +1.2
baz=71
F06A Goldendale 71.14 329 ⇓P **P 11 00 13.2 +0.4**
baz=71
D08A Wollman Farm, 71.15 331 ⇓P **P 11 00 12.8 -0.1**
baz=71
D08A ⇓S S 11 09 30.3 +3.0
baz=71
NEW Newport 71.21 333 *e*P **P 11 00 12.6 -0.7**
comp=Z,286nm,1.6s,mb6.0
NEW LR LR
comp=Z,43μm,20.0s,MS6.7
I03A Eugene 71.22 326 ⇑P **P 11 00 13.1 -0.2**
baz=71,SNR=14
I03A ⇓S S 11 09 30.0 +2.0
baz=71
E07A Sunnyside 71.24 330 ⇓P **P 11 00 13.3 -0.1**
baz=72,SNR=19
E07A ⇓S S 11 09 32.7 +4.4
baz=72
FFC Flin Flon 71.26 345 P **P 11 00 12.1 -1.5**
comp=Z,459nm,1.0s,mb6.4,SNR=17
HOOD Mount Hood Mea 71.27 328 *e*P **P 11 00 15.4 +1.8**
B10A Chitwood Farm, 71.28 333 ⇓P **P 11 00 13.2 -0.5**
baz=72
B10A ⇑S S 11 09 31.7 +2.8
baz=72
OD2 Odessa Site #2 71.30 331 P **P 11 00 14.3 +0.5**
CCAN Las Canadas 71.38 54 P **P 11 00 17.4 +3.1**
comp=Z,136nm,1.3s,mb5.7
C09A Chrisman Ranch 71.39 332 ⇓P **P 11 00 14.2 -0.1**
baz=72
C09A ⇑S S 11 09 33.6 +3.5
baz=72
I02A Mapleton 71.53 326 ⇓P **P 11 00 15.7 +0.5**
baz=72
I02A ⇓S S 11 09 35.0 +3.3
baz=72
F05A White Salmon 71.56 329 ⇓P **P 11 00 15.9 +0.5**
baz=72,SNR=7.3
F05A ⇓S S 11 09 36.4 +4.3
baz=72
G04A Mulino 71.62 328 ⇓P **P 11 00 15.6 -0.2**
baz=72,SNR=13
G04A ⇓S S 11 09 34.6 +1.9
baz=72
COR Corvallis 71.64 327 P **P 11 00 16.1 +0.3**
COR pmax pmax
comp=Z,850nm,1.6s,mb6.4
COR Corvallis 71.64 327 *e*P **P 11 00 15.7 -0.1**
comp=Z,849nm,1.6s,mb6.4
COR LR LR
comp=Z,38μm,20.0s,MS6.7
H03A Soap Creek Ran 71.69 327 ⇑P **P 11 00 15.6 -0.5**
baz=72,SNR=9.5
H03A ⇑S S 11 09 36.4 +2.8
baz=72
EBAJ Bajamar 71.73 54 P **P 11 00 17.9 +1.5**
comp=Z,2μm,3.0s
C08A Higginbotham F 71.74 331 ⇓P **P 11 00 17.0 +0.6**
baz=72
C08A ⇓S S 11 09 37.4 +3.4
baz=72
D07A Quincy 71.75 330 ⇑P **P 11 00 16.7 +0.2**
baz=72,SNR=16
D07A ⇑S S 11 09 38.3 +4.0
baz=72
E06A Yakima 71.78 329 ⇓P **P 11 00 16.9 +0.2**
baz=72,SNR=7.8
E06A ⇑S S 11 09 39.2 +4.6
baz=72
B09A Rice 71.79 332 P **P 11 00 16.5 -0.2**
baz=72,SNR=24
B09A ⇑S S 11 09 38.0 +3.3
baz=72
EBG Ellensburg 71.84 330 P **P 11 00 18.0 +1.0**
A10A Northport 71.94 333 P **P 11 00 17.6 -0.1**
baz=72,SNR=8.0
A10A ⇓S S 11 09 39.2 +2.8
baz=72
H02A Toledo 72.07 327 ⇓P **P 11 00 18.9 +0.5**
baz=72
H02A ⇑S S 11 09 41.5 +3.6
baz=72
F04A Amboy 72.08 328 ⇑P **P 11 00 18.0 -0.5**
baz=72,SNR=21
F04A ⇑S S 11 09 41.2 +3.1
baz=72
WTV Waterville 72.10 331 P **P 11 00 19.1 +0.4**
G03A Yamhill 72.11 327 ⇓P **P 11 00 19.6 +0.9**
baz=72
G03A ⇑S S 11 09 42.0 +3.6
baz=72
EOSO Osorio 72.14 54 P **P 11 00 20.4 +1.6**
comp=Z,3μm,2.9s,mb6.7
C07A Waterville 72.15 331 ⇓P **P 11 00 19.1 +0.2**
baz=72,SNR=22
C07A ⇓S S 11 09 43.1 +4.4
baz=72
D06A Cle Elum 72.17 330 ⇑P **P 11 00 19.6 +0.5**
baz=72
D06A ⇓S S 11 09 43.5 +4.4
baz=72
SNAA Sanae 72.20 161 P **P 11 00 18.7 -0.5**
comp=Z,42nm,0.8s,mb5.4,baz=279,slow=6.4,SNR=152
SNAA LR LR 11 32 06.1
comp=Z,7μm,18.8s,MS5.9,baz=293,slow=36
A09A Danville 72.39 332 P **P 11 00 20.1 -0.3**
baz=73,SNR=29
A09A ⇓S S 11 09 44.2 +2.6
baz=73
RVW Rose Valley 72.40 328 P **P 11 00 22.3 +1.9**
F03A Seaside 72.67 328 ⇓P **P 11 00 23.2 +1.2**
baz=73
F03A ⇓S S 11 09 48.5 +3.8
baz=73
E04A Onalaska 72.69 329 ⇓P **P 11 00 22.3 +0.2**
baz=73
E04A ⇑S S 11 09 48.0 +3.1
baz=73

B07A Winthrop 72.72 331 P **P 11 00 21.9 -0.4**
baz=73,SNR=14
B07A ⇑S S 11 09 48.7 +3.3
baz=73
D05A Enumclaw 72.73 329 ⇑P **P 11 00 21.8 -0.5**
baz=73,SNR=13
D05A ⇓S S 11 09 48.1 +2.7
baz=73
C05A Tolt Reservoir 72.93 330 ⇓P **P 11 00 22.7 -0.9**
baz=73,SNR=7.5
C05A ⇓S S 11 09 49.5 +1.8
baz=73
D04A Dobbs Creek Ra 73.08 329 ⇓P **P 11 00 24.3 -0.2**
baz=73
D04A ⇓S S 11 09 53.4 +4.0
baz=73
E03A Lebam 73.08 328 ⇑P **P 11 00 24.6 +0.2**
baz=73
E03A ⇓S S 11 09 53.3 +3.8
baz=73
PMAR Madeira 73.25 50 *e*P **P 11 00 28.4 +3.0**
comp=Z,289nm,1.0s,mb6.2
FCC Fort Churchill 73.39 351 *e*P **P 11 00 26.1 -0.2**
FCC pmax pmax
comp=Z,150nm,1.0s,mb5.9
FCC Fort Churchill 73.39 351 *e*P **P 11 00 24.6 -1.7**
comp=Z,150nm,1.0s,mb5.9
B06A Marblemount 73.41 331 P **P 11 00 25.9 -0.5**
baz=74,SNR=17
B06A ⇑S S 11 09 54.8 +1.7
baz=74
CFTV Fuerteventura 73.46 55 P **P 11 00 26.2 -0.4**
comp=Z,77nm,1.3s,mb5.5
EDM Edmonton 73.51 338 *e*P **P 11 00 29.5 +2.5**
EDM Edmonton 73.51 338 *e*P **P 11 00 25.2 -1.7**
B05A Bryant 73.52 330 P **P 11 00 26.4 -0.7**
baz=74,SNR=22
B05A ⇓S S 11 09 56.1 +1.6
baz=74
D03A Wishkah Elem. 73.57 329 ⇑P **P 11 00 27.5 +0.1**
baz=74
D03A ⇑S S 11 09 60.0 +5.0
baz=74
C04A Brinnon 73.58 329 ⇓P **P 11 00 27.2 -0.2**
baz=74,SNR=12
C04A ⇓S S 11 09 58.5 +3.4
baz=74
CMW Cultus Mountai 73.64 330 P **P 11 00 27.3 -0.4**
MBW Mount Baker 73.79 331 P **P 11 00 28.1 -0.5**
NLWA Neilton Lookou 73.81 329 PFAKE 11 00 40.0 +11
NLWA LR LR
comp=Z,75μm,19.0s,MS7.0
NLWA Neilton Lookou 73.81 329 ⇓P **P 11 00 28.8 +0.1**
baz=74,SNR=7.5
NLWA ⇓S S 11 10 02.1 +4.5
baz=74
PMPS Porto Santo 73.83 49 *e*P **P 11 00 30.6 +1.7**
comp=Z,379nm,1.5s,mb6.1
A05A Maple Falls 74.03 331 P **P 11 00 29.6 -0.4**
baz=74,SNR=18
A05A ⇓S S 11 10 02.8 +2.7
baz=74
VDB Vedder Mountai 74.06 331 P **P 11 00 29.6 -0.6**
B04A Port Angeles 74.07 329 ⇓P **P 11 00 31.1 +0.8**
baz=74
B04A ⇑S S 11 10 05.4 +4.8
baz=74
A04A Legoe Bay, Lum 74.13 330 ⇓P **P 11 00 29.7 -0.9**
baz=74
A04A ⇓S S 11 10 04.8 +3.5
baz=74
EFAM Famara 74.20 54 P **P 11 00 32.3 +1.3**
comp=Z,2μm,2.4s,mb6.7
C03A Quillayute Air 74.53 329 ⇓P **P 11 00 33.7 +0.8**
baz=75
C03A ⇓S S 11 10 11.5 +5.7
baz=75
QSPA South Pole Qui 76.64 180 *e*P **P 11 00 45.0 0.0**
comp=Z,58nm,1.0s,mb5.5
QSPA LR LR
comp=Z,28μm,21.0s,MS6.6
MAIT Maitri 76.83 160 *e*P **P 11 00 46.2 +0.1**
NVL N'lazarevskaya 76.87 160*c* *i*P **P 11 00 46.2 -0.1**
NVL *i* 11 03 40.4
NVL *i* PPP 11 05 25.0
NVL *i* S S 11 10 34.2 +2.6
NVL pmax pmax
comp=Z,115nm,1.2s,mb5.7
YKA Yellowknife Ar 81.33 343 P **P 11 01 09.1 -1.6**
comp=Z,57nm,0.9s,mb5.5,baz=141,slow=5.5,SNR=46
YKA LR LR 11 39 40.5
comp=Z,38μm,20.0s,MS6.8,baz=140,slow=37
MORF Marmelete 81.35 48 *e*P **P 11 01 13.0 +2.2**
comp=Z,314nm,1.7s,mb6.0
MORF Marmelete 81.35 48 *e*SKS SKSac 11 11 26.9 -0.7
MORF Marmelete 81.35 48 *e*LR LR 11 29 15.4
comp=Z,33μm,18.9s
YKW3 Yellowknife Ar 81.38 343 *e*P **P 11 01 09.3 -1.6**
PTEO Sao Teotonio 81.39 48 *e*P **P 11 01 13.4 +2.3**
comp=Z,363nm,1.3s,mb6.2
LIS Lisbon 81.57 47 *e*P **P 11 01 13.9 +1.9**
LIS *e*S S 11 11 22.2 +0.6
LIS *e*S S 11 11 22.4 +0.8
LIS AMS AMS 11 35 57.4
comp=Z,64μm,20.2s,MS7.0
PMAFR Mafra 81.58 47 *e*P **P 11 01 15.1 +3.1**
PMAFR Mafra 81.58 47 *e*SKS 11 11 28.8
PMAFR Mafra 81.58 47 *e*LQ 11 23 12.6
PMAFR *e*LR LR 11 29 08.3
PLOU Loures 81.64 47 *e*P **P 11 01 14.3 +1.9**
comp=Z,506nm,1.1s,mb6.4
TOA0 Torodi Ar. Sit 82.03 74 *e*P **P 11 01 15.1 +0.7**
TORD Torodi Ar. Bea 82.03 74 P **P 11 01 15.2 +0.8**
comp=Z,371nm,0.9s,mb6.3,baz=267,slow=4.0,SNR=31
TORD S S 11 11 27.2 +0.9
comp=Z,0.8nm,1.0s,baz=337,slow=0.9,SNR=2.2
TORD PKKPbc PKKPbc 11 19 47.4 +3.9
comp=Z,0.6nm,0.9s,baz=2.9,slow=2.8,SNR=3.6
TORD PKPPKP 11 27 46.8
comp=Z,1.0nm,1.0s,baz=90,slow=2.3,SNR=3.8
TORD LR LR 11 37 27.5
comp=Z,81μm,18.0s,MS7.1,baz=240,slow=35
TORD Torodi Ar. Bea 82.03 74 P **P 11 01 15.2 +0.9**
TORD S S 11 11 27.2 +0.9
TORD PKKPbc PKKPbc 11 19 47.4 +3.9
TORD P'P' 11 27 46.8
TORD LR LR 11 37 27.5
ALMR Almeirim 82.16 47 *e*P **P 11 01 16.8 +1.7**
PBEJ Beja 82.21 48 *e*P **P 11 01 17.3 +2.0**
comp=Z,245nm,1.6s,mb5.9
SBA Scott Base 82.27 191 *e*P **P 11 01 16.6 +0.9**
SBA pmax pmax
comp=Z,160nm,1.3s,mb5.8
SBA Scott Base 82.27 191 *e*P **P 11 01 15.7 +0.1**
comp=Z,162nm,1.3s,mb5.8
SBA LR LR
comp=Z,16μm,22.0s,MS6.3
EGRO El Granado 82.29 49 P **P 11 01 17.3 +1.5**
comp=Z,4μm,3.8s
EVO Evora 82.31 47 *e*P **P 11 01 16.9 +1.0**
comp=Z,500nm,1.0s,mb6.1
EVO *e*MLR MLR
comp=Z,77μm,20.5s
SFJD Kangerlussuaq 82.52 10 *i*S S 11 11 28.5 -2.8
SFJD *i* 11 16 57.8
SFJD
comp=Z,26μm,20.0s
SFJD Kangerlussuaq 82.52 10⇑*i*P **P 11 01 15.0 -1.9**
SFJD *i*S S 11 11 28.5 -2.8
SFJD *i* 11 16 57.8
SFJD pmax pmax
comp=Z,110nm,1.0s,mb5.8
SFJD MLR MLR
comp=Z,26μm,20.0s,MS6.6
SFJD Kangerlussuaq 82.52 10⇑*i*P **P 11 01 15.0 -1.9**
comp=Z,106nm,1.0s,mb5.8
SFJD *i*S S 11 11 28.5 -2.8
SFJD *i* 11 16 57.8
SFJD LR LR
comp=Z,26μm,20.0s,MS6.6
MDT Midelt 82.69 54 P **P 11 01 19.2 +1.3**
comp=Z,72nm,1.1s,mb5.6,baz=260,slow=5.1,SNR=52
MDT S S 11 11 36.5 +3.5
comp=Z,1.7nm,0.9s,baz=245,slow=12,SNR=2.2
MDT LR LR 11 37 55.8
comp=Z,61μm,19.3s,MS7.0,baz=254,slow=36

PESTR Estremoz 82.75 47 *e*P **P 11 01 20.2 +2.1**
comp=Z,211nm,1.4s,mb6.0
PESTR Estremoz 82.75 47 *e*SKS 11 11 40.8
PESTR Estremoz 82.75 47 *e*LQ 11 23 20.2
PESTR *e*LR LR 11 29 41.3
EMIN Mina Concepcio 82.98 49 P **P 11 01 20.7 +1.4**
comp=Z,4μm,3.7s
ESPR Espera 83.23 50 P **P 11 01 23.4 +2.7**
comp=Z,98nm,1.6s,mb5.6
PVIS Viseu 83.28 46 *e*P **P 11 01 21.9 +1.0**
comp=Z,263nm,1.1s,mb6.2
VNDA Vanda 83.35 191 P **P 11 01 21.5 +0.2**
VNDA SKSac SKSac 11 11 44.3 +3.4
VNDA Vanda 83.35 191 P **P 11 01 21.6 +0.3**
comp=Z,23nm,0.8s,mb5.2,baz=123,slow=4.5,SNR=62
VNDA S S 11 11 39.7 0.0
comp=Z,0.4nm,0.8s,baz=126,slow=16,SNR=1.7
VNDA PKP2ab 11 27 49.4
comp=Z,0.6nm,0.8s,baz=278,slow=8.9,SNR=3.6
VNDA LR LR 11 31 14.9
comp=Z,25μm,20.7s,MS6.6,baz=120,slow=30
VNDA Vanda 83.35 191 *e*P **P 11 01 21.6 +0.4**
comp=Z,285nm,1.7s,mb6.0
VNDA LR LR
comp=Z,23μm,20.0s,MS6.5
EJIF Jimena Fronter 83.36 50 P **P 11 01 23.0 +1.7**
EJIF pmax pmax
comp=Z,286nm,1.2s,mb6.2
EJIF Jimena Fronter 83.36 50 P **P 11 01 23.0 +1.7**
comp=Z,286nm,1.2s,mb6.2
MTE Manteigas 83.40 46 *e*P **P 11 01 19.9 -1.6**
MTE Manteigas 83.40 46 *e*SKS 11 11 43.0
MTE Manteigas 83.40 46 *e*LQ 11 23 34.8
MTE *e*LR LR 11 28 28.1
comp=Z,51μm,20.9s
EMAZ Mazaricos 83.47 43 P **P 11 01 22.5 +0.6**
comp=Z,62nm,1.0s,mb5.6
WRAK Wrangell Islan 83.57 332 *e*P **P 11 01 22.8 +0.4**
comp=Z,232nm,1.6s,mb6.1
WRAK LR LR
comp=Z,41μm,19.0s,MS6.8
PCAB Cabril 83.59 45 *e*P **P 11 01 23.2 +0.7**
comp=Z,218nm,1.2s,mb6.2
PVRL Vila Real 83.63 45 *e*P **P 11 01 24.5 +1.8**
comp=Z,111nm,1.0s,mb6.0
STS Santiago 83.73 43 P **P 11 01 23.6 +0.4**
STS pmax pmax
comp=Z,36nm,0.9s,mb5.5
STS Santiago 83.73 43 P **P 11 01 23.6 +0.4**
comp=Z,36nm,0.9s,mb5.5
DLBC Dease Lake 83.79 335 *e*P **P 11 01 23.4 -0.2**
EMIJ Mijas 83.93 50 P **P 11 01 25.5 +1.3**
comp=Z,4μm,4.2s
POHA Pohakuloa 84.32 292 PFAKE 11 01 40.0 +14
POHA LR LR
comp=Z,49μm,20.0s,MS6.9
ERUA La Rua 84.47 44 P **P 11 01 28.4 +1.4**
ERUA pmax pmax
comp=Z,134nm,1.3s,mb5.9
ERUA La Rua 84.47 44 P **P 11 01 28.4 +1.4**
comp=Z,134nm,1.3s,mb5.9
PBRG Braganca 84.51 45 *e*P **P 11 01 28.9 +1.7**
comp=Z,82nm,1.3s,mb5.7
ECAL Calabor 84.57 45 P **P 11 01 28.1 +0.6**
comp=Z,4μm,4.2s
ELOJ Sierra Loja 84.60 50 P **P 11 01 28.7 +1.1**
ELOJ pmax pmax
comp=Z,280nm,1.2s,mb6.3
ELOJ Sierra Loja 84.60 50 P **P 11 01 28.7 +1.1**
comp=Z,280nm,1.2s,mb6.3
EADA Adamuz 84.66 49 P **P 11 01 28.5 +0.6**
comp=Z,7μm,8.5s
ELUQ Luque 84.67 50 P **P 11 01 29.4 +1.4**
ELUQ pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
ELUQ Luque 84.67 50 P **P 11 01 29.4 +1.4**
comp=Z,9.4nm,1.1s,mb4.8
ERON Agron 84.81 50 P **P 11 01 29.7 +1.0**
comp=Z,27nm,1.0s,mb5.3
EPON Pontenova 84.85 43 P **P 11 01 29.4 +0.5**
comp=Z,8μm,7.4s
EALB Alboran 85.01 51 P **P 11 01 29.6 -0.1**
comp=Z,2μm,2.7s,mb6.7
ECOG Cogollos-Vega 85.08 50 P **P 11 01 30.5 +0.4**
ECOG pmax pmax
comp=Z,19nm,0.6s,mb5.4
ECOG Cogollos-Vega 85.08 50 P **P 11 01 30.5 +0.4**
comp=Z,19nm,0.6s,mb5.4
EBAN Banos Encina 85.24 49 P **P 11 01 31.4 +0.6**
EBAN pmax pmax
comp=Z,55nm,0.8s,mb5.7
EBAN Banos Encina 85.24 49 P **P 11 01 31.4 +0.6**
comp=Z,55nm,0.8s,mb5.7
SIT Sitka 85.28 332 PFAKE 11 01 40.0 +8.9
SIT LR LR
comp=Z,44μm,22.0s,MS6.8
EBER Berja 85.46 51 P **P 11 01 32.3 +0.3**
comp=Z,60nm,0.9s,mb5.7
EQES Quesada 85.64 50 P **P 11 01 33.2 +0.4**
comp=Z,6μm,7.0s
ESDC Sonseca Array 85.66 48 P **P 11 01 33.0 +0.1**
comp=Z,42nm,0.9s,mb5.7,baz=254,slow=5.4,SNR=47
ESDC LR LR 11 36 07.1
comp=Z,48μm,21.1s,MS6.9,baz=250,slow=33
ESDC Sonseca Array 85.66 48 P **P 11 01 34.2 +1.2**
comp=Z,16nm,1.5s,mb5.0
ESLA Sonseca Array 85.66 48 *e*P **P 11 01 33.5 +0.5**
ESLA LR LR
comp=Z,349μm,21.0s,MS7.7
GUD Guadarrama 85.87 47 P **P 11 01 34.3 +0.3**
GUD pmax pmax
comp=Z,23nm,0.9s,mb5.4
GUD Guadarrama 85.87 47 P **P 11 01 34.3 +0.3**
comp=Z,22nm,0.9s,mb5.4
ENIJ Nijar 86.00 51 P **P 11 01 33.9 -0.7**
ENIJ pmax pmax
comp=Z,71nm,0.9s,mb5.9
ENIJ Nijar 86.00 51 P **P 11 01 33.9 -0.7**
comp=Z,71nm,0.9s,mb5.9
EHUE Huescar 86.00 50 P **P 11 01 33.8 -0.8**
EHUE pmax pmax
comp=Z,42nm,0.8s,mb5.7
EHUE Huescar 86.00 50 P **P 11 01 33.8 -0.9**
comp=Z,42nm,0.8s,mb5.7
EARI Arriondas 86.14 44 P **P 11 01 34.8 -0.5**
comp=Z,3μm,5.1s
EVIA Vianos 86.35 49 P **P 11 01 37.1 +0.8**
EVIA pmax pmax
comp=Z,57nm,0.8s,mb5.8
EVIA Vianos 86.35 49 P **P 11 01 37.1 +0.8**
comp=Z,57nm,0.8s,mb5.8
SYO Syowa Base 86.49 161⇓*e*P **P 11 01 35.6 -1.4**
SKAG Skagway 86.62 334 *e*P **P 11 01 38.1 +0.5**
comp=Z,146nm,1.4s,mb6.0
SKAG *e*pP pP 11 01 45.9 -2.7
KIP Kipapa 87.01 293 PFAKE 11 01 50.0 +10
KIP LR LR
comp=Z,44μm,21.0s,MS6.8
ETOB Tobarra 87.06 49 P **P 11 01 40.5 +0.7**
comp=Z,78nm,0.9s,mb5.9
ELAN Lanestosa 87.32 44 P **P 11 01 41.6 +0.6**
comp=Z,42nm,1.4s,mb5.5
ETOR Torete 87.43 47 P **P 11 01 42.5 +0.9**
ETOR pmax pmax
comp=Z,65nm,1.2s,mb5.7
ETOR Torete 87.43 47 P **P 11 01 42.5 +0.9**
comp=Z,65nm,1.2s,mb5.7
EBEN Beniarda 88.05 50 P **P 11 01 45.0 +0.4**
comp=Z,1μm,3.7s
ETRT Tiaret 88.17 53 P **P 11 01 47.0 +1.9**
EANR 'Ain N'Sour 88.18 53 P **P 11 01 48.0 +2.8**
BORG Borgarnes 88.41 21 *e*P **P 11 01 41.4 -4.9**
comp=Z,126nm,1.0s,mb6.1
BORG LR LR
comp=Z,5μm,21.0s,MS5.9
EMOS Mosqueruela 88.41 48 P **P 11 01 47.7 +1.5**
comp=Z,27nm,0.9s,mb5.5
ECHA Ech Chlef 88.45 52 P **P 11 01 49.0 +2.5**
EBNR Beni Rached 88.62 52 P **P 11 01 50.5 +3.2**
EALK Alkurruntz 88.63 45 P **P 11 01 48.0 +0.7**
comp=Z,40nm,1.5s,mb5.5
RES Resolute Bay 88.74 355 *e*P **P 11 01 47.3 -0.5**
RES pmax pmax
comp=Z,160nm,1.3s,mb6.2
RES Resolute Bay 88.74 355 *e*P **P 11 01 46.5 -1.4**
comp=Z,5μm,1.3s
SJPF Ste Jean 88.79 45 *e*P **P 11 01 48.3 +0.2**

comp=Z,168nm,1.4s,mb5.9
SJPF Ste Jean 88.79 45 *e*P **P 11 01 48.3 +0.2**
SJPF pmax pmax
comp=Z,84nm,1.4s,mb5.9
SJPF Ste Jean 88.79 45 *e*P **P 11 01 48.3 +0.2**
comp=Z,84nm,1.4s,mb5.9
DCN Croghan 88.87 34 *e*P **P 11 01 45.2 -3.2**
SUR Sutherland 89.06 123 P **P 11 01 50.0 +0.7**
comp=Z,7.5nm,0.8s,mb5.0,baz=344,slow=3.6,SNR=3.6
SUR LR LR 11 38 31.1
comp=Z,71µm,21.0s,MS7.1,baz=254,slow=33
ETSF Etsaut 89.18 46 *e*P **P 11 01 50.1 +0.2**
ERTA Horta de San J 89.18 48 P **P 11 01 50.3 +0.4**
comp=Z,44nm,1.0s,mb5.7
QUIF Quistinic 89.19 40 *e*P **P 11 01 49.1 -0.8**
DLF Lyons Farm 89.26 34 *e*P **P 11 01 47.9 -2.4**
ROSF Rostrenen 89.27 40 *e*P **P 11 01 49.7 -0.6**
REYF Montagne du Re 89.35 45 *e*P **P 11 01 50.8 +0.1**
TSUM Tsumeb 89.56 110 P **P 11 01 52.4 +0.7**
comp=Z,40nm,1.0s,mb5.7,baz=226,slow=4.7,SNR=20
TSUM Tsumeb 89.56 110 *e*P **P 11 01 52.1 +0.4**
TSUM LR LR
comp=Z,37µm,19.0s,MS6.8
EBIE Bielsa 89.60 46 P **P 11 01 52.1 +0.3**
comp=Z,33nm,0.9s,mb5.7
SGMF Saint Gilles 89.69 40 *e*P **P 11 01 51.4 -0.9**
comp=Z,78nm,1.3s,mb5.6
SGMF Saint Gilles 89.69 40 *e*P **P 11 01 51.4 -0.9**
SGMF pmax pmax
comp=Z,39nm,1.3s,mb5.6
SGMF Saint Gilles 89.69 40 *e*P **P 11 01 51.4 -0.9**
comp=Z,39nm,1.3s,mb5.6
EMHD Djebel Mahouad 89.69 53 P **P 11 01 55.0 +2.7**
EPOB Poblet 89.84 47 P **P 11 01 53.3 +0.3**
comp=Z,10nm,0.9s,mb5.2
EPF Esparros 89.85 46 *e*P **P 11 01 53.1 +0.1**
comp=Z,124nm,1.3s,mb5.8
EPF Esparros 89.85 46 *e*P **P 11 01 53.1 +0.1**
EPF pmax pmax
comp=Z,62nm,1.3s,mb5.8
EPF Esparros 89.85 46 *e*P **P 11 01 53.1 +0.1**
comp=Z,62nm,1.3s,mb5.8
EMIR Miracle 90.33 47 P **P 11 01 56.0 +0.8**
comp=Z,34nm,1.4s,mb5.5
SALF Salau 90.35 46 *e*P **P 11 01 56.0 +0.6**
MFF Saint Martin d 90.67 42 *e*P **P 11 01 56.0 -0.8**
comp=Z,80nm,1.2s,mb5.6
MFF Saint Martin d 90.67 42 *e*P **P 11 01 56.0 -0.8**
MFF pmax pmax
comp=Z,40nm,1.2s,mb5.6
MFF Saint Martin d 90.67 42 *e*P **P 11 01 56.0 -0.8**
comp=Z,40nm,1.2s,mb5.6
DAWY Dawson 90.70 337 *e*P **P 11 01 55.5 -1.5**
LFF La Frestale 90.72 44 *e*P **P 11 01 56.6 -0.5**
comp=Z,187nm,1.2s,mb6.0
LFF La Frestale 90.72 44 *e*P **P 11 01 56.6 -0.5**
LFF pmax pmax
comp=Z,93nm,1.2s,mb6.0
LFF La Frestale 90.72 44 *e*P **P 11 01 56.6 -0.5**
comp=Z,93nm,1.2s,mb6.0
MCH1 Michaelchurch 90.75 36 *e*P **P 11 01 57.1 -0.2**
MCH1 AMS AMS 11 38 52.0
comp=Z,22µm,22.4s,MS6.5
GRR Gorron 90.80 40 *e*P **P 11 01 56.7 -0.7**
comp=Z,174nm,1.4s,mb5.9
GRR Gorron 90.80 40 *e*P **P 11 01 56.7 -0.7**
GRR pmax pmax
comp=Z,87nm,1.4s,mb5.9
GRR Gorron 90.80 40 *e*P **P 11 01 56.7 -0.7**
comp=Z,87nm,1.4s,mb5.9
GAL1 Galloway 90.86 33 P **P 11 01 57.5 -0.3**
GAL1 AMb AMB 11 02 02.6
comp=Z,114nm,1.2s,mb6.1
GAL1 Galloway 90.86 33 *e*P **P 11 01 57.5 -0.3**
GAL1 AMb AMB 11 02 02.6
comp=Z,114nm,1.2s,mb6.1
GAL1 AMS AMS 11 38 02.6
comp=Z,30µm,21.7s,MS6.7
INK Inuvik 91.00 342 LR LR 11 47 16.3
comp=Z,60µm,19.7s,MS7.0,baz=117,slow=38
INK Inuvik 91.00 342 *e*P **P 11 01 57.0 -1.4**
INK *e**PP pP 11 02 06.6 -2.7
INK *e**SP sP 11 02 10.8 -2.5
INK Inuvik 91.00 342 *e*P **P 11 01 57.0 -1.4**
HLM1 Long Mynd 91.01 36 *e*P **P 11 01 57.3 -1.1**
KAR1 Arisaig 91.08 31 *e*P **P 11 01 59.1 +0.4**
FLN La Foliniere 91.16 40 *e*P **P 11 01 58.4 -0.7**
comp=Z,125nm,1.3s,mb5.8
FLN *e*MLR MLR
comp=Z,28µm,23.0s
FLN La Foliniere 91.16 40 *e*P **P 11 01 58.4 -0.7**
FLN pmax pmax
comp=Z,62nm,1.3s,mb5.8
FLN MLR MLR
comp=Z,28µm,23.0s,MS6.6
FLN La Foliniere 91.16 40 *e*P **P 11 01 58.4 -0.7**
comp=Z,62nm,1.3s,mb5.8
FLN LR LR
comp=Z,28µm,23.0s,MS6.6
MTLF Montolieu 91.25 46 *e*P **P 11 01 58.9 -0.6**
comp=Z,68nm,1.1s,mb5.6
MTLF Montolieu 91.25 46 *e*P **P 11 01 58.9 -0.6**
MTLF pmax pmax
comp=Z,34nm,1.1s,mb5.6
MTLF Montolieu 91.25 46 *e*P **P 11 01 58.9 -0.6**
comp=Z,34nm,1.1s,mb5.6
FILF Fillols 91.26 47 *e*P **P 11 01 58.9 -0.7**
LDF La Druitiere 91.33 40 *e*P **P 11 01 59.1 -0.8**
comp=Z,148nm,1.2s,mb5.9
LDF La Druitiere 91.33 40 *e*P **P 11 01 59.1 -0.8**
LDF pmax pmax
comp=Z,74nm,1.2s,mb5.9
LDF La Druitiere 91.33 40 *e*P **P 11 01 59.1 -0.8**
comp=Z,74nm,1.2s,mb5.9
KPL Plockton 91.33 31 P **P 11 01 59.9 -0.1**
KPL AMb AMB 11 02 05.4
comp=Z,182nm,1.8s,mb6.1
KPL Plockton 91.33 31 *e*P **P 11 01 59.9 -0.1**
KPL AMb AMB 11 02 05.4
comp=Z,182nm,1.8s,mb6.1
KPL AMS AMS 11 39 26.5
comp=Z,33µm,21.1s,MS6.8
PGBU Glenifferbraes 91.34 33 *e*P **P 11 02 00.2 +0.2**
PGBU AMS AMS 11 39 10.3
comp=Z,19µm,20.8s,MS6.5
RJF Les Rejaudoux 91.36 44 *e*P **P 11 01 59.4 -0.7**
comp=Z,148nm,1.3s,mb5.8
RJF *e*MLR MLR
comp=Z,36µm,20.2s
RJF Les Rejaudoux 91.36 44 *e*P **P 11 01 59.4 -0.7**
RJF pmax pmax
comp=Z,74nm,1.3s,mb5.9
RJF MLR MLR
comp=Z,36µm,20.3s,MS6.8
RJF Les Rejaudoux 91.36 44 *e*P **P 11 01 59.4 -0.7**
comp=Z,74nm,1.3s,mb5.8
RJF LR LR
comp=Z,36µm,20.3s,MS6.8
KSB Sheil Bridge 91.40 31 *e*P **P 11 01 58.8 -1.5**
KAC Achnashellach 91.57 31 *e*P **P 11 02 00.4 -0.7**
CAF Calviac 91.61 44 *e*P **P 11 02 00.8 -0.4**
comp=Z,88nm,1.2s,mb5.7
CAF Calviac 91.61 44 *e*P **P 11 02 00.8 -0.4**
CAF pmax pmax
comp=Z,44nm,1.2s,mb5.7
CAF Calviac 91.61 44 *e*P **P 11 02 00.8 -0.4**
comp=Z,44nm,1.2s,mb5.7
AFI Afiamalu 91.65 255 LR LR 11 34 40.1
comp=Z,39µm,19.6s,MS6.9,baz=282,slow=30
AFI Afiamalu 91.65 255 PFAKE 11 02 10.0 +8.6
AFI LR LR
comp=Z,42µm,20.0s,MS6.9
EGAK Eagle 91.72 337 *e*P **P 11 01 59.9 -1.8**
comp=Z,141nm,1.2s,mb6.2
EGAK LR LR
comp=Z,40µm,20.0s,MS6.9
ECK Cauldkaine Hil 91.83 33 *e*P **P 11 02 01.9 -0.3**
ESK Eskdalemuir 91.83 33 *e*P **P 11 02 01.9 -0.4**
ESK AMS AMS 11 39 02.5
comp=Z,30µm,21.0s,MS6.7
ESK Eskdalemuir 91.83 33 *e*P **P 11 02 01.4 -0.9**
ESK LR LR
comp=Z,8µm,21.0s,MS6.1
EKA Eskdalemuir Ar 91.86 33 P **P 11 02 01.9 -0.5**
comp=Z,10nm,0.9s,mb5.2,baz=240,slow=5.2,SNR=18
SKP1 Kophill 91.93 37 *e*P **P 11 02 01.8 -1.0**

LHO Holmfirth 91.95 35 *e*P **P 11 02 02.5 -0.2**
DIV Divide 91.97 333 *e*P **P 11 02 01.8 -1.1**
DIV LR LR
comp=Z,97µm,19.0s,MS7.3
TCF Toulx Ste Croi 92.12 43 *e*P **P 11 02 02.7 -0.9**
comp=Z,53nm,1.1s,mb5.5
TCF Toulx Ste Croi 92.12 43 *e*P **P 11 02 02.7 -0.9**
TCF pmax pmax
comp=Z,27nm,1.1s,mb5.5
TCF Toulx Ste Croi 92.12 43 *e*P **P 11 02 02.7 -0.9**
comp=Z,27nm,1.1s,mb5.5
PYM Petit Puy Mans 92.49 44 *e*P **P 11 02 05.0 -0.3**
LBL Lubilhac 92.51 44 *e*P **P 11 02 06.2 +0.8**
LASF Ste Croix 92.60 45 *e*P **P 11 02 04.7 -1.1**
comp=Z,114nm,1.3s,mb5.8
BGF Bois d'Agland 92.62 43 *e*P **P 11 02 05.1 -0.8**
comp=Z,152nm,1.3s,mb6.0
BGF Bois d'Agland 92.62 43 *e*P **P 11 02 05.1 -0.8**
BGF pmax pmax
comp=Z,76nm,1.3s,mb6.0
BGF Bois d'Agland 92.62 43 *e*P **P 11 02 05.1 -0.8**
comp=Z,76nm,1.3s,mb6.0
MCD Coleburn Disti 92.63 31 *e*P **P 11 02 05.6 -0.3**
AGO Saint Agoulin 92.66 43 *e*P **P 11 02 05.8 -0.3**
HYF Humbligny 92.69 42 *e*P **P 11 02 04.7 -1.5**
PLDF La Plantade 92.97 44 *e*P **P 11 02 08.1 +0.6**
AVF Avril sur Loir 93.02 43 *e*P **P 11 02 06.8 -0.9**
comp=Z,52nm,1.1s,mb5.6
AVF Avril sur Loir 93.02 43 *e*P **P 11 02 06.8 -0.9**
AVF pmax pmax
comp=Z,26nm,1.1s,mb5.6
AVF Avril sur Loir 93.02 43 *e*P **P 11 02 06.8 -0.9**
comp=Z,26nm,1.1s,mb5.6
SSF Saint Saulge 93.20 42 *e*P **P 11 02 07.4 -1.1**
comp=Z,39nm,1.1s,mb5.5
SSF Saint Saulge 93.20 42 *e*P **P 11 02 07.4 -1.1**
SSF pmax pmax
comp=Z,20nm,1.1s,mb5.5
SSF Saint Saulge 93.20 42 *e*P **P 11 02 07.4 -1.1**
comp=Z,20nm,1.1s,mb5.5
SMF Signal de Mont 93.30 43 *e*P **P 11 02 08.3 -0.7**
comp=Z,128nm,1.3s,mb5.9
SMF Signal de Mont 93.30 43 *e*P **P 11 02 08.3 -0.7**
SMF pmax pmax
comp=Z,64nm,1.3s,mb5.9
SMF Signal de Mont 93.30 43 *e*P **P 11 02 08.3 -0.7**
comp=Z,64nm,1.3s,mb5.9
VIVF Saint-Julien-l 93.37 45 *e*P **P 11 02 09.4 0.0**
comp=Z,163nm,1.4s,mb6.0
VIVF Saint-Julien-l 93.37 45 *e*P **P 11 02 09.4 0.0**
VIVF pmax pmax
comp=Z,82nm,1.4s,mb6.0
VIVF Saint-Julien-l 93.37 45 *e*P **P 11 02 09.4 0.0**
comp=Z,82nm,1.4s,mb6.0
LOR Lormes 93.48 42 *e*P **P 11 02 08.9 -1.0**
comp=Z,41nm,1.3s,mb5.4
LOR *e*MLR MLR
comp=Z,22µm,19.2s
LOR Lormes 93.48 42 *e*P **P 11 02 08.9 -1.0**
LOR pmax pmax
comp=Z,21nm,1.3s,mb5.4
LOR MLR MLR
comp=Z,22µm,19.3s,MS6.6
LOR Lormes 93.48 42 *e*P **P 11 02 08.9 -1.0**
comp=Z,20nm,1.3s,mb5.4
LOR LR LR
comp=Z,22µm,19.3s,MS6.6
PMR Palmer 93.64 333 *e*P **P 11 02 10.6 0.0**
PMR *e**PP pP 11 02 21.9 +0.4
PMR pmax pmax
comp=Z,37nm,1.0s,mb5.8
PMR Palmer 93.64 333 *e*P **P 11 02 09.5 -1.1**
comp=Z,37nm,1.1s,mb5.7
PMR LR LR
comp=Z,38µm,22.0s,MS6.8
SLKM Skilak Lake 93.74 332 P **P 11 02 12.9 +1.8**
SLKM Skilak Lake 93.74 332 *e*P **P 11 02 11.5 +0.5**
SMRF Simiane la Rot 93.77 46 *e*P **P 11 02 10.3 -0.9**
BOSA Boshof 93.80 120 P **P 11 02 11.8 +0.5**
comp=Z,15nm,1.0s,mb5.4,baz=276,slow=2.2,SNR=12
BOSA LR LR 11 42 29.4
comp=Z,64µm,19.8s,MS7.1,baz=259,slow=34
BOSA Boshof 93.80 120 *e*P **P 11 02 11.8 +0.5**
BOSA Boshof 93.80 120 *e*P **P 11 02 11.1 -0.2**
BOSA LR LR
comp=Z,64µm,20.0s,MS7.1
KDAK Kodiak Island 93.96 329 LR LR 11 43 53.2
comp=Z,18µm,19.0s,MS6.6,baz=96,slow=35
KDAK Kodiak Island 93.96 329 PFAKE 11 02 20.0 +8.0
KDAK LR LR
comp=Z,5µm,20.0s,MS6.0
MAW Mawson 93.98 166 P **P 11 02 11.3 -0.9**
comp=Z,13nm,0.9s,mb5.4,baz=218,slow=5.1,SNR=24
MAW LR LR 11 41 12.5
comp=Z,33µm,20.7s,MS6.8,baz=227,slow=33
MAW Mawson 93.98 166 *e*P **P 11 02 11.0 -1.1**
MAW pmax pmax
comp=Z,110nm,1.4s
MAW Mawson 93.98 166 *e*P **P 11 02 10.8 -1.4**
comp=Z,28nm,1.2s,mb5.6
MAW LR LR
comp=Z,55µm,21.0s,MS7.0
ORIF Oris-en-Rattie 94.22 45 *e*P **P 11 02 13.5 +0.3**
comp=Z,130nm,1.4s,mb5.9
ORIF *e*MLR MLR
comp=Z,49µm,18.8s
ORIF Oris-en-Rattie 94.22 45 *e*P **P 11 02 13.5 +0.3**
ORIF pmax pmax
comp=Z,65nm,1.4s,mb5.9
ORIF Oris-en-Rattie 94.22 45 *e*P **P 11 02 13.5 +0.3**
comp=Z,65nm,1.4s,mb5.9
LMR La Mourre 94.26 47 *e*P **P 11 02 13.3 -0.1**
comp=Z,69nm,1.2s,mb5.7
LMR La Mourre 94.26 47 *e*P **P 11 02 13.3 -0.1**
LMR pmax pmax
comp=Z,34nm,1.2s,mb5.7
LMR La Mourre 94.26 47 *e*P **P 11 02 13.3 -0.1**
comp=Z,34nm,1.2s,mb5.7
COLA College 94.34 336 ⇑*i*P **P 11 02 13.1 -0.7**
COLA College 94.34 336 *e*P **P 11 02 12.3 -1.5**
comp=Z,76nm,1.0s,mb6.1
COLA LR LR
comp=Z,18µm,19.0s,MS6.6
MCK McKinley 94.35 335 *e*P **P 11 02 12.7 -1.2**
MCK LR LR
comp=Z,11µm,19.0s,MS6.3
FRF La Foret Royal 94.41 46 *e*P **P 11 02 13.8 -0.3**
comp=Z,100nm,1.2s,mb5.8
FRF La Foret Royal 94.41 46 *e*P **P 11 02 13.8 -0.3**
FRF pmax pmax
comp=Z,50nm,1.2s,mb5.8
FRF La Foret Royal 94.41 46 *e*P **P 11 02 13.8 -0.3**
comp=Z,50nm,1.2s,mb5.8
BAIF Baives 94.47 40 *e*P **P 11 02 13.5 -0.9**
KEST Kesra 94.58 55 P **P 11 02 15.2 +0.3**
comp=Z,14nm,0.9s,mb5.4,baz=231,slow=4.4,SNR=20
KEST LR LR 11 46 28.7
comp=Z,18µm,18.8s,MS6.6,baz=206,slow=36
MEZF Maizieres J'vi 94.59 41 *e*P **P 11 02 14.2 -0.7**
SNZO South Karori 94.68 226 PFAKE 11 02 30.0 +15
SNZO LR LR
comp=Z,91µm,19.0s,MS7.3
CABF La Chapelle 94.78 43 *e*P **P 11 02 15.4 -0.4**
comp=Z,88nm,1.5s,mb5.7
CABF La Chapelle 94.78 43 *e*P **P 11 02 15.4 -0.4**
CABF pmax pmax
comp=Z,44nm,1.5s,mb5.7
CABF La Chapelle 94.78 43 *e*P **P 11 02 15.4 -0.4**
comp=Z,44nm,1.5s,mb5.7
MBDF Montbardon 94.78 45 *e*P **P 11 02 15.9 +0.1**
comp=Z,74nm,1.4s,mb5.6
MBDF Montbardon 94.78 45 *e*P **P 11 02 15.9 +0.1**
MBDF pmax pmax
comp=Z,37nm,1.4s,mb5.6
MBDF Montbardon 94.78 45 *e*P **P 11 02 15.9 +0.1**
comp=Z,37nm,1.4s,mb5.6
BNI Bardonecchia 94.80 45 P **P 11 02 16.8 +0.9**
GIVF Givet 94.86 40 *e*P **P 11 02 15.5 -0.7**
LPL La Plagne 94.95 45 *e*P **P 11 02 17.0 +0.4**
comp=Z,159nm,1.4s,mb6.0
LPL La Plagne 94.95 45 *e*P **P 11 02 17.0 +0.4**
LPL pmax pmax
comp=Z,80nm,1.4s,mb6.0
LPL La Plagne 94.95 45 *e*P **P 11 02 17.0 +0.4**
comp=Z,80nm,1.4s,mb6.0
LPG La Plagne 94.96 45 *e*P **P 11 02 17.3 +0.7**

comp=Z,107nm,1.1s,mb5.9
LPG La Plagne 94.96 45 *e*P **P 11 02 17.3 +0.7**
LPG pmax pmax
comp=Z,53nm,1.1s,mb5.9
LPG La Plagne 94.96 45 *e*P **P 11 02 17.3 +0.7**
comp=Z,53nm,1.1s,mb5.9
LUCF Luceram 94.98 46 *e*P **P 11 02 16.3 -0.5**
SBF Sospel 95.04 46 *e*P **P 11 02 15.9 -1.1**
THEF They Montfort 95.12 42 *e*P **P 11 02 17.8 +0.4**
SAOF Saorge 95.15 46 *e*P **P 11 02 15.4 -2.1**
LBTB Lobatse 95.16 117 LR LR 11 43 19.1
comp=Z,37µm,20.1s,MS6.8,baz=261,slow=34
LBTB Lobatse 95.16 117 P **P 11 02 19.0 +1.4**
LBTB *e**PP pP 11 02 30.4 +1.9
LBTB pmax pmax
comp=Z,15nm,1.0s,mb5.4
LBTB Lobatse 95.16 117 *e*P **P 11 02 18.7 +1.2**
comp=Z,15nm,1.0s,mb5.4
LBTB LR LR
comp=Z,37µm,20.0s,MS6.8
RSP Reno Superiore 95.22 45 P **P 11 02 17.8 0.0**
RSP pmax pmax
comp=Z,404nm,2.8s,mb6.4
RSP Reno Superiore 95.22 45 P **P 11 02 17.8 0.0**
comp=Z,404nm,2.8s,mb6.4
HAU Haudompre 95.30 42 *e*P **P 11 02 17.5 -0.7**
HAU *e*MLR MLR
comp=Z,19µm,19.5s
HAU Haudompre 95.30 42 *e*P **P 11 02 17.5 -0.7**
HAU LR LR
comp=Z,19µm,19.5s,MS6.6
LOMF Lomont 95.46 43 *e*P **P 11 02 19.5 +0.6**
WLF Walferdange 95.58 40 *e*Pdiff **P 11 02 19.6 +0.1**
HINF Hinteralfeld 95.59 42 *e*P **P 11 02 18.6 -0.9**
DRV Dumont d'Urvil 95.63 194 P **P 11 02 19.0 -0.7**
DRV Dumont d'Urvil 95.63 194 PP PP 11 06 10.0 -1.1
DRV SKS 11 12 55.0
DRV SP SP 11 14 54.0 +1.9
DRV SS SS 11 20 05.0 +1.7
HGN Heimansgroeve 95.71 39 *e*P **P 11 02 19.3 -0.8**
comp=Z,68nm,3.2s
HGN *e*x x 11 02 32.5
HGN *e*PP PP 11 06 09.8 -2.0
HGN *e*SKS 11 13 07.4
JMIC Jan Mayen 95.77 18 *e*P **P 11 02 17.4 -2.9**
JMIC *e*PP PP 11 06 10.9 -1.3
JMIC *i* 11 15 24.2
JMIC *e*SS SS 11 20 02.5 -2.8
JMIC AMS AMS 11 45 39.6
comp=Z,14µm,23.6s,MS6.4
MOF Molkenrain 95.78 42 *e*P **P 11 02 20.6 +0.2**
PGF Pioggiola 95.85 48 *e*P **P 11 02 19.7 -1.0**
ECH Echery 95.88 42 *e*P **P 11 02 20.8 0.0**
BBS Basel-Blauen 95.93 43 *e*P **P 11 02 21.5 +0.4**
CDF Champ du Feu 96.00 42 *e*P **P 11 02 20.7 -0.7**
comp=Z,33nm,1.1s,mb5.3
CDF Champ du Feu 96.00 42 *e*P **P 11 02 20.7 -0.7**
CDF pmax pmax
comp=Z,16nm,1.1s,mb5.4
CDF Champ du Feu 96.00 42 *e*P **P 11 02 20.7 -0.7**
comp=Z,16nm,1.1s,mb5.4
WLS Welschbruch 96.05 42 *e*P **P 11 02 21.7 +0.1**
DAG Danmarks Havn 96.14 11α*i*P **P 11 02 21.0 -1.0**
comp=Z,16nm,1.1s,mb5.4
DAG
comp=Z,44µm,23.0s
DAG Danmarks Havn 96.14 11α*e*P **P 11 02 21.0 -1.0**
DAG pmax pmax
comp=Z,16nm,1.1s,mb5.4
DAG MLR MLR
comp=N,35µm,23.0s
DAG MLR MLR
comp=Z,44µm,23.0s,MS6.9
DAG Danmarks Havn 96.14 11 *e*P **P 11 02 21.0 -1.0**
comp=Z,16nm,1.1s,mb5.4
DAG LR LR
comp=Z,44µm,23.0s,MS6.9
RPZ Rata Peaks 96.18 222 LR LR 11 35 27.8
comp=Z,37µm,21.4s,MS6.8,baz=118,slow=29
LANF Langenberg 96.47 41 *e*P **P 11 02 24.1 +0.6**
WTSB Winterswijk 96.53 38 *e*P **P 11 02 23.2 -0.6**
comp=Z,74nm,3.0s,mb5.6
WTSB *e*x x 11 02 36.4
BFO Black Forest 96.67 42 *e*Pdif **P 11 02 23.9 -0.5**
BFO LR LR
comp=Z,4µm,19.0s,MS5.9
BUG Bochum--Univer 96.69 39 *e*Pdiff **P 11 02 24.0 -0.5**
IMA2 Indian Mountai 97.04 336 *e*P **P 11 02 24.2 -1.9**
TNS Taunus Mts 97.15 40 *e*Pdiff **P 11 02 25.9 -0.7**
ERBM Eremo 97.25 46 P **P 11 02 24.9 -2.2**
GSCL Gusciola 97.36 46 P **P 11 02 29.0 +1.4**
DAVOX Davos/Dischmat 97.37 44 P **P 11 02 28.5 +0.9**
comp=Z,33nm,0.9s,mb5.8,baz=236,slow=6.1,SNR=23
DAVA Damuels 97.47 43 *i*P **P 11 02 28.4 +0.4**
comp=Z,614nm,3.5s,SNR=9.4
DAVA Damuels 97.47 43 *i*P **P 11 02 28.4 +0.4**
comp=Z,614nm,3.5s
BRMO Bormio 97.64 44 P **P 11 02 29.1 +0.3**
comp=Z,25nm,0.9s,mb5.8
BER Bergen 97.70 30 *e*P **P 11 02 27.5 -1.6**
BER *e*PP PP 11 06 23.4 -3.7
BER *i* 11 13 16.1
BER AMS AMS 11 43 28.1
comp=Z,41µm,21.1s,MS6.9
FNVD Fontana Vidola 97.70 47 P **P 11 02 29.0 -0.1**
comp=Z,296nm,2.2s,mb6.4
UBBA Unterbreizbach 98.25 40 *e*Pdiff **P 11 02 31.9 +0.4**
MOTA Moosalm 98.30 43⇑*i*P **P 11 02 31.8 +0.1**
comp=Z,33nm,1.0s,mb5.8,SNR=11
MOTA Moosalm 98.30 43⇑*i*P **P 11 02 31.8 0.0**
MOTA pmax pmax
comp=Z,33nm,1.0s,mb5.8
SQTA Sankt Quirin 98.34 44⇓*i*P **P 11 02 32.2 +0.3**
comp=Z,110nm,1.6s,mb6.1,SNR=11
SQTA Sankt Quirin 98.34 44⇓*i*P **P 11 02 32.2 +0.2**
SQTA pmax pmax
comp=Z,110nm,1.6s,mb6.1
CTI Castel Tesino 98.42 45 P **P 11 02 32.3 0.0**
CTI pmax pmax
comp=Z,27nm,0.8s,mb5.8
CTI Castel Tesino 98.42 45 P **P 11 02 32.3 0.0**
comp=Z,27nm,0.8s,mb5.8
FUR Furstenfeldbru 98.56 43 *e*Pdiff **P 11 02 33.3 +0.3**
WATA Walderalm 98.61 43⇑*i*P **P 11 02 33.2 0.0**
comp=Z,58nm,1.4s,mb5.9
WATA Walderalm 98.61 43⇑*i*P **P 11 02 33.2 0.0**
WATA pmax pmax
comp=Z,58nm,1.4s,mb5.9
NRDL Niedersach Rie 98.63 38 *e*Pdiff **P 11 02 32.5 -0.8**
WTTA Wattenberg 98.64 44⇑*i*P **P 11 02 33.5 +0.2**
comp=Z,649nm,3.2s,SNR=12
CLZ Clausthal 98.67 39 *e*Pdiff **P 11 02 34.0 +0.6**
GRA1 Grafenberg Arr 98.81 41 *e*Pdif **P 11 02 33.8 -0.2**
GRA1 *e*PP PP 11 06 32.7 -2.9
GRA1 *e*SKSac SKSac 11 13 11.4 +1.8
GRA1 *e*Sdif S 11 14 01.6 +0.1
GRA1 LR LR
comp=Z,21µm,18.6s,MS6.7
GRF Grafenberg Arr 98.81 41 *e*Pdiff **P 11 02 33.8 -0.2**
GRF *e*PP PP 11 06 32.7 -2.9
GRF *e*SKSac SKSac 11 13 11.4 +1.8
GRF *e*Sdiff S 11 14 01.6 +0.1
GRF *e*L 11 46 49.1
comp=Z,21µm,18.6s
MUD Monsted U'grnd 98.84 34 *i*P **P 11 02 33.6 -0.6**
comp=Z,20nm,1.0s,mb5.6
MUD *i* 11 06 24.9
MUD *i*S SKSac 11 13 20.5 +11
MUD *i* 11 14 13.3
MUD
comp=Z,30µm,21.0s
MUD Monsted U'grnd 98.84 34 *i*P **P 11 02 33.6 -0.6**
MUD pmax pmax
comp=Z,20nm,1.0s,mb5.6
MUD MLR MLR
comp=Z,30µm,21.0s,MS6.8
MUD Monsted U'grnd 98.84 34 *i*P **P 11 02 33.6 -0.6**
comp=Z,20nm,1.0s,mb5.6
MUD *i* 11 06 24.9
MUD *i*S SKSac 11 13 20.5 +11
MUD *i* 11 14 13.3
VAE Valguarnera 98.92 54 LR LR 11 44 39.8
comp=Z,24µm,19.9s,MS6.7,baz=18,slow=34
BSEG Bad Segeberg 99.02 37 *e*Pdiff **P 11 02 36.1 +1.1**
MOL Molde 99.22 28 *e*P **P 11 02 35.7 -0.2**

MOL				*e*PP	PP	11 06 34.8	-3.9
MOL				*e*SKS		11 13 10.0	
MOL				AMS	AMS	11 44 02.3	
	comp=Z,27μm,21.4s,MS6.7						
MOX	**Moxa**	**99.22**	**40**	*e*Pdiff	**P**	**11 02 35.8**	**-0.1**
MOX	**Moxa**	**99.22**	**40⇑**	*e*P	**P**	**11 02 36.5**	**+0.6**
MOX				*e*PP	PP	11 06 07.0	-32
MOX				*e*S		11 13 20.0	
MOX				*e*LQ		11 30 52.0	
MOX				LR	LR		
	comp=Z,19μm,18.0s,MS6.6						
FVI	**Forni Avoltri**	**99.29**	**44**	P	**P**	**11 02 36.2**	**0.0**
MANZ	**Manzenberg**	**99.42**	**41**	*e*Pdiff	**P**	**11 02 37.1**	**+0.3**
ROTZ	**Rotzenmuhle**	**99.45**	**41**	*e*Pdiff	**P**	**11 02 37.2**	**+0.3**
KONO	**Kongsberg**	**99.65**	**31**	*e*P	Pdif	11 02 35.7	-2.1
KONO				*e*PP	PP	11 06 36.3	-5.7
KONO				*i*		11 15 42.5	
KONO	**Kongsberg**	**99.65**	**31⇑**	*e*P	Pdif	11 02 38.0	+0.2
KONO	**Kongsberg**	**99.65**	**31**	*e*P	Pdif	11 02 35.7	-2.1
KONO				LR	LR		
	comp=Z,24μm,20.0s,MS6.7						
PTCC	**Patocco-Chiusa**	**99.65**	**45**	P	Pdif	11 02 37.2	-0.6
NKC	**Novy Kostel**	**99.68**	**41**	*e*PDIF	Pdif	11 02 41.5	+3.6
NKC				*e*PP	PP	11 06 41.3	-0.9
NKC				*e*SKS		11 13 20.7	
NKC				*e*SDIF	S	11 14 19.0	+10
NKC				*e*x	x	11 16 04.2	
NKC				*e*x	x	11 21 16.2	
NKC				AMS	AMS	11 47 10.0	
	comp=Z,32μm,20.1s						
NKC	**Novy Kostel**	**99.68**	**41**	*e*P	Pdif	11 02 41.5	+3.6
NKC				*e*		11 06 41.3	
NKC				*e*S	S	11 14 19.0	+10
NKC				MLR	MLR		
	comp=Z,32μm,20.1s,MS6.8						
NKC	**Novy Kostel**	**99.68**	**41**	*e*Pdif	Pdif	11 02 41.5	+3.6
NKC				*e*PP	PP	11 06 41.3	-0.9
NKC				*e*SKS		11 13 20.7	
NKC				*e*Sdif	S	11 14 19.0	+10
NKC				*e*SP	SP	11 16 04.2	+28
NKC				*e*SS	SS	11 21 16.2	+16
TANN	**Tannenbergstha**	**99.72**	**40**	*e*Pdiff	Pdif	11 02 38.4	+0.3
ROBS	**Robic**	**99.73**	**45**	*e*P	Pdif	11 02 37.4	-0.8
KBA	**Koelnbreinsper**	**99.75**	**44⇑**	*i*P	Pdif	11 02 38.1	-0.1
	comp=Z,1μm,7.0s						
WET	**Wettzell**	**99.78**	**42**	*e*Pdiff	Pdif	11 02 38.6	+0.2
MIR	**Mirnyy**	**99.81**	**176**	*e*P	Pdif	11 02 40.0	+1.5
MIR				*e*		11 06 44.0	
MIR				*e*PS	S	11 14 10.0	0.0
MIR				pmax	pmax		
	comp=Z,2μm,12.0s						
MIR				MLR	MLR		
	comp=N,12μm,18.0s,MS6.5						
MIR				MLR	MLR		
	comp=E,6μm,18.0s,MS6.5						
MIR				MLR	MLR		
	comp=Z,23μm,18.0s,MS6.7						
VOY	**Vojsko**	**99.96**	**45**	*e*P	Pdif	11 02 39.2	0.0
CLL	**Collm**	**100.20**	**40**	*e*P	Pdif	11 02 41.5	+1.3
CLL				*e*PP	PP	11 06 46.4	+0.3
CLL				*e*SKSac	SKSac	11 13 22.8	+6.4
CLL				*e*Sdiff	Sdif	11 14 08.7	-4.4
CLL				*e*PS	PS	11 15 48.3	+2.3
CLL				*e*(PPS)		11 16 19.9	
CLL				*e*SS	SS	11 21 18.2	+11
CLL				*e*SSS		11 25 03.8	
CLL				*e*LR	LR	11 37 32.0	
CLL				*e*L		11 44 41.7	
	comp=Z,35μm,22.0s						
CLL	**Collm**	**100.20**	**40**	*e*Pdif	Pdif	11 02 41.0	+0.8
CLL				*e*SKS		11 13 23.0	
CLL				*e*Sdif	Sdif	11 14 08.0	-5.1
CLL				LR	LR		
	comp=Z,32μm,23.2s,MS6.8						
CLL	**Collm**	**100.20**	**40**	*e*Pdif	Pdif	11 02 41.0	+0.8
CLL				*e*PdiffIp		11 02 43.0	
	comp=Z,3μm,20.7s						
CLL				*e*Pmax		11 02 48.0	
CLL				*e*sPdif		11 02 53.0	
CLL				*e*PP	PP	11 06 42.0	-4.1
	comp=N,900nm,28.5s						
CLL				*e*PP	PP	11 06 42.0	-4.1
	comp=E,3μm,22.2s						
CLL				*e*PP	PP	11 06 42.0	-4.1
	comp=Z,5μm,23.0s						
CLL				*e*SKSac	SKSac	11 13 23.0	+6.6
CLL				*e*Sdif	Sdif	11 14 08.0	-5.1
	comp=N,8μm,23.7s						
CLL				*e*PS	PS	11 15 50.0	+4.0
	comp=E,8μm,18.1s						
CLL				*e*PKKPbc	PKKPbc	11 18 58.0	+0.6
	comp=Z,6.0nm,0.4s						
CLL				*e*SS	SS	11 21 19.0	+11
CLL				*e*SSS		11 25 03.0	
CLL				*e*PKPPKPdf		11 27 16.0	
KHC	**Kasperske Hory**	**100.23**	**42**	*e*PDIF	Pdif	11 02 41.1	+0.7
KHC				*e*PP	PP	11 06 44.4	-2.0
KHC				*e*SKS		11 13 20.6	
KHC				*e*SDIF	Sdif	11 14 15.4	+2.0
KHC				*e*PS	PS	11 15 53.2	+6.8
KHC				*e*x	x	11 21 25.6	
KHC				AMS	AMS	11 49 50.0	
	comp=Z,27μm,18.6s						
GEC2	**GERESS Array S**	**100.27**	**42**	*e*Pdiff	Pdif	11 02 40.5	0.0
GEC2	**GERESS Array S**	**100.27**	**42**	P	Pdif	11 02 41.1	+0.6
GERES	**GERESS Array B**	**100.27**	**42**	P	Pdif	11 02 41.2	+0.6
	comp=Z,4.8nm,0.9s,baz=242,slow=2.9,SNR=16						
GERES				PP	PP	11 06 47.2	+0.5
	comp=Z,1.8nm,0.7s,baz=238,slow=5.6,SNR=4.2						
CASY	**Casey**	**100.27**	**183**	*e*P	Pdif	11 02 40.1	-0.5
CASY				LR	LR		
	comp=Z,18μm,21.0s,MS6.5						
LSZ	**Lusaka**	**100.37**	**108**	PFAKE		11 02 50.0	+9.0
LSZ				LR	LR		
	comp=Z,67μm,20.0s,MS7.2						
LJU	**Ljubljana**	**100.40**	**45**	*e*P	Pdif	11 02 41.3	+0.2
LJU				*e*PP	PP	11 06 47.2	-0.5
LJU				*e*SKSac	SKSac	11 13 20.3	+2.9
LJU				*e*		11 15 53.1	
LJU				*e*SS	SS	11 21 34.3	+24
LJU	**Ljubljana**	**100.40**	**45**	*e*P	Pdif	11 02 41.3	+0.2
LJU				*e*		11 06 47.2	
LJU				*e*		11 13 20.3	
LJU				*e*		11 15 53.1	
NVLJ	**Novalja**	**100.42**	**47**	*i* P	Pdif	11 02 38.5	-2.7
NAO01	**NORSAR Array S**	**100.48**	**30**	PFAKE		11 02 50.0	+8.5
NAO01				LR	LR		
	comp=Z,36μm,20.0s,MS6.9						
MOA	**Molln**	**100.49**	**43⇑**	*i*P	Pdif	11 02 41.6	+0.1
	comp=Z,2μm,6.5s,SNR=8.7						
COP	**Copenhagen**	**100.51**	**35⇑**	*i*P	Pdif	11 02 42.8	+1.2
COP				*e*		11 06 37.0	
COP				*i* S	SKSac	11 13 24.1	+6.1
COP				*i*		11 14 22.9	
COP				*i*		11 15 56.6	
COP							
	comp=Z,14μm,21.0s						
COP	**Copenhagen**	**100.51**	**35⇑**	*i*P	Pdif	11 02 42.8	+1.2
COP				*i* S	SKSac	11 13 24.1	+6.1
COP				*i*		11 15 56.6	
COP				MLR	MLR		
	comp=Z,14μm,21.0s,MS6.5						
NB2	**NORSAR Subarra**	**100.67**	**30**	P	Pdif	11 02 41.9	-0.4
	comp=Z,11nm,1.1s,baz=250,slow=9.3						
NB2	**NORSAR Subarra**	**100.67**	**30**	P	Pdif	11 02 43.3	+1.0
	comp=Z,73nm,1.4s,baz=263,slow=5.1						
NB2	**NORSAR Subarra**	**100.67**	**30**	P	Pdif	11 02 43.3	+1.0
	baz=263,slow=5.1						
NB2	**NORSAR Subarra**	**100.67**	**30**	P	Pdif	11 02 43.3	+1.0
NB2				pmax	pmax		
	comp=Z,73nm,1.4s						
NB2	**NORSAR Subarra**	**100.67**	**30**	P	Pdif	11 02 43.3	+1.0
	comp=Z,73nm,1.4s						
NOA	**NORSAR Array B**	**100.67**	**30**	P	Pdif	11 02 42.5	+0.2
	comp=Z,8.6nm,1.2s,baz=263,slow=4.2,SNR=3.7						
NOA				PKKPbc	PKKPbc	11 18 59.8	+3.7
	comp=Z,0.8nm,0.7s,baz=15,slow=3.1,SNR=3.4						
UNV	**Unalaska Valle**	**100.67**	**323**	PFAKE		11 02 50.0	+7.7
UNV				LR	LR		
	comp=Z,34μm,20.0s,MS6.9						
BRG	**Berggiesshubel**	**100.72**	**40**	*e*P	Pdif	11 02 43.0	+0.5
	comp=Z,3.8nm,0.8s						
BRG				PP	PP	11 06 31.0	-19
BRG				SKS	SKSac	11 13 27.0	+8.0
BRG				S	Sdif	11 14 24.0	+6.5
BRG				PS	PS	11 15 51.0	-0.6
BRG				SS	SS	11 20 25.0	-50
BRG				*e*		11 25 24.9	
	comp=Z,4.0nm,1.3s						
BRG							
	comp=N,15μm,23.1s						
BRG							
	comp=E,10μm,21.2s						
BRG							
	comp=Z,19μm,23.1s						
BRG	**Berggiesshubel**	**100.72**	**40**	*e*P	Pdif	11 02 43.0	+0.4
BRG				PS	PS	11 15 51.0	-0.6
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				MLR	MLR		
	comp=N,4μm,23.1s,MS6.5						
BRG				MLR	MLR		
	comp=E,15μm,21.2s,MS6.5						
BRG				MLR	MLR		
	comp=Z,10μm,23.1s,MS6.2						
BRG	**Berggiesshubel**	**100.72**	**40**	*e*P	Pdif	11 02 43.0	+0.5
	comp=Z,3.8nm,0.8s						
BRG				PP	PP	11 06 31.0	-19
BRG				SKS	SKSac	11 13 27.0	+8.0
BRG				S	Sdif	11 14 24.0	+6.5
BRG				PS	PS	11 15 51.0	-0.6
BRG				SS	SS	11 20 25.0	-50
BRG				*e*		11 25 24.9	
	comp=Z,19μm,23.1s,MS6.5						
BRG				LR	LR		
BOJS	**Bojanci**	**100.82**	**46**	*e*P	Pdif	11 02 43.2	+0.2
BOJS				*e*PP	PP	11 06 59.8	+8.9
BOJS				*e*SKSac	SKSac	11 13 21.9	+2.4
BOJS				*e*		11 15 55.5	
BOJS				*e*		11 16 08.8	
BOJS				*e*SS	SS	11 21 39.2	+23
PERS	**Pernice**	**100.89**	**45**	*e*P	Pdif	11 02 43.2	-0.1
PRU	**Pruhonice**	**100.97**	**41**	*e*PDIF	Pdif	11 02 45.1	+1.4
PRU				*e*PP	PP	11 06 53.2	+1.2
PRU				*e*SKS		11 13 25.2	
PRU				*e*SDIF	Sdif	11 14 22.2	+2.6
PRU				*e*PS	PS	11 16 02.7	+8.4
PRU				*e*x	x	11 21 36.3	
PRU				AMS	AMS	11 47 40.0	
	comp=Z,24μm,19.6s						
PRU	**Pruhonice**	**100.97**	**41**	*e*P	Pdif	11 02 45.1	+1.4
PRU				*e*		11 06 53.2	
PRU				*e*		11 13 25.2	
PRU				*e*S	Sdif	11 14 22.2	+2.6
PRU				*e*SS	SS	11 21 36.3	+18
PRU				MLR	MLR		
	comp=Z,24μm,19.6s,MS6.7						
PVCC	**Panska Ves**	**101.06**	**41**	*e*PDIF	Pdif	11 02 44.2	+0.1
PVCC				*e*PP	PP	11 06 49.6	-3.1
PVCC				*e*SKS		11 13 25.2	
PVCC				*e*x	x	11 14 28.7	
PVCC				*e*x	x	11 16 19.3	
PVCC				*e*x	x	11 21 32.8	
PVCC				AMS	AMS	11 45 20.0	
	comp=Z,27μm,22.7s						
PVCC	**Panska Ves**	**101.06**	**41**	*e*P	Pdif	11 02 44.2	+0.1
PVCC				*e*		11 06 49.6	
PVCC				*e*		11 13 25.2	
PVCC				*e*SS	SS	11 21 32.8	+13
PVCC				MLR	MLR		
	comp=Z,27μm,22.7s,MS6.7						
NSS	**Namsos**	**101.48**	**26**	*e*P	Pdif	11 02 47.9	+1.9
NSS				*e*PP	PP	11 06 53.8	-2.1
NSS				AMS	AMS	11 45 38.1	
	comp=Z,22μm,20.7s,MS6.7						
TREC	**Trest**	**101.49**	**42**	*e*PDIF	Pdif	11 02 45.0	-1.0
TREC				*e*PP	PP	11 06 50.8	-5.2
TREC				*e*SKS		11 13 25.6	
TREC				*e*SDIF	Sdif	11 14 25.9	+1.9
TREC				*e*x	x	11 16 12.4	
TREC				*e*SS	SS	11 21 32.8	+7.2
TREC				AMS	AMS	11 46 40.0	
	comp=Z,33μm,20.4s						
TREC	**Trest**	**101.49**	**42**	*e*P	Pdif	11 02 45.0	-1.0
TREC				*e*		11 13 25.6	
TREC				*e*S	Sdif	11 14 25.9	+1.9
TREC				*e*SS	SS	11 21 32.8	+7.2
TREC				MLR	MLR		
	comp=Z,33μm,20.4s,MS6.8						
FUNA	**Funafuti**	**101.58**	**258**	PFAKE		11 03 00.0	+14
FUNA				LR	LR		
	comp=Z,29μm,19.0s,MS6.8						
HFS	**Hagfors**	**101.76**	**31**	P	Pdif	11 02 48.0	+0.8
	comp=Z,5.1nm,1.0s,baz=225,slow=9.6,SNR=3.4						
BSD	**Bornholm Skovb**	**101.84**	**36**	*i* P	Pdif	11 02 46.6	-1.0
	comp=Z,15nm,0.8s						
BSD				*i*		11 06 58.9	
BSD				*i* S	SKSac	11 13 35.8	+11
BSD				*i*		11 14 30.6	
BSD				*i*		11 16 16.0	
BSD				*i*		11 21 48.0	
BSD							
	comp=Z,18μm,18.0s						
BSD	**Bornholm Skovb**	**101.84**	**36**	*i* P	Pdif	11 02 46.6	-1.0
BSD				*i*		11 06 58.9	
BSD				*i*		11 14 30.6	
BSD				*i*		11 21 48.0	
BSD				pmax	pmax		
	comp=Z,15nm,0.8s						
BSD				MLR	MLR		
	comp=Z,18μm,18.0s,MS6.6						
BSD	**Bornholm Skovb**	**101.84**	**36**	*i* P	Pdif	11 02 46.6	-1.0
	comp=Z,15nm,0.8s						
BSD				*i*		11 06 58.9	
BSD				*i* S	SKSac	11 13 35.8	+11
BSD				*i*		11 14 30.6	
BSD				*i*		11 16 16.0	
BSD				*i*		11 21 48.0	
UPC	**Upice**	**101.98**	**41**	*e*PDIF	Pdif	11 02 51.9	+3.8
UPC				*e*PP	PP	11 07 07.6	+8.0
DPC	**Dobruska-Polom**	**102.16**	**41**	*e*PDIF	Pdif	11 02 50.1	+1.2
DPC				*e*PP	PP	11 06 57.6	-3.3
DPC				*e*SKS		11 13 30.6	
DPC				*e*SDIF	Sdif	11 14 35.7	+6.2
DPC				*e*x	x	11 16 19.8	
DPC				*e*x	x	11 21 46.4	
DPC				AMS	AMS	11 46 20.0	
	comp=Z,36μm,22.1s						
DPC	**Dobruska-Polom**	**102.16**	**41**	*e*P	Pdif	11 02 50.1	+1.2
DPC				*e*		11 06 57.6	
DPC				*e*		11 13 30.6	
DPC				*e*S	Sdif	11 14 35.7	+6.2
DPC				*e*SS	SS	11 21 46.4	+12
DPC				MLR	MLR		
	comp=Z,36μm,22.1s,MS6.8						
KSP	**Ksiaz**	**102.19**	**40**	*e*Pdiff	Pdif	11 02 49.7	+0.6
KSP				*e*PP	PP	11 06 57.1	-4.1
KSP				*e*PKiKP	PKiKP	11 07 07.4	-3.7
KSP				*e*SKS		11 13 31.8	
KSP				*e*Sdiff	Sdif	11 14 34.9	+5.1
KSP				*e*PS	PS	11 16 19.4	+12
KSP				*e*SS	SS	11 21 42.7	+7.4
KSP				L		11 44 30.4	
	comp=Z,56nm,24.6s						
KSP	**Ksiaz**	**102.19**	**40**	*e*P	Pdif	11 02 49.6	+0.5
KSP				*e*		11 07 00.0	
KSP				*e*		11 13 29.0	
KSP				*e*S	Sdif	11 14 30.5	+0.7
KSP				*e*SP	SP	11 16 06.0	+3.0
KSP				*e*SS	SS	11 21 28.0	-7.3
KSP	**Ksiaz**	**102.19**	**40**	*e*Pdif	Pdif	11 02 49.6	+0.5
KSP				*e*PP	PP	11 07 00.0	-1.2
KSP				*e*SKS		11 13 29.0	
KSP				*e*Sdif	Sdif	11 14 30.5	+0.7
KSP				*e*SP	SP	11 16 06.0	+3.0
KSP				*e*SS	SS	11 21 28.0	-7.3
KSP				LR	LR		
	comp=Z,64μm,24.6s,MS7.0						
VRAC	**Vranov**	**102.21**	**42**	P	Pdif	11 02 49.2	0.0
	comp=Z,2.6nm,0.5s,baz=173,slow=11,SNR=6.2						
STON	**Ston**	**102.22**	**49**	*i* P	Pdif	11 02 53.2	+4.0
ZST	**Bratislava**	**102.42**	**43**	PDIF	Pdif	11 02 50.7	+0.6
ZST				*e*PP	PP	11 07 00.6	-2.4
ZST	**Bratislava**	**102.42**	**43**	*e*Pdif	Pdif	11 02 50.7	+0.6
ZST				*e*PP	PP	11 07 00.6	-2.4
ZST				LR	LR		
	comp=Z,26μm,19.7s,MS6.8						
TNA	**Tin City**	**102.69**	**335**	PFAKE		11 03 00.0	+8.7
TNA				LR	LR		
	comp=Z,15μm,20.0s,MS6.5						
KBS	**Kingsbay**	**102.88**	**11**	*e*P	Pdif	11 02 55.5	+3.3
KBS				*e*PP	PP	11 07 05.1	-1.3
KBS				*i*		11 16 48.0	
KBS				AMS	AMS	11 52 04.2	
	comp=Z,9μm,23.3s,MS6.2						
GKP	**Gorka Klasztor**	**103.02**	**38**	*e*PKiKP	PP	11 06 52.7	-15
GKP				*e*SKS	SKSac	11 13 34.2	+4.3
GKP				*e*Sdiff	Sdif	11 14 42.1	+5.4
GKP				*e*PS	PS	11 16 21.9	+5.9
GKP				*e*SS	SS	11 22 05.6	+19
GKP				L		11 45 45.0	
	comp=Z,66nm,23.0s						
OKC	**Ostrava-Krasne**	**103.27**	**42**	*e*PDIF	Pdif	11 02 50.0	-3.9
OKC				*e*PP	PP	11 07 06.9	-2.4
OKC				*e*SKS		11 13 34.4	
OKC				*e*x	x	11 14 46.3	
OKC				*e*x	x	11 16 33.1	
OKC				*e*x	x	11 21 11.8	
OKC				AMS	AMS	11 48 50.0	
	comp=Z,22μm,19.2s						
OKC	**Ostrava-Krasne**	**103.27**	**42**	*e*P	Pdif	11 02 50.0	-3.9
OKC				*e*		11 07 06.9	
OKC				*e*		11 13 34.4	
OKC				MLR	MLR		
	comp=Z,22μm,19.2s,MS6.7						
OKC	**Ostrava-Krasne**	**103.27**	**42**	*e*Pdif	Pdif	11 02 50.0	-3.9
OKC				*e*PP	PP	11 07 06.9	-2.4
OKC				*e*SKS	SKSac	11 13 34.4	+3.3
OKC				*e*Sdif	Sdif	11 14 46.3	+7.5
OKC				*e*SP	SP	11 16 33.1	+19
OKC				*e*SS	SS	11 21 11.8	-38
VYHS	**Vyhne**	**103.61**	**43**	PDIF	Pdif	11 02 55.8	+0.4
VYHS				*e*PP	PP	11 07 08.1	-3.7
VYHS	**Vyhne**	**103.61**	**43**	*e*Pdif	Pdif	11 02 55.8	+0.4
VYHS				*e*PP	PP	11 07 08.1	-3.7
VYHS				*e*		11 13 36.8	
VYHS				*e*S	Sdif	11 14 42.7	+1.1
VYHS				*e*SP	SP	11 16 22.5	+4.6
VYHS				LR	LR		
	comp=Z,17μm,21.1s,MS6.6						
DIVS	**Divcibare**	**104.01**	**48**	*i* P	Pdif	11 02 57.8	+0.6
OJC	**Ojcow**	**104.36**	**41**	*e*Pdiff	Pdif	11 02 58.1	-0.7
OJC				*e*PP	PP	11 07 15.4	-2.1
OJC				*e*SKSac	SKSac	11 13 38.0	+1.8
OJC				*e*SP	SP	11 16 22.0	-3.8
OJC				L		11 47 23.4	
	comp=Z,73nm,22.4s						
OJC	**Ojcow**	**104.36**	**41**	*e*P	Pdif	11 02 58.1	-0.7
OJC				*e*		11 07 15.4	
OJC				*e*		11 13 38.0	
OJC				*e*SP	SP	11 16 22.0	-3.8
BEO	**Belgrade**	**104.40**	**47**	*i* P	Pdif	11 02 58.5	-0.5
BJO1	**Bjornoya**	**104.43**	**16**	*e*P	Pdif	11 03 00.0	+1.0
BJO1				LR	LR		
	comp=Z,13μm,22.5s,MS6.4						
BJO	**Bjornoya**	**104.48**	**16**	*e*P	Pdif	11 03 00.0	+0.8
BJO				*e*PP	PP	11 07 16.5	-1.8
BJO				AMS	AMS	11 48 38.6	
	comp=Z,13μm,22.5s,MS6.4						
TRO	**Tromso**	**104.50**	**21**	*e*P	Pdif	11 02 58.9	-0.5
TRO				*e*PP	PP	11 07 16.4	-2.0
TRO				*i*		11 17 05.2	
TRO				AMS	AMS	11 49 45.8	
	comp=Z,11μm,20.0s,MS6.4						
GRUS	**Gruza**	**104.51**	**48**	*i* P	Pdif	11 03 03.8	+4.4
NIE	**Niedzica**	**104.64**	**42**	*e*Pdiff	Pdif	11 03 02.2	+2.2
NIE				*e*PP	PP	11 07 19.1	-0.4
KECS	**Kecovo**	**104.70**	**43**	PDIF	Pdif	11 03 02.2	+2.0
KECS	**Kecovo**	**104.70**	**43**	*e*Pdif	Pdif	11 03 02.2	+2.0
CRVS	**Cervenica-Dubn**	**105.37**	**43**	SDIF	Sdif	11 15 00.5	+4.2
CRVS				*e*SP	SP	11 16 40.5	+4.2
MIDW	**Midway**	**105.57**	**296**	PFAKE		11 07 30.0	+13
MIDW				LR	LR		
	comp=Z,46μm,20.0s,MS7.0						
KOLS	**Kolonicke sedl**	**105.90**	**43**	SDIF	Sdif	11 15 08.9	+8.1
KOLS				*e*SP	SP	11 16 46.1	+4.2
KWP	**Kalwaria**	**106.21**	**42**	*e*Pdiff	Pdif	11 03 08.6	+1.6
KWP				*e*PKiKP		11 07 30.8	
KWP				*e*PP	PP	11 07 38.9	+7.8
KWP				*e*SKS	SKSac	11 13 45.0	+0.5
KWP				*e*Sdiff	Sdif	11 15 10.7	+7.4
KWP				*e*PS	PS	11 17 04.3	+15
KWP				L		11 48 22.0	
	comp=Z,37nm,22.5s						
KWP	**Kalwaria**	**106.21**	**42**	*e*P	Pdif	11 03 08.6	+1.6
KWP				*i*		11 07 30.8	
KWP				*e*		11 13 45.0	
SUW	**Suwalki**	**106.58**	**37**	*e*PKiKP	PKiKP	11 07 21.2	+2.0
SUW				*e*PP	PP	11 07 33.5	-0.4
SUW				*e*SKS	SKSac	11 13 48.9	+2.8
SUW				*e*Sdiff	Sdif	11 15 11.6	+5.2
SUW				*e*PS	PS	11 16 59.9	+6.7
SUW				*e*SS	SS	11 23 03.2	+28
SUW				L		11 44 28.3	
	comp=Z,26nm,26.5s						
SUW	**Suwalki**	**106.58**	**37**	*e*PKPdf	PKiKP	11 07 21.2	+2.0
SUW				*e*PP	PP	11 07 33.5	-0.4
SUW				*e*SKS	SKSac	11 13 48.9	+2.8
SUW				*e*Sdif	Sdif	11 15 11.6	+5.2
SUW				*e*PS	PS	11 16 59.9	+6.7
SUW				*e*SS	SS	11 23 03.2	+28
LVV	**L'vov**	**107.08**	**42**	*e*P	Pdif	11 03 11.8	+1.0
LVV				*i*		11 07 34.9	
LVV				*e*		11 13 47.6	
LVV				*i* SS	SS	11 22 53.6	+11
LVV				MLR	MLR		
	comp=E,12μm,22.0s,MS6.5						
LVV				MLR	MLR		
	comp=Z,12μm,22.0s,MS6.4						
LVV				MLR	MLR		
	comp=N,9μm,20.0s,MS6.5						
KEV	**Kevo**	**107.31**	**21**	PFAKE		11 07 30.0	+9.5
KEV				LR	LR		
	comp=Z,12μm,22.0s,MS6.4						
FIA1	**FINESS Array S**	**107.85**	**29**	*e*PKiKP	PKiKP	11 07 20.3	-1.2
MLR	**Muntele Rosu**	**108.31**	**46**	PKiKP	PKiKP	11 07 22.0	-0.4
	comp=Z,7.7nm,1.0s,baz=318,slow=7.7,SNR=3.4						
SART	**Tekirdag**	**109.13**	**51**	*i* P	Pdif	11 03 14.6	-5.4
MNK	**Minsk**	**109.30**	**37**	*e*P	Pdif	11 03 22.0	+1.3
MNK				*e*		11 13 56.0	
MNK				MLR	MLR		
	comp=Z,29μm,18.0s,MS6.9						
MNK				MLR	MLR		
	comp=E,58μm,18.0s						
APA	**Apatity**	**110.02**	**23**	*e*P	Pdif	11 03 23.0	-0.9
APA				*i*		11 07 55.0	
APA				*e*PPP		11 10 22.0	
APA				*e*		11 14 05.0	
APA				*i* PS	PS	11 17 28.0	-0.1
APA				*i* SS	SS	11 23 27.0	+5.2
APA				pmax	pmax		
	comp=Z,190nm,2.0s						
APA				MLR	MLR		
	comp=Z,12μm,18.0s,MS6.5						
ELBA	**Catalca**	**110.08**	**51**	*i* P	PP	11 07 57.3	-2.0
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KIS	Kishinev	110.29	45	*i* PS	PS	11 17 52.0	+21
AKASG	Malin Array Be	110.39	41	PKiKP	PKiKP	11 07 25.8	-0.5
	comp=Z,0.7nm,0.4s,baz=257,slow=2.6,SNR=5.5						
LVZ	Lovozero	110.39	22	*e*P	Pdif	11 03 23.9	-1.7
LVZ				*i*		11 07 59.0	
LVZ				*i* PS	PS	11 17 33.4	+1.8
LVZ				*i* SS	SS	11 23 24.7	-2.2
LVZ				pmax	pmax		
	comp=Z,1μm,18.7s						
LVZ				pmax	pmax		
	comp=N,101nm,14.7s						
LVZ				pmax	pmax		
	comp=E,405nm,21.5s						
GDZ	Gediz	110.87	53	*i* P	Pdif	11 03 21.3	-6.4
GOLH	Golhisar	110.90	55	*i* P	Pdif	11 03 24.1	-3.7
AKAS	Kas	110.91	56	*i* P	Pdif	11 03 20.3	-7.5
TAU	Tasmania Unive	110.91	213	PFAKE		11 07 40.0	+13
TAU				LR	LR		
	comp=Z,6μm,19.0s,MS6.2						
SMY	Shemya	112.27	322	PFAKE		11 07 40.0	+10
SMY				LR	LR		
	comp=Z,15μm,22.0s,MS6.5						
BILL	Bilibino	112.42	339	*i* PKIKP	PKiKP	11 07 29.4	-0.8
BILL				*e*		11 08 14.7	
BILL				*e*		11 14 15.7	
BILL				*i* SS	SS	11 23 48.1	-5.8
BILL				pmax	pmax		
	comp=Z,16nm,1.9s						
BILL	Bilibino	112.42	339	PFAKE		11 07 40.0	+10
BILL				LR	LR		
	comp=Z,26μm,20.0s,MS6.8						
KDHN	Kadinhani	112.93	54	*i* P	Pdif	11 03 36.6	-0.2
KMBO	Kilima Mbogo	112.94	97	PFAKE		11 07 40.0	+8.8
KMBO				LR	LR		
	comp=Z,57μm,19.0s,MS7.2						
ANTO	Ankara	113.42	52	PFAKE		11 07 40.0	+7.9
ANTO				LR	LR		
	comp=Z,12μm,20.0s,MS6.5						
ERMK	Ermenek	113.58	56	*i* P	Pdif	11 03 49.1	+9.3
BR131	Keskin Array S	114.08	52	*e*PKiKP	PKiKP	11 07 33.9	+0.6
BR131				LR	LR		
	comp=Z,14μm,19.0s,MS6.6						
BRTR	Keskin Array B	114.08	52	PKiKP	PKiKP	11 07 32.5	-0.9
	comp=Z,3.7nm,1.0s,baz=259,slow=1.5,SNR=9.3						
SIM	Simferopol'	114.10	47	*e*P	Pdif	11 03 42.9	+0.8
SIM				*i*		11 08 26.4	
SIM				MLR	MLR		
	comp=Z,23μm,19.0s,MS6.8						
OBN	Obninsk	114.22	35⇑	*e*P	Pdif	11 03 44.1	+1.5
OBN				*e*PPP		11 11 03.9	
OBN				*i* PS	PS	11 18 07.5	+0.7
OBN				*i* PPS		11 19 27.5	
OBN				*e*SS	SS	11 24 16.3	-1.5
OBN				pmax	pmax		
	comp=Z,14nm,1.0s						
OBN	Obninsk	114.22	35	*e*PKP	PKiKP	11 07 33.9	+0.3
OBN				LR	LR		
	comp=Z,9μm,22.0s,MS6.3						
CDAG	Cicekdag	114.65	52	*i* P	Pdif	11 03 43.3	-1.2
MOS	Moscow	114.68	35	*e*P	Pdif	11 03 44.6	0.0
MOS				*e*		11 07 35.4	
MOS				*e*		11 08 31.1	
MOS				*e*PPP		11 10 58.1	
MOS				*e*		11 14 24.0	
MOS				*e*SS	SS	11 24 20.2	-3.6
BHL	Bhannes	115.85	59	*e*P	PP	11 08 39.0	-1.5
ANN	Anapa	116.47	47	*e*P	Pdif	11 03 51.9	-0.7
ANN				*i*		11 08 40.3	
ANN				*e*		11 14 22.1	
ANN				*e*SP	SP	11 18 22.5	-0.5
ANN				*e*SS	SS	11 24 54.5	+7.4
ANN				pmax	pmax		
	comp=Z,50nm,2.1s						
ANN				MLR	MLR		
	comp=N,31μm,24.0s,MS6.9						
ANN				MLR	MLR		
	comp=E,7μm,24.0s,MS6.9						
ANN				MLR	MLR		
	comp=Z,22μm,24.0s,MS6.7						
ASF	Jabal al Asfar	116.92	61	PKP	PKPdf	11 07 39.4	+0.6
	comp=Z,10nm,0.9s,baz=333,slow=1.3,SNR=9.9						
PECR	Pechory	118.02	33	*e*PKIKP	pPKPdf	11 07 55.4	+3.3
PECR				*e*		11 14 36.0	
PECR				*e*PS	PS	11 18 33.0	-8.3
PECR				MLR	MLR		
	comp=Z,28μm,19.0s,MS6.9						
PECR				MLR	MLR		
	comp=N,4μm,18.0s,MS6.3						
PECR				MLR	MLR		
	comp=E,4μm,18.0s,MS6.3						
VRHR	Novokhopersk	118.08	39	*e*PKIKP	PKPdf	11 07 41.6	+0.6
VRHR				*e*		11 08 58.3	
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
VRHR				pmax	pmax		
	comp=N,20nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.4s						
KELT	Kelkit	118.35	52	*i* P	Pdif	11 03 57.7	-3.3
HNR	Honiara	119.36	251	PFAKE		11 08 00.0	+17
HNR				LR	LR		
	comp=Z,23μm,21.0s,MS6.8						
MARD	Mardin	119.83	55	*i* P	Pdif	11 04 06.3	-1.2
SEY	Seymchan	119.86	337	*i* PKIKP	PKPdf	11 07 44.4	0.0
TIXI	Tiksi	119.87	351⇑	*i*PKIKP	PKPdf	11 07 42.2	-2.3
TIXI	Tiksi	119.87	351⇑	*e*PKP	PKPdf	11 07 42.2	-2.3
TIXI				LR	LR		
	comp=Z,68μm,22.0s,MS7.2						
KIV	Kislovodsk	120.32	47	*i* PKIKP	PKPdf	11 07 43.6	-1.7
KIV				*e*		11 14 50.9	
KIV				*i* SS	SS	11 25 48.4	+11
KIV				pmax	pmax		
	comp=Z,31nm,1.8s						
KIV				MLR	MLR		
	comp=Z,6μm,18.0s,MS6.2						
KIV	Kislovodsk	120.32	47	PFAKE		11 08 00.0	+15
KIV				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
PET	Petropavlovsk	121.28	324	*e*PKIKP	PKPdf	11 07 46.6	-0.6
PET				*i*		11 09 28.0	
PET				*e*PPP		11 11 52.2	
PET				*e*		11 14 38.3	
PET				*e*PS	PS	11 18 57.7	-13
PET				*e*PPS		11 20 28.2	
PET				*e*SS	SS	11 25 54.0	+4.7
PET				pmax	pmax		
	comp=Z,200nm,11.7s						
PET	Petropavlovsk	121.28	324	PFAKE		11 08 00.0	+13
PET				LR	LR		
	comp=Z,10μm,21.0s,MS6.5						
ZEI	Tsey	121.41	48	*e*PKIKP	PKPdf	11 07 47.7	+0.3
MSL	Mosul	121.78	56	*ex*	x	11 07 24.5	
STKA	Stephens Creek	121.86	218	PKP	PKPdf	11 07 49.6	+1.4
	comp=Z,2.1nm,0.3s,baz=151,slow=9.1,SNR=5.2						
HAKT	HAKKARI	122.12	54	*i* P	Pdif	11 04 18.8	+1.1
MA2	Magadan	122.31	334	PFAKE		11 08 00.0	+11
MA2				LR	LR		
	comp=Z,12μm,20.0s,MS6.6						
GNI	Garni	122.51	51	PKP	PKPdf	11 07 51.7	+2.2
	comp=Z,12nm,0.7s,baz=318,slow=7.8,SNR=4.0						
GNI				PP	PP	11 09 20.9	-5.5
	comp=Z,5.4nm,0.6s,baz=250,slow=21,SNR=1.9						
GNI	Garni	122.51	51⇑	*i*PKIKP	PKPdf	11 07 51.2	+1.7
GNI	Garni	122.51	51	PKPdf	PKPdf	11 07 48.6	-1.0
GNI				PKP	PKPdf	11 07 51.7	+2.2
GNI				PP	PP	11 09 20.9	-5.5
GNI				LR	LR		
	comp=Z,13μm,20.0s,MS6.6						
BHD	Baghdad	123.16	59	*ex*	x	11 07 48.0	
BHD				*ex*	x	11 09 22.0	
BHD				*ex*	x	11 12 10.0	
SKR	Severo-Kuril's	123.59	323	*i* P	Pdif	11 04 17.0	-7.2
SKR				*e*		11 09 32.0	
SKR				*e*PPP		11 12 19.0	
SKR				*e*PS	PS	11 19 22.0	-9.0
SKR				*e*PPS		11 20 53.0	
SKR				*e*SS	SS	11 26 39.0	+20
SKR				pmax	pmax		
	comp=Z,3μm,12.0s						
MAK	Makhachkala	123.96	47	*e*P	Pdif	11 04 28.7	+2.8
MAK				*i*		11 07 52.5	
MAK				*i*		11 09 34.7	
MAK				*e*PPP		11 12 17.1	
MAK				*i*		11 15 00.0	
MAK				pmax	pmax		
	comp=Z,263nm,1.4s						
MAK				MLR	MLR		
	comp=Z,27μm,22.0s,MS6.9						
ARU	Arti	125.20	29	*e*P	Pdif	11 04 27.8	-3.6
ARU				*i*		11 07 54.4	
ARU				*e*PPP		11 12 26.8	
ARU				*e*		11 14 54.9	
ARU				*e*PS	PS	11 19 41.4	-3.8
ARU				MLR	MLR		
	comp=E,14μm,20.0s,MS6.7						
ARU				MLR	MLR		
	comp=Z,21μm,20.0s,MS6.8						
ARU				MLR	MLR		
	comp=N,9μm,21.0s,MS6.7						
ARU	Arti	125.20	29⇑	*e*PKP	PKPdf	11 07 54.4	-0.3
ARU				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
ORR	Orenburg	125.63	35	*i* PKIKP	PKPdf	11 07 54.5	-1.0
ORR				PS		11 21 12.7	
ORR				pmax	pmax		
	comp=Z,40nm,1.0s						
ORR				MLR	MLR		
	comp=Z,16μm,20.0s,MS6.7						
CTA	Charters Tower	126.18	232	*e*PKP	PKPdf	11 07 56.6	0.0
	comp=Z,19nm,0.9s						
CTA				*e*PP	PP	11 09 57.5	+6.5
CTAO	Charters Tower	126.18	232	PKIKP	PKPdf	11 07 58.5	+1.9
CTAO	Charters Tower	126.18	232	*e*PKPdf	PKPdf	11 07 56.4	-0.2
CTAO				LR	LR		
	comp=Z,23μm,19.0s,MS6.9						
YAK	Yakutsk	127.99	345	*i* PKIKP	PKPdf	11 07 58.6	-1.4
YAK				*i*		11 10 00.0	
YAK				*e*PPP		11 12 43.4	
YAK				*e*		11 15 12.1	
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				pmax	pmax		
	comp=Z,61nm,1.3s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.6s						
YAK				pmax	pmax		
	comp=Z,2μm,9.2s						
YAK				pmax	pmax		
	comp=N,1μm,15.8s						
YAK				pmax	pmax		
	comp=E,574nm,10.2s						
YAK				MLR	MLR		
	comp=Z,21μm,23.0s,MS6.8						
YAK				MLR	MLR		
	comp=N,11μm,22.0s,MS6.7						
YAK				MLR	MLR		
	comp=E,14μm,24.0s,MS6.7						
YAK	Yakutsk	127.99	345⇑	*e*PKP	PKPdf	11 07 58.9	-1.1
YAK				LR	LR		
	comp=Z,15μm,21.0s,MS6.6						
AKTO	Aktyubinsk	128.00	35	PKIKP	PKPdf	11 07 59.7	-0.3
AKTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MSEY	Mahe Island	129.19	108	PFAKE		11 08 20.0	+18
MSEY				LR	LR		
	comp=Z,6μm,19.0s,MS6.3						
AB31	Akbulak array	129.67	36	*i* PKIKP	PKPdf	11 08 03.3	+0.1
AB31				pmax	pmax		
	comp=Z,49nm,0.9s						
FORT	Forrest	129.97	208	*e*PKP	PKPdf	11 08 04.5	+0.7
	comp=Z,25nm,0.8s						
PMG	Port Moresby	130.91	245	*e*PKIKP	PKPdf	11 08 07.8	+2.2
PMG				MLR	MLR		
	comp=Z,25μm,19.0s						
NWAO	Narrogin (SRO)	131.97	196	PKP	PKPdf	11 08 08.3	+0.7
	comp=Z,9.5nm,0.8s,baz=154,slow=8.6,SNR=3.8						
NWAO	Narrogin (SRO)	131.97	196	PKP	PKPdf	11 08 08.3	+0.7
NWAO				LR	LR		
	comp=Z,12μm,19.0s,MS6.6						
ZRNK	Zerenda	132.12	27	PKIKP	PKPdf	11 08 07.8	-0.1
ZRNK				pmax	pmax		
	comp=Z,13nm,1.3s						
ZRNK	Zerenda	132.12	27	*e*PKPdf	PKPdf	11 08 07.5	-0.4
CHKZ	Chkalovo	132.32	26	PKIKP	PKPdf	11 08 07.9	-0.3
CHKZ	Chkalovo	132.32	26	*e*PKPdf	PKPdf	11 08 07.0	-1.2
AS31	Alice Springs	132.48	219	*e*PKP	PKPdf	11 08 09.1	+0.6
AS31				*e*PKS		11 11 35.6	
ASAR	Alice Springs	132.48	219	PKhKP		11 08 02.1	
	comp=Z,0.6nm,0.6s,baz=138,slow=2.0,SNR=7.2						
ASAR				PKP	PKPdf	11 08 08.8	+0.3
	comp=Z,5.9nm,0.9s,baz=148,slow=2.5,SNR=30						
ASAR				SKP		11 11 41.1	
	comp=Z,2.0nm,0.8s,baz=146,slow=5.1,SNR=3.2						
ASAR				SKKPbc		11 20 26.9	
	comp=Z,1.1nm,0.9s,baz=307,slow=2.9,SNR=5.2						
ASAR	Alice Springs	132.48	219	PKP	PKPdf	11 08 08.8	+0.3
ASAR				SKP		11 11 41.1	
ASAR				SKKPbc		11 20 26.9	
ASPA	Alice Springs	132.48	219	*e*PKP	PKPdf	11 08 09.1	+0.6
ASPA				*e*PKS		11 11 35.6	
BRVK	Borovoye	132.61	27	PKIKP	PKPdf	11 08 10.1	+1.3
BRVK				*e*		11 08 20.4	
BRVK	Borovoye	132.61	27	*e*PKPdf	PKPdf	11 08 07.1	-1.7
BRVK				LR	LR		
	comp=Z,9μm,22.0s,MS6.5						
YUK	Yuzh-Kuril'sk	132.66	318	*i* PKIKP	PKPdf	11 08 09.3	+0.4
YUK				*i*		11 10 42.0	
YUK				*e*PPP		11 13 22.1	
YUK				MLR	MLR		
	comp=Z,21μm,19.0s,MS6.9						
YUK				MLR	MLR		
	comp=N,6μm,17.0s,MS6.4						
YUK				MLR	MLR		
	comp=E,2μm,18.0s,MS6.4						
BVA0	Borovoye Array	132.68	27	*i* PKIKP	PKPdf	11 08 09.9	+1.0
BVA0				pmax	pmax		
	comp=Z,200nm,3.0s						
KLBR	Kellerberrin	133.08	197	*e*PKP	PKPdf	11 08 09.5	-0.2
	comp=Z,29nm,0.8s						
MUN	Mundaring	133.13	195	*e*PKP	pPKPdf	11 08 22.6	+1.6
YSS	Yuzh-Sakhalins	133.13	323	PFAKE		11 08 20.0	+10
YSS				LR	LR		
	comp=Z,20μm,19.0s,MS6.8						
VOSK	Vostochnaya	133.15	26	PKIKP	PKPdf	11 08 09.3	-0.5
VOSK				pmax	pmax		
	comp=Z,20nm,1.1s						
CLNS	Chul'man	133.71	344	*e*PKIKP	PKPdf	11 08 05.5	-5.3
CLNS				pmax	pmax		
	comp=Z,23nm,1.1s						
CLNS				pmax	pmax		
	comp=N,19nm,2.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NRGR	Nerungri	133.91	344	*e*PKIKP	PKPdf	11 08 09.7	-1.5
WB2	Warramunga Arr	134.88	223	*e*PKP	PKPdf	11 08 14.3	+1.3
WB2				*e*PP	PP	11 10 52.0	+4.6
WRA	Warramunga Arr	134.89	223	PKhKP		11 08 05.7	
	comp=E,0.7nm,0.8s,baz=234,slow=1.2,SNR=5.4						
WRA				PKP	PKPdf	11 08 13.3	+0.3
	comp=E,25nm,0.8s,baz=135,slow=1.5,SNR=68						
WRA				PP	PP	11 10 54.0	+6.6
	comp=E,3.0nm,0.9s,baz=130,slow=6.1,SNR=5.2						
WRA				SKKPbc		11 20 21.2	
	comp=E,2.6nm,1.0s,baz=314,slow=6.0,SNR=5.4						
WRA	Warramunga Arr	134.89	223	PKIKP	PKPdf	11 08 13.3	+0.2
WRA						11 10 54.0	
WRA	Warramunga Arr	134.89	223	PKP	PKPdf	11 08 13.3	+0.3
WRA				PP	PP	11 10 54.0	+6.6
WRA				SKKPbc		11 20 21.2	
WRAB	Tennant Creek	134.89	223⇑	*i*PKIKP	PKPdf	11 08 13.8	+0.7
BOD	Bodaibo	135.03	352	*e*PKHKP		11 08 00.0	
BOD				*e*		11 08 12.2	
ERM	Erimo	135.35	317	PFAKE		11 08 30.0	+16
ERM				LR	LR		
	comp=Z,7μm,21.0s,MS6.3						
NVS	Novosibirsk	135.86	17	*e*PKIKP	PKPdf	11 08 12.6	-2.3
NVS				pmax	pmax		
	comp=N,32nm,2.0s						
NVS				pmax	pmax		
	comp=Z,166nm,2.0s						
NVS				pmax	pmax		
	comp=E,56nm,2.1s						
ZAL	Zalesovo	137.08	16	PKhKP		11 08 09.4	
	comp=E,3.1nm,0.9s,baz=146,slow=4.1,SNR=9.3						
ZAL				PKP	PKPdf	11 08 16.3	-0.8
	comp=E,29nm,0.9s,baz=148,slow=3.0,SNR=18						
ZAL	Zalesovo	137.08	16	PKP	PKPdf	11 08 16.3	-0.8
KLR	Kul'dur	137.39	333	*e*PKIKP	PKPdf	11 08 13.2	-4.5
KLR				*e*		11 11 02.5	
KLR				*e*		11 23 05.5	
KLR				*e*		11 29 06.5	
CIT	Chita	140.71	350	*e*PKIKP	PKPdf	11 08 23.1	-0.7
CIT				*e*		11 11 20.7	
KAKA	Kakadu	141.13	229	*e*PKP	PKPdf	11 08 25.7	+1.2
	comp=E,25nm,0.9s						
MAJO	Matsushiro	141.28	313	*e*PKHKP		11 08 18.4	
MAJO	Matsushiro	141.28	313	*e*PKPpre		11 08 17.4	
MAJO				LR	LR		
	comp=Z,33μm,21.0s,MS7.1						
MJAR	Matsushiro Arr	141.28	313	PKhKP		11 08 17.7	
	comp=Z,6.9nm,0.8s,baz=30,slow=0.9,SNR=16						
MJAR				PP	PP	11 11 28.9	+1.9
	comp=Z,3.1nm,0.8s,baz=123,slow=2.0,SNR=2.4						
MAT	Matsushiro	141.28	313	PKP	PKPdf	11 08 26.6	+1.8
IRK	Irkutsk	141.35	359	*e*PKIKP	PKPdf	11 08 21.9	-3.0
IRK				*e*		11 11 23.0	
IRK				pmax	pmax		
	comp=Z,137nm,4.4s						
FITZ	Fitzroy Crossi	141.66	216	*e*PKP	PKPdf	11 08 20.8	-4.7
FITZ				*e*PP	PP	11 11 45.4	+16
FRU	Bishkek	141.69	35	*e*PKIKP	PKPdf	11 08 22.0	-3.5
FRU				*i*		11 11 30.0	
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
FRU				MLR	MLR		
	comp=E,14μm,20.0s						
FRU				MLR	MLR		
	comp=Z,18μm,20.0s,MS6.8						
AAK	Ala-Archa	141.75	35	*e*PKHKP		11 08 20.0	
MDJ	Mudanjiang	141.75	329	PKP	PKPdf	11 08 24.5	-1.1
MDJ				XPKP		11 08 38.8	
MDJ				PP	PP	11 11 30.5	+0.5
MDJ				PP	PP		
	comp=Z,4μm,13.9s						
MDJ				LR	LR		
	comp=N,9μm,23.1s,MS6.7						
MDJ				LR	LR		
	comp=E,9μm,19.7s,MS6.7						
MDJ				LR	LR		
	comp=Z,13μm,22.0s,MS6.7						
MDJ	Mudanjiang	141.75	329	PFAKE		11 08 40.0	+14
MDJ				LR	LR		
	comp=Z,18μm,21.0s,MS6.8						
HIA	Hailar	141.86	343	PFAKE		11 08 40.0	+14
HIA				LR	LR		
	comp=Z,22μm,19.0s,MS6.9						
MOY	Mondy	141.88	2	*e*PKIKP	PKPdf	11 08 22.0	-3.9
MOY				pmax	pmax		
	comp=Z,130nm,4.1s						
TLY	Talaya	141.92	360*c*	*i*PKHKP		11 08 15.7	
TLY				*e*		11 11 28.9	
TLY				*e*PPP		11 14 38.1	
MBWA	Marble Bar	141.98	205	*e*PKPpre		11 08 21.9	
MBWA				LR	LR		
	comp=Z,18μm,20.0s,MS6.8						
TKM2	Tokmak 2	142.17	34	PKHKP		11 08 21.3	
TKM2				pmax	pmax		
	comp=Z,154nm,2.4s						
MK31	Makanchi Array	142.40	24	*e*PKIKP	PKPdf	11 08 23.5	-3.3
MKAR	Makanchi Array	142.40	24	PKhKP		11 08 22.4	
	comp=Z,25nm,1.0s,baz=19,slow=5.1,SNR=26						
MKAR	Makanchi Array	142.40	24	PKHKP		11 08 21.6	
MKAR				pmax	pmax		
	comp=Z,30nm,1.0s						
DGAR	Diego Garcia	142.96	122	PFAKE		11 08 40.0	+12
DGAR				LR	LR		
	comp=Z,6μm,22.0s,MS6.3						
ZAK	Zakamensk	143.22	0	*e*PKHKP		11 08 23.5	
ZAK				*e*		11 11 35.3	
ZAK				pmax	pmax		
	comp=Z,170nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,29nm,1.2s						
CN2	Changchun	144.34	332	*e*PKP	PKPdf	11 08 26.0	-4.2
KSH	Kashi	144.61	38	*e*PKP	PKPdf	11 08 31.4	+0.7
KSH				*e*APKP		11 08 42.1	
KSH				*e*SKS	SKSdf	11 15 35.0	-2.4
KSH				PP	PP		
	comp=Z,5μm,8.0s						
KSH				LR	LR		
	comp=N,9μm,26.6s						
KSH				LR	LR		
	comp=E,6μm,15.6s						
KSH				LR	LR		
	comp=Z,9μm,26.6s,MS6.4						
SONM	Songino Array	145.67	356	PKPbc	PKPbc	11 08 32.7	-0.2
	comp=Z,160nm,1.0s,baz=337,slow=1.6,SNR=130						
BHJ	Bhuj	146.67	68	*e*P	PKPdf	11 08 36.4	+2.2
SNY	Shenyang	146.74	332	⇑PKP	PKPdf	11 08 35.0	+0.7
SNY				APKP		11 08 45.0	
SNY				XPKP		11 08 49.1	
SNY				PP	PP	11 12 02.1	+2.3
SNY				SKKS	SKKSac	11 18 49.8	+0.6
SNY				SS	SS	11 31 02.9	+6.5
SNY				PP	PP		
	comp=Z,5μm,10.4s						
SNY				LR	LR		
	comp=N,12μm,18.6s						
SNY				LR	LR		
	comp=Z,17μm,20.4s,MS6.8						
WMQ	Urumqi	146.94	21	*e*PKP	PKPdf	11 08 35.0	+0.3
WMQ				PKP2	PKPab	11 08 41.0	+2.9
WMQ				APKP		11 08 46.0	
WMQ				XPKP		11 08 49.0	
WMQ				PP	PP	11 12 05.0	+4.0
WMQ				SKS	SKSdf	11 15 39.0	-1.8
WMQ				SKKS	SKKSac	11 18 50.0	-0.3
WMQ				PP	PP		
	comp=Z,3μm,5.8s						
WMQ				LR	LR		
	comp=N,14μm,19.4s,MS6.9						
WMQ				LR	LR		
	comp=E,14μm,22.9s,MS6.9						
WMQ				LR	LR		
	comp=Z,18μm,24.0s,MS6.8						
INCN	Inchon	148.35	323	*e*PKPbc	PKPbc	11 08 40.5	+0.1
INCN				LR	LR		
	comp=Z,16μm,21.0s,MS6.8						
THN	Thein Dam	148.50	49	*e*P	PKPdf	11 08 37.4	+0.2
DLH	Dalhousie	148.63	48	*e*P	PKPdf	11 08 37.0	-0.5
BHK	Bhakra	149.53	50	*ex*	x	11 08 47.2	
SDNR	Sundarnagar	149.89	49	*ex*	x	11 08 45.5	
DL2	Dalian	149.96	331	*i* PKP	PKPdf	11 08 39.8	+0.2
DL2				PKP2	PKPab	11 08 53.4	+3.2
DL2				PP	PP	11 12 19.9	+1.3
DL2				SS	SS	11 31 39.9	+7.3
DL2				PP	PP		
	comp=Z,4μm,9.9s						
DL2				LR	LR		
	comp=N,3μm,20.4s,MS6.3						
DL2				LR	LR		
	comp=E,5μm,20.3s,MS6.3						
DL2				LR	LR		
	comp=Z,8μm,22.0s,MS6.5						
AJM	Ajmer	150.19	60	*e*P	PKPdf	11 08 39.0	-0.9
BOM	Bombay	150.23	76	*i* x	x	11 08 32.8	
BOM				*ex*	x	11 08 40.3	
	comp=Z,124nm,1.0s						
POO	Poona	151.24	76⇑	*i*P	PKPdf	11 08 40.0	-1.6
	comp=Z,100nm,1.0s						
POO				*i* PP	PP	11 12 25.0	-1.0
BJI	Beijing	151.25	339	PKP	PKPdf	11 08 41.8	+0.2
BJI				SKS	SKSdf	11 15 47.3	+0.8
BJI				SKKS	SKKSac	11 19 09.8	-4.5
BJI				PP	PP		
	comp=Z,6μm,14.0s						
BJI				LR	LR		
	comp=N,10μm,22.9s,MS6.7						
BJI				LR	LR		
	comp=E,11μm,22.1s,MS6.7						
BJI				LR	LR		
	comp=Z,14μm,23.8s,MS6.7						
BJI	Beijing	151.25	339	PKP	PKPdf	11 08 41.8	+0.2
BJI				PP	PP	11 12 10.3	-16
BJI				SKS	SKSdf	11 15 47.2	+0.7
BJI				SKKS	SKKSac	11 19 09.8	-4.5
BJI				SS	SS	11 31 27.1	-20
BJI				LR	LR		
	comp=Z,14μm,23.8s,MS6.7						
BJT	Baijiatuau

DDI	**Dehra Dun**	**151.29**	**50**	*ex*	x	11 08 59.0	
NDI	**New Delhi**	**151.42**	**54**	*ex*	x	11 08 06.0	
HHC	**Hu-ho-hao-te**	**151.81**	**347**	*e*PKP	PKPdf	11 08 42.0	-0.4
HHC				APKP		11 08 52.1	
HHC				XPKP		11 08 57.0	
HHC				SKS	SKSdf	11 15 44.8	-2.4
HHC				SKKS	SKKSac	11 19 16.0	-1.4
HHC				LR	LR		
	comp=N,9μm,19.6s,MS6.7						
HHC				LR	LR		
	comp=E,7μm,21.6s,MS6.7						
HHC				LR	LR		
	comp=Z,14μm,19.0s,MS6.8						
MNGI	**Mangalore**	**152.25**	**88**	*e*P	PKPdf	11 08 43.9	+0.8
MNGI				*ex*	x	11 55 42.9	
	comp=Z,2μm,20.0s						
BTO	**Baotou**	**152.37**	**349**	*e*PKP	PKPdf	11 08 44.9	+1.6
LGTI	**Lohaghat**	**153.37**	**50**	*e*P	PKPdf	11 08 45.0	+0.3
COCO	**West Island**	**153.68**	**166**	PFAKE		11 09 00.0	+15
COCO				LR	LR		
	comp=Z,3μm,19.0s,MS6.2						
AKL	**Akola**	**153.87**	**70**	*i* P	PKPdf	11 08 45.7	+0.3
AKL				*i x*	x	11 12 27.6	
GTA	**Gaotai**	**154.00**	**6**	PKP	PKPdf	11 08 44.0	-1.6
GTA				APKP		11 08 54.9	
GTA				XPKP		11 08 58.3	
GTA				PKS		11 12 17.6	
GTA				SKS	SKSdf	11 15 45.5	-4.3
GTA				SKKS	SKKSac	11 19 27.4	-1.8
GTA				PP	PP		
	comp=Z,6μm,16.1s						
GTA				LR	LR		
	comp=N,7μm,29.8s,MS6.5						
GTA				LR	LR		
	comp=E,9μm,26.0s,MS6.5						
GTA				LR	LR		
	comp=Z,15μm,29.8s,MS6.6						
TIA	**Tai'an**	**154.21**	**334**	PKP	PKPdf	11 08 45.8	-0.1
TIA				XPKP		11 09 00.0	
TIA				PP	PP	11 12 45.0	+2.1
TIA				SKS	SKSdf	11 15 47.6	-2.5
TIA				SS	SS	11 32 16.0	-3.4
TIA				LR	LR		
	comp=N,3μm,20.0s,MS6.5						
TIA				LR	LR		
	comp=E,7μm,19.0s,MS6.5						
NGP	**Nagpur**	**155.62**	**68**	*e*P	PKPdf	11 08 47.0	-0.8
HYB	**Hyderabad**	**155.81**	**78**	*i* P	PKPdf	11 08 48.0	-0.1
HYB	**Hyderabad**	**155.81**	**78**	*e*P	PKPdf	11 08 48.0	-0.1
SSE	**Sheshan**	**155.99**	**320**	⇑PKP	PKPdf	11 08 49.3	+1.0
SSE				PKP2	PKPab	11 09 16.0	+0.4
SSE				PP	PP	11 12 52.3	-0.5
SSE				SS	SS	11 32 36.3	-2.4
SSE				PP	PP		
	comp=Z,2μm,11.4s						
SSE				LR	LR		
	comp=N,4μm,22.1s,MS6.8						
SSE				LR	LR		
	comp=E,16μm,22.2s,MS6.8						
SSE				LR	LR		
	comp=Z,18μm,19.4s,MS6.9						
ALBI	**Allahabad**	**156.58**	**57**	*ex*	x	11 09 03.5	
NJ2	**Nanjing**	**156.69**	**325**	*e*PKP	PKPdf	11 08 48.3	-1.0
NJ2				APKP		11 08 58.8	
NJ2				XPKP		11 09 03.1	
NJ2				PKP2	PKPab	11 09 25.8	+7.2
NJ2				PKS		11 12 22.0	
NJ2				PP	PP	11 13 00.0	+3.3
NJ2				LR	LR		
	comp=N,13μm,24.4s,MS6.8						
NJ2				LR	LR		
	comp=E,13μm,25.4s,MS6.8						
NJ2				LR	LR		
	comp=Z,43μm,22.3s,MS7.2						
KOLN	**Koldanda**	**156.75**	**49**	*e*P	PKPdf	11 08 49.7	+0.3
	comp=Z,172nm,1.6s						
PALK	**Pallekele**	**156.91**	**103**	*e*PKPdf	PKPdf	11 08 50.2	+0.7
PALK				LR	LR		
	comp=Z,8μm,22.0s,MS6.5						
DAV	**Davao City (W)**	**157.21**	**256**	PFAKE		11 09 00.0	+10
DAV				LR	LR		
	comp=Z,19μm,20.0s,MS6.9						
GKN	**Gorkha**	**157.38**	**47**	*e*P	PKPdf	11 08 50.4	+0.3
	comp=Z,86nm,1.0s						
LZH	**Lanzhou**	**157.50**	**359**	*e*PKP	PKPdf	11 08 51.8	+1.5
LZH				APKP		11 09 01.5	
LZH				XPKP		11 09 05.3	
LZH				PKP2	PKPab	11 09 25.0	+2.9
LZH				PKS		11 12 24.1	
LZH				PP	PP	11 13 03.3	+2.2
LZH				SKS	SKSdf	11 15 56.0	+2.4
LZH				SKKS	SKKSac	11 19 46.0	-1.9
LZH				PP	PP		
	comp=Z,4μm,8.0s						
LZH				LR	LR		
	comp=N,15μm,18.6s						
LZH				LR	LR		
	comp=Z,23μm,19.6s,MS7.0						
LZH	**Lanzhou**	**157.50**	**359**	*e*PKP	PKPdf	11 08 51.7	+1.4
LZH				pPKP	pPKPdf	11 09 01.5	-0.1
LZH				sPKP		11 09 05.2	
MDRS	**Chennai**	**157.53**	**88**	⇑*e*P	PKPdf	11 08 49.7	-0.6
MDRS				*ex*	x	11 09 35.7	
DMN	**Daman**	**157.94**	**48**	*e*P	PKPdf	11 08 51.3	+0.5
	comp=Z,217nm,1.4s						
KKN	**Kakani**	**157.96**	**47**	*e*P	PKPdf	11 08 51.0	+0.1
	comp=Z,71nm,0.9s						
PKI	**Pulchoki**	**158.18**	**47**	*e*P	PKPdf	11 08 51.0	-0.1
	comp=Z,207nm,1.7s						
GUN	**Gumba**	**158.31**	**46**	*e*P	PKPdf	11 08 51.1	-0.2
	comp=Z,151nm,1.0s						
XAN	**Xi'an**	**158.93**	**347**	PKP	PKPdf	11 08 51.9	-0.1
XAN				PP	PP		
	comp=Z,1μm,14.2s						
XAN				LR	LR		
	comp=N,9μm,22.3s,MS6.7						
XAN				LR	LR		
	comp=E,10μm,24.0s,MS6.7						
XAN				LR	LR		
	comp=Z,18μm,24.0s,MS6.8						
WHN	**Wuhan**	**160.22**	**331**	⇑PKP	PKPdf	11 08 54.5	+1.0
WHN				PKP2	PKPab	11 09 34.0	+0.1
WHN				PP	PP	11 13 17.0	+1.0
WHN				SKKS	SKKSac	11 20 02.0	-0.1
WHN				LR	LR		
	comp=Z,28μm,21.0s						
LSA	**Lhasa**	**160.32**	**33**	PKP	PKPdf	11 08 53.9	+0.3
LSA				PP	PP	11 13 15.8	-0.7
LSA				LR	LR		
	comp=N,7μm,23.2s						
LSA				LR	LR		
	comp=E,18μm,23.2s						
LSA				LR	LR		
	comp=Z,26μm,26.2s						
LSA	**Lhasa**	**160.32**	**33**	PFAKE		11 09 10.0	+16
LSA				LR	LR		
	comp=Z,24μm,19.0s						
QZH	**Quanzhou**	**161.66**	**311**	*i* PKP	PKPdf	11 08 55.4	+0.3
QZH				PKP2	PKPab	11 09 47.5	+7.3
QZH				PP	PP	11 13 32.0	+8.3
QZH				SS	SS	11 33 43.4	+4.6
QZH				PP	PP		
	comp=Z,8μm,7.9s						
QZH				LR	LR		
	comp=N,3μm,14.9s						
QZH				LR	LR		
	comp=Z,34μm,19.1s						
CD2	**Chengdu**	**162.66**	**359**	*i* PKP	PKPdf	11 08 56.4	+0.3
CD2				APKP		11 09 07.3	
CD2				XPKP		11 09 10.9	
CD2				PKP2	PKPab	11 09 45.4	+0.8
CD2				PP	PP	11 13 30.4	+1.4
CD2				SKS	SKSdf	11 15 57.1	-1.1
CD2				SKKS	SKKSac	11 20 13.9	-0.8
CD2				PP	PP		
	comp=Z,8μm,11.5s						
CD2				LR	LR		
	comp=N,5μm,21.0s						
CD2				LR	LR		
	comp=E,3μm,22.8s						
CD2				LR	LR		
	comp=Z,6μm,21.0s						
CAL	**Calcutta**	**163.15**	**56**	*e*P	PKPdf	11 08 57.0	+0.4
CAL				*i x*	x	11 09 35.3	
	comp=Z,3μm,16.1s						
CAL				*ex*	x	11 13 41.9	
AGT	**Agartala**	**164.59**	**46**	*e*P	PKPdf	11 09 00.0	+2.1
IMP	**Imphal**	**165.69**	**37**	*e*P	PKPdf	11 09 02.0	+3.2
HKC	**Hong Kong**	**166.47**	**312**	⇓*i*P	PKPdf	11 09 02.0	+2.6
GZH	**Guangzhou**	**166.54**	**317**	PKP	PKPdf	11 09 00.4	+0.9
GZH				LR	LR		
	comp=N,7μm,20.1s						
GZH				LR	LR		
	comp=E,9μm,20.7s						
GZH				LR	LR		
	comp=Z,15μm,19.3s						
GYA	**Guiyang**	**166.73**	**347**	PKP	PKPdf	11 08 58.8	-0.8
GYA				APKP		11 09 10.6	
GYA				XPKP		11 09 13.3	
GYA				PKP2	PKPab	11 09 58.9	-3.6
GYA				PP	PP	11 13 48.8	-1.5
GYA				SKKS	SKKSac	11 20 34.9	-0.3
GYA				LR	LR		
	comp=N,10μm,20.1s						
GYA				LR	LR		
	comp=E,13μm,20.7s						
GYA				LR	LR		
	comp=Z,22μm,22.8s						
KMI	**Kunming**	**168.42**	**3**	⇑PKP	PKPdf	11 09 01.8	+1.0
KMI				APKP		11 09 12.1	
KMI				PKP2	PKPab	11 10 09.6	-0.4
KMI				PKS		11 12 33.9	
KMI				SKS	SKSdf	11 15 59.3	-2.6
KMI				SKKS	SKKSac	11 20 43.5	-0.1
KMI				PP	PP		
	comp=Z,6μm,11.8s						
KMI				LR	LR		
	comp=N,13μm,21.7s						
KMI				LR	LR		
	comp=E,20μm,21.0s						
KMI				LR	LR		
	comp=Z,25μm,20.4s						
KMI	**Kunming**	**168.42**	**3**	PKPdf	PKPdf	11 09 02.1	+1.3
KMI				PP	PP	11 13 55.6	-3.4
KMI				S'S'ac		11 34 38.0	
PSI	**Prapat**	**168.51**	**157**	PKP	PKPdf	11 09 01.0	+0.1
	comp=Z,9.1nm,0.8s,baz=211,slow=3.5,SNR=13						
PBA	**Port Blair**	**169.50**	**99**	*ex*	x	11 08 50.6	
PBA				*ex*	x	11 08 54.5	
	comp=Z,178nm,1.2s						
PBA				*ex*	x	11 14 04.5	
QIZ	**Qiongzhong**	**171.67**	**312**	PKP	PKPdf	11 09 03.9	+1.2
QIZ				PKP2	PKPab	11 10 27.0	+2.6
QIZ				PP	PP	11 14 20.8	+5.5
QIZ				SS	SS	11 35 22.4	+2.2
QIZ				PP	PP		
	comp=Z,6μm,7.3s						
QIZ				LR	LR		
	comp=N,6μm,23.2s						
QIZ				LR	LR		
	comp=E,12μm,19.4s						
QIZ				LR	LR		
	comp=Z,26μm,24.5s						
QIZ	**Qiongzhong**	**171.67**	**312**	PFAKE		11 09 10.0	+7.3
QIZ				LR	LR		
	comp=Z,23μm,22.0s						
CHG	**Chiang Mai**	**173.24**	**38**	⇓P	PKPdf	11 09 03.0	-0.4
	comp=Z,46nm,1.4s						
CHTO	**Chiang Mai**	**173.24**	**38**	PFAKE		11 09 10.0	+6.6
CHTO				LR	LR		
	comp=Z,21μm,21.0s						
CM31	**Chiang Mai Arr**	**173.51**	**40**	PFAKE		11 09 20.0	+17
CM31				LR	LR		
	comp=Z,21μm,22.0s						
NST	**Nakhon Sawan**	**176.22**	**55**	P	PKPdf	11 09 05.2	+0.9

KRSC ***20*** *11:14:29,6095N×16754E,h15km,ML4.5*
MOS ***20*** *11:14:30.6±0.8,6097N×167.19E,h13km,mb5.1/46,Error ellipse: s-maj=11.2km s-min=5.0km az=86.4*
BJI ***20*** *11:14:30.6,6092N×16744E,h28km,mB5.4,mb4.8,Ms5.4,Msz4.9*
ISCJB ***20*** *11:14:31.3±0.1,6097N±002×16705E±003,h16km, mb4.9/109,MS4.9/5,Error ellipse: s-maj=3.7km s-min=2.0km az=133.7*
NEIC ***20*** *11:14:32.9±0.1,6090N×167.13E,mb5.0/66,Error ellipse: s-maj=4.7km s-min=2.6km az=178.0*
IDC ***20*** *11:14:35.2±7.1,6086N×16726E,h33km±53km,mb4.4/28, mb1 4.6/28,mb1mx4.6/31,mbtmp4.6/28,MS4.9/1, Ms1 4.9/1,ms1mx4.0/45,Error ellipse: s-maj=14.8km s-min=12.0km az=164.0*
SZGRF ***20*** *11:14:36.4,6092N×16789E,h12km,mb5.2,Eastern Siberia, Russia*
ISC 20 11:14:33.1±0.1,6102N±002×16708E±003,h17km, h17km±.8km:pP-P,n456,σ0978/458,mb4.9/109,MS4.9/5, 85C-49D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**5.31**	**207**	*e*P	**Pn**	**11 15 50.5**	**-1.2**
KBTR				*i* S	**Sn**	**11 16 48.3**	**-4.3**
SRKR	**Sorokina**	**5.35**	**218**	*e*P	**Pn**	**11 15 51.9**	**-0.3**
SRKR				*i* S	**Sn**	**11 16 51.7**	**-1.6**
KLY	**Klyuchi**	**5.79**	**218**	*e*P	**Pn**	**11 15 57.4**	**-0.8**
KLY				*i* S	**Sn**	**11 17 02.4**	**-1.8**
KRSR	**Krestovskiy**	**5.89**	**218**	*e*P	**Pn**	**11 15 59.9**	**+0.2**
KRSR				*i* S	**Sn**	**11 17 07.2**	**+0.3**
ZLN	**Zelenaya**	**6.00**	**216**	*e*P	**Pn**	**11 16 01.6**	**+0.5**
SRDR	**Sredinnyy**	**6.08**	**222**	*e*P	**Pn**	**11 16 03.4**	**+1.2**
SRDR				*i* S	**Sn**	**11 17 11.6**	**+0.2**
KPT	**Kopyto**	**6.21**	**218**	*e*P	**Pn**	**11 16 05.4**	**+1.4**
KOZR	**Kozyr**	**6.23**	**220**	PN	**Pn**	**11 16 06.4**	**+2.1**
KOZ	**Kozyrevsk**	**6.24**	**220**	*e*P	**Pn**	**11 16 06.4**	**+1.9**
KMNR	**Kamenistaya**	**6.38**	**217**	*e*P	**Pn**	**11 16 07.9**	**+1.5**
KMNR				*i* S	**Sn**	**11 17 19.1**	**+0.2**
ESO	**Esso**	**6.74**	**224**	*e*P	**Pn**	**11 16 14.3**	**+3.1**
TUMR	**Tumrok**	**6.82**	**216**	*e*P	**Pn**	**11 16 14.1**	**+1.7**
BILL	**Bilibino**	**7.06**	**358**	*c i*PN	**Pn**	**11 16 17.2**	**+1.5**
BILL				pmax	pmax		
	comp=Z,46nm,1.2s						
MKZ	**Mys Kozlova**	**7.08**	**206**	*e*P	**Pn**	**11 16 16.7**	**+0.7**
SEY	**Seymchan**	**7.18**	**292**	*d i*PN	**Pn**	**11 16 18.8**	**+1.4**
MA2	**Magadan**	**8.23**	**267**	*c i*PN	**Pn**	**11 16 32.5**	**+0.8**
MA2				pmax	pmax		
	comp=Z,60nm,1.0s						
MA2	**Magadan**	**8.23**	**267**	*e*Pn	**Pn**	**11 16 31.7**	**0.0**
MA2				*e*Sn	**Sn**	**11 18 00.2**	**-4.1**
MA2	**Magadan**	**8.23**	**267**	*e*P	**Pn**	**11 16 32.5**	**+0.8**
GNL	**Ganaly**	**8.84**	**218**	*e*P	**Pn**	**11 16 42.0**	**+1.9**
NLC	**Nalytchevo**	**8.92**	**211**	*e*P	**Pn**	**11 16 41.6**	**+0.4**
PET	**Petropavlovsk**	**9.23**	**213**	*e*PN	**Pn**	**11 16 49.9**	**+4.4**
PET				pmax	pmax		
	comp=Z,47nm,0.9s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
PET				MLR	MLR		
	comp=Z,3μm,14.0s						
PET	**Petropavlovsk**	**9.23**	**213**	*e*P	**Pn**	**11 16 48.0**	**+2.5**
RUS	**Russkaya**	**9.80**	**212**	*e*P	**Pn**	**11 16 53.6**	**+0.3**
YAK	**Yakutsk**	**17.70**	**290**	*e*P	**Pn**	**11 18 44.4**	**+5.6**
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				pmax	pmax		
	comp=Z,111nm,1.1s						
YAK				pmax	pmax		
	comp=E,63nm,1.2s						
YAK	**Yakutsk**	**17.70**	**290**	*e*P	**Pn**	**11 18 40.6**	**+1.8**
	comp=E,96nm,0.8s						
IMA2	**Indian Mountai**	**17.95**	**57**	*e*Pn	**Pn**	**11 18 43.2**	**+1.2**
IMA2				*e*		11 18 48.0	
TIXI	**Tiksi**	**18.26**	**321**	⇓*i*P	**Pn**	**11 18 47.7**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,20nm,1.4s						
YSS	**Yuzh-Sakhalins**	**19.90**	**236**	⇑*e*P	**Pn**	**11 19 07.6**	**+2.1**
YSS				pmax	pmax		
	comp=Z,44nm,1.5s						
YSS				MLR	MLR		
	comp=Z,3μm,18.0s						
YSS	**Yuzh-Sakhalins**	**19.90**	**236**	*e*P	**Pn**	**11 19 03.0**	**-2.4**
	comp=Z,8.3nm,0.6s						
MCK	**McKinley**	**20.27**	**63**	*e*P	**P**	**11 19 08.6**	**+0.8**
MCK				pmax	pmax		
	comp=Z,47nm,1.1s						
MCK	**McKinley**	**20.27**	**63**	*e*P	**P**	**11 19 08.6**	**+0.8**
	comp=Z,47nm,1.1s						
COLA	**College**	**20.51**	**60**	⇑*e*P	**P**	**11 19 10.1**	**-0.3**
COLA	**College**	**20.51**	**60**	*e*P	**P**	**11 19 10.6**	**+0.3**
	comp=Z,35nm,1.0s						
COLA				*e*pP		11 19 15.5	
KDAK	**Kodiak Island**	**20.55**	**81**	P	**P**	**11 19 09.4**	**-1.5**
	comp=Z,199nm,0.6s,SNR=6.2						
KDAK	**Kodiak Island**	**20.55**	**81**	P	**P**	**11 19 09.6**	**-1.2**
	comp=Z,17nm,0.7s,baz=321,slow=4.4,SNR=12						
CLNS	**Chul'man**	**21.88**	**278**	*e*P	**P**	**11 19 30.7**	**+5.6**
CLNS				*e*		11 19 49.4	
CLNS				*e*PPP		11 19 57.0	
CLNS				*e*S	**S**	**11 23 29.8**	**+3.6**
CLNS				*e*SS		11 24 09.1	
CLNS				pmax	pmax		
	comp=N,15nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,33nm,0.7s,mb4.9						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.4						
CLNS				pmax	pmax		
	comp=N,24nm,1.4s						
CLNS				pmax	pmax		
	comp=E,19nm,1.0s						
CLNS				smax			
	comp=N,433nm,14.1s						
CLNS				smax			
	comp=E,878nm,13.7s						
CLNS				MLR	MLR		
	comp=E,2μm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s,MS4.7						
NRGR	**Nerungri**	**22.04**	**278**	*e*P	**P**	**11 19 28.8**	**+1.9**
DIV	**Divide**	**22.43**	**69**	*e*P	**P**	**11 19 30.5**	**-0.5**
	comp=N,91nm,0.9s,mb5.2						
EYAK	**Cordova Ski Ar**	**22.65**	**70**	*e*P	**P**	**11 19 32.7**	**-0.7**
KLR	**Kul'dur**	**23.07**	**255**	*e*P	**P**	**11 19 34.0**	**-3.8**
EGAK	**Eagle**	**23.32**	**58**	*e*P	**P**	**11 19 38.8**	**-1.7**
	comp=N,32nm,1.0s,mb4.7						
DAWY	**Dawson**	**24.26**	**59**	*e*P	**P**	**11 19 48.4**	**-0.8**
DAWY				*e*pP		11 19 54.2	
INK	**Inuvik**	**25.45**	**48**	P	**P**	**11 20 00.2**	**+0.1**
	comp=N,16nm,0.9s,mb4.5,baz=294,slow=11,SNR=13						
INK				PcP	PcP	11 23 30.6	-1.2
	comp=N,2.0nm,0.6s,baz=31,slow=3.1,SNR=3.9						
INK	**Inuvik**	**25.45**	**48**	P	**P**	**11 20 00.3**	**+0.2**
INK						11 23 30.6	
INK				pmax	pmax		
	comp=Z,16nm,1.0s						
INK	**Inuvik**	**25.45**	**48**	*e*pP	**P**	**11 20 00.1**	**0.0**
BOD	**Bodaibo**	**26.57**	**287**	*e*P	**P**	**11 20 06.1**	**-4.2**
BOD				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
MDJ	**Mudanjiang**	**27.46**	**250**	P	**P**	**11 20 17.9**	**-0.4**
MDJ				S	**S**	**11 24 58.8**	**+0.7**
MDJ				SCP	ScP	11 27 16.5	+0.2
MDJ				PCS	PcS	11 27 18.5	+0.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,1μm,9.3s						
MDJ				LR	LR		
	comp=N,11μm,23.0s,MS5.5						
MDJ				LR	LR		
	comp=E,7μm,22.2s,MS5.5						
MDJ				LR	LR		
	comp=Z,3μm,23.0s,MS4.8						
MAJO	**Matsushiro**	**30.55**	**230**	*e*P	**P**	**11 20 44.4**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.1						
MAJO	**Matsushiro**	**30.55**	**230**	*e*P	**P**	**11 20 44.4**	**-1.3**
	comp=Z,34nm,1.0s,mb5.1						
MAT	**Matsushiro**	**30.55**	**230**	P	**P**	**11 20 44.7**	**-1.0**
MJAR	**Matsushiro Arr**	**30.55**	**230**	P	**P**	**11 20 45.3**	**-0.3**
	comp=Z,22nm,0.9s,mb5.0,baz=17,slow=8.1,SNR=44						
DLBC	**Dease Lake**	**30.74**	**66**	*e*P	**P**	**11 20 48.7**	**+1.3**
JHJ	**Hachijo jima 2**	**33.05**	**225**	LR	LR	11 34 34.2	
	comp=Z,2μm,21.2s,MS4.8,baz=181,slow=36						
YKA	**Yellowknife Ar**	**34.98**	**52**	P	**P**	**11 21 24.2**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.6,baz=300,slow=7.7,SNR=6.2						
YKA	**Yellowknife Ar**	**34.98**	**52**	*i* P	**P**	**11 21 24.2**	**-0.3**
YKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YKA	**Yellowknife Ar**	**34.98**	**52**	P	**P**	**11 21 24.2**	**-0.3**
TLY	**Talaya**	**35.01**	**284**	*e*P	**P**	**11 21 25.7**	**+1.0**
TLY				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
SONM	**Songino Array**	**36.29**	**277**	P	**P**	**11 21 36.8**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.6,baz=52,slow=6.8,SNR=14						
SONM				PcP	PcP	11 24 00.1	-0.3
	comp=Z,3.7nm,0.8s,baz=40,slow=2.0,SNR=12						
BJT	**Baijiatuau**	**37.32**	**259**	*e*P	**P**	**11 21 43.5**	**-1.0**
BJT				pmax	pmax		
	comp=Z,37nm,1.1s						
BJT	**Baijiatuau**	**37.32**	**259**	*e*P	**P**	**11 21 43.5**	**-1.0**
	comp=Z,37nm,1.1s,mb5.1						
HHC	**Hu-ho-hao-te**	**38.90**	**265**	*e*P	**P**	**11 21 57.8**	**0.0**
HHC				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
HHC				AMB	AMB		
	comp=Z,986nm,14.5s						
A05A	**Maple Falls**	**40.31**	**74**	⇑P	**P**	**11 22 09.3**	**-0.3**
	baz=40						
B05A	**Bryant**	**40.83**	**75**	⇑P	**P**	**11 22 13.7**	**-0.1**
	baz=41,SNR=6.4						
B06A	**Marblemount**	**40.94**	**74**	⇑P	**P**	**11 22 14.4**	**-0.3**
	baz=41						
EDM	**Edmonton**	**41.34**	**64**	*e*P	**P**	**11 22 18.0**	**0.0**
C05A	**Tolt Reservoir**	**41.43**	**75**	⇑P	**P**	**11 22 18.7**	**-0.1**
	baz=41						
B07A	**Winthrop**	**41.61**	**73**	⇑P	**P**	**11 22 20.2**	**-0.1**
	baz=42,SNR=5.5						
D05A	**Enumclaw**	**41.65**	**76**	⇑P	**P**	**11 22 20.5**	**-0.1**
	baz=42						
A09A	**Danville**	**41.96**	**72**	P	**P**	**11 22 23.5**	**+0.4**
	baz=42,SNR=18						
ZAL	**Zalesovo**	**42.01**	**299**	P	**P**	**11 22 25.3**	**+1.8**
	comp=Z,1.2nm,0.3s,mb3.9,baz=76,slow=9.5,SNR=3.4						
ZAL	**Zalesovo**	**42.01**	**299**	P	**P**	**11 22 25.3**	**+1.8**
NVS	**Novosibirsk**	**42.04**	**301**	*e*P	**P**	**11 22 23.4**	**-0.4**
D06A	**Cle Elum**	**42.19**	**75**	⇓P	**P**	**11 22 24.3**	**-0.7**
	baz=42						
C07A	**Waterville**	**42.20**	**74**	⇑P	**P**	**11 22 24.6**	**-0.4**
	baz=42,SNR=6.7						
WTV	**Waterville**	**42.24**	**74**	P	**P**	**11 22 25.4**	**0.0**
F04A	**Amboy**	**42.36**	**78**	⇓P	**P**	**11 22 25.8**	**-0.6**
	baz=42						
A10A	**Northport**	**42.43**	**71**	⇑P	**P**	**11 22 27.2**	**+0.3**
	baz=42,SNR=8.3						
EBG	**Ellensburg**	**42.52**	**75**	P	**P**	**11 22 28.2**	**+0.5**
NJ2	**Nanjing**	**42.54**	**249**	*e*P	**P**	**11 22 28.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
B09A	**Rice**	**42.56**	**72**	⇑P	**P**	**11 22 28.1**	**+0.1**
	baz=42,SNR=9.3						
D07A	**Quincy**	**42.59**	**74**	⇑P	**P**	**11 22 27.9**	**-0.4**
	baz=42						
E06A	**Yakima**	**42.59**	**76**	⇓P	**P**	**11 22 27.8**	**-0.5**
	baz=42						
C08A	**Higginbotham F**	**42.60**	**73**	⇑P	**P**	**11 22 27.9**	**-0.4**
	baz=42,SNR=5.1						
EPH	**Ephrata**	**42.66**	**74**	P	**P**	**11 22 28.7**	**0.0**
F05A	**White Salmon**	**42.85**	**77**	⇑P	**P**	**11 22 30.1**	**-0.3**
	baz=43						
G04A	**Mulino**	**42.87**	**78**	⇑P	**P**	**11 22 29.9**	**-0.6**
	baz=43						
C09A	**Chrisman Ranch**	**42.95**	**73**	⇓P	**P**	**11 22 31.3**	**+0.2**

baz=43
C10A **Spilker Farm,** 43.38 72 ⇓P P 11 22 34.7 +0.1
baz=43
HAWA **Hanford** 43.39 75 *e*P P 11 22 32.4 -2.3
comp=Z,27nm,1.4s,mb4.8
G05A **Wamic** 43.39 77 ⇓P P 11 22 34.3 -0.4
baz=43
H04A **Detroit Lake** 43.39 79 ⇑P P 11 22 33.8 -0.9
baz=43
I03A **Eugene** 43.40 80 ⇑P P 11 22 33.8 -1.0
baz=43
D09A **Jones Farm, Ri** 43.47 73 ⇑P P 11 22 34.7 -0.6
baz=43
F07A **Phinny Hill Vi** 43.57 76 ⇑P P 11 22 36.0 -0.2
baz=43
B12A **Libby** 43.70 70 ⇑P P 11 22 37.8 +0.5
baz=44
G06A **Carlson Farm,** 43.72 77 ⇓P P 11 22 36.6 -0.7
baz=44
H05A **Madras** 43.88 78 ⇑P P 11 22 38.1 -0.6
baz=44
E09A **Wood Farm, Sta** 43.95 74 ⇓P P 11 22 38.8 -0.5
baz=44,SNR=13
J03A **Ideyld Park** 44.00 80 ⇑P P 11 22 38.9 -0.8
baz=44
WALA **Waterton Lakes** 44.04 68 *e*P P 11 22 39.8 -0.1
comp=Z,21nm,0.9s,mb4.9
WALA *e*pP pP 11 22 44.5 -0.7
G07A **Ruggs Ranch, H** 44.15 76 ⇓P P 11 22 40.1 -0.8
baz=44
F08A **Pendleton** 44.18 75 ⇑P P 11 22 40.8 -0.3
baz=44,SNR=5.2
H06A **Lindquist Farm** 44.23 77 ⇑P P 11 22 41.1 -0.4
baz=44,SNR=10
B13A **Whitefish** 44.28 69 P P 11 22 42.1 +0.2
baz=44,SNR=18
C12A **Trout Creek** 44.31 71 ⇓P P 11 22 43.0 +0.9
baz=44,SNR=6.5
G08A **Pilot Rock** 44.47 76 ⇑P P 11 22 42.9 -0.5
baz=44
BSMT **Bassoo Peak** 44.52 70 P P 11 22 44.1 +0.3
HUMO **Hull Mountain** 44.58 81 ⇓P P 11 22 43.4 -0.8
baz=44
F09A **S2 Ranch, Elgi** 44.66 74 ⇑P P 11 22 45.0 +0.1
baz=44
H07A **Lands Inn, Kim** 44.71 77 ⇓P P 11 22 44.8 -0.5
baz=45,SNR=8.6
C13A **Hot Springs** 44.74 70 ⇓P P 11 22 46.2 +0.6
baz=45,SNR=12
F10A **Beach Ranch, E** 44.78 74 P P 11 22 46.0 +0.2
baz=45,SNR=7.2
I06A **Prineville** 44.89 78 ⇑P P 11 22 46.3 -0.4
baz=45
J05A **Fort Rock** 44.89 79 ⇑P P 11 22 46.8 0.0
baz=45,SNR=7.7
I07A **Izee** 45.12 77 ⇓P P 11 22 48.5 -0.1
baz=45
H08A **Prairie City** 45.19 76 ⇑P P 11 22 48.7 -0.4
baz=45,SNR=11
D13A **Huson** 45.23 71 P P 11 22 49.7 +0.2
baz=45,SNR=7.0
YBH **Yreka Blue Hor** 45.37 82 ⇑P P 11 22 50.4 -0.1
baz=45,SNR=6.3
L04A **Klamath Falls** 45.42 81 ⇑P P 11 22 50.9 -0.1
baz=45
J06A **Christmas Vall** 45.44 78 ⇑P P 11 22 51.1 0.0
baz=45,SNR=15
K05A **Summer Lake** 45.48 79 ⇑P P 11 22 51.2 -0.3
baz=45,SNR=5.7
H09A **Durkee** 45.55 75 P P 11 22 52.5 +0.6
baz=45,SNR=5.8
BMO **Blue Mountains** 45.58 75 *e*P P 11 22 52.0 -0.2
comp=Z,21nm,1.1s,mb5.0
BMO *e*pP pP 11 22 57.6 +0.1
MSO **Missoula** 45.66 70 *e*P P 11 22 52.1 -0.8
comp=Z,23nm,1.5s,mb4.9
D14A **Greenough** 45.67 70 P P 11 22 52.9 -0.1
baz=46,SNR=23
I08A **Drewsey** 45.69 77 ⇑P P 11 22 53.1 0.0
baz=46,SNR=7.0
GTA **Gaotai** 45.73 274 *e*P P 11 22 53.3 -0.1
GTA AP pP 11 22 56.9 -1.7
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
K06A **Valley Falls** 45.73 79 ⇑P P 11 22 53.6 +0.2
baz=46,SNR=6.6
M04C **Macdoel** 45.75 81 ⇑P P 11 22 53.1 -0.4
baz=46
E13A **Victor** 45.84 71 ⇓P P 11 22 54.6 +0.3
baz=46
WHN **Wuhan** 45.88 253 *e*P P 11 22 54.9 +0.3
CHMT **Chamberlain Mo** 45.92 70 *e*P P 11 22 54.5 -0.4
CHMT *e*pP pP 11 22 58.9 -1.2
LASM **Arnica Sink** 46.01 81 P P 11 22 56.0 +0.3
L05A **Lakeview** 46.03 80 ⇓P P 11 22 55.9 +0.1
baz=46,SNR=8.0
I09A **Lost Marbles R** 46.03 76 ⇑P P 11 22 56.1 +0.2
baz=46
J08A **Circle Bar Ran** 46.15 77 ⇑P P 11 22 57.2 +0.4
baz=46
E14A **Clinton** 46.18 71 ⇑P P 11 22 57.1 +0.2
baz=46
K07A **Rock Creek Ran** 46.29 78 P P 11 22 58.2 +0.4
baz=46,SNR=9.7
WDC **Whiskeytown Da** 46.33 83 ⇑P P 11 22 57.9 -0.2
baz=46
LZH **Lanzhou** 46.38 267 *e*P P 11 22 59.3 +0.7
LZH AP pP 11 23 02.8 -1.0
LZH AMB AMB
comp=Z,29nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,115nm,4.5s
LZH **Lanzhou** 46.38 267 *e*P P 11 22 59.2 +0.6
LZH *PP pP 11 23 02.8 -1.0
LZH *SP sP 11 23 04.7 -1.2
LZH pmax pmax
comp=Z,29nm,1.2s,mb5.1
LZH **Lanzhou** 46.38 267 *e*P P 11 22 59.2 +0.6
comp=Z,29nm,1.2s,mb5.1
LZH pP pP 11 23 02.8 -1.0
LZH sP sP 11 23 04.7 -1.2
MOD **Modoc** 46.39 80 *e*P P 11 22 58.2 -0.5
comp=Z,12nm,1.1s,mb4.7
MOD **Modoc** 46.39 80 P P 11 22 58.9 +0.3
baz=46,SNR=11
M05C **Lookout** 46.40 81 ⇓P P 11 22 58.9 +0.1
baz=46,SNR=6.7
J09A **Fry Pan Ranch,** 46.50 76 P P 11 23 00.2 +0.7
baz=46,SNR=12
O02C **Red Bluff** 46.52 83 ⇓P P 11 22 59.8 +0.1
baz=46
E15A **Deer Lodge** 46.56 70 ⇓P P 11 23 00.6 +0.6
baz=46
K08A **Mann Creek Ran** 46.63 78 P P 11 23 01.6 +1.1
baz=46,SNR=6.2
EGMT **Eagleton** 46.67 66 *e*P P 11 23 00.5 -0.3
comp=Z,18nm,0.9s,mb5.0
EGMT *e*pP pP 11 23 11.6 +5.6
EGMT **Eagleton** 46.67 66 P P 11 23 00.8 +0.1
baz=46,SNR=7.2
L07A **Adell** 46.76 79 ⇑P P 11 23 01.4 -0.2
baz=47
WVOR **Wild Horse Val** 46.78 78 *e*P P 11 23 01.5 -0.2
WVOR pmax pmax
comp=Z,11nm,1.3s,mb4.6
WVOR **Wild Horse Val** 46.78 78 *e*P P 11 23 01.5 -0.2
comp=Z,11nm,1.3s,mb4.6
M06C **Likely Place G** 46.84 80 ⇓P P 11 23 02.0 -0.2
baz=47
ARCES **ARCESS Array B** 46.89 343 P P 11 23 02.5 -0.1
comp=Z,4.8nm,0.7s,mb4.5,baz=35,slow=7.6,SNR=10
K09A **Rome** 47.01 77 P P 11 23 03.9 +0.4
baz=47,SNR=9.4
LRM **Limekiln Ridge** 47.10 70 *e*P P 11 23 03.8 -0.4
L08A **Fields** 47.11 78 P P 11 23 04.8 +0.6
baz=47,SNR=8.6
ELFS **Eagle Lake Fie** 47.18 81 P P 11 23 05.2 +0.4
baz=47,SNR=9.5
O04C **Chester** 47.24 82 ⇓P P 11 23 05.9 +0.6
baz=47,SNR=8.7
M07A **Soldier Meadow** 47.33 79 P P 11 23 06.4 +0.5
baz=47,SNR=13
N06A **Buffalo Meadow** 47.51 80 P P 11 23 07.3 0.0
baz=47,SNR=10.0
L09A **Wilkinson Ranc** 47.56 78 P P 11 23 08.4 +0.6
baz=47,SNR=5.9
ORV **Oroville** 47.63 83 P P 11 23 07.3 -1.0
baz=48,SNR=5.2
M08A **Happy Creek Ra** 47.66 79 P P 11 23 09.3 +0.8
baz=48,SNR=8.7
SUTB **Sutter Butte** 47.75 83 ⇑P P 11 23 08.7 -0.5
baz=48
OHCM **Honcut** 47.81 83 *e*P P 11 23 07.3 -2.4
HLID **Hailey** 47.91 74 *e*P P 11 23 10.2 -0.2
comp=Z,5.0nm,0.9s,mb4.5
HLID *e*pP pP 11 23 15.8 0.0
HLID **Hailey** 47.91 74 P P 11 23 10.7 +0.2
baz=48,SNR=7.8
BEKR **Beckwourth** 47.94 82 ⇓P P 11 23 10.7 0.0
baz=48
O06A **Flanigan** 47.96 81 P P 11 23 11.1 +0.3
baz=48,SNR=8.8
WMQ **Urumqi** 48.12 287 *e*P P 11 23 13.0 +0.9
WMQ AP pP 11 23 17.0 -0.4
WMQ XP sP 11 23 20.0 +0.6
WMQ PCP PcP 11 24 41.0 +1.5
WMQ S S 11 30 10.0 -0.1
WMQ SCS ScS 11 33 03.0 -1.5
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,227nm,5.9s
WMQ LR LR
comp=N,1μm,17.9s,MS5.1
WMQ LR LR
comp=E,1μm,18.6s,MS5.1
WMQ LR LR
comp=Z,1μm,23.8s
M09A **Marrel Ranch,** 48.12 78 ⇑P P 11 23 12.7 +0.5
baz=48
N08A **GE Springer Mi** 48.30 79 P P 11 23 13.7 +0.3
baz=48,SNR=7.4
P06A **Stead Airport,** 48.31 81 ⇑P P 11 23 13.6 0.0
baz=48
MKAR **Makanchi Array** 48.32 294 P P 11 23 13.1 -0.5
comp=Z,1.9nm,0.7s,mb4.2,baz=15,slow=5.0,SNR=5.6
QLMT **Earthquake Lak** 48.32 70 *e*P P 11 23 13.9 +0.2
O07A **Toulon** 48.42 80 ⇑P P 11 23 14.9 +0.5
baz=48,SNR=5.1
M10A **I.L. Ranch, Tu** 48.48 77 ⇑P P 11 23 15.0 +0.1
baz=48
N09A **Rock Creek Ran** 48.53 78 P P 11 23 15.7 +0.5
baz=48,SNR=6.1
BVAR **Borovoye Array** 48.56 307 P P 11 23 15.6 +0.1
comp=Z,9.9nm,0.6s,mb5.0,baz=39,slow=9.6,SNR=10
LAVA **Lava Cap Winer** 48.62 83 P P 11 23 15.7 -0.3
baz=48,SNR=8.1
WCN **Washoe City** 48.67 82 ⇓P P 11 23 16.4 +0.1
baz=48
BDM **Black Diamond** 48.71 84 ⇓P P 11 23 16.9 +0.2
baz=49
DGMT **Dagmar** 48.77 62 *e*P P 11 23 16.6 -0.5
comp=Z,17nm,0.7s,mb5.2
M11A **Holland Ranch,** 48.91 77 ⇓P P 11 23 18.9 +0.8
baz=49
R05C **Kirkwood Meado** 48.99 82 ⇑P P 11 23 18.6 -0.2
baz=49,SNR=6.3
O09A **Fish Creek Ran** 49.22 79 P P 11 23 21.0 +0.4
baz=49,SNR=12
S04C **Ingram Canyon,** 49.33 84 ⇑P P 11 23 21.1 -0.2
baz=49
M12A **Wells** 49.33 76 P P 11 23 22.2 +0.8
baz=49,SNR=7.2
CMB **Columbia Colle** 49.36 83 ⇑P P 11 23 21.2 -0.5
baz=49
N11A **Elko Archery C** 49.41 77 ⇑P P 11 23 22.9 +0.9
baz=49
O10A **Cortez Mining,** 49.46 78 ⇓P P 11 23 23.3 +0.9
baz=49
TPAW **Teton Pass** 49.58 71 *e*P P 11 23 23.7 +0.5
comp=Z,19nm,1.0s,mb5.1
TPAW *e*pP pP 11 23 30.4 +1.8
LOHW **Long Hollow** 49.64 71 *e*P P 11 23 23.8 0.0
comp=Z,13nm,1.0s,mb4.9
LOHW *e*pP pP 11 23 29.1 0.0
N12A **Clover Valley,** 49.71 76 P P 11 23 24.7 +0.4
baz=50,SNR=9.9
P09A **Austin** 49.73 79 ⇑P P 11 23 24.8 +0.4
baz=50
PACP **Pacheco Peak** 49.74 85 ⇑P P 11 23 24.4 -0.1
baz=50
S06C **San Francisco** 49.74 83 P P 11 23 24.6 +0.1
baz=50,SNR=5.8
Q08A **Gabbs** 49.89 80 ⇑P P 11 23 26.0 +0.3
baz=50
R07C **Lee Vining** 49.97 82 ⇓P P 11 23 26.5 +0.3
baz=50
O11A **Cowboy Ranch,** 49.98 78 ⇑P P 11 23 26.7 +0.3
baz=50
P10A **Eureka** 50.00 79 ⇓P P 11 23 27.3 +0.9
baz=50
HAST **UC Hastings Re** 50.10 85 ⇓P P 11 23 27.2 -0.1
baz=50
N13A **Wendover, West** 50.10 76 ⇑P P 11 23 27.8 +0.5
baz=50
ARU **Arti** 50.18 317 ⇓*i*P P 11 23 29.4 +1.5
ARU *e* 11 25 19.8
ARU *e*S S 11 30 40.8 +1.7
ARU *e*SS SS 11 34 12.7 +0.3
ARU pmax pmax
comp=Z,14nm,1.1s,mb4.9
R08A **Mina** 50.21 81 ⇑P P 11 23 28.4 +0.3
baz=50
Q09A **Carvers** 50.27 80 ⇑P P 11 23 29.6 +1.0
baz=50
O12A **Currie** 50.31 77 P P 11 23 29.3 +0.5
baz=50,SNR=11
P11A **Circle Ranch,** 50.39 78 ⇑P P 11 23 30.3 +0.9
baz=50
KCC **Kaiser Creek** 50.44 83 ⇑P P 11 23 30.2 +0.4
baz=50
T06C **Millerton Lake** 50.50 83 ⇑P P 11 23 30.2 -0.1
baz=50
CD2 **Chengdu** 50.62 263 *e*P P 11 23 29.1 -2.1
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.2s
HWUT **Hardware Ranch** 50.76 73 *e*P P 11 23 32.1 -0.1
comp=Z,25nm,1.3s,mb5.0
BW06 **Boulder Array** 50.78 71 *e*P P 11 23 31.9 -0.5
comp=Z,10.0nm,0.9s,mb4.8
BW06 *e*pP pP 11 23 36.9 -0.7
PDAR **Pinedale Array** 50.78 71 P P 11 23 32.3 -0.1
comp=Z,7.7nm,0.8s,mb4.7,baz=322,slow=3.2,SNR=55
R09A **Tonopah** 50.80 80 P P 11 23 32.5 0.0
baz=51,SNR=9.2
U05C **Westside ANR,** 50.84 84 ⇓P P 11 23 32.9 +0.1
baz=51
S08C **White Mtn Res** 50.85 82 P P 11 23 33.9 +0.9
baz=51,SNR=10.0
TPH **Tonopah** 50.85 80 *e*P P 11 23 32.7 -0.3
TPH pmax pmax
comp=Z,12nm,1.0s,mb4.8
TPH **Tonopah** 50.85 80 *e*P P 11 23 32.7 -0.2
comp=Z,12nm,1.0s,mb4.8
ULM **Lac du Bonnet** 50.85 55 P P 11 23 32.0 -1.0
comp=Z,17nm,1.0s,mb4.9,baz=321,slow=8.7,SNR=11
P12A **McGill** 50.86 77 P P 11 23 33.6 +0.6
baz=51,SNR=6.9
PKD **Parkfield** 50.95 85 ⇑P P 11 23 33.9 +0.2
baz=51
Q11A **Duckwater** 51.00 79 P P 11 23 34.4 +0.4
baz=51,SNR=11
HELL **Mitchell Peak,** 51.10 83 P P 11 23 34.6 -0.2
baz=51,SNR=11
R10A **Warm Springs** 51.13 80 P P 11 23 35.4 +0.4
baz=51,SNR=10
S09A **Goldfield** 51.13 81 P P 11 23 35.2 +0.1
baz=51,SNR=9.4
DUG **Dugway** 51.28 75 *e*P P 11 23 36.4 +0.3
DUG *e*PP pP 11 23 40.7 -0.8
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DUG **Dugway** 51.28 75 *e*P P 11 23 36.4 +0.3
comp=Z,6.8nm,0.9s,mb4.6
DUG *e*pP pP 11 23 40.7 -0.8
DUG **Dugway** 51.28 75 P P 11 23 36.6 +0.5
baz=51,SNR=8.8
CTU **Camp Tracy** 51.39 74 *e*P P 11 23 37.1 +0.1
comp=Z,9.0nm,1.0s,mb4.7
GRAC **Grapevine Rang** 51.64 81 ⇓P P 11 23 39.1 +0.3
baz=52
SMMC **Simmler** 51.72 85 ⇓P P 11 23 39.3 -0.2
baz=52
VES **Vestal, Richgr** 51.74 84 ⇓P P 11 23 39.0 -0.6
baz=52
CWC **Cottonwood Cre** 51.74 82 ⇓P P 11 23 39.8 +0.2
baz=52
NLU **North Lily Min** 51.82 75 *e*P P 11 23 39.8 -0.4
NLU *e* pP 11 23 43.8 -1.7
DAU **Daniels Canyon** 51.84 74 *e*P P 11 23 40.9 +0.6
DAC **Darwin (Calif)** 52.11 82 *e*P P 11 23 41.9 -0.4
DAC *e*PP pP 11 23 47.7 0.0
DAC pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
DAC **Darwin (Calif)** 52.11 82 *e*P P 11 23 41.9 -0.4
comp=Z,8.3nm,1.4s,mb4.5
DAC *e*pP pP 11 23 47.7 0.0
PKM **Peak Mountain** 52.14 85 ⇓P P 11 23 42.9 +0.4
baz=52
ISA **Isabella** 52.17 83 ⇑P P 11 23 43.3 +0.4
baz=52
RSSD **Black Hills** 52.21 66 *e*P P 11 23 42.6 -0.5
RSSD *e*PP pP 11 23 47.5 -0.9
RSSD pmax pmax
comp=Z,22nm,1.1s,mb5.0
RSSD **Black Hills** 52.21 66 *e*P P 11 23 42.6 -0.6
comp=Z,22nm,1.1s,mb5.0
RSSD *e*pP pP 11 23 47.5 -0.9
FURC **Furnace Creek,** 52.31 81 P P 11 23 44.3 +0.5
baz=52,SNR=7.6
MPMC **Manual Prospec** 52.33 82 P P 11 23 44.6 +0.6
baz=52,SNR=6.3
AGMN **Agassiz Refuge** 52.40 57 *e*P P 11 23 44.1 -0.4
comp=Z,30nm,1.1s,mb5.1
ARVC **Arvin** 52.43 84 ⇑P P 11 23 44.9 +0.1
baz=52
LRMC **Laurel Mountai** 52.70 83 ⇓P P 11 23 46.4 -0.3
baz=53
TMUT **Trail Mountain** 52.74 75 *e*P P 11 23 46.9 -0.1
ARUT **Antelope Range** 52.89 78 *e*P P 11 23 47.6 -0.5
ARUT *e*PP pP 11 23 52.9 -0.6
MSU **Marysvale** 52.91 76 *e*P P 11 23 48.8 +0.5
GYA **Guiyang** 52.94 258 ⇑*i*P P 11 23 48.5 0.0
GYA AP pP 11 23 52.6 -1.2
GYA XP sP 11 23 57.4 +1.5
GYA PP PP 11 25 49.3 +1.2
GYA S S 11 31 14.4 -2.7
GYA SS SS 11 34 52.1 -4.0
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,430nm,17.9s,MS4.7
GYA LR LR
comp=E,470nm,18.4s,MS4.7
GYA LR LR
comp=Z,460nm,18.6s,MS4.5
EDW2 **Edwards Air Fo** 53.04 83 ⇑P P 11 23 49.1 -0.2
baz=53
SRU **San Rafael** 53.21 74 *e*P P 11 23 50.6 +0.1
SRU pmax pmax
comp=Z,29nm,1.1s,mb5.1
SRU **San Rafael** 53.21 74 *e*P P 11 23 50.6 0.0
comp=Z,29nm,1.1s,mb5.1
GSC **Goldstone** 53.27 82 *e*P P 11 23 50.8 -0.1
GSC **Goldstone** 53.27 82 P P 11 23 50.9 0.0
baz=53,SNR=11
U12A **Valley of Fire** 53.45 80 ⇑P P 11 23 53.1 +0.9
baz=53
V11A **Goodsprings** 53.50 81 P P 11 23 53.5 +0.8
baz=53,SNR=5.4
TUQ **Turquoise Mtn.** 53.59 81 ⇓P P 11 23 53.3 +0.1
baz=54
BFSC **Mount Baldy St** 53.72 84 ⇑P P 11 23 54.1 -0.1
baz=54
V12A **Nelson** 53.87 80 P P 11 23 56.1 +0.8
baz=54,SNR=7.5
HEC **Hector,Ludlow** 53.88 82 ⇓P P 11 23 55.7 +0.2
baz=54
W12A **Cal Nev Ari** 54.20 81 ⇓P P 11 23 58.6 +0.8
baz=54
FINES **FINESS Array B** 54.26 338 P P 11 23 58.4 +0.2
comp=Z,5.4nm,1.0s,mb4.4,baz=27,slow=9.0,SNR=5.9
FINES **FINESS Array B** 54.26 338 *i* P P 11 23 58.4 +0.2
FINES pmax pmax
comp=Z,5.0nm,1.0s
EYMN **Ely** 54.43 54 *e*P P 11 23 58.6 -0.9
comp=Z,49nm,1.4s,mb5.2
BELC **Belle Mtn.** 54.71 82 ⇓P P 11 24 01.5 0.0
baz=55
PFO **Pinyon Flat Ob** 54.81 83 ⇑P P 11 24 02.1 0.0
baz=55
SMCO **Snowmass** 54.81 72 *e*P P 11 23 56.6 -5.6
comp=Z,11nm,1.1s,mb4.8
SMCO *e*pP pP 11 24 02.7 -4.8
W13A **Hualapai Mount** 54.84 80 P P 11 24 03.0 +0.6
baz=55,SNR=5.3
IRM **Iron Mountain** 54.99 82 P P 11 24 04.2 +0.7
baz=55,SNR=15
AAK **Ala-Archa** 55.03 296 ⇑*e*P P 11 24 03.0 -0.7
AAK pmax pmax
comp=Z,14nm,2.0s,mb4.7
109C **Camp Elliot, M** 55.08 84 ⇓P P 11 24 04.2 0.0
baz=55
W14A **Seligman** 55.13 79 P P 11 24 05.7 +1.2
baz=55,SNR=14
BC3 **Big Chuckw Mtn** 55.26 82 ⇑P P 11 24 05.4 0.0
baz=55
AKTK **Aktyubinsk** 55.27 313 P P 11 24 06.5 +1.0
AKTO **Aktyubinsk** 55.27 313 P P 11 24 06.5 +1.0
comp=Z,1.8nm,0.5s,mb4.4,baz=30,slow=6.3,SNR=7.1
X13A **Yucca** 55.28 80 P P 11 24 06.1 +0.6
baz=55,SNR=6.2
PDMCI **Parker Dam,Lak** 55.37 81 ⇑P P 11 24 06.4 +0.2
baz=55
MONP **Monument Peak** 55.41 84 ⇑P P 11 24 06.8 +0.3
baz=55
W15A **Williams** 55.55 79 P P 11 24 09.1 +1.6
baz=55,SNR=7.0
Y12C **Blythe** 55.63 81 P P 11 24 08.7 +0.7
baz=56,SNR=7.9
SWSC **Sam W. Stewart** 55.67 83 ⇑P P 11 24 08.4 -0.1
baz=56
MVCO **Mesa Verde** 55.69 74 ⇑P P 11 24 09.5 +1.0
baz=56
WUAZ **Wupatki** 55.70 78 *e*P P 11 24 08.3 -0.3
comp=Z,14nm,0.9s,mb5.0
WUAZ *e*pP pP 11 24 14.2 +0.2
WUAZ **Wupatki** 55.70 78 P P 11 24 09.6 +1.0
baz=56,SNR=12
ECSD **EROS,Sioux Fal** 55.75 61 *e*P P 11 24 08.3 -0.6
comp=Z,15nm,0.9s,mb5.0
DVTC **Desert V Tower** 55.76 83 ⇑P P 11 24 09.4 +0.4
baz=56
X14A **Yava** 55.83 80 P P 11 24 10.4 +0.9
baz=56,SNR=7.7
Y13A **Salome** 55.91 81 ⇑P P 11 24 10.3 +0.2
baz=56
KMI **Kunming** 55.95 260 P P 11 24 10.3 -0.1
KMI AMB AMB
comp=Z,30nm,1.0s,mb5.3
KMI **Kunming** 55.95 260 P P 11 24 10.3 -0.1
comp=Z,30nm,1.0s,mb5.3
GLA **Glamis** 56.05 82 ⇑P P 11 24 11.1 0.0
baz=56
X15A **Humboldt** 56.13 79 P P 11 24 13.0 +1.3
baz=56,SNR=9.4
Y14A **Wickenburg** 56.20 80 P P 11 24 13.0 +0.8
baz=56,SNR=6.0
Z14A **Wintersburg** 56.70 80 ⇓P P 11 24 16.9 +1.2
baz=57
NB2 **NORSAR Subarra** 56.86 346 P P 11 24 16.7 -0.2
comp=Z,34nm,1.2s,mb5.3,baz=14,slow=7.4
NB2 **NORSAR Subarra** 56.86 346 P P 11 24 16.7 -0.2
NB2 pmax pmax
comp=Z,34nm,1.2s,mb5.2
NOA **NORSAR Array B** 56.86 346 P P 11 24 17.0 +0.1
comp=Z,11nm,0.8s,mb4.9,baz=14,slow=7.3,SNR=9.1
SCHQ **Schefferville** 56.88 34 P P 11 24 15.7 -1.3
comp=Z,10nm,0.9s,mb4.9,baz=358,slow=10,SNR=9.0
HFS **Hagfors** 57.44 345 P P 11 24 20.3 -0.7
comp=Z,6.6nm,0.8s,mb4.7,baz=24,slow=5.0,SNR=5.4
115A **Sonoran Desert** 57.59 80 ⇑P P 11 24 23.3 +1.3
baz=58
OBN **Obninsk** 57.78 329 ⇑*e*P P 11 24 23.3 -0.1
OBN *e*PP pP 11 24 27.2 -1.6
OBN 11 25 20.0
OBN 11 26 35.0

OBN pmax pmax
comp=Z,13nm,0.6s,mb5.1
116A Eloy 57.95 80 ⇓P **P 11 24 26.2 +1.6**
baz=58
LAZ Ladron 58.61 75 *eP* **P 11 24 29.2 0.0**
LAZ *e* pP 11 24 34.9 +0.3
KSU1 Kansas State U 59.54 64 *eP* **P 11 24 34.8 -0.9**
comp=Z,25nm,0.8s,mb5.3
VRSR Storozhevoye 60.60 325 *eP* **P 11 24 43.4 +0.5**
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
VRSR pmax pmax
comp=E,3.0nm,1.0s
MNTX Cornudas Mount 61.67 75 *eP* **P 11 24 43.1 -7.1**
MNTX *e*pP pP 11 24 50.6 -4.9
GUN Gumba 61.79 277 *eP* **P 11 24 50.7 -0.3**
KKN Kakani 62.18 278 *eP* **P 11 24 52.6 -1.0**
comp=E,12nm,0.7s,mb5.2
WMOK Wichita Mounta 62.20 68 *eP* **P 11 24 53.2 -0.5**
WMOK *e* pP 11 24 58.2 -0.9
WMOK pmax pmax
comp=Z,13nm,0.9s,mb5.1
WMOK Wichita Mounta 62.20 68 *eP* **P 11 24 53.2 -0.5**
comp=Z,13nm,0.9s,mb5.0
WMOK *e* pP 11 24 58.2 -0.9
PKI Pulchoki 62.30 277 *eP* **P 11 24 53.2 -1.2**
comp=Z,9.0nm,0.6s,mb5.1
GKN Gorkha 62.32 278 *eP* **P 11 24 53.7 -0.8**
DMN Daman 62.42 278 *eP* **P 11 24 55.2 0.0**
comp=Z,12nm,0.8s,mb5.1
CCM Cathedral Cave 62.72 60 *eP* **P 11 24 54.7 -2.5**
CCM pmax pmax
comp=Z,35nm,1.3s,mb5.3
CCM Cathedral Cave 62.72 60 *eP* **P 11 24 54.7 -2.5**
comp=Z,35nm,1.3s,mb5.3
KOLN Koldanda 63.01 279 *eP* **P 11 24 58.6 -0.5**
comp=Z,24nm,0.9s,mb5.3
CHG Chiang Mai 63.14 260 ⇑P **P 11 24 59.5 -0.5**
comp=Z,20nm,0.9s,mb5.3
CHTO Chiang Mai 63.14 260 *eP* **P 11 24 59.5 -0.5**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb5.0
CHTO Chiang Mai 63.14 260 *eP* **P 11 24 59.5 -0.5**
comp=Z,11nm,0.8s,mb5.0
KKTK Khon Kaen 63.43 255 P **P 11 25 02.0 +0.1**
comp=Z,309nm,0.8s
AKASG Malin Array Be 63.61 332 P **P 11 25 02.9 -0.2**
comp=Z,9.9nm,0.7s,mb4.9,baz=24,slow=6.3,SNR=12
AKASG Malin Array Be 63.61 332 P **P 11 25 02.9 -0.2**
AKBB Malin Array Si 63.61 332 *eP* **P 11 25 01.1 -2.0**
AKBB *e**PP pP 11 25 06.0 -2.5
EKA Eskdalemuir Ar 63.73 354 P **P 11 25 04.2 +0.3**
comp=Z,8.8nm,1.0s,mb4.8,baz=9.2,slow=5.8,SNR=7.1
TXAR Lajitas Array 64.46 75 P **P 11 25 08.7 0.0**
comp=Z,2.0nm,0.9s,mb4.1,baz=323,slow=5.0,SNR=17
BOK Bokaro 65.25 275 *ex* x 11 25 40.1
BOK AMb AMB 11 25 47.4
comp=Z,4.9nm,0.5s,mb4.8
WVT Waverly 65.79 59 *eP* **P 11 25 16.3 -1.0**
WVT pmax pmax
comp=Z,36nm,0.9s,mb5.4
WVT Waverly 65.79 59 *eP* **P 11 25 16.3 -1.0**
comp=Z,36nm,0.9s,mb5.4
OJC Ojcow 66.04 338 *eP* **P 11 25 19.1 +0.2**
KSP Ksiaz 66.05 340 *eP* **P 11 25 19.0 0.0**
CLL Collm 66.11 343 *eP* **P 11 25 23.0 +3.6**
CLL pmax pmax
comp=Z,17nm,1.1s,mb5.0
CLL Collm 66.11 343 *eP* **P 11 25 23.0 +3.6**
comp=Z,17nm,1.1s,mb5.0
CLL Collm 66.11 343 *eP* **P 11 25 20.0 +0.6**
CLL *e*Pmax pP 11 25 23.0 -1.8
comp=Z,17nm,1.1s
UPC Upice 66.42 340 *e*pP pP 11 25 27.8 +1.0
OXF Oxford 66.51 61 *eP* **P 11 25 21.3 -0.6**
OXF pmax pmax
comp=Z,61nm,1.1s,mb5.5
OXF Oxford 66.51 61 *eP* **P 11 25 21.3 -0.7**
comp=Z,61nm,1.1s,mb5.5
DPC Dobruska-Polom 66.52 340 *eP* **P 11 25 23.2 +1.2**
STHS Stebnicka Huta 66.53 336 *i* P **P 11 25 26.0 +3.9**
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
STHS Stebnicka Huta 66.53 336 *i* P **P 11 25 26.0 +3.9**
comp=Z,8.9nm,0.9s,mb4.8
PLAL Pickwick Lake 66.67 60 *eP* **P 11 25 21.8 -1.2**
comp=Z,32nm,1.1s,mb5.3
OKC Ostrava-Krasne 66.70 339 *eP* **P 11 25 27.5 +4.3**
KOLS Kolonicke sedl 66.79 336 *eP* **P 11 25 27.7 +4.0**
MOX Moxa 66.96 343 *eP* **P 11 25 30.0 +5.2**
MOX *e**PP pP 11 25 35.0 +4.8
CRVS Cervenica-Dubn 66.98 336 *eP* **P 11 25 29.1 +4.2**
PRU Pruhonice 67.16 341 *eP* **P 11 25 26.0 -0.1**
TZTN Tazewell 67.19 56 *eP* **P 11 25 25.4 -0.9**
comp=Z,12nm,0.7s,mb5.0
NKC Novy Kostel 67.24 343 *eP* **P 11 25 26.6 0.0**
KECS Kecovo 67.57 337 *eP* **P 11 25 32.9 +4.2**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
KECS Kecovo 67.57 337 *eP* **P 11 25 32.9 +4.2**
comp=Z,5.4nm,1.1s,mb4.5
TREC Trest 67.68 340 *eP* **P 11 25 28.3 -1.1**
ELN Prospectdale 67.70 53 *eP* **P 11 25 27.6 -1.9**
VYHS Vyhne 67.87 338 *eP* **P 11 25 30.7 +0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
VYHS Vyhne 67.87 338 *eP* **P 11 25 30.7 +0.1**
comp=Z,9.3nm,1.2s,mb4.7
GRA1 Grafenberg Arr 67.94 343 *eP* **P 11 25 31.4 +0.4**
comp=Z,18nm,1.1s,mb5.0
GRA1 *e*pP pP 11 25 34.8 -1.7
GRF Grafenberg Arr 67.94 343 *eP* **P 11 25 31.4 +0.4**
comp=Z,18nm,1.1s,mb5.0
GRF *e*pP pP 11 25 34.8 -1.7
GRF Grafenberg Arr 67.94 343 *eP* **P 11 25 31.4 +0.4**
GRF *e**PP pP 11 25 34.8 -1.7
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.0
KHC Kasperske Hory 68.14 342 *eP* **P 11 25 32.9 +0.6**
GIVF Givet 68.31 348 *eP* **P 11 25 32.9 -0.5**
AJM Ajmer 68.36 286 *eP* **P 11 25 30.6 -3.1**
AJM AMb AMB 11 25 33.4
comp=Z,9.6nm,0.7s,mb4.9
GERES GERESS Array B 68.40 341 P **P 11 25 34.0 +0.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=19,slow=4.5,SNR=10
BAIF Baives 68.42 348 *eP* **P 11 25 33.9 -0.1**
ZST Bratislava 68.47 339 *i* P **P 11 25 39.6 +5.3**
ZST pmax pmax
comp=Z,19nm,1.2s,mb5.0
ZST Bratislava 68.47 339 *i* P **P 11 25 39.6 +5.3**
comp=Z,18nm,1.2s,mb5.0
BFO Black Forest 69.66 345 P **P 11 25 41.2 -0.5**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BFO Black Forest 69.66 345 P **P 11 25 41.2 -0.5**
comp=Z,10nm,1.0s,mb4.7
CDF Champ du Feu 69.71 346 *eP* **P 11 25 41.8 -0.2**
BHPL Bhopal 69.79 281 *eP* **P 11 25 41.6 -0.9**
BHPL AMb AMB 11 25 47.7
comp=Z,26nm,1.1s,mb5.0
FLN La Foliniere 70.11 351 *eP* **P 11 25 44.3 -0.2**
HAU Haudompre 70.22 346 *eP* **P 11 25 44.9 -0.3**
comp=Z,28nm,1.0s,mb4.8
HAU Haudompre 70.22 346 *eP* **P 11 25 44.9 -0.3**
HAU pmax pmax
comp=Z,14nm,1.0s,mb4.8
HAU Haudompre 70.22 346 *eP* **P 11 25 44.9 -0.3**
comp=Z,14nm,1.0s,mb4.9
HINF Hinteralfeld 70.35 346 *eP* **P 11 25 45.3 -0.6**
GRR Gorron 70.51 352 *eP* **P 11 25 46.5 -0.5**
SGMF Saint Gilles 70.76 353 *eP* **P 11 25 48.2 -0.3**
comp=Z,118nm,1.4s,mb5.3
SGMF Saint Gilles 70.76 353 *eP* **P 11 25 48.2 -0.3**
SGMF pmax pmax
comp=Z,59nm,1.4s,mb5.3
SGMF Saint Gilles 70.76 353 *eP* **P 11 25 48.2 -0.3**
comp=Z,59nm,1.4s,mb5.3
LOR Lormes 71.22 348 *eP* **P 11 25 50.8 -0.4**
comp=Z,65nm,1.2s,mb5.1
LOR Lormes 71.22 348 *eP* **P 11 25 50.8 -0.4**
LOR pmax pmax
comp=Z,32nm,1.2s,mb5.1
LOR Lormes 71.22 348 *eP* **P 11 25 50.8 -0.4**
comp=Z,32nm,1.2s,mb5.1
SSF Saint Saulge 71.45 348 *eP* **P 11 25 52.5 -0.2**
comp=Z,32nm,1.1s,mb4.8
SSF Saint Saulge 71.45 348 *eP* **P 11 25 52.5 -0.2**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SSF Saint Saulge 71.45 348 *eP* **P 11 25 52.5 -0.2**
comp=Z,16nm,1.1s,mb4.9
CABF La Chapelle 71.62 346 *eP* **P 11 25 53.7 0.0**
comp=Z,26nm,0.9s,mb4.9
CABF La Chapelle 71.62 346 *eP* **P 11 25 53.7 0.0**
CABF pmax pmax
comp=Z,13nm,0.9s,mb4.9
CABF La Chapelle 71.62 346 *eP* **P 11 25 53.7 0.0**
comp=Z,13nm,0.9s,mb4.9
VIS Vishakhapatnam 71.65 273 *eP* **P 11 25 54.5 +0.6**
AVF Avril sur Loir 71.74 348 *eP* **P 11 25 54.0 -0.4**
comp=Z,37nm,1.1s,mb4.9
AVF Avril sur Loir 71.74 348 *eP* **P 11 25 54.0 -0.4**
AVF pmax pmax
comp=Z,19nm,1.1s,mb4.9
AVF Avril sur Loir 71.74 348 *eP* **P 11 25 54.0 -0.4**
comp=Z,19nm,1.1s,mb4.9
SMF Signal de Mont 71.83 348 *eP* **P 11 25 54.5 -0.5**
comp=Z,123nm,1.7s,mb5.3
SMF Signal de Mont 71.83 348 *eP* **P 11 25 54.5 -0.5**
SMF pmax pmax
comp=Z,62nm,1.7s,mb5.3
SMF Signal de Mont 71.83 348 *eP* **P 11 25 54.5 -0.5**
comp=Z,62nm,1.7s,mb5.3
DIVS Divcibare 71.87 336 *i* P **P 11 25 59.0 +3.8**
MFF Saint Martin d 72.23 351 *eP* **P 11 25 57.2 -0.2**
TCF Toulx Ste Croi 72.35 349 *eP* **P 11 25 57.7 -0.3**
comp=Z,53nm,1.3s,mb5.0
TCF Toulx Ste Croi 72.35 349 *eP* **P 11 25 57.7 -0.3**
TCF pmax pmax
comp=Z,26nm,1.3s,mb5.0
TCF Toulx Ste Croi 72.35 349 *eP* **P 11 25 57.7 -0.3**
comp=Z,26nm,1.3s,mb5.0
LPL La Plagne 72.63 346 *eP* **P 11 26 00.2 +0.5**
LPG La Plagne 72.64 346 *eP* **P 11 26 00.5 +0.7**
comp=Z,26nm,0.9s,mb4.9
LPG La Plagne 72.64 346 *eP* **P 11 26 00.5 +0.7**
LPG pmax pmax
comp=Z,13nm,0.9s,mb4.9
LPG La Plagne 72.64 346 *eP* **P 11 26 00.5 +0.7**
comp=Z,13nm,0.9s,mb4.9
BR131 Keskin Array S 72.68 324 *eP* **P 11 25 59.2 -0.8**
comp=Z,6.3nm,1.1s,mb4.5
BRTR Keskin Array B 72.68 324 P **P 11 26 01.0 +1.0**
comp=Z,3.2nm,0.8s,mb4.3,baz=24,slow=3.2,SNR=11
MBDF Montbardon 73.40 345 *eP* **P 11 26 04.1 -0.2**
comp=Z,30nm,1.1s,mb4.9
MBDF Montbardon 73.40 345 *eP* **P 11 26 04.1 -0.2**
MBDF pmax pmax
comp=Z,15nm,1.0s,mb4.9
MBDF Montbardon 73.40 345 *eP* **P 11 26 04.1 -0.2**
comp=Z,15nm,1.0s,mb4.9
VIVF Saint-Julien-l 73.52 347 *eP* **P 11 26 04.8 -0.2**
CAF Calviac 73.71 349 *eP* **P 11 26 05.7 -0.4**
comp=Z,40nm,1.1s,mb5.0
CAF Calviac 73.71 349 *eP* **P 11 26 05.7 -0.4**
CAF pmax pmax
comp=Z,20nm,1.1s,mb5.0
CAF Calviac 73.71 349 *eP* **P 11 26 05.7 -0.4**
comp=Z,20nm,1.1s,mb5.0
SBF Sospel 74.17 345 *eP* **P 11 26 08.4 -0.4**
SMRF Simiane la Rot 74.28 346 *eP* **P 11 26 09.1 -0.3**
MTLF Montolieu 75.27 349 *eP* **P 11 26 14.3 -0.8**
comp=Z,67nm,1.2s,mb5.1
MTLF Montolieu 75.27 349 *eP* **P 11 26 14.3 -0.8**
MTLF pmax pmax
comp=Z,34nm,1.2s,mb5.2
MTLF Montolieu 75.27 349 *eP* **P 11 26 14.3 -0.8**
comp=Z,34nm,1.2s,mb5.2
EPF Esparros 75.74 350 *eP* **P 11 26 17.7 -0.2**
SJPF Ste Jean 75.79 351 *eP* **P 11 26 17.2 -0.9**
ETSF Etsaut 75.95 351 *eP* **P 11 26 18.1 -0.9**
KAD Karad 76.42 281 *eP* **P 11 26 21.2 -0.5**
KAD AMb AMB 11 26 25.9
comp=Z,22nm,1.3s,mb4.9
MDRS Chennai 77.15 274 *eP* **P 11 26 24.7 -1.2**
MDRS AMb AMB 11 26 26.3
comp=Z,38nm,0.3s,mb5.8
KAKA Kakadu 78.46 214 ⇑*i*P **P 11 26 31.7 -1.4**
comp=Z,11nm,0.8s,mb4.8
ESDC Sonseca Array 79.39 353 P **P 11 26 38.7 +0.4**
comp=Z,6.3nm,0.8s,mb4.6,baz=4.0,slow=5.6,SNR=11
EVO Evora 80.72 356 *eP* **P 11 26 43.9 -1.5**
comp=Z,49nm,1.1s,mb5.0
KEST Kesra 81.89 342 P **P 11 26 52.4 +0.8**
comp=Z,2.4nm,0.8s,mb4.2,baz=248,slow=6.7,SNR=4.8
CTA Charters Tower 82.55 200 P **P 11 26 52.8 -2.3**
comp=Z,4.6nm,0.7s,mb4.6,baz=44,slow=11,SNR=4.2
WRAB Tennant Creek 84.87 211 P **P 11 27 05.0 -2.0**
comp=Z,125nm,0.8s,SNR=6.9
WRAB Tennant Creek 84.87 211 *i* P **P 11 27 05.6 -1.4**
WB2 Warramunga Arr 84.88 211 ⇑*i*P **P 11 27 05.3 -1.7**
WRA Warramunga Arr 84.88 211 P **P 11 27 05.4 -1.6**
comp=Z,14nm,0.8s,mb5.1,baz=17,slow=5.3,SNR=99
WRA Warramunga Arr 84.88 211 *i* P **P 11 27 05.4 -1.6**
WRA pmax pmax
comp=Z,15nm,0.8s
FITZ Fitzroy Crossi 85.55 219 *eP* **P 11 27 08.8 -1.6**
comp=Z,21nm,1.0s,mb5.3
FITZ Fitzroy Crossi 85.55 219 P **P 11 27 09.3 -1.1**
comp=Z,12nm,0.9s,mb5.1,baz=34,slow=4.1,SNR=17
MDT Midelt 86.25 353 P **P 11 27 14.3 +0.4**
comp=Z,4.8nm,0.8s,mb4.8,baz=28,slow=5.9,SNR=6.1
AS31 Alice Springs 88.56 210 *eP* **P 11 27 23.2 -1.8**
ASAR Alice Springs 88.56 210 P **P 11 27 23.4 -1.6**
comp=Z,3.3nm,0.7s,mb4.8,baz=9.8,slow=5.5,SNR=37
CPUP Villa Florida 134.23 61 PKP PKPdf 11 33 48.4 -1.5
comp=Z,0.3nm,0.3s,baz=284,slow=8.3,SNR=3.4
LBTB Lobatse 135.48 306 PKP PKPdf 11 33 52.3 0.0
comp=Z,1.5nm,0.8s,baz=304,slow=3.6,SNR=3.5
PLCA Paso Flores 139.99 87 PKP PKPdf 11 33 59.8 -0.7
comp=Z,2.4nm,0.8s,baz=300,slow=5.0,SNR=4.4
MAW Mawson 148.49 225 PKPbc PKPbc 11 34 16.3 -2.6
comp=Z,9.6nm,1.0s,baz=65,slow=4.1,SNR=12
MAW Mawson 148.49 225 PKP2 PKPab 11 34 16.3 -6.0
MAW pmax pmax
comp=Z,10.0nm,1.0s
USHA Ushuaia 150.68 103 PKPbc PKPbc 11 34 20.4 -3.9
comp=Z,16nm,0.9s,baz=299,slow=3.2,SNR=5.2
QSPA South Pole Qui 150.79 180 *eP* PKPdf 11 34 20.9 +1.9

KRSC 20 11:17:37,5567N×16570E,h83km,ML3.7,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.71**	**290**	*eP*	Pn	11 18 07.2	+2.1
KBTR				*eS*	Sn	11 18 29.1	+2.7
MKZ	**Mys Kozlova**	**2.54**	**246**	*eP*	Pn	11 18 19.9	+3.8
MKZ				*eS*	Sn	11 18 50.4	+4.2
KMNR	**Kamenistaya**	**3.09**	**274**	*eP*	Pn	11 18 28.0	+4.4
KMNR				*eS*	Sn	11 19 04.2	+4.7
SPN	**Mys Shipunski**	**4.20**	**235**	*eP*	Pn	11 18 42.8	+4.1
SPN				*eS*	Sn	11 19 30.3	+3.8
NLC	**Nalytchevo**	**4.48**	**239**	*eS*	Sn	11 19 36.9	+3.7
AVH	**Avacha**	**4.72**	**242**	*eP*	Pn	11 18 49.4	+3.7
AVH				*eS*	Sn	11 19 41.7	+2.5
GNL	**Ganaly**	**4.92**	**249**	*eP*	Pn	11 18 53.3	+4.9
GNL				*eS*	Sn	11 19 48.4	+4.4
RUS	**Russkaya**	**5.33**	**236**	*eP*	Pn	11 18 58.2	+4.1
RUS				*eS*	Sn	11 19 57.4	+3.3

IDC 20 11:20:28.3±1.1,2197N×14353E,h29km±5km,mb3.5/6, mb1 3.6/6,mb1mx3.5/21,mbtmp3.6/6,Error ellipse: s-maj=40.1km s-min=17.0km az=77.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.33**	**320**	P	P	11 27 54.4	-0.4
SONM				pP	pP	11 28 04.1	+0.6
WRA	**Warramunga Arr**	**42.61**	**193**	P	P	11 28 23.2	+1.4
ASAR	**Alice Springs**	**46.32**	**192**	P	P	11 28 50.5	-0.8
ASAR				pP	pP	11 29 00.0	-0.2
	1.1nm,0.6s,baz=15,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**54.75**	**312**	P	P	11 29 54.5	-0.5
	0.5nm,0.4s,baz=62,slow=17,SNR=2.7						
MKAR				pP	pP	11 30 04.1	+0.1
	1.2nm,0.6s,baz=79,slow=12,SNR=5.2						
BVAR	**Borovoye Array**	**62.67**	**319**	P	P	11 30 50.4	+0.3
	1.6nm,0.5s,baz=90,slow=7.0,SNR=7.7						
BVAR				pP	pP	11 30 59.3	0.0
	5.7nm,0.7s,baz=93,slow=7.3,SNR=18						
NVAR	**Mina Array Bea**	**82.73**	**52**	P	P	11 32 49.9	+0.7
	0.1nm,0.3s,baz=264,slow=2.7,SNR=2.3						

IDC 20 11:37:43.0±10.0,4155S×8110E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/14,mbtmp3.8/3,Error ellipse: s-maj=310.5km s-min=31.2km az=136.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**27.93**	**195**	P	P	11 43 34.6	-0.4
	1.5nm,0.7s,baz=8.5,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**47.17**	**85**	P	P	11 46 17.9	+0.7
	0.9nm,0.9s,baz=232,slow=7.0,SNR=5.8						
WRA	**Warramunga Arr**	**49.71**	**81**	P	P	11 46 36.5	-0.4
	0.7nm,0.8s,baz=232,slow=7.7,SNR=9.3						

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*CSEM **20** 11:39:41.0±1.3,5922N×2779E,h1km,ML2.5,Error ellipse: s-maj=34.2km s-min=14.3km az=103.0,Mining explosion.*
*NAO **20** 11:39:42.1±1.4,5925N×2754E,ML2.5*
*BER **20** 11:39:42.3±3.7,5925N×2768E,h0km,ML2.5(NAO), Suspected explosion*
HEL 20 11:39:41.1±0.3,5924N×2795E,h0km,ML2.0, ML2.5(NAO)**,Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**1.00**	**219**	*eP*	Pg	11 39 58.9	-1.4
VSU				*eS*	Sg	11 40 11.8	-1.5
VJF	**Virojoki**	**1.32**	**352**	*eP*	Pg	11 40 04.7	-1.7
VJF				*eS*	Sg	11 40 21.2	-2.2
VJF	**Virojoki**	**1.32**	**352**	P	Pg	11 40 04.6	-1.8
PVF	**Pernaja**	**1.68**	**322**	*eP*	Pn	11 40 11.2	-0.5
PVF				*eS*	Sn	11 40 31.9	-2.0
PVF	**Pernaja**	**1.68**	**322**	P	Pn	11 40 11.1	-0.6
MEF	**Metsahovi**	**2.05**	**300**	*eP*	Pn	11 40 17.6	+0.8
MEF				*eS*	Sn	11 40 42.6	-0.4
MEF	**Metsahovi**	**2.05**	**300**	P	Pn	11 40 17.5	+0.7
FIA0	**FINESS Array S**	**2.40**	**338**	Pn	Pn	11 40 21.2	-0.4
	baz=164,slow=16						
FIA0				Lg		11 40 55.3	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.40**	**338**	*eP*	Pn	11 40 21.2	-0.4
FIA0				*e*SG		11 40 55.3	
FIA0	**FINESS Array S**	**2.40**	**338**	Pn	Pn	11 40 21.2	-0.4
	SNR=2.5						
KAF	**Kangasniemi**	**2.99**	**345**	*e*SG	Sg	11 41 12.8	-4.4
KAF				MSG		11 41 14.7	
	comp=Z,3.9nm,0.2s						
KAF	**Kangasniemi**	**2.99**	**345**	Sg	Sg	11 41 12.8	-4.5
HFS	**Hagfors**	**7.27**	**283**	Pn	Pn	11 41 25.8	-2.8
	baz=118,slow=12						
HFS				Sn	Sn	11 42 41.3	-10
	baz=90,slow=22						
HFS				Lg		11 43 22.8	
	baz=94,slow=28						
HFS	**Hagfors**	**7.27**	**283**	*eP*	Pn	11 41 25.8	-2.8
HFS				*e*SG		11 43 22.8	
HFS	**Hagfors**	**7.27**	**283**	Pn	Pn	11 41 25.8	-2.8
	SNR=5.3						
HFS				Sn	Sn	11 42 41.3	-10
NB2	**NORSAR Subarra**	**8.54**	**289**	Pn	Pn	11 41 44.5	-1.5
	baz=92,slow=12						
NB2	**NORSAR Subarra**	**8.54**	**289**	*eP*	Pn	11 41 44.5	-1.5
ARA0	**ARCESS Array S**	**10.39**	**355**	Pn	Pn	11 42 08.8	-2.6
	baz=178,slow=12						
ARA0	**ARCESS Array S**	**10.39**	**355**	*eP*	Pn	11 42 08.8	-2.6

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*ISCJB **20** 11:49:22.9±0.8,4257N±004×7543E±004,h11km±6km, Error ellipse: s-maj=7.5km s-min=5.1km az=15.6*
*KNET **20** 11:49:22.2±0.4,4256N×7540E,h12km±4km,ml2.1,Error ellipse: s-maj=3.0km s-min=2.5km az=179.0*
ISC 20 11:49:23.0±0.6,4255N±004×7541E±004,h8km±7km,n11, σ0°66/21,5C-15D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.36**	**287**	P	**Pg**	**11 49 30.4**	**+0.4**
	137nm,0.1s,SNR=171						
KBK				⇓S	**Sg**	**11 49 35.7**	**+1.0**
	216nm,0.2s						
TKM2	**Tokmak 2**	**0.39**	**20**	⇓P	**Pg**	**11 49 30.9**	**+0.2**
	24nm,0.1s,SNR=34						
TKM2				⇓S	**Sg**	**11 49 36.1**	**+0.2**
	606nm,0.1s						
TKM2	**Tokmak 2**	**0.39**	**20**	⇓P	**Pg**	**11 49 30.8**	**+0.2**
	0.2nm,0.2s						
TKM2				⇑S	**Sg**	**11 49 36.2**	**+0.4**
	34nm,0.2s						
CHMS	**Chumysh**	**0.66**	**313**	⇓P	**Pg**	**11 49 35.5**	**-0.3**
	12nm,0.1s,SNR=9.8						
CHMS				⇑S	**Sg**	**11 49 44.4**	**+0.1**
	60nm,0.1s						
AAK	**Ala-Archa**	**0.68**	**277**	⇓P	**Pg**	**11 49 36.0**	**-0.2**
	57nm,0.1s,SNR=136						
AAK				⇓S	**Sg**	**11 49 45.1**	**+0.1**
	223nm,0.3s						
ULHL	**Ulahol**	**0.69**	**116**	P	**Pg**	**11 49 36.3**	**0.0**
	30nm,0.1s,SNR=424						
ULHL				⇓S	**Sg**	**11 49 45.7**	**+0.4**
	44nm,0.1s						
UCH	**Uchtor**	**0.74**	**244**	⇓P	**Pg**	**11 49 37.0**	**-0.3**
	10nm,0.2s,SNR=43						
UCH				⇑S	**Sg**	**11 49 46.9**	**0.0**
	44nm,0.2s						
USP	**Ospenovka**	**0.98**	**317**	⇓P	**Pg**	**11 49 41.1**	**-0.7**
	25nm,0.2s,SNR=82						
USP				⇑S	**Sg**	**11 49 54.2**	**-0.3**
	40nm,0.1s						
EKS2	**Erkin-Say**	**1.21**	**276**	⇓P	**Pn**	**11 49 45.9**	**-0.4**
	8.9nm,0.1s,SNR=16						
EKS2				⇓S	**Sb**	**11 50 03.2**	**+1.2**
	26nm,0.1s						
AML	**Almayashu**	**1.34**	**252**	⇓P	**Pn**	**11 49 47.8**	**-0.2**
	6.5nm,0.1s,SNR=5.5						
AML				⇓S	**Sb**	**11 50 06.0**	**+0.2**
	86nm,0.5s						
KK31	**Karatay Array**	**3.65**	**280**	⇑Pg	**Pg**	**11 50 30.7**	**-2.1**
	baz=98,slow=16						
KK31				⇓Lg		11 51 18.7	
	baz=98,slow=27						

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*IDC **20** 12:14:10.9±1.2,1347S×7690W,h0km,mb3.8/3,mb1 3.9/8, mb1mx3.8/21,mbtmp3.7/8,ML3.4/4,Error ellipse: s-maj=31.1km s-min=12.6km az=73.0*
*ISCJB **20** 12:14:12.9±0.9,1361S±008×770W±0.1,h33km,mb3.8/3, Error ellipse: s-maj=17.7km s-min=6.8km az=112.6*
*NEIC **20** 12:14:13.4±5.1,1346S×7691W,h18km±32km,Error ellipse: s-maj=22.8km s-min=9.0km az=65.0*
ISC 20 12:14:14.8±1.0,1367S±008×771W±01,h35km,n14, σ1°50/16,mb3.8/3,Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.69**	**9**	Pn	**Pn**	**12 14 38.7**	**-3.2**
	111nm,0.3s,baz=187,slow=13,SNR=53						
NNA				Lg		12 14 57.9	
	414nm,0.3s,baz=221,slow=22,SNR=16						
NNA	**Nana**	**1.69**	**9**	Pn	**Pn**	**12 14 38.7**	**-3.2**
NNA				Lg		12 14 57.9	
ATAH	**Atahualpa**	**6.75**	**349**	Pn	**Pn**	**12 15 48.9**	**-2.4**
	2.1nm,0.3s,baz=170,slow=6.7,SNR=7.4						
ATAH				Sn	**Sn**	**12 17 09.2**	**+2.3**
	baz=342,slow=20,SNR=1.8						
LPAZ	**La Paz**	**9.06**	**108**	Pn	**Pn**	**12 16 23.0**	**0.0**
	0.1nm,0.3s,baz=272,slow=7.2,SNR=2.4						
LPAZ				Sn	**Sn**	**12 18 06.1**	**+2.3**
	baz=31,slow=19,SNR=1.4						
LPAZ	**La Paz**	**9.06**	**108**	Pn	**Pn**	**12 16 23.0**	**0.0**

LPAZ Sn **Sn** **12 18 06.1 +2.3**
LVC Limon Verde 11.82 140 Pn **Pn** **12 17 01.9 +1.1**
0.6nm,0.3s,baz=301,slow=8.3,SNR=5.3
LVC Sn **Sn** **12 19 09.7 -1.7**
0.6nm,0.3s,baz=291,slow=18,SNR=4.0
SIV San Ignacio 15.68 100 Pn **Pn** **12 17 51.8 -1.2**
0.1nm,0.3s,baz=277,slow=16,SNR=6.5
CFAA Coronel Fontan 19.62 157 P **Pn** **12 18 42.6 +0.9**
0.1nm,0.3s,baz=327,slow=11,SNR=8.9
CPUP Villa Florida 22.41 127 P **P** **12 19 09.9 -0.4**
2.4nm,0.8s,mb3.7,baz=325,slow=8.5,SNR=5.3
TXAR Lajitas Array 49.85 329 P **P** **12 23 05.3 +0.9**
0.2nm,0.6s,mb3.4,baz=152,slow=8.3,SNR=4.2
TORD Torodi Ar. Bea 82.49 75 P **P** **12 26 34.4 +0.7**
3.4nm,0.9s,mb4.2,baz=262,slow=4.7,SNR=14
TORD Torodi Ar. Bea 82.49 75 P **P** **12 26 34.4 +0.7**
WRA Warramunga Arr 134.47 223 PKP PKPdf 12 33 32.0 +2.8
0.5nm,1.0s,baz=130,slow=2.2,SNR=5.7
SONM Songino Array 145.82 356 PKPbc PKPbc 12 33 51.7 +1.4
2.2nm,1.0s,baz=355,slow=2.9,SNR=12

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*ISCJB **20** 12:25:45.5±0.6,3460N±003×959W±005,h10km,Error ellipse: s-maj=6.1km s-min=3.3km az=146.2*
*CSEM **20** 12:25:45.5±0.2,3440N×966W,h10km,ML3.8/3,Error ellipse: s-maj=6.8km s-min=2.7km az=84.0*
*MDD **20** 12:25:47.0±1.5,3445N×996W,h25km±16km,mb4.6/12, mbLg3.0/1,Error ellipse: s-maj=15.0km s-min=5.5km az=80.0,PRXIMO*
*LDG **20** 12:25:47.6±0.3,3454N×993W,h10km,Ml3.4/4,Error ellipse: s-maj=5.3km s-min=4.2km az=55.0*
*CNRM **20** 12:25:47.4,3448N×993W,h30km,MD3.4*
*NEIC **20** 12:25:47.3,3461N×980W,h0km,MG4.5(MDD),After MDD.*
*INMG **20** 12:25:48.5±0.9,3460N×991W,h10km,ML2.7,Error ellipse: s-maj=4.8km s-min=3.8km az=70.0*
*IGIL **20** 12:25:48.2,3470N×1010W,h0km,ML3.2*

ISC 20 12:25:47.4±0.7,3463N±003×962W±005,h10km,n65, σ1§45/109,1C-3D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.79**	**16**	*e*Pn	**Pn**	**12 26 32.5**	**+0.5**
MORF				*e*Sn	**Sn**	**12 27 05.6**	**-0.1**
MORF							
	23nm,0.2s						
PTEO	**Sao Teotonio**	**3.00**	**14**	*e*Pn	**Pn**	**12 26 35.5**	**+0.5**
PTEO				*e*Sn	**Sn**	**12 27 11.0**	**0.0**
PTEO							
	17nm,0.2s						
PTEO	**Sao Teotonio**	**3.00**	**14**	*e*Pn	**Pn**	**12 26 35.5**	**+0.5**
PTEO				*e*Sn	**Sn**	**12 27 11.0**	**0.0**
	17nm,0.2s						
CIA	**Chichaoua**	**3.14**	**166**	P	**Pn**	**12 26 33.5**	**-3.4**
CIA				S	**Sn**	**12 27 06.0**	**-8.4**
CIA	**Chichaoua**	**3.14**	**166**	*i* P	**Pn**	**12 26 33.5**	**-3.4**
EGRO	**El Granado**	**3.38**	**30**	⇓P	**Pn**	**12 26 41.6**	**+1.5**
	23nm,0.1s,SNR=18						
EGRO				S	**Sn**	**12 27 20.9**	**+0.6**
	18nm,0.1s,SNR=4.6						
EGRO	**El Granado**	**3.38**	**30**	P	**Pn**	**12 26 41.6**	**+1.4**
	23nm,0.1s,SNR=18						
TZC	**Tazercounte**	**3.60**	**132**	P	**Pn**	**12 26 41.5**	**-1.7**
TZC				S	**Sn**	**12 27 22.0**	**-3.8**
TZC	**Tazercounte**	**3.60**	**132**	*e*P	**Pn**	**12 26 41.5**	**-1.7**
KIB	**El Ksiba**	**3.62**	**123**	P	**Pn**	**12 26 42.0**	**-1.5**
KIB				S	**Sn**	**12 27 24.0**	**-2.3**
KIB	**El Ksiba**	**3.62**	**123**	*i* P	**Pn**	**12 26 42.0**	**-1.5**
PBEJ	**Beja**	**3.67**	**22**	*e*Pn	**Pn**	**12 26 45.1**	**+0.8**
PBEJ				*e*Sn	**Sn**	**12 27 27.6**	**0.0**
PBEJ							
	8.8nm,0.1s						
PBEJ	**Beja**	**3.67**	**22**	*e*Pn	**Pn**	**12 26 45.1**	**+0.8**
PBEJ				*e*Sn	**Sn**	**12 27 27.6**	**0.0**
	8.8nm,0.1s						
OUK	**Oukaimeden**	**3.71**	**156**	P	**Pn**	**12 26 41.5**	**-3.3**
OUK				S	**Sn**	**12 27 22.0**	**-6.6**
OUK	**Oukaimeden**	**3.71**	**156**	*i* P	**Pn**	**12 26 41.5**	**-3.3**
ESPR	**Espera**	**3.79**	**53**	P	**Pn**	**12 26 47.6**	**+1.7**
	11nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**12 27 32.0**	**+1.5**
	9.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.79**	**53**	P	**Pn**	**12 26 47.6**	**+1.8**
	11nm,0.1s,SNR=7.9						
TGT	**Taghat**	**3.82**	**97**	P	**Pn**	**12 26 46.5**	**+0.3**
TGT				S	**Sn**	**12 27 31.0**	**-0.1**
TGT	**Taghat**	**3.82**	**97**	*i* P	**Pn**	**12 26 46.5**	**+0.3**
EJIF	**Jimena Fronter**	**3.84**	**61**	P	**Pn**	**12 26 48.6**	**+2.1**
	2.0nm,0.1s,SNR=4.0						
MIF	**Mishlifen**	**3.84**	**107**	P	**Pn**	**12 26 47.5**	**+0.9**
MIF				S	**Sn**	**12 27 30.0**	**-1.8**
MIF	**Mishlifen**	**3.84**	**107**	*i* P	**Pn**	**12 26 47.5**	**+0.9**
EMIN	**Mina Concepcio**	**3.94**	**36**	⇓P	**Pn**	**12 26 49.1**	**+1.3**
	2.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**12 27 34.2**	**+0.1**
	5.3nm,0.2s,SNR=6.5						
EMIN	**Mina Concepcio**	**3.94**	**36**	P	**Pn**	**12 26 49.1**	**+1.3**
	2.0nm,0.1s,SNR=18						
MOE	**Montemor**	**4.02**	**14**	*e*Pn	**Pn**	**12 26 51.5**	**+2.5**
MOE				*e*Sn	**Sn**	**12 27 35.7**	**-0.4**
EVO	**Evora**	**4.11**	**18**	*e*Pn	**Pn**	**12 26 50.1**	**-0.1**
EVO				*e*Sn	**Sn**	**12 27 35.6**	**-2.6**
	23nm,0.3s						
CZD	**Col de Zad**	**4.13**	**111**	P	**Pn**	**12 26 50.0**	**-0.5**
CZD				S	**Sn**	**12 27 37.0**	**-1.8**
CZD	**Col de Zad**	**4.13**	**111**	*i* P	**Pn**	**12 26 50.0**	**-0.5**
PLOU	**Loures**	**4.27**	**5**	*e*Pn	**Pn**	**12 26 51.3**	**-1.1**
PLOU				*e*Sn	**Sn**	**12 27 39.7**	**-2.5**
PMAFR	**Mafra**	**4.33**	**3**	*e*Pn	**Pn**	**12 26 52.4**	**-0.8**
PMAFR				*e*Sn	**Sn**	**12 27 40.2**	**-3.5**
PMAFR							
	36nm,0.5s						
PMAFR	**Mafra**	**4.33**	**3**	*e*Pn	**Pn**	**12 26 52.4**	**-0.8**
PMAFR				*e*Sn	**Sn**	**12 27 40.2**	**-3.5**
	36nm,0.5s						
EMIJ	**Mijas**	**4.40**	**63**	P	**Pn**	**12 26 55.8**	**+1.6**
	1.1nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**12 27 46.7**	**+1.3**
	4.6nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**4.53**	**20**	*e*Pn	**Pn**	**12 26 56.5**	**+0.4**
PESTR				*e*Sn	**Sn**	**12 27 47.6**	**-1.2**
ALMR	**Almeirim**	**4.60**	**10**	*e*P	**Pn**	**12 26 56.9**	**0.0**
ALMR				*e*S	**Sn**	**12 27 47.6**	**-2.7**
ALMR				*e*S	**Sn**	**12 27 47.7**	**-2.7**
ALMR				AML	AML	12 27 55.7	
	comp=Z,45nm,0.8s						
EBAD	**Badajoz**	**4.62**	**26**	P	**Pn**	**12 26 58.0**	**+0.8**
	comp=Z,5.1nm,0.1s,SNR=18						
EBAD				S	**Sn**	**12 27 51.6**	**+0.6**
	comp=Z,3.7nm,0.1s,SNR=4.7						
EBAD	**Badajoz**	**4.62**	**26**	P	**Pn**	**12 26 58.0**	**+0.7**
	comp=Z,5.1nm,0.1s,SNR=18						
ELUQ	**Luque**	**5.23**	**54**	P	**Pn**	**12 27 07.9**	**+2.3**
	comp=Z,3.1nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**12 28 06.5**	**+0.5**
	comp=Z,10nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**5.39**	**48**	P	**Pn**	**12 27 09.3**	**+1.6**
	comp=Z,4.5nm,0.1s,SNR=26						
EADA				S	**Sn**	**12 28 10.0**	**+0.2**
	comp=Z,15nm,0.2s,SNR=6.6						
EADA	**Adamuz**	**5.39**	**48**	P	**Pn**	**12 27 09.3**	**+1.5**
	comp=Z,4.5nm,0.1s,SNR=26						
PCBR	**Castelo Branco**	**5.48**	**18**	*e*Pn	**Pn**	**12 27 09.6**	**+0.6**
PCBR				*e*Sn	**Sn**	**12 28 10.1**	**-1.9**
PCBR							
	comp=Z,5.3nm,0.2s						
EQUE	**Quentar**	**5.64**	**61**	P	**Pn**	**12 27 14.6**	**+3.4**
	comp=Z,1.1nm,0.1s,SNR=6.3						
EQUE				S	**Sn**	**12 28 19.7**	**+3.7**
	comp=Z,2.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**5.88**	**51**	P	**Pn**	**12 27 15.2**	**+0.6**
	comp=Z,6.9nm,0.1s,SNR=11						
EBAN				S	**Sn**	**12 28 19.9**	**-2.2**
	comp=Z,4.6nm,0.1s						
EBER	**Berja**	**5.92**	**66**	P	**Pn**	**12 27 17.1**	**+2.0**
	SNR=4.0						
EBER	**Berja**	**5.92**	**66**	P	**Pn**	**12 27 17.1**	**+2.0**
	SNR=4.0						
EQES	**Quesada**	**6.17**	**57**	P	**Pn**	**12 27 20.8**	**+2.2**
	comp=Z,1.3nm,0.1s,SNR=8.9						
EQES				S	**Sn**	**12 28 30.1**	**+0.9**
	comp=Z,2.8nm,0.1s						
EQES	**Quesada**	**6.17**	**57**	P	**Pn**	**12 27 20.8**	**+2.3**
	comp=Z,1.3nm,0.1s,SNR=8.9						
PVIS	**Viseu**	**6.23**	**12**	*e*Pn	**Pn**	**12 27 19.1**	**-0.2**
PVIS				*e*Sn	**Sn**	**12 28 28.4**	**-2.2**
ESDC	**Sonseca Array**	**6.76**	**40**	P	**Pn**	**12 27 28.2**	**+1.5**
	comp=Z,2.8nm,0.1s,baz=232,slow=13,SNR=6.9						
ESDC				S	**Sn**	**12 28 42.3**	**-1.5**
	comp=Z,1.2nm,0.2s,baz=227,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**6.76**	**40**	P	**Pn**	**12 27 28.2**	**+1.5**
	comp=Z,2.8nm,0.1s,SNR=6.9						
EVIA	**Vianos**	**6.98**	**53**	⇓P	**Pn**	**12 27 30.1**	**+0.4**
	comp=Z,2.1nm,0.1s,SNR=18						
EVIA				S	**Sn**	**12 28 47.5**	**-1.6**
	comp=Z,1.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**7.63**	**56**	P	**Pn**	**12 27 39.6**	**+1.1**
	comp=Z,1.5nm,0.1s,SNR=14						
ETOB				S	**Sn**	**12 29 03.9**	**-1.1**
	comp=Z,4.1nm,0.2s,SNR=10.0						
ECAL	**Calabor**	**7.64**	**16**	P	**Pn**	**12 27 39.2**	**+0.4**
	comp=Z,4.1nm,0.4s,SNR=5.4						
ECAL				S	**Sn**	**12 29 02.3**	**-3.1**
	comp=Z,2.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.64**	**16**	P	**Pn**	**12 27 39.2**	**+0.4**
	comp=Z,4.1nm,0.4s,SNR=5.4						
EMAZ	**Mazaricos**	**8.32**	**3**	P	**Pn**	**12 27 45.4**	**-2.8**
	comp=Z,1.6nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**12 29 13.6**	**-8.6**
	comp=Z,2.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**8.61**	**42**	⇑P	**Pn**	**12 27 54.0**	**+2.0**
	comp=Z,3.7nm,0.1s,SNR=18						
ETOR				S	**Sn**	**12 29 26.9**	**-2.1**
	comp=Z,2.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**9.25**	**49**	P	**Pn**	**12 28 01.4**	**+0.6**
	comp=Z,0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**9.25**	**49**	P	**Pn**	**12 28 01.4**	**+0.6**
EARI	**Arriondas**	**9.31**	**20**	P	**Pn**	**12 28 03.8**	**+2.1**
	SNR=7.9						
EARI	**Arriondas**	**9.31**	**20**	P	**Pn**	**12 28 03.8**	**+2.1**
SJPF	**Ste Jean**	**10.70**	**35**	*e*Pn	**Pn**	**12 28 21.2**	**+0.5**
SJPF				*e*Sn	**Sn**	**12 30 16.0**	**-4.5**
	comp=Z,0.7nm,0.2s						
SJPF	**Ste Jean**	**10.70**	**35**	*e*Pn	**Pn**	**12 28 21.2**	**+0.5**
SJPF				*e*Sn	**Sn**	**12 30 16.0**	**-4.5**
	comp=Z,0.3nm,0.2s						
ETSF	**Etsaut**	**10.87**	**38**	*e*Pn	**Pn**	**12 28 23.1**	**+0.1**
ETSF				*e*Sn	**Sn**	**12 30 20.6**	**-4.0**
	comp=Z,0.5nm,0.2s						
ETSF	**Etsaut**	**10.87**	**38**	*e*Pn	**Pn**	**12 28 23.1**	**+0.1**
ETSF				*e*Sn	**Sn**	**12 30 20.6**	**-4.0**
	comp=Z,0.2nm,0.2s						
EPF	**Esparros**	**11.43**	**40**	*e*Pn	**Pn**	**12 28 31.0**	**+0.4**
EPF				*e*Sn	**Sn**	**12 30 33.9**	**-4.4**
	comp=Z,0.7nm,0.2s						
EPF	**Esparros**	**11.43**	**40**	*e*Pn	**Pn**	**12 28 31.0**	**+0.4**
EPF				*e*Sn	**Sn**	**12 30 33.9**	**-4.4**
	comp=Z,0.3nm,0.2s						

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*ISCJB **20** 13:02:57.4±0.5,5032N±004×1870E±003,h0km,Error ellipse: s-maj=5.5km s-min=2.8km az=26.0*
*WAR **20** 13:02:58.6,5026N×1883E,ML2.6,Mining Induced*
*CSEM **20** 13:02:58.5±0.1,5029N×1880E,h2km±2km,ML3.2/4,Error ellipse: s-maj=3.8km s-min=2.0km az=177.0*
*PRU **20** 13:02:58.4,5029N×1877E,h0km*
*IPEC **20** 13:02:58.3±0.2,5030N×1879E,h4km±1km,ML2.5/3,Error ellipse: s-maj=2.2km s-min=0.8km az=167.0*

ISC 20 13:02:58.3±0.5,5029N±004×1874E±003,h0km,n25, σ1§17/44,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.40**	**240**	*e*Pg	**Pg**	**13 03 10.5**	**+4.4**
RAC				*e*Sg	**Sg**	**13 03 19.2**	**+7.9**
OKC	**Ostrava-Krasne**	**0.59**	**220**	*e*PG	**Pg**	**13 03 11.0**	**+1.4**
OKC				*e*SG	**Sg**	**13 03 18.8**	**+1.6**
	42nm,0.4s						
OKC	**Ostrava-Krasne**	**0.59**	**220**	*e*Pg	**Pg**	**13 03 10.6**	**+1.0**
OKC				*e*Sg	**Sg**	**13 03 18.1**	**+0.9**
OJC	**Ojcow**	**0.69**	**95**	*e*Pg	**Pg**	**13 03 10.7**	**-0.8**
OJC				*i* Sg	**Sg**	**13 03 19.5**	**-0.9**
OJC	**Ojcow**	**0.69**	**95**	*e*Pg	**Pg**	**13 03 10.6**	**-0.9**
OJC				*e*Sg	**Sg**	**13 03 19.1**	**-1.3**
MORC	**Moravsky Berou**	**0.92**	**237**	*e*Pg	**Pg**	**13 03 16.3**	**+0.3**
MORC				*e*Sg	**Sg**	**13 03 28.4**	**+0.4**
	51nm,0.3s						
NIE	**Niedzica**	**1.34**	**130**	*e*Pg	**Pg**	**13 03 22.4**	**-1.6**
NIE				*e*Sg	**Sg**	**13 03 40.7**	**-0.7**
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*PG	**Pg**	**13 03 27.1**	**-0.9**
DPC				*e*SG	**Sg**	**13 03 48.1**	**0.0**
	26nm,0.5s						
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*Pn	**Pn**	**13 03 27.0**	**-0.2**
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*Pg	**Pg**	**13 03 27.1**	**-0.9**
DPC				*e*Sg	**Sg**	**13 03 47.9**	**-0.2**
KSP	**Ksiaz**	**1.65**	**291**	Pn	**Pn**	**13 03 28.3**	**-0.3**
KSP				*e*Pg	**Pg**	**13 03 30.5**	**+0.4**
KSP				*e*Sg	**Sg**	**13 03 52.8**	**+1.3**
KSP	**Ksiaz**	**1.65**	**291**	*e*Pn	**Pn**	**13 03 28.3**	**-0.3**
VRAC	**Vranov**	**1.70**	**236**	*e*Pn	**Pn**	**13 03 29.4**	**+0.2**
VRAC				*e*Sg	**Sg**	**13 03 52.5**	**-0.4**
	57nm,0.5s						
UPC	**Upice**	**1.76**	**278**	*e*PG	**Pg**	**13 03 30.8**	**-1.2**
VYHS	**Vyhne**	**1.79**	**178**	*e*PN	**Pn**	**13 03 30.4**	**-0.1**
VYHS				*e*SN	**Sn**	**13 03 52.3**	**-1.7**
STHS	**Stebnicka Huta**	**1.84**	**117**	*e*PN	**Pn**	**13 03 32.1**	**+0.9**
STHS				*e*SN	**Sn**	**13 03 57.5**	**+2.3**
KRUC	**Moravsky**	**1.95**	**232**	*e*Pn	**Pn**	**13 03 32.7**	**0.0**
KRUC				*e*Sn	**Sn**	**13 03 58.7**	**+0.8**
	25nm,0.6s						
KECS	**Kecovo**	**2.14**	**147**	*e*PN	**Pn**	**13 03 37.8**	**+2.6**
KECS				*e*		13 03 58.3	
CRVS	**Cervenica-Dubn**	**2.25**	**127**	*e*PN	**Pn**	**13 03 39.0**	**+2.2**
CRVS				*e*SN	**Sn**	**13 04 09.9**	**+4.6**
CRVS	**Cervenica-Dubn**	**2.25**	**127**	*e*Pn	**Pn**	**13 03 39.1**	**+2.3**
PRU	**Pruhonice**	**2.71**	**265**	*e*PG	**Pg**	**13 03 48.2**	**-2.2**
PRU				*e*SG	**Sg**	**13 04 24.7**	**-0.9**
	8.4nm,0.5s						
BRG	**Berggiesshubel**	**3.11**	**283**	PG	**Pg**	**13 03 58.2**	**+0.2**
BRG				SG	**Sg**	**13 04 38.5**	**+0.2**
	3.4nm,0.4s						
KHC	**Kasperske Hory**	**3.54**	**253**	*e*PG	**Pg**	**13 04 02.7**	**-3.5**
KHC				*e*SG	**Sg**	**13 04 51.7**	**-0.4**
	12nm,0.5s						
CLL	**Collm**	**3.78**	**288**	*e*Sg	**Sg**	**13 05 02.0**	**+2.3**
NKC	**Novy Kostel**	**4.04**	**272**	*e*SG	**Sg**	**13 05 06.5**	**-1.5**

IGQ 20 13:39:56.3,230S×7690W,h7km±5km,Mb4.0,Ms3.8, 6C-4D,Error ellipse: s-maj=6.8km s-min=3.4km az=92.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.73**	**297**	⇑P	Pn	13 40 29.0	+2.4
ARRY	**Arrayan**	**1.74**	**297**	⇓P	Pn	13 40 28.8	+1.9
ARRY				S	Sn	13 40 52.1	+2.8
RUN5	**Runtun**	**1.76**	**300**	P	Pn	13 40 29.3	+2.1
IGUA	**Igualata**	**1.92**	**295**	P	Pn	13 40 32.2	+2.9
PISA	**Pisayambo**	**1.93**	**310**	⇓P	Pn	13 40 32.0	+2.5
TAMB	**Tambo**	**2.17**	**317**	⇓P	Pn	13 40 35.8	+3.1
ANTI	**Antisana**	**2.23**	**326**	⇓P	Pn	13 40 36.3	+2.7
VC1	**Cotopaxi 1**	**2.23**	**318**	P	Pn	13 40 37.0	+3.4
CAMI	**Rancho Maria**	**2.27**	**315**	⇑P	Pn	13 40 37.9	+3.7
NAS1	**Nasa**	**2.29**	**316**	P	Pn	13 40 38.2	+3.8
LAV3	**Lava3-Reventad**	**2.31**	**341**	P	Pn	13 40 39.0	+4.3
CAYR	**Refugio Cayamb**	**2.55**	**334**	P	Pn	13 40 41.3	+3.3
CAYA	**Cayambe**	**2.60**	**335**	⇑P	Pn	13 40 42.1	+3.4
GGP	**Refugio Guagua**	**2.71**	**321**	⇑P	Pn	13 40 43.1	+2.9
PINO	**Pino**	**2.73**	**321**	⇑P	Pn	13 40 43.3	+2.8
YANA	**Yana**	**2.74**	**322**	⇑P	Pn	13 40 43.2	+2.6

KRSC 20 13:54:26,5531N×16346E,h15km,ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.97**	**338**	*e*P	Pb	13 54 46.6	+2.1
KBTR				*i* S	Sb	13 55 00.9	+3.8
MKZ	**Mys Kozlova**	**1.25**	**234**	*e*P	Pn	13 54 49.3	+0.4
MKZ				*i* S	Sb	13 55 06.6	+1.4
ZLN	**Zelenaya**	**1.66**	**296**	*e*P	Pn	13 54 55.9	+1.3
ZLN				*i* S	Sn	13 55 16.3	+0.6
SRKR	**Sorokina**	**1.86**	**317**	*e*P	Pn	13 54 59.4	+2.0
SRKR				*i* S	Sn	13 55 23.7	+3.1
KRSR	**Krestovskiy**	**1.87**	**300**	*e*P	Pn	13 54 59.0	+1.5
KRSR				*i* S	Sn	13 55 23.1	+2.3
KLY	**Klyuchi**	**1.88**	**304**	*e*P	Pn	13 54 57.6	+0.1
KLY				*i* S	Sn	13 55 20.7	-0.2
KMNR	**Kamenistaya**	**1.89**	**285**	*e*P	Pn	13 54 59.6	+1.9
KMNR				*i* S	Sn	13 55 23.9	+2.7
TUMR	**Tumrok**	**1.90**	**271**	*e*P	Pn	13 54 59.6	+1.8
TUMR				*i* S	Sn	13 55 23.5	+2.1
KPT	**Kopyto**	**1.95**	**291**	*e*P	Pn	13 55 01.5	+3.0
KPT				*i* S	Sn	13 55 26.4	+3.7
KOZ	**Kozyrevsk**	**2.17**	**292**	*e*P	Pn	13 55 04.4	+2.9
KOZ				*i* S	Sn	13 55 31.3	+3.2
SRDR	**Sredinnyy**	**2.34**	**297**	*e*P	Pn	13 55 06.7	+2.8
SRDR				*i* S	Sn	13 55 35.6	+3.2
SPN	**Mys Shipunski**	**3.00**	**224**	*e*P	Pn	13 55 15.4	+2.5
SPN				*i* S	Sn	13 55 49.8	+1.2
NLC	**Nalytchevo**	**3.23**	**230**	*e*P	Pn	13 55 19.7	+3.6
NLC				*i* S	Sn	13 55 57.4	+3.1
AVH	**Avacha**	**3.44**	**235**	*e*P	Pn	13 55 22.6	+3.5
AVH				*i* S	Sn	13 56 02.9	+3.3
GNL	**Ganaly**	**3.60**	**246**	*e*P	Pn	13 55 25.0	+3.8
GNL				*i* S	Sn	13 56 06.0	+2.5
PET	**Petropavlovsk**	**3.64**	**233**	*e*P	Pn	13 55 24.7	+3.0
PET				*i* S	Sn	13 56 05.9	+1.5
RUS	**Russkaya**	**4.11**	**227**	*e*P	Pn	13 55 31.4	+3.2

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*ISCJB **20** 13:56:10.7±2.0,43S±0.1×1279E±02,h218km±19km, mb3.8/6,Error ellipse: s-maj=32.8km s-min=13.1km az=133.6*
*NEIC **20** 13:56:13.6±1.7,429S×12793E,h229km±15km,mb4.7/4, Error ellipse: s-maj=18.6km s-min=11.7km az=70.0*
*IDC **20** 13:56:15.9±2.9,444S×12783E,h247km±27km,mb3.5/6, mb1 3.7/9,mb1mx3.6/18,mbtmp4.2/9,Error ellipse: s-maj=39.4km s-min=10.5km az=72.0*

ISC 20 13:56:16.0±1.7,44S±01×1280E±02,h253km±17km,n20, σ0§82/18,mb3.8/6,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.36**	**152**	⇓*i*P	**Pn**	**13 58 24.7**	**-1.8**
	46nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.81**	**189**	*e*P	**Pn**	**13 59 22.8**	**+1.1**
	8.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.81**	**189**	P	**Pn**	**13 59 20.4**	**-1.3**
	1.2nm,0.3s,baz=20,slow=10,SNR=40						
WRAB	**Tennant Creek**	**16.64**	**159**	*e*P	**P**	**13 59 54.1**	**+0.5**
	9.9nm,0.6s						
WRA	**Warramunga Arr**	**16.65**	**159**	P	**P**	**13 59 54.1**	**+0.4**
	2.0nm,0.3s,baz=342,slow=12,SNR=205						
WRA				S	**S**	**14 02 53.0**	**-1.5**
	0.4nm,0.3s,baz=345,slow=20,SNR=5.7						
WB2	**Warramunga Arr**	**16.65**	**159**	*e*P	**P**	**13 59 54.6**	**+0.9**
MBWA	**Marble Bar**	**18.48**	**205**	*e*P	**P**	**14 00 13.1**	**-0.5**
	34nm,0.8s						
AS31	**Alice Springs**	**19.99**	**164**	*e*P	**P**	**14 00 30.4**	**+0.7**
ASAR	**Alice Springs**	**19.99**	**164**	P	**P**	**14 00 30.2**	**+0.6**
	1.4nm,0.3s,baz=344,slow=11,SNR=125						
ASAR				S	**S**	**14 04 00.1**	**-0.1**
	0.6nm,0.3s,baz=346,slow=22,SNR=31						
ASPA	**Alice Springs**	**19.99**	**164**	*e*P	**P**	**14 00 30.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**30.10**	**198**	P	**P**	**14 02 02.1**	**-0.1**
	15nm,1.1s,mb4.5,baz=328,slow=9.5,SNR=2.8						
STKA	**Stephens Creek**	**30.18**	**157**	P	**P**	**14 02 03.9**	**+1.0**
	3.3nm,0.5s,mb4.2,baz=347,slow=8.0,SNR=10						
SONM	**Songino Array**	**55.36**	**342**	P	**P**	**14 05 23.1**	**-0.9**
	0.2nm,0.4s,mb3.0,baz=157,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**64.96**	**327**	P	**P**	**14 06 28.7**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=118,slow=8.2,SNR=9.0						
VNDA	**Vanda**	**75.26**	**173**	P	**P**	**14 07 31.1**	**-0.1**
	1.4nm,0.7s,mb3.7,baz=311,slow=7.6,SNR=9.4						
MAW	**Mawson**	**76.63**	**201**	P	**P**	**14 07 39.2**	**+0.3**
	0.6nm,0.3s,mb3.7,baz=270,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**126.30**	**283**	PKP	PKPdf	14 14 49.9	+1.4
	1.1nm,0.7s,baz=39,slow=2.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**126.30**	**283**	PKP	PKPdf	14 14 49.9	+1.4
CPUP	**Villa Florida**	**149.02**	**171**	PKPbc	PKPbc	14 15 35.9	+1.7
	0.8nm,0.4s,baz=285,slow=0.6,SNR=5.8						
LPAZ	**La Paz**	**154.00**	**143**	PKPbc	PKPbc	14 15 48.6	+3.2
	0.6nm,0.4s,baz=323,slow=4.1,SNR=5.7						
LPAZ				PKPab	PKPab	14 16 03.8	+3.9
	0.6nm,0.7s,baz=215,slow=4.4,SNR=4.2				

comp=Z,65nm,1.7s,mb5.1
CTA Charters Tower 34.35 268 *e*P **P 14 19 47.8 +1.1**
comp=Z,286nm,0.5s
CTA *e*S **S 14 25 04.4 +0.2**
CTA Charters Tower 34.35 268 P **P 14 19 48.1 +1.4**
comp=Z,302nm,0.5s,baz=97,slow=10,SNR=281
CTA Charters Tower 34.35 268 *e*P **P 14 19 47.8 +1.1**
CTA *e*S **S 14 25 04.4 +0.2**
CTA pmax pmax
comp=Z,287nm,0.5s
CTAO Charters Tower 34.35 268⇓*e*P **P 14 19 47.9 +1.2**
CTAO *e**PP pP 14 20 20.5 +4.4
CTAO *e* 14 22 20.6
CTAO pmax pmax
comp=Z,308nm,0.6s
CTAO Charters Tower 34.35 268⇓*e*P **P 14 19 47.9 +1.2**
comp=Z,308nm,0.6s
CTAO *e*pP pP 14 20 20.5 +4.4
CTAO *e*PcP PcP 14 22 20.6 +1.1
TOO Toolangi 35.28 237 *e*P **P 14 19 56.1 +1.5**
comp=Z,40nm,1.5s,mb4.8
TOO Toolangi 35.28 237 *e*P **P 14 19 56.1 +1.5**
TOO pmax pmax
comp=Z,40nm,1.5s,mb4.8
TAU Tasmania Unive 35.57 228 *e*P **P 14 19 58.9 +1.8**
TAU pmax pmax
comp=Z,19nm,0.7s,mb4.8
TAU Tasmania Unive 35.57 228 *e*P **P 14 19 58.9 +1.7**
comp=Z,19nm,0.7s,mb4.8
PMG Port Moresby 36.99 286 P **P 14 20 10.1 +0.9**
comp=Z,445nm,0.9s,mb6.1,baz=100,slow=4.9,SNR=69
PMG Port Moresby 36.99 286⇓*e*P **P 14 20 09.8 +0.6**
PMG *e**PP pP 14 20 39.0 +0.1
PMG pmax pmax
comp=Z,419nm,0.9s
PMG Port Moresby 36.99 286⇓*e*P **P 14 20 09.8 +0.6**
comp=Z,419nm,0.9s
PMG *e*pP pP 14 20 39.0 0.0
STKA Stephens Creek 37.67 247 *e*P **P 14 20 15.3 +0.4**
comp=Z,12nm,0.8s,mb4.6
STKA *e*SCP ScP 14 26 08.4 +4.2
STKA Stephens Creek 37.67 247 P **P 14 20 15.4 +0.5**
comp=Z,14nm,0.5s,mb4.8,baz=94,slow=9.9,SNR=48
STKA PcP PcP 14 22 31.0 +1.6
comp=Z,4.5nm,0.6s,baz=90,slow=9.1,SNR=2.5
STKA ScP ScP 14 26 06.8 +2.6
comp=Z,7.4nm,0.9s,baz=113,slow=6.0,SNR=5.7
RKT Rikitea 38.45 99 *e*P **P 14 20 20.4 -1.1**
comp=Z,96nm,1.1s,mb5.3
RKT Rikitea 38.45 99 *e*LR LR 14 30 54.4
comp=Z,504nm,32.2s
RKT Rikitea 38.45 99 *e*P **P 14 20 20.4 -1.1**
RKT pmax pmax
comp=Z,96nm,1.1s,mb5.3
AS31 Alice Springs 44.99 259 *e*P **P 14 21 14.8 +0.1**
AS31 *e*PcP PcP 14 22 54.1 +0.7
AS31 *e*ScP ScP 14 26 37.3 +4.1
AS31 *e*S **S 14 27 40.5 -2.3**
AS31 *e*ScS ScS 14 30 59.3 +1.7
ASAR Alice Springs 44.99 259 P **P 14 21 14.9 +0.3**
comp=Z,47nm,0.9s,mb5.1,baz=99,slow=6.3,SNR=32
ASAR PcP PcP 14 22 54.4 +0.9
comp=Z,8.9nm,0.5s,baz=110,slow=3.9,SNR=11
ASAR ScP ScP 14 26 36.8 +3.6
comp=Z,4.1nm,0.8s,baz=112,slow=4.0,SNR=8.4
ASAR S **S 14 27 41.1 -1.8**
comp=Z,1.6nm,0.9s,baz=93,slow=16,SNR=4.4
ASAR Alice Springs 44.99 259 P **P 14 21 15.0 +0.3**
ASAR 14 22 54.4
ASAR S **S 14 27 41.1 -1.8**
ASPA Alice Springs 44.99 259 *e*P **P 14 21 14.8 +0.1**
ASPA *e*PCP PcP 14 22 54.1 +0.6
ASPA *e*SCP ScP 14 26 37.3 +4.1
ASPA *e*S **S 14 27 40.5 -2.4**
ASPA *e*SCS ScS 14 30 59.3 +1.7
WB2 Warramunga Arr 45.31 264 *e*P **P 14 21 16.8 -0.4**
WB2 *e*pP pP 14 21 47.3 -0.6
WB2 *e*S **S 14 27 43.2 -4.3**
WB2 *e*SCS ScS 14 31 02.9 +3.2
WRAB Tennant Creek 45.32 264 P **P 14 21 16.3 -0.9**
comp=Z,1μm,0.8s
WRAB Tennant Creek 45.32 264⇓*e*P **P 14 21 17.2 0.0**
WRAB Tennant Creek 45.32 264⇓*i*P **P 14 21 16.9 -0.4**
comp=Z,137nm,0.8s,mb5.6
WRAB *e*pP pP 14 21 46.0 -1.9
WRA Warramunga Arr 45.32 264 P **P 14 21 17.3 0.0**
comp=Z,114nm,0.6s,mb5.7,baz=101,slow=8.3,SNR=606
WRA pP pP 14 21 47.0 -0.9
comp=Z,32nm,0.9s,baz=101,slow=8.0,SNR=2.6
WRA ScP ScP 14 26 38.0 +3.4
comp=Z,3.4nm,0.8s,baz=101,slow=4.0,SNR=5.7
WRA S **S 14 27 44.1 -3.5**
comp=Z,4.8nm,0.9s,baz=103,slow=14,SNR=9.4
WRA Warramunga Arr 45.32 264 P **P 14 21 17.3 0.0**
WRA *PP pP 14 21 47.0 -1.0
WRA S **S 14 27 44.1 -3.6**
KAKA Kakadu 49.11 273 *e*P **P 14 21 46.1 -0.5**
comp=Z,146nm,0.8s,mb5.7
FORT Forrest 49.26 249 *e*P **P 14 21 47.0 -0.8**
comp=Z,115nm,0.6s,mb5.7
FORT *e*PCP PcP 14 23 15.7 +7.0
FITZ Fitzroy Crossi 53.75 264⇓*i*P **P 14 22 21.2 +0.1**
comp=Z,202nm,0.8s,mb5.9
FITZ *e*S **S 14 29 44.9 -0.1**
FITZ Fitzroy Crossi 53.75 264 P **P 14 22 21.6 +0.5**
comp=Z,84nm,0.7s,mb5.6,baz=110,slow=7.8,SNR=334
SBA Scott Base 55.35 184⇑*i*P **P 14 22 35.5 +2.8**
SBA *e* 14 23 32.3
SBA pmax pmax
comp=Z,32nm,0.8s,mb5.1
SBA Scott Base 55.35 184⇑*i*P **P 14 22 35.5 +2.8**
comp=Z,32nm,0.8s,mb5.1
SBA *e*PcP PcP 14 23 32.3 +0.7
VNDA Vanda 55.41 185 P **P 14 22 34.9 +1.7**
comp=Z,7.8nm,0.9s,mb4.5,baz=357,slow=8.1,SNR=39
VNDA Vanda 55.41 185⇑*e*P **P 14 22 35.0 +1.9**
VNDA *e**PP pP 14 23 09.3 +4.4
VNDA *e* 14 23 32.6
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 55.41 185⇑*e*P **P 14 22 35.0 +1.8**
comp=Z,9.1nm,0.9s,mb4.5
VNDA *e*pP pP 14 23 09.3 +4.4
VNDA *e*PcP PcP 14 23 32.6 +0.8
KLBR Kellerberrin 57.93 246 *e*P **P 14 22 50.3 -0.6**
comp=Z,49nm,0.7s,mb5.4
NWAO Narrogin (SRO) 58.16 245 *e*P **P 14 22 53.6 +1.1**
NWAO pmax pmax
comp=Z,17nm,1.0s
NWAO Narrogin (SRO) 58.16 245 *e*P **P 14 22 53.6 +1.0**
comp=Z,17nm,1.0s,mb4.8
MBWA Marble Bar 58.33 259⇓*e*P **P 14 22 53.0 -0.7**
comp=Z,61nm,0.6s,mb5.6
MUN Mundaring 59.16 246 *e*P **P 14 23 11.4 +12**
MUN *e* 14 23 58.9
CASY Casey 62.06 206 *e*P **P 14 23 19.9 +0.8**
QSPA South Pole Qui 66.97 180 *e*P **P 14 23 52.4 +1.4**
comp=Z,62nm,1.0s,mb5.4
KKM Kota Kinabalu 71.44 285 *e*P **P 14 24 18.9 +0.4**
MJAR Matsushiro Arr 72.92 324 P **P 14 24 25.9 -1.4**
comp=Z,2.5nm,0.5s,mb4.2,baz=158,slow=5.8,SNR=11
MJAR pP pP 14 24 58.2 -2.5
comp=Z,2.1nm,0.9s,baz=217,slow=50,SNR=3.5
KSM Kuching 74.81 278⇓*i*P **P 14 24 39.5 +1.2**
KSM *e*pP pP 14 25 13.5 +1.7
YHNB Yeheng 76.44 304 *e*P **P 14 24 47.5 0.0**
UNV Unalaska Valle 77.16 6 *e*P **P 14 24 49.4 -2.2**
comp=Z,121nm,0.9s,mb5.5
SNCC San Nicolas Is 78.28 46⇑P **P 14 24 58.1 +0.2**
baz=78
PMSA Palmer Station 78.49 156 P **P 14 24 59.6 +0.7**
comp=Z,26nm,1.0s,mb4.8,baz=283,slow=7.0,SNR=3.8
PMSA Palmer Station 78.49 156 *e*P **P 14 24 59.5 +0.5**
comp=Z,51nm,1.1s,mb5.1
BSC Santa Cruz Isl 78.66 45⇑P **P 14 25 00.3 +0.4**
baz=79
YSS Yuzh-Sakhalins 78.69 333 *e*P **P 14 25 00.2 +0.1**
YSS pmax pmax
comp=Z,13nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 78.69 333 *e*P **P 14 25 00.2 +0.2**
comp=Z,13nm,0.7s,mb4.7
SCI San Clemente I 78.77 47⇑P **P 14 25 00.7 +0.2**
baz=79
SBC Santa Barbara 78.88 45⇑P **P 14 25 01.4 +0.2**
baz=79
V04C Ramage Ranch, 78.88 43⇑P **P 14 25 01.3 +0.1**
baz=79
FARB Farallon Islan 78.88 41⇓P **P 14 25 01.0 -0.2**
baz=79
V03C Hunter Liggett 78.89 43⇓P **P 14 25 01.7 +0.5**
baz=79
HAST UC Hastings Re 78.93 43⇓P **P 14 25 01.8 +0.4**
baz=79,SNR=9.9
BNLO Ben Lomond (Sa 79.02 42⇑P **P 14 25 01.9 +0.1**
baz=79
PKM Peak Mountain 79.09 45⇑P **P 14 25 02.7 +0.4**
baz=79,SNR=7.7
CIS Catalina Islan 79.12 47⇓P **P 14 25 01.9 -0.5**
baz=79
SAO San Andreas Ge 79.23 42 *e*P **P 14 25 02.9 -0.1**
SAO pmax pmax
comp=Z,23nm,1.0s,mb4.8
SAO San Andreas Ge 79.23 42 *e*P **P 14 25 02.9 -0.1**
comp=Z,23nm,1.0s,mb4.8
SMMC Simmler 79.23 44⇑P **P 14 25 03.4 +0.4**
baz=79
PKD Parkfield 79.28 43⇑P **P 14 25 03.5 +0.2**
baz=79,SNR=8.3
LRV Little Rabbit 79.28 43 *e*P **P 14 25 03.9 +0.5**
PTRM Twissleman Ran 79.31 44 *e*P **P 14 25 03.6 +0.1**
U04C Hernandez Rese 79.39 43⇑P **P 14 25 04.2 +0.3**
baz=80,SNR=14
SDPT Sand Point 79.39 9 *e*P **P 14 25 02.3 -1.6**
comp=Z,66nm,0.7s,mb5.4
MAW Mawson 79.47 200 *e*P **P 14 25 05.8 +1.5**
comp=Z,13nm,0.7s,mb4.7
MAW *e*PCP PcP 14 25 12.1 +0.2
MAW Mawson 79.47 200 P **P 14 25 05.7 +1.4**
comp=Z,22nm,0.9s,mb4.8,baz=126,slow=6.7,SNR=31
MAW Mawson 79.47 200 *e*P **P 14 25 05.8 +1.5**
MAW *e* 14 25 12.1
MAW pmax pmax
comp=Z,13nm,0.7s
PACP Pacheco Peak 79.48 42⇑P **P 14 25 04.6 +0.2**
baz=80,SNR=8.3
CVS Carmenet Viney 79.63 41⇓P **P 14 25 05.4 +0.3**
baz=80
HOPS Hopland 79.69 40 *e*P **P 14 25 04.0 -1.5**
comp=Z,22nm,0.9s,mb4.8
HOPS Hopland 79.69 40⇓P **P 14 25 05.9 +0.3**
baz=80
S04C Ingram Canyon, 79.78 42⇑P **P 14 25 06.4 +0.4**
baz=80,SNR=8.3
P01C Double 8 Ranch 79.84 39⇓P **P 14 25 06.5 +0.1**
baz=80
ARVC Arvin 79.88 45⇑P **P 14 25 06.6 +0.1**
baz=80
MNRC McLaughlin Nat 79.98 40⇓P **P 14 25 07.8 +0.7**
baz=80,SNR=9.3
O01C Eel River Cons 80.01 38⇓P **P 14 25 07.8 +0.6**
baz=80
MURC Murrieta 80.04 47⇑P **P 14 25 07.8 +0.4**
baz=80
Q03C Winters 80.08 41⇓P **P 14 25 08.2 +0.6**
baz=80
BFSC Mount Baldy St 80.11 46⇑P **P 14 25 07.9 +0.1**
baz=80,SNR=6.1
VES Vestal, Richgr 80.15 44 P **P 14 25 08.2 +0.2**
baz=80,SNR=10
MONP Monument Peak 80.16 48⇓P **P 14 25 08.3 +0.2**
baz=80,SNR=8.7
DVTC Desert V Tower 80.24 48⇓P **P 14 25 08.6 +0.1**
baz=80
EDW2 Edwards Air Fo 80.28 46 P **P 14 25 08.8 +0.1**
baz=80,SNR=37
S05C Merced 80.29 42⇑P **P 14 25 09.3 +0.5**
baz=80
GASB Alder Springs 80.32 39⇓P **P 14 25 09.9 +1.0**
baz=80,SNR=5.8
RCTC Rector, Farmer 80.33 44⇓P **P 14 25 09.5 +0.5**
baz=80
ISA Isabella 80.43 45 *e*P **P 14 25 09.6 +0.1**
ISA *e**PP pP 14 25 45.1 +1.6
ISA Isabella 80.43 45 P **P 14 25 09.6 +0.1**
baz=80,SNR=36
T06C Milleton Lake 80.47 43⇓P **P 14 25 09.5 -0.2**
baz=80,SNR=9.7
PFO Pinyon Flat Ob 80.55 47 P **P 14 25 10.2 +0.1**
comp=Z,68nm,1.0s,mb5.2,SNR=5.4
PFO Pinyon Flat Ob 80.55 47⇑P **P 14 25 10.1 -0.1**
baz=81,SNR=7.2
SWSC Sam W. Stewart 80.61 48⇑P **P 14 25 10.4 -0.1**
baz=81
O02C Red Bluff 80.63 39⇓P **P 14 25 11.2 +0.6**
baz=81,SNR=10
CHGN Chignik 80.64 10 *e*P **P 14 25 09.7 -0.9**
CMB Columbia Colle 80.69 42 *e*P **P 14 25 10.6 -0.3**
CMB pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
CMB Columbia Colle 80.69 42 *e*P **P 14 25 10.6 -0.3**
comp=Z,8.2nm,0.9s,mb4.4
CMB Columbia Colle 80.69 42⇑P **P 14 25 10.7 -0.2**
baz=81,SNR=6.5
HELL Mitchell Peak, 80.70 44⇑P **P 14 25 10.5 -0.4**
baz=81,SNR=12
N02C Big Bar 80.75 38⇓P **P 14 25 11.3 +0.1**
baz=81
LRMC Laurel Mountai 80.83 45⇓P **P 14 25 11.8 +0.1**
baz=81,SNR=13
OHCM Honcut 80.85 40 *e*P **P 14 25 11.0 -0.7**
KCC Kaiser Creek 80.91 43 P **P 14 25 12.5 +0.5**
baz=81,SNR=8.3
S06C San Francisco 80.92 42 P **P 14 25 11.9 -0.2**
baz=81,SNR=6.0
LAVA Lava Cap Winer 80.93 41⇑P **P 14 25 12.2 +0.1**
baz=81
ORV Oroville 80.98 40⇑P **P 14 25 12.3 -0.1**
baz=81,SNR=6.1
WDC Whiskeytown Da 81.03 39 *e*P **P 14 25 11.9 -0.8**
WDC pmax pmax
comp=Z,14nm,1.1s,mb4.5
WDC Whiskeytown Da 81.03 39 *e*P **P 14 25 11.9 -0.8**
comp=Z,14nm,1.1s,mb4.5
WDC Whiskeytown Da 81.03 39⇓P **P 14 25 12.8 +0.1**
baz=81,SNR=7.8
BELC Belle Mtn. 81.09 47⇓P **P 14 25 13.1 +0.1**
baz=81,SNR=10
CWC Cottonwood Cre 81.16 44 P **P 14 25 13.7 +0.4**
baz=81,SNR=7.7
BC3 Big Chuckw Mtn 81.26 48⇑P **P 14 25 14.4 +0.5**
baz=81,SNR=7.5
R05C Kirkwood Meado 81.30 41 P **P 14 25 14.2 +0.2**
baz=81,SNR=6.6
GSC Goldstone 81.31 46 *e*P **P 14 25 13.9 -0.3**
GSC *e**PP pP 14 25 49.9 +1.7
GSC Goldstone 81.31 46⇑P **P 14 25 14.2 0.0**
baz=81,SNR=13
MPMC Manual Prospec 81.31 45 P **P 14 25 14.6 +0.4**
baz=81,SNR=21
GLA Glamis 81.35 49 *e*P **P 14 25 14.4 0.0**
GLA Glamis 81.35 49⇓P **P 14 25 14.8 +0.4**
baz=81,SNR=9.4
HEC Hector,Ludlow 81.35 46⇑P **P 14 25 14.3 0.0**
baz=81,SNR=9.1
USHA Ushuaia 81.38 146 P **P 14 25 15.3 +0.7**
comp=Z,23nm,0.8s,mb4.8,baz=248,slow=4.6,SNR=6.4
M02C Callahan 81.39 38⇓P **P 14 25 15.0 +0.5**
baz=82,SNR=7.5
MLAC Mammoth Lakes 81.40 43⇑P **P 14 25 15.1 +0.5**
baz=82
MTUM Tungsten Hills 81.40 43 *e*P **P 14 25 15.2 +0.5**
TIN Tinemaha 81.43 44⇓P **P 14 25 15.2 +0.4**
baz=82
R07C Lee Vining 81.55 42⇑P **P 14 25 15.8 +0.4**
baz=82,SNR=7.2
O05C Quincy 81.58 40⇓P **P 14 25 15.8 +0.2**
baz=82
YBH Yreka Blue Hor 81.69 38 *e*P **P 14 25 16.1 -0.1**
YBH *e**PP pP 14 25 51.5 +1.3
YBH pmax pmax
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 81.69 38 *e*P **P 14 25 16.1 0.0**
comp=Z,14nm,0.8s,mb4.6
YBH *e*pP pP 14 25 51.5 +1.3
YBH Yreka Blue Hor 81.69 38⇓P **P 14 25 16.6 +0.5**
baz=82,SNR=10.0
O04C Chester 81.71 40⇓P **P 14 25 16.2 -0.1**
baz=82
S08C White Mtn Res 81.74 43 P **P 14 25 17.2 +0.8**
baz=82,SNR=36
IRM Iron Mountain 81.75 48 P **P 14 25 17.0 +0.5**
baz=82,SNR=15
HATC Hat Creek Radi 81.81 39⇓P **P 14 25 17.1 +0.3**
baz=82,SNR=6.3
BEKR Beckwourth 81.86 40⇓P **P 14 25 17.0 0.0**
baz=82,SNR=9.2
WCN Washoe City 81.86 41⇓P **P 14 25 17.2 +0.1**
baz=82,SNR=6.7
K02A Glendale 81.94 37⇑P **P 14 25 17.9 +0.4**
baz=82
GRAC Grapevine Rang 81.95 44⇓P **P 14 25 17.9 +0.4**
baz=82
Y12C Blythe 81.95 48⇓P **P 14 25 17.9 +0.4**
baz=82,SNR=6.2
FURC Furnace Creek, 81.96 45⇑P **P 14 25 17.7 +0.1**
baz=82,SNR=7.2
TUQ Turquoise Mtn. 81.97 46⇓P **P 14 25 17.9 +0.3**
baz=82,SNR=7.6
SHOC Shoshone 82.01 46⇓P **P 14 25 17.9 +0.1**
baz=82
ELFS Eagle Lake Fie 82.11 40⇓P **P 14 25 18.6 +0.2**
baz=82
HUMO Hull Mountain 82.13 37 *e*P **P 14 25 18.7 +0.2**
comp=Z,13nm,1.0s,mb4.5
HUMO Hull Mountain 82.13 37⇓P **P 14 25 18.9 +0.4**
baz=82,SNR=7.2
M04C Macdoel 82.22 38⇑P **P 14 25 19.3 +0.4**
baz=82
NVAR Mina Array Bea 82.22 43 P **P 14 25 18.8 -0.2**
comp=Z,9.5nm,0.9s,mb4.4,baz=224,slow=7.5,SNR=46
J02A Umpqua 82.29 36⇓P **P 14 25 19.4 +0.1**
baz=82
R08A Mina 82.29 43⇑P **P 14 25 19.4 +0.1**
baz=82
NJ2 Nanjing 82.34 309 *e*P **P 14 25 19.3 -0.2**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
M05C Lookout 82.34 39⇑P **P 14 25 19.8 +0.2**
baz=82,SNR=10
PAHR Pah Rah Range 82.34 41 *e*P **P 14 25 19.2 -0.3**
comp=Z,18nm,0.9s,mb4.7
O06A Flanigan 82.36 40⇓P **P 14 25 19.9 +0.3**
baz=82
L04A Klamath Falls 82.44 38⇑P **P 14 25 20.2 +0.1**
baz=82
Y13A Salome 82.46 48⇓P **P 14 25 20.7 +0.5**
baz=82,SNR=15
S09A Goldfield 82.47 44 P **P 14 25 20.4 +0.2**
baz=82,SNR=7.0
PDMCI Parker Dam,Lak 82.52 48⇑P **P 14 25 20.9 +0.4**
baz=83,SNR=12
V11A Goodsprings 82.53 46⇑P **P 14 25 21.3 +0.8**
baz=83
P07A Fallon 82.54 41⇓P **P 14 25 20.7 +0.1**
baz=83
I02A Mapleton 82.58 36⇓P **P 14 25 21.0 +0.2**
baz=83
W12A Cal Nev Ari 82.60 47⇑P **P 14 25 21.4 +0.5**
baz=83
J03A Ideyld Park 82.63 36⇑P **P 14 25 21.4 +0.4**
baz=83
M06C Likely Place G 82.63 39⇑P **P 14 25 21.4 +0.3**
baz=83,SNR=7.4
TPH Tonopah 82.69 43 P **P 14 25 20.9 -0.4**
TPH pmax pmax
comp=Z,26nm,1.1s,mb4.9
TPH Tonopah 82.69 43 P **P 14 25 20.9 -0.4**
comp=Z,26nm,1.1s,mb4.9
Q08A Gabbs 82.71 42⇑P **P 14 25 21.7 +0.2**
baz=83,SNR=8.3
N06A Buffalo Meadow 82.72 40⇑P **P 14 25 21.5 0.0**
baz=83,SNR=20
K04A Chilquin 82.82 38⇓P **P 14 25 22.2 +0.2**
baz=83
Z14A Wintersburg 82.83 49⇑P **P 14 25 22.7 +0.7**
baz=83,SNR=11
V12A Nelson 82.85 46⇑P **P 14 25 22.7 +0.5**
baz=83,SNR=7.7
I03A Eugene 82.86 36⇓P **P 14 25 22.3 +0.1**
baz=83
R09A Tonopah 82.88 43⇑P **P 14 25 22.4 +0.1**
baz=83,SNR=6.4
X13A Yucca 82.90 48⇑P **P 14 25 22.6 +0.1**
baz=83,SNR=23
U11A Corn Creek 82.90 46⇓P **P 14 25 22.5 0.0**
baz=83
O07A Toulon 82.93 41 P **P 14 25 22.6 0.0**
baz=83,SNR=37
L05A Lakeview 82.96 39⇑P **P 14 25 23.0 +0.2**
baz=83,SNR=9.4
115A Sonoran Desert 82.97 50⇑P **P 14 25 23.1 +0.3**
baz=83
Y14A Wickenburg 83.10 49⇑P **P 14 25 23.6 +0.1**
baz=83,SNR=15
KDAK Kodiak Island 83.11 13 P **P 14 25 22.6 -1.0**
comp=Z,15nm,0.7s,mb4.8,baz=228,slow=3.5,SNR=14
KDAK Kodiak Island 83.11 13 *e*P **P 14 25 22.0 -1.6**
comp=Z,9.3nm,0.6s,mb4.7
P08A Dixie Valley 83.13 42⇓P **P 14 25 23.8 +0.1**
baz=83
W13A Hualapai Mount 83.15 47⇓P **P 14 25 24.1 +0.4**
baz=83,SNR=22
Q09A Carvers 83.16 43⇑P **P 14 25 24.0 +0.2**
baz=83
MOD Modoc 83.17 39 *e*P **P 14 25 23.7 -0.2**
comp=Z,11nm,1.0s,mb4.5
MOD Modoc 83.17 39 P **P 14 25 24.1 +0.2**
baz=83,SNR=7.1
MDJ Mudanjiang 83.24 325 P **P 14 25 24.1 -0.1**
MDJ AP pP 14 25 57.1 -1.3
MDJ XP sP 14 26 11.0 -1.7
MDJ PP PP 14 28 36.5 -1.0
MDJ S S 14 35 33.3 0.0
MDJ XS sS 14 36 30.6 -1.7
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.2
MDJ AMB AMB
comp=Z,64nm,5.0s
MDJ Mudanjiang 83.24 325 *e*P **P 14 25 23.8 -0.5**
comp=Z,21nm,1.2s,mb4.8
116A Eloy 83.26 51⇓P **P 14 25 24.6 +0.3**
baz=83,SNR=5.1
H03A Soap Creek Ran 83.32 35⇓P **P 14 25 25.0 +0.4**
baz=83
K05A Summer Lake 83.36 38⇓P **P 14 25 25.2 +0.4**
baz=83,SNR=12
R10A Warm Springs 83.39 44 P **P 14 25 25.5 +0.5**
baz=84,SNR=38
O08A Rochester Mine 83.44 41⇑P **P 14 25 25.2 -0.1**
baz=84
U12A Valley of Fire 83.46 46⇓P **P 14 25 25.9 +0.5**
baz=84,SNR=8.2
X14A Yava 83.47 48⇑P **P 14 25 26.1 +0.7**
baz=84,SNR=21
BROR Big Rock Looko 83.50 36 P **P 14 25 25.5 0.0**
M07A Soldier Meadow 83.51 40⇑P **P 14 25 25.8 +0.2**
baz=84,SNR=8.7
J05A Fort Rock 83.53 37⇑P **P 14 25 25.9 +0.2**
baz=84,SNR=13
P09A Austin 83.62 42⇓P **P 14 25 26.2 0.0**
baz=84
W14A Seligman 83.75 48⇑P **P 14 25 27.7 +0.8**
baz=84,SNR=37
N08A GE Springer Mi 83.76 41⇑P **P 14 25 26.7 -0.1**
baz=84,SNR=17
K06A Valley Falls 83.77 38 P **P 14 25 27.1 +0.2**
baz=84,SNR=21
TUC Tucson 83.78 51 *e*P **P 14 25 27.6 +0.6**
TUC pmax pmax
comp=Z,24nm,0.8s,mb5.0
TUC Tucson 83.78 51 *e*P **P 14 25 27.6 +0.6**
comp=Z,24nm,0.8s,mb5.0
L07A Adell 83.81 39⇑P **P 14 25 27.4 +0.3**
baz=84,SNR=20
H04A Detroit Lake 83.91 36 P **P 14 25 27.7 0.0**
baz=84,SNR=5.2
X15A Humboldt 83.93 49⇑P **P 14 25 28.3 +0.6**
baz=84,SNR=25
O09A Fish Creek Ran 83.96 42⇑P **P 14 25 27.7 -0.2**
baz=84,SNR=13
M08A Happy Creek Ra 84.02 40⇑P **P 14 25 28.1 -0.1**
baz=84,SNR=12
P10A Eureka 84.08 42⇑P **P 14 25 28.4 -0.1**
baz=84
BMN Battle Mountai 84.10 41 *e*P **P 14 25 28.2 -0.4**
BMN pmax pmax
comp=Z,23nm,1.0s,mb4.9
BMN Battle Mountai 84.10 41 *e*P **P 14 25 28.2 -0.3**
comp=Z,23nm,1.0s,mb4.9
G04A Mulino 84.10 35⇓P **P 14 25 29.0 +0.4**

baz=84
J06A **Christmas Vall** 84.11 38 P P 14 25 28.3 -0.3
baz=84,SNR=12
Q11A **Duckwater** 84.13 43 P P 14 25 28.8 +0.1
baz=84,SNR=12
N09A **Rock Creek Ran** 84.17 41 P P 14 25 29.0 +0.1
baz=84,SNR=10
K07A **Rock Creek Ran** 84.28 39 P P 14 25 29.7 +0.2
baz=84,SNR=24
W15A **Williams** 84.29 48 ⇓P P 14 25 30.4 +0.8
baz=84
H05A **Madras** 84.41 36 ⇓P P 14 25 30.7 +0.5
baz=84
SYO **Syowa Base** 84.41 192⇓eP P 14 25 29.4 -0.8
SYO **Syowa Base** 84.41 192⇓ePcP PcP 14 25 32.8 -0.8
SYO **Syowa Base** 84.41 192⇑epP pP 14 26 04.2 -0.2
E03A **Lebam** 84.42 34 ⇓P P 14 25 30.9 +0.7
baz=84
O10A **Cortez Mining,** 84.46 42 ⇓P P 14 25 30.4 0.0
baz=84,SNR=5.4
WVOR **Wild Horse Val** 84.47 39 eP P 14 25 30.1 -0.4
WVOR pmax pmax
comp=Z,23nm,1.0s,mb4.9
WVOR **Wild Horse Val** 84.47 39 eP P 14 25 30.1 -0.3
comp=Z,23nm,1.0s,mb4.9
P11A **Circle Ranch,** 84.48 43 ⇑P P 14 25 30.5 0.0
baz=85,SNR=5.1
L08A **Fields** 84.49 40 ⇓P P 14 25 30.5 0.0
baz=85,SNR=12
I06A **Prineville** 84.52 37 ⇓P P 14 25 31.0 +0.3
baz=85,SNR=12
M09A **Marrel Ranch,** 84.56 41 ⇑P P 14 25 31.2 +0.3
baz=85
F04A **Amboy** 84.61 35 ⇓P P 14 25 31.3 +0.2
baz=85
J07A **Hines** 84.67 38 ⇑P P 14 25 31.5 +0.1
baz=85,SNR=6.6
LVP **Lakeview Peak** 84.71 35 P P 14 25 31.9 +0.3
K08A **Mann Creek Ran** 84.74 39 ⇓P P 14 25 32.0 +0.2
baz=85,SNR=9.3
L09A **Wilkinson Ranc** 84.79 40 ⇓P P 14 25 31.9 -0.1
baz=85
WHN **Wuhan** 84.82 306 ⇑P P 14 25 34.1 +1.9
NLWA **Neilton Lookou** 84.84 33 ⇓P P 14 25 32.2 -0.1
baz=85
CCUT **Cedar City** 84.87 46 eP P 14 25 32.9 +0.4
O11A **Cowboy Ranch,** 84.88 42 P P 14 25 32.7 +0.2
baz=85,SNR=29
E04A **Onalaska** 84.89 34 ⇑P P 14 25 32.7 +0.2
baz=85
ARUT **Antelope Range** 84.95 45 eP P 14 25 33.1 +0.2
H06A **Lindquist Farm** 84.95 37 ⇑P P 14 25 32.7 -0.1
baz=85,SNR=12
P12A **McGill** 84.97 43 ⇓P P 14 25 33.2 +0.3
baz=85,SNR=9.4
CN2 **Changchun** 84.99 322 eP P 14 25 32.5 -0.6
CN2 eAP pP 14 26 06.0 -1.4
CN2 eS S 14 35 48.0 -2.7
CN2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
CN2 AMB AMB
comp=Z,200nm,6.0s
TDL **Tradedollar La** 84.99 35 P P 14 25 33.8 +0.7
I07A **Izee** 85.00 38 P P 14 25 33.3 +0.2
baz=85,SNR=10
WUAZ **Wupatki** 85.09 48 eP P 14 25 33.8 +0.2
comp=Z,17nm,1.1s,mb4.7
WUAZ **Wupatki** 85.09 48 ⇑P P 14 25 34.1 +0.5
baz=85,SNR=9.3
G06A **Carlson Farm,** 85.11 36 ⇑P P 14 25 33.2 -0.4
baz=85,SNR=6.3
J08A **Circle Bar Ran** 85.14 39 ⇓P P 14 25 33.7 -0.1
baz=85,SNR=12
KULM **Kulm** 85.16 278 eP P 14 25 34.8 +0.9
M10A **I.L. Ranch, Tu** 85.16 41 ⇓P P 14 25 34.1 +0.1
baz=85,SNR=12
K09A **Rome** 85.17 39 P P 14 25 33.8 -0.1
baz=85,SNR=27
H07A **Lands Inn, Kim** 85.29 37 P P 14 25 34.4 -0.2
baz=85,SNR=11
SNAA **Sanae** 85.38 178 eP P 14 25 34.1 -0.9
I08A **Drewsey** 85.42 38 ⇑P P 14 25 35.0 -0.2
baz=86,SNR=6.0
B04A **Port Angeles** 85.47 33 ⇑P P 14 25 35.3 -0.1
baz=86
C04A **Brinnon** 85.51 33 ⇓P P 14 25 35.5 -0.1
baz=86
O12A **Currie** 85.53 43 P P 14 25 35.7 0.0
baz=86,SNR=6.9
J09A **Fry Pan Ranch,** 85.55 39 ⇑P P 14 25 35.7 -0.1
baz=86,SNR=12
M11A **Holland Ranch,** 85.56 41 ⇓P P 14 25 35.9 0.0
baz=86
WPW **White Pass** 85.57 35 P P 14 25 36.0 +0.1
FMW **Mount Fremont** 85.66 34 P P 14 25 36.5 +0.1
G07A **Ruggs Ranch, H** 85.66 37 ⇑P P 14 25 36.1 -0.3
baz=86
D05A **Enumclaw** 85.66 34 ⇓P P 14 25 36.2 -0.2
baz=86
N12A **Clover Valley,** 85.69 42 ⇓P P 14 25 36.2 -0.3
baz=86,SNR=6.5
H08A **Prairie City** 85.74 38 ⇑P P 14 25 36.5 -0.3
baz=86
PSI **Prapat** 85.75 275 P P 14 25 37.7 +0.8
comp=Z,30nm,0.9s,mb5.0,baz=182,slow=2.8,SNR=6.7
PSI **Prapat** 85.75 275 P P 14 25 37.7 +0.8
E06A **Yakima** 85.77 35 ⇓P P 14 25 36.6 -0.3
baz=86
F07A **Phinny Hill Vi** 85.91 36 ⇓P P 14 25 37.6 0.0
baz=86
I09A **Lost Marbles R** 85.94 38 ⇑P P 14 25 37.3 -0.4
baz=86
G08A **Pilot Rock** 86.06 37 ⇓P P 14 25 38.1 -0.3
baz=86,SNR=12
SLKM **Skilak Lake** 86.11 13 eP P 14 25 37.3 -1.3
C05A **Tolt Reservoir** 86.14 34 ⇓P P 14 25 38.4 -0.3
baz=86
MSU **Marysvale** 86.18 45 eP P 14 25 39.4 +0.4
N13A **Wendover, West** 86.20 42 ⇓P P 14 25 38.9 -0.2
baz=86
A04A **Legoe Bay, Lum** 86.31 33 ⇓P P 14 25 39.4 -0.1
baz=86
B05A **Bryant** 86.31 33 ⇓P P 14 25 39.3 -0.3
baz=86
E07A **Sunnyside** 86.37 35 ⇑P P 14 25 39.9 0.0
baz=86
H09A **Durkee** 86.40 38 ⇑P P 14 25 39.8 -0.2
baz=86
F08A **Pendleton** 86.48 37 ⇓P P 14 25 40.1 -0.3
baz=87
DUG **Dugway** 86.71 44 ⇑P P 14 25 41.0 -0.5
baz=87
D07A **Quincy** 86.71 35 ⇓P P 14 25 41.0 -0.6
baz=87
PLCA **Paso Flores** 86.73 133 P P 14 25 42.9 +1.3
comp=Z,23nm,1.0s,mb5.0,baz=230,slow=5.6,SNR=27
PLCA **Paso Flores** 86.73 133 eP P 14 25 42.3 +0.7
PLCA pmax pmax
comp=Z,36nm,1.2s
PLCA **Paso Flores** 86.73 133 eP P 14 25 42.3 +0.7
comp=Z,36nm,1.2s,mb5.1
B06A **Marblemount** 86.79 33 ⇑P P 14 25 41.2 -0.7
baz=87
ETW **Entiat** 86.79 34 P P 14 25 41.8 -0.2
F09A **S2 Ranch, Elgi** 86.90 37 ⇑P P 14 25 42.1 -0.4
baz=87
C07A **Waterville** 86.98 34 ⇓P P 14 25 42.2 -0.6
baz=87
WTV **Waterville** 87.04 35 P P 14 25 42.8 -0.4
D08A **Wollman Farm,** 87.19 35 ⇓P P 14 25 43.6 -0.2
baz=87,SNR=6.5
TMUT **Trail Mountain** 87.24 45 eP P 14 25 44.4 +0.3
E09A **Wood Farm, Sta** 87.27 36 ⇓P P 14 25 43.6 -0.6
baz=87,SNR=6.9
PMR **Palmer** 87.31 13 eP P 14 25 42.5 -1.9
PMR pmax pmax
comp=Z,11nm,0.8s,mb4.7
PMR **Palmer** 87.31 13 eP P 14 25 42.5 -2.0
comp=Z,11nm,0.8s,mb4.7
MNTX **Cornudas Mount** 87.43 54 eP P 14 25 44.8 -0.1
comp=Z,20nm,0.9s,mb5.0
F10A **Beach Ranch, E** 87.44 37 P P 14 25 44.2 -0.8
baz=88,SNR=18
B07A **Winthrop** 87.44 34 ⇓P P 14 25 44.7 -0.3
baz=88
LAZ **Ladron** 87.47 51 eP P 14 25 45.8 +0.6
LENM **Lemitar** 87.47 51 eP P 14 25 45.4 +0.2

D09A **Jones Farm, Ri** 87.52 36 ⇑P P 14 25 45.1 -0.3
baz=88,SNR=6.3
C08A **Higginbotham F** 87.58 35 ⇑P P 14 25 45.3 -0.3
baz=88
SRU **San Rafael** 87.59 46 eP P 14 25 45.5 -0.3
SRU pmax pmax
comp=Z,35nm,0.8s,mb5.2
SRU **San Rafael** 87.59 46 eP P 14 25 45.5 -0.3
comp=Z,35nm,0.8s,mb5.2
TXAR **Lajitas Array** 87.60 57 P P 14 25 45.8 0.0
comp=Z,14nm,0.9s,mb4.8,baz=150,slow=5.8,SNR=3.8
TXAR pP pP 14 26 18.6 -1.7
comp=Z,4.8nm,0.9s,baz=224,slow=7.0,SNR=2.9
HLID **Hailey** 87.63 40 eP P 14 25 45.6 -0.3
comp=Z,6.2nm,0.9s,mb4.4
HLID **Hailey** 87.63 40 ⇑P P 14 25 45.9 0.0
baz=88,SNR=10
KKTK **Khon Kaen** 87.71 289 P P 14 25 46.9 +0.6
comp=Z,525nm,0.6s
LPM **Los Pinos Moun** 87.79 51 eP P 14 25 46.3 -0.4
DAU **Daniels Canyon** 87.82 44 eP P 14 25 46.8 0.0
MVCO **Mesa Verde** 87.95 48 ⇑P P 14 25 47.9 +0.4
baz=88
C09A **Chrisman Ranch** 87.99 35 ⇑P P 14 25 47.6 -0.1
baz=88
ANMO **Albuquerque** 88.23 51 P P 14 25 49.1 +0.3
comp=Z,12nm,0.9s,mb4.7,baz=220,slow=5.5,SNR=18
ANMO **Albuquerque** 88.23 51 ⇑iP P 14 25 48.9 +0.1
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO **Albuquerque** 88.23 51 ⇑iP P 14 25 48.9 +0.1
comp=Z,15nm,1.0s,mb4.8
HWUT **Hardware Ranch** 88.27 43 eP P 14 25 47.8 -1.2
comp=Z,4.6nm,0.8s,mb4.4
EFI **East Falkland** 88.33 147 eP P 14 25 49.2 -0.1
EFI pmax pmax
comp=Z,111nm,1.0s,mb5.7
EFI **East Falkland** 88.33 147 eP P 14 25 49.2 -0.1
comp=Z,111nm,1.0s,mb5.7
B09A **Rice** 88.44 35 ⇑P P 14 25 49.3 -0.5
baz=88,SNR=5.7
BJT **Baijiatuau** 88.46 315 P P 14 25 49.8 -0.1
BJT pmax pmax
comp=Z,25nm,1.3s
BJT **Baijiatuau** 88.46 315 P P 14 25 49.8 0.0
comp=Z,25nm,1.3s,mb4.9
C10A **Spilker Farm,** 88.52 36 ⇓P P 14 25 49.8 -0.4
baz=89
A09A **Danville** 88.56 34 ⇓P P 14 25 50.2 -0.1
baz=89
GYA **Guiyang** 88.83 299 P P 14 25 52.3 +0.7
GYA AP pP 14 26 28.1 +1.9
GYA XP sP 14 26 43.0 +2.5
GYA PP PP 14 29 25.4 +2.8
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,110nm,5.2s
GYA LR LR
comp=N,430nm,18.9s
GYA LR LR
comp=E,450nm,18.4s
GYA LR LR
comp=Z,470nm,18.0s
NEW **Newport** 88.89 35 P P 14 25 51.2 -0.6
comp=Z,1.6nm,0.4s,mb4.3,baz=249,slow=12,SNR=4.0
NEW **Newport** 88.89 35 eP P 14 25 49.1 -2.8
NEW pmax pmax
comp=Z,7.0nm,1.1s
NEW **Newport** 88.89 35 eP P 14 25 49.1 -2.7
comp=Z,7.2nm,1.1s,mb4.5
A10A **Northport** 89.09 35 ⇓P P 14 25 52.7 -0.1
baz=89
SEY **Seymchan** 89.14 346⇑eP P 14 25 51.7 -1.4
MCMT **McKenzie Canyo** 89.28 40 P P 14 25 54.0 +0.3
MCK **McKinley** 89.29 12 eP P 14 25 52.1 -1.7
MCK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MCK **McKinley** 89.29 12 eP P 14 25 52.1 -1.6
comp=Z,8.5nm,0.7s,mb4.8
MCK epP pP 14 26 26.2 -2.2
B11A **Sandpoint** 89.39 35 ⇑P P 14 25 53.7 -0.6
baz=90
E13A **Victor** 89.42 38 ⇓P P 14 25 53.8 -0.5
baz=90
C12A **Trout Creek** 89.44 36 ⇓P P 14 25 53.9 -0.5
baz=90
D13A **Huson** 89.64 37 ⇓P P 14 25 55.1 -0.4
baz=90
REDW **Red Top Meadow** 89.67 42 eP P 14 25 54.8 -0.7
comp=Z,12nm,1.0s,mb4.8
MENT **Mentasta** 89.69 14 eP P 14 25 55.2 -0.4
SNOW **Snow King Moun** 89.78 42 eP P 14 25 56.0 -0.1
comp=Z,23nm,1.1s,mb5.0
B12A **Libby** 89.83 36 ⇑P P 14 25 56.0 -0.3
baz=90
IMW **Indian Meadow** 89.91 41 eP P 14 25 56.8 +0.1
comp=Z,14nm,0.9s,mb4.9
C13A **Hot Springs** 89.92 37 ⇑P P 14 25 56.9 +0.2
baz=90
A12A **Yaak River Ran** 90.07 35 ⇑P P 14 25 57.1 -0.3
baz=90
QLMT **Earthquake Lak** 90.12 40 eP P 14 25 57.6 0.0
FLWY **Flagg Ranch** 90.15 41 eP P 14 25 57.6 -0.1
comp=Z,22nm,0.9s,mb5.1
PDAR **Pinedale Array** 90.16 43 P P 14 25 57.4 -0.4
comp=Z,9.3nm,0.9s,mb4.7,baz=204,slow=3.3,SNR=50
D14A **Greenough** 90.17 38 ⇓P P 14 25 57.0 -0.8
baz=90
CHMT **Chamberlain Mo** 90.22 38 eP P 14 25 57.2 -0.9
SDCO **Great Sand Dun** 90.28 49 eP P 14 25 57.7 -0.7
comp=Z,6.1nm,1.0s,mb4.5
E15A **Deer Lodge** 90.29 39 ⇓P P 14 25 58.0 -0.4
baz=90
B13A **Whitefish** 90.38 36 ⇑P P 14 25 58.1 -0.7
baz=90
COLA **College** 90.53 12⇑iP P 14 25 58.4 -1.1
COLA **College** 90.53 12 eP P 14 25 58.0 -1.6
comp=Z,18nm,0.6s,mb5.3
XAN **Xi'an** 90.53 307 P P 14 26 00.0 +0.5
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
IMA2 **Indian Mountai** 90.64 9 eP P 14 25 58.0 -2.1
WALA **Waterton Lakes** 91.08 36 eP P 14 26 01.1 -1.0
comp=Z,6.5nm,1.0s,mb4.6
JCT **Junction City** 91.11 57 eP P 14 26 01.6 -0.6
JCT pmax pmax
comp=Z,14nm,0.9s,mb5.0
JCT **Junction City** 91.11 57 eP P 14 26 01.6 -0.7
comp=Z,14nm,0.9s,mb5.0
BDT **Bhumibol Dam** 91.42 288 P P 14 26 06.5 +2.8
KMI **Kunming** 91.45 297 P P 14 26 04.8 +1.0
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.5
KMI **Kunming** 91.45 297 P P 14 26 04.7 +0.9
KMI pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KMI **Kunming** 91.45 297 P P 14 26 04.7 +0.9
comp=Z,6.0nm,1.1s,mb4.5
RLMT **Red Lodge** 91.57 41 eP P 14 26 04.0 -0.3
comp=Z,8.1nm,1.0s,mb4.7
DAWY **Dawson** 91.68 16 eP P 14 26 04.3 -0.6
BILL **Biiibino** 91.73 354⇓eP P 14 26 03.9 -1.2
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.9
BILL **Biiibino** 91.73 354 eP P 14 26 03.0 -2.1
comp=Z,4.5nm,0.3s,mb5.0
CHG **Chiang Mai** 92.10 289 ⇓P P 14 26 08.0 +1.2
comp=Z,33nm,0.7s,mb5.5
CHTO **Chiang Mai** 92.10 289 eP P 14 26 08.2 +1.4
CHTO pmax pmax
comp=Z,24nm,0.8s,mb5.3
CHTO **Chiang Mai** 92.10 289 eP P 14 26 08.2 +1.4
comp=Z,24nm,0.8s,mb5.3
EGMT **Eagleton** 92.81 38 ⇓P P 14 26 09.6 -0.5
baz=93
CD2 **Chengdu** 93.06 302 eP P 14 26 11.0 -0.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,8.2s
TRQA **Tornquist** 93.81 134 eP P 14 26 15.3 +0.6
comp=Z,7.9nm,0.9s,mb4.8
RSSD **Black Hills** 94.31 44 eP P 14 26 16.0 -1.0
RSSD pmax pmax
comp=Z,26nm,0.9s,mb5.4
RSSD **Black Hills** 94.31 44 eP P 14 26 16.0 -1.0

comp=Z,26nm,0.9s,mb5.4
LZH **Lanzhou** 95.17 307 eP P 14 26 24.0 +3.1
LZH AP pP 14 26 58.5 +2.9
LZH XP sP 14 27 13.4 +3.6
LZH PP PP 14 30 18.0 +5.6
LZH eSKS 14 36 45.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,90nm,5.5s
LZH **Lanzhou** 95.17 307 eP P 14 26 24.0 +3.1
LZH 14 30 18.0
LZH e 14 36 45.0
LZH eS S 14 37 24.0 -0.4
LZH eSS SS 14 43 57.0 +3.4
LZH pmax pmax
comp=Z,13nm,1.0s,mb5.1
LZH **Lanzhou** 95.17 307 eP P 14 26 24.0 +3.1
comp=Z,13nm,1.0s,mb5.1
LZH pP pP 14 26 58.5 +2.9
LZH sP sP 14 27 13.4 +3.6
LZH PP PP 14 30 18.0 +5.6
LZH eSKS 14 36 45.0
LZH eS S 14 37 24.0 -0.4
LZH sS sS 14 38 24.0 -0.8
LZH eSS SS 14 43 57.0 +3.4
LVC **Limon Verde** 96.50 118 LR LR 15 00 45.1
comp=Z,242nm,19.8s,baz=176,slow=30
INK **Inuvik** 96.52 15 P P 14 26 24.6 -2.4
comp=Z,3.6nm,0.4s,mb5.0,baz=286,slow=4.0,SNR=30
INK pP pP 14 26 55.5 -6.3
comp=Z,1.2nm,0.3s,baz=174,slow=5.8,SNR=2.6
INK **Inuvik** 96.52 15 eP P 14 26 24.5 -2.5
comp=Z,75nm,0.5s
SONM **Songino Array** 98.39 318 P P 14 26 35.8 +0.4
comp=Z,0.6nm,0.7s,mb4.1,baz=117,slow=5.1,SNR=4.9
SONM PP PP 14 30 34.6 -2.5
comp=Z,1.4nm,1.1s,baz=116,slow=4.8,SNR=5.7
YKA **Yellowknife Ar** 98.44 25 P P 14 26 34.4 -1.3
comp=Z,2.3nm,0.9s,mb4.6,baz=236,slow=4.9,SNR=4.3
GTA **Gaotai** 99.42 309 eP Pdif 14 26 40.9 +0.9
GTA AP pP 14 27 17.1 +2.3
GTA XP sP 14 27 32.3 +3.3
GTA PP PP 14 30 47.8 +2.8
GTA AMB AMB
comp=Z,2.0nm,1.6s,mb4.3
GTA AMB AMB
comp=Z,131nm,4.9s
GTA LR LR
comp=N,1μm,15.6s
GTA LR LR
comp=E,1μm,13.7s
GTA LR LR
comp=Z,1μm,17.1s
LPAZ **La Paz** 100.10 113 P Pdif 14 26 46.7 +3.6
comp=Z,1.6nm,0.8s,baz=263,slow=4.3,SNR=7.3
LPAZ **La Paz** 100.10 113 P Pdif 14 26 46.7 +3.6
TIXI **Tiksi** 101.53 345⇑eP Pdif 14 26 47.9 -1.5
TIXI pmax pmax
comp=Z,3.0nm,1.5s
TIXI **Tiksi** 101.53 345⇑eP Pdif 14 26 47.0 -2.4
GUN **Gumba** 106.52 294 eP PKiKP 14 31 20.8 -1.0
comp=Z,11nm,0.6s
PKI **Pulchoki** 106.82 293 eP PKiKP 14 31 22.2 -0.1
KKN **Kakani** 106.99 293 eP PKiKP 14 31 22.8 +0.1
DMN **Daman** 107.09 293 eP PKiKP 14 31 23.6 +0.8
comp=Z,11nm,0.6s
GKN **Gorkha** 107.60 293 eP PKiKP 14 31 24.0 +0.2
comp=Z,8.0nm,0.6s
KOLN **Koldanda** 108.41 293 eP PKiKP 14 31 24.9 -0.4
comp=Z,5.5nm,0.5s
WMQ **Urumqi** 109.41 310 ePKP PKiKP 14 31 28.0 +0.8
WMQ XPKP 14 32 15.0
WMQ PKS 14 35 03.0
WMQ PP PP
comp=Z,124nm,4.9s
WMQ LR LR
comp=N,763nm,20.6s
WMQ LR LR
comp=E,828nm,18.3s
WMQ LR LR
comp=Z,642nm,22.9s
ZAL **Zalesovo** 113.18 320 PKiKP PKiKP 14 31 32.4 -1.9
comp=Z,1.8nm,0.5s,baz=341,slow=2.3,SNR=4.4
MKAR **Makanchi Array** 113.73 313 PKiKP PKiKP 14 31 34.2 -1.2
comp=Z,1.1nm,0.4s,baz=346,slow=2.9,SNR=12
MKAR **Makanchi Array** 113.73 313 PKPdf PKiKP 14 31 34.2 -1.2
NVS **Novosibirsk** 114.19 321 ePKIKP PKiKP 14 31 33.4 -2.9
NVS e 14 38 08.9
AAK **Ala-Archa** 118.71 307⇑ePKIKP PKPdf 14 31 48.5 +3.6
CHKZ **Chkalovo** 121.56 320 ePKIKP PKPdf 14 31 49.0 -1.4
ZRNK **Zerenda** 122.57 319 ePKIKP PKPdf 14 31 51.4 -1.0
ZRNK e 14 32 24.7
ZRNK **Zerenda** 122.57 319 ePKPdf PKPdf 14 31 51.4 -1.0
ZRNK epPKPdf pPKPdf 14 32 24.7 -3.8
ZRNK eSKP 14 35 14.2
BOSA **Boshof** 124.32 204 PKP PKPdf 14 31 57.5 +1.8
comp=Z,5.2nm,1.0s,baz=202,slow=3.9,SNR=5.7
ARU **Arti** 127.93 325 iPKIKP PKPdf 14 32 02.1 -0.5
ARU e 14 39 04.3
ARU eSS SS 14 51 02.7 -6.1
ARU **Arti** 127.93 325 ePKPdf PKPdf 14 32 01.3 -1.3
ARCES **ARCESS Array B** 131.67 350 PKhKP 14 31 57.6
comp=Z,12nm,1.4s,baz=294,slow=1.2,SNR=8.6
ARCES PKP PKPdf 14 32 08.4 -1.3
comp=Z,8.6nm,0.8s,baz=357,slow=1.8,SNR=15
ARCES SKPbc SKPbc 14 35 23.8 +1.0
comp=Z,24nm,0.9s,baz=53,slow=4.7,SNR=18
ARCES **ARCESS Array B** 131.67 350 PKHKP 14 31 57.7
ARCES 14 32 08.4
LSZ **Lusaka** 134.64 215 ePKIKP PKPdf 14 32 16.4 +1.1
TSUM **Tsumeb** 135.63 200 PKhKP 14 32 15.5
comp=Z,2.3nm,0.7s,baz=113,slow=2.8,SNR=4.3
TSUM SKPbc SKPbc 14 35 39.6 +3.7
comp=Z,4.5nm,0.8s,baz=17,slow=0.5,SNR=6.4
JOF **Joensuu** 135.93 342 epkp PKPdf 14 32 16.8 -0.9
KAF **Kangasniemi** 137.94 344 epkp PKPdf 14 32 13.0 -8.4
FINES **FINESS Array B** 138.56 344 PKhKP 14 32 10.5
comp=Z,1.4nm,0.4s,baz=88,slow=4.0,SNR=16
FINES PKP PKPdf 14 32 21.1 -1.5
comp=Z,3.2nm,0.5s,baz=84,slow=4.7,SNR=13
FINES SKPbc SKPbc 14 35 44.7 +0.1
comp=Z,2.4nm,0.7s,baz=0.0,slow=4.2,SNR=4.4
FINES **FINESS Array B** 138.56 344 PKHKP 14 32 10.5
FINES 14 32 21.1
FINES **FINESS Array B** 138.56 344 PKP 14 32 10.5
FINES PKP PKPdf 14 32 21.1 -1.5
FINES SKPbc SKPbc 14 35 44.7 +0.1
KMBO **Kilima Mbogo** 138.96 239 SKPbc SKPbc 14 35 50.0 +4.3
comp=Z,3.8nm,1.0s,baz=117,slow=2.0,SNR=4.9
KMBO **Kilima Mbogo** 138.96 239 PKIKP PKPdf 14 32 27.0 +3.7
OBN **Obninsk** 139.54 331 iPKIKP PKPdf 14 32 25.0 +0.7
OBN pmax pmax
comp=Z,12nm,1.2s
RDF **Al-Radifah** 139.83 288 eP PKPdf 14 32 17.5 -7.4
RDF AMb AMB 14 32 34.4
comp=Z,51nm,0.6s
MIB **Mutribah** 140.04 289 eP PKPdf 14 32 17.2 -8.1
MIB AMb AMB 14 32 22.5
comp=Z,19nm,0.5s
NAY **Al-Naaiem** 140.11 288 eP PKPdf 14 32 17.7 -7.7
NAY AMb AMB 14 32 34.5
comp=Z,18nm,0.9s
RST **Umm Al-Ruwaisa** 140.33 289 eP PKPdf 14 32 18.0 -7.8
RST AMb AMB 14 32 34.7
comp=Z,33nm,0.6s
NB2 **NORSAR Subarra** 141.69 354 PKP PKPdf 14 32 21.0 -7.2
comp=Z,2.0nm,0.5s,baz=13,slow=3.1
NOA **NORSAR Array B** 141.69 354 PKhKP 14 32 21.6
comp=Z,3.3nm,0.7s,baz=16,slow=4.8,SNR=9.0
NOA SKPbc SKPbc 14 35 52.6 -0.2
comp=Z,6.8nm,1.0s,baz=14,slow=4.2,SNR=5.5
ANN **Anapa** 144.64 316 iPKIKP PKPdf 14 32 31.8 -1.6
ANN pmax pmax
comp=Z,56nm,1.2s
KELT **Kelkit** 145.15 308 iP PKPbc 14 32 33.1 -1.0
GRSN **GIRESUNGRSN** 145.60 309 iP PKPdf 14 32 31.0 -4.1
SUW **Suwalki** 145.64 339 ePKP PKPdf 14 32 35.0 -0.1
AKASG **Malin Array Be** 145.79 330 PKPbc PKPbc 14 32 34.7 -1.5
comp=Z,40nm,0.5s,baz=42,slow=4.2,SNR=189
AKASG SKPbc SKPbc 14 36 03.5 +0.8
comp=Z,3.5nm,0.9s,baz=38,slow=2.0,SNR=6.8
AKASG **Malin Array Be** 145.79 330 PKPbc PKPbc 14 32 34.7 -1.5
AKASG SKPbc SKPbc 14 36 03.5 +0.8
AKBB **Malin Array Si** 145.79 330 ePKIKP PKPdf 14 32 34.5 -0.9

ELZG	Elazig	145.83 305	*i* P	PKPdf	14 32 37.1	+1.6
MUD	Monsted U'grnd	146.40 354	*i* P	PKPdf	14 32 37.5	+1.1
	comp=Z,17nm,0.4s					
MUD			*i*		14 54 32.2	
MUD						
	comp=Z,3μm,17.0s					
MUD	Monsted U'grnd	146.40 354	*i* P	PKPdf	14 32 37.5	+1.1
MUD			*i*		14 54 32.2	
SIM	Simferopol'	146.64 318	*e*PKP2	PKPab	14 32 38.2	-1.8
SIM			pmax	pmax		
	comp=Z,109nm,0.8s					
BSD	Bornholm Skovb	146.85 348	*i* P	PKPdf	14 32 38.4	+1.2
	comp=Z,44nm,0.7s					
BSD			*i*		14 54 23.5	
BSD						
	comp=Z,5μm,19.0s					
BSD	Bornholm Skovb	146.85 348	*i* P	PKPdf	14 32 38.4	+1.2
BSD			*i*		14 54 23.5	
GZT	Gaziantep	147.23 304	*i* P	PKPdf	14 32 40.6	+2.8
BOYT	Boyabat	147.76 312	*i* P	PKPdf	14 32 42.0	+3.2
CTKT	Corum	148.16 311	*i* P	PKPdf	14 32 42.0	+2.6
KIS	Kishinev	148.47 325	*e*PKP	PKPdf	14 32 42.0	+2.1
LVV	L'vov	148.70 334	*e*PKP2	PKPbc	14 32 43.4	-0.8
BALT	Daday	148.74 313	*i* P	PKPdf	14 32 42.9	+2.6
DCN	Croghan	148.80 12	*e*P	PKPdf	14 32 44.0	+3.6
AVNT	Avonos	148.81 307	*i* P	PKPbc	14 32 44.6	+0.2
DLF	Lyons Farm	148.98 11	*e*P	PKPdf	14 32 44.0	+3.3
ELDT	Eldivan	149.17 311	*i* P	PKPbc	14 32 45.6	+0.2
BR131	Keskin Array S	149.33 310	*e*PKPbc	PKPbc	14 32 45.8	0.0
BRTR	Keskin Array B	149.33 310	PKPbc	PKPbc	14 32 45.7	-0.1
	comp=Z,22nm,0.7s,baz=140,slow=4.6,SNR=49					
BURAR	Bucovina Array	149.84 330	⇑*i*P	PKPbc	14 32 47.6	+0.6
BURAR	Bucovina Array	149.84 330	⇑P	PKPbc	14 32 47.6	+0.6
ANTO	Ankara	149.87 311	PKP2	PKPbc	14 32 47.6	+0.5
ANTO	Ankara	149.87 311	*e*PKPbc	PKPbc	14 32 47.4	+0.4
OJC	Ojcow	149.96 338	*e*PKP	PKPbc	14 32 47.1	-0.2
CFR	Carcaliu	150.00 323	⇑*i*P	PKPbc	14 32 47.4	0.0
CFR	Carcaliu	150.00 323	PKP2	PKPbc	14 32 47.8	+0.4
SGKT	Sivrigoynuk	150.07 312	*i* P	PKPbc	14 32 47.0	-0.5
KOLS	Kolonicke sedl	150.11 334	*e*PKP	PKPbc	14 32 48.0	+0.4
STHS	Stebnicka Huta	150.12 336	*e*PKP	PKPbc	14 32 48.0	+0.3
STHS			*e*		14 33 18.8	
NRDL	Niedersach Rie	150.18 351	*e*PKPbc	PKPbc	14 32 47.0	-0.8
TIRR	Tirgusor	150.29 322	⇓*i*P	PKPdf	14 32 45.3	+2.5
TIRR	Tirgusor	150.29 322	⇓P	PKPdf	14 32 45.3	+2.5
VRI	Vrincioaia	150.31 326	⇑*i*P	PKPbc	14 32 47.5	-0.6
VRI	Vrincioaia	150.31 326	⇑P	PKPbc	14 32 47.5	-0.6
UZH	Uzhgorod	150.34 334	⇓*i*PKIKP	PKPbc	14 32 47.8	-0.4
UZH			*i*		14 32 52.4	
UZH			*i*		14 33 21.6	
UZH						
	comp=Z,119nm,1.0s					
HARR	Harsova	150.42 323	⇓*i*P	PKPbc	14 32 47.1	-1.3
CRVS	Cervenica-Dubn	150.45 335	*e*PKP	PKPbc	14 32 48.7	+0.2
KSP	Ksiaz	150.48 343	*e*PKP	PKPbc	14 32 48.8	+0.3
KSP	Ksiaz	150.48 343	*e*PKPdf	PKPbc	14 32 48.7	+0.2
KSP			*e*PKPab	PKPab	14 32 53.4	-2.2
KSP			*ep*PKP	pPKPdf	14 33 22.2	+2.8
CLZ	Clausthal	150.78 351	*e*PKPbc	PKPbc	14 32 49.5	+0.3
CLL	Collm	150.83 347	*e*PKPbc	PKPbc	14 32 49.3	0.0
CLL			*ep*PKPbc	pPKPbc	14 33 22.9	-2.5
CLL	Collm	150.83 347	*e*PKP	PKPdf	14 32 44.0	+0.4
CLL			⇓*i*PKP	PKPbc	14 32 49.2	-0.1
CLL			*i* pPKP	pPKPdf	14 33 22.9	+3.0
CLL	Collm	150.83 347	*e*PKPdf	PKPdf	14 32 44.0	+0.4
CLL			⇓*i*PKPbc	PKPbc	14 32 49.2	-0.1
	comp=Z,44nm,0.8s					
CLL			*i* PKPab	PKPab	14 32 54.7	-2.3
	comp=Z,33nm,0.7s					
CLL			*i* pPKPbc	pPKPbc	14 33 22.9	-2.5
OKC	Ostrava-Krasne	150.83 340	⇑*e*PKP	PKPbc	14 32 49.4	0.0
OKC			*e*PKPAB	PKPab	14 32 57.2	+0.2
OKC			*ep*PKP	pPKPdf	14 33 22.9	+3.0
UPC	Upice	150.86 343	⇑*e*PKP	PKPbc	14 32 49.7	+0.3
UPC			*e*PKPAB	PKPab	14 32 57.0	-0.1
UPC			*ep*PKP	pPKPdf	14 33 23.0	+3.0
KDHN	Kadinhani	150.90 309	*i* P	PKPbc	14 32 48.4	-1.1
DPC	Dobruska-Polom	150.92 342	⇑*e*PKP	PKPbc	14 32 50.1	+0.5
DPC			*e*PKPAB	PKPab	14 32 57.4	0.0
DPC			*ep*PKP	pPKPdf	14 33 23.6	+3.5
MLR	Muntele Rosu	150.97 326	⇑*i*P	PKPbc	14 32 47.8	-1.9
MLR	Muntele Rosu	150.97 326	⇑P	PKPbc	14 32 47.8	-1.9
ERMK	Ermenek	150.99 304	*i* P	PKPbc	14 32 50.1	+0.3
BRG	Berggiesshubel	151.04 346	*e*PKPbc	PKPbc	14 32 49.9	+0.1
BRG			*e*PKPab	PKPab	14 32 56.9	-1.0
BRG	Berggiesshubel	151.04 346	*e*PKP	PKPdf	14 32 44.2	+0.3
	comp=Z,4.1nm,1.2s					
BRG	Berggiesshubel	151.04 346	*i* PKPbc	PKPbc	14 32 50.0	+0.2
	comp=Z,16nm,0.5s					
BRG	Berggiesshubel	151.04 346	*i* PKP	PKPab	14 32 56.3	-1.6
	comp=Z,20nm,0.8s					
BRG			*i* pPKP	pPKPdf	14 33 23.7	+3.5
	comp=Z,20nm,1.0s					
BRG	Berggiesshubel	151.04 346	*e*PKP	PKPdf	14 32 44.2	+0.3
BRG			*i* PKP	PKPbc	14 32 50.0	+0.2
BRG			*i* PKP	PKPab	14 32 56.3	-1.6
BRG			*i* pPKP	pPKPdf	14 33 23.7	+3.5
MORC	Moravsky Berou	151.07 340	⇑*i*P	PKPbc	14 32 50.4	+0.5
MORC	Moravsky Berou	151.07 340	⇑P	PKPbc	14 32 50.4	+0.5
KECS	Kecovo	151.17 336	*e*PKP	PKPbc	14 32 50.4	+0.3
KECS			*e*		14 32 57.9	
KECS			*e*		14 33 23.4	
PVCC	Panska Ves	151.21 345	⇑*e*PKP	PKPbc	14 32 50.5	+0.3
PVCC			*e*PKPAB	PKPab	14 32 57.9	-0.7
PVCC			*ep*PKP	pPKPdf	14 33 23.8	+3.3
ESKT	Eskisehir	151.37 311	*i* P	PKPbc	14 32 49.1	-1.5
VOIR		151.46 327	⇓*i*P	PKPbc	14 32 49.9	-0.9
VOIR		151.46 327	⇓P	PKPbc	14 32 49.9	-0.9
BORA	Eskisehir	151.48 312	*i* P	PKPbc	14 32 50.5	-0.3
DRGR		151.59 331	PKIKP	PKPbc	14 32 51.3	+0.2
PRU	Pruhonice	151.72 344	⇑*e*PKP	PKPbc	14 32 51.3	-0.1
PRU			*ex*	x	14 32 56.9	
PRU			*e*PKPAB	PKPab	14 33 00.2	-0.5
PRU			*ep*PKP	pPKPdf	14 33 25.1	+3.8
PRU	Pruhonice	151.72 344	*e*PKIKP	PKPbc	14 32 51.3	-0.1
PRU			*e*		14 32 56.9	
PRU			*e*		14 33 25.1	
MOX	Moxa	151.73 349	*e*PKPbc	PKPbc	14 32 51.4	0.0
MOX			*e*PKPab	PKPab	14 32 59.4	-1.4
MOX			*ep*PKPbc	pPKPbc	14 33 24.9	-2.6
MOX	Moxa	151.73 349	*e*PKP	PKPbc	14 32 51.4	0.0
	comp=Z,23nm,1.1s					
MOX			*e*		14 33 25.0	
VYHS	Vyhne	151.76 338	*e*PKP	PKPbc	14 32 51.4	-0.1
VYHS			*e*		14 32 56.2	
VYHS			*e*		14 33 24.7	
TANN	Tannenbergstha	151.79 347	*e*PKPbc	PKPbc	14 32 51.5	-0.1
PSZ	Piszkesteto	151.86 336	*e*PKP	PKPbc	14 32 52.1	+0.4
PSZ	Piszkesteto	151.86 336	⇑*i*P	PKPbc	14 32 51.5	-0.2
PSZ	Piszkesteto	151.86 336	⇑P	PKPbc	14 32 51.5	-0.2
NKC	Novy Kostel	151.96 347	⇑*e*PKP	PKPbc	14 32 52.0	+0.1
NKC			*ex*	x	14 32 57.6	
NKC			*e*PKPAB	PKPab	14 33 00.8	-0.9
NKC			*ep*PKP	pPKPdf	14 33 24.8	+3.2
NKC	Novy Kostel	151.96 347	*e*PKIKP	PKPbc	14 32 52.0	+0.1
NKC			*e*		14 32 57.6	
NKC			*e*		14 33 24.8	
TREC	Trest	152.11 343	⇑*e*PKP	PKPbc	14 32 50.6	-1.7
TREC			*e*PKPAB	PKPab	14 33 00.3	-2.0
TREC			*ep*PKP	pPKPdf	14 33 24.3	+2.4
ULDT	Uludag	152.24 314	*i* P	PKPbc	14 32 51.7	-0.9
MANZ	Manzenberg	152.27 347	*e*PKPbc	PKPbc	14 32 53.0	+0.4
MANZ			*ep*PKPbc	pPKPbc	14 33 26.6	-2.1
TKTP	Tekketepe	152.38 309	*i* P	PKPdf	14 32 50.4	+4.5
MEM	Membach	152.46 356	PKPbc	PKPbc	14 32 53.2	+0.1
GDZ	Gediz	152.51 312	*i* P	PKPbc	14 32 52.1	-1.1
GZR	Gura Zlata	152.61 329	⇑*i*P	PKPbc	14 32 53.0	-0.4
GZR	Gura Zlata	152.61 329	⇑P	PKPbc	14 32 53.0	-0.4
TNS	Taunus Mts	152.62 353	*e*PKPbc	PKPbc	14 32 53.5	+0.1
TNS			*e*PKPab	PKPab	14 33 03.6	-0.9
BCLA	Clavier	152.69 357	PKPbc	PKPbc	14 32 56.5	+2.9
BCLA			PKPab	PKPab	14 33 03.8	-1.0
GRA1	Grafenberg Arr	152.72 348	*e*PKPbc	PKPbc	14 32 53.5	-0.1
GRA1			*e*PKPab	PKPab	14 33 04.5	-0.4
GRA1			*ep*PKPbc	pPKPbc	14 33 27.7	-2.0
GRF	Grafenberg Arr	152.72 348	*e*PKPbc	PKPbc	14 32 53.5	-0.1
GRF			*e*PKPab	PKPab	14 33 04.5	-0.4
GRF			*ep*PKPbc	pPKPbc	14 33 27.7	-2.0
KHC	Kasperske Hory	152.75 345	⇑*e*PKP	PKPbc	14 32 53.5	-0.2
KHC			*ex*	x	14 32 59.6	
KHC			*e*PKPAB	PKPab	14 33 04.9	-0.1
KHC			*ep*PKP	pPKPdf	14 33 27.9	+5.1
WET	Wettzell	152.90 346	*e*PKPab	PKPab	14 33 05.0	-0.7
BZS	Buzias	152.98 331	⇑*i*P	PKPbc	14 32 55.8	+1.6
BZS	Buzias	152.98 331	PKIKP	PKPbc	14 32 54.2	0.0
BZS	Buzias	152.98 331	⇑P	PKPbc	14 32 55.8	+1.6
GEC2	GERESS Array S	152.99 345	*e*PKPbc	PKPbc	14 32 54.2	0.0
GEC2	GERESS Array S	152.99 345	*e*PKPdf	PKPdf	14 32 46.5	-0.3
GEC2			*e*PKPbc	PKPbc	14 32 53.3	-0.9
GEC2			*e*PKPbc	PKPbc	14 32 54.2	0.0
GERES	GERESS Array B	152.99 345	PKP	PKPdf	14 32 46.4	-0.4
	comp=Z,1.7nm,0.9s,baz=108,slow=0.4,SNR=7.5					
GERES			PKPbc	PKPbc	14 32 54.1	-0.2
	comp=Z,3.0nm,0.6s,baz=18,slow=2.4,SNR=22					
GERES			pPKPbc	pPKPbc	14 33 27.1	-3.3
	comp=Z,6.0nm,0.9s,baz=43,slow=2.4,SNR=4.3					
GIVF	Givet	153.03 358	*e*PKP1	PKPbc	14 32 55.3	+1.0
	comp=Z,45nm,1.0s					
DOU	Dourbes	153.04 358	PKPbc	PKPbc	14 32 55.4	+1.0
BAIF	Baives	153.09 358	*e*PKP1	PKPbc	14 32 55.6	+1.1
	comp=Z,34nm,0.9s					
WLF	Walferdange	153.39 356	*ep*PKPbc	pPKPbc	14 33 29.8	-1.4
WLF	Walferdange	153.39 356	PKPbc	PKPbc	14 32 57.1	+2.0
DNZL	Cakiroluk	153.44 309	*i* P	PKPbc	14 33 02.1	+6.9
MOA	Molln	153.76 343	⇑*i*P	PKPbc	14 32 54.2	-1.7
	comp=Z,4.3nm,0.9s					
FUR	Furstenfeldbru	154.17 347	*e*PKPab	PKPab	14 33 10.7	-0.4
FLN	La Foliniere	154.25 5	*e*PKP1	PKPbc	14 32 56.4	-0.5
AYDN	Tasoluk	154.29 310	*i* P	PKPbc	14 32 55.4	-1.6
VTS	Vitosha	154.38 324	⇓*i*P	PKPdf	14 32 50.9	+2.1
LDF	La Druitiere	154.44 5	*e*PKP1	PKPbc	14 32 56.8	-0.6
BFO	Black Forest	154.50 352	*e*PKPab	PKPab	14 33 11.4	-1.1
SGMF	Saint Gilles	154.51 9	*e*PKP1	PKPbc	14 32 57.5	0.0
CDF	Champ du Feu	154.54 354	*e*PKP1	PKPbc	14 32 58.4	+0.8
	comp=Z,13nm,0.8s					
GRR	Gorron	154.58 6	*e*PKP1	PKPbc	14 32 57.5	-0.2
PERS	Pernice	154.61 340	*i* PKPdf	PKPdf	14 32 47.1	-2.1
MEZF	Maizieres J'vi	154.62 357	*e*PKP1	PKPbc	14 32 58.9	+1.2
GRUS	Gruzas	154.71 329	*i* P	PKPbc	14 32 59.5	+1.5
DIVS	Divcibare	154.89 330	*i* P	PKPbc	14 33 00.1	+1.8
HAU	Haudompre	155.03 355	*e*PKP1	PKPdf	14 32 59.4	+10
BOJS	Bojanci	155.58 339	*e*PKPdf	PKPdf	14 32 52.0	+1.5
BOJS			*e*		14 33 00.0	
BOJS			*e*		14 33 05.6	
ESDC	Sonseca Array	162.43 18	PKPab	PKPab	14 33 46.4	-0.5
	comp=Z,0.7nm,0.5s,baz=339,slow=4.1,SNR=7.5					
TOA0	Torodi Ar. Sit	170.00 172	*e*PKPdf	PKPdf	14 33 04.2	-0.2
TOA0			*e*PKPab	PKPab	14 34 20.9	+0.6
TORD	Torodi Ar. Bea	170.00 172	PKP	PKPdf	14 33 04.2	-0.1
	comp=Z,4.4nm,0.8s,baz=308,slow=0.8,SNR=26					
TORD			PKPab	PKPab	14 34 21.1	+0.9
	comp=Z,17nm,0.9s,baz=192,slow=4.1,SNR=28					
TORD			PP	PP	14 38 10.6	+0.3
	comp=Z,2.8nm,1.0s,baz=162,slow=4.4,SNR=5.2					

*ISCJB **20** 14:24:20.5±0.3, 4832N±002×659E±002, h15km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=170.1*
*CSEM **20** 14:24:22.4±0.0, 4834N×666E, h15km, ML2.4/13, Error ellipse: s-maj=0.9km s-min=0.7km az=172.0*
*LDG **20** 14:24:22.6±0.0, 4834N×664E, h12km, Md2.5/3, Ml2.4/14, Error ellipse: s-maj=0.8km s-min=0.6km az=168.0*
*BGR **20** 14:24:22.2±1.6, 4832N×672E, h10km, ML1.8/2, Error ellipse: s-maj=18.9km s-min=6.7km az=44.0*
*STR **20** 14:24:22.3±0.2, 4835N×666E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 14:24:21.6±0.3, 4833N±002×663E±002, h18km±3km, n56, σ0.97/97, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.37	107	Pg	Pg	14 24 29.8	+0.5
ECH				Sg	Sg	14 24 34.4	-0.2
HAU	Haudompre	0.37	210	*e*Pg	Pg	14 24 30.5	+1.1
HAU				*e*Sg	Sg	14 24 35.4	+0.7
	38nm,0.2s						
HAU	Haudompre	0.37	210	*e*Pg	Pg	14 24 30.5	+1.1
HAU				*e*Sg	Sg	14 24 35.4	+0.7
	19nm,0.2s						
CDF	Champ du Feu	0.44	79	*e*Pg	Pg	14 24 30.9	+0.3
CDF				*e*Sg	Sg	14 24 36.5	-0.1
	27nm,0.3s						
CDF	Champ du Feu	0.44	79	*e*Pg	Pg	14 24 30.9	+0.3
CDF				*e*Sg	Sg	14 24 36.5	-0.1
	13nm,0.3s						
THEF	They Montfort	0.44	257	Pg	Pg	14 24 31.6	+1.0
THEF				Sg	Sg	14 24 37.6	+0.9
WLS	Welschbruch	0.49	80	Pg	Pg	14 24 31.8	+0.3
HINF	Hinteralfeld	0.53	164	*e*Pg	Pg	14 24 33.0	+0.7
HINF				*e*Sg	Sg	14 24 39.9	+0.4
	34nm,0.2s,SNR=1.0						
HINF				*e*Sn	Sg	14 24 42.7	+3.2
HINF	Hinteralfeld	0.53	164	*e*Pg	Pg	14 24 33.0	+0.7
HINF				*e*Sg	Sg	14 24 39.9	+0.4
	17nm,0.2s,SNR=1.0						
HINF				*e*Sn	Sg	14 24 42.7	+3.2
MOF	Molkenrain	0.58	145	Pg	Pg	14 24 34.0	+0.8
LIBD	Limburg	0.67	105	Pg	Pg	14 24 35.1	+0.2
RFYF	Reffroy	0.83	292	*e*Pg	Pg	14 24 38.3	+0.6
RFYF				*e*Sg	Sg	14 24 49.1	+0.4
	27nm,0.2s						
RFYF	Reffroy	0.83	292	*e*Pg	Pg	14 24 38.3	+0.6
RFYF				*e*Sg	Sg	14 24 49.1	+0.4
	14nm,0.2s						
LOMF	Lomont	0.99	172	Pg	Pg	14 24 41.7	+0.9
LANF	Langenberg	1.02	50	Pg	Pg	14 24 40.9	-0.4
LANF				Sg	Sg	14 24 55.0	+0.3
FELD	Feldberg im Sc	1.03	116	Pg	Pg	14 24 42.1	+0.6
FELD				Sg	Sg	14 24 55.2	+0.2
MEZF	Maizieres J'vi	1.07	280	*e*Pg	Pg	14 24 42.9	+0.6
	baz=99,SNR=1.0						
MEZF				*e*Sg	Sg	14 24 56.7	+0.5
	9.5nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	1.07	280	*e*Pg	Pg	14 24 42.9	+0.6
	baz=99,SNR=1.0						
MEZF				*e*Sg	Sg	14 24 56.7	+0.5
	4.8nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	1.07	264	*e*Pg	Pg	14 24 42.8	+0.5
SFTF	Sexfontaines	1.07	264	*e*P	Pb	14 24 43.7	+2.2
SFTF				*e*Sg	Sg	14 24 57.0	+0.6
	13nm,0.3s						
SFTF	Sexfontaines	1.07	264	*e*P	Pb	14 24 43.7	+2.2
SFTF				*e*Sg	Sg	14 24 57.0	+0.6
	6.7nm,0.3s						
BFO	Black Forest	1.13	89	*e*Pg	Pg	14 24 42.7	-0.8
	SNR=3.3						
BFO				*e*Sg	Sg	14 24 56.2	-2.2
	SNR=14						
BFO	Black Forest	1.13	89	Pg	Pg	14 24 42.7	-0.8
	SNR=3.3						
BFO				Sg	Sg	14 24 56.2	-2.2
	SNR=14						
WLF	Walferdange	1.37	347	*e*Sg	Sg	14 25 06.3	+0.3
	SNR=2.1						
CABF	La Chapelle	1.76	192	*e*Pn	Pn	14 24 52.1	+1.0
CABF	La Chapelle	1.76	192	*e*Pg	Pg	14 24 55.8	+0.4
	SNR=1.0						
CABF				*e*Sg	Sg	14 25 18.0	-0.2
	9.9nm,0.5s						
CABF	La Chapelle	1.76	192	*e*Pg	Pg	14 24 55.8	+0.4
	SNR=1.0						
CABF				*e*Sg	Sg	14 25 18.0	-0.2
	4.9nm,0.5s						
GIVF	Givet	2.13	327	*e*Pn	Pn	14 24 55.0	-1.3
	SNR=1.0						
GIVF	Givet	2.13	327	*e*Pg	Pg	14 25 02.1	-0.5
GIVF	Givet	2.13	327	*e*Pg	Pg	14 25 02.1	-0.5
LOR	Lormes	2.15	241	*e*Pn	Pn	14 24 57.0	+0.6
LOR	Lormes	2.15	241	*e*Pg	Pg	14 25 02.5	-0.3
	baz=66						
LOR				*e*Sg	Sg	14 25 30.5	-0.2
	7.4nm,0.2s						
LOR	Lormes	2.15	241	*e*Pg	Pg	14 25 02.5	-0.3
	baz=66						
LOR				*e*Sg	Sg	14 25 30.5	-0.2
	3.7nm,0.2s						
TNS	Taunus Mts	2.24	31	*e*Sg	Sg	14 25 32.6	-1.0
	SNR=2.4						
BAIF	Baives	2.35	318	*e*Pn	Pn	14 24 59.3	+0.1
BAIF				*e*Sg	Sg	14 25 36.3	-0.9
	1.7nm,0.2s						
BAIF	Baives	2.35	318	*e*Pn	Pn	14 24 59.3	+0.1
BAIF				*e*Sg	Sg	14 25 36.3	-0.9
	0.9nm,0.2s						
SSF	Saint Saulge	2.46	240	*e*Pg	Pg	14 25 08.5	-0.3
SSF				*e*Sg	Sg	14 25 40.2	-0.6
	3.0nm,0.2s						
SSF	Saint Saulge	2.46	240	*e*Pn	Pn	14 25 01.1	+0.3
SSF	Saint Saulge	2.46	240	*e*Pg	Pg	14 25 08.5	-0.3
SSF				*e*Sg	Sg	14 25 40.2	-0.6
	1.5nm,0.2s						
SMF	Signal de Mont	2.53	229	*e*Pn	Pn	14 25 01.7	0.0
SMF	Signal de Mont	2.53	229	*e*Pg	Pg	14 25 09.7	-0.5
SMF				*e*Sg	Sg	14 25 42.3	-0.7
	6.6nm,0.2s						
SMF	Signal de Mont	2.53	229	*e*Pg	Pg	14 25 09.7	-0.5
SMF				*e*Sg	Sg	14 25 42.3	-0.7
	3.3nm,0.2s						
AVF	Avril sur Loir	2.70	236	*e*Pn	Pn	14 25 04.0	0.0
AVF	Avril sur Loir	2.70	236	*e*Pg	Pg	14 25 13.0	-0.4
AVF				*e*Sg	Sg	14 25 47.5	-0.9
	2.4nm,0.3s						
AVF	Avril sur Loir	2.70	236	*e*Pg	Pg	14 25 13.0	-0.4
AVF				*e*Sg	Sg	14 25 47.5	-0.9
	1.2nm,0.3s						
LPL	La Plagne	2.81	179	*e*Pn	Pn	14 25 06.0	+0.4
LPL				*e*Sg	Sg	14 25 51.4	-0.6
	2.9nm,0.3s						
LPL	La Plagne	2.81	179	*e*Pn	Pn	14 25 06.0	+0.4
LPL				*e*Sg	Sg	14 25 51.4	-0.6
	1.5nm,0.3s						
LPG	La Plagne	2.83	178	*e*Pn	Pn	14 25 06.3	+0.4
LPG				*e*Sg	Sg	14 25 51.9	-0.7
	1.9nm,0.3s						
LPG	La Plagne	2.83	178	*e*Pn	Pn	14 25 06.3	+0.4
LPG				*e*Sg	Sg	14 25 51.9	-0.7
	0.9nm,0.3s						
HYF	Humbligny	2.89	250	*e*Pg	Pg	14 25 16.3	-0.7
HYF				*e*Sg	Sg	14 25 53.7	-0.8
BGF	Bois d'Agland	3.12	237	*e*Pn	Pn	14 25 10.6	+0.8
	SNR=1.0						
TCF	Toulx Ste Croi	3.63	237	*e*Pn	Pn	14 25 17.0	+0.1
TCF	Toulx Ste Croi	3.63	237	*e*Pg	Pg	14 25 30.2	-1.0
TCF				*e*Sg	Sg	14 26 17.0	-1.3
	1.8nm,0.3s						
TCF	Toulx Ste Croi	3.63	237	*e*Pg	Pg	14 25 30.2	-1.0
TCF				*e*Sg	Sg	14 26 17.0	-1.3
	0.9nm,0.3s						
VIVF	Saint-Julien-l	3.73	202	*e*Pg	Pg	14 25 31.9	-1.1
VIVF				*e*Sg	Sg	14 26 19.9	-1.3
	1.2nm,0.2s						
VIVF	Saint-Julien-l	3.73	202	*e*Pg	Pg	14 25 31.9	-1.1
VIVF				*e*Sg	Sg	14 26 19.9	-1.3
	0.6nm,0.2s						

*IDC **20** 14:30:56.7±0.3, 1341N×12139E, h0km, mb5.2/29, mb1 5.2/30, mb1mx5.1/33, mbtmp5.2/30, ML4.2/1, MS5.3/25, Ms1 5.3/25, ms1mx5.2/39, Error ellipse: s-maj=15.3km s-min=7.9km az=60.0*
*ISCJB **20** 14:30:59.0±0.1, 1343N±002×12153E±002, h25km, mb5.5/160, MS5.4/101, Error ellipse: s-maj=3.6km s-min=2.8km az=134.5*
*BJI **20** 14:30:58.8, 1321N×12177E, h42km, mB6.0, mb5.5, Ms5.8, Msz5.6*
*MOS **20** 14:30:59.4±1.0, 1345N×12167E, h33km, mb5.8/66, MS5.6/35, Error ellipse: s-maj=11.3km s-min=6.2km az=107.9*
*MAN **20** 14:30:59.1, 1345N×12154E, h10km, mb5.2, ML5.8, MS1.8*
MAN F INTENSITY V - MARINDUQUE BATANGAS CITY BAUAN BATANGAS INTENSITY IV - MANILA LIPA CITY INTENSITY II - PTO GALERA.
*NEIC **20** 14:31:00.1±0.1, 1343N×12147E, mb5.5/77, MS5.4/54, MW5.8, Error ellipse: s-maj=5.9km s-min=3.6km az=68.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.51; $M_{\theta\theta}$3.83; $M_{\phi\phi}$-1.31; $M_{r\theta}$-3.45; $M_{\theta\phi}$1.43; $M_{\phi r}$1.92; Best double couple: $M_0$5.40000×10^{17} NP1: ϕ_s108.00000°, δ73.00000°, λ-59.00000°. NP2: ϕ_s223.00000°, δ35.00000°, λ-150.00000°. Principal axes: T 5.3900, Plg22.0000°, Azm175.0000°; N -0.0100, Plg30.0000°, Azm278.0000°; P -5.3800, Plg51.0000°, Azm53.0000°;*
NEIC Felt [V PIVS] at Naujan and [III PIVS] at Puerto Galera. Also felt [V PIVS] on Marinduque and at Batangas and Bauan; [IV PIVS] at Lipa and Manila; [III PIVS] at Lucban and Makati; [II PIVS] at Quezon City and Tagaytay, Luzon.
*GCMT **20** 14:31:00.2±0.1, 1355N×12160E, h16km, MW5.8/104, Moment Tensor Solution. s83,c160; s104,c278; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.19±.09; $M_{\theta\theta}$3.82±.

JOW	**Kunigami**	**14.72**	**24**	Pn	**Pn**	**14 34 29.2 +1.8**
	comp=Z,2.0nm,0.3s,baz=212,slow=7.6,SNR=9.7					
KSM	**Kuching**	**16.30**	**224**	*e*Pn	**Pn**	**14 34 50.3 +2.3**
SSE	**Sheshan**	**17.57**	**359**	⇓P	**Pn**	**14 35 05.8 +1.9**
SSE				AP	pP	14 35 17.9 +5.8
SSE				S	**Sn**	**14 38 21.8 +3.1**
SSE				AMB	AMB	
	comp=Z,168nm,1.3s					
SSE				AMB	AMB	
	comp=Z,3μm,9.3s					
SSE				LR	LR	
	comp=N,5μm,18.8s					
SSE				LR	LR	
	comp=E,14μm,18.9s					
SSE				LR	LR	
	comp=Z,11μm,16.7s					
SSE	**Sheshan**	**17.57**	**359**	⇓P	**Pn**	**14 35 05.8 +1.9**
	comp=Z,168nm,1.3s					
SSE				pP	pP	14 35 17.9 +5.8
SSE				sP	sP	14 35 26.7 +11
SSE				S	**Sn**	**14 38 21.7 +3.0**
SSE				sS	sS	14 38 48.1 +11
WHN	**Wuhan**	**18.27**	**340**	P	**Pn**	**14 35 13.4 +0.9**
WHN				S	**Sn**	**14 38 44.3 +8.6**
WHN				LR	LR	
	comp=Z,59μm,17.2s					
KKTK	**Khon Kaen**	**18.34**	**281**	P	**Pn**	**14 35 15.5 +2.1**
	comp=Z,741nm,0.6s					
KAPI	**Kappang**	**18.43**	**186**	Pn	**Pn**	**14 35 16.2 +1.7**
	comp=Z,1μm,1.4s,SNR=23					
NJ2	**Nanjing**	**18.68**	**353**	*e*P	**Pn**	**14 35 18.0 +0.4**
NJ2				AP	pP	14 35 25.8 +1.4
NJ2				XP	sP	14 35 29.9 +2.1
NJ2				PP		14 35 33.0
NJ2				S	**Sn**	**14 38 43.0 -2.7**
NJ2				XS	sS	14 38 56.0 -4.1
NJ2				AMB	AMB	
	comp=Z,360nm,1.0s					
NJ2				AMB	AMB	
	comp=Z,1μm,4.2s					
NJ2				LR	LR	
	comp=N,17μm,12.1s					
NJ2				LR	LR	
	comp=E,28μm,12.7s					
NJ2				LR	LR	
	comp=Z,58μm,16.0s					
GYA	**Guiyang**	**19.05**	**315**	⇓*i*P	**Pn**	**14 35 22.1 +0.1**
GYA				AP	pP	14 35 29.8 +1.4
GYA				PP		14 35 38.8
GYA				S	**Sn**	**14 38 55.4 +0.9**
GYA				SS		14 39 18.6
GYA				AMB	AMB	
	comp=Z,290nm,1.6s					
GYA				LR	LR	
	comp=N,19μm,16.4s					
GYA				LR	LR	
	comp=E,13μm,16.7s					
GYA				LR	LR	
	comp=Z,12μm,18.8s					
ENH	**Enshi**	**20.12**	**328**	PFAKE		14 35 40.0 +7.2
ENH				LR	LR	
	comp=Z,3.0nm,22.0s					
NST	**Nakhon Sawan**	**20.86**	**279**	P	**P**	**14 35 43.9 +3.1**
	comp=Z,107nm,0.9s					
KMI	**Kunming**	**21.20**	**306**	P	**P**	**14 35 47.3 +2.9**
KMI				AP		14 36 00.8
KMI				PP		14 36 11.8
KMI				S	**S**	**14 39 37.1 -1.6**
KMI				XS	sS	14 39 57.8 +7.3
KMI				SS		14 40 11.8
KMI				AMB	AMB	
	comp=Z,109nm,1.5s,mb5.0					
KMI				AMB	AMB	
	comp=Z,3μm,5.6s					
KMI				LR	LR	
	comp=N,14μm,14.2s,MS5.6					
KMI				LR	LR	
	comp=E,9μm,14.1s,MS5.6					
KMI				LR	LR	
	comp=Z,12μm,20.8s					
KMI	**Kunming**	**21.20**	**306**	P	**P**	**14 35 47.3 +2.9**
KMI				*PP		14 36 00.7
KMI				*SP	sP	14 36 07.8 +13
KMI				PPP		14 36 21.5
KMI				S	**S**	**14 39 37.1 -1.6**
KMI				SS		14 40 11.7
KMI				SSS		14 40 27.4
KMI				pmax	pmax	
	comp=Z,109nm,1.5s,mb5.0					
KMI				MLR	MLR	
	comp=Z,12μm,20.8s,MS5.2					
KMI	**Kunming**	**21.20**	**306**	P	**P**	**14 35 47.3 +2.9**
	comp=Z,109nm,1.5s,mb5.0					
KMI				pP		14 36 00.7
KMI				sP	sP	14 36 07.8 +13
KMI				PP		14 36 11.7
KMI				PPP		14 36 21.5
KMI				S	**S**	**14 39 37.1 -1.6**
KMI				sS	sS	14 39 57.8 +7.3
KMI				SS		14 40 11.7
KMI				SSS		14 40 27.4
KMI				LR	LR	
	comp=Z,12μm,20.8s,MS5.2					
NNT	**Nongplab**	**21.29**	**270**	P	**P**	**14 35 50.5 +5.1**
KGM	**Kluang**	**21.33**	**239**	P	**P**	**14 35 48.5 +2.6**
SNG	**Songkhla**	**21.52**	**255**	P	pP	14 36 01.0 +5.7
	comp=Z,298nm,1.0s					
BDT	**Bhumibol Dam**	**22.08**	**283**	P	**P**	**14 35 56.0 +2.1**
	comp=Z,33nm,1.0s,mb4.7					
IPM	**Ipoh**	**22.14**	**248**	P	**P**	**14 35 55.5 +0.9**
KULM	**Kulim**	**22.16**	**251**	*e*P	**P**	**14 35 57.2 +2.5**
KULM				*e*pP		14 36 03.6
CM31	**Chiang Mai Arr**	**22.31**	**286**	*e*P	**P**	**14 35 57.2 +0.9**
	comp=Z,132nm,0.7s,mb5.5					
CM31				LR	LR	
	comp=Z,6μm,20.0s,MS5.0					
CHG	**Chiang Mai**	**22.37**	**287**	⇓P	**P**	**14 35 57.7 +0.7**
	comp=Z,150nm,0.9s,mb5.4					
CHTO	**Chiang Mai**	**22.37**	**287**	P	**P**	**14 35 57.5 +0.5**
	SNR=131					
CHTO	**Chiang Mai**	**22.37**	**287**	*e*P	**P**	**14 35 57.4 +0.4**
CHTO				pmax	pmax	
	comp=Z,480nm,1.5s,mb5.7					
CHTO	**Chiang Mai**	**22.37**	**287**	*e*P	**P**	**14 35 57.4 +0.4**
	comp=Z,491nm,1.5s,mb5.7					
CHTO				*e*pP		14 36 04.5
TIA	**Tai'an**	**23.01**	**351**	⇓P	**P**	**14 36 05.3 +1.5**
TIA				S	**S**	**14 40 14.1 +1.4**
TIA				AMB	AMB	
	comp=Z,181nm,1.0s,mb5.5					
TIA				AMB	AMB	
	comp=Z,3μm,7.0s					
TIA				LR	LR	
	comp=N,9μm,15.0s,MS5.4					
TIA				LR	LR	
	comp=E,4μm,15.0s,MS5.4					
XAN	**Xi'an**	**23.50**	**333**	P	**P**	**14 36 07.5 -1.3**
XAN				AP		14 36 23.3
XAN				S	**S**	**14 40 18.6 -1.9**
XAN				AMB	AMB	
	comp=Z,56nm,1.3s,mb4.8					
XAN				AMB	AMB	
	comp=Z,3μm,9.5s					
XAN				LR	LR	
	comp=N,14μm,15.7s,MS5.6					
XAN				LR	LR	
	comp=E,12μm,16.7s,MS5.6					
XAN				LR	LR	
	comp=Z,24μm,16.2s,MS5.8					
CBIJ	**Chichi jima**	**23.58**	**52**	P	**P**	**14 36 11.0 +1.4**
	comp=Z,179nm,0.9s,mb5.5,baz=262,slow=11,SNR=5.1					
CD2	**Chengdu**	**23.89**	**320**	⇓*i*P	**P**	**14 36 13.0 +0.5**
CD2				AP		14 36 24.5
CD2				XP	sP	14 36 30.3 +6.6
CD2				PP		14 36 49.0
CD2				PCP	PcP	14 39 57.3 +2.6
CD2				S	**S**	**14 40 22.9 -4.1**
CD2				XS	sS	14 40 41.3 +1.3
CD2				SS		14 41 14.3
CD2				SCS	ScS	14 47 15.8 -2.3
CD2				AMB	AMB	
	comp=Z,140nm,1.0s,mb5.3					
CD2				AMB	AMB	
	comp=Z,1μm,4.6s					
CD2				LR	LR	
	comp=N,18μm,14.4s,MS5.9					
CD2				LR	LR	
	comp=E,22μm,15.0s,MS5.9					
CD2				LR	LR	
	comp=Z,18μm,17.4s,MS5.6					
INCN	**Inchon**	**24.36**	**10**	P	**P**	**14 36 18.2 +1.5**
	SNR=15					
INCN	**Inchon**	**24.36**	**10**	⇓*i*P	**P**	**14 36 17.4 +0.7**
	comp=Z,324nm,1.3s,mb5.6					
INCN				LR	LR	
	comp=Z,10μm,20.0s,MS5.3					
PSI	**Prapat**	**24.76**	**247**	P	**P**	**14 36 21.0 +0.7**
	comp=Z,50nm,0.7s,mb5.2,baz=51,slow=5.8,SNR=19					
PSI				LR	LR	14 45 55.7
	comp=Z,4μm,18.2s,MS4.9,baz=76,slow=36					
DL2	**Dalian**	**25.36**	**0**	*i*P	**P**	**14 36 27.0 +1.2**
DL2				S	**S**	**14 40 49.5 -0.9**
DL2				AMB	AMB	
	comp=Z,140nm,0.8s,mb5.5					
DL2				AMB	AMB	
	comp=Z,1μm,7.7s					
DL2				LR	LR	
	comp=N,7μm,16.1s,MS5.3					
DL2				LR	LR	
	comp=E,2μm,13.2s,MS5.3					
DL2				LR	LR	
	comp=Z,8μm,15.6s,MS5.3					
JHJ	**Hachijo jima 2**	**25.68**	**37**	P	**P**	**14 36 30.8 +2.1**
	comp=Z,75nm,0.5s,mb5.5,baz=185,slow=5.1,SNR=5.9					
JHJ				LR	LR	14 45 10.9
	comp=Z,17μm,19.2s,MS5.6,baz=62,slow=33					
BJT	**Baijiatuau**	**26.89**	**351**	*e*P	**P**	**14 36 39.7 +0.1**
	comp=Z,424nm,1.2s,mb5.8					
BJT				LR	LR	
	comp=Z,9μm,21.0s,MS5.3					
BJI	**Beijing**	**26.91**	**351**	P	**P**	**14 36 40.0 +0.2**
BJI				XP	sP	14 37 01.3 +10
BJI				S	**S**	**14 41 16.5 +1.5**
BJI				AMB	AMB	
	comp=Z,294nm,1.4s,mb5.6					
BJI				AMB	AMB	
	comp=Z,3μm,13.4s					
BJI				LR	LR	
	comp=N,7μm,17.5s,MS5.5					
BJI				LR	LR	
	comp=E,7μm,15.3s,MS5.5					
BJI				LR	LR	
	comp=Z,9μm,34.5s					
BJI	**Beijing**	**26.91**	**351**	P	**P**	**14 36 40.0 +0.2**
	comp=Z,294nm,1.4s,mb5.6					
BJI				sP	sP	14 37 01.2 +10
BJI				S	**S**	**14 41 16.5 +1.5**
BJI				sS	sS	14 41 44.9 +17
BJI				LR	LR	
	comp=Z,9μm,34.5s,MS5.1					
MAJO	**Matsushiro**	**27.41**	**30**	*e*P	**P**	**14 36 42.8 -1.6**
	comp=Z,42nm,0.7s,mb5.1					
MAJO				LR	LR	
	comp=Z,9μm,20.0s,MS5.4					
MAT	**Matsushiro**	**27.41**	**30**	P	**P**	**14 36 42.9 -1.4**
MAT				S	**S**	**14 41 28.0 +5.1**
MJAR	**Matsushiro Arr**	**27.41**	**30**	P	**P**	**14 36 44.1 -0.2**
	comp=Z,32nm,1.1s,mb4.8,baz=210,slow=8.1,SNR=28					
LZH	**Lanzhou**	**27.60**	**328**	⇑P	**P**	**14 36 47.4 +1.4**
LZH				AP	pP	14 36 54.6 +0.7
LZH				PP		14 37 35.3
LZH				S	**S**	**14 41 28.0 +2.1**
LZH				SS		14 42 44.5
LZH				AMB	AMB	
	comp=Z,625nm,1.5s,mb6.0					
LZH				AMB	AMB	
	comp=Z,2μm,5.0s					
LZH				LR	LR	
	comp=N,18μm,14.6s					
LZH				LR	LR	
	comp=Z,28μm,18.3s,MS5.9					
LZH	**Lanzhou**	**27.60**	**328**	⇑P	**P**	**14 36 47.4 +1.4**
LZH				*SP	sP	14 36 57.6 +0.3
LZH						14 37 35.3
LZH				S	**S**	**14 41 28.0 +2.1**
LZH				SS		14 42 44.5
LZH				pmax	pmax	
	comp=Z,625nm,1.5s,mb6.0					
LZH				MLR	MLR	
	comp=Z,28μm,18.3s,MS5.9					
LZH	**Lanzhou**	**27.60**	**328**	⇑P	**P**	**14 36 47.4 +1.4**
	comp=Z,625nm,1.5s,mb6.0					
LZH				pP	pP	14 36 54.6 +0.7
LZH				sP	sP	14 36 57.6 +0.3
LZH				PP		14 37 35.3
LZH				S	**S**	**14 41 28.0 +2.1**
LZH				sS	sS	14 41 38.0 -1.0
LZH				SS		14 42 44.5
LZH				LR	LR	
	comp=Z,28μm,18.3s,MS5.9					
KAKA	**Kakadu**	**28.14**	**157**	*e*P	**P**	**14 36 50.7 -0.1**
	comp=Z,82nm,0.9s,mb5.4					
PBA	**Port Blair**	**28.18**	**270**	*e*x	x	14 36 42.9
PBA				*e*x	x	14 37 01.5
	comp=Z,262nm,1.5s					
PBA				*e*S	**S**	**14 41 32.8 -2.3**
SNY	**Shenyang**	**28.33**	**3**	⇓P	**P**	**14 36 52.6 +0.1**
SNY				AP	pP	14 37 00.3 -0.2
SNY				XP	sP	14 37 03.6 -0.2
SNY				PP	PP	14 37 43.6 -13
SNY				S	**S**	**14 41 36.3 -1.1**
SNY				SS		14 43 00.8
SNY				AMB	AMB	
	comp=Z,133nm,1.6s,mb5.3					
SNY				AMB	AMB	
	comp=Z,2μm,13.7s					
SNY				LR	LR	
	comp=N,10μm,16.5s					
SNY				LR	LR	
	comp=Z,12μm,17.1s,MS5.5					
HHC	**Hu-ho-hao-te**	**28.67**	**344**	*e*P	**P**	**14 36 57.3 +1.8**
HHC				AP	pP	14 37 08.3 +4.8
HHC				XP	sP	14 37 14.8 +8.0
HHC				PP	PP	14 37 50.3 -10
HHC				PCP	PcP	14 40 06.8 +1.0
HHC				S	**S**	**14 41 46.8 +4.1**
HHC				XS	sS	14 41 59.4 +3.6
HHC				SS	SS	14 43 10.9 -34
HHC				PCS	PcS	14 43 47.8 -0.5
HHC				SCS	ScS	14 47 33.6 -5.0
HHC				AMB	AMB	
	comp=Z,81nm,1.4s,mb5.3					
HHC				AMB	AMB	
	comp=Z,1μm,4.4s					
HHC				LR	LR	
	comp=N,13μm,17.9s,MS5.7					
HHC				LR	LR	
	comp=E,14μm,18.5s,MS5.7					
HHC				LR	LR	
	comp=Z,14μm,14.7s,MS5.7					
BTO	**Baotou**	**28.88**	**342**	*e*P	**P**	**14 36 57.3 -0.2**
BTO				S	**S**	**14 41 41.4 -4.7**
BTO				LR	LR	
	comp=N,3μm,12.5s					
BTO				LR	LR	
	comp=E,6μm,18.2s					
SHL	**Shillong**	**30.39**	**298**	*e*P	**P**	**14 37 09.1 -1.6**
SHL				*e*S	**S**	**14 42 10.3 +0.6**
CN2	**Changchun**	**30.43**	**6**	⇑P	**P**	**14 37 11.8 +0.7**
CN2				*e*XP	sP	14 37 25.8 +3.4
CN2				*e*S	**S**	**14 42 08.3 -2.1**
CN2				AMB	AMB	
	comp=Z,30nm,1.1s,mb4.9					
CN2				AMB	AMB	
	comp=Z,200nm,6.0s					
CN2				LR	LR	
	comp=N,8μm,18.0s,MS5.5					
CN2				LR	LR	
	comp=E,7μm,18.0s,MS5.5					
CN2				LR	LR	
	comp=Z,9μm,19.0s,MS5.4					
AGT	**Agartala**	**30.48**	**294**	*i* P	**P**	**14 37 12.0 +0.4**
AGT				*i* x	x	14 37 51.0
VLA	**Vladivostok**	**30.88**	**15***c*	*i*P	**P**	**14 37 16.0 +0.9**
VLA				pmax	pmax	
	comp=Z,233nm,1.8s,mb5.7					
FITZ	**Fitzroy Crossi**	**31.61**	**173**	*e*P	**P**	**14 37 21.1 -0.4**
	comp=Z,115nm,1.9s,mb5.4					
MDJ	**Mudanjiang**	**31.81**	**11**	P	**P**	**14 37 23.9 +0.6**
MDJ				AP	pP	14 37 30.0 -1.3
MDJ				S	**S**	**14 42 35.3 +3.4**
MDJ				SCP	ScP	14 43 56.0 +0.6
MDJ				PCS	PcS	14 43 58.6 +0.1
MDJ				AMB	AMB	
	comp=Z,203nm,1.3s,mb5.8					
MDJ				AMB	AMB	
	comp=Z,379nm,3.5s					
MDJ				LR	LR	
	comp=N,4μm,21.9s,MS5.5					
MDJ				LR	LR	
	comp=E,10μm,21.0s,MS5.5					
MDJ				LR	LR	
	comp=Z,6μm,22.8s,MS5.2					
MDJ	**Mudanjiang**	**31.81**	**11**	*e*P	**P**	**14 37 23.3 0.0**
	comp=Z,241nm,1.0s,mb6.0					
MDJ				LR	LR	
	comp=Z,6μm,22.0s,MS5.2					
GTA	**Gaotai**	**32.20**	**327**	P	**P**	**14 37 27.3 +0.6**
GTA				AP	pP	14 37 42.0 +7.3
GTA				PP	PP	14 38 39.0 -0.7
GTA				S	**S**	**14 42 37.4 -0.6**
GTA				XS	sS	14 43 03.6 +12
GTA				SS	SS	14 44 38.3 -18
GTA				SCS	ScS	14 47 48.4 -7.2
GTA				AMB	AMB	
	comp=Z,149nm,1.4s,mb5.6					
GTA				AMB	AMB	
	comp=Z,1μm,6.5s					
GTA				LR	LR	
	comp=N,11μm,19.5s,MS5.7					
GTA				LR	LR	
	comp=E,9μm,16.1s,MS5.7					
GTA				LR	LR	
	comp=Z,1μm,17.1s,MS4.7					
LSA	**Lhasa**	**32.44**	**305**	P	**P**	**14 37 28.3 -0.6**
LSA				AP	pP	14 37 36.8 -0.1
LSA				PP	PP	14 38 37.5 -4.9
LSA				S	**S**	**14 42 45.4 +3.6**
LSA				LR	LR	
	comp=N,4μm,32.2s					
LSA				LR	LR	
	comp=E,5μm,18.0s					
LSA				LR	LR	
	comp=Z,6μm,22.7s					
LSA	**Lhasa**	**32.44**	**305**	*e*P	**P**	**14 37 30.2 +1.3**
	comp=Z,376nm,1.3s,mb6.1					
LSA				*e*pP	pP	14 37 37.0 +0.2
LSA				LR	LR	
	comp=Z,7μm,22.0s,MS5.3					
CAL	**Calcutta**	**32.81**	**291**	*e*P	**P**	**14 37 33.9 +1.7**
CAL				*e*x	x	14 42 55.6
GTK	**Gangtok**	**33.71**	**299**	*e*P	**P**	**14 37 40.0 +0.1**
PMG	**Port Moresby**	**34.08**	**130**	P	**P**	**14 37 43.7 +0.6**
	comp=Z,192nm,1.0s,mb6.0,baz=302,slow=7.8,SNR=20					
PMG	**Port Moresby**	**34.08**	**130**	⇓*i*P	**P**	**14 37 42.4 -0.7**
PMG	**Port Moresby**	**34.08**	**130**	⇓*e*P	**P**	**14 37 42.3 -0.8**
	comp=Z,176nm,0.9s,mb6.0					
PMG				LR	LR	
	comp=Z,3μm,19.0s,MS5.1					
MBWA	**Marble Bar**	**34.44**	**183**	*e*P	**P**	**14 37 46.2 -0.1**
	comp=Z,43nm,0.9s,mb5.4					
MBWA				*e*pP	pP	14 37 51.8 -2.5
MBWA				LR	LR	
	comp=Z,3μm,21.0s,MS5.1					
BOK	**Bokaro**	**35.25**	**292**	*e*P	**P**	**14 37 53.1 -0.2**
BOK				*i* P		14 37 53.6
BOK				AMb	AMB	14 38 06.9
	comp=Z,149nm,2.1s,mb5.5					
BOK				*e*S	**S**	**14 43 24.2 -1.1**
ASAJ	**Asahikawa**	**35.47**	**26**	P	**P**	**14 37 55.8 +0.6**
	comp=Z,114nm,1.0s,mb5.8,baz=238,slow=15,SNR=29					
WRAB	**Tennant Creek**	**35.48**	**159**	P	**P**	**14 37 54.0 -1.2**
	comp=Z,913nm,0.9s,SNR=82					
WRAB	**Tennant Creek**	**35.48**	**159**	*e*P	**P**	**14 37 54.2 -1.1**
	comp=Z,129nm,0.8s,mb5.9					
WRAB				LR	LR	
	comp=Z,993nm,19.0s,MS4.6					
WRA	**Warramunga Arr**	**35.48**	**159**	P	**P**	**14 37 54.5 -0.8**
	comp=Z,71nm,0.7s,mb5.7,baz=336,slow=9.6,SNR=87					
WRA				S	**S**	**14 43 27.2 -1.6**
	comp=Z,7.9nm,1.1s,baz=325,slow=15,SNR=6.3					
WB2	**Warramunga Arr**	**35.49**	**159**	*e*P	**P**	**14 37 54.0 -1.3**
WB2				*e*S	**S**	**14 43 25.5 -3.4**
HIA	**Hailar**	**35.74**	**358**	*e*P	**P**	**14 37 57.0 -0.6**
	comp=Z,90nm,1.0s,mb5.7					
HIA				*e*PP	PP	14 39 21.9 +3.0
HIA				*e*PcP	PcP	14 40 27.2 +2.1
HIA				LR	LR	
	comp=Z,9μm,21.0s,MS5.5					
JIRN	**Jiri**	**35.87**	**299**	*e*P	**P**	**14 37 59.1 +0.5**
	comp=Z,291nm,0.8s,mb6.3					
GUN	**Gumba**	**36.20**	**299**	*e*P	**P**	**14 38 01.6 +0.2**
	comp=Z,652nm,0.8s,mb6.6					
PKI	**Pulchoki**	**36.51**	**298**	*e*P	**P**	**14 38 03.5 -0.6**
	comp=Z,763nm,1.3s,mb6.4					
SONM	**Songino Array**	**36.54**	**343**	P	**P**	**14 38 04.4 +0.1**
	comp=Z,51nm,0.9s,mb5.3,baz=162,slow=7.1,SNR=162					
SONM				LR	LR	14 53 52.1
	comp=Z,11μm,20.9s,MS5.6,baz=150,slow=38					
KLR	**Kul'dur**	**36.65**	**11**	*e*P	**P**	**14 38 02.2 -3.1**
KLR				*e*		14 39 33.0
KLR				*e*S	**S**	**14 43 38.0 -8.7**
KLR				pmax	pmax	
	comp=E,300nm,1.6s					
KLR				pmax	pmax	
	comp=Z,800nm,1.6s,mb6.3					
KKN	**Kakani**	**36.68**	**299**	*e*P	**P**	**14 38 05.0 -0.5**
	comp=Z,465nm,1.2s,mb6.2					
DMN	**Daman**	**36.78**	**298**	*e*P	**P**	**14 38 06.0 -0.4**
	comp=Z,291nm,0.8s,mb6.2					
YUK	**Yuzh-Kuril'sk**	**36.90**	**30**	P	**P**	**14 38 07.1 -0.3**
YUK				*e*		14 39 33.2
YUK				pmax	pmax	
	comp=Z,2μm,2.0s					
VIS	**Vishakhapatnam**	**37.03**	**282**	*e*P	**P**	**14 38 07.3 -1.2**
VIS				AMb	AMB	14 38 22.2
	comp=Z,167nm,1.3s,mb5.7					
VIS				*e*S	**S**	**14 43 49.9 -2.6**
GKN	**Gorkha**	**37.28**	**299**	*e*P	**P**	**14 38 09.9 -0.7**
	comp=Z,475nm,1.1s,mb6.2					
YSS	**Yuzh-Sakhalins**	**37.83**	**24**κ	*e*P	**P**	**14 38 15.0 -0.3**
YSS				*e*		14 39 47.0
YSS				*e*S	**S**	**14 44 06.0 +1.3**
YSS				pmax	pmax	
	comp=N,90nm,1.2s					
YSS				pmax	pmax	
	comp=Z,190nm,1.2s,mb5.7					
YSS				pmax	pmax	
	comp=Z,1μm,8.0s					
YSS				MLR	MLR	
	comp=Z,3μm,17.0s,MS5.1					
YSS				MLR	MLR	
	comp=N,3μm,18.0s					
YSS	**Yuzh-Sakhalins**	**37.83**	**24**	⇓*e*P	**P**	**14 38 15.9 +0.6**
	comp=N,54nm,0.6s,mb5.5					
KOLN	**Koldanda**	**38.11**	**298**	*e*P	**P**	**14 38 17.1 -0.6**
	comp=N,283nm,1.1s,mb5.9					
AS31	**Alice Springs**	**38.81**	**162**	⇑*i*P	**P**	**14 38 23.3 -0.2**
AS31				*e*S	**S**	**14 44 20.8 +1.4**
ASPA	**Alice Springs**	**38.81**	**162**	⇑*i*P	**P**	**14 38 23.3 -0.2**
ASPA				*e*S	**S**	**14 44 20.8 +1.3**
ASAR	**Alice Springs**	**38.81**	**162**	P	**P**	**14 38 23.8 +0.2**
	comp=N,59nm,0.7s,mb5.5,baz=345,slow=7.4,SNR=232					
ASAR				S	**S**	**14 44 21.5 +2.0**
	comp=N,16nm,1.0s,baz=351,slow=19,SNR=18					
CIT	**Chita**	**39.01**	**352**	*e*P	**P**	**14 38 25.3 +0.1**
CIT				*e*		14 40 34.9
CIT				*e*		14 44 24.8
CIT				*e*		14 48 22.2
CIT				pmax	pmax	
	comp=Z,242nm,1.4s,mb5.7					
ALBI	**Allahabad**	**39.17**	**294**	*e*P	**P**	**14 38 24.0 -2.6**
ZAK	**Zakamensk**	**39.74**	**342**	⇑*i*P	**P**	**14 38 30.2 -1.1**
ZAK				*e*		14 40 09.2
MDRS	**Chennai**	**40.19**	**274**	⇑*e*x	x	14 38 42.7
JBP	**Jabalpur**	**40.52**	**290**	⇓*e*P	**P**	**14 38 39.2 +1.4**
JBP				*e*x	x	14 38 42.9
	comp=Z,164nm,1.1s					
JBP				*e*S	**S**	**14 44 45.9 +0.8**
PALK	**Pallekele**	**40.62**	**266**	*e*P	**P**	**14 38 40.2 +1.7**
	comp=Z,31nm,1.0s,mb4.9					
PALK				*e*pP	pP	14 38 46.6 -0.1
PALK				LR	LR	
	comp=Z,978nm,19.0s,MS4.7					
TLY	**Talaya**	**40.78**	**343**	P	**P**	**14 38 39.2 -0.7**

comp=Z,232nm,0.8s,mb5.9,SNR=11
TLY Talaya 40.78 343 *d* iP **P 14 38 39.8 -0.1**
TLY *e* 14 40 18.2
TLY *e*PPP 14 40 36.4
TLY *e*S **S 14 44 52.4 +3.4**
TLY *e*SS SS 14 47 49.7 -0.6
TLY *e*SSS 14 48 38.4
TLY pmax pmax
comp=Z,81nm,1.5s,mb5.1
TLY MLR MLR
comp=Z,9μm,20.0s,MS5.6
IRK Irkutsk 41.11 344 *e*P **P 14 38 41.9 -0.7**
IRK *e* 14 40 20.2
IRK *e*S **S 14 44 57.0 +3.1**
IRK pmax pmax
comp=Z,129nm,5.1s
NGP Nagpur 41.21 287 *e*P **P 14 38 44.6 +1.2**
NGP *e*S **S 14 44 56.9 +1.5**
CTA Charters Tower 41.24 143 *e*P **P 14 38 43.9 +0.2**
comp=Z,29nm,0.9s,mb4.9
CTA Charters Tower 41.24 143 P **P 14 38 44.2 +0.6**
comp=Z,45nm,1.0s,mb5.1,baz=323,slow=10,SNR=22
CTA LR LR 14 54 31.9
comp=Z,4μm,21.9s,MS5.2,baz=92,slow=34
CTA Charters Tower 41.24 143 *e*P **P 14 38 43.9 +0.2**
CTA pmax pmax
comp=Z,29nm,0.9s
CTAO Charters Tower 41.24 143 *e*P **P 14 38 42.6 -1.1**
CTAO pmax pmax
comp=Z,53nm,1.0s,mb5.1
CTAO MLR MLR
comp=Z,5μm,19.0s,MS5.4
CTAO Charters Tower 41.24 143 *e*P **P 14 38 42.6 -1.1**
comp=Z,53nm,1.0s,mb5.1
CTAO LR LR
comp=Z,5μm,19.0s,MS5.4
LGTI Lohaghat 41.38 299 *i* P **P 14 38 47.0 +2.2**
MOY Mondy 41.57 341 *e*P **P 14 38 47.1 +0.7**
MOY pmax pmax
comp=Z,221nm,4.3s
HYB Hyderabad 41.59 281 *i* P **P 14 38 45.0 -1.5**
HYB *e*sP sP 14 38 54.0 -3.9
HYB *e*S **S 14 45 01.5 +0.5**
HYB Hyderabad 41.59 281 *e*P **P 14 38 47.0 +0.5**
HYB *e* pP 14 38 54.0 -0.6
HYB *e*S **S 14 45 04.0 +3.0**
WMQ Urumqi 41.91 323⇓ *i*P **P 14 38 50.9 +1.7**
WMQ AP pP 14 39 03.0 +5.7
WMQ XP sP 14 39 08.5 +7.9
WMQ PP PP 14 40 32.0 +5.7
WMQ PCP PcP 14 40 47.0 +2.6
WMQ PCS PcS 14 44 35.0 -1.0
WMQ S **S 14 45 05.0 -0.7**
WMQ XS sS 14 45 26.0 +6.9
WMQ SS SS 14 48 07.0 -5.7
WMQ AMB AMB
comp=Z,46nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,2μm,4.7s
WMQ LR LR
comp=N,14μm,17.0s,MS6.1
WMQ LR LR
comp=E,16μm,17.0s,MS6.1
WMQ LR LR
comp=Z,12μm,20.6s,MS5.8
SALM Salem 42.33 273 *ex* x 14 38 58.0
BHPL Bhopal 42.87 290 *e*P **P 14 38 56.1 -0.9**
BHPL AMb AMB 14 39 09.2
comp=Z,117nm,1.4s,mb5.4
BHPL *ex* x 14 45 13.7
AKL Akola 43.09 286 *i* P **P 14 39 00.0 +1.3**
AKL *i* S **S 14 45 21.0 -2.0**
NRGR Nerungri 43.19 3 *i* P **P 14 39 02.0 +2.5**
NRGR S **S 14 45 27.1 +2.6**
NRGR smax
comp=E,9.0nm,0.2s
CLNS Chul'man 43.37 3 *d* iP **P 14 39 01.5 +0.5**
CLNS *e**PP pP 14 39 10.3 +1.1
CLNS *e* 14 40 39.2
CLNS *e*S **S 14 45 23.3 -3.9**
CLNS *e* 14 48 48.2
CLNS *e*SSS 14 49 17.6
CLNS pmax pmax
comp=Z,216nm,1.3s,mb5.7
CLNS pmax pmax
comp=N,176nm,1.4s
CLNS pmax pmax
comp=E,61nm,1.1s
CLNS smax
comp=N,1μm,12.4s
CLNS smax
comp=Z,479nm,10.6s
CLNS smax
comp=E,1μm,13.7s
CLNS MLR MLR
comp=Z,8μm,16.0s,MS5.7
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=E,3μm,14.0s,MS5.4
LATR Latur 43.48 283 *ex* x 14 39 36.5
NDI New Delhi 43.81 297 *e*P **P 14 39 03.7 -0.9**
TRD Trivandrum 44.02 268 *e*P **P 14 39 05.8 -0.4**
TRD AMb AMB 14 39 16.8
comp=Z,80nm,1.2s,mb5.3
HNR Honiara 44.37 119 P **P 14 39 10.9 +1.9**
comp=Z,140nm,0.9s,mb5.7,baz=251,slow=1.4,SNR=6.2
HNR LR LR 14 56 31.2
comp=Z,4μm,20.4s,MS5.3,baz=355,slow=34
HNR Honiara 44.37 119 *e*P **P 14 39 10.3 +1.3**
HNR pmax pmax
comp=Z,181nm,1.0s,mb5.8
HNR Honiara 44.37 119 *e*P **P 14 39 10.3 +1.2**
comp=Z,181nm,1.0s,mb5.8
FORT Forrest 44.41 172 *e*P **P 14 39 10.5 +1.1**
comp=Z,96nm,0.8s,mb5.6
BOD Bodaibo 44.65 354 *e*P **P 14 39 10.3 -1.0**
BOD pmax pmax
comp=Z,29nm,1.3s,mb5.0
KLBR Kellerberrin 44.93 185 *e*P **P 14 39 13.0 -0.5**
comp=Z,48nm,0.9s,mb5.3
BHK Bhakra 45.05 301 *ex* x 14 39 17.0
MUN Mundaring 45.46 186 *e*P pP 14 39 30.8 +4.9
MNGI Mangalore 45.46 275 *i* P **P 14 39 25.1 +7.4**
MNGI *i* S **S 14 46 03.0 +5.4**
DLH Dalhousie 45.68 302 *e*P **P 14 39 18.0 -1.4**
AJM Ajmer 45.73 294 *e*P **P 14 39 18.2 -1.7**
AJM AMb AMB 14 39 22.8
comp=Z,186nm,1.0s,mb6.0
KAD Karad 45.76 281 *e*P **P 14 39 20.7 +0.6**
KAD AMb AMB 14 39 32.9
comp=Z,130nm,1.2s,mb5.7
THN Thein Dam 45.86 302 *e*P **P 14 39 19.2 -1.7**
POO Poona 46.05 283⇓ *i*P **P 14 39 19.0 -3.4**
comp=Z,300nm,1.0s,mb6.2
NWAO Narrogin (SRO) 46.30 185 *e*P **P 14 39 23.3 -1.0**
NWAO pmax pmax
comp=Z,69nm,1.0s
NWAO MLR MLR
comp=Z,3μm,22.0s
NWAO Narrogin (SRO) 46.30 185 *e*P **P 14 39 23.3 -1.0**
comp=Z,69nm,1.0s,mb5.5
NWAO LR LR
comp=Z,3μm,22.0s,MS5.2
SKR Severo-Kuril's 46.52 30 *e*P **P 14 39 22.8 -3.3**
SKR *e* pP 14 39 30.0 -4.3
SKR *e* 14 41 11.0
SKR *e*S **S 14 46 10.0 -2.8**
SKR *e*SS ScS 14 49 24.0 +4.8
SKR pmax pmax
comp=Z,290nm,1.0s,mb6.2
SKR pmax pmax
comp=N,640nm,1.4s
SKR pmax pmax
comp=E,510nm,1.4s
SKR smax
comp=N,4μm,14.0s
SKR smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.6
SKR MLR MLR
comp=E,6μm,18.0s,MS5.6
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.6

MK31 Makanchi Array 46.73 323 *e*P **P 14 39 27.2 -0.6**
MK31 *e**PP pP 14 39 34.0 -2.0
MKAR Makanchi Array 46.73 323 P **P 14 39 27.7 -0.1**
comp=Z,35nm,1.0s,mb5.2,baz=111,slow=6.6,SNR=49
MKAR LR LR 14 58 15.1
comp=Z,4μm,21.8s,MS5.3,baz=116,slow=35
BOM Bombay 47.02 283 *ex* x 14 39 16.0
BOM *ex* x 14 45 13.3
KSH Kashi 47.69 312 P **P 14 39 37.6 +2.4**
KSH *e*AP pP 14 39 44.8 +1.3
KSH *e*XP sP 14 39 48.8 +2.1
KSH *e*PCP PcP 14 41 06.0 +1.7
KSH *e*PP PP 14 41 28.6 +1.7
KSH *e*SCP ScP 14 44 56.5 -0.2
KSH *e*S **S 14 46 31.0 +1.4**
KSH *e*SCS ScS 14 49 26.5 -0.4
KSH *e*SS SS 14 49 54.3 -3.6
KSH LR LR
comp=N,7μm,16.2s
KSH LR LR
comp=E,3μm,10.8s
KSH LR LR
comp=Z,676nm,6.7s
NIL Nilore 48.15 303 P **P 14 39 39.2 +0.4**
comp=Z,176nm,0.9s,mb6.1,SNR=7.3
AAA Alma-Ata 48.42 317 *i* P **P 14 39 42.6 +1.8**
AAA *e*S **S 14 46 42.2 +2.4**
AAA pmax pmax
comp=Z,2μm,4.0s
AAA smax
comp=N,1μm,12.9s
AAA MLR MLR
comp=Z,6μm,23.3s,MS5.5
ULHL Ulahol 48.49 315 P **P 14 39 41.8 +0.4**
SNR=81
YAK Yakutsk 48.86 5 *d* iP **P 14 39 43.4 -0.8**
YAK *e**PP pP 14 39 52.5 0.0
YAK *e* 14 41 02.2
YAK *i* 14 41 39.3
YAK *e*PPP 14 42 27.2
YAK *e*S **S 14 46 45.4 -0.6**
YAK *i* *SS sS 14 47 01.1 +1.5
YAK *e* 14 49 32.3
YAK pmax pmax
comp=Z,339nm,1.5s,mb6.2
YAK pmax pmax
comp=N,213nm,1.3s
YAK pmax pmax
comp=E,89nm,1.3s
YAK pmax pmax
comp=Z,720nm,3.7s
YAK pmax pmax
comp=N,293nm,1.8s
YAK pmax pmax
comp=E,56nm,1.3s
YAK smax
comp=E,2μm,17.3s
YAK smax
comp=Z,909nm,9.3s
YAK smax
comp=N,4μm,15.7s
YAK MLR MLR
comp=N,4μm,18.0s,MS5.6
YAK MLR MLR
comp=Z,5μm,18.0s,MS5.5
YAK MLR MLR
comp=E,3μm,15.0s,MS5.6
YAK Yakutsk 48.86 5 *e*P **P 14 39 43.0 -1.2**
comp=E,274nm,1.1s,mb6.2
YAK *e*PP PP 14 41 39.3 +1.7
YAK LR LR
comp=Z,5μm,19.0s,MS5.5
STKA Stephens Creek 48.99 157 *e*P **P 14 39 44.9 -0.3**
comp=Z,88nm,0.8s,mb5.8
STKA Stephens Creek 48.99 157 P **P 14 39 45.1 -0.1**
comp=Z,138nm,0.9s,mb6.0,baz=337,slow=7.3,SNR=82
STKA LR LR 15 04 30.4
comp=Z,2μm,18.9s,MS5.2,baz=332,slow=41
TKM2 Tokmak 2 49.19 316 P **P 14 39 46.8 0.0**
SNR=38
TKM2 Tokmak 2 49.19 316 P **P 14 39 46.3 -0.5**
TKM2 pmax pmax
comp=Z,82nm,1.1s,mb5.7
PET Petropavlovsk 49.23 29⇓ *i*P **P 14 39 46.5 -0.6**
PET *e* 14 41 40.6
PET *e*S **S 14 46 50.7 -0.5**
PET *e*SS SS 14 50 22.6 -0.1
PET pmax pmax
comp=Z,1μm,6.3s
PET pmax pmax
comp=Z,114nm,1.2s,mb5.8
PET MLR MLR
comp=Z,2μm,16.0s,MS5.2
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 49.23 29 *e*P **P 14 39 47.4 +0.4**
comp=Z,180nm,1.3s,mb5.9
PET LR LR
comp=Z,2μm,19.0s,MS5.1
KBK Karagaybulak 49.53 315 P **P 14 39 50.0 +0.6**
SNR=40
ZAL Zalesovo 49.67 332 P **P 14 39 49.5 -0.9**
comp=Z,14nm,1.0s,mb4.9,baz=355,slow=7.7,SNR=43
ZAL LR LR 15 02 23.5
comp=Z,6μm,18.4s,MS5.6,baz=254,slow=38
ZAL Zalesovo 49.67 332 P **P 14 39 49.5 -0.9**
ZAL LR LR 15 02 23.5
UCH Uchtor 49.68 315 P **P 14 39 51.9 +1.4**
SNR=49
CHMS Chumysh 49.80 316 P **P 14 39 51.3 -0.1**
SNR=35
FRU Bishkek 49.83 315 *e*P **P 14 39 52.0 +0.4**
FRU *i* 14 39 57.0
FRU *e* 14 47 16.0
FRU pmax pmax
comp=Z,100nm,1.4s,mb5.7
AAK Ala-Archa 49.84 315 P **P 14 39 53.6 +1.9**
SNR=36
AAK Ala-Archa 49.84 315 P **P 14 39 51.5 -0.2**
comp=Z,298nm,1.5s,mb6.1,SNR=17
AAK Ala-Archa 49.84 315⇑P **P 14 39 51.9 +0.3**
SNR=42
AAK Ala-Archa 49.84 315⇑ *i*P **P 14 39 51.2 -0.5**
AAK pmax pmax
comp=Z,53nm,1.2s,mb5.5
AAK Ala-Archa 49.84 315⇓ *e*P **P 14 39 51.1 -0.5**
comp=Z,98nm,1.3s,mb5.7
AAK LR LR
comp=Z,1μm,21.0s,MS5.0
USP Ospenovka 50.06 316 P **P 14 39 53.5 +0.1**
SNR=26
AML Almayashu 50.22 314 P **P 14 39 56.2 +1.6**
SNR=25
EKS2 Erkin-Say 50.34 315 P **P 14 39 56.2 +0.7**
SNR=64
ADE Adelaide 50.82 162 *e*P **P 14 40 00.1 +0.9**
MA2 Magadan 50.86 19 *d* iP **P 14 39 59.4 -0.1**
MA2 *e* 14 41 59.0
MA2 *e*S **S 14 47 12.3 -1.7**
MA2 pmax pmax
comp=N,100nm,1.2s
MA2 pmax pmax
comp=E,100nm,1.2s
MA2 pmax pmax
comp=Z,300nm,1.2s,mb6.1
MA2 MLR MLR
comp=Z,6μm,18.2s,MS5.6
MA2 Magadan 50.86 19 *e*P **P 14 39 59.5 0.0**
comp=Z,210nm,1.2s,mb5.9
MA2 LR LR
comp=Z,3μm,19.0s,MS5.3
KURK Kurchatov 50.87 326 P **P 14 39 59.9 +0.4**
comp=Z,2μm,1.1s,SNR=67
NVS Novosibirsk 50.95 332⇓ *i*P **P 14 39 58.4 -1.7**
NVS *e*S **S 14 47 09.6 -5.6**
NVS *e* 14 49 44.5
NVS pmax pmax
comp=Z,97nm,1.3s,mb5.6
NVS smax
comp=N,54nm,2.3s
ARMA Armidale 52.34 147 *e*P **P 14 40 11.7 +1.2**
KKAR Karatay Array 52.75 314 P **P 14 40 13.3 -0.2**
SEY Seymchan 54.00 17⇑ *i*P **P 14 40 23.1 +0.4**
CNB Canberra Magne 55.19 152 *e*P **P 14 40 31.8 +0.5**
comp=N,72nm,0.9s,mb5.7
TOO Toolangi 55.51 157 *e*P **P 14 40 34.3 +0.7**

comp=N,46nm,1.7s,mb5.2
TOO Toolangi 55.51 157 *e*P **P 14 40 34.3 +0.7**
TOO pmax pmax
comp=Z,46nm,1.7s,mb5.2
VOSK Vostochnaya 56.00 325 P **P 14 40 36.1 -1.1**
VOSK pmax pmax
comp=Z,52nm,0.8s,mb5.6
BVA0 Borovoye Array 56.45 326 *i* P **P 14 40 40.2 -0.2**
BVA0 pmax pmax
comp=Z,78nm,1.6s,mb5.5
BVAR Borovoye Array 56.45 326 P **P 14 40 39.9 -0.5**
comp=Z,87nm,1.0s,mb5.7,baz=114,slow=7.2,SNR=89
BVAR S **S 14 48 32.5 +2.7**
comp=Z,0.6nm,0.5s,baz=133,slow=11,SNR=5.6
BVAR LR LR 15 06 20.6
comp=Z,5μm,19.9s,MS5.6,baz=229,slow=38
BVAR Borovoye Array 56.45 326 P **P 14 40 39.9 -0.5**
BVAR S **S 14 48 32.5 +2.8**
BRVK Borovoye 56.53 326 P **P 14 40 40.5 -0.4**
comp=Z,1μm,1.0s,SNR=51
BRVK Borovoye 56.53 326 P **P 14 40 40.7 -0.2**
SNR=87
BRVK Borovoye 56.53 326 *e*P **P 14 40 40.2 -0.7**
BRVK *e*S **S 14 48 30.8 +0.1**
BRVK LR LR
comp=Z,2μm,20.0s,MS5.1
CHKZ Chkalovo 56.60 326⇑ *e*P **P 14 40 40.2 -1.3**
CHKZ *e* 14 42 51.5
CHKZ pmax pmax
comp=Z,211nm,1.4s,mb6.0
CHKZ Chkalovo 56.60 326⇑ *e*P **P 14 40 40.2 -1.2**
comp=Z,211nm,1.4s,mb6.0
CHKZ *e*PP PP 14 42 51.5 +4.0
ZRNK Zerenda 57.19 325 *e*P **P 14 40 44.5 -1.1**
ZRNK *e**PP pP 14 40 51.7 -2.3
ZRNK *e*S **S 14 48 39.6 +0.1**
ZRNK pmax pmax
comp=Z,256nm,1.3s,mb6.1
ZRNK Zerenda 57.19 325 *e*P **P 14 40 44.5 -1.1**
comp=Z,256nm,1.3s,mb6.1
ZRNK *e*pP pP 14 40 51.7 -2.3
ZRNK *e*S **S 14 48 39.6 +0.1**
TIXI Tiksi 58.34 3 *d* iP **P 14 40 52.7 -1.0**
TIXI pmax pmax
comp=Z,269nm,1.5s,mb6.0
TIXI Tiksi 58.34 3 *i* P **P 14 40 52.7 -1.0**
WBK Wadi Bani Khal 59.86 288 P **P 14 41 06.1 +1.9**
SNR=8.4
WSAR Wadi Sarin 60.14 289 P **P 14 41 04.8 -1.3**
comp=Z,30nm,1.0s,mb5.3,baz=118,slow=6.1,SNR=20
WSAR LR LR 15 08 45.7
comp=Z,2μm,20.1s,MS5.2,baz=109,slow=38
BIDO Bidbid 60.59 290⇑P **P 14 41 10.4 +1.2**
SNR=7.2
JMDO Jabal Madar 60.67 288 P **P 14 41 10.6 +0.8**
SNR=6.4
TAU Tasmania Unive 60.85 159 PFAKE 14 41 20.0 +9.0
TAU LR LR
comp=Z,1μm,22.0s,MS5.0
ABKT Ailbek 60.96 306 P **P 14 41 12.2 +0.4**
comp=Z,362nm,1.0s,mb6.5,SNR=18
HOQ Hoqain 61.34 290 P **P 14 41 15.9 +1.6**
SNR=6.3
AB31 Akbulak array 61.47 319 *i* P **P 14 41 14.2 -1.0**
AB31 pmax pmax
comp=Z,30nm,0.9s,mb5.4
BSY Bisya 61.48 289 P **P 14 41 16.8 +1.5**
SNR=7.8
BILL Bilibino 61.69 17 *d* iP **P 14 41 16.6 -0.1**
BILL pmax pmax
comp=Z,226nm,1.7s,mb6.0
BILL Bilibino 61.69 17⇓ *e*P **P 14 41 16.4 -0.3**
comp=Z,219nm,1.4s,mb6.1
BILL LR LR
comp=Z,2μm,19.0s,MS5.4
ARQ Araqi 62.07 289 P **P 14 41 20.6 +1.3**
SNR=10.0
ASHO Ashiyiah 62.43 291 P **P 14 41 23.2 +1.5**
SNR=6.6
AKTK Aktyubinsk 62.95 320 P **P 14 41 24.2 -0.9**
AKTK S **S 14 49 55.6 +2.2**
AKTK LR LR 15 10 10.8
AKTO Aktyubinsk 62.95 320 P **P 14 41 24.2 -0.9**
comp=Z,16nm,0.7s,mb5.3,baz=100,slow=12,SNR=22
AKTO S **S 14 49 55.6 +2.2**
comp=Z,0.3nm,0.3s,baz=19,slow=18,SNR=4.1
AKTO LR LR 15 10 10.8
comp=Z,10μm,21.5s,MS5.9,baz=108,slow=37
AKTO Aktyubinsk 62.95 320 P **P 14 41 24.2 -0.9**
AKTO S **S 14 49 55.7 +2.3**
SVE Sverdlovsk 63.07 327⇓ *e*P **P 14 41 27.5 +1.6**
SVE *e* 14 43 46.0
SVE *e*S **S 14 50 00.0 +5.1**
SVE *e* 14 50 14.0
SVE *e* 14 56 50.0
SVE pmax pmax
comp=Z,290nm,1.5s,mb6.2
SVE MLR MLR
comp=N,2μm,14.0s,MS5.6
SVE MLR MLR
comp=E,2μm,14.0s,MS5.6
ARU Arti 64.06 327 P **P 14 41 30.5 -1.9**
comp=E,283nm,0.7s,mb6.4,SNR=12
ARU Arti 64.06 327⇑ *e*P **P 14 41 30.3 -2.1**
comp=E,28nm,0.6s,mb5.5
ARU *e*pP pP 14 41 38.0 -2.9
ARU LR LR
comp=Z,1μm,19.0s,MS5.1
RBK Rabkut 64.76 283 P **P 14 41 39.0 +2.0**
SNR=14
WHFO Wadi Hawf 65.12 284 P **P 14 41 41.1 +1.7**
SNR=13
ORR Orenburg 65.20 321 *i* P **P 14 41 39.5 -0.4**
ORR S S 14 50 16.2 -5.1
ORR pmax pmax
comp=Z,110nm,1.5s,mb5.7
ORR MLR MLR
comp=Z,3μm,18.0s,MS5.6
ABTO Aybut 65.64 283 P **P 14 41 44.5 +1.8**
SNR=9.6
NIKO Nikolski 67.09 38 P **P 14 41 52.6 +0.6**
UNV Unalaska Valle 68.59 37 *e*P **P 14 42 00.5 -1.0**
comp=Z,210nm,1.0s,mb6.0
UNV LR LR
comp=Z,8μm,21.0s,MS6.0
MAK Makhachkala 69.33 311 *c* iP **P 14 42 10.2 +4.2**
MAK *i* 14 42 26.7
MAK *e* 14 44 37.2
MAK *e*S S 14 51 13.3 +2.3
MAK *i* 14 52 04.7
MAK pmax pmax
comp=Z,333nm,1.6s,mb6.0
MAK pmax pmax
comp=Z,938nm,2.3s,mb6.3
MAK smax
comp=E,795nm,2.2s
MAK smax
comp=N,887nm,2.9s
UMR Umm Al-Rimmam 69.56 297 *e*P **P 14 42 06.6 -0.9**
RDF Al-Radifah 69.75 296 *e*P **P 14 42 07.2 -1.5**
RDF AMb AMB 14 42 11.4
comp=Z,137nm,1.1s,mb5.8
MIB Mutribah 69.87 297 *e*P **P 14 42 07.9 -1.5**
MIB AMb AMB 14 42 18.6
comp=Z,157nm,0.6s,mb6.1
NAY Al-Naaiem 70.00 296 *e*P **P 14 42 08.2 -2.0**
NAY AMb AMB 14 42 11.8
comp=Z,50nm,0.9s,mb5.4
RST Umm Al-Ruwaisa 70.19 297 *e*P **P 14 42 10.0 -1.4**
DGRG David-gareji 70.92 309 P **P 14 42 15.5 -0.3**
GNI Garni 71.43 308 P **P 14 42 19.8 +0.9**
comp=Z,3.7nm,0.5s,mb4.6,baz=151,slow=4.2,SNR=11
GNI Garni 71.43 308⇑P **P 14 42 19.9 +0.9**
SNR=9.3
GNI Garni 71.43 308 *e*P **P 14 42 19.9 +1.0**
GNI *e* 14 44 55.1
GNI pmax pmax
comp=Z,82nm,1.3s
GNI Garni 71.43 308 *e*P **P 14 42 19.9 +0.9**

comp=Z,82nm,1.3s,mb5.5
GNI *e*PP PP 14 44 55.1 -2.4
PECR Pechory 71.98 325 *e*P **P 14 42 22.6 +0.4**
PECR *e* 14 45 10.0
PECR *e*S S 14 51 42.0 +0.2
PECR pmax pmax
comp=Z,190nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,900nm,4.5s
PECR pmax pmax
comp=E,500nm,4.0s
PECR pmax pmax
comp=Z,500nm,4.0s
PECR smax
comp=N,1µm,10.0s
PECR MLR MLR
comp=Z,3µm,18.0s,MS5.6
PECR MLR MLR
comp=N,700nm,14.0s,MS5.5
PECR MLR MLR
comp=E,2µm,16.0s,MS5.5
ZEI Tsey 71.98 311 *e*P **P 14 42 21.4 -0.8**
ZEI *e**PP pP 14 42 30.0 -0.8
ZEI pmax pmax
comp=Z,35nm,1.2s,mb5.2
ONI Oni 72.32 311 P **P 14 42 25.2 +1.0**
HAKT HAKKARI 72.37 305 *i* P **P 14 42 24.5 0.0**
RPZ Rata Peaks 72.59 145 P **P 14 42 26.1 +0.2**
comp=Z,16nm,0.7s,mb5.0,baz=293,slow=6.7,SNR=7.6
KIV Kislovodsk 72.82 312 P **P 14 42 28.5 +1.3**
SNR=7.4
KIV Kislovodsk 72.82 312 ⇑P **P 14 42 27.5 +0.2**
SNR=10
KIV Kislovodsk 72.82 312 *e*P **P 14 42 26.7 -0.5**
KIV pmax pmax
comp=Z,44nm,0.9s,mb5.4
KIV Kislovodsk 72.82 312 *e*P **P 14 42 26.7 -0.5**
comp=Z,44nm,0.9s,mb5.4
KIV LR LR
comp=Z,1µm,20.0s,MS5.1
URZ Urewera 73.09 137 P **P 14 42 30.0 +1.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=212,slow=8.3,SNR=24
VRHR Novokhopersk 73.35 320 *e*P **P 14 42 30.1 -0.3**
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR pmax pmax
comp=Z,50nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR MLR MLR
comp=Z,2µm,19.0s,MS5.4
VRHR MLR MLR
comp=N,1µm,18.0s
VRHR MLR MLR
comp=E,730nm,12.0s
MARD Mardin 74.71 305 *i* P **P 14 42 37.8 -0.5**
VRSR Storozhevoye 74.88 320 *e*P **P 14 42 38.9 -0.4**
VRSR *e* 14 45 29.1
VRSR pmax pmax
comp=E,30nm,1.1s
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,1.2s
SVW2 Sparrevohn 74.88 30 *e*P **P 14 42 41.1 +1.8**
MOS Moscow 75.60 325 *e*P **P 14 42 42.7 -0.7**
MOS *e* 14 42 54.2
MOS *e* 14 45 36.1
MOS *e*PPP 14 47 25.2
MOS pmax pmax
comp=Z,200nm,1.9s,mb5.7
MOS pmax pmax
comp=Z,75nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,4µm,18.4s,MS5.8
IMA2 Indian Mountai 75.68 25 *e*P **P 14 42 44.2 +0.3**
ELZG Elazig 76.01 307 *i* P **P 14 42 45.8 +0.1**
OBN Obninsk 76.24 324⇓*e*P **P 14 42 46.4 -0.7**
OBN *e* pP 14 42 52.6 -3.1
OBN 14 43 00.0
OBN 14 45 41.0
OBN *e*PPP 14 47 29.2
OBN *i* S S 14 52 30.0 +0.3
OBN *e* 14 53 10.3
OBN *i* SS SS 14 57 32.0 +8.4
OBN pmax pmax
comp=Z,70nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,3µm,17.0s,MS5.7
OBN Obninsk 76.24 324 *e*P **P 14 42 46.9 -0.2**
comp=Z,18nm,0.4s,mb5.3
OBN *e*pP pP 14 42 52.6 -3.1
OBN LR LR
comp=Z,943nm,20.0s,MS5.1
ANN Anapa 76.52 313 *e*P **P 14 42 48.0 -0.7**
ANN *e*S S 14 52 29.9 -2.9
ANN pmax pmax
comp=Z,134nm,2.0s,mb5.5
APA Apatity 76.97 337⇓*i*P **P 14 42 51.2 0.0**
APA *i* 14 43 04.7
APA *i* S S 14 52 38.0 +0.2
APA pmax pmax
comp=Z,92nm,1.4s,mb5.5
APA MLR MLR
comp=Z,15µm,16.0s,MS6.4
APA MLR MLR
comp=N,4µm,16.0s,MS6.3
APA MLR MLR
comp=E,10µm,16.0s,MS6.3
GZT Gaziantep 77.25 306 *i* P **P 14 42 52.2 -0.6**
SLKM Skilak Lake 77.53 30 *e*P **P 14 42 54.6 +0.2**
MCK McKinley 77.83 27 *e*P **P 14 42 56.1 +0.1**
MCK pmax pmax
comp=Z,67nm,1.3s,mb5.4
MCK MLR MLR
comp=Z,646nm,20.0s,MS5.0
MCK McKinley 77.83 27 *e*P **P 14 42 56.1 +0.1**
comp=Z,67nm,1.3s,mb5.4
MCK LR LR
comp=Z,646nm,20.0s,MS5.0
PMR Palmer 77.96 29 P **P 14 42 56.7 0.0**
PMR pmax pmax
comp=Z,26nm,0.9s,mb5.2
PMR Palmer 77.96 29 *e*P **P 14 42 58.3 +1.6**
comp=Z,28nm,1.1s,mb5.1
PMR LR LR
comp=Z,2µm,23.0s,MS5.2
COLA College 78.19 26 P **P 14 42 59.1 +1.1**
COLA pmax pmax
comp=Z,49nm,1.2s,mb5.3
COLA College 78.19 26 *e*P **P 14 42 58.7 +0.7**
comp=Z,49nm,1.3s,mb5.3
COLA *e*PP PP 14 45 57.6 +2.9
COLA LR LR
comp=Z,2µm,21.0s,MS5.4
JOF Joensuu 78.26 332 *e*p **P 14 42 56.1 -2.3**
comp=Z,9.4nm,0.5s,mb5.0
JOF Joensuu 78.26 332 *e*P **P 14 42 56.1 -2.3**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
BOYT Boyabat 78.76 310 *i* P **P 14 42 57.9 -3.3**
SIM Simferopol' 78.85 314 *e*P **P 14 43 00.0 -1.6**
SIM *e*S S 14 52 56.0 -1.9
SIM pmax pmax
comp=Z,43nm,0.9s,mb5.4
CTKT Corum 78.96 309 *i* P **P 14 43 00.1 -2.2**
KEV Kevo 79.06 339 *e*p **P 14 43 00.9 -1.9**
comp=Z,18nm,0.9s,mb5.0
KEV Kevo 79.06 339 *e*P **P 14 43 00.9 -1.9**
KEV pmax pmax
comp=Z,18nm,0.9s,mb5.0
AVNT Avonos 79.18 307 *i* P **P 14 43 02.6 -0.9**
CDAG Cicekdag 79.42 308 *i* P **P 14 43 03.5 -1.2**
ARCES ARCESS Array B 79.62 339 P **P 14 43 05.2 -0.6**
comp=Z,25nm,1.0s,mb5.1,baz=80,slow=6.9,SNR=17
ARCES LR LR 15 22 18.2
comp=Z,5µm,18.1s,MS5.9,baz=60,slow=39
ARCES ARCESS Array B 79.62 339 P **P 14 43 05.2 -0.6**
ARCES LR LR 15 22 18.2
ARE0 ARCESS Array S 79.62 339 *e*P **P 14 43 05.2 -0.6**
DIV Divide 79.62 30 *e*P **P 14 43 07.5 +1.7**
comp=Z,143nm,1.0s,mb5.8
DIV *e* pP 14 43 17.4 +2.9
BALT Daday 79.87 310 *i* P **P 14 43 05.8 -1.4**
CASY Casey 79.92 185 *e*P **P 14 43 05.8 -1.7**

comp=Z,10nm,1.0s,mb4.7
BR131 Keskin Array S 79.97 308 *e*P **P 14 43 06.2 -1.5**
comp=Z,9.1nm,0.8s,mb4.8
BR131 *e*PP PP 14 46 11.5 +1.9
BRTR Keskin Array B 79.97 308 P **P 14 43 07.2 -0.5**
comp=Z,8.0nm,0.8s,mb4.7,baz=126,slow=4.8,SNR=17
BRTR PP PP 14 46 10.8 +1.3
comp=Z,3.8nm,1.1s,baz=112,slow=5.5,SNR=4.9
BRTR LR LR 15 25 10.8
comp=Z,1µm,18.9s,MS5.2,baz=253,slow=41
BRTR Keskin Array B 79.97 308 P **P 14 43 07.2 -0.5**
BRTR 14 46 10.9
SPB4 Spitsbergen Ar 80.01 348⇓*e*P **P 14 43 06.9 -1.1**
MENT Mentasta 80.27 28 *e*P **P 14 43 10.6 +1.2**
ANTO Ankara 80.58 309 *e*P **P 14 43 10.4 -0.7**
ANTO pmax pmax
comp=Z,20nm,1.0s,mb5.0
ANTO Ankara 80.58 309 *e*P **P 14 43 10.4 -0.6**
comp=Z,20nm,1.0s,mb5.0
KAF Kangasniemi 80.68 332 *e*p **P 14 43 09.2 -2.3**
baz=74,slow=4.9
FIA1 FINESS Array S 80.91 331 *e*P **P 14 43 11.4 -1.4**
FINES FINESS Array B 80.91 331 P **P 14 43 11.3 -1.5**
comp=Z,7.8nm,0.7s,mb4.7,baz=71,slow=6.1,SNR=20
FINES LR LR 15 22 40.3
comp=Z,4µm,19.0s,MS5.8,baz=258,slow=38
FINES FINESS Array B 80.91 331 P **P 14 43 11.3 -1.5**
FINES LR LR 15 22 40.3
SGKT Sivrigoynuk 81.02 310 *i* P **P 14 43 14.3 +1.0**
EGAK Eagle 81.02 25 *e*P **P 14 43 13.8 +0.4**
comp=Z,36nm,1.0s,mb5.3
EGAK *e* 14 46 22.2
DRV Dumont d'Urvil 81.04 173 SS SS 14 58 37.0 +1.2
DRV L 15 05 00.0
DRV R 15 10 00.0
VSU Vasula 81.17 328⇑*i*P **P 14 43 12.5 -1.7**
VSU Vasula 81.17 328⇑*i*P **P 14 43 12.6 -1.6**
AKASG Malin Array Be 81.19 320 P **P 14 43 12.9 -1.4**
comp=Z,37nm,1.2s,mb5.2,baz=66,slow=5.3,SNR=35
AKASG PP PP 14 46 19.5 -0.3
comp=Z,3.9nm,1.0s,baz=63,slow=7.6,SNR=3.6
AKASG LR LR 15 22 55.2
comp=Z,2µm,19.1s,MS5.4,baz=75,slow=38
AKASG Malin Array Be 81.19 320 *i* P **P 14 43 04.9 -9.4**
AKASG Malin Array Be 81.19 320 P **P 14 43 13.0 -1.3**
AKASG 14 46 19.5
AKBB Malin Array Si 81.19 320 P **P 14 43 12.5 -1.8**
AKBB Malin Array Si 81.19 320 *e*P **P 14 43 10.8 -3.5**
MNK Minsk 81.33 324 *e*P **P 14 43 11.0 -4.0**
KDHN Kadinhani 81.33 307 *i* P **P 14 43 12.7 -2.3**
TRO Tromso 81.84 340 *e*P **P 14 43 16.1 -1.6**
TRO Tromso 81.84 340 *e*P **P 14 43 17.2 -0.5**
HENT Hendek 81.84 310 *i* P **P 14 43 16.1 -1.6**
DAWY Dawson 81.93 26 *e*P **P 14 43 18.8 +0.6**
ESKT Eskisehir 82.12 309 *i* P **P 14 43 17.7 -1.5**
KIS Kishinev 82.15 316 *e*P **P 14 43 20.0 +0.6**
KIS *e* 14 46 34.0
KIS *e*S S 14 53 36.0 +3.4
KIS MLR MLR
comp=Z,4µm,20.0s,MS5.8
KIS MLR MLR
comp=N,2µm,16.0s,MS5.8
KIS MLR MLR
comp=E,3µm,17.0s,MS5.8
KIS Kishinev 82.15 316 *e*PP PP 14 46 34.0 +6.4
KIS *e*S S 14 53 36.0 +3.4
KIS LRM 15 23 25.0
comp=E,2µm,16.0s
MIR Mirnyy 82.52 191 P **P 14 43 23.0 +1.7**
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.9
TKTP Tekketepe 82.81 307 *i* P **P 14 43 21.9 -1.0**
TIRR Tirgusor 82.94 314⇑*i*P **P 14 43 25.1 +1.6**
TIRR Tirgusor 82.94 314⇑P **P 14 43 25.1 +1.6**
CFR Carcaliu 82.98 315 P **P 14 43 23.6 -0.1**
INK Inuvik 83.02 21 LR LR 15 27 54.5
comp=Z,1µm,18.8s,MS5.3,baz=283,slow=41
INK Inuvik 83.02 21 *e*P **P 14 43 23.8 -0.1**
comp=Z,3µm,1.4s
HARR Harsova 83.22 314 P **P 14 43 25.8 +0.9**
ULDT Uludag 83.29 310 *i* P **P 14 43 24.2 -1.1**
GOLH Golhisar 83.56 307 *i* P **P 14 43 26.0 -0.7**
VRI Vrincioaia 83.80 316⇓*i*P **P 14 43 28.8 +0.9**
VRI Vrincioaia 83.80 316 P **P 14 43 28.1 +0.2**
DNZL Cakiroluk 83.87 307 *i* P **P 14 43 29.6 +1.3**
SUW Suwalki 84.10 324 *e*P **P 14 43 28.1 -1.3**
SUW L 15 21 26.6
comp=Z,2.9nm,25.8s
ALE Alert 84.17 1 P **P 14 43 29.0 -0.8**
comp=Z,202nm,1.4s,mb6.1,SNR=6.6
BTOK Tokmak 84.20 309 *i* P **P 14 43 29.0 -1.0**
BURAR Bucovina Array 84.41 317⇓*i*P **P 14 43 30.7 -0.3**
BURAR Bucovina Array 84.41 317⇓P **P 14 43 30.7 -0.3**
MLR Muntele Rosu 84.42 315⇑*i*P **P 14 43 30.6 -0.5**
MLR Muntele Rosu 84.42 315 ⇑P **P 14 43 30.9 -0.2**
SART Tekirdag 84.64 310 *i* P **P 14 43 30.0 -2.1**
LVV L'vov 84.64 320 *e*P **P 14 43 29.9 -2.3**
LVV *e*S S 14 53 51.8 -5.9
KMBO Kilima Mbogo 84.73 268 P **P 14 43 33.4 +0.7**
comp=Z,11nm,1.0s,mb5.0,baz=66,slow=15,SNR=12
KMBO Kilima Mbogo 84.73 268 P **P 14 43 35.9 +3.3**
SNR=13
KMBO Kilima Mbogo 84.73 268 *i* P **P 14 43 36.0 +3.4**
KMBO *i* 14 48 42.0
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 84.73 268 *e*P **P 14 43 35.5 +2.9**
comp=Z,18nm,1.0s,mb5.2
AYDN Tasoluk 84.78 307 *i* P **P 14 43 32.3 -0.6**
ARG Arkhangelos 84.91 306 *e*P **P 14 43 34.5 +1.0**
VOIR 85.05 315⇑*i*P **P 14 43 34.0 -0.2**
VOIR 85.05 315 ⇑P **P 14 43 34.0 -0.2**
SKAG Skagway 85.06 30 *e*P **P 14 43 36.5 +2.2**
comp=Z,46nm,1.0s,mb5.6
BDRM Kayabasi 85.25 307 *i* P **P 14 43 28.1 -7.1**
ZIMR 85.26 314 P **P 14 43 35.7 +0.4**
PVL Pavlikeni 85.39 313 *i* P **P 14 43 36.8 +0.9**
KWP Kalwaria 85.52 320 *e*P **P 14 43 36.9 +0.3**
KWP L 15 27 10.5
comp=Z,3.2nm,19.5s
SMG Samos 85.58 308 *e*P **P 14 43 37.0 +0.1**
URLA Izmir 85.61 308 *i* P **P 14 43 34.3 -2.7**
PRK Paraskevi 85.65 309 *e*P **P 14 43 37.5 +0.3**
KDZ Kurdzhali 85.70 312 *i* P **P 14 43 38.3 +0.8**
RDO Rodhopi 85.74 311 *e*P **P 14 43 38.0 +0.3**
KAP Karpathos 85.81 305 *e*P **P 14 43 37.5 -0.5**
SIT Sitka 85.81 32 *e*P **P 14 43 36.5 -1.5**
SIT MLR MLR
comp=Z,3µm,20.0s,MS5.7
KOLS Kolonicke sedl 85.98 319 *e*P **P 14 43 39.7 +0.8**
UZH Uzhgorod 86.05 319⇓*i*P **P 14 43 38.2 -1.0**
UZH *i* 14 43 54.6
UZH *e* 14 53 57.0
UZH *e*S S 14 54 08.0 -3.6
UZH *e*PS 14 55 06.0
UZH pmax pmax
comp=Z,119nm,1.0s,mb6.1
RZN Rozhen 86.20 312 *i* P **P 14 43 39.6 -0.4**
DRGR 86.27 317⇑*i*P **P 14 43 40.2 -0.1**
DRGR 86.27 317 P **P 14 43 40.0 -0.3**
LIA Limnos Island 86.31 310 *e*P **P 14 43 45.0 +4.5**
STHS Stebnicka Huta 86.49 320 *e*P **P 14 43 42.2 +0.8**
STHS *e* 14 44 00.4
STHS pmax pmax
comp=Z,28nm,1.1s,mb5.4
STHS Stebnicka Huta 86.49 320 *e*P **P 14 43 42.2 +0.8**
comp=Z,28nm,1.1s,mb5.4
STHS *e* 14 44 00.4
CRVS Cervenica-Dubn 86.50 319 *e*S S 14 54 15.7 -0.4
CRVS Cervenica-Dubn 86.50 319 *e*P **P 14 43 40.7 -0.7**
CRVS *e*S S 14 54 15.7 -0.4
GZR Gura Zlata 86.61 316⇑*i*P **P 14 43 43.1 +1.2**
GZR Gura Zlata 86.61 316 P **P 14 43 41.6 -0.3**
APE Apeiranthos 86.74 307 *e*P **P 14 43 45.0 +2.4**
NVR Nevrokopi 86.91 312 *e*P **P 14 43 48.0 +4.6**
DAG Danmarks Havn 86.98 352⇑*i*P **P 14 43 42.8 -1.0**
comp=Z,9.7nm,0.8s,mb5.1
DAG Danmarks Havn 86.98 352⇑*e*P **P 14 43 42.8 -1.0**
DAG pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
DAG Danmarks Havn 86.98 352⇑*e*P **P 14 43 42.8 -1.0**
comp=Z,9.7nm,0.8s,mb5.1
VTS Vitosha 87.05 313 *i* P **P 14 43 44.2 +0.1**

VTS Vitosha 87.05 313⇑*i*P **P 14 43 44.5 +0.4**
VTS Vitosha 87.05 313 P **P 14 43 44.8 +0.7**
NIE Niedzica 87.08 320 *e*P **P 14 43 44.6 +0.4**
NPS Neapolis 87.12 305 *e*P **P 14 43 49.5 +5.0**
OJC Ojcow 87.16 321 *e*P **P 14 43 43.8 -0.8**
OJC *e*PP PP 14 47 03.8 -4.6
OJC *e*S S 14 54 18.0 -4.4
OJC L 15 24 32.7
comp=Z,22nm,21.0s
KECS Kecovo 87.24 319 *e*P **P 14 43 43.8 -1.2**
KECS pmax pmax
comp=Z,17nm,1.0s,mb5.2
KECS Kecovo 87.24 319 *e*P **P 14 43 43.8 -1.2**
comp=Z,17nm,1.0s,mb5.2
KECS *e* 14 44 03.2
BZS Buzias 87.33 316⇑*i*P **P 14 43 49.0 +3.5**
BZS Buzias 87.33 316 ⇑P **P 14 43 49.0 +3.5**
PLG Polygyros 87.47 311 *e*P **P 14 43 50.0 +3.8**
PSZ Piszkesteto 87.79 319⇑*e*P **P 14 43 47.3 -0.4**
PSZ Piszkesteto 87.79 319⇑*i*P **P 14 43 48.7 +1.0**
PSZ Piszkesteto 87.79 319 ⇑P **P 14 43 48.7 +1.0**
VAY Valandovo 87.86 312 *i* P **P 14 43 45.5 -2.5**
NB2 NORSAR Subarra 87.87 333 P **P 14 43 46.2 -1.8**
comp=Z,102nm,1.7s,mb5.8,baz=66,slow=4.4
NB2 NORSAR Subarra 87.87 333 P **P 14 43 46.2 -1.8**
NB2 pmax pmax
comp=Z,102nm,1.7s,mb5.8
NOA NORSAR Array B 87.87 333 P **P 14 43 46.3 -1.7**
comp=Z,11nm,0.9s,mb5.1,baz=68,slow=4.7,SNR=16
NOA LR LR 15 27 32.7
comp=Z,6µm,18.6s,MS6.1,baz=65,slow=39
STIP Stip 88.03 312 *i* P **P 14 43 48.5 -0.3**
NAO01 NORSAR Array S 88.09 333 P **P 14 43 47.0 -2.1**
comp=Z,15nm,1.0s,mb5.2
VAM Vamos 88.20 306 *e*P **P 14 43 51.0 +1.4**
VYHS Vyhne 88.28 320 *e*P **P 14 43 49.5 -0.5**
VYHS *e*PP PP 14 47 14.5 -3.0
VYHS *e*S S 14 54 32.1 -1.1
VYHS Vyhne 88.28 320 *e*P **P 14 43 49.5 -0.5**
comp=Z,13nm,1.4s,mb5.0
VYHS *e*PP PP 14 47 14.5 -3.0
VYHS *e*S S 14 54 32.1 -1.1
VYHS LR LR
comp=Z,2µm,20.3s,MS5.5
OKC Ostrava-Krasne 88.29 321 *e*P **P 14 43 49.4 -0.6**
OKC *e*S S 14 54 31.2 -2.0
OKC *e*x x 15 00 48.7
OKC AMS AMS 15 25 00.0
comp=Z,3µm,19.1s
OKC Ostrava-Krasne 88.29 321 *e*P **P 14 43 49.4 -0.6**
OKC *e*S S 14 54 31.2 -2.0
OKC MLR MLR
comp=Z,3µm,19.1s,MS5.7
OKC Ostrava-Krasne 88.29 321 *e*P **P 14 43 49.4 -0.6**
OKC *e*S S 14 54 31.2 -2.0
OKC *e*SS SS 15 00 48.7 +26
SKO Skopje 88.49 313 *i* P **P 14 43 50.8 -0.1**
MORC Moravsky Berou 88.68 321⇑*i*P **P 14 43 52.9 +1.0**
MORC Moravsky Berou 88.68 321 P **P 14 43 51.9 0.0**
KZN Kozani 88.72 311 *e*P **P 14 43 55.0 +2.9**
KRUS Krusevo 88.80 312 *i* P **P 14 43 52.4 -0.1**
VLI Veliai 88.84 307 *e*P **P 14 43 52.0 -0.6**
BIA Bitola 88.84 312 *i* P **P 14 43 51.0 -1.6**
KSP Ksiaz 89.07 322 *e*P **P 14 43 53.6 -0.1**
KSP L 15 26 15.8
comp=Z,7.4nm,20.7s
KSP Ksiaz 89.07 322 *e*P **P 14 43 53.0 -0.7**
KSP *e*SKS 14 54 23.0
KSP *e*SS SS 15 00 40.0 +6.0
KSP LR LR
comp=Z,8µm,20.7s,MS6.2
PKSM Moragy 89.13 317⇓*i*P **P 14 43 55.2 +1.2**
PKSM Moragy 89.13 317 ⇓P **P 14 43 55.1 +1.1**
OHR Ohrid 89.20 312 *i* P **P 14 43 53.0 -1.3**
DPC Dobruska-Polom 89.22 322 *e*P **P 14 43 54.5 +0.1**
DPC *e*S S 14 54 33.2 -8.8
DPC *e*SS SS 15 00 44.3 +8.0
DPC AMS AMS 15 25 20.0
comp=Z,3µm,19.6s
DPC Dobruska-Polom 89.22 322 *e*P **P 14 43 54.5 +0.1**
DPC *e*S S 14 54 33.2 -8.8
DPC MLR MLR
comp=Z,3µm,19.6s,MS5.7
UPC Upice 89.35 322 *e*P **P 14 43 56.9 +1.8**
VRAC Vranov 89.42 321⇓*i*P **P 14 43 56.3 +1.0**
VRAC Vranov 89.42 321 P **P 14 43 55.9 +0.5**
ZST Bratislava 89.47 320 *e*P **P 14 44 00.1 +4.5**
ZST MLR MLR
comp=Z,2µm,18.6s,MS5.5
ITM Ithomi 89.49 308 *e*P **P 14 43 54.5 -1.2**
TREC Trest 90.10 321 *e*P **P 14 43 56.6 -1.9**
TREC *e*SKS 14 54 33.3
TREC *e*x x 15 01 04.5
TREC AMS AMS 15 25 50.0
comp=Z,3µm,18.9s
PVCC Panska Ves 90.21 322 *e*P **P 14 43 59.7 +0.7**
PVCC *e*x x 14 54 36.1
PVCC *e*x x 15 01 02.0
PVCC AMS AMS 15 26 50.0
comp=Z,5µm,17.8s
PRU Pruhonice 90.42 322 *e*P **P 14 44 00.2 +0.2**
PRU *e*S S 14 54 49.9 -3.2
PRU *e*x x 15 01 06.1
PRU AMS AMS 15 26 50.0
comp=Z,3µm,19.6s
BRG Berggiesshubel 90.45 323 *e*P **P 14 43 59.3 -0.9**
comp=Z,35nm,1.4s,mb5.5
BRG Berggiesshubel 90.45 323 *e*P **P 14 43 59.4 -0.8**
comp=Z,21nm,1.4s,mb5.3
BRG *e* 14 47 33.0
comp=Z,29nm,2.0s
BRG SKS 14 54 38.0
BRG S S 14 55 01.0 +7.6
BRG PS PS 14 56 02.0 -1.4
BRG SS SS 15 00 52.0 -2.0
BRG
comp=N,1µm,17.9s
BRG
comp=E,2µm,18.4s
BRG
comp=Z,3µm,17.3s
BRG Berggiesshubel 90.45 323 *e*P **P 14 43 59.4 -0.8**
BRG *e* 14 47 33.0
BRG PS PS 14 56 02.0 -1.4
BRG SS SS 15 00 52.0 -2.0
BRG pmax pmax
comp=Z,20nm,1.4s,mb5.2
BRG pmax pmax
comp=Z,21nm,2.0s,mb5.1
BRG MLR MLR
comp=N,29µm,17.9s
BRG MLR MLR
comp=E,1µm,18.5s
BRG MLR MLR
comp=Z,2µm,17.3s,MS5.5
BRG Berggiesshubel 90.45 323 *e*P **P 14 43 59.4 -0.8**
comp=Z,21nm,1.4s,mb5.3
BRG *e* 14 47 33.0
BRG SKS 14 54 38.0
BRG S S 14 55 01.0 +7.6
BRG PS PS 14 56 02.0 -1.4
BRG SS SS 15 00 52.0 -2.0
BRG LR LR
comp=Z,3µm,17.3s,MS5.8
ARSA Arzberg 90.80 319⇓*i*P **P 14 44 00.9 -0.9**
comp=Z,14nm,1.6s,mb5.0
CLL Collm 90.83 323 *e*P **P 14 44 01.8 -0.2**
comp=Z,22nm,1.3s,mb5.3
CLL Collm 90.83 323 *i* P **P 14 44 02.4 +0.4**
CLL *e* 14 54 27.0
CLL *e*S S 14 54 56.0 -0.9
CLL pmax pmax
comp=Z,22nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,4µm,21.2s,MS5.8
CLL Collm 90.83 323 *i* P **P 14 44 02.4 +0.4**
comp=Z,22nm,1.3s,mb5.3
CLL *e*SKS 14 54 27.0
CLL *e*S S 14 54 56.0 -0.9
CLL LR LR
comp=Z,4µm,21.2s,MS5.8
CLL Collm 90.83 323 *i* P **P 14 44 02.4 +0.4**
comp=Z,22nm,1.3s,mb5.3
CLL *e*SKSac SKSac 14 54 27.0 -4.9

CLL eS S 14 54 56.0 -0.9
comp=N,600nm,18.5s
CLL eS S 14 54 56.0 -0.9
comp=E,400nm,16.4s
CLL ePS PS 14 56 08.0 +0.3
CLL eSS SS 15 01 02.0 +2.4
MAW Mawson 91.13 199 LR LR 15 22 05.3
comp=E,659nm,19.6s,MS5.1,baz=54,slow=34
BSEG Bad Segeberg 91.27 327 eP **P 14 44 03.3 -0.7**
comp=Z,25nm,1.4s,mb5.3
BSEG Bad Segeberg 91.27 327 eP **P 14 44 03.3 -0.7**
BSEG pmax pmax
comp=Z,25nm,1.4s,mb5.3
KHC Kasperske Hory 91.32 321 eP **P 14 44 04.9 +0.7**
KHC eSKS 14 54 41.2
KHC ePKKP PKKPbc 15 01 22.5 -3.1
KHC AMS AMS 15 26 40.0
comp=Z,3μm,17.2s
KHC Kasperske Hory 91.32 321⇑ eP **P 14 44 02.7 -1.5**
GEC2 GERESS Array S 91.36 321 eP **P 14 44 05.0 +0.6**
comp=Z,22nm,1.2s,mb5.4
GEC2 GERESS Array S 91.36 321 P **P 14 44 04.3 -0.1**
GERES GERESS Array B 91.36 321 P **P 14 44 03.4 -1.0**
comp=Z,4.8nm,0.8s,mb4.9,baz=71,slow=5.8,SNR=26
GERES PP PP 14 47 43.5 +1.6
comp=Z,1.0nm,0.8s,baz=42,slow=6.0,SNR=2.5
GERES LR LR 15 27 22.0
comp=Z,3μm,19.5s,MS5.7,baz=76,slow=37
GERES GERESS Array B 91.36 321 P **P 14 44 03.4 -1.0**
GERES 14 47 43.5
GERES GERESS Array B 91.36 321 P **P 14 44 03.4 -1.0**
GERES PP PP 14 47 43.5 +1.6
GERES LR LR 15 27 21.9
MOA Molln 91.38 320⇑ iP **P 14 44 04.2 -0.2**
comp=Z,47nm,1.3s,mb5.7,SNR=10
BBB Bella Bella 91.48 35 LR LR 15 24 06.2
comp=Z,785nm,18.5s,MS5.2,baz=304,slow=35
TANN Tannenbergstha 91.50 323 eP **P 14 44 04.8 -0.2**
comp=Z,17nm,1.4s,mb5.2
NKC Novy Kostel 91.58 323 eP **P 14 44 04.5 -0.9**
NKC eS S 14 54 59.5 -4.2
NKC ePKKP PKKPbc 15 01 22.8 -2.1
NKC AMS AMS 15 28 00.0
comp=Z,6μm,17.0s
NKC Novy Kostel 91.58 323 eP **P 14 44 04.5 -0.9**
NKC eS S 14 54 59.5 -4.2
NKC eSS SS 15 01 22.8 +13
BOJS Bojanci 91.60 318 eP **P 14 44 05.5 0.0**
WET Wettzell 91.74 322 eP **P 14 44 06.0 -0.2**
comp=Z,24nm,1.4s,mb5.3
WET Wettzell 91.74 322 eP **P 14 44 06.0 -0.2**
WET pmax pmax
comp=Z,24nm,1.4s,mb5.3
VISS Visnje 91.76 318 iP **P 14 44 07.9 +1.6**
MANZ Manzenberg 91.87 322 eP **P 14 44 07.0 +0.2**
comp=Z,14nm,1.3s,mb5.1
MOX Moxa 91.90 323 eP **P 14 44 07.2 +0.3**
comp=Z,22nm,1.5s,mb5.3
MOX Moxa 91.90 323 eP **P 14 44 08.0 +1.1**
MOX pmax pmax
comp=Z,25nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,2μm,18.0s,MS5.7
MOX Moxa 91.90 323 eP **P 14 44 08.0 +1.1**
comp=Z,25nm,1.5s,mb5.3
MOX eS S 14 55 02.0 -4.6
MOX LR LR
comp=Z,2μm,18.0s,MS5.7
ROTZ Rotzenmuhle 91.90 322 eP **P 14 44 05.7 -1.2**
comp=Z,26nm,1.3s,mb5.4
NRDL Niedersach Rie 91.99 325 eP **P 14 44 06.6 -0.7**
comp=Z,17nm,1.2s,mb5.2
CLZ Clausthal 92.12 325 eP **P 14 44 07.3 -0.6**
comp=Z,21nm,1.2s,mb5.3
CLZ Clausthal 92.12 325 eP **P 14 44 07.3 -0.6**
CLZ pmax pmax
comp=Z,21nm,1.2s,mb5.3
VOY Vojsko 92.29 318 eP **P 14 44 05.2 -3.5**
VOY e 14 44 07.6
VOY e 14 44 47.2
ROBS Robic 92.46 319 iP **P 14 44 10.2 +0.7**
GRA1 Grafenberg Arr 92.52 322 eP **P 14 44 09.2 -0.6**
GRA1 LR LR
comp=Z,6μm,18.9s,MS6.0
GRF Grafenberg Arr 92.52 322 eP **P 14 44 09.2 -0.6**
GRF eL 15 29 02.4
comp=Z,6μm,18.9s
YKA Yellowknife Ar 92.68 23 P **P 14 44 10.4 -0.1**
comp=Z,4.4nm,0.8s,mb4.9,baz=311,slow=4.4,SNR=7.1
YKA LR LR 15 24 56.7
comp=Z,698nm,21.9s,MS5.1,baz=230,slow=35
UBBA Unterbreizbach 92.76 324 eP **P 14 44 11.4 +0.5**
comp=Z,13nm,0.6s,mb5.5
PPT Papeete 92.91 107 eS S 14 55 12.5 -3.1
comp=Z,2μm,25.8s
PPT eSS SS 15 01 34.2 +4.7
comp=Z,1μm,28.0s
PPT eLQ 15 10 08.9
comp=Z,7μm,33.2s
PPT eLR LR 15 14 14.6
comp=Z,1μm,23.2s
PPT Papeete 92.91 107 LR LR 15 19 15.7
comp=Z,726nm,21.3s,MS5.1,baz=115,slow=31
WTTA Wattenberg 93.25 320⇑ iP **P 14 44 12.5 -0.6**
comp=Z,31nm,0.9s,mb5.7,SNR=8.0
WTTA Wattenberg 93.25 320⇑ iP **P 14 44 12.5 -0.6**
WTTA pmax pmax
comp=Z,31nm,0.9s,mb5.7
IBBN Ibbenburen 93.37 326 eP **P 14 44 14.8 +1.1**
comp=Z,15nm,0.6s,mb5.6
SQTA Sankt Quirin 93.53 320⇑ iP **P 14 44 13.9 -0.6**
comp=Z,46nm,1.5s,mb5.7
SQTA Sankt Quirin 93.53 320⇑ iP **P 14 44 13.9 -0.5**
SQTA pmax pmax
comp=Z,46nm,1.5s,mb5.7
MOTA Moosalm 93.55 320⇓ iP **P 14 44 14.7 +0.2**
comp=Z,21nm,1.1s,mb5.5,SNR=6.9
MOTA Moosalm 93.55 320⇓ iP **P 14 44 14.7 +0.2**
MOTA pmax pmax
comp=Z,21nm,1.1s,mb5.5
VNDA Vanda 93.68 172 P **P 14 44 15.9 +0.8**
comp=Z,1.2nm,0.9s,baz=310,slow=4.8,SNR=8.2
VNDA LR LR 15 24 23.5
comp=Z,2μm,21.6s,MS5.4,baz=322,slow=34
VNDA Vanda 93.68 172 eP **P 14 44 15.3 +0.2**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 93.68 172 eP **P 14 44 15.3 +0.2**
comp=Z,5.0nm,1.0s,mb4.9
TNS Taunus Mts 93.92 324 eP **P 14 44 16.7 +0.5**
comp=Z,20nm,1.4s,mb5.3
TNS Taunus Mts 93.92 324 eP **P 14 44 16.7 +0.5**
TNS pmax pmax
comp=Z,20nm,1.4s,mb5.3
TBI Tubuai 94.30 113 eS S 14 55 23.8 -4.0
comp=Z,2μm,27.0s
TBI eSS SS 15 01 43.3 -6.1
comp=Z,774nm,34.5s
TBI eLQ 15 10 38.9
comp=Z,2μm,36.5s
TBI eLR LR 15 14 42.3
comp=Z,1μm,29.2s,baz=291
DAVA Damuels 94.33 321⇑ iP **P 14 44 18.7 +0.6**
comp=Z,18nm,1.6s,mb5.3
BFO Black Forest 94.82 322 eP **P 14 44 20.4 +0.1**
comp=Z,23nm,1.5s,mb5.4
BFO Black Forest 94.82 322 eP **P 14 44 20.4 +0.1**
BFO pmax pmax
comp=Z,23nm,1.5s,mb5.4
CDF Champ du Feu 95.41 322 eP **P 14 44 21.5 -1.6**
comp=Z,59nm,1.4s,mb5.5
CDF Champ du Feu 95.41 322 eP **P 14 44 21.5 -1.6**
CDF pmax pmax
comp=Z,30nm,1.4s,mb5.5
CDF Champ du Feu 95.41 322 eP **P 14 44 21.5 -1.6**
comp=Z,30nm,1.4s,mb5.5
WLF Walferdange 95.49 324 eP **P 14 44 22.2 -1.2**
comp=Z,22nm,1.3s,mb5.4
HINF Hinteralfeld 95.94 322 eP **P 14 44 23.5 -1.9**
comp=Z,43nm,1.5s,mb5.4
HINF Hinteralfeld 95.94 322 eP **P 14 44 23.5 -1.9**
HINF pmax pmax
comp=Z,21nm,1.5s,mb5.3
HINF Hinteralfeld 95.94 322 eP **P 14 44 23.5 -1.9**
comp=Z,22nm,1.5s,mb5.4
GIVF Givet 96.03 325 eP **P 14 44 24.4 -1.5**

BAIF Baives 96.40 325 eP **P 14 44 26.1 -1.5**
comp=Z,125nm,1.7s,mb5.8
BAIF Baives 96.40 325 eP **P 14 44 26.1 -1.5**
BAIF pmax pmax
comp=Z,62nm,1.7s,mb5.8
BAIF Baives 96.40 325 eP **P 14 44 26.1 -1.5**
comp=Z,62nm,1.7s,mb5.8
LPG La Plagne 97.06 320 eP **P 14 44 29.4 -1.1**
comp=Z,32nm,1.0s,mb5.4
LPG La Plagne 97.06 320 eP **P 14 44 29.4 -1.1**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.4
LPG La Plagne 97.06 320 eP **P 14 44 29.4 -1.1**
comp=Z,16nm,1.0s,mb5.4
LPL La Plagne 97.06 320 eP **P 14 44 29.4 -1.2**
BORG Borgarnes 97.13 345 PFAKE 14 44 40.0 +9.2
BORG LR LR
comp=Z,508nm,19.0s,MS5.0
ORIF Oris-en-Rattie 97.87 320 eP **P 14 44 33.3 -0.9**
KEST Kesra 99.50 310 LR LR 15 34 14.2
comp=Z,464nm,21.5s,MS5.0,baz=0.3,slow=38
NEW Newport 99.55 35 LR LR 15 24 10.1
comp=Z,768nm,21.7s,MS5.2,baz=301,slow=32
NEW Newport 99.55 35 PFAKE 14 44 50.0 +8.3
NEW LR LR
comp=Z,1μm,22.0s,MS5.3
TAOE Nuku Hiva Isla 100.01 97 eSS SS 15 03 03.7 -6.2
comp=Z,2μm,30.9s
TAOE eLQ 15 12 46.7
comp=Z,7μm,36.7s
TAOE eLR LR 15 17 33.4
comp=Z,2μm,20.7s,baz=276
CMB Columbia Colle 102.68 46 PFAKE 14 45 10.0 +14
CMB LR LR
comp=Z,2μm,22.0s,MS5.6
HLID Hailey 103.71 38 PFAKE 14 45 10.0 +10
HLID LR LR
comp=Z,1μm,20.0s,MS5.4
TPH Tonopah 104.83 44 PFAKE 14 45 20.0 +15
TPH LR LR
comp=Z,1μm,19.0s,MS5.5
ISA Isabella 105.16 47 PFAKE 14 49 30.0 +9.1
ISA LR LR
comp=Z,255nm,19.0s,MS4.8
HWUT Hardware Ranch 106.55 39 PFAKE 14 49 40.0 +16
HWUT LR LR
comp=Z,1μm,21.0s,MS5.4
DUG Dugway 106.59 41 PFAKE 14 49 40.0 +16
DUG LR LR
comp=Z,2μm,22.0s,MS5.7
PDAR Pinedale Array 107.06 37 PKKPab PKKPab 15 01 01.1 +4.6
comp=Z,0.4nm,0.4s,baz=142,slow=5.1,SNR=4.0
RKT Rikitea 107.38 110 eSP SP 14 59 00.6 -1.5
comp=Z,367nm,26.2s
RKT eSS SS 15 04 47.8 -3.4
comp=Z,603nm,33.0s
RKT eLQ 15 15 56.5
comp=Z,1μm,33.0s
RKT eLR LR 15 20 45.8
comp=Z,970nm,25.8s,baz=279
RSSD Black Hills 109.26 33 PFAKE 14 49 40.0 +11
RSSD LR LR
comp=Z,867nm,22.0s,MS5.3
SCHQ Schefferville 111.61 5 PFAKE 14 49 40.0 +7.0
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.8
ANMO Albuquerque 113.75 42 PFAKE 14 49 50.0 +13
ANMO LR LR
comp=Z,3μm,22.0s,MS5.8
TOA0 Torodi Ar. Sit 114.82 291 ePKPdf PKiKP 14 49 38.7 -0.5
TORD Torodi Ar. Bea 114.82 291 PKP PKiKP 14 49 39.7 +0.6
comp=Z,1.6nm,0.9s,baz=87,slow=2.5,SNR=4.4
TORD PP PP 14 50 33.8 -3.7
comp=Z,3.0nm,1.0s,baz=67,slow=5.4,SNR=5.3
TORD PKKPab PKKPab 15 00 24.3 +2.3
comp=Z,1.1nm,0.8s,baz=262,slow=1.4,SNR=5.3
TORD Torodi Ar. Bea 114.82 291 PKP PKiKP 14 49 39.7 +0.6
TORD PP PP 14 50 33.8 -3.7
TORD PKKPab PKKPab 15 00 24.3 +2.3
WMOK Wichita Mounta 118.66 37 ePKIKP PKPdf 14 49 48.0 +1.5
TXAR Lajitas Array 119.05 45 PKP PKPdf 14 49 47.9 +0.7
comp=Z,1.7nm,0.6s,baz=270,slow=1.3,SNR=15
TXAR Lajitas Array 119.05 45 PKP PKPdf 14 49 47.9 +0.7
CCM Cathedral Cave 120.24 30 ePKIKP PKPdf 14 49 49.7 +0.1
JCT Junction City 120.91 42 ePKIKP PKPdf 14 49 52.3 +1.5
WVT Waverly 123.41 28 ePKIKP PKPdf 14 49 56.4 +0.8
PLAL Pickwick Lake 124.23 29 ePKPdf PKPdf 14 49 56.1 -1.1
ELN Prospectdale 125.39 22 PKPdf PKPdf 14 50 00.6 +1.2
TEIG Tepich 135.49 42 PFAKE 14 50 30.0 +11
TEIG LR LR
comp=Z,845nm,20.0s,MS5.5
PAYG Puerto Ayora 146.00 71 PFAKE 14 50 50.0 +13
PAYG LR LR
comp=Z,1μm,22.0s,MS5.7
SJG San Juan 147.73 14 PKIKP PKPdf 14 50 38.4 -2.0
SJG San Juan 147.73 14 ePKPbc PKPbc 14 50 43.9 +0.7
SJG LR LR
comp=Z,871nm,22.0s,MS5.5
CPD Cerro la Pandu 147.85 13 PKP2 PKPab 14 50 43.6 -2.4
CPD Cerro la Pandu 147.85 13 ePKPdf PKPdf 14 50 39.1 -1.5
CPD ePKPbc PKPbc 14 50 43.9 +0.4
MTP Monte Pirata 147.88 13 ePKPbc PKPbc 14 50 43.9 +0.3
PLCA Paso Flores 150.82 161 PKPbc PKPbc 14 50 51.6 +0.7
comp=Z,11nm,0.9s,baz=210,slow=3.6,SNR=12
PLCA Paso Flores 150.82 161 ePKPbc PKPbc 14 50 51.2 +0.3
PLCA LR LR
comp=Z,847nm,20.0s,MS5.5
FDF Fort de France 151.87 6 eP PKPdf 14 50 50.5 +3.6
BIM Bigot 152.09 5 eP PKPdf 14 50 52.7 +5.4
SDV Santo Domingo 154.72 29 ePKPdf PKPdf 14 50 52.3 +1.3
SDV LR LR
comp=Z,655nm,22.0s,MS5.4
TRQA Tornquist 155.29 173 PFAKE 14 51 00.0 +8.2
TRQA LR LR
comp=Z,1μm,22.0s,MS5.6
ROSC El Rosal 155.92 42 PKP PKPdf 14 50 56.3 +3.7
comp=Z,5.5nm,0.4s,baz=81,slow=23,SNR=3.5
OTAV Otavalo 155.95 57 ePKPdf PKPdf 14 50 53.9 +1.2
ATAH Atahualpa 159.35 74 PKP PKPdf 14 51 00.1 +3.1
comp=Z,18nm,1.0s,baz=321,slow=12,SNR=6.8
CFAA Coronel Fontan 159.81 155 PKP PKPdf 14 50 58.9 +1.5
comp=Z,0.2nm,0.4s,baz=288,slow=6.4,SNR=3.4
CFAA Coronel Fontan 159.81 155 PKP PKPdf 14 50 58.9 +1.5
NNA Nana 161.98 87 PFAKE 14 51 10.0 +10
NNA LR LR
comp=Z,212nm,20.0s
LVC Limon Verde 166.50 134 PKP PKPdf 14 51 06.3 +2.5
comp=Z,2.7nm,0.9s,baz=232,slow=14,SNR=2.3
LVC PKPab PKPab 14 52 08.8 +2.9
comp=Z,5.5nm,0.9s,baz=298,slow=5.5,SNR=6.3
LVC Limon Verde 166.50 134 PKP PKPdf 14 51 06.3 +2.4
LVC PKPab PKPab 14 52 08.8 +2.9
LVC LR LR
comp=Z,1μm,20.0s
CPUP Villa Florida 167.14 184 PKP PKPdf 14 51 05.9 +1.6
comp=Z,0.4nm,0.3s,baz=79,slow=5.2,SNR=1.6
CPUP Villa Florida 167.14 184 PKP PKPdf 14 51 05.9 +1.6
CPUP LR LR
comp=Z,211nm,19.0s
BDFB Brasilia 169.68 257 PFAKE 14 51 20.0 +14
BDFB LR LR
comp=Z,2μm,20.0s
LPAZ La Paz 170.21 108 PKP PKPdf 14 51 08.2 +1.9
comp=Z,2.1nm,1.0s,baz=266,slow=4.9,SNR=9.4
LPAZ La Paz 170.21 108 ePKPdf PKPdf 14 51 07.4 +1.1
LPAZ ePKPab PKPab 14 52 25.5 +3.3
LPAZ LR LR
comp=Z,899nm,21.0s
SAML Samuel 173.54 47 ePKPdf PKPdf 14 51 07.5 -0.3
SAML ePKPab PKPab 14 52 36.7 -0.3
SIV San Ignacio 176.41 135 PKP PKPdf 14 51 09.8 +1.2
comp=Z,2.3nm,0.8s,baz=97,slow=23,SNR=9.2

*NEIC **20** 14:40:29.6, 1860N×6904W, h180km, MD3.9(RSPR), After RSPR.*

RSPR 20 14:40:29.6, 1860N×6904W, h179km±6km, MD3.9/12, MD3.9/12, 12C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.83**	**94⇑**	eP		Pn	14 41 04.5	-0.3
AGPR				eS		Sn	14 41 32.0	0.0
LSP	**Las Mesas**	**1.90**	**102⇑**	eP		Pn	14 41 05.2	-0.3
LSP				eS		Sn	14 41 35.1	+1.8
CRPR	**Cabo Rojo, PR**	**1.92**	**107⇑**	eP		Pn	14 41 05.2	-0.6
CRPR				eS		Sn	14 41 34.1	+0.4
LRS	**Lares**	**2.10**	**98⇑**	eP		Pn	14 41 08.3	+0.6
LRS				eS		Sn	14 41 38.5	+1.3
AOPR	**Arecibo Observ**	**2.18**	**96⇑**	eP		Pn	14 41 08.4	-0.1
AOPR				eS		Sn	14 41 40.3	+1.5
OBIP	**Obispado Ponce**	**2.38**	**103⇑**	eP		Pn	14 41 11.8	+1.1
OBIP				eS		Sn	14 41 43.2	+0.5
CELP	**Cerrillos**	**2.39**	**102⇑**	eP		Pn	14 41 12.4	+1.5
CELP				eS		Sn	14 41 44.1	+1.0
ICM	**Isla Caja Muer**	**2.49**	**106⇑**	eP		Pn	14 41 10.8	-1.3
ICM				eS		Sn	14 41 45.3	+0.2
CPD	**Cerro la Pandu**	**3.02**	**100⇑**	eP		Pn	14 41 19.2	+0.8
CBYP	**Canovanas**	**3.04**	**96⇑**	eP		Pn	14 41 18.7	+0.1
CBYP				eS		Sn	14 41 58.0	+1.3
HUMP	**Col San Antoni**	**3.06**	**98⇑**	eP		Pn	14 41 20.1	+1.2
HUMP				eS		Sn	14 41 57.9	+0.6
MTP	**Monte Pirata**	**3.35**	**98⇑**	eP		Pn	14 41 23.2	+0.8

MAN 20 14:42:15.2, 1345N×12151E, h7km, mb3.2, ML4.4, MS1.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.85**	**319⇑**	iP		Pg	14 42 32.1	+0.5
TGY				i S		Sg	14 42 40.6	-2.1

MAN 20 14:45:16.4, 1349N×12152E, h5km, mb2.6, ML4.1, MS1.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.83**	**317⇓**	iP		Pg	14 45 33.1	+0.7
TGY				i S		Sg	14 45 41.6	-1.5

*ISCJB **20** 14:47:34.0±0.4, 1327N±006×12132E±009, h10km, mb4.6/14, Error ellipse: s-maj=14.1km s-min=5.8km az=127.3*
*IDC **20** 14:47:34.0±0.9, 1315N×12093E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/21, mbtmp4.1/6, Error ellipse: s-maj=53.6km s-min=9.2km az=84.0*
*NEIC **20** 14:47:35.3±0.5, 1318N×12095E, h10km, mb4.6/3, Error ellipse: s-maj=30.4km s-min=7.7km az=79.0*

ISC 20 14:47:35.8±0.5, 1339N±006×12143E±009, h10km, n22, σ1°04/23, mb4.6/14, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.85**	**326⇓**	iP		**Pg**	**14 47 52.7**	**+0.5**
TGY				i S		**Sg**	**14 48 02.1**	**-1.3**
TGY	**Tagaytay City**	**0.85**	**326**	Pg		**Pg**	**14 47 52.2**	**0.0**
	257nm,0.3s,baz=165,slow=2.5,SNR=41							
TGY				Lg			14 48 05.9	
	790nm,0.3s,baz=153,slow=18,SNR=16							
PVCP	**Virac**	**2.66**	**85⇑**	iP		**Pn**	**14 48 20.7**	**+2.1**
PALP	**Palanan**	**3.77**	**15⇑**	iP		**Pn**	**14 48 32.7**	**-1.3**
CVP	**Callao Caves**	**4.30**	**5**	eP		**Pn**	**14 48 46.0**	**+4.8**
MAJO	**Matsushiro**	**27.53**	**30**	P		**P**	**14 53 27.2**	**+4.7**
	22nm,1.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.57**	**172**	P		**P**	**14 53 57.9**	**-0.5**
	1.5nm,0.8s,mb3.9,baz=348,slow=14,SNR=2.7							
WRAB	**Tennant Creek**	**35.47**	**159**	eP		**P**	**14 54 31.2**	**-1.2**
	7.2nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**35.48**	**159**	P		**P**	**14 54 31.1**	**-1.3**
	7.2nm,0.8s,mb4.6,baz=336,slow=9.6,SNR=32							
WB2	**Warramunga Arr**	**35.48**	**159**	eP		**P**	**14 54 31.4**	**-1.0**
GUN	**Gumba**	**36.12**	**299**	eP		**P**	**14 54 39.1**	**+1.3**
	47nm,0.9s,mb5.4							
PKI	**Pulchoki**	**36.42**	**298**	eP		**P**	**14 54 41.6**	**+1.1**
	24nm,0.9s,mb5.1							
SONM	**Songino Array**	**36.56**	**343**	P		**P**	**14 54 42.0**	**+0.4**
	1.3nm,0.7s,mb3.9,baz=152,slow=6.7,SNR=8.1							
KKN	**Kakani**	**36.59**	**299**	eP		**P**	**14 54 42.9**	**+1.0**
	14nm,0.9s,mb4.8							
DMN	**Daman**	**36.69**	**298**	eP		**P**	**14 54 43.7**	**+0.9**
	29nm,0.9s,mb5.1							
GKN	**Gorkha**	**37.20**	**299**	eP		**P**	**14 54 47.7**	**+0.6**
	18nm,0.9s,mb4.9							
AS31	**Alice Springs**	**38.80**	**162**	eP		**P**	**14 55 01.0**	**+0.4**
ASPA	**Alice Springs**	**38.80**	**162**	eP		**P**	**14 55 01.2**	**+0.6**
ASAR	**Alice Springs**	**38.80**	**162**	P		**P**	**14 55 01.1**	**+0.5**
	2.8nm,0.6s,mb4.2,baz=338,slow=7.0,SNR=66							
STKA	**Stephens Creek**	**48.98**	**157**	P		**P**	**14 56 21.3**	**-1.1**
	7.2nm,0.8s,mb4.8,baz=331,slow=8.2,SNR=9.4							
BVAR	**Borovoye Array**	**56.43**	**326**	P		**P**	**14 57 16.8**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=125,slow=9.0,SNR=4.6							
ZRNK	**Zerenda**	**57.16**	**325**	eP		**P**	**14 57 21.6**	**-1.1**
	3.0nm,0.8s,mb4.4							

JMA 20 15:02:22.8±0.2, 2541N×12260E, h190km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.01**	**158**	P		Pn	15 02 51.7	+0.1
YOJ				eS		Sn	15 03 14.9	+1.0
IRIF	**Iriomote-Funau**	**1.48**	**136**	P		Pn	15 02 55.3	-0.1
IRIF				eS		Sn	15 03 20.6	-0.1
JKRS	**Kuro-shima**	**1.73**	**132**	P		Pn	15 02 58.1	+0.3
JKRS				S		Sn	15 03 24.9	-0.1
HATJ	**Hateruma jima**	**1.74**	**141**	P		Pn	15 02 58.3	+0.5
HATJ				S		Sn	15 03 24.9	-0.1
JIJ	**Ishigaki jima**	**1.75**	**126**	P		Pn	15 02 57.8	-0.1
JIJ				eS		Sn	15 03 24.2	-1.0
JTJ	**Tarama**	**2.06**	**111**	P		Pn	15 03 01.6	+0.5
JTJ				eS		Sn	15 03 30.9	0.0
JMJ	**Miyako jima 2**	**2.51**	**103**	eS		Sn	15 03 39.9	-0.1
JOGS	**Gusukube**	**2.63**	**104**	P		Pn	15 03 08.1	+0.6
JOGS				eS		Sn	15 03 42.5	+0.2
JKE	**Kume jima 2**	**3.88**	**76**	P		Pn	15 03 22.2	-0.5
JKE				eS		Sn	15 04 09.9	+0.3
JAGN	**Aguni-jima**	**4.34**	**73**	P		Pn	15 03 27.5	-1.0
JJT2	**Tamagusuku 2**	**4.70**	**80**	P		Pn	15 03 32.4	-0.6
JIH	**Iheya**	**5.08**	**70**	P		Pn	15 03 36.4	-1.6
JOW	**Kunigami**	**5.29**	**73**	P		Pn	15 03 39.0	-1.7
JTK	**Tokunoshima**	**6.16**	**66**	P		Pn	15 03 49.4	-2.5

*IDC **20** 15:11:14.8±0.8, 1350N×12166E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/24, mbtmp4.1/12, Error ellipse: s-maj=31.5km s-min=9.1km az=52.0*
*BJI **20** 15:11:14.3, 1335N×12190E, h15km, mB5.1, mb4.4, Ms4.4, Msz4.2*
*ISCJB **20** 15:11:16.7±1.4, 1335N±005×12143E±007, h20km±10km, mb4.5/30, Error ellipse: s-maj=12.6km s-min=7.0km az=123.9*
*NEIC **20** 15:11:16.3±0.4, 1347N×12161E, h10km, mb4.5/9, Error ellipse: s-maj=17.5km s-min=5.7km az=58.0*
*MAN **20** 15:11:17.0, 1347N×12152E, h9km, mb4.0, ML5.0, MS1.7*

ISC 20 15:11:16.4±1.5, 1340N±005×12147E±007, h5km±9km, n48, σ0°99/50, mb4.5/30, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.87**	**323⇓**	iP		**Pg**	**15 11 33.8**	**+0.7**
TGY				i S		**Sg**	**15 11 43.0**	**-1.4**
TGY	**Tagaytay City**	**0.87**	**323**	Pg		**Pg**	**15 11 33.3**	**+0.2**
	1μm,0.3s,baz=181,slow=1.7,SNR=35							
TGY				Lg			15 11 45.1	
	3μm,0.3s,baz=193,slow=18,SNR=20							
PCPH	**Palayan**	**2.18**	**350⇓**	eP		**Pn**	**15 11 52.9**	**-0.4**
PCPH				eS		**Sn**	**15 12 20.3**	**-0.4**
PVCP	**Virac**	**2.62**	**85⇑**	iP		**Pn**	**15 12 00.5**	**+1.2**
PALP	**Palanan**	**3.75**	**14⇑**	iP		**Pn**	**15 12 16.3**	**+1.3**
CVP	**Callao Caves**	**4.29**	**4**	eP		**Pn**	**15 12 26.0**	**+3.6**
KSM	**Kuching**	**16.20**	**224**	ePn		**Pn**	**15 15 12.3**	**+7.5**
KMI	**Kunming**	**21.15**	**306**	P		**P**	**15 16 08.8**	**+6.5**
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.1							
KMI	**Kunming**	**21.15**	**306**	P		**P**	**15 16 08.7**	**+6.4**
	comp=Z,10.0nm,1.1s,mb4.1							
CHTO	**Chiang Mai**	**22.29**	**287**	eP		**P**	**15 16 14.4**	**-0.2**
	comp=Z,4.8nm,0.8s,mb4.0							
CD2	**Chengdu**	**23.87**	**320**	eP		**P**	**15 16 31.4**	**+0.6**
CD2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.5							
PSI	**Prapat**	**24.65**	**247**	P		**P**	**15 16 39.5**	**+1.6**
	comp=Z,1.4nm,0.4s,mb3.8,baz=31,slow=18,SNR=2.0							

LZH Lanzhou 27.59 328 *e*P **P 15 17 07.3 +2.8**
LZH AP pP 15 17 10.8 +4.9
LZH XP sP 15 17 13.0 +6.5
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.5
LZH Lanzhou 27.59 328 *e*P **P 15 17 07.3 +2.8**
comp=Z,13nm,1.0s,mb4.5
LZH pP pP 15 17 10.7 +4.8
LZH sP sP 15 17 13.0 +6.5
HHC Hu-ho-hao-te 28.69 344 *e*P **P 15 17 14.0 -0.3**
HHC AMB AMB
comp=Z,20nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,694nm,12.2s
FITZ Fitzroy Crossi 31.57 172 *e*P **P 15 17 39.8 0.0**
comp=Z,5.3nm,0.8s,mb4.4
FITZ Fitzroy Crossi 31.57 172 P **P 15 17 39.4 -0.4**
comp=Z,0.9nm,0.5s,mb3.9,baz=322,slow=12,SNR=6.6
GTA Gaotai 32.19 328 *e*P **P 15 17 46.3 +1.0**
GTA AP pP 15 17 50.8 +4.1
GTA XP sP 15 17 54.1 +6.9
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb3.8
LSA Lhasa 32.40 305 *e*P **P 15 17 48.8 +1.7**
comp=Z,20nm,1.1s,mb4.9
WRAB Tennant Creek 35.47 159 *e*P **P 15 18 12.6 -1.2**
comp=Z,11nm,0.8s,mb4.8
WRA Warramunga Arr 35.47 159 P **P 15 18 12.7 -1.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=336,slow=9.6,SNR=48
WB2 Warramunga Arr 35.48 159⇑*i*P **P 15 18 12.8 -1.0**
WB2 Warramunga Arr 35.48 159 *e*P **P 15 18 12.5 -1.3**
GUN Gumba 36.15 299 *e*P **P 15 18 20.6 +1.0**
comp=Z,38nm,0.7s,mb5.4
PKI Pulchoki 36.45 298 *e*P **P 15 18 22.5 +0.3**
comp=Z,32nm,0.9s,mb5.2
SONM Songino Array 36.56 343 P **P 15 18 21.9 -1.2**
comp=Z,0.5nm,0.7s,mb3.5,baz=157,slow=7.8,SNR=2.8
KKN Kakani 36.62 299 *e*P **P 15 18 23.8 +0.1**
comp=Z,20nm,0.8s,mb5.0
DMN Daman 36.72 298 *e*P **P 15 18 24.3 -0.2**
comp=Z,27nm,0.8s,mb5.1
GKN Gorkha 37.23 299 *e*P **P 15 18 28.8 0.0**
comp=Z,14nm,0.7s,mb4.9
KOLN Koldanda 38.06 298 *e*P **P 15 18 36.0 +0.2**
comp=Z,18nm,0.9s,mb4.8
AS31 Alice Springs 38.79 162 *e*P **P 15 18 42.2 +0.2**
ASPA Alice Springs 38.79 162 *e*P **P 15 18 42.3 +0.3**
ASAR Alice Springs 38.79 162 P **P 15 18 42.2 +0.2**
comp=Z,5.1nm,0.8s,mb4.3,baz=336,slow=6.8,SNR=86
WMQ Urumqi 41.89 323 *e*P **P 15 19 09.0 +1.3**
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,101nm,3.9s
MKAR Makanchi Array 46.72 323 P **P 15 19 46.4 0.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=122,slow=13,SNR=3.8
STKA Stephens Creek 48.98 157 *e*P **P 15 20 03.7 -0.2**
comp=Z,6.5nm,0.7s,mb4.8
STKA Stephens Creek 48.98 157 P **P 15 20 04.0 +0.2**
comp=Z,8.8nm,0.7s,mb4.9,baz=332,slow=8.0,SNR=14
STKA Stephens Creek 48.98 157 *e*P **P 15 20 03.6 -0.3**
ZAL Zalesovo 49.67 332 P **P 15 20 08.7 -0.4**
comp=Z,0.8nm,0.4s,mb4.1,baz=63,slow=7.5,SNR=4.2
AAK Ala-Archa 49.81 315 P **P 15 20 13.7 +3.5**
comp=Z,2.2nm,0.8s,mb4.2
BVAR Borovoye Array 56.44 326 P **P 15 20 58.0 -1.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=125,slow=12,SNR=12
BRVK Borovoye 56.51 326 *e*P **P 15 20 58.6 -1.0**
comp=Z,5.9nm,0.9s,mb4.6
ZRNK Zerenda 57.18 325 *e*P **P 15 21 02.7 -1.6**
comp=Z,4.6nm,0.8s,mb4.6
WSAR Wadi Sarin 60.07 289 P **P 15 21 25.9 +1.5**
comp=Z,4.0nm,0.8s,mb4.5,baz=178,slow=11,SNR=5.4
AKTK Aktyubinsk 62.93 320 P **P 15 21 42.8 -1.0**
AKTO Aktyubinsk 62.93 320 P **P 15 21 42.8 -1.0**
comp=Z,0.8nm,0.5s,mb4.1,baz=80,slow=9.8,SNR=4.9
ARE0 ARCESS Array S 79.63 339 P **P 15 23 24.4 -0.4**
BRTR Keskin Array B 79.92 308 P **P 15 23 25.5 -0.9**
comp=Z,0.4nm,0.7s,mb3.5,baz=92,slow=4.3,SNR=2.9

BJI ***20*** *15:26:13.5, 528S×68.11E, h10km, mB4.9, mb4.7, Ms4.8, Msz4.5*
ISCJB ***20*** *15:26:18.7±0.3, 473S±005×6857E±005, h10km, mb4.6/61, MS4.5/7, Error ellipse: s-maj=7.5km s-min=6.7km az=161.7*
IDC ***20*** *15:26:19.3±0.5, 463S×6860E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.4/26, mbtmp4.3/25, MS4.4/3, Ms1 4.4/3, ms1mx3.7/36, Error ellipse: s-maj=16.3km s-min=12.4km az=44.0*
MOS ***20*** *15:26:19.1±1.1, 459S×6856E, h10km, mb5.0/23, Error ellipse: s-maj=11.5km s-min=8.0km az=84.9*
NEIC ***20*** *15:26:20.6±0.2, 471S×6858E, h10km, mb4.8/31, Error ellipse: s-maj=7.6km s-min=6.4km az=219.0*
ISC 20 15:26:21.0±0.3, 470S±005×6854E±005, h10km, (h14km±1.7km:pP-P), n131, σ1§08/124, mb4.6/61, MS4.5/7, 3C-3D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.74**	**125**	*e*Pn	**Pn**	**15 27 29.0**	**-3.4**
DGAR				*e*Sn	**Sn**	**15 28 18.5**	**-9.0**
PALK	**Pallekele**	**17.00**	**46**	*e*Pn	**Pn**	**15 30 20.1**	**+1.3**
	24nm,1.2s						
HYB	**Hyderabad**	**24.10**	**24**	*i* P	**P**	**15 31 38.0**	**+1.3**
WSAR	**Wadi Sarin**	**29.40**	**341**	P	**P**	**15 32 26.4**	**+2.0**
	3.0nm,0.8s,mb4.1,baz=156,slow=4.0,SNR=3.7						
PSI	**Prapat**	**31.26**	**77**	LR	LR	15 43 08.5	
	comp=Z,539nm,18.4s,MS4.2,baz=288,slow=32						
KMBO	**Kilima Mbogo**	**31.44**	**276**	P	**P**	**15 32 43.8**	**+1.3**
	0.8nm,0.4s,mb3.9,baz=70,slow=11,SNR=4.4						
KMBO				LR	LR	15 42 53.7	
	comp=Z,753nm,19.2s,MS4.4,baz=275,slow=32						
KMBO	**Kilima Mbogo**	**31.44**	**276**	*e*P	**P**	**15 32 43.5**	**+1.0**
	3.7nm,1.1s,mb4.1						
KULM	**Kulim**	**33.57**	**73**	P	**P**	**15 33 02.4**	**+1.3**
KOLN	**Koldanda**	**35.40**	**23**	*e*P	**P**	**15 33 17.8**	**+0.8**
	33nm,1.3s,mb5.1						
DMN	**Daman**	**35.88**	**26**	*e*P	**P**	**15 33 22.2**	**+1.1**
	44nm,0.9s,mb5.4						
PKI	**Pulchoki**	**35.98**	**26**	*e*P	**P**	**15 33 23.1**	**+1.2**
GKN	**Gorkha**	**36.03**	**25**	*e*P	**P**	**15 33 23.0**	**+0.7**
	34nm,0.9s,mb5.3						
KKN	**Kakani**	**36.12**	**26**	*e*P	**P**	**15 33 23.9**	**+0.8**
	42nm,1.0s,mb5.3						
GUN	**Gumba**	**36.48**	**26**	*e*P	**P**	**15 33 27.4**	**+1.2**
	52nm,0.9s,mb5.4						
CM31	**Chiang Mai Arr**	**37.78**	**52**	*e*P	**P**	**15 33 35.4**	**-1.9**
	1.6nm,0.6s,mb3.9						
LSA	**Lhasa**	**40.50**	**31**	*e*P	**P**	**15 34 01.9**	**+1.9**
LSA				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.5						
LSA	**Lhasa**	**40.50**	**31**	*e*P	**P**	**15 34 01.9**	**+1.9**
	comp=Z,24nm,1.8s,mb4.5						
LSZ	**Lusaka**	**41.03**	**252**	P	**P**	**15 34 04.9**	**+0.6**
	comp=Z,0.6nm,0.3s,mb3.7,baz=45,slow=10.0,SNR=2.3						
LSZ				PcP	PcP	15 36 04.6	+0.4
	comp=Z,2.7nm,0.8s,baz=61,slow=1.5,SNR=5.1						
LSZ	**Lusaka**	**41.03**	**252**	P	**P**	**15 34 04.9**	**+0.6**
LSZ				PcP	PcP	15 36 04.6	+0.4
KMI	**Kunming**	**44.53**	**47**	P	**P**	**15 34 34.8**	**+2.0**
KMI				*PP	pP	15 34 37.6	+1.7
KMI				*SP	sP	15 34 38.9	+1.7
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KMI	**Kunming**	**44.53**	**47**	P	**P**	**15 34 34.8**	**+2.0**
	comp=Z,5.0nm,0.7s,mb4.5						
KMI				pP	pP	15 34 37.6	+1.7
KMI				sP	sP	15 34 38.9	+1.7
LBTB	**Lobatse**	**45.88**	**239**	*e*P	**P**	**15 34 45.0**	**+1.5**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
LBTB	**Lobatse**	**45.88**	**239**	*e*P	**P**	**15 34 45.0**	**+1.5**
	comp=Z,8.5nm,1.2s,mb4.5						
ULHL	**Ulahol**	**47.24**	**8**	P	**P**	**15 34 55.2**	**+1.1**
	SNR=15						
EKS2	**Erkin-Say**	**47.38**	**5**	P	**P**	**15 34 56.6**	**+1.4**
	SNR=13						
BOSA	**Boshof**	**47.41**	**235**	P	**P**	**15 34 58.3**	**+2.8**
	comp=Z,3.2nm,1.0s,mb4.2,baz=208,slow=3.5,SNR=3.8						
BOSA				LR	LR	15 51 18.7	
	comp=Z,412nm,20.2s,MS4.4,baz=26,slow=32						
BOSA	**Boshof**	**47.41**	**235**	*e*P	**P**	**15 34 57.4**	**+1.9**
	comp=Z,1.4nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**47.42**	**6**	P	**P**	**15 34 56.8**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**47.42**	**6**	*d i*P	**P**	**15 34 55.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**47.42**	**6**	*e*P	**P**	**15 34 55.6**	**0.0**
	comp=Z,16nm,1.1s,mb4.8						
ASF	**Jabal al Asfar**	**47.43**	**323**	P	**P**	**15 34 57.0**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=178,slow=2.8,SNR=4.2						
KBK	**Karagaybulak**	**47.49**	**6**	P	**P**	**15 34 57.1**	**+1.0**
	SNR=17						
TKM2	**Tokmak 2**	**47.83**	**7**	P	**P**	**15 34 59.6**	**+0.9**
	SNR=17						
CD2	**Chengdu**	**48.84**	**41**	*e*P	**P**	**15 35 06.9**	**+0.4**
CD2				XP	sP	15 35 13.9	+3.0
CD2				PP	PP	15 37 00.6	+0.9
CD2				S	**S**	**15 42 08.9**	**-0.9**
CD2				SS	SS	15 45 36.3	-4.0
CD2				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,360nm,14.4s						
CD2				LR	LR		
	comp=Z,520nm,12.0s,MS4.7						
GNI	**Garni**	**49.70**	**336**	P	**P**	**15 35 14.0**	**+0.8**
	comp=Z,2.2nm,0.4s,mb4.5,baz=216,slow=22,SNR=4.2						
GNI	**Garni**	**49.70**	**336**	*e*P	**P**	**15 35 13.4**	**+0.3**
GNI				pmax	pmax		
	comp=Z,18nm,1.0s						
GNI	**Garni**	**49.70**	**336**	*e*P	**P**	**15 35 13.4**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0						
WMQ	**Urumqi**	**51.29**	**18**	*e*P	**P**	**15 35 25.8**	**+0.6**
WMQ				AP	pP	15 35 30.0	+1.7
WMQ				XP	sP	15 35 33.0	+3.4
WMQ				PCP	PcP	15 36 40.0	-0.1
WMQ				*e*S	**S**	**15 42 43.0**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,122nm,6.8s						
WMQ				LR	LR		
	comp=N,606nm,25.8s,MS4.7						
WMQ				LR	LR		
	comp=E,503nm,21.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,539nm,22.2s,MS4.5						
LZH Lanzhou 52.33 36 *e*P **P 15 35 33.3 +0.4**
LZH AP pP 15 35 36.6 +0.5
LZH XP sP 15 35 38.1 +0.8
LZH PP PP 15 37 33.1 +1.6
LZH *e*S **S 15 42 55.5 -2.8**
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,69nm,4.5s
LZH LR LR
comp=E,455nm,14.4s
LZH LR LR
comp=Z,719nm,16.0s,MS4.8
LZH Lanzhou 52.33 36 *e*P **P 15 35 33.2 +0.3**
LZH *PP pP 15 35 36.6 +0.5
LZH *SP sP 15 35 38.1 +0.8
LZH 15 37 33.1
LZH *e*S **S 15 42 55.5 -2.8**
LZH SS SS 15 46 33.3 -2.7
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.8
LZH MLR MLR
comp=Z,720nm,16.0s,MS4.8
GTA Gaotai 52.52 30 *e*P **P 15 35 34.4 +0.1**
GTA AP pP 15 35 38.8 +1.3
GTA XP sP 15 35 41.8 +3.1
GTA PCP PcP 15 36 45.5 +0.8
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
MK31 Makanchi Array 52.70 12 *e*P **P 15 35 34.8 -0.8**
MK31 *e* 15 36 43.8
MKAR Makanchi Array 52.70 12 P **P 15 35 35.0 -0.6**
comp=Z,3.4nm,0.5s,mb4.5,baz=198,slow=7.6,SNR=16
MKAR PcP PcP 15 36 45.1 -0.3
comp=Z,2.7nm,0.7s,baz=183,slow=2.4,SNR=4.6
MKAR Makanchi Array 52.70 12 *i* P **P 15 35 34.9 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
XAN Xi'an 54.19 42 P **P 15 35 45.3 -1.3**
XAN AP pP 15 35 51.3 +1.5
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
BR131 Keskin Array S 54.64 327 *e*P **P 15 35 50.2 +0.4**
comp=Z,1.1nm,0.7s,mb4.0
BRTR Keskin Array B 54.64 327 P **P 15 35 50.2 +0.4**
comp=Z,2.5nm,0.9s,mb4.2,baz=146,slow=11,SNR=12
AKTK Aktyubinsk 55.66 352 P **P 15 35 55.8 -1.4**
AKTO Aktyubinsk 55.66 352 P **P 15 35 55.8 -1.4**
comp=Z,1.6nm,0.7s,mb4.2,baz=156,slow=6.6,SNR=6.3
FITZ Fitzroy Crossi 57.32 108 *e*P **P 15 36 09.5 +0.5**
comp=Z,11nm,0.9s,mb4.9
FITZ Fitzroy Crossi 57.32 108 P **P 15 36 09.2 +0.2**
comp=Z,6.4nm,0.9s,mb4.6,baz=272,slow=6.9,SNR=9.1
ZRNK Zerenda 57.43 0 *e*P **P 15 36 09.4 -0.5**
ZRNK pmax pmax
comp=Z,14nm,0.8s,mb5.0
ZRNK Zerenda 57.43 0 *e*P **P 15 36 09.4 -0.4**
comp=Z,14nm,0.8s,mb5.0
BRVK Borovoye 57.56 1 *e*P **P 15 36 10.2 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 57.56 1 *e*P **P 15 36 10.2 -0.5**
comp=Z,6.2nm,0.8s,mb4.7
CHKZ Chkalovo 58.19 1 *e*P **P 15 36 14.6 -0.5**
CHKZ *e* 15 36 21.7
CHKZ pmax pmax
comp=Z,21nm,0.8s,mb5.2
CHKZ Chkalovo 58.19 1 *e*P **P 15 36 14.6 -0.6**
comp=Z,21nm,0.8s,mb5.2
CHKZ *e* 15 36 21.7
ZAL Zalesovo 59.99 11 P **P 15 36 26.7 -1.0**
comp=Z,9.0nm,0.6s,mb5.0,baz=262,slow=6.1,SNR=44
HHC Hu-ho-hao-te 60.02 37 *e*P **P 15 36 28.8 +0.9**
HHC AMB AMB
comp=Z,13nm,0.7s,mb5.1
NVS Novosibirsk 60.57 10⇑*i*P **P 15 36 29.7 -1.9**
NVS pmax pmax
comp=Z,20nm,1.7s,mb5.0
NVS pmax pmax
comp=N,22nm,2.0s
ARU Arti 61.47 354⇓*i*P **P 15 36 36.8 -0.9**
ARU *e* 15 37 12.5
ARU *e* 15 38 55.2
ARU *e*S **S 15 44 58.0 -1.0**
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 61.47 354 *e*P **P 15 36 35.5 -2.2**
SONM Songino Array 61.96 28 P **P 15 36 41.5 +0.5**
comp=Z,6.6nm,0.9s,mb4.8,baz=219,slow=6.4,SNR=42
BJT Baijiatuau 62.38 40 *e*P **P 15 36 43.8 0.0**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 62.38 40 *e*P **P 15 36 43.8 0.0**
comp=Z,8.6nm,0.6s,mb5.1
BJI Beijing 62.39 40 *e*P **P 15 36 44.3 +0.4**
BJI AMB AMB
comp=Z,11nm,0.6s,mb5.2
BJI Beijing 62.39 40 *e*P **P 15 36 44.2 +0.3**
BJI pmax pmax
comp=Z,11nm,0.6s,mb5.2
BJI Beijing 62.39 40 *e*P **P 15 36 44.2 +0.3**
comp=Z,11nm,0.6s,mb5.2
MAW Mawson 62.92 182 P **P 15 36 47.5 +0.1**
comp=Z,3.2nm,0.9s,mb4.4,baz=7.0,slow=5.8,SNR=5.4
MAW Mawson 62.92 182 *e*P **P 15 36 47.2 -0.3**
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 62.92 182 *e*P **P 15 36 47.2 -0.2**
comp=Z,10nm,1.2s,mb4.8
KAKA Kakadu 63.54 102 *e*P **P 15 36 50.6 -1.0**
comp=Z,14nm,0.8s,mb5.1
TLY Talaya 63.64 24 *e*P **P 15 36 53.4 +1.2**
TLY pmax pmax
comp=Z,9.0nm,1.9s,mb4.5
AKASG Malin Array Be 64.69 334 P **P 15 36 57.8 -1.3**
comp=Z,3.6nm,0.7s,mb4.5,baz=132,slow=5.7,SNR=12
AKASG Malin Array Be 64.69 334 *i* P **P 15 36 57.7 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 65.22 340 P **P 15 37 01.0 -1.5**
ASPA Alice Springs 65.58 114 *e*P **P 15 37 04.7 -0.2**
ASAR Alice Springs 65.58 114 P **P 15 37 04.8 -0.1**
comp=Z,4.9nm,0.8s,mb4.6,baz=281,slow=5.9,SNR=61
AS31 Alice Springs 65.59 114 *e*P **P 15 37 04.7 -0.2**
WRA Warramunga Arr 65.68 110 P **P 15 37 05.6 +0.1**
comp=Z,13nm,0.8s,mb5.0,baz=284,slow=6.3,SNR=62
WRAB Tennant Creek 65.69 110 *e*P **P 15 37 04.5 -1.1**
WRAB Tennant Creek 65.69 110 *e*P **P 15 37 05.5 -0.1**
comp=Z,18nm,0.8s,mb5.2
WB2 Warramunga Arr 65.69 110 *e*P **P 15 37 05.7 +0.1**
SYO Syowa Base 67.03 191⇑*e*P **P 15 37 13.0 -1.2**
SYO Syowa Base 67.03 191⇑*e*sP sP 15 37 20.6 +1.9
TORD Torodi Ar. Bea 68.69 286 P **P 15 37 25.0 +0.4**
comp=Z,0.6nm,1.0s,mb3.5,baz=86,slow=4.4,SNR=3.2
TORD Torodi Ar. Bea 68.69 286 P **P 15 37 25.0 +0.4**
GERES GERESS Array B 71.45 325 P **P 15 37 40.4 -1.2**
comp=Z,0.2nm,0.3s,mb3.6,baz=203,slow=5.4,SNR=4.0
JOF Joensuu 73.09 343 *e*p **P 15 37 49.5 -1.9**
comp=Z,15nm,0.8s,mb5.0
CLL Collm 73.10 327 *e*P **P 15 37 51.0 -0.4**
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CLL Collm 73.10 327 *e*P **P 15 37 51.0 -0.4**
comp=Z,6.0nm,1.1s,mb4.4
STKA Stephens Creek 73.15 122 P **P 15 37 51.8 0.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=338,slow=14,SNR=4.4
STKA Stephens Creek 73.15 122 *e*P **P 15 37 51.6 -0.2**
MDJ Mudanjiang 73.29 41 P **P 15 37 52.9 +0.3**
MDJ AP pP 15 37 56.3 +0.4
MDJ XP sP 15 37 57.5 +0.4
MDJ PCP PcP 15 38 09.0 0.0
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,98nm,7.2s
MDJ LR LR
comp=N,200nm,20.6s,MS4.5
MDJ LR LR
comp=E,141nm,21.8s,MS4.5
MDJ LR LR
comp=Z,168nm,15.6s
MDJ Mudanjiang 73.29 41 *e*P **P 15 37 52.7 +0.2**
comp=Z,12nm,0.9s,mb4.8
FINES FINESS Array B 73.62 340 P **P 15 37 53.5 -1.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=89,slow=8.2,SNR=4.4
KAF Kangasniemi 74.03 341 *e*p **P 15 37 55.6 -1.3**
baz=135,slow=5.6
MAJO Matsushiro 76.67 51 P **P 15 38 11.9 -0.2**
MAJO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MAJO Matsushiro 76.67 51 P **P 15 38 11.9 -0.2**
comp=Z,8.3nm,0.9s,mb4.7
MJAR Matsushiro Arr 76.67 51 P **P 15 38 12.0 -0.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=256,slow=7.8,SNR=8.8
CTA Charters Tower 76.88 109 *e*P **P 15 38 13.9 +0.6**
comp=Z,9.0nm,0.9s,mb4.7
CTA Charters Tower 76.88 109 P **P 15 38 13.7 +0.4**
comp=Z,10nm,0.8s,mb4.8,baz=268,slow=7.1,SNR=6.8
CTA Charters Tower 76.88 109 *e*P **P 15 38 13.9 +0.6**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 76.88 109 *e*P **P 15 38 13.7 +0.4**
CTAO pmax pmax
comp=Z,18nm,1.0s,mb5.0
CTAO Charters Tower 76.88 109 *e*P **P 15 38 13.7 +0.5**
comp=Z,18nm,1.0s,mb5.0
NB2 NORSAR Subarra 79.00 335 P **P 15 38 23.4 -1.7**
comp=Z,1.9nm,0.8s,mb4.1,baz=89,slow=5.9
NB2 NORSAR Subarra 79.00 335 P **P 15 38 23.4 -1.7**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 79.00 335 P **P 15 38 24.4 -0.7**
comp=Z,3.1nm,0.9s,mb4.2,baz=111,slow=5.8,SNR=4.6
ARCES ARCESS Array B 79.62 346 P **P 15 38 28.0 -0.5**
comp=Z,4.6nm,1.0s,mb4.4,baz=140,slow=5.9,SNR=8.2
ESDC Sonseca Array 79.65 312 P **P 15 38 28.8 +0.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=106,slow=4.8,SNR=5.3
YAK Yakutsk 81.08 25 *e*P **P 15 38 34.8 -1.5**
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
YAK Yakutsk 81.08 25 P **P 15 38 33.9 -2.4**
comp=Z,20nm,1.4s,mb4.8
YSS Yuzh-Sakhalins 82.74 42 P **P 15 38 43.8 -1.2**
YSS pmax pmax
comp=Z,17nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 82.74 42 P **P 15 38 43.8 -1.2**
comp=Z,17nm,1.0s,mb5.0
QSPA South Pole Qui 85.32 180 *e*P **P 15 38 58.1 -0.1**
comp=Z,13nm,1.4s,mb4.9
TIXI Tiksi 85.46 16 *d i*P **P 15 38 57.8 -1.1**
TIXI pmax pmax
comp=Z,26nm,1.1s,mb5.3
VNDA Vanda 86.17 167 P **P 15 39 02.7 +0.3**
comp=Z,0.8nm,0.8s,mb4.0,baz=290,slow=5.1,SNR=9.7
VNDA Vanda 86.17 167 *e*P **P 15 39 01.0 -1.4**
comp=Z,1.0nm,0.8s,mb4.1
SBA Scott Base 87.17 168 *e*P **P 15 39 09.2 +1.9**
SBA pmax pmax
comp=Z,6.0nm,1.4s,mb4.6
SBA Scott Base 87.17 168 *e*P **P 15 39 09.2 +1.8**
comp=Z,6.2nm,1.4s,mb4.7
PDAR Pinedale Array 142.06 358 PKP PKPdf 15 45 51.3 -2.0
comp=Z,0.8nm,0.7s,baz=58,slow=2.2,SNR=3.1
CMB Columbia Colle 145.84 13 *e*PKP2 PKPab 15 46 01.1 +0.3
NVAR Mina Array Bea 145.85 10 PKPbc PKPbc 15 46 02.0 +1.5
comp=Z,11nm,0.8s,baz=343,slow=2.9,SNR=19
MSU Marysvale 146.34 1 *e*PKP2 PKPab 15 46 03.6 +0.8
SDCO Great Sand Dun 146.66 351 *e*PKPbc PKPbc 15 46 03.6 +0.7
OTAV Otavalo 146.73 263 *e*PKPbc PKPbc 15 46 05.5 +2.4
MTUM Tungsten Hills 146.86 10 *e*PKPbc PKPbc 15 46 05.3 +1.9
GSC Goldstone 149.15 9 *e*PKP2 PKPab 15 46 10.4 -3.5
MNTX Cornudas Mount 152.54 349 *e*PKPdf PKPdf 15 46 11.2 +0.5
MNTX *e*PKPbc PKPbc 15 46 18.3 +0.7
TXAR Lajitas Array 154.41 344 PKP PKPdf 15 46 13.9 +0.6
comp=Z,0.4nm,0.7s,baz=35,slow=2.8,SNR=3.2
TXAR PKPbc PKPbc 15 46 22.1 +0.4
comp=Z,1.0nm,0.7s,baz=54,slow=2.5,SNR=8.3
TXAR PKPab PKPab 15 46 37.0 +1.1
comp=Z,2.5nm,1.0s,baz=29,slow=2.9,SNR=8.6
TXAR Lajitas Array 154.41 344 PKIKP PKPdf 15 46 13.9 +0.6
TXAR 15 46 22.1

ISCJB ***20*** *15:36:40.4±0.4, 1336N±004×12152E±008, h12km, mb4.5/23, Error ellipse: s-maj=12.0km s-min=5.5km az=143.5*
IDC ***20*** *15:36:40.2±1.1, 1343N×12163E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/21, mbtmp4.1/6, Error ellipse: s-maj=42.8km s-min=9.6km az=52.0*
NEIC ***20*** *15:36:41.3±1.7, 1342N×12158E, h8km±11km, mb4.6/10, Error ellipse: s-maj=14.6km s-min=6.9km az=73.0*
BJI ***20*** *15:36:41.9, 1364N×12191E, h8km, mB5.1, mb4.6*
MAN ***20*** *15:36:42.8, 1348N×12154E, h12km, mb4.0, ML4.9, MS1.3*
ISC 20 15:36:43.0±1.6, 1340N±005×12147E±007, h15km±10km, n35, σ1§03/37, mb4.5/23, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.87**	**323**	⇑*i*P	**Pb**	**15 36 59.3**	**-0.5**
TGY				*i* S	**Sb**	**15 37 05.6**	**-5.6**
TGY	**Tagaytay City**	**0.87**	**323**	Pg	**Pg**	**15 36 58.9**	**-0.9**
	804nm,0.3s,baz=178,slow=2.0,SNR=100						
TGY				Lg		15 37 11.7	
	2μm,0.3s,baz=196,slow=20,SNR=15						
PCPH	**Palayan**	**2.18**	**351**	⇓*e*P	**Pn**	**15 37 17.9**	**-0.8**
PCPH				*i* S	**Sn**	**15 37 44.9**	**-0.5**
PVCP	**Virac**	**2.62**	**85**	⇑*i*P	**Pn**	**15 37 26.4**	**+1.6**
PALP	**Palanan**	**3.75**	**14**	⇑*i*P	**Pn**	**15 37 42.3**	**+2.0**
CVP	**Callao Caves**	**4.29**	**5**	*e*P	**Pn**	**15 37 50.0**	**+2.3**
KSM	**Kuching**	**16.20**	**224**	P	**Pn**	**15 40 34.9**	**+4.8**
CM31	**Chiang Mai Arr**	**22.23**	**286**	*e*P	**P**	**15 41 40.4**	**+1.4**
	6.3nm,0.7s,mb4.2						
PSI	**Prapat**	**24.65**	**247**	P	**P**	**15 42 04.5**	**+1.5**
	1.2nm,0.3s,mb3.9,baz=342,slow=13,SNR=2.2						
HHC	**Hu-ho-hao-te**	**28.68**	**344**	*e*P	**P**	**15 42 42.8**	**+3.5**
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.57**	**172**	*e*P	**P**	**15 43 04.9**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.2						
MDJ	**Mudanjiang**	**31.87**	**11**	P	**P**	**15 43 07.5**	**0.0**
MDJ				AMB	AMB		

comp=Z,10.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,100nm,5.8s
MDJ Mudanjiang 31.87 11 *e*P **P 15 43 08.3 +0.8**
comp=Z,16nm,1.0s,mb4.8
LSA Lhasa 32.39 305 P **P 15 43 19.8 +7.7**
comp=Z,14nm,1.2s,mb4.7
MBWA Marble Bar 34.39 183 P **P 15 43 29.6 +0.1**
comp=Z,12nm,1.2s,mb4.7
WRAB Tennant Creek 35.47 159 *e*P **P 15 43 38.0 -0.8**
comp=Z,13nm,1.0s,mb4.8
WRA Warramunga Arr 35.47 159 P **P 15 43 38.1 -0.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=336,slow=9.6,SNR=26
WB2 Warramunga Arr 35.48 159 *e*P **P 15 43 38.0 -0.9**
GUN Gumba 36.14 299 *e*P **P 15 43 45.5 +0.9**
comp=Z,23nm,0.7s,mb5.2
PKI Pulchoki 36.45 298 *e*P **P 15 43 47.7 +0.5**
comp=Z,9.8nm,0.6s,mb4.9
SONM Songino Array 36.56 343 P **P 15 43 47.9 -0.2**
comp=Z,0.5nm,0.7s,mb3.5,baz=158,slow=10,SNR=5.6
KKN Kakani 36.62 299 *e*P **P 15 43 49.0 +0.4**
comp=Z,8.2nm,0.6s,mb4.7
DMN Daman 36.72 298 *e*P **P 15 43 50.5 +1.0**
comp=Z,15nm,0.8s,mb4.9
GKN Gorkha 37.22 299 *e*P **P 15 43 54.0 +0.2**
comp=Z,9.9nm,0.7s,mb4.7
KOLN Koldanda 38.05 298 *e*P **P 15 43 59.4 -1.4**
comp=Z,6.2nm,0.7s,mb4.4
AS31 Alice Springs 38.80 162 *e*P **P 15 44 07.4 +0.3**
ASAR Alice Springs 38.80 162 P **P 15 44 07.7 +0.6**
comp=Z,2.2nm,0.4s,mb4.3,baz=344,slow=7.7,SNR=65
ASPA Alice Springs 38.80 162 *e*P **P 15 44 07.4 +0.3**
STKA Stephens Creek 48.98 157 P **P 15 45 27.4 -1.5**
comp=Z,3.1nm,0.6s,mb4.5,baz=321,slow=7.4,SNR=6.3
AAK Ala-Archa 49.80 315 *e*P **P 15 45 40.6 +5.5**
comp=Z,3.0nm,1.1s,mb4.2
MA2 Magadan 50.94 19 P **P 15 45 42.5 -1.2**
comp=Z,26nm,1.3s,mb5.0
BVAR Borovoye Array 56.44 326 P **P 15 46 23.6 -0.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=128,slow=5.6,SNR=7.1
BRVK Borovoye 56.51 326 *e*P **P 15 46 23.7 -0.8**
comp=Z,6.3nm,1.0s,mb4.6
ZRNK Zerenda 57.17 325 *e*P **P 15 46 28.1 -1.1**
comp=Z,4.1nm,1.0s,mb4.4
BILL Bilibino 61.76 18 P **P 15 46 59.6 -1.3**

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*BJI **20** 16:04:21.9, 1325N×12151E, h19km, mB5.0, mb4.3*
*ISCJB **20** 16:04:22.1±0.5, 1335N±006×1213E±01, h10km, mb4.1/12, Error ellipse: s-maj=16.0km s-min=6.1km az=130.4*
*IDC **20** 16:04:22.1±1.1, 1348N×12164E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, Error ellipse: s-maj=50.9km s-min=9.5km az=51.0*
*NEIC **20** 16:04:22.5±2.4, 1350N×12169E, h2km±15km, mb4.5/5, Error ellipse: s-maj=25.0km s-min=8.7km az=67.0*
ISC 20 16:04:24.1±0.5, 1341N±006×1214E±01, h10km, n21, σ0§94/22, mb4.1/12, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.81**	**328**	⇑*i*P	**Pg**	**16 04 41.6**	**+1.8**
TGY				*i* S	**Sg**	**16 04 48.4**	**-2.0**
TGY	**Tagaytay City**	**0.81**	**328**	Pg	**Pg**	**16 04 40.5**	**+0.7**
	189nm,0.3s,baz=206,slow=2.8,SNR=36						
TGY				Lg		16 04 52.1	
	984nm,0.3s,baz=143,slow=18,SNR=26						
PVCP	**Virac**	**2.71**	**86**	⇑*i*P	**Pn**	**16 05 06.5**	**-1.2**
PALP	**Palanan**	**3.77**	**151**	⇑*i*P	**Pn**	**16 05 23.3**	**+0.9**
CM31	**Chiang Mai Arr**	**22.14**	**286**	*e*P	**P**	**16 09 24.0**	**+4.1**
	5.3nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**31.59**	**172**	P	**P**	**16 10 46.5**	**-0.3**
	1.5nm,1.0s,mb3.8,baz=150,slow=17,SNR=4.5						
MDJ	**Mudanjiang**	**31.89**	**11**	P	**P**	**16 10 49.0**	**-0.5**
	6.8nm,0.9s,mb4.5						
GTA	**Gaotai**	**32.14**	**328**	*e*P	**P**	**16 10 52.8**	**+1.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.0						
WRA	**Warramunga Arr**	**35.51**	**159**	P	**P**	**16 11 20.7**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=337,slow=9.6,SNR=9.5						
WB2	**Warramunga Arr**	**35.51**	**159**	*e*P	**P**	**16 11 20.7**	**-0.4**
WB2	**Warramunga Arr**	**35.51**	**159**	*e*P	**P**	**16 11 20.4**	**-0.7**
SONM	**Songino Array**	**36.53**	**343**	P	**P**	**16 11 29.6**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=160,slow=9.8,SNR=6.0						
AS31	**Alice Springs**	**38.83**	**162**	*e*P	**P**	**16 11 49.6**	**+0.4**
ASAR	**Alice Springs**	**38.83**	**162**	P	**P**	**16 11 49.2**	**0.0**
	comp=Z,1.2nm,0.5s,mb3.9,baz=339,slow=6.9,SNR=44						
ASPA	**Alice Springs**	**38.83**	**162**	*e*P	**P**	**16 11 49.6**	**+0.4**
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**16 13 10.8**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.5,baz=331,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**16 13 10.8**	**-0.3**
STKA				*e*		16 13 16.1	
BVAR	**Borovoye Array**	**56.38**	**326**	P	**P**	**16 14 04.8**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.8,baz=100,slow=8.1,SNR=4.4						
BRVK	**Borovoye**	**56.46**	**326**	*e*P	**P**	**16 14 05.8**	**-0.2**
	comp=Z,4.7nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**57.12**	**325**	*e*P	**P**	**16 14 10.5**	**-0.2**
	comp=Z,14nm,1.9s,mb4.7						
MCK	**McKinley**	**77.96**	**27**	P	**P**	**16 16 24.9**	**+2.5**
	comp=Z,6.7nm,1.3s,mb4.4						

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*ISCJB **20** 16:22:30.8±0.5, 839S±005×113.18E±005, h154km±5km, mb4.6/49, Error ellipse: s-maj=10.4km s-min=6.0km az=94.3*
*NEIC **20** 16:22:31.3±0.3, 838S×113.17E, mb4.5/28, Error ellipse: s-maj=11.4km s-min=6.0km az=58.0*
*BJI **20** 16:22:31.3, 840S×11320E, h141km, mB4.9, mb4.8*
*IDC **20** 16:22:32.3±1.1, 831S×11324E, h148km±10km, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.6/14, Error ellipse: s-maj=22.4km s-min=10.6km az=64.0*
ISC 20 16:22:31.8±0.5, 842S±005×11317E±005, h145km±4km, h136km±4.0km: pP-P, n82, σ1§09/86, mb4.6/49, 2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.76**	**290**	P	**Pn**	**16 22 53.5**	**-0.7**
	12μm,0.6s						
NBBI	**Negara**	**1.43**	**88**	P	**Pn**	**16 23 00.3**	**0.0**
	1μm,0.6s						
KMMI	**Kalianget**	**1.58**	**30**	P	**Pn**	**16 23 03.0**	**+1.2**
	1μm,0.9s						
DNP	**Denpasar**	**2.03**	**97**	P	**Pn**	**16 23 06.9**	**-0.1**
	2μm,0.7s						
BJII	**Banjamegara**	**3.60**	**287**	P	**Pn**	**16 23 28.6**	**+2.0**
	82nm,0.8s						
CBJI	**Citeko**	**6.58**	**287**	P	**Pn**	**16 24 05.5**	**-0.6**
	238nm,0.6s						
KSM	**Kuching**	**10.24**	**344**	P	**Pn**	**16 24 52.4**	**-2.6**
KSM				*e*		16 25 00.9	
MBWA	**Marble Bar**	**14.15**	**154**	*e*Pn	**Pn**	**16 25 42.8**	**-3.0**
	31nm,0.3s						
MBWA				*e*Sn	**Sn**	**16 28 05.2**	**-17**
FITZ	**Fitzroy Crossi**	**15.47**	**130**	*e*P	**Pn**	**16 26 02.3**	**+0.1**
	11nm,0.6s						
FITZ				*e*S	**S**	**16 28 41.5**	**-13**
FITZ	**Fitzroy Crossi**	**15.47**	**130**	P	**Pn**	**16 26 01.5**	**-0.7**
	1.4nm,0.3s,baz=308,slow=9.1,SNR=46						
FITZ				S	**S**	**16 28 41.3**	**-13**
	2.2nm,0.3s,baz=204,slow=23,SNR=9.7						
KULM	**Kulim**	**18.48**	**317**	*e*Pn	**Pn**	**16 26 36.9**	**-1.5**
KAKA	**Kakadu**	**19.41**	**104**	*e*P	**P**	**16 26 45.2**	**-1.4**
	16nm,1.4s						
WRA	**Warramunga Arr**	**23.47**	**121**	P	**P**	**16 27 28.4**	**+0.3**
	17nm,0.7s,mb4.6,baz=296,slow=12,SNR=76						
WRA				pP		16 27 57.9	
	6.9nm,0.5s,baz=295,slow=12,SNR=6.8						
WRA				S	S	16 31 52.3	+22
	0.6nm,0.6s,baz=292,slow=21,SNR=2.8						
WB2	**Warramunga Arr**	**23.48**	**121**	⇓*i*P	**P**	**16 27 28.3**	**+0.1**
WB2				*e*S	S	16 31 52.4	+21
WB2	**Warramunga Arr**	**23.48**	**121**	*e*P	**P**	**16 27 28.2**	**0.0**
WB2				*e*pP		16 27 55.8	
NWAO	**Narrogin (SRO)**	**24.67**	**172**	P	**P**	**16 27 39.4**	**+0.3**
	7.6nm,0.8s,mb4.3,baz=314,slow=5.8,SNR=6.4						
NWAO				pP		16 28 09.7	
	4.8nm,0.4s,baz=352,slow=9.3,SNR=2.0						
NWAO	**Narrogin (SRO)**	**24.67**	**172**	*e*P	**P**	**16 27 39.1**	**+0.1**
	41nm,1.4s,mb4.8						
ASPA	**Alice Springs**	**24.98**	**130**	⇓*i*P	**P**	**16 27 42.3**	**+0.5**
ASPA				*e*S	S	16 32 29.2	+34
AS31	**Alice Springs**	**24.98**	**130**	*e*P	**P**	**16 27 42.1**	**+0.2**
AS31				*e*pP		16 28 12.5	
ASAR	**Alice Springs**	**24.98**	**130**	P	**P**	**16 27 42.4**	**+0.5**
	19nm,0.5s,mb4.9,baz=303,slow=9.1,SNR=599						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR				pP		16 28 13.1	
	5.8nm,0.6s,baz=304,slow=9.0,SNR=5.0						
ASAR				S	S	16 32 30.5	+36
	4.0nm,0.9s,baz=302,slow=23,SNR=16						
ASAR				ScP	ScP	16 34 38.4	-0.1
	1.1nm,0.8s,baz=336,slow=2.0,SNR=5.0						
CM31	**Chiang Mai Arr**	**30.18**	**332**	*e*P	**P**	**16 28 30.1**	**+1.9**
	5.5nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**34.02**	**114**	P	**P**	**16 29 03.1**	**+1.3**
	13nm,1.1s,mb4.6						
KMI	**Kunming**	**34.86**	**343**	P	**P**	**16 29 11.6**	**+2.6**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.9						
KMI	**Kunming**	**34.86**	**343**	P	**P**	**16 29 11.6**	**+2.6**
	comp=Z,4.0nm,1.3s,mb3.9						
STKA	**Stephens Creek**	**35.24**	**135**	*e*P	**P**	**16 29 13.3**	**+1.0**
	comp=Z,11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**35.24**	**135**	P	**P**	**16 29 13.6**	**+1.3**
	comp=Z,17nm,0.5s,mb4.9,baz=316,slow=8.5,SNR=74						
STKA				pP	pP	16 29 45.2	+1.7
	comp=Z,4.5nm,0.5s,baz=310,slow=9.7,SNR=3.0						
STKA	**Stephens Creek**	**35.24**	**135**	*e*P	**P**	**16 29 13.4**	**+1.1**
STKA				*e*pP	pP	16 29 43.3	-0.3
PALK	**Pallekele**	**35.93**	**295**	P	**P**	**16 29 17.7**	**-0.4**
	comp=Z,8.0nm,1.0s,mb4.3						
CD2	**Chengdu**	**40.14**	**347**	*e*P	**P**	**16 29 54.4**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,4.6s						
LSA	**Lhasa**	**43.43**	**332**	P	**P**	**16 30 22.0**	**+1.9**
LSA	**Lhasa**	**43.43**	**332**	*e*P	**P**	**16 30 21.7**	**+1.6**
	comp=Z,9.7nm,0.6s,mb4.6						
JIRN	**Jiri**	**44.37**	**325**	*e*P	**P**	**16 30 28.6**	**+1.0**
	comp=Z,9.5nm,0.4s,mb4.8						
GUN	**Gumba**	**44.74**	**325**	*e*P	**P**	**16 30 31.2**	**+0.7**
	comp=Z,70nm,0.6s,mb5.5						
PKI	**Pulchoki**	**44.75**	**324**	*e*P	**P**	**16 30 30.9**	**+0.2**
	comp=Z,31nm,0.8s,mb5.0						
DMN	**Daman**	**44.96**	**324**	*e*P	**P**	**16 30 32.6**	**+0.3**
	comp=Z,57nm,0.6s,mb5.3						
KKN	**Kakani**	**44.99**	**324**	*e*P	**P**	**16 30 32.9**	**+0.3**
	comp=Z,28nm,0.7s,mb5.0						
LZH	**Lanzhou**	**45.13**	**349**	*e*P	**P**	**16 30 36.4**	**+2.7**
LZH				AP	pP	16 31 07.1	+0.9
LZH				XP	sP	16 31 22.3	-0.2
LZH				PCP	PcP	16 32 13.9	+2.3
LZH				PP	PP	16 32 25.0	+3.0
LZH				*e*S	**S**	**16 37 07.5**	**+5.4**
LZH				XS	sS	16 38 00.1	+1.6
LZH				SS	SS	16 40 21.0	-6.0
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,80nm,5.0s						
LZH	**Lanzhou**	**45.13**	**349**	*e*P	**P**	**16 30 36.4**	**+2.7**
	comp=Z,15nm,1.0s,mb4.6						
LZH				pP	pP	16 31 07.1	+0.9
LZH				sP	sP	16 31 22.2	-0.3
LZH				PcP	PcP	16 32 13.9	+2.3
LZH				PP	PP	16 32 25.0	+3.0
LZH				*e*S	**S**	**16 37 07.5**	**+5.4**
LZH				sS	sS	16 38 00.1	+1.6
LZH				SS	SS	16 40 21.0	-6.0
GKN	**Gorkha**	**45.53**	**324**	*e*P	**P**	**16 30 37.1**	**+0.3**
	comp=Z,35nm,0.4s,mb5.4						
KOLN	**Koldanda**	**45.97**	**323**	*e*P	**P**	**16 30 40.4**	**+0.2**
	comp=Z,46nm,0.6s,mb5.3						
BJT	**Baijiatuau**	**48.27**	**3**	P	**P**	**16 30 57.9**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6						
BJI	**Beijing**	**48.30**	**3**	*e*P	**P**	**16 30 58.3**	**0.0**
BJI				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
BJI	**Beijing**	**48.30**	**3**	*e*P	**P**	**16 30 58.2**	**-0.1**
	comp=Z,11nm,0.5s,mb4.7						
HHC	**Hu-ho-hao-te**	**49.05**	**358**	*e*P	**P**	**16 31 07.1**	**+3.1**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb4.9						
GTA	**Gaotai**	**49.18**	**346**	*e*P	**P**	**16 31 06.5**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
MAJO	**Matsushiro**	**50.53**	**26**	*e*P	**P**	**16 31 13.8**	**-1.4**
	comp=Z,5.8nm,0.6s,mb4.4						
MAT	**Matsushiro**	**50.53**	**26**	P	**P**	**16 31 14.0**	**-1.2**
MJAR	**Matsushiro Arr**	**50.53**	**26**	P	**P**	**16 31 14.2**	**-1.0**
	comp=Z,8.3nm,0.7s,mb4.5,baz=202,slow=7.9,SNR=12						
THN	**Thein Dam**	**54.09**	**321**	*e*P	**P**	**16 31 39.8**	**-1.7**
MDJ	**Mudanjiang**	**54.84**	**14**	P	**P**	**16 31 46.5**	**-0.3**
MDJ				AP	pP	16 32 17.0	-3.5
MDJ				PCP	PcP	16 32 47.4	+0.1
MDJ				PP	PP	16 33 50.4	-0.7
MDJ				SCP	ScP	16 36 33.4	+1.3
MDJ				PCS	PcS	16 36 47.3	+0.1
MDJ				S	**S**	**16 39 17.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,14nm,3.6s						
MDJ	**Mudanjiang**	**54.84**	**14**	P	**P**	**16 31 46.7**	**-0.1**
	comp=Z,6.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**56.33**	**355**	P	**P**	**16 31 57.9**	**+0.4**
	comp=Z,7.0nm,0.6s,mb4.7,baz=177,slow=8.3,SNR=68						
WMQ	**Urumqi**	**56.90**	**338**	*e*P	**P**	**16 32 03.5**	**+2.0**
CASY	**Casey**	**57.80**	**181**	*e*P	**P**	**16 32 06.7**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.9						
YSS	**Yuzh-Sakhalins**	**61.09**	**23**	*e*P	**P**	**16 32 30.0**	**-0.4**
	comp=Z,15nm,0.7s,mb4.9						
MK31	**Makanchi Array**	**61.47**	**336**	*e*P	**P**	**16 32 32.6**	**-0.3**
MKAR	**Makanchi Array**	**61.47**	**336**	P	**P**	**16 32 33.1**	**+0.2**
	comp=Z,12nm,0.4s,mb5.0,baz=149,slow=7.4,SNR=146						
AAK	**Ala-Archa**	**61.85**	**328**	*e*P	**P**	**16 32 34.8**	**-0.7**
	comp=Z,9.3nm,0.9s,mb4.6						
WSAR	**Wadi Sarin**	**61.91**	**302**	P	**P**	**16 32 36.2**	**+0.4**
	comp=Z,6.3nm,0.8s,mb4.5,baz=148,slow=5.4,SNR=8.7						
ZAL	**Zalesovo**	**66.59**	**342**	P	**P**	**16 33 05.3**	**-1.0**
	comp=Z,6.6nm,0.4s,mb4.8,baz=322,slow=3.2,SNR=24						
MAW	**Mawson**	**67.88**	**199**	P	**P**	**16 33 15.7**	**+1.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=88,slow=3.9,SNR=4.5						
MAW	**Mawson**	**67.88**	**199**	*e*P	**P**	**16 33 15.8**	**+1.4**
	comp=Z,8.1nm,1.1s,mb4.4						
YAK	**Yakutsk**	**71.41**	**8**	*e*P	**P**	**16 33 34.7**	**-1.4**
	comp=Z,8.7nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**71.54**	**335**	*e*P	**P**	**16 33 36.2**	**-0.7**
	comp=Z,10.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**71.73**	**334**	*e*P	**P**	**16 33 37.1**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.4						
QRN	**Al-Qurain**	**72.90**	**303**	*e*P	**P**	**16 33 44.5**	**-0.4**
QRN				AMb	AMB	16 33 45.1	
	comp=Z,37nm,0.8s,mb5.2						
RDF	**Al-Radifah**	**73.27**	**304**	*e*P	**P**	**16 33 46.5**	**-0.6**
RDF				AMb	AMB	16 33 48.4	
	comp=Z,30nm,1.0s,mb5.0						
VNDA	**Vanda**	**73.49**	**170**	P	**P**	**16 33 49.0**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.0,baz=311,slow=6.9,SNR=29						
VNDA	**Vanda**	**73.49**	**170**	*e*P	**P**	**16 33 48.8**	**+0.3**
	comp=Z,3.3nm,1.0s,mb4.0						
NAY	**Al-Naaiem**	**73.63**	**304**	*e*P	**P**	**16 33 48.1**	**-1.1**
NAY				AMb	AMB	16 33 49.3	
	comp=Z,8.0nm,0.8s,mb4.5						
MIB	**Mutribah**	**73.73**	**304**	*e*P	**P**	**16 33 49.5**	**-0.4**
MIB				AMb	AMB	16 33 50.0	
	comp=Z,11nm,0.7s,mb4.7						
RST	**Umm Al-Ruwaisa**	**73.91**	**304**	*e*P	**P**	**16 33 50.1**	**-0.8**
RST				AMb	AMB	16 33 51.5	
	comp=Z,29nm,0.7s,mb5.2						
ARU	**Arti**	**78.62**	**332**	*e*P	**P**	**16 34 16.2**	**-1.3**
	comp=Z,10nm,1.2s,mb4.3						
QSPA	**South Pole Qui**	**81.57**	**180**	*e*P	**P**	**16 34 33.9**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.0						
LSZ	**Lusaka**	**83.02**	**256**	P	**P**	**16 34 42.2**	**+1.4**
	comp=Z,1.2nm,0.4s,mb4.0						
BOSA	**Boshof**	**84.20**	**242**	*e*P	**P**	**16 34 45.5**	**-1.4**
	comp=Z,19nm,1.4s,mb4.6						
BR131	**Keskin Array S**	**87.36**	**311**	*e*P	**P**	**16 35 02.8**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**87.36**	**311**	P	**P**	**16 35 02.8**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.1,baz=121,slow=6.3,SNR=12						
SNAA	**Sanae**	**89.95**	**197**	*e*P	**P**	**16 35 15.2**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.0						
AKASG	**Malin Array Be**	**92.64**	**321**	P	**P**	**16 35 25.2**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.7,baz=84,slow=4.1,SNR=4.3						
CPUP	**Villa Florida**	**144.24**	**195**	PKP	PKPdf	16 41 51.0	+0.6
	comp=Z,2.6nm,0.4s,baz=161,slow=1.9,SNR=17						
LPAZ	**La Paz**	**155.41**	**177**	PKPab	PKPab	16 42 37.2	+3.2
	comp=Z,1.0nm,0.6s,baz=198,slow=3.6,SNR=5.0						

IDC 20 16:27:44.6±5.9, 3275S×17927W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/13, mbtmp3.7/2, Error ellipse: s-maj=254.7km s-min=58.0km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.96**	**270**	P	P	16 35 37.1	-0.1
	0.6nm,0.6s,baz=108,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**43.16**	**275**	P	P	16 35 47.3	+0.3
	0.4nm,0.3s,baz=116,slow=7.6,SNR=3.4						
FINES	**FINESS Array B**	**146.94**	**338**	PKPbc	PKPbc	16 47 27.5	-1.5
	3.8nm,1.1s,baz=48,slow=2.8,SNR=7.2						

IDC 20 16:35:18.9±8.7, 585S×15073E, h61km±63km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp4.0/4, ML2.3/1, MS4.1/2, Ms1 4.1/2, ms1mx3.1/21, 1C, Error ellipse: s-maj=105.3km s-min=54.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.00**	**225**	P	Pn	16 36 32.5	+1.2
	0.8nm,0.3s,baz=288,slow=12,SNR=3.6						
PMG				S	Sn	16 37 28.4	+0.5
	3.4nm,0.3s,baz=255,slow=22,SNR=7.6						
WB2	**Warramunga Arr**	**21.21**	**227**	⇑*i*P	P	16 39 59.5	+0.1
WRA	**Warramunga Arr**	**21.22**	**227**	P	P	16 39 59.7	+0.2
	2.5nm,0.4s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.00**	**221**	P	P	16 40 28.1	+0.2
	3.9nm,0.7s,baz=59,slow=9.6,SNR=68						
ASPA	**Alice Springs**	**24.00**	**221**	*e*P	P	16 40 28.2	+0.4
FITZ	**Fitzroy Crossi**	**27.35**	**241**	P	P	16 40 58.8	+0.7
	0.8nm,0.5s,baz=64,slow=12,SNR=6.3						
AFI	**Afiamalu**	**37.75**	**105**	LR	LR	16 53 39.8	
	comp=Z,306nm,20.1s,baz=122,slow=29						
URZ	**Urewera**	**40.17**	**147**	LR	LR	16 56 04.7	
	comp=Z,206nm,21.8s,baz=47,slow=31						
TORD	**Torodi Ar. Bea**	**148.64**	**286**	PKPbc	PKPbc	16 54 59.5	+0.4
	3.2nm,0.7s,baz=68,slow=3.0,SNR=21						

NNC 20 16:45:34.5±6.7, 3693N×7093E, h142km±132km, mb2.3, mpv2.4, 4C-1D, Error ellipse: s-maj=60.7km s-min=35.1km az=6.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.17**	**357**	⇑P	Pn	16 47 03.8	+0.4
	baz=174,slow=12						
KK31				⇓S	Sn	16 48 13.7	+0.9
	baz=179,slow=24						
TKM2	**Tokmak 2**	**6.97**	**30**	⇑P	Pn	16 47 14.0	-0.1
	0.1nm,0.4s						
TKM2				⇑S	Sn	16 48 32.3	+0.2
	0.7nm,0.8s						
AB31	**Akbulak array**	**14.68**	**330**	⇑P	Pn	16 48 55.1	0.0
	0.6nm,0.5s,baz=149,slow=13,SNR=7.9						

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*ISCJB **20** 17:00:07.8±0.2, 3882N±001×12279W±003, h10km, mb4.2/16, MS3.9/7, Error ellipse: s-maj=3.0km s-min=1.7km az=135.8*
*NEIC **20** 17:00:08.1, 3887N×12279W, h4km, mb4.5/7, MW4.6(BRK), After NCEDC.*
NEIC Felt [V] at Middletown; [IV] at Clearlake Oaks, Kelseyville and Lower Lake; [III] at Calistoga, Clearlake, Cloverdale, Geyserville, Healdsburg, Hidden Valley Lake, Hopland, Lakeport, Saint Helena and Santa Rosa; [II] at Napa, Oakland, Petaluma, Pleasanton, San Francisco, San Mateo, Sonoma and Windsor. Felt over a wide area from Ukiah in the north to the San Pablo Bay area in the south.
*IDC **20** 17:00:11.8±3.1, 3891N×12271W, h15km±18km, mb4.1/14, mb1 4.3/19, mb1mx4.1/29, mbtmp4.2/19, ML3.7/4, MS4.1/11, Ms1 4.1/11, ms1mx3.9/38, Error ellipse: s-maj=20.4km s-min=16.3km az=44.0*
ISC 20 17:00:08.9±0.2, 3883N±001×12280W±003, h10km, n174, σ1§13/196, mb4.2/16, MS3.9/7, 55C-59D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.27**	**308**	*e*Pg	**Pg**	**17 00 13.4**	**-1.0**
HOPS	**Hopland**	**0.27**	**308**	⇑P	**Pg**	**17 00 13.7**	**-0.6**
	baz=0.3,SNR=1000						
MNRC	**McLaughlin Nat**	**0.28**	**79**	P	**Pg**	**17 00 14.2**	**-0.4**
	baz=0.3,SNR=556						
MNRC				⇑S	**Sg**	**17 00 16.6**	**-1.8**
	baz=0.3						
CVS	**Carmenet Viney**	**0.55**	**151**	P	**Pg**	**17 00 19.5**	**-0.1**
	baz=0.6,SNR=1000						
CVS				⇓S	**Sg**	**17 00 27.2**	**+0.3**
	baz=0.6						
Q03C	**Winters**	**0.64**	**107**	⇑P	**Pg**	**17 00 22.5**	**+1.1**
	baz=0.6,SNR=345						
P01C	**Double 8 Ranch**	**0.77**	**327**	⇑P	**Pg**	**17 00 22.6**	**-1.0**
	baz=0.7,SNR=1000						
GASB	**Alder Springs**	**0.82**	**4**	P	**Pg**	**17 00 24.2**	**-0.5**
	baz=0.8,SNR=1000					

baz=2.2,SNR=12
JCC Jacoby Creek 2.20 335 ⇑P Pn 17 00 44.8 -0.6
baz=2.2
HATC Hat Creek Radi 2.24 27 ⇓P Pn 17 00 45.9 -0.1
baz=2.2,SNR=78
SAO San Andreas Ge 2.32 152⇑ ePn Pn 17 00 45.3 -1.9
ELFS Eagle Lake Fie 2.40 41 ⇓P Pn 17 00 47.9 -0.3
baz=2.4,SNR=99
WCN Washoe City 2.42 78 ⇑P Pn 17 00 48.5 0.0
baz=2.4,SNR=72
WCN ⇓S Sn 17 01 19.0 +0.9
baz=2.4
S05C Merced 2.45 126 ⇑P Pn 17 00 47.8 -1.0
baz=2.5,SNR=17
S05C ⇓S Sn 17 01 20.0 +1.2
baz=2.5
S06C San Francisco 2.50 111 ⇓P Pn 17 00 49.6 0.0
baz=2.5,SNR=358
S06C ⇓S Sn 17 01 21.0 +0.7
baz=2.5
T05C Eagle Field, D 2.56 138 ⇑P Pn 17 00 49.6 -0.8
baz=2.6
M02C Callahan 2.56 359 ⇑P Pn 17 00 50.1 -0.3
baz=2.5
HAST UC Hastings Re 2.63 157 P Pn 17 00 50.2 -1.2
baz=2.7,SNR=50
O06A Flanigan 2.66 59 ⇑P Pn 17 00 51.7 -0.1
baz=2.6
LRV Little Rabbit 2.79 149 ePn Pn 17 00 53.0 -0.5
PAHR Pah Rah Range 2.79 71 ePn Pn 17 00 53.4 -0.2
KRMB Red Mountain 2.82 343 ePn Pn 17 00 53.8 -0.2
KRMB ePg Pg 17 01 04.0 +1.0
M05C Lookout 2.83 26 ⇑P Pn 17 00 54.0 -0.1
baz=2.8
YBH Yreka Blue Hor 2.90 1 ePn Pn 17 00 55.9 +0.8
YBH Yreka Blue Hor 2.90 1 ⇓P Pn 17 00 55.0 -0.1
baz=2.9,SNR=50
U04C Hernandez Rese 2.94 146 ⇓P Pn 17 00 55.2 -0.4
baz=3.0,SNR=24
M06C Likely Place G 2.97 36 ⇓P Pn 17 00 56.2 +0.1
baz=2.9,SNR=41
N06A Buffalo Meadow 2.98 49 ⇓P Pn 17 00 56.0 -0.2
baz=2.9
R07C Lee Vining 3.04 103 ⇑P Pn 17 00 57.7 +0.7
baz=3.0
M04C Macdoel 3.04 14 ⇓P Pn 17 00 57.9 +0.8
baz=3.0,SNR=11
T06C Millerton Lake 3.05 126 ⇑P Pn 17 00 56.8 -0.3
baz=3.1,SNR=11
T06C ⇓S Sn 17 01 34.5 +0.9
baz=3.1
V03C Hunter Liggett 3.06 156 ⇓P Pn 17 00 56.5 -0.9
baz=3.1,SNR=14
Q07A Schurz 3.12 87 ⇑P Pn 17 00 57.2 -0.9
baz=3.1
KCC Kaiser Creek 3.13 118 ⇑P Pn 17 00 58.3 0.0
baz=3.1,SNR=47
KCC ⇓S Sn 17 01 35.6 -0.1
baz=3.1
M01C Crescent City 3.18 342 ⇑P Pn 17 00 58.6 -0.3
baz=3.1,SNR=47
U05C Westside ANR, 3.27 139 ⇓P Pn 17 00 60.0 -0.3
baz=3.3
U05C ⇓S Sn 17 01 39.1 -0.1
baz=3.3
O07A Toulon 3.31 65 ⇓P Pn 17 01 00.5 -0.3
baz=3.3,SNR=26
MLAC Mammoth Lakes 3.34 110 ⇑P Pn 17 01 02.4 +1.2
baz=3.3
L02A Cave Junction 3.38 350 ⇑P Pn 17 01 02.4 +0.7
baz=3.3
PKD Parkfield 3.39 147 ⇓P Pn 17 01 01.1 -0.8
baz=3.4
L04A Klamath Falls 3.42 11 ⇓P Pn 17 01 00.7 -1.5
baz=3.4
V04C Ramage Ranch, 3.54 154 ⇑P Pn 17 01 03.1 -0.7
baz=3.6,SNR=5.5
NVAR Mina Array Bea 3.54 95 Pn Pg 17 01 04.8 +0.8
5.9nm,0.3s,baz=272,slow=15,SNR=160
NVAR Pg 17 01 12.2 -4.6
32nm,0.3s,baz=268,slow=19,SNR=60
NVAR Lg 17 01 57.1
3.6nm,0.3s,baz=14,slow=41,SNR=1.9
L05A Lakeview 3.55 24 ⇓P Pn 17 01 04.8 +0.8
baz=3.5,SNR=28
KBO Bosley Butte 3.55 343 ePn Pn 17 01 04.2 +0.1
KBO ePg Pg 17 01 16.2 -0.7
MOD Modoc 3.62 31 ePn Pn 17 01 05.6 +0.7
MOD Modoc 3.62 31 ⇑P Pn 17 01 05.3 +0.4
baz=3.6,SNR=7.3
MTUM Tungsten Hills 3.65 112 ePn Pn 17 01 07.7 +2.3
HELL Mitchell Peak, 3.68 124 ⇑P Pn 17 01 06.4 +0.5
baz=3.7
R08A Mina 3.71 96 ⇓P Pn 17 01 06.6 +0.4
baz=3.7
V05C Boulder Hill, 3.75 141 ⇓P Pn 17 01 07.2 +0.5
baz=3.8
V05C ⇓S Sn 17 01 51.1 +0.1
baz=3.8
P08A Dixie Valley 3.77 75 ⇑P Pn 17 01 07.1 +0.1
baz=3.7
HUMO Hull Mountain 3.78 358 ePn Pn 17 01 08.6 +1.4
HUMO Hull Mountain 3.78 358 ⇑P Pn 17 01 07.3 +0.2
baz=3.7
HUMO ⇑S Sn 17 01 51.1 -0.6
baz=3.7
M07A Soldier Meadow 3.78 46 ⇓P Pn 17 01 07.6 +0.5
baz=3.7
M07A ⇑S Sn 17 01 52.2 +0.5
baz=3.7
PTRM Twissleman Ran 3.78 146 ePn Pn 17 01 07.4 +0.2
RCTC Rector, Farmer 3.78 131 ⇓P Pn 17 01 08.2 +1.0
baz=3.8
Q08A Gabbs 3.80 88 ⇑P Pn 17 01 08.0 +0.6
baz=3.8
N08A GE Springer Mi 4.09 60 ⇓P Pn 17 01 11.5 +0.1
baz=4.1
SMMC Simmler 4.16 147 ⇑P Pn 17 01 12.8 +0.3
baz=4.2
SMMC ⇓S Sn 17 01 59.8 -1.4
baz=4.2
KEBM Edson Butte 4.21 344 ePn Pn 17 01 13.8 +0.8
VES Vestal, Richgr 4.21 134 ⇑P Pn 17 01 12.4 -0.6
baz=4.2
VES ⇑S Sn 17 02 01.2 -1.0
baz=4.2
M08A Happy Creek Ra 4.28 51 ⇑P Pn 17 01 14.0 -0.1
baz=4.2
Q09A Carvers 4.39 88 ⇓S Sn 17 02 06.8 +0.1
baz=4.4
TPH Tonopah 4.44 98 ePn Pn 17 01 16.9 +0.6
P09A Austin 4.46 79 ⇑P Pn 17 01 17.1 +0.6
baz=4.4
P09A ⇑S Sn 17 02 07.1 -1.3
baz=4.4
S09A Goldfield 4.52 102 ⇓P Pn 17 01 17.5 +0.1
baz=4.5
R09A Tonopah 4.53 96 ⇑P Pn 17 01 18.3 +0.8
baz=4.5
N09A Rock Creek Ran 4.54 62 ⇓P Pn 17 01 17.6 0.0
baz=4.5
O09A Fish Creek Ran 4.54 71 ⇑P Pn 17 01 18.4 +0.8
baz=4.5
O09A ⇑S Sn 17 02 09.2 -1.3
baz=4.5
PKM Peak Mountain 4.59 148 ⇑P Pn 17 01 18.7 +0.3
baz=4.6
BMN Battle Mountai 4.59 68 ePn Pn 17 01 19.7 +1.3
GRAC Grapevine Rang 4.67 111 ⇓P Pn 17 01 20.3 +0.9
baz=4.7
ISA Isabella 4.68 131 ePn Pn 17 01 20.4 +0.9
ISA Isabella 4.68 131 ⇓P Pn 17 01 20.7 +1.2
baz=4.7
ISA ⇓S Sn 17 02 13.1 -0.8
baz=4.7
K07A Rock Creek Ran 4.71 34 ⇓P Pn 17 01 20.6 +0.7
baz=4.7
L08A Fields 4.78 44 ⇓P Pn 17 01 21.5 +0.6
baz=4.7
WVOR Wild Horse Val 4.80 40 ePn Pn 17 01 20.5 -0.7
M09A Marrel Ranch, 4.85 56 ⇑P Pn 17 01 22.5 +0.6
baz=4.8
DAC Darwin (Calif) 4.86 120 ePn Pn 17 01 22.7 +0.7
DAC eSg Sg 17 02 36.7 -8.2
ARVC Arvin 4.87 138 ⇑P Pn 17 01 23.2 +1.0
baz=4.9
ARVC ⇓S Sn 17 02 18.8 +0.1
baz=4.9
P10A Eureka 4.98 79 ⇓P Pn 17 01 23.9 +0.2
baz=5.0
L09A Wilkinson Ranc 5.05 49 ⇑P Pn 17 01 23.8 -0.8
baz=5.0
TRCR Troy Canyon 5.67 93 ePn Pn 17 01 32.4 -0.8
COR Corvallis 5.77 356 ePn Pn 17 01 39.9 +5.4
286nm,1.5s
GSC Goldstone 5.95 124 ePn Pn 17 01 38.0 +1.0
BFSC Mount Baldy St 6.17 136 ⇓P Pn 17 01 40.2 +0.1
baz=6.2
BMO Blue Mountains 7.28 32 ePn Pn 17 01 58.9 +3.6
17nm,1.1s
PFO Pinyon Flat Ob 7.31 134 ePn Pn 17 01 56.0 +0.4
33nm,1.2s
PFO Pinyon Flat Ob 7.31 134 ⇓P Pn 17 01 56.4 +0.8
baz=7.3
ARUT Antelope Range 7.43 95 ePn Pn 17 01 57.8 +0.4
CCUT Cedar City 7.54 97 ePn Pn 17 02 01.2 +2.3
CCUT ePg Pg 17 02 30.3 -3.0
IRM Iron Mountain 7.72 125 ⇑P Pn 17 02 02.1 +0.8
baz=7.7
BGU Big Grassy Mou 7.80 71 ePn Pn 17 02 03.9 +1.4
DUG Dugway 7.84 77 ePn Pn 17 02 05.8 +2.8
BC3 Big Chuckw Mtn 7.86 129 ⇓P Pn 17 02 03.7 +0.4
baz=7.9
MONP Monument Peak 7.87 137 ⇓P Pn 17 02 04.0 +0.6
baz=7.9
HAWA Hanford 7.93 17 ePn Pn 17 02 01.2 -3.0
18nm,0.8s
MSU Marysvale 8.32 89 ePn Pn 17 02 12.1 +2.5
GLA Glamis 8.66 129 ePn Pn 17 02 13.8 -0.4
GLA Glamis 8.66 129 ⇓P Pn 17 02 14.6 +0.4
baz=8.7
MPU Maple Canyon 8.72 79 ePn Pn 17 02 19.2 +4.1
13nm,0.7s
HWUT Hardware Ranch 9.03 69 ePn Pn 17 02 23.2 +3.9
RRI2 Red Ridge 9.77 59 ePn Pn 17 02 33.1 +3.7
TPAW Teton Pass 10.07 59 ePn Pn 17 02 38.8 +5.2
IMW Indian Meadow 10.25 57 ePn Pn 17 02 40.4 +4.4
NEW Newport 10.29 22 Pn Pn 17 02 41.2 +4.7
0.3nm,0.3s,baz=197,slow=17,SNR=2.5
MSO Missoula 10.30 36 ePn Pn 17 02 37.7 +1.0
13nm,1.2s
MOOW Moose Ponds 10.32 58 ePn Pn 17 02 42.4 +5.5
FLWY Flagg Ranch 10.49 56 ePn Pn 17 02 45.8 +6.5
PDAR Pinedale Array 10.78 64 Pn Pn 17 02 48.6 +5.3
baz=247,slow=11,SNR=15
PDAR Lg 17 05 48.6
0.0nm,0.3s,baz=138,slow=34,SNR=2.4
RLMT Red Lodge 11.87 54 ePn Pn 17 03 04.7 +6.6
64nm,1.7s
SDCO Great Sand Dun 13.64 89 ePn Pn 17 03 25.7 +3.4
43nm,1.7s
ANMO Albuquerque 13.64 101 Pn Pn 17 03 26.1 +3.7
0.1nm,0.3s,baz=297,slow=14,SNR=3.1
ANMO Lg 17 07 13.4
0.2nm,0.3s,baz=326,slow=9.9,SNR=2.5
ANMO LR LR 17 09 04.7
comp=Z,1μm,19.3s,baz=297,slow=39
BBB Bella Bella 13.86 346 LR LR 17 09 18.1
comp=Z,796nm,18.2s,baz=37,slow=40
EDM Edmonton 15.80 21 ePn Pn 17 03 51.3 -0.1
MNTX Cornudas Mount 15.89 111 ePn Pn 17 03 54.8 +2.2
26nm,1.5s
LPIG La Paz 18.11 141 LR LR 17 11 39.2
comp=Z,2μm,18.0s,baz=115,slow=38
TXAR Lajitas Array 18.43 115 P Pn 17 04 26.1 +1.7
0.1nm,0.3s,baz=297,slow=9.8,SNR=43
TXAR LR LR 17 12 20.9
comp=Z,433nm,21.6s,baz=5.0,slow=40
WMOK Wichita Mounta 19.65 95 eP Pn 17 04 39.5 +0.4
21nm,1.4s
ECSD EROS,Sioux Fal 20.24 68 eP P 17 04 43.4 -0.9
34nm,1.3s
JCT Junction City 20.63 107 eP P 17 04 51.0 +2.6
8.8nm,0.8s
ULM Lac du Bonnet 22.20 50 P P 17 05 04.7 -0.7
26nm,0.7s,mb4.7,baz=252,slow=9.8,SNR=32
ULM LR LR 17 13 29.2
comp=Z,155nm,18.5s,MS3.5,baz=273,slow=36
ULM Lac du Bonnet 22.20 50 eP P 17 05 04.0 -1.3
29nm,0.7s,mb4.8
YKA Yellowknife Ar 24.22 9 P P 17 05 27.6 +1.9
1.2nm,0.6s,mb3.5,baz=145,slow=42,SNR=2.9
YKA LR LR 17 15 36.9
comp=Z,541nm,18.5s,MS4.1,baz=190,slow=38
KDAK Kodiak Island 27.07 324 LR LR 17 14 08.4
comp=Z,430nm,20.9s,MS4.0,baz=73,slow=31
DAWY Dawson 27.13 344 eP P 17 05 54.1 +2.0
INK Inuvik 30.12 352 P P 17 06 19.2 +0.5
4.0nm,1.0s,mb4.1,baz=169,slow=10,SNR=7.3
TKL Tuckaleechee C 31.07 84 LR LR 17 20 06.5
comp=Z,263nm,18.6s,MS3.9,baz=100,slow=39
CMIG Matias Romero 32.60 124 LR LR 17 21 06.2
comp=Z,416nm,18.7s,MS4.2,baz=283,slow=38
SCHQ Schefferville 40.34 48 P P 17 07 46.9 +0.3
4.7nm,0.6s,mb4.4,baz=277,slow=10,SNR=9.4
SCHQ LR LR 17 24 55.1
comp=Z,158nm,18.6s,MS3.9,baz=327,slow=37
SFJD Kangerlussuaq 48.08 30 P P 17 08 49.6 +1.0
11nm,1.0s,mb4.9,baz=247,slow=11,SNR=4.0
SUMG Summit 51.79 22 eP P 17 09 16.9 +0.1
10nm,0.8s,mb4.8
ROSC El Rosal 55.35 115 LR LR 17 35 17.1
comp=Z,89nm,18.6s,MS3.9,baz=19,slow=38
NOA NORSAR Array B 73.66 21 P P 17 11 43.5 +0.9
2.6nm,1.0s,mb4.1,baz=322,slow=5.7,SNR=2.7
MJAR Matsushiro Arr 74.22 304 P P 17 11 47.5 +1.5
0.5nm,0.5s,mb3.7,baz=75,slow=5.2,SNR=3.6
FINES FINESS Array B 76.92 15 P P 17 12 02.6 +1.2
2.4nm,0.8s,mb4.2,baz=345,slow=6.7,SNR=6.5
SONM Songino Array 83.25 329 P P 17 12 38.1 +2.5
1.3nm,0.7s,mb4.1,baz=42,slow=3.3,SNR=8.5
ESDC Sonseca Array 83.90 43 P P 17 12 41.3 +2.4
2.1nm,0.8s,mb4.3,baz=304,slow=4.8,SNR=7.0
GERES GERESS Array B 84.58 27 P P 17 12 44.5 +2.1
0.5nm,0.7s,mb3.8,baz=9.9,slow=3.1,SNR=4.2
ZAL Zalesovo 84.59 344 P P 17 12 44.6 +2.2
1.1nm,0.7s,mb4.1,baz=93,slow=8.0,SNR=6.8
DAVOX Davos/Dischmat 84.86 30 P P 17 12 46.0 +2.3
3.9nm,0.8s,mb4.6,baz=323,slow=5.4,SNR=4.4
ZRNK Zerenda 88.02 353 eP P 17 13 00.6 +1.3
3.6nm,0.8s,mb4.7
MKAR Makanchi Array 91.85 343 P P 17 13 18.2 +0.9
0.3nm,0.5s,mb3.9,baz=24,slow=7.3,SNR=4.4
MAW Mawson 151.00 184 PKPbc PKPbc 17 20 02.9 +0.9
2.7nm,0.9s,baz=184,slow=1.8,SNR=5.0
BOSA Boshof 151.67 79 PKPbc PKPbc 17 20 05.1 +1.6
2.2nm,0.7s,baz=238,slow=5.9,SNR=3.2

GUC 20 17:13:56.6±0.5,2845S×6768W,h115km,MD3.3,ML3.7, 2C-1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**2.71**	**267**	⇑	*i* P	Pn	17 14 39.2	+0.3
VACH					*i* S	Sn	17 15 11.8	+0.3
CDCH	**Caldera**	**3.11**	**296**		*i* P	Pn	17 14 44.6	+0.4
CDCH					*i* S	Sn	17 15 19.1	-1.7
CDCH					AML	AML	17 15 22.0	
comp=N,153nm,0.5s								
ZON	**Zonda**	**3.20**	**195**		*i* P	Pn	17 14 46.4	+1.1
ZON					*i* S	Sn	17 15 23.3	+0.3
TLL	**Tololo Astrono**	**3.22**	**237**	⇓	*i* P	Pn	17 14 46.8	+1.2
TLL					*i* S	Sn	17 15 25.4	+2.0
CPN1	**Cerro Paranal**	**4.52**	**327**	⇑	*i* P	Pn	17 15 04.5	+1.5

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*ISCJB **20** 17:27:01.7±0.1,1346N×002×12158E±003,h26km, mb5.6/168,MS5.5/115,Error ellipse: s-maj=3.5km s-min=2.7km az=157.6*
*BJI **20** 17:27:02.5,1336N×12169E,h39km,mB6.0,mb5.3,Ms5.8, Msz5.7*
*MAN **20** 17:27:02.2,1345N×12151E,h13km,mb4.3,ML5.2,MS1.4*
MAN F INTENSITY III - LIPA CITY INTENSITY II - QUEZON CITY MUNTINLUPA TALISAY BATANGAS.
*IDC **20** 17:27:02.2±1.1,1346N×12162E,h20km±5km,mb4.8/29, mb1 4.8/30,mb1mx4.8/31,mbtmp4.9/30,ML3.9/1,MS5.4/31, Ms1 5.4/31,ms1mx5.3/45,Error ellipse: s-maj=8.2km s-min=6.3km az=79.0*
*MOS **20** 17:27:03.0±0.9,1352N×12157E,h33km,mb5.9/74, MS5.7/47,Error ellipse: s-maj=9.4km s-min=4.0km az=118.6*
*NEIC **20** 17:27:03.2±0.1,1349N×12153E,mb5.7/94,MS5.4/59, MW5.8,Error ellipse: s-maj=5.3km s-min=3.8km az=75.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.39; $M_{\theta\theta}$2.60; $M_{\phi\phi}$-1.20; $M_{r\theta}$-0.63; $M_{\theta\phi}$5.15; $M_{\phi r}$0.31; Best double couple: $M_0$5.60000×10^{17} NP1: ϕ_s100.00000°,δ85.00000°,λ-9.00000°. NP2:ϕ_s190.00000°, δ81.00000°,λ-175.00000°. Principal axes: T 6.2000, Plg3.0000°, Azm145.0000°; N -1.3000, Plg80.0000°, Azm250.0000°; P -4.9000, Plg10.0000°, Azm55.0000°;*
NEIC Felt [III PIVS] at Lipa and Manila; [II PIVS] at Muntinlupa, Quezon City and Talisay, Luzon.
*GCMT **20** 17:27:03.2±0.1,1352N×12152E,h17km,MW5.8/109, Moment Tensor Solution. s96,c185; s109,c323; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.44±.07; $M_{\theta\theta}$1.07±.06; $M_{\phi\phi}$0.36±.07; $M_{r\theta}$-1.14±.17; $M_{\theta\phi}$6.81±.06; $M_{\phi r}$0.87±.18; Best double couple: $M_0$7.02100×10^{17} NP1:ϕ_s183.00000°,δ78.00000°, λ-170.00000°. NP2:ϕ_s90.00000°,δ80.00000°, λ-12.00000°. Principal axes: T 7.5410, Plg1.0000°, Azm137.0000°; N -1.0490, Plg74.0000°, Azm232.0000°; P -6.5000, Plg16.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **20** 17:27:04.3,13.12N×12138E,h29km,mb5.8,MS6.1, Mindoro, Philippine Islands*

ISC 20 17:27:03.8±0.1,1347N±002×12163E±002,h27km, h27km±.8km:pP-P,n616,σ1ŝ12/604,mb5.6/168,MS5.5/115, 53C-49D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.66**	**273**	⇓	*i* P	**Pb**	**17 27 12.0**	**-4.7**
TGY	**Tagaytay City**	**0.92**	**313**	⇑	*i* P	**Pn**	**17 27 19.1**	**-1.8**
TGY					*i* S	**Sb**	**17 27 27.1**	**-5.9**
TGY	**Tagaytay City**	**0.92**	**313**		Pn	**Pn**	**17 27 18.3**	**-2.6**
12μm,0.3s,baz=162,slow=3.1,SNR=3073								
PCPH	**Palayan**	**2.15**	**346**	⇑	*e* P	**Pn**	**17 27 38.1**	**+0.4**
PCPH					*e* S	**Sn**	**17 28 06.0**	**+2.6**
PVCP	**Virac**	**2.46**	**87**	⇑	*i* P	**Pn**	**17 27 45.4**	**+3.3**
PVCP					*i* S	**Sn**	**17 27 54.0**	**-17**
PALP	**Palanan**	**3.66**	**12**	⇑	*i* P	**Pn**	**17 27 58.9**	**+0.3**
PALP					*i* S	Sn	17 28 19.2	-22
CVP	**Callao Caves**	**4.22**	**3**		*e* P	**Pn**	**17 28 07.0**	**+0.8**
SCPH	**Surigao**	**5.26**	**134**		*e* P	**Pn**	**17 28 24.1**	**+3.5**
DAV	**Davao City (W)**	**7.45**	**148**	⇓	*e* P	**Pn**	**17 28 58.0**	**+7.4**
DAV	**Davao City (W)**	**7.45**	**148**		P	**Pn**	**17 28 58.2**	**+7.6**
SNR=36								
DAV	**Davao City (W)**	**7.45**	**148**	⇑	*e* Pn	**Pn**	**17 28 55.2**	**+4.5**
1μm,1.1s								
KKM	**Kota Kinabalu**	**9.10**	**216**		*e* Pn	**Pn**	**17 29 14.9**	**+1.7**
NACB	**Ninganchiao**	**10.65**	**360**		*e* Pn	**Pn**	**17 29 34.1**	**-0.4**
YHNB	**Yeheng**	**11.15**	**359**		*e* Pn	**Pn**	**17 29 42.5**	**+1.3**
HKC	**Hong Kong**	**11.29**	**322**		P	**Pn**	**17 29 44.0**	**+0.7**
HKC					S	**Sn**	**17 31 42.0**	**-6.5**
QZH	**Quanzhou**	**11.77**	**346**	⇑	*i* P	**Pn**	**17 29 52.1**	**+2.3**
QZH					S	**Sn**	**17 32 03.0**	**+2.8**
QZH					AMB	AMB		
comp=Z,370nm,1.4s								
QZH					AMB	AMB		
comp=Z,8μm,7.3s								
QZH					LR	LR		
comp=N,88μm,16.2s								
QZH					LR	LR		
comp=E,86μm,19.5s								
QZH					LR	LR		
comp=Z,67μm,16.0s								
GZH	**Guangzhou**	**12.38**	**322**		P	**Pn**	**17 30 01.5**	**+3.3**
GZH					LR	LR		
comp=N,33μm,14.5s								
GZH					LR	LR		
comp=E,10μm,12.9s								
GZH					LR	LR		
comp=Z,46μm,13.3s								
QIZ	**Qiongzhong**	**12.59**	**298**		P	**Pn**	**17 30 01.3**	**+0.2**
QIZ					AP		17 30 08.3	
QIZ					S	**Sn**	**17 32 20.0**	**-0.4**
QIZ					AMB	AMB		
comp=Z,59nm,1.2s								
QIZ					AMB	AMB		
comp=Z,497nm,5.8s								
QIZ					LR	LR		
comp=N,23μm,15.4s								
QIZ					LR	LR		
comp=E,10μm,18.2s								
QIZ					LR	LR		
comp=Z,21μm,18.2s								
QIZ	**Qiongzhong**	**12.59**	**298**		*e* Pn	**Pn**	**17 30 00.8**	**-0.3**
comp=Z,309nm,1.5s								
JOW	**Kunigami**	**14.68**	**24**		Pn	**Pn**	**17 30 29.1**	**-0.5**
comp=Z,1.1nm,0.3s,baz=124,slow=9.6,SNR=6.5								
JOW					Sn	**Sn**	**17 33 14.0**	**+2.6**
comp=Z,0.4nm,0.3s,baz=271,slow=21,SNR=2.1								
JOW					LR	LR	17 35 51.9	
comp=Z,14μm,19.9s,baz=359,slow=36								
KSM	**Kuching**	**16.35**	**224**	⇓	*e* Pn	**Pn**	**17 30 51.1**	**-0.3**
SSE	**Sheshan**	**17.55**	**359**	⇓	P	**Pn**	**17 31 06.8**	**+0.4**
SSE					AP	pP	17 31 19.8	+5.2
SSE					XP	sP	17 31 25.3	+7.2
SSE					S	**Sn**	**17 34 23.3**	**+2.3**
SSE					AMB	AMB		
comp=Z,136nm,1.2s								
SSE					AMB	AMB		
comp=Z,2μm,10.7s								
SSE					LR	LR		
comp=N,4μm,17.8s								
SSE					LR	LR		
comp=E,19μm,17.8s								
SSE					LR	LR		
comp=Z,19μm,15.9s								
SSE	**Sheshan**	**17.55**	**359**	⇓	P	**Pn**	**17 31 06.8**	**+0.4**
comp=Z,136nm,1.2s								
SSE					pP	pP	17 31 19.7	+5.1
SSE					sP	sP	17 31 25.2	+7.1
SSE					S	**Sn**	**17 34 23.2**	**+2.2**
SSE					sS	sS	17 34 48.3	+8.4
WHN	**Wuhan**	**18.27**	**340**	⇑	P	**Pn**	**17 31 16.4**	**+1.1**
WHN					AP	pP	17 31 24.3	+1.7
WHN					S	**Sn**	**17 34 46.0**	**+7.5**
WHN					LR	LR		
comp=Z,49μm,15.0s								
KKTK	**Khon Kaen**	**18.39**	**281**		PG	**Pn**	**17 31 26.4**	**+10**
KKTK					SG	pP	17 31 33.1	+9.2
KAPI	**Kappang**	**18.45**	**186**		Pn	**Pn**	**17 31 19.3**	**+1.8**
comp=Z,2μm,1.4s,SNR=23								
NJ2	**Nanjing**	**18.67**	**353**		*e* P	**Pn**	**17 31 20.6**	**+0.5**
NJ2					AP	pP	17 31 27.9	+0.9
NJ2					XP	sP	17 31 32.5	+2.0
NJ2					S	**Sn**	**17 34 44.0**	**-4.2**
NJ2					XS	sS	17 34 56.1	-6.6
NJ2					AMB	AMB		
comp=Z,290nm,1.0s								
NJ2					AMB	AMB		
comp=Z,16μm,7.2s								
NJ2					LR	LR		
comp=N,39μm,14.5s								
NJ2					LR	LR		
comp=E,36μm,16.3s								
NJ2					LR	LR		
comp=Z,84μm,16.0s								
GYA	**Guiyang**	**19.08**	**315**	⇑	*i* P	**Pn**	**17 31 26.3**	**+1.3**
GYA					AP	pP	17 31 33.8	+2.4
GYA					XP	sP	17 31 36.9	+2.0
GYA					PP		17 31 42.8	
GYA					S	**Sn**	**17 35 00.0**	**+2.1**
GYA					AMB	AMB		
comp=Z,80nm,1.5s								
GYA					AMB	AMB		
comp=Z,1μm,4.4s								
GYA					LR	LR		
comp=N,17μm,16.7s								
GYA					LR	LR		
comp=E,12μm,15.2s								
GYA					LR	LR		
comp=Z,20μm,16.4s								
ENH	**Enshi**	**20.14**	**328**		PFAKE		17 31 50.0	+14
ENH					LR	LR		
comp=Z,3.0nm,20.0s								
KMI	**Kunming**	**21.23**	**306**		P	**P**	**17 31 50.0**	**+2.5**
KMI					AP		17 32 02.5	
KMI					PP		17 32 14.4	

KMI S **S** **17 35 40.0 -2.1**
KMI XS sS 17 36 00.3 +6.3
KMI SS 17 36 12.8
KMI AMB AMB
comp=Z,61nm,1.7s,mb4.7
KMI AMB AMB
comp=Z,2μm,3.1s
KMI LR LR
comp=N,16μm,14.0s,MS5.7
KMI LR LR
comp=E,17μm,15.9s,MS5.7
KMI LR LR
comp=Z,15μm,17.4s,MS5.4
KMI Kunming 21.23 306 P **P** **17 31 50.0 +2.5**
KMI *PP 17 32 02.5
KMI *SP sP 17 32 09.4 +11
KMI PPP 17 32 24.1
KMI S **S** **17 35 40.0 -2.1**
KMI *SS sS 17 36 00.3 +6.3
KMI SS 17 36 12.7
KMI SSS 17 36 27.6
KMI pmax pmax
comp=Z,610nm,1.7s,mb5.7
KMI MLR MLR
comp=Z,15μm,17.4s,MS5.4
KMI Kunming 21.23 306 P **P** **17 31 50.0 +2.5**
comp=Z,61nm,1.7s,mb4.7
KMI pP 17 32 02.5
KMI sP sP 17 32 09.4 +11
KMI PP 17 32 14.4
KMI PPP 17 32 24.1
KMI S **S** **17 35 40.0 -2.1**
KMI sS sS 17 36 00.3 +6.3
KMI SS 17 36 12.7
KMI SSS 17 36 27.6
KMI LR LR
comp=Z,15μm,17.4s,MS5.4
KGM Kluang 21.39 239 P **P** **17 31 50.8 +1.7**
SNG Songkhla 21.58 255 P **P** **17 31 54.0 +2.7**
comp=Z,406nm,1.0s,mb5.8
BDT Bhumibol Dam 22.13 283 P **P** **17 32 00.5 +3.3**
comp=Z,42nm,1.0s,mb4.8
IPM Ipoh 22.20 248 P **P** **17 31 60.0 +2.1**
KULM Kulim 22.22 251 *e*P **P** **17 31 57.5 -0.5**
CM31 Chiang Mai Arr 22.36 286 *e*P **P** **17 32 00.2 +0.6**
CM31 LR LR
comp=Z,7μm,19.0s,MS5.1
CHG Chiang Mai 22.42 287 ⇑P **P** **17 32 00.9 +0.7**
comp=Z,150nm,0.8s,mb5.5
CHTO Chiang Mai 22.42 287 ⇑P **P** **17 32 00.8 +0.6**
SNR=151
CHTO Chiang Mai 22.42 287 *e*P **P** **17 31 59.9 -0.3**
CHTO pmax pmax
comp=Z,200nm,1.1s,mb5.5
CHTO Chiang Mai 22.42 287 *e*P **P** **17 31 59.9 -0.3**
comp=Z,208nm,1.1s,mb5.5
XAN Xi'an 23.51 333 P **P** **17 32 10.8 -0.8**
XAN S **S** **17 36 23.5 +0.1**
XAN AMB AMB
comp=Z,111nm,1.3s,mb5.1
XAN AMB AMB
comp=Z,3μm,7.4s
XAN LR LR
comp=N,15μm,16.5s,MS5.7
XAN LR LR
comp=E,14μm,16.5s,MS5.7
XAN LR LR
comp=Z,24μm,14.9s,MS5.8
CBIJ Chichi jima 23.52 52 P **P** **17 32 11.2 -0.5**
comp=Z,70nm,0.9s,mb5.1,baz=271,slow=18,SNR=3.7
CBIJ S **S** **17 36 23.9 +0.3**
comp=Z,46nm,0.9s,baz=112,slow=23,SNR=2.0
CBIJ LR LR 17 40 07.2
comp=Z,7μm,18.9s,MS5.1,baz=57,slow=33
CD2 Chengdu 23.92 319 P **P** **17 32 14.6 -0.8**
CD2 AP 17 32 26.9
CD2 XP sP 17 32 32.3 +5.6
CD2 PP 17 32 47.0
CD2 PCP PcP 17 35 57.3 -0.1
CD2 S **S** **17 36 25.3 -4.8**
CD2 XS sS 17 36 46.6 +3.4
CD2 SS 17 37 17.3
CD2 SCS ScS 17 43 15.6 -5.3
CD2 AMB AMB
comp=Z,20nm,0.5s,mb4.8
CD2 AMB AMB
comp=Z,380nm,5.4s
CD2 LR LR
comp=N,20μm,16.8s,MS5.9
CD2 LR LR
comp=E,26μm,15.0s,MS5.9
CD2 LR LR
comp=Z,22μm,15.6s,MS5.7
INCN Inchon 24.33 10 P **P** **17 32 20.0 +0.9**
SNR=15
INCN Inchon 24.33 10⇓*e*P **P** **17 32 19.7 +0.5**
comp=Z,561nm,1.5s,mb5.8
INCN LR LR
comp=Z,15μm,20.0s,MS5.5
PSI Prapat 24.82 247 P **P** **17 32 23.4 -0.1**
comp=Z,22nm,0.8s,mb4.8,baz=45,slow=5.6,SNR=14
PSI S **S** **17 36 45.0 +0.5**
comp=Z,1.8nm,0.4s,baz=23,slow=8.0,SNR=1.9
PSI Prapat 24.82 247 P **P** **17 32 23.4 -0.1**
PSI S **S** **17 36 45.0 +0.5**
DL2 Dalian 25.34 0 *i* P **P** **17 32 28.6 +0.3**
DL2 AP pP 17 32 35.5 -0.8
DL2 PCP PcP 17 36 01.6 +1.1
DL2 S **S** **17 36 51.6 -1.2**
DL2 AMB AMB
comp=Z,200nm,1.1s,mb5.6
DL2 AMB AMB
comp=Z,1μm,5.6s
DL2 LR LR
comp=N,8μm,13.9s,MS5.5
DL2 LR LR
comp=E,6μm,16.1s,MS5.5
DL2 LR LR
comp=Z,10μm,15.6s,MS5.4
JHJ Hachijo jima 2 25.63 37 P **P** **17 32 30.6 -0.3**
comp=Z,64nm,0.8s,mb5.2,baz=80,slow=12,SNR=3.7
JHJ S **S** **17 36 57.5 +0.1**
comp=Z,48nm,0.7s,baz=72,slow=22,SNR=1.8
JHJ LR LR 17 41 14.2
comp=Z,16μm,20.2s,MS5.5,baz=64,slow=33
BJT Baijiatuau 26.88 351⇑*e*P **P** **17 32 41.4 -0.9**
BJT *e**PP pP 17 32 49.5 -0.7
BJT pmax pmax
comp=Z,832nm,1.4s
BJT MLR MLR
comp=Z,6μm,19.0s
BJT Baijiatuau 26.88 351⇑*e*P **P** **17 32 41.4 -0.8**
comp=Z,832nm,1.4s,mb6.1
BJT *e*pP pP 17 32 49.5 -0.8
BJT LR LR
comp=Z,6μm,19.0s,MS5.2
BJI Beijing 26.90 351 P **P** **17 32 42.5 +0.1**
BJI XP sP 17 33 01.3 +7.5
BJI S **S** **17 37 17.5 -0.1**
BJI AMB AMB
comp=Z,130nm,1.5s,mb5.2
BJI AMB AMB
comp=Z,3μm,6.9s
BJI LR LR
comp=N,6μm,18.0s,MS5.7
BJI LR LR
comp=E,18μm,21.6s,MS5.7
BJI LR LR
comp=Z,11μm,16.8s,MS5.5
BJI Beijing 26.90 351 P **P** **17 32 42.5 +0.1**
comp=Z,130nm,1.5s,mb5.2
BJI sP sP 17 33 01.3 +7.5
BJI S **S** **17 37 17.5 -0.1**
BJI sS sS 17 37 47.2 +16
BJI LR LR
comp=Z,11μm,16.8s,MS5.5
MAJO Matsushiro 27.37 30 *e*P **P** **17 32 46.2 -0.4**
MAJO pmax pmax
comp=Z,82nm,1.2s,mb5.1
MAJO Matsushiro 27.37 30 *e*P **P** **17 32 45.7 -0.9**
comp=Z,85nm,1.3s,mb5.1
MAJO LR LR
comp=Z,10μm,19.0s,MS5.4
MAT Matsushiro 27.37 30 P **P** **17 32 44.3 -2.3**
MAT S **S** **17 37 28.0 +3.1**

MJAR Matsushiro Arr 27.37 30 P **P** **17 32 45.2 -1.4**
comp=Z,14nm,1.1s,baz=214,slow=8.3,SNR=14
MJAR S **S** **17 37 28.4 +3.5**
comp=Z,0.7nm,0.6s,baz=26,slow=8.6,SNR=2.9
LZH Lanzhou 27.62 328 ⇑P **P** **17 32 50.3 +1.4**
LZH AP pP 17 32 57.3 +0.5
LZH XP sP 17 33 01.3 +1.1
LZH PP 17 33 38.9
LZH S **S** **17 37 29.0 +0.2**
LZH SS 17 38 48.3
LZH AMB AMB
comp=Z,945nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,2μm,4.5s
LZH LR LR
comp=N,31μm,14.9s
LZH LR LR
comp=Z,36μm,16.0s,MS6.0
LZH Lanzhou 27.62 328 ⇑P **P** **17 32 50.2 +1.3**
LZH *SP sP 17 33 01.3 +1.1
LZH 17 33 38.9
LZH S **S** **17 37 29.0 +0.2**
LZH *SS sS 17 37 40.5 -1.5
LZH SS 17 38 48.2
LZH pmax pmax
comp=Z,945nm,1.5s,mb6.2
LZH MLR MLR
comp=Z,36μm,16.0s,MS6.0
LZH Lanzhou 27.62 328 ⇑P **P** **17 32 50.2 +1.3**
comp=Z,945nm,1.5s,mb6.2
LZH pP pP 17 32 57.3 +0.5
LZH sP sP 17 33 01.3 +1.1
LZH PP 17 33 38.9
LZH S **S** **17 37 29.0 +0.2**
LZH sS sS 17 37 40.5 -1.5
LZH SS 17 38 48.2
LZH LR LR
comp=Z,36μm,16.0s,MS6.0
KAKA Kakadu 28.13 157⇑*i*P **P** **17 32 52.4 -1.0**
comp=Z,86nm,0.8s,mb5.4
SNY Shenyang 28.31 3 ⇓P **P** **17 32 55.3 +0.3**
SNY AP pP 17 33 05.1 +2.1
SNY XP sP 17 33 10.1 +3.7
SNY PP PP 17 33 48.9 -10
SNY S **S** **17 37 39.8 +0.1**
SNY AMB AMB
comp=Z,66nm,1.4s,mb5.1
SNY LR LR
comp=N,11μm,17.2s,MS5.7
SNY LR LR
comp=E,9μm,14.7s,MS5.7
SNY LR LR
comp=Z,16μm,15.6s,MS5.7
IMP Imphal 28.42 297 *e*P **P** **17 32 55.0 -1.0**
HHC Hu-ho-hao-te 28.67 344 *e*P **P** **17 32 59.3 +1.1**
HHC AP pP 17 33 11.3 +5.1
HHC XP sP 17 33 17.0 +7.4
HHC S **S** **17 37 48.3 +3.0**
HHC XS sS 17 38 07.3 +8.7
HHC SS 17 39 12.3
HHC SCP ScP 17 39 44.5 -3.3
HHC PCS PcS 17 39 52.3 +1.3
HHC SCS ScS 17 43 32.3 -8.9
HHC AMB AMB
comp=Z,50nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,2μm,4.1s
HHC LR LR
comp=N,10μm,18.8s,MS5.7
HHC LR LR
comp=E,15μm,19.8s,MS5.7
HHC LR LR
comp=Z,14μm,14.9s,MS5.7
BTO Baotou 28.89 342 *e*P **P** **17 32 59.6 -0.6**
BTO S **S** **17 37 43.8 -5.0**
BTO LR LR
comp=N,3μm,12.9s,MS5.5
BTO LR LR
comp=E,8μm,17.3s,MS5.5
CN2 Changchun 30.41 5 ⇓P **P** **17 33 13.6 0.0**
CN2 *e*AP pP 17 33 27.5 +5.8
CN2 *e*S **S** **17 38 09.4 -3.3**
CN2 AMB AMB
comp=Z,10.0nm,1.3s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,11μm,17.0s
CN2 LR LR
comp=E,6μm,17.0s
CN2 LR LR
comp=Z,10μm,18.0s
SHL Shillong 30.43 298 *i* P **P** **17 33 15.0 +1.2**
SHL *e*S **S** **17 38 13.0 0.0**
AGT Agartala 30.52 294 *i* P **P** **17 33 16.0 +1.4**
AGT *i* x x 17 33 45.0
VLA Vladivostok 30.85 15 *e*P **P** **17 33 18.7 +1.2**
VLA MLR MLR
comp=Z,6μm,19.0s,MS5.3
FITZ Fitzroy Crossi 31.61 173 *e*P **P** **17 33 23.5 -0.8**
comp=Z,78nm,1.2s,mb5.4
FITZ *e*S **S** **17 38 24.3 -7.3**
FITZ Fitzroy Crossi 31.61 173 S **S** **17 38 31.1 -0.5**
comp=Z,4.0nm,0.9s,baz=241,slow=17,SNR=1.8
MDJ Mudanjiang 31.78 11 P **P** **17 33 26.4 +0.7**
MDJ AP pP 17 33 32.4 -1.4
MDJ S **S** **17 38 37.0 +2.8**
MDJ XS sS 17 38 47.3 -0.1
MDJ SCP ScP 17 39 58.9 +0.9
MDJ PCS PcS 17 40 00.8 -0.3
MDJ AMB AMB
comp=Z,91nm,1.1s,mb5.5
MDJ AMB AMB
comp=Z,271nm,2.8s,mb5.6
MDJ LR LR
comp=N,6μm,23.9s,MS5.6
MDJ LR LR
comp=E,13μm,23.4s,MS5.6
MDJ LR LR
comp=Z,10μm,20.3s,MS5.5
MDJ Mudanjiang 31.78 11⇓*i*P **P** **17 33 26.9 +1.2**
comp=Z,216nm,1.1s,mb5.9
MDJ LR LR
comp=Z,11μm,21.0s,MS5.5
GTA Gaotai 32.22 327 P **P** **17 33 30.1 +0.5**
GTA AP pP 17 33 44.5 +6.9
GTA PP PP 17 34 42.5 0.0
GTA S **S** **17 38 44.3 +3.3**
GTA AMB AMB
comp=Z,78nm,1.7s,mb5.3
GTA AMB AMB
comp=Z,2μm,6.1s
GTA LR LR
comp=N,15μm,16.0s,MS6.0
GTA LR LR
comp=E,19μm,15.6s,MS6.0
GTA LR LR
comp=Z,31μm,17.1s,MS6.1
LSA Lhasa 32.48 305 P **P** **17 33 32.4 +0.5**
LSA AP pP 17 33 38.8 -1.1
LSA XP sP 17 33 45.0 +1.7
LSA S **S** **17 38 45.4 +0.3**
LSA XS sS 17 39 03.5 +5.1
LSA PCS PcS 17 40 05.8 +2.3
LSA LR LR
comp=N,5μm,23.0s,MS5.3
LSA LR LR
comp=E,5μm,20.9s,MS5.3
LSA LR LR
comp=Z,7μm,18.8s,MS5.4
LSA Lhasa 32.48 305⇓*e*P **P** **17 33 32.8 +0.9**
LSA *e**PP pP 17 33 39.0 -0.9
LSA pmax pmax
comp=Z,690nm,1.4s,mb6.3
LSA MLR MLR
comp=Z,7μm,19.0s,MS5.4
LSA Lhasa 32.48 305⇓*e*P **P** **17 33 32.8 +0.9**
comp=Z,690nm,1.4s,mb6.3
LSA *e*pP pP 17 33 39.0 -1.0
LSA *e*PcP PcP 17 36 28.5 +10
LSA LR LR
comp=Z,7μm,19.0s,MS5.4
CAL Calcutta 32.86 291 *e*P **P** **17 33 46.6 +11**
CAL *e*S **S** **17 39 04.0 +13**
GTK Gangtok 33.75 299 *e*P **P** **17 33 42.0 -1.0**

PMG Port Moresby 34.04 131 S **S** **17 39 11.4 +2.2**
comp=Z,13nm,1.0s,baz=346,slow=14,SNR=1.9
PMG Port Moresby 34.04 131*c i*P **P** **17 33 46.0 +0.5**
PMG Port Moresby 34.04 131⇑*i*P **P** **17 33 45.9 +0.4**
comp=Z,246nm,1.3s,mb6.0
PMG *e*pP pP 17 33 52.9 -0.6
PMG LR LR
comp=Z,3μm,21.0s,MS5.0
MBWA Marble Bar 34.46 183 *e*P **P** **17 33 48.5 -0.7**
comp=Z,84nm,1.0s,mb5.6
MBWA LR LR
comp=Z,3μm,20.0s,MS5.0
BOK Bokaro 35.30 292 *e*P **P** **17 33 56.7 +0.3**
BOK *i* x x 17 34 02.4
BOK AMb AMB 17 34 05.9
comp=Z,255nm,6.1s
COCO West Island 35.41 225 *e*P **P** **17 33 57.6 +0.3**
comp=Z,173nm,1.0s,mb5.9
ASAJ Asahikawa 35.43 26 P **P** **17 33 58.7 +1.2**
comp=Z,66nm,1.2s,mb5.4,baz=247,slow=17,SNR=8.1
ASAJ PP PP 17 35 11.6 -6.6
comp=Z,29nm,1.0s,baz=28,slow=16,SNR=1.4
ASAJ S **S** **17 39 31.4 +0.7**
comp=Z,2.8nm,0.8s,baz=57,slow=24,SNR=2.3
ASAJ LR LR 17 49 04.4
comp=Z,6μm,20.8s,MS5.4,baz=118,slow=37
WRAB Tennant Creek 35.47 159 P **P** **17 33 57.0 -0.8**
comp=Z,1μm,1.1s
WRAB Tennant Creek 35.47 159*c i*P **P** **17 33 57.7 -0.1**
WRA Warramunga Arr 35.48 159 P **P** **17 33 57.5 -0.3**
comp=Z,53nm,0.7s,mb5.6,baz=337,slow=9.6,SNR=121
WRA S **S** **17 39 30.2 -1.2**
comp=Z,1.3nm,0.9s,baz=114,slow=38,SNR=3.5
WRA Warramunga Arr 35.48 159 *i* P **P** **17 33 57.5 -0.4**
WRA pmax pmax
comp=Z,53nm,0.7s
WB2 Warramunga Arr 35.48 159⇑*i*P **P** **17 33 57.6 -0.3**
WB2 *e*S **S** **17 39 26.3 -5.2**
HIA Hailar 35.73 358⇓*e*P **P** **17 33 59.7 -0.4**
HIA *e**PP pP 17 34 07.4 -0.8
HIA *e* 17 36 32.9
HIA pmax pmax
comp=Z,286nm,1.5s
HIA MLR MLR
comp=Z,10μm,19.0s
HIA Hailar 35.73 358⇓*e*P **P** **17 33 59.7 -0.4**
comp=Z,286nm,1.5s,mb6.0
HIA *e*pP pP 17 34 07.3 -0.8
HIA *e*PcP PcP 17 36 32.9 +5.2
HIA LR LR
comp=Z,10μm,19.0s,MS5.6
JIRN Jiri 35.91 299 *e*P **P** **17 34 02.0 +0.4**
comp=Z,62nm,0.3s,mb6.0
GUN Gumba 36.24 299 *e*P **P** **17 34 04.7 +0.2**
comp=Z,2μm,1.3s
SONM Songino Array 36.54 343 P **P** **17 34 07.3 +0.3**
comp=Z,18nm,0.9s,mb4.9,baz=158,slow=8.0,SNR=73
SONM PP PP 17 35 35.7 +5.3
comp=Z,12nm,1.1s,baz=151,slow=4.0,SNR=2.5
SONM PcP PcP 17 36 32.2 +2.0
comp=Z,2.6nm,0.8s,baz=163,slow=3.2,SNR=2.5
SONM S **S** **17 39 46.8 -0.9**
comp=Z,1.3nm,1.0s,baz=253,slow=24,SNR=2.1
SONM LR LR 17 49 00.5
comp=Z,8μm,20.5s,MS5.5,baz=153,slow=36
SONM Songino Array 36.54 343 P **P** **17 34 07.3 +0.3**
SONM 17 35 35.7
SONM 17 36 32.2
SONM S **S** **17 39 46.8 -0.9**
PKI Pulchoki 36.56 298 *e*P **P** **17 34 06.7 -0.4**
comp=Z,756nm,1.2s,mb6.4
KLR Kul'dur 36.62 11⇑*i*P **P** **17 34 05.2 -2.5**
KLR *e* 17 35 28.5
KLR *e*S **S** **17 39 49.5 +0.5**
KLR pmax pmax
comp=E,130nm,1.6s
KLR pmax pmax
comp=Z,340nm,1.6s,mb5.9
KKN Kakani 36.72 299 *e*P **P** **17 34 07.9 -0.7**
comp=Z,516nm,1.0s,mb6.3
DMN Daman 36.83 298 *e*P **P** **17 34 09.0 -0.4**
comp=Z,657nm,1.1s,mb6.4
VIS Vishakhapatnam 37.09 282 *e*P **P** **17 34 10.4 -1.2**
VIS AMb AMB 17 34 21.4
comp=Z,290nm,1.4s,mb5.9
VIS *i* S **S** **17 39 58.1 +2.1**
GKN Gorkha 37.33 299 *e*P **P** **17 34 12.9 -0.8**
comp=Z,583nm,1.2s,mb6.3
YSS Yuzh-Sakhalins 37.79 24*de*P **P** **17 34 18.0 +0.4**
YSS *e**PP pP 17 34 28.0 +2.2
YSS *e* 17 35 43.0
YSS *e*S **S** **17 40 07.0 +0.2**
YSS *e*SSS 17 43 16.0
YSS pmax pmax
comp=N,30nm,1.2s
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.1
YSS pmax pmax
comp=Z,600nm,6.0s
YSS MLR MLR
comp=Z,4μm,18.0s,MS5.2
YSS MLR MLR
comp=N,3μm,17.0s,MS5.3
YSS MLR MLR
comp=E,3μm,17.0s,MS5.3
YSS Yuzh-Sakhalins 37.79 24 *e*P **P** **17 34 17.2 -0.4**
comp=E,129nm,1.3s,mb5.5
YSS *e*pP pP 17 34 24.9 -0.9
YSS LR LR
comp=Z,6μm,21.0s,MS5.3
KOLN Koldanda 38.16 298 *e*P **P** **17 34 20.2 -0.5**
ASPA Alice Springs 38.81 162 *e*P **P** **17 34 25.9 -0.3**
ASPA *e*S **S** **17 40 20.9 -1.2**
ASAR Alice Springs 38.81 162 P **P** **17 34 26.8 +0.6**
comp=Z,58nm,0.7s,mb5.4,baz=343,slow=8.1,SNR=675
ASAR S **S** **17 40 22.2 +0.1**
comp=Z,2.9nm,1.1s,baz=341,slow=7.1,SNR=4.8
ASAR Alice Springs 38.81 162 P **P** **17 34 26.8 +0.6**
ASAR S **S** **17 40 22.2 +0.1**
CIT Chita 39.00 352 *e*P **P** **17 34 28.1 +0.3**
CIT *e* pP 17 34 34.0 -1.9
CIT *e* 17 36 02.8
CIT *e* 17 36 38.7
CIT *e*S **S** **17 40 20.6 -4.4**
ZAK Zakamensk 39.74 342⇓*i*P **P** **17 34 33.6 -0.4**
ZAK *e* 17 36 13.3
ZAK pmax pmax
comp=Z,31nm,1.5s,mb4.8
ZAK pmax pmax
comp=Z,20nm,1.8s,mb4.5
JBP Jabalpur 40.57 290 *e*P **P** **17 34 46.7 +5.9**
JBP *e*x x 17 34 51.5
comp=Z,304nm,1.4s
JBP *i* S **S** **17 40 54.6 +6.1**
PALK Pallekele 40.68 266 *e*P **P** **17 34 44.4 +2.6**
comp=Z,56nm,1.1s,mb5.1
PALK *e*pP pP 17 34 48.5 -1.5
PALK LR LR
comp=Z,555nm,20.0s
TLY Talaya 40.78 343 P **P** **17 34 42.6 0.0**
comp=Z,265nm,0.8s,mb5.9,SNR=13
TLY Talaya 40.78 343 *e*P **P** **17 34 42.4 -0.2**
TLY *e* 17 36 20.9
TLY *e*PPP 17 36 39.5
TLY *e*S **S** **17 40 55.6 +3.9**
TLY pmax pmax
comp=Z,63nm,1.1s,mb5.2
TLY MLR MLR
comp=Z,6μm,17.0s,MS5.5
IRK Irkutsk 41.11 344 *e*P **P** **17 34 44.4 -0.9**
IRK *e* 17 36 44.1
IRK *e*S **S** **17 41 02.0 +5.5**
IRK pmax pmax
comp=Z,197nm,1.4s,mb5.5
CTA Charters Tower 41.22 144 *e*P **P** **17 34 47.4 +1.2**
comp=Z,38nm,1.0s,mb5.0
CTA Charters Tower 41.22 144 PP PP 17 36 22.4 +0.9
comp=Z,8.1nm,1.1s,baz=316,slow=23,SNR=1.5
CTA S **S** **17 40 59.2 +1.1**
comp=Z,6.9nm,1.1s,baz=298,slow=15,SNR=1.8
CTA LR LR 17 54 47.2
comp=Z,4μm,18.0s,MS5.3,baz=115,slow=40
CTA Charters Tower 41.22 144 *e*P **P** **17 34 47.4 +1.2**
CTA pmax pmax
comp=Z,39nm,1.0s

CTAO Charters Tower 41.22 144⇑ eP P 17 34 47.2 +1.0
comp=Z,123nm,1.3s,mb5.4
CTAO LR LR
comp=Z,4μm,20.0s,MS5.3
NGP Nagpur 41.26 287 eP P 17 34 46.1 -0.4
NGP ex x 17 34 55.4
comp=Z,426nm,1.6s
NGP ex x 17 41 03.2
LGTI Lohaghat 41.42 299 ex x 17 34 54.5
MOY Mondy 41.58 341 eP P 17 34 49.6 +0.5
MOY pmax pmax
comp=Z,352nm,2.5s,mb5.5
HYB Hyderabad 41.64 281 i P P 17 34 48.0 -1.6
comp=Z,140nm,1.0s,mb5.5
HYB eS S 17 41 03.0 -1.4
HYB Hyderabad 41.64 281 eP P 17 34 50.0 +0.4
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.5
HYB Hyderabad 41.64 281 eP P 17 34 50.0 +0.4
comp=Z,140nm,1.0s,mb5.5
WMQ Urumqi 41.93 323⇑ i P P 17 34 52.9 +0.9
WMQ AP pP 17 35 05.0 +4.8
WMQ XP sP 17 35 10.5 +7.0
WMQ PP PP 17 36 35.0 +5.8
WMQ PCP PcP 17 36 49.0 +1.8
WMQ PCS PcS 17 40 38.0 -0.8
WMQ S S 17 41 07.0 -1.7
WMQ XS sS 17 41 28.0 +5.8
WMQ SS SS 17 44 08.0 -7.9
WMQ AMB AMB
comp=Z,139nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,2μm,3.6s
WMQ LR LR
comp=N,22μm,16.5s,MS6.2
WMQ LR LR
comp=E,16μm,18.5s,MS6.2
WMQ LR LR
comp=Z,15μm,21.0s,MS5.9
SALM Salem 42.39 273 ex x 17 35 02.0
BHPL Bhopal 42.92 290 eP P 17 34 59.3 -0.8
BHPL AMb AMB 17 35 08.4
comp=Z,211nm,1.4s,mb5.7
AKL Akola 43.14 286 eP P 17 35 02.9 +1.1
AKL i x x 17 41 16.2
NRGR Nerungri 43.17 2 i P P 17 35 11.3 +9.3
NRGR S S 17 41 31.6 +4.7
NRGR smax
comp=N,11nm,0.3s
CLNS Chul'man 43.35 3d i P P 17 35 04.5 +0.9
CLNS e*PP pP 17 35 11.7 -0.1
CLNS e 17 36 55.7
CLNS ePPP 17 37 25.5
CLNS eS S 17 41 28.5 -1.1
CLNS eSSS 17 45 00.7
CLNS pmax pmax
comp=Z,100nm,1.5s,mb5.3
CLNS pmax pmax
comp=N,64nm,1.3s
CLNS pmax pmax
comp=E,25nm,1.1s
CLNS smax
comp=N,526nm,14.0s
CLNS smax
comp=Z,364nm,11.8s
CLNS smax
comp=E,1μm,12.9s
CLNS MLR MLR
comp=N,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=Z,9μm,16.0s,MS5.8
CLNS MLR MLR
comp=E,4μm,17.0s,MS5.5
DDI Dehra Dun 43.47 300 ex x 17 35 11.0
LATR Latur 43.53 283 ex x 17 35 39.8
NDI New Delhi 43.85 297 eP P 17 35 07.8 +0.2
NDI AMb AMB 17 35 16.9
comp=Z,125nm,1.7s,mb5.4
NDI ex x 17 41 40.0
TRD Trivandrum 44.08 268 eP P 17 35 10.2 +0.8
TRD AMb AMB 17 35 17.8
comp=Z,71nm,1.4s,mb5.2
HNR Honiara 44.32 119 S S 17 41 45.3 +1.6
comp=Z,35nm,0.9s,baz=266,slow=16,SNR=1.9
HNR LR LR 17 52 24.5
comp=Z,4μm,19.4s,MS5.3,baz=354,slow=34
FORT Forrest 44.42 172 eP P 17 35 13.2 +1.1
comp=Z,151nm,0.7s,mb5.8
BOD Bodaibo 44.64 354⇑ i P P 17 35 13.3 -0.6
BOD pmax pmax
comp=Z,160nm,1.5s,mb5.6
SDNR Sundarnagar 44.65 301 eP P 17 35 14.0 +0.1
KLBR Kellerberrin 44.95 185 eP P 17 35 15.8 -0.6
comp=Z,116nm,1.2s,mb5.6
BHK Bhakra 45.09 301 ex x 17 35 21.8
MUN Mundaring 45.48 186 eP sP 17 35 33.2 +1.1
MNGI Mangalore 45.52 275 eP P 17 35 21.2 +0.4
MNGI i S S 17 42 03.4 +2.3
AJM Ajmer 45.78 294 eP P 17 35 22.7 -0.2
AJM AMb AMB 17 35 31.4
comp=Z,319nm,1.2s,mb6.1
KAD Karad 45.82 281 eP P 17 35 23.2 -0.1
KAD AMb AMB 17 35 32.1
comp=Z,219nm,1.4s,mb5.9
THN Thein Dam 45.90 302 eP P 17 35 22.6 -1.3
POO Poona 46.10 283⇑ i P P 17 35 23.0 -2.5
comp=Z,210nm,1.0s,mb6.0
NWAO Narrogin (SRO) 46.32 185 S S 17 42 13.1 +0.4
comp=Z,10nm,1.1s,baz=251,slow=21,SNR=1.8
NWAO Narrogin (SRO) 46.32 185 eP P 17 35 26.9 -0.3
comp=Z,119nm,1.1s,mb5.7
NWAO epP pP 17 35 33.0 -2.4
NWAO LR LR
comp=Z,2μm,21.0s,MS5.1
SKR Severo-Kuril's 46.48 30 e PP 17 37 21.0 +3.3
SKR ePPP 17 38 07.0
SKR eS S 17 42 12.0 -2.9
SKR eSS ScS 17 45 13.0 -8.6
SKR eSSS 17 46 34.0
SKR smax
comp=N,5μm,14.0s
SKR smax
comp=E,4μm,14.0s
SKR MLR MLR
comp=E,6μm,18.0s
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.6
MK31 Makanchi Array 46.76 323 i P P 17 35 30.3 -0.3
MK31 pmax pmax
comp=Z,105nm,1.1s,mb5.7
MK31 Makanchi Array 46.76 323 eP P 17 35 29.6 -1.0
MK31 epP pP 17 35 36.6 -2.3
MK31 ePP PP 17 37 21.5 +0.8
MKAR Makanchi Array 46.76 323 P P 17 35 30.4 -0.2
comp=Z,14nm,1.0s,mb4.9,baz=112,slow=9.3,SNR=22
MKAR PP PP 17 37 22.8 +2.1
comp=Z,6.5nm,0.7s,baz=98,slow=5.0,SNR=2.1
MKAR S S 17 42 19.1 +0.2
comp=Z,2.7nm,1.1s,baz=223,slow=43,SNR=2.9
MKAR LR LR 17 55 42.7
comp=Z,4μm,18.1s,MS5.4,baz=113,slow=37
MKAR Makanchi Array 46.76 323 P P 17 35 30.4 -0.2
MKAR 17 37 22.8
MKAR S S 17 42 19.1 +0.3
BOM Bombay 47.08 283 eP P 17 35 33.0 -0.1
BOM ex x 17 35 40.6
comp=Z,1μm,1.5s
BOM ex x 17 41 56.9
KSH Kashi 47.73 312 eP P 17 35 40.0 +1.8
KSH eAP pP 17 35 48.6 +2.1
KSH eXP sP 17 35 51.4 +1.7
KSH ePCP PcP 17 37 08.8 +1.7
KSH ePP PP 17 37 30.9 +1.0
KSH eSCP ScP 17 41 00.0 +0.5
KSH eS S 17 42 33.8 +1.1
KSH eSCS ScS 17 45 29.0 -0.8
KSH eSS SS 17 45 56.4 -4.7
KSH LR LR
comp=N,9μm,13.6s,MS6.1
KSH LR LR
comp=E,13μm,15.4s,MS6.1
KSH LR LR
comp=Z,676nm,6.7s
KRAR Krasnoyarsk 47.90 339 eP P 17 35 39.0 -0.5
KRAR pmax pmax
comp=Z,144nm,1.6s,mb5.8
KRAR MLR MLR
comp=Z,11μm,19.0s,MS5.9
NIL Nilore 48.19 303 P P 17 35 44.7 +3.0
comp=Z,238nm,0.8s,mb6.3,SNR=6.8
AAA Alma-Ata 48.45 317 i P P 17 35 48.9 +5.2
AAA eS S 17 42 51.0 +8.1
AAA pmax pmax
comp=Z,2μm,5.2s
AAA smax
comp=N,2μm,10.8s
AAA MLR MLR
comp=Z,6μm,27.3s,MS5.5
ULHL Ulahol 48.52 315 P P 17 35 45.5 +1.2
SNR=26
YAK Yakutsk 48.84 5⇓ i P P 17 35 46.4 -0.3
YAK i *PP pP 17 35 54.5 -0.5
YAK e 17 37 42.4
YAK eS S 17 42 47.4 -1.0
YAK pmax pmax
comp=Z,86nm,1.1s,mb5.7
YAK pmax pmax
comp=N,73nm,1.2s
YAK pmax pmax
comp=E,18nm,1.3s
YAK pmax pmax
comp=Z,1μm,5.9s
YAK pmax pmax
comp=N,668nm,2.6s
YAK pmax pmax
comp=E,220nm,2.3s
YAK smax
comp=N,603nm,5.8s
YAK smax
comp=Z,151nm,3.9s
YAK smax
comp=E,320nm,5.0s
YAK MLR MLR
comp=Z,7μm,19.0s,MS5.7
YAK MLR MLR
comp=N,4μm,15.0s,MS5.7
YAK MLR MLR
comp=E,5μm,16.0s,MS5.7
YAK Yakutsk 48.84 5⇓ i P P 17 35 46.2 -0.5
comp=E,497nm,1.4s,mb6.3
YAK epP pP 17 35 53.4 -1.6
YAK ePP PP 17 37 40.5 +0.5
YAK LR LR
comp=Z,4μm,20.0s,MS5.4
STKA Stephens Creek 48.98 157⇑ i P P 17 35 48.4 +0.6
comp=Z,89nm,0.8s,mb5.8
STKA Stephens Creek 48.98 157 P P 17 35 48.0 +0.2
comp=Z,64nm,0.8s,mb5.7,baz=338,slow=7.4,SNR=65
STKA S S 17 42 51.1 +0.8
comp=Z,6.3nm,1.1s,baz=207,slow=6.5,SNR=1.9
STKA LR LR 17 57 37.5
comp=Z,3μm,21.5s,MS5.2,baz=327,slow=38
PET Petropavlovsk 49.19 29d i P P 17 35 49.4 0.0
PET e*PP pP 17 36 03.7 +6.0
PET e 17 37 12.1
PET e 17 37 42.3
PET eS S 17 42 54.6 +1.3
PET pmax pmax
comp=Z,53nm,1.4s,mb5.4
PET pmax pmax
comp=Z,800nm,6.7s
PET smax
comp=N,2μm,12.6s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.1
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 49.19 29⇓ eP P 17 35 49.8 +0.4
comp=Z,126nm,1.2s,mb5.8
PET epP pP 17 35 58.6 +0.9
PET LR LR
comp=Z,2μm,19.0s,MS5.1
TKM2 Tokmak 2 49.22 316 P P 17 35 50.2 +0.6
SNR=16
KBK Karagaybulak 49.56 315 P P 17 35 53.3 +1.0
SNR=11
ZAL Zalesovo 49.68 332 P P 17 35 52.5 -0.7
comp=Z,4.9nm,0.8s,mb4.6,baz=0.2,slow=4.1,SNR=30
ZAL S S 17 43 00.2 0.0
comp=Z,0.6nm,0.3s,baz=343,slow=23,SNR=1.8
ZAL LR LR 17 56 52.8
comp=Z,6μm,19.7s,MS5.6,baz=342,slow=36
ZAL Zalesovo 49.68 332 P P 17 35 52.5 -0.7
ZAL S S 17 43 00.2 0.0
ZAL Zalesovo 49.68 332 P P 17 35 52.5 -0.7
ZAL S S 17 43 00.2 0.0
ZAL LR LR 17 56 52.8
UCH Uchtor 49.71 314 P P 17 35 54.8 +1.4
SNR=40
CHMS Chumysh 49.82 316 P P 17 35 54.7 +0.4
SNR=14
FRU Bishkek 49.86 315 eP P 17 35 54.0 -0.5
FRU i pP 17 36 03.0 +0.2
FRU e 17 43 12.0
FRU pmax pmax
comp=Z,240nm,1.8s,mb5.9
AAK Ala-Archa 49.87 315 P P 17 35 54.7 +0.1
comp=Z,346nm,1.3s,mb6.2,SNR=21
AAK Ala-Archa 49.87 315 P P 17 35 54.5 -0.1
SNR=90
AAK Ala-Archa 49.87 315 eP P 17 35 54.5 -0.1
AAK e*PP pP 17 36 01.1 -1.8
AAK pmax pmax
comp=Z,227nm,1.6s,mb6.0
AAK MLR MLR
comp=Z,2μm,22.0s,MS5.1
AAK Ala-Archa 49.87 315 eP P 17 35 54.5 -0.1
comp=Z,226nm,1.6s,mb6.0
AAK epP pP 17 36 01.1 -1.8
AAK LR LR
comp=Z,2μm,22.0s,MS5.1
USP Ospenovka 50.09 316 P P 17 35 56.4 +0.1
SNR=22
EKS2 Erkin-Say 50.37 315 P P 17 35 59.3 +0.9
SNR=18
ADE Adelaide 50.82 162⇑ i P P 17 36 03.5 +1.7
MA2 Magadan 50.83 19d i P P 17 36 02.5 +0.6
MA2 e pP 17 36 10.9 +0.7
MA2 e 17 38 04.7
MA2 eS S 17 43 14.6 -1.6
MA2 pmax pmax
comp=Z,80nm,1.4s,mb5.5
MA2 MLR MLR
comp=Z,4μm,18.4s,MS5.5
MA2 Magadan 50.83 19 eP P 17 36 01.0 -0.9
comp=Z,56nm,1.1s,mb5.4
MA2 LR LR
comp=Z,3μm,20.0s,MS5.4
KURK Kurchatov 50.88 326 P P 17 36 02.7 +0.4
comp=Z,1μm,0.9s,SNR=100
NVS Novosibirsk 50.96 332 eP P 17 36 01.3 -1.6
NVS e 17 37 21.1
NVS eS S 17 43 09.2 -8.8
NVS pmax pmax
comp=N,129nm,1.8s
NVS pmax pmax
comp=E,137nm,1.8s
NVS pmax pmax
comp=Z,205nm,1.8s,mb5.8
NVS smax
comp=N,82nm,2.3s
NVS smax
comp=E,130nm,2.5s
ARMA Armidale 52.32 147 eP P 17 36 14.5 +1.5
KK31 Karatay Array 52.78 314 i P P 17 36 15.6 -0.8
KKAR Karatay Array 52.78 314 P P 17 36 15.5 -0.9
DGAR Diego Garcia 53.05 250 PFAKE
DGAR LR LR 17 36 30.0 +12
comp=Z,641nm,20.0s,MS4.7
SEY Seymchan 53.97 17d i P P 17 36 26.4 +1.2
SEY Seymchan 53.97 17 i P P 17 36 26.4 +1.2
CNB Canberra Magne 55.18 152 eP P 17 36 34.9 +1.0
comp=Z,384nm,1.7s,mb6.2
TOO Toolangi 55.50 157 eP P 17 36 37.2 +1.0
comp=Z,49nm,1.4s,mb5.3
TOO Toolangi 55.50 157 eP P 17 36 37.2 +1.0
TOO pmax pmax
comp=Z,49nm,1.4s,mb5.3
VOSK Vostochnaya 56.02 325 P P 17 36 39.1 -0.9
BVA0 Borovoye Array 56.47 326 i P P 17 36 42.9 -0.3
BVA0 pmax pmax
comp=Z,280nm,2.3s,mb5.9
BVAR Borovoye Array 56.47 326 P P 17 36 42.8 -0.4
comp=Z,27nm,0.9s,mb5.3,baz=117,slow=8.5,SNR=96
BVAR S S 17 44 33.3 +0.6
comp=Z,0.5nm,0.5s,baz=234,slow=43,SNR=3.5
BRVK Borovoye 56.55 326 P P 17 36 43.3 -0.4
comp=Z,777nm,1.5s,mb6.5,SNR=54
BRVK Borovoye 56.55 326 P P 17 36 43.8 0.0
SNR=164
BRVK Borovoye 56.55 326 P P 17 36 43.4 -0.3
BRVK pmax pmax
comp=Z,270nm,1.5s,mb6.1
BRVK Borovoye 56.55 326 eP P 17 36 43.2 -0.5
comp=Z,425nm,1.5s,mb6.2
BRVK LR LR
comp=Z,2μm,20.0s,MS5.1
CHKZ Chkalovo 56.62 326 P P 17 36 43.6 -0.7
CHKZ pmax pmax
comp=Z,400nm,1.5s,mb6.2
CHKZ Chkalovo 56.62 326⇓ eP P 17 36 43.2 -1.0
comp=Z,398nm,1.5s,mb6.2
CHKZ epP pP 17 36 50.6 -2.1
ZRNK Zerenda 57.21 325 i P P 17 36 47.8 -0.6
ZRNK pmax pmax
comp=Z,267nm,1.5s,mb6.0
ZRNK Zerenda 57.21 325⇓ eP P 17 36 47.8 -0.7
comp=Z,577nm,1.7s,mb6.3
ZRNK epP pP 17 36 54.9 -2.0
TIXI Tiksi 58.32 3d i P P 17 36 55.3 -0.9
TIXI pmax pmax
comp=Z,481nm,2.0s,mb6.2
TIXI MLR MLR
comp=Z,18μm,23.0s,MS6.1
TIXI Tiksi 58.32 3 i P P 17 36 55.4 -0.8
WBK Wadi Bani Khal 59.91 288 ⇓ P P 17 37 07.7 +0.5
SNR=8.9
BIDO Bidbid 60.64 290 P P 17 37 13.1 +0.8
SNR=10.0
JMDO Jabal Madar 60.72 288 ⇓ P P 17 37 13.0 +0.2
SNR=12
SMDO Samad 60.74 289 P P 17 37 14.8 +1.9
SNR=16
TAU Tasmania Unive 60.85 159 P P 17 37 15.3 +1.6
TAU pmax pmax
comp=Z,125nm,1.4s,mb5.8
TAU MLR MLR
comp=Z,1μm,19.0s,MS5.0
TAU Tasmania Unive 60.85 159 P P 17 37 15.3 +1.6
comp=Z,125nm,1.4s,mb5.8
TAU LR LR
comp=Z,1μm,19.0s,MS5.0
ABKT Ailbek 61.00 306 P P 17 37 15.7 +1.0
comp=Z,269nm,0.8s,mb6.4,SNR=21
HOQ Hoqain 61.39 290 P P 17 37 17.7 +0.4
SNR=8.7
AB31 Akbulak array 61.50 319 i P P 17 37 17.1 -1.0
AB31 pmax pmax
comp=Z,138nm,1.2s,mb6.0
BSY Bisya 61.53 289 P P 17 37 18.2 -0.1
SNR=9.4
BILL Bilibino 61.66 17⇓ eP P 17 37 19.2 +0.1
BILL e*PP pP 17 37 27.5 -0.1
BILL pmax pmax
comp=Z,215nm,1.7s,mb6.0
BILL Bilibino 61.66 17⇓ eP P 17 37 19.2 0.0
comp=Z,215nm,1.7s,mb6.0
BILL epP pP 17 37 27.5 -0.1
BILL LR LR
comp=Z,4μm,21.0s,MS5.6
ARQ Araqi 62.12 289 P P 17 37 24.2 +1.9
SNR=26
HATD Hatta, Dubai 62.40 291 P P 17 37 24.9 +0.8
SNR=8.3
ASHO Ashiyiah 62.48 291 ⇓ P P 17 37 26.0 +1.4
SNR=8.8
AKTK Aktyubinsk 62.97 320 P P 17 37 27.1 -0.9
AKTK PP PP 17 39 47.1 +0.6
AKTK S S 17 45 58.1 +1.8
AKTO Aktyubinsk 62.97 320 P P 17 37 27.1 -0.9
comp=Z,14nm,0.8s,mb5.2,baz=99,slow=7.1,SNR=16
AKTO PP PP 17 39 47.1 +0.6
comp=Z,2.8nm,0.7s,baz=167,slow=14,SNR=2.0
AKTO S S 17 45 58.1 +1.8
comp=Z,0.3nm,0.3s,baz=0.0,slow=14,SNR=2.1
SVE Sverdlovsk 63.09 327⇑ eP P 17 37 30.0 +1.3
SVE eS S 17 46 06.0 +8.2
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.8
SVE MLR MLR
comp=N,9μm,15.0s,MS6.1
SVE MLR MLR
comp=E,1μm,15.0s,MS6.1
SHAO Shalim 63.41 284 ⇓ P P 17 37 32.6 +1.8
SNR=15
ARU Arti 64.07 327 P P 17 37 34.0 -1.2
comp=E,411nm,1.0s,mb6.4,SNR=12
ARU Arti 64.07 327⇓ i P P 17 37 33.9 -1.3
ARU e 17 38 07.5
ARU e 17 39 53.8
ARU eS S 17 46 09.7 -0.4
ARU e 17 47 19.6
ARU eSS SS 17 50 14.7 -4.5
ARU pmax pmax
comp=Z,109nm,1.4s,mb5.7
ARU Arti 64.07 327 eP P 17 37 33.6 -1.6
comp=Z,198nm,1.4s,mb6.0
ARU epP pP 17 37 40.2 -3.5
ARU ePP PP 17 39 54.8 -1.4
ARU LR LR
comp=Z,1μm,20.0s,MS5.1
RBK Rabkut 64.81 283 P P 17 37 40.7 +0.6
SNR=29
WHFO Wadi Hawf 65.17 284 P P 17 37 45.8 +3.4
SNR=19
ORR Orenburg 65.22 321 eP P 17 37 42.4 -0.3
ORR i 17 37 48.0
ORR SSS 17 53 34.4
ORR pmax pmax
comp=Z,60nm,1.8s,mb5.3
ORR MLR MLR
comp=Z,6μm,19.0s,MS5.8
ABTO Aybut 65.69 283 P P 17 37 45.6 -0.1
SNR=26
NIKO Nikolski 67.04 38 eP P 17 37 54.3 -0.1
UNV Unalaska Valle 68.55 37 eP P 17 38 03.9 0.0
comp=Z,147nm,0.9s,mb5.9
UNV LR LR
comp=Z,9μm,22.0s,MS6.0
MAK Makhachkala 69.36 311c i P P 17 38 08.6 -0.3
MAK e 17 38 29.1
MAK ePPP 17 42 22.3
MAK i S S 17 47 08.5 -5.5
MAK e 17 48 05.6
MAK pmax pmax
comp=Z,249nm,1.3s,mb6.0
MAK pmax pmax
comp=Z,260nm,1.4s,mb6.0
MAK smax
comp=N,335nm,1.4s
MAK smax
comp=E,479nm,1.9s
MAK MLR MLR
comp=Z,4μm,21.0s,MS5.7
UMR Umm Al-Rimmam 69.61 297 eP P 17 38 10.1 -0.3
UMR AMb AMB 17 38 17.3
comp=Z,82nm,0.7s,mb5.8
KBD Kabd 69.66 296 eP P 17 38 10.0 -0.7
KBD AMb AMB 17 38 18.5
comp=Z,280nm,0.7s,mb6.3
RDF Al-Radifah 69.80 296 eP P 17 38 10.2 -1.4
RDF AMb AMB 17 38 19.3
comp=Z,139nm,0.8s,mb6.0
MIB Mutribah 69.92 297 eP P 17 38 11.4 -1.0
MIB AMb AMB 17 38 23.9
comp=Z,181nm,1.4s,mb5.8
NAY Al-Naaiem 70.04 296 eP P 17 38 11.5 -1.6
NAY AMb AMB 17 38 20.6
comp=Z,44nm,0.7s,mb5.5
DGRG David-gareji 70.95 309 P P 17 38 17.4 -1.3
MTA Mtatsminda 71.38 310 P P 17 38 21.1 -0.2
TBLG Delisi 71.42 310 eP P 17 38 22.1 +0.6
TBLG Delisi 71.42 310 P P 17 38 22.1 +0.5
GNI Garni 71.47 308 P P 17 38 23.0 +1.2
comp=Z,1.3nm,0.4s,baz=149,slow=18,SNR=5.9
GNI PP PP 17 41 03.3 +2.8
comp=Z,2.1nm,0.5s,baz=188,slow=13,SNR=1.6

GNI S S 17 47 41.8 +3.1
comp=Z,0.9nm,0.3s,baz=240,slow=22,SNR=2.1
GNI Garni 71.47 308 ⇓P **P 17 38 23.6 +1.8**
SNR=14
GNI Garni 71.47 308⇑ *e*P **P 17 38 22.7 +0.9**
GNI *e**PP pP 17 38 29.1 -1.3
GNI pmax pmax
comp=Z,159nm,1.4s
GNI MLR MLR
comp=Z,2μm,20.0s
GNI Garni 71.47 308⇑ *e*P **P 17 38 22.7 +0.9**
comp=Z,159nm,1.4s,mb5.8
GNI *e*pP pP 17 38 29.1 -1.3
GNI LR LR
comp=Z,2μm,20.0s,MS5.3
PECR Pechory 72.00 325 *e*P **P 17 38 24.0 -1.0**
PECR *e*S S 17 47 46.0 +1.3
PECR *e*PS 17 48 26.0
PECR pmax pmax
comp=Z,220nm,1.0s,mb6.0
PECR pmax pmax
comp=E,400nm,4.0s
PECR pmax pmax
comp=Z,600nm,4.0s
PECR smax
comp=N,900nm,4.4s
ZEI Tsey 72.01 311 *e*P **P 17 38 24.2 -0.9**
ZEI *e**PP pP 17 38 34.0 +0.3
ZEI *e* 17 41 09.1
BHD Baghdad 72.17 301 *i* x x 17 38 26.0
BHD *e*x x 17 47 56.0
BHD *e*x x 17 48 27.0
KIV Kislovodsk 72.85 312 P **P 17 38 30.0 -0.1**
comp=N,431nm,1.6s,mb6.1,SNR=8.2
KIV Kislovodsk 72.85 312 P **P 17 38 30.4 +0.3**
SNR=23
KIV Kislovodsk 72.85 312 *e*P **P 17 38 29.6 -0.5**
KIV pmax pmax
comp=Z,172nm,1.7s,mb5.7
KIV MLR MLR
comp=Z,4μm,20.0s,MS5.7
KIV Kislovodsk 72.85 312 *e*P **P 17 38 29.6 -0.5**
comp=Z,160nm,1.3s,mb5.8
KIV *e*pP pP 17 38 35.9 -2.8
KIV LR LR
comp=Z,1μm,20.0s,MS5.1
MSL Mosul 72.99 304 *e*x x 17 38 31.0
MSL *e*x x 17 38 36.0
URZ Urewera 73.06 137 LR LR 18 09 56.7
comp=Z,2μm,21.6s,MS5.3,baz=122,slow=35
SVW2 Sparrevohn 74.84 30 *e*P **P 17 38 39.6 -2.1**
VRSR Storozhevoye 74.91 320 *e*P **P 17 38 40.5 -1.6**
VRSR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
VRSR pmax pmax
comp=N,7.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.8s
IMA2 Indian Mountai 75.64 25 *e*P **P 17 38 47.9 +1.6**
OBN Obninsk 76.26 324⇑ *e*P **P 17 38 48.7 -1.2**
OBN *e* pP 17 38 55.0 -3.5
OBN *e* 17 38 58.9
OBN *e* 17 41 49.0
OBN *i* 17 49 11.9
OBN pmax pmax
comp=Z,156nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,6μm,19.0s,MS5.9
OBN Obninsk 76.26 324 *e*P **P 17 38 48.4 -1.5**
comp=Z,166nm,1.4s,mb5.8
OBN LR LR
comp=Z,2μm,19.0s,MS5.3
KDAK Kodiak Island 76.49 33 P **P 17 38 49.6 -1.6**
comp=Z,6.4nm,0.9s,mb4.5,baz=243,slow=4.5,SNR=4.3
KDAK S S 17 48 37.1 +2.0
comp=Z,6.9nm,1.1s,baz=136,slow=18,SNR=2.1
KDAK Kodiak Island 76.49 33 *e*P **P 17 38 49.0 -2.1**
comp=Z,45nm,1.0s,mb5.3
LVZ Lovozero 76.49 337 *e*P **P 17 38 55.0 +3.8**
LVZ *e*S S 17 48 29.3 -5.8
LVZ *e*SS SS 17 53 28.0 -2.1
LVZ pmax pmax
comp=Z,83nm,2.1s,mb5.3
LVZ pmax pmax
comp=N,24nm,1.6s
LVZ pmax pmax
comp=E,24nm,1.8s
LVZ smax
comp=N,340nm,11.1s
LVZ smax
comp=Z,331nm,13.9s
LVZ smax
comp=E,679nm,14.1s
LVZ MLR MLR
comp=Z,7μm,17.0s,MS6.0
LVZ MLR MLR
comp=N,1μm,15.0s,MS6.0
LVZ MLR MLR
comp=E,6μm,19.0s,MS6.0
ANN Anapa 76.55 313 *e*P **P 17 38 52.2 +0.7**
ANN *e*S S 17 48 36.9 +1.1
ANN pmax pmax
comp=Z,69nm,1.2s,mb5.5
ANN MLR MLR
comp=N,4μm,24.0s,MS5.7
ANN MLR MLR
comp=E,3μm,24.0s,MS5.7
ANN MLR MLR
comp=Z,4μm,24.0s,MS5.6
APA Apatity 76.98 337⇓ *e*P **P 17 38 53.0 -0.9**
APA *i* pP 17 39 02.8 +0.2
APA *e*S S 17 48 45.0 +4.5
APA *i* SS SS 17 53 42.0 +4.5
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
MCK McKinley 77.79 27 *e*P **P 17 38 58.7 +0.2**
MCK pmax pmax
comp=Z,85nm,1.1s,mb5.6
MCK MLR MLR
comp=Z,896nm,21.0s,MS5.1
MCK McKinley 77.79 27 *e*P **P 17 38 58.7 +0.3**
comp=Z,85nm,1.1s,mb5.6
MCK LR LR
comp=Z,896nm,21.0s,MS5.1
PMR Palmer 77.92 29 *e*P **P 17 38 59.1 -0.1**
PMR pmax pmax
comp=Z,42nm,1.0s,mb5.3
PMR MLR MLR
comp=Z,1μm,19.0s,MS5.3
PMR Palmer 77.92 29 *e*P **P 17 38 59.1 0.0**
comp=Z,42nm,1.0s,mb5.3
PMR LR LR
comp=Z,1μm,19.0s,MS5.3
COLA College 78.14 26 *e*P **P 17 39 00.8 +0.4**
COLA College 78.14 26 *e*P **P 17 39 00.1 -0.3**
comp=Z,44nm,1.1s,mb5.3
COLA LR LR
comp=Z,2μm,22.0s,MS5.5
JOF Joensuu 78.27 332 *e*p **P 17 38 59.4 -1.7**
comp=Z,11nm,0.6s,mb5.0
JOF Joensuu 78.27 332 *e*P **P 17 38 59.4 -1.7**
JOF pmax pmax
comp=Z,11nm,0.6s,mb5.0
ASF Jabal al Asfar 78.56 301 LR LR 18 19 02.4
comp=Z,925nm,21.7s,MS5.1,baz=105,slow=40
SIM Simferopol' 78.88 314 *e*P **P 17 39 04.0 -0.5**
SIM *e*S S 17 49 00.0 -0.9
SIM pmax pmax
comp=Z,50nm,1.1s,mb5.4
POHA Pohakuloa 78.93 72 PFAKE 17 39 20.0 +15
POHA LR LR
comp=Z,2μm,21.0s,MS5.5
KEV Kevo 79.07 339 *e*p **P 17 39 04.7 -0.8**
comp=Z,9.7nm,0.8s,mb4.8
KEV Kevo 79.07 339 *e*P **P 17 39 04.7 -0.8**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PUL Pulkovo 79.15 329 *e*P **P 17 39 01.3 -4.6**
PUL pmax pmax
comp=E,360nm,0.9s
PUL pmax pmax
comp=Z,103nm,0.9s,mb5.8
PUL pmax pmax
comp=N,530nm,1.0s
DIV Divide 79.58 30 *e*P **P 17 39 09.2 +0.9**
comp=N,234nm,1.3s,mb6.0

ARCES ARCESS Array B 79.62 339 P **P 17 39 08.9 +0.3**
comp=N,5.5nm,0.7s,mb4.6,baz=76,slow=6.6,SNR=15
ARCES LR LR 18 18 00.8
comp=N,5μm,18.4s,MS5.9,baz=255,slow=38
ARE0 ARCESS Array S 79.62 339 *e*P **P 17 39 07.8 -0.7**
ARE0 *e*pP pP 17 39 14.8 -2.5
CASY Casey 79.94 185 *e*P **P 17 39 10.5 +0.2**
BR131 Keskin Array S 80.00 308 *e*P **P 17 39 07.9 -2.7**
comp=N,13nm,0.8s,mb4.9
BR131 *e*PP PP 17 42 24.3 +12
BR131 LR LR
comp=Z,616nm,22.0s,MS4.9
BRTR Keskin Array B 80.00 308 P **P 17 39 10.1 -0.5**
comp=Z,6.0nm,0.8s,mb4.5,baz=112,slow=3.8,SNR=14
BRTR PP PP 17 42 12.9 +0.4
comp=Z,0.8nm,0.7s,baz=54,slow=7.4,SNR=3.1
BRTR S S 17 49 15.1 +2.2
comp=Z,0.3nm,0.6s,baz=175,slow=32,SNR=2.5
BRTR Keskin Array B 80.00 308 P **P 17 39 10.1 -0.5**
BRTR PP PP 17 42 12.9 +0.4
BRTR S S 17 49 15.1 +2.2
SPB4 Spitsbergen Ar 80.01 348 *e*P **P 17 39 09.5 -1.1**
SPB4 *e*pP pP 17 39 18.4 -0.9
EIL Elat 80.62 298 *e*P **P 17 39 14.3 +0.4**
comp=Z,1μm,0.9s
ANTO Ankara 80.62 309 P **P 17 39 14.8 +0.9**
SNR=7.9
ANTO Ankara 80.62 309⇑ *i*P **P 17 39 17.5 +3.6**
ANTO Ankara 80.62 309 *e*P **P 17 39 12.5 -1.4**
ANTO pmax pmax
comp=Z,124nm,1.7s,mb5.6
ANTO MLR MLR
comp=Z,2μm,20.0s,MS5.5
ANTO Ankara 80.62 309 *e*P **P 17 39 12.4 -1.5**
comp=Z,124nm,1.7s,mb5.6
ANTO LR LR
comp=Z,2μm,20.0s,MS5.5
KAF Kangasniemi 80.69 332 *e*p **P 17 39 13.8 -0.5**
comp=Z,12nm,0.8s,mb4.9,baz=75,slow=4.9
KAF Kangasniemi 80.69 332 *e*P **P 17 39 13.8 -0.5**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
FIA1 FINESS Array S 80.92 331 *e*P **P 17 39 14.9 -0.6**
FIA1 *e*pP pP 17 39 21.4 -2.9
FINES FINESS Array B 80.93 331 P **P 17 39 14.3 -1.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=90,slow=4.4,SNR=11
FINES S S 17 49 19.9 -2.6
comp=Z,1.5nm,0.8s,baz=102,slow=27,SNR=2.7
FINES LR LR 18 16 54.8
comp=Z,4μm,19.4s,MS5.7,baz=254,slow=37
FINES FINESS Array B 80.93 331 P **P 17 39 14.4 -1.2**
FINES S S 17 49 20.0 -2.5
EGAK Eagle 80.98 25 *e*P **P 17 39 16.6 +0.7**
comp=Z,66nm,1.2s,mb5.4
CSS Prodhromos 81.04 304 *e*P **P 17 39 16.3 +0.1**
comp=Z,84nm,0.8s,mb5.7
CSS *e*pP pP 17 39 22.6 -2.3
DRV Dumont d'Urvil 81.05 173 S S 17 49 32.0 +8.2
DRV SS SS 17 54 42.0 +3.4
DRV L 18 01 00.0
DRV R 18 06 00.0
VSU Vasula 81.19 328 *e*P **P 17 39 16.1 -0.8**
AKASG Malin Array Be 81.22 320 P **P 17 39 15.4 -1.8**
comp=Z,7.5nm,0.9s,mb4.6,baz=66,slow=5.4,SNR=25
AKASG PP PP 17 42 23.9 +1.2
comp=Z,1.1nm,0.7s,baz=68,slow=7.6,SNR=3.4
AKASG S S 17 49 26.1 +0.5
comp=Z,0.1nm,0.3s,baz=315,slow=24,SNR=2.8
AKASG LR LR 18 21 29.1
comp=Z,2μm,18.2s,MS5.4,baz=45,slow=40
AKASG Malin Array Be 81.22 320 P **P 17 39 15.4 -1.7**
AKASG 17 42 23.9
AKASG S S 17 49 26.1 +0.5
AKBB Malin Array Si 81.22 320 *e*P **P 17 39 15.7 -1.4**
AKBB *e**PP pP 17 39 22.5 -3.4
MNK Minsk 81.35 324 *e*P **P 17 39 14.0 -3.8**
TRO Tromso 81.84 340 *e*P **P 17 39 19.0 -1.4**
DAWY Dawson 81.89 26 *e*P **P 17 39 21.6 +1.0**
KIS Kishinev 82.18 316 *e*P **P 17 39 30.0 +7.8**
KIS *e* 17 42 39.0
KIS *e*S S 17 49 40.0 +4.5
KIS Kishinev 82.18 316 *e*PP PP 17 42 39.0 +8.4
KIS *e*S S 17 49 40.0 +4.5
KIS LRM 18 19 24.0
comp=Z,11μm,20.0s
MIR Mirnyy 82.55 191 *e*P **P 17 39 29.0 +4.9**
MIR *i* 17 39 47.0
MIR pmax pmax
comp=Z,250nm,2.0s,mb5.9
ISP Isparta 82.74 307 *e*P **P 17 39 24.6 -0.5**
ISP Isparta 82.74 307 *e*P **P 17 39 23.4 -1.7**
comp=Z,36nm,0.8s,mb5.5
TIRR Tirgusor 82.97 314⇓ *i*P **P 17 39 26.3 0.0**
INK Inuvik 82.99 21 P **P 17 39 26.4 +0.1**
comp=Z,14nm,1.0s,mb5.0,baz=292,slow=6.9,SNR=8.0
INK S S 17 49 41.6 -2.1
comp=Z,0.4nm,0.3s,baz=186,slow=21,SNR=1.5
INK LR LR 18 23 58.3
comp=Z,2μm,18.4s,MS5.4,baz=50,slow=41
INK Inuvik 82.99 21 *e*P **P 17 39 26.5 +0.1**
comp=Z,7μm,1.7s
CFR Carcaliu 83.01 315⇓ *i*P **P 17 39 23.7 -2.8**
ISK Istanbul-Kandi 83.20 310 *e*P **P 17 39 27.4 -0.1**
HARR Harsova 83.26 314⇓ *i*P **P 17 39 28.0 +0.2**
VRI Vrincioaia 83.83 316⇑ *i*P **P 17 39 30.9 +0.2**
VRI Vrincioaia 83.83 316 P **P 17 39 31.0 +0.3**
PRD Provadia 83.95 313 *i* P **P 17 39 32.0 +0.7**
SUW Suwalki 84.12 324 *e*P **P 17 39 31.3 -0.9**
SUW *e*PcP PcP 17 39 38.0 +2.0
SUW *e*pP pP 17 39 41.4 +0.4
SUW *e*S S 17 49 51.4 -3.8
SUW L 18 19 16.1
comp=Z,5.9nm,17.9s
SUW Suwalki 84.12 324 *e*P **P 17 39 31.3 -0.9**
SUW *e*PcP PcP 17 39 38.0 +2.0
SUW *e*pP pP 17 39 41.4 +0.4
SUW *e*S S 17 49 51.4 -3.8
ALE Alert 84.15 1 P **P 17 39 33.3 +0.9**
comp=Z,369nm,1.4s,mb6.3,SNR=8.0
BURAR Bucovina Array 84.44 318⇑ *i*P **P 17 39 33.8 0.0**
BURAR Bucovina Array 84.44 318 P **P 17 39 34.1 +0.3**
MLR Muntele Rosu 84.45 315 P **P 17 39 33.5 -0.4**
comp=Z,27nm,0.9s,mb5.4,baz=12,slow=5.3,SNR=12
MLR PP PP 17 42 49.1 0.0
comp=Z,9.4nm,1.2s,baz=71,slow=7.5,SNR=3.6
MLR S S 17 49 56.1 -2.4
comp=Z,2.5nm,1.2s,baz=238,slow=22,SNR=1.8
MLR LR LR 18 19 26.5
comp=Z,12μm,19.5s,MS6.3,baz=265,slow=37
MLR Muntele Rosu 84.45 315⇑ *i*P **P 17 39 33.8 -0.1**
MLR Muntele Rosu 84.45 315 P **P 17 39 34.2 +0.3**
RAR Rarotonga 84.48 113 LR LR 18 11 12.1
comp=Z,1μm,21.7s,MS5.2,baz=260,slow=31
BUC1 Bucharest 84.66 314 P **P 17 39 35.8 +0.9**
LVV L'vov 84.67 320 *e*P **P 17 39 32.9 -2.1**
LVV *i* pP 17 39 40.8 -3.0
LVV *e*S S 17 49 58.4 -2.2
LVV *e*PS 17 51 09.6
KMBO Kilima Mbogo 84.79 268 P **P 17 39 36.2 +0.7**
comp=Z,0.5nm,0.3s,baz=226,slow=23,SNR=2.0
KMBO Kilima Mbogo 84.79 268⇑P **P 17 39 37.7 +2.1**
SNR=15
KMBO Kilima Mbogo 84.79 268 *e*P **P 17 39 37.3 +1.7**
KMBO pmax pmax
comp=Z,35nm,1.1s
KMBO Kilima Mbogo 84.79 268 *e*P **P 17 39 37.3 +1.7**
comp=Z,35nm,1.1s,mb5.4
ARG Arkhangelos 84.95 306 *e*P **P 17 39 42.5 +6.1**
SKAG Skagway 85.02 30 P **P 17 39 38.0 +1.3**
comp=Z,50nm,0.9s,mb5.6
VOIR 85.08 315⇑ *i*P **P 17 39 40.6 +3.6**
MTUR Matau 85.12 315⇑ *i*P **P 17 39 38.3 +1.1**
ZIMR 85.29 314 P **P 17 39 38.5 +0.4**
PVL Pavlikeni 85.42 313 *i* P **P 17 39 39.6 +0.9**
ALN Alexandroupoli 85.46 311 *e*P **P 17 39 39.9 +0.9**
KWP Kalwaria 85.54 320 *e*P **P 17 39 40.1 +0.7**
KWP *e*PcP PcP 17 39 43.3 +1.0
KWP *e*pP pP 17 39 48.6 +0.4
KWP L 18 20 54.2
comp=Z,3.3nm,21.6s
SMG Samos 85.61 308 *e*P **P 17 39 37.5 -2.2**
PRK Paraskevi 85.68 309 *e*P **P 17 39 39.0 -1.1**
SIT Sitka 85.77 32 P **P 17 39 43.0 +2.5**
SIT pmax pmax
comp=Z,168nm,1.2s,mb6.2
SIT MLR MLR
comp=Z,4μm,19.0s,MS5.8
SIT Sitka 85.77 32 P **P 17 39 43.0 +2.5**
comp=Z,168nm,1.2s,mb6.2
SIT LR LR
comp=Z,4μm,19.0s,MS5.8
RDO Rodhopi 85.77 311 *e*P **P 17 39 39.5 -1.0**
WAR Warsaw 85.85 323 *e*P **P 17 39 45.5 +4.6**
WAR *e*pP pP 17 39 51.2 +1.5
WAR L 18 20 02.6
comp=Z,4.4nm,19.2s
KAP Karpathos 85.85 305 *e*P **P 17 39 40.5 -0.4**
KOLS Kolonicke sedl 86.00 319 *e*P **P 17 39 41.2 -0.5**
KOLS *e*S S 17 50 08.4 -5.5
UZH Uzhgorod 86.08 319⇓ *i*P **P 17 39 41.2 -0.8**
UZH *i* pP 17 39 49.7 -1.1
UZH *i* S S 17 50 08.0 -6.5
UZH *i* PS 17 51 04.0
CRAR CRAIOVA 86.22 315 P **P 17 39 52.1 +9.4**
DRGR 86.30 317⇑ *i*P **P 17 39 43.8 +0.7**
DRGR 86.30 317 P **P 17 39 43.4 +0.3**
LIA Limnos Island 86.34 310 *e*P **P 17 39 48.5 +5.2**
LOS Limnos 86.41 310 *e*P **P 17 39 46.2 +2.6**
PGB Panagyurishte 86.41 313 *i* P **P 17 39 43.8 +0.1**
STHS Stebnicka Huta 86.52 320 *e*P **P 17 39 44.2 0.0**
STHS pmax pmax
comp=Z,24nm,0.8s,mb5.5
STHS Stebnicka Huta 86.52 320 *e*P **P 17 39 44.2 0.0**
comp=Z,24nm,0.8s,mb5.5
CRVS Cervenica-Dubn 86.53 319 *e*P **P 17 39 44.4 +0.2**
CRVS *e*S S 17 50 24.1 +5.1
GZR Gura Zlata 86.63 316⇑ *i*P **P 17 39 45.1 +0.3**
GZR Gura Zlata 86.63 316 P **P 17 39 44.9 +0.1**
APE Apeiranthos 86.78 307 *e*P **P 17 39 40.0 -5.5**
APE Apeiranthos 86.78 307⇓ *i*P **P 17 39 41.3 -4.2**
APE Apeiranthos 86.78 307 *e*P **P 17 39 44.4 -1.1**
NVR Nevrokopi 86.94 312 *e*P **P 17 39 45.5 -0.8**
DAG Danmarks Havn 86.97 352⇓ *i*P **P 17 39 45.0 -1.4**
comp=Z,8.0nm,1.0s,mb4.9
DAG Danmarks Havn 86.97 352⇓ *e*P **P 17 39 45.0 -1.4**
DAG pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
DAG Danmarks Havn 86.97 352⇓ *e*P **P 17 39 45.0 -1.4**
comp=Z,8.0nm,1.0s,mb4.9
SANT Santorini 87.00 307 *e*P **P 17 39 44.5 -2.1**
comp=Z,234nm,0.4s
VTS Vitosha 87.09 313 *i* P **P 17 39 47.3 +0.3**
VTS Vitosha 87.09 313⇑ *i*P **P 17 39 47.4 +0.4**
VTS Vitosha 87.09 313 P **P 17 39 47.1 +0.1**
NIE Niedzica 87.10 320 *e*P **P 17 39 47.3 +0.3**
NIE *e*PcP PcP 17 39 54.8 +5.6
HFS Hagfors 87.11 332 P **P 17 39 45.1 -2.0**
comp=Z,13nm,0.9s,mb5.2,baz=90,slow=0.6,SNR=13
HFS S SKSac 17 50 11.2 -1.3
comp=Z,0.5nm,0.3s,baz=180,slow=40,SNR=1.8
HFS LR LR 18 22 32.4
comp=Z,5μm,18.2s,MS5.9,baz=246,slow=38
HFS Hagfors 87.11 332 P **P 17 39 45.1 -2.0**
HFS S SKSac 17 50 11.2 -1.3
OUR Ouranopolis 87.12 311 *e*P **P 17 39 45.1 -2.0**
NPS Neapolis 87.16 305 *e*P **P 17 39 51.5 +4.2**
OJC Ojcow 87.18 321 *e*P **P 17 39 46.4 -1.0**
OJC *e*S SKSac 17 50 01.5 -11
OJC L 18 20 35.3
comp=Z,26nm,21.5s
KECS Kecovo 87.27 319 *i* P **P 17 39 47.2 -0.6**
KECS *e*pP pP 17 39 54.6 -2.1
KECS Kecovo 87.27 319 *i* P **P 17 39 47.3 -0.5**
KECS *e* pP 17 39 54.6 -2.1
KECS pmax pmax
comp=Z,34nm,1.2s,mb5.5
KECS Kecovo 87.27 319 *i* P **P 17 39 47.3 -0.5**
comp=Z,34nm,1.2s,mb5.5
KECS *e* pP 17 39 54.6 -2.1
BZS Buzias 87.36 316⇓ *i*P **P 17 39 50.8 +2.5**
BZS Buzias 87.36 316 P **P 17 39 56.1 +7.9**
KKB Krupnik 87.37 312 *i* P **P 17 39 48.0 -0.3**
SOH Sokhos 87.45 311 *e*P **P 17 39 44.1 -4.6**
PLG Polygyros 87.51 311 *e*P **P 17 39 53.5 +4.5**
KNT Kendrikon 87.69 312 *e*P **P 17 39 49.1 -0.8**
HORT Hortiatis 87.70 311 *e*P **P 17 39 48.5 -1.4**
GKP Gorka Klasztor 87.72 324 *e*P **P 17 39 54.6 +4.6**
GKP *e*S S 17 50 31.2 +0.8
GKP L 18 21 13.7
comp=Z,7.5nm,19.6s
PSZ Piszkesteto 87.81 319 *e*P **P 17 39 50.6 +0.1**
PSZ Piszkesteto 87.81 319⇓ *i*P **P 17 39 50.0 -0.5**
PSZ Piszkesteto 87.81 319 *e*P **P 17 39 49.9 -0.6**
PSZ pP 17 39 58.9 -0.4
PSZ *e* 17 43 23.1
PSZ pmax pmax
comp=Z,96nm,1.6s,mb5.8
PSZ Piszkesteto 87.81 319 *e*P **P 17 39 49.9 -0.6**
comp=Z,96nm,1.6s,mb5.8
PSZ P pP 17 39 58.9 -0.4
PSZ *e*PP PP 17 43 23.1 +6.7
NB2 NORSAR Subarra 87.88 333 P **P 17 39 49.2 -1.6**
comp=Z,76nm,1.2s,mb5.8,baz=69,slow=4.6
NB2 NORSAR Subarra 87.88 333 P **P 17 39 49.2 -1.6**
NB2 pmax pmax
comp=Z,76nm,1.2s,mb5.8
NOA NORSAR Array B 87.88 333 P **P 17 39 48.9 -1.9**
comp=Z,9.0nm,0.8s,mb5.0,baz=68,slow=4.7,SNR=11
NOA PP PP 17 43 16.7 -0.2
comp=Z,1.9nm,1.0s,baz=74,slow=7.9,SNR=2.7
NOA S SKSac 17 50 16.5 -0.7
comp=Z,1.2nm,0.9s,baz=32,slow=23,SNR=2.9
NOA LR LR 18 23 34.8
comp=Z,6μm,18.4s,MS6.1,baz=60,slow=39
NOA NORSAR Array B 87.88 333 P **P 17 39 48.9 -1.9**
NOA 17 43 16.7
NOA S SKSac 17 50 16.5 -0.7
NEO Neokhori 87.96 310 *e*P **P 17 39 57.0 +5.9**
NAO01 NORSAR Array S 88.11 333 P **P 17 39 49.4 -2.5**
comp=Z,48nm,1.3s,mb5.6
NAO01 LR LR
comp=Z,6μm,19.0s,MS6.0
GRG Griva 88.11 312 *e*P **P 17 39 49.9 -2.0**
VAM Vamos 88.24 306 *e*P **P 17 39 56.0 +3.5**
LIT Litokhoron 88.28 311 *e*P **P 17 39 51.0 -1.7**
OKC Ostrava-Krasne 88.31 321 *e*P **P 17 39 53.0 +0.2**
OKC *e*pP pP 17 40 02.8 +1.2
OKC *e*S S 17 50 31.7 -4.4
OKC *e*x x 17 57 03.0
OKC AMS AMS 18 24 30.0
comp=Z,3μm,13.8s
OKC Ostrava-Krasne 88.31 321 *e*P **P 17 39 53.0 +0.2**
OKC *e**PP pP 17 40 02.8 +1.2
OKC *e* 17 50 31.7
OKC MLR MLR
comp=Z,3μm,13.8s,MS5.9
OKC Ostrava-Krasne 88.31 321 *e*P **P 17 39 53.0 +0.2**
OKC *e*pP pP 17 40 02.8 +1.2
OKC *e*SKS SKKSac 17 50 31.7 +1.3
OKC *e*SS SS 17 57 03.0 +37
VYHS Vyhne 88.31 320 *e*P **P 17 39 51.7 -1.1**
VYHS *e*pP pP 17 40 00.5 -1.1
VYHS *e*PP PP 17 43 21.5 +1.1
VYHS *e*S S 17 50 50.8 +15
VYHS Vyhne 88.31 320 *e*P **P 17 39 51.7 -1.1**
VYHS *e* pP 17 40 00.5 -1.1
VYHS *e* 17 43 21.5
VYHS pmax pmax
comp=Z,50nm,1.8s,mb5.4
VYHS Vyhne 88.31 320 *e*P **P 17 39 51.7 -1.1**
comp=Z,50nm,1.8s,mb5.4
VYHS *e* pP 17 40 00.5 -1.1
VYHS *e*PP PP 17 43 21.5 +1.1
VYHS *e*S S 17 50 50.8 +15
VYHS LR LR
comp=Z,2μm,19.0s,MS5.7
BSD Bornholm Skovb 88.36 327 *i* S S 17 50 26.2 -10
BSD *i* 17 51 38.0
BSD
comp=Z,6μm,20.0s
BSD Bornholm Skovb 88.36 327 *i* P **P 17 39 47.3 -5.7**
BSD *i* S S 17 50 26.2 -10
BSD *i* 17 51 38.0
BSD MLR MLR
comp=Z,6μm,20.0s,MS6.0
BSD Bornholm Skovb 88.36 327 *i* P **P 17 39 47.3 -5.7**
BSD *i* S S 17 50 26.2 -10

BSD *i* 17 51 38.0
GVD Gavdhos 88.48 305 *e*P **P** **17 39 53.4 -0.2**
comp=Z,63nm,0.8s,mb5.9
BUD Budapest 88.51 319 *e*pP pP 17 40 01.3 -1.3
MORC Moravsky Berou 88.70 321⇑*i*P **P** **17 39 54.5 -0.2**
MORC Moravsky Berou 88.70 321 *e*P **P** **17 39 53.9 -0.8**
MORC pP 17 40 03.4 -0.1
MORC pmax pmax
comp=Z,55nm,1.4s,mb5.7
MORC Moravsky Berou 88.70 321 *e*P **P** **17 39 53.9 -0.8**
MORC P pP 17 40 03.4 -0.1
comp=Z,54nm,1.4s,mb5.7
KZN Kozani 88.75 311 *e*P **P** **17 40 01.5 +6.6**
VLI Veliai 88.88 307 *e*P **P** **17 39 58.5 +3.0**
DIVS Divcibare 88.91 315 *i*P **P** **17 39 58.9 +3.3**
KSP Ksiaz 89.09 322 *e*P **P** **17 40 00.2 +3.7**
KSP *e*S S 17 50 42.8 -0.6
KSP *es*S sS 17 50 59.5 +1.4
KSP L 18 22 19.0
comp=Z,12nm,20.2s
KSP Ksiaz 89.09 322 *e*P **P** **17 39 55.5 -1.0**
KSP *ep*P pP 17 40 00.1 -5.2
KSP *e*SKS 17 50 27.0
KSP *e*S S 17 50 49.0 +5.6
KSP *e*SP 17 51 46.0
KSP *e*SS SS 17 56 41.0 +4.0
KSP LR LR
comp=Z,13μm,20.2s,MS6.4
EVR Evrytania 89.12 310 *e*P **P** **17 40 02.0 +5.4**
RES Resolute Bay 89.12 9 *e*P **P** **17 39 55.9 -0.7**
comp=Z,4μm,1.3s
PKSM Moragy 89.16 317⇑*i*P **P** **17 39 59.0 +2.2**
PKSM Moragy 89.16 317 *e*P **P** **17 39 57.7 +0.9**
PKSM P 17 40 03.8
KONO Kongsberg 89.20 332 PFAKE 17 40 10.0 +13
KONO LR LR
comp=Z,5μm,19.0s,MS6.0
DPC Dobruska-Polom 89.25 322 *e*P **P** **17 39 57.3 +0.1**
DPC *ep*P pP 17 40 05.2 -0.9
DPC *e*S S 17 50 38.0 -6.9
DPC *ex* x 17 56 58.4
DPC AMS AMS 18 22 10.0
comp=Z,4μm,17.9s
DPC Dobruska-Polom 89.25 322 *e*P **P** **17 39 57.3 +0.1**
DPC *e**PP pP 17 40 05.2 -0.9
DPC *e* 17 50 38.0
DPC MLR MLR
comp=Z,4μm,17.9s,MS5.9
UPC Upice 89.38 322 *e*P **P** **17 39 57.6 -0.2**
UPC *ep*P pP 17 40 06.1 -0.6
VRAC Vranov 89.44 321 P **P** **17 39 57.2 -0.9**
comp=Z,8.7nm,0.8s,mb5.2,baz=61,slow=3.6,SNR=7.3
VRAC PP PP 17 43 29.9 +0.5
comp=Z,2.0nm,0.8s,baz=92,slow=4.7,SNR=2.7
VRAC S SKSac 17 50 28.5 +2.0
comp=Z,1.3nm,0.4s,baz=100,slow=23,SNR=2.4
VRAC LR LR 18 23 21.5
comp=Z,4μm,18.9s,MS5.9,baz=260,slow=38
VRAC Vranov 89.44 321⇑*i*P **P** **17 39 57.7 -0.4**
VRAC Vranov 89.44 321 P **P** **17 39 57.2 -0.9**
VRAC pP 17 40 07.2 +0.2
VRAC 17 43 29.9
VRAC S SKSac 17 50 28.5 +2.0
VRAC Vranov 89.44 321 P **P** **17 39 57.2 -0.9**
VRAC P pP 17 40 07.2 +0.2
VRAC PP PP 17 43 29.9 +0.6
VRAC S SKSac 17 50 28.5 +2.0
VRAC LR LR 18 23 21.5
ZST Bratislava 89.50 320 *e*P **P** **17 40 06.1 +7.7**
ZST MLR MLR
comp=Z,2μm,18.4s,MS5.7
ITM Ithomi 89.52 308 *e*P **P** **17 40 04.5 +6.0**
RUE Ruedersdorf 89.96 324 *e*P **P** **17 39 59.9 -0.7**
comp=Z,89nm,1.3s,mb5.9
SOP Sopron 90.02 319 *ep*P pP 17 40 08.8 -0.9
TREC Trest 90.12 321 *e*P **P** **17 40 00.0 -1.3**
TREC *ep*P pP 17 40 07.7 -2.5
TREC *e*SKKS SKKSac 17 50 39.7 -4.3
TREC *ex* x 17 57 05.4
TREC AMS AMS 18 23 10.0
comp=Z,4μm,18.4s
PVCC Panska Ves 90.23 322 *e*P **P** **17 40 02.4 +0.6**
PVCC *ep*P pP 17 40 12.3 +1.6
PVCC *e*SKKS SKKSac 17 50 41.6 -3.2
PVCC *ex* x 17 57 18.3
PVCC AMS AMS 18 22 50.0
comp=Z,7μm,18.6s
PVCC Panska Ves 90.23 322 *e*P **P** **17 40 02.4 +0.6**
PVCC *e**PP pP 17 40 12.3 +1.6
PVCC *e* 17 50 41.6
PVCC MLR MLR
comp=Z,7μm,18.6s,MS6.1
PRU Pruhonice 90.44 322 *e*P **P** **17 40 02.9 +0.1**
PRU *ep*P pP 17 40 13.5 +1.8
PRU *e*S S 17 50 48.0 -8.0
PRU *ex* x 17 57 16.4
PRU AMS AMS 18 22 50.0
comp=Z,4μm,17.6s
PRU Pruhonice 90.44 322 *e*P **P** **17 40 02.9 +0.1**
PRU *e**PP pP 17 40 13.5 +1.8
PRU *e* 17 50 48.0
PRU MLR MLR
comp=Z,4μm,17.6s,MS6.0
BRG Berggiesshubel 90.47 323 *e*P **P** **17 40 02.5 -0.4**
comp=Z,15nm,1.6s,mb5.1
BRG *i* 17 40 13.3
comp=Z,29nm,1.3s
BRG *e* 17 43 40.5
comp=Z,28nm,1.7s
BRG SKS 17 50 36.0
BRG S S 17 51 04.0 +7.8
BRG PS PS 17 52 03.0 -3.3
BRG SS SS 17 56 56.0 -1.0
BRG
comp=N,1μm,18.8s
BRG
comp=E,2μm,20.0s
BRG
comp=Z,3μm,18.3s
BRG Berggiesshubel 90.47 323 *e*P **P** **17 40 02.5 -0.4**
BRG *i* 17 40 13.3
BRG *e* 17 43 40.5
BRG 17 50 36.0
BRG PS PS 17 52 03.0 -3.3
BRG SS SS 17 56 56.0 -1.0
BRG pmax pmax
comp=Z,15nm,1.3s,mb5.2
BRG MLR MLR
comp=N,28μm,18.8s
BRG MLR MLR
comp=E,1μm,20.0s
BRG MLR MLR
comp=Z,2μm,18.3s,MS5.7
BRG Berggiesshubel 90.47 323 *e*P **P** **17 40 02.5 -0.4**
comp=Z,15nm,1.6s,mb5.1
BRG *i* 17 40 13.3
BRG *e* 17 43 40.5
BRG SKS 17 50 36.0
BRG S S 17 51 04.0 +7.8
BRG PS PS 17 52 03.0 -3.3
BRG SS SS 17 56 56.0 -1.0
BRG LR LR
comp=Z,3μm,18.3s,MS5.8
MUD Monsted U'grnd 90.79 329 *i*P **P** **17 40 07.1 +2.7**
MUD *e* 17 50 48.0
MUD *i* 17 52 14.7
MUD
comp=Z,4μm,19.0s
MUD Monsted U'grnd 90.79 329 *e*P **P** **17 40 07.1 +2.7**
MUD *i* 17 52 14.7
MUD MLR MLR
comp=Z,4μm,19.0s,MS5.9
MUD Monsted U'grnd 90.79 329 *e*P **P** **17 40 07.1 +2.7**
MUD *e* 17 50 48.0
MUD *i* 17 52 14.7
ARSA Arzberg 90.83 319⇓*i*P **P** **17 40 07.3 +2.7**
comp=Z,24nm,1.8s,mb5.2
CLL Collm 90.85 323 *i*P **P** **17 40 04.2 -0.5**
CLL *e*S S 17 50 59.0 -0.8
CLL *e*pmax pmax
comp=Z,12nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,5μm,21.2s,MS5.9

CLL Collm 90.85 323 *i*P **P** **17 40 04.2 -0.5**
comp=Z,12nm,1.2s,mb5.1
CLL *e*S S 17 50 59.0 -0.8
CLL LR LR
comp=Z,5μm,21.2s,MS5.9
CLL Collm 90.85 323 *i*P **P** **17 40 04.2 -0.5**
comp=Z,12nm,1.2s,mb5.1
CLL *e*pP pP 17 40 12.0 -1.6
CLL *e*sP sP 17 40 14.0 -2.7
comp=Z,55nm,1.6s
CLL *e*PP PP 17 43 42.0 +1.4
CLL *e*SKSac SKSac 17 50 39.0 +4.3
CLL *e*S S 17 50 59.0 -0.8
comp=N,400nm,16.8s
CLL *e*S S 17 50 59.0 -0.8
comp=E,900nm,10.9s
CLL *e*SP SP 17 52 10.0 +2.9
CLL *e*PPS 17 52 39.0
CLL *e*SS SS 17 57 15.0 +12
CLL *e*SSS 18 00 42.0
CLL LmV 18 23 00.0
comp=Z,5μm,21.2s
MAW Mawson 91.17 199 P **P** **17 40 06.7 +0.6**
comp=Z,1.2nm,0.6s,baz=334,slow=19,SNR=2.4
MAW S SKSac 17 50 37.4 +1.0
comp=Z,0.9nm,0.8s,baz=10,slow=16,SNR=1.8
MAW LR LR 18 22 04.3
comp=Z,578nm,18.7s,MS5.0,baz=50,slow=36
MAW Mawson 91.17 199 P **P** **17 40 06.7 +0.5**
MAW S SKSac 17 50 37.4 +0.9
PERS Pernice 91.31 319 *i*P **P** **17 40 10.4 +3.6**
KHC Kasperske Hory 91.35 321 *e*P **P** **17 40 06.9 -0.1**
KHC *ep*P pP 17 40 16.8 +0.9
KHC *e*SKS 17 50 45.3
KHC *e*SS SS 17 57 18.4 +8.7
KHC AMS AMS 18 22 50.0
comp=Z,4μm,19.4s
KHC Kasperske Hory 91.35 321 *e*P **P** **17 40 06.9 -0.1**
KHC *e**PP pP 17 40 16.8 +0.9
KHC *e*SS SS 17 57 18.4 +8.7
KHC MLR MLR
comp=Z,4μm,19.4s,MS5.8
GEC2 GERESS Array S 91.38 321 *e*P **P** **17 40 06.6 -0.6**
GERES GERESS Array B 91.38 321 P **P** **17 40 06.7 -0.5**
comp=Z,4.5nm,0.9s,mb4.8,baz=66,slow=4.7,SNR=16
GERES PP PP 17 43 43.4 -1.4
comp=Z,0.3nm,0.4s,baz=12,slow=6.0,SNR=3.6
GERES S SKSac 17 50 39.6 +1.9
comp=Z,0.1nm,0.3s,baz=6.7,slow=12,SNR=2.9
MOA Molin 91.41 320⇑*i*P **P** **17 40 07.2 -0.1**
comp=Z,92nm,1.8s,mb5.8
BBB Bella Bella 91.44 35 S SKSac 17 50 42.6 +4.6
comp=Z,22nm,1.2s,baz=69,slow=15,SNR=1.9
BBB LR LR 18 21 05.3
comp=Z,737nm,19.8s,MS5.1,baz=345,slow=36
NKC Novy Kostel 91.60 323 *e*P **P** **17 40 08.5 +0.3**
NKC *ep*P pP 17 40 19.0 +2.0
NKC *ex* x 17 50 50.9
NKC *e*PKKP PKKPbc 17 57 24.4 -3.2
NKC AMS AMS 18 24 00.0
comp=Z,6μm,18.8s
NKC Novy Kostel 91.60 323 *e*P **P** **17 40 08.5 +0.3**
NKC *e**PP pP 17 40 19.0 +2.0
NKC *e*SS SS 17 57 24.4 +11
NKC MLR MLR
comp=Z,6μm,18.8s,MS6.1
NKC Novy Kostel 91.60 323 *e*P **P** **17 40 08.5 +0.3**
NKC *ep*P pP 17 40 19.0 +2.0
NKC *e*SKS 17 50 50.9
NKC *e*SS SS 17 57 24.4 +11
BOJS Bojanci 91.63 318 *i*P **P** **17 40 10.9 +2.6**
BOJS *i* 17 40 16.5
VISS Visnje 91.79 318 *i*P **P** **17 40 12.6 +3.6**
MOX Moxa 91.92 323 *e*P **P** **17 40 09.9 +0.2**
MOX pmax pmax
comp=Z,54nm,1.6s,mb5.6
MOX MLR MLR
comp=Z,3μm,18.0s,MS5.7
MOX Moxa 91.92 323 *e*P **P** **17 40 09.9 +0.2**
comp=Z,54nm,1.6s,mb5.6
MOX *ep*P pP 17 40 20.0 +1.5
MOX *e*SKS 17 50 48.0
MOX *e*SS SS 17 57 22.0 +4.1
MOX LR LR
comp=Z,3μm,18.0s,MS5.7
KBA Koelnbreinsper 92.27 319⇑*i*P **P** **17 40 11.7 +0.4**
comp=Z,25nm,1.0s,mb5.5
KBA Koelnbreinsper 92.27 319⇑*i*P **P** **17 40 11.7 +0.4**
KBA pmax pmax
comp=Z,25nm,1.0s,mb5.5
VOY Vojsko 92.32 318 *e*P **P** **17 40 10.0 -1.5**
VOY *e* 17 40 13.9
VOY *e* pP 17 40 17.8 -2.5
GRA1 Grafenberg Arr 92.54 322 *e*P **P** **17 40 12.4 -0.1**
comp=Z,70nm,1.7s,mb5.8
GRA1 *ep*P pP 17 40 21.0 -0.4
GRA1 *e*PP PP 17 43 54.3 +0.3
GRA1 LR LR
comp=Z,7μm,18.8s,MS6.1
GRF Grafenberg Arr 92.54 322 *e*P **P** **17 40 12.4 -0.1**
comp=Z,70nm,1.7s,mb5.8
GRF *ep*P pP 17 40 21.0 -0.4
GRF *e*PP PP 17 43 54.3 +0.3
GRF *e*L 18 24 55.9
comp=Z,7μm,18.8s
GRF Grafenberg Arr 92.54 322 *e*P **P** **17 40 12.4 -0.1**
GRF *e**PP pP 17 40 21.0 -0.4
GRF *e* 17 43 54.3
GRF pmax pmax
comp=Z,70nm,1.7s,mb5.8
GRF MLR MLR
comp=Z,7μm,18.8s,MS6.1
YKA Yellowknife Ar 92.64 23 P **P** **17 40 13.3 +0.3**
comp=Z,2.5nm,0.9s,mb4.6,baz=316,slow=5.2,SNR=2.7
YKA S SKSac 17 50 47.9 +3.1
comp=Z,1.8nm,0.8s,baz=196,slow=34,SNR=3.1
YKA LR LR 18 28 36.4
comp=Z,729nm,19.7s,MS5.1,baz=230,slow=40
YKA Yellowknife Ar 92.64 23 *i*P **P** **17 40 18.6 +5.6**
YKA pmax pmax
comp=Z,6.0nm,0.9s
TIP Timpagrande 92.78 311 *e*P **P** **17 40 14.0 +0.4**
PPT Papeete 92.86 107 *e*S S 17 51 24.8 +7.0
comp=Z,2μm,30.8s
PPT *e*SS SS 17 57 35.4 +4.0
comp=Z,462nm,25.5s
PPT *e*LQ 18 06 13.7
comp=Z,11μm,34.2s
PPT *e*LR LR 18 10 28.6
comp=Z,1μm,23.5s
PPT Papeete 92.86 107 LR LR 18 15 42.0
comp=Z,868nm,20.1s,MS5.2,baz=279,slow=31
SUMG Summit 93.15 354 *e*P **P** **17 40 15.9 +0.6**
comp=Z,128nm,1.4s,mb6.2
WTTA Wattenberg 93.27 320⇓*i*P **P** **17 40 15.0 -1.0**
comp=Z,93nm,1.3s,mb6.0
WTTA Wattenberg 93.27 320⇓*i*P **P** **17 40 15.0 -0.9**
WTTA pmax pmax
comp=Z,93nm,1.3s,mb6.0
WATA Walderalm 93.28 320⇑*i*P **P** **17 40 15.2 -0.8**
comp=Z,74nm,1.4s,mb5.9
WATA Walderalm 93.28 320⇑*i*P **P** **17 40 15.2 -0.8**
WATA pmax pmax
comp=Z,74nm,1.4s,mb5.9
SQTA Sankt Quirin 93.56 320⇓*i*P **P** **17 40 16.5 -0.7**
comp=Z,58nm,1.2s,mb5.9
SQTA Sankt Quirin 93.56 320⇓*i*P **P** **17 40 16.5 -0.7**
SQTA pmax pmax
comp=Z,58nm,1.2s,mb5.9
MOTA Moosalm 93.57 320⇑*i*P **P** **17 40 16.4 -0.9**
comp=Z,60nm,1.5s,mb5.8
MOTA Moosalm 93.57 320⇑*i*P **P** **17 40 16.4 -0.9**
MOTA pmax pmax
comp=Z,60nm,1.5s,mb5.8
VNDA Vanda 93.68 172 P **P** **17 40 16.9 -0.9**
comp=Z,0.7nm,0.9s,baz=328,slow=5.5,SNR=4.0
VNDA S 17 50 48.7
comp=Z,0.3nm,0.8s,baz=269,slow=1.6,SNR=2.2
VNDA LR LR 18 20 26.7
comp=Z,2μm,21.4s,MS5.4,baz=321,slow=34
VNDA Vanda 93.68 172 P **P** **17 40 17.0 -0.8**
VNDA S SKSac 17 50 48.7 -1.8
VNDA Vanda 93.68 172 P **P** **17 40 16.9 -0.9**
VNDA S SKSac 17 50 48.7 -1.8
VNDA LR LR 18 20 26.7

CTI Castel Tesino 93.75 319 P **P** **17 40 24.5 +6.4**
CTI pmax pmax
comp=Z,19nm,0.8s,mb5.6
CTI Castel Tesino 93.75 319 P **P** **17 40 24.5 +6.4**
comp=Z,19nm,0.8s,mb5.6
AQU L'Aquila 94.03 315 P **P** **17 40 19.2 -0.2**
AQU pmax pmax
comp=Z,33nm,0.9s,mb5.8
AQU L'Aquila 94.03 315 P **P** **17 40 19.2 -0.1**
comp=Z,33nm,0.9s,mb5.8
STU Stuttgart 94.13 322 P **P** **17 40 19.2 -0.7**
STU pmax pmax
comp=Z,57nm,1.4s,mb5.8
STU Stuttgart 94.13 322 P **P** **17 40 19.2 -0.7**
comp=Z,57nm,1.4s,mb5.8
TBI Tubuai 94.26 113 *e*S S 17 51 37.2 +7.1
comp=Z,1μm,30.8s
TBI *e*SS SS 17 57 56.9 +5.6
comp=Z,942nm,34.8s
TBI *e*LQ 18 06 42.1
comp=Z,3μm,36.8s
TBI *e*LR LR 18 10 34.4
comp=Z,2μm,23.5s
DAVA Damuels 94.35 321⇑*i*P **P** **17 40 21.5 +0.6**
comp=Z,38nm,1.5s,mb5.6
BADI Badiali 94.37 317 P **P** **17 40 25.1 +4.1**
BRMO Bormio 94.39 320 P **P** **17 40 27.6 +6.6**
DAVOX Davos/Dischmat 94.57 320 LR LR 18 25 43.1
comp=Z,3μm,18.8s,MS5.8,baz=285,slow=37
SBA Scott Base 94.63 171 PFAKE 17 40 30.0 +7.8
SBA LR LR
comp=Z,938nm,21.0s,MS5.2
VAE Valguarnera 95.10 310 LR LR 18 30 41.0
comp=Z,1μm,18.4s,MS5.4,baz=239,slow=40
MEM Membach 95.15 325 P **P** **17 40 28.0 +3.5**
ERBM Eremo 95.21 318 P **P** **17 40 29.5 +4.7**
comp=Z,42nm,0.8s,mb5.9
CDF Champ du Feu 95.44 322 *e*P **P** **17 40 24.6 -1.2**
comp=Z,37nm,1.0s,mb5.5
CDF Champ du Feu 95.44 322 *e*P **P** **17 40 24.6 -1.2**
CDF pmax pmax
comp=Z,19nm,1.0s,mb5.5
CDF Champ du Feu 95.44 322 *e*P **P** **17 40 24.6 -1.2**
comp=Z,19nm,1.0s,mb5.5
WLF Walferdange 95.51 324 AP pP 17 40 34.8 -0.2
WLF Walferdange 95.51 324 *e*P **P** **17 40 27.4 +1.2**
WLF pmax pmax
comp=Z,79nm,1.6s,mb5.9
WLF Walferdange 95.51 324 *e*P **P** **17 40 27.4 +1.3**
comp=Z,80nm,1.6s,mb5.9
BCLA Clavier 95.63 325 P **P** **17 40 26.2 -0.6**
HINF Hinteralfeld 95.96 322 *e*P **P** **17 40 26.6 -1.6**
comp=Z,40nm,1.3s,mb5.4
HINF Hinteralfeld 95.96 322 *e*P **P** **17 40 26.6 -1.6**
HINF pmax pmax
comp=Z,20nm,1.3s,mb5.4
HINF Hinteralfeld 95.96 322 *e*P **P** **17 40 26.6 -1.6**
comp=Z,20nm,1.3s,mb5.4
GIVF Givet 96.06 325 *e*P **P** **17 40 27.4 -1.3**
comp=Z,109nm,1.5s,mb5.8
GIVF Givet 96.06 325 *e*P **P** **17 40 27.4 -1.3**
GIVF pmax pmax
comp=Z,55nm,1.5s,mb5.8
GIVF Givet 96.06 325 *e*P **P** **17 40 27.4 -1.3**
comp=Z,55nm,1.5s,mb5.8
DOU Dourbes 96.19 325 P **P** **17 40 32.6 +3.4**
BAIF Baives 96.42 325 *e*P **P** **17 40 29.2 -1.1**
comp=Z,65nm,1.5s,mb5.5
BAIF Baives 96.42 325 *e*P **P** **17 40 29.2 -1.1**
BAIF pmax pmax
comp=Z,32nm,1.5s,mb5.5
BAIF Baives 96.42 325 *e*P **P** **17 40 29.2 -1.1**
comp=Z,32nm,1.5s,mb5.5
MEZF Maizieres J'vi 96.70 323 *e*P **P** **17 40 30.4 -1.2**
LSZ Lusaka 96.71 256 PFAKE 17 40 40.0 +8.4
LSZ LR LR
comp=Z,1μm,19.0s,MS5.4
PGF Pioggiola 96.93 317 *e*P **P** **17 40 32.0 -0.6**
comp=Z,52nm,0.9s,mb5.7
PGF Pioggiola 96.93 317 *e*P **P** **17 40 32.0 -0.6**
PGF pmax pmax
comp=Z,26nm,0.9s,mb5.7
PGF Pioggiola 96.93 317 *e*P **P** **17 40 32.0 -0.6**
comp=Z,26nm,0.9s,mb5.7
LPG La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
comp=Z,34nm,0.9s,mb5.5
LPG La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
LPG pmax pmax
comp=Z,17nm,0.9s,mb5.5
LPG La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
comp=Z,17nm,0.9s,mb5.5
LPL La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
comp=Z,60nm,1.2s,mb5.6
LPL La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
LPL pmax pmax
comp=Z,30nm,1.2s,mb5.6
LPL La Plagne 97.09 320 *e*P **P** **17 40 32.4 -0.9**
comp=Z,30nm,1.2s,mb5.6
BORG Borgarnes 97.13 345 LR LR 18 29 10.4
comp=Z,2μm,18.2s,MS5.7,baz=226,slow=38
BORG Borgarnes 97.13 345 PFAKE 17 40 40.0 +6.5
BORG LR LR
comp=Z,824nm,20.0s,MS5.2
BNI Bardonecchia 97.33 320 *e*P **P** **17 40 36.1 +1.6**
BNI pmax pmax
comp=Z,32nm,1.4s,mb5.6
BNI Bardonecchia 97.33 320 *e*P **P** **17 40 36.0 +1.6**
comp=Z,32nm,1.4s,mb5.6
ESK Eskdalemuir 97.34 332 PFAKE 17 40 50.0 +16
ESK LR LR
comp=Z,965nm,20.0s,MS5.3
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **17 40 35.6 -1.4**
comp=Z,28nm,1.0s,mb5.5
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **17 40 35.6 -1.4**
ORIF pmax pmax
comp=Z,14nm,1.0s,mb5.5
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **17 40 35.6 -1.4**
comp=Z,14nm,1.0s,mb5.4
AVF Avril sur Loir 98.54 322 *e*P **P** **17 40 38.3 -1.6**
comp=Z,20nm,0.9s,mb5.3
AVF Avril sur Loir 98.54 322 *e*P **P** **17 40 38.3 -1.6**
AVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.3
AVF Avril sur Loir 98.54 322 *e*P **P** **17 40 38.3 -1.6**
comp=Z,10nm,0.9s,mb5.3
EDM Edmonton 98.68 30 P **P** **17 40 43.6 +3.1**
NEW Newport 99.50 35 S SKSac 17 51 25.9 +5.0
comp=Z,0.9nm,0.4s,baz=66,slow=22,SNR=1.8
NEW Newport 99.50 35 P **P** **17 40 53.1 +8.9**
NEW pmax pmax
comp=Z,15nm,1.3s
KEST Kesra 99.53 310 P **P** **17 40 47.8 +3.5**
comp=Z,1.6nm,1.1s,baz=144,slow=22,SNR=2.3
KEST LR LR 18 30 17.3
comp=Z,746nm,21.7s,MS5.2,baz=188,slow=38
SFJD Kangerlussuaq 99.56 357 S SKSac 17 51 17.9 -3.2
comp=Z,3.7nm,0.7s,baz=167,slow=17,SNR=2.4
SFJD LR LR 18 31 19.1
comp=Z,2μm,18.6s,MS5.5,baz=339,slow=39
SFJD Kangerlussuaq 99.56 357 *i*P **P** **17 40 52.8 +8.4**
comp=Z,27nm,1.4s,mb5.5
SFJD Kangerlussuaq 99.56 357 *e*S SKSac 17 51 26.0 +4.9
SFJD *e* 17 53 55.2
SFJD
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 99.56 357 *e*P **P** **17 40 52.8 +8.4**
SFJD pmax pmax
comp=Z,27nm,1.4s,mb5.5
SFJD MLR MLR
comp=Z,1μm,18.0s,MS5.4
SFJD Kangerlussuaq 99.56 357 *e*P **P** **17 40 52.8 +8.4**
comp=Z,27nm,1.4s,mb5.5
SFJD *e*S SKSac 17 51 26.0 +4.9
SFJD *e* 17 53 55.2
SFJD LR LR
comp=Z,1μm,18.0s,MS5.5
TAOE Nuku Hiva Isla 99.96 97 *e*LQ 18 09 25.7
comp=Z,7μm,27.8s
TAOE *e*LR LR 18 13 31.9
comp=Z,4μm,23.1s
LBTB Lobatse 100.95 247 PFAKE 17 41 00.0 +9.4
LBTB LR LR
comp=Z,1μm,20.0s,MS5.4
BOSA Boshof 101.84 243 PFAKE 17 41 10.0 +15
BOSA LR LR
comp=Z,976nm,19.0s,MS5.3

QSPA	**South Pole Qui**	**103.31**	**180**	PFAKE		17 41 10.0	+8.9
QSPA				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
NVAR	**Mina Array Bea**	**103.86**	**44**	Pdiff	Pdif	17 41 09.5	+5.9
comp=Z,1.5nm,1.0s,baz=268,slow=4.5,SNR=3.8							
SUR	**Sutherland**	**106.13**	**240**	PFAKE		17 45 40.0	+15
SUR				LR	LR		
comp=Z,514nm,22.0s,MS5.0							
ESDC	**Sonseca Array**	**106.85**	**319**	PP	PP	17 45 40.1	-2.6
comp=Z,1.0nm,0.7s,baz=64,slow=10,SNR=3.9							
ESLA	**Sonseca Array**	**106.85**	**319**	PFAKE		17 45 40.0	+13
ESLA				LR	LR		
comp=Z,12μm,20.0s,MS6.4							
BW06	**Boulder Array**	**107.01**	**37**	PFAKE		17 45 40.0	+13
BW06				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
PDAR	**Pinedale Array**	**107.01**	**37**	PP	PP	17 45 34.9	-9.1
comp=Z,1.2nm,1.0s,baz=316,slow=4.1,SNR=3.9							
RKT	**Rikitea**	**107.33**	**110**	*e*SP	SP	17 55 13.3	+9.0
comp=Z,636nm,29.0s							
RKT				*e*SS	SS	18 00 48.0	-5.2
comp=Z,714nm,37.8s							
RKT				*e*LR	LR	18 17 02.1	
comp=Z,1μm,24.8s							
TSUM	**Tsumeb**	**107.38**	**254**	PFAKE		17 45 40.0	+12
TSUM				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
SRU	**San Rafael**	**108.61**	**40**	P	Pdif	17 41 34.4	+10
SRU				pmax	pmax		
comp=Z,8.0nm,0.6s							
ISCO	**Idaho Springs**	**111.18**	**37**	PFAKE		17 45 50.0	+15
ISCO				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
SDCO	**Great Sand Dun**	**112.56**	**39**	PFAKE		17 45 50.0	+13
SDCO				LR	LR		
comp=Z,2μm,21.0s,MS5.6							
ECSD	**EROS,Sioux Fal**	**113.23**	**29**	*e*PKP	PKiKP	17 45 45.9	+7.2
ANMO	**Albuquerque**	**113.70**	**42**	PKiKP	PKiKP	17 45 39.9	+0.2
comp=Z,1.1nm,0.6s,baz=98,slow=7.2,SNR=1.8							
ANMO	**Albuquerque**	**113.70**	**42**	PKPdf	PKiKP	17 45 42.4	+2.8
TOA0	**Torodi Ar. Sit**	**114.87**	**291**	*e*PKPdf	PKiKP	17 45 47.4	+5.5
TOA0				*e*PP	PP	17 46 33.3	-7.3
TORD	**Torodi Ar. Bea**	**114.87**	**291**	PKP	PKiKP	17 45 41.9	0.0
comp=Z,0.3nm,0.8s,baz=58,slow=5.2,SNR=2.6							
TORD				PP	PP	17 46 34.0	-6.5
comp=Z,2.9nm,0.9s,baz=55,slow=5.7,SNR=5.2							
TORD				PKKPab	PKKPab	17 56 26.6	+2.2
comp=Z,2.1nm,1.0s,baz=287,slow=2.9,SNR=6.5							
TORD	**Torodi Ar. Bea**	**114.87**	**291**	PKP	PKiKP	17 45 41.9	0.0
TORD				PP	PP	17 46 34.0	-6.5
TORD				PKKPab	PKKPab	17 56 26.6	+2.2
MNTX	**Cornudas Mount**	**116.39**	**44**	PKPdf	PKPdf	17 45 44.9	+0.1
JFWS	**Jewell Farm**	**116.74**	**26**	*e*PKiKP	PKPdf	17 45 43.5	-2.0
WMOK	**Wichita Mounta**	**118.61**	**37**	*e*PKiKP	PKPdf	17 45 51.4	+2.3
WMOK				MLR	MLR		
comp=Z,1μm,20.0s,MS5.6							
TXAR	**Lajitas Array**	**119.00**	**45**	PKP	PKPdf	17 45 49.4	-0.4
comp=Z,2.8nm,0.8s,baz=173,slow=1.0,SNR=16							
TXAR				PP	PP	17 47 07.9	-1.4
comp=Z,1.0nm,1.0s,baz=26,slow=11,SNR=2.0							
CCM	**Cathedral Cave**	**120.20**	**30**	*e*PKiKP	PKPdf	17 45 59.3	+7.2
JCT	**Junction City**	**120.86**	**42**	*e*PKiKP	PKPdf	17 45 54.0	+0.6
WCI	**Wyandotte Cave**	**122.31**	**26**	*e*PKiKP	PKPdf	17 45 57.6	+1.4
WVT	**Waverly**	**123.36**	**28**	*e*PKiKP	PKPdf	17 45 58.6	+0.4
WVT				*e*		17 46 07.0	
HKT	**Hockley**	**123.73**	**39**	*e*PKiKP	PKPdf	17 46 00.0	+1.1
OXF	**Oxford**	**123.91**	**31**	PKiKP	PKPdf	17 46 00.0	+0.7
PLAL	**Pickwick Lake**	**124.18**	**29**	*e*PKPdf	PKPdf	17 45 59.0	-0.8
SWET	**Sewanee**	**124.99**	**28**	*e*PKPdf	PKPdf	17 46 06.3	+5.0
CPCT	**Cooper Cave**	**125.41**	**26**	*e*PKPdf	PKPdf	17 46 02.2	0.0
TKL	**Tuckaleechee C**	**125.55**	**25**	PKP	PKPdf	17 46 01.7	-0.7
comp=Z,2.0nm,0.6s,baz=18,slow=12,SNR=2.0							
SJG	**San Juan**	**147.70**	**14**	PKPab	PKPab	17 46 50.3	+2.2
comp=Z,6.6nm,0.3s,baz=278,slow=21,SNR=8.9							
SJG	**San Juan**	**147.70**	**14**	*e*PKP	PKPbc	17 46 50.9	+5.2
CPD	**Cerro la Pandu**	**147.83**	**14**	*e*PKP2	PKPab	17 46 45.2	-3.4
MTP	**Monte Pirata**	**147.85**	**13**	*e*PKPdf	PKPdf	17 46 45.6	+2.4
PLCA	**Paso Flores**	**150.82**	**161**	PKPbc	PKPbc	17 46 54.6	+1.1
comp=Z,7.5nm,1.1s,baz=235,slow=7.6,SNR=6.5							
PLCA	**Paso Flores**	**150.82**	**161**	*e*PKPbc	PKPbc	17 46 54.4	+0.8
FDF	**Fort de France**	**151.85**	**6**	*e*P	PKPbc	17 47 00.8	+4.9
BIM	**Bigot**	**152.07**	**6**	*e*P	PKPbc	17 46 59.3	+2.8
SDV	**Santo Domingo**	**154.68**	**29**	PKP	PKPdf	17 46 52.2	-1.5
comp=Z,1.5nm,0.3s							
SDV	**Santo Domingo**	**154.68**	**29**	*e*PKPdf	PKPdf	17 46 52.2	-1.4
SDV				*e*PKPbc	PKPbc	17 47 03.5	+1.3
ROSC	**El Rosal**	**155.87**	**42**	PKP	PKPdf	17 46 55.0	-0.2
comp=Z,4.8nm,0.4s,baz=105,slow=22,SNR=3.2							
NNA	**Nana**	**161.92**	**87**	*e*PKPdf	PKPdf	17 47 12.1	+10
NNA				LR	LR		
comp=Z,259nm,20.0s							
LVC	**Limon Verde**	**166.47**	**134**	*e*PKP	PKPdf	17 47 11.7	+5.2
LVC				*e*PKPab	PKPab	17 48 12.4	+4.0
LVC				LR	LR		
comp=Z,1μm,22.0s							
ARE	**Arequipa**	**166.98**	**105**	*e*PKiKP	PKPdf	17 47 15.0	+8.1
CPUP	**Villa Florida**	**167.16**	**184**	PKP	PKPdf	17 47 08.4	+1.4
comp=Z,0.3nm,0.3s,baz=236,slow=3.5,SNR=1.6							
CPUP	**Villa Florida**	**167.16**	**184**	*e*PKPdf	PKPdf	17 47 10.4	+3.5
LPAZ	**La Paz**	**170.16**	**108**	PKP	PKPdf	17 47 07.8	-1.2
comp=Z,0.5nm,0.6s,baz=59,slow=14,SNR=2.0							
LPAZ	**La Paz**	**170.16**	**108**	*e*PKPdf	PKPdf	17 47 10.3	+1.3
LPAZ				*e*PKPab	PKPab	17 48 29.0	+4.3
LPAZ				LR	LR		
comp=Z,1μm,22.0s							

STR ***20*** *18:10:44.7±0.2,4298N×050W,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *18:10:45.6±0.1,4307N×050W,h2km,Md1.7/2,Ml1.7/1, Error ellipse: s-maj=4.2km s-min=1.9km az=179.0*
MDD 20 18:10:45.7±0.5,4309N×049W,h6km±7km,mbLg1.1/5, Error ellipse: s-maj=4.1km s-min=2.0km az=7.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.07**	**104**	Pg	Pg	18 10 47.2	-0.2
REYF				Sg	Sg	18 10 49.0	+0.3
REYF	**Montagne du Re**	**0.07**	**104**	P	Pg	18 10 47.2	-0.2
REYF				S	Sg	18 10 49.0	+0.3
ATE	**Arette**	**0.15**	**269**	Pg	Pg	18 10 48.2	-0.6
ATE				Sg	Sg	18 10 50.9	0.0
ATE	**Arette**	**0.15**	**269**	P	Pg	18 10 48.2	-0.5
ATE				S	Sg	18 10 50.9	0.0
ETSF	**Etsaut**	**0.20**	**195**	*e*Pg	Pg	18 10 49.2	-0.4
ETSF				*e*Sg	Sg	18 10 52.3	+0.1
7.9nm,0.3s							
ETSF	**Etsaut**	**0.20**	**195**	Pg	Pg	18 10 49.2	-0.4
ETSF				Lg		18 10 52.3	
4.0nm,0.3s							
SJPF	**Ste Jean**	**0.54**	**273**	*e*Pg	Pg	18 10 56.2	+0.2
SJPF				*e*Sg	Sg	18 11 02.9	-0.1
3.6nm,0.3s							
SJPF	**Ste Jean**	**0.54**	**273**	Pg	Pg	18 10 56.2	+0.2
SJPF				Lg		18 11 02.9	
1.8nm,0.3s							
EPF	**Esparros**	**0.61**	**95**	*e*Pg	Pg	18 10 57.7	+0.3
EPF				*e*Sg	Sg	18 11 05.5	+0.1
1.6nm,0.2s							
EPF	**Esparros**	**0.61**	**95**	Pg	Pg	18 10 57.7	+0.3
EPF				Lg		18 11 05.5	
0.8nm,0.2s							
EBIE	**Bielsa**	**0.61**	**131**	Pg	Pg	18 10 55.8	-1.7
SNR=4.0							
EBIE				Lg		18 11 04.8	
1.7nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**0.69**	**246**	Lg		18 11 08.3	
0.6nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**0.76**	**280**	Lg		18 11 09.3	
0.6nm,0.1s,SNR=7.9							
ELIZ	**Elizondo**	**0.76**	**276**	Lg		18 11 09.9	
0.8nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.79**	**260**	Lg		18 11 10.5	
0.8nm,0.1s,SNR=4.0							
EARA	**Aranguren**	**0.86**	**249**	Lg		18 11 14.6	
2.6nm,0.2s,SNR=4.0							
ESAC	**San Caprasio**	**1.36**	**179**	Lg		18 11 31.0	
3.5nm,0.1s,SNR=4.0							
MTLF	**Montolieu**	**2.00**	**82**	*e*Sg	Sg	18 11 48.7	-1.1
0.6nm,0.2s							
MTLF	**Montolieu**	**2.00**	**82**	Lg		18 11 48.7	
0.3nm,0.2s							

BJI ***20*** *18:15:20.4,4024N×2721E,h10km,mB5.4,mb4.9,Ms5.0, Msz4.7*
SOF ***20*** *18:15:22.9,4006N×2790E,h5km,MD4.4*
ISCJB ***20*** *18:15:23.6±0.3,4024N±001×2802E±001,h4km±2km, mb4.8/99,MS4.6/12,Error ellipse: s-maj=1.8km s-min=1.3km az=43.9*
ATH ***20*** *18:15:23.9,4015N×2795E,h14km±1km,MD4.7/29,ML4.9*
CSEM ***20*** *18:15:23.4±0.0,4028N×2805E,h2km,mb4.9/29,Ms4.5, Error ellipse: s-maj=0.9km s-min=0.6km az=14.0*
IDC ***20*** *18:15:24.4±0.5,4027N×2807E,h0km,mb4.5/28, mb1 4.5/37,mb1mx4.5/40,mbtmp4.4/37,ML3.9/8,MS4.4/6, Ms1 4.4/6,ms1mx3.9/33,Error ellipse: s-maj=10.1km s-min=8.4km az=52.0*
SZGRF ***20*** *18:15:24.1,4029N×2785E,h33km,mb4.4,Turkey*
MOS ***20*** *18:15:24.4±1.0,4031N×2807E,h10km,mb5.1/38, MS4.4/8,Error ellipse: s-maj=3.5km s-min=2.3km az=123.5*
ISK ***20*** *18:15:24.4,4026N×2798E,h13km,ML5.2*
THE ***20*** *18:15:25.0,4013N×2812E,h13km,ML5.1*
PDG ***20*** *18:15:25.4±0.7,4025N×2803E,h21km±5km*
NEIC ***20*** *18:15:26.1±0.2,4024N×2806E,h10km,mb4.8/79, MS4.5/1,ML4.8(ATH),ML4.9(BUC),ML5.2(ISK),Error ellipse: s-maj=3.2km s-min=2.7km az=204.0*
NEIC Felt [III] at Buyukcekmece and Istanbul; [II] at Izmit. Felt at Balikesir, Bursa, Canakkale, Corlu, Eskisehir, Izmir, Karamursel, Kocaeli, Korfez, Silivri, Tekirdag and Yalova.
NAO ***20*** *18:16:00.7,4344N×2767E,h33km,mb4.4*
GII ***20*** *18:16:05.7±0.9,3800N×3005E,h50km*
ISC 20 18:15:25.0±0.3,4025N±001×2802E±001,h2km±2km,n763, σ1§19/830,mb4.8/99,MS4.6/12,83C-21D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.15**	**311**	*i* PG	Pg	18 15 28.2	+0.2
KCT	**Karacabey**	**0.26**	**86**	*i* PG	Pg	18 15 30.5	+0.5
MRMT	**Marmara Adasi**	**0.48**	**318**	*i* PG	Pg	18 15 33.7	-0.4
MRMT				*i* SG	Sg	18 15 40.3	0.0
BTOK	**Tokmak**	**0.49**	**178**	*i* P	Pg	18 15 34.7	+0.4
BTOK				*i* S	Sg	18 15 40.8	+0.2
CANB	**Canakkale**	**0.77**	**253**	*i* PG	Pg	18 15 38.9	-0.8
SART	**Tekirdag**	**0.77**	**305**	*i* P	Pg	18 15 39.0	-0.8
RKY	**Sarkoy-Tekirda**	**0.78**	**305**	*i* PG	Pg	18 15 39.5	-0.3
MFT	**Murefte**	**0.78**	**314**	*i* PG	Pg	18 15 38.9	-1.0
MFT				*i* SG	Sg	18 15 49.6	-0.3
ULDT	**Uludag**	**0.87**	**97**	*i* P	Pg	18 15 40.8	-0.7
GEMT	**Gemlik**	**0.92**	**78**	*i* PG	Pg	18 15 42.3	-0.3
CTT	**Catalca**	**0.95**	**19**	*i* PG	Pg	18 15 43.0	-0.2
ELBA	**Catalca**	**0.95**	**19**	*i* P	Pg	18 15 43.1	-0.1
BADT	**Buyukada**	**1.03**	**54**	*i* PG	Pg	18 15 45.0	+0.2
YLV	**Yalova**	**1.08**	**72**	*i* PN	Pn	18 15 45.7	-1.5
IZI	**Iznik**	**1.12**	**85**	*i* PN	Pn	18 15 46.3	-1.4
ISK	**Istanbul-Kandi**	**1.14**	**44**	*i* PN	Pn	18 15 46.5	-1.5
ISK	**Istanbul-Kandi**	**1.14**	**44**	*e*Pg	Pg	18 15 46.4	-0.4
ISK				*e*Sg	Sg	18 16 01.8	+0.2
KLYT	**Kilyos**	**1.27**	**38**	*i* PN	Pn	18 15 48.7	-1.0
ADVT	**Abdulvahap**	**1.33**	**81**	*i* PN	Pn	18 15 49.6	-1.0
GEDT	**Gedikpinar**	**1.34**	**101**	PN	Pn	18 15 50.4	-0.3
EZN	**Ezine**	**1.36**	**253**	PN	Pn	18 15 50.2	-0.8
HRT	**Hereke**	**1.38**	**65**	PN	Pn	18 15 49.7	-1.6
AYVA	**Ayvalik**	**1.39**	**228**	*i* P	Pn	18 15 50.2	-1.2
AYVA				*i* S	Sg	18 16 09.7	+0.2
GDZ	**Gediz**	**1.62**	**135**	*i* P	Pn	18 15 54.5	-0.1
GDZ				*i* S	Sn	18 16 16.2	+0.2
ALN	**Alexandroupoli**	**1.63**	**294**	*e*Pb	Pn	18 15 53.7	-1.0
ALN				*e*Sb	Sn	18 16 16.9	+0.5
EYL	**Eskiyayla**	**1.67**	**78**	PN	Pn	18 15 54.5	-0.7
PRK	**Paraskevi**	**1.68**	**234**	⇑*i*PB	Pn	18 15 53.8	-1.5
PRK				*e*SB	Sn	18 16 15.4	-2.0
PRK	**Paraskevi**	**1.68**	**234**	⇑*i*Pb	Pn	18 15 54.0	-1.3
PRK				*e*Sb	Sn	18 16 15.4	-2.0
GPA	**Golpazari**	**1.76**	**88**	PN	Pn	18 15 56.0	-0.4
EDRB	**Edirne**	**1.86**	**329**	PN	Pn	18 15 56.9	-1.0
BORA	**Eskisehir**	**1.91**	**100**	*i* P	Pn	18 15 57.6	-0.9
BORA				*i* S	Sg	18 16 26.1	-0.2
KDAG	**Bornova**	**1.93**	**198**	*i* P	Pn	18 15 57.4	-1.5
IZM	**Izmir**	**1.94**	**198**	PN	Pn	18 15 57.6	-1.4
RDO	**Rodhopi**	**2.09**	**296**	⇓*i*PN	Pn	18 16 00.5	-0.5
RDO				*e*SN	Sn	18 16 27.6	+0.1
URLA	**Izmir**	**2.18**	**211**	*i* P	Pn	18 16 00.4	-1.9
URLA				*i* S	Sg	18 16 36.4	+1.3
LIA	**Limnos Island**	**2.20**	**262**	*e*PN	Pn	18 16 01.6	-1.0
LIA				*e*SN	Sn	18 16 29.0	-1.4
HENT	**Hendek**	**2.27**	**74**	*i* P	Pn	18 16 03.0	-0.6
LOS	**Limnos**	**2.27**	**263**	*e*Pn	Pn	18 16 02.6	-1.0
ESKT	**Eskisehir**	**2.30**	**108**	PN	Pn	18 16 03.9	0.0
ESKT	**Eskisehir**	**2.30**	**108**	*i* P	Pn	18 16 04.1	+0.1
SEYT	**Eskypehyr**	**2.30**	**108**	*i* P	Pn	18 16 04.1	+0.2
CHOS	**Chios island**	**2.40**	**220**	*e*Pn	Pn	18 16 03.2	-2.1
CHOS				*e*Sn	Sn	18 16 31.3	-4.0
KDZ	**Kurdzhali**	**2.42**	**306**	*i* P	Pn	18 16 05.3	-0.2
KDZ				*i* S	Sg	18 16 41.0	-1.5
KDZ	**Kurdzhali**	**2.42**	**306**	P	Pn	18 16 04.2	-1.3
JMB	**Yambol**	**2.46**	**335**	*i* P	Pn	18 16 08.4	+2.2
JMB	**Yambol**	**2.46**	**335**	P	Pn	18 16 06.2	0.0
AYDN	**Tasoluk**	**2.58**	**182**	*i* P	Pn	18 16 06.3	-1.5
DIM	**Dimitrovgrad**	**2.60**	**315**	*i* P	Pn	18 16 07.8	-0.2
DIM	**Dimitrovgrad**	**2.60**	**315**	P	Pn	18 16 06.9	-1.1
DENT	**Denizli**	**2.61**	**162**	PN	Pn	18 16 07.7	-0.6
DNZL	**Cakiroluk**	**2.68**	**162**	*i* P	Pb	18 16 15.2	+1.6
SMG	**Samos**	**2.70**	**200**	*e*PB	Pn	18 16 07.5	-1.9
SMG				*e*SN	Sn	18 16 39.5	-3.1
KDZE	**Karadeniz Ereo**	**2.81**	**67**	PN	Pn	18 16 10.5	-0.5
TKTP	**Tekketepe**	**2.84**	**140**	*i* P	Pn	18 16 11.2	-0.2
RZN	**Rozhen**	**2.88**	**301**	*i* P	Pn	18 16 12.0	+0.1
RZN				S	Sg	18 16 55.6	-2.0
RZN	**Rozhen**	**2.88**	**301**	P	Pn	18 16 10.5	-1.4
MLSB	**Milas**	**2.95**	**184**	PN	Pn	18 16 12.4	-0.5
PRD	**Provadia**	**2.98**	**351**	*i* P	Pn	18 16 14.3	+0.9
OUR	**Ouranopolis**	**3.09**	**273**	*e*Pn	Pn	18 16 13.1	-1.6
ISP	**Isparta**	**3.09**	**140**	PN	Pn	18 16 14.4	-0.3
ISP	**Isparta**	**3.09**	**140**	*d i* P	Pn	18 16 14.8	0.0
ISP	**Isparta**	**3.09**	**140**	*i* P	Pn	18 16 14.9	+0.1
SGKT	**Sivrigoynuk**	**3.10**	**83**	*i* P	Pn	18 16 15.1	+0.1
PLD	**Plovdiv**	**3.11**	**308**	*i* P	Pn	18 16 14.5	-0.6
PLD	**Plovdiv**	**3.11**	**308**	P	Pn	18 16 14.1	-1.0
BDRM	**Kayabasi**	**3.21**	**188**	*i* P	Pn	18 16 14.0	-2.5
BODT	**Bodrum**	**3.23**	**190**	PN	Pn	18 16 16.3	-0.4
GOLH	**Golhisar**	**3.24**	**158**	*i* P	Pn	18 16 17.8	+0.9
GOLH				*i* S	Sg	18 17 12.8	+3.7
NVR	**Nevrokopi**	**3.34**	**291**	*e*PN	Pn	18 16 17.9	-0.3
NVR				*e*SN	Sn	18 16 57.5	-1.0
NVR	**Nevrokopi**	**3.34**	**291**	*e*Pn	Pn	18 16 17.5	-0.7
NVR				*e*Sn	Sn	18 16 57.5	-1.0
AOS	**Alonnisos**	**3.37**	**253**	*e*Pn	Pn	18 16 17.5	-1.0
SZH	**Strazhica**	**3.39**	**333**	*i* P	Pn	18 16 21.1	+2.1
BCK	**Bucak**	**3.43**	**143**	PN	Pn	18 16 19.7	+0.2
PSN	**Preselentsi**	**3.43**	**2**	P	Pn	18 16 18.7	-0.8
PLG	**Polygyros**	**3.50**	**274**	*e*PN	Pn	18 16 19.3	-1.1
PLG	**Polygyros**	**3.50**	**274**	*e*Pn	Pn	18 16 19.1	-1.3
DALT	**Dalyan (Mudla)**	**3.51**	**172**	PN	Pn	18 16 21.0	+0.4
MMB	**Musomiste**	**3.51**	**294**	*i* P	Pn	18 16 19.9	-0.7
MMB				S	Sb	18 17 12.5	+1.5
MMB	**Musomiste**	**3.51**	**294**	P	Pn	18 16 19.5	-1.1
DAT	**Datca**	**3.53**	**186**	PN	Pn	18 16 20.4	-0.4
PVL	**Pavlikeni**	**3.58**	**327**	*i* P	Pn	18 16 22.2	+0.7
SOH	**Sokhos**	**3.60**	**281**	*e*Pn	Pn	18 16 20.7	-1.1
SOH				*e*Sn	Sn	18 17 04.8	-0.1
SOH	**Sokhos**	**3.60**	**281**	P	Pn	18 16 20.6	-1.2
KDHN	**Kadinhani**	**3.62**	**117**	*i* P	Pn	18 16 21.6	-0.4
SAFT	**Safranbolu**	**3.69**	**73**	PN	Pn	18 16 23.1	+0.1
ANTO	**Ankara**	**3.69**	**94**	PN	Pn	18 16 23.2	+0.2
ANTO	**Ankara**	**3.69**	**94**	P	Pn	18 16 22.8	-0.2
SNR=165							
ANTO	**Ankara**	**3.69**	**94**	⇓*i*P	Pn	18 16 22.7	-0.3
ANTO	**Ankara**	**3.69**	**94**	*e*P	Pn	18 16 22.4	-0.6
ANTO				*e*Pg	Pg	18 16 32.4	-3.2
ANTO	**Ankara**	**3.69**	**94**	*e*Pg	Pg	18 16 32.4	-3.2
PGB	**Panagyurishte**	**3.70**	**310**	*i* P	Pn	18 16 22.9	-0.2
APE	**Apeiranthos**	**3.72**	**212**	*e*PN	Pn	18 16 22.1	-1.4
APE	**Apeiranthos**	**3.72**	**212**	*e*Pn	Pn	18 16 22.0	-1.5
HORT	**Hortiatis**	**3.77**	**277**	*e*Pn	Pn	18 16 23.4	-0.7
HORT				*e*Sn	Sn	18 17 09.4	+0.3
ELL	**Elmali**	**3.80**	**156**	PN	Pn	18 16 25.0	+0.5
NEO	**Neokhori**	**3.81**	**257**	*e*Pn	Pn	18 16 23.8	-0.9
NEO	**Neokhori**	**3.81**	**257**	*e*Pn	Pn	18 16 23.5	-1.2
XOR	**Xorichti**	**3.82**	**258**	*e*Pn	Pn	18 16 23.5	-1.3
THE	**Thessaloniki**	**3.87**	**277**	*e*Pn	Pn	18 16 24.5	-1.1
THE				*e*Sn	Sn	18 17 12.0	+0.3
PTL	**Penteli**	**3.90**	**237**	*e*PN	Pn	18 16 24.8	-1.2
PTL	**Penteli**	**3.90**	**237**	*e*Pn	Pn	18 16 25.0	-1.0
ANTB	**Antalya**	**3.93**	**147**	PN	Pn	18 16 27.0	+0.6
ZIMR		**3.94**	**331**	⇓*i*P	Pn	18 16 26.4	-0.1
ZIMR		**3.94**	**331**	P	Pn	18 16 26.3	-0.1
KNT	**Kendrikon**	**4.00**	**285**	*e*Pn	Pn	18 16 26.8	-0.4
KNT				*e*Sn	Sn	18 17 14.3	-0.3
ARG	**Arkhangelos**	**4.03**	**179**	*e*PN	Pn	18 16 27.1	-0.6
ARG	**Arkhangelos**	**4.03**	**179**	*e*Pn	Pn	18 16 27.5	-0.2
ATH	**Athens Observa**	**4.04**	**237**	*e*PN	Pn	18 16 26.9	-1.0
KKB	**Krupnik**	**4.06**	**295**	*i* P	Pn	18 16 29.3	+1.1
KONT	**Konya--Tatoy**	**4.09**	**123**	PN	Pn	18 16 29.4	+0.9
KVR	**Kavouri**	**4.09**	**235**	*e*PN	Pn	18 16 27.5	-1.1
ELDT	**Eldivan**	**4.14**	**85**	*i* P	Pn	18 16 29.2	-0.1
LKR	**Lokris**	**4.20**	**249**	*e*PN	Pn	18 16 29.0	-1.0
AKAS	**Kas**	**4.20**	**162**	*i* P	Pn	18 16 30.0	-0.1
TIRR	**Tirgusor**	**4.22**	**4**	⇓*i*P	Pn	18 16 30.0	-0.3
TIRR	**Tirgusor**	**4.22**	**4**	P	Pn	18 16 29.8	-0.5
TIRR	**Tirgusor**	**4.22**	**4**	*e*Pn	Pn	18 16 29.3	-1.0
TIRR	**Tirgusor**	**4.22**	**4**	*e*Pn	Pn	18 16 29.3	-1.0
LIT	**Litokhoron**	**4.24**	**270**	*e*Pn	Pn	18 16 29.4	-1.2
LIT				*e*Sn	Sn	18 17 20.2	-0.3
LIT	**Litokhoron**	**4.24**	**270**	P	Pn	18 16 31.1	+0.6
LIT				*e*Sn	Sn	18 17 20.2	-0.4
BALT	**Daday**	**4.27**	**71**	*i* P	Pn	18 16 30.9	-0.1
VAY	**Valandovo**	**4.27**	**286**	*i* P	Pn	18 16 30.2	-0.8
VAY				*i* S	Sg	18 17 43.8	+1.6
VAY	**Valandovo**	**4.27**	**286**	P	Pn	18 16 30.4	-0.6
KSL	**Kastellorizon**	**4.27**	**163**	*e*PN	Pn	18 16 30.9	-0.2
KSL	**Kastellorizon**	**4.27**	**163**	*e*Pn	Pn	18 16 31.0	-0.1
CANT	**Cankiri**	**4.29**	**83**	PN	Pn	18 16 31.8	+0.5
VTS	**Vitosha**	**4.31**	**305**	S	Sb	18 17 31.4	-2.4
VTS				*i* P		18 16 31.8	
VTS	**Vitosha**	**4.31**	**305**	⇑*i*P	Pn	18 16 30.9	-0.6
VTS	**Vitosha**	**4.31**	**305**	P	Pn	18 16 31.4	-0.1
VTS	**Vitosha**	**4.31**	**305**	*i* P	Pn	18 16 31.8	+0.3
NAIG	**Nisos Aigina**	**4.31**	**236**	*e*PN	Pn	18 16 30.5	-1.1
NAIG	**Nisos Aigina**	**4.31**	**236**	*e*Pn	Pn	18 16 30.0	-1.6
GRG	**Griva**	**4.33**	**281**	*e*Pn	Pn	18 16 31.1	-0.8
GRG				*e*Sn	Sn	18 17 23.1	+0.2
GRG	**Griva**	**4.33**	**281**	*e*Pn	Pn	18 16 31.1	-0.8
GRG				*e*Sn	Sn	18 17 23.1	+0.2
BR131	**Keskin Array S**	**4.35**	**95**	*e*Pn	Pn	18 16 31.6	-0.5
BR131				*e*Pg	Pg	18 16 46.9	-1.5
BR131				*e*Sg	Sg	18 17 47.4	+2.6
BR131	**Keskin Array S**	**4.35**	**95**	*e*Pn	Pn	18 16 31.6	-0.5
BR131	**Keskin Array S**	**4.35

GVD Gavdhos 6.24 211 *e*Pn **Pn 18 16 59.0 +1.0**
ALFC Alevga 6.25 143 P **Pn 18 16 55.8 -2.4**
comp=E,4.8nm,0.6s
KARA Karaisali 6.26 116 *e*PN **Pn 18 16 59.7 +1.4**
KEK Kerkira 6.33 268 *e*PN **Pn 18 17 00.0 +0.6**
BCI Bajram Curri 6.35 292 *i* Pn **Pn 18 16 59.0 -0.6**
PPCY Paphos 6.36 146 P **Pn 18 17 00.9 +1.1**
PUK Puka 6.39 289 *i* Pn **Pn 18 17 02.8 +2.7**
GZR Gura Zlata 6.42 325⇑ *i*P **Pn 18 16 59.9 -0.7**
GZR Gura Zlata 6.42 325 P **Pn 18 17 00.0 -0.6**
GZR Gura Zlata 6.42 325 P **Pn 18 17 00.0 -0.6**
SVIS Svilajnac 6.46 311 *i* Pn **Pn 18 16 59.9 -1.3**
SVIS Svilajnac 6.46 311 Pn **Pn 18 16 59.8 -1.3**
ALU Alushta 6.48 45 *e*P **Pn 18 17 00.5 -0.8**
ALU *i* S **Sn 18 18 11.1 -4.7**
ALU pmax pmax
comp=Z,510nm,0.8s
ALU smax
comp=N,340nm,0.5s
ALU Alushta 6.48 45 *e*P **Pn 18 17 00.5 -0.8**
comp=N,510nm,0.8s
PVY Plav 6.48 294⇑ *i*Pn **Pn 18 17 01.9 +0.5**
PVY *e*Sn **Sn 18 18 13.7 -2.3**
PVY Plav 6.48 294⇑ *i*Pn **Pn 18 17 02.0 +0.6**
PVY *e*Sn **Sn 18 18 13.6 -2.4**
SIM Simferopol' 6.51 42*c i*P **Pn 18 17 01.5 -0.2**
SIM S **Sn 18 18 11.0 -5.5**
SIM pmax pmax
comp=Z,251nm,0.8s
SIM MLR MLR
comp=Z,3μm,16.0s
SIM Simferopol' 6.51 42 *i* P **Pn 18 17 01.5 -0.2**
comp=Z,251nm,0.8s
MAMC Mammari 6.53 139 P **Pn 18 17 02.0 -0.1**
GRUS Gruza 6.54 306 *i* Pn **Pn 18 17 01.1 -1.1**
GRUS Gruza 6.54 306 Pn **Pn 18 17 01.0 -1.2**
IVA Berane 6.63 296⇑ *i*Pn **Pn 18 17 03.9 +0.5**
IVA *e*Sn **Sn 18 18 17.1 -2.4**
IVA Berane 6.63 296⇑ *i*Pn **Pn 18 17 03.9 +0.5**
IVA *e*Sn **Sn 18 18 17.1 -2.4**
KOZT Kozan 6.69 112 *e*PN **Pn 18 17 05.5 +1.2**
SZAC Souni-Zanaja 6.71 143 P **Pn 18 17 05.8 +1.3**
comp=Z,4.2nm,0.6s
CSS Prodhromos 6.75 140 P **Pn 18 17 05.2 0.0**
comp=Z,2.8nm,0.7s
KIS Kishinev 6.77 5*c i*P **Pn 18 17 04.0 -1.4**
KIS *i* S **Sn 18 18 22.0 -1.1**
KIS pmax pmax
comp=N,1μm,2.0s
KIS pmax pmax
comp=Z,800nm,2.0s
KIS Kishinev 6.77 5⇑ *i*P **Pn 18 17 04.0 -1.4**
comp=Z,800nm,2.0s
KIS *i* S **Sn 18 18 22.0 -1.1**
ULC Ulcinj 6.84 287⇑ *i*Pn **Pn 18 17 07.4 +1.1**
ULC *e*Sn **Sn 18 18 21.8 -3.0**
KRTS Karatas 6.84 120 *e*PN **Pn 18 17 08.0 +1.6**
CEYT Ceyhan 6.86 116 *e*PN **Pn 18 17 08.4 +1.7**
SVSK Karacayir 6.90 90 *e*PN **Pn 18 17 08.3 +1.2**
SUDU Sudak 6.94 46⇑ *i*P **Pn 18 17 06.5 -1.1**
SUDU *i* S **Sn 18 18 21.0 -6.1**
SUDU smax
comp=E,480nm,0.5s
TTG Podgorica 6.94 291⇑ *i*Pn **Pn 18 17 08.3 +0.6**
TTG *e*Sn **Sn 18 18 25.1 -2.1**
DIVS Divcibare 7.09 305 *i* Pn **Pn 18 17 08.8 -1.0**
BZS Buzias 7.13 321⇑ *i*P **Pn 18 17 09.1 -1.2**
BZS Buzias 7.13 321 P **Pn 18 17 09.5 -0.8**
PLE Pljevlja 7.14 298⇑ *i*Pn **Pn 18 17 10.8 +0.3**
PLE *e*Sn **Sn 18 18 29.4 -2.8**
BUM Brajici-Budva 7.17 290⇑ *i*Pn **Pn 18 17 11.0 +0.2**
BUM *e*Sn **Sn 18 18 30.2 -2.6**
FEO Feodosiya 7.23 46 *e*P **Pn 18 17 12.8 +1.1**
FEO *e*S **Sn 18 18 25.5 -8.9**
FEO pmax pmax
comp=N,500nm,0.5s
FEO smax
comp=N,120nm,0.7s
FEO Feodosiya 7.23 46 *e*P **Pn 18 17 12.8 +1.1**
comp=N,500nm,0.5s
NKY Niksic 7.23 294⇓ *i*Pn **Pn 18 17 12.8 +1.1**
NKY *e*Sn **Sn 18 18 31.6 -2.8**
NKY Niksic 7.23 294⇓ *i*Pn **Pn 18 17 12.8 +1.1**
NKY *e*Sn **Sn 18 18 31.6 -2.9**
UPM Unac-Piva 7.42 296⇑ *i*Pn **Pn 18 17 14.9 +0.6**
UPM *e*Sn **Sn 18 18 36.4 -2.7**
HCY Herceg Novi 7.49 290⇑ *i*Pn **Pn 18 17 16.6 +1.3**
HCY *e*Sn **Sn 18 18 38.0 -2.8**
HCY Herceg Novi 7.49 290 *e*Sn **Sn 18 18 38.0 -2.8**
LCI Lecce 7.57 274 P **Pn 18 17 19.9 +3.5**
BRY Bratogost 7.58 294⇑ *i*Pn **Pn 18 17 17.0 +0.6**
BRY *e*Sn **Sn 18 18 39.8 -3.2**
DRGR 7.59 331⇑ *i*P **Pn 18 17 16.9 +0.3**
DRGR 7.59 331 P **Pn 18 17 16.2 -0.4**
BURAR Bucovina Array 7.64 346⇑ *i*P **Pn 18 17 18.5 +1.2**
BURAR Bucovina Array 7.64 346 P **Pn 18 17 18.2 +0.9**
KERU Kerch 8.01 48⇓ *i*P **Pn 18 17 28.2 +5.8**
KERU *e*S **Sn 18 19 01.1 +7.6**
KERU pmax pmax
comp=Z,520nm,0.9s
MYA Malataya 8.30 100 *e*PN **Pn 18 17 26.7 +0.3**
ANN Anapa 8.31 54 *e*P **Pn 18 17 24.3 -2.2**
ANN *e*S **Sn 18 18 52.2 -8.7**
ANN pmax pmax
comp=Z,95nm,0.8s
ELZG Elazig 8.68 98 *i* P **Pn 18 17 31.0 -0.5**
HWQ Hawqa 8.69 131 *e*Pn **Pn 18 17 32.3 +0.6**
TIP Timpagrande 8.74 267 *e*P **Pn 18 17 31.4 -1.1**
TIP P 18 17 36.1
TIP P 18 17 36.2
TIP Timpagrande 8.74 267 P **Pn 18 17 36.1 +3.7**
BHL Bhannes 8.79 134 *e*Pn **Pn 18 17 35.6 +2.5**
PKS6 Bocsa 8.83 319⇑ *e*P **Pn 18 17 33.5 -0.2**
PKSM Moragy 9.07 314⇓ *i*P **Pn 18 17 35.9 -1.0**
PKSM Moragy 9.07 314 P **Pn 18 17 36.3 -0.6**
PKSM Moragy 9.07 314 P **Pn 18 17 36.3 -0.6**
RHK3 Tenkes 9.10 311⇑ *i*P **Pn 18 17 36.4 -0.9**
HNTI Hanita 9.17 139 Pn **Pn 18 17 38.2 -0.1**
RCY Rachaya 9.20 135 *e*Pn **Pn 18 17 39.5 +0.8**
FGMS Monte Sant'Ang 9.24 283 P **Pn 18 17 38.0 -1.3**
UZH Uzhgorod 9.32 336 *e*P **Pn 18 17 41.0 +0.6**
UZH *e*S **Sn 18 19 30.0 +4.1**
UZH MLR MLR
comp=Z,4μm,8.0s
UZH Uzhgorod 9.32 336 *e*P **Pn 18 17 41.0 +0.6**
comp=Z,4μm,8.0s
KSDI Kefar Szold 9.34 137 Pn **Pn 18 17 40.9 +0.3**
KSDI Kefar Szold 9.34 137 Pn **Pn 18 17 41.0 +0.4**
MMA0 Mount Meron ar 9.34 138 Pn **Pn 18 17 40.5 -0.2**
PKS7 Kunszentmiklos 9.34 320⇓ *e*P **Pn 18 17 37.6 -3.1**
CUC Castrocucco 9.35 272 P **Pn 18 17 41.9 +1.1**
OFRI 'Ofer 9.46 141 Pn **Pn 18 17 41.5 -0.7**
SLCN Sala Consilina 9.46 275 P **Pn 18 17 42.6 +0.3**
comp=Z,245nm,0.8s
RGNG Rignano Grg 9.51 283 P **Pn 18 17 43.6 +0.6**
FG4 Candela 9.54 279 P **Pn 18 17 43.1 -0.2**
MRLC Muro Lucano 9.56 277 P **Pn 18 17 45.0 +1.4**
KSHT Keshet 9.58 137 Pn **Pn 18 17 45.0 +1.1**
KOLS Kolonicke sedl 9.60 337 *e*Pn **Pn 18 17 45.8 +1.6**
KOLS *e*Sg Sn 18 20 28.8 +56
PSZ Piszkesteto 9.63 325 *e* **Pn 18 17 48.7 +4.0**
PSZ Piszkesteto 9.63 325 *e*P **Pn 18 17 43.5 -1.1**
comp=Z,34nm,0.8s
PSZ *e*P 18 17 48.7
PSZ Piszkesteto 9.63 325 P **Pn 18 17 45.2 +0.5**
GLH Golan-Tel Qazi 9.71 138 Pn **Pn 18 17 46.0 +0.3**
SLTI Sal'it 9.80 142 Pn **Pn 18 17 46.4 -0.4**
MMLI Mount Malkishu 9.82 140 Pn **Pn 18 17 47.0 -0.1**
CRVS Cervenica-Dubn 9.83 334 *e*Pn **Pn 18 17 48.1 +0.8**
CRVS *e*Sg Sn 18 20 48.0 +70
KECS Kecovo 9.84 329 *e*PN **Pn 18 17 47.4 0.0**
PKSG 9.96 319 *e*P **Pn 18 17 53.8 +4.7**
LVV L'vov 9.97 345 *e*P **Pn 18 17 50.4 +1.1**
LVV *e*S **Sn 18 19 45.9 +4.0**
LVV MLR MLR
comp=Z,3μm,14.0s
LVV MLR MLR
comp=N,3μm,13.0s
LVV MLR MLR
comp=E,2μm,14.0s
LVV L'vov 9.97 345 *e*P **Pn 18 17 50.4 +1.1**
comp=E,3μm,14.0s

HMDT Nahal Hemdat 10.02 140 Pn **Pn 18 17 49.7 -0.2**
PSB1 Pescosannita 10.07 280 P **Pn 18 17 54.3 +3.7**
STHS Stebnicka Huta 10.35 335 *e*PN **Pn 18 17 55.5 +1.1**
SGG Gregorio Mates 10.40 281 P **Pn 18 17 54.7 -0.5**
comp=E,145nm,0.7s
AKASG Malin Array Be 10.49 4 Pn **Pn 18 17 53.6 -2.7**
comp=E,6.6nm,0.3s,baz=186,slow=12,SNR=21
AKASG Sn **Sn 18 19 50.1 -4.4**
comp=E,3.5nm,0.3s,baz=192,slow=24,SNR=3.3
AKASG Malin Array Be 10.49 4 *i* P **Pn 18 17 53.7 -2.7**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKBB Malin Array Si 10.49 4 *e*P **Pn 18 17 52.9 -3.5**
DRGI Dragot 10.50 143 Pn **Pn 18 17 56.2 -0.3**
MIDA Miranda 10.51 282 P **Pn 18 17 58.5 +1.9**
DSI Dead Sea 10.51 143 Pn **Pn 18 17 56.6 -0.1**
VYHS Vyhne 10.53 325 *e*PN **Pn 18 17 56.4 -0.6**
KOGS Kog 10.57 310 P **Pn 18 17 58.9 +1.5**
NVLJ Novalja 10.63 298 *i* P **Pn 18 18 02.1 +3.8**
RTMI Retamim 10.66 147 Pn **Pn 18 17 58.7 0.0**
KZIT Kziot 10.67 149 Pn **Pn 18 17 59.0 +0.1**
NIE Niedzica 10.67 332 *e*P **Pn 18 18 01.0 +2.2**
MZDA Masada 10.73 144 Pn **Pn 18 17 59.2 -0.4**
MZDA Masada 10.73 144 Pn **Pn 18 17 59.4 -0.3**
BOJS Bojanci 10.73 303 *e*P **Pn 18 18 00.4 +0.7**
SVTA Shivta 10.74 148 Pn **Pn 18 18 00.0 +0.3**
CRES Cresnjev 10.74 305 P **Pn 18 18 02.0 +2.1**
MASH Mash'abbe Sade 10.75 147 Pn **Pn 18 17 59.9 0.0**
ASF Jabal al Asfar 10.78 136 Pn **Pn 18 18 00.8 +0.4**
comp=Z,0.4nm,0.3s,baz=268,slow=5.6,SNR=4.5
VAE Valguarnera 10.96 260 Pn **Pn 18 18 02.6 -0.3**
comp=Z,0.9nm,0.3s,baz=121,slow=8.0,SNR=2.2
VAE LR LR 18 22 13.1
comp=Z,2μm,19.0s,baz=238,slow=37
VVLD Villa Vallelon 10.99 283 P **Pn 18 18 05.1 +1.9**
TERO Teramo 11.08 287 P **Pn 18 18 09.2 +4.8**
VISS Visnje 11.12 304 *i* P **Pn 18 18 05.6 +0.6**
ZST Bratislava 11.15 319 *e*P **Pn 18 18 03.9 -1.5**
ZST MLR MLR
comp=Z,2μm,18.4s
AQU L'Aquila 11.19 286 *e*P **Pn 18 18 06.1 +0.1**
AQU pmax pmax
comp=Z,68nm,1.0s
AQU L'Aquila 11.19 286 *e*P **Pn 18 18 06.0 0.0**
comp=Z,68nm,1.0s
AQU L'Aquila 11.19 286 *e*P **Pn 18 18 06.1 +0.1**
comp=Z,68nm,1.0s
AOI Ancona 11.24 292 P **Pn 18 18 13.2 +6.6**
ZFRI Zfri 11.29 147 Pn **Pn 18 18 07.4 0.0**
PERS Pernice 11.34 309 *e*P **Pn 18 18 10.7 +2.7**
PRNI Paran 11.40 148 Pn **Pn 18 18 09.1 +0.2**
ARSA Arzberg 11.42 312⇑ *i*P **Pn 18 18 08.4 -0.7**
comp=Z,116nm,1.7s
CING Cingoli 11.49 291 P **Pn 18 18 11.6 +1.5**
KIV Kislovodsk 11.51 66 *e*P **Pn 18 18 09.6 -0.8**
KIV pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 11.51 66 *e*P **Pn 18 18 09.0 -1.3**
comp=Z,32nm,0.7s
KIV Kislovodsk 11.51 66 *e*P **Pn 18 18 09.6 -0.8**
comp=Z,10.0nm,0.7s
OJC Ojcow 11.52 333 *e*P **Pn 18 18 12.2 +1.7**
OJC *e*PP 18 18 18.7
CONA Conrad Observa 11.62 315⇑ *i*Pn **Pn 18 18 10.9 -1.0**
comp=Z,40nm,1.0s
HRFI Mount Harif 11.69 148 Pn **Pn 18 18 13.4 +0.6**
VOY Vojsko 11.82 304 *e*P **Pn 18 18 15.2 +0.6**
ASS Assisi 11.83 289 P **Pn 18 18 17.7 +2.9**
OKC Ostrava-Krasne 11.85 327 *e*P **Pn 18 18 17.3 +2.3**
FSSB Fossombrone 11.85 292 P **Pn 18 18 16.8 +1.8**
MURB Monte Urbino 11.96 290 P **Pn 18 18 18.2 +1.8**
EIL Elat 11.98 150 Pn **Pn 18 18 15.1 -1.7**
EIL Elat 11.98 150 *e*P **Pn 18 18 14.7 -2.1**
comp=Z,98nm,0.4s
MORC Moravsky Berou 12.06 326 *e*P **Pn 18 18 12.7 -5.1**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 12.06 326 *e*P **Pn 18 18 12.7 -5.1**
comp=Z,7.8nm,0.8s
VRAC Vranov 12.15 322 Pn **Pn 18 18 18.7 -0.4**
comp=Z,0.2nm,0.3s,baz=161,slow=12,SNR=5.8
VRAC Vranov 12.15 322⇑ *i*P **Pn 18 18 18.6 -0.5**
VRAC Vranov 12.15 322⇑⇑ P **Pn 18 18 18.6 -0.4**
ROBS Robic 12.15 304 *i* P **Pn 18 18 19.5 +0.4**
ZEI Tsey 12.17 73 *e*P **Pn 18 18 21.7 +2.3**
CDCA Citt' di Caste 12.20 290 P **Pn 18 18 21.7 +2.0**
PTCC Patocco-Chiusa 12.31 305 P **Pn 18 18 23.3 +1.9**
CRE Caprese Michel 12.43 291 P **Pn 18 18 26.0 +3.1**
MOA Molln 12.46 312⇑ *i*P **Pn 18 18 22.4 -0.9**
comp=Z,194nm,2.8s
MSL Mosul 12.49 104 *ex* x 18 18 28.0
MSL *ex* x 18 21 08.0
SFI Santa Sofia 12.55 292 P **Pn 18 18 26.3 +1.7**
KBA Koelnbreinsper 12.62 308⇑ *i*P **Pn 18 18 26.0 +0.5**
comp=Z,124nm,3.1s
KBA Koelnbreinsper 12.62 308⇑ *i*P **Pn 18 18 26.0 +0.5**
KBA pmax pmax
comp=Z,124nm,3.1s
TREC Trest 12.68 320 *e*P **Pn 18 18 27.4 +1.1**
VMG Vicchio 12.78 292 P **Pn 18 18 30.5 +2.8**
GNI Garni 12.79 85 Pn **Pn 18 18 28.3 +0.4**
comp=Z,0.2nm,0.3s,baz=31,slow=2.4,SNR=12
GNI LR LR 18 23 31.6
comp=Z,1μm,20.5s,baz=107,slow=38
GNI Garni 12.79 85 P **Pn 18 18 32.3 +4.4**
SNR=7.5
GNI Garni 12.79 85*d i*P **Pn 18 18 28.3 +0.4**
GNI pmax pmax
comp=Z,74nm,1.4s
GNI Garni 12.79 85 *e*P **Pn 18 18 30.4 +2.5**
comp=Z,111nm,1.4s
GNI Garni 12.79 85 *i* P **Pn 18 18 28.3 +0.4**
comp=Z,74nm,1.4s
DPC Dobruska-Polom 13.01 325 *e*P **Pn 18 18 30.2 -0.7**
FNVD Fontana Vidola 13.12 293 P **Pn 18 18 33.4 +1.1**
UPC Upice 13.26 325 *e*P **Pn 18 18 34.8 +0.5**
CTI Castel Tesino 13.27 301 P **Pn 18 18 32.5 -1.9**
GEC2 GERESS Array S 13.33 315 *e*P **Pn 18 18 34.3 -0.9**
comp=Z,24nm,1.2s
GEC2 GERESS Array S 13.33 315 *e*P **Pn 18 18 34.3 -0.9**
GEC2 pmax pmax
comp=Z,24nm,1.2s
GERES GERESS Array B 13.33 315 Pn **Pn 18 18 33.7 -1.4**
comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=24
KSP Ksiaz 13.39 326 *e*P **Pn 18 18 36.3 +0.3**
VRSR Storozhevoye 13.44 32 *e*P **Pn 18 18 34.4 -2.4**
VRSR pmax pmax
comp=Z,50nm,0.7s
VRSR pmax pmax
comp=N,180nm,0.8s
VRSR pmax pmax
comp=E,180nm,0.8s
KHC Kasperske Hory 13.56 316 *e*P **Pn 18 18 38.1 -0.2**
PRU Pruhonice 13.59 320 *e*P **Pn 18 18 37.8 -1.0**
PRU *ex* x 18 22 44.2
PVCC Panska Ves 13.94 322 *e*P **Pn 18 18 43.0 -0.5**
WET Wettzell 13.94 315 *e*P **Pn 18 18 43.9 +0.3**
comp=Z,25nm,1.4s
WET Wettzell 13.94 315 *e*P **Pn 18 18 43.9 +0.3**
WET pmax pmax
comp=Z,25nm,1.4s
MOTA Moosalm 14.11 306⇓ *i*P **Pn 18 18 46.6 +0.7**
comp=Z,12nm,1.0s
MOTA Moosalm 14.11 306⇓ *i*P **Pn 18 18 46.6 +0.8**
MOTA pmax pmax
comp=Z,12nm,1.0s
SUW Suwalki 14.15 348 *e*P **Pn 18 18 45.4 -1.0**
VRHR Novokhopersk 14.40 37 *e*P **Pn 18 18 48.4 -1.5**
VRHR pmax pmax
comp=Z,60nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.0s
VRHR Novokhopersk 14.40 37 *e*P **Pn 18 18 48.4 -1.5**
comp=E,20nm,0.6s
PGF Pioggiola 14.46 285 *e*P **Pn 18 18 51.9 +1.3**
comp=E,107nm,1.1s
PGF Pioggiola 14.46 285 *e*P **Pn 18 18 51.9 +1.3**
PGF pmax pmax
comp=Z,54nm,1.1s
PGF Pioggiola 14.46 285 *e*P **Pn 18 18 51.9 +1.3**
comp=Z,54nm,1.1s
BRG Berggiesshubel 14.47 322 *e*P **Pn 18 18 54.7 +4.0**

comp=Z,8.7nm,1.6s
BRG Berggiesshubel 14.47 322 *e*P **Pn 18 18 54.7 +4.0**
BRG pmax pmax
comp=Z,3.0nm,1.6s
ROTZ Rotzenmuhle 14.66 316 *e*P **Pn 18 18 51.4 -1.9**
comp=Z,30nm,2.1s
DAVOX Davos/Dischmat 14.67 302 Pn **Pn 18 18 54.1 +0.6**
baz=153,slow=17,SNR=3.4
MANZ Manzenberg 14.83 316 *e*P **Pn 18 18 54.9 -0.8**
comp=Z,5.0nm,1.1s
TANN Tannenbergstha 14.90 318 *e*P **Pn 18 18 56.0 -0.7**
comp=Z,27nm,1.4s
GRA1 Grafenberg Arr 15.15 314 *e*P **Pn 18 18 59.3 -0.7**
comp=Z,14nm,0.7s
GRF Grafenberg Arr 15.15 314 *e*P **Pn 18 18 59.3 -0.7**
comp=Z,14nm,0.7s
GRF Grafenberg Arr 15.15 314 *e*P **Pn 18 18 59.3 -0.7**
GRF pmax pmax
comp=Z,14nm,0.7s
CLL Collm 15.20 322 *e*P **Pn 18 19 04.0 +3.3**
CLL pmax pmax
comp=Z,29nm,1.4s
CLL MLR MLR
comp=Z,5μm,18.5s
CLL Collm 15.20 322 *e*P **Pn 18 19 04.0 +3.3**
comp=Z,29nm,1.4s
CLL Collm 15.20 322 *e*P **Pn 18 19 00.0 -0.7**
CLL *e*pP pP 18 19 04.0 -2.3
comp=Z,29nm,1.4s
CLL *e*(PPP) 18 19 20.0
CLL LmV 18 28 00.0
comp=Z,5μm,18.5s
KEST Kesra 15.39 259 Pn **Pn 18 19 04.7 +1.5**
comp=Z,0.1nm,0.3s,baz=13,slow=7.2,SNR=10
MOX Moxa 15.47 318 *e*P **Pn 18 19 03.3 -1.0**
comp=Z,54nm,1.8s
MOX Moxa 15.47 318 *e*P **Pn 18 19 04.1 -0.2**
MOX pmax pmax
comp=Z,49nm,1.7s
MOX Moxa 15.47 318 *e*P **Pn 18 19 04.1 -0.2**
comp=Z,49nm,1.7s
SAOF Saorge 15.63 291 *e*P **Pn 18 19 11.7 +5.4**
SBF Sospel 15.70 290 *e*P **Pn 18 19 08.2 +0.9**
comp=Z,307nm,1.0s
SBF Sospel 15.70 290 *e*P **Pn 18 19 08.2 +0.9**
SBF pmax pmax
comp=Z,153nm,1.0s
SBF Sospel 15.70 290 *e*P **Pn 18 19 08.2 +0.9**
comp=Z,153nm,1.0s
AUTN L'Aution 15.72 291 *e*P **Pn 18 19 10.7 +3.2**
TOUF Mont Tournerai 15.85 291 *e*P **Pn 18 19 11.2 +2.0**
STU Stuttgart 15.87 309 *e*P **Pn 18 19 07.4 -2.0**
comp=Z,44nm,1.5s
OBN Obninsk 15.93 18⇓ *e*P **Pn 18 19 06.9 -3.3**
OBN *i* S **Sn 18 22 10.4 +3.0**
OBN pmax pmax
comp=Z,191nm,1.6s
OBN MLR MLR
comp=Z,2μm,19.0s
OBN Obninsk 15.93 18 *e*P **Pn 18 19 05.8 -4.5**
comp=Z,168nm,1.2s
RSP Reno Superiore 16.02 295 P **Pn 18 19 14.1 +2.8**
OG22 Abries 16.18 293 *e*P **Pn 18 19 19.2 +5.8**
BFO Black Forest 16.21 306 *e*P **Pn 18 19 14.6 +0.7**
comp=Z,65nm,1.6s
BFO Black Forest 16.21 306 *e*P **Pn 18 19 14.6 +0.7**
BFO pmax pmax
comp=Z,65nm,1.6s
FRF La Foret Royal 16.24 289 *e*P **Pn 18 19 14.7 +0.4**
comp=Z,157nm,1.1s
FRF La Foret Royal 16.24 289 *e*P **Pn 18 19 14.7 +0.4**
FRF pmax pmax
comp=Z,78nm,1.1s
FRF La Foret Royal 16.24 289 *e*P **Pn 18 19 14.7 +0.4**
comp=Z,78nm,1.1s
FELD Feldberg im Sc 16.25 305⇑ *e*P **Pn 18 19 16.9 +2.5**
MBDF Montbardon 16.29 293 *e*P **Pn 18 19 15.2 +0.4**
comp=Z,337nm,1.1s
MBDF Montbardon 16.29 293 *e*P **Pn 18 19 15.2 +0.4**
MBDF pmax pmax
comp=Z,169nm,1.1s
MBDF Montbardon 16.29 293 *e*P **Pn 18 19 15.2 +0.4**
comp=Z,169nm,1.1s
BNI Bardonecchia 16.40 294 *e*P **Pn 18 19 17.3 +1.0**
BNI pmax pmax
comp=Z,123nm,1.3s
BNI Bardonecchia 16.40 294 *e*P **Pn 18 19 17.3 +1.0**
comp=Z,123nm,1.3s
BNI Bardonecchia 16.40 294 *e*P **Pn 18 19 17.3 +1.0**
comp=Z,123nm,1.3s
UBBA Unterbreizbach 16.42 316 *e*P **Pn 18 19 16.6 +0.1**
comp=Z,24nm,1.7s
BBS Basel-Blauen 16.43 303 *e*P **Pn 18 19 19.5 +2.9**
LPG La Plagne 16.43 296 *e*P **Pn 18 19 17.4 +0.7**
comp=Z,123nm,1.2s
LPG La Plagne 16.43 296 *e*P **Pn 18 19 17.4 +0.7**
LPG pmax pmax
comp=Z,62nm,1.2s
LPG La Plagne 16.43 296 *e*P **Pn 18 19 17.4 +0.7**
comp=Z,62nm,1.2s
LPL La Plagne 16.45 296 *e*P **Pn 18 19 18.0 +1.1**
comp=Z,121nm,1.1s
LPL La Plagne 16.45 296 *e*P **Pn 18 19 18.0 +1.1**
LPL pmax pmax
comp=Z,60nm,1.1s
LPL La Plagne 16.45 296 *e*P **Pn 18 19 18.0 +1.1**
comp=Z,60nm,1.1s
TOD Tromm 16.47 311 *e*P **Pn 18 19 18.5 +1.3**
RSL Roselend 16.55 296 *e*P **Pn 18 19 19.6 +1.3**
OG01 Vacheresse 16.66 298 *e*P **Pn 18 19 20.1 +0.6**
LANF Langenberg 16.79 308 *e*P **Pn 18 19 23.9 +2.7**
CLZ Clausthal 16.81 319 *e*P **Pn 18 19 23.6 +2.1**
comp=Z,58nm,1.7s
CLZ Clausthal 16.81 319 *e*P **Pn 18 19 23.6 +2.1**
CLZ pmax pmax
comp=Z,58nm,1.7s
GDM Grand'Maison 16.82 294 *e*P **Pn 18 19 23.2 +1.6**
LOMF Lomont 16.83 302 *e*P **Pn 18 19 21.9 +0.1**
WLS Welschbruch 16.85 306 *e*P **Pn 18 19 25.4 +3.4**
CDF Champ du Feu 16.90 306 *e*P **Pn 18 19 24.0 +1.4**
comp=Z,140nm,1.1s
CDF Champ du Feu 16.90 306 *e*P **Pn 18 19 24.0 +1.4**
CDF pmax pmax
comp=Z,70nm,1.1s
CDF Champ du Feu 16.90 306 *e*P **Pn 18 19 24.0 +1.4**
comp=Z,70nm,1.1s
ECH Echery 16.90 305 *e*P **Pn 18 19 26.0 +3.4**
ORIF Oris-en-Rattie 16.94 293 *e*P **Pn 18 19 23.0 -0.1**
comp=Z,52nm,0.9s
ORIF Oris-en-Rattie 16.94 293 *e*P **Pn 18 19 23.0 -0.1**
ORIF pmax pmax
comp=Z,26nm,0.9s
ORIF Oris-en-Rattie 16.94 293 *e*P **Pn 18 19 23.0 -0.1**
comp=Z,26nm,0.9s
HINF Hinteralfeld 16.96 303 *e*P **Pn 18 19 24.9 +1.5**
comp=Z,47nm,1.2s
HINF Hinteralfeld 16.96 303 *e*P **Pn 18 19 24.9 +1.5**
HINF pmax pmax
comp=Z,24nm,1.2s
HINF Hinteralfeld 16.96 303 *e*P **Pn 18 19 24.9 +1.5**
comp=Z,24nm,1.2s
TNS Taunus Mts 16.96 312 *e*P **Pn 18 19 22.9 -0.5**
comp=Z,29nm,1.0s
TNS Taunus Mts 16.96 312 *e*P **Pn 18 19 22.9 -0.5**
TNS pmax pmax
comp=Z,29nm,1.0s
SMRF Simiane la Rot 17.05 290 *e*P **Pn 18 19 24.6 +0.1**
comp=Z,108nm,1.3s
SMRF Simiane la Rot 17.05 290 *e*P **Pn 18 19 24.6 +0.1**
comp=Z,54nm,1.3s
GRN Grenoble 17.08 294 *e*P **Pn 18 19 25.9 +1.0**
CABF La Chapelle 17.12 299⇑ *i*P **Pn 18 19 24.7 -0.7**
comp=Z,36nm,0.8s
CABF La Chapelle 17.12 299⇑ *i*P **Pn 18 19 24.7 -0.7**
CABF pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 17.12 299⇑ *i*P **Pn 18 19 24.7 -0.7**
comp=Z,18nm,0.8s
BSD Bornholm Skovb 17.25 334 *i* P **Pn 18 19 23.1 -3.9**
comp=Z,34nm,1.3s
BSD Bornholm Skovb 17.25 334 *e*P **Pn 18 19 23.1 -3.9**
BSD pmax pmax
comp=Z,34nm,1.3s
BSD Bornholm Skovb 17.25 334 *e*P **Pn 18 19 23.1 -3.9**
comp=Z,34nm,1.3s
NRDL Niedersach Rie 17.34 321 *e*P **Pn 18 19 27.0 -1.1**

comp=Z,37nm,1.8s
HAU Haudompre 17.34 304 *e*P Pn 18 19 29.1 +0.9
comp=Z,42nm,1.0s
HAU Haudompre 17.34 304 *e*P Pn 18 19 29.1 +0.9
HAU pmax pmax
comp=Z,21nm,1.0s
HAU Haudompre 17.34 304 *e*P Pn 18 19 29.1 +0.9
comp=Z,21nm,1.0s
THEF They Montfort 17.64 304 *e*P Pn 18 19 34.5 +2.6
VIVF Saint-Julien-l 17.78 293 *e*P Pn 18 19 34.0 +0.3
comp=Z,38nm,1.0s
VIVF Saint-Julien-l 17.78 293 *e*P Pn 18 19 34.0 +0.3
VIVF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 17.78 293 *e*P Pn 18 19 34.0 +0.3
comp=Z,19nm,1.0s
WLF Walferdange 18.05 309 P Pn 18 19 37.4 +0.4
BSEG Bad Segeberg 18.17 325 *e*P Pn 18 19 38.6 +0.2
comp=Z,38nm,1.2s
BSEG Bad Segeberg 18.17 325 *e*P Pn 18 19 38.6 +0.2
BSEG pmax pmax
comp=Z,38nm,1.2s
VSU Vasula 18.25 358 *e*P Pn 18 19 35.4 -4.0
LASF Ste Croix 18.29 290 *e*P Pn 18 19 41.8 +1.9
comp=Z,131nm,1.3s
LASF Ste Croix 18.29 290 *e*P Pn 18 19 41.8 +1.9
comp=Z,65nm,1.3s
MEZF Maizieres J'vi 18.32 304 *e*P Pn 18 19 40.9 +0.6
MEM Membach 18.53 311 P Pn 18 19 44.5 +1.6
HGN Heimansgroeve 18.64 312 *e*P Pn 18 19 42.1 -2.0
comp=Z,51nm,2.1s
SMF Signal de Mont 18.64 298⇑ *i*P Pn 18 19 44.4 +0.2
comp=Z,132nm,1.4s
SMF Signal de Mont 18.64 298⇑ *i*P Pn 18 19 44.4 +0.2
SMF pmax pmax
comp=Z,66nm,1.4s
SMF Signal de Mont 18.64 298⇑ *i*P Pn 18 19 44.4 +0.2
comp=Z,66nm,1.4s
PLDF La Plantade 18.67 296 *e*P Pn 18 19 45.1 +0.5
WTSB Winterswijk 18.73 316 *e*P Pn 18 19 45.0 -0.3
comp=Z,42nm,1.5s
LOR Lormes 18.76 300⇑ *i*P Pn 18 19 45.6 0.0
comp=Z,196nm,1.5s
LOR Lormes 18.76 300⇑ *i*P Pn 18 19 45.6 0.0
LOR pmax pmax
comp=Z,98nm,1.5s
LOR Lormes 18.76 300⇑ *i*P Pn 18 19 45.6 0.0
comp=Z,98nm,1.5s
BEBN Eben Emael 18.80 312 E 18 19 49.8
LBL Lubilhac 18.83 293 *e*P Pn 18 19 47.6 +1.1
BCLA Clavier 18.86 310 E 18 19 50.6
MIB Mutribah 18.91 117 *e*P Pn 18 19 47.4 0.0
MIB AMb AMB 18 19 48.5
comp=Z,374nm,0.8s
SSF Saint Saulge 18.95 299⇑ *i*P Pn 18 19 47.8 -0.1
comp=Z,34nm,0.8s
SSF Saint Saulge 18.95 299⇑ *i*P Pn 18 19 47.8 -0.1
SSF pmax pmax
comp=Z,17nm,0.8s
SSF Saint Saulge 18.95 299⇑ *i*P Pn 18 19 47.8 -0.1
comp=Z,17nm,0.8s
AVF Avril sur Loir 19.00 298⇑ *i*P Pn 18 19 48.3 -0.2
comp=Z,52nm,1.0s
AVF Avril sur Loir 19.00 298⇑ *i*P Pn 18 19 48.3 -0.2
AVF pmax pmax
comp=Z,26nm,1.0s
AVF Avril sur Loir 19.00 298⇑ *i*P Pn 18 19 48.3 -0.2
comp=Z,26nm,1.0s
GIVF Givet 19.02 309 *e*P Pn 18 19 49.0 +0.3
AGO Saint Agoulin 19.02 296 *e*P Pn 18 19 48.4 -0.4
DOU Dourbes 19.15 309 P Pn 18 19 49.4 -1.0
NAY Al-Naaiem 19.20 119 *e*P Pn 18 19 49.7 -1.2
NAY AMb AMB 18 19 52.5
comp=Z,56nm,0.9s
PECR Pechory 19.23 28 *i*P Pn 18 19 48.6 -2.7
PECR pmax pmax
comp=Z,350nm,2.0s
PECR pmax pmax
comp=Z,400nm,2.0s
PECR Pechory 19.23 28 *i*P Pn 18 19 48.6 -2.7
comp=Z,400nm,2.0s
BGF Bois d'Agland 19.30 297 *e*P Pn 18 19 52.0 -0.1
comp=Z,64nm,0.8s
BGF Bois d'Agland 19.30 297 *e*P Pn 18 19 52.0 -0.1
BGF pmax pmax
comp=Z,32nm,0.8s
BGF Bois d'Agland 19.30 297 *e*P Pn 18 19 52.0 -0.1
comp=Z,32nm,0.8s
UMR Umm Al-Rimmam 19.32 117 *e*P Pn 18 19 51.3 -1.1
UMR AMb AMB 18 19 54.2
comp=Z,387nm,1.0s
FRNF Fournols 19.33 294 *e*P Pn 18 19 53.4 +0.9
BAIF Baives 19.37 308⇑ *i*P Pn 18 19 51.9 -1.1
comp=Z,29nm,1.0s
BAIF Baives 19.37 308⇑ *i*P Pn 18 19 51.9 -1.1
BAIF pmax pmax
comp=Z,14nm,1.0s
BAIF Baives 19.37 308⇑ *i*P Pn 18 19 51.9 -1.1
comp=Z,14nm,1.0s
MTLF Montolieu 19.46 288 *e*P Pn 18 19 53.0 -1.0
comp=Z,164nm,1.2s
MTLF Montolieu 19.46 288 *e*P Pn 18 19 53.0 -1.0
MTLF pmax pmax
comp=Z,82nm,1.2s
MTLF Montolieu 19.46 288 *e*P Pn 18 19 53.0 -1.0
comp=Z,82nm,1.2s
SNF Seneffe 19.49 310 P Pn 18 19 53.3 -1.2
HYF Humbligny 19.57 299⇑ *i*P Pn 18 19 55.9 +0.5
PUL Pulkovo 19.59 3 *e*P Pn 18 19 53.1 -2.6
RDF Al-Radifah 19.61 119 *e*P Pn 18 19 55.3 -0.6
RDF AMb AMB 18 19 59.9
comp=Z,80nm,0.9s
CAF Calviac 19.64 292⇑ *i*P Pn 18 19 56.4 +0.2
comp=Z,97nm,1.2s
CAF Calviac 19.64 292⇑ *i*P Pn 18 19 56.4 +0.2
CAF pmax pmax
comp=Z,49nm,1.2s
CAF Calviac 19.64 292⇑ *i*P Pn 18 19 56.4 +0.2
comp=Z,49nm,1.2s
TCF Toulx Ste Croi 19.69 296⇑ *i*P Pn 18 19 56.9 +0.1
comp=Z,104nm,1.1s
TCF Toulx Ste Croi 19.69 296⇑ *i*P Pn 18 19 56.9 +0.1
TCF pmax pmax
comp=Z,52nm,1.1s
TCF Toulx Ste Croi 19.69 296⇑ *i*P Pn 18 19 56.9 +0.1
comp=Z,52nm,1.1s
QRN Al-Qurain 19.97 119 *e*P Pn 18 19 58.7 -1.5
QRN AMb AMB 18 20 02.9
comp=Z,73nm,0.8s
EMIR Miracle 20.01 283 P P 18 20 03.0 +4.0
comp=Z,62nm,1.1s
RJF Les Rejaudoux 20.05 293 *e*P P 18 20 01.6 +2.2
comp=Z,333nm,1.6s
RJF Les Rejaudoux 20.05 293 *e*P P 18 20 01.6 +2.2
RJF pmax pmax
comp=Z,167nm,1.6s
RJF Les Rejaudoux 20.05 293 *e*P P 18 20 01.6 +2.2
comp=Z,167nm,1.6s
MUD Monsted U'grnd 20.38 329 *i*P P 18 20 08.2 +5.3
comp=Z,25nm,1.1s
MUD Monsted U'grnd 20.38 329 *e*P P 18 20 08.2 +5.3
MUD pmax pmax
comp=Z,25nm,1.1s
MUD Monsted U'grnd 20.38 329 *e*P P 18 20 08.2 +5.3
comp=Z,25nm,1.1s
EPOB Poblet 20.40 282 P P 18 20 06.1 +2.9
comp=Z,53nm,1.2s
EPOB Poblet 20.40 282 P P 18 20 06.1 +2.9
comp=Z,53nm,1.2s
EIBI Ibiza 20.55 275 P P 18 20 07.1 +2.2
comp=Z,117nm,1.2s
LFF La Frestale 20.57 292 *e*P P 18 20 05.5 +0.4
comp=Z,153nm,1.1s
LFF La Frestale 20.57 292 *e*P P 18 20 05.5 +0.4
LFF pmax pmax
comp=Z,76nm,1.1s
LFF La Frestale 20.57 292 *e*P P 18 20 05.5 +0.4
comp=Z,76nm,1.1s
EPF Esparros 20.83 287⇑ *i*P P 18 20 09.0 +1.1
comp=Z,35nm,1.1s
EPF Esparros 20.83 287⇑ *i*P P 18 20 09.0 +1.1
EPF pmax pmax
comp=Z,18nm,1.1s
EPF Esparros 20.83 287⇑ *i*P P 18 20 09.0 +1.1
comp=Z,18nm,1.1s
RESF Ens 20.84 286 *e*P P 18 20 09.6 +1.6

EBIE Bielsa 20.99 286 P P 18 20 11.8 +2.2
comp=Z,27nm,0.9s
EBIE Bielsa 20.99 286 P P 18 20 11.8 +2.2
comp=Z,27nm,0.9s
ERTA Horta de San J 21.00 281 P P 18 20 11.8 +2.1
comp=Z,51nm,1.1s,mb4.8
ERTA Horta de San J 21.00 281 P P 18 20 11.8 +2.1
comp=Z,51nm,1.1s,mb4.8
VIEF Viey 21.07 286 *e*P P 18 20 11.6 +1.1
FINES FINESS Array B 21.26 357 P P 18 20 11.2 -1.3
comp=Z,14nm,0.6s,mb4.5,baz=161,slow=7.8,SNR=65
FINES FINESS Array B 21.26 357 *i*P P 18 20 11.3 -1.2
FINES pmax pmax
comp=Z,14nm,0.6s
FINES FINESS Array B 21.26 357 *i*P P 18 20 11.3 -1.2
comp=Z,14nm,0.6s,mb4.5
FIA1 FINESS Array S 21.26 357 *e*P P 18 20 11.2 -1.3
FIA1 FINESS Array S 21.26 357 *e*P P 18 20 11.2 -1.3
MFF Saint Martin d 21.35 297⇑ *i*P P 18 20 13.8 +0.4
comp=Z,164nm,1.2s,mb4.9
MFF Saint Martin d 21.35 297⇑ *i*P P 18 20 13.8 +0.4
MFF pmax pmax
comp=Z,82nm,1.2s,mb4.9
MFF Saint Martin d 21.35 297⇑ *i*P P 18 20 13.8 +0.4
comp=Z,82nm,1.2s,mb4.9
ETSF Etsaut 21.50 286 *e*P P 18 20 15.8 +0.7
comp=Z,87nm,1.1s,mb4.7
ETSF Etsaut 21.50 286 *e*P P 18 20 15.8 +0.7
ETSF pmax pmax
comp=Z,44nm,1.1s,mb4.7
ETSF Etsaut 21.50 286 *e*P P 18 20 15.8 +0.7
comp=Z,44nm,1.1s,mb4.7
ESAC San Caprasio 21.52 283 P P 18 20 18.4 +3.2
comp=Z,62nm,0.8s,mb5.1
ESAC San Caprasio 21.52 283 P P 18 20 18.4 +3.1
comp=Z,62nm,0.8s,mb5.1
LDF La Druitiere 21.66 302 *e*P P 18 20 15.5 -1.3
comp=Z,289nm,1.3s,mb5.3
LDF La Druitiere 21.66 302 *e*P P 18 20 15.5 -1.3
LDF pmax pmax
comp=Z,144nm,1.3s,mb5.2
LDF La Druitiere 21.66 302 *e*P P 18 20 15.5 -1.3
comp=Z,144nm,1.3s,mb5.3
ORR Orenburg 21.67 49 *e*P P 18 20 16.8 -0.1
ORR pmax pmax
comp=Z,270nm,1.0s,mb5.6
ORR Orenburg 21.67 49 *e*P P 18 20 16.8 -0.1
comp=Z,270nm,1.0s,mb5.6
EMOS Mosqueruela 21.69 280 P P 18 20 18.7 +1.5
comp=Z,76nm,1.2s,mb5.0
EMOS Mosqueruela 21.69 280 P P 18 20 18.7 +1.6
comp=Z,76nm,1.2s,mb5.0
HFS Hagfors 21.82 341 P P 18 20 17.3 -1.2
comp=Z,46nm,0.8s,mb5.0,baz=146,slow=11,SNR=37
KAF Kangasniemi 21.92 358 *e*p P 18 20 17.8 -1.8
comp=Z,25nm,0.6s,mb4.8,baz=173,slow=11
KAF Kangasniemi 21.92 358 *e*P P 18 20 17.8 -1.8
KAF pmax pmax
comp=Z,25nm,0.6s,mb4.8
FLN La Foliniere 21.93 302⇑ *i*P P 18 20 19.0 -0.7
comp=Z,64nm,1.0s,mb4.7
FLN La Foliniere 21.93 302⇑ *i*P P 18 20 19.0 -0.7
FLN pmax pmax
comp=Z,32nm,1.0s,mb4.7
FLN La Foliniere 21.93 302⇑ *i*P P 18 20 19.0 -0.7
comp=Z,32nm,1.0s,mb4.7
SJPF Ste Jean 21.98 287 *e*P P 18 20 20.8 +0.6
comp=Z,96nm,1.2s,mb4.8
SJPF Ste Jean 21.98 287 *e*P P 18 20 20.8 +0.6
SJPF pmax pmax
comp=Z,48nm,1.2s,mb4.8
SJPF Ste Jean 21.98 287 *e*P P 18 20 20.8 +0.6
comp=Z,48nm,1.2s,mb4.8
GRR Gorron 22.10 301 *e*P P 18 20 21.0 -0.5
comp=Z,190nm,1.1s,mb5.1
GRR Gorron 22.10 301 *e*P P 18 20 21.0 -0.5
GRR pmax pmax
comp=Z,95nm,1.1s,mb5.1
GRR Gorron 22.10 301 *e*P P 18 20 21.0 -0.5
comp=Z,95nm,1.1s,mb5.1
EALK Alkurruntz 22.18 287 P P 18 20 23.0 +0.7
comp=Z,72nm,1.5s,mb4.9
EALK Alkurruntz 22.18 287 P P 18 20 23.0 +0.7
comp=Z,72nm,1.5s,mb4.9
ELIZ Elizondo 22.20 287 P P 18 20 25.3 +2.8
ELIZ pmax pmax
comp=Z,35nm,1.2s,mb4.7
ELIZ Elizondo 22.20 287 P P 18 20 25.3 +2.8
comp=Z,35nm,1.2s,mb4.7
ELIZ Elizondo 22.20 287 P P 18 20 25.3 +2.8
comp=Z,35nm,1.2s,mb4.7
KONO Kongsberg 22.60 335 *e*P P 18 20 25.3 -1.6
JOF Joensuu 22.79 4 *e*p P 18 20 26.2 -2.7
comp=Z,40nm,0.8s,mb4.9
JOF Joensuu 22.79 4 *e*P P 18 20 26.2 -2.7
JOF pmax pmax
comp=Z,40nm,0.8s,mb4.9
ETOR Torete 22.81 281 P P 18 20 31.0 +1.9
ETOR pmax pmax
comp=Z,22nm,1.5s,mb4.4
ETOR Torete 22.81 281 P P 18 20 31.0 +1.9
comp=Z,22nm,1.5s,mb4.4
ETOR Torete 22.81 281 P P 18 20 31.0 +1.9
comp=Z,22nm,1.5s,mb4.4
ETOB Tobarra 22.84 276 P P 18 20 32.9 +3.5
comp=Z,70nm,1.7s,mb4.8
NAO01 NORSAR Array S 23.18 339 *e*P P 18 20 30.1 -2.8
comp=Z,46nm,0.9s,mb4.9
SGMF Saint Gilles 23.20 300⇑ *i*P P 18 20 31.8 -1.4
comp=Z,101nm,1.1s,mb4.9
SGMF Saint Gilles 23.20 300⇑ *i*P P 18 20 31.8 -1.4
SGMF pmax pmax
comp=Z,51nm,1.1s,mb4.9
SGMF Saint Gilles 23.20 300⇑ *i*P P 18 20 31.8 -1.4
comp=Z,50nm,1.1s,mb4.9
NB2 NORSAR Subarra 23.25 339 P P 18 20 32.3 -1.4
comp=Z,18nm,0.7s,mb4.6,baz=143,slow=11
NB2 NORSAR Subarra 23.25 339 P P 18 20 32.3 -1.4
NB2 pmax pmax
comp=Z,18nm,0.7s,mb4.6
NOA NORSAR Array B 23.25 339 P P 18 20 32.4 -1.3
comp=Z,18nm,1.0s,mb4.5,baz=143,slow=11,SNR=14
AKTK Aktyubinsk 23.27 54 P P 18 20 32.5 -1.5
AKTK Aktyubinsk 23.27 54 P P 18 20 32.5 -1.4
AKTO Aktyubinsk 23.27 54 P P 18 20 32.5 -1.5
comp=Z,26nm,1.1s,mb4.6,baz=251,slow=12,SNR=31
QUIF Quistinic 23.55 299⇑ *i*P P 18 20 35.6 -1.3
EVIA Vianos 23.57 276 P P 18 20 38.3 +1.2
EVIA pmax pmax
comp=Z,16nm,0.8s,mb4.5
EVIA Vianos 23.57 276 P P 18 20 38.3 +1.3
comp=Z,16nm,0.8s,mb4.5
EVIA Vianos 23.57 276 P P 18 20 38.3 +1.2
comp=Z,16nm,0.8s,mb4.5
ROSF Rostrenen 23.68 300⇑ *i*P P 18 20 36.6 -1.5
comp=Z,148nm,1.3s,mb5.0
ROSF Rostrenen 23.68 300⇑ *i*P P 18 20 36.6 -1.5
ROSF pmax pmax
comp=Z,74nm,1.3s,mb5.0
ROSF Rostrenen 23.68 300⇑ *i*P P 18 20 36.6 -1.5
comp=Z,74nm,1.3s,mb5.0
EHUE Huescar 23.84 274 P P 18 20 40.6 +1.0
EQES Quesada 24.21 274 P P 18 20 45.5 +2.6
comp=Z,45nm,1.1s,mb4.8
AB31 Akbulak array 24.25 58 *i*P P 18 20 44.3 +1.0
AB31 pmax pmax
comp=Z,112nm,1.4s,mb5.1
AB31 Akbulak array 24.25 58 *i*P P 18 20 44.4 +1.1
AB31 Akbulak array 24.25 58 *i*P P 18 20 44.3 +1.0
comp=Z,112nm,1.4s,mb5.1
EBER Berja 24.33 272 P P 18 20 47.1 +3.0
comp=Z,161nm,2.0s,mb5.1
GUD Guadarrama 24.42 281 P P 18 20 43.7 -1.1
GUD pmax pmax
comp=Z,15nm,0.9s,mb4.4
GUD Guadarrama 24.42 281 P P 18 20 43.6 -1.2
comp=Z,15nm,0.9s,mb4.4
GUD Guadarrama 24.42 281 P P 18 20 43.7 -1.1
comp=Z,15nm,0.9s,mb4.4
ESDC Sonseca Array 24.45 279 P P 18 20 45.3 +0.1
comp=Z,5.0nm,0.7s,mb4.1,baz=72,slow=9.8,SNR=14
ESDC Sonseca Array 24.45 279 P P 18 20 46.1 +0.9
comp=Z,21nm,1.1s,mb4.5
ESDC Sonseca Array 24.45 279 P P 18 20 46.1 +0.9
comp=Z,21nm,1.1s,mb4.5
ESLA Sonseca Array 24.45 279 *e*P P 18 20 45.6 +0.5
comp=Z,7.9nm,1.1s,mb4.1

ESLA Sonseca Array 24.45 279 *e*P P 18 20 45.6 +0.4
comp=Z,7.9nm,1.1s,mb4.1
ELUQ Luque 25.19 274 P P 18 20 51.4 -0.5
ELUQ pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
ELUQ Luque 25.19 274 P P 18 20 51.4 -0.5
comp=Z,7.7nm,0.8s,mb4.3
ELUQ Luque 25.19 274 P P 18 20 51.4 -0.5
comp=Z,7.7nm,0.8s,mb4.3
EADA Adamuz 25.27 276 P P 18 20 52.6 0.0
comp=Z,64nm,1.8s,mb4.8
EADA Adamuz 25.27 276 P P 18 20 52.6 0.0
comp=Z,64nm,1.8s,mb4.8
EKA Eskdalemuir Ar 25.53 317 P P 18 20 54.2 -0.7
comp=Z,4.0nm,0.6s,mb4.1,baz=118,slow=10,SNR=22
ARU Arti 25.67 41⇓ *i*P P 18 20 56.2 0.0
ARU *e*PPP 18 21 38.2
ARU *e*S **S 18 25 26.6 +1.1**
ARU *e*SS 18 26 18.6
ARU *e*SSS 18 26 37.6
ARU pmax pmax
comp=Z,50nm,1.1s,mb5.0
ARU Arti 25.67 41 *e*P P 18 20 55.3 -0.9
comp=Z,44nm,0.9s,mb5.0
ARU Arti 25.67 41 *i*P P 18 20 56.2 0.0
comp=Z,50nm,1.1s,mb5.0
EMIJ Mijas 25.87 272 P P 18 21 00.3 +2.3
comp=Z,31nm,1.0s,mb4.8
EMIJ Mijas 25.87 272 P P 18 21 00.3 +2.2
comp=Z,31nm,1.0s,mb4.8
EJIF Jimena Fronter 26.44 273 P P 18 21 03.7 +0.5
DLF Lyons Farm 26.73 311 *e*P P 18 21 14.0 +8.2
MTE Manteigas 27.00 282 *e*P P 18 21 13.4 +5.1
MTE *i*LQ 18 23 07.7
MTE *e*LR LR 18 27 49.2
comp=Z,2μm,18.0s
MDT Midelt 27.14 265 P P 18 21 10.9 +1.4
comp=Z,6.4nm,0.8s,mb4.2,baz=76,slow=11,SNR=9.4
DCN Croghan 27.17 311 *e*P P 18 21 13.0 +3.2
PVIS Viseu 27.20 283 *e*P P 18 21 12.9 +2.8
ZFT Errachidia 27.28 263 *i*P P 18 21 12.5 +1.7
MIF Mishlifen 27.36 266 *i*P P 18 21 14.5 +3.0
PESTR Estremoz 27.38 279 *e*P P 18 21 12.3 +0.7
PESTR *e*LQ 18 25 14.1
PESTR *e*LR LR 18 28 25.4
comp=Z,2μm,20.2s
APA Apatity 27.54 4⇓ *e*P P 18 21 15.2 +2.1
APA *i* 18 21 18.0
APA MLR MLR
comp=Z,2μm,15.0s,MS4.8
KIB El Ksiba 28.33 265 *i*P P 18 21 21.0 +0.9
PMAFR Mafra 28.63 280 *i*LQ 18 24 04.5
PMAFR *e*P 18 28 59.0
PMAFR
comp=Z,2μm,19.1s
ARQ Araqi 29.34 116 P P 18 21 29.1 0.0
SNR=7.3
ARCES ARCESS Array B 29.38 358 P P 18 21 29.6 0.0
comp=Z,20nm,1.1s,mb4.8,baz=160,slow=3.9,SNR=15
ZRNK Zerenda 30.46 52 *e*P P 18 21 38.8 -0.3
ZRNK pmax pmax
comp=Z,49nm,1.2s,mb5.1
ZRNK Zerenda 30.46 52 *e*P P 18 21 38.8 -0.3
comp=Z,49nm,1.2s,mb5.1
WSAR Wadi Sarin 30.86 114 P P 18 21 41.6 -1.1
comp=Z,5.4nm,0.8s,mb4.4,baz=358,slow=8.1,SNR=10
BRVK Borovoye 31.24 52 P P 18 21 47.3 +1.4
SNR=9.6
BRVK Borovoye 31.24 52 *e*P P 18 21 45.9 -0.1
BRVK pmax pmax
comp=Z,29nm,1.3s,mb5.0
BRVK Borovoye 31.24 52 *e*P P 18 21 45.9 -0.1
comp=Z,29nm,1.3s,mb5.0
BVA0 Borovoye Array 31.30 52 *i*P P 18 21 47.9 +1.4
BVA0 pmax pmax
comp=Z,9.0nm,1.4s,mb4.4
BVAR Borovoye Array 31.30 52 P P 18 21 46.0 -0.5
comp=Z,6.3nm,0.9s,mb4.4,baz=256,slow=6.0,SNR=26
WHFO Wadi Hawf 31.45 128 P P 18 21 47.8 0.0
SNR=9.7
CHKZ Chkalovo 31.52 50 *e*P P 18 21 48.0 -0.4
CHKZ pmax pmax
comp=Z,38nm,1.3s,mb5.1
CHKZ Chkalovo 31.52 50 *e*P P 18 21 48.0 -0.5
comp=Z,38nm,1.3s,mb5.1
ABTO Aybut 31.60 129 P P 18 21 49.4 +0.3
SNR=7.7
KK31 Karatay Array 31.62 71 *i*P P 18 21 51.4 +2.1
KKAR Karatay Array 31.62 71 P P 18 21 51.4 +2.1
VOSK Vostochnaya 31.62 52 P P 18 21 49.2 -0.1
VOSK pmax pmax
comp=Z,26nm,1.1s,mb5.0
RBK Rabkut 32.03 127 P P 18 21 52.3 -0.5
SNR=20
AAK Ala-Archa 34.59 71 P P 18 22 16.2 +1.0
SNR=14
AAK Ala-Archa 34.59 71 *e*P P 18 22 15.3 +0.1
AAK pmax pmax
comp=Z,33nm,1.7s,mb5.0
AAK Ala-Archa 34.59 71 *e*P P 18 22 15.3 +0.1
comp=Z,18nm,1.0s,mb5.0
TOA0 Torodi Ar. Sit 35.54 228 *e*P P 18 22 22.7 -0.7
TORD Torodi Ar. Bea 35.54 228 P P 18 22 22.8 -0.6
comp=Z,6.5nm,0.7s,mb4.7,baz=35,slow=9.4,SNR=50
NVS Novosibirsk 38.97 49⇑ *i*P P 18 22 52.7 +0.2
NVS *e* 18 24 20.0
NVS *e*S **S 18 28 44.8 -7.1**
NVS pmax pmax
comp=Z,78nm,1.2s,mb5.3
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,35nm,1.0s
NVS pmax pmax
comp=Z,29nm,1.4s,mb4.8
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,27nm,1.6s
NVS smax
comp=N,17nm,1.9s
NVS smax
comp=E,17nm,2.1s
MK31 Makanchi Array 39.23 62 *i*P P 18 22 53.8 -0.9
MK31 pmax pmax
comp=Z,11nm,0.6s,mb4.8
MK31 Makanchi Array 39.23 62 *e*P P 18 22 54.7 0.0
MKAR Makanchi Array 39.23 62 P P 18 22 54.6 -0.1
comp=Z,9.4nm,0.7s,mb4.7,baz=270,slow=3.6,SNR=34
MKAR Makanchi Array 39.23 62 P P 18 22 53.8 -0.9
MKAR pmax pmax
comp=Z,7.0nm,0.7s
ZAL Zalesovo 39.92 50 P P 18 22 60.0 -0.5
comp=Z,14nm,1.0s,mb4.7,baz=200,slow=8.1,SNR=41
ZAL LR LR 18 40 25.5
comp=Z,520nm,20.5s,MS4.4,baz=68,slow=38
ZAL Zalesovo 39.92 50 P P 18 22 60.0 -0.5
ZAL LR LR 18 40 25.5
DAG Danmarks Havn 41.65 345 *i*P P 18 23 15.0 +0.2
comp=Z,3.4nm,0.7s,mb4.1
DAG Danmarks Havn 41.65 345 *e*P P 18 23 15.0 +0.2
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
DAG Danmarks Havn 41.65 345 *e*P P 18 23 15.0 +0.2
comp=Z,3.4nm,0.7s,mb4.1
NDI New Delhi 41.70 90 *e*P P 18 23 14.5 -0.6
KMBO Kilima Mbogo 42.03 166 P P 18 23 18.7 +0.8
comp=Z,1.0nm,0.7s,baz=51,slow=22,SNR=3.7
KMBO Kilima Mbogo 42.03 166 P P 18 23 18.7 +0.8
WMQ Urumqi 43.64 65⇑ *i*P P 18 23 32.8 +1.9
WMQ AP 18 23 37.0
WMQ XP sP 18 23 39.5 +7.8
WMQ PP PP 18 25 16.0 +3.7
WMQ *e*S **S 18 30 01.0 -0.3**
WMQ AMB AMB
comp=Z,21nm,1.3s,mb4.7
WMQ AMB AMB
comp=Z,319nm,3.8s
WMQ LR LR
comp=N,1μm,15.8s,MS5.1
WMQ LR LR
comp=E,1μm,17.4s,MS5.1
WMQ LR LR
comp=Z,922nm,21.2s,MS4.7
KRAR Krasnoyarsk 44.35 47 *e*P P 18 23 36.0 -0.6
KRAR pmax pmax

comp=Z,78nm,1.1s,mb5.3
KOLN Koldanda 47.03 87 *eP* **P 18 23 58.1 +0.3**
comp=Z,27nm,0.7s,mb5.3
GKN Gorkha 47.71 87 *eP* **P 18 24 02.4 -0.7**
comp=Z,29nm,0.8s,mb5.4
DMN Daman 48.27 87 *eP* **P 18 24 06.6 -0.8**
comp=Z,24nm,0.7s,mb5.3
KKN Kakani 48.31 86 *eP* **P 18 24 07.2 -0.5**
comp=Z,17nm,0.6s,mb5.2
PKI Pulchoki 48.52 87 *eP* **P 18 24 08.4 -0.9**
comp=Z,22nm,0.8s,mb5.2
GUN Gumba 48.70 86 *eP* **P 18 24 09.0 -1.8**
comp=Z,32nm,0.8s,mb5.4
MOY Mondy 49.98 51 *eP* **P 18 24 23.3 +2.7**
MOY pmax pmax
comp=Z,29nm,1.5s,mb5.1
TLY Talaya 51.55 50 *eP* **P 18 24 35.3 +2.9**
TLY pmax pmax
comp=Z,27nm,1.2s,mb5.0
IRK Irkutsk 51.73 50 *eP* **P 18 24 35.0 +1.2**
IRK *e* 18 25 50.7
IRK *e* 18 27 41.1
IRK pmax pmax
comp=Z,30nm,2.2s,mb4.8
ZAK Zakamensk 51.76 52 *eP* **P 18 24 34.6 +0.7**
ZAK *e* 18 31 55.2
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
LSA Lhasa 51.82 81 *eP* **P 18 24 34.2 -0.2**
LSA pmax pmax
comp=Z,12nm,0.9s,mb4.8
LSA Lhasa 51.82 81 *eP* **P 18 24 34.2 -0.2**
comp=Z,12nm,0.9s,mb4.8
GTA Gaotai 53.69 66 *eP* **P 18 24 49.8 +1.5**
GTA AP 18 24 54.0
GTA XP sP 18 24 57.3 +8.3
GTA PCP PcP 18 25 56.8 +2.3
GTA PP PP 18 26 55.3 +6.3
GTA S **S 18 32 28.0 +5.0**
GTA XS sS 18 32 36.0 +12
GTA SS SS 18 36 09.3 +5.8
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb4.4
GTA AMB AMB
comp=Z,744nm,7.6s
GTA LR LR
comp=N,366nm,15.6s,MS4.6
GTA LR LR
comp=E,316nm,19.4s,MS4.6
GTA LR LR
comp=Z,442nm,14.4s,MS4.7
SONM Songino Array 54.59 54 P **P 18 24 54.6 -0.2**
comp=Z,6.2nm,1.0s,mb4.6,baz=288,slow=6.9,SNR=31
SONM LR LR 18 50 24.2
comp=Z,408nm,20.9s,MS4.5,baz=106,slow=38
BOD Bodaibo 55.09 41 *eP* **P 18 24 56.9 -1.5**
BOD pmax pmax
comp=Z,11nm,1.2s,mb4.8
LSZ Lusaka 55.24 180 P **P 18 25 00.1 +0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=46,slow=5.7,SNR=4.5
TIXI Tiksi 55.61 22 *eP* **P 18 25 01.4 -0.8**
CIT Chita 57.13 47 *eP* **P 18 25 14.0 +1.0**
CIT pmax pmax
comp=Z,41nm,1.4s,mb5.3
FRB Frobisher Bay 57.49 328 P **P 18 25 15.5 -0.1**
comp=Z,8.3nm,0.7s,mb4.9,baz=243,slow=20,SNR=2.3
LZH Lanzhou 58.05 68 *eP* **P 18 25 21.5 +2.0**
LZH AP 18 25 24.6
LZH XP sP 18 25 26.5 +6.2
LZH AMB AMB
comp=Z,24nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,102nm,4.2s
LZH Lanzhou 58.05 68 *eP* **P 18 25 21.5 +2.0**
LZH *PP 18 25 24.6
LZH *SP sP 18 25 26.5 +6.2
LZH pmax pmax
comp=Z,24nm,1.0s,mb5.2
LZH Lanzhou 58.05 68 *eP* **P 18 25 21.5 +2.0**
comp=Z,24nm,1.0s,mb5.2
LZH pP 18 25 24.6
LZH sP sP 18 25 26.5 +6.2
YAK Yakutsk 60.36 32 *eP* **P 18 25 35.3 -0.2**
YAK pmax pmax
comp=Z,17nm,0.7s,mb5.2
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,19nm,1.4s
YAK Yakutsk 60.36 32 *eP* **P 18 25 35.4 -0.1**
CD2 Chengdu 60.60 73⇑*iP* **P 18 25 39.0 +1.9**
CD2 XP sP 18 25 46.0 +8.1
CD2 PP PP 18 27 54.3 +3.8
CD2 S **S 18 33 52.5 -1.6**
CD2 SS SS 18 37 52.0 -0.2
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,320nm,15.6s,MS4.7
CD2 LR LR
comp=E,400nm,20.4s,MS4.7
CD2 LR LR
comp=Z,350nm,21.6s,MS4.5
SCHQ Schefferville 60.83 319 P **P 18 25 37.7 -1.0**
comp=Z,2.2nm,0.6s,mb4.5,baz=253,slow=16,SNR=3.4
SCHQ Schefferville 60.83 319 P **P 18 25 37.7 -1.0**
HHC Hu-ho-hao-te 61.02 60 *eP* **P 18 25 39.3 -0.7**
HHC AP 18 25 44.3
HHC XP sP 18 25 47.0 +6.2
HHC AMB AMB
comp=Z,22nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,231nm,5.5s
HIA Hailar 61.89 48 *eP* **P 18 25 48.0 +2.1**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 61.89 48 *eP* **P 18 25 48.0 +2.1**
comp=Z,9.7nm,0.6s,mb5.1
XAN Xi'an 62.68 67 P **P 18 25 52.4 +1.2**
XAN AP 18 26 02.6
XAN AMB AMB
comp=Z,10.0nm,1.5s,mb4.7
KMI Kunming 62.97 79 P **P 18 25 54.6 +1.5**
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
KMI Kunming 62.97 79 P **P 18 25 54.6 +1.5**
comp=Z,9.0nm,1.0s,mb4.8
BJI Beijing 64.45 58 P **P 18 26 04.8 +1.9**
BJI AMB AMB
comp=Z,15nm,1.2s,mb4.9
BJI LR LR
comp=N,468nm,19.7s
BJI LR LR
comp=E,306nm,14.3s
BJI LR LR
comp=Z,368nm,21.2s,MS4.5
BJI Beijing 64.45 58 P **P 18 26 04.8 +1.9**
comp=Z,15nm,1.2s,mb4.9
BJI LR LR
comp=Z,370nm,21.2s,MS4.5
GYA Guiyang 65.15 76 P **P 18 26 08.8 +1.3**
GYA AP 18 26 13.4
GYA XP sP 18 26 15.8 +7.6
GYA PP PP 18 28 33.9 +3.3
GYA S S 18 34 49.9 -1.3
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.4s
GYA LR LR
comp=N,480nm,19.4s,MS4.9
GYA LR LR
comp=E,470nm,18.7s,MS4.9
GYA LR LR
comp=Z,510nm,19.4s,MS4.7
BILL Bilibino 67.58 16 *eP* **P 18 26 21.7 -1.3**
SEY Seymchan 68.00 24 *eP* **P 18 26 25.4 -0.3**
CN2 Changchun 68.15 51 *eP* **P 18 26 26.6 0.0**
CN2 *eXP* sP 18 26 33.0 +5.6
CN2 *eS* S 18 35 23.3 -4.2
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.8
CN2 LR LR
comp=E,400nm,19.0s,MS4.8
CN2 LR LR
comp=Z,200nm,19.0s,MS4.4
KLR Kul'dur 68.48 43 *eP* **P 18 26 24.7 -4.0**
KLR pmax pmax
comp=Z,42nm,1.6s,mb5.2
BOSA Boshof 68.56 183 P **P 18 26 29.1 0.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=98,slow=6.9,SNR=7.8
MA2 Magadan 69.93 27 *eP* **P 18 26 32.6 -5.1**
MA2 *e* 18 27 07.4
MA2 pmax pmax
comp=N,10.0nm,0.3s
MA2 pmax pmax
comp=E,10.0nm,0.3s
MA2 pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
MDJ Mudanjiang 70.08 48 P **P 18 26 36.8 -1.8**
MDJ AP 18 26 39.9
MDJ PCP PcP 18 26 58.9 -1.8
MDJ S S 18 35 46.4 -3.9
MDJ AMB AMB
comp=Z,3.0nm,1.2s,mb4.1
MDJ AMB AMB
comp=Z,81nm,3.8s
MDJ LR LR
comp=N,190nm,22.3s,MS4.4
MDJ LR LR
comp=E,178nm,24.1s,MS4.4
MDJ LR LR
comp=Z,162nm,18.3s
NJ2 Nanjing 70.71 64 *eP* **P 18 26 41.4 -1.1**
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb5.3
INK Inuvik 70.88 353 P **P 18 26 42.4 -1.2**
comp=Z,2.5nm,0.9s,mb4.1,baz=360,slow=3.6,SNR=5.8
YKA Yellowknife Ar 73.29 343 P **P 18 26 56.8 -1.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=38,slow=5.8,SNR=5.8
PSI Prapat 73.66 100 P **P 18 27 00.8 +0.7**
comp=Z,7.6nm,0.6s,mb4.8,baz=321,slow=2.1,SNR=8.2
IMA2 Indian Mountai 74.01 1 *eP* **P 18 27 02.1 0.0**
YSS Yuzh-Sakhalins 75.56 40 *eP* **P 18 27 10.2 -0.9**
YSS *e* 18 27 30.8
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 75.56 40 *eP* **P 18 27 09.7 -1.4**
comp=Z,39nm,1.1s,mb5.2
ULM Lac du Bonnet 77.32 327 P **P 18 27 20.0 -1.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=49,slow=5.5,SNR=3.7
MJAR Matsushiro Arr 80.29 50 P **P 18 27 37.0 -0.4**
comp=Z,4.4nm,1.0s,mb4.4,baz=318,slow=5.3,SNR=12
EDM Edmonton 81.10 338 *eP* **P 18 27 41.5 -0.3**
TKL Tuckaleechee C 81.83 310 P **P 18 27 47.4 +1.7**
comp=Z,12nm,1.1s,mb4.8,baz=111,slow=8.7,SNR=5.9
KDAK Kodiak Island 82.33 0 P **P 18 27 49.8 +1.5**
comp=Z,8.7nm,0.9s,mb4.7,baz=352,slow=9.9,SNR=8.6
CPCT Cooper Cave 82.41 310 *eP* **P 18 27 50.5 +1.8**
JHJ Hachijo jima 2 83.58 52 LR LR 19 08 09.5
comp=Z,176nm,19.1s,MS4.5,baz=297,slow=38
CCM Cathedral Cave 84.28 316 *eP* **P 18 27 56.3 -2.0**
CCM pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CCM Cathedral Cave 84.28 316 *eP* **P 18 27 56.3 -2.0**
comp=Z,7.4nm,0.9s,mb4.8
PLAL Pickwick Lake 84.78 312 *eP* **P 18 28 01.1 +0.2**
comp=Z,7.9nm,1.0s,mb4.8
PVCP Virac 85.94 76⇑*iP* **P 18 28 06.9 +0.2**
NEW Newport 86.61 338 P **P 18 28 09.0 -0.9**
comp=Z,1.8nm,0.4s,mb4.6,baz=27,slow=4.5,SNR=3.7
NEW Newport 86.61 338 P **P 18 28 09.0 -0.9**
PDAR Pinedale Array 88.89 330 P **P 18 28 21.8 +0.9**
comp=Z,0.4nm,0.7s,mb3.9,baz=60,slow=4.3,SNR=3.4
CBIJ Chichi jima 89.30 54 LR LR 19 10 39.1
comp=Z,164nm,20.0s,MS4.5,baz=277,slow=37
TXAR Lajitas Array 97.51 319 P **P 18 28 59.8 -0.8**
comp=Z,0.8nm,0.9s,mb4.2,baz=90,slow=4.0,SNR=6.1
ASAR Alice Springs 116.68 99 PKP PKPdf 18 34 08.9 -1.9
comp=Z,0.8nm,0.9s,baz=323,slow=1.4,SNR=4.6

*MOS **20** 18:25:24.7±1.4, 57.30N×120.40E, h9km, mb4.2/1, Error ellipse: s-maj=24.5km s-min=15.3km az=49.2*
BYKL 20 18:25:23.2±0.4, 5737N×12051E, 2C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.54**	**213**	*eP*	g	Pg	18 25 32.9	-0.6
KHNR					*eSg*	Sg	18 25 39.7	-0.7
CRS	**Chara**	**1.31**	**250**	⇑*iP*	g	Pg	18 25 47.1	-1.2
CRS					*eSg*	Sg	18 26 03.7	-1.6
CRS					Pmax			
	67nm,0.3s							
CRS					Smax			
	273nm,0.9s							
CRS	**Chara**	**1.31**	**250**	*eP*		Pg	18 25 47.0	-1.3
CRS				*e*			18 26 04.0	
CRS					pmax	pmax		
	comp=Z,67nm,0.6s							
CRS					smax			
	comp=E,276nm,0.9s							
NRGR	**Nerungri**	**2.41**	**105**	*eP*		Pn	18 26 05.2	+1.3
NRGR					S	Sn	18 26 35.8	+1.7
NRGR					smax			
	comp=E,15nm,0.1s							
CLNS	**Chul'man**	**2.45**	**101**⇑	*iPn*		Pn	18 26 05.9	+1.5
CLNS					*ePg*	Pg	18 26 07.7	-2.5
CLNS					*eSg*	Sg	18 26 40.0	-1.9
CLNS	**Chul'man**	**2.45**	**101**	*eP*		Pn	18 26 05.7	+1.3
CLNS				*e*			18 26 36.8	
CLNS					smax			
	comp=N,214nm,0.4s							
CLNS					smax			
	comp=E,235nm,0.4s							
CLNS					smax			
	comp=Z,92nm,0.5s							
IENR	**Iengra**	**2.65**	**114**⇓	*iPg*		Pg	18 26 11.3	-2.8
IENR					*eSg*	Sg	18 26 45.5	-3.0
NLYR	**Nelyaty**	**2.78**	**254**	*ePn*		Pn	18 26 10.2	+1.3
NLYR					*ePg*	Pg	18 26 12.8	-3.7
NLYR					*eSg*	Sg	18 26 47.8	-4.7
ALDR	**Aldan**	**2.89**	**62**	*ePg*		Pg	18 26 13.8	-4.8
ALDR				*e*			18 26 42.9	
ALDR					*eSg*	Sg	18 26 51.1	-5.0
TUP	**Tupik**	**2.97**	**186**	*ePn*		Pn	18 26 11.3	-0.3
TUP					*ePg*	Pg	18 26 15.6	-4.5
TUP				*e*			18 26 47.4	
TUP					*eSg*	Sg	18 26 53.4	-5.2
TUP					Pmax			
	comp=Z,61nm,1.2s							
TUP					Smax			
	comp=Z,273nm,0.8s							
TUP	**Tupik**	**2.97**	**186**	*eP*		Pn	18 26 11.2	-0.4
TUP				*eS*		Sn	18 26 46.4	-1.5
TUP					pmax	pmax		
	comp=Z,40nm,0.6s							
TUP					smax			
	comp=E,262nm,0.7s							
TNDR	**Tynda**	**3.24**	**132**	*e*		Pn	18 26 53.3	+38
TNDR					*eSg*	Sg	18 27 03.9	-3.3
BOD	**Bodaibo**	**3.53**	**280**	*ePn*		Pn	18 26 19.5	+0.2
BOD					*ePg*	Pg	18 26 26.5	-4.4
BOD				*e*			18 26 29.3	
BOD					*eSg*	Sg	18 27 11.6	-5.1
BOD					max			
	comp=E,20nm,0.5s							
BOD					Smax			
	comp=E,142nm,1.3s							
SVKR	**Severomuysk**	**4.03**	**255**	*ePg*		Pg	18 26 36.1	-4.3
SVKR					*eSg*	Sg	18 27 28.5	-4.1
SVKR					Pmax			
	comp=E,22nm,0.3s							
SVKR					Smax			
	comp=E,165nm,1.0s							
UKT	**Uakit**	**4.26**	**247**	*e*		Pn	18 26 31.7	+2.4
UKT					*ePg*	Pg	18 26 40.0	-4.9
UKT					*eSg*	Sg	18 27 33.9	-6.2
UKT					Pmax			
	comp=E,18nm,0.6s							
UKT					Smax			
	comp=E,58nm,0.7s							
UKT	**Uakit**	**4.26**	**247**	*eP*		Pn	18 26 39.9	+11
UKT					pmax	pmax		
	comp=Z,17nm,0.7s							
YOA	**Uoyan**	**4.99**	**259**	*e*		Pn	18 27 01.5	+22
YOA					*eSg*	Sg	18 27 57.4	-6.2
YOA					Smax			
	comp=Z,258nm,1.6s							
KMO	**Kumora**	**5.35**	**258**	*ePg*		Pg	18 26 59.4	-6.3
KMO					*eSg*	Sg	18 28 08.1	-7.0
KMO					Pmax			
	comp=Z,6.0nm,0.3s							
KMO					Smax			
	comp=Z,69nm,0.6s							
YLYR	**Ulyunkhan**	**5.79**	**248**	*e*		Pn	18 27 33.8	+43
YLYR					*eSg*	Sg	18 28 21.9	-7.5
YLYR					Smax			
	comp=Z,52nm,1.4s							
YLYR	**Ulyunkhan**	**5.79**	**248**	*eP*		Pn	18 27 07.0	+17
YLYR					pmax	pmax		
	comp=Z,1.0nm,0.2s							
NIZ	**Nizh Angarsk**	**6.27**	**260**	*e*		Pn	18 27 10.8	+14
NIZ					*eSg*	Sg	18 28 36.0	-8.6
NIZ					max			
	comp=Z,7.0nm,1.3s							
NIZ					Smax			
	comp=Z,30nm,1.4s							
YAK	**Yakutsk**	**6.58**	**41**	*eP*		Pn	18 27 04.4	+3.2
YAK				*e*			18 28 13.1	
YAK					pmax	pmax		
	comp=Z,5.0nm,0.7s							
YAK					smax			
	comp=N,6.0nm,0.5s							
YAK					smax			
	comp=Z,6.0nm,0.7s							
YAK					smax			
	comp=E,6.0nm,0.6s							
YAK					MLR	MLR		
	comp=Z,265nm,14.0s							
CIT	**Chita**	**6.71**	**220**	*e*		Pn	18 27 20.1	+17
CIT					*eSg*	Sg	18 28 50.4	-8.2
CIT					max			
	comp=Z,12nm,1.4s							
CIT					Smax			
	comp=Z,70nm,1.4s							
CIT	**Chita**	**6.71**	**220**	*eP*		Pn	18 27 23.1	+20
CIT					pmax	pmax		
	comp=Z,12nm,1.4s							
SYVR	**Suvo**	**7.03**	**243**	*ePg*		Pg	18 27 30.1	-7.8
SYVR					*eSg*	Sg	18 29 00.0	-9.0
SYVR					Pmax			
	comp=Z,2.0nm,0.2s							
SYVR					Smax			
	comp=Z,47nm,1.5s							
OGRR	**Ongureny**	**8.22**	**248**	*ePn*		Pn	18 27 25.1	+1.3
OGRR					*ePg*	Pg	18 27 53.5	-7.2
OGRR					*eSg*	Sg	18 29 39.4	-7.9
OGRR					Pmax			
	comp=Z,2.0nm,1.0s							
OGRR					Smax			
	comp=Z,66nm,1.0s							
KPC	**Khapcheranga**	**9.07**	**216**	*e*		Pg	18 29 00.6	+44
KPC				*e*			18 29 43.8	
KPC					*eSg*	Sg	18 30 04.5	-10
KPC					Smax			
	comp=Z,24nm,1.7s							

MAN 20 18:27:24.8, 1347N×12153E, h9km, mb3.7, ML4.8, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**2.13**	**349**	*eP*		Pn	18 28 01.1	+0.6
PCPH					*eS*	Sn	18 28 27.7	+0.7
PALP	**Palanan**	**3.68**	**13**⇑	*iP*		Pn	18 28 19.2	-2.6

*CSEM **20** 18:33:08.2, 67.17N×2074E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **20** 18:33:08.2, 67.17N×2074E, h0km, ML3.2, Mining explosion.*
HEL 20 18:33:09.0±0.2, 6717N×2072E, h0km, ML3.2(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**230**	*iP*		Pg	18 33 10.1	-0.4
DUNU				*iS*		Sg	18 33 11.4	-0.1
KUA	**Kurravaara**	**0.80**	**350**	*iP*		Pg	18 33 23.2	-1.1
SALU	**Saltoluokta**	**0.89**	**285**	*iP*		Pg	18 33 25.5	-0.4
PAJU	**Pajala**	**0.95**	**98**	*eP*		Pg	18 33 25.9	-1.3
PAJU	**Pajala**	**0.95**	**98**	P		Pg	18 33 25.9	-1.3
	baz=36							
NIKU	**Nikkaluokta**	**0.95**	**318**	*eP*		Pg	18 33 25.6	-1.7
HARU	**Harads**	**1.02**	**174**	*eP*		Pg	18 33 27.3	-1.2
KIF	**Kilpisjarvi**	**1.84**	**1**	*eP*		Pn	18 33 41.3	-0.6
KIF				*eS*		Sn	18 34 06.8	+1.0
SGF	**Sodankyl**	**2.27**	**80**	*eP*		Pn	18 33 47.9	+0.1
SGF				*eS*		Sn	18 34 16.8	+0.4

*ISCJB **20** 18:34:36.6±0.7, 38.11N±003×2032E±004, h6km±4km, Error ellipse: s-maj=6.0km s-min=3.6km az=100.5*
*ATH **20** 18:34:37.2, 38.11N×2040E, h14km, MD3.6/16, ML3.7*
*THE **20** 18:34:38.4, 38.16N×2044E, h10km, ML3.2*
*PDG **20** 18:34:38.9±0.4, 38.10N×2023E, h92km±7km*
*NEIC **20** 18:34:39.0, 38.10N×2043E, h10km, MD3.6(PDG), ML3.1(ATH), After ATH.*
*CSEM **20** 18:34:39.2±0.1, 38.12N×2044E, h10km, ML3.7, Error ellipse: s-maj=3.7km s-min=1.3km az=46.0*
ISC 20 18:34:37.1±0.7, 3812N±003×2035E±004, h0km±4km, n62, σ0.94/97, 4C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**73**	*eP*	G	**Pg**	**18 34 41.7**	**+0.8**
VLS					SG	**Sg**	**18 34 44.3**	**+0.8**
RLS	**Riolos of Patr**	**0.88**	**94**	*eP*	G	**Pg**	**18 34 53.0**	**-1.1**
RLS					*eSB*	**Sg**	**18 35 05.1**	**-0.4**
EVR	**Evrytania**	**1.39**	**55**	*eP*	G	**Pg**	**18 35 02.5**	**-1.3**
EVR					*eSB*	**Sb**	**18 35 21.9**	**-0.4**
IGT	**Igoumenitsa**	**1.41**	**359**	*eP*	g	**Pg**	**18 35 04.1**	**-0.1**
IGT					*eSg*	**Sg**	**18 35 24.3**	**+1.9**
ITM	**Ithomi**	**1.56**	**126**	*eP*	B	**Pb**	**18 35 06.3**	**-0.6**
ITM					*eSB*	**Sb**	**18 35 27.2**	**-0.1**
ITM	**Ithomi**	**1.56**	**126**	*eP*	b	**Pb**	**18 35 06.6**	**-0.3**
ITM					*eSb*	**Sb**	**18 35 27.2**	**-0.1**
JAN	**Janina**	**1.58**	**14**	*eP*	B	**Pb**	**18 35 07.0**	**-0.3**
JAN					*eSB*	**Sb**	**18 35 28.5**	**+0.7**
KEK	**Kerkira**	**1.65**	**345**	*eP*	B	**Pb**	**18 35 07.9**	**-0.5**
KEK					*eSB*	**Sb**	**18 35 30.3**	**+0.6**
KEK	**Kerkira**	**1.65**	**345**	*eP*	b	**Pb**	**18 35 07.9**	**-0.5**
KEK					*eSb*	**Sb**	**18 35 30.0**	**+0.3**
SRN	**Sarande**	**1.78**	**351**	*iPn*		**Pg**	**18 35 15.1**	**+3.9**
SRN				*iSn*		**Sg**	**18 35 36.5**	**+2.2**
AGG	**Agios Georgios**	**1.79**	**59**	*eP*	b	**Pb**	**18 35 09.5**	**-1.3**
AGG					*eSb*	**Sb**	**18 35 33.0**	**-0.9**
THL	**Klokotos Trika**	**1.94**	**42**	*eP*	N	**Pn**	**18 35 11.9**	**+0.6**
THL					*eSN*	**Sn**	**18 35 37.1**	**+0.7**
LKR	**Lokris**	**2.15**	**75**	P		**Pn**	**18 35 15.6**	**+1.4**
KZN	**Kozani**	**2.45**	**26**	*eP*	N	**Pn**	**18 35 19.2**	**+0.9**
KZN	**Kozani**	**2.45**	**26**	*eP*	n	**Pn**	**18 35 19.6**	**+1.3**
VLI	**Veliai**	**2.49**	**123**	*eP*	N	**Pn**	**18 35 19.6**	**+0.7**
VLI	**Veliai**	**2.49**	**123**	*eP*	n	**Pn**	**18 35 20.0**	**+1.1**
NAIG	**Nisos Aigina**	**2.51**	**97**	*eP*	B	**Pn**	**18 35 19.0**	**-0.1**
KBN	**Korca**	**2.52**	**8**	*iPn*		**Pg**	**18 35 22.9**	**-2.6**
KBN				*iSn*		**Sg**	**18 35 57.2**	**-1.0**
NEO	**Neokhori**	**2.54**	**61**	*eP*	B	**Pn**	**18 35 19.5**	**-0.1**
XOR	**Xorichti**	**2.55**	**60**	*eP*	n	**Pn**	**18 35 19.9**	**+0.2**
LIT	**Litokhoron**	**2.58**	**39**	*eP*	n	**Pn**	**18 35 20.7**	**+0.5**
LIT				*eSn*		**Sn**	**18 35 51.9**	**-0.4**
ATH	**Athens Observa**	**2.66**	**92**	*eP*	N	**Pn**	**18 35 21.2**	**-0.1**
ATH	**Athens Observa**	**2.66**	**92**	*eP*	n	**Pn**	**18 35 21.0**	**-0.3**
KVR	**Kavouri**	**2.72**	**95**	*eP*	N	**Pn**	**18 35 22.0**	**0.0**
PTL	**Penteli**	**2.77**	**90**	*eP*	N	**Pn**	**18 35 23.0**	**+0.2**
FNA	**Florina**	**2.78**	**16**	*eP*	n	**Pn**	**18 35 23.2**	**+0.4**
FNA				*eSn*		**Sn**	**18 35 57.5**	**+0.5**
KYTH	**Kithira**	**2.82**	**130**	*eP*	N	**Pn**	**18 35 24.0**	**+0.5**
AOS	**Alonnisos**	**2.96**	**68**	*eP*	n	**Pn**	**18 35 25.2**	**-0.1**
BIA	**Bitola**	**2.99**	**14**	*eP*	n	**Pn**	**18 35 25.8**	**0.0**
TIP	**Timpagrande**	**3.00**	**292**	P		**Pn**	**18 35 27.7**	**+1.7**
OHR	**Ohrid**	**3.01**	**6**	*iPn*		**Pn**	**18 35 26.7**	**+0.7**
OHR				*iSn*		**Sn**	**18 36 03.6**	**+0.9**

OHR	Ohrid	3.01	6	*i* Pn	Pn	18 35 26.7	+0.7
OHR				*i* Sn	Sn	18 36 03.6	+0.9
THE	Thessaloniki	3.22	38	*e*Pn	Pn	18 35 28.6	-0.4
TIR	Tirane	3.25	354	P	Pn	18 35 30.6	+1.3
GRG	Griva	3.25	29	*e*Pn	Pn	18 35 29.0	-0.3
GRG				*e*Sn	Sn	18 36 08.8	+0.1
HORT	Hortiatis	3.27	40	*e*Pn	Pn	18 35 29.6	+0.1
HORT				*e*Sn	Sn	18 36 08.9	-0.2
PLG	Polygyros	3.29	46	*e*PN	Pn	18 35 30.0	+0.1
PLG	Polygyros	3.29	46	*e*Pn	Pn	18 35 29.5	-0.4
KRUS	Krusevo	3.32	12	*i* Pn	Pn	18 35 31.1	+0.8
KRUS				*i* Sn	Sn	18 36 11.3	+0.9
KRUS	Krusevo	3.32	12	*i* Pn	Pn	18 35 31.0	+0.7
KRUS				*i* Sn	Sn	18 36 11.3	+0.9
PHP	Peshkopia	3.56	1	*i* Pn	Pn	18 35 34.2	+0.6
PHP				*i* Sn	Sn	18 36 15.5	-0.9
SOH	Sokhos	3.56	40	*e*Pn	Pn	18 35 33.9	+0.3
SOH				*e*Sn	Sn	18 36 17.8	+1.4
OUR	Ouranopolis	3.58	51	*e*Pn	Pn	18 35 33.6	-0.3
KNT	Kendrikon	3.62	32	*e*Pn	Pn	18 35 34.3	-0.1
VAY	Valandovo	3.63	27	*e*Pn	Pg	18 35 41.8	-4.8
STIP	Stip	3.84	21	*e*Pn	Pn	18 35 37.0	-0.4
ULC	Ulcinj	3.93	348	⇑*i*Pn	Pn	18 35 38.2	-0.5
ULC				*e*Sn	Sn	18 36 21.8	-3.7
LOS	Limnos	4.11	62	*e*Pn	Pn	18 35 40.6	-0.5
BUM	Brajici-Budva	4.32	346	⇓*i*Pn	Pn	18 35 43.0	-1.0
BUM				*e*Sn	Sn	18 36 31.0	-4.2
BUM	Brajici-Budva	4.32	346	⇓*i*Pn	Pn	18 35 43.0	-1.1
BUM				*e*Sn	Sn	18 36 31.0	-4.1
TTG	Podgorica	4.38	349	⇓*i*Pn	Pn	18 35 44.1	-0.8
TTG				*e*Sn	Sn	18 36 32.5	-4.2
PVY	Plav	4.48	356	⇑*i*Pn	Pn	18 35 46.4	+0.1
PVY				*e*Sn	Sn	18 36 36.0	-3.1
CHOS	Chios island	4.50	85	*e*Pn	Pn	18 35 46.4	-0.1
HCY	Herceg Novi	4.55	342	⇓*i*Pn	Pn	18 35 45.7	-1.5
HCY				*e*Sn	Sn	18 36 36.4	-4.4
IVA	Berane	4.76	356	⇓*i*Pn	Pn	18 35 50.6	+0.6
IVA				*e*Sn	Sn	18 36 42.6	-3.3
NKY	Niksic	4.80	348	⇓*i*Pn	Pn	18 35 50.6	0.0
NKY				*e*Sn	Sn	18 36 43.0	-4.0
BRY	Bratogost	4.97	344	⇓*i*Pn	Pn	18 35 52.3	-0.7
BRY				*e*Sn	Sn	18 36 46.7	-4.4
RDO	Rodhopi	5.02	51	P	Pn	18 35 54.1	+0.5
UPM	Unac-Piva	5.19	348	⇑*i*Pn	Pn	18 35 55.3	-0.7
UPM				*e*Sn	Sn	18 36 52.2	-4.4
UPM	Unac-Piva	5.19	348	⇑*i*Pn	Pn	18 35 55.3	-0.8
UPM				*e*Sn	Sn	18 36 52.2	-4.5
PLE	Pljevlja	5.25	352	⇓*i*Pn	Pn	18 35 57.2	+0.3
PLE				*e*Sn	Sn	18 36 54.1	-4.1

IDC 20 18:38:37.3±8.3, 601S×15077E, h97km±57km, mb3.4/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.7/4, ML1.7/1, Error ellipse: s-maj=99.9km s-min=56.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.92	226	P	Pn	18 39 49.6	+0.8
	0.2nm,0.3s,baz=325,slow=7.7,SNR=3.0						
PMG				S	Sn	18 40 44.7	+0.2
	1.8nm,0.3s,baz=88,slow=10,SNR=4.1						
WB2	Warramunga Arr	21.13	228	*e*P	P	18 43 14.3	+0.1
WRA	Warramunga Arr	21.14	228	P	P	18 43 14.3	0.0
	0.5nm,0.4s,baz=54,slow=10,SNR=5.1						
ASAR	Alice Springs	23.91	221	P	P	18 43 42.7	+0.7
	1.5nm,0.6s,baz=58,slow=9.3,SNR=33						
ASPA	Alice Springs	23.91	221	*e*P	P	18 43 43.1	+1.1
FITZ	Fitzroy Crossi	27.31	242	P	P	18 44 13.6	+0.8
	1.4nm,0.8s,baz=54,slow=9.8,SNR=3.3						
TORD	Torodi Ar. Bea	148.72	285	PKPbc	PKPbc	18 58 13.3	+0.1
	0.8nm,0.6s,baz=96,slow=2.4,SNR=8.3						

*ISCJB **20** 18:54:24.9±1.6, 605S×007×1476E±0.1, h39km±14km, mb4.2/10, MS3.3/1, Error ellipse: s-maj=18.1km s-min=11.2km az=29.8*
*IDC **20** 18:54:27.8±3.8, 605S×14765E, h52km±34km, mb3.9/8, mb1 4.2/11, mb1mx4.1/16, mbtmp4.2/11, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=27.9km s-min=18.2km az=76.0*
*NEIC **20** 18:54:28.0±1.5, 606S×14762E, h54km±13km, mb4.5/5, Error ellipse: s-maj=11.0km s-min=9.9km az=59.0*
ISC 20 18:54:29.6±1.5, 618S±008×1476E±01, h64km±13km, n26, σ0=96/26, mb4.2/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.23	187	P	Pn	18 55 17.8	-0.1
	23nm,0.3s,baz=348,slow=6.2,SNR=50						
PMG				S	Sn	18 55 53.8	-1.4
	56nm,0.3s,baz=230,slow=20,SNR=8.5						
CTA	Charters Tower	13.88	185	P	Pn	18 57 44.4	+1.2
	0.5nm,0.3s,baz=40,slow=13,SNR=4.5						
KAKA	Kakadu	16.27	245	*e*P	Pn	18 58 14.8	+0.9
	7.0nm,0.4s						
WRAB	Tennant Creek	18.76	222	*e*P	Pn	18 58 43.1	-1.3
	8.5nm,0.8s						
WB2	Warramunga Arr	18.76	222	*e*P	Pn	18 58 43.9	-0.6
WB2				*e*S	S	19 02 23.2	+10
WRA	Warramunga Arr	18.77	222	P	Pn	18 58 43.9	-0.6
	1.2nm,0.3s,baz=44,slow=11,SNR=20						
WRA				S	S	19 02 06.5	-7.1
	0.1nm,0.3s,baz=38,slow=22,SNR=3.4						
AS31	Alice Springs	21.79	216	*e*P	P	18 59 17.0	+0.8
AS31				*e*S	S	19 03 12.9	-0.5
ASAR	Alice Springs	21.80	216	P	P	18 59 17.1	+0.9
	8.0nm,0.5s,mb4.4,baz=53,slow=8.3,SNR=97						
ASAR				S	S	19 03 11.1	-2.4
	0.6nm,0.6s,baz=32,slow=22,SNR=3.5						
ASAR				LR	LR	19 08 20.0	
	comp=Z,128nm,19.6s,baz=7.2,slow=38						
ASPA	Alice Springs	21.80	216	*e*P	P	18 59 17.0	+0.8
ASPA				*e*S	S	19 03 12.9	-0.6
DZM	Mont Dzumac	24.13	133	P	P	18 59 39.3	-0.2
	5.2nm,0.7s,mb4.0,baz=311,slow=23,SNR=4.1						
FITZ	Fitzroy Crossi	24.46	239	*e*P	P	18 59 44.3	+1.9
	29nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	24.46	239	P	P	18 59 44.0	+1.6
	7.4nm,0.4s,mb4.5,baz=64,slow=7.9,SNR=30						
STKA	Stephens Creek	26.17	192	P	P	18 59 58.5	+0.6
	4.2nm,0.5s,mb4.2,baz=6.4,slow=9.3,SNR=18						
STKA	Stephens Creek	26.17	192	P	P	18 59 58.5	+0.6
KLBR	Kellerberrin	37.63	224	*e*P	P	19 01 39.3	+1.1
	39nm,1.4s,mb4.9						
MJAR	Matsushiro Arr	43.39	349	P	P	19 02 25.2	-0.5
	2.4nm,0.9s,mb4.0,baz=173,slow=8.8,SNR=6.4						
SONM	Songino Array	64.83	331	P	P	19 05 00.8	-0.9
	0.7nm,0.7s,mb3.8,baz=134,slow=4.2,SNR=3.2						
VNDA	Vanda	71.70	177	P	P	19 05 45.0	+0.3
	0.9nm,0.6s,mb3.9,baz=341,slow=7.2,SNR=12						
MKAR	Makanchi Array	77.99	320	P	P	19 06 19.5	-1.4
	1.2nm,1.0s,mb3.8,baz=101,slow=7.5,SNR=5.2						
QSPA	South Pole Qui	83.79	180	*e*P	P	19 06 52.1	+0.2
	3.4nm,0.7s,mb4.6						
LPAZ	La Paz	138.22	123	PKhKP		19 13 45.2	
	0.5nm,0.6s,baz=288,slow=7.6,SNR=3.6						
LPAZ	La Paz	138.22	123	PKP	PKPdf	19 13 45.2	-2.2
TORD	Torodi Ar. Bea	145.68	284	PKPbc	PKPbc	19 14 01.8	+0.7
	1.6nm,0.7s,baz=58,slow=3.7,SNR=16						
TORD	Torodi Ar. Bea	145.68	284	PKPbc	PKPbc	19 14 01.8	+0.7
SAML	Samuel	145.86	116	*e*PKPdf	PKPdf	19 14 02.0	+1.1
BDFB	Brasilia	153.39	145	PKPbc	PKPbc	19 14 21.6	+1.1
	3.6nm,0.5s,baz=202,slow=3.8,SNR=4.6						

*CSEM **20** 18:55:58.5±0.1, 4026N×2801E, h5km, MD2.9, Error ellipse: s-maj=2.7km s-min=1.8km az=11.0*
*ISCJB **20** 18:55:59.0±0.4, 4027N±003×2802E±003, h2km±5km, Error ellipse: s-maj=4.7km s-min=3.3km az=40.9*
*ISK **20** 18:55:59.0, 4027N×2802E, h10km, MD2.9*
ISC 20 18:55:59.7±0.4, 4027N±003×2801E±003, h7km±4km, n27, σ0=71/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	Edincik	0.14	305	*i* PG	Pg	18 56 02.8	+0.2
KCT	Karacabey	0.26	90	*i* PG	Pg	18 56 04.9	+0.1
KCT				*i* SG	Sg	18 56 08.3	0.0
MRMT	Marmara Adasi	0.46	317	*i* PG	Pg	18 56 08.3	-0.3
MRMT				*i* SG	Sg	18 56 15.9	+1.2
BTOK	Tokmak	0.51	178	*i* P	Pg	18 56 09.3	-0.1
BTOK				*i* S	Sg	18 56 16.1	+0.1
MFT	Murefte	0.76	313	PG	Pg	18 56 13.6	-0.7
MFT				SG	Sg	18 56 24.7	+0.5
RKY	Sarkoy-Tekirda	0.76	304	PG	Pg	18 56 14.0	-0.3
SART	Tekirdag	0.76	304	*i* P	Pg	18 56 14.0	-0.3
CANB	Canakkale	0.77	251	PG	Pg	18 56 14.5	0.0
ULDT	Uludag	0.87	98	*i* P	Pg	18 56 15.9	-0.4
ULDT				*i* S	Sg	18 56 28.7	+1.0
GEMT	Gemlik	0.91	79	PG	Pg	18 56 17.1	-0.1
CTT	Catalca	0.93	20	PG	Pg	18 56 17.9	+0.3
ELBA	Catalca	0.93	20	*i* P	Pg	18 56 18.2	+0.6
BADT	Buyukada	1.02	55	PG	Pg	18 56 19.2	-0.1
YLV	Yalova	1.08	74	PG	Pg	18 56 19.4	-1.0
IZI	Iznik	1.12	86	PN	Pn	18 56 20.9	-0.8
ISK	Istanbul-Kandi	1.13	45	PN	Pn	18 56 20.8	-1.0
KLYT	Kilyos	1.26	38	*e*PN	Pn	18 56 23.0	-0.6
ADVT	Abdulvahap	1.33	82	*e*PN	Pn	18 56 24.2	-0.4
EZN	Ezine	1.37	252	*e*PN	Pn	18 56 24.4	-0.8
HRT	Hereke	1.38	66	*e*PN	Pn	18 56 25.0	-0.3
AYVA	Ayvalik	1.40	227	*i* P	Pn	18 56 26.1	+0.5
AYVA				*i* S	Sb	18 56 43.8	-0.4
GDZ	Gediz	1.63	136	*i* P	Pn	18 56 30.0	+1.2
GDZ				*i* S	Sn	18 56 50.8	+0.7
EDRB	Edirne	1.85	329	*e*PN	Pn	18 56 32.2	+0.5
BORA	Eskisehir	1.91	101	*i* P	Pn	18 56 34.1	+1.5
BORA				*i* S	Sg	18 57 02.5	+1.5
IZM	Izmir	1.96	198	*e*PN	Pn	18 56 33.4	+0.2
ESKT	Eskisehir	2.31	108	*i* P	Pg	18 56 44.2	+0.3
ESKT				*i* S	Sg	18 57 11.9	-1.9
TKTP	Tekketepe	2.86	140	*i* P	Pg	18 56 53.9	-0.5

*ISCJB **20** 18:59:02.6±0.6, 3251N±005×3104E±004, h10km, Error ellipse: s-maj=7.1km s-min=4.1km az=123.1*
*HLW **20** 18:59:03.3, 3275N×3088E, h26km, Mb3.4*
*GII **20** 18:59:07.1±0.3, 3250N×3101E, h25km±30km, ML2.4/10, Mw2.7/2*
ISC 20 18:59:03.3±0.6, 3253N±005×3099E±004, h10km, n50, σ0=87/56, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMAG	Maghara	2.67	134	P	Pn	18 59 46.3	-0.1
KOT	Kottamia	2.69	164	P	Pn	18 59 47.5	+0.8
HMYD	Mayadein	2.73	183	P	Pn	18 59 47.4	+0.2
DABA	Dabaa	2.76	237	P	Pn	18 59 45.8	-1.8
AYT	Al 'Ayyat	2.82	177	P	Pn	18 59 49.0	+0.5
HNAT	Natroun	2.91	186	P	Pn	18 59 49.9	+0.3
HSAF	As Saff	2.94	170	P	Pn	18 59 50.9	+0.8
GLL	Jalalah	3.01	168	P	Pn	18 59 51.7	+0.7
SUZ		3.11	149	P	Pn	18 59 53.9	+1.4
KZIT	Kziot	3.33	118	Pn	Pn	18 59 55.8	+0.4
KZIT				Sn	Sn	19 00 34.3	-0.6
OFRI	'Ofer	3.38	87	Pn	Pn	18 59 56.1	+0.1
SLTI	Sal'it	3.44	94	Pn	Pn	18 59 56.6	-0.3
SLTI				Sn	Sn	19 00 35.8	-2.0
RTMI	Retamim	3.48	114	Pn	Pn	18 59 58.1	+0.6
AMAZ	Amatzia	3.48	106	Pn	Pn	18 59 57.7	+0.1
AMAZ				Sn	Sn	19 00 37.8	-1.0
SVTA	Shivta	3.48	116	Pn	Pn	18 59 57.7	+0.2
ZAF		3.50	157	P	Pn	18 59 58.5	+0.7
ZNM		3.54	152	P	Pn	18 59 58.9	+0.6
HNTI	Hanita	3.57	80	Pn	Pn	18 59 59.3	+0.6
HNTI				Sn	Sn	19 00 39.6	-1.3
HNTI	Hanita	3.57	80	Pn	Pn	18 59 59.7	+1.0
HBNS	Bani Suwayf	3.57	177	P	Pn	18 59 59.2	+0.5
MASH	Mash'abbe Sade	3.58	114	Sn	Sn	19 00 39.4	-1.8
HMAT	Matruh	3.61	248	P	Pn	18 59 57.1	-2.2
HNKL	Nakhl	3.65	135	P	Pn	18 59 59.8	0.0
YTIR	Yattir	3.70	107	Sn	Sn	19 00 43.4	-0.7
MMLI	Mount Malkishu	3.75	90	Pn	Pn	19 00 01.4	+0.2
MMA0	Mount Meron ar	3.75	81	Pn	Pn	19 00 01.6	+0.3
MMA1	Mount Meron ar	3.75	81	Pn	Pn	19 00 01.4	+0.1
HMDT	Nahal Hemdat	3.85	93	Pn	Pn	19 00 03.3	+0.7
DSI	Dead Sea	3.85	103	Pn	Pn	19 00 03.5	+0.9
DRGI	Dragot	3.85	103	Pn	Pn	19 00 03.0	+0.4
MZDA	Masada	3.92	107	Pn	Pn	19 00 03.7	+0.2
MZDA				Sn	Sn	19 00 48.9	-0.6
GLH	Golan-Tel Qazi	3.94	86	Pn	Pn	19 00 03.8	0.0
KSDI	Kefar Szold	3.99	79	Pn	Pn	19 00 05.0	+0.5
KMTI	Karmit	4.01	126	Pn	Pn	19 00 05.3	+0.6
HRI	Mount Hermon	4.06	78	Pn	Pn	19 00 06.8	+1.3
PRNI	Paran	4.06	121	Pn	Pn	19 00 06.3	+0.8
PRNI				Sn	Sn	19 00 51.8	-1.4
ZFRI	Zfri	4.08	118	Pn	Pn	19 00 05.6	-0.2
BHL	Bhannes	4.14	69	*e*Pn	Pn	19 00 06.6	0.0
RCY	Rachaya	4.17	76	*e*Pn	Pn	19 00 07.5	+0.5
HRFI	Mount Harif	4.27	125	Pn	Pn	19 00 08.3	0.0
MBH	Mount Berech	4.33	128	Sn	Sn	19 00 58.5	-1.3
HWQ	Hawqa	4.50	66	*e*Pn	Pn	19 00 11.7	+0.2
GRB	Gharib	4.52	159	P	Pn	19 00 12.6	+0.8
AWBH		4.56	204	P	Pn	19 00 12.1	-0.3
TR2		4.76	150	P	Pn	19 00 15.7	+0.7
HKAT	Jabal Katrina	4.76	146	P	Pn	19 00 15.6	+0.5
TR1		5.19	150	P	Pn	19 00 21.9	+1.0
SWA1		5.58	236	P	Pn	19 00 24.7	-1.7
SWA2		5.77	237	P	Pn	19 00 26.7	-2.3
HFRF	Wahat Farafira	5.84	204	P	Pn	19 00 29.6	-0.4

*ISCJB **20** 19:35:46.1±0.7, 7165N±006×116W±02, h10km, mb3.5/2, MS3.4/1, Error ellipse: s-maj=11.3km s-min=5.1km az=83.2*
*NAO **20** 19:35:46.7±10.0, 7150N×1165W*
*NEIC **20** 19:35:47.9±0.7, 7151N×1174W, h10km, Error ellipse: s-maj=11.0km s-min=8.9km az=204.0*
*BER **20** 19:35:48.8±0.5, 7159N×1179W, h5km, MD4.0, ML3.3*
*CSEM **20** 19:35:49.0±0.1, 7138N×1133W, h10km, ML3.3, Error ellipse: s-maj=4.1km s-min=3.2km az=147.0*
*IDC **20** 19:35:50.0±3.4, 7136N×1098W, h0km, mb3.6/2, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, ML2.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=54.2km s-min=29.2km az=170.0*
ISC 20 19:35:47.6±0.6, 7151N±006×116W±01, h10km, n23, σ0=16/27, mb3.5/2, MS3.4/1, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.10	121	*e*P	Pb	19 36 08.5	-0.2
JMI				AML	AML	19 36 25.3	
	comp=Z,680nm,0.3s						
JMIC	Jan Mayen	1.13	116	Pg	Pg	19 36 08.7	-0.6
JMIC				Lg		19 36 24.1	
JMIC	Jan Mayen	1.13	116	Pn	Pn	19 36 09.0	-0.5
	comp=Z,54nm,0.3s,baz=211,slow=3.3,SNR=43						
JMIC				Sn	Sn	19 36 23.9	-1.1
	comp=Z,439nm,0.3s,baz=133,slow=4.6,SNR=11						
JMIC	Jan Mayen	1.13	116	*e*P	Pb	19 36 08.9	-0.3
JMIC				*e*S	Sb	19 36 23.3	-0.6
JMIC				AML	AML	19 36 25.6	
	comp=Z,972nm,0.3s						
JNW	Jan Mayen West	1.13	114	*e*P	Pb	19 36 08.8	-0.5
JNW				*e*S	Sb	19 36 23.4	-0.6
JNW				AML	AML	19 36 26.1	
	comp=Z,1μm,0.2s						
JNW	Jan Mayen West	1.13	114	*e*P	Pb	19 36 08.8	-0.5
JNW				*e*S	Sb	19 36 23.4	-0.6
JNE	Jan Mayen East	1.19	115	*e*P	Pb	19 36 09.5	-0.7
JNE				*e*S	Sb	19 36 25.1	-0.6
DAG	Danmarks Havn	5.62	343	⇑*i*P	Pn	19 37 08.4	-2.9
	comp=Z,147nm,0.5s						
DAG				*i*		19 37 18.6	
BORG	Borgarnes	7.69	213	Pn	Pn	19 37 37.9	-1.8
	comp=Z,2.4nm,0.3s,baz=34,slow=6.1,SNR=9.4						
BORG	Borgarnes	7.69	213	Pn	Pn	19 37 37.9	-1.8
BORG	Borgarnes	7.69	213	Pn	Pn	19 37 37.8	-1.9
SUMG	Summit	8.33	290	*e*P	Pn	19 37 47.0	-1.4
SPB4	Spitsbergen Ar	9.77	35	*e*P	Pn	19 38 07.5	-0.7
SPA0	Spitsbergen Ar	9.78	35	Pn	Pn	19 38 08.0	-0.2
	baz=234,slow=14						
ARA0	ARCESS Array S	12.40	81	Pn	Pn	19 38 45.7	+1.6
	baz=284,slow=12						
ARCES	ARCESS Array B	12.40	81	Pn	Pn	19 38 45.6	+1.5
	comp=Z,0.2nm,0.3s,baz=299,slow=11,SNR=25						
HFS	Hagfors	15.23	126	Pn	Pn	19 39 23.8	+1.1
	comp=Z,0.1nm,0.3s,baz=130,slow=23,SNR=2.3						
EKA	Eskdalemuir Ar	16.64	163	Pn	Pn	19 39 42.1	+1.1
	comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=3.3						
FINES	FINESS Array B	17.73	105	P	Pn	19 39 56.5	+1.9
	comp=Z,0.1nm,0.3s,baz=155,slow=27,SNR=2.3						
RES	Resolute Bay	22.55	317	*e*P	P	19 40 48.4	+0.6
	comp=Z,300nm,0.7s						
GERES	GERESS Array B	25.57	139	P	P	19 41 18.9	+2.1
	comp=Z,1.2nm,0.9s,mb3.4,baz=331,slow=7.9,SNR=7.6						
VRAC	Vranov	25.76	135	LR	LR	19 50 37.2	
	comp=Z,107nm,19.9s,MS3.4,baz=296,slow=35						
TORD	Torodi Ar. Bea	58.89	165	P	P	19 45 48.4	+1.7
	comp=Z,0.5nm,0.9s,mb3.6,baz=346,slow=8.2,SNR=3.5						

IDC 20 19:41:06.3±8.2, 1049N×9201E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/20, mbtmp3.6/3, 1D, Error ellipse: s-maj=424.0km s-min=27.2km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.36	32	⇓*e*P	x	19 41 27.0	
PBA				*e*S	x	19 41 37.5	
PBA				*e*x	x	19 41 41.7	
	comp=N,974nm,0.4s						
PBA				*e*x	x	19 41 41.7	
	comp=E,388nm,0.3s						
MKAR	Makanchi Array	37.11	349	P	P	19 48 18.5	0.0
	comp=E,0.5nm,0.7s,baz=157,slow=7.8,SNR=2.7						
WRA	Warramunga Arr	51.49	126	P	P	19 50 14.1	+0.5
	comp=E,1.1nm,0.6s,baz=306,slow=8.6,SNR=5.9						
ASAR	Alice Springs	53.20	130	P	P	19 50 26.6	+0.3
	comp=E,0.4nm,0.6s,baz=307,slow=7.0,SNR=15						

*IDC **20** 20:01:43.1±3.8, 1242N×8672W, h142km±38km, mb3.5/5, mb1 3.8/7, mb1mx3.5/21, mbtmp4.0/7, Error ellipse: s-maj=33.1km s-min=20.7km az=57.0*
*UCR **20** 20:01:44.1, 1213N×8698W, h138km, MD4.9*
*INET **20** 20:01:44.8, 1229N×8675W, h143km, ML3.9*
*GCG **20** 20:01:44.5, 1270N×8662W, h1km, MD4.8*
*ISCJB **20** 20:01:44.4±0.4, 1236N±007×8665W±007, h143km±4km, mb3.8/5, Error ellipse: s-maj=16.4km s-min=3.9km az=90.6*
*NEIC **20** 20:01:45.1±1.3, 1236N×8670W, h163km±11km, mb4.4/1, Error ellipse: s-maj=23.0km s-min=13.6km az=220.0*
*CASC **20** 20:01:46.4±3.5, 1165N×8724W, h20km±8km, MD4.2, ML3.6, mb4.4(NEIC)*
*SSS **20** 20:02:05.3, 1166N×8721W, h57km, MD4.5*
ISC 20 20:01:45.1±0.4, 1235N±007×8667W±008, h143km±3km, n57, σ0=98/59, mb3.8/5, 19C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIRN	Miramar	0.10	333	⇓*i*P	Pn	20 02 04.2	-0.2
MOMJ	Momotombo	0.14	66	⇑*e*P	Pn	20 02 04.1	-0.4
CNGN	Cerro Negro	0.15	348	⇑*e*P	Pn	20 02 04.1	-0.4
CNGN				*e*S	Sn	20 02 19.0	-0.1
COPN	Copaltepe	0.19	157	⇓*i*P	Pn	20 02 03.9	-0.6
LEON	Leon	0.23	286	⇑*i*P	Pn	20 02 04.0	-0.6
TEL3	Telica 3	0.28	321	⇑*i*P	Pn	20 02 04.5	-0.2
TELN	Telica	0.30	327	⇑*e*P	Pn	20 02 04.5	-0.3
XAVN	Gruta Xavier	0.39	121	⇑*i*P	Pn	20 02 05.0	-0.2
TISN	Laguna Tiscapa	0.44	118	⇓*e*P	Pn	20 02 05.2	-0.1
MGAN	Managua	0.46	117	⇑*i*P	Pn	20 02 05.2	-0.2
MGAN				*e*S	Sn	20 02 20.9	0.0
MGAN				*i*		20 02 25.9	
	comp=N,1μm,0.1s						
CRIN	San Cristobal	0.51	313	⇑*e*P	Pn	20 02 05.5	-0.1
CRIN				*e*S	Sn	20 02 21.4	0.0
TICN	Ticuantepe	0.53	127	*e*P	Pn	20 02 05.8	0.0
MASN	Masaya	0.62	126	⇑*e*P	Pn	20 02 05.7	-0.6
APON	Apoyo	0.73	126	⇑*e*P	Pn	20 02 06.8	-0.3
CONN	Concepcion	1.29	127	⇑*e*P	Pn	20 02 11.8	0.0
CONN				*e*S	Sn	20 02 31.6	-0.7
SSNN	San Juan del S	1.33	143	⇑*e*P	Pn	20 02 11.8	-0.6
SSNN				*e*S	Sn	20 02 32.2	-0.9
MADN	Villa Maderas	1.45	130	⇑*e*P	Pn	20 02 13.5	-0.2
CNCH	Conchagua	1.46	309	⇑*e*P	x	20 02 32.5	
CNCH				*e*S	x	20 02 55.5	
CRZC	La Cruz	1.74	143	*e*P	Pn	20 02 15.9	-0.9
CRZC				*e*S	Sn	20 02 40.2	-0.9
TGUH	Tegucigalpa,Un	1.79	341	*e*P	Pn	20 02 17.9	+0.5
BLLM	Bellamira	1.88	305	*e*P	x	20 02 37.8	
BLLM				*e*S	x	20 03 03.3	
VSM	San Miguel	1.90	304	*e*P	x	20 02 38.2	
VSM				*e*S	x	20 03 04.0	
LIM1	Limonal	2.15	140	⇑*e*P	Pn	20 02 22.0	+0.4
LIM1				*e*S	Sn	20 02 49.4	-0.2
VCR	Vista de Mar	2.44	155	*e*P	Pn	20 02 19.8	-5.3
SNVI	San Vicente	2.46	301	⇓*e*P	x	20 02 44.3	

ellipse: s-maj=1.5km s-min=1.3km az=172.0

ISC 20 20:09:48.9±0.5, 4036N±002×2578E±002, h11km±3km, n46, σ0°86/78, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.57**	**21**	*e*Pg	**Pg**	**20 10 00.0**	**-0.1**
ALN				*e*Sg	**Sg**	**20 10 08.0**	**+0.4**
LIA	**Limnos Island**	**0.65**	**225**	*e*PN	**Pg**	**20 10 02.0**	**+0.5**
LIA				*e*SN	**Sg**	**20 10 11.5**	**+1.4**
EZN	**Ezine**	**0.68**	**142**	*i* PG	**Pg**	**20 10 02.7**	**+0.6**
EZN				*i* SG	**Sg**	**20 10 11.6**	**+0.6**
LOS	**Limnos**	**0.68**	**232**	*e*Pg	**Pg**	**20 10 02.4**	**+0.2**
LOS				*e*Sg	**Sg**	**20 10 11.5**	**+0.4**
RDO	**Rodhopi**	**0.81**	**347**	⇑*i*PN	**Pg**	**20 10 04.1**	**-0.4**
RDO				*e*SN	**Sg**	**20 10 14.9**	**-0.1**
RDO	**Rodhopi**	**0.81**	**347**	⇑*i*Pn	**Pg**	**20 10 04.1**	**-0.4**
RDO				*e*Sn	**Sg**	**20 10 14.7**	**-0.3**
CANB	**Canakkale**	**1.04**	**109**	*i* PN	**Pn**	**20 10 09.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.11**	**73**	*i* PN	**Pn**	**20 10 10.0**	**-0.4**
RKY				*i* SN	**Sn**	**20 10 25.9**	**+0.2**
SART	**Tekirdag**	**1.12**	**72**	*i* P	**Pb**	**20 10 09.5**	**-0.7**
SART				*i* S	**Sb**	**20 10 25.3**	**+0.5**
PRK	**Paraskevi**	**1.18**	**161**	*e*PN	**Pn**	**20 10 11.6**	**+0.3**
PRK				*e*SN	**Sn**	**20 10 27.6**	**+0.3**
PRK	**Paraskevi**	**1.18**	**161**	*e*Pn	**Pn**	**20 10 11.6**	**+0.3**
PRK				*e*Sn	**Sn**	**20 10 27.4**	**+0.1**
MFT	**Murefte**	**1.22**	**69**	PN	**Pn**	**20 10 11.9**	**0.0**
AYVA	**Ayvalik**	**1.26**	**146**	*i* P	**Pn**	**20 10 12.4**	**-0.1**
AYVA				*i* S	**Sb**	**20 10 30.3**	**+1.4**
OUR	**Ouranopolis**	**1.37**	**269**	*e*Pg	**Pn**	**20 10 13.1**	**-0.9**
OUR				*e*Sg	**Sn**	**20 10 35.1**	**+2.9**
MRMT	**Marmara Adasi**	**1.41**	**79**	PN	**Pn**	**20 10 13.9**	**-0.6**
EDC	**Edincik**	**1.59**	**90**	PN	**Pn**	**20 10 17.0**	**0.0**
EDRB	**Edirne**	**1.65**	**26**	PN	**Pn**	**20 10 17.5**	**-0.3**
NVR	**Nevrokopi**	**1.76**	**305**	*e*PN	**Pn**	**20 10 19.0**	**-0.3**
NVR	**Nevrokopi**	**1.76**	**305**	*e*Pn	**Pn**	**20 10 19.1**	**-0.2**
PLG	**Polygyros**	**1.78**	**271**	*e*Pb	**Pn**	**20 10 19.0**	**-0.6**
PLG				*e*Sb	**Sb**	**20 10 43.9**	**0.0**
PLG	**Polygyros**	**1.78**	**271**	*e*PB	**Pn**	**20 10 19.2**	**-0.4**
PLG				*e*SN	**Sn**	**20 10 40.5**	**-1.8**
PLG	**Polygyros**	**1.78**	**271**	*e*Pb	**Pn**	**20 10 19.2**	**-0.4**
PLG				*e*Sn	**Sn**	**20 10 40.4**	**-1.9**
PLG	**Polygyros**	**1.78**	**271**	*e*Pb	**Pn**	**20 10 19.2**	**-0.4**
PLG				*e*Sn	**Sn**	**20 10 40.4**	**-1.9**
PLG				*e*Sb	**Sb**	**20 10 43.9**	**-0.1**
BTOK	**Tokmak**	**1.83**	**108**	*i* P	**Pb**	**20 10 22.9**	**+0.5**
BTOK				*i* S	**Sn**	**20 10 44.3**	**+0.9**
AOS	**Alonnisos**	**1.89**	**232**	*e*Pb	**Pn**	**20 10 21.4**	**+0.3**
AOS				*e*Sb	**Sb**	**20 10 46.2**	**-0.7**
SOH	**Sokhos**	**1.90**	**285**	*e*Pb	**Pb**	**20 10 22.2**	**-1.4**
SOH				*e*Sb	**Sb**	**20 10 47.3**	**-0.1**
SOH	**Sokhos**	**1.90**	**285**	*e*Pb	**Pb**	**20 10 22.2**	**-1.5**
SOH				*e*Sb	**Sb**	**20 10 47.3**	**-0.1**
PLD	**Plovdiv**	**1.92**	**335**	*e*Pn	**Pn**	**20 10 21.9**	**+0.4**
MMB	**Musomiste**	**1.98**	**309**	*e*Pn	**Pn**	**20 10 22.9**	**+0.5**
MMB				*e*Sn	**Sb**	**20 10 50.4**	**+0.8**
CHOS	**Chios island**	**1.98**	**174**	*e*Pb	**Pn**	**20 10 22.6**	**+0.3**
CHOS				*e*Sb	**Sn**	**20 10 47.1**	**-0.1**
HORT	**Hortiatis**	**2.06**	**277**	*e*Pn	**Pn**	**20 10 24.2**	**+0.8**
HORT				*e*Sn	**Sn**	**20 10 52.4**	**+3.3**
URLA	**Izmir**	**2.10**	**162**	*i* P	**Pn**	**20 10 24.1**	**+0.2**
CTT	**Catalca**	**2.16**	**68**	*e*PN	**Pn**	**20 10 24.2**	**-0.6**
JMB	**Yambol**	**2.19**	**16**	*e*Pn	**Pn**	**20 10 25.4**	**+0.2**
JMB				*e*Sn	**Sn**	**20 10 54.4**	**+2.1**
JMB	**Yambol**	**2.19**	**16**	*e*Pn	**Pn**	**20 10 25.4**	**+0.2**
JMB				*e*Sn	**Sn**	**20 10 54.3**	**+2.0**
KDAG	**Bornova**	**2.27**	**149**	*i* P	**Pn**	**20 10 25.2**	**-1.1**
KDAG				*i* S	**Sn**	**20 10 50.2**	**-4.1**
IZM	**Izmir**	**2.27**	**149**	*e*PN	**Pn**	**20 10 24.8**	**-1.5**
KNT	**Kendrikon**	**2.33**	**291**	*e*Pn	**Pn**	**20 10 27.1**	**0.0**
KNT				*e*Sn	**Sn**	**20 10 59.9**	**+4.1**
KNT	**Kendrikon**	**2.33**	**291**	*e*Pn	**Pn**	**20 10 27.1**	**-0.1**
ULDT	**Uludag**	**2.58**	**94**	*i* P	**Pg**	**20 10 36.9**	**-1.4**
ULDT				*i* S	**Sg**	**20 11 08.6**	**-3.7**
KLYT	**Kilyos**	**2.63**	**69**	*e*PN	**Pn**	**20 10 31.8**	**+0.5**
GRG	**Griva**	**2.64**	**284**	*e*Pn	**Pn**	**20 10 31.3**	**-0.1**
GRG				*e*Sn	**Sb**	**20 11 07.3**	**-1.2**
YLV	**Yalova**	**2.75**	**85**	*e*PN	**Pn**	**20 10 33.1**	**+0.2**
IZI	**Iznik**	**2.82**	**89**	*e*PN	**Pn**	**20 10 34.5**	**+0.6**
AYDN	**Tasoluk**	**3.15**	**148**	*i* P	**Pn**	**20 10 38.5**	**0.0**
AYDN				*i* S	**Sn**	**20 11 11.8**	**-4.3**
APE	**Apeiranthos**	**3.29**	**183**	*e*Pn	**Pn**	**20 10 40.9**	**+0.5**
APE				*e*Sn	**Sn**	**20 11 18.1**	**-1.4**

MOS ***20*** *20:20:38.9±0.8, 968S×7489W, h115km, mb5.3/79, Error ellipse: s-maj=7.5km s-min=5.2km az=97.7*

BJI ***20*** *20:20:38.8, 997S×7505W, h120km, mB5.3*

ISCJB ***20*** *20:20:39.6±0.2, 972S±003×7493W±003, h121km, mb5.2/199, Error ellipse: s-maj=5.0km s-min=3.2km az=57.0*

GCMT ***20*** *20:20:40.7±0.3, 981S×7479W, h135km±2km, MW5.0/73, Moment Tensor Solution. s42,c50; s73,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.93±.11; Mθθ-0.53±.12; Mφφ4.46±.15; Mrθ-0.34±.10; Mrφ 1.05±.15; Mθφ-1.14±.15; Best double couple: M0 4.46300×1016 NP1:φs190.00000°, δ37.00000°, λ-93.00000°. NP2: φs13.00000°, δ53.00000°, λ-88.00000°. Principal axes: T 4.8320, Plg8.0000°, Azm102.0000°; N -0.7390, Plg2.0000°, Azm192.0000°; P -4.0930, Plg82.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *20:20:40.7±0.1, 980S×7489W, mb5.2/165 Error ellipse: s-maj=4.4km s-min=2.8km az=225.0*

NEIC Felt [III] at Puerto Bermudez.

IDC ***20*** *20:20:41.0±0.4, 977S×7487W, h123km±3km, mb4.7/24, mb1 4.9/30, mb1mx4.9/31, mbtmp5.1/30, MS3.8/5, Ms1 3.8/5, ms1mx3.3/31, Error ellipse: s-maj=10.1km s-min=7.0km az=106.0*

ISC 20 20:20:41.4±0.2, 979S±003×7484W±003, h123km, h123km±1.0km; pP-P, n740, σ0°69/657, mb5.2/199, 120C-121D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.94**	**222**	Pn	**Pn**	**20 21 26.0**	**-0.9**
	5μm,0.4s,SNR=66						
NNA	**Nana**	**2.94**	**222**	P	**Pn**	**20 21 26.6**	**-0.3**
	183nm,0.3s,baz=27,slow=8.6,SNR=66						
NNA				S	**Sn**	**20 22 01.0**	**-1.0**
	2μm,0.3s,baz=300,slow=19,SNR=36						
NNA				LR	LR	20 22 27.4	
	comp=Z,971nm,20.0s,baz=40,slow=36						
NNA	**Nana**	**2.94**	**222**	*e*P	**Pn**	**20 21 26.0**	**-1.0**
ATAH	**Atahualpa**	**4.48**	**308**	P	**Pn**	**20 21 45.9**	**-1.5**
	80nm,0.3s,baz=112,slow=8.9,SNR=136						
ARE	**Arequipa**	**7.39**	**154**	*e*P	**Pn**	**20 22 28.0**	**+1.4**
LPAZ	**La Paz**	**9.19**	**135**	P	**Pn**	**20 22 51.1**	**+0.2**
	2.9nm,0.3s,baz=322,slow=11,SNR=66						
LPAZ	**La Paz**	**9.19**	**135**	*e*P	**Pn**	**20 22 51.0**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LPAZ	**La Paz**	**9.19**	**135**	*e*P	**Pn**	**20 22 51.0**	**+0.1**
	comp=Z,3.0nm,1.1s						
LVC	**Limon Verde**	**13.96**	**157**	P	**Pn**	**20 23 53.2**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=333,slow=8.7,SNR=14						
LVC				S	**Sn**	**20 26 22.7**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=73,slow=19,SNR=4.1						
LVC	**Limon Verde**	**13.96**	**157**	*e*P	**Pn**	**20 23 52.2**	**-1.5**
	comp=Z,69nm,0.8s						
ROSC	**El Rosal**	**14.56**	**2**	P	**Pn**	**20 24 03.8**	**+2.3**
	comp=Z,2.6nm,0.3s,baz=146,slow=7.5,SNR=9.6						
ROSC	**El Rosal**	**14.56**	**2**	*e*P	**Pn**	**20 24 04.0**	**+2.6**
SIV	**San Ignacio**	**14.76**	**116**	P	**Pn**	**20 24 02.8**	**-1.2**
	comp=Z,16nm,0.3s,baz=286,slow=13,SNR=203						
PAYG	**Puerto Ayora**	**17.84**	**300**	*e*P	**Pn**	**20 24 41.9**	**+0.1**
	comp=Z,58nm,0.8s						
SDV	**Santo Domingo**	**19.02**	**13**	P	**P**	**20 24 54.0**	**+0.4**
	comp=Z,6.5nm,0.3s,baz=212,slow=10,SNR=67						
SDV				S	**S**	**20 28 23.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=234,slow=17,SNR=2.7						
SDV	**Santo Domingo**	**19.02**	**13**	*e*P	**P**	**20 24 53.7**	**0.0**
	comp=Z,84nm,0.8s						
PCRV	**Puerto La Cruz**	**22.28**	**27**	P	**P**	**20 25 29.0**	**+0.4**
	comp=Z,29nm,0.5s,mb4.8,baz=189,slow=7.8,SNR=19						
CFAA	**Coronel Fontan**	**22.55**	**165**	P	**P**	**20 25 31.7**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=349,slow=9.6,SNR=22						
CFAA				PcP	PcP	20 29 20.4	+0.2
	comp=Z,0.6nm,0.6s,baz=309,slow=4.3,SNR=4.2						
CFAA	**Coronel Fontan**	**22.55**	**165**	P	**P**	**20 25 31.7**	**+0.3**
CFAA				PcP	PcP	20 29 20.4	+0.2
CPUP	**Villa Florida**	**23.35**	**137**	P	**P**	**20 25 38.7**	**0.0**
	comp=Z,9.0nm,0.5s,mb4.3,baz=298,slow=10,SNR=28						
CPUP				PcP	PcP	20 29 22.0	+0.1
	comp=Z,2.0nm,0.5s,baz=321,slow=6.5,SNR=2.4						
CPUP	**Villa Florida**	**23.35**	**137**	*e*P	**P**	**20 25 38.3**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,230nm,1.1s						
CPUP	**Villa Florida**	**23.35**	**137**	*e*P	**P**	**20 25 38.3**	**-0.4**
	comp=Z,230nm,1.1s,mb5.4						
BDFB	**Brasilia**	**26.79**	**105**	P	**P**	**20 26 09.9**	**+0.1**
	comp=Z,17nm,0.6s,mb4.8,baz=273,slow=8.9,SNR=22						
BDFB				LR	LR	20 37 23.8	
	comp=Z,122nm,21.0s,baz=276,slow=37						
CPD	**Cerro la Pandu**	**29.02**	**18**	*e*P	**P**	**20 26 29.2**	**-0.5**
SJG	**San Juan**	**29.02**	**17**	P	**P**	**20 26 29.7**	**0.0**
	comp=Z,70nm,0.7s,mb5.4,baz=178,slow=2.4,SNR=30						
SJG	**San Juan**	**29.02**	**17**	*e*P	**P**	**20 26 29.6**	**-0.1**
SJG				pmax	pmax		
	comp=Z,52nm,0.6s						
SJG	**San Juan**	**29.02**	**17**	*e*P	**P**	**20 26 29.6**	**-0.1**
	comp=Z,52nm,0.6s,mb5.3						
MTP	**Monte Pirata**	**29.19**	**18**	*e*P	**P**	**20 26 31.3**	**+0.1**
PLCA	**Paso Flores**	**31.05**	**174**	P	**P**	**20 26 47.2**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.3,baz=348,slow=11,SNR=15						
PLCA				PcP	PcP	20 29 41.0	+0.7
	comp=Z,8.9nm,0.7s,baz=338,slow=4.9,SNR=10						
PLCA	**Paso Flores**	**31.05**	**174**	P	**P**	**20 26 47.2**	**-0.3**
PLCA				PcP	PcP	20 29 41.0	+0.7
TEIG	**Tepich**	**32.63**	**336**	*e*P	**P**	**20 27 01.4**	**0.0**
RPN	**Rapa Nui**	**36.81**	**237**	LR	LR	20 39 18.3	
	comp=Z,157nm,18.6s,baz=6.2,slow=30						
HKT	**Hockley**	**44.38**	**334**	*e*P	**P**	**20 28 40.0**	**+0.5**
HKT				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
HKT	**Hockley**	**44.38**	**334**	*e*P	**P**	**20 28 40.0**	**+0.4**
	comp=Z,44nm,1.1s,mb5.1						
NATX	**Nacogdoches**	**45.47**	**336**	*e*P	**P**	**20 28 48.6**	**+0.4**
	comp=Z,276nm,1.3s,mb5.8						
CPCT	**Cooper Cave**	**45.92**	**349**	*e*P	**P**	**20 28 50.5**	**-1.2**
SWET	**Sewanee**	**45.98**	**347**	*e*P	**P**	**20 28 50.7**	**-1.4**
OXF	**Oxford**	**46.18**	**343**	*e*P	**P**	**20 28 51.8**	**-1.9**
OXF				pmax	pmax		
	comp=Z,112nm,1.1s,mb5.5						
OXF	**Oxford**	**46.18**	**343**	*e*P	**P**	**20 28 51.8**	**-1.9**
	comp=Z,112nm,1.1s,mb5.5						
PLAL	**Pickwick Lake**	**46.26**	**345**	*e*P	**P**	**20 28 51.9**	**-2.5**
	comp=Z,43nm,1.0s,mb5.1						
JCT	**Junction City**	**46.68**	**330**	*e*P	**P**	**20 28 57.8**	**+0.2**
JCT				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
JCT	**Junction City**	**46.68**	**330**	*e*P	**P**	**20 28 57.8**	**+0.1**
	comp=Z,23nm,0.9s,mb4.9						
ELN	**Prospectdale**	**47.10**	**354**	*e*P	**P**	**20 29 01.3**	**+0.4**
UALR	**University of**	**47.32**	**340**	*e*P	**P**	**20 29 01.4**	**-1.2**
	comp=Z,91nm,1.0s,mb5.5						
UALR				*e*pP	pP	20 29 29.8	-1.2
TXAR	**Lajitas Array**	**47.81**	**325**	P	**P**	**20 29 06.5**	**+0.1**
	comp=Z,19nm,0.5s,mb5.2,baz=149,slow=8.9,SNR=211						
TXAR				PcP	PcP	20 30 33.4	+0.1
	comp=Z,4.4nm,0.6s,baz=148,slow=7.4,SNR=5.1						
TXAR	**Lajitas Array**	**47.81**	**325**	P	**P**	**20 29 06.5**	**+0.1**
TXAR				PcP	PcP	20 30 33.4	+0.1
LPIG	**La Paz**	**48.32**	**315**	P	**P**	**20 29 10.7**	**+0.4**
	comp=Z,21nm,0.4s,mb5.4,baz=142,slow=1.6,SNR=3.7						
WCI	**Wyandotte Cave**	**48.95**	**348**	*e*P	**P**	**20 29 13.4**	**-1.8**
WCI				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.3						
WCI	**Wyandotte Cave**	**48.95**	**348**	*e*P	**P**	**20 29 13.4**	**-1.8**
	comp=Z,33nm,0.8s,mb5.3						
USIN	**University of**	**49.00**	**347**	*e*P	**P**	**20 29 14.1**	**-1.5**
	comp=Z,107nm,1.0s,mb5.7						
SIUC	**Southern Illin**	**49.14**	**345**	*e*P	**P**	**20 29 15.0**	**-1.6**
	comp=Z,151nm,0.8s,mb6.0						
MCWV	**Mont Chateau**	**49.42**	**355**	*e*P	**P**	**20 29 18.4**	**-0.2**
	comp=Z,16nm,0.7s,mb5.1						
WMOK	**Wichita Mounta**	**49.76**	**334**	*e*P	**P**	**20 29 20.4**	**-0.9**
WMOK				*e*		20 30 40.2	
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
WMOK	**Wichita Mounta**	**49.76**	**334**	*e*P	**P**	**20 29 20.4**	**-0.9**
	comp=Z,9.4nm,0.6s,mb4.9						
WMOK				*e*PcP	PcP	20 30 40.2	-0.2
BLO	**Bloomington**	**49.91**	**348**	*e*P	**P**	**20 29 20.6**	**-1.8**
BLO				*e*		20 30 40.2	
BLO				pmax	pmax		
	comp=Z,83nm,0.6s,mb5.8						
BLO	**Bloomington**	**49.91**	**348**	*e*P	**P**	**20 29 20.6**	**-1.8**
	comp=Z,83nm,0.6s,mb5.8						
BLO				*e*PcP	PcP	20 30 40.2	-0.8
CCM	**Cathedral Cave**	**50.01**	**343**	*e*P	**P**	**20 29 20.1**	**-3.1**
CCM				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
CCM	**Cathedral Cave**	**50.01**	**343**	*e*P	**P**	**20 29 20.1**	**-3.1**
	comp=Z,30nm,0.8s,mb5.3						
SSPA	**Standing Stone**	**50.25**	**357**	*e*P	**P**	**20 29 24.5**	**-0.5**
	comp=Z,9.3nm,0.7s,mb4.8						
MNTX	**Cornudas Mount**	**50.56**	**326**	*e*P	**P**	**20 29 26.4**	**-1.0**
	comp=Z,45nm,1.4s,mb5.3						
MNTX				*e*PcP	PcP	20 30 42.4	-1.0
AMTX	**Amarillo**	**51.19**	**332**	*e*P	**P**	**20 29 31.5**	**-0.5**
	comp=Z,13nm,0.5s,mb5.2						
ALLY	**Alegheny Colle**	**51.42**	**355**	*e*P	**P**	**20 29 32.9**	**-0.8**
BINY	**Binghamton**	**51.75**	**359**	*e*P	**P**	**20 29 36.2**	**+0.1**
	comp=Z,35nm,0.7s,mb5.5						
WES	**Weston**	**52.02**	**3**	*e*P	**P**	**20 29 38.2**	**0.0**
WES				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.5						
WES	**Weston**	**52.02**	**3**	*e*P	**P**	**20 29 38.2**	**0.0**
	comp=Z,68nm,1.4s,mb5.5						
KSU1	**Kansas State U**	**52.69**	**339**	*e*P	**P**	**20 29 41.8**	**-1.3**
	comp=Z,59nm,0.8s,mb5.7						
ACCN	**Adirondack Com**	**52.93**	**1**	*e*P	**P**	**20 29 45.3**	**+0.4**
ACCN				*e*PcP	PcP	20 30 51.1	-1.1
LPM	**Los Pinos Moun**	**53.23**	**327**	*e*P	**P**	**20 29 47.2**	**+0.1**
HNH	**Hanover**	**53.29**	**2**	*e*P	**P**	**20 29 47.5**	**0.0**
	comp=Z,3.5nm,1.4s,mb4.2						
LENM	**Lemitar**	**53.30**	**327**	*e*P	**P**	**20 29 48.0**	**+0.3**
LENM				*e*PcP	PcP	20 30 54.0	+0.3
LAZ	**Ladron**	**53.57**	**327**	*e*P	**P**	**20 29 49.9**	**+0.4**
ANMO	**Albuquerque**	**53.62**	**328**	P	**P**	**20 29 50.0**	**0.0**
	comp=Z,16nm,0.8s,mb5.1,baz=139,slow=7.2,SNR=32						
ANMO	**Albuquerque**	**53.62**	**328**	*e*P	**P**	**20 29 50.0**	**0.0**
ANMO				pmax	pmax		
	comp=Z,33nm,1.1s						
ANMO	**Albuquerque**	**53.62**	**328**	*e*P	**P**	**20 29 50.0**	**0.0**
	comp=Z,33nm,1.1s,mb5.3						
CBKS	**Cedar Bluff**	**53.63**	**336**	*e*P	**P**	**20 29 49.2**	**-0.8**
CBKS				pmax	pmax		
	comp=Z,89nm,0.8s,mb5.8						
CBKS	**Cedar Bluff**	**53.63**	**336**	*e*P	**P**	**20 29 49.2**	**-0.8**
	comp=Z,89nm,0.8s,mb5.8						
LBNH	**Lisbon**	**53.84**	**3**	*e*P	**P**	**20 29 51.2**	**-0.4**
LBNH				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.7						
LBNH	**Lisbon**	**53.84**	**3**	*e*P	**P**	**20 29 51.2**	**-0.3**
	comp=Z,61nm,0.8s,mb5.7						
TUC	**Tucson**	**54.14**	**322**	*e*P	**P**	**20 29 53.6**	**-0.1**
TUC				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
TUC	**Tucson**	**54.14**	**322**	*e*P	**P**	**20 29 53.6**	**-0.1**
	comp=Z,30nm,1.5s,mb5.1						
SCIA	**State Center**	**54.14**	**343**	*e*P	**P**	**20 29 52.0**	**-1.7**
	comp=Z,54nm,0.6s,mb5.8						
LONY	**Lake Ozonia**	**54.16**	**0**	*e*P	**P**	**20 29 53.5**	**-0.3**
	comp=Z,98nm,1.4s,mb5.6						
JFWS	**Jewell Farm**	**54.31**	**346**	*e*P	**P**	**20 29 52.9**	**-2.0**
JFWS				*e*		20 30 55.7	
JFWS				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.8						
JFWS	**Jewell Farm**	**54.31**	**346**	*e*P	**P**	**20 29 52.9**	**-2.0**
	comp=Z,76nm,0.8s,mb5.8						
JFWS				*e*PcP	PcP	20 30 55.7	-1.8
FRNY	**Flat Rock**	**54.38**	**1**	*e*P	**P**	**20 29 55.4**	**-0.1**
116A	**Eloy**	**54.87**	**322**	⇑P	**P**	**20 29 59.2**	**+0.1**
	baz=55						
115A	**Sonoran Desert**	**55.29**	**321**	⇓P	**P**	**20 30 02.2**	**+0.2**
	baz=56						
SDCO	**Great Sand Dun**	**55.31**	**331**	*e*P	**P**	**20 30 02.3**	**+0.1**
	comp=Z,96nm,1.1s,mb5.7						
Z14A	**Wintersburg**	**56.18**	**322**	⇓P	**P**	**20 30 08.6**	**+0.2**
	baz=56						
MVCO	**Mesa Verde**	**56.41**	**328**	*e*P	**P**	**20 30 09.6**	**-0.4**
	comp=Z,55nm,1.5s,mb5.4						
MVCO	**Mesa Verde**	**56.41**	**328**	⇓P	**P**	**20 30 10.0**	**0.0**
	baz=57						
X15A	**Humboldt**	**56.52**	**323**	⇑P	**P**	**20 30 11.3**	**+0.5**
	baz=57,SNR=7.4						
Y14A	**Wickenburg**	**56.61**	**322**	⇓P	**P**	**20 30 11.6**	**+0.2**
	baz=57						
WUAZ	**Wupatki**	**56.75**	**324**	*e*P	**P**	**20 30 12.7**	**+0.3**
	comp=Z,87nm,1.0s,mb5.7						
WUAZ	**Wupatki**	**56.75**	**324**	⇑P	**P**	**20 30 12.9**	**+0.5**
	baz=57						
ECSD	**EROS,Sioux Fal**	**56.83**	**341**	*e*P	**P**	**20 30 11.2**	**-1.8**
	comp=Z,57nm,1.0s,mb5.6						
X14A	**Yava**	**56.90**	**323**	⇑P	**P**	**20 30 14.1**	**+0.6**
	baz=57,SNR=7.8						
ISCO	**Idaho Springs**	**57.00**	**332**	*e*P	**P**	**20 30 14.3**	**+0.1**
ISCO				*e*		20 31 07.8	
ISCO				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
ISCO	**Idaho Springs**	**57.00**	**332**	*e*P	**P**	**20 30 14.3**	**+0.2**
	comp=Z,33nm,1.2s,mb5.2						
ISCO				*e*PcP	PcP	20 31 07.8	-0.1
W15A	**Williams**	**57.02**	**324**	⇑P	**P**	**20 30 15.2**	**+0.9**
	baz=57,SNR=11						
Y13A	**Salome**	**57.03**	**321**	⇑P	**P**	**20 30 14.7**	**+0.3**
	baz=57						
GLA	**Glamis**	**57.15**	**320**	⇑P	**P**	**20 30 15.4**	**+0.2**
	baz=57,SNR=5.3						
Y12C	**Blythe**	**57.41**	**321**	⇓P	**P**	**20 30 17.3**	**+0.2**
	baz=58,SNR=7.7						
W14A	**Seligman**	**57.53**	**323**	⇓P	**P**	**20 30 18.4**	**+0.6**
	baz=58,SNR=14						
PDMCI	**Parker Dam,Lak**	**57.55**	**322**	⇑P	**P**	**20 30 18.2**	**+0.2**
	baz=58						
X13A	**Yucca**	**57.55**	**322**	⇓P	**P**	**20 30 18.3**	**+0.2**
	baz=58						
SWSC	**Sam W. Stewart**	**57.69**	**319**	⇑P	**P**	**20 30 19.5**	**+0.5**
	baz=58						
DVTC	**Desert V Tower**	**57.71**	**319**	⇑P	**P**	**20 30 19.7**	**+0.5**
	baz=58						
W13A	**Hualapai Mount**	**57.93**	**322**	⇑P	**P**	**20 30 21.4**	**+0.7**
	baz=58,SNR=14						
BC3	**Big Chuckw Mtn**	**57.94**	**320**	⇓P	**P**	**20 30 21.2**	**+0.5**
	baz=58,SNR=27						
MONP	**Monument Peak**	**58.06**	**319**	⇑P	**P**	**20 30 22.1**	**+0.5**
	baz=58,SNR=5.2						
IRM	**Iron Mountain**	**58.08**	**321**	⇑P	**P**	**20 30 22.0**	**+0.3**
	baz=58,SNR=61						
PHWY	**Pilot Hill**	**58.13**	**333**	*e*P	**P**	**20 30 21.9**	**-0.2**
PHWY				*e*PcP	PcP	20 31 12.1	-0.3
BELC	**Belle Mtn.**	**58.50**	**320**	⇑P	**P**	**20 30 25.2**	**+0.5**
	baz=59,SNR=12						
109C	**Camp Elliot, M**	**58.51**	**318**	⇓P	**P**	**20 30 24.9**	**+0.1**
	baz=59						
PFO	**Pinyon Flat Ob**	**58.54**	**319**	P	**P**	**20 30 25.9**	**+0.9**
	comp=Z,122nm,1.0s,mb5.9,SNR=8.5						
PFO	**Pinyon Flat Ob**	**58.54**	**319**	*e*P	**P**	**20 30 25.5**	**+0.5**
PFO				*e*		20 31 14.1	
PFO				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
PFO	**Pinyon Flat Ob**	**58.54**	**319**	*e*P	**P**	**20 30 25.5**	**+0.5**
	comp=Z,22nm,1.1s,mb5.1						
PFO				*e*PcP	PcP	20 31 14.1	+0.1
PFO	**Pinyon Flat Ob**	**58.54**	**319**	⇑P	**P**	**20 30 25.5**	**+0.6**
	baz=59,SNR=14						
W12A	**Cal Nev Ari**	**58.66**	**322**	⇑P	**P**	**20 30 25.8**	**+0.1**
	baz=59						
SRU	**San Rafael**	**58.89**	**328**	*e*

BGU	Big Grassy Mou	61.53	328	eP	P	20 30 44.5 -0.8
VES	Vestal, Richgr	61.62	320	⇑P	P	20 30 46.1 +0.1
	baz=62,SNR=8.2					
S09A	Goldfield	61.68	323	⇓P	P	20 30 46.6 +0.2
	baz=62,SNR=19					
TIN	Tinemaha	61.86	321	⇑P	P	20 30 48.0 +0.4
	baz=62					
SMMC	Simmler	61.89	319	⇓P	P	20 30 48.3 +0.6
	baz=62,SNR=14					
AHID	Auburn Hatcher	61.90	330	eP	P	20 30 47.4 -0.5
	comp=Z,50nm,1.0s,mb5.5					
TPH	Tonopah	61.91	323	eP	P	20 30 48.2 +0.3
TPH				pmax	pmax	
	comp=Z,29nm,1.1s,mb5.2					
TPH	Tonopah	61.91	323	eP	P	20 30 48.2 +0.3
	comp=Z,29nm,1.1s,mb5.2					
R09A	Tonopah	61.93	323	⇑P	P	20 30 48.3 +0.3
	baz=62					
O12A	Currie	61.98	326	⇓P	P	20 30 48.7 +0.4
	baz=62,SNR=99					
HVU	Hansel Valley	62.01	329	eP	P	20 30 48.3 -0.3
HVU				pmax	pmax	
	comp=Z,49nm,0.9s,mb5.5					
HVU	Hansel Valley	62.01	329	eP	P	20 30 48.2 -0.3
	comp=Z,49nm,0.9s,mb5.5					
P11A	Circle Ranch,	62.05	325	⇓P	P	20 30 49.2 +0.4
	baz=62					
N13A	Wendover, West	62.10	327	⇑P	P	20 30 49.2 0.0
	baz=62,SNR=9.3					
S08C	White Mtn Res	62.11	322	⇑P	P	20 30 49.9 +0.7
	baz=62,SNR=29					
HELL	Mitchell Peak,	62.11	321	⇑P	P	20 30 49.3 0.0
	baz=62					
V05C	Boulder Hill,	62.17	319	⇑P	P	20 30 50.1 +0.5
	baz=62					
REDW	Red Top Meadow	62.23	331	eP	P	20 30 49.3 -0.7
	comp=Z,80nm,1.5s,mb5.5					
MTUM	Tungsten Hills	62.26	322	eP	P	20 30 50.5 +0.4
SNOW	Snow King Moun	62.26	331	eP	P	20 30 50.0 -0.2
	comp=Z,16nm,0.6s,mb5.2					
LOHW	Long Hollow	62.30	331	eP	P	20 30 49.5 -1.0
	comp=Z,27nm,0.8s,mb5.3					
TPAW	Teton Pass	62.38	331	eP	P	20 30 50.5 -0.5
	comp=Z,14nm,0.6s,mb5.2					
Q09A	Carvers	62.39	324	⇓P	P	20 30 51.8 +0.7
	baz=63					
O11A	Cowboy Ranch,	62.39	326	⇓P	P	20 30 51.5 +0.4
	baz=63,SNR=19					
RRI2	Red Ridge	62.45	331	eP	P	20 30 51.3 -0.2
	comp=Z,115nm,0.9s,mb5.9					
MOOW	Moose Ponds	62.48	331	eP	P	20 30 50.9 -0.7
	comp=Z,16nm,0.9s,mb5.0					
P10A	Eureka	62.50	325	⇑P	P	20 30 52.4 +0.6
	baz=63					
ULM	Lac du Bonnet	62.55	345	P	P	20 30 50.5 -1.6
	comp=Z,106nm,0.8s,mb5.8,baz=154,slow=6.5,SNR=98					
ULM	Lac du Bonnet	62.55	345	eP	P	20 30 50.2 -1.9
	comp=Z,120nm,0.8s,mb5.9					
N12A	Clover Valley,	62.55	327	⇑P	P	20 30 52.0 -0.1
	baz=63,SNR=10					
DCID1	Drake Creek	62.57	331	eP	P	20 30 51.2 -1.1
MLAC	Mammoth Lakes	62.60	322	⇓P	P	20 30 53.0 +0.5
	baz=63					
R08A	Mina	62.62	323	⇓P	P	20 30 53.1 +0.5
	baz=63					
PKD	Parkfield	62.62	319	⇓P	P	20 30 52.7 +0.1
	baz=63					
V04C	Ramage Ranch,	62.65	319	⇑P	P	20 30 53.2 +0.4
	baz=63					
IMW	Indian Meadow	62.68	331	eP	P	20 30 52.6 -0.4
	comp=Z,119nm,1.4s,mb5.6					
IMW				ePcP	PcP	20 31 30.1 -0.6
KCC	Kaiser Creek	62.70	321	P	P	20 30 53.3 +0.1
	baz=63,SNR=8.5					
FLWY	Flagg Ranch	62.71	332	eP	P	20 30 53.1 0.0
	comp=Z,123nm,1.1s,mb5.8					
LAO	LASA Array	62.83	336	eP	P	20 30 52.7 -1.2
	comp=Z,24nm,0.9s,mb5.1					
P09A	Austin	62.84	324	⇑P	P	20 30 54.4 +0.3
	baz=63,SNR=13					
Q08A	Gabbs	62.85	323	⇓P	P	20 30 54.1 0.0
	baz=63					
RLMT	Red Lodge	62.85	333	eP	P	20 30 53.7 -0.4
	comp=Z,29nm,0.8s,mb5.3					
M12A	Wells	62.88	327	P	P	20 30 54.0 -0.3
	baz=63,SNR=21					
LKWY	Lake	62.94	332	eP	P	20 30 55.7 +1.0
LKWY				pmax	pmax	
	comp=Z,12nm,0.6s,mb5.0					
LKWY	Lake	62.94	332	eP	P	20 30 55.7 +1.0
	comp=Z,12nm,0.6s,mb5.0					
O10A	Cortez Mining,	62.97	325	⇓P	P	20 30 55.6 +0.6
	baz=63,SNR=10					
R07C	Lee Vining	63.02	322	⇑P	P	20 30 56.0 +0.8
	baz=63,SNR=28					
U04C	Hernandez Rese	63.03	319	⇑P	P	20 30 55.5 +0.1
	baz=63,SNR=13					
YFT	Old Faithful	63.05	332	eP	P	20 30 56.3 +0.9
V03C	Hunter Liggett	63.12	319	⇓P	P	20 30 56.5 +0.6
	baz=63,SNR=10					
YNR	Norris Junctio	63.18	332	eP	P	20 30 57.1 +0.8
YMR	Madison River	63.28	332	eP	P	20 30 57.4 +0.4
	comp=Z,65nm,0.9s,mb5.6					
O09A	Fish Creek Ran	63.28	325	⇑P	P	20 30 57.1 +0.1
	baz=64,SNR=11					
S05C	Merced	63.35	321	⇓P	P	20 30 57.5 +0.1
	baz=64,SNR=5.3					
M11A	Holland Ranch,	63.36	327	⇑P	P	20 30 57.5 0.0
	baz=64					
S06C	San Francisco	63.38	321	⇓P	P	20 30 57.8 +0.2
	baz=64,SNR=28					
BMN	Battle Mountai	63.48	325	eP	P	20 30 58.1 -0.2
BMN				pmax	pmax	
	comp=Z,33nm,0.8s,mb5.3					
BMN	Battle Mountai	63.48	325	eP	P	20 30 58.0 -0.2
	comp=Z,33nm,0.8s,mb5.3					
P08A	Dixie Valley	63.48	324	⇑P	P	20 30 58.8 +0.5
	baz=64					
DGMT	Dagmar	63.54	339	eP	P	20 30 58.5 -0.2
	comp=Z,110nm,1.0s,mb5.6					
HAST	UC Hastings Re	63.54	319	⇑P	P	20 30 59.1 +0.4
	baz=64,SNR=11					
GCMT	Greycliff	63.55	333	eP	P	20 30 58.3 -0.5
QLMT	Earthquake Lak	63.62	332	eP	P	20 30 60.0 +0.8
PACP	Pacheco Peak	63.75	320	⇑P	P	20 31 00.5 +0.5
	baz=64,SNR=11					
CMB	Columbia Colle	63.81	321	eP	P	20 31 00.6 +0.2
CMB				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.5					
CMB	Columbia Colle	63.81	321	eP	P	20 31 00.6 +0.1
	comp=Z,9.4nm,1.0s,mb4.6					
CMB	Columbia Colle	63.81	321	⇑P	P	20 31 00.4 -0.1
	baz=64					
M10A	I.L. Ranch, Tu	63.83	326	⇓P	P	20 31 00.7 +0.1
	baz=64					
P07A	Fallon	63.85	323	⇑P	P	20 31 01.2 +0.5
	baz=64					
O08A	Rochester Mine	63.91	324	⇓P	P	20 31 01.5 +0.3
	baz=64					
N09A	Rock Creek Ran	63.93	325	⇑P	P	20 31 01.0 -0.3
	baz=64					
R05C	Kirkwood Meado	64.03	322	⇑P	P	20 31 02.8 +0.9
	baz=64,SNR=9.8					
S04C	Ingram Canyon,	64.07	320	⇓P	P	20 31 02.4 +0.2
	baz=64					
HLID	Hailey	64.14	329	eP	P	20 31 02.4 -0.2
	comp=Z,28nm,0.9s,mb5.1					
HLID	Hailey	64.14	329	⇑P	P	20 31 02.9 +0.3
	baz=64					
WCN	Washoe City	64.22	323	⇓P	P	20 31 04.0 +0.9
	baz=64					
N08A	GE Springer Mi	64.23	325	⇓P	P	20 31 02.3 -0.9
	baz=64,SNR=10					
O07A	Toulon	64.25	324	⇑P	P	20 31 03.2 -0.1
	baz=64					
PAHR	Pah Rah Range	64.25	323	eP	P	20 31 03.9 +0.5
	comp=Z,58nm,0.9s,mb5.4					
M09A	Marrel Ranch,	64.27	326	⇓P	P	20 31 03.6 +0.2
	baz=64					
MCMT	McKenzie Canyo	64.28	331	eP	P	20 31 03.8 +0.3
R04C	Big Horse Ranc	64.29	321	⇓P	P	20 31 04.4 +0.8
	baz=64					
BNLO	Ben Lomond (Sa	64.39	319	⇑P	P	20 31 04.4 +0.2
	baz=64					
WENL	Wente Brothers	64.41	320	⇑P	P	20 31 05.1 +0.7
	baz=65					
LAVA	Lava Cap Winer	64.47	322	⇑P	P	20 31 04.8 0.0
	baz=65					
DLMT	Dillon	64.56	331	eP	P	20 31 04.8 -0.6
	comp=Z,69nm,1.4s,mb5.3					
BDM	Black Diamond	64.68	320	⇓P	P	20 31 07.1 +0.9
	baz=65					
SCHQ	Schefferville	64.73	5	P	P	20 31 05.5 -0.9
	comp=Z,38nm,1.0s,mb5.2,baz=178,slow=4.6,SNR=18					
L09A	Wilkinson Ranc	64.79	326	⇓P	P	20 31 07.1 +0.2
	baz=65					
M08A	Happy Creek Ra	64.81	325	⇑P	P	20 31 06.8 -0.1
	baz=65					
O06A	Flanigan	64.81	323	⇓P	P	20 31 07.2 +0.2
	baz=65					
Q04C	Lincoln	64.92	321	⇓P	P	20 31 08.3 +0.7
	baz=65					
BEKR	Beckwourth	64.94	323	⇓P	P	20 31 08.3 +0.5
	baz=65,SNR=34					
N06A	Buffalo Meadow	65.19	324	⇓P	P	20 31 09.7 +0.3
	baz=65					
Q03C	Winters	65.19	321	⇓P	P	20 31 10.5 +1.1
	baz=65					
M07A	Soldier Meadow	65.22	325	⇓P	P	20 31 09.3 -0.3
	baz=65					
HRY	Holter Researc	65.22	333	eP	P	20 31 09.6 0.0
FARB	Farallon Islan	65.25	319	⇓P	P	20 31 09.9 0.0
	baz=65					
K09A	Rome	65.28	326	⇑P	P	20 31 10.3 +0.3
	baz=66					
L08A	Fields	65.28	326	⇓P	P	20 31 09.8 -0.2
	baz=66					
OHCM	Honcut	65.29	322	eP	P	20 31 10.0 -0.1
CVS	Carmenet Viney	65.29	320	⇑P	P	20 31 10.2 +0.1
	baz=65					
O05C	Quincy	65.33	322	⇓P	P	20 31 11.0 +0.7
	baz=66,SNR=6.7					
EGMT	Eagleton	65.33	335	eP	P	20 31 09.9 -0.5
	comp=Z,60nm,1.0s,mb5.4					
EGMT	Eagleton	65.33	335	⇓P	P	20 31 09.8 -0.5
	baz=66					
E15A	Deer Lodge	65.37	332	⇑P	P	20 31 10.3 -0.3
	baz=66					
SUTB	Sutter Butte	65.41	321	⇑P	P	20 31 10.9 +0.1
	baz=66					
ORV	Oroville	65.43	322	⇑P	P	20 31 11.7 +0.7
	baz=66					
MCCM	Marconi Confer	65.44	320	⇑P	P	20 31 11.4 +0.4
	baz=66					
MNRC	McLaughlin Nat	65.60	321	⇑P	P	20 31 12.5 +0.4
	baz=66					
WVOR	Wild Horse Val	65.60	326	eP	P	20 31 11.5 -0.6
WVOR				pmax	pmax	
	comp=Z,38nm,1.1s,mb5.1					
WVOR	Wild Horse Val	65.60	326	eP	P	20 31 11.5 -0.6
	comp=Z,38nm,1.1s,mb5.1					
ELFS	Eagle Lake Fie	65.63	323	⇑P	P	20 31 12.9 +0.7
	baz=66					
O04C	Chester	65.65	323	⇓P	P	20 31 12.7 +0.3
	baz=66					
K08A	Mann Creek Ran	65.72	326	⇓P	P	20 31 12.8 0.0
	baz=66					
L07A	Adell	65.72	325	⇑P	P	20 31 13.1 +0.2
	baz=66					
J09A	Fry Pan Ranch,	65.73	327	⇓P	P	20 31 12.8 -0.1
	baz=66					
E14A	Clinton	65.76	332	⇓P	P	20 31 13.1 0.0
	baz=66					
M06C	Likely Place G	65.85	324	⇑P	P	20 31 13.9 +0.2
	baz=66,SNR=9.0					
CHMT	Chamberlain Mo	66.02	332	eP	P	20 31 14.4 -0.3
E13A	Victor	66.11	331	⇓P	P	20 31 15.4 0.0
	baz=66					
K07A	Rock Creek Ran	66.11	326	⇓P	P	20 31 15.6 +0.3
	baz=66					
J08A	Circle Bar Ran	66.13	327	⇑P	P	20 31 15.2 -0.2
	baz=66					
I09A	Lost Marbles R	66.15	327	⇓P	P	20 31 15.3 -0.3
	baz=66					
HATC	Hat Creek Radi	66.19	323	⇓P	P	20 31 15.9 +0.1
	baz=66					
MOD	Modoc	66.19	324	eP	P	20 31 15.8 0.0
	comp=Z,39nm,0.7s,mb5.3					
MOD	Modoc	66.19	324	⇑P	P	20 31 16.1 +0.3
	baz=66					
GASB	Alder Springs	66.24	321	⇑P	P	20 31 16.8 +0.7
	baz=66					
D14A	Greenough	66.26	332	⇑P	P	20 31 16.1 -0.2
	baz=66					
MSO	Missoula	66.28	332	eP	P	20 31 16.3 -0.1
	comp=Z,61nm,1.2s,mb5.3					
M05C	Lookout	66.34	324	⇑P	P	20 31 17.0 +0.2
	baz=66					
P01C	Double 8 Ranch	66.51	321	⇑P	P	20 31 18.6 +0.7
	baz=67					
I08A	Drewsey	66.55	327	⇓P	P	20 31 17.9 -0.2
	baz=67					
H09A	Durkee	66.58	328	⇑P	P	20 31 17.8 -0.5
	baz=67					
L05A	Lakeview	66.59	324	⇓P	P	20 31 18.8 +0.4
	baz=67					
J07A	Hines	66.59	326	⇓P	P	20 31 17.9 -0.5
	baz=67					
O02C	Red Bluff	66.59	322	⇓P	P	20 31 17.8 -0.7
	baz=67					
WDC	Whiskeytown Da	66.69	322	eP	P	20 31 17.0 -2.0
WDC				pmax	pmax	
	comp=Z,13nm,0.7s,mb4.9					
WDC	Whiskeytown Da	66.69	322	eP	P	20 31 17.0 -2.0
	comp=Z,13nm,0.7s,mb4.9					
WDC	Whiskeytown Da	66.69	322	⇑P	P	20 31 17.4 -1.6
	baz=67					
D13A	Huson	66.71	332	⇑P	P	20 31 19.0 -0.1
	baz=67					
K06A	Valley Falls	66.74	325	⇓P	P	20 31 19.8 +0.4
	baz=67					
J06A	Christmas Vall	66.98	326	⇑P	P	20 31 21.1 +0.2
	baz=67					
H08A	Prairie City	67.01	327	⇑P	P	20 31 21.3 +0.2
	baz=67					
M04C	Macdoel	67.01	324	⇑P	P	20 31 21.1 +0.1
	baz=67					
K05A	Summer Lake	67.06	325	⇓P	P	20 31 22.1 +0.7
	baz=67					
I07A	Ize	67.17	327	⇓P	P	20 31 22.6 +0.5
	baz=67					
C13A	Hot Springs	67.19	332	⇑P	P	20 31 22.2 0.0
	baz=67					
O01C	Eel River Cons	67.21	321	⇓P	P	20 31 22.8 +0.5
	baz=67					
F10A	Beach Ranch, E	67.26	329	⇓P	P	20 31 22.6 0.0
	baz=67					
L04A	Klamath Falls	67.28	324	⇓P	P	20 31 22.8 +0.1
	baz=68					
N02C	Big Bar	67.30	322	⇓P	P	20 31 23.2 +0.3
	baz=68					
M02C	Callahan	67.37	323	⇑P	P	20 31 22.6 -0.7
	baz=68					
BSMT	Bassoo Peak	67.42	332	P	P	20 31 23.8 +0.2
F09A	S2 Ranch, Elgi	67.42	329	⇓P	P	20 31 23.8 +0.2
	baz=68					
I06A	Prineville	67.46	326	⇓P	P	20 31 24.5 +0.6
	baz=68					
K04A	Chilquin	67.47	324	⇓P	P	20 31 24.0 +0.1
	baz=68					
YBH	Yreka Blue Hor	67.49	323	eP	P	20 31 23.0 -1.1
YBH				pmax	pmax	
	comp=Z,21nm,0.9s					
YBH	Yreka Blue Hor	67.49	323	eP	P	20 31 22.9 -1.1
	comp=Z,21nm,0.9s,mb5.0					
YBH	Yreka Blue Hor	67.49	323	⇑P	P	20 31 23.1 -1.0
	baz=68					
H07A	Lands Inn, Kim	67.53	327	⇑P	P	20 31 24.3 -0.1
	baz=68					
KHMM	Horse Mountain	67.59	322	eP	P	20 31 25.4 +0.7
J05A	Fort Rock	67.61	325	⇓P	P	20 31 25.2 +0.3
	baz=68					
C12A	Trout Creek	67.63	332	⇓P	P	20 31 25.2 +0.2
	baz=68					
B13A	Whitefish	67.65	333	⇓P	P	20 31 25.0 -0.1
	baz=68					
G08A	Pilot Rock	67.68	328	⇓P	P	20 31 25.2 -0.1
	baz=68					
JCC	Jacoby Creek	67.74	322	⇑P	P	20 31 26.0 +0.4
	baz=68					
WALA	Waterton Lakes	67.91	333	eP	P	20 31 26.1 -0.7
	comp=Z,36nm,0.8s,mb5.2					
F08A	Pendleton	67.92	328	⇓P	P	20 31 26.6 -0.2
	baz=68					
G07A	Ruggs Ranch, H	68.04	328	⇓P	P	20 31 27.9 +0.4
	baz=68					
A13A	Flathead Natio	68.04	333	⇑P	P	20 31 27.4 -0.1
	baz=68					
H06A	Lindquist Farm	68.04	327	⇓P	P	20 31 28.1 +0.6
	baz=68					
VIPM	Ingram Point	68.05	326	P	P	20 31 28.2 +0.6
KRMB	Red Mountain	68.08	322	eP	P	20 31 28.4 +0.6
E09A	Wood Farm, Sta	68.09	329	⇑P	P	20 31 27.3 -0.5
	baz=68					
HUMO	Hull Mountain	68.17	324	eP	P	20 31 26.9 -1.5
	comp=Z,7.6nm,0.7s,mb4.6					
HUMO	Hull Mountain	68.17	324	⇓P	P	20 31 27.3 -1.1
	baz=68					
FFC	Flin Flon	68.21	343	P	P	20 31 27.8 -0.8
	comp=Z,232nm,0.8s,mb6.1,SNR=6.1					
B12A	Libby	68.23	332	⇓P	P	20 31 28.9 +0.2
	baz=68					
L02A	Cave Junction	68.28	323	⇑P	P	20 31 29.0 0.0
	baz=68					
H05A	Madras	68.47	326	⇑P	P	20 31 30.7 +0.5
	baz=69					
G06A	Carlson Farm,	68.53	327	⇑P	P	20 31 31.3 +0.7
	baz=69					
D09A	Jones Farm, Ri	68.55	330	⇑P	P	20 31 30.6 -0.1
	baz=69					
B11A	Sandpoint	68.57	332	⇑P	P	20 31 30.7 -0.2
	baz=69					
K02A	Glendale	68.58	324	⇓P	P	20 31 30.8 -0.1
	baz=69					
C10A	Spilker Farm,	68.58	331	⇓P	P	20 31 30.6 -0.3
	baz=69					
F07A	Phinny Hill Vi	68.59	328	⇑P	P	20 31 31.4 +0.4
	baz=69					
A12A	Yaak River Ran	68.60	332	⇑P	P	20 31 31.4 +0.3
	baz=69					
IRO	Indian Ridge	68.64	325	P	P	20 31 31.1 -0.2
J03A	Ideyld Park	68.64	324	⇓P	P	20 31 31.0 -0.3
	baz=69					
HAWA	Hanford	68.72	329	eP	P	20 31 31.7 -0.1
	comp=Z,28nm,0.9s,mb5.1					
NEW	Newport	68.81	331	eP	P	20 31 31.8 -0.5
NEW				pmax	pmax	
	comp=Z,22nm,0.9s					
NEW	Newport	68.81	331	eP	P	20 31 31.8 -0.5
	comp=Z,22nm,0.9s,mb5.0					
D08A	Wollman Farm,	68.85	329	⇓P	P	20 31 32.5 0.0
	baz=69					
B10A	Chitwood Farm,	68.88	331	⇓P	P	20 31 33.2 +0.4
	baz=69					
G05A	Wamic	68.90	327	⇓P	P	20 31 33.6 +0.7
	baz=69					
E07A	Sunnyside	68.99	328	⇓P	P	20 31 33.9 +0.4
	baz=69					
J02A	Umpqua	68.99	324	⇓P	P	20 31 33.8 +0.3
	baz=69					
H04A	Detroit Lake	69.02	326	⇓P	P	20 31 33.3 -0.3
	baz=69					
C09A	Chrisman Ranch	69.04	330	⇑P	P	20 31 34.0 +0.3
	baz=69					
K01A	Sixes	69.18	323	⇓P	P	20 31 34.8 +0.2
	baz=69					
I03A	Eugene	69.19	325	⇑P	P	20 31 34.6 -0.1
	baz=69					
SSOR	Sweet Springs	69.28	326	P	P	20 31 35.1 -0.1
F05A	White Salmon	69.39	327	⇑P	P	20 31 36.0 +0.1
	baz=70					
B09A	Rice	69.41	331	⇓P	P	20 31 35.9 -0.1
	baz=70					
C08A	Higginbotham F	69.41	330	⇑P	P	20 31 35.9 -0.1
	baz=70					
D07A	Quincy	69.47	329	⇑P	P	20 31 36.9 +0.4
	baz=70					
G04A	Mulino	69.51	326	⇓P	P	20 31 36.5 -0.2
	baz=70					
A10A	Northport	69.52	332	⇓P	P	20 31 37.0 +0.4
	baz=70					
I02A	Mapleton	69.53	324	⇑P	P	20 31 37.1 +0.4
	baz=70					
COR	Corvallis	69.59	325	eP	P	20 31 37.8 +0.7
COR				pmax	pmax	
	comp=Z,125nm,1.4s,mb5.5					
COR	Corvallis	69.59	325	eP	P	20 31 37.8 +0.7
	comp=Z,125nm,1.4s,mb5.5					
H03A	Soap Creek Ran	69.64	325	⇑P	P	20 31 37.9 +0.5
	baz=70					
TBM	Table Mountain	69.78	329	P	P	20 31 39.1 +0.8
WTV	Waterville	69.80	329	P	P	20 31 38.6 +0.1
C07A	Waterville	69.85	329	⇓P	P	20 31 38.8 +0.1
	baz=70					
D06A	Cle Elum	69.92	329	⇑P	P	20 31 39.4 +0.2
	baz=70					
F04A	Amboy	69.94	327	⇑P	P	20 31 39.1 -0.2
	baz=70					
A09A	Danville	70.00	331	⇓P	P	20 31 39.3 -0.3
	baz=70					
G03A	Yamhill	70.03	326	⇑P	P	20 31 39.5 -0.3
	baz=70					
H02A	Toledo	70.03	325	⇑P	P	20 31 39.4 -0.4
	baz=70					
B07A	Winthrop	70.39	330	⇑P	P	20 31 41.7 -0.4
	baz=71					
D05A	Enumclaw	70.51	328	⇑P	P	20 31 42.7 0.0
	baz=71					
E04A	Onalaska	70.52	327	⇓P	P	20 31 42.8 0.0
	baz=71					
F03A	Seaside	70.56	326	⇓P	P	20 31 43.3 +0.2
	baz=71					
C05A	Tolt Reservoir	70.68	329	⇑P	P	20 31 43.6 -0.1
	baz=71					
EDM	Edmonton	70.81	337	eP	P	20 31 43.2 -1.3
D04A	Dobbs Creek Ra	70.89	328	⇓P	P	20 31 45.4 +0.4
	baz=71					
E03A	Lebam	70.94	327	⇓P	P	20 31 45.5 +0.1
	baz=71					
B06A	Marblemount	71.11	329	⇑P	P	20 31 45.8 -0.6
	baz=71					
B05A	Bryant	71.26	329	⇓P	P	20 31 46.4 -0.8
	baz=71					
C04A	Brinnon	71.36	328	⇓P	P	20 31 47.8 -0.1
	baz=72					
D03A	Wishkah Elem.	71.41	327	⇓P	P	20 31 48.9 +0.7
	baz=72					
MBW	Mount Baker	71.50	329	P	P	20 31 48.4 -0.4
NLWA	Neilton Lookou	71.63	327	⇓P	P	20 31 50.1 +0.6
	baz=72					
A05A	Maple Falls	71.73	329	⇓P	P	20 31 49.7 -0.4
	baz=72					
OSD	Olympics--Snow	71.81	328	P	P	20 31 51.8 +1.2
B04A	Port Angeles	71.86	328	⇓P	P	20 31 51.4 +0.5
	baz=72					
A04A	Legoe Bay, Lum	71.86	329	⇑P	P	20 31 50.9 0.0
	baz=72					
PPT	Papeete	72.65	255	LR	LR	20 54 25.1
	comp=Z,183nm,20.2s,baz=72,slow=28					
SNAA	Sanae	75.13	162	eP	P	20 32 09.4 -0.6
SNAA				pmax	pmax	
	comp=Z,23nm,1.0s					
SNAA	Sanae	75.13	162	eP	P	20 32 09.4 -0.6
	comp=Z,23nm,1.0s,mb4.9					
MORF	Marmelete	77.57	48	eP	P	20 32 25.4 +1.6
	comp=Z,56nm,0.9s,mb5.3					
MOE	Montemor	78.25	47	eP	P	20 32 30.9 +3.3
YKA	Yellowknife Ar	78.34	342	P	P	20 32 26.4 -1.6
	comp=Z,27nm,0.9s,mb5.0,baz=136,slow=6.3,SNR=41					
EVO	Evora	78.50	47	⇓ i P	P	20 32 29.1 +0.2
	comp=Z,91nm,0.9s,mb5.2					
EGRO	El Granado	78.51	48	P	P	20 32 30.4 +1.4
	comp=Z,20nm,0.5s,mb5.2					
SFJD	Kangerlussuaq	78.58	9	i P	P	20 32 27.9 -1.5
	comp=Z,12nm,0.6s,mb4.9					
SFJD				i S	sP	20 33 25.8 +12
SFJD	Kangerlussuaq	78.58	9	i P	P	20 32 27.9 -1.5
SFJD				pmax	pmax	
	comp=Z,12nm,0.6s,mb4.9					
PESTR	Estremoz	78.93	47	eP	P	20 32 32.0 +0.7
	comp=Z,66nm,1.3s,

TORD Torodi Ar. Bea 79.32 75 P P 20 32 33.4 0.0
TORD pP pP 20 33 03.1 -1.2
TORD sP sP 20 33 16.9 -0.6
PCBR Castelo Branco 79.38 46 *eP* **P 20 32 34.2 +0.5**
comp=Z,26nm,0.7s,mb5.2
PVIS Viseu 79.42 45 *eP* **P 20 32 34.7 +0.8**
comp=Z,59nm,1.9s,mb5.1
ESPR Espera 79.48 50 P **P 20 32 36.2 +1.9**
comp=Z,26nm,0.8s,mb5.1
MTE Manteigas 79.55 46 *eP* **P 20 32 35.1 +0.5**
comp=Z,56nm,1.2s,mb5.3
MTE Manteigas 79.55 46 *eP* **P 20 32 35.3 +0.7**
comp=Z,17nm,0.6s,mb5.0
EJIF Jimena Fronter 79.63 50 P **P 20 32 36.8 +1.7**
EJIF pmax pmax
comp=Z,17nm,0.8s,mb4.9
EJIF Jimena Fronter 79.63 50 P **P 20 32 36.8 +1.7**
comp=Z,17nm,0.8s,mb4.9
MAIT Maitri 79.69 160 *eP* **P 20 32 34.8 -0.6**
PCAB Cabril 79.71 44 *eP* **P 20 32 36.1 +0.6**
comp=Z,112nm,1.5s,mb5.5
NVL N'lazarevskaya 79.72 160 *eP* **P 20 32 35.4 -0.2**
NVL pmax pmax
comp=E,13nm,1.1s
NVL pmax pmax
comp=Z,28nm,1.1s,mb5.0
NVL pmax pmax
comp=N,14nm,1.0s
PVRL Vila Real 79.76 45 *eP* **P 20 32 36.4 +0.6**
comp=N,76nm,1.4s,mb5.3
EMIJ Mijas 80.19 50 P **P 20 32 39.4 +1.2**
comp=N,28nm,0.7s,mb5.2
QSPA South Pole Qui 80.33 180 *eP* **P 20 32 39.2 +0.4**
comp=N,23nm,1.0s,mb5.0
ERUA La Rua 80.58 44 P **P 20 32 40.4 +0.2**
ERUA pmax pmax
comp=Z,15nm,0.6s,mb5.0
ERUA La Rua 80.58 44 P **P 20 32 40.4 +0.2**
comp=Z,15nm,0.6s,mb5.0
PBRG Braganca 80.64 45 *eP* **P 20 32 41.2 +0.7**
comp=Z,36nm,0.7s,mb5.3
ECAL Calabor 80.69 45 P **P 20 32 41.4 +0.6**
comp=Z,43nm,1.1s,mb5.2
ELOJ Sierra Loja 80.86 50 P **P 20 32 42.2 +0.5**
EADA Adamuz 80.89 49 P **P 20 32 43.0 +1.2**
comp=Z,17nm,0.8s,mb4.9
ELUQ Luque 80.91 49 P **P 20 32 43.0 +1.1**
ELUQ pmax pmax
comp=Z,21nm,0.8s,mb5.0
ELUQ Luque 80.91 49 P **P 20 32 43.0 +1.1**
comp=Z,21nm,0.8s,mb5.0
EPON Pontenova 80.94 43 P **P 20 32 42.8 +0.7**
comp=Z,35nm,0.7s,mb5.3
ERON Agron 81.08 50 P **P 20 32 43.7 +0.8**
comp=Z,12nm,0.5s,mb5.0
DLBC Dease Lake 81.24 334 *eP* **P 20 32 43.0 -0.7**
DLBC *es*P sP 20 33 27.0 -0.9
EALB Alboran 81.31 51 P **P 20 32 44.4 +0.3**
ECOG Cogollos-Vega 81.34 50 P **P 20 32 44.6 +0.4**
EBAN Banos Encina 81.47 49 P **P 20 32 45.6 +0.7**
EBAN pmax pmax
comp=Z,16nm,0.6s,mb5.0
EBAN Banos Encina 81.47 49 P **P 20 32 45.6 +0.7**
comp=Z,16nm,0.6s,mb5.0
EBER Berja 81.73 50 P **P 20 32 46.8 +0.5**
comp=Z,15nm,0.8s,mb4.9
ESDC Sonseca Array 81.85 47 P **P 20 32 47.5 +0.6**
comp=Z,14nm,0.7s,mb4.9,baz=256,slow=5.4,SNR=58
ESDC pP pP 20 33 18.1 +0.1
comp=Z,2.6nm,0.5s,baz=252,slow=5.5,SNR=3.5
ESDC sP sP 20 33 31.2 0.0
comp=Z,3.2nm,0.8s,baz=251,slow=7.1,SNR=2.4
ESDC Sonseca Array 81.85 47 P **P 20 32 48.0 +1.1**
comp=Z,20nm,0.9s,mb5.0
ESLA Sonseca Array 81.85 47 *eP* **P 20 32 47.8 +0.9**
comp=Z,20nm,1.3s,mb4.8
ESLA *ep*P pP 20 33 18.4 +0.4
EQES Quesada 81.89 49 P **P 20 32 48.2 +1.1**
comp=Z,40nm,0.9s,mb5.2
GUD Guadarrama 82.04 46 P **P 20 32 48.3 +0.4**
EARI Arriondas 82.24 44 P **P 20 32 49.8 +0.8**
comp=Z,17nm,0.6s,mb5.0
EHUE Huescar 82.25 50 P **P 20 32 48.5 -0.5**
ENIJ Nijar 82.27 50 P **P 20 32 48.6 -0.5**
EVIA Vianos 82.58 49 P **P 20 32 51.6 +0.9**
EVIA pmax pmax
comp=Z,106nm,0.6s,mb5.8
EVIA Vianos 82.58 49 P **P 20 32 51.6 +0.9**
comp=Z,106nm,0.6s,mb5.8
ETOB Tobarra 83.29 49 P **P 20 32 56.0 +1.6**
comp=Z,37nm,0.7s,mb5.3
ELAN Lanestosa 83.43 44 P **P 20 32 55.8 +0.7**
comp=Z,44nm,0.7s,mb5.4
ETOR Torete 83.61 47 P **P 20 32 57.7 +1.7**
ETOR pmax pmax
comp=Z,54nm,0.7s,mb5.5
ETOR Torete 83.61 47 P **P 20 32 57.7 +1.7**
comp=Z,54nm,0.7s,mb5.5
EBEN Beniarda 84.30 49 P **P 20 32 59.9 +0.4**
comp=Z,40nm,0.9s,mb5.2
BORG Borgarnes 84.33 20 P **P 20 32 54.0 -5.7**
comp=Z,37nm,0.9s,mb5.2,baz=248,slow=3.9,SNR=6.1
EMOS Mosqueruela 84.61 48 P **P 20 33 03.2 +2.2**
comp=Z,6.8nm,0.6s,mb4.8
EALK Alkurruntz 84.76 45 P **P 20 33 03.4 +1.6**
comp=Z,11nm,0.6s,mb5.0
DCN Croghan 84.82 34 *eP* **P 20 32 58.8 -3.3**
DCN Croghan 84.82 34⇑*iP* **P 20 33 02.0 -0.1**
DCN Croghan 84.82 34⇑*iP* **P 20 33 02.0 -0.1**
SJPF Ste Jean 84.92 45 *eP* **P 20 33 02.8 +0.2**
comp=Z,85nm,1.0s,mb5.3
SJPF *ep*P pP 20 33 34.3 +0.3
SJPF Ste Jean 84.92 45 *eP* **P 20 33 02.8 +0.2**
SJPF *e**PP pP 20 33 34.3 +0.3
SJPF pmax pmax
comp=Z,42nm,1.0s,mb5.3
SJPF Ste Jean 84.92 45 *eP* **P 20 33 02.8 +0.2**
comp=Z,42nm,1.0s,mb5.3
SJPF *ep*P pP 20 33 34.3 +0.3
DLF Lyons Farm 85.21 34 *eP* **P 20 33 00.7 -3.3**
DLF Lyons Farm 85.21 34⇑*iP* **P 20 33 03.9 -0.1**
DLF Lyons Farm 85.21 34⇑*iP* **P 20 33 03.9 -0.1**
QUIF Quistinic 85.21 40 *eP* **P 20 33 03.6 -0.5**
comp=Z,29nm,0.9s,mb4.9
QUIF Quistinic 85.21 40 *eP* **P 20 33 03.6 -0.5**
QUIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
QUIF Quistinic 85.21 40 *eP* **P 20 33 03.6 -0.5**
comp=Z,15nm,0.9s,mb4.9
ROSF Rostrenen 85.29 39 *eP* **P 20 33 04.2 -0.2**
comp=Z,234nm,1.4s,mb5.6
ROSF Rostrenen 85.29 39 *eP* **P 20 33 04.2 -0.2**
ROSF pmax pmax
comp=Z,117nm,1.4s,mb5.6
ROSF Rostrenen 85.29 39 *eP* **P 20 33 04.2 -0.2**
comp=Z,117nm,1.4s,mb5.6
ETSF Etsaut 85.32 45 *eP* **P 20 33 04.7 +0.1**
comp=Z,30nm,1.0s,mb4.9
ETSF Etsaut 85.32 45 *eP* **P 20 33 04.7 +0.1**
ETSF pmax pmax
comp=Z,15nm,1.0s,mb4.9
ETSF Etsaut 85.32 45 *eP* **P 20 33 04.7 +0.1**
comp=Z,15nm,1.0s,mb4.9
ERTA Horta de San J 85.37 47 P **P 20 33 06.8 +2.0**
comp=Z,7.9nm,0.6s,mb4.8
SUMG Summit 85.53 10 *eP* **P 20 33 05.1 -0.5**
comp=Z,93nm,0.8s,mb5.8
SUMG *ep*P pP 20 33 35.1 -1.9
SGMF Saint Gilles 85.71 40 *eP* **P 20 33 05.8 -0.7**
comp=Z,33nm,1.0s,mb4.9
SGMF Saint Gilles 85.71 40 *eP* **P 20 33 05.8 -0.7**
SGMF pmax pmax
comp=Z,17nm,1.0s,mb4.9
SGMF Saint Gilles 85.71 40 *eP* **P 20 33 05.8 -0.7**
comp=Z,17nm,1.0s,mb4.9
EBIE Bielsa 85.75 46 P **P 20 33 07.7 +1.0**
comp=Z,17nm,0.8s,mb5.0
EPF Esparros 85.99 45 *eP* **P 20 33 06.5 -1.4**
comp=Z,15nm,0.6s,mb4.8
EPF Esparros 85.99 45 *eP* **P 20 33 06.5 -1.4**
EPF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
EPF Esparros 85.99 45 *eP* **P 20 33 06.5 -1.4**
comp=Z,7.7nm,0.6s,mb4.8
MFF Saint Martin d 86.73 42 *eP* **P 20 33 10.8 -0.7**
comp=Z,54nm,0.7s,mb5.3
MFF Saint Martin d 86.73 42 *eP* **P 20 33 10.8 -0.7**
MFF pmax pmax
comp=Z,27nm,0.7s,mb5.3
MFF Saint Martin d 86.73 42 *eP* **P 20 33 10.8 -0.7**
comp=Z,27nm,0.7s,mb5.3
LFF La Frestale 86.83 44 *eP* **P 20 33 11.4 -0.6**
comp=Z,66nm,1.0s,mb5.2
LFF La Frestale 86.83 44 *eP* **P 20 33 11.4 -0.6**
LFF pmax pmax
comp=Z,33nm,1.0s,mb5.2
LFF La Frestale 86.83 44 *eP* **P 20 33 11.4 -0.6**
comp=Z,33nm,1.0s,mb5.2
GRR Gorron 86.83 40 *eP* **P 20 33 10.9 -1.1**
comp=Z,33nm,1.0s,mb4.9
GRR *ep*P pP 20 33 42.6 -0.9
GRR Gorron 86.83 40 *eP* **P 20 33 10.9 -1.1**
GRR *e**PP pP 20 33 42.6 -0.9
GRR pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRR Gorron 86.83 40 *eP* **P 20 33 10.9 -1.1**
comp=Z,16nm,1.0s,mb4.9
GRR *ep*P pP 20 33 42.6 -0.9
FLN La Foliniere 87.18 40 *eP* **P 20 33 12.9 -0.8**
comp=Z,29nm,0.8s,mb5.0
FLN *e*MLR MLR
comp=Z,84nm,19.5s
FLN La Foliniere 87.18 40 *eP* **P 20 33 12.9 -0.8**
FLN pmax pmax
comp=Z,15nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,80nm,19.5s
FLN La Foliniere 87.18 40 *eP* **P 20 33 12.9 -0.8**
comp=Z,15nm,0.8s,mb5.0
FLN LR LR
comp=Z,80nm,19.5s
VNDA Vanda 87.30 190 P **P 20 33 14.2 0.0**
comp=Z,5.4nm,0.8s,mb4.5,baz=124,slow=3.5,SNR=35
VNDA pP pP 20 33 46.0 +0.2
comp=Z,8.0nm,0.9s,baz=159,slow=3.8,SNR=10
VNDA Vanda 87.30 190 *eP* **P 20 33 14.6 +0.3**
VNDA *e**PP pP 20 33 47.3 +1.5
VNDA pmax pmax
comp=Z,13nm,1.1s
VNDA Vanda 87.30 190 *eP* **P 20 33 14.6 +0.3**
comp=Z,14nm,1.1s,mb4.8
VNDA *ep*P pP 20 33 47.3 +1.5
LDF La Druitiere 87.36 40 *eP* **P 20 33 13.6 -1.0**
MTLF Montolieu 87.39 45 *eP* **P 20 33 13.8 -0.9**
comp=Z,31nm,1.0s,mb4.9
MTLF Montolieu 87.39 45 *eP* **P 20 33 13.8 -0.9**
MTLF pmax pmax
comp=Z,15nm,1.0s,mb4.9
MTLF Montolieu 87.39 45 *eP* **P 20 33 13.8 -0.9**
comp=Z,15nm,1.0s,mb4.9
RJF Les Rejaudoux 87.46 43 *eP* **P 20 33 14.2 -0.8**
comp=Z,42nm,0.8s,mb5.1
RJF *e*MLR MLR
comp=Z,49nm,17.8s
RJF Les Rejaudoux 87.46 43 *eP* **P 20 33 14.2 -0.8**
RJF pmax pmax
comp=Z,21nm,0.8s,mb5.1
RJF MLR MLR
comp=Z,50nm,17.8s
RJF Les Rejaudoux 87.46 43 *eP* **P 20 33 14.2 -0.8**
comp=Z,21nm,0.8s,mb5.1
RJF LR LR
comp=Z,50nm,17.8s
CAF Calviac 87.72 44 *eP* **P 20 33 15.5 -0.8**
comp=Z,24nm,0.7s,mb5.0
CAF Calviac 87.72 44 *eP* **P 20 33 15.5 -0.8**
CAF pmax pmax
comp=Z,12nm,0.7s,mb5.0
CAF Calviac 87.72 44 *eP* **P 20 33 15.5 -0.8**
comp=Z,12nm,0.7s,mb5.0
EKA Eskdalemuir Ar 87.80 33 P **P 20 33 15.6 -1.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=236,slow=4.4,SNR=12
EKA pP pP 20 33 48.5 +0.2
comp=Z,4.8nm,1.1s,baz=259,slow=4.4,SNR=3.1
DAWY Dawson 88.02 337 *eP* **P 20 33 16.4 -1.4**
INK Inuvik 88.07 341 *eP* **P 20 33 16.4 -1.5**
comp=Z,3μm,0.8s
TCF Toulx Ste Croi 88.20 43 *eP* **P 20 33 17.5 -1.0**
comp=Z,33nm,0.8s,mb5.1
TCF Toulx Ste Croi 88.20 43 *eP* **P 20 33 17.5 -1.0**
TCF pmax pmax
comp=Z,17nm,0.8s,mb5.1
TCF Toulx Ste Croi 88.20 43 *eP* **P 20 33 17.5 -1.0**
comp=Z,17nm,0.8s,mb5.1
BGF Bois d'Agland 88.70 42 *eP* **P 20 33 20.1 -0.8**
comp=Z,87nm,0.7s,mb5.6
BGF Bois d'Agland 88.70 42 *eP* **P 20 33 20.1 -0.8**
BGF pmax pmax
comp=Z,44nm,0.7s,mb5.6
BGF Bois d'Agland 88.70 42 *eP* **P 20 33 20.1 -0.8**
comp=Z,44nm,0.7s,mb5.6
LASF Ste Croix 88.73 45 *eP* **P 20 33 20.7 -0.4**
comp=Z,22nm,0.9s,mb4.9
HYF Humbligny 88.75 42 *eP* **P 20 33 20.5 -0.6**
EGAK Eagle 89.03 337 *eP* **P 20 33 21.2 -1.2**
comp=Z,64nm,1.0s,mb5.6
TSUM Tsumeb 89.09 109 *eP* **P 20 33 23.9 +1.2**
comp=Z,15nm,0.9s,mb5.0
TSUM *ep*P pP 20 33 54.0 -0.4
AVF Avril sur Loir 89.09 42 *eP* **P 20 33 21.6 -1.2**
comp=Z,39nm,0.9s,mb5.2
AVF Avril sur Loir 89.09 42 *eP* **P 20 33 21.6 -1.2**
AVF pmax pmax
comp=Z,19nm,0.9s,mb5.1
AVF Avril sur Loir 89.09 42 *eP* **P 20 33 21.6 -1.2**
comp=Z,19nm,0.9s,mb5.1
SSF Saint Saulge 89.27 42 *eP* **P 20 33 22.2 -1.4**
comp=Z,6.9nm,0.5s,mb4.6
SSF *ep*P pP 20 33 53.8 -1.4
SSF Saint Saulge 89.27 42 *eP* **P 20 33 22.2 -1.4**
SSF *e**PP pP 20 33 53.8 -1.4
SSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
SSF Saint Saulge 89.27 42 *eP* **P 20 33 22.2 -1.4**
comp=Z,3.5nm,0.5s,mb4.7
SSF *ep*P pP 20 33 53.8 -1.4
MENT Mentasta 89.30 335 *eP* **P 20 33 22.9 -0.8**
SMF Signal de Mont 89.38 42 *eP* **P 20 33 23.2 -0.9**
comp=Z,60nm,0.8s,mb5.3
SMF *ep*P pP 20 33 54.7 -1.0
SMF Signal de Mont 89.38 42 *eP* **P 20 33 23.2 -0.9**
SMF *e**PP pP 20 33 54.7 -1.0
SMF pmax pmax
comp=Z,30nm,0.8s,mb5.4
SMF Signal de Mont 89.38 42 *eP* **P 20 33 23.2 -0.9**
comp=Z,30nm,0.8s,mb5.4
SMF *ep*P pP 20 33 54.7 -1.0
SYO Syowa Base 89.39 161⇑*iP* **P 20 33 23.0 -1.1**
VIVF Saint-Julien-I 89.49 44 *eP* **P 20 33 24.3 -0.3**
comp=Z,54nm,1.1s,mb5.2
VIVF *ep*P pP 20 33 55.8 -0.5
VIVF Saint-Julien-I 89.49 44 *eP* **P 20 33 24.3 -0.3**
VIVF *e**PP pP 20 33 55.8 -0.5
VIVF pmax pmax
comp=Z,27nm,1.1s,mb5.2
VIVF Saint-Julien-I 89.49 44 *eP* **P 20 33 24.3 -0.3**
comp=Z,27nm,1.1s,mb5.2
VIVF *ep*P pP 20 33 55.8 -0.5
LOR Lormes 89.55 42 *eP* **P 20 33 23.6 -1.3**
comp=Z,20nm,0.6s,mb5.1
LOR *e*MLR MLR
comp=Z,68nm,19.2s
LOR Lormes 89.55 42 *eP* **P 20 33 23.6 -1.3**
LOR pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
LOR MLR MLR
comp=Z,70nm,19.3s
LOR Lormes 89.55 42 *eP* **P 20 33 23.6 -1.3**
comp=Z,10nm,0.6s,mb5.1
LOR LR LR
comp=Z,70nm,19.3s
SMRF Simiane la Rot 89.91 45 *eP* **P 20 33 26.5 -0.1**
ORIF Oris-en-Rattie 90.34 45 *eP* **P 20 33 28.7 +0.1**
comp=Z,46nm,0.8s,mb5.3
ORIF *e*MLR MLR
comp=Z,99nm,22.8s
ORIF Oris-en-Rattie 90.34 45 *eP* **P 20 33 28.7 +0.1**
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.4
ORIF Oris-en-Rattie 90.34 45 *eP* **P 20 33 28.7 +0.1**
comp=Z,23nm,0.8s,mb5.3
LMR La Mourre 90.42 46 *eP* **P 20 33 28.3 -0.6**
comp=Z,29nm,0.8s,mb5.2
LMR La Mourre 90.42 46 *eP* **P 20 33 28.3 -0.6**
LMR pmax pmax
comp=Z,15nm,0.8s,mb5.2
LMR La Mourre 90.42 46 *eP* **P 20 33 28.3 -0.6**
comp=Z,15nm,0.8s,mb5.2
BAIF Baives 90.49 39 *eP* **P 20 33 28.2 -1.0**
comp=Z,32nm,1.3s,mb5.0
BAIF Baives 90.49 39 *eP* **P 20 33 28.2 -1.0**
BAIF pmax pmax
comp=Z,16nm,1.3s,mb5.0
BAIF Baives 90.49 39 *eP* **P 20 33 28.2 -1.0**
comp=Z,16nm,1.3s,mb5.0
FRF La Foret Royal 90.57 46 *eP* **P 20 33 29.2 -0.4**
comp=Z,75nm,1.0s,mb5.5
FRF La Foret Royal 90.57 46 *eP* **P 20 33 29.2 -0.4**
FRF pmax pmax
comp=Z,38nm,1.0s,mb5.5
FRF La Foret Royal 90.57 46 *eP* **P 20 33 29.2 -0.4**
comp=Z,38nm,1.0s,mb5.5
DOU Dourbes 90.74 39 P **P 20 33 30.3 -0.1**
CABF La Chapelle 90.87 43 *eP* **P 20 33 30.5 -0.5**
comp=Z,28nm,1.0s,mb5.0
CABF La Chapelle 90.87 43 *eP* **P 20 33 30.5 -0.5**
CABF pmax pmax
comp=Z,14nm,1.0s,mb5.0
CABF La Chapelle 90.87 43 *eP* **P 20 33 30.5 -0.5**
comp=Z,14nm,1.0s,mb5.0
GIVF Givet 90.88 39 *eP* **P 20 33 30.3 -0.8**
comp=Z,37nm,0.9s,mb5.2
GIVF Givet 90.88 39 *eP* **P 20 33 30.3 -0.8**
GIVF pmax pmax
comp=Z,18nm,0.9s,mb5.2
GIVF Givet 90.88 39 *eP* **P 20 33 30.3 -0.8**
comp=Z,18nm,0.9s,mb5.2
KEST Kesra 90.97 54 P **P 20 33 31.1 -0.4**
comp=Z,6.2nm,0.8s,mb4.8,baz=229,slow=6.6,SNR=16
LPL La Plagne 91.06 44 *eP* **P 20 33 32.2 +0.3**
comp=Z,39nm,0.8s,mb5.3
LPL *ep*P pP 20 34 03.7 +0.1
LPL La Plagne 91.06 44 *eP* **P 20 33 32.2 +0.3**
LPL *e**PP pP 20 34 03.7 +0.1
LPL pmax pmax
comp=Z,20nm,0.8s,mb5.3
LPL La Plagne 91.06 44 *eP* **P 20 33 32.2 +0.3**
comp=Z,20nm,0.8s,mb5.3
LPL *ep*P pP 20 34 03.7 +0.1
LPG La Plagne 91.07 44 *eP* **P 20 33 32.4 +0.4**
comp=Z,45nm,0.9s,mb5.3
LPG La Plagne 91.07 44 *eP* **P 20 33 32.4 +0.4**
LPG pmax pmax
comp=Z,23nm,0.9s,mb5.3
LPG La Plagne 91.07 44 *eP* **P 20 33 32.4 +0.4**
comp=Z,22nm,0.9s,mb5.3
SBF Sospel 91.19 46 *eP* **P 20 33 31.4 -1.1**
comp=Z,23nm,0.8s,mb5.1
SBF Sospel 91.19 46 *eP* **P 20 33 31.4 -1.1**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.1
SBF Sospel 91.19 46 *eP* **P 20 33 31.4 -1.1**
comp=Z,12nm,0.8s,mb5.1
HAU Haudompre 91.36 42 *eP* **P 20 33 32.0 -1.3**
comp=Z,19nm,1.0s,mb4.9
HAU *ep*P pP 20 34 03.8 -1.2
HAU *e*MLR MLR
comp=Z,64nm,17.0s
HAU Haudompre 91.36 42 *eP* **P 20 33 32.0 -1.3**
HAU *e**PP pP 20 34 03.8 -1.2
HAU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,60nm,17.0s
HAU Haudompre 91.36 42 *eP* **P 20 33 32.0 -1.3**
comp=Z,9.7nm,1.0s,mb4.9
HAU *ep*P pP 20 34 03.8 -1.2
HAU LR LR
comp=Z,60nm,17.0s
WLF Walferdange 91.61 40 *eP* **P 20 33 33.9 -0.6**
comp=Z,18nm,1.1s,mb5.2
WLF Walferdange 91.61 40 P **P 20 33 34.5 0.0**
HINF Hinteralfeld 91.65 42 *eP* **P 20 33 33.7 -1.0**
comp=Z,4.2nm,0.7s,mb4.5
HINF Hinteralfeld 91.65 42 *eP* **P 20 33 33.7 -1.0**
comp=Z,2.1nm,0.7s,mb4.5
COLA College 91.71 336⇑*iP* **P 20 33 34.3 -0.6**
COLA College 91.71 336 *eP* **P 20 33 33.9 -1.0**
comp=Z,37nm,0.9s,mb5.6
KDAK Kodiak Island 91.75 328 P **P 20 33 34.0 -1.1**
comp=Z,209nm,0.7s,SNR=6.4
MCK McKinley 91.78 335 *eP* **P 20 33 34.4 -0.9**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MCK McKinley 91.78 335 *eP* **P 20 33 34.4 -0.9**
comp=Z,7.5nm,0.9s,mb4.9
CDF Champ du Feu 92.06 41 *eP* **P 20 33 35.5 -1.0**
comp=Z,11nm,0.8s,mb4.9
CDF *ep*P pP 20 34 07.2 -1.0
CDF Champ du Feu 92.06 41 *eP* **P 20 33 35.5 -1.0**
CDF *e**PP pP 20 34 07.2 -1.0
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
CDF Champ du Feu 92.06 41 *eP* **P 20 33 35.5 -1.0**
comp=Z,5.5nm,0.8s,mb4.8
CDF *ep*P pP 20 34 07.2 -1.0
DAG Danmarks Havn 92.18 11⇑*iP* **P 20 33 36.0 -1.1**
comp=Z,21nm,0.8s,mb5.4
DAG Danmarks Havn 92.18 11⇑*iP* **P 20 33 36.0 -1.1**
DAG pmax pmax
comp=Z,21nm,0.8s,mb5.4
BFO Black Forest 92.73 42 *eP* **P 20 33 39.0 -0.6**
comp=Z,28nm,1.8s,mb5.3
BFO Black Forest 92.73 42 *eP* **P 20 33 39.0 -0.6**
BFO pmax pmax
comp=Z,28nm,1.8s,mb5.3
TNS Taunus Mts 93.18 40 *eP* **P 20 33 41.6 -0.1**
comp=Z,6.0nm,0.8s,mb5.0
TNS Taunus Mts 93.18 40 *eP* **P 20 33 41.6 -0.1**
TNS pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
DAVOX Davos/Dischmat 93.46 43 P **P 20 33 42.9 -0.1**
comp=Z,6.5nm,0.6s,mb5.1,baz=270,slow=6.2,SNR=8.9
DAVA Damuels 93.56 43⇑*iP* **P 20 33 44.0 +0.6**
comp=Z,7.0nm,1.0s,mb5.0
BOSA Boshof 94.09 120 P **P 20 33 46.4 +0.5**
comp=Z,2.2nm,1.0s,mb4.4,baz=202,slow=5.4,SNR=2.2
MOTA Moosalm 94.39 43⇓*iP* **P 20 33 47.1 -0.1**
comp=Z,4.9nm,0.8s,mb4.9
MOTA Moosalm 94.39 43⇓*iP* **P 20 33 47.1 -0.1**
MOTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
IMA2 Indian Mountai 94.39 336 *eP* **P 20 33 45.9 -1.4**
SQTA Sankt Quirin 94.44 43⇓*iP* **P 20 33 47.6 +0.2**
comp=Z,21nm,1.4s,mb5.3
SQTA Sankt Quirin 94.44 43⇓*iP* **P 20 33 47.6 +0.1**
SQTA pmax pmax
comp=Z,21nm,1.4s,mb5.3
FUR Furstenfeldbru 94.64 42 *eP* **P 20 33 47.8 -0.6**
comp=Z,8.0nm,0.7s,mb5.3
FUR Furstenfeldbru 94.64 42 *eP* **P 20 33 47.8 -0.6**
FUR pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
CLZ Clausthal 94.67 38 *eP* **P 20 33 48.2 -0.4**
comp=Z,9.0nm,1.1s,mb5.1
CLZ Clausthal 94.67 38 *eP* **P 20 33 48.2 -0.4**
CLZ pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
WTTA Wattenberg 94.73 43⇓*iP* **P 20 33 49.1 +0.3**
comp=Z,8.9nm,0.7s,mb5.3
WTTA Wattenberg 94.73 43⇓*iP* **P 20 33 49.1 +0.3**
WTTA pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
BSEG Bad Segeberg 94.99 36 *eP* **P 20 33 50.1 +0.1**
comp=Z,7.0nm,1.0s,mb5.0
NEUB Neuenburg 95.44 39 *eP* **P 20 33 52.0 0.0**
MANZ Manzenberg 95.46 40 *eP* **P 20 33 52.4 +0.2**
comp=Z,4.0nm,1.0s,mb4.8
ROTZ Rotzenmuhle 95.49 41 *eP* **P 20 33 52.2 -0.1**
comp=Z,20nm,1.8s,mb5.2
WERD Werda 95.66 40 *eP* **P 20 33 53.1 +0.1**
comp=Z,6.0nm,1.5s,mb4.8
TANN Tannenbergstha 95.75 40 *eP* **P 20 33 53.6 +0.1**
comp=Z,15nm,1.5s,mb5.2
WET Wettzell 95.83 41 *eP* **P 20 33 54.1 +0.2**
comp=Z,7.0nm,1.3s,mb4.9
WET Wettzell 95.83 41 *eP* **P 20 33 54.1 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.3s,mb4.9

ROBS **Robic** 95.85 44 *i* P P 20 33 53.9 0.0
KBA **Koelnbreinsper** 95.85 43⇑ *i*P P 20 33 54.1 +0.2
comp=Z,8.8nm,0.7s,mb5.3
KBA **Koelnbreinsper** 95.85 43⇑ *i*P P 20 33 54.1 +0.2
KBA pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
CLL **Collm** 96.21 39 *e*P P 20 33 55.0 -0.6
CLL *e*pP pP 20 34 28.0 +0.7
KHC **Kasperske Hory** 96.29 41 *e*P P 20 33 55.8 -0.1
GEC2 **GERESS Array S** 96.33 42 *e*P P 20 33 55.2 -0.9
comp=Z,4.0nm,0.9s,mb4.8
GEC2 **GERESS Array S** 96.33 42 *e*P P 20 33 55.2 -0.9
GEC2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
GERES **GERESS Array B** 96.33 42 P P 20 33 54.5 -1.6
comp=Z,2.4nm,0.9s,mb4.6,baz=250,slow=2.7,SNR=15
MOA **Molln** 96.58 43⇑ *i*P P 20 33 57.4 +0.2
comp=Z,8.9nm,0.7s,mb5.3
NB2 **NORSAR Subarra** 96.58 29 P P 20 33 57.4 +0.2
comp=Z,17nm,1.2s,mb5.3,baz=262,slow=4.8
NB2 **NORSAR Subarra** 96.58 29 P P 20 33 57.4 +0.2
NB2 pmax pmax
comp=Z,17nm,1.2s,mb5.3
NOA **NORSAR Array B** 96.58 29 P P 20 33 57.3 0.0
comp=Z,5.7nm,1.0s,mb5.0,baz=260,slow=4.6,SNR=6.0
BRG **Berggiesshubel** 96.75 40 *e*P P 20 33 57.8 -0.2
comp=Z,3.0nm,1.0s,mb4.7
BOJS **Bojanci** 96.96 45 *i* P P 20 33 58.7 -0.3
PERS **Pernice** 97.00 44 *e*P P 20 34 00.8 +1.6
PRU **Pruhonice** 97.02 41 *e*P P 20 34 00.2 +1.0
MAW **Mawson** 97.08 165 P P 20 33 59.4 -0.1
comp=Z,2.8nm,0.8s,mb4.8,baz=166,slow=3.0,SNR=4.7
MAW LR LR 21 20 12.5
comp=Z,51nm,20.6s,baz=64,slow=37
PVCC **Panska Ves** 97.10 40 *e*P P 20 33 59.4 -0.2
ARSA **Arzberg** 97.35 43⇑ *i*P P 20 34 00.8 +0.1
comp=Z,6.9nm,0.7s,mb5.2
TREC **Trest** 97.55 41 *e*P P 20 34 00.1 -1.5
CONA **Conrad Observa** 97.65 43⇑ *i*P P 20 34 02.6 +0.5
comp=Z,4.8nm,0.8s,mb5.1
HFS **Hagfors** 97.68 30 P P 20 34 01.1 -1.1
comp=Z,5.1nm,0.9s,mb5.0,baz=187,slow=5.8,SNR=3.1
UPC **Upice** 98.01 40 *e*P P 20 34 03.8 +0.1
DPC **Dobruska-Polom** 98.19 40 *e*P P 20 34 04.6 +0.1
ZST **Bratislava** 98.51 43 *e*P P 20 34 06.1 +0.2
ZST pmax pmax
comp=Z,8.0nm,1.2s,mb5.1
ZST **Bratislava** 98.51 43 *e*P P 20 34 06.1 +0.2
comp=Z,8.3nm,1.2s,mb5.1
VYHS **Vyhne** 99.68 42 *i* P Pdif 20 34 10.9 -0.2
VYHS pmax pmax
comp=Z,17nm,2.2s,mb5.3
VYHS **Vyhne** 99.68 42 *i* P Pdif 20 34 10.9 -0.2
comp=Z,17nm,2.2s
ARCES **ARCESS Array B** 102.73 21 P Pdif 20 34 23.8 -0.9
comp=Z,4.9nm,0.9s,baz=351,slow=3.8,SNR=4.0
ARCES **ARCESS Array B** 102.73 21 P Pdif 20 34 23.8 -0.9
LVV **L'vov** 103.13 41 *e*P Pdif 20 34 39.6 +13
OBN **Obninsk** 110.18 35 *i* PKIKP PKiKP 20 38 57.0 -1.6
OBN 20 39 33.0
BRTR **Keskin Array B** 110.39 51 PKiKP PKiKP 20 38 57.0 -2.0
comp=Z,0.6nm,0.8s,baz=156,slow=3.4,SNR=4.6
BRTR PP PP 20 39 30.4 -5.5
comp=Z,0.8nm,0.8s,baz=232,slow=3.03,SNR=4.4
BRTR **Keskin Array B** 110.39 51 *i* PKIKP PKiKP 20 38 58.5 -0.5
BRTR pmax pmax
comp=Z,1.0nm,0.8s
TIXI **Tiksi** 116.50 352 *i* PKIKP PKPdf 20 39 07.8 -2.9
ARU **Arti** 121.11 28 *i* PKIKP PKPdf 20 39 16.4 -3.1
ARU *e* 20 40 46.3
ARU *e* 20 46 11.8
ARU *e*SS SS 20 57 19.6 +5.6
RST **Umm Al-Ruwaisa** 122.41 61 *e*P PKPdf 20 39 22.1 +0.1
RST AMb AMB 20 39 23.3
comp=Z,26nm,0.8s
NAY **Al-Naaiem** 122.66 62 *e*P PKPdf 20 39 22.5 0.0
NAY AMb AMB 20 39 23.6
comp=Z,6.7nm,0.9s
MIB **Mutribah** 122.67 61 *e*P PKPdf 20 39 22.7 +0.2
MIB AMb AMB 20 39 23.9
comp=Z,28nm,0.8s
UMR **Umm Al-Rimmam** 123.03 61 *e*P PKPdf 20 39 23.5 +0.3
UMR AMb AMB 20 39 24.6
comp=Z,32nm,0.5s
AKTK **Aktyubinsk** 123.96 34 PKP PKPdf 20 39 24.6 -0.4
AKTK pPKP pPKPdf 20 39 57.9 -0.2
AKTO **Aktyubinsk** 123.96 34 PKP PKPdf 20 39 24.6 -0.4
comp=Z,6.1nm,0.8s,baz=303,slow=2.7,SNR=20
AKTO pPKP pPKPdf 20 39 57.9 -0.2
comp=Z,4.5nm,0.8s,baz=300,slow=3.4,SNR=4.9
YAK **Yakutsk** 124.88 346 *i* PKIKP PKPdf 20 39 25.6 -1.2
STKA **Stephens Creek** 125.86 219 *e*PKP PKPdf 20 39 28.8 +0.1
comp=Z,12nm,0.6s
STKA **Stephens Creek** 125.86 219 PKP PKPdf 20 39 29.0 +0.3
comp=Z,17nm,0.7s,baz=118,slow=1.3,SNR=25
CHKZ **Chkalovo** 128.23 25 *e*PKIKP PKPdf 20 39 33.0 -0.2
CHKZ *e* 20 40 05.4
BVAR **Borovoye Array** 128.59 26 PKP PKPdf 20 39 34.1 +0.2
comp=Z,5.8nm,0.7s,baz=241,slow=3.1,SNR=23
BVAR pPKP pPKPdf 20 40 06.8 -0.2
comp=Z,3.1nm,0.8s,baz=279,slow=2.9,SNR=5.0
CTA **Charters Tower** 129.83 234 *e*PKP PKPdf 20 39 36.8 +0.6
comp=Z,11nm,0.9s
CTA *e*pPKP pPKPdf 20 40 12.2 +2.9
YSS **Yuzh-Sakhalins** 131.15 326 *i* PKIKP PKPdf 20 39 36.6 -2.1
BOD **Bodaibo** 131.60 354 *e*PKIKP PKPdf 20 39 36.2 -3.4
BOD pmax pmax
comp=Z,5.0nm,1.4s
NVS **Novosibirsk** 131.81 17⇓ *i*PKIKP PKPdf 20 39 39.0 -1.0
NVS *i* 20 40 13.2
NVS pmax pmax
comp=Z,21nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.2s
ZAL **Zalesovo** 133.05 16 PKP PKPdf 20 39 41.6 -0.7
comp=E,10nm,0.9s,baz=190,slow=2.4,SNR=35
ZAL pPKP pPKPdf 20 40 14.2 -1.2
comp=E,4.8nm,0.8s,baz=198,slow=2.1,SNR=3.7
WSAR **Wadi Sarin** 133.63 67 PKP PKPdf 20 39 43.7 +0.3
comp=E,5.9nm,0.6s,baz=238,slow=1.9,SNR=15
WSAR pPKP pPKPdf 20 40 17.8 +1.3
comp=E,3.7nm,0.7s,baz=330,slow=2.5,SNR=2.8
WSAR **Wadi Sarin** 133.63 67 PKP PKPdf 20 39 43.7 +0.3
WSAR pPKP pPKPdf 20 40 17.8 +1.3
FORT **Forrest** 134.06 208 *e*P PKPdf 20 39 44.0 -0.2
comp=E,11nm,0.6s
KLR **Kul'dur** 134.86 336 *e*PKIKP PKPdf 20 39 41.6 -4.1
AS31 **Alice Springs** 136.46 220 *e*PKP PKPdf 20 39 48.8 +0.1
ASAR **Alice Springs** 136.46 220 PKhKP 20 39 34.7
comp=E,0.9nm,0.6s,baz=131,slow=3.5,SNR=10.0
ASAR PKP PKPdf 20 39 48.8 +0.1
comp=E,18nm,0.8s,baz=129,slow=2.0,SNR=52
ASAR pPKP pPKPdf 20 40 22.9 +1.1
comp=E,4.2nm,0.8s,baz=132,slow=2.0,SNR=3.0
ASAR **Alice Springs** 136.46 220 PKIKP PKPdf 20 39 48.8 +0.1
ASAR 20 40 22.9
ASPA **Alice Springs** 136.46 220 *e*PKP PKPdf 20 39 48.8 +0.1
AAK **Ala-Archa** 137.70 34 *e*PKIKP PKPdf 20 39 51.5 +0.5
MK31 **Makanchi Array** 138.31 24 *e*PKIKP PKPdf 20 39 51.4 -0.7
MKAR **Makanchi Array** 138.31 24 PKhKP 20 39 42.1
comp=E,0.7nm,0.8s,baz=262,slow=3.0,SNR=4.0
MKAR PKP PKPdf 20 39 51.0 -1.1
comp=E,5.7nm,0.8s,baz=64,slow=2.8,SNR=18
MKAR pPKP pPKPdf 20 40 24.9 -0.3
comp=E,3.5nm,0.8s,baz=46,slow=5.2,SNR=5.0
MKAR **Makanchi Array** 138.31 24 PKP PKPdf 20 39 51.0 -1.1
MKAR pPKP pPKPdf 20 40 24.9 -0.3
WB2 **Warramunga Arr** 138.78 224 *e*PKP PKPdf 20 39 53.4 +0.4
WB2 *e*pPKP pPKPdf 20 40 25.1 -1.0
WRAB **Tennant Creek** 138.79 224 *e*PKIKP PKPdf 20 39 53.8 +0.8
WRAB *e* 20 40 26.1
WRA **Warramunga Arr** 138.79 224 PKhKP 20 39 42.4
comp=E,1.4nm,0.6s,baz=128,slow=2.3,SNR=10.0
WRA PKP PKPdf 20 39 53.0 0.0
comp=E,24nm,0.7s,baz=130,slow=1.7,SNR=22
WRA pPKP pPKPdf 20 40 26.0 -0.1
comp=E,12nm,1.0s,baz=130,slow=1.2,SNR=3.8
WRA **Warramunga Arr** 138.79 224 PKIKP PKPdf 20 39 53.0 0.0
WRA 20 40 26.0
MDJ **Mudanjiang** 139.39 333 PKP PKPdf 20 39 51.8 -2.3
ZAK **Zakamensk** 139.51 2 *e*PKHKP 20 39 46.6
ZAK pmax pmax
comp=Z,3.0nm,1.0s
MJAR **Matsushiro Arr** 139.95 317 PKhKP 20 39 43.3
comp=Z,4.2nm,0.7s,baz=79,slow=2.7,SNR=4.3

MAT **Matsushiro** 139.95 317 P PKPdf 20 39 46.4 -8.7
CN2 **Changchun** 141.81 336 *e*PKP PKPdf 20 40 01.6 +3.2
SONM **Songino Array** 142.07 359 PKhKP 20 39 53.7
comp=Z,5.7nm,0.6s,baz=331,slow=2.6,SNR=18
SONM PP PP 20 43 02.9 -2.7
comp=Z,3.1nm,0.9s,baz=1.1,slow=7.7,SNR=5.0
WMQ **Urumqi** 142.86 21 *e*PKP PKPdf 20 39 56.8 -3.5
WMQ APKP 20 40 33.0
WMQ XPKP 20 40 41.0
WMQ PP PP 20 43 11.0 +0.6
WMQ SKS SKSdf 20 46 55.0 -3.6
WMQ PP PP
comp=Z,174nm,4.5s
WMQ LR LR
comp=N,200nm,22.6s
WMQ LR LR
comp=E,174nm,21.5s
WMQ LR LR
comp=Z,212nm,24.8s
SNY **Shenyang** 144.21 336 ⇓PKP PKPdf 20 40 00.3 -2.4
SNY APKP 20 40 33.8
THN **Thein Dam** 144.69 46 *e*P PKPdf 20 40 02.9 -0.6
KAKA **Kakadu** 144.87 231 *e*P PKPdf 20 40 03.0 -0.8
comp=Z,104nm,0.6s
FITZ **Fitzroy Crossi** 145.69 216 *e*PKP PKPdf 20 40 06.0 +0.8
comp=Z,80nm,1.0s
FITZ *e*pPKP pPKPdf 20 40 39.6 +1.2
FITZ **Fitzroy Crossi** 145.69 216 PKPbc PKPbc 20 40 06.4 +0.6
comp=Z,44nm,0.8s,baz=167,slow=4.4,SNR=82
FITZ pPKPbc pPKPbc 20 40 39.8 +1.3
comp=Z,60nm,0.9s,baz=160,slow=4.7,SNR=16
MBWA **Marble Bar** 146.07 205 *e*PKPdf PKPdf 20 40 06.3 +0.4
MBWA *e*pPKPdf pPKPdf 20 40 35.7 -3.3
AJM **Ajmer** 146.72 56 *e*P PKPdf 20 40 04.8 -2.1
DL2 **Dalian** 147.48 336 PKP PKPdf 20 40 09.9 +1.7
NDI **New Delhi** 147.75 50 *ex* x 20 40 55.0
BJI **Beijing** 148.32 344 PKP PKPdf 20 40 10.1 +0.5
POO **Poona** 148.47 71 *e*P PKPdf 20 40 12.0 +2.1
HHC **Hu-ho-hao-te** 148.55 351 *e*PKP PKPdf 20 40 11.6 +1.6
HHC APKP 20 40 38.6
HHC PP PP 20 43 47.0 +2.9
HHC SS SS 21 02 44.6 +1.6
HHC LR LR
comp=N,119nm,7.6s
HHC LR LR
comp=E,103nm,10.9s
HHC LR LR
comp=Z,69nm,13.9s
KAD **Karad** 149.01 73 *e*P PKPdf 20 40 11.3 +0.6
BTO **Baotou** 149.01 353 *e*PKP PKPdf 20 40 11.3 +0.6
GTA **Gaotai** 150.12 8 PKP PKPdf 20 40 13.4 +0.9
GTA PKS 20 43 46.3
GTA PP PP 20 44 00.4 +7.2
GTA SKS SKSdf 20 47 02.0 -7.0
GTA SKKS SKKSac 20 50 28.1 -4.4
GTA PP PP
comp=Z,75nm,6.5s
GTA LR LR
comp=N,70nm,9.1s
GTA LR LR
comp=E,59nm,9.9s
GTA LR LR
comp=Z,45nm,9.9s
BHPL **Bhopal** 150.31 60 *e*P PKPdf 20 40 11.5 -1.3
TIA **Tai'an** 151.54 339 *e*PKP PKPdf 20 40 14.3 -0.4
TRD **Trivandrum** 152.13 90 *ex* x 20 40 22.6
KOLN **Koldanda** 152.95 46 *e*P PKPdf 20 40 16.8 0.0
comp=Z,60nm,1.5s
HYB **Hyderabad** 153.08 71 *i* PKP PKPdf 20 40 18.0 +1.0
HYB **Hyderabad** 153.08 71 *e*P PKPdf 20 40 18.0 +1.0
GKN **Gorkha** 153.52 44 *e*P PKPdf 20 40 17.9 +0.3
comp=Z,45nm,1.0s
DMN **Daman** 154.09 44 *e*P PKPdf 20 40 18.9 +0.5
KKN **Kakani** 154.10 44 *e*P PKPdf 20 40 18.9 +0.5
comp=Z,29nm,0.8s
PKI **Pulchoki** 154.32 44 *e*P PKPdf 20 40 18.8 +0.1
comp=Z,17nm,0.9s
GUN **Gumba** 154.42 43 *e*P PKPdf 20 40 19.4 +0.5
comp=Z,28nm,0.9s
NJ2 **Nanjing** 154.48 332 *e*PKP PKPdf 20 40 17.0 -1.9
XAN **Xi'an** 155.62 352 PKP PKPdf 20 40 20.4 -0.1
LSA **Lhasa** 156.25 32 PKP PKPdf 20 40 23.1 +1.8
BOK **Bokaro** 156.93 50 *e*P PKPdf 20 40 22.6 +0.4
WHN **Wuhan** 157.65 339 *e*PKP PKPdf 20 40 25.1 +2.0
CD2 **Chengdu** 158.95 3 *e*PKP PKPdf 20 40 21.1 -3.6
CD2 APKP 20 40 55.8
CD2 XPKP 20 41 09.5
CD2 PP PP 20 44 41.1 -1.5
CD2 SKS SKSdf 20 47 12.1 -6.8
CD2 SKKS SKKSac 20 51 14.6 -5.2
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,70nm,20.4s
CD2 LR LR
comp=Z,100nm,18.0s
KMI **Kunming** 164.58 8 PKP PKPdf 20 40 29.9 -0.6
KMI PKP2 PKPab 20 41 24.8 -1.4
KMI PP PP 20 45 15.9 +3.3
KMI LR LR
comp=Z,41nm,19.4s
CHTO **Chiang Mai** 169.20 33 *e*PKIKP PKPdf 20 40 34.3 +0.4
PSI **Prapat** 170.69 138 PKP PKPdf 20 40 34.1 -0.7
comp=Z,4.5nm,0.4s,baz=213,slow=6.7,SNR=4.5

*CSEM **20** 20:25:57.4, 67.19N×2071E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **20** 20:25:57.4, 67.19N×2071E, h0km, ML3.2, Mining explosion.*
*NAO **20** 20:25:57.1±1.4, 67.16N×2067E, ML2.0*
*BER **20** 20:26:00.4±4.0, 67.17N×2062E, h0km, ML2.1, ML2.0(NAO), Suspected explosion*
HEL 20 20:25:58.0±0.0, **6719N×2070E, h0km, ML2.3, ML3.2**(UPP), **ML2.1**(BER), **Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.09	216	*i* P	Pg	20 25 59.4	-0.3
KUA	Kurravaara	0.78	350	*i* P	Pg	20 26 12.0	-0.9
SALU	Saltoluokta	0.87	284	*i* P	Pg	20 26 13.8	-0.9
NIKU	Nikkaluokta	0.93	317	*e*P	Pg	20 26 14.8	-1.1
PAJU	Pajala	0.96	99	*e*P	Pg	20 26 15.3	-1.1
LANU	Lannavaara	0.99	29	*e*P	Pg	20 26 15.9	-1.1
HARU	Harads	1.04	174	*e*P	Pg	20 26 16.6	-1.3
SJUU	Sjulsmark	1.73	167	*e*P	Pn	20 26 28.6	-0.7
KIF	Kilpisjarvi	1.82	1	*e*P	Pn	20 26 30.8	+0.3
KIF				*e*S	Sn	20 26 54.7	+0.3
LILU	Lilltraesk	1.95	191	*e*P	Pn	20 26 32.0	-0.2
KTK1	Kautokeino	2.06	26	*e*P	Pn	20 26 35.5	+1.7
KTK1				*e*Sg	Sg	20 27 03.6	-0.6
KTK1				AML	AML	20 27 05.2	
comp=Z,34nm,0.5s							
SGF	Sodankyl	2.27	81	*e*P	Pn	20 26 37.0	+0.2
SGF				*e*S	Sn	20 27 03.9	-1.6
SGF				*e*SB	Sb	20 27 06.0	-2.6
SGF				MSG		20 27 09.4	
comp=Z,14nm,0.3s							
MOR8	Moi Rana	2.69	251	*e*Sg	Sg	20 27 16.3	-8.2
MOR8				AML	AML	20 27 24.2	
comp=Z,21nm,0.5s							
LOF	Lofoten	2.89	292	*e*Sg	Sg	20 27 32.5	+1.5
LOF				AML	AML	20 27 38.2	
comp=Z,9.0nm,0.7s							
LOF	Lofoten	2.89	292	AML	AML	20 27 38.2	
comp=Z,9.0nm,0.7s							
ARA0	ARCESS Array S	2.95	35	Pn	Pn	20 26 45.8	-0.3
baz=211,slow=14							
ARA0				Sn	Sn	20 27 22.9	+0.7
baz=219,slow=28							
ARA0	ARCESS Array S	2.95	35	*e*P	Pn	20 26 45.8	-0.3
ARA0				*e*S	Sn	20 27 22.9	+0.7
OUL	Oulu	2.99	133	*e*SB	Sb	20 27 27.8	-1.3
KEV	Kevo	3.47	39	*e*P	Pn	20 26 53.2	0.0
KEV				*e*S	Sn	20 27 31.9	-3.1
MSF	Maaselka	3.57	107	*e*SB	Sb	20 27 44.4	-1.5
NSS	Namsos	4.47	237	*e*Sg	Sg	20 28 17.6	-4.1
NSS				AML	AML	20 28 19.4	
comp=Z,11nm,0.5s							
SUF	Sumiainen	5.05	150	*e*S	Sn	20 28 11.9	-2.1
FIA0	FINESS Array S	6.22	155	Sn	Sn	20 28 40.0	-3.0
baz=345,slow=22							
FIA0				Lg		20 29 13.1	
baz=343,slow=37							
FIA0	FINESS Array S	6.22	155	*e*S	Sn	20 28 40.0	-3.0
FIA0				*e*SG		20 29 13.1	
NB2	NORSAR Subarra	7.43	218	Lg		20 29 49.3	
baz=28,slow=37							
NB2	NORSAR Subarra	7.43	218	Lg		20 29 49.3	
baz=28,slow=37							
NB2	NORSAR Subarra	7.43	218	*e*SG		20 29 49.3	
HFS	Hagfors	7.74	207	Sn	Sn	20 29 15.3	-4.8
baz=37,slow=22							
HFS				Lg		20 29 56.0	
baz=30,slow=28							
HFS	Hagfors	7.74	207	*e*S	Sn	20 29 15.3	-4.8
HFS				*e*SG		20 29 56.0	

*ISCJB **20** 20:29:16.6±1.7, 1331N±005×12143E±009, h8km±11km, mb4.1/10, MS3.6/2, Error ellipse: s-maj=15.4km s-min=6.8km az=132.5*
*IDC **20** 20:29:17.1±0.9, 1322N×121.18E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, MS3.5/2, Ms1 3.6/2, ms1mx3.1/24, Error ellipse: s-maj=39.7km s-min=9.5km az=75.0*
*MAN **20** 20:29:18.4, 1346N×12149E, h3km, mb4.1, ML5.0, MS1.7*
*NEIC **20** 20:29:19.4±0.7, 1329N×12128E, h15km, mb4.4/3, Error ellipse: s-maj=32.3km s-min=9.7km az=66.0*
*BJI **20** 20:29:22.3, 1349N×12121E, h17km, mB4.8, mb4.0*
ISC 20 20:29:18.2±1.6, **1337N**±006×**12147E**±009, **h6**km±10km, **n21**, σ0**89**/21, **mb4.1**/10, **MS3.6**/2, **3C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.89	325	⇑ *i* P	Pg	20 29 35.0	-0.3
TGY				*i* S	Sg	20 29 47.5	+0.6
TGY	Tagaytay City	0.89	325	Pg	Pg	20 29 34.6	-0.8
348nm,0.3s,baz=168,slow=3.4,SNR=141							
TGY				Lg		20 29 46.8	
1μm,0.3s,baz=245,slow=7.2,SNR=17							
PCPH	Palayan	2.21	351	⇓ *e*P	Pn	20 29 54.5	-0.9
PCPH				*e*S	Sn	20 30 22.4	-0.6
PVCP	Virac	2.62	85	⇑ *i*P	Pn	20 30 00.8	-0.3
PALP	Palanan	3.79	14	⇑ *i*P	Pn	20 30 17.4	+0.3
JOW	Kunigami	14.83	24	LR	LR	20 38 36.8	
comp=Z,153nm,20.9s,baz=328,slow=37							
KMI	Kunming	21.17	306	P	P	20 34 10.8	+6.7
6.0nm,1.1s,mb3.8							
KMI				LR	LR		
comp=Z,160nm,15.8s,MS3.5							
PSI	Prapat	24.64	247	P	P	20 34 37.3	-2.1
comp=Z,1.4nm,0.4s,mb3.9,baz=82,slow=7.1,SNR=2.2							
GTA	Gaotai	32.22	328	*e*P	P	20 35 46.9	-0.2
GTA				AP	pP	20 35 52.4	+3.5
GTA				XP	sP	20 35 56.3	+6.6
GTA				AMB	AMB		
comp=Z,3.0nm,1.2s,mb4.0							
LSA	Lhasa	32.41	305	*e*P	P	20 35 50.8	+2.0
comp=Z,13nm,1.1s,mb4.7							
WRA	Warramunga Arr	35.44	159	P	P	20 36 14.3	-0.9
comp=Z,3.0nm,1.0s,mb4.2,baz=336,slow=9.7,SNR=9.6							
WB2	Warramunga Arr	35.45	159	*e*P	P	20 36 15.5	+0.3
SONM	Songino Array	36.59	343	P	P	20 36 26.4	+1.5
comp=Z,1.4nm,0.7s,mb3.9,baz=153,slow=9.7,SNR=2.7							
AS31	Alice Springs	38.76	162	*e*P	P	20 36 44.2	+0.8
ASPA	Alice Springs	38.76	162	*e*P	P	20 36 44.2	+0.8
ASAR	Alice Springs	38.77	162	P	P	20 36 42.8	-0.5
comp=Z,1.0nm,0.5s,mb3.8,baz=343,slow=7.5,SNR=21							
MKAR	Makanchi Array	46.74	323	P	P	20 37 47.9	-0.1
comp=Z,1.3nm,1.1s,mb3.8,baz=120,slow=8.7,SNR=3.4							
STKA	Stephens Creek	48.95	157	P	P	20 38 05.3	+0.1
comp=Z,2.2nm,0.7s,mb4.3,baz=327,slow=10,SNR=4.0							
STKA	Stephens Creek	48.95	157	P	P	20 38 05.3	+0.1
ZRNK	Zerenda	57.20	325	*e*P	P	20 39 05.6	-0.4
comp=Z,4.2nm,0.9s,mb4.5							
NOA	NORSAR Array B	87.89	333	LR	LR	21 22 45.9	
comp=Z,37nm,20.1s,MS3.8,baz=335,slow=36							

*ISCJB **20** 21:00:24.9±0.6, 3433N±004×256E±0.1, h33km, Error ellipse: s-maj=15.2km s-min=5.8km az=171.5*
*NEIC **20** 21:00:24.8, 3437N×2545E, h25km, MD3.2(ATH), After ATH.*
*CSEM **20** 21:00:24.6±0.1, 3429N×2557E, h25km, MD3.2, Error ellipse: s-maj=4.6km s-min=2.1km az=78.0*
*HLW **20** 21:00:25.9, 3438N×2566E, h33km, Mb2.6*
*ATH **20** 21:00:25.0, 3439N×2545E, h26km±2km, MD3.2/5*
ISC 20 21:00:25.6±1.4, **3437N**±004×**255E**±01, **h26**km±14km, **n12**, σ0**84**/16, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.53	15	*e*PN	Pn	21 00 35.8	-1.6
XRY				*e*SN	Sb	21 00 43.7	+0.1
XRY	Khrisi	0.53	15	*e*Pn	Pn	21 00 35.8	-1.6
XRY				*e*Sn	Sb	21 00 43.5	-0.1
NPS	Neapolis	0.90	4	*e*PN	Pn	21 00 41.8	-0.7
NPS				*e*SN	Sn	21 00 54.4	-0.2
NPS	Neapolis	0.90	4	*e*Pn	Pn	21 00 41.8	-0.7
NPS				*e*Sn	Sn	21 00 55.0	+0.4
GVD	Gavdhos	1.28	292	*e*PN	Pn	21 00 48.0	+0.2
VAM	Vamos	1.51	314	*e*PN	Pn	21 00 51.5	+0.6
KARP	Karpathos	1.79	48	*e*PN	Pn	21 00 57.0	+2.3
HMAT	Matruh	3.52	158	P	Pn	21 01 18.2	-0.4
SWA1		5.09	178	P	Pn	21 01 40.3	+0.2
SWA2		5.11	181	P	Pn	21 01 40.4	0.0
SWA2		5.11	181	P	Pn	21 01 40.3	-0.1
HFRF	Wahat Farafira	7.58	161	P	Pn	21 02 14.1	-0.2

*ISCJB **20** 21:04:17.6±1.3, 3434N±004×2547E±009, h23km±14km, Error ellipse: s-maj=13.0km s-min=7.0km az=0.6*
*CSEM **20** 21:04:18.3±0.1, 3435N×2539E, h30km, MD3.1, Error ellipse: s-maj=4.5km s-min=2.2km az=93.0*
*NEIC **20** 21:04:19.4, 3444N×2537E, h32km, MD3.1(ATH), After ATH.*
*ATH **20** 21:04:19.3, 3444N×2535E, h31km±1km, MD3.1/5*
*HLW **20** 21:04:20.3, 3435N×2553E, h33km, Mb2.5*
ISC 20 21:04:19.0±1.1, **3440N**±005×**2543E**±009, **h26**km±12km, **n11**, σ0**75**/13, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.53	25	*e*PN	Pn	21 04 30.0	-0.8
XRY				*e*SN	Sb	21 04 38.5	+1.5
NPS	Neapolis	0.88	10	*e*PN	Pn	21 04 35.5	-0.2
NPS				*e*SN	Sn	21 04 47.5	-0.1
GVD	Gavdhos	1.19	292	*e*PN	Pn	21 04 40.5	+0.6
GVD	Gavdhos	1.19	292	*e*Pn	Pn	21 04 41.0	+1.1
VAM	Vamos	1.43	315	*e*PN	Pn	21 04 43.8	+0.6
VAM	Vamos	1.43	315	*e*Pb	Pb	21 04 43.5	-1.4
KARP	Karpathos	1.83	51	*e*PB	Pb	21 04 51.0	-0.8
HMAT	Matruh	3.58	156	P	Pn	21 05 12.8	0.0
SWA1		5.12	177	P	Pn	21 05 34.4	+0.4
SWA2		5.14	180	P	Pn	21 05 34.4	+0.2
HFRF	Wahat Farafira	7.64	160	P	Pn	21 06 08.4	-0.1

*CSEM **20** 21:09:36.8±0.1, 4345N×4495E, h20km, mb4.0, Error ellipse: s-maj=1.6km s-min=1.3km az=136.0*
*ISCJB **20** 21:09:38.1±0.6, 4343N±002×4487E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.2km az=147.8*
*MOS **20** 21:09:38.6±1.4, 4340N×4482E, h18km, mb4.0/1, Error ellipse: s-maj=8.8km s-min=7.5km az=82.2*
ISC 20 21:09:38.7±0.6, **4344N**±002×**4486E**±004, **h10**km, **n26**, σ1**9**00/44, **2C-2D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	Batakoyurt	0.24	254	*i* Pg	Pg	21 09 43.7	0.0
BTKR				*e*Sg	Sg	21 09 48.2	+1.2
TRKR	Terskaya	0.30	342	*i* Pg	Pg	21 09 44.8	+0.1
TRKR				*i* Sg	Sg	21 09 50.0	+1.2
SNJR	Sundja	0.37	185	*i* Pg	Pg	21 09 45.2	-0.8
SNJR				*e*Sg	Sg	21 09 50.8	-0.2
VLKR	Vladikavkaz	0.41	199	*i* Pg	Pg	21 09 46.1	-0.7
VLKR				*e*Sg	Sg	21 09 52.2	-0.1
KMSR	Komsomolskaya	0.42	261	*e*Pg	Pg	21 09 46.8	-0.1
KMSR				*i* Sg	Sg	21 09 53.4	+0.9
ARNR	Ardon	0.49	240	*i* Pg	Pg	21 09 48.0	-0.3
ARNR				*i* Sg	Sg	21 09 55.5	+0.7
KORR	Kora	0.68	239	*i* Pg	Pg	21 09 51.3	-0.5

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KORR                                   i Sg      Sg      21 10 01.2 +0.5
LACR  Lac                0.74 214      i Pg      Pg      21 09 52.2 -0.8
LACR                                   i Sg      Sg      21 10 02.7 +0.1
ZEI   Tsey               0.97 227      ePG       Pg      21 09 56.7 -0.7
ZEI                                    e                 21 10 10.5
ZEI                                    pmax      pmax
      comp=Z,339nm,0.2s
ZEI                                    smax
      comp=E,2μm,0.5s
ZEI   Tsey               0.97 227      ePg       Pg      21 09 56.7 -0.7
      comp=E,339nm,0.2s
ZEI                                    eSg       Sg      21 10 10.5 +0.5
DIGR  Digorskoe uzhe     1.08 241      i Pg      Pg      21 09 58.3 -1.2
DIGR                                   i Sg      Sg      21 10 13.4 -0.1
KUBR  Kubataba           1.11 289      i Pg      Pg      21 10 00.2 +0.1
PYA   Pyatigorsk         1.44 295      d iPG     Pg      21 10 04.6 -1.7
BEYR  Belyy Ugol+        1.59 292      i Pg      Pg      21 10 06.6 -2.6
SHAR  Shatzhatmas        1.62 282      ePG       Pg      21 10 06.8 -3.0
KIV   Kislovodsk         1.66 289      ePN       Pn      21 10 08.0 +0.1
KIV                                    i S       Sg      21 10 32.1  0.0
KIV                                    pmax      pmax
      comp=Z,32nm,0.6s
KIV                                    smax
      comp=N,592nm,1.3s
KIV   Kislovodsk         1.66 289      ePn       Pn      21 10 08.0 +0.1
      comp=N,32nm,0.6s
KIV                                    i Sg      Sg      21 10 32.1  0.0
TBLG  Delisi             1.71 183      P         Pn      21 10 09.8 +1.2
TBLG                                   S         Sn      21 10 32.6 +2.2
TBLG  Delisi             1.71 183      ePn       Pn      21 10 09.8 +1.3
TBLG                                   eSg       Sg      21 10 32.6 -1.1
MTA   Mtatsminda         1.74 182      P         Pn      21 10 09.3 +0.3
MTA                                    S         Sn      21 10 32.2 +0.9
DGRG  David-gareji       2.02 169      P         Pn      21 10 14.1 +1.2
DGRG                                   S         Sg      21 10 43.7  0.0
GOF   Gofitskoye         2.08 322      ePN       Pn      21 10 15.3 +1.6
GNI   Garni              3.29 182      ePN       Pn      21 10 34.2 +3.9
GNI                                    i S       Sg      21 11 20.6 -3.7
GNI                                    pmax      pmax
      comp=Z,11nm,0.8s
GNI                                    smax
      comp=Z,25nm,1.1s
GNI   Garni              3.29 182      ePn       Pn      21 10 34.2 +3.9
      comp=Z,11nm,0.8s
AKTO  Aktyubinsk        11.39  48      ⇓S        Sn      21 14 22.0 -6.6
      comp=Z,0.5nm,2.0s
AB31  Akbulak array     11.93  56      ⇑P        Pn      21 12 28.1 -0.8
      comp=Z,0.3nm,0.3s,baz=247,slow=11,SNR=6.6
AB31                                   ⇑S        Sn      21 14 35.9 -6.1
      comp=Z,2.6nm,0.7s,baz=247,slow=24
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SSNC ***20*** *21:09:42.1, 2001N×7139W, h0km, MD3.5, ML4.3*
IDC ***20*** *21:09:52.9±1.7, 1820N×6879W, h127km±14km, mb3.7/10, mb1 3.9/11, mb1mx3.7/20, mbtmp4.1/11, MS2.9/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=27.3km s-min=15.1km az=5.0*
ISCJB ***20*** *21:09:54.1±0.8, 1811N±005×6872W±007, h151km±6km, mb3.8/10, Error ellipse: s-maj=11.5km s-min=8.7km az=35.3*
RSPR ***20*** *21:09:56.2, 1798N×6852W, h162km±2km, MD4.2/15, MD4.2/15*
NEIC ***20*** *21:09:56.2, 1798N×6852W, h162km, mb4.6/1, MD4.2(RSPR), After RSPR.*
BJI ***20*** *21:09:56.1, 1800N×6850W, h161km, mB4.9*

ISC 20 21:09:54.9±0.7, 1811N±006×6875W±007, h143km±6km, n47, σ0§90/59, mb3.8/10, 16C-4D, Mona Passage

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
MPR   Mayaguez           1.54  86  ⇑eP       Pn      21 10 25.4 +1.1
MPR                                eS        Sn      21 10 47.7 +1.0
CRPR  Cabo Rojo, PR      1.56  93  ⇑eP       Pn      21 10 24.6 +0.1
CRPR                               eS        Sn      21 10 47.1 -0.2
LSP   Las Mesas          1.58  87  ⇑eP       Pn      21 10 25.2 +0.4
LSP                                eS        Sn      21 10 48.0 +0.3
AGPR  Aguadilla, PR      1.60  77  eS        Sn      21 10 49.4 +1.4
GBPR  Guanica, Bosqu     1.79  94  ⇑eP       Pn      21 10 27.8 +0.7
GBPR  Guanica, Bosqu     1.79  94  eS        Sn      21 10 51.8 +0.1
LRS   Lares              1.82  84  ⇑eP       Pn      21 10 27.6 +0.1
AOPR  Arecibo Observ     1.91  82  ⇑eP       Pn      21 10 28.4 -0.1
AOPR                               eS        Sn      21 10 54.6 +0.3
OBIP  Obispado Ponce     2.04  91  ⇑eP       Pn      21 10 29.9 -0.2
OBIP                               eS        Sn      21 10 57.5 +0.4
CELP  Cerrillos          2.07  90  ⇑eP       Pn      21 10 30.2 -0.1
CELP                               eS        Sn      21 10 57.5 -0.1
ICM   Isla Caja Muer     2.13  95  ⇑eP       Pn      21 10 31.0 -0.1
ICM                                eS        Sn      21 10 58.1 -0.8
SJG   San Juan           2.47  89  ⇓eP       Pn      21 10 35.2 -0.1
SJG                                eS        Sn      21 11 04.9 -1.5
SJG   San Juan           2.47  89  ⇑eP       Pn      21 10 35.1 -0.1
SJG   San Juan           2.47  89  eS        Sn      21 11 05.9 -0.5
SJG   San Juan           2.47  89  P         Pn      21 10 35.0 -0.3
      61nm,0.3s,baz=296,slow=9.5,SNR=78
SJG                                S         Sn      21 11 04.2 -2.3
      58nm,0.3s,baz=317,slow=22,SNR=12
SJG                                LR        LR      21 11 22.8
      comp=Z,234nm,18.9s,baz=180,slow=36
SJG   San Juan           2.47  89  ⇑eP       Pn      21 10 35.1 -0.1
SJG                                eS        Sn      21 11 05.9 -0.5
CPD   Cerro la Pandu     2.70  91  ⇓eP       Pn      21 10 38.2 +0.1
CPD                                eS        Sn      21 11 10.8 -0.7
CBYP  Canovanas          2.76  86  ⇑eP       Pn      21 10 38.5 -0.3
CBYP                               eS        Sn      21 11 11.6 -1.1
HUMP  Col San Antoni     2.76  89  ⇑eP       Pn      21 10 39.1 +0.2
HUMP                               eS        Sn      21 11 11.3 -1.5
MTP   Monte Pirata       3.04  90  ⇑eP       Pn      21 10 43.0 +0.6
MTP                                eS        Sn      21 11 18.0 -1.2
LZG   Guadaloupe-1       6.95 105  eP        Pn      21 11 35.7 +1.6
TBG   Guadaloupe-3       7.16 107  eP        Pn      21 11 38.7 +1.7
MGG   Marie-Galante      7.44 106  eP        Pn      21 11 38.6 -2.1
LMGC  Las Mercedes       8.04 285  ePG       Pn      21 11 43.2 -5.6
      baz=174
LMGC                               eSG       Sn      21 13 09.5 -8.8
      comp=N,46nm,0.6s
LMGC                               e
      comp=E,75nm,0.7s
PCRV  Puerto La Cruz     8.83 153  P         Pn      21 12 04.4 +5.1
      comp=E,0.6nm,0.3s,baz=351,slow=3.3,SNR=3.4
PCRV                               S         Sn      21 13 37.8 +0.5
      comp=E,0.8nm,0.3s,baz=15,slow=12,SNR=3.1
PCRV                               LR        LR      21 15 04.3
      comp=E,76nm,20.1s,baz=15,slow=35
SDV   Santo Domingo      9.34 192  P         Pn      21 12 12.5 +6.3
      comp=E,2.8nm,0.3s,baz=52,slow=9.1,SNR=11
SDV                                S         Sn      21 13 48.7 -1.0
      comp=E,13nm,0.7s
SDV   Santo Domingo      9.34 192  eP        Pn      21 12 12.4 +6.2
      comp=E,13nm,0.7s
TXAR  Lajitas Array     33.74 296  P         P       21 16 22.4 -0.3
      comp=E,0.7nm,0.6s,mb3.6,baz=107,slow=9.4,SNR=14
TXAR                               PcP       PcP     21 18 59.2 +0.5
      comp=E,0.4nm,0.5s,baz=141,slow=5.1,SNR=5.8
SCHQ  Schefferville     36.69   2  P         P       21 16 46.1 -1.7
      comp=E,8.3nm,0.7s,mb4.5,baz=169,slow=6.8,SNR=12
PDAR  Pinedale Array    42.34 314  P         P       21 17 33.4 -1.3
      comp=E,0.4nm,0.8s,mb3.1,baz=100,slow=10,SNR=2.9
PDAR                               PcP       PcP     21 19 25.1 -0.4
      comp=E,0.8nm,0.5s,baz=108,slow=5.3,SNR=6.5
ESDC  Sonseca Array     59.40  54  P         P       21 19 42.5 +0.3
      comp=E,2.0nm,0.7s,mb4.1,baz=276,slow=7.4,SNR=9.2
TORD  Torodi Ar. Bea    67.67  83  P         P       21 20 36.8 +0.3
      comp=E,1.6nm,0.7s,mb3.9,baz=294,slow=6.4,SNR=19
KEST  Kesra             70.17  58  P         P       21 20 52.5 +0.5
      comp=E,2.2nm,0.9s,mb3.9,baz=69,slow=2.5,SNR=5.9
GERES GERESS Array B    71.67  44  P         P       21 21 00.3 -0.7
      comp=E,0.1nm,0.3s,mb3.0,baz=237,slow=4.6,SNR=3.8
ARCES ARCESS Array B    74.67  21  P         P       21 21 17.8 -0.8
      comp=E,1.5nm,0.5s,mb3.9,baz=289,slow=3.7,SNR=10
PKSM  Moragy            75.39  46  ⇓iP       P       21 21 23.7 +1.0
FINES FINESS Array B    76.56  29  P         P       21 21 28.8 -0.6
      comp=E,1.3nm,0.7s,mb3.7,baz=284,slow=7.7,SNR=7.4
DRGR                    78.01  45  ⇓iP       P       21 21 38.2 +0.8
JOF   Joensuu           78.55  27  ep        P       21 21 39.5 -0.9
VTS   Vitosha           79.38  49  ⇑iP       P       21 21 48.4 +3.5
MLR   Muntele Rosu      80.52  45  ⇑iP       P       21 21 52.9 +1.9
BRTR  Keskin Array B    87.75  49  P         P       21 22 28.2 +0.6
      comp=E,1.6nm,0.7s,mb4.0,baz=257,slow=3.5,SNR=11
WMQ   Urumqi           114.71  19  ePKP      PKiKP   21 28 18.0 -0.2
MDJ   Mudanjiang       115.38 346  PKP       PKPdf   21 28 16.1 -3.4
NJ2   Nanjing          129.60 352  ePKP      PKPdf   21 28 47.3 +0.5
STKA  Stephens Creek   149.39 238  PKPbc     PKPbc   21 29 27.7 +0.9
      comp=E,1.8nm,0.6s,baz=86,slow=6.3,SNR=5.3
ASAR  Alice Springs    158.13 251  PKPab     PKPab   21 30 08.3 -0.8
      comp=E,0.5nm,0.8s,baz=102,slow=4.3,SNR=4.4
```

MOS ***20*** *21:18:30.6±1.4, 5528N×16394E, h33km, mb4.3/1, Error ellipse: s-maj=26.3km s-min=19.1km az=72.5*

KRSC 20 21:18:30, 5526N×16363E, h31km, ML4.2, Off east coast of Kamchatka Peninsula

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
KBTR  Krutoberegovo      1.05 335  eP        Pn      21 18 50.3 +1.7
KBTR                               eS        Sn      21 19 03.4 +1.1
MKZ   Mys Kozlova        1.30 238  eP        Pn      21 18 53.7 +1.6
MKZ                                eS        Sn      21 19 09.6 +1.2
ZLN   Zelenaya           1.77 296  eP        Pn      21 19 01.6 +3.1
ZLN                                eS        Sn      21 19 24.4 +4.4
SRKR  Sorokina           1.97 316  eP        Pn      21 19 04.4 +3.2
SRKR                               eS        Sn      21 19 28.3 +3.5
KRSR  Krestovskiy        1.98 300  eP        Pn      21 19 04.3 +2.9
KRSR                               eS        Sn      21 19 28.1 +3.0
KLY   Klyuchi            1.99 303  eP        Pn      21 19 01.9 +0.5
KLY                                eS        Sn      21 19 25.3 +0.1
KMNR  Kamenistaya        1.99 286  eP        Pn      21 19 04.1 +2.6
KMNR                               eS        Sn      21 19 28.2 +2.8
TUMR  Tumrok             1.99 272  eP        Pn      21 19 04.4 +2.9
TUMR                               eS        Sn      21 19 29.1 +3.7
KPT   Kopyto             2.06 292  eP        Pn      21 19 05.9 +3.5
KPT                                eS        Sn      21 19 31.1 +4.1
KOZR  Kozyr              2.27 292  PN        Pn      21 19 09.3 +4.0
KOZR                               S         Sn      21 19 37.2 +5.1
KOZ   Kozyrevsk          2.27 292  eP        Pn      21 19 09.3 +3.9
KOZ                                eS        Sn      21 19 37.2 +4.8
SRDR  Sredinnyy          2.45 297  eP        Pn      21 19 10.9 +3.1
SRDR                               eS        Sn      21 19 40.1 +3.4
SPN   Mys Shipunski      3.03 226  eP        Pn      21 19 18.8 +3.0
SPN                                eS        Sn      21 19 52.8 +1.8
NLC   Nalytchevo         3.27 232  eS        Sn      21 19 59.6 +2.6
AVH   Avacha             3.50 237  eP        Pn      21 19 26.5 +4.3
GNL   Ganaly             3.67 247  eP        Pn      21 19 28.7 +4.1
PET   Petropavlovsk      3.69 235  ePN       Pn      21 19 31.3 +6.5
PET                                eS        Sn      21 20 16.5 +9.3
PET                                pmax      pmax
      comp=Z,40nm,0.5s
PET                                smax
      comp=N,81nm,0.7s
PET   Petropavlovsk      3.69 235  eS        Sn      21 20 11.7 +4.5
RUS   Russkaya           4.15 229  eP        Pn      21 19 34.6 +3.4
RUS                                eS        Sn      21 20 21.5 +2.9
```

ISCJB ***20*** *21:19:55.3±0.8, 3972N±004×2566E±004, h3km±6km, Error ellipse: s-maj=7.4km s-min=4.9km az=63.7*
NEIC ***20*** *21:19:55.9, 3970N×2559E, h3km, MD2.9(ATH), After ATH.*
ATH ***20*** *21:19:55.9, 3970N×2559E, h3km, MD2.9/4*
THE ***20*** *21:19:55.3, 3970N×2568E, h1km, ML2.5*
CSEM ***20*** *21:19:56.2±0.1, 3973N×2564E, h2km, MD2.9, Error ellipse: s-maj=2.7km s-min=1.9km az=26.0*

ISC 20 21:19:55.8±0.7, 3972N±004×2566E±005, h3km±6km, n13, σ0§95/23, 2D, Aegean Sea

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
LIA   Limnos Island      0.41 297  ⇓iPG      Pg      21 20 03.1 -0.5
LIA                                eSG       Sg      21 20 08.3 -0.6
LOS   Limnos             0.49 297  ePg       Pg      21 20 05.2 -0.1
LOS                                eSg       Sg      21 20 12.8 +1.1
PRK   Paraskevi          0.67 134  ⇓iPG      Pg      21 20 08.7 +0.1
PRK                                eSG       Sg      21 20 18.9 +1.7
ALN   Alexandroupoli     1.22  14  ePg       Pg      21 20 18.5 -0.6
ALN                                eSg       Sg      21 20 35.2 +0.3
CHOS  Chios island       1.36 167  ePg       Pn      21 20 19.5 -2.1
OUR   Ouranopolis        1.43 296  ePg       Pn      21 20 20.3 -2.2
OUR                                eSg       Sb      21 20 41.5  0.0
RDO   Rodhopi            1.43 356  ePN       Pn      21 20 23.2 +0.6
AOS   Alonnisos          1.48 249  ePg       Pn      21 20 22.6 -0.6
AOS                                eSg       Sn      21 20 43.3 +0.3
PLG   Polygyros          1.82 292  ePb       Pn      21 20 28.4 +0.5
PLG                                eSb       Sn      21 20 52.9 +1.5
PLG   Polygyros          1.82 292  ePg       Pn      21 20 29.0 +1.1
PLG                                eSb       Sn      21 20 52.9 +1.5
HORT  Hortiatis          2.15 295  ePn       Pn      21 20 32.1 -0.3
HORT                               eSn       Sn      21 21 00.9 +1.3
KNT   Kendrikon          2.55 305  ePn       Pn      21 20 37.6 -0.4
KNT                                eSn       Sn      21 21 09.0 -0.5
GRG   Griva              2.78 298  ePn       Pn      21 20 40.8 -0.3
```

GUC 20 21:36:22.0±0.8, 3350S×7004W, h8km±1km, MD3.5, ML2.2, 4C-7D, Chile-Argentina border region

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
FCH   Farellones         0.27 309  ⇑iP       Pg      21 36 28.3 +0.9
FCH                                i S       Sg      21 36 32.8 +1.7
FCH                                AML       AML     21 36 33.0
      comp=E,942nm,0.2s
SJCH  San Jose de Ma     0.30 242  ⇓iP       Pg      21 36 28.3 +0.3
SJCH                               i S       Sg      21 36 33.2 +1.2
SJCH                               AML       AML     21 36 33.8
      comp=N,1μm,0.3s
PCH   Pirque             0.42 253  ⇑iP       Pg      21 36 31.0 +0.9
PCH                                i S       Sg      21 36 37.5 +1.8
CLCH  Cerro Calan        0.43 284  ⇓iP       Pg      21 36 31.4 +1.0
CLCH                               i S       Sg      21 36 38.3 +2.2
CLCH                               AML       AML     21 36 38.9
      comp=N,299nm,0.3s
CLCH                               AML       AML     21 36 39.5
      comp=E,386nm,0.5s
ANTU  Antumapu           0.50 262  eP        Pg      21 36 32.6 +0.8
ANTU                               i S       Sg      21 36 40.1 +1.8
ANTU                               AML       AML     21 36 41.3
      comp=N,229nm,0.2s
RCDM  Rinconada Maip     0.64 271  ⇓iP       Pg      21 36 35.0 +0.6
RCDM                               i S       Sg      21 36 44.8 +1.9
RCDM                               AML       AML     21 36 46.1
      comp=E,319nm,0.1s
PEL   Peldehue           0.65 303  ⇓iP       Pg      21 36 34.9 +0.4
PEL                                i S       Sg      21 36 44.4 +1.5
PEL                                AML       AML     21 36 45.6
      comp=N,179nm,0.4s
CHCH  Chadas Angostu     0.67 230  ⇑iP       Pg      21 36 35.3 +0.3
CHCH                               i S       Sg      21 36 45.3 +1.5
TACH  Talagante          0.77 258  ⇑iP       Pg      21 36 37.1 +0.3
TACH                               i S       Sg      21 36 48.2 +1.4
CACH  El Canelo          0.78 217  ⇓iP       Pg      21 36 37.2 +0.3
CICH  Cipreses           0.88 201  ⇓iP       Pg      21 36 38.8 -0.1
CICH                               i S       Sg      21 36 51.5 +1.1
JACH  Jahuel             0.94 330  eS        Sg      21 36 53.2 +1.0
LNV   Longovilo          1.23 248  ePn       Pn      21 36 44.7 -0.8
LNV                                i S       Sb      21 37 01.6  0.0
SFDO  San Fernando       1.38 216  ⇓iP       Pn      21 36 47.7 +0.2
SFDO                               i S       Sb      21 37 06.8 +1.1
```

NEIC ***20*** *21:45:35.2, 1540N×9646W, h15km, MD3.7(MEX), After MEX.*

MEX 20 21:45:36.0±0.3, 1551N×9642W, h10km±5km, MD3.7, Near coast of Oaxaca

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
HUIG  Huatulco           0.40  50  i P       Pg      21 45 43.5 -0.3
HUIG                               i S       Sg      21 45 49.2 +0.2
HUIG  Huatulco           0.40  50  i P       Pg      21 45 43.5 -0.3
HUIG                               i S       Sg      21 45 49.1 +0.1
VHO   Vista Hermosa      1.58 349  i P       Pn      21 46 00.6 -3.5
VHO                                i S       Sn      21 46 20.0 -4.6
VHO   Vista Hermosa      1.58 349  i P       Pn      21 46 00.6 -3.5
VHO                                i S       Sn      21 46 20.6 -3.9
OXX   Oaxaca             1.59 349  eP        Pn      21 46 01.0 -3.1
OXX                                i S       Sn      21 46 21.8 -2.9
OXX   Oaxaca             1.59 349  eP        Pn      21 46 01.8 -2.3
OXX                                i S       Sn      21 46 21.8 -2.9
CMIG  Matias Romero      2.15  43  i P       Pn      21 46 08.9 -3.1
CMIG                               i S       Sn      21 46 34.3 -4.4
CMIG  Matias Romero      2.15  43  i P       Pn      21 46 09.9 -2.1
CMIG                               i S       Sn      21 46 36.8 -1.8
UTMO  Huajuapan          2.66 330  eP        Pn      21 46 15.8 -3.1
UTMO                               i S       Sn      21 46 47.8 -3.3
PPM   Popocatepetl       4.12 330  i S       Sn      21 47 25.1 -2.0
PPM   Popocatepetl       4.12 330  i S       Sn      21 47 26.2 -0.9
```

IDC ***20*** *21:52:11.0±1.0, 4647N×15331E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=38.5km s-min=23.4km az=84.0*
ISCJB ***20*** *21:52:11.2±4.7, 4655N±0.1×15355E±0.1, h11km±30km, mb4.1/11, Error ellipse: s-maj=24.5km s-min=12.0km az=121.7*
MOS ***20*** *21:52:13.1±1.1, 4653N×15325E, h26km, mb4.1/5, Error ellipse: s-maj=34.1km s-min=20.0km az=74.5*

ISC 20 21:52:12.6±5.6, 4655N±01×1535E±01, h7km±35km, n20, σ1§13/21, mb4.1/11, 1D, Kuril Islands

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
KUR   Kuril'sk           4.12 255  ⇓iPN      Pn      21 53 15.0 -0.9
KUR                                i S       Sn      21 54 04.0 -0.2
KUR                                pmax      pmax
      comp=Z,150nm,0.5s
KUR                                smax
      comp=N,150nm,0.5s
KUR                                smax
      comp=E,80nm,0.5s
SKR   Severo-Kuril's     4.57  21  ePN       Pn      21 53 22.5 +0.5
MKAR  Makanchi Array    47.30 298  P         P       22 00 45.4 -1.3
      comp=E,0.5nm,0.7s,mb3.6,baz=64,slow=7.7,SNR=3.9
MKAR  Makanchi Array    47.30 298  P         P       22 00 45.4 -1.3
MKAR                               pmax      pmax
      comp=Z,1.0nm,0.7s
GUN   Gumba             55.29 275  eP        P       22 01 48.8 +2.2
      comp=Z,9.5nm,0.7s,mb4.9
KKN   Kakani            55.77 276  eP        P       22 01 51.3 +1.2
      comp=Z,4.2nm,0.5s,mb4.8
DMN   Daman             56.01 276  eP        P       22 01 53.1 +1.4
GKN   Gorkha            56.08 276  eP        P       22 01 53.4 +1.1
      comp=Z,4.3nm,0.5s,mb4.8
KOLN  Koldanda          56.94 277  eP        P       22 01 59.1 +0.7
      comp=Z,6.2nm,0.8s,mb4.7
FINES FINESS Array B    64.41 335  P         P       22 02 48.2 -1.1
      comp=Z,1.1nm,0.4s,mb4.2,baz=33,slow=6.9,SNR=13
FINES FINESS Array B    64.41 335  P         P       22 02 48.2 -1.1
FINES                              pmax      pmax
      comp=Z,1.0nm,0.4s
WRA   Warramunga Arr    68.33 199  P         P       22 03 13.0 -1.4
      comp=Z,0.6nm,0.9s,mb3.6,baz=22,slow=7.0,SNR=2.6
WRA   Warramunga Arr    68.33 199  P         P       22 03 13.0 -1.4
WRA                                pmax      pmax
      comp=Z,1.0nm,0.9s
NB2   NORSAR Subarra    68.58 341  P         P       22 03 15.6 -0.4
      comp=Z,0.8nm,0.6s,mb3.8,baz=26,slow=6.5
NOA   NORSAR Array B    68.58 341  P         P       22 03 14.3 -1.7
      comp=Z,1.5nm,0.7s,mb4.0,baz=28,slow=6.5,SNR=4.3
NOA   NORSAR Array B    68.58 341  P         P       22 03 14.3 -1.7
NOA                                pmax      pmax
      comp=Z,2.0nm,0.7s
AKASG Malin Array Be    71.93 326  P         P       22 03 35.2 -1.3
      comp=Z,0.9nm,0.5s,mb4.0,baz=32,slow=5.6,SNR=7.3
AKASG Malin Array Be    71.93 326  P         P       22 03 35.2 -1.3
AKASG                              pmax      pmax
      comp=Z,1.0nm,0.5s
ASAR  Alice Springs     72.02 199  P         P       22 03 37.1 +0.1
      comp=Z,0.4nm,0.7s,mb3.5,baz=9.8,slow=6.1,SNR=6.2
TXAR  Lajitas Array     77.41  61  P         P       22 04 08.9 +0.6
      comp=Z,0.1nm,0.5s,mb3.0,baz=297,slow=3.9,SNR=4.8
```

BJI ***20*** *22:09:24.6, 1324N×12180E, h19km, mB5.7, mb5.2, Ms5.6, Msz5.3*
ISCJB ***20*** *22:09:26.9±0.1, 1341N±002×12155E±003, h18km, mb5.3/127, MS5.2/178, Error ellipse: s-maj=4.0km s-min=2.8km az=150.3*
GCMT ***20*** *22:09:27.4±0.1, 1352N×12157E, h15km, MW5.6/102, Moment Tensor Solution. s82,c157; s102,c243; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.48±.03; $M_{\theta\theta}$1.19±.03; $M_{\phi\phi}$-0.71±.03; $M_{r\theta}$-1.44±.11; $M_{\theta\phi}$2.12±.03; $M_{\phi r}$0.70±.10; Best double couple: $M_0$2.85200×10^{17} NP1:ϕ_s196.00000°, δ56.00000°, λ-168.00000°. NP2:ϕ_p99.00000°, δ80.00000°, λ-34.00000°. Principal axes: T 2.7980, Plg16.0000°, Azm152.0000°; N 0.1020, Plg55.0000°, Azm265.0000°; P -2.9050, Plg31.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***20*** *22:09:27.4±0.2, 1342N×12155E, h10km, mb5.4/51, MS5.2/130, MW5.6 Error ellipse: s-maj=6.1km s-min=4.1km az=73.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.73; $M_{\theta\theta}$2.16; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.63; $M_{\theta\phi}$1.81; $M_{\phi r}$0.64; Best double couple: $M_0$2.80000×10^{17} NP1:ϕ_s110.00000°, δ77.00000°, λ-22.00000°. NP2:ϕ_s205.00000°, δ69.00000°, λ-166.00000°. Principal axes: T 2.9500, Plg5.0000°, Azm158.0000°; N -0.3800, Plg65.0000°, Azm260.0000°; P -2.5700, Plg24.0000°, Azm66.0000°;*
NEIC Felt [III PIVS] at Manila and [II PIVS] at Quezon City, Luzon.
MAN ***20*** *22:09:28, 1344N×12155E, h11km, mb5.1, ML5.7, MS1.4*
IDC ***20*** *22:09:29.4±1.6, 1339N×12148E, h26km±9km, mb4.7/27, mb1 4.8/28, mb1mx4.7/32, mbtmp4.9/28, ML4.2/1, MS5.0/26, Ms1 5.0/26, ms1mx4.9/36, Error ellipse: s-maj=16.4km s-min=8.7km az=61.0*
MOS ***20*** *22:09:29.1±0.9, 1348N×12161E, h33km, mb5.6/50, MS5.2/40, Error ellipse: s-maj=10.0km s-min=4.4km az=118.7*
SZGRF ***20*** *22:09:32.1, 1363N×12075E, h15km, mb5.7, Mindoro, Philippine Islands*

ISC 20 22:09:28.9±0.1, 1343N±002×12158E±003, h19km, h19km±.9km: pP-P, n577, σ1§11/490, mb5.3/127, MS5.2/178, 43C-26D, Mindoro

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Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC           h m s     ISC
PGP   Puerto Galera      0.61 277  ⇑iP       Pb      22 09 30.0 -11
TGY   Tagaytay City      0.92 317  ⇑iP       Pb      22 09 45.2 -0.9
TGY                                i S       Sb      22 09 55.1 -2.9
TGY   Tagaytay City      0.92 317  Pg        Pg      22 09 44.5 -2.3
      7μm,0.3s,baz=172,slow=1.9,SNR=862
TGY                                Lg        22 09 57.8
      27μm,0.3s,baz=205,slow=16,SNR=21
PCPH  Palayan            2.17 348  ⇑eP       Pn      22 10 04.4 +0.4
PCPH                               i S       Sn      22 10 31.8 +1.4
PVCP  Virac              2.51  86  ⇑iP       Pn      22 10 10.0 +1.4
PVCP                               i S       Sn      22 10 17.8  -21
PALP  Palanan            3.70  13  ⇑iP       Pn      22 10 25.3 +0.2
PALP                                           22 10 37.2
PLP   Palo               4.01 124  eP        Pn      22 10 30.9 +1.6
CVP   Callao Caves       4.26   3  eP        Pn      22 10 33.5 +0.9
SCPH  Surigao            5.27 133  eP        Pn      22 10 49.5 +2.9
DAV   Davao City (W)     7.44 148  eP        Pn      22 11 24.0 +7.6
KKM   Kota Kinabalu      9.04 216  P         Pn      22 11 40.2 +1.8
TSM   Tawau              9.79 202  P         Pn      22 11 50.0 +1.5
NACB  Ninganchiao       10.69   0  ePn       Pn      22 12 02.6 +1.7
YHNB  Yeheng            11.18 359  ePn       Pn      22 12 09.4 +1.8
HKC   Hong Kong         11.29 322  eP        Pn      22 12 17.0 +7.8
QZH   Quanzhou          11.79 347  ⇓iP       Pn      22 12 19.4 +3.3
QZH                                S         Sn      22 14 28.9 +1.8
QZH                                AMB       AMB
      comp=Z,160nm,1.0s
QZH                                AMB       AMB
      comp=Z,3μm,7.6s
QZH                                LR        LR
      comp=N,11μm,12.8s
QZH                                LR        LR
      comp=E,28μm,14.7s
QZH                                LR        LR
      comp=Z,26μm,15.8s
GZH   Guangzhou         12.38 322  P         Pn      22 12 28.9 +4.8
GZH                                LR        LR
      comp=N,10μm,20.0s
GZH                                LR        LR
      comp=E,9μm,15.7s
GZH                                LR        LR
      comp=Z,16μm,21.3s
QIZ   Qiongzhong        12.57 298  P         Pn      22 12 26.9 +0.3
QIZ                                XP        22 12 33.4
QIZ                                S         Sn      22 14 45.6 -0.5
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QIZ AMB AMB
comp=Z,41nm,1.0s
QIZ LR LR
comp=N,11μm,14.7s
QIZ LR LR
comp=Z,9μm,24.6s
QIZ Qiongzhong 12.57 298 *e*Pn **Pn 22 12 28.3 +1.7**
comp=Z,249nm,1.5s
JOW Kunigami 14.73 24 Pn **Pn 22 12 56.2 +0.1**
comp=Z,1.9nm,0.3s,baz=174,slow=11,SNR=9.3
JOW LR LR 22 18 46.3
comp=Z,6μm,19.0s,baz=349,slow=38
KSM Kuching 16.30 224 *e*Pn **Pn 22 13 18.1 +1.5**
SSE Sheshan 17.59 359 ⇓P **Pn 22 13 33.8 +1.0**
SSE AP pP 22 13 40.8 +1.6
SSE S **Sn 22 16 49.8 +1.6**
SSE AMB AMB
comp=Z,95nm,1.4s
SSE AMB AMB
comp=Z,1μm,9.2s
SSE LR LR
comp=N,2μm,18.0s
SSE LR LR
comp=E,8μm,18.0s
SSE LR LR
comp=Z,6μm,15.9s
SSE Sheshan 17.59 359 ⇓P **Pn 22 13 33.8 +1.0**
comp=Z,95nm,1.4s
SSE pP pP 22 13 40.7 +1.5
SSE S **Sn 22 16 49.7 +1.5**
SSE sS sS 22 17 08.3 +4.0
WHN Wuhan 18.29 340 P **Pn 22 13 42.3 +0.8**
WHN S **Sn 22 17 12.0 +6.7**
WHN LR LR
comp=Z,23μm,14.2s
KKTK Khon Kaen 18.36 281 PG **Pn 22 13 51.0 +8.7**
KKTK SG pP 22 13 57.8 +10
KAPI Kappang 18.41 186 Pn **Pn 22 13 45.4 +2.4**
comp=Z,1μm,1.6s,SNR=22
NJ2 Nanjing 18.70 353 *e*P **Pn 22 13 47.1 +0.6**
NJ2 AP pP 22 13 55.6 +4.0
NJ2 XP sP 22 14 00.1 +6.0
NJ2 PP 22 14 03.5
NJ2 S **Sn 22 17 10.0 -5.2**
NJ2 XS sS 22 17 23.0 -4.0
NJ2 AMB AMB
comp=Z,290nm,1.0s
NJ2 AMB AMB
comp=Z,7μm,6.6s
NJ2 LR LR
comp=N,13μm,15.9s
NJ2 LR LR
comp=E,17μm,16.4s
NJ2 LR LR
comp=Z,26μm,16.0s
GYA Guiyang 19.07 315⇑ *i*P **Pn 22 13 52.8 +1.8**
GYA AP pP 22 13 56.8 +1.2
GYA XP sP 22 13 59.9 +1.8
GYA S **Sn 22 17 26.1 +2.1**
GYA AMB AMB
comp=Z,160nm,1.8s
GYA LR LR
comp=N,10μm,16.5s
GYA LR LR
comp=E,8μm,14.4s
GYA LR LR
comp=Z,7μm,15.3s
ENH Enshi 20.14 328 PFAKE 22 14 10.0 +8.2
ENH LR LR
comp=Z,3.0nm,19.0s
NST Nakhon Sawan 20.88 279 P **P 22 14 11.8 +2.0**
comp=Z,116nm,0.9s
KMI Kunming 21.22 306 P **P 22 14 16.4 +2.9**
KMI AP 22 14 19.8
KMI XP sP 22 14 21.4 -0.1
KMI PP 22 14 39.1
KMI S **S 22 18 06.6 -1.9**
KMI XS sS 22 18 14.1 -3.2
KMI SS 22 18 39.8
KMI AMB AMB
comp=Z,89nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,277nm,3.1s
KMI LR LR
comp=N,8μm,13.8s,MS5.3
KMI LR LR
comp=E,6μm,15.9s,MS5.3
KMI LR LR
comp=Z,5μm,16.3s,MS5.0
KMI Kunming 21.22 306 P **P 22 14 16.4 +2.9**
KMI 22 14 39.1
KMI PPP 22 14 49.6
KMI S **S 22 18 06.6 -1.9**
KMI *SS sS 22 18 14.1 -3.2
KMI SS 22 18 39.8
KMI SSS 22 18 53.2
KMI pmax pmax
comp=Z,890nm,1.4s,mb5.9
KMI MLR MLR
comp=Z,5μm,16.3s,MS5.0
KMI Kunming 21.22 306 P **P 22 14 16.4 +2.9**
comp=Z,89nm,1.4s,mb4.9
KMI pP 22 14 19.8
KMI sP sP 22 14 21.4 -0.1
KMI PP 22 14 39.1
KMI PPP 22 14 49.6
KMI S **S 22 18 06.6 -1.9**
KMI sS sS 22 18 14.1 -3.2
KMI SS 22 18 39.8
KMI SSS 22 18 53.2
KMI LR LR
comp=Z,5μm,16.3s,MS5.0
NNT Nongplab 21.30 270 P **P 22 14 19.0 +4.6**
KGM Kluang 21.33 239 P **P 22 14 17.7 +3.0**
SNG Songkhla 21.53 255 P **P 22 14 21.0 +4.2**
comp=Z,200nm,0.9s,mb5.5
BDT Bhumibol Dam 22.10 283 P **P 22 14 25.0 +2.1**
comp=Z,24nm,1.0s,mb4.6
IPM Ipoh 22.15 248 P **P 22 14 27.3 +3.9**
KULM Kulim 22.16 251 *e*P **P 22 14 24.4 +0.8**
CM31 Chiang Mai Arr 22.32 286 PFAKE 22 14 40.0 +15
CM31 LR LR
comp=Z,3μm,19.0s,MS4.7
CHG Chiang Mai 22.39 287 P **P 22 14 27.1 +1.1**
comp=Z,114nm,0.8s,mb5.4
CHTO Chiang Mai 22.39 287 *e*P **P 22 14 27.0 +1.0**
CHTO pmax pmax
comp=Z,80nm,0.8s,mb5.2
CHTO MLR MLR
comp=Z,4μm,22.0s,MS4.8
CHTO Chiang Mai 22.39 287 *e*P **P 22 14 27.0 +1.0**
comp=Z,80nm,0.8s,mb5.2
CHTO LR LR
comp=Z,4μm,22.0s,MS4.8
TIA Tai'an 23.04 351 *e*P **P 22 14 32.4 -0.5**
TIA S **S 22 18 44.1 +1.5**
TIA AMB AMB
comp=Z,101nm,1.2s,mb5.1
TIA LR LR
comp=N,5μm,15.0s,MS5.1
TIA LR LR
comp=E,2μm,13.0s,MS5.1
XAN Xi'an 23.52 333 P **P 22 14 36.6 -1.3**
XAN S **S 22 18 50.8 +0.3**
XAN AMB AMB
comp=Z,64nm,1.5s,mb4.8
XAN AMB AMB
comp=Z,939nm,8.1s
XAN LR LR
comp=N,6μm,15.7s,MS5.3
XAN LR LR
comp=E,6μm,16.3s,MS5.3
XAN LR LR
comp=E,12μm,16.1s
CBIJ Chichi jima 23.58 52 LR LR 22 22 31.4
comp=E,3μm,18.3s,MS4.9,baz=344,slow=33
CD2 Chengdu 23.92 320 P **P 22 14 41.6 0.0**
CD2 AP 22 14 44.9
CD2 XP sP 22 14 47.3 -2.6
CD2 PP 22 15 15.9
CD2 PCP PcP 22 18 26.6 +2.8
CD2 S **S 22 18 51.1 -5.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CD2 AMB AMB
comp=Z,1μm,4.3s
CD2 LR LR
comp=N,9μm,13.2s,MS5.5
CD2 LR LR
comp=E,10μm,18.0s,MS5.5
CD2 LR LR
comp=Z,10μm,17.4s,MS5.3
INCN Inchon 24.38 10 *e*P **P 22 14 47.2 +1.5**
INCN LR LR
comp=Z,5μm,20.0s,MS5.0
KS15 Wonju Array Si 24.57 12 *e*P **P 22 14 47.9 +0.4**
PSI Prapat 24.76 247 P **P 22 14 50.2 +1.0**
comp=Z,28nm,0.7s,mb4.9,baz=43,slow=5.2,SNR=16
PSI Prapat 24.76 247 P **P 22 14 50.2 +1.0**
DL2 Dalian 25.38 0 *i* P **P 22 14 54.8 0.0**
DL2 S **S 22 19 19.8 -0.5**
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.2
DL2 AMB AMB
comp=Z,580nm,7.3s
DL2 LR LR
comp=N,3μm,16.0s,MS5.0
DL2 LR LR
comp=E,2μm,18.0s,MS5.0
DL2 LR LR
comp=Z,4μm,15.6s,MS5.0
JHJ Hachijo jima 2 25.68 37 LR LR 22 23 39.0
comp=Z,8μm,19.0s,MS5.3,baz=231,slow=33
BJT Baijiatuau 26.91 351 *e*P **P 22 15 08.8 +0.1**
BJT pmax pmax
comp=Z,403nm,1.6s
BJT MLR MLR
comp=Z,5μm,19.0s
BJT Baijiatuau 26.91 351 *e*P **P 22 15 08.8 0.0**
comp=Z,403nm,1.6s,mb5.7
BJT LR LR
comp=Z,5μm,19.0s,MS5.1
BJI Beijing 26.93 351 P **P 22 15 08.8 -0.1**
BJI AP pP 22 15 13.0 -1.8
BJI XP sP 22 15 16.4 -0.8
BJI S **S 22 19 44.0 -0.9**
BJI XS sS 22 19 56.9 +2.3
BJI AMB AMB
comp=Z,101nm,1.5s,mb5.1
BJI AMB AMB
comp=Z,1μm,6.5s
BJI LR LR
comp=N,5μm,16.8s,MS5.2
BJI LR LR
comp=E,4μm,16.8s,MS5.2
BJI LR LR
comp=Z,3μm,18.1s,MS4.9
BJI Beijing 26.93 351 P **P 22 15 08.8 -0.1**
comp=Z,101nm,1.5s,mb5.1
BJI pP pP 22 15 13.0 -1.8
BJI sP sP 22 15 16.4 -0.8
BJI S **S 22 19 44.0 -0.9**
BJI sS sS 22 19 56.9 +2.3
BJI LR LR
comp=Z,3μm,18.1s,MS4.9
MAJO Matsushiro 27.42 30 *e*P **P 22 15 11.8 -1.5**
MAJO MLR MLR
comp=Z,5μm,19.0s,MS5.1
MAT Matsushiro 27.42 30 P **P 22 15 11.3 -2.0**
MAT S **S 22 19 55.0 +2.4**
MJAR Matsushiro Arr 27.42 30 P **P 22 15 12.7 -0.6**
comp=Z,7.3nm,0.9s,baz=206,slow=7.7,SNR=13
MJAR LR LR 22 25 19.4
comp=Z,3μm,18.1s,MS4.8,baz=220,slow=34
LZH Lanzhou 27.62 328 *e*P **P 22 15 16.1 +1.0**
LZH AP pP 22 15 21.0 0.0
LZH XP sP 22 15 23.8 +0.4
LZH PP 22 16 04.3
LZH PCP PcP 22 18 34.3 +2.0
LZH *e*S **S 22 19 58.0 +2.2**
LZH XS sS 22 20 05.0 -0.6
LZH SS 22 21 15.0
LZH SCP ScP 22 22 12.8 +1.0
LZH PCS PcS 22 22 14.5 +0.4
LZH SCS ScS 22 26 05.3 +1.6
LZH AMB AMB
comp=Z,140nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,500nm,4.0s
LZH LR LR
comp=N,10μm,15.2s
LZH LR LR
comp=Z,15μm,19.7s,MS5.6
LZH Lanzhou 27.62 328 *e*P **P 22 15 16.1 +1.0**
LZH *SP sP 22 15 23.7 +0.3
LZH 22 16 04.3
LZH 22 18 34.2
LZH *e*S **S 22 19 58.0 +2.2**
LZH SS 22 21 15.0
LZH 22 26 05.2
LZH pmax pmax
comp=Z,140nm,1.3s,mb5.4
LZH MLR MLR
comp=Z,15μm,19.7s,MS5.6
LZH Lanzhou 27.62 328 *e*P **P 22 15 16.1 +1.0**
comp=Z,140nm,1.3s,mb5.4
LZH pP pP 22 15 21.0 0.0
LZH sP sP 22 15 23.7 +0.3
LZH PP 22 16 04.3
LZH PcP PcP 22 18 34.2 +1.9
LZH *e*S **S 22 19 58.0 +2.2**
LZH sS sS 22 20 05.0 -0.6
LZH SS 22 21 15.0
LZH ScP ScP 22 22 12.7 +0.9
LZH PcS PcS 22 22 14.5 +0.4
LZH ScS ScS 22 26 05.2 +1.5
LZH LR LR
comp=Z,15μm,19.7s,MS5.6
KAKA Kakadu 28.11 157 *e*P **P 22 15 18.1 -1.4**
comp=Z,49nm,0.8s,mb5.2
SNY Shenyang 28.35 3 ⇓P **P 22 15 21.3 -0.3**
SNY AP pP 22 15 25.9 -1.6
SNY XP sP 22 15 28.3 -1.6
SNY PP PP 22 16 13.9 -12
SNY S **S 22 20 07.6 +0.4**
SNY XS sS 22 20 17.8 +0.8
SNY AMB AMB
comp=Z,70nm,2.0s,mb4.9
SNY LR LR
comp=N,5μm,16.5s,MS5.3
SNY LR LR
comp=E,3μm,13.1s,MS5.3
SNY LR LR
comp=Z,6μm,15.6s,MS5.3
IMP Imphal 28.40 298 *e*P **P 22 15 21.0 -1.0**
HHC Hu-ho-hao-te 28.69 344 *e*P **P 22 15 26.0 +1.4**
HHC AP pP 22 15 30.3 -0.2
HHC XP sP 22 15 33.3 +0.4
HHC PP PP 22 16 20.8 -8.7
HHC PCP PcP 22 18 34.9 0.0
HHC S **S 22 20 14.6 +2.0**
HHC XS sS 22 20 24.3 +2.0
HHC SS SS 22 21 39.4 -35
HHC SCP ScP 22 22 12.3 -2.8
HHC AMB AMB
comp=Z,55nm,1.6s,mb5.0
HHC AMB AMB
comp=Z,850nm,4.5s
HHC LR LR
comp=N,7μm,17.5s,MS5.5
HHC LR LR
comp=E,7μm,17.9s,MS5.5
HHC LR LR
comp=Z,8μm,14.7s,MS5.4
BTO Baotou 28.91 342 *e*P **P 22 15 25.8 -0.7**
BTO LR LR
comp=N,2μm,13.7s,MS5.1
BTO LR LR
comp=E,3μm,13.7s,MS5.1
SHL Shillong 30.41 298 *e*P **P 22 15 37.7 -2.2**
CN2 Changchun 30.45 6 ⇑P **P 22 15 40.6 +0.4**
CN2 *e*XP sP 22 15 47.5 -1.0
CN2 *e*S **S 22 20 41.0 +0.8**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,18.0s,MS5.2
CN2 LR LR
comp=E,4μm,18.0s,MS5.2
AGT Agartala 30.50 294 *i* P **P 22 15 42.0 +1.4**
AGT *i* x x 22 16 50.0
FITZ Fitzroy Crossi 31.59 173⇑ *i*P **P 22 15 49.8 -0.4**
comp=E,23nm,0.6s,mb5.2
FITZ *e*S **S 22 20 52.9 -5.1**
FITZ Fitzroy Crossi 31.59 173 LR LR 22 30 39.5
comp=E,1μm,20.3s,MS4.5,baz=343,slow=40
MDJ Mudanjiang 31.83 11 P **P 22 15 52.8 +0.5**
MDJ AP pP 22 15 55.8 -2.5
MDJ XP sP 22 15 57.3 -3.4
MDJ PCP PcP 22 18 44.0 +1.0
MDJ S **S 22 21 03.3 +1.5**
MDJ SCP ScP 22 22 26.8 +1.5
MDJ PCS PcS 22 22 28.1 +0.5
MDJ AMB AMB
comp=Z,59nm,1.6s,mb5.2
MDJ AMB AMB
comp=Z,333nm,4.7s
MDJ LR LR
comp=N,2μm,21.5s,MS5.2
MDJ LR LR
comp=E,5μm,24.3s,MS5.2
MDJ LR LR
comp=Z,3μm,15.3s
MDJ Mudanjiang 31.83 11⇓ *i*P **P 22 15 52.9 +0.5**
comp=Z,98nm,0.9s,mb5.6
MDJ LR LR
comp=Z,3μm,22.0s,MS4.9
GTA Gaotai 32.22 327 P **P 22 15 56.1 +0.3**
GTA AP pP 22 16 00.6 -1.2
GTA XP sP 22 16 03.6 -0.6
GTA PP PP 22 17 03.0 -5.7
GTA S **S 22 21 08.8 +0.8**
GTA AMB AMB
comp=Z,47nm,1.8s,mb5.0
GTA AMB AMB
comp=Z,379nm,4.9s
GTA LR LR
comp=N,6μm,18.3s,MS5.4
GTA LR LR
comp=E,5μm,17.9s,MS5.4
GTA LR LR
comp=Z,11μm,19.0s,MS5.6
LSA Lhasa 32.47 305 P **P 22 15 57.3 -0.7**
LSA AP pP 22 16 04.8 +0.9
LSA PP PP 22 17 04.9 -6.5
LSA S **S 22 21 14.3 +2.6**
LSA LR LR
comp=N,2μm,21.5s,MS5.0
LSA LR LR
comp=E,2μm,20.0s,MS5.0
LSA LR LR
comp=Z,3μm,21.5s,MS4.9
LSA Lhasa 32.47 305 *e*P **P 22 15 59.1 +1.1**
LSA pmax pmax
comp=Z,247nm,1.2s,mb5.9
LSA MLR MLR
comp=Z,3μm,19.0s,MS5.0
LSA Lhasa 32.47 305 *e*P **P 22 15 59.1 +1.1**
comp=Z,247nm,1.2s,mb5.9
LSA LR LR
comp=Z,3μm,19.0s,MS5.0
CAL Calcutta 32.83 291⇓ *e*P **P 22 16 12.9 +12**
CAL *e*S **S 22 21 27.9 +10**
SLGI Shiliguri 33.72 298 *e*P **P 22 16 08.9 0.0**
PMG Port Moresby 34.05 130 *d i*P **P 22 16 12.9 +1.1**
PMG Port Moresby 34.05 130 *e*P **P 22 16 12.8 +1.0**
comp=Z,81nm,0.9s,mb5.7
PMG LR LR
comp=Z,2μm,20.0s,MS4.7
ERM Erimo 34.09 29 PFAKE 22 16 20.0 +7.9
ERM LR LR
comp=Z,900nm,19.0s,MS4.5
MBWA Marble Bar 34.42 183 *e*P **P 22 16 15.0 0.0**
MBWA LR LR
comp=Z,2μm,20.0s,MS4.8
BOK Bokaro 35.27 292 *e*P **P 22 16 22.0 -0.3**
BOK AMb AMB 22 16 31.0
comp=Z,59nm,1.0s,mb5.5
COCO West Island 35.35 225 PFAKE 22 16 30.0 +6.9
COCO LR LR
comp=Z,407nm,22.0s,MS4.1
WRAB Tennant Creek 35.45 159*c i*P **P 22 16 23.4 -0.5**
WRA Warramunga Arr 35.46 159 P **P 22 16 23.3 -0.6**
comp=Z,71nm,0.6s,mb5.8,baz=336,slow=9.7,SNR=185
WRA S **S 22 21 54.1 -4.0**
comp=Z,11nm,1.2s,baz=325,slow=15,SNR=6.1
WB2 Warramunga Arr 35.46 159⇑ *i*P **P 22 16 23.1 -0.9**
WB2 *e*S **S 22 21 53.8 -4.3**
ASAJ Asahikawa 35.48 26 P **P 22 16 24.6 +0.4**
comp=Z,26nm,0.8s,mb5.2,baz=238,slow=16,SNR=12
ASAJ LR LR 22 29 53.5
comp=Z,3μm,21.9s,MS5.0,baz=120,slow=34
HIA Hailar 35.77 358 *e*P **P 22 16 26.0 -0.6**
HIA *e* 22 18 53.3
HIA pmax pmax
comp=Z,65nm,1.1s
HIA MLR MLR
comp=Z,4μm,21.0s
HIA Hailar 35.77 358 *e*P **P 22 16 26.0 -0.6**
comp=Z,65nm,1.1s,mb5.5
HIA *e*PcP PcP 22 18 53.3 -0.9
HIA LR LR
comp=Z,4μm,21.0s,MS5.2
JIRN Jiri 35.89 299 *e*P **P 22 16 28.7 +1.1**
comp=Z,24nm,0.4s,mb5.5
GUN Gumba 36.22 299 *e*P **P 22 16 31.0 +0.5**
comp=Z,473nm,0.8s
PKI Pulchoki 36.53 298 *e*P **P 22 16 33.0 -0.1**
comp=Z,446nm,1.2s,mb6.2
SONM Songino Array 36.56 343 P **P 22 16 33.5 +0.1**
comp=Z,23nm,1.0s,mb5.0,baz=161,slow=6.4,SNR=54
SONM LR LR 22 32 20.5
comp=Z,5μm,20.6s,MS5.2,baz=150,slow=38
KLR Kul'dur 36.67 11 *e*P **P 22 16 30.0 -4.3**
KLR *e* 22 17 58.5
KLR *e*S **S 22 22 05.5 -11**
KLR pmax pmax
comp=E,110nm,1.4s
KLR pmax pmax
comp=Z,370nm,1.4s,mb6.0
KLR pmax pmax
comp=N,500nm,11.5s
KLR pmax pmax
comp=Z,1μm,11.5s
KLR MLR MLR
comp=E,3μm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s,MS5.4
KKN Kakani 36.70 299 *e*P **P 22 16 34.6 0.0**
comp=Z,389nm,1.3s,mb6.1
DMN Daman 36.80 298 *e*P **P 22 16 35.6 +0.2**
comp=Z,306nm,1.0s,mb6.1
VIS Vishakhapatnam 37.05 282 *e*P **P 22 16 37.8 +0.3**
VIS AMb AMB 22 16 48.3
comp=Z,120nm,1.1s,mb5.6
GKN Gorkha 37.31 299 *e*P **P 22 16 39.0 -0.7**
comp=Z,215nm,1.0s,mb5.9
YSS Yuzh-Sakhalins 37.85 24⇑ *e*P **P 22 16 42.8 -1.5**
YSS *e*S **S 22 22 31.0 -3.5**
YSS pmax pmax
comp=Z,160nm,1.3s,mb5.6
YSS Yuzh-Sakhalins 37.85 24 *e*P **P 22 16 45.8 +1.5**
comp=Z,122nm,1.3s,mb5.5
KOLN Koldanda 38.13 298 *e*P **P 22 16 46.5 -0.2**
comp=Z,124nm,0.9s,mb5.7
AS31 Alice Springs 38.79 162 *e*P **P 22 16 52.7 +0.5**
AS31 *e*S **S 22 22 48.6 -0.1**
ASAR Alice Springs 38.79 162 P **P 22 16 52.6 +0.4**
comp=Z,69nm,0.6s,mb5.6,baz=338,slow=6.9,SNR=536
ASAR S **S 22 22 48.4 -0.2**
comp=Z,5.0nm,0.9s,baz=349,slow=14,SNR=6.6
ASPA Alice Springs 38.79 162 *e*P **P 22 16 52.7 +0.5**
ASPA *e*S **S 22 22 48.6 -0.1**
CIT Chita 39.03 352 *e*P **P 22 16 54.3 0.0**
CIT *e* 22 18 26.4
CIT *e* 22 22 53.0
CIT pmax pmax
comp=Z,179nm,1.8s,mb5.5
ALBI Allahabad 39.19 294 *e*x x 22 16 45.0
ZAK Zakamensk 39.76 342 *e*P **P 22 16 59.2 -1.2**
ZAK *e* 22 18 38.7
ZAK *e* 22 22 54.5
MDRS Chennai 40.20 274 *e*P **P 22 17 05.0 +1.0**

MDRS			⇓ex	x		22 17 12.7
JBP	**Jabalpur**	**40.54**	**290** ⇓eP	**P**		**22 17 09.2 +2.3**
	comp=Z,98nm,1.3s,mb5.3					
JBP			ex	x		22 17 16.7
	comp=Z,98nm,1.3s					
JBP			eS	**S**		**22 23 16.5 +1.5**
PALK	**Pallekele**	**40.63**	**266** eP	**P**		**22 17 12.7 +5.1**
PALK			LR	LR		
	comp=Z,390nm,19.0s,MS4.3					
TLY	**Talaya**	**40.80**	**343** eP	**P**		**22 17 04.9 -4.1**
TLY			eS	**S**		**22 23 20.8 +1.9**
TLY			eSSS			22 27 03.3
TLY			pmax	pmax		
	comp=Z,60nm,1.4s,mb5.0					
TLY			MLR	MLR		
	comp=Z,4μm,20.0s,MS5.3					
IRK	**Irkutsk**	**41.13**	**344** eP	**P**		**22 17 11.6 -0.1**
IRK			eS	**S**		**22 23 27.6 +3.8**
IRK			pmax	pmax		
	comp=Z,130nm,3.3s					
CTA	**Charters Tower**	**41.21**	**143** eP	**P**		**22 17 13.2 +0.8**
	comp=Z,14nm,1.0s,mb4.6					
CTA			eS	S		22 22 57.7 -27
CTA	**Charters Tower**	**41.21**	**143** LR	LR		22 37 11.5
	comp=Z,1μm,18.3s,MS4.9,baz=335,slow=40					
CTA	**Charters Tower**	**41.21**	**143** eP	**P**		**22 17 13.2 +0.8**
CTA			pmax	pmax		
	comp=Z,14nm,1.0s					
CTAO	**Charters Tower**	**41.21**	**143** eP	**P**		**22 17 13.5 +1.1**
CTAO			pmax	pmax		
	comp=Z,122nm,1.7s,mb5.3					
CTAO			MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0					
CTAO	**Charters Tower**	**41.21**	**143** eP	**P**		**22 17 13.5 +1.2**
	comp=Z,122nm,1.7s,mb5.3					
CTAO			LR	LR		
	comp=Z,2μm,19.0s,MS5.0					
NGP	**Nagpur**	**41.23**	**287** eP	**P**		**22 17 13.7 +1.2**
NGP			ex	x		22 17 20.4
	comp=Z,143nm,1.4s					
NGP			eS	**S**		**22 23 26.2 +1.0**
MOY	**Mondy**	**41.60**	**341** eP	**P**		**22 17 15.7 +0.2**
MOY			pmax	pmax		
	comp=Z,176nm,4.0s					
HYB	**Hyderabad**	**41.60**	**281** i P	**P**		**22 17 15.0 -0.6**
HYB			eS	**S**		**22 23 31.0 +0.2**
HYB	**Hyderabad**	**41.60**	**281** eP	**P**		**22 17 17.0 +1.4**
HYB			eS	**S**		**22 23 17.0 -14**
WMQ	**Urumqi**	**41.94**	**323** eP	**P**		**22 17 19.3 +1.0**
WMQ			AP	pP		22 17 23.0 -1.3
WMQ			XP	sP		22 17 26.5 -0.2
WMQ			PP	PP		22 19 01.0 +5.6
WMQ			SCP	ScP		22 23 05.0 +2.1
WMQ			S	**S**		**22 23 36.5 +0.8**
WMQ			SS	SS		22 26 37.0 -5.6
WMQ			AMB	AMB		
	comp=Z,76nm,1.2s,mb5.2					
WMQ			AMB	AMB		
	comp=Z,547nm,4.0s					
WMQ			LR	LR		
	comp=N,7μm,16.2s,MS5.8					
WMQ			LR	LR		
	comp=E,8μm,17.8s,MS5.8					
WMQ			LR	LR		
	comp=Z,6μm,20.3s,MS5.5					
SALM	**Salem**	**42.34**	**273** eP	**P**		**22 17 23.0 +1.4**
BHPL	**Bhopal**	**42.89**	**290** eP	**P**		**22 17 26.4 +0.3**
BHPL			AMb	AMB		22 17 33.8
	comp=Z,68nm,1.1s,mb5.3					
AKL	**Akola**	**43.10**	**286** i P	**P**		**22 17 28.9 +1.1**
AKL			i x	x		22 23 47.9
CLNS	**Chul'man**	**43.39**	**3** eP	**P**		**22 17 30.2 +0.1**
CLNS			e			22 19 14.0
CLNS			e			22 19 21.6
CLNS			eS	**S**		**22 23 57.1 0.0**
CLNS			eSS	SS		22 27 07.2 -4.0
CLNS			pmax	pmax		
	comp=Z,74nm,1.3s,mb5.3					
CLNS			pmax	pmax		
	comp=N,39nm,1.4s					
CLNS			pmax	pmax		
	comp=E,10.0nm,1.1s					
CLNS			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5					
CLNS			pmax	pmax		
	comp=N,18nm,1.1s					
CLNS			pmax	pmax		
	comp=E,12nm,1.1s					
CLNS			smax			
	comp=N,565nm,13.4s					
CLNS			smax			
	comp=Z,215nm,12.0s					
CLNS			smax			
	comp=E,542nm,14.1s					
CLNS			MLR	MLR		
	comp=N,1μm,16.0s,MS5.1					
CLNS			MLR	MLR		
	comp=Z,4μm,16.0s,MS5.4					
CLNS			MLR	MLR		
	comp=E,2μm,15.0s,MS5.1					
LATR	**Latur**	**43.49**	**283** ex	x		22 18 05.8
NDI	**New Delhi**	**43.83**	**297** eP	**P**		**22 17 33.1 -0.5**
NDI			AMb	AMB		22 17 39.9
	comp=Z,29nm,1.3s,mb4.9					
HNR	**Honiara**	**44.34**	**119** P	**P**		**22 17 38.3 +0.5**
	comp=Z,27nm,0.3s,mb5.4,baz=256,slow=2.7,SNR=2.5					
HNR			LR	LR		22 34 48.4
	comp=Z,2μm,19.3s,MS5.0,baz=355,slow=34					
FORT	**Forrest**	**44.39**	**172** eP	**P**		**22 17 38.0 -0.1**
	comp=Z,59nm,0.6s,mb5.5					
BOD	**Bodaibo**	**44.67**	**354** eP	**P**		**22 17 38.9 -1.5**
BOD			pmax	pmax		
	comp=Z,19nm,1.8s,mb4.6					
KLBR	**Kellerberrin**	**44.91**	**185** eP	**P**		**22 17 41.7 -0.6**
	comp=Z,40nm,0.9s,mb5.2					
MUN	**Mundaring**	**45.44**	**186** eP	pP		22 17 59.4 +6.8
MNGI	**Mangalore**	**45.47**	**275** eP	**P**		**22 17 46.3 -0.5**
DLH	**Dalhousie**	**45.70**	**302** ex	x		22 17 56.0
AJM	**Ajmer**	**45.75**	**294** eP	**P**		**22 17 48.7 -0.2**
AJM			AMb	AMB		22 17 56.4
	comp=Z,114nm,1.1s,mb5.7					
KAD	**Karad**	**45.78**	**281** eP	**P**		**22 17 49.3 +0.2**
KAD			eP			22 17 50.0
KAD			AMb	AMB		22 17 57.5
	comp=Z,74nm,1.4s,mb5.4					
THN	**Thein Dam**	**45.88**	**302** eP	**P**		**22 17 48.4 -1.6**
POO	**Poona**	**46.06**	**283** ⇑i P	**P**		**22 17 50.0 -1.4**
	comp=Z,60nm,1.0s,mb5.5					
NWAO	**Narrogin (SRO)**	**46.28**	**185** eP	**P**		**22 17 53.6 +0.5**
NWAO			pmax	pmax		
	comp=Z,27nm,0.8s					
NWAO			MLR	MLR		
	comp=Z,1μm,20.0s					
NWAO	**Narrogin (SRO)**	**46.28**	**185** eP	**P**		**22 17 53.6 +0.5**
	comp=Z,27nm,0.8s,mb5.2					
NWAO			LR	LR		
	comp=Z,1μm,20.0s,MS4.8					
MK31	**Makanchi Array**	**46.76**	**323** i P	**P**		**22 17 56.8 -0.1**
MKAR	**Makanchi Array**	**46.76**	**323** P	**P**		**22 17 56.8 -0.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=108,slow=8.1,SNR=20					
MKAR			LR	LR		22 36 43.2
	comp=Z,1μm,21.8s,MS4.9,baz=116,slow=35					
MKAR	**Makanchi Array**	**46.76**	**323** ⇑eP	**P**		**22 17 57.0 +0.1**
BOM	**Bombay**	**47.04**	**283** eP	**P**		**22 18 01.8 +2.7**
BOM			ex	x		22 18 09.1
	comp=Z,169nm,1.1s					
BOM			ex	x		22 22 57.8
KSH	**Kashi**	**47.72**	**312** eP	**P**		**22 18 07.3 +3.0**
KSH			eAP	pP		22 18 11.3 +0.9
KSH			eXP	sP		22 18 14.4 +1.6
KSH			ePCP	PcP		22 19 36.9 +3.5
KSH			ePP	PP		22 19 57.1 +1.1
KSH			eSCP	ScP		22 23 28.0 +1.4
KSH			eS	**S**		**22 25 02.0 +2.5**
KSH			eXS	sS		22 25 12.6 +3.1
KSH			eSCS	ScS		22 27 56.8 -0.1
KSH			eSS	SS		22 28 21.9 -5.9
KSH			AMB	AMB		
	comp=Z,159nm,1.3s,mb5.9					
KSH			LR	LR		
	comp=N,5μm,15.3s,MS5.8					
KSH			LR	LR		
	comp=E,7μm,14.0s,MS5.8					
KSH			LR	LR		
	comp=Z,676nm,6.7s					
AAA	**Alma-Ata**	**48.44**	**317** i P	**P**		**22 18 10.6 +0.6**
AAA			eS	**S**		**22 25 09.6 -0.2**
AAA			pmax	pmax		
	comp=Z,749nm,4.0s					
AAA			smax			
	comp=N,836nm,11.8s					
AAA			MLR	MLR		
	comp=Z,3μm,25.0s,MS5.2					
ULHL	**Ulahol**	**48.52**	**315** P	**P**		**22 18 11.3 +0.8**
	SNR=11					
YAK	**Yakutsk**	**48.88**	**5** d i P	**P**		**22 18 12.1 -1.2**
YAK			e*PP	pP		22 18 22.2 +2.8
YAK			i			22 20 07.7
YAK			eS	**S**		**22 25 14.1 -1.8**
YAK			e*SS	sS		22 25 29.2 +3.3
YAK			e			22 28 00.0
YAK			i SS	SS		22 28 46.4 -0.2
YAK			pmax	pmax		
	comp=Z,117nm,1.5s,mb5.7					
YAK			pmax	pmax		
	comp=N,67nm,1.4s					
YAK			pmax	pmax		
	comp=E,23nm,1.4s					
YAK			pmax	pmax		
	comp=Z,231nm,2.3s,mb5.8					
YAK			pmax	pmax		
	comp=N,203nm,1.9s					
YAK			pmax	pmax		
	comp=E,94nm,1.8s					
YAK			smax			
	comp=E,216nm,6.8s					
YAK			smax			
	comp=N,533nm,10.7s					
YAK			MLR	MLR		
	comp=N,2μm,19.0s,MS5.3					
YAK			MLR	MLR		
	comp=E,2μm,19.0s,MS5.3					
YAK			MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2					
YAK	**Yakutsk**	**48.88**	**5** eP	**P**		**22 18 13.0 -0.3**
	comp=Z,64nm,0.9s,mb5.7					
STKA	**Stephens Creek**	**48.96**	**157** eP	**P**		**22 18 14.2 +0.3**
	comp=Z,63nm,0.6s,mb5.8					
STKA	**Stephens Creek**	**48.96**	**157** P	**P**		**22 18 14.3 +0.4**
	comp=Z,86nm,0.7s,mb5.9,baz=334,slow=7.4,SNR=130					
STKA			LR	LR		22 37 27.8
	comp=Z,2μm,21.5s,MS5.1,baz=335,slow=34					
TKM2	**Tokmak 2**	**49.21**	**316** P	**P**		**22 18 16.8 +0.9**
	SNR=9.6					
PET	**Petropavlovsk**	**49.24**	**29** eP	**P**		**22 18 16.7 +0.6**
PET			eS	**S**		**22 25 22.9 +1.9**
PET			eSS	SS		22 28 42.0 -10
PET			pmax	pmax		
	comp=Z,56nm,1.3s,mb5.4					
PET			smax			
	comp=E,400nm,15.2s					
PET			MLR	MLR		
	comp=Z,900nm,19.0s,MS4.8					
PET	**Petropavlovsk**	**49.24**	**29** eP	**P**		**22 18 16.3 +0.2**
	comp=Z,68nm,1.1s,mb5.6					
PET			LR	LR		
	comp=Z,1μm,22.0s,MS4.8					
KBK	**Karagaybulak**	**49.56**	**315** P	**P**		**22 18 19.4 +0.9**
	SNR=26					
ZAL	**Zalesovo**	**49.69**	**332** P	**P**		**22 18 18.7 -0.8**
	comp=Z,4.1nm,0.5s,mb4.7,baz=354,slow=6.1,SNR=13					
ZAL			LR	LR		22 39 18.4
	comp=Z,3μm,19.6s,MS5.2,baz=78,slow=36					
UCH	**Uchtor**	**49.70**	**315** P	**P**		**22 18 20.9 +1.3**
	SNR=57					
CHMS	**Chumysh**	**49.82**	**316** P	**P**		**22 18 20.4 -0.1**
	SNR=16					
FRU	**Bishkek**	**49.85**	**315** eP	**P**		**22 18 22.0 +1.3**
FRU			pmax	pmax		
	comp=Z,100nm,1.6s,mb5.6					
FRU			MLR	MLR		
	comp=E,4μm,20.0s					
AAK	**Ala-Archa**	**49.86**	**315** eP	**P**		**22 18 21.3 +0.5**
AAK			MLR	MLR		
	comp=Z,929nm,21.0s,MS4.8					
USP	**Ospenovka**	**50.09**	**316** P	**P**		**22 18 23.0 +0.5**
	SNR=27					
AML	**Almayashu**	**50.24**	**314** P	**P**		**22 18 25.1 +1.5**
	SNR=14					
EKS2	**Erkin-Say**	**50.37**	**315** P	**P**		**22 18 25.6 +1.0**
	SNR=30					
ADE	**Adelaide**	**50.80**	**162** eP	**P**		**22 18 28.9 +1.0**
MA2	**Magadan**	**50.88**	**19** d i P	**P**		**22 18 28.4 -0.1**
MA2			eS	**S**		**22 25 43.2 -0.6**
MA2			pmax	pmax		
	comp=Z,100nm,1.3s,mb5.6					
MA2			MLR	MLR		
	comp=Z,3μm,18.2s,MS5.3					
MA2	**Magadan**	**50.88**	**19** eP	**P**		**22 18 25.4 -3.1**
	comp=Z,64nm,1.1s,mb5.5					
MA2			ePP	PP		22 20 31.9 +7.0
MA2			LR	LR		
	comp=Z,2μm,19.0s,MS5.1					
KURK	**Kurchatov**	**50.89**	**326** P	**P**		**22 18 28.0 -0.6**
	comp=Z,882nm,1.4s,SNR=44					
NVS	**Novosibirsk**	**50.98**	**332** eP	**P**		**22 18 27.5 -1.7**
NVS			eS	**S**		**22 25 40.8 -4.4**
NVS			e			22 28 11.4
NVS			pmax	pmax		
	comp=Z,140nm,2.1s,mb5.5					
NVS			pmax	pmax		
	comp=N,71nm,1.7s					
NVS			pmax	pmax		
	comp=E,54nm,1.7s					
NVS			smax			
	comp=N,43nm,2.0s					
NVS			smax			
	comp=E,21nm,1.7s					
ARMA	**Armidale**	**52.32**	**147** eP	**P**		**22 18 43.5 +4.2**
DGAR	**Diego Garcia**	**52.99**	**250** PFAKE			22 19 00.0 +16
DGAR			LR	LR		
	comp=Z,405nm,19.0s,MS4.5					
SEY	**Seymchan**	**54.02**	**17** ⇓i P	**P**		**22 18 52.4 +0.6**
CNB	**Canberra Magne**	**55.16**	**152** eP	**P**		**22 19 01.5 +1.4**
	comp=Z,48nm,0.9s,mb5.5					
TOO	**Toolangi**	**55.48**	**157** eP	**P**		**22 19 03.0 +0.6**
	comp=Z,20nm,0.9s,mb5.1					
TOO	**Toolangi**	**55.48**	**157** eP	**P**		**22 19 03.0 +0.6**
TOO			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2					
BVA0	**Borovoye Array**	**56.48**	**326** i P	**P**		**22 19 09.1 -0.4**
BVA0			pmax	pmax		
	comp=Z,59nm,1.5s,mb5.4					
BVAR	**Borovoye Array**	**56.48**	**326** P	**P**		**22 19 09.4 -0.1**
	comp=Z,13nm,0.8s,mb5.0,baz=123,slow=11,SNR=50					
BVAR			S	**S**		**22 26 59.4 -0.4**
	comp=Z,0.7nm,0.9s,baz=154,slow=4.8,SNR=5.0					
BVAR			LR	LR		22 42 28.6
	comp=Z,382nm,21.7s,MS4.5,baz=138,slow=35					
BVAR	**Borovoye Array**	**56.48**	**326** P	**P**		**22 19 09.4 -0.1**
BVAR			S	**S**		**22 26 59.4 -0.3**
BRVK	**Borovoye**	**56.55**	**326** eP	**P**		**22 19 09.4 -0.6**
BRVK			MLR	MLR		
	comp=Z,738nm,20.0s,MS4.8					
CHKZ	**Chkalovo**	**56.63**	**326** eP	**P**		**22 19 10.2 -0.4**
SMY	**Shemya**	**57.09**	**35** PFAKE			22 19 30.0 +16
SMY			LR	LR		
	comp=Z,2μm,20.0s,MS5.1					
ZRNK	**Zerenda**	**57.21**	**325** eP	**P**		**22 19 13.9 -0.8**
ZRNK			e*PP	pP		22 19 21.4 +0.5
ZRNK			pmax	pmax		
	comp=Z,222nm,1.4s,mb6.0					
ZRNK	**Zerenda**	**57.21**	**325** eP	**P**		**22 19 13.9 -0.8**
	comp=Z,222nm,1.4s,mb6.0					
ZRNK			epP	pP		22 19 21.4 +0.5
TIXI	**Tiksi**	**58.36**	**3** i P	**P**		**22 19 21.5 -1.3**
TIXI	**Tiksi**	**58.36**	**3** i P	**P**		**22 19 21.5 -1.3**
MIDW	**Midway**	**58.39**	**65** PFAKE			22 19 40.0 +17
MIDW			LR	LR		
	comp=Z,2μm,19.0s,MS5.2					
WBK	**Wadi Bani Khal**	**59.88**	**288** P	**P**		**22 19 33.8 +0.5**
	SNR=18					
JMDO	**Jabal Madar**	**60.69**	**288** P	**P**		**22 19 39.0 +0.1**
	SNR=7.5					
ABKT	**Ailbek**	**60.98**	**306** P	**P**		**22 19 41.1 +0.2**
	comp=Z,384nm,0.9s,SNR=20					
HOQ	**Hoqain**	**61.36**	**290** ⇑P	**P**		**22 19 44.4 +1.0**
	SNR=6.0					
AB31	**Akbulak array**	**61.50**	**319** ⇑eP	**P**		**22 19 43.4 -0.9**
BSY	**Bisya**	**61.50**	**289** ⇓P	**P**		**22 19 45.0 +0.6**
	SNR=6.3					
BILL	**Bilibino**	**61.70**	**17** ⇓i P	**P**		**22 19 45.7 0.0**
BILL			pmax	pmax		
	comp=Z,87nm,1.7s,mb5.6					
BILL			MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1					
BILL	**Bilibino**	**61.70**	**17** ⇓i P	**P**		**22 19 45.8 +0.1**
BILL			LR	LR		
	comp=Z,1μm,20.0s,MS5.1					
ARQ	**Araqi**	**62.09**	**289** P	**P**		**22 19 48.0 -0.3**
	SNR=16					
AKTK	**Aktyubinsk**	**62.97**	**320** P	**P**		**22 19 53.7 -0.5**
AKTO	**Aktyubinsk**	**62.97**	**320** P	**P**		**22 19 53.7 -0.5**
	comp=Z,9.2nm,0.8s,mb5.0,baz=96,slow=7.4,SNR=30					
SVE	**Sverdlovsk**	**63.09**	**327** ⇑eP	**P**		**22 19 56.0 +1.0**
SVE			eS	**S**		**22 28 26.0 +1.1**
SVE			pmax	pmax		
	comp=Z,100nm,1.5s,mb5.7					
SVE			MLR	MLR		
	comp=N,1μm,12.0s,MS5.4					
SVE			MLR	MLR		
	comp=E,1μm,12.0s,MS5.4					
SHAO	**Shalim**	**63.37**	**284** P	**P**		**22 19 57.2 +0.4**
	SNR=22					
ARU	**Arti**	**64.08**	**327** P	**P**		**22 20 00.5 -1.0**
	comp=E,182nm,1.2s,mb6.0,SNR=8.5					
ARU	**Arti**	**64.08**	**327** ⇑i P	**P**		**22 20 00.6 -0.9**
ARU			e			22 22 23.6
ARU			eS	**S**		**22 28 37.5 +0.3**
ARU			e			22 29 48.5
ARU			eSS	SS		22 32 39.2 -7.0
ARU			pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3					
ARU			MLR	MLR		
	comp=E,2μm,19.0s,MS5.4					
ARU			MLR	MLR		
	comp=Z,2μm,19.0s,MS5.4					
ARU			MLR	MLR		
	comp=N,2μm,20.0s,MS5.4					
ARU	**Arti**	**64.08**	**327** eP	**P**		**22 19 59.8 -1.7**
	comp=N,82nm,1.4s,mb5.6					
ARU			LR	LR		
	comp=Z,634nm,20.0s,MS4.8					
RBK	**Rabkut**	**64.78**	**283** P	**P**		**22 20 06.7 +0.6**
	SNR=15					
WHFO	**Wadi Hawf**	**65.14**	**284** P	**P**		**22 20 08.5 0.0**
	SNR=14					
ORR	**Orenburg**	**65.22**	**321** eP	**P**		**22 20 09.2 +0.2**
ORR			pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3					
ORR			MLR	MLR		
	comp=Z,2μm,22.0s,MS5.3					
ABTO	**Aybut**	**65.65**	**283** P	**P**		**22 20 11.4 -0.4**
	SNR=28					
MSEY	**Mahe Island**	**68.02**	**259** PFAKE			22 20 40.0 +13
MSEY			LR	LR		
	comp=Z,240nm,20.0s,MS4.4					
MAK	**Makhachkala**	**69.35**	**311** c i P	**P**		**22 20 31.7 -3.5**
MAK			i S	S		22 29 33.0 -7.9
MAK			e			22 30 30.5
MAK			eSS	SS		22 34 03.3 -4.6
MAK			pmax	pmax		
	comp=Z,204nm,1.1s,mb6.0					
MAK			pmax	pmax		
	comp=Z,560nm,1.9s,mb6.2					
MAK			smax			
	comp=N,734nm,2.1s					
MAK			smax			
	comp=E,495nm,1.5s					
KBD	**Kabd**	**69.63**	**296** eP	**P**		**22 20 36.0 -0.9**
KBD			AMb	AMB		22 20 45.1
	comp=Z,312nm,0.8s,mb6.3					
RDF	**Al-Radifah**	**69.78**	**296** eP	**P**		**22 20 37.0 -0.7**
RDF			AMb	AMB		22 20 45.9
	comp=Z,178nm,0.8s,mb6.0					
MIB	**Mutribah**	**69.89**	**297** eP	**P**		**22 20 37.5 -1.0**
MIB			AMb	AMB		22 20 45.4
	comp=Z,141nm,0.7s,mb6.0					
NAY	**Al-Naaiem**	**70.02**	**296** eP	**P**		**22 20 38.0 -1.2**
NAY			AMb	AMB		22 20 47.2
	comp=Z,64nm,0.8s,mb5.6					
RST	**Umm Al-Ruwaisa**	**70.21**	**297** eP	**P**		**22 20 39.0 -1.4**
RST			AMb	AMB		22 20 47.1
	comp=Z,95nm,1.0s,mb5.7					
AFI	**Afiamalu**	**71.37**	**110** LR	LR		22 50 00.2
	comp=Z,612nm,18.7s,MS4.9,baz=181,slow=34					
GNI	**Garni**	**71.46**	**308** P	**P**		**22 20 48.3 +0.2**
	comp=Z,10nm,0.9s,mb4.8,baz=52,slow=2.4,SNR=6.3					
GNI	**Garni**	**71.46**	**308** ⇓i P	**P**		**22 20 49.8 +1.8**
GNI			pmax	pmax		
	comp=Z,23nm,1.4s					
GNI			MLR	MLR		
	comp=Z,700nm,18.0s					
GNI	**Garni**	**71.46**	**308** eP	**P**		**22 20 50.6 +2.6**
GNI			LR	LR		
	comp=Z,716nm,21.0s,MS4.9					
PECR	**Pechory**	**72.00**	**325** eP	**P**		**22 20 50.0 -1.3**
PECR			e			22 23 36.6
PECR			eS	S		22 30 08.0 -3.8
PECR			pmax	pmax		
	comp=Z,130nm,2.0s,mb5.5					
PECR			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4					
ZEI	**Tsey**	**72.00**	**311** eP	**P**		**22 20 50.9 -0.4**
ZEI			e*PP	pP		22 20 56.7 -1.0
KIV	**Kislovodsk**	**72.84**	**312** ⇑eP	**P**		**22 20 56.9 +0.6**
KIV			pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1					
KIV			MLR	MLR		
	comp=Z,2μm,16.0s,MS5.4					
KIV	**Kislovodsk**	**72.84**	**312** eP	**P**		**22 20 56.6 +0.3**
	comp=Z,49nm,0.9s,mb5.4					
KIV			LR	LR		
	comp=Z,501nm,20.0s,MS4.8					
URZ	**Urewera**	**73.07**	**137** LR	LR		22 53 09.9
	comp=Z,766nm,21.4s,MS5.0,baz=162,slow=36					
SNZO	**South Karori**	**73.25**	**141** PFAKE			22 21 10.0 +11
SNZO			LR	LR		
	comp=Z,1μm,20.0s,MS5.2					
VRHR	**Novokhopersk**	**73.38**	**320** eP	**P**		**22 20 58.5 -1.0**
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.8s					
VRHR			pmax	pmax		
	comp=E,7.0nm,0.7s					
BNGL	**BINGOL**	**74.30**	**307** i P	**P**		**22 21 06.6 +1.7**
MARD	**Mardin**	**74.73**	**305** i P	**P**		**22 21 05.2 -2.2**
SVW2	**Sparrevohn**	**74.89**	**30** eP	**P**		**22 21 08.9 +0.6**
VRSR	**Storozhevoye**	**74.90**	**320** eP	**P**		**22 21 07.1 -1.3**
VRSR			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8					
VRSR			pmax	pmax		
	comp=N,6.0nm,0.8s					
VRSR			pmax	pmax		
	comp=E,10.0nm,0.8s					
KELT	**Kelkit**	**75.65**	**308** i P	**P**		**22 21 14.9 +2.2**
IMA2	**Indian Mountai**	**75.69**	**25** eP	**P**		**22 21 13.3 +0.4**
ELZG	**Elazig**	**76.03**	**307** i P	**P**		**22 21 15.6 +0.8**
OBN	**Obninsk**	**76.26**	**324** ⇑eP	**P**		**22 21 15.5 -0.7**
OBN			i	pP		22 21 22.5 -0.1
OBN						22 24 10.0
OBN			eS	S		22 30 59.4 -0.3
OBN			e			22 31 35.6
OBN			eSSS			22 39 13.6
OBN			pmax	pmax		
	comp=Z,45nm,1.4s,mb5.2					
OBN			MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5					
OBN	**Obninsk**	**76.26**	**324** ⇑i P	**P**		**22 21 15.6 -0.6**
OBN			LR	LR		
	comp=Z,2μm,16.0s,MS5.5					
KDAK	**Kodiak Island**	**76.54**	**33** P	**P**		**22 21 17.1 -0.7**
	comp=Z,8.5nm,0.7s,mb4.8,baz=277,slow=11,SNR=8.9					
KDAK	**Kodiak Island**	**76.54**	**33** P	**P**		**22 21 17.1 -0.7**
KDAK			LR	LR		
	comp=Z,315nm,19.0s,MS4.7					
ANN	**Anapa**	**76.55**	**313** eP	**P**		**22 21 15.1 -2.7**
ANN			eS	S		22 30 57.9 -4.9
ANN			pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3					
ATAB	**Bozova**	**76.69**	**306** i P	**P**		**22 21 18.7 +0.1**
APA	**Apatity**	**77.00**	**337** ⇓i P	**P**		**22 21 21.4 +1.1**
APA			eS	S		22 31 04.0 -3.8
APA			eSS	SS		22 36 03.0 -1.7
APA			pmax	pmax		

comp=Z,56nm,1.3s,mb5.3
GZT Gaziantep 77.28 306 *i* P **P 22 21 21.7 -0.2**
MCK McKinley 77.84 27 *eP* **P 22 21 25.3 +0.2**
MCK LR LR
comp=Z,365nm,20.0s,MS4.7
PMR Palmer 77.97 29 *eP* **P 22 21 27.2 +1.4**
PMR MLR MLR
comp=Z,859nm,19.0s,MS5.1
COLA College 78.20 26 *eP* **P 22 21 29.1 +2.1**
COLA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
COLA MLR MLR
comp=Z,744nm,20.0s,MS5.0
COLA College 78.20 26 *eP* **P 22 21 29.1 +2.0**
comp=Z,9.8nm,0.7s,mb4.8
COLA LR LR
comp=Z,744nm,20.0s,MS5.0
JOF Joensuu 78.28 332 *ep* **P 22 21 25.7 -1.8**
comp=Z,9.8nm,0.6s,mb4.9
ASF Jabal al Asfar 78.54 301 P **P 22 21 28.9 0.0**
comp=Z,10nm,0.8s,mb4.8,baz=339,slow=3.4,SNR=3.1
BOYT Boyabat 78.78 310 *i* P **P 22 21 27.9 -2.4**
SIM Simferopol' 78.87 314 *eP* **P 22 21 27.8 -2.9**
SIM *eS* S 22 31 22.0 -5.9
SIM pmax pmax
comp=Z,37nm,0.9s,mb5.3
CTKT Corum 78.98 309 *i* P **P 22 21 30.5 -0.9**
KEV Kevo 79.09 339 *ep* **P 22 21 31.1 -0.8**
comp=Z,1.5nm,0.4s,mb4.3
KEV Kevo 79.09 339 PFAKE 22 21 40.0 +8.1
KEV LR LR
comp=Z,2µm,19.0s,MS5.5
AVNT Avonos 79.20 307 *i* P **P 22 21 32.4 -0.2**
CDAG Cicekdag 79.44 308 *i* P **P 22 21 30.5 -3.4**
ARCES ARCESS Array B 79.64 339 P **P 22 21 33.6 -1.3**
comp=Z,12nm,0.8s,mb4.9,baz=84,slow=6.6,SNR=15
ARCES LR LR 23 00 46.7
comp=Z,2µm,18.4s,MS5.6,baz=268,slow=39
CASY Casey 79.90 185 PFAKE 22 21 50.0 +14
CASY LR LR
comp=Z,684nm,22.0s,MS5.0
BR131 Keskin Array S 79.99 308 *eP* **P 22 21 36.6 -0.2**
BR131 LR LR
comp=Z,530nm,20.0s,MS4.9
BRTR Keskin Array B 79.99 308 P **P 22 21 35.2 -1.6**
comp=Z,4.8nm,0.9s,mb4.4,baz=116,slow=4.4,SNR=23
BRTR PP PP 22 24 29.0 -10
comp=Z,0.3nm,0.4s,baz=85,slow=7.6,SNR=2.6
BRTR LR LR 23 03 38.5
comp=Z,566nm,19.4s,MS4.9,baz=265,slow=41
ELDT Eldivan 80.03 309 *i* P **P 22 21 38.4 +1.4**
SPB4 Spitsbergen Ar 80.03 348 *eP* **P 22 21 36.4 -0.7**
SPB4 *ep*P pP 22 21 42.1 -1.4
BJO Bjornoya 80.44 345 AMS AMS 23 04 34.5
comp=Z,2µm,18.1s,MS5.5
EIL Elat 80.59 298 *eP* **P 22 21 41.0 +0.9**
ANTO Ankara 80.61 309 ⇊*i*P **P 22 21 44.1 +3.9**
ANTO Ankara 80.61 309 PFAKE 22 21 50.0 +10
ANTO LR LR
comp=Z,540nm,20.0s,MS4.9
KBS Kingsbay 80.61 349 *eS* S 22 31 48.3 +2.0
KBS *e* 22 41 31.6
KBS AMS AMS 23 00 27.1
comp=Z,2µm,20.9s,MS5.4
KBS Kingsbay 80.61 349 PFAKE 22 21 50.0 +10
KBS LR LR
comp=Z,4µm,21.0s,MS5.7
KAF Kangasniemi 80.70 332 *ep* **P 22 21 39.3 -1.4**
comp=Z,6.9nm,0.6s,mb4.8,baz=75,slow=4.8
KAF Kangasniemi 80.70 332 *eP* **P 22 21 39.3 -1.4**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
FINES FINESS Array B 80.94 331 P **P 22 21 40.8 -1.1**
comp=Z,4.7nm,0.8s,mb4.5,baz=54,slow=4.3,SNR=18
FINES LR LR 23 01 08.7
comp=Z,2µm,19.2s,MS5.4,baz=258,slow=38
FINES FINESS Array B 80.94 331 *i* P **P 22 21 42.2 +0.3**
FINES pmax pmax
comp=Z,5.0nm,0.8s
CSS Prodhromos 81.02 304 P **P 22 21 43.0 +0.6**
comp=Z,2.0nm,0.7s
EGAK Eagle 81.04 25 PFAKE 22 21 50.0 +7.5
EGAK LR LR
comp=Z,1µm,22.0s,MS5.1
SGKT Sivrigoynuk 81.05 310 *i* P **P 22 21 41.4 -1.1**
ERMK Ermenek 81.06 306 *i* P **P 22 21 40.6 -2.1**
MAMC Mammari 81.08 304 P **P 22 21 44.3 +1.6**
AKASG Malin Array Be 81.22 320 P **P 22 21 41.9 -1.5**
comp=Z,4.4nm,0.7s,mb4.5,baz=67,slow=5.0,SNR=14
AKASG LR LR 23 00 13.8
comp=Z,914nm,18.5s,MS5.2,baz=60,slow=38
AKASG Malin Array Be 81.22 320 P **P 22 21 41.9 -1.5**
AKASG LR LR 23 00 13.8
MNK Minsk 81.35 324 *eP* **P 22 21 45.0 +0.8**
KDHN Kadinhani 81.36 307 *i* P **P 22 21 41.7 -2.5**
ALFC Alevga 81.58 304 P **P 22 21 45.8 +0.5**
comp=Z,1.4nm,0.8s
TRO Tromso 81.86 340 *eP* **P 22 21 47.1 +0.2**
TRO *eS* S 22 32 00.6 +1.2
TRO AMS AMS 23 02 13.2
comp=Z,2µm,19.1s,MS5.4
HENT Hendek 81.87 310 *i* P **P 22 21 45.3 -1.6**
DAWY Dawson 81.95 26 *eP* **P 22 21 49.3 +2.0**
ESKT Eskisehir 82.14 309 *i* P **P 22 21 46.5 -1.9**
KIS Kishinev 82.18 316 *eP* **P 22 21 49.0 +0.5**
KIS *e*PPP 22 25 02.0
KIS *eS* S 22 31 54.0 -8.6
KIS *e* 22 32 08.0
KIS *e* 22 32 50.0
KIS Kishinev 82.18 316 *e*PP PP 22 25 02.0 +5.3
KIS *eS* S 22 31 54.0 -8.6
KIS LRM 23 01 42.0
comp=Z,3µm,20.0s
BORA Eskisehir 82.38 309 *i* P **P 22 21 48.1 -1.4**
ISP Isparta 82.73 307 ⇊*i*P **P 22 21 57.7 +6.3**
ISP Isparta 82.73 307 *eP* **P 22 21 49.8 -1.6**
TKTP Tekketepe 82.84 307 *i* P **P 22 21 50.7 -1.2**
TIRR Tirgusor 82.96 314 ⇑*i*P **P 22 21 58.8 +6.2**
CFR Carcaliu 83.00 315 ⇊*i*P **P 22 21 52.4 -0.4**
INK Inuvik 83.04 21 P **P 22 21 53.2 +0.2**
comp=Z,17nm,0.9s,mb5.0,baz=299,slow=5.2,SNR=17
INK Inuvik 83.04 21 *eP* **P 22 21 54.2 +1.2**
comp=Z,1µm,1.1s
HARR Harsova 83.25 314 ⇑*i*P **P 22 21 54.7 +0.6**
GDZ Gediz 83.27 308 *i* P pP 22 22 09.9 +9.3
ULDT Uludag 83.32 310 *i* P **P 22 21 53.7 -0.8**
GOLH Golhisar 83.59 307 *i* P **P 22 21 54.8 -1.1**
VRI Vrincioaia 83.83 316 ⇊*i*P **P 22 21 57.7 +0.7**
VRI Vrincioaia 83.83 316 P **P 22 21 57.5 +0.5**
SUW Suwalki 84.12 324 *eP* **P 22 21 58.4 -0.1**
SUW *e* pP 22 22 04.7 -0.3
SUW L 23 01 05.1
comp=Z,1.9nm,20.0s
SUW Suwalki 84.12 324 *eP* **P 22 21 58.4 -0.1**
SUW *e* pP 22 22 04.7 -0.3
ALE Alert 84.19 1 P **P 22 21 59.0 +0.1**
comp=Z,128nm,2.2s,mb5.7,SNR=5.6
BTOK Tokmak 84.23 309 *i* P **P 22 21 58.6 -0.5**
BURAR Bucovina Array 84.44 317 ⇑*i*P **P 22 21 59.7 -0.4**
MLR Muntele Rosu 84.44 315 P **P 22 22 00.3 +0.1**
comp=Z,15nm,0.8s,mb5.2,baz=228,slow=2.1,SNR=20
MLR Muntele Rosu 84.44 315 ⇑*i*P **P 22 22 00.6 +0.4**
MLR Muntele Rosu 84.44 315 P **P 22 22 00.7 +0.5**
RAR Rarotonga 84.51 113 PFAKE 22 22 10.0 +9.5
RAR LR LR
comp=Z,2.0nm,21.0s
SART Tekirdag 84.66 310 *i* P **P 22 22 00.5 -0.7**
LVV L'vov 84.66 320 *eP* **P 22 22 00.3 -1.0**
LVV *e* pP 22 22 07.1 -0.6
LVV *eS* S 22 32 27.1 -0.6
JMB Yambol 84.69 312 *eP* **P 22 22 00.6 -0.8**
KMBO Kilima Mbogo 84.74 268 P **P 22 22 02.1 +0.4**
comp=Z,0.8nm,0.7s,baz=48,slow=20,SNR=3.0
KMBO Kilima Mbogo 84.74 268 *i* P **P 22 22 00.6 -1.1**
KMBO Kilima Mbogo 84.74 268 *eP* **P 22 22 03.1 +1.4**
comp=Z,42nm,1.4s,mb5.4
AYDN Tasoluk 84.81 307 *i* P **P 22 22 01.5 -0.5**
ARG Arkhangelos 84.93 306 *eP* **P 22 22 02.6 0.0**
VOIR 85.07 315 ⇑*i*P **P 22 22 07.9 +4.6**
KDAG Bornova 85.11 308 *i* P **P 22 22 02.8 -0.7**
MTUR Matau 85.11 315 ⇑*i*P **P 22 22 10.1 +6.6**
BDRM Kayabasi 85.28 307 *i* P **P 22 22 01.3 -3.1**
ZIMR 85.28 314 ⇊*i*P **P 22 22 03.5 -0.9**
ZIMR 85.28 314 P **P 22 22 04.4 0.0**

ALN Alexandroupoli 85.45 311 *eP* **P 22 22 04.1 -1.1**
KWP Kalwaria 85.54 320 *eP* **P 22 22 05.5 -0.2**
KWP *e* pP 22 22 12.7 +0.6
KWP L 23 05 37.6
comp=Z,1.4nm,19.7s
KWP Kalwaria 85.54 320 *eP* **P 22 22 05.5 -0.2**
KWP *e* pP 22 22 12.7 +0.6
SMG Samos 85.60 308 *eP* **P 22 22 05.1 -0.9**
URLA Izmir 85.63 308 *i* P **P 22 22 04.5 -1.7**
PRK Paraskevi 85.67 309 *eP* **P 22 22 05.1 -1.2**
RDO Rodhopi 85.76 311 *eP* **P 22 22 05.3 -1.5**
KARP Karpathos 85.85 305 *eP* **P 22 22 07.1 -0.1**
KOLS Kolonicke sedl 86.00 319 *eP* **P 22 22 07.1 -0.9**
KOLS *es*P sP 22 22 17.4 +0.7
CHOS Chios island 86.04 308 *eP* **P 22 22 15.0 +6.8**
UZH Uzhgorod 86.07 319 ⇊*i*P **P 22 22 07.4 -0.9**
UZH *e* pP 22 22 14.4 -0.4
UZH *e* 22 32 32.0
UZH *i* S S 22 32 39.0 -2.6
UZH *e*SS SS 22 38 18.0 -1.9
UZH pmax pmax
comp=Z,170nm,1.0s,mb6.2
PLD Plovdiv 86.13 312 *eP* **P 22 22 07.5 -1.1**
NSS Namsos 86.17 336 *eS* S 22 32 46.9 +4.3
NSS AMS AMS 23 04 55.0
comp=Z,3µm,15.8s,MS5.7
DRGR 86.30 317 ⇑*i*P **P 22 22 08.7 -0.7**
DRGR 86.30 317 P **P 22 22 09.4 0.0**
LIA Limnos Island 86.33 310 *eP* **P 22 22 14.8 +5.2**
LOS Limnos 86.40 310 *eP* **P 22 22 08.7 -1.2**
STHS Stebnicka Huta 86.52 320 *eP* **P 22 22 10.9 +0.4**
STHS *es*P sP 22 22 18.2 -1.1
STHS Stebnicka Huta 86.52 320 *eP* **P 22 22 10.9 +0.4**
STHS *e* pP 22 22 18.3 +1.3
STHS pmax pmax
comp=Z,23nm,0.8s,mb5.5
STHS Stebnicka Huta 86.52 320 *eP* **P 22 22 10.9 +0.4**
comp=Z,23nm,0.8s,mb5.5
STHS *e* pP 22 22 18.3 +1.3
CRVS Cervenica-Dubn 86.53 319 *eP* **P 22 22 10.4 -0.2**
GZR Gura Zlata 86.63 316 ⇑*i*P **P 22 22 09.7 -1.4**
GZR Gura Zlata 86.63 316 P **P 22 22 11.9 +0.8**
APE Apeiranthos 86.76 307 *eP* **P 22 22 07.5 -4.3**
APE Apeiranthos 86.76 307 *eP* **P 22 22 11.4 -0.3**
APE Apeiranthos 86.76 307 ⇊*i*P **P 22 22 13.0 +1.3**
NVR Nevrokopi 86.93 312 *eP* **P 22 22 18.0 +5.5**
MMB Musomiste 86.97 312 *eP* **P 22 22 11.4 -1.3**
DAG Danmarks Havn 87.00 352 ⇑*i*P **P 22 22 12.6 -0.3**
comp=Z,4.8nm,0.7s,mb4.8
DAG Danmarks Havn 87.00 352 ⇑*i*P **P 22 22 12.6 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
VTS Vitosha 87.08 313 *eP* **P 22 22 10.5 -2.8**
VTS Vitosha 87.08 313 ⇑*i*P **P 22 22 12.5 -0.7**
VTS Vitosha 87.08 313 P **P 22 22 16.2 +3.0**
NIE Niedzica 87.10 320 *eP* **P 22 22 13.4 0.0**
OUR Ouranopolis 87.11 311 *eP* **P 22 22 22.6 +9.2**
HFS Hagfors 87.12 332 P **P 22 22 11.7 -1.7**
comp=Z,11nm,0.9s,mb5.1,baz=111,slow=3.8,SNR=17
NPS Neapolis 87.14 305 *eP* **P 22 22 14.2 +0.6**
OJC Ojcow 87.18 321 *eP* **P 22 22 12.6 -1.1**
OJC *eS* S 22 32 51.4 -1.0
OJC L 23 03 00.6
comp=Z,11nm,21.1s
KECS Kecovo 87.27 319 *eP* **P 22 22 13.9 -0.3**
KECS *e* pP 22 22 20.5 -0.1
KECS pmax pmax
comp=Z,16nm,0.9s,mb5.2
KECS Kecovo 87.27 319 *eP* **P 22 22 13.9 -0.3**
comp=Z,16nm,0.9s,mb5.3
KECS *e* pP 22 22 20.5 -0.1
BZS Buzias 87.35 316 ⇑*i*P **P 22 22 13.8 -0.8**
PLG Polygyros 87.50 311 *eP* **P 22 22 14.3 -1.0**
PLG Polygyros 87.50 311 *eP* **P 22 22 14.2 -1.1**
KNT Kendrikon 87.68 312 *eP* **P 22 22 14.2 -1.9**
HORT Hortiatis 87.69 311 *eP* **P 22 22 14.7 -1.5**
PSZ Piszkesteto 87.81 319 ⇑*i*P **P 22 22 17.0 +0.2**
PSZ Piszkesteto 87.81 319 P **P 22 22 24.1 +7.3**
VAY Valandovo 87.88 312 *eP* **P 22 22 11.6 -5.5**
VAY Valandovo 87.88 312 *eP* **P 22 22 16.1 -1.0**
NB2 NORSAR Subarra 87.89 333 P **P 22 22 15.6 -1.6**
comp=Z,62nm,1.2s,mb5.7,baz=68,slow=4.6
NB2 NORSAR Subarra 87.89 333 P **P 22 22 15.6 -1.6**
NB2 pmax pmax
comp=Z,62nm,1.2s,mb5.7
NOA NORSAR Array B 87.89 333 P **P 22 22 15.4 -1.8**
comp=Z,6.1nm,0.8s,mb4.9,baz=67,slow=4.7,SNR=13
NOA LR LR 23 06 01.0
comp=Z,3µm,18.3s,MS5.8,baz=65,slow=39
DLBC Dease Lake 88.01 30 *eP* **P 22 22 18.9 +1.2**
STIP Stip 88.05 312 *eP* **P 22 22 22.2 +4.2**
GRG Griva 88.10 312 *eP* **P 22 22 16.3 -1.8**
NAO01 NORSAR Array S 88.12 333 PFAKE 22 22 30.0 +12
NAO01 LR LR
comp=Z,4µm,20.0s,MS5.8
VAM Vamos 88.22 306 *eP* **P 22 22 19.2 +0.5**
VYHS Vyhne 88.31 320 *eP* **P 22 22 19.5 +0.4**
VYHS *e* pP 22 22 25.6 0.0
VYHS *e* 22 25 54.2
VYHS pmax pmax
comp=Z,28nm,1.8s,mb5.2
VYHS Vyhne 88.31 320 *eP* **P 22 22 19.5 +0.4**
comp=Z,28nm,1.8s,mb5.2
VYHS *e* pP 22 22 25.6 0.0
VYHS *e*PP PP 22 22 25.4 +7.6
OKC Ostrava-Krasne 88.31 321 *eP* **P 22 22 19.2 +0.1**
OKC *ep*P pP 22 22 25.9 +0.3
OKC *e*SKKS SKKSac 22 32 56.4 -1.1
OKC AMS AMS 23 03 30.0
comp=Z,1µm,18.6s
OKC Ostrava-Krasne 88.31 321 *eP* **P 22 22 19.2 +0.1**
OKC *ep*P pP 22 22 25.9 +0.3
OKC *eS* S 22 32 56.4 -6.8
SKO Skopje 88.51 313 *eP* **P 22 22 20.5 +0.4**
MORC Moravsky Berou 88.70 321 ⇑*i*P **P 22 22 20.3 -0.7**
MORC Moravsky Berou 88.70 321 P **P 22 22 26.2 +5.2**
MOL Molde 88.80 335 *e*SKS 22 32 50.3
MOL AMS AMS 23 06 12.8
comp=Z,4µm,17.3s,MS6.0
KRUS Krusevo 88.82 312 *eP* **P 22 22 24.4 +2.8**
VLI Veliai 88.86 307 *eP* **P 22 22 25.5 +3.8**
BIA Bitola 88.87 312 *eP* **P 22 22 27.0 +5.2**
DIVS Divcibare 88.90 315 *i* P **P 22 22 22.2 +0.2**
KSP Ksiaz 89.09 322 *eP* **P 22 22 23.4 +0.6**
KSP *e* pP 22 22 29.7 +0.4
KSP L 23 04 43.9
comp=Z,4.4nm,20.4s
KSP Ksiaz 89.09 322 *eP* **P 22 22 23.1 +0.3**
KSP *ep*P pP 22 22 26.4 -2.9
KSP *eS* S 22 33 11.0 +0.4
KSP *e*SP 22 34 18.0
KSP LR LR
comp=Z,5µm,20.4s,MS5.9
PKSM Moragy 89.15 317 ⇑*i*P **P 22 22 21.1 -2.0**
RES Resolute Bay 89.17 9 *eP* **P 22 22 27.9 +4.7**
comp=Z,1µm,1.0s
KONO Kongsberg 89.21 332 *eS* S 22 33 03.7 -8.0
KONO Kongsberg 89.21 332 PFAKE 22 22 30.0 +6.6
KONO LR LR
comp=Z,3µm,19.0s,MS5.8
DPC Dobruska-Polom 89.25 322 *eP* **P 22 22 24.5 +0.9**
DPC *ep*P pP 22 22 30.4 +0.4
DPC *e*SKKS SKKSac 22 33 05.3 +0.7
DPC AMS AMS 23 04 00.0
comp=Z,2µm,20.1s
JMIC Jan Mayen 89.28 345 AMS AMS 23 08 57.1
comp=Z,989nm,17.9s,MS5.3
UPC Upice 89.38 322 *eP* **P 22 22 24.4 +0.2**
UPC *ep*P pP 22 22 29.9 -0.7
VRAC Vranov 89.44 321 P **P 22 22 24.2 -0.2**
comp=Z,5.1nm,0.8s,mb4.9,baz=85,slow=3.3,SNR=9.0
VRAC Vranov 89.44 321 ⇊*i*P **P 22 22 25.0 +0.5**
ZST Bratislava 89.50 320 *eP* **P 22 22 24.5 -0.2**
ZST MLR MLR
comp=Z,1µm,18.6s,MS5.3
TREC Trest 90.12 321 *eP* **P 22 22 26.7 -1.0**
TREC *ep*P pP 22 22 32.8 -1.3
TREC *e*SKS 22 32 54.9
TREC AMS AMS 23 09 20.0
comp=Z,1µm,17.6s
PVCC Panska Ves 90.23 322 *eP* **P 22 22 28.3 +0.1**
PVCC *ep*P pP 22 22 35.0 +0.4

PVCC AMS AMS 23 05 30.0
comp=Z,3µm,19.1s
PRU Pruhonice 90.45 322 *eP* **P 22 22 31.7 +2.5**
PRU *ep*P pP 22 22 36.1 +0.5
PRU *e*SKS 22 33 04.8
PRU AMS AMS 23 05 20.0
comp=Z,2µm,18.4s
BRG Berggiesshubel 90.47 323 *eP* **P 22 22 29.5 +0.2**
comp=Z,6.6nm,1.2s,mb4.9
BRG *i* pP 22 22 35.0 -0.8
comp=Z,31nm,1.5s
BRG *i* 22 22 45.7
comp=Z,9.7nm,1.1s
BRG PP PP 22 26 03.0 -0.9
BRG SKS 22 33 02.0
BRG S S 22 33 26.0 +2.6
BRG PS PS 22 34 29.0 -3.4
BRG
comp=N,835nm,18.0s
BRG
comp=E,724nm,18.9s
BRG
comp=Z,2µm,18.1s
BRG Berggiesshubel 90.47 323 *eP* **P 22 22 29.5 +0.2**
BRG *i* pP 22 22 35.0 -0.8
BRG *i* 22 22 45.7
BRG 22 26 03.0
BRG 22 33 02.0
BRG S S 22 33 26.0 +2.6
BRG PS PS 22 34 29.0 -3.4
BRG pmax pmax
comp=Z,70nm,1.2s,mb5.9
BRG MLR MLR
comp=Z,2µm,18.1s,MS5.5
BRG Berggiesshubel 90.47 323 *eP* **P 22 22 29.5 +0.2**
comp=Z,6.6nm,1.2s,mb4.8
BRG *i* pP 22 22 35.0 -0.8
BRG *i* 22 22 45.7
BRG PP PP 22 26 03.0 -0.9
BRG SKS 22 33 02.0
BRG S S 22 33 26.0 +2.6
BRG PS PS 22 34 29.0 -3.4
BRG LR LR
comp=Z,2µm,18.1s,MS5.5
CLL Collm 90.86 323 *eP* **P 22 22 31.0 -0.1**
CLL *i* *PP pP 22 22 36.5 -1.0
CLL *eS* S 22 33 26.0 -0.9
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
CLL MLR MLR
comp=Z,2µm,20.8s,MS5.6
CLL Collm 90.86 323 *eP* **P 22 22 31.0 -0.1**
comp=Z,8.0nm,1.1s,mb5.0
CLL *i* pP pP 22 22 36.5 -1.0
CLL *e*SKS 22 33 06.0
CLL *eS* S 22 33 26.0 -0.9
CLL LR LR
comp=Z,2µm,20.8s,MS5.6
CLL Collm 90.86 323 *eP* **P 22 22 31.0 -0.1**
comp=Z,8.0nm,1.1s,mb5.0
CLL LmV 22 05 00.0
comp=Z,2µm,20.8s
CLL *i* pP pP 22 22 36.5 -1.0
comp=Z,67nm,2.0s
CLL *e*PP PP 22 26 05.0 -1.9
CLL *e*SKSac SKSac 22 33 06.0 +4.1
CLL *eS* S 22 33 26.0 -0.9
CLL *e*SP SP 22 34 37.0 +2.8
CLL *e*SS SS 22 39 43.0 +13
MAW Mawson 91.12 199 LR LR 23 00 00.8
comp=Z,500nm,21.4s,MS4.9,baz=55,slow=33
KHC Kasperske Hory 91.35 321 *eP* **P 22 22 33.3 -0.1**
KHC *ep*P pP 22 22 39.9 +0.1
KHC *e*SKS 22 33 12.0
KHC AMS AMS 23 05 10.0
comp=Z,1µm,15.9s
KHC Kasperske Hory 91.35 321 *eP* **P 22 22 33.3 -0.1**
KHC *e**PP pP 22 22 39.9 +0.1
KHC MLR MLR
comp=Z,1µm,15.9s,MS5.5
GERES GERESS Array B 91.38 321 P **P 22 22 32.9 -0.6**
comp=Z,3.1nm,0.9s,mb4.7,baz=60,slow=5.3,SNR=24
GERES PP PP 22 26 13.4 +2.3
comp=Z,0.8nm,0.8s,baz=65,slow=9.9,SNR=3.1
GERES LR LR 23 05 50.2
comp=Z,1µm,19.7s,MS5.4,baz=75,slow=37
GERES GERESS Array B 91.38 321 P **P 22 22 32.9 -0.6**
GERES 22 26 13.4
GERES GERESS Array B 91.38 321 P **P 22 22 32.9 -0.6**
GERES PP PP 22 26 13.3 +2.3
GERES LR LR 23 05 50.2
MOA Molln 91.40 320 ⇑*i*P **P 22 22 34.0 +0.3**
comp=Z,41nm,1.1s,mb5.7
NKC Novy Kostel 91.60 323 *eP* **P 22 22 36.3 +1.8**
NKC *ep*P pP 22 22 42.3 +1.3
NKC *eS* S 22 33 31.9 -1.8
NKC AMS AMS 23 06 20.0
comp=Z,3µm,17.9s
NKC Novy Kostel 91.60 323 *eP* **P 22 22 36.3 +1.8**
NKC *ep*P pP 22 22 42.3 +1.3
NKC *eS* S 22 33 31.9 -1.8
MOX Moxa 91.92 323 *eP* **P 22 22 35.2 -0.8**
MOX *e* pP 22 22 42.3 -0.2
comp=Z,39nm,1.8s
MOX
comp=Z,1µm,18.0s
MOX Moxa 91.92 323 *eP* **P 22 22 35.2 -0.8**
MOX *e*SS SS 22 39 54.0 +9.1
MOX pmax pmax
comp=Z,39nm,1.8s,mb5.4
MOX MLR MLR
comp=Z,1µm,18.0s,MS5.4
MOX Moxa 91.92 323 *eP* **P 22 22 35.2 -0.8**
comp=Z,39nm,1.8s,mb5.4
MOX *e*S SKSac 22 33 15.0 +7.0
MOX *e*SS SS 22 39 54.0 +9.1
MOX LR LR
comp=Z,1µm,18.0s,MS5.4
KBA Koelnbreinsper 92.27 319 ⇑*i*P **P 22 22 37.2 -0.4**
comp=Z,13nm,0.9s,mb5.2
KBA Koelnbreinsper 92.27 319 ⇑*i*P **P 22 22 37.2 -0.4**
KBA pmax pmax
comp=Z,13nm,0.9s,mb5.3
GRA1 Grafenberg Arr 92.54 322 *eP* **P 22 22 39.4 +0.5**
comp=Z,30nm,1.0s,mb5.7
GRA1 *ep*P pP 22 22 42.7 -2.7
GRA1 *e*PP PP 22 26 24.6 +4.4
GRA1 *e*S S 22 33 42.9 +0.8
GRA1 LR LR
comp=Z,3µm,18.7s,MS5.7
GRF Grafenberg Arr 92.54 322 *eP* **P 22 22 39.4 +0.5**
GRF *ep*P pP 22 22 42.7 -2.7
comp=Z,30nm,1.0s
GRF *e*PP PP 22 26 24.6 +4.4
GRF *e*S S 22 33 42.9 +0.8
GRF *e*L 23 07 21.2
comp=Z,3µm,18.7s
GRF Grafenberg Arr 92.54 322 *eP* **P 22 22 39.4 +0.5**
GRF *e* 22 26 24.6
GRF *e*S S 22 33 42.9 +0.8
GRF pmax pmax
comp=Z,30nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,3µm,18.7s,MS5.7
YKA Yellowknife Ar 92.70 23 P **P 22 22 39.1 -0.4**
comp=Z,1.0nm,0.6s,mb4.4,baz=309,slow=4.5,SNR=3.2
YKA LR LR 23 09 37.9
comp=Z,229nm,18.9s,MS4.7,baz=215,slow=39
PPT Papeete 92.89 107 *eS* SKSac 22 33 26.6 +13
comp=Z,898nm,25.8s
PPT *e*LQ 22 48 39.8
comp=Z,4µm,34.2s
PPT *e*LR LR 22 52 39.1
comp=Z,564nm,22.5s
PPT Papeete 92.89 107 LR LR 22 57 54.9
comp=Z,488nm,19.2s,MS5.0,baz=257,slow=31
WTTA Wattenberg 93.27 320 ⇑*i*P **P 22 22 42.0 -0.2**
comp=Z,45nm,1.4s,mb5.7
WTTA Wattenberg 93.27 320 ⇑*i*P **P 22 22 42.1 -0.1**
WTTA pmax pmax
comp=Z,45nm,1.4s,mb5.7
MOTA Moosalm 93.57 320 ⇑*i*P **P 22 22 42.5 -1.1**
comp=Z,20nm,1.0s,mb5.5
MOTA Moosalm 93.57 320 ⇑*i*P **P 22 22 42.5 -1.1**
MOTA pmax pmax

comp=Z,20nm,1.0s,mb5.5
VNDA Vanda 93.65 172 LR LR 23 03 01.0
comp=Z,634nm,20.1s,MS5.1,baz=322,slow=34
TOD Tromm 94.00 323 *e*P **P** **22 22 49.7 +4.1**
AQU L'Aquila 94.02 315 ⇓*i*P **P** **22 22 48.1 +2.4**
TBI Tubuai 94.28 113 *e*S SKSac 22 33 36.6 +16
comp=Z,656nm,27.0s
TBI *e*LQ 22 49 13.7
comp=Z,1μm,35.8s
TBI *e*LR LR 22 53 16.4
comp=Z,494nm,24.8s
SBA Scott Base 94.60 171 PFAKE 22 23 00.0 +12
SBA LR LR
comp=Z,586nm,20.0s,MS5.0
ABH Alteburg 94.61 324 *e*P **P** **22 22 52.9 +4.5**
BFO Black Forest 94.84 322 PFAKE 22 23 00.0 +11
BFO LR LR
comp=Z,637nm,19.0s,MS5.1
LANF Langenberg 94.87 323 *e*P **P** **22 22 55.7 +6.1**
FELD Feldberg im Sc 95.24 322 *e*P **P** **22 22 56.6 +5.3**
WLS Welschbruch 95.39 322 *e*P **P** **22 22 56.6 +4.6**
CDF Champ du Feu 95.44 322 *e*P **P** **22 22 51.3 -0.9**
comp=Z,52nm,1.1s,mb5.6
CDF Champ du Feu 95.44 322 *e*P **P** **22 22 51.3 -0.9**
CDF pmax pmax
comp=Z,26nm,1.1s,mb5.6
CDF Champ du Feu 95.44 322 *e*P **P** **22 22 51.3 -0.9**
comp=Z,26nm,1.1s,mb5.6
MOF Molkenrain 95.78 322 *e*P **P** **22 22 57.7 +4.0**
HINF Hinteralfeld 95.96 322 *e*P **P** **22 22 53.3 -1.3**
comp=Z,36nm,1.4s,mb5.3
HINF Hinteralfeld 95.96 322 *e*P **P** **22 22 53.3 -1.3**
HINF pmax pmax
comp=Z,18nm,1.4s,mb5.3
HINF Hinteralfeld 95.96 322 *e*P **P** **22 22 53.3 -1.3**
comp=Z,18nm,1.4s,mb5.3
NLWA Neilton Lookou 96.05 38 PFAKE 22 23 10.0 +15
NLWA LR LR
comp=Z,896nm,20.0s,MS5.2
GIVF Givet 96.06 325 *e*P **P** **22 22 54.1 -0.9**
comp=Z,30nm,1.0s,mb5.4
GIVF Givet 96.06 325 *e*P **P** **22 22 54.1 -0.9**
GIVF pmax pmax
comp=Z,15nm,1.0s,mb5.4
GIVF Givet 96.06 325 *e*P **P** **22 22 54.1 -0.9**
comp=Z,15nm,1.0s,mb5.4
LOMF Lomont 96.19 322 *e*P **P** **22 22 59.9 +4.3**
BAIF Baives 96.42 325 *e*P **P** **22 22 55.8 -0.9**
comp=Z,30nm,1.2s,mb5.3
BAIF Baives 96.42 325 *e*P **P** **22 22 55.8 -0.9**
BAIF pmax pmax
comp=Z,15nm,1.2s,mb5.3
BAIF Baives 96.42 325 *e*P **P** **22 22 55.8 -0.9**
comp=Z,15nm,1.2s,mb5.3
LSZ Lusaka 96.66 256 PFAKE 22 23 10.0 +12
LSZ LR LR
comp=Z,758nm,20.0s,MS5.2
LPG La Plagne 97.08 320 *e*P **P** **22 22 59.2 -0.5**
comp=Z,45nm,1.2s,mb5.5
LPG La Plagne 97.08 320 *e*P **P** **22 22 59.2 -0.5**
LPG pmax pmax
comp=Z,23nm,1.2s,mb5.5
LPG La Plagne 97.08 320 *e*P **P** **22 22 59.2 -0.5**
comp=Z,23nm,1.2s,mb5.5
LPL La Plagne 97.09 320 *e*P **P** **22 22 59.2 -0.5**
comp=Z,72nm,1.3s,mb5.6
LPL La Plagne 97.09 320 *e*P **P** **22 22 59.2 -0.5**
LPL pmax pmax
comp=Z,36nm,1.3s,mb5.6
LPL La Plagne 97.09 320 *e*P **P** **22 22 59.2 -0.5**
comp=Z,36nm,1.3s,mb5.6
EKA Eskdalemuir Ar 97.32 332 P **P** **22 23 01.0 +0.3**
comp=Z,2.9nm,1.0s,mb4.7,baz=46,slow=7.1,SNR=3.4
ESK Eskdalemuir 97.35 332 PFAKE 22 23 10.0 +9.1
ESK LR LR
comp=Z,581nm,20.0s,MS5.1
COR Corvallis 97.68 41 PFAKE 22 23 10.0 +7.6
COR LR LR
comp=Z,2μm,21.0s,MS5.5
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **22 23 02.3 -1.0**
comp=Z,19nm,1.0s,mb5.3
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **22 23 02.3 -1.0**
ORIF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
ORIF Oris-en-Rattie 97.90 320 *e*P **P** **22 23 02.3 -1.0**
comp=Z,9.4nm,1.0s,mb5.3
AVF Avril sur Loir 98.54 322 *e*P **P** **22 23 04.9 -1.3**
comp=Z,8.2nm,0.9s,mb5.0
AVF Avril sur Loir 98.54 322 *e*P **P** **22 23 04.9 -1.3**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
AVF Avril sur Loir 98.54 322 *e*P **P** **22 23 04.9 -1.3**
comp=Z,4.1nm,0.9s,mb5.0
PLDF La Plantade 98.79 321 *e*P **P** **22 23 13.7 +6.4**
HUMO Hull Mountain 98.81 42 PFAKE 22 23 20.0 +13
HUMO LR LR
comp=Z,1μm,21.0s,MS5.5
HAWA Hanford 99.14 38 PFAKE 22 23 20.0 +11
HAWA LR LR
comp=Z,807nm,19.0s,MS5.2
KEST Kesra 99.52 310 LR LR 23 16 35.5
comp=Z,184nm,18.6s,MS4.6,baz=181,slow=40
NEW Newport 99.56 35 PFAKE 22 23 20.0 +9.2
NEW LR LR
comp=Z,707nm,22.0s,MS5.1
SFJD Kangerlussuaq 99.60 357 PFAKE 22 23 20.0 +9.1
SFJD LR LR
comp=Z,734nm,20.0s,MS5.2
HOPS Hopland 100.37 46 PFAKE 22 23 30.0 +16
HOPS LR LR
comp=Z,1μm,20.0s,MS5.4
MOD Modoc 100.88 42 PFAKE 22 23 30.0 +13
MOD LR LR
comp=Z,808nm,22.0s,MS5.2
LBTB Lobatse 100.90 247 PFAKE 22 23 30.0 +13
LBTB LR LR
comp=Z,534nm,20.0s,MS5.0
BMO Blue Mountains 101.27 38 PFAKE 22 23 30.0 +12
BMO LR LR
comp=Z,464nm,19.0s,MS5.0
BOSA Boshof 101.78 243 PFAKE 22 23 30.0 +9.4
BOSA LR LR
comp=Z,534nm,21.0s,MS5.0
MSO Missoula 102.15 35 PFAKE 22 23 30.0 +7.7
MSO LR LR
comp=Z,305nm,20.0s,MS4.8
SAO San Andreas Ge 102.53 47 PFAKE 22 23 40.0 +16
SAO LR LR
comp=Z,866nm,19.0s,MS5.3
CMB Columbia Colle 102.68 46 PFAKE 22 23 40.0 +15
CMB LR LR
comp=Z,812nm,22.0s,MS5.2
QSPA South Pole Qui 103.28 180 PFAKE 22 23 40.0 +13
QSPA LR LR
comp=Z,545nm,19.0s,MS5.1
BMN Battle Mountai 103.63 42 PFAKE 22 23 40.0 +11
BMN LR LR
comp=Z,1μm,20.0s,MS5.3
EGMT Eagleton 103.71 33 PFAKE 22 23 40.0 +11
EGMT LR LR
comp=Z,749nm,20.0s,MS5.2
HLID Hailey 103.72 38 PFAKE 22 23 40.0 +11
HLID LR LR
comp=Z,664nm,21.0s,MS5.2
TPH Tonopah 104.84 44 PFAKE 22 23 50.0 +16
TPH LR LR
comp=Z,942nm,21.0s,MS5.3
ISA Isabella 105.16 47 PFAKE 22 28 00.0 +10
ISA LR LR
comp=Z,195nm,20.0s,MS4.7
DAC Darwin (Calif) 105.48 46 PFAKE 22 28 00.0 +9.4
DAC LR LR
comp=Z,759nm,19.0s,MS5.3
LKWY Lake 105.49 36 PFAKE 22 28 00.0 +9.4
LKWY LR LR
comp=Z,818nm,20.0s,MS5.3
SNCC San Nicolas Is 105.55 50 PFAKE 22 28 00.0 +9.3
SNCC LR LR
comp=Z,962nm,21.0s,MS5.3
AHID Auburn Hatcher 106.16 38 PFAKE 22 28 00.0 +8.2
AHID LR LR
comp=Z,683nm,22.0s,MS5.2
DGMT Dagmar 106.22 30 *e*Pdif Pdif 22 23 50.6 +10
DGMT LR LR
comp=Z,658nm,19.0s,MS5.2
LAO LASA Array 106.41 32 PFAKE 22 28 00.0 +7.7
LAO LR LR
comp=Z,657nm,19.0s,MS5.2
HWUT Hardware Ranch 106.56 39 PFAKE 22 28 00.0 +7.4
HWUT LR LR
comp=Z,700nm,22.0s,MS5.2
DUG Dugway 106.59 41 PFAKE 22 28 00.0 +7.4
DUG LR LR
comp=Z,788nm,19.0s,MS5.3
ESLA Sonseca Array 106.85 319 PFAKE 22 28 10.0 +17
ESLA LR LR
comp=Z,6μm,22.0s,MS6.1
BW06 Boulder Array 107.06 37 PFAKE 22 28 10.0 +16
BW06 LR LR
comp=Z,611nm,19.0s,MS5.2
PDAR Pinedale Array 107.06 37 PP PP 22 27 59.4 -11
comp=Z,0.9nm,0.8s,baz=345,slow=6.7,SNR=3.3
PDAR PKKP PKKPbc 22 39 30.6 +20
comp=Z,0.3nm,0.5s,baz=137,slow=5.5,SNR=3.6
TSUM Tsumeb 107.33 254 PFAKE 22 28 10.0 +16
TSUM LR LR
comp=Z,741nm,20.0s,MS5.2
RKT Rikitea 107.36 110 *e*LR LR 22 59 20.5
comp=Z,484nm,26.0s
MPU Maple Canyon 107.44 40 PFAKE 22 28 10.0 +16
MPU LR LR
comp=Z,2μm,21.0s,MS5.6
PFO Pinyon Flat Ob 107.62 48 PFAKE 22 28 10.0 +15
PFO LR LR
comp=Z,293nm,21.0s,MS4.8
MSKU Masuku 107.86 273 PFAKE 22 28 10.0 +15
MSKU LR LR
comp=Z,2.0nm,19.0s
MVU Marysvale 107.93 42 PFAKE 22 28 10.0 +15
MVU LR LR
comp=Z,993nm,20.0s,MS5.4
AGMN Agassiz Refuge 110.13 26 PFAKE 22 28 10.0 +11
AGMN LR LR
comp=Z,836nm,19.0s,MS5.3
MVCO Mesa Verde 111.07 41 PFAKE 22 28 10.0 +9.0
MVCO LR LR
comp=Z,982nm,20.0s,MS5.4
ISCO Idaho Springs 111.24 37 PFAKE 22 28 10.0 +8.7
ISCO LR LR
comp=Z,687nm,19.0s,MS5.2
SCHQ Schefferville 111.63 5 PFAKE 22 28 10.0 +7.9
SCHQ LR LR
comp=Z,1μm,19.0s,MS5.6
EYMN Ely 112.17 23 PFAKE 22 28 10.0 +6.9
EYMN LR LR
comp=Z,769nm,19.0s,MS5.3
SDCO Great Sand Dun 112.62 39 PFAKE 22 28 20.0 +16
SDCO LR LR
comp=Z,918nm,19.0s,MS5.4
ECSD EROS,Sioux Fal 113.29 29 PFAKE 22 28 20.0 +15
ECSD LR LR
comp=Z,679nm,21.0s,MS5.2
ANMO Albuquerque 113.75 42 PFAKE 22 28 20.0 +14
ANMO LR LR
comp=Z,1μm,22.0s,MS5.5
TORD Torodi Ar. Bea 114.84 291 PKP PKiKP 22 28 09.3 +1.1
comp=Z,0.9nm,0.8s,baz=134,slow=1.2,SNR=5.6
TORD PP PP 22 28 59.5 -7.0
comp=Z,2.3nm,0.7s,baz=57,slow=7.0,SNR=5.8
TORD PKKPbc PKKPbc 22 38 49.8 +4.9
comp=Z,0.8nm,0.9s,baz=253,slow=2.3,SNR=4.0
CBKS Cedar Bluff 115.27 35 PFAKE 22 28 20.0 +11
CBKS LR LR
comp=Z,427nm,19.0s,MS5.1
SCIA State Center 116.29 28 PFAKE 22 28 20.0 +9.0
SCIA LR LR
comp=Z,702nm,19.0s,MS5.3
MNTX Cornudas Mount 116.45 44 PFAKE 22 28 20.0 +8.7
MNTX LR LR
comp=Z,576nm,20.0s,MS5.2
KSU1 Kansas State U 116.75 33 PFAKE 22 28 20.0 +8.1
KSU1 LR LR
comp=Z,641nm,20.0s,MS5.2
JFWS Jewell Farm 116.79 26 PFAKE 22 28 20.0 +8.0
JFWS LR LR
comp=Z,818nm,22.0s,MS5.3
AMTX Amarillo 116.82 39 PFAKE 22 28 20.0 +8.0
AMTX LR LR
comp=Z,734nm,20.0s,MS5.3
TXAR Lajitas Array 119.06 45 PKP PKPdf 22 28 17.5 +1.2
comp=Z,1.5nm,0.7s,baz=238,slow=1.1,SNR=16
HDIL Hopedale 119.13 27 PFAKE 22 28 30.0 +14
HDIL LR LR
comp=Z,781nm,20.0s,MS5.3
AAM Ann Arbor 119.88 21 PFAKE 22 28 30.0 +12
AAM LR LR
comp=Z,855nm,21.0s,MS5.4
CCM Cathedral Cave 120.25 30 PFAKE 22 28 30.0 +11
CCM LR LR
comp=Z,566nm,19.0s,MS5.2
LONY Lake Ozonia 120.39 13 PFAKE 22 28 30.0 +11
LONY LR LR
comp=Z,875nm,19.0s,MS5.4
PKME Peaks-Kenny Pk 120.76 9 PFAKE 22 28 30.0 +10
PKME LR LR
comp=Z,1μm,20.0s,MS5.5
JCT Junction City 120.92 42 PFAKE 22 28 30.0 +10
JCT LR LR
comp=Z,969nm,22.0s,MS5.4
NCB Newcomb 121.09 13 PFAKE 22 28 30.0 +10
NCB LR LR
comp=Z,1μm,22.0s,MS5.4
LBNH Lisbon 121.31 11 PFAKE 22 28 30.0 +9.4
LBNH LR LR
comp=Z,958nm,19.0s,MS5.5
BINY Binghamton 122.33 15 PFAKE 22 28 30.0 +7.4
BINY LR LR
comp=Z,820nm,20.0s,MS5.4
NATX Nacogdoches 123.20 37 PFAKE 22 28 40.0 +16
NATX LR LR
comp=Z,762nm,19.0s,MS5.4
WES Weston 123.21 11 PFAKE 22 28 40.0 +16
WES LR LR
comp=Z,788nm,21.0s,MS5.3
SSPA Standing Stone 123.26 18 PFAKE 22 28 40.0 +16
SSPA LR LR
comp=Z,861nm,20.0s,MS5.4
MCWV Mont Chateau 123.54 20 PFAKE 22 28 40.0 +15
MCWV LR LR
comp=Z,891nm,21.0s,MS5.4
HKT Hockley 123.79 39 PFAKE 22 28 40.0 +15
HKT LR LR
comp=Z,952nm,20.0s,MS5.5
OXF Oxford 123.96 31 PFAKE 22 28 40.0 +14
OXF LR LR
comp=Z,794nm,22.0s,MS5.3
PLAL Pickwick Lake 124.24 29 PFAKE 22 28 40.0 +14
PLAL LR LR
comp=Z,588nm,20.0s,MS5.2
BLA Blacksburg 125.54 22 PFAKE 22 28 40.0 +11
BLA LR LR
comp=Z,1μm,22.0s,MS5.5
TKL Tuckaleechee C 125.60 25 PKP PKPdf 22 28 30.6 +1.7
comp=Z,6.5nm,0.8s,baz=306,slow=0.8,SNR=3.9
CBN Corbin 125.65 18 PFAKE 22 28 40.0 +11
CBN LR LR
comp=Z,872nm,19.0s,MS5.5
CNNC Cliffs of the 128.20 20 PFAKE 22 28 50.0 +16
CNNC LR LR
comp=Z,990nm,19.0s,MS5.5
CMIG Matias Romero 132.92 51 PKP PKPdf 22 28 45.4 +2.6
comp=Z,3.6nm,0.8s,baz=294,slow=9.0,SNR=4.3
DWPF Disney 133.07 28 PFAKE 22 29 00.0 +17
DWPF LR LR
comp=Z,752nm,22.0s,MS5.4
BBSR BB Station 134.07 7 PFAKE 22 29 00.0 +15
BBSR LR LR
comp=Z,448nm,20.0s,MS5.2
TEIG Tepich 135.49 42 PFAKE 22 29 00.0 +12
TEIG LR LR
comp=Z,475nm,20.0s,MS5.2
HOPE Hope Point 135.74 198 PFAKE 22 29 00.0 +12
HOPE LR LR
comp=Z,121nm,21.0s,MS4.6
TGUH Tegucigalpa,Un 140.47 47 PFAKE 22 29 10.0 +13
TGUH LR LR
comp=Z,477nm,20.0s,MS5.2
SJG San Juan 147.75 14 PFAKE 22 29 20.0 +11
SJG LR LR
comp=Z,433nm,21.0s,MS5.2
DEG La Desirade 150.33 5 *e*P PKPdf 22 29 10.7 -2.9
PLCA Paso Flores 150.80 161 PKPbc PKPbc 22 29 20.5 +0.6
comp=Z,6.2nm,0.9s,baz=2.6,slow=0.2,SNR=7.5
PLCA Paso Flores 150.80 161 PFAKE 22 29 30.0 +16
PLCA LR LR
comp=Z,517nm,19.0s,MS5.3
SDV Santo Domingo 154.73 29 PKP PKPdf 22 29 22.1 +2.0
comp=Z,14nm,1.0s,baz=19,slow=1.7,SNR=13
SDV Santo Domingo 154.73 29 PKP PKPdf 22 29 22.1 +2.0
SDV LR LR
comp=Z,315nm,22.0s,MS5.1
ROSC El Rosal 155.93 42 PKP PKPdf 22 29 25.2 +3.5
comp=Z,6.5nm,0.4s,baz=101,slow=19,SNR=3.7
OTAV Otavalo 155.95 57 PFAKE 22 29 30.0 +8.3
OTAV LR LR
comp=Z,383nm,22.0s,MS5.2
NNA Nana 161.97 88 PFAKE 22 29 40.0 +11
NNA LR LR
comp=Z,115nm,22.0s
LVC Limon Verde 166.48 134 PKP PKPdf 22 29 35.4 +2.6
comp=Z,1.0nm,0.3s,baz=301,slow=5.9,SNR=2.7
LVC PKPab PKPab 22 30 36.9 +2.1
comp=Z,7.3nm,1.1s,baz=239,slow=4.2,SNR=3.4
LVC Limon Verde 166.48 134 PKP PKPdf 22 29 35.5 +2.6
LVC PKPab PKPab 22 30 36.9 +2.1
LVC LR LR
comp=Z,530nm,19.0s
CPUP Villa Florida 167.12 184 PFAKE 22 29 40.0 +6.7
CPUP LR LR
comp=Z,131nm,19.0s
BDFB Brasilia 169.69 256 PKP PKPdf 22 29 35.4 +0.4
comp=Z,3.8nm,0.8s,baz=92,slow=3.1,SNR=3.6
BDFB Brasilia 169.69 256 PKP PKPdf 22 29 35.4 +0.4
BDFB LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 170.19 108 PKP PKPdf 22 29 37.3 +2.0
comp=Z,4.3nm,1.1s,baz=86,slow=0.5,SNR=12
LPAZ PKPab PKPab 22 30 54.5 +3.3
comp=Z,2.1nm,0.9s,baz=286,slow=2.6,SNR=2.7
LPAZ La Paz 170.19 108 PKP PKPdf 22 29 37.3 +2.0
LPAZ PKPab PKPab 22 30 54.5 +3.3
LPAZ LR LR
comp=Z,559nm,21.0s
SAML Samuel 173.55 47 PFAKE 22 29 50.0 +13
SAML LR LR
comp=Z,718nm,20.0s
SIV San Ignacio 176.38 135 PKP PKPdf 22 29 38.4 +0.6
comp=Z,6.2nm,0.9s,baz=155,slow=0.3,SNR=7.7

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*ISCJB **20** 22:13:49.4±0.3, 4672N±002×980E±002, h14km±2km,*
Error ellipse: s-maj=2.9km s-min=2.7km az=174.8
*ZUR **20** 22:13:50.9, 4675N×987E, h5km±1km, ML1.9/10*
*CSEM **20** 22:13:50.1±0.1, 4668N×990E, h8km, MD2.4/1, ML2.5/14,*
Error ellipse: s-maj=1.9km s-min=1.5km az=156.0
*VIE **20** 22:13:50.2±0.4, 4673N×987E, h6km±1km, mb1.7/2,*
ML2.3/5, Error ellipse: s-maj=3.0km s-min=1.2km az=9.0
9 km SSE of Davos
*ROM **20** 22:13:50.3±0.1, 4669N×987E, h3km, Md2.2/5, Ml1.5/3,*
Error ellipse: s-maj=1.6km s-min=1.4km az=124.0
*LDG **20** 22:13:51.4±0.1, 4670N×988E, h5km, Ml2.4/10, Error*
ellipse: s-maj=1.4km s-min=1.0km az=64.0

ISC 20 22:13:50.5±0.3, 4672N±002×984E±002, h15km±2km, n49, σ0:85/90, 8C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.07**	**25**	⇓*i*	Pg	**Pg**	**22 13 52.6**	**-0.9**
DAVOX				*i*	Sg	**Sg**	**22 13 53.5**	**-1.9**
FUORN	**Ofenpass-Fuorn**	**0.31**	**108**	⇑*i*	Pg	**Pg**	**22 13 56.8**	**-0.2**
	170nm,0.3s							
BERNI	**Berninapass**	**0.33**	**157**	*i*	Sg	**Pg**	**22 13 58.1**	**+0.7**
	326nm,0.3s							
BERNI	**Berninapass**	**0.33**	**157**	⇑*i*	Pg	**Sg**	**22 14 02.9**	**+0.9**
	326nm,0.3s							
VDL	**Val di Lei**	**0.34**	**228**	⇑*i*	Pg	**Pg**	**22 13 58.7**	**+1.1**
	178nm,0.2s							
TUE	**Stuetta**	**0.42**	**234**		Pg	**Pg**	**22 13 59.8**	**+0.9**
TUE					Sg	**Sg**	**22 14 06.2**	**+1.6**
	56nm,0.2s							
BRMO	**Bormio**	**0.44**	**123**		Pg	**Pg**	**22 13 59.4**	**0.0**
BRMO					Sg	**Sg**	**22 14 05.5**	**+0.2**
	18nm,0.3s							
PLONS	**Plons/SG**	**0.46**	**317**	*i*	Pg	**Pg**	**22 13 59.8**	**+0.2**
	67nm,10.0s							
PLONS				*e*	Sg	**Sg**	**22 14 06.5**	**+0.7**
	67nm,10.0s							
DAVA	**Damuels**	**0.57**	**3**	⇑*i*	Pg	**Pg**	**22 14 01.5**	**-0.2**
DAVA				⇓*i*	Sg	**Sg**	**22 14 09.0**	**-0.3**
	comp=Z,17nm,0.2s							
LLS	**Linth-Limmern**	**0.58**	**283**	*e*	Pg	**Pg**	**22 14 01.4**	**-0.6**
	27nm,1.0s							
LIENZ	**Kamor/St.Gall**	**0.62**	**338**	*e*	Pg	**Pg**	**22 14 02.7**	**0.0**
	79nm,0.9s							
MABI	**Malga Bissina**	**0.81**	**145**		Pg	**Pg**	**22 14 06.6**	**+0.3**
MABI					Sg	**Sg**	**22 14 17.2**	**+0.2**
MUGIO	**Muggio**	**0.97**	**215**	⇓*i*	Pg	**Pg**	**22 14 10.2**	**+1.0**
	85nm,0.5s							
BNALP	**Bannalp**	**0.98**	**279**	*e*	P	**Pb**	**22 14 07.3**	**-1.9**
	49nm,0.4s							
APPI	**Appiano**	**0.99**	**104**		Pg	**Pg**	**22 14 09.2**	**-0.4**
	15nm,0.6s							
SQTA	**Sankt Quirin**	**1.06**	**61**	⇓*i*	Pg	**Pg**	**22 14 10.0**	**-1.1**
SQTA				⇓*i*	Sg	**Sg**	**22 14 25.1**	**+0.1**
	11nm,0.2s							
MOTA	**Moosalm**	**1.07**	**54**	⇑*i*	Pg	**Pg**	**22 14 10.2**	**-0.9**
MOTA				⇑*i*	Sg	**Sg**	**22 14 25.3**	**+0.2**
	9.1nm,0.3s							
WATA	**Walderalm**	**1.34**	**62**	⇑*i*	Pn	**Pn**	**22 14 15.2**	**+0.6**
WATA				⇓*i*	Sg	**Sg**	**22 14 33.9**	**+0.2**
	8.8nm,0.2s							
WTTA	**Wattenberg**	**1.35**	**65**	⇓*i*	Pn	**Pn**	**22 14 15.0**	**+0.3**
WTTA				⇑*i*	Sg	**Sg**	**22 14 34.2**	**+0.2**
	5.1nm,0.2s							
HINF	**Hinteralfeld**	**2.31**	**299**	*e*	Pn	**Pn**	**22 14 29.0**	**+1.1**
HINF	**Hinteralfeld**	**2.31**	**299**	*e*	Pg	**Pg**	**22 14 34.9**	**+0.1**
HINF				*e*	Sn	**Sn**	**22 14 56.2**	**+0.1**
HINF				*e*	Sg	**Sg**	**22 15 05.0**	**+0.2**
	4.8nm,0.4s							
HINF	**Hinteralfeld**	**2.31**	**299**	*e*	Pg	**Pg**	**22 14 34.9**	**+0.1**
HINF				*e*	Sn	**Sn**	**22 14 56.2**	**+0.1**
HINF				*e*	Sg	**Sg**	**22 15 05.0**	**+0.2**
	2.4nm,0.4s							
CDF	**Champ du Feu**	**2.42**	**315**	*e*	Pn	**Pn**	**22 14 31.0**	**+1.5**
CDF				*e*	Sn	**Sn**	**22 14 59.1**	**+0.2**
CDF				*e*	Sg	**Sg**	**22 15 08.7**	**+0.3**
	6.1nm,0.4s							
CDF	**Champ du Feu**	**2.42**	**315**	*e*	Pn	**Pn**	**22 14 31.0**	**+1.5**
CDF				*e*	Sn	**Sn**	**22 14 59.1**	**+0.2**
CDF				*e*	Sg	**Sg**	**22 15 08.7**	**+0.3**
	3.0nm,0.4s							
LPG	**La Plagne**	**2.47**	**241**	*e*	Pn	**Pn**	**22 14 31.3**	**+1.2**
LPG	**La Plagne**	**2.47**	**241**	*e*	Pg	**Pg**	**22 14 38.0**	**+0.2**
LPG				*e*	Sg	**Sg**	**22 15 09.9**	**0.0**
	4.2nm,0.5s							
LPG	**La Plagne**	**2.47**	**241**	*e*	Pg	**Pg**	**22 14 38.0**	**+0.2**
LPG				*e*	Sg	**Sg**	**22 15 09.9**	**0.0**
	2.1nm,0.5s							
LPL	**La Plagne**	**2.47**	**242**	*e*	Pn	**Pn**	**22 14 31.2**	**+1.0**
LPL	**La Plagne**	**2.47**	**242**	*e*	Pg	**Pg**	**22 14 37.7**	**-0.2**
LPL				*e*	Sn	**Sn**	**22 14 59.9**	**-0.1**
LPL				*e*	Sg	**Sg**	**22 15 09.8**	**-0.1**
	3.5nm,0.4s							
LPL	**La Plagne**	**2.47**	**242**	*e*	Pg	**Pg**	**22 14 37.7**	**-0.2**
LPL				*e*	Sn	**Sn**	**22 14 59.9**	**-0.1**
LPL				*e*	Sg	**Sg**	**22 15 09.8**	**-0.1**
	1.8nm,0.4s							
CABF	**La Chapelle**	**2.58**	**269**	*e*	Pn	**Pn**	**22 14 32.8**	**+1.1**
CABF				*e*	Sg	**Sg**	**22 15 12.7**	**-0.9**
	4.2nm,0.4s							
CABF	**La Chapelle**	**2.58**	**269**	*e*	Pn	**Pn**	**22 14 32.8**	**+1.1**
CABF				*e*	Sg	**Sg**	**22 15 12.7**	**-0.9**
	2.1nm,0.4s							
HAU	**Haudompre**	**2.70**	**300**	*e*	Pn	**Pn**	**22 14 34.4**	**+1.1**
HAU	**Haudompre**	**2.70**	**300**	*e*	Pg	**Pg**	**22 14 41.9**	**-0.3**
HAU				*e*	Sn	**Sn**	**22 15 05.5**	**-0.1**
HAU				*e*	Sg	**Sg**	**22 15 17.1**	**-0.1**
	5.6nm,0.5s							
HAU	**Haudompre**	**2.70**	**300**	*e*	Pg	**Pg**	**22 14 41.9**	**-0.3**
HAU				*e*	Sn	**Sn**	**22 15 05.5**	**-0.1**
HAU				*e*	Sg	**Sg**	**22 15 17.1**	**-0.1**
	2.8nm,0.5s							
MBDF	**Montbardon**	**2.93**	**228**	*e*	Pn	**Pn**	**22 14 36.9**	**+0.5**
MBDF	**Montbardon**	**2.93**	**228**	*e*	P	**Pn**	**22 14 39.8**	**+3.4**
MBDF				*e*	Sn	**Sn**	**22 15 10.4**	**-0.9**
MBDF				*e*	Sg	**Sg**	**22 15 23.6**	**-1.0**

0.7nm,0.3s
MBDF Montbardon 2.93 228 *e*P **Pn 22 14 39.8 +3.4**
MBDF *e*Sn **Sn 22 15 10.4 -0.9**
MBDF *e*Sg **Sg 22 15 23.6 -1.0**
0.3nm,0.3s
SBF Sospel 3.32 212 *e*Pn **Pn 22 14 42.4 +0.6**
SBF Sospel 3.32 212 *e*Pg **Pg 22 14 53.2 -0.9**
SBF *e*Sn **Sn 22 15 19.4 -1.6**
5.8nm,0.4s
SBF Sospel 3.32 212 *e*Pg **Pg 22 14 53.2 -0.9**
SBF *e*Sn **Sn 22 15 19.4 -1.6**
2.9nm,0.4s
FRF La Foret Royal 3.88 217 *e*Pn **Pn 22 14 49.9 +0.4**
FRF *e*Sn **Sn 22 15 33.6 -1.2**
4.7nm,0.5s
FRF La Foret Royal 3.88 217 *e*Pn **Pn 22 14 49.9 +0.4**
FRF *e*Sn **Sn 22 15 33.6 -1.2**
2.3nm,0.5s
VIVF Saint-Julien-l 4.07 245 *e*Pn **Pn 22 14 52.5 +0.4**
SMRF Simiane la Rot 4.07 229 *e*Pn **Pn 22 14 52.4 +0.3**
SMRF Simiane la Rot 4.07 229 *e*Pg **Pg 22 15 07.3 -1.1**
PGF Pioggiola 4.21 188 *e*Pn **Pn 22 14 53.8 -0.3**
PGF *e*Sn **Sn 22 15 40.6 -2.4**
BAIF Baives 5.02 314 *e*Pn **Pn 22 15 05.8 +0.6**
BAIF *e*Sn **Sn 22 16 01.1 -1.9**
2.7nm,0.3s
BAIF Baives 5.02 314 *e*Pn **Pn 22 15 05.8 +0.6**
BAIF *e*Sn **Sn 22 16 01.1 -1.9**
1.4nm,0.3s

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*STR **20** 22:21:40.9±0.5, 4351N×058W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 22:21:41.6±0.1, 4344N×059W, h15km, Md2.1/3, Ml2.1/8, Error ellipse: s-maj=2.1km s-min=1.1km az=128.0*
MDD 20 22:21:42.2±0.6, 4345N×061W, h11km±1km, mbLg1.4/14, Error ellipse: s-maj=4.3km s-min=2.4km az=7.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.34**	**225**	Pg	Pg	22 21 48.6	-0.3
ORDF				Sg	Sg	22 21 54.2	+0.7
ORDF	**Ordiarp**	**0.34**	**225**	P	Pg	22 21 48.3	-0.6
ATE	**Arette**	**0.37**	**191**	Pg	Pg	22 21 49.2	-0.4
ATE				Sg	Sg	22 21 55.1	+0.6
REYF	**Montagne du Re**	**0.41**	**158**	Pg	Pg	22 21 49.3	-1.0
REYF				Sg	Sg	22 21 57.1	+1.3
LARF	**Larrau**	**0.50**	**214**	Pg	Pg	22 21 51.3	-0.6
LARF				Sg	Sg	22 21 59.2	+0.7
OSSF	**Osses**	**0.52**	**248**	Pg	Pg	22 21 51.9	-0.4
OSSF				Sg	Sg	22 21 59.8	+0.7
ETSF	**Etsaut**	**0.55**	**176**	*e*Pg	Pg	22 21 52.1	-0.9
ETSF				*e*Sg	Sg	22 21 58.7	-1.6
6.0nm,0.2s							
ETSF	**Etsaut**	**0.55**	**176**	Pg	Pg	22 21 52.1	-0.9
ETSF				Lg		22 21 58.7	
3.0nm,0.2s							
SJPF	**Ste Jean**	**0.56**	**233**	*e*Pg	Pg	22 21 52.5	-0.7
SJPF				*e*Sg	Sg	22 21 59.9	-0.7
9.4nm,0.3s							
SJPF	**Ste Jean**	**0.56**	**233**	Pg	Pg	22 21 52.5	-0.7
SJPF				Lg		22 21 59.9	
4.7nm,0.3s							
LABF	**Labassere**	**0.64**	**129**	P	Pg	22 21 54.5	-0.1
LABF				S	Sg	22 22 03.9	+0.8
EALK	**Alkurruntz**	**0.70**	**251**	Pg	Pg	22 21 55.0	-0.6
2.2nm,0.3s,SNR=7.9							
EALK				Lg		22 22 05.1	
14nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	**0.73**	**247**	Pg	Pg	22 21 54.6	-1.8
2.3nm,0.3s,SNR=11							
ELIZ				Lg		22 22 05.7	
2.4nm,0.2s,SNR=10							
EPF	**Esparros**	**0.81**	**121**	*e*Pg	Pg	22 21 57.1	-0.7
EPF				*e*Sg	Sg	22 22 07.9	-0.5
8.1nm,0.2s							
EPF	**Esparros**	**0.81**	**121**	Pg	Pg	22 21 57.1	-0.7
EPF				Lg		22 22 07.9	
4.1nm,0.2s							
IPRE	**Itoiz**	**0.85**	**221**	Pg	Pg	22 21 59.2	+0.6
0.4nm,0.2s,SNR=4.0							
IPRE				Lg		22 22 10.7	
3.7nm,0.4s,SNR=7.9							
IUSE	**Utxeti**	**0.85**	**234**	Pg	Pg	22 21 58.0	-0.6
1.2nm,0.3s,SNR=4.0							
IUSE				Lg		22 22 09.5	
3.2nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**0.94**	**144**	Pg	Pg	22 21 59.1	-1.3
0.6nm,0.1s,SNR=7.9							
EBIE				Lg		22 22 11.1	
1.9nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.73**	**177**	Pg	Pg	22 22 14.2	-1.2
3.1nm,0.2s,SNR=7.9							
ESAC				Lg		22 22 37.0	
9.6nm,0.3s,SNR=9.3							
LFF	**La Frestale**	**1.78**	**33**	*e*Pg	Pg	22 22 14.5	-1.8
LFF				*e*Sg	Sg	22 22 37.9	-1.4
3.6nm,0.3s							
LFF	**La Frestale**	**1.78**	**33**	Pg	Pg	22 22 14.5	-1.8
LFF				Lg		22 22 37.9	
1.8nm,0.3s							
MTLF	**Montolieu**	**2.06**	**92**	*e*Pg	Pg	22 22 19.8	-1.9
MTLF				*e*Sg	Sg	22 22 46.6	-1.9
2.0nm,0.3s							
MTLF	**Montolieu**	**2.06**	**92**	Pg	Pg	22 22 19.8	-1.9
MTLF				Lg		22 22 46.6	
1.0nm,0.3s							
RJF	**Les Rejaudoux**	**2.40**	**39**	*e*Pg	Pg	22 22 25.8	-2.4
RJF				*e*Sg	Sg	22 22 57.3	-2.0
2.3nm,0.3s							
RJF	**Les Rejaudoux**	**2.40**	**39**	Pg	Pg	22 22 25.8	-2.4
RJF				Lg		22 22 57.3	
1.1nm,0.3s							
CAF	**Calviac**	**2.42**	**52**	*e*Pg	Pg	22 22 26.5	-2.1
CAF				*e*Sg	Sg	22 22 57.8	-2.2
2.2nm,0.3s							
CAF	**Calviac**	**2.42**	**52**	Pg	Pg	22 22 26.5	-2.1
CAF				Lg		22 22 57.8	
1.1nm,0.3s							
MFF	**Saint Martin d**	**3.17**	**6**	*e*Sg	Sg	22 23 21.4	-2.6
1.4nm,0.3s							
MFF	**Saint Martin d**	**3.17**	**6**	Lg		22 23 21.4	
0.7nm,0.3s							
TCF	**Toulx Ste Croi**	**3.47**	**34**	*e*Sg	Sg	22 23 30.6	-3.1
0.5nm,0.2s							
TCF	**Toulx Ste Croi**	**3.47**	**34**	Lg		22 23 30.6	
0.2nm,0.2s							
BGF	**Bois d'Agland**	**3.96**	**37**	*e*Sg	Sg	22 23 45.7	-3.5
5.9nm,0.5s							
BGF	**Bois d'Agland**	**3.96**	**37**	Lg		22 23 45.7	
3.0nm,0.5s							

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*NEIC **20** 22:38:02.1, 1918N×6333W, h116km, MD3.8(RSPR), After RSPR.*
RSPR 20 22:38:02.1, 1918N×6333W, h116km±10km, MD3.8/5, MD3.8/5, 9C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**2.37**	**243⇑**	*e*P	Pn	22 38 39.9	-0.1
MTP				*e*S	Sn	22 39 09.7	+0.6
CBYP	**Canovanas**	**2.56**	**250⇑**	*e*P	Pn	22 38 42.4	-0.1
CBYP				*e*S	Sn	22 39 13.7	+0.2
HUMP	**Col San Antoni**	**2.60**	**247⇑**	*e*P	Pn	22 38 42.5	-0.5
HUMP				*e*S	Sn	22 39 14.5	0.0
CPD	**Cerro la Pandu**	**2.71**	**245⇑**	*e*P	Pn	22 38 44.7	+0.3
CPD				*e*S	Sn	22 39 17.3	+0.4
CELP	**Cerrillos**	**3.27**	**251⇑**	*e*P	Pn	22 38 51.6	-0.2
CELP				*e*S	Sn	22 39 30.9	+0.6
ICM	**Isla Caja Muer**	**3.29**	**248⇑**	*e*P	Pn	22 38 52.2	+0.2
ICM				*e*S	Sn	22 39 31.4	+0.8
AOPR	**Arecibo Observ**	**3.35**	**256⇑**	*e*P	Pn	22 38 53.4	+0.5
AOPR				*e*S	Sn	22 39 32.8	+0.7
LSP	**Las Mesas**	**3.70**	**255⇑**	*e*P	Pn	22 38 58.3	+0.8
LSP				*e*S	Sn	22 39 41.0	+0.6
CRPR	**Cabo Rojo, PR**	**3.77**	**253⇑**	*e*P	Pn	22 38 58.3	-0.2
CRPR				*e*S	Sn	22 39 43.1	+1.0

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*NEIC **20** 22:39:32.4±1.2, 675S×12972E, h35km, Error ellipse: s-maj=34.6km s-min=15.0km az=70.0*
IDC 20 22:39:26.8±1.6, 667S×12998E, h0km, mb3.9/2, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=85.8km s-min=23.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.13**	**200**	Pn	Pn	22 42 20.3	-0.6
1.1nm,0.3s,baz=32,slow=10,SNR=29							
FITZ				Sn	Sn	22 44 22.2	-15
1.8nm,0.3s,baz=112,slow=14,SNR=4.8							
WRA	**Warramunga Arr**	**13.86**	**163**	Pn	Pn	22 42 46.5	+2.1
1.1nm,0.3s,baz=336,slow=14,SNR=15							
WRA				Sn	Sn	22 45 09.7	-9.4
3.2nm,0.3s,baz=333,slow=23,SNR=11							
WB2	**Warramunga Arr**	**13.86**	**163**	*e*Pn	Pn	22 42 47.3	+2.8
AS31	**Alice Springs**	**17.32**	**168**	*e*Pn	Pn	22 43 31.6	+1.7
AS31				*e*Sn	Sn	22 46 30.1	-13
ASAR	**Alice Springs**	**17.32**	**168**	P	Pn	22 43 31.6	+1.6
0.9nm,0.3s,baz=352,slow=9.7,SNR=33							
ASAR				S	Sn	22 46 28.3	-15
0.2nm,0.3s,baz=319,slow=15,SNR=4.2							
STKA	**Stephens Creek**	**27.33**	**158**	P	P	22 45 12.7	-0.6
1.3nm,0.7s,baz=336,slow=12,SNR=2.7							
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	22 50 27.6	+0.3
0.6nm,0.5s,baz=121,slow=7.8,SNR=13							

IDC 20 22:44:55.7±9.4, 565S×14923E, h67km±64km, mb3.6/3, mb1 3.8/4, mb1mx3.5/13, mbtmp3.9/4, ML2.1/1, Error ellipse: s-maj=95.4km s-min=60.2km az=79.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.26**	**209**	P	Pn	22 45 58.3	+0.3
0.8nm,0.3s,baz=76,slow=4.2,SNR=2.3							
PMG				S	Sn	22 46 54.3	+7.8
1.3nm,0.3s,baz=108,slow=22,SNR=3.1							
WRA	**Warramunga Arr**	**20.29**	**224**	P	P	22 49 27.1	+1.2
2.7nm,0.6s,baz=51,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**23.21**	**218**	P	P	22 49 55.8	-1.1
0.8nm,0.3s,baz=58,slow=8.8,SNR=5.3							
STKA	**Stephens Creek**	**27.05**	**194**	P	P	22 50 32.5	+0.7
3.5nm,0.8s,baz=5.0,slow=9.6,SNR=7.1							
TORD	**Torodi Ar. Bea**	**147.15**	**285**	PKPbc	PKPbc	23 04 31.6	+0.4
0.2nm,0.4s,baz=82,slow=2.4,SNR=5.8							

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*ISCJB **20** 22:58:33.8±0.9, 1082N×006×6242W×003, h79km±8km, Error ellipse: s-maj=9.5km s-min=5.5km az=176.7*
*FUNV **20** 22:58:34.0, 1083N×6234W, h79km, MW2.9*
*NEIC **20** 22:58:37.9, 1093N×6220W, h66km, MD3.2(TRN), After TRN.*
*TRN **20** 22:58:37.9, 1093N×6220W, h67km, MD3.2*
ISC 20 22:58:34.7±0.9, 1083N±005×6241W±003, h74km±9km, n12, σ0$99/24, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.26**	**135⇑**	*i*P	**Pn**	**22 58 45.9**	**-0.2**
GUIV				*e*S	**Sn**	**22 58 53.7**	**-0.7**
TCE	**Chacachacare**	**0.66**	**102**	*e*P	**Pn**	**22 58 50.0**	**+0.5**
TCE				*e*S	**Sn**	**22 59 00.1**	**-0.3**
CRUV	**Carupano**	**0.82**	**259⇓**	*i*P	**Pn**	**22 58 51.7**	**+0.5**
CRUV				*e*S	**Sn**	**22 59 04.3**	**+0.8**
GUNV	**Guanoco**	**0.85**	**218⇑**	*i*P	**Pn**	**22 58 52.0**	**+0.5**
GUNV				*e*S	**Sn**	**22 59 04.4**	**+0.3**
ITEV	**Isla Los Testi**	**0.87**	**306**	*e*P	**Pn**	**22 58 52.2**	**+0.3**
ITEV				*e*S	**Sn**	**22 59 04.5**	**-0.1**
TRN	**Trinidad (W)**	**1.01**	**100⇓**	*e*P	**Pn**	**22 58 53.6**	**+0.1**
TRN				*e*S	**Sn**	**22 59 06.0**	**-1.5**
TPP	**Pointe-a-Pierr**	**1.08**	**118**	*e*P	**Pn**	**22 58 56.3**	**+2.0**
TPP				*e*S	**Sn**	**22 59 09.7**	**+0.7**
TBH	**Brigand Hill**	**1.37**	**105⇑**	*i*P	**Pn**	**22 58 58.3**	**+0.3**
TBH				*e*S	**Sn**	**22 59 14.7**	**-0.9**
GRW	**Mount Saint Ca**	**1.51**	**29**	*e*P	**Pn**	**22 59 01.5**	**+1.6**
GRW				*e*S	**Sn**	**22 59 17.3**	**-1.6**
TPR	**Prospect**	**1.65**	**78⇓**	*e*P	**Pn**	**22 59 02.1**	**+0.4**
TPR				*e*S	**Sn**	**22 59 22.8**	**+0.7**
CAOV	**Caicara del Or**	**5.20**	**228**	*e*P	**Pn**	**22 59 47.7**	**-2.3**
CAOV				*e*S	**Sn**	**23 00 43.2**	**-5.3**
BAUV	**El Baul**	**5.85**	**252**	*e*P	**Pn**	**22 59 57.5**	**-1.4**
BAUV				*e*S	**Sn**	**23 00 59.5**	**-5.0**

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*CSEM **20** 22:59:13.3, 67.19N×2067E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **20** 22:59:13.3, 67.19N×2067E, h0km, ML2.7, Mining explosion.*
HEL 20 22:59:13.8±0.1, 6719N×2069E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**216**	*i*P	Pg	22 59 15.1	-0.3
MASU	**Masugnsbyn**	**0.58**	**61**	*i*P	Pg	22 59 24.3	-0.5
KUA	**Kurravaara**	**0.79**	**350**	*i*P	Pg	22 59 27.9	-1.0
ERTU	**Ertsjaerv**	**0.87**	**136**	*i*P	Pg	22 59 30.1	-0.4
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	22 59 30.1	-0.3
baz=43							
SALU	**Saltoluokta**	**0.87**	**284**	*i*P	Pg	22 59 29.7	-0.8
PAJU	**Pajala**	**0.96**	**99**	*e*P	Pg	22 59 31.2	-1.0
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	22 59 31.6	-1.4
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	22 59 32.3	-1.3
HARU	**Harads**	**1.03**	**174**	P	Pg	22 59 32.3	-1.3
baz=338							
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 59 44.4	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	22 59 46.7	+0.2
KIF				*e*S	Sn	23 00 10.3	-0.1
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	Pn	22 59 47.9	0.0
SGF	**Sodankyl**	**2.28**	**81**	*e*P	Pn	22 59 52.5	-0.2
SGF				*e*S	Sn	23 00 20.5	-0.9

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*NEIC **20** 23:07:27.6±1.4, 604S×151.10E, h35km, mb4.1/3, Error ellipse: s-maj=29.8km s-min=21.4km az=156.0*
*ISCJB **20** 23:07:29.8±5.1, 6.1S±03×1509E±02, h61km±35km, mb4.0/5, Error ellipse: s-maj=47.2km s-min=36.7km az=138.2*
*IDC **20** 23:07:32.8±8.4, 625S×15090E, h66km±61km, mb3.9/5, mb1 4.1/6, mb1mx3.8/12, mbtmp4.2/6, ML2.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/27, Error ellipse: s-maj=55.1km s-min=43.3km az=49.0*
ISC 20 23:07:30.9±4.9, 61S±03×1509E±02, h58km±33km, n13, σ0$65/13, mb4.0/5, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**228**	P	**Pn**	**23 08 43.7**	**+0.5**
1.7nm,0.3s,baz=51,slow=13,SNR=2.9							
PMG				S	**Sn**	**23 09 39.1**	**-0.4**
6.3nm,0.3s,baz=64,slow=14,SNR=4.7							
PMG				LR	LR	23 09 59.4	
comp=Z,92nm,20.9s,baz=234,slow=30							
KAKA	**Kakadu**	**19.38**	**249**	*e*P	**Pn**	**23 11 52.4**	**-1.1**
8.5nm,0.8s							
WB2	**Warramunga Arr**	**21.20**	**228⇑**	*i*P	**P**	**23 12 11.5**	**-0.1**
WRA	**Warramunga Arr**	**21.21**	**228**	P	**P**	**23 12 11.6**	**-0.1**
12nm,0.8s,mb4.2,baz=52,slow=10,SNR=30							
AS31	**Alice Springs**	**23.96**	**221**	*e*P	**P**	**23 12 40.3**	**+0.6**
ASAR	**Alice Springs**	**23.96**	**221**	P	**P**	**23 12 40.0**	**+0.4**
2.7nm,0.4s,mb4.0,baz=55,slow=9.2,SNR=57							
ASPA	**Alice Springs**	**23.96**	**221**	*e*P	**P**	**23 12 40.3**	**+0.6**
STKA	**Stephens Creek**	**27.12**	**198**	*e*P	**P**	**23 13 08.5**	**+0.2**
3.5nm,0.8s,mb3.9							
STKA	**Stephens Creek**	**27.12**	**198**	P	**P**	**23 13 08.4**	**+0.2**
4.6nm,0.8s,mb4.1,baz=27,slow=6.7,SNR=6.8							
FITZ	**Fitzroy Crossi**	**27.42**	**242⇑**	*i*P	**P**	**23 13 11.6**	**+0.7**
11nm,1.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**27.42**	**242**	P	**P**	**23 13 11.4**	**+0.5**
1.7nm,0.5s,mb3.9,baz=81,slow=8.1,SNR=16							
VNDA	**Vanda**	**71.64**	**178**	P	**P**	**23 18 44.9**	**-1.3**
0.9nm,0.8s,mb3.7,baz=324,slow=5.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**148.88**	**285**	PKPbc	PKPbc	23 27 14.3	+2.4
0.8nm,0.6s,baz=55,slow=2.6,SNR=12							

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*CSEM **20** 23:13:13.3, 67.19N×2067E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **20** 23:13:13.3, 67.19N×2067E, h0km, ML2.7, Mining explosion.*
HEL 20 23:13:13.9±0.1, 6719N×2066E, h0km, ML1.4, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**208**	*i*P	Pg	23 13 15.1	-0.3
DUNU	**Dundret**	**0.08**	**208**	P	Pg	23 13 15.1	-0.3
baz=122							
MASU	**Masugnsbyn**	**0.58**	**62**	*i*P	Pg	23 13 24.3	-0.8
KUA	**Kurravaara**	**0.78**	**351**	*i*P	Pg	23 13 27.8	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i*P	Pg	23 13 29.6	-0.7
ERTU	**Ertsjaerv**	**0.88**	**136**	*i*P	Pg	23 13 30.2	-0.6
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	23 13 30.6	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	23 13 31.1	-1.5
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	23 13 31.7	-1.4
HARU	**Harads**	**1.04**	**173**	*e*P	Pg	23 13 32.2	-1.6
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 13 44.4	-0.8
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*PN	Pn	23 13 46.9	+0.4
KIF				*e*SG	Sg	23 14 13.5	+1.0
SGF	**Sodankyl**	**2.29**	**81**	*e*PG	Pg	23 13 55.3	-2.5
SGF				*e*SG	Sg	23 14 24.8	-2.6
VAF	**Ylistaro**	**4.25**	**168**	*e*SG	Sg	23 15 27.4	-3.1

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*CSEM **20** 23:16:35.3, 6783N×20.19E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **20** 23:16:35.3, 6783N×20.19E, h0km, ML2.6, Mining explosion.*
HEL 20 23:16:36.0±0.1, 6783N×2018E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**26**	*i*P	Pg	23 16 38.3	-0.3
KUA				*i*S	Sg	23 16 40.6	+0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	23 16 43.7	-0.6
LANU	**Lannavaara**	**0.72**	**71**	*i*P	Pg	23 16 48.8	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i*P	Pg	23 16 48.9	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 16 48.8	-1.2
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	23 16 50.1	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	23 16 50.2	-1.0
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 16 58.0	-1.0
KIF				*e*S	Sg	23 17 14.4	-0.2
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	23 17 00.6	-2.1
PAJU	**Pajala**	**1.39**	**124**	P	Pn	23 17 00.6	-2.1
baz=334							
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 17 03.5	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 17 03.5	-0.7
baz=303							
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 17 06.2	-0.8
HARU	**Harads**	**1.71**	**169**	P	Pn	23 17 06.2	-0.8
baz=344							
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	23 17 17.0	+0.4
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 17 17.1	-0.2
SGF				*e*S	Sn	23 17 49.0	+0.9
LILU	**Lilltraesk**	**2.56**	**183**	*e*P	Pn	23 17 19.4	+0.7

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*IDC **20** 23:18:49.2±2.3, 2988N×5185E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=54.1km s-min=23.2km az=160.0*
*TEH **20** 23:18:50.1, 2996N×5144E, h2km, Mn3.5*
*THR **20** 23:18:51.5±0.5, 3009N×5171E, h15km±8km, ML3.5*
*CSEM **20** 23:18:51.6±0.1, 3010N×5169E, h20km, ML3.5, Error ellipse: s-maj=3.2km s-min=1.9km az=51.0*
*ISCJB **20** 23:18:52.1±0.3, 3020N±002×5167E±002, h10km, mb3.7/6, Error ellipse: s-maj=3.6km s-min=2.9km az=24.5*
*NEIC **20** 23:18:52.1, 3015N×5169E, h15km, ML3.5(THR), After THR.*
*KISR **20** 23:18:52.3±1.2, 2990N×5167E, h22km±433km, ML3.2*
ISC 20 23:18:52.9±0.3, 3010N±003×5174E±003, h10km, n43, σ1$00/61, mb3.7/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.81**	**124**	*e*Pg	**Pg**	**23 19 07.8**	**-0.8**
SHI				*e*Sg	**Sg**	**23 19 24.0**	**+4.8**
IPAR	**Pars**	**1.16**	**103**	*e*Pg	**Pg**	**23 19 13.1**	**-2.2**
IPAR				*e*Sg	**Sg**	**23 19 35.8**	**+5.4**
IMOK	**Mook**	**1.35**	**141**	*e*Pn	**Pn**	**23 19 17.5**	**-0.3**
IMOK				*e*Sg	**Sg**	**23 19 42.0**	**+5.6**
ISRV	**Sarvestan**	**1.39**	**121**	*e*Pn	**Pn**	**23 19 18.4**	**0.0**
ISRV				*e*Sg	**Sg**	**23 19 43.9**	**+6.2**
GHIR	**Ghir-Karzin**	**2.11**	**149**	*e*Pg	**Pg**	**23 19 30.0**	**-3.4**
GHIR				AML	AML	23 20 12.3	
comp=E,360nm,0.4s							
GHIR				AML	AML	23 20 17.6	
comp=N,295nm,0.6s							
GHIR	**Ghir-Karzin**	**2.11**	**149**	Pn	**Pn**	**23 19 29.0**	**+0.7**
GHIR	**Ghir-Karzin**	**2.11**	**149**	*e*Pg	**Pg**	**23 19 30.0**	**-3.4**
SNR=90							
IGAR	**Garneh**	**2.17**	**10**	*e*Pn	**Pn**	**23 19 31.7**	**+2.6**
ISAD	**Sadrabad**	**2.46**	**42**	*e*Sg	**Sg**	**23 20 08.2**	**-3.7**
IPIR	**Pirpir**	**2.67**	**344**	*e*Pn	**Pn**	**23 19 35.3**	**-0.7**
IPIR				*e*Sg	**Sg**	**23 20 10.9**	**-7.9**
IMEH	**Mehriz**	**2.79**	**62**	*e*Pn	**Pn**	**23 19 39.6**	**+2.1**
IZEF	**Zefreh**	**2.83**	**10**	*e*Pn	**Pn**	**23 19 38.6**	**+0.5**
IZEF				*e*Sn	**Sn**	**23 20 14.8**	**+2.5**
IZEF				*e*Sg	**Sg**	**23 20 15.1**	**-8.7**
NASN	**Na'in**	**2.84**	**18**	*e*Pn	**Pn**	**23 19 38.7**	**+0.5**
NASN	**Na'in**	**2.84**	**18**	Pn	**Pn**	**23 19 38.0**	**-0.2**
ICHK	**Chekchek**	**3.13**	**46**	*e*Pn	**Pn**	**23 19 43.6**	**+1.4**
ICHK				*e*Sg	**Sg**	**23 20 22.3**	**-11**
IKLH	**Kalahroud**	**3.21**	**358**	*e*Pn	**Pn**	**23 19 42.8**	**-0.6**
IKLH				*e*Sn	**Sn**	**23 20 22.4**	**+0.8**
IKLH				*e*Sg	**Sg**	**23 20 22.6**	**-13**
SHGR	**Shooshtar-Gavs**	**3.22**	**309**	*e*PN	**Pn**	**23 19 43.2**	**-0.2**
SHGR				AML	AML	23 20 53.2	
comp=N,142nm,0.6s							
SHGR				AML	AML	23 20 56.6	
comp=E,133nm,0.7s							
SHGR	**Shooshtar-Gavs**	**3.22**	**309**	Pn	**Pn**	**23 19 43.0**	**-0.5**
UMR	**Umm Al-Rimmam**	**3.54**	**262**	*e*P	**Pn**	**23 19 48.4**	**+0.5**
UMR				*e*S	**Sn**	**23 20 31.1**	**+1.3**
UMR				AML	AML	23 20 35.5	
comp=Z,48nm,

TORD	**Torodi Ar. Bea**	**49.09 261**	P	**P**	**23 27 39.0**	**-1.4**
	comp=N,1.3nm,0.6s,mb4.1,baz=57,slow=8.5,SNR=12					
TORD	**Torodi Ar. Bea**	**49.09 261**	P	**P**	**23 27 39.0**	**-1.4**

*ATH **20** 23:29:54.7, 4025N×2822E, h45km, MD3.4/4*
*CSEM **20** 23:29:54.0±0.1, 4028N×2803E, h5km, MD3.0, Error ellipse: s-maj=1.5km s-min=1.0km az=12.0*
*ISCJB **20** 23:29:55.2±0.3, 4029N±002×2802E±002, h10km, Error ellipse: s-maj=3.2km s-min=2.7km az=4.3*
*ISK **20** 23:29:55.0, 4030N×2798E, h17km, MD3.0*
*THE **20** 23:29:56.2, 4030N×2812E, h10km.*

ISC 20 23:29:54.9±0.5,**4026N**±002×**2804E**±003,**h0**km±4km,**n45,**
σ1º**05**/61,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.16**	**302**	*i* PG	**Pg**	**23 29 58.0**	**+0.1**
MRMT	**Marmara Adasi**	**0.48**	**315**	*i* PG	**Pg**	**23 30 03.4**	**-0.7**
MRMT				*i* SG	**Sg**	**23 30 10.1**	**-0.2**
BTOK	**Tokmak**	**0.50**	**181**	*i* P	**Pg**	**23 30 04.6**	**+0.1**
BTOK				*i* S	**Sg**	**23 30 11.3**	**+0.4**
MFT	**Murefte**	**0.78**	**312**	*i* PG	**Pg**	**23 30 09.2**	**-0.6**
MFT				*i* SG	**Sg**	**23 30 20.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.78**	**303**	*i* PG	**Pg**	**23 30 09.5**	**-0.4**
RKY				*i* SG	**Sg**	**23 30 20.8**	**+0.8**
SART	**Tekirdag**	**0.78**	**303**	*i* P	**Pg**	**23 30 09.2**	**-0.7**
SART				*i* S	**Sg**	**23 30 25.1**	**+5.1**
CANB	**Canakkale**	**0.79**	**252**	*i* PG	**Pg**	**23 30 10.3**	**+0.3**
ULDT	**Uludag**	**0.85**	**98**	*i* P	**Pg**	**23 30 12.0**	**+0.8**
ULDT				*i* S	**Sg**	**23 30 26.2**	**+4.0**
GEMT	**Gemlik**	**0.90**	**79**	PG	**Pg**	**23 30 14.0**	**+1.9**
CTT	**Catalca**	**0.93**	**19**	*i* PG	**Pg**	**23 30 13.3**	**+0.5**
ELBA	**Catalca**	**0.93**	**19**	*i* P	**Pg**	**23 30 12.9**	**+0.2**
ELBA	**Catalca**	**0.93**	**19**	*i* P	**Pg**	**23 30 12.9**	**+0.1**
BADT	**Buyukada**	**1.01**	**54**	PG	**Pg**	**23 30 14.7**	**+0.4**
YLV	**Yalova**	**1.06**	**73**	PN	**Pn**	**23 30 15.3**	**-1.7**
IZI	**Iznik**	**1.10**	**86**	PN	**Pn**	**23 30 16.6**	**-0.9**
ISK	**Istanbul-Kandi**	**1.12**	**44**	PN	**Pn**	**23 30 16.2**	**-1.6**
ISK	**Istanbul-Kandi**	**1.12**	**44**	*e*Pg	**Pg**	**23 30 15.9**	**-0.4**
ISK				*e*Sg	**Sg**	**23 30 31.9**	**+1.1**
ISK	**Istanbul-Kandi**	**1.12**	**44**	*e*Pn	**Pn**	**23 30 16.2**	**-1.6**
ISK				*e*Sg	**Sg**	**23 30 31.9**	**+1.1**
KLYT	**Kilyos**	**1.25**	**37**	PN	**Pn**	**23 30 18.7**	**-0.9**
ADVT	**Abdulvahap**	**1.31**	**82**	*e*PN	**Pn**	**23 30 19.7**	**-0.7**
HRT	**Hereke**	**1.36**	**65**	*e*PN	**Pn**	**23 30 19.7**	**-1.4**
EZN	**Ezine**	**1.39**	**252**	*e*PN	**Pn**	**23 30 20.5**	**-0.9**
AYVA	**Ayvalik**	**1.41**	**228**	*i* P	**Pn**	**23 30 20.3**	**-1.5**
AYVA				*i* S	**Sg**	**23 30 39.3**	**-0.8**
GDZ	**Gediz**	**1.62**	**136**	*i* P	**Pn**	**23 30 24.4**	**-0.2**
ALN	**Alexandroupoli**	**1.64**	**293**	*e*Pb	**Pb**	**23 30 25.1**	**-0.9**
ALN				*e*Sb	**Sb**	**23 30 48.7**	**+1.4**
PRK	**Paraskevi**	**1.70**	**234**	*e*P	**Pn**	**23 30 24.6**	**-1.1**
GPA	**Golpazari**	**1.74**	**88**	*e*PN	**Pn**	**23 30 25.8**	**-0.5**
EDRB	**Edirne**	**1.86**	**329**	*e*PN	**Pn**	**23 30 26.1**	**-1.9**
BORA	**Eskisehir**	**1.89**	**101**	*i* P	**Pn**	**23 30 27.6**	**-0.8**
BORA				*i* S	**Sn**	**23 30 57.7**	**+4.8**
KDAG	**Bornova**	**1.95**	**198**	*i* P	**Pn**	**23 30 30.8**	**+1.5**
IZM	**Izmir**	**1.96**	**198**	*e*PN	**Pn**	**23 30 28.8**	**-0.5**
RDO	**Rodhopi**	**2.10**	**296**	*e*P	**Pn**	**23 30 30.7**	**-0.5**
URLA	**Izmir**	**2.21**	**211**	*i* P	**Pn**	**23 30 33.7**	**+1.0**
LIA	**Limnos Island**	**2.22**	**261**	*e*P	**Pn**	**23 30 32.4**	**-0.5**
HENT	**Hendek**	**2.25**	**75**	*i* P	**Pn**	**23 30 34.4**	**+1.1**
HENT				*i* S	**Sn**	**23 31 03.4**	**+1.6**
ESKT	**Eskisehir**	**2.29**	**108**	*e*PN	**Pn**	**23 30 34.2**	**+0.4**
ESKT	**Eskisehir**	**2.29**	**108**	*i* P	**Pn**	**23 30 33.4**	**-0.5**
SEYT	**Eskypehyr**	**2.29**	**108**	*i* P	**Pn**	**23 30 33.4**	**-0.4**
LOS	**Limnos**	**2.29**	**263**	*e*Pn	**Pn**	**23 30 34.7**	**+0.8**
LOS				*e*Sn	**Sn**	**23 31 06.3**	**+3.5**
JMB	**Yambol**	**2.46**	**334**	*e*Pn	**Pn**	**23 30 34.7**	**+0.4**
JMB				*e*Sn	**Sn**	**23 31 08.2**	**+1.2**
TKTP	**Tekketepe**	**2.84**	**141**	*i* P	**Pn**	**23 30 48.7**	**+7.2**
NVR	**Nevrokopi**	**3.35**	**290**	*e*P	**Pn**	**23 30 48.1**	**-0.4**
NVR	**Nevrokopi**	**3.35**	**290**	*e*Pn	**Pn**	**23 30 47.8**	**-0.7**
MMB	**Musomiste**	**3.52**	**293**	*e*Pn	**Pn**	**23 30 51.9**	**+1.1**
MMB				*e*Sn	**Sn**	**23 31 36.4**	**+3.2**
APE	**Apeiranthos**	**3.74**	**212**	*e*Pn	**Pn**	**23 30 56.1**	**+2.2**
APE				*e*Sn	**Sn**	**23 31 42.0**	**+3.3**

*ISCJB **20** 23:30:05.5±0.6, 3836N±002×2209E±003, h1km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=166.4*
*NEIC **20** 23:30:05.8, 3838N×2199E, h18km, ML3.2(ATH), After ATH.*
*ATH **20** 23:30:05.8, 3838N×2200E, h17km±1km, MD3.3/13, ML3.2*
*CSEM **20** 23:30:06.4±0.1, 3839N×2202E, h5km±1km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=86.0*
*THE **20** 23:30:07.8, 3839N×2228E, h3km, ML2.8*

ISC 20 23:30:06.1±0.6,**3836N**±002×**2208E**±003,**h0**km±4km,**n40,**
σ1º**06**/64,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.57**	**238**	*e*PN	**Pg**	**23 30 16.6**	**-0.4**
RLS				*e*SN	**Sg**	**23 30 24.2**	**-0.2**
EVR	**Evrytania**	**0.59**	**339**	*e*PN	**Pg**	**23 30 16.6**	**-0.8**
EVR				*e*SN	**Sg**	**23 30 24.7**	**-0.4**
AGG	**Agios Georgios**	**0.69**	**17**	*e*Pg	**Pg**	**23 30 18.9**	**-0.3**
AGG				*e*Sg	**Sg**	**23 30 29.9**	**+1.7**
LKR	**Lokris**	**0.78**	**68**	*e*PB	**Pg**	**23 30 21.2**	**+0.2**
LKR				*e*SN	**Sg**	**23 30 33.6**	**+2.5**
LKR	**Lokris**	**0.78**	**68**	*e*Pb	**Pg**	**23 30 21.2**	**+0.2**
LKR				*e*Sn	**Sg**	**23 30 34.0**	**+2.9**
VLS	**Valsamata**	**1.19**	**261**	*e*PN	**Pn**	**23 30 27.3**	**-2.6**
VLS	**Valsamata**	**1.19**	**261**	*e*Pn	**Pn**	**23 30 26.8**	**-3.1**
ITM	**Ithomi**	**1.19**	**186**	*e*PN	**Pn**	**23 30 28.3**	**-1.6**
ITM	**Ithomi**	**1.19**	**186**	*e*Pn	**Pn**	**23 30 28.1**	**-1.8**
THL	**Klokotos Trika**	**1.20**	**358**	*e*PN	**Pn**	**23 30 28.3**	**-1.8**
NEO	**Neokhori**	**1.30**	**43**	*e*PN	**Pn**	**23 30 31.3**	**-0.2**
XOR	**Xorichti**	**1.33**	**41**	*e*Pg	**Pg**	**23 30 31.4**	**-0.1**
XOR				*e*Sg	**Sg**	**23 30 47.7**	**-1.0**
ATH	**Athens Observa**	**1.35**	**106**	*e*PN	**Pn**	**23 30 32.5**	**+0.3**
KVR	**Kavouri**	**1.44**	**111**	*e*PN	**Pn**	**23 30 33.7**	**+0.3**
KVR	**Kavouri**	**1.44**	**111**	*e*Pn	**Pn**	**23 30 33.5**	**+0.1**
PTL	**Penteli**	**1.44**	**102**	*e*PN	**Pn**	**23 30 34.0**	**+0.6**
JAN	**Janina**	**1.61**	**324**	*e*PN	**Pn**	**23 30 35.0**	**-0.7**
AOS	**Alonnisos**	**1.62**	**60**	*e*Pg	**Pn**	**23 30 33.6**	**-2.3**
AOS				*e*Sg	**Sn**	**23 30 54.7**	**-2.8**
LIT	**Litokhoron**	**1.77**	**10**	*e*Pb	**Pn**	**23 30 37.4**	**-0.4**
LIT				*e*Sb	**Sb**	**23 31 01.2**	**-0.8**
VLI	**Veliai**	**1.78**	**157**	*e*PN	**Pn**	**23 30 38.6**	**+0.6**
IGT	**Igoumenitsa**	**1.79**	**311**	*e*Pb	**Pb**	**23 30 40.2**	**+0.4**
IGT				*e*Sb	**Sg**	**23 31 06.4**	**+2.6**
KZN	**Kozani**	**1.96**	**353**	*e*PN	**Pn**	**23 30 39.9**	**-0.6**
PLG	**Polygyros**	**2.27**	**27**	*e*Pn	**Pn**	**23 30 43.8**	**-1.0**
PLG				*e*Sn	**Sn**	**23 31 12.4**	**-1.2**
HORT	**Hortiatis**	**2.37**	**19**	*e*Pn	**Pn**	**23 30 45.7**	**-0.4**
HORT				*e*Sn	**Sn**	**23 31 16.4**	**+0.5**
OUR	**Ouranopolis**	**2.46**	**36**	*e*Pn	**Pn**	**23 30 47.0**	**-0.4**
OUR				*e*Sn	**Sn**	**23 31 17.4**	**-0.8**
FNA	**Florina**	**2.48**	**348**	*e*Pn	**Pn**	**23 30 48.0**	**+0.3**
FNA				*e*Sn	**Sn**	**23 31 20.6**	**+2.0**
GRG	**Griva**	**2.60**	**5**	*e*Pn	**Pn**	**23 30 49.5**	**+0.1**
GRG				*e*Sn	**Sn**	**23 31 22.7**	**+1.0**
SOH	**Sokhos**	**2.65**	**21**	*e*Pn	**Pn**	**23 30 50.1**	**+0.1**
SOH				*e*Sn	**Sn**	**23 31 22.6**	**-0.2**
BIA	**Bitola**	**2.72**	**348**	*e*Pn	**Pn**	**23 30 51.8**	**+0.9**
BIA				*e*Sn	**Sn**	**23 31 26.1**	**+1.6**
BIA	**Bitola**	**2.72**	**348**	*e*Pn	**Pn**	**23 30 52.2**	**+1.3**
BIA				*e*Sn	**Sb**	**23 31 28.4**	**-1.0**
BIA	**Bitola**	**2.72**	**348**	*e*Pn	**Pn**	**23 30 51.8**	**+0.8**
BIA				*e*Sn	**Sb**	**23 31 28.4**	**-1.0**
KNT	**Kendrikon**	**2.87**	**12**	*e*Pn	**Pn**	**23 30 53.0**	**0.0**
KNT				*e*Sn	**Sn**	**23 31 28.2**	**0.0**
VAY	**Valandovo**	**2.98**	**7**	*e*Pn	**Pn**	**23 30 53.7**	**-0.8**
KRUS	**Krusevo**	**3.07**	**348**	*e*Pn	**Pn**	**23 30 57.9**	**+2.0**
KRUS				*e*Sn	**Sb**	**23 31 39.2**	**-0.3**
KRUS	**Krusevo**	**3.07**	**348**	*e*Pn	**Pn**	**23 30 57.8**	**+2.0**
KARN	**Karanos**	**3.30**	**153**	*e*Pn	**Pn**	**23 30 59.4**	**+0.3**
KARN				*e*Sn	**Sn**	**23 31 40.2**	**+1.2**
KARN	**Karanos**	**3.30**	**153**	*e*Pn	**Pn**	**23 30 59.3**	**+0.3**
KARN				*e*Sn	**Sn**	**23 31 40.2**	**+1.2**
STIP	**Stip**	**3.33**	**1**	*e*Pn	**Pn**	**23 31 00.3**	**+1.0**
STIP				*e*Sn	**Sn**	**23 31 40.7**	**+1.1**
STIP	**Stip**	**3.33**	**1**	*e*Pn	**Pn**	**23 30 59.9**	**+0.5**
LAST	**Lasithi**	**4.20**	**138**	*e*Pn	**Pn**	**23 31 12.7**	**+1.3**
LAST				*e*Sn	**Sn**	**23 32 01.5**	**+0.3**

*ISCJB **20** 23:31:39.6±0.5, 3883N±002×12281W±004, h13km±4km, mb4.0/1, Error ellipse: s-maj=4.7km s-min=2.9km az=158.9*
*NEIC **20** 23:31:39.0, 3887N×12278W, h3km, MW3.8(BRK), After NCEDC.*
NEIC Felt [V] at Middletown and [III] at Kelseyville. Also felt at Calistoga, Daly City, Geyserville, Healdsburg, Lower Lake, Mission Viejo, Saint Helena, San Rafael, Santa Rosa and Sonoma.
*IDC **20** 23:31:43.3±3.2, 3931N×12248W, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/23, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=41.7km s-min=20.3km az=40.0*

ISC 20 23:31:40.0±0.4,**3883N**±002×**12284W**±004,**h12**km±3km,
n71, σ0º**94**/83,**mb4.0**/1,**25C-30D,Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.25**	**312**	*e*Pg	**Pg**	**23 31 43.9**	**-1.3**
HOPS	**Hopland**	**0.25**	**312**	⇓P	**Pg**	**23 31 45.4**	**+0.2**
	baz=0.3,SNR=1000						
HOPS				⇑S	**Sg**	**23 31 49.4**	**+0.7**
	baz=0.3						
MNRC	**McLaughlin Nat**	**0.31**	**80**	P	**Pg**	**23 31 45.5**	**-0.8**
	baz=0.3,SNR=1000						
MNRC				⇓S	**Sg**	**23 31 50.7**	**+0.2**
	baz=0.3						
CVS	**Carmenet Viney**	**0.56**	**148**	⇑P	**Pg**	**23 31 51.1**	**+0.1**
	baz=0.6,SNR=1000						
CVS				⇑S	**Sg**	**23 31 58.8**	**+0.3**
	baz=0.6						
Q03C	**Winters**	**0.67**	**107**	⇓P	**Pg**	**23 31 53.5**	**+0.5**
	baz=0.6,SNR=124						
MCCM	**Marconi Confer**	**0.68**	**183**	*i*Pg	**Pg**	**23 31 54.3**	**+1.1**
MCCM				*e*Sg	**Sg**	**23 32 02.3**	**+0.1**
MCCM	**Marconi Confer**	**0.68**	**183**	P	**Pg**	**23 31 54.5**	**+1.3**
	baz=0.7,SNR=265						
MCCM				⇑S	**Sg**	**23 32 03.0**	**+0.8**
	baz=0.7						
P01C	**Double 8 Ranch**	**0.75**	**329**	P	**Pg**	**23 31 54.3**	**-0.2**
	baz=0.7,SNR=271						
GASB	**Alder Springs**	**0.83**	**6**	⇑P	**Pg**	**23 31 55.7**	**-0.3**
	baz=0.8,SNR=518						
SUTB	**Sutter Butte**	**0.91**	**64**	⇓P	**Pg**	**23 31 56.1**	**-1.4**
	baz=0.9						
KCPM	**Cahto Peak**	**1.04**	**326**	*e*P	**Pb**	**23 31 59.1**	**-0.6**
KIPM	**Iron Peak**	**1.10**	**333**	⇑*e*P	**Pb**	**23 32 00.7**	**-0.1**
FARB	**Farallon Islan**	**1.14**	**187**	⇑P	**Pb**	**23 32 01.2**	**-0.3**
	baz=1.2,SNR=16						
Q04C	**Lincoln**	**1.14**	**89**	⇓P	**Pb**	**23 32 00.0**	**-1.5**
	baz=1.1,SNR=7.1						
BDM	**Black Diamond**	**1.16**	**139**	⇓P	**Pb**	**23 32 00.8**	**-1.0**
	baz=1.2,SNR=59						
BDM				⇑S	**Sb**	**23 32 16.7**	**-0.1**
	baz=1.2						
OHCM	**Honcut**	**1.17**	**64**	*e*P	**Pb**	**23 31 60.0**	**-2.0**
ORV	**Oroville**	**1.27**	**55**	⇑P	**Pn**	**23 32 01.2**	**-2.2**
	baz=1.2,SNR=19						
SAC	**San Andreas**	**1.29**	**165**	*e*P	**Pn**	**23 32 03.4**	**-0.3**
O03C	**Acorn Hollow,**	**1.32**	**28**	⇑P	**Pn**	**23 32 02.5**	**-1.7**
	baz=1.3						
O03C				⇑S	**Sb**	**23 32 19.9**	**-1.6**
	baz=1.3						
O02C	**Red Bluff**	**1.35**	**2**	⇓P	**Pn**	**23 32 04.1**	**-0.5**
	baz=1.3,SNR=587						
WENL	**Wente Brothers**	**1.47**	**144**	⇑P	**Pn**	**23 32 05.9**	**-0.4**
	baz=1.5,SNR=8.4						
JRSC	**Jasper Ridge**	**1.50**	**162**	⇓P	**Pn**	**23 32 05.9**	**-0.7**
	baz=1.5,SNR=28						
O01C	**Eel River Cons**	**1.52**	**330**	⇓P	**Pn**	**23 32 06.3**	**-0.5**
	baz=1.5,SNR=6.4						
R04C	**Big Horse Ranc**	**1.59**	**110**	⇑P	**Pn**	**23 32 06.5**	**-1.4**
	baz=1.6,SNR=6.3						
LAVA	**Lava Cap Winer**	**1.64**	**92**	⇓P	**Pn**	**23 32 08.1**	**-0.4**
	baz=1.6,SNR=26						
WDC	**Whiskeytown Da**	**1.77**	**7**	*e*Pn	**Pn**	**23 32 09.0**	**-1.2**
WDC	**Whiskeytown Da**	**1.77**	**7**	⇑P	**Pn**	**23 32 09.8**	**-0.4**
	baz=1.7						
BNLO	**Ben Lomond (Sa**	**1.77**	**163**	⇑P	**Pn**	**23 32 09.4**	**-1.0**
	baz=1.8,SNR=16						
S04C	**Ingram Canyon,**	**1.78**	**138**	⇓P	**Pn**	**23 32 09.5**	**-0.9**
	baz=1.8,SNR=13						
O05C	**Quincy**	**1.87**	**52**	⇑P	**Pn**	**23 32 11.9**	**+0.2**
	baz=1.8						
O04C	**Chester**	**2.01**	**42**	⇓P	**Pn**	**23 32 14.1**	**+0.4**
	baz=2.0						
N02C	**Big Bar**	**2.02**	**350**	⇓P	**Pn**	**23 32 13.8**	**-0.1**
	baz=2.0						
CMB	**Columbia Colle**	**2.08**	**112**	⇑*e*Pn	**Pn**	**23 32 14.0**	**-0.6**
CMB	**Columbia Colle**	**2.08**	**112**	⇓P	**Pn**	**23 32 14.3**	**-0.3**
	baz=2.1,SNR=38						
KHMM	**Horse Mountain**	**2.16**	**342**	*e*Pn	**Pn**	**23 32 15.7**	**0.0**
KHMM				*e*Pg	**Pg**	**23 32 23.9**	**+2.6**
R05C	**Kirkwood Meado**	**2.16**	**92**	⇓P	**Pn**	**23 32 15.9**	**+0.2**
	baz=2.1						
BEKR	**Beckwourth**	**2.18**	**61**	⇓P	**Pn**	**23 32 16.0**	**0.0**
	baz=2.1,SNR=86						
PACP	**Pacheco Peak**	**2.19**	**146**	⇓P	**Pn**	**23 32 15.9**	**-0.2**
	baz=2.2						
HATC	**Hat Creek Radi**	**2.25**	**28**	⇑P	**Pn**	**23 32 17.3**	**+0.3**
	baz=2.2,SNR=9.1						
SAO	**San Andreas Ge**	**2.33**	**151**	*e*Pn	**Pn**	**23 32 17.4**	**-0.7**
ELFS	**Eagle Lake Fie**	**2.42**	**42**	⇓P	**Pn**	**23 32 20.7**	**+1.5**
	baz=2.4						
WCN	**Washoe City**	**2.44**	**78**	⇑P	**Pn**	**23 32 20.6**	**+1.0**
	baz=2.4,SNR=16						
S05C	**Merced**	**2.47**	**126**	⇑P	**Pn**	**23 32 20.1**	**+0.2**
	baz=2.5,SNR=9.7						
S06C	**San Francisco**	**2.53**	**111**	⇑P	**Pn**	**23 32 21.6**	**+0.8**
	baz=2.5,SNR=115						
M02C	**Callahan**	**2.56**	**360**	⇓P	**Pn**	**23 32 21.6**	**+0.4**
	baz=2.5						
HAST	**UC Hastings Re**	**2.64**	**157**	⇓P	**Pn**	**23 32 21.3**	**-0.9**
	baz=2.7,SNR=16						
LRV	**Little Rabbit**	**2.80**	**148**	*e*Pn	**Pn**	**23 32 24.1**	**-0.4**
PAHR	**Pah Rah Range**	**2.82**	**71**	*e*Pn	**Pn**	**23 32 25.6**	**+0.9**
YBH	**Yreka Blue Hor**	**2.90**	**2**	*e*Pn	**Pn**	**23 32 27.1**	**+1.2**
YBH	**Yreka Blue Hor**	**2.90**	**2**	⇓P	**Pn**	**23 32 26.6**	**+0.7**
	baz=2.9						
M06C	**Likely Place G**	**2.99**	**37**	⇓P	**Pn**	**23 32 27.7**	**+0.7**
	baz=2.9						
N06A	**Buffalo Meadow**	**3.00**	**49**	⇓P	**Pn**	**23 32 27.6**	**+0.3**
	baz=2.9						
T06C	**Millerton Lake**	**3.07**	**125**	⇓P	**Pn**	**23 32 28.4**	**+0.2**
	baz=3.1						
V03C	**Hunter Liggett**	**3.08**	**155**	⇓P	**Pn**	**23 32 27.9**	**-0.4**
	baz=3.1						
O07A	**Toulon**	**3.34**	**65**	⇓P	**Pn**	**23 32 32.4**	**+0.5**
	baz=3.3						
PKD	**Parkfield**	**3.41**	**147**	⇑P	**Pn**	**23 32 32.8**	**0.0**
	baz=3.4						
N07B	**Gerlach**	**3.56**	**56**	⇓P	**Pn**	**23 32 34.9**	**-0.1**
	baz=3.5						
NVAR	**Mina Array Bea**	**3.57**	**95**	Pn	**Pn**	**23 32 36.6**	**+1.5**
	1.0nm,0.3s,baz=276,slow=15,SNR=25						
NVAR				Pg	**Pg**	**23 32 43.8**	**-4.6**
	4.3nm,0.3s,baz=268,slow=18,SNR=37						
NVAR				Lg		23 33 28.3	
	1.5nm,0.3s,baz=250,slow=32,SNR=2.3						
NVAR	**Mina Array Bea**	**3.57**	**95**	Pn	**Pn**	**23 32 36.6**	**+1.5**
NVAR				Pg	**Pg**	**23 32 43.8**	**-4.6**
NVAR				Lg		23 33 28.2	
MOD	**Modoc**	**3.63**	**31**	*e*Pn	**Pn**	**23 32 37.5**	**+1.6**
MTUM	**Tungsten Hills**	**3.68**	**112**	*e*Pn	**Pn**	**23 32 37.8**	**+1.3**
MTUM				*e*S	**Sn**	**23 33 29.9**	**+10**
N08A	**GE Springer Mi**	**4.11**	**60**	⇑P	**Pn**	**23 32 42.6**	**0.0**
	baz=4.1						
L07A	**Adell**	**4.16**	**39**	⇓P	**Pn**	**23 32 43.8**	**+0.6**
	baz=4.1						
M08A	**Happy Creek Ra**	**4.30**	**51**	⇓P	**Pn**	**23 32 45.0**	**-0.1**
	baz=4.2						
Q09A	**Carvers**	**4.42**	**88**	⇑P	**Pn**	**23 32 47.0**	**+0.3**
	baz=4.4						
DAC	**Darwin (Calif)**	**4.88**	**120**	*e*Pn	**Pn**	**23 32 58.8**	**+5.7**
DAC				*e*Sn	**Sn**	**23 33 52.5**	**+3.0**
ARVC	**Arvin**	**4.89**	**138**	⇓P	**Pn**	**23 32 54.5**	**+1.2**
	baz=4.9						
DUG	**Dugway**	**7.87**	**77**	*e*Pn	**Pn**	**23 33 37.1**	**+3.0**
	3.6nm,0.8s						
PDAR	**Pinedale Array**	**10.81**	**64**	Pn	**Pn**	**23 34 16.2**	**+1.8**
	0.1nm,0.3s,baz=350,slow=35,SNR=2.2						
TXAR	**Lajitas Array**	**18.46**	**115**	P	**Pn**	**23 35 59.9**	**+4.4**
	baz=301,slow=9.3,SNR=7.6						
ULM	**Lac du Bonnet**	**22.23**	**50**	P	**P**	**23 36 35.8**	**-0.5**
	4.2nm,0.8s,mb4.0,baz=238,slow=8.9,SNR=5.3						

*IDC **20** 23:54:01.1±0.5, 9795S×11895E, h0km, mb4.6/13, mb1 4.6/16, mb1mx4.6/19, mbtmp4.6/16, ML4.2/3, MS3.9/8, Ms1 3.9/8, ms1mx3.5/30, Error ellipse: s-maj=27.0km s-min=14.4km az=54.0*
*NEIC **20** 23:54:02.7±0.3, 9935S×11883E, h10km, mb4.7/4, Error ellipse: s-maj=14.6km s-min=7.3km az=53.0*
*ISCJB **20** 23:54:03.6±0.3, 9985S±006×11901E±007, h33km, mb5.0/32, MS3.9/5, Error ellipse: s-maj=11.9km s-min=5.0km az=96.6*
*MOS **20** 23:54:04.2±1.1, 9815S×11906E, h33km, mb5.0/6, Error ellipse: s-maj=21.8km s-min=9.9km az=118.5*

ISC 20 23:54:06.1±0.3,**998S**±006×**11895E**±006,**h35**km,**n100,**
σ1º**24**/84,**mb5.0**/32,**MS3.9**/5,**8C-1D,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.36**	**77**	P	**Pn**	**23 54 31.2**	**+2.6**
	10μm,0.7s						
DNP	**Denpasar**	**3.91**	**289**	P	**Pn**	**23 55 04.5**	**+0.8**
	2μm,0.9s						
PCI	**Palu**	**9.06**	**6**	P	**Pn**	**23 56 21.4**	**+7.1**
	194nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.36**	**142**	*e*P	**Pn**	**23 56 32.0**	**-0.1**
	16nm,0.4s						
FITZ				*e*S	**Sn**	**23 58 22.1**	**-4.8**
FITZ	**Fitzroy Crossi**	**10.36**	**142**	Pn	**Pn**	**23 56 32.3**	**+0.2**
	2.3nm,0.3s,baz=340,slow=10,SNR=56						
FITZ				Sn	**Sn**	**23 58 22.9**	**-4.0**
	2.5nm,0.3s,baz=172,slow=19,SNR=5.1						
FITZ				LR	LR	00 00 54.8	
	comp=Z,434nm,20.2s,baz=314,slow=39						
MBWA	**Marble Bar**	**11.14**	**176**	*e*Pn	**Pn**	**23 56 41.5**	**-1.3**
	38nm,0.9s						
MBWA				*e*Sn	**Sn**	**23 58 35.5**	**-11**
KAKA	**Kakadu**	**13.50**	**103**	*e*P	**Pn**	**23 57 17.6**	**+2.5**
	23nm,0.5s						
KAKA				*e*S	**Sn**	**23 59 38.5**	**-5.3**
TSM	**Tawau**	**14.22**	**356**	P	**Pn**	**23 57 33.1**	**+8.2**
KSM	**Kuching**	**14.27**	**322**	⇓*e*Pn	**Pn**	**23 57 34.5**	**+9.0**
SWI	**Sorong**	**15.23**	**54**	P	**Pn**	**23 57 42.8**	**+4.4**
	152nm,0.4s						
KKM	**Kota Kinabalu**	**16.15**	**350**	P	**Pn**	**23 57 54.6**	**+4.2**
KKM	**Kota Kinabalu**	**16.15**	**350**	⇑*e*Pn	**Pn**	**23 57 55.1**	**+4.7**
WRA	**Warramunga Arr**	**17.85**	**125**	P	**Pn**	**23 58 10.8**	**-0.8**
	0.5nm,0.3s,baz=299,slow=13,SNR=17						
WRA				S	**S**	**00 01 17.0**	**-18**
	0.6nm,0.3s,baz=300,slow=23,SNR=6.3						
WRA				LR	LR	00 05 35.1	
	comp=Z,307nm,20.9s,baz=305,slow=39						
WB2	**Warramunga Arr**	**17.86**	**125**	*e*P	**Pn**	**23 58 10.6**	**-1.1**
WB2				*e*Pn	**Pn**	**23 58 12.4**	**+0.7**
WB2				*e*S	**S**	**00 01 21.4**	**-14**
KGM	**Kluang**	**19.60**	**307**	P	**Pn**	**23 58 34.0**	**+1.1**
ASPA	**Alice Springs**	**19.72**	**135**	*e*P	**Pn**	**23 58 35.0**	**+0.8**
ASPA				*e*S	**S**	**00 02 02.6**	**-10**
AS31	**Alice Springs**	**19.72**	**135**	*e*P	**Pn**	**23 58 35.0**	**+0.8**
AS31				*e*P		23 58 35.4	
AS31				*e*S	**S**	**00 02 02.6**	**-10**
ASAR	**Alice Springs**	**19.72**	**135**	P	**Pn**	**23 58 34.5**	**+0.3**
	0.6nm,0.3s,baz=329,slow=14,SNR=58						
ASAR				S	**

RST AMb AMB 00 06 09.9
comp=Z,77nm,0.6s,mb5.8
AKTK Aktyubinsk 80.00 325 P **P 00 06 11.3 -0.5**
AKTO Aktyubinsk 80.00 325 P **P 00 06 11.3 -0.5**
comp=Z,7.4nm,0.7s,mb4.7,baz=98,slow=4.7,SNR=20
KMBO Kilima Mbogo 81.63 270 P **P 00 06 22.6 +2.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=51,slow=21,SNR=5.4
TIXI Tiksi 81.72 3⇑*eP* **P 00 06 20.1 -0.9**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARU Arti 82.69 331⇑*iP* **P 00 06 24.3 -1.8**
ARU *e* 00 09 33.0
ARU *e*PPP 00 11 23.3
ARU pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
DGRG David-gareji 84.50 314 P **P 00 06 37.1 +1.7**
MTA Mtatsminda 84.99 314 P **P 00 06 39.1 +1.3**
TBLG Delisi 85.04 314 P **P 00 06 40.3 +2.2**
GOF Gofitskoye 87.22 317 *eP* **P 00 06 45.2 -3.6**
GOF pmax pmax
comp=Z,23nm,1.3s,mb5.2
BOSA Boshof 88.50 241 P **P 00 06 56.4 +1.4**
comp=Z,2.0nm,0.9s,mb4.4,baz=45,slow=11,SNR=2.9
BR131 Keskin Array S 92.72 310 *eP* **P 00 07 14.8 +0.2**
comp=Z,1.3nm,0.8s,mb4.4
BRTR Keskin Array B 92.72 310 P **P 00 07 14.4 -0.2**
comp=Z,1.2nm,0.8s,mb4.4,baz=126,slow=5.5,SNR=9.2
BRTR Keskin Array B 92.72 310⇑*eP* **P 00 07 15.1 +0.5**
FINES FINESS Array B 100.06 331 P Pdif 00 07 45.6 -2.2
comp=Z,1.3nm,0.7s,baz=132,slow=2.8,SNR=4.2
FINES FINESS Array B 100.06 331 *iP* Pdif 00 07 45.7 -2.2
FINES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 100.49 339 P Pdif 00 07 47.9 -1.8
comp=Z,5.3nm,1.1s,baz=70,slow=6.2,SNR=2.7
TORD Torodi Ar. Bea 118.58 280 PKP PKPdf 00 12 52.0 +1.8
comp=Z,2.4nm,0.7s,baz=54,slow=1.7,SNR=41
TORD Torodi Ar. Bea 118.58 280 PKP PKPdf 00 12 52.0 +1.8
ESDC Sonseca Array 121.51 311 PKP PKPdf 00 12 57.5 +1.6
comp=Z,0.7nm,0.6s,baz=23,slow=2.9,SNR=4.1
NVAR Mina Array Bea 121.67 51 PKP PKPdf 00 12 58.1 +2.0
comp=Z,0.7nm,0.7s,baz=296,slow=2.7,SNR=2.8
CHMT Chamberlain Mo 122.63 40 *e*PKPdf PKPdf 00 13 00.2 +2.3
REDW Red Top Meadow 125.56 43 *e*PKPdf PKPdf 00 13 07.1 +3.5
PDAR Pinedale Array 126.66 43 PKP PKPdf 00 13 06.4 +0.7
comp=Z,0.4nm,0.9s,baz=111,slow=3.3,SNR=4.0
SCHQ Schefferville 135.03 5 PKP PKPdf 00 13 23.3 +1.7
comp=Z,2.1nm,0.8s,baz=333,slow=6.8,SNR=3.1
TXAR Lajitas Array 135.80 58 PKhKP 00 13 15.0
comp=Z,0.2nm,0.6s,baz=270,slow=0.5,SNR=2.5
CPUP Villa Florida 143.73 186 PKP PKPdf 00 13 37.8 +0.4
comp=Z,0.2nm,0.3s,baz=315,slow=5.7,SNR=2.1
WCI Wyandotte Cave 143.88 35 *e*PKIKP PKPdf 00 13 36.9 -0.7
OXF Oxford 144.38 42 *e*PKIKP PKPdf 00 13 38.9 +0.4
OXF *e* 00 13 51.3
PLAL Pickwick Lake 144.97 41 *e*PKPdf PKPdf 00 13 40.3 +0.8
SSPA Standing Stone 146.02 23 *e*PKPdf PKPdf 00 13 43.9 +2.6
MCWV Mont Chateau 146.03 26 *e*PKPdf PKPdf 00 13 43.8 +2.5
SWET Sewanee 146.15 38 *e*PKPdf PKPdf 00 13 44.0 +2.4
TZTN Tazewell 146.61 34 *e*PKPbc PKPbc 00 13 46.1 +2.2
CPCT Cooper Cave 146.84 36 *e*PKPbc PKPbc 00 13 46.6 +2.1
MVL Millersville 147.15 22 *e*PKPbc PKPbc 00 13 47.2 +1.8
FWV Forest Hill 147.25 30 *e*PKPbc PKPbc 00 13 47.5 +1.8
BDFB Brasilia 151.46 207 PKPbc PKPbc 00 13 58.2 +2.0
comp=Z,1.1nm,0.4s,baz=193,slow=4.7,SNR=3.0
LPAZ La Paz 152.98 165 PKPbc PKPbc 00 14 04.4 +4.7
comp=Z,0.8nm,0.7s,baz=116,slow=4.6,SNR=4.1

MOS 20 23:55:41.1±2.0, 4341N×4472E, h16km, mb3.6/1, 5C-3D, Error ellipse: s-maj=16.6km s-min=10.2km az=67.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.13**	**252**⇑	*iPG*	Pg	23 55 49.8	+4.9
BTKR				*eS*	Sg	23 56 04.2	+17
TRKR	**Terskaya**	**0.31**	**2**⇓	*iPG*	Pg	23 55 49.3	+1.6
TRKR				*eS*	Sg	23 56 03.3	+11
KMSR	**Komsomolskaya**	**0.31**	**262**	*e*PG	Pg	23 55 50.8	+3.1
KMSR				*eS*	Sg	23 56 05.9	+14
SNJR	**Sundja**	**0.35**	**169**⇑	*iPG*	Pg	23 55 50.4	+2.0
SNJR				*eS*	Sg	23 56 05.2	+12
VLKR	**Vladikavkaz**	**0.37**	**185**⇑	*iPG*	Pg	23 55 50.8	+2.1
VLKR				*eS*	Sg	23 56 05.9	+12
ARNR	**Ardon**	**0.39**	**235**⇑	*iPG*	Pg	23 55 51.4	+2.3
ARNR				*eS*	Sg	23 56 07.0	+13
PRTR	**Priterechnaya**	**0.46**	**317**	*e*PG	Pg	23 55 50.8	+0.4
PRTR				*eS*	Sg	23 56 06.0	+9.4
KORR	**Kora**	**0.58**	**236**⇑	*iPG*	Pg	23 55 52.9	+0.4
KORR				*eS*	Sg	23 56 09.6	+9.4
ZEI	**Tsey**	**0.88**	**223**⇓	*iPG*	Pg	23 55 55.6	-2.6
ZEI				*iS*	Sb	23 56 14.2	+4.7
DIGR	**Digorskoe uzhe**	**0.98**	**239**⇓	*iPG*	Pg	23 55 56.8	-3.2
DIGR				*iS*	Sb	23 56 16.4	+4.1

*ISCJB **20** 23:56:41.5±1.4, 3458N×007×266E±0.1, h30km±13km, Error ellipse: s-maj=16.3km s-min=8.5km az=106.0*
*HLW **20** 23:56:41.5, 3479N×2658E, h24km, Mb3.6*
*NEIC **20** 23:56:42.7, 3471N×2649E, h28km, MD3.3(ATH), After ATH.*
*CSEM **20** 23:56:42.6±0.1, 3457N×2647E, h40km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.6km az=69.0*
*ATH **20** 23:56:42.8, 3472N×2649E, h28km±1km, MD3.3/4*
ISC 20 23:56:42.6±1.5, 3466N×007×**2654E**±010**, h26**km±14km**, n9,** σ0**76**/12**, 1C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.73**	**287**	*e*PN	**Pb**	**23 56 56.1**	**-0.6**
XRY				*e*SN	**Sb**	**23 57 06.5**	**+0.2**
XRY	**Khrisi**	**0.73**	**287**	*e*Pn	**Pb**	**23 56 56.0**	**-0.7**
XRY				*e*Sn	**Sb**	**23 57 06.5**	**+0.2**
NPS	**Neapolis**	**0.97**	**308**⇑	*i*PN	**Pn**	**23 57 00.0**	**-0.5**
NPS				*e*SN	**Sn**	**23 57 12.5**	**-0.9**
KARP	**Karpathos**	**1.02**	**30**	*e*PN	**Pn**	**23 57 02.0**	**+0.9**
VAM	**Vamos**	**2.06**	**292**	*e*PN	**Pn**	**23 57 17.0**	**+1.5**
SWA1		**5.43**	**188**	P	**Pn**	**23 58 02.3**	**+0.5**
SWA2		**5.48**	**190**	P	**Pn**	**23 58 02.6**	**+0.1**
AMAG	**Maghara**	**6.90**	**124**	P	**Pn**	**23 58 21.0**	**-1.0**
HFRF	**Wahat Farafira**	**7.64**	**168**	P	**Pn**	**23 58 31.9**	**-0.2**

CASC 21 00:00:07.4±1.8, 792N×8294W, h23km±7km, MD4.0, 1C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.70**	**43**⇓	*iP*	Pb	00 00 20.5	-0.5
ACR	**Cerro Adams**	**0.76**	**343**⇓	*e*P	Pb	00 00 20.4	-1.6
ACR				*e*S	Sb	00 00 32.9	+1.0
BRU	**Baru**	**0.96**	**23**	*e*P	Pb	00 00 26.3	+1.0
BRU				*e*S	Sb	00 00 39.0	+1.5
CNI	**Changuinola**	**1.54**	**16**⇑	*i*P	Pn	00 00 34.6	+1.2
CNI				*e*S	Sn	00 00 53.1	+0.4
LCR2	**La Lucha 2**	**2.09**	**330**	*e*P	Pn	00 00 40.7	-0.3
PRS1	**Puriscal**	**2.46**	**327**	*e*P	Pn	00 00 44.6	-1.4
CGA2	**Cerro Gallo 2**	**2.57**	**324**	*e*P	Pn	00 00 49.0	+1.5

*IDC **21** 00:06:50.7±2.4, 474S×152.48E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, Error ellipse: s-maj=71.3km s-min=39.3km az=119.0*
NEIC 21 00:06:49.6±3.7, 426S×**15291E, h35**km**, mb4.5**/2**, 2C, Error ellipse: s-maj=61.4km s-min=39.0km az=193.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.66**	**228**	Pn	Pn	00 08 38.8	+0.1
	1.1nm,0.3s,baz=61,slow=10,SNR=3.4						
PMG				Sn	Sn	00 09 57.5	-6.7
	3.3nm,0.3s,baz=123,slow=15,SNR=5.7						
KAKA	**Kakadu**	**21.90**	**246**	*e*P	P	00 11 40.4	+0.8
	12nm,0.5s						
WRAB	**Tennant Creek**	**23.87**	**228**	*e*P	P	00 11 59.0	-0.7
	5.1nm,0.4s						
WRAB				*e*		00 15 31.5	
WB2	**Warramunga Arr**	**23.87**	**228**⇑	*i*P	P	00 12 00.2	+0.4
WRA	**Warramunga Arr**	**23.88**	**228**	P	P	00 12 00.4	+0.5
	5.1nm,0.4s,baz=53,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.62**	**222**	P	P	00 12 25.6	+0.9
	2.2nm,0.5s,baz=54,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**29.46**	**200**	P	P	00 12 50.2	+0.2
	1.0nm,0.6s,baz=14,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**30.01**	**241**⇑	*iP*	P	00 12 56.2	+1.2
	6.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P	P	00 12 56.2	+1.3
	3.8nm,0.4s,baz=51,slow=7.1,SNR=41						
TORD	**Torodi Ar. Bea**	**150.23**	**289**	PKPbc	PKPbc	00 26 43.7	+6.9
	0.8nm,0.9s,baz=65,slow=2.6,SNR=11						

*IDC **21** 00:10:17.0±18.0, 2374S×174.65W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, Error ellipse: s-maj=338.0km s-min=155.2km az=81.0*
*ISCJB **21** 00:10:42.2±1.4, 245S±03×1776W±02, h33km, mb4.1/6, Error ellipse: s-maj=45.7km s-min=26.6km az=131.1*
*NEIC **21** 00:10:44.2±1.3, 2442S×177.64W, h35km, mb4.5/2, Error ellipse: s-maj=43.3km s-min=25.2km az=157.0*
ISC 21 00:10:44.3±1.4, 245S±03×**1776W**±02**, h35**km**, n8,** σ0**94**/8**, mb4.1**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.71**	**270**	*e*P	**P**	**00 17 23.6**	**+1.4**
	2.8nm,0.3s,mb4.7						
CTA	**Charters Tower**	**33.71**	**270**	P	**P**	**00 17 23.6**	**+1.5**
	4.1nm,0.4s,mb4.7,baz=95,slow=8.6,SNR=9.7						
STKA	**Stephens Creek**	**36.58**	**249**	P	**P**	**00 17 48.0**	**+1.2**
	0.8nm,0.5s,mb3.8,baz=104,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**44.14**	**261**	P	**P**	**00 18 48.8**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=97,slow=7.1,SNR=9.0						
WRA	**Warramunga Arr**	**44.59**	**266**	P	**P**	**00 18 52.1**	**-0.9**
	1.6nm,0.4s,mb4.2,baz=103,slow=8.1,SNR=6.6						
FITZ	**Fitzroy Crossi**	**53.01**	**265**	P	**P**	**00 19 56.3**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=103,slow=12,SNR=5.7						
CASY	**Casey**	**60.54**	**206**	*e*P	**P**	**00 20 50.9**	**-0.1**
	2.8nm,0.8s,mb4.4						
KHMM	**Horse Mountain**	**82.02**	**38**	*e*P	**P**	**00 23 01.0**	**+0.2**

MOS 21 00:15:26.1±0.4, 4324N×4396E, h15km, mb3.6/1, 6C-1D, Error ellipse: s-maj=17.7km s-min=13.5km az=108.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORR	**Kora**	**0.17**	**154**⇑	*iPG*	Pg	00 15 31.6	+1.3
KORR				*iS*	Sg	00 15 34.7	+1.5
ARNR	**Ardon**	**0.24**	**102**⇑	*iPG*	Pg	00 15 32.7	+1.4
ARNR				*iS*	Sg	00 15 36.4	+1.5
KMSR	**Komsomolskaya**	**0.27**	**62**⇓	*iPG*	Pg	00 15 33.4	+1.5
KMSR				*iS*	Sg	00 15 37.7	+1.8
DIGR	**Digorskoe uzhe**	**0.44**	**219**⇑	*iPG*	Pg	00 15 36.4	+1.5
DIGR				*iS*	Sg	00 15 42.9	+2.0
ZEI	**Tsey**	**0.47**	**186**⇑	*iPG*	Pg	00 15 36.5	+1.0
ZEI				*iS*	Sg	00 15 43.2	+1.3
LACR	**Lac**	**0.48**	**149**⇑	*iPG*	Pg	00 15 37.0	+1.3
LACR				*iS*	Sg	00 15 43.9	+1.7
VLKR	**Vladikavkaz**	**0.56**	**110**	*e*PG	Pg	00 15 38.4	+1.3
VLKR				*e*S	Sg	00 15 46.3	+1.8
SNJR	**Sundja**	**0.65**	**105**⇑	*iPG*	Pg	00 15 40.0	+1.3
SNJR				*iS*	Sg	00 15 49.0	+1.7

*ISCJB **21** 00:29:36.6±0.7, 028N±007×97.1E±0.1, h35km, mb4.0/11, Error ellipse: s-maj=17.7km s-min=9.1km az=149.8*
*IDC **21** 00:29:38.0±0.8, 007N×9691E, h36km±5km, mb3.8/11, mb1 3.9/12, mb1mx3.8/22, mbtmp4.0/12, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=31.2km s-min=13.4km az=55.0*
*NEIC **21** 00:29:37.2±0.8, 0.16N×9699E, h30km, mb4.0/1, Error ellipse: s-maj=22.7km s-min=10.1km az=65.0*
ISC 21 00:29:38.9±0.7, 027N±010×**971E**±01**, h37**km**, h37**km±2.2km**: pP-P, n17,** σ0**72**/16**, mb4.0**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.11**	**36**	Pn	**Pn**	**00 30 25.1**	**-0.3**
	9.7nm,0.3s,baz=185,slow=11,SNR=35						
PSI				LR	LR	00 31 57.0	
	comp=Z,348nm,19.5s,baz=229,slow=42						
CHTO	**Chiang Mai**	**18.52**	**6**	*e*P	**Pn**	**00 33 51.7**	**-0.7**
	7.7nm,0.6s						
CHTO				*e*S	**S**	**00 37 13.1**	**-8.2**
FITZ	**Fitzroy Crossi**	**33.48**	**125**	P	**P**	**00 36 14.1**	**-0.3**
	0.9nm,0.6s,mb3.9,baz=111,slow=21,SNR=5.8						
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**00 37 23.2**	**-0.3**
	1.5nm,0.6s,mb3.8,baz=300,slow=9.2,SNR=8.8						
WB2	**Warramunga Arr**	**41.65**	**121**	*e*P	**P**	**00 37 23.5**	**0.0**
ASAR	**Alice Springs**	**42.92**	**126**	P	**P**	**00 37 34.0**	**+0.1**
	0.9nm,0.7s,mb3.6,baz=309,slow=7.7,SNR=8.5						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**00 38 15.9**	**+1.3**
	1.7nm,0.7s,mb4.2,baz=192,slow=9.0,SNR=17						
SONM				pP	pP	00 38 27.4	+1.9
	2.8nm,0.7s,baz=189,slow=9.8,SNR=9.9						
MKAR	**Makanchi Array**	**48.12**	**346**	P	**P**	**00 38 16.1**	**+1.2**
	0.8nm,0.5s,mb4.0,baz=159,slow=8.6,SNR=12						
MKAR				pP	pP	00 38 27.0	+1.1
	3.0nm,0.6s,baz=156,slow=7.6,SNR=11						
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**00 38 50.9**	**+0.5**
	3.1nm,0.7s,mb4.4,baz=324,slow=9.1,SNR=6.7						
STKA				pP	pP	00 39 00.7	-0.8
	2.7nm,0.6s,baz=311,slow=9.2,SNR=3.6						
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**00 38 50.9**	**+0.5**
STKA				pP	pP	00 39 00.7	-0.8
ZAL	**Zalesovo**	**54.45**	**351**	P	**P**	**00 39 02.6**	**+0.2**
	1.3nm,0.4s,mb4.3,baz=327,slow=6.4,SNR=5.1						
ZAL				pP	pP	00 39 12.4	-1.1
	4.1nm,0.3s,baz=299,slow=6.5,SNR=9.6						
AKASG	**Malin Array Be**	**75.93**	**323**	P	**P**	**00 41 19.9**	**-1.8**
	1.5nm,0.6s,mb4.1,baz=93,slow=4.7,SNR=8.3						
FINES	**FINESS Array B**	**80.78**	**333**	P	**P**	**00 41 48.1**	**-0.4**
	3.8nm,1.0s,mb4.3,baz=108,slow=6.2,SNR=7.6						
GERES	**GERESS Array B**	**85.44**	**319**	P	**P**	**00 42 12.8**	**+0.2**
	0.2nm,0.5s,mb3.5,baz=111,slow=7.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**95.20**	**283**	P	**P**	**00 42 58.6**	**+0.1**
	0.2nm,0.9s,mb3.5,baz=88,slow=5.2,SNR=4.9						
CPUP	**Villa Florida**	**144.25**	**222**	PKP	PKPdf	00 49 09.2	-1.5
	1.1nm,0.4s,baz=76,slow=3.4,SNR=6.0						
CPUP				pPKP	pPKPdf	00 49 20.5	-2.3
	0.8nm,0.5s,baz=323,slow=0.7,SNR=3.1						
TXAR	**Lajitas Array**	**144.51**	**32**	PKP	PKPdf	00 49 10.9	-0.3
	0.5nm,0.5s,baz=298,slow=0.6,SNR=9.3						
TXAR				pPKP	pPKPdf	00 49 23.1	-0.2
	0.9nm,0.5s,baz=155,slow=0.3,SNR=10						

*NEIC **21** 00:52:26.7±2.5, 1349N×9189W, h35km, mb4.3/2, MD4.5(MEX), Error ellipse: s-maj=44.7km s-min=15.7km az=199.0*
*ISCJB **21** 00:52:31.4±1.3, 141N±0.1×92.17W±005, h33km, mb4.3/2, Error ellipse: s-maj=16.0km s-min=7.1km az=8.6*
*MEX **21** 00:52:34.9±0.4, 1406N×9229W, h113km±79km, MD4.5*
*CASC **21** 00:52:49.6±2.2, 1477N×9093W, h15km±57km, MD4.3, mb4.3(NEIC)*
ISC 21 00:52:31.8±1.2, 1393N±009×**9223W**±005**, h35**km**, n21,** σ1**34**/28**, mb4.3**/2**, 1D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.44**	**54**	*e*P	**Pn**	**00 52 53.5**	**-1.9**
GCG	**Guatemala City**	**1.77**	**68**⇓	*e*P	**Pn**	**00 52 58.7**	**-1.2**
CCIG	**Comitan**	**2.34**	**2**	*e*P	**Pn**	**00 53 09.9**	**+2.2**
CCIG				*i*S	**Sn**	**00 53 36.6**	**+1.4**
BOQS	**Boqueron**	**2.87**	**94**	*e*P	x	00 53 31.5	
BOQS				*e*S	x	00 53 55.3	
CMIG	**Matias Romero**	**4.05**	**321**	*e*P	**Pn**	**00 53 31.4**	**+0.1**
CMIG				*i*S	**Sn**	**00 54 17.5**	**-0.1**
TGUH	**Tegucigalpa,Un**	**4.81**	**88**	*e*Pn	**Pn**	**00 53 32.1**	**-10**
OXX	**Oaxaca**	**5.35**	**306**	*e*P	**Pn**	**00 53 50.0**	**+0.9**
OXX				*i*S	**Sn**	**00 54 48.0**	**-1.4**
OXX	**Oaxaca**	**5.35**	**306**	*e*P	**Pn**	**00 53 56.3**	**+7.2**
OXX				*i*S	**Sn**	**00 54 55.0**	**+5.6**
VHO	**Vista Hermosa**	**5.35**	**306**	*i*P	**Pn**	**00 53 49.8**	**+0.6**
VHO				*i*S	**Sn**	**00 54 48.2**	**-1.3**
VHO	**Vista Hermosa**	**5.35**	**306**	*i*P	**Pn**	**00 53 42.8**	**-6.4**
VHO				*i*S	**Sn**	**00 54 53.2**	**+3.7**
UTMO	**Huajuapan**	**6.62**	**307**	*i*S	**Sn**	**00 55 18.9**	**-1.8**
TPIG	**Tehuac#an**	**6.65**	**313**	*i*S	**Sn**	**00 55 19.5**	**-2.1**
TEIG	**Tepich**	**7.31**	**31**	*i*P	**Pn**	**00 54 15.9**	**-0.1**
TEIG				*i*S	**Sn**	**00 55 36.9**	**-0.9**
TEIG	**Tepich**	**7.31**	**31**	*i*P	**Pn**	**00 54 15.5**	**-0.6**
TEIG				*i*S	**Sn**	**00 55 38.3**	**+0.6**
IIO	**Organos**	**8.39**	**313**	*i*P	**Pn**	**00 54 34.4**	**+3.5**
MNTX	**Cornudas Mount**	**21.41**	**328**	*e*P	**P**	**00 57 17.4**	**+0.9**
	7.2nm,0.8s,mb4.0						
SWET	**Sewanee**	**21.94**	**14**	*e*P	**P**	**00 57 20.9**	**-1.3**
AMTX	**Amarillo**	**22.54**	**339**	*e*P	**P**	**00 57 28.4**	**-0.2**
	9.3nm,0.5s,mb4.5						
LPM	**Los Pinos Moun**	**24.12**	**330**	*e*P	**P**	**00 57 44.6**	**+0.3**
LAZ	**Ladron**	**24.45**	**329**	*e*P	**P**	**00 57 49.1**	**+1.9**
MSU	**Marysvale**	**30.19**	**328**	*e*P	**P**	**00 58 39.9**	**+1.2**

*INMG **21** 01:14:57.0±1.6, 4247N×720W, h13km±8km, ML1.0, Error ellipse: s-maj=5.6km s-min=5.2km az=91.0*
MDD 21 01:14:57.4±0.5, 4250N×707W, h0km**, mbLg1.5**/6**, Error ellipse: s-maj=5.4km s-min=3.2km az=98.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.12**	**206**	Pg	Pg	01 14 59.5	-0.2
	26nm,0.1s,SNR=7.9						
ERUA				Lg		01 15 01.9	
	121nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.61**	**156**	Pg	Pg	01 15 09.1	0.0
	2.5nm,0.3s,SNR=8.5						
ECAL				Lg		01 15 16.8	
	4.3nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**0.74**	**160**	*e*Pg	Pg	01 15 11.1	-0.5
PBRG				*e*Sg	Sg	01 15 20.3	-0.8
PBRG							
	2.2nm,0.1s						
EPON	**Pontenova**	**0.83**	**356**	Pg	Pg	01 15 12.8	-0.4
	0.5nm,0.2s,SNR=7.9						
EPON				Lg		01 15 23.7	
	2.4nm,0.1s,SNR=9.9						
PCAB	**Cabril**	**1.06**	**222**	*e*P	Pg	01 15 14.9	-2.9
PCAB				*e*S	Sg	01 15 27.3	-4.3
PCAB							
	4.6nm,0.1s						
PVRL	**Vila Real**	**1.32**	**202**	*e*S	Sg	01 15 35.3	-4.4
PVRL							
	4.1nm,0.1s						
PVRL	**Vila Real**	**1.32**	**202**	S	Sg	01 15 35.3	-4.4
	2.0nm,0.1s						
EARI	**Arriondas**	**1.58**	**59**	Pg	Pg	01 15 26.0	-1.8
	0.2nm,0.2s,SNR=7.9						
EARI				Lg		01 15 49.3	
	0.1nm,0.3s,SNR=7.9						

IDC 21 01:22:30.4±6.3, 809S×15548E, h0km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/13**, mbtmp3.7**/3**, MS3.3**/3**, Ms1 3.3**/3**, ms1mx2.9**/20**, Error ellipse: s-maj=106.4km s-min=80.2km az=9.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62**	**107**	LR	LR	01 24 49.8	
	comp=Z,170nm,18.9s,baz=0.1,slow=30						
CTA	**Charters Tower**	**14.90**	**216**	LR	LR	01 30 54.5	
	comp=Z,109nm,19.9s,baz=49,slow=34						
WRA	**Warramunga Arr**	**23.61**	**238**	P	P	01 27 43.8	+0.6
	0.8nm,0.6s,baz=65,slow=9.9,SNR=3.5						
ASAR	**Alice Springs**	**25.83**	**231**	P	P	01 28 02.5	-0.9
	1.3nm,0.9s,baz=61,slow=8.8,SNR=6.8						
STKA	**Stephens Creek**	**26.96**	**207**	P	P	01 28 14.8	+1.2
	3.7nm,1.0s,baz=30,slow=8.1,SNR=3.9						
RAO	**Raoul Island**	**32.69**	**134**	LR	LR	01 40 02.9	
	comp=Z,128nm,18.9s,baz=105,slow=32						

*NEIC **21** 01:47:12.2, 1958N×6427W, h74km, MD3.6(RSPR), After RSPR.*
RSPR 21 01:47:12.2, 1958N×6427W, h74km±28km**, MD3.6**/7**, MD3.6**/7**, 7C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.91**	**220**⇑	*e*P	Pn	01 47 42.7	+0.1
MTP				*e*S	Sn	01 48 04.8	-1.1
CBYP	**Canovanas**	**1.99**	**229**⇑	*e*P	Pn	01 47 42.9	-0.8
CBYP				*e*S	Sn	01 48 07.9	+0.2
HUMP	**Col San Antoni**	**2.07**	**227**⇑	*e*P	Pn	01 47 44.2	-0.7
CPD	**Cerro la Pandu**	**2.19**	**226**⇓	*e*P	Pn	01 47 46.4	0.0
AOPR	**Arecibo Observ**	**2.65**	**243**⇓	*e*P	Pn	01 47 52.2	-0.5
ICM	**Isla Caja Muer**	**2.71**	**232**⇓	*e*P	Pn	01 47 52.5	-1.0
LRS	**Lares**	**2.75**	**243**⇑	*e*P	Pn	01 47 53.0	-1.0
LSP	**Las Mesas**	**3.01**	**243**⇑	*e*P	Pn	01 47 57.8	+0.3
LSP				*e*S	Sn	01 48 32.4	-0.1
CRPR	**Cabo Rojo, PR**	**3.11**	**240**⇑	*e*P	Pn	01 47 58.6	-0.3
CRPR				*e*S	Sn	01 48 35.1	+0.1

*CSEM **21** 01:55:48.4±0.1, 3691N×495W, h10km, ML2.7, Error ellipse: s-maj=3.6km s-min=2.8km az=156.0*
*SFS **21** 01:55:49.0, 3682N×486W, h0km, ML2.7*
MDD 21 01:55:49.2±0.3, 3686N×490W, h22km±3km**, mbLg1.5**/8**, Error ellipse: s-maj=4.6km s-min=2.7km az=169.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.31**	**162**	Pg	Pb	01 55 55.3	-0.8
	18nm,0.3s,SNR=8.8						
EMIJ				Lg		01 56 01.0	
	12nm,0.3s,SNR=5.2						
MAL	**Malaga**	**0.41**	**108**	*e*P	Pb	01 55 57.5	-0.3
LIJA	**Lijar**	**0.41**	**277**	P	Pb	01 55 56.4	-1.4
LIJA				S	Sb	01 56 04.0	+0.4
LIJA

EQES	**Quesada**	**1.73**	**56**	Pn	Pn	01 56 18.5	+0.5
	2.3nm,0.5s,SNR=4.6						
EQES				Lg		01 56 42.4	
	5.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.73**	**56**	Pn	Pn	01 56 18.5	+0.5
	2.3nm,0.5s,SNR=4.6						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	01 56 22.7	-1.4
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	01 56 47.2	-3.2
	SNR=7.9						
EGRO				Lg		01 56 55.5	
	2.1nm,0.2s,SNR=4.9						
EGRO	**El Granado**	**2.17**	**289**	Pn	Pn	01 56 22.7	-1.4
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	01 56 47.2	-3.2
	SNR=7.9						

*INMG **21** 01:56:16.2±1.8, 3692N×488W, h18km±8km, ML2.3, Error ellipse: s-maj=3.3km s-min=3.2km az=148.0*

MDD 21 01:56:15.5±0.3, 3693N×489W, h12km, mb3.1/1, mbLg2.1/22, Error ellipse: s-maj=3.3km s-min=2.4km az=156.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.37**	**166**	Pg	Pg	01 56 22.2	-0.7
	57nm,0.5s,SNR=7.9						
EMIJ				Lg		01 56 27.5	
	117nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**0.41**	**267**	P	Pg	01 56 22.0	-1.7
LIJA				S	Sg	01 56 29.0	-0.2
ELOJ	**Sierra Loja**	**0.63**	**69**	Pg	Pg	01 56 27.1	-0.6
	7.0nm,0.4s,SNR=7.9						
ELOJ				Lg		01 56 36.4	
	18nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.67**	**225**	Pg	Pg	01 56 28.7	+0.3
	20nm,0.7s,SNR=7.9						
EJIF				Lg		01 56 38.0	
	63nm,0.5s,SNR=7.9						
ESPR	**Espera**	**0.78**	**266**	Pg	Pg	01 56 30.7	+0.2
	4.8nm,0.3s,SNR=7.9						
ESPR				Lg		01 56 42.7	
	34nm,1.3s,SNR=7.9						
ELUQ	**Luque**	**0.80**	**38**	Pg	Pg	01 56 30.6	-0.4
	2.0nm,0.4s,SNR=7.9						
ELUQ				Lg		01 56 42.4	
	32nm,0.3s,SNR=7.9						
ERON	**Agron**	**0.87**	**84**	Pg	Pg	01 56 31.4	-0.9
	2.0nm,0.2s,SNR=4.0						
EGUA	**Guajares**	**1.06**	**95**	Pg	Pg	01 56 35.3	-0.7
	0.9nm,0.5s,SNR=7.9						
EGUA				Lg		01 56 47.3	
	8.1nm,0.9s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.11**	**71**	Pg	Pg	01 56 36.9	0.0
	5.2nm,0.5s,SNR=4.0						
ECOG				Lg		01 56 50.2	
	12nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**1.19**	**76**	Pg	Pg	01 56 33.7	-4.6
	0.6nm,0.6s,SNR=7.9						
EQUE				Lg		01 56 50.0	
	21nm,1.1s,SNR=7.9						
EADA	**Adamuz**	**1.26**	**11**	Pg	Pg	01 56 39.2	-0.6
	5.5nm,0.2s,SNR=7.9						
EADA				Lg		01 56 54.7	
	52nm,0.7s,SNR=7.9						
EBAN	**Banos Encina**	**1.51**	**35**	Pg	Pg	01 56 41.9	-2.7
	10.0nm,0.3s,SNR=7.9						
EBAN				Lg		01 57 01.3	
	93nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.60**	**90**	Pg	Pg	01 56 46.1	-0.1
	6.9nm,0.7s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.65**	**301**	Pg	Pg	01 56 44.6	-2.6
	4.1nm,0.5s,SNR=7.9						
EMIN				Lg		01 57 04.2	
	64nm,0.8s,SNR=7.9						
EQES	**Quesada**	**1.69**	**58**	Pg	Pg	01 56 45.0	-2.9
	5.0nm,0.3s,SNR=7.9						
EQES				Lg		01 57 06.9	
	19nm,0.7s,SNR=7.9						
EHUE	**Huescar**	**2.03**	**63**	Pg	Pg	01 56 49.9	-4.6
	0.4nm,0.3s,SNR=7.9						
EHUE				Lg		01 57 20.7	
	9.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.16**	**287**	Pn	Pn	01 56 48.6	-2.7
	3.3nm,0.5s,SNR=7.9						
EGRO				Lg		01 57 21.6	
	36nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**2.55**	**47**	Pg	Pg	01 56 59.2	-5.1
	5.5nm,0.4s,SNR=7.9						
EVIA				Lg		01 57 31.5	
	4.8nm,0.4s,SNR=7.9						
PBEJ	**Beja**	**2.61**	**296**	*e*Pn	Pn	01 56 56.6	-0.9
PBEJ				*e*Sg	Sg	01 57 36.9	-2.5
PBEJ							
	4.9nm,0.5s						
ESDC	**Sonseca Array**	**2.84**	**15**	Pn	Pn	01 56 59.9	-0.7
	0.8nm,0.3s,baz=196,slow=12,SNR=7.9						
ESDC				Pg	Pg	01 57 04.8	-5.1
	1.2nm,0.6s,baz=196,slow=13,SNR=7.9						
ESDC				Lg		01 57 42.7	
	5.0nm,0.3s,baz=192,slow=29,SNR=7.9						
PESTR	**Estremoz**	**2.88**	**313**	*e*Sg	Sg	01 57 44.6	-3.6
PESTR							
	8.0nm,0.6s						
MORF	**Marmelete**	**3.03**	**278**	*e*Sn	Sn	01 57 37.1	-2.4
MORF							
	4.2nm,0.5s						
MORF	**Marmelete**	**3.03**	**278**	Sn	Sn	01 57 37.1	-2.4
	4.2nm,0.5s						
PTEO	**Sao Teotonio**	**3.12**	**283**	*e*Sg	Sg	01 57 51.9	-3.9
PTEO							
	14nm,0.5s						
PTEO	**Sao Teotonio**	**3.12**	**283**	Lg		01 57 51.9	
	7.1nm,0.5s						
ETOB	**Tobarra**	**3.15**	**56**	Pn	Pn	01 57 04.4	-0.6
	0.3nm,0.2s,SNR=7.9						
ETOB				Lg		01 57 54.1	
	17nm,1.0s,SNR=7.9						
PCBR	**Castelo Branco**	**3.55**	**326**	*e*Pn	Pn	01 57 08.6	-1.8
PCBR				*e*Sg	Sg	01 58 05.7	-3.8
PCBR							
	4.2nm,0.7s						
GUD	**Guadarrama**	**3.75**	**9**	Lg		01 58 08.6	
	6.7nm,0.6s,SNR=7.9						
MTE	**Manteigas**	**4.04**	**330**	*e*Sg	Sg	01 58 20.8	-4.5
MTE							
	9.0nm,0.5s						
MTE	**Manteigas**	**4.04**	**330**	Lg		01 58 20.8	
	4.5nm,0.5s						
ETOR	**Torete**	**4.47**	**29**	Lg		01 58 34.8	
	12nm,0.5s,SNR=7.9						

*NEIC **21** 02:00:47.5, 36.14S×17790E, h195km, MG4.2(WEL), After WEL.*

WEL 21 02:00:47.1±0.4, 3615S×17788E, h198km±5km, ML4.1/7, Error ellipse: s-maj=9.1km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.46**	**166**	P	Pn	02 01 20.3	+0.1
MXZ				S	Sn	02 01 45.7	-0.2
MXZ	**Matakaoa Point**	**1.46**	**166**	PN	Pn	02 01 20.3	+0.1
MXZ				SN	Sn	02 01 45.7	-0.2
PUZ	**Puketiti**	**1.95**	**171**	P	Pn	02 01 25.0	+0.1
PUZ	**Puketiti**	**1.95**	**171**	PN	Pn	02 01 25.0	+0.2
PUZ				SN	Sn	02 01 53.6	-0.6
URZ	**Urewera**	**2.20**	**196**	P	Pn	02 01 28.1	+0.6
URZ	**Urewera**	**2.20**	**196**	PN	Pn	02 01 28.1	+0.6
URZ				SN	Sn	02 01 59.1	+0.2
MWZ	**Matawai**	**2.20**	**187**	P	Pn	02 01 28.1	+0.6
MWZ				S	Sn	02 01 59.0	-0.1
MWZ	**Matawai**	**2.20**	**187**	PN	Pn	02 01 28.1	+0.6
MWZ				SN	Sn	02 01 59.0	-0.1
KNZ	**Kokohu**	**2.87**	**183**	PN	Pn	02 01 34.8	-0.2
BKZ	**Black Stump Fm**	**3.21**	**200**	*e*P	Pn	02 01 39.2	+0.1
BKZ	**Black Stump Fm**	**3.21**	**200**	PN	Pn	02 01 39.2	+0.1
MOVZ	**Moawhango**	**3.67**	**207**	P	Pn	02 01 44.3	-0.3
MOVZ	**Moawhango**	**3.67**	**207**	PN	Pn	02 01 44.3	-0.3
PXZ	**Pawanui**	**3.96**	**191**	PN	Pn	02 01 47.2	-1.0
WPHZ	**Waipukurau**	**4.07**	**196**	PN	Pn	02 01 48.9	-0.8
TSZ	**Takapari Road**	**4.19**	**201**	*e*P	Pn	02 01 50.0	-1.1
BFZ	**Birch Farm**	**4.71**	**195**	*e*P	Pn	02 01 56.2	-1.4
BFZ	**Birch Farm**	**4.71**	**195**	PN	Pn	02 01 56.2	-1.4
MRZ	**Mangatainoka R**	**4.86**	**201**	*e*P	Pn	02 01 57.7	-1.8
MRZ	**Mangatainoka R**	**4.86**	**201**	PN	Pn	02 01 57.7	-1.9
KIW	**Kapiti Island**	**5.25**	**205**	P	Pn	02 02 02.7	-1.9
KIW	**Kapiti Island**	**5.25**	**205**	PN	Pn	02 02 02.7	-1.9
CAW	**Cannon Point**	**5.42**	**203**	P	Pn	02 02 04.5	-2.3
CAW	**Cannon Point**	**5.42**	**203**	PN	Pn	02 02 04.5	-2.3
TRWZ	**Traveller**	**5.52**	**197**	PN	Pn	02 02 06.0	-1.9
TCW	**Tory Channel**	**5.79**	**208**	PN	Pn	02 02 08.7	-2.8
TUWZ	**Tuamarina**	**6.11**	**209**	PN	Pn	02 02 12.8	-2.8
THZ	**Tophouse**	**6.82**	**213**	*e*P	Pn	02 02 23.0	-1.8
THZ	**Tophouse**	**6.82**	**213**	PN	Pn	02 02 22.0	-2.8

*IDC **21** 02:24:23.6±1.2, 252S×122.97E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.7/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/23, Error ellipse: s-maj=122.4km s-min=20.0km az=65.0*

*ISCJB **21** 02:24:26.4±0.7, 24S±02×1232E±04, h33km, mb3.8/5, MS3.7/2, Error ellipse: s-maj=62.7km s-min=10.5km az=130.0*

*NEIC **21** 02:24:30.9±4.7, 256S×123.07E, h58km±47km, mb4.0/3, Error ellipse: s-maj=59.2km s-min=13.0km az=57.0*

ISC 21 02:24:28.9±0.7, 25S±02×1231E±04, h35km, n14, σ0.50/13, mb3.8/5, MS3.7/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.69**	**171**	*e*P	Pn	02 28 08.1	+0.9
	8.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.69**	**171**	Pn	Pn	02 28 07.2	-0.1
	0.2nm,0.3s,baz=7.6,slow=8.5,SNR=17						
WRAB	**Tennant Creek**	**20.52**	**148**	*e*P	P	02 29 04.6	+0.5
	7.2nm,0.9s						
WRA	**Warramunga Arr**	**20.52**	**148**	P	P	02 29 04.2	+0.1
	1.6nm,0.6s,baz=326,slow=12,SNR=6.5						
WB2	**Warramunga Arr**	**20.53**	**148**	*e*P	P	02 29 03.3	-0.8
AS31	**Alice Springs**	**23.50**	**154**	*e*P	P	02 29 35.3	-0.3
ASAR	**Alice Springs**	**23.50**	**154**	P	P	02 29 35.3	-0.3
	1.6nm,0.8s,mb3.5,baz=322,slow=8.4,SNR=9.8						
ASAR				LR	LR	02 39 12.3	
	comp=Z,80nm,21.8s,MS3.1,baz=162,slow=38						
STKA	**Stephens Creek**	**34.02**	**151**	P	P	02 31 09.8	+0.4
	3.0nm,0.8s,mb4.2,baz=340,slow=9.4,SNR=4.6						
STKA	**Stephens Creek**	**34.02**	**151**	P	P	02 31 09.8	+0.4
SONM	**Songino Array**	**52.22**	**346**	P	P	02 33 37.0	+0.7
	0.3nm,0.6s,mb3.4,baz=170,slow=8.8,SNR=1.5						
MK31	**Makanchi Array**	**60.78**	**329**	*e*P	P	02 34 37.5	+0.2
MKAR	**Makanchi Array**	**60.78**	**329**	P	P	02 34 36.5	-0.7
	0.8nm,0.7s,mb4.0,baz=134,slow=6.9,SNR=5.4						
ZRNK	**Zerenda**	**71.33**	**329**	*e*P	P	02 35 44.8	-0.2
	0.7nm,0.6s,mb3.8						
OPO	**Ambohidratompo**	**75.82**	**252**	LR	LR	03 02 19.5	
	comp=Z,175nm,21.5s,MS4.3,baz=205,slow=30						

*ISCJB **21** 02:25:51.7±0.3, 4630N±002×149E±002, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.7km az=21.1*

*LDG **21** 02:25:54.5±0.0, 4627N×153E, h3km, Md2.4/3, Ml2.4/23, Error ellipse: s-maj=0.7km s-min=0.6km az=124.0*

*STR **21** 02:25:55.6±0.9, 4626N×161E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 02:25:53.2±0.3, 4627N±001×151E±002, h14km±3km, n35, σ0.88/67, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.49**	**88**	*e*Pg	Pg	02 26 04.1	+1.3
TCF				*e*Sg	Sg	02 26 10.0	+0.7
	18nm,0.2s						
RJF	**Les Rejaudoux**	**0.97**	**180**	*e*Pg	Pg	02 26 12.8	+1.0
RJF	**Les Rejaudoux**	**0.97**	**180**	*e*Pn	Pn	02 26 13.1	+0.8
	SNR=1.0						
RJF				*e*Sg	Sg	02 26 25.3	+0.8
	14nm,0.2s						
BGF	**Bois d'Agland**	**0.97**	**72**	*e*Pg	Pg	02 26 12.9	+1.0
BGF				*e*Sg	Sg	02 26 24.9	+0.3
	37nm,0.2s						
AGO	**Saint Agoulin**	**1.15**	**100**	Pg	Pg	02 26 16.2	+0.9
AGO				Sg	Sg	02 26 31.7	+1.4
PYM	**Petit Puy Mans**	**1.17**	**116**	Pg	Pg	02 26 16.7	+1.0
MFF	**Saint Martin d**	**1.19**	**287**	*e*Pn	Pn	02 26 16.6	+1.2
	SNR=1.0						
MFF	**Saint Martin d**	**1.19**	**287**	*e*Pg	Pg	02 26 17.0	+0.9
MFF				*e*Sg	Sg	02 26 32.3	+0.7
	9.5nm,0.2s						
HYF	**Humbligny**	**1.27**	**38**	*e*Pg	Pg	02 26 18.1	+0.6
HYF				*e*Sg	Sg	02 26 34.3	+0.3
AVF	**Avril sur Loir**	**1.38**	**67**	*e*Pn	Pn	02 26 18.8	+0.9
AVF	**Avril sur Loir**	**1.38**	**67**	*e*Pg	Pg	02 26 19.9	+0.3
AVF				*e*Sn	Sn	02 26 36.2	+0.3
	SNR=1.0						
AVF				*e*Sg	Sg	02 26 37.0	-0.5
	4.8nm,0.3s						
CAF	**Calviac**	**1.40**	**164**	*e*Pn	Pn	02 26 19.3	+1.0
CAF	**Calviac**	**1.40**	**164**	*e*Pg	Pg	02 26 20.6	+0.5
CAF				*e*Sn	Sn	02 26 36.8	+0.2
	SNR=1.0						
CAF				*e*Sg	Sg	02 26 38.6	+0.3
	7.6nm,0.2s						
LFF	**La Frestale**	**1.44**	**202**	*e*Pn	Pn	02 26 20.2	+1.4
LFF	**La Frestale**	**1.44**	**202**	*e*Pg	Pg	02 26 21.6	+0.8
LFF				*e*Sn	Sn	02 26 37.9	+0.4
LFF				*e*Sg	Sg	02 26 40.0	+0.5
	7.4nm,0.3s						
PLDF	**La Plantade**	**1.50**	**101**	Pg	Pg	02 26 22.3	+0.3
PLDF				Sg	Sg	02 26 41.5	0.0
SSF	**Saint Saulge**	**1.59**	**59**	*e*Pn	Pn	02 26 21.9	+1.0
SSF	**Saint Saulge**	**1.59**	**59**	*e*Pg	Pg	02 26 23.7	+0.1
SSF				*e*Sg	Sg	02 26 43.5	-0.8
	9.7nm,0.3s						
LBL	**Lubilhac**	**1.60**	**130**	Pg	Pg	02 26 24.4	+0.5
SMF	**Signal de Mont**	**1.66**	**76**	*e*Pn	Pn	02 26 22.6	+0.8
SMF	**Signal de Mont**	**1.66**	**76**	*e*Pg	Pg	02 26 25.0	0.0
SMF				*e*Sn	Sn	02 26 42.9	0.0
SMF				*e*Sg	Sg	02 26 46.0	-0.5
	9.5nm,0.4s						
LOR	**Lormes**	**1.90**	**57**	*e*Pg	Pg	02 26 29.3	-0.3
	baz=235						
LOR				*e*Sg	Sg	02 26 53.0	-1.2
	4.3nm,0.2s						
LDF	**La Druitiere**	**2.57**	**335**	*e*Pg	Pg	02 26 42.2	-0.3
LDF				*e*Sn	Sn	02 27 04.9	-0.6
LDF				*e*Sg	Sg	02 27 15.4	-0.5
	4.8nm,0.4s						
VIVF	**Saint-Julien-l**	**2.63**	**121**	*e*Pg	Pg	02 26 43.1	-0.6
VIVF				*e*Sg	Sg	02 27 17.0	-0.8
	4.6nm,0.6s						
GRR	**Gorron**	**2.66**	**324**	*e*Pg	Pg	02 26 44.0	-0.2
GRR				*e*Sn	Sn	02 27 07.4	-0.3
GRR				*e*Sg	Sg	02 27 17.9	-0.8
	2.7nm,0.3s						
LASF	**Ste Croix**	**2.75**	**142**	*e*Pg	Pg	02 26 45.3	-0.6
LASF				*e*Sg	Sg	02 27 20.6	-1.0
	2.8nm,0.3s						
FLN	**La Foliniere**	**2.83**	**332**	*e*Pg	Pg	02 26 46.9	-0.6
FLN				*e*Sg	Sg	02 27 23.1	-1.1
	4.5nm,0.4s						
MTLF	**Montolieu**	**2.97**	**170**	*e*Pg	Pg	02 26 49.5	-0.6
MTLF				*e*Sg	Sg	02 27 27.2	-1.5
	2.1nm,0.2s,SNR=1.0						
EPF	**Esparros**	**3.34**	**195**	*e*Pn	Pn	02 26 46.1	+1.1
EPF	**Esparros**	**3.34**	**195**	*e*Pg	Pg	02 26 56.5	-0.8
EPF				*e*Sn	Sn	02 27 22.7	-1.9
	4.1nm,0.6s,SNR=1.0						
EPF				*e*Sg	Sg	02 27 39.7	-0.9
	2.2nm,0.3s						
ETSF	**Etsaut**	**3.68**	**204**	*e*Pn	Pn	02 26 50.5	+0.8
ETSF				*e*Sn	Sn	02 27 31.6	-1.2
ETSF				*e*Sg	Sg	02 27 49.8	-1.6
	0.9nm,0.3s						
SJPF	**Ste Jean**	**3.71**	**213**	*e*Pn	Pn	02 26 50.8	+0.7
SJPF				*e*Sg	Sg	02 27 50.9	-1.4
	1.5nm,0.3s						
LPG	**La Plagne**	**3.74**	**100**	*e*Pg	Pg	02 27 03.8	-1.1
LPG				*e*Sn	Sn	02 27 33.3	-1.1
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**3.97**	**65**	*e*Sg	Sg	02 27 58.3	-2.3
	1.8nm,0.3s						
MBDF	**Montbardon**	**4.01**	**111**	*e*Pn	Pn	02 26 54.8	+0.6
MBDF				*e*Sn	Sn	02 27 39.5	-1.5
	0.5nm,0.2s						

*GCG **21** 02:40:32.4, 1369N×9256W, h159km, MD4.4*

*ISCJB **21** 02:40:44.3±1.3, 1384N±009×9213W±007, h37km±11km, mb4.0/16, MS3.7/2, Error ellipse: s-maj=16.2km s-min=10.1km az=52.7*

*NEIC **21** 02:40:48.8±2.2, 1404N×9197W, h56km±13km, mb4.1/12, MD4.6(MEX), Error ellipse: s-maj=31.0km s-min=13.1km az=202.0*

*MEX **21** 02:40:49.0±0.2, 1407N×9248W, h136km±43km, MD4.6*

*IDC **21** 02:40:49.7±5.1, 1520N×9163W, h0km, mb3.7/5, mb1 4.2/7, mb1mx3.9/21, mbtmp3.8/7, ML3.7/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/29, Error ellipse: s-maj=132.6km s-min=23.7km az=21.0*

*SSS **21** 02:41:03.4, 1408N×92.13W, h108km, MD4.9*

ISC 21 02:40:44.9±1.7, 1380N±008×9210W±006, h29km±12km, n45, σ1.9±20/45, mb4.0/16, MS3.7/2, 6C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.68**	**41⇑**	*e*P	Pb	02 40 59.0	+0.7
FUG	**Fuego 3**	**1.38**	**62⇑**	*e*P	Pn	02 41 07.2	-1.0
TP2	**Tecpan 2**	**1.43**	**47⇑**	*e*P	Pn	02 41 07.9	-1.1
TER	**Terranova**	**1.46**	**70⇑**	*e*P	Pn	02 41 07.9	-1.5
PCG	**Pacaya**	**1.56**	**68**	*e*P	Pn	02 41 10.9	+0.2
RBDL	**Robledal**	**2.37**	**82⇑**	*e*P	x	02 41 42.0	
RBDL				*e*S	x	02 42 12.2	
SBLS	**San Blas**	**2.41**	**89⇓**	*e*P	x	02 41 43.0	
SBLS				*e*S	x	02 42 13.8	
CCIG	**Comitan**	**2.47**	**359**	*e*P	Pn	02 41 25.0	+1.8
CCIG				*i* S	Sn	02 41 53.1	+0.8
BOQS	**Boqueron**	**2.74**	**91⇑**	*e*P	x	02 41 47.2	
BOQS				*e*S	x	02 42 22.9	
LFRS	**El Faro**	**2.96**	**93**	*e*P	x	02 41 50.1	
LFRS				*e*S	x	02 42 26.7	
SNVI	**San Vicente**	**3.18**	**93**	*e*P	x	02 41 53.8	
SNVI				*e*S	x	02 42 32.0	
CMIG	**Matias Romero**	**4.23**	**321**	Pn	Pn	02 41 47.5	+0.1
	4.0nm,0.3s,baz=126,slow=10.0,SNR=12						
CMIG				Sn	Sn	02 42 34.4	-1.4
	10nm,0.3s,baz=124,slow=9.5,SNR=5.6						
CMIG				Lg		02 42 45.9	
	19nm,0.3s,baz=56,slow=22,SNR=6.9						
CMIG	**Matias Romero**	**4.23**	**321**	*e*P	Pn	02 41 45.0	-2.4
CMIG				*i* S	Sn	02 42 28.8	-7.0
TGUH	**Tegucigalpa,Un**	**4.70**	**86**	*e*Pn	Pn	02 41 55.1	+1.3
VHO	**Vista Hermosa**	**5.52**	**307**	*i* P	Pn	02 42 02.7	-2.5
VHO				*i* S	Sn	02 42 59.3	-8.4
VHO	**Vista Hermosa**	**5.52**	**307**	*i* P	Pn	02 42 03.7	-1.5
VHO				*i* S	Sn	02 43 00.3	-7.4
UTMO	**Huajuapan**	**6.79**	**307**	*i* S	Sn	02 43 29.4	-10
TPIG	**Tehuac#an**	**6.83**	**313**	*i* S	Sn	02 43 30.1	-10
TEIG	**Tepich**	**7.36**	**29**	*i* P	Pn	02 42 31.2	+0.8
TEIG				*i* S	Sn	02 43 53.9	+0.9
TEIG	**Tepich**	**7.36**	**29**	*e*Pn	Pn	02 42 31.0	+0.6
	38nm,0.6s						
TEIG				*i* S	Sn	02 43 51.2	-1.7
IIO	**Organos**	**8.56**	**313**	*i* P	Pn	02 42 53.1	+6.2
TXAR	**Lajitas Array**	**18.81**	**327**	P	Pn	02 45 02.5	-0.3
	0.1nm,0.3s,baz=147,slow=14,SNR=33						
MNTX	**Cornudas Mount**	**21.58**	**328**	*e*P	P	02 45 32.4	+0.3
	7.0nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**21.70**	**345**	*e*P	P	02 45 31.7	-1.8
	4.7nm,1.0s,mb3.9						
AMTX	**Amarillo**	**22.70**	**339**	*e*P	P	02 45 42.8	-1.4
	9.5nm,0.5s,mb4.5						
TKL	**Tuckaleechee C**	**23.02**	**18**	LR	LR	02 56 12.7	
	comp=Z,165nm,18.1s,MS3.5,baz=249,slow=43						
LPM	**Los Pinos Moun**	**24.29**	**330**	*e*P	P	02 46 00.3	+0.6
LAZ	**Ladron**	**24.62**	**329**	*e*P	P	02 46 04.2	+1.5
ANMO	**Albuquerque**	**24.73**	**331**	P	P	02 46 04.8	+1.1
	2.2nm,0.6s,mb3.8,baz=144,slow=9.2,SNR=11						
ANMO	**Albuquerque**	**24.73**	**331**	*e*P	P	02 46 04.5	+0.8
	2.0nm,0.6s,mb3.8						
WCI	**Wyandotte Cave**	**24.87**	**11**	*e*P	P	02 46 01.8	-3.1
	6.1nm,0.6s,mb4.3						
SDCO	**Great Sand Dun**	**26.66**	**336**	*e*P	P	02 46 22.1	+0.9
	2.3nm,1.0s,mb3.7						
HWUT	**Hardware Ranch**	**32.46**	**332**	*e*P	P	02 47 13.3	+0.7
	4.5nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**32.56**	**336**	P	P	02 47 13.6	+0.1
	0.3nm,0.5s,mb3.5,baz=144,slow=13,SNR=3.6						
SNOW	**Snow King Moun**	**33.62**	**335**	*e*P	P	02 47 22.9	+0.1
	5.8nm,0.6s,mb4.7						
LOHW	**Long Hollow**	**33.69**	**335**	*e*P	P	02 47 23.7	+0.4
	1.5nm,0.7s,mb4.0						
TPAW	**Teton Pass**	**33.73**	**335**	*e*P	P	02 47 24.1	+0.4
	9.8nm,1.4s,mb4.5						
NVAR	**Mina Array Bea**	**33.76**	**321**	P	P	02 47 25.7	+1.7
	1.3nm,0.8s,mb3.9,baz=139,slow=7.2,SNR=9.2						
HLID	**Hailey**	**35.30**	**331**	*e*P	P	02 47 38.0	+0.7
	1.3nm,0.8s,mb3.9						
WVOR	**Wild Horse Val**	**36.60**	**326**	*e*P	P	02 47 49.6	+1.1
	2.3nm,0.8s,mb4.1						
EDM	**Edmonton**	**42.79**	**341**	*e*P	P	02 48 38.3	-1.6
SCHQ	**Schefferville**	**45.44**	**20**	LR	LR	03 09 02.0	
	comp=Z,137nm,18.2s,MS3.9,baz=220,slow=38						
YKA	**Yellowknife Ar**	**51.19**	**347**	P	P	02 49 43.3	-2.2
	1.0nm,0.8s,mb3.8,baz=140,slow=6.8,SNR=4.4						
YKA	**Yellowknife Ar**	**51.19**	**347**	P	P	02 49 43.3	-2.2
GERES	**GERESS Array B**	**89.82**	**39**	P	P	02 53 45.5	+4.7
	0.2nm,0.4s,mb3.8,baz=215,slow=4.4,SNR=3.6						

**MOS 21 02:41:31.4±0.6, 4334N×4497E, h26km, mb3.7/1, 4

*IDC **21** 02:53:24.1±0.7, 1336N×12153E, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.3/21, mbtmp4.2/14, MS3.8/14, Ms1 3.8/14, ms1mx3.5/35, Error ellipse: s-maj=37.8km s-min=9.0km az=58.0*
*ISCJB **21** 02:53:27.0±0.7, 1337N±003×12153E±004, h31km±6km, mb4.6/35, MS3.8/16, Error ellipse: s-maj=7.7km s-min=5.2km az=128.0*
*MAN **21** 02:53:26.3, 1340N×12150E, h11km, mb3.4, ML4.6, MS1.4*
*BJI **21** 02:53:27.0, 1340N×12160E, h12km, mB4.9, mb4.6, Ms4.1, Msz4.0*
*MOS **21** 02:53:28.8±3.1, 1313N×12126E, h33km, mb4.9/11, Error ellipse: s-maj=21.9km s-min=8.3km az=117.1*
ISC 21 02:53:26.7±0.8, 1337N±003×12149E±004, h15km±6km, h25km±1.7km: pP-P, n88, σ0§99/87, mb4.6/35, MS3.8/16, 4C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.36**	**75**	*eP*	**Pg**	**02 53 33.5**	**-0.5**
BOAC				*eS*	**Sg**	**02 53 39.4**	**+0.6**
TGY	**Tagaytay City**	**0.91**	**324**	⇑*iP*	**Pg**	**02 53 43.4**	**-0.9**
TGY				*i* S	**Sg**	**02 53 50.4**	**-5.9**
TGY	**Tagaytay City**	**0.91**	**324**	Pg	**Pg**	**02 53 42.9**	**-1.4**
	2μm,0.3s,baz=178,slow=1.7,SNR=186						
TGY				Lg		02 53 55.5	
	6μm,0.3s,baz=189,slow=19,SNR=20						
OTRP	**Odiongan**	**1.12**	**152**	*eP*	**Pb**	**02 53 47.2**	**-0.6**
AUQP	**San Andres**	**1.15**	**92**	*eP*	**Pb**	**02 53 49.2**	**+0.8**
LUBP	**Lubang**	**1.27**	**287**	*eP*	**Pn**	**02 53 48.6**	**-1.2**
LUBP				*eS*	**Sb**	**02 54 06.4**	**+0.1**
POLP	**Polilio Island**	**1.42**	**18**	*eP*	**Pn**	**02 53 51.2**	**-0.8**
BUSP	**Coron**	**1.85**	**223**	*eP*	**Pn**	**02 53 59.3**	**+1.4**
RCP	**Roxas**	**2.17**	**146**	⇑*eP*	**Pn**	**02 54 03.3**	**+1.0**
PCPH	**Palayan**	**2.22**	**350**	⇑*eP*	**Pn**	**02 54 02.6**	**-0.3**
PCPH				*eS*	**Sn**	**02 54 35.0**	**+4.9**
CUYO	**Cuyo Island**	**2.54**	**191**	*eP*	**Pn**	**02 54 07.7**	**+0.3**
PVCP	**Virac**	**2.60**	**85**	*eP*	**Pn**	**02 54 08.5**	**+0.3**
SCZP	**Santa Cruz**	**2.84**	**328**	*eP*	**Pn**	**02 54 12.0**	**+0.5**
GUIM	**Jordan**	**2.93**	**158**	*eP*	**Pn**	**02 54 09.6**	**-3.1**
ENPP	**El Nido**	**2.95**	**223**	*eP*	**Pn**	**02 54 14.6**	**+1.7**
BCPH	**Baguio City Da**	**3.12**	**344**	⇓*eP*	**Pn**	**02 54 15.8**	**+0.4**
	34μm,1.0s						
BOLP	**Bolinao**	**3.36**	**333**	*eP*	**Pn**	**02 54 19.9**	**+1.2**
CAUP	**Cauayan**	**3.57**	**5**	*eP*	**Pn**	**02 54 22.3**	**+0.8**
PALP	**Palanan**	**3.79**	**14**	*eP*	**Pn**	**02 54 24.1**	**-0.4**
LLP	**Lapu-Lapu**	**3.88**	**141**	⇓*eP*	**Pn**	**02 54 29.3**	**+3.5**
LLP				*eS*	**Sn**	**02 55 07.0**	**-4.0**
ABRA	**Dolores**	**4.33**	**350**	*eP*	**Pn**	**02 54 33.5**	**+1.5**
KSM	**Kuching**	**16.19**	**224**	*e*PKPdf	**Pn**	**02 57 21.3**	**+7.7**
CHTO	**Chiang Mai**	**22.32**	**287**	*eP*	**P**	**02 58 25.4**	**+1.7**
	5.6nm,0.8s,mb4.0						
GUMO	**Guam**	**22.73**	**87**	LR	LR	03 07 46.2	
	comp=Z,117nm,18.7s,MS3.4,baz=87,slow=38						
XAN	**Xi'an**	**23.54**	**333**	P	**P**	**02 58 41.9**	**+5.4**
XAN				AP		02 58 50.0	
XAN				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.4						
CD2	**Chengdu**	**23.91**	**320**	P	**P**	**02 58 40.5**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
PSI	**Prapat**	**24.66**	**247**	P	**P**	**02 58 47.1**	**+0.4**
	comp=Z,2.6nm,0.3s,mb4.2,baz=3.6,slow=16,SNR=5.0						
JHJ	**Hachijo jima 2**	**25.79**	**37**	LR	LR	03 06 45.7	
	comp=Z,246nm,19.9s,MS3.7,baz=344,slow=31						
BJT	**Baijiatuau**	**26.96**	**351**	*eP*	**P**	**02 59 13.9**	**+6.3**
BJT				pmax	pmax		
	comp=Z,14nm,0.7s						
BJT	**Baijiatuau**	**26.96**	**351**	*eP*	**P**	**02 59 13.9**	**+6.3**
	comp=Z,14nm,0.7s,mb4.6						
LZH	**Lanzhou**	**27.63**	**328**	*eP*	**P**	**02 59 21.0**	**+7.3**
LZH				AP	pP	02 59 27.5	+9.4
LZH				XP	sP	02 59 31.0	+11
LZH				*e*S	**S**	**03 04 06.0**	**+11**
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,170nm,4.2s						
LZH				LR	LR		
	comp=E,680nm,15.6s						
LZH				LR	LR		
	comp=Z,610nm,16.6s,MS4.3						
MDJ	**Mudanjiang**	**31.91**	**11**	P	**P**	**02 59 51.1**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,58nm,4.7s						
GTA	**Gaotai**	**32.23**	**328**	*eP*	**P**	**02 59 54.4**	**0.0**
GTA				AP	pP	03 00 01.6	+2.7
GTA				XP	sP	03 00 04.8	+4.1
GTA				PP	PP	03 01 03.6	-3.6
GTA				S	**S**	**03 05 08.3**	**+1.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,37nm,4.6s						
GTA				LR	LR		
	comp=N,205nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,217nm,19.4s,MS4.0						
GTA				LR	LR		
	comp=Z,367nm,16.7s,MS4.2						
MBWA	**Marble Bar**	**34.35**	**183**	*eP*	**P**	**03 00 12.5**	**-0.4**
	comp=Z,10nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**35.43**	**159**	*eP*	**P**	**03 00 21.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**35.43**	**159**	*e*PKPdf	**P**	**03 00 21.2**	**-0.9**
	comp=Z,17nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**35.43**	**159**	P	**P**	**03 00 21.6**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9,baz=336,slow=9.5,SNR=54						
WB2	**Warramunga Arr**	**35.44**	**159**	*eP*	**P**	**03 00 21.2**	**-1.0**
GUN	**Gumba**	**36.18**	**299**	*eP*	**P**	**03 00 29.2**	**+0.6**
	comp=Z,78nm,0.9s,mb5.6						
PKI	**Pulchoki**	**36.49**	**298**	*eP*	**P**	**03 00 30.5**	**-0.7**
SONM	**Songino Array**	**36.60**	**343**	P	**P**	**03 00 31.6**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=155,slow=10,SNR=7.4						
SONM				LR	LR	03 17 20.1	
	comp=Z,131nm,18.1s,MS3.8,baz=106,slow=39						
KKN	**Kakani**	**36.66**	**299**	*eP*	**P**	**03 00 32.3**	**-0.4**
DMN	**Daman**	**36.76**	**298**	*eP*	**P**	**03 00 32.6**	**-0.9**
	comp=Z,53nm,1.1s,mb5.3						
GKN	**Gorkha**	**37.26**	**299**	*eP*	**P**	**03 00 37.2**	**-0.6**
	comp=Z,54nm,1.1s,mb5.3						
KOLN	**Kolkanda**	**38.09**	**298**	*eP*	**P**	**03 00 44.0**	**-0.8**
	comp=Z,24nm,1.0s,mb4.9						
ASPA	**Alice Springs**	**38.75**	**162**	*eP*	**P**	**03 00 50.6**	**+0.2**
ASAR	**Alice Springs**	**38.75**	**162**	P	**P**	**03 00 50.6**	**+0.2**
	comp=Z,11nm,0.6s,mb4.7,baz=338,slow=6.9,SNR=202						
ASAR				LR	LR	03 18 24.1	
	comp=Z,106nm,18.4s,MS3.7,baz=346,slow=39						
ZAK	**Zakamensk**	**39.80**	**342**	*eP*	**P**	**03 01 06.2**	**+7.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
MOY	**Mondy**	**41.63**	**341**	*eP*	**P**	**03 01 22.2**	**+8.0**
MOY				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
FORT	**Forrest**	**44.34**	**172**	*eP*	**P**	**03 01 45.6**	**+9.4**
	comp=Z,24nm,0.7s,mb5.0						
MK31	**Makanchi Array**	**46.76**	**323**	*eP*	**P**	**03 02 02.3**	**+7.0**
MKAR	**Makanchi Array**	**46.76**	**323**	P	**P**	**03 01 54.9**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=108,slow=7.8,SNR=6.0						
MKAR				LR	LR	03 20 39.1	
	comp=Z,50nm,20.9s,MS3.5,baz=79,slow=35						
STKA	**Stephens Creek**	**48.94**	**157**	⇑*iP*	**P**	**03 02 12.1**	**-0.1**
	comp=Z,8.4nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**48.94**	**157**	P	**P**	**03 02 12.2**	**0.0**
	comp=Z,18nm,0.6s,mb5.2,baz=333,slow=7.4,SNR=51						
STKA				LR	LR	03 25 58.9	
	comp=Z,157nm,20.3s,MS4.0,baz=24,slow=40						
ZAL	**Zalesovo**	**49.71**	**332**	P	**P**	**03 02 17.4**	**-0.7**
	comp=Z,0.7nm,0.3s,mb4.2,baz=7.9,slow=24,SNR=2.4						
ZAL				LR	LR	03 24 09.7	
	comp=Z,60nm,18.5s,MS3.6,baz=340,slow=37						
AAK	**Ala-Archa**	**49.84**	**315**	*eP*	**P**	**03 02 21.4**	**+2.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**49.84**	**315**	*eP*	**P**	**03 02 21.4**	**+2.3**
	comp=Z,3.4nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**56.48**	**326**	P	**P**	**03 03 07.5**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.2,baz=141,slow=9.6,SNR=8.3						
BVAR				LR	LR	03 30 30.5	
	comp=Z,69nm,19.1s,MS3.8,baz=298,slow=39						
BRVK	**Borovoye**	**56.55**	**326**	*eP*	**P**	**03 03 07.5**	**-1.1**
BRVK				*e*		03 03 15.9	
BRVK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
BRVK	**Borovoye**	**56.55**	**326**	*eP*	**P**	**03 03 07.5**	**-1.1**
	comp=Z,15nm,0.9s,mb5.0						
BRVK				*e*		03 03 15.9	
CHKZ	**Chkalovo**	**56.63**	**326**	*eP*	**P**	**03 03 09.8**	**+0.7**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**56.63**	**326**	*eP*	**P**	**03 03 09.8**	**+0.7**
	comp=Z,5.7nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**57.22**	**325**	*eP*	**P**	**03 03 11.9**	**-1.4**
ZRNK				*e*PP	pP	03 03 20.5	+2.5
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**57.22**	**325**	*eP*	**P**	**03 03 11.9**	**-1.3**
	comp=Z,9.4nm,0.9s,mb4.8						
ZRNK				*e*pP	pP	03 03 20.4	+2.5
TIXI	**Tiksi**	**58.43**	**3**	*eP*	**P**	**03 03 18.4**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
WSAR	**Wadi Sarin**	**60.10**	**289**	LR	LR	03 32 52.1	
	comp=Z,53nm,18.0s,MS3.7,baz=246,slow=39						
GNI	**Garni**	**71.43**	**308**	LR	LR	03 41 08.9	
	comp=Z,34nm,19.2s,MS3.6,baz=278,slow=40						
IMA2	**Indian Mountai**	**75.79**	**25**	*eP*	**P**	**03 05 14.4**	**+2.4**
MCK	**McKinley**	**77.94**	**27**	*eP*	**P**	**03 05 30.4**	**+6.2**
MCK				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8						
MCK	**McKinley**	**77.94**	**27**	*eP*	**P**	**03 05 30.4**	**+6.2**
	comp=Z,19nm,1.6s,mb4.8						
ARCES	**ARCESS Array B**	**79.67**	**339**	P	**P**	**03 05 34.5**	**+0.8**
	comp=Z,9.4nm,1.1s,mb4.6,baz=76,slow=7.6,SNR=3.0						
BRTR	**Keskin Array B**	**79.96**	**308**	P	**P**	**03 05 36.2**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=99,slow=4.8,SNR=3.9						
EIL	**Elat**	**80.55**	**298**	*eP*	**P**	**03 05 39.2**	**+0.8**
	comp=Z,194nm,1.4s						
EIL				*e*pP	pP	03 05 46.1	+2.8
FINES	**FINESS Array B**	**80.95**	**331**	P	**P**	**03 05 40.0**	**-0.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=0.8,slow=13,SNR=2.6						
FINES				LR	LR	03 43 08.0	
	comp=Z,63nm,20.3s,MS4.0,baz=358,slow=37						
AKASG	**Malin Array Be**	**81.21**	**320**	P	**P**	**03 05 41.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=67,slow=3.1,SNR=2.6						
INK	**Inuvik**	**83.13**	**21**	*eP*	**P**	**03 06 00.2**	**+8.3**
	comp=Z,265nm,1.4s						
NB2	**NORSAR Subarra**	**87.91**	**333**	P	**P**	**03 06 14.1**	**-1.7**
	comp=Z,1.1nm,0.7s,mb4.2,baz=69,slow=5.3						
NB2	**NORSAR Subarra**	**87.91**	**333**	P	**P**	**03 06 14.1**	**-1.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**87.91**	**333**	P	**P**	**03 06 15.5**	**-0.3**
	comp=Z,0.9nm,0.8s,mb4.1,baz=273,slow=13,SNR=2.8						
NOA				LR	LR	03 49 59.2	
	comp=Z,79nm,18.6s,MS4.2,baz=45,slow=39						
BRG	**Berggiesshubel**	**90.47**	**323**	*eP*	**P**	**03 06 32.8**	**+5.0**
	comp=Z,12nm,1.8s,mb4.9						
BRG	**Berggiesshubel**	**90.47**	**323**	*eP*	**P**	**03 06 32.8**	**+5.0**
BRG				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.9						
GERES	**GERESS Array B**	**91.38**	**321**	P	**P**	**03 06 31.0**	**-1.0**
	comp=Z,0.4nm,0.7s,mb3.8,baz=84,slow=3.1,SNR=3.3						
GERES				LR	LR	03 50 10.2	
	comp=Z,63nm,20.2s,MS4.0,baz=278,slow=37						
GRA1	**Grafenberg Arr**	**92.54**	**322**	*e*PKP	**P**	**03 06 43.1**	**+5.7**
GRF	**Grafenberg Arr**	**92.54**	**322**	*eP*	**P**	**03 06 43.1**	**+5.7**
DAVOX	**Davos/Dischmat**	**94.56**	**320**	LR	LR	03 50 42.9	
	comp=Z,67nm,20.8s,MS4.1,baz=260,slow=36						
TXAR	**Lajitas Array**	**119.17**	**45**	PKP	PKPdf	03 12 15.8	+0.7
	comp=Z,0.5nm,1.0s,baz=236,slow=1.4,SNR=4.5						
PLCA	**Paso Flores**	**150.77**	**161**	PKP	PKPdf	03 13 12.4	-0.4
	comp=Z,2.1nm,0.9s,baz=254,slow=8.4,SNR=2.8						
PLCA				PKPbc	PKPbc	03 13 20.3	+1.9
	comp=Z,0.7nm,0.5s,baz=207,slow=2.3,SNR=3.0						
PLCA	**Paso Flores**	**150.77**	**161**	PKP	PKPdf	03 13 12.4	-0.4
PLCA				PKPbc	PKPbc	03 13 20.3	+1.9

*CSEM **21** 03:09:16.2, 67.19N×2068E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **21** 03:09:16.2, 67.19N×2068E, h0km, ML3.0, Mining explosion.*
HEL 21 03:09:16.7±0.1, 6718N×2069E, h0km, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**218**	*i* P	Pg	03 09 17.9	-0.3
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	03 09 30.9	-0.9
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	03 09 33.0	-0.2
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	03 09 33.0	-0.3
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	03 09 32.7	-0.7
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	03 09 32.7	-0.7
	baz=117						
NIKU	**Nikkaluokta**	**0.94**	**318**	*eP*	Pg	03 09 33.4	-1.3
PAJU	**Pajala**	**0.96**	**98**	*eP*	Pg	03 09 34.0	-1.1
PAJU	**Pajala**	**0.96**	**98**	P	Pg	03 09 34.0	-1.1
	baz=37						
LANU	**Lannavaara**	**1.00**	**29**	*eP*	Pg	03 09 34.6	-1.3
HARU	**Harads**	**1.03**	**174**	*eP*	Pg	03 09 35.1	-1.3
SJUU	**Sjulsmark**	**1.72**	**167**	*eP*	Pn	03 09 47.3	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	03 09 49.4	0.0
KIF				*e*SG	Sg	03 10 16.0	+0.5
LILU	**Lilltraesk**	**1.94**	**191**	*eP*	Pn	03 09 50.8	0.0
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	03 09 56.5	-2.2
SGF				*e*SG	Sg	03 10 27.4	-2.5

*ISCJB **21** 03:12:38.6±0.3, 1341N±004×12148E±003, h10km, mb4.1/10, MS3.4/3, Error ellipse: s-maj=6.0km s-min=3.9km az=76.7*
*IDC **21** 03:12:38.6±1.1, 1330N×12134E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, MS3.5/3, Ms1 3.5/3, ms1mx3.1/34, Error ellipse: s-maj=145.2km s-min=9.5km az=65.0*
*MAN **21** 03:12:38.2, 1347N×12145E, h1km, mb3.2, ML4.4, MS1.9*
*NEIC **21** 03:12:40.0±0.9, 1332N×12136E, h10km, mb4.5/3, Error ellipse: s-maj=130.0km s-min=9.9km az=64.0*
ISC 21 03:12:39.9±0.4, 1338N±004×12150E±004, h10km, n30, σ1§47/34, mb4.1/10, MS3.4/3, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.35**	**77**	*eP*	**Pg**	**03 12 44.9**	**-1.9**
BOAC				*eS*	**Sg**	**03 12 51.1**	**-0.3**
TGY	**Tagaytay City**	**0.90**	**323**	⇑*iP*	**Pg**	**03 12 54.7**	**-2.5**
TGY				*i* S	**Sg**	**03 13 03.5**	**-5.4**
TGY	**Tagaytay City**	**0.90**	**323**	Pg	**Pg**	**03 12 54.1**	**-3.1**
	324nm,0.3s,baz=159,slow=2.5,SNR=48						
TGY				Lg		03 13 07.6	
	930nm,0.3s,baz=142,slow=18,SNR=17						
OTRP	**Odiongan**	**1.13**	**153**	*eP*	**Pb**	**03 13 00.1**	**-1.5**
OTRP				*eS*	**Sb**	**03 13 14.6**	**-1.8**
AUQP	**San Andres**	**1.15**	**93**	*eP*	**Pb**	**03 13 01.9**	**+0.1**
LUBP	**Lubang**	**1.27**	**286**	*eP*	**Pn**	**03 13 01.0**	**-2.6**
LUBP				*eS*	**Sb**	**03 13 18.4**	**-1.8**
POLP	**Polilio Island**	**1.41**	**18**	*eP*	**Pn**	**03 13 02.4**	**-3.2**
BUSP	**Coron**	**1.86**	**223**	*eP*	**Pn**	**03 13 12.3**	**+0.4**
RCP	**Roxas**	**2.18**	**146**	⇑*eP*	**Pn**	**03 13 16.6**	**+0.4**
BALP	**Baler**	**2.35**	**2**	*eP*	**Pn**	**03 13 17.4**	**-1.2**
PVCP	**Virac**	**2.59**	**85**	*eP*	**Pn**	**03 13 22.8**	**+0.9**
SCZP	**Santa Cruz**	**2.83**	**327**	*eP*	**Pn**	**03 13 25.5**	**+0.3**
GUIM	**Jordan**	**2.94**	**159**	*eP*	**Pn**	**03 13 28.7**	**+2.0**
BCPH	**Baguio City Da**	**3.11**	**344**	⇑*iP*	**Pn**	**03 13 32.2**	**+3.2**
BCPH				*i* S	**Sn**	**03 14 10.9**	**+4.7**
BOLP	**Bolinao**	**3.35**	**333**	*eP*	**Pn**	**03 13 29.4**	**-3.0**
GUMO	**Guam**	**22.73**	**87**	LR	LR	03 24 30.9	
	comp=Z,94nm,20.3s,MS3.2,baz=48,slow=31						
LZH	**Lanzhou**	**27.62**	**328**	*eP*	**P**	**03 18 30.1**	**+2.6**
LZH				pP	pP	03 18 38.0	+7.5
LZH				sP	sP	03 18 41.3	+10
WRAB	**Tennant Creek**	**35.44**	**159**	*eP*	**P**	**03 19 36.3**	**+0.1**
	0.9nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**35.44**	**159**	P	**P**	**03 19 36.0**	**-0.2**
	2.8nm,0.8s,mb4.2,baz=336,slow=9.6,SNR=10						
WB2	**Warramunga Arr**	**35.45**	**159**	*eP*	**P**	**03 19 36.1**	**-0.2**
SONM	**Songino Array**	**36.59**	**343**	P	**P**	**03 19 48.0**	**+2.0**
	0.7nm,0.7s,mb3.6,baz=147,slow=8.9,SNR=3.7						
SONM				LR	LR	03 35 13.3	
	comp=Z,90nm,20.3s,MS3.5,baz=45,slow=37						
AS31	**Alice Springs**	**38.77**	**162**	*eP*	**P**	**03 20 05.6**	**+1.2**
ASAR	**Alice Springs**	**38.77**	**162**	P	**P**	**03 20 03.5**	**-1.0**
	2.0nm,0.8s,mb3.9,baz=340,slow=6.6,SNR=8.6						
MKAR	**Makanchi Array**	**46.75**	**323**	P	**P**	**03 21 10.2**	**+0.9**
	1.1nm,1.0s,mb3.8,baz=116,slow=8.2,SNR=3.9						
MKAR				LR	LR	03 42 23.6	
	comp=Z,38nm,18.4s,MS3.4,baz=1.9,slow=38						
STKA	**Stephens Creek**	**48.95**	**157**	P	**P**	**03 21 26.5**	**+0.2**
	1.7nm,0.6s,mb4.2,baz=325,slow=7.1,SNR=5.2						
BVAR	**Borovoye Array**	**56.47**	**326**	P	**P**	**03 22 23.0**	**+1.1**
	0.7nm,0.7s,mb3.8,baz=145,slow=7.9,SNR=4.4						
BRVK	**Borovoye**	**56.54**	**326**	*eP*	**P**	**03 22 25.3**	**+2.9**
	94nm,2.5s,mb5.4						
ZRNK	**Zerenda**	**57.21**	**325**	*eP*	**P**	**03 22 27.1**	**-0.1**
	6.0nm,1.3s,mb4.5						
AKTK	**Aktyubinsk**	**62.96**	**320**	P	**P**	**03 23 08.2**	**+1.6**
AKTO	**Aktyubinsk**	**62.96**	**320**	P	**P**	**03 23 08.2**	**+1.6**
	1.0nm,0.8s,mb4.0,baz=89,slow=3.2,SNR=3.9						

IDC 21 03:20:36.6±8.1, 600S×15061E, h116km±54km, mb3.2/3, mb1 3.3/4, mb1mx3.1/14, mbtmp3.6/4, Error ellipse: s-maj=118.6km s-min=56.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**225**	P	Pn	03 21 47.1	+0.1
	1.0nm,0.3s,baz=214,slow=23,SNR=2.4						
PMG				S	Sn	03 22 42.7	+1.0
	1.3nm,0.3s,baz=89,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**21.03**	**227**	P	P	03 25 10.9	-0.1
	0.4nm,0.3s,baz=51,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**23.81**	**221**	P	P	03 25 38.7	0.0
	0.7nm,0.6s,baz=57,slow=9.7,SNR=11						
FITZ	**Fitzroy Crossi**	**27.18**	**242**	P	P	03 26 10.0	+0.8
	2.2nm,1.1s,baz=64,slow=9.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	03 40 10.5	+0.7
	0.5nm,0.8s,baz=78,slow=3.3,SNR=3.4						

*IDC **21** 03:45:08.8±0.9, 1320N×12102E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, MS3.7/1, Ms1 3.8/1, ms1mx2.9/34, Error ellipse: s-maj=53.6km s-min=9.4km az=79.0*
*ISCJB **21** 03:45:09.3±0.3, 1346N±003×12146E±004, h10km, mb4.1/11, MS3.8/1, Error ellipse: s-maj=5.5km s-min=3.8km az=108.0*
*NEIC **21** 03:45:09.7±0.6, 1345N×12154E, h10km, mb3.9/1, Error ellipse: s-maj=33.1km s-min=7.6km az=57.0*
NEIC Felt [II PIVS] at Talisay, Luzon.
*MAN **21** 03:45:09.1, 1350N×12150E, h1km, mb3.5, ML4.6, MS2.5*
ISC 21 03:45:10.2±0.3, 1347N±003×12150E±004, h10km, n39, σ1§17/39, mb4.1/11, MS3.8/1, 1C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.34**	**91**	*eP*	**Pg**	**03 45 15.7**	**-1.2**
TGY	**Tagaytay City**	**0.83**	**319**	⇑*iP*	**Pg**	**03 45 25.8**	**-0.5**
TGY				*i* S	**Sg**	**03 45 33.8**	**-3.3**
TGY	**Tagaytay City**	**0.83**	**319**	Pg	**Pg**	**03 45 25.8**	**-0.4**
	1μm,0.3s,baz=176,slow=2.3,SNR=52						
TGY				Lg		03 45 38.8	
	2μm,0.3s,baz=141,slow=23,SNR=25						
AUQP	**San Andres**	**1.16**	**97**	*eP*	**Pb**	**03 45 32.1**	**-0.2**
OTRP	**Odiongan**	**1.21**	**155**	*eP*	**Pn**	**03 45 32.6**	**-0.7**
OTRP	**Odiongan**	**1.21**	**155**	*eP*	**Sb**	**03 45 48.4**	**-0.6**
LUBP	**Lubang**	**1.24**	**282**	*eP*	**Pn**	**03 45 32.5**	**-1.2**
LUBP	**Lubang**	**1.24**	**282**	*eP*	**Sb**	**03 45 47.2**	**-2.7**
POLP	**Polilio Island**	**1.32**	**19**	*eP*	**Pn**	**03 45 32.5**	**-2.3**
POLP	**Polilio Island**	**1.32**	**19**	*eP*	**Sb**	**03 45 52.2**	**0.0**
BUSP	**Coron**	**1.93**	**221**	*eP*	**Pn**	**03 45 44.0**	**+0.9**
RCP	**Roxas**	**2.25**	**147**	⇓*eP*	**Pn**	**03 45 47.3**	**-0.2**
BALP	**Baler**	**2.26**	**2**	*eP*	**Pn**	**03 45 48.3**	**+0.7**
PVCP	**Virac**	**2.59**	**87**	*eP*	**Pn**	**03 45 53.2**	**+1.1**
SCZP	**Santa Cruz**	**2.76**	**326**	*eP*	**Pn**	**03 45 55.1**	**+0.6**
GUIM	**Jordan**	**3.02**	**159**	*eP*	**Pn**	**03 45 59.6**	**+1.5**
ENPP	**El Nido**	**3.02**	**222**	*eP*	**Pn**	**03 45 59.7**	**+1.6**
BCPH	**Baguio City Da**	**3.03**	**343**	⇓*eP*	**

CTAO	Charters Tower	31.16 273	*e*P	P	04 03 13.4	-0.2
	6.0nm,0.3s,mb4.7					
STKA	Stephens Creek	33.89 250	*e*P	P	04 03 36.6	0.0
	4.2nm,1.2s,mb3.9					
STKA	Stephens Creek	33.89 250	P	P	04 03 36.8	+0.2
	1.0nm,0.5s,mb3.7,baz=94,slow=12,SNR=7.6					
AS31	Alice Springs	41.48 262	*e*P	P	04 04 38.1	0.0
ASAR	Alice Springs	41.48 262	P	P	04 04 38.4	+0.3
	1.2nm,0.3s,mb3.9,baz=93,slow=7.3,SNR=32					
WB2	Warramunga Arr	41.97 268	*e*P	P	04 04 41.6	-0.4
WRA	Warramunga Arr	41.98 268	P	P	04 04 41.8	-0.3
	3.9nm,0.4s,mb4.3,baz=104,slow=8.0,SNR=22					
KAKA	Kakadu	46.11 277	*e*P	P	04 05 13.4	-0.3
	2.1nm,0.3s,mb4.2					
FITZ	Fitzroy Crossi	50.38 267	*e*P	P	04 05 46.0	+0.6
	5.1nm,0.6s,mb4.1					
FITZ	Fitzroy Crossi	50.38 267	P	P	04 05 46.2	+0.8
	3.1nm,0.6s,mb4.0,baz=114,slow=7.7,SNR=17					
CASY	Casey	58.68 206	*e*P	P	04 06 43.1	-0.2
	2.2nm,0.8s,mb3.3					
TXAR	Lajitas Array	91.48 58	P	P	04 09 45.5	0.0
	0.3nm,0.8s,mb3.3,baz=207,slow=7.1,SNR=4.4					

NEIC 21 04:00:47.5,5270N×16221W,h67km,ML3.0(AEIC),After AEIC.,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	Akutan	2.57	305	*e*Pn	Pn	04 01 26.4	-0.4
AKLV	Akutan Long Va	2.68	305	P	Pn	04 01 26.5	-1.7
UNV	Unalaska Valle	2.82	296	*e*Pn	Pn	04 01 30.1	-0.1
SDPT	Sand Point	2.84	20	P	Pn	04 01 29.6	-0.8
SDPT				S	Sn	04 02 01.6	-2.0
OKCD	Okmok Cone D	3.64	284	P	Pn	04 01 40.9	-0.5
SLKM	Skilak Lake	10.22	35	*e*Pn	Pn	04 03 14.0	+2.6
PMR	Palmer	11.37	33	*e*Pn	Pn	04 03 28.0	+1.0
MCK	McKinley	13.05	27	*e*Pn	Pn	04 03 53.5	+3.6

*ISCJB **21** 04:05:35.1±0.6,29N±01×1284E±03,h150km,mb3.7/11, Error ellipse: s-maj=40.1km s-min=9.9km az=148.3*
*IDC **21** 04:05:37.5±5.3,283N×12844E,h157km±51km,mb3.4/9, mb1 3.6/9,mb1mx3.5/18,mbtmp3.9/9,Error ellipse: s-maj=43.4km s-min=12.8km az=78.0*
*NEIC **21** 04:05:37.9±3.7,282N×12842E,h162km±37km,mb3.8/3, Error ellipse: s-maj=28.7km s-min=9.0km az=77.0*

ISC 21 04:05:36.8±0.6,284N±010×1284E±03,h150km,n20, σ0§41/18,mb3.8/10,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.98	187	P	P	04 10 08.1	-0.1
	0.4nm,0.5s,baz=350,slow=9.7,SNR=4.1						
WRA	Warramunga Arr	23.38	166	P	P	04 10 31.8	-0.1
	2.4nm,0.7s,mb3.7,baz=343,slow=10.0,SNR=8.7						
WB2	Warramunga Arr	23.38	166	*e*P	P	04 10 32.2	+0.3
WB2	Warramunga Arr	23.38	166	*e*P	P	04 10 32.1	+0.2
ASAR	Alice Springs	26.88	169	P	P	04 11 03.4	-0.2
	0.3nm,0.4s,mb3.3,baz=349,slow=7.6,SNR=7.6						
ASAR				PcP	PcP	04 14 22.1	+0.1
	0.6nm,0.4s,baz=350,slow=2.1,SNR=12						
MJAR	Matsushiro Arr	34.74	14	P	P	04 12 12.2	-0.3
	4.0nm,0.8s,mb4.1,baz=183,slow=9.1,SNR=11						
STKA	Stephens Creek	36.73	161	P	P	04 12 30.2	+0.8
	1.4nm,0.4s,mb3.9,baz=340,slow=11,SNR=6.0						
STKA	Stephens Creek	36.73	161	*e*P	P	04 12 30.1	+0.6
SONM	Songino Array	48.68	340	P	P	04 14 06.5	+0.7
	1.6nm,0.6s,mb3.8,baz=154,slow=8.1,SNR=13						
MK31	Makanchi Array	59.24	325	*e*P	P	04 15 22.6	+0.3
MKAR	Makanchi Array	59.24	325	P	P	04 15 22.8	+0.5
	1.9nm,0.4s,mb4.2,baz=116,slow=8.5,SNR=33						
MKAR				PcP	PcP	04 16 08.3	-0.7
	0.6nm,0.6s,baz=116,slow=5.5,SNR=3.9						
MKAR	Makanchi Array	59.24	325	P	P	04 15 22.8	+0.6
MKAR				PcP	PcP	04 16 08.3	-0.7
BRVK	Borovoye	69.04	327	*e*P	P	04 16 26.0	-0.2
	2.2nm,0.6s,mb4.1						
ZRNK	Zerenda	69.70	326	*e*P	P	04 16 29.6	-0.6
	1.3nm,0.8s,mb3.7						
AKTK	Aktyubinsk	75.39	322	P	P	04 17 03.7	-0.2
AKTO	Aktyubinsk	75.39	322	P	P	04 17 03.7	-0.2
	1.1nm,0.7s,mb3.6,baz=115,slow=13,SNR=4.2						
VNDA	Vanda	82.34	173	P	P	04 17 41.4	-0.4
	0.4nm,0.6s,mb3.2,baz=316,slow=8.1,SNR=3.2						
VNDA	Vanda	82.34	173	*e*P	P	04 17 41.4	-0.4
	0.8nm,0.9s,mb3.4						
TORD	Torodi Ar. Bea	124.78	288	PKP	PKPdf	04 24 19.0	+0.3
	0.5nm,0.7s,baz=46,slow=1.7,SNR=6.5						
TORD	Torodi Ar. Bea	124.78	288	PKP	PKPdf	04 24 19.0	+0.3

*NEIC **21** 04:43:30.5,3167S×7181W,h13km,ML3.5(GUC),After GUC.*

GUC 21 04:43:30.5±0.9,3167S×7181W,h13km±2km,MD4.0, ML3.5,5C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.33	129	⇓*i*P	Pg	04 43 37.6	+0.4
CHNG				*i* S	Sg	04 43 43.0	+1.2
CHNG				AML	AML	04 43 43.5	
	comp=N,11μm,0.3s						
PACH	Papudo	0.92	160	⇑*i*P	Pg	04 43 46.8	-1.4
PACH				*i* S	Sg	04 43 59.4	-0.8
IHA	Instituto Hidr	1.35	174	⇓*i*P	Pn	04 43 54.4	-0.8
IHA				*i* S	Sn	04 44 12.3	-0.7
JACH	Jahuel	1.44	135	*e*P	Pn	04 43 55.6	-0.7
JACH				*i* S	Sn	04 44 15.0	0.0
ROCH	El Roble	1.46	153	⇓*i*P	Pn	04 43 55.6	-1.0
TLL	Tololo Astrono	1.73	30	*e*P	Pn	04 43 59.5	-0.8
TLL				*i* S	Sn	04 44 23.1	+0.8
PEL	Peldehue	1.75	147	⇑*i*P	Pn	04 44 00.9	+0.4
PEL				*i* S	Sn	04 44 23.5	+0.9
PEL				AML	AML	04 44 25.9	
	comp=E,1μm,0.3s						
PEL	Peldehue	1.75	147	⇑*i*P	Pn	04 44 00.9	+0.4
PEL				*i* S	Sn	04 44 23.5	+0.9
LCCH	Las Cruces	1.81	174	*e*P	Pn	04 44 00.9	-0.4
LSCH	La Serena	1.82	15	*i* P	Pn	04 44 01.6	+0.1
LSCH				AML	AML	04 44 31.1	
	comp=N,127nm,0.4s						
RCDM	Rinconada Maip	2.00	155	*i* P	Pn	04 44 04.1	+0.2
RCDM				*i* S	Sn	04 44 30.5	+1.6
RCDM				AML	AML	04 44 39.5	
	comp=N,378nm,0.3s						
RCDM	Rinconada Maip	2.00	155	*i* P	Pn	04 44 04.1	+0.2
RCDM				*i* S	Sn	04 44 30.5	+1.6
CLCH	Cerro Calan	2.02	148	⇓*i*P	Pn	04 44 04.3	-0.1
CLCH				*i* S	Sn	04 44 29.9	+0.4
CLCH				AML	AML	04 44 36.9	
	comp=N,1μm,0.6s						
FCH	Farellones	2.09	143	⇑*i*P	Pn	04 44 05.7	+0.5
FCH				*i* S	Sn	04 44 33.0	+2.0
FSR	Penalolen	2.10	149	*e*P	Pn	04 44 06.2	+0.9
FSR				*e*S	Sn	04 44 33.0	+1.7
FSR				AML	AML	04 44 43.6	
	comp=N,1μm,0.7s						
FSR	Penalolen	2.10	149	*e*P	Pn	04 44 06.2	+0.9
FSR				*e*S	Sn	04 44 33.0	+1.7
TACH	Talagante	2.10	160	⇑*i*P	Pn	04 44 05.8	+0.3
ANTU	Antumapu	2.13	153	*e*P	Pn	04 44 06.2	+0.4
ANTU				*i* S	Sn	04 44 33.5	+1.3
ANTU				AML	AML	04 44 43.3	
	comp=N,558nm,0.4s						
ANTU	Antumapu	2.13	153	*e*P	Pn	04 44 06.2	+0.4
ANTU				*i* S	Sn	04 44 33.5	+1.3
PCH	Pirque	2.23	151	*e*P	Pn	04 44 07.8	+0.6
PCH				*i* S	Sn	04 44 36.4	+1.9
CHCH	Chadas Angostu	2.45	157	*e*P	Pn	04 44 11.8	+1.5

*ISCJB **21** 04:47:21.9±0.6,3557N±005×2489E±006,h88km±8km, Error ellipse: s-maj=9.3km s-min=7.2km az=74.4*
*CSEM **21** 04:47:21.6±0.1,3556N×2500E,h80km,MD3.2,Error ellipse: s-maj=3.9km s-min=1.4km az=44.0*
*NEIC **21** 04:47:24.0,3568N×2484E,h53km,MD3.2(ATH),After ATH.*
*ATH **21** 04:47:24.0,3568N×2484E,h52km±3km,MD3.2/8*
*HLW **21** 04:47:24.1,3547N×2510E,h33km,Mb3.3*

ISC 21 04:47:23.3±0.7,3560N±005×2488E±006,h77km±9km,n19, σ0§85/25,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.58	251	*e*P	Pn	04 47 37.2	-0.3
VAM				*e*S	Sn	04 47 47.3	-0.7
NPS	Neapolis	0.69	119	*e*P	Pn	04 47 38.7	+0.1
NPS				*e*S	Sn	04 47 50.0	+0.1
SANT	Santorini	0.90	31	*e*Pn	Pn	04 47 41.0	+0.1
SANT				*e*Sn	Sn	04 47 52.9	-1.2
SANT	Santorini	0.90	31	*e*Pn	Pn	04 47 41.0	0.0
SANT				*e*Sn	Sn	04 47 52.9	-1.2
XRY	Khrisi	0.98	137	*e*P	Pn	04 47 43.7	+1.8
GVD	Gavdhos	1.00	221	*e*P	Pn	04 47 43.4	+1.3
APE	Apeiranthos	1.56	20	*e*P	Pn	04 47 49.8	+0.6
KYTH	Kithira	1.64	295	*e*P	Pn	04 47 51.2	+0.9
KARP	Karpathos	1.86	91	*e*P	Pn	04 47 55.0	+1.8
KARP	Karpathos	1.86	91	*e*P	Pn	04 47 54.3	+1.1
VLI	Veliai	1.93	306	*e*P	Pn	04 47 54.7	+0.6
VLI				*e*S	Sn	04 48 16.7	-0.8
VLI	Veliai	1.93	306	*e*P	Pn	04 47 54.7	+0.6
VLI				*e*S	Sn	04 48 16.6	-0.9
SWA2		6.36	175	P	Pn	04 48 53.8	-0.5
SWA1		6.36	173	P	Pn	04 48 53.8	-0.4
AWBH		8.02	154	P	Pn	04 49 16.3	-0.8
AMAG	Maghara	8.56	123	P	Pn	04 49 23.4	-0.9
SUZ		8.82	128	P	Pn	04 49 27.1	-0.8
HFRF	Wahat Farafira	8.92	160	P	Pn	04 49 29.1	-0.2
HFRF	Wahat Farafira	8.92	160	P	Pn	04 49 29.0	-0.3

IDC 21 04:49:03.5±8.0,593S×15074E,h94km±55km,mb3.4/3, mb1 3.5/4,mb1mx3.3/14,mbtmp3.7/4,ML2.1/1,Error ellipse: s-maj=96.8km s-min=54.9km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.95	226	P	Pn	04 50 15.5	+0.2
	0.5nm,0.3s,baz=205,slow=16,SNR=2.4						
PMG				S	Sn	04 51 12.2	+0.9
	3.7nm,0.3s,baz=211,slow=21,SNR=6.6						
WB2	Warramunga Arr	21.16	227	*e*P	P	04 53 40.4	-0.5
WRA	Warramunga Arr	21.16	227	P	P	04 53 40.6	-0.4
	1.2nm,0.4s,baz=53,slow=10,SNR=17						
ASAR	Alice Springs	23.94	221	P	P	04 54 09.4	+0.6
	1.3nm,0.6s,baz=57,slow=9.6,SNR=24						
FITZ	Fitzroy Crossi	27.32	242	P	P	04 54 39.9	+0.6
	1.3nm,0.9s,baz=45,slow=8.6,SNR=4.0						
TORD	Torodi Ar. Bea	148.66	286	PKPbc	PKPbc	05 08 40.1	+0.5
	0.6nm,0.8s,baz=67,slow=3.1,SNR=6.2						

*NEIC **21** 05:02:21.6±0.7,574S×15102E,h35km,mb4.1/3,Error ellipse: s-maj=30.5km s-min=11.9km az=141.0*
*ISCJB **21** 05:02:23.5±4.0,58S±03×1509E±02,h58km±31km, mb4.0/5,MS3.6/1,Error ellipse: s-maj=52.2km s-min=26.1km az=98.2*
*IDC **21** 05:02:24.6±6.4,590S×15097E,h56km±52km,mb3.9/4, mb1 4.2/5,mb1mx3.8/14,mbtmp4.2/5,ML3.2/1,MS3.7/1, Ms1 3.7/1,ms1mx2.6/24,Error ellipse: s-maj=71.1km s-min=35.9km az=145.0*

ISC 21 05:02:25.2±3.6,58S±03×1509E±02,h60km±29km,n16, σ0§71/13,mb4.0/5,MS3.6/1,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.13	226	P	Pn	05 03 39.6	+0.3
	6.1nm,0.3s,baz=54,slow=11,SNR=8.5						
PMG				S	Sn	05 04 37.1	-0.1
	5.9nm,0.3s,baz=49,slow=23,SNR=6.4						
KAKA	Kakadu	19.43	248	*e*P	Pn	05 06 47.1	-1.2
	5.7nm,0.5s						
WB2	Warramunga Arr	21.34	227	*e*P	P	05 07 07.0	-0.2
WB2	Warramunga Arr	21.34	227	*e*P	P	05 07 06.7	-0.4
WRA	Warramunga Arr	21.34	227	P	P	05 07 07.2	-0.1
	3.9nm,0.5s,mb4.0,baz=52,slow=10,SNR=45						
AS31	Alice Springs	24.12	221	*e*P	P	05 07 35.9	+0.6
ASAR	Alice Springs	24.12	221	P	P	05 07 36.0	+0.7
	3.4nm,0.6s,mb4.0,baz=58,slow=9.1,SNR=70						
ASPA	Alice Springs	24.12	221	⇑*i*P	P	05 07 36.1	+0.8
FITZ	Fitzroy Crossi	27.50	241	*e*P	P	05 08 06.0	+0.2
	3.6nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	27.50	241	P	P	05 08 06.4	+0.5
	2.1nm,0.5s,mb3.9,baz=68,slow=8.7,SNR=14						
AFI	Afiamalu	37.61	105	LR	LR	05 22 44.7	
	comp=Z,111nm,21.5s,MS3.6,baz=155,slow=32						
VNDA	Vanda	71.89	178	*e*P	P	05 13 40.4	-1.5
	0.6nm,0.6s,mb3.7						
NVAR	Mina Array Bea	94.22	52	P	P	05 15 38.0	+0.3
	0.8nm,0.6s,mb4.3,baz=261,slow=5.4,SNR=4.8						
GERES	GERESS Array B	123.90	327	PKP	PKPdf	05 21 16.2	-0.2
	0.5nm,0.5s,baz=90,slow=2.7,SNR=4.9						
TORD	Torodi Ar. Bea	148.78	286	PKPbc	PKPbc	05 22 06.7	+0.9
	2.7nm,0.6s,baz=60,slow=2.4,SNR=40						
BDFB	Brasilia	151.63	139	PKPbc	PKPbc	05 22 13.2	+0.5
	2.2nm,0.8s,baz=149,slow=5.9,SNR=2.7						

*NEIC **21** 05:06:11.1,3156S×7188W,h19km,ML3.0(GUC),After GUC.*

GUC 21 05:06:11.1±0.7,3156S×7188W,h19km±4km,MD3.8, ML3.0,4C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.46	135	⇑*i*P	Pg	05 06 20.0	-0.4
CHNG				*i* S	Sg	05 06 26.6	-0.1
CHNG				AML	AML	05 06 27.1	
	comp=E,895nm,0.3s						
JACH	Jahuel	1.56	136	⇑*i*P	Pn	05 06 38.8	+0.9
JACH				*i* S	Sn	05 06 59.1	+1.5
TLL	Tololo Astrono	1.66	34	⇑*i*P	Pn	05 06 39.8	+0.6
TLL				*i* S	Sn	05 07 01.8	+1.7
TLL				AML	AML	05 07 05.9	
	comp=N,1μm,0.6s						
TLL	Tololo Astrono	1.66	34	⇑*i*P	Pn	05 06 39.8	+0.6
TLL				*i* S	Sn	05 07 01.8	+1.7
LSCH	La Serena	1.73	18	⇓*i*P	Pn	05 06 40.2	0.0
LSCH				*i* S	Sn	05 07 02.7	+1.0
LSCH				AML	AML	05 07 08.2	
	comp=E,68nm,0.6s						
LSCH	La Serena	1.73	18	⇓*i*P	Pn	05 06 40.2	0.0
LSCH				*i* S	Sn	05 07 02.7	+1.0
PEL	Peldehue	1.88	148	⇓*i*P	Pn	05 06 43.3	+1.2
PEL				*i* S	Sn	05 07 07.3	+2.0
PEL				AML	AML	05 07 10.9	
	comp=E,406nm,0.5s						
PEL	Peldehue	1.88	148	⇓*i*P	Pn	05 06 43.3	+1.2
PEL				*i* S	Sn	05 07 07.3	+2.0
LCCH	Las Cruces	1.93	172	⇓*i*P	Pn	05 06 43.2	+0.3
RCDM	Rinconada Maip	2.13	155	*e*P	Pn	05 06 46.7	+1.1
RCDM				AML	AML	05 07 21.1	
	comp=N,139nm,0.5s						
CLCH	Cerro Calan	2.15	149	⇓*i*P	Pn	05 06 47.5	+1.5
CLCH				*i* S	Sn	05 07 15.1	+2.9
CLCH				AML	AML	05 07 25.1	
	comp=N,230nm,0.4s						
FCH	Farellones	2.22	143	⇓*i*P	Pn	05 06 48.4	+1.6
FCH				*i* S	Sn	05 07 17.3	+3.6
FCH				AML	AML	05 07 29.2	
	comp=E,88nm,0.4s						

*BJI **21** 05:23:18.1,2751S×17683W,h18km,mB5.4,mb5.2,Ms5.2, Msz4.8*
*ISCJB **21** 05:23:19.0±2.7,2825S±005×17705W±007,h31km±18km, mb4.9/41,MS4.3/15,Error ellipse: s-maj=11.2km s-min=6.9km az=45.5*
*MOS **21** 05:23:20.4±1.9,2760S×17724W,h33km,mb5.1/11,Error ellipse: s-maj=15.0km s-min=10.5km az=75.8*
*IDC **21** 05:23:23.3±2.6,2776S×17713W,h48km±23km,mb4.3/13, mb1 4.5/13,mb1mx4.5/15,mbtmp4.6/13,MS4.1/9, Ms1 4.1/9,ms1mx3.8/19,Error ellipse: s-maj=19.3km s-min=18.7km az=2.0*
*NEIC **21** 05:23:23.7±1.6,2778S×17715W,h53km±13km,mb4.9/27, Error ellipse: s-maj=10.6km s-min=8.0km az=154.0*

ISC 21 05:23:19.0±2.7,2818S±004×17696W±007,h19km±16km, h17km±1.7km:pP-P,n207,σ1§02/104,mb4.9/41,MS4.3/15, 13C-13D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.36	218	P	Pn	05 23 49.0	+6.1
	4μm,0.3s,baz=61,slow=3.3,SNR=253						
RAO				S	Sn	05 24 09.6	+9.2
	12μm,0.3s,baz=76,slow=23,SNR=24						
RAO				LR	LR	05 24 20.6	
	comp=Z,2μm,20.5s,baz=73,slow=35						
RAO	Raoul Island	1.36	218	*e*Pn	Pn	05 23 48.6	+5.7
RAO				*e*Sn	Sn	05 24 09.9	+9.5
MXZ	Matakaoa Point	10.17	202	PN	Pn	05 25 42.3	-1.6
PUZ	Puketiti	10.65	201	*e*PN	Pn	05 25 48.8	-1.6
PUZ				SN	Sn	05 27 48.8	-0.4
URZ	Urewera	11.21	205	P	Pn	05 25 55.3	-2.9
	1.2nm,0.3s,baz=73,slow=11,SNR=5.1						
URZ				S	Sn	05 28 03.2	+0.3
	9.7nm,0.3s,baz=159,slow=20,SNR=8.8						
TCW	Tory Channel	14.86	207	SN	Sn	05 29 22.8	-9.1
AFI	Afiamalu	14.99	20	P	Pn	05 26 41.1	-8.6
	5.3nm,0.3s,baz=259,slow=16,SNR=4.5						
AFI				S	Sn	05 29 15.1	-20
	3.4nm,0.3s,baz=185,slow=21,SNR=3.2						
AFI	Afiamalu	14.99	20	*e*Pn	Pn	05 26 43.6	-6.2
AFI				*e*Sn	Sn	05 29 13.8	-21
TUWZ	Tuamarina	15.18	207	*e*SN	Sn	05 29 35.8	-3.9
NNZ	Nelson	15.23	209	PN	Pn	05 26 54.3	+1.4
THZ	Tophouse	15.88	209	*e*PN	Pn	05 26 59.8	-1.6
KHZ	Kahutara	16.17	206	*e*PN	Pn	05 27 04.3	-0.8
DZM	Mont Dzumac	16.21	288	P	Pn	05 27 12.5	+6.9
	1.0nm,0.3s,baz=100,slow=15,SNR=10						
DZM				LR	LR	05 31 41.8	
	comp=Z,688nm,21.9s,baz=130,slow=31						
RAR	Rarotonga	17.08	70	P	Pn	05 27 09.7	-6.8
	4.2nm,0.3s,baz=262,slow=14,SNR=4.4						
RAR				S	Sn	05 29 59.8	-26
	2.1nm,0.3s,baz=52,slow=17,SNR=3.1						
RAR				LR	LR	05 31 59.7	
	comp=Z,660nm,20.9s,baz=288,slow=30						
RAR	Rarotonga	17.08	70	P	Pn	05 27 09.8	-6.8
RAR				S	Sn	05 29 59.8	-26
RAR				LR	LR	05 31 59.7	
MQZ	McQueen's Vall	17.61	206	*e*SN	Sn	05 30 23.0	-16
RPZ	Rata Peaks	18.26	209	P	Pn	05 27 31.5	+0.3
	2.3nm,0.3s,baz=8.1,slow=14,SNR=4.4						
RPZ				S	Sn	05 30 43.1	-11
	1.0nm,0.3s,baz=280,slow=7.0,SNR=2.9						
TBI	Tubuai	25.20	85	*e*S	S	05 33 06.0	-1.6
	378nm,30.0s						
TBI				*e*LR	LR	05 34 57.7	
	899nm,26.8s,baz=246						
PPT	Papeete	27.29	73	*e*S	S	05 33 36.7	-3.9
	100nm,25.5s						
PPT				*e*LR	LR	05 35 50.8	
	828nm,25.8s,baz=235						
PPT	Papeete	27.29	73	LR	LR	05 38 02.6	
	comp=Z,113nm,18.3s,MS3.5,baz=139,slow=32						
HNR	Honiara	28.64	306	LR	LR	05 38 22.5	
	comp=Z,284nm,20.7s,MS3.9,baz=181,slow=32						
STKA	Stephens Creek	35.92	254	*e*P	P	05 30 20.6	+2.6
	2.9nm,0.4s,mb4.6						
STKA	Stephens Creek	35.92	254	P	P	05 30 20.4	+2.4
	3.5nm,0.6s,mb4.5,baz=98,slow=8.3,SNR=9.7						
STKA				PcP	PcP	05 32 45.2	+0.5
	2.9nm,0.7s,baz=49,slow=1.8,SNR=3.1						
STKA				LR	LR	05 43 01.3	
	comp=Z,438nm,19.8s,MS4.2,baz=33,slow=33						
RKT	Rikitea	38.04	92	*e*S	S	05 36 25.3	-2.2
	140nm,27.8s						
RKT				*e*LR	LR	05 40 55.7	
	502nm,26.5s,baz=269						
PMG	Port Moresby	38.55	292	*i* P	P	05 30 33.2	-7.1
PMG	Port Moresby	38.55	292	*e*P	P	05 30 32.9	-7.4
	16nm,0.9s,mb4.8						
AS31	Alice Springs	44.19	264	⇓*i*P	P	05 31 27.5	+0.9
ASAR	Alice Springs	44.19	264	P	P	05 31 26.2	-0.3
	5.6nm,0.6s,mb4.5,baz=93,slow=6.8,SNR=92						
ASAR				PcP	PcP	05 33 10.9	-0.3
	3.5nm,0.6s,baz=120,slow=3.6,SNR=8.2						
ASAR				LR	LR	05 48 36.6	
	comp=Z,358nm,18.8s,MS4.3,baz=144,slow=34						
ASAR	Alice Springs	44.19	264	P	P	05 31 26.3	-0.3
ASAR						05 33 10.9	
ASPA	Alice Springs	44.19	264	⇓*i*P	P	05 31 27.5	+0.9
WB2	Warramunga Arr	44.97	269	*e*P	P	05 31 33.1	+0.3
WB2				*e*		05 33 14.8	
WRAB	Tennant Creek	44.97	269	⇓*e*P	P	05 31 33.3	+0.5
WRA	Warramunga Arr	44.98	269	P	P	05 31 32.8	-0.1
	9.2nm,0.7s,mb4.7,baz=109,slow=7.7,SNR=68						
WRA				PcP	PcP	05 33 13.8	-0.1
	9.8nm,0.8s,baz=108,slow=3.5,SNR=14						
WRA				LR	LR	05 50 09.6	
	comp=Z,183nm,19.8s,MS4.0,baz=165,slow=36						
WRA	Warramunga Arr	44.98	269	P	P	05 31 32.8	-0.1
WRA						05 33 13.8	
SBA	Scott Base	50.31	184	*e*P	P	05 32 19.9	+5.6
SBA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
SBA	Scott Base	50.31	184	*e*P	P	05 32 19.9	+5.6
	comp=Z,25nm,0.9s,mb5.2						
VNDA	Vanda	50.39	186	P	P	05 32 19.2	+4.3
	comp=Z,2.1nm,0.7s,mb4.3,baz=354,slow=8.6,SNR=20						
VNDA	Vanda	50.39	186	*e*P	P	05 32 19.4	+4.5
VNDA				pmax	pmax		
	comp=Z,20nm,0.6s						
VNDA	Vanda	50.39	186	*e*P	P	05 32 19.4	+4.4
	comp=Z,2.4nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	53.32	268	*e*P	P	05 32 36.7	0.0
	comp=Z,9.2nm,0.9s,mb4.7						
FITZ				*e*		05 33 45.3	
MBWA	Marble Bar	57.41	262	*e*P	P	05 33 05.8	-0.4
	comp=Z,14nm,0.9s,mb5.0						
CASY	Casey	57.52	207	*e*P	P	05 33 08.2	+1.1
	comp=Z,11nm,0.6s,mb5.1						
QSPA	South Pole Qui	61.93	180	*e*P	P	05 33 40.1	+2.8
	comp=Z,11nm,0.8s,mb5.0						
MAW	Mawson	74.70	200	⇑*i*P	P	05 34 59.7	+2.4
	comp=Z,23nm,0.8s,mb5.

MDJ	**Mudanjiang**	**87.33**	**325**	P	**P**	**05 36 04.6**	**+0.1**
MDJ				AP	pP	05 36 08.0	-3.0
MDJ				XP	sP	05 36 09.3	-4.0
MDJ				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,58nm,6.2s						
MDJ				LR	LR		
	comp=Z,79nm,25.4s,MS4.0						
MDJ	**Mudanjiang**	**87.33**	**325**	*e*P	**P**	**05 36 04.7**	**+0.1**
	comp=Z,19nm,0.8s,mb5.4						
WVOR	**Wild Horse Val**	**88.43**	**39**	*e*P	**P**	**05 36 09.1**	**-0.7**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**88.43**	**39**	*e*P	**P**	**05 36 09.1**	**-0.6**
	comp=Z,3.9nm,1.0s,mb4.6						
CN2	**Changchun**	**88.94**	**322**	*e*P	**P**	**05 36 12.0**	**-0.2**
CN2				*e*AP	pP	05 36 16.8	-1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
KLR	**Kul'dur**	**89.59**	**329**	*e*P	**P**	**05 36 12.3**	**-2.9**
TXAR	**Lajitas Array**	**90.42**	**57**	P	**P**	**05 36 19.8**	**+0.7**
	comp=Z,2.2nm,1.0s,mb4.4,baz=207,slow=5.3,SNR=8.2						
TXAR	**Lajitas Array**	**90.42**	**57**	P	**P**	**05 36 19.8**	**+0.7**
MNTX	**Cornudas Mount**	**90.44**	**54**	*e*P	**P**	**05 36 19.4**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.4						
HAWA	**Hanford**	**90.58**	**36**	*e*P	**P**	**05 36 19.0**	**-0.8**
	comp=Z,6.6nm,1.0s,mb4.9						
SLKM	**Skilak Lake**	**91.03**	**13**	*e*P	**P**	**05 36 15.0**	**-7.0**
CMIG	**Matias Romero**	**91.19**	**71**	P	**P**	**05 36 24.0**	**+1.3**
	comp=Z,1.4nm,0.3s,mb4.7,baz=34,slow=11,SNR=9.0						
GYA	**Guiyang**	**91.25**	**299⇑**	*i*P	**P**	**05 36 23.4**	**+0.4**
GYA				AP	pP	05 36 29.3	-0.2
GYA				XP	sP	05 36 31.8	0.0
GYA				PP	PP	05 40 02.5	+2.4
GYA				PPP		05 42 03.3	
GYA				SKS		05 46 52.8	
GYA				S	S	05 47 17.9	-2.6
GYA				XS	sS	05 47 27.3	-4.0
GYA				PS	PS	05 48 31.5	+0.4
GYA				SS	SS	05 53 25.1	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,410nm,18.6s,MS5.1						
GYA				LR	LR		
	comp=E,470nm,20.4s,MS5.1						
GYA				LR	LR		
	comp=Z,380nm,20.8s,MS4.8						
ANMO	**Albuquerque**	**91.48**	**51**	P	**P**	**05 36 24.1**	**+0.1**
	comp=Z,3.2nm,1.1s,mb4.6,baz=212,slow=5.0,SNR=4.0						
ANMO	**Albuquerque**	**91.48**	**51⇓**	*e*P	**P**	**05 36 24.7**	**+0.7**
HLID	**Hailey**	**91.53**	**40**	*e*P	**P**	**05 36 24.4**	**+0.1**
	comp=Z,3.0nm,1.0s,mb4.6						
MCMT	**McKenzie Canyo**	**93.19**	**40**	*e*P	**P**	**05 36 31.4**	**-0.6**
REDW	**Red Top Meadow**	**93.47**	**42**	*e*P	**P**	**05 36 33.5**	**+0.2**
SMCO	**Snowmass**	**93.48**	**47**	*e*P	**P**	**05 36 33.3**	**+0.1**
	comp=Z,4.5nm,1.1s,mb4.8						
TPAW	**Teton Pass**	**93.49**	**42**	*e*P	**P**	**05 36 33.4**	**+0.1**
	comp=Z,9.0nm,1.3s,mb5.0						
SNOW	**Snow King Moun**	**93.59**	**42**	*e*P	**P**	**05 36 34.0**	**+0.2**
	comp=Z,3.5nm,0.6s,mb5.0						
KMI	**Kunming**	**93.64**	**296**	P	**P**	**05 36 34.3**	**+0.3**
	comp=Z,6.0nm,1.2s,mb4.9						
KMI				pP	pP	05 36 41.4	+0.9
KMI				sP	sP	05 36 44.1	+1.2
KMI				LR	LR		
	comp=Z,30nm,24.2s,MS3.7						
SDCO	**Great Sand Dun**	**93.66**	**49**	*e*P	**P**	**05 36 33.9**	**-0.2**
	comp=Z,1.7nm,0.9s,mb4.5						
LOHW	**Long Hollow**	**93.77**	**42**	*e*P	**P**	**05 36 34.0**	**-0.6**
	comp=Z,2.8nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**93.90**	**43**	P	**P**	**05 36 34.8**	**-0.4**
	comp=Z,1.2nm,0.9s,mb4.3,baz=176,slow=4.2,SNR=3.9						
SEY	**Seymchan**	**94.03**	**346**	*i*P	**P**	**05 36 26.9**	**-8.9**
HHC	**Hu-ho-hao-te**	**95.35**	**314**	*e*P	**P**	**05 36 41.6**	**-0.3**
HHC				AP	pP	05 36 45.9	-2.5
HHC				XP	sP	05 36 48.5	-2.2
HHC				PP	PP	05 40 32.8	+0.5
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb5.8						
HHC				AMB	AMB		
	comp=Z,106nm,5.9s						
HHC				LR	LR		
	comp=N,95nm,5.9s						
HHC				LR	LR		
	comp=E,86nm,15.1s						
HHC				LR	LR		
	comp=Z,75nm,14.6s,MS4.3						
COLA	**College**	**95.48**	**12⇑**	*e*P	**P**	**05 36 32.8**	**-10**
COLA	**College**	**95.48**	**12**	*e*P	**P**	**05 36 31.6**	**-11**
	comp=Z,7.5nm,0.9s,mb5.1						
CD2	**Chengdu**	**95.68**	**302**	*e*P	**P**	**05 36 43.0**	**-0.4**
CD2				XP	sP	05 36 52.1	-0.1
CD2				PP	PP	05 40 35.9	+1.1
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.5						
CD2				AMB	AMB		
	comp=Z,40nm,8.2s						
LZH	**Lanzhou**	**98.13**	**307**	*e*P	**P**	**05 36 54.3**	**-0.2**
LZH				AP	pP	05 36 59.1	-1.9
LZH				XP	sP	05 37 01.8	-1.5
LZH				PP	PP	05 40 55.0	+1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,52nm,9.1s						
LZH				LR	LR		
	comp=N,235nm,15.3s						
LZH				LR	LR		
	comp=Z,376nm,18.5s,MS4.9						
LZH	**Lanzhou**	**98.13**	**307**	*e*P	**P**	**05 36 54.2**	**-0.3**
LZH				*SP	sP	05 37 01.7	-1.6
LZH						05 40 55.0	
LZH				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.5						
LZH				MLR	MLR		
	comp=Z,380nm,18.5s,MS4.9						
LZH	**Lanzhou**	**98.13**	**307**	*e*P	**P**	**05 36 54.2**	**-0.3**
	comp=Z,19nm,1.2s,mb5.5						
LZH				pP	pP	05 36 59.1	-1.9
LZH				sP	sP	05 37 01.7	-1.6
LZH				PP	PP	05 40 55.0	+1.3
LZH				SKS		05 55 20.5	
LZH				LR	LR		
	comp=Z,380nm,18.5s,MS4.9						
LPAZ	**La Paz**	**98.20**	**113**	LR	LR	06 10 54.9	
	comp=Z,69nm,19.3s,MS4.2,baz=60,slow=29						
CPUP	**Villa Florida**	**100.63**	**127**	PKKPbc	PKKPbc	05 53 19.1	-0.6
	comp=Z,0.6nm,0.6s,baz=131,slow=3.2,SNR=3.1						
SONM	**Songino Array**	**102.11**	**318**	P	Pdif	05 37 11.9	-0.2
	comp=Z,0.2nm,0.7s,baz=64,slow=6.6,SNR=2.9						
SIV	**San Ignacio**	**104.01**	**117**	PKKPbc	PKKPbc	05 53 10.0	+0.3
	comp=Z,0.6nm,0.6s,baz=99,slow=12,SNR=4.7						
WMQ	**Urumqi**	**112.56**	**309**	*e*PKP	PKiKP	05 41 52.0	-1.9
WMQ				XPKP		05 42 05.0	
WMQ				*e*PP	PP	05 42 42.0	+1.5
WMQ				PP	PP		
	comp=Z,75nm,6.2s						
WMQ				LR	LR		
	comp=N,272nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=E,250nm,24.3s,MS4.9						
WMQ				LR	LR		
	comp=Z,328nm,22.9s,MS4.9						
ZAL	**Zalesovo**	**116.98**	**319**	PKP	PKPdf	05 42 00.5	-1.9
	comp=Z,1.4nm,0.4s,baz=291,slow=1.1,SNR=7.8						
MKAR	**Makanchi Array**	**117.03**	**311**	PKP	PKPdf	05 42 00.5	-2.0
	comp=Z,2.9nm,0.7s,baz=97,slow=0.6,SNR=16						
MKAR	**Makanchi Array**	**117.03**	**311⇑**	*i*PKIKP	PKPdf	05 42 01.2	-1.3
BOSA	**Boshof**	**119.66**	**202**	PKP	PKPdf	05 42 09.1	+1.5
	comp=Z,2.2nm,0.7s,baz=300,slow=1.8,SNR=5.0						
AAK	**Ala-Archa**	**121.62**	**305**	*d i*PKIKP	PKPdf	05 42 10.1	-1.2
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.5						
AAK	**Ala-Archa**	**121.62**	**305**	*e*PKPdf	PKPdf	05 42 09.8	-1.5
LBTB	**Lobatse**	**122.83**	**204**	*e*PKIKP	PKPdf	05 42 15.3	+1.7
CHKZ	**Chkalovo**	**125.31**	**318**	*e*PKIKP	PKPdf	05 42 16.9	-1.5
BRVK	**Borovoye**	**125.50**	**317**	*e*PKIKP	PKPdf	05 42 17.4	-1.4
ZRNK	**Zerenda**	**126.27**	**317**	*e*PKIKP	PKPdf	05 42 19.2	-1.0
LSZ	**Lusaka**	**130.41**	**213**	*e*PKIKP	PKPdf	05 42 30.6	+2.5
ARU	**Arti**	**131.93**	**322**	*i*PKIKP	PKPdf	05 42 29.9	-1.1
ARU	**Arti**	**131.93**	**322**	*e*PKPdf	PKPdf	05 42 29.5	-1.5
KEV	**Kevo**	**136.15**	**348**	*e*pkp	PKPdf	05 42 35.0	-3.9
ARCES	**ARCESS Array B**	**136.61**	**349**	PKP	PKPdf	05 42 38.1	-1.7
	comp=Z,2.6nm,0.6s,baz=29,slow=1.9,SNR=11						
JOF	**Joensuu**	**140.67**	**340**	*e*pkp	PKPdf	05 42 39.9	-7.3
KAF	**Kangasniemi**	**142.74**	**342**	*e*pkp	PKPdf	05 42 43.3	-7.6
FINES	**FINESS Array B**	**143.35**	**342**	PKhKP		05 42 47.2	
	comp=Z,1.8nm,0.4s,baz=70,slow=3.9,SNR=23						
GNI	**Garni**	**143.80**	**300**	*e*PKIKP	PKPdf	05 42 53.6	+0.8
OBN	**Obninsk**	**143.83**	**327⇓**	*i*PKIKP	PKPdf	05 42 49.2	-3.6
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VRSR	**Storozhevoye**	**144.44**	**320**	*e*PKIKP	PKPdf	05 42 51.3	-2.6
VRSR				pmax	pmax		
	comp=Z,20nm,0.8s						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,20nm,1.0s						
KIV	**Kislovodsk**	**144.67**	**307**	*i*PKIKP	PKPdf	05 42 53.2	-1.1
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KIV				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.5						
KIV	**Kislovodsk**	**144.67**	**307**	*e*PKPdf	PKPdf	05 42 53.1	-1.2
HAKT	**HAKKARI**	**144.81**	**296**	*i*P	PKPdf	05 42 54.5	-0.1
TVAN	**Van**	**144.98**	**298**	*i*P	PKPdf	05 42 56.0	+1.1
VSU	**Vasula**	**145.54**	**338**	*c i*PKIKP	PKPdf	05 42 54.3	-1.5
ERZM	**Erzurum**	**146.40**	**300**	*i*P	PKPdf	05 42 59.8	+2.5
NB2	**NORSAR Subarra**	**146.68**	**353**	PKP	PKPdf	05 42 57.1	-0.6
	comp=Z,25nm,0.9s,baz=14,slow=3.7						
NOA	**NORSAR Array B**	**146.68**	**353**	PKPbc	PKPbc	05 42 57.0	-2.4
	comp=Z,15nm,0.9s,baz=15,slow=2.4,SNR=26						
NOA	**NORSAR Array B**	**146.68**	**353**	PKPbc	PKPbc	05 42 57.0	-2.4
NAO01	**NORSAR Array S**	**146.91**	**353**	*e*PKPbc	PKPbc	05 42 58.4	-1.7
MARD	**Mardin**	**147.16**	**296**	*i*P	PKPdf	05 43 01.2	+2.7
KELT	**Kelkit**	**147.96**	**301**	*i*P	PKPbc	05 43 03.9	+1.0
ANN	**Anapa**	**148.05**	**311**	*i*PKHKP		05 42 56.3	
ANN				pmax	pmax		
	comp=Z,78nm,1.2s						
MNK	**Minsk**	**148.11**	**332**	*e*PKP2	PKPab	05 43 02.0	-4.1
ELZG	**Elazig**	**148.43**	**298**	*i*P	PKPbc	05 43 05.5	+1.3
GRSN	**GIRESUNGRSN**	**148.54**	**303**	*i*P	PKPbc	05 43 03.4	-1.0
GZT	**Gaziantep**	**149.70**	**296**	*i*P	PKPbc	05 43 08.0	+0.7
AKASG	**Malin Array Be**	**150.03**	**326**	PKPbc	PKPbc	05 43 06.5	-1.7
	comp=Z,17nm,0.7s,baz=43,slow=2.6,SNR=45						
AKBB	**Malin Array Si**	**150.03**	**326**	*e*PKPbc	PKPbc	05 43 07.0	-1.2
AKBB				*e*PKPab	PKPab	05 43 12.7	-1.3
SIM	**Simferopol'**	**150.19**	**313**	*e*PKP2	PKPbc	05 43 08.8	+0.3
SIM				pmax	pmax		
	comp=Z,26nm,0.7s						
COBT	**Iskenderun**	**150.84**	**295**	*i*P	PKPbc	05 43 11.2	+1.1
BOYT	**Boyabat**	**150.87**	**305**	*i*P	PKPbc	05 43 10.4	+0.2
CTKT	**Corum**	**151.17**	**304**	*i*P	PKPbc	05 43 10.9	+0.1
AVNT	**Avonos**	**151.57**	**300**	*i*P	PKPbc	05 43 11.6	-0.2
CDAG	**Cicekdag**	**151.74**	**302**	*i*P	PKPbc	05 43 12.5	+0.3
BALT	**Daday**	**151.92**	**306**	*i*P	PKPbc	05 43 12.8	+0.2
EIL	**Elat**	**152.07**	**281**	*e*PKPbc	PKPbc	05 43 14.1	+1.2
BR131	**Keskin Array S**	**152.26**	**303**	*e*PKPbc	PKPbc	05 43 13.1	-0.2
BRTR	**Keskin Array B**	**152.26**	**303**	PKPbc	PKPbc	05 43 11.7	-1.7
	comp=Z,5.4nm,0.6s,baz=133,slow=4.0,SNR=26						
ANTO	**Ankara**	**152.85**	**303⇑**	*i*P	PKPbc	05 43 14.6	-0.1
ANTO	**Ankara**	**152.85**	**303**	*e*PKPbc	PKPbc	05 43 14.9	+0.3
SGKT	**Sivrigoynuk**	**153.18**	**305**	*i*P	PKPbc	05 43 13.9	-1.5
CFR	**Carcaliu**	**153.84**	**317⇑**	*i*P	PKPbc	05 43 16.8	0.0
BURAR	**Bucovina Array**	**154.03**	**324⇓**	*i*P	PKPbc	05 43 18.1	+0.9
BURAR	**Bucovina Array**	**154.03**	**324**	⇓P	PKPbc	05 43 18.1	+0.9
VRI	**Vrincioaia**	**154.28**	**320⇓**	*i*P	PKPab	05 43 31.3	-0.5
KOLS	**Kolonicke sedl**	**154.53**	**330**	*e*PKP	PKPab	05 43 31.7	-1.1
OJC	**Ojcow**	**154.56**	**334**	*e*PKP	PKPdf	05 43 07.7	-2.2
STHS	**Stebnicka Huta**	**154.61**	**332**	*e*PKP	PKPbc	05 43 19.4	+0.9
STHS				*e*		05 43 33.1	
UZH	**Uzhgorod**	**154.74**	**329**	*e*PKIKP	PKPbc	05 43 19.0	+0.2
UZH				pmax	pmax		
	comp=Z,17nm,1.0s						
CRVS	**Cervenica-Dubn**	**154.91**	**331**	*e*PKP	PKPbc	05 43 18.7	-0.4
CRVS				*e*		05 43 33.6	
MLR	**Muntele Rosu**	**154.95**	**320⇓**	*i*P	PKPab	05 43 35.4	+0.8
MLR	**Muntele Rosu**	**154.95**	**320**	⇓P	PKPab	05 43 35.4	+0.8
KSP	**Ksiaz**	**155.24**	**340**	*e*PKP2	PKPab	05 43 35.2	-0.6
OKC	**Ostrava-Krasne**	**155.48**	**336**	*e*PKPab	PKPab	05 43 36.8	-0.1
UPC	**Upice**	**155.62**	**340**	*e*PKPab	PKPab	05 43 37.0	-0.5
KECS	**Kecovo**	**155.65**	**331**	*e*PKP	PKPab	05 43 36.8	-0.8
DPC	**Dobruska-Polom**	**155.66**	**339**	*e*PKPab	PKPab	05 43 37.5	-0.1
CLL	**Collm**	**155.71**	**345**	*i*PKP2	PKPab	05 43 36.4	-1.4
CLL	**Collm**	**155.71**	**345**	*e*PKPdiff		05 43 21.0	
CLL				*i*PKPab	PKPab	05 43 36.4	-1.4
	comp=Z,14nm,0.8s						
CLL				*e*PP	PP	05 47 14.0	-0.6
MORC	**Moravsky Berou**	**155.75**	**337**	*e*PKP2	PKPab	05 43 35.3	-2.7
BRG	**Berggiesshubel**	**155.88**	**343**	*e*P	PKPab	05 43 37.4	-1.2
	comp=Z,5.9nm,0.9s						
PVCC	**Panska Ves**	**156.02**	**342**	*e*PKPab	PKPab	05 43 38.3	-0.9
VYHS	**Vyhne**	**156.32**	**333**	*e*PKP	PKPab	05 43 39.8	-0.7
PSZ	**Piszkesteto**	**156.34**	**331⇓**	*i*P	PKPab	05 43 40.1	-0.4
VRAC	**Vranov**	**156.47**	**337⇑**	*i*P	PKPab	05 43 40.1	-1.0
VRAC	**Vranov**	**156.47**	**337**	⇑P	PKPab	05 43 40.1	-1.0
PRU	**Pruhonice**	**156.52**	**341**	*e*PKPab	PKPab	05 43 41.0	-0.3
SMOL	**Smolenice**	**156.85**	**335**	*e*PKP	PKPab	05 43 43.0	+0.3
KHC	**Kasperske Hory**	**157.56**	**342**	*e*PKPab	PKPab	05 43 45.3	-0.5
GERES	**GERESS Array B**	**157.78**	**341**	PKPab	PKPab	05 43 43.8	-3.0
	comp=Z,0.8nm,0.7s,baz=337,slow=1.7,SNR=6.0						
BAIF	**Baives**	**158.13**	**358**	*e*PKP2	PKPab	05 43 46.7	-1.6
	comp=Z,9.5nm,0.8s						
VTS	**Vitosha**	**158.23**	**317⇑**	*i*P	PKPab	05 43 48.8	+0.1
VTS	**Vitosha**	**158.23**	**317**	⇑PKP2	PKPab	05 43 48.9	+0.2
CDF	**Champ du Feu**	**159.53**	**352**	*e*PKP2	PKPab	05 43 51.9	-2.5
GRR	**Gorron**	**159.59**	**7**	*e*PKP2	PKPab	05 43 53.0	-1.6
MEZF	**Maizieres J'vi**	**159.65**	**356**	*e*PKP2	PKPab	05 43 53.0	-1.9
HAU	**Haudompre**	**160.04**	**353**	*e*PKP2	PKPab	05 43 54.0	-2.6
	comp=Z,11nm,0.9s						
LOR	**Lormes**	**160.93**	**358**	*e*PKP2	PKPab	05 43 58.4	-2.1
	comp=Z,32nm,1.4s						
SSF	**Saint Saulge**	**161.14**	**359**	*e*PKP2	PKPab	05 43 59.4	-2.0
	comp=Z,29nm,1.2s						
AVF	**Avril sur Loir**	**161.42**	**359**	*e*PKP2	PKPab	05 44 00.5	-2.1
	comp=Z,12nm,1.0s						
CABF	**La Chapelle**	**161.44**	**353**	*e*PKP2	PKPab	05 44 01.4	-1.3
	comp=Z,11nm,1.0s						
SMF	**Signal de Mont**	**161.55**	**358**	*e*PKP2	PKPab	05 44 01.2	-2.0
	comp=Z,14nm,1.0s						
BGF	**Bois d'Agland**	**161.65**	**0**	*e*PKP2	PKPab	05 44 01.8	-1.8
TCF	**Toulx Ste Croi**	**161.91**	**2**	*e*PKP2	PKPab	05 44 03.0	-1.7
LPL	**La Plagne**	**162.45**	**351**	*e*PKP2	PKPab	05 44 05.1	-2.0
	comp=Z,20nm,1.2s						
LPG	**La Plagne**	**162.46**	**351**	*e*PKP2	PKPab	05 44 05.3	-1.9
	comp=Z,31nm,1.3s						
RJF	**Les Rejaudoux**	**162.86**	**4**	*e*PKP2	PKPab	05 44 07.0	-1.9
	comp=Z,15nm,1.0s						
ORIF	**Oris-en-Rattie**	**163.14**	**353**	*e*PKP2	PKPab	05 44 07.4	-2.7
	comp=Z,15nm,0.9s						
TORD	**Torodi Ar. Bea**	**164.99**	**175**	PKP	PKPdf	05 43 22.2	+0.5
	comp=Z,1.5nm,1.0s,baz=249,slow=1.5,SNR=6.7						
TORD				PKPab	PKPab	05 44 19.6	+1.4
	comp=Z,3.6nm,0.7s,baz=178,slow=3.4,SNR=14						
KEST	**Kesra**	**170.76**	**326**	PKPab	PKPab	05 44 43.3	-0.5
	comp=Z,1.3nm,0.5s,baz=67,slow=2.4,SNR=5.8						

ISCJB ***21*** *05:25:38.2±0.2, 1274N±003×88.11W±003, h56km, mb4.9/83, MS3.9/23, Error ellipse: s-maj=5.9km s-min=1.9km az=68.8*
NEIC ***21*** *05:25:38.6±0.3, 1260N×8807W, mb4.9/76, MD5.0(SNET), Error ellipse: s-maj=6.4km s-min=4.2km az=37.0*
NEIC Felt [III] at San Salvador, El Salvador.
IDC ***21*** *05:25:38.5±0.7, 1275N×8792W, h54km±6km, mb4.4/17, mb1 4.5/20, mb1mx4.4/27, mbtmp4.6/20, MS3.7/18, Ms1 3.7/18, ms1mx3.6/30, Error ellipse: s-maj=19.3km s-min=9.5km az=50.0*
BJI ***21*** *05:25:38.6, 1260N×88.10W, h56km, mB5.1, Ms5.1, Msz4.8*
CASC ***21*** *05:25:42.8±5.6, 1252N×8794W, h37km±999km, MD4.5, ML4.9, mb4.9(NEIC)*
ISC 21 05:25:40.1±0.2, 1275N±003×8805W±003, h58km, h58km±.6km:pP-P, n373, σ0.95/345, mb4.9/83, MS3.9/23, 47C-63D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.71**	**342**	*e*P	x	05 26 17.1	
VSM				*e*S	x	05 26 30.3	
BLLM	**Bellamira**	**0.72**	**345**	⇓*i*P	x	05 26 16.9	
BLLM				*e*S	x	05 26 42.2	
CRIN	**San Cristobal**	**0.98**	**93**	⇓*e*P	**Pn**	**05 25 58.8**	**+1.0**
CRIN				*e*S	**Sn**	**05 26 13.3**	**+2.5**
SNVI	**San Vicente**	**1.15**	**318**	⇓*e*P	x	05 26 21.3	
SNVI				*e*S	x	05 26 38.0	
LEON	**Leon**	**1.18**	**106**	⇓*e*P	**Pn**	**05 25 59.8**	**-0.6**
TELN	**Telica**	**1.20**	**97**	⇓*e*P	**Pn**	**05 26 01.0**	**+0.3**
TELN				*i*P		05 26 01.2	
TELN				*e*S	**Sn**	**05 26 16.4**	**+0.4**
LCBS	**La Ceiba**	**1.28**	**315**	⇓*i*P	x	05 26 23.0	
CNGN	**Cerro Negro**	**1.34**	**100**	⇓*e*P	**Pn**	**05 26 02.5**	**-0.1**
CNGN				*e*S	**Sn**	**05 26 23.2**	**+3.8**
MIRN	**Miramar**	**1.34**	**103**	⇓*e*P	**Pn**	**05 26 02.5**	**0.0**
LFU	**La Fuente**	**1.44**	**314**	⇓*e*P	x	05 26 25.0	
SNET	**Serv Nac Est T**	**1.48**	**309**	*i*	**Pn**	**05 26 22.8**	**+18**
	comp=Z,20μm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.51**	**30**	⇓*i*Pn	**Pn**	**05 26 06.6**	**+1.8**
MOMJ	**Momotombo**	**1.51**	**103**	*e*P	**Pn**	**05 26 04.7**	**-0.2**
COPN	**Copaltepe**	**1.53**	**111⇑**	*e*P	**Pn**	**05 26 04.5**	**-0.6**
BOQS	**Boqueron**	**1.55**	**309⇑**	*e*P	x	05 26 26.8	
BOQS				*e*S	x	05 26 46.5	
APYN	**Apoyeque**	**1.74**	**107**	*e*P	**Pn**	**05 26 07.8**	**-0.1**
XAVN	**Gruta Xavier**	**1.79**	**109⇑**	*e*P	**Pn**	**05 26 08.4**	**-0.2**
XAVN				*e*S	**Sn**	**05 26 27.8**	**-2.4**
TISN	**Laguna Tiscapa**	**1.84**	**109**	*e*P	**Pn**	**05 26 09.1**	**-0.2**
MGAN	**Managua**	**1.86**	**109**	*e*P	**Pn**	**05 26 09.5**	**-0.1**
MGAN				*e*S	**Sn**	**05 26 31.9**	**-0.1**
MGAN				*i*		05 26 32.6	
	comp=E,20μm,0.6s						
SBLS	**San Blas**	**1.88**	**306**	⇓*e*P	x	05 26 31.0	
SBLS				*e*S	x	05 26 58.3	
TICN	**Ticuantepe**	**1.91**	**112**	*e*P	**Pn**	**05 26 10.0**	**-0.3**
MASN	**Masaya**	**2.00**	**112**	*e*P	**Pn**	**05 26 09.6**	**-1.9**
APON	**Apoyo**	**2.11**	**113**	*e*P	**Pn**	**05 26 12.1**	**-0.9**
SSNN	**San Juan del S**	**2.59**	**124**	*e*P	**Pn**	**05 26 19.2**	**-0.4**
SSNN				*e*S	**Sn**	**05 26 46.0**	**-3.9**
CONN	**Concepcion**	**2.65**	**116**	*e*P	**Pn**	**05 26 19.6**	**-0.7**
MADN	**Villa Maderas**	**2.80**	**118**	*e*P	**Pn**	**05 26 22.5**	**+0.1**
LIM1	**Limonal**	**3.41**	**126**	*i*P	**Pn**	**05 26 30.5**	**-0.3**
LIM1				*e*S	**Sn**	**05 27 08.0**	**-2.0**
VCR	**Vista de Mar**	**3.52**	**137**	*e*P	**Pn**	**05 26 30.9**	**-1.4**
VACR	**Volcan Arenal**	**4.00**	**124**	*e*P	**Pn**	**05 26 41.6**	**+2.7**
JCR	**Jicaral**	**4.07**	**135**	⇓*e*P	**Pn**	**05 26 40.2**	**+0.3**
EPA	**Esparza**	**4.36**	**129**	*e*P	**Pn**	**05 26 46.8**	**+3.0**
CGA2	**Cerro Gallo 2**	**4.44**	**127**	*e*P	**Pn**	**05 26 46.8**	**+1.9**
PRS1	**Puriscal**	**4.58**	**126**	*e*P	**Pn**	**05 26 49.0**	**+2.3**
LAJ	**Bijagual**	**4.80**	**126**	*e*P	**Pn**	**05 26 47.3**	**-2.5**
SJS	**Escuela Geolog**	**4.81**	**125**	*e*P	**Pn**	**05 26 52.4**	**+2.4**
OCM	**Ochomogo**	**4.91**	**125**	*e*P	**Pn**	**05 26 52.5**	**+1.2**
OCM				*e*S	**Sn**	**05 27 49.0**	**+2.2**
IRZ2	**Volcan Irazu 2**	**4.92**	**124**	*e*P	**Pn**	**05 26 52.7**	**+1.2**
IRZ2				*e*S	**Sn**	**05 27 49.3**	**+2.3**
LCR2	**La Lucha 2**	**4.97**	**127**	*e*P	**Pn**	**05 26 53.2**	**+1.1**
CCIG	**Comitan**	**5.29**	**312**	*e*P	**Pn**	**05 26 57.3**	**+0.7**
CCIG				*i*S	**Sn**	**05 27 47.9**	**-8.3**
LIO	**Limon**	**5.62**	**118**	*e*P	**Pn**	**05 27 03.8**	**+2.7**
ACR	**Cerro Adams**	**6.29**	**130**	*e*P	**Pn**	**05 27 11.0**

LAZ **Ladron** 27.66 324 eP P 05 31 23.9 +1.4
LAZ ePcP PcP 05 34 39.1 +0.8
ANMO Albuquerque 27.69 326 P P 05 31 22.3 -0.4
comp=E,2.6nm,0.6s,mb4.1,baz=136,slow=11,SNR=16
ANMO PcP PcP 05 34 38.3 -0.1
comp=E,2.3nm,0.5s,baz=117,slow=3.8,SNR=6.0
ANMO LR LR 05 44 26.6
comp=E,74nm,21.9s,MS3.2,baz=181,slow=41
ANMO Albuquerque 27.69 326 eP P 05 31 23.8 +1.1
comp=E,3.2nm,0.7s,mb4.1
ANMO ePcP PcP 05 34 38.6 +0.2
MCWV Mont Chateau 27.77 14 eP P 05 31 23.4 0.0
comp=E,34nm,0.6s,mb5.2
CBKS Cedar Bluff 27.96 340 eP P 05 31 23.9 -1.1
comp=E,12nm,0.5s,mb4.8
CBKS epP pP 05 31 38.9 -0.5
CBKS ePcP PcP 05 34 38.2 -0.9
TUC Tucson 28.52 317 eP P 05 31 34.5 +4.4
comp=E,6.3nm,1.0s,mb4.3
BBSR BB Station 28.98 44 eP P 05 31 34.7 +0.6
comp=E,32nm,0.7s,mb5.2
MVL Millersville 29.04 19 eP P 05 31 35.8 +1.1
SSPA Standing Stone 29.18 16 eP P 05 31 36.3 +0.4
comp=E,13nm,0.6s,mb4.8
116A Eloy 29.30 316 ⇓P P 05 31 36.7 -0.2
baz=29
SDCO Great Sand Dun 29.37 331 eP P 05 31 38.1 +0.5
comp=E,10nm,0.6s,mb4.7
SDCO epP pP 05 31 52.2 +0.3
SDCO ePcP PcP 05 34 42.5 -0.1
SCIA State Center 29.40 352 eP P 05 31 37.4 -0.5
comp=E,14nm,0.5s,mb5.0
AAM Ann Arbor 29.69 7 eP P 05 31 39.6 -0.8
comp=E,26nm,0.5s,mb5.2
JFWS Jewell Farm 30.12 357 eP P 05 31 43.2 -1.0
comp=E,10nm,0.6s,mb4.7
BRNJ Basking Ridge 30.24 21 eP P 05 31 46.6 +1.3
MVCO Mesa Verde 30.47 327 eP P 05 31 47.8 +0.5
comp=E,5.4nm,0.6s,mb4.5
MVCO ePcP PcP 05 34 45.7 +0.3
MVCO Mesa Verde 30.47 327 P P 05 31 48.2 +0.8
baz=31,SNR=5.8
PAL Palisades 30.76 21 eP P 05 31 49.9 0.0
comp=E,19nm,0.6s,mb5.1
X15A Humboldt 30.82 319 ⇑P P 05 31 50.9 +0.4
baz=31
WUAZ Wupatki 30.94 321 ⇓P P 05 31 52.3 +0.8
baz=31
Y14A Wickenburg 30.99 317 ⇑P P 05 31 52.6 +0.7
baz=31
ISCO Idaho Springs 31.09 333 eP P 05 31 53.7 +1.0
comp=E,7.6nm,0.7s,mb4.6
ISCO epP pP 05 32 07.5 +0.4
ISCO ePcP PcP 05 34 47.5 +0.4
BINY Binghamton 31.16 17 eP P 05 31 54.0 +0.5
SMCO Snowmass 31.21 331 eP P 05 31 54.7 +0.9
comp=E,12nm,0.7s,mb4.8
SMCO ePcP PcP 05 34 47.6 +0.2
X14A Yava 31.24 318 ⇑P P 05 31 54.6 +0.5
baz=31
Y13A Salome 31.47 316 P P 05 31 57.2 +1.1
baz=32,SNR=5.3
GLA Glamis 31.73 314 eP P 05 31 59.1 +0.7
GLA Glamis 31.73 314 ⇑P P 05 31 58.8 +0.4
baz=32
ECSD EROS,Sioux Fal 31.75 348 eP P 05 31 56.9 -1.7
comp=E,12nm,0.6s,mb4.9
ECSD ePcP PcP 05 34 47.1 -1.7
W14A Seligman 31.82 319 ⇓P P 05 31 59.7 +0.5
baz=32
Y12C Blythe 31.91 315 ⇑P P 05 31 59.9 0.0
baz=32
X13A Yucca 31.93 317 ⇓P P 05 31 59.7 -0.5
baz=32
PDMCI Parker Dam,Lak 31.96 317 ⇓P P 05 32 01.3 +0.8
baz=32
PHWY Pilot Hill 32.26 335 eP P 05 32 03.9 +0.8
PHWY epP pP 05 32 18.1 +0.5
W13A Hualapai Mount 32.27 318 ⇓P P 05 32 04.7 +1.6
baz=32
BC3 Big Chuckw Mtn 32.50 314 ⇓P P 05 32 05.6 +0.4
baz=33,SNR=6.4
IRM Iron Mountain 32.57 315 ⇓P P 05 32 05.9 +0.2
baz=33
SRU San Rafael 32.95 327 eP P 05 32 09.5 +0.4
W12A Cal Nev Ari 33.04 317 ⇓P P 05 32 10.1 +0.2
baz=33
BELC Belle Mtn. 33.06 314 ⇑P P 05 32 11.3 +1.2
baz=33
V12A Nelson 33.28 318 P P 05 32 12.8 +0.8
baz=33,SNR=8.1
RWWY Rawlins 33.33 333 eP P 05 32 13.2 +0.8
comp=E,26nm,0.7s,mb5.3
RWWY epP pP 05 32 26.4 -0.4
RWWY ePcP PcP 05 34 52.5 -0.7
MSU Marysvale 33.44 324 eP P 05 32 13.9 +0.5
MSU ePcP PcP 05 34 54.2 +0.7
U12A Valley of Fire 33.50 319 ⇑P P 05 32 15.0 +1.1
baz=34
V11A Goodsprings 33.72 318 ⇓P P 05 32 16.1 +0.2
baz=34
LONY Lake Ozonia 33.79 17 eP P 05 32 16.0 -0.4
comp=E,8.9nm,0.6s,mb4.9
TUQ Turquoise Mtn. 33.81 317 ⇑P P 05 32 17.6 +1.0
baz=34
BBRC Big Bear Sol-O 33.85 314 ⇓P P 05 32 18.1 +1.2
baz=34
RSSD Black Hills 34.15 339 eP P 05 32 20.0 +0.5
comp=E,10nm,0.5s,mb5.0
RSSD ePcP PcP 05 34 54.5 -1.0
MPU Maple Canyon 34.19 327 eP P 05 32 20.0 +0.1
comp=E,5.4nm,0.6s,mb4.7
MPU ePcP PcP 05 34 56.4 +0.7
DAU Daniels Canyon 34.28 328 eP P 05 32 20.9 +0.2
DAU ePcP PcP 05 34 56.9 +1.0
FRNY Flat Rock 34.28 18 eP P 05 32 20.4 -0.3
GSC Goldstone 34.34 316 ⇓P P 05 32 22.1 +0.9
baz=34
CTU Camp Tracy 34.74 328 eP P 05 32 25.4 +0.8
comp=E,8.1nm,0.6s,mb4.8
TCUT Toone Canyon 34.88 328 eP P 05 32 26.7 +0.9
TCUT ePcP PcP 05 34 57.7 0.0
EDW2 Edwards Air Fo 34.92 314 ⇓P P 05 32 26.6 +0.4
baz=35
LPAZ La Paz 34.93 145 P P 05 32 26.1 -0.2
comp=E,1.0nm,0.4s,mb4.1,baz=303,slow=7.7,SNR=6.3
LPAZ LR LR 05 47 06.6
comp=E,63nm,19.4s,MS3.4,baz=48,slow=37
LPAZ La Paz 34.93 145 eP P 05 32 26.2 -0.1
comp=E,2.9nm,0.9s,mb4.2
DUG Dugway 34.96 326 eP P 05 32 27.1 +0.6
DUG Dugway 34.96 326 ⇓P P 05 32 27.5 +1.0
baz=35
FURC Furnace Creek, 35.03 317 ⇑P P 05 32 27.9 +0.7
baz=35
LRMC Laurel Mountai 35.03 315 ⇑P P 05 32 27.6 +0.4
baz=35
EYMN Ely 35.21 356 eP P 05 32 26.4 -2.3
comp=E,9.9nm,0.6s,mb4.9
MPMC Manual Prospec 35.22 316 P P 05 32 29.7 +1.0
baz=35,SNR=5.3
BW06 Boulder Array 35.24 332 eP P 05 32 28.9 0.0
comp=E,7.8nm,0.6s,mb4.8
PDAR Pinedale Array 35.24 332 P P 05 32 28.2 -0.7
comp=E,9.0nm,0.6s,mb4.9,baz=125,slow=11,SNR=99
PDAR pP pP 05 32 42.8 -0.7
comp=E,12nm,1.2s,baz=134,slow=8.5,SNR=6.4
PDAR PcP PcP 05 34 57.5 -1.1
comp=E,2.7nm,0.6s,baz=140,slow=4.9,SNR=8.0
PDAR LR LR 05 49 36.4
comp=E,130nm,18.5s,MS3.7,baz=146,slow=41
PDAR Pinedale Array 35.24 332 P P 05 32 28.2 -0.7
PDAR pP pP 05 32 42.8 -0.7
PDAR PcP PcP 05 34 57.5 -1.1
PDAR LR LR 05 49 36.4
HWUT Hardware Ranch 35.32 329 eP P 05 32 29.6 0.0
comp=E,25nm,0.7s,mb5.3
HWUT ePcP PcP 05 34 58.3 -0.6
BGU Big Grassy Mou 35.59 327 eP P 05 32 32.2 +0.2
P12A McGill 35.66 323 ⇓P P 05 32 33.1 +0.6
baz=36
GRAC Grapevine Rang 35.67 318 ⇓P P 05 32 33.8 +1.2
baz=36
ISA Isabella 35.67 315 ⇑P P 05 32 33.3 +0.6
baz=36
Q11A Duckwater 35.70 322 ⇑P P 05 32 33.4 +0.6
baz=36
R10A Warm Springs 35.75 320 ⇓P P 05 32 32.5 -0.8
baz=36
AHID Auburn Hatcher 35.96 331 eP P 05 32 35.6 +0.5
comp=E,54nm,0.6s,mb5.7
AHID ePcP PcP 05 35 00.2 -0.6
S09A Goldfield 35.99 319 ⇓P P 05 32 35.4 0.0
baz=36
AGMN Agassiz Refuge 36.03 351 eP P 05 32 34.2 -1.6
comp=E,26nm,0.6s,mb5.3
AGMN epP pP 05 32 49.6 -0.7
AGMN ePcP PcP 05 34 59.2 -1.8
HVU Hansel Valley 36.06 328 eP P 05 32 35.7 -0.3
comp=E,11nm,0.6s,mb5.0
HVU ePcP PcP 05 35 00.4 -0.7
O12A Currie 36.09 324 ⇑P P 05 32 36.1 -0.1
baz=36
PKME Peaks-Kenny Pk 36.13 23 eP P 05 32 36.6 0.0
comp=E,16nm,0.6s,mb5.1
N13A Wendover, West 36.18 326 ⇓P P 05 32 37.4 +0.4
baz=36
VES Vestal, Richgr 36.19 315 ⇑P P 05 32 36.9 -0.1
baz=36
R09A Tonopah 36.20 320 ⇓P P 05 32 37.7 +0.5
baz=36,SNR=5.8
REDW Red Top Meadow 36.30 331 eP P 05 32 38.2 +0.2
comp=E,139nm,0.6s
REDW ePcP PcP 05 35 00.8 -1.0
SNOW Snow King Moun 36.33 332 eP P 05 32 38.9 +0.6
comp=E,163nm,0.6s
SNOW epP pP 05 32 53.4 +0.5
SNOW ePcP PcP 05 35 01.4 -0.5
LOHW Long Hollow 36.38 332 eP P 05 32 38.8 +0.1
comp=E,38nm,0.6s,mb5.5
LOHW ePcP PcP 05 35 01.0 -1.1
TPAW Teton Pass 36.44 332 eP P 05 32 39.6 +0.4
comp=E,56nm,0.6s,mb5.7
TPAW epP pP 05 32 54.0 +0.2
TPAW ePcP PcP 05 35 02.1 -0.1
S08C White Mtn Res 36.48 318 ⇓P P 05 32 40.5 +1.0
baz=37
RRI2 Red Ridge 36.51 331 eP P 05 32 40.2 +0.5
comp=E,35nm,0.7s,mb5.3
RRI2 epP pP 05 32 54.2 -0.2
RRI2 ePcP PcP 05 35 01.7 -0.7
M13A Montello 36.51 326 P P 05 32 40.1 +0.3
baz=37,SNR=17
O11A Cowboy Ranch, 36.52 323 ⇑P P 05 32 40.0 +0.1
baz=37
RCTC Rector, Farmer 36.54 315 ⇓P P 05 32 40.7 +0.6
baz=37
MOOW Moose Ponds 36.55 332 eP P 05 32 40.6 +0.5
comp=E,31nm,0.7s,mb5.2
MOOW ePcP PcP 05 35 01.9 -0.7
SMMC Simmler 36.56 313 ⇑P P 05 32 40.6 +0.3
baz=37
HELL Mitchell Peak, 36.59 316 ⇓P P 05 32 41.4 +0.9
baz=37
DCID1 Drake Creek 36.63 331 eP P 05 32 41.2 +0.4
N12A Clover Valley, 36.64 325 ⇓P P 05 32 41.3 +0.4
baz=37,SNR=9.5
IMW Indian Meadow 36.75 332 eP P 05 32 42.0 +0.2
comp=E,20nm,0.5s,mb5.2
IMW ePcP PcP 05 35 02.8 -0.4
FLWY Flagg Ranch 36.78 332 eP P 05 32 42.7 +0.6
M12A Wells 36.95 326 ⇑P P 05 32 43.2 -0.4
baz=37
RLMT Red Lodge 36.99 335 eP P 05 32 43.6 -0.2
comp=E,24nm,0.7s,mb5.1
RLMT epP pP 05 32 58.0 -0.5
RLMT ePcP PcP 05 35 02.9 -1.0
N11A Elko Archery C 37.02 324 ⇑P P 05 32 44.2 +0.1
baz=37,SNR=5.8
LKWY Lake 37.03 333 eP P 05 32 45.4 +1.1
comp=E,14nm,0.7s,mb4.9
P09A Austin 37.04 321 ⇓P P 05 32 44.6 +0.3
baz=37
NVAR Mina Array Bea 37.10 319 P P 05 32 45.7 +0.9
comp=E,3.9nm,0.6s,mb4.4,baz=132,slow=6.8,SNR=21
NVAR PcP PcP 05 35 04.2 -0.1
comp=E,6.0nm,0.6s,baz=118,slow=4.2,SNR=20
NVAR Mina Array Bea 37.10 319 P P 05 32 45.7 +0.9
NVAR PcP PcP 05 35 04.2 0.0
Q08A Gabbs 37.11 320 ⇓P P 05 32 45.2 +0.2
baz=37
O10A Cortez Mining, 37.12 323 ⇑P P 05 32 45.6 +0.6
baz=37
YFT Old Faithful 37.13 333 eP P 05 32 46.7 +1.6
YFT ePcP PcP 05 35 05.4 +1.1
KCC Kaiser Creek 37.14 317 ⇑P P 05 32 45.0 -0.1
baz=37
YNR Norris Junctio 37.27 333 eP P 05 32 47.1 +0.9
YNR epP pP 05 33 00.7 -0.2
YMR Madison River 37.36 333 eP P 05 32 47.4 +0.4
comp=E,58nm,0.9s,mb5.4
YMR epP pP 05 33 02.3 +0.6
YMR ePcP PcP 05 35 05.1 +0.1
O09A Fish Creek Ran 37.45 322 ⇓P P 05 32 47.8 0.0
baz=38,SNR=6.5
M11A Holland Ranch, 37.45 325 ⇑P P 05 32 48.7 +0.8
baz=38
QLMT Earthquake Lak 37.69 332 eP P 05 32 51.3 +1.4
GCMT Greycliff 37.70 335 eP P 05 32 49.5 -0.4
GCMT epP pP 05 33 04.1 -0.4
S06C San Francisco 37.80 317 ⇓P P 05 32 51.9 +1.2
baz=38
ULM Lac du Bonnet 37.94 352 P P 05 32 49.9 -2.1
comp=E,18nm,0.5s,mb5.0,baz=168,slow=8.8,SNR=36
ULM pP pP 05 33 04.0 -2.6
comp=E,12nm,0.7s,baz=180,slow=7.6,SNR=7.1
ULM LR LR 05 51 10.4
comp=E,82nm,19.3s,MS3.5,baz=113,slow=40
ULM Lac du Bonnet 37.94 352 eP P 05 32 49.5 -2.5
comp=E,17nm,0.6s,mb5.0
ULM epP pP 05 33 04.5 -2.1
DGMT Dagmar 38.06 343 eP P 05 32 52.4 -0.5
comp=E,65nm,0.5s,mb5.6
DGMT epP pP 05 33 07.2 -0.4
N09A Rock Creek Ran 38.08 323 ⇓P P 05 32 53.0 -0.1
baz=38,SNR=7.7
HLID Hailey 38.18 329 eP P 05 32 53.9 -0.1
comp=E,8.6nm,0.9s,mb4.5
HLID Hailey 38.18 329 P P 05 32 54.1 +0.1
baz=38,SNR=13
CMB Columbia Colle 38.24 317 eP P 05 32 54.4 0.0
comp=E,0.9nm,0.5s,mb3.8
CMB Columbia Colle 38.24 317 ⇓P P 05 32 54.4 0.0
baz=38
MCMT McKenzie Canyo 38.34 331 eP P 05 32 56.3 +1.0
MCMT epP pP 05 33 10.7 +0.7
M09A Marrel Ranch, 38.40 324 ⇑P P 05 32 56.2 +0.5
baz=38
N08A GE Springer Mi 38.40 322 ⇓P P 05 32 55.6 -0.1
baz=38
O07A Toulon 38.47 321 ⇓P P 05 32 56.2 -0.2
baz=39
DLMT Dillon 38.63 332 eP P 05 32 58.3 +0.5
comp=E,30nm,0.7s,mb5.1
DLMT epP pP 05 33 12.5 0.0
L09A Wilkinson Ranc 38.90 324 ⇑P P 05 33 00.6 +0.6
baz=39
LRM Limekiln Ridge 38.92 333 eP P 05 33 00.4 +0.2
M08A Happy Creek Ra 38.95 323 ⇑P P 05 33 00.6 +0.2
baz=39
HRY Holter Researc 39.34 334 eP P 05 33 09.6 +5.9
HRY epP pP 05 33 23.9 +5.6
K09A Rome 39.37 325 P P 05 33 04.4 +0.5
baz=40,SNR=11
M07A Soldier Meadow 39.39 322 ⇑P P 05 33 03.3 -0.7
baz=40
L08A Fields 39.40 324 P P 05 33 04.1 0.0
baz=40,SNR=9.5
N06A Buffalo Meadow 39.41 321 ⇓P P 05 33 03.7 -0.5
baz=40
E15A Deer Lodge 39.47 333 ⇑P P 05 33 04.9 +0.2
baz=40
EGMT Eagleton 39.55 337 eP P 05 33 05.7 +0.3
comp=E,45nm,0.7s,mb5.3
EGMT epP pP 05 33 19.7 -0.5
EGMT ePcP PcP 05 35 10.8 -1.1
EGMT Eagleton 39.55 337 P P 05 33 05.8 +0.3
baz=40,SNR=19
WVOR Wild Horse Val 39.72 324 eP P 05 33 06.5 -0.3
comp=E,5.5nm,0.7s,mb4.4
WVOR ePcP PcP 05 35 12.7 +0.3
ORV Oroville 39.79 318 ⇓P P 05 33 07.6 +0.2
baz=40
SUTB Sutter Butte 39.80 318 ⇓P P 05 33 07.7 +0.2
baz=40
J09A Fry Pan Ranch, 39.81 326 P P 05 33 07.6 0.0
baz=40,SNR=10
K08A Mann Creek Ran 39.82 324 P P 05 33 07.8 +0.1
baz=40,SNR=23
LVC Limon Verde 39.83 152 P P 05 33 08.3 +0.6
comp=E,3.9nm,0.8s,mb4.2,baz=321,slow=6.1,SNR=4.8
LVC Limon Verde 39.83 152 eP P 05 33 08.2 +0.5
comp=E,4.9nm,0.8s,mb4.3
E14A Clinton 39.84 332 ⇑P P 05 33 07.8 0.0
baz=40
L07A Adell 39.87 323 P P 05 33 08.0 -0.1
baz=40,SNR=9.4
ELFS Eagle Lake Fie 39.89 320 ⇓P P 05 33 09.4 +1.2
baz=40
M06C Likely Place G 40.07 321 ⇓P P 05 33 09.8 0.0
baz=40
CHMT Chamberlain Mo 40.11 333 eP P 05 33 09.8 -0.3
CHMT epP pP 05 33 24.1 -0.8
E13A Victor 40.18 332 ⇓P P 05 33 10.7 +0.1
baz=40
I09A Lost Marbles R 40.22 326 P P 05 33 10.7 -0.3
baz=40,SNR=15
J08A Circle Bar Ran 40.22 325 P P 05 33 10.8 -0.1
baz=40,SNR=8.1
K07A Rock Creek Ran 40.23 324 P P 05 33 11.1 +0.1
baz=40,SNR=8.7
D14A Greenough 40.35 333 P P 05 33 11.6 -0.5
baz=40,SNR=19
MSO Missoula 40.35 332 eP P 05 33 11.8 -0.3
comp=E,30nm,1.2s,mb4.9
MSO epP pP 05 33 25.9 -0.9
MSO ePcP PcP 05 35 14.1 -0.3
M05C Lookout 40.57 321 ⇑P P 05 33 13.5 -0.3
baz=41
BMO Blue Mountains 40.57 328 eP P 05 33 12.7 -1.2
H09A Durkee 40.64 327 ⇓P P 05 33 14.6 +0.2
baz=41
J07A Hines 40.70 325 ⇑P P 05 33 14.6 -0.2
baz=41
D13A Huson 40.79 332 P P 05 33 15.2 -0.4
baz=41,SNR=18
H08A Prairie City 41.08 326 P P 05 33 18.0 0.0
baz=41,SNR=5.4
J06A Christmas Vall 41.10 324 ⇓P P 05 33 17.5 -0.8
baz=41
M04C Macdoel 41.24 321 ⇑P P 05 33 18.8 -0.6
baz=41
I07A Izee 41.25 325 ⇓P P 05 33 18.9 -0.6
baz=41
C13A Hot Springs 41.28 333 P P 05 33 19.2 -0.5
baz=41,SNR=8.4
F10A Beach Ranch, E 41.30 329 P P 05 33 19.3 -0.6
baz=41,SNR=20
F09A S2 Ranch, Elgi 41.47 328 ⇓P P 05 33 20.6 -0.7
baz=42,SNR=6.2
BSMT Bassoo Peak 41.50 333 eP P 05 33 21.5 0.0
I06A Prineville 41.56 325 ⇓P P 05 33 21.3 -0.8
baz=42
H07A Lands Inn, Kim 41.61 326 ⇓P P 05 33 20.8 -1.6
baz=42,SNR=6.6
C12A Trout Creek 41.70 332 P P 05 33 22.8 -0.4
baz=42,SNR=17
G08A Pilot Rock 41.74 327 ⇑P P 05 33 23.1 -0.3
baz=42
J05A Fort Rock 41.75 323 ⇑P P 05 33 23.4 -0.2
baz=42
B13A Whitefish 41.76 334 P P 05 33 23.5 -0.1
baz=42,SNR=16
F08A Pendleton 41.98 328 ⇓P P 05 33 24.6 -0.8
baz=42
WALA Waterton Lakes 42.04 335 eP P 05 33 25.9 0.0
comp=E,15nm,0.7s,mb4.7
WALA epP pP 05 33 40.2 -0.6
E09A Wood Farm, Sta 42.14 329 P P 05 33 26.1 -0.6
baz=42,SNR=7.7
A13A Flathead Natio 42.16 334 P P 05 33 27.0 +0.1
baz=42,SNR=36
B12A Libby 42.32 333 P P 05 33 28.4 +0.2
baz=42,SNR=6.4
D09A Jones Farm, Ri 42.60 329 P P 05 33 29.9 -0.5
baz=43,SNR=19
C10A Spilker Farm, 42.64 331 ⇑P P 05 33 30.3 -0.5
baz=43
B11A Sandpoint 42.65 332 P P 05 33 30.5 -0.4
baz=43,SNR=8.7
F07A Phinny Hill Vi 42.65 327 ⇓P P 05 33 30.1 -0.7
baz=43
A12A Yaak River Ran 42.70 333 P P 05 33 31.3 +0.1
baz=43,SNR=9.5
HAWA Hanford 42.77 328 eP P 05 33 30.8 -1.0
comp=E,5.6nm,0.6s,mb4.5
HAWA ePcP PcP 05 35 21.6 -0.8
NEW Newport 42.87 331 eP P 05 33 31.5 -1.2
comp=E,8.2nm,0.6s,mb4.6
NEW ePcP PcP 05 35 21.6 -1.1
D08A Wollman Farm, 42.90 329 P P 05 33 32.1 -0.7
baz=43,SNR=16
B10A Chitwood Farm, 42.94 331 ⇓P P 05 33 32.9 -0.4
baz=43
G05A Wamic 42.99 325 ⇓P P 05 33 33.7 +0.1
baz=43
F06A Goldendale 43.02 326 P P 05 33 34.0 +0.2
baz=43,SNR=5.7
E07A Sunnyside 43.04 328 ⇑P P 05 33 34.0 -0.1
baz=43,SNR=7.4
C09A Chrisman Ranch 43.09 330 P P 05 33 34.0 -0.4
baz=43,SNR=8.6
H04A Detroit Lake 43.14 324 ⇑P P 05 33 34.4 -0.4
baz=43
HOOD Mount Hood Mea 43.22 325 eP P 05 33 35.9 +0.4
HOOD epP pP 05 33 49.5 -0.8
B09A Rice 43.47 331 P P 05 33 36.7 -0.7
baz=44,SNR=35
F05A White Salmon 43.47 326 ⇑P P 05 33 38.2 +0.7
baz=44
D07A Quincy 43.52 328 ⇑P P 05 33 37.5 -0.5
baz=44
A10A Northport 43.59 332 P P 05 33 37.5 -0.9
baz=44,SNR=8.0
EBG Ellensburg 43.64 328 P P 05 33 38.9 +0.1
I02A Mapleton 43.70 322 ⇓P P 05 33 39.2 -0.1
baz=44
WTV Waterville 43.85 329 P P 05 33 40.4 -0.2
C07A Waterville 43.90 329 P P 05 33 41.0 +0.1
baz=44,SNR=12
D06A Cle Elum 43.97 328 ⇑P P 05 33 41.7 +0.1
baz=44
A09A Danville 44.06 331 P P 05 33 41.4 -0.8
baz=44,SNR=22
WRW Wenatchee Ridg 44.42 329 P P 05 33 45.0 -0.2
D05A Enumclaw 44.57 327 ⇑P P 05 33 45.7 -0.6
baz=45
C05A Tolt Reservoir 44.73 328 P P 05 33 46.2 -1.4
baz=45,SNR=11
E03A Lebam 45.03 325 ⇑P P 05 33 49.1 -0.8
baz=45
EDM Edmonton 45.12 339 eP P 05 33 49.6 -1.1
EDM epP pP 05 34 04.6 -1.1
RPW Rockport 45.13 329 P P 05 33 49.4 -1.4
B06A Marblemount 45.16 329 P P 05 33 50.0 -1.1
baz=45,SNR=9.6
SCHQ Schefferville 45.17 17 P P 05 33 49.1 -2.0
comp=E,23nm,0.5s,mb5.3,baz=215,slow=6.7,SNR=69
SCHQ pP pP 05 34 04.7 -1.3
comp=E,19nm,0.7s,baz=207,slow=7.0,SNR=6.8
SCHQ LR LR 05 53 37.4
comp=E,173nm,18.9s,MS4.0,baz=191,slow=37
SCHQ Schefferville 45.17 17 eP P 05 33 49.3 -1.7
comp=E,25nm,0.7s,mb5.2
SCHQ epP pP 05 34 04.5 -1.5
JCW Jim Creek 45.18 328 P P 05 33 49.4 -1.8
GNW Green Mountain 45.25 327 eP P 05 33 50.2 -1.4
B05A Bryant 45.31 328 P P 05 33 50.4 -1.7
baz=45,SNR=6.4
C04A Brinnon 45.42 327 P P 05 33 52.0 -1.1
baz=46,SNR=7.7
HDW Hoodsport 45.42 327 P P 05 33 51.9 -1.2
NLWA Neilton Lookou 45.70 326 ⇑P P 05 33 54.8 -0.4
baz=46
A05A Maple Falls 45.78 329 P P 05 33 54.9 -1.0
baz=46,SNR=6.9
OSD Olympics--Snow 45.87 327 P P 05 33 56.6 0.0
A04A Legoe Bay, Lum 45.91 328 ⇑P P 05 33 56.2 -0.8
baz=46

B04A	**Port Angeles**	**45.91**	**327**	⇑P	**P**	**05 33 55.9**	**-1.0**
	baz=46						
MCW	**Mount Constitu**	**45.95**	**328**	P	**P**	**05 33 56.2**	**-1.1**
FCC	**Fort Churchill**	**46.15**	**356**	*e*P	**P**	**05 33 57.0**	**-1.8**
	comp=E,37nm,0.5s,mb5.6						
PGC	**Sidney**	**46.25**	**328**	*e*P	**P**	**05 33 58.9**	**-0.8**
	comp=E,24nm,0.8s,mb5.2						
BDFB	**Brasilia**	**48.63**	**124**	P	**P**	**05 34 15.9**	**-2.1**
	comp=E,3.0nm,0.5s,mb4.6,baz=294,slow=10.0,SNR=9.9						
BDFB				PcP	PcP	05 35 41.8	-1.0
	comp=E,5.5nm,0.7s,baz=285,slow=4.7,SNR=5.9						
BDFB				LR	LR	05 57 20.1	
	comp=E,121nm,21.2s,MS3.9,baz=330,slow=39						
CPUP	**Villa Florida**	**49.00**	**143**	P	**P**	**05 34 18.1**	**-2.8**
	comp=E,2.1nm,0.6s,mb4.4,baz=324,slow=9.4,SNR=11						
CPUP				LR	LR	05 56 48.3	
	comp=E,110nm,18.9s,MS3.9,baz=61,slow=38						
CPUP	**Villa Florida**	**49.00**	**143**	*e*P	**P**	**05 34 18.5**	**-2.5**
	comp=E,11nm,0.6s,mb5.1						
YKA	**Yellowknife Ar**	**53.17**	**345**	P	**P**	**05 34 50.4**	**-1.8**
	comp=E,6.9nm,0.5s,mb4.9,baz=148,slow=6.4,SNR=34						
YKA				pP	pP	05 35 04.7	-2.8
	comp=E,12nm,0.7s,baz=140,slow=7.6,SNR=9.9						
YKA				PcP	PcP	05 35 57.1	-2.5
	comp=E,2.9nm,0.5s,baz=150,slow=3.7,SNR=5.7						
YKA				LR	LR	05 57 53.5	
	comp=E,152nm,21.3s,MS4.0,baz=120,slow=36						
YKA	**Yellowknife Ar**	**53.17**	**345**	P	**P**	**05 34 50.4**	**-1.8**
YKA				pP	pP	05 35 04.7	-2.8
YKA				PcP	PcP	05 35 57.1	-2.5
YKA				LR	LR	05 57 53.5	
DLBC	**Dease Lake**	**55.39**	**335**	*e*P	**P**	**05 35 08.1**	**-0.3**
DLBC				*e*pP	pP	05 35 23.0	-0.7
PLCA	**Paso Flores**	**55.62**	**164**	P	**P**	**05 35 08.3**	**-1.7**
	comp=E,3.1nm,0.6s,mb4.5,baz=335,slow=8.2,SNR=10						
PLCA	**Paso Flores**	**55.62**	**164**	*e*P	**P**	**05 35 08.5**	**-1.5**
	comp=E,4.7nm,0.8s,mb4.6						
RKT	**Rikitea**	**58.14**	**232**	*e*LR	LR	05 52 26.8	
	comp=E,174nm,28.0s						
RES	**Resolute Bay**	**62.04**	**358**	*e*P	**P**	**05 35 51.9**	**-2.6**
	comp=E,340nm,0.6s						
INK	**Inuvik**	**62.75**	**343**	*e*P	**P**	**05 35 57.4**	**-1.9**
	comp=E,625nm,1.0s						
INK				*e*pP	pP	05 36 13.0	-1.9
EGAK	**Eagle**	**63.32**	**337**	*e*P	**P**	**05 36 00.8**	**-2.1**
	comp=E,12nm,1.1s,mb4.9						
EGAK				*e*pP	pP	05 36 15.2	-3.5
MENT	**Mentasta**	**63.47**	**335**	*e*P	**P**	**05 36 02.3**	**-1.7**
PMR	**Palmer**	**65.28**	**333**	*e*P	**P**	**05 36 13.6**	**-2.2**
	comp=E,9.0nm,0.6s,mb5.0						
PMR				LR	LR		
	comp=Z,200nm,20.0s,MS4.3						
MCK	**McKinley**	**65.95**	**335**	*e*P	**P**	**05 36 18.3**	**-1.8**
	comp=Z,10nm,1.0s,mb4.8						
MCK				*e*pP	pP	05 36 33.0	-2.9
SUMG	**Summit**	**66.45**	**14**	*e*P	**P**	**05 36 22.5**	**-0.8**
	comp=Z,7.0nm,0.8s,mb4.7						
PPT	**Papeete**	**67.79**	**245**	*e*LR	LR	05 56 56.2	
	comp=Z,259nm,25.8s						
PPT	**Papeete**	**67.79**	**245**	LR	LR	05 58 31.6	
	comp=Z,166nm,21.1s,MS4.2,baz=33,slow=29						
SVW2	**Sparrevohn**	**68.11**	**331**	*e*P	**P**	**05 36 31.0**	**-2.9**
CHGN	**Chignik**	**68.61**	**326**	*e*P	**P**	**05 36 35.1**	**-1.9**
TBI	**Tubuai**	**69.96**	**239**	*e*LR	LR	05 57 55.9	
	comp=Z,210nm,27.5s						
UNV	**Unalaska Valle**	**73.00**	**323**	*e*P	**P**	**05 37 02.2**	**-1.4**
	comp=Z,34nm,0.4s,mb5.6						
NOA	**NORSAR Array B**	**83.39**	**29**	LR	LR	06 17 42.2	
	comp=Z,30nm,18.4s,MS3.7,baz=280,slow=38						
ARCES	**ARCESS Array B**	**86.10**	**19**	P	**P**	**05 38 11.7**	**-2.9**
	comp=Z,4.5nm,0.8s,mb4.7,baz=298,slow=4.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**86.92**	**77**	P	**P**	**05 38 14.8**	**-3.9**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.4,SNR=8.7						
TORD				LR	LR	06 12 26.1	
	comp=Z,70nm,21.0s,MS4.0,baz=140,slow=32						
TORD	**Torodi Ar. Bea**	**86.92**	**77**	P	**P**	**05 38 14.8**	**-3.9**
TORD				LR	LR	06 12 26.1	
AKASG	**Malin Array Be**	**96.61**	**35**	LR	LR	06 19 55.7	
	comp=Z,51nm,18.9s,MS4.0,baz=10.0,slow=34						
CN2	**Changchun**	**115.97**	**334**	*e*PKP	PKPdf	05 44 11.3	-5.1
CN2				PP	PP	05 45 20.6	-0.5
CN2				LR	LR		
	comp=N,200nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.7						
BOSA	**Boshof**	**116.35**	**116**	PKP	PKPdf	05 44 17.2	+0.2
	comp=Z,1.8nm,0.6s,baz=263,slow=4.8,SNR=7.2						
BOSA	**Boshof**	**116.35**	**116**	*e*PKPdf	PKPdf	05 44 17.4	+0.4
LBTB	**Lobatse**	**116.57**	**112**	*e*PKPdf	PKPdf	05 44 17.7	+0.2
LSZ	**Lusaka**	**118.27**	**101**	*e*PKPdf	PKPdf	05 44 21.4	+0.6
SONM	**Songino Array**	**118.33**	**349**	PKP	PKPdf	05 44 19.7	-1.2
	comp=Z,0.8nm,0.4s,baz=340,slow=1.4,SNR=9.0						
SONM				pPKP	pPKPdf	05 44 34.6	-3.4
	comp=Z,0.5nm,0.4s,baz=282,slow=0.8,SNR=4.2						
SONM				PKKPbc	PKKPbc	05 54 37.9	-0.8
	comp=Z,0.3nm,0.5s,baz=205,slow=3.1,SNR=4.0						
MKAR	**Makanchi Array**	**120.10**	**8**	PKP	PKPdf	05 44 21.1	-3.2
	comp=Z,0.4nm,0.3s,baz=318,slow=3.1,SNR=7.4						
MAW	**Mawson**	**121.95**	**167**	PKP	PKPdf	05 44 25.1	-2.8
	comp=Z,1.5nm,0.6s,baz=216,slow=1.6,SNR=5.4						
MAW	**Mawson**	**121.95**	**167**	*e*PKPdf	PKPdf	05 44 26.2	-1.7
WMQ	**Urumqi**	**123.57**	**4**	*e*PKP	PKPdf	05 44 32.0	+1.0
WMQ				*e*PP	PP	05 46 20.0	+6.7
WMQ				PKS		05 48 07.0	
WMQ				SKKS	SKKSac	05 53 05.0	-2.0
WMQ				PP	PP		
	comp=Z,68nm,5.3s						
WMQ				LR	LR		
	comp=N,195nm,20.8s,MS4.9						
WMQ				LR	LR		
	comp=E,188nm,21.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,204nm,20.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**123.67**	**342**	*e*PKP	PKPdf	05 44 31.8	+0.7
HHC				PP	PP	05 46 16.9	+3.0
HHC				PP	PP		
	comp=Z,135nm,4.9s						
HHC				LR	LR		
	comp=N,95nm,6.7s						
HHC				LR	LR		
	comp=E,93nm,5.3s						
HHC				LR	LR		
	comp=Z,147nm,20.4s,MS4.6						
LZH	**Lanzhou**	**130.15**	**347**	*e*PKP	PKPdf	05 44 45.6	+2.1
LZH				XPKP		05 45 08.5	
LZH				SKS	SKSdf	05 51 49.5	-0.6
LZH				SKKS	SKKSac	05 53 47.8	-0.7
LZH				*e*SS	SS	06 04 20.3	+2.0
LZH				PP	PP		
	comp=Z,85nm,8.9s						
LZH				LR	LR		
	comp=E,139nm,18.3s						
LZH				LR	LR		
	comp=Z,234nm,20.2s,MS4.9						
STKA	**Stephens Creek**	**130.75**	**239**	*e*P	PKPdf	05 44 44.6	-0.1
	comp=Z,2.2nm,0.6s						
STKA	**Stephens Creek**	**130.75**	**239**	PKP	PKPdf	05 44 44.2	-0.5
	comp=Z,2.5nm,0.6s,baz=65,slow=5.8,SNR=8.4						
CD2	**Chengdu**	**135.14**	**346**	*e*PKP	PKPdf	05 44 54.0	+1.1
WB2	**Warramunga Arr**	**138.78**	**254**	*e*P	PKPdf	05 44 50.3	-9.4
WB2				*e*PKPdf	PKPdf	05 44 59.8	+0.1
WRA	**Warramunga Arr**	**138.79**	**254**	PKHKP		05 44 46.9	
	comp=Z,0.7nm,0.5s,baz=92,slow=3.1,SNR=9.9						
WRA				PKP	PKPdf	05 44 59.5	-0.2
	comp=Z,3.6nm,0.9s,baz=87,slow=2.2,SNR=13						
AS31	**Alice Springs**	**138.83**	**249**	*e*PKPpre		05 44 52.1	
AS31				*e*PKPdf	PKPdf	05 44 59.7	-0.1
ASAR	**Alice Springs**	**138.83**	**249**	PKhKP		05 44 49.5	
	comp=Z,1.1nm,0.6s,baz=99,slow=2.4,SNR=19						
ASAR				PKP	PKPdf	05 45 00.2	+0.4
	comp=Z,2.2nm,0.6s,baz=91,slow=1.9,SNR=21						
KMI	**Kunming**	**140.92**	**344**	PKP	PKPdf	05 45 02.1	-1.4
KMI				APKP		05 45 18.3	
KMI				XPKP		05 45 24.6	
KMI				PP	PP	05 48 06.3	+1.7
KMI				LR	LR		
	comp=Z,123nm,23.3s,MS4.6						
KMI	**Kunming**	**140.92**	**344**	PKP	PKPdf	05 45 02.1	-1.4
KMI				pPKP	pPKPdf	05 45 18.2	-2.4
KMI				sPKP		05 45 24.6	
KMI				PP	PP	05 48 06.3	+1.7
KMI				PPP		05 51 15.3	
KMI				LR	LR		
	comp=Z,120nm,23.3s,MS4.6						
FITZ	**Fitzroy Crossi**	**147.12**	**256**	⇑*i*P	PKPdf	05 45 16.7	+2.3
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**147.89**	**347**	*e*PKPbc	PKPbc	05 45 17.3	-1.4
KKM	**Kota Kinabalu**	**149.50**	**306**	*e*PKPbc	PKPbc	05 45 20.9	-1.9
KLBR	**Kellerberrin**	**149.75**	**228**	*e*P	PKPdf	05 45 22.6	+4.0
	comp=Z,73nm,1.7s						
MBWA	**Marble Bar**	**152.18**	**249**	*e*PKPbc	PKPbc	05 45 28.4	-0.7

IDC 21 06:10:56.8±8.8, 1843S×17552W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/30, Error ellipse: s-maj=162.7km s-min=153.1km az=177.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.31**	**255**	P	Pn		06 15 00.8	+1.0
	0.4nm,0.3s,baz=79,slow=19,SNR=3.9							
CTA	**Charters Tower**	**36.08**	**261**	P	P		06 17 59.8	-0.3
	3.7nm,0.5s,baz=85,slow=8.5,SNR=9.2							
STKA	**Stephens Creek**	**40.81**	**242**	P	P		06 18 39.4	-0.5
	1.2nm,0.4s,baz=106,slow=7.4,SNR=2.9							
WRA	**Warramunga Arr**	**47.24**	**260**	P	P		06 19 32.4	+0.9
	1.0nm,0.4s,baz=95,slow=8.2,SNR=14							
WRA				LR	LR		06 38 50.5	
	comp=Z,86nm,18.0s,baz=155,slow=35							
ASAR	**Alice Springs**	**47.30**	**255**	P	P		06 19 32.8	+0.8
	3.7nm,0.6s,baz=86,slow=7.9,SNR=54							

IDC 21 06:14:48.4±0.8, 2184N×14309E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/23, mbtmp4.0/13, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/36, Error ellipse: s-maj=27.7km s-min=18.6km az=75.0
ISCJB 21 06:14:52.3±2.3, 2186N±008×1429E±0.1, h33km±20km, mb4.2/16, MS3.9/5, Error ellipse: s-maj=23.0km s-min=12.6km az=173.7
NEIC 21 06:14:52.4±4.5, 2187N×14306E, h24km±31km, mb4.6/4, Error ellipse: s-maj=15.0km s-min=8.4km az=84.0
ISC 21 06:14:54.9±1.9, 2187N±008×1430E±01, h40km±17km, n31, σ0§68/24, mb4.2/16, MS3.9/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.25**	**352**	Pn	**Pn**		**06 16 11.6**	**+0.7**
	10nm,0.3s,baz=308,slow=20,SNR=7.1							
CBIJ				Sn	**Sn**		**06 17 10.1**	**0.0**
	4.2nm,0.3s,baz=137,slow=22,SNR=1.9							
GUMO	**Guam**	**8.43**	**167**	LR	LR		06 19 04.2	
	comp=Z,65nm,20.6s,baz=142,slow=30							
JOW	**Kunigami**	**14.28**	**293**	LR	LR		06 22 55.0	
	comp=Z,216nm,19.1s,baz=147,slow=34							
MJAR	**Matsushiro Arr**	**15.20**	**345**	Pn	**Pn**		**06 18 25.3**	**-1.3**
	0.4nm,0.3s,baz=143,slow=10,SNR=3.6							
ASAJ	**Asahikawa**	**22.19**	**359**	LR	LR		06 28 43.5	
	comp=Z,98nm,18.3s,MS3.3,baz=161,slow=38							
SONM	**Songino Array**	**39.09**	**320**	P	**P**		**06 22 18.8**	**+0.7**
	1.9nm,0.5s,mb4.1,baz=131,slow=7.7,SNR=19							
WB2	**Warramunga Arr**	**42.40**	**192**	*e*P	**P**		**06 22 45.6**	**+0.2**
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**		**06 22 44.6**	**-0.8**
	2.4nm,1.1s,mb3.7,baz=29,slow=9.8,SNR=6.3							
AS31	**Alice Springs**	**46.11**	**192**	*e*P	**P**		**06 23 15.9**	**+0.8**
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**		**06 23 14.7**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=20,slow=9.6,SNR=13							
ASAR				LR	LR		06 40 36.3	
	comp=Z,114nm,20.2s,MS3.8,baz=253,slow=34							
STKA	**Stephens Creek**	**53.46**	**181**	LR	LR		06 48 18.9	
	comp=Z,144nm,19.0s,MS4.0,baz=25,slow=38							
ZAL	**Zalesovo**	**53.97**	**322**	P	**P**		**06 24 14.6**	**-0.1**
	1.9nm,0.8s,mb4.0,baz=19,slow=8.5,SNR=13							
MKAR	**Makanchi Array**	**54.44**	**313**	P	**P**		**06 24 18.8**	**+0.6**
	0.8nm,0.5s,mb3.9,baz=93,slow=8.8,SNR=12							
KDAK	**Kodiak Island**	**58.17**	**35**	LR	LR		06 45 33.0	
	comp=Z,208nm,21.0s,MS4.2,baz=165,slow=32							
CHKZ	**Chkalovo**	**62.28**	**320**	*e*P	**P**		**06 25 13.0**	**+0.2**
	5.6nm,1.1s,mb4.6							
BVAR	**Borovoye Array**	**62.42**	**319**	P	**P**		**06 25 13.9**	**+0.1**
	3.1nm,0.5s,mb4.7,baz=90,slow=7.7,SNR=20							
BRVK	**Borovoye**	**62.48**	**319**	*e*P	**P**		**06 25 14.8**	**+0.6**
	13nm,1.3s,mb4.9							
ZRNK	**Zerenda**	**63.26**	**319**	*e*P	**P**		**06 25 19.8**	**+0.5**
	5.1nm,1.0s,mb4.6							
INK	**Inuvik**	**67.49**	**24**	LR	LR		06 56 18.1	
	comp=Z,95nm,20.4s,MS4.0,baz=150,slow=37							
AKTK	**Aktyubinsk**	**70.32**	**317**	P	**P**		**06 26 04.3**	**+0.1**
AKTO	**Aktyubinsk**	**70.32**	**317**	P	**P**		**06 26 04.3**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=90,slow=8.8,SNR=4.2							
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**		**06 26 39.2**	**-0.8**
	1.6nm,0.7s,mb4.1,baz=291,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**		**06 26 39.2**	**-0.8**
FINES	**FINESS Array B**	**82.95**	**334**	P	**P**		**06 27 13.9**	**-1.7**
	3.4nm,1.0s,mb4.3,baz=98,slow=7.9,SNR=4.8							
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**		**06 27 17.0**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=292,slow=4.4,SNR=7.2							
DUG	**Dugway**	**86.36**	**48**	P	**P**		**06 27 32.7**	**-0.1**
	1.6nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	**87.40**	**45**	P	**P**		**06 27 38.1**	**+0.3**
	0.7nm,1.0s,mb3.9,baz=317,slow=6.1,SNR=3.7							
MSU	**Marysvale**	**87.54**	**49**	*e*P	**P**		**06 27 39.6**	**+1.0**
BRTR	**Keskin Array B**	**90.09**	**313**	P	**P**		**06 27 49.5**	**-1.1**
	1.6nm,0.9s,mb4.3,baz=114,slow=4.5,SNR=7.1							
LPAZ	**La Paz**	**150.11**	**85**	PKPbc	PKPbc		06 34 42.2	+1.0
	2.7nm,1.1s,baz=338,slow=7.2,SNR=4.6							
LPAZ	**La Paz**	**150.11**	**85**	PKPbc	PKPbc		06 34 42.2	+1.0

BJI 21 06:30:22.4, 3994N×9736E, h15km, ML3.5, Gansu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.97**	**105**	PG	Pg		06 30 54.3	-5.8
GTA				SG	Sg		06 31 21.3	-4.4
GTA				Smax				
	comp=N,438nm,0.5s							
GTA				Smax				
	comp=E,205nm,0.6s							

IDC 21 06:37:50.7±1.9, 205N×9654E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/31, Error ellipse: s-maj=54.6km s-min=22.1km az=53.0
ISCJB 21 06:37:54.0±1.2, 2.1N±01×966E±01, h33km, mb4.0/6, MS3.7/1, Error ellipse: s-maj=23.4km s-min=16.4km az=72.9
NEIC 21 06:37:55.5±0.8, 2.12N×9665E, h30km, mb4.3/1, Error ellipse: s-maj=17.4km s-min=11.7km az=39.0
ISC 21 06:37:56.6±1.2, 22N±01×967E±01, h35km, n9, σ0§20/8, mb4.0/6, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.33**	**74**	Pn	**Pn**		**06 38 32.5**	**+0.1**
	2.2nm,0.3s,baz=293,slow=8.3,SNR=12							
KULM	**Kulim**	**5.03**	**52**	*e*Pn	**Pn**		**06 39 09.2**	**-0.3**
WRA	**Warramunga Arr**	**42.99**	**123**	P	**P**		**06 45 52.4**	**+0.1**
	0.7nm,0.7s,mb3.5,baz=300,slow=9.5,SNR=4.7							
ASAR	**Alice Springs**	**44.39**	**128**	P	**P**		**06 46 03.5**	**-0.1**
	0.3nm,0.7s,mb3.1,baz=311,slow=8.2,SNR=4.8							
MKAR	**Makanchi Array**	**46.18**	**346**	P	**P**		**06 46 17.8**	**0.0**
	3.9nm,0.7s,mb4.5,baz=161,slow=7.7,SNR=27							
SONM	**Songino Array**	**46.26**	**9**	P	**P**		**06 46 18.9**	**+0.4**
	3.2nm,0.9s,mb4.3,baz=190,slow=8.7,SNR=14							
PMG	**Port Moresby**	**51.58**	**104**	LR	LR		07 08 56.7	
	comp=Z,63nm,19.2s,MS3.7,baz=186,slow=36							
ZAL	**Zalesovo**	**52.52**	**351**	P	**P**		**06 47 06.2**	**0.0**
	3.0nm,0.7s,mb4.3,baz=301,slow=5.8,SNR=3.8							
CHKZ	**Chkalovo**	**55.65**	**342**	*e*P	**P**		**06 47 28.9**	**-0.2**
	1.5nm,0.5s,mb4.3							

NAO 21 06:41:00.8, 3596N×2165E, h33km, mb3.9
ISCJB 21 06:41:11.8±1.2, 3754N±003×2137E±005, h7km±9km, mb3.6/6, Error ellipse: s-maj=7.5km s-min=4.6km az=112.4
THE 21 06:41:12.8, 3748N×2149E, h7km, ML3.5
ATH 21 06:41:13.3, 3762N×2147E, h16km±1km, MD3.6/15, ML3.6
CSEM 21 06:41:13.8±0.1, 3763N×2150E, h2km, ML3.6, Error ellipse: s-maj=2.9km s-min=1.4km az=49.0
NEIC 21 06:41:13.3, 3761N×2146E, h16km, MD3.6(ATH), ML3.9(THE), After ATH.
IDC 21 06:41:21.2±4.8, 3761N×2157E, h93km±53km, mb3.4/6, mb1 3.4/7, mb1mx3.3/24, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=31.3km s-min=20.9km az=115.0
ISC 21 06:41:12.5±0.9, 3757N±003×2136E±005, h4km±5km, n51, σ1§15/68, mb3.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.50**	**10**	*e*PB		**Pg**	**06 41 22.0**	**-0.1**
RLS				*e*SB		**Sg**	**06 41 28.7**	**+0.2**
ITM	**Ithomi**	**0.59**	**131**	*e*PN		**Pg**	**06 41 24.3**	**+0.4**
ITM				*e*SN		**Sg**	**06 41 32.8**	**+1.2**
VLS	**Valsamata**	**0.86**	**315**	*e*PN		**Pn**	**06 41 30.5**	**-1.0**
EVR	**Evrytania**	**1.39**	**15**	*e*PN		**Pn**	**06 41 38.4**	**-0.4**
EVR				*e*SN		**Sn**	**06 41 56.7**	**-0.9**
EVR	**Evrytania**	**1.39**	**15**	*e*Pn		**Pn**	**06 41 39.0**	**+0.2**
EVR				*e*Sn		**Sn**	**06 41 57.3**	**-0.3**
VLI	**Veliai**	**1.52**	**123**	*e*PN		**Pn**	**06 41 41.0**	**+0.5**
VLI				*e*SN		**Sn**	**06 42 01.4**	**+0.7**
VLI	**Veliai**	**1.52**	**123**	*e*Pn		**Pn**	**06 41 40.6**	**+0.1**
VLI				*e*Sn		**Sn**	**06 42 01.2**	**+0.5**
AGG	**Agios Georgios**	**1.64**	**27**	*e*Pb		**Pb**	**06 41 42.2**	**-1.1**
AGG				*e*Sb		**Sb**	**06 42 04.3**	**-0.1**
LKR	**Lokris**	**1.69**	**50**	*e*PN		**Pn**	**06 41 42.8**	**0.0**
LKR	**Lokris**	**1.69**	**50**	*e*Pn		**Pn**	**06 41 42.3**	**-0.5**
NAIG	**Nisos Aigina**	**1.70**	**83**	*e*PB		**Pn**	**06 41 41.2**	**-1.8**
NAIG	**Nisos Aigina**	**1.70**	**83**	*e*Pb		**Pn**	**06 41 42.2**	**-0.8**
KYTH	**Kithira**	**1.86**	**133**	*e*PN		**Pn**	**06 41 46.6**	**+1.4**
KYTH	**Kithira**	**1.86**	**133**	*e*Pn		**Pn**	**06 41 47.2**	**+2.0**
ATH	**Athens Observa**	**1.91**	**77**	*e*PB		**Pn**	**06 41 44.5**	**-1.4**
ATH				*e*SN		**Sn**	**06 42 10.2**	**-0.2**
ATH	**Athens Observa**	**1.91**	**77**	*e*Pb		**Pn**	**06 41 45.2**	**-0.7**
ATH				*e*Sn		**Sn**	**06 42 10.7**	**+0.3**
KVR	**Kavouri**	**1.93**	**82**	*e*PB		**Pn**	**06 41 45.2**	**-0.9**
KVR	**Kavouri**	**1.93**	**82**	*e*Pb		**Pn**	**06 41 45.7**	**-0.4**
PTL	**Penteli**	**2.04**	**76**	*e*PN		**Pn**	**06 41 47.3**	**-0.4**
THL	**Klokotos Trika**	**2.06**	**14**	*e*PN		**Pn**	**06 41 48.8**	**+0.9**
THL	**Klokotos Trika**	**2.06**	**14**	*e*Pn		**Pn**	**06 41 49.3**	**+1.4**
IGT	**Igoumenitsa**	**2.12**	**338**	*e*Pn		**Pn**	**06 41 49.4**	**+0.6**
IGT				*e*Sn		**Sn**	**06 42 18.5**	**+2.9**
NEO	**Neokhori**	**2.27**	**40**	*e*PN		**Pn**	**06 41 51.1**	**+0.3**
XOR	**Xorichti**	**2.30**	**38**	*e*Pn		**Pn**	**06 41 51.0**	**-0.2**
KEK	**Kerkira**	**2.47**	**331**	*e*PB		**Pb**	**06 41 55.1**	**-2.3**
AOS	**Alonnisos**	**2.54**	**50**	*e*Pn		**Pn**	**06 41 53.2**	**-1.4**
AOS	**Alonnisos**	**2.54**	**50**	*e*Pn		**Pn**	**06 41 53.2**	**-1.4**
LIT	**Litokhoron**	**2.68**	**19**	*e*Pn		**Pn**	**06 41 56.3**	**-0.1**
LIT				*e*Sn		**Sn**	**06 42 31.1**	**+1.7**
FNA	**Florina**	**3.21**	**0**	*e*Pn		**Pn**	**06 42 04.9**	**+1.1**
HORT	**Hortiatis**	**3.31**	**24**	*e*Pn		**Pn**	**06 42 05.3**	**+0.2**
APE	**Apeiranthos**	**3.36**	**97**	*e*PN		**Pn**	**06 42 06.7**	**+0.9**
APE	**Apeiranthos**	**3.36**	**97**	*e*Pn		**Pn**	**06 42 06.5**	**+0.7**
OUR	**Ouranopolis**	**3.44**	**36**	*e*Pn		**Pn**	**06 42 06.4**	**-0.5**
OHR	**Ohrid**	**3.57**	**353**	*e*Pn		**Pn**	**06 42 11.3**	**+2.7**
OHR				*e*Sn		**Sn**	**06 42 53.3**	**+2.1**
OHR	**Ohrid**	**3.57**	**353**	*e*Pn		**Pn**	**06 42 11.3**	**+2.7**
OHR				*e*Sn		**Sn**	**06 42 53.3**	**+2.1**
SOH	**Sokhos**	**3.60**	**25**	*e*Pn		**Pn**	**06 42 09.0**	**-0.1**
LOS	**Limnos**	**3.75**	**50**	*e*Pn		**Pn**	**06 42 10.9**	**-0.2**
KNT	**Kendrikon**	**3.78**	**18**	*e*Pn		**Pn**	**06 42 12.8**	**+1.2**
KNT				*e*Sn		**Sn**	**06 42 57.9**	**+1.3**
CHOS	**Chios island**	**3.80**	**76**	*e*Pn		**Pn**	**06 42 10.6**	**-1.2**
CHOS				*e*Sn		**Sn**	**06 42 55.8**	**-1.2**
VAY	**Valandovo**	**3.86**	**14**	*e*Pn		**Pn**	**06 42 16.4**	**+3.6**
VAY				*e*Sn		**Sn**	**06 42 57.6**	**-1.0**
VAY	**Valandovo**	**3.86**	**14**	*e*Pn		**Pn**	**06 42 16.3**	**+3.6**
VAY				*e*Sn		**Sn**	**06 42 57.6**	**-1.0**
ALN	**Alexandroupoli**	**4.93**	**46**	*e*Pn		**Pn**	**06 42 27.1**	**-0.3**
MLR	**Muntele Rosu**	**8.63**	**22**	P		**Pn**	**06 43 25.9**	**+7.7**
	0.2nm

comp=Z,367nm,18.9s,baz=140,slow=36
ASAJ Asahikawa 22.14 359 LR LR 06 56 21.4
comp=Z,80nm,18.3s,baz=330,slow=35
SONM Songino Array 39.22 320 P P 06 50 47.5 -0.1
0.4nm,0.5s,baz=124,slow=8.6,SNR=3.5
WRA Warramunga Arr 42.51 192 P P 06 51 16.3 +1.5
2.0nm,0.7s,baz=16,slow=8.9,SNR=6.8
FITZ Fitzroy Crossi 43.36 205 LR LR 07 06 32.2
comp=Z,111nm,21.2s,baz=309,slow=32
ASAR Alice Springs 46.22 192 P P 06 51 43.3 -1.2
0.7nm,0.6s,baz=16,slow=9.6,SNR=5.1
NVAR Mina Array Bea 82.94 52 P P 06 55 45.5 +1.0
0.9nm,0.7s,baz=279,slow=6.6,SNR=5.4
PLCA Paso Flores 145.85 131 PKPbc PKPbc 07 02 57.9 -1.0
0.6nm,0.5s,baz=207,slow=6.8,SNR=3.8

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*ISCJB **21** 06:43:21.8±0.5, 35.18N±002×398W±004, h20km±5km, Error ellipse: s-maj=5.5km s-min=2.9km az=41.3*
*CSEM **21** 06:43:21.0±0.1, 35.15N×394W, h12km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.2km az=98.0*
*SFS **21** 06:43:22.0, 3524N×396W, h0km, ML2.3*
*MDD **21** 06:43:22.6±0.6, 35.18N×394W, h7km±6km, mb3.7/18, Error ellipse: s-maj=4.9km s-min=3.4km az=126.0, PRXIMO*
*CNRM **21** 06:43:23.5, 35.11N×389W, h6km, MD3.3*

ISC 21 06:43:22.3±0.6, 3517N±002×394W±003, h17km±4km, n55, σ1§14/83, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.05**	**356**	*i* P	**Pg**	**06 43 25.0**	**-0.4**
TOU	**Touzarine**	**0.26**	**144**	P	**Pg**	**06 43 27.0**	**-1.0**
TOU				S	**Sg**	**06 43 31.0**	**-0.9**
TOU	**Touzarine**	**0.26**	**144**	*i* P	**Pg**	**06 43 27.0**	**-1.0**
EMEL	**Melilla**	**0.81**	**81**	P	**Pb**	**06 43 37.4**	**-0.5**
	192nm,0.2s,SNR=8.1						
EMEL				S	**Sb**	**06 43 48.9**	**+0.4**
	546nm,0.2s,SNR=10						
EMLI	**Melilla**	**0.82**	**81**	P	**Pb**	**06 43 37.4**	**-0.6**
	192nm,0.2s,SNR=8.1						
MELI	**Melilla**	**0.83**	**81**	P	**Pb**	**06 43 38.2**	**0.0**
MELI				S	**Sb**	**06 43 50.4**	**+1.4**
MELI	**Melilla**	**0.83**	**81**	*e*P	**Pb**	**06 43 38.2**	**0.0**
ZAI	**Zaio**	**1.00**	**101**	P	**Pb**	**06 43 41.0**	**0.0**
ZAI				S	**Sb**	**06 43 54.0**	**+0.1**
ZAI	**Zaio**	**1.00**	**101**	*i* P	**Pb**	**06 43 41.0**	**0.0**
EALB	**Alboran**	**1.06**	**44**	P	**Pb**	**06 43 40.9**	**-1.3**
	40nm,0.2s,SNR=11						
EALB				S	**Sb**	**06 43 55.1**	**-0.6**
	61nm,0.2s						
EALB	**Alboran**	**1.06**	**44**	P	**Pb**	**06 43 40.8**	**-1.4**
	40nm,0.2s,SNR=11						
DKH	**Dar Kharkhour**	**1.21**	**286**	P	**Pn**	**06 43 46.0**	**+1.7**
DKH				S	**Sb**	**06 44 04.0**	**+4.1**
DKH	**Dar Kharkhour**	**1.21**	**286**	*e*P	**Pn**	**06 43 46.0**	**+1.7**
TGT	**Taghat**	**1.43**	**220**	P	**Pn**	**06 43 49.0**	**+1.6**
TGT				S	**Sn**	**06 44 06.0**	**+0.2**
TGT	**Taghat**	**1.43**	**220**	*i* P	**Pn**	**06 43 49.0**	**+1.6**
EMIJ	**Mijas**	**1.55**	**334**	P	**Pn**	**06 43 47.7**	**-1.3**
	6.4nm,0.2s,SNR=18						
EMIJ				S	**Sn**	**06 44 07.1**	**-1.5**
	16nm,0.2s						
EGUA	**Guajares**	**1.69**	**10**	P	**Pn**	**06 43 49.0**	**-1.9**
	1.3nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**06 44 09.5**	**-2.5**
	3.0nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.78**	**316**	P	**Pn**	**06 43 51.9**	**-0.3**
	11nm,0.4s,SNR=8.4						
EJIF				S	**Sn**	**06 44 14.7**	**+0.3**
	10nm,0.4s						
ERON	**Agron**	**1.85**	**3**	P	**Pn**	**06 43 52.1**	**-1.0**
	2.3nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**06 44 15.4**	**-0.6**
	4.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.92**	**26**	P	**Pn**	**06 43 53.7**	**-0.4**
	4.0nm,0.2s,SNR=4.7						
EBER				S	**Sn**	**06 44 18.0**	**+0.1**
	20nm,0.2s,SNR=7.3						
EBER	**Berja**	**1.92**	**26**	P	**Pn**	**06 43 53.7**	**-0.4**
	4.0nm,0.2s,SNR=4.7						
ELOJ	**Sierra Loja**	**1.98**	**355**	P	**Pn**	**06 43 55.0**	**+0.1**
	11nm,0.4s,SNR=7.9						
ELOJ				S	**Sn**	**06 44 18.1**	**-1.2**
	3.1nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**2.06**	**212**	P	**Pn**	**06 43 56.0**	**0.0**
MIF				S	**Sn**	**06 44 19.5**	**-1.7**
MIF	**Mishlifen**	**2.06**	**212**	*i* P	**Pn**	**06 43 56.0**	**0.0**
EQUE	**Quentar**	**2.07**	**11**	P	**Pn**	**06 43 56.4**	**+0.2**
	5.8nm,0.3s,SNR=9.9						
EQUE				S	**Sn**	**06 44 20.6**	**-0.9**
	5.7nm,0.3s,SNR=5.7						
LIJA	**Lijar**	**2.10**	**326**	P	**Pn**	**06 43 59.0**	**+2.4**
LIJA				S	**Sn**	**06 44 26.0**	**+3.7**
LIJA	**Lijar**	**2.10**	**326**	*i* P	**Pn**	**06 43 59.0**	**+2.4**
ECOG	**Cogollos-Vega**	**2.12**	**8**	P	**Pn**	**06 43 57.7**	**+0.8**
	5.8nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**06 44 24.2**	**+1.3**
	4.7nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.30**	**318**	P	**Pn**	**06 43 59.8**	**+0.5**
	1.5nm,0.1s,SNR=7.5						
ESPR				S	**Sn**	**06 44 30.7**	**+3.5**
	8.7nm,0.3s						
ESPR	**Espera**	**2.30**	**318**	P	**Pn**	**06 43 59.8**	**+0.5**
	1.5nm,0.1s,SNR=7.5						
CZD	**Col de Zad**	**2.32**	**204**	P	**Pn**	**06 44 00.0**	**+0.4**
CZD				S	**Sn**	**06 44 28.0**	**+0.3**
CZD	**Col de Zad**	**2.32**	**204**	*i* P	**Pn**	**06 44 00.0**	**+0.4**
ELUQ	**Luque**	**2.40**	**354**	P	**Pn**	**06 44 02.0**	**+1.3**
	5.8nm,0.4s,SNR=5.6						
ELUQ				S	**Sn**	**06 44 30.0**	**+0.3**
	4.2nm,0.2s						
EQES	**Quesada**	**2.72**	**15**	P	**Pn**	**06 44 07.0**	**+1.9**
	3.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**06 44 37.8**	**+0.3**
	12nm,0.2s						
EQES	**Quesada**	**2.72**	**15**	P	**Pn**	**06 44 07.0**	**+1.9**
	3.7nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.85**	**22**	P	**Pn**	**06 44 07.9**	**+1.0**
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.04**	**350**	P	**Pn**	**06 44 10.6**	**+1.1**
	3.6nm,0.2s,SNR=14						
EADA				S	**Sn**	**06 44 45.0**	**-0.3**
	3.3nm,0.2s						
EADA	**Adamuz**	**3.04**	**350**	P	**Pn**	**06 44 10.6**	**+1.2**
	3.6nm,0.2s,SNR=14						
KIB	**El Ksiba**	**3.12**	**215**	P	**Pn**	**06 44 13.0**	**+2.3**
KIB				S	**Sn**	**06 44 47.0**	**-0.5**
KIB	**El Ksiba**	**3.12**	**215**	*i* P	**Pn**	**06 44 13.0**	**+2.3**
ZFT	**Errachidia**	**3.15**	**186**	P	**Pn**	**06 44 11.0**	**0.0**
ZFT				S	**Sn**	**06 44 45.0**	**-3.1**
ZFT	**Errachidia**	**3.15**	**186**	*e*P	**Pn**	**06 44 11.0**	**0.0**
EMIN	**Mina Concepcio**	**3.40**	**320**	P	**Pn**	**06 44 14.4**	**-0.1**
	2.7nm,0.2s,SNR=14						
EMIN				S	**Sn**	**06 44 52.5**	**-1.9**
	0.7nm,0.2s						
EMIN	**Mina Concepcio**	**3.40**	**320**	P	**Pn**	**06 44 14.4**	**-0.1**
	2.7nm,0.2s,SNR=14						
TZC	**Tazercounte**	**3.69**	**216**	P	**Pn**	**06 44 20.0**	**+1.5**
TZC				S	**Sn**	**06 45 00.0**	**-1.5**
TZC	**Tazercounte**	**3.69**	**216**	*e*P	**Pn**	**06 44 20.0**	**+1.5**
EGRO	**El Granado**	**3.71**	**311**	P	**Pn**	**06 44 18.5**	**-0.2**
	3.0nm,0.1s,SNR=6.8						
EGRO				S	**Sn**	**06 45 00.3**	**-1.6**
	13nm,0.4s,SNR=5.6						
EGRO	**El Granado**	**3.71**	**311**	P	**Pn**	**06 44 18.5**	**-0.2**
	3.0nm,0.1s,SNR=6.8						
ETOB	**Tobarra**	**3.96**	**28**	P	**Pn**	**06 44 23.5**	**+1.3**
	1.6nm,0.2s,SNR=6.5						
ETOB				S	**Sn**	**06 45 08.1**	**-0.1**
	0.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.96**	**28**	P	**Pn**	**06 44 23.5**	**+1.3**
	1.6nm,0.2s,SNR=6.5						
ESDC	**Sonseca Array**	**4.50**	**360**	P	**Pn**	**06 44 30.8**	**+1.3**
	2.9nm,0.1s,baz=180,slow=12,SNR=10						
ESDC	**Sonseca Array**	**4.50**	**360**	P	**Pn**	**06 44 30.8**	**+1.3**
	2.9nm,0.1s,SNR=10						
GUD	**Guadarrama**	**5.47**	**358**	P	**Pn**	**06 44 43.3**	**+0.4**
	1.1nm,0.3s,SNR=7.9						
ETOR	**Torete**	**5.83**	**14**	S	**Sn**	**06 45 51.0**	**-3.3**
	2.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.11**	**343**	P	**Pn**	**06 45 06.5**	**+1.1**
	0.6nm,0.2s,SNR=7.9						

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*IDC **21** 07:04:05.4±1.0, 4354N×1297E, h0km, mb3.8/6, mb1 4.0/15, mb1mx3.9/28, mbtmp3.8/15, ML3.8/8, MS2.9/4, Ms1 2.9/4, ms1mx2.7/37, Error ellipse: s-maj=22.6km s-min=14.1km az=106.0*
*THE **21** 07:04:07.0, 4338N×1294E, h3km*
*PRU **21** 07:04:09.2, 4385N×1295E, h0km, M4.0*
*ISCJB **21** 07:04:09.4±0.1, 43693N±0010×1302E±001, h36km, mb4.0/10, MS3.2/2, Error ellipse: s-maj=1.4km s-min=1.3km az=46.9*
*MOS **21** 07:04:09.4±1.0, 4374N×1295E, h32km, mb4.5/4, Error ellipse: s-maj=3.9km s-min=2.7km az=106.6*
*ROM **21** 07:04:10.6±0.1, 4365N×1300E, h36km±1km, Ml4.2/46, Error ellipse: s-maj=1.7km s-min=1.2km az=146.0*
*NEIC **21** 07:04:10.6, 4365N×1300E, h36km, mb4.0/3, ML4.0(PDG), ML4.2(ROM), ML4.3(STR), ML4.3(LDG), After ROM.*
*CSEM **21** 07:04:10.5±0.0, 4364N×1299E, h40km, mb4.2/2, ML4.3/36, Error ellipse: s-maj=0.8km s-min=0.7km az=60.0*
*PDG **21** 07:04:10.1±0.3, 4370N×1313E, h24km±1km*
*LDG **21** 07:04:10.8±0.2, 4377N×1307E, h30km, Ml4.3/40, Error ellipse: s-maj=4.5km s-min=2.4km az=165.0*
*IPEC **21** 07:04:11.5±0.1, 4368N×1308E, h70km±7km, Error ellipse: s-maj=1.3km s-min=1.0km az=145.0*
*SZGRF **21** 07:04:13.1, 4399N×1296E, h10km, mb4.5, Central Italy*
*ZUR **21** 07:04:17.4, 4390N×1250E, h90km±1km, mb3.9/1*
*STR **21** 07:04:20.3±1.2, 4421N×1196E, h10km±1km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ATH **21** 07:05:36.1, 3955N×2013E, h18km, MD3.3/4*

ISC 21 07:04:11.0±0.1, 4367N±001×1300E±001, h39km±3km, n422, σ1§06/619, mb4.0/10, MS3.2/2, 24C-41D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSSB	**Fossombrone**	**0.16**	**277**	Pg	**Pn**	**07 04 17.2**	**-0.6**
FSSB				Sg	**Sn**	**07 04 22.5**	**-0.1**
	66μm,0.2s						
PESA	**Pesaro**	**0.29**	**337**	Pg	**Pn**	**07 04 19.4**	**+0.3**
PESA				Sg	**Sn**	**07 04 26.0**	**+1.3**
	43μm,0.3s						
CING	**Cingoli**	**0.33**	**154**	Pg	**Pn**	**07 04 18.7**	**-0.8**
CING				Sg	**Sn**	**07 04 25.2**	**-0.2**
	24μm,0.5s						
AOI	**Ancona**	**0.46**	**106**	⇑Pg	**Pn**	**07 04 21.2**	**+0.1**
	19μm,0.4s						
RSM	**Repubblica di**	**0.47**	**303**	Pg	**Pn**	**07 04 21.8**	**+0.5**
	8μm,0.6s						
MURB	**Monte Urbino**	**0.54**	**220**	Pg	**Pn**	**07 04 21.3**	**-0.9**
MURB				Sg	**Sn**	**07 04 30.4**	**+0.4**
	62μm,0.3s						
BADI	**Badiali**	**0.57**	**254**	Pg	**Pn**	**07 04 22.2**	**-0.4**
BADI				Sg	**Sn**	**07 04 31.7**	**+0.8**
	21μm,0.7s						
CDCA	**Citt' di Caste**	**0.60**	**249**	Pg	**Pn**	**07 04 22.7**	**-0.3**
CDCA				Sg	**Sn**	**07 04 32.5**	**+1.0**
	16μm,0.5s						
ASS	**Assisi**	**0.66**	**203**	Pg	**Pn**	**07 04 23.1**	**-0.7**
CRE	**Caprese Michel**	**0.76**	**266**	Pg	**Pn**	**07 04 25.6**	**+0.4**
NRCA	**Norcia**	**0.84**	**174**	Pg	**Pn**	**07 04 26.1**	**-0.3**
	1.0nm,0.2s						
SFI	**Santa Sofia**	**0.86**	**286**	Pg	**Pn**	**07 04 27.6**	**+1.0**
	7μm,0.7s						
OFFI	**Offida**	**0.89**	**146**	Pg	**Pn**	**07 04 27.8**	**+0.8**
	15μm,0.5s						
LNSS	**Leonessa**	**1.07**	**178**	Pg	**Pn**	**07 04 29.6**	**+0.1**
	24μm,0.7s						
TERO	**Teramo**	**1.14**	**157**	Pg	**Pn**	**07 04 30.2**	**-0.2**
	5μm,0.4s						
SACS	**San Casciano d**	**1.15**	**224**	Pg	**Pn**	**07 04 30.6**	**+0.1**
	8μm,1.1s						
CSNT	**Castellina Chi**	**1.26**	**261**	Pg	**Pn**	**07 04 32.3**	**+0.3**
	3μm,0.6s						
MNS	**Montasola**	**1.31**	**190**	Pg	**Pn**	**07 04 32.9**	**+0.2**
	4μm,0.5s						
AQU	**L'Aquila**	**1.35**	**167**	*e*Pn	**Pn**	**07 04 33.3**	**0.0**
AQU				*e*Sn	**Sn**	**07 04 56.5**	**+6.5**
AQU	**L'Aquila**	**1.35**	**167**	Pg	**Pn**	**07 04 33.9**	**+0.6**
	3μm,0.6s						
AQU				*e*Sn	**Sn**	**07 04 56.5**	**+6.5**
LATE	**Laterza**	**1.37**	**220**	Pg	**Pn**	**07 04 33.4**	**-0.2**
ARCI	**Arcidosso**	**1.38**	**234**	Pg	**Pn**	**07 04 33.7**	**0.0**
	1μm,0.8s						
FIAM	**Fiamignano**	**1.41**	**176**	Pg	**Pn**	**07 04 34.8**	**+0.7**
	2μm,0.6s						
VCEL	**Villa Celiera**	**1.42**	**154**	Pg	**Pn**	**07 04 34.4**	**+0.1**
	3μm,0.5s						
FAGN	**Fagnano**	**1.47**	**163**	Pg	**Pn**	**07 04 35.2**	**+0.2**
	6μm,0.5s						
CRMI	**Carmignano**	**1.48**	**275**	Pg	**Pn**	**07 04 35.5**	**+0.5**
	2μm,1.2s						
GRFL	**Gerfalco**	**1.56**	**251**	Pg	**Pn**	**07 04 36.2**	**0.0**
PZZT	**Monte Pizzetto**	**1.61**	**287**	Pg	**Pn**	**07 04 38.1**	**+1.2**
	3μm,0.6s						
NVLJ	**Novalja**	**1.62**	**56**	*i* Pn	**Pn**	**07 04 37.3**	**+0.3**
NVLJ				*i* Sg	**Sn**	**07 04 56.9**	**+0.4**
NVLJ	**Novalja**	**1.62**	**56**	*i* Pn	**Pn**	**07 04 37.2**	**+0.2**
NVLJ				*i* Sg	**Sn**	**07 04 56.9**	**+0.3**
MTCE	**Montecelio**	**1.66**	**187**	Pg	**Pn**	**07 04 37.7**	**+0.1**
	2μm,1.2s						
CERT	**Cerreto**	**1.72**	**180**	Pg	**Pn**	**07 04 38.6**	**+0.2**
	1μm,0.3s						
TOLF	**Tolfa**	**1.77**	**205**	Pg	**Pn**	**07 04 38.8**	**-0.2**
	907nm,0.5s						
BDI	**Bagni Di Lucca**	**1.78**	**283**	Pg	**Pn**	**07 04 39.7**	**+0.5**
	2μm,0.6s						
PII	**Pisa**	**1.79**	**272**	Pg	**Pn**	**07 04 39.8**	**+0.4**
MAIM		**1.83**	**278**	Pg	**Pn**	**07 04 40.3**	**+0.4**
	2μm,0.8s						
MAON	**Monte Argentar**	**1.85**	**228**	Pg	**Pn**	**07 04 39.5**	**-0.7**
	694nm,0.8s						
VVLD	**Villa Vallelon**	**1.86**	**165**	Pg	**Pn**	**07 04 41.2**	**+0.9**
	3μm,1.2s						
IESO	**Jesolo**	**1.87**	**350**	⇓*i*Pg	**Pn**	**07 04 40.9**	**+0.4**
RDP	**Rocca di Papa**	**1.93**	**186**	Pg	**Pn**	**07 04 41.5**	**+0.3**
	4μm,0.5s						
TEOL	**Teolo**	**1.94**	**331**	⇓*i*Pg	**Pn**	**07 04 41.1**	**-0.2**
SARO	**Sassorosso**	**1.94**	**286**	P	**Pn**	**07 04 41.8**	**+0.3**
VLC	**Villacollemand**	**1.95**	**285**	Pg	**Pn**	**07 04 42.0**	**+0.5**
	942nm,0.8s						
VLC	**Villacollemand**	**1.95**	**285**	*e*Pg	**Pn**	**07 04 41.8**	**+0.2**
VLC				*e*Sg	**Sn**	**07 05 06.1**	**+1.4**
VLC	**Villacollemand**	**1.95**	**285**	*e*Pg	**Pn**	**07 04 41.8**	**+0.3**
VLC	**Villacollemand**	**1.95**	**285**	*e*Pn	**Pn**	**07 04 42.3**	**+0.8**
VLC				*e*Sg	**Sn**	**07 05 06.1**	**+1.3**
VALM		**2.10**	**290**	P	**Pn**	**07 04 45.0**	**+1.4**
TRI	**Trieste**	**2.11**	**15**	Pg	**Pn**	**07 04 43.5**	**-0.2**
	2μm,0.4s						
TRI	**Trieste**	**2.11**	**15**	*e*Pn	**Pn**	**07 04 43.7**	**0.0**
VINC	**Vinca**	**2.11**	**284**	P	**Pn**	**07 04 43.9**	**+0.2**
CERA	**Filignano**	**2.21**	**160**	Pg	**Pn**	**07 04 45.2**	**+0.1**
	843nm,0.8s						
MIDA	**Miranda**	**2.23**	**155**	Pg	**Pn**	**07 04 44.9**	**-0.5**
	476nm,0.7s						
MTLO	**Montello**	**2.23**	**344**	⇓*i*Pn	**Pn**	**07 04 45.6**	**+0.2**
TLI	**Talmassons**	**2.25**	**2**	⇓*i*Pn	**Pn**	**07 04 45.9**	**+0.2**
GRAM		**2.27**	**292**	P	**Pn**	**07 04 47.8**	**+1.9**
GROG	**Isola di Gorgo**	**2.27**	**265**	Pg	**Pn**	**07 04 46.2**	**+0.2**
	684nm,0.5s						
CEY	**Cerknica**	**2.30**	**26**	P	**Pn**	**07 04 46.8**	**+0.4**
CEY	**Cerknica**	**2.30**	**26**	*e*Pn	**Pn**	**07 04 46.7**	**+0.3**
CGRP	**Cima Grappa**	**2.37**	**339**	⇓*i*Pn	**Pn**	**07 04 47.2**	**0.0**
CGRP				*i* Sn	**Sn**	**07 05 13.6**	**-1.4**
CAE	**Caneva**	**2.37**	**350**	⇓*i*Pn	**Pn**	**07 04 47.4**	**+0.2**
CAE				*i* Sn	**Sn**	**07 05 14.6**	**-0.5**
CODM		**2.38**	**289**	P	**Pn**	**07 04 48.9**	**+1.4**
VAGA	**Valle Agricola**	**2.44**	**158**	Pg	**Pn**	**07 04 48.4**	**+0.2**
	624nm,0.9s						
BOJS	**Bojanci**	**2.44**	**41**	*i* Pg	**Pn**	**07 04 49.3**	**+1.1**
VOJS	**Vojsko**	**2.44**	**15**	*i* Pn	**Pn**	**07 04 48.3**	**0.0**
VOJS				*i* Sn	**Sn**	**07 05 17.2**	**+0.3**
FG2	**Serracapriola**	**2.46**	**139**	Pg	**Pn**	**07 04 48.0**	**-0.5**
	491nm,0.2s						
COLI	**Coloredo**	**2.47**	**6**	⇓*i*Pn	**Pn**	**07 04 48.5**	**-0.3**
COLI				*i* Sn	**Sn**	**07 05 17.7**	**-0.1**
MLNI	**Malnisio**	**2.49**	**354**	⇓*i*Pn	**Pn**	**07 04 49.3**	**+0.3**
MLNI				*i* Sn	**Sn**	**07 05 17.0**	**-1.1**
DRE	**Drenchia**	**2.54**	**10**	⇓*i*Pn	**Pn**	**07 04 49.8**	**+0.2**
DRE				*i* Sn	**Sn**	**07 05 19.5**	**+0.1**
BUA	**Buia**	**2.55**	**2**	⇓*i*Pn	**Pn**	**07 04 50.2**	**+0.5**
BUA				*i* Sn	**Sn**	**07 05 19.3**	**-0.2**
CTI	**Castel Tesino**	**2.56**	**338**	Pg	**Pn**	**07 04 50.1**	**+0.2**
	1μm,0.2s						
MPRI	**Monte Prat**	**2.57**	**360**	⇓*i*Pn	**Pn**	**07 04 50.6**	**+0.5**
MPRI				*i* Sn	**Sn**	**07 05 20.1**	**+0.1**
BAD	**Bernadia**	**2.57**	**4**	⇓*i*Pn	**Pn**	**07 04 50.2**	**+0.2**
BAD				*i* Sn	**Sn**	**07 05 19.5**	**-0.5**
SC2M	**Scurtabr**	**2.60**	**287**	P	**Pn**	**07 04 51.6**	**+1.1**
GMNA	**Gemona**	**2.61**	**4**	Pg	**Pn**	**07 04 50.8**	**+0.2**
CADS	**Cadrg**	**2.61**	**11**	*i* Pn	**Pn**	**07 04 50.7**	**+0.2**
CADS				*i* Sn	**Sn**	**07 05 20.5**	**-0.5**
CADS							
	comp=Z,840nm,0.3s						
CADS	**Cadrg**	**2.61**	**11**	*i* Pn	**Pn**	**07 04 50.7**	**+0.1**
CADS				*i* Sn	**Sn**	**07 05 20.5**	**-0.5**
	comp=Z,840nm,0.3s						
LJU	**Ljubljana**	**2.61**	**24**	*i* Pn	**Pn**	**07 04 51.4**	**+0.8**
LJU				*e*Sn	**Sn**	**07 05 23.7**	**+2.7**
LJU				*e*Sg	**Sn**	**07 05 36.1**	**+15**
SALO	**Salr**	**2.63**	**319**	Pg	**Pn**	**07 04 51.3**	**+0.5**
	comp=Z,6μm,0.6s						
CSO	**Casso**	**2.64**	**350**	⇓*i*Pn	**Pn**	**07 04 51.0**	**-0.1**
CSO				*i* Sn	**Sn**	**07 05 21.0**	**-0.9**
BOO	**Bordano**	**2.65**	**2**	⇓*i*Pn	**Pn**	**07 04 51.2**	**+0.1**
FAU	**Forcella Aurin**	**2.66**	**345**	⇓*i*Pn	**Pn**	**07 04 51.6**	**+0.3**
GORS	**Gorjuse**	**2.74**	**15**	*i* Pn	**Pn**	**07 04 52.6**	**+0.3**
PTCC	**Patocco-Chiusa**	**2.74**	**5**	Pg	**Pn**	**07 04 52.6**	**+0.2**
CRES	**Cresnjev**	**2.77**	**38**	*e*Pn	**Pn**	**07 04 53.7**	**+0.8**
PDKS	**Podkum**	**2.78**	**30**	*i* Pn	**Pn**	**07 04 54.0**	**+1.1**
PDKS				*i* Sn	**Sn**	**07 05 26.4**	**+1.1**
PDKS							
	comp=Z,947nm,0.5s						
PDKS	**Podkum**	**2.78**	**30**	*i* Pn	**Pn**	**07 04 54.0**	**+1.1**
PDKS				*i* Sn	**Sn**	**07 05 26.4**	**+1.1**
SGRT	**San Giovanni R**	**2.79**	**133**	Pg	**Pn**	**07 04 52.3**	**-0.8**
	comp=Z,415nm,0.2s						
CSMI	**Casera Mimoias**	**2.85**	**355**	⇓*i*Pn	**Pn**	**07 04 54.5**	**+0.6**
PLRO	**Paularo**	**2.88**	**2**	⇓*i*Pn	**Pn**	**07 04 54.7**	**+0.4**
ZOU	**Zoufplan**	**2.88**	**360**	⇓*i*Pn	**Pn**	**07 04 54.9**	**+0.5**
GCIS	**Gornji Cirnik**	**2.88**	**40**	*i* Pn	**Pn**	**07 04 55.2**	**+0.8**
CESS	**Cesta pri Krsk**	**2.89**	**36**	*i* Pn	**Pn**	**07 04 55.5**	**+1.0**
CESS				*i* Sn	**Sn**	**07 05 28.9**	**+0.8**
MSAG	**Monte S. Angel**	**2.91**	**131**	Pg	**Pn**	**07 04 53.8**	**-0.9**
	comp=Z,1μm,0.5s						
AFL	**Alpe Faloria**	**2.92**	**349**	⇓*i*Pn	**Pn**	**07 04 55.9**	**+1.1**
FG5	**Orsara di Pugl**	**2.92**	**144**	Pg	**Pn**	**07 04 54.8**	**-0.1**
	comp=Z,133nm,0.2s						
FVI	**Forni Avoltri**	**2.93**	**357**	Pg	**Pn**	**07 04 55.6**	**+0.6**
	comp=Z,934nm,0.9s						
MS1	**Monte Sant'Ang**	**2.93**	**131**	*e*Pn	**Pn**	**07 04 54.1**	**-0.9**
FGMS	**Monte Sant'Ang**	**2.93**	**131**	Pg	**Pn**	**07 04 54.2**	**-0.9**
	comp=Z,260nm,0.4s						
MABI	**Malga Bissina**	**2.96**	**324**	Pg	**Pn**	**07 04 55.8**	**+0.3**
	comp=Z,171nm,0.3s						
SISC	**Sisak**	**3.01**	**52**	*e*Pn	**Pn**	**07 04 57.9**	**+1.8**
SISC				*i* Sg	**Sn**	**07 05 38.6**	**+7.8**
SISC	**Sisak**	**3.01**	**52**	*e*Pn	**Pn**	**07 04 57.8**	**+1.7**
OBKA	**Obir**	**3.04**	**21**	⇑*i*Pn	**Pn**	**07 04 57.0**	**+0.5**
	SNR=41						
OBKA				⇓*i*Sn	**Sn**	**07 05 34.6**	**+2.9**
OBKA	**Obir**	**3.04**	**21**	⇑*e*Pn	**Pn**	**07 04 57.0**	**+0.5**
OBKA				*i* Sn	**Sn**	**07 05 34.6**	**+2.9**
OBKA	**Obir**	**3.04**	**21**	Pn	**Pn**	**07 04 57.0**	**+0.5**
	comp=Z,41nm,3.0s						
OBKA				Sn	**Sn**	**07 05 34.6**	**+2.9**
APPI	**Appiano**	**3.07**	**337**	Pg	**Pn**	**07 04 57.7**	**+0.7**
	comp=Z,671nm,0.4s						
SGTA	**Sant Agata di**	**3.08**	**145**	Pg	**Pn**	**07 04 57.1**	**0.0**
PGF	**Pioggiola**	**3.14**	**250**	*e*Pn	**Pn**	**07 04 58.4**	**+0.5**
PGF				*e*Sn	**Sn**	**07 05 32.9**	**-1.1**
	comp=Z,104nm,0.5s						
PGF	**Pioggiola**	**3.14**	**250**	*e*Pn	**Pn**	**07 04 58.4**	**+0.5**
PGF				*e*Sn	**Sn**	**07 05 32.9**	**-1.1**
	comp=Z,52nm,0.5s						
MDI	**Monti di Nese**	**3.15**	**313**	Pg	**Pn**	**07 04 58.2**	**+0.2**
	comp=Z,326nm,0.4s						
BLY	**Banja Luka**	**3.20**	**69**	P	**Pn**	**07 04 58.8**	**+0.1**
PCP	**Pian Castagno**	**3.32**	**287**	P	**Pn**	**07 05 00.2**	**-0.2**
BISS	**Bistriski jare**	**3.33**	**26**	*e*Pn	**Pn**	**07 05 00.9**

DAVA Sn **Sn** 07 06 03.1 +2.2
MVIF Mont Vial 4.24 275 P **Pn** 07 05 14.6 +1.6
LLS Linth-Limmern 4.24 320⇑ *i*P **Pn** 07 05 07.5 -5.6
MOA Molln 4.27 12⇓ *i*Pn **Pn** 07 05 14.1 +0.7
SNR=82
MOA ⇑ *i*Sn **Sn** 07 06 03.3 +1.3
MOA Molln 4.27 12 *e*Pn **Pn** 07 05 14.5 +1.1
MOA Sn **Sn** 07 06 03.3 +1.3
MMK Mattmark 4.30 305 *e*Pn **Pn** 07 05 12.7 -1.1
PZZ Prazzo 4.33 283 P **Pn** 07 05 12.7 -1.5
UPM Unac-Piva 4.33 94⇓ *i*Pn **Pn** 07 05 14.8 +0.5
UPM *e*Sn **Sn** 07 06 03.2 -0.3
RHK3 Tenkes 4.35 58 *e*P **Pn** 07 05 14.1 -0.4
RSP Reno Superiore 4.37 292 P **Pn** 07 05 12.4 -2.4
CALF Calern 4.41 273 *e*Pn **Pn** 07 05 16.8 +1.5
NKY Niksic 4.47 99⇓ *i*Pn **Pn** 07 05 16.8 +0.7
NKY *e*Sn **Sn** 07 06 06.7 -0.1
OG22 Abries 4.50 287 P **Pn** 07 05 15.7 -0.9
SURF Saint Ours 4.53 282 P **Pn** 07 05 17.2 +0.2
LSD Ceresole Reale 4.54 295 P **Pn** 07 05 15.2 -1.9
BUM Brajici-Budva 4.54 106⇑ *i*Pn **Pn** 07 05 17.4 +0.2
BUM *e*Sn **Sn** 07 06 08.1 -0.6
BNALP Bannalp 4.54 316 *e*Pn **Pn** 07 05 18.9 +1.7
MBDF Montbardon 4.60 285 *e*Pn **Pn** 07 05 17.3 -0.7
MBDF *e*Sn **Sn** 07 06 06.2 -3.9
comp=Z,194nm,0.6s
MBDF Montbardon 4.60 285 *e*Pn **Pn** 07 05 17.3 -0.7
MBDF *e*Sn **Sn** 07 06 06.2 -3.9
comp=Z,97nm,0.6s
FRF La Foret Royal 4.61 271 *e*Pn **Pn** 07 05 18.2 +0.1
FRF *e*Sn **Sn** 07 06 06.9 -3.5
comp=Z,150nm,0.4s
FRF La Foret Royal 4.61 271 *e*Pn **Pn** 07 05 18.2 +0.1
FRF *e*Sn **Sn** 07 06 06.9 -3.5
comp=Z,75nm,0.4s
RRL Cesana Torines 4.63 288 P **Pn** 07 05 17.8 -0.6
DIX Grande Dixence 4.64 303 *e*Pn **Pn** 07 05 19.0 +0.4
BBLS Bajina Basta - 4.65 85 *i*Pn **Pn** 07 05 19.6 +1.0
FUR Furstenfeldbru 4.65 346 *e*Pn **Pn** 07 05 19.6 +0.9
FUR Furstenfeldbru 4.65 346 *e*Pn **Pn** 07 05 19.5 +0.8
PLE Pljevlja 4.67 92⇓ *i*Pn **Pn** 07 05 19.4 +0.5
PLE *e*Sn **Sn** 07 06 11.4 -0.3
CONA Conrad Observa 4.70 24 *i*Pn **Pn** 07 05 19.8 +0.4
SNR=45
CONA ⇑ *i*Sn **Sn** 07 06 14.2 +1.5
SOP Sopron 4.72 31⇑ *e*Pn **Pn** 07 05 20.4 +0.8
SOP *e*Sn **Sn** 07 06 12.3 -0.8
LMR La Mourre 4.73 268 *e*Pn **Pn** 07 05 19.9 +0.1
LMR *e*Sn **Sn** 07 06 09.9 -3.5
comp=Z,71nm,0.4s
LMR La Mourre 4.73 268 *e*Pn **Pn** 07 05 19.9 +0.1
LMR *e*Sn **Sn** 07 06 09.9 -3.5
comp=Z,35nm,0.4s
BNI Bardonecchia 4.74 289 *e*Pn **Pn** 07 05 20.1 +0.3
BNI *e*Sn **Sn** 07 06 06.9 -6.6
BNI Bardonecchia 4.74 289 *e*Pn **Pn** 07 05 20.1 +0.3
PKSM Moragy 4.74 56⇑ *i*P **Pn** 07 05 20.0 +0.1
PKSM Moragy 4.74 56 ⇑P **Pn** 07 05 20.0 +0.1
PKSM Moragy 4.74 56⇓ *e*Pn **Pn** 07 05 20.4 +0.5
TTG Podgorica 4.75 103 *e*Pn **Pn** 07 05 20.7 +0.6
TTG *e*Sn **Sn** 07 06 13.1 -0.8
LPG La Plagne 4.82 294 *e*Pn **Pn** 07 05 19.8 -1.2
LPG *e*Sn **Sn** 07 06 11.3 -4.2
comp=Z,130nm,0.5s
LPG La Plagne 4.82 294 *e*Pn **Pn** 07 05 19.8 -1.2
LPG *e*Sn **Sn** 07 06 11.3 -4.2
comp=Z,65nm,0.5s
LPL La Plagne 4.84 295 *e*Pn **Pn** 07 05 20.3 -0.9
LPL *e*Sn **Sn** 07 06 11.5 -4.5
comp=Z,120nm,0.4s
LPL La Plagne 4.84 295 *e*Pn **Pn** 07 05 20.3 -0.9
LPL *e*Sn **Sn** 07 06 11.5 -4.5
comp=Z,60nm,0.4s
SENIN Lac Senin/Sane 4.85 306 *e*Pn **Pn** 07 05 22.1 +0.7
ULC Ulcinj 4.91 108⇓ *i*Pn **Pn** 07 05 22.2 0.0
ULC *e*Sn **Sn** 07 06 16.9 -0.8
RSL Roselend 4.97 296 P **Pn** 07 05 23.9 +0.8
VSL Villasalto 4.98 214 *e*Pn **Pn** 07 05 24.3 +1.1
VSL *e*Sn **Sn** 07 06 17.6 -1.8
VSL Villasalto 4.98 214 *e*Pn **Pn** 07 05 24.3 +1.1
VSL *e*Sn **Sn** 07 06 17.6 -1.9
DIVS Divcibare 5.07 83 *i*Pn **Pn** 07 05 25.4 +0.9
DIVS Sn **Sn** 07 06 18.4 -3.4
IVA Berane 5.10 97⇑ *i*Pn **Pn** 07 05 25.5 +0.7
IVA *e*Sn **Sn** 07 06 21.7 -0.7
VKA Vienna 5.14 26 *i*Pn **Pn** 07 05 27.3 +1.9
VKA *i*Sn **Sn** 07 06 22.3 -1.2
GDM Grand'Maison 5.16 290 P **Pn** 07 05 27.4 +1.7
GEC2 GERESS Array S 5.20 5 *e*Pn **Pn** 07 05 26.1 0.0
GEC2 *e*Sn **Sn** 07 06 23.3 -1.5
GERES GERESS Array B 5.20 5 Pn **Pn** 07 05 26.2 0.0
comp=Z,7.0nm,0.3s,baz=175,slow=13,SNR=169
GERES Sn **Sn** 07 06 22.7 -2.1
comp=Z,14nm,0.3s,baz=188,slow=27,SNR=3.7
GERES Lg 07 06 56.4
comp=Z,3.0nm,0.3s,baz=178,slow=26,SNR=3.8
GERES LR LR 07 08 01.6
comp=Z,109nm,19.6s,baz=159,slow=44
GERES GERESS Array B 5.20 5 Pn **Pn** 07 05 26.2 +0.1
GERES Sn **Sn** 07 06 22.7 -2.1
OG01 Vacheresse 5.21 303 P **Pn** 07 05 27.1 +0.8
PVY Plav 5.22 100⇓ *i*Pn **Pn** 07 05 27.5 +1.0
PVY *e*Sn **Sn** 07 06 25.5 +0.2
ORIF Oris-en-Rattie 5.26 286 *e*Pn **Pn** 07 05 27.7 +0.7
ORIF *e*Sn **Sn** 07 06 21.7 -4.7
comp=Z,113nm,0.5s
ORIF Oris-en-Rattie 5.26 286 *e*Pn **Pn** 07 05 27.7 +0.7
ORIF *e*Sn **Sn** 07 06 21.7 -4.7
comp=Z,56nm,0.5s
ZST Bratislava 5.35 31 *e*PN **Pn** 07 05 28.8 +0.5
ZST *e*SN **Sn** 07 06 26.2 -2.5
SMRF Simiane la Rot 5.38 276 *e*Pn **Pn** 07 05 30.1 +1.4
SMRF *e*Sn **Sn** 07 06 24.9 -4.4
comp=Z,94nm,0.8s
SMRF Simiane la Rot 5.38 276 *e*Pn **Pn** 07 05 30.1 +1.4
SMRF *e*Sn **Sn** 07 06 24.9 -4.4
comp=Z,47nm,0.8s
BBS Basel-Blauen 5.41 316 P **Pn** 07 05 28.9 -0.1
GRN Grenoble 5.42 289 P **Pn** 07 05 30.7 +1.4
FELD Feldberg im Sc 5.46 322 P **Pn** 07 05 29.8 0.0
FELD S **Sn** 07 06 26.4 -5.0
WET Wettzell 5.47 359 *e*Pn **Pn** 07 05 29.4 -0.6
WET *e*Sn **Sn** 07 06 27.2 -4.4
KHC Kasperske Hory 5.47 4 *e*PN **Pn** 07 05 29.8 -0.2
KHC *e*SN **Sn** 07 06 29.8 -1.9
KHC *e*SG Sn 07 07 06.8 +35
comp=Z,90nm,0.7s
KHC Kasperske Hory 5.47 4 *e*Pn **Pn** 07 05 29.8 -0.2
comp=Z,90nm,0.7s
KHC *e*Sn **Sn** 07 06 29.8 -1.9
KHC *e* 07 07 06.8
KHC Kasperske Hory 5.47 4 *e*Pn **Pn** 07 05 29.8 -0.2
comp=Z,90nm,0.7s
KHC *e*Sn **Sn** 07 06 29.8 -1.9
BOURR Bourrignon 5.50 315 *e*Pn **Pn** 07 05 30.9 +0.6
GRUS Gruza 5.59 85 *i*Pn **Pn** 07 05 32.1 +0.6
GRUS Sn **Sn** 07 06 33.9 -0.7
BFO Black Forest 5.68 327 *e*Pn **Pn** 07 05 32.7 -0.1
BFO *e*Sn **Sn** 07 06 32.5 -4.2
LOMF Lomont 5.69 312 P **Pn** 07 05 32.6 -0.3
BUD Budapest 5.69 46 *e*Sn **Sn** 07 06 36.4 -0.6
CABF La Chapelle 5.70 303 *e*Pn **Pn** 07 05 33.0 -0.1
CABF *e*Sn **Sn** 07 06 31.9 -5.4
comp=Z,59nm,0.4s
CABF La Chapelle 5.70 303 *e*Pn **Pn** 07 05 33.0 -0.1
CABF *e*Sn **Sn** 07 06 31.9 -5.4
comp=Z,29nm,0.4s
SMOL Smolenice 5.74 31 *e*PN **Pn** 07 05 33.0 -0.6
SMOL *e*SN **Sn** 07 06 35.8 -2.4
SMOL Smolenice 5.74 31 *e*PN **Pn** 07 05 33.0 -0.6
SMOL *e*Sn **Sn** 07 06 35.9 -2.3
STU Stuttgart 5.74 334 *e*P **Pn** 07 05 33.2 -0.4
STU *e* 07 06 32.2
STU pmax pmax
comp=Z,35nm,1.0s
STU Stuttgart 5.74 334 *e*Pn **Pn** 07 05 33.2 -0.4
comp=Z,35nm,1.0s
STU *e*Sn **Sn** 07 06 32.2 -6.0
STU Stuttgart 5.74 334 *e*Pn **Pn** 07 05 33.2 -0.4
comp=Z,35nm,1.0s
STU *e*Sn **Sn** 07 06 32.2 -6.0
MOF Molkenrain 5.86 318 P **Pn** 07 05 35.0 -0.2

OG05 Jujurieux 5.86 296 P **Pn** 07 05 35.0 -0.2
KRUC Moravsky 5.88 22 *e*Pn **Pn** 07 05 35.0 -0.5
KRUC *e*Sn **Sn** 07 06 40.2 -1.4
TREC Trest 5.88 16 *e*PN **Pn** 07 05 33.6 -1.9
TREC *e*SN **Sn** 07 06 37.2 -4.4
TREC Trest 5.88 16 *e*Pn **Pn** 07 05 33.7 -1.8
HINF Hinteralfeld 5.97 316 *e*Pn **Pn** 07 05 35.7 -1.1
HINF *e*Sn **Sn** 07 06 37.7 -6.2
comp=Z,124nm,0.2s
HINF Hinteralfeld 5.97 316 *e*Pn **Pn** 07 05 35.7 -1.1
HINF *e*Sn **Sn** 07 06 37.7 -6.2
comp=Z,62nm,0.2s
PENC Penc 6.02 45 *e*P **Pn** 07 05 37.2 -0.3
PENC *e*S **Sn** 07 06 43.7 -1.5
VIVF Saint-Julien-l 6.09 284 *e*Pn **Pn** 07 05 37.7 -0.8
VIVF *e*Sn **Sn** 07 06 41.9 -5.0
comp=Z,27nm,0.5s
VIVF Saint-Julien-l 6.09 284 *e*Pn **Pn** 07 05 37.7 -0.8
VIVF *e*Sn **Sn** 07 06 41.9 -5.0
comp=Z,13nm,0.5s
ECH Echery 6.10 320 P **Pn** 07 05 38.5 -0.1
JAVC Velka Javorina 6.11 30 *e*Pn **Pn** 07 05 39.9 +1.1
ROTZ Rotzenmuhle 6.12 355 *e*Pn **Pn** 07 05 37.6 -1.2
ROTZ *e*Sn **Sn** 07 06 42.1 -5.5
GRA1 Grafenberg Arr 6.14 349 *e*Pn **Pn** 07 05 38.4 -0.8
GRA1 *e*Sn **Sn** 07 06 43.3 -4.8
GRF Grafenberg Arr 6.14 349 *e*Pn **Pn** 07 05 38.4 -0.8
GRF *e*Sn **Sn** 07 06 43.3 -4.8
WLS Welschbruch 6.16 322 P **Pn** 07 05 39.3 0.0
VRAC Vranov 6.16 22 Pn **Pn** 07 05 39.9 +0.5
comp=Z,0.6nm,0.3s,baz=227,slow=13,SNR=7.5
VRAC Sn **Sn** 07 06 46.0 -2.5
comp=Z,2.6nm,0.3s,baz=299,slow=15,SNR=2.8
VRAC LR LR 07 08 30.0
comp=Z,215nm,20.6s,baz=210,slow=42
VRAC Vranov 6.16 22⇑ *i*P **Pn** 07 05 47.2 +7.8
VRAC Vranov 6.16 22 ⇑P **Pn** 07 05 47.2 +7.8
VRAC Vranov 6.16 22 *e*Pn **Pn** 07 05 39.9 -0.3
VRAC Vranov 6.16 22 P **Pn** 07 05 39.9 +0.5
VRAC Sn **Sn** 07 06 46.0 -2.5
CDF Champ du Feu 6.19 322 *e*Pn **Pn** 07 05 39.5 -0.3
CDF *e*Sn **Sn** 07 06 42.8 -6.5
comp=Z,77nm,0.3s
CDF Champ du Feu 6.19 322 *e*Pn **Pn** 07 05 39.5 -0.3
CDF *e*Sn **Sn** 07 06 42.8 -6.5
comp=Z,38nm,0.3s
VYHS Vyhne 6.30 38 *e*PN **Pn** 07 05 40.9 -0.4
VYHS *e*SN **Sn** 07 06 48.4 -3.6
VYHS Vyhne 6.30 38 *e*Pn **Pn** 07 05 41.4 +0.1
OHR Ohrid 6.32 111 *i*Pn **Pn** 07 05 41.8 +0.3
OHR *i*Sn **Sn** 07 06 48.6 -3.9
OHR Ohrid 6.32 111 *i*Pn **Pn** 07 05 41.8 +0.3
OHR *i*Sn **Sn** 07 06 48.5 -3.9
MANZ Manzenberg 6.34 355 *e*Pn **Pn** 07 05 40.9 -1.0
MANZ *e*Sn **Sn** 07 06 47.2 -5.9
HAU Haudompre 6.35 315 *e*Pn **Pn** 07 05 41.4 -0.6
HAU *e*Sn **Sn** 07 06 46.7 -6.5
comp=Z,380nm,0.6s
HAU Haudompre 6.35 315 *e*Pn **Pn** 07 05 41.4 -0.6
HAU *e*Sn **Sn** 07 06 46.7 -6.5
comp=Z,190nm,0.6s
PRU Pruhonice 6.41 9 *e*PN **Pn** 07 05 41.8 -1.0
PRU *e*SN **Sn** 07 06 50.5 -4.1
PRU *e*SG Sn 07 07 34.4 +40
comp=Z,193nm,1.4s
PRU Pruhonice 6.41 9 *e*Pn **Pn** 07 05 41.8 -1.0
comp=Z,193nm,1.4s
PRU *e*Sn **Sn** 07 06 50.5 -4.1
PRU *e*Sg Sn 07 07 34.4 +40
PRU Pruhonice 6.41 9 *e*Pn **Pn** 07 05 41.8 -1.0
comp=Z,193nm,1.4s
PRU *e*Sg Sn 07 07 34.4 +40
comp=Z,193nm,1.4s
LANF Langenberg 6.41 328 P **Pn** 07 05 43.1 +0.3
PSZ Piszkesteto 6.42 46⇓ *e*Pn **Pn** 07 05 47.8 +4.8
PSZ *e*Sn **Sn** 07 06 52.6 -2.4
PSZ Piszkesteto 6.42 46 *e*P **Pn** 07 05 43.4 +0.4
PSZ *e* 07 06 52.8
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 6.42 46 *e*Pn **Pn** 07 05 43.4 +0.4
comp=Z,9.6nm,0.9s
PSZ ⇓ *e*Pn **Pn** 07 05 47.8 +4.8
PSZ *e*Sn **Sn** 07 06 52.6 -2.4
PSZ *e*Sn **Sn** 07 06 52.8 -2.2
PSZ Piszkesteto 6.42 46 *e*Pn **Pn** 07 05 43.4 +0.4
comp=Z,9.6nm,0.9s
PSZ *e*Sn **Sn** 07 06 52.6 -2.4
SKO Skopje 6.44 102 *e*Pn **Pn** 07 05 45.0 +1.8
SKO *i*Sn **Sn** 07 06 55.2 -0.1
SKO Skopje 6.44 102 *e*Pn **Pn** 07 05 44.9 +1.7
SKO *i*Sn **Sn** 07 06 55.2 -0.2
KEK Kerkira 6.45 126 *e*PB **Pn** 07 05 42.6 -0.7
KEK Kerkira 6.45 126 *e*Pn **Pn** 07 05 42.8 -0.5
KEK Kerkira 6.45 126 *e*Pb **Pn** 07 05 42.6 -0.7
NKC Novy Kostel 6.57 357 *e*PN **Pn** 07 05 44.8 -0.3
NKC *e*SN **Sn** 07 06 55.0 -3.7
NKC *e*SG Sn 07 07 45.8 +47
comp=Z,95nm,1.0s
NKC Novy Kostel 6.57 357 *e*P **Pn** 07 05 44.8 -0.3
NKC *e* 07 06 55.0
TOD Tromm 6.60 336 P **Pn** 07 05 44.4 -1.0
LASF Ste Croix 6.62 277 *e*Pn **Pn** 07 05 44.3 -1.4
LASF *e*Sn **Sn** 07 06 54.6 -5.3
comp=Z,26nm,0.6s
LASF Ste Croix 6.62 277 *e*Pn **Pn** 07 05 44.3 -1.4
LASF *e*Sn **Sn** 07 06 54.6 -5.3
comp=Z,13nm,0.6s
WERN Wernitzgruen 6.63 357 *e*Pn **Pn** 07 05 45.5 -0.3
THEF They Montfort 6.68 315 P **Pn** 07 05 46.2 -0.3
GUNZ Gunzen 6.71 356 *e*Pn **Pn** 07 05 46.0 -0.9
GUNZ *e*Sn **Sn** 07 06 56.7 -5.3
BIA Bitola 6.71 110 *i*Pn **Pn** 07 05 46.9 -0.1
BIA *i*Sn **Sn** 07 06 58.0 -4.2
TANN Tannenbergstha 6.75 357 *e*Pn **Pn** 07 05 47.1 -0.4
TANN *e*Sn **Sn** 07 07 00.0 -3.2
WERD Werda 6.79 356 *e*Pn **Pn** 07 05 47.5 -0.6
FNA Florina 6.86 112 *e*Pn **Pn** 07 05 49.5 +0.5
MORC Moravsky Berou 6.86 25⇑ *i*P **Pn** 07 05 49.3 +0.4
MORC Moravsky Berou 6.86 25 *e*Pn **Pn** 07 05 47.1 -1.8
comp=Z,7.4nm,0.6s
MORC *e*Sn **Sn** 07 06 57.4 -8.3
MORC Moravsky Berou 6.86 25 *e*Pn **Pn** 07 05 49.2 +0.3
IGT Igoumenitsa 6.88 124 *e*Pn **Pn** 07 05 48.5 -0.7
COLF Collangettes 6.89 289 P **Pn** 07 05 48.0 -1.5
PVCC Panska Ves 6.94 8 *e*PN **Pn** 07 05 49.7 -0.4
PVCC *e*SN **Sn** 07 07 04.0 -3.8
PVCC *e*SG Sn 07 07 52.3 +45
PVCC Panska Ves 6.94 8 *e*P **Pn** 07 05 49.7 -0.4
PVCC *e* 07 07 04.0
MOX Moxa 7.04 353 *e*Pn **Pn** 07 05 50.1 -1.3
MOX *e*Sn **Sn** 07 07 03.7 -6.5
MOX Moxa 7.04 353 *e*Pn **Pn** 07 05 50.1 -1.3
MOX *e*Sn **Sn** 07 07 03.5 -6.7
PLDF La Plantade 7.05 292 P **Pn** 07 05 50.3 -1.3
DPC Dobruska-Polom 7.05 18 *e*PN **Pn** 07 05 50.5 -1.2
DPC *e*SN **Sn** 07 07 06.5 -4.1
DPC *ex* x 07 07 52.8
comp=Z,58nm,0.9s
DPC Dobruska-Polom 7.05 18 *e*Pn **Pn** 07 05 50.5 -1.2
comp=Z,58nm,0.9s
DPC *e*Sn **Sn** 07 07 06.5 -4.1
DPC *e* 07 07 52.8
STIP Stip 7.05 103 *e*Pn **Pn** 07 05 55.3 +3.6
STIP *i*Sn **Sn** 07 07 06.8 -3.7
STIP Stip 7.05 103 *e*Pn **Pn** 07 05 55.2 +3.5
STIP *i*Sn **Sn** 07 07 06.8 -3.7
KECS Kecovo 7.09 45 *e*PN **Pn** 07 05 52.9 +0.8
KECS *e*SN **Sn** 07 07 08.3 -3.1
OKC Ostrava-Krasne 7.11 28 *e*PN **Pn** 07 05 51.7 -0.7
OKC *e*SN **Sn** 07 07 08.3 -3.5
OKC *e*SG Sn 07 08 05.2 +53
comp=Z,31nm,0.8s
OKC Ostrava-Krasne 7.11 28 *e*P **Pn** 07 05 51.7 -0.7
OKC *e* 07 07 08.3
SMF Signal de Mont 7.12 298 *e*Pn **Pn** 07 05 51.3 -1.3
SMF *e*Sn **Sn** 07 07 05.8 -6.4
comp=Z,100nm,0.4s
SMF Signal de Mont 7.12 298 *e*Pn **Pn** 07 05 51.3 -1.3
SMF *e*Sn **Sn** 07 07 05.8 -6.4
comp=Z,50nm,0.4s
UPC Upice 7.14 16 *e*PN **Pn** 07 05 52.0 -0.8

UPC *e*SN **Sn** 07 07 08.5 -4.1
UPC *e*SG Sn 07 07 58.4 +46
UPC Upice 7.14 16 *e*P **Pn** 07 05 52.0 -0.8
UPC *e* 07 07 08.5
LBL Lubilhac 7.15 286 P **Pn** 07 05 52.2 -0.8
SFTF Sexfontaines 7.16 312 *e*Pn **Pn** 07 05 52.2 -0.9
baz=131
SFTF *e*Sn **Sn** 07 07 06.5 -6.7
comp=Z,38nm,0.2s
SFTF Sexfontaines 7.16 312 *e*Pn **Pn** 07 05 52.2 -0.9
SFTF *e*Sn **Sn** 07 07 06.5 -6.7
comp=Z,19nm,0.2s
RFYF Reffroy 7.20 316 *e*Pn **Pn** 07 05 53.3 -0.4
baz=129
RFYF *e*Sn **Sn** 07 07 06.8 -7.3
comp=Z,92nm,0.4s
RFYF Reffroy 7.20 316 *e*Pn **Pn** 07 05 53.3 -0.4
RFYF *e*Sn **Sn** 07 07 06.8 -7.3
comp=Z,46nm,0.4s
BRG Berggiesshubel 7.23 5 *e*Pn **Pn** 07 05 53.2 -0.9
BRG *e*Sn **Sn** 07 07 09.6 -5.3
BRG Berggiesshubel 7.23 5 PN **Pn** 07 05 53.0 -1.1
BRG *i* 07 06 05.5
BRG *i* 07 06 29.5
BRG *i* 07 07 10.9
BRG Berggiesshubel 7.23 5 P **Pn** 07 05 53.0 -1.1
BRG *i* 07 07 10.9
BRG smax
comp=N,6.0nm,0.8s
BRG Berggiesshubel 7.23 5 Pn **Pn** 07 05 53.0 -1.1
comp=N,30nm,0.8s
BRG *i* 07 06 05.5
BRG *i* 07 06 29.5
BRG *i* 07 07 10.9
BRG Sg Sn 07 08 05.3 +50
TNS Taunus Mts 7.25 336 *e*Pn **Pn** 07 05 54.4 0.0
TNS *e*Sn **Sn** 07 07 11.0 -4.4
FBE Freiberg 7.25 2 *e*Pn **Pn** 07 05 54.0 -0.4
FBE *e*Sn **Sn** 07 07 10.7 -4.8
MEZF Maizieres J'vi 7.33 314 *e*Pn **Pn** 07 05 56.4 +0.9
baz=135
MEZF *e*Sn **Sn** 07 07 10.1 -7.4
comp=N,66nm,0.4s
LOR Lormes 7.36 302 *e*Pn **Pn** 07 05 55.0 -0.9
baz=121
LOR *e*Sn **Sn** 07 07 11.1 -7.0
comp=N,105nm,0.4s
LOR Lormes 7.36 302 *e*Pn **Pn** 07 05 55.0 -0.9
LOR *e*Sn **Sn** 07 07 11.1 -7.0
comp=N,53nm,0.4s
AGO Saint Agoulin 7.40 292 P **Pn** 07 05 55.4 -1.0
PYM Petit Puy Mans 7.41 290 P **Pn** 07 05 55.1 -1.5
UBBA Unterbreizbach 7.43 345 *e*Pn **Pn** 07 05 57.0 +0.1
VAY Valandovo 7.45 105 *e*Pn **Pn** 07 05 59.4 +2.2
VAY *i*Sn **Sn** 07 07 14.0 -6.4
VAY Valandovo 7.45 105 *e*Pn **Pn** 07 05 59.3 +2.2
GRG Griva 7.48 108 *e*Pn **Pn** 07 05 57.4 -0.1
AVF Avril sur Loir 7.49 298 *e*Pn **Pn** 07 05 56.5 -1.1
AVF *e*Sn **Sn** 07 07 14.4 -6.8
comp=N,53nm,0.6s
AVF Avril sur Loir 7.49 298 *e*Pn **Pn** 07 05 56.5 -1.1
AVF *e*Sn **Sn** 07 07 14.4 -6.8
comp=N,26nm,0.6s
SSF Saint Saulge 7.49 300 *e*Pn **Pn** 07 05 56.4 -1.3
SSF *e*Sn **Sn** 07 07 14.0 -7.4
comp=N,78nm,0.5s
SSF Saint Saulge 7.49 300 *e*Pn **Pn** 07 05 56.4 -1.3
SSF *e*Sn **Sn** 07 07 14.0 -7.4
comp=N,39nm,0.5s
WLF Walferdange 7.62 324 *e*Pn **Pn** 07 06 01.9 +2.5
WLF Walferdange 7.62 324 *e*Pn **Pn** 07 05 59.3 -0.1
WLF *e*Sn **Sn** 07 07 22.0 -2.5
CLL Collm 7.64 0 *e*Pn **Pn** 07 05 59.5 -0.2
CLL Collm 7.64 0 *e*P **Pn** 07 06 00.0 +0.3
CLL Collm 7.64 0 *i*Pn **Pn** 07 05 59.5 -0.2
CLL *e*Sg Sn 07 08 22.0 +57
CLL *i*Sg Sn 07 08 22.2 +57
CLL Collm 7.64 0 *i*Pn **Pn** 07 05 59.5 -0.2
CLL *ex* x 07 06 11.0
CLL *e*Sn **Sn** 07 07 20.0 -4.9
CLL *i*Sg Sn 07 08 22.2 +57
comp=Z,109nm,1.2s
CLL Collm 7.64 0 *e*P **Pn** 07 06 00.0 +0.3
BGF Bois d'Agland 7.74 295 *e*Pn **Pn** 07 05 59.6 -1.4
BGF *e*Sn **Sn** 07 07 20.4 -7.0
comp=Z,105nm,0.4s
BGF Bois d'Agland 7.74 295 *e*Pn **Pn** 07 05 59.6 -1.4
BGF *e*Sn **Sn** 07 07 20.4 -7.0
comp=Z,52nm,0.4s
KNT Kendrikon 7.74 106 *e*Pn **Pn** 07 06 02.2 +1.1
KNT Kendrikon 7.74 106 *e*Pn **Pn** 07 06 02.2 +1.1
MTLF Montolieu 7.84 271 *e*Pn **Pn** 07 06 02.5 0.0
MTLF *e*Sn **Sn** 07 07 24.2 -5.8
comp=Z,13nm,0.6s
MTLF Montolieu 7.84 271 *e*Pn **Pn** 07 06 02.5 0.0
MTLF *e*Sn **Sn** 07 07 24.2 -5.8
comp=Z,6.6nm,0.6s
THL Klokotos Trika 7.90 118 *e*PN **Pn** 07 06 03.5 +0.2
LIT Litokhoron 7.93 114 *e*Pn **Pn** 07 06 03.5 -0.1
LIT Litokhoron 7.93 114 *e*Pn **Pn** 07 06 03.5 -0.2
CAF Calviac 7.94 283 *e*Pn **Pn** 07 06 03.3 -0.6
VLS Valsamata 7.95 131 *e*PN **Pn** 07 06 03.2 -0.7
STHS Stebnicka Huta 8.08 42 *e*PN **Pn** 07 06 07.7 +2.0
TCF Toulx Ste Croi 8.08 293 *e*Pn **Pn** 07 06 04.3 -1.5
TCF *e*Sn **Sn** 07 07 28.6 -7.2
comp=Z,32nm,0.4s
TCF Toulx Ste Croi 8.08 293 *e*Pn **Pn** 07 06 04.3 -1.5
TCF *e*Sn **Sn** 07 07 28.6 -7.2
comp=Z,16nm,0.4s
HORT Hortiatis 8.11 109 *e*Pn **Pn** 07 06 05.8 -0.4
HYF Humbligny 8.12 300 *e*Pn **Pn** 07 06 05.0 -1.3
HYF *e*Sn **Sn** 07 07 29.6 -7.1
EVR Evrytania 8.16 123 *e*PN **Pn** 07 06 03.8 -3.0
EVR Evrytania 8.16 123 *e*Pn **Pn** 07 06 04.0 -2.8
CLZ Clausthal 8.36 349 *e*Pn **Pn** 07 06 09.2 -0.4
RJF Les Rejaudoux 8.37 285 *e*Pn **Pn** 07 06 08.0 -1.7
RJF *e*Sn **Sn** 07 07 36.3 -6.6
comp=Z,11nm,0.7s
RJF Les Rejaudoux 8.37 285 *e*Pn **Pn** 07 06 08.0 -1.7
RJF *e*Sn **Sn** 07 07 36.3 -6.6
comp=Z,5.3nm,0.7s
KEST Kesra 8.41 201 Pn **Pn** 07 06 12.3 +2.0
comp=Z,0.3nm,0.3s,baz=245,slow=5.2,SNR=8.3
KEST Sn **Sn** 07 07 44.6 +0.6
comp=Z,0.2nm,0.3s,baz=345,slow=16,SNR=2.8
KEST LR LR 07 09 43.7
comp=Z,33nm,21.8s,baz=295,slow=41
GIVF Givet 8.52 322 *e*P **Pn** 07 06 14.2 +2.4
GIVF *e*Sn **Sn** 07 07 38.3 -8.3
comp=Z,14nm,0.4s
GIVF Givet 8.52 322 *e*P **Pn** 07 06 14.2 +2.4
GIVF *e*Sn **Sn** 07 07 38.3 -8.3
comp=Z,6.9nm,0.4s
XOR Xorichti 8.77 116 *e*Pn **Pn** 07 06 14.0 -1.2
BAIF Baives 8.77 320 *e*P **Pn** 07 06 17.5 +2.3
BAIF *e*Sn **Sn** 07 07 44.4 -8.4
comp=Z,54nm,0.8s
BAIF Baives 8.77 320 *e*P **Pn** 07 06 17.5 +2.3
BAIF *e*Sn **Sn** 07 07 44.4 -8.4
comp=Z,27nm,0.8s
EPF Esparros 9.25 270 *e*Pn **Pn** 07 06 22.4 +0.7
MLR Muntele Rosu 9.42 74 Pn **Pn** 07 06 27.5 +3.4
comp=Z,0.2nm,0.3s,baz=158,slow=11,SNR=2.2
MLR Muntele Rosu 9.42 74⇓ *i*P **Pn** 07 06 32.0 +7.9
BURAR Bucovina Array 9.42 61⇑ *i*P **Pn** 07 06 27.8 +3.7
BURAR Bucovina Array 9.42 61 ⇑P **Pn** 07 06 27.8 +3.7
MFF Saint Martin d 9.74 292 *e*Pn **Pn** 07 06 27.6 -0.9
MFF *e*Sn **Sn** 07 08 08.6 -7.9
comp=Z,10nm,0.5s
MFF Saint Martin d 9.74 292 *e*Pn **Pn** 07 06 27.6 -0.9
MFF *e*Sn **Sn** 07 08 08.6 -7.9
comp=Z,5.2nm,0.5s
ETSF Etsaut 9.92 270 *e*P **Pn** 07 06 34.7 +3.8
LDF La Druitiere 10.35 303 *e*Pn **Pn** 07 06 34.4 -2.4
LDF *e*Sn **Sn** 07 08 22.5 -8.9
comp=Z,30nm,0.9s
LDF La Druitiere 10.35 303 *e*Pn **Pn** 07 06 34.4 -2.4
LDF *e*Sn **Sn** 07 08 22.5 -8.9
comp=Z,15nm,0.9s
SJPF Ste Jean 10.37 272 *e*P **Pn** 07 06 40.4 +3.3
FLN La Foliniere 10.63 303 *e*Pn **Pn** 07 06 38.1 -2.6
baz=117
FLN *e*Sn **Sn** 07 08 29.5 -8.9
comp=Z,9.4nm,0.5s

FLN	La Foliniere	10.63	303	*e*Pn	Pn	07 06 38.1	-2.6
FLN				*e*Sn	Sn	07 08 29.5	-8.9
comp=Z,4.7nm,0.5s							
GRR	Gorron	10.72	301	*e*Pn	Pn	07 06 39.4	-2.5
GRR				*e*Sn	Sn	07 08 31.5	-9.1
comp=Z,6.4nm,0.2s							
GRR	Gorron	10.72	301	*e*Pn	Pn	07 06 39.4	-2.5
GRR				*e*Sn	Sn	07 08 31.5	-9.1
comp=Z,3.2nm,0.2s							
SGMF	Saint Gilles	11.75	298	*e*Pn	Pn	07 06 53.3	-2.7
SGMF				*e*Sn	Sn	07 08 56.3	-9.5
comp=Z,17nm,0.7s							
SGMF	Saint Gilles	11.75	298	*e*Pn	Pn	07 06 53.3	-2.7
SGMF				*e*Sn	Sn	07 08 56.3	-9.5
comp=Z,8.4nm,0.7s							
QUIF	Quistinic	12.05	296	*e*Pn	Pn	07 06 58.8	-1.3
QUIF				*e*Sn	Sn	07 09 03.7	-9.4
comp=Z,4.7nm,0.3s							
QUIF	Quistinic	12.05	296	*e*Pn	Pn	07 06 58.8	-1.3
QUIF				*e*Sn	Sn	07 09 03.7	-9.4
comp=Z,2.3nm,0.3s							
ROSF	Rostrenen	12.23	298	*e*Pn	Pn	07 06 59.3	-3.3
ROSF				*e*Sn	Sn	07 09 07.8	-10
comp=Z,5.8nm,0.4s							
ROSF	Rostrenen	12.23	298	*e*Pn	Pn	07 06 59.3	-3.3
ROSF				*e*Sn	Sn	07 09 07.8	-10
comp=Z,2.9nm,0.4s							
ESDC	Sonseca Array	13.29	258	Pn	Pn	07 07 15.0	-2.0
comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=9.9							
EKA	Eskdalemuir Ar	15.65	324	Pn	Pn	07 07 46.9	-1.6
comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=4.9							
BRTR	Keskin Array B	15.91	97	Pn	Pn	07 07 51.5	-0.4
comp=Z,0.1nm,0.3s,baz=310,slow=11,SNR=2.5							
BOYT	Boyabat	16.30	90	*i* P	Pn	07 08 02.2	+5.4
CTKT	Corum	16.44	93	*i* P	Pn	07 08 04.3	+5.6
HFS	Hagfors	16.49	1	Pn	Pn	07 08 00.0	+0.7
comp=Z,0.1nm,0.3s,baz=196,slow=15,SNR=3.2							
HFS				LR	LR	07 15 26.4	
comp=Z,72nm,18.7s,baz=36,slow=41							
NB2	NORSAR Subarra	17.43	357	P	Pn	07 08 13.6	+2.6
comp=Z,5.5nm,1.2s,baz=156,slow=9.3							
NB2	NORSAR Subarra	17.43	357	P	Pn	07 08 13.6	+2.6
NB2				pmax	pmax		
comp=Z,6.0nm,1.2s							
NOA	NORSAR Array B	17.43	357	P	Pn	07 08 11.8	+0.7
comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=3.1							
NOA	NORSAR Array B	17.43	357	P	Pn	07 08 11.8	+0.7
ANN	Anapa	17.53	78	*e*P	Pn	07 08 15.1	+2.8
ANN				pmax	pmax		
comp=Z,39nm,1.2s							
ANN	Anapa	17.53	78	*e*P	Pn	07 08 15.1	+2.8
comp=Z,39nm,1.2s							
FINES	FINESS Array B	19.42	19	P	Pn	07 08 35.4	+0.1
comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=6.4							
GZT	Gaziantep	19.68	100	*i* P	Pn	07 08 38.3	0.0
KAF	Kangasniemi	20.06	18	*e*p	P	07 08 43.8	+3.0
comp=Z,6.1nm,0.7s,baz=211,slow=10							
KAF	Kangasniemi	20.06	18	*e*P	P	07 08 43.8	+3.0
KAF				pmax	pmax		
comp=Z,6.0nm,0.7s							
KIV	Kislovodsk	21.38	79	*i* P	P	07 08 59.7	+4.7
KIV				pmax	pmax		
comp=Z,4.0nm,0.3s,mb4.2							
KIV				MLR	MLR		
comp=Z,100nm,27.0s,MS3.1							
JOF	Joensuu	22.01	23	*e*p	P	07 09 03.4	+1.6
comp=Z,13nm,1.0s,mb4.3							
ZEI	Tsey	22.48	82	*e*P	P	07 09 09.7	+2.9
ZEI				*i*		07 09 24.3	
GNI	Garni	23.81	88⇑	*e*P	P	07 09 23.4	+3.2
GNI				pmax	pmax		
comp=Z,14nm,1.5s							
KEV	Kevo	27.11	11	*e*p	P	07 09 50.4	+0.3
comp=Z,2.7nm,0.5s,mb4.0							
KEV	Kevo	27.11	11	*e*P	P	07 09 50.4	+0.3
KEV				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.1							
ARU	Arti	31.31	50⇑	*e*P	P	07 10 27.3	-0.1
ARU				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.4							
ARU				MLR	MLR		
comp=Z,100nm,27.0s,MS3.4							
TORD	Torodi Ar. Bea	31.94	201	P	P	07 10 31.4	-1.5
comp=Z,4.5nm,0.7s,mb4.4,baz=16,slow=8.9,SNR=37							
BVAR	Borovoye Array	38.32	55	P	P	07 11 28.8	+1.0
comp=Z,1.4nm,0.7s,mb3.8,baz=270,slow=7.1,SNR=5.9							
MKAR	Makanchi Array	47.45	61	P	P	07 12 42.1	+0.4
comp=Z,0.9nm,0.8s,mb3.7,baz=308,slow=5.1,SNR=3.4							
SONM	Songino Array	61.35	50	P	P	07 14 23.8	+1.1
comp=Z,0.2nm,0.4s,mb3.6,baz=327,slow=10,SNR=2.7							
INK	Inuvik	65.56	347	*e*P	P	07 14 58.4	+7.9
comp=Z,144nm,0.7s							
CBKS	Cedar Bluff	77.85	313	*e*P	P	07 16 03.8	-0.6
PDAR	Pinedale Array	79.75	321	P	P	07 16 15.5	+0.6
comp=Z,0.3nm,0.6s,mb3.4,baz=44,slow=5.3,SNR=2.6							
TXAR	Lajitas Array	87.07	309	P	P	07 16 53.9	+1.4
comp=Z,0.4nm,0.7s,mb3.7,baz=59,slow=4.8,SNR=4.9							
TXAR	Lajitas Array	87.07	309	P	P	07 16 53.9	+1.4

*ISCJB **21** 07:26:21.8±2.4, 297S±0.1×1793W±03, h183km±25km, mb3.2/3, Error ellipse: s-maj=42.0km s-min=17.0km az=21.1*
*IDC **21** 07:27:07.4±33.0, 3033S×1795E, h654km±381km, mb2.4/3, mb1 2.7/3, mb1mx2.6/11, mbtmp3.5/3, Error ellipse: s-maj=269.2km s-min=32.3km az=53.0*
ISC 21 07:26:26.5±3.1, 299S±02×1796W±03, h196km±30km, n11, σ0§94/12, mb2.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	8.33	192	PN	Pn	07 28 23.2	-0.8
PUZ				SN	Sn	07 30 00.5	+2.9
MWZ	Matawai	8.73	195	PN	Pn	07 28 28.6	-0.6
MWZ				SN	Sn	07 30 11.6	+4.5
URZ	Urewera	8.76	198	PN	Pn	07 28 30.2	+0.5
URZ				SN	Sn	07 30 14.6	+6.7
KNZ	Kokohu	9.36	193	SN	Sn	07 30 21.8	-0.3
TCW	Tory Channel	12.33	202	SN	Sn	07 31 31.6	-1.3
NNZ	Nelson	12.65	205	SN	Sn	07 31 40.8	+0.2
ASAR	Alice Springs	41.79	267	P	P	07 33 57.0	+0.4
0.3nm,0.5s,mb3.0,baz=104,slow=7.0,SNR=5.3							
WRA	Warramunga Arr	42.73	272	P	P	07 34 04.4	+0.1
0.2nm,0.4s,mb2.9,baz=112,slow=6.2,SNR=4.6							
VNDA	Vanda	48.44	185	P	P	07 34 48.9	-0.1
0.4nm,0.6s,mb2.9,baz=4.7,slow=7.3,SNR=3.8							
FINES	FINESS Array B	144.23	339	PKP	PKPdf	07 45 29.0	-10
0.7nm,0.5s,baz=52,slow=3.1,SNR=9.4							
HFS	Hagfors	148.50	347	PKPbc	PKPdf	07 45 42.3	-3.7
1.5nm,0.8s,baz=31,slow=3.5,SNR=5.0							

*ISCJB **21** 07:30:35.8±0.3, 4025N±002×2798E±002, h5km±3km, Error ellipse: s-maj=2.9km s-min=2.2km az=12.5*
*CSEM **21** 07:30:35.7±0.1, 4027N×2799E, h5km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.1km az=179.0*
*SOF **21** 07:30:36.6, 4010N×2765E, h10km, MD2.8*
*NEIC **21** 07:30:36.0, 4029N×2800E, h8km, MD3.7(ATH), ML3.4(ISK), After ISK.*
*ISK **21** 07:30:36.1, 4029N×2800E, h8km, MD3.4*
*ATH **21** 07:30:38.1, 4026N×2786E, h30km±6km, MD3.6/5*
*THE **21** 07:30:38.2, 4020N×2811E, h23km, ML3.2*
ISC 21 07:30:36.4±0.3, 4026N±002×2798E±002, h5km±2km, n67, σ0§95/103, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	Edincik	0.13	315	*i* PG	Pg	07 30 39.4	+0.3
KCT	Karacabey	0.29	88	*i* PG	Pg	07 30 41.9	-0.1
KCT				*i* SG	Sg	07 30 46.2	+0.5
MRMT	Marmara Adasi	0.46	320	*i* PG	Pg	07 30 45.1	-0.1
MRMT				*i* SG	Sg	07 30 51.7	+0.5
BTOK	Tokmak	0.49	176	*i* P	Pg	07 30 46.0	+0.1
BTOK				*i* S	Sg	07 30 52.8	+0.4
CANB	Canakkale	0.74	252	*i* PG	Pg	07 30 51.5	+0.8
SART	Tekirdag	0.75	306	*i* P	Pg	07 30 50.7	-0.1
SART				*i* S	Sg	07 31 01.2	+0.6
RKY	Sarkoy-Tekirda	0.75	305	*i* PG	Pg	07 30 50.8	-0.1
MFT	Murefte	0.76	315	*i* PG	Pg	07 30 50.1	-0.8
MFT				*i* SG	Sg	07 31 00.5	-0.2
ULDT	Uludag	0.89	97	*i* P	Pg	07 30 52.9	-0.6
ULDT				*i* S	Sg	07 31 05.4	+0.3
GEMT	Gemlik	0.94	79	*i* PG	Pg	07 30 54.4	0.0
CTT	Catalca	0.95	21	*i* PG	Pg	07 30 54.9	+0.2
ELBA	Catalca	0.95	21	*i* P	Pg	07 30 54.5	-0.2
ELBA				*i* S	Sg	07 31 08.4	+1.3
BADT	Buyukada	1.05	55	*i* PG	Pg	07 30 56.4	-0.2
YLV	Yalova	1.11	73	*i* PN	Pn	07 30 57.5	-1.1
YLV				*i* SN	Sn	07 31 11.9	-2.3
IZI	Iznik	1.14	85	*i* PN	Pn	07 30 57.9	-1.2
ISK	Istanbul-Kandi	1.15	45	*e*Pg	Pg	07 30 58.2	-0.3
ISK				*e*Sg	Sg	07 31 12.0	-1.4
KLYT	Kilyos	1.28	39	PN	Pn	07 31 00.3	-0.7
KLYT				SN	Sn	07 31 17.9	-0.6
EZN	Ezine	1.34	252	PN	Pn	07 31 01.9	+0.1
ADVT	Abdulvahap	1.35	82	PN	Pn	07 31 01.9	-0.1
ADVT				SN	Sn	07 31 21.1	+0.8
AYVA	Ayvalik	1.37	227	*i* P	Pn	07 31 01.5	-0.7
AYVA				*i* S	Sb	07 31 21.4	+0.9
HRT	Hereke	1.40	66	PN	Pn	07 31 01.5	-1.2
BOZC	Bozcaada	1.54	255	*i* P	Pn	07 31 04.4	-0.1
BOZC				*i* S	Sn	07 31 25.1	+0.2
ALN	Alexandroupoli	1.61	294	*e*Pb	Pb	07 31 05.0	-1.6
ALN				*e*Sb	Sb	07 31 26.9	-0.4
GDZ	Gediz	1.64	135	*i* P	Pn	07 31 06.0	+0.1
GDZ				*i* S	Sn	07 31 29.2	+1.8
PRK	Paraskevi	1.66	233	*e*PB	Pb	07 31 05.5	-2.0
PRK				*e*SN	Sn	07 31 26.4	-1.5
PRK	Paraskevi	1.66	233	*e*Pb	Pb	07 31 05.4	-2.1
PRK				*e*Sn	Sn	07 31 26.4	-1.5
EYL	Eskiyayla	1.69	79	PN	Pn	07 31 06.4	-0.2
GPA	Golpazari	1.78	88	PN	Pn	07 31 07.8	0.0
EDRB	Edirne	1.85	330	PN	Pn	07 31 09.2	+0.4
KDAG	Bornova	1.93	197	*i* P	Pn	07 31 09.0	-0.9
KDAG				*i* S	Sn	07 31 34.0	-0.6
BORA	Eskisehir	1.93	100	*i* P	Pn	07 31 09.6	-0.3
BORA				*i* S	Sg	07 31 39.9	+1.3
RDO	Rodhopi	2.06	296	*e*PN	Pn	07 31 11.6	-0.1
RDO				*e*SN	Sn	07 31 35.9	-1.9
URLA	Izmir	2.18	210	*i* P	Pn	07 31 13.3	0.0
URLA				*i* S	Sg	07 31 46.5	+0.1
LIA	Limnos Island	2.18	261	*e*PB	Pn	07 31 13.6	+0.3
LIA				*e*SN	Sn	07 31 39.0	-1.7
LIA	Limnos Island	2.18	261	*e*Pb	Pn	07 31 13.5	+0.2
LIA				*e*Sn	Sn	07 31 39.0	-1.7
LOS	Limnos	2.25	263	*e*Pn	Pn	07 31 14.9	+0.6
ESKT	Eskisehir	2.32	107	PN	Pn	07 31 15.8	+0.5
CHOS	Chios island	2.39	219	*e*Pn	Pn	07 31 15.5	-0.8
KDZ	Kurdzhali	2.39	306	P	Pn	07 31 16.0	-0.3
KDZ				Pg	Pg	07 31 23.0	+0.7
KDZ				S	Sg	07 31 51.0	-2.3
KDZ	Kurdzhali	2.39	306	P	Pn	07 31 16.0	-0.3
KDZ				Pg	Pg	07 31 23.0	+0.7
JMB	Yambol	2.45	335	*e*Pn	Pn	07 31 17.4	+0.3
JMB				*e*Sn	Sn	07 31 48.3	+1.0
JMB	Yambol	2.45	335	P	Pn	07 31 20.0	+3.0
JMB				*e*Sn	Sn	07 31 48.3	+1.0
SMG	Samos	2.69	200	*e*PN	Pn	07 31 21.7	+1.3
SMG				*e*SN	Sn	07 31 53.1	-0.3
SMG	Samos	2.69	200	*e*Pn	Pn	07 31 21.8	+1.4
SMG				*e*Sn	Sn	07 31 53.1	-0.3
RZN	Rozhen	2.86	301	P	Pn	07 31 22.8	+0.1
PRD	Provadia	2.98	352	*e*S	Sg	07 32 09.6	-2.4
OUR	Ouranopolis	3.06	273	*e*Pn	Pn	07 31 26.1	+0.6
PLD	Plovdiv	3.09	308	*e*Pn	Pn	07 31 26.1	+0.2
PLD				*e*Sn	Sn	07 32 04.2	+1.0
PLD	Plovdiv	3.09	308	*e*Pn	Pn	07 31 26.0	+0.1
PLD				*e*Sn	Sn	07 32 04.2	+1.0
NVR	Nevrokopi	3.31	291	*e*PN	Pn	07 31 29.1	+0.2
PLG	Polygyros	3.47	273	*e*Pn	Pn	07 31 31.3	+0.2
PLG				*e*Sn	Sn	07 32 13.7	+1.1
PLG	Polygyros	3.47	273	*e*Pn	Pn	07 31 31.3	+0.2
PLG				*e*Sn	Sn	07 32 13.6	+1.0
MMB	Musomiste	3.49	294	*e*P	Pn	07 31 30.0	-1.4
PVL	Pavlikeni	3.56	327	P	Pn	07 31 33.0	+0.6
KDHN	Kadinhani	3.64	117	*i* P	Pn	07 31 33.8	+0.4
KDHN				*i* S	Sg	07 32 32.1	-1.3
ANTO	Ankara	3.71	94	*e*PN	Pn	07 31 35.8	+1.4
KNT	Kendrikon	3.97	285	*e*Pn	Pn	07 31 38.8	+0.8
KNT				*e*Sn	Sn	07 32 25.8	+0.9
ELDT	Eldivan	4.17	85	*i* P	Pn	07 31 41.1	+0.5
TIRR	Tirgusor	4.21	4⇑	*i*P	Pg	07 31 59.2	+2.0
VTS	Vitosha	4.28	305	*e*P	Pn	07 31 44.0	+1.7
GRG	Griva	4.31	281	*e*Pn	Pn	07 31 43.5	+0.9
BR131	Keskin Array S	4.38	95	*e*Pn	Pn	07 31 43.5	0.0
BR131	Keskin Array S	4.38	95	*e*Pn	Pn	07 31 43.5	0.0
MLR	Muntele Rosu	5.44	345	⇑*i*P	Pn	07 32 01.8	+3.6
MLR	Muntele Rosu	5.44	345	⇑P	Pn	07 32 01.8	+3.5
BURAR	Bucovina Array	7.62	346	⇓*i*P	Pn	07 32 31.0	+2.8
BURAR	Bucovina Array	7.62	346	⇓P	Pn	07 32 31.0	+2.8

*NAO **21** 07:42:11.4, 3637N×2599E, h33km, mb3.9*
*IDC **21** 07:42:31.8±1.3, 3834N×2200E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.6/23, mbtmp3.6/8, ML3.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/37, Error ellipse: s-maj=28.6km s-min=24.5km az=132.0*
*ATH **21** 07:42:32.5, 3835N×2200E, h12km±1km, MD3.6/18, ML3.5*
*ISCJB **21** 07:42:33.2±0.3, 3835N±002×2202E±003, h10km, mb3.6/7, MS3.0/1, Error ellipse: s-maj=2.9km s-min=2.3km az=162.5*
*CSEM **21** 07:42:33.3±0.1, 3836N×2204E, h2km, ML3.5, Error ellipse: s-maj=1.7km s-min=1.2km az=71.0*
*THE **21** 07:42:33.9, 3839N×2214E, h1km, ML3.4*
*NEIC **21** 07:42:34.0, 3838N×2196E, h10km, ML3.5(CSEM), ML3.5(ATH), ML3.8(THE), After ATH.*
ISC 21 07:42:33.8±0.3, 3834N±002×2201E±003, h10km, n71, σ1§08/106, mb3.6/7, MS3.0/1, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.51	237	*e*PB	Pg	07 42 42.7	-1.1
RLS				*e*SB	Sg	07 42 50.0	-0.5
RLS	Riolos of Patr	0.51	237	*e*Pb	Pg	07 42 43.0	-0.8
RLS				*e*Sb	Sg	07 42 50.7	+0.2
EVR	Evrytania	0.60	345	*e*PB	Pg	07 42 43.2	-2.2
EVR				*e*SB	Sg	07 42 52.4	-0.8
EVR	Evrytania	0.60	345	*e*Pb	Pg	07 42 43.2	-2.2
EVR				*e*Sb	Sg	07 42 52.7	-0.5
AGG	Agios Georgios	0.73	20	*e*Pg	Pg	07 42 45.4	-2.5
AGG				*e*Sg	Sg	07 42 55.4	-1.9
AGG	Agios Georgios	0.73	20	*e*Pg	Pg	07 42 45.3	-2.5
AGG				*e*Sg	Sg	07 42 55.4	-1.9
LKR	Lokris	0.84	68	*e*PG	Pg	07 42 48.3	-1.6
LKR				*e*SB	Sg	07 43 00.5	-0.3
VLS	Valsamata	1.13	262	*e*PG	Pb	07 42 53.2	-2.2
VLS				*e*SB	Sb	07 43 09.3	-0.8
VLS	Valsamata	1.13	262	*e*Pg	Pb	07 42 53.2	-2.2
VLS				*e*Sb	Sb	07 43 08.9	-1.2
ITM	Ithomi	1.16	183	*e*PB	Pb	07 42 54.7	-1.2
ITM				*e*SB	Sb	07 43 10.4	-0.6
ITM	Ithomi	1.16	183	*e*Pb	Pb	07 42 55.0	-0.9
ITM				*e*Sb	Sb	07 43 10.3	-0.7
THL	Klokotos Trika	1.22	0	*e*PN	Pn	07 42 54.7	-2.2
THL				*e*SB	Sb	07 43 12.0	-0.8
THL	Klokotos Trika	1.22	0	*e*Pn	Pn	07 42 54.7	-2.2
THL				*e*Sb	Sb	07 43 11.5	-1.3
NAIG	Nisos Aigina	1.30	116	*e*PB	Pb	07 42 57.6	-0.8
NAIG	Nisos Aigina	1.30	116	*e*Pb	Pb	07 42 58.1	-0.3
NEO	Neokhori	1.35	44	*e*PB	Pb	07 42 58.3	-0.9
NEO				*e*SB	Sb	07 43 16.4	-0.2
NEO	Neokhori	1.35	44	*e*Pb	Pb	07 42 58.6	-0.6
NEO				*e*Sb	Sb	07 43 16.1	-0.5
XOR	Xorichti	1.38	42	*e*Pg	Pn	07 42 58.2	-0.9
ATH	Athens Observa	1.40	105	*e*PG	Pn	07 42 58.8	-0.5
ATH				*e*SB	Sn	07 43 18.4	+0.6
KVR	Kavouri	1.48	110	*e*PG	Pn	07 43 00.1	-0.4
PTL	Penteli	1.49	101	*e*PG	Pn	07 43 00.5	-0.1
JAN	Janina	1.59	326	*e*PB	Pn	07 43 02.3	+0.2
JAN				*e*SB	Sn	07 43 23.9	+1.2
JAN	Janina	1.59	326	*e*Pb	Pn	07 43 03.0	+0.9
JAN				*e*Sb	Sn	07 43 24.0	+1.3
AOS	Alonnisos	1.68	60	*e*Pg	Pn	07 43 02.5	-0.8
IGT	Igoumenitsa	1.77	313	*e*Pb	Pb	07 43 05.9	-0.4
IGT				*e*Sb	Sb	07 43 29.9	+1.3
VLI	Veliai	1.78	155	*e*PN	Pn	07 43 05.2	+0.6
VLI				*e*SN	Sn	07 43 29.3	+2.1
VLI	Veliai	1.78	155	*e*Pn	Pn	07 43 05.2	+0.6
VLI				*e*Sn	Sn	07 43 29.0	+1.8
LIT	Litokhoron	1.80	12	*e*Pb	Pn	07 43 04.5	-0.4
LIT				*e*Sb	Sn	07 43 27.9	+0.2
LIT	Litokhoron	1.80	12	*e*Pb	Pn	07 43 04.4	-0.4
LIT				*e*Sb	Sn	07 43 27.9	+0.2
KZN	Kozani	1.97	355	*e*PN	Pn	07 43 07.8	+0.5
KZN				SN	Sn	07 43 34.0	+2.0
KZN	Kozani	1.97	355	*e*Pn	Pn	07 43 07.8	+0.5
KZN				Sn	Sn	07 43 34.3	+2.3
KEK	Kerkira	2.20	309	*e*PN	Pn	07 43 11.4	+1.0
KYTH	Kithira	2.21	158	*e*PN	Pn	07 43 11.5	+1.0
KYTH	Kithira	2.21	158	*e*Pn	Pn	07 43 12.5	+2.0
PLG	Polygyros	2.32	28	*e*Pn	Pn	07 43 11.4	-0.5
PLG	Polygyros	2.32	28	*e*PN	Pn	07 43 12.6	+0.6
PLG	Polygyros	2.32	28	*e*Pn	Pn	07 43 12.9	+0.9
THE	Thessaloniki	2.41	18	*e*Pn	Pn	07 43 12.5	-0.7
THE				*e*Sn	Sn	07 43 43.2	+0.5
HORT	Hortiatis	2.41	20	*e*Pn	Pn	07 43 12.6	-0.7
HORT				*e*Sn	Sn	07 43 43.2	+0.4
FNA	Florina	2.49	349	*e*Pn	Pn	07 43 14.8	+0.4
FNA				*e*Sn	Sn	07 43 46.0	+1.2
GRG	Griva	2.63	6	*e*Pn	Pn	07 43 16.4	+0.1
SOH	Sokhos	2.69	22	*e*Pn	Pn	07 43 16.9	-0.2
SOH				*e*Sn	Sn	07 43 49.9	+0.3
BIA	Bitola	2.73	349	*e*Pn	Pn	07 43 18.6	+1.0
BIA				*e*Sn	Sb	07 43 58.2	+2.0
BIA	Bitola	2.73	349	*e*Pn	Pn	07 43 18.6	+1.0
BIA				*e*Sn	Sb	07 43 58.1	+1.9
KNT	Kendrikon	2.90	13	*e*Pn	Pn	07 43 19.6	-0.4
KNT				*e*Sn	Sn	07 43 55.6	+0.7
OHR	Ohrid	2.92	342	*e*Pn	Pn	07 43 21.2	+0.9
OHR	Ohrid	2.92	342	*e*Pn	Pn	07 43 21.1	+0.8
VAY	Valandovo	3.01	8	*e*Pn	Pn	07 43 20.7	-0.8
VAY	Valandovo	3.01	8	*e*Pn	Pn	07 43 21.0	-0.5
APE	Apeiranthos	3.07	113	*e*Pn	Pn	07 43 22.8	+0.5
APE				*e*Sn	Sn	07 43 58.0	-0.2
APE	Apeiranthos	3.07	113	*e*PN	Pn	07 43 23.4	+1.1
APE	Apeiranthos	3.07	113	*e*Pn	Pn	07 43 22.9	+0.6
APE				*e*Sn	Sn	07 43 58.8	-0.2
STIP	Stip	3.35	2	*e*Pn	Pn	07 43 26.7	+0.4
STIP	Stip	3.35	2	*e*Pn	Pn	07 43 29.9	+3.7
MMB	Musomiste	3.50	22	*e*Pn	Pn	07 43 28.0	-0.3
MMB				*e*Sn	Sn	07 44 11.0	+1.2
TIP	Timpagrande	4.19	283	P	Pn	07 43 39.7	+2.0
LAST	Lasithi	4.22	138	*e*Pn	Pn	07 43 39.2	+1.1
LAST				*e*Sn	Sn	07 44 29.1	+1.6
VTS	Vitosha	4.34	12	*e*Pn	Pn	07 43 40.4	+0.5
VTS				*e*Sn	Sn	07 44 31.6	+1.1
ZKR	Zakros	4.67	132	*e*Pn	Pn	07 43 44.9	+0.6
MLR	Muntele Rosu	7.72	21	Pn	Pn	07 44 29.5	+3.2
0.3nm,0.3s,baz=313,slow=22,SNR=4.5							
BRTR	Keskin Array B	9.16	78	Pn	Pn	07 44 47.2	+1.3
0.2nm,0.3s,baz=256,slow=14,SNR=5.2							
VRAC	Vranov	11.64	342	LR	LR	07 49 33.5	
comp=Z,30nm,19.8s,baz=186,slow=36							
GERES	GERESS Array B	12.10	333	LR	LR	07 50 04.1	
comp=Z,45nm,19.6s,baz=177,slow=37							
HFS	Hagfors	22.44	349	P	P	07 47 31.4	-1.4
2.4nm,0.8s,mb3.7,baz=125,slow=13,SNR=4.0							
HFS				LR	LR	07 56 40.4	
comp=Z,50nm,18.3s,MS3.0,baz=290,slow=38							
FINES	FINESS Array B	23.27	5	P	P	07 47 42.5	+0.9
6.6nm,1.2s,mb4.0,baz=212,slow=13,SNR=3.0							
NB2	NORSAR Subarra	23.71	347	P	P	07 47 44.4	-1.5
comp=Z,1.8nm,0.8s,mb3.5,baz=152,slow=9.3							
NOA	NORSAR Array B	23.71	347	P	P	07 47 45.4	-0.5
comp=Z,1.6nm,0.7s,mb3.5,baz=156,slow=12,SNR=4.4							
EKA	Eskdalemuir Ar	23.99	323	P	P	07 47 47.4	-1.1
comp=Z,1.3nm,0.8s,mb3.4,baz=130,slow=9.4,SNR=4.0							
TORD	Torodi Ar. Bea	30.91	221	P	P	07 48 50.5	0.0
comp=Z,0.5nm,0.6s,mb3.5,baz=29,slow=9.1,SNR=7.2							
MKAR	Makanchi Array	44.22	59	P	P	07 50 42.0	-1.0
comp=Z,0.8nm,0.7s,mb3.6,baz=275,slow=8.0,SNR=4.7							
SONM	Songino Array	59.45	51	P	P	07 52 35.4	-1.3
comp=Z,1.1nm,1.2s,mb3.8,baz=334,slow=9.9,SNR=3.5							

*NEIC **21** 08:02:12.4, 1918N×6466W, h5km, MD3.5(RSPR), After RSPR

1.8nm,0.4s,mb4.5
KAF Kangasniemi 91.20 336 *ep* **P 08 22 52.3 -1.3**
1.0nm,0.3s,mb4.4
FINES FINESS Array B 91.64 335 P **P 08 22 55.0 -0.7**
0.9nm,0.4s,mb4.4,baz=62,slow=5.9,SNR=14
FINES FINESS Array B 91.64 335 P **P 08 22 55.0 -0.7**
PDAR Pinedale Array 92.23 45 P **P 08 23 00.3 +1.9**
0.2nm,0.6s,mb3.5,baz=70,slow=5.2,SNR=3.3
NOA NORSAR Array B 97.53 339 P **P 08 23 21.8 -0.8**
0.8nm,0.8s,mb4.3,baz=46,slow=5.3,SNR=2.6
TORD Torodi Ar. Bea 135.22 304 PKP PKPdf 08 29 10.9 +3.2
0.5nm,0.6s,baz=40,slow=2.6,SNR=7.1

*NEIC **21** 08:16:47.5, 3273S×7296W, h21km, ML3.0(GUC), After GUC.*
GUC 21 08:16:47.5±0.6, 3273S×7296W, h21km±3km, MD3.7, ML3.0, 4C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.38**	**123**	⇓*iP*	Pn	08 17 11.4	-0.2
LCCH				*i* S	Sn	08 17 29.1	-0.2
ROCH	**El Roble**	**1.66**	**99**	*i* S	Sn	08 17 37.7	+1.6
TACH	**Talagante**	**1.93**	**119**	⇓*iP*	Pn	08 17 19.7	+0.6
TACH				*i* S	Sn	08 17 43.3	+0.5
PEL	**Peldehue**	**1.96**	**103**	⇓*iP*	Pn	08 17 20.8	+1.3
PEL				*i* S	Sn	08 17 45.9	+2.5
PEL				AML	AML	08 17 47.7	
	comp=N,572nm,0.5s						
PEL	**Peldehue**	**1.96**	**103**	⇓*iP*	Pn	08 17 20.8	+1.3
PEL				*i* S	Sn	08 17 45.9	+2.5
RCDM	**Rinconada Maip**	**1.96**	**113**	⇑*iP*	Pn	08 17 20.3	+0.8
RCDM				*i* S	Sn	08 17 45.7	+2.2
RCDM				AML	AML	08 17 48.0	
	comp=E,113nm,0.4s						
RCDM	**Rinconada Maip**	**1.96**	**113**	⇑*iP*	Pn	08 17 20.3	+0.8
RCDM				*i* S	Sn	08 17 45.7	+2.2
JACH	**Jahuel**	**2.00**	**89**	*i* S	Sn	08 17 46.8	+2.4
CLCH	**Cerro Calan**	**2.14**	**109**	⇓*iP*	Pn	08 17 23.7	+1.7
CLCH				*i* S	Sn	08 17 50.6	+2.6
CLCH				AML	AML	08 17 54.0	
	comp=E,167nm,0.6s						
PCH	**Pirque**	**2.24**	**114**	⇑*iP*	Pn	08 17 25.0	+1.7
PCH				*i* S	Sn	08 17 53.3	+3.0
FCH	**Farellones**	**2.32**	**106**	⇑*iP*	Pn	08 17 26.3	+1.8
FCH				*i* S	Sn	08 17 55.9	+3.5
FCH				AML	AML	08 17 56.3	
	comp=N,82nm,0.5s						

*IDC **21** 08:21:47.4±5.1, 1064N×6210W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/22, mbtmp3.8/3, Error ellipse: s-maj=125.9km s-min=101.3km az=69.0*
*ISCJB **21** 08:22:03.0±0.5, 1070N±005×6268W±003, h114km±5km, mb3.8/3, Error ellipse: s-maj=8.7km s-min=4.5km az=146.1*
*FUNV **21** 08:22:04.9, 1081N×6263W, h104km, MW3.5*
*NEIC **21** 08:22:07.2, 1070N×6247W, h108km, MD3.6(TRN), After TRN.*
*TRN **21** 08:22:07.2, 1070N×6247W, h108km, MD3.6*
ISC 21 08:22:04.1±0.5, 1070N±005×6268W±003, h108km±5km, n21, σ1§09/35, mb3.8/3, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.45**	**97**	⇑*iP*	**Pn**	**08 22 20.7**	**+0.3**
GUIV				*e*S	**Sn**	**08 22 32.0**	**-0.7**
CRUV	**Carupano**	**0.55**	**267**	⇓*iP*	**Pn**	**08 22 21.3**	**+0.2**
CRUV				*e*S	**Sn**	**08 22 33.2**	**-0.6**
GUNV	**Guanoco**	**0.60**	**206**	⇑*iP*	**Pn**	**08 22 22.8**	**+1.4**
GUNV				*e*S	**Sn**	**08 22 35.9**	**+1.4**
ITEV	**Isla Los Testi**	**0.79**	**325**	⇓*iP*	**Pn**	**08 22 21.9**	**-1.1**
TCE	**Chacachacare**	**0.91**	**90**	*e*P	**Pn**	**08 22 24.6**	**+0.4**
TCE				*e*S	**Sn**	**08 22 38.5**	**-0.8**
TRN	**Trinidad (W)**	**1.25**	**92**	*e*P	**Pn**	**08 22 28.5**	**+0.7**
TRN				*e*S	**Sn**	**08 22 44.6**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.26**	**108**	*e*P	**Pn**	**08 22 29.4**	**+1.3**
TPP				*e*S	**Sn**	**08 22 46.1**	**0.0**
TBH	**Brigand Hill**	**1.60**	**98**	*e*P	**Pn**	**08 22 33.0**	**+1.1**
TBH				*e*S	**Sn**	**08 22 51.5**	**-1.6**
GRW	**Mount Saint Ca**	**1.76**	**34**	*e*P	**Pn**	**08 22 36.5**	**+2.6**
GRW				*e*S	**Sn**	**08 22 57.4**	**+0.7**
TPR	**Prospect**	**1.93**	**75**	*e*P	**Pn**	**08 22 36.1**	**+0.1**
TPR				*e*S	**Sn**	**08 22 58.2**	**-2.2**
PCRV	**Puerto La Cruz**	**2.00**	**255**	*e*P	**Pn**	**08 22 38.1**	**+1.2**
PCRV				*e*S	**Sn**	**08 23 01.5**	**-0.6**
GURV	**El Guri**	**2.95**	**188**	*e*P	**Pn**	**08 22 50.5**	**+1.1**
GURV				*e*S	**Sn**	**08 23 24.4**	**+0.2**
CUPV	**Cœpira**	**3.13**	**258**	*e*P	**Pn**	**08 22 53.0**	**+1.2**
CUPV				*e*S	**Sn**	**08 23 28.1**	**-0.3**
BIRV	**Birongo**	**3.54**	**267**	*e*P	**Pn**	**08 22 57.7**	**+0.5**
MERV	**Las Mercedes**	**3.85**	**248**	*e*P	**Pn**	**08 23 01.8**	**+0.5**
MERV				*e*S	**Sn**	**08 23 44.2**	**-1.5**
CAOV	**Caicara del Or**	**4.92**	**227**	*e*S	**Sn**	**08 24 09.3**	**-2.3**
BAUV	**El Baul**	**5.57**	**252**	*e*P	**Pn**	**08 23 24.3**	**-0.3**
BAUV				*e*S	**Sn**	**08 24 23.6**	**-3.7**
TXAR	**Lajitas Array**	**42.47**	**302**	P	**P**	**08 29 48.9**	**+0.6**
	0.3nm,0.7s,mb3.2,baz=115,slow=9.1,SNR=5.4						
TXAR				PcP	PcP	08 31 39.1	-0.1
	0.2nm,0.7s,baz=132,slow=6.7,SNR=3.6						
TXAR	**Lajitas Array**	**42.47**	**302**	P	**P**	**08 29 48.9**	**+0.6**
TXAR				PcP	PcP	08 31 39.1	-0.1
ULM	**Lac du Bonnet**	**47.98**	**332**	P	**P**	**08 30 30.6**	**-1.2**
	1.9nm,0.5s,mb4.2,baz=139,slow=6.9,SNR=5.7						
PDAR	**Pinedale Array**	**51.72**	**317**	P	**P**	**08 30 59.5**	**-0.6**
	0.7nm,0.5s,mb3.9,baz=111,slow=8.6,SNR=10						

*CSEM **21** 08:36:10.6±0.1, 3352N×3532E, h1km, ML1.6, Error ellipse: s-maj=2.5km s-min=1.4km az=125.0, Mining explosion.*
*GII **21** 08:36:12.4±0.6, 3343N×3534E, h0km, ML1.6/3*
*ISCJB **21** 08:36:13.7±0.7, 3341N±003×3529E±005, h0km, Error ellipse: s-maj=6.2km s-min=3.0km az=46.2*
*GRAL **21** 08:36:14.4±1.8, 3329N×3543E, h34km±24km, MD2.9*
ISC 21 08:36:14.5±0.7, 3340N±003×3531E±005, h0km, n19, σ1§01/30, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.34**	**199**	Pg	**Pg**	**08 36 20.9**	**-0.1**
HNTI				Sg	**Sg**	**08 36 27.0**	**+1.7**
KSDI	**Kefar Szold**	**0.36**	**125**	Pg	**Pg**	**08 36 20.4**	**-1.0**
KSDI				Sg	**Sg**	**08 36 26.9**	**+0.7**
HRI	**Mount Hermon**	**0.38**	**111**	Pg	**Pg**	**08 36 20.3**	**-1.6**
HRI				Sg	**Sg**	**08 36 27.0**	**+0.1**
MMC7	**Mount Meron ar**	**0.39**	**169**	Pg	**Pg**	**08 36 21.1**	**-0.8**
MMA0	**Mount Meron ar**	**0.39**	**168**	Pg	**Pg**	**08 36 21.6**	**-0.4**
MMA0	**Mount Meron ar**	**0.39**	**168**	Pg	**Pg**	**08 36 21.6**	**-0.5**
MMA0B	**Mount Meron ar**	**0.39**	**168**	Pg	**Pg**	**08 36 21.7**	**-0.3**
MMA0B				Sg	**Sg**	**08 36 28.8**	**+1.7**
MMC6	**Mount Meron ar**	**0.40**	**170**	Pg	**Pg**	**08 36 21.2**	**-0.9**
MMC5	**Mount Meron ar**	**0.40**	**167**	Pg	**Pg**	**08 36 21.5**	**-0.8**
MMC5				Sg	**Sg**	**08 36 28.8**	**+1.3**
RCY	**Rachaya**	**0.44**	**79**	*e*Pg	**Pg**	**08 36 21.5**	**-1.4**
RCY				*e*Sg	**Sg**	**08 36 29.1**	**+0.5**
BHL	**Bhannes**	**0.58**	**30**	*e*Pg	**Pg**	**08 36 26.5**	**+0.9**
BHL				*e*Sg	**Sg**	**08 36 35.0**	**+1.9**
OFRI	**'Ofer**	**0.82**	**199**	Pg	**Pg**	**08 36 29.8**	**-0.5**
MMLI	**Mount Malkishu**	**0.97**	**174**	Pg	**Pg**	**08 36 32.1**	**-0.9**
MMLI	**Mount Malkishu**	**0.97**	**174**	Pg	**Pg**	**08 36 32.5**	**-0.5**
MMLI	**Mount Malkishu**	**0.97**	**174**	Pg	**Pg**	**08 36 32.5**	**-0.5**
HWQ	**Hawqa**	**1.02**	**31**	*e*Pg	**Pg**	**08 36 34.4**	**+0.2**
HWQ				*e*Sg	**Sg**	**08 36 47.5**	**+0.1**
HMDT	**Nahal Hemdat**	**1.16**	**171**	Pg	**Pg**	**08 36 35.5**	**-1.3**
HMDT				Sg	**Sg**	**08 36 52.4**	**+0.6**
HMDT	**Nahal Hemdat**	**1.16**	**171**	Pg	**Pg**	**08 36 35.4**	**-1.4**
HMDT				Sg	**Sg**	**08 36 52.4**	**+0.6**
SLTI	**Sal'it**	**1.18**	**191**	Pg	**Pg**	**08 36 36.1**	**-1.0**
SLTI				Sg	**Sg**	**08 36 53.8**	**+1.4**

*CSEM **21** 08:52:59.7, 1233N×4472E, h16km, ML3.9, After DHMR*
DHMR 21 08:52:59.7±1.2, 1233N×4472E, h16km±5km, ML3.9, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.52**	**30**	⇑*iP*	Pg	08 53 09.4	-0.5
ADEN				*i* S	Sg	08 53 16.9	0.0
ADEN				AML	AML	08 53 20.6	
	comp=N,10μm,0.5s						
ADEN	**Aden**	**0.52**	**30**	⇑*iP*	Pg	08 53 09.4	-0.6
ADEN				*i* S	Sg	08 53 16.9	0.0
	comp=N,5μm,0.5s						
TRBA	**At Turbah**	**1.07**	**327**	*i* P	Pb	08 53 19.7	-0.2
TRBA				*i* S	Sb	08 53 34.8	+1.1
TRBA				AML	AML	08 53 36.3	
	comp=N,3μm,0.2s						
LBOS		**1.62**	**19**	*i* P	Pn	08 53 27.9	+0.3
UDYN	**Al 'Udayn**	**1.79**	**336**	*i* P	Pn	08 53 31.2	+1.3
UDYN				*i* S	Sn	08 53 55.3	+3.1
UDYN				AML	AML	08 54 06.2	
	comp=N,1μm,0.8s						
UDYN	**Al 'Udayn**	**1.79**	**336**	*i* P	Pn	08 53 31.2	+1.3
UDYN				*i* S	Sn	08 53 55.3	+3.1
	comp=N,748nm,0.8s						
BDHA	**Al Bayda'**	**1.83**	**27**	⇓*iP*	Pn	08 53 31.7	+1.1
BDHA				*i* S	Sn	08 53 57.3	+3.9
BDHA				AML	AML	08 54 06.0	
	comp=N,1μm,0.7s						
BDHA	**Al Bayda'**	**1.83**	**27**	⇓*iP*	Pn	08 53 31.7	+1.2
BDHA				*i* S	Sn	08 53 57.3	+3.9
	comp=N,532nm,0.7s						
DHBB	**Dhamar BB**	**2.25**	**352**	⇓*iP*	Pn	08 53 38.8	+2.5
DHBB				*i* S	Sn	08 54 09.7	+5.9
HAJJ	**Hajjah**	**3.52**	**342**	*i* P	Pn	08 53 57.2	+3.4
HAJJ				*i* S	Sn	08 54 40.3	+5.2
HAJJ				AML	AML	08 55 01.9	
	comp=N,484nm,0.5s						
HAJJ	**Hajjah**	**3.52**	**342**	*i* P	Pn	08 53 57.2	+3.5
HAJJ				*i* S	Sn	08 54 40.3	+5.2
	comp=N,242nm,0.5s						

*ISCJB **21** 08:55:16.2±0.2, 4371N±002×1278E±002, h32km, Error ellipse: s-maj=2.5km s-min=2.2km az=107.9*
*MOS **21** 08:55:16.9±1.5, 4378N×1280E, h33km, mb4.0/1, Error ellipse: s-maj=7.0km s-min=3.8km az=123.6*
*LDG **21** 08:55:16.8±0.1, 4371N×1307E, h30km, Ml3.5/36, Error ellipse: s-maj=2.3km s-min=1.9km az=71.0*
*CSEM **21** 08:55:16.9±0.1, 4366N×1299E, h40km, ML3.6/34, Error ellipse: s-maj=1.1km s-min=1.1km az=2.0*
*PRU **21** 08:55:17.7, 4397N×1308E, h0km*
*ROM **21** 08:55:17.7±0.1, 4360N×1296E, h32km±1km, Ml3.6/16, Error ellipse: s-maj=2.6km s-min=1.5km az=106.0*
*NEIC **21** 08:55:17.7, 4360N×1296E, h32km, ML3.5(LDG), ML3.6(CSEM), ML3.6(ROM), ML3.8(STR), After ROM.*
*SZGRF **21** 08:55:18.4, 4387N×1293E, h10km, mb3.7, Central Italy*
*STR **21** 08:55:27.5±4.8, 4430N×1202E, h10km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 21 08:55:17.6±0.2, 4368N±002×1290E±002, h44km±5km, n185, σ1§23/304, 16C-27D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSSB	**Fossombrone**	**0.09**	**278**	Pg	**Pn**	**08 55 23.7**	**-0.9**
FSSB				Sg	**Sn**	**08 55 28.9**	**-0.6**
	19μm,0.2s						
FSSB	**Fossombrone**	**0.09**	**278**	P	**Pn**	**08 55 23.5**	**-1.1**
FSSB				Pg	**Pn**	**08 55 23.7**	**-0.9**
FSSB				Sg	**Sn**	**08 55 28.9**	**-0.6**
FSSB	**Fossombrone**	**0.09**	**278**	P	**Pn**	**08 55 23.5**	**-1.1**
FSSB	**Fossombrone**	**0.09**	**278**	Pg	**Pn**	**08 55 23.7**	**-0.9**
FSSB				Sg	**Sn**	**08 55 28.9**	**-0.6**
	19μm,0.2s						
PESA	**Pesaro**	**0.26**	**350**	Pg	**Pn**	**08 55 25.8**	**0.0**
PESA				Sg	**Sn**	**08 55 32.7**	**+1.2**
	11μm,0.3s						
CING	**Cingoli**	**0.37**	**145**	⇓Pg	**Pn**	**08 55 25.4**	**-1.5**
CING				Sg	**Sn**	**08 55 31.5**	**-2.0**
	3μm,0.4s						
RSM	**Repubblica di**	**0.41**	**308**	Pg	**Pn**	**08 55 28.2**	**+0.8**
	1μm,0.8s						
MURB	**Monte Urbino**	**0.50**	**213**	Pg	**Pn**	**08 55 27.9**	**-0.5**
	7μm,0.3s						
BADI	**Badiali**	**0.51**	**251**	Pg	**Pn**	**08 55 28.8**	**+0.3**
BADI	**Badiali**	**0.51**	**251**	P	**Pn**	**08 55 25.1**	**-3.4**
BADI				Pg	**Pn**	**08 55 28.8**	**+0.3**
AOI	**Ancona**	**0.53**	**104**	Pg	**Pn**	**08 55 27.8**	**-1.0**
AOI				Sg	**Sn**	**08 55 35.9**	**-0.8**
	4μm,0.3s						
CDCA	**Citt' di Caste**	**0.53**	**246**	Pg	**Pn**	**08 55 29.2**	**+0.3**
	2μm,0.4s						
ASS	**Assisi**	**0.64**	**197**	Pg	**Pn**	**08 55 29.7**	**-0.6**
	111nm,0.3s						
CRE	**Caprese Michel**	**0.69**	**265**	Pg	**Pn**	**08 55 32.0**	**+1.0**
SFI	**Santa Sofia**	**0.80**	**287**	Pg	**Pn**	**08 55 33.9**	**+1.5**
	930nm,0.4s						
OFFI	**Offida**	**0.94**	**142**	Pg	**Pn**	**08 55 34.3**	**0.0**
	3μm,0.6s						
VMG	**Vicchio**	**1.02**	**286**	Pg	**Pn**	**08 55 38.1**	**+2.7**
	360nm,0.4s						
LNSS	**Leonessa**	**1.08**	**175**	Pg	**Pn**	**08 55 36.2**	**-0.1**
	4μm,0.4s						
TERO	**Teramo**	**1.18**	**154**	Pg	**Pn**	**08 55 36.9**	**-0.6**
	1μm,0.5s						
SEI	**Scarperia**	**1.18**	**289**	Pg	**Pn**	**08 55 40.5**	**+2.9**
	901nm,0.4s						
CSNT	**Castellina Chi**	**1.19**	**260**	Pg	**Pn**	**08 55 38.8**	**+1.1**
CSNT				Sg	**Sn**	**08 55 55.8**	**+3.1**
	453nm,0.5s						
MNS	**Montasola**	**1.30**	**187**	Pg	**Pn**	**08 55 39.2**	**-0.1**
	1μm,0.5s						
CRMI	**Carmignano**	**1.40**	**275**	Pg	**Pn**	**08 55 42.5**	**+1.8**
	121nm,0.8s						
FIAM	**Fiamignano**	**1.42**	**174**	Pg	**Pn**	**08 55 41.6**	**+0.7**
	709nm,0.7s						
VCEL	**Villa Celiera**	**1.46**	**151**	Pg	**Pn**	**08 55 41.0**	**-0.4**
	622nm,0.3s						
GRFL	**Gerfalco**	**1.50**	**250**	Pg	**Pn**	**08 55 42.7**	**+0.7**
	92nm,0.8s						
NVLJ	**Novalja**	**1.67**	**57**	*i* Pn	**Pn**	**08 55 43.7**	**-0.6**
NVLJ				*i* Sg	**Sn**	**08 56 03.4**	**-1.1**
PII	**Pisa**	**1.72**	**272**	Pg	**Pn**	**08 55 46.6**	**+1.5**
	99nm,0.2s						
CERT	**Cerreto**	**1.73**	**178**	Pg	**Pn**	**08 55 45.0**	**-0.2**
	421nm,0.6s						
IESO	**Jesolo**	**1.86**	**352**	⇓*iP*g	**Pn**	**08 55 47.4**	**+0.5**
IESO	**Jesolo**	**1.86**	**352**	*i* Pg	**Pn**	**08 55 47.3**	**+0.4**
SARO	**Sassorosso**	**1.88**	**286**	P	**Pn**	**08 55 48.5**	**+1.4**
VLC	**Villacollemand**	**1.88**	**286**	*e*Pg	**Pn**	**08 55 49.8**	**+2.6**
VLC				*e*Sg	**Sn**	**08 56 13.0**	**+3.3**
VLC	**Villacollemand**	**1.88**	**286**	*e*Pg	**Pn**	**08 55 49.8**	**+2.6**
VLC				*e*Sg	**Sn**	**08 56 13.0**	**+3.3**
TEOL	**Teolo**	**1.90**	**333**	⇓*iP*g	**Pn**	**08 55 47.6**	**+0.2**
VALM		**2.03**	**290**	P	**Pn**	**08 55 50.7**	**+1.5**
VINC	**Vinca**	**2.04**	**284**	P	**Pn**	**08 55 50.7**	**+1.3**
KNDS	**Knezji Dol**	**2.13**	**29**	*i* Pn	**Pn**	**08 55 50.7**	**+0.1**
KNDS				*i* Sn	**Sn**	**08 56 16.8**	**+1.0**
GRAM		**2.20**	**293**	P	**Pn**	**08 55 53.0**	**+1.4**
MTLO	**Montello**	**2.21**	**345**	⇓*iP*n	**Pn**	**08 55 52.1**	**+0.4**
CGRP	**Cima Grappa**	**2.33**	**341**	⇓*iP*n	**Pn**	**08 55 53.7**	**+0.2**
CGRP				*i* Sn	**Sn**	**08 56 20.1**	**-0.8**
CAE	**Caneva**	**2.35**	**352**	⇑*iP*n	**Pn**	**08 55 54.0**	**+0.4**
CAE				*i* Sn	**Sn**	**08 56 20.5**	**-0.8**
JAVS	**Javornik**	**2.36**	**20**	*i* Pn	**Pn**	**08 55 53.5**	**-0.3**
VOY	**Vojsko**	**2.46**	**16**	⇓*e*Pn	**Pn**	**08 55 54.6**	**-0.5**
VOY				*e*Sn	**Sn**	**08 56 24.4**	**+0.6**
COLI	**Coloredo**	**2.48**	**8**	⇓*iP*n	**Pn**	**08 55 55.0**	**-0.4**
COLI				*i* Sn	**Sn**	**08 56 23.8**	**-0.6**
MLNI	**Malnisio**	**2.48**	**355**	⇓*iP*n	**Pn**	**08 55 55.8**	**+0.4**
MLNI				*i* Sn	**Sn**	**08 56 22.8**	**-1.7**
BOJS	**Bojanci**	**2.48**	**42**	*i* Pn	**Pn**	**08 55 55.8**	**+0.4**
SC2M	**Scurtabr**	**2.53**	**288**	P	**Pn**	**08 55 57.3**	**+1.1**
BUA	**Buia**	**2.54**	**3**	⇓*iP*n	**Pn**	**08 55 56.7**	**+0.4**
BUA				*i* Sn	**Sn**	**08 56 25.8**	**-0.3**
DRE	**Drenchia**	**2.55**	**12**	⇓*iP*n	**Pn**	**08 55 56.3**	**0.0**
DRE				*i* Sn	**Sn**	**08 56 25.7**	**-0.5**
MPRI	**Monte Prat**	**2.56**	**1**	⇓*iP*n	**Pn**	**08 55 57.0**	**+0.5**
BAD	**Bernadia**	**2.57**	**5**	⇓*iP*n	**Pn**	**08 55 56.7**	**+0.1**
BAD				*i* Sn	**Sn**	**08 56 25.6**	**-1.0**
CADS	**Cadrg**	**2.62**	**13**	*i* Pn	**Pn**	**08 55 57.2**	**-0.1**
CADS	**Cadrg**	**2.62**	**13**	*i* Pn	**Pn**	**08 55 57.2**	**-0.1**
CSO	**Casso**	**2.62**	**351**	⇓*iP*n	**Pn**	**08 55 57.5**	**+0.1**
CSO				*i* Sn	**Sn**	**08 56 26.5**	**-1.6**
FAU	**Forcella Aurin**	**2.63**	**346**	⇑*iP*n	**Pn**	**08 55 58.1**	**+0.6**
BOO	**Bordano**	**2.64**	**3**	⇓*iP*n	**Pn**	**08 55 57.7**	**0.0**
PDKS	**Podkum**	**2.81**	**31**	*i* Pn	**Pn**	**08 56 00.5**	**+0.5**
CSMI	**Casera Mimoias**	**2.84**	**357**	⇓*iP*n	**Pn**	**08 56 01.0**	**+0.7**
LEGS	**Legarje**	**2.85**	**36**	*e*Pn	**Pn**	**08 56 01.4**	**+0.9**
PLRO	**Paularo**	**2.88**	**3**	⇓*e*Pn	**Pn**	**08 56 01.1**	**+0.3**
ZOU	**Zoufplan**	**2.88**	**1**	⇓*iP*n	**Pn**	**08 56 01.3**	**+0.5**
AFL	**Alpe Faloria**	**2.90**	**350**	⇓*iP*n	**Pn**	**08 56 02.4**	**+1.3**
MS1	**Monte Sant'Ang**	**2.99**	**130**	*e*Pn	**Pn**	**08 55 59.5**	**-2.9**
OBKA	**Obir**	**3.06**	**22**	⇑*iP*n	**Pn**	**08 56 04.1**	**+0.7**
OBKA				⇑*i*Sn	**Sn**	**08 56 41.6**	**+2.9**
PGF	**Pioggiola**	**3.07**	**250**	*e*Pn	**Pn**	**08 56 05.0**	**+1.4**
PGF				*e*Sn	**Sn**	**08 56 39.1**	**0.0**
	28nm,0.5s						
PGF	**Pioggiola**	**3.07**	**250**	*e*Pn	**Pn**	**08 56 05.0**	**+1.4**
PGF				*e*Sn	**Sn**	**08 56 39.1**	**0.0**
	14nm,0.5s						
KBA	**Koelnbreinsper**	**3.41**	**5**	*i* Pn	**Pn**	**08 56 09.5**	**+1.3**
	SNR=26						
KBA				⇑*i*Sn	**Sn**	**08 56 50.5**	**+3.1**
KBA	**Koelnbreinsper**	**3.41**	**5**	*e*Pn	**Pn**	**08 56 09.4**	**+1.2**
KBA				*e*Sn	**Sn**	**08 56 48.0**	**+0.6**
KBA	**Koelnbreinsper**	**3.41**	**5**	Pn	**Pn**	**08 56 09.5**	**+1.3**
	25nm,9.0s						
KBA				Sn	**Sn**	**08 56 50.5**	**+3.1**
SCE	**Schlegeis**	**3.46**	**346**	⇓*i*Pn	**Pn**	**08 56 10.6**	**+1.7**
STON	**Ston**	**3.60**	**101**	*i* Pn	**Pn**	**08 56 09.6**	**-1.1**
STON				*i* Sn	**Sn**	**08 56 48.6**	**-3.3**
CDT	**Castel del Mon**	**3.60**	**135**	*e*Pn	**Pn**	**08 56 08.9**	**-2.0**
WTTA	**Wattenberg**	**3.69**	**346**	⇑*i*Pn	**Pn**	**08 56 13.7**	**+1.6**
	SNR=7.8						
WTTA				⇑*i*Sn	**Sn**	**08 56 58.0**	**+3.7**
WTTA	**Wattenberg**	**3.69**	**346**	*e*Pn	**Pn**	**08 56 14.6**	**+2.5**
WTTA	**Wattenberg**	**3.69**	**346**	Pn	**Pn**	**08 56 13.7**	**+1.6**
	7.0nm,8.0s						
WTTA				Sn	**Sn**	**08 56 58.0**	**+3.7**
SQTA	**Sankt Quirin**	**3.73**	**342**	⇑*i*Pn	**Pn**	**08 56 14.4**	**+1.8**
	SNR=18						
SQTA				⇓*i*Sn	**Sn**	**08 56 59.4**	**+4.0**
SQTA	**Sankt Quirin**	**3.73**	**342**	Pn	**Pn**	**08 56 14.4**	**+1.7**
	17nm,5.0s						
SQTA				Sn	**Sn**	**08 56 59.4**	**+4.0**
WATA	**Walderalm**	**3.77**	**346**	⇓*i*Pn	**Pn**	**08 56 14.8**	**+1.6**
	SNR=27						
WATA				⇓*i*Sn	**Sn**	**08 57 00.3**	**+4.0**
WATA	**Walderalm**	**3.77**	**346**	Pn	**Pn**	**08 56 14.8**	**+1.6**
	26nm,8.0s						
WATA				Sn	**Sn**	**08 57 00.3**	**+4.0**
MOTA	**Moosalm**	**3.88**	**342**	⇓*i*Pn	**Pn**	**08 56 16.1**	**+1.4**
	SNR=26						
MOTA				⇓*i*Sn	**Sn**	**08 57 02.8**	**+3.9**
MOTA	**Moosalm**	**3.88**	**342**	⇓*i*Pn	**Pn**	**08 56 16.0**	**+1.4**
MOTA				Sn	**Sn**	**08 57 02.8**	**+3.9**
SBF	**Sospel**	**3.96**	**275**	*e*Pn	**Pn**	**08 56 18.1**	**+2.3**
SBF				*e*Sn	**Sn**	**08 56 59.8**	**-1.2**
	45nm,0.5s						
SBF	**Sospel**	**3.96**	**275**	*e*Pn	**Pn**	**08 56 18.1**	**+2.3**
SBF				*e*Sn	**Sn**	**08 56 59.8**	**-1.2**
	22nm,0.5s						
BGLD	**Berchtesgaden**	**3.97**	**1**	⇑*i*Pn	**Pn**	**08 56 17.3**	**+1.4**
SG1	**Sgolgore (BA)**	**3.99**	**134**	*e*Pn	**Pn**	**08 56 14.3**	**-1.9**
ARSA	**Arzberg**	**4.02**	**26**	⇓*i*Pn	**Pn**	**08 56 16.4**	**-0.2**
ARSA				⇑*i*Sn	**Sn**	**08 57 01.2**	**-1.1**
ARSA	**Arzberg**	**4.02**	**26**	*e*Pn	**Pn**	**08 56 16.3**	**-0.3**
ARSA				*e*Sn	**Sn**	**08 57 01.1**	**-1.3**
DAVA	**Damuels**	**4.18**	**331**	⇑*i*Pn	**Pn**	**08 56 20.8**	**+2.0**
	SNR=19						
DAVA				⇑*i*Sn	**Sn**	**08 57 09.9**	**+3.4**
DAVA	**Damuels**	**4.18**	**331**	*e*Pn	**Pn**	**08 56 21.2**	**+2.3**
DAVA	**Damuels**	**4.18**	**331**	⇑*i*Pn	**Pn**	**08 56 20.8**	**+2.0**
DAVA				*i* Sn	**Sn**	**08 57 09.9**	**+3.4**
DAVA	**Damuels**	**4.18**	**331**	Pn	**Pn**	**08 56 20.8**	**+1.9**
	18nm,8.0s						
DAVA				Sn	**Sn**	**08 57 09.9**	**+3.4**
MOA	**Molln**	**4.28**	**12**	⇑*i*Pn	**Pn**	**08 56 20.8**	**+0.7**
	SNR=17						
MOA				⇓*i*Sn	**Sn**	**08 57 10.9**	**+2.1**
MOA	**Molln**	**4.28**	**12**	*e*Pn	**Pn**	**08 56 21.0**	**+0.9**
MOA				*e*Sn	**Sn**	**08 57 07.8**	**-1.0**
MOA	**Molln**	**4.28**	**12

CDF			*e*Sn	**Sn**	**08 57 49.4**	**-5.2**
	20nm,0.5s					
CDF	**Champ du Feu**	**6.14 322**	*e*Pn	**Pn**	**08 56 46.1**	**+0.4**
CDF			*e*Sn	**Sn**	**08 57 49.4**	**-5.2**
	10nm,0.5s					
HAU	**Haudompre**	**6.30 316**	*e*Pn	**Pn**	**08 56 47.8**	**0.0**
HAU			*e*Sn	**Sn**	**08 57 53.3**	**-5.2**
	51nm,0.4s					
HAU	**Haudompre**	**6.30 316**	*e*Pn	**Pn**	**08 56 47.8**	**0.0**
HAU			*e*Sn	**Sn**	**08 57 53.3**	**-5.2**
	26nm,0.4s					
PRU	**Pruhonice**	**6.41 10**	*e*Pn	**Pn**	**08 56 50.1**	**+0.7**
PRU			*e*SN	**Sn**	**08 57 57.4**	**-3.8**
PRU			*e*SG	Sn	08 58 43.9	+43
	10nm,0.7s					
PRU	**Pruhonice**	**6.41 10**	*e*Pn	**Pn**	**08 56 50.1**	**+0.7**
	10nm,0.7s					
PRU			*e*Sn	**Sn**	**08 57 57.4**	**-3.8**
PRU			*e*		08 58 43.9	
LASF	**Ste Croix**	**6.55 277**	*e*Pn	**Pn**	**08 56 50.8**	**-0.5**
LASF			*e*Sn	**Sn**	**08 58 01.1**	**-3.6**
	2.2nm,0.6s					
LASF	**Ste Croix**	**6.55 277**	*e*Pn	**Pn**	**08 56 50.8**	**-0.5**
LASF			*e*Sn	**Sn**	**08 58 01.1**	**-3.6**
	1.1nm,0.6s					
KRUS	**Krusevo**	**6.58 108**	*i* Pg	**Pn**	**08 56 52.1**	**+0.3**
THEF	**They Montfort**	**6.62 316**	P	**Pn**	**08 56 52.7**	**+0.4**
MOX	**Moxa**	**7.02 353**	*e*Pn	**Pn**	**08 56 56.7**	**-1.1**
MOX	**Moxa**	**7.02 353**	*e*PN	**Pn**	**08 56 56.0**	**-1.8**
MOX			*e*SN	**Sn**	**08 58 09.9**	**-6.4**
SMF	**Signal de Mont**	**7.06 298**	*e*Pn	**Pn**	**08 56 58.0**	**-0.3**
SMF			*e*Sn	**Sn**	**08 58 12.5**	**-4.7**
	15nm,0.5s					
SMF	**Signal de Mont**	**7.06 298**	*e*Pn	**Pn**	**08 56 58.0**	**-0.3**
SMF			*e*Sn	**Sn**	**08 58 12.5**	**-4.7**
	7.5nm,0.5s					
DPC	**Dobruska-Polom**	**7.07 18**	*e*SN	**Sn**	**08 58 11.8**	**-5.7**
SFTF	**Sexfontaines**	**7.11 312**	*e*Pn	**Pn**	**08 56 59.5**	**+0.6**
	baz=134					
TNS	**Taunus Mts**	**7.22 337**	*e*Pn	**Pn**	**08 57 01.1**	**+0.6**
TNS			*e*Sn	**Sn**	**08 58 18.2**	**-2.9**
BRG	**Berggiesshubel**	**7.23 5**	SN	**Sn**	**08 58 38.7**	**+17**
BRG			SG	Sn	08 59 12.5	+51
	5.0nm,0.9s					
MEZF	**Maizieres J'vi**	**7.28 314**	*e*Pn	**Pn**	**08 57 02.9**	**+1.6**
	baz=135					
MEZF			*e*Sn	**Sn**	**08 58 16.8**	**-5.8**
	7.6nm,0.4s					
LOR	**Lormes**	**7.30 303**	*e*Pn	**Pn**	**08 57 01.4**	**-0.2**
	baz=124					
LOR			*e*Sn	**Sn**	**08 58 17.6**	**-5.5**
	18nm,0.6s					
LOR	**Lormes**	**7.30 303**	*e*Pn	**Pn**	**08 57 01.4**	**-0.2**
LOR			*e*Sn	**Sn**	**08 58 17.6**	**-5.5**
	8.9nm,0.6s					
AVF	**Avril sur Loir**	**7.42 298**	*e*Pn	**Pn**	**08 57 02.9**	**-0.4**
AVF			*e*Sn	**Sn**	**08 58 20.8**	**-5.3**
	5.1nm,0.5s					
AVF	**Avril sur Loir**	**7.42 298**	*e*Pn	**Pn**	**08 57 02.9**	**-0.4**
AVF			*e*Sn	**Sn**	**08 58 20.8**	**-5.3**
	2.5nm,0.5s					
SSF	**Saint Saulge**	**7.43 300**	*e*Pn	**Pn**	**08 57 03.1**	**-0.3**
SSF			*e*Sn	**Sn**	**08 58 20.6**	**-5.7**
	7.8nm,0.5s					
SSF	**Saint Saulge**	**7.43 300**	*e*Pn	**Pn**	**08 57 03.1**	**-0.3**
SSF			*e*Sn	**Sn**	**08 58 20.6**	**-5.7**
	3.9nm,0.5s					
CLL	**Collm**	**7.63 0**	*i* Pn	**Pn**	**08 57 06.1**	**-0.1**
CLL			*e*Sg	Sn	08 59 28.0	+57
BGF	**Bois d'Agland**	**7.67 296**	*e*Pn	**Pn**	**08 57 06.1**	**-0.6**
BGF			*e*Sn	**Sn**	**08 58 27.1**	**-5.2**
	22nm,0.7s					
BGF	**Bois d'Agland**	**7.67 296**	*e*Pn	**Pn**	**08 57 06.1**	**-0.6**
BGF			*e*Sn	**Sn**	**08 58 27.1**	**-5.2**
	11nm,0.7s					
MTLF	**Montolieu**	**7.78 271**	*e*Pn	**Pn**	**08 57 09.1**	**+1.0**
MTLF			*e*Sn	**Sn**	**08 58 30.7**	**-4.1**
	2.4nm,0.5s					
MTLF	**Montolieu**	**7.78 271**	*e*Pn	**Pn**	**08 57 09.1**	**+1.0**
MTLF			*e*Sn	**Sn**	**08 58 30.7**	**-4.1**
	1.2nm,0.5s					
CAF	**Calviac**	**7.87 283**	*e*Pn	**Pn**	**08 57 09.9**	**+0.4**
TCF	**Toulx Ste Croi**	**8.02 293**	*e*Pn	**Pn**	**08 57 10.8**	**-0.6**
TCF			*e*Sn	**Sn**	**08 58 35.2**	**-5.5**
	2.9nm,0.3s					
TCF	**Toulx Ste Croi**	**8.02 293**	*e*Pn	**Pn**	**08 57 10.8**	**-0.6**
TCF			*e*Sn	**Sn**	**08 58 35.2**	**-5.5**
	1.5nm,0.3s					
HYF	**Humbligny**	**8.05 300**	*e*Pn	**Pn**	**08 57 11.5**	**-0.4**
HYF			*e*Sn	**Sn**	**08 58 36.2**	**-5.5**
RJF	**Les Rejaudoux**	**8.30 285**	*e*Pn	**Pn**	**08 57 14.6**	**-0.7**
RJF			*e*Sn	**Sn**	**08 58 43.0**	**-4.7**
	1.8nm,0.3s					
RJF	**Les Rejaudoux**	**8.30 285**	*e*Pn	**Pn**	**08 57 14.6**	**-0.7**
RJF			*e*Sn	**Sn**	**08 58 43.0**	**-4.7**
	0.9nm,0.3s					
GIVF	**Givet**	**8.47 322**	*e*Pn	**Pn**	**08 57 17.7**	**0.0**
GIVF			*e*Sn	**Sn**	**08 58 44.8**	**-7.2**
	2.6nm,0.3s					
GIVF	**Givet**	**8.47 322**	*e*Pn	**Pn**	**08 57 17.7**	**0.0**
GIVF			*e*Sn	**Sn**	**08 58 44.8**	**-7.2**
	1.3nm,0.3s					
BAIF	**Baives**	**8.72 320**	*e*Pn	**Pn**	**08 57 21.1**	**0.0**
BAIF			*e*Sn	**Sn**	**08 58 51.0**	**-7.1**
	13nm,0.7s					
BAIF	**Baives**	**8.72 320**	*e*Pn	**Pn**	**08 57 21.1**	**0.0**
BAIF			*e*Sn	**Sn**	**08 58 51.0**	**-7.1**
	6.6nm,0.7s					
EPF	**Esparros**	**9.18 270**	*e*Pn	**Pn**	**08 57 27.2**	**-0.1**
MFF	**Saint Martin d**	**9.67 292**	*e*Pn	**Pn**	**08 57 34.3**	**+0.2**
MFF			*e*Sn	**Sn**	**08 59 15.0**	**-6.4**
	2.9nm,0.5s					
MFF	**Saint Martin d**	**9.67 292**	*e*Pn	**Pn**	**08 57 34.3**	**+0.2**
MFF			*e*Sn	**Sn**	**08 59 15.0**	**-6.4**
	1.5nm,0.5s					
LDF	**La Druitiere**	**10.28 303**	*e*Pn	**Pn**	**08 57 41.1**	**-1.4**
LDF			*e*Sn	**Sn**	**08 59 29.1**	**-7.3**
	1.2nm,0.3s					
LDF	**La Druitiere**	**10.28 303**	*e*Pn	**Pn**	**08 57 41.1**	**-1.4**
LDF			*e*Sn	**Sn**	**08 59 29.1**	**-7.3**
	0.6nm,0.3s					
FLN	**La Foliniere**	**10.57 303**	*e*Pn	**Pn**	**08 57 44.8**	**-1.6**
FLN			*e*Sn	**Sn**	**08 59 36.0**	**-7.4**
	4.2nm,0.6s					
FLN	**La Foliniere**	**10.57 303**	*e*Pn	**Pn**	**08 57 44.8**	**-1.6**
FLN			*e*Sn	**Sn**	**08 59 36.0**	**-7.4**
	2.1nm,0.6s					
GRR	**Gorron**	**10.66 301**	*e*Pn	**Pn**	**08 57 45.9**	**-1.7**
GRR			*e*Sn	**Sn**	**08 59 38.1**	**-7.4**
	2.3nm,0.3s					
GRR	**Gorron**	**10.66 301**	*e*Pn	**Pn**	**08 57 45.9**	**-1.7**
GRR			*e*Sn	**Sn**	**08 59 38.1**	**-7.4**
	1.1nm,0.3s					
SGMF	**Saint Gilles**	**11.69 298**	*e*Pn	**Pn**	**08 57 59.8**	**-1.8**
SGMF			*e*Sn	**Sn**	**09 00 03.0**	**-7.7**
	19nm,0.9s					
SGMF	**Saint Gilles**	**11.69 298**	*e*Pn	**Pn**	**08 57 59.8**	**-1.8**
SGMF			*e*Sn	**Sn**	**09 00 03.0**	**-7.7**
	9.5nm,0.9s					
QUIF	**Quistinic**	**11.98 296**	*e*Pn	**Pn**	**08 58 05.2**	**-0.5**
QUIF			*e*Sn	**Sn**	**09 00 10.3**	**-7.7**
	19nm,0.9s					
QUIF	**Quistinic**	**11.98 296**	*e*Pn	**Pn**	**08 58 05.2**	**-0.5**
QUIF			*e*Sn	**Sn**	**09 00 10.3**	**-7.7**
	9.4nm,0.9s					
ROSF	**Rostrenen**	**12.17 298**	*e*Pn	**Pn**	**08 58 05.9**	**-2.3**
ROSF			*e*Sn	**Sn**	**09 00 14.4**	**-8.0**
	25nm,1.1s					
ROSF	**Rostrenen**	**12.17 298**	*e*Pn	**Pn**	**08 58 05.9**	**-2.3**
ROSF			*e*Sn	**Sn**	**09 00 14.4**	**-8.0**
	13nm,1.1s					

MEX 21 08:56:15.8±0.9,1571N×9727W,h19km±68km,MD3.6,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.07 310**		*i* P	Pb	08 56 32.9	-2.8
PNIG				*i* S	Sb	08 56 45.0	-4.3
VHO	**Vista Hermosa**	**1.45 21**		*e*P	Pn	08 56 37.5	-3.5
VHO				*i* S	Sn	08 56 55.6	-3.9
OXX	**Oaxaca**	**1.46 21**		*e*P	Pn	08 56 39.7	-1.5
OXX				*i* S	Sn	08 56 58.0	-1.8
UTMO	**Huajuapan**	**2.17 346**		*i* P	Pn	08 56 48.2	-2.7
UTMO				*i* S	Sn	08 57 14.2	-3.1
TPIG	**Tehuac#an**	**2.70 358**		*i* P	Pn	08 56 55.4	-2.8
TPIG				*i* S	Sn	08 57 28.9	-1.4

*ISCJB **21** 09:05:26.0±0.7,3520N±002×396W±003,h13km±5km,*
Error ellipse: s-maj=4.3km s-min=3.4km az=37.3
*MDD **21** 09:05:26.3±0.4,3519N×396W,h0km,mb3.5/15,Error*
ellipse: s-maj=4.2km s-min=3.3km az=73.0,PRXIMO
*SFS **21** 09:05:26.0,3524N×400W,h0km,ML2.2*
*CSEM **21** 09:05:26.1±0.1,3521N×388W,h15km,MD3.2,Error*
ellipse: s-maj=5.3km s-min=3.0km az=113.0
*CNRM **21** 09:05:27.3,35.17N×383W,h5km,MD3.2*
ISC 21 09:05:26.7±0.5,3519N±002×392W±003,h15km±4km,n41,
σ1§28/62,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.04 332**		*i* P	**Pg**	**09 05 29.0**	**-0.4**
TOU	**Touzarine**	**0.27 149**		P	**Pg**	**09 05 31.0**	**-1.5**
TOU				S	**Sg**	**09 05 35.0**	**-1.3**
TOU	**Touzarine**	**0.27 149**		*i* P	**Pg**	**09 05 31.0**	**-1.5**
EMEL	**Melilla**	**0.80 82**		P	**Pg**	**09 05 41.7**	**-0.5**
	106nm,0.1s,SNR=4.7						
EMEL				S	**Sg**	**09 05 54.0**	**+1.3**
	259nm,0.1s,SNR=7.4						
EMLI	**Melilla**	**0.80 82**		P	**Pg**	**09 05 41.7**	**-0.6**
	106nm,0.1s,SNR=4.7						
MELI	**Melilla**	**0.81 83**		P	**Pg**	**09 05 44.7**	**+2.2**
MELI				S	**Sg**	**09 05 54.4**	**+1.2**
MELI	**Melilla**	**0.81 83**		*e*P	**Pg**	**09 05 44.7**	**+2.2**
ZAI	**Zaio**	**0.99 103**		P	**Pb**	**09 05 44.5**	**-1.0**
ZAI				S	**Sb**	**09 05 56.0**	**-2.4**
ZAI	**Zaio**	**0.99 103**		*i* P	**Pb**	**09 05 44.5**	**-1.0**
EALB	**Alboran**	**1.04 44**		P	**Pb**	**09 05 45.6**	**-0.7**
	31nm,0.2s,SNR=8.9						
EALB				S	**Sb**	**09 05 59.2**	**-0.6**
	56nm,0.2s						
TGT	**Taghat**	**1.46 220**		P	**Pn**	**09 05 53.0**	**+0.5**
TGT				S	**Sn**	**09 06 12.0**	**+0.6**
TGT	**Taghat**	**1.46 220**		*i* P	**Pn**	**09 05 53.0**	**+0.5**
EMIJ	**Mijas**	**1.53 333**		P	**Pn**	**09 05 51.7**	**-1.8**
	4.8nm,0.2s,SNR=13						
EMIJ				S	**Sn**	**09 06 11.7**	**-1.5**
	10.0nm,0.2s						
EGUA	**Guajares**	**1.66 10**		P	**Pn**	**09 05 53.2**	**-2.1**
	0.9nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**09 06 12.2**	**-4.2**
	1.2nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.78 315**		P	**Pn**	**09 05 56.1**	**-0.8**
	3.1nm,0.2s,SNR=8.4						
EJIF				S	**Sn**	**09 06 16.4**	**-2.8**
	11nm,0.5s,SNR=4.0						
EBER	**Berja**	**1.90 26**		P	**Pn**	**09 05 57.9**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**09 06 22.4**	**+0.3**
	19nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.90 26**		P	**Pn**	**09 05 57.9**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.96 355**		P	**Pn**	**09 06 01.3**	**+1.9**
	6.1nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.04 11**		P	**Pn**	**09 06 00.6**	**0.0**
	3.1nm,0.3s,SNR=7.1						
EQUE				S	**Sn**	**09 06 25.2**	**-0.6**
	2.5nm,0.3s,SNR=5.3						
MIF	**Mishlifen**	**2.08 212**		P	**Pn**	**09 06 02.0**	**+0.9**
MIF				S	**Sn**	**09 06 27.0**	**+0.2**
MIF	**Mishlifen**	**2.08 212**		*i* P	**Pn**	**09 06 02.0**	**+0.9**
LIJA	**Lijar**	**2.09 325**		P	**Pn**	**09 06 03.0**	**+1.8**
LIJA				S	**Sn**	**09 06 30.0**	**+3.1**
LIJA	**Lijar**	**2.09 325**		*i* P	**Pn**	**09 06 03.0**	**+1.8**
ECOG	**Cogollos-Vega**	**2.10 8**		P	**Pn**	**09 06 01.8**	**+0.5**
	4.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.29 317**		P	**Pn**	**09 06 06.2**	**+2.2**
	1.5nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**09 06 34.0**	**+2.1**
	4.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.29 317**		P	**Pn**	**09 06 06.2**	**+2.2**
	1.5nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.35 204**		P	**Pn**	**09 06 06.0**	**+1.3**
CZD				S	**Sn**	**09 06 33.0**	**-0.3**
CZD	**Col de Zad**	**2.35 204**		*i* P	**Pn**	**09 06 06.0**	**+1.3**
ELUQ	**Luque**	**2.38 353**		P	**Pn**	**09 06 06.0**	**+0.9**
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.69 14**		P	**Pn**	**09 06 10.9**	**+1.5**
	2.9nm,0.2s,SNR=6.9						
EQES				S	**Sn**	**09 06 42.9**	**+1.1**
	12nm,0.3s,SNR=5.1						
EQES	**Quesada**	**2.69 14**		P	**Pn**	**09 06 10.9**	**+1.4**
	2.9nm,0.2s,SNR=6.9						
EADA	**Adamuz**	**3.02 350**		P	**Pn**	**09 06 14.8**	**+0.9**
	2.0nm,0.2s,SNR=11						
EADA				S	**Sn**	**09 06 49.1**	**-0.7**
	0.6nm,0.3s						
EADA	**Adamuz**	**3.02 350**		P	**Pn**	**09 06 14.8**	**+0.9**
	2.0nm,0.2s,SNR=11						
ZFT	**Errachidia**	**3.17 187**		P	**Pn**	**09 06 17.0**	**+0.9**
ZFT				S	**Sn**	**09 06 53.0**	**-0.6**
ZFT	**Errachidia**	**3.17 187**		*e*P	**Pn**	**09 06 17.0**	**+0.9**
EMIN	**Mina Concepcio**	**3.39 320**		P	**Pn**	**09 06 18.4**	**-0.7**
	1.3nm,0.1s,SNR=9.7						
EMIN				S	**Sn**	**09 06 56.8**	**-2.3**
	0.8nm,0.2s,SNR=7.5						
EMIN	**Mina Concepcio**	**3.39 320**		P	**Pn**	**09 06 18.4**	**-0.7**
	1.3nm,0.1s,SNR=9.7						
EGRO	**El Granado**	**3.70 310**		P	**Pn**	**09 06 22.7**	**-0.7**
	1.1nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**09 07 04.1**	**-2.6**
	11nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.70 310**		P	**Pn**	**09 06 22.7**	**-0.7**
	1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.94 28**		P	**Pn**	**09 06 27.7**	**+1.1**
	1.6nm,0.2s,SNR=4.0						
ETOB				S	**Sn**	**09 07 11.7**	**-0.7**
	1.8nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.47 360**		P	**Pn**	**09 06 34.9**	**+1.0**
	2.6nm,0.2s,baz=174,slow=12,SNR=6.0						

*IDC **21** 09:21:01.9±4.8,3730S×17782E,h0km,mb4.4/3,*
mb1 4.5/3,mb1mx4.0/12,mbtmp4.4/3,Error ellipse:
s-maj=216.4km s-min=55.8km az=168.0
*ISCJB **21** 09:21:09.4±0.5,3843S×003×17761E×005,h75km±3km,*
mb4.2/3,Error ellipse: s-maj=6.8km s-min=5.0km az=28.0
*WEL **21** 09:21:11.3±0.1,3835S×17755E,h64km±1km,ML4.4/22,*
Error ellipse: s-maj=1.0km s-min=0.8km az=90.0
WEL Felt from Bay of Plenty to Gisborne, maximum reported
intensity MM 4.
*NEIC **21** 09:21:11.2,3836S×17756E,h64km,ML4.5(WEL),After*
WEL.
ISC 21 09:21:10.0±0.5,3846S±003×17762E±005,h68km±4km,
n132,σ1§14/140,mb4.2/3,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.15 330**		P	**Pn**	**09 21 20.4**	**+0.3**
MWZ				S	**Sn**	**09 21 27.2**	**-0.3**
MWZ	**Matawai**	**0.15 330**		PN	**Pn**	**09 21 20.4**	**+0.3**
MWZ				SN	**Sn**	**09 21 27.2**	**-0.3**
URZ	**Urewera**	**0.45 297**		P	**Pn**	**09 21 21.9**	**-0.3**
URZ	**Urewera**	**0.45 297**		PN	**Pn**	**09 21 21.9**	**-0.2**
URZ				SN	**Sn**	**09 21 29.8**	**-1.2**
KNZ	**Kokohu**	**0.56 176**		P	**Pn**	**09 21 25.1**	**+1.9**
KNZ	**Kokohu**	**0.56 176**		PN	**Pn**	**09 21 25.1**	**+1.9**
KNZ				SN	**Sn**	**09 21 36.6**	**+3.7**
PUZ	**Puketiti**	**0.63 52**		P	**Pn**	**09 21 24.8**	**+0.8**
PUZ				S	**Sn**	**09 21 35.0**	**+0.7**
PUZ	**Puketiti**	**0.63 52**		PN	**Pn**	**09 21 24.8**	**+0.7**
PUZ				SN	**Sn**	**09 21 35.0**	**+0.7**
EDRZ	**Edgecumbe**	**0.78 297**		P	**Pn**	**09 21 25.5**	**-0.2**
EDRZ	**Edgecumbe**	**0.78 297**		PN	**Pn**	**09 21 25.5**	**-0.2**
EDRZ				SN	**Sn**	**09 21 35.6**	**-1.6**
MARZ	**Manawahe**	**0.88 302**		P	**Pn**	**09 21 26.3**	**-0.7**
MARZ	**Manawahe**	**0.88 302**		PN	**Pn**	**09 21 26.3**	**-0.6**
MARZ				SN	**Sn**	**09 21 38.5**	**-1.0**
TAZ	**Tarawera**	**0.91 284**		P	**Pn**	**09 21 27.5**	**+0.3**
TAZ	**Tarawera**	**0.91 284**		PN	**Pn**	**09 21 27.5**	**+0.3**
MKRZ	**Makatiti**	**0.96 289**		P	**Pn**	**09 21 28.3**	**+0.4**
MKRZ	**Makatiti**	**0.96 289**		PN	**Pn**	**09 21 28.3**	**+0.4**
WIZ	**White Island**	**0.99 340**		P	**Pn**	**09 21 27.1**	**-1.2**
WIZ	**White Island**	**0.99 340**		PN	**Pn**	**09 21 27.1**	**-1.3**
MXZ	**Matakaoa Point**	**1.05 31**		P	**Pn**	**09 21 29.5**	**+0.5**
MXZ				S	**Sn**	**09 21 43.2**	**+0.1**
MXZ	**Matakaoa Point**	**1.05 31**		PN	**Pn**	**09 21 29.5**	**+0.5**
PATZ	**Paeroa**	**1.07 274**		P	**Pn**	**09 21 29.7**	**+0.4**
PATZ	**Paeroa**	**1.07 274**		PN	**Pn**	**09 21 29.7**	**+0.4**
LIRZ	**Lichensteins R**	**1.08 295**		P	**Pn**	**09 21 28.9**	**-0.5**
LIRZ	**Lichensteins R**	**1.08 295**		PN	**Pn**	**09 21 28.9**	**-0.5**
BKZ	**Black Stump Fm**	**1.13 231**		P	**Pn**	**09 21 31.4**	**+1.4**
BKZ	**Black Stump Fm**	**1.13 231**		PN	**Pn**	**09 21 31.4**	**+1.4**
UTU	**Utuhina**	**1.16 284**		P	**Pn**	**09 21 30.7**	**+0.3**
UTU	**Utuhina**	**1.16 284**		PN	**Pn**	**09 21 30.7**	**+0.3**
KARZ	**Kaharoa**	**1.17 292**		P	**Pn**	**09 21 30.1**	**-0.5**
KARZ	**Kaharoa**	**1.17 292**		PN	**Pn**	**09 21 30.1**	**-0.5**
HATZ	**Hinemaiaia**	**1.27 250**		P	**Pn**	**09 21 32.4**	**+0.5**
HATZ	**Hinemaiaia**	**1.27 250**		PN	**Pn**	**09 21 32.4**	**+0.6**
TGRZ	**Tauranga**	**1.30 304**		P	**Pn**	**09 21 31.2**	**-1.1**
TGRZ	**Tauranga**	**1.30 304**		PN	**Pn**	**09 21 31.2**	**-1.1**
RITZ	**Rihia Road**	**1.47 249**		P	**Pn**	**09 21 35.5**	**+1.0**
RITZ	**Rihia Road**	**1.47 249**		PN	**Pn**	**09 21 35.5**	**+1.0**
WATZ	**Wairara**	**1.50 260**		PN	**Pn**	**09 21 35.4**	**+0.5**
RATZ	**Rangitukua**	**1.50 254**		P	**Pn**	**09 21 35.9**	**+0.9**
RATZ	**Rangitukua**	**1.50 254**		PN	**Pn**	**09 21 35.9**	**+0.9**
KATZ	**Kakaramea**	**1.59 251**		P	**Pn**	**09 21 36.9**	**+0.8**
KATZ	**Kakaramea**	**1.59 251**		PN	**Pn**	**09 21 36.9**	**+0.7**
MYRZ	**Mayor Island**	**1.61 317**		PN	**Pn**	**09 21 35.3**	**-1.1**
KRVZ	**Karewarewa**	**1.67 247**		PN	**Pn**	**09 21 38.0**	**+0.8**
PXZ	**Pawanui**	**1.67 200**		PN	**Pn**	**09 21 37.6**	**+0.4**
OTVZ	**Oturere**	**1.68 245**		PN	**Pn**	**09 21 38.2**	**+0.9**
WTVZ	**West Tongariro**	**1.72 247**		P	**Pn**	**09 21 38.6**	**+0.8**
WTVZ	**West Tongariro**	**1.72 247**		PN	**Pn**	**09 21 38.6**	**+0.8**
NGZ	**Ngauruhoe**	**1.73 245**		P	**Pn**	**09 21 38.9**	**+0.9**
NGZ	**Ngauruhoe**	**1.73 245**		PN	**Pn**	**09 21 38.9**	**+0.9**
TUVZ	**Tukino**	**1.73 242**		P	**Pn**	**09 21 39.1**	**+1.1**
TUVZ	**Tukino**	**1.73 242**		PN	**Pn**	**09 21 39.1**	**+1.0**
MOVZ	**Moawhango**	**1.74 236**		P	**Pn**	**09 21 38.7**	**+0.6**
MOVZ	**Moawhango**	**1.74 236**		PN	**Pn**	**09 21 38.7**	**+0.7**
WPVZ	**Whakapapa**	**1.78 245**		P	**Pn**	**09 21 39.6**	**+0.9**
WPVZ	**Whakapapa**	**1.78 245**		PN	**Pn**	**09 21 39.6**	**+1.0**
FWVZ	**Far West T-bar**	**1.80 243**		P	**Pn**	**09 21 39.8**	**+0.9**
FWVZ	**Far West T-bar**	**1.80 243**		PN	**Pn**	**09 21 39.8**	**+0.9**
WNVZ	**Wahianoa**	**1.80 241**		P	**Pn**	**09 21 39.9**	**+1.0**
WNVZ	**Wahianoa**	**1.80 241**		PN	**Pn**	**09 21 39.9**	**+0.9**
TWVZ	**Taurewa**	**1.81 250**		P	**Pn**	**09 21 39.6**	**+0.5**
TWVZ	**Taurewa**	**1.81 250**		PN	**Pn**	**09 21 39.6**	**+0.5**
TRVZ	**Turoa**	**1.82 242**		PN	**Pn**	**09 21 40.1**	**+0.9**
TOZ	**Tahuroa Road**	**1.82 293**		P	**Pn**	**09 21 38.8**	**-0.5**
TOZ	**Tahuroa Road**	**1.82 293**		PN	**Pn**	**09 21 38.8**	**-0.5**
WPHZ	**Waipukurau**	**1.84 209**		PN	**Pn**	**09 21 39.9**	**+0.4**
MTVZ	**Mangateitei**	**1.91 241**		PN	**Pn**	**09 21 41.4**	**+0.9**
PKVZ	**Pokaka**	**1.96 244**		PN	**Pn**	**09 21 41.9**	**+0.8**
HIZ	**Hauiti**	**2.17 268**		PN	**Pn**	**09 21 45.0**	**+1.1**
KUZ	**Kuaotunu**	**2.28 318**		P	**Pn**	**09 21 44.1**	**-1.3**
KUZ	**Kuaotunu**	**2.28 318**		PN	**Pn**	**09 21 44.1**	**-1.4**
VRZ	**Vera Road**	**2.33 253**		P	**Pn**	**09 21 47.3**	**+1.2**
VRZ	**Vera Road**	**2.33 253**		PN	**Pn**	**09 21 47.3**	**+1.2**
MKAZ	**Moumakai**	**2.37 304**		P	**Pn**	**09 21 46.0**	**-0.6**
MKAZ	**Moumakai**	**2.37 304**		PN	**Pn**	**09 21 46.0**	**-0.5**
WAZ	**Wanganui**	**2.42 237**		P	**Pn**	**09 21 48.6**	**+1.3**
WAZ	**Wanganui**	**2.42 237**		PN	**Pn**	**09 21 48.6**	**+1.3**
BFZ	**Birch Farm**	**2.46 205**		P	**Pn**	**09 21 47.3**	**-0.5**
BFZ	**Birch Farm**	**2.46 205**		PN	**Pn**	**09 21 47.3**	**-0.5**
OTAZ	**Otara**	**2.62 304**		P	**Pn**	**09 21 50.0**	**0.0**
OTAZ	**Otara**	**2.62 304**		PN	**Pn**	**09 21 50.0**	**+0.1**
RAEZ	**Rainy Point**	**2.65 251**		P	**Pn**	**09 21 52.2**	**+1.8**
RAEZ	**Rainy Point**	**2.65 251**		PN	**Pn**	**09 21 52.2**	**+1.8**
TIWZ	**Tintock**	**2.67 210**		PN	**Pn**	**09 21 50.3**	**-0.4**
MRZ	**Mangatainoka R**	**2.70 215**		P	**Pn**	**09 21 50.2**	**-1.0**
MRZ	**Mangatainoka R**	**2.70 215**		PN	**Pn**	**09 21 50.2**	**-0.9**
WTAZ	**Waiatarua**	**2.86 301**		P	**Pn**	**09 21 53.7**

DSCH *i* S **Sn** **09 27 27.2 -1.7**
DSCH AML AML 09 27 28.0
comp=E,1μm,0.5s
DSCH Colegio Aleman 1.57 262 *e*P **Pn** **09 27 08.0 -0.8**
DSCH *i* S **Sn** **09 27 27.2 -1.7**
CFAA Coronel Fontan 1.64 14 Pn **Pn** **09 27 11.2 +1.4**
comp=E,9.3nm,0.3s,baz=201,slow=16,SNR=853
CFAA Lg 09 27 33.5
comp=E,82nm,0.3s,baz=261,slow=7.0,SNR=58
ANTU Antumapu 1.65 257⇑*i*P **Pn** **09 27 10.0 +0.1**
ANTU *i* S **Sn** **09 27 30.3 -0.6**
ANTU AML AML 09 27 31.2
comp=E,2μm,0.6s
ANTU Antumapu 1.65 257⇑*i*P **Pn** **09 27 10.0 +0.1**
ANTU *i* S **Sn** **09 27 30.3 -0.6**
ZON Zonda 1.65 1⇑*i*P **Pn** **09 27 10.9 +1.0**
ZON *i* S **Sn** **09 27 33.4 +2.6**
SAN Santiago 1.65 261 AML AML 09 27 33.8
comp=E,2μm,0.4s
PEL Peldehue 1.66 271⇓*i*P **Pn** **09 27 09.6 -0.4**
PEL *i* S **Sn** **09 27 29.2 -1.8**
PEL AML AML 09 27 30.0
comp=E,6μm,0.3s
JACH Jahuel 1.67 288⇓*i*P **Pn** **09 27 09.4 -0.7**
RCDM Rinconada Maip 1.78 260⇑*i*P **Pn** **09 27 12.3 +0.6**
RCDM *i* S **Sn** **09 27 34.3 +0.3**
RCDM AML AML 09 27 35.4
comp=E,3μm,0.3s
RCDM Rinconada Maip 1.78 260⇑*i*P **Pn** **09 27 12.3 +0.6**
RCDM *i* S **Sn** **09 27 34.3 +0.3**
CHCH Chadas Angostu 1.78 245⇑*i*P **Pn** **09 27 12.8 +1.1**
CHCH *i* S **Sn** **09 27 35.2 +1.2**
CICH Cipreses 1.81 231⇑*i*P **Pn** **09 27 14.1 +1.9**
CICH *i* S **Sn** **09 27 38.0 +3.2**
CACH El Canelo 1.82 239⇓*i*P **Pn** **09 27 13.9 +1.6**
CACH *i* S **Sn** **09 27 38.2 +3.2**
TACH Talagante 1.92 256 *e*P **Pn** **09 27 14.2 +0.6**
TACH *i* S **Sn** **09 27 38.1 +0.7**
ROCH El Roble 1.94 276 *e*P **Pn** **09 27 14.7 +0.8**
ROCH *i* S **Sn** **09 27 37.6 -0.5**
LNV Longovilo 2.38 251⇓*i*P **Pn** **09 27 21.9 +2.0**
LNV *i* S **Sn** **09 27 51.9 +3.1**
PACH Papudo 2.39 285⇓*i*P **Pn** **09 27 20.5 +0.4**
PACH *i* S **Sn** **09 27 50.5 +1.5**
LCCH Las Cruces 2.41 263⇓*i*P **Pn** **09 27 20.8 +0.4**
LCCH *i* S **Sn** **09 27 52.2 +2.6**
CHNG Los Chungos 2.70 298⇑*i*P **Pn** **09 27 25.1 +0.8**
CHNG *i* S **Sn** **09 28 00.6 +3.9**
CHNG AML AML 09 28 02.7
comp=E,2μm,0.5s
TLL Tololo Astrono 3.51 329⇓*i*P **Pn** **09 27 37.8 +2.2**
TLL *i* S **Sn** **09 28 21.4 +4.6**
TLL AML AML 09 28 30.6
comp=E,4μm,0.4s
TLL Tololo Astrono 3.51 329 P **Pn** **09 27 37.8 +2.2**
TLL S **Sn** **09 28 21.4 +4.6**
TRQA Tornquist 7.31 133 *e*Pn **Pn** **09 28 26.2 -1.6**
comp=E,30nm,0.3s
TRQA *e*Sn **Sn** **09 29 43.3 -7.1**
PLCA Paso Flores 7.66 191 Pn **Pn** **09 28 36.7 +4.2**
comp=E,0.3nm,0.3s,baz=354,slow=13,SNR=6.1
PLCA Lg 09 30 44.0
comp=E,3.1nm,0.3s,baz=39,slow=14,SNR=6.6
PLCA Paso Flores 7.66 191 Pn **Pn** **09 28 36.7 +4.2**
comp=E,5.8nm,0.6s
PLCA Lg 09 30 44.0
LVC Limon Verde 10.55 359 Pn **Pn** **09 29 10.6 -1.5**
comp=E,1.3nm,0.3s,baz=184,slow=11,SNR=9.7
LVC Lg 09 32 15.1
comp=E,0.7nm,0.3s,baz=342,slow=20,SNR=5.4
CPUP Villa Florida 12.02 58 Pn **Pn** **09 29 33.0 +0.8**
comp=E,0.8nm,0.3s,baz=208,slow=8.8,SNR=4.9
CPUP Lg 09 32 57.1
comp=E,1.9nm,0.3s,baz=291,slow=12,SNR=2.9
LPAZ La Paz 16.85 2 Pn **Pn** **09 30 38.2 +1.4**
comp=E,0.5nm,0.3s,baz=188,slow=9.0,SNR=26
LPAZ La Paz 16.85 2 *e*P **Pn** **09 30 37.1 +0.3**
comp=E,6.1nm,0.8s
SIV San Ignacio 18.48 24 P **Pn** **09 30 55.6 -1.4**
comp=E,0.3nm,0.3s,baz=214,slow=12,SNR=8.0
BDFB Brasilia 25.62 52 P **P** **09 32 12.7 +2.4**
comp=E,2.4nm,0.7s,mb3.9,baz=214,slow=7.3,SNR=3.3
SNAA Sanae 51.29 158 *e*P **P** **09 35 44.5 -0.3**
comp=E,8.8nm,1.0s,mb4.6
SNAA *e*pP pP 09 35 53.5 +3.7
TXAR Lajitas Array 70.46 328 P **P** **09 37 54.4 -0.9**
comp=E,0.2nm,0.6s,mb3.2,baz=156,slow=8.3,SNR=5.4
WVT Waverly 71.25 344 *e*P **P** **09 37 57.9 -2.2**
comp=E,6.0nm,0.6s,mb4.7
TORD Torodi Ar. Bea 81.33 68 P **P** **09 38 57.0 -0.3**
comp=E,0.6nm,0.9s,mb3.5,baz=214,slow=4.9,SNR=2.7
PDAR Pinedale Array 84.36 331 P **P** **09 39 11.7 -1.4**
comp=E,0.3nm,0.5s,mb3.6,baz=128,slow=6.9,SNR=3.8
NVAR Mina Array Bea 84.86 323 P **P** **09 39 15.7 +0.1**
comp=E,0.4nm,0.6s,mb3.8,baz=140,slow=5.9,SNR=4.3
NVAR Mina Array Bea 84.86 323 P **P** **09 39 15.7 +0.1**
DCID1 Drake Creek 85.71 331 *e*P **P** **09 39 17.6 -2.3**
EGMT Eagleton 88.82 334 *e*P **P** **09 39 33.2 -1.6**
comp=E,2.3nm,0.3s,mb5.0
WRA Warramunga Arr 122.75 206 PKP PKPdf 09 45 35.2 -1.5
comp=E,0.1nm,0.3s,baz=160,slow=1.9,SNR=2.6
ZAL Zalesovo 152.03 34 PKPbc PKPbc 09 46 34.4 -1.7
comp=E,1.8nm,0.4s,baz=208,slow=7.8,SNR=2.2
ZAL PKPab PKPab 09 46 42.9 -2.6
comp=E,2.1nm,0.5s,baz=183,slow=4.9,SNR=6.3

NEIC ***21*** *09:34:17.3, 1907N×6483W, h109km, MD3.5(RSPR), After RSPR.*
RSPR 21 09:34:17.3, 1907N×6483W, h109km±11km, MD3.5/6, MD3.5/6, 4C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.18**	**215**⇑	*e*P		Pn 09 34 39.3	-1.0
MTP				*e*S		Sn 09 34 57.1	-0.7
CBYP	**Canovanas**	**1.25**	**231**⇓	*e*P		Pn 09 34 40.2	-0.9
CBYP				*e*S		Sn 09 34 59.7	+0.6
CDVI	**St. Croix**	**1.31**	**177**⇑	*e*P		Pn 09 34 41.3	-0.5
CDVI				*e*S		Sn 09 35 00.4	+0.1
HUMP	**Col San Antoni**	**1.33**	**227**⇓	*e*P		Pn 09 34 41.5	-0.5
HUMP				*e*S		Sn 09 35 00.8	+0.1
CPD	**Cerro la Pandu**	**1.45**	**225**⇑	*e*P		Pn 09 34 43.8	+0.4
CRPR	**Cabo Rojo, PR**	**2.41**	**244**⇑	*e*P		Pn 09 34 55.9	+0.5
CRPR				*e*S		Sn 09 35 24.3	-0.3

IDC 21 09:37:05.6±8.0, 580S×15077E, h93km±56km, mb3.5/3, mb1 3.6/4, mb1mx3.3/14, mbtmp3.8/4, ML2.3/1, Error ellipse: s-maj=98.4km s-min=54.1km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby 5.06 225**			P		Pn 09 38 19.3	+0.2
	0.8nm,0.3s,baz=40,slow=7.9,SNR=2.8						
PMG				S		Sn 09 39 17.3	+1.0
	1.5nm,0.3s,baz=168,slow=20,SNR=3.7						
WB2	**Warramunga Arr 21.27 227**			*e*P		P 09 41 44.3	0.0
WRA	**Warramunga Arr 21.28 227**			P		P 09 41 43.9	-0.5
	1.4nm,0.5s,baz=53,slow=10,SNR=30						
ASAR	**Alice Springs 24.06 221**			P		P 09 42 12.6	+0.4
	1.3nm,0.6s,baz=55,slow=9.4,SNR=24						
FITZ	**Fitzroy Crossi 27.41 241**			*e*P		P 09 42 43.0	+0.7
	2.7nm,0.6s						
FITZ	**Fitzroy Crossi 27.41 241**			P		P 09 42 43.0	+0.7
	0.6nm,0.5s,baz=39,slow=14,SNR=5.3						
TORD	**Torodi Ar. Bea 148.66 286**			PKPbc		PKPbc 09 56 42.5	+0.7
	1.4nm,0.7s,baz=71,slow=2.2,SNR=9.4						

ISCJB ***21*** *09:51:49.1±1.5, 3396S×14906E, h15km±10km, Error ellipse: s-maj=5.1km s-min=4.8km az=127.7*
NEIC ***21*** *09:51:49.0, 3404S×149.16E, h15km, ML4.2(AUST), After AUST.*
NEIC Felt at Wyangala and in the Melbourne area.
AUST ***21*** *09:51:49.6, 3404S×149.16E, h15km, ML4.2*
IDC ***21*** *09:51:54.9±5.0, 3357S×14869E, h0km, mb1 4.1/4, mb1mx3.8/12, mbtmp3.9/4, ML3.5/3, Error ellipse: s-maj=55.5km s-min=39.1km az=41.0*
ISC 21 09:51:50.1±1.1, 3402S±003×14911E±004, h13km±7km, n26, σ1§07/42, 1C-5D, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNG	**Young 0.66 245**⇓			*i*P		**Pg** **09 52 03.2 +0.3**
YNG				*e*S		**Sg** **09 52 12.0 +0.4**
	2μm,0.5s					
CNB	**Canberra Magne 1.31 171**⇑			*i*P		**Pn** **09 52 13.2 -0.8**
CNB				*e*S		**Sb** **09 52 29.6 -1.6**
	1μm,0.2s					
RIV	**Riverview 1.71 84**⇓			*i*P		**Pn** **09 52 18.7 -0.8**
RIV				*e*S		**Sn** **09 52 40.9 -0.3**
MGCD	**Mangrove Creek 1.85 65**⇓			*i*P		**Pn** **09 52 21.1 -0.3**
MGCD				*e*S		**Sn** **09 52 44.5 -0.2**
	2μm,0.2s					
MILA	**Mila 3.03 179**⇓			*i*P		**Pn** **09 52 38.2 +0.5**
MILA				*e*S		**Sb** **09 53 22.0 +1.2**
	4μm,0.6s					
CMSA	**Cobar Meteorol 3.80 310**⇓			*i*P		**Pn** **09 52 49.2 +1.0**
CMSA				*e*S		**Sg** **09 53 49.8 -2.2**
	847nm,0.7s					
ARMA	**Armidale 4.17 31**			*e*P		**Pn** **09 52 54.7 +1.3**
ARMA				*e*S		**Sn** **09 53 55.5 +14**
TOO	**Toolangi 4.61 219**			*e*P		**Pn** **09 53 00.8 +1.4**
TOO				*e*S		**Sn** **09 53 57.4 +4.6**
	40nm,0.4s					
ARPS	**Mount Arapiles 6.55 243**			*e*P		**Pn** **09 53 26.6 +0.6**
ARPS				*e*S		**Sn** **09 54 41.4 +0.9**
	24nm,0.2s					
ARPS	**Mount Arapiles 6.55 243**			*e*P		**Pn** **09 53 26.6 +0.6**
	24nm,0.2s					
ARPS				*e*S		**Sn** **09 54 41.4 +0.9**
STKA	**Stephens Creek 6.67 287**			*e*P		**Pn** **09 53 28.2 +0.5**
STKA				*e*S		**Sn** **09 54 41.3 -2.2**
	27nm,0.4s					
STKA	**Stephens Creek 6.67 287**			Pn		**Pn** **09 53 28.4 +0.7**
	3.0nm,0.3s,baz=101,slow=15,SNR=56					
STKA				Sn		**Sn** **09 54 41.3 -2.3**
	12nm,0.3s,baz=29,slow=12,SNR=5.3					
STKA				Lg		09 55 19.3
	3.6nm,0.3s,baz=60,slow=22,SNR=2.9					
STKA	**Stephens Creek 6.67 287**			*e*P		**Pn** **09 53 28.2 +0.5**
	27nm,0.4s					
STKA				*e*S		**Sn** **09 54 41.3 -2.2**
QLP	**Quilpie 8.52 329**			*e*P		**Pn** **09 53 53.5 +0.4**
ADE	**Adelaide 8.64 261**			P		**Pn** **09 53 54.5 -0.3**
EIDS	**Eidsvold 8.79 12**			*e*P		**Pn** **09 53 57.9 +1.2**
TAU	**Tasmania Unive 8.99 188**			Pn		**Pn** **09 53 57.1 -2.4**
BBOO	**Buckleboo 10.98 273**			*e*P		**Pn** **09 54 26.1 -0.7**
CTA	**Charters Tower 14.10 349**			Pn		**Pn** **09 55 09.7 +0.2**
	0.1nm,0.3s,baz=192,slow=14,SNR=3.1					
CTA				Lg		09 59 18.9
	0.3nm,0.3s,baz=283,slow=9.9,SNR=4.4					
CTAO	**Charters Tower 14.10 349**			Pn		**Pn** **09 55 10.5 +1.0**
AS31	**Alice Springs 16.83 304**			*e*P		**Pn** **09 55 46.4 +1.1**
ASAR	**Alice Springs 16.83 304**			Pn		**Pn** **09 55 43.9 -1.5**
	0.2nm,0.3s,baz=123,slow=13,SNR=15					
ASAR				Sn		**Sn** **09 58 46.9 -5.2**
	0.2nm,0.3s,baz=137,slow=23,SNR=3.6					
ASAR	**Alice Springs 16.83 304**			Pn		**Pn** **09 55 43.9 -1.5**
ASAR				Sn		**Sn** **09 58 46.9 -5.2**
ASPA	**Alice Springs 16.83 304**			*e*P		**Pn** **09 55 46.4 +1.0**
WB2	**Warramunga Arr 19.19 313**			*e*P		**Pn** **09 56 14.5 +0.1**
WRA	**Warramunga Arr 19.20 313**			P		**Pn** **09 56 13.7 -0.7**
	0.2nm,0.3s,baz=137,slow=13,SNR=10					
WRA				S		**Sn** **09 59 44.9 -4.5**
	0.1nm,0.3s,baz=139,slow=26,SNR=4.3					

NEIC ***21*** *10:09:55.9, 3273S×7300W, h21km, ML3.1(GUC), After GUC.*
GUC 21 10:09:55.9±0.9, 3273S×7300W, h21km±5km, MD3.7, ML3.1, 11C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH Las Cruces 1.42 122⇓				*i*P		Pn 10 10 20.7	+0.3
LCCH				*i* S		Sn 10 10 38.3	-0.1
CHNG Los Chungos 1.52 57⇑				*i*P		Pn 10 10 21.7	-0.1
CHNG				*i* S		Sn 10 10 41.4	+0.4
CHNG				AML	AML	10 10 45.0	
	comp=E,161nm,0.5s						
LNV Longovilo 1.81 133⇑				*i*P		Pn 10 10 26.1	+0.3
TACH Talagante 1.96 119⇓				*i*P		Pn 10 10 29.0	+1.1
PEL Peldehue 1.99 103⇓				*i*P		Pn 10 10 30.0	+1.7
PEL				*i* S		Sn 10 10 55.4	+2.8
PEL				AML	AML	10 10 56.9	
	comp=N,645nm,0.5s						
PEL Peldehue 1.99 103⇓				*i*P		Pn 10 10 30.0	+1.7
PEL				*i* S		Sn 10 10 55.4	+2.8
RCDM Rinconada Maip 1.99 113⇑				*i*P		Pn 10 10 29.6	+1.2
RCDM				*i* S		Sn 10 10 54.9	+2.2
RCDM				AML	AML	10 10 55.6	
	comp=N,147nm,0.4s						
RCDM Rinconada Maip 1.99 113⇑				*i*P		Pn 10 10 29.6	+1.2
RCDM				S		Sn 10 10 54.9	+2.2
JACH Jahuel 2.03 89⇑				*i*P		Pn 10 10 29.9	+1.0
JACH				*i* S		Sn 10 10 56.0	+2.5
CLCH Cerro Calan 2.18 109				*e*P		Pn 10 10 32.8	+2.0
CLCH				*i* S		Sn 10 10 59.9	+2.8
CLCH				AML	AML	10 11 03.7	
	comp=E,203nm,0.9s						
PCH Pirque 2.27 114⇑				*i*P		Pn 10 10 34.3	+2.1
CHCH Chadas Angostu 2.31 122⇑				*i*P		Pn 10 10 33.9	+1.2
FCH Farellones 2.36 106⇑				*i*P		Pn 10 10 35.5	+2.2
FCH				*i* S		Sn 10 11 05.0	+3.5
FCH				AML	AML	10 11 05.8	
	comp=N,98nm,0.6s						
CACH El Canelo 2.44 125⇑				*i*P		Pn 10 10 36.6	+2.1
SFDO San Fernando 2.51 139⇑				*i*P		Pn 10 10 36.2	+0.8
SFDO				*i* S		Sn 10 11 07.3	+2.0
CICH Cipreses 2.68 127⇑				*i*P		Pn 10 10 39.7	+1.9
CICH				*i* S		Sn 10 11 12.4	+2.9

ISCJB ***21*** *10:15:56.8±0.5, 4323N±003×036W±003, h10km, Error ellipse: s-maj=4.3km s-min=2.9km az=151.8*
LDG ***21*** *10:15:58.4±0.1, 4316N×039W, h10km, Md1.8/3, Ml1.9/3, Error ellipse: s-maj=3.1km s-min=1.8km az=169.0*
STR ***21*** *10:15:58.7±0.2, 4313N×038W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***21*** *10:15:59.2±0.3, 4310N×039W, h10km±1km, mbLg1.1/6, Error ellipse: s-maj=4.1km s-min=1.8km az=8.0, PRXIMO*
ISC 21 10:15:57.5±0.5, 4322N±003×037W±003, h10km, n27, σ0§90/44, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF Montagne du Re 0.15 185				Pg		**Pg** **10 16 01.0 +0.1**
REYF				Sg		**Sg** **10 16 02.5 -0.8**
REYF Montagne du Re 0.15 185				P		**Pg** **10 16 01.0 +0.1**
REYF				S		**Sg** **10 16 02.5 -0.8**
ATE Arette 0.28 240				Pg		**Pg** **10 16 03.5 +0.4**
ATE				Sg		**Sg** **10 16 07.2 +0.4**
ATE Arette 0.28 240				P		**Pg** **10 16 03.7 +0.6**
ATE				S		**Sg** **10 16 07.2 +0.4**
ETSF Etsaut 0.35 203				*e*Pg		**Pg** **10 16 03.9 -0.6**
ETSF				*e*Sg		**Sg** **10 16 07.3 -1.9**
	11nm,0.2s					
ETSF Etsaut 0.35 203				Pg		**Pg** **10 16 03.9 -0.6**
ETSF				Lg		10 16 07.3
	5.3nm,0.2s					
LABF Labassere 0.37 118				Pg		**Pg** **10 16 05.8 +1.0**
LABF				Sg		**Sg** **10 16 11.1 +1.3**
LABF Labassere 0.37 118				P		**Pg** **10 16 05.8 +1.0**
LABF				S		**Sg** **10 16 10.8 +1.0**
VIEF Viey 0.45 139				Pg		**Pg** **10 16 05.9 -0.3**
VIEF				Sg		**Sg** **10 16 11.0 -1.2**
VIEF Viey 0.45 139				P		**Pg** **10 16 06.0 -0.2**
VIEF				S		**Sg** **10 16 11.1 -1.1**
LARF Larrau 0.49 248				Pg		**Pg** **10 16 07.6 +0.6**
LARF				Sg		**Sg** **10 16 14.0 +0.6**
LARF Larrau 0.49 248				P		**Pg** **10 16 07.6 +0.6**
LARF				S		**Sg** **10 16 14.4 +1.0**
EPF Esparros 0.56 110				*e*Pg		**Pg** **10 16 09.2 +0.9**
EPF				*e*Sg		**Sg** **10 16 17.0 +1.4**
	6.0nm,0.3s					
EPF Esparros 0.56 110				Pg		**Pg** **10 16 09.2 +0.9**
EPF				Lg		10 16 17.0
	3.0nm,0.3s					
SJPF Ste Jean 0.63 260				*e*Pg		**Pg** **10 16 10.6 +0.8**
SJPF				*e*Sg		**Sg** **10 16 18.0 0.0**
	3.5nm,0.3s					
SJPF Ste Jean 0.63 260				Pg		**Pg** **10 16 10.6 +0.8**
SJPF				Lg		10 16 18.0
	1.8nm,0.3s					
EBIE Bielsa 0.66 145				Pg		**Pg** **10 16 09.5 -0.7**
	1.4nm,0.1s,SNR=7.9					
EBIE				Lg		10 16 17.6
	3.2nm,0.1s,SNR=18					
IPRE Itoiz 0.83 240				Lg		10 16 24.2
	0.2nm,0.1s,SNR=4.0					
ELIZ Elizondo 0.85 266				Pg		**Pg** **10 16 14.1 +0.3**
	0.7nm,0.2s,SNR=4.0					
ELIZ				Lg		10 16 25.3
	1.8nm,0.2s,SNR=4.0					
ESAC San Caprasio 1.50 183				Pg		**Pg** **10 16 26.8 +0.4**
	0.0nm,0.1s,SNR=4.0					
ESAC				Lg		10 16 43.8
	2.7nm,0.1s,SNR=7.9					
LFF La Frestale 1.89 25				*e*Pn		**Pn** **10 16 29.4 -0.5**
LFF				*e*Sn		**Sn** **10 16 53.1 -0.7**
	1.6nm,0.2s					
LFF La Frestale 1.89 25				Pn		**Pn** **10 16 29.4 -0.5**
LFF				Sn		**Sn** **10 16 53.1 -0.7**
	0.8nm,0.2s					
MTLF Montolieu 1.90 86				*e*Pg		**Pg** **10 16 34.2 +0.3**
MTLF				*e*Sg		**Sg** **10 16 59.6 +1.2**
	1.1nm,0.2s					
MTLF Montolieu 1.90 86				Pg		**Pg** **10 16 34.2 +0.3**
MTLF				Lg		10 16 59.6
	0.6nm,0.2s					
EMIR Miracle 1.92 132				Pg		**Pg** **10 16 32.9 -1.4**
	0.2nm,0.3s,SNR=4.0					
EMIR				Lg		10 16 58.5
	0.8nm,0.1s,SNR=4.0					
CAF Calviac 2.45 45				*e*Pn		**Pn** **10 16 36.8 -0.7**
CAF				*e*Sn		**Sn** **10 17 05.6 -1.8**
	0.6nm,0.2s					
CAF Calviac 2.45 45				Pn		**Pn** **10 16 36.8 -0.7**
CAF				Sn		**Sn** **10 17 05.6 -1.8**
	0.3nm,0.2s					

IDC ***21*** *10:25:50.5±1.8, 0.10N×12601E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=164.3km s-min=24.7km az=64.0*
NEIC ***21*** *10:25:51.3±5.2, 021N×12624E, h8km±34km, mb4.4/1, Error ellipse: s-maj=16.0km s-min=9.8km az=80.0*
ISCJB ***21*** *10:25:52.7±0.8, 025N±009×1262E±02, h33km, mb4.0/6, Error ellipse: s-maj=22.9km s-min=13.0km az=164.5*
ISC 21 10:25:55.2±0.8, 024N±009×1263E±02, h35km, n9, σ0§39/7, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV Davao City (W) 6.82 354				*e*Pn		**Pn** **10 27 32.3 -0.4**
WRA Warramunga Arr 21.57 159				P		**P** **10 30 41.1 -0.6**
	0.6nm,0.5s,mb3.3,baz=336,slow=10,SNR=9.0					
GUMO Guam 22.71 54				*e*P		**P** **10 30 53.9 +0.1**
	7.7nm,0.5s,mb4.4					
ASAR Alice Springs 24.90 163				P		**P** **10 31 15.0 +0.2**
	0.7nm,0.6s,mb3.4,baz=345,slow=7.4,SNR=17					
COCO West Island 31.70 246				*e*P		**P** **10 32 15.3 -0.2**
	26nm,0.6s,mb5.2					
STKA Stephens Creek 35.09 157				P		**P** **10 32 45.2 +0.3**
	0.8nm,0.6s,mb3.9,baz=345,slow=12,SNR=3.0					
MKAR Makanchi Array 60.16 327				P		**P** **10 35 60.0 +0.6**
	0.3nm,0.4s,mb3.7,baz=124,slow=7.5,SNR=5.5					
NEW Newport 107.24 39				*e*PKP		PKiKP 10 44 18.4 +0.7
RPN Rapa Nui 120.37 122				*e*PKPdf		PKPdf 10 44 44.3 +1.6

ISCJB ***21*** *11:01:57.7±0.2, 4342N±002×4586E±002, h10km, mb3.7/6, MS3.2/3, Error ellipse: s-maj=3.2km s-min=2.0km az=19.9*
CSEM ***21*** *11:01:57.4±0.1, 4334N×4596E, h12km, mb4.6, Error ellipse: s-maj=1.4km s-min=1.0km az=3.0*
MOS ***21*** *11:01:57.7±0.8, 4336N×4591E, h11km, mb4.6/1, Error ellipse: s-maj=5.9km s-min=5.2km az=28.2*
MOS Felt (IV) at Groznyi.
IDC ***21*** *11:01:58.4±0.8, 4336N×4570E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/23, mbtmp3.8/10, ML4.0/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/34, Error ellipse: s-maj=18.2km s-min=9.8km az=118.0*
NEIC ***21*** *11:02:00.0±0.6, 4340N×4582E, h10km, mb3.9/5, Error ellipse: s-maj=11.4km s-min=7.8km az=164.0*
NEIC Felt [IV] at Groznyy.
NAO ***21*** *11:02:08.5, 4187N×4133E, h33km, mb3.4*
ISC 21 11:01:59.1±0.2, 4336N±002×4584E±002, h10km, n85, σ1§30/119, mb3.7/6, MS3.2/3, 3C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBC Dubki 0.80 115				*i*PG		**Pg** **11 02 12.5 -1.9**
DBC				*e*S		**Sg** **11 02 25.5 +0.7**
DBC				pmax	pmax	
	comp=Z,723nm,0.2s					
DBC Dubki 0.80 115				*i*Pg		**Pg** **11 02 12.5 -1.9**
	comp=Z,723nm,0.2s					
DBC				*e*Sg		**Sg** **11 02 25.5 +0.7**
SNJR Sundja 0.81 250				*i*Pg		**Pg** **11 02 14.1 -0.5**
SNJR				*i*Sg		**Sg** **11 02 25.6 +0.4**
VLKR Vladikavkaz 0.91 250				*i*Pg		**Pg** **11 02 15.8 -0.7**
VLKR				*i*Sg		**Sg** **11 02 28.6 +0.2**
KRNR Karanay 0.94 124⇑				*i*PG		**Pg** **11 02 14.0 -3.2**
KRNR				*e*S		**Sg** **11 02 29.0 -0.4**
KRNR				pmax	pmax	
	comp=Z,445nm,0.3s					
KRNR Karanay 0.94 124				*i*Pg		**Pg** **11 02 14.0 -3.2**
	comp=Z,445nm,0.3s					
KRNR				*e*Sg		**Sg** **11 02 29.0 -0.4**
UNCR Uncukul 0.95 132				*i*Pg		**Pg** **11 02 15.0 -2.3**
UNCR				Sg		**Sg** **11 02 30.0 +0.4**
BTKR Batakoyurt 0.95 271				*i*Pg		**Pg** **11 02 17.3 0.0**
BTKR				*i*Sg		**Sg** **11 02 31.2 +1.5**
XNZR Khunzakh 1.03 142				*i*PG		**Pg** **11 02 18.6 -0.3**
XNZR				*e*S		**Sg** **11 02 33.2 +0.9**
BUJR Buynaksk 1.07 119				*i*PG		**Pg** **11 02 17.0 -2.6**
BUJR				*i* S		**Sg** **11 02 33.5 0.0**
BUJR				pmax	pmax	
	comp=Z,649nm,0.2s					
BUJR Buynaksk 1.07 119				*i*Pg		**Pg** **11 02 17.0 -2.6**
	comp=Z,649nm,0.2s					
KMSR Komsomolskaya 1.13 271				*e*Pg		**Pg** **11 02 20.3 -0.5**
KMSR				*i*Sg		**Sg** **11 02 36.5 +1.0**
ARNR Ardon 1.16 262				*i*Pg		**Pg** **11 02 20.3 -1.0**
ARNR				*i*Sg		**Sg** **11 02 36.5 +0.2**
PRTR Priterechnaya 1.20 290				*e*Pg		**Pg** **11 02 22.1 -0.1**
PRTR				*i*Sg		**Sg** **11 02 39.5 +1.7**
LACR Lac 1.25 245				*i*Pg		**Pg** **11 02 21.0 -2.1**
LACR				*i*Sg		**Sg** **11 02 37.7 -1.7**
GNBR Gunib 1.27 139⇑				*i*PG		**Pg** **11 02 20.0 -3.4**
GNBR				*e*S		**Sb** **11 02 39.2 -0.2**
GNBR				pmax	pmax	
	comp=Z,254nm,0.3s					
GNBR Gunib 1.27 139				*i*Pg		**Pg** **11 02 20.0 -3.4**
	comp=Z,254nm,0.3s					
MAK Makhachkala 1.28 107⇓				*i*PG		**Pg

KUBR smax
comp=N,1μm,0.9s
KUBR Kubataba 1.82 285 *i* Pn **Pn 11 02 32.0 +1.5**
comp=N,209nm,1.0s
KUBR *i* Sg **Sg 11 02 56.3 -1.4**
MTA Mtatsminda 1.83 205 P **Pn 11 02 30.9 +0.3**
MTA S **Sn 11 02 55.9 +2.1**
DGRG David-gareji 1.94 191 P **Pn 11 02 34.1 +2.1**
DGRG S **Sn 11 03 01.3 +5.0**
PYA Pyatigorsk 2.13 289 *d* iPN **Pn 11 02 34.6 -0.1**
SHAR Shatzhatmas 2.34 281 *i* PN **Pn 11 02 36.9 -0.7**
SHAR *i* S **Sn 11 03 10.1 +3.7**
SHAR pmax pmax
comp=Z,7.0nm,0.7s
SHAR smax
comp=N,538nm,0.9s
SHAR Shatzhatmas 2.34 281 *i* Pn **Pn 11 02 36.9 -0.7**
comp=N,7.0nm,0.7s
KIV Kislovodsk 2.37 286 *d* iPN **Pn 11 02 37.6 -0.4**
KIV *e* 11 03 08.8
KIV pmax pmax
comp=Z,28nm,0.8s
KIV Kislovodsk 2.37 286 *e*Pn **Pn 11 02 37.2 -0.7**
KIV Sn **Sn 11 03 06.5 -0.6**
KIV Kislovodsk 2.37 286 *e*Pn **Pn 11 02 37.2 -0.8**
KIV Sn **Sn 11 03 06.5 -0.6**
GNI Garni 3.31 195 Pn **Pn 11 02 54.3 +3.4**
comp=Z,8.5nm,0.3s,baz=314,slow=3.4,SNR=15
GNI Lg 11 03 43.0
comp=Z,15nm,0.3s,baz=304,slow=22,SNR=6.3
GNI Garni 3.31 195 *c* iPN **Pn 11 02 54.1 +3.2**
GNI Garni 3.31 195 *i* Pn **Pn 11 02 54.1 +3.2**
ANN Anapa 6.23 286 *e*P **Pn 11 03 28.7 -2.3**
VRSR Storozhevoye 9.07 332 *e*P **Pn 11 04 04.8 -5.2**
VRSR *e*S **Sn 11 05 49.6 -2.5**
VRSR pmax pmax
comp=Z,2.0nm,1.2s
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
VRSR smax
comp=N,20nm,0.9s
VRSR smax
comp=E,40nm,0.9s
VRSR smax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 9.84 253 Pn **Pn 11 04 22.1 +1.5**
comp=Z,0.1nm,0.3s,baz=43,slow=7.6,SNR=2.4
AKTK Aktyubinsk 10.92 45 Pn **Pn 11 04 36.2 +0.8**
AKTK Sn **Sn 11 06 33.0 -4.7**
AKTK Aktyubinsk 10.92 45 P **Pn 11 04 36.2 +0.8**
AKTK Sn **Sn 11 06 33.0 -4.6**
AKTO Aktyubinsk 10.92 45 Pn **Pn 11 04 36.2 +0.8**
comp=Z,0.8nm,0.3s,baz=228,slow=13,SNR=13
AKTO Sn **Sn 11 06 33.0 -4.7**
comp=Z,1.1nm,0.3s,baz=21,slow=20,SNR=6.5
AB31 Akbulak array 11.39 54 P **Pn 11 04 42.2 +0.4**
AB31 S **Sn 11 06 47.3 -1.8**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 smax
comp=N,1.0nm,0.3s
AB31 Akbulak array 11.39 54 P **Pn 11 04 42.2 +0.4**
comp=N,1.0nm,0.3s
OBN Obninsk 13.22 336 *e*P **Pn 11 05 08.2 +1.4**
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 13.22 336 *e*P **Pn 11 05 08.2 +1.4**
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 13.49 309 Pn **Pn 11 05 12.3 +1.8**
comp=Z,0.5nm,0.3s,baz=111,slow=14,SNR=2.7
UMR Umm Al-Rimmam 13.86 173 *e*P **Pn 11 05 23.9 +8.3**
UMR AMb AMB 11 05 25.6
comp=Z,31nm,0.6s
NAY Al-Naaiem 14.12 175 *e*P **Pn 11 05 26.6 +7.5**
NAY AMb AMB 11 05 27.9
comp=Z,7.9nm,0.5s
MLR Muntele Rosu 14.38 285 LR LR 11 12 09.2
comp=Z,99nm,20.4s,baz=272,slow=43
RDF Al-Radifah 14.47 174 *e*P **Pn 11 05 30.7 +6.9**
RDF AMb AMB 11 05 31.9
comp=Z,26nm,0.5s
QRN Al-Qurain 14.68 173 *e*P **Pn 11 05 33.6 +7.0**
QRN AMb AMB 11 05 34.4
comp=Z,24nm,0.4s
ARU Arti 15.40 27 *e*P **Pn 11 05 31.0 -5.4**
ARU *e*S **Sn 11 08 19.3 -7.8**
KK31 Karatay Array 17.97 82 *i* P **Pn 11 06 08.0 -0.9**
KKAR Karatay Array 17.97 82 P **Pn 11 06 08.0 -0.9**
ZRNK Zerenda 18.12 50 *e*P **Pn 11 06 10.2 -0.6**
ZRNK 11 09 26.0
ZRNK pmax pmax
comp=Z,8.0nm,1.0s
ZRNK Zerenda 18.12 50 *e*Pn **Pn 11 06 10.2 -0.5**
comp=Z,8.2nm,1.0s
ZRNK Sn **Sn 11 09 26.0 -6.9**
ZRNK Zerenda 18.12 50 *e*P **Pn 11 06 10.2 -0.6**
comp=Z,8.0nm,1.0s
BRVK Borovoye 18.87 51 *e*P **Pn 11 06 20.3 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 18.87 51 *e*P **Pn 11 06 20.3 +0.3**
comp=Z,4.9nm,0.6s
BVA0 Borovoye Array 18.92 51 P **Pn 11 06 20.5 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BVA0 Borovoye Array 18.92 51 P **Pn 11 06 20.5 -0.1**
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 18.92 51 P **Pn 11 06 21.6 +1.1**
comp=Z,0.5nm,0.3s,baz=249,slow=10,SNR=20
BVAR S **Sn 11 09 44.2 -8.2**
comp=Z,0.3nm,0.3s,baz=270,slow=21,SNR=5.1
CHKZ Chkalovo 19.29 49 *e*P **Pn 11 06 23.9 -1.1**
CHKZ *e* 11 10 04.0
CHKZ pmax pmax
comp=Z,3.0nm,0.5s
CHKZ Chkalovo 19.29 49 *e*P **Pn 11 06 23.9 -1.1**
comp=Z,3.5nm,0.5s
CHKZ *e*Sn **Sn 11 10 04.0 +2.7**
CHKZ Chkalovo 19.29 49 *e*P **Pn 11 06 23.9 -1.1**
comp=Z,3.5nm,0.5s
AAK Ala-Archa 20.93 82 *i* P **P 11 06 43.0 +1.2**
AAK pmax pmax
comp=Z,3.0nm,1.3s
AAK MLR MLR
comp=Z,100nm,23.0s,MS3.1
AAK Ala-Archa 20.93 82 *e*P **P 11 06 43.1 +1.2**
comp=Z,5.2nm,1.0s
AAK Ala-Archa 20.93 82 *i* P **P 11 06 43.0 +1.2**
comp=Z,100nm,23.0s
JOF Joensuu 21.35 342 *e*p **P 11 06 47.5 +1.2**
FINES FINESS Array B 21.60 334 P **P 11 06 49.6 +0.5**
comp=Z,2.0nm,0.6s,mb3.7,baz=146,slow=11,SNR=7.6
KAF Kangasniemi 22.03 335 *e*p **P 11 06 55.4 +1.7**
baz=139,slow=10
DAVOX Davos/Dischmat 25.49 290 LR LR 11 19 00.5
comp=Z,82nm,18.8s,MS3.3,baz=263,slow=40
HFS Hagfors 25.67 322 P **P 11 07 28.2 -0.8**
comp=Z,2.1nm,0.5s,mb3.9,baz=127,slow=9.8,SNR=11
MKAR Makanchi Array 25.82 70 P **P 11 07 30.9 +0.5**
comp=Z,0.4nm,0.5s,mb3.2,baz=271,slow=7.7,SNR=3.4
MKAR 2,55nm,18.4s,MS3.1,baz=77,slow=42 LR LR 11 19 56.4
NB2 NORSAR Subarra 27.16 323 P **P 11 07 41.9 -0.7**
comp=Z,0.4nm,0.5s,mb3.2,baz=123,slow=9.3
NOA NORSAR Array B 27.16 323 P **P 11 07 41.9 -0.7**
comp=Z,0.8nm,0.7s,mb3.4,baz=120,slow=8.3,SNR=4.2
KEV Kevo 28.16 346 *e*p **P 11 07 52.4 +0.9**
ARCES ARCESS Array B 28.25 345 P **P 11 07 53.2 +1.0**
comp=Z,8.9nm,1.2s,mb4.3,baz=151,slow=8.3,SNR=9.8
ARCES ARCESS Array B 28.25 345 P **P 11 07 53.2 +1.0**
TORD Torodi Ar. Bea 48.36 245 P **P 11 10 40.0 -0.9**
comp=Z,0.5nm,0.8s,mb3.6,baz=37,slow=6.7,SNR=3.5

BJI 21 11:05:30.8, 3321N×9812E, h17km, ML3.6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.31**	**114**	*e*PG	Pg	11 07 05.8	-6.6
LZH	**Lanzhou**	**5.52**	**57**	*e*PG	Pg	11 07 10.1	-6.4

IDC 21 11:18:08.6±7.8, 2242N×14558E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=286.5km s-min=25.0km az=76.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.23**	**319**	P	P	11 25 47.6	+0.6
	0.7nm,0.7s,baz=124,slow=8.1,SNR=5.4						
WRA	**Warramunga Arr**	**43.51**	**195**	P	P	11 26 14.2	+0.3
	0.8nm,0.7s,baz=18,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**47.20**	**195**	P	P	11 26 43.1	+0.1
	0.5nm,0.6s,baz=16,slow=11,SNR=14						
MKAR	**Makanchi Array**	**55.85**	**312**	P	P	11 27 47.2	-0.7
	0.5nm,0.7s,baz=82,slow=9.9,SNR=4.2						

IDC 21 11:19:47.9±2.4, 1723S×17657W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.0/16, mbtmp4.5/5, ML2.4/1, Error ellipse: s-maj=149.9km s-min=30.5km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.68**	**55**	Pn	Pn	11 21 13.8	+0.3
	6.9nm,0.3s,baz=235,slow=12,SNR=17						
AFI				Sn	Sn	11 22 04.7	-15
	32nm,0.3s,baz=255,slow=18,SNR=15						
STKA	**Stephens Creek**	**40.49**	**241**	P	P	11 27 29.1	+0.7
	4.0nm,0.8s,baz=73,slow=9.0,SNR=11						
WB2	**Warramunga Arr**	**46.47**	**259**	*e*P	P	11 28 16.9	+0.2
WRA	**Warramunga Arr**	**46.48**	**259**	P	P	11 28 17.2	+0.4
	2.1nm,0.5s,baz=97,slow=7.1,SNR=78						
ASAR	**Alice Springs**	**46.66**	**254**	P	P	11 28 18.7	+0.5
	23nm,0.5s,baz=88,slow=8.5,SNR=588						
ASPA	**Alice Springs**	**46.66**	**254**	*e*P	P	11 28 18.8	+0.6
FITZ	**Fitzroy Crossi**	**54.87**	**260**	P	P	11 29 19.6	-0.5
	2.6nm,1.1s,baz=150,slow=8.1,SNR=4.6						

*NEIC **21** 11:23:35.7, 3845S×17876E, h24km, ML3.8(WEL), After WEL.*
WEL 21 11:23:34.6±0.3, 3846S×17880E, h12km, ML3.9/25, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.58**	**312**	P	Pg	11 23 46.6	+0.7
PUZ	**Puketiti**	**0.58**	**312**	P*	Pb	11 23 46.6	-0.1
PUZ				S*	Sb	11 23 53.3	-1.5
MXZ	**Matakaoa Point**	**0.98**	**336**	P	Pg	11 23 52.4	-1.1
MXZ	**Matakaoa Point**	**0.98**	**336**	P*	Pb	11 23 52.4	-1.0
MXZ				S*	Sb	11 24 06.0	-0.4
MWZ	**Matawai**	**1.01**	**277**	P	Pb	11 23 53.1	-0.9
MWZ				S	Sg	11 24 06.4	-0.8
MWZ	**Matawai**	**1.01**	**277**	P*	Pb	11 23 53.1	-0.9
MWZ				S*	Sb	11 24 06.4	-0.8
KNZ	**Kokohu**	**1.04**	**237**	P	Pb	11 23 53.8	-0.8
KNZ	**Kokohu**	**1.04**	**237**	P*	Pb	11 23 53.8	-0.8
KNZ				S*	Sb	11 24 08.3	+0.1
URZ	**Urewera**	**1.34**	**278**	P	Pn	11 23 58.1	-1.1
URZ	**Urewera**	**1.34**	**278**	PN	Pn	11 23 58.1	-1.1
URZ				SN	Sn	11 24 16.7	-0.2
WIZ	**White Island**	**1.58**	**306**	P	Pn	11 24 01.2	-1.2
WIZ	**White Island**	**1.58**	**306**	PN	Pn	11 24 01.2	-1.2
EDRZ	**Edgecumbe**	**1.66**	**282**	P	Pn	11 24 02.8	-0.7
EDRZ	**Edgecumbe**	**1.66**	**282**	PN	Pn	11 24 02.8	-0.8
TAZ	**Tarawera**	**1.82**	**277**	P	Pn	11 24 05.5	-0.2
TAZ	**Tarawera**	**1.82**	**277**	PN	Pn	11 24 05.5	-0.2
BKZ	**Black Stump Fm**	**1.94**	**248**	P	Pn	11 24 06.6	-0.7
BKZ	**Black Stump Fm**	**1.94**	**248**	PN	Pn	11 24 06.6	-0.7
PATZ	**Paeroa**	**2.00**	**272**	P	Pn	11 24 07.3	-0.9
PATZ	**Paeroa**	**2.00**	**272**	PN	Pn	11 24 07.3	-0.8
TGRZ	**Tauranga**	**2.13**	**289**	P	Pn	11 24 08.5	-1.5
TGRZ	**Tauranga**	**2.13**	**289**	PN	Pn	11 24 08.5	-1.5
PXZ	**Pawanui**	**2.17**	**223**	PN	Pn	11 24 08.2	-2.4
RITZ	**Rihia Road**	**2.36**	**256**	P	Pn	11 24 12.4	-0.7
RITZ	**Rihia Road**	**2.36**	**256**	PN	Pn	11 24 12.4	-0.7
RATZ	**Rangitukua**	**2.41**	**259**	P	Pn	11 24 13.0	-0.8
RATZ	**Rangitukua**	**2.41**	**259**	PN	Pn	11 24 13.0	-0.8
WPHZ	**Waipukurau**	**2.43**	**228**	PN	Pn	11 24 11.5	-2.7
OTVZ	**Oturere**	**2.55**	**253**	PN	Pn	11 24 14.9	-0.8
KRVZ	**Karewarewa**	**2.55**	**255**	PN	Pn	11 24 14.8	-1.0
MOVZ	**Moawhango**	**2.56**	**247**	P	Pn	11 24 14.8	-1.1
MOVZ	**Moawhango**	**2.56**	**247**	PN	Pn	11 24 14.8	-1.1
WTVZ	**West Tongariro**	**2.59**	**254**	P	Pn	11 24 15.4	-1.0
WTVZ	**West Tongariro**	**2.59**	**254**	PN	Pn	11 24 15.4	-0.9
WNVZ	**Wahianoa**	**2.64**	**250**	P	Pn	11 24 16.2	-0.9
WNVZ	**Wahianoa**	**2.64**	**250**	PN	Pn	11 24 16.2	-0.8
WPVZ	**Whakapapa**	**2.65**	**253**	P	Pn	11 24 16.3	-0.8
WPVZ	**Whakapapa**	**2.65**	**253**	PN	Pn	11 24 16.3	-0.8
FWVZ	**Far West T-bar**	**2.66**	**252**	P	Pn	11 24 16.5	-0.7
FWVZ	**Far West T-bar**	**2.66**	**252**	PN	Pn	11 24 16.5	-0.8
TWVZ	**Taurewa**	**2.70**	**256**	P	Pn	11 24 16.4	-1.4
TWVZ	**Taurewa**	**2.70**	**256**	PN	Pn	11 24 16.4	-1.4
TSZ	**Takapari Road**	**2.72**	**233**	P	Pn	11 24 15.8	-2.3
TSZ	**Takapari Road**	**2.72**	**233**	PN	Pn	11 24 15.8	-2.4
PKVZ	**Pokaka**	**2.82**	**252**	PN	Pn	11 24 18.8	-0.7
BFZ	**Birch Farm**	**2.97**	**221**	*e*P	Pn	11 24 18.1	-3.4
BFZ	**Birch Farm**	**2.97**	**221**	PN	Pn	11 24 18.1	-3.4
KUZ	**Kuaotunu**	**2.99**	**304**	P	Pn	11 24 19.7	-2.1
KUZ	**Kuaotunu**	**2.99**	**304**	PN	Pn	11 24 19.7	-2.1
HIZ	**Hauiti**	**3.10**	**268**	*e*P	Pn	11 24 22.9	-0.4
HIZ	**Hauiti**	**3.10**	**268**	PN	Pn	11 24 22.9	-0.4
VRZ	**Vera Road**	**3.23**	**257**	*e*P	Pn	11 24 24.6	-0.5
VRZ	**Vera Road**	**3.23**	**257**	PN	Pn	11 24 24.6	-0.5
WAZ	**Wanganui**	**3.24**	**245**	P	Pn	11 24 24.5	-0.7
WAZ	**Wanganui**	**3.24**	**245**	PN	Pn	11 24 24.5	-0.7
MRZ	**Mangatainoka R**	**3.32**	**228**	P	Pn	11 24 23.5	-2.9
MRZ	**Mangatainoka R**	**3.32**	**228**	PN	Pn	11 24 23.5	-2.8
TRWZ	**Traveller**	**3.79**	**218**	PN	Pn	11 24 28.4	-4.4
KIW	**Kapiti Island**	**3.84**	**230**	P	Pn	11 24 30.9	-2.6
KIW	**Kapiti Island**	**3.84**	**230**	PN	Pn	11 24 30.9	-2.6
CAW	**Cannon Point**	**3.91**	**226**	P	Pn	11 24 31.1	-3.3
CAW	**Cannon Point**	**3.91**	**226**	PN	Pn	11 24 31.1	-3.3
MSWZ	**Moikau Station**	**4.02**	**222**	P	Pn	11 24 31.3	-4.7
MSWZ	**Moikau Station**	**4.02**	**222**	PN	Pn	11 24 31.3	-4.6
MRW	**Makara Radio**	**4.19**	**227**	P	Pn	11 24 34.9	-3.5
MRW	**Makara Radio**	**4.19**	**227**	PN	Pn	11 24 34.9	-3.5
WCZ	**Waipu Caves**	**4.36**	**304**	*e*P	Pn	11 24 39.2	-1.4
WCZ	**Waipu Caves**	**4.36**	**304**	PN	Pn	11 24 39.5	-1.1
DUWZ	**D'Urville Isla**	**4.43**	**237**	PN	Pn	11 24 38.6	-3.0
TCW	**Tory Channel**	**4.43**	**230**	P	Pn	11 24 37.6	-4.1
TCW	**Tory Channel**	**4.43**	**230**	PN	Pn	11 24 37.6	-4.1
TUWZ	**Tuamarina**	**4.77**	**230**	PN	Pn	11 24 40.3	-6.0
BSWZ	**Blackbirch Sta**	**4.98**	**228**	*e*P	Pn	11 24 45.1	-4.1
BSWZ	**Blackbirch Sta**	**4.98**	**228**	PN	Pn	11 24 45.1	-4.1
NNZ	**Nelson**	**5.00**	**235**	*e*P	Pn	11 24 45.6	-3.8
NNZ	**Nelson**	**5.00**	**235**	PN	Pn	11 24 45.6	-3.8
OUZ	**Omahuta**	**5.28**	**306**	*e*P	Pn	11 24 52.7	-0.6
OUZ	**Omahuta**	**5.28**	**306**	PN	Pn	11 24 52.7	-0.6
THZ	**Tophouse**	**5.59**	**232**	*e*P	Pn	11 24 53.0	-4.6
THZ	**Tophouse**	**5.59**	**232**	PN	Pn	11 24 53.0	-4.6
KHZ	**Kahutara**	**5.63**	**224**	*e*P	Pn	11 24 53.6	-4.5
LTZ	**Lake Taylor**	**6.58**	**227**	*e*P	Pn	11 25 07.0	-4.1

*IDC **21** 11:28:11.0±2.5, 951S×15525E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.1/6, MS3.7/8, Ms1 3.7/8, ms1mx3.3/27, Error ellipse: s-maj=71.8km s-min=27.2km az=110.0*
*NEIC **21** 11:28:12.8±0.6, 949S×15521E, h10km, mb4.3/2, Error ellipse: s-maj=22.8km s-min=12.6km az=130.0*
*ISCJB **21** 11:28:15.3±1.4, 95S±02×155.1E±02, h33km, mb4.1/7, MS3.6/5, Error ellipse: s-maj=34.7km s-min=20.2km az=43.9*
ISC 21 11:28:17.0±1.4, 95S±02×1552E±02, h35km, n20, σ0°31/11, mb4.1/7, MS3.6/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**270**	LR	LR	11 33 20.2	
	comp=Z,152nm,18.1s,baz=63,slow=39						
CTA	**Charters Tower**	**13.59**	**218**	LR	LR	11 35 39.5	
	comp=Z,249nm,21.4s,baz=40,slow=33						
DZM	**Mont Dzumac**	**16.50**	**140**	LR	LR	11 37 23.8	
	comp=Z,452nm,20.4s,baz=29,slow=34						
WB2	**Warramunga Arr**	**22.63**	**240**	*e*P	**P**	**11 33 15.5**	**+0.8**
WRA	**Warramunga Arr**	**22.64**	**240**	P	**P**	**11 33 14.5**	**-0.3**
	9.9nm,1.0s,mb4.2,baz=64,slow=9.9,SNR=47						
WRA				LR	LR	11 41 16.8	
	comp=Z,94nm,21.0s,MS3.2,baz=220,slow=35						
AS31	**Alice Springs**	**24.72**	**233**	*e*P	**P**	**11 33 34.8**	**-0.1**
ASAR	**Alice Springs**	**24.72**	**233**	P	**P**	**11 33 34.9**	**0.0**
	11nm,0.9s,mb4.4,baz=63,slow=9.6,SNR=50						
ASPA	**Alice Springs**	**24.72**	**233**	*e*P	**P**	**11 33 34.8**	**-0.1**
GUMO	**Guam**	**25.15**	**336**	LR	LR	11 41 17.6	
	comp=Z,142nm,21.2s,MS3.5,baz=167,slow=31						
STKA	**Stephens Creek**	**25.56**	**208**	P	**P**	**11 33 42.6**	**+0.1**
	7.1nm,0.8s,mb4.2,baz=27,slow=13,SNR=9.6						
STKA				LR	LR	11 43 48.4	
	comp=Z,327nm,18.4s,MS3.9,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**29.90**	**250**	*e*P	**P**	**11 34 21.0**	**-0.3**
	2.8nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**29.90**	**250**	P	**P**	**11 34 21.0**	**-0.3**
	1.6nm,0.8s,mb3.8,baz=226,slow=20,SNR=5.3						
ASAJ	**Asahikawa**	**54.60**	**349**	LR	LR	11 56 53.0	
	comp=Z,42nm,20.6s,MS3.5,baz=141,slow=32						
VNDA	**Vanda**	**68.06**	**178**	LR	LR	12 04 09.2	
	comp=Z,131nm,18.9s,MS4.2,baz=359,slow=32						
SONM	**Songino Array**	**71.56**	**328**	P	**P**	**11 39 34.8**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=132,slow=6.0,SNR=5.2						
QSPA	**South Pole Qui**	**80.46**	**180**	*e*P	**P**	**11 40 25.2**	**0.0**
	3.9nm,0.7s,mb4.5						
QSPA				*e*PcP	PcP	11 40 32.2	+0.1
MKAR	**Makanchi Array**	**85.43**	**319**	P	**P**	**11 40 50.7**	**-0.2**
	0.2nm,0.3s,mb3.8,baz=115,slow=5.5,SNR=3.5						
NCB	**Newcomb**	**125.25**	**42**	*e*PKPdf	PKPdf	11 47 14.4	+0.5
MIV	**Mineville/With**	**125.67**	**42**	*e*PKPdf	PKPdf	11 47 15.2	+0.5
MIV				*e*PP	PP	11 49 03.7	-2.9
TORD	**Torodi Ar. Bea**	**153.77**	**280**	PKPbc	PKPbc	11 48 12.2	-0.1
	0.5nm,0.9s,baz=103,slow=2.6,SNR=3.0						

*IDC **21** 11:33:33.9±2.9, 2090S×179.13W, h608km±30km, mb3.2/8, mb1 3.4/9, mb1mx3.3/16, mbtmp4.3/9, Error ellipse: s-maj=23.3km s-min=21.8km az=83.0*
*ISCJB **21** 11:33:36.0±2.1, 210S±02×1793W±0.1, h652km±26km, mb3.8/11, Error ellipse: s-maj=28.2km s-min=19.1km az=179.2*
*NEIC **21** 11:33:37.8±3.6, 2099S×17930W, h656km±40km, mb4.2/5, Error ellipse: s-maj=27.0km s-min=18.5km az=58.0*
ISC 21 11:33:36.1±2.4, 211S±02×1792W±01, h631km±31km, n24, σ0°39/20, mb3.9/11, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.39**	**263**	P	**P**	**11 36 27.5**	**-0.6**
	0.5nm,0.3s,baz=127,slow=23,SNR=4.6						
CTA	**Charters Tower**	**32.31**	**265**	*e*P	**P**	**11 39 16.2**	**+0.5**
	5.0nm,0.4s,mb4.5						
CTA	**Charters Tower**	**32.31**	**265**	P	**P**	**11 39 16.2**	**+0.5**
	6.5nm,0.4s,mb4.6,baz=90,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**36.53**	**245**	P	**P**	**11 39 51.1**	**+0.5**
	1.5nm,0.5s,mb3.8,baz=103,slow=10,SNR=7.1						
AS31	**Alice Springs**	**43.29**	**257**	‖ *i* P	**P**	**11 40 44.3**	**0.0**
ASAR	**Alice Springs**	**43.29**	**257**	P	**P**	**11 40 44.5**	**+0.2**
	5.0nm,0.5s,mb4.3,baz=98,slow=7.6,SNR=95						
ASAR				PcP	PcP	11 42 18.6	+0.3
	0.8nm,0.6s,baz=102,slow=3.2,SNR=6.0						
ASAR				ScP	ScP	11 45 14.3	+3.8
	0.9nm,0.7s,baz=94,slow=4.4,SNR=8.5						
ASAR				S	**S**	**11 46 28.0**	**+0.3**
	1.1nm,0.8s,baz=94,slow=16,SNR=8.2						
ASPA	**Alice Springs**	**43.29**	**257**	‖ *i* P	**P**	**11 40 44.3**	**0.0**
WB2	**Warramunga Arr**	**43.39**	**263**	‖ *i* P	**P**	**11 40 44.6**	**-0.5**
WRA	**Warramunga Arr**	**43.40**	**263**	P	**P**	**11 40 44.7**	**-0.4**
	2.6nm,0.3s,mb4.2,baz=97,slow=7.2,SNR=103						
WRA				S	**S**	**11 46 28.8**	**-0.5**
	0.4nm,0.8s,baz=102,slow=11,SNR=3.4						
KAKA	**Kakadu**	**46.86**	**272**	*e*P	**P**	**11 41 11.4**	**+0.1**
	3.8nm,0.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.83**	**263**	*e*P	**P**	**11 41 48.2**	**+0.5**
	3.5nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**51.83**	**263**	P	**P**	**11 41 48.3**	**+0.6**
	1.7nm,0.6s,mb3.6,baz=150,slow=5.2,SNR=15						
MBWA	**Marble Bar**	**56.63**	**258**	*e*P	**P**	**11 42 21.2**	**+0.1**
	5.7nm,0.6s,mb4.0						
VNDA	**Vanda**	**57.26**	**185**	P	**P**	**11 42 25.6**	**+0.2**
	0.4nm,0.4s,mb3.0,baz=16,slow=6.2,SNR=9.3						
QSPA	**South Pole Qui**	**69.01**	**180**	*e*P	**P**	**11 43 39.6**	**-0.6**
	2.4nm,0.2s,mb4.3						
MJAR	**Matsushiro Arr**	**70.00**	**325**	P	**P**	**11 43 45.7**	**-0.3**
	2.3nm,0.6s,mb3.8,baz=153,slow=5.3,SNR=11						
TXAR	**Lajitas Array**	**88.31**	**58**	P	**P**	**11 45 22.4**	**+0.3**
	0.3nm,0.8s,mb3.1,baz=212,slow=4.4,SNR=4.4						
TXAR	**Lajitas Array**	**88.31**	**58**	P	**P**	**11 45 22.4**	**+0.3**
ARCES	**ARCESS Array B**	**129.26**	**349**	PKP	PKPdf	11 51 32.4	-1.8
	7.7nm,1.1s,baz=80,slow=1.4,SNR=6.1						
FINES	**FINESS Array B**	**135.98**	**343**	PKP	PKPdf	11 51 46.4	-0.4
	1.1nm,0.6s,baz=163,slow=2.0,SNR=4.6						
AKASG	**Malin Array Be**	**142.94**	**330**	PKP	PKPdf	11 51 56.0	-3.3
	3.6nm,0.4s,baz=43,slow=4.2,SNR=26						
BRTR	**Keskin Array B**	**146.36**	**311**	PKPbc	PKPbc	11 52 07.2	-0.5
	1.1nm,0.6s,baz=142,slow=3.7,SNR=7.0						
CLL	**Collm**	**148.33**	**345**	*e*PKPbc	PKPbc	11 52 12.0	-0.8
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	PKPbc	11 52 16.9	-0.8
	0.3nm,0.5s,baz=42,slow=4.3,SNR=6.9						

*ISCJB **21** 11:36:13.6±1.1, 2984N±005×3626E±007, h0km, Error ellipse: s-maj=9.5km s-min=6.9km az=47.0*
*CSEM **21** 11:36:15.2±0.2, 2981N×3614E, h2km, ML2.5, Error ellipse: s-maj=4.1km s-min=2.5km az=113.0, Mining explosion.*
*GII **21** 11:36:15.3±3.6, 2992N×3615E, h0km±12km, ML2.5/4*
*HLW **21** 11:36:16.8, 2982N×3635E, h20km, Mb3.0*
ISC 21 11:36:13.6±1.1, 2985N±005×3631E±007, h0km, n23, σ0°48/26, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.10**	**264**	Pg	**Pg**	**11 36 35.2**	**+0.5**
HRFI	**Mount Harif**	**1.12**	**280**	Pg	**Pg**	**11 36 34.6**	**-0.5**
EIL	**Elat**	**1.19**	**262**	Pg	**Pg**	**11 36 36.8**	**+0.3**
ZFRI	**Zfri**	**1.21**	**306**	Pg	**Pg**	**11 36 35.8**	**-0.9**
MBH	**Mount Berech**	**1.21**	**268**	Pg	**Pg**	**11 36 36.8**	**-0.1**
MBH	

SLTI				Sg	**Sg**	**11 40 36.1**	**+0.5**
KSHT	**Keshet**	**0.77**	**90**	Pg	**Pg**	**11 40 25.6**	**-0.4**
HMDT	**Nahal Hemdat**	**0.91**	**144**	Pg	**Pg**	**11 40 27.7**	**-0.8**
HMDT				Sg	**Sg**	**11 40 40.1**	**-0.3**
RCY	**Rachaya**	**0.92**	**57**	*e*P	**Pb**	**11 40 28.5**	**-0.1**
RCY				*e*S	**Sb**	**11 40 41.1**	**+0.4**
BHL	**Bhannes**	**1.12**	**35**	*e*P	**Pb**	**11 40 32.0**	**0.0**
BHL				*e*S	**Sb**	**11 40 46.9**	**+0.7**
DSI	**Dead Sea**	**1.47**	**164**	Pn	**Pn**	**11 40 37.2**	**+0.4**
HWQ	**Hawqa**	**1.56**	**34**	*e*P	**Pn**	**11 40 37.9**	**-0.2**
HWQ				*e*S	**Sn**	**11 40 57.5**	**-0.5**

*IDC **21** 11:52:59.8±0.6, 120N×9703E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.3/24, mbtmp4.3/19, ML4.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.5/34, Error ellipse: s-maj=20.4km s-min=12.9km az=49.0*

*ISCJB **21** 11:53:02.5±0.3, 119N±004×9707E±004, h30km, mb4.7/62, MS4.2/19, Error ellipse: s-maj=6.4km s-min=4.9km az=96.5*

*MOS **21** 11:53:02.9±0.8, 123N×9704E, h33km, mb5.0/22, Error ellipse: s-maj=11.0km s-min=6.6km az=96.7*

*BJI **21** 11:53:02.1, 100N×9723E, h37km, mB5.0, mb4.9, Ms4.5, Msz4.4*

*NEIC **21** 11:53:03.9±0.2, 122N×9704E, mb4.7/30, Error ellipse: s-maj=6.5km s-min=5.1km az=51.0*

NEIC Felt [III] at Gunungsitoli.

ISC 21 11:53:05.0±0.3,**120N**±004×**9707E**±004,**h32**km, **h32**km±.7km:**pP-P,n153,**σ0=94/150,**mb4.7**/62,**MS4.2**/19, **8C-3D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.44**	**49**	Pn	**Pn**	**11 53 41.5**	**-1.0**
	34nm,0.3s,baz=224,slow=5.5,SNR=173						
PSI				LR	LR	11 54 31.5	
	comp=Z,1μm,21.0s,baz=305,slow=38						
PPI	**Padang Panjang**	**3.71**	**116**	P	**Pn**	**11 54 00.5**	**+0.5**
	387nm,1.1s						
BSI	**Banda Aceh**	**4.62**	**338**	P	**Pn**	**11 54 19.6**	**+7.0**
	108nm,0.9s						
IPM	**Ipoh**	**5.12**	**50**	P	**Pn**	**11 54 20.2**	**+0.8**
KGM	**Kluang**	**6.30**	**83**	P	**Pn**	**11 54 36.3**	**+0.7**
KKTK	**Khon Kaen**	**16.07**	**20**	⇓P	**Pn**	**11 56 50.0**	**+1.4**
	309nm,0.5s						
CM31	**Chiang Mai Arr**	**17.25**	**6**	*e*Pn	**Pn**	**11 57 01.8**	**-1.6**
	6.5nm,0.6s						
PALK	**Pallekele**	**17.40**	**291**	*e*Pn	**Pn**	**11 57 04.9**	**-0.3**
	6.3nm,0.8s						
PALK				*e*		11 57 11.4	
CHG	**Chiang Mai**	**17.60**	**6**	⇑P	**Pn**	**11 57 05.3**	**-2.4**
	11nm,0.8s						
CHTO	**Chiang Mai**	**17.60**	**6**	*e*P	**Pn**	**11 57 05.7**	**-2.0**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	**Chiang Mai**	**17.60**	**6**	*e*Pn	**Pn**	**11 57 05.7**	**-2.0**
	comp=Z,6.4nm,0.7s						
KKM	**Kota Kinabalu**	**19.70**	**75**	P	**Pn**	**11 57 32.8**	**-0.3**
TSM	**Tawau**	**21.00**	**81**	P	**P**	**11 57 46.3**	**+0.6**
QIZ	**Qiongzhong**	**21.70**	**34**	P	**P**	**11 57 54.4**	**+1.3**
QIZ				XP	sP	11 58 06.1	+0.3
QIZ				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
QIZ				LR	LR		
	comp=N,270nm,13.1s,MS3.9						
QIZ				LR	LR		
	comp=E,212nm,16.4s,MS3.9						
QIZ				LR	LR		
	comp=Z,259nm,12.0s,MS3.9						
QIZ	**Qiongzhong**	**21.70**	**34**	*e*P	**P**	**11 57 52.3**	**-0.8**
	comp=Z,12nm,0.7s,mb4.4						
QIZ				*e*		11 57 59.9	
KMI	**Kunming**	**24.41**	**13**	⇑P	**P**	**11 58 21.3**	**+0.9**
KMI				AP		11 58 27.4	
KMI				XP	sP	11 58 30.1	-3.4
KMI				PPP		11 59 10.3	
KMI				S	**S**	**12 02 40.8**	**+2.7**
KMI				XS	sS	12 02 51.0	-2.3
KMI				AMB	AMB		
	comp=Z,49nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,172nm,4.9s						
KMI				LR	LR		
	comp=N,899nm,14.7s,MS4.5						
KMI				LR	LR		
	comp=E,499nm,14.3s,MS4.5						
KMI				LR	LR		
	comp=Z,998nm,14.3s,MS4.5						
GYA	**Guiyang**	**26.76**	**19**	P	**P**	**11 58 41.4**	**-0.3**
GYA				AP	pP	11 58 50.6	-0.3
GYA				XP	sP	11 58 54.8	0.0
GYA				PP		11 59 28.4	
GYA				S	**S**	**12 03 16.4**	**+1.0**
GYA				XS	sS	12 03 30.5	-0.2
GYA				SS		12 04 27.3	
GYA				SCP	ScP	12 05 40.6	-1.4
GYA				PCS	PcS	12 05 44.8	-0.8
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,670nm,14.0s,MS4.4						
GYA				LR	LR		
	comp=E,300nm,14.9s,MS4.4						
GYA				LR	LR		
	comp=Z,940nm,14.4s,MS4.5						
PKI	**Pulchoki**	**28.51**	**338**	*e*P	**P**	**11 58 58.7**	**+1.3**
GUN	**Gumba**	**28.64**	**339**	*e*P	**P**	**11 58 59.9**	**+1.3**
	comp=Z,84nm,0.7s,mb5.5						
DMN	**Daman**	**28.66**	**337**	*e*P	**P**	**11 58 59.8**	**+1.1**
KKN	**Kakani**	**28.75**	**338**	*e*P	**P**	**11 59 00.6**	**+1.0**
	comp=Z,49nm,0.8s,mb5.3						
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**11 59 02.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**11 59 02.1**	**+1.2**
	comp=Z,14nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**11 59 04.5**	**+1.1**
	comp=Z,55nm,0.8s,mb5.3						
KOLN	**Koldanda**	**29.40**	**335**	*e*P	**P**	**11 59 06.7**	**+1.4**
	comp=Z,34nm,0.7s,mb5.2						
CD2	**Chengdu**	**30.22**	**11**	⇓*i*P	**P**	**11 59 11.8**	**-0.8**
CD2				AP	pP	11 59 21.3	-0.5
CD2				PP	PP	12 00 11.5	-10
CD2				S	**S**	**12 04 08.9**	**-1.0**
CD2				XS	sS	12 04 24.9	-0.3
CD2				SS	SS	12 05 49.6	-30
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,4.2s						
CD2				LR	LR		
	comp=N,720nm,15.5s,MS4.7						
CD2				LR	LR		
	comp=E,980nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,620nm,11.8s,MS4.5						
MBWA	**Marble Bar**	**31.38**	**136**	*e*P	**P**	**11 59 24.2**	**+1.4**
	comp=Z,7.1nm,0.9s,mb4.5						
MBWA				*e*	pP	11 59 33.2	+1.1
NACB	**Ninganchiao**	**32.94**	**44**	*e*P	**P**	**11 59 37.3**	**+0.8**
YHNB	**Yeheng**	**33.11**	**43**	*e*P	**P**	**11 59 37.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**34.03**	**126**	*e*P	**P**	**11 59 45.1**	**-0.9**
	comp=Z,5.4nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P	**P**	**11 59 45.3**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.4,baz=309,slow=5.6,SNR=15						
FITZ				LR	LR	12 15 57.4	
	comp=Z,198nm,18.4s,MS3.9,baz=143,slow=40						
XAN	**Xi'an**	**34.50**	**18**	P	**P**	**11 59 48.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
LZH	**Lanzhou**	**35.28**	**10**	*e*P	**P**	**11 59 56.0**	**-0.8**
LZH				AP	pP	12 00 05.0	-1.1
LZH				XP	sP	12 00 10.0	0.0
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,125nm,4.1s						
LZH				LR	LR		
	comp=E,640nm,15.0s						
LZH				LR	LR		
	comp=Z,510nm,15.6s,MS4.4						
NJ2	**Nanjing**	**36.93**	**32**	*e*P	**P**	**12 00 11.1**	**+0.2**
NJ2				AP	pP	12 00 22.1	+1.8
NJ2				XP	sP	12 00 25.1	+1.0
NJ2				PP	PP	12 01 38.9	+3.6
NJ2				S	**S**	**12 05 54.0**	**+0.2**
NJ2				XS	sS	12 06 10.0	+0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,230nm,4.4s						
NJ2				LR	LR		
	comp=N,590nm,12.5s,MS4.6						
NJ2				LR	LR		
	comp=E,290nm,14.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,3μm,19.6s,MS5.1						
THN	**Thein Dam**	**37.01**	**329**	*e*P	**P**	**12 00 16.6**	**+5.0**
KAKA	**Kakadu**	**37.72**	**113**	*e*P	**P**	**12 00 15.9**	**-1.7**
	comp=Z,7.2nm,0.6s,mb4.6						
GTA	**Gaotai**	**38.11**	**3**	⇑P	**P**	**12 00 20.8**	**-0.1**
GTA				AP	pP	12 00 28.8	-1.5
GTA				XP	sP	12 00 31.3	-2.9
GTA				PP	PP	12 01 49.9	+1.6
GTA				PCP	PcP	12 02 37.1	+1.7
GTA				S	**S**	**12 06 10.0**	**-1.8**
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,87nm,4.2s						
GTA				LR	LR		
	comp=N,242nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=E,199nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=Z,233nm,14.1s,MS4.1						
JOW	**Kunigami**	**39.34**	**47**	P	**P**	**12 00 31.5**	**+0.3**
	comp=Z,45nm,0.8s,mb5.3,baz=268,slow=6.4,SNR=9.4						
HHC	**Hu-ho-hao-te**	**41.60**	**17**	*e*P	**P**	**12 00 51.9**	**+2.1**
HHC				AP	pP	12 01 01.0	+1.7
HHC				XP	sP	12 01 04.9	+1.8
HHC				PP	PP	12 02 30.1	+3.9
HHC				S	**S**	**12 07 09.5**	**+5.6**
HHC				XS	sS	12 07 22.4	+2.9
HHC				SS	SS	12 10 05.6	-3.9
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,119nm,4.9s						
HHC				LR	LR		
	comp=N,44nm,4.2s						
HHC				LR	LR		
	comp=E,167nm,10.6s						
HHC				LR	LR		
	comp=Z,65nm,8.4s						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**12 00 54.0**	**-0.3**
	comp=Z,7.6nm,0.6s,mb4.5,baz=301,slow=9.0,SNR=87						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**12 00 54.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**12 00 54.3**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**12 00 54.4**	**0.0**
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**12 00 54.4**	**0.0**
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	**P**	**12 00 55.5**	**-0.6**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	**P**	**12 00 55.5**	**-0.6**
	comp=Z,20nm,0.6s,mb4.9						
BJI	**Beijing**	**42.39**	**22**	P	**P**	**12 00 56.8**	**+0.5**
BJI				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,184nm,4.2s						
BJI				LR	LR		
	comp=N,165nm,14.1s,MS4.2						
BJI				LR	LR		
	comp=E,159nm,12.7s,MS4.2						
BJI				LR	LR		
	comp=Z,94nm,16.7s,MS3.8						
BJI	**Beijing**	**42.39**	**22**	P	**P**	**12 00 56.7**	**+0.4**
BJI				S	**S**	**12 06 56.2**	**-19**
WMQ	**Urumqi**	**43.25**	**350**	⇑*i*P	**P**	**12 01 04.5**	**+1.2**
WMQ				AP	pP	12 01 14.0	+1.2
WMQ				XP	sP	12 01 18.0	+1.4
WMQ				PP	PP	12 02 47.0	+2.9
WMQ				*e*S	**S**	**12 07 29.0**	**+0.7**
WMQ				XS	sS	12 07 45.0	+1.1
WMQ				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,121nm,4.4s						
WMQ				LR	LR		
	comp=N,326nm,22.8s,MS4.3						
WMQ				LR	LR		
	comp=E,370nm,22.8s,MS4.3						
WMQ				LR	LR		
	comp=Z,264nm,21.4s,MS4.1						
ASPA	**Alice Springs**	**43.49**	**127**	*e*P	**P**	**12 01 05.5**	**+0.2**
ASPA	**Alice Springs**	**43.49**	**127**	*e*P	**P**	**12 01 05.5**	**+0.2**
AS31	**Alice Springs**	**43.50**	**127**	*e*P	**P**	**12 01 05.5**	**+0.2**
ASAR	**Alice Springs**	**43.50**	**127**	P	**P**	**12 01 05.6**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.3,baz=296,slow=7.8,SNR=42						
ASAR				ScP	ScP	12 06 45.5	+3.5
	comp=Z,0.9nm,0.9s,baz=284,slow=3.7,SNR=4.3						
UCH	**Uchtor**	**45.60**	**336**	P	**P**	**12 01 23.6**	**+1.6**
	SNR=13						
TKM2	**Tokmak 2**	**45.77**	**338**	P	**P**	**12 01 24.8**	**+1.4**
	SNR=6.3						
AML	**Almayashu**	**45.85**	**336**	P	**P**	**12 01 25.7**	**+1.6**
	SNR=6.3						
KS15	**Wonju Array Si**	**45.89**	**35**	*e*P	**P**	**12 01 24.1**	**-0.3**
AAK	**Ala-Archa**	**45.95**	**337**	⇑*e*P	**P**	**12 01 25.3**	**+0.5**
AAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.7						
AAK	**Ala-Archa**	**45.95**	**337**	*e*P	**P**	**12 01 24.0**	**-0.8**
	comp=Z,3.4nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**46.26**	**336**	P	**P**	**12 01 28.5**	**+1.2**
	SNR=8.4						
USP	**Ospenovka**	**46.48**	**337**	P	**P**	**12 01 29.9**	**+0.9**
	SNR=14						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**12 01 34.4**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9,baz=188,slow=8.9,SNR=98						
SONM				PcP	PcP	12 03 06.0	+0.5
	comp=Z,2.7nm,0.6s,baz=192,slow=4.7,SNR=5.5						
SONM				LR	LR	12 23 57.7	
	comp=Z,301nm,18.3s,MS4.3,baz=190,slow=39						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**12 01 34.4**	**+0.1**
SONM						12 03 06.0	
MK31	**Makanchi Array**	**47.21**	**346**	*e*P	**P**	**12 01 34.7**	**0.0**
MK31				*e**PP	pP	12 01 42.8	-1.5
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**12 01 34.9**	**+0.2**
	comp=Z,8.3nm,0.5s,mb4.9,baz=160,slow=9.1,SNR=92						
ZAK	**Zakamensk**	**49.29**	**5**	⇑*e*P	**P**	**12 01 50.6**	**-0.1**
CN2	**Changchun**	**49.36**	**27**	*e*P	**P**	**12 01 50.8**	**-0.5**
CN2				*e*XP	sP	12 02 04.6	-0.1
CN2				*e*S	**S**	**12 08 55.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.4						
PMG	**Port Moresby**	**50.98**	**103**	*e*P	**P**	**12 02 03.5**	**-0.1**
PMG				*e*		12 02 15.9	
PMG				pmax	pmax		
	comp=Z,22nm,1.1s						
PMG	**Port Moresby**	**50.98**	**103**	*e*P	**P**	**12 02 03.5**	**-0.1**
	comp=Z,22nm,1.1s,mb5.0						
PMG				*e*		12 02 15.9	
HIA	**Hailar**	**51.68**	**19**	*e*P	**P**	**12 02 08.9**	**+0.1**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
HIA	**Hailar**	**51.68**	**19**	*e*P	**P**	**12 02 08.9**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**51.78**	**42**	*e*P	**P**	**12 02 09.1**	**-0.4**
MAJO				*e*	pP	12 02 18.9	-0.3
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**51.78**	**42**	*e*P	**P**	**12 02 09.1**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.5						
MAJO				*e*	pP	12 02 18.9	-0.3
MAT	**Matsushiro**	**51.78**	**42**	P	**P**	**12 02 09.1**	**-0.4**
MJAR	**Matsushiro Arr**	**51.78**	**42**	P	**P**	**12 02 09.5**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=229,slow=6.1,SNR=9.8						
MDJ	**Mudanjiang**	**51.93**	**29**	P	**P**	**12 02 11.0**	**+0.3**
MDJ				AP	pP	12 02 20.1	-0.2
MDJ				XP	sP	12 02 23.9	-0.2
MDJ				PCP	PcP	12 03 20.8	-2.2
MDJ				PP	PP	12 04 06.4	-2.4
MDJ				PCS	PcS	12 07 20.8	-0.3
MDJ				S	**S**	**12 09 34.1**	**+2.6**
MDJ				XS	sS	12 09 47.4	0.0
MDJ				SCS	ScS	12 11 58.5	+0.1
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,34nm,3.7s						
MDJ				LR	LR		
	comp=N,104nm,15.1s,MS4.2						
MDJ				LR	LR		
	comp=E,124nm,15.1s,MS4.2						
MDJ				LR	LR		
	comp=Z,225nm,17.2s,MS4.3						
MDJ	**Mudanjiang**	**51.93**	**29**	*e*P	**P**	**12 02 10.4**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8						
CIT	**Chita**	**52.50**	**13**	*e*P	**P**	**12 02 15.0**	**+0.1**
CTA	**Charters Tower**	**52.62**	**116**	P	**P**	**12 02 16.4**	**+0.7**
	comp=Z,3.9nm,0.9s,mb4.3,baz=322,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**52.62**	**116**	*e*P	**P**	**12 02 16.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**52.62**	**116**	*e*P	**P**	**12 02 16.3**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.4						
OPO	**Ambohidratompo**	**52.81**	**246**	P	**P**	**12 02 18.0**	**+0.8**
	comp=Z,5.4nm,1.1s,mb4.4,baz=68,slow=6.5,SNR=3.2						
STKA	**Stephens Creek**	**53.45**	**132**	*e*P	**P**	**12 02 23.0**	**+1.1**
	comp=Z,4.2nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**53.45**	**132**	*e*P	**P**	**12 02 23.0**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**12 02 22.9**	**+1.0**
	comp=Z,4.1nm,0.6s,mb4.6,baz=306,slow=11,SNR=9.8						
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**12 02 22.3**	**-0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=312,slow=5.7,SNR=67						
ZAL	**Zalesovo**	**53.53**	**351**	*i* P	**P**	**12 02 22.2**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,13nm,0.7s						
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**12 02 22.3**	**-0.2**
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**12 02 22.3**	**-0.2**
NVS	**Novosibirsk**	**54.66**	**350**	*e*P	**P**	**12 02 29.1**	**-1.6**
NVS				*e*S	sS	12 10 28.6	+4.1
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
NVS				smax			
	comp=N,9.0nm,1.7s						
NVS				smax			
	comp=E,17nm,1.6s						
VOSK	**Vostochnaya**	**55.76**	**341**	P	**P**	**12 02 37.9**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**56.21**	**341**	LR	LR	12 29 30.3	
	comp=Z,66nm,20.2s,MS3.7,baz=329,slow=39						
BRVK	**Borovoye**	**56.27**	**341**	*e*P	**P**	**12 02 41.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**56.27**	**341**	*e*P	**P**	**12 02 41.4**	**-0.9**
	comp=Z,8.0nm,0.6s,mb4.9						
KLR	**Kul'dur**	**56.31**	**27**	*e*P	**P**	**12 02 38.9**	**-3.7**
ZRNK	**Zerenda**	**56.61**	**340**	*e*P	**P**	**12 02 44.0**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**56.61**	**340**	*e*P	**P**	**12 02 44.0**	**-0.8**
	comp=Z,8.5nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**56.69**	**342**	*e*P	**P**	**12 02 45.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
CHKZ	**Chkalovo**	**56.69**	**342**	*e*P	**P**	**12 02 45.0**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2						
BOD	**Bodaibo**	**58.03**	**11**	*e*P	**P**	**12 02 54.0**	**-0.8**
BOD				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
ASAJ	**Asahikawa**	**58.74**	**37**	LR	LR	12 31 34.3	
	comp=Z,89nm,18.3s,MS3.9,baz=2.4,slow=39						
AKTO	**Aktyubinsk**	**59.17**	**332**	*i* P	**P**	**12 03 01.6**	**-1.1**
YSS	**Yuzh-Sakhalins**	**60.42**	**34**	*e*P	**P**	**12 03 11.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**60.42**	**34**	*e*P	**P**	**12 03 11.0**	**-0.3**
	comp=Z,20nm,0.9s,mb5.2						
GNI	**Garni**	**61.21**	**316**	*e*P	**P**	**12 03 17.2**	**+0.6**
GNI				*e*	pP	12 03 26.9	+0.4
GNI				pmax	pmax		
	comp=Z,24nm,1.1s						
GNI	**Garni**	**61.21**	**316**	*e*P	**P**	**12 03 17.2**	**+0.6**
	comp=Z,24nm,1.1s,mb5.2						
GNI				*e*	pP	12 03 26.9	+0.4
ARU	**Arti**	**63.13**	**337**	⇑*i*P	**P**	**12 03 28.6**	**-1.0**
ARU				*e*		12 04 03.8	
ARU				*e*		12 05 46.0	
ARU				*e*PPP		12 07 19.4	
ARU				*e*S	**S**	**12 11 57.4**	**-1.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
ARU	**Arti**	**63.13**	**337**	*e*P	**P**	**12 03 28.5**	**-1.0**
	comp=Z,4.7nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**64.22**	**319**	*i* P	**P**	**12 03 36.9**	**+0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**64.22**	**319**	*e*P	**P**	**12 03 33.6**	**-3.1**
	comp=Z,6.8nm,0.6s,mb4.8						
KIV				*e*	pP	12 03 42.9	-3.7
YAK	**Yakutsk**	**65.46**	**16**	*c i* P	**P**	**12 03 43.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.4						
YAK				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.3						
YAK	**Yakutsk**	**65.46**	**16**	*e*P	**P**	**12 03 43.6**	**-1.2**
	comp=Z,29nm,0.8s,mb5.4						
BR131	**Keskin Array S**	**69.02**	**312**	*e*P	**P**	**12 04 07.0**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0						
BR131				*e*pP	pP	12 04 15.4	-1.9
BRTR	**Keskin Array B**	**69.02**	**312**	P	**P**	**12 04 07.0**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=132,slow=7.8,SNR=8.2						
OBN	**Obninsk**	**72.55**	**328**	*i* P	**P**	**12 04 28.2**	**-0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MAW	**Mawson**	**72.68**	**193**	*e*P	**P**	**12 04 28.8**	**-0.8**
MAW				*e**PP	pP	12 04 38.1	-1.5
MAW				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MAW	**Mawson**	**72.68**	**193**	*e*P	**P**	**12 04 28.8**	**-0.8**
	comp=Z,7.9n

BRG	Berggiesshubel	84.73	321	e(P)	P	12 05 43.0	+7.2
	comp=Z,2.9nm,1.0s,mb4.3						
BRG	Berggiesshubel	84.73	321	eP	P	12 05 43.0	+7.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
GERES	GERESS Array B	84.73	319	P	P	12 05 36.3	+0.5
	comp=Z,1.2nm,0.7s,mb4.1,baz=99,slow=6.9,SNR=8.7						
CLL	Collm	85.35	321	eP	P	12 05 40.0	+1.1
VNDA	Vanda	85.85	169	P	P	12 05 41.8	+0.4
	comp=Z,0.4nm,0.7s,mb3.8,baz=314,slow=5.0,SNR=5.1						
VNDA	Vanda	85.85	169	eP	P	12 05 40.8	-0.6
VNDA				e	pP	12 05 49.3	-2.3
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VNDA	Vanda	85.85	169	eP	P	12 05 40.8	-0.6
	comp=Z,1.1nm,0.9s,mb4.1						
VNDA				e	pP	12 05 49.3	-2.3
NB2	NORSAR Subarra	86.94	331	P	P	12 05 46.1	-0.7
	comp=Z,4.3nm,1.0s,mb4.6,baz=94,slow=5.3						
NB2	NORSAR Subarra	86.94	331	P	P	12 05 46.1	-0.7
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
NOA	NORSAR Array B	86.94	331	P	P	12 05 46.2	-0.6
	comp=Z,2.2nm,0.9s,mb4.4,baz=98,slow=5.0,SNR=4.4						
NOA	NORSAR Array B	86.94	331	P	P	12 05 46.2	-0.6
KEST	Kesra	87.46	306	P	P	12 05 50.0	+0.8
	comp=Z,1.1nm,0.9s,mb4.1,baz=313,slow=12,SNR=3.3						
SFJD	Kangerlussuaq	108.24	347	ePKP	PKiKP	12 11 26.4	-3.4
NVAR	Mina Array Bea	128.86	36	PKP	PKPdf	12 12 11.2	+2.0
	comp=Z,0.3nm,0.7s,baz=0.0,slow=2.7,SNR=3.1						
PDAR	Pinedale Array	130.10	26	PKP	PKPdf	12 12 11.4	-0.2
	comp=Z,0.3nm,0.6s,baz=132,slow=1.3,SNR=3.2						
MSU	Marysvale	132.18	31	ePKIKP	PKPdf	12 12 16.3	+0.8
MSU				e		12 14 41.2	
SRU	San Rafael	132.56	29	ePKIKP	PKPdf	12 12 15.4	-0.8
SRU				e		12 14 39.6	
GDL2	Guadalupe Moun	141.08	30	ePKPdf	PKPdf	12 12 25.0	-7.0
TXAR	Lajitas Array	143.74	32	PKP	PKPdf	12 12 35.2	-1.5
	comp=Z,0.9nm,0.8s,baz=290,slow=0.3,SNR=12						
JCT	Junction City	144.63	26	ePKIKP	PKPdf	12 12 37.9	-0.4
CPUP	Villa Florida	144.92	222	PKP	PKPdf	12 12 39.4	+0.6
	comp=Z,1.5nm,0.5s,baz=96,slow=3.1,SNR=8.4						
BBGH	Gun Hill	152.79	302	ePKPdf	PKPdf	12 12 51.8	+0.4
BBGH				e		12 13 03.8	

*ISCJB **21** 11:57:07.4±1.3, 14S±02×1496E±02, h33km, mb4.1/7, Error ellipse: s-maj=25.0km s-min=22.6km az=152.1*
*IDC **21** 11:57:11.3±9.0, 145S×14950E, h47km±79km, mb4.1/7, mb1 4.2/7, mb1mx3.9/15, mbtmp4.3/7, Error ellipse: s-maj=42.2km s-min=29.2km az=26.0*
*NEIC **21** 11:57:15.5±5.9, 149S×14949E, h88km±50km, mb4.4/1, Error ellipse: s-maj=25.2km s-min=17.3km az=212.0*

ISC 21 11:57:09.3±1.3, 13S±02×1496E±02, h35km, n14, σ0°81/13, mb4.1/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	20.41	236	eP	P	12 01 44.7	+1.4
	12nm,0.6s						
WB2	Warramunga Arr	23.76	218	eP	P	12 02 18.4	0.0
WB2	Warramunga Arr	23.76	218	eP	P	12 02 18.2	-0.2
WB2				eP		12 02 18.4	
WRA	Warramunga Arr	23.76	218	P	P	12 02 18.6	+0.2
	6.1nm,0.6s,mb4.2,baz=41,slow=11,SNR=24						
WRA				PcP	PcP	12 06 02.0	+0.6
	1.1nm,0.7s,baz=38,slow=2.3,SNR=7.1						
DZM	Mont Dzumac	26.34	143	P	P	12 02 43.1	+1.3
	7.8nm,0.6s,mb4.4,baz=212,slow=9.5,SNR=19						
AS31	Alice Springs	26.91	213	eP	P	12 02 46.3	-0.7
ASAR	Alice Springs	26.91	213	P	P	12 02 47.1	+0.1
	3.6nm,0.6s,mb4.1,baz=46,slow=7.7,SNR=21						
ASAR				PcP	PcP	12 06 09.4	+0.9
	0.6nm,0.5s,baz=16,slow=2.6,SNR=6.8						
FITZ	Fitzroy Crossi	28.82	233	P	P	12 03 03.6	-0.5
	1.8nm,0.6s,mb4.0,baz=49,slow=9.7,SNR=5.9						
VNDA	Vanda	76.40	177	P	P	12 08 53.7	-1.4
	0.5nm,0.8s,mb3.5,baz=357,slow=7.3,SNR=4.2						
VNDA	Vanda	76.40	177	P	P	12 08 53.7	-1.4
ZAL	Zalesovo	76.52	327	P	P	12 08 56.0	+0.2
	2.0nm,0.3s,mb4.5,baz=289,slow=2.1,SNR=3.2						
ZAL	Zalesovo	76.52	327	P	P	12 08 56.0	+0.2
MAW	Mawson	87.52	203	P	P	12 09 52.8	-0.6
	1.1nm,0.8s,mb4.2,baz=91,slow=9.3,SNR=5.1						
TORD	Torodi Ar. Bea	146.12	292	PKPbc	PKPbc	12 16 47.3	+1.7
	2.2nm,0.8s,baz=66,slow=2.7,SNR=14						

MAN 21 12:14:57.9, 1353N×12146E, h0km, mb2.9, ML4.3, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	Boac	0.38	100	eP	Pg	12 15 05.5	+0.3
BOAC				eS	Sg	12 15 11.8	+1.6
TGY	Tagaytay City	0.76	318	⇑iP	Pg	12 15 15.3	+2.9
TGY				i S	Sg	12 15 23.1	+0.8
LUBP	Lubang	1.20	280	eP	Pg	12 15 21.3	+0.5
LUBP				eS	Sg	12 15 38.7	+2.4
POLP	Polilio Island	1.28	21	eP	Pg	12 15 21.5	-0.9
OTRP	Odiongan	1.28	155	eP	Pg	12 15 22.2	-0.3
BUSP	Coron	1.95	219	eP	Pn	12 15 31.8	-0.4
BALP	Baler	2.20	3	eP	Pn	12 15 38.6	+2.9
PVCP	Virac	2.62	88	eP	Pn	12 15 42.6	+1.1

*ISCJB **21** 12:34:19.3±4.8, 238S±02×1798W±03, h500km±50km, mb4.0/9, Error ellipse: s-maj=52.8km s-min=17.6km az=126.1*
*IDC **21** 12:34:27.4±7.8, 2445S×17962E, h527km±72km, mb3.5/5, mb1 3.6/6, mb1mx3.3/15, mbtmp4.5/6, Error ellipse: s-maj=75.0km s-min=29.4km az=42.0*
*NEIC **21** 12:34:28.9±3.9, 2455S×17947E, h538km±33km, mb4.0/6, Error ellipse: s-maj=52.6km s-min=15.3km az=222.0*

ISC 21 12:34:23.2±4.7, 241S±02×1800E±04, h511km±43km, n16, σ0°60/15, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.34	189	P	P	12 37 26.1	-0.2
	2.0nm,0.3s,baz=293,slow=3.2,SNR=10						
URZ				S	S	12 39 57.4	+0.3
	0.7nm,0.3s,baz=200,slow=22,SNR=7.2						
CTA	Charters Tower	31.48	271	eP	P	12 40 03.5	+1.0
	6.7nm,0.5s,mb4.4						
CTA	Charters Tower	31.48	271	P	P	12 40 03.3	+0.8
	8.1nm,0.4s,mb4.6,baz=96,slow=9.6,SNR=19						
CTAO	Charters Tower	31.48	271	eP	P	12 40 03.4	+0.9
STKA	Stephens Creek	34.65	248	P	P	12 40 28.1	-1.3
	1.4nm,0.4s,mb3.8,baz=90,slow=9.9,SNR=4.4						
ASAR	Alice Springs	42.00	261	P	P	12 41 29.8	+0.6
	2.8nm,0.5s,mb4.0,baz=97,slow=7.3,SNR=46						
WB2	Warramunga Arr	42.38	266	eP	P	12 41 31.9	-0.3
WRAB	Tennant Creek	42.38	266	eP	P	12 41 31.6	-0.6
	4.7nm,0.6s,mb4.2						
WRA	Warramunga Arr	42.39	266	P	P	12 41 32.1	-0.1
	3.5nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=170						
FITZ	Fitzroy Crossi	50.81	266	eP	P	12 42 36.6	+0.6
	4.6nm,0.7s,mb3.9						
FITZ	Fitzroy Crossi	50.81	266	P	P	12 42 37.0	+1.0
	2.1nm,0.5s,mb3.7,baz=121,slow=8.5,SNR=11						
SBA	Scott Base	54.19	183	eP	P	12 42 55.0	-5.2
	3.9nm,1.0s,mb3.7						
CASY	Casey	59.94	206	P	P	12 43 39.3	-0.3
	2.4nm,0.9s,mb3.5						
QSPA	South Pole Qui	65.99	180	eP	P	12 44 18.8	+0.2
	7.5nm,1.2s,mb4.1						
BRTR	Keskin Array B	147.69	307	PKPbc	PKPbc	12 53 13.2	+3.2
	0.6nm,0.6s,baz=67,slow=2.3,SNR=4.5						
TORD	Torodi Ar. Bea	169.00	189	PKPab	PKPab	12 54 45.8	-0.5
	0.6nm,0.8s,baz=183,slow=3.3,SNR=3.6						

*GII **21** 12:36:26.0±1.4, 3407N×3653E, h0km, ML1.8/2*
*ISCJB **21** 12:36:27.8±0.5, 3387N±002×3670E±004, h0km, Error ellipse: s-maj=4.5km s-min=2.9km az=25.2*
*GRAL **21** 12:36:27.2±1.4, 3384N×3686E, h15km±119km, MD3.0*
*CSEM **21** 12:36:27.6±0.3, 3383N×3672E, h2km, Mc1.3, Error ellipse: s-maj=6.4km s-min=4.7km az=116.0, Suspected Mining explosion.*
*NSSC **21** 12:36:28, 3387N×3663E, h7km±2km*

ISC 21 12:36:28.1±0.6, 3388N±002×3672E±004, h0km, n29, σ1°11/48, 21D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	Ras Al Marh	0.25	307	⇓iP	Pg	12 36 32.4	-0.5
MARH	Ras Al Marh	0.25	307	⇓P	Pg	12 36 32.0	-0.9
MARH				⇓S	Sg	12 36 36.0	-0.1
QASN	Qassioun	0.51	228	⇑iP	Pg	12 36 37.2	-0.6
QASN	Qassioun	0.51	228	⇑P	Pg	12 36 37.0	-0.8
QASN				⇑S	Sg	12 36 45.0	+0.7
ROOS	tl_alroos	0.55	58	⇓iP	Pg	12 36 40.7	+2.0
ROOS	tl_alroos	0.55	58	⇓P	Pg	12 36 40.0	+1.3
ROOS				⇓S	Sg	12 36 50.0	+4.2
TOTH	TOTAH	0.57	206	⇓iP	Pg	12 36 38.4	-0.6
TOTH	TOTAH	0.57	206	⇓P	Pg	12 36 38.0	-1.0
TOTH				⇓S	Sg	12 36 46.0	-0.3
HWQ	Hawqa	0.76	302	ePg	Pg	12 36 43.4	+0.8
HWQ				eSg	Sg	12 36 54.0	+1.5
BRBR	Barbar	0.79	235	⇓iP	Pg	12 36 42.4	-0.9
BRBR	Barbar	0.79	235	⇓P	Pg	12 36 42.0	-1.3
BRBR				⇓S	Sg	12 36 53.0	-0.6
RCY	Rachaya	0.85	243	ePg	Pg	12 36 42.9	-1.4
RCY				eSg	Sg	12 36 55.9	+0.6
BHL	Bhannes	0.89	272	ePg	Pg	12 36 43.8	-1.3
BHL				eSg	Sg	12 36 57.0	+0.4
KSDI	Kefar Szold	1.12	233	Pg	Pg	12 36 48.0	-1.5
KSDI				Sg	Sg	12 37 05.1	+1.0
SALA	Sala	1.16	180	⇓iP	Pg	12 36 50.3	0.0
SALA	Sala	1.16	180	⇓P	Pg	12 36 50.0	-0.3
SALA				⇓S	Sg	12 37 06.0	+0.6
KSHT	Keshet	1.17	221	Pg	Pg	12 36 49.9	-0.7
KSHT				Sg	Sg	12 37 08.6	+2.8
KSHT	Keshet	1.17	221	Pg	Pg	12 36 49.8	-0.8
KSHT				Sg	Sg	12 37 08.6	+2.8
BIDA	Albida	1.18	344	⇓iP	Pg	12 36 51.4	+0.7
BIDA	Albida	1.18	344	⇓P	Pg	12 36 51.0	+0.3
BIDA				⇓S	Sg	12 37 07.0	+0.9
MMB3	Mount Meron ar	1.40	233	Pn	Pn	12 36 53.4	-1.5
MMB3				Sn	Sn	12 37 13.4	-0.6
MMA3	Mount Meron ar	1.40	232	Pn	Pn	12 36 52.8	-2.1
MMA3				Sn	Sn	12 37 13.6	-0.5
WRDH	Warideh	1.65	351	⇓iP	Pn	12 36 58.2	0.0
WRDH	Warideh	1.65	351	⇓P	Pn	12 36 58.0	-0.2
WRDH				⇓S	Sn	12 37 17.0	-3.1
MMLI	Mount Malkishu	1.80	218	Pn	Pn	12 37 00.1	-0.3
MMLI				Sn	Sn	12 37 24.6	+0.6
HMDT	Nahal Hemdat	1.91	212	Pn	Pn	12 37 00.9	-0.9
HMDT				Sn	Sn	12 37 28.6	+2.1
OFRI	'Ofer	1.92	230	Pn	Pn	12 37 01.3	-0.7
OFRI				Sn	Sn	12 37 27.5	+0.7
SLTI	Sal'it	2.16	221	Sn	Sn	12 37 34.2	+1.5
AMAZ	Amatzia	2.79	214	Sn	Sn	12 37 50.1	+1.8

*CSEM **21** 12:43:49.7±0.7, 3871N×2900W, h5km, ML2.2, Error ellipse: s-maj=15.4km s-min=5.4km az=32.0, After PDA*
*PDA **21** 12:43:49.7±0.7, 3871N×2900W, h5km, MD2.7, ML2.2, Error ellipse: s-maj=15.4km s-min=5.4km az=32.0*

SVSA 21 12:43:49.7±0.7, 3871N×2900W, h5km, MD2.7, ML2.2, Error ellipse: s-maj=15.4km s-min=5.4km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.25	109	eP	Pg	12 43 54.1	-0.5
PCED				eS	Sg	12 43 57.7	-0.2
PCED							
	105nm,0.2s						
PCED	Cedros	0.25	109	eP	Pg	12 43 54.1	-0.5
PCED				eS	Sg	12 43 57.7	-0.2
CALA	Caldeira	0.27	119	eP	Pg	12 43 54.7	-0.2
CALA				eS	Sg	12 43 58.3	-0.2
HOR	Horta	0.35	122	eP	Pg	12 43 55.9	-0.5
HOR				eS	Sg	12 44 00.5	-0.4
PICO	Pico	0.50	115	eP	Pg	12 43 58.5	-0.8
PICO				eS	Sg	12 44 05.4	-0.4

IDC 21 12:44:54.7±2.4, 1016S×10839E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/28, Error ellipse: s-maj=88.3km s-min=20.9km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.48	117	P	Pn	12 49 12.7	+0.5
	0.2nm,0.3s,baz=308,slow=11,SNR=9.7						
FITZ				Sn	Sn	12 52 22.7	-17
	0.4nm,0.3s,baz=82,slow=15,SNR=8.1						
FITZ				LR	LR	12 54 58.1	
	comp=Z,116nm,21.4s,baz=316,slow=33						
NWAO	Narrogin (SRO)	24.08	162	LR	LR	12 58 13.5	
	comp=Z,152nm,20.6s,baz=116,slow=33						
WRA	Warramunga Arr	26.84	114	P	P	12 50 37.5	+0.7
	1.2nm,0.8s,baz=286,slow=11,SNR=7.0						
WRA				Sn	S	12 55 42.5	+28
	0.4nm,0.8s,baz=289,slow=24,SNR=3.6						
ASAR	Alice Springs	27.79	122	P	P	12 50 45.5	+0.2
	0.3nm,0.7s,baz=314,slow=8.8,SNR=3.9						
ASAR				Sn	S	12 56 08.0	+39
	1.3nm,0.8s,baz=307,slow=24,SNR=7.1						
ASAR				LR	LR	13 00 00.0	
	comp=Z,98nm,20.6s,baz=350,slow=33						
STKA	Stephens Creek	37.54	130	P	P	12 52 10.3	-0.2
	1.0nm,0.5s,baz=315,slow=13,SNR=3.1						
STKA				LR	LR	13 09 08.4	
	comp=Z,109nm,18.8s,baz=204,slow=39						
PMG	Port Moresby	38.19	92	P	P	12 52 16.4	+0.3
	17nm,0.8s,baz=296,slow=16,SNR=3.5						
SONM	Songino Array	57.76	358	P	P	12 54 48.4	+0.9
	0.5nm,0.7s,baz=180,slow=5.4,SNR=4.4						
MKAR	Makanchi Array	61.31	340	P	P	12 55 11.5	-0.5
	0.6nm,0.6s,baz=142,slow=7.6,SNR=5.9						

IDC 21 13:14:51.4±1.1, 1425N×14368E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=31.8km s-min=17.2km az=46.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.33	119	Pn	Pn	13 15 16.8	-0.4
	57nm,0.3s,baz=115,slow=5.4,SNR=70						
GUMO				Sn	Sn	13 15 37.9	+2.4
	173nm,0.3s,baz=166,slow=23,SNR=32						
WRA	Warramunga Arr	35.20	195	P	P	13 21 47.3	+0.2
	1.2nm,0.7s,baz=20,slow=9.2,SNR=11						
ASAR	Alice Springs	38.87	194	P	P	13 22 18.6	+0.2
	0.3nm,0.5s,baz=12,slow=13,SNR=8.3						
SONM	Songino Array	45.53	325	P	P	13 23 12.7	0.0
	0.3nm,0.5s,baz=115,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	60.22	316	P	P	13 25 01.6	+0.4
	0.7nm,0.4s,baz=94,slow=8.4,SNR=22						

WEL 21 13:25:04.2±0.2, 3861S×17564E, h161km±2km, ML3.6/6, Error ellipse: s-maj=2.3km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	Moawhango	0.80	174	PN	Pn	13 25 28.5	+0.1
MOVZ				SN	Sn	13 25 47.0	0.0
BKZ	Black Stump Fm	0.86	130	PN	Pn	13 25 29.4	+0.5
BKZ				SN	Sn	13 25 48.0	+0.1
URZ	Urewera	1.20	74	PN	Pn	13 25 31.7	0.0
URZ				SN	Sn	13 25 52.8	0.0
WAZ	Wanganui	1.25	204	PN	Pn	13 25 31.9	-0.3
WAZ				SN	Sn	13 25 53.8	+0.2
TSZ	Takapari Road	1.47	170	PN	Pn	13 25 33.9	-0.3
MWZ	Matawai	1.50	80	PN	Pn	13 25 35.0	+0.4
MWZ				SN	Sn	13 25 57.9	0.0
WPHZ	Waipukurau	1.58	157	PN	Pn	13 25 35.2	-0.2
WPHZ				SN	Sn	13 25 58.8	-0.5
KNZ	Kokohu	1.64	105	PN	Pn	13 25 36.3	+0.3
PXZ	Pawanui	1.71	147	PN	Pn	13 25 36.6	-0.1
PXZ				SN	Sn	13 26 01.4	-0.3
MRZ	Mangatainoka R	2.05	181	PN	Pn	13 25 39.0	-1.6
MRZ				SN	Sn	13 26 05.4	-3.1
BFZ	Birch Farm	2.12	168	PN	Pn	13 25 39.9	-1.4
PUZ	Puketiti	2.12	76	PN	Pn	13 25 40.9	-0.5
KIW	Kapiti Island	2.32	194	PN	Pn	13 25 41.3	-2.3
MXZ	Matakaoa Point	2.35	64	PN	Pn	13 25 43.7	-0.2
CAW	Cannon Point	2.53	190	PN	Pn	13 25 43.8	-2.4
MTW	Mount Morrison	2.55	182	PN	Pn	13 25 43.8	-2.6
SNZO	South Karori	2.79	195	PN	Pn	13 25 46.4	-3.0
TCW	Tory Channel	2.80	202	PN	Pn	13 25 46.7	-2.8
BHW	Baring Head	2.86	192	PN	Pn	13 25 47.2	-3.0
TUWZ	Tuamarina	3.10	204	PN	Pn	13 25 50.3	-2.9

IDC 21 13:30:01.1±3.5, 1340S×7728W, h43km±29km, mb3.3/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.6/4, ML3.5/2, MS2.8/1, Ms1 2.9/1, ms1mx2.7/7, Error ellipse: s-maj=31.6km s-min=16.1km az=66.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.46	17	P	Pn	13 30 23.2	-1.8
	24nm,0.3s,baz=184,slow=13,SNR=62						
NNA				S	Sn	13 30 43.3	+0.2
	261nm,0.3s,baz=214,slow=9.0,SNR=25						
ATAH	Atahualpa	6.45	350	P	Pn	13 31 33.4	-0.1
	0.7nm,0.3s,baz=131,slow=7.4,SNR=2.2						
LPAZ	La Paz	9.30	109	P	Pn	13 32 13.7	+1.2
	0.3nm,0.3s,baz=287,slow=8.8,SNR=8.4						
LPAZ				S	Sn	13 33 59.7	+4.0
	baz=24,slow=18,SNR=1.9						
LPAZ				LR	LR	13 36 11.4	
	comp=Z,53nm,19.6s,baz=243,slow=40						
TXAR	Lajitas Array	49.54	329	P	P	13 38 47.6	0.0
	0.1nm,0.7s,baz=120,slow=5.3,SNR=2.5						
TORD	Torodi Ar. Bea	82.57	75	P	P	13 42 19.3	-0.2
	1.5nm,0.9s,baz=264,slow=4.8,SNR=6.8						
SONM	Songino Array	145.53	356	PKPbc	PKPbc	13 49 35.5	+0.8
	1.0nm,0.9s,baz=346,slow=4.4,SNR=5.4						

*NIED **21** 13:36:00, 4350N×14640E, h62km, Mw4.0 Best double couple: M0 1.28000×10^15 NP1:φ0=20.00000°, δ62.00000°, λ94.00000°. NP2:φ0=191.00000°, δ28.00000°, λ82.00000°.*
*MOS **21** 13:36:35.5±0.9, 4355N×14633E, h54km, mb4.6/11, Error ellipse: s-maj=14.1km s-min=9.1km az=88.7*
MOS Felt (II) at Yuzhno-Kuril'sk.
*ISCJB **21** 13:36:37.1±0.5, 4357N±004×14643E±005, h69km±3km, mb4.2/37, Error ellipse: s-maj=7.4km s-min=4.8km az=85.6*
*BJI **21** 13:36:37.3, 4369N×14640E, h74km, mB4.7, mb4.6, Ms4.1, Msz4.0*
*JMA **21** 13:36:38.5±0.1, 4349N×14641E, h57km±1km, M4.6*
JMA Felt II J1.
*SKHL **21** 13:36:38.5±2.1, 4356N×14652E, h47km±11km, mb4.9/3*
SKHL Felt (II) at Yushno-Kurilsk.
*NEIC **21** 13:36:39.6±1.0, 4354N×14636E, h78km±9km, mb4.5/10, Error ellipse: s-maj=10.4km s-min=8.0km az=100.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.
*IDC **21** 13:36:41.4±2.9, 4365N×14631E, h90km±25km, mb3.7/20, mb1 3.9/21, mb1mx3.8/25, mbtmp4.0/21, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=16.5km s-min=13.5km az=119.0*

ISC 21 13:36:37.7±0.5, 4358N±004×14647E±006, h59km±4km, n94, σ0°95/108, mb4.2/37, MS4.0/3, 4C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.57	248	⇓P	Pn	13 36 50.3	-0.1
NEM2				eS	Sn	13 36 58.9	-0.8
YUK	Yuzh-Kuril'sk	0.63	316	⇓iP	Pn	13 36 51.1	0.0
YUK				AMB	AMB	13 36 51.7	
	640nm,0.2s						
YUK				AMB	AMB	13 36 51.7	
	760nm,0.2s						
YUK				AMB	AMB	13 36 51.7	
	6μm,0.2s						
YUK				AMB	AMB	13 36 51.8	
	7μm,0.3s						
YUK				S	Sn	13 37 00.5	-0.4
YUK				A		13 37 04.0	
	14μm,0.3s						
YUK				A		13 37 04.0	
	29μm,0.3s						
YUK				A		13 37 07.6	
	128μm,0.8s						
YUK	Yuzh-Kuril'sk	0.63	316	⇓iPN	Pn	13 36 51.1	0.0
YUK				S	Sn	13 37 00.5	-0.4
YUK				pmax	pmax		
	comp=E,760nm,0.3s						
YUK				pmax	pmax		
	comp=Z,6μm,0.3s						
YUK				pmax	pmax		
	comp=N,640nm,0.2s						
YUK				smax			
	comp=N,14μm,0.4s						
YUK				smax			
	comp=E,29μm,0.2s						
YUK				smax			
	comp=E,128μm,0.8s						
JRA	Rausu	1.04	290	⇓P	Pn	13 36 57.0	+0.8
JRA				eS	Sn	13 37 10.2	+0.2
JNK	Nakash	1.27	271	⇓P	Pn	13 36 59.4	+0.1
JNK				eS	Sn	13 37 14.7	-0.8
JAK	Akkeshi	1.42	246	⇓P	Pn	13 37 01.0	-0.3
JAK				eS	Sn	13 37 17.4	-1.7
JTKR	Abashiri--Toko	1.90	283	⇓P	Pn	13 37 09.1	+1.4
KUR	Kuril'sk	1.93	31	eP	Pn	13 37 07.3	-0.9
KUR				AMB	AMB	13 37 09.5	
	comp=E,160nm,0.4s						
KUR				i S	Sn	13 37 30.5	-0.8
KUR				A		13 37 32.0	
	comp=E,4μm,0.4s						
KUR				A		13 37 32.0	
	comp=E,2μm,0.4s						
KUR				A		13 37 33.0	
	comp=E,5μm,1.0s						
KUR	Kuril'sk	1.93	31	ePN	Pn	13 37 07.3	-0.9
KUR				i S	Sn	13 37 30.5	-0.8
KUR				pmax	pmax		
	comp=N,160nm,0.4s						
KUR				pmax	pmax		
	comp=E,160nm,0.4s						
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
KUR				smax			
	comp=N,4μm,0.4s						
KUR				smax			
	comp=E,4μm,0.4s						
KUR				smax			
	comp=N,5μm,1.0s						
KUR				smax			
	comp=E,5μm,1.0s						
JAR	Ashorobuto	1.99	263	⇓P	Pn	13 37 09.7	+0.7
JAR				eS	Sn	13 37 33.3	+0.5
JOB	Onbets	2.04	252	⇓P	Pn	13 37 10.1	+0.4
JOB				eS	Sn	13 37 34.0	-0.1
JMP	Maruseppu	2.29	282

MJAR Matsushiro Arr 9.46 225 P **Pn** **13 38 50.3 -0.9**
comp=E,0.5nm,0.3s,baz=28,slow=13,SNR=13
MDJ Mudanjiang 12.19 281 P **Pn** **13 39 29.3 +0.9**
MDJ AP 13 39 39.8
MDJ XP 13 39 50.4
MDJ S **Sn** **13 41 42.4 -0.2**
MDJ PCP PcP 13 45 07.1 -0.6
MDJ SCP ScP 13 48 32.4 -3.1
MDJ PCS PcS 13 48 41.3 -0.5
MDJ AMB AMB
comp=Z,3.0nm,0.6s
MDJ AMB AMB
comp=Z,78nm,6.3s
MDJ Mudanjiang 12.19 281 Pn **Pn** **13 39 30.9 +2.5**
PET Petropavlovsk 12.43 36 *e*P **Pn** **13 39 35.8 +4.0**
PET Petropavlovsk 12.43 36 *i* PN **Pn** **13 39 35.8 +4.0**
EKMR Ekimchan 13.06 321 *e*P **Pn** **13 39 38.7 -1.6**
YASR Yasnyy 15.61 315 *e*P **Pn** **13 40 12.7 -1.2**
YAK Yakutsk 20.96 338 *i* P **P** **13 41 23.3 +7.6**
NJ2 Nanjing 24.55 251 *e*P **P** **13 41 52.0 +0.2**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
HHC Hu-ho-hao-te 25.89 276 *e*P **P** **13 42 04.0 +0.1**
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,72nm,5.6s
BILL Bilibino 26.66 16 *e*P **P** **13 42 11.4 +0.5**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb3.6
SONM Songino Array 28.08 293 P **P** **13 42 23.8 +0.2**
comp=Z,3.0nm,0.8s,mb4.0,baz=82,slow=8.7,SNR=15
GUMO Guam 29.92 183 Pn **P** **13 42 39.1 -0.8**
comp=Z,74nm,1.0s,mb5.4
LZH Lanzhou 33.29 272 *e*P **P** **13 43 05.8 -3.7**
LZH AP pP 13 43 23.8 -0.5
LZH XP sP 13 43 32.9 +1.6
LZH PP PP 13 44 18.8 -6.8
LZH AMB AMB
comp=Z,18nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,45nm,5.4s
LZH LR LR
comp=E,274nm,13.5s
LZH LR LR
comp=Z,413nm,17.6s,MS4.2
LZH Lanzhou 33.29 272 *e*P **P** **13 43 05.8 -3.7**
comp=Z,18nm,1.2s,mb4.9
LZH pP pP 13 43 23.8 -0.5
LZH sP sP 13 43 32.9 +1.6
LZH PP PP 13 44 18.8 -6.8
LZH LR LR
comp=Z,410nm,17.6s,MS4.2
KRAR Krasnoyarsk 35.85 309⇓*e*P **P** **13 43 30.3 -1.3**
CD2 Chengdu 35.90 264 *e*P **P** **13 43 31.9 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KDAK Kodiak Island 39.72 47 P **P** **13 44 04.7 +0.4**
comp=Z,2.8nm,0.3s,mb4.5,baz=0.7,slow=4.4,SNR=5.4
KMI Kunming 40.00 257 P **P** **13 44 07.1 +0.5**
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
KMI Kunming 40.00 257 P **P** **13 44 07.1 +0.5**
comp=Z,6.0nm,0.7s,mb4.4
ZAL Zalesovo 40.72 307 P **P** **13 44 12.3 -0.2**
comp=Z,0.8nm,0.2s,mb3.9,baz=41,slow=9.2,SNR=3.2
ZAL PcP PcP 13 46 12.7 -0.4
comp=Z,1.7nm,0.7s,baz=16,slow=4.7,SNR=8.1
ZAL Zalesovo 40.72 307 P **P** **13 44 12.3 -0.2**
ZAL PcP PcP 13 46 12.7 -0.4
COLA College 41.50 36 *i* P **P** **13 44 19.5 +0.6**
COLA College 41.50 36 *e*P **P** **13 44 19.8 +0.9**
comp=Z,3.8nm,0.8s,mb4.1
MK31 Makanchi Array 44.23 298 *e*P **P** **13 44 40.4 -0.6**
MKAR Makanchi Array 44.23 298 P **P** **13 44 40.6 -0.3**
comp=Z,1.8nm,0.5s,mb4.0,baz=80,slow=9.4,SNR=31
MKAR PcP PcP 13 46 24.6 -0.1
comp=Z,0.6nm,0.7s,baz=59,slow=1.9,SNR=3.7
INK Inuvik 46.80 30 P **P** **13 45 01.4 +0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=300,slow=6.8,SNR=16
INK Inuvik 46.80 30 P **P** **13 45 01.5 +0.2**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 46.80 30 *e*P **P** **13 45 00.8 -0.5**
comp=Z,92nm,0.6s
ZRNK Zerenda 50.03 310 *e*P **P** **13 45 24.9 -1.3**
ZRNK pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
ZRNK Zerenda 50.03 310 *e*P **P** **13 45 24.9 -1.3**
comp=Z,1.5nm,0.7s,mb4.1
GUN Gumba 50.53 273 *e*P **P** **13 45 30.8 +0.8**
comp=Z,20nm,0.5s,mb5.3
AAK Ala-Archa 50.99 295 *e*P **P** **13 45 32.2 -1.2**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AAK Ala-Archa 50.99 295 *e*P **P** **13 45 32.2 -1.2**
comp=Z,2.0nm,0.6s,mb4.2
KKN Kakani 51.04 273 *e*P **P** **13 45 34.8 +1.1**
PKI Pulchoki 51.07 273 *e*P **P** **13 45 34.1 +0.1**
DMN Daman 51.27 273 *e*P **P** **13 45 35.2 -0.3**
KOLN Koldanda 52.27 274 *e*P **P** **13 45 43.4 +0.5**
ARU Arti 54.13 317⇓*i*P **P** **13 45 55.1 -1.5**
ARU *e* 13 47 53.2
ARU *e*PPP 13 49 06.8
ARU *e*S **S** **13 53 23.6 -5.3**
ARU *e* 13 55 35.2
ARU *e*SS SS 13 57 03.3 -7.9
ARU pmax pmax
comp=Z,9.0nm,2.3s,mb4.3
ARU Arti 54.13 317 P **P** **13 45 55.0 -1.6**
comp=Z,5.9nm,1.0s,mb4.5
YKA Yellowknife Ar 56.21 33 P **P** **13 46 12.1 +0.5**
comp=Z,1.6nm,0.7s,mb4.2,baz=300,slow=7.5,SNR=6.2
AB31 Akbulak array 56.79 309 *i* P **P** **13 46 15.1 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 59.23 339 P **P** **13 46 32.4 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=5.5
ARCES PcP PcP 13 47 19.8 -0.7
comp=Z,3.0nm,0.8s,baz=50,slow=4.8,SNR=9.2
JOF Joensuu 62.01 332 *e*p **P** **13 46 46.8 -4.9**
WRA Warramunga Arr 64.19 193 P **P** **13 47 06.3 +0.2**
comp=Z,0.7nm,0.7s,mb3.8,baz=11,slow=6.8,SNR=8.7
WRA Warramunga Arr 64.19 193 *i* P **P** **13 47 08.0 +1.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
FITZ Fitzroy Crossi 64.29 202 P **P** **13 47 07.4 +0.7**
comp=Z,1.7nm,0.9s,mb4.0,baz=0.0,slow=15,SNR=2.9
FINES FINESS Array B 64.80 333 P **P** **13 47 08.3 -1.8**
comp=Z,0.8nm,0.4s,mb4.1,baz=49,slow=7.2,SNR=17
FINES FINESS Array B 64.80 333 *i* P **P** **13 47 08.8 -1.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 67.91 192 P **P** **13 47 30.6 +0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=6.5,slow=5.6,SNR=13
NVAR Mina Array Bea 68.08 57 P **P** **13 47 33.2 +2.2**
comp=Z,0.3nm,0.6s,mb3.5,baz=313,slow=7.3,SNR=4.2
NVAR Mina Array Bea 68.08 57 P **P** **13 47 33.2 +2.2**
KIV Kislovodsk 69.51 312⇑*e*P **P** **13 47 41.4 +1.5**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,100nm,29.0s,MS3.9
KIV Kislovodsk 69.51 312 *e*P **P** **13 47 40.7 +0.8**
comp=Z,11nm,0.7s,mb4.9
NB2 NORSAR Subarra 69.58 339 P **P** **13 47 39.8 -0.6**
comp=Z,0.6nm,0.4s,mb3.9,baz=42,slow=5.9
NOA NORSAR Array B 69.58 339 P **P** **13 47 38.9 -1.5**
comp=Z,0.7nm,0.7s,mb3.7,baz=53,slow=7.3,SNR=4.0
PDAR Pinedale Array 70.39 49 P **P** **13 47 45.5 +0.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=4.1
AKASG Malin Array Be 71.42 323 P **P** **13 47 50.5 -1.1**
comp=Z,0.4nm,0.4s,mb3.7,baz=37,slow=6.7,SNR=4.5
AKASG Malin Array Be 71.42 323 *i* P **P** **13 47 52.2 +0.6**
AKASG Malin Array Be 71.42 323 P **P** **13 47 50.5 -1.1**
ANN Anapa 71.72 315 *e*P **P** **13 47 47.4 -6.0**
ANN *e* pP 13 48 07.0 -2.8
ANN *i* *PP pP 13 48 12.6 +2.9
ANN pmax pmax
comp=Z,26nm,0.9s,mb5.2
ULM Lac du Bonnet 71.93 37 P **P** **13 47 54.4 -0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=323,slow=5.1,SNR=2.2
STKA Stephens Creek 75.23 184 P **P** **13 48 14.1 +0.1**
comp=Z,2.1nm,0.9s,mb4.1,baz=64,slow=13,SNR=2.9
MORC Moravsky Berou 76.88 329 P **P** **13 48 23.4 0.0**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 76.88 329 P **P** **13 48 23.4 0.0**
comp=Z,1.7nm,0.8s,mb4.0
CLL Collm 77.24 332 *e*P **P** **13 48 25.0 -0.4**
BRTR Keskin Array B 77.30 313 P **P** **13 48 25.0 -0.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=69,slow=4.2,SNR=6.1
BRTR Keskin Array B 77.30 313⇓*e*P **P** **13 48 26.3 +0.5**
PSZ Piszkesteto 77.47 326 P **P** **13 48 26.8 +0.1**
PSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
PSZ Piszkesteto 77.47 326 P **P** **13 48 26.8 +0.1**
comp=Z,7.5nm,0.9s,mb4.6
SCHQ Schefferville 77.94 19 P **P** **13 48 28.2 -1.1**
comp=Z,2.2nm,0.6s,mb4.2,baz=342,slow=9.6,SNR=4.0
KHC Kasperske Hory 78.87 331⇓*e*P **P** **13 48 35.0 +0.6**
GERES GERESS Array B 79.06 330 LR LR 14 25 07.8
comp=Z,57nm,19.1s,MS3.9,baz=159,slow=37
TXAR Lajitas Array 83.15 56 P **P** **13 48 58.3 +1.1**
comp=Z,0.4nm,0.6s,mb3.7,baz=298,slow=3.8,SNR=6.9
TORD Torodi Ar. Bea 115.03 322 PKP PKiKP 13 55 11.1 -0.8
comp=Z,0.1nm,0.3s,baz=19,slow=2.6,SNR=5.4

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*CSEM **21** 13:45:29.2±1.1, 37.15N×24.47W, h5km, ML3.7, Error ellipse: s-maj=5.4km s-min=3.2km az=56.0, After PDA*
*PDA **21** 13:45:29.2±1.1, 37.15N×24.47W, h5km, MD3.3, ML3.7, Error ellipse: s-maj=5.4km s-min=3.2km az=56.0*
SVSA 21 13:45:29.2±1.1, 37.15N×24.47W, h5km, MD3.3, ML3.7, Error ellipse: s-maj=5.4km s-min=3.2km az=56.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**253**	*i* P	Pg	13 45 37.2	-1.5
PSMN				*e*S	Sg	13 45 43.8	-1.4
PSMN	**Pico do Norte,**	**0.49**	**253**	*e*S	Sg	13 45 43.8	-1.4
MIRA	**Miradouro**	**0.91**	**315**	*e*P	Pg	13 45 43.4	-3.2
MIRA				*i* S	Sg	13 45 54.5	-3.8
FRA1	**Furnas**	**0.92**	**311**	*e*P	Pg	13 45 43.7	-3.2
PCNG	**Congro**	**0.96**	**310**	*e*P	Pg	13 45 44.3	-3.3
PCNG				*e*S	Sg	13 45 56.1	-4.0
PCNG							
	467nm,0.3s						
PCNG	**Congro**	**0.96**	**310**	*e*P	Pg	13 45 44.3	-3.3
PCNG				*e*S	Sg	13 45 56.1	-4.0
PFAD	**Fenais da Ajud**	**0.97**	**316**	*i* P	Pg	13 45 44.3	-3.5
PFAD				*e*S	Sg	13 45 55.8	-4.5
VIF	**Vila Franca**	**0.97**	**308**	*e*P	Pg	13 45 44.4	-3.5
VIF				*e*S	Sg	13 45 56.2	-4.3
VIF							
	681nm,0.3s						
VIF	**Vila Franca**	**0.97**	**308**	*e*P	Pg	13 45 44.4	-3.5
VIF				*e*S	Sg	13 45 56.2	-4.3
PRCH	**Ribeira Ch**	**0.99**	**306**	*e*P	Pg	13 45 44.7	-3.5
PRCH				*i* S	Sg	13 45 56.7	-4.3
PRCH							
	1μm,0.2s						
PRCH	**Ribeira Ch**	**0.99**	**306**	*e*P	Pg	13 45 44.7	-3.5
PRCH				*i* S	Sg	13 45 56.7	-4.3
MESC	**Monte Escuro**	**1.01**	**310**	*i* P	Pg	13 45 45.0	-3.5
MESC				*e*S	Sg	13 45 57.3	-4.3
LFA	**Lagoa do Fogo**	**1.02**	**308**	*i* P	Pg	13 45 45.3	-3.4
PMAT	**Coroa da Mata**	**1.04**	**310**	*e*P	Pg	13 45 45.5	-3.6
PMAT				*e*S	Sg	13 45 57.7	-4.9
PMAT							
	257nm,0.2s						
PMAT	**Coroa da Mata**	**1.04**	**310**	*e*P	Pg	13 45 45.5	-3.6
PMAT				*e*S	Sg	13 45 57.7	-4.9
PVER	**Pico Vermelho**	**1.05**	**308**	*e*P	Pg	13 45 45.5	-3.9
PVER				*e*S	Sg	13 45 58.0	-5.0
PVER							
	404nm,0.3s						
PVER	**Pico Vermelho**	**1.05**	**308**	*e*P	Pg	13 45 45.5	-3.9
PVER				*e*S	Sg	13 45 58.0	-5.0
CML	**Cha da Macela**	**1.06**	**306**	*i* P	Pg	13 45 45.7	-3.8
CML				*i* S	Sg	13 45 58.1	-5.1
PDA	**Ponta Delgada**	**1.12**	**303**	*e*P	Pg	13 45 46.5	-4.2
PDA				*e*S	Sg	13 46 00.0	-5.2
FAC	**Faja de Cima**	**1.13**	**304**	*e*P	Pg	13 45 46.9	-3.9
FAC				*e*S	Sg	13 46 00.2	-5.2
PSET	**Sete Cidades**	**1.20**	**305**	*e*P	Pg	13 45 47.4	-4.8
PSET				*e*S	Sg	13 46 01.8	-6.0
PSET							
	777nm,0.1s						
PSET	**Sete Cidades**	**1.20**	**305**	*e*P	Pg	13 45 47.4	-4.8
PSET				*e*S	Sg	13 46 01.8	-6.0
PSAN	**Santo Antonio**	**1.22**	**306**	*e*P	Pg	13 45 48.2	-4.4
PSAN				*e*S	Sg	13 46 02.1	-6.3
PFET	**Feteiras**	**1.24**	**303**	*e*P	Pg	13 45 48.2	-4.8
PFET				*e*S	Sg	13 46 02.6	-6.5
SET2	**Ginetes**	**1.27**	**304**	*e*P	Pg	13 45 48.8	-4.7
SET4	**Mosteiros**	**1.28**	**305**	*e*P	Pn	13 45 48.9	-4.8
PFAV	**Pico das Favas**	**2.59**	**308**	*e*P	Pn	13 46 08.4	-3.3
PFAV				*e*S	Sn	13 46 36.8	-6.8
PFAV							
	92nm,0.3s						
PFAV	**Pico das Favas**	**2.59**	**308**	*e*P	Pn	13 46 08.4	-3.3
PFAV				*e*S	Sn	13 46 36.8	-6.8
RIB2	**Ribeirinha**	**2.62**	**306**	*e*P	Pn	13 46 08.7	-3.5
RIB2				*e*S	Sn	13 46 37.4	-7.0
RIB2							
	118nm,0.3s						
RIB2	**Ribeirinha**	**2.62**	**306**	*e*P	Pn	13 46 08.7	-3.5
RIB2				*e*S	Sn	13 46 37.4	-7.0
ADH	**Angra Heroismo**	**2.65**	**305**	*e*P	Pn	13 46 08.0	-4.6
ADH				*e*S	Sn	13 46 37.1	-8.1
PVNV	**Vila Nova**	**2.66**	**308**	*e*P	Pn	13 46 09.3	-3.5
PVNV				*e*S	Sn	13 46 38.3	-7.1
PVNV							
	76nm,0.3s						
PVNV	**Vila Nova**	**2.66**	**308**	*e*P	Pn	13 46 09.3	-3.5
PVNV				*e*S	Sn	13 46 38.3	-7.1
PPAD	**Pico dos Padre**	**2.71**	**306**	*e*P	Pn	13 46 10.0	-3.4
PPAD				*e*S	Sn	13 46 39.5	-7.1
PPAD							
	45nm,0.3s						
PPAD	**Pico dos Padre**	**2.71**	**306**	*e*P	Pn	13 46 10.0	-3.4
PPAD				*e*S	Sn	13 46 39.5	-7.1
PBIS	**Biscoitos**	**2.73**	**307**	*e*P	Pn	13 46 10.8	-2.8
PBIS				*e*S	Sn	13 46 40.6	-6.3
PBIS							
	27nm,0.3s						
PBIS	**Biscoitos**	**2.73**	**307**	*e*P	Pn	13 46 10.8	-2.8
PBIS				*e*S	Sn	13 46 40.6	-6.3
ASBA	**Santa Barbara**	**2.75**	**306**	*e*P	Pn	13 46 10.7	-3.2
ASBA				*e*S	Sn	13 46 40.9	-6.6
ASBA							
	77nm,0.2s						
ASBA	**Santa Barbara**	**2.75**	**306**	*e*P	Pn	13 46 10.7	-3.2
ASBA				*e*S	Sn	13 46 40.9	-6.6
PSBA	**Serra de Santa**	**2.77**	**307**	*e*P	Pn	13 46 10.4	-3.9
PSBA				*e*S	Sn	13 46 40.4	-7.8
PSBA							
	172nm,0.3s						
PSBA	**Serra de Santa**	**2.77**	**307**	*e*P	Pn	13 46 10.4	-3.9
PSBA				*e*S	Sn	13 46 40.4	-7.8
PIED	**Piedade**	**3.11**	**295**	*e*P	Pn	13 46 15.2	-3.7
PID	**Ribeirinha**	**3.17**	**295**	*e*P	Pn	13 46 15.8	-3.8
PID				*e*S	Sn	13 46 49.9	-7.9
PMAN	**Manadas**	**3.22**	**299**	*e*P	Pn	13 46 16.1	-4.3
PMAN				*e*S	Sn	13 46 50.6	-8.6
PMAN							
	82nm,0.3s						
PMAN	**Manadas**	**3.22**	**299**	*e*P	Pn	13 46 16.1	-4.3
PMAN				*e*S	Sn	13 46 50.6	-8.6
PBOI	**Pico dos Bois**	**3.35**	**294**	*e*P	Pn	13 46 18.7	-3.5
PTEI	**Pico do Teixo**	**3.36**	**295**	*e*P	Pn	13 46 20.5	-1.8
ROSA	**Rosais**	**3.37**	**299**	*e*P	Pn	13 46 18.6	-3.8
ROSA				*e*S	Sn	13 46 55.1	-7.7
PICO	**Pico**	**3.41**	**295**	*e*P	Pn	13 46 19.6	-3.4
PICO				*e*S	Sn	13 46 55.8	-8.0
PCND	**Candelaria**	**3.42**	**294**	*e*P	Pn	13 46 19.7	-3.5
CALA	**Caldeira**	**3.64**	**294**	*e*P	Pn	13 46 22.3	-3.9
CALA				*e*S	Sn	13 47 01.6	-7.9
PCED	**Cedros**	**3.66**	**295**	*e*P	Pn	13 46 22.4	-4.0
PCED				*e*S	Sn	13 47 00.5	-9.4
PCED							
	69nm,0.3s						
PCED	**Cedros**	**3.66**	**295**	*e*P	Pn	13 46 22.4	-4.0
PCED				*e*S	Sn	13 47 00.5	-9.4
PLUZ	**Luz**	**4.01**	**299**	*e*P	Pn	13 46 18.1	-13
PLUZ				*e*S	Sn	13 46 53.9	-25
PLUZ							
	21nm,0.1s						

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*ISCJB **21** 13:49:60.0±1.7, 62S±0.1×126.8E±0.3, h436km±21km, mb3.2/3, Error ellipse: s-maj=41.7km s-min=13.0km az=143.9*
*IDC **21** 13:50:02.8±2.3, 62.5S×126.98E, h458km±29km, mb2.9/3, mb1 3.3/6, mb1mx3.1/16, mbtmp4.0/6, Error ellipse: s-maj=50.8km s-min=12.9km az=74.0*
*NEIC **21** 13:50:02.5±1.5, 62.6S×126.86E, h457km±19km, mb4.9/2, Error ellipse: s-maj=30.3km s-min=14.5km az=80.0*
ISC 21 13:50:02.7±1.4, 63S±0.1×127.0E±0.3, h454km±18km, n13, σ0=73/14, mb3.3/3, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.37**	**140**⇓	*i* P	**P**	**13 52 03.1**	**+1.0**
	49nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.84**	**186**⇓	*i* P	**P**	**13 52 39.2**	**-0.6**
	10nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.84**	**186**	P	**P**	**13 52 39.3**	**-0.4**
	1.7nm,0.3s,baz=18,slow=9.3,SNR=69						
WRA	**Warramunga Arr**	**15.37**	**153**	P	**P**	**13 53 17.5**	**-0.1**
	1.2nm,0.3s,baz=329,slow=11,SNR=134						
WRA				S	**S**	**13 55 56.5**	**-2.1**
	0.5nm,0.3s,baz=324,slow=20,SNR=6.2						
WB2	**Warramunga Arr**	**15.37**	**153**	*e*P	**P**	**13 53 17.4**	**-0.2**
AS31	**Alice Springs**	**18.55**	**160**	*e*P	**P**	**13 53 50.9**	**+0.4**
ASPA	**Alice Springs**	**18.55**	**160**	*e*P	**P**	**13 53 50.9**	**+0.4**
ASAR	**Alice Springs**	**18.55**	**160**	P	**P**	**13 53 50.9**	**+0.4**
	1.1nm,0.3s,baz=334,slow=6.7,SNR=50						
ASAR				S	**S**	**13 56 57.1**	**+0.6**
	0.1nm,0.3s,baz=336,slow=21,SNR=8.7						
STKA	**Stephens Creek**	**28.92**	**154**	P	**P**	**13 55 23.9**	**+0.5**
	0.9nm,0.4s,mb3.6,baz=326,slow=7.3,SNR=8.0						
MJAR	**Matsushiro Arr**	**43.86**	**13**	P	**P**	**13 57 26.7**	**-0.6**
	0.8nm,0.5s,mb3.4,baz=187,slow=8.7,SNR=5.4						
MKAR	**Makanchi Array**	**65.99**	**328**	P	**P**	**14 00 02.7**	**-0.3**
	0.1nm,0.3s,mb2.9,baz=117,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**65.99**	**328**	P	**P**	**14 00 02.7**	**-0.3**
CPUP	**Villa Florida**	**147.34**	**173**	PKPbc	PKPbc	14 08 54.3	-0.1
	0.5nm,0.3s,baz=170,slow=6.1,SNR=3.4						

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*LDG **21** 14:23:26.0±0.1, 43.02N×0.17E, h9km, Md1.9/3, Ml1.6/2, Error ellipse: s-maj=1.7km s-min=1.0km az=12.0*
*STR **21** 14:23:26.3±0.1, 43.00N×0.16E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 21 14:23:26.4±0.5, 43.01N×0.16E, h9km±4km, mbLg1.0/6, 1C, Error ellipse: s-maj=3.1km s-min=2.2km az=178.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**300**	Pg	Pg	14 23 28.5	-0.1
LABF				Sg	Sg	14 23 30.4	+0.3
LABF	**Labassere**	**0.08**	**300**	P	Pg	14 23 28.5	-0.1
LABF				S	Sg	14 23 30.4	+0.3
EPF	**Esparros**	**0.13**	**80**	*e*Pg	Pg	14 23 29.2	-0.2
EPF				*e*Sg	Sg	14 23 31.1	-0.3
	14nm,0.2s						
EPF	**Esparros**	**0.13**	**80**	Pg	Pg	14 23 29.2	-0.2
EPF				Lg		14 23 31.1	
	7.2nm,0.2s						
VIEF	**Viey**	**0.16**	**219**	Pg	Pg	14 23 29.7	-0.2
VIEF				Sg	Sg	14 23 32.5	+0.2
VIEF	**Viey**	**0.16**	**219**	P	Pg	14 23 29.8	-0.1
VIEF				S	Sg	14 23 32.6	+0.3
RESF	**Ens**	**0.24**	**147**	Pg	Pg	14 23 31.1	-0.2
RESF				Sg	Sg	14 23 34.9	+0.4
RESF	**Ens**	**0.24**	**147**	P	Pg	14 23 31.1	-0.1
RESF				S	Sg	14 23 35.0	+0.5
EBIE	**Bielsa**	**0.32**	**183**	⇑Pg	Pg	14 23 32.5	-0.3
	2.1nm,0.1s,SNR=18						
EBIE				Lg		14 23 37.1	
	1.9nm,0.2s,SNR=7.9						
MELF	**Melles**	**0.46**	**107**	S	Sg	14 23 41.5	+0.1
ETSF	**Etsaut**	**0.54**	**259**	*e*Pg	Pg	14 23 36.4	-0.5
ETSF				*e*Sg	Sg	14 23 43.3	-0.8
	4.9nm,0.2s						
ETSF	**Etsaut**	**0.54**	**259**	Pg	Pg	14 23 36.4	-0.5
ETSF				Lg		14 23 43.3	
	2.5nm,0.2s						
CSOR	**Sort**	**0.95**	**131**	P	Pg	14 23 44.4	-0.4
CSOR				S	Sg	14 23 56.5	-0.7
SJPF	**Ste Jean**	**1.02**	**276**	*e*Pg	Pg	14 23 45.4	-0.7
SJPF				*e*Sg	Sg	14 23 59.7	+0.3
	1.5nm,0.3s						
SJPF	**Ste Jean**	**1.02**	**276**	Pg	Pg	14 23 45.4	-0.7
SJPF				Lg		14 23 59.7	
	0.8nm,0.3s						
CAVN	**Les Avellanes**	**1.21**	**159**	P	Pb	14 23 48.9	-0.5
CAVN				S	Sb	14 24 04.7	-0.4
	2.2nm,0.3s						
ESAC	**San Caprasio**	**1.37**	**200**	Pg	Pg	14 23 52.8	+0.1
	4.6nm,0.2s,SNR=7.9						
ESAC				Lg		14 24 10.9	
	1.9nm,0.5s,SNR=7.9						
MTLF	**Montolieu**	**1.54**	**77**	*e*Pg	Pg	14 23 54.3	-1.7
MTLF				*e*Sg	Sg	14 24 14.0	-1.9
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.54**	**77**	Pg	Pg	14 23 54.3	-1.7
MTLF				Lg		14 24 14.0	
	0.6nm,0.3s						
EPOB	**Poblet**	**1.79**	**157**	Pg	Pg	14 23 59.4	-1.4
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		14 24 22.6	
	1.3nm,0.2s,SNR=7.9						

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*ISCJB **21** 14:46:25.8±2.9, 44.2N±0.10×94.79E±0.09, h27km±20km, mb4.3/19, MS3.7/2, Error ellipse: s-maj=20.0km s-min=8.9km az=81.0*
*BJI **21** 14:46:27.4, 42.0N×94.65E, h46km, mB4.7, mb4.6, Ms4.3, Msz4.0*
*NEIC **21** 14:46:28.4±0.5, 45.0N×94.82E, h30km, mb4.5/7, Error ellipse: s-maj=18.0km s-min=6.4km az=222.0*
*IDC **21** 14:46:30.6±5.8, 46.9N×95.05E, h42km±50km, mb3.7/9, mb1 3.8/10, mb1mx3.6/22, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=72.3km s-min=17.5km az=51.0*
ISC 21 14:46:28.8±2.8, 44.3N±0.10×94.77E±0.09, h33km±20km, n26, σ0=89/29, mb4.3/19, MS3.7/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**111**	P	**Pn**	**14 47 35.3**	**+1.4**
	1.9nm,0.3s,baz=307,slow=8.6,SNR=6.9						
PSI				S	**Sn**	**14 48 23.6**	**-0.9**
	1.7nm,0.3s,baz=290,slow=22,SNR=4.0						
KULM	**Kulim**	**5.92**	**81**	*e*Pn	**Pn**	**14 47 53.1**	**-1.0**
KULM				*e*Sn	**Sn**	**14 48 54.0**	**-6.7**
CD2	**Chengdu**	**27.67**	**17**	*e*P	**P**	**14 52 15.3**	**+1.7**
CD2				PP		14 53 04.5	
CD2				S	**S**	**14 56 54.3**	**+0.9**
CD2				XS	sS	14 57 10.0	+0.9
CD2				SS		14 58 15.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,90nm,10.8s						
CD2				LR	LR		
	comp=Z,110nm,13.2s,MS3.6						
WMQ	**Urumqi**	**39.72**	**352**	*e*P	**P**	**14 53 59.0**	**+0.9**
WMQ				AP	pP	14 54 09.0	+1.2
WMQ				XP	sP	14 54 13.0	+1.2
WMQ				*e*S	**S**	**15 00 00.0**	**+0.3**
WMQ				XS	sS	15 00 17.0	+1.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,0

AAK	Ala-Archa	42.10	338	*eP*	P	14 54 18.2	+0.5
	comp=Z,1.7nm,0.6s,mb3.9						
MKAR	Makanchi Array	43.56	348	P	P	14 54 29.1	-0.5
	comp=Z,0.5nm,0.3s,mb3.6,baz=166,slow=7.4,SNR=18						
SONM	Songino Array	44.38	11	PcP	PcP	14 56 19.9	+0.2
	comp=Z,0.3nm,0.5s,baz=238,slow=2.7,SNR=3.2						
WRA	Warramunga Arr	45.80	123	P	P	14 54 48.2	+0.8
	comp=Z,2.2nm,0.6s,mb4.3,baz=302,slow=9.3,SNR=24						
WRAB	Tennant Creek	45.81	123	*eP*	P	14 54 48.1	+0.6
	comp=Z,8.7nm,1.0s,mb4.6						
WB2	Warramunga Arr	45.82	123	*eP*	P	14 54 47.4	-0.1
ASAR	Alice Springs	47.27	128	P	P	14 54 59.7	+0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=299,slow=7.7,SNR=15						
ZAL	Zalesovo	50.02	352	P	P	14 55 18.3	-1.8
	comp=Z,1.1nm,0.4s,mb4.2,baz=258,slow=4.1,SNR=4.6						
BVAR	Borovoye Array	52.43	342	P	P	14 55 38.2	+0.1
	comp=Z,2.0nm,0.6s,mb4.2,baz=143,slow=9.5,SNR=15						
BRVK	Borovoye	52.49	342	*eP*	P	14 55 37.8	-0.8
	comp=Z,2.1nm,0.7s,mb4.2						
ZRNK	Zerenda	52.82	341	*eP*	P	14 55 40.7	-0.2
	comp=Z,2.3nm,0.8s,mb4.2						
CHKZ	Chkalovo	52.92	342	*eP*	P	14 55 41.6	-0.2
	comp=Z,4.7nm,0.7s,mb4.5						
CTAO	Charters Tower	56.12	118	P	P	14 56 05.5	+0.5
	comp=Z,7.9nm,1.1s,mb4.7						
BRTR	Keskin Array B	65.16	312	P	P	14 57 08.2	+1.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=141,slow=7.5,SNR=4.3						
HNR	Honiara	66.39	102	*eP*	P	14 57 13.6	-0.9
	comp=Z,65nm,1.2s,mb5.5						
AKASG	Malin Array Be	71.24	322	P	P	14 57 44.0	-0.7
	comp=Z,0.4nm,0.3s,mb3.8,baz=94,slow=4.8,SNR=4.9						
AKASG	Malin Array Bn	71.24	322	P	P	14 57 44.0	-0.7
JOF	Joensuu	74.21	335	*ep*	P	14 58 13.4	+11
FINES	FINESS Array B	76.03	333	P	P	14 58 12.9	+0.1
	comp=Z,0.9nm,0.5s,mb4.0,baz=99,slow=5.6,SNR=10						
KAF	Kangasniemi	76.13	333	*ep*	P	14 58 12.0	-1.4
ARCES	ARCESS Array B	78.70	340	P	P	14 58 27.8	+0.1
	comp=Z,0.9nm,0.4s,mb4.0,baz=89,slow=6.3,SNR=8.7						
SBA	Scott Base	90.55	168	*eP*	P	14 59 26.5	-1.0
	comp=Z,2.6nm,0.6s,mb4.7						

WEL 21 14:53:23.0±0.5, 4585S×16644E, h5km, ML3.9/14, Error ellipse: s-maj=5.1km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.62	54	P*	Pb	14 53 35.5	-0.9
DCZ				SG	Sg	14 53 44.7	+1.6
WHZ	Wether Hill Ro	1.05	93	P*	Pb	14 53 42.8	-0.9
WHZ				S*	Sb	14 53 57.0	-0.8
MLZ	Mavora Lakes	1.32	68	P*	Pb	14 53 46.9	-1.3
MLZ				S*	Sb	14 54 05.2	-0.2
APZ	The Paps	1.46	133	PN	Pn	14 53 47.9	-2.1
APZ				SN	Sn	14 54 05.7	-3.7
MSZ	Milford Sound	1.58	42	PN	Pn	14 53 49.9	-1.7
SYZ	Scrubby Hill	2.00	111	PN	Pn	14 53 57.0	-0.4
SYZ				SN	Sn	14 54 21.8	-1.0
WKZ	Wanaka	2.09	62	PN	Pn	14 53 59.6	+1.0
EAZ	Earnscleugh	2.11	74	PN	Pn	14 54 00.4	+1.4
TUZ	Tuapeka	2.23	94	PN	Pn	14 54 01.0	+0.3
LBZ	Lake Benmore	3.03	62	PN	Pn	14 54 11.4	-0.2
ODZ	Otahua Downs	3.07	76	PN	Pn	14 54 11.7	-0.4
RPZ	Rata Peaks	3.92	59	PN	Pn	14 54 23.0	-0.8
LTZ	Lake Taylor	5.19	56	PN	Pn	14 54 40.3	-1.0
THZ	Tophouse	6.21	51	PN	Pn	14 54 55.4	0.0

IDC 21 14:56:17.8±8.7, 1320N×12042E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=241.3km s-min=11.0km az=108.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.03	29	Pg	Pg	14 56 37.3	-0.2
	34nm,0.3s,baz=292,slow=2.7,SNR=43						
TGY				Lg		14 56 52.1	
	204nm,0.3s,baz=22,slow=19,SNR=10						
WRA	Warramunga Arr	35.67	157	P	P	15 03 16.5	-1.1
	1.2nm,0.8s,baz=335,slow=9.6,SNR=10						
ASAR	Alice Springs	38.94	160	P	P	15 03 47.0	+1.6
	0.7nm,0.6s,baz=340,slow=7.4,SNR=20						
STKA	Stephens Creek	49.20	156	P	P	15 05 07.8	0.0
	1.4nm,0.9s,baz=345,slow=12,SNR=2.2						

BJI 21 15:01:47.8, 4261N×8638E, h16km, ML2.9, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.55	38	⇓*i*PG	Pg	15 02 14.8	-2.7
WMQ				SG	Sg	15 02 34.0	-3.6
WMQ				Smax			
	comp=N,132nm,0.3s						
WMQ				Smax			
	comp=E,320nm,0.3s						
MK31	Makanchi Array	5.10	327	⇑Pn	Pn	15 03 03.8	+0.3
	comp=E,1.2nm,0.5s,baz=142,slow=14,SNR=35						
MK31				⇓Lg		15 04 19.5	
	comp=E,4.3nm,0.6s,baz=133,slow=28,SNR=9.8						
TKM2	Tokmak 2	7.94	276	⇑Lg		15 05 30.0	
	comp=E,0.1nm,0.2s						

*NEIC **21** 15:13:58.6, 3741S×17676E, h175km, MG3.8(WEL), After WEL.*

WEL 21 15:13:58.3±0.2, 3741S×17672E, h177km±1km, ML3.8/13, Error ellipse: s-maj=3.2km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.90	160	*eP*	Pn	15 14 25.1	+0.2
URZ	Urewera	0.90	160	PN	Pn	15 14 25.1	+0.2
URZ				SN	Sn	15 14 45.6	+0.1
MWZ	Matawai	1.12	146	*eP*	Pn	15 14 26.8	+0.2
MWZ				S	Sn	15 14 48.3	-0.1
MWZ	Matawai	1.12	146	PN	Pn	15 14 26.8	+0.2
MWZ				SN	Sn	15 14 48.3	-0.1
MXZ	Matakaoa Point	1.27	97	P	Pn	15 14 28.0	+0.2
MXZ	Matakaoa Point	1.27	97	PN	Pn	15 14 28.0	+0.1
MXZ				SN	Sn	15 14 50.8	+0.2
PUZ	Puketiti	1.39	119	PN	Pn	15 14 28.8	-0.1
PUZ				SN	Sn	15 14 52.6	+0.1
BKZ	Black Stump Fm	1.76	186	*eP*	Pn	15 14 32.4	-0.2
BKZ	Black Stump Fm	1.76	186	PN	Pn	15 14 32.4	-0.1
BKZ				SN	Sn	15 14 58.6	-0.5
KNZ	Kokohu	1.78	155	P	Pn	15 14 32.9	+0.2
KNZ				S	Sn	15 14 58.4	-0.9
KNZ	Kokohu	1.78	155	PN	Pn	15 14 32.9	+0.2
KNZ				SN	Sn	15 14 58.4	-0.9
OTVZ	Oturere	1.94	205	PN	Pn	15 14 35.3	+0.9
TWVZ	Taurewa	1.94	211	P	Pn	15 14 35.3	+0.8
TWVZ	Taurewa	1.94	211	PN	Pn	15 14 35.3	+0.8
MOVZ	Moawhango	2.13	201	P	Pn	15 14 36.2	-0.4
MOVZ	Moawhango	2.13	201	PN	Pn	15 14 36.2	-0.3
PXZ	Pawanui	2.62	178	PN	Pn	15 14 41.7	-0.5
WPHZ	Waipukurau	2.66	185	PN	Pn	15 14 42.0	-0.7
WAZ	Wanganui	2.71	210	*eP*	Pn	15 14 43.3	+0.1
WAZ	Wanganui	2.71	210	PN	Pn	15 14 43.3	+0.1
TSZ	Takapari Road	2.71	192	P	Pn	15 14 42.4	-0.9
TSZ	Takapari Road	2.71	192	PN	Pn	15 14 42.4	-0.8
BFZ	Birch Farm	3.29	186	*eP*	Pn	15 14 48.8	-1.5
BFZ	Birch Farm	3.29	186	PN	Pn	15 14 48.8	-1.4
MRZ	Mangatainoka R	3.37	195	*eP*	Pn	15 14 49.3	-2.0
MRZ	Mangatainoka R	3.37	195	PN	Pn	15 14 49.3	-1.9
TIWZ	Tintock	3.42	191	PN	Pn	15 14 49.0	-2.9
KIW	Kapiti Island	3.72	202	P	Pn	15 14 53.3	-2.4
KIW	Kapiti Island	3.72	202	PN	Pn	15 14 53.3	-2.4
MTW	Mount Morrison	3.86	194	P	Pn	15 14 54.8	-2.7
MTW	Mount Morrison	3.86	194	PN	Pn	15 14 54.8	-2.7
CAW	Cannon Point	3.91	199	P	Pn	15 14 55.5	-2.6
CAW	Cannon Point	3.91	199	PN	Pn	15 14 55.5	-2.5
DUWZ	D'Urville Isla	4.03	212	PN	Pn	15 14 57.4	-2.2
TRWZ	Traveller	4.06	191	PN	Pn	15 14 57.5	-2.6
PAWZ	Paruwai Farm	4.09	194	P	Pn	15 14 57.5	-2.9
PAWZ	Paruwai Farm	4.09	194	PN	Pn	15 14 57.5	-2.9
MRW	Makara Radio	4.12	202	P	Pn	15 14 57.9	-2.9
MRW	Makara Radio	4.12	202	PN	Pn	15 14 57.9	-2.9
WEL	Wellington	4.16	201	P	Pn	15 14 58.6	-2.6
WEL	Wellington	4.16	201	PN	Pn	15 14 58.6	-2.6
MSWZ	Moikau Station	4.16	195	P	Pn	15 14 58.4	-2.9
MSWZ	Moikau Station	4.16	195	PN	Pn	15 14 58.4	-2.9
SNZO	South Karori	4.20	201	P	Pn	15 14 58.7	-3.0
SNZO	South Karori	4.20	201	PN	Pn	15 14 58.7	-3.0
TCW	Tory Channel	4.24	206	P	Pn	15 14 59.5	-2.9
TCW	Tory Channel	4.24	206	PN	Pn	15 14 59.5	-2.8
TUWZ	Tuamarina	4.55	207	PN	Pn	15 15 03.4	-2.9
NNZ	Nelson	4.60	213	*eP*	Pn	15 15 03.9	-3.0
NNZ	Nelson	4.60	213	PN	Pn	15 15 03.9	-3.0
BSWZ	Blackbirch Sta	4.83	206	*eP*	Pn	15 15 07.0	-2.9
BSWZ	Blackbirch Sta	4.83	206	PN	Pn	15 15 07.0	-2.8
THZ	Tophouse	5.25	213	*eP*	Pn	15 15 12.5	-2.9
THZ	Tophouse	5.25	213	PN	Pn	15 15 12.5	-2.9
KHZ	Kahutara	5.57	205	*eP*	Pn	15 15 15.9	-3.6
KHZ	Kahutara	5.57	205	PN	Pn	15 15 15.9	-3.6
LTZ	Lake Taylor	6.36	211	*eP*	Pn	15 15 26.4	-3.5
LTZ	Lake Taylor	6.36	211	PN	Pn	15 15 26.4	-3.4

*ISCJB **21** 15:33:14.5±0.7, 52S±01×1027E±02, h42km, mb4.3/18, Error ellipse: s-maj=30.3km s-min=8.6km az=96.4*
*NEIC **21** 15:33:15.7±0.7, 530S×10255E, mb4.4/6, Error ellipse: s-maj=22.5km s-min=9.2km az=50.0*
*IDC **21** 15:33:16.6±1.0, 520S×10275E, h40km±6km, mb3.9/9, mb1 4.0/9, mb1mx3.8/19, mbtmp4.1/9, MS3.4/1, Ms1 3.4/1, ms1mx2.4/23, Error ellipse: s-maj=45.2km s-min=13.0km az=52.0*

ISC 21 15:33:16.6±0.7, 53S±01×1026E±01, h44km, h44km±2.0km: pP-P, n29, σ0§94/27, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	8.86	335	LR	LR	15 39 09.6	
	comp=Z,271nm,20.8s,baz=151,slow=40						
KKM	Kota Kinabalu	17.67	50	P	Pn	15 37 20.7	+1.3
FITZ	Fitzroy Crossi	25.85	121	P	P	15 38 43.8	-0.2
	2.1nm,0.8s,mb3.7,baz=270,slow=6.1,SNR=3.7						
WRA	Warramunga Arr	34.12	118	P	P	15 39 56.7	-0.6
	0.6nm,0.4s,mb3.9,baz=304,slow=9.1,SNR=9.9						
WRAB	Tennant Creek	34.13	118	P	P	15 39 57.0	-0.2
	4.0nm,0.8s,mb4.4						
AS31	Alice Springs	35.24	124	*eP*	P	15 40 07.3	+0.5
ASAR	Alice Springs	35.24	124	P	P	15 40 07.3	+0.5
	1.6nm,0.8s,mb4.0,baz=302,slow=8.3,SNR=21						
ASAR				pP	pP	15 40 17.5	-1.1
	1.0nm,0.4s,baz=299,slow=7.8,SNR=8.6						
LSA	Lhasa	36.51	343	*eP*	P	15 40 18.4	+0.7
	3.1nm,0.7s,mb4.2						
PKI	Pulchoki	36.67	334	*eP*	P	15 40 19.8	+0.7
	4.8nm,0.5s,mb4.6						
GUN	Gumba	36.76	335	*eP*	P	15 40 20.9	+1.0
	22nm,0.8s,mb5.1						
DMN	Daman	36.83	334	*eP*	P	15 40 21.7	+1.2
KKN	Kakani	36.91	334	*eP*	P	15 40 21.9	+0.7
GKN	Gorkha	37.38	333	*eP*	P	15 40 25.6	+0.5
KOLN	Koldanda	37.66	332	*eP*	P	15 40 28.3	+0.8
	12nm,0.9s,mb4.6						
STKA	Stephens Creek	45.03	131	*eP*	P	15 41 28.9	+1.0
	4.2nm,0.5s,mb4.5						
STKA	Stephens Creek	45.03	131	P	P	15 41 28.6	+0.6
	6.1nm,0.6s,mb4.6,baz=285,slow=8.3,SNR=25						
STKA	Stephens Creek	45.03	131	*eP*	P	15 41 28.8	+0.8
SONM	Songino Array	53.03	3	P	P	15 42 29.5	+0.3
	2.8nm,0.8s,mb4.3,baz=182,slow=7.8,SNR=22						
MJAR	Matsushiro Arr	53.31	36	P	P	15 42 29.3	-1.9
	1.1nm,0.8s,mb3.8,baz=210,slow=8.0,SNR=5.6						
MK31	Makanchi Array	54.91	343	*eP*	P	15 42 42.0	-1.0
MKAR	Makanchi Array	54.91	343	P	P	15 42 42.5	-0.4
	1.8nm,0.4s,mb4.5,baz=151,slow=9.0,SNR=52						
MKAR				pP	pP	15 42 55.1	-0.2
	3.9nm,0.6s,baz=142,slow=7.4,SNR=14						
ZAL	Zalesovo	60.90	348	P	P	15 43 24.1	-0.7
	2.4nm,0.5s,mb4.6,baz=290,slow=4.3,SNR=11						
ZAL				pP	pP	15 43 36.0	-1.4
	1.8nm,0.4s,baz=306,slow=3.6,SNR=4.5						
ZAL	Zalesovo	60.90	348	P	P	15 43 24.1	-0.7
ZAL				pP	pP	15 43 36.0	-1.4
BRVK	Borovoye	64.24	339	*eP*	P	15 43 45.7	-1.4
	2.6nm,0.7s,mb4.4						
ZRNK	Zerenda	64.62	338	*eP*	P	15 43 48.3	-1.3
	2.1nm,0.7s,mb4.3						
CHKZ	Chkalovo	64.62	340	*eP*	P	15 43 48.3	-1.3
	2.2nm,0.7s,mb4.3						
YAK	Yakutsk	70.31	13	P	P	15 44 22.1	-3.5
	6.1nm,0.6s,mb4.7						
BRTR	Keskin Array B	77.46	312	P	P	15 45 07.5	+0.2
	0.5nm,0.7s,mb3.6,baz=138,slow=7.6,SNR=5.3						
BRTR				pP	pP	15 45 20.8	+0.5
	0.7nm,0.6s,baz=122,slow=6.6,SNR=5.1						
TXAR	Lajitas Array	145.54	43	PKPbc	PKPbc	15 52 51.6	+1.4
	2.0nm,0.6s,baz=307,slow=1.1,SNR=34						

*IDC **21** 15:40:57.2±0.6, 1834N×11937E, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.2/24, mbtmp4.1/17, ML4.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=39.4km s-min=12.4km az=67.0*
*MAN **21** 15:40:60.0, 1822N×119.14E, h15km, mb4.0, ML5.0, MS5.0*
*MOS **21** 15:41:00.6±0.9, 1825N×119.31E, h33km, mb5.0/23, Error ellipse: s-maj=16.1km s-min=6.6km az=111.5*
*NEIC **21** 15:41:01.6±0.2, 1835N×11947E, mb4.6/28, Error ellipse: s-maj=9.5km s-min=4.9km az=76.0*
*ISCJB **21** 15:41:02.5±0.7, 1823N±004×11928E±005, h49km±7km, mb4.5/51, MS3.8/11, Error ellipse: s-maj=8.9km s-min=5.6km az=135.9*
*BJI **21** 15:41:06.4, 1886N×11932E, h42km, mB4.6, mb4.4, ML3.9, Ms4.1, Msz3.9*

ISC 21 15:41:03.7±0.6, 1827N±004×11933E±005, h44km±6km, h32km±.8km: pP-P, n121, σ1§02/130, mb4.5/51, MS3.8/11, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.46	115	*eP*	Pn	15 41 26.4	-1.2
BOLP	Bolinao	1.96	163	*eP*	Pn	15 41 33.1	-1.4
BCPH	Baguio City Da	2.23	147	⇑*iP*	Pn	15 41 37.3	-0.8
BCPH				*i* S	Sn	15 42 05.5	+1.1
SCZP	Santa Cruz	2.54	167	*eP*	Pn	15 41 41.6	-0.9
SGCP	Mt. Cagua	2.58	90	*eP*	Pn	15 41 43.7	+0.7
CAUP	Cauayan	2.72	119	*eP*	Pn	15 41 47.1	+2.1
PALP	Palanan	3.19	112	⇓*iP*	Pn	15 41 53.3	+1.9
PALP				*i* S	Sn	15 42 36.2	+8.1
PALP	Palanan	3.19	112	*eP*	Pn	15 41 53.1	+1.8
PALP				*e*S	Sn	15 42 33.1	+4.9
BALP	Baler	3.31	139	*eP*	Pn	15 41 54.3	+1.2
TGY	Tagaytay City	4.43	159	Pn	Pn	15 42 08.1	-0.2
	28nm,0.3s,baz=230,slow=7.9,SNR=2.6						
NACB	Ninganchiao	6.24	19	*e*Pn	Pn	15 42 28.0	-5.2
BUSP	Coron	6.29	172	*eP*	Pn	15 42 34.3	+0.4
PVCP	Virac	6.57	134	*eP*	Pn	15 42 43.1	+5.3
YHNB	Yeheng	6.64	16	*e*Pn	Pn	15 42 36.4	-2.4
ENPP	El Nido	7.03	179	*eP*	Pn	15 42 42.9	-1.1
QIZ	Qiongzhong	9.02	276	*e*Pn	Pn	15 43 05.1	-6.2
QIZ				*e*Sn	Sn	15 44 41.6	-10
NJ2	Nanjing	13.73	358	*eP*	Pn	15 44 16.8	+1.1
NJ2				AP		15 44 24.3	
NJ2				PP		15 44 26.3	
NJ2				XP		15 44 27.5	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,160nm,10.5s						
NJ2				LR	LR		
	comp=N,700nm,11.3s						
NJ2				LR	LR		
	comp=E,530nm,12.9s						
KMI	Kunming	16.85	297	P	Pn	15 44 59.1	+2.8
KMI				AP	pP	15 45 08.1	-0.2
KMI				XP	sP	15 45 14.5	+0.6
KMI				AMB	AMB		
	comp=Z,12nm,1.3s						
KMI				LR	LR		
	comp=N,409nm,11.5s						
KMI				LR	LR		
	comp=E,390nm,14.1s						
KMI				LR	LR		
	comp=Z,325nm,17.3s						
KMI	Kunming	16.85	297	P	Pn	15 44 59.1	+2.8
	comp=Z,12nm,1.3s						
KMI				pP	pP	15 45 08.1	-0.2
KMI				sP	sP	15 45 14.5	+0.6
XAN	Xi'an	18.25	331	P	Pn	15 45 12.3	-1.3
XAN				AP	pP	15 45 20.5	-3.4
XAN				AMB	AMB		
	comp=Z,6.0nm,1.4s						
KSM	Kuching	18.90	209	*eP*	Pn	15 45 21.7	+0.3
CD2	Chengdu	18.91	315	*eP*	Pn	15 45 22.4	+0.8
CD2				AP	pP	15 45 30.3	-0.9
CD2				XP	sP	15 45 34.9	-1.8
CD2				PP		15 45 39.3	
CD2				S	S	15 48 49.4	-3.8
CD2				XS	sS	15 49 02.0	-8.0
CD2				AMB	AMB		
	comp=Z,30nm,1.2s						
CD2				AMB	AMB		
	comp=Z,200nm,7.2s						
CD2				LR	LR		
	comp=N,550nm,13.2s						
CD2				LR	LR		
	comp=E,730nm,15.6s						
CD2				LR	LR		
	comp=Z,440nm,16.8s						
BJT	Baijiatuau	21.84	353	*eP*	P	15 45 51.0	-1.4
BJT				pmax	pmax		
	comp=Z,51nm,1.2s						
BJT	Baijiatuau	21.84	353	*eP*	P	15 45 51.0	-1.4
	comp=Z,51nm,1.2s,mb4.8						
BJI	Beijing	21.86	353	*eP*	P	15 45 53.3	+0.7
BJI				S	S	15 49 42.3	-9.4
BJI				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.5						
BJI				LR	LR		
	comp=N,201nm,10.3s,MS3.9						
BJI				LR	LR		
	comp=E,176nm,13.3s,MS3.9						
BJI				LR	LR		
	comp=Z,115nm,23.6s						
BJI	Beijing	21.86	353	*eP*	P	15 45 53.3	+0.7
	comp=Z,25nm,1.2s,mb4.5						
BJI				S	S	15 49 42.3	-9.4
BJI				LR	LR		
	comp=Z,120nm,23.6s,MS3.2						
LZH	Lanzhou	22.41	325	*eP*	P	15 46 02.0	+3.6
LZH				AP		15 46 08.4	
LZH				XP	sP	15 46 13.1	-1.5
LZH				XS	sS	15 50 15.0	-4.7
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,170nm,5.4s						
LZH				LR	LR		
	comp=E,770nm,12.6s						
LZH				LR	LR		
	comp=Z,960nm,14.7s,MS4.4						
LZH	Lanzhou	22.41	325	*eP*	P	15 46 02.0	+3.6
LZH				*PP		15 46 08.4	
LZH				*SP	sP	15 46 13.1	-1.5
LZH						15 46 32.0	
LZH				S	S	15 50 05.3	+3.0
LZH				*SS	sS	15 50 15.0	-4.7
LZH				*e*SS		15 50 50.0	
LZH				pmax	pmax		
	comp=Z,35nm,1.5s,mb4.6						
LZH				MLR	MLR		
	comp=Z,960nm,14.7s,MS4.4						
LZH	Lanzhou	22.41	325	*eP*	P	15 46 02.0	+3.6
	comp=Z,35nm,1.5s,mb4.6						
LZH				pP		15 46 08.4	
LZH				sP	sP	15 46 13.1	-1.5
LZH				PP		15 46 32.0	
LZH				S	S	15 50 05.3	+3.0
LZH				sS	sS	15 50 15.0	-4.7
LZH				*e*SS		15 50 50.0	
LZH				LR	LR		
	comp=Z,960nm,14.7s,MS4.4						
HHC	Hu-ho-hao-te	23.47	345	*eP*	P	15 46 09.5	+0.1
HHC				AP		15 46 19.0	
HHC				XP	sP	15 46 23.3	-2.6
HHC				PP		15 46 41.1	
HHC				PCP	PcP	15 49 55.4	+1.2
HHC				XS	sS	15 50 32.1	-6.8
HHC				PCS	PcS	15 53 36.4	+2.9
HHC				AMB	AMB		
	comp=Z,22nm,0.5s,mb4.8						
HHC				LR	LR		
	comp=N,165nm,15.3s,MS3.8						
HHC				LR	LR		
	comp=E,223nm,15.4s,MS3.8						
HHC				LR	LR		
	comp=Z,167nm,16.2s,MS3.6						
MAJO	Matsushiro	24.66	39	*eP*	P	15 46 14.9	-5.4
MAJO				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.9						
MAJO	Matsushiro	24.66	39	*eP*	P	15 46 14.8	-5.4
	comp=Z,3.1nm,0.7s,mb4.0						
MJAR	Matsushiro Arr	24.66	39	P	P	15 46 19.2	-1.1
	comp=Z,1.4nm,0.7s,mb3.6,baz=230,slow=7.3,SNR=6.8						
GUMO	Guam	24.99	97	LR	LR	15 53 47.6	
	comp=Z,164nm,19.1s,MS3.6,baz=312,slow=31						
VLA	Vladivostok	26.96	21	*i* P	P	15 46 43.2	+2.1
VLA				pmax	pmax		
	comp=Z,47nm,1.4s,mb4.8						
MDJ	Mudanjiang	27.64	16	P	P	15 46 46.6	-0.6
MDJ				AP	pP	15 46 55.4	-3.4
MDJ				XP	sP	15 46 59.1	-5.0
MDJ				PCP	PcP	15 50 03.4	-0.2
MDJ				S	S	15 51 27.3	+1.4
MDJ				XS	sS	15 51 42.3	-3.2
MDJ				SCP	ScP	15 53 41.6	+0.9
MDJ				PCS	PcS	15 53 45.3	-0.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,33nm,4.8s						
MDJ	Mudanjiang	27.64	16	*eP*	P	15 46 46.4	-0.8
	comp=Z,10nm,1.0s,mb4.4						
LSA	Lhasa	28.07	299	*eP*	P	15 46 51.8	+0.8
LSA				*e*PP	pP	15 47 00.6	-2.1
LSA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
LSA	Lhasa	28.07	299	*eP*	P	15 46 51.8	+0.8
	comp=Z,10nm,0.9s,mb4.5						
LSA				*ep*P	pP	15 47 00.6	-2.1
SONM	Songino Array	31.32	343	P	P	15 47 18.8	-1.1
	comp=Z,1.1nm,0.7s,mb3.8,baz=156,slow=9.2,SNR=7.8						
SONM				LR	LR	15 59 41.5	
	comp=Z,131nm,20.

WRA Warramunga Arr 40.73 158 P **P** **15 48 39.7 -0.5**
comp=Z,2.8nm,1.0s,mb3.9,baz=338,slow=9.3,SNR=12
WRA PcP PcP 15 50 42.6 +1.6
comp=Z,0.8nm,0.6s,baz=343,slow=3.2,SNR=6.0
WB2 Warramunga Arr 40.74 158 *e*P **P** **15 48 40.0 -0.3**
MKAR Makanchi Array 41.62 321 P **P** **15 48 47.8 +0.3**
comp=Z,1.5nm,1.0s,mb3.6,baz=118,slow=9.7,SNR=7.0
MKAR PcP PcP 15 50 44.6 +0.7
comp=Z,0.8nm,0.7s,baz=110,slow=4.2,SNR=3.7
KRAR Krasnoyarsk 42.64 338 *i* P **P** **15 48 57.7 +1.9**
KRAR pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
AS31 Alice Springs 44.04 161 *e*P **P** **15 49 07.8 +0.7**
ASPA Alice Springs 44.04 161 *e*P **P** **15 49 07.8 +0.7**
ASAR Alice Springs 44.05 161 P **P** **15 49 07.8 +0.6**
comp=Z,2.1nm,0.6s,mb4.1,baz=342,slow=7.0,SNR=37
ASAR LR LR 16 07 06.5
comp=Z,104nm,19.6s,MS3.8,baz=353,slow=36
YAK Yakutsk 44.31 7 *i* P **P** **15 49 08.9 -0.4**
YAK pmax pmax
comp=Z,12nm,0.8s,mb4.7
YAK Yakutsk 44.31 7 *e*P **P** **15 49 07.6 -1.7**
comp=Z,4.9nm,0.8s,mb4.3
ZAL Zalesovo 44.42 331 P **P** **15 49 10.3 +0.1**
comp=Z,0.8nm,0.4s,mb3.8,baz=27,slow=1.9,SNR=6.8
ZAL LR LR 16 08 32.9
comp=Z,46nm,20.4s,MS3.4,baz=169,slow=37
AAK Ala-Archa 44.96 313 *i* P **P** **15 49 15.3 +0.8**
AAK pmax pmax
comp=Z,40nm,1.5s,mb5.0
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.8
AAK Ala-Archa 44.96 313 P **P** **15 49 13.9 -0.5**
comp=Z,4.7nm,1.2s,mb4.2
CTAO Charters Tower 46.38 144 *e*P **P** **15 49 24.3 -1.4**
CTAO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CTAO Charters Tower 46.38 144 *e*P **P** **15 49 24.3 -1.3**
comp=Z,7.1nm,0.8s,mb4.7
MA2 Magadan 47.09 21 *e*P **P** **15 49 31.4 +0.2**
MA2 pmax pmax
comp=Z,15nm,0.8s,mb5.0
MA2 Magadan 47.09 21 *e*P **P** **15 49 31.4 +0.1**
comp=Z,15nm,0.8s,mb5.0
SEY Seymchan 50.10 19⇓*e*P **P** **15 49 55.9 +1.5**
BVAR Borovoye Array 51.29 324 P **P** **15 50 03.8 +0.5**
comp=Z,1.4nm,0.8s,mb4.0,baz=119,slow=11,SNR=7.5
BVAR PcP PcP 15 51 17.7 -0.1
comp=Z,1.3nm,0.7s,baz=150,slow=1.2,SNR=4.9
BRVK Borovoye 51.36 324 *e*P **P** **15 50 04.4 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRVK Borovoye 51.36 324 *e*P **P** **15 50 04.4 +0.5**
comp=Z,8.0nm,1.0s,mb4.6
ZRNK Zerenda 52.03 324 *e*P **P** **15 50 09.0 +0.1**
ZRNK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ZRNK Zerenda 52.03 324 *e*P **P** **15 50 09.0 +0.1**
comp=Z,7.0nm,1.1s,mb4.5
STKA Stephens Creek 54.24 157 *e*P **P** **15 50 25.4 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
STKA Stephens Creek 54.24 157 P **P** **15 50 25.5 +0.4**
comp=Z,2.4nm,0.8s,mb4.2,baz=287,slow=6.0,SNR=4.9
BILL Bilibino 57.81 19 *e*P **P** **15 50 50.5 -0.1**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BILL Bilibino 57.81 19 *e*P **P** **15 50 49.9 -0.7**
comp=Z,4.9nm,0.6s,mb4.7
ARU Arti 58.87 326⇓*i*P **P** **15 50 57.5 -0.5**
ARU *e* 15 53 04.4
ARU *e*S **S** **15 59 01.8 +1.2**
ARU *e*SS SS 16 02 53.2 -1.3
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.8
ARU Arti 58.87 326 *e*P **P** **15 50 57.4 -0.6**
comp=Z,18nm,1.1s,mb5.0
ARU *e*pP pP 15 51 07.0 -3.5
ORR Orenburg 60.13 320 P **P** **15 51 07.6 +0.9**
ORR pmax pmax
comp=Z,30nm,1.8s,mb5.0
NIKO Nikolski 64.69 39 *e*P **P** **15 51 42.7 +5.5**
GNI Garni 66.81 306 *i* P **P** **15 51 51.8 +1.0**
GNI pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 68.03 311⇑*e*P **P** **15 51 59.5 +1.0**
KIV pmax pmax
comp=Z,23nm,1.3s,mb5.0
KIV MLR MLR
comp=Z,100nm,15.0s,MS4.2
KIV Kislovodsk 68.03 311 *e*P **P** **15 51 59.1 +0.6**
comp=Z,10nm,0.8s,mb4.9
OBN Obninsk 71.10 323 *i* P **P** **15 52 17.2 -0.3**
OBN pmax pmax
comp=Z,20nm,1.9s,mb4.7
ANN Anapa 71.69 312 *e*P **P** **15 52 21.2 +0.2**
JOF Joensuu 73.01 331 *e*p **P** **15 52 28.0 -0.9**
ARCES ARCESS Array B 74.37 339 P **P** **15 52 36.4 -0.5**
comp=Z,4.4nm,1.0s,mb4.4,baz=68,slow=8.0,SNR=4.9
ARCES LR LR 16 26 10.0
comp=Z,71nm,18.1s,MS4.0,baz=190,slow=36
MCK McKinley 74.56 27 P **P** **15 52 38.0 0.0**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MCK McKinley 74.56 27 P **P** **15 52 38.0 0.0**
comp=Z,4.4nm,0.9s,mb4.4
PMR Palmer 74.84 30 *e*P **P** **15 52 39.0 -0.6**
PMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PMR Palmer 74.84 30 *e*P **P** **15 52 39.0 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
KAF Kangasniemi 75.43 331 *e*p **P** **15 52 40.8 -2.2**
comp=Z,5.3nm,0.6s,mb4.7,baz=75,slow=5.3
KAF Kangasniemi 75.43 331 *e*P **P** **15 52 40.8 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
FINES FINESS Array B 75.67 330 P **P** **15 52 43.4 -1.0**
comp=Z,3.5nm,0.8s,mb4.4,baz=69,slow=5.3,SNR=16
AKASG Malin Array Be 76.15 319 P **P** **15 52 46.2 -0.8**
comp=Z,1.5nm,0.6s,mb4.1,baz=64,slow=6.1,SNR=5.5
SUW Suwalki 78.96 323 P **P** **15 53 00.7 -2.1**
HFS Hagfors 81.86 331 P **P** **15 53 17.0 -1.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=130,slow=4.5,SNR=4.5
NB2 NORSAR Subarra 82.62 332 P **P** **15 53 21.1 -1.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=68,slow=5.1
NB2 NORSAR Subarra 82.62 332 P **P** **15 53 21.1 -1.2**
NB2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
NOA NORSAR Array B 82.62 332 P **P** **15 53 21.4 -0.9**
comp=Z,2.1nm,0.8s,mb4.2,baz=65,slow=4.9,SNR=4.9
VRAC Vranov 84.34 320 P **P** **15 53 31.3 +0.1**
comp=Z,1.1nm,0.3s,mb4.4,baz=117,slow=4.0,SNR=4.5
BRG Berggiesshubel 85.33 322 *e*P **P** **15 53 36.6 +0.5**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
BRG Berggiesshubel 85.33 322 *e*P **P** **15 53 36.5 +0.4**
comp=Z,5.0nm,1.2s,mb4.5
GERES GERESS Array B 86.28 320 P **P** **15 53 40.5 -0.3**
comp=Z,1.8nm,0.9s,mb4.3,baz=57,slow=4.9,SNR=8.8
CDF Champ du Feu 90.30 322 *e*P **P** **15 54 00.2 +0.2**
HINF Hinteralfeld 90.84 321 *e*P **P** **15 54 02.5 +0.1**
BAIF Baives 91.24 324 *e*P **P** **15 54 03.0 -1.3**
CABF La Chapelle 91.88 321 *e*P **P** **15 54 06.9 -0.4**
LPG La Plagne 92.01 319 *e*P **P** **15 54 08.3 +0.4**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 92.01 319 *e*P **P** **15 54 08.3 +0.4**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
LPG La Plagne 92.01 319 *e*P **P** **15 54 08.3 +0.4**
comp=Z,7.6nm,1.0s,mb5.0
LPL La Plagne 92.01 319 *e*P **P** **15 54 08.2 +0.3**
comp=Z,23nm,1.0s,mb5.2
LPL La Plagne 92.01 319 *e*P **P** **15 54 08.2 +0.3**
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.2
LPL La Plagne 92.01 319 *e*P **P** **15 54 08.2 +0.3**
comp=Z,12nm,1.0s,mb5.2
AVF Avril sur Loir 93.41 322 *e*P **P** **15 54 14.3 -0.1**
comp=Z,22nm,1.3s,mb5.1
AVF Avril sur Loir 93.41 322 *e*P **P** **15 54 14.3 -0.1**
AVF pmax pmax
comp=Z,11nm,1.3s,mb5.1
AVF Avril sur Loir 93.41 322 *e*P **P** **15 54 14.3 -0.1**
comp=Z,11nm,1.3s,mb5.1
TXAR Lajitas Array 117.06 42 PKP PKPdf 15 59 45.2 +1.4
comp=Z,0.2nm,0.7s,baz=323,slow=1.9,SNR=3.9
SDV Santo Domingo 151.28 21 *e*PKPbc PKPbc 16 00 54.3 +1.9

IDC ***21*** *16:20:34.5±1.1, 703N×9195E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, MS3.4/1, Ms1 3.4/1, ms1mx2.5/35, Error ellipse: s-maj=55.0km s-min=17.7km az=51.0*
ISCJB ***21*** *16:20:39.5±4.5, 69N±02×919E±02, h51km±45km, mb3.7/9, MS3.4/1, Error ellipse: s-maj=34.4km s-min=17.3km az=102.4*
NEIC ***21*** *16:20:39.3±0.6, 702N×9201E, h30km, mb3.7/1, Error ellipse: s-maj=16.8km s-min=10.9km az=219.0*
ISC 21 16:20:42.0±3.0, 70N±01×919E±02, h53km±32km, n12, σ0°64/12, mb3.7/9, MS3.4/1, Nicobar Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PALK Pallekele 11.13 272 *e*Pn **Pn** **16 23 18.2 -0.2**
PALK *e*Sn **Sn** **16 24 59.6 -22**
LSA Lhasa 22.60 358 *e*P **P** **16 25 38.9 +1.0**
1.8nm,0.6s,mb3.7
LSA *e* 16 25 48.9
MKAR Makanchi Array 40.51 350 P **P** **16 28 14.9 -0.7**
1.0nm,0.6s,mb3.6,baz=166,slow=8.9,SNR=10.0
FITZ Fitzroy Crossi 41.59 127 P **P** **16 28 25.1 +0.6**
1.3nm,0.9s,mb3.6,baz=329,slow=5.9,SNR=5.7
SONM Songino Array 42.53 14 P **P** **16 28 31.6 -0.6**
0.5nm,0.6s,mb3.4,baz=181,slow=8.3,SNR=5.4
ATD Arta Tunnel 48.59 279 LR LR 16 45 14.0
comp=Z,39nm,19.5s,MS3.4,baz=40,slow=30
ZRNK Zerenda 49.49 342 P **P** **16 29 22.1 -4.9**
WRA Warramunga Arr 49.58 124 P **P** **16 29 26.7 -0.9**
0.6nm,0.7s,mb3.7,baz=306,slow=8.0,SNR=8.8
ASAR Alice Springs 51.08 128 P **P** **16 29 39.4 +0.4**
1.2nm,0.7s,mb4.0,baz=300,slow=8.2,SNR=30
BRTR Keskin Array B 61.35 312 P **P** **16 30 52.4 +0.2**
0.4nm,0.8s,mb3.6,baz=116,slow=6.6,SNR=3.0
FINES FINESS Array B 72.47 333 P **P** **16 32 02.3 -0.5**
1.3nm,0.8s,mb3.9,baz=108,slow=6.2,SNR=5.0
GERES GERESS Array B 77.02 318 P **P** **16 32 29.8 +0.7**
0.5nm,0.7s,mb3.5,baz=88,slow=6.0,SNR=7.4

NIED ***21*** *16:41:00, 2490N×12300E, h92km, Mw4.1 Best double couple: M0=1.72000×10^15 NP1:φ=109.00000°, δ=84.00000°, λ=-55.00000°. NP2:φ=208.00000°, δ=35.00000°, λ=-170.00000°.*
ISCJB ***21*** *16:41:11.2±0.4, 2491N±006×12292E±003, h127km±4km, mb3.9/9, Error ellipse: s-maj=9.9km s-min=4.4km az=145.3*
IDC ***21*** *16:41:12.0±4.5, 2493N×12298E, h119km±47km, mb3.5/7, mb1 3.7/8, mb1mx3.4/24, mbtmp3.9/8, Error ellipse: s-maj=33.4km s-min=14.5km az=68.0*
NEIC ***21*** *16:41:12.3±0.7, 2490N×12293E, h124km±6km, mb4.1/2, Error ellipse: s-maj=11.8km s-min=10.5km az=223.0*
JMA ***21*** *16:41:14.0±0.2, 2485N×12297E, h113km±2km, M3.6*
ISC 21 16:41:12.3±0.4, 2492N±006×12292E±003, h121km±4km, n28, σ0°96/45, mb3.9/9, Taiwan region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
YOJ Yonaguni jima 0.46 169 P **Pn** **16 41 30.6 +0.4**
YOJ S **Sn** **16 41 43.5 -0.2**
IRIF Iriomote-Funau 0.94 128 P **Pn** **16 41 34.1 +0.2**
IRIF S **Sn** **16 41 49.4 -0.8**
HATJ Hateruma jima 1.18 137 P **Pn** **16 41 36.7 +0.4**
HATJ S **Sn** **16 41 53.3 -1.2**
JKRS Kuro-shima 1.20 124 P **Pn** **16 41 37.3 +0.7**
JKRS S **Sn** **16 41 54.3 -0.6**
JIJ Ishigaki jima 1.25 116 P **Pn** **16 41 37.3 +0.3**
JIJ S **Sn** **16 41 54.3 -1.4**
NACB Ninganchiao 1.41 239 *e*Pn **Pn** **16 41 38.2 -0.6**
NACB *e*Sn **Sn** **16 41 57.6 -1.4**
YHNB Yeheng 1.42 260 *e*Pn **Pn** **16 41 40.2 +1.3**
YHNB *e*Sn **Sn** **16 41 59.8 +0.6**
JTJ Tarama 1.65 99 P **Pn** **16 41 42.5 +0.9**
JTJ S **Sn** **16 42 03.8 0.0**
JMJ Miyako jima 2 2.16 92 P **Pn** **16 41 48.7 +0.8**
JMJ S **Sn** **16 42 16.0 +0.9**
JOGS Gusukube 2.27 93 P **Pn** **16 41 50.8 +1.6**
JOGS S **Sn** **16 42 18.3 +0.8**
JKE Kume jima 2 3.76 67 P **Pn** **16 42 09.9 +1.2**
JKE S **Sn** **16 42 53.9 +1.5**
JAGN Aguni-jima 4.24 66 P **Pn** **16 42 16.8 +1.7**
JAGN S **Sn** **16 43 04.2 +0.4**
NAH1 Naha 4.50 72 *e*S **Sn** **16 43 10.9 +1.0**
JJT2 Tamagusuku 2 4.53 73 P **Pn** **16 42 19.7 +0.7**
JIH Iheya 5.01 64 P **Pn** **16 42 25.6 +0.2**
JIH *e*S **Sn** **16 43 21.3 -1.0**
JOW Kunigami 5.19 67 P **Pn** **16 42 27.8 0.0**
7.2nm,0.3s,baz=81,slow=29,SNR=36
JOW S **Sn** **16 43 25.1 -1.4**
9.3nm,0.3s,baz=114,slow=25,SNR=9.8
JOW Kunigami 5.19 67 P **Pn** **16 42 27.7 -0.1**
JOW S **Sn** **16 43 24.9 -1.7**
JTK Tokunoshima 6.12 61 P **Pn** **16 42 39.5 -0.9**
JTK S **Sn** **16 43 46.9 -2.1**
JAM Amami Oshima 6.92 58 P **Pn** **16 42 49.8 -1.4**
JAM S **Sn** **16 44 05.7 -2.7**
ASAJ Asahikawa 24.98 35 P **P** **16 46 24.3 -0.3**
6.2nm,0.7s,mb4.2,baz=237,slow=11,SNR=7.0
MKAR Makanchi Array 38.93 315 P **P** **16 48 26.7 +0.5**
0.3nm,0.5s,mb3.4,baz=103,slow=9.4,SNR=10.0
ZAL Zalesovo 40.51 326 P **P** **16 48 38.8 -0.5**
0.7nm,0.4s,mb3.8,baz=327,slow=10,SNR=3.4
FITZ Fitzroy Crossi 42.84 176 P **P** **16 48 57.4 -0.9**
2.0nm,1.0s,mb3.8,baz=344,slow=7.4,SNR=4.0
WRA Warramunga Arr 45.96 165 P **P** **16 49 23.1 +0.1**
1.7nm,0.4s,mb4.1,baz=347,slow=8.4,SNR=16
BVAR Borovoye Array 48.12 320 P **P** **16 49 39.5 -0.4**
0.4nm,0.4s,mb3.6,baz=100,slow=8.6,SNR=5.4
BRVK Borovoye 48.19 320 *e*P **P** **16 49 40.5 +0.1**
2.6nm,0.7s,mb4.2
ZRNK Zerenda 48.91 320 *e*P **P** **16 49 45.4 -0.5**
0.9nm,0.4s,mb4.0
ASAR Alice Springs 49.46 167 P **P** **16 49 50.6 +0.6**
0.5nm,0.3s,mb3.9,baz=351,slow=7.0,SNR=25

MOS 21 17:21:50.9±0.3, 4311N×4577E, h17km, mb3.7/1, 4C-3D, Error ellipse: s-maj=33.4km s-min=10.8km az=3.1, Eastern Caucasus
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SNJR Sundja 0.70 267⇑*i*PG Pg 17 22 04.9 +0.2
SNJR *i* S Sg 17 22 15.9 +1.8
VLKR Vladikavkaz 0.81 266⇑*i*PG Pg 17 22 06.6 0.0
VLKR *e*S Sb 17 22 18.9 +1.9
BTKR Batakoyurt 0.94 287 *e*PG Pg 17 22 08.6 -0.5
BTKR *e*S Sb 17 22 22.5 +1.7
ARNR Ardon 1.10 275⇑*i*PG Pg 17 22 11.5 -0.6
ARNR *e*S Sb 17 22 27.3 +1.9
KMSR Komsomolskaya 1.11 284 *e*PG Pg 17 22 11.6 -0.8
KMSR *i* S Sb 17 22 27.4 +1.5
LACR Lac 1.12 256⇑*i*PG Pg 17 22 11.9 -0.7
LACR *i* S Sb 17 22 28.0 +1.9
KORR Kora 1.25 269⇓*i*PG Pg 17 22 13.8 -1.2
KORR *i* S Sb 17 22 31.3 +1.5
PRTR Priterechnaya 1.26 301 *e*PG Pg 17 22 13.7 -1.5
PRTR *e*S Sb 17 22 31.2 +1.1
ZEI Tsey 1.42 257⇓*i*PG Pg 17 22 16.0 -2.2
ZEI *i* S Sn 17 22 35.3 +1.2
DIGR Digorskoe uzhe 1.62 263⇓*i*PN Pn 17 22 18.9 +0.2
DIGR *i* S Sn 17 22 40.4 +1.2

WEL 21 17:25:09.4±0.6, 3585S×17843E, h205km±8km, ML3.6/8, Error ellipse: s-maj=14.1km s-min=9.8km az=90.0, Off east coast of North Island
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MXZ Matakaoa Point 1.71 183 PN Pn 17 25 45.6 +0.1
MXZ SN Sn 17 26 13.5 0.0
PUZ Puketiti 2.22 184 PN Pn 17 25 50.9 +0.3
PUZ SN Sn 17 26 22.2 -0.5
MWZ Matawai 2.58 196 PN Pn 17 25 55.0 +0.5
MWZ SN Sn 17 26 29.9 +0.1
URZ Urewera 2.63 203 PN Pn 17 25 54.8 -0.2
URZ SN Sn 17 26 30.6 -0.1
KNZ Kokohu 3.22 191 PN Pn 17 26 01.3 -0.6
KNZ SN Sn 17 26 42.1 -1.0

MRZ Mangatainoka R 5.30 204 PN Pn 17 26 25.5 -2.3
KIW Kapiti Island 5.72 208 PN Pn 17 26 30.8 -2.3
MTW Mount Morrison 5.78 203 PN Pn 17 26 30.9 -2.9
CAW Cannon Point 5.87 206 PN Pn 17 26 32.3 -2.8
TCW Tory Channel 6.26 210 PN Pn 17 26 37.1 -3.1

IDC ***21*** *17:31:55.4±1.1, 1350N×12165E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/38, Error ellipse: s-maj=50.8km s-min=9.9km az=49.0*
NEIC ***21*** *17:31:56.3±0.6, 1364N×12177E, h10km, mb4.3/5, Error ellipse: s-maj=22.3km s-min=10.0km az=51.0*
MAN ***21*** *17:31:57.5, 1344N×12144E, h8km, mb3.4, ML4.6, MS1.7*
ISCJB ***21*** *17:31:58.2±0.6, 1350N±003×12144E±004, h27km±5km, mb4.2/15, MS3.4/1, Error ellipse: s-maj=7.3km s-min=4.8km az=114.6*
ISC 21 17:31:58.0±0.8, 1348N±004×12142E±004, h13km±6km, n37, σ1°09/41, mb4.2/15, MS3.4/1, 2D, Mindoro
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BOAC Boac 0.41 93 *e*P **Pg** **17 32 05.8 -0.4**
BOAC *e*S **Sg** **17 32 12.8 +1.2**
TGY Tagaytay City 0.78 323⇓*i*P **Pg** **17 32 13.1 +0.1**
TGY *i* S **Sg** **17 32 22.2 -1.0**
TGY Tagaytay City 0.78 323 Pg **Pg** **17 32 12.6 -0.4**
429nm,0.3s,baz=179,slow=2.6,SNR=142
TGY Lg 17 32 26.0
1μm,0.3s,baz=334,slow=21,SNR=20
LUBP Lubang 1.17 282 *e*P **Pn** **17 32 18.5 -1.6**
AUQP San Andres 1.23 97 *e*P **Pn** **17 32 21.7 +0.8**
OTRP Odiongan 1.26 152 *e*P **Pn** **17 32 19.4 -1.9**
OTRP *e*S **Sb** **17 32 37.1 -0.5**
POLP Polilio Island 1.33 22 *e*P **Pn** **17 32 21.5 -0.9**
POLP *e*S **Sb** **17 32 36.7 -3.2**
BUSP Coron 1.89 219 *e*P **Pn** **17 32 30.6 +0.6**
BALP Baler 2.25 4 *e*P **Pn** **17 32 36.7 +1.8**
CUYO Cuyo Island 2.65 189 *e*P **Pn** **17 32 40.1 -0.3**
PVCP Virac 2.66 87 *e*P **Pn** **17 32 40.6 0.0**
SCZP Santa Cruz 2.71 327 *e*P **Pn** **17 32 40.4 -0.8**
ENPP El Nido 2.99 221 *e*P **Pn** **17 32 45.9 +0.8**
BCPH Baguio City Da 2.99 344⇓*i*P **Pn** **17 32 49.0 +3.9**
GUIM Jordan 3.06 158 *e*P **Pn** **17 32 47.6 +1.6**
BOLP Bolinao 3.23 333 *e*P **Pn** **17 32 49.2 +0.8**
CAUP Cauayan 3.46 6 *e*P **Pn** **17 32 53.6 +2.0**
PALP Palanan 3.69 15 *e*P **Pn** **17 32 52.6 -2.1**
ABRA Dolores 4.20 351 *e*P **Pn** **17 33 05.0 +3.3**
CM31 Chiang Mai Arr 22.16 286 *e*P **P** **17 36 56.1 +2.5**
2.3nm,0.6s,mb3.8
LSA Lhasa 32.31 305 *e*P **P** **17 38 27.7 +1.0**
2.8nm,0.5s,mb4.3
WRA Warramunga Arr 35.56 159 P **P** **17 38 53.1 -1.9**
1.2nm,0.8s,mb3.9,baz=337,slow=9.6,SNR=5.4
GUN Gumba 36.06 299 *e*P **P** **17 38 59.8 +0.6**
13nm,0.4s,mb5.2
PKI Pulchoki 36.37 298 *e*P **P** **17 39 02.1 +0.2**
9.0nm,0.6s,mb4.9
SONM Songino Array 36.47 343 P **P** **17 39 02.8 +0.1**
0.5nm,0.7s,mb3.6,baz=153,slow=9.7,SNR=4.7
SONM LR LR 17 53 43.6
comp=Z,64nm,18.5s,MS3.4,baz=62,slow=36
KKN Kakani 36.54 299 *e*P **P** **17 39 03.3 0.0**
6.6nm,0.7s,mb4.6
DMN Daman 36.64 298 *e*P **P** **17 39 04.1 -0.1**
GKN Gorkha 37.15 299 *e*P **P** **17 39 08.3 -0.2**
KOLN Koldanda 37.98 298 *e*P **P** **17 39 15.5 0.0**
4.2nm,0.8s,mb4.2
AS31 Alice Springs 38.88 162 *e*P **P** **17 39 22.9 -0.3**
ASAR Alice Springs 38.89 162 P **P** **17 39 23.1 -0.1**
1.1nm,0.5s,mb3.9,baz=348,slow=14,SNR=34
MKAR Makanchi Array 46.62 323 P **P** **17 40 26.6 +0.6**
0.3nm,0.7s,mb3.3,baz=133,slow=10,SNR=3.9
STKA Stephens Creek 49.07 157 P **P** **17 40 44.0 -0.9**
1.3nm,0.6s,mb4.2,baz=326,slow=9.9,SNR=6.3
PET Petropavlovsk 49.27 29 P **P** **17 40 40.5 -5.9**
41nm,1.3s,mb5.3
BVAR Borovoye Array 56.35 326 P **P** **17 41 38.5 -0.3**
0.6nm,0.6s,mb3.8,baz=117,slow=9.0,SNR=6.3
BRVK Borovoye 56.42 326 P **P** **17 41 39.6 +0.4**
6.1nm,1.3s,mb4.5
ZRNK Zerenda 57.08 325 *e*P **P** **17 41 42.9 -1.1**
1.5nm,0.8s,mb4.1
ZRNK *e* pP 17 41 48.1 +0.1

IDC 21 17:45:21.3±2.0, 018S×12528E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/16, mbtmp3.2/3, Error ellipse: s-maj=189.9km s-min=27.8km az=64.0, Southern Molucca Sea
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 21.55 156 P P 17 50 13.3 +1.0
0.4nm,0.5s,baz=335,slow=11,SNR=3.3
ASAR Alice Springs 24.80 161 P P 17 50 44.8 -0.1
0.3nm,0.6s,baz=338,slow=7.0,SNR=6.6
MKAR Makanchi Array 59.98 327 P P 17 55 29.7 +0.2
0.1nm,0.4s,baz=124,slow=7.7,SNR=4.2

UPP ***21*** *17:47:44.8, 67.19N×2066E, h0km, ML2.7, Mining explosion.*
CSEM ***21*** *17:47:46.7±0.0, 6697N×2077E, h1km, ML2.7, Error ellipse: s-maj=0.4km s-min=0.1km az=80.0, Mining explosion.*
HEL 21 17:47:46.3±0.7, 6709N×2061E, h0km, ML2.7(UPP), Suspected explosion, Sweden
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DUNU Dundret 0.04 338 *i* P **Pg** 17 47 46.5 -0.5
DUNU *i* S Sg 17 47 47.6 +0.1
MASU Masugnsbyn 0.66 55 *i* P Pg 17 47 55.9 -3.0
ERTU Ertsjaerv 0.82 130 *i* P Pg 17 48 01.5 -0.5
HARU Harads 0.94 171 *e*P Pg 17 48 03.7 -0.5
PAJU Pajala 0.98 92 *e*P Pg 17 48 02.7 -2.5
KIF Kilpisjarvi 1.93 2 *e*PG Pg 17 48 23.5 +0.2
KIF *e*SG Sg 17 48 49.0 +0.7
KIF Kilpisjarvi 1.93 2 Pg Pg 17 48 23.4 +0.1
KIF Sb 17 48 48.9 +1.9
SGF Sodankyl 2.33 78 *e*P Pn 17 48 25.2 -0.6
SGF *e*SG Sg 17 49 01.4 +0.3
KEV Kevo 3.58 38 *e*S Sn 17 49 27.3 +1.4
MSF Maaselka 3.58 105 *e*SG Sg 17 49 37.4 -3.9

IDC ***21*** *18:02:45.8±5.1, 108N×9697E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.8/22, mbtmp4.1/8, ML3.3/1, Error ellipse: s-maj=113.6km s-min=38.3km az=162.0*
ISCJB ***21*** *18:02:49.1±2.1, 10N±01×9717E±009, h42km±16km, mb4.5/20, Error ellipse: s-maj=21.2km s-min=13.3km az=57.0*
BJI ***21*** *18:02:49.4, 123N×9781E, h19km, mb4.6*
NEIC ***21*** *18:02:50.8±1.9, 105N×97.11E, h38km±15km, mb4.5/10, Error ellipse: s-maj=17.9km s-min=11.8km az=208.0*
ISC 21 18:02:51.1±2.0, 11N±01×9717E±009, h40km±16km, n30, σ0°94/30, mb4.5/20, Northern Sumatera
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PSI Prapat 2.46 45 Pn **Pn** **18 03 28.5 -0.2**
6.7nm,0.3s,baz=218,slow=5.7,SNR=43
KULM Kulim 5.45 39 *e*Pn **Pn** **18 04 08.7 -1.1**
PALK Pallekele 17.54 291 P **Pn** **18 06 52.5 -0.1**
11nm,1.2s
KKM Kota Kinabalu 19.63 75 *e*P **Pn** **18 07 19.5 +1.7**
KMI Kunming 24.52 12 P **P** **18 08 07.5 +0.8**
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb4.2
KMI Kunming 24.52 12 P **P** **18 08 07.5 +0.8**
comp=Z,10.0nm,1.2s,mb4.2
PKI Pulchoki 28.67 338 *e*P **P** **18 08 44.9 +0.7**
GUN Gumba 28.80 339 *e*P **P** **18 08 46.3 +1.0**
comp=Z,14nm,0.5s,mb4.9
DMN Daman 28.82 337 *e*P **P** **18 08 46.4 +0.9**
KKN Kakani 28.92 338 *e*P **P** **18 08 47.0 +0.7**
LSA Lhasa 29.05 349 *e*P **P** **18 08 49.0 +1.5**
comp=Z,5.0nm,0.8s,mb4.3
GKN Gorkha 29.35 337 *e*P **P** **18 08 50.8 +0.6**
comp=Z,10nm,0.6s,mb4.7
KOLN Koldanda 29.57 335 *e*P **P** **18 08 51.6 -0.5**

comp=Z,13nm,0.7s,mb4.8
MBWA Marble Bar 31.21 136 P **P 18 09 06.0 -0.7**
XAN Xi'an 34.60 17 P **P 18 09 34.9 -1.3**
XAN AP pP 18 09 40.8 -6.5
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
BJT Baijiatuao 42.45 22 P **P 18 10 43.3 +1.2**
comp=Z,7.3nm,0.5s,mb4.6
SONM Songino Array 47.27 8 P **P 18 11 20.6 +0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=190,slow=9.5,SNR=22
MK31 Makanchi Array 47.37 346 *eP* **P 18 11 21.2 0.0**
MKAR Makanchi Array 47.37 346 P **P 18 11 21.6 +0.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=157,slow=8.2,SNR=26
CTAO Charters Tower 52.47 116 P **P 18 12 01.0 +1.1**
comp=Z,11nm,1.3s,mb4.6
ZAL Zalesovo 53.68 351 P **P 18 12 08.6 -0.2**
comp=Z,3.1nm,0.5s,mb4.5,baz=306,slow=5.6,SNR=15
BVAR Borovoye Array 56.37 341 P **P 18 12 27.8 -0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=138,slow=9.3,SNR=11
BRVK Borovoye 56.43 341 *eP* **P 18 12 26.9 -1.8**
comp=Z,3.5nm,0.8s,mb4.4
ZRNK Zerenda 56.77 340 *eP* **P 18 12 30.1 -1.1**
comp=Z,1.6nm,0.8s,mb4.1
CHKZ Chkalovo 56.85 341 *eP* **P 18 12 31.4 -0.2**
comp=Z,3.9nm,0.8s,mb4.5
YAK Yakutsk 65.56 16 *eP* **P 18 13 29.4 -1.3**
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 71.47 26 P **P 18 14 05.1 -2.4**
comp=Z,41nm,1.4s,mb5.2
AKASG Malin Array Be 75.35 322 P **P 18 14 30.4 0.0**
comp=Z,0.5nm,0.5s,mb3.7,baz=94,slow=4.7,SNR=3.6
FINES FINESS Array B 80.11 333 P **P 18 14 56.9 0.0**
comp=Z,1.2nm,0.8s,mb3.9,baz=92,slow=5.9,SNR=7.5
ARCES ARCESS Array B 82.65 340 P **P 18 15 10.5 +0.1**
comp=Z,3.1nm,0.8s,mb4.4,baz=72,slow=4.0,SNR=7.1

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*BJI **21** 18:03:51.7, 10.12S×12390E, h10km, mB4.6, mb4.6, Ms4.8, Msz4.8*
*ISCJB **21** 18:03:56.4±0.3, 924S±006×12389E±009, h10km, mb4.5/30, MS4.9/4, Error ellipse: s-maj=14.9km s-min=5.4km az=121.6*
*IDC **21** 18:03:56.9±0.7, 921S×12366E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/18, mbtmp4.3/12, ML4.7/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/32, Error ellipse: s-maj=39.2km s-min=15.0km az=62.0*
*NEIC **21** 18:03:59.2±0.3, 923S×12367E, mb4.5/15, Error ellipse: s-maj=12.6km s-min=5.7km az=56.0*
ISC 21 18:04:00.5±0.3, 945S±006×12414E±008, h35km, (h8km±8.2km:pP-P), n58, σ1°37/66, mb4.5/30, MS4.9/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.73**	**171**	*eP*	**Pn**	**18 06 10.0**	**+5.8**
	36nm,0.5s						
FITZ				*eS*	**Sn**	**18 07 41.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**8.73**	**171**	Pn	**Pn**	**18 06 10.0**	**+5.8**
	5.4nm,0.3s,baz=4.8,slow=9.7,SNR=202						
FITZ				Sn	**Sn**	**18 07 41.3**	**-0.1**
	18nm,0.3s,baz=158,slow=10,SNR=16						
KAKA	**Kakadu**	**8.77**	**112**	*eP*	**Pn**	**18 06 12.6**	**+7.8**
	27nm,0.6s						
KAKA				*eS*	**Sn**	**18 07 41.6**	**-0.8**
MBWA	**Marble Bar**	**12.39**	**200**	*ePn*	**Pn**	**18 06 58.4**	**+3.9**
WRA	**Warramunga Arr**	**14.35**	**138**	Pn	**Pn**	**18 07 25.1**	**+3.9**
	1.6nm,0.3s,baz=320,slow=13,SNR=32						
WRA				Sn	**Sn**	**18 09 56.1**	**-2.9**
	3.6nm,0.3s,baz=312,slow=22,SNR=13						
WRAB	**Tennant Creek**	**14.35**	**138**	*ePn*	**Pn**	**18 07 23.2**	**+2.1**
	12nm,0.6s						
WRAB				*eSn*	**Sn**	**18 09 51.7**	**-7.4**
WB2	**Warramunga Arr**	**14.36**	**138**	*eP*	**Pn**	**18 07 24.5**	**+3.2**
WB2				*eS*	**Sn**	**18 09 56.1**	**-3.1**
ASPA	**Alice Springs**	**16.94**	**148**	*eP*	**Pn**	**18 08 00.2**	**+5.4**
ASPA				*eS*	**S**	**18 10 58.1**	**-13**
AS31	**Alice Springs**	**16.95**	**148**	*eP*	**Pn**	**18 08 00.2**	**+5.4**
AS31				*eS*	**S**	**18 10 58.1**	**-13**
ASAR	**Alice Springs**	**16.95**	**148**	P	**Pn**	**18 07 60.0**	**+5.1**
	2.6nm,0.3s,baz=319,slow=11,SNR=311						
ASAR				S	**S**	**18 10 59.1**	**-12**
	1.3nm,0.3s,baz=319,slow=19,SNR=20						
ASAR				LR	LR	18 15 32.7	
	comp=Z,78nm,19.3s,baz=331,slow=40						
FORT	**Forrest**	**21.54**	**171**	*eP*	**P**	**18 08 51.5**	**+4.8**
	18nm,0.6s,mb4.7						
PMG	**Port Moresby**	**22.71**	**92**	P	**P**	**18 09 06.1**	**+7.0**
	11nm,0.7s,mb4.4						
CTA	**Charters Tower**	**23.83**	**119**	*eP*	**P**	**18 09 17.3**	**+7.0**
	8.3nm,0.9s,mb4.2						
CTA	**Charters Tower**	**23.83**	**119**	P	**P**	**18 09 17.7**	**+7.4**
	8.3nm,0.8s,mb4.2,baz=278,slow=9.4,SNR=6.5						
CTAO	**Charters Tower**	**23.83**	**119**	*eP*	**P**	**18 09 16.6**	**+6.3**
	14nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**27.57**	**147**	*eP*	**P**	**18 09 49.8**	**+5.6**
	4.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**27.57**	**147**	P	**P**	**18 09 50.0**	**+5.8**
	3.9nm,0.4s,mb4.4,baz=317,slow=8.2,SNR=21						
CM31	**Chiang Mai Arr**	**37.24**	**318**	P	**P**	**18 11 09.1**	**+0.4**
	5.2nm,0.7s,mb4.5						
KMI	**Kunming**	**40.19**	**329**	P	**P**	**18 11 34.9**	**+1.5**
KMI				AP	pP	18 11 39.8	-3.9
KMI				XP	sP	18 11 41.8	-6.1
KMI				PP	PP	18 13 11.8	+5.6
KMI				PPP		18 13 37.8	
KMI				S	**S**	**18 17 41.8**	**+3.9**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.9						
KMI	**Kunming**	**40.19**	**329**	P	**P**	**18 11 34.9**	**+1.5**
	comp=Z,3.0nm,1.1s,mb3.9						
KMI				pP	pP	18 11 39.8	-3.9
KMI				sP	sP	18 11 41.7	-6.2
KMI				PP	PP	18 13 11.8	+5.6
KMI				PPP		18 13 37.7	
KMI				S	**S**	**18 17 41.7**	**+3.8**
KMI				sS	sS	18 17 46.7	-8.1
KMI				SS	SS	18 20 31.6	-5.0
KMI				SSS		18 21 08.8	
NJ2	**Nanjing**	**41.57**	**353**	*eP*	**P**	**18 11 46.1**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2	**Chengdu**	**44.64**	**335**	*eP*	**P**	**18 12 12.0**	**+2.4**
CD2				PP	PP	18 13 57.3	+3.2
CD2				S	**S**	**18 18 46.9**	**+3.5**
CD2				SS	SS	18 21 58.4	-5.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,90nm,12.0s						
CD2				LR	LR		
	comp=Z,80nm,14.2s,MS3.8						
MJAR	**Matsushiro Arr**	**47.62**	**15**	P	**P**	**18 12 33.1**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=194,slow=9.0,SNR=4.7						
LZH	**Lanzhou**	**49.16**	**338**	*eP*	**P**	**18 12 47.6**	**+2.7**
LZH				AP	pP	18 12 52.1	-3.3
LZH				XP	sP	18 12 54.6	-4.9
LZH				PP	PP	18 14 41.8	+3.0
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,47nm,6.3s						
LZH				LR	LR		
	comp=Z,8μm,17.0s,MS5.8						
LZH	**Lanzhou**	**49.16**	**338**	*eP*	**P**	**18 12 47.6**	**+2.7**
	comp=Z,18nm,1.2s,mb5.0						
LZH				pP	pP	18 12 52.1	-3.3
LZH				sP	sP	18 12 54.6	-4.9
LZH				PP	PP	18 14 41.8	+3.0
LSA	**Lhasa**	**50.23**	**322**	*eP*	**P**	**18 12 54.0**	**+0.9**
	comp=Z,8.3nm,0.6s,mb4.9						
JIRN	**Jiri**	**52.06**	**316**	*eP*	**P**	**18 13 06.6**	**-0.2**
	comp=Z,4.1nm,0.2s,mb5.0						
GUN	**Gumba**	**52.43**	**316**	*eP*	**P**	**18 13 09.1**	**-0.5**
	comp=Z,38nm,0.5s						
PKI	**Pulchoki**	**52.54**	**316**	*eP*	**P**	**18 13 09.5**	**-0.9**
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**52.77**	**316**	*eP*	**P**	**18 13 11.1**	**-0.9**
	comp=Z,11nm,0.5s,mb5.0						
DMN	**Daman**	**52.77**	**315**	*eP*	**P**	**18 13 11.3**	**-0.8**
	comp=Z,15nm,0.6s,mb5.1						
GKN	**Gorkha**	**53.34**	**315**	*eP*	**P**	**18 13 15.3**	**-1.0**
	comp=Z,19nm,0.4s,mb5.4						
KOLN	**Koldanda**	**53.92**	**315**	*eP*	**P**	**18 13 19.6**	**-0.9**
	comp=Z,8.9nm,0.3s,mb5.2						
MDJ	**Mudanjiang**	**54.03**	**5**	P	**P**	**18 13 24.0**	**+2.7**
MDJ				AP	pP	18 13 27.1	-4.8
MDJ				PCP	PcP	18 14 28.0	+2.0
MDJ				PP	PP	18 15 26.0	+3.1
MDJ				S	**S**	**18 21 02.3**	**+7.3**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,39nm,4.3s						
MDJ				LR	LR		
	comp=N,4μm,16.1s,MS5.6						
MDJ				LR	LR		
	comp=E,2μm,17.0s,MS5.6						
MDJ				LR	LR		
	comp=Z,2μm,18.4s,MS5.2						
SONM	**Songino Array**	**59.16**	**346**	P	**P**	**18 13 57.3**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=159,slow=8.9,SNR=9.3						
WMQ	**Urumqi**	**62.48**	**331**	*eP*	**P**	**18 14 22.0**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.7						
MK31	**Makanchi Array**	**67.26**	**330**	*eP*	**P**	**18 14 51.2**	**-0.3**
MKAR	**Makanchi Array**	**67.26**	**330**	P	**P**	**18 14 51.3**	**-0.2**
	comp=Z,3.4nm,0.5s,mb4.6,baz=134,slow=7.3,SNR=52						
AAK	**Ala-Archa**	**68.81**	**323**	*eP*	**P**	**18 14 59.9**	**-1.3**
	comp=Z,4.3nm,0.8s,mb4.4						
VNDA	**Vanda**	**70.80**	**172**	P	**P**	**18 15 16.1**	**+2.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=307,slow=6.5,SNR=6.6						
VNDA	**Vanda**	**70.80**	**172**	*eP*	**P**	**18 15 16.2**	**+2.8**
	comp=Z,0.8nm,0.7s,mb3.8						
ZAL	**Zalesovo**	**71.36**	**337**	P	**P**	**18 15 14.8**	**-1.9**
	comp=Z,1.6nm,0.4s,mb4.3,baz=1.5,slow=6.9,SNR=4.6						
YAK	**Yakutsk**	**71.39**	**3**	P	**P**	**18 15 16.1**	**-0.9**
	comp=Z,9.6nm,1.1s,mb4.6						
WSAR	**Wadi Sarin**	**71.80**	**298**	P	**P**	**18 15 18.6**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=204,slow=12,SNR=6.1						
BVAR	**Borovoye Array**	**77.14**	**330**	P	**P**	**18 15 50.2**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=134,slow=8.4,SNR=3.8						
BRVK	**Borovoye**	**77.22**	**330**	*eP*	**P**	**18 15 49.8**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**77.79**	**329**	*eP*	**P**	**18 15 53.0**	**-1.1**
	comp=Z,3.2nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**80.55**	**180**	P	**P**	**18 16 11.1**	**+1.9**
AKTK	**Aktyubinsk**	**82.53**	**324**	P	**P**	**18 16 19.3**	**-0.3**
AKTO	**Aktyubinsk**	**82.53**	**324**	P	**P**	**18 16 19.3**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.5,baz=89,slow=1.9,SNR=8.5						
ATD	**Arta Tunnel**	**83.45**	**283**	LR	LR	18 47 11.2	
	comp=Z,407nm,21.7s,MS4.8,baz=219,slow=31						
ARU	**Arti**	**84.77**	**329**	*eP*	**P**	**18 16 29.4**	**-1.7**
	comp=Z,2.9nm,0.7s,mb4.5						
SNAA	**Sanae**	**91.90**	**195**	*eP*	**P**	**18 17 04.2**	**-1.0**
LSZ	**Lusaka**	**93.21**	**254**	P	**P**	**18 17 12.0**	**+0.8**
EMHD	**Djebel Mahouad**	**120.60**	**306**	P	PKPdf	18 22 46.0	-2.5
TORD	**Torodi Ar. Bea**	**123.53**	**280**	PKP	PKPdf	18 22 56.2	+2.1
	comp=Z,0.5nm,0.8s,baz=61,slow=1.7,SNR=7.8						
CPUP	**Villa Florida**	**144.41**	**178**	PKP	PKPdf	18 23 34.7	+1.7
	comp=Z,0.5nm,0.4s,baz=121,slow=5.9,SNR=3.3						
CPUP	**Villa Florida**	**144.41**	**178**	PKP	PKPdf	18 23 34.7	+1.7

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*IDC **21** 18:10:52.6±1.2, 074N×13168E, h0km, mb4.4/5, mb1 4.5/7, mb1mx4.1/17, mbtmp4.4/7, ML3.5/1, Error ellipse: s-maj=41.4km s-min=19.1km az=67.0*
*NEIC **21** 18:10:54.0±0.4, 072N×13170E, h10km, mb4.5/7, Error ellipse: s-maj=15.7km s-min=6.9km az=70.0*
*ISCJB **21** 18:10:55.4±0.6, 070N±008×1317E±0.1, h33km, mb4.3/10, Error ellipse: s-maj=21.6km s-min=9.3km az=139.4*
ISC 21 18:10:57.8±0.6, 069N±008×1317E±01, h35km, n20, σ0°82/19, mb4.3/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**18.38**	**123**	P	**Pn**	**18 15 10.4**	**+0.7**
	0.5nm,0.3s,baz=286,slow=11,SNR=5.9						
PMG	**Port Moresby**	**18.38**	**123**	*ePn*	**Pn**	**18 15 10.0**	**+0.3**
	56nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.59**	**197**	P	**Pn**	**18 15 23.7**	**-0.8**
	0.1nm,0.3s,baz=33,slow=14,SNR=3.1						
WRAB	**Tennant Creek**	**20.66**	**173**	*eP*	**P**	**18 15 34.0**	**-0.5**
	18nm,0.6s						
WRA	**Warramunga Arr**	**20.66**	**173**	P	**P**	**18 15 33.8**	**-0.8**
	22nm,0.7s,baz=350,slow=11,SNR=28						
WB2	**Warramunga Arr**	**20.66**	**173**	*eP*	**P**	**18 15 33.8**	**-0.7**
AS31	**Alice Springs**	**24.30**	**175**	*eP*	**P**	**18 16 12.5**	**+0.6**
ASAR	**Alice Springs**	**24.30**	**175**	P	**P**	**18 16 12.5**	**+0.6**
	7.4nm,0.8s,mb4.2,baz=352,slow=10.0,SNR=20						
ASPA	**Alice Springs**	**24.30**	**175**	*eP*	**P**	**18 16 12.5**	**+0.6**
PSI	**Prapat**	**32.82**	**274**	P	**P**	**18 17 28.6**	**+0.7**
	4.3nm,0.3s,mb4.8,baz=163,slow=6.7,SNR=8.0						
GTK	**Gangtok**	**49.07**	**306**	*eP*	**P**	**18 19 45.0**	**+3.5**
YAK	**Yakutsk**	**61.21**	**359**	*eP*	**P**	**18 21 08.7**	**-0.4**
	11nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**62.89**	**324**	P	**P**	**18 21 20.8**	**+0.4**
	0.2nm,0.5s,mb3.5,baz=120,slow=8.5,SNR=2.7						
ZAL	**Zalesovo**	**65.57**	**332**	P	**P**	**18 21 36.8**	**-1.1**
	0.8nm,0.2s,mb4.3,baz=40,slow=6.8,SNR=3.9						
BVAR	**Borovoye Array**	**72.57**	**326**	P	**P**	**18 22 21.4**	**0.0**
	1.0nm,0.8s,mb3.8,baz=101,slow=6.3,SNR=5.1						
BVAR				pP	pP	18 22 29.6	-2.7
	1.4nm,0.7s,baz=119,slow=9.2,SNR=9.0						
BRVK	**Borovoye**	**72.64**	**326**	P	**P**	**18 22 21.3**	**-0.5**
	3.4nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**73.32**	**326**	*eP*	**P**	**18 22 25.7**	**-0.1**
	2.2nm,0.7s,mb4.2						
ZRNK				*e*	pP	18 22 33.4	-3.3
VNDA	**Vanda**	**79.83**	**174**	pP	pP	18 23 10.7	-2.9
	1.6nm,0.8s,baz=311,slow=4.3,SNR=10						
VNDA	**Vanda**	**79.83**	**174**	*eP*	**P**	**18 23 10.0**	**+7.4**
	1.8nm,0.9s,mb4.0						
QSPA	**South Pole Qui**	**90.61**	**180**	*eP*	**P**	**18 23 59.9**	**+3.3**
	2.4nm,1.0s,mb4.5						

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*SZGRF **21** 18:23:16.6, 1263N×12188E, h18km, mb5.6, MS6.2, Mindoro, Philippine Islands*
*IDC **21** 18:23:18.2±0.3, 1337N×12139E, h0km, mb4.9/32, mb1 5.0/32, mb1mx5.0/33, mbtmp4.9/32, MS5.6/23, Ms1 5.6/23, ms1mx5.5/31, Error ellipse: s-maj=12.2km s-min=7.1km az=64.0*
*ISCJB **21** 18:23:19.6±0.1, 1336N±002×12143E±002, h18km, mb5.5/179, MS5.7/107, Error ellipse: s-maj=3.1km s-min=2.3km az=110.7*
*MAN **21** 18:23:20.0, 1340N×12151E, h7km, mb3.8, ML4.9, MS1.6*
*BJI **21** 18:23:20.7, 1330N×12165E, h33km, mB6.0, mb5.3, Ms6.1, Msz5.9*
*NEIC **21** 18:23:21.0±0.1, 1337N×12138E, mb5.6/89, MS5.7/50, MW5.8, Error ellipse: s-maj=5.8km s-min=3.6km az=64.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.15; $M_{\theta\theta}$5.64; $M_{\phi\phi}$-4.49; $M_{r\theta}$-0.25; $M_{\theta\phi}$5.27; $M_{\phi r}$0.31; Best double couple: $M_0$7.30000×10^{17} NP1: ϕ_s112.00000°, δ88.00000°, λ-3.00000°. NP2:ϕ_c202.00000°, δ87.00000°, λ-178.00000°. Principal axes: T 7.8800, Plg1.0000°, Azm157.0000°; N -1.1200, Plg86.0000°, Azm257.0000°; P -6.7600, Plg4.0000°, Azm67.0000°;*
NEIC Felt [III PIVS] at Puerto Galera. Also felt [III PIVS] at Makati, Taguig and Tanauan; [II PIVS] at Quezon City, Luzon. Felt at Batangas, Lipa and Lucban, Luzon.
*GCMT **21** 18:23:21.0±0.1, 1349N×12152E, h15km, MW5.9/108, Moment Tensor Solution. s101,c211; s108,c359; Duration: 2≥2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.01±.01; $M_{\theta\theta}$0.59±.01; $M_{\phi\phi}$-0.60±.01; $M_{r\theta}$-0.09±.01; $M_{\theta\phi}$0.67±.01; $M_{\phi r}$0.06±.01; Best double couple: $M_0$0.90500×10^{18} NP1:ϕ_s201.00000°, δ83.00000°, λ-179.00000°. NP2:ϕ_s111.00000°, δ89.00000°, λ-7.00000°. Principal axes: T 0.8970, Plg4.0000°, Azm156.0000°; N 0.0170, Plg83.0000°, Azm279.0000°; P -0.9130, Plg6.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **21** 18:23:21.8±1.0, 1340N×12140E, h33km, mb5.8/68, MS5.9/43 Error ellipse: s-maj=9.3km s-min=4.1km az=120.0*
ISC 21 18:23:21.5±0.1, 1340N±002×12148E±002, h19km, h19km±.6km:pP-P, n644, σ1°20/650, mb5.5/179, MS5.7/107, 55C-51D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.36**	**81**	*eP*	**Pg**	**18 23 26.9**	**-2.4**
BOAC				*eS*	**Sg**	**18 23 34.0**	**-0.4**
PGP	**Puerto Galera**	**0.52**	**281**	⇑*iP*	**Pg**	**18 23 29.7**	**-2.3**
TGY	**Tagaytay City**	**0.87**	**323**	⇑*iP*	**Pb**	**18 23 37.5**	**-0.5**
TGY				*i S*	**Sb**	**18 23 45.6**	**-3.6**
TGY	**Tagaytay City**	**0.87**	**323**	Pg	**Pg**	**18 23 37.1**	**-1.4**
	5μm,0.3s,baz=184,slow=2.1,SNR=767						
TGY				Lg		18 23 43.6	
	18μm,0.3s,baz=312,slow=7.1,SNR=55						
OTRP	**Odiongan**	**1.16**	**153**	*eP*	**Pn**	**18 23 41.6**	**-1.2**
OTRP				*eS*	**Sb**	**18 23 59.5**	**+1.7**
AUQP	**San Andres**	**1.17**	**94**	*eP*	**Pn**	**18 23 43.5**	**+0.6**
LUBP	**Lubang**	**1.24**	**286**	*eP*	**Pn**	**18 23 42.5**	**-1.3**
LUBP				*eS*	**Sb**	**18 23 59.6**	**-0.2**
POLP	**Polilio Island**	**1.39**	**19**	*eP*	**Pn**	**18 23 44.9**	**-1.1**
BUSP	**Coron**	**1.87**	**222**	*eP*	**Pn**	**18 23 53.3**	**+0.8**
RCP	**Roxas**	**2.21**	**146**	⇑*eP*	**Pn**	**18 23 56.9**	**-0.3**
BALP	**Baler**	**2.33**	**2**	*eP*	**Pn**	**18 23 59.2**	**+0.5**
CUYO	**Cuyo Island**	**2.58**	**190**	*eP*	**Pn**	**18 24 01.6**	**-0.7**
PVCP	**Virac**	**2.61**	**85**	*eP*	**Pn**	**18 24 02.6**	**-0.1**
SCZP	**Santa Cruz**	**2.80**	**328**	*eP*	**Pn**	**18 24 05.5**	**+0.2**
ENPP	**El Nido**	**2.96**	**223**	*eP*	**Pn**	**18 24 08.8**	**+1.2**
GUIM	**Jordan**	**2.97**	**158**	*eP*	**Pn**	**18 24 07.5**	**-0.1**
BCPH	**Baguio City Da**	**3.08**	**344**	⇓*iP*	**Pn**	**18 24 14.9**	**+5.7**
BOLP	**Bolinao**	**3.32**	**333**	*eP*	**Pn**	**18 24 13.2**	**+0.7**
CAUP	**Cauayan**	**3.54**	**5**	*eP*	**Pn**	**18 24 19.1**	**+3.7**
PALP	**Palanan**	**3.75**	**14**	⇓*iP*	**Pn**	**18 24 19.5**	**+1.1**
PALP				*eS*	**Pg**	**18 24 38.1**	**+4.6**
PALP	**Palanan**	**3.75**	**14**	*eP*	**Pn**	**18 24 19.9**	**+1.5**
OCLP	**Ormoc**	**3.85**	**127**	*eP*	**Pn**	**18 24 23.0**	**+3.2**
LLP	**Lapu-Lapu**	**3.92**	**141**	⇑*eP*	**Pn**	**18 24 21.1**	**+0.5**
LLP				*eS*	**Sn**	**18 25 03.4**	**-2.7**
ABRA	**Dolores**	**4.29**	**350**	*eP*	**Pn**	**18 24 29.5**	**+3.8**
CVP	**Callao Caves**	**4.29**	**4**	*eP*	**Pn**	**18 24 27.0**	**+1.3**
MSLP	**Maasin**	**4.64**	**134**	*eP*	**Pn**	**18 24 31.1**	**+0.5**
SGCP	**Mt. Cagua**	**4.84**	**6**	*eP*	**Pn**	**18 24 38.5**	**+5.2**
DCPH	**Dipolog City**	**5.13**	**159**	*eP*	**Pn**	**18 24 37.3**	**0.0**
SCPH	**Surigao**	**5.33**	**132**	*eP*	**Pn**	**18 24 42.5**	**+2.4**
BATP	**Bataraza**	**5.83**	**219**	*eP*	**Pn**	**18 24 48.5**	**+1.7**
PAGZ	**Pagadian**	**5.83**	**161**	*eP*	**Pn**	**18 24 48.7**	**+1.8**
BUTP	**Butuan**	**6.00**	**137**	*eP*	**Pn**	**18 24 53.7**	**+4.5**
BUKP	**Musuan**	**6.52**	**147**	*eP*	**Pn**	**18 24 59.0**	**+2.6**
DAV	**Davao City (W)**	**7.48**	**147**	*eP*	**Pn**	**18 25 14.0**	**+4.5**
DAV	**Davao City (W)**	**7.48**	**147**	⇑*ePn*	**Pn**	**18 25 12.0**	**+2.5**
MATI	**Mati**	**7.96**	**143**	*eP*	**Pn**	**18 25 24.2**	**+8.1**
KKM	**Kota Kinabalu**	**8.96**	**216**	P	**Pn**	**18 25 34.1**	**+4.1**
TSM	**Tawau**	**9.72**	**202**	P	**Pn**	**18 25 45.0**	**+4.6**
NACB	**Ninganchiao**	**10.71**	**1**	*ePn*	**Pn**	**18 25 55.0**	**+1.1**
YHNB	**Yeheng**	**11.21**	**360**	*ePn*	**Pn**	**18 26 03.9**	**+3.3**
HKC	**Hong Kong**	**11.25**	**323**	*eP*	**Pn**	**18 26 00.0**	**-1.3**
HKC				*eS*	**Sn**	**18 28 06.0**	**-0.5**
QZH	**Quanzhou**	**11.80**	**347**	P	**Pn**	**18 26 09.3**	**+0.6**
QZH				LR	LR		
	comp=N,107μm,13.6s						
QZH				LR	LR		
	comp=E,79μm,17.1s						
QZH				LR	LR		
	comp=Z,72μm,15.7s						
GZH	**Guangzhou**	**12.34**	**322**	P	**Pn**	**18 26 23.0**	**+6.8**
GZH				LR	LR		
	comp=N,43μm,15.9s						
GZH				LR	LR		
	comp=E,25μm,12.1s						
GZH				LR	LR		
	comp=Z,60μm,13.1s						
QIZ	**Qiongzhong**	**12.49**	**298**	⇓P	**Pn**	**18 26 19.0**	**+0.8**
QIZ				PP		18 26 30.4	
QIZ				S	**Sn**	**18 28 37.8**	**+1.0**
QIZ				LR	LR		
	comp=N,42μm,14.4s						
QIZ				LR	LR		
	comp=Z,30μm,13.6s						
QIZ	**Qiongzhong**	**12.49**	**298**	*ePn*	**Pn**	**18 26 18.7**	**+0.5**
	comp=Z,144nm,1.0s						
JOW	**Kunigami**	**14.80**	**24**	Pn	**Pn**	**18 26 52.8**	**+3.1**
	comp=Z,1.8nm,0.3s,baz=258,slow=21,SNR=4.8						
JOW				Sn	**Sn**	**18 29 37.7**	**+4.5**
	comp=Z,0.6nm,0.3s,baz=34,slow=8.2,SNR=2.3						
JOW				LR	LR	18 32 49.6	
	comp=Z,26μm,18.0s,baz=218,slow=38						
SSE	**Sheshan**	**17.61**	**359**	⇑P	**Pn**	**18 27 26.3**	**+0.5**
SSE				AP	pP	18 27 31.8	-0.3
SSE				XP	sP	18 27 34.0	-0.6
SSE				S	**Sn**	**18 30 46.0**	**+4.6**
SSE				AMB	AMB		
	comp=Z,46nm,1.0s						
SSE				AMB	AMB		
	comp=Z,1μm,9.8s						
SSE				LR	LR		
	comp=N,14μm,16.8s						
SSE				LR	LR		
	comp=E,30μm,16.8s						
SSE				LR	LR		
	comp=Z,24μm,15.1s						
SSE	**Sheshan**	**17.61**	**359**	⇑P	**Pn**	**18 27 26.3**	**+0.5**
	comp=Z,46nm,1.0s						
SSE				pP	pP	18 27 31.7	-0.4
SSE				sP	sP	18 27 34.0	-0.6
SSE				S	**Sn**	**18 30 46.0**	**+4.6**
SSE				sS	sS	18 31 01.5	+4.2
KKTK	**Khon Kaen**

comp=Z,159nm,1.5s,mb5.1
KMI MLR MLR
KMI Kunming 21.15 306 P **P** **18 28 08.2 +2.8**
comp=Z,159nm,1.5s,mb5.1
KMI pP 18 28 13.4
KMI PPP 18 28 41.0
KMI S **S** **18 31 58.1 -1.7**
KMI LR LR
comp=Z,17μm,15.9s,MS5.5
NNT Nongplab 21.20 270 P **P** **18 28 08.5 +2.6**
SNG Songkhla 21.43 255 P **P** **18 28 10.0 +1.6**
comp=Z,286nm,1.0s,mb5.6
IPM Ipoh 22.04 248 P **P** **18 28 17.0 +2.0**
CM31 Chiang Mai Arr 22.23 286 *e*P **P** **18 28 18.2 +1.2**
comp=Z,297nm,1.1s,mb5.6
CM31 *e*pP 18 28 25.3
CM31 LR LR
comp=Z,10μm,19.0s,MS5.3
CHG Chiang Mai 22.30 287 ⇓P **P** **18 28 18.9 +1.2**
comp=Z,150nm,1.3s,mb5.3
CHTO Chiang Mai 22.30 287⇓*e*P **P** **18 28 18.4 +0.7**
CHTO *e*S **S** **18 32 21.0 -1.2**
CHTO pmax pmax
comp=Z,164nm,1.1s,mb5.4
CHTO Chiang Mai 22.30 287⇓*e*P **P** **18 28 18.4 +0.7**
comp=Z,164nm,1.1s,mb5.4
CHTO *e*S **S** **18 32 21.0 -1.2**
GUMO Guam 22.75 87 P **P** **18 28 24.6 +2.1**
comp=Z,91nm,0.9s,mb5.2,baz=284,slow=4.2,SNR=3.5
GUMO S **S** **18 32 37.2 +6.6**
comp=Z,43nm,1.0s,baz=358,slow=22,SNR=1.9
GUMO LR LR 18 35 15.7
comp=Z,17μm,20.1s,MS5.5,baz=153,slow=31
GUMO Guam 22.75 87⇑*e*P **P** **18 28 24.1 +1.6**
comp=Z,3μm,1.8s,mb6.4
GUMO LR LR
comp=Z,16μm,19.0s,MS5.5
TIA Tai'an 23.05 351 *e*P **P** **18 28 26.0 +0.4**
TIA S **S** **18 32 36.1 +0.7**
TIA AMB AMB
comp=Z,43nm,1.1s,mb4.8
TIA LR LR
comp=N,17μm,14.0s,MS5.7
TIA LR LR
comp=E,6μm,13.0s,MS5.7
TIA LR LR
comp=N,7μm,17.0s
XAN Xi'an 23.50 333 P **P** **18 28 29.5 -0.9**
XAN AP 18 28 35.5
XAN S **S** **18 32 43.3 +0.5**
XAN AMB AMB
comp=Z,43nm,1.2s,mb4.8
XAN AMB AMB
comp=Z,2μm,5.8s
XAN LR LR
comp=N,16μm,21.9s,MS5.7
XAN LR LR
comp=E,24μm,17.9s,MS5.7
XAN LR LR
comp=Z,23μm,14.6s,MS5.8
CBIJ Chichi jima 23.68 52 P **P** **18 28 31.5 -0.5**
comp=Z,78nm,0.7s,mb5.2,baz=292,slow=20,SNR=2.0
CBIJ S **S** **18 32 57.2 +12**
comp=Z,38nm,0.5s,baz=328,slow=22,SNR=2.4
CBIJ LR LR 18 36 02.8
comp=Z,11μm,18.9s,MS5.3,baz=15,slow=32
CD2 Chengdu 23.87 320⇓*i*P **P** **18 28 34.5 +0.7**
CD2 AP 18 28 41.8
CD2 XP sP 18 28 44.5 +2.5
CD2 PP 18 29 08.5
CD2 PCP PcP 18 32 19.4 +3.0
CD2 S **S** **18 32 45.9 -3.0**
CD2 SS 18 33 39.9
CD2 PCS PcS 18 35 57.5 +1.6
CD2 AMB AMB
comp=Z,130nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,850nm,4.4s
CD2 LR LR
comp=E,46μm,15.6s,MS6.1
CD2 LR LR
comp=N,28μm,16.8s,MS6.1
CD2 LR LR
comp=Z,40μm,15.8s,MS6.0
INCN Inchon 24.42 10 *e*P **P** **18 28 39.6 +0.8**
comp=Z,558nm,1.6s,mb5.7
INCN LR LR
comp=Z,22μm,19.0s,MS5.7
KS15 Wonju Array Si 24.61 12 *e*P **P** **18 28 39.3 -1.3**
PSI Prapat 24.66 247 P **P** **18 28 41.7 +0.7**
comp=Z,54nm,0.9s,mb5.1,baz=39,slow=3.1,SNR=23
PSI S **S** **18 33 11.6 +10**
comp=Z,10nm,0.8s,baz=60,slow=6.1,SNR=4.9
PSI LR LR 18 37 59.5
comp=Z,18μm,20.5s,MS5.5,baz=96,slow=36
PSI Prapat 24.66 247 P **P** **18 28 41.7 +0.7**
PSI S **S** **18 33 11.6 +10**
PSI LR LR 18 37 59.5
DL2 Dalian 25.40 0 P **P** **18 28 49.1 +1.4**
DL2 S **S** **18 33 13.9 +0.5**
DL2 AMB AMB
comp=Z,120nm,1.0s,mb5.4
DL2 AMB AMB
comp=Z,1μm,4.6s
DL2 LR LR
comp=N,12μm,14.3s,MS5.6
DL2 LR LR
comp=E,7μm,15.6s,MS5.6
DL2 LR LR
comp=Z,13μm,15.1s,MS5.6
JHJ Hachijo jima 2 25.77 37 LR LR 18 37 32.3
comp=Z,31μm,19.2s,MS5.8,baz=243,slow=33
BJT Baijiatuau 26.92 351⇑*e*P **P** **18 29 01.8 +0.3**
BJT pmax pmax
comp=Z,467nm,1.4s
BJT MLR MLR
comp=Z,24μm,20.0s
BJT Baijiatuau 26.92 351⇑*e*P **P** **18 29 01.8 +0.4**
comp=Z,467nm,1.4s,mb5.8
BJT LR LR
comp=Z,24μm,20.0s,MS5.8
BJI Beijing 26.94 351 P **P** **18 29 02.0 +0.4**
BJI XP sP 18 29 10.5 +0.7
BJI S **S** **18 33 40.5 +2.8**
BJI XS sS 18 33 56.8 +9.5
BJI AMB AMB
comp=Z,43nm,1.2s,mb4.8
BJI LR LR
comp=N,21μm,16.9s,MS5.9
BJI LR LR
comp=E,17μm,18.8s,MS5.9
BJI LR LR
comp=Z,24μm,17.9s,MS5.8
BJI Beijing 26.94 351 P **P** **18 29 02.0 +0.4**
BJI *SP sP 18 29 10.5 +0.7
BJI S **S** **18 33 40.5 +2.8**
BJI *SS sS 18 33 56.8 +9.5
BJI pmax pmax
comp=Z,43nm,1.2s,mb4.8
BJI MLR MLR
comp=Z,24μm,17.9s,MS5.8
BJI Beijing 26.94 351 P **P** **18 29 02.0 +0.4**
comp=Z,43nm,1.2s,mb4.8
BJI sP sP 18 29 10.5 +0.7
BJI S **S** **18 33 40.5 +2.8**
BJI sS sS 18 33 56.8 +9.5
BJI LR LR
comp=Z,24μm,17.9s,MS5.8
MAJO Matsushiro 27.50 30⇓*e*P **P** **18 29 03.6 -3.0**
MAJO pmax pmax
comp=Z,15nm,0.9s,mb4.5
MAJO Matsushiro 27.50 30⇓*e*P **P** **18 29 03.6 -3.0**
comp=Z,16nm,0.9s,mb4.5
MAT Matsushiro 27.50 30 P **P** **18 29 06.6 0.0**
MAT S **S** **18 33 49.0 +2.5**
MJAR Matsushiro Arr 27.50 30 P **P** **18 29 05.2 -1.4**
comp=Z,1.9nm,0.7s,baz=264,slow=6.6,SNR=12
MJAR PcP PcP 18 32 25.7 +1.1
comp=Z,1.4nm,0.8s,baz=197,slow=1.7,SNR=2.9
MJAR S **S** **18 33 55.7 +9.2**
comp=Z,1.8nm,0.9s,baz=275,slow=15,SNR=4.3
MJAR LR LR 18 38 34.6
comp=Z,9μm,18.3s,MS5.4,baz=205,slow=33
MJAR Matsushiro Arr 27.50 30 P **P** **18 29 05.2 -1.4**
MJAR 18 32 25.7

LZH Lanzhou 27.59 328 ⇑P **P** **18 29 08.8 +1.3**
LZH AP pP 18 29 15.1 +1.8
LZH XP sP 18 29 18.3 +2.6
LZH PP 18 29 58.0
LZH S **S** **18 33 51.1 +3.1**
LZH XS sS 18 34 02.0 +4.4
LZH *e*SS 18 35 13.0
LZH AMB AMB
comp=Z,161nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,580nm,4.5s
LZH LR LR
comp=E,27μm,14.3s
LZH LR LR
comp=Z,43μm,20.1s
LZH Lanzhou 27.59 328 ⇑P **P** **18 29 08.8 +1.3**
LZH *SP sP 18 29 18.2 +2.5
LZH 18 29 58.0
LZH S **S** **18 33 51.1 +3.1**
LZH pmax pmax
comp=Z,161nm,1.0s,mb5.6
LZH MLR MLR
comp=Z,43μm,20.1s,MS6.0
LZH Lanzhou 27.59 328 ⇑P **P** **18 29 08.8 +1.3**
comp=Z,161nm,1.0s,mb5.6
LZH pP pP 18 29 15.1 +1.8
LZH sP sP 18 29 18.2 +2.5
LZH PP 18 29 58.0
LZH S **S** **18 33 51.1 +3.1**
LZH sS sS 18 34 02.0 +4.4
LZH *e*SS 18 35 13.0
LZH LR LR
comp=Z,43μm,20.1s,MS6.0
PBA Port Blair 28.09 270 *e*x x 18 28 59.2
PBA *e*x x 18 29 16.8
comp=Z,264nm,1.4s
PBA *e*x x 18 35 01.8
KAKA Kakadu 28.13 157 *e*P **P** **18 29 10.9 -1.4**
comp=Z,126nm,1.2s,mb5.4
SNY Shenyang 28.38 3 ⇑P **P** **18 29 16.0 +1.5**
SNY AP pP 18 29 20.5 +0.2
SNY PP PP 18 30 09.8 -8.9
SNY S **S** **18 34 07.1 +6.7**
SNY XS sS 18 34 10.8 +0.8
SNY AMB AMB
comp=Z,228nm,1.9s,mb5.5
SNY AMB AMB
comp=Z,1μm,3.5s
SNY LR LR
comp=E,23μm,14.7s
SNY LR LR
comp=Z,28μm,15.5s,MS6.0
HHC Hu-ho-hao-te 28.69 344 *e*P **P** **18 29 18.1 +0.9**
HHC AP pP 18 29 23.8 +0.7
HHC XP sP 18 29 27.1 +1.7
HHC PP PP 18 30 11.3 -11
HHC S **S** **18 34 06.3 +1.1**
HHC SS SS 18 35 31.5 -35
HHC AMB AMB
comp=Z,20nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,2μm,5.5s
HHC LR LR
comp=N,20μm,16.9s,MS5.9
HHC LR LR
comp=E,19μm,16.9s,MS5.9
HHC LR LR
comp=Z,22μm,16.7s,MS5.8
BTO Baotou 28.90 342 *e*P **P** **18 29 19.1 0.0**
BTO S **S** **18 34 14.8 +6.2**
BTO LR LR
comp=N,5μm,15.5s,MS5.6
BTO LR LR
comp=E,10μm,18.2s,MS5.6
SHL Shillong 30.33 298 *e*P **P** **18 29 30.1 -1.7**
SHL *e*S **S** **18 34 33.0 +2.0**
AGT Agartala 30.41 294 *i*P **P** **18 29 33.0 +0.5**
AGT *i*x x 18 29 57.0
CN2 Changchun 30.48 6 *e*P **P** **18 29 32.0 -1.2**
CN2 *e*S **S** **18 34 32.0 -1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,15μm,20.0s,MS5.9
CN2 LR LR
comp=E,23μm,20.0s,MS5.9
VLA Vladivostok 30.95 15 *e*P **P** **18 29 38.7 +1.4**
VLA *e*PP pP 18 29 45.4 +2.3
VLA *i*SS SS 18 36 40.6 -12
VLA pmax pmax
comp=Z,22nm,0.8s,mb5.0
VLA Vladivostok 30.95 15⇑*i*P **P** **18 29 38.4 +1.1**
FITZ Fitzroy Crossi 31.57 172 *e*P **P** **18 29 41.6 -1.2**
comp=Z,60nm,0.9s,mb5.4
FITZ *e*S **S** **18 34 40.1 -10**
FITZ Fitzroy Crossi 31.57 172 P **P** **18 29 42.5 -0.3**
comp=Z,12nm,0.8s,mb4.8,baz=5.1,slow=8.5,SNR=21
MDJ Mudanjiang 31.87 11 P **P** **18 29 46.3 +0.9**
MDJ AP pP 18 29 52.3 +1.1
MDJ XP sP 18 29 55.0 +1.4
MDJ PP PP 18 30 56.8 -0.7
MDJ PCP PcP 18 32 32.0 -3.8
MDJ S **S** **18 34 58.0 +2.8**
MDJ XS sS 18 35 08.4 +3.6
MDJ PCS PcS 18 36 19.8 -0.6
MDJ SCS ScS 18 40 16.3 -0.2
MDJ AMB AMB
comp=Z,51nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,841nm,3.7s
MDJ LR LR
comp=N,9μm,18.8s,MS5.8
MDJ LR LR
comp=E,18μm,20.8s,MS5.8
MDJ LR LR
comp=Z,13μm,21.5s,MS5.6
MDJ Mudanjiang 31.87 11 *e*P **P** **18 29 45.7 +0.3**
comp=Z,218nm,1.3s,mb5.8
GTA Gaotai 32.19 328 ⇓P **P** **18 29 49.1 +0.9**
GTA AP pP 18 29 55.0 +1.0
GTA PP PP 18 30 57.3 -3.7
GTA PCP PcP 18 32 39.1 +2.4
GTA S **S** **18 35 01.8 +1.7**
GTA XS sS 18 35 12.1 +2.3
GTA AMB AMB
comp=Z,43nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,2μm,4.6s
GTA LR LR
comp=N,28μm,16.0s,MS6.2
GTA LR LR
comp=E,35μm,16.3s,MS6.2
GTA LR LR
comp=Z,53μm,18.2s,MS6.3
LSA Lhasa 32.40 305⇓*e*P **P** **18 29 50.8 +0.8**
LSA pmax pmax
comp=Z,206nm,1.1s,mb5.9
LSA MLR MLR
comp=Z,8μm,19.0s,MS5.4
LSA Lhasa 32.40 305⇓*e*P **P** **18 29 50.8 +0.8**
comp=Z,206nm,1.1s,mb5.9
LSA LR LR
comp=Z,8μm,19.0s,MS5.4
CAL Calcutta 32.75 291 *e*P **P** **18 29 53.5 +0.4**
CAL *e*x x 18 35 15.2
GTK Gangtok 33.66 299 *e*P **P** **18 30 00.0 -1.0**
PMG Port Moresby 34.11 130 P **P** **18 30 04.5 -0.5**
comp=Z,77nm,1.0s,mb5.6,baz=323,slow=6.3,SNR=14
PMG Port Moresby 34.11 130*c i*P **P** **18 30 05.0 0.0**
PMG Port Moresby 34.11 130⇑*e*P **P** **18 30 04.0 -1.0**
comp=Z,204nm,1.3s,mb5.9
PMG LR LR
comp=Z,7μm,21.0s,MS5.3
MBWA Marble Bar 34.39 183⇑*e*P **P** **18 30 06.5 -0.9**
comp=Z,72nm,0.8s,mb5.7
MBWA *e*pP pP 18 30 12.1 -1.2
MBWA LR LR
comp=Z,5μm,21.0s,MS5.2
BOK Bokaro 35.19 292 *e*P **P** **18 30 15.2 +0.9**
BOK *i*x x 18 30 28.2
BOK AMb AMB 18 30 30.5
comp=Z,274nm,1.5s,mb6.0
COCO West Island 35.26 225 *e*P **P** **18 30 08.5 -6.4**

WRAB Tennant Creek 35.47 159 P **P** **18 30 15.3 -1.4**
comp=Z,1μm,0.9s,SNR=64
WRAB Tennant Creek 35.47 159⇓*e*P **P** **18 30 15.5 -1.2**
WRAB Tennant Creek 35.47 159⇑*e*P **P** **18 30 15.3 -1.4**
comp=Z,226nm,0.9s,mb6.1
WRAB LR LR
comp=Z,2μm,22.0s,MS4.9
WRA Warramunga Arr 35.47 159 P **P** **18 30 15.8 -0.9**
comp=Z,51nm,0.7s,mb5.6,baz=336,slow=9.5,SNR=172
WRA S **S** **18 35 54.6 +3.6**
comp=Z,2.0nm,1.0s,baz=358,slow=13,SNR=4.6
WB2 Warramunga Arr 35.48 159 *e*P **P** **18 30 15.2 -1.6**
WB2 *e*S **S** **18 35 48.5 -2.5**
ASAJ Asahikawa 35.55 27 P **P** **18 30 17.5 +0.1**
comp=Z,20nm,0.9s,mb5.0,baz=235,slow=14,SNR=7.9
ASAJ S **S** **18 35 53.8 +1.6**
comp=Z,7.3nm,1.1s,baz=141,slow=31,SNR=1.6
ASAJ LR LR 18 45 15.1
comp=Z,13μm,20.7s,MS5.7,baz=105,slow=37
HIA Hailar 35.79 358 *e*P **P** **18 30 18.8 -0.6**
HIA *e* 18 32 52.0
HIA pmax pmax
comp=Z,503nm,1.9s
HIA MLR MLR
comp=Z,15μm,19.0s
HIA Hailar 35.79 358 *e*P **P** **18 30 18.8 -0.6**
comp=Z,503nm,1.9s,mb6.1
HIA *e*PP PP 18 31 51.9 +11
HIA *e*PcP PcP 18 32 52.0 +5.0
HIA LR LR
comp=Z,15μm,19.0s,MS5.8
JIRN Jiri 35.81 299 *e*P **P** **18 30 20.8 +1.2**
comp=Z,39nm,0.4s,mb5.7
GUN Gumba 36.15 299 *e*P **P** **18 30 23.2 +0.7**
comp=Z,1μm,1.0s
PKI Pulchoki 36.45 298 *e*P **P** **18 30 25.3 +0.2**
comp=Z,196nm,0.7s,mb6.2
SONM Songino Array 36.56 343 P **P** **18 30 26.2 +0.1**
comp=Z,15nm,0.8s,mb4.9,baz=162,slow=9.4,SNR=31
SONM S **S** **18 36 13.7 +6.2**
comp=Z,1.2nm,1.1s,baz=185,slow=37,SNR=3.1
SONM LR LR 18 47 17.5
comp=Z,19μm,19.4s,MS5.9,baz=54,slow=39
SONM Songino Array 36.56 343 P **P** **18 30 26.2 +0.2**
SONM S **S** **18 36 13.7 +6.2**
KKN Kakani 36.62 299 *e*P **P** **18 30 26.6 0.0**
comp=Z,199nm,0.8s,mb6.0
KLR Kul'dur 36.72 11 *e*P **P** **18 30 24.0 -3.4**
KLR *e* 18 31 58.0
KLR *e*S **S** **18 36 06.0 -3.9**
KLR pmax pmax
comp=E,92nm,1.8s
KLR pmax pmax
comp=Z,420nm,1.8s,mb6.0
KLR pmax pmax
comp=N,2μm,6.5s
KLR pmax pmax
comp=Z,2μm,6.5s
KLR smax
comp=N,3μm,13.0s
KLR smax
comp=E,4μm,13.0s
KLR MLR MLR
comp=E,10μm,15.0s
KLR MLR MLR
comp=Z,13μm,15.0s,MS5.8
DMN Daman 36.72 298 *e*P **P** **18 30 27.7 +0.3**
comp=Z,1μm,1.5s,mb6.5
VIS Vishakhapatnam 36.95 282 *e*P **P** **18 30 29.4 0.0**
VIS AMb AMB 18 30 40.9
comp=Z,304nm,1.3s,mb6.0
VIS *e*x x 18 36 21.4
GKN Gorkha 37.23 299 *e*P **P** **18 30 31.5 -0.2**
comp=Z,230nm,0.8s,mb6.0
YSS Yuzh-Sakhalins 37.91 24⇑*e*P **P** **18 30 38.0 +0.5**
YSS *e**SP sP 18 30 50.0 +4.2
YSS *e*S **S** **18 36 25.0 -3.1**
YSS *e* 18 36 36.0
YSS *e*SSS 18 39 38.0
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.1
YSS MLR MLR
comp=Z,4μm,15.0s,MS5.4
YSS MLR MLR
comp=N,3μm,18.0s,MS5.5
YSS MLR MLR
comp=E,6μm,17.0s,MS5.5
YSS Yuzh-Sakhalins 37.91 24 *e*P **P** **18 30 37.2 -0.3**
comp=E,112nm,1.2s,mb5.5
YSS LR LR
comp=Z,13μm,22.0s,MS5.7
KOLN Koldanda 38.06 298 *e*P **P** **18 30 38.8 +0.1**
comp=Z,1μm,1.8s,mb6.3
AS31 Alice Springs 38.79 162 *e*P **P** **18 30 44.6 -0.3**
AS31 *e*S **S** **18 36 37.3 -4.2**
ASAR Alice Springs 38.80 162 P **P** **18 30 44.8 -0.1**
comp=Z,83nm,0.6s,mb5.7,baz=338,slow=6.0,SNR=527
ASAR S **S** **18 36 39.7 -1.8**
comp=Z,6.9nm,1.0s,baz=335,slow=13,SNR=11
ASAR Alice Springs 38.80 162 P **P** **18 30 44.8 -0.1**
ASAR S **S** **18 36 39.7 -1.8**
ASPA Alice Springs 38.80 162 *e*P **P** **18 30 44.6 -0.3**
ASPA *e*S **S** **18 36 37.3 -4.2**
CIT Chita 39.04 352 *e*P **P** **18 30 47.3 +0.3**
CIT pmax pmax
comp=Z,349nm,3.7s
ALBI Allahabad 39.11 294 *e*P **P** **18 30 45.0 -2.6**
ZAK Zakamensk 39.75 342 *e*P **P** **18 30 52.9 -0.1**
ZAK *e* 18 32 34.7
ZAK *e* 18 36 59.3
ZAK pmax pmax
comp=Z,25nm,1.6s,mb4.7
MDRS Chennai 40.10 274⇓*e*x **P** **18 30 59.7 +3.9**
JBP Jabalpur 40.45 290⇓*e*P **P** **18 31 00.3 +1.6**
JBP *e*x x 18 31 10.4
comp=Z,260nm,1.5s
JBP *e*x x 18 37 12.4
PALK Pallekele 40.53 266 *e*P **P** **18 31 01.5 +2.1**
comp=Z,32nm,1.0s,mb4.9
PALK LR LR
comp=Z,2μm,19.0s,MS4.9
TLY Talaya 40.80 343 P **P** **18 31 01.0 -0.6**
comp=Z,201nm,0.8s,mb5.8,SNR=6.0
TLY Talaya 40.80 343*d i*P **P** **18 31 05.1 +3.5**
TLY *e* 18 32 39.8
TLY *e*PPP 18 33 11.2
TLY *e*S **S** **18 37 15.2 +3.7**
TLY *e*SSS 18 40 56.3
TLY pmax pmax
comp=Z,101nm,1.6s,mb5.2
TLY MLR MLR
comp=Z,10μm,18.0s,MS5.7
IRK Irkutsk 41.13 344 *e*P **P** **18 31 10.0 +5.7**
IRK *e* 18 32 59.2
IRK pmax pmax
comp=Z,168nm,2.1s,mb5.3
NGP Nagpur 41.14 287 *e*P **P** **18 31 09.0 +4.6**
NGP *e*x x 18 31 14.3
comp=Z,398nm,1.3s
NGP *e*S **S** **18 37 23.2 +6.7**
CTA Charters Tower 41.26 143 *e*P **P** **18 31 06.0 +0.6**
comp=Z,23nm,1.0s,mb4.8
CTA *e*S **S** **18 37 17.8 -0.5**
CTA Charters Tower 41.26 143 P **P** **18 31 06.5 +1.1**
comp=Z,31nm,1.1s,mb4.9,baz=326,slow=10,SNR=12
CTA Charters Tower 41.26 143 *e*P **P** **18 31 06.0 +0.6**
CTA *e*S **S** **18 37 17.8 -0.5**
CTA pmax pmax
comp=Z,23nm,1.0s
CTAO Charters Tower 41.26 143 *e*P **P** **18 31 05.3 -0.1**
CTAO Charters Tower 41.26 143⇑*e*P **P** **18 31 05.1 -0.3**
comp=Z,68nm,1.2s,mb5.2
CTAO *e*pP pP 18 31 11.1 -0.2
CTAO LR LR
comp=Z,6μm,20.0s,MS5.5
HYB Hyderabad 41.51 281⇑*i*P **P** **18 31 08.0 +0.6**
comp=Z,130nm,1.0s,mb5.5
HYB *e*S **S** **18 37 22.0 -0.1**
HYB LR LR 18 44 00.0
comp=Z,8.0nm,22.0s
HYB Hyderabad 41.51 281⇑*e*P **P** **18 31 09.0 +1.6**
HYB *e*S **S** **18 37 24.0 +1.9**
HYB pmax pmax
comp=Z,130nm,1.0s,mb5.5
HYB Hyderabad 41.51 281⇑*e*P **P** **18 31 09.0 +1.6**
comp=Z,130nm,1.0s,mb5.5

HYB eS S 18 37 24.0 +1.9
MOY Mondy 41.59 341 eP P 18 31 08.5 +0.4
MOY pmax pmax
comp=Z,319nm,3.9s
WMQ Urumqi 41.89 323 eP P 18 31 13.3 +2.7
WMQ AP pP 18 31 19.0 +2.5
WMQ XP sP 18 31 22.3 +3.4
WMQ PP PP 18 32 55.0 +7.4
WMQ PPP 18 33 25.0
WMQ SCP ScP 18 36 57.0 +1.6
WMQ S **S 18 37 30.0 +2.2**
WMQ XS sS 18 37 41.0 +3.5
WMQ SS SS 18 40 31.0 -3.4
WMQ AMB AMB
comp=Z,68nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,1μm,4.4s
WMQ LR LR
comp=N,28μm,13.3s,MS6.4
WMQ LR LR
comp=E,24μm,18.0s,MS6.4
WMQ LR LR
comp=Z,24μm,20.6s,MS6.1
SALM Salem 42.24 273 eP P 18 31 13.0 -0.4
BHPL Bhopal 42.80 290 eP P 18 31 17.7 -0.3
BHPL AMb AMB 18 31 28.2
comp=Z,193nm,1.5s,mb5.6
BHPL ex x 18 37 36.4
AGRA Agra 42.86 296 eP P 18 31 17.6 -0.8
AGRA AMb AMB 18 31 27.2
comp=Z,286nm,1.7s,mb5.7
AKL Akola 43.01 286 eP P 18 31 21.1 +1.4
comp=Z,458nm,1.4s,mb6.0
AKL ex x 18 37 50.0
LATR Latur 43.40 283 ex x 18 31 56.8
comp=Z,252nm,1.2s
CLNS Chul'man 43.42 3 eP P 18 31 23.6 +0.6
CLNS e 18 32 59.4
CLNS e 18 33 10.9
CLNS eS **S 18 37 52.4 +2.1**
CLNS pmax pmax
comp=E,30nm,1.0s
CLNS pmax pmax
comp=E,51nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,27nm,0.9s
CLNS pmax pmax
comp=Z,18nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,21nm,1.2s
CLNS smax
comp=N,2μm,12.8s
CLNS smax
comp=Z,632nm,11.2s
CLNS smax
comp=E,3μm,13.1s
CLNS MLR MLR
comp=Z,9μm,18.0s,MS5.7
CLNS MLR MLR
comp=N,4μm,15.0s,MS5.9
CLNS MLR MLR
comp=E,10μm,15.0s,MS5.9
CLNS Chul'man 43.42 3 eP P 18 31 23.5 +0.5
KLP Kalpa 43.50 302 eP P 18 31 24.4 +0.7
KLP AMb AMB 18 31 40.8
comp=Z,337nm,1.0s,mb6.0
BISR Bishrakh 43.54 297 eP P 18 31 23.1 -0.9
BISR AMb AMB 18 31 29.7
comp=Z,2.5nm,0.9s
NDI New Delhi 43.75 298 eP P 18 31 24.3 -1.3
NDI AMb AMB 18 31 33.7
comp=Z,122nm,1.2s,mb5.5
NDI ex x 18 41 12.0
SONA Sohna 43.79 297 eP P 18 31 24.9 -1.1
SONA AMb AMB 18 31 32.9
comp=Z,129nm,1.1s,mb5.6
AYAN Aya Nagar 43.79 297 eP P 18 31 24.7 -1.3
AYAN ex x 18 31 42.7
comp=Z,10nm,0.4s
TRD Trivandrum 43.93 268 eP P 18 31 25.8 -1.3
TRD AMb AMB 18 31 43.5
comp=Z,79nm,2.0s,mb5.1
BHGR Bahadurgarh 43.99 297 eP P 18 31 26.2 -1.4
BHGR AMb AMB 18 31 34.4
comp=Z,127nm,1.4s,mb5.5
KUDL Kundal 44.28 297 eP P 18 31 28.1 -1.8
KUDL AMb AMB 18 31 36.7
comp=Z,123nm,1.5s,mb5.4
KKR Kurukshetra 44.34 299 eP P 18 31 29.9 -0.5
KKR AMb AMB 18 31 40.2
comp=Z,489nm,1.5s,mb6.0
FORT Forrest 44.38 172 eP P 18 31 30.7 0.0
comp=Z,79nm,0.7s,mb5.5
HNR Honiara 44.42 119 P P 18 31 34.5 +3.5
comp=Z,72nm,1.0s,mb5.4,baz=92,slow=11,SNR=2.9
SDNR Sundarnagar 44.55 301 eP P 18 31 32.5 +0.4
BOD Bodaibo 44.69 354 eP P 18 31 32.3 -0.9
BOD e 18 31 41.0
BOD pmax pmax
comp=Z,39nm,1.9s,mb4.9
KLBR Kellerberrin 44.88 185⇑ i P P 18 31 34.0 -0.7
comp=Z,54nm,1.0s,mb5.3
BHK Bhakra 44.99 301 ex P 18 31 39.0 +3.4
MNGI Mangalore 45.37 275 eP P 18 31 39.4 +0.8
MNGI AMb AMB 18 31 56.6
comp=Z,235nm,1.8s,mb5.7
MNGI i x x 18 38 30.1
MUN Mundaring 45.40 186 eP sP 18 31 50.5 +3.3
AJM Ajmer 45.66 294 eP P 18 31 40.5 -0.4
AJM AMb AMB 18 31 51.0
comp=Z,287nm,1.6s,mb6.0
KAD Karad 45.68 281 eP P 18 31 41.9 +0.9
KAD AMb AMB 18 31 51.8
comp=Z,183nm,1.6s,mb5.8
KAD eS **S 18 38 25.6 +2.5**
THN Thein Dam 45.81 302 eP P 18 31 40.7 -1.4
POO Poona 45.97 283⇑ i P P 18 31 41.0 -2.3
comp=Z,190nm,1.0s,mb6.0
POO AMb AMB 18 32 28.8
comp=Z,282nm,1.5s,mb6.0
NWAO Narrogin (SRO) 46.24 185 P P 18 31 44.6 -0.9
comp=Z,26nm,0.8s,mb5.2,baz=354,slow=7.8,SNR=14
NWAO Narrogin (SRO) 46.24 185 eP P 18 31 44.2 -1.3
NWAO e*PP pP 18 31 50.5 -1.0
NWAO pmax pmax
comp=Z,53nm,0.8s
NWAO MLR MLR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 46.24 185 eP P 18 31 44.2 -1.3
NWAO epP pP 18 31 50.5 -1.0
NWAO LR LR
comp=Z,3μm,20.0s,MS5.2
SKR Severo-Kuril's 46.60 30 eP P 18 31 41.0 -7.3
SKR e 18 33 43.0
SKR ePPP 18 34 27.0
SKR eS **S 18 38 43.0 +6.7**
SKR eSS SS 18 41 58.0 -4.4
SKR pmax pmax
comp=Z,240nm,1.2s,mb6.0
SKR pmax pmax
comp=N,2μm,5.0s
SKR smax
comp=N,5μm,10.0s
SKR smax
comp=E,4μm,8.0s
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.6
SKR MLR MLR
comp=N,4μm,20.0s,MS5.7
SKR MLR MLR
comp=E,6μm,20.0s,MS5.7
MK31 Makanchi Array 46.72 323 P P 18 31 49.7 +0.5
MK31 Makanchi Array 46.72 323 eP P 18 31 49.4 +0.1
MKAR Makanchi Array 46.72 323 P P 18 31 49.5 +0.3
comp=E,17nm,0.9s,mb5.0,baz=123,slow=8.8,SNR=46
MKAR S **S 18 38 42.5 +4.6**
comp=E,0.7nm,0.9s,baz=27,slow=26,SNR=2.2
MKAR LR LR 18 52 28.5
comp=E,7μm,19.0s,MS5.6,baz=113,slow=38
MKAR Makanchi Array 46.72 323 P P 18 31 49.5 +0.3
MKAR S **S 18 38 42.6 +4.7**
BOM Bombay 46.95 283 i P **P 18 32 00.4 +9.4**

BOM ex x 18 32 02.0
comp=Z,536nm,1.9s
BOM eS **S 18 38 50.3 +9.1**
KSH Kashi 47.66 312 eP P 18 31 59.8 +3.3
KSH eAP pP 18 32 07.5 +5.0
KSH eXP sP 18 32 10.6 +5.7
KSH ePCP PcP 18 33 27.8 +1.9
KSH ePP PP 18 33 50.3 +2.2
KSH ePPP 18 34 40.3
KSH eSCP ScP 18 37 19.0 -0.1
KSH eS **S 18 38 54.8 +3.5**
KSH eXS sS 18 39 06.4 +5.2
KSH eSCS ScS 18 41 47.8 -1.4
KSH eSS SS 18 42 15.6 -3.9
KSH LR LR
comp=Z,676nm,6.7s
KRAR Krasnoyarsk 47.90 339 i P **P 18 31 59.3 +0.9**
KRAR MLR MLR
comp=Z,8μm,16.0s,MS5.8
NIL Nilore 48.10 303 P P 18 32 02.4 +2.4
comp=Z,144nm,0.7s,mb6.1,SNR=6.5
AAA Alma-Ata 48.39 317 i P **P 18 32 08.8 +6.6**
AAA i S **S 18 39 05.9 +4.2**
AAA MLR MLR
comp=Z,11μm,20.6s,MS5.8
YAK Yakutsk 48.91 5 eP P 18 32 05.3 -0.9
YAK e*PP pP 18 32 13.4 +1.2
YAK e 18 33 28.9
YAK i 18 34 02.5
YAK eS **S 18 39 07.2 -1.9**
YAK e*SS sS 18 39 23.3 +4.3
YAK e 18 41 59.0
YAK eSSS 18 43 54.1
YAK pmax pmax
comp=Z,49nm,1.0s,mb5.5
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,1μm,3.0s
YAK pmax pmax
comp=N,1μm,3.2s
YAK pmax pmax
comp=E,275nm,2.9s
YAK smax
comp=N,3μm,16.6s
YAK smax
comp=Z,2μm,16.0s
YAK smax
comp=E,2μm,13.6s
YAK MLR MLR
comp=Z,10μm,19.0s,MS5.8
YAK MLR MLR
comp=N,12μm,20.0s,MS6.0
YAK MLR MLR
comp=E,13μm,22.0s,MS6.0
YAK Yakutsk 48.91 5 eP P 18 32 04.9 -1.4
comp=E,151nm,1.1s,mb5.9
YAK ePP PP 18 34 02.1 +2.5
YAK LR LR
comp=Z,10μm,20.0s,MS5.8
STKA Stephens Creek 48.98 157 eP P 18 32 06.7 0.0
STKA eS **S 18 39 07.2 -2.8**
STKA Stephens Creek 48.98 157 P P 18 32 07.1 +0.4
comp=Z,75nm,0.7s,mb5.8,baz=333,slow=7.1,SNR=128
STKA S **S 18 39 15.3 +5.3**
comp=Z,4.3nm,1.1s,baz=348,slow=24,SNR=2.1
STKA LR LR 18 51 31.0
comp=Z,6μm,21.7s,MS5.5,baz=331,slow=35
JASL Jaisalmer 49.04 294 eP P 18 32 06.4 -0.8
JASL ex x 18 32 18.7
comp=Z,26nm,0.7s
KZA Kyzart 49.08 315 P P 18 32 08.9 +1.4
SNR=10
TKM2 Tokmak 2 49.16 316 P P 18 32 09.8 +1.6
SNR=9.2
PET Petropavlovsk 49.31 29 eP P 18 32 08.7 -0.6
PET pmax pmax
comp=Z,216nm,1.5s,mb6.0
PET MLR MLR
comp=Z,3μm,20.0s,MS5.3
PET Petropavlovsk 49.31 29 eP P 18 32 08.7 -0.6
comp=Z,216nm,1.5s,mb6.0
PET LR LR
comp=Z,3μm,20.0s,MS5.3
KBK Karagaybulak 49.50 315 P P 18 32 12.1 +1.3
SNR=18
UCH Uchtor 49.65 315 P P 18 32 13.7 +1.9
SNR=39
ZAL Zalesovo 49.67 332 P P 18 32 10.9 -1.1
comp=Z,8.9nm,0.7s,mb4.9,baz=354,slow=7.2,SNR=27
ZAL LR LR 18 53 11.7
comp=Z,11μm,20.7s,MS5.8,baz=77,slow=36
ZAL Zalesovo 49.67 332 i P **P 18 32 11.6 -0.4**
ZAL pmax pmax
comp=Z,9.0nm,0.7s
ZAL Zalesovo 49.67 332 P P 18 32 10.9 -1.1
ZAL LR LR 18 53 11.7
CHMS Chumysh 49.77 316 P P 18 32 13.4 +0.7
SNR=13
FRU Bishkek 49.80 315 eP P 18 32 14.0 +1.0
FRU i pP 18 32 19.0 0.0
FRU e 18 39 30.0
FRU pmax pmax
comp=Z,202nm,2.0s,mb5.8
FRU MLR MLR
comp=N,16μm,21.0s
AAK Ala-Archa 49.81 315 P P 18 32 14.3 +1.2
SNR=12
AAK Ala-Archa 49.81 315 P P 18 32 13.5 +0.5
comp=N,240nm,1.0s,mb6.2,SNR=16
AAK Ala-Archa 49.81 315 P P 18 32 13.8 +0.7
SNR=36
AAK Ala-Archa 49.81 315 d i P **P 18 32 12.9 -0.1**
AAK pmax pmax
comp=Z,19nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,7μm,16.0s,MS5.8
AAK Ala-Archa 49.81 315 eP **P 18 32 12.8 -0.3**
comp=Z,85nm,1.3s,mb5.6
AAK epP pP 18 32 18.3 -0.8
USP Ospenovka 50.03 316 P P 18 32 15.0 +0.2
SNR=14
AML Almayashu 50.18 314 P P 18 32 17.5 +1.6
SNR=24
EKS2 Erkin-Say 50.31 315 P P 18 32 18.0 +1.2
SNR=18
ADE Adelaide 50.81 162 ⇓ i P **P 18 32 21.6 +1.0**
KURK Kurchatov 50.85 326 P P 18 32 21.1 +0.1
comp=Z,1μm,0.8s,SNR=64
MA2 Magadan 50.94 19 eP P 18 32 22.5 +0.9
MA2 eS **S 18 39 36.8 -0.5**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 pmax pmax
comp=N,20nm,0.8s
MA2 MLR MLR
comp=E,19μm,17.2s
MA2 Magadan 50.94 19 eP P 18 32 21.0 -0.6
comp=E,222nm,1.5s,mb5.9
MA2 LR LR
comp=Z,7μm,21.0s,MS5.6
NVS Novosibirsk 50.95 333 ⇓ i P **P 18 32 20.4 -1.3**
NVS eS **S 18 39 36.8 -0.7**
NVS e 18 42 08.6
NVS pmax pmax
comp=N,103nm,2.2s
NVS pmax pmax
comp=E,83nm,2.2s
NVS pmax pmax
comp=Z,147nm,2.2s,mb5.5
NVS smax
comp=N,25nm,2.4s
NVS smax
comp=E,90nm,2.4s
ARMA Armidale 52.35 147 eP P 18 32 33.4 +1.2
KK31 Karatay Array 52.72 314 i P **P 18 32 34.6 -0.3**
KK31 Karatay Array 52.72 314 i P **P 18 32 34.7 -0.2**
KKAR Karatay Array 52.72 314 P P 18 32 34.6 -0.3
SEY Seymchan 54.07 17 i P **P 18 32 45.8 +1.0**
SEY Seymchan 54.07 17 i P **P 18 32 45.9 +1.1**
CNB Canberra Magne 55.19 152 eP P 18 32 53.6 +0.6
comp=E,159nm,1.0s,mb6.0
TOO Toolangi 55.50 157 ⇓ i P **P 18 32 56.4 +1.2**

comp=E,41nm,0.9s,mb5.5
TOO Toolangi 55.50 157 ⇓ i P **P 18 32 56.4 +1.2**
TOO pmax pmax
comp=Z,41nm,0.9s,mb5.5
VOSK Vostochnaya 55.99 326 P P 18 32 57.5 -1.2
VOSK pmax pmax
comp=Z,84nm,1.3s,mb5.6
VOSK Vostochnaya 55.99 326 i P **P 18 32 57.6 -1.1**
BVA0 Borovoye Array 56.44 326 P P 18 33 01.5 -0.4
BVA0 pmax pmax
comp=Z,25nm,1.3s,mb5.1
BVAR Borovoye Array 56.44 326 P P 18 33 01.5 -0.4
comp=Z,29nm,1.1s,mb5.2,baz=120,slow=9.0,SNR=70
BVAR S **S 18 40 57.2 +5.3**
comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=2.4
BRVK Borovoye 56.51 326 P P 18 33 02.6 +0.2
comp=Z,747nm,0.9s,SNR=40
BRVK Borovoye 56.51 326 P P 18 33 02.5 +0.1
SNR=77
BRVK Borovoye 56.51 326 eP **P 18 33 01.6 -0.8**
BRVK pmax pmax
comp=Z,120nm,1.1s,mb5.8
BRVK Borovoye 56.51 326 ⇓ eP **P 18 33 01.7 -0.7**
comp=Z,194nm,1.1s,mb6.0
BRVK epP pP 18 33 08.5 0.0
BRVK LR LR
comp=Z,3μm,19.0s,MS5.3
CHKZ Chkalovo 56.59 326 ⇓ eP **P 18 33 01.7 -1.3**
CHKZ e*PP pP 18 33 07.9 -1.2
CHKZ pmax pmax
comp=Z,304nm,1.6s,mb6.1
CHKZ Chkalovo 56.59 326 ⇓ eP **P 18 33 01.7 -1.3**
comp=Z,304nm,1.6s,mb6.1
CHKZ epP pP 18 33 07.9 -1.2
ZRNK Zerenda 57.17 325 ⇓ eP **P 18 33 06.3 -0.8**
ZRNK e*PP pP 18 33 12.7 -0.5
ZRNK pmax pmax
comp=Z,123nm,1.1s,mb5.8
ZRNK Zerenda 57.17 325 ⇓ eP **P 18 33 06.2 -0.9**
comp=Z,123nm,1.1s,mb5.8
ZRNK epP pP 18 33 12.7 -0.5
WBK Wadi Bani Khal 59.79 288 ⇑ P **P 18 33 26.0 +0.6**
SNR=9.5
WSAR Wadi Sarin 60.07 289 P P 18 33 25.9 -1.5
comp=Z,11nm,0.9s,mb4.9,baz=126,slow=9.1,SNR=8.4
BIDO Bidbid 60.52 290 ⇓ P **P 18 33 30.9 +0.5**
SNR=6.0
JMDO Jabal Madar 60.60 288 ⇓ P **P 18 33 30.8 -0.1**
SNR=5.4
TAU Tasmania Unive 60.84 158 P P 18 33 33.5 +0.9
TAU pmax pmax
comp=Z,75nm,1.2s,mb5.7
TAU MLR MLR
comp=Z,1μm,21.0s,MS5.1
TAU Tasmania Unive 60.84 158 P P 18 33 33.5 +1.0
comp=Z,75nm,1.2s,mb5.7
TAU LR LR
comp=Z,1μm,21.0s,MS5.1
ABKT Ailbek 60.92 306 P P 18 33 33.8 +0.7
comp=Z,340nm,1.1s,mb6.4,SNR=14
HOQ Hoqain 61.27 290 ⇓ P **P 18 33 36.6 +1.1**
SNR=10
AB31 Akbulak array 61.45 319 i P **P 18 33 36.2 -0.5**
BILL Bilibino 61.76 18 i P **P 18 33 39.3 +0.5**
BILL eS **S 18 42 03.0 +2.2**
BILL pmax pmax
comp=Z,16nm,0.7s,mb5.3
BILL MLR MLR
comp=Z,9μm,29.0s,MS5.8
BILL Bilibino 61.76 18 eP **P 18 33 38.2 -0.6**
comp=Z,98nm,1.2s,mb5.8
BILL LR LR
comp=Z,7μm,21.0s,MS5.8
ARQ Araqi 62.01 289 ⇑ P **P 18 33 40.5 +0.1**
SNR=6.4
HATD Hatta, Dubai 62.29 291 ⇑ P **P 18 33 42.8 +0.5**
SNR=6.8
ASHO Ashiyiah 62.36 291 ⇓ P **P 18 33 44.0 +1.2**
SNR=12
AKTK Aktyubinsk 62.92 320 P P 18 33 45.6 -1.0
AKTO Aktyubinsk 62.92 320 P P 18 33 45.6 -1.0
comp=Z,12nm,1.0s,mb5.0,baz=98,slow=7.9,SNR=20
SHAO Shalim 63.28 284 ⇑ P **P 18 33 50.4 +1.5**
SNR=10
ARU Arti 64.04 327 P P 18 33 54.5 +0.5
SNR=6.3
ARU Arti 64.04 327 ⇑ i P **P 18 33 53.2 -0.8**
ARU e 18 34 26.6
ARU e 18 36 14.2
ARU ePPP 18 37 47.9
ARU eS **S 18 42 30.5 +1.0**
ARU e 18 43 47.3
ARU pmax pmax
comp=Z,65nm,1.4s,mb5.5
ARU MLR MLR
comp=E,6μm,18.0s,MS5.9
ARU MLR MLR
comp=Z,7μm,18.0s,MS5.9
ARU MLR MLR
comp=N,1μm,14.0s,MS5.9
ARU Arti 64.04 327 eP **P 18 33 51.6 -2.4**
comp=N,73nm,1.0s,mb5.7
ARU LR LR
comp=Z,2μm,19.0s,MS5.3
RBK Rabkut 64.68 283 ⇓ P **P 18 33 59.9 +1.8**
SNR=16
WHFO Wadi Hawf 65.04 284 ⇑ P **P 18 34 00.8 +0.3**
SNR=13
ORR Orenburg 65.17 321 P P 18 34 00.8 -0.6
ORR S S 18 42 44.0 +0.6
ORR pmax pmax
comp=Z,150nm,1.5s,mb5.8
ORR MLR MLR
comp=Z,12μm,22.0s,MS6.0
ABTO Aybut 65.56 283 P P 18 34 03.9 +0.1
SNR=18
UNV Unalaska Valle 68.69 37 P P 18 34 26.1 +2.4
comp=Z,115nm,0.9s,mb5.8
UNV LR LR
comp=Z,14μm,22.0s,MS6.2
MAK Makhachkala 69.29 311 i P **P 18 34 26.5 -0.9**
MAK e 18 37 01.7
MAK eS S 18 43 36.9 +4.0
MAK pmax pmax
comp=Z,455nm,1.8s,mb6.1
UMR Umm Al-Rimmam 69.50 297 eP **P 18 34 27.1 -1.7**
UMR AMb AMB 18 34 30.3
comp=Z,48nm,1.0s,mb5.4
KBD Kabd 69.55 296 eP **P 18 34 27.2 -1.8**
KBD AMb AMB 18 34 36.1
comp=Z,406nm,1.7s,mb6.1
RDF Al-Radifah 69.69 296 eP **P 18 34 28.9 -1.0**
RDF AMb AMB 18 34 32.4
comp=Z,70nm,1.0s,mb5.6
NAY Al-Naaiem 69.94 296 eP **P 18 34 29.9 -1.5**
NAY AMb AMB 18 34 38.2
comp=Z,51nm,1.3s,mb5.3
DGRG David-gareji 70.88 309 P P 18 34 34.1 -3.1
DGRG S S 18 44 03.9 +12
MTA Mtatsminda 71.31 310 P P 18 34 45.1 +5.3
MTA S S 18 44 05.8 +9.3
TBLG Delisi 71.35 310 P P 18 34 45.2 +5.2
GNI Garni 71.39 308 P P 18 34 40.1 -0.2
comp=Z,7.8nm,0.8s,mb4.7,baz=170,slow=21,SNR=5.8
GNI Garni 71.39 308 ⇑ eP **P 18 34 41.3 +1.0**
GNI pmax pmax
comp=Z,21nm,1.3s
GNI MLR MLR
comp=Z,3μm,16.0s
GNI Garni 71.39 308 eP **P 18 34 39.9 -0.4**
comp=Z,50nm,1.1s,mb5.3
ZEI Tsey 71.94 311 eP **P 18 34 42.8 -0.8**
ZEI e*PP pP 18 34 48.6 -1.2
ZEI e 18 37 29.2
ZEI pmax pmax
comp=Z,16nm,1.1s,mb4.9
PECR Pechory 71.96 325 eP **P 18 34 47.6 +3.8**
PECR e 18 35 00.0
PECR e 18 44 42.0
PECR pmax pmax
comp=Z,320nm,2.4s,mb5.8
PECR MLR MLR
comp=Z,9μm,20.0s,MS6.0
PECR MLR MLR
comp=N,4μm,19.0s,MS5.9
PECR MLR MLR

comp=E,4μm,19.0s,MS5.9
BHD Baghdad 72.07 301 *ex* x 18 34 42.0
BHD Baghdad 72.07 301 *ex* x 18 44 43.0
ONI Oni 72.28 311 P **P** **18 34 47.4 +1.7**
ONI S S 18 44 11.8 +4.1
HAKT HAKKARI 72.32 305 *i* P **P** **18 34 46.1 +0.2**
KIV Kislovodsk 72.78 312 P **P** **18 34 48.2 -0.5**
comp=E,346nm,1.5s,mb6.1,SNR=6.4
KIV Kislovodsk 72.78 312 ⇑P **P** **18 34 48.8 +0.1**
SNR=13
KIV Kislovodsk 72.78 312 *i* P **P** **18 34 48.9 +0.2**
KIV *e**PP pP 18 34 54.4 -0.5
KIV *e* 18 37 29.1
KIV *e*S S 18 44 15.3 +1.8
KIV pmax pmax
comp=Z,15nm,0.7s,mb5.0
KIV MLR MLR
comp=Z,7μm,19.0s,MS6.0
KIV Kislovodsk 72.78 312 *e*P **P** **18 34 48.0 -0.7**
comp=Z,107nm,1.3s,mb5.6
KIV LR LR
comp=Z,2μm,21.0s,MS5.2
MSL Mosul 72.90 304 *ex* x 18 34 52.0
MSL *ex* x 18 44 24.0
MSL *ex* x 18 45 04.0
VRHR Novokhopersk 73.33 320 *e*P **P** **18 34 50.7 -1.2**
VRHR *e**SP sP 18 34 56.2 -4.2
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
CHGN Chignik 73.48 35 *e*P **P** **18 35 00.6 +7.8**
BNGL BINGOL 74.23 307 *i* P **P** **18 35 04.3 +7.2**
MARD Mardin 74.67 305 *i* P **P** **18 35 01.6 +1.9**
VORD Divnogorie 74.80 320 *e*P **P** **18 34 58.5 -2.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD MLR MLR
comp=Z,4μm,16.0s,MS5.8
VORD MLR MLR
comp=N,2μm,15.0s,MS5.8
VORD MLR MLR
comp=E,4μm,18.0s,MS5.8
VRSR Storozhevoye 74.86 320 *e*P **P** **18 35 00.2 -0.6**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.0s
SVW2 Sparrevohn 74.97 30 *e*P **P** **18 35 06.2 +4.8**
TMCR Tamitsa 75.18 333 P **P** **18 35 06.2 +3.5**
MOS Moscow 75.59 325 *e*P **P** **18 35 03.9 -1.1**
MOS *e* 18 35 15.4
MOS *e* 18 37 56.1
MOS *e*S S 18 44 46.3 +1.3
MOS *e* 18 45 22.9
MOS pmax pmax
comp=Z,400nm,2.5s,mb5.9
MOS pmax pmax
comp=Z,163nm,2.0s,mb5.6
MOS MLR MLR
comp=Z,10μm,18.5s,MS6.1
MOS MLR MLR
comp=E,4μm,19.7s
IMA2 Indian Mountai 75.76 25 *e*P **P** **18 35 06.3 +0.3**
IMA2 *e*P pP 18 35 12.3 +0.1
ELZG Elazig 75.96 307 *i* P **P** **18 35 07.9 +0.8**
OBN Obninsk 76.22 324 *i* P **P** **18 35 08.0 -0.6**
OBN *e**PP pP 18 35 13.3 -1.6
OBN *e*S S 18 44 52.2 +0.2
OBN pmax pmax
comp=Z,21nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,10μm,19.0s,MS6.2
OBN Obninsk 76.22 324 *e*P **P** **18 35 07.1 -1.5**
comp=Z,177nm,1.4s,mb5.8
OBN LR LR
comp=Z,3μm,19.0s,MS5.6
ATD Arta Tunnel 76.48 279 P **P** **18 35 17.1 +7.0**
comp=Z,12nm,0.8s,mb4.9,baz=13,slow=8.2,SNR=5.4
ANN Anapa 76.49 313 *d i*P **P** **18 35 08.4 -1.7**
ANN *i**PP pP 18 35 14.5 -1.9
ANN *e* 18 35 18.8
ANN *e* 18 37 56.5
ANN *e*S S 18 44 55.6 +0.7
ANN *e*SS SS 18 49 54.0 +4.3
ANN pmax pmax
comp=Z,80nm,1.4s,mb5.5
ANN Anapa 76.49 313 *e*P **P** **18 35 08.3 -1.8**
KDAK Kodiak Island 76.62 33 P **P** **18 35 20.8 +10**
comp=Z,33nm,1.1s,mb5.2,baz=134,slow=12,SNR=5.6
KDAK Kodiak Island 76.62 33 P **P** **18 35 10.2 -0.7**
comp=Z,112nm,1.3s,mb5.6
APA Apatity 76.98 337 ⇑*i*P **P** **18 35 14.0 +1.1**
APA *e* 18 35 26.0
APA *e*S S 18 45 05.0 +4.7
APA *e* 18 45 11.0
APA *e* 18 45 29.0
APA *e*SS SS 18 49 55.0 -2.1
APA pmax pmax
comp=Z,82nm,1.3s,mb5.5
APA MLR MLR
comp=Z,11μm,16.0s,MS6.3
SLKM Skilak Lake 77.62 30 *e*P **P** **18 35 18.9 +2.4**
MCK McKinley 77.92 27 *e*P **P** **18 35 18.8 +0.7**
MCK pmax pmax
comp=Z,52nm,1.0s,mb5.4
MCK McKinley 77.92 27 *e*P **P** **18 35 18.8 +0.7**
comp=Z,52nm,1.0s,mb5.4
PMR Palmer 78.04 29 *e*P **P** **18 35 19.9 +1.1**
PMR pmax pmax
comp=Z,56nm,1.1s,mb5.4
PMR MLR MLR
comp=Z,2μm,22.0s,MS5.5
PMR Palmer 78.04 29 *e*P **P** **18 35 19.9 +1.0**
comp=Z,56nm,1.1s,mb5.4
PMR LR LR
comp=Z,2μm,22.0s,MS5.5
JOF Joensuu 78.26 332 *ep* **P** **18 35 19.7 -0.3**
comp=Z,17nm,0.5s,mb5.2
COLA College 78.27 26 *e*P **P** **18 35 19.4 -0.7**
COLA pmax pmax
comp=Z,20nm,0.8s,mb5.1
COLA MLR MLR
comp=Z,2μm,20.0s,MS5.4
COLA College 78.27 26 *e*P **P** **18 35 19.4 -0.7**
comp=Z,20nm,0.8s,mb5.1
COLA LR LR
comp=Z,2μm,20.0s,MS5.4
BOYT Boyabat 78.72 310 *i* P **P** **18 35 22.2 -0.4**
SIM Simferopol' 78.81 314 *e*P **P** **18 35 22.0 -1.1**
SIM S S 18 45 26.0 +6.0
SIM SS SS 18 50 31.6 +6.9
SIM pmax pmax
comp=Z,51nm,0.8s,mb5.5
SIM MLR MLR
comp=Z,7μm,21.0s,MS6.0
SIM Simferopol' 78.81 314 *i* P **P** **18 35 21.8 -1.3**
CTKT Corum 78.92 309 *i* P **P** **18 35 23.6 -0.1**
KEV Kevo 79.07 339 *ep* **P** **18 35 24.8 +0.3**
comp=Z,5.3nm,0.5s,mb4.7
KEV Kevo 79.07 339 *e*P **P** **18 35 24.8 +0.3**
KEV pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
POHA Pohakuloa 79.09 72 PFAKE 18 35 40.0 +15
POHA LR LR
comp=Z,4μm,22.0s,MS5.7
AVNT Avonos 79.13 307 *i* P **P** **18 35 24.8 -0.1**
BHL Bhannes 79.23 302 *e*P **P** **18 35 27.4 +2.0**
CDAG Cicekdag 79.38 308 *i* P **P** **18 35 24.9 -1.3**
ARCES ARCESS Array B 79.63 339 P **P** **18 35 27.6 0.0**
comp=Z,7.4nm,0.9s,mb4.6,baz=74,slow=5.7,SNR=13
ARCES LR LR 19 15 15.8
comp=Z,4μm,19.4s,MS5.8,baz=77,slow=39
ARE0 ARCESS Array S 79.63 339 *e*P **P** **18 35 27.1 -0.4**
BALT Daday 79.83 310 *i* P **P** **18 35 28.7 0.0**
CASY Casey 79.87 184 *e*P **P** **18 35 28.0 -0.9**
BR131 Keskin Array S 79.92 308⇓*e*P **P** **18 35 27.6 -1.6**
comp=Z,4.6nm,0.7s,mb4.5
BRTR Keskin Array B 79.92 308 P **P** **18 35 28.4 -0.7**
comp=Z,3.4nm,0.8s,baz=124,slow=6.1,SNR=21
BRTR PP PP 18 38 32.5 +1.7
comp=Z,1.3nm,0.9s,baz=93,slow=5.8,SNR=4.2
BRTR LR LR 19 17 32.5
comp=Z,3μm,21.4s,MS5.6,baz=245,slow=41
BRTR Keskin Array B 79.92 308 P **P** **18 35 28.5 -0.7**
BRTR 18 38 32.5
SPB4 Spitsbergen Ar 80.04 348 *e*P **P** **18 35 29.7 0.0**
BJO Bjornoya 80.43 345 *e* x 18 37 14.3
BJO *e*S S 18 45 37.5 +0.3
BJO AMS AMS 19 15 22.6
comp=Z,4μm,19.3s,MS5.8
EIL Elat 80.52 298 *e*P **P** **18 35 33.0 +0.6**
comp=Z,2μm,1.3s
ANTO Ankara 80.54 309⇓*i*P **P** **18 35 36.7 +4.2**
ANTO Ankara 80.54 309 *e*P **P** **18 35 32.3 -0.2**
ANTO pmax pmax
comp=Z,35nm,1.3s,mb5.1
ANTO Ankara 80.54 309 *e*P **P** **18 35 32.2 -0.2**
comp=Z,35nm,1.3s,mb5.1
ANTO ⇓P pP 18 35 36.7 -2.1
KBS Kingsbay 80.61 349 *ep*P pP 18 35 38.6 -0.6
KBS *e*SKS 18 45 46.5
KBS *e*SS SS 18 50 52.1 +0.4
KBS *i* 18 55 22.1
KBS AMS AMS 19 15 14.3
comp=Z,5μm,19.5s,MS5.9
KAF Kangasniemi 80.67 332 *ep* **P** **18 35 34.2 +1.0**
comp=Z,27nm,0.9s,mb5.2,baz=76,slow=4.9
KAF Kangasniemi 80.67 332 *e*P **P** **18 35 34.2 +1.0**
KAF pmax pmax
comp=Z,27nm,0.9s,mb5.2
FIA1 FINESS Array S 80.91 331 *e*P **P** **18 35 32.3 -2.2**
FINES FINESS Array B 80.91 331 P **P** **18 35 33.0 -1.5**
comp=Z,28nm,1.1s,mb5.1,baz=54,slow=6.5,SNR=14
FINES LR LR 19 13 14.7
comp=Z,7μm,20.6s,MS6.0,baz=257,slow=37
FINES FINESS Array B 80.91 331 *i* P **P** **18 35 34.5 0.0**
FINES pmax pmax
comp=Z,28nm,1.1s
CSS Prodhromos 80.95 304 P **P** **18 35 34.6 -0.1**
comp=Z,1.1nm,1.4s
SGKT Sivrigoynuk 80.98 310 *i* P **P** **18 35 33.0 -1.8**
ERMK Ermenek 81.00 306 *i* P **P** **18 35 34.6 -0.3**
MAMC Mammari 81.01 304 P **P** **18 35 35.0 0.0**
DRV Dumont d'Urvil 81.01 173 S S 18 45 49.0 +5.8
DRV SS SS 18 50 57.0 -0.6
DRV L 18 57 00.0
DRV R 19 02 00.0
EGAK Eagle 81.10 25 *e*P **P** **18 35 36.0 +0.5**
comp=Z,44nm,1.1s,mb5.3
VSU Vasula 81.16 328 *i* P **P** **18 35 35.8 0.0**
VSU Vasula 81.16 328 *i* P **P** **18 35 35.9 +0.1**
AKASG Malin Array Be 81.17 320 P **P** **18 35 34.8 -1.0**
comp=Z,4.9nm,0.8s,mb4.5,baz=66,slow=5.5,SNR=20
AKASG PP PP 18 38 42.5 +1.3
comp=Z,0.4nm,0.3s,baz=17,slow=36,SNR=3.2
AKASG LR LR 19 14 08.8
comp=Z,3μm,18.6s,MS5.7,baz=60,slow=38
AKASG Malin Array Be 81.17 320 P **P** **18 35 34.8 -1.1**
AKASG 18 38 42.5
AKBB Malin Array Si 81.17 320 P **P** **18 35 34.8 -1.1**
AKBB Malin Array Si 81.17 320 *e*P **P** **18 35 33.0 -2.8**
MNK Minsk 81.31 324 *e*P **P** **18 35 32.0 -4.6**
MNK *e*S S 18 45 54.0 +7.6
MNK MLR MLR
comp=Z,9μm,18.0s,MS6.2
MNK MLR MLR
comp=E,16μm,18.0s
ALFC Alevga 81.51 304 P **P** **18 35 37.3 -0.3**
comp=E,1.3nm,1.3s
PPCY Paphos 81.76 304 P **P** **18 35 37.9 -1.1**
IDID Didziasalis 81.78 325 *e*P **P** **18 35 38.4 -0.7**
IDID AMb AMB 18 35 45.9
comp=Z,738nm,1.0s
TRO Tromso 81.85 340 *e*P **P** **18 35 36.3 -3.2**
TRO *e*S S 18 45 52.1 +0.2
TRO AMS AMS 19 16 16.8
comp=Z,4μm,19.4s,MS5.8
IZAR Zarasai 81.96 325 *e*P **P** **18 35 39.8 -0.3**
IZAR AMb AMB 18 35 47.7
comp=Z,979nm,0.9s
DAWY Dawson 82.01 26 *e*P **P** **18 35 39.8 -0.5**
IIGN Ignalina 82.06 325 *e*P **P** **18 35 40.1 -0.4**
IIGN AMb AMB 18 35 49.1
comp=Z,647nm,0.9s,mb6.5
ESKT Eskisehir 82.08 309 *i* P **P** **18 35 38.7 -2.0**
KIS Kishinev 82.12 316 *e*P **P** **18 35 44.0 +3.1**
KIS *e*S S 18 46 00.0 +5.3
KIS Kishinev 82.12 316 *e*PP PP 18 38 58.0 +9.0
KIS *e*S S 18 46 00.0 +5.3
BORA Eskisehir 82.31 309 *i* P **P** **18 35 45.8 +3.9**
ISP Isparta 82.66 307 P **P** **18 35 48.3 +4.6**
TKTP Tekketepe 82.77 307 *i* P **P** **18 35 42.0 -2.3**
TIRR Tirgusor 82.90 314⇓*i*P **P** **18 35 49.3 +4.4**
CFR Carcaliu 82.95 315⇓*i*P **P** **18 35 47.1 +1.9**
CFR Carcaliu 82.95 315 P **P** **18 35 45.6 +0.5**
INK Inuvik 83.10 21 P **P** **18 35 46.5 +0.5**
comp=Z,13nm,0.8s,mb5.0,baz=292,slow=4.6,SNR=19
INK Inuvik 83.10 21 *e*P **P** **18 35 46.3 +0.3**
comp=Z,2μm,1.0s
HARR Harsova 83.19 314 P **P** **18 35 51.9 +5.5**
GDZ Gediz 83.21 308 *i* P **P** **18 35 45.2 -1.3**
PSN Preselentsi 83.22 313 *e*P **P** **18 35 48.0 +1.4**
AKAS Kas 83.69 306 *i* P **P** **18 35 51.7 +2.6**
VRI Vrincioaia 83.77 316⇓*i*P **P** **18 35 50.1 +0.7**
VRI Vrincioaia 83.77 316 P **P** **18 35 50.1 +0.7**
PLOR Plostina 83.83 316⇓*i*P **P** **18 35 53.4 +3.7**
SUW Suwalki 84.08 324 *e*P **P** **18 35 50.1 -0.9**
SUW *e* pP 18 35 56.1 -1.2
SUW L 19 14 43.8
comp=Z,8.7nm,21.4s
ALE Alert 84.21 1 P **P** **18 35 52.3 +0.6**
comp=Z,109nm,1.5s,mb5.8,SNR=5.1
BURAR Bucovina Array 84.39 317⇓*i*P **P** **18 35 53.0 +0.5**
BURAR Bucovina Array 84.39 317 P **P** **18 35 53.1 +0.6**
MLR Muntele Rosu 84.39 315⇓*i*P **P** **18 35 53.0 +0.4**
MLR Muntele Rosu 84.39 315 P **P** **18 35 52.9 +0.3**
RAR Rarotonga 84.59 113 LR LR 19 07 37.3
comp=Z,2μm,19.7s,MS5.5,baz=319,slow=31
BUC1 Bucharest 84.60 314 P **P** **18 35 59.1 +5.5**
SART Tekirdag 84.60 310 *i* P **P** **18 35 52.6 -1.0**
LVV L'vov 84.62 320 *e*P **P** **18 35 57.5 +3.8**
LVV *e* 18 36 11.1
LVV *e* 18 39 09.1
LVV *e*PPP 18 41 01.5
LVV *i* S S 18 46 26.1 +6.2
LVV *i* PS 18 47 33.7
LVV MLR MLR
comp=E,3μm,19.0s,MS5.8
LVV MLR MLR
comp=Z,3μm,19.0s,MS5.7
LVV MLR MLR
comp=N,2μm,20.0s,MS5.8
JMB Yambol 84.63 312 *e*P **P** **18 35 54.0 +0.2**
KMBO Kilima Mbogo 84.64 268 P **P** **18 35 55.8 +1.9**
comp=N,3.4nm,0.8s,mb4.5,baz=54,slow=6.0,SNR=9.4
KMBO LR LR 19 08 52.8
comp=N,3μm,21.8s,MS5.7,baz=86,slow=32
KMBO Kilima Mbogo 84.64 268 *e*P **P** **18 35 56.0 +2.2**
KMBO pmax pmax
comp=Z,133nm,1.9s
KMBO Kilima Mbogo 84.64 268 *e*P **P** **18 35 56.0 +2.2**
comp=Z,133nm,1.9s,mb5.8
AYDN Tasoluk 84.74 307 *i* P **P** **18 35 53.4 -0.9**
ARG Arkhangelos 84.86 306 *e*P **P** **18 35 59.5 +4.5**
VOIR 85.02 315⇑*i*P **P** **18 36 02.0 +6.3**
VOIR 85.02 315⇑P **P** **18 36 02.0 +6.3**
SKAG Skagway 85.15 30 *e*P **P** **18 35 57.8 +1.4**
comp=Z,47nm,1.0s,mb5.6
ZIMR 85.22 314 P **P** **18 35 56.8 0.0**
PVL Pavlikeni 85.35 313 *e*P **P** **18 35 58.0 +0.6**
KWP Kalwaria 85.50 320 *e*P **P** **18 35 57.8 -0.3**
KWP *e* pP 18 36 03.4 -1.1
KWP L 19 17 12.8
comp=Z,4.5nm,20.4s
KWP Kalwaria 85.50 320⇑*e*P **P** **18 35 57.6 -0.5**
KWP *e**PP pP 18 36 03.5 -1.0
KWP Kalwaria 85.50 320⇑*e*P **P** **18 35 57.6 -0.5**
KWP *e* 18 35 57.8
KWP *e* pP 18 36 03.4 -1.1
KWP *e*pP pP 18 36 03.5 -0.9
SMG Samos 85.53 308 *e*P **P** **18 35 59.0 +0.7**
PRK Paraskevi 85.61 309 *e*P **P** **18 35 56.0 -2.7**
RDO Rodhopi 85.70 311 *e*P **P** **18 35 57.0 -2.1**
KAP Karpathos 85.77 305 *e*P **P** **18 35 57.5 -2.0**
SIT Sitka 85.90 32 PFAKE 18 36 10.0 +10
SIT LR LR
comp=Z,4μm,21.0s,MS5.8
KOLS Kolonicke sedl 85.96 319 *e*P **P** **18 36 00.1 -0.3**
UZH Uzhgorod 86.02 319⇑*i*P **P** **18 36 00.2 -0.5**
UZH *i* 18 36 13.4
UZH *e* 18 46 25.0
UZH *i* S S 18 46 33.0 -0.8
UZH *e*PS 18 47 23.0
UZH *e*SS SS 18 52 14.0 +2.2
UZH pmax pmax
comp=Z,157nm,1.2s,mb6.1
UZH MLR MLR
comp=Z,4μm,14.0s,MS6.0
NSS Namsos 86.15 336 *e*SKS 18 46 25.5
NSS AMS AMS 19 24 34.7
comp=Z,4μm,17.6s,MS5.8
CRAR CRAIOVA 86.15 315 P **P** **18 36 06.8 +5.4**
DRGR 86.25 317⇑*i*P **P** **18 36 01.8 0.0**
DRGR 86.25 317 P **P** **18 36 01.8 -0.1**
LIA Limnos Island 86.27 310 *e*P **P** **18 36 06.5 +4.6**
STHS Stebnicka Huta 86.47 320 *e*P **P** **18 36 02.5 -0.5**
STHS pmax pmax
comp=Z,42nm,1.3s,mb5.5
STHS Stebnicka Huta 86.47 320 *e*P **P** **18 36 02.5 -0.5**
comp=Z,42nm,1.3s,mb5.5
CRVS Cervenica-Dubn 86.48 319 *e*P **P** **18 36 02.9 -0.1**
CRVS pmax pmax
comp=Z,59nm,1.3s,mb5.7
CRVS Cervenica-Dubn 86.48 319 *e*P **P** **18 36 02.9 -0.1**
comp=Z,59nm,1.3s,mb5.7
GZR Gura Zlata 86.58 316 P **P** **18 36 03.2 -0.3**
APE Apeiranthos 86.70 307 *e*P **P** **18 36 08.0 +3.9**
APE Apeiranthos 86.70 307⇓*i*P **P** **18 36 08.0 +3.9**
APE Apeiranthos 86.70 307 ⇓P **P** **18 36 08.0 +3.9**
NVR Nevrokopi 86.87 312 *e*P **P** **18 36 07.5 +2.6**
MMB Musomiste 86.91 312 *e*P **P** **18 36 04.0 -1.1**
DAG Danmarks Havn 87.01 351 *i* P **P** **18 36 06.0 +0.4**
comp=Z,6.7nm,0.8s,mb4.9
DAG Danmarks Havn 87.01 351 *e*P **P** **18 36 06.0 +0.4**
DAG pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
DAG Danmarks Havn 87.01 351 *e*P **P** **18 36 06.0 +0.4**
comp=Z,6.7nm,0.8s,mb4.9
VTS Vitosha 87.02 313 *e*P **P** **18 36 05.3 -0.3**
VTS Vitosha 87.02 313⇑*i*P **P** **18 36 06.4 +0.8**
NIE Niedzica 87.05 320 *e*P **P** **18 36 06.5 +0.7**
NPS Neapolis 87.07 305 *e*P **P** **18 36 11.0 +5.1**
HFS Hagfors 87.09 331 P **P** **18 36 03.8 -2.2**
comp=Z,80nm,1.2s,mb5.8,baz=116,slow=3.4,SNR=13
OJC Ojcow 87.13 321 *e*P **P** **18 36 05.7 -0.5**
OJC *e*S S 18 46 44.6 0.0
OJC L 19 16 53.4
comp=Z,42nm,21.7s
KECS Kecovo 87.22 319 *e*P **P** **18 36 05.7 -0.9**
KECS *e*PP PP 18 39 39.1 +8.6
KECS Kecovo 87.22 319 *e*P **P** **18 36 05.7 -0.9**
KECS *e* 18 39 39.1
KECS pmax pmax
comp=Z,20nm,1.0s,mb5.3
KECS Kecovo 87.22 319 *e*P **P** **18 36 05.7 -0.9**
comp=Z,20nm,1.0s,mb5.3
KECS *e*PP PP 18 39 39.1 +8.6
BZS Buzias 87.30 316⇑*i*P **P** **18 36 06.0 -1.0**
BZS Buzias 87.30 316 ⇑P **P** **18 36 06.0 -1.0**
PSZ Piszkesteto 87.76 319 *ep*P pP 18 36 13.8 -1.8
PSZ Piszkesteto 87.76 319⇑*i*P **P** **18 36 12.3 +3.1**
PSZ Piszkesteto 87.76 319 P **P** **18 36 09.6 +0.4**
PSZ *e*P pP 18 36 13.8 -1.8
VAY Valandovo 87.82 312 *i* P **P** **18 36 06.9 -2.6**
NB2 NORSAR Subarra 87.87 333 P **P** **18 36 08.8 -0.9**
comp=Z,90nm,1.4s,mb5.8,baz=69,slow=4.8
NB2 NORSAR Subarra 87.87 333 P **P** **18 36 08.8 -0.9**
NB2 pmax pmax
comp=Z,90nm,1.4s,mb5.8
NOA NORSAR Array B 87.87 333 P **P** **18 36 08.3 -1.4**
comp=Z,8.3nm,0.8s,mb5.0,baz=68,slow=4.7,SNR=21
NOA PP PP 18 39 35.4 -0.3
comp=Z,2.3nm,0.9s,baz=73,slow=8.9,SNR=3.3
NOA LR LR 19 18 35.6
comp=Z,6μm,19.0s,MS6.0,baz=55,slow=38
NOA NORSAR Array B 87.87 333 P **P** **18 36 08.3 -1.4**
NOA 18 39 35.4
NOA NORSAR Array B 87.87 333 P **P** **18 36 08.3 -1.4**
NOA PP PP 18 39 35.4 -0.3
NOA LR LR 19 18 35.6
STIP Stip 87.99 312 *i* P **P** **18 36 13.2 +2.9**
NAO01 NORSAR Array S 88.09 333⇑*e*P **P** **18 36 09.7 -1.1**
comp=Z,23nm,0.9s,mb5.4
VAM Vamos 88.16 306 *e*P **P** **18 36 17.0 +5.9**
RAC Raciborz 88.16 321 *e*P **P** **18 36 09.7 -1.4**
RAC MLR MLR
comp=Z,8μm,21.4s,MS6.1
VYHS Vyhne 88.26 320 *e*P **P** **18 36 11.0 -0.6**
VYHS *e*PP PP 18 39 36.4 -2.5
VYHS Vyhne 88.26 320 *e*P **P** **18 36 11.0 -0.6**
VYHS *e* 18 39 36.4
VYHS pmax pmax
comp=Z,70nm,2.3s,mb5.5
VYHS MLR MLR
comp=Z,3μm,18.9s,MS5.8
VYHS Vyhne 88.26 320 *e*P **P** **18 36 11.0 -0.6**
comp=Z,70nm,2.3s,mb5.5
VYHS *e*PP PP 18 39 36.4 -2.5
VYHS LR LR
comp=Z,3μm,18.9s,MS5.8
OKC Ostrava-Krasne 88.27 321 *e*P **P** **18 36 11.7 +0.1**
OKC *ep*P pP 18 36 16.0 -2.0
OKC *e*PP PP 18 39 47.2 +8.3
OKC *e*S S 18 46 51.6 -3.8
OKC AMS AMS 19 17 20.0
comp=Z,5μm,19.9s
OKC Ostrava-Krasne 88.27 321 *e*P **P** **18 36 11.7 +0.1**
OKC *ep*P pP 18 36 16.0 -2.0
OKC *e*PP PP 18 39 47.2 +8.3
OKC *e*S S 18 46 51.6 -3.8
SKO Skopje 88.45 313 *i* P **P** **18 36 12.9 +0.4**
BUD Budapest 88.46 319 *ep*P pP 18 36 17.6 -1.3
MORC Moravsky Berou 88.66 321⇓*i*P **P** **18 36 19.8 +6.4**
MORC Moravsky Berou 88.66 321 *e*P **P** **18 36 12.1 -1.3**
MORC pP 18 36 19.8 0.0
MORC *e* 18 39 45.0
MORC pmax pmax
comp=Z,40nm,1.4s,mb5.6
MORC Moravsky Berou 88.66 321 *e*P **P** **18 36 12.1 -1.3**
comp=Z,40nm,1.4s,mb5.6
MORC ⇓P pP 18 36 19.8 -0.1
MORC *e*PP PP 18 39 45.0 +2.9
KZN Kozani 88.68 311 *e*P **P** **18 36 17.5 +3.9**
KRUS Krusevo 88.76 312 *i* P **P** **18 36 12.7 -1.2**
BIA Bitola 88.81 312 *i* P **P** **18 36 15.9 +1.8**
DIVS Divcibare 88.85 315 *i* P **P** **18 36 13.2 -1.1**
KSP Ksiaz 89.05 322 *e*P **P** **18 36 15.3 0.0**
KSP *e* pP 18 36 21.8 +0.1
KSP L 19 18 35.6
comp=Z,18nm,20.2s
KSP Ksiaz 89.05 322 *e*P **P** **18 36 15.0 -0.3**
KSP *e*SP 18 48 10.0
KSP MLR MLR
comp=Z,19μm,21.1s,MS6.5
KSP Ksiaz 89.05 322 *e*P **P** **18 36 15.0 -0.3**
KSP *ep*P pP 18 36 19.7 -2.0
KSP *e*SKS 18 46 48.0
KSP *e*SP 18 48 10.0
KSP *e*SS SS 18 53 12.1 +16
KSP LR LR
comp=Z,19μm,21.1s,MS6.5
PKSM Moragy 89.10 317⇓*i*P **P** **18 36 19.3 +3.7**
PKSM Moragy 89.10 317 P **P** **18 36 20.2 +4.7**
OHR Ohrid 89.16 312 *i* P **P** **18 36 19.1 +3.3**
KONO Kongsberg 89.18 332 *e*SKS 18 46 43.3
DPC Dobruska-Polom 89.20 322 *e*P **P** **18 36 16.0 0.0**
DPC *ep*P pP 18 36 21.4 -1.0
DPC *e*PP PP 18 39 47.7 +1.3
DPC *e*S S 18 46 58.0 -6.3
DPC AMS AMS 19 18 30.0
comp=Z,8μm,17.9s
RES Resolute Bay 89.21 9 *e*P **P** **18 36 15.0 -1.0**
RES 18 36 23.2

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RES  Resolute Bay   89.21   9 eP        P        18 36 16.5 +0.5
     comp=Z,7µm,1.5s
RES                          epP       pP        18 36 22.5 +0.1
JMIC Jan Mayen      89.28 345 e         PP        18 39 42.1 -4.9
JMIC                          AMS       AMS      19 20 11.3
     comp=Z,4µm,20.5s,MS5.8
UPC  Upice          89.33 322 eP        P        18 36 16.8 +0.2
UPC                          epP       pP        18 36 20.9 -2.1
UPC                          ePP       PP        18 39 51.9 +4.4
VRAC Vranov         89.39 321⇑ iP       P        18 36 19.7 +2.8
VRAC Vranov         89.39 321 P         P        18 36 22.4 +5.5
COP  Copenhagen     89.43 328 i P       P        18 36 20.6 +3.5
COP  Copenhagen     89.43 328 eP        P        18 36 20.6 +3.5
COP                          i S       S        18 46 59.4 -7.0
COP                           LR       LR
     comp=Z,6µm,19.0s,MS6.0
ITM  Ithomi         89.45 308 eP        P        18 36 21.5 +4.3
ZST  Bratislava     89.45 320 eP        P        18 36 21.1 +3.9
ZST                           pmax     pmax
     comp=Z,109nm,2.6s,mb5.7
ZST                           MLR      MLR
     comp=Z,5µm,16.3s,MS6.0
ZST  Bratislava     89.45 320 eP        P        18 36 21.1 +3.9
     comp=Z,109nm,2.6s,mb5.7
ZST                           LR       LR
     comp=Z,5µm,16.3s,MS6.0
RUE  Ruedersdorf    89.92 324 eP        P        18 36 18.0 -1.4
     comp=Z,149nm,1.4s,mb6.1
RUE                          epP       pP        18 36 24.2 -1.6
SOP  Sopron         89.97 319 epP       pP        18 36 24.3 -1.7
TREC Trest          90.08 321 eP        P        18 36 18.2 -1.9
TREC                         epP       pP        18 36 23.3 -3.2
TREC                         ex        x         18 40 05.2
TREC                         eSKKS     SKKSac    18 47 02.3 -1.2
TREC                          AMS      AMS       19 18 20.0
     comp=Z,6µm,19.1s
TREC Trest          90.08 321 eP        P        18 36 18.2 -1.9
TREC                         e*PP      pP        18 36 23.3 -3.2
TREC                         eS        S         18 47 02.3 -10
TREC                          MLR      MLR
     comp=Z,6µm,19.1s,MS6.0
PVCC Panska Ves     90.19 322 eP        P        18 36 20.8 +0.2
PVCC                         epP       pP        18 36 26.1 -0.9
PVCC                         ePP       PP        18 40 00.4 +6.1
PVCC                         ex        x         18 47 24.4
PVCC                          AMS      AMS       19 19 10.0
     comp=Z,10µm,19.4s
PVCC Panska Ves     90.19 322 eP        P        18 36 20.8 +0.2
PVCC                         e*PP      pP        18 36 26.1 -0.9
PVCC                         e                   18 40 00.4
PVCC                          MLR      MLR
     comp=Z,10µm,19.4s,MS6.2
PRU  Pruhonice      90.40 322 eP        P        18 36 21.2 -0.4
PRU                          epP       pP        18 36 26.7 -1.3
PRU                          ePP       PP        18 39 57.4 +1.4
PRU                          ex        x         18 47 28.3
PRU                           AMS      AMS       19 19 00.0
     comp=Z,8µm,18.3s
PRU  Pruhonice      90.40 322 eP        P        18 36 21.2 -0.4
PRU                          e*PP      pP        18 36 26.7 -1.3
PRU                          e                   18 39 57.4
PRU                           MLR      MLR
     comp=Z,8µm,18.3s,MS6.2
BRG  Berggiesshubel 90.43 323 eP        P        18 36 21.1 -0.7
     comp=Z,14nm,1.4s,mb5.1
BRG                          i         pP        18 36 26.5 -1.6
     comp=Z,24nm,1.1s
BRG                          ePP       PP        18 39 55.1 -1.1
     comp=Z,23nm,1.9s
BRG                           SKS                 18 46 50.0
BRG                           S        S         18 47 19.0 +3.3
BRG                           PS       PS        18 48 17.0 -7.6
BRG                           SS       SS        18 53 12.0 -4.1
BRG
     comp=N,2µm,19.1s
BRG
     comp=E,3µm,16.2s
BRG
     comp=Z,4µm,17.4s
BRG  Berggiesshubel 90.43 323 eP        P        18 36 21.1 -0.7
BRG                                               18 46 50.0
BRG                           S        S         18 47 19.0 +3.3
BRG                           PS       PS        18 48 17.0 -7.6
BRG                           SS       SS        18 53 12.0 -4.1
BRG                           pmax     pmax
     comp=Z,24nm,1.9s,mb5.2
BRG                           MLR      MLR
     comp=N,2µm,19.1s,MS5.8
BRG                           MLR      MLR
     comp=E,2µm,16.2s,MS5.8
BRG                           MLR      MLR
     comp=Z,3µm,17.4s,MS5.8
BRG  Berggiesshubel 90.43 323 eP        P        18 36 21.1 -0.7
     comp=Z,14nm,1.4s,mb5.1
BRG                          i         pP        18 36 26.5 -1.6
BRG                          ePP       PP        18 39 55.1 -1.1
BRG                           SKS                 18 46 50.0
BRG                           S        S         18 47 19.0 +3.3
BRG                           PS       PS        18 48 17.0 -7.6
BRG                           SS       SS        18 53 12.0 -4.1
BRG                           LR       LR
     comp=Z,4µm,17.4s,MS5.9
BER  Bergen         90.75 334 eSKS                18 46 50.8
BER                           AMS      AMS       19 19 59.8
     comp=Z,9µm,20.0s,MS6.2
MUD  Monsted U'grnd 90.77 329 i P       P        18 36 25.2 +1.9
     comp=Z,23nm,0.8s,mb5.6
MUD  Monsted U'grnd 90.77 329 i P       P        18 36 25.2 +1.9
MUD                           pmax     pmax
     comp=Z,23nm,0.8s,mb5.6
CLL  Collm          90.82 323 eP        P        18 36 22.6 -0.9
     comp=Z,29nm,1.2s,mb5.5
CLL  Collm          90.82 323 eP        P        18 36 23.0 -0.5
CLL                          e                   18 47 05.0
CLL                           pmax     pmax
     comp=Z,14nm,1.5s,mb5.1
CLL                           MLR      MLR
     comp=Z,9µm,21.7s,MS6.2
CLL  Collm          90.82 323 eP        P        18 36 23.0 -0.5
     comp=Z,14nm,1.5s,mb5.1
CLL                          eSKS                 18 47 05.0
CLL                          eS        S         18 47 28.0 +8.8
CLL                           LR       LR
     comp=Z,9µm,21.7s,MS6.2
CLL  Collm          90.82 323 eP        P        18 36 23.0 -0.5
     comp=Z,14nm,1.5s,mb5.1
CLL                           LmV                 18 19 00.0
     comp=Z,9µm,21.7s
CLL                          ePIp                 18 36 24.0
     comp=Z,200nm,14.8s
CLL                          i pP      pP        18 36 27.3 -2.6
     comp=Z,29nm,1.3s
CLL                          i sP      sP        18 36 32.1 -0.1
CLL                          ex        x         18 36 43.0
CLL                          ePP       PP        18 40 05.0 +5.8
CLL                          eSKSac    SKSac     18 47 05.0 +11
CLL                          eS        S         18 47 28.0 +8.8
     comp=N,700nm,14.3s
CLL                          eS        S         18 47 28.0 +8.8
CLL                          eSP       SP        18 48 32.0 +5.6
CLL                          eSS       SS        18 53 24.0 +2.4
MAW  Mawson         91.06 199 eP        P        18 36 24.5 -0.2
     comp=N,1.9nm,1.0s,mb4.4
MAW  Mawson         91.06 199 P         P        18 36 25.0 +0.3
     comp=N,2.8nm,1.1s,mb4.5,baz=128,slow=5.6,SNR=2.6
BSEG Bad Segeberg   91.26 327 eP        P        18 36 24.3 -1.3
     comp=Z,36nm,1.4s,mb5.5
PERS Pernice        91.26 319 eP        P        18 36 25.5 -0.1
KHC  Kasperske Hory 91.30 321 eP        P        18 36 25.2 -0.6
KHC                          epP       pP        18 36 31.1 -1.1
KHC                          ePP       PP        18 40 05.6 +2.5
KHC                          eSKKS     SKKSac    18 47 10.2 -2.4
KHC                           AMS      AMS       19 19 20.0
     comp=Z,8µm,20.4s
CRES Cresnjev       91.32 318 eP        P        18 36 26.0 +0.1
CRES                         eSKSac    SKSac     18 47 06.2 +9.0
CRES                         eS        S         18 47 35.0 +11
CRES                         e                   18 48 41.7
GEC2 GERESS Array S 91.34 321 eP        P        18 36 25.3 -0.7
     comp=Z,118nm,2.2s,mb5.8
GEC2 GERESS Array S 91.34 321 eP        P        18 36 25.3 -0.7
GEC2                          pmax     pmax
     comp=Z,118nm,2.2s,mb5.8
GERES GERESS Array B 91.34 321 P        P        18 36 25.1 -0.9
     comp=Z,4.4nm,1.0s,mb4.8,baz=58,slow=3.8,SNR=19
GERES                         PP       PP        18 40 09.4 +6.0
     comp=Z,0.3nm,0.7s,baz=236,slow=29,SNR=2.8
GERES                         LR       LR        19 20 15.7
     comp=Z,6µm,19.4s,MS6.1,baz=72,slow=37
GERES GERESS Array B 91.34 321 P        P        18 36 25.1 -0.9
GERES                                             18 40 09.4
MOA  Molln          91.36 320⇑ iP       P        18 36 25.8 -0.3
     comp=Z,72nm,1.8s,mb5.7,SNR=8.7
TANN Tannenbergstha 91.48 323 eP        P        18 36 26.6  0.0
     comp=Z,29nm,1.3s,mb5.5
NKC  Novy Kostel    91.56 323 eP        P        18 36 28.2 +1.2
NKC                          epP       pP        18 36 32.2 -1.2
NKC                          ex        x         18 46 14.4
WET  Wettzell       91.72 321 eP        P        18 36 28.1 +0.3
     comp=Z,117nm,2.2s,mb5.8
WET  Wettzell       91.72 321 eP        P        18 36 28.1 +0.3
WET                           pmax     pmax
     comp=Z,117nm,2.2s,mb5.8
LJU  Ljubljana      91.85 318 eP        P        18 36 28.8 +0.4
LJU                          ePP       PP        18 40 11.6 +4.1
MANZ Manzenberg     91.86 322 eP        P        18 36 29.3 +0.9
     comp=Z,31nm,1.5s,mb5.4
MOX  Moxa           91.88 323 eP        P        18 36 27.7 -0.8
     comp=Z,35nm,1.4s,mb5.5
MOX  Moxa           91.88 323 eP        P        18 36 31.3 +2.8
MOX                           pmax     pmax
     comp=Z,57nm,1.8s,mb5.6
MOX                           MLR      MLR
     comp=Z,5µm,22.0s,MS5.9
MOX  Moxa           91.88 323 eP        P        18 36 31.3 +2.8
     comp=Z,57nm,1.8s,mb5.6
MOX                          eSKS                 18 47 09.0
MOX                           LR       LR
     comp=Z,5µm,22.0s,MS5.9
ROTZ Rotzenmuhle    91.88 322 eP        P        18 36 28.6 +0.1
     comp=Z,33nm,1.3s,mb5.5
NRDL Niedersach Rie 91.98 325 eP        P        18 36 29.5 +0.6
     comp=Z,23nm,1.3s,mb5.3
VOY  Vojsko         92.27 318 eP        P        18 36 29.2 -1.1
VOY                          e         pP        18 36 33.9 -2.7
GRA1 Grafenberg Arr 92.50 322 eP        P        18 36 30.8 -0.6
     comp=Z,20nm,1.3s,mb5.4
GRA1                         epP       pP        18 36 35.9 -1.8
GRA1                         ePP       PP        18 40 14.5 +2.0
GRA1                          LR       LR
     comp=Z,9µm,19.2s,MS6.2
GRF  Grafenberg Arr 92.50 322 eP        P        18 36 30.8 -0.6
     comp=Z,20nm,1.3s,mb5.4
GRF                          epP       pP        18 36 35.9 -1.8
GRF                          ePP       PP        18 40 14.5 +2.0
GRF                          eL                  19 21 14.0
     comp=Z,9µm,19.2s
GRF  Grafenberg Arr 92.50 322 eP        P        18 36 30.8 -0.6
GRF                          e                   18 40 14.5
GRF                           pmax     pmax
     comp=Z,20nm,1.3s,mb5.4
GRF                           MLR      MLR
     comp=Z,9µm,19.2s,MS6.2
GRF  Grafenberg Arr 92.50 322 eP        P        18 36 30.8 -0.6
GRF                          e                   18 40 14.5
GRF                           pmax     pmax
     comp=Z,20nm,1.3s,mb5.4
GRF                           MLR      MLR
     comp=Z,9µm,19.2s,MS6.2
TIP  Timpagrande    92.71 311⇑ iP       P        18 36 32.6 +0.3
YKA  Yellowknife Ar 92.76  23 P         P        18 36 32.5 -0.1
     comp=Z,5.1nm,0.8s,mb5.0,baz=306,slow=4.4,SNR=3.8
YKA                           LR       LR        19 21 42.7
     comp=Z,1µm,20.1s,MS5.3,baz=210,slow=38
YKA  Yellowknife Ar 92.76  23 P         P        18 36 32.5 -0.1
YKA                           LR       LR        19 21 42.7
PPT  Papeete        92.98 107 eS        S        18 47 33.5 -5.2
     comp=Z,4µm,28.2s
PPT                          eSS       SS        18 53 52.8  0.0
     comp=Z,823nm,25.8s
PPT                          eLQ                 19 02 30.1
     comp=Z,15µm,35.2s
PPT                          eLR       LR        19 06 26.9
     comp=Z,5µm,24.5s
PPT  Papeete        92.98 107 LR        LR       19 08 36.7
     comp=Z,2µm,21.9s,MS5.5,baz=279,slow=29
FUR  Furstenfeldbru 93.09 321 eP        P        18 36 31.8 -2.3
     comp=Z,66nm,1.4s,mb5.9
FUR  Furstenfeldbru 93.09 321 eP        P        18 36 31.8 -2.3
FUR                           pmax     pmax
     comp=Z,66nm,1.4s,mb5.9
SUMG Summit         93.20 354 eP        P        18 36 33.6 -1.0
     comp=Z,57nm,1.2s,mb5.9
SUMG                         epP       pP        18 36 40.1 -0.9
WTTA Wattenberg     93.23 320⇑ iP       P        18 36 32.3 -2.4
     comp=Z,50nm,1.2s,mb5.8,SNR=14
WTTA Wattenberg     93.23 320⇑ iP       P        18 36 32.3 -2.4
WTTA                          pmax     pmax
     comp=Z,50nm,1.2s,mb5.8
WATA Walderalm      93.23 320⇓ iP       P        18 36 33.6 -1.1
     comp=Z,47nm,1.4s,mb5.7
WATA Walderalm      93.23 320⇓ iP       P        18 36 33.6 -1.1
WATA                          pmax     pmax
     comp=Z,47nm,1.4s,mb5.7
SQTA Sankt Quirin   93.51 320⇓ iP       P        18 36 35.2 -0.8
     comp=Z,37nm,1.2s,mb5.7,SNR=14
SQTA Sankt Quirin   93.51 320⇓ iP       P        18 36 35.3 -0.7
SQTA                          pmax     pmax
     comp=Z,37nm,1.2s,mb5.7
MOTA Moosalm        93.53 320⇑ iP       P        18 36 35.0 -1.1
     comp=Z,28nm,1.2s,mb5.5,SNR=13
MOTA Moosalm        93.53 320⇑ iP       P        18 36 35.0 -1.1
MOTA                          pmax     pmax
     comp=Z,28nm,1.2s,mb5.6
VNDA Vanda          93.64 172 P         P        18 36 37.1 +0.5
     comp=Z,2.0nm,0.9s,mb4.6,baz=308,slow=6.3,SNR=10
VNDA                          PP       PP        18 40 24.6 +3.1
     comp=Z,5.4nm,1.1s,baz=327,slow=8.4,SNR=4.1
VNDA                          PKKPbc   PKKPbc    18 53 46.5 +5.2
     comp=Z,1.0nm,0.9s,baz=199,slow=1.2,SNR=4.7
VNDA                          LR       LR        19 16 52.6
     comp=Z,3µm,21.1s,MS5.7,baz=325,slow=34
VNDA Vanda          93.64 172 eP        P        18 36 38.8 +2.2
     comp=Z,4.8nm,1.0s,mb4.9
AQU  L'Aquila       93.97 315 eP        P        18 36 37.3 -0.8
AQU                           pmax     pmax
     comp=Z,48nm,1.3s,mb5.8
AQU  L'Aquila       93.97 315 eP        P        18 36 37.3 -0.8
     comp=Z,48nm,1.3s,mb5.8
TBI  Tubuai         94.37 113 eS        S        18 47 46.9 -4.0
     comp=Z,2µm,27.5s
TBI                          eSS       SS        18 54 11.1 -1.5
     comp=Z,1µm,33.0s
TBI                          eLQ                 19 03 04.2
     comp=Z,4µm,34.0s
TBI                          eLR       LR        19 07 07.7
     comp=Z,3µm,33.0s
BFO  Black Forest   94.80 322 eP        P        18 36 40.5 -1.4
BFO                           pmax     pmax
     comp=Z,13nm,1.1s,mb5.3
BFO  Black Forest   94.80 322 eP        P        18 36 40.5 -1.4
     comp=Z,13nm,1.1s,mb5.3
MEM  Membach        95.11 325 P         P        18 36 47.9 +4.5
CDF  Champ du Feu   95.39 322 eP        P        18 36 43.9 -0.7
     comp=Z,87nm,1.4s,mb5.7
CDF  Champ du Feu   95.39 322 eP        P        18 36 43.9 -0.7
CDF                           pmax     pmax
     comp=Z,44nm,1.4s,mb5.7
CDF  Champ du Feu   95.39 322 eP        P        18 36 43.9 -0.7
     comp=Z,44nm,1.4s,mb5.7
WLF  Walferdange    95.47 324 P         P        18 36 45.5 +0.5
WLF  Walferdange    95.47 324 eP        P        18 36 43.5 -1.5
WLF                           pmax     pmax
     comp=Z,41nm,1.2s,mb5.7
WLF  Walferdange    95.47 324 eP        P        18 36 43.5 -1.5
     comp=Z,41nm,1.2s,mb5.7
BCLA Clavier        95.60 325 P         P        18 36 46.0 +0.4
BCLA                          AP       pP        18 36 49.8 -2.2
HINF Hinteralfeld   95.92 322 eP        P        18 36 45.9 -1.1
     comp=Z,45nm,1.5s,mb5.4
HINF Hinteralfeld   95.92 322 eP        P        18 36 45.9 -1.1
HINF                          pmax     pmax
     comp=Z,22nm,1.5s,mb5.4
HINF Hinteralfeld   95.92 322 eP        P        18 36 45.9 -1.1
     comp=Z,22nm,1.5s,mb5.4
GIVF Givet          96.02 325 eP        P        18 36 46.8 -0.7
     comp=Z,70nm,1.2s,mb5.7
GIVF Givet          96.02 325 eP        P        18 36 46.8 -0.7
GIVF                          pmax     pmax
     comp=Z,35nm,1.2s,mb5.7
GIVF Givet          96.02 325 eP        P        18 36 46.8 -0.7
     comp=Z,35nm,1.2s,mb5.7
HAU  Haudompre      96.13 322 eP        P        18 36 46.8 -1.2
     comp=Z,40nm,1.4s,mb5.4
HAU  Haudompre      96.13 322 eP        P        18 36 46.8 -1.2
HAU                           pmax     pmax
     comp=Z,20nm,1.4s,mb5.3
HAU  Haudompre      96.13 322 eP        P        18 36 46.8 -1.2
     comp=Z,20nm,1.4s,mb5.3
DOU  Dourbes        96.15 325 P         P        18 36 48.0 -0.1
DOU                           AP       pP        18 36 53.9 -0.6
BAIF Baives         96.39 325 eP        P        18 36 48.6 -0.6
     comp=Z,75nm,1.4s,mb5.6
BAIF Baives         96.39 325 eP        P        18 36 48.6 -0.6
BAIF                          pmax     pmax
     comp=Z,37nm,1.4s,mb5.6
BAIF Baives         96.39 325 eP        P        18 36 48.6 -0.6
     comp=Z,37nm,1.4s,mb5.6
MEZF Maizieres J'vi 96.66 323 eP        P        18 36 49.7 -0.7
     comp=Z,78nm,1.4s,mb5.6
MEZF Maizieres J'vi 96.66 323 eP        P        18 36 49.7 -0.7
     comp=Z,78nm,1.4s,mb6.0
LPG  La Plagne      97.04 320 eP        P        18 36 51.7 -0.4
     comp=Z,39nm,1.2s,mb5.4
LPG  La Plagne      97.04 320 eP        P        18 36 51.7 -0.4
LPG                           pmax     pmax
     comp=Z,20nm,1.2s,mb5.4
LPG  La Plagne      97.04 320 eP        P        18 36 51.7 -0.4
     comp=Z,20nm,1.2s,mb5.4
LPL  La Plagne      97.04 320 eP        P        18 36 51.6 -0.5
     comp=Z,58nm,1.3s,mb5.6
LPL  La Plagne      97.04 320 eP        P        18 36 51.6 -0.5
LPL                           pmax     pmax
     comp=Z,29nm,1.3s,mb5.5
LPL  La Plagne      97.04 320 eP        P        18 36 51.6 -0.5
     comp=Z,29nm,1.3s,mb5.5
BORG Borgarnes      97.15 345 PFAKE               18 37 00.0 +7.4
BORG                          LR       LR
     comp=Z,1µm,19.0s,MS5.4
BNI  Bardonecchia   97.29 320 P         P        18 36 50.1 -3.1
BNI                          e                   18 40 50.4
EKA  Eskdalemuir Ar 97.30 332 P         P        18 36 53.4 +0.1
     comp=Z,1.4nm,0.8s,mb4.4,baz=10,slow=20,SNR=3.1
KEST Kesra          99.46 310 PP        PP       18 41 08.8 +2.3
     comp=Z,2.4nm,1.1s,baz=22,slow=5.2,SNR=5.0
KEST                          LR       LR        19 26 34.7
     comp=Z,1µm,21.9s,MS5.3,baz=155,slow=38
NEW  Newport        99.64  35 PFAKE             18 37 20.0 +16
NEW                           LR       LR
     comp=Z,2µm,21.0s,MS5.6
TAOE Nuku Hiva Isla 100.10  97 eLR       LR       19 09 39.8
     comp=Z,11µm,22.4s
CMB  Columbia Colle 102.77  46 PFAKE             18 37 30.0 +12
CMB                           LR       LR
     comp=Z,2µm,19.0s,MS5.7
HLID Hailey         103.80  38 PFAKE             18 37 30.0 +7.7
HLID                          LR       LR
     comp=Z,2µm,20.0s,MS5.6
NVAR Mina Array Bea 104.01  44 Pdiff     Pdif     18 37 29.3 +6.0
     comp=Z,1.0nm,0.8s,baz=266,slow=5.9,SNR=6.3
NVAR                          PP       PP        18 41 43.4 +2.7
     comp=Z,0.9nm,0.9s,baz=280,slow=9.1,SNR=4.4
TPH  Tonopah        104.93  44 PFAKE             18 41 50.0 +7.8
TPH                           LR       LR
     comp=Z,2µm,19.0s,MS5.8
ISA  Isabella       105.26  47 PFAKE             18 41 50.0 +7.2
ISA                           LR       LR
     comp=Z,646nm,22.0s,MS5.1
HWUT Hardware Ranch 106.64  39 PFAKE             18 42 00.0 +15
HWUT                          LR       LR
     comp=Z,2µm,20.0s,MS5.6
DUG  Dugway         106.68  40 PFAKE             18 42 00.0 +15
DUG                           LR       LR
     comp=Z,3µm,21.0s,MS5.8
ESDC Sonseca Array  106.80 319 PP        PP       18 42 03.8 +2.5
     comp=Z,1.5nm,0.9s,baz=93,slow=7.7,SNR=3.3
SHPR Sheep Range    107.14  45 ePP       PP       18 42 15.5 +12
PDAR Pinedale Array 107.15  37 PP        PP       18 42 02.2 -1.6
     comp=Z,0.9nm,0.9s,baz=358,slow=5.0,SNR=4.2
PDAR                          PKKPab   PKKPab    18 53 20.5 +2.8
     comp=Z,0.8nm,1.0s,baz=120,slow=5.3,SNR=4.1
RKT  Rikitea        107.45 110 eSS       SS       18 57 10.3 -4.2
     comp=Z,783nm,34.8s
RKT                          eLQ                 19 08 20.5
     comp=Z,3µm,33.2s
RKT                          eLR       LR        19 13 01.4
     comp=Z,4µm,27.2s
RSSD Black Hills    109.35  33 PFAKE             18 42 00.0 +10
RSSD                          LR       LR
     comp=Z,2µm,21.0s,MS5.7
SCHQ Schefferville  111.67   5 PFAKE             18 42 10.0 +15
SCHQ                          LR       LR
     comp=Z,5µm,19.0s,MS6.1
SNAA Sanae          113.08 197 PKKPbc   PKKPbc   18 52 45.3 +1.8
     comp=Z,0.5nm,1.0s,baz=2.6,slow=4.0,SNR=3.6
ANMO Albuquerque    113.84  42 PFAKE             18 42 10.0 +11
ANMO                          LR       LR
     comp=Z,4µm,22.0s,MS6.0
LPM  Los Pinos Moun 114.12  42 ePKPdf    PKiKP    18 42 01.8 +2.3
TORD Torodi Ar. Bea 114.76 291 PKP       PKiKP    18 41 59.5 -1.2
     comp=Z,0.6nm,0.8s,baz=66,slow=1.7,SNR=4.4
TORD                          PP       PP        18 42 55.9 -2.8
     comp=Z,2.5nm,1.0s,baz=55,slow=2.1,SNR=5.5
TORD                          PKKPab   PKKPab    18 52 47.0 +3.0
     comp=Z,3.0nm,0.9s,baz=265,slow=2.8,SNR=5.0
TORD Torodi Ar. Bea 114.76 291 PKP       PKiKP    18 41 59.5 -1.2
TORD                          PP       PP        18 42 55.9 -2.8
TORD                          PKKPab   PKKPab    18 52 47.0 +3.0
MNTX Cornudas Mount 116.54  44 ePKPdf    PKPdf    18 42 04.4 +0.3
JFWS Jewell Farm    116.86  26 ePKIKP    PKPdf    18 42 03.0 -1.8
TXAR Lajitas Array  119.15  45 PKP       PKPdf    18 42 10.7 +1.6
     comp=Z,1.6nm,0.6s,baz=234,slow=0.8,SNR=15
JCT  Junction City  121.00  42 ePKIKP    PKPdf    18 42 12.3 -0.4
WCI  Wyandotte Cave 122.42  26 ePKIKP    PKPdf    18 42 15.8 +0.3
PLAL Pickwick Lake  124.31  29 ePKPdf    PKPdf    18 42 19.0 -0.1
SWET Sewanee        125.11  27 ePKPdf    PKPdf    18 42 27.7 +7.1
ELN  Prospectdale   125.47  22 ePKPdf    PKPdf    18 42 22.9 +1.6
CPCT Cooper Cave    125.53  26 ePP       PP       18 44 18.4 +5.9
BLA  Blacksburg     125.60  21 eP        Pdif     18 38 59.0 -0.2
BLA  Blacksburg     125.60  21 eP        Pdif     18 38 58.7 -0.5
SJG  San Juan       147.79  14 PKIKP     PKPdf    18 43 03.4 +1.2
PLCA Paso Flores    150.81 161 PKPbc     PKPbc    18 43 12.4 -0.2
     comp=Z,6.5nm,0.9s,baz=200,slow=3.5,SNR=5.8
PLCA Paso Flores    150.81 161 ePKPbc    PKPbc    18 43 12.1 -0.5
SDV  Santo Domingo  154.80  29 ePKPdf    PKPdf    18 43 13.7 +0.9
ROSC El Rosal       156.01  42 PKP       PKPdf    18 43 16.9 +2.4
     comp=Z,2.5nm,0.5s,baz=99,slow=22,SNR=4.8
ROSC El Rosal       156.01  42 ePKPdf    PKPdf    18 43 15.0 +0.5
CFAA Coronel Fontan 159.81 155 PKP       PKPdf    18 43 21.3 +2.2
     comp=Z,0.2nm,0.6s,baz=345,slow=6.6,SNR=2.5
CFAA                          PKPab    PKPab     18 43 59.1 +0.9
     comp=Z,0.3nm,0.7s,baz=244,slow=6.9,SNR=2.4
LVC  Limon Verde    166.54 134 PKP       PKPdf    18 43 28.7 +3.2
     comp=Z,1.0nm,0.3s,baz=315,slow=5.7,SNR=1.9
LVC                           PKPab    PKPab     18 44 30.1 +2.4
     comp=Z,4.7nm,1.0s,baz=243,slow=4.3,SNR=2.3
LVC  Limon Verde    166.54 134 ePKPdf    PKPdf    18 43 25.5 -0.1
LVC                           PKP      PKPdf     18 43 28.8 +3.2
LVC                           PKPab    PKPab     18 44 30.1 +2.4
CPUP Villa Florida  167.09 185 PKP       PKPdf    18 43 30.6 +4.6
     comp=Z,0.3nm,0.3s,baz=342,slow=9.9,SNR=2.5
CPUP Villa Florida  167.09 185 ePKPdf    PKPdf    18 43 31.6 +5.6
LPAZ La Paz         170.28 108 PKP       PKPdf    18 43 30.5 +2.5
     comp=Z,4.1nm,1.1s,baz=194,slow=2.7,SNR=6.8
LPAZ                          PKPab    PKPab     18 44 46.0 +1.8
     comp=Z,2.7nm,0.9s,baz=258,slow=5.0,SNR=2.0
LPAZ                          PP       PP        18 48 40.8 +6.5
     comp=Z,1.7nm,0.9s,baz=268,slow=3.7,SNR=2.7
LPAZ La Paz         170.28 108 ePKPdf    PKPdf    18 43 28.1 +0.1
LPAZ                          ePKPab   PKPab     18 44 46.3 +2.0
SIV  San Ignacio    176.44 137 PKP       PKPdf    18 43 31.3 +0.9
     comp=Z,2.8nm,1.0s,baz=188,slow=7.1
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*IDC **21** 18:27:45.5±0.7, 1320N×12097E, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.4/24, mbtmp4.5/14, Error ellipse: s-maj=32.7km s-min=9.3km az=81.0*
*NEIC **21** 18:27:46.5±1.9, 1328N×121.16E, h10km±11km, mb5.1/19, Error ellipse: s-maj=16.2km s-min=7.4km az=68.0*
*ISCJB **21** 18:27:47.7±0.9, 1333N±004×12132E±006, h30km±6km, mb4.9/40, Error ellipse: s-maj=11.0km s-min=5.0km az=123.9*
*MOS **21** 18:27:47.8±1.1, 1332N×12129E, h33km, mb5.3/16, Error ellipse: s-maj=20.1km s-min=7.8km az=114.1*

ISC 21 18:27:47.6±1.0, 1335N±004×12135E±006, h15km±6km, n96, σ1§17/92, mb4.9/40, 2C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.41**	**291**	‖ *i* P	**Pg**	**18 27 56.8**	**+0.9**
TGY	**Tagaytay City**	**0.84**	**332**	⇑ *i* P	**Pg**	**18 28 03.6**	**-0.4**
TGY				*i* S	**Sg**	18 28 14.2	-0.7
TGY	**Tagaytay City**	**0.84**	**332**	Pg	**Pg**	**18 28 03.1**	**-1.0**
	4µm,0.3s,baz=313,slow=18,SNR=14						
TGY				Lg		18 28 15.9	
	7µm,0.3s,baz=164,slow=18,SNR=10.0						
PCPH	**Palayan**	**2.21**	**354**	‖ *e* P	**Pn**	**18 28 27.8**	**+4.0**
PCPH				*e* S	**Sn**	18 28 52.0	+1.1
RCP	**Roxas**	**2.25**	**142**	‖ *e* P	**Pn**	**18 28 24.2**	**-0.1**
PALP	**Palanan**	**3.83**	**16**	‖ *e* P	**Pn**	**18 28 47.0**	**+0.9**
LLP	**Lapu-Lapu**	**3.96**	**139**	⇑ *e* P	**Pn**	**18 28 49.0**	**+1.1**
LLP				*e* S	**Sn**	18 29 34.6	+0.5
YHNB	**Yeheng**	**11.26**	**0**	*e* Pn	**Pn**	**18 30 30.5**	**+2.5**
QIZ	**Qiongzhong**	**12.40**	**299**	*e* Pn	**Pn**	**18 30 40.9**	**-2.8**
KMI	**Kunming**	**21.08**	**306**	*e* P	**P**	**18 32 31.8**	**+0.4**
CM31	**Chiang Mai Arr**	**22.13**	**286**	*e* P	**P**	**18 32 45.3**	**+2.6**
BJT	**Baijiatuau**	**26.95**	**351**	P	**P**	**18 33 28.4**	**-0.1**
BJT				pmax	pmax		
	comp=Z,91nm,1.4s						
BJT	**Baijiatuau**	**26.95**	**351**	P	**P**	**18 33 28.4**	**-0.1**
	comp=Z,91nm,1.4s,mb5.1						
MAJO	**Matsushiro**	**27.60**	**30**	*e* P	**P**	**18 33 35.4**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
MAJO	**Matsushiro**	**27.60**	**30**	*e* P	**P**	**18 33 35.4**	**+1.0**
	comp=Z,8.6nm,1.1s,mb4.3						
MDJ	**Mudanjiang**	**31.94**	**11**	*e* P	**P**	**18 34 12.0**	**-0.8**
	comp=Z,31nm,1.0s,mb5.1						
LSA	**Lhasa**	**32.32**	**305**	*e* P	**P**	**18 34 17.7**	**+1.5**
LSA				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.4						
LSA	**Lhasa**	**32.32**	**305**	*e* P	**P**	**18 34 17.7**	**+1.5**
	comp=Z,72nm,1.2s,mb5.4						
PMG	**Port Moresby**	**34.18**	**130**	*e* P	**P**	**18 34 31.5**	**-0.8**
PMG				pmax	pmax		
	comp=Z,19nm,0.8s						
PMG	**Port Moresby**	**34.18**	**130**	*e* P	**P**	**18 34 31.5**	**-0.8**
	comp=Z,19nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**34.33**	**183**	*e* P	**P**	**18 34 32.5**	**-1.2**
	comp=Z,27nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**35.47**	**159**	*e* P	**P**	**18 34 42.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**35.47**	**159**	*e* P	**P**	**18 34 42.8**	**-0.7**
	comp=Z,27nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**35.47**	**159**	P	**P**	**18 34 43.5**	**0.0**
	comp=Z,7.6nm,0.5s,mb4.9,baz=333,slow=10,SNR=15						
WB2	**Warramunga Arr**	**35.48**	**159**	*e* P	**P**	**18 34 43.3**	**-0.3**
JIRN	**Jiri**	**35.73**	**299**	*e* P	**P**	**18 34 47.4**	**+1.7**
	comp=Z,6.4nm,0.4s,mb5.0						
HIA	**Hailar**	**35.83**	**358**	P	**P**	**18 34 48.0**	**+1.4**
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
HIA	**Hailar**	**35.83**	**358**	P	**P**	**18 34 48.0**	**+1.4**
	comp=Z,13nm,1.0s,mb4.8						
GUN	**Gumba**	**36.06**	**299**	*e* P	**P**	**18 34 49.9**	**+1.3**
	comp=Z,137nm,0.9s,mb5.9						
PKI	**Pulchoki**	**36.37**	**299**	*e* P	**P**	**18 34 51.6**	**+0.4**
	comp=Z,34nm,0.6s,mb5.5						
KKN	**Kakani**	**36.54**	**299**	*e* P	**P**	**18 34 53.4**	**+0.7**
	comp=Z,72nm,1.1s,mb5.4						
SONM	**Songino Array**	**36.57**	**343**	P	**P**	**18 34 52.5**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.2,baz=161,slow=9.1,SNR=4.5						
DMN	**Daman**	**36.64**	**298**	*e* P	**P**	**18 34 53.7**	**+0.2**
	comp=Z,35nm,0.7s,mb5.3						
GKN	**Gorkha**	**37.14**	**299**	*e* P	**P**	**18 34 57.9**	**+0.1**
	comp=Z,34nm,0.9s,mb5.2						
KOLN	**Koldanda**	**37.97**	**298**	*e* P	**P**	**18 35 02.0**	**-2.8**
	comp=Z,39nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**38.01**	**24**	P	**P**	**18 35 04.2**	**-0.9**
YSS				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.1						
YSS	**Yuzh-Sakhalins**	**38.01**	**24**	P	**P**	**18 35 04.2**	**-0.9**
	comp=Z,64nm,1.5s,mb5.1						
AS31	**Alice Springs**	**38.79**	**161**	*e* P	**P**	**18 35 12.0**	**+0.3**
ASAR	**Alice Springs**	**38.79**	**161**	P	**P**	**18 35 11.8**	**+0.2**
	comp=Z,6.1nm,0.5s,mb4.6,baz=339,slow=7.8,SNR=14						
ASPA	**Alice Springs**	**38.79**	**161**	*e* P	**P**	**18 35 12.0**	**+0.3**
CTAO	**Charters Tower**	**41.29**	**143**	P	**P**	**18 35 33.0**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
CTAO	**Charters Tower**	**41.29**	**143**	P	**P**	**18 35 33.0**	**+0.5**
	comp=Z,15nm,1.1s,mb4.5						
MK31	**Makanchi Array**	**46.68**	**323**	*e* P	**P**	**18 36 16.0**	**+0.2**
MKAR	**Makanchi Array**	**46.68**	**323**	P	**P**	**18 36 16.1**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=126,slow=7.8,SNR=4.7						
YAK	**Yakutsk**	**48.97**	**5**	*e* P	**P**	**18 36 31.9**	**-1.6**
YAK				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
YAK	**Yakutsk**	**48.97**	**5**	*e* P	**P**	**18 36 31.9**	**-1.6**
	comp=Z,34nm,1.1s,mb5.3						
STKA	**Stephens Creek**	**48.98**	**157**	*e* P	**P**	**18 36 33.1**	**-0.5**
	comp=Z,9.1nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**48.98**	**157**	P	**P**	**18 36 33.6**	**0.0**
	comp=Z,12nm,0.7s,mb5.1,baz=333,slow=10,SNR=7.2						
STKA	**Stephens Creek**	**48.98**	**157**	*e* P	**P**	**18 36 32.8**	**-0.8**
ZAL	**Zalesovo**	**49.66**	**332**	P	**P**	**18 36 38.2**	**-0.5**
	comp=Z,1.3nm,0.3s,mb4.4,baz=33,slow=0.6,SNR=3.6						
ZAL	**Zalesovo**	**49.66**	**332**	P	**P**	**18 36 38.2**	**-0.5**
AAK	**Ala-Archa**	**49.75**	**315**	P	**P**	**18 36 41.3**	**+1.8**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**49.75**	**315**	P	**P**	**18 36 41.3**	**+1.9**
	comp=Z,9.8nm,0.9s,mb4.8						
KURK	**Kurchatov**	**50.83**	**326**	P	**P**	**18 36 47.2**	**-0.4**
	comp=Z,388nm,0.6s,SNR=7.5						
BVAR	**Borovoye Array**	**56.41**	**326**	P	**P**	**18 37 27.3**	**-1.3**
	comp=Z,7.9nm,0.8s,mb4.8,baz=125,slow=9.8,SNR=13						
BRVK	**Borovoye**	**56.48**	**326**	P	**P**	**18 37 29.7**	**+0.6**
	comp=Z,174nm,0.8s,SNR=5.5						
BRVK	**Borovoye**	**56.48**	**326**	*e* P	**P**	**18 37 28.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
BRVK	**Borovoye**	**56.48**	**326**	*e* P	**P**	**18 37 28.1**	**-1.0**
	comp=Z,36nm,1.0s,mb5.3						
ZRNK	**Zerenda**	**57.15**	**325**	*e* P	**P**	**18 37 33.1**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
ZRNK	**Zerenda**	**57.15**	**325**	*e* P	**P**	**18 37 33.1**	**-0.7**
	comp=Z,24nm,0.9s,mb5.2						
WSAR	**Wadi Sarin**	**59.97**	**289**	P	**P**	**18 37 53.5**	**0.0**
	comp=Z,5.4nm,1.0s,mb4.5,baz=138,slow=12,SNR=2.7						
WSAR	**Wadi Sarin**	**59.97**	**289**	P	**P**	**18 37 53.5**	**0.0**
AKTK	**Aktyubinsk**	**62.88**	**320**	P	**P**	**18 38 12.7**	**-0.4**
AKTO	**Aktyubinsk**	**62.88**	**320**	P	**P**	**18 38 12.7**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=39,slow=12,SNR=4.6						
ARU	**Arti**	**64.02**	**327**	*e* P	**P**	**18 38 18.7**	**-1.9**
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	**64.02**	**327**	*e* P	**P**	**18 38 18.7**	**-1.9**
	comp=Z,16nm,0.9s,mb5.1						
MAK	**Makhachkala**	**69.23**	**311**	*e* P	**P**	**18 38 48.2**	**-5.7**
ANN	**Anapa**	**76.43**	**313**	*e* P	pP	18 39 48.0	+6.6
MCK	**McKinley**	**78.02**	**27**	P	**P**	**18 39 46.8**	**+1.2**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MCK	**McKinley**	**78.02**	**27**	P	**P**	**18 39 46.8**	**+1.3**
	comp=Z,8.3nm,1.0s,mb4.6						
JOF	**Joensuu**	**78.24**	**332**	*e* p	**P**	**18 39 43.1**	**-3.7**
ARCES	**ARCESS Array B**	**79.63**	**339**	P	**P**	**18 39 56.0**	**+1.5**
	comp=Z,6.4nm,0.8s,mb4.6,baz=69,slow=7.9,SNR=4.8						
KAF	**Kangasniemi**	**80.66**	**332**	*e* p	**P**	**18 39 57.4**	**-2.6**
FINES	**FINESS Array B**	**80.89**	**331**	P	**P**	**18 40 00.9**	**-0.3**
	comp=Z,9.2nm,1.1s,mb4.6,baz=40,slow=9.9,SNR=4.1						
MIR	**Mirnyy**	**82.38**	**191**	*e* P	**P**	**18 40 14.0**	**+4.9**
MIR				*e*		18 40 32.0	
INK	**Inuvik**	**83.19**	**21**	P	**P**	**18 40 13.2**	**-0.1**
	comp=Z,2.8nm,1.0s,mb4.3,baz=304,slow=12,SNR=2.4						
INK	**Inuvik**	**83.19**	**21**	*e* P	**P**	**18 40 12.4**	**-0.9**
	comp=Z,370nm,1.1s						
SUW	**Suwalki**	**84.05**	**324**	P	**P**	**18 40 15.6**	**-2.1**
SUW				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.5						
SUW	**Suwalki**	**84.05**	**324**	P	**P**	**18 40 15.6**	**-2.1**
	comp=Z,48nm,1.3s,mb5.5						
UZH	**Uzhgorod**	**85.98**	**319**	‖ *i* P	**P**	**18 40 32.4**	**+5.0**
UZH				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.6						
STHS	**Stebnicka Huta**	**86.43**	**320**	*e* P	**P**	**18 40 31.3**	**+1.7**
STHS				*es* P	sP	18 40 36.8	+0.6
CRVS	**Cervenica-Dubn**	**86.44**	**319**	*e* P	**P**	**18 40 33.0**	**+3.4**
HFS	**Hagfors**	**87.08**	**331**	P	**P**	**18 40 30.9**	**-1.9**
	comp=Z,8.1nm,1.1s,mb4.9,baz=80,slow=9.4,SNR=4.9						
KECS	**Kecovo**	**87.17**	**319**	*e* P	**P**	**18 40 33.1**	**-0.1**
KECS				*es* P	sP	18 40 38.8	-1.0
PSZ	**Piszkesteto**	**87.72**	**319**	*e* P	**P**	**18 40 37.6**	**+1.7**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
PSZ	**Piszkesteto**	**87.72**	**319**	*e* P	**P**	**18 40 37.6**	**+1.8**
	comp=Z,4.5nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**87.86**	**333**	P	**P**	**18 40 34.8**	**-1.7**
	comp=Z,8.1nm,1.1s,mb4.9,baz=71,slow=4.4						
NB2	**NORSAR Subarra**	**87.86**	**333**	P	**P**	**18 40 34.8**	**-1.7**
NB2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
NOA	**NORSAR Array B**	**87.86**	**333**	P	**P**	**18 40 35.2**	**-1.3**
	comp=Z,1.4nm,0.8s,mb4.3,baz=68,slow=4.8,SNR=3.8						
RES	**Resolute Bay**	**89.28**	**9**	*e* P	**P**	**18 40 42.1**	**-1.2**
	comp=Z,1000nm,1.2s						
TXAR	**Lajitas Array**	**119.27**	**45**	PKP	PKPdf	18 46 39.7	+3.4
	comp=Z,1.2nm,0.8s,baz=264,slow=1.2,SNR=5.5						
TXAR	**Lajitas Array**	**119.27**	**45**	PKP	PKPdf	18 46 39.7	+3.4
PLCA	**Paso Flores**	**150.80**	**161**	PKPbc	PKPbc	18 47 43.6	+4.2
	comp=Z,3.2nm,0.8s,baz=211,slow=5.9,SNR=5.8						
LPAZ	**La Paz**	**170.38**	**109**	PKP	PKPdf	18 47 59.0	+4.0
	comp=Z,0.8nm,0.5s,baz=264,slow=2.5,SNR=4.0						
LPAZ	**La Paz**	**170.38**	**109**	PKP	PKPdf	18 47 59.0	+4.0
SIV	**San Ignacio**	**176.49**	**139**	PKP	PKPdf	18 48 00.1	+2.8
	comp=Z,2.6nm,1.0s,baz=248,slow=6.7,SNR=3.9						

*NEIC **21** 18:50:13.0, 3866N×2660E, h19km, MD3.1(ISK), MD3.3(ATH), After ISK.*
*ISCJB **21** 18:50:14.9±0.5, 3869N±002×2656E±006, h21km±5km, Error ellipse: s-maj=7.5km s-min=3.5km az=148.4*
*CSEM **21** 18:50:14.4±0.1, 3870N×2676E, h20km, MD3.1, Error ellipse: s-maj=3.2km s-min=1.5km az=61.0*
*ATH **21** 18:50:14.3, 3865N×2646E, h24km±1km, MD3.3/5*
*ISK **21** 18:50:14.4, 3862N×2662E, h32km, MD3.1*

ISC 21 18:50:14.8±0.5, 3869N±002×2657E±005, h16km±3km, n24, σ1§08/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.33**	**177**	*i* P	**Pg**	**18 50 21.6**	**-0.2**
URLA				*i* S	**Sg**	18 50 28.3	+1.8
PRK	**Paraskevi**	**0.60**	**337**	*e* PN	**Pg**	**18 50 26.6**	**0.0**
PRK				*e* SN	**Sg**	18 50 35.3	+0.7
PRK	**Paraskevi**	**0.60**	**337**	*e* Pn	**Pg**	**18 50 26.8**	**+0.2**
PRK				*e* Sn	**Sg**	18 50 35.3	+0.7
IZM	**Izmir**	**0.62**	**118**	*i* PG	**Pg**	**18 50 25.6**	**-1.4**
IZM				*i* SG	**Sg**	18 50 34.9	-0.3
KDAG	**Bornova**	**0.62**	**118**	*i* P	**Pg**	**18 50 25.4**	**-1.6**
KDAG				*i* S	**Sg**	18 50 36.8	+1.6
AYVA	**Ayvalik**	**0.62**	**9**	*i* P	**Pg**	**18 50 26.0**	**-1.1**
AYVA				*i* S	**Sg**	18 50 35.5	+0.2
SMG	**Samos**	**1.00**	**168**	*e* PN	**Pn**	**18 50 33.5**	**-0.8**
SMG				*e* SN	**Sn**	18 50 47.0	-1.1
SMG	**Samos**	**1.00**	**168**	*e* Pn	**Pn**	**18 50 33.6**	**-0.7**
SMG				*e* Sn	**Sn**	18 50 47.0	-1.1
EZN	**Ezine**	**1.15**	**351**	*e* PN	**Pn**	**18 50 36.3**	**0.0**
EZN				*e* SN	**Sn**	18 50 50.7	-0.9
BOZC	**Bozcaada**	**1.22**	**341**	*i* P	**Pn**	**18 50 37.4**	**+0.2**
BOZC				*i* S	**Sb**	18 50 56.1	+3.1
CANB	**Canakkale**	**1.38**	**16**	PN	**Pn**	**18 50 39.2**	**-0.2**
CANB				SN	**Sn**	18 50 56.5	-0.8
AYDN	**Tasoluk**	**1.46**	**135**	*i* P	**Pn**	**18 50 39.9**	**-0.6**
AYDN				*i* S	**Sn**	18 51 01.7	+2.4
BTOK	**Tokmak**	**1.56**	**46**	*i* P	**Pn**	**18 50 43.6**	**+1.7**
BTOK				*i* S	**Sn**	18 51 03.9	+2.1
LIA	**Limnos Island**	**1.61**	**319**	*e* PN	**Pn**	**18 50 43.1**	**+0.4**
BDRM	**Kayabasi**	**1.77**	**157**	*i* P	**Pn**	**18 50 44.8**	**0.0**
BDRM				*i* S	**Sn**	18 51 08.2	+1.3
APE	**Apeiranthos**	**1.82**	**207**	*e* PN	**Pn**	**18 50 45.2**	**-0.3**
EDC	**Edincik**	**1.93**	**31**	PN	**Pn**	**18 50 47.0**	**0.0**
MRMT	**Marmara Adasi**	**2.06**	**22**	*e* PN	**Pn**	**18 50 48.3**	**-0.6**
KCT	**Karacabey**	**2.09**	**41**	*e* PN	**Pn**	**18 50 47.9**	**-1.3**
MFT	**Murefte**	**2.16**	**14**	*e* PN	**Pn**	**18 50 49.4**	**-0.8**
DALT	**Dalyan (Mudla)**	**2.52**	**139**	*e* PN	**Pn**	**18 50 53.6**	**-1.6**
RDO	**Rodhopi**	**2.58**	**342**	*e* PN	**Pn**	**18 50 56.7**	**+0.8**
RDO	**Rodhopi**	**2.58**	**342**	*e* Pn	**Pn**	**18 50 56.6**	**+0.7**
EDRB	**Edirne**	**3.15**	**2**	*e* PN	**Pn**	**18 51 04.4**	**+0.6**

*NEIC **21** 19:01:32.1, 1824N×10353W, h5km, MD4.2(MEX), After MEX.*

MEX 21 19:01:33.2±0.7, 1828N×10348W, h7km±5km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.13**	**85**	*i* P	Pg	19 01 35.2	-0.8
MMIG				*i* S	Sg	19 01 37.6	-0.2
CJM	**Chamela**	**1.91**	**310**	*e* P	Pn	19 02 03.4	-2.8
CJM				*i* S	Sn	19 02 25.8	-4.7
CJM	**Chamela**	**1.91**	**310**	*e* P	Pn	19 02 04.8	-1.4
CJM				*i* S	Sn	19 02 25.8	-4.7
ZIIG	**Zihuatanejo**	**2.03**	**109**	*e* P	Pn	19 02 04.5	-3.3
ZIIG				*i* S	Sn	19 02 29.8	-3.6
ZIIG	**Zihuatanejo**	**2.03**	**109**	*e* P	Pn	19 02 04.1	-3.7
ZIIG				*i* S	Sn	19 02 29.1	-4.3
SFJM	**Santa Fe**	**2.24**	**11**	*i* P	Pn	19 02 08.3	-2.3
SFJM				*i* S	Sn	19 02 34.3	-4.2
MOIG	**Morelia**	**2.58**	**57**	*i* P	Pn	19 02 13.4	-1.9
MOIG				*i* S	Sn	19 02 44.5	-2.4
ANIG	**Ahuacatlan**	**2.93**	**341**	*i* P	Pn	19 02 16.5	-3.7
ANIG				*i* S	Sn	19 02 50.8	-4.8
CAIG	**El Cayaco**	**3.30**	**111**	*i* P	Pn	19 02 21.7	-3.5
CAIG				*i* S	Sn	19 03 01.0	-3.7
CAIG	**El Cayaco**	**3.30**	**111**	*i* P	Pn	19 02 21.7	-3.5
CAIG				*i* S	Sn	19 03 03.4	-1.3
ACX	**Acapulco**	**3.68**	**112**	*i* P	Pn	19 02 34.0	+3.6
MEIG	**Mezcala**	**3.69**	**95**	*i* P	Pn	19 02 29.8	-0.8
MEIG				*i* S	Sn	19 03 10.1	-4.2
PLIG	**Platanillo**	**3.78**	**88**	*i* P	Pn	19 02 32.0	+0.2
PLIG				*i* S	Sn	19 03 13.5	-3.1
PLIG	**Platanillo**	**3.78**	**88**	*i* P	Pn	19 02 34.8	+2.9
PLIG				*i* S	Sn	19 03 17.8	+1.3
SZVM	**Salazar**	**4.02**	**74**	*e* P	Pn	19 02 32.6	-2.6
SZVM				*i* S	Sn	19 03 19.4	-3.0
PPM	**Popocatepetl**	**4.67**	**80**	*i* P	Pn	19 02 40.6	-3.5
PPM				*i* S	Sn	19 03 35.8	-2.6
PPM	**Popocatepetl**	**4.67**	**80**	*i* P	Pn	19 02 44.4	+0.3
PPM				*i* S	Sn	19 03 44.5	+6.0
IIO	**Organos**	**4.69**	**73**	*i* P	Pn	19 03 00.2	+16
IIO				*i* S	Sn	19 03 48.6	+10
UTMO	**Huajuapan**	**5.42**	**94**	*e* P	Pn	19 03 01.4	+7.0
UTMO				*i* S	Sn	19 03 54.9	-2.1
VHO	**Vista Hermosa**	**6.54**	**100**	*i* S	Sn	19 04 23.2	-1.5
VHO	**Vista Hermosa**	**6.54**	**100**	*i* S	Sn	19 04 37.5	+13

*IDC **21** 19:04:52.6±21.0, 1201N×8767W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/20, mbtmp3.9/4, Error ellipse: s-maj=359.7km s-min=68.3km az=170.0*
*CASC **21** 19:04:57.9±4.1, 1219N×8818W, h116km±68km, MD4.1, ML3.5*
*ISCJB **21** 19:04:59.9±1.7, 1211N±0.1×8824W±0.1, h52km±18km, mb3.9/4, Error ellipse: s-maj=26.1km s-min=15.6km az=61.1*

ISC 21 19:04:59.6±2.8, 1122N±02×8824W±008, h31km±26km, n24, σ1§24/20, mb3.9/4, 2C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.17**	**20**	‖ *e* P	x	19 05 49.4	
CNCH				*es* S	x	19 06 09.8	
CRIN	**San Cristobal**	**1.28**	**66**	*e* P	**Pn**	**19 05 21.2**	**-0.1**
LEON	**Leon**	**1.34**	**79**	⇑ *e* P	**Pn**	**19 05 21.1**	**-1.1**
LEON				*es* S	**Sn**	19 05 40.7	+1.8
TELN	**Telica**	**1.45**	**73**	*e* P	**Pn**	**19 05 22.9**	**-0.7**
MIRN	**Miramar**	**1.52**	**80**	*e* P	**Pn**	**19 05 24.4**	**-0.2**
CNGN	**Cerro Negro**	**1.54**	**78**	*e* P	**Pn**	**19 05 26.0**	**+1.1**
SNVI	**San Vicente**	**1.55**	**338**	*e* P	x	19 05 55.1	
SNVI				*es* S	x	19 06 17.4	
COPN	**Copaltepe**	**1.61**	**90**	‖ *e* P	**Pn**	**19 05 25.0**	**-0.9**
COPN				*es* S	**Sn**	19 05 50.1	+4.4
LFRS	**El Faro**	**1.65**	**331**	‖ *e* P	x	19 05 55.3	
LFRS				*es* S	x	19 06 19.3	
MOMJ	**Momotombo**	**1.68**	**82**	*e* P	**Pn**	**19 05 26.2**	**-0.7**
SNET	**Serv Nac Est T**	**1.79**	**327**	⇑ *i* P	x	19 05 50.9	
SNET				*es* S	x	19 06 14.9	
BOQS	**Boqueron**	**1.85**	**327**	*e* P	x	19 05 59.0	
BOQS				*es* S	x	19 06 22.9	
MGAN	**Managua**	**1.95**	**91**	*e* P	**Pn**	**19 05 30.4**	**-0.2**
MGAN				*es* S	**Sn**	**19 05 54.4**	**+0.5**
MGAN				*i*		19 05 55.9	
	comp=E,429nm,0.6s						
TICN	**Ticuantepe**	**1.97**	**94**	*e* P	**Pn**	**19 05 30.5**	**-0.4**
SBLS	**San Blas**	**2.13**	**321**	*e* P	x	19 06 02.8	
SBLS				*es* S	x	19 06 29.4	
APON	**Apoyo**	**2.14**	**97**	*e* P	**Pn**	**19 05 35.4**	**+2.2**
SNJE	**San Jose**	**2.15**	**322**	*e* P	x	19 06 02.7	
SNJE				*es* S	x	19 06 32.8	
RTR	**El Retiro**	**2.19**	**322**	*e* P	x	19 06 03.7	
RTR				*es* S	x	19 06 32.3	
SSNN	**San Juan del S**	**2.50**	**110**	*e* P	**Pn**	**19 05 39.4**	**+1.3**
CONN	**Concepcion**	**2.63**	**103**	*e* P	**Pn**	**19 05 39.5**	**-0.4**
CONN				*es* S	**Sn**	**19 06 08.9**	**-1.8**
TXAR	**Lajitas Array**	**22.31**	**322**	P	**P**	**19 09 56.1**	**+1.8**
	comp=E,1.8nm,0.8s,mb3.6,baz=148,slow=11,SNR=12						
TKL	**Tuckaleechee C**	**23.73**	**9**	P	**P**	**19 10 08.0**	**-0.9**
	comp=E,5.6nm,0.9s,mb4.0,baz=191,slow=14,SNR=3.5						
PDAR	**Pinedale Array**	**35.66**	**333**	P	**P**	**19 11 58.0**	**+3.3**
	comp=E,0.7nm,0.9s,mb3.6,baz=139,slow=9.2,SNR=4.5						
ULM	**Lac du Bonnet**	**38.48**	**352**	P	**P**	**19 12 16.5**	**-2.2**
	comp=E,4.6nm,0.7s,mb4.3,baz=153,slow=11,SNR=6.4						

*IDC **21** 19:05:12.6±1.0, 1332N×12144E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=115.1km s-min=9.5km az=61.0*
*NEIC **21** 19:05:13.6±0.6, 1347N×12168E, h10km, mb4.5/6, Error ellipse: s-maj=25.9km s-min=9.0km az=57.0*
*MAN **21** 19:05:13.1, 1341N×12147E, h3km, mb3.1, ML4.4, MS2.4*
*ISCJB **21** 19:05:14.2±0.6, 1339N±003×12150E±004, h21km±5km, mb4.2/13, Error ellipse: s-maj=6.9km s-min=4.6km az=95.2*

ISC 21 19:05:13.3±0.6, 1336N±003×12145E±003, h3km±5km, n38, σ1§24/42, mb4.2/13, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.39**	**76**	*e* P	**Pg**	**19 05 20.6**	**-0.2**
BOAC				*es* S	**Sg**	19 05 26.9	+1.0
TGY	**Tagaytay City**	**0.89**	**326**	⇑ *i* P	**Pg**	**19 05 31.3**	**+1.0**
TGY				*i* S	**Sg**	19 05 40.8	-1.1
TGY	**Tagaytay City**	**0.89**	**326**	Pg	**Pg**	**19 05 30.2**	**-0.2**
	301nm,0.3s,baz=189,slow=1.9,SNR=56						
TGY				Lg		19 05 42.9	
	1µm,0.3s,baz=157,slow=16,SNR=19						
OTRP	**Odiongan**	**1.14**	**151**	*e* P	**Pg**	**19 05 34.8**	**-0.3**
OTRP				*es* S	**Sg**	19 05 48.7	-1.2
AUQP	**San Andres**	**1.19**	**92**	*e* P	**Pg**	**19 05 36.8**	**+0.7**
LUBP	**Lubang**	**1.23**	**288**	*e* P	**Pg**	**19 05 36.4**	**-0.5**
LUBP				*es* S	**Sg**	19 05 53.5	+0.6
POLP	**Polilio Island**	**1.44**	**19**	*e* P	**Pn**	**19 05 38.4**	**-1.9**
BUSP	**Coron**	**1.82**	**222**	*e* P	**Pn**	**19 05 46.7**	**+1.2**
RCP	**Roxas**	**2.19**	**145**	⇑ *e* P	**Pn**	**19 05 52.0**	**+1.3**
BALP	**Baler**	**2.37**	**3**	*e* P	**Pn**	**19 05 52.9**	**-0.2**
CUYO	**Cuyo Island**	**2.53**	**190**	*e* P	**Pn**	**19 05 55.4**	**+0

KULM	**Kulim**	**22.09 250**	P	**P**	**19 23 54.3**	**+2.4**
CM31	**Chiang Mai Arr**	**22.23 286**	*e*P	**P**	**19 23 54.9**	**+1.5**
	comp=Z,8.9nm,0.8s,mb4.2					
XAN	**Xi'an**	**23.45 333**	P	**P**	**19 24 05.3**	**-1.0**
XAN			AP		19 24 10.4	
XAN			AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.7					
CD2	**Chengdu**	**23.84 320**	*e*P	**P**	**19 24 10.5**	**+0.5**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5					
CD2			AMB	AMB		
	comp=Z,30nm,5.2s					
PSI	**Prapat**	**24.70 247**	P	**P**	**19 24 16.9**	**-0.9**
	comp=Z,9.5nm,0.5s,mb4.5,baz=228,slow=8.1,SNR=15					
MAJO	**Matsushiro**	**27.43 30**	P	**P**	**19 24 48.8**	**+6.2**
	comp=Z,5.0nm,1.0s,mb4.0					
LZH	**Lanzhou**	**27.55 328**	*e*P	**P**	**19 24 44.5**	**+0.9**
LZH			AMB	AMB		
	comp=Z,23nm,1.5s,mb4.6					
LZH			AMB	AMB		
	comp=Z,79nm,4.6s					
LZH			LR	LR		
	comp=N,637nm,12.7s					
LZH			LR	LR		
	comp=Z,975nm,15.2s,MS4.5					
LZH	**Lanzhou**	**27.55 328**	*e*P	**P**	**19 24 44.5**	**+0.9**
	comp=Z,23nm,1.5s,mb4.6					
LZH			pP	pP	19 24 47.8	+0.9
LZH			sP	sP	19 24 49.2	+1.0
LZH			*e*PP		19 25 33.1	
LZH			*e*S	**S**	**19 29 24.7**	**0.0**
LZH			sS	sS	19 29 32.5	+2.4
LZH			*e*SS		19 30 45.2	
LZH			LR	LR		
	comp=Z,980nm,15.2s,MS4.5					
FITZ	**Fitzroy Crossi**	**31.63 172**	P	**P**	**19 25 18.9**	**-0.9**
	comp=Z,2.2nm,0.9s,mb4.0,baz=10,slow=15,SNR=5.7					
MDJ	**Mudanjiang**	**31.81 11**	P	**P**	**19 25 21.3**	**-0.1**
MDJ			PP	PP	19 26 33.3	+0.1
MDJ			AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.3					
MDJ			AMB	AMB		
	comp=Z,548nm,10.7s					
MDJ			LR	LR		
	comp=N,235nm,18.1s,MS4.2					
MDJ			LR	LR		
	comp=E,468nm,20.6s,MS4.2					
MDJ			LR	LR		
	comp=Z,415nm,15.1s					
MDJ	**Mudanjiang**	**31.81 11**	P	**P**	**19 25 22.1**	**+0.8**
	comp=Z,8.3nm,0.9s,mb4.6					
GTA	**Gaotai**	**32.15 327**	*e*P	**P**	**19 25 25.1**	**+0.8**
GTA			AP	pP	19 25 32.4	+4.8
GTA			XP	sP	19 25 35.6	+6.6
GTA			AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3					
LSA	**Lhasa**	**32.38 305**	*e*P	**P**	**19 25 27.5**	**+1.1**
	comp=Z,4.8nm,0.6s,mb4.5					
WRAB	**Tennant Creek**	**35.52 159**	*e*P	**P**	**19 25 51.9**	**-1.7**
	comp=Z,7.9nm,0.7s,mb4.8					
WRA	**Warramunga Arr**	**35.52 159**	P	**P**	**19 25 52.8**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=337,slow=9.5,SNR=12					
WB2	**Warramunga Arr**	**35.53 159**	*e*P	**P**	**19 25 52.5**	**-1.2**
WB2	**Warramunga Arr**	**35.53 159**	*e*P	**P**	**19 25 51.8**	**-1.9**
GUN	**Gumba**	**36.13 299**	*e*P	**P**	**19 25 59.4**	**+0.5**
	comp=Z,30nm,0.6s,mb5.4					
PKI	**Pulchoki**	**36.44 298**	*e*P	**P**	**19 26 01.4**	**-0.2**
	comp=Z,17nm,0.8s,mb5.0					
SONM	**Songino Array**	**36.51 343**	P	**P**	**19 26 02.3**	**+0.2**
	comp=Z,1.5nm,1.0s,mb3.8,baz=161,slow=9.4,SNR=5.9					
KKN	**Kakani**	**36.61 299**	*e*P	**P**	**19 26 02.9**	**-0.1**
	comp=Z,20nm,0.8s,mb5.0					
DMN	**Daman**	**36.71 298**	*e*P	**P**	**19 26 03.7**	**-0.2**
	comp=Z,26nm,0.9s,mb5.1					
GKN	**Gorkha**	**37.22 299**	*e*P	**P**	**19 26 07.7**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8					
YSS	**Yuzh-Sakhalins**	**37.85 24**	P	**P**	**19 26 13.8**	**+0.3**
	comp=Z,25nm,1.0s,mb4.9					
KOLN	**Koldanda**	**38.04 298**	*e*P	**P**	**19 26 14.4**	**-0.8**
	comp=Z,7.5nm,0.7s,mb4.5					
AS31	**Alice Springs**	**38.85 162**	*e*P	**P**	**19 26 21.3**	**-0.6**
ASPA	**Alice Springs**	**38.85 162**	*e*P	**P**	**19 26 21.5**	**-0.4**
ASAR	**Alice Springs**	**38.85 162**	P	**P**	**19 26 21.5**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.2,baz=337,slow=6.8,SNR=39					
CTAO	**Charters Tower**	**41.29 143**	P	**P**	**19 26 43.6**	**+1.4**
	comp=Z,17nm,1.3s,mb4.5					
WMQ	**Urumqi**	**41.86 323**	*e*P	**P**	**19 26 48.0**	**+1.2**
WMQ			AP	pP	19 26 52.5	+2.3
WMQ			XP	sP	19 26 55.0	+3.5
WMQ			PP	PP	19 28 29.0	+5.4
WMQ			AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5					
WMQ			AMB	AMB		
	comp=Z,143nm,4.8s					
WMQ			LR	LR		
	comp=N,513nm,18.8s,MS4.6					
WMQ			LR	LR		
	comp=E,587nm,17.4s,MS4.6					
WMQ			LR	LR		
	comp=Z,436nm,19.3s,MS4.3					
HNR	**Honiara**	**44.44 119**	P	**P**	**19 27 08.5**	**+0.9**
	comp=Z,26nm,0.3s,mb5.4,baz=252,slow=8.8,SNR=5.5					
HNR	**Honiara**	**44.44 119**	P	**P**	**19 27 11.1**	**+3.4**
	comp=Z,64nm,0.8s,mb5.4					
MK31	**Makanchi Array**	**46.68 323**	*e*P	**P**	**19 27 24.7**	**-0.7**
MKAR	**Makanchi Array**	**46.68 323**	P	**P**	**19 27 25.2**	**-0.3**
	comp=Z,2.0nm,1.1s,mb4.0,baz=133,slow=6.8,SNR=7.3					
YAK	**Yakutsk**	**48.85 5**	P	**P**	**19 27 42.0**	**-0.4**
	comp=Z,11nm,0.9s,mb4.9					
STKA	**Stephens Creek**	**49.03 157**	*e*P	**P**	**19 27 43.3**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.5					
STKA	**Stephens Creek**	**49.03 157**	P	**P**	**19 27 42.4**	**-1.3**
	comp=Z,4.7nm,0.7s,mb4.7,baz=329,slow=8.7,SNR=13					
STKA	**Stephens Creek**	**49.03 157**	*e*P	**P**	**19 27 42.9**	**-0.8**
PET	**Petropavlovsk**	**49.25 29**	*e*P	**P**	**19 27 44.4**	**-1.0**
	comp=Z,41nm,1.1s,mb5.4					
BVAR	**Borovoye Array**	**56.40 326**	P	**P**	**19 28 37.3**	**-0.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=106,slow=9.4,SNR=7.4					
BRVK	**Borovoye**	**56.47 326**	*e*P	**P**	**19 28 36.0**	**-2.7**
	comp=Z,12nm,1.2s,mb4.8					
ZRNK	**Zerenda**	**57.14 325**	*e*P	**P**	**19 28 41.9**	**-1.5**
	comp=Z,5.7nm,1.1s,mb4.5					
AKTK	**Aktyubinsk**	**62.89 320**	P	**P**	**19 29 21.9**	**-1.0**
AKTO	**Aktyubinsk**	**62.89 320**	P	**P**	**19 29 21.9**	**-1.0**
	comp=Z,0.4nm,0.3s,mb4.0,baz=97,slow=8.1,SNR=2.3					
FINES	**FINESS Array B**	**80.86 331**	P	**P**	**19 31 09.1**	**-1.7**
	comp=Z,1.8nm,1.0s,mb4.0,baz=222,slow=2.6,SNR=2.5					
GERES	**GERESS Array B**	**91.30 321**	P	**P**	**19 32 02.1**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.8,baz=123,slow=3.6,SNR=2.4					

*IDC **21** 19:22:46.1±14.0, 1396N×12201E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=347.9km s-min=17.8km az=25.0*

*ISCJB **21** 19:22:49.4±1.3, 134N±0.1×1215E±0.1, h11km±13km, mb3.7/3, Error ellipse: s-maj=26.7km s-min=8.0km az=90.1*

ISC 21 19:22:50.2±1.4, 135N±02×1215E±02, h10km±18km, n8, σ0°71/9, mb3.7/3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.30**	**92**	*e*P	**Pg**	**19 22 55.8**	**-0.5**
TGY	**Tagaytay City**	**0.85**	**318**	⇑*i*P	**Pg**	**19 23 08.3**	**+1.7**
TGY				*i* S	**Sg**	**19 23 17.9**	**+0.2**
TGY	**Tagaytay City**	**0.85**	**318**	Pg	**Pg**	**19 23 06.2**	**-0.4**
	47nm,0.3s,baz=155,slow=2.3,SNR=6.4						
OTRP	**Odiongan**	**1.20**	**156**	*e*P	**Pb**	**19 23 13.2**	**+0.2**
LUBP	**Lubang**	**1.28**	**282**	*e*P	**Pn**	**19 23 12.8**	**-1.2**
WRA	**Warramunga Arr**	**35.51**	**159**	P	**P**	**19 29 46.9**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=342,slow=9.0,SNR=5.9						
ASAR	**Alice Springs**	**38.84**	**162**	P	**P**	**19 30 15.4**	**0.0**
	0.4nm,0.6s,mb3.3,baz=335,slow=7.1,SNR=5.1						
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**19 31 38.0**	**+0.9**
	2.1nm,0.8s,mb4.2,baz=336,slow=10.0,SNR=3.1						

KRSC 21 19:32:33, 5535N×16245E, h33km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**13**	*e*P	Pn	19 32 50.5	+1.4
KBTR				*i* S	Sn	19 33 02.6	+1.8
MKZ	**Mys Kozlova**	**0.90**	**208**	*e*P	Pn	19 32 50.4	+1.1
MKZ				*i* S	Sn	19 33 02.5	+1.4
ZLN	**Zelenaya**	**1.15**	**306**	*e*P	Pn	19 32 54.6	+1.9
ZLN				*i* S	Sn	19 33 10.2	+2.9
TUMR	**Tumrok**	**1.32**	**268**	*e*P	Pn	19 32 57.0	+1.9
TUMR				*i* S	Sn	19 33 14.5	+3.0
KMNR	**Kamenistaya**	**1.32**	**289**	*e*P	Pn	19 32 57.3	+2.2
KMNR				*i* S	Sn	19 33 14.2	+2.6
KRSR	**Krestovskiy**	**1.37**	**310**	*e*P	Pn	19 32 57.5	+1.7
KRSR				*i* S	Sn	19 33 14.6	+1.7
KLY	**Klyuchi**	**1.40**	**314**	*e*P	Pn	19 32 56.5	+0.3
KLY				*i* S	Sn	19 33 13.1	-0.4
KPT	**Kopyto**	**1.41**	**297**	*e*P	Pn	19 32 58.8	+2.5
KPT				*i* S	Sn	19 33 16.9	+3.2
SRKR	**Sorokina**	**1.49**	**332**	*e*P	Pn	19 32 59.8	+2.3
SRKR				*i* S	Sn	19 33 19.4	+3.6
KOZ	**Kozyrevsk**	**1.62**	**297**	*e*P	Pn	19 33 02.3	+3.0
KOZ				*i* S	Sn	19 33 22.9	+3.9
SRDR	**Sredinnyy**	**1.82**	**303**	*e*P	Pn	19 33 04.6	+2.6
SRDR				*i* S	Sn	19 33 27.0	+3.1
SPN	**Mys Shipunski**	**2.67**	**213**	*e*P	Pn	19 33 15.0	+1.4
SPN				*i* S	Sn	19 33 44.6	-0.2
NLC	**Nalytchevo**	**2.84**	**221**	*e*P	Pn	19 33 18.6	+2.6
NLC				*i* S	Sn	19 33 51.2	+2.1
AVH	**Avacha**	**3.02**	**228**	*e*P	Pn	19 33 22.0	+3.6
AVH				*i* S	Sn	19 33 56.4	+3.0
GNL	**Ganaly**	**3.11**	**240**	*e*P	Pn	19 33 22.6	+2.9
PET	**Petropavlovsk**	**3.23**	**225**	*e*P	Pn	19 33 25.7	+4.4
PET				*i* S	Sn	19 34 03.2	+4.6
RUS	**Russkaya**	**3.74**	**220**	*e*P	Pn	19 33 31.6	+3.3
RUS				*i* S	Sn	19 34 13.3	+2.1

*MOS **21** 19:35:49.7±1.0, 2190N×14301E, h33km, mb5.4/53, MS4.4/7, Error ellipse: s-maj=9.0km s-min=4.8km az=108.0*

*ISCJB **21** 19:35:49.3±1.2, 2191N±003×14304E±002, h27km±8km, mb5.2/137, MS4.6/36, Error ellipse: s-maj=5.2km s-min=3.5km az=6.4*

*BJI **21** 19:35:50.2, 2198N×14331E, h42km, mB5.3, mb5.0, Ms4.8, Msz4.5*

*NEIC **21** 19:35:51.7±0.2, 2195N×14307E, mb5.3/80, MS4.6/2, Error ellipse: s-maj=5.0km s-min=4.7km az=118.0*

*GCMT **21** 19:35:51.7±0.2, 2185N×143.15E, h12km, MW5.3/97, Moment Tensor Solution. s43,c59; s97,c169; Duration: 1s0 Moment tensor: Scale 10^17Nm; M_{rr}-0.88±.02; $M_{\theta\theta}$0.25±.01; $M_{\phi\phi}$0.62±.02; $M_{r\theta}$-0.01±.06; $M_{r\phi}$-0.37±.01; $M_{\theta\phi}$0.40±.05; Best double couple: $M_0$0.95000×10^17 NP1:ϕ_s318.00000°, δ35.00000°, λ-108.00000°. NP2: ϕ_s160.00000°, δ57.00000°, λ-77.00000°. Principal axes: T 0.9190, Plg11.0000°, Azm241.0000°; N 0.0610, Plg11.0000°, Azm333.0000°; P -0.9800, Plg75.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **21** 19:35:53.5±2.3, 2190N×14308E, h53km±19km, mb4.6/23, mb1 4.7/25, mb1mx4.7/28, mbtmp4.9/25, ML4.3/2, MS4.5/22, Ms1 4.5/22, ms1mx4.4/37 Error ellipse: s-maj=15.6km s-min=10.5km az=88.0*

*SZGRF **21** 19:35:57.4, 2276N×14166E, h33km, mb5.2, Volcano Islands, Japan, region*

ISC 21 19:35:53.1±0.7, 2194N±003×14306E±002, h41km±6km, h43km±2.7km: pP-P, n559, σ0°86/560, mb5.2/137, MS4.6/36, 102C-150D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.19**	**351**	P	**Pn**	**19 37 08.8**	**+0.6**
	35nm,0.3s,baz=93,slow=18,SNR=11						
CBIJ				S	**Sn**	**19 38 09.1**	**+2.2**
	35nm,0.3s,baz=287,slow=19,SNR=4.3						
CBIJ				LR	LR	19 38 52.3	
	comp=Z,2μm,19.7s,baz=5.3,slow=34						
GUMO	**Guam**	**8.48**	**168**	P	**Pn**	**19 37 53.5**	**+0.2**
	1.7nm,0.3s,baz=144,slow=16,SNR=3.1						
GUMO				LR	LR	19 40 42.6	
	comp=Z,2μm,20.0s,baz=160,slow=34						
GUMO	**Guam**	**8.48**	**168**	*e*P	**Pn**	**19 37 53.7**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,691nm,1.4s						
GUMO	**Guam**	**8.48**	**168**	*e*Pn	**Pn**	**19 37 53.7**	**+0.4**
	comp=Z,691nm,1.4s						
JHJ	**Hachijo jima 2**	**11.51**	**346**	LR	LR	19 42 39.7	
	comp=Z,2μm,21.0s,baz=116,slow=35						
JOW	**Kunigami**	**14.32**	**293**	LR	LR	19 43 44.7	
	comp=Z,2μm,19.9s,baz=329,slow=33						
MJAR	**Matsushiro Arr**	**15.15**	**345**	P	**Pn**	**19 39 21.8**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=153,slow=11,SNR=9.9						
MJAR				LR	LR	19 44 53.8	
	comp=Z,2μm,20.4s,baz=150,slow=36						
MAJO	**Matsushiro**	**15.15**	**345**	*e*P	**Pn**	**19 39 21.8**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,29nm,0.6s						
MAJO	**Matsushiro**	**15.15**	**345**	*e*P	**Pn**	**19 39 21.8**	**-2.3**
	comp=Z,29nm,0.6s						
MAT	**Matsushiro**	**15.15**	**345**	P	**Pn**	**19 39 22.4**	**-1.7**
MAT				S	S	19 42 05.0	-21
NACB	**Ninganchiao**	**19.88**	**281**	⇑*i*P	**Pn**	**19 40 22.4**	**-0.2**
YHNB	**Yeheng**	**20.10**	**282**	*e*P	**P**	**19 40 25.2**	**+2.0**
CVP	**Callao Caves**	**20.42**	**262**	*e*P	**P**	**19 40 29.0**	**+2.4**
SSE	**Sheshan**	**21.56**	**300**	*e*P	**P**	**19 40 38.8**	**-0.1**
SSE				AP		19 40 49.8	
SSE				XP	sP	19 40 55.3	+0.9
SSE				S	**S**	**19 44 34.8**	**-0.7**
SSE				XS	sS	19 44 51.1	-1.0
SSE				AMB	AMB		
	comp=Z,48nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,391nm,10.9s						
SSE				LR	LR		
	comp=N,343nm,22.0s,MS4.2						
SSE				LR	LR		
	comp=E,995nm,22.1s,MS4.2						
SSE				LR	LR		
	comp=Z,1μm,14.5s						
SSE	**Sheshan**	**21.56**	**300**	*e*P	**P**	**19 40 38.7**	**-0.2**
	comp=Z,48nm,0.9s,mb4.9						
SSE				pP		19 40 49.8	
SSE				sP	sP	19 40 55.2	+0.8
SSE				S	**S**	**19 44 34.7**	**-0.8**
SSE				sS	sS	19 44 51.1	-1.0
SSE				ScS	ScS	19 52 01.7	+3.9
SSE				LR	LR		
	comp=Z,1μm,14.5s,MS4.4						
ASAJ	**Asahikawa**	**22.12**	**359**	P	**P**	**19 40 44.0**	**-0.9**
	comp=Z,9.4nm,0.8s,mb4.2,baz=169,slow=26,SNR=3.7						
ASAJ				LR	LR	19 49 30.7	
	comp=Z,847nm,20.3s,MS4.2,baz=180,slow=37						
TGY	**Tagaytay City**	**22.42**	**253**	P	**P**	**19 40 47.7**	**-0.4**
	comp=Z,158nm,0.6s,baz=334,slow=4.8,SNR=7.3						
TGY				LR	LR	19 48 19.0	
	comp=Z,11nm,20.3s,baz=230,slow=33						
DAV	**Davao City (W)**	**22.43**	**231**	*e*P	**P**	**19 40 48.7**	**+0.5**
	comp=Z,126nm,0.7s,mb5.5						
QZH	**Quanzhou**	**22.64**	**282**	P	**P**	**19 40 50.8**	**+0.4**
QZH				S	**S**	**19 44 57.5**	**+1.7**
QZH				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.3						
QZH				LR	LR		
	comp=N,1μm,9.3s						
QZH				LR	LR		
	comp=E,2μm,16.6s						
QZH				LR	LR		
	comp=Z,4μm,24.2s						
VLA	**Vladivostok**	**23.08**	**339**	*c i*P	**P**	**19 40 55.4**	**+0.3**
VLA				*e*S	**S**	**19 45 08.0**	**+5.0**
VLA	**Vladivostok**	**23.08**	**339**	⇑*i*P	**P**	**19 40 55.6**	**+0.5**
NJ2	**Nanjing**	**23.76**	**300**	*e*P	**P**	**19 40 59.8**	**-1.8**
NJ2				AP		19 41 09.8	
NJ2				PP		19 41 33.6	
NJ2				S	**S**	**19 45 09.0**	**-5.0**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,950nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,14.0s,MS4.6						
NJ2				LR	LR		
	comp=E,800nm,13.9s,MS4.6						
NJ2				LR	LR		
	comp=Z,6μm,18.1s,MS5.1						
YSS	**Yuzh-Sakhalins**	**24.95**	**360**	*i* P	**P**	**19 41 13.7**	**+1.2**
YSS				pmax	pmax		
	comp=Z,69nm,1.5s,mb5.0						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.1						
YSS	**Yuzh-Sakhalins**	**24.95**	**360**	⇑*e*P	**P**	**19 41 10.0**	**-2.5**
	comp=Z,39nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**25.20**	**337**	P	**P**	**19 41 15.4**	**+0.7**
MDJ				AP	pP	19 41 26.3	+0.4
MDJ				XP	sP	19 41 31.3	+0.5
MDJ				PCP	PcP	19 44 47.5	0.0
MDJ				S	**S**	**19 45 39.3**	**+2.2**
MDJ				XS	sS	19 45 56.9	+1.1
MDJ				PCS	PcS	19 48 25.8	-2.1
MDJ				SCS	ScS	19 52 08.3	-3.6
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,185nm,5.4s						
MDJ				LR	LR		
	comp=N,663nm,17.3s,MS4.4						
MDJ				LR	LR		
	comp=E,894nm,17.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
MDJ	**Mudanjiang**	**25.20**	**337**	⇓*e*P	**P**	**19 41 14.8**	**+0.1**
	comp=Z,33nm,1.3s,mb4.7						
SNY	**Shenyang**	**25.71**	**325**	⇓P	**P**	**19 41 18.6**	**-0.8**
SNY				AP	pP	19 41 30.1	-0.5
SNY				XP	sP	19 41 36.0	+0.5
SNY				PP		19 41 57.8	
SNY				S	**S**	**19 45 46.4**	**+1.1**
SNY				XS	sS	19 46 00.8	-3.3
SNY				SS		19 46 50.0	
SNY				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.8						
SNY				AMB	AMB		
	comp=Z,474nm,9.0s						
SNY				LR	LR		
	comp=N,1μm,12.6s,MS4.6						
SNY				LR	LR		
	comp=E,804nm,15.6s,MS4.6						
SNY				LR	LR		
	comp=Z,1μm,20.4s,MS4.4						
CN2	**Changchun**	**26.24**	**330**	*e*P	**P**	**19 41 25.3**	**+1.2**
CN2				*e*XP	sP	19 41 42.5	+2.2
CN2				*e*S	**S**	**19 45 52.0**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,700nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,900nm,14.0s,MS4.5						
TIA	**Tai'an**	**26.66**	**308**	⇑P	**P**	**19 41 28.8**	**+0.9**
WHN	**Wuhan**	**27.08**	**294**	P	**P**	**19 41 34.0**	**+2.3**
GZH	**Guangzhou**	**27.46**	**278**	P	**P**	**19 41 34.5**	**-0.6**
KLR	**Kul'dur**	**28.68**	**344**	*e*P	**P**	**19 41 42.2**	**-3.8**
KLR				pmax	pmax		
	comp=E,43nm,1.2s						
KLR				pmax	pmax		
	comp=Z,73nm,1.2s,mb5.3						
QIZ	**Qiongzhong**	**31.22**	**271**	P	**P**	**19 42 08.3**	**-0.2**
QIZ				AP	pP	19 42 19.3	-0.5
QIZ				PCP	PcP	19 45 05.3	+2.9
QIZ				S	**S**	**19 47 15.1**	**+3.2**
QIZ				LR	LR		
	comp=E,767nm,19.0s						
QIZ				LR	LR		
	comp=Z,1μm,22.6s,MS4.5						
PMG	**Port Moresby**	**31.41**	**172**	⇑*e*P	**P**	**19 42 08.4**	**-1.7**
PMG	**Port Moresby**	**31.41**	**172**	⇑*e*P	**P**	**19 42 08.2**	**-1.9**
	comp=Z,52nm,1.0s,mb5.3						
XAN	**Xi'an**	**32.32**	**299**	P	**P**	**19 42 19.3**	**+1.2**
XAN				AP	pP	19 42 29.9	+0.5
HHC	**Hu-ho-hao-te**	**32.59**	**313**	*e*P	**P**	**19 42 20.4**	**-0.1**
HHC				AMB	AMB		
	comp=Z,22nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,243nm,7.6s						
HIA	**Hailar**	**32.95**	**332**	*i* P	**P**	**19 42 23.4**	**-0.2**
HIA	**Hailar**	**32.95**	**332**	*e*P	**P**	**19 42 22.7**	**-0.9**
	comp=Z,26nm,1.2s,mb5.0						
GYA	**Guiyang**	**33.43**	**285**	P	**P**	**19 42 29.6**	**+1.8**
GYA				AP	pP	19 42 41.6	+2.4
GYA				XP	sP	19 42 46.8	+2.7
GYA				PP	PP	19 43 42.4	-1.5
GYA				PPP		19 43 59.8	
GYA				PCP	PcP	19 45 10.3	+1.9
GYA				S	**S**	**19 47 46.6**	**+0.3**
GYA				XS	sS	19 48 07.4	+2.2
GYA				SCP	ScP	19 48 49.9	+0.4
GYA				PCS	PcS	19 48 55.0	+0.9
GYA				SS	SS	19 49 51.3	-20
GYA				SCS	ScS	19 52 49.3	-1.2
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,180nm,5.1s						
GYA				LR	LR		
	comp=N,1μm,16.8s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,17.2s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,17.6s,MS4.6						
BTO	**Baotou**	**33.55**	**311**	*e*P	**P**	**19 42 26.6**	**-2.3**
CD2	**Chengdu**	**36.16**	**293**	*e*P	**P**	**19 42 52.6**	**+1.2**
CD2				AP	pP	19 43 05.6	+2.8
CD2				XP	sP	19 43 10.5	+2.8
CD2				PP	PP	19 44 15.8	+1.7
CD2				PCP	PcP	19 45 17.6	+1.2
CD2				S	**S**	**19 48 30.6**	**+2.3**
CD2				XS	sS	19 48 53.9	+6.5
CD2				SS	SS	19 50 59.0	-8.2
CD2				SCS	ScS	19 53 03.5	-1.7
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CD2				AMB	AMB		
	comp=Z,310nm,5.3s						
CD2				LR	LR		
	comp=N,930nm,14.3s,MS4.9						
CD2				LR	LR		
	comp=E,2μm,18.0s,MS4.9						
CD2				LR	LR		
	comp=Z,2μm,18.0s,MS4.8						
LZH	**Lanzhou**	**36.82**	**301**	*e*P	**P**	**19 42 58.6**	**+1.6**
LZH				AP	pP	19 43 06.4	-2.1
LZH				PP	PP	19 44 23.0	+1.6
LZH				S	**S**	**19 48 38.0**	**-0.5**
LZH				*e*SS	SS	19 51 07.0	-14
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=N,920nm,12.1s						
LZH				LR	LR		
	comp=Z,1μm,18.7s						
LZH	**Lanzhou**	**36.82**	**301**	*e*P

KMI AMB AMB
comp=Z,20nm,1.2s,mb4.8
KMI LR LR
comp=N,638nm,13.6s,MS4.7
KMI LR LR
comp=E,580nm,15.5s,MS4.7
KMI LR LR
comp=Z,500nm,18.5s,MS4.3
KMI Kunming 37.01 283 P **P** **19 43 00.9 +2.3**
KMI *PP pP 19 43 11.4 +1.3
KMI 19 44 26.5
KMI S **S** **19 48 41.8 +0.5**
KMI *SS sS 19 48 59.2 -1.2
KMI pmax pmax
comp=Z,20nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,500nm,18.5s,MS4.3
KMI Kunming 37.01 283 P **P** **19 43 00.9 +2.3**
comp=Z,20nm,1.2s,mb4.8
KMI pP pP 19 43 11.4 +1.3
KMI PP PP 19 44 26.5 +3.1
KMI S **S** **19 48 41.8 +0.5**
KMI sS sS 19 48 59.2 -1.2
KMI LR LR
comp=Z,500nm,18.5s,MS4.3
CLNS Chul'man 37.33 344 *e*P **P** **19 43 01.4 +0.1**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,11nm,1.0s
CIT Chita 37.69 330 *e*P **P** **19 43 04.6 +0.2**
CIT *e* 19 43 18.9
CIT *e* 19 45 19.7
CIT pmax pmax
comp=Z,105nm,3.5s
MA2 Magadan 38.00 6*d i*P **P** **19 43 06.8 -0.2**
MA2 pmax pmax
comp=Z,100nm,0.8s,mb5.6
KKTK Khon Kaen 38.34 269 ⇓P **P** **19 43 12.0 +2.1**
comp=Z,309nm,1.0s,mb6.0
SONM Songino Array 39.08 320 P **P** **19 43 16.6 +0.5**
comp=Z,17nm,0.9s,mb4.8,baz=126,slow=6.9,SNR=64
SONM LR LR 19 59 17.4
comp=Z,772nm,19.2s,MS4.5,baz=100,slow=36
GTA Gaotai 40.64 305 P **P** **19 43 30.1 +1.1**
GTA AP pP 19 43 42.1 +1.5
GTA XP sP 19 43 47.3 +1.8
GTA PCP PcP 19 45 30.3 0.0
GTA S **S** **19 49 40.3 +4.3**
GTA XS sS 19 50 00.1 +4.9
GTA SS SS 19 52 39.4 +2.2
GTA AMB AMB
comp=Z,17nm,1.5s,mb4.5
GTA AMB AMB
comp=Z,244nm,4.9s
GTA LR LR
comp=N,548nm,15.2s,MS4.7
GTA LR LR
comp=E,491nm,12.9s,MS4.7
GTA LR LR
comp=Z,558nm,16.4s,MS4.5
NST Nakhon Sawan 41.01 269 P **P** **19 43 34.2 +2.1**
YAK Yakutsk 41.11 350*d i*P **P** **19 43 31.9 -1.0**
YAK pmax pmax
comp=Z,71nm,0.9s,mb5.3
YAK pmax pmax
comp=N,44nm,1.2s
YAK pmax pmax
comp=E,20nm,1.4s
YAK Yakutsk 41.11 350 *e*P **P** **19 43 31.2 -1.7**
comp=E,76nm,0.9s,mb5.3
CHG Chiang Mai 41.37 274 ⇑P **P** **19 43 36.8 +1.8**
comp=E,35nm,1.1s,mb4.9
CHTO Chiang Mai 41.37 274 *e*P **P** **19 43 36.3 +1.3**
CHTO *e* 19 43 43.0
CHTO pmax pmax
comp=Z,49nm,1.2s,mb5.0
CHTO Chiang Mai 41.37 274 *e*P **P** **19 43 36.3 +1.2**
comp=Z,49nm,1.2s,mb5.0
CHTO *e* 19 43 43.0
SEY Seymchan 41.46 6 *i* P **P** **19 43 36.2 +0.5**
SEY Seymchan 41.46 6 *i* P **P** **19 43 36.2 +0.5**
BOD Bodaibo 41.57 337 *e*P **P** **19 43 35.7 -1.0**
CTA Charters Tower 41.89 176⇓*i*P **P** **19 43 38.3 -1.0**
comp=Z,38nm,1.0s,mb5.0
CTA Charters Tower 41.89 176⇓*i*P **P** **19 43 38.3 -1.0**
CTA pmax pmax
comp=Z,39nm,1.0s
CTAO Charters Tower 41.89 176 *e*P **P** **19 43 36.8 -2.5**
CTAO *e* pP 19 43 45.2 -5.6
CTAO pmax pmax
comp=Z,96nm,1.2s,mb5.3
CTAO Charters Tower 41.89 176 *e*P **P** **19 43 36.8 -2.5**
comp=Z,96nm,1.2s,mb5.3
CTAO *e* pP 19 43 45.2 -5.6
ZAK Zakamensk 42.08 322⇓*e*P **P** **19 43 41.5 +0.6**
ZAK pmax pmax
comp=Z,31nm,1.2s,mb4.8
NNT Nongplab 42.28 265 P **P** **19 43 45.5 +3.0**
IRK Irkutsk 42.45 325 *e*P **P** **19 43 42.2 -1.6**
IRK *e* 19 50 07.8
IRK pmax pmax
comp=Z,92nm,2.0s,mb5.1
WRAB Tennant Creek 42.48 192 P **P** **19 43 43.0 -1.1**
comp=Z,367nm,1.2s,mb5.9,SNR=21
WRAB Tennant Creek 42.48 192*d i*P **P** **19 43 42.4 -1.7**
WRAB Tennant Creek 42.48 192 *e*P **P** **19 43 42.6 -1.4**
comp=Z,110nm,1.3s,mb5.3
WB2 Warramunga Arr 42.49 192⇑*i*P **P** **19 43 42.9 -1.2**
WRA Warramunga Arr 42.49 192 P **P** **19 43 43.1 -1.0**
comp=Z,27nm,0.9s,mb4.9,baz=12,slow=8.6,SNR=41
WRA LR LR 20 00 54.2
comp=Z,341nm,18.7s,MS4.3,baz=15,slow=35
TLY Talaya 42.50 324 *e*P **P** **19 43 45.5 +1.2**
TLY pmax pmax
comp=Z,37nm,1.4s,mb4.9
TLY MLR MLR
comp=Z,769nm,20.0s,MS4.6
FITZ Fitzroy Crossi 43.30 205 *e*P **P** **19 43 51.7 +1.0**
comp=Z,20nm,0.9s,mb4.8
MOY Mondy 43.95 323 *e*P **P** **19 43 55.7 -0.3**
MOY pmax pmax
comp=Z,75nm,3.5s
KULM Kulim 44.22 254 *e*P **P** **19 43 58.6 +0.5**
AS31 Alice Springs 46.20 192 *e*P **P** **19 44 11.6 -2.2**
ASAR Alice Springs 46.20 192 P **P** **19 44 12.3 -1.5**
comp=Z,6.3nm,0.8s,mb4.6,baz=14,slow=8.9,SNR=67
ASAR LR LR 20 01 44.8
comp=Z,892nm,21.1s,MS4.7,baz=14,slow=34
ASAR Alice Springs 46.20 192 P **P** **19 44 12.3 -1.5**
ASAR LR LR 20 01 44.8
ASPA Alice Springs 46.20 192 *e*P **P** **19 44 12.2 -1.6**
PSI Prapat 46.88 252 P **P** **19 44 20.5 +1.3**
comp=Z,22nm,0.9s,mb5.1,baz=65,slow=2.0,SNR=12
LSA Lhasa 47.05 291 *e*P **P** **19 44 23.0 +2.6**
LSA pmax pmax
comp=Z,36nm,1.3s,mb5.1
LSA Lhasa 47.05 291 *e*P **P** **19 44 23.0 +2.6**
comp=Z,36nm,1.3s,mb5.2
BILL Bilibino 48.30 11*d i*P **P** **19 44 29.9 -0.3**
BILL *e**PP pP 19 44 43.6 +1.7
BILL *e*SS SS 19 54 54.5 -2.5
BILL pmax pmax
comp=Z,56nm,2.0s,mb5.2
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.3
BILL Bilibino 48.30 11 *e*P **P** **19 44 29.8 -0.4**
comp=Z,30nm,1.1s,mb5.2
KRAR Krasnoyarsk 50.12 326*ce*P **P** **19 44 43.9 -0.2**
KRAR pmax pmax
comp=Z,39nm,1.5s,mb5.2
KRAR MLR MLR
comp=Z,500nm,23.0s,MS4.5
WMQ Urumqi 50.34 309⇓*i*P **P** **19 44 47.0 +1.3**
WMQ AP pP 19 44 59.0 +1.5
WMQ XP sP 19 45 05.0 +2.6
WMQ PCP PcP 19 46 05.0 +1.1
WMQ PP PP 19 46 42.0 +0.6
WMQ S **S** **19 51 56.0 +0.3**
WMQ XS sS 19 52 17.0 +1.7
WMQ SCS ScS 19 54 31.0 -2.3
WMQ AMB AMB
comp=Z,68nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,1μm,4.4s
WMQ LR LR
comp=N,2μm,19.4s,MS5.2
WMQ LR LR
comp=E,2μm,22.0s,MS5.2
WMQ LR LR
comp=Z,2μm,23.8s,MS5.0
GUN Gumba 51.81 289 *e*P **P** **19 44 57.9 +1.1**
comp=Z,92nm,1.3s,mb5.5
PKI Pulchoki 52.27 289 *e*P **P** **19 45 00.8 +0.6**
KKN Kakani 52.35 289 *e*P **P** **19 45 01.3 +0.5**
comp=Z,46nm,1.2s,mb5.3
DMN Daman 52.53 289 *e*P **P** **19 45 02.7 +0.6**
comp=Z,42nm,1.1s,mb5.3
ARMA Armidale 52.70 171⇑*i*P **P** **19 45 03.3 -0.1**
GKN Gorkha 52.89 289 *e*P **P** **19 45 05.4 +0.6**
comp=Z,90nm,1.3s,mb5.5
STKA Stephens Creek 53.53 182 *e*P **P** **19 45 07.9 -1.6**
comp=Z,17nm,0.9s,mb5.0
STKA Stephens Creek 53.53 182 P **P** **19 45 08.0 -1.5**
comp=Z,14nm,0.9s,mb4.9,baz=345,slow=8.1,SNR=15
STKA LR LR 20 05 29.8
comp=Z,371nm,20.3s,MS4.4,baz=5.2,slow=33
STKA Stephens Creek 53.53 182 *e*P **P** **19 45 07.5 -2.0**
KOLN Koldanda 53.83 289 *e*P **P** **19 45 12.3 +0.6**
comp=Z,51nm,1.0s,mb5.4
ZAL Zalesovo 53.96 322 P **P** **19 45 12.0 -0.6**
comp=Z,12nm,0.9s,mb4.8,baz=14,slow=7.7,SNR=69
ZAL LR LR 20 09 25.8
comp=Z,488nm,18.3s,MS4.6,baz=52,slow=37
ZAL Zalesovo 53.96 322 P **P** **19 45 12.0 -0.6**
ZAL LR LR 20 09 25.8
FORT Forrest 54.36 196 *e*P **P** **19 45 16.7 +1.2**
comp=Z,32nm,0.8s,mb5.3
MK31 Makanchi Array 54.45 313 *i* P **P** **19 45 16.4 +0.2**
MK31 pmax pmax
comp=Z,61nm,1.4s,mb5.3
MK31 Makanchi Array 54.45 313 *e*P **P** **19 45 16.1 -0.1**
MKAR Makanchi Array 54.45 313 P **P** **19 45 16.6 +0.4**
comp=Z,7.5nm,0.8s,mb4.7,baz=95,slow=8.8,SNR=77
MKAR LR LR 20 11 03.3
comp=Z,314nm,18.5s,MS4.4,baz=190,slow=39
NVS Novosibirsk 55.04 322⇓*i*P **P** **19 45 19.6 -0.9**
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=E,43nm,1.4s
NVS pmax pmax
comp=Z,58nm,1.4s,mb5.4
KURK Kurchatov 57.22 317 P **P** **19 45 35.3 -0.7**
comp=Z,222nm,1.0s,mb6.2,SNR=27
CNB Canberra Magne 57.25 174 *e*P **P** **19 45 36.0 -0.3**
comp=Z,72nm,1.2s,mb5.6
SVW2 Sparrevohn 57.25 30 *e*P **P** **19 45 35.0 -1.3**
KDAK Kodiak Island 58.07 35 P **P** **19 45 41.5 -0.5**
comp=Z,17nm,0.9s,mb5.1,baz=164,slow=5.3,SNR=5.0
KSH Kashi 59.00 304 *e*P **P** **19 45 51.1 +2.6**
KSH *e*AP pP 19 46 04.5 +4.0
KSH *e*XP sP 19 46 09.5 +4.2
KSH *e*PCP PcP 19 46 37.5 +0.3
KSH *e*PP PP 19 48 04.5 +5.4
KSH *e*PPP 19 49 29.1
KSH *e*SCP ScP 19 50 34.8 +0.4
KSH *e*S **S** **19 53 52.8 +0.7**
KSH *e*PS 19 54 03.1
KSH *e*XS sS 19 54 14.3 +2.3
KSH *e*SS SS 19 57 51.5 +5.2
TKM2 Tokmak 2 59.11 308 P **P** **19 45 50.7 +1.4**
SNR=20
TOO Toolangi 59.24 178 *e*P **P** **19 45 49.8 -0.3**
comp=Z,23nm,1.0s,mb5.2
TOO Toolangi 59.24 178 *e*P **P** **19 45 49.8 -0.3**
TOO pmax pmax
comp=Z,23nm,1.0s,mb5.2
NDI New Delhi 59.26 291 *e*P **P** **19 45 48.0 -2.3**
IMA2 Indian Mountai 59.36 25 *e*P **P** **19 45 50.7 -0.2**
KBK Karagaybulak 59.60 307 P **P** **19 45 53.9 +1.3**
SNR=15
CHMS Chumysh 59.72 308 P **P** **19 45 53.9 +0.4**
SNR=12
FRU Bishkek 59.83 308 *e*P **P** **19 45 56.0 +1.8**
USP Ospenovka 59.90 308 P **P** **19 45 55.3 +0.6**
SNR=20
AAK Ala-Archa 59.93 307 P **P** **19 45 55.9 +1.0**
SNR=9.3
AAK Ala-Archa 59.93 307 P **P** **19 45 54.0 -0.9**
comp=Z,74nm,0.9s,mb5.7,SNR=8.3
AAK Ala-Archa 59.93 307 P **P** **19 45 55.3 +0.4**
SNR=12
AAK Ala-Archa 59.93 307*d i*P **P** **19 45 54.7 -0.2**
AAK pmax pmax
comp=Z,18nm,1.1s,mb5.0
AAK MLR MLR
comp=Z,200nm,14.0s,MS4.4
AAK Ala-Archa 59.93 307 *e*P **P** **19 45 54.2 -0.7**
comp=Z,31nm,1.4s,mb5.2
UCH Uchtor 59.94 307 P **P** **19 45 57.1 +2.1**
SNR=38
PMR Palmer 60.40 31 *e*P **P** **19 45 56.3 -1.8**
PMR pmax pmax
comp=Z,34nm,1.0s,mb5.3
PMR Palmer 60.40 31 *e*P **P** **19 45 56.3 -1.8**
comp=Z,34nm,1.0s,mb5.3
EKS2 Erkin-Say 60.46 308 P **P** **19 45 59.5 +1.0**
SNR=12
HYB Hyderabad 60.53 278 *i* P **P** **19 46 00.0 +1.0**
HYB Hyderabad 60.53 278 *e*P **P** **19 46 03.0 +4.0**
AML Almayashu 60.55 307 P **P** **19 46 01.1 +1.9**
SNR=21
MCK McKinley 60.83 28 *e*P **P** **19 45 59.8 -1.2**
MCK pmax pmax
comp=Z,12nm,0.9s,mb5.0
MCK McKinley 60.83 28 *e*P **P** **19 45 59.8 -1.2**
comp=Z,12nm,0.9s,mb5.0
COLA College 61.48 27*d i*P **P** **19 46 06.5 +1.0**
COLA College 61.48 27 *i* P **P** **19 46 06.6 +1.1**
PALK Pallekele 61.70 266 *e*P **P** **19 46 09.0 +2.1**
comp=Z,40nm,1.3s,mb5.4
VOSK Vostochnaya 62.06 319 P **P** **19 46 08.4 -0.9**
VOSK pmax pmax
comp=Z,99nm,2.3s,mb5.5
CHKZ Chkalovo 62.28 320⇓*e*P **P** **19 46 09.5 -1.3**
CHKZ pmax pmax
comp=Z,32nm,1.0s,mb5.4
CHKZ Chkalovo 62.28 320⇓*e*P **P** **19 46 09.5 -1.3**
comp=Z,32nm,1.0s,mb5.4
BVAR Borovoye Array 62.41 319 LR LR 20 13 32.2
comp=Z,379nm,18.8s,MS4.6,baz=318,slow=36
BRVK Borovoye 62.48 319 P **P** **19 46 12.8 +0.7**
comp=Z,334nm,0.9s,SNR=26
BRVK Borovoye 62.48 319 P **P** **19 46 12.1 0.0**
SNR=24
BRVK Borovoye 62.48 319 *e*P **P** **19 46 11.8 -0.3**
BRVK pmax pmax
comp=Z,44nm,0.9s,mb5.6
BRVK Borovoye 62.48 319 *e*P **P** **19 46 11.8 -0.3**
comp=Z,44nm,0.9s,mb5.6
ZRNK Zerenda 63.25 319 *i* P **P** **19 46 17.0 -0.3**
ZRNK Zerenda 63.25 319 *e*P **P** **19 46 16.5 -0.8**
comp=Z,35nm,1.0s,mb5.4
EGAK Eagle 64.32 27 *e*P **P** **19 46 23.3 -1.0**
comp=Z,15nm,0.9s,mb5.0
DAWY Dawson 65.06 28 *e*P **P** **19 46 28.4 -0.8**
INK Inuvik 67.39 24 *e*P **P** **19 46 42.6 -1.5**
comp=Z,965nm,1.0s
URZ Urewera 67.88 152 LR LR 20 14 02.2
comp=Z,158nm,19.5s,MS4.2,baz=220,slow=34
ARU Arti 69.00 324 P **P** **19 46 53.7 -0.5**
comp=Z,230nm,1.0s,mb6.1,SNR=13
ARU Arti 69.00 324⇓*i*P **P** **19 46 53.2 -1.0**
ARU *e* 19 49 25.0
ARU *e*PPP 19 51 04.6
ARU *e*S S 19 55 57.0 +1.0
ARU *e*SS SS 20 00 17.7 -4.4
ARU pmax pmax
comp=Z,47nm,1.2s,mb5.3
ARU Arti 69.00 324 *e*P **P** **19 46 53.1 -1.0**
comp=Z,84nm,1.4s,mb5.5
AB31 Akbulak array 69.30 316 *i* P **P** **19 46 55.4 -0.6**
AKTK Aktyubinsk 70.31 317 P **P** **19 47 01.6 -0.7**
AKTO Aktyubinsk 70.31 317 P **P** **19 47 01.6 -0.7**
comp=Z,6.0nm,0.7s,mb4.6,baz=88,slow=6.1,SNR=23
AKTO Aktyubinsk 70.31 317 *i* P **P** **19 47 01.3 -1.0**
AKTO pmax pmax
comp=Z,17nm,2.3s,mb4.6
ORR Orenburg 72.09 319 *i* P **P** **19 47 12.6 -0.4**
ORR pmax pmax
comp=Z,20nm,1.5s,mb4.8
ABKT Ailbek 73.02 305 P **P** **19 47 19.5 +1.0**
comp=Z,95nm,1.1s,mb5.6,SNR=7.7
C03A Quillayute Air 75.57 44⇓P **P** **19 47 33.8 +0.4**
baz=75
PGC Sidney 76.08 43 *e*P **P** **19 47 35.0 -1.2**
comp=Z,19nm,0.9s,mb5.0
NLWA Neilton Lookou 76.19 44⇑P **P** **19 47 37.6 +0.7**
baz=76,SNR=6.2
B04A Port Angeles 76.22 44⇑P **P** **19 47 37.6 +0.6**
baz=76
YKA Yellowknife Ar 76.29 28 P **P** **19 47 36.6 -0.9**
comp=Z,18nm,0.8s,mb5.1,baz=291,slow=5.5,SNR=21
YKA LR LR 20 18 45.8
comp=Z,545nm,21.4s,MS4.8,baz=250,slow=34
YKA Yellowknife Ar 76.29 28 *i* P **P** **19 47 36.5 -1.0**
YKA pmax pmax
comp=Z,18nm,0.8s
E03A Lebam 76.64 45⇓P **P** **19 47 39.9 +0.5**
baz=76,SNR=6.9
C04A Brinnon 76.67 44⇑P **P** **19 47 40.2 +0.6**
baz=76,SNR=6.2
PPT Papeete 76.73 115 *e*LR LR 20 10 25.3
comp=Z,2μm,30.8s,baz=303
PPT Papeete 76.73 115 LR LR 20 15 43.3
comp=Z,390nm,19.3s,MS4.7,baz=270,slow=31
A05A Maple Falls 76.83 42⇑P **P** **19 47 40.5 0.0**
baz=77
H02A Toledo 76.92 47⇑P **P** **19 47 40.7 -0.3**
baz=77
B05A Bryant 77.06 43⇓P **P** **19 47 41.9 +0.1**
baz=77,SNR=6.2
APA Apatity 77.10 338⇓*i*P **P** **19 47 41.4 -0.7**
APA *i* 19 47 47.8
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
G03A Yamhill 77.21 46⇑P **P** **19 47 43.2 +0.6**
baz=77
I02A Mapleton 77.24 48⇑P **P** **19 47 43.2 +0.3**
baz=77
KEBM Edson Butte 77.24 49 *e*P **P** **19 47 43.1 +0.3**
B06A Marblemount 77.36 43⇑P **P** **19 47 43.3 -0.2**
baz=77
H03A Soap Creek Ran 77.40 47⇑P **P** **19 47 44.3 +0.6**
baz=77,SNR=6.8
D05A Enumclaw 77.47 44⇓P **P** **19 47 44.5 +0.4**
baz=77,SNR=6.4
C05A Tolt Reservoir 77.50 44⇓P **P** **19 47 44.3 +0.1**
baz=77,SNR=5.3
F04A Amboy 77.58 45⇑P **P** **19 47 44.8 +0.1**
baz=77,SNR=11
I03A Eugene 77.63 48⇓P **P** **19 47 45.6 +0.6**
baz=78,SNR=5.3
G04A Mulino 77.78 46⇑P **P** **19 47 46.3 +0.4**
baz=78,SNR=5.3
HOQ Hoqain 77.83 291 P **P** **19 47 47.0 +1.0**
SNR=6.7
K02A Glendale 77.87 49⇓P **P** **19 47 46.7 +0.3**
baz=78
L02A Cave Junction 77.98 49⇓P **P** **19 47 47.5 +0.5**
baz=78
J03A Ideyld Park 78.04 48⇑P **P** **19 47 47.8 +0.6**
baz=78
H04A Detroit Lake 78.14 47 P **P** **19 47 48.0 +0.1**
baz=78,SNR=17
BSY Bisya 78.19 290 P **P** **19 47 48.3 +0.2**
SNR=8.1
D06A Cle Elum 78.20 44⇑P **P** **19 47 48.4 +0.2**
baz=78
B07A Winthrop 78.24 42 P **P** **19 47 48.5 +0.1**
baz=78,SNR=12
HUMO Hull Mountain 78.29 49 *e*P **P** **19 47 49.0 +0.3**
comp=Z,28nm,1.3s,mb5.0
HUMO Hull Mountain 78.29 49⇓P **P** **19 47 49.3 +0.6**
baz=78,SNR=5.7
KHMM Horse Mountain 78.30 51 *e*P **P** **19 47 49.9 +1.2**
O01C Eel River Cons 78.47 51⇓P **P** **19 47 50.4 +0.7**
baz=78
C07A Waterville 78.53 43⇓P **P** **19 47 49.6 -0.4**
baz=78,SNR=10
G05A Wamic 78.54 46⇓P **P** **19 47 50.3 +0.2**
baz=78
N02C Big Bar 78.62 51⇓P **P** **19 47 51.1 +0.6**
baz=78,SNR=7.4
ARCES ARCESS Array B 78.66 341 P **P** **19 47 49.8 -0.9**
comp=Z,20nm,0.9s,mb5.0,baz=62,slow=8.4,SNR=14
ARCES LR LR 20 27 21.0
comp=Z,348nm,18.8s,MS4.7,baz=120,slow=39
YBH Yreka Blue Hor 78.75 50 *e*P **P** **19 47 52.0 +0.8**
YBH pmax pmax
comp=Z,25nm,1.1s
YBH Yreka Blue Hor 78.75 50 *e*P **P** **19 47 52.0 +0.8**
comp=Z,25nm,1.1s,mb5.1
YBH Yreka Blue Hor 78.75 50⇑P **P** **19 47 51.9 +0.7**
baz=79,SNR=14
M02C Callahan 78.76 50⇑P **P** **19 47 51.9 +0.7**
baz=79,SNR=8.3
D07A Quincy 78.76 44⇓P **P** **19 47 51.5 +0.2**
baz=79
H05A Madras 78.80 46⇑P **P** **19 47 51.7 +0.2**
baz=79
G06A Carlson Farm, 79.00 46⇓P **P** **19 47 52.9 +0.3**
baz=79,SNR=9.0
A09A Danville 79.01 42⇑P **P** **19 47 52.9 +0.2**
baz=79,SNR=19
P01C Double 8 Ranch 79.04 52⇓P **P** **19 47 53.1 +0.3**
baz=79
E07A Sunnyside 79.06 44⇑P **P** **19 47 53.2 +0.3**
baz=79
K04A Chilquin 79.14 48⇓P **P** **19 47 53.8 +0.5**
baz=79,SNR=6.2
C08A Higginbotham F 79.15 43⇓P **P** **19 47 53.1 -0.3**
baz=79,SNR=18
L04A Klamath Falls 79.18 49⇑P **P** **19 47 54.0 +0.4**
baz=79,SNR=6.0
O02C Red Bluff 79.21 51 P **P** **19 47 54.4 +0.7**
baz=79,SNR=9.4
F07A Phinny Hill Vi 79.24 45⇓P **P** **19 47 54.1 +0.2**
baz=79
WDC Whiskeytown Da 79.25 51 P **P** **19 47 54.3 +0.4**
baz=79,SNR=9.2
J05A Fort Rock 79.26 48⇑P **P** **19 47 54.6 +0.6**
baz=79,SNR=23
M04C Macdoel 79.35 49⇑P **P** **19 47 54.8 +0.3**
baz=79,SNR=16
H06A Lindquist Farm 79.37 46⇑P **P** **19 47 54.5 -0.1**
baz=79,SNR=13
GASB Alder Springs 79.43 52⇓P **P** **19 47 55.9 +0.9**
baz=79,SNR=8.5
B09A Rice 79.48 42 P **P** **19 47 55.4 +0.2**
baz=79,SNR=12
D08A Wollman Farm, 79.48 44 P **P** **19 47 55.1 -0.1**
baz=79,SNR=11
TBI Tubuai 79.60 120 *e*LR LR 20 11 44.8
comp=Z,376nm,24.8s
C09A Chrisman Ranch 79.63 43⇓P **P** **19 47 55.7 -0.3**
baz=80
G07A Ruggs Ranch, H 79.63 45 P **P** **19 47 56.1 +0.1**
baz=80,SNR=7.5
A10A Northport 79.64 41⇑P **P** **19 47 56.4 +0.3**
baz=80,SNR=5.6
K05A Summer Lake 79.68 48⇑P **P** **19 47 57.0 +0.7**
baz=80,SNR=21
I06A Prineville 79.73 47⇓P **P** **19 47 56.9 +0.4**
baz=80,SNR=19
O03C Acorn Hollow, 79.81 51⇓P **P** **19 47 57.0 -0.1**
baz=80
D09A Jones Farm, Ri 79.87 43⇑P **P** **19 47 57.3 -0.1**
baz=80,SNR=9.6
MNRC McLaughlin Nat 79.90 52⇑P **P** **19 47 58.1 +0.6**
baz=80,SNR=8.7
H07A Lands Inn, Kim 79.94 46 P **P** **19 47 57.6 0.0**
baz=80,SNR=6.9
HATC Hat Creek Radi 79.94 50⇓P **P** **19 47 58.1 +0.4**
baz=80,SNR=7.2
L05A Lakeview 79.96 49⇑P **P** **19 47 58.3 +0.5**
baz=80,SNR=10
J06A Christmas Vall 80.01 47⇓P **P** **19 47 58.0 0.0**
baz=80,SNR=13
F08A Pendleton 80.03 45⇓P **P** **19 47 58.4 +0.3**
baz=80,SNR=18
JOF Joensuu 80.05 334 *e*pkp **P** **19 47 53.9 -4.4**
CVS Carmenet Viney 80.07 53⇑P **P** **19 47 58.3 -0.1**
baz=80
VRHR Novokhopersk 80.08 321 *e*P **P** **19 47 58.2 -0.3**
VRHR *e**PP pP 19 48 04.4 -6.5

VRHR pmax pmax
comp=Z,60nm,0.8s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.9s
G08A Pilot Rock 80.09 45 P P 19 47 58.6 +0.1
baz=80,SNR=15
B10A Chitwood Farm, 80.10 42 ⇑P P 19 47 58.4 -0.2
baz=80
K06A Valley Falls 80.10 48 ⇑P P 19 47 58.8 +0.2
baz=80,SNR=15
I07A Izee 80.16 46 ⇑P P 19 47 59.0 +0.2
baz=80,SNR=6.3
E09A Wood Farm, Sta 80.17 44 ⇓P P 19 47 59.0 0.0
baz=80,SNR=19
NEW Newport 80.18 42⇓*i*P P 19 47 58.7 -0.3
NEW pmax pmax
comp=Z,34nm,1.0s
NEW Newport 80.18 42⇓*i*P P 19 47 58.6 -0.3
comp=Z,34nm,1.0s,mb5.2
C10A Spilker Farm, 80.23 42 ⇑P P 19 47 58.9 -0.3
baz=80
SUTB Sutter Butte 80.26 52 ⇑P P 19 47 59.0 -0.4
baz=80
Q03C Winters 80.30 52 ⇓P P 19 47 59.5 -0.1
baz=80
ORV Oroville 80.35 51 P P 19 47 59.6 -0.3
baz=80,SNR=27
O04C Chester 80.38 50 ⇓P P 19 48 00.4 +0.3
baz=80,SNR=34
MOS Moscow 80.41 326 *e*P P 19 47 56.9 -3.3
EDM Edmonton 80.47 36 *e*P P 19 48 00.2 -0.3
M06C Likely Place G 80.51 49 ⇑P P 19 48 01.0 +0.2
baz=80
ELFS Eagle Lake Fie 80.53 50 ⇓P P 19 48 01.4 +0.5
baz=80
J07A Hines 80.54 47 P P 19 48 01.5 +0.6
baz=80,SNR=15
JRSC Jasper Ridge 80.55 54 ⇓P P 19 48 00.7 -0.3
baz=80
H08A Prairie City 80.56 46 P P 19 48 01.3 +0.3
baz=80,SNR=18
B11A Sandpoint 80.58 42 ⇓P P 19 48 01.3 +0.2
baz=80,SNR=9.0
F09A S2 Ranch, Elgi 80.62 45 ⇓P P 19 48 01.4 0.0
baz=80
O05C Quincy 80.63 51 ⇓P P 19 48 01.3 -0.1
baz=80
BDM Black Diamond 80.64 53 ⇑P P 19 48 01.6 +0.1
baz=80
Q04C Lincoln 80.69 52 ⇑P P 19 48 01.9 +0.1
baz=80
A12A Yaak River Ran 80.83 41 ⇓P P 19 48 02.9 +0.5
baz=81,SNR=11
K07A Rock Creek Ran 80.83 48 ⇓P P 19 48 02.7 +0.2
baz=81,SNR=28
I08A Drewsey 80.85 46 ⇑P P 19 48 02.9 +0.3
baz=81,SNR=5.5
F10A Beach Ranch, E 80.97 44 ⇑P P 19 48 03.1 -0.1
baz=81,SNR=6.5
L07A Adell 81.01 48 ⇑P P 19 48 04.0 +0.6
baz=81,SNR=28
B12A Libby 81.04 41 ⇓P P 19 48 03.7 +0.1
baz=81
BEKR Beckwourth 81.07 51 ⇑P P 19 48 03.8 0.0
baz=81,SNR=22
J08A Circle Bar Ran 81.11 47 P P 19 48 04.3 +0.4
baz=81,SNR=18
N06A Buffalo Meadow 81.12 50 ⇑P P 19 48 04.2 +0.1
baz=81,SNR=19
H09A Durkee 81.17 45 P P 19 48 04.5 +0.3
baz=81,SNR=9.9
LAVA Lava Cap Winer 81.19 52 ⇓P P 19 48 04.5 +0.1
baz=81,SNR=12
S04C Ingram Canyon, 81.20 53 ⇑P P 19 48 04.6 +0.2
baz=81,SNR=6.3
OBN Obninsk 81.22 326*d i*P P 19 48 03.8 -0.8
OBN *e* 19 48 09.6
OBN *e*S S 19 58 07.7 -4.0
OBN pmax pmax
comp=Z,29nm,0.8s,mb5.3
OBN MLR MLR
comp=Z,600nm,15.0s,MS5.1
OBN Obninsk 81.22 326 *i*P P 19 48 03.8 -0.8
OBN LR LR
comp=Z,600nm,15.0s,MS5.1
BMO Blue Mountains 81.34 45⇓*e*P P 19 48 04.9 -0.3
BMO pmax pmax
comp=Z,45nm,1.3s,mb5.2
BMO Blue Mountains 81.34 45⇓*e*P P 19 48 04.8 -0.3
comp=Z,45nm,1.3s,mb5.2
K08A Mann Creek Ran 81.34 47 P P 19 48 05.5 +0.3
baz=81,SNR=21
O06A Flanigan 81.34 50 P P 19 48 05.6 +0.4
baz=81,SNR=12
WVOR Wild Horse Val 81.34 48 *e*P P 19 48 04.8 -0.4
WVOR *e* pP 19 48 18.8 +1.1
WVOR pmax pmax
comp=Z,37nm,1.2s,mb5.2
WVOR Wild Horse Val 81.34 48 *e*P P 19 48 04.8 -0.4
comp=Z,37nm,1.2s,mb5.2
WVOR *e* pP 19 48 18.8 +1.1
M07A Soldier Meadow 81.36 49 ⇓P P 19 48 05.6 +0.3
baz=81
I09A Lost Marbles R 81.38 46 ⇑P P 19 48 05.4 0.0
baz=81,SNR=10
PACP Pacheco Peak 81.40 54 ⇑P P 19 48 05.8 +0.3
baz=81,SNR=7.8
C12A Trout Creek 81.41 42 ⇓P P 19 48 05.2 -0.4
baz=81
HAST UC Hastings Re 81.43 54 ⇓P P 19 48 05.8 +0.2
baz=81,SNR=7.2
VRSR Storozhevoye 81.44 322*d i*P P 19 48 04.6 -1.1
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,50nm,0.9s
VRSR pmax pmax
comp=Z,50nm,0.9s,mb5.4
P06A Stead Airport, 81.47 51 ⇓P P 19 48 06.3 +0.4
baz=81
VORD Divnogorie 81.49 322 *e*P P 19 48 04.9 -1.1
VORD pmax pmax
comp=Z,40nm,1.0s,mb5.3
VORD pmax pmax
comp=N,5.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
A13A Flathead Natio 81.58 41 ⇓P P 19 48 06.9 +0.5
baz=81,SNR=5.5
J09A Fry Pan Ranch, 81.61 47 ⇓P P 19 48 06.6 0.0
baz=81,SNR=7.4
L08A Fields 81.64 48 ⇓P P 19 48 07.0 +0.3
baz=82,SNR=30
R05C Kirkwood Meado 81.69 52 ⇓P P 19 48 07.2 +0.2
baz=82,SNR=5.9
WCN Washoe City 81.70 51 ⇓P P 19 48 07.6 +0.5
baz=82,SNR=7.6
CMB Columbia Colle 81.70 52⇓*i*P P 19 48 07.0 -0.1
CMB pmax pmax
comp=Z,55nm,1.2s,mb5.4
CMB Columbia Colle 81.70 52⇓*i*P P 19 48 07.0 -0.1
comp=Z,55nm,1.2s,mb5.4
CMB Columbia Colle 81.70 52 ⇓P P 19 48 07.2 +0.1
baz=82,SNR=36
N07B Gerlach 81.72 49 ⇑P P 19 48 07.6 +0.4
baz=82,SNR=7.6
B13A Whitefish 81.77 41 P P 19 48 08.0 +0.6
baz=82,SNR=27
V03C Hunter Liggett 81.80 55 ⇑P P 19 48 08.1 +0.5
baz=82
WALA Waterton Lakes 81.83 40⇓*e*P P 19 48 08.0 +0.2
comp=Z,36nm,1.0s,mb5.2
K09A Rome 81.87 47 ⇑P P 19 48 08.0 0.0
baz=82,SNR=19
M08A Happy Creek Ra 81.89 49 ⇓P P 19 48 08.3 +0.2
baz=82,SNR=8.9
C13A Hot Springs 81.98 42 P P 19 48 08.7 +0.2
baz=82,SNR=19
S05C Merced 82.00 53 ⇓P P 19 48 08.5 -0.1
baz=82,SNR=5.7
O07A Toulon 82.02 50 P P 19 48 08.9 +0.2
baz=82,SNR=15
S06C San Francisco 82.16 52 P P 19 48 09.5 0.0
baz=82,SNR=16
L09A Wilkinson Ranc 82.17 48 ⇑P P 19 48 09.8 +0.3
baz=82

KIV Kislovodsk 82.17 314 P P 19 48 09.6 0.0
comp=Z,297nm,1.1s,mb6.1,SNR=13
KIV Kislovodsk 82.17 314 P P 19 48 10.1 +0.6
SNR=13
KIV Kislovodsk 82.17 314 *i*P P 19 48 09.5 -0.1
KIV *e*SS SS 20 03 39.1 -2.6
KIV pmax pmax
comp=Z,79nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,200nm,24.0s,MS4.4
KIV Kislovodsk 82.17 314⇓*e*P P 19 48 09.4 -0.2
comp=Z,67nm,1.1s,mb5.5
GNI Garni 82.21 310 P P 19 48 11.0 +1.3
comp=Z,6.3nm,0.9s,mb4.6,baz=158,slow=12,SNR=7.8
GNI Garni 82.21 310*d i*P P 19 48 10.5 +0.8
GNI pmax pmax
comp=Z,42nm,1.5s
V04C Ramage Ranch, 82.21 55 ⇓P P 19 48 10.3 +0.5
baz=82
P07A Fallon 82.24 51 ⇓P P 19 48 10.3 +0.4
baz=82
D13A Huson 82.29 42 ⇓P P 19 48 09.5 -0.7
baz=82,SNR=8.5
N08A GE Springer Mi 82.31 49 ⇑P P 19 48 10.6 +0.3
baz=82,SNR=13
PKD Parkfield 82.35 54 ⇑P P 19 48 10.6 +0.1
baz=82,SNR=10
KAF Kangasniemi 82.45 335 *e*pkp P 19 48 07.7 -3.3
U05C Westside ANR, 82.52 54 ⇑P P 19 48 11.8 +0.4
baz=82
M09A Marrel Ranch, 82.55 48 ⇓P P 19 48 11.7 +0.1
baz=82
T06C Millerton Lake 82.58 53 P P 19 48 11.6 -0.1
baz=82,SNR=35
RBK Rabkut 82.61 286 P P 19 48 12.1 +0.2
SNR=10
N09A Rock Creek Ran 82.71 49 ⇑P P 19 48 12.7 +0.3
baz=82,SNR=9.5
E13A Victor 82.72 43 ⇓P P 19 48 11.4 -1.1
baz=82
KCC Kaiser Creek 82.75 53 P P 19 48 12.7 +0.1
baz=83,SNR=14
P08A Dixie Valley 82.76 50 ⇑P P 19 48 13.1 +0.5
baz=83
WHFO Wadi Hawf 82.85 286 ⇑P P 19 48 13.2 +0.2
SNR=7.8
V05C Boulder Hill, 82.86 54 ⇑P P 19 48 13.2 +0.1
baz=83
D14A Greenough 82.89 42 P P 19 48 12.6 -0.7
baz=83,SNR=5.6
FINES FINESS Array B 82.92 334 P P 19 48 11.5 -1.9
comp=Z,4.1nm,0.8s,mb4.5,baz=90,slow=3.5,SNR=12
FINES LR LR 20 30 49.4
comp=Z,314nm,18.5s,MS4.7,baz=260,slow=40
FINES FINESS Array B 82.92 334 P P 19 48 11.5 -1.9
FINES LR LR 20 30 49.4
SMMC Simmler 82.99 55 ⇓P P 19 48 14.2 +0.4
baz=83,SNR=5.2
MLAC Mammoth Lakes 82.99 52 ⇑P P 19 48 14.3 +0.5
baz=83
NVAR Mina Array Bea 83.08 51 P P 19 48 14.7 +0.4
comp=Z,16nm,0.8s,mb5.1,baz=275,slow=4.5,SNR=103
BMN Battle Mountai 83.09 49 *e*P P 19 48 14.7 +0.4
BMN pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BMN Battle Mountai 83.09 49 *e*P P 19 48 14.7 +0.4
comp=Z,8.3nm,1.0s,mb4.7
CHMT Chamberlain Mo 83.12 42 *e*P P 19 48 13.8 -0.7
M10A I.L. Ranch, Tu 83.14 48 ⇑P P 19 48 14.8 +0.2
baz=83,SNR=8.8
E14A Clinton 83.17 43 ⇓P P 19 48 14.0 -0.7
baz=83
Q08A Gabbs 83.19 51 ⇑P P 19 48 14.7 -0.1
baz=83,SNR=10.0
O09A Fish Creek Ran 83.21 50 P P 19 48 15.4 +0.5
baz=83,SNR=13
HELL Mitchell Peak, 83.21 53 P P 19 48 14.8 -0.1
baz=83,SNR=19
R08A Mina 83.25 51 ⇓P P 19 48 15.5 +0.3
baz=83
PKM Peak Mountain 83.28 55 ⇓P P 19 48 15.8 +0.5
baz=83,SNR=12
MTUM Tungsten Hills 83.30 53 *e*P P 19 48 15.4 0.0
ABTO Aybut 83.47 286 P P 19 48 16.6 +0.3
SNR=13
P09A Austin 83.49 50 ⇓P P 19 48 16.3 -0.1
baz=83
VES Vestal, Richgr 83.49 54 ⇑P P 19 48 15.6 -0.8
baz=83,SNR=7.9
S08C White Mtn Res 83.53 52 P P 19 48 17.3 +0.7
baz=83,SNR=24
O10A Cortez Mining, 83.65 49 ⇓P P 19 48 17.6 +0.4
baz=84,SNR=6.0
TIN Tinemaha 83.66 53 ⇓P P 19 48 17.8 +0.5
baz=84,SNR=6.4
M11A Holland Ranch, 83.69 48 ⇓P P 19 48 17.9 +0.5
baz=84
E15A Deer Lodge 83.70 42 ⇑P P 19 48 17.5 0.0
baz=84
Q09A Carvers 83.74 51 ⇓P P 19 48 17.8 +0.1
baz=84
HLID Hailey 83.76 46⇓*e*P P 19 48 17.7 0.0
comp=Z,34nm,1.6s,mb5.2
HLID Hailey 83.76 46 ⇓P P 19 48 17.8 +0.1
baz=84,SNR=14
P10A Eureka 83.94 50 ⇓P P 19 48 18.9 +0.2
baz=84,SNR=6.0
ARVC Arvin 83.95 55 ⇓P P 19 48 18.6 -0.1
baz=84
N11A Elko Archery C 83.97 48 ⇓P P 19 48 19.1 +0.2
baz=84
TPH Tonopah 84.00 51⇓*e*P P 19 48 18.8 -0.2
TPH pmax pmax
comp=Z,16nm,1.0s,mb5.1
TPH Tonopah 84.00 51⇓*e*P P 19 48 18.8 -0.3
comp=Z,16nm,1.0s,mb5.1
CWC Cottonwood Cre 84.01 53 ⇓P P 19 48 18.7 -0.3
baz=84
ISA Isabella 84.01 54 ⇑P P 19 48 18.2 -0.9
baz=84,SNR=12
KBD Kabd 84.02 299 *e*P P 19 48 18.4 -0.7
KBD AMb AMB 19 48 20.7
comp=Z,148nm,1.0s,mb6.0
R09A Tonopah 84.05 51 ⇓P P 19 48 19.2 0.0
baz=84,SNR=48
MIB Mutribah 84.08 300 *e*P P 19 48 19.4 0.0
MIB AMb AMB 19 48 21.0
comp=Z,102nm,0.9s,mb6.0
HRY Holter Researc 84.09 42 *e*P P 19 48 19.6 +0.2
S09A Goldfield 84.14 52 ⇓P P 19 48 19.8 +0.1
baz=84,SNR=29
DLMT Dillon 84.19 43 *e*P P 19 48 19.2 -0.8
comp=Z,56nm,1.4s,mb5.5
OSI Osito Adit 84.22 55 ⇓P P 19 48 20.2 +0.1
baz=84
RDF Al-Radifah 84.23 299 *e*P P 19 48 20.0 -0.1
RDF AMb AMB 19 48 22.9
comp=Z,87nm,1.2s,mb5.8
VSU Vasula 84.28 332 *i*P P 19 48 18.6 -1.9
M12A Wells 84.30 48 ⇑P P 19 48 20.8 +0.3
baz=84
O11A Cowboy Ranch, 84.31 49 ⇑P P 19 48 20.7 +0.2
baz=84,SNR=10
GRAC Grapevine Rang 84.31 52 ⇑P P 19 48 20.8 +0.2
baz=84,SNR=8.8
NAY Al-Naaiem 84.36 299 *e*P P 19 48 20.1 -0.7
NAY AMb AMB 19 48 23.4
comp=Z,59nm,1.1s,mb5.6
DAC Darwin (Calif) 84.43 53⇓*i*P P 19 48 21.0 -0.2
DAC *e* 19 48 29.6
DAC pmax pmax
comp=Z,35nm,1.4s,mb5.3
DAC Darwin (Calif) 84.43 53⇓*i*P P 19 48 21.0 -0.2
comp=Z,35nm,1.4s,mb5.3
DAC *e* 19 48 29.6
N12A Clover Valley, 84.44 48 ⇓P P 19 48 21.6 +0.3
baz=84,SNR=12
RST Umm Al-Ruwaisa 84.46 299 *e*P P 19 48 20.7 -0.7
RST AMb AMB 19 48 23.6
comp=Z,75nm,1.1s,mb5.7
P11A Circle Ranch, 84.47 50 ⇓P P 19 48 21.8 +0.4
baz=84,SNR=5.5
R10A Warm Springs 84.58 51 P P 19 48 22.4 +0.5
baz=84,SNR=12
MPMC Manual Prospec 84.59 53 P P 19 48 22.3 +0.3
baz=84,SNR=47
LRMC Laurel Mountai 84.67 54 P P 19 48 22.6 +0.2

baz=84,SNR=20
EDW2 Edwards Air Fo 84.68 55 P P 19 48 22.6 +0.1
baz=84,SNR=15
ERZM Erzurum 84.69 311 *i*P P 19 48 23.6 +1.1
EGMT Eagleton 84.77 40 ⇓P P 19 48 22.5 -0.4
baz=85
Q11A Duckwater 84.83 50 ⇑P P 19 48 23.2 0.0
baz=85,SNR=22
M13A Montello 84.83 47 ⇑P P 19 48 23.4 +0.2
baz=85,SNR=20
O12A Currie 84.89 49 P P 19 48 23.7 +0.2
baz=85,SNR=23
FURC Furnace Creek, 84.90 53 ⇑P P 19 48 23.6 0.0
baz=85,SNR=8.7
CIS Catalina Islan 84.93 56 ⇓P P 19 48 23.2 -0.6
baz=85
TRCR Troy Canyon 85.08 51 *e*P P 19 48 24.9 +0.5
P12A McGill 85.10 49 ⇑P P 19 48 24.7 +0.1
baz=85,SNR=12
QLMT Earthquake Lak 85.16 43 *e*P P 19 48 25.7 +0.8
ANN Anapa 85.25 317 *e*P P 19 48 26.8 +1.5
GSC Goldstone 85.41 54⇑*e*P P 19 48 26.0 -0.1
GSC Goldstone 85.41 54 P P 19 48 26.2 +0.1
baz=85,SNR=21
YMR Madison River 85.53 43 *e*P P 19 48 27.8 +1.1
comp=Z,74nm,1.1s,mb5.8
SHOC Shoshone 85.56 53 ⇓P P 19 48 26.5 -0.3
baz=85
HVU Hansel Valley 85.60 47 *e*P P 19 48 26.7 -0.3
comp=Z,238nm,2.1s,mb6.1
FFC Flin Flon 85.68 32 P P 19 48 27.8 +0.3
comp=Z,564nm,0.9s,SNR=19
YNR Norris Junctio 85.69 43⇓*e*P P 19 48 28.8 +1.3
YFT Old Faithful 85.71 44⇓*i*P P 19 48 29.6 +2.0
SUMG Summit 85.72 0 *e*P P 19 48 27.0 -0.7
comp=Z,30nm,1.1s,mb5.4
MURC Murrieta 85.78 56 ⇑P P 19 48 27.4 -0.6
baz=86
BGU Big Grassy Mou 85.80 48⇓*i*P P 19 48 27.7 -0.3
DCID1 Drake Creek 85.86 45⇓*i*P P 19 48 28.8 +0.4
RRI2 Red Ridge 85.89 45⇓*i*P P 19 48 28.9 +0.4
comp=Z,37nm,1.0s,mb5.6
IMW Indian Meadow 85.89 44⇓*i*P P 19 48 29.1 +0.6
comp=Z,36nm,0.9s,mb5.6
MNK Minsk 85.93 328 *e*P P 19 48 23.0 -5.7
LKWY Lake 85.94 43⇓*e*P P 19 48 30.7 +2.0
LKWY pmax pmax
comp=Z,20nm,1.0s,mb5.3
LKWY Lake 85.94 43⇓*e*P P 19 48 30.7 +2.0
comp=Z,20nm,1.0s,mb5.3
HEC Hector,Ludlow 85.95 54 ⇓P P 19 48 28.8 0.0
baz=86,SNR=6.3
FLWY Flagg Ranch 85.96 44⇓*i*P P 19 48 29.6 +0.8
comp=Z,278nm,1.9s,mb6.2
U11A Corn Creek 86.01 52 ⇑P P 19 48 29.4 +0.3
baz=86
TUQ Turquoise Mtn. 86.01 53 ⇑P P 19 48 29.1 0.0
baz=86,SNR=5.4
SPUT South Promonto 86.03 47 *e*P P 19 48 26.7 -2.4
KELT Kelkit 86.06 312 *i*P P 19 48 25.5 -3.8
TPAW Teton Pass 86.06 45⇓*i*P P 19 48 29.8 +0.4
comp=Z,36nm,1.4s,mb5.4
MOOW Moose Ponds 86.08 44⇓*e*P P 19 48 29.4 -0.1
comp=Z,29nm,1.2s,mb5.4
109C Camp Elliot, M 86.14 56 ⇑P P 19 48 29.3 -0.4
baz=86
REDW Red Top Meadow 86.19 45 *e*P P 19 48 30.1 +0.2
comp=Z,81nm,1.8s,mb5.7
SNOW Snow King Moun 86.20 44 *e*P P 19 48 30.1 +0.1
comp=Z,61nm,1.8s,mb5.5
V11A Goodsprings 86.21 53 ⇑P P 19 48 30.2 +0.1
baz=86
LOHW Long Hollow 86.23 44⇓*i*P P 19 48 30.2 0.0
comp=Z,18nm,1.2s,mb5.2
DUG Dugway 86.26 48⇓*i*P P 19 48 30.1 -0.2
DUG pmax pmax
comp=Z,56nm,1.2s,mb5.7
DUG Dugway 86.26 48⇓*i*P P 19 48 30.1 -0.2
comp=Z,56nm,1.2s,mb5.7
DUG Dugway 86.26 48 ⇑P P 19 48 30.4 +0.1
baz=86,SNR=41
PFO Pinyon Flat Ob 86.35 55 P P 19 48 30.2 -0.6
comp=Z,186nm,1.2s,mb6.2,SNR=11
PFO Pinyon Flat Ob 86.35 55⇓*e*P P 19 48 30.2 -0.6
PFO pmax pmax
comp=Z,43nm,1.1s,mb5.6
PFO Pinyon Flat Ob 86.35 55⇓*e*P P 19 48 30.2 -0.6
comp=Z,43nm,1.1s,mb5.6
PFO Pinyon Flat Ob 86.35 55 ⇑P P 19 48 30.6 -0.2
baz=86,SNR=22
RLMT Red Lodge 86.40 43⇓*i*P P 19 48 31.7 +0.7
comp=Z,131nm,1.4s,mb6.0
HWUT Hardware Ranch 86.49 46⇓*i*P P 19 48 31.4 -0.1
comp=Z,46nm,1.1s,mb5.6
BELC Belle Mtn. 86.54 55 ⇑P P 19 48 31.3 -0.4
baz=86,SNR=15
U12A Valley of Fire 86.62 52 ⇑P P 19 48 32.2 +0.1
baz=86
MONP Monument Peak 86.67 56 ⇑P P 19 48 31.9 -0.5
baz=86,SNR=16
V12A Nelson 86.69 53 ⇓P P 19 48 32.7 +0.2
baz=86,SNR=20
CTU Camp Tracy 86.77 47⇓*e*P P 19 48 32.6 -0.3
comp=Z,40nm,1.2s,mb5.5
TCUT Toone Canyon 86.82 47 *e*P P 19 48 33.1 0.0
ARUT Antelope Range 86.85 50 *e*P P 19 48 33.7 +0.5
W12A Cal Nev Ari 86.85 53 ⇑P P 19 48 33.3 +0.1
baz=87
NLU North Lily Min 86.87 48 *e*P P 19 48 33.3 0.0
DVTC Desert V Tower 87.00 56 ⇓P P 19 48 33.9 -0.1
baz=87,SNR=6.1
CCUT Cedar City 87.01 51⇓*i*P P 19 48 34.2 +0.2
BC3 Big Chuckw Mtn 87.09 55 P P 19 48 34.6 +0.2
baz=87,SNR=17
IRM Iron Mountain 87.11 54 P P 19 48 34.6 +0.1
baz=87,SNR=11
SWSC Sam W. Stewart 87.12 56 ⇑P P 19 48 34.2 -0.3
baz=87,SNR=6.6
MPU Maple Canyon 87.15 48⇓*i*P P 19 48 34.2 -0.5
comp=Z,134nm,1.9s,mb5.8
MPU *e* pP 19 48 47.5 +0.3
DAU Daniels Canyon 87.23 47 *e*P P 19 48 35.1 0.0
DAU *e* pP 19 48 47.1 -0.6
AKASG Malin Array Be 87.24 324 P P 19 48 32.9 -2.3
comp=Z,8.1nm,0.8s,mb5.0,baz=49,slow=5.0,SNR=36
AKASG LR LR 20 31 17.3
comp=Z,378nm,18.4s,MS4.8,baz=60,slow=38
AKBB Malin Array Si 87.24 324⇓*e*P P 19 48 32.8 -2.3
SIM Simferopol' 87.28 318 *e*P P 19 48 34.2 -1.1
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.4
PDAR Pinedale Array 87.30 45 P P 19 48 34.8 -0.6
comp=Z,3.8nm,0.9s,mb4.6,baz=274,slow=3.9,SNR=26
PDAR LR LR 20 20 06.6
comp=Z,638nm,21.9s,MS5.0,baz=21,slow=30
MSU Marysvale 87.43 49 *e*P P 19 48 36.6 +0.6
LAO LASA Array 87.52 40⇓*i*P P 19 48 36.3 -0.1
comp=Z,109nm,1.2s,mb6.0
W13A Hualapai Mount 87.67 53 ⇓P P 19 48 37.4 +0.2
baz=88,SNR=16
Y12C Blythe 87.76 55 ⇓P P 19 48 37.6 0.0
baz=88,SNR=7.7
TMUT Trail Mountain 87.76 48 *e*P P 19 48 37.7 +0.1
PDMCI Parker Dam,Lak 87.82 54 ⇓P P 19 48 37.9 0.0
baz=88,SNR=5.7
GLA Glamis 87.82 55⇓*i*P P 19 48 37.9 0.0
GLA Glamis 87.82 55 ⇓P P 19 48 37.9 0.0
baz=88,SNR=7.0
X13A Yucca 87.92 54 P P 19 48 38.3 -0.1
baz=88,SNR=20
W14A Seligman 88.21 53 ⇓P P 19 48 40.3 +0.6
baz=88,SNR=28
Y13A Salome 88.25 54 ⇑P P 19 48 40.3 +0.4
baz=88,SNR=22
SRU San Rafael 88.32 48⇓*i*P P 19 48 39.9 -0.4
comp=Z,89nm,1.5s,mb5.8
SUW Suwalki 88.46 329 *e*P P 19 48 39.1 -1.8
X14A Yava 88.68 53 ⇑P P 19 48 42.7 +0.8
baz=88,SNR=22
NB2 NORSAR Subarra 88.68 339 P P 19 48 39.2 -2.8
comp=Z,9.3nm,1.1s,mb5.0,baz=46,slow=4.6
NB2 NORSAR Subarra 88.68 339 P P 19 48 39.2 -2.8
NB2 pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
NOA NORSAR Array B 88.68 339 P P 19 48 39.4 -2.5
comp=Z,3.7nm,0.9s,mb4.7,baz=52,slow=4.3,SNR=7.6
NOA LR LR 20 31 25.4

comp=Z,165nm,19.4s,MS4.5,baz=80,slow=38
NOA NORSAR Array B 88.68 339 P **P 19 48 39.4 -2.5**
NOA LR LR 20 31 25.4
Y14A Wickenburg 88.82 54 ⇓P **P 19 48 42.9 +0.2**
baz=89,SNR=36
W15A Williams 88.83 52 ⇑P **P 19 48 43.7 +1.0**
baz=89,SNR=9.2
CTKT Corum 88.89 314 *i* P **P 19 48 41.1 -1.8**
Z14A Wintersburg 89.11 54 ⇑P **P 19 48 44.5 +0.5**
baz=89,SNR=9.6
X15A Humboldt 89.16 53 ⇑P **P 19 48 45.0 +0.8**
baz=89,SNR=26
WUAZ Wupatki 89.33 52⇓*e*P **P 19 48 45.1 +0.1**
comp=Z,12nm,0.8s,mb5.3
WUAZ Wupatki 89.33 52 ⇑P **P 19 48 45.5 +0.5**
baz=89,SNR=14
RWWY Rawlins 89.35 45⇓*e*P **P 19 48 44.6 -0.4**
comp=Z,139nm,2.0s,mb5.9
BALT Daday 89.39 315 *i* P **P 19 48 44.0 -1.3**
PV10 Paradox Valley 89.69 48 *e*P **P 19 48 46.8 +0.1**
AVNT Avonos 89.72 312 *i* P **P 19 48 45.7 -1.1**
ELDT Eldivan 89.87 314 *i* P **P 19 48 46.8 -0.8**
115A Sonoran Desert 89.94 55 ⇑P **P 19 48 48.5 +0.6**
baz=90,SNR=10
BR131 Keskin Array S 90.09 313⇓*e*P **P 19 48 47.0 -1.6**
comp=Z,7.4nm,0.9s,mb5.0
BRTR Keskin Array B 90.09 313 P **P 19 48 47.5 -1.0**
comp=Z,8.7nm,0.9s,mb5.1,baz=98,slow=3.7,SNR=50
BRTR Keskin Array B 90.09 313 *i* P **P 19 48 47.5 -1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
PV01 Paradox Valley 90.13 48 *e*P **P 19 48 48.4 -0.3**
RSSD Black Hills 90.14 42 *e*P **P 19 48 48.0 -0.8**
RSSD pmax pmax
comp=Z,59nm,1.7s,mb5.6
RSSD Black Hills 90.14 42 *e*P **P 19 48 48.0 -0.8**
comp=Z,59nm,1.7s,mb5.6
116A Eloy 90.40 55 ⇑P **P 19 48 50.3 +0.2**
baz=90
MVCO Mesa Verde 90.62 49 *e*P **P 19 48 51.2 +0.2**
comp=Z,4.0nm,0.8s,mb4.8
MVCO Mesa Verde 90.62 49 ⇑P **P 19 48 51.1 0.0**
baz=90
PHWY Pilot Hill 90.68 45 *e*P **P 19 48 51.5 +0.2**
SMCO Snowmass 90.73 47⇓*i*P **P 19 48 51.8 +0.2**
comp=Z,15nm,0.9s,mb5.3
SGKT Sivrigoynuk 90.74 315 *i* P **P 19 48 48.9 -2.7**
TUC Tucson 91.21 54 *e*P **P 19 48 54.1 +0.3**
TUC pmax pmax
comp=Z,80nm,2.0s,mb5.7
TUC Tucson 91.21 54 *e*P **P 19 48 54.1 +0.4**
comp=Z,80nm,2.0s,mb5.7
ULM Lac du Bonnet 91.30 33 P **P 19 48 53.7 -0.5**
comp=Z,5.0nm,0.8s,mb4.9,baz=321,slow=6.9,SNR=6.1
ULM Lac du Bonnet 91.30 33 P **P 19 48 53.7 -0.5**
KWP Kalwaria 91.31 326 *e*P **P 19 48 53.1 -1.1**
KWP pmax pmax
comp=Z,68nm,0.4s,mb6.3
KWP Kalwaria 91.31 326 *e*P **P 19 48 53.1 -1.2**
comp=Z,68nm,0.4s,mb6.3
ISCO Idaho Springs 91.33 46 *e*P **P 19 48 54.6 +0.3**
ISCO pmax pmax
comp=Z,12nm,1.0s,mb5.2
ISCO Idaho Springs 91.33 46 *e*P **P 19 48 54.6 +0.3**
comp=Z,12nm,1.0s,mb5.2
RKT Rikitea 91.46 114 *e*LR LR 20 17 14.6
comp=Z,811nm,34.8s,baz=295
KOLS Kolonicke sedl 91.96 325 *e*P **P 19 48 56.2 -1.0**
STHS Stebnicka Huta 92.20 326 *e*P **P 19 48 57.9 -0.4**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
STHS Stebnicka Huta 92.20 326 *e*P **P 19 48 57.9 -0.4**
comp=Z,4.2nm,1.1s,mb4.7
STHS *e* 19 49 22.3
CRVS Cervenica-Dubn 92.40 326 *e*P **P 19 48 58.4 -0.9**
OJC Ojcow 92.43 327 *e*P **P 19 48 56.6 -2.8**
NIE Niedzica 92.67 327 *e*P **P 19 48 59.9 -0.6**
LAZ Ladron 92.93 51 *e*P **P 19 49 02.0 +0.3**
ANMO Albuquerque 93.15 50⇓*e*P **P 19 49 03.0 +0.3**
KECS Kecovo 93.17 326 *e*P **P 19 49 01.5 -1.3**
KECS pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
KECS Kecovo 93.17 326 *e*P **P 19 49 01.5 -1.3**
comp=Z,5.1nm,1.4s,mb4.8
LPM Los Pinos Moun 93.34 51 *e*P **P 19 49 03.4 -0.2**
OKC Ostrava-Krasne 93.50 328 *e*P **P 19 49 02.7 -1.6**
KSP Ksiaz 93.73 329 *e*P **P 19 49 04.2 -1.2**
PSZ Piszkesteto 93.83 326 *e*P **P 19 49 04.7 -1.2**
PSZ pmax pmax
comp=Z,4.0nm,1.2s,mb4.7
PSZ Piszkesteto 93.83 326 *e*P **P 19 49 04.7 -1.1**
comp=Z,3.8nm,1.2s,mb4.7
VYHS Vyhne 94.01 327 *e*P **P 19 49 05.2 -1.5**
VYHS *e*pP pP 19 49 12.1 -7.3
VYHS *e*PP PP 19 52 46.9 -6.2
VYHS Vyhne 94.01 327 *e*P **P 19 49 05.2 -1.5**
VYHS *e* 19 49 12.2
VYHS pmax pmax
comp=Z,16nm,1.8s,mb5.2
VYHS Vyhne 94.01 327 *e*P **P 19 49 05.2 -1.5**
comp=Z,16nm,1.8s,mb5.2
VYHS *e* 19 49 12.2
VYHS *e*PP PP 19 52 46.9 -6.2
DPC Dobruska-Polom 94.05 329 *e*P **P 19 49 04.4 -2.5**
UPC Upice 94.09 329 *e*P **P 19 49 06.1 -1.0**
PVCC Panska Ves 94.75 330 *e*P **P 19 49 08.6 -1.5**
BRG Berggiesshubel 94.80 330 *e*P **P 19 49 08.5 -1.8**
comp=Z,13nm,2.0s,mb5.0
BRG *e* 19 52 57.6
comp=Z,26nm,2.0s
BRG Berggiesshubel 94.80 330 *e*P **P 19 49 08.5 -1.8**
BRG *e* 19 52 57.6
BRG pmax pmax
comp=Z,13nm,2.0s,mb5.0
CLL Collm 94.93 331 *i* P **P 19 49 08.6 -2.3**
CLL *i* 19 49 17.2
CLL pmax pmax
comp=Z,15nm,1.4s,mb5.2
CLL Collm 94.93 331 *i* P **P 19 49 08.6 -2.3**
comp=Z,15nm,1.4s,mb5.2
CLL *i* x x 19 49 17.2
PRU Pruhonice 95.14 330 *e*P **P 19 49 10.5 -1.4**
PKSM Moragy 95.57 325⇑*i*P **P 19 49 12.6 -1.3**
KHC Kasperske Hory 96.18 329 *e*P **P 19 49 15.2 -1.4**
GERES GERESS Array B 96.32 329 P **P 19 49 15.2 -2.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=35,slow=4.9,SNR=9.3
GERES PP PP 19 53 09.6 -1.4
comp=Z,0.5nm,0.8s,baz=61,slow=8.4,SNR=3.9
GERES LR LR 20 33 21.2
comp=Z,380nm,19.6s,MS4.9,baz=22,slow=36
GERES GERESS Array B 96.32 329 P **P 19 49 15.2 -2.1**
GERES 19 53 09.6
GRA1 Grafenberg Arr 96.88 331 *e*P **P 19 49 18.2 -1.6**
comp=Z,11nm,1.4s,mb5.1
GRF Grafenberg Arr 96.88 331 *e*P **P 19 49 18.2 -1.6**
comp=Z,11nm,1.4s,mb5.1
GRF Grafenberg Arr 96.88 331 *e*P **P 19 49 18.2 -1.6**
GRF pmax pmax
comp=Z,11nm,1.4s,mb5.1
GRF Grafenberg Arr 96.88 331 *e*P **P 19 49 18.2 -1.6**
GRF pmax pmax
comp=Z,11nm,1.4s,mb5.1
TXAR Lajitas Array 98.00 54 P **P 19 49 25.2 +0.3**
comp=Z,2.1nm,0.9s,mb4.7,baz=325,slow=2.0,SNR=14
MAW Mawson 106.41 203 PP PP 19 54 31.0 +3.9
comp=Z,1.3nm,0.7s,baz=342,slow=5.0,SNR=3.5
ESDC Sonseca Array 111.40 333 PP PP 19 55 00.6 -2.8
comp=Z,1.5nm,0.9s,baz=20,slow=7.8,SNR=6.2
TORD Torodi Ar. Bea 128.50 309 PKP PKPdf 19 54 54.4 -1.0
comp=Z,2.3nm,1.0s,baz=2.6,slow=1.0,SNR=9.1
TORD PP PP 19 57 02.5 +1.8
comp=Z,1.2nm,1.0s,baz=32,slow=4.7,SNR=4.1
SDV Santo Domingo 134.94 51 *e*PKPdf PKPdf 19 55 07.4 -0.1
PLCA Paso Flores 146.00 131 PKPbc PKPbc 19 55 27.2 -1.0
comp=Z,5.7nm,0.7s,baz=221,slow=4.3,SNR=17
ARE Arequipa 146.96 87 *e*PKP2 PKPab 19 55 32.0 -0.6
LPAZ La Paz 150.03 85 PKP PKPdf 19 55 35.0 +0.9
comp=Z,20nm,1.1s,baz=327,slow=6.2,SNR=9.2
LPAZ PKPbc PKPbc 19 55 40.0 +1.0
comp=Z,15nm,1.0s,baz=292,slow=2.7,SNR=18
LPAZ La Paz 150.03 85 *e*PKPdf PKPdf 19 55 34.3 +0.3
LPAZ *e*PKPbc PKPbc 19 55 40.1 +1.1
LPAZ *e*PKPab PKPab 19 55 46.2 +1.3
LVC Limon Verde 150.43 97 PKPbc PKPbc 19 55 40.4 +0.4
comp=Z,7.0nm,0.9s,baz=262,slow=3.1,SNR=5.4
CFAA Coronel Fontan 150.53 116 PKPbc PKPbc 19 55 38.8 -1.5
comp=Z,2.2nm,0.9s,baz=265,slow=2.6,SNR=24
CPUP Villa Florida 160.89 107 PKPab PKPab 19 56 29.5 -1.7
comp=Z,0.3nm,0.3s,baz=0.0,slow=1.0,SNR=3.0
BDFB Brasilia 167.79 61 PKPab PKPab 19 57 01.2 -0.4
comp=Z,2.8nm,0.6s,baz=292,slow=2.8,SNR=4.1

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*ROM **21** 19:40:12.6±0.1, 4237N×2074E, h10km, Error ellipse: s-maj=10.5km s-min=0.0km az=165.0*
*NEIC **21** 19:40:20.5, 4238N×1983E, h8km, MD3.7(ATH), ML3.0(PDG), ML3.4(ROM), After PDG.*
*PDG **21** 19:40:20.5±0.3, 4238N×1983E, h8km±5km*
*ISCJB **21** 19:40:21.0±0.2, 4239N±002×1979E±002, h10km, Error ellipse: s-maj=2.4km s-min=1.8km az=73.0*
*CSEM **21** 19:40:21.3±0.1, 4241N×1982E, h1km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.2km az=33.0*
*THE **21** 19:40:23.2, 4235N×1963E, h32km, ML3.0*
*ATH **21** 19:40:32.3, 4154N×1999E, h10km, MD3.6/6*

ISC 21 19:40:22.0±0.2, 4239N±002×1980E±002, h10km, n79, σ1°24/113, 9C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PVY	**Plav**	**0.24**	**31**	⇑*i*Pg	**Pg**	**Pg**	**19 40 24.9**	**-2.2**
PVY				*e*Sg	**Sg**	**Sg**	**19 40 29.1**	**-1.4**
TTG	**Podgorica**	**0.40**	**277**	⇓*i*Pg	**Pg**	**Pg**	**19 40 27.5**	**-2.4**
TTG				*e*Sg	**Sg**	**Sg**	**19 40 34.2**	**-1.1**
IVA	**Berane**	**0.49**	**8**	⇑*i*Pg	**Pg**	**Pg**	**19 40 29.8**	**-1.8**
IVA				*e*Sg	**Sg**	**Sg**	**19 40 37.7**	**-0.4**
ULC	**Ulcinj**	**0.59**	**224**	⇑*i*Pg	**Pg**	**Pg**	**19 40 31.9**	**-1.5**
ULC				*e*Sg	**Sg**	**Sg**	**19 40 40.7**	**-0.5**
BUM	**Brajici-Budva**	**0.68**	**263**	⇑*i*Pg	**Pg**	**Pg**	**19 40 33.4**	**-1.7**
BUM				*e*Sg	**Sg**	**Sg**	**19 40 44.2**	**+0.3**
HCY	**Herceg Novi**	**0.97**	**274**	⇑*i*Pg	**Pg**	**Pg**	**19 40 39.0**	**-1.6**
HCY				*e*Sg	**Sg**	**Sg**	**19 40 54.2**	**+1.0**
PLE	**Pljevlja**	**0.99**	**343**	⇑*i*Pg	**Pg**	**Pg**	**19 40 38.8**	**-2.3**
PLE				*e*Sg	**Sg**	**Sg**	**19 40 54.8**	**+0.8**
TIR	**Tirane**	**1.04**	**177**	*e*Pg	**Pg**	**Pg**	**19 40 40.0**	**-2.0**
TIR				*e*Sg	**Sg**	**Sg**	**19 40 53.5**	**-2.0**
UPM	**Unac-Piva**	**1.05**	**322**	⇓*i*Pg	**Pg**	**Pg**	**19 40 40.7**	**-1.4**
UPM				*e*Sg	**Sg**	**Sg**	**19 40 57.3**	**+1.5**
BRY	**Bratogost**	**1.06**	**299**	⇓*i*Pg	**Pg**	**Pg**	**19 40 39.9**	**-2.6**
BRY				*e*Sg	**Sg**	**Sg**	**19 40 57.3**	**+1.1**
SKO	**Skopje**	**1.29**	**108**	*i* Pn	**Pn**	**Pn**	**19 40 44.6**	**-1.5**
SKO				*i* Sn	**Sn**	**Sn**	**19 41 05.7**	**+2.4**
SKO	**Skopje**	**1.29**	**108**	*i* Pn	**Pn**	**Pn**	**19 40 44.5**	**-1.5**
SKO				*i* Sn	**Sn**	**Sn**	**19 41 05.7**	**+2.4**
OHR	**Ohrid**	**1.48**	**149**	*i* Pn	**Pn**	**Pn**	**19 40 48.5**	**-0.1**
KRUS	**Krusevo**	**1.48**	**133**	*i* Pn	**Pn**	**Pn**	**19 40 47.0**	**-1.8**
KRUS				*i* Sn	**Sn**	**Sn**	**19 41 10.5**	**+2.3**
KRUS	**Krusevo**	**1.48**	**133**	*i* Pn	**Pn**	**Pn**	**19 40 46.9**	**-1.9**
KRUS				*i* Sn	**Sn**	**Sn**	**19 41 10.5**	**+2.3**
BBLS	**Bajina Basta -**	**1.51**	**349**	*i* Pn	**Pn**	**Pn**	**19 40 49.9**	**+0.8**
BARS	**Barje**	**1.56**	**73**	*i* Pg	**Pn**	**Pn**	**19 40 48.2**	**-1.5**
STON	**Ston**	**1.62**	**288**	*i* Pn	**Pn**	**Pn**	**19 40 50.2**	**-0.5**
STON				*i* Sn	**Sg**	**Sg**	**19 41 15.2**	**+0.9**
GRUS	**Gruza**	**1.65**	**24**	*i* Pn	**Pn**	**Pn**	**19 40 51.5**	**+0.5**
DIVS	**Divcibare**	**1.72**	**5**	*i* Pn	**Pn**	**Pn**	**19 40 51.8**	**-0.2**
DIVS	**Divcibare**	**1.72**	**5**	*e*Pb	**Pn**	**Pn**	**19 40 51.4**	**-0.6**
DIVS				*e*Sb	**Sn**	**Sn**	**19 41 12.6**	**-1.4**
BIA	**Bitola**	**1.78**	**140**	*e*Pb	**Pn**	**Pn**	**19 40 52.2**	**-0.6**
BIA				*e*Sb	**Sb**	**Sb**	**19 41 15.2**	**-1.8**
BIA	**Bitola**	**1.78**	**140**	*i* Pn	**Pb**	**Pb**	**19 40 55.1**	**+0.4**
STIP	**Stip**	**1.91**	**110**	*e*Pn	**Pn**	**Pn**	**19 40 53.9**	**-0.6**
STIP				*e*Sn	**Sn**	**Sn**	**19 41 19.6**	**+0.9**
STIP	**Stip**	**1.91**	**110**	*i* Pn	**Pn**	**Pn**	**19 40 53.9**	**-0.7**
STIP				*i* Sn	**Sb**	**Sb**	**19 41 21.9**	**+1.2**
STIP	**Stip**	**1.91**	**110**	*i* Pn	**Pn**	**Pn**	**19 40 53.8**	**-0.8**
STIP				*e*Sn	**Sn**	**Sn**	**19 41 19.5**	**+0.9**
FNA	**Florina**	**1.99**	**143**	*e*Pn	**Pn**	**Pn**	**19 40 55.6**	**-0.1**
FNA				*e*Sn	**Sn**	**Sn**	**19 41 20.1**	**-0.6**
VAY	**Valandovo**	**2.33**	**116**	*e*Pn	**Pn**	**Pn**	**19 41 00.3**	**0.0**
VAY	**Valandovo**	**2.33**	**116**	*i* Pn	**Pn**	**Pn**	**19 40 58.8**	**-1.6**
GRG	**Griva**	**2.42**	**125**	*e*Pn	**Pn**	**Pn**	**19 41 01.3**	**-0.3**
GRG				*e*Sn	**Sn**	**Sn**	**19 41 31.1**	**0.0**
VTS	**Vitosha**	**2.53**	**84**	*e*Pn	**Pn**	**Pn**	**19 41 04.3**	**+1.2**
VTS				*e*Sn	**Sn**	**Sn**	**19 41 35.5**	**+1.6**
VTS	**Vitosha**	**2.53**	**84**	⇑*i*P	**Pn**	**Pn**	**19 41 03.1**	**0.0**
VTS	**Vitosha**	**2.53**	**84**	*e*Pn	**Pn**	**Pn**	**19 41 04.3**	**+1.2**
VTS				*e*Sn	**Sn**	**Sn**	**19 41 35.5**	**+1.5**
KZN	**Kozani**	**2.55**	**144**	*e*PN	**Pn**	**Pn**	**19 41 06.0**	**+2.6**
NOCI	**Noci**	**2.60**	**233**	Pn	**Pn**	**Pn**	**19 41 03.4**	**-0.7**
49nm,0.3s								
KNT	**Kendrikon**	**2.62**	**117**	*e*Pn	**Pn**	**Pn**	**19 41 04.0**	**-0.3**
KEK	**Kerkira**	**2.67**	**180**	*e*PN	**Pn**	**Pn**	**19 41 05.8**	**+0.7**
AMUR	**Altamura**	**2.81**	**239**	Pn	**Pn**	**Pn**	**19 41 06.2**	**-0.9**
26nm,0.8s								
JAN	**Janina**	**2.84**	**163**	*e*PN	**Pn**	**Pn**	**19 41 08.2**	**+0.8**
JAN	**Janina**	**2.84**	**163**	*e*Pg	**Pn**	**Pn**	**19 41 08.7**	**+1.3**
IGT	**Igoumenitsa**	**2.88**	**172**	*e*Pn	**Pn**	**Pn**	**19 41 07.8**	**-0.2**
IGT				*e*Sn	**Sn**	**Sn**	**19 41 40.9**	**-1.7**
THE	**Thessaloniki**	**2.95**	**125**	*e*Pn	**Pn**	**Pn**	**19 41 09.0**	**0.0**
MMB	**Musomiste**	**3.03**	**104**	*e*Pn	**Pn**	**Pn**	**19 41 10.3**	**+0.2**
MMB				*e*Sn	**Sn**	**Sn**	**19 41 47.7**	**+1.3**
LIT	**Litokhoron**	**3.05**	**137**	*e*Pn	**Pn**	**Pn**	**19 41 10.3**	**0.0**
LIT				*e*Sn	**Sn**	**Sn**	**19 41 46.5**	**-0.4**
HORT	**Hortiatis**	**3.05**	**125**	*e*Pn	**Pn**	**Pn**	**19 41 11.0**	**+0.6**
HORT				*e*Sn	**Sn**	**Sn**	**19 41 46.7**	**-0.3**
SOH	**Sokhos**	**3.09**	**119**	*e*Pn	**Pn**	**Pn**	**19 41 10.9**	**0.0**
SRS	**Serrai**	**3.11**	**113**	*e*Pn	**Pn**	**Pn**	**19 41 11.1**	**0.0**
SRS				*e*Sn	**Sn**	**Sn**	**19 41 49.1**	**+0.8**
RGNG	**Rignano Grg**	**3.22**	**259**	Pn	**Pn**	**Pn**	**19 41 12.2**	**-0.4**
THL	**Klokotos Trika**	**3.28**	**149**	*e*PN	**Pn**	**Pn**	**19 41 15.2**	**+1.8**
THL				*e*SN	**Sn**	**Sn**	**19 41 46.6**	**-5.9**
THL	**Klokotos Trika**	**3.28**	**149**	*e*Pn	**Pn**	**Pn**	**19 41 14.9**	**+1.5**
BZS	**Buzias**	**3.49**	**21**	⇑*i*P	**Pn**	**Pn**	**19 41 15.6**	**-0.7**
BZS	**Buzias**	**3.49**	**21**	S	**Sn**	**Sn**	**19 41 56.7**	**-0.9**
FG2	**Serracapriola**	**3.50**	**262**	Pn	**Pn**	**Pn**	**19 41 16.7**	**+0.2**
23nm,0.2s								
SLCN	**Sala Consilina**	**3.72**	**239**	Pn	**Pn**	**Pn**	**19 41 19.4**	**-0.1**
32nm,0.5s								
EVR	**Evrytania**	**3.79**	**156**	*e*PN	**Pn**	**Pn**	**19 41 21.9**	**+1.5**
EVR				*e*SN	**Sn**	**Sn**	**19 41 58.2**	**-6.8**
MCRV	**Calabrutti - M**	**3.83**	**247**	Pn	**Pn**	**Pn**	**19 41 20.9**	**-0.1**
AGG	**Agios Georgios**	**3.87**	**149**	*e*Pn	**Pn**	**Pn**	**19 41 21.3**	**-0.3**
CDRU	**Civita di Ruta**	**3.88**	**242**	Pn	**Pn**	**Pn**	**19 41 21.3**	**-0.3**
220nm,3.6s								
PKSM	**Moragy**	**3.92**	**348**	⇑*i*P	**Pn**	**Pn**	**19 41 21.4**	**-0.8**
PKSM	**Moragy**	**3.92**	**348**	⇓*e*P	**Pn**	**Pn**	**19 41 21.5**	**-0.7**
SGG	**Gregorio Mates**	**4.17**	**258**	Pn	**Pn**	**Pn**	**19 41 26.7**	**+1.0**
26nm,0.6s								
NVLJ	**Novalja**	**4.20**	**303**	*i* Pn	**Pn**	**Pn**	**19 41 27.1**	**+1.0**
NVLJ				*i* Sn	**Sn**	**Sn**	**19 42 18.8**	**+3.7**
VLS	**Valsamata**	**4.25**	**172**	*e*PN	**Pn**	**Pn**	**19 41 27.9**	**+1.2**
VAGA	**Valle Agricola**	**4.27**	**259**	Pn	**Pn**	**Pn**	**19 41 27.8**	**+0.8**
46nm,0.8s								
CERA	**Filignano**	**4.38**	**262**	Pn	**Pn**	**Pn**	**19 41 30.1**	**+1.5**
93nm,1.3s								
BOJS	**Bojanci**	**4.53**	**315**	*e*Pn	**Pn**	**Pn**	**19 41 33.1**	**+2.5**
FAGN	**Fagnano**	**4.61**	**271**	Pn	**Pn**	**Pn**	**19 41 32.5**	**+0.7**
29nm,0.4s								
VVLD	**Villa Vallelon**	**4.62**	**266**	Pn	**Pn**	**Pn**	**19 41 32.8**	**+0.9**
34nm,0.9s								
CRES	**Cresnjev**	**4.65**	**319**	*e*Pn	**Pn**	**Pn**	**19 41 34.8**	**+2.6**
LEGS	**Legarje**	**4.80**	**319**	*e*Pn	**Pn**	**Pn**	**19 41 36.5**	**+2.1**
DRGR		**4.87**	**24**	⇓*i*P	**Pn**	**Pn**	**19 41 36.3**	**+1.0**
DRGR		**4.87**	**24**	S	**Sn**	**Sn**	**19 42 28.6**	**-3.2**
VISS	**Visnje**	**4.94**	**315**	*e*Pn	**Pn**	**Pn**	**19 41 38.7**	**+2.4**
FSSB	**Fossombrone**	**5.31**	**287**	Pn	**Pn**	**Pn**	**19 41 41.9**	**+0.5**
PSZ	**Piszkesteto**	**5.53**	**1**	⇓*i*P	**Pn**	**Pn**	**19 41 42.9**	**-1.5**
VOY	**Vojsko**	**5.60**	**313**	*e*(Pn)	**Pn**	**Pn**	**19 41 47.0**	**+1.7**
VOY				*e*			19 42 55.5	
KECS	**Kecovo**	**6.12**	**4**	*e*PN	**Pn**	**Pn**	**19 41 54.1**	**+1.6**
KECS				*e*SN	**Sn**	**Sn**	**19 43 02.0**	**-0.5**
VYHS	**Vyhne**	**6.15**	**354**	*e*PN	**Pn**	**Pn**	**19 41 54.2**	**+1.3**
VYHS				*e*SN	**Sn**	**Sn**	**19 43 00.7**	**-2.5**
CRVS	**Cervenica-Dubn**	**6.62**	**10**	*e*PN	**Pn**	**Pn**	**19 41 59.9**	**+0.5**

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*ISCJB **21** 19:59:52.9±0.6, 2424S±004×6698W±006, h186km±6km, mb4.1/16, Error ellipse: s-maj=9.2km s-min=7.3km az=160.7*
*IDC **21** 19:59:53.3±0.9, 2430S×6692W, h169km±10km, mb3.5/4, mb1 3.6/10, mb1mx3.5/21, mbtmp3.9/10, Error ellipse: s-maj=16.0km s-min=10.7km az=74.0*
*NEIC **21** 19:59:53.8±0.6, 2424S×6694W, h178km±6km, mb4.2/15, Error ellipse: s-maj=9.4km s-min=7.2km az=81.0*
*GUC **21** 19:59:55.4±0.7, 2450S×6737W, h200km, ML4.4*

ISC 21 19:59:53.9±0.5, 2425S±005×6697W±006, h178km±6km, n45, σ1°15/53, mb4.1/16, 3C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**312**	P	**Pn**	**Pn**	**20 00 37.3**	**+1.8**
61nm,0.3s,baz=131,slow=6.3,SNR=407								
LVC				S	**Sn**	**Sn**	**20 01 08.7**	**+0.9**
55nm,0.3s,baz=202,slow=22,SNR=21								
LVC	**Limon Verde**	**2.42**	**312**	P	**Pn**	**Pn**	**20 00 37.3**	**+1.8**
LVC				*e*Sn	**Sn**	**Sn**	**20 01 08.0**	**+0.2**
LVC				S	**Sn**	**Sn**	**20 01 08.7**	**+1.0**
CEN1	**Los Morros**	**3.08**	**286**	⇓*i*P	**Pn**	**Pn**	**20 00 45.2**	**+1.8**
CEN1				*i* S	**Sn**	**Sn**	**20 01 22.5**	**+0.6**
CEN1				AML	AML	AML	20 01 23.4	
comp=N,567nm,0.4s								
CPN1	**Cerro Paranal**	**3.15**	**262**	⇓*i*P	**Pn**	**Pn**	**20 00 44.8**	**+0.5**
CPN1				*i* S	**Sn**	**Sn**	**20 01 22.2**	**-1.4**
CPN1				AML	AML	AML	20 01 25.4	
comp=E,564nm,0.3s								
ANCH	**Antofagasta**	**3.20**	**280**	⇑*i*P	**Pn**	**Pn**	**20 00 45.4**	**+0.5**
ANCH				*i* S	**Sn**	**Sn**	**20 01 23.4**	**-1.2**
ANCH				AML	AML	AML	20 01 28.6	
comp=N,639nm,0.5s								
ANCH	**Antofagasta**	**3.20**	**280**	⇑*i*P	**Pn**	**Pn**	**20 00 45.4**	**+0.5**
ANCH				*i* S	**Sn**	**Sn**	**20 01 23.4**	**-1.2**
CDCH	**Caldera**	**4.47**	**230**	⇑*i*P	**Pn**	**Pn**	**20 00 59.3**	**-1.7**
CDCH				*i* S	**Sn**	**Sn**	**20 01 49.0**	**-4.5**
CFAA	**Coronel Fontan**	**7.41**	**188**	P	**Pn**	**Pn**	**20 01 38.9**	**-0.5**
comp=N,0.1nm,0.3s,baz=354,slow=14,SNR=14								
CFAA				S	**Sn**	**Sn**	**20 02 57.0**	**-5.7**
comp=N,0.3nm,0.3s,baz=135,slow=20,SNR=18								
CFAA	**Coronel Fontan**	**7.41**	**188**	P	**Pn**	**Pn**	**20 01 38.9**	**-0.5**
CFAA				S	**Sn**	**Sn**	**20 02 57.0**	**-5.7**
LPAZ	**La Paz**	**8.00**	**352**	P	**Pn**	**Pn**	**20 01 48.5**	**+1.4**
comp=N,1.1nm,0.3s,baz=171,slow=8.0,SNR=15								
LPAZ				S	**Sn**	**Sn**	**20 03 14.5**	**-2.2**
comp=N,0.2nm,0.3s,baz=5.5,slow=20,SNR=3.6								
LPAZ	**La Paz**	**8.00**	**352**	P	**Pn**	**Pn**	**20 01 48.5**	**+1.4**
LPAZ				*e*Sn	**Sn**	**Sn**	**20 03 13.9**	**-2.8**
LPAZ				S	**Sn**	**Sn**	**20 03 14.5**	**-2.2**
CPUP	**Villa Florida**	**8.97**	**105**	P	**Pn**	**Pn**	**20 01 59.3**	**-0.5**
comp=N,0.6nm,0.3s,baz=279,slow=12,SNR=8.2								
CPUP	**Villa Florida**	**8.97**	**105**	P	**Pn**	**Pn**	**20 01 59.3**	**-0.5**
CPUP				*e*			20 02 09.1	
SIV	**San Ignacio**	**9.91**	**35**	P	**Pn**	**Pn**	**20 02 11.5**	**-0.7**
comp=N,1.3nm,0.3s,baz=244,slow=11,SNR=15								
TRQA	**Tornquist**	**14.41**	**164**	*e*Pn	**Pn**	**Pn**	**20 03 11.6**	**+1.9**
comp=N,27nm,1.3s								
PLCA	**Paso Flores**	**16.71**	**190**	P	**Pn**	**Pn**	**20 03 35.9**	**-1.8**
comp=N,0.1nm,0.3s,baz=348,slow=9.3,SNR=2.4								
BDFB	**Brasilia**	**19.75**	**68**	P	**P**	**P**	**20 04 10.4**	**+0.3**
comp=N,1.7nm,0.3s,baz=252,slow=7.1,SNR=8.8								
BDFB	**Brasilia**	**19.75**	**68**	*e*P	**P**	**P**	**20 04 10.3**	**+0.2**
comp=N,11nm,0.5s								
SDV	**Santo Domingo**	**33.13**	**353**	P	**P**	**P**	**20 06 11.9**	**-1.2**
comp=N,4.9nm,1.1s,mb4.2								
RCBR	**Riachuelo**	**35.01**	**63**	*e*P	**P**	**P**	**20 06 29.6**	**+0.3**
comp=N,7.1nm,0.9s,mb4.3								
SJG	**San Juan**	**42.11**	**1**	P	**P**	**P**	**20 07 25.9**	**-2.5**
comp=N,6.1nm,0.5s,mb4.5								
TEIG	**Tepich**	**48.84**	**333**	*e*P	**P**	**P**	**20 08 20.8**	**-0.3**
comp=N,5.2nm,0.5s,mb4.4								
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**P**	**20 09 35.9**	**+0.4**
comp=N,0.4nm,0.6s,mb3.4,baz=267,slow=7.8,SNR=12								
SNAA	**Sanae**	**59.11**	**161**	*e*P	**P**	**P**	**20 09 35.5**	**0.0**
comp=N,1.1nm,0.7s,mb3.8								
SNAA				P			20 09 35.9	
JSC	**Jenkinsville**	**59.77**	**346**	P	**P**	**P**	**20 09 36.5**	**-3.6**
OXF	**Oxford**	**62.20**	**339**	P	**P**	**P**	**20 09 56.5**	**+0.1**
WVT	**Waverly**	**63.21**	**341**	*e*P	**P**	**P**	**20 10 01.8**	**-1.3**
comp=N,7.3nm,0.7s,mb4.6								
WCI	**Wyandotte Cave**	**64.74**	**343**	*e*P	**P**	**P**	**20 10 11.7**	**-1.4**
comp=N,20nm,1.0s,mb4.9								
QSPA	**

TXAR	Lajitas Array	69.94	68	P	P	20 23 41.6	+1.0
	0.3nm,0.6s,mb3.3,baz=306,slow=5.8,SNR=7.0						
ASAR	Alice Springs	80.83	205	P	P	20 24 42.8	-0.1
	0.2nm,0.4s,mb3.3,baz=18,slow=4.7,SNR=5.3						
ESDC	Sonseca Array	85.64	348	P	P	20 25 06.7	-0.9
	1.2nm,0.8s,mb3.9,baz=9.1,slow=4.2,SNR=4.1						

MAN 21 20:15:00.5, 947N×12568E, h8km, mb2.5, ML4.0, MS1.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.37	329	eP		Pg	20 15 08.6	+0.9
SCPH				eS		Sg	20 15 19.7	+7.2
BUTP	Butuan	0.50	187	eP		Pg	20 15 10.4	+0.2
MSLP	Maasin	1.05	309	eP		Pg	20 15 19.5	-1.1
BUKP	Musuan	1.69	201	eP		Pn	20 15 30.4	0.0
OTRP	Odiongan	4.61	309	eP		Pn	20 16 04.2	-6.2

*NEIC **21** 20:22:00.6, 2841S×7108W, h52km, MD3.8(GUC), After GUC.*

GUC 21 20:22:00.6±0.8, 2841S×7108W, h52km±11km, MD3.8, ML3.7, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	Vallenar	0.32	120	⇑iP		Pn	20 22 10.6	+0.5
VACH				i S		Sn	20 22 17.5	+0.6
VACH					AML	AML	20 22 17.9	
	comp=E,22μm,0.1s							
CPCH	Copiapo	1.23	31	eP		Pn	20 22 22.1	+0.7
CPCH				i S		Sn	20 22 38.2	+1.3
CPCH					AML	AML	20 22 39.4	
	comp=E,8μm,0.1s							
CPCH	Copiapo	1.23	31	eP		Pn	20 22 22.1	+0.7
CPCH				i S		Sn	20 22 38.2	+1.3
CDCH	Caldera	1.35	9	⇑iP		Pn	20 22 23.2	+0.2
CDCH				i S		Sn	20 22 40.5	+0.5
CDCH					AML	AML	20 22 48.8	
	comp=E,305nm,0.3s							
CDCH	Caldera	1.35	9	⇑iP		Pn	20 22 23.2	+0.2
CDCH				i S		Sn	20 22 40.5	+0.5
LSCH	La Serena	1.50	186	⇑iP		Pn	20 22 25.9	+0.9
LSCH				i S		Sn	20 22 44.8	+1.3
LSCH					AML	AML	20 22 47.7	
	comp=E,495nm,0.3s							
LSCH	La Serena	1.50	186	⇑iP		Pn	20 22 25.9	+0.9
LSCH				i S		Sn	20 22 44.8	+1.3
TLL	Tololo Astrono	1.77	172	⇓iP		Pn	20 22 30.1	+1.4
TLL				i S		Sn	20 22 51.8	+1.7
TLL					AML	AML	20 22 54.4	
	comp=E,2μm,0.4s							
TLL	Tololo Astrono	1.77	172	⇓iP		Pn	20 22 30.1	+1.4
TLL				i S		Sn	20 22 51.8	+1.7
OVCH	Ovalle	2.19	183	i S		Sn	20 23 0.4	-0.1
OVCH					AML	AML	20 23 14.8	
	comp=E,740nm,0.5s							
PEL	Peldehue	4.73	176	eP		Pn	20 23 09.8	+0.4
FCH	Farellones	4.95	172	eP		Pn	20 23 13.8	+1.4

MAN 21 20:31:45.6, 1350N×12151E, h5km, mb3.1, ML4.4, MS1.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAC	Boac	0.32	97	eP		Pg	20 31 52.4	+0.6
BOAC				eS		Sg	20 31 58.2	+2.1
TGY	Tagaytay City	0.82	317	⇑iP		Pg	20 32 00.6	-0.7
TGY				i S		Sg	20 32 08.6	-3.4
AUQP	San Andres	1.14	99	eP		Pg	20 32 07.3	-0.2
AUQP				eS		Sg	20 32 27.4	+5.1
OTRP	Odiongan	1.23	156	eP		Pg	20 32 06.4	-2.8
OTRP				eS		Sg	20 32 22.9	-2.4
LUBP	Lubang	1.25	281	eP		Pg	20 32 08.6	-1.0
LUBP				eS		Sg	20 32 26.0	+0.1
POLP	Polilio Island	1.29	19	eP		Pn	20 32 09.2	-1.1
BUSP	Coron	1.96	221	eP		Pn	20 32 19.9	+0.4
BALP	Baler	2.23	2	eP		Pn	20 32 25.9	+2.8
PVCP	Virac	2.57	88	eP		Pn	20 32 28.7	+0.8
CUYO	Cuyo Island	2.68	190	eP		Pn	20 32 36.6	+7.3
ENPP	El Nido	3.06	222	eP		Pn	20 32 35.5	+0.9
BOLP	Bolinao	3.26	332	eP		Pn	20 32 42.3	+5.1
CAUP	Cauayan	3.44	5	eP		Pn	20 32 40.0	+0.2

*HLW **21** 20:33:52.1, 3151N×3619E, h13km, Mb3.3*
*ISCJB **21** 20:34:01.2±0.9, 3103N±003×3552E±009, h12km±6km, Error ellipse: s-maj=12.3km s-min=4.5km az=10.1*
*GII **21** 20:34:02.1±0.3, 3103N×3548E, h6km±1km, ML2.2/8, Mw2.3/5*

ISC 21 20:34:01.9±0.9, 3103N±003×3551E±009, h14km±5km, n24, σ0§56/29, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZDA	Masada	0.31	335	Pg		Pg	20 34 08.5	+0.3
MZDA				Sg		Sg	20 34 13.1	+0.6
YTIR	Yattir	0.47	314	Pg		Pg	20 34 11.2	-0.1
DSI	Dead Sea	0.55	348	Pg		Pg	20 34 13.4	+0.7
ZFRI	Zfri	0.56	211	Pg		Pg	20 34 13.1	+0.3
DRGI	Dragot	0.57	350	Pg		Pg	20 34 13.3	+0.2
MASH	Mash'abbe Sade	0.63	267	Pg		Pg	20 34 14.0	-0.1
AMAZ	Amatzia	0.71	314	Pg		Pg	20 34 15.6	-0.2
AMAZ				Sg		Sg	20 34 26.0	+0.7
SVTA	Shivta	0.77	263	Pg		Pg	20 34 16.7	-0.2
RMNI	Mount Ramon	0.78	236	Pg		Pg	20 34 16.4	-0.6
PRNI	Paran	0.81	213	Pg		Pg	20 34 17.8	+0.2
PRNI				Sg		Sg	20 34 28.9	+0.7
KZIT	Kziot	0.97	263	Pg		Pg	20 34 20.1	-0.5
HRFI	Mount Harif	1.07	203	Pg		Pg	20 34 22.1	-0.5
HRFI				Sg		Sg	20 34 36.6	0.0
KMTI	Karmit	1.15	217	Pg		Pg	20 34 23.4	-0.5
HMDT	Nahal Hemdat	1.22	0	Pg		Pg	20 34 24.8	-0.6
SLTI	Sal'it	1.27	342	Pg		Pg	20 34 25.7	-0.6
MBH	Mount Berech	1.34	203	Pn		Pn	20 34 26.4	+0.2
AQBJ	Aqaba	1.36	197	Pn		Pn	20 34 27.2	+0.7
EIL	Elat	1.44	200	Pn		Pn	20 34 27.9	+0.4
EIL				Sn		Sn	20 34 47.9	+1.6
HNKL	Nakhl	1.72	231	P		Pn	20 34 31.5	+0.1
HBST	Basata	1.93	201	P		Pn	20 34 33.3	-1.0
AMAG	Maghara	2.02	260	P		Pn	20 34 34.7	-0.8
SUZ		2.60	244	P		Pn	20 34 43.3	-0.2
HKAT	Jabal Katrina	2.83	208	P		Pn	20 34 46.2	-0.4
TR2		3.06	211	P		Pn	20 34 49.7	-0.2

*JMA **21** 20:36:33.8±0.3, 3631N×14236E, h60km, M2.9*
*ISCJB **21** 20:36:34.4±1.3, 3632N±004×1424E±01, h33km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=6.2km az=174.9*
*IDC **21** 20:36:37.2±8.8, 3656N×14190E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=144.7km s-min=70.1km az=133.0*

ISC 21 20:36:34.5±1.4, 3633N±005×1424E±01, h35km, n16, σ0§87/22, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	1.42	244	P		Pn	20 36 56.9	-0.8
CHOJ				eS		Sn	20 37 14.8	-0.4
ONAJ	Iwakimizuishiy	1.52	301	P		Pn	20 36 58.8	-0.4
JHO	Hitachi	1.53	281	S		Sn	20 37 16.6	-1.3
JFK	Kawauchi	1.62	310	P		Pn	20 36 59.0	-1.5
JFK				eS		Sn	20 37 20.3	+0.1
JMM	Marumori	2.02	320	P		Pn	20 37 05.9	-0.1
JMM				eS		Sn	20 37 30.0	0.0
BSO1	Boso 1	2.05	216	P		Pn	20 37 06.6	+0.2
BSO1				S		Sn	20 37 31.4	+0.7
JFT	Otama	2.06	306	P		Pn	20 37 07.1	+0.6
JFT				S		Sn	20 37 31.4	+0.5
JAG	Ashikaga	2.41	273	P		Pn	20 37 11.0	-0.3
JRY	Ryogami san	2.87	265	P		Pn	20 37 17.0	-0.7
JOD2	Odawara 2	2.92	250	P		Pn	20 37 17.8	-0.6
JYN	Shimob	3.26	256	P		Pn	20 37 23.3	+0.2
MJAR	Matsushiro Arr	3.41	275	Pn		Pn	20 37 25.3	+0.2
	2.4nm,0.3s,baz=89,slow=16,SNR=36							
MAT	Matsushiro	3.41	275	P		Pn	20 37 25.3	+0.1
MAT				S		Sn	20 38 06.1	+1.7
MAT	Matsushiro	3.41	275	P		Pn	20 37 25.9	+0.7
SONM	Songino Array	28.86	305	P		P	20 42 32.7	+3.1
	0.5nm,0.6s,mb3.4,baz=99,slow=8.3,SNR=3.8							
MKAR	Makanchi Array	45.19	303	P		P	20 44 52.0	+4.1
	0.7nm,0.6s,mb3.7,baz=80,slow=10,SNR=9.8							

*IDC **21** 20:38:23.2±1.4, 2825×12995E, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=98.6km s-min=19.2km az=72.0*
*NEIC **21** 20:38:24.6±0.9, 2805×13002E, h10km, mb3.8/2, Error ellipse: s-maj=44.8km s-min=10.3km az=73.0*
*ISCJB **21** 20:38:26.6±2.6, 2905±01×1301E±03, h39km±24km, mb3.8/4, Error ellipse: s-maj=58.1km s-min=10.6km az=143.6*

ISC 21 20:38:29.5±2.4, 2905±01×1300E±03, h46km±22km, n13, σ0§91/17, mb3.9/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	10.06	166	eP		Pn	20 40 51.4	+0.1
	6.1nm,0.6s							
KAKA				eS		Sn	20 42 43.2	+0.4
FITZ	Fitzroy Crossi	15.70	195	eP		Pn	20 42 06.8	-0.6
	6.1nm,0.9s							
FITZ	Fitzroy Crossi	15.70	195	Pn		Pn	20 42 07.0	-0.4
	0.3nm,0.3s,baz=7.9,slow=15,SNR=8.1							
WRAB	Tennant Creek	17.47	166	ePn		Pn	20 42 28.3	-1.4
	8.9nm,1.0s							
WRAB				eSn		Sn	20 45 38.2	-5.1
WRA	Warramunga Arr	17.48	166	P		Pn	20 42 29.2	-0.6
	0.7nm,0.3s,baz=347,slow=12,SNR=13							
WRA				S		S	20 45 40.7	-9.0
	0.1nm,0.3s,baz=356,slow=24,SNR=3.9							
WB2	Warramunga Arr	17.48	166	eP		Pn	20 42 29.5	-0.3
AS31	Alice Springs	21.00	170	eP		P	20 43 10.0	+1.0
ASAR	Alice Springs	21.00	170	P		P	20 43 10.4	+1.5
	13nm,0.8s,mb4.3,baz=348,slow=11,SNR=89							
ASAR				S		S	20 46 59.4	-0.9
	1.2nm,0.9s,baz=352,slow=23,SNR=4.5							
ASPA	Alice Springs	21.00	170	eP		P	20 43 10.0	+1.0
STKA	Stephens Creek	30.84	160	P		P	20 44 40.5	-0.6
	2.2nm,1.0s,mb4.0,baz=304,slow=12,SNR=3.7							
MKAR	Makanchi Array	64.80	326	P		P	20 49 04.8	+1.4
	0.2nm,0.5s,mb3.4,baz=127,slow=8.8,SNR=6.4							
ZAL	Zalesovo	67.92	333	P		P	20 49 22.1	-1.2
	1.0nm,0.3s,mb4.3,baz=199,slow=7.1,SNR=4.3							
BVAR	Borovoye Array	74.59	327	P		P	20 50 03.5	-0.2
	0.5nm,0.8s,mb3.5,baz=76,slow=6.1,SNR=2.1							

*NEIC **21** 20:38:29.8, 3685N×2659E, h29km, MD3.4(ATH), After ATH.*
*ATH **21** 20:38:29.7, 3685N×2660E, h29km±1km, MD3.3/8*
*CSEM **21** 20:38:29.7±0.1, 3682N×2659E, h8km, MD3.4, Error ellipse: s-maj=2.6km s-min=1.9km az=160.0*
*ISK **21** 20:38:30.0, 3685N×2657E, h16km, MD3.2*
*ISCJB **21** 20:38:31.0±0.6, 3685N±004×2655E±004, h22km±7km, Error ellipse: s-maj=6.2km s-min=5.0km az=113.9*

ISC 21 20:38:30.7±0.8, 3685N±004×2656E±004, h16km±6km, n23, σ0§84/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.52	117	ePB		Pg	20 38 40.3	-0.7
NISR	Nisiros	0.52	117	ePb		Pg	20 38 40.5	-0.5
BODT	Bodrum	0.64	70	i PG		Pg	20 38 42.6	-0.7
BODT				i SG		Sg	20 38 52.3	+0.5
BDRM	Kayabasi	0.74	73	i P		Pb	20 38 45.6	+0.3
BDRM				i S		Sg	20 38 55.8	+0.7
DAT	Datca	0.83	98	PG		Pg	20 38 46.7	-0.2
DAT				SG		Sg	20 38 57.8	0.0
APE	Apeiranthos	0.85	285	ePN		Pn	20 38 47.0	-1.0
APE				eSN		Sn	20 39 00.0	-0.1
APE	Apeiranthos	0.85	285	ePn		Pn	20 38 46.8	-1.2
APE				eSn		Sn	20 39 00.0	-0.1
SMG	Samos	0.89	15	ePB		Pb	20 38 46.1	-1.6
SMG				eSN		Sn	20 38 59.8	-1.2
SMG	Samos	0.89	15	ePb		Pb	20 38 46.2	-1.5
SMG				eSn		Sn	20 38 59.9	-1.1
SANT	Santorini	1.00	242	eP		Pb	20 38 49.0	-0.7
SANT				eS		Sb	20 39 04.7	+2.0
SANT	Santorini	1.00	242	eP		Pb	20 38 49.0	-0.7
MLSB	Milas	1.07	65	PG		Pg	20 38 50.7	-0.8
MLSB				SG		Sg	20 39 06.2	+0.7
AYDN	Tasoluk	1.33	52	i P		Pn	20 38 55.6	+1.0
AYDN				i S		Sn	20 39 12.0	+0.1
KARP	Karpathos	1.39	159	ePN		Pn	20 38 54.6	-0.8
KARP				eSN		Sn	20 39 13.6	+0.2
ARG	Arkhangelos	1.41	116	ePN		Pn	20 38 54.9	-0.8
IZM	Izmir	1.64	20	ePN		Pn	20 38 59.0	+0.1
KDAG	Bornova	1.65	20	i P		Pn	20 39 00.5	+1.5
KDAG				i S		Sg	20 39 27.8	+3.9
DALT	Dalyan (Mudla)	1.67	92	ePN		Pn	20 38 59.4	+0.1
NPS	Neapolis	1.76	206	ePB		Pn	20 39 00.6	+0.1
DNZL	Cakiroluk	2.16	66	i P		Pg	20 39 17.1	+5.0
DNZL				i S		Sg	20 39 45.4	+5.3
VAM	Vamos	2.39	234	ePN		Pn	20 39 09.6	+0.4
PRK	Paraskevi	2.40	355	ePN		Pn	20 39 09.7	+0.4
PRK	Paraskevi	2.40	355	ePn		Pn	20 39 10.0	+0.7

IDC 21 20:52:04.8±1.0, 1905S×6826W, h161km±14km, mb3.8/1, mb1 3.3/6, mb1mx3.1/21, mbtmp3.8/6, Error ellipse: s-maj=38.4km s-min=8.1km az=97.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	2.75	2	P		Pn	20 52 51.2	+1.8
	9.6nm,0.3s,baz=162,slow=4.7,SNR=128							
LPAZ				S		Sn	20 53 25.4	+1.5
	4.2nm,0.3s,baz=249,slow=25,SNR=16							
LVC	Limon Verde	3.60	190	P		Pn	20 53 00.7	+0.7
	8.6nm,0.3s,baz=8.0,slow=9.1,SNR=43							
LVC				S		Sn	20 53 43.4	+0.4
	12nm,0.3s,baz=261,slow=22,SNR=13							
SIV	San Ignacio	7.50	67	P		Pn	20 53 51.0	-0.3
	5.9nm,0.3s,baz=258,slow=11,SNR=85							
CPUP	Villa Florida	12.41	128	P		Pn	20 54 57.0	+1.1
	0.5nm,0.3s,baz=283,slow=9.1,SNR=4.3							
CFAA	Coronel Fontan	12.50	180	P		Pn	20 54 59.2	+2.1
	0.0nm,0.3s,baz=1.1,slow=10,SNR=3.5							
TORD	Torodi Ar. Bea	75.96	71	P		P	21 03 34.3	+0.5
	1.3nm,0.5s,baz=253,slow=5.5,SNR=67							

*CSEM **21** 20:52:47.0±0.1, 6724N×2061E, h1km, ML3.3, Error ellipse: s-maj=4.5km s-min=2.6km az=78.0, Mining explosion.*
*UPP **21** 20:52:48.1, 6718N×2065E, h0km, ML3.3, Mining explosion.*

HEL 21 20:52:48.7±0.1, 6717N×2065E, h0km, ML3.3(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	Dundret	0.06	209	i P		Pg	20 52 49.7	-0.1
KUA	Kurravaara	0.79	352	i P		Pg	20 53 02.8	-1.1
SALU	Saltoluokta	0.86	285	i P		Pg	20 53 04.3	-0.8
ERTU	Ertsjaerv	0.87	135	i P		Pg	20 53 04.7	-0.7
NIKU	Nikkaluokta	0.93	319	eP		Pg	20 53 05.4	-1.2
LANU	Lannavaara	1.02	30	eP		Pg	20 53 07.5	-0.7
HARU	Harads	1.02	172	eP		Pg	20 53 06.7	-1.6
SJUU	Sjulsmark	1.72	167	eP		Pn	20 53 18.9	-0.9
KIF	Kilpisjarvi	1.84	2	eP		Pn	20 53 21.8	+0.2
KIF				e			20 53 50.7	
KIF	Kilpisjarvi	1.84	2	P		Pn	20 53 21.7	+0.2
LILU	Lilltraesk	1.92	190	eP		Pn	20 53 22.4	-0.3
SGF	Sodankyl	2.30	81	eP		Pn	20 53 27.8	-0.1
SGF				eSG		Sg	20 53 59.1	-3.4
BURU	Burvik	2.62	173	eP		Pn	20 53 32.2	0.0
OUL	Oulu	2.99	132	eSB		Sb	20 54 16.2	-3.8
KEV	Kevo	3.50	39	eS		Sn	20 54 27.6	+1.2
MSF	Maaselka	3.59	107	eSB		Sb	20 54 37.1	0.0

*IDC **21** 20:57:21.1±2.2, 7025×12888E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=103.9km s-min=27.4km az=75.0*

NEIC 21 20:57:26.0±1.3, 7085×12892E, h35km, Error ellipse: s-maj=36.0km s-min=15.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.49	196	Pn		Pn	21 00 06.6	+0.1
	0.6nm,0.3s,baz=35,slow=12,SNR=27							
FITZ				Sn		Sn	21 02 02.8	-10
	0.4nm,0.3s,baz=93,slow=20,SNR=4.0							
WRA	Warramunga Arr	13.82	158	Pn		Pn	21 00 38.9	-0.5
	0.5nm,0.3s,baz=334,slow=13,SNR=19							
WRA				Sn		Sn	21 02 59.4	-12
	0.7nm,0.3s,baz=338,slow=22,SNR=9.9							
WB2	Warramunga Arr	13.83	158	ePn		Pn	21 00 40.2	+0.7
WB2				eSn		Sn	21 03 00.6	-11
ASAR	Alice Springs	17.17	164	P		Pn	21 01 23.7	+0.6
	0.2nm,0.3s,baz=337,slow=10,SNR=17							
ASAR				S		S	21 04 21.8	-20
	0.2nm,0.3s,baz=344,slow=25,SNR=5.7							
MKAR	Makanchi Array	67.71	327	P		P	21 08 19.9	+0.1
	0.3nm,0.4s,baz=117,slow=7.9,SNR=7.7							
MKAR	Makanchi Array	67.71	327	P		P	21 08 19.9	+0.1

IDC 21 21:01:54.9±7.7, 2176N×14200E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.7/6, Error ellipse: s-maj=328.6km s-min=21.8km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array	38.59	321	P		P	21 09 20.5	+0.9
	0.6nm,0.6s,baz=148,slow=9.6,SNR=2.9							
WRA	Warramunga Arr	42.12	191	P		P	21 09 49.9	+1.1
	0.8nm,0.9s,baz=5.3,slow=8.7,SNR=3.7							
ASAR	Alice Springs	45.84	190	P		P	21 10 18.1	-0.6
	0.4nm,0.9s,baz=13,slow=8.7,SNR=4.5							
ZAL	Zalesovo	53.49	322	P		P	21 11 16.1	-0.9
	0.7nm,0.3s,baz=356,slow=7.5,SNR=3.1							
MKAR	Makanchi Array	53.85	313	P		P	21 11 20.1	+0.5
	0.3nm,0.6s,baz=100,slow=8.8,SNR=4.2							
BVAR	Borovoye Array	61.91	319	P		P	21 12 15.8	-0.5
	1.5nm,0.7s,baz=95,slow=7.2,SNR=13							

*BJI **21** 21:19:58.8, 285N×12617E, h104km, mB5.0, mb4.8*
*ISCJB **21** 21:20:05.8±0.2, 3629N±002×12605E±003, h111km, mb5.0/94, Error ellipse: s-maj=4.9km s-min=2.8km az=144.6*
*MOS **21** 21:20:08.3±1.0, 3699N×12601E, h133km, mb5.0/27, Error ellipse: s-maj=12.0km s-min=5.2km az=116.7*
*NEIC **21** 21:20:08.8±0.9, 3679N×12597E, h124km±8km, mb5.0/33, Error ellipse: s-maj=7.5km s-min=4.3km az=70.0*
*GCMT **21** 21:20:08.8±0.3, 3709N×12607E, h106km±4km, MW5.1/68, Moment Tensor Solution. s20,c20; s68,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.53±.20; $M_{\theta\theta}$-4.02±.17; $M_{\phi\phi}$3.50±.20; $M_{r\theta}$-0.30±.11; $M_{\theta\phi}$-1.70±.20; $M_{\phi r}$2.85±.14; Best double couple: $M_0$4.95600×10^{16} NP1:ϕ_s298.00000°, δ66.00000°, λ161.00000°. NP2: ϕ_s36.00000°, δ73.00000°, λ25.00000°. Principal axes: T 5.5010, Plg30.0000°, Azm259.0000°; N -1.0850, Plg60.0000°, Azm69.0000°; P -4.4110, Plg4.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **21** 21:20:08.6±1.7, 3639N×12590E, h123km±14km, mb4.6/29, mb1 4.7/29, mb1mx4.7/31, mbtmp5.0/29, MS3.9/7, Ms1 3.9/7, ms1mx3.4/35 Error ellipse: s-maj=14.8km s-min=7.1km az=75.0*

ISC 21 21:20:07.6±0.2, 3640N±002×12607E±003, h113km, h113km±1.8km: pP-P, n280, σ1§14/279, mb5.0/93, 23C-24D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	3.29	3	eP		Pn	21 20 56.9	-0.7
MATI				eS		Sn	21 21 27.6	-8.5
DAV	Davao City (W)	3.44	352	⇑eP		Pn	21 21 00.0	+0.4
DAV	Davao City (W)	3.44	352	ePn		Pn	21 20 59.3	-0.3
KCP	Kidapawan	3.49	344	⇓iP		Pn	21 21 03.8	+3.6
KCP				i S		Sn	21 21 45.9	+5.1
BUKP	Musuan	4.33	347	eP		Pn	21 21 11.6	+0.1
BUKP				eS		Sn	21 22 03.9	+2.9
PAGZ	Pagadian	4.96	328	eP		Pn	21 21 19.7	-0.3
CGP	Cagayan de Oro	4.98	344	⇑eP		Pn	21 21 19.9	-0.3
CGP				i S		Sn	21 22 21.3	+4.8
BUTP	Butuan	5.32	355	eP		Pn	21 21 25.8	+1.1
DCPH	Dipolog City	5.61	331	eP		Pn	21 21 30.1	+1.5
SCPH	Surigao	6.13	355	eP		Pn	21 21 36.6	+0.9
SCPH				eS		Sn	21 22 47.5	+3.0
MSLP	Maasin	6.56	350	eP		Pn	21 21 41.6	0.0
SWI	Sorong	6.85	131	P		Pn	21 21 44.2	-1.3
	165nm,0.8s							
LLP	Lapu-Lapu	6.96	343	⇓eP		Pn	21 21 47.0	+0.1
OCLP	Ormoc	7.51	349	eP		Pn	21 21 54.8	+0.4
AAI	Ambon	7.58	164	P		Pn	21 21 53.6	-1.8
	2μm,0.6s							
PCI	Palu	7.69	234	P		Pn	21 22 00.5	+3.6
	140nm,1.1s							
GUIM	Jordan	7.75	334	eP		Pn	21 21 57.9	+0.2
TSM	Tawau	8.20	275	P		Pn	21 22 06.7	+2.9
TARAI	Tarakan	8.49	268	P		Pn	21 22 08.7	+1.0
	255nm,1.0s							
RCP	Roxas	8.53	337	⇑eP		Pn	21 22 09.6	+1.3
CUYO	Cuyo Island	8.74	325	eP		Pn	21 22 12.1	+1.0
BATP	Bataraza	9.69	302	eP		Pn	21 22 26.6	+2.7
ENPP	El Nido	9.99	319	eP		Pn	21 22 29.7	+1.6
PVCP	Virac	10.07	349	eP		Pn	21 22 30.5	+1.3
KKM	Kota Kinabalu	10.11	284	P		Pn	21 22 32.5	+2.9
KKM	Kota Kinabalu	10.11	284	⇑ePn		Pn	21 22 31.8	+2.1
KKM				eSn		Sn	21 24 20.4	-0.5
LUBP	Lubang	11.56	331	eP		Pn	21 22 50.0	+0.9
TGY	Tagaytay City	11.56	334	P		Pn	21 22 52.9	+3.8
	55nm,0.3s,baz=128,slow=7.8,SNR=3.1							
BALP	Baler	12.81	340	eP		Pn	21 23 07.4	+1.9
SCZP	Santa Cruz	13.50	334	eP		Pn	21 23 05.7	-8.8
PALP	Palanan	13.81	345	eP		Pn	21 23 13.3	-5.2
CAUP	Cauay

PMG Port Moresby 24.69 122 P **P** **21 25 19.2 +1.2**
comp=Z,28nm,0.7s,mb4.8,baz=357,slow=1.2,SNR=11
PMG Port Moresby 24.69 122 *d* P **P** **21 25 18.5 +0.5**
WRAB Tennant Creek 24.80 161 *d* P **P** **21 25 18.5 -0.5**
WRA Warramunga Arr 24.80 161 P **P** **21 25 18.7 -0.4**
comp=Z,357nm,0.8s,mb5.8,baz=342,slow=10,SNR=154
WRA S **S** **21 29 30.4 -2.8**
comp=Z,5.0nm,0.9s,baz=333,slow=16,SNR=5.0
WB2 Warramunga Arr 24.81 161 ⇓ *i* P **P** **21 25 18.7 -0.3**
WB2 *e*S **S** **21 29 30.4 -2.9**
WB2 *e*SCS ScS 21 36 07.4 -1.7
IPM Ipoh 24.99 273 P **P** **21 25 22.6 +1.8**
KULM Kulim 25.39 275 *e*P **P** **21 25 24.4 0.0**
MBWA Marble Bar 25.41 194 *e*P **P** **21 25 24.8 +0.2**
comp=Z,29nm,0.8s,mb4.8
PPI Padang Panjang 25.98 262 P **P** **21 25 33.7 +4.1**
comp=Z,39nm,0.8s,mb4.9
KKTK Khon Kaen 26.10 301 P **P** **21 25 32.0 +1.3**
comp=Z,247nm,0.5s,mb5.9
PSI Prapat 27.11 269 P **P** **21 25 39.8 -0.1**
comp=Z,16nm,0.9s,mb4.6,baz=82,slow=2.4,SNR=15
CBIJ Chichi jima 27.96 32 P **P** **21 25 48.0 +0.6**
comp=Z,110nm,0.6s,mb5.5,baz=278,slow=15,SNR=5.8
AS31 Alice Springs 28.19 165 ⇓ *i* P **P** **21 25 49.6 +0.2**
ASAR Alice Springs 28.19 165 P **P** **21 25 49.9 +0.4**
comp=Z,16nm,0.6s,mb4.7,baz=356,slow=7.8,SNR=176
ASAR PcP PcP 21 29 01.8 +1.4
comp=Z,5.8nm,0.5s,baz=348,slow=2.4,SNR=5.4
ASAR S **S** **21 30 25.3 -1.4**
comp=Z,2.6nm,0.9s,baz=343,slow=16,SNR=2.5
ASAR ScP ScP 21 32 33.1 +2.2
comp=Z,3.0nm,0.7s,baz=337,slow=1.5,SNR=7.5
ASAR Alice Springs 28.19 165 P **P** **21 25 49.9 +0.4**
ASAR 21 29 01.8
ASAR S **S** **21 30 25.3 -1.4**
ASPA Alice Springs 28.19 165 ⇓ *i* P **P** **21 25 49.6 +0.1**
NJ2 Nanjing 29.07 347 *e*P **P** **21 25 57.8 +0.6**
NJ2 AP pP 21 26 20.9 -1.1
NJ2 XP sP 21 26 34.9 -0.2
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,250nm,5.7s
NJ2 LR LR
comp=N,180nm,19.2s
NJ2 LR LR
comp=E,150nm,19.9s
NJ2 LR LR
comp=Z,5μm,17.7s
GYA Guiyang 29.34 323 P **P** **21 26 02.3 +2.7**
GYA AP pP 21 26 27.3 +2.9
GYA XP sP 21 26 40.0 +2.5
GYA PP PP 21 27 01.6 -6.2
GYA PCP PcP 21 29 04.3 +1.0
GYA S **S** **21 30 46.0 +1.4**
GYA XS sS 21 31 29.8 +1.8
GYA SCP ScP 21 32 36.3 +1.8
GYA SCS ScS 21 36 29.3 +0.2
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.7
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,390nm,15.9s
GYA LR LR
comp=E,410nm,16.4s
GYA LR LR
comp=Z,420nm,16.6s
CHG Chiang Mai 30.51 302 P **P** **21 26 09.8 -0.1**
CHTO Chiang Mai 30.51 302 *e*P **P** **21 26 09.6 -0.3**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb4.6
CHTO Chiang Mai 30.51 302 *e*P **P** **21 26 09.6 -0.3**
comp=Z,14nm,1.1s,mb4.6
CTA Charters Tower 30.81 141 *e*P **P** **21 26 14.0 +1.4**
comp=Z,8.5nm,0.8s,mb4.5
CTA *e* 21 26 19.9
CTA Charters Tower 30.81 141 P **P** **21 26 13.8 +1.2**
comp=Z,11nm,0.7s,mb4.7,baz=307,slow=10,SNR=11
CTA Charters Tower 30.81 141 *e*P **P** **21 26 14.0 +1.4**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 30.81 141 *e*P **P** **21 26 14.3 +1.7**
CTAO pmax pmax
comp=Z,14nm,0.8s,mb4.7
CTAO Charters Tower 30.81 141 *e*P **P** **21 26 14.3 +1.7**
comp=Z,14nm,0.8s,mb4.7
KMI Kunming 30.98 316 P **P** **21 26 15.3 +1.2**
KMI AP pP 21 26 39.3 +0.3
KMI XP sP 21 26 47.4 -4.7
KMI S **S** **21 31 10.4 0.0**
KMI AMB AMB
comp=Z,12nm,0.9s,mb4.6
KMI LR LR
comp=N,445nm,17.4s
KMI LR LR
comp=E,357nm,19.2s
KMI LR LR
comp=Z,235nm,14.1s
KMI Kunming 30.98 316 P **P** **21 26 15.2 +1.1**
KMI pP pP 21 26 39.3 +0.3
KMI sP sP 21 26 47.4 -4.7
KMI S **S** **21 31 10.4 0.0**
KS15 Wonju Array Si 33.68 3 *e*P **P** **21 26 39.9 +2.2**
XAN Xi'an 34.21 334 P **P** **21 26 40.9 -1.3**
XAN AMB AMB
comp=Z,18nm,0.9s,mb4.9
FORT Forrest 34.27 177 *e*P **P** **21 26 43.1 +0.3**
comp=Z,32nm,0.7s,mb5.3
CD2 Chengdu 34.33 325 *e*P **P** **21 26 43.3 0.0**
CD2 AP pP 21 27 08.1 -0.4
CD2 XP sP 21 27 21.3 -0.2
CD2 PP PP 21 28 02.3 -0.9
CD2 S **S** **21 32 02.3 -0.1**
CD2 XS sS 21 32 47.0 +0.9
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.3
CD2 AMB AMB
comp=Z,50nm,5.2s
MAT Matsushiro 34.60 17 P **P** **21 26 45.1 -0.5**
MAT S **S** **21 32 02.0 -4.6**
MJAR Matsushiro Arr 34.60 17 P **P** **21 26 44.6 -1.1**
comp=Z,7.0nm,0.8s,mb4.5,baz=193,slow=9.0,SNR=23
MJAR PcP PcP 21 29 19.1 +1.5
comp=Z,2.7nm,0.8s,baz=189,slow=3.2,SNR=5.0
MAJO Matsushiro 34.60 17 *e*P **P** **21 26 45.6 0.0**
MAJO *e**PP pP 21 27 11.7 +0.9
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
MAJO Matsushiro 34.60 17 *e*P **P** **21 26 45.6 -0.1**
comp=Z,8.8nm,0.7s,mb4.7
MAJO *e*pP pP 21 27 11.7 +0.9
KLBR Kellerberrin 35.92 192 *e*P **P** **21 26 57.3 +0.4**
comp=Z,16nm,0.5s,mb5.2
KLBR *e*PCP PcP 21 29 22.6 +1.1
BJT Baijiatuau 37.31 347 *e*P **P** **21 27 08.0 -0.7**
BJT pmax pmax
comp=Z,30nm,0.9s
BJT Baijiatuau 37.31 347 *e*P **P** **21 27 08.0 -0.7**
comp=Z,30nm,0.9s,mb5.2
NWAO Narrogin (SRO) 37.32 192 P **P** **21 27 09.6 +0.8**
comp=Z,13nm,0.5s,mb5.1,baz=41,slow=7.2,SNR=23
NWAO Narrogin (SRO) 37.32 192 P **P** **21 27 09.6 +0.8**
SNY Shenyang 38.09 357 ⇑P **P** **21 27 16.3 +1.0**
SNY AMB AMB
comp=Z,84nm,0.8s,mb5.6
LZH Lanzhou 38.25 330 ⇑P **P** **21 27 15.3 -1.4**
LZH AP pP 21 27 40.5 -1.7
LZH XP sP 21 27 53.8 -1.3
LZH PP PP 21 28 49.3 +3.0
LZH PCP PcP 21 29 28.1 -0.5
LZH S **S** **21 33 00.8 -1.3**
LZH AMB AMB
comp=Z,21nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,78nm,5.3s
LZH LR LR
comp=E,387nm,13.4s
LZH LR LR
comp=Z,495nm,17.6s
LZH Lanzhou 38.25 330 ⇑P **P** **21 27 15.2 -1.5**
LZH *PP pP 21 27 40.5 -1.7
LZH 21 28 49.3
LZH 21 29 28.1
LZH S **S** **21 33 00.7 -1.4**
LZH SS SS 21 35 44.5 -10
LZH Lanzhou 38.25 330 ⇑P **P** **21 27 15.2 -1.5**
LZH pP pP 21 27 40.5 -1.7
LZH sP sP 21 27 53.7 -1.4
LZH PP PP 21 28 49.3 +3.0
LZH PcP PcP 21 29 28.1 -0.5
LZH S **S** **21 33 00.7 -1.4**
LZH sS sS 21 33 44.1 -2.2
LZH SS SS 21 35 44.5 -10
STKA Stephens Creek 38.28 158 ⇓ *i* P **P** **21 27 17.7 +0.8**
comp=Z,64nm,0.8s,mb5.5
STKA *e*S **S** **21 33 01.9 -0.7**
STKA Stephens Creek 38.28 158 P **P** **21 27 17.7 +0.8**
comp=Z,74nm,0.8s,mb5.6,baz=332,slow=8.3,SNR=97
HHC Hu-ho-hao-te 39.28 343 *e*P **P** **21 27 27.9 +2.6**
HHC AP pP 21 27 53.4 +2.5
HHC XP sP 21 28 06.1 +2.3
HHC PP PP 21 29 05.5 +8.0
HHC XS sS 21 34 07.3 +5.3
HHC SS SS 21 36 16.3 +0.9
HHC AMB AMB
comp=Z,14nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,310nm,3.7s
HHC LR LR
comp=N,168nm,9.6s
HHC LR LR
comp=Z,246nm,20.0s
SHL Shillong 39.40 307 *e*P **P** **21 27 23.3 -2.9**
VLA Vladivostok 39.65 7 *i* P **P** **21 27 29.1 +0.8**
CN2 Changchun 40.00 359 *e*P **P** **21 27 31.3 +0.1**
CN2 *e*XP sP 21 28 09.8 +0.1
CN2 *e*S **S** **21 33 29.8 +1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
ADE Adelaide 40.20 164 ⇓ *i* P **P** **21 27 34.3 +1.5**
MDJ Mudanjiang 40.93 4 P **P** **21 27 40.3 +1.5**
MDJ AP pP 21 28 05.3 +0.7
MDJ XP sP 21 28 18.0 +0.5
MDJ PP PP 21 29 16.8 +1.4
MDJ S **S** **21 33 44.8 +2.7**
MDJ XS sS 21 34 28.3 +1.6
MDJ SCS ScS 21 37 26.4 -5.4
MDJ AMB AMB
comp=Z,27nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,75nm,3.9s
MDJ LR LR
comp=N,101nm,29.7s
MDJ LR LR
comp=E,114nm,33.2s
MDJ LR LR
comp=Z,138nm,28.4s
MDJ Mudanjiang 40.93 4 *e*P **P** **21 27 40.3 +1.5**
comp=Z,20nm,0.8s,mb5.0
ARMA Armidale 41.76 146 *e*P **P** **21 27 46.8 +1.2**
LSA Lhasa 42.01 312 *e*P **P** **21 27 48.3 +0.7**
LSA *e* 21 29 42.7
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LSA Lhasa 42.01 312 *e*P **P** **21 27 48.3 +0.7**
comp=Z,6.0nm,0.6s,mb4.5
LSA *e*PcP PcP 21 29 42.7 +2.1
GTA Gaotai 42.84 330 *e*P **P** **21 27 54.1 -0.3**
GTA AP pP 21 28 19.1 -1.2
GTA XP sP 21 28 31.5 -1.6
GTA PP PP 21 29 37.6 +1.7
GTA PCP PcP 21 29 44.8 +1.3
GTA S **S** **21 34 08.8 -1.5**
GTA SCS ScS 21 37 42.8 -0.7
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,129nm,7.6s
GTA LR LR
comp=N,163nm,13.7s
GTA LR LR
comp=E,153nm,18.3s
GTA LR LR
comp=Z,170nm,19.4s
ASAJ Asahikawa 42.87 18 P **P** **21 27 54.8 +0.1**
comp=Z,14nm,0.8s,mb4.8,baz=235,slow=13,SNR=6.6
BOK Bokaro 43.64 301 *e*P **P** **21 28 01.5 +0.7**
CNB Canberra Magne 44.49 153 *e*P **P** **21 28 09.4 +1.8**
comp=Z,64nm,1.8s,mb5.0
TOO Toolangi 44.80 158 *e*P **P** **21 28 12.1 +2.1**
comp=Z,15nm,0.9s,mb4.7
TOO Toolangi 44.80 158 *e*P **P** **21 28 12.1 +2.1**
TOO pmax pmax
comp=Z,15nm,0.9s,mb4.7
JIRN Jiri 44.89 306 *e*P **P** **21 28 10.8 0.0**
GUN Gumba 45.25 306 *e*P **P** **21 28 12.9 -0.7**
comp=Z,92nm,0.9s,mb5.5
PALK Pallekele 45.29 277 *e*P **P** **21 28 13.9 0.0**
PKI Pulchoki 45.49 306 *e*P **P** **21 28 14.8 -0.7**
YSS Yuzh-Sakhalins 45.51 16 *e*P **P** **21 28 16.2 +0.5**
YSS *e* pP 21 28 44.2 +2.3
KKN Kakani 45.68 306 *e*P **P** **21 28 16.1 -0.9**
comp=Z,52nm,1.0s,mb5.2
KLR Kul'dur 45.68 5 *e*P **P** **21 28 13.6 -3.4**
DMN Daman 45.75 306 *e*P **P** **21 28 17.2 -0.3**
comp=Z,69nm,0.9s,mb5.4
HIA Hailar 45.78 354 ⇑ *e*P **P** **21 28 18.4 +0.6**
HIA pmax pmax
comp=Z,62nm,1.1s
HIA Hailar 45.78 354 ⇑ *e*P **P** **21 28 18.4 +0.6**
comp=Z,62nm,1.1s,mb5.2
GKN Gorkha 46.29 306 *e*P **P** **21 28 20.8 -1.0**
comp=Z,66nm,1.1s,mb5.3
DZM Mont Dzumac 47.02 125 P **P** **21 28 29.4 +1.9**
comp=Z,14nm,1.1s,mb4.6,baz=1.0,slow=7.7,SNR=3.6
KOLN Koldanda 47.03 305 *e*P **P** **21 28 27.1 -0.5**
comp=Z,150nm,0.8s,mb5.8
SONM Songino Array 47.18 342 P **P** **21 28 28.4 -0.3**
comp=Z,5.9nm,0.8s,mb4.4,baz=157,slow=10,SNR=25
SONM PcP PcP 21 29 59.2 +0.7
comp=Z,5.3nm,0.8s,baz=164,slow=5.5,SNR=5.2
SONM LR LR 21 49 17.4
comp=Z,140nm,20.8s,baz=353,slow=37
SONM Songino Array 47.18 342 P **P** **21 28 28.4 -0.3**
SONM 21 29 59.2
HYB Hyderabad 48.53 290 ⇓ *i* P **P** **21 28 40.0 +0.9**
HYB Hyderabad 48.53 290 ⇓ *e*P **P** **21 28 40.0 +0.9**
TRD Trivandrum 49.05 278 *e*P **P** **21 28 42.0 -1.1**
TRD AMb AMB 21 28 43.9
comp=Z,65nm,1.1s,mb5.5
CIT Chita 49.34 350 *e*P **P** **21 28 45.0 -0.3**
CIT *e* 21 29 17.5
CIT *e* 21 30 06.9
CIT pmax pmax
comp=Z,30nm,1.6s,mb5.0
BHPL Bhopal 50.86 297 *e*P **P** **21 28 56.0 -0.7**
BHPL AMb AMB 21 28 57.5
comp=Z,35nm,0.8s,mb5.5
MOY Mondy 52.24 340 *e*P **P** **21 29 04.3 -2.8**
WMQ Urumqi 52.42 325 ⇓ *i* P **P** **21 29 08.5 +0.1**
WMQ AP pP 21 29 35.0 -0.2
WMQ XP sP 21 29 47.0 -0.8
WMQ PCP PcP 21 30 18.0 +0.3
WMQ PP PP 21 31 09.0 +0.8
WMQ S **S** **21 36 24.0 -1.8**
WMQ XS sS 21 37 10.0 -1.9
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,173nm,3.8s
WMQ LR LR
comp=N,522nm,22.3s
WMQ LR LR
comp=E,385nm,20.6s
WMQ LR LR
comp=Z,454nm,21.2s
KAD Karad 52.62 289 *e*P **P** **21 29 08.8 -1.0**
KAD AMb AMB 21 29 11.5
comp=Z,35nm,1.2s,mb5.3
NDI New Delhi 52.62 304 *e*P **P** **21 29 08.6 -1.3**
NDI AMb AMB 21 29 09.3
comp=Z,35nm,0.7s,mb5.5
CLNS Chul'man 53.05 359 *e*P **P** **21 29 14.1 +1.1**
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,15nm,0.7s
AJM Ajmer 54.15 300 *e*P **P** **21 29 20.5 -0.5**
BOD Bodaibo 54.86 352 *e*P **P** **21 29 25.9 -0.3**
BOD pmax pmax
comp=Z,28nm,1.2s,mb5.2
THN Thein Dam 55.10 307 *e*P **P** **21 29 26.6 -1.3**
MK31 Makanchi Array 57.26 326 ⇑ *i* P **P** **21 29 42.3 -0.9**
MK31 *e* 21 30 35.9
MKAR Makanchi Array 57.26 326 P **P** **21 29 42.7 -0.5**
comp=Z,9.3nm,0.6s,mb5.0,baz=120,slow=8.0,SNR=226
MKAR PcP PcP 21 30 35.8 -0.5
comp=Z,12nm,0.5s,baz=121,slow=4.1,SNR=12
MKAR ScP ScP 21 34 26.0 +0.5
comp=Z,1.5nm,0.7s,baz=127,slow=4.9,SNR=3.8
MKAR S **S** **21 37 30.0 -0.4**
comp=Z,0.7nm,0.9s,baz=148,slow=12,SNR=4.1
MKAR Makanchi Array 57.26 326 P **P** **21 29 42.7 -0.5**
MKAR 21 30 35.8
MKAR S **S** **21 37 30.0 -0.4**
MKAR Makanchi Array 57.26 326 P **P** **21 29 42.7 -0.5**
MKAR PcP PcP 21 30 35.8 -0.5
MKAR ScP ScP 21 34 26.0 +0.5
MKAR S **S** **21 37 30.0 -0.4**
KSH Kashi 57.64 315 *e*P **P** **21 29 46.3 +0.4**
KSH *e*AP pP 21 30 11.5 -1.7
KSH *e*XP sP 21 30 25.5 -0.2
KSH *e*PCP PcP 21 30 37.9 +0.1
KSH *e*PP PP 21 31 55.9 +1.0
KSH *e*SCP ScP 21 34 26.3 -0.9
KSH *e*PCS PcS 21 34 38.0 -1.1
KSH *e*S **S** **21 37 32.3 -3.1**
KSH *e*XS sS 21 38 17.8 -4.5
KSH *e*SCS ScS 21 39 20.1 -4.3
KSH LR LR
comp=N,594nm,6.1s
KSH LR LR
comp=E,845nm,7.8s
KSH LR LR
comp=Z,11μm,12.3s
YAK Yakutsk 58.32 2 *d* *i* P **P** **21 29 51.1 +0.4**
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.3
YAK Yakutsk 58.32 2 *e*P **P** **21 29 50.4 -0.2**
KRAR Krasnoyarsk 58.59 339 ⇓ *e*P **P** **21 29 51.8 -0.7**
MA2 Magadan 58.95 14 *e*P **P** **21 29 55.0 -0.1**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
TKM2 Tokmak 2 59.38 319 P **P** **21 29 58.2 +0.2**
SNR=6.0
UCH Uchtor 59.80 318 P **P** **21 30 01.4 +0.6**
SNR=12
AAK Ala-Archa 59.98 318 *e*P **P** **21 30 01.0 -1.1**
AAK pmax pmax
comp=Z,16nm,1.6s,mb4.8
AAK Ala-Archa 59.98 318 *e*P **P** **21 30 01.0 -1.1**
comp=Z,16nm,1.6s,mb4.8
USP Ospenovka 60.25 319 P **P** **21 30 03.5 -0.4**
SNR=9.5
AML Almayashu 60.31 317 P **P** **21 30 04.8 +0.5**
SNR=7.9
ZAL Zalesovo 60.37 333 P **P** **21 30 03.1 -1.6**
comp=Z,3.8nm,0.8s,mb4.5,baz=343,slow=7.9,SNR=14
ZAL S **S** **21 38 05.4 -5.3**
comp=Z,2.0nm,0.3s,baz=328,slow=14,SNR=5.6
EKS2 Erkin-Say 60.47 318 P **P** **21 30 05.9 +0.4**
SNR=6.1
KURK Kurchatov 61.46 328 P **P** **21 30 11.9 -0.3**
comp=Z,185nm,0.6s,SNR=21
NVS Novosibirsk 61.66 333 *e*P **P** **21 30 11.1 -2.3**
NVS *e**PP pP 21 30 41.3 +0.3
NVS *e*S **S** **21 38 21.4 -5.5**
NVS *e* 21 39 43.4
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.6s
NVS pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
NVS smax
comp=N,18nm,2.0s
NVS smax
comp=E,25nm,2.0s
SEY Seymchan 62.27 13 ⇓ *e*P **P** **21 30 19.4 +1.9**
AFI Afiamalu 64.05 107 LR LR 21 57 28.3
comp=E,115nm,19.3s,baz=286,slow=35
VOSK Vostochnaya 66.58 327 P **P** **21 30 43.9 -1.7**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BVA0 Borovoye Array 67.04 327 *i* P **P** **21 30 47.4 -1.1**
BVAR Borovoye Array 67.04 327 P **P** **21 30 47.6 -0.9**
comp=Z,4.6nm,0.7s,mb4.5,baz=86,slow=5.1,SNR=23
BRVK Borovoye 67.11 327 *e*P **P** **21 30 47.9 -1.1**
BRVK *e**PP pP 21 31 15.1 -1.9
BRVK Borovoye 67.11 327 *e*P **P** **21 30 47.9 -1.0**
BRVK *e*pP pP 21 31 15.1 -1.8
BRVK *e*sP sP 21 31 28.1 -1.2
CHKZ Chkalovo 67.21 328 *e*P **P** **21 30 48.6 -1.0**
CHKZ *e**PP pP 21 31 14.4 -3.2
ZRNK Zerenda 67.76 327 *e*P **P** **21 30 51.8 -1.3**
ZRNK *e* pP 21 31 18.5 -2.6
ZRNK pmax pmax
comp=Z,11nm,0.6s,mb4.9
ZRNK Zerenda 67.76 327 *e*P **P** **21 30 51.8 -1.3**
comp=Z,11nm,0.6s,mb4.8
ZRNK *e*PcP PcP 21 31 18.5 -0.5
WSAR Wadi Sarin 67.86 293 P **P** **21 30 52.3 -1.3**
comp=Z,5.8nm,0.9s,mb4.4,baz=139,slow=6.4,SNR=4.6
WSAR LR LR 22 00 03.8
comp=Z,61nm,20.7s,baz=212,slow=35
BILL Bilibino 69.81 15 *i* P **P** **21 31 05.9 +0.1**
BILL *e* 21 31 41.5
BILL pmax pmax
comp=Z,13nm,1.3s,mb4.6
ABKT Ailbek 70.44 309 P **P** **21 31 09.5 -0.1**
comp=Z,51nm,0.8s,mb5.4,SNR=5.1
AB31 Akbulak array 71.80 321 *i* P **P** **21 31 16.6 -1.2**
AKTK Aktyubinsk 73.32 322 P **P** **21 31 26.2 -0.7**
AKTO Aktyubinsk 73.32 322 P **P** **21 31 26.2 -0.7**
comp=Z,9.8nm,0.6s,mb4.8,baz=99,slow=7.9,SNR=37
ARU Arti 74.66 328 P **P** **21 31 33.5 -1.1**
comp=Z,118nm,0.6s,mb5.8,SNR=7.8
ARU Arti 74.66 328 ⇑ *i* P **P** **21 31 33.2 -1.4**
ARU *e* 21 31 46.1
ARU *e*S S 21 41 00.5 -0.9
ARU *e*SS SS 21 45 49.2 -1.7
ARU pmax pmax
comp=Z,13nm,0.9s,mb4.7
ARU Arti 74.66 328 *e*P **P** **21 31 33.1 -1.5**
comp=Z,11nm,0.6s,mb4.8
GNI Garni 81.03 310 *i* P **P** **21 32 10.8 +0.9**
ZEI Tsey 81.79 313 *e*P **P** **21 32 13.2 -0.7**
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KIV Kislovodsk 82.72 314 *e*P **P** **21 32 19.1 +0.3**
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
IMA2 Indian Mountai 82.73 24 *e*P **P** **21 32 20.4 +1.6**
VNDA Vanda 83.42 173 P **P** **21 32 22.9 +0.5**
comp=Z,2.0nm,0.7s,mb4.1,baz=314,slow=6.3,SNR=23
VNDA Vanda 83.42 173 *e*P **P** **21 32 23.0 +0.6**
MAW Mawson 83.44 200 *e*P **P** **21 32 23.1 +0.7**
comp=Z,2.4nm,0.9s,mb4.0
MAW Mawson 83.44 200 P **P** **21 32 23.3 +0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=82,slow=10,SNR=10.0
SLKM Skilak Lake 83.75 30 *e*P **P** **21 32 24.2 +0.2**
SLKM *e**PP pP 21 32 54.4 +1.3
SLKM *e**SP sP 21 33 11.1 +5.9
PMR Palmer 84.34 29 *e*P **P** **21 32 27.8 +0.8**
MCK McKinley 84.54 26 *e*P **P** **21 32 28.7 +0.7**
MCK *e**PP pP 21 33 00.1 +3.0
MCK pmax pmax
comp=Z,30nm,1.6s,mb5.0
MCK McKinley 84.54 26 *e*P **P** **21 32 28.7 +0.6**
comp=Z,30nm,1.6s,mb5.0
MCK *e*pP pP 21 33 00.1 +3.0
VRSR Storozhevoye 85.23 321 *e*P **P** **21 32 30.4 -1.1**
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=E,10.0nm,0.9s
TMCR Tamitsa 85.89 334 *e*P **P** **21 32 34.0 -0.8**

MOS	**Moscow**	**86.14**	**325**	*e*P	**P**	**21 32 33.5**	**-2.5**
ANN	**Anapa**	**86.49**	**315**	*e*P	**P**	**21 32 36.1**	**-1.6**
ANN				*e*		21 35 57.8	
ANN				*e*S	S	21 42 51.0	-14
ANN				*e*SS	SS	21 48 44.3	-3.0
ANN				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
OBN	**Obninsk**	**86.76**	**325***d*	*i*P	**P**	**21 32 37.5**	**-1.5**
OBN				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.4						
OBN	**Obninsk**	**86.76**	**325**	*e*P	**P**	**21 32 38.2**	**-0.7**
	comp=Z,26nm,0.6s,mb5.3						
KMBO	**Kilima Mbogo**	**88.89**	**269**	P	**P**	**21 32 50.6**	**+1.5**
	comp=Z,6.6nm,0.8s,mb4.7,baz=62,slow=6.4,SNR=24						
KMBO	**Kilima Mbogo**	**88.89**	**269**	*i*P	**P**	**21 32 50.5**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMBO	**Kilima Mbogo**	**88.89**	**269**	P	**P**	**21 32 50.6**	**+1.5**
JOF	**Joensuu**	**88.96**	**333**	*e*p	**P**	**21 32 47.7**	**-1.8**
	comp=Z,54nm,0.6s,mb5.8						
BR131	**Keskin Array S**	**89.57**	**310**	*e*P	**P**	**21 32 51.0**	**-1.3**
	comp=Z,2.2nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**89.57**	**310**	P	**P**	**21 32 51.2**	**-1.1**
	comp=Z,3.0nm,0.7s,mb4.5,baz=114,slow=5.3,SNR=20						
KEV	**Kevo**	**89.75**	**340**	*e*p	**P**	**21 32 51.5**	**-1.7**
	comp=Z,3.7nm,0.5s,mb4.8						
KEV	**Kevo**	**89.75**	**340**	*e*P	**P**	**21 32 51.5**	**-1.7**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**21 32 54.8**	**-1.0**
	comp=Z,7.8nm,0.5s,mb5.1,baz=78,slow=5.9,SNR=21						
ARCES				LR	LR	22 18 12.2	
	comp=Z,93nm,18.5s,baz=0.1,slow=39						
INK	**Inuvik**	**90.49**	**21**	*e*P	**P**	**21 32 56.8**	**+0.2**
INK				pmax	pmax		
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**90.49**	**21**	*e*P	**P**	**21 32 56.8**	**+0.2**
	comp=Z,12nm,1.1s,mb4.9						
KAF	**Kangasniemi**	**91.37**	**332**	*e*p	**P**	**21 32 58.1**	**-2.6**
	comp=Z,13nm,0.5s,mb5.3,baz=75,slow=4.2						
KAF	**Kangasniemi**	**91.37**	**332**	*e*P	**P**	**21 32 58.1**	**-2.6**
KAF				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.3						
AKASG	**Malin Array Be**	**91.55**	**321**	P	**P**	**21 33 00.5**	**-1.0**
	comp=Z,7.3nm,0.7s,mb5.0,baz=72,slow=4.0,SNR=31						
AKASG	**Malin Array Be**	**91.55**	**321**	P	**P**	**21 33 00.5**	**-1.0**
AKBB	**Malin Array Si**	**91.55**	**321**	*e*P	**P**	**21 33 00.1**	**-1.4**
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**21 33 00.7**	**-1.1**
	comp=Z,10nm,0.7s,mb5.2,baz=90,slow=6.7,SNR=26						
VSU	**Vasula**	**91.80**	**329**	*i*P	**P**	**21 33 01.6**	**-1.1**
SYO	**Syowa Base**	**92.10**	**201**⇓	*e*P	**P**	**21 33 04.0**	**-0.1**
SYO	**Syowa Base**	**92.10**	**201**⇑	*e*pP	pP	21 33 32.2	-1.3
QSPA	**South Pole Qui**	**93.55**	**180**	*e*P	**P**	**21 33 12.4**	**+1.7**
	comp=Z,5.3nm,0.7s,mb5.0						
VRI	**Vrincioaia**	**93.91**	**316**⇓	*i*P	**P**	**21 33 13.6**	**+1.2**
VRI	**Vrincioaia**	**93.91**	**316**	⇓P	**P**	**21 33 13.6**	**+1.2**
PLOR	**Plostina**	**93.96**	**316**⇑	*i*P	**P**	**21 33 13.4**	**+0.8**
MLR	**Muntele Rosu**	**94.51**	**316**	P	**P**	**21 33 14.9**	**-0.3**
	comp=Z,4.0nm,0.7s,mb5.0,baz=24,slow=1.0,SNR=8.4						
MLR	**Muntele Rosu**	**94.51**	**316**⇑	*i*P	**P**	**21 33 15.3**	**+0.1**
MLR	**Muntele Rosu**	**94.51**	**316**	⇑P	**P**	**21 33 15.2**	**+0.1**
SUW	**Suwalki**	**94.62**	**325**	*e*P	**P**	**21 33 14.7**	**-0.9**
KWP	**Kalwaria**	**95.86**	**321**	*e*P	**P**	**21 33 21.4**	**+0.1**
KOLS	**Kolonicke sedl**	**96.29**	**320**	*e*P	**P**	**21 33 23.0**	**-0.3**
KOLS	**Kolonicke sedl**	**96.29**	**320**	*e*P	**P**	**21 33 23.1**	**-0.2**
UZH	**Uzhgorod**	**96.34**	**320**⇑	*i*P	**P**	**21 33 22.6**	**-0.9**
UZH				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
DRGR		**96.47**	**318**⇓	*i*P	**P**	**21 33 23.9**	**-0.2**
DRGR		**96.47**	**318**	⇓P	**P**	**21 33 23.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**96.82**	**320**	*e*P	**P**	**21 33 25.8**	**+0.1**
STHS	**Stebnicka Huta**	**96.84**	**321**	*e*P	**P**	**21 33 26.2**	**+0.5**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.9						
STHS	**Stebnicka Huta**	**96.84**	**321**	*e*P	**P**	**21 33 26.2**	**+0.5**
	comp=Z,5.3nm,0.9s,mb5.0						
NIE	**Niedzica**	**97.43**	**321**	*e*P	**P**	**21 33 28.7**	**+0.3**
BZS	**Buzias**	**97.47**	**317**⇑	*i*P	**P**	**21 33 27.4**	**-1.2**
BZS	**Buzias**	**97.47**	**317**	⇑P	**P**	**21 33 27.4**	**-1.1**
OJC	**Ojcow**	**97.55**	**322**	*e*P	**P**	**21 33 28.0**	**-0.9**
KECS	**Kecovo**	**97.55**	**320**	*e*P	**P**	**21 33 28.5**	**-0.4**
KECS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb5.0						
KECS	**Kecovo**	**97.55**	**320**	*e*P	**P**	**21 33 28.5**	**-0.4**
	comp=Z,5.1nm,0.9s,mb5.0						
KECS				*e*PP	PP	21 37 15.9	-12
HFS	**Hagfors**	**97.79**	**332**	P	**P**	**21 33 28.6**	**-1.4**
	comp=Z,11nm,0.9s,mb5.4,baz=130,slow=6.0,SNR=11						
LSZ	**Lusaka**	**98.54**	**255**	*e*P	**P**	**21 33 33.3**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.2						
LSZ	**Lusaka**	**98.54**	**255**	*e*P	**P**	**21 33 33.3**	**-0.1**
	comp=Z,5.0nm,0.7s,mb5.2						
NB2	**NORSAR Subarra**	**98.58**	**333**	P	**P**	**21 33 31.6**	**-2.0**
	comp=Z,12nm,0.9s,mb5.4,baz=68,slow=4.4						
NB2	**NORSAR Subarra**	**98.58**	**333**	P	**P**	**21 33 31.6**	**-2.0**
NB2				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.4						
NOA	**NORSAR Array B**	**98.58**	**333**	P	**P**	**21 33 32.1**	**-1.4**
	comp=Z,7.9nm,0.8s,mb5.3,baz=68,slow=4.5,SNR=17						
NOA				LR	LR	22 21 00.2	
	comp=Z,41nm,20.4s,baz=70,slow=37						
VYHS	**Vyhne**	**98.61**	**320**	*e*P	**P**	**21 33 30.3**	**-3.4**
OKC	**Ostrava-Krasne**	**98.67**	**321**	*e*P	**P**	**21 33 34.0**	**0.0**
MORC	**Moravsky Berou**	**99.07**	**322**⇑	*i*P	**P**	**21 33 36.3**	**+0.5**
MORC	**Moravsky Berou**	**99.07**	**322**	⇑P	**P**	**21 33 36.3**	**+0.6**
PKSM	**Moragy**	**99.34**	**318**⇑	*i*P	Pdif	21 33 36.9	0.0
PKSM	**Moragy**	**99.34**	**318**	⇑P	Pdif	21 33 36.9	0.0
KSP	**Ksiaz**	**99.52**	**323**	*e*P	Pdif	21 33 38.0	+0.2
DPC	**Dobruska-Polom**	**99.65**	**322**	*e*P	Pdif	21 33 38.8	+0.5
UPC	**Upice**	**99.79**	**323**	*e*P	Pdif	21 33 39.4	+0.4
VRAC	**Vranov**	**99.80**	**321**	P	Pdif	21 33 39.6	+0.6
	comp=Z,3.9nm,0.8s,baz=106,slow=2.7,SNR=5.2						
VRAC	**Vranov**	**99.80**	**321**⇓	*i*P	Pdif	21 33 39.6	+0.6
VRAC	**Vranov**	**99.80**	**321**	⇓P	Pdif	21 33 39.6	+0.6
TREC	**Trest**	**100.49**	**321**	*e*PDIF	Pdif	21 33 40.7	-1.4
PVCC	**Panska Ves**	**100.66**	**323**	*e*PDIF	Pdif	21 33 43.2	+0.4
PRU	**Pruhonice**	**100.85**	**322**	*e*PDIF	Pdif	21 33 43.9	+0.2
BRG	**Berggiesshubel**	**100.92**	**323**	*e*P	Pdif	21 33 43.9	-0.1
	comp=Z,7.9nm,0.9s						
BRG	**Berggiesshubel**	**100.92**	**323**	*e*P	Pdif	21 33 43.9	-0.1
BRG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**101.33**	**324**	*i*P	Pdif	21 33 45.4	-0.4
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL	**Collm**	**101.33**	**324**	*i*Pdif	Pdif	21 33 45.4	-0.4
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**101.73**	**322**	*e*Pdif	Pdif	21 33 48.1	+0.5
GERES	**GERESS Array B**	**101.75**	**321**	P	Pdif	21 33 47.8	+0.2
	comp=Z,2.4nm,0.9s,baz=57,slow=4.9,SNR=17						
GERES				PP	PP	21 38 02.8	+3.3
	comp=Z,1.1nm,1.1s,baz=121,slow=3.9,SNR=4.4						
MOX	**Moxa**	**102.38**	**324**	*e*P	Pdif	21 33 50.0	-0.5
GRA1	**Grafenberg Arr**	**102.97**	**323**	*e*Pdif	Pdif	21 33 53.2	+0.1
GRF	**Grafenberg Arr**	**102.97**	**323**	*e*Pdiff	Pdif	21 33 53.2	+0.1
SNAA	**Sanae**	**104.96**	**195**	PKKP	PKKPab	21 50 00.3	-1.6
	comp=Z,0.7nm,1.0s,baz=322,slow=7.9,SNR=4.3						
NVAR	**Mina Array Bea**	**107.46**	**48**	PKKP	PKKPab	21 49 51.8	+1.0
	comp=Z,0.6nm,0.7s,baz=117,slow=5.1,SNR=5.4						
PDAR	**Pinedale Array**	**111.86**	**41**	PKKPbc	PKKPab	21 49 31.8	+0.4
	comp=Z,0.9nm,0.7s,baz=108,slow=7.7,SNR=4.1						
SRU	**San Rafael**	**112.83**	**45**	*e*P	Pdif	21 34 36.9	0.0
TXAR	**Lajitas Array**	**122.17**	**52**	PKP	PKPdf	21 38 51.1	+2.1
	comp=Z,2.0nm,0.7s,baz=258,slow=0.6,SNR=26						
TOA0	**Torodi Ar. Sit**	**122.32**	**288**	*e*PKPdf	PKPdf	21 38 49.9	+0.6
TORD	**Torodi Ar. Bea**	**122.32**	**288**	PKP	PKPdf	21 38 50.0	+0.7
	comp=Z,6.8nm,0.6s,baz=71,slow=1.6,SNR=103						
TKL	**Tuckaleechee C**	**131.94**	**33**	PKP	PKPdf	21 39 08.8	+1.2
	comp=Z,5.1nm,1.0s,baz=95,slow=5.0,SNR=4.9						
TKL	**Tuckaleechee C**	**131.94**	**33**	PKP	PKPdf	21 39 08.8	+1.2
PLCA	**Paso Flores**	**140.15**	**160**	PKP	PKPdf	21 39 24.8	+1.9
	comp=Z,2.5nm,0.6s,baz=208,slow=3.6,SNR=8.5						
CPUP	**Villa Florida**	**157.20**	**172**	PKP	PKPdf	21 39 50.2	+0.3
	comp=Z,0.3nm,0.3s,baz=352,slow=4.1,SNR=3.4						
LPAZ	**La Paz**	**161.22**	**133**	PKP	PKPdf	21 39 56.9	+2.2
	comp=Z,1.5nm,0.6s,baz=342,slow=2.0,SNR=7.6						

*INMG **21** 21:28:52.7±1.5, 3687N×796W, h1km±4km, ML2.0, Error ellipse: s-maj=6.3km s-min=3.1km az=39.0*
MDD 21 21:28:51.9±0.9, 3673N×805W, h18km±5km, mbLg2.5/7, 2C, Error ellipse: s-maj=8.5km s-min=4.2km az=22.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.75**	**320**	*e*Pg	Pg	21 29 06.2	-0.4
MORF				*e*Sg	Sg	21 29 15.0	-1.6
MORF							
	75nm,0.1s						
ERIP	**Rio Piedras**	**0.90**	**44**	Pg	Pg	21 29 09.4	0.0
	4.8nm,0.1s,SNR=7.9						
ERIP				Lg		21 29 20.4	
	47nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.92**	**29**	⇑Pg	Pg	21 29 09.5	-0.3
	11nm,0.3s,SNR=18						
EGRO				Lg		21 29 20.4	
	32nm,0.1s,SNR=24						
PTEO	**Sao Teotonio**	**0.98**	**327**	*e*P	Pb	21 29 09.6	-0.6
PTEO				*e*S	Sb	21 29 21.0	-1.8
PTEO							
	18nm,0.2s						
PBEJ	**Beja**	**1.30**	**6**	*e*P	Pn	21 29 14.2	-0.9
PBEJ				*e*S	Sn	21 29 29.6	-2.5
PBEJ							
	20nm,0.1s						
EMIN	**Mina Concepcio**	**1.51**	**46**	Pg	Pg	21 29 17.7	-3.2
	2.7nm,0.8s,SNR=15						
EMIN				Lg		21 29 38.9	
	5.5nm,0.1s,SNR=8.5						
ESPR	**Espera**	**1.77**	**85**	Pg	Pg	21 29 22.6	-3.2
	3.4nm,0.8s,SNR=8.4						
ESPR				Lg		21 29 43.8	
	20nm,0.2s,SNR=5.5						
MOE	**Montemor**	**1.81**	**352**	*e*P	Pn	21 29 21.1	-1.0
MOE				*e*S	Sn	21 29 40.5	-4.0
EJIF	**Jimena Fronter**	**2.10**	**97**	Pg	Pg	21 29 27.1	-5.0
	2.2nm,0.8s,SNR=7.9						
EJIF				Lg		21 29 53.7	
	1.6nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**2.17**	**10**	*e*Pn	Pn	21 29 26.4	-0.6
PESTR				*e*Sn	Sn	21 29 51.0	-2.4
PESTR							
	9.4nm,0.5s						
EBAD	**Badajoz**	**2.18**	**22**	Pn	Pn	21 29 26.3	-0.9
	6.5nm,0.2s,SNR=33						
EBAD				Sn	Sn	21 29 52.0	-1.8
	3.1nm,0.3s,SNR=6.2						
EBAD				Lg		21 30 02.0	
	7.9nm,0.1s,SNR=4.7						
PLOU	**Loures**	**2.32**	**338**	*e*Pn	Pn	21 29 28.6	-0.6
PLOU				*e*Sn	Sn	21 29 54.8	-2.5
PMAFR	**Mafra**	**2.43**	**337**	*e*Pn	Pn	21 29 30.1	-0.5
PMAFR				*e*Sn	Sn	21 29 55.5	-4.3
PMAFR							
	17nm,0.4s						
EMIJ	**Mijas**	**2.64**	**93**	Pg	Pg	21 29 37.0	-5.5
	0.1nm,0.3s,SNR=7.9						
EMIJ				Sn	Sn	21 30 02.2	-2.8
	0.9nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**3.11**	**61**	Pn	Pn	21 29 40.3	+0.3
	1.4nm,0.2s,SNR=33						
EADA				Sn	Sn	21 30 13.2	-3.6
	4.7nm,0.7s,SNR=5.0						
ELUQ	**Luque**	**3.13**	**74**	Pn	Pn	21 29 40.0	-0.3
	0.1nm,0.3s,SNR=7.9						
ELUQ				Sn	Sn	21 30 14.7	-2.6
	0.3nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**3.14**	**8**	*e*Pn	Pn	21 29 39.3	-1.1
PCBR				*e*Sn	Sn	21 30 13.9	-3.5
PCBR							
	4.6nm,0.4s						
EBAN	**Banos Encina**	**3.68**	**66**	⇑Pn	Pn	21 29 47.2	-0.7
	2.6nm,0.1s,SNR=18						
EBAN				Sn	Sn	21 30 25.3	-5.5
	2.0nm,0.2s,SNR=7.1						
EQUE	**Quentar**	**3.72**	**81**	Pn	Pn	21 29 46.6	-1.8
	3.0nm,0.3s,SNR=7.9						
EQUE				Sn	Sn	21 30 30.7	-1.0
	SNR=7.9						
PVIS	**Viseu**	**3.98**	**2**	*e*Sn	Sn	21 30 34.4	-3.8
EQES	**Quesada**	**4.11**	**73**	Pn	Pn	21 29 53.6	-0.2
	0.4nm,0.4s,SNR=8.7						
EQES				Sn	Sn	21 30 39.1	-2.3
	2.5nm,0.6s,SNR=7.7						
EVIA	**Vianos**	**4.79**	**65**	Pn	Pn	21 30 02.1	-1.0
	0.1nm,0.2s,SNR=7.9						
EVIA				Sn	Sn	21 30 51.5	-6.7
	SNR=7.9						
PCAB	**Cabril**	**4.97**	**0**	*e*Pn	Pn	21 30 04.4	-1.2
PCAB				*e*Sn	Sn	21 30 58.2	-4.5
PBRG	**Braganca**	**5.17**	**11**	*e*Sn	Sn	21 31 01.4	-6.1
ETOB	**Tobarra**	**5.50**	**68**	Pn	Pn	21 30 12.8	0.0
	4.1nm,1.0s,SNR=5.8						
ETOB				Sn	Sn	21 31 11.0	-4.6
	2.7nm,0.8s,SNR=6.8						
ETOR	**Torete**	**6.21**	**47**	Pn	Pn	21 30 23.4	+0.7
	3.3nm,0.7s,SNR=8.3						
ETOR				Sn	Sn	21 31 26.4	-6.8
	3.5nm,0.8s,SNR=5.0						

IDC 21 21:37:29.2±28.0, 2106S×17316W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=523.2km s-min=167.0km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.94**	**264**	P	P	21 44 49.3	+0.9
	2.7nm,0.4s,baz=85,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**41.65**	**245**	P	P	21 45 18.3	-1.0
	1.6nm,0.9s,baz=96,slow=9.2,SNR=1.5						
ASAR	**Alice Springs**	**48.79**	**257**	P	P	21 46 16.2	+0.2
	1.3nm,0.7s,baz=100,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**49.00**	**261**	P	P	21 46 18.3	+0.7
	0.6nm,0.3s,baz=95,slow=8.2,SNR=7.3						

*IDC **21** 21:42:24.9±1.5, 781S×11989E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=119.7km s-min=25.9km az=55.0*
NEIC 21 21:42:29.7±1.1, 788S×11988E, h35km, mb3.8/1, Error ellipse: s-maj=49.2km s-min=14.8km az=64.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.60**	**152**	Pn	Pn	21 45 11.0	-1.7
	0.2nm,0.3s,baz=343,slow=12,SNR=9.2						
FITZ				Sn	Sn	21 47 17.9	-3.1
	0.3nm,0.3s,baz=204,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**18.44**	**132**	P	Pn	21 46 43.6	+1.2
	0.5nm,0.3s,baz=302,slow=13,SNR=6.5						
AS31	**Alice Springs**	**20.67**	**141**	*e*P	P	21 47 07.3	+0.9
ASAR	**Alice Springs**	**20.67**	**141**	P	P	21 47 06.5	+0.1
	2.6nm,0.8s,baz=317,slow=11,SNR=16						
MAJO	**Matsushiro**	**47.42**	**20**	*e*P	P	21 51 00.3	-0.3
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**63.87**	**332**	P	P	21 52 58.4	-0.3
	0.4nm,0.7s,baz=138,slow=6.2,SNR=3.7						
CPUP	**Villa Florida**	**145.88**	**184**	PKPbc	PKPbc	22 02 07.5	+2.1
	1.6nm,0.7s,baz=175,slow=4.6,SNR=6.1						
CPUP	**Villa Florida**	**145.88**	**184**	PKPbc	PKPbc	22 02 07.5	+2.1

*INMG **21** 22:00:44.6±1.2, 3631N×785W, h31km, ML1.7, Error ellipse: s-maj=6.7km s-min=4.0km az=36.0*
MDD 21 22:00:44.2±1.7, 3631N×785W, h38km±34km, mbLg1.8/7, Error ellipse: s-maj=21.2km s-min=6.9km az=30.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.18**	**327**	*e*P	Pn	22 01 03.5	-0.7
MORF				*e*S	Sn	22 01 18.0	-1.1
MORF							
	11nm,0.2s						
EGRO	**El Granado**	**1.26**	**13**	P	Pn	22 01 04.6	-0.6
	0.6nm,0.1s,SNR=9.9						
EGRO				S	Sn	22 01 19.4	-1.5
	3.5nm,0.3s,SNR=9.5						
PTEO	**Sao Teotonio**	**1.42**	**331**	*e*P	Pn	22 01 06.5	-0.9
PTEO				*e*S	Sn	22 01 23.4	-1.5
PTEO							
	6.0nm,0.3s						
ESPR	**Espera**	**1.70**	**70**	P	Pn	22 01 10.2	-1.1
	1.2nm,0.2s,SNR=7.9						
ESPR				S	Sn	22 01 30.0	-1.8
	3.6nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**1.71**	**360**	*e*Pn	Pn	22 01 11.2	-0.3
PBEJ				*e*Sn	Sn	22 01 31.9	-0.2
PBEJ							
	3.7nm,0.1s						
EMIN	**Mina Concepcio**	**1.73**	**33**	P	Pn	22 01 11.5	-0.2
	0.3nm,0.2s,SNR=4.0						
EMIN				S	Sn	22 01 30.3	-2.3
	1.4nm,0.1s,SNR=9.3						
EJIF	**Jimena Fronter**	**1.93**	**85**	P	Pn	22 01 14.3	-0.2
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.53**	**15**	P	Pn	22 01 23.2	+0.5
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 01 49.5	-2.8
	2.4nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**2.56**	**5**	*e*Sn	Sn	22 01 51.5	-1.5
EADA	**Adamuz**	**3.20**	**54**	P	Pn	22 01 31.9	-0.1
	0.7nm,0.1s,SNR=8.9						
EADA				S	Sn	22 02 07.2	-1.6
	2.1nm,0.1s,SNR=6.3						
PCBR	**Castelo Branco**	**3.54**	**5**	*e*Sn	Sn	22 02 14.4	-2.7
EQUE	**Quentar**	**3.65**	**75**	P	Pn	22 01 37.4	-0.7
	0.1nm,0.2s,SNR=7.9						
EQUE				S	Sn	22 02 18.3	-1.7
	0.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.73**	**59**	P	Pn	22 01 38.1	-1.2
	0.6nm,0.1s,SNR=7.9						
EBAN				S	Sn	22 02 17.1	-4.9
	0.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.10**	**67**	P	Pn	22 01 45.0	+0.7
	0.3nm,0.2s,SNR=7.9						
EQES				S	Sn	22 02 30.1	-1.0
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.53**	**63**	P	Pn	22 02 02.6	-1.3
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	22 03 01.3	-4.9
	0.5nm,0.3s,SNR=7.9						

*ISCJB **21** 22:12:51.8±1.4, 4073N±007×7387E±006, h10km, Error ellipse: s-maj=10.4km s-min=7.0km az=169.9*
*KNET **21** 22:12:51.7±0.7, 4091N×7401E, h0km±3km, ml2.7, Error ellipse: s-maj=5.1km s-min=2.9km az=56.0*
*NNC **21** 22:12:52.1±6.9, 4053N×7404E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=61.8km s-min=25.3km az=168.0*
ISC 21 22:12:52.3±1.4, 4074N±008×7386E±007, h10km, n13, σ1°31/22, 14C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.39**	**355**	⇑P	**Pn**	**22 13 15.2**	**-2.7**
	21nm,0.3s,SNR=13						
AML				⇓S	**Sb**	**22 13 34.6**	**-1.6**
	135nm,0.5s						
UCH	**Uchtor**	**1.56**	**18**	⇑P	**Pn**	**22 13 18.4**	**-1.7**
	13nm,0.2s,SNR=21						
UCH				⇓S	**Sn**	**22 13 39.1**	**-1.3**
	132nm,0.6s						
KZA	**Kyzart**	**1.69**	**38**	⇓P	**Pn**	**22 13 21.2**	**-0.8**
	15nm,0.2s,SNR=8.4						
KZA				⇑S	**Sn**	**22 13 43.3**	**-0.4**
	46nm,0.3s						
EKS2	**Erkin-Say**	**1.92**	**358**	⇓P	**Pn**	**22 13 24.8**	**-0.3**
	5.7nm,0.2s,SNR=7.9						
EKS2				⇑S	**Sn**	**22 13 51.2**	**+2.0**
	18nm,0.4s						
AAK	**Ala-Archa**	**1.95**	**14**	⇑P	**Pn**	**22 13 25.7**	**+0.2**
	15nm,0.4s,SNR=17						
AAK				⇓S	**Sn**	**22 13 50.4**	**+0.5**
	32nm,0.2s						
KBK	**Karagaybulak**	**2.08**	**23**	⇑P	**Pn**	**22 13 28.3**	**+1.0**
	9.3nm,0.1s,SNR=26						
KBK				⇑S	**Sn**	**22 13 55.1**	**+1.9**
	118nm,0.4s						
ULHL	**Ulahol**	**2.33**	**49**	⇑P	**Pn**	**22 13 30.5**	**-0.3**
	21nm,0.2s,SNR=8.8						
CHMS	**Chumysh**	**2.35**	**16**	⇓P	**Pn**	**22 13 32.4**	**+1.5**
	3.9nm,0.2s,SNR=6.4						
TKM2	**Tokmak 2**	**2.53**	**30**	⇑P	**Pn**	**22 13 34.3**	**+0.8**
	6.5nm,0.2s,SNR=11						
TKM2	**Tokmak 2**	**2.53**	**30**	⇓P	**Pn**	**22 13 35.0**	**+1.5**
	0.4nm,0.5s						
TKM2				⇓S	**Sb**	**22 14 09.3**	**+0.2**
	3.9nm,0.6s						
USP	**Ospenovka**	**2.57**	**10**	⇑P	**Pn**	**22 13 34.9**	**+0.9**
	6.1nm,0.2s,SNR=13						
KNDC	**Almaty**	**3.39**	**42**	⇑P	**Pn**	**22 13 48.6**	**+3.4**
	9.1nm,0.6s						
KNDC				⇑S	**Sb**

comp=E,140nm,0.3s
YUK AMB AMB 22 50 42.6
comp=E,320nm,0.3s
YUK *e*S **Sn** **22 52 04.6 +0.8**
YUK A 22 52 12.3
comp=E,270nm,0.5s
YUK A 22 52 12.3
comp=E,190nm,0.5s
YSS Yuzh-Sakhalins 8.16 265⇓ *e*P **Pn** **22 50 55.0 +4.0**
YSS AMB AMB 22 50 56.8
comp=E,60nm,0.8s
YSS *e*S **Sn** **22 52 23.5 +1.6**
YSS A 22 52 25.7
comp=E,40nm,0.9s
YSS Yuzh-Sakhalins 8.16 265⇓ *e*PN **Pn** **22 50 55.0 +4.0**
YSS pmax pmax
comp=E,60nm,0.8s
YSS pmax pmax
comp=Z,60nm,0.8s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 8.16 265 *e*Pn **Pn** **22 50 55.9 +4.9**
ASAJ Asahikawa 9.34 248 Pn **Pn** **22 51 11.6 +4.5**
comp=Z,5.5nm,0.3s,baz=70,slow=11,SNR=17
ASAJ LR LR 22 54 29.4
comp=Z,384nm,20.5s,baz=103,slow=37
ERM Erimo 10.24 237 *e*PN **Pn** **22 51 19.1 -0.4**
ERM pmax pmax
comp=Z,19nm,0.4s
ERM Erimo 10.24 237 *e*Pn **Pn** **22 51 19.1 -0.4**
comp=Z,19nm,0.4s
ERM *e*Sn **Sn** **22 53 09.9 -3.0**
MA2 Magadan 11.58 350 *e*PN **Pn** **22 51 41.3 +3.4**
MA2 pmax pmax
comp=Z,10.0nm,0.3s
MA2 MLR MLR
comp=Z,10µm,15.6s
KLR Kul'dur 15.15 282 *e*P **Pn** **22 52 30.7 +4.5**
MAJO Matsushiro 16.83 232 *e*P **Pn** **22 52 45.1 -2.6**
MAT Matsushiro 16.83 232 P **Pn** **22 52 45.0 -2.7**
MJAR Matsushiro Arr 16.83 232 Pn **Pn** **22 52 45.2 -2.4**
comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=20
MJAR Matsushiro Arr 16.83 232 Pn **Pn** **22 52 45.2 -2.4**
MDJ Mudanjiang 17.64 268 P **Pn** **22 52 55.8 -1.9**
MDJ AP pP 22 53 06.3 -2.0
MDJ XP sP 22 53 11.8 -1.6
MDJ S **S** **22 56 08.1 -11**
MDJ XS sS 22 56 31.0 -4.2
MDJ PCS PcS 23 01 09.8 -1.6
MDJ SCS ScS 23 04 46.3 -0.8
MDJ AMB AMB
comp=Z,6.0nm,1.3s
MDJ LR LR
comp=Z,109nm,22.3s
YAK Yakutsk 19.69 324 *i* P **Pn** **22 53 21.7 -0.8**
YAK pmax pmax
comp=Z,11nm,0.6s
YAK MLR MLR
comp=Z,100nm,19.0s
CLNS Chul'man 19.91 307 *e*P **Pn** **22 53 26.1 +1.0**
CLNS pmax pmax
comp=Z,49nm,0.7s
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,19nm,0.8s
BILL Bilibino 20.70 12 *e*P **P** **22 53 29.7 -2.1**
BILL *e*S **S** **22 57 16.0 -4.8**
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL MLR MLR
comp=Z,200nm,26.0s,MS3.4
CN2 Changchun 20.71 269 *e*P **P** **22 53 30.3 -1.6**
CN2 *e*S **S** **22 57 13.1 -7.8**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
SNY Shenyang 22.79 265 ⇑P **P** **22 53 59.6 +5.5**
SNY AMB AMB
comp=Z,11nm,0.9s,mb4.3
HHC Hu-ho-hao-te 31.26 273 *e*P **P** **22 55 10.4 -0.6**
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.2
SONM Songino Array 31.86 288 P **P** **22 55 16.3 0.0**
comp=Z,0.8nm,0.7s,mb3.7,baz=60,slow=8.8,SNR=4.6
SONM PcP PcP 22 58 05.8 -0.4
comp=Z,1.2nm,0.6s,baz=120,slow=5.3,SNR=3.7
SONM LR LR 23 09 27.0
comp=Z,161nm,18.3s,MS3.7,baz=66,slow=39
SONM Songino Array 31.86 288 P **P** **22 55 16.3 0.0**
SONM 22 58 05.8
IMA2 Indian Mountai 31.98 37 *e*P **P** **22 55 17.3 0.0**
KDAK Kodiak Island 32.35 53 P **P** **22 55 19.9 -0.6**
comp=Z,15nm,1.1s,mb4.8,baz=264,slow=10,SNR=3.6
ZAK Zakamensk 33.03 293 *e*P **P** **22 55 21.3 -5.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
COLA College 34.31 40*c* *i*P **P** **22 55 37.4 -0.2**
COLA College 34.31 40 *e*P **P** **22 55 37.6 0.0**
comp=Z,21nm,1.0s,mb5.0
LZH Lanzhou 38.91 271 *e*P **P** **22 56 16.3 -0.5**
LZH AP pP 22 56 28.5 +0.4
LZH XP sP 22 56 33.8 +0.9
LZH PP PP 22 57 50.1 +3.7
LZH *e*S **S** **23 02 10.3 -2.0**
LZH XS sS 23 02 30.3 -0.8
LZH *e*SS SS 23 04 54.5 -10
LZH AMB AMB
comp=Z,29nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,108nm,5.5s
LZH LR LR
comp=N,512nm,13.6s
LZH LR LR
comp=Z,897nm,17.5s,MS4.7
LZH Lanzhou 38.91 271 *e*P **P** **22 56 16.2 -0.6**
LZH *PP pP 22 56 28.5 +0.4
LZH 22 57 50.1
LZH 22 58 16.5
LZH *e*S **S** **23 02 10.3 -2.0**
LZH *e*SS SS 23 04 54.5 -10
LZH Lanzhou 38.91 271 *e*P **P** **22 56 16.2 -0.6**
LZH pP pP 22 56 28.5 +0.4
LZH sP sP 22 56 33.8 +0.9
LZH PP PP 22 57 50.1 +3.7
LZH PcP PcP 22 58 16.5 -10
LZH *e*S **S** **23 02 10.3 -2.0**
LZH sS sS 23 02 30.2 -0.9
LZH *e*SS SS 23 04 54.5 -10
GTA Gaotai 39.79 278 *e*P **P** **22 56 24.9 +0.7**
GTA AP pP 22 56 36.3 +0.8
GTA XP sP 22 56 41.0 +0.7
GTA PP PP 22 58 02.0 +6.0
GTA PCP PcP 22 58 29.8 +0.1
GTA S **S** **23 02 27.0 +1.5**
GTA XS sS 23 02 47.1 +2.7
GTA SS SS 23 05 18.1 -4.4
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.9
GTA AMB AMB
comp=Z,159nm,5.7s
GTA LR LR
comp=N,104nm,13.7s,MS4.0
GTA LR LR
comp=E,84nm,12.2s,MS4.0
GTA LR LR
comp=Z,119nm,17.1s,MS3.8
INK Inuvik 39.82 33 P **P** **22 56 24.7 +0.3**
comp=Z,5.1nm,0.7s,mb4.4,baz=300,slow=6.1,SNR=16
CD2 Chengdu 42.06 265 *e*P **P** **22 56 40.6 -2.3**
CD2 AP pP 22 56 52.9 -1.4
CD2 XP sP 22 56 58.3 -0.8
CD2 PP PP 22 58 21.6 +0.9
CD2 S **S** **23 02 56.0 -3.3**
CD2 XS sS 23 03 16.8 -1.4
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CD2 AMB AMB
comp=Z,50nm,5.2s
CD2 LR LR
comp=N,120nm,15.5s,MS4.0
CD2 LR LR
comp=E,100nm,15.5s,MS4.0
CD2 LR LR
comp=Z,140nm,16.6s,MS3.9
ZAL Zalesovo 42.63 305 P **P** **22 56 46.3 -1.1**
comp=Z,3.4nm,0.4s,mb4.4,baz=45,slow=6.9,SNR=15
ZAL PcP PcP 22 58 38.7 -0.3
comp=Z,1.8nm,0.7s,baz=18,slow=4.0,SNR=7.1
ZAL LR LR 23 15 10.2
comp=Z,99nm,18.8s,MS3.7,baz=89,slow=37
ZAL Zalesovo 42.63 305 P **P** **22 56 46.3 -1.1**
ZAL 22 58 38.7
ZAL Zalesovo 42.63 305 P **P** **22 56 46.3 -1.1**
ZAL PcP PcP 22 58 38.7 -0.3
ZAL LR LR 23 15 10.2
GYA Guiyang 43.07 257 P **P** **22 56 51.5 +0.5**
GYA AP pP 22 57 02.9 +0.4
GYA XP sP 22 57 07.6 +0.3
GYA PP PP 22 58 33.8 +2.3
GYA PCP PcP 22 58 42.0 +1.5
GYA SCP ScP 23 02 28.4 0.0
GYA PCS PcS 23 02 33.1 +0.2
GYA S **S** **23 03 13.0 -1.1**
GYA XS sS 23 03 32.8 -0.3
GYA SS SS 23 06 18.3 -9.1
GYA SCS ScS 23 06 46.1 -2.0
GYA AMB AMB
comp=Z,110nm,4.0s
GYA LR LR
comp=N,380nm,17.5s,MS4.5
GYA LR LR
comp=E,410nm,18.4s,MS4.5
GYA LR LR
comp=Z,480nm,17.9s,MS4.4
WMQ Urumqi 45.38 291 *e*P **P** **22 57 10.0 +0.5**
WMQ AP pP 22 57 22.0 +1.0
WMQ XP sP 22 57 27.0 +1.2
WMQ PCP PcP 22 58 50.0 +1.6
WMQ PPP 22 59 39.0
WMQ S **S** **23 03 47.0 -0.7**
WMQ XS sS 23 04 07.0 +0.2
WMQ SS SS 23 07 03.0 -8.7
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,104nm,4.3s
WMQ LR LR
comp=N,428nm,18.8s,MS4.5
WMQ LR LR
comp=E,360nm,17.9s,MS4.5
WMQ LR LR
comp=Z,440nm,20.5s,MS4.4
KMI Kunming 46.56 259 P **P** **22 57 19.8 +1.0**
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
MK31 Makanchi Array 47.20 297⇑ *i*P **P** **22 57 22.9 -0.9**
MKAR Makanchi Array 47.20 297 P **P** **22 57 23.1 -0.8**
comp=Z,7.3nm,0.7s,mb4.7,baz=64,slow=7.6,SNR=73
MKAR PcP PcP 22 58 54.6 -0.2
comp=Z,0.4nm,0.4s,baz=62,slow=3.9,SNR=4.1
MKAR LR LR 23 18 50.2
comp=Z,104nm,18.2s,MS3.8,baz=348,slow=38
MKAR Makanchi Array 47.20 297 P **P** **22 57 23.1 -0.7**
MKAR 22 58 54.6
YKA Yellowknife Ar 49.10 38 P **P** **22 57 38.3 -0.1**
comp=Z,4.9nm,0.8s,mb4.6,baz=295,slow=7.6,SNR=5.3
YKA Yellowknife Ar 49.10 38 *i* P **P** **22 57 38.2 -0.2**
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 49.10 38 P **P** **22 57 38.3 -0.1**
CHKZ Chkalovo 50.29 310 P **P** **22 57 45.8 -1.7**
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
CHKZ Chkalovo 50.29 310 *e*P **P** **22 57 46.4 -1.1**
CHKZ Chkalovo 50.29 310 *e*P **P** **22 57 46.4 -1.1**
VOSK Vostochnaya 50.58 309 P **P** **22 57 48.3 -1.4**
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BVA0 Borovoye Array 50.73 309 *i* P **P** **22 57 49.7 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BVAR Borovoye Array 50.73 309 P **P** **22 57 50.0 -0.8**
comp=Z,8.4nm,0.5s,mb4.9,baz=60,slow=7.5,SNR=42
BVAR PcP PcP 22 59 07.2 -0.4
comp=Z,2.2nm,0.7s,baz=102,slow=3.5,SNR=4.5
BRVK Borovoye 50.77 309 *e*P **P** **22 57 50.4 -0.8**
BRVK pmax pmax
comp=Z,12nm,0.6s,mb5.0
BRVK Borovoye 50.77 309 *e*P **P** **22 57 50.4 -0.7**
comp=Z,12nm,0.6s,mb5.0
LSA Lhasa 51.25 273 *e*P **P** **22 57 55.2 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LSA Lhasa 51.25 273 *e*P **P** **22 57 55.1 +0.4**
comp=Z,4.2nm,0.5s,mb4.6
ZRNK Zerenda 51.49 310 *e*P **P** **22 57 54.8 -1.7**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ZRNK Zerenda 51.49 310 *e*P **P** **22 57 54.8 -1.7**
comp=Z,6.9nm,0.6s,mb4.8
SHL Shillong 53.47 269 *e*P **P** **22 58 09.6 -1.6**
CHTO Chiang Mai 53.49 257 *e*P **P** **22 58 12.1 +0.8**
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CHTO Chiang Mai 53.49 257 *e*P **P** **22 58 12.1 +0.7**
comp=Z,5.9nm,0.8s,mb4.6
B07A Winthrop 53.69 55 ⇓P **P** **22 58 11.9 -0.9**
baz=54
I02A Mapleton 54.11 62 ⇑P **P** **22 58 13.5 -2.4**
baz=54
AAK Ala-Archa 54.12 296*c* *i*P **P** **22 58 14.8 -1.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK Ala-Archa 54.12 296 *e*P **P** **22 58 14.9 -1.1**
C07A Waterville 54.16 56 ⇑P **P** **22 58 15.5 -0.7**
baz=54
A09A Danville 54.23 54 ⇑P **P** **22 58 16.4 -0.4**
baz=54,SNR=11
D07A Quincy 54.49 57 ⇑P **P** **22 58 17.5 -1.1**
baz=54
EDM Edmonton 54.52 48 *e*P **P** **22 58 18.5 -0.4**
ARU Arti 54.63 317⇑ *i*P **P** **22 58 17.8 -1.9**
ARU *e* pP 22 58 29.7 -1.7
ARU *e*PPP 23 01 28.7
ARU *e*S **S** **23 05 54.4 -2.2**
ARU *e*SSS 23 11 43.0
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 54.63 317 *e*P **P** **22 58 17.8 -1.8**
comp=Z,9.2nm,0.6s,mb5.0
J02A Umpqua 54.63 62 ⇓P **P** **22 58 18.8 -0.9**
baz=54
C08A Higginbotham F 54.66 56 ⇓P **P** **22 58 19.0 -0.9**
baz=54,SNR=5.5
H04A Detroit Lake 54.68 60 ⇑P **P** **22 58 19.7 -0.3**
baz=55
B09A Rice 54.79 55 ⇑P **P** **22 58 20.1 -0.6**
baz=55
F06A Goldendale 54.86 58 ⇓P **P** **22 58 21.1 -0.2**
baz=55
J03A Ideyld Park 54.99 62 ⇑P **P** **22 58 22.5 +0.2**
baz=55
K02A Glendale 55.04 63 ⇓P **P** **22 58 22.0 -0.6**
baz=55
KSH Kashi 55.06 292 *e*P **P** **22 58 24.3 +1.5**
KSH *e*AP pP 22 58 36.1 +1.5
KSH *e*XP sP 22 58 41.8 +2.5
KSH *e*PCP PcP 22 59 24.6 +0.7
KSH *e*PP PP 23 00 29.8 +3.6
KSH *e*SCP ScP 23 03 17.3 -2.0
KSH *e*PCS PcS 23 03 26.0 +2.2
KSH *e*S **S** **23 06 02.0 -0.4**
KSH *e*PS 23 06 09.5
KSH *e*XS sS 23 06 23.5 +1.6
KSH *e*SCS ScS 23 08 05.4 -3.3
KSH *e*SS SS 23 09 45.9 -0.6
D08A Wollman Farm, 55.15 56 ⇑P **P** **22 58 21.8 -1.6**
baz=55
HAWA Hanford 55.20 57 *e*P **P** **22 58 24.2 +0.4**
NEW Newport 55.44 54 *e*P **P** **22 58 25.2 -0.3**
NEW pmax pmax
comp=Z,11nm,1.4s
NEW Newport 55.44 54 *e*P **P** **22 58 25.2 -0.3**
comp=Z,12nm,1.4s,mb4.7
HUMO Hull Mountain 55.45 63 ⇑P **P** **22 58 25.1 -0.4**
baz=55
H06A Lindquist Farm 55.72 59 ⇓P **P** **22 58 27.2 -0.3**
baz=56
B11A Sandpoint 55.74 54 ⇓P **P** **22 58 26.9 -0.8**
baz=56
JIRN Jiri 55.88 275 *e*P **P** **22 58 29.9 +1.2**
comp=Z,4.1nm,0.2s,mb5.1
E09A Wood Farm, Sta 55.90 56 P **P** **22 58 28.7 -0.1**
baz=56,SNR=6.4
GUN Gumba 55.92 275 *e*P **P** **22 58 29.8 +0.8**
comp=Z,15nm,0.4s,mb5.3
J05A Fort Rock 56.06 61 P **P** **22 58 30.8 +0.9**
baz=56,SNR=6.3
YBH Yreka Blue Hor 56.12 63 ⇑P **P** **22 58 31.4 +1.1**
baz=56
M02C Callahan 56.24 64 ⇓P **P** **22 58 31.9 +0.7**
baz=56
I06A Prineville 56.26 60 ⇑P **P** **22 58 31.1 -0.3**
baz=56
N02C Big Bar 56.31 65 ⇓P **P** **22 58 31.6 -0.2**
baz=56
L04A Klamath Falls 56.34 63 ⇓P **P** **22 58 32.2 +0.2**
baz=56
KKN Kakani 56.40 275 *e*P **P** **22 58 33.4 +1.0**
comp=Z,14nm,0.5s,mb5.2
PKI Pulchoki 56.46 275 *e*P **P** **22 58 33.7 +0.9**
comp=Z,10nm,0.5s,mb5.1
A13A Flathead Natio 56.49 52 P **P** **22 58 33.0 0.0**
baz=56,SNR=8.5
I07A Izee 56.59 59 ⇓P **P** **22 58 33.0 -0.7**
baz=56
K05A Summer Lake 56.59 61 ⇓P **P** **22 58 34.0 +0.2**
baz=56
M04C Macdoel 56.61 63 ⇓P **P** **22 58 34.1 +0.2**
baz=56
DMN Daman 56.64 275 *e*P **P** **22 58 35.4 +1.3**
comp=Z,15nm,0.4s,mb5.3
C12A Trout Creek 56.66 54 ⇓P **P** **22 58 34.7 +0.5**
baz=56
WALA Waterton Lakes 56.68 52 *e*P **P** **22 58 34.3 -0.1**
comp=Z,13nm,1.0s,mb4.9
WALA *e*pP pP 22 58 44.0 -2.2
GKN Gorkha 56.69 276 *e*P **P** **22 58 35.3 +0.9**
comp=Z,28nm,0.5s,mb5.5
J06A Christmas Vall 56.71 61 P **P** **22 58 35.0 +0.4**
baz=57,SNR=5.9
F10A Beach Ranch, E 56.74 56 ⇑P **P** **22 58 34.4 -0.3**
baz=57
B13A Whitefish 56.80 53 P **P** **22 58 35.4 +0.2**
baz=57,SNR=11
H08A Prairie City 56.80 59 ⇓P **P** **22 58 34.9 -0.3**
baz=57
WDC Whiskeytown Da 56.92 64 ⇓P **P** **22 58 35.0 -1.0**
baz=57
K06A Valley Falls 56.93 61 P **P** **22 58 36.5 +0.4**
baz=57,SNR=6.1
BSMT Bassoo Peak 56.94 53 *e*P **P** **22 58 36.8 +0.5**
L05A Lakeview 57.04 62 ⇓P **P** **22 58 37.6 +0.6**
baz=57
J07A Hines 57.12 60 ⇓P **P** **22 58 38.5 +1.0**
baz=57
C13A Hot Springs 57.16 54 ⇑P **P** **22 58 36.9 -0.8**
baz=57
M05C Lookout 57.28 63 ⇑P **P** **22 58 38.4 -0.2**
baz=57
H09A Durkee 57.28 58 ⇑P **P** **22 58 38.8 +0.1**
baz=57
BMO Blue Mountains 57.37 58 *e*P **P** **22 58 39.7 +0.4**
comp=Z,7.1nm,1.0s,mb4.7
GASB Alder Springs 57.38 65 ⇓P **P** **22 58 40.0 +0.7**
baz=57
KOLN Koldanda 57.53 277 *e*P **P** **22 58 41.3 +0.9**
comp=Z,12nm,0.5s,mb5.2
C14A Swan Lake 57.55 53 ⇓P **P** **22 58 40.5 0.0**
baz=57
D13A Huson 57.58 54 ⇓P **P** **22 58 39.9 -0.8**
baz=57
K07A Rock Creek Ran 57.58 61 ⇓P **P** **22 58 40.5 -0.2**
baz=58
J08A Circle Bar Ran 57.62 60 ⇓P **P** **22 58 40.7 -0.3**
baz=58
I09A Lost Marbles R 57.66 59 ⇑P **P** **22 58 41.9 +0.6**
baz=58
M06C Likely Place G 57.77 63 ⇓P **P** **22 58 42.3 +0.2**
baz=58
L07A Adell 57.94 61 ⇑P **P** **22 58 43.4 +0.2**
baz=58
O04C Chester 57.95 64 ⇑P **P** **22 58 44.4 +1.1**
baz=58
K08A Mann Creek Ran 58.00 60 ⇓P **P** **22 58 43.8 +0.2**
baz=58
MSO Missoula 58.02 54 *e*P **P** **22 58 44.0 +0.1**
comp=Z,11nm,1.3s,mb4.7
J09A Fry Pan Ranch, 58.04 59 P **P** **22 58 44.9 +1.0**
baz=58,SNR=7.5
D14A Greenough 58.10 54 P **P** **22 58 44.3 -0.1**
baz=58,SNR=13
E13A Victor 58.13 55 ⇓P **P** **22 58 44.2 -0.4**
baz=58
ORV Oroville 58.18 65 ⇑P **P** **22 58 43.5 -1.4**
baz=58
AB31 Akbulak array 58.28 310 *i* P **P** **22 58 44.1 -1.6**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CHMT Chamberlain Mo 58.34 54 *e*P **P** **22 58 45.8 -0.2**
L08A Fields 58.41 61 ⇑P **P** **22 58 46.3 -0.2**
baz=58
M07A Soldier Meadow 58.43 62 ⇓P **P** **22 58 46.9 +0.2**
baz=58
N06A Buffalo Meadow 58.43 63 ⇑P **P** **22 58 46.9 +0.2**
baz=58
K09A Rome 58.46 60 ⇑P **P** **22 58 47.0 +0.2**
baz=58
AKTK Aktyubinsk 58.52 312 P **P** **22 58 46.3 -1.0**
AKTK PcP PcP 22 59 36.1 -1.3
AKTO Aktyubinsk 58.52 312 P **P** **22 58 46.3 -1.0**
comp=Z,1.5nm,0.5s,mb4.3,baz=58,slow=9.0,SNR=10.0
AKTO PcP PcP 22 59 36.1 -1.3
comp=Z,2.7nm,0.9s,baz=326,slow=2.6,SNR=4.7
E14A Clinton 58.52 54 ⇑P **P** **22 58 46.5 -0.8**
baz=58
BEKR Beckwourth 58.67 64 ⇓P **P** **22 58 49.0 +0.7**
baz=59
BOK Bokaro 58.67 271 *e*P **P** **22 58 49.2 +0.8**
BOK AMb AMB 22 58 50.4
comp=Z,6.9nm,1.0s,mb4.6
M08A Happy Creek Ra 58.85 61 ⇑P **P** **22 58 49.8 +0.2**
baz=59
L09A Wilkinson Ranc 58.91 60 ⇓P **P** **22 58 49.8 -0.2**
baz=59
N07B Gerlach 58.92 62 ⇓P **P** **22 58 51.2 +1.1**
baz=59
E15A Deer Lodge 58.98 54 ⇑P **P** **22 58 49.6 -0.8**
baz=59
SUMG Summit 59.13 5 *e*P **P** **22 58 51.5 0.0**
LAVA Lava Cap Winer 59.14 65 ⇑P **P** **22 58 50.2 -1.4**
baz=59
O07A Toulon 59.37 63 P **P** **22 58 53.9 +0.7**
baz=59,SNR=5.7
M09A Marrel Ranch, 59.41 61 ⇑P **P** **22 58 53.3 -0.2**
baz=59
N08A GE Springer Mi 59.42 62 ⇓P **P** **22 58 52.9 -0.6**
baz=59
LRM Limekiln Ridge 59.46 54 *e*P **P** **22 58 54.4 +0.6**
EGMT Eagleton 59.49 51 *e*P **P** **22 58 53.9 -0.1**
comp=Z,13nm,1.0s,mb4.9
EGMT Eagleton 59.49 51 ⇑P **P** **22 58 53.2 -0.9**
baz=59
R05C Kirkwood Meado 59.57 65 ⇓P **P** **22 58 54.5 -0.1**
baz=60
N09A Rock Creek Ran 59.73 61 ⇓P **P** **22 58 56.8 +1.1**
baz=60
HLID Hailey 59.80 57 *e*P **P** **22 58 56.8 +0.6**
HLID Hailey 59.80 57 P **P** **22 58 56.7 +0.5**
baz=60,SNR=7.7
CMB Columbia Colle 59.81 66 ⇓P **P** **22 58 56.5 +0.3**
baz=60
M10A I.L. Ranch, Tu 59.88 60 ⇓P **P** **22 58 57.3 +0.6**
baz=60
P08A Dixie Valley 60.14 63 ⇑P **P** **22 58 55.3 -3.2**
baz=60
HAST UC Hastings Re 60.15 68 ⇓P **P** **22 58 55.9 -2.6**
baz=60
S06C San Francisco 60.23 65 ⇓P **P** **22 58 57.3 -1.8**
baz=60
S05C Merced 60.28 66 ⇓P **P** **22 58 58.1 -1.4**
baz=60
O09A Fish Creek Ran 60.36 62 ⇑P **P** **22 58 59.8 -0.2**
baz=60
M11A Holland Ranch, 60.37 60 ⇑P **P** **22 59 00.7 +0.6**
baz=60

JOF Joensuu 60.46 334 *ep* **P 22 58 58.3 -2.4**
comp=Z,1.9nm,0.4s,mb4.5
QLMT Earthquake Lak 60.64 55 *eP* **P 22 59 02.9 +1.0**
O10A Cortez Mining, 60.69 61 ⇑P **P 22 59 02.5 +0.2**
baz=61
Q08A Gabbs 60.76 63 P **P 22 59 03.0 +0.3**
baz=61,SNR=5.7
NVAR Mina Array Bea 60.82 64 P **P 22 59 03.2 +0.1**
comp=Z,2.5nm,0.9s,mb4.4,baz=293,slow=7.3,SNR=14
NVAR Mina Array Bea 60.82 64 P **P 22 59 03.2 +0.1**
KCC Kaiser Creek 60.91 66 ⇑P **P 22 59 03.2 -0.5**
baz=61
NDI New Delhi 61.14 282 *eP* **P 22 59 05.1 -0.2**
P10A Eureka 61.14 62 ⇓P **P 22 59 04.7 -0.6**
baz=61
Q09A Carvers 61.23 63 ⇓P **P 22 59 05.3 -0.6**
baz=61
O11A Cowboy Ranch, 61.29 61 ⇑P **P 22 59 06.1 -0.2**
baz=61
M13A Montello 61.35 59 ⇓P **P 22 59 06.9 +0.2**
baz=61
S08C White Mtn Res 61.50 65 ⇓P **P 22 59 08.5 +0.7**
baz=61
HELL Mitchell Peak, 61.51 66 ⇑P **P 22 59 06.4 -1.4**
baz=61,SNR=5.4
IMW Indian Meadow 61.52 55 *eP* **P 22 59 09.2 +1.4**
comp=Z,18nm,1.4s,mb5.0
P11A Circle Ranch, 61.60 62 ⇓P **P 22 59 09.1 +0.7**
baz=62
N13A Wendover, West 61.66 60 ⇑P **P 22 59 09.4 +0.6**
baz=62
RRI2 Red Ridge 61.67 56 *eP* **P 22 59 10.0 +1.2**
R09A Tonopah 61.68 63 P **P 22 59 09.2 +0.3**
baz=62,SNR=14
O12A Currie 61.73 60 P **P 22 59 09.6 +0.3**
baz=62,SNR=6.8
TPAW Teton Pass 61.78 55 *eP* **P 22 59 11.1 +1.5**
LOHW Long Hollow 61.89 55 *eP* **P 22 59 10.8 +0.4**
SNOW Snow King Moun 61.90 55 *eP* **P 22 59 12.1 +1.6**
REDW Red Top Meadow 61.91 56 *eP* **P 22 59 11.5 +1.0**
comp=Z,17nm,1.1s,mb5.1
S09A Goldfield 61.92 64 ⇓P **P 22 59 10.0 -0.6**
baz=62
R10A Warm Springs 62.10 63 ⇓P **P 22 59 11.6 -0.2**
baz=62
P12A McGill 62.15 61 ⇑P **P 22 59 11.9 -0.2**
baz=62
LAO LASA Array 62.18 50 *eP* **P 22 59 13.3 +1.0**
PKM Peak Mountain 62.19 68 ⇑P **P 22 59 12.8 +0.5**
baz=62
CWC Cottonwood Cre 62.24 66 ⇑P **P 22 59 13.1 +0.3**
baz=62
SPUT South Promonto 62.37 58 *eP* **P 22 59 12.1 -1.5**
Q12A Willow Creek R 62.48 61 ⇑P **P 22 59 14.1 -0.2**
baz=62
KAF Kangasniemi 62.53 335 *ep* **P 22 59 13.0 -1.7**
comp=Z,1.9nm,0.5s,mb4.5,baz=35,slow=6.2
KAF Kangasniemi 62.53 335 *eP* **P 22 59 13.0 -1.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
HWUT Hardware Ranch 62.67 57 *eP* **P 22 59 16.1 +0.5**
comp=Z,12nm,1.1s,mb4.9
MPMC Manual Prospec 62.85 66 P **P 22 59 16.9 +0.2**
baz=63,SNR=5.4
DUG Dugway 62.89 59 *eP* **P 22 59 17.4 +0.3**
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
DUG Dugway 62.89 59 *eP* **P 22 59 17.4 +0.4**
comp=Z,8.4nm,1.0s,mb4.8
DUG Dugway 62.89 59 P **P 22 59 17.5 +0.5**
baz=63,SNR=9.6
FURC Furnace Creek, 62.96 65 ⇓P **P 22 59 16.5 -1.0**
baz=63
BW06 Boulder Array 63.02 55 *eP* **P 22 59 18.1 +0.2**
comp=Z,9.4nm,1.0s,mb4.9
PDAR Pinedale Array 63.02 55 P **P 22 59 18.1 +0.1**
comp=Z,6.0nm,0.9s,mb4.7,baz=297,slow=2.1,SNR=38
LRMC Laurel Mountai 63.12 66 ⇑P **P 22 59 18.1 -0.5**
baz=63
FINES FINESS Array B 63.14 335 P **P 22 59 16.9 -1.8**
comp=Z,4.3nm,0.6s,mb4.8,baz=33,slow=7.6,SNR=47
FINES LR LR 23 28 12.3
comp=Z,77nm,18.8s,MS3.9,baz=151,slow=37
FINES FINESS Array B 63.14 335 *i P* **P 22 59 16.8 -1.9**
FINES pmax pmax
comp=Z,4.0nm,0.6s
EDW2 Edwards Air Fo 63.33 67 P **P 22 59 19.9 0.0**
baz=63,SNR=6.7
NLU North Lily Min 63.48 59 *eP* **P 22 59 21.7 +0.8**
GSC Goldstone 63.77 66 *eP* **P 22 59 22.4 -0.5**
GSC Goldstone 63.77 66 ⇓P **P 22 59 22.0 -0.9**
baz=64
SHPR Sheep Range 63.96 64 *eP* **P 22 59 24.6 +0.5**
TUQ Turquoise Mtn. 64.22 65 ⇓P **P 22 59 26.2 +0.4**
baz=64
AJM Ajmer 64.31 282 *eP* **P 22 59 26.3 -0.1**
AJM AMb AMB 22 59 27.8
comp=Z,5.8nm,0.5s,mb4.9
HEC Hector,Ludlow 64.38 66 ⇑P **P 22 59 25.9 -0.9**
baz=64
TMUT Trail Mountain 64.41 59 *eP* **P 22 59 28.2 +1.1**
MURC Murrieta 64.67 67 ⇓P **P 22 59 28.8 0.0**
baz=65
OBN Obninsk 64.67 326 *eP* **P 22 59 28.9 +0.1**
OBN *e* 23 00 00.8
OBN pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BHPL Bhopal 64.69 277 *eP* **P 22 59 29.2 +0.3**
BHPL AMb AMB 22 59 30.3
comp=Z,17nm,0.8s,mb5.2
ULM Lac du Bonnet 64.70 42 P **P 22 59 28.9 -0.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=284,slow=10,SNR=5.2
SRU San Rafael 64.93 59 *eP* **P 22 59 31.0 +0.5**
RSSD Black Hills 65.06 51 *eP* **P 22 59 30.5 -0.8**
BELC Belle Mtn. 65.14 66 ⇓P **P 22 59 30.9 -0.9**
baz=65
IRM Iron Mountain 65.55 66 P **P 22 59 34.6 +0.1**
baz=65,SNR=5.5
W13A Hualapai Mount 65.67 64 ⇓P **P 22 59 35.2 -0.1**
baz=66
BC3 Big Chuckw Mtn 65.70 66 ⇑P **P 22 59 35.0 -0.4**
baz=66
X13A Yucca 66.05 64 ⇓P **P 22 59 37.4 -0.3**
baz=66
PDMCI Parker Dam,Lak 66.06 65 ⇓P **P 22 59 37.8 0.0**
baz=66
W14A Seligman 66.08 64 P **P 22 59 38.3 +0.4**
baz=66,SNR=9.3
Y12C Blythe 66.20 66 ⇑P **P 22 59 38.4 -0.2**
baz=66
GLA Glamis 66.50 66 ⇓P **P 22 59 40.5 -0.1**
baz=66
Y13A Salome 66.58 65 ⇑P **P 22 59 40.9 -0.2**
baz=66
W15A Williams 66.59 63 ⇑P **P 22 59 41.3 +0.1**
baz=66
X14A Yava 66.70 64 P **P 22 59 42.2 +0.3**
baz=67,SNR=6.8
WUAZ Wupatki 66.89 62 *eP* **P 22 59 43.8 +0.7**
WUAZ Wupatki 66.89 62 P **P 22 59 43.6 +0.6**
baz=67,SNR=5.7
Y14A Wickenburg 67.00 64 ⇓P **P 22 59 43.6 -0.1**
baz=67
X15A Humboldt 67.08 64 P **P 22 59 44.9 +0.6**
baz=67,SNR=8.0
NB2 NORSAR Subarra 67.15 342 P **P 22 59 43.7 -1.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=25,slow=6.5
NB2 NORSAR Subarra 67.15 342 P **P 22 59 43.7 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NOA NORSAR Array B 67.15 342 P **P 22 59 44.1 -0.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=26,slow=6.5,SNR=6.2
NOA LR LR 23 32 38.8
comp=Z,51nm,18.1s,MS3.8,baz=0.0,slow=39
ISCO Idaho Springs 67.22 55 *eP* **P 22 59 45.9 +0.8**
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ISCO Idaho Springs 67.22 55 *eP* **P 22 59 45.9 +0.7**
comp=Z,7.8nm,0.9s,mb4.7
MVCO Mesa Verde 67.39 59 P **P 22 59 46.8 +0.5**
baz=67,SNR=5.2
Z14A Wintersburg 67.43 65 ⇑P **P 22 59 46.4 -0.1**
baz=67
115A Sonoran Desert 68.32 65 ⇓P **P 22 59 52.2 +0.1**
baz=68
SDCO Great Sand Dun 68.72 57 *eP* **P 22 59 55.3 +0.8**
comp=Z,6.6nm,1.1s,mb4.5

116A Eloy 68.73 65 ⇑P **P 22 59 54.6 -0.1**
baz=69
ANMO Albuquerque 70.15 60⇑*eP* **P 23 00 03.8 +0.4**
ANMO Albuquerque 70.15 60 *eP* **P 23 00 04.1 +0.7**
ANMO Albuquerque 70.15 60 *eP* **P 23 00 04.1 +0.7**
WRA Warramunga Arr 70.27 200 P **P 23 00 03.5 -0.7**
comp=Z,2.8nm,0.8s,mb4.2,baz=16,slow=6.4,SNR=9.9
AKASG Malin Array Be 70.89 327 P **P 23 00 06.3 -1.6**
comp=Z,0.9nm,0.4s,mb4.1,baz=35,slow=6.5,SNR=7.3
KAD Karad 71.01 275 *eP* **P 23 00 09.6 +1.0**
KAD AMb AMB 23 00 10.7
comp=Z,9.5nm,0.5s,mb5.0
SCHQ Schefferville 71.52 24 P **P 23 00 10.9 -0.9**
comp=Z,6.5nm,0.9s,mb4.5,baz=357,slow=1.9,SNR=4.1
MNTX Cornudas Mount 73.11 61 *eP* **P 23 00 21.6 +0.4**
ASAR Alice Springs 73.96 200 P **P 23 00 26.2 0.0**
comp=Z,1.9nm,0.8s,mb4.1,baz=14,slow=5.5,SNR=14
KWP Kalwaria 74.08 330 *eP* **P 23 00 27.2 +0.3**
OJC Ojcow 74.52 332 *eP* **P 23 00 29.4 -0.1**
STHS Stebnicka Huta 74.75 331 *eP* **P 23 00 31.3 +0.5**
STHS Stebnicka Huta 74.75 331 *eP* **P 23 00 31.4 +0.6**
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
STHS Stebnicka Huta 74.75 331 *eP* **P 23 00 31.4 +0.6**
comp=Z,6.9nm,0.7s,mb4.7
KOLS Kolonicke sedl 74.82 330 *eP* **P 23 00 31.2 0.0**
KSP Ksiaz 75.03 334 *eP* **P 23 00 32.5 +0.1**
KSP Ksiaz 75.03 334 *eP* **P 23 00 32.3 -0.1**
NIE Niedzica 75.05 331 *eP* **P 23 00 32.9 +0.4**
CRVS Cervenica-Dubn 75.12 330 *eP* **P 23 00 32.8 -0.1**
CRVS Cervenica-Dubn 75.12 330 *eP* **P 23 00 32.9 0.0**
OKC Ostrava-Krasne 75.36 333 *eP* **P 23 00 34.3 -0.1**
UPC Upice 75.41 334 *eP* **P 23 00 34.7 +0.1**
DPC Dobruska-Polom 75.46 334 *eP* **P 23 00 35.4 +0.5**
TRD Trivandrum 75.52 267 *eP* **P 23 00 33.7 -1.6**
TRD AMb AMB 23 00 35.0
comp=Z,30nm,1.3s,mb5.1
CLL Collm 75.54 336⇑*iP* **P 23 00 35.0 -0.3**
CLL pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL Collm 75.54 336⇑*iP* **P 23 00 35.0 -0.3**
comp=Z,19nm,0.9s,mb5.0
CLL *e*PS 23 10 55.0
MORC Moravsky Berou 75.60 333⇓*iP* **P 23 00 35.9 +0.2**
BRG Berggiesshubel 75.67 336 *eP* **P 23 00 36.0 -0.1**
comp=Z,2.6nm,0.7s,mb4.3
KECS Kecovo 75.81 331 *eP* **P 23 00 36.9 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 75.81 331 *eP* **P 23 00 36.9 0.0**
comp=Z,3.2nm,0.7s,mb4.4
PVCC Panska Ves 75.81 335 *eP* **P 23 00 37.0 +0.1**
TXAR Lajitas Array 75.85 62 P **P 23 00 37.0 -0.1**
comp=Z,7.3nm,0.8s,mb4.7,baz=301,slow=4.2,SNR=72
PRU Pruhonice 76.30 335 *eP* **P 23 00 39.9 +0.2**
VRAC Vranov 76.31 333⇓*iP* **P 23 00 40.3 +0.6**
VRAC Vranov 76.31 333⇓*iP* **P 23 00 40.3 +0.5**
VYHS Vyhne 76.33 332 *eP* **P 23 00 39.7 -0.2**
TIRR Tirgusor 76.35 324⇑*iP* **P 23 00 40.1 +0.1**
TIRR Tirgusor 76.35 324⇑*iP* **P 23 00 40.1 +0.1**
MLR Muntele Rosu 76.44 326 P **P 23 00 40.4 -0.1**
comp=Z,9.2nm,0.7s,mb4.8,baz=196,slow=1.7,SNR=29
MLR Muntele Rosu 76.44 326⇑*iP* **P 23 00 41.3 +0.8**
MLR Muntele Rosu 76.44 326⇑P **P 23 00 41.3 +0.8**
MOX Moxa 76.51 337 *eP* **P 23 00 41.0 +0.1**
comp=Z,12nm,1.1s,mb4.7
MOX Moxa 76.51 337 *eP* **P 23 00 41.0 +0.1**
MOX pmax pmax
comp=Z,12nm,1.1s,mb4.7
DRGR 76.51 328⇓*iP* **P 23 00 41.0 +0.1**
DRGR 76.51 328⇓P **P 23 00 41.0 +0.1**
TREC Trest 76.65 334 *eP* **P 23 00 40.3 -1.4**
NKC Novy Kostel 76.66 336 *eP* **P 23 00 41.9 +0.2**
WSAR Wadi Sarin 76.88 290 P **P 23 00 44.3 +1.3**
comp=Z,4.6nm,0.9s,mb4.4,baz=176,slow=2.4,SNR=3.9
ZST Bratislava 77.14 332 *eP* **P 23 00 45.0 +0.6**
ZST pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZST Bratislava 77.14 332 *eP* **P 23 00 45.0 +0.6**
comp=Z,5.8nm,0.8s,mb4.6
KHC Kasperske Hory 77.34 335 *eP* **P 23 00 45.9 +0.3**
GRA1 Grafenberg Arr 77.48 337 *eP* **P 23 00 46.7 +0.4**
comp=Z,13nm,0.9s,mb4.9
GRF Grafenberg Arr 77.48 337 *eP* **P 23 00 46.7 +0.4**
comp=Z,13nm,0.9s,mb4.9
GRF Grafenberg Arr 77.48 337 *eP* **P 23 00 46.7 +0.4**
GRF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GRF Grafenberg Arr 77.48 337 *eP* **P 23 00 46.7 +0.4**
GRF pmax pmax
comp=Z,13nm,0.9s,mb4.9
GERES GERESS Array B 77.57 335 P **P 23 00 46.9 +0.1**
comp=Z,4.5nm,0.6s,mb4.6,baz=34,slow=5.4,SNR=64
BZS Buzias 77.91 328⇑*iP* **P 23 00 48.5 -0.2**
BZS Buzias 77.91 328⇑P **P 23 00 48.5 -0.3**
MEM Membach 77.91 340 P **P 23 00 49.0 +0.3**
BRTR Keskin Array B 78.02 318 P **P 23 00 49.7 +0.4**
comp=Z,5.4nm,0.8s,mb4.5,baz=68,slow=4.0,SNR=42
BCLA Clavier 78.25 341 P **P 23 00 50.9 +0.3**
MOA Molln 78.30 334⇑*iP* **P 23 00 51.3 +0.4**
comp=Z,6.7nm,0.8s,mb4.6
PKSM Moragy 78.40 331⇓*iP* **P 23 00 51.0 -0.5**
PKSM Moragy 78.40 331⇓P **P 23 00 51.0 -0.4**
GIVF Givet 78.65 341 *eP* **P 23 00 53.8 +1.0**
KBA Koelnbreinsper 79.27 334⇑*iP* **P 23 00 57.4 +1.2**
comp=Z,22nm,0.9s,mb5.1
KBA Koelnbreinsper 79.27 334⇑*iP* **P 23 00 57.4 +1.2**
KBA pmax pmax
comp=Z,23nm,0.9s,mb5.1
WATA Walderalm 79.54 335⇑*iP* **P 23 00 58.3 +0.6**
comp=Z,7.5nm,0.9s,mb4.6
WATA Walderalm 79.54 335⇑*iP* **P 23 00 58.3 +0.6**
WATA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WATA Walderalm 79.54 335⇑*iP* **P 23 00 58.3 +0.6**
comp=Z,7.5nm,0.9s,mb4.6
WTTA Wattenberg 79.59 335⇓*iP* **P 23 00 59.0 +1.0**
comp=Z,18nm,0.8s,mb5.0
WTTA Wattenberg 79.59 335⇓*iP* **P 23 00 59.0 +1.1**
WTTA pmax pmax
comp=Z,19nm,0.8s,mb5.1
MOTA Moosalm 79.66 336⇑*iP* **P 23 00 58.9 +0.6**
comp=Z,9.5nm,0.9s,mb4.7
MOTA Moosalm 79.66 336⇑*iP* **P 23 00 58.9 +0.6**
MOTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 79.67 339⇑*iP* **P 23 00 58.6 +0.2**
comp=Z,11nm,0.9s,mb4.5
CDF Champ du Feu 79.67 339⇑*iP* **P 23 00 58.6 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CDF Champ du Feu 79.67 339⇑*iP* **P 23 00 58.6 +0.2**
comp=Z,5.4nm,0.9s,mb4.5
SQTA Sankt Quirin 79.74 336⇑*iP* **P 23 00 59.5 +0.7**
comp=Z,7.6nm,0.9s,mb4.6
SQTA Sankt Quirin 79.74 336⇑*iP* **P 23 00 59.5 +0.7**
SQTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MEZF Maizieres J'vi 80.11 340⇑*iP* **P 23 01 01.2 +0.4**
comp=Z,14nm,0.8s,mb4.7
MEZF Maizieres J'vi 80.11 340⇑*iP* **P 23 01 01.2 +0.4**
comp=Z,14nm,0.8s,mb5.0
HAU Haudompre 80.27 339 *eP* **P 23 01 01.6 0.0**
HINF Hinteralfeld 80.32 339 *eP* **P 23 01 01.7 -0.2**
DAVOX Davos/Dischmat 80.51 336 P **P 23 01 03.8 +0.9**
comp=Z,5.8nm,0.8s,mb4.5,baz=26,slow=2.9,SNR=6.8
SWET Sewanee 80.89 46 *eP* **P 23 01 04.9 -0.1**
LOR Lormes 81.54 340 *eP* **P 23 01 08.5 +0.1**
comp=Z,6.2nm,0.8s,mb4.3
LOR Lormes 81.54 340 *eP* **P 23 01 08.5 +0.1**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR Lormes 81.54 340 *eP* **P 23 01 08.5 +0.1**
comp=Z,3.1nm,0.8s,mb4.3
SSF Saint Saulge 81.81 341 *eP* **P 23 01 10.0 +0.2**
comp=Z,10nm,0.9s,mb4.4
SSF Saint Saulge 81.81 341 *eP* **P 23 01 10.0 +0.2**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 81.81 341 *eP* **P 23 01 10.0 +0.2**
comp=Z,5.2nm,0.9s,mb4.5
AVF Avril sur Loir 82.10 341 *eP* **P 23 01 11.4 0.0**
comp=Z,8.8nm,0.9s,mb4.4
AVF Avril sur Loir 82.10 341 *eP* **P 23 01 11.4 0.0**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AVF Avril sur Loir 82.10 341 *eP* **P 23 01 11.4 0.0**
comp=Z,4.4nm,0.9s,mb4.4
SMF Signal de Mont 82.13 340 *eP* **P 23 01 11.8 +0.3**
comp=Z,19nm,1.1s,mb4.6
SMF Signal de Mont 82.13 340 *eP* **P 23 01 11.8 +0.3**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SMF Signal de Mont 82.13 340 *eP* **P 23 01 11.8 +0.3**
comp=Z,9.6nm,1.1s,mb4.6
BGF Bois d'Agland 82.44 341 *eP* **P 23 01 13.9 +0.8**
LPL La Plagne 82.50 338 *eP* **P 23 01 14.7 +1.3**
LPG La Plagne 82.51 338 *eP* **P 23 01 15.0 +1.5**
comp=Z,12nm,0.7s,mb4.7
LPG La Plagne 82.51 338 *eP* **P 23 01 15.0 +1.5**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LPG La Plagne 82.51 338 *eP* **P 23 01 15.0 +1.5**
comp=Z,6.1nm,0.7s,mb4.7
ASF Jabal al Asfar 82.54 311 P **P 23 01 14.3 +0.7**
comp=Z,3.0nm,0.8s,mb4.4,baz=270,slow=1.8,SNR=8.1
TCF Toulx Ste Croi 82.83 341 *eP* **P 23 01 15.5 +0.3**
ORIF Oris-en-Rattie 83.27 338 *eP* **P 23 01 18.4 +0.9**
comp=Z,7.7nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.27 338 *eP* **P 23 01 18.4 +0.9**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.27 338 *eP* **P 23 01 18.4 +0.9**
comp=Z,3.8nm,0.8s,mb4.5
SBF Sospel 83.86 337 *eP* **P 23 01 20.5 0.0**
comp=Z,13nm,0.8s,mb4.8
SBF Sospel 83.86 337 *eP* **P 23 01 20.5 0.0**
SBF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SBF Sospel 83.86 337 *eP* **P 23 01 20.5 0.0**
comp=Z,6.7nm,0.8s,mb4.8
KEST Kesra 90.86 332 P **P 23 01 54.1 -0.2**
comp=Z,1.7nm,0.9s,mb4.3,baz=313,slow=6.4,SNR=5.4
VNDA Vanda 125.56 178 PKP PKPdf 23 07 48.9 -3.0
comp=Z,0.9nm,1.0s,baz=12,slow=2.9,SNR=3.6
VNDA Vanda 125.56 178 PKP PKPdf 23 07 48.9 -3.0
CFAA Coronel Fontan 143.67 79 PKhKP 23 08 21.7
comp=Z,0.2nm,0.4s,baz=302,slow=1.7,SNR=3.7
CPUP Villa Florida 146.81 60 PKPbc PKPbc 23 08 32.1 -0.7
comp=Z,5.4nm,0.9s,baz=311,slow=3.2,SNR=10
CPUP Villa Florida 146.81 60 PKP2 PKPab 23 08 32.1 -2.0
CPUP pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 147.27 94 PKPbc PKPbc 23 08 32.8 -1.3
comp=Z,4.2nm,0.9s,baz=310,slow=4.2,SNR=4.7
PLCA Paso Flores 147.27 94 PKP2 PKPab 23 08 32.8 -3.1
PLCA pmax pmax
comp=Z,4.0nm,0.9s

NEIC ***21*** *22:55:25.3, 31.46S×71.61W, h22km, ML2.9(GUC), After GUC.*

GUC 21 22:55:25.3±0.8, 31.46S×71.61W, h22km±4km, MD3.6, ML2.9, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**167**	⇑*iP*	Pb	22 55 34.0	-0.3
CHNG				*i* S	Sb	22 55 40.6	+0.3
CHNG				AML	AML	22 55 41.2	
comp=E,1μm,0.2s							
CMCH	**Combarbala**	**0.60**	**61**	⇑*iP*	Pb	22 55 36.5	-0.6
CMCH				*i* S	Sb	22 55 45.5	+0.4
CMCH				AML	AML	22 55 51.3	
comp=E,965nm,0.7s							
CMCH	**Combarbala**	**0.60**	**61**	⇑*iP*	Pb	22 55 36.5	-0.6
CMCH				*i* S	Sb	22 55 45.5	+0.4
OVCH	**Ovalle**	**0.92**	**23**	*eP*	Pb	22 55 42.5	-0.1
OVCH				*i* S	Sb	22 55 54.5	0.0
OVCH				AML	AML	22 55 57.2	
comp=E,571nm,0.4s							
OVCH	**Ovalle**	**0.92**	**23**	*eP*	Pb	22 55 42.5	-0.1
OVCH				*i* S	Sb	22 55 54.5	0.0
PTCH	**Petorca**	**0.99**	**144**	⇓*iP*	Pb	22 55 42.7	-1.0
PTCH				*i* S	Sb	22 55 56.0	-0.3
PTCH				AML	AML	22 55 58.9	
comp=E,2μm,0.2s							
PTCH	**Petorca**	**0.99**	**144**	⇓*iP*	Pb	22 55 42.7	-1.0
PTCH				*i* S	Sb	22 55 56.0	-0.3
PACH	**Papudo**	**1.08**	**172**	*i* S	Sb	22 55 58.6	-0.4
TLL	**Tololo Astrono**	**1.47**	**29**	⇑*iP*	Pn	22 55 50.6	+0.3
TLL				*i* S	Sn	22 56 10.7	+1.8
TLL				AML	AML	22 56 13.6	
comp=N,412nm,0.7s							
TLL	**Tololo Astrono**	**1.47**	**29**	⇑*iP*	Pn	22 55 50.6	+0.3
TLL				*i* S	Sn	22 56 10.7	+1.8
JACH	**Jahuel**	**1.49**	**145**	⇓*iP*	Pn	22 55 51.3	+0.6
JACH				*i* S	Sn	22 56 11.1	+1.6
ROCH	**El Roble**	**1.59**	**161**	*i* S	Sn	22 56 13.3	+1.4
PEL	**Peldehue**	**1.85**	**155**	⇑*iP*	Pn	22 55 56.5	+0.9
PEL				*i* S	Sn	22 56 20.6	+2.3
PEL				AML	AML	22 56 24.4	
comp=N,340nm,0.4s							
PEL	**Peldehue**	**1.85**	**155**	⇑*iP*	Pn	22 55 56.5	+0.9
PEL				*i* S	Sn	22 56 20.6	+2.3
FCH	**Farellones**	**2.17**	**149**	*eP*	Pn	22 56 00.7	+0.6
FCH				*i* S	Sn	22 56 30.1	+3.9
FCH				AML	AML	22 56 34.6	
comp=E,114nm,0.2s							
PCH	**Pirque**	**2.34**	**157**	*eS*	Sn	22 56 32.8	+2.3

CSEM ***21*** *23:34:57.2±0.4, 67.14N×2084E, h1km, ML3.1, Error ellipse: s-maj=14.2km s-min=9.2km az=94.0, Mining explosion.*
UPP ***21*** *23:34:57.0, 67.19N×2066E, h0km, ML3.1, Mining explosion.*

HEL 21 23:34:57.7±0.1, 67.18N×2064E, h0km, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**204**	*i* P	Pg	23 34 58.6	-0.3
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	23 35 08.0	-1.1
KUA	**Kurravaara**	**0.78**	**352**	*i* P	Pg	23 35 11.7	-1.0
ERTU	**Ertsjaerv**	**0.88**	**135**	*i* P	Pg	23 35 13.9	-0.7
NIKU	**Nikkaluokta**	**0.92**	**319**	*eP*	Pg	23 35 14.8	-0.7
LANU	**Lannavaara**	**1.01**	**30**	*eP*	Pg	23 35 15.6	-1.5
HARU	**Harads**	**1.03**	**172**	*eP*	Pg	23 35 16.1	-1.4
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	23 35 28.2	-0.8
KIF	**Kilpisjarvi**	**1.83**	**2**	*eP*	Pn	23 35 31.0	+0.6
KIF				*e*SG	Sg	23 35 57.1	+0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	P	Pn	23 35 31.0	+0.6
KIF				Sg	Sg	23 35 57.1	+0.6
LILU	**Lilltraesk**	**1.93**	**190**	*eP*	Pn	23 35 31.7	-0.1
SGF	**Sodankyl**	**2.30**	**81**	*e*SB	Sb	23 36 07.5	-1.4
KEV	**Kevo**	**3.49**	**39**	*e*PG	Pg	23 35 59.5	-5.1

MOS ***21*** *23:40:39.8±2.2, 37.88N×46.05E, h10km, mb4.0/1, Error ellipse: s-maj=37.1km s-min=9.3km az=106.8*
NSSP ***21*** *23:40:54.7, 39.50N×42.80E, h13km, ML3.3*
CSEM ***21*** *23:40:57.9±0.1, 39.61N×42.89E, h10km, MD3.7, Error ellipse: s-maj=3.1km s-min=2.1km az=12.0*
ISK ***21*** *23:40:57.4, 39.63N×42.84E, h4km, MD3.7*
ISCJB ***21*** *23:40:58.8±0.3, 39.54N±002×42.77E±003, h4km, Error ellipse: s-maj=3.1km s-min=2.6km az=43.6*

ISC 21 23:40:59.1±0.5, 39.56N±002×42.79E±003, h1km±4km, n39, σ1§31/54, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRT	**Agri**	**0.16**	**72**	*i* PG	**Pg**	**23 41 00.8**	**-1.4**
CLDR	**Caldiran**	**0.97**	**115**	*i* PG	**Pg**	**23 41 15.8**	**-1.9**
CLDR				*i* SG	**Sg**	**23 41 30.3**	**+0.1**
VANB	**Van**	**1.07**	**154**	PN	**Pn**	**23 41 19.4**	**-1.9**
VANB				SN	**Sn**	**23 41 35.8**	**-1.0**
KARS	**Kars**	**1.08**	**12**	*i* PG	**Pg**	**23 41 17.2**	**-2.5**
TVAN	**Van**	**1.14**	**155**	*i* P	**Pg**	**23 41 19.9**	**-0.9**
TVAN				*i* S	**Sg**	**23 41 37.6**	**+1.9**
ERZM	**Erzurum**	**1.15**	**288**	*i* P	**Pg**	**23 41 19.6**	**-1.6**
ERZM				*i* S	**Sg**	**23 41 41.3**	**+5.2**
EZM	**Erzurum**	**1.15**	**288**	PN	**Pn**	**23 41 19.9**	**-2.5**
VANT	**Van**	**1.21**	**157**	PN	**Pn**	**23 41 21.3**	**-1.9**
HARI	**Harich**	**1.40**	**41**	P	**Pn**	**23 41 23.5**	**-2.3**
HARI				S	**Sg**	**23 41 45.7**	**+1.6**
BNGL	**BINGOL**	**1.41**	**245**	*i* P	**Pn**	**23 41 24.1**	**-1.8**

BNGL				*i* S		**Sg**	**23 41 51.2**	**+6.8**
KAMZ	**Kamo**	**1.54**	**35**	P		**Pn**	**23 41 25.9**	**-1.9**
KAMZ				S		**Sn**	**23 41 49.2**	**+0.7**
GNI	**Garni**	**1.61**	**68***c*	*i* P		**Pn**	**23 41 26.2**	**-2.6**
GNI				*i* S		**Sn**	**23 41 51.4**	**+1.2**
BTMT	**Batman**	**1.70**	**217**	*e*PN		**Pn**	**23 41 30.3**	**+0.3**
STE	**Stepanavan**	**1.88**	**40**	P		**Pn**	**23 41 32.0**	**-0.4**
STE				S		**Sn**	**23 41 57.0**	**+0.2**
BINT	**Bingol**	**1.91**	**250**	PN		**Pn**	**23 41 31.8**	**-1.1**
SIRT	**Sirnak**	**2.07**	**188**	PN		**Pn**	**23 41 35.6**	**+0.5**
BCA	**Borcka**	**2.08**	**335**	PN		**Pn**	**23 41 33.9**	**-1.3**
HKR	**Hakkari**	**2.12**	**159**	PN		**Pn**	**23 41 36.2**	**+0.6**
HAKT	**HAKKARI**	**2.12**	**160**	*i* P		**Pn**	**23 41 37.5**	**+1.7**
HAKT				*i* S		**Sg**	**23 42 09.4**	**+2.0**
EZC	**Erzincan**	**2.30**	**276**	*e*PN		**Pg**	**23 41 43.7**	**+0.5**
CUKT	**Cukurca**	**2.40**	**164**	*e*PN		**Pn**	**23 41 40.3**	**+0.8**
SEMD	**Semdilli**	**2.59**	**148**	*e*PN		**Pn**	**23 41 42.6**	**+0.4**
MTA	**Mtatsminda**	**2.62**	**35**	P		**Pn**	**23 41 43.1**	**+0.5**
MTA				S		**Sb**	**23 42 20.8**	**+1.2**
TBLG	**Delisi**	**2.63**	**34**	P		**Pn**	**23 41 42.7**	**0.0**
TBLG				S		**Sn**	**23 42 21.2**	**+5.9**
MACK	**Trabzon**	**2.69**	**302**	*i* P		**Pn**	**23 41 45.7**	**+2.1**
MACK				*i* S		**Sg**	**23 42 27.9**	**+2.3**
KTUT	**Trabzon**	**2.72**	**303**	*e*PN		**Pn**	**23 41 43.2**	**-0.7**
PTK	**Pertek**	**2.72**	**257**	*e*PN		**Pn**	**23 41 44.5**	**+0.5**
DGRG	**David-gareji**	**2.73**	**45**	P		**Pn**	**23 41 45.8**	**+1.7**
DGRG				S		**Sg**	**23 42 27.8**	**+1.0**
MARD	**Mardin**	**2.74**	**216**	*i* P		**Pn**	**23 41 43.9**	**-0.4**
MARD				*i* S		**Sg**	**23 42 27.4**	**+0.2**
ONI	**Oni**	**3.06**	**9**	P		**Pn**	**23 41 53.6**	**+4.9**
ONI				S		**Sg**	**23 42 43.2**	**+5.8**
MSL	**Mosul**	**3.27**	**176**	*ex*		x	23 42 02.0	
MSL				*ex*		x	23 42 42.5	
MSL				*ex*		x	23 42 50.0	
ZEI	**Tsey**	**3.31**	**14**	*e*P		**Pn**	**23 41 52.5**	**+0.4**
MYA	**Malataya**	**3.62**	**251**	*e*PN		**Pn**	**23 41 57.1**	**+0.8**
URFA	**Urfa**	**3.76**	**237**	*e*PN		**Pn**	**23 41 59.6**	**+1.3**
SHAR	**Shatzhatmas**	**4.18**	**359**	*i* P		**Pg**	**23 42 17.9**	**-1.3**
SHAR					pmax	pmax		
comp=Z,10.0nm,0.9s								
KUBR	**Kubataba**	**4.26**	**6**	*i* P		**Pb**	**23 42 13.9**	**-1.0**
KUBR					pmax	pmax		
comp=Z,9.0nm,0.7s								
KIV	**Kislovodsk**	**4.39**	**359**	*i* P		**Pb**	**23 42 18.6**	**+1.5**
PYA	**Pyatigorsk**	**4.47**	**2**	*i* P		**Pb**	**23 42 19.0**	**+0.5**
BRTR	**Keskin Array B**	**7.06**	**274**	*i* P		**Pb**	**23 43 03.7**	**+1.1**

IDC 21 23:42:29.5±10.0, 1794S×17857W, h605km±152km, mb2.6/4, mb1 3.0/4, mb1mx2.8/14, mbtmp3.6/4, Error ellipse: s-maj=193.8km s-min=39.5km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.47**	**260**	P	P	23 49 49.0	+0.6
0.3nm,0.3s,baz=96,slow=7.1,SNR=2.5							
ASAR	**Alice Springs**	**44.63**	**254**	P	P	23 49 49.8	+0.1
0.6nm,0.4s,baz=87,slow=8.9,SNR=16							
NVAR	**Mina Array Bea**	**79.56**	**44**	P	P	23 53 35.0	+0.1
0.3nm,0.6s,baz=225,slow=8.9,SNR=4.6							
TXAR	**Lajitas Array**	**86.14**	**58**	P	P	23 54 08.6	+0.9
0.4nm,0.8s,baz=196,slow=9.4,SNR=5.2							
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	PKPbc	00 01 06.4	-0.5
0.1nm,0.5s,baz=28,slow=4.4,SNR=5.0							

*IDC **21** 23:47:04.0±0.8, 396S×13480E, h0km, mb4.1/6, mb1 4.5/10, mb1mx4.4/13, mbtmp4.4/10, ML4.3/4, MS3.8/9, Ms1 3.8/9, ms1mx3.6/16, Error ellipse: s-maj=42.9km s-min=17.4km az=70.0*

*ISCJB **21** 23:47:06.9±2.1, 407S±006×1349E±01, h33km±20km, mb4.4/14, MS3.8/8, Error ellipse: s-maj=17.3km s-min=9.0km az=152.5*

*BJI **21** 23:47:08.2, 400S×13490E, h35km, mB5.0, mb4.7, Ms4.7, Msz4.3*

*NEIC **21** 23:47:09.2±0.5, 400S×13487E, h35km, mb4.5/7, Error ellipse: s-maj=13.3km s-min=8.0km az=69.0*

NEIC Felt [III] at Nabire.

ISC 21 23:47:11.5±1.5, 420S±006×1349E±01, h60km±16km, h28km±2.3km; pP-P, n40, σ1§27/37, mb4.4/14, MS3.8/8, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.79**	**196**	*e*P	**Pn**	**23 49 15.6**	**-0.2**
36nm,0.6s							
PMG	**Port Moresby**	**13.24**	**114**	Pn	**Pn**	**23 50 15.5**	**-1.1**
0.9nm,0.3s,baz=322,slow=10,SNR=3.1							
PMG				LR	LR	23 55 49.4	
comp=Z,910nm,18.8s,baz=266,slow=39							
WB2	**Warramunga Arr**	**15.66**	**182**	*e*P	**Pn**	**23 50 44.3**	**-4.0**
WRA	**Warramunga Arr**	**15.66**	**182**	Pn	**Pn**	**23 50 44.4**	**-3.9**
0.4nm,0.3s,baz=1.1,slow=12,SNR=12							
WRA				Sn	**Sn**	**23 53 33.9**	**-6.9**
0.6nm,0.3s,baz=0.7,slow=22,SNR=5.1							
WRA				Lg		23 55 23.9	
baz=0.2,slow=28,SNR=3.6							
FITZ	**Fitzroy Crossi**	**16.51**	**212**	*e*P	**Pn**	**23 50 58.0**	**-1.0**
15nm,0.5s							
FITZ				*e*S	**S**	**23 53 52.0**	**-18**
FITZ	**Fitzroy Crossi**	**16.51**	**212**	Pn	**Pn**	**23 50 58.2**	**-0.8**
1.0nm,0.3s,baz=38,slow=11,SNR=22							
FITZ				Sn	**Sn**	**23 53 53.1**	**-8.4**
1.3nm,0.3s,baz=195,slow=15,SNR=9.1							
CTA	**Charters Tower**	**19.30**	**146**	*e*P	**Pn**	**23 51 33.8**	**+0.9**
42nm,1.1s							
CTA	**Charters Tower**	**19.30**	**146**	P	**Pn**	**23 51 33.4**	**+0.5**
1.3nm,0.3s,baz=328,slow=13,SNR=22							
CTA				Lg		23 57 22.9	
0.2nm,0.3s,baz=232,slow=15,SNR=3.9							
CTA				LR	LR	00 00 04.5	
comp=Z,460nm,18.7s,baz=142,slow=40							
CTAO	**Charters Tower**	**19.30**	**146**	↓*e*P	**Pn**	**23 51 32.8**	**-0.1**
99nm,1.1s							
AS31	**Alice Springs**	**19.38**	**183**	*e*P	**Pn**	**23 51 35.0**	**+1.1**
ASAR	**Alice Springs**	**19.38**	**183**	P	**Pn**	**23 51 35.1**	**+1.2**
3.1nm,0.3s,baz=7.8,slow=9.9,SNR=117							
ASAR				S	**S**	**23 55 05.1**	**-3.1**
0.1nm,0.3s,baz=2.8,slow=29,SNR=3.3							
ASAR				Lg		23 57 27.0	
baz=7.4,slow=30,SNR=4.8							
ASPA	**Alice Springs**	**19.38**	**183**	*e*P	**Pn**	**23 51 35.0**	**+1.1**
GUMO	**Guam**	**20.27**	**29**	LR	LR	23 58 47.7	
comp=Z,130nm,18.1s,MS3.3,baz=5.4,slow=35							
MBWA	**Marble Bar**	**22.38**	**220**	*e*P	**P**	**23 52 07.8**	**+3.2**
18nm,1.0s,mb4.5							
KSM	**Kuching**	**25.19**	**282**	*e*P	**P**	**23 52 31.6**	**+0.3**
HNR	**Honiara**	**25.42**	**103**	LR	LR	00 02 12.6	
comp=Z,206nm,21.2s,MS3.6,baz=359,slow=36							
STKA	**Stephens Creek**	**28.25**	**168**	P	**P**	**23 53 00.9**	**+2.2**
2.9nm,0.8s,mb4.0,baz=333,slow=3.8,SNR=4.1							
LZH	**Lanzhou**	**49.49**	**327**	*e*P	**P**	**23 55 57.0**	**+1.2**
LZH				AP	pP	23 56 06.0	-5.4
LZH				XP	sP	23 56 13.5	-4.7
LZH				AMB	AMB		
comp=Z,20nm,1.5s,mb4.9							
LZH	**Lanzhou**	**49.49**	**327**	*e*P	**P**	**23 55 57.0**	**+1.2**
comp=Z,20nm,1.5s,mb4.9							
LZH				pP	pP	23 56 06.0	-5.4
LZH				sP	sP	23 56 13.5	-4.7
GTA	**Gaotai**	**54.09**	**327**	*e*P	**P**	**23 56 31.3**	**+1.2**
GTA				AP	pP	23 56 39.1	-6.8
GTA				XP	sP	23 56 42.1	-11
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.3							
GUN	**Gumba**	**56.96**	**307**	*e*P	**P**	**23 56 50.1**	**-0.5**
PKI	**Pulchoki**	**57.19**	**307**	*e*P	**P**	**23 56 52.1**	**-0.1**
KKN	**Kakani**	**57.38**	**307**	*e*P	**P**	**23 56 54.0**	**+0.4**
DMN	**Daman**	**57.45**	**307**	*e*P	**P**	**23 56 53.7**	**-0.4**
SONM	**Songino Array**	**57.53**	**338**	P	**P**	**23 56 53.0**	**-1.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=141,slow=5.7,SNR=4.0							
SONM				LR	LR	00 23 00.8	
comp=Z,105nm,18.1s,MS4.0,baz=256,slow=38							
GKN	**Gorkha**	**57.99**	**307**	*e*P	**P**	**23 56 57.5**	**-0.4**
comp=Z,7.9nm,0.5s,mb5.0							
KOLN	**Koldanda**	**58.73**	**306**	*e*P	**P**	**23 57 02.5**	**-0.5**
comp=Z,15nm,0.9s,mb5.0							
WMQ	**Urumqi**	**63.87**	**324**	*e*P	**P**	**23 57 39.3**	**+1.6**
WMQ				AP	pP	23 57 49.0	-4.9
WMQ				XP	sP	23 57 53.0	-7.6
WMQ				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.7							
WMQ				AMB	AMB		
comp=Z,115nm,6.0s							
WMQ				LR	LR		
comp=N,259nm,21.0s,MS4.5							
WMQ				LR	LR		
comp=E,243nm,19.8s,MS4.5							
WMQ				LR	LR		
comp=Z,202nm,20.6s,MS4.3							
MK31	**Makanchi Array**	**68.69**	**324**	*e*P	**P**	**23 58 08.4**	**-0.1**
MK31				*e*pP	pP	23 58 16.6	-8.3
MKAR	**Makanchi Array**	**68.69**	**324**	P	**P**	**23 58 08.6**	**0.0**
comp=Z,3.1nm,0.9s,mb4.2,baz=114,slow=7.7,SNR=19							
MKAR				LR	LR	00 27 23.4	
comp=Z,42nm,19.0s,MS3.7,baz=250,slow=35							
ZAL	**Zalesovo**	**71.35**	**331**	P	**P**	**23 58 23.9**	**-1.0**
comp=Z,0.7nm,0.4s,mb4.0,baz=14,slow=5.4,SNR=3.5							
VNDA	**Vanda**	**74.67**	**174**	P	**P**	**23 58 45.8**	**+1.3**
comp=Z,1.3nm,0.9s,mb3.8,baz=306,slow=5.3,SNR=7.3							
VNDA				LR	LR	00 29 39.1	
comp=Z,145nm,21.6s,MS4.2,baz=329,slow=34							
PPT	**Papeete**	**74.97**	**107**	LR	LR	00 26 16.0	
comp=Z,11nm,19.1s,MS3.2,baz=128,slow=31							
CHKZ	**Chkalovo**	**78.51**	**327**	*e*P	**P**	**23 59 05.0**	**-1.2**
comp=Z,3.9nm,1.2s,mb4.2							
ZRNK	**Zerenda**	**79.12**	**326**	*e*P	**P**	**23 59 08.3**	**-1.3**
comp=Z,4.4nm,1.1s,mb4.3							
MAW	**Mawson**	**79.32**	**202**	P	**P**	**23 59 12.9**	**+2.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=96,slow=2.2,SNR=4.7							
KMBO	**Kilima Mbogo**	**97.52**	**268**	LR	LR	00 41 11.0	
comp=Z,94nm,18.6s,MS4.3,baz=92,slow=33							
TORD	**Torodi Ar. Bea**	**132.94**	**284**	PKP	PKPdf	00 06 21.9	+1.9
comp=Z,0.7nm,1.1s,baz=72,slow=2.0,SNR=4.7							
CPUP	**Villa Florida**	**147.43**	**159**	PKPbc	PKPbc	00 06 49.9	+1.3
comp=Z,1.9nm,0.7s,baz=333,slow=3.5,SNR=4.3							
LPAZ	**La Paz**	**149.47**	**132**	PKPbc	PKPbc	00 06 58.3	+4.5
comp=Z,1.7nm,1.0s,baz=297,slow=4.8,SNR=5.2							

*IDC **22** 00:28:43.8±2.1, 2644N×9616E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=78.5km s-min=28.0km az=70.0*

*ISCJB **22** 00:28:47.2±1.2, 264N±01×963E±02, h33km, mb3.2/3, Error ellipse: s-maj=29.8km s-min=18.4km az=55.9*

ISC 22 00:28:49.1±1.2, 265N±01×961E±02, h35km, n4, σ0§07/5, mb3.2/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.62**	**230**	*e*P	**Pn**	**00 29 29.0**	**0.0**
IMP				*e*S	**Sn**	**00 30 08.0**	**+8.4**
SONM	**Songino Array**	**22.77**	**18**	P	**P**	**00 33 48.4**	**+0.1**
0.3nm,0.5s,mb3.0,baz=200,slow=11,SNR=2.4							
MKAR	**Makanchi Array**	**23.04**	**335**	P	**P**	**00 33 51.1**	**-0.1**
0.3nm,0.6s,mb2.9,baz=141,slow=9.3,SNR=9.1							
ASAR	**Alice Springs**	**61.80**	**140**	P	**P**	**00 39 04.3**	**0.0**
0.4nm,0.8s,mb3.6,baz=323,slow=6.7,SNR=4.8							

*ISCJB **22** 00:31:58.1±0.6, 1352N±005×12152E±005, h10km, mb4.0/3, Error ellipse: s-maj=7.9km s-min=4.7km az=85.1*

*MAN **22** 00:31:59.3, 1351N×12152E, h23km, mb2.4, ML4.0, MS4.4*

*IDC **22** 00:32:03.2±29.0, 1198N×12046E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/19, mbtmp3.9/3, Error ellipse: s-maj=522.8km s-min=265.4km az=151.0*

ISC 22 00:31:57.9±0.9, 1351N±006×12154E±006, h14km±7km, n14, σ0§94/17, mb4.0/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.30**	**100**	*e*P	**Pg**	**00 31 59.6**	**-4.7**
BOAC				*e*S	**Sg**	**00 32 08.1**	**-0.4**
TGY	**Tagaytay City**	**0.82**	**315**	↑*i* P	**Pg**	**00 32 14.0**	**+0.1**
2275μm,75.0s							
TGY				*i* S	**Sg**	**00 32 24.5**	**-0.2**
AUQP	**San Andres**	**1.12**	**100**	*e*P	**Pb**	**00 32 19.8**	**+0.7**
OTRP	**Odiongan**	**1.24**	**157**	*e*P	**Pn**	**00 32 20.5**	**-0.2**
OTRP				*e*S	**Sb**	**00 32 37.5**	**+0.7**
POLP	**Polilio Island**	**1.27**	**18**	*e*P	**Pn**	**00 32 20.6**	**-0.6**
LUBP	**Lubang**	**1.27**	**280**	*e*P	**Pn**	**00 32 20.7**	**-0.5**
BUSP	**Coron**	**1.99**	**221**	*e*P	**Pn**	**00 32 32.1**	**+1.1**
BALP	**Baler**	**2.21**	**1**	*e*P	**Pn**	**00 32 35.7**	**+1.5**
RCP	**Roxas**	**2.27**	**149**	↑*e*P	**Pn**	**00 32 38.9**	**+3.9**
PVCP	**Virac**	**2.55**	**88**	*e*P	**Pn**	**00 32 42.6**	**+3.8**
SCZP	**Santa Cruz**	**2.75**	**325**	*e*P	**Pn**	**00 32 45.8**	**+4.3**
WRA	**Warramunga Arr**	**35.55**	**159**	P	**P**	**00 38 52.7**	**-1.9**
1.9nm,0.8s,mb4.1,baz=334,slow=10,SNR=11							
ASAR	**Alice Springs**	**38.88**	**162**	P	**P**	**00 39 22.8**	**0.0**
1.0nm,0.8s,mb3.6,baz=338,slow=7.0,SNR=12							
STKA	**Stephens Creek**	**49.06**	**157**	P	**P**	**00 40 43.6**	**-0.9**
1.2nm,0.5s,mb4.2,baz=334,slow=10,SNR=4.8							

IDC 22 00:40:10.0±1.2, 2191N×14330E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=51.6km s-min=22.1km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.24**	**320**	P	P	00 47 40.8	+0.6
0.6nm,0.5s,baz=128,slow=6.8,SNR=6.6							
WRA	**Warramunga Arr**	**42.51**	**193**	P	P	00 48 07.5	+0.4
0.5nm,0.4s,baz=17,slow=9.4,SNR=4.5							
ASAR	**Alice Springs**	**46.21**	**192**	P	P	00 48 36.7	0.0
0.4nm,0.6s,baz=13,slow=9.2,SNR=9.0							
MKAR	**Makanchi Array**	**54.63**	**313**	P	P	00 49 41.1	+0.6
0.4nm,0.5s,baz=88,slow=8.6,SNR=5.9							
YKA	**Yellowknife Ar**	**76.22**	**28**	P	P	00 52 00.7	+0.5
4.5nm,1.0s,baz=292,slow=6.0,SNR=4.6							
FINES	**FINESS Array B**	**83.04**	**335**	P	P	00 52 35.3	-2.0
0.9nm,0.9s,baz=69,slow=6.3,SNR=5.2							

*CSEM **22** 00:42:12.2±0.1, 6726N×2065E, h2km, ML2.8, Error ellipse: s-maj=3.9km s-min=3.1km az=99.0, Mining explosion.*

*UPP **22** 00:42:13.4, 6719N×2070E, h0km, ML2.8, Mining explosion.*

HEL 22 00:42:13.9±0.1, 6718N×2069E, h0km, ML2.1, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**217**	*i* P	Pg	00 42 15.2	-0.1
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	00 42 24.2	-0.8
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	00 42 28.0	-1.0
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	00 42 29.7	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	00 42 30.4	-1.4
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	00 42 31.1	-1.3
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	00 42 31.9	-1.3
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	00 42 32.0	-1.6
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	00 42 44.1	-0.9
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	00 42 46.7	+0.1
KIF				*e*S	Sn	00 43 11.8	+1.3
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	00 42 47.8	-0.2
SGF	**Sodankyl**	**2.28**	**81**	*e*P	Pn	00 42 53.4	+0.6
SGF				*e*SG	Sg	00 43 24.3	-2.8
SGF	**Sodankyl**	**2.28**	**81**	P	Pn	00 42 53.3	+0.5
BURU	**Burvik**	**2.62**	**173**	*e*P	Pn	00 42 57.9	+0.4
SVAU	**Svanoeiden**	**2.74**	**190**	*e*P	Pn	00 42 59.5	+0.4
OUL	**Oulu**	**2.99**	**132**	*e*PB	Pb	00 43 05.3	-2.6
OUL				*e*SB	Sb	00 43 43.9	-1.0
OUL				MSG		00 43 49.0	
comp=Z,5.6nm,0.3s							
UMAU	**Umeaa**	**3.31**	**180**	*e*P	Pn	00 43 07.1	+0.1
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	00 43 49.8	-1.4
MSF	**Maaselka**	**3.58**	**107**	*e*PG	Pg	00 43 17.4	-5.0
MSF				*e*S	Sn	00 43 52.5	-1.1
MSF				*e*SG	Sg	00 44 02.9	-5.9
MSF				MSG		00 44 06.3	
comp=Z,4.7nm,0.3s							
KU4	**Liikasenvaara**	**3.62**	**99**	*e*P	Pn	00 43 10.8	-0.3
KU4				*e*S	Sn	00 43 54.1	-0.5
KU4				*e*SG	Sg	00 44 07.9	-2.2
KU4				MSG		00 44 11.7	
comp=Z,4.4nm,0.3s							
KU4	**Liikasenvaara**	**3.62**	**99**	P	Pn	00 43 10.8	-0.4
KU4				Sg	Sg	00 44 07.9	-2.3
comp=Z,4.4nm,0.3s							
KU6	**Riekki**	**3.85**	**103**	*e*P	Pn	00 43 13.2	-1.1
KU6				*e*S	Sn	00 43 60.0	-0.3
KU6				*e*SG	Sg	00 44 10.3	-7.3

*NEIC **22** 00:58:09.6, 3138S×7165W, h21km±2km, MD3.7, ML3.0, 3C, Near coast of central Chile*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.52**	**166**	↑*i* P	Pb	00 58 19.9	-0.1
CHNG				*i* S	Sb	00 58 27.3	+0.2
CHNG				AML	AML	00 58 28.0	
comp=E,2μm,0.3s							
CMCH	**Combarbala**	**0.59**	**70**	↑*i* P	Pb	00 58 21.1	-0.2
CMCH				*i* S	Sb	00 58 29.9	+0.6
CMCH				AML	AML	00 58 30.3	
comp=E,6μm,0.2s							
CMCH	**Combarbala**	**0.59**	**70**	↑*i* P	Pb	00 58 21.1	-0.2
CMCH				*i* S	Sb	00 58 29.9	+0.6
OVCH	**Ovalle**	**0.86**	**27**	*e*P	Pb	00 58 25.2	-0.6
OVCH				*i* S	Sb	00 58 36.8	-0.1
OVCH				AML	AML	00 58 39.5	
comp=E,630nm,0.2s							
OVCH	**Ovalle**	**0.86**	**27**	*e*P	Pb	00 58 25.2	-0.6
OVCH				*i* S	Sb	00 58 36.8	-0.1
PTCH	**Petorca**	**1.07**	**145**	*e*P	Pn	00 58 28.3	-1.0
PTCH				*i* S	Sb	00 58 42.6	-0.5
PTCH				AML	AML	00 58 44.0	
comp=N,841nm,0.4s							
PTCH	**Petorca**	**1.07**	**145**	*e*P	Pn	00 58 28.3	-1.0
PTCH				*i* S	Sb	00 58 42.6	-0.5
PACH	**Papudo**	**1.17**	**171**	*i* S	Sb	00 58 45.2	-0.6
TLL	**Tololo Astrono**	**1.41**	**31**	*e*P	Pn	00 58 34.4	+0.4
TLL				*i* S	Sn	00 58 53.2	+1.3
TLL				AML	AML	00 58 58.7	
comp=N,278nm,0.5s							
TLL	**Tololo Astrono**	**1.41**	**31**	*e*P	Pn	00 58 34.4	+0.4
TLL				*i* S	Sn	00 58 53.2	+1.3
JACH	**Jahuel**	**1.58**	**146**	*e*P	Pn	00 58 36.9	+0.6
JACH				*i* S	Sn	00 58 57.1	+1.0
ROCH	**El Roble**	**1.68**	**161**	*e*P	Pn	00 58 38.7	+1.0
ROCH				*e*S	Sn	00 59 00.9	+2.4
PEL	**Peldehue**	**1.94**	**155**	*e*P	Pn	00 58 42.4	+1.1
PEL				*i* S	Sn	00 59 07.1	+2.1
PEL				AML	AML	00 59 09.8	
comp=E,299nm,0.4s							
PEL	**Peldehue**	**1.94**	**155**	*e*P	Pn	00 58 42.4	+1.1
PEL				*i* S	Sn	00 59 07.1	+2.1
CLCH	**Cerro Calan**	**2.22**	**155**	*e*P	Pn	00 58 46.3	+1.2
CLCH				*i* S	Sn	00 59 14.7	+2.8
CLCH				AML	AML	00 59 22.2	
comp=E,186nm,0.6s							
RCDM	**Rinconada Maip**	**2.22**	**161**	*e*P	Pn	00 58 46.4	+1.2
RCDM				*i* S	Sn	00 59 14.4	+2.4
RCDM				AML	AML	00 59 23.2	
comp=E,100nm,0.5s							
RCDM	**Rinconada Maip**	**2.22**	**161**	*e*P	Pn	00 58 46.4	+1.2
RCDM				*i* S	Sn	00 59 14.4	+2.4
FCH	**Farellones**	**2.26**	**150**	*e*P	Pn	00 58 47.7	+2.1
FCH				*i* S	Sn	00 59 16.6	+3.8
FCH				AML	AML	00 59 25.8	
comp=E,78nm,0.9s							

*ISCJB **22** 01:31:49.3±1.4, 52N±01×7250W±009, h43km±26km, mb3.5/3, Error ellipse: s-maj=21.6km s-min=8.8km az=96.7*

*NEIC **22** 01:31:50.1±0.8, 5.19N×7260W, h35km, mb3.9/1, Error ellipse: s-maj=13.8km s-min=10.5km az=123.0*

*IDC **22** 01:31:51.0±1.4, 5.33N×7260W, h60km±20km, mb3.3/3, mb1 3.6/5, mb1mx3.3/25, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=25.7km s-min=7.7km az=143.0*

ISC 22 01:31:50.6±1.1, 520N±010×7251W±008, h36km±23km, n9, σ1§07/12, mb3.5/3, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.85**	**259**	P	**Pn**	**01 32 18.3**	**-1.4**
38nm,0.3s,baz=106,slow=21,SNR=67							
ROSC				S	**Sn**	**01 32 42.0**	**+0.2**
128nm,0.3s,baz=95,slow=21,SNR=18							
SDV	**Santo Domingo**	**4.11**	**27**	P	**Pn**	**01 32 52.0**	**+1.2**
5.2nm,0.3s,baz=212,slow=1.6,SNR=15							
SDV				S	**Sn**	**01 33 37.8**	**+0.3**
10nm,0.3s,baz=106,slow=21,SNR=8.1							
SDV	**Santo Domingo**	**4.11**	**27**	*e*Pn	**Pn**	**01 32 51.4**	**+0.6**
SDV				*e*Sn	**Sn**	**01 33 38.8**	**+1.3**
PCRV	**Puerto La Cruz**	**9.23**	**57**	P	**Pn**	**01 34 01.9**	**+0.8**
0.7nm,0.3s,baz=21,slow=17,SNR=6.0							
PCRV				S	**Sn**	**01 35 41.4**	**-2.4**
0.9nm,0.3s,baz=331,slow=19,SNR=2.4							
SAML	**Samuel**	**16.85**	**146**	*e*Pn	**Pn**	**01 35 43.4**	**-0.3**
4.5nm,0.4s							
LPAZ	**La Paz**	**21.79**	**169**	P	**P**	**01 36 40.7**	**+1.4**
1.3nm,0.8s,mb3.4,baz=332,slow=15,SNR=7.3							
SIV	**San Ignacio**	**23.91**	**152**	P	**P**	**01 37 01.2**	**+0.2**
1.4nm,0.5s,mb3.6,baz

comp=Z,5.9nm,0.3s,baz=123,slow=25,SNR=15
OUL Oulu 4.11 234 *e*P **Pn 02 02 30.4 +2.4**
OUL *e*SB **Sb 02 03 25.9 -1.5**
OUL MSG 02 03 38.5
comp=Z,14nm,0.5s
KIF Kilpisjarvi 4.98 291 *e*P **Pn 02 02 40.8 +0.8**
KIF *e*S **Sn 02 03 35.4 -2.9**
KIF MSG 02 04 06.1
comp=Z,7.2nm,0.4s
FIA0 FINESS Array S 7.09 211 Pn **Pn 02 03 09.1 +0.1**
baz=28,slow=12
FIA0 Sn **Sn 02 04 27.7 -2.6**
baz=24,slow=22
FIA0 Lg 02 05 01.8
baz=25,slow=28
FIA0 FINESS Array S 7.09 211 *e*P **Pn 02 03 09.1 +0.1**
FIA0 *e*S **Sn 02 04 27.7 -2.6**
FIA0 *e*SG **Sg 02 05 01.8 -10**
FIA0 FINESS Array S 7.09 211 Pn **Pn 02 03 09.1 +0.1**
SNR=50
FIA0 Sn **Sn 02 04 27.7 -2.5**
SNR=50
FINES FINESS Array B 7.09 211 Pn **Pn 02 03 08.8 -0.1**
comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=6.2
FINES Sn **Sn 02 04 28.6 -1.6**
comp=Z,0.2nm,0.3s,baz=28,slow=22,SNR=4.4
FINES Lg 02 05 01.0
comp=Z,0.4nm,0.3s,baz=27,slow=26,SNR=6.4
HFS Hagfors 11.59 239 Pn **Pn 02 04 09.2 -1.4**
comp=Z,0.1nm,0.3s,baz=40,slow=9.4,SNR=3.5
HFS Sn **Sn 02 06 12.3 -8.4**
comp=Z,0.1nm,0.3s,baz=68,slow=27,SNR=2.4
SPA0 Spitsbergen Ar 11.62 342 Pn **Pn 02 04 08.7 -2.3**
baz=138,slow=14
SPA0 Spitsbergen Ar 11.62 342 *e*P **Pn 02 04 08.7 -2.3**
NOA NORSAR Array B 11.77 246 Pn **Pn 02 04 11.5 -1.6**
comp=Z,0.1nm,0.3s,baz=45,slow=12,SNR=2.6
NOA Lg 02 07 33.7
comp=Z,0.2nm,0.3s,baz=308,slow=20,SNR=3.4

*CSEM **22** 02:12:57.7, 67.17N×2071E, h6km, ML3.1, Mining explosion. After UPP*
*UPP **22** 02:12:57.7, 67.17N×2071E, h6km, ML3.1, Mining explosion.*
HEL 22 02:12:58.1±0.0, 6717N×2070E, h0km, ML1.3, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**229**	*i* P	Pg	02 12 59.2	-0.2
MASU	**Masugnsbyn**	**0.58**	**59**	*i* P	Pg	02 13 08.4	-0.9
KUA	**Kurravaara**	**0.81**	**350**	*i* P	Pg	02 13 12.7	-0.9
ERTU	**Ertsjaerv**	**0.85**	**135**	*i* P	Pg	02 13 13.6	-0.9
SALU	**Saltoluokta**	**0.88**	**285**	*i* P	Pg	02 13 13.9	-1.0
SALU	**Saltoluokta**	**0.88**	**285**	P	Pg	02 13 13.9	-1.0
baz=102							
NIKU	**Nikkaluokta**	**0.95**	**319**	*e*P	Pg	02 13 15.3	-1.0
PAJU	**Pajala**	**0.96**	**97**	*e*P	Pg	02 13 15.4	-1.1
HARU	**Harads**	**1.01**	**174**	*e*P	Pg	02 13 16.4	-1.1
LANU	**Lannavaara**	**1.02**	**29**	*e*P	Pg	02 13 16.4	-1.2
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	02 13 28.1	-1.0
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*PG	Pg	02 13 31.9	-1.7
KIF				*e*SG	Sg	02 13 57.6	+0.1
SGF	**Sodankyl**	**2.28**	**80**	*e*SG	Sg	02 14 09.8	-1.5
KEV	**Kevo**	**3.49**	**39**	*e*SB	Sb	02 14 40.2	-3.5

*CSEM **22** 02:31:58.7, 67.19N×2066E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **22** 02:31:58.7, 67.19N×2066E, h0km, ML2.8, Mining explosion.*
HEL 22 02:32:00.2±0.5, 6712N×2067E, h0km, ML1.5, ML2.8(UPP), 1D, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.04**	**278**	‖ *i* P	Pg	02 32 00.5	-0.5
MASU	**Masugnsbyn**	**0.62**	**56**	*i* P	Pg	02 32 09.7	-2.3
ERTU	**Ertsjaerv**	**0.82**	**133**	*i* P	Pg	02 32 15.5	-0.5
PAJU	**Pajala**	**0.96**	**94**	*e*P	Pg	02 32 16.6	-2.0
HARU	**Harads**	**0.96**	**173**	*e*P	Pg	02 32 17.6	-1.1
SJUU	**Sjulsmark**	**1.66**	**166**	*e*P	Pn	02 32 29.7	-0.8
KIF	**Kilpisjarvi**	**1.90**	**1**	*e*PG	Pg	02 32 37.1	+0.5
KIF				*e*SG	Sg	02 33 02.9	+1.7
OUL	**Oulu**	**2.95**	**131**	*e*SG	Sg	02 33 34.2	-0.7

*IDC **22** 02:38:25.6±0.9, 493N×9491E, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.1/21, mbtmp4.2/11, Error ellipse: s-maj=46.4km s-min=17.6km az=49.0*
*NEIC **22** 02:38:30.2±0.5, 486N×9480E, h30km, mb4.4/8, Error ellipse: s-maj=20.5km s-min=6.9km az=42.0*
NEIC Felt [II] at Banda Aceh.
*BJI **22** 02:38:30.1, 490N×9480E, h30km, mB4.9, mb4.6, Ms4.3, Msz4.4*
*ISCJB **22** 02:38:35.3±2.5, 48N±01×949E±02, h95km±21km, mb4.3/26, Error ellipse: s-maj=33.1km s-min=9.0km az=109.2*
ISC 22 02:38:36.4±2.3, 48N±01×948E±02, h88km±20km, n44, σ0§99/44, mb4.3/26, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.53**	**116**	Pn	**Pn**	**02 39 41.0**	**-1.6**
5.3nm,0.3s,baz=323,slow=12,SNR=34							
PSI				Sn	**Sn**	**02 40 34.4**	**+0.4**
14nm,0.3s,baz=304,slow=19,SNR=6.7							
KULM	**Kulim**	**5.81**	**85**	*e*Pn	**Pn**	**02 39 54.9**	**-5.1**
KULM				*e*Sn	**Sn**	**02 40 54.4**	**-11**
CHTO	**Chiang Mai**	**14.51**	**16**	*e*P	**Pn**	**02 41 58.7**	**+1.4**
6.9nm,0.8s							
KSM	**Kuching**	**15.79**	**102**	*e*P	**Pn**	**02 42 15.7**	**+2.1**
JIRN	**Jiri**	**24.19**	**341**	*e*P	**P**	**02 43 44.9**	**+0.3**
PKI	**Pulchoki**	**24.38**	**339**	*e*P	**P**	**02 43 46.7**	**+0.4**
4.3nm,0.4s,mb4.2							
GUN	**Gumba**	**24.53**	**341**	*e*P	**P**	**02 43 46.6**	**-1.0**
13nm,0.5s,mb4.6							
GKN	**Gorkha**	**25.05**	**338**	*e*P	**P**	**02 43 52.1**	**-0.3**
10nm,0.3s,mb4.7							
KOLN	**Koldanda**	**25.24**	**336**	*e*P	**P**	**02 43 54.2**	**+0.1**
16nm,0.6s,mb4.6							
CD2	**Chengdu**	**27.31**	**17**	*e*P	**P**	**02 44 14.3**	**+1.6**
CD2				XP	sP	02 44 27.8	-15
CD2				PP	PP	02 45 01.8	-14
CD2				S	**S**	**02 48 50.5**	**+4.7**
CD2				XS	sS	02 49 06.3	-14
CD2				SS		02 50 08.5	
CD2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
CD2				LR	LR		
comp=N,150nm,15.6s							
CD2				LR	LR		
comp=Z,80nm,14.4s							
GTA	**Gaotai**	**34.76**	**7**	*e*P	**P**	**02 45 16.5**	**-1.7**
GTA				AMB	AMB		
comp=Z,6.0nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**37.95**	**128**	*e*P	**P**	**02 45 44.8**	**-0.5**
comp=Z,5.6nm,1.2s,mb4.3							
WMQ	**Urumqi**	**39.38**	**352**	*e*P	**P**	**02 45 58.0**	**+0.6**
WMQ				AMB	AMB		
comp=Z,8.0nm,0.9s,mb4.5							
UCH	**Uchtor**	**41.45**	**337**	P	**P**	**02 46 15.6**	**+1.2**
SNR=9.5							
KBK	**Karagaybulak**	**41.65**	**338**	P	**P**	**02 46 17.3**	**+1.3**
SNR=9.8							
AML	**Almayashu**	**41.69**	**336**	P	**P**	**02 46 17.8**	**+1.4**
SNR=7.9							
AAK	**Ala-Archa**	**41.80**	**337**	P	**P**	**02 46 18.8**	**+1.5**
SNR=5.5							
AAK	**Ala-Archa**	**41.80**	**337**	*e*P	**P**	**02 46 17.7**	**+0.5**
comp=Z,3.8nm,0.7s,mb4.2							
USP	**Ospenovka**	**42.34**	**338**	P	**P**	**02 46 22.1**	**+0.5**
SNR=13							
MK31	**Makanchi Array**	**43.23**	**347**	*e*P	**P**	**02 46 27.7**	**-1.2**
MKAR	**Makanchi Array**	**43.23**	**347**	P	**P**	**02 46 28.0**	**-0.8**
comp=Z,3.5nm,0.5s,mb4.4,baz=160,slow=7.4,SNR=40							
MKAR	**Makanchi Array**	**43.23**	**347**	P	**P**	**02 46 28.0**	**-0.8**
SONM	**Songino Array**	**44.02**	**11**	P	**P**	**02 46 33.4**	**-1.8**
comp=Z,0.7nm,0.5s,mb3.7,baz=192,slow=7.5,SNR=9.1							
SONM				PcP	PcP	02 48 20.2	+1.0
comp=Z,0.4nm,0.4s,baz=174,slow=4.8,SNR=3.9							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.95**	**124**	P	**P**	**02 46 50.5**	**+0.1**
comp=Z,5.4nm,0.6s,mb4.5,baz=303,slow=9.2,SNR=21							
WRAB	**Tennant Creek**	**45.95**	**124**	*e*P	**P**	**02 46 50.7**	**+0.2**
comp=Z,6.2nm,0.5s,mb4.6							
WB2	**Warramunga Arr**	**45.95**	**124**	⇑ *i*P	**P**	**02 46 50.7**	**+0.2**
ASAR	**Alice Springs**	**47.44**	**128**	P	**P**	**02 47 02.6**	**+0.6**
comp=Z,1.0nm,0.4s,mb3.9,baz=301,slow=7.9,SNR=22							
ZAL	**Zalesovo**	**49.68**	**352**	P	**P**	**02 47 18.1**	**-1.2**
comp=Z,2.7nm,0.6s,mb4.4,baz=306,slow=6.7,SNR=9.4							
BRVK	**Borovoye**	**52.18**	**341**	*e*P	**P**	**02 47 37.4**	**-0.6**
comp=Z,3.6nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**52.50**	**341**	*e*P	**P**	**02 47 39.8**	**-0.6**
comp=Z,7.4nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**52.60**	**342**	*e*P	**P**	**02 47 40.9**	**-0.2**
comp=Z,17nm,0.7s,mb5.2							
BR131	**Keskin Array S**	**64.98**	**312**	*e*P	**P**	**02 49 07.3**	**+0.5**
comp=Z,0.8nm,0.5s,mb3.8							
BRTR	**Keskin Array B**	**64.98**	**312**	P	**P**	**02 49 07.4**	**+0.5**
comp=Z,1.3nm,0.5s,mb4.0,baz=134,slow=7.0,SNR=15							
AKASG	**Malin Array Be**	**71.00**	**322**	P	**P**	**02 49 44.0**	**-0.6**
comp=Z,0.2nm,0.3s,mb3.4,baz=90,slow=5.2,SNR=4.6							
JOF	**Joensuu**	**73.92**	**335**	*e*p	**P**	**02 50 01.1**	**-0.8**
comp=Z,1.7nm,0.4s,mb4.1							
FINES	**FINESS Array B**	**75.75**	**332**	P	**P**	**02 50 12.4**	**-0.1**
comp=Z,2.0nm,0.4s,mb4.2,baz=99,slow=6.4,SNR=40							
KAF	**Kangasniemi**	**75.84**	**333**	*e*p	**P**	**02 50 12.4**	**-0.6**
comp=Z,1.4nm,0.5s,mb4.0,baz=103,slow=5.3							
ARCES	**ARCESS Array B**	**78.39**	**340**	P	**P**	**02 50 27.4**	**+0.1**
comp=Z,1.9nm,0.5s,mb4.1,baz=58,slow=4.8,SNR=16							
GERES	**GERESS Array B**	**80.58**	**319**	P	**P**	**02 50 40.5**	**+1.3**
comp=Z,1.8nm,0.7s,mb4.0,baz=105,slow=5.1,SNR=18							
NOA	**NORSAR Array B**	**82.75**	**331**	P	**P**	**02 50 50.5**	**-0.1**
comp=Z,1.5nm,0.8s,mb3.9,baz=94,slow=4.9,SNR=4.0							
NOA	**NORSAR Array B**	**82.75**	**331**	P	**P**	**02 50 50.5**	**-0.1**
NVAR	**Mina Array Bea**	**127.16**	**33**	PKP	PKPdf	02 57 32.7	+2.2
comp=Z,0.2nm,0.5s,baz=298,slow=1.9,SNR=4.3							
NVAR	**Mina Array Bea**	**127.16**	**33**	PKP	PKPdf	02 57 32.7	+2.2
TXAR	**Lajitas Array**	**141.70**	**27**	PKP	PKPdf	02 58 01.6	+4.1
comp=Z,0.3nm,0.5s,baz=64,slow=2.1,SNR=3.6							

*LDG **22** 02:53:01.9±0.1, 4299N×0.17E, h10km, Md1.6/1, Ml1.7/5, Error ellipse: s-maj=1.6km s-min=1.1km az=2.0*
*STR **22** 02:53:01.6±0.1, 4304N×0.12W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 22 02:53:02.6±0.4, 4298N×017E, h7km±4km, mbLg1.3/5, Error ellipse: s-maj=2.6km s-min=1.8km az=102.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.10**	**312**	Pg	Pg	02 53 04.6	-0.3
LABF				Sg	Sg	02 53 06.8	+0.4
LABF	**Labassere**	**0.10**	**312**	P	Pg	02 53 04.6	-0.2
LABF				S	Sg	02 53 06.7	+0.3
EPF	**Esparros**	**0.13**	**68**	*e*Pg	Pg	02 53 05.1	-0.3
EPF				*e*Sg	Sg	02 53 07.5	+0.2
16nm,0.3s							
EPF	**Esparros**	**0.13**	**68**	Pg	Pg	02 53 05.1	-0.3
EPF				Lg		02 53 07.5	
7.8nm,0.3s							
VIEF	**Viey**	**0.15**	**229**	Pg	Pg	02 53 05.5	-0.2
VIEF				Sg	Sg	02 53 08.3	+0.5
VIEF	**Viey**	**0.15**	**229**	P	Pg	02 53 05.6	-0.1
VIEF				S	Sg	02 53 08.4	+0.6
EBIE	**Bielsa**	**0.29**	**184**	Pg	Pg	02 53 08.4	0.0
4.8nm,0.3s,SNR=9.9							
EBIE				Lg		02 53 12.4	
5.9nm,0.1s,SNR=49							
CSOR	**Sort**	**0.93**	**130**	P	Pg	02 53 20.2	-0.3
SJPF	**Ste Jean**	**1.03**	**278**	*e*Pg	Pg	02 53 21.4	-1.1
SJPF				*e*Sg	Sg	02 53 34.9	-1.0
0.9nm,0.2s							
SJPF	**Ste Jean**	**1.03**	**278**	Pg	Pg	02 53 21.4	-1.1
SJPF				Lg		02 53 34.9	
0.4nm,0.2s							
CORG	**Organya**	**1.13**	**131**	P	Pg	02 53 22.8	-1.5
CORG				S	Sg	02 53 36.6	-2.4
IPRE	**Itoiz**	**1.14**	**262**	Lg		02 53 41.7	
0.4nm,0.1s,SNR=4.0							
CAVN	**Les Avellanes**	**1.18**	**159**	P	Pg	02 53 23.0	-2.2
ELIZ	**Elizondo**	**1.26**	**279**	Pg	Pg	02 53 25.2	-1.6
SNR=7.9							
ELIZ				Lg		02 53 41.8	
1.2nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**1.26**	**269**	Pg	Pg	02 53 25.1	-1.8
SNR=4.0							
IUSE				Lg		02 53 45.7	
1.0nm,0.1s,SNR=4.0							
ESAC	**San Caprasio**	**1.34**	**201**	Pg	Pg	02 53 28.3	-0.2
SNR=7.9							
ESAC				Lg		02 53 46.9	
4.3nm,0.2s,SNR=6.8							
CLLI	**Llivia**	**1.42**	**110**	P	Pn	02 53 29.1	+0.3
CLLI				S	Sb	02 53 47.3	-0.4
MTLF	**Montolieu**	**1.54**	**76**	*e*Pg	Pg	02 53 30.4	-1.7
MTLF				*e*Sg	Sg	02 53 50.7	-1.4
1.9nm,0.2s							
MTLF	**Montolieu**	**1.54**	**76**	Pg	Pg	02 53 30.4	-1.7
MTLF				Lg		02 53 50.7	
0.9nm,0.2s							
EPOB	**Poblet**	**1.76**	**157**	Pg	Pg	02 53 26.2	-10
SNR=7.9							
EPOB				Lg		02 53 57.5	
0.3nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.03**	**177**	Lg		02 54 06.4	
0.7nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.38**	**34**	*e*Sn	Sn	02 54 06.4	-5.0
CAF				*e*Sg	Sg	02 54 16.4	-2.6
1.0nm,0.3s							
CAF	**Calviac**	**2.38**	**34**	Sn	Sn	02 54 06.4	-5.0
CAF				Lg		02 54 16.4	
0.0nm,0.3s							
RJF	**Les Rejaudoux**	**2.52**	**22**	*e*Sg	Sg	02 54 20.8	-2.7
0.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.52**	**22**	Lg		02 54 20.8	
0.3nm,0.2s							
LASF	**Ste Croix**	**2.89**	**67**	*e*Sg	Sg	02 54 32.7	-2.9
0.5nm,0.2s							
LASF	**Ste Croix**	**2.89**	**67**	Lg		02 54 32.7	
0.2nm,0.2s							

*IDC **22** 03:12:31.9±1.0, 1506S×17278W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, MS3.8/2, Ms1 3.8/2, ms1mx3.1/24, Error ellipse: s-maj=40.6km s-min=20.1km az=128.0*
*ISCJB **22** 03:12:35.3±2.9, 148S±02×1728W±02, h45km±35km, mb3.9/5, MS3.8/2, Error ellipse: s-maj=41.2km s-min=27.1km az=143.1*
*NEIC **22** 03:12:38.0±0.6, 15.12S×17296W, h35km, Error ellipse: s-maj=28.7km s-min=16.1km az=116.0*
ISC 22 03:12:37.2±3.1, 149S±02×1727W±02, h48km±39km, n19, σ0§32/9, mb3.9/5, MS3.8/2, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.30**	**42**	Pn	**Pn**	**03 12 59.0**	**+0.1**
241nm,0.3s,baz=171,slow=2.1,SNR=207							
AFI				Sn	**Sn**	**03 13 15.1**	**-0.1**
533nm,0.3s,baz=49,slow=19,SNR=31							
PPT	**Papeete**	**22.33**	**100**	LR	LR	03 24 58.3	
comp=Z,154nm,18.5s,MS3.5,baz=328,slow=33							
URZ	**Urewera**	**24.97**	**199**	P	**P**	**03 17 56.3**	**+0.1**
7.7nm,0.5s,mb4.5,baz=22,slow=3.9,SNR=7.9							
STKA	**Stephens Creek**	**44.90**	**240**	P	**P**	**03 20 47.1**	**+0.2**
1.7nm,1.0s,mb3.8,baz=111,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**50.65**	**256**	P	**P**	**03 21 31.2**	**-0.2**
0.5nm,0.7s,mb3.6,baz=90,slow=7.1,SNR=4.9							
ASAR	**Alice Springs**	**50.94**	**251**	P	**P**	**03 21 33.6**	**0.0**
2.4nm,0.7s,mb4.2,baz=90,slow=7.5,SNR=23							
VNDA	**Vanda**	**63.96**	**186**	P	**P**	**03 23 04.5**	**-0.7**
0.5nm,0.9s,mb3.5,baz=4.3,slow=7.6,SNR=5.7							
TXAR	**Lajitas Array**	**79.74**	**56**	LR	LR	03 52 42.3	
comp=Z,82nm,21.6s,MS4.0,baz=185,slow=30							
VNA3	**Neumayer Olymp**	**93.30**	**175**	*e*	**P**	**03 25 46.8**	**+0.1**
VNA3				*e*		03 25 47.9	
VNA2	**Neumayer--Watz**	**93.81**	**175**	*e*	**P**	**03 25 49.5**	**+0.5**
VNA2				*e*		03 25 50.4	
STHS	**Stebnicka Huta**	**143.73**	**345**	*e*PKP	PKPdf	03 32 11.0	+4.3
DPC	**Dobruska-Polom**	**143.88**	**350**	*e*P	PKPdf	03 32 09.1	+2.1
KECS	**Kecovo**	**144.78**	**345**	*e*PKP	PKPdf	03 32 04.8	-3.8
VYHS	**Vyhne**	**145.17**	**347**	*e*PKP	PKPdf	03 32 11.8	+2.6
KHC	**Kasperske Hory**	**145.47**	**353**	*e*P	PKPdf	03 32 13.5	+3.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**145.73**	**353**	PKPbc	PKPbc	03 32 13.0	+2.4
1.1nm,0.8s,baz=45,slow=2.3,SNR=9.6							
BR131	**Keskin Array S**	**146.19**	**322**	*e*PKPbc	PKPbc	03 32 15.7	+3.6
BRTR	**Keskin Array B**	**146.19**	**322**	PKPbc	PKPbc	03 32 15.5	+3.4
2.2nm,0.8s,baz=126,slow=2.4,SNR=14							
KMBO	**Kilima Mbogo**	**146.39**	**244**	PKPbc	PKPbc	03 32 15.4	+2.8
1.0nm,0.7s,baz=233,slow=23,SNR=3.1							

*CSEM **22** 03:29:04.4±0.1, 6726N×2068E, h1km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.2km az=80.0, Suspected Mining explosion.*
*UPP **22** 03:29:05.6, 67.19N×2069E, h0km, ML3.0, Suspected Mining explosion.*
HEL 22 03:29:06.3±0.1, 6718N×2068E, h0km, ML2.0, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**217**	*i* P	Pg	03 29 07.4	-0.3
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	03 29 16.6	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	03 29 20.4	-1.0
KUA				*i* S	Sg	03 29 31.3	-0.3
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	03 29 22.5	-0.4
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	03 29 22.2	-0.8
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	03 29 23.0	-1.3
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	03 29 23.3	-1.5
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	03 29 24.2	-1.3
LANU	**Lannavaara**	**1.01**	**29**	P	Pg	03 29 24.2	-1.4
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	03 29 24.5	-1.5
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	03 29 36.8	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	03 29 38.9	-0.2
KIF				*e*S	Sn	03 30 04.3	+1.3
KIF	**Kilpisjarvi**	**1.83**	**1**	P	Pn	03 29 38.8	-0.2
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	03 29 40.1	-0.3
LILU				*e*S	Sn	03 30 06.5	+1.1
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	03 29 45.7	-2.6
SGF				*e*SG	Sg	03 30 16.3	-3.3
BURU	**Burvik**	**2.62**	**173**	*e*P	Pn	03 29 49.9	0.0
OUL	**Oulu**	**2.99**	**132**	*e*SB	Sb	03 30 36.1	-1.3
OUL				MSG		03 30 44.9	
comp=Z,3.2nm,0.3s							
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	03 30 42.0	-1.7
MSF	**Maaselka**	**3.58**	**107**	*e*SG	Sg	03 30 56.3	-5.0
MSF				MSG		03 30 58.5	
comp=Z,3.4nm,0.3s							
MSF	**Maaselka**	**3.58**	**107**	Sg	Sg	03 30 56.2	-5.0
KU4	**Liikasenvaara**	**3.62**	**99**	*e*S	Sn	03 30 46.6	-0.4
KU4				*e*SG	Sg	03 31 00.1	-2.5
KU4				MSG		03 31 02.4	
comp=Z,3.1nm,0.4s							
KU6	**Riekki**	**3.85**	**103**	*e*S	Sn	03 30 51.5	-1.3
KU6				*e*SG	Sg	03 31 05.1	-4.9

*ISCJB **22** 03:30:55.9±0.6, 4086N±003×808W±005, h13km±4km, Error ellipse: s-maj=7.0km s-min=3.9km az=140.5*
*MDD **22** 03:30:56.7±0.4, 4087N×8.10W, h6km±5km, mbLg2.0/14, Error ellipse: s-maj=3.8km s-min=2.2km az=58.0, PRXIMO*
*INMG **22** 03:30:56.7±1.2, 4087N×8.10W, h7km±3km, ML1.9, Error ellipse: s-maj=2.8km s-min=2.0km az=81.0*
ISC 22 03:30:56.2±0.6, 4086N±003×809W±005, h14km±3km, n16, σ0§95/27, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIS	**Viseu**	**0.20**	**134**	*i* Pg	**Pg**	**03 31 00.9**	**+0.1**
PVIS				*e*Sg	**Sg**	**03 31 04.0**	**0.0**
PVIS							
173nm,0.1s							
PTO	**Porto**	**0.48**	**306**	*e*Pg	**Pg**	**03 31 05.4**	**-0.3**
PTO				*e*Sg	**Sg**	**03 31 11.4**	**-0.8**
PTO							
74nm,0.1s							
PVRL	**Vila Real**	**0.50**	**34**	*e*Pg	**Pg**	**03 31 05.9**	**-0.2**
PVRL				*e*Sg	**Sg**	**03 31 12.5**	**-0.4**
PVRL							
48nm,0.1s							
MTE	**Manteigas**	**0.62**	**138**	*e*Pg	**Pg**	**03 31 08.7**	**+0.4**
MTE				*e*Sg	**Sg**	**03 31 17.0**	**+0.6**
MTE							
19nm,0.2s							
PCAB	**Cabril**	**0.85**	**3**	*e*P	**Pg**	**03 31 12.2**	**-0.5**
PCAB				*e*S	**Sg**	**03 31 23.6**	**-0.3**
PCAB							
19nm,0.1s							
PCBR	**Castelo Branco**	**1.12**	**155**	*e*P	**Pb**	**03 31 17.6**	**+0.3**
PCBR				*e*S	**Sb**	**03 31 32.5**	**+0.8**
PCBR							
21nm,0.3s							
PBRG	**Braganca**	**1.39**	**47**	*e*P	**Pn**	**03 31 22.1**	**+1.0**
PBRG				*e*S	**Sn**	**03 31 39.9**	**+0.7**
PBRG							
18nm,0.2s							
ECAL	**Calabor**	**1.48**	**43**	Pg	**Pg**	**03 31 24.3**	**-0.4**
2.0nm,0.3s,SNR=10							
ECAL				Lg		03 31 43.7	
11nm,0.1s,SNR=17							
STS	**Santiago**	**2.06**	**350**	Pn	**Pn**	**03 31 33.3**	**+3.0**
0.4nm,0.2s,SNR=7.9							
STS				Sn	**Sn**	**03 31 59.9**	**+4.1**
0.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**2.56**	**15**	Pn	**Pn**	**03 31 42.4**	**+5.1**
0.2nm,0.4s,SNR=7.9							
EPON				Lg		03 32 18.3	
1.1nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**3.00**	**93**	Lg		03 32 28.0	
1.8nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**3.25**	**40**	Pn	**Pn**	**03 31 49.7**	**+3.0**
0.4nm,0.3s,SNR=7.9							
EARI				Sn	**Sn**	**03 32 24.1**	**-1.0**
2.9nm,0.7s,SNR=4.0							
EARI			

IDC 22 03:41:41.3±4.4, 297S×10026E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=175.1km s-min=24.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.29**	**120**	P	P	03 48 54.5	-0.4
	0.2nm,0.5s,baz=295,slow=8.2,SNR=5.2						
ASAR	**Alice Springs**	**38.48**	**125**	P	P	03 49 06.0	+1.1
	0.2nm,0.4s,baz=299,slow=7.8,SNR=8.5						
SONM	**Songino Array**	**50.88**	**5**	P	P	03 50 44.4	+0.5
	0.5nm,0.5s,baz=187,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**52.03**	**344**	P	P	03 50 52.3	-0.2
	0.5nm,0.5s,baz=150,slow=8.4,SNR=3.7						

IDC 22 03:51:26.6±3.1, 500S×13357E, h0km, mb3.9/1, mb1 3.7/4, mb1mx3.5/12, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=130.7km s-min=29.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.87**	**177**	Pn	Pn	03 54 58.8	+0.7
	0.3nm,0.3s,baz=351,slow=14,SNR=3.7						
WRA				Sn	Sn	03 57 37.9	-5.6
	0.2nm,0.3s,baz=9.0,slow=22,SNR=6.5						
FITZ	**Fitzroy Crossi**	**15.16**	**210**	Pn	Pn	03 55 02.7	+0.8
	0.2nm,0.3s,baz=43,slow=9.0,SNR=7.6						
FITZ				Sn	Sn	03 57 44.5	-6.0
	0.1nm,0.3s,baz=208,slow=16,SNR=4.3						
ASAR	**Alice Springs**	**18.56**	**179**	P	Pn	03 55 44.6	-0.5
	0.1nm,0.3s,baz=7.3,slow=11,SNR=11						
MKAR	**Makanchi Array**	**68.58**	**325**	P	P	04 02 31.4	+0.2
	0.8nm,0.6s,baz=108,slow=7.8,SNR=7.1						

WEL 22 04:02:01.9±0.9, 3844S×17926E, h5km, ML3.7/4, Error ellipse: s-maj=8.0km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.87**	**295**	P*	Pb	04 02 18.9	-0.7
PUZ				S*	Sb	04 02 30.4	-1.1
MXZ	**Matakaoa Point**	**1.16**	**319**	P*	Pb	04 02 23.5	-0.8
MXZ				S*	Sb	04 02 39.5	-0.1
MWZ	**Matawai**	**1.37**	**274**	PN	Pn	04 02 26.2	-1.4
KNZ	**Kokohu**	**1.37**	**244**	PN	Pn	04 02 26.7	-1.0
URZ	**Urewera**	**1.70**	**275**	PN	Pn	04 02 31.7	-0.6
URZ				SN	Sn	04 02 54.6	+0.2
BKZ	**Black Stump Fm**	**2.28**	**251**	PN	Pn	04 02 40.0	-0.2

*ISCJB **22** 04:04:02.1±0.9, 4537N±004×1288E±004, h10km, Error ellipse: s-maj=6.1km s-min=4.0km az=39.4*
*VIE **22** 04:04:02.6±1.1, 4537N×1301E, h8km, ML2.0/2, Error ellipse: s-maj=6.7km s-min=4.2km az=41.0 53 km E of Venedig*
*ROM **22** 04:04:02.1±0.4, 4527N×1295E, h10km, Md2.5/3, Ml1.5/2, Error ellipse: s-maj=4.8km s-min=2.4km az=2.0*

ISC 22 04:04:01.7±1.2, 4530N±005×1288E±005, h1km±7km, n15, σ0§83/29, 2C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRI	**Trieste**	**0.75**	**56**	Pg	**Pg**	**04 04 16.1**	**+0.1**
TRI				Sg	**Sg**	**04 04 26.7**	**+1.0**
	32nm,1.3s						
VOJS	**Vojsko**	**1.02**	**43**	*i* Pg	**Pg**	**04 04 20.5**	**-0.7**
VOJS				*i* Sg	**Sg**	**04 04 35.1**	**+0.6**
JAVS	**Javornik**	**1.02**	**54**	*i* Pg	**Pg**	**04 04 21.3**	**0.0**
JAVS				*i* Sg	**Sg**	**04 04 34.9**	**+0.2**
ROBS	**Robic**	**1.05**	**25**	*i* Pg	**Pg**	**04 04 21.4**	**-0.4**
ROBS				*i* Sg	**Sg**	**04 04 36.2**	**+0.8**
KNDS	**Knezji Dol**	**1.08**	**77**	*i* Pg	**Pg**	**04 04 22.3**	**-0.1**
KNDS				*i* Sg	**Sg**	**04 04 38.7**	**+2.2**
CADS	**Cadrg**	**1.11**	**32**	*i* Pg	**Pg**	**04 04 22.3**	**-0.7**
CADS				*i* Sg	**Sg**	**04 04 36.0**	**-1.3**
CTI	**Castel Tesino**	**1.15**	**312**	Pg	**Pg**	**04 04 24.1**	**+0.4**
CTI				Sg	**Sg**	**04 04 40.4**	**+1.9**
	10.0nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.16**	**16**	Pg	**Pg**	**04 04 23.3**	**-0.6**
PTCC				Sg	**Sg**	**04 04 39.0**	**+0.1**
	5.0nm,0.4s						
CEY	**Cerknica**	**1.17**	**67**	*i* Pg	**Pg**	**04 04 23.3**	**-1.0**
CEY				*i* Sg	**Sg**	**04 04 40.6**	**+1.1**
GORS	**Gorjuse**	**1.28**	**37**	*e*Pg	**Pg**	**04 04 25.4**	**-1.0**
FVI	**Forni Avoltri**	**1.30**	**357**	Pg	**Pg**	**04 04 26.4**	**-0.3**
FVI				Sg	**Sg**	**04 04 44.7**	**+1.1**
	3.0nm,0.2s						
VISS	**Visnje**	**1.47**	**69**	*i* Pn	**Pn**	**04 04 28.8**	**-0.5**
VISS				*i* Sn	**Sn**	**04 04 48.9**	**-0.1**
OBKA	**Obir**	**1.68**	**43**	⇓*i*Pg	**Pn**	**04 04 32.2**	**0.0**
OBKA				⇑*i*Sg	**Sg**	**04 04 54.9**	**-0.9**
	18nm,0.5s						
BOJS	**Bojanci**	**1.68**	**82**	*i* Pn	**Pn**	**04 04 32.0**	**-0.3**
BOJS				*i* Sn	**Sn**	**04 04 55.0**	**+0.7**
KBA	**Koelnbreinsper**	**1.81**	**10**	⇑*i*Pg	**Pg**	**04 04 35.7**	**-0.7**
KBA				⇓*i*Sg	**Sg**	**04 04 59.2**	**-0.7**
	2.2nm,0.3s						

*IDC **22** 04:08:11.7±0.8, 3058N×8367E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/39, Error ellipse: s-maj=25.6km s-min=18.5km az=49.0*
*ISCJB **22** 04:08:12.7±0.4, 3066N±004×8350E±004, h10km, mb3.9/15, MS3.0/1, Error ellipse: s-maj=6.6km s-min=4.1km az=145.6*
*NEIC **22** 04:08:13.4±0.5, 3060N×8358E, h10km, mb4.3/5, Error ellipse: s-maj=14.0km s-min=9.6km az=50.0*
*BJI **22** 04:08:14.8, 3045N×8339E, h34km, mB4.9, mb4.5, Ms4.0, Msz3.6*
*NDI **22** 04:08:14.8±3.8, 3086N×8362E, h10km, ML3.8, mb4.3(NEIC)*
*MOS **22** 04:08:15.6±1.3, 3066N×8353E, h33km, mb4.5/5, Error ellipse: s-maj=17.2km s-min=9.5km az=114.0*

ISC 22 04:08:14.4±0.4, 3073N±005×8354E±004, h10km, n44, σ1§23/54, mb3.9/15, MS3.0/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.11**	**249**	*e*PB	**Pg**	**04 09 12.0**	**-2.0**
PTH				*e*SB	**Sg**	**04 09 55.0**	**+0.7**
LGTI	**Lohaghat**	**3.13**	**247**	*i* PB	**Pg**	**04 09 14.0**	**-0.3**
LGTI				*e*SB	**Sg**	**04 10 00.0**	**+5.1**
KLP	**Kalpa**	**4.61**	**281**	*e*P	**Pn**	**04 09 26.1**	**+2.0**
KLP				AML	AML	04 09 48.8	
	comp=N,83nm,0.5s						
KLP				AML	AML	04 10 00.5	
	comp=E,92nm,0.5s						
KLP				*e*S	**Sn**	**04 10 16.6**	**-1.0**
NDI	**New Delhi**	**5.87**	**251**	*e*P	**Pn**	**04 09 42.0**	**+0.6**
NDI				*ex*	**Sn**	**04 10 39.9**	**-8.8**
AGRA	**Agra**	**6.02**	**236**	*e*S	**Sn**	**04 10 49.6**	**-2.7**
AGRA				AML	AML	04 11 35.2	
	comp=N,61nm,0.2s						
AGRA				AML	AML	04 11 38.3	
	comp=E,101nm,0.3s						
AYAN	**Aya Nagar**	**6.02**	**250**	*e*P	**Pn**	**04 09 45.3**	**+1.9**
SONA	**Sohna**	**6.15**	**248**	*e*P	**Pn**	**04 09 46.3**	**+1.1**
SONA				*e*S	**Sn**	**04 10 55.6**	**0.0**
LSA	**Lhasa**	**6.66**	**97**	*e*P	**Pn**	**04 09 56.0**	**+3.7**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**6.66**	**97**	*e*Pn	**Pn**	**04 09 56.0**	**+3.7**
	comp=Z,38nm,0.8s						
KUDL	**Kundal**	**6.67**	**249**	*e*P	**Pn**	**04 09 52.0**	**-0.3**
KUDL				*e*S	**Sn**	**04 11 05.1**	**-3.3**
BOK	**Bokaro**	**7.21**	**163**	*e*P	**Pn**	**04 10 01.0**	**+1.2**
SHL	**Shillong**	**8.98**	**123**	*e*P	**Pn**	**04 10 25.1**	**+1.0**
SHL				*e*S	**Sn**	**04 11 59.5**	**-5.7**
BHPL	**Bhopal**	**9.24**	**218**	*e*P	**Pn**	**04 10 29.5**	**+1.9**
BHPL				*e*S	**Sn**	**04 12 06.2**	**-5.4**
WMQ	**Urumqi**	**13.48**	**13**	*e*P	**Pn**	**04 11 32.0**	**+6.4**
WMQ				AP		04 11 35.0	
WMQ				XP		04 11 38.0	
WMQ				PP		04 11 43.0	
WMQ				PPP		04 11 50.0	
WMQ				*e*S	**Sn**	**04 14 07.0**	**+12**
WMQ				XS		04 14 14.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,102nm,5.4s						
WMQ				LR	LR		
	comp=N,364nm,14.0s						
WMQ				LR	LR		
	comp=E,407nm,15.5s						
WMQ				LR	LR		
	comp=Z,321nm,16.8s						
POO	**Poona**	**14.99**	**218**	*ex*	**Pn**	**04 11 53.0**	**+6.7**
MK31	**Makanchi Array**	**16.07**	**357**	*e*P	**Pn**	**04 12 03.3**	**+2.9**
MKAR	**Makanchi Array**	**16.07**	**357**	Pn	**Pn**	**04 11 59.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=160,slow=9.0,SNR=8.8						
MKAR				LR	LR	04 19 17.9	
	comp=Z,68nm,18.4s,baz=176,slow=41						
CD2	**Chengdu**	**17.37**	**84**	*e*P	**Pn**	**04 12 20.3**	**+3.5**
CD2				PP		04 12 34.8	
CD2				S	**Sn**	**04 15 35.3**	**+5.2**
CD2				SS		04 15 55.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,90nm,9.8s						
CD2				LR	LR		
	comp=Z,80nm,8.2s						
KMI	**Kunming**	**17.85**	**104**	P	**Pn**	**04 12 22.5**	**-0.3**
KMI				AMB	AMB		
	comp=Z,15nm,0.6s						
KMI	**Kunming**	**17.85**	**104**	P	**Pn**	**04 12 22.5**	**-0.3**
	comp=Z,15nm,0.6s						
ZAL	**Zalesovo**	**23.21**	**2**	P	**P**	**04 13 20.8**	**-0.7**
	comp=Z,1.8nm,0.5s,mb3.7,baz=293,slow=6.9,SNR=8.8						
BVAR	**Borovoye Array**	**24.26**	**340**	P	**P**	**04 13 32.6**	**+1.1**
	comp=Z,0.7nm,0.4s,mb3.4,baz=148,slow=8.7,SNR=6.8						
SONM	**Songino Array**	**24.45**	**39**	P	**P**	**04 13 32.7**	**-0.5**
	comp=Z,2.4nm,0.9s,mb3.6,baz=226,slow=9.2,SNR=12						
SONM				LR	LR	04 25 22.5	
	comp=Z,56nm,21.7s,MS3.0,baz=155,slow=42						
ZRNK	**Zerenda**	**24.61**	**339**	*e*P	**P**	**04 13 34.2**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**24.61**	**339**	*e*P	**P**	**04 13 34.2**	**-0.6**
	comp=Z,3.7nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**24.77**	**341**	*e*P	**P**	**04 13 36.5**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.1						
CHKZ	**Chkalovo**	**24.77**	**341**	*e*P	**P**	**04 13 36.5**	**+0.3**
	comp=Z,8.9nm,1.4s,mb4.1						
QIZ	**Qiongzhong**	**26.48**	**110**	P	**P**	**04 13 50.1**	**-1.6**
QIZ				S	**S**	**04 18 24.9**	**-0.7**
QIZ				AMB	AMB		
	comp=Z,35nm,4.9s						
ARU	**Arti**	**31.09**	**333**	*e*P	**P**	**04 14 33.6**	**+0.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
ARU	**Arti**	**31.09**	**333**	*e*P	**P**	**04 14 33.6**	**+0.8**
	comp=Z,2.2nm,0.4s,mb4.3						
BRTR	**Keskin Array B**	**41.29**	**297**	P	**P**	**04 16 00.2**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.3,baz=66,slow=6.9,SNR=5.6						
AKASG	**Malin Array Be**	**44.62**	**313**	P	**P**	**04 16 26.7**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.8,baz=80,slow=7.0,SNR=7.1						
JOF	**Joensuu**	**46.10**	**330**	*e*p	**P**	**04 16 38.2**	**-0.4**
	comp=Z,3.3nm,0.5s,mb4.5						
JOF	**Joensuu**	**46.10**	**330**	*e*P	**P**	**04 16 38.2**	**-0.4**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**48.05**	**327**	P	**P**	**04 16 53.9**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=182,slow=15,SNR=12						
NB2	**NORSAR Subarra**	**55.15**	**326**	P	**P**	**04 17 46.5**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=87,slow=7.4						
NB2	**NORSAR Subarra**	**55.15**	**326**	P	**P**	**04 17 46.5**	**-0.5**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**55.15**	**326**	P	**P**	**04 17 46.7**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=88,slow=7.5,SNR=6.3						
NOA	**NORSAR Array B**	**55.15**	**326**	P	**P**	**04 17 46.7**	**-0.3**
WRA	**Warramunga Arr**	**70.14**	**129**	P	**P**	**04 19 25.3**	**-1.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=325,slow=5.9,SNR=8.1						
ASAR	**Alice Springs**	**72.50**	**132**	P	**P**	**04 19 39.3**	**-2.0**
	comp=Z,0.9nm,1.0s,mb3.7,baz=317,slow=9.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.48**	**277**	P	**P**	**04 20 03.9**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.5,baz=46,slow=5.1,SNR=11						
DBIC	**Dimbokro**	**85.26**	**275**	P	**P**	**04 20 52.2**	**+0.9**
	comp=Z,0.9nm,0.4s,mb4.2,baz=37,slow=5.1,SNR=5.5						
CPUP	**Villa Florida**	**145.46**	**267**	PKPbc	PKPbc	04 27 51.9	-0.8
	comp=Z,1.3nm,0.8s,baz=93,slow=2.6,SNR=3.3						

*ISCJB **22** 04:29:16.8±0.3, 4684N±001×051E±002, h3km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=36.6*
*NEIC **22** 04:29:19.9, 4680N×045E, h4km, ML3.2(STR), ML3.2(LDG), After LDG.*
*LDG **22** 04:29:19.9±0.0, 4680N×045E, h4km, Md3.2/1, Ml3.2/30, Error ellipse: s-maj=1.0km s-min=0.8km az=19.0*
*CSEM **22** 04:29:19.9±0.0, 4681N×044E, h5km, ML3.2/26, Error ellipse: s-maj=0.8km s-min=0.6km az=27.0*
*STR **22** 04:29:19.3±0.2, 4683N×044E, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 04:29:18.4±0.2, 4682N±001×048E±002, h11km±2km, n105, σ0§98/268, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.48**	**244**	*e*Pg	**Pg**	**04 29 28.5**	**+0.7**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**04 29 33.9**	**-0.3**
	67nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**0.48**	**244**	*e*Pg	**Pg**	**04 29 28.5**	**+0.7**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**04 29 33.9**	**-0.3**
	34nm,0.2s,SNR=1.0						
LCHF	**La Chataignera**	**0.85**	**261**	Pg	**Pg**	**04 29 35.2**	**+0.3**
LCHF				Sg	**Sg**	**04 29 46.0**	**0.0**
CHIF	**Chize**	**0.92**	**222**	Pg	**Pg**	**04 29 37.1**	**+1.0**
CHIF				Sg	**Sg**	**04 29 48.9**	**+0.8**
MATF	**Mathat**	**1.12**	**209**	Pg	**Pg**	**04 29 41.2**	**+1.2**
MATF				Sg	**Sg**	**04 29 55.5**	**+0.9**
TCF	**Toulx Ste Croi**	**1.31**	**113**	*e*Pg	**Pg**	**04 29 44.6**	**+1.1**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**04 30 00.7**	**+0.8**
TCF				*e*Sg	**Sg**	**04 30 01.8**	**+1.3**
	90nm,0.2s						
TCF	**Toulx Ste Croi**	**1.31**	**113**	*e*Pn	**Pn**	**04 29 43.2**	**+0.7**
TCF				*e*Pg	**Pg**	**04 29 44.6**	**+1.1**
TCF				*e*Sn	**Sn**	**04 30 00.7**	**+0.8**
TCF				*e*Sg	**Sg**	**04 30 01.8**	**+1.3**
TCF	**Toulx Ste Croi**	**1.31**	**113**	*e*Pg	**Pg**	**04 29 44.6**	**+1.1**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**04 30 00.7**	**+0.8**
TCF				*e*Sg	**Sg**	**04 30 01.8**	**+1.3**
	45nm,0.2s						
HYF	**Humbligny**	**1.54**	**72**	*e*Pg	**Pg**	**04 29 49.1**	**+1.0**
HYF				*e*Sg	**Sg**	**04 30 09.6**	**+1.4**
BGF	**Bois d'Agland**	**1.65**	**98**	*e*Pg	**Pg**	**04 29 50.6**	**+0.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**04 30 08.1**	**-0.3**
BGF				*e*Sg	**Sg**	**04 30 12.4**	**+0.9**
	117nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**1.65**	**98**	*e*Pn	**Pn**	**04 29 48.7**	**+1.4**
BGF				*e*Pg	**Pg**	**04 29 50.6**	**+0.5**
BGF				*e*Sn	**Sn**	**04 30 08.1**	**-0.3**
BGF				*e*Sg	**Sg**	**04 30 12.4**	**+0.9**
BGF	**Bois d'Agland**	**1.65**	**98**	*e*Pg	**Pg**	**04 29 50.6**	**+0.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**04 30 08.1**	**-0.3**
BGF				*e*Sg	**Sg**	**04 30 12.4**	**+0.9**
	59nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.68**	**154**	*e*P	**Pn**	**04 29 50.4**	**+2.8**
RJF	**Les Rejaudoux**	**1.68**	**154**	*e*Pg	**Pg**	**04 29 51.0**	**+0.4**
RJF				*e*Sg	**Sg**	**04 30 12.3**	**0.0**
	107nm,0.2s						
RJF	**Les Rejaudoux**	**1.68**	**154**	*e*Pn	**Pn**	**04 29 48.1**	**+0.5**
RJF				*e*P		04 29 50.4	
RJF				*e*Pg	**Pg**	**04 29 51.0**	**+0.4**
RJF				*e*Sg	**Sg**	**04 30 12.3**	**0.0**
RJF	**Les Rejaudoux**	**1.68**	**154**	*e*P	**Pn**	**04 29 50.4**	**+2.8**
RJF	**Les Rejaudoux**	**1.68**	**154**	*e*Pg	**Pg**	**04 29 51.0**	**+0.4**
RJF				*e*Sg	**Sg**	**04 30 12.3**	**0.0**
	54nm,0.2s						
GRR	**Gorron**	**1.81**	**331**	*e*Pg	**Pg**	**04 29 53.4**	**+0.1**
GRR				*e*Sn	**Sn**	**04 30 12.2**	**-0.3**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**04 30 16.5**	**-0.3**
	25nm,0.2s						
GRR	**Gorron**	**1.81**	**331**	*e*Pn	**Pn**	**04 29 50.1**	**+0.6**
GRR				*e*Pg	**Pg**	**04 29 53.4**	**+0.1**
GRR				*e*Sn	**Sn**	**04 30 12.2**	**-0.3**
GRR				*e*Sg	**Sg**	**04 30 16.5**	**-0.3**
GRR	**Gorron**	**1.81**	**331**	*e*Pg	**Pg**	**04 29 53.4**	**+0.1**
GRR				*e*Sn	**Sn**	**04 30 12.2**	**-0.3**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**04 30 16.5**	**-0.3**
	12nm,0.2s						
LDF	**La Druitiere**	**1.82**	**347**	*e*Pg	**Pg**	**04 29 54.1**	**+0.7**
LDF				*e*Sn	**Sn**	**04 30 12.8**	**+0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**04 30 16.9**	**-0.2**
	32nm,0.2s						
LDF	**La Druitiere**	**1.82**	**347**	*e*Pn	**Pn**	**04 29 50.4**	**+0.7**
LDF				*e*Pg	**Pg**	**04 29 54.1**	**+0.7**
LDF				*e*Sn	**Sn**	**04 30 12.8**	**+0.1**
LDF				*e*Sg	**Sg**	**04 30 16.9**	**-0.2**
LDF	**La Druitiere**	**1.82**	**347**	*e*Pg	**Pg**	**04 29 54.1**	**+0.7**
LDF				*e*Sn	**Sn**	**04 30 12.8**	**+0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**04 30 16.9**	**-0.2**
	16nm,0.2s						
LFF	**La Frestale**	**1.89**	**174**	*e*Pg	**Pg**	**04 29 55.1**	**+0.5**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**04 30 13.0**	**-1.3**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**04 30 18.9**	**-0.2**
	86nm,0.3s						
LFF	**La Frestale**	**1.89**	**174**	*e*Pn	**Pn**	**04 29 51.3**	**+0.8**
LFF				*e*Pg	**Pg**	**04 29 55.1**	**+0.5**
LFF				*e*Sn	**Sn**	**04 30 13.0**	**-1.3**
LFF				*e*Sg	**Sg**	**04 30 18.9**	**-0.2**
LFF	**La Frestale**	**1.89**	**174**	*e*Pg	**Pg**	**04 29 55.1**	**+0.5**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**04 30 13.0**	**-1.3**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**04 30 18.9**	**-0.2**
	43nm,0.3s						
RENF	**Rennes**	**1.94**	**313**	Pg	**Pg**	**04 29 55.2**	**-0.4**
AVF	**Avril sur Loir**	**1.97**	**90**	*e*Pg	**Pg**	**04 29 57.0**	**+0.7**
AVF				*e*Sn	**Sn**	**04 30 17.2**	**+0.8**
AVF				*e*Sg	**Sg**	**04 30 20.8**	**-1.1**
	23nm,0.2s						
AVF	**Avril sur Loir**	**1.97**	**90**	*e*Pn	**Pn**	**04 29 52.9**	**+1.2**
AVF				*e*Pg	**Pg**	**04 29 57.0**	**+0.7**
AVF				*e*Sn	**Sn**	**04 30 17.2**	**+0.8**
AVF				*e*Sg	**Sg**	**04 30 20.8**	**-1.1**
AVF	**Avril sur Loir**	**1.97**	**90**	*e*Pg	**Pg**	**04 29 57.0**	**+0.7**
AVF				*e*Sn	**Sn**	**04 30 17.2**	**+0.8**
AVF				*e*Sg	**Sg**	**04 30 20.8**	**-1.1**
	11nm,0.2s						
AGO	**Saint Agoulin**	**1.99**	**112**	Pg	**Pg**	**04 29 57.0**	**+0.5**
AGO	**Saint Agoulin**	**1.99**	**112**	Pn	**Pn**	**04 29 52.0**	**+0.1**
AGO				Pg	**Pg**	**04 29 57.0**	**+0.5**
AGO	**Saint Agoulin**	**1.99**	**112**	Pg	**Pg**	**04 29 57.0**	**+0.5**
FRNF	**Fournols**	**2.04**	**134**	Pg	**Pg**	**04 29 58.0**	**+0.5**
FRNF	**Fournols**	**2.04**	**134**	Pn	**Pn**	**04 29 53.7**	**+1.1**
FRNF				Pg	**Pg**	**04 29 58.0**	**+0.5**
FRNF	**Fournols**	**2.04**	**134**	Pg	**Pg**	**04 29 58.0**	**+0.5**
PYM	**Petit Puy Mans**	**2.05**	**120**	Pn	**Pn**	**04 29 53.2**	**+0.4**
FLN	**La Foliniere**	**2.05**	**342**	*e*Pn	**Pn**	**04 29 53.4**	**+0.6**
	baz=165						
FLN	**La Foliniere**	**2.05**	**342**	*e*Pg	**Pg**	**04 29 58.5**	**+0.7**
	baz=161,SNR=1.0						
FLN				*e*Sg	**Sg**	**04 30 24.0**	**-0.4**
	36nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.05**	**342**	*e*Pn	**Pn**	**04 29 53.4**	**+0.6**
FLN				*e*Pg	**Pg**	**04 29 58.5**	**+0.7**
FLN				*e*Sg	**Sg**	**04 30 24.0**	**-0.4**
FLN	**La Foliniere**	**2.05**	**342**	*e*Pg	**Pg**	**04 29 58.5**	**+0.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**04 30 24.0**	**-0.4**
	18nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.09**	**82**	*e*P	**Pn**	**04 29 56.7**	**+3.4**
SSF	**Saint Saulge**	**2.09**	**82**	*e*Pg	**Pg**	**04 29 59.5**	**+1.0**
SSF				*e*Sn	**Sn**	**04 30 19.2**	**-0.1**
SSF				*e*Sg	**Sg**	**04 30 26.1**	**+0.5**
	31nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.09**	**82**	*e*Pn	**Pn**	**04 29 54.6**	**+1.3**
SSF				*e*P		04 29 56.7	
SSF				*e*Pg	**Pg**	**04 29 59.5**	**+1.0**
SSF				*e*Sn	**Sn**	**04 30 19.2**	**-0.1**
SSF				*e*Sg	**Sg**	**04 30 26.1**	**+0.5**
SSF	**Saint Saulge**	**2.09**	**82**	*e*P	**Pn**	**04 29 56.7**	**+3.4**
SSF	**Saint Saulge**	**2.09**	**82**	*e*Pg	**Pg**	**04 29 59.5**	**+1.0**
SSF				*e*Sn	**Sn**	**04 30 19.2**	**-0.1**
SSF				*e*Sg	**Sg**	**04 30 26.1**	**+0.5**
	16nm,0.4s,SNR=1.0						
CAF	**Calviac**	**2.19**	**149**	*e*Pg	**Pg**	**04 30 00.3**	**-0.1**
CAF				*e*Sn	**Sn**	**04 30 21.0**	**-0.8**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**04 30 28.8**	**-0.1**
	34nm,0.3s,SNR=1.0						
CAF	**Calviac**	**2.19**	**149**	*e*Pn	**Pn**	**04 29 55.0**	**+0.3**
CAF				*e*Pg	**Pg**	**04 30 00.3**	**-0.1**
CAF				*e*Sn	**Sn**	**04 30 21.0**	**-0.8**
CAF				*e*Sg	**Sg**	**04 30 28.8**	**-0.1**
CAF	**Calviac**	**2.19**	**149**	*e*Pg	**Pg

	11nm,0.2s							
ROSF	**Rostrenen**	**2.96**	**302**	*e*Pn	**Pn**	**04 30 06.2**	**+0.9**
ROSF				*e*Pg	**Pg**	**04 30 14.5**	**-0.7**
ROSF				*e*Sn	**Sn**	**04 30 39.3**	**-1.5**
ROSF				*e*Sg	**Sg**	**04 30 51.8**	**-1.8**
ROSF	**Rostrenen**	**2.96**	**302**	*e*Pg	**Pg**	**04 30 14.5**	**-0.7**
ROSF				*e*Sn	**Sn**	**04 30 39.3**	**-1.5**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**04 30 51.8**	**-1.8**
	5.5nm,0.2s						
SFTF	**Sexfontaines**	**3.39**	**64**	*e*Pg	**Pg**	**04 30 23.2**	**-0.2**
	baz=238						
SFTF				*e*Sn	**Sn**	**04 30 50.2**	**-1.1**
SFTF				*e*Sg	**Sg**	**04 31 06.8**	**-0.5**
	10nm,0.4s						
SFTF	**Sexfontaines**	**3.39**	**64**	*e*Pn	**Pn**	**04 30 12.1**	**+0.9**
SFTF				*e*Pg	**Pg**	**04 30 23.2**	**-0.2**
SFTF				*e*Sn	**Sn**	**04 30 50.2**	**-1.1**
SFTF				*e*Sg	**Sg**	**04 31 06.8**	**-0.5**
SFTF	**Sexfontaines**	**3.39**	**64**	*e*Pg	**Pg**	**04 30 23.2**	**-0.2**
SFTF				*e*Sn	**Sn**	**04 30 50.2**	**-1.1**
SFTF				*e*Sg	**Sg**	**04 31 06.8**	**-0.5**
	5.1nm,0.4s						
MEZF	**Maizieres J'vi**	**3.52**	**60**	*e*Pn	**Pn**	**04 30 14.1**	**+1.1**
	baz=240						
MEZF	**Maizieres J'vi**	**3.52**	**60**	*e*Pg	**Pg**	**04 30 25.5**	**-0.4**
	baz=250,SNR=1.0						
MEZF				*e*Sg	**Sg**	**04 31 11.2**	**-0.3**
	7.6nm,0.3s,baz=233						
MEZF	**Maizieres J'vi**	**3.52**	**60**	*e*Pn	**Pn**	**04 30 14.1**	**+1.1**
MEZF				*e*Pg	**Pg**	**04 30 25.5**	**-0.4**
MEZF				*e*Sg	**Sg**	**04 31 11.2**	**-0.3**
MEZF	**Maizieres J'vi**	**3.52**	**60**	*e*Pg	**Pg**	**04 30 25.5**	**-0.4**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**04 31 11.2**	**-0.3**
	3.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.53**	**122**	*e*Pg	**Pg**	**04 30 25.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**04 30 52.1**	**-2.6**
VIVF				*e*Sg	**Sg**	**04 31 10.2**	**-1.5**
	11nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.53**	**122**	*e*Pn	**Pn**	**04 30 13.7**	**+0.6**
VIVF				*e*Pg	**Pg**	**04 30 25.4**	**-0.6**
VIVF				*e*Sn	**Sn**	**04 30 52.1**	**-2.6**
VIVF				*e*Sg	**Sg**	**04 31 10.2**	**-1.5**
VIVF	**Saint-Julien-l**	**3.53**	**122**	*e*Pg	**Pg**	**04 30 25.4**	**-0.6**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**04 30 52.1**	**-2.6**
VIVF				*e*Sg	**Sg**	**04 31 10.2**	**-1.5**
	5.4nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.63**	**138**	*e*Pg	**Pg**	**04 30 27.5**	**-0.4**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**04 31 13.2**	**-1.7**
	8.1nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.63**	**138**	*e*Pn	**Pn**	**04 30 14.9**	**+0.4**
LASF				*e*Pg	**Pg**	**04 30 27.5**	**-0.4**
LASF				*e*Sg	**Sg**	**04 31 13.2**	**-1.7**
LASF	**Ste Croix**	**3.63**	**138**	*e*Pg	**Pg**	**04 30 27.5**	**-0.4**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**04 31 13.2**	**-1.7**
	4.1nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**3.69**	**160**	*e*Pg	**Pg**	**04 30 27.9**	**-1.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**04 30 54.7**	**-4.0**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**04 31 15.1**	**-1.7**
	5.5nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.69**	**160**	*e*Pn	**Pn**	**04 30 15.7**	**+0.4**
MTLF				*e*Pg	**Pg**	**04 30 27.9**	**-1.2**
MTLF				*e*Sn	**Sn**	**04 30 54.7**	**-4.0**
MTLF				*e*Sg	**Sg**	**04 31 15.1**	**-1.7**
MTLF	**Montolieu**	**3.69**	**160**	*e*Pg	**Pg**	**04 30 27.9**	**-1.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**04 30 54.7**	**-4.0**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**04 31 15.1**	**-1.7**
	2.8nm,0.2s,SNR=1.0						
EPF	**Esparros**	**3.79**	**182**	*e*Pg	**Pg**	**04 30 29.8**	**-1.2**
EPF				*e*Sn	**Sn**	**04 30 57.5**	**-3.7**
EPF				*e*Sg	**Sg**	**04 31 19.3**	**-0.7**
	10nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.79**	**182**	*e*Pn	**Pn**	**04 30 16.6**	**-0.1**
EPF				*e*Pg	**Pg**	**04 30 29.8**	**-1.2**
EPF				*e*Sn	**Sn**	**04 30 57.5**	**-3.7**
EPF				*e*Sg	**Sg**	**04 31 19.3**	**-0.7**
EPF	**Esparros**	**3.79**	**182**	*e*Pg	**Pg**	**04 30 29.8**	**-1.2**
EPF				*e*Sg	**Sg**	**04 31 19.3**	**-0.7**
	5.2nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**3.86**	**91**	*e*Pn	**Pn**	**04 30 19.0**	**+1.3**
CABF				*e*Sg	**Sg**	**04 31 21.9**	**-0.6**
	4.3nm,0.4s						
CABF	**La Chapelle**	**3.86**	**91**	*e*Pn	**Pn**	**04 30 19.0**	**+1.3**
CABF				*e*Sg	**Sg**	**04 31 21.9**	**-0.6**
	2.2nm,0.4s						
SJPF	**Ste Jean**	**3.90**	**199**	*e*Pg	**Pg**	**04 30 31.7**	**-1.4**
SJPF				*e*Sn	**Sn**	**04 31 01.2**	**-2.6**
SJPF				*e*Sg	**Sg**	**04 31 19.8**	**-3.7**
	4.3nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**3.90**	**199**	*e*Pn	**Pn**	**04 30 18.3**	**+0.2**
SJPF				*e*Pg	**Pg**	**04 30 31.7**	**-1.4**
SJPF				*e*Sn	**Sn**	**04 31 01.2**	**-2.6**
SJPF				*e*Sg	**Sg**	**04 31 19.8**	**-3.7**
BAIF	**Baives**	**4.08**	**36**	*e*Pn	**Pn**	**04 30 22.3**	**+1.5**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**04 31 06.7**	**-1.8**
	2.6nm,0.3s,SNR=1.0						
BAIF	**Baives**	**4.08**	**36**	*e*Pn	**Pn**	**04 30 22.3**	**+1.5**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**04 31 06.7**	**-1.8**
	1.3nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.16**	**71**	*e*Pg	**Pg**	**04 30 37.7**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**04 31 08.3**	**-2.0**
HAU				*e*Sg	**Sg**	**04 31 30.7**	**-1.3**
	8.4nm,0.2s						
HAU	**Haudompre**	**4.16**	**71**	*e*Pn	**Pn**	**04 30 22.5**	**+0.7**
HAU				*e*Pg	**Pg**	**04 30 37.7**	**-0.4**
HAU				*e*Sn	**Sn**	**04 31 08.3**	**-2.0**
HAU				*e*Sg	**Sg**	**04 31 30.7**	**-1.3**
HAU	**Haudompre**	**4.16**	**71**	*e*Pg	**Pg**	**04 30 37.7**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**04 31 08.3**	**-2.0**
HAU				*e*Sg	**Sg**	**04 31 30.7**	**-1.3**
	4.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**4.22**	**115**	*e*Sg	**Sg**	**04 31 33.2**	**-0.8**
	2.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.22**	**115**	*e*Sg	**Sg**	**04 31 33.2**	**-0.8**
	1.0nm,0.4s						
GIVF	**Givet**	**4.38**	**40**	*e*Pn	**Pn**	**04 30 26.5**	**+1.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**04 31 14.3**	**-1.4**
	2.8nm,0.3s						
GIVF	**Givet**	**4.38**	**40**	*e*Pn	**Pn**	**04 30 26.5**	**+1.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**04 31 14.3**	**-1.4**
	1.4nm,0.3s						
HINF	**Hinteralfeld**	**4.45**	**75**	*e*Pg	**Pg**	**04 30 42.7**	**-1.0**
HINF				*e*Sn	**Sn**	**04 31 15.4**	**-2.1**
HINF				*e*Sg	**Sg**	**04 31 39.4**	**-1.9**
	6.9nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**4.45**	**75**	*e*Pn	**Pn**	**04 30 25.9**	**+0.1**
HINF				*e*Pg	**Pg**	**04 30 42.7**	**-1.0**
HINF				*e*Sn	**Sn**	**04 31 15.4**	**-2.1**
HINF				*e*Sg	**Sg**	**04 31 39.4**	**-1.9**
HINF	**Hinteralfeld**	**4.45**	**75**	*e*Pg	**Pg**	**04 30 42.7**	**-1.0**
HINF				*e*Sn	**Sn**	**04 31 15.4**	**-2.1**
HINF				*e*Sg	**Sg**	**04 31 39.4**	**-1.9**
	3.5nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**4.87**	**68**	*e*Pn	**Pn**	**04 30 32.2**	**+0.7**
CDF				*e*Pg	**Pg**	**04 30 51.1**	**-0.5**

CSEM ***22*** *04:41:56.8, 67.17N×2070E, h0km, ML2.7, Mining explosion. After UPP*
UPP ***22*** *04:41:56.8, 67.17N×2070E, h0km, ML2.7, Mining explosion.*

HEL 22 04:41:57.4±0.1, 6717N×2069E, h0km, ML2.7(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**224**	*i* P	Pg	04 41 58.5	-0.3
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P	Pg	04 42 07.8	-0.8
KUA	**Kurravaara**	**0.80**	**350**	*i* P	Pg	04 42 12.0	-0.7
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P	Pg	04 42 14.2	-1.4
NIKU	**Nikkaluokta**	**0.95**	**318**	P	Pg	04 42 14.1	-1.4
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	04 42 14.6	-1.2
HARU	**Harads**	**1.02**	**174**	*e*P	Pg	04 42 15.9	-1.0
HARU	**Harads**	**1.02**	**174**	P	Pg	04 42 15.9	-1.0
	baz=351						
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	04 42 30.2	0.0
KIF				*e*S	Sn	04 42 55.7	+1.5
LILU	**Lilltraesk**	**1.93**	**191**	*e*P	Pn	04 42 31.9	+0.5
LILU	**Lilltraesk**	**1.93**	**191**	P	Pn	04 42 31.9	+0.5
	baz=6.8						
SGF	**Sodankyl**	**2.28**	**80**	*e*SG	Sg	04 43 07.2	-3.5

IDC ***22*** *04:43:51.2±1.7, 1321N×12083E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.5/32, Error ellipse: s-maj=79.0km s-min=10.5km az=90.0*
ISCJB ***22*** *04:43:52.7±1.0, 1347N±005×12148E±005, h13km±8km, mb3.6/3, Error ellipse: s-maj=10.2km s-min=5.6km az=100.9*
MAN ***22*** *04:43:52.6, 1347N×12152E, h8km, mb2.8, ML4.2, MS1.0*

ISC 22 04:43:52.7±0.7, 1346N±004×12147E±005, h5km±6km, n19, σ0992/20, mb3.6/3, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.36**	**90**	*e*P	**Pg**	**04 43 59.4**	**-0.4**
TGY	**Tagaytay City**	**0.82**	**321**	⇓*i*P	**Pg**	**04 44 09.3**	**+0.8**
TGY				*i* S	**Sg**	**04 44 19.6**	**+0.4**
TGY	**Tagaytay City**	**0.82**	**321**	Pg	**Pg**	**04 44 08.9**	**+0.4**
	318nm,0.3s,baz=200,slow=1.6,SNR=27						
TGY				Lg		04 44 20.3	
	445nm,0.3s,baz=190,slow=18,SNR=14						
AUQP	**San Andres**	**1.18**	**96**	*e*P	**Pg**	**04 44 16.0**	**+0.7**
OTRP	**Odiongan**	**1.22**	**154**	*e*P	**Pg**	**04 44 14.4**	**-1.6**
OTRP				*e*S	**Sg**	**04 44 32.7**	**+0.9**
LUBP	**Lubang**	**1.22**	**283**	*e*P	**Pg**	**04 44 15.1**	**-1.0**
POLP	**Polillo Island**	**1.34**	**20**	*e*P	**Pn**	**04 44 16.4**	**-1.7**
BUSP	**Coron**	**1.91**	**221**	*e*P	**Pn**	**04 44 25.9**	**+0.1**
RCP	**Roxas**	**2.26**	**146**	⇑*e*P	**Pn**	**04 44 30.5**	**-0.2**
PVCP	**Virac**	**2.61**	**87**	*e*P	**Pn**	**04 44 37.1**	**+1.6**
SCZP	**Santa Cruz**	**2.75**	**327**	*e*P	**Pn**	**04 44 41.1**	**+3.7**
ENPP	**El Nido**	**3.00**	**222**	*e*P	**Pn**	**04 44 42.2**	**+1.3**
BOLP	**Bolinao**	**3.27**	**333**	*e*P	**Pn**	**04 44 45.0**	**+0.5**
JOW	**Kunigami**	**14.75**	**25**	LR	LR	04 54 09.2	
	comp=Z,20nm,18.5s,baz=99,slow=40						
WRA	**Warramunga Arr**	**35.52**	**159**	P	**P**	**04 50 49.8**	**-0.7**
	0.8nm,0.6s,mb3.8,baz=336,slow=9.6,SNR=5.9						
WB2	**Warramunga Arr**	**35.53**	**159**	*e*P	**P**	**04 50 50.1**	**-0.4**
SONM	**Songino Array**	**36.50**	**343**	P	**P**	**04 50 58.5**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=179,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**38.85**	**162**	P	**P**	**04 51 18.0**	**-0.7**
	0.5nm,0.5s,mb3.5,baz=340,slow=7.2,SNR=18						
ASPA	**Alice Springs**	**38.85**	**162**	*e*P	**P**	**04 51 19.3**	**+0.6**

IDC ***22*** *04:48:48.7±2.1, 465S×15164E, h89km±7km, mb3.5/3, mb1 3.7/5, mb1mx3.4/16, mbtmp3.9/5, Error ellipse: s-maj=61.9km s-min=26.2km az=124.0*

NEIC 22 04:48:48.7±2.0, 444S×15145E, Error ellipse: s-maj=49.9km s-min=24.4km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.51**	**221**	P	Pn	04 50 23.5	+1.7
	1.8nm,0.3s,baz=78,slow=8.0,SNR=4.8						
PMG				S	Sn	04 51 34.7	0.0
	1.2nm,0.3s,baz=123,slow=18,SNR=4.2						
CTA	**Charters Tower**	**16.35**	**198**	P	Pn	04 52 33.0	+0.3
	0.3nm,0.3s,baz=32,slow=9.5,SNR=2.5						
WB2	**Warramunga Arr**	**22.69**	**226**	*e*P	P	04 53 42.3	-0.4
WRA	**Warramunga Arr**	**22.70**	**226**	P	P	04 53 42.4	-0.4
	0.8nm,0.2s,baz=53,slow=9.7,SNR=19						
WRA				pP	pP	04 54 01.2	+0.6
	0.8nm,0.5s,baz=51,slow=10,SNR=4.7						
WRA				sP	sP	04 54 13.4	+1.7
	2.9nm,0.8s,baz=52,slow=9.8,SNR=8.1						
AS31	**Alice Springs**	**25.53**	**220**	*e*P	P	04 54 08.8	-0.1
ASAR	**Alice Springs**	**25.53**	**220**	P	P	04 54 08.8	-0.1
	1.1nm,0.5s,baz=57,slow=8.7,SNR=20						
ASAR				pP	pP	04 54 29.3	+0.4
	1.4nm,0.8s,baz=54,slow=8.4,SNR=5.5						
ASAR				sP	sP	04 54 38.9	-0.4
	1.9nm,0.7s,baz=56,slow=8.5,SNR=7.4						
ASPA	**Alice Springs**	**25.53**	**220**	*e*P	P	04 54 08.8	-0.1
FITZ	**Fitzroy Crossi**	**28.66**	**240**	P	P	04 54 37.3	+0.4
	1.8nm,0.9s,baz=65,slow=8.9,SNR=9.9						
FITZ				pP	pP	04 54 57.4	+0.3
	0.4nm,0.3s,baz=62,slow=10.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**148.91**	**288**	PKPbc	PKPbc	05 08 28.3	+2.2
	0.2nm,0.5s,baz=86,slow=2.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**148.91**	**288**	PKPbc	PKPbc	05 08 28.3	+2.2

IDC ***22*** *04:54:55.2±0.8, 2524N×5613E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/25, mbtmp3.9/15, ML3.1/1, Error ellipse: s-maj=19.0km s-min=16.6km az=58.0*
ISCJB ***22*** *04:54:55.6±0.3, 2528N±003×5589E±004, h10km, mb3.9/15, Error ellipse: s-maj=6.4km s-min=3.5km az=108.0*
KISR ***22*** *04:54:56.8±0.5, 2606N×5629E, h34km, ML4.5*
THR ***22*** *04:55:14.5±0.5, 2663N×5548E, h18km±9km, ML3.7*
CSEM ***22*** *04:55:17.1±0.4, 2684N×5550E, h14km, ML3.7, Error ellipse: s-maj=8.4km s-min=3.8km az=178.0*
TEH ***22*** *04:55:22.4, 2690N×5563E, h29km, Mn3.7*

ISC 22 04:54:57.3±0.3, 2524N±003×5599E±004, h10km, n47, σ1919/56, mb3.9/15, 1C-4D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATD	**Hatta, Dubai**	**0.43**	**162**	P	**Pg**	**04 55 05.2**	**-0.6**
	SNR=780						
ASHO	**Ashiyiah**	**0.56**	**173**	⇓P	**Pg**	**04 55 07.9**	**-0.2**
	SNR=386						
ARQ	**Araqi**	**1.96**	**165**	⇑P	**Pn**	**04 55 31.6**	**+1.0**
	SNR=11						
HOQ	**Hoqain**	**2.04**	**143**	⇓P	**Pn**	**04 55 31.5**	**-0.3**
BNDS	**Bandar-Abbas**	**2.16**	**4**	*e*PG	**Pn**	**04 55 33.2**	**-0.1**
BIDO	**Bidbid**	**2.60**	**131**	⇓P	**Pn**	**04 55 38.5**	**-0.9**
BSY	**Bisya**	**2.72**	**156**	⇓P	**Pn**	**04 55 43.2**	**+2.2**
SMDO	**Samad**	**2.88**	**139**	P	**Pn**	**04 55 43.6**	**+0.4**
	SNR=52						
WSAR	**Wadi Sarin**	**3.13**	**129**	Pn	**Pn**	**04 55 45.0**	**-1.7**
	2.4nm,0.3s,baz=333,slow=9.3,SNR=43						
WSAR				Sn	**Sn**	**04 56 22.0**	**-2.1**
	6.5nm,0.3s,baz=81,slow=12,SNR=14						
WSAR				Lg		04 56 26.3	
	6.3nm,0.3s,baz=173,slow=17,SNR=11						
WBK	**Wadi Bani Khal**	**3.78**	**133**	P	**Pn**	**04 55 57.2**	**+1.6**
	SNR=9.9						
GHIR	**Ghir-Karzin**	**4.05**	**319**	*e*PN	**Pn**	**04 56 00.1**	**+0.8**
KRBR	**Kerman**	**4.77**	**8**	*e*Pn	**Pn**	**04 56 10.4**	**+1.1**
KRBR				*e*SG	**Sn**	**04 57 04.3**	**-0.3**
KRBR				AML	AML	04 57 11.6	
	comp=N,125nm,0.4s						
KRBR				AML	AML	04 57 12.8	
	comp=E,108nm,0.4s						
KRBR	**Kerman**	**4.77**	**8**	*e*Pn	**Pn**	**04 56 10.4**	**+1.1**
	SNR=52						
KRBR				*e*Sg	**Sn**	**04 57 04.3**	**-0.4**
	SNR=91						
IMOK	**Mook**	**4.78**	**323**	*e*Pn	**Pn**	**04 56 10.9**	**+1.5**
IMOK				*e*Sn	**Sn**	**04 56 49.8**	**-15**
ISRV	**Sarvestan**	**4.85**	**329**	*e*Pn	**Pn**	**04 56 12.3**	**+1.9**
ISRV				*e*Sn	**Sn**	**04 56 49.6**	**-17**
IMEH	**Mehriz**	**6.25**	**349**	*e*Pn	**Pn**	**04 56 30.2**	**+0.7**
IBAF	**Bafgh**	**6.34**	**357**	*e*Pn	**Pn**	**04 56 30.5**	**-0.3**
ICHK	**Chekchek**	**7.12**	**349**	*e*Pn	**Pn**	**04 56 42.6**	**+1.2**
ICHK				*e*Sn	Sn	04 57 39.1	-23
IKOO		**7.63**	**20**	*e*Pn	**Pn**	**04 56 50.2**	**+1.7**
IGAR	**Garneh**	**7.73**	**335**	*e*Pn	**Pn**	**04 56 51.0**	**+1.1**
ITEG		**8.00**	**17**	*e*Pn	**Pn**	**04 56 56.0**	**+2.4**
NASN	**Na'in**	**8.03**	**340**	*e*PN	**Pn**	**04 56 52.9**	**-1.1**
NASN				AML	AML	04 58 26.9	
	comp=E,25nm,0.4s						
NASN				AML	AML	04 58 29.2	
	comp=N,24nm,0.4s						
IZEF	**Zefreh**	**8.27**	**338**	*e*Pn	**Pn**	**04 56 55.7**	**-1.6**
IZEF				*e*Sn	Sn	04 58 07.1	-24
RDF	**Al-Radifah**	**8.37**	**298**	*e*P	**Pn**	**04 56 60.0**	**+1.3**
RDF				*e*S	**Sn**	**04 58 32.6**	**-0.5**
RDF				AML	AML	04 58 38.7	
	comp=Z,30nm,0.4s						
UMR	**Umm Al-Rimmam**	**8.51**	**302**	*e*P	**Pn**	**04 57 01.3**	**+0.7**
UMR				*e*S	**Sn**	**04 58 34.3**	**-2.4**
UMR				AML	AML	04 58 41.1	
	comp=Z,35nm,0.4s						
IPIR	**Pirpir**	**8.65**	**330**	*e*Pn	**Pn**	**04 56 59.4**	**-3.2**
IPIR				*e*Sn	Sn	04 58 18.1	-22
NAY	**Al-Naaiem**	**8.74**	**299**	*e*P	**Pn**	**04 57 04.8**	**+1.0**
NAY				*e*S	**Sn**	**04 58 41.3**	**-1.1**
NAY				AML	AML	04 58 44.8	
	comp=Z,22nm,0.7s						
MIB	**Mutribah**	**8.92**	**303**	*e*P	**Pn**	**04 57 07.0**	**+0.8**
MIB				*e*S	**Sn**	**04 58 44.3**	**-2.4**
MIB				AML	AML	04 58 46.6	
	comp=Z,35nm,0.6s						
IKLH	**Kalahroud**	**8.92**	**335**	*e*Pn	**Pn**	**04 57 06.4**	**+0.2**
IKLH				*e*Sn	Sn	04 58 22.8	-24
ASAO	**Ashtian**	**10.62**	**332**	*e*PN	**Pn**	**04 57 28.9**	**-0.6**
SNGE	**Sanandaj**	**12.33**	**325**	*e*Pn	**Pn**	**04 57 52.8**	**-0.2**
BRTR	**Keskin Array B**	**23.66**	**313**	P	**P**	**05 00 10.4**	**+1.4**
	comp=Z,1.5nm,0.7s,mb3.6,baz=133,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**25.20**	**3**	P	**P**	**05 00 22.6**	**-0.5**
	comp=Z,6.3nm,0.8s,mb4.2,baz=179,slow=11,SNR=9.2						
BVAR	**Borovoye Array**	**29.80**	**18**	P	**P**	**05 01 02.7**	**-1.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=207,slow=9.6,SNR=4.2						
MKAR	**Makanchi Array**	**30.01**	**37**	P	**P**	**05 01 05.7**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.2,baz=224,slow=6.0,SNR=3.2						
ZAL	**Zalesovo**	**35.79**	**29**	P	**P**	**05 01 55.5**	**-1.2**
	comp=Z,1.7nm,0.3s,mb4.5,baz=240,slow=6.7,SNR=4.3						
GERES	**GERESS Array B**	**40.45**	**317**	P	**P**	**05 02 36.5**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=112,slow=6.9,SNR=3.2						
FINES	**FINESS Array B**	**41.49**	**339**	P	**P**	**05 02 43.6**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.4,baz=138,slow=11,SNR=7.1						
KAF	**Kangasniemi**	**41.91**	**340**	*ep*	**P**	**05 02 52.2**	**+4.3**
	comp=Z,0.8nm,0.4s,mb3.7						
NB2	**NORSAR Subarra**	**46.89**	**332**	P	**P**	**05 03 25.9**	**-1.9**
	comp=Z,2.4nm,0.9s,mb4.1,baz=117,slow=8.6						
NOA	**NORSAR Array B**	**46.89**	**332**	P	**P**	**05 03 26.2**	**-1.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=117,slow=8.0,SNR=4.3						
ARCES	**ARCESS Array B**	**47.82**	**346**	P	**P**	**05 03 34.4**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=139,slow=8.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**52.35**	**267**	P	**P**	**05 04 09.7**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=72,slow=7.2,SNR=23						
DBIC	**Dimbokro**	**60.84**	**263**	P	**P**	**05 05 10.7**	**+0.9**
	comp=Z,1.3nm,0.4s,mb4.5,baz=39,slow=9.0,SNR=7.4						
BOSA	**Boshof**	**61.16**	**211**	P	**P**	**05 05 12.7**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.4,baz=33,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**88.38**	**113**	P	**P**	**05 07 48.1**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.9,baz=314,slow=4.6,SNR=5.6						
ASAR	**Alice Springs**	**89.74**	**116**	P	**P**	**05 07 55.6**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.7,baz=297,slow=4.4,SNR=5.3						

NEIC ***22*** *05:12:54.9±1.1, 2800N×11197W, h10km, Error ellipse: s-maj=17.4km s-min=11.0km az=70.0*
IDC ***22*** *05:12:56.4±1.6, 2787N×11168W, h0km, mb3.7/1, mb1 3.9/6, mb1mx3.7/25, mbtmp3.5/6, ML3.5/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/43, Error ellipse: s-maj=18.7km s-min=13.7km az=44.0*
ISCJB ***22*** *05:12:57.5±1.5, 2823N±008×11171W±0.10, h10km, MS3.2/1, Error ellipse: s-maj=14.4km s-min=9.6km az=89.7*

ISC 22 05:12:59.1±1.4, 2819N±008×11170W±007, h10km, n12, σ1953/17, MS3.2/1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**4.19**	**11**	*e*Pn	**Pn**	**05 14 01.9**	**-1.1**
TUC				*e*Pg	**Pg**	**05 14 17.3**	**-2.1**
TUC				*e*Sg	**Sg**	**05 15 15.1**	**+1.5**
LPIG	**La Paz**	**4.25**	**163**	Pn	**Pn**	**05 13 58.3**	**-5.6**
	1.5nm,0.3s,baz=355,slow=4.8,SNR=2.7						
LPIG				Lg		05 15 01.4	
	2.8nm,0.3s,baz=24,slow=8.6,SNR=6.0						
LPIG				LR	LR	05 15 34.3	
	comp=Z,213nm,19.3s,baz=324,slow=40						
LPIG	**La Paz**	**4.25**	**163**	Pn	**Pn**	**05 13 58.3**	**-5.6**
LPIG				Lg		05 15 01.4	
LPIG				LR	LR	05 15 34.3	
GLA	**Glamis**	**5.55**	**332**	*e

1.4nm,0.1s,SNR=5.5
ESPR Lg 05 28 28.7
4.6nm,0.2s,SNR=5.0
EMIN Mina Concepcio 1.33 25 Pg Pg 05 28 13.9 -2.0
0.5nm,0.1s,SNR=6.8
EMIN Lg 05 28 30.0
2.1nm,0.2s,SNR=8.9
PTEO Sao Teotonio 1.47 313 *e*P Pn 05 28 14.3 -1.6
PTEO *e*S Sn 05 28 31.8 -2.8
PTEO
3.6nm,0.2s
EJIF Jimena Fronter 1.54 93 Pg Pg 05 28 16.6 -3.2
0.5nm,0.2s,SNR=7.9
MOE Montemor 2.11 339 *e*Sn Sn 05 28 47.9 -2.7
PESTR Estremoz 2.31 356 *e*Pn Pn 05 28 27.1 -0.4
PESTR *e*Sn Sn 05 28 53.5 -2.1
EADA Adamuz 2.75 53 Pn Pn 05 28 35.4 +1.9
0.6nm,0.4s,SNR=7.9
EADA Sn Sn 05 29 04.4 -1.8
1.6nm,0.2s,SNR=7.9
EQUE Quentar 3.22 77 Pn Pn 05 28 40.9 +0.9
0.2nm,0.1s,SNR=7.9
EQUE Sn Sn 05 29 15.2 -2.6
0.8nm,0.4s,SNR=7.9
PCBR Castelo Branco 3.28 359 *e*Pn Pn 05 28 40.3 -0.5
PCBR *e*Sn Sn 05 29 17.3 -2.1

IDC 22 05:52:13.6±5.6, 693S×14802E, h146km±47km, mb2.8/2, mb1 2.9/4, mb1mx2.8/14, mbtmp3.1/4, Error ellipse: s-maj=99.8km s-min=53.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.60**	**199**	P	Pn	05 52 54.3	-1.4
	1.7nm,0.3s,baz=348,slow=9.3,SNR=2.5						
PMG				S	Sn	05 53 29.5	+1.2
	4.6nm,0.3s,baz=210,slow=22,SNR=8.4						
WB2	**Warramunga Arr**	**18.53**	**224**	*e*P	P	05 56 30.3	+12
WRA	**Warramunga Arr**	**18.54**	**224**	P	P	05 56 19.2	+0.3
	0.1nm,0.3s,baz=51,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**21.46**	**218**	P	P	05 56 50.2	-0.2
	0.2nm,0.5s,baz=48,slow=8.6,SNR=4.9						
FITZ	**Fitzroy Crossi**	**24.47**	**241**	P	P	05 57 19.0	0.0
	1.2nm,0.8s,baz=49,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**146.29**	**283**	PKPbc	PKPbc	06 11 38.3	+1.2
	0.3nm,0.9s,baz=85,slow=3.9,SNR=4.3						

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*NEIC **22** 05:56:49.0±0.3, 474S×15184E, mb4.2/7, Error ellipse: s-maj=11.4km s-min=7.5km az=93.0*
*IDC **22** 05:56:49.5±0.8, 478S×15186E, h112km±6km, mb4.1/14, mb1 4.2/16, mb1mx4.2/19, mbtmp4.5/16, MS3.1/2, Ms1 3.1/2, ms1mx2.8/20, Error ellipse: s-maj=17.3km s-min=10.5km az=93.0*
*BJI **22** 05:56:49.6, 471S×15266E, h160km, mB4.8, mb4.6*
*ISCJB **22** 05:56:50.4±2.3, 477S±008×15182E±0.10, h137km±20km, mb4.2/22, Error ellipse: s-maj=16.3km s-min=12.3km az=164.3*
ISC 22 05:56:51.5±1.6, 480S±007×15188E±009, h133km±14km, h116km±2.1km; pP-P, n42, σ0°96/38, mb4.2/21, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.55**	**225**	P	**Pn**	**05 58 25.3**	**-0.1**
	0.8nm,0.3s,baz=26,slow=6.0,SNR=3.3						
PMG				S	**Sn**	**05 59 37.2**	**-1.4**
	5.0nm,0.3s,baz=98,slow=20,SNR=7.7						
PMG	**Port Moresby**	**6.55**	**225**	*e*Pn	**Pn**	**05 58 26.4**	**+1.0**
	35nm,0.8s						
PMG				*e*Sn	**Sn**	**05 59 38.8**	**+0.1**
CTA	**Charters Tower**	**16.15**	**199**	LR	LR	06 04 44.9	
	comp=Z,77nm,20.3s,baz=51,slow=29						
GUMO	**Guam**	**19.55**	**339**	P	**P**	**06 01 10.2**	**+1.4**
	3.9nm,0.3s,baz=179,slow=7.4,SNR=9.8						
GUMO				LR	LR	06 07 58.3	
	comp=Z,39nm,18.1s,baz=88,slow=34						
GUMO	**Guam**	**19.55**	**339**	*e*P	**P**	**06 01 07.2**	**-1.5**
	196nm,1.0s						
DZM	**Mont Dzumac**	**22.22**	**142**	*e*P	**P**	**06 01 37.6**	**+0.3**
DZM	**Mont Dzumac**	**22.22**	**142**	P	**P**	**06 01 37.6**	**+0.3**
	29nm,0.8s,mb4.8,baz=332,slow=13,SNR=23						
WB2	**Warramunga Arr**	**22.75**	**227**	⇑*e*P	**P**	**06 01 42.0**	**-0.4**
WB2				*e*		06 02 05.8	
WRA	**Warramunga Arr**	**22.76**	**227**	P	**P**	**06 01 42.1**	**-0.5**
	3.2nm,0.4s,mb4.1,baz=51,slow=9.9,SNR=43						
WRA				pP		06 02 05.3	
	15nm,0.9s,baz=52,slow=9.7,SNR=13						
WRA				S	**S**	**06 05 40.6**	**-0.5**
	1.7nm,0.9s,baz=40,slow=15,SNR=4.7						
AS31	**Alice Springs**	**25.54**	**221**	*e*P	**P**	**06 02 07.5**	**-0.3**
AS31				*e*	pP	06 02 33.4	-2.5
ASAR	**Alice Springs**	**25.54**	**221**	P	**P**	**06 02 07.7**	**0.0**
	3.7nm,0.6s,mb4.2,baz=53,slow=8.9,SNR=27						
ASAR				pP	pP	06 02 32.2	-3.7
	14nm,0.8s,baz=57,slow=9.1,SNR=22						
ASAR				sP	sP	06 02 44.5	-6.9
	7.4nm,0.7s,baz=53,slow=8.9,SNR=5.5						
STKA	**Stephens Creek**	**28.61**	**198**	P	**P**	**06 02 35.0**	**-0.2**
	2.7nm,0.6s,mb4.1,baz=21,slow=14,SNR=4.5						
STKA				pP	pP	06 02 59.1	-4.6
	2.0nm,0.4s,baz=351,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**28.86**	**241**	P	**P**	**06 02 37.5**	**+0.2**
	0.7nm,0.3s,mb3.8,baz=62,slow=7.7,SNR=4.8						
JOW	**Kunigami**	**38.86**	**325**	P	**P**	**06 04 05.2**	**+1.5**
	26nm,0.8s,mb4.9,baz=141,slow=8.3,SNR=6.2						
RPZ	**Rata Peaks**	**42.29**	**159**	P	**P**	**06 04 32.9**	**+1.0**
	9.1nm,0.6s,mb4.6,baz=42,slow=13,SNR=5.2						
MJAR	**Matsushiro Arr**	**43.07**	**344**	P	**P**	**06 04 36.4**	**-1.7**
	2.2nm,0.8s,mb3.9,baz=159,slow=7.9,SNR=8.5						
SONM	**Songino Array**	**65.83**	**328**	P	**P**	**06 07 23.8**	**+1.2**
	3.9nm,0.5s,mb4.5,baz=144,slow=5.3,SNR=26						
SONM				pP	pP	06 07 51.2	-3.6
	0.7nm,0.5s,baz=119,slow=4.1,SNR=2.7						
GUN	**Gumba**	**71.33**	**301**	*e*P	**P**	**06 07 57.9**	**+1.2**
	14nm,0.7s,mb4.8						
PKI	**Pulchoki**	**71.64**	**301**	*e*P	**P**	**06 07 59.4**	**+0.8**
KKN	**Kakani**	**71.81**	**301**	*e*P	**P**	**06 08 00.6**	**+1.0**
DMN	**Daman**	**71.91**	**301**	*e*P	**P**	**06 08 01.5**	**+1.3**
	10.0nm,0.6s,mb4.7						
GKN	**Gorkha**	**72.42**	**301**	*e*P	**P**	**06 08 03.1**	**-0.1**
VNDA	**Vanda**	**72.86**	**178**	P	**P**	**06 08 06.3**	**+0.4**
	1.0nm,0.8s,mb3.6,baz=308,slow=7.4,SNR=6.1						
VNDA	**Vanda**	**72.86**	**178**	*e*P	**P**	**06 08 05.5**	**-0.3**
	1.4nm,1.0s,mb3.6						
KOLN	**Koldanda**	**73.24**	**301**	*e*P	**P**	**06 08 08.6**	**+0.6**
	7.1nm,0.7s,mb4.5						
WMQ	**Urumqi**	**75.12**	**318**	*e*P	**P**	**06 08 19.0**	**+0.1**
SLKM	**Skilak Lake**	**79.06**	**25**	*e*P	**P**	**06 08 40.1**	**-0.8**
MK31	**Makanchi Array**	**79.72**	**319**	*e*P	**P**	**06 08 44.6**	**+0.1**
MKAR	**Makanchi Array**	**79.72**	**319**	P	**P**	**06 08 44.7**	**+0.2**
	1.5nm,0.7s,mb3.7,baz=101,slow=6.3,SNR=13						
ZAL	**Zalesovo**	**80.65**	**327**	P	**P**	**06 08 48.4**	**-1.1**
	1.5nm,0.5s,mb3.9,baz=360,slow=7.2,SNR=8.3						
ZAL				pP	pP	06 09 17.9	-5.1
	0.7nm,0.4s,baz=319,slow=6.7,SNR=1.8						
MCK	**McKinley**	**81.22**	**23**	*e*P	**P**	**06 08 51.2**	**-1.3**
	1.2nm,0.5s,mb3.8						
COLA	**College**	**82.19**	**22**	*e*P	**P**	**06 08 56.6**	**-1.0**
	4.1nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**84.00**	**314**	*e*P	**P**	**06 09 07.0**	**+0.1**
	2.2nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**88.67**	**324**	*e*P	**P**	**06 09 27.8**	**-1.9**
	1.1nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**89.50**	**323**	*e*P	**P**	**06 09 31.9**	**-1.7**
	1.2nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**92.81**	**52**	P	**P**	**06 09 50.5**	**+1.5**
	1.3nm,0.6s,mb4.2,baz=261,slow=6.1,SNR=13						
PDAR	**Pinedale Array**	**99.53**	**48**	P	Pdif	06 10 19.6	+0.2
	0.8nm,0.7s,baz=277,slow=2.2,SNR=8.6						
GERES	**GERESS Array B**	**123.57**	**328**	PKP	PKPdf	06 15 33.4	+0.3
	1.2nm,0.6s,baz=68,slow=1.3,SNR=18						
LPAZ	**La Paz**	**135.23**	**119**	PKP	PKPdf	06 15 58.1	+2.9
	0.4nm,0.5s,baz=290,slow=5.5,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**149.43**	**288**	*e*PKPbc	PKPbc	06 16 25.4	+0.5
TORD	**Torodi Ar. Bea**	**149.43**	**288**	PKPbc	PKPbc	06 16 25.6	+0.7
	4.1nm,0.5s,baz=67,slow=2.1,SNR=63						
BDFB	**Brasilia**	**151.71**	**136**	PKPbc	PKPbc	06 16 32.2	+2.0
	1.4nm,0.7s,baz=223,slow=15,SNR=3.0						

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*NEIC **22** 06:05:55.9, 3438S×70.16W, h17km, ML2.7(GUC), After GUC.*

GUC 22 06:05:55.9±0.6, 3438S×7016W, h17km±2km, MD3.7, ML2.7, 9C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.22**	**286**	⇓*i*P	Pg	06 06 00.8	-0.3
CICH				*i* S	Sg	06 06 04.9	+0.3
CACH	**El Canelo**	**0.45**	**306**	⇑*i*P	Pg	06 06 04.5	-0.5
CACH				*i* S	Sg	06 06 10.3	-0.8
CHCH	**Chadas Angostu**	**0.60**	**318**	⇓*i*P	Pg	06 06 07.6	-0.3
CHCH				*i* S	Sg	06 06 16.6	+0.6
SFDO	**San Fernando**	**0.74**	**252**	*e*P	Pb	06 06 09.8	-0.4
SFDO				*i* S	Sb	06 06 20.5	+0.4
PCH	**Pirque**	**0.81**	**339**	⇓*i*P	Pb	06 06 11.1	-0.4
PCH				*i* S	Sb	06 06 22.6	+0.4
ANTU	**Antumapu**	**0.90**	**334**	⇑*i*P	Pb	06 06 12.8	-0.2
ANTU				*i* S	Sb	06 06 25.6	+0.9
ANTU				AML	AML	06 06 26.5	
	comp=N,909nm,0.5s						
ANTU	**Antumapu**	**0.90**	**334**	⇑*i*P	Pb	06 06 12.8	-0.2
ANTU				*i* S	Sb	06 06 25.6	+0.9
FSR	**Penalolen**	**0.95**	**341**	*e*P	Pb	06 06 13.6	-0.3
FSR				*i* S	Sb	06 06 27.2	+1.0
FSR				AML	AML	06 06 28.7	
	comp=E,312nm,0.5s						
FSR	**Penalolen**	**0.95**	**341**	*e*P	Pb	06 06 13.6	-0.3
FSR				*i* S	Sb	06 06 27.2	+1.0
TACH	**Talagante**	**0.97**	**318**	⇓*i*P	Pb	06 06 13.8	-0.4
TACH				*i* S	Sb	06 06 27.3	+0.5
SAN	**Santiago**	**1.02**	**336**	*i* P	Pb	06 06 14.5	-0.5
SAN				*i* S	Sb	06 06 29.2	+1.2
SAN				AML	AML	06 06 29.4	
	comp=E,330nm,0.5s						
STL	**Santa Lucia**	**1.02**	**337**	*e*P	Pb	06 06 14.1	-1.1
STL				*i* S	Sb	06 06 28.4	+0.1
CLCH	**Cerro Calan**	**1.03**	**342**	⇑*i*P	Pb	06 06 15.0	-0.3
CLCH				*i* S	Sb	06 06 29.7	+1.2
CLCH				AML	AML	06 06 32.4	
	comp=E,352nm,0.4s						
DSCH	**Colegio Aleman**	**1.04**	**341**	*e*P	Pb	06 06 14.4	-0.9
DSCH				*i* S	Sb	06 06 29.4	+0.7
RCDM	**Rinconada Maip**	**1.04**	**329**	⇑*i*P	Pb	06 06 15.0	-0.4
RCDM				*i* S	Sb	06 06 29.7	+1.0
RCDM				AML	AML	06 06 30.9	
	comp=E,646nm,0.1s						
RCDM	**Rinconada Maip**	**1.04**	**329**	⇑*i*P	Pb	06 06 15.0	-0.4
RCDM				*i* S	Sb	06 06 29.7	+1.0
FCH	**Farellones**	**1.06**	**354**	⇑*i*P	Pb	06 06 14.3	-1.4
FCH				*i* S	Sb	06 06 29.2	0.0
FCH				AML	AML	06 06 30.6	
	comp=E,240nm,0.3s						
LNV	**Longovilo**	**1.12**	**292**	⇑*i*P	Pn	06 06 16.3	-0.5
LNV				*i* S	Sb	06 06 31.9	+0.9
PEL	**Peldehue**	**1.31**	**340**	⇑*i*P	Pn	06 06 19.8	+0.4
PEL				*i* S	Sn	06 06 38.1	+1.7
PEL				AML	AML	06 06 38.6	
	comp=N,567nm,0.3s						
LCCH	**Las Cruces**	**1.48**	**307**	*e*P	Pn	06 06 22.4	+0.7
LCCH				*i* S	Sn	06 06 42.5	+2.0
ROCH	**El Roble**	**1.57**	**333**	*e*P	Pn	06 06 24.4	+1.4
ROCH				*i* S	Sn	06 06 46.2	+3.2
JACH	**Jahuel**	**1.73**	**348**	*e*P	Pn	06 06 27.3	+2.1
JACH				*i* S	Sn	06 06 50.4	+3.5
PACH	**Papudo**	**2.13**	**330**	⇓*i*P	Pn	06 06 33.8	+3.2
PACH				*i* S	Sn	06 07 02.1	+5.5

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*HLW **22** 06:16:51.7, 3466N×3203E, h33km, Mb3.5*
*CSEM **22** 06:16:52.2±0.1, 3451N×3196E, h40km, Mw2.8, Error ellipse: s-maj=3.0km s-min=1.4km az=111.0*
*NIC **22** 06:16:54.0±0.3, 3443N×3206E, h25km, ML3.4, MW3.1*
*ISCJB **22** 06:16:53.1±0.7, 3444N±007×3208E±006, h48km±29km, Error ellipse: s-maj=12.2km s-min=7.6km az=168.0*
*NEIC **22** 06:16:54.0, 3443N×3206E, h25km, ML3.4(NIC), After NIC.*
*GII **22** 06:16:55.6±0.5, 3430N×3253E, h0km±3km, ML3.4/4, Mw3.1/3*
ISC 22 06:16:54.3±0.8, 3449N±004×3211E±006, h32km±8km, n39, σ0°77/44, 5C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.44**	**27**	⇑*i*P	**Pb**	**06 17 03.5**	**-0.4**
AKMC	**Akamas**	**0.57**	**19**	⇑*i*P	**Pb**	**06 17 05.6**	**-0.3**
SZAC	**Souni-Zanaja**	**0.69**	**67**	P	**Pn**	**06 17 07.0**	**-0.8**
SZAC				S	**Sb**	**06 17 17.5**	**+0.2**
ALFC	**Alevga**	**0.78**	**31**	⇑P	**Pn**	**06 17 08.5**	**-0.5**
	53nm,0.2s						
ALFC				S	**Sn**	**06 17 20.0**	**+0.5**
ALFC	**Alevga**	**0.78**	**31**	⇑*e*P	**Pn**	**06 17 08.5**	**-0.5**
ALFC				S	**Sn**	**06 17 20.0**	**+0.5**
ALFC	**Alevga**	**0.78**	**31**	⇑*e*P	**Pn**	**06 17 08.5**	**-0.5**
	53nm,0.2s						
CSS	**Prodhromos**	**1.11**	**65**	P	**Pn**	**06 17 13.1**	**-0.5**
	13nm,0.3s						
CSS				S	**Sn**	**06 17 28.1**	**+0.3**
MAMC	**Mammari**	**1.14**	**53**	P	**Pn**	**06 17 14.2**	**+0.3**
PHNC	**Paralimni**	**1.67**	**72**	P	**Pn**	**06 17 23.1**	**+1.9**
HNTI	**Hanita**	**2.92**	**118**	Sn	**Sn**	**06 18 10.7**	**-1.6**
BHL	**Bharnnes**	**3.00**	**100**	*e*Pn	**Pn**	**06 17 45.1**	**+5.6**
OFRI	**'Ofer**	**3.04**	**127**	Pn	**Pn**	**06 17 40.3**	**+0.2**
MMC6	**Mount Meron ar**	**3.11**	**117**	Pn	**Pn**	**06 17 40.4**	**-0.6**
MMA0	**Mount Meron ar**	**3.12**	**117**	Pn	**Pn**	**06 17 40.6**	**-0.6**
MMA0B	**Mount Meron ar**	**3.12**	**117**	Pn	**Pn**	**06 17 40.6**	**-0.6**
MMA1	**Mount Meron ar**	**3.12**	**117**	Pn	**Pn**	**06 17 40.7**	**-0.5**
HWQ	**Hawqa**	**3.18**	**93**	*e*Pn	**Pn**	**06 17 43.6**	**+1.5**
KSDI	**Kefar Szold**	**3.23**	**113**	Pn	**Pn**	**06 17 42.8**	**+0.1**
RCY	**Rachaya**	**3.25**	**107**	*e*Pn	**Pn**	**06 17 42.2**	**-0.7**
HRI	**Mount Hermon**	**3.26**	**111**	Sn	**Sn**	**06 18 18.8**	**-1.9**
HMDT	**Nahal Hemdat**	**3.63**	**127**	Pn	**Pn**	**06 17 49.4**	**+1.3**
AMAG	**Maghara**	**3.95**	**166**	P	**Pn**	**06 17 52.5**	**-0.1**
DRGI	**Dragot**	**4.00**	**135**	Pn	**Pn**	**06 17 53.4**	**+0.2**
DSI	**Dead Sea**	**4.01**	**136**	Pn	**Pn**	**06 17 53.4**	**+0.1**
SVTA	**Shivta**	**4.14**	**148**	Pn	**Pn**	**06 17 56.1**	**+1.0**
MZDA	**Masada**	**4.19**	**138**	Pn	**Pn**	**06 17 56.1**	**+0.2**
HHAG	**Hagoal**	**4.53**	**180**	P	**Pn**	**06 18 00.3**	**-0.2**
KOT	**Kottamia**	**4.56**	**183**	P	**Pn**	**06 18 00.8**	**-0.1**
SUZ		**4.68**	**172**	P	**Pn**	**06 18 02.7**	**+0.1**
PRNI	**Paran**	**4.80**	**148**	Pn	**Pn**	**06 18 04.6**	**+0.3**
PRNI				Sn	**Sn**	**06 18 59.4**	**+0.7**
HNKL	**Nakhl**	**4.82**	**160**	P	**Pn**	**06 18 04.6**	**+0.1**
FYM	**Al Fayyum**	**4.87**	**191**	P	**Pn**	**06 18 05.5**	**+0.3**
HSAF	**As Saff**	**4.88**	**186**	P	**Pn**	**06 18 05.5**	**+0.1**
GLL	**Jalalah**	**4.91**	**184**	P	**Pn**	**06 18 05.7**	**0.0**
MBH	**Mount Berech**	**5.26**	**152**	Pn	**Pn**	**06 18 12.5**	**+2.0**
HKAT	**Jabal Katrina**	**6.16**	**164**	P	**Pn**	**06 18 23.2**	**+0.2**
TR2		**6.24**	**167**	P	**Pn**	**06 18 23.8**	**-0.3**
SWA2		**7.70**	**229**	P	**Pn**	**06 18 42.8**	**-1.3**
HFRF	**Wahat Farafira**	**8.01**	**205**	P	**Pn**	**06 18 47.8**	**-0.6**

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*ISCJB **22** 06:25:29.0±1.0, 103N±0.1×1257E±04, h211km±8km, mb3.6/3, Error ellipse: s-maj=69.6km s-min=15.6km az=162.7*
*MAN **22** 06:25:31.9, 1028N×12545E, h183km, MS2.2*
*IDC **22** 06:26:05.2±2.2, 4.18N×12747E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=119.1km s-min=26.0km az=71.0*
ISC 22 06:25:30.4±0.9, 103N±01×1256E±04, h204km±7km, n10, σ0°45/10, mb3.6/3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.51**	**190**	*e*P	**Pn**	**06 25 58.3**	**+0.3**
SCPH				*e*S	**Sn**	**06 26 18.7**	**-0.7**
MSLP	**Maasin**	**0.72**	**258**	*e*P	**Pn**	**06 25 58.6**	**-0.3**
BUTP	**Butuan**	**1.30**	**178**	*e*P	**Pn**	**06 26 03.3**	**+0.5**
BESP	**Borongan**	**1.32**	**354**	*e*P	**Pn**	**06 26 03.1**	**+0.2**
BUKP	**Musuan**	**2.44**	**192**	*e*P	**Pn**	**06 26 14.4**	**+0.5**
PVCP	**Virac**	**3.58**	**337**	⇓*e*P	**Pn**	**06 26 27.1**	**0.0**
FITZ	**Fitzroy Crossi**	**28.20**	**180**	P	**P**	**06 31 03.7**	**-0.3**
	1.0nm,0.2s,mb4.0,baz=2.8,slow=9.8,SNR=16						
WRA	**Warramunga Arr**	**31.25**	**164**	P	**P**	**06 31 30.1**	**-0.7**
	0.2nm,0.4s,mb3.1,baz=344,slow=9.6,SNR=3.6						
ASAR	**Alice Springs**	**34.71**	**167**	P	**P**	**06 32 01.2**	**+0.5**
	0.7nm,0.3s,mb3.6,baz=340,slow=7.3,SNR=20						
MKAR	**Makanchi Array**	**51.61**	**323**	P	PP	06 35 57.1	-18
	0.6nm,0.7s,baz=135,slow=8.3,SNR=4.4						

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*IDC **22** 06:38:34.8±3.2, 1904S×16951E, h271km±27km, mb3.5/8, mb1 3.7/9, mb1mx3.6/15, mbtmp4.1/9, Error ellipse: s-maj=30.3km s-min=22.6km az=15.0*
*NEIC **22** 06:38:35.0±1.6, 1906S×16950E, h271km±14km, mb3.9/5, Error ellipse: s-maj=20.7km s-min=14.2km az=174.0*
*ISCJB **22** 06:38:35.2±2.0, 192S±02×1694E±0.1, h283km±17km, mb3.8/11, Error ellipse: s-maj=26.5km s-min=19.7km az=10.5*
ISC 22 06:38:35.5±2.0, 192S±02×1695E±01, h275km±17km, n22, σ0°61/21, mb3.8/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.07**	**225**	*e*P	**Pn**	**06 39 40.9**	**-0.3**
DZM	**Mont Dzumac**	**4.07**	**225**	P	**Pn**	**06 39 41.3**	**+0.1**
	1.3nm,0.3s,baz=62,slow=18,SNR=15						
CTA	**Charters Tower**	**21.93**	**264**	*e*P	**P**	**06 43 08.3**	**+1.5**
	6.0nm,1.5s,mb3.7						
CTA	**Charters Tower**	**21.93**	**264**	P	**P**	**06 43 07.5**	**+0.8**
	3.2nm,0.6s,mb3.9,baz=104,slow=10,SNR=6.6						
CTAO	**Charters Tower**	**21.93**	**264**	*e*P	**P**	**06 43 07.6**	**+0.8**
	3.2nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**28.10**	**238**	*e*P	**P**	**06 44 03.3**	**+1.1**
	3.7nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**28.10**	**238**	P	**P**	**06 44 03.1**	**+0.9**
	4.2nm,0.6s,mb4.0,baz=62,slow=8.7,SNR=16						
STKA	**Stephens Creek**	**28.10**	**238**	*e*P	**P**	**06 44 03.3**	**+1.1**
WB2	**Warramunga Arr**	**33.11**	**263**	*e*P	**P**	**06 44 44.9**	**-1.1**
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**	**06 44 45.1**	**-1.0**
	0.9nm,0.3s,mb3.8,baz=82,slow=6.0,SNR=52						
AS31	**Alice Springs**	**33.40**	**256**	*e*P	**P**	**06 44 48.2**	**-0.3**
ASAR	**Alice Springs**	**33.40**	**256**	P	**P**	**06 44 48.4**	**-0.1**
	14nm,0.5s,mb4.7,baz=81,slow=8.9,SNR=124						
FITZ	**Fitzroy Crossi**	**41.51**	**264**	P	**P**	**06 45 56.6**	**+0.4**
	3.0nm,0.6s,mb3.7,baz=61,slow=5.5,SNR=12						
MBWA	**Marble Bar**	**46.63**	**259**	*e*P	**P**	**06 46 37.0**	**+0.4**
	2.5nm,0.4s,mb3.9						
VNDA	**Vanda**	**58.50**	**182**	P	**P**	**06 48 03.2**	**+0.1**
	0.4nm,0.8s,mb2.9,baz=346,slow=4.2,SNR=3.0						
QSPA	**South Pole Qui**	**70.87**	**180**	*e*P	**P**	**06 49 23.1**	**+0.4**
	2.5nm,0.9s,mb3.8						
CMB	**Columbia Colle**	**86.92**	**48**	*e*P	**P**	**06 50 49.8**	**+0.3**
	1.3nm,0.7s,mb3.9						
SONM	**Songino Array**	**87.33**	**323**	P	**P**	**06 50 51.3**	**-0.2**
	0.4nm,0.5s,mb3.5,baz=151,slow=5.1,SNR=3.6						
NVAR	**Mina Array Bea**	**88.56**	**48**	P	**P**	**06 50 57.4**	**+0.2**
	0.3nm,0.5s,mb3.4,baz=226,slow=7.3,SNR=3.7						
VNA3	**Neumayer Olymp**	**89.81**	**180**	*e*	**P**	**06 51 02.3**	**-0.8**
VNA3				*e*		06 51 11.5	
VNA2	**Neumayer--Watz**	**90.11**	**181**	*e*	**P**	**06 51 04.1**	**-0.3**
VNA2				*e*		06 51 14.0	
GERES	**GERESS Array B**	**144.56**	**332**	PKP	PKPdf	06 57 37.1	-2.1
	0.2nm,0.4s,baz=44,slow=4.1,SNR=5.8						

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*HLW **22** 07:00:36.7, 31.14N×3547E, h10km, Mb2.9*
*GII **22** 07:00:36.9±0.4, 3107N×3548E, h5km±1km, ML2.2/9, Mw2.5/2*
*ISCJB **22** 07:00:37.3±0.6, 3108N±002×3539E±007, h14km±4km, Error ellipse: s-maj=9.5km s-min=4.0km az=17.7*
ISC 22 07:00:37.7±0.6, 3108N±002×3542E±007, h14km±4km, n28, σ0°66/34, 2C-3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.24**	**348**	Pg	**Pg**	**07 00 42.7**	**-0.1**
YTIR	**Yattir**	**0.39**	**318**	Pg	**Pg**	**07 00 45.8**	**+0.3**
DSI	**Dead Sea**	**0.49**	**356**	Pg	**Pg**	**07 00 47.6**	**+0.2**
DSI				Sg	**Sg**	**07 00 56.2**	**+2.2**
DRGI	**Dragot**	**0.52**	**357**	Pg	**Pg**	**07 00 47.4**	**-0.4**
MASH	**Mash'abbe Sade**	**0.55**	**262**	Pg	**Pg**	**07 00 49.0**	**+0.6**
ZFRI	**Zfri**	**0.56**	**202**	Pg	**Pg**	**07 00 48.6**	**0.0**
RTMI	**Retamim**	**0.62**	**268**	Pg	**Pg**	**07 00 50.0**	**+0.2**
AMAZ	**Amatzia**	**0.63**	**317**	Pg	**Pg**	**07 00 49.9**	**-0.1**
AMAZ	**Amatzia**	**0.63**	**317**	Pg	**Pg**	**07 00 49.9**	**0.0**
SVTA	**Shivta**	**0.70**	**258**	Pg	**Pg**	**07 00 51.5**	**+0.2**
RMNI	**Mount Ramon**	**0.74**	**230**	Pg	**Pg**	**07 00 52.4**	**+0.4**
PRNI	**Paran**	**0.80**	**206**	Pg	**Pg**	**07 00 53.2**	**-0.1**
KZIT	**Kziot**	**0.89**	**259**	Pg	**Pg**	**07 00 55.0**	**+0.1**
HRFI	**Mount Harif**	**1.09**	**198**	Pg	**Pg**	**07 00 57.7**	**-0.9**
HRFI				Sg	**Sg**	**07 01 13.0**	**+0.2**
KMTI	**Karmit**	**1.14**	**212**	Pg	**Pg**	**07 00 58.9**	**-0.6**
HMDT	**Nahal Hemdat**	**1.18**	**4**	Pg	**

BOAC eS Sg 07 46 32.2 -0.5
TGY Tagaytay City 0.86 320 ||i P Pg 07 46 38.1 +0.1
TGY i S Sg 07 46 49.4 +0.2
TGY Tagaytay City 0.86 320 Pg Pg 07 46 37.7 -0.3
997nm,0.3s,baz=160,slow=2.5,SNR=222
TGY Lg 07 46 49.8
2µm,0.3s,baz=135,slow=7.1,SNR=14
AUQP San Andres 1.15 96 eP Pb 07 46 43.8 +0.3
OTRP Odiongan 1.19 154 eP Pb 07 46 44.4 +0.2
LUBP Lubang 1.25 284 eP Pn 07 46 44.2 -0.9
POLP Polillo Island 1.35 18 eP Pn 07 46 43.6 -3.0
POLP eS Sb 07 47 03.5 -0.8
BUSP Coron 1.91 222 eP Pn 07 46 56.0 +1.7
PCPH Palayan 2.15 350||i eP Pn 07 46 56.8 -0.7
PCPH eS Sn 07 47 26.1 +1.9
RCP Roxas 2.23 147⇑ eP Pn 07 46 58.9 +0.3
BALP Baler 2.29 2 eP Pn 07 46 59.2 -0.3
PVCP Virac 2.59 86⇑ i P Pn 07 47 02.8 -0.7
PVCP i S Sn 07 47 37.3 +2.3
PVCP Virac 2.59 86 eP Pn 07 47 02.7 -0.8
CUYO Cuyo Island 2.62 190 eP Pn 07 47 04.3 +0.4
SCZP Santa Cruz 2.79 327 eP Pn 07 47 07.3 +1.0
GUIM Jordan 2.99 159 eP Pn 07 47 10.0 +0.9
ENPP El Nido 3.00 223 eP Pn 07 47 11.2 +1.9
BCPH Baguio City Da 3.06 343||i eP Pn 07 47 10.9 +0.9
BOLP Bolinao 3.30 333 eP Pn 07 47 13.5 +0.1
CAUP Cauayan 3.50 5 eP Pn 07 47 17.1 +1.1
PALP Palanan 3.71 14||i P Pn 07 47 20.7 +1.7
PALP i S Sn 07 48 04.6 +1.7
PALP Palanan 3.71 14 eP Pn 07 47 20.4 +1.4
CVP Callao Caves 4.25 4 eP Pn 07 47 31.0 +4.6
CVP Callao Caves 4.25 4 eP Pn 07 47 31.0 +4.6
ABRA Dolores 4.25 350 eP Pn 07 47 30.2 +3.7
MSLP Maasin 4.65 135 eP Pn 07 47 34.0 +2.2
KKTK Khon Kaen 18.28 281 P Pn 07 50 45.0 +10
CM31 Chiang Mai Arr 22.25 286 eP P 07 51 20.3 +1.8
17nm,0.9s,mb4.5
CHG Chiang Mai 22.31 287 P P 07 51 21.2 +2.0
CHTO Chiang Mai 22.31 287 eP P 07 51 20.7 +1.5
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
CHTO Chiang Mai 22.31 287 eP P 07 51 20.7 +1.5
comp=Z,7.8nm,0.8s,mb4.2
PSI Prapat 24.69 247 LR LR 08 00 39.2
comp=Z,132nm,19.9s,MS3.4,baz=66,slow=36
MJAR Matsushiro Arr 27.45 30 P P 07 52 12.5 +4.8
comp=Z,1.3nm,0.7s,mb3.6,baz=231,slow=5.8,SNR=4.9
LZH Lanzhou 27.57 328 eP P 07 52 11.8 +3.0
LZH AP pP 07 52 16.4 +4.7
LZH XP sP 07 52 20.1 +7.2
LZH PP 07 52 58.0
LZH eS S 07 56 47.3 -2.9
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,102nm,4.2s
LZH LR LR
comp=E,590nm,12.0s
LZH LR LR
comp=Z,960nm,15.0s,MS4.5
LZH Lanzhou 27.57 328 eP P 07 52 11.7 +2.9
LZH *SP sP 07 52 20.1 +7.2
LZH 07 52 58.0
LZH eS S 07 56 47.3 -2.9
LZH eSS 07 58 03.0
LZH pmax pmax
comp=Z,20nm,1.0s,mb4.7
LZH MLR MLR
comp=Z,960nm,15.0s,MS4.5
LZH Lanzhou 27.57 328 eP P 07 52 11.7 +2.9
comp=Z,20nm,1.0s,mb4.7
LZH pP pP 07 52 16.4 +4.7
LZH sP sP 07 52 20.1 +7.2
LZH PP 07 52 58.0
LZH eS S 07 56 47.3 -2.9
LZH sS sS 07 56 55.0 +0.1
LZH eSS 07 58 03.0
LZH LR LR
comp=Z,960nm,15.0s,MS4.5
GTA Gaotai 32.17 327 eP P 07 52 50.0 +0.5
GTA AP pP 07 52 56.3 +3.9
GTA XP sP 07 52 59.4 +5.8
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
LSA Lhasa 32.40 305 eP P 07 52 49.9 -1.6
LSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
LSA Lhasa 32.40 305 eP P 07 52 49.9 -1.6
comp=Z,4.5nm,0.4s,mb4.7
PMG Port Moresby 34.12 130 LR LR 08 08 22.0
comp=Z,56nm,19.8s,MS3.3,baz=174,slow=38
WRAB Tennant Creek 35.49 159 eP P 07 53 18.0 -0.4
WRAB pmax pmax
comp=Z,11nm,0.7s,mb4.9
WRAB Tennant Creek 35.49 159 eP P 07 53 18.0 -0.4
comp=Z,11nm,0.7s,mb4.9
WRA Warramunga Arr 35.50 159 P P 07 53 17.8 -0.6
comp=Z,12nm,0.8s,mb4.9,baz=336,slow=9.6,SNR=17
WB2 Warramunga Arr 35.50 159 eP P 07 53 17.5 -1.0
GUN Gumba 36.15 299 eP P 07 53 24.8 +0.8
comp=Z,42nm,0.8s,mb5.4
PKI Pulchoki 36.46 298 eP P 07 53 26.7 0.0
comp=Z,16nm,0.8s,mb5.0
SONM Songino Array 36.53 343 P P 07 53 27.1 -0.2
comp=Z,1.4nm,0.6s,mb4.0,baz=160,slow=9.7,SNR=10
SONM LR LR 08 09 09.6
comp=Z,93nm,20.6s,MS3.5,baz=170,slow=37
KKN Kakani 36.63 299 eP P 07 53 28.3 +0.2
KLR Kul'dur 36.68 11 eP P 07 53 24.8 -3.7
DMN Daman 36.73 298 eP P 07 53 29.2 +0.2
comp=Z,22nm,0.9s,mb5.0
GKN Gorkha 37.23 299 eP P 07 53 33.2 -0.1
KOLN Koldanda 38.06 298 eP P 07 53 40.2 -0.1
comp=Z,21nm,1.0s,mb4.8
ASAR Alice Springs 38.82 162 P P 07 53 46.8 +0.1
comp=Z,5.8nm,0.8s,mb4.4,baz=336,slow=7.1,SNR=15
ASAR LR LR 08 10 04.5
comp=Z,53nm,19.0s,MS3.4,baz=264,slow=37
ZAK Zakamensk 39.73 342 eP P 07 53 56.4 +2.1
MKAR Makanchi Array 46.70 323 P P 07 54 50.2 -0.4
comp=Z,1.6nm,0.9s,mb3.9,baz=123,slow=10,SNR=7.3
MKAR LR LR 08 16 55.5
comp=Z,53nm,18.7s,MS3.5,baz=107,slow=39
YAK Yakutsk 48.88 5 eP P 07 55 10.1 +2.6
YAK pmax pmax
comp=Z,24nm,0.9s,mb5.2
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 48.88 5 eP P 07 55 10.7 +3.2
YAK pmax pmax
comp=Z,16nm,0.7s,mb5.2
YAK Yakutsk 48.88 5 eP P 07 55 10.7 +3.2
comp=Z,16nm,0.7s,mb5.2
STKA Stephens Creek 49.00 157 eP P 07 55 08.1 -0.4
comp=Z,6.7nm,0.6s,mb4.8
STKA Stephens Creek 49.00 157 P P 07 55 08.2 -0.3
comp=Z,9.6nm,0.7s,mb4.9,baz=322,slow=7.5,SNR=14
STKA Stephens Creek 49.00 157 eP P 07 55 08.0 -0.5
ZAL Zalesovo 49.65 332 P P 07 55 13.2 -0.2
comp=Z,1.0nm,0.5s,mb4.2,baz=326,slow=5.8,SNR=5.9
ZAL LR LR 08 17 29.6
comp=Z,57nm,18.3s,MS3.6,baz=96,slow=38
BVAR Borovoye Array 56.42 326 P P 07 56 02.8 -0.6
comp=Z,2.6nm,0.8s,mb4.3,baz=116,slow=6.8,SNR=12
BRVK Borovoye 56.50 326 eP P 07 56 03.5 -0.4
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye 56.50 326 eP P 07 56 03.5 -0.4
comp=Z,10.0nm,1.0s,mb4.8
CHKZ Chkalovo 56.58 326 eP P 07 56 04.2 -0.3
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CHKZ Chkalovo 56.58 326 eP P 07 56 04.2 -0.3
comp=Z,3.0nm,0.8s,mb4.4
ZRNK Zerenda 57.16 325 eP P 07 56 07.8 -0.8
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 57.16 325 eP P 07 56 07.8 -0.8
comp=Z,5.3nm,0.8s,mb4.6
WSAR Wadi Sarin 60.08 289 P P 07 56 26.7 -2.2
comp=Z,2.1nm,0.8s,mb4.2,baz=136,slow=14,SNR=2.7
AKTK Aktyubinsk 62.91 320 P P 07 56 46.4 -1.7
AKTO Aktyubinsk 62.91 320 P P 07 56 46.4 -1.7
comp=Z,9.0nm,0.5s,mb4.2,baz=113,slow=9.4,SNR=3.7
IMA2 Indian Mountai 75.72 25 eP P 07 58 12.2 +4.9
MCK McKinley 77.87 27 eP P 07 58 22.9 +3.4
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MCK McKinley 77.87 27 eP P 07 58 22.9 +3.4
comp=Z,9.5nm,1.1s,mb4.6
ARCES ARCESS Array B 79.61 339 P P 07 58 28.3 -0.7
comp=Z,6.5nm,1.1s,mb4.5,baz=67,slow=6.9,SNR=5.0
BRTR Keskin Array B 79.92 308 P P 07 58 29.8 -1.0
comp=Z,0.8nm,0.8s,mb3.7,baz=108,slow=4.0,SNR=5.6
FINES FINESS Array B 80.89 331 P P 07 58 34.3 -1.7
comp=Z,0.9nm,0.8s,mb3.8,baz=83,slow=7.9,SNR=4.4
INK Inuvik 83.06 21 eP P 07 58 46.6 -0.7
comp=Z,273nm,1.1s
MLR Muntele Rosu 84.38 315 P P 07 58 52.9 -1.2
comp=Z,2.1nm,0.6s,mb4.5,baz=65,slow=0.4,SNR=5.9
NOA NORSAR Array B 87.85 333 P P 07 59 09.8 -1.4
comp=Z,0.7nm,0.7s,mb4.0,baz=67,slow=4.9,SNR=3.3
NOA LR LR 08 42 17.4
comp=Z,39nm,18.2s,MS3.9,baz=70,slow=38
GERES GERESS Array B 91.32 321 P P 07 59 25.3 -2.2
comp=Z,0.3nm,0.6s,mb3.8,baz=37,slow=3.9,SNR=3.8

*ISCJB **22** 07:47:33.3±2.3, 0.10S±007×1229E±0.1, h130km±24km, mb3.9/12, Error ellipse: s-maj=21.1km s-min=10.6km az=138.7*
*IDC **22** 07:47:33.0±0.9, 0.10S×1228 4E, h111km±8km, mb3.8/11, mb1 3.9/12, mb1mx3.7/20, mbtmp4.1/12, Error ellipse: s-maj=22.1km s-min=11.9km az=74.0*
*NEIC **22** 07:47:34.2±1.6, 0.15S×1228 5E, h122km±16km, mb4.1/4, Error ellipse: s-maj=15.6km s-min=7.1km az=66.0*
ISC 22 07:47:34.7±2.2, 012S±007×1229E±01, h128km±24km**, h111**km±3.7km**:pP-P, n25,** σ0§**67**/23**, mb4.0**/12**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.04**	**313**	ePn	**Pn**	**07 49 42.5**	**+0.4**
FITZ	**Fitzroy Crossi** 6.1nm,0.5s	**18.07**	**171**	eP	**P**	**07 51 36.3**	**0.0**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=4.5,slow=10,SNR=17	**18.07**	**171**	P	**P**	**07 51 36.6**	**+0.3**
MBWA	**Marble Bar**	**21.13**	**188**	eP	**P**	**07 52 09.2**	**-0.1**
WRAB	**Tennant Creek** 13nm,0.8s,mb4.3	**22.67**	**151**	eP	**P**	**07 52 25.2**	**-0.2**
WRA	**Warramunga Arr** 5.6nm,0.6s,mb4.0,baz=328,slow=10,SNR=75	**22.68**	**151**	P	**P**	**07 52 24.8**	**-0.6**
WRA				ScP	ScP	07 59 41.4	+2.4
WB2	**Warramunga Arr**	**22.68**	**151**	eP	**P**	**07 52 24.9**	**-0.6**
WB2	**Warramunga Arr**	**22.68**	**151**	eP	**P**	**07 52 25.2**	**-0.2**
PSI	**Prapat**	**24.11**	**277**	P	**P**	**07 52 37.9**	**-0.7**
AS31	**Alice Springs**	**25.74**	**156**	eP	**P**	**07 52 53.1**	**-0.1**
ASAR	**Alice Springs** 3.3nm,0.5s,mb4.1,baz=342,slow=14,SNR=68	**25.74**	**156**	P	**P**	**07 52 53.4**	**+0.1**
ASAR				pP	pP	07 53 18.6	-1.8
	1.0nm,0.8s,baz=345,slow=15,SNR=1.8						
ASAR				PcP	PcP	07 56 21.0	+1.1
	2.2nm,0.5s,baz=346,slow=2.0,SNR=17						
ASAR				ScP	ScP	07 59 49.5	+2.1
	0.5nm,0.7s,baz=336,slow=2.7,SNR=4.5						
CBIJ	**Chichi jima** 80nm,0.8s,baz=279,slow=20,SNR=4.0	**32.82**	**33**	P	**P**	**07 53 55.0**	**-1.0**
NWAO	**Narrogin (SRO)** 3.7nm,0.6s,mb4.4,baz=19,slow=8.7,SNR=7.7	**33.06**	**189**	P	**P**	**07 53 57.9**	**-0.1**
STKA	**Stephens Creek** 1.6nm,0.5s,mb4.2	**36.21**	**152**	eP	**P**	**07 54 25.4**	**+0.3**
STKA	**Stephens Creek** 2.8nm,0.8s,mb4.3,baz=324,slow=9.9,SNR=11	**36.21**	**152**	P	**P**	**07 54 25.4**	**+0.2**
STKA				PcP	PcP	07 56 48.2	+0.5
	1.0nm,0.3s,baz=355,slow=4.0,SNR=3.7						
MJAR	**Matsushiro Arr** 2.3nm,0.8s,mb4.1,baz=189,slow=9.4,SNR=7.4	**39.16**	**20**	P	**P**	**07 54 49.1**	**-0.8**
DZM	**Mont Dzumac** 3.7nm,0.7s,mb4.3,baz=138,slow=20,SNR=3.9	**47.71**	**120**	P	**P**	**07 56 00.7**	**+2.2**
SONM	**Songino Array** 1.4nm,0.8s,mb4.0,baz=164,slow=8.3,SNR=5.2	**49.87**	**346**	P	**P**	**07 56 16.0**	**+1.0**
SONM				pP	pP	07 56 40.6	-3.9
	1.0nm,0.8s,baz=161,slow=9.2,SNR=1.7						
MKAR	**Makanchi Array** 0.4nm,0.3s,mb3.9,baz=126,slow=7.3,SNR=3.2	**58.65**	**328**	P	**P**	**07 57 18.8**	**+0.3**
MKAR				pP	pP	07 57 45.4	-3.5
	0.7nm,0.4s,baz=136,slow=9.1,SNR=2.0						
MKAR	**Makanchi Array**	**58.65**	**328**	P	**P**	**07 57 18.8**	**+0.3**
MKAR				pP	pP	07 57 45.4	-3.5
MAW	**Mawson** 0.9nm,0.9s,mb3.6,baz=36,slow=8.7,SNR=2.9	**78.84**	**200**	P	**P**	**07 59 23.8**	**+0.3**
VNDA	**Vanda** 0.5nm,0.5s,mb3.6,baz=320,slow=7.3,SNR=7.7	**80.14**	**172**	P	**P**	**07 59 30.5**	**-0.1**
VNDA	**Vanda** 0.7nm,0.5s,mb3.8	**80.14**	**172**	eP	**P**	**07 59 30.5**	**-0.1**
CPUP	**Villa Florida** 0.8nm,0.4s,baz=128,slow=2.8,SNR=5.6	**153.70**	**180**	PKPbc	PKPbc	08 07 20.0	+1.5
CPUP	**Villa Florida**	**153.70**	**180**	PKPbc	PKPbc	08 07 20.0	+1.5

*ISCJB **22** 07:51:13.0±0.5, 3927N±003×2326E±004, h14km±3km, Error ellipse: s-maj=5.6km s-min=4.5km az=140.1*
*NEIC **22** 07:51:13.8, 3921N×2319E, h9km, ML3.2(ATH), After ATH.*
*CSEM **22** 07:51:13.6±0.2, 3922N×2326E, h2km, ML3.2, Error ellipse: s-maj=4.0km s-min=3.3km az=27.0*
*THE **22** 07:51:13.9, 3921N×2324E, h10km, ML2.7*
*ATH **22** 07:51:14.0, 3920N×2318E, h4km, MD3.1/5, ML3.2*
ISC 22 07:51:13.4±0.5, 3925N±003×2326E±004, h16km±4km**, n21,** σ0§**92**/32**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.06**	**335**	ePG	**Pg**	**07 51 16.6**	**+0.2**
NEO				eSG	**Sg**	**07 51 18.3**	**-0.1**
XOR	**Xorichti**	**0.12**	**336**	ePg	**Pg**	**07 51 17.8**	**+0.7**
XOR				eSg	**Sg**	**07 51 20.2**	**+0.7**
AOS	**Alonnisos**	**0.49**	**99**	ePg	**Pg**	**07 51 23.2**	**0.0**
AOS				eSg	**Sg**	**07 51 30.6**	**+0.8**
LKR	**Lokris**	**0.63**	**198**	ePG	**Pg**	**07 51 24.6**	**-1.2**
AGG	**Agios Georgios**	**0.76**	**253**	ePg	**Pg**	**07 51 27.5**	**-0.6**
AGG				eSg	**Sg**	**07 51 38.1**	**0.0**
THL	**Klokotos Trika**	**1.01**	**288**	ePG	**Pg**	**07 51 32.5**	**-0.4**
LIT	**Litokhoron**	**1.03**	**325**	ePg	**Pg**	**07 51 33.8**	**+0.4**
LIT				eSg	**Sg**	**07 51 49.0**	**+2.2**
LIT	**Litokhoron**	**1.03**	**325**	ePg	**Pg**	**07 51 33.8**	**+0.4**
LIT				eSg	**Sg**	**07 51 49.0**	**+2.1**
PLG	**Polygyros**	**1.13**	**7**	ePB	**Pb**	**07 51 35.7**	**+1.2**
PLG	**Polygyros**	**1.13**	**7**	Pb	**Pb**	**07 51 35.1**	**+0.6**
OUR	**Ouranopolis**	**1.22**	**27**	ePg	**Pg**	**07 51 36.6**	**-0.2**
ATH	**Athens Observa**	**1.33**	**164**	ePB	**Pb**	**07 51 38.5**	**+0.6**
HORT	**Hortiatis**	**1.35**	**355**	ePg	**Pg**	**07 51 38.2**	**-1.1**
HORT				eSg	**Sg**	**07 51 57.3**	**+0.4**
HORT	**Hortiatis**	**1.35**	**355**	ePg	**Pg**	**07 51 38.2**	**-1.2**
HORT				eSg	**Sg**	**07 51 57.3**	**+0.4**
THE	**Thessaloniki**	**1.40**	**351**	ePg	**Pg**	**07 51 39.7**	**-0.5**
THE				eSg	**Sg**	**07 51 58.2**	**-0.3**
SOH	**Sokhos**	**1.57**	**3**	ePg	**Pg**	**07 51 41.9**	**-1.7**
SOH				eSg	**Sg**	**07 52 03.2**	**-0.7**
GRG	**Griva**	**1.82**	**339**	ePb	**Pb**	**07 51 45.3**	**-1.0**
GRG				eSb	**Sb**	**07 52 09.9**	**+1.0**
SRS	**Serrai**	**1.88**	**8**	ePb	**Pb**	**07 51 46.0**	**-1.3**
KNT	**Kendrikon**	**1.93**	**352**	ePb	**Pb**	**07 51 47.0**	**-1.1**
FNA	**Florina**	**2.10**	**317**	ePn	**Pn**	**07 51 49.8**	**+1.9**
CHOS	**Chios island**	**2.35**	**111**	ePn	**Pn**	**07 51 52.0**	**+0.7**

*ISCJB **22** 08:00:07.1±0.6, 3187N±004×1407E±0.1, h93km±9km, mb3.7/4, Error ellipse: s-maj=19.1km s-min=6.1km az=153.7*
*IDC **22** 08:00:07.8±1.5, 3195N×14079E, h84km±12km, mb3.3/4, mb1 3.5/7, mb1mx3.3/24, mbtmp3.7/7, Error ellipse: s-maj=46.0km s-min=9.7km az=70.0*
*JMA **22** 08:00:09.9±0.3, 3197N×14066E, h63km, M3.7*
ISC 22 08:00:08.6±0.6, 3188N±005×1407E±01, h86km±9km**, n16,** σ1§**18**/26**, mb3.7**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.42**	**330**	P	**Pn**	**08 00 33.6**	**+0.5**
JHJ2				eS	**Sn**	**08 00 49.8**	**-1.8**
JHJ	**Hachijo jima 2** 111nm,0.3s,baz=81,slow=23,SNR=57	**1.44**	**329**	P	**Pn**	**08 00 33.6**	**+0.2**
JHJ				S	**Sn**	**08 00 50.4**	**-1.7**
	155nm,0.3s,baz=87,slow=23,SNR=6.0						
BSO1	**Boso 1**	**2.78**	**5**	P	**Pn**	**08 00 50.9**	**-0.1**
BSO1				eS	**Sn**	**08 01 23.8**	**+0.1**
BSO3	**Boso 3**	**2.92**	**358**	P	**Pn**	**08 00 53.0**	**+0.1**
BSO3				eS	**Sn**	**08 01 27.7**	**+0.7**
JOD2	**Odawara 2**	**3.62**	**339**	P	**Pn**	**08 01 02.5**	**+0.1**
JOD2				eS	**Sn**	**08 01 44.9**	**+0.9**
JYN	**Shimob**	**4.02**	**335**	P	**Pn**	**08 01 09.0**	**+1.3**
JRY	**Ryogami san**	**4.38**	**341**	P	**Pn**	**08 01 13.7**	**+1.1**
JRY				eS	**Sn**	**08 02 04.8**	**+2.4**
JAG	**Ashikaga**	**4.64**	**348**	P	**Pn**	**08 01 15.6**	**-0.7**
JAG				S	**Sn**	**08 02 08.4**	**-0.5**
CBIJ	**Chichi jima** 2.4nm,0.3s,baz=290,slow=16,SNR=2.9	**4.95**	**164**	P	**Pn**	**08 01 21.7**	**+1.3**
CBIJ				S	**Sn**	**08 02 15.8**	**-0.6**
	3.7nm,0.3s,baz=158,slow=19,SNR=1.9						
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=163,slow=13,SNR=7.6	**5.07**	**337**	P	**Pn**	**08 01 21.4**	**-0.7**
MJAR				S	**Sn**	**08 02 17.5**	**-1.9**
	baz=148,slow=14,SNR=2.7						
MAT	**Matsushiro**	**5.08**	**337**	P	**Pn**	**08 01 22.4**	**+0.3**
MAT				eS	**Sn**	**08 02 21.7**	**+2.3**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=241,slow=19,SNR=3.4	**12.31**	**7**	P	**Pn**	**08 02 58.4**	**-2.3**
FITZ	**Fitzroy Crossi** 1.1nm,0.7s,mb4.0,baz=34,slow=7.3,SNR=3.2	**51.74**	**198**	P	**P**	**08 09 09.1**	**+2.0**
WRA	**Warramunga Arr** 0.4nm,0.5s,mb3.7,baz=5.9,slow=7.9,SNR=19	**51.88**	**188**	P	**P**	**08 09 07.3**	**-0.8**
ASAR	**Alice Springs** 0.1nm,0.4s,mb3.2,baz=8.5,slow=6.9,SNR=4.5	**55.61**	**188**	P	**P**	**08 09 34.7**	**-0.6**
FINES	**FINESS Array B** 1.5nm,0.9s,mb3.8,baz=39,slow=7.3,SNR=4.0	**73.09**	**333**	P	**P**	**08 11 28.4**	**-1.1**

*BEO **22** 08:03:02.5±0.2, 4234N×2177E, h16km±11km*
*SKO **22** 08:03:04.0, 4235N×2163E, h12km, M0.5, ML2.5*
*ISCJB **22** 08:03:03.6±0.3, 4238N±002×2159E±003, h12km, Error ellipse: s-maj=2.9km s-min=2.2km az=175.1*
*CSEM **22** 08:03:03.4±0.1, 4241N×2160E, h5km, ML2.5, Error ellipse: s-maj=2.2km s-min=1.3km az=94.0*
*SOF **22** 08:03:04.5, 4241N×2168E, h2km, MD2.6*
*THE **22** 08:03:05.8, 4232N×2165E, h1km*
ISC 22 08:03:04.0±0.4, 4240N±002×2160E±003, h3km±4km**, n45,** σ1§**10**/84**, 5C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.44**	**195**	ePg	**Pg**	**08 03 13.2**	**+0.8**
SKO				eSg	**Sg**	**08 03 18.1**	**0.0**
SKO	**Skopje**	**0.44**	**195**⇑	i Pg	**Pg**	**08 03 12.2**	**-0.2**
SKO				i Sg	**Sg**	**08 03 19.4**	**+1.3**
SKO				eLg		08 03 19.5	
	comp=E,220nm,0.5s						
SKO				eLg		08 03 19.7	
	comp=N,462nm,0.2s						
SKO	**Skopje**	**0.44**	**195**⇑	i Pg	**Pg**	**08 03 12.2**	**-0.2**
SKO				i Sg	**Sg**	**08 03 19.4**	**+1.3**
BARS	**Barje**	**0.46**	**22**	i Pg	**Pg**	**08 03 11.8**	**-1.0**
BARS				Sg	**Sg**	**08 03 18.0**	**-0.7**
STIP	**Stip**	**0.83**	**148**	ePg	**Pg**	**08 03 19.2**	**-0.7**
STIP				eSg	**Sg**	**08 03 30.6**	**0.0**
STIP	**Stip**	**0.83**	**148**	i Pg	**Pg**	**08 03 19.1**	**-0.8**
STIP				i Sg	**Sg**	**08 03 30.7**	**+0.1**
STIP				eLg		08 03 32.7	
	comp=N,80nm,0.3s						
STIP				eLg		08 03 33.0	
	comp=E,92nm,0.5s						
STIP	**Stip**	**0.83**	**148**	ePg	**Pg**	**08 03 19.2**	**-0.7**
STIP				i Sg	**Sg**	**08 03 30.7**	**+0.1**
KRUS	**Krusevo**	**1.06**	**194**	i Pg	**Pg**	**08 03 24.4**	**+0.1**
KRUS				i Sg	**Sg**	**08 03 39.5**	**+1.5**
KRUS				eLg		08 03 40.5	
	comp=N,0.0nm,0.2s						
KRUS	**Krusevo**	**1.06**	**194**	i Pg	**Pg**	**08 03 24.3**	**0.0**
KRUS				i Sg	**Sg**	**08 03 39.4**	**+1.4**
VTS	**Vitosha**	**1.21**	**80**	ePg	**Pg**	**08 03 27.3**	**+0.1**
VTS				eSg	**Sg**	**08 03 45.0**	**+2.1**
VTS	**Vitosha**	**1.21**	**80**	i P	**Pg**	**08 03 27.0**	**-0.2**
VTS				i S	**Sg**	**08 03 44.0**	**+1.1**
VTS	**Vitosha**	**1.21**	**80**⇑	i P	**Pg**	**08 03 27.3**	**+0.1**
VTS				i S	**Sg**	**08 03 44.2**	**+1.3**
VTS	**Vitosha**	**1.21**	**80**	ePg	**Pg**	**08 03 27.3**	**+0.1**
VTS				eSg	**Sg**	**08 03 45.0**	**+2.1**
KKB	**Krupnik**	**1.23**	**115**	i P	**Pg**	**08 03 28.3**	**+0.8**
KKB				i S	**Sg**	**08 03 45.6**	**+2.2**
VAY	**Valandovo**	**1.30**	**146**	ePg	**Pg**	**08 03 27.7**	**-1.2**
VAY				eSg	**Sg**	**08 03 46.1**	**+0.4**
VAY	**Valandovo**	**1.30**	**146**	ePg	**Pg**	**08 03 27.9**	**-0.9**
VAY				i Sg	**Sg**	**08 03 45.8**	**+0.1**
VAY				eLg		08 03 46.7	
	comp=E,65nm,0.5s						
VAY				eLg		08 03 47.4	
	comp=N,131nm,0.8s						
VAY	**Valandovo**	**1.30**	**146**	ePg	**Pg**	**08 03 27.9**	**-1.0**
VAY				eSg	**Sg**	**08 03 46.1**	**+0.4**
BIA	**Bitola**	**1.39**	**189**	ePg	**Pg**	**08 03 29.6**	**-1.1**
BIA				eSg	**Sg**	**08 03 48.7**	**0.0**
BIA	**Bitola**	**1.39**	**189**	i Pg	**Pg**	**08 03 29.7**	**-1.0**
BIA				i Sg	**Sg**	**08 03 48.7**	**+0.1**
BIA				eLg		08 03 50.2	
	comp=N,34nm,0.3s						
BIA				eLg		08 03 50.4	
	comp=E,88nm,0.4s						
BIA	**Bitola**	**1.39**	**189**	ePg	**Pg**	**08 03 29.6**	**-1.1**
BIA				i Sg	**Sg**	**08 03 48.7**	**0.0**
OHR	**Ohrid**	**1.41**	**205**	ePg	**Pg**	**08 03 30.3**	**-0.8**
OHR				eSg	**Sg**	**08 03 51.3**	**+1.8**
OHR	**Ohrid**	**1.41**	**205**	ePn	**Pn**	**08 03 30.6**	**0.0**
OHR				i Sn	**Sn**	**08 03 49.5**	**-0.3**
OHR				eLg		08 03 52.1	
	comp=E,122nm,0.9s						
OHR				eLg		08 03 52.3	
	comp=N,110nm,1.1s						
OHR	**Ohrid**	**1.41**	**205**	ePn	**Pn**	**08 03 30.5**	**-0.1**
OHR				i Sn	**Sn**	**08 03 49.4**	**-0.3**
OHR				eSg	**Sg**	**08 03 51.3**	**+1.8**
BOLS	**Boljevac**	**1.46**	**10**	i Pg	**Pg**	**08 03 31.5**	**-0.5**
BOLS				Sg	**Sg**	**08 03 49.5**	**-1.4**
GRG	**Griva**	**1.56**	**157**	ePg	**Pg**	**08 03 33.1**	**-0.8**
GRG				eSg	**Sg**	**08 03 53.4**	**-0.7**
KNT	**Kendrikon**	**1.57**	**141**	ePg	**Pg**	**08 03 33.0**	**-1.2**
KNT				eSg	**Sg**	**08 03 54.0**	**-0.5**
FNA	**Florina**	**1.62**	**186**	ePg	**Pg**	**08 03 34.3**	**-0.7**
FNA				eSg	**Sg**	**08 03 54.9**	**-1.2**
FNA	**Florina**	**1.62**	**186**	ePg	**Pg**	**08 03 34.3**	**-0.7**
FNA				eSg	**Sg**	**08 03 54.8**	**-1.2**
GRUS	**Gruza**	**1.63**	**337**	i Pn	**Pn**	**08 03 34.0**	**+0.4**
GRUS				Sn	**Sg**	**08 03 58.6**	**+2.3**
MMB	**Musomiste**	**1.78**	**116**	ePb	**Pb**	**08 03 36.6**	**-0.7**
MMB				eSb	**Sb**	**08 03 59.4**	**-0.6**
MMB	**Musomiste**	**1.78**	**116**	i P	**Pg**	**08 03 38.3**	**+0.1**
MMB				i S	**Sg**	**08 04 03.3**	**+2.0**
SRS	**Serrai**	**1.96**	**130**	ePb	**Pb**	**08 03 38.2**	**-2.2**
SRS				eSb	**Sb**	**08 04 03.5**	**-1.7**
SRS	**Serrai**	**1.96**	**130**	ePb	**Pb**	**08 03 38.2**	**-2.2**
SRS				eSb	**Sb**	**08 04 03.5**	**-1.8**
DIVS	**Divcibare**	**2.07**	**326**	i Pn	**Pn**	**08 03 40.5**	**+1.0**
DIVS				Sn	**Sg**	**08 04 12.2**	**+1.8**
DIVS	**Divcibare**	**2.07**	**326**	Pn	**Pn**	**08 03 40.5**	**+0.9**
PLD	**Plovdiv**	**2.33**	**96**	eP

az=132.9
*IDC **22** 08:30:13.5±3.1, 1.13N×12689E, h75km±27km, mb4.1/14, mb1 4.1/15, mb1mx4.1/18, mbtmp4.3/15, MS3.6/3, Ms1 3.6/3, ms1mx3.0/26, Error ellipse: s-maj=27.5km s-min=9.0km az=74.0*
*NEIC **22** 08:30:16.0±1.7, 1.15N×12687E, h97km±16km, mb4.6/11, Error ellipse: s-maj=17.2km s-min=6.4km az=60.0*
ISC 22 08:30:14.3±0.3, 116N±004×12687E±008, h78km, h78km±1.9km: pP-P, n63, σ1§00/70, mb4.6/36, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.69**	**295**	*e*Pn	**Pn**	**08 32 59.5**	**+1.5**
KAKA	**Kakadu**	**14.85**	**158**	*e*P	**Pn**	**08 33 42.4**	**+2.5**
	33nm,0.9s						
KSM	**Kuching**	**16.56**	**271**	*e*P	**Pn**	**08 34 02.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**19.17**	**184**	*e*P	**Pn**	**08 34 31.8**	**-1.4**
	22nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.17**	**184**	P	**Pn**	**08 34 30.0**	**-3.2**
	0.3nm,0.3s,baz=8.2,slow=11,SNR=8.1						
FITZ				S	**S**	**08 38 05.1**	**+0.4**
	0.1nm,0.3s,baz=176,slow=14,SNR=3.0						
GUMO	**Guam**	**21.68**	**54**	LR	LR	08 41 54.4	
	comp=Z,262nm,20.9s,baz=239,slow=32						
WRAB	**Tennant Creek**	**22.20**	**161**	*e*P	**P**	**08 35 03.9**	**-0.3**
	19nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**22.21**	**161**	P	**P**	**08 35 03.7**	**-0.5**
	9.5nm,0.6s,mb4.3,baz=339,slow=11,SNR=90						
WRA				S	**S**	**08 39 02.6**	**-1.4**
	2.1nm,0.8s,baz=330,slow=18,SNR=6.6						
WB2	**Warramunga Arr**	**22.21**	**161**	*e*P	**P**	**08 35 04.1**	**-0.2**
WB2				*e*S	**S**	**08 39 02.0**	**-2.1**
QIZ	**Qiongzhong**	**24.37**	**318**	P	**P**	**08 35 25.5**	**+0.4**
QIZ				S	**S**	**08 39 43.8**	**+4.7**
QIZ				AMB	AMB		
	comp=Z,65nm,2.3s,mb4.5						
QIZ				LR	LR		
	comp=N,197nm,18.2s						
QIZ				LR	LR		
	comp=E,203nm,17.7s						
QIZ				LR	LR		
	comp=Z,164nm,21.0s						
JOW	**Kunigami**	**25.57**	**3**	LR	LR	08 43 42.5	
	comp=Z,91nm,20.0s,baz=250,slow=32						
AS31	**Alice Springs**	**25.60**	**165**	*e*P	**P**	**08 35 36.3**	**+0.1**
AS31				*e*S	**S**	**08 40 00.1**	**+1.5**
ASPA	**Alice Springs**	**25.60**	**165**	*e*P	**P**	**08 35 36.3**	**+0.1**
ASPA				*e*S	**S**	**08 40 00.1**	**+1.5**
ASAR	**Alice Springs**	**25.60**	**165**	P	**P**	**08 35 36.1**	**-0.1**
	comp=Z,7.5nm,0.9s,mb4.1,baz=347,slow=7.1,SNR=57						
ASAR				PcP	PcP	08 39 04.4	-0.9
	comp=Z,0.7nm,0.5s,baz=338,slow=2.3,SNR=4.3						
ASAR				S	**S**	**08 39 59.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=344,slow=16,SNR=4.2						
ASAR	**Alice Springs**	**25.60**	**165**	P	**P**	**08 35 36.1**	**-0.1**
ASAR				PcP	PcP	08 39 04.4	-0.9
ASAR				S	**S**	**08 39 59.1**	**+0.5**
PSI	**Prapat**	**27.97**	**274**	P	**P**	**08 35 56.0**	**-1.5**
	comp=Z,3.2nm,0.4s,mb4.2,baz=162,slow=7.7,SNR=5.0						
CTA	**Charters Tower**	**28.41**	**139**	LR	LR	08 47 06.2	
	comp=Z,87nm,22.0s,baz=50,slow=36						
NJ2	**Nanjing**	**31.65**	**347**	*e*P	**P**	**08 36 31.1**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
KMI	**Kunming**	**33.32**	**318**	P	**P**	**08 36 47.6**	**+2.9**
KMI				AP	pP	08 37 05.9	+3.0
KMI				XP	sP	08 37 16.0	+4.0
KMI				S	**S**	**08 41 59.3**	**-0.3**
KMI				XS	sS	08 42 35.1	+4.1
KMI				SS	SS	08 44 09.8	-16
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,73nm,4.5s						
KMI				LR	LR		
	comp=N,172nm,16.0s						
KMI				LR	LR		
	comp=E,169nm,19.7s						
KMI				LR	LR		
	comp=Z,117nm,26.7s						
KMI	**Kunming**	**33.32**	**318**	P	**P**	**08 36 47.6**	**+2.9**
	comp=Z,5.0nm,0.9s,mb4.3						
KMI				pP	pP	08 37 05.9	+3.0
KMI				sP	sP	08 37 16.0	+4.0
KMI				S	**S**	**08 41 59.2**	**-0.4**
KMI				sS	sS	08 42 35.1	+4.1
KMI				SS	SS	08 44 09.8	-16
KMI				LR	LR		
	comp=Z,120nm,26.7s						
STKA	**Stephens Creek**	**35.70**	**158**	*e*P	**P**	**08 37 00.1**	**-5.0**
	comp=Z,2.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**35.70**	**158**	P	**P**	**08 37 04.6**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.3,baz=335,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**35.70**	**158**	*e*P	**P**	**08 37 04.7**	**-0.5**
STKA				*ep*P	pP	08 37 16.3	-7.2
MJAR	**Matsushiro Arr**	**36.74**	**15**	P	**P**	**08 37 12.9**	**-1.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=184,slow=8.9,SNR=6.6						
CD2	**Chengdu**	**36.81**	**326**	*e*P	**P**	**08 37 17.0**	**+2.4**
CD2				AP	pP	08 37 35.3	+2.2
CD2				XP	sP	08 37 44.3	+2.2
CD2				PP	PP	08 38 45.4	+5.6
CD2				SS	SS	08 45 29.4	-7.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,230nm,14.4s						
CD2				LR	LR		
	comp=E,200nm,16.8s						
CD2				LR	LR		
	comp=Z,160nm,15.8s						
BJT	**Baijiatuau**	**39.89**	**347**	*e*P	**P**	**08 37 40.7**	**+0.3**
	comp=Z,8.5nm,0.6s,mb4.8						
LZH	**Lanzhou**	**40.79**	**331**	*e*P	**P**	**08 37 53.0**	**+5.1**
LZH				AP	pP	08 38 11.3	+4.7
LZH				XP	sP	08 38 20.1	+4.5
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
LZH	**Lanzhou**	**40.79**	**331**	*e*P	**P**	**08 37 53.0**	**+5.1**
	comp=Z,18nm,1.2s,mb4.8						
LZH				pP	pP	08 38 11.2	+4.6
LZH				sP	sP	08 38 20.1	+4.5
LZH				PP	PP	08 40 31.2	+68
HHC	**Hu-ho-hao-te**	**41.87**	**343**	*e*P	**P**	**08 37 58.5**	**+1.7**
HHC				AP	pP	08 38 17.3	+1.7
HHC				S	**S**	**08 44 09.6**	**+0.5**
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,84nm,3.7s						
HHC				LR	LR		
	comp=N,126nm,8.0s						
HHC				LR	LR		
	comp=E,118nm,11.6s						
HHC				LR	LR		
	comp=Z,178nm,34.3s						
MDJ	**Mudanjiang**	**43.34**	**3**	P	**P**	**08 38 08.8**	**+0.1**
MDJ				AP	pP	08 38 28.1	+0.5
MDJ				PP	PP	08 39 51.1	+0.4
MDJ				PCP	PcP	08 39 55.4	-0.7
MDJ				SCP	ScP	08 43 39.5	-1.0
MDJ				PCS	PcS	08 43 48.3	-0.5
MDJ				S	**S**	**08 44 31.8**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,13nm,2.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,130nm,3.6s						
MDJ				LR	LR		
	comp=N,85nm,36.8s						
MDJ				LR	LR		
	comp=E,40nm,24.3s						
MDJ				LR	LR		
	comp=Z,87nm,34.1s						
LSA	**Lhasa**	**44.26**	**313**	*e*P	**P**	**08 38 16.4**	**+0.4**
	comp=Z,12nm,0.6s,mb4.8						
GUN	**Gumba**	**47.37**	**308**	*e*P	**P**	**08 38 39.4**	**-1.1**
	comp=Z,33nm,0.6s,mb5.2						
PKI	**Pulchoki**	**47.59**	**307**	*e*P	**P**	**08 38 40.6**	**-1.6**
	comp=Z,11nm,0.7s,mb4.8						
KKN	**Kakani**	**47.79**	**307**	*e*P	**P**	**08 38 42.6**	**-1.2**
DMN	**Daman**	**47.85**	**307**	*e*P	**P**	**08 38 43.0**	**-1.2**
	comp=Z,15nm,0.8s,mb4.9						
GKN	**Gorkha**	**48.40**	**307**	*e*P	**P**	**08 38 46.9**	**-1.5**
	comp=Z,8.8nm,0.4s,mb4.9						
KOLN	**Koldanda**	**49.13**	**307**	*e*P	**P**	**08 38 52.9**	**-1.1**
	comp=Z,40nm,0.7s,mb5.4						
SONM	**Songino Array**	**49.77**	**342**	P	**P**	**08 38 59.3**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=150,slow=8.8,SNR=28						
SONM				PcP	PcP	08 40 19.2	+0.4
	comp=Z,1.1nm,0.7s,baz=134,slow=4.2,SNR=2.8						
WMQ	**Urumqi**	**54.91**	**326**	*e*P	**P**	**08 39 37.6**	**+0.7**
WMQ				AP	pP	08 39 57.0	+0.5
WMQ				XP	sP	08 40 05.0	-0.2
WMQ				PCP	PcP	08 40 39.0	+0.9
WMQ				*e*S	**S**	**08 47 11.0**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,187nm,5.2s						
WMQ				LR	LR		
	comp=N,324nm,22.5s						
WMQ				LR	LR		
	comp=E,481nm,23.8s						
WMQ				LR	LR		
	comp=Z,424nm,25.0s						
MK31	**Makanchi Array**	**59.74**	**326**	*e*P	**P**	**08 40 10.7**	**-0.2**
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**08 40 10.9**	**-0.1**
	comp=Z,9.8nm,0.6s,mb5.0,baz=123,slow=8.7,SNR=72						
AAK	**Ala-Archa**	**62.36**	**319**	*e*P	**P**	**08 40 27.9**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**62.94**	**334**	P	**P**	**08 40 31.9**	**-0.6**
	comp=Z,3.6nm,0.5s,mb4.6,baz=350,slow=6.9,SNR=20						
BVAR	**Borovoye Array**	**69.54**	**327**	P	**P**	**08 41 14.6**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8,baz=132,slow=8.5,SNR=60						
BRVK	**Borovoye**	**69.62**	**327**	*e*P	**P**	**08 41 15.5**	**+0.3**
	comp=Z,23nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**69.72**	**328**	*e*P	**P**	**08 41 15.4**	**-0.5**
	comp=Z,12nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**70.26**	**327**	*e*P	**P**	**08 41 19.1**	**0.0**
	comp=Z,24nm,0.6s,mb5.2						
QRN	**Al-Qurain**	**79.75**	**299**	*e*P	**P**	**08 42 14.1**	**+0.3**
QRN				AMb	AMB	08 42 15.0	
	comp=Z,123nm,1.1s						
KBD	**Kabd**	**79.98**	**299**	*e*P	**P**	**08 42 15.1**	**+0.1**
KBD				AMb	AMB	08 42 18.0	
	comp=Z,300nm,1.6s						
RDF	**Al-Radifah**	**80.09**	**299**	*e*P	**P**	**08 42 15.9**	**+0.3**
RDF				AMb	AMB	08 42 16.9	
	comp=Z,49nm,0.9s,mb5.3						
MIB	**Mutribah**	**80.34**	**300**	*e*P	**P**	**08 42 17.6**	**+0.7**
MIB				AMb	AMB	08 42 18.2	
	comp=Z,88nm,0.8s						
NAY	**Al-Naaiem**	**80.38**	**299**	*e*P	**P**	**08 42 17.4**	**+0.3**
NAY				AMb	AMB	08 42 18.4	
	comp=Z,28nm,1.0s,mb5.1						
RST	**Umm Al-Ruwaisa**	**80.61**	**300**	*e*P	**P**	**08 42 18.4**	**-0.1**
RST				AMb	AMB	08 42 19.4	
	comp=Z,99nm,0.8s						
VNDA	**Vanda**	**80.87**	**173**	P	**P**	**08 42 20.0**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=309,slow=4.6,SNR=7.7						
VNDA	**Vanda**	**80.87**	**173**	*e*P	**P**	**08 42 20.5**	**+0.7**
	comp=Z,1.7nm,0.8s,mb3.9						
VNDA				*ep*P	pP	08 42 34.7	-5.9
MAW	**Mawson**	**81.40**	**200**	P	**P**	**08 42 23.1**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=65,slow=8.8,SNR=7.5						
KMBO	**Kilima Mbogo**	**89.64**	**269**	P	**P**	**08 43 04.6**	**+1.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=45,slow=19,SNR=4.5						
BRTR	**Keskin Array B**	**91.76**	**310**	P	**P**	**08 43 12.3**	**-1.0**
	comp=Z,0.7nm,0.8s,mb4.0,baz=116,slow=5.2,SNR=5.6						
FINES	**FINESS Array B**	**94.15**	**332**	P	**P**	**08 43 23.0**	**-1.3**
	comp=Z,0.7nm,0.7s,mb4.1,baz=162,slow=32,SNR=3.3						
FINES	**FINESS Array B**	**94.15**	**332**	P	**P**	**08 43 23.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**123.81**	**287**	PKP	PKPdf	08 49 03.5	+0.3
	comp=Z,1.4nm,0.6s,baz=90,slow=1.5,SNR=15						
DBIC	**Dimbokro**	**131.20**	**280**	PKP	PKPdf	08 49 19.6	+2.3
	comp=Z,1.6nm,0.8s,baz=110,slow=3.2,SNR=4.1						
CFAA	**Coronel Fontan**	**146.52**	**156**	PKPbc	PKPbc	08 49 45.6	-1.0
	comp=Z,0.4nm,0.7s,baz=225,slow=5.6,SNR=3.0						

JMA 22 08:31:37.3±0.3, 2237N×12087E, h55km, M3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.86**	**43**	P	Pn	08 32 21.8	+1.3
YOJ				*e*S	Sn	08 32 55.1	+1.4
HATJ	**Hateruma jima**	**3.18**	**58**	P	Pn	08 32 26.0	+1.2
HATJ				*e*S	Sn	08 33 02.8	+1.3
IRIF	**Iriomote-Funau**	**3.28**	**53**	P	Pn	08 32 27.5	+1.4
JKRS	**Kuro-shima**	**3.43**	**57**	P	Pn	08 32 30.1	+1.8
JKRS				*e*S	Sn	08 33 09.4	+1.7
JIJ	**Ishigaki jima**	**3.60**	**56**	P	Pn	08 32 32.4	+1.8
JTJ	**Tarama**	**4.18**	**57**	P	Pn	08 32 40.0	+1.5
JTJ				*e*S	Sn	08 33 27.8	+1.7

*IDC **22** 08:35:31.5±1.7, 4809N×15572E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.5/22, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=84.0km s-min=30.7km az=141.0*
*MOS **22** 08:35:31.3±2.7, 4811N×15573E, h31km, mb3.9/1, Error ellipse: s-maj=99.9km s-min=36.5km az=74.8*
*ISCJB **22** 08:35:34.8±1.0, 4804N±02×1555E±03, h33km, mb3.6/3, Error ellipse: s-maj=38.8km s-min=17.3km az=103.2*
ISC 22 08:35:37.3±1.0, 479N±02×1557E±03, h35km, n8, σ1§00/8, mb3.6/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.76**	**6**	*e*PN	**Pn**	**08 36 08.4**	**-11**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	**Petropavlovsk**	**5.44**	**20**	*e*PN	**Pn**	**08 36 56.6**	**+0.8**
ASAJ	**Asahikawa**	**9.85**	**252**	Pn	**Pn**	**08 37 55.9**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=68,slow=16,SNR=13						
ASAJ	**Asahikawa**	**9.85**	**252**	PN	**Pn**	**08 37 55.9**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PDAR	**Pinedale Array**	**62.65**	**56**	P	**P**	**08 45 57.1**	**-1.1**
	comp=Z,0.7nm,1.1s,mb3.7,baz=331,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**70.23**	**201**	P	**P**	**08 46 46.9**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=16,slow=6.5,SNR=8.0						
WRA	**Warramunga Arr**	**70.23**	**201**	P	**P**	**08 46 46.9**	**+0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**73.91**	**201**	P	**P**	**08 47 09.4**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=15,slow=5.8,SNR=5.2						

*ISCJB **22** 08:43:17.5±0.4, 6627N±003×142.11W±009, h10km, mb3.6/3, Error ellipse: s-maj=5.5km s-min=4.3km az=111.9*
*IDC **22** 08:43:18.1±2.4, 6634N×14225W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/22, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=53.5km s-min=30.5km az=60.0*
*NEIC **22** 08:43:18.5, 6627N×14234W, h5km, ML3.8(AEIC), After AEIC.*
*PGC **22** 08:43:18.3±0.0, 6625N×14223W, h1km, ML3.8/2, 276km northwest of Dawson, Yt Alaska*
ISC 22 08:43:18.6±0.4, 6628N±003×14206W±008, h10km, n33, σ0§95/40, mb3.6/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.52**	**320**	P	**Pn**	**08 43 45.3**	**-0.6**
BM3				S	**Sn**	**08 44 06.5**	**+0.8**
EGAK	**Eagle**	**1.55**	**166**	P	**Pn**	**08 43 45.8**	**-0.5**
EGAK				S	**Sn**	**08 44 07.9**	**+1.4**
DAWY	**Dawson**	**2.49**	**152**	Trac			
DAWY	**Dawson**	**2.49**	**152**	Pn	**Pn**	**08 43 60.0**	**+0.8**
DAWY	**Dawson**	**2.49**	**152**	Trac			
DAWY	**Dawson**	**2.49**	**152**	Pn	**Pn**	**08 43 59.5**	**+0.3**
DAWY				Sn	**Sn**	**08 44 29.7**	**+0.1**
DAWY				Sg	**Sg**	**08 44 36.7**	**-1.9**
DAWY	**Dawson**	**2.49**	**152**	P	**Pn**	**08 43 59.7**	**+0.5**
IL1	**Eielson Array**	**2.52**	**235**	P	**Pn**	**08 43 58.4**	**-1.1**
DOT	**Dot Lake**	**2.77**	**199**	P	**Pn**	**08 44 02.8**	**-0.3**
DOT				S	**Sn**	**08 44 37.1**	**+0.5**
COLA	**College**	**2.79**	**242**	P	**Pn**	**08 44 01.9**	**-1.4**
BCA3	**Beaver Creek A**	**3.23**	**178**	P	**Pn**	**08 44 09.3**	**+0.1**
COLD	**Coldfoot**	**3.37**	**290**	P	**Pn**	**08 44 11.2**	**+0.1**
COLD				S	**Sn**	**08 44 51.2**	**+0.1**
MENT	**Mentasta**	**3.43**	**193**	P	**Pn**	**08 44 11.9**	**-0.2**
MCK	**McKinley**	**3.88**	**232**	P	**Pn**	**08 44 17.7**	**-0.5**
INK	**Inuvik**	**3.89**	**55**	Trac			
INK	**Inuvik**	**3.89**	**55**	Pn	**Pn**	**08 44 19.2**	**+0.9**
INK				Sn	**Sn**	**08 45 04.9**	**+0.8**
INK	**Inuvik**	**3.89**	**55**	Trac			
INK	**Inuvik**	**3.89**	**55**	Pn	**Pn**	**08 44 19.2**	**+0.8**
INK				Sn	**Sn**	**08 45 03.5**	**-0.5**
INK				Sg	**Sg**	**08 45 22.0**	**-1.4**
INK	**Inuvik**	**3.89**	**55**	*e*Pn	**Pn**	**08 44 19.2**	**+0.9**
INK				*e*Sn	**Sn**	**08 45 04.6**	**+0.6**
INK				*e*Sg	**Sg**	**08 45 19.9**	**-3.5**
TRF	**Thorofare Moun**	**4.51**	**235**	P	**Pn**	**08 44 27.2**	**+0.3**
KTH	**Kantishna Hill**	**4.66**	**238**	P	**Pn**	**08 44 28.2**	**-0.7**
IMA2	**Indian Mountai**	**4.72**	**273**	P	**Pn**	**08 44 29.9**	**+0.1**
PMR	**Palmer**	**5.64**	**217**	*e*Pn	**Pn**	**08 44 42.9**	**+0.5**
HYT	**Haines Junctio**	**5.84**	**158**	Pn	**Pn**	**08 44 45.9**	**+0.7**
HYT	**Haines Junctio**	**5.84**	**158**	Pn	**Pn**	**08 44 45.9**	**+0.7**
HYT				Sg	**Sg**	**08 46 20.3**	**-5.7**
WHY	**Whitehorse**	**6.49**	**147**	Pn	**Pn**	**08 44 54.1**	**0.0**
WHY	**Whitehorse**	**6.49**	**147**	Pn	**Pn**	**08 44 54.1**	**0.0**
DLBC	**Dease Lake**	**9.63**	**139**	Sg	Sx	08 48 18.2	
YKA	**Yellowknife Ar**	**12.41**	**95**	Pn	**Pn**	**08 46 12.5**	**-2.7**
	0.4nm,0.3s,baz=296,slow=13,SNR=6.5						
YKA	**Yellowknife Ar**	**12.41**	**95**	Pn	**Pn**	**08 46 12.5**	**-2.7**
PDAR	**Pinedale Array**	**29.55**	**127**	P	**P**	**08 49 24.9**	**+1.6**
	0.9nm,0.8s,mb3.5,baz=350,slow=6.0,SNR=7.0						
NVAR	**Mina Array Bea**	**31.03**	**142**	P	**P**	**08 49 38.6**	**+2.2**
	0.5nm,0.6s,mb3.5,baz=336,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**52.28**	**7**	P	**P**	**08 52 30.1**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=335,slow=8.4,SNR=3.8						

*ISCJB **22** 08:44:54.7±0.6, 2098S±005×6872W±008, h99km±8km, mb4.1/6, Error ellipse: s-maj=13.0km s-min=7.0km az=135.0*
*NEIC **22** 08:44:56.0±0.9, 2102S×6878W, h95km±11km, mb4.3/5, Error ellipse: s-maj=15.9km s-min=11.2km az=76.0*
*IDC **22** 08:44:57.7±0.7, 2119S×6870W, h118km±7km, mb3.7/4, mb1 3.7/8, mb1mx3.5/20, mbtmp4.1/8, Error ellipse: s-maj=21.5km s-min=8.9km az=100.0*
ISC 22 08:44:55.9±0.6, 2102S±005×6874W±008, h94km±8km, n24, σ1§28/28, mb4.1/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.59**	**186**	P	**Pn**	**08 45 24.3**	**+1.2**
	25nm,0.3s,baz=5.9,slow=9.6,SNR=534						
LVC				S	**Sn**	**08 45 44.6**	**+1.1**
	73nm,0.3s,baz=82,slow=22,SNR=30						
LVC	**Limon Verde**	**1.59**	**186**	*e*Pn	**Pn**	**08 45 24.2**	**+1.2**
LVC				*e*Sn	**Sn**	**08 45 42.5**	**-1.1**
LPAZ	**La Paz**	**4.74**	**7**	P	**Pn**	**08 46 10.4**	**+5.4**
	1.5nm,0.3s,baz=196,slow=9.3,SNR=40						
LPAZ				S	**Sn**	**08 46 57.0**	**-1.7**
	1.7nm,0.3s,baz=188,slow=14,SNR=6.9						
LPAZ	**La Paz**	**4.74**	**7**	*e*Pn	**Pn**	**08 46 10.3**	**+5.3**
ARE	**Arequipa**	**5.23**	**330**	*e*P	**Pn**	**08 46 11.0**	**-0.6**
ARE				*e*S	**Sn**	**08 47 10.0**	**-0.6**
SIV	**San Ignacio**	**8.83**	**57**	P	**Pn**	**08 47 01.5**	**+0.9**
	6.2nm,0.3s,baz=249,slow=10,SNR=205						
CFAA	**Coronel Fontan**	**10.55**	**178**	P	**Pn**	**08 47 18.8**	**-5.4**
	0.0nm,0.3s,baz=348,slow=11,SNR=12						
CFAA				S	**Sn**	**08 49 10.5**	**-10**
	0.1nm,0.3s,baz=251,slow=20,SNR=7.7						
CFAA	**Coronel Fontan**	**10.55**	**178**	P	**Pn**	**08 47 18.8**	**-5.4**
CFAA				S	**Sn**	**08 49 10.5**	**-10**
CPUP	**Villa Florida**	**11.72**	**119**	P	**Pn**	**08 47 38.2**	**-1.7**
	0.7nm,0.3s,baz=287,slow=12,SNR=7.5						
CPUP	**Villa Florida**	**11.72**	**119**	*e*Pn	**Pn**	**08 47 39.1**	**-0.8**
	7.1nm,0.5s						
NNA	**Nana**	**11.87**	**318**	S	**Sn**	**08 49 53.3**	**+1.0**
	1.5nm,0.3s,baz=254,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**19.71**	**184**	P	**Pn**	**08 49 17.8**	**-2.4**
	0.3nm,0.3s,baz=0.9,slow=12,SNR=9.6						
PLCA	**Paso Flores**	**19.71**	**184**	*e*Pn	**Pn**	**08 49 20.6**	**+0.5**
	3.6nm,0.6s						
BDFB	**Brasilia**	**20.38**	**78**	P	**P**	**08 49 26.0**	**+0.9**
	7.1nm,0.4s,baz=258,slow=9.7,SNR=17						
BDFB	**Brasilia**	**20.38**	**78**	*e*P	**P**	**08 49 35.3**	**+10**
	14nm,0.8s						
ROSC	**El Rosal**	**26.29**	**347**	P	**P**	**08 50 24.0**	**+1.4**
	1.2nm,0.4s,mb3.6,baz=87,slow=22,SNR=4.2						
RCBR	**Riachuelo**	**35.22**	**69**	*e*P	**P**	**08 51 43.5**	**+2.4**
	8.7nm,0.6s,mb4.8						
WVT	**Waverly**	**59.64**	**342**	*e*P	**P**	**08 54 48.5**	**-1.6**
	3.0nm,0.6s,mb4.5						
SNAA	**Sanae**	**62.68**	**161**	*e*P	**P**	**08 55 09.4**	**-1.2**
	1.5nm,0.7s,mb4.0						
ARUT	**Antelope Range**	**72.02**	**324**	*e*P	**P**	**08 56 11.0**	**+1.4**
PDAR	**Pinedale Array**	**73.77**	**330**	P	**P**	**08 56 19.2**	**-0.7**
	0.3nm,0.6s,mb3.2,baz=73,slow=6.7,SNR=4.1						
PDAR				pP	pP	08 56 50.1	+6.0
	0.1nm,0.3s,baz=105,slow=5.7,SNR=1.5						
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**08 56 38.2**	**-0.4**
	2.4nm,0.4s,mb4.3,baz=254,slow=5.2,SNR=13						
TORD				pP	pP	08 57 08.8	+5.8
	0.8nm,0.5s,baz=251,slow=5.2,SNR=2.8						
MK31	**Makanchi Array**	**145.15**	**36**	*e*PKPdf	PKPdf	09 04 22.0	-0.4
MKAR	**Makanchi Array**	**145.15**	**36**	PKPbc	PKPbc	09 04 21.5	-0.6
	1.5nm,0.6s,baz=343,slow=3.8,SNR=13						
MKAR				pPKPbc		09 04 52.1	
	1.5nm,0.9s,baz=316,slow=3.3,SNR=4.5						

*IDC **22** 08:55:13.7±0.4, 4583S×9621E, h0km, mb5.0/15, mb1 5.1/15, mb1mx5.1/16, mbt

comp=Z,65μm,17.0s,MS6.1
MIR MLR MLR
comp=N,32μm,20.0s,MS5.8
CASY Casey 21.93 164 *e*P **P** **09 00 10.2 +0.4**
CASY *e*S **S** **09 04 21.2 +9.3**
KLBR Kellerberrin 22.00 57 *e*P **P** **09 00 09.6 -1.0**
comp=N,322nm,1.2s,mb5.6
MAW Mawson 27.81 207 *e*P **P** **09 01 04.5 -1.1**
comp=N,102nm,1.2s,mb5.3
MAW *e*S **S** **09 05 46.6 -1.9**
MAW Mawson 27.81 207 P **P** **09 01 04.7 -0.9**
comp=N,148nm,1.2s,mb5.5,baz=51,slow=11,SNR=115
MAW S **S** **09 05 46.1 -2.3**
comp=N,2.1nm,1.0s,baz=123,slow=14,SNR=1.7
MAW LR LR 09 10 07.6
comp=N,15μm,18.7s,MS5.6,baz=51,slow=32
MAW Mawson 27.81 207 *e*P **P** **09 01 04.5 -1.1**
MAW *e*S **S** **09 05 46.6 -1.9**
MAW pmax pmax
comp=Z,102nm,1.2s
FORT Forrest 29.02 70 *e*P **P** **09 01 13.9 -2.5**
comp=Z,87nm,1.7s,mb5.2
FORT *e*PP PP 09 02 05.1 -17
DRV Dumont d'Urvil 31.10 148 P **P** **09 01 34.0 -0.8**
DRV S **S** **09 06 46.0 +5.8**
DRV L 09 08 00.0
DRV R 09 10 00.0
MBWA Marble Bar 31.31 46 P **P** **09 01 38.6 +2.0**
SNR=7.3
MBWA Marble Bar 31.31 46 *e*P **P** **09 01 35.2 -1.4**
comp=Z,636nm,2.6s,mb6.0
MBWA LR LR
comp=Z,17μm,21.0s,MS5.7
COCO West Island 33.52 1 PFAKE 09 02 10.0 +14
COCO LR LR
comp=Z,6μm,22.0s,MS5.2
ADE Adelaide 33.87 87 *e*P **P** **09 01 59.5 +0.5**
TAU Tasmania Unive 36.25 104 *e*P **P** **09 02 20.9 +1.4**
TAU pmax pmax
comp=Z,280nm,1.5s,mb6.0
TAU Tasmania Unive 36.25 104 *e*P **P** **09 02 20.7 +1.2**
comp=Z,276nm,1.5s,mb6.0
TAU LR LR
comp=Z,5μm,20.0s,MS5.3
SYO Syowa Base 36.30 210⇑ *e*P **P** **09 02 18.3 -1.6**
SYO Syowa Base 36.30 210⇑ *i*pP pP 09 02 20.0 -3.0
FITZ Fitzroy Crossi 36.94 51 *e*P **P** **09 02 24.8 -0.6**
comp=Z,50nm,1.3s,mb5.2
FITZ *e*S **S** **09 08 14.5 +4.0**
TOO Toolangi 37.30 95 *e*P **P** **09 02 29.8 +1.3**
comp=Z,35nm,1.4s,mb5.0
TOO *e*S **S** **09 08 21.7 +5.7**
TOO Toolangi 37.30 95 *e*P **P** **09 02 29.8 +1.3**
TOO *e*S **S** **09 08 21.7 +5.7**
TOO pmax pmax
comp=Z,350nm,1.4s,mb6.0
STKA Stephens Creek 37.59 84 *e*P **P** **09 02 30.3 -0.6**
comp=Z,42nm,1.6s,mb4.9
STKA *e*S **S** **09 08 21.8 +1.6**
STKA Stephens Creek 37.59 84 P **P** **09 02 29.9 -1.0**
comp=Z,16nm,0.8s,mb4.8,baz=228,slow=7.3,SNR=34
STKA S **S** **09 08 17.6 -2.6**
comp=Z,1.2nm,0.9s,baz=354,slow=11,SNR=1.7
STKA LR LR 09 14 53.2
comp=Z,48μm,21.6s,MS6.3,baz=233,slow=32
ASPA Alice Springs 37.65 67 *e*P **P** **09 02 31.0 -0.5**
ASAR Alice Springs 37.66 67 P **P** **09 02 30.3 -1.2**
comp=Z,18nm,1.0s,mb4.8,baz=224,slow=7.7,SNR=46
ASAR PP PP 09 03 54.0 -3.5
comp=Z,6.8nm,0.9s,baz=227,slow=9.9,SNR=4.0
ASAR PcP PcP 09 04 48.0 -0.8
comp=Z,2.3nm,0.8s,baz=220,slow=3.0,SNR=4.4
ASAR S **S** **09 08 16.2 -5.1**
comp=Z,0.6nm,0.9s,baz=227,slow=25,SNR=3.2
ASAR PKiKP PKiKP 09 12 04.7 -0.3
comp=Z,0.5nm,0.8s,baz=225,slow=1.0,SNR=2.8
ASAR LR LR 09 15 52.3
comp=Z,37μm,20.7s,MS6.2,baz=230,slow=33
ASAR Alice Springs 37.66 67 P **P** **09 02 30.3 -1.2**
ASAR PP PP 09 03 54.0 -3.5
ASAR PcP PcP 09 04 48.0 -0.8
ASAR S **S** **09 08 16.2 -5.1**
AS31 Alice Springs 37.66 67 *e*P **P** **09 02 31.0 -0.5**
VNDA Vanda 40.53 162 P **P** **09 02 54.7 -0.8**
VNDA Vanda 40.53 162 P **P** **09 02 54.4 -1.1**
comp=Z,15nm,0.9s,mb4.6,baz=284,slow=10,SNR=40
VNDA LR LR 09 18 27.4
comp=Z,36μm,18.0s,MS6.3,baz=285,slow=34
VNDA Vanda 40.53 162 *e*P **P** **09 02 54.9 -0.6**
comp=Z,71nm,1.5s,mb5.1
VNDA LR LR
comp=Z,31μm,20.0s,MS6.2
WRA Warramunga Arr 40.64 63 P **P** **09 02 55.2 -1.2**
comp=Z,44nm,0.9s,mb5.1,baz=222,slow=8.1,SNR=71
WRA PP PP 09 04 30.1 +0.1
comp=Z,3.6nm,1.0s,baz=241,slow=11,SNR=3.7
WRA S **S** **09 09 06.8 +0.6**
comp=Z,0.6nm,1.0s,baz=213,slow=26,SNR=2.5
WRA LR LR 09 18 06.4
comp=Z,57μm,18.5s,MS6.5,baz=220,slow=34
WRA Warramunga Arr 40.64 63 P **P** **09 02 55.2 -1.2**
WRA 09 04 30.1
WRA S **S** **09 09 06.8 +0.6**
WB2 Warramunga Arr 40.64 63 *e*P **P** **09 02 55.1 -1.4**
WB2 *e*S **S** **09 09 08.0 +1.7**
WRAB Tennant Creek 40.65 63 P **P** **09 02 55.7 -0.8**
comp=Z,369nm,1.5s,mb5.8,SNR=17
WRAB Tennant Creek 40.65 63 *e*P **P** **09 02 55.4 -1.1**
WRAB *e* 09 04 30.9
WRAB pmax pmax
comp=Z,111nm,1.2s,mb5.4
WRAB MLR MLR
comp=Z,17μm,20.0s,MS5.9
WRAB Tennant Creek 40.65 63 *e*P **P** **09 02 55.4 -1.2**
comp=Z,111nm,1.2s,mb5.4
WRAB *e*PP PP 09 04 30.9 +0.7
WRAB LR LR
comp=Z,17μm,20.0s,MS5.9
CNB Canberra Magne 41.13 95 *e*P **P** **09 03 03.0 +2.5**
comp=Z,114nm,1.5s,mb5.3
SBA Scott Base 41.62 162 *e*P **P** **09 03 04.6 +0.1**
SBA *e* 09 04 58.0
SBA pmax pmax
comp=Z,440nm,2.1s,mb5.7
SBA MLR MLR
comp=Z,22μm,21.0s,MS6.0
SBA Scott Base 41.62 162 *e*P **P** **09 03 04.6 +0.1**
comp=Z,440nm,2.1s,mb5.7
SBA *e*PcP PcP 09 04 58.0 -3.5
SBA LR LR
comp=Z,22μm,21.0s,MS6.0
DGAR Diego Garcia 43.36 325 PFAKE 09 03 30.0 +11
DGAR LR LR
comp=Z,5μm,20.0s,MS5.4
QSPA South Pole Qui 44.33 180 *e*P **P** **09 03 25.7 -0.7**
comp=Z,593nm,1.9s,mb6.0
KAKA Kakadu 45.11 55 *e*P **P** **09 03 30.9 -1.8**
comp=Z,62nm,1.0s,mb5.4
ARMA Armidale 45.44 90 *e*P **P** **09 03 36.1 +0.8**
ARMA *e*S **S** **09 10 21.7 +5.1**
KAPI Kappang 45.57 34 P **P** **09 03 36.0 -0.3**
comp=Z,175nm,1.2s,mb5.9,SNR=10
NVL N'lazarevskaya 45.76 207 *d i*P **P** **09 03 37.5 -0.3**
NVL *i* 09 05 24.6
NVL *i* S **S** **09 10 23.5 +2.3**
NVL *i* 09 13 33.1
NVL pmax pmax
comp=Z,228nm,1.8s,mb5.8
MAIT Maitri 45.79 207 ⇓*i*P **P** **09 03 37.2 -0.8**
MAIT *e*PcP PcP 09 05 24.1 +8.6
MAIT *e*S **S** **09 10 23.5 +1.8**
MAIT *e*SS SS 09 13 56.1 +10
KGM Kluang 48.06 10 P **P** **09 03 56.3 +0.5**
CTA Charters Tower 48.33 75 *e*P **P** **09 03 57.3 -0.6**
comp=Z,28nm,1.1s,mb5.2
CTA *e*PP PP 09 05 47.6 -2.8
CTA *e*S **S** **09 11 01.7 +3.8**
CTA Charters Tower 48.33 75 LR LR 09 22 53.4
comp=Z,22μm,19.3s,MS6.1,baz=244,slow=34
CTA Charters Tower 48.33 75 *e*P **P** **09 03 57.3 -0.6**
CTA *e* 09 05 47.6
CTA *e*S **S** **09 11 01.7 +3.8**
CTA pmax pmax
comp=Z,280nm,1.1s
CTAO Charters Tower 48.33 75 *e*P **P** **09 03 57.4 -0.5**
CTAO pmax pmax
comp=Z,507nm,2.1s,mb6.2
CTAO MLR MLR
comp=Z,21μm,19.0s,MS6.2
CTAO Charters Tower 48.33 75 *e*P **P** **09 03 57.4 -0.5**
comp=Z,507nm,2.1s,mb6.2
CTAO LR LR
comp=Z,21μm,19.0s,MS6.2
OPO Ambohidratompo 48.51 287 P **P** **09 03 59.3 0.0**
comp=Z,17nm,1.4s,mb4.9,baz=120,slow=6.3,SNR=7.8
KSM Kuching 48.75 19 *e*P **P** **09 04 02.4 +1.2**
SNAA Sanae 49.92 204 ⇓*i*P **P** **09 04 09.2 -0.9**
SNAA *e* pP 09 04 12.0 -1.3
SNAA *e* pP 09 04 13.6 +0.3
SNAA *e* 09 05 29.5
SNAA *e* 09 06 08.1
SNAA Sanae 49.92 204 *e*P **P** **09 04 09.4 -0.7**
SNAA pmax pmax
comp=Z,419nm,1.6s
SNAA Sanae 49.92 204 *e*P **P** **09 04 09.4 -0.7**
comp=Z,419nm,1.6s,mb6.2
IPM Ipoh 50.27 6 P **P** **09 04 13.5 +0.7**
IPM Ipoh 50.27 6 P **P** **09 04 12.8 +0.1**
KULM Kulim 51.05 6 *e*P **P** **09 04 19.4 +0.8**
VNA2 Neumayer--Watz 51.57 204 ⇓*i*P **P** **09 04 23.8 +1.3**
VNA2 *e* pP 09 04 26.5 +0.8
VNA2 *e* pP 09 04 28.4 +2.7
VNA2 *e* 09 05 35.7
VNA1 Neumayer--Stat 51.96 204 ⇓*i*P **P** **09 04 26.7 +1.3**
VNA1 *e* pP 09 04 29.8 +1.2
VNA1 *e* pP 09 04 31.4 +2.8
VNA1 *e* 09 05 38.6
VNA1 *e* 09 06 22.4
VNA3 Neumayer Olymp 52.05 203 ⇓*i*P **P** **09 04 25.5 -0.6**
VNA3 *e* pP 09 04 28.4 -0.9
VNA3 *e* pP 09 04 30.1 +0.8
VNA3 *e* 09 05 37.4
VNA3 *e* 09 06 23.7
TSM Tawau 53.54 27 P **P** **09 04 38.8 +1.7**
MSEY Mahe Island 54.04 307 *e*P **P** **09 04 40.6 -0.2**
comp=Z,32nm,0.9s,mb5.2
MSEY LR LR
comp=Z,5μm,21.0s,MS5.5
PALK Pallekele 54.61 341 P **P** **09 04 45.9 +0.9**
comp=Z,194nm,1.4s,mb5.9,SNR=6.1
PALK Pallekele 54.61 341 *e*P **P** **09 04 45.2 +0.2**
comp=Z,133nm,1.6s,mb5.7
PALK LR LR
comp=Z,4μm,20.0s,MS5.5
KKM Kota Kinabalu 54.68 25 P **P** **09 04 47.2 +1.8**
SNZO South Karori 54.98 116 PFAKE 09 05 00.0 +12
SNZO LR LR
comp=Z,7μm,21.0s,MS5.7
PMG Port Moresby 56.67 67 LR LR 09 27 49.9
comp=Z,16μm,18.6s,MS6.1,baz=217,slow=35
PMG Port Moresby 56.67 67 *e*P **P** **09 05 00.2 +0.5**
PMG Port Moresby 56.67 67 *e*P **P** **09 04 59.6 -0.2**
comp=Z,195nm,1.9s,mb5.8
PMG LR LR
comp=Z,15μm,19.0s,MS6.1
TRD Trivandrum 56.73 337 *e*P **P** **09 04 58.8 -1.3**
TRD AMb AMB 09 05 07.9
comp=Z,90nm,1.7s,mb5.5
BOSA Boshof 57.14 261 P **P** **09 05 01.5 -1.6**
comp=Z,25nm,1.1s,mb5.2,baz=134,slow=7.5,SNR=15
BOSA LR LR 09 23 44.7
comp=Z,13μm,21.6s,MS6.0,baz=142,slow=30
BOSA Boshof 57.14 261 P **P** **09 05 02.0 -1.0**
BOSA pmax pmax
comp=Z,130nm,1.6s,mb5.7
BOSA Boshof 57.14 261 *e*P **P** **09 05 01.7 -1.3**
comp=Z,133nm,1.6s,mb5.7
BOSA LR LR
comp=Z,14μm,21.0s,MS6.0
SUR Sutherland 57.89 255 P **P** **09 05 09.8 +1.5**
comp=Z,207nm,1.3s,mb6.0,SNR=5.3
SUR Sutherland 57.89 255 ⇓P **P** **09 05 08.6 +0.2**
SNR=8.1
SUR Sutherland 57.89 255 *e*P **P** **09 05 08.5 +0.1**
comp=Z,46nm,1.2s,mb5.4
SUR LR LR
comp=Z,4μm,19.0s,MS5.6
DAV Davao City (W) 58.90 35 PFAKE 09 05 30.0 +15
DAV LR LR
comp=Z,3μm,19.0s,MS5.4
LBTB Lobatse 59.16 265 P **P** **09 05 15.7 -1.5**
LBTB pmax pmax
comp=Z,93nm,1.5s,mb5.6
LBTB Lobatse 59.16 265 *e*P **P** **09 05 15.5 -1.7**
comp=Z,93nm,1.5s,mb5.6
LBTB LR LR
comp=Z,14μm,21.0s,MS6.0
MDRS Chennai 60.33 342 *e*x x 09 05 57.1
DZM Mont Dzumac 60.99 93 *e*P **P** **09 05 30.2 +0.4**
NST Nakhon Sawan 61.31 4 P **P** **09 05 32.0 +0.1**
MNGI Mangalore 61.55 336 *i*P **P** **09 05 34.6 +1.0**
MNGI AMb AMB 09 05 39.5
comp=Z,203nm,1.7s,mb6.0
MNGI *i* S **S** **09 13 54.8 -0.6**
LSZ Lusaka 63.81 275 P **P** **09 05 48.5 -0.2**
SNR=47
LSZ Lusaka 63.81 275 *e*P **P** **09 05 48.1 -0.6**
LSZ pmax pmax
comp=Z,207nm,1.4s,mb6.0
LSZ MLR MLR
comp=Z,15μm,20.0s,MS6.2
LSZ Lusaka 63.81 275 *e*P **P** **09 05 48.1 -0.6**
comp=Z,207nm,1.4s,mb6.0
LSZ LR LR
comp=Z,15μm,20.0s,MS6.2
CM31 Chiang Mai Arr 64.02 3 PFAKE 09 06 00.0 +10
CM31 LR LR
comp=Z,15μm,22.0s,MS6.1
VIS Vishakhapatnam 64.28 347 *i*P **P** **09 05 49.2 -2.5**
VIS *e*P pP 09 05 50.7 -4.3
VIS AMb AMB 09 05 59.3
comp=Z,93nm,1.6s,mb5.5
VIS *i* S **S** **09 14 26.7 -2.9**
CHG Chiang Mai 64.38 3 P **P** **09 05 51.7 -0.7**
comp=Z,36nm,0.9s,mb5.4
CHTO Chiang Mai 64.38 3 P **P** **09 05 53.1 +0.7**
SNR=7.0
CHTO Chiang Mai 64.38 3 *e*P **P** **09 05 52.7 +0.3**
CHTO pmax pmax
comp=Z,694nm,3.0s
CHTO MLR MLR
comp=Z,16μm,22.0s,MS6.2
CHTO Chiang Mai 64.38 3 *e*P **P** **09 05 52.7 +0.4**
comp=Z,694nm,3.0s
CHTO LR LR
comp=Z,16μm,22.0s,MS6.2
HYB Hyderabad 64.91 342 *i*P **P** **09 05 55.0 -0.8**
HYB *e*S **S** **09 14 38.0 +0.7**
HYB LR LR 09 32 05.0
comp=Z,16nm,16.0s
HYB Hyderabad 64.91 342 *e*P **P** **09 05 56.0 +0.2**
HYB *e*S **S** **09 14 40.0 +2.7**
HYB Hyderabad 64.91 342 *e*P **P** **09 05 56.0 +0.2**
HYB *e*S **S** **09 14 40.0 +2.7**
HYB *e*LR LR 09 32 05.0
HNR Honiara 65.16 77 *e*P **P** **09 05 58.6 +1.1**
HNR pmax pmax
comp=Z,188nm,1.1s,mb6.0
HNR MLR MLR
comp=Z,23μm,19.0s,MS6.4
HNR Honiara 65.16 77 *e*P **P** **09 05 58.5 +1.1**
comp=Z,188nm,1.1s,mb6.0
HNR LR LR
comp=Z,23μm,19.0s,MS6.4
QIZ Qiongzhong 65.74 14 P **P** **09 06 02.0 +0.8**
QIZ AP pP 09 06 07.4 +2.9
QIZ PCP PcP 09 06 31.1 -1.3
QIZ PP PP 09 08 25.6 -0.2
QIZ S S 09 14 52.0 +4.5
QIZ XS sS 09 15 01.8 +9.0
QIZ AMB AMB
comp=Z,41nm,2.4s,mb5.0
QIZ AMB AMB
comp=Z,2μm,6.7s
QIZ LR LR
comp=N,6μm,22.9s
QIZ LR LR
comp=Z,10μm,21.7s,MS6.0
QIZ Qiongzhong 65.74 14 *e*P **P** **09 06 01.7 +0.5**
comp=Z,81nm,1.6s,mb5.5
QIZ LR LR
comp=Z,11μm,22.0s,MS6.0
KAD Karad 65.89 337 *e*P **P** **09 06 01.5 -0.6**
KAD AMb AMB 09 06 08.1
comp=Z,87nm,1.6s,mb5.5
RAO Raoul Island 67.05 109 PFAKE 09 06 20.0 +10
RAO LR LR
comp=Z,2μm,19.0s,MS5.3
POO Poona 67.14 337 ⇓*i*P **P** **09 06 08.0 -2.2**
comp=Z,389nm,1.8s,mb6.1
POO *i* x x 09 15 00.0
KMBO Kilima Mbogo 67.91 293 P **P** **09 06 14.4 -0.7**
comp=Z,8.1nm,0.9s,mb4.7,baz=120,slow=4.9,SNR=21
KMBO LR LR 09 29 22.1
comp=Z,9μm,21.2s,MS6.0,baz=122,slow=30
KMBO Kilima Mbogo 67.91 293 P **P** **09 06 15.4 +0.3**
SNR=16
KMBO Kilima Mbogo 67.91 293 *e*P **P** **09 06 14.9 -0.2**
KMBO pmax pmax
comp=Z,50nm,1.5s
KMBO MLR MLR
comp=Z,8μm,21.0s
KMBO Kilima Mbogo 67.91 293 *e*P **P** **09 06 14.8 -0.2**
comp=Z,50nm,1.5s,mb5.3
KMBO LR LR
comp=Z,8μm,21.0s,MS5.9
CAL Calcutta 68.39 352 *e*x x 09 15 26.2
NGP Nagpur 68.42 343 *e*P **P** **09 06 17.8 -0.5**
NGP *e*S S 09 15 20.9 +1.1
AKL Akola 68.43 341 *i*x x 09 15 11.5
TSUM Tsumeb 68.55 264 *e*P **P** **09 06 18.9 -0.1**
comp=Z,79nm,1.3s,mb5.5
TSUM LR LR
comp=Z,11μm,20.0s,MS6.1
PMSA Palmer Station 68.65 189 PFAKE 09 06 30.0 +10
PMSA LR LR
comp=Z,23μm,19.0s,MS6.4
HKC Hong Kong 69.77 18 ⇓*i*P **P** **09 06 30.0 +3.4**
HKC *i* S S 09 15 50.0 +14
JBP Jabalpur 70.20 344⇑*e*P **P** **09 06 28.9 -0.4**
JBP *e*S S 09 15 40.8 0.0
GZH Guangzhou 70.35 17 P **P** **09 06 32.8 +2.6**
GZH S S 09 15 49.3 +6.7
GZH LR LR
comp=N,3μm,16.7s,MS5.7
GZH LR LR
comp=E,2μm,16.2s,MS5.7
GZH LR LR
comp=Z,5μm,16.5s,MS5.9
BHPL Bhopal 70.79 342 *e*P **P** **09 06 32.7 -0.2**
BHPL AMb AMB 09 06 39.5
comp=Z,162nm,1.6s,mb5.7
KMI Kunming 70.86 6 P **P** **09 06 34.3 +1.0**
KMI AP pP 09 06 43.5 +6.9
KMI XP sP 09 06 48.4 +11
KMI PP PP 09 09 06.8 -3.5
KMI PPP 09 10 51.8
KMI S S 09 15 51.4 +2.8
KMI SKS 09 16 34.0
KMI SSS 09 23 39.3
KMI AMB AMB
comp=Z,61nm,2.0s,mb5.2
KMI AMB AMB
comp=Z,3μm,5.6s
KMI LR LR
comp=N,9μm,18.9s,MS6.2
KMI LR LR
comp=E,6μm,17.7s,MS6.2
KMI LR LR
comp=Z,11μm,18.3s,MS6.1
KMI Kunming 70.86 6 P **P** **09 06 34.3 +1.0**
KMI *PP pP 09 06 43.5 +6.9
KMI *SP sP 09 06 48.4 +11
KMI 09 09 06.8
KMI PPP 09 10 51.7
KMI S S 09 15 51.4 +2.8
KMI *SS sS 09 16 11.3 +17
KMI 09 16 34.0
KMI SS SS 09 20 28.3 +7.3
KMI pmax pmax
comp=Z,61nm,2.0s,mb5.2
KMI MLR MLR
comp=Z,11μm,18.3s,MS6.1
KMI Kunming 70.86 6 P **P** **09 06 34.3 +1.0**
comp=Z,61nm,2.0s,mb5.2
KMI pP pP 09 06 43.5 +6.9
KMI sP sP 09 06 48.4 +11
KMI PP PP 09 09 06.8 -3.5
KMI PPP 09 10 51.7
KMI S S 09 15 51.4 +2.8
KMI sS sS 09 16 11.3 +17
KMI SKS 09 16 34.0
KMI SS SS 09 20 28.3 +7.3
KMI SSS 09 23 39.2
KMI LR LR
comp=Z,11μm,18.3s,MS6.1
SHL Shillong 71.15 356 *i*P **P** **09 06 34.0 -1.0**
SHL *i* S S 09 15 50.0 -1.8
HOPE Hope Point 72.44 207 *e*P **P** **09 06 43.0 +0.2**
comp=Z,125nm,1.5s,mb5.6
HOPE LR LR
comp=Z,2μm,19.0s,MS5.4
GYA Guiyang 72.58 10 ⇓*i*P **P** **09 06 45.0 +1.4**
GYA XP sP 09 06 52.5 +4.4
GYA PCP PcP 09 07 05.6 +4.4
GYA S S 09 16 13.3 +5.0
GYA XS sS 09 16 18.4 +4.7
GYA AMB AMB
comp=Z,60nm,1.8s,mb5.2
GYA AMB AMB
comp=Z,2μm,5.9s
GYA LR LR
comp=N,6μm,21.5s,MS6.0
GYA LR LR
comp=E,4μm,18.8s,MS6.0
GYA LR LR
comp=Z,7μm,20.0s,MS6.0
SHAO Shalim 73.34 320 P **P** **09 06 48.6 +0.4**
SNR=5.9
NACB Ninganchiao 73.42 24 *e*P **P** **09 06 48.9 +0.2**
NACB *e*PcP PcP 09 07 03.8 -1.1
RBK Rabkut 73.54 318 P **P** **09 06 50.2 +0.9**
SNR=7.3
GUMO Guam 73.68 50 LR LR 09 40 26.8
comp=Z,3μm,18.3s,MS5.6,baz=23,slow=37
GUMO Guam 73.68 50 *e*P **P** **09 06 49.1 -1.1**
GUMO pmax pmax
comp=Z,49nm,0.9s,mb5.4
GUMO MLR MLR
comp=Z,2μm,19.0s,MS5.5
GUMO Guam 73.68 50 *e*P **P** **09 06 49.1 -1.1**
comp=Z,49nm,0.9s,mb5.4
GUMO LR LR
comp=Z,2μm,19.0s,MS5.5
PKI Pulchoki 73.68 350 *e*P **P** **09 06 48.9 -1.3**
comp=Z,571nm,1.9s,mb6.2
DMN Daman 73.75 350 *e*P **P** **09 06 49.8 -0.8**
comp=Z,369nm,1.6s,mb6.1
YHNB Yeheng 73.83 24 *e*P **P** **09 06 51.6 +0.5**
YHNB *e*PcP PcP 09 07 06.2 -0.4
ABTO Aybut 73.84 318 P **P** **09 06 51.7 +0.6**
SNR=5.3
KKN Kakani 73.91 350 *e*P **P** **09 06 49.5 -2.0**
comp=Z,724nm,1.9s,mb6.3
GUN Gumba 73.96 351 *e*P **P** **09 06 51.2 -0.6**
comp=Z,1μm,1.6s,mb6.6
WHFO Wadi Hawf 74.10 318 ⇓P **P** **09 06 52.9 +0.3**
SNR=12
KOLN Koldanda 74.11 349 *e*P **P** **09 06 50.1 -2.6**
comp=Z,689nm,1.9s,mb6.3
GKN Gorkha 74.20 350 *e*P **P** **09 06 51.1 -2.1**
comp=Z,397nm,1.5s,mb6.1
AJM Ajmer 74.54 340 *i*P **P** **09 06 54.0 -1.2**
AJM *e*P 09 06 54.7
AJM AMb AMB 09 07 02.2
comp=Z,139nm,1.4s,mb5.7
LSA Lhasa 75.29 356 *e*P **P** **09 06 59.9 +0.4**
LSA *e* 09 07 17.0
LSA pmax pmax
comp=Z,161nm,1.6s,mb5.7
LSA MLR MLR
comp=Z,8μm,19.0s,MS6.0
LSA Lhasa 75.29 356 *e*P **P** **09 06 59.9 +0.3**
comp=Z,161nm,1.6s,mb5.7
LSA *e* 09 07 17.0

LSA LR LR
comp=Z,8μm,19.0s,MS6.0
TRIS Tristan da Cun 75.37 232 PFAKE 09 07 10.0 +10
TRIS LR LR
comp=Z,5μm,19.0s,MS5.8
WBK Wadi Bani Khal 75.98 325 P **P** **09 07 03.9 +0.4**
SNR=20
NDI New Delhi 76.10 343 *e*P **P** **09 07 03.3 -0.9**
NDI AMb AMB 09 07 08.2
comp=Z,133nm,1.7s,mb5.6
JMDO Jabal Madar 76.12 324 ⇓P **P** **09 07 05.3 +1.0**
SNR=6.7
CD2 Chengdu 76.69 7 ⇓*i*P **P** **09 07 07.8 +0.3**
CD2 AP pP 09 07 12.5 +1.7
CD2 XP sP 09 07 15.0 +3.0
CD2 PP PP 09 10 02.5 +2.6
CD2 S S 09 16 54.4 +0.2
CD2 XS sS 09 17 02.3 +2.6
CD2 SS SS 09 21 54.3 +4.6
CD2 AMB AMB
comp=Z,60nm,1.5s,mb5.3
CD2 AMB AMB
comp=Z,2μm,5.7s
CD2 LR LR
comp=N,9μm,19.0s,MS6.1
CD2 LR LR
comp=E,5μm,23.8s,MS6.1
CD2 LR LR
comp=Z,10μm,16.7s
ENH Enshi 76.71 12 PFAKE 09 07 20.0 +12
ENH LR LR
comp=Z,3.0nm,19.0s
SMDO Samad 76.76 324 P **P** **09 07 08.3 +0.4**
SNR=20
BSY Bisya 76.83 323 ⇓P **P** **09 07 08.7 +0.4**
SNR=7.7
BIDO Bidbid 77.14 325 P **P** **09 07 11.0 +0.9**
SNR=14
HOQ Hoqain 77.53 324 P **P** **09 07 12.5 +0.3**
SNR=17
ARQ Araqi 77.64 323 P **P** **09 07 13.7 +0.8**
SNR=8.6
WHN Wuhan 77.79 16 ⇓P **P** **09 07 14.5 +0.8**
WHN S S 09 17 08.0 +1.7
WHN LR LR
comp=Z,9μm,18.9s,MS6.1
JOW Kunigami 78.01 29 LR LR 09 38 08.5
comp=Z,3μm,21.4s,MS5.6,baz=210,slow=33
ASHO Ashiyiah 79.02 323 ⇓P **P** **09 07 21.8 +1.3**
SNR=8.9
HATD Hatta, Dubai 79.12 324 P **P** **09 07 20.9 -0.1**
SNR=12
SSE Sheshan 79.87 22 P **P** **09 07 26.0 +0.9**
SSE XP sP 09 07 30.8 +1.2
SSE PP PP 09 10 26.1 -0.4
SSE S S 09 17 29.3 +0.8
SSE SS SS 09 22 38.9 +1.2
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,1μm,6.8s
SSE LR LR
comp=N,1μm,20.5s,MS5.8
SSE LR LR
comp=E,4μm,20.4s,MS5.8
SSE LR LR
comp=Z,3μm,17.4s,MS5.7
SSE Sheshan 79.87 22 P **P** **09 07 26.0 +0.9**
comp=Z,39nm,0.8s,mb5.4
SSE pP pP 09 07 29.3 +0.9
SSE sP sP 09 07 30.7 +1.1
SSE PP PP 09 10 26.1 -0.4
SSE S S 09 17 29.3 +0.8
SSE sS sS 09 17 34.7 +0.7
SSE SS SS 09 22 38.9 +1.2
SSE LR LR
comp=Z,3μm,17.4s,MS5.7
NJ2 Nanjing 80.21 19 *e*P **P** **09 07 26.8 -0.2**
NJ2 AP pP 09 07 36.6 +6.3
NJ2 XP sP 09 07 41.8 +10
NJ2 PP PP 09 10 28.8 -0.5
NJ2 S S 09 17 29.0 -3.1
NJ2 SS SS 09 22 42.0 -0.8
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,3μm,7.0s
NJ2 LR LR
comp=N,6μm,17.6s,MS6.0
NJ2 LR LR
comp=E,3μm,21.3s,MS6.0
XAN Xi'an 80.33 11 P **P** **09 07 27.9 +0.3**
XAN AP pP 09 07 38.0 +7.1
XAN AMB AMB
comp=Z,70nm,1.7s,mb5.3
EFI East Falkland 80.36 196 PFAKE 09 07 40.0 +12
EFI LR LR
comp=Z,2μm,22.0s,MS5.5
AFI Afiamalu 81.65 101 LR LR 09 37 20.0
comp=Z,4μm,20.9s,MS5.7,baz=227,slow=31
AFI Afiamalu 81.65 101 PFAKE 09 07 50.0 +15
AFI LR LR
comp=Z,5μm,21.0s,MS5.9
NIL Nilore 81.75 341 P **P** **09 07 35.8 +0.6**
comp=Z,69nm,1.3s,mb5.4,SNR=5.2
LZH Lanzhou 81.83 6 P **P** **09 07 34.8 -0.8**
LZH AP pP 09 07 39.4 +0.5
LZH XP sP 09 07 43.4 +3.3
LZH PP PP 09 10 47.0 +4.3
LZH S S 09 17 49.0 +0.1
LZH SKS 09 17 51.0
LZH XS sS 09 18 01.0 +6.6
LZH AMB AMB
comp=Z,110nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,2μm,5.4s
LZH LR LR
comp=E,6μm,17.5s
LZH LR LR
comp=Z,9μm,18.9s,MS6.2
LZH Lanzhou 81.83 6 P **P** **09 07 34.8 -0.8**
LZH *PP pP 09 07 39.4 +0.5
LZH 09 10 47.0
LZH S S 09 17 49.0 +0.1
LZH 09 17 51.0
LZH PS 09 18 40.0
LZH *e*SS SS 09 23 13.0 +6.1
LZH pmax pmax
comp=Z,110nm,1.3s,mb5.6
LZH MLR MLR
comp=Z,9μm,18.9s,MS6.2
LZH Lanzhou 81.83 6 P **P** **09 07 34.8 -0.8**
comp=Z,110nm,1.3s,mb5.6
LZH pP pP 09 07 39.4 +0.5
LZH sP sP 09 07 43.4 +3.3
LZH PP PP 09 10 47.0 +4.3
LZH S S 09 17 49.0 +0.1
LZH SKS 09 17 51.0
LZH sS sS 09 18 01.0 +6.6
LZH PS 09 18 40.0
LZH *e*SS SS 09 23 13.0 +6.1
LZH LR LR
comp=Z,9μm,18.9s,MS6.2
MSKU Masuku 83.55 274 PFAKE 09 08 00.0 +15
MSKU LR LR
comp=Z,2.0nm,20.0s
TIA Tai'an 83.84 17 P **P** **09 07 45.1 -0.9**
TIA S S 09 18 11.0 +1.6
TIA LR LR
comp=N,2μm,19.0s,MS5.6
TIA LR LR
comp=E,1μm,19.0s,MS5.6
RAR Rarotonga 84.41 115 LR LR 09 38 37.0
comp=E,3μm,19.9s,MS5.7,baz=250,slow=31
RAR Rarotonga 84.41 115 PFAKE 09 08 00.0 +11
RAR LR LR
comp=Z,1.0nm,21.0s
GTA Gaotai 84.92 3 P **P** **09 07 51.6 +0.1**
GTA AP pP 09 07 55.4 +0.6
GTA XP sP 09 07 58.5 +2.5
GTA PP PP 09 11 11.3 +3.3
GTA SKS 09 18 12.5
GTA S S 09 18 19.8 -0.3
GTA XS sS 09 18 28.1 +2.5
GTA PS 09 19 17.9
GTA SS SS 09 23 56.6 +4.0
GTA AMB AMB
comp=Z,28nm,1.4s,mb5.2
GTA AMB AMB
comp=Z,2μm,5.0s
GTA LR LR
comp=N,3μm,19.8s,MS5.9
GTA LR LR
comp=E,4μm,22.0s,MS5.9
GTA LR LR
comp=Z,5μm,19.0s,MS5.9
SHEL Horse Pasture 86.70 251 PFAKE 09 08 10.0 +10
SHEL LR LR
comp=Z,819nm,20.0s,MS5.1
KSH Kashi 86.85 345 P **P** **09 08 01.8 +0.8**
KSH *e*AP pP 09 08 06.9 +2.5
KSH *e*XP sP 09 08 08.8 +3.2
KSH *e*PP PP 09 11 25.9 +2.3
KSH *e*SKS 09 18 25.3
KSH *e*S S 09 18 35.1 -4.0
KSH *e*PS 09 18 41.9
KSH *e*XS sS 09 18 46.9 +2.3
KSH *e*SS SS 09 24 22.6 +1.6
KSH AMB AMB
comp=Z,111nm,0.8s,mb6.1
KSH LR LR
comp=Z,32μm,20.7s,MS6.7
BJT Baijiatuau 87.33 15 *e*P **P** **09 08 03.6 +0.2**
BJT pmax pmax
comp=Z,291nm,1.9s
BJT MLR MLR
comp=Z,4μm,22.0s
BJT Baijiatuau 87.33 15 *e*P **P** **09 08 03.6 +0.1**
comp=Z,291nm,1.9s,mb6.2
BJT LR LR
comp=Z,4μm,22.0s,MS5.8
BJI Beijing 87.36 15 P **P** **09 08 03.9 +0.4**
BJI PP PP 09 11 30.0 +2.2
BJI AMB AMB
comp=Z,66nm,1.9s,mb5.5
BJI LR LR
comp=N,3μm,22.5s,MS5.7
BJI LR LR
comp=E,2μm,24.5s,MS5.7
BJI LR LR
comp=Z,7μm,28.1s,MS5.9
INCN Inchon 87.37 24 PFAKE 09 08 10.0 +6.4
INCN LR LR
comp=Z,3μm,20.0s,MS5.7
HHC Hu-ho-hao-te 87.39 12 *e*P **P** **09 08 01.4 -2.3**
HHC AP pP 09 08 10.3 +3.3
HHC XP sP 09 08 13.0 +4.8
HHC PP PP 09 11 32.8 +4.8
HHC SKS 09 18 32.6
HHC S S 09 18 44.0 -0.4
HHC XS sS 09 18 57.3 +7.4
HHC AMB AMB
comp=Z,57nm,1.6s,mb5.5
HHC LR LR
comp=N,6μm,22.2s,MS6.1
HHC LR LR
comp=E,6μm,20.3s,MS6.1
HHC LR LR
comp=Z,9μm,23.3s,MS6.1
DL2 Dalian 87.41 20 *i*P **P** **09 08 05.0 +1.2**
DL2 PP PP 09 11 29.8 +1.6
DL2 S S 09 18 46.6 +2.0
DL2 PS 09 19 45.6
DL2 SS SS 09 24 26.4 -2.9
DL2 AMB AMB
comp=Z,640nm,5.5s
DL2 LR LR
comp=N,2μm,17.5s,MS5.7
DL2 LR LR
comp=E,2μm,18.3s,MS5.7
DL2 LR LR
comp=Z,1μm,19.8s,MS5.4
TBI Tubuai 89.12 123 *e*S S 09 19 00.5 -0.2
comp=Z,2μm,28.8s
TBI *e*SS SS 09 24 58.2 +4.1
comp=Z,2μm,27.0s
TBI *e*LR LR 09 36 40.1
comp=Z,7μm,32.0s,baz=223
ULHL Ulahol 89.44 345 P **P** **09 08 16.8 +3.4**
SNR=16
WMQ Urumqi 89.56 354 ⇑*i*P **P** **09 08 14.6 +0.6**
WMQ AP pP 09 08 19.5 +2.2
WMQ XP sP 09 08 22.0 +3.5
WMQ PP PP 09 11 48.0 +2.6
WMQ PPP 09 13 47.0
WMQ SKS 09 18 42.5
WMQ S S 09 19 03.0 -1.9
WMQ PS PS 09 20 11.0 0.0
WMQ SS SS 09 25 01.0 +0.4
WMQ AMB AMB
comp=Z,79nm,1.9s,mb5.7
WMQ AMB AMB
comp=Z,2μm,5.8s
WMQ LR LR
comp=N,9μm,23.5s,MS6.3
WMQ LR LR
comp=E,9μm,19.6s,MS6.3
WMQ LR LR
comp=Z,7μm,27.4s
UCH Uchtor 89.75 344 P **P** **09 08 14.2 -0.6**
SNR=28
AML Almayashu 89.81 344 P **P** **09 08 18.7 +3.5**
SNR=17
VAN Vannovskaya 90.10 331 *i*P **P** **09 08 17.3 +0.8**
VAN *i*S S 09 18 53.1 -17
AAK Ala-Archa 90.14 344 P **P** **09 08 20.1 +3.4**
SNR=12
AAK Ala-Archa 90.14 344 P **P** **09 08 17.6 +0.9**
comp=Z,103nm,1.7s,mb5.9,SNR=9.3
AAK Ala-Archa 90.14 344 ⇑P **P** **09 08 16.4 -0.2**
SNR=14
AAK Ala-Archa 90.14 344 *e*P **P** **09 08 15.0 -1.7**
AAK *e* 09 11 56.6
AAK pmax pmax
comp=Z,27nm,1.2s,mb5.5
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.6
AAK Ala-Archa 90.14 344 *e*P **P** **09 08 15.0 -1.6**
comp=Z,27nm,1.2s,mb5.5
AAK *e*PP PP 09 11 56.6 +6.6
AAK LR LR
comp=Z,2μm,19.0s,MS5.6
TKM2 Tokmak 2 90.22 345 P **P** **09 08 19.7 +2.7**
SNR=7.2
EKS2 Erkin-Say 90.31 344 P **P** **09 08 20.8 +3.4**
SNR=9.8
FRU Bishkek 90.31 344 ⇑*e*P **P** **09 08 17.0 -0.5**
FRU *i* pP 09 08 20.0 -0.8
FRU *i*S SKSac 09 18 52.0 +3.2
FRU *i* 09 19 13.0
FRU *e*PS PS 09 20 18.0 -1.3
AAA Alma-Ata 90.32 346 *i*P **P** **09 08 17.7 +0.2**
AAA *i*S S 09 19 08.2 -3.7
AAA pmax pmax
comp=Z,1μm,5.6s
AAA smax
comp=E,5μm,12.8s
MAJO Matsushiro 90.35 33 *e*P **P** **09 08 17.2 -0.4**
comp=E,82nm,1.9s,mb5.7
MAJO LR LR
comp=Z,2μm,19.0s,MS5.5
MAT Matsushiro 90.35 33 P **P** **09 08 16.9 -0.8**
MAT S S 09 19 13.0 +0.8
MJAR Matsushiro Arr 90.35 33 P **P** **09 08 17.6 -0.1**
comp=Z,6.3nm,1.1s,mb4.9,baz=204,slow=4.9,SNR=9.7
SNY Shenyang 90.65 20 ⇑P **P** **09 08 15.8 -3.2**
SNY PP PP 09 11 55.4 +1.3
SNY SKS 09 18 48.8
SNY AMB AMB
comp=Z,21nm,2.5s,mb5.0
SNY AMB AMB
comp=Z,931nm,4.8s
SNY LR LR
comp=N,3μm,19.4s,MS5.7
SNY LR LR
comp=E,1μm,20.2s,MS5.7
SNY LR LR
comp=Z,3μm,17.1s,MS5.7
USP Ospenovka 90.75 344 P **P** **09 08 22.2 +2.7**
SNR=9.6
CN2 Changchun 92.97 21 *e*P **P** **09 08 32.0 +2.2**
CN2 *e*XP sP 09 08 42.8 +8.5
CN2 PP PP 09 12 18.3 +5.9
CN2 SKS 09 19 04.0
CN2 *e*S S 09 19 35.8 -0.1
CN2 PS PS 09 20 55.3 +6.5
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,22.0s,MS5.6
CN2 LR LR
comp=E,800nm,22.0s,MS5.6
CN2 LR LR
comp=Z,2μm,21.0s,MS5.6
PLCA Paso Flores 93.00 190 P **P** **09 08 30.4 +0.5**
comp=Z,12nm,1.2s,mb5.2,baz=199,slow=3.9,SNR=6.7
PLCA LR LR 09 48 19.5
comp=Z,11μm,21.6s,MS6.3,baz=171,slow=34
PLCA Paso Flores 93.00 190 P **P** **09 08 30.4 +0.5**
PLCA LR LR 09 48 19.5
MK31 Makanchi Array 93.02 351 *e*P **P** **09 08 30.5 +0.5**
MKAR Makanchi Array 93.02 351 P **P** **09 08 29.9 -0.1**
comp=Z,7.7nm,1.0s,mb5.1,baz=134,slow=3.5,SNR=17
MKAR LR LR 09 48 09.6
comp=Z,8μm,19.7s,MS6.2,baz=172,slow=34
MKAR Makanchi Array 93.02 351 P **P** **09 08 29.9 -0.1**
MKAR LR LR 09 48 09.6
PPT Papeete 93.48 119 *e*S S 09 19 38.3 -2.1
comp=Z,2μm,26.0s
PPT *e*SS SS 09 26 00.3 +3.3
comp=Z,756nm,25.5s
PPT *e*LQ 09 34 57.5
comp=Z,14μm,31.5s
PPT *e*LR LR 09 38 47.4
comp=Z,6μm,23.0s,baz=225
PPT Papeete 93.48 119 LR LR 09 41 49.8
comp=Z,3μm,21.3s,MS5.8,baz=226,slow=30
SONM Songino Array 93.71 7 P **P** **09 08 31.3 -1.9**
comp=Z,4.3nm,0.9s,mb4.9,baz=188,slow=3.2,SNR=22
SONM PKKPbc PKKPbc 09 25 41.1 +3.6
comp=Z,0.2nm,0.3s,baz=90,slow=1.5,SNR=3.6
SONM LR LR 09 48 29.5
comp=Z,7μm,21.7s,MS6.1,baz=178,slow=34
VLA Vladivostok 94.11 25 *e*P **P** **09 08 36.4 +1.4**
VLA *e* 09 12 20.0
VLA *e*S SKSac 09 19 09.0 -1.1
VLA pmax pmax
comp=Z,49nm,0.8s,mb6.0
TRQA Tornquist 94.20 197 *e*P **P** **09 08 35.0 -0.5**
comp=Z,49nm,1.7s,mb5.7
TRQA LR LR
comp=Z,5μm,22.0s,MS6.0
ASF Jabal al Asfar 94.29 313 P **P** **09 08 34.7 -1.2**
comp=Z,7.5nm,1.1s,mb5.0,baz=135,slow=7.1,SNR=12
ASF LR LR 09 45 15.8
comp=Z,4μm,20.1s,MS5.9,baz=171,slow=32
MSL Mosul 94.65 320 *e*x x 09 08 38.0
MSL Mosul 94.65 320 *e*x x 09 19 17.0
MDJ Mudanjiang 94.82 23 P **P** **09 08 40.3 +2.0**
MDJ AP pP 09 08 43.4 +1.8
MDJ PP PP 09 12 29.5 +2.7
MDJ S S 09 19 55.1 +3.0
MDJ XS sS 09 20 00.9 +3.3
MDJ SS SS 09 26 21.6 +5.5
MDJ AMB AMB
comp=Z,13nm,2.3s,mb5.0
MDJ AMB AMB
comp=Z,392nm,4.5s
MDJ LR LR
comp=N,1μm,18.4s,MS5.7
MDJ LR LR
comp=E,2μm,22.8s,MS5.7
MDJ LR LR
comp=Z,1μm,25.8s,MS5.3
MDJ Mudanjiang 94.82 23 PFAKE 09 08 50.0 +12
MDJ LR LR
comp=Z,3μm,19.0s,MS5.8
ZAK Zakamensk 96.02 5 *e*P **P** **09 08 41.1 -2.7**
ZAK pmax pmax
comp=Z,14nm,1.7s,mb5.1
HIA Hailar 96.92 15 *e*P **P** **09 08 47.8 -0.1**
HIA pmax pmax
comp=Z,30nm,1.6s
HIA MLR MLR
comp=Z,6μm,19.0s
HIA Hailar 96.92 15 *e*P **P** **09 08 47.8 -0.1**
comp=Z,30nm,1.6s,mb5.5
HIA LR LR
comp=Z,6μm,19.0s,MS6.1
ERM Erimo 97.00 33 PFAKE 09 09 00.0 +12
ERM LR LR
comp=Z,528nm,19.0s,MS5.0
GNI Garni 97.13 323 *d*i*P **P** **09 08 50.0 +1.2**
GNI pmax pmax
comp=Z,48nm,2.5s
GNI Garni 97.13 323 *e*P **P** **09 08 48.7 -0.1**
comp=Z,51nm,1.6s,mb5.7
GNI LR LR
comp=Z,5μm,19.0s,MS6.0
MOY Mondy 97.20 3 *e*P **P** **09 08 48.7 -0.4**
MOY pmax pmax
comp=Z,85nm,2.9s,mb5.7
RKT Rikitea 97.22 134 *e*S S 09 20 12.2 -0.7
comp=Z,1μm,27.5s
RKT *e*SS SS 09 26 53.7 +3.5
comp=Z,2μm,29.8s
RKT *e*LQ 09 36 25.1
comp=Z,3μm,28.2s
RKT *e*LR LR 09 40 20.8
comp=Z,4μm,24.2s,baz=219
TLY Talaya 97.34 5 *e*P **P** **09 08 49.7 0.0**
TLY *e* 09 19 30.6
TLY *e*S S 09 20 08.3 -5.6
TLY *e*PS PS 09 21 33.6 -3.2
TLY *e*PPS 09 22 13.2
TLY *e*SS SS 09 26 49.3 -2.5
TLY pmax pmax
comp=Z,22nm,1.8s,mb5.3
IRK Irkutsk 97.94 5 ⇑*i*P **P** **09 08 52.4 0.0**
IRK *e* 09 12 56.8
IRK pmax pmax
comp=Z,62nm,2.0s,mb5.8
ASCN Ascension 98.27 250 PFAKE 09 09 10.0 +16
ASCN LR LR
comp=Z,1μm,21.0s,MS5.3
MAK Makhachkala 98.37 326 *i*P **P** **09 08 54.7 +0.3**
MAK *i* 09 12 54.8
MAK *e*PPP 09 15 09.6
MAK *e*S SKSac 09 19 30.1 -2.3
MAK *i*SS SS 09 27 05.7 -0.7
MAK pmax pmax
comp=Z,100nm,0.9s,mb6.3
MAK smax
comp=E,4μm,11.8s
MAK smax
comp=N,2μm,7.0s
ZEI Tsey 99.66 324 *e*P Pdif 09 09 02.8 +2.7
ZEI pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
ZAL Zalesovo 99.84 353 P Pdif 09 08 58.5 -2.5
comp=Z,0.9nm,0.3s,baz=207,slow=9.0,SNR=3.4
ZAL LR LR 09 51 30.5
comp=Z,7μm,21.7s,MS6.1,baz=286,slow=34
ZAL Zalesovo 99.84 353 ⇑*e*P Pdif 09 09 03.7 +2.8
ZAL LR LR 09 51 30.5
BRVK Borovoye 100.94 344 PFAKE 09 09 20.0 +14
BRVK LR LR
comp=Z,2μm,20.0s,MS5.7
YSS Yuzh-Sakhalins 101.08 31 P Pdif 09 09 06.0 -0.4
YSS *e*S SKSac 09 19 46.0 +0.3
YSS *e*PS Sdif 09 20 40.0 -5.3
YSS Yuzh-Sakhalins 101.08 31 *e*Pdif Pdif 09 09 08.1 +1.6
YSS LR LR
comp=Z,3μm,19.0s,MS5.8
ZRNK Zerenda 101.09 344 *e*P Pdif 09 09 06.1 -0.4
KIV Kislovodsk 101.14 324 *e*P Pdif 09 09 07.5 +0.8
KIV *e* 09 13 15.2
KIV *e* 09 19 43.9
KIV *e*SP SP 09 22 17.0 +0.6
KIV *e*SS SS 09 27 48.3 +3.3
KIV *e*SSS 09 31 40.5
KIV pmax pmax
comp=Z,16nm,1.1s

KIV MLR MLR
comp=Z,3μm,19.0s,MS5.9
KIV Kislovodsk 101.14 324 PFAKE 09 09 20.0 +13
KIV LR LR
comp=Z,831nm,19.0s,MS5.3
CHKZ Chkalovo 101.47 345 *e*P Pdif 09 09 07.1 -1.1
CHKZ pmax pmax
comp=Z,1.0nm,1.0s
CHKZ Chkalovo 101.47 345 *e*Pdif Pdif 09 09 07.0 -1.1
comp=Z,1.5nm,1.0s
BR131 Keskin Array S 101.85 316 PFAKE 09 09 20.0 +10
BR131 LR LR
comp=Z,3μm,21.0s,MS5.8
BRTR Keskin Array B 101.85 316 P Pdif 09 09 07.8 -2.1
comp=Z,0.4nm,0.7s,baz=142,slow=6.3,SNR=3.7
BRTR PP PP 09 13 22.9 +2.2
comp=Z,0.3nm,0.6s,baz=126,slow=6.2,SNR=2.7
TORD Torodi Ar. Bea 102.33 276 P Pdif 09 09 11.6 -0.4
comp=Z,0.6nm,0.8s,baz=116,slow=3.9,SNR=4.7
TORD PP PP 09 13 17.7 -6.6
comp=Z,2.1nm,1.1s,baz=140,slow=7.2,SNR=5.3
ANTO Ankara 102.38 315 PFAKE 09 09 20.0 +7.8
ANTO LR LR
comp=Z,4μm,21.0s,MS5.9
RPN Rapa Nui 103.82 157 PFAKE 09 09 30.0 +11
RPN LR LR
comp=Z,997nm,20.0s,MS5.3
CPUP Villa Florida 104.23 204 PFAKE 09 09 30.0 +10
CPUP LR LR
comp=Z,701nm,19.0s,MS5.2
TAOE Nuku Hiva Isla 105.96 121 *e*LQ 09 40 01.0
comp=Z,13μm,27.5s
TAOE *e*LR LR 09 44 30.2
comp=Z,15μm,27.9s,baz=230
MIDW Midway 107.41 67 PFAKE 09 14 00.0 +17
MIDW LR LR
comp=Z,4μm,20.0s,MS6.0
KIS Kishinev 109.63 318 *e*PKP PKiKP 09 13 43.0 -4.3
KIS Kishinev 109.63 318 *e*PP PP 09 14 22.0 +3.8
KIS *e*SKKS SKSac 09 20 10.0 -14
LVC Limon Verde 110.54 195 PFAKE 09 14 00.0 +11
LVC LR LR
comp=Z,6μm,22.0s,MS6.1
BDFB Brasilia 110.74 217 PFAKE 09 14 00.0 +11
BDFB LR LR
comp=Z,7μm,20.0s,MS6.2
YAK Yakutsk 110.84 16 PFAKE 09 14 00.0 +10
YAK LR LR
comp=Z,4μm,20.0s,MS6.0
PET Petropavlovsk 112.03 35 PFAKE 09 14 00.0 +8.2
PET LR LR
comp=Z,2μm,20.0s,MS5.7
AKASG Malin Array Be 112.13 321 PKiKP PKiKP 09 13 51.7 -0.3
comp=Z,0.2nm,0.4s,baz=126,slow=1.1,SNR=5.1
AKASG PP PP 09 14 36.6 +0.4
comp=Z,0.1nm,0.3s,baz=134,slow=5.5,SNR=4.9
OBN Obninsk 112.40 328 ⇑*i*PKIKP PKiKP 09 13 51.5 -1.0
OBN *e* 09 14 42.4
OBN *i*PS PS 09 24 03.2 -8.7
OBN *e*SS SS 09 30 31.4 +13
OBN *e*SSS 09 34 25.9
OBN pmax pmax
comp=Z,18nm,1.6s
OBN MLR MLR
comp=Z,6μm,22.0s,MS6.1
OBN Obninsk 112.40 328 PFAKE 09 14 00.0 +7.5
OBN LR LR
comp=Z,1μm,22.0s,MS5.5
KIP Kipapa 116.00 85 PFAKE 09 14 10.0 +11
KIP LR LR
comp=Z,7μm,19.0s,MS6.3
OJC Ojcow 116.18 316 *e*PKP PKPdf 09 13 57.9 -1.8
LPAZ La Paz 116.55 197 PKIKP PKPdf 09 14 07.2 +6.7
LPAZ La Paz 116.55 197 PFAKE 09 14 10.0 +10
LPAZ LR LR
comp=Z,4μm,19.0s,MS6.0
POHA Pohakuloa 116.62 89 PFAKE 09 14 10.0 +9.4
POHA LR LR
comp=Z,5μm,19.0s,MS6.2
OKC Ostrava-Krasne 116.74 315 *e*x x 09 31 44.4
OKC AMS AMS 10 03 10.0
comp=Z,2μm,18.5s
TREC Trest 117.73 313 AMS AMS 10 08 10.0
comp=Z,2μm,18.1s
DPC Dobruska-Polom 117.97 314 *e*SS SS 09 31 29.6 -1.6
GERES GERESS Array B 118.38 312 PKP PKPdf 09 14 01.7 -2.3
comp=Z,2.0nm,0.9s,baz=119,slow=1.7,SNR=12
GERES PKKPbc PKKPbc 09 24 20.5 -0.9
comp=Z,0.2nm,0.6s,baz=309,slow=5.0,SNR=2.5
KHC Kasperske Hory 118.61 312 *e*SS SS 09 31 44.4 +4.9
SMY Shemya 118.64 43 PFAKE 09 14 20.0 +16
SMY LR LR
comp=Z,3μm,21.0s,MS5.9
PRU Pruhonice 118.65 313 *e*SS SS 09 31 42.3 +2.3
PRU AMS AMS 09 53 00.0
comp=Z,4μm,41.1s
PVCC Panska Ves 118.97 314 AMS AMS 10 09 20.0
comp=Z,2μm,18.7s
FRF La Foret Royal 119.06 304 *e*PKIKP PKPdf 09 14 03.5 -1.8
comp=Z,17nm,1.0s
BRG Berggiesshubel 119.49 314 *e*P PKPdf 09 14 06.2 +0.1
comp=Z,3.3nm,1.2s
BRG *e* 09 14 15.1
comp=Z,12nm,1.5s
BRG *e* 09 15 24.5
comp=Z,13nm,1.7s
BRG S PS 09 25 21.0 +4.6
BRG SS SS 09 31 25.0 -26
BRG
comp=N,1μm,18.3s
BRG
comp=E,2μm,23.3s
BRG
comp=Z,2μm,21.2s
BRG Berggiesshubel 119.49 314 *e*PKIKP PKPdf 09 14 06.2 +0.1
BRG *e* 09 14 24.5
BRG S PS 09 25 21.0 +4.6
BRG pmax pmax
comp=Z,40nm,1.2s
BRG MLR MLR
comp=N,1μm,18.3s,MS5.7
BRG MLR MLR
comp=E,1μm,23.3s,MS5.7
BRG MLR MLR
comp=Z,2μm,21.2s,MS5.6
BRG Berggiesshubel 119.49 314 *e*P PKPdf 09 14 06.2 +0.1
BRG *e* 09 14 15.1
BRG *e* 09 15 24.5
BRG S PS 09 25 21.0 +4.6
BRG SS SS 09 31 25.0 -26
BRG LR LR
comp=Z,2μm,21.2s,MS5.7
MBDF Montbardon 119.68 305 *e*PKIKP PKPdf 09 14 05.0 -1.5
comp=Z,58nm,1.6s
NKC Novy Kostel 119.87 313 *e*SKKS SS 09 31 46.3 -9.4
NKC AMS AMS 10 10 10.0
comp=Z,3μm,21.4s
JOF Joensuu 119.94 331 *e*p PKPdf 09 14 03.4 -3.6
LPL La Plagne 120.17 306 *e*PKIKP PKPdf 09 14 06.6 -0.8
GRA1 Grafenberg Arr 120.18 312 *e*PKP PKPdf 09 14 06.9 -0.5
GRA1 LR LR
comp=Z,2μm,21.4s,MS5.8
GRF Grafenberg Arr 120.18 312 *e*PKP PKPdf 09 14 06.9 -0.5
GRF *e*L 10 10 46.6
comp=Z,2μm,21.4s
CLL Collm 120.23 314 *e*PKIKP PKPdf 09 14 07.0 -0.5
CLL *e* 09 14 11.0
CLL pmax pmax
comp=Z,11nm,1.3s
CLL MLR MLR
comp=Z,3μm,16.0s,MS6.0
CLL Collm 120.23 314 *e*PKP PKPdf 09 14 07.0 -0.5
CLL *e* 09 14 11.0
CLL LR LR
comp=Z,3μm,16.0s,MS6.0
CLL Collm 120.23 314 *e*PKPdf PKPdf 09 14 07.0 -0.5
comp=Z,11nm,1.3s
CLL *e*pPKPdf pPKPdf 09 14 11.0 0.0
CLL *e*Sdif Sdif 09 23 30.0 +4.9
CLL *e*PSKS 09 25 30.0
CLL *e*x x 09 27 06.0
CLL *e*SS SS 09 32 08.0 +7.7
CLL *e*SSS 09 36 23.0
CLL *e*SSSS 09 40 07.0
ORIF Oris-en-Rattie 120.31 305 *e*PKIKP PKPdf 09 14 05.7 -2.0
comp=Z,29nm,1.3s
MOX Moxa 120.54 313 *e*PKP PKPdf 09 14 07.4 -0.7
comp=Z,19nm,1.3s
MOX
comp=Z,3μm,21.0s
MOX Moxa 120.54 313 *e*PKIKP PKPdf 09 14 07.4 -0.7
MOX pmax pmax
comp=Z,19nm,1.3s
MOX MLR MLR
comp=Z,3μm,21.0s,MS5.8
MOX Moxa 120.54 313 *e*PKP PKPdf 09 14 07.4 -0.7
MOX *e*Sdif Sdif 09 23 34.0 +6.3
MOX *e*SS SS 09 31 53.0 -11
MOX LR LR
comp=Z,3μm,21.0s,MS5.8
FINES FINESS Array B 120.79 328 PKP PKPdf 09 14 05.9 -2.7
comp=Z,6.5nm,0.9s,baz=116,slow=4.4,SNR=9.0
KAF Kangasniemi 121.14 329 *e*p PKPdf 09 14 07.7 -1.6
comp=Z,5.6nm,0.7s
KAF Kangasniemi 121.14 329 *e*PKIKP PKPdf 09 14 07.7 -1.6
KAF pmax pmax
comp=Z,6.0nm,0.7s
NNA Nana 122.11 188 PFAKE 09 14 20.0 +8.9
NNA LR LR
comp=Z,852nm,20.0s,MS5.4
APA Apatity 122.47 336 ⇓*i*PKIKP PKPdf 09 14 09.7 -2.1
APA *e* 09 15 50.0
APA *e*PS PS 09 25 48.0 +5.1
APA *i*SS SS 09 32 32.0 +3.0
APA MLR MLR
comp=Z,11μm,19.0s,MS6.5
EPF Esparros 122.49 300 *e*PKIKP PKPdf 09 14 10.0 -1.9
comp=Z,40nm,1.2s
SSF Saint Saulge 122.89 306 *e*PKIKP PKPdf 09 14 11.7 -0.9
ESDC Sonseca Array 123.27 295 PKP PKPdf 09 14 11.4 -2.0
comp=Z,3.7nm,0.8s,baz=91,slow=2.1,SNR=14
ESLA Sonseca Array 123.27 295 *e*PKPdf PKPdf 09 14 13.5 +0.1
ESLA LR LR
comp=Z,17μm,19.0s,MS6.7
SJPF Ste Jean 123.49 299 *e*PKIKP PKPdf 09 14 11.9 -1.9
comp=Z,74nm,1.3s
GIVF Givet 123.82 309 *e*PKIKP PKPdf 09 14 13.4 -1.0
BILL Bilibino 124.98 26 ⇑*i*PKIKP PKPdf 09 14 16.0 -0.6
BILL *e* 09 16 08.6
BILL *e*PS PS 09 26 08.8 +3.7
BILL *e*SS SS 09 32 55.8 -4.9
BILL pmax pmax
comp=Z,21nm,1.5s
BILL Bilibino 124.98 26 *e*PKPdf PKPdf 09 14 15.7 -0.9
BILL LR LR
comp=Z,5μm,20.0s,MS6.1
KEV Kevo 125.67 336 PFAKE 09 14 30.0 +12
KEV LR LR
comp=Z,6μm,20.0s,MS6.3
ARCES ARCESS Array B 125.97 336 PKP PKPdf 09 14 16.9 -1.6
comp=Z,6.1nm,0.9s,baz=34,slow=5.1,SNR=4.3
KONO Kongsberg 126.43 321 *e* PP 09 16 02.0 -13
KONO *e*SS SS 09 33 21.2 +2.2
KONO Kongsberg 126.43 321 PFAKE 09 14 30.0 +11
KONO LR LR
comp=Z,4μm,21.0s,MS6.1
NOA NORSAR Array B 126.43 323 PKP PKPdf 09 14 18.6 -0.9
comp=Z,5.5nm,1.0s,baz=105,slow=3.3,SNR=5.7
NAO01 NORSAR Array S 126.47 323 PFAKE 09 14 30.0 +10
NAO01 LR LR
comp=Z,6μm,20.0s,MS6.2
NSS Namsos 127.84 327 AMS AMS 10 08 22.0
comp=Z,5μm,21.0s,MS6.2
TRO Tromso 127.96 334 *e*SS SS 09 33 40.5 +2.5
TRO AMS AMS 10 07 41.4
comp=Z,3μm,22.0s,MS6.0
BER Bergen 128.67 320 *e* SKPdf 09 17 50.4 -8.7
BER AMS AMS 10 13 29.6
comp=Z,6μm,18.7s,MS6.3
UNV Unalaska Valle 129.01 49 PFAKE 09 14 40.0 +16
UNV LR LR
comp=Z,11μm,22.0s,MS6.5
ESK Eskdalemuir 130.61 312 PFAKE 09 14 40.0 +13
ESK LR LR
comp=Z,1μm,19.0s,MS5.7
TNA Tin City 132.88 34 PFAKE 09 14 40.0 +8.3
TNA LR LR
comp=Z,2μm,22.0s,MS5.7
PAYG Puerto Ayora 133.36 171 PFAKE 09 14 50.0 +17
PAYG LR LR
comp=Z,6μm,20.0s,MS6.3
KBS Kingsbay 133.43 345 *e*PP PP 09 16 59.6 -0.7
KBS *e* 09 18 05.7
KBS *e*SS SS 09 34 44.3 -0.8
KBS AMS AMS 10 15 03.1
comp=Z,2μm,19.2s,MS5.8
KBS Kingsbay 133.43 345 PFAKE 09 14 40.0 +7.3
KBS LR LR
comp=Z,3μm,19.0s,MS6.0
OTAV Otavalo 134.35 188 *e*PKPdf PKPdf 09 14 36.2 +1.7
OTAV *e*PP PP 09 17 07.2 +1.0
OTAV LR LR
comp=Z,2μm,19.0s,MS5.9
JMIC Jan Mayen 137.14 332 *e*P PKPdf 09 14 30.9 -8.8
JMIC *e*SS SS 09 35 31.4 +1.8
JMIC AMS AMS 10 26 40.0
comp=Z,3μm,19.3s,MS6.1
KDAK Kodiak Island 137.73 48 PFAKE 09 14 50.0 +9.3
KDAK LR LR
comp=Z,699nm,22.0s,MS5.3
ROSC El Rosal 138.35 194 PKP PKPdf 09 14 43.0 +1.1
comp=Z,4.9nm,0.7s,baz=266,slow=22,SNR=6.3
ROSC El Rosal 138.35 194 *e*PKPdf PKPdf 09 14 44.0 +2.2
IMA2 Indian Mountai 138.71 35 *e*PKPdf PKPdf 09 14 44.8 +2.2
PMR Palmer 140.18 43 *e*PKPdf PKPdf 09 14 44.1 -1.1
PMR *e* 09 17 36.0
PMR LR LR
comp=Z,4μm,21.0s,MS6.1
MCK McKinley 140.50 39 *e*PKIKP PKPdf 09 14 44.7 -1.1
MCK MLR MLR
comp=Z,2μm,21.0s,MS5.8
COLA College 141.05 38 *e*PKIKP PKPdf 09 14 45.9 -0.9
COLA MLR MLR
comp=Z,3μm,20.0s,MS6.0
SDV Santo Domingo 141.46 201 PFAKE 09 15 00.0 +12
SDV LR LR
comp=Z,2μm,22.0s,MS5.9
BORG Borgarnes 141.60 322 PFAKE 09 15 00.0 +12
BORG LR LR
comp=Z,1μm,20.0s,MS5.6
EGAK Eagle 143.91 38 *e*PKPdf PKPdf 09 14 49.9 -1.9
MGG Marie-Galante 144.68 220 *e*P PKPdf 09 14 49.9 -3.3
DAWY Dawson 144.72 39 *e*PKPdf PKPdf 09 14 51.0 -2.3
TBG Guadaloupe-3 144.77 219 *e*P PKPdf 09 14 51.2 -2.1
DEG La Desirade 144.91 220 *e*P PKPdf 09 14 51.2 -2.4
LZG Guadaloupe-1 145.08 219 *e*P PKPbc 09 14 52.7 -0.6
INK Inuvik 146.32 31 *e*PKP2 PKPab 09 14 55.4 -2.6
INK Inuvik 146.32 31 *e*PKPab PKPab 09 14 57.4 -0.6
SIT Sitka 146.84 51 PFAKE 09 15 10.0 +13
SIT LR LR
comp=Z,5μm,20.0s,MS6.3
SKAG Skagway 146.87 47 *e*PKPab PKPab 09 15 01.2 +1.1
SKAG LR LR
comp=Z,2μm,21.0s,MS5.9
TGUH Tegucigalpa,Un 148.21 174 *e*PKPbc PKPbc 09 15 02.6 +0.1
TGUH *e*PKPab PKPab 09 15 06.2 +0.8
MTP Monte Pirata 148.42 215 *e*PKPbc PKPbc 09 15 03.0 0.0
CPD Cerro la Pandu 148.51 214 *e*PKIKP PKPdf 09 15 01.1 +1.5
HUMP Col San Antoni 148.58 214 *e*PKPdf PKPdf 09 15 01.2 +1.5
SJG San Juan 148.67 214 *e*PKIKP PKPdf 09 15 00.6 +0.7
SJG *e* 09 15 03.5
SJG San Juan 148.67 214 *e*PKPdf PKPdf 09 15 00.6 +0.7
SJG *e*PKPbc PKPbc 09 15 03.5 -0.2
SJG LR LR
comp=Z,3μm,21.0s,MS6.0
CBYP Canovanas 148.70 215 *e*PKPab PKPbc 09 15 02.1 -1.6
MPR Mayaguez 149.14 212 *e*PKPab PKPbc 09 15 04.9 +0.1
SNCC San Nicolas Is 150.07 102 PFAKE 09 15 10.0 +7.9
SNCC LR LR
comp=Z,4μm,21.0s,MS6.2
HOPS Hopland 150.53 89 PFAKE 09 15 10.0 +7.1
HOPS LR LR
comp=Z,6μm,20.0s,MS6.4
SAO San Andreas Ge 150.62 95 *e*PKIKP PKPbc 09 15 09.3 +0.8
SAO MLR MLR
comp=Z,4μm,19.0s,MS6.3
RES Resolute Bay 150.64 6 *e*PKIKP PKPdf 09 15 05.6 +2.6
PTRM Twissleman Ran 150.92 98 *e*PKPbc PKPbc 09 15 08.6 -0.5
WDC Whiskeytown Da 151.57 87 PKIKP PKPbc 09 15 08.4 -2.3
WDC Whiskeytown Da 151.57 87 *e*PKPbc PKPbc 09 15 11.3 +0.6
WDC *e*PKPab PKPab 09 15 19.0 -0.2
MWC Mount Wilson 151.63 102 *e*PKIKP PKPdf 09 15 07.2 +2.6
BAR Barrett 151.67 106 *e*PKPdf PKPbc 09 15 09.9 -1.0
OHCM Honcut 151.79 90 *e*PKPdf PKPdf 09 15 06.0 +1.1
OHCM *e*PKPbc PKPbc 09 15 14.0 +2.8
OHCM *e*PKPab PKPab 09 15 20.9 +0.7
YBH Yreka Blue Hor 151.90 84 PKIKP PKPbc 09 15 12.5 +1.1
YBH Yreka Blue Hor 151.90 84 *e*PKPbc PKPbc 09 15 12.9 +1.5
YBH LR LR
comp=Z,4μm,22.0s,MS6.2
CMB Columbia Colle 151.98 93 PKIKP PKPbc 09 15 11.7 +0.1
CMB Columbia Colle 151.98 93 *e*PKPbc PKPbc 09 15 12.7 +1.1
CMB LR LR
comp=Z,4μm,19.0s,MS6.2
HUMO Hull Mountain 152.04 82 *e*PKPdf PKPdf 09 15 06.3 +1.1
HUMO *e*PKPbc PKPbc 09 15 11.8 0.0
HUMO *e*PKPab PKPab 09 15 21.4 +0.2
HUMO LR LR
comp=Z,5μm,21.0s,MS6.3
ISA Isabella 152.13 99 *e*PKIKP PKPdf 09 15 07.0 +1.7
ISA MLR MLR
comp=Z,1μm,21.0s,MS5.7
PFO Pinyon Flat Ob 152.36 105 PFAKE 09 15 20.0 +14
PFO LR LR
comp=Z,1μm,20.0s,MS5.8
COR Corvallis 152.42 78 PFAKE 09 15 20.0 +14
COR LR LR
comp=Z,720nm,21.0s,MS5.5
ZAIG Zacatecas 152.46 140 *i*P PKPdf 09 15 08.6 +2.8
SFJD Kangerlussuaq 152.50 332 *i*P PKPbc 09 15 10.9 -1.9
comp=Z,36nm,1.2s
SFJD Kangerlussuaq 152.50 332 *i*PKIKP PKPbc 09 15 10.9 -1.9
SFJD pmax pmax
comp=Z,36nm,1.2s
WAKR Walker 152.85 93 *e*PKPdf PKPdf 09 15 10.3 +3.9
MTUM Tungsten Hills 152.92 96 *e*PKPbc PKPbc 09 15 14.3 +0.5
DAC Darwin (Calif) 153.06 99 *e*PKIKP PKPdf 09 15 08.4 +1.7
DAC MLR MLR
comp=Z,6μm,21.0s,MS6.4
GSC Goldstone 153.08 101 *e*PKIKP PKPdf 09 15 09.0 +2.3
GLA Glamis 153.13 107 *e*PKIKP PKPdf 09 15 08.4 +1.6
RCC Rio Carpintero 153.36 197 *e*P PKPdf 09 15 06.9 -0.2
PAHR Pah Rah Range 153.42 91 *e*PKPdf PKPdf 09 15 09.2 +2.0
PAHR *e*PKPbc PKPbc 09 15 19.2 +4.4
GNW Green Mountain 153.45 72 *e*PKPdf PKPdf 09 15 10.6 +3.3
NVAR Mina Array Bea 153.61 94 PKP PKPdf 09 15 07.0 -0.5
comp=Z,0.9nm,0.9s,baz=241,slow=2.2,SNR=6.8
NVAR PKPbc PKPbc 09 15 12.6 -2.6
comp=Z,4.0nm,0.9s,baz=221,slow=2.6,SNR=20
MOD Modoc 153.63 85 *e*PKPdf PKPdf 09 15 09.4 +1.9
MOAC Moa 153.84 199 *e*P PKPdf 09 15 09.2 +1.4
TPH Tonopah 154.20 96 PFAKE 09 15 20.0 +12
TPH LR LR
comp=Z,3μm,20.0s,MS6.1
TEIG Tepich 154.22 171 PFAKE 09 15 20.0 +12
TEIG LR LR
comp=Z,3μm,22.0s,MS6.0
SHPR Sheep Range 154.85 101 *e*PKPdf PKPdf 09 15 13.3 +4.1
WVOR Wild Horse Val 154.98 85 *e*PKIKP PKPdf 09 15 08.8 -0.6
WVOR MLR MLR
comp=Z,4μm,22.0s,MS6.2
BMN Battle Mountai 155.23 91 PFAKE 09 15 20.0 +10
BMN LR LR
comp=Z,4μm,20.0s,MS6.2
TUC Tucson 155.31 114 *e*PKIKP PKPdf 09 15 11.9 +2.1
TUC MLR MLR
comp=Z,3μm,20.0s,MS6.2
HAWA Hanford 155.44 76 *e*PKPdf PKPdf 09 15 11.3 +1.3
HAWA LR LR
comp=Z,3μm,19.0s,MS6.1
BMO Blue Mountains 156.61 80 *e*PKPdf PKPdf 09 15 11.7 +0.1
BMO *e*PKPab PKPab 09 15 41.5 +0.9
BMO LR LR
comp=Z,4μm,22.0s,MS6.2
WUAZ Wupatki 156.88 107 *e*PKPdf PKPdf 09 15 13.8 +1.9
WUAZ *e*PKPab PKPab 09 15 44.8 +3.0
WUAZ LR LR
comp=Z,4μm,19.0s,MS6.3
NEW Newport 157.35 72 *e*PKIKP PKPdf 09 15 14.4 +1.9
NEW MLR MLR
comp=Z,3μm,20.0s
TXAR Lajitas Array 157.39 130 PKP PKPdf 09 15 11.4 -1.1
comp=Z,2.8nm,1.1s,baz=198,slow=1.7,SNR=6.0
TXAR PKPab PKPab 09 15 43.5 -0.5
comp=Z,9.9nm,1.1s,baz=204,slow=9.0,SNR=7.8
MVU Marysvale 157.88 99 PFAKE 09 15 20.0 +6.8
MVU LR LR
comp=Z,4μm,21.0s,MS6.2
MSU Marysvale 157.91 99 *e*PKIKP PKPdf 09 15 15.2 +2.0
DUG Dugway 158.21 95 *e*PKIKP PKPdf 09 15 15.4 +1.8
MNTX Cornudas Mount 158.22 123 *e*PKPdf PKPdf 09 15 14.0 +0.4
HLID Hailey 158.28 85 *e*PKPdf PKPdf 09 15 15.2 +1.5
HLID *e*PKPab PKPab 09 15 48.0 +0.2
HLID LR LR
comp=Z,3μm,22.0s,MS6.1
NLU North Lily Min 158.63 96 *e*PKPdf PKPdf 09 15 15.0 +0.9
NLU *e*PKPab PKPab 09 15 52.0 +2.7
HVU Hansel Valley 158.85 91 *e*PKIKP PKPdf 09 15 15.9 +1.6
HVU *e* 09 15 50.4
BSMT Bassoo Peak 158.86 73 *e*PKPdf PKPdf 09 15 16.9 +2.6
SPUT South Promonto 158.91 92 *e*PKPdf PKPdf 09 15 13.3 -1.1
SPUT *e*PKPab PKPab 09 15 50.6 +0.1
MPU Maple Canyon 158.96 96 *e*PKPdf PKPdf 09 15 19.9 +5.5
MPU LR LR
comp=Z,7μm,20.0s,MS6.5
GDL2 Guadalupe Moun 159.17 124 *e*PKPdf PKPdf 09 15 16.4 +1.6
MSO Missoula 159.31 76 *e*PKPdf PKPdf 09 15 18.5 +3.6
MSO LR LR
comp=Z,3μm,20.0s,MS6.1
SRU San Rafael 159.33 99 *e*PKPdf PKPdf 09 15 15.2 +0.3
SRU *e*PKPab PKPab 09 15 55.4 +3.1
DAU Daniels Canyon 159.39 95 *e*PKPdf PKPdf 09 15 16.4 +1.4
DAU *e*PKPab PKPab 09 15 55.5 +3.0
TCUT Toone Canyon 159.56 93 *e*PKPab PKPab 09 15 54.2 +0.9
EDM Edmonton 159.63 58 *e*PKIKP PKPdf 09 15 15.1 -0.1
HWUT Hardware Ranch 159.63 92 *e*PKPdf PKPdf 09 15 16.3 +1.1
HWUT *e*PKPab PKPab 09 15 54.1 +0.5
ANMO Albuquerque 159.76 115 *e*PKPdf PKPdf 09 15 16.5 +1.1
ANMO *e*PKPab PKPab 09 15 56.4 +2.2
ANMO LR LR
comp=Z,4μm,20.0s,MS6.2
CHMT Chamberlain Mo 159.79 76 *e*PKPdf PKPdf 09 15 18.2 +2.8
BBSR BB Station 159.99 235 PFAKE 09 15 30.0 +14
BBSR LR LR
comp=Z,3μm,21.0s,MS6.0
LRM Limekiln Ridge 160.16 80 *e*PKPdf PKPdf 09 15 18.4 +2.6
PV01 Paradox Valley 160.19 104 *e*PKPdf PKPdf 09 15 17.3 +1.5
PV01 *e*PKPab PKPab 09 15 55.2 -0.8
JCT Junction City 160.30 136 *e*PKIKP PKPdf 09 15 16.3 +0.3
JCT *e* 09 15 57.3
RRI2 Red Ridge 160.37 87 *e*PKPdf PKPdf 09 15 17.5 +1.5
RRI2 *e*PKPab PKPab 09 15 59.5 +2.6
DCID1 Drake Creek 160.54 87 *e*PKPdf PKPdf 09 15 16.9 +0.6
TPAW Teton Pass 160.67 87 *e*PKPdf PKPdf 09 15 17.8 +1.4
QLMT Earthquake Lak 160.67 83 *e*PKPdf PKPdf 09 15 20.2 +3.8
REDW Red Top Meadow 160.70 88 *e*PKPdf PKPdf 09 15 16.0 -0.5
REDW *e*PKPab PKPab 09 15 58.8 +0.4
IMW Indian Meadow 160.79 86 *e*PKPdf PKPdf 09 15 18.6 +2.1
SNOW Snow King Moun 160.80 87 *e*PKPdf PKPdf 09 15 18.1 +1.5
MOOW Moose Ponds 160.88 87 *e*PKPdf PKPdf 09 15 18.1 +1.5
LOHW Long Hollow 160.95 87 *e*PKPdf PKPdf 09 15 18.8 +2.1
YMR Madison River 160.96 84 PFAKE 09 15 30.0 +13
YMR LR LR
comp=Z,5μm,21.0s
LKWY Lake 161.33 84 PFAKE 09 15 30.0 +13
LKWY LR LR
comp=Z,6μm,20.0s
BW06 Boulder Array 161.43 90 *e*PKPdf PKPdf 09 15 21.1 +3.9
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 161.43 90 PKP PKPdf 09 15 17.1 -0.1
comp=Z,4.3nm,1.1s,baz=270,slow=1.5,SNR=10
PDAR PKPab PKPab 09 16 02.0 +0.5
comp=Z,3.3nm,1.1s,baz=241,slow=1.5,SNR=4.5
SMCO Snowmass 161.79 103 *e*PKPdf PKPdf 09 15 19.2 +1.6
SMCO *e*PKPab PKPab 09 16 06.0 +2.9
SDCO Great Sand Dun 162.04 109 *e*PKPdf PKPdf 09 15 18.9 +1.0
SDCO *e*PKPdif 09 15 34.1
SDCO *e*PKPab PKPab 09 16 06.8 +2.6
DWPF Disney 162.21 187 PFAKE 09 15 30.0 +12
DWPF LR LR
comp=Z,1μm,21.0s

EGMT	**Eagleton**	**162.25**	**74**	*e*PKPdf	PKPdf	09 15 18.5	+0.4
EGMT				*e*PKPab	PKPab	09 16 04.2	-0.9
AMTX	**Amarillo**	**162.65**	**123**	*e*PKPdf	PKPdf	09 15 19.4	+0.9
AMTX				*e*PKPdif		09 15 33.5	
AMTX				*e*PKPab	PKPab	09 16 09.8	+3.0
AMTX				LR	LR		
	comp=Z,3μm,20.0s						
RWWY	**Rawlins**	**162.70**	**95**	*e*PKPdf	PKPdf	09 15 19.4	+0.9
RWWY				*e*PKPdif		09 15 32.6	
RWWY				*e*PKPab	PKPab	09 16 08.9	+1.8
ISCO	**Idaho Springs**	**163.01**	**103**	PFAKE		09 15 30.0	+11
ISCO				LR	LR		
	comp=Z,5μm,19.0s						
NATX	**Nacogdoches**	**163.68**	**146**	PFAKE		09 15 30.0	+11
NATX				LR	LR		
	comp=Z,3μm,20.0s						
WMOK	**Wichita Mounta**	**164.19**	**129**	PFAKE		09 15 30.0	+10
WMOK				LR	LR		
	comp=Z,5μm,22.0s						
LAO	**LASA Array**	**164.56**	**79**	*e*PKPdf	PKPdf	09 15 21.5	+1.2
LAO				*e*PKPab	PKPab	09 16 17.0	+1.7
LAO				*e*PP	PP	09 20 08.6	+7.3
RSSD	**Black Hills**	**165.67**	**90**	PFAKE		09 15 30.0	+8.8
RSSD				LR	LR		
	comp=Z,1μm,22.0s						
SCHQ	**Schefferville**	**165.87**	**316**	PFAKE		09 15 30.0	+8.7
SCHQ				LR	LR		
	comp=Z,7μm,21.0s						
DGMT	**Dagmar**	**165.96**	**72**	PFAKE		09 15 30.0	+8.6
DGMT				LR	LR		
	comp=Z,4μm,21.0s						
CBKS	**Cedar Bluff**	**166.38**	**115**	*e*PKPdf	PKPdf	09 15 22.1	+0.3
CBKS				*e*PKPab	PKPab	09 16 28.0	+4.7
OXF	**Oxford**	**167.96**	**158**	PFAKE		09 15 30.0	+7.1
OXF				LR	LR		
	comp=Z,5μm,22.0s						
PLAL	**Pickwick Lake**	**168.72**	**162**	PFAKE		09 15 30.0	+6.6
PLAL				LR	LR		
	comp=Z,7μm,20.0s						
WVT	**Waverly**	**169.88**	**162**	PFAKE		09 15 40.0	+16
WVT				LR	LR		
	comp=Z,2μm,22.0s						
WES	**Weston**	**170.30**	**254**	PFAKE		09 15 30.0	+5.6
WES				LR	LR		
	comp=Z,4μm,21.0s						
HRV	**Harvard--Oak R**	**170.51**	**254**	PFAKE		09 15 40.0	+16
HRV				LR	LR		
	comp=Z,4μm,20.0s						
ULM	**Lac du Bonnet**	**170.86**	**57**	PFAKE		09 15 40.0	+15
ULM				LR	LR		
	comp=Z,9μm,21.0s						
BLA	**Blacksburg**	**171.00**	**198**	PFAKE		09 15 40.0	+15
BLA				LR	LR		
	comp=Z,5μm,20.0s						
WCI	**Wyandotte Cave**	**172.21**	**166**	PFAKE		09 15 40.0	+15
WCI				LR	LR		
	comp=Z,1μm,22.0s						
NCB	**Newcomb**	**172.86**	**258**	PFAKE		09 15 40.0	+14
NCB				LR	LR		
	comp=Z,7μm,20.0s						
MCWV	**Mont Chateau**	**173.15**	**207**	PFAKE		09 15 40.0	+14
MCWV				LR	LR		
	comp=Z,6μm,20.0s						
SSPA	**Standing Stone**	**173.19**	**223**	PFAKE		09 15 40.0	+14
SSPA				LR	LR		
	comp=Z,1μm,20.0s						
BINY	**Binghamton**	**173.22**	**241**	PFAKE		09 15 40.0	+14
BINY				LR	LR		
	comp=Z,7μm,21.0s						
EYMN	**Ely**	**174.40**	**65**	PFAKE		09 15 40.0	+14
EYMN				LR	LR		
	comp=Z,5μm,21.0s						
JFWS	**Jewell Farm**	**174.62**	**120**	PFAKE		09 15 40.0	+14
JFWS				LR	LR		
	comp=Z,5μm,20.0s						
AAM	**Ann Arbor**	**176.47**	**183**	PFAKE		09 15 40.0	+13
AAM				LR	LR		
	comp=Z,4μm,19.0s						

*NAO **22** 09:34:51.4±1.1, 6720N×2107E, ML2.1*
*CSEM **22** 09:34:52.7±0.5, 6724N×2020E, h5km, ML3.3/3, Error ellipse: s-maj=13.1km s-min=7.8km az=106.0*
*BER **22** 09:34:54.7±2.9, 6717N×2107E, h0km, ML2.4, ML2.1(NAO), Suspected explosion*

HEL 22 09:34:52.7±0.3, 6721N×2058E, h0km, ML2.5, ML2.4(BER), ML2.1(NAO), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.81**	**3**	*e*P	Pn	09 35 24.7	-0.5
KIF				*e*S	Sn	09 35 50.0	+1.3
KIF	**Kilpisjarvi**	**1.81**	**3**	P	Pn	09 35 24.6	-0.5
KTK1	**Kautokeino**	**2.07**	**28**	*e*P	Pn	09 35 27.8	-0.9
KTK1				*e*Sg	Sg	09 35 57.1	-2.2
KTK1				AML	AML	09 35 58.5	
	comp=Z,30nm,0.5s						
KTK1	**Kautokeino**	**2.07**	**28**	*e*P	Pn	09 35 27.8	-0.9
	SNR=50						
KTK1				*e*Sg	Sg	09 35 57.1	-2.2
	comp=Z,30nm,0.5s,SNR=90						
SGF	**Sodankyl**	**2.32**	**81**	*e*PG	Pg	09 35 34.2	-3.0
SGF				*e*S	Sn	09 36 01.7	+0.4
SGF	**Sodankyl**	**2.32**	**81**	Pg	Pg	09 35 34.1	-3.1
TRO	**Tromso**	**2.51**	**347**	*e*S	Sn	09 36 07.6	+1.5
MOR8	**Moi Rana**	**2.65**	**250**	*e*S	Sn	09 36 09.5	0.0
MOR8				AML	AML	09 36 17.4	
	comp=Z,49nm,0.5s						
ARA0	**ARCESS Array S**	**2.97**	**36**	Pn	Pn	09 35 39.3	-1.8
	baz=210,slow=16						
ARA0				Lg		09 36 20.2	
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**36**	*e*P	Pn	09 35 39.3	-1.8
ARA0				*e*SB		09 36 20.2	
OUL	**Oulu**	**3.03**	**132**	*e*SB	Sb	09 36 23.0	-2.1
KEV	**Kevo**	**3.49**	**40**	*e*PG	Pg	09 35 55.4	-4.2
KEV				*e*S	Sn	09 36 27.9	-2.3
KEV				*e*SG	Sg	09 36 40.5	-4.3
KEV				MSG		09 36 44.8	
	comp=Z,9.8nm,0.4s						
KEV	**Kevo**	**3.49**	**40**	Pg	Pg	09 35 55.4	-4.2
KEV				Sg	Sg	09 36 40.5	-4.3
	comp=Z,9.8nm,0.4s						
MSF	**Maaselka**	**3.62**	**107**	*e*SG	Sg	09 36 44.3	-4.9
MSF				MSG		09 36 46.4	
	comp=Z,14nm,0.5s						
MSF	**Maaselka**	**3.62**	**107**	Sg	Sg	09 36 44.2	-4.9
	comp=Z,14nm,0.5s						
KU4	**Liikasenvaara**	**3.67**	**99**	*e*SG	Sg	09 36 47.8	-2.7
KU4				MSG		09 36 50.5	
	comp=Z,11nm,0.4s						
KU6	**Riekki**	**3.90**	**103**	*e*SG	Sg	09 36 53.8	-4.1
NSS	**Namsos**	**4.44**	**237**	*e*S	Sn	09 36 53.1	-0.5
NSS				AML	AML	09 37 15.6	
	comp=Z,19nm,0.5s						
FIA0	**FINESS Array S**	**6.26**	**155**	Pn	Pn	09 36 24.8	-1.4
	baz=346,slow=18						
FIA0				Sn	Sn	09 37 34.1	-4.3
	baz=339,slow=28						
FIA0				Lg		09 38 03.9	
	baz=342,slow=37						
FIA0	**FINESS Array S**	**6.26**	**155**	*e*P	Pn	09 36 24.8	-1.4
FIA0				*e*S	Sn	09 37 34.1	-4.3
FIA0				*e*SG		09 38 03.9	
FIA0	**FINESS Array S**	**6.26**	**155**	Pn	Pn	09 36 24.8	-1.4
	SNR=50						
FIA0				Sn	Sn	09 37 34.2	-4.2
	SNR=50						
NB2	**NORSAR Subarra**	**7.41**	**218**	Lg		09 38 45.6	
NB2	**NORSAR Subarra**	**7.41**	**218**	Lg		09 38 45.6	
NB2	**NORSAR Subarra**	**7.41**	**218**	*e*		09 38 45.6	
HFS	**Hagfors**	**7.72**	**206**	Pn	Pn	09 36 44.3	-2.1
	baz=22,slow=14						
HFS				Sn	Sn	09 38 11.8	-2.8
	baz=17,slow=28						
HFS				Lg		09 38 53.2	
	baz=36,slow=28						
HFS	**Hagfors**	**7.72**	**206**	*e*P	Pn	09 36 44.3	-2.1
HFS				*e*S	Sn	09 38 11.8	-2.8
HFS				*e*SG		09 38 53.2	

*CSEM **22** 09:49:16.8, 67.18N×2065E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **22** 09:49:16.8, 67.18N×2065E, h0km, ML3.1, Mining explosion.*

HEL 22 09:49:17.5±0.1, 6718N×2066E, h0km, ML1.8, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**210**	*i* P	Pg	09 49 18.4	-0.4
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	09 49 31.7	-0.9
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	09 49 33.2	-0.7
ERTU	**Ertsjaerv**	**0.87**	**135**	*i* P	Pg	09 49 33.5	-0.8
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	09 49 34.0	-1.4
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	09 49 35.2	-1.6
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	09 49 35.9	-1.4
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	09 49 47.7	-1.0
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	09 49 49.6	-0.6
KIF				*e*SG	Sg	09 50 16.7	+0.2
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	09 49 51.3	-0.3
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	09 49 57.0	-2.7
SGF				*e*SG	Sg	09 50 28.3	-2.9
BURU	**Burvik**	**2.62**	**173**	*e*P	Pn	09 50 01.4	+0.3
OUL	**Oulu**	**2.99**	**132**	*e*SG	Sg	09 50 52.9	-0.8
KEV	**Kevo**	**3.49**	**39**	*e*PG	Pg	09 50 20.4	-4.0
KEV				*e*		09 51 09.9	
MSF	**Maaselka**	**3.59**	**107**	*e*SG	Sg	09 51 07.1	-5.6
VAF	**Ylistaro**	**4.24**	**167**	*e*SG	Sg	09 51 29.5	-4.3

*CSEM **22** 10:13:56.1, 67.19N×2068E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **22** 10:13:56.1, 67.19N×2068E, h0km, ML3.1, Mining explosion.*

HEL 22 10:13:56.8±0.1, 6719N×2065E, h0km, ML1.6, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**207**	*i* P	Pg	10 13 58.0	-0.2
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	10 14 10.9	-0.8
ERTU	**Ertsjaerv**	**0.88**	**136**	*i* P	Pg	10 14 13.1	-0.6
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	10 14 13.5	-1.0
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	10 14 13.9	-1.7
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	10 14 14.5	-1.6
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	10 14 15.1	-1.6
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	10 14 27.3	-0.8
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*PN	Pn	10 14 30.0	+0.5
KIF				*e*SG	Sg	10 14 56.3	+0.8
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	10 14 30.9	-0.1
LILU				*e*S	Sn	10 14 57.1	+1.1
LILU	**Lilltraesk**	**1.94**	**190**	P	Pn	10 14 30.9	-0.1
	baz=1.1						
LILU				S	Sn	10 14 57.1	+1.1
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	10 14 36.6	-2.4
SGF				*e*SG	Sg	10 15 08.3	-2.2
SVAU	**Svanoeiden**	**2.74**	**190**	*e*P	Pn	10 14 42.2	+0.2
OUL	**Oulu**	**3.00**	**132**	*e*SB	Sb	10 15 26.5	-1.7
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	10 15 33.0	-1.2
MSF	**Maaselka**	**3.59**	**107**	*e*SG	Sg	10 15 46.1	-6.0

*IDC **22** 10:25:58.5±1.3, 1354N×12168E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=50.7km s-min=9.9km az=46.0*
*ISCJB **22** 10:26:00.6±1.0, 1346N±005×12157E±006, h15km±8km, mb3.8/4, Error ellipse: s-maj=10.8km s-min=6.0km az=111.6*
*NEIC **22** 10:26:00.7±0.9, 1356N×12161E, h15km, Error ellipse: s-maj=45.9km s-min=9.5km az=54.0*
*MAN **22** 10:26:00.8, 1348N×12156E, h6km, mb2.4, ML4.0, MS2.0*

ISC 22 10:26:01.4±0.9, 1350N±005×12155E±006, h13km±7km, n20, σ1§03/22, mb3.9/4, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.29**	**99**	*e*P	**Pg**	**10 26 06.4**	**-1.0**
TGY	**Tagaytay City**	**0.84**	**315**	⇓*i*P	**Pg**	**10 26 17.9**	**+0.2**
TGY				*i* S	**Sg**	**10 26 29.6**	**+0.9**
TGY	**Tagaytay City**	**0.84**	**315**	Pg	**Pg**	**10 26 17.1**	**-0.6**
	319nm,0.3s,baz=144,slow=1.5,SNR=56						
TGY				Lg		10 26 28.1	
	574nm,0.3s,baz=136,slow=7.8,SNR=9.2						
OTRP	**Odiongan**	**1.22**	**158**	*e*P	**Pn**	**10 26 22.9**	**-1.2**
OTRP				*e*S	**Sb**	**10 26 41.2**	**+1.3**
POLP	**Polilio Island**	**1.28**	**17**	*e*P	**Pn**	**10 26 23.4**	**-1.4**
LUBP	**Lubang**	**1.29**	**280**	*e*P	**Pn**	**10 26 23.7**	**-1.3**
BUSP	**Coron**	**1.99**	**222**	*e*P	**Pn**	**10 26 35.7**	**+1.1**
PCPH	**Palayan**	**2.10**	**348**	⇓*e*P	**Pn**	**10 26 36.9**	**+0.8**
BALP	**Baler**	**2.23**	**1**	*e*P	**Pn**	**10 26 39.2**	**+1.4**
RCP	**Roxas**	**2.25**	**149**	⇑*e*P	**Pn**	**10 26 38.9**	**+0.6**
PVCP	**Virac**	**2.53**	**88**	*e*P	**Pn**	**10 26 44.0**	**+1.8**
CUYO	**Cuyo Island**	**2.69**	**191**	*e*P	**Pn**	**10 26 43.8**	**-0.5**
BOLP	**Bolinao**	**3.27**	**331**	*e*P	**Pn**	**10 26 56.8**	**+4.6**
WRA	**Warramunga Arr**	**35.54**	**159**	P	**P**	**10 32 57.0**	**-1.0**
	1.8nm,0.8s,mb4.1,baz=336,slow=9.6,SNR=11						
WB2	**Warramunga Arr**	**35.54**	**159**	*e*P	**P**	**10 32 58.1**	**+0.1**
SONM	**Songino Array**	**36.48**	**343**	P	**P**	**10 33 05.2**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=170,slow=6.1,SNR=2.5						
AS31	**Alice Springs**	**38.87**	**162**	*e*P	**P**	**10 33 26.9**	**+0.7**
ASAR	**Alice Springs**	**38.87**	**162**	P	**P**	**10 33 26.2**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=339,slow=6.9,SNR=23						
ASPA	**Alice Springs**	**38.87**	**162**	*e*P	**P**	**10 33 26.9**	**+0.7**
STKA	**Stephens Creek**	**49.04**	**157**	P	**P**	**10 34 46.3**	**-1.6**
	2.0nm,0.8s,mb4.2,baz=337,slow=10,SNR=3.7						

MAN 22 10:37:40.4, 1048N×12596E, h0km, mb2.8, ML4.2, MS3.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.83**	**214**	*e*P	Pg	10 37 56.8	+0.4
SCPH				*e*S	Sg	10 38 06.9	-0.2
MSLP	**Maasin**	**1.14**	**253**	*e*P	Pg	10 38 03.2	+1.0
MSLP				*e*S	Sg	10 38 19.8	+2.8
BUKP	**Musuan**	**2.73**	**199**	*e*P	Pn	10 38 25.6	+0.1
BUKP				*e*S	Sn	10 39 00.8	+1.6

*ISCJB **22** 10:39:54.0±1.1, 2521S±0.10×1784E±0.1, h578km±13km, mb4.3/11, Error ellipse: s-maj=22.5km s-min=10.5km az=114.5*
*NEIC **22** 10:39:53.7±0.9, 2485S×17861E, h588km±8km, mb4.5/6, Error ellipse: s-maj=15.5km s-min=10.2km az=204.0*
*IDC **22** 10:39:54.3±1.5, 2496S×17848E, h582km±15km, mb3.6/7, mb1 3.7/10, mb1mx3.5/17, mbtmp4.6/10, Error ellipse: s-maj=19.9km s-min=12.3km az=19.0*

ISC 22 10:39:55.3±1.1, 2548S±01×1783E±01, h564km±12km, n41, σ1§03/36, mb4.3/11, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.10**	**140**	P	**P**	**10 41 28.8**	**+2.1**
	86nm,0.3s,baz=107,slow=19,SNR=4.1						
DZM	**Mont Dzumac**	**11.36**	**285**	P	**P**	**10 42 27.5**	**+0.3**
	2.2nm,0.3s,baz=87,slow=16,SNR=22						
URZ	**Urewera**	**12.86**	**184**	P	**P**	**10 42 41.1**	**-1.5**
	2.8nm,0.3s,baz=360,slow=3.9,SNR=26						
URZ				S	**S**	**10 44 58.0**	**-2.2**
	2.8nm,0.3s,baz=253,slow=24,SNR=22						
URZ	**Urewera**	**12.86**	**184**	PN	**P**	**10 42 41.2**	**-1.4**
MWZ	**Matawai**	**12.91**	**183**	PN	**P**	**10 42 41.8**	**-1.3**
NNZ	**Nelson**	**16.29**	**193**	PN	**P**	**10 43 17.3**	**+0.4**
NNZ				SN	**S**	**10 46 02.2**	**+1.0**
THZ	**Tophouse**	**16.92**	**194**	PN	**P**	**10 43 21.8**	**-0.7**
KHZ	**Kahutara**	**17.42**	**192**	PN	**P**	**10 43 27.9**	**+0.8**
LTZ	**Lake Taylor**	**18.03**	**194**	PN	**P**	**10 43 33.1**	**+0.4**
RPZ	**Rata Peaks**	**19.20**	**196**	P	**P**	**10 43 44.4**	**+1.0**
	0.8nm,0.3s,baz=41,slow=14,SNR=4.8						
CNB	**Canberra Magne**	**26.77**	**241**	*e*P	**P**	**10 44 52.9**	**+2.1**
	13nm,1.1s,mb4.5						
CTA	**Charters Tower**	**29.98**	**274**	*e*P	**P**	**10 45 19.0**	**+0.3**
	7.1nm,0.8s,mb4.2						
CTA	**Charters Tower**	**29.98**	**274**	P	**P**	**10 45 17.5**	**-1.3**
	6.2nm,0.5s,mb4.4,baz=96,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**32.74**	**250**	P	**P**	**10 45 42.8**	**+0.5**
	3.0nm,0.5s,mb4.1,baz=84,slow=8.2,SNR=24						
STKA				PcP	PcP	10 48 09.1	-1.5
	1.6nm,0.5s,baz=96,slow=8.6,SNR=4.5						
STKA	**Stephens Creek**	**32.74**	**250**	P	**P**	**10 45 42.8**	**+0.5**
STKA				*e*P		10 45 43.5	
STKA				PcP	PcP	10 48 09.1	-1.5
AS31	**Alice Springs**	**40.29**	**263**	⇓*i*P	**P**	**10 46 44.3**	**+0.1**
AS31				*e*S	**S**	**10 52 12.8**	**+1.2**
ASAR	**Alice Springs**	**40.29**	**263**	P	**P**	**10 46 44.2**	**0.0**
	7.1nm,0.7s,mb4.3,baz=96,slow=8.2,SNR=52						
ASAR				PcP	PcP	10 48 31.9	-2.0
	1.0nm,0.8s,baz=116,slow=4.8,SNR=5.0						
ASAR				S	**S**	**10 52 12.9**	**+1.2**
	0.6nm,0.9s,baz=104,slow=15,SNR=5.0						
ASPA	**Alice Springs**	**40.29**	**263**	⇓*i*P	**P**	**10 46 44.3**	**0.0**
ASPA				*e*S	**S**	**10 52 12.8**	**+1.1**
WB2	**Warramunga Arr**	**40.78**	**268**	⇓*i*P	**P**	**10 46 47.4**	**-0.7**
WB2				*e*S	**S**	**10 52 18.2**	**-0.6**
WRA	**Warramunga Arr**	**40.79**	**268**	P	**P**	**10 46 47.3**	**-0.9**
	6.4nm,0.3s,mb4.6,baz=99,slow=6.6,SNR=462						
WRA				S	**S**	**10 52 18.4**	**-0.6**
	4.3nm,1.0s,baz=101,slow=14,SNR=16						
FORT	**Forrest**	**44.35**	**251**	*e*P	**P**	**10 47 15.7**	**-0.3**
	45nm,0.6s,mb5.2						
KAKA	**Kakadu**	**44.94**	**278**	*e*P	**P**	**10 47 19.1**	**-1.4**
	9.5nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**49.20**	**267**	*e*P	**P**	**10 47 52.5**	**0.0**
	14nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**49.20**	**267**	P	**P**	**10 47 52.5**	**0.0**
	7.8nm,0.7s,mb4.3,baz=120,slow=6.2,SNR=16						
VNDA	**Vanda**	**52.76**	**184**	P	**P**	**10 48 19.0**	**+0.7**
	0.7nm,0.6s,mb3.2,baz=355,slow=6.3,SNR=6.6						
VNDA				PcP	PcP	10 49 17.4	-1.0
	0.6nm,0.6s,baz=336,slow=4.0,SNR=4.9						
VNDA	**Vanda**	**52.76**	**184**	P	**P**	**10 48 19.0**	**+0.7**
VNDA				PcP	PcP	10 49 17.4	-1.0
QSPA	**South Pole Qui**	**64.68**	**180**	*e*P	**P**	**10 49 38.9**	**+0.6**
	12nm,0.7s,mb4.4						
QSPA				*e*P		10 49 39.1	
MAW	**Mawson**	**75.80**	**201**	P	**P**	**10 50 43.9**	**-0.1**
	4.1nm,0.5s,mb4.1,baz=132,slow=6.4,SNR=12						
SYO	**Syowa Base**	**81.19**	**194**	⇑*e*P	**P**	**10 51 10.8**	**-1.9**
BOSA	**Boshof**	**120.36**	**208**	PKP	PKPdf	10 57 41.0	-2.0
	1.3nm,0.7s,baz=90,slow=5.1,SNR=3.4						
ARCES	**ARCESS Array B**	**133.03**	**347**	PKP	PKPdf	10 58 02.0	-5.0
	6.6nm,1.1s,baz=313,slow=7.6,SNR=5.2						
FINES	**FINESS Array B**	**139.35**	**340**	PKhKP		10 58 06.6	
	0.9nm,0.8s,baz=119,slow=2.4,SNR=4.1						
NB2	**NORSAR Subarra**	**143.30**	**350**	PKP	PKPdf	10 58 19.1	-6.7
	comp=Z,2.7nm,0.7s,baz=21,slow=3.5						
NOA	**NORSAR Array B**	**143.30**	**350**	PKP	PKPdf	10 58 19.3	-6.5
	comp=Z,2.9nm,0.9s,baz=13,slow=4.1,SNR=12						
AKASG	**Malin Array Be**	**145.35**	**325**	PKPbc	PKPbc	10 58 26.3	-4.3
	comp=Z,1.9nm,0.5s,baz=43,slow=3.9,SNR=7.9						
AKASG	**Malin Array Be**	**145.35**	**325**	PKPbc	PKPbc	10 58 26.3	-4.3
BR131	**Keskin Array S**	**147.20**	**305**	*e*PKPdf	PKPdf	10 58 28.8	-3.7
BR131				*e*PKPbc	PKPbc	10 58 33.0	-2.7
BR131				*e*PKPab	PKPab	10 58 36.6	-2.7
BRTR	**Keskin Array B**	**147.20**	**305**	PKP	PKPdf	10 58 28.3	-4.2
	comp=Z,0.7nm,0.7s,baz=147,slow=2.9,SNR=3.8						
BRTR				PKPbc	PKPbc	10 58 32.4	-3.3
	comp=Z,1.3nm,0.6s,baz=142,slow=4.4,SNR=9.4						
BRG	**Berggiesshubel**	**151.87**	**339**	*i* P	PKPdf	10 58 43.8	+4.0
	comp=Z,2.3nm,0.6s						
GERES	**GERESS Array B**	**153.68**	**337**	PKPbc	PKPbc	10 58 46.6	-4.1
	comp=Z,0.4nm,0.6s,baz=26,slow=3.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**167.39**	**195**	PKP	PKPdf	10 58 54.3	-2.7
	comp=Z,0.5nm,0.7s,baz=261,slow=1.6,SNR=3.8						
TORD				PKPab	PKPab	11 00 05.7	-0.8
	comp=Z,2.7nm,0.6s,baz=166,slow=3.8,SNR=21						

*IDC **22** 10:53:48.4±6.8, 2482S×17894E, h547km±40km, mb3.3/6, mb1 3.4/8, mb1mx3.2/16, mbtmp4.3/8, Error ellipse: s-maj=106.9km s-min=27.9km az=47.0*
*ISCJB **22** 10:53:53.2±6.1, 2548S±06×1784E±07, h573km±28km, mb3.9/6, Error ellipse: s-maj=131.8km s-min=23.6km az=99.7*
*NEIC **22** 10:53:53.0±4.6, 2535S×17843E, h560km±18km, mb3.9/1, Error ellipse: s-maj=94.9km s-min=16.5km az=51.0*

ISC 22 10:53:52.3±6.2, 2538S±06×1786E±08, h559km±24km, n12, σ0§38/12, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.57**	**284**	P	**P**	**10 56 26.6**	**+0.3**
	0.2nm,0.3s,baz=90,slow=16,SNR=3.4						
URZ	**Urewera**	**12.98**	**185**	P	**P**	**10 56 40.5**	**-0.3**
	1.2nm,0.3s,baz=94,slow=7.0,SNR=9.9						
CTA	**Charters Tower**	**30.22**	**273**	P	**P**	**10 59 18.1**	**+0.1**
	2.0nm,0.3s,mb4.1,baz=92,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**33.01**	**250**	P	**P**	**10 59 42.2**	**+0.5**
	1.8nm,0.5s,mb3.8,baz=71,slow=9.3,SNR=11						
AS31	**Alice Springs**	**40.54**	**263**	*e*P	**P**	**11 00 43.6**	**+0.1**
ASAR	**Alice Springs**	**40.54**	**263**	P	**P**	**11 00 43.5**	**+0.1**
	1.2nm,0.3s,mb3.9,baz=91,slow=7.1,SNR=55						
ASPA	**Alice Springs**	**40.55**	**263**	*e*P	**P**	**11 00 43.5**	**0.0**
WB2	**Warramunga Arr**	**41.03**	**268**	*e*P	**P**	**11 00 46.6**	**-0.7**
WRA	**Warramunga Arr**	**41.04**	**268**	P	**P**	**11 00 46.8**	**-0.6**
	3.3nm,0.3s,mb4.3,baz=99,slow=6.7,SNR=290						
FITZ	**Fitzroy Crossi**	**49.44**	**267**	*e*P	**P**	**11 01 51.6**	**0.0**
	3.5nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**49.44**	**267**	P	**P**	**11 01 51.5**	**0.0**
	1.3nm,0.6s,mb3.6,baz=110,slow=12,SNR=8.4						
MAW	**Mawson**	**75.98**	**201**	P	**P**	**11 04 42.8**	**+0.5**
	0.7nm,0.7s,mb3.2

TKM2 pmax pmax
comp=Z,406nm,0.4s
ULHL Ulahol 2.21 88 ⇑P **Pn 11 02 10.8 +1.9**
comp=Z,152nm,0.2s,SNR=195
KK31 Karatay Array 2.22 295 ⇑Pn **Pn 11 02 12.8 +3.7**
KK31 ⇑Lg 11 02 44.1
KKAR Karatay Array 2.22 295 PN **Pn 11 02 12.7 +3.6**
KKAR 11 02 44.0
KNDC Almaty 2.91 68 ⇓Pn **Pn 11 02 23.0 +4.4**
comp=Z,184nm,0.7s
KNDC ⇓Lg 11 03 01.1
comp=Z,1μm,0.8s
AAA Alma-Ata 2.92 67 *i* PN **Pn 11 02 24.0 +5.3**
AAA *i* S **Sn 11 03 02.7 +8.6**
AAA smax
comp=N,1.0nm,0.4s
MK31 Makanchi Array 7.92 51 ⇑Pn **Pn 11 03 29.0 +1.6**
comp=N,8.4nm,0.5s,baz=231,slow=14,SNR=118
MK31 ⇓Lg 11 05 40.4
comp=N,27nm,0.8s,baz=233,slow=30,SNR=5.8
MK31 Makanchi Array 7.92 51 *e*Pn **Pn 11 03 29.1 +1.7**
MK31 *e*Sn **Sn 11 04 56.3 -1.0**
MKAR Makanchi Array 7.92 51 Pn **Pn 11 03 29.5 +2.1**
comp=N,5.2nm,0.3s,baz=233,slow=15,SNR=120
MKAR Sn **Sn 11 05 05.2 +7.8**
comp=N,1.2nm,0.3s,baz=260,slow=17,SNR=2.5
MKAR Lg 11 05 38.7
comp=N,2.3nm,0.3s,baz=241,slow=22,SNR=4.2
MKAR Makanchi Array 7.92 51 *e*P **Pn 11 03 29.5 +2.1**
MKAR pmax pmax
comp=Z,12nm,0.4s
MKAR Makanchi Array 7.92 51 Pn **Pn 11 03 29.5 +2.1**
MKAR Sn **Sn 11 05 05.2 +7.8**
MKAR Lg 11 05 38.7
CEP Cherat 8.43 188 P **Pn 11 03 35.7 +1.3**
CHCP Chirah Chowk 8.53 180 ⇑P **Pn 11 03 37.5 +1.8**
THW Thamme Wali 9.47 188 P **Pn 11 03 48.0 -0.6**
VOSK Vostochnaya 10.64 352 ⇓Pn **Pn 11 04 04.4 -0.3**
comp=Z,1.6nm,0.5s
VOSK ⇓Sn **Sn 11 05 59.2 -5.0**
VOSK ⇓Lg 11 06 53.5
comp=Z,27nm,0.8s
BVA0 Borovoye Array 11.00 351 ⇑Pn **Pn 11 04 10.0 +0.4**
comp=Z,0.6nm,0.5s,baz=148,slow=13,SNR=23
BVA0 ⇑Sn **Sn 11 06 07.1 -6.0**
comp=Z,2.9nm,0.8s,baz=162,slow=22,SNR=9.3
BVA0 ⇓Lg 11 07 07.8
comp=Z,12nm,1.1s
BVA0 Borovoye Array 11.00 351 *e*P **Pn 11 04 09.5 -0.1**
BVA0 *e* 11 06 11.6
BVA0 smax
comp=N,2.0nm,0.8s
BVA0 smax
comp=N,13nm,1.1s
BVAR Borovoye Array 11.00 351 Pn **Pn 11 04 09.7 0.0**
comp=N,1.8nm,0.3s,baz=159,slow=12,SNR=21
BVAR Sn **Sn 11 06 09.0 -4.1**
comp=N,3.5nm,0.3s,baz=157,slow=24,SNR=13
BVAR Lg 11 07 23.1
comp=N,3.6nm,0.3s,baz=150,slow=24,SNR=5.6
BVAR Borovoye Array 11.00 351 P **Pn 11 04 09.7 +0.1**
BVAR 11 06 09.0
BRVK Borovoye 11.05 351 *e*P **Pn 11 04 10.8 +0.6**
BRVK *e* 11 06 10.5
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 11.05 351 *e*Pn **Pn 11 04 10.8 +0.5**
comp=Z,5.3nm,0.6s
BRVK *e*Sn **Sn 11 06 10.5 -3.7**
ZRNK Zerenda 11.13 347 ⇑Pn **Pn 11 04 11.3 -0.1**
comp=Z,2.4nm,0.4s
ZRNK ⇑Sn **Sn 11 06 12.2 -4.0**
comp=Z,11nm,0.8s
ZRNK Zerenda 11.13 347 *e*P **Pn 11 04 11.6 +0.2**
ZRNK *e* 11 06 14.5
ZRNK pmax pmax
comp=Z,7.0nm,0.3s
ZRNK Zerenda 11.13 347 *e*Pn **Pn 11 04 11.6 +0.2**
comp=Z,6.6nm,0.3s
ZRNK *e*Sn **Sn 11 06 14.5 -1.7**
CHKZ Chkalovo 11.62 352 ⇑Pn **Pn 11 04 17.4 -0.7**
comp=Z,3.1nm,0.7s
CHKZ ⇓Sn **Sn 11 06 22.2 -6.0**
comp=Z,8.1nm,0.9s
CHKZ ⇓Lg 11 07 28.0
comp=Z,18nm,0.7s
CHKZ Chkalovo 11.62 352 P **Pn 11 04 17.7 -0.4**
CHKZ 11 06 22.1
CHKZ pmax pmax
comp=Z,2.0nm,0.7s
CHKZ smax
comp=N,8.0nm,1.0s
CHKZ smax
comp=N,13nm,0.7s
AB31 Akbulak array 11.67 312 Pn **Pn 11 04 18.8 0.0**
comp=N,2.3nm,0.5s,baz=116,slow=15,SNR=44
AB31 ⇑Sn **Sn 11 06 24.9 -4.5**
comp=N,10nm,1.0s,baz=113,slow=24,SNR=6.1
AB31 Akbulak array 11.67 312 P **Pn 11 04 18.7 -0.1**
AB31 11 06 24.5
AB31 pmax pmax
comp=Z,1.0nm,0.5s
AB31 smax
comp=N,11nm,1.0s
AKTK Aktyubinsk 13.35 313 Pn **Pn 11 04 42.0 +0.2**
AKTK Sn **Sn 11 07 07.8 -2.8**
AKTO Aktyubinsk 13.35 313 ⇓Pn **Pn 11 04 42.2 +0.4**
comp=N,0.2nm,0.9s
AKTO ⇑Sn **Sn 11 07 06.2 -4.4**
comp=N,0.2nm,0.8s
AKTO Aktyubinsk 13.35 313 Pn **Pn 11 04 42.0 +0.2**
comp=N,0.6nm,0.3s,baz=112,slow=15,SNR=8.5
AKTO Sn **Sn 11 07 07.8 -2.8**
comp=N,0.6nm,0.3s,baz=7.7,slow=22,SNR=6.8
ZAL Zalesovo 14.03 29 Pn **Pn 11 04 52.0 +1.0**
comp=N,0.5nm,0.3s,baz=257,slow=13,SNR=4.4
ZAL Sn **Sn 11 07 23.9 -3.1**
comp=N,0.5nm,0.3s,baz=200,slow=7.9,SNR=3.4
ZAL Lg 11 08 55.1
comp=N,0.6nm,0.3s,baz=180,slow=20,SNR=2.0
ZAL Zalesovo 14.03 29 P **Pn 11 04 52.0 +1.1**
ZAL 11 07 23.9
ZAL Zalesovo 14.03 29 Pn **Pn 11 04 52.0 +1.0**
ZAL Sn **Sn 11 07 23.9 -3.1**
ZAL Lg 11 08 55.1
KOLN Koldanda 16.68 146 *e*P **Pn 11 05 20.5 -5.6**
comp=N,6.8nm,0.6s
GKN Gorkha 16.93 143 *e*P **Pn 11 05 24.0 -5.1**
comp=N,21nm,0.6s
ARU Arti 17.11 331 *e*P **Pn 11 05 30.6 -0.9**
ARU *e*S **Sn 11 08 32.2 -10**
KKN Kakani 17.40 142 *e*P **Pn 11 05 29.8 -5.3**
comp=N,7.8nm,0.6s
DMN Daman 17.47 143 *e*P **Pn 11 05 30.0 -6.0**
comp=N,5.0nm,0.4s
GUN Gumba 17.58 140 *e*P **Pn 11 05 34.1 -3.2**
comp=N,8.1nm,0.5s
PKI Pulchoki 17.64 142 *e*P **Pn 11 05 32.5 -5.6**
KIV Kislovodsk 22.34 285 *e*P **P 11 06 39.5 +9.2**
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
SONM Songino Array 23.97 65 P **P 11 06 46.5 -0.4**
comp=Z,0.2nm,0.6s,mb2.7,baz=232,slow=7.3,SNR=2.7
BRTR Keskin Array B 29.84 279 P **P 11 07 38.2 -1.6**
comp=Z,0.5nm,0.8s,mb3.3,baz=66,slow=9.3,SNR=3.4
JOF Joensuu 32.01 325 *ep* **P 11 07 59.5 +0.7**
FINES FINESS Array B 33.95 321 P **P 11 08 16.6 +0.9**
comp=Z,1.0nm,0.4s,mb4.1,baz=106,slow=9.3,SNR=18
KAF Kangasniemi 33.99 322 *ep* **P 11 08 17.0 +0.8**
comp=Z,0.4nm,0.3s,mb3.8,baz=100,slow=8.7
ARCES ARCESS Array B 36.66 334 P **P 11 08 40.2 +1.0**
comp=Z,1.6nm,0.5s,mb4.1,baz=105,slow=8.9,SNR=11
NB2 NORSAR Subarra 41.05 319 P **P 11 09 16.0 +0.1**
comp=Z,1.6nm,0.5s,mb3.9,baz=89,slow=8.6
NB2 NORSAR Subarra 41.05 319 P **P 11 09 16.0 +0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
NOA NORSAR Array B 41.05 319 P **P 11 09 16.2 +0.3**
comp=Z,2.8nm,0.7s,mb4.0,baz=90,slow=8.3,SNR=10
GERES GERESS Array B 41.31 300 P **P 11 09 18.2 +0.1**
comp=Z,0.5nm,0.5s,mb3.4,baz=74,slow=8.9,SNR=7.0
TORD Torodi Ar. Bea 67.66 268 P **P 11 12 27.9 -1.7**
comp=Z,0.6nm,0.7s,mb3.8,baz=54,slow=5.1,SNR=5.0
PDAR Pinedale Array 95.38 2 P **P 11 14 57.1 +0.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=58,slow=3.7,SNR=3.7

IDC ***22*** *11:01:40.5±2.7,3643N×13681E,h247km±18km,mb3.2/3, mb1 3.5/4,mb1mx3.1/23,mbtmp3.9/4,Error ellipse: s-maj=82.1km s-min=21.0km az=106.0*
ISCJB ***22*** *11:01:41.5±0.6,3637N±006×1372E±0.1,h264km±4km, mb3.3/3,Error ellipse: s-maj=14.6km s-min=7.8km az=51.8*
JMA ***22*** *11:01:42.2±0.1,3634N×13720E,h262km±1km,M2.9*
ISC 22 11:01:42.4±0.6,3637N±006×1372E±01,h259km±4km,n23, σ0°60/32,mb3.3/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.18**	**140**	P	**Pn**	**11 02 15.9**	**+0.2**
JGN				S	**S**	**11 02 42.1**	**+0.2**
JKG	**Kaga**	**0.68**	**263**	P	**Pn**	**11 02 17.5**	**+0.6**
JGM	**Miyama**	**0.76**	**209**	P	**Pn**	**11 02 17.3**	**+0.1**
JGM				S	**S**	**11 02 44.3**	**-0.3**
MAT	**Matsushiro**	**0.86**	**78**	P	**Pn**	**11 02 17.5**	**-0.2**
MAT				S	**S**	**11 02 45.4**	**0.0**
MAT	**Matsushiro**	**0.86**	**78**	P	**Pn**	**11 02 17.9**	**+0.2**
MAT				S	**S**	**11 02 45.6**	**+0.2**
MJAR	**Matsushiro Arr**	**0.86**	**78**	P	**Pn**	**11 02 17.9**	**+0.2**
	2.9nm,0.3s,baz=259,slow=7.1,SNR=31						
MJAR				S	**S**	**11 02 44.2**	**-1.2**
	0.4nm,0.3s,baz=90,slow=28,SNR=7.0						
JSZ	**Suzu**	**1.09**	**8**	P	**Pn**	**11 02 19.1**	**+0.2**
JSZ				S	**S**	**11 02 47.5**	**-0.1**
JYN	**Shimob**	**1.41**	**127**	P	**Pn**	**11 02 20.9**	**0.0**
JRY	**Ryogami san**	**1.45**	**103**	P	**Pn**	**11 02 21.9**	**+0.7**
JHG	**Hegura jima**	**1.49**	**352**	P	**Pn**	**11 02 22.2**	**+0.7**
JWT	**Wachi**	**1.80**	**234**	P	**Pn**	**11 02 23.9**	**0.0**
JAG	**Ashikaga**	**1.84**	**87**	P	**Pn**	**11 02 24.0**	**-0.3**
JSD	**Sado**	**1.88**	**27**	P	**Pn**	**11 02 24.9**	**+0.3**
JSD				S	**S**	**11 02 57.4**	**-0.5**
JOD2	**Odawara 2**	**1.91**	**125**	P	**Pn**	**11 02 25.1**	**+0.3**
JOD2				S	**S**	**11 02 58.7**	**+0.4**
JIE	**Ise**	**2.00**	**191**	P	**Pn**	**11 02 26.0**	**+0.4**
JNS	**Sasagawa**	**2.25**	**49**	P	**Pn**	**11 02 28.1**	**+0.2**
JWY	**Kouya**	**2.50**	**211**	P	**Pn**	**11 02 30.7**	**+0.4**
JAW	**Awa shima**	**2.67**	**38**	P	**Pn**	**11 02 32.2**	**+0.3**
JWZ	**Kozaga**	**3.07**	**203**	P	**Pn**	**11 02 36.0**	**-0.2**
JWZ				S	**S**	**11 03 17.9**	**-0.9**
ASAJ	**Asahikawa**	**8.78**	**27**	P	**Pn**	**11 03 43.0**	**-2.5**
	1.5nm,0.3s,baz=207,slow=6.0,SNR=17						
WRA	**Warramunga Arr**	**56.06**	**183**	P	**P**	**11 10 54.0**	**-0.7**
	1.3nm,0.4s,mb3.7,baz=359,slow=7.6,SNR=66						
ASAR	**Alice Springs**	**59.78**	**183**	P	**P**	**11 11 20.1**	**-0.3**
	0.3nm,0.3s,mb3.2,baz=359,slow=6.1,SNR=14						
PDAR	**Pinedale Array**	**80.53**	**43**	P	**P**	**11 13 26.8**	**+0.9**
	0.1nm,0.5s,mb2.8,baz=282,slow=1.4,SNR=3.5						

ISCJB ***22*** *11:16:23.7±0.6,67S±0.1×1067E±02,h100km,mb4.2/17, Error ellipse: s-maj=29.5km s-min=9.0km az=94.8*
IDC ***22*** *11:16:25.4±3.4,674S×10662E,h99km±29km,mb3.9/14, mb1 4.0/14,mb1mx3.9/22,mbtmp4.2/14,Error ellipse: s-maj=33.0km s-min=12.2km az=51.0*
NEIC ***22*** *11:16:26.4±3.6,674S×10662E,h109km±32km,mb4.2/4, Error ellipse: s-maj=19.5km s-min=8.2km az=52.0*
ISC 22 11:16:25.5±0.6,67S±01×1066E±02,h100km,n29, σ0°55/25,mb4.2/17,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.74**	**123**	*e*P	**P**	**11 21 08.6**	**-0.1**
	11nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.74**	**123**	P	**P**	**11 21 08.6**	**-0.1**
	6.1nm,0.8s,mb4.0,baz=271,slow=5.8,SNR=12						
WRA	**Warramunga Arr**	**29.96**	**119**	P	**P**	**11 22 24.4**	**+0.2**
	3.6nm,0.4s,mb4.4,baz=301,slow=8.9,SNR=114						
WRA				PcP	PcP	11 25 24.8	+0.5
	0.6nm,0.5s,baz=304,slow=2.2,SNR=6.5						
WB2	**Warramunga Arr**	**29.97**	**119**	*e*P	**P**	**11 22 24.7**	**+0.4**
ASPA	**Alice Springs**	**31.17**	**126**	*e*P	**P**	**11 22 35.0**	**+0.1**
AS31	**Alice Springs**	**31.18**	**126**	*e*P	**P**	**11 22 35.0**	**+0.1**
AS31				*e*P		11 22 35.2	
ASAR	**Alice Springs**	**31.18**	**126**	P	**P**	**11 22 35.0**	**+0.1**
	1.6nm,0.5s,mb4.0,baz=297,slow=8.2,SNR=29						
ASAR				ScP	ScP	11 29 01.2	-0.1
	0.5nm,0.6s,baz=305,slow=2.9,SNR=7.1						
STKA	**Stephens Creek**	**41.12**	**132**	P	**P**	**11 23 59.9**	**+0.3**
	9.8nm,0.7s,mb4.8,baz=303,slow=7.5,SNR=37						
MJAR	**Matsushiro Arr**	**52.26**	**32**	P	**P**	**11 25 25.4**	**-1.0**
	0.9nm,0.5s,mb4.1,baz=263,slow=6.7,SNR=5.5						
MJAR	**Matsushiro Arr**	**52.26**	**32**	P	**P**	**11 25 25.4**	**-1.0**
SONM	**Songino Array**	**54.33**	**360**	P	**P**	**11 25 42.7**	**+1.1**
	0.5nm,0.4s,mb3.9,baz=190,slow=8.7,SNR=6.6						
SONM				PcP	PcP	11 26 45.2	+0.9
	3.8nm,0.4s,baz=181,slow=4.1,SNR=40						
WSAR	**Wadi Sarin**	**55.52**	**304**	P	**P**	**11 25 50.5**	**+0.3**
	1.9nm,0.7s,mb4.2,baz=113,slow=4.4,SNR=5.8						
MKAR	**Makanchi Array**	**57.50**	**340**	P	**P**	**11 26 03.9**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=142,slow=7.9,SNR=8.0						
BVAR	**Borovoye Array**	**66.96**	**337**	P	**P**	**11 27 07.2**	**-0.2**
	1.9nm,0.5s,mb4.2,baz=150,slow=9.8,SNR=8.8						
CHKZ	**Chkalovo**	**67.38**	**338**	*e*P	**P**	**11 27 09.9**	**-0.1**
	3.2nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**67.45**	**336**	*e*P	**P**	**11 27 11.2**	**+0.8**
	1.4nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**70.69**	**329**	P	**P**	**11 27 30.5**	**+0.1**
AKTO	**Aktyubinsk**	**70.69**	**329**	P	**P**	**11 27 30.5**	**+0.1**
	1.0nm,0.5s,mb3.9,baz=110,slow=8.4,SNR=4.5						
VNDA	**Vanda**	**76.30**	**169**	P	**P**	**11 28 02.5**	**-0.8**
	1.0nm,1.0s,mb3.5,baz=346,slow=5.0,SNR=4.7						
BR131	**Keskin Array S**	**81.35**	**312**	*e*P	**P**	**11 28 31.4**	**+0.4**
	1.2nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**81.35**	**312**	P	**P**	**11 28 31.5**	**+0.6**
	1.2nm,0.6s,mb3.9,baz=141,slow=6.8,SNR=7.7						
JOF	**Joensuu**	**89.31**	**334**	*ep*	**P**	**11 29 09.2**	**-1.3**
	5.7nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**91.34**	**332**	P	**P**	**11 29 20.3**	**+0.3**
	1.3nm,0.8s,mb4.1,baz=103,slow=4.1,SNR=6.0						
FINES	**FINESS Array B**	**91.34**	**332**	P	**P**	**11 29 20.3**	**+0.3**
ARCES	**ARCESS Array B**	**93.15**	**340**	P	**P**	**11 29 27.8**	**-0.5**
	7.6nm,1.1s,mb5.0,baz=76,slow=5.1,SNR=5.8						
SMCO	**Snowmass**	**135.77**	**38**	*e*P	Pdif	11 32 39.3	+0.9
TXAR	**Lajitas Array**	**143.69**	**48**	PKP	PKPdf	11 35 49.0	+0.4
	0.9nm,0.5s,baz=314,slow=1.3,SNR=7.0						
JCT	**Junction City**	**145.78**	**43**	*e*PKPbc	PKPbc	11 35 54.4	+1.5
WVT	**Waverly**	**147.90**	**22**	*e*PKPdf	PKPdf	11 35 55.8	0.0
WVT				*e*PKPbc	PKPbc	11 35 59.8	+0.8
WVT				*e*PKPab	PKPab	11 36 02.2	+0.5

MAN 22 11:16:30.0,1097N×12520E,h61km,mb3.6,ML4.7,MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.67**	**20**	*e*P	Pn	11 16 45.7	+1.8
MSLP	**Maasin**	**0.90**	**202**	*e*P	Pn	11 16 48.1	+1.3
MSLP				*e*S	Sn	11 17 02.1	+3.0
SCPH	**Surigao**	**1.22**	**166**	*e*P	Pn	11 16 52.0	+1.0
SCPH				*e*S	Sn	11 17 08.1	+1.6

IDC ***22*** *11:23:17.8±0.5,1046N×9210E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.0/20,mbtmp4.0/14,MS4.3/18, Ms1 4.3/18,ms1mx4.0/40,Error ellipse: s-maj=27.2km s-min=14.1km az=64.0*
ISCJB ***22*** *11:23:19.3±1.9,1048N±005×9165E±005,h9km±12km, mb4.2/29,MS4.3/22,Error ellipse: s-maj=9.5km s-min=7.3km az=50.0*
MOS ***22*** *11:23:22.3±2.8,1029N×9153E,h33km,mb4.6/8,Error ellipse: s-maj=14.3km s-min=8.6km az=106.4*
NEIC ***22*** *11:23:22.4±0.5,1033N×9179E,h30km,mb4.6/2,Error ellipse: s-maj=20.3km s-min=10.2km az=54.0*
BJI ***22*** *11:23:29.3,1048N×9249E,h30km,mB5.0,mb4.4,Ms4.6, Msz4.3*
ISC 22 11:23:23.5±2.1,1048N±005×9169E±005,h25km±15km, h33km±3.5km:pP-P,n85,σ1°19/71,mb4.2/29,MS4.3/22, 6C-1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.56**	**41**	*e*P	x	11 23 37.9	
PBA				*e*S	x	11 23 57.1	
PBA				*ex*	x	11 24 23.3	
	comp=E,10μm,1.0s						
PBA				*ex*	x	11 24 26.6	
	comp=N,9μm,0.3s						

NNT Nongplab 8.16 74 P **Pn 11 25 21.9 +1.7**
KULM Kulim 10.26 119 *e*Pn **Pn 11 25 50.4 +1.3**
VIS Vishakhapatnam 10.84 313 *e*P **Pn 11 25 55.7 -1.3**
VIS AMb AMB 11 26 01.1
comp=Z,102nm,0.8s
VIS *e*S **Sn 11 27 48.1 -9.5**
CHG Chiang Mai 10.86 39 ⇓P **Pn 11 26 08.5 +11**
comp=Z,10.0nm,1.0s
MDRS Chennai 11.50 284 *ex* x 11 26 59.0
KKTK Khon Kaen 12.29 61 P **Pn 11 26 30.0 +13**
CAL Calcutta 12.42 345 *ex* x 11 27 36.9
CAL *ex* x 11 31 37.2
SALM Salem 13.29 276 *e*P **Pn 11 26 30.0 -0.6**
SALM *e*S **Sn 11 28 48.0 -10**
BOK Bokaro 14.35 338 *e*P **Pn 11 26 44.4 -0.6**
BOK AMb AMB 11 26 56.5
comp=Z,39nm,1.2s
BOK *e*S **Sn 11 29 24.3 +1.0**
HYB Hyderabad 14.49 300 *i* P **Pn 11 26 47.0 +0.1**
HYB *e*S **Sn 11 29 29.0 +2.3**
HYB Hyderabad 14.49 300 *e*P **Pn 11 26 46.0 -0.9**
HYB *e*S **Sn 11 29 27.0 +0.3**
LATR Latur 16.63 300 *ex* x 11 30 04.4
KMI Kunming 17.95 34 P **Pn 11 27 36.3 +5.0**
KMI S **Sn 11 30 50.1 -0.5**
KMI AMB AMB
comp=Z,19nm,0.9s
KMI LR LR
comp=N,595nm,13.7s
KMI LR LR
comp=E,1μm,12.3s
KMI LR LR
comp=Z,770nm,13.7s
PKI Pulchoki 18.00 342 *e*P **Pn 11 27 32.6 +0.7**
comp=Z,154nm,1.4s
DMN Daman 18.13 341 *e*P **Pn 11 27 33.7 +0.2**
comp=Z,77nm,0.9s
GUN Gumba 18.18 343 *e*P **Pn 11 27 33.7 -0.4**
comp=Z,97nm,1.2s
KKN Kakani 18.25 342 *e*P **Pn 11 27 34.2 -0.7**
comp=Z,33nm,0.8s
KAD Karad 18.29 294 *e*P **Pn 11 27 37.2 +1.7**
KAD AMb AMB 11 27 57.3
comp=Z,16nm,1.5s
BHPL Bhopal 18.62 315 *e*P **Pn 11 27 38.6 -0.8**
BHPL AMb AMB 11 27 46.3
comp=Z,20nm,1.2s
GKN Gorkha 18.65 340 *e*P **Pn 11 27 39.0 -0.8**
comp=Z,54nm,0.6s
KOLN Koldanda 18.81 337 *e*P **Pn 11 27 41.3 -0.5**
comp=Z,76nm,1.1s
LSA Lhasa 19.13 359 *e*P **Pn 11 27 47.0 +1.4**
LSA pmax pmax
comp=Z,17nm,0.6s
LSA Lhasa 19.13 359 *e*P **Pn 11 27 47.0 +1.3**
comp=Z,17nm,0.6s
KSM Kuching 20.55 115 *e*P **P 11 27 57.9 -2.2**
GYA Guiyang 21.28 40 P **P 11 28 08.8 +0.8**
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb4.0
GYA AMB AMB
comp=Z,200nm,5.8s
GYA LR LR
comp=N,700nm,13.8s,MS4.3
GYA LR LR
comp=E,340nm,12.6s,MS4.3
GYA LR LR
comp=Z,780nm,13.2s,MS4.3
AJM Ajmer 22.64 317 *e*P **P 11 28 23.8 +1.2**
AJM AMb AMB 11 28 26.8
comp=Z,30nm,1.3s,mb4.5
CD2 Chengdu 23.21 27 *e*P **P 11 28 28.1 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
LZH Lanzhou 27.77 21 *e*P **P 11 29 16.9 +6.6**
LZH AP pP 11 29 26.5 +8.7
LZH XP sP 11 29 29.5 +8.6
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,125nm,4.1s
LZH LR LR
comp=N,1μm,14.8s
LZH LR LR
comp=Z,2μm,16.3s,MS4.7
XAN Xi'an 28.27 31 P **P 11 29 20.9 +6.2**
XAN AMB AMB
comp=Z,6.0nm,1.3s,mb4.1
GTA Gaotai 29.71 13 *e*P **P 11 29 28.9 +1.4**
GTA AP pP 11 29 39.8 +4.8
GTA XP sP 11 29 44.3 +6.2
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
WMQ Urumqi 33.40 355 *e*P **P 11 30 07.8 +7.9**
WMQ AP pP 11 30 15.0 +7.5
WMQ XP sP 11 30 18.0 +7.4
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,117nm,4.2s
WMQ LR LR
comp=N,668nm,19.4s,MS4.5
WMQ LR LR
comp=E,590nm,18.6s,MS4.5
WMQ LR LR
comp=Z,516nm,24.4s
BTO Baotou 34.11 25 *e*P **P 11 30 11.8 +5.7**
AAK Ala-Archa 35.38 338 *e*P **P 11 30 17.6 +0.5**
AAK pmax pmax
comp=Z,13nm,1.2s,mb4.7
AAK Ala-Archa 35.38 338 *e*P **P 11 30 17.6 +0.5**
comp=Z,12nm,1.2s,mb4.7
MK31 Makanchi Array 37.06 349 *e*P **P 11 30 31.7 +0.2**
MKAR Makanchi Array 37.06 349 P **P 11 30 30.4 -1.1**
comp=Z,0.9nm,0.5s,mb3.8,baz=163,slow=8.5,SNR=11
MKAR LR LR 11 47 10.4
comp=Z,417nm,21.4s,MS4.2,baz=172,slow=39
MKAR Makanchi Array 37.06 349⇑*e*P **P 11 30 31.7 +0.2**
JOW Kunigami 38.11 60 LR LR 11 48 55.0
comp=Z,348nm,18.9s,MS4.2,baz=161,slow=41
SONM Songino Array 39.24 16 P **P 11 30 48.3 -1.5**
comp=Z,1.5nm,0.8s,mb3.8,baz=198,slow=8.4,SNR=8.2
SONM LR LR 11 49 26.9
comp=Z,230nm,19.8s,MS4.0,baz=293,slow=40
ZAK Zakamensk 40.92 11 *e*P sP 11 31 21.2 +6.7
ZAL Zalesovo 43.69 354 P **P 11 31 25.2 -1.1**
comp=Z,1.1nm,0.4s,mb4.0,baz=248,slow=5.5,SNR=7.4
ZAL LR LR 11 54 03.2
comp=Z,397nm,18.2s,MS4.4,baz=39,slow=42
ZAL Zalesovo 43.69 354 *i* P **P 11 31 26.6 +0.3**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
FITZ Fitzroy Crossi 43.93 130 LR LR 11 50 55.3
comp=Z,572nm,19.5s,MS4.5,baz=9.8,slow=38
HIA Hailar 45.16 26 *e*P **P 11 31 44.2 +6.2**
AKTK Aktyubinsk 48.52 332 P **P 11 32 03.6 -0.7**
AKTO Aktyubinsk 48.52 332 P **P 11 32 03.6 -0.7**
comp=Z,1.0nm,0.5s,mb4.2,baz=88,slow=10,SNR=4.9
MJAR Matsushiro Arr 49.29 50 P **P 11 32 14.9 +4.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=223,slow=7.7,SNR=5.2
MJAR LR LR 11 55 34.3
comp=Z,271nm,18.2s,MS4.3,baz=255,slow=40
JHJ Hachijo jima 2 49.49 55 LR LR 11 53 11.2
comp=Z,130nm,19.2s,MS3.9,baz=65,slow=36
NWAO Narrogin (SRO) 49.56 152 P **P 11 32 08.0 -4.3**
comp=Z,2.9nm,0.6s,mb4.5,baz=319,slow=11,SNR=3.4
NWAO Narrogin (SRO) 49.56 152 P **P 11 32 08.0 -4.3**
BOD Bodaibo 50.24 15 *e*P **P 11 32 16.7 -0.7**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
GNI Garni 50.90 314⇑*e*P **P 11 32 24.3 +1.9**
GNI pmax pmax
comp=Z,20nm,1.5s
WRA Warramunga Arr 51.73 126 P **P 11 32 24.6 -4.1**
comp=Z,2.5nm,0.4s,mb4.5,baz=305,slow=8.5,SNR=12
WB2 Warramunga Arr 51.74 126 *e*P **P 11 32 26.4 -2.3**
GUMO Guam 52.02 81 LR LR 11 53 50.2
comp=Z,178nm,18.9s,MS4.1,baz=107,slow=36
ASAR Alice Springs 53.43 130 P **P 11 32 37.0 -4.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=305,slow=7.6,SNR=11
KIV Kislovodsk 53.78 317⇑*e*P **P 11 32 43.1 -0.7**
KIV pmax pmax
comp=Z,9.0nm,2.0s,mb4.3
KMBO Kilima Mbogo 55.36 261 LR LR 11 55 08.2
comp=Z,307nm,18.3s,MS4.4,baz=92,slow=34
YAK Yakutsk 58.34 20⇑*e*P **P 11 33 21.5 +5.1**

BRTR Keskin Array B 58.91 310 P P 11 33 16.9 -3.5
comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=9.2,SNR=3.4
BRTR LR LR 12 02 02.2
comp=Z,110nm,19.4s,MS4.0,baz=119,slow=39
BRTR Keskin Array B 58.91 310⇑ *eP* **P 11 33 23.0 +2.6**
OBN Obninsk 61.90 328⇑ *eP* **P 11 33 40.9 +0.1**
OBN pmax pmax
comp=Z,17nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
STKA Stephens Creek 63.64 133 P P 11 33 48.9 -3.5
comp=Z,1.4nm,0.6s,mb4.2,baz=300,slow=5.6,SNR=5.2
STKA Stephens Creek 63.64 133 *eP* **P 11 33 53.3 +0.9**
AKASG Malin Array Be 64.62 321 LR LR 12 06 31.4
comp=Z,81nm,19.0s,MS3.9,baz=95,slow=40
AKASG Malin Array Be 64.62 321 *i P* **P 11 33 54.7 -4.2**
FINES FINESS Array B 69.29 332 P P 11 34 26.5 -2.0
comp=Z,3.6nm,1.1s,mb4.2,baz=98,slow=6.0,SNR=2.6
FINES LR LR 12 09 16.7
comp=Z,194nm,18.8s,MS4.4,baz=287,slow=40
ARCES ARCESS Array B 72.01 340 LR LR 12 08 30.2
comp=Z,385nm,19.9s,MS4.7,baz=254,slow=38
GERES GERESS Array B 74.28 318 P P 11 34 57.8 -0.7
comp=Z,0.8nm,1.0s,mb3.6,baz=100,slow=10,SNR=3.3
BILL Bilibino 74.59 22 *eP* **P 11 35 01.9 +1.6**
BILL pmax pmax
comp=Z,39nm,2.5s,mb4.9
BOSA Boshof 74.95 237 P P 11 35 04.7 +2.3
comp=Z,2.8nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=4.3
BOSA Boshof 74.95 237 P P 11 35 04.7 +2.3
NOA NORSAR Array B 76.29 330 P P 11 35 10.7 +0.6
comp=Z,0.9nm,0.9s,mb3.7,baz=99,slow=5.7,SNR=2.8
NOA LR LR 12 13 51.2
comp=Z,136nm,18.3s,MS4.3,baz=80,slow=40
MAW Mawson 80.60 191 P P 11 35 33.2 -0.7
comp=Z,1.3nm,1.0s,mb3.8,baz=18,slow=6.4,SNR=2.5
JMIC Jan Mayen 83.48 341 LR LR 12 18 34.6
comp=Z,173nm,18.9s,MS4.5,baz=86,slow=40
TORD Torodi Ar. Bea 87.66 283 P P 11 36 09.1 -0.6
comp=Z,0.5nm,0.7s,mb3.8,baz=65,slow=3.8,SNR=2.9
RPZ Rata Peaks 89.59 135 LR LR 12 15 29.3
comp=Z,344nm,20.2s,MS4.8,baz=292,slow=35
DBIC Dimbokro 95.20 278 LR LR 12 15 58.6
comp=Z,107nm,20.9s,MS4.3,baz=67,slow=33
VNDA Vanda 95.95 168 P P 11 36 50.0 +1.8
comp=Z,0.4nm,0.7s,mb3.9,baz=297,slow=14,SNR=3.7
VNDA LR LR 12 12 06.9
comp=Z,307nm,19.9s,MS4.8,baz=246,slow=31
NVAR Mina Array Bea 123.86 28 PKP PKPdf 11 42 18.4 -0.9
comp=Z,0.3nm,0.6s,baz=338,slow=2.1,SNR=3.2
PLCA Paso Flores 146.02 205 PKPbc PKPbc 11 43 02.5 +1.4
comp=Z,2.1nm,0.8s,baz=58,slow=11,SNR=5.0
CPUP Villa Florida 146.77 237 PKPbc PKPbc 11 43 02.0 -1.2
comp=Z,0.3nm,0.3s,baz=135,slow=4.3,SNR=2.3
PCRV Puerto La Cruz 148.77 310 PKPbc PKPbc 11 43 09.6 +0.9
comp=Z,2.7nm,0.5s,baz=291,slow=1.1,SNR=4.3
CFAA Coronel Fontan 151.94 219 PKPbc PKPbc 11 43 17.4 +1.2
comp=Z,0.2nm,0.6s,baz=200,slow=3.9,SNR=5.1

IDC 22 11:26:30.9±1.9, 282N×12680E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=115.2km s-min=24.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.82**	**183**	P	P	11 31 14.5	+0.6
	1.0nm,0.5s,baz=6.7,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**23.80**	**162**	P	P	11 31 45.3	-0.2
	1.1nm,0.4s,baz=340,slow=10,SNR=33						
ASAR	**Alice Springs**	**27.22**	**166**	P	P	11 32 17.0	+0.6
	0.6nm,0.3s,baz=345,slow=11,SNR=16						
MKAR	**Makanchi Array**	**58.34**	**326**	P	P	11 36 27.8	+0.1
	0.4nm,0.4s,baz=112,slow=7.7,SNR=5.7						

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*HLW **22** 11:28:47.7, 2995N×3680E, h15km, Mb3.1*
*ISCJB **22** 11:28:51.0±1.3, 2983N±005×3628E±009, h0km, Error ellipse: s-maj=10.9km s-min=7.5km az=29.4*
*GII **22** 11:28:52.7±1.4, 2990N×3618E, h0km±7km, ML1.9/4*
*CSEM **22** 11:28:53.5±0.2, 2981N×3609E, h2km, ML1.9, Error ellipse: s-maj=5.3km s-min=3.0km az=101.0, Mining explosion.*
ISC 22 11:28:51.0±1.3, 2982N±006×3634E±009, h0km, n15, σ0°73/18, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.15**	**281**	Pg	**Pg**	**11 29 12.3**	**-0.7**
EIL	**Elat**	**1.21**	**263**	Pg	**Pg**	**11 29 14.5**	**+0.3**
EIL				Sg	**Sg**	**11 29 31.4**	**+1.4**
ZFRI	**Zfri**	**1.24**	**306**	Pg	**Pg**	**11 29 13.7**	**-1.1**
ZFRI				Sg	**Sg**	**11 29 30.5**	**-0.3**
PRNI	**Paran**	**1.27**	**295**	Pg	**Pg**	**11 29 14.4**	**-0.9**
KMTI	**Karmit**	**1.43**	**282**	Pg	**Pg**	**11 29 17.8**	**-0.5**
HBST	**Basata**	**1.52**	**247**	P	**Pn**	**11 29 19.5**	**+0.1**
RMNI	**Mount Ramon**	**1.57**	**300**	Pn	**Pn**	**11 29 19.5**	**-0.6**
MZDA	**Masada**	**1.71**	**331**	Pn	**Pn**	**11 29 22.1**	**+0.1**
YTIR	**Yattir**	**1.86**	**326**	Pn	**Pn**	**11 29 24.2**	**+0.1**
DSI	**Dead Sea**	**1.93**	**335**	Pn	**Pn**	**11 29 25.6**	**+0.6**
DSI				Sn	**Sn**	**11 29 51.8**	**+1.8**
HNKL	**Nakhl**	**2.05**	**274**	P	**Pn**	**11 29 26.9**	**+0.2**
HKAT	**Jabal Katrina**	**2.42**	**238**	P	**Pn**	**11 29 32.1**	**+0.2**
TR2		**2.70**	**239**	P	**Pn**	**11 29 35.7**	**+0.1**
AMAG	**Maghara**	**2.83**	**288**	P	**Pn**	**11 29 36.5**	**-0.9**
SUZ		**3.04**	**271**	P	**Pn**	**11 29 40.7**	**+0.3**

CASC 22 11:32:59.5±2.0, 894N×8287W, h13km±8km, MD3.8, MW3.5, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.12**	**111⇑**	*iP*	Pg	11 33 03.3	+0.7
BRU2	**Volcan**	**0.23**	**129**	*eP*	Pg	11 33 04.9	+0.5
ACR	**Cerro Adams**	**0.41**	**226⇓**	*eP*	Pg	11 33 07.1	-0.6
ACR				*eS*	Sg	11 33 13.9	+0.8
CNI	**Changuinola**	**0.59**	**36⇓**	*iP*	Pg	11 33 11.1	+0.1
CNI				*eS*	Sg	11 33 19.2	+0.4
DVD	**David**	**0.65**	**140**	*eP*	Pg	11 33 11.5	-0.7
DVD				*eS*	Sg	11 33 19.7	-1.0
LCR2	**La Lucha 2**	**1.37**	**306**	*eP*	Pn	11 33 23.8	-0.5
LCR2				*eS*	Sn	11 33 42.5	+0.1
PRS1	**Puriscal**	**1.76**	**306⇓**	*eP*	Pn	11 33 29.4	-0.2
PRS1				*eS*	Sn	11 33 53.1	+1.2
PTP	**Ponta Puerca**	**19.13**	**59**	*eP*		11 33 15.1	
PTP				*eS*		11 33 24.5	

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*ISCJB **22** 11:43:03.0±4.9, 62S±02×1477E±04, h45km±35km, mb4.0/3, MS4.1/1, Error ellipse: s-maj=60.4km s-min=35.5km az=166.2*
*NEIC **22** 11:43:03.8±4.5, 6.13S×14787E, h44km±32km, mb4.3/1, Error ellipse: s-maj=42.0km s-min=35.7km az=157.0*
*IDC **22** 11:43:06.5±7.3, 630S×14795E, h63km±55km, mb3.8/3, mb1 4.0/5, mb1mx3.5/14, mbtmp4.0/5, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/26, Error ellipse: s-maj=59.1km s-min=48.1km az=83.0*
ISC 22 11:43:01.6±6.6, 61S±02×1477E±03, h15km±50km, n11, σ0°55/10, mb4.0/3, MS4.1/1, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**189**	P	**Pn**	**11 43 53.5**	**+0.6**
	6.7nm,0.3s,baz=3.6,slow=9.7,SNR=19						
PMG				S	**Sn**	**11 44 32.0**	**+0.1**
	5.8nm,0.3s,baz=165,slow=20,SNR=3.0						
PMG				LR	LR	11 45 31.5	
	comp=Z,215nm,18.6s,baz=250,slow=46						
WB2	**Warramunga Arr**	**18.90**	**222**	*eP*	**Pn**	**11 47 21.6**	**-0.6**
WRA	**Warramunga Arr**	**18.91**	**222**	P	**Pn**	**11 47 21.6**	**-0.7**
	0.5nm,0.3s,baz=51,slow=10,SNR=30						
AS31	**Alice Springs**	**21.92**	**216**	*eP*	**P**	**11 47 54.6**	**+0.2**
AS31				*eP*		11 47 54.7	
ASAR	**Alice Springs**	**21.92**	**216**	P	**P**	**11 47 54.5**	**+0.1**
	2.6nm,0.4s,mb4.0,baz=52,slow=8.9,SNR=141						
ASPA	**Alice Springs**	**21.92**	**216**	*eP*	**P**	**11 47 54.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.60**	**239**	*eP*	**P**	**11 48 22.2**	**+1.0**
	8.4nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.60**	**239**	P	**P**	**11 48 21.9**	**+0.7**
	3.4nm,0.5s,mb4.1,baz=71,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**26.25**	**192**	P	**P**	**11 48 35.4**	**-0.8**
	1.2nm,0.4s,mb3.8,baz=31,slow=13,SNR=4.1						

RAO	**Raoul Island**	**39.76**	**130**	LR	LR	12 02 49.0	
	comp=Z,283nm,20.6s,MS4.1,baz=73,slow=30						
TORD	**Torodi Ar. Bea**	**145.80**	**284**	PKPbc	PKPbc	12 02 39.9	-0.3
	0.3nm,0.6s,baz=84,slow=3.9,SNR=4.6						

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*ISCJB **22** 11:54:35.6±1.1, 194S±01×17798W±009, h390km±15km, mb4.0/16, Error ellipse: s-maj=18.2km s-min=10.9km az=116.7*
*NEIC **22** 11:54:37.6±1.2, 1934S×17791W, h404km±13km, mb4.2/8, Error ellipse: s-maj=16.7km s-min=9.8km az=144.0*
*IDC **22** 11:54:44.0±2.0, 1951S×17807W, h468km±23km, mb3.6/11, mb1 3.8/13, mb1mx3.7/19, mbtmp4.4/13, Error ellipse: s-maj=17.4km s-min=10.8km az=155.0*
ISC 22 11:54:39.5±2.0, 195S±01×1779W±01, h419km±23km, n32, σ0°90/31, mb4.0/16, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.07**	**48**	P	**P**	**11 56 31.6**	**-3.8**
	3.6nm,0.3s,baz=209,slow=22,SNR=5.2						
AFI				S	**S**	**11 58 02.9**	**-7.4**
	6.9nm,0.3s,baz=138,slow=23,SNR=8.2						
DZM	**Mont Dzumac**	**14.85**	**257**	P	**P**	**11 57 51.5**	**+1.8**
	0.3nm,0.3s,baz=104,slow=20,SNR=5.9						
URZ	**Urewera**	**19.23**	**192**	P	**P**	**11 58 34.6**	**-0.9**
	1.2nm,0.3s,baz=281,slow=7.1,SNR=6.5						
RPZ	**Rata Peaks**	**25.89**	**199**	P	**P**	**11 59 35.7**	**0.0**
	6.5nm,0.7s,mb4.2,baz=284,slow=4.2,SNR=2.7						
CNB	**Canberra Magne**	**32.87**	**235**	*eP*	**P**	**12 00 38.0**	**+1.4**
	20nm,1.5s,mb4.2						
CTA	**Charters Tower**	**33.67**	**263**	*eP*	**P**	**12 00 42.7**	**-0.7**
	4.8nm,0.4s,mb4.2						
CTA	**Charters Tower**	**33.67**	**263**	P	**P**	**12 00 44.0**	**+0.6**
	5.4nm,0.4s,mb4.3,baz=85,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**38.31**	**243⇑**	*iP*	**P**	**12 01 22.8**	**+0.6**
	1.9nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**38.31**	**243**	P	**P**	**12 01 22.9**	**+0.7**
	1.9nm,0.4s,mb3.8,baz=88,slow=11,SNR=8.1						
WB2	**Warramunga Arr**	**44.81**	**261⇑**	*iP*	**P**	**12 02 13.0**	**-1.1**
WRA	**Warramunga Arr**	**44.82**	**261**	P	**P**	**12 02 13.8**	**-0.4**
	7.4nm,0.5s,mb4.3,baz=98,slow=5.9,SNR=263						
WRA				S	**S**	**12 08 15.2**	**-4.4**
	0.4nm,0.9s,baz=95,slow=13,SNR=2.4						
AS31	**Alice Springs**	**44.83**	**256**	*eP*	**P**	**12 02 14.4**	**+0.1**
AS31				*eP*		12 02 14.4	
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**12 02 14.5**	**+0.2**
	26nm,0.6s,mb4.8,baz=90,slow=8.4,SNR=405						
ASAR				S	**S**	**12 08 16.9**	**-2.8**
	0.6nm,0.9s,baz=88,slow=15,SNR=4.2						
ASPA	**Alice Springs**	**44.83**	**256**	*eP*	**P**	**12 02 14.4**	**+0.1**
KAKA	**Kakadu**	**48.03**	**270**	*eP*	**P**	**12 02 37.9**	**-0.8**
	4.3nm,0.5s,mb4.0						
FORT	**Forrest**	**49.77**	**246**	*eP*	**P**	**12 02 51.1**	**-0.7**
	8.7nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	*eP*	**P**	**12 03 17.3**	**+0.3**
	8.3nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**	**12 03 17.1**	**+0.1**
	4.7nm,0.5s,mb4.0,baz=95,slow=4.7,SNR=35						
KLBR	**Kellerberrin**	**58.56**	**244**	*eP*	**P**	**12 03 53.8**	**-0.4**
	44nm,1.6s,mb4.5						
VNDA	**Vanda**	**58.95**	**185**	P	**P**	**12 03 57.3**	**+0.5**
	0.5nm,0.6s,mb3.0,baz=352,slow=8.4,SNR=5.4						
MUN	**Mundaring**	**59.84**	**244**	*eP*	**P**	**12 04 15.9**	**+13**
MJAR	**Matsushiro Arr**	**69.41**	**323**	P	**P**	**12 05 03.3**	**-0.5**
	2.1nm,0.5s,mb4.0,baz=156,slow=5.6,SNR=13						
QSPA	**South Pole Qui**	**70.61**	**180**	*eP*	**P**	**12 05 10.8**	**-0.3**
	4.0nm,0.7s,mb4.1						
NVAR	**Mina Array Bea**	**80.22**	**43**	P	**P**	**12 06 05.7**	**+0.7**
	1.1nm,0.6s,mb3.7,baz=227,slow=8.1,SNR=14						
TXAR	**Lajitas Array**	**86.44**	**57**	P	**P**	**12 06 37.8**	**+1.6**
	2.1nm,0.8s,mb3.9,baz=217,slow=7.8,SNR=8.5						
PDAR	**Pinedale Array**	**88.16**	**43**	P	**P**	**12 06 44.8**	**+0.5**
	1.2nm,0.9s,mb3.6,baz=209,slow=2.3,SNR=8.8						
VNA3	**Neumayer Olymp**	**89.17**	**176**	*e*	**P**	**12 06 48.6**	**-0.4**
VNA3				*e*		12 06 49.3	
VNA3				*e*		12 06 50.7	
VNA2	**Neumayer--Watz**	**89.62**	**177**	*e*	**P**	**12 06 50.9**	**-0.2**
VNA2				*e*		12 06 52.1	
EKA	**Eskdalemuir Ar**	**143.97**	**5**	PKP	PKPdf	12 13 23.6	-2.4
	1.0nm,0.4s,baz=320,slow=3.0,SNR=11						
BRTR	**Keskin Array B**	**146.18**	**313**	PKPbc	PKPbc	12 13 31.0	-0.6
	1.1nm,0.6s,baz=121,slow=3.9,SNR=8.5						
GERES	**GERESS Array B**	**149.22**	**345**	PKPbc	PKPbc	12 13 38.6	-0.9
	1.7nm,0.9s,baz=24,slow=1.6,SNR=8.5						
DAVOX	**Davos/Dischmat**	**152.00**	**349**	PKPbc	PKPbc	12 13 45.7	-0.3
	3.3nm,0.6s,baz=151,slow=23,SNR=6.4						

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*CSEM **22** 12:01:48.7, 67.17N×2058E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **22** 12:01:48.7, 67.17N×2058E, h0km, ML2.8, Suspected Mining explosion.*
HEL 22 12:01:49.6±0.3, 6717N×2058E, h0km, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.04**	**185**	*iP*	Pg	12 01 49.7	-0.8
MASU	**Masugnsbyn**	**0.62**	**61**	*iP*	Pg	12 02 00.1	-1.4
KUA	**Kurravaara**	**0.80**	**353**	*iP*	Pg	12 02 04.3	-0.6
ERTU	**Ertsjaerv**	**0.89**	**133**	*iP*	Pg	12 02 06.4	-0.1
HARU	**Harads**	**1.02**	**171**	*eP*	Pg	12 02 08.6	-0.5
SJUU	**Sjulsmark**	**1.72**	**166**	*eP*	Pn	12 02 18.6	-2.1
KIF	**Kilpisjarvi**	**1.85**	**2**	*eP*	Pn	12 02 22.1	-0.4
KIF				*eS*	Sn	12 02 48.1	+1.4
LILU	**Lilltraesk**	**1.91**	**189**	*eP*	Pn	12 02 24.1	+0.7
SGF	**Sodankyl**	**2.32**	**80**	*eP*	Pn	12 02 29.3	+0.2
SGF				*eSB*	Sb	12 02 59.6	-2.0

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*ISCJB **22** 12:11:08.3±1.7, 628S±008×1287E±01, h227km±17km, mb2.8/2, Error ellipse: s-maj=23.1km s-min=12.5km az=146.1*
*IDC **22** 12:11:15.6±4.3, 663S×12823E, h285km±46km, mb2.7/2, mb1 3.2/5, mb1mx3.1/14, mbtmp3.8/5, Error ellipse: s-maj=64.7km s-min=14.7km az=71.0*
*NEIC **22** 12:11:17.7±1.8, 668S×12841E, h315km±22km, mb3.9/3, Error ellipse: s-maj=30.4km s-min=15.5km az=67.0*
ISC 22 12:11:15.2±1.5, 658S±008×1284E±02, h282km±17km, n12, σ1°07/19, mb2.8/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.27**	**147**	*eP*	**Pn**	**12 13 01.3**	**+1.8**
	4.2nm,0.5s						
KAKA				*eS*	**S**	**12 14 16.8**	**-6.9**
FITZ	**Fitzroy Crossi**	**11.77**	**193**	*eP*	**Pn**	**12 13 56.0**	**+0.9**
	2.0nm,0.3s						
FITZ				*eS*	**S**	**12 16 06.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.77**	**193**	P	**Pn**	**12 13 55.3**	**+0.2**
	0.3nm,0.3s,baz=21,slow=9.9,SNR=11						
FITZ				S	**S**	**12 16 05.4**	**-0.9**
	0.1nm,0.3s,baz=203,slow=12,SNR=2.2						
WRAB	**Tennant Creek**	**14.47**	**157**	*eP*	**Pn**	**12 14 27.2**	**-0.6**
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**14.47**	**157**	P	**Pn**	**12 14 26.5**	**-1.3**
	0.8nm,0.3s,baz=330,slow=13,SNR=70						
WRA				S	**S**	**12 17 04.9**	**-1.9**
	0.1nm,0.3s,baz=331,slow=20,SNR=4.0						
WB2	**Warramunga Arr**	**14.48**	**157**	*eP*	**Pn**	**12 14 26.8**	**-1.1**
WB2				*eS*	**S**	**12 17 13.2**	**+6.3**
WB2	**Warramunga Arr**	**14.48**	**157**	*eP*	**Pn**	**12 14 27.4**	**-0.6**
WB2				*eS*	**S**	**12 17 13.2**	**+6.3**
AS31	**Alice Springs**	**17.79**	**163**	*eP*	**P**	**12 15 03.6**	**+0.1**
ASAR	**Alice Springs**	**17.79**	**163**	P	**P**	**12 15 03.9**	**+0.4**
	1.2nm,0.3s,baz=345,slow=12,SNR=166						
ASAR				S	**S**	**12 18 15.1**	**+2.0**
	0.1nm,0.3s,baz=339,slow=26,SNR=4.4						
ASPA	**Alice Springs**	**17.79**	**163**	*eP*	**P**	**12 15 03.7**	**+0.2**
SONM	**Songino Array**	**57.56**	**343**	P	**P**	**12 20 36.1**	**+0.5**
	0.2nm,0.7s,mb2.7,baz=167,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**67.02**	**327**	P	**P**	**12 21 37.5**	**-0.6**
	0.1nm,0.4s,mb2.9,baz=127,slow=6.8,SNR=4.2						

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*ISCJB **22** 12:11:28.0±0.5, 6705N±003×2063E±008, h0km, Error ellipse: s-maj=5.7km s-min=3.5km az=87.0*
*IDC **22** 12:11:32.7±0.8, 6716N×2113E, h0km, mb1 2.9/4, mb1mx2.8/23, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=15.9km s-min=6.1km az=115.0*
*NAO **22** 12:11:32.4±1.2, 6715N×2109E, ML2.2*

*BER **22** 12:11:33.9±3.5, 6722N×2064E, h0km, ML2.0, Suspected explosion*
*HEL **22** 12:11:33.1±0.2, 6722N×2077E, h0km, ML2.3, ML2.0(BER), Suspected explosion*
ISC 22 12:11:30.2±0.4, 6709N±002×2066E±007, h0km, n23, σ1°55/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.93**	**1**	*eP*	**Pn**	**12 12 05.2**	**+0.9**
KIF				*eS*	**Sn**	**12 12 30.5**	**+1.3**
KTK1	**Kautokeino**	**2.16**	**25**	*eP*	**Pn**	**12 12 09.1**	**+1.6**
KTK1				*eSg*	**Sg**	**12 12 38.4**	**-1.4**
KTK1				AML	AML	12 12 41.4	
	comp=Z,21nm,0.4s						
SGF	**Sodankyl**	**2.31**	**78**	*ePB*	**Pb**	**12 12 11.9**	**-0.8**
SGF				*eSG*	**Sg**	**12 12 42.4**	**-2.0**
TRO	**Tromso**	**2.64**	**347**	*eSg*	**Sg**	**12 12 50.3**	**-4.7**
TRO				AML	AML	12 12 54.0	
	comp=Z,9.8nm,0.5s						
MOR8	**Moi Rana**	**2.65**	**253**	*eSg*	**Sg**	**12 12 51.5**	**-3.7**
MOR8				AML	AML	12 12 53.5	
	comp=Z,18nm,0.5s						
OUL	**Oulu**	**2.93**	**131**	*eSB*	**Sb**	**12 13 02.4**	**+2.7**
OUL				MSG		12 13 07.7	
	comp=Z,9.7nm,0.4s						
ARA0	**ARCESS Array S**	**3.05**	**34**	Pn	**Pn**	**12 12 20.4**	**+0.8**
	baz=211,slow=14						
ARA0				Sn	**Sn**	**12 12 55.7**	**-1.1**
	baz=213,slow=28						
ARA0				Lg		12 13 02.6	
	baz=211,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**34**	*eP*	**Pn**	**12 12 20.4**	**+0.8**
ARA0				*eS*	**Sn**	**12 12 55.7**	**-1.1**
ARA0				*eSG*	**Sg**	**12 13 02.6**	**-5.5**
ARCES	**ARCESS Array B**	**3.05**	**34**	Pn	**Pn**	**12 12 20.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=211,slow=13,SNR=22						
ARCES				Pg	**Pg**	**12 12 24.0**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=210,slow=14,SNR=20						
ARCES				Lg		12 13 01.8	
	comp=Z,2.5nm,0.3s,baz=217,slow=32,SNR=8.3						
MSF	**Maaselka**	**3.56**	**106**	*eSG*	**Sg**	**12 13 22.3**	**-2.3**
MSF				MSG		12 13 24.9	
	comp=Z,6.7nm,0.4s						
KEV	**Kevo**	**3.56**	**38**	*eP*	**Pn**	**12 12 27.0**	**+0.2**
KEV				*eS*	**Sn**	**12 13 08.1**	**-1.4**
KU4	**Liikasenvaara**	**3.61**	**97**	*eSG*	**Sg**	**12 13 26.6**	**+0.2**
KU4				MSG		12 13 29.1	
	comp=Z,5.8nm,0.3s						
KU6	**Riekki**	**3.84**	**102**	*eS*	**Sn**	**12 13 17.7**	**+1.4**
NSS	**Namsos**	**4.40**	**238**	*eSg*	**Sg**	**12 13 52.3**	**+0.6**
NSS				AML	AML	12 13 53.8	
	comp=Z,9.6nm,0.5s						
FIA0	**FINESS Array S**	**6.13**	**155**	Pn	**Pn**	**12 13 05.4**	**+3.2**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**12 14 14.3**	**+1.3**
	baz=347,slow=28						
FIA0				Lg		12 14 45.4	
	baz=352,slow=28						
FIA0	**FINESS Array S**	**6.13**	**155**	*eP*	**Pn**	**12 13 05.4**	**+3.2**
FIA0				*eS*	**Sn**	**12 14 14.3**	**+1.3**
FIA0				*eSG*	**Sg**	**12 14 45.4**	**-1.9**
FINES	**FINESS Array B**	**6.13**	**155**	Pn	**Pn**	**12 13 05.1**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=4.7						
FINES				Pg	**Pg**	**12 13 22.5**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=18,SNR=4.9						
FINES				Sn	**Sn**	**12 14 13.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=346,slow=24,SNR=7.3						
FINES				Lg		12 14 46.9	
	comp=Z,0.6nm,0.3s,baz=346,slow=29,SNR=6.5						
NB2	**NORSAR Subarra**	**7.34**	**219**	Lg		12 15 24.3	
NB2	**NORSAR Subarra**	**7.34**	**219**	*eSG*	**Sg**	**12 15 24.3**	**-1.7**
NOA	**NORSAR Array B**	**7.34**	**219**	Pn	**Pn**	**12 13 22.0**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=2.7						
NOA				Sn	**Sn**	**12 14 41.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=17,SNR=2.8						
NOA				Lg		12 15 29.9	
	comp=Z,0.5nm,0.3s,baz=323,slow=18,SNR=3.3						
HFS	**Hagfors**	**7.63**	**207**	Sn	**Sn**	**12 14 49.9**	**0.0**
	baz=29,slow=28						
HFS				Lg		12 15 33.6	
	baz=22,slow=37						
HFS	**Hagfors**	**7.63**	**207**	Pn	**Pn**	**12 13 24.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=3.0						
HFS				Sn	**Sn**	**12 14 50.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=35,slow=27,SNR=7.2						
HFS	**Hagfors**	**7.63**	**207**	*eS*	**Sn**	**12 14 49.9**	**0.0**
HFS				*eSG*	**Sg**	**12 15 33.6**	**-1.8**

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*CSEM **22** 12:14:36.5, 67.17N×2070E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **22** 12:14:36.5, 67.17N×2070E, h0km, ML2.8, Suspected Mining explosion.*
HEL 22 12:14:37.1±0.1, 6717N×2069E, h0km, ML1.1, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**225**	*iP*	Pg	12 14 38.1	-0.3
MASU	**Masugnsbyn**	**0.58**	**60**	*iP*	Pg	12 14 47.3	-0.9
KUA	**Kurravaara**	**0.80**	**350**	*iP*	Pg	12 14 51.6	-0.8
ERTU	**Ertsjaerv**	**0.86**	**136**	*iP*	Pg	12 14 53.2	-0.3
PAJU	**Pajala**	**0.96**	**98**	*eP*	Pg	12 14 54.3	-1.2
LANU	**Lannavaara**	**1.01**	**29**	*eP*

HTY	**Hatay**	**2.08**	**249**	*e*PN	**Pn**	**12 19 20.7**	**-0.1**
PTK	**Pertek**	**2.11**	**19**	PN	**Pn**	**12 19 21.0**	**-0.3**
KFRA	**Kufra**	**2.19**	**220**	⇓*i*P	**Pn**	**12 19 24.0**	**+1.7**
KFRA	**Kufra**	**2.19**	**220**	⇓P	**Pn**	**12 19 24.0**	**+1.7**
KFRA				⇓S	**Sn**	**12 19 48.0**	**-1.5**
WRDH	**Warideh**	**2.20**	**232**	⇓*i*P	**Pn**	**12 19 22.8**	**+0.2**
WRDH	**Warideh**	**2.20**	**232**	⇓P	**Pn**	**12 19 22.0**	**-0.6**
WRDH				⇓S	**Sn**	**12 19 49.0**	**-0.9**
CEYT	**Ceyhan**	**2.23**	**274**	*e*PN	**Pn**	**12 19 22.5**	**-0.5**
KOZT	**Kozan**	**2.24**	**286**	PN	**Pn**	**12 19 21.9**	**-1.2**
SLNF	**Slenfeh**	**2.27**	**236**	⇓*i*P	**Pn**	**12 19 25.5**	**+2.0**
SLNF	**Slenfeh**	**2.27**	**236**	⇓P	**Pn**	**12 19 25.0**	**+1.5**
SLNF				⇓S	**Sn**	**12 19 52.0**	**+0.4**
ARNB	**Al Arnab**	**2.31**	**244**	⇓*i*P	**Pn**	**12 19 25.6**	**+1.6**
ARNB	**Al Arnab**	**2.31**	**244**	⇓P	**Pn**	**12 19 25.0**	**+1.0**
ARNB				⇓S	**Sn**	**12 19 53.0**	**+0.5**
BINT	**Bingol**	**2.51**	**37**	*e*PN	**Pn**	**12 19 25.8**	**-1.0**
KRTS	**Karatas**	**2.56**	**264**	*e*PN	**Pn**	**12 19 26.9**	**-0.5**
BIDA	**Albida**	**2.60**	**224**	⇑*i*P	**Pn**	**12 19 28.0**	**0.0**
BIDA	**Albida**	**2.60**	**224**	⇑P	**Pn**	**12 19 27.0**	**-1.0**
BIDA				⇑S	**Sn**	**12 19 58.0**	**-1.6**
BTMT	**Batman**	**2.68**	**60**	*e*PN	**Pn**	**12 19 26.1**	**-3.1**
KARA	**Karaisali**	**2.81**	**279**	*e*PN	**Pn**	**12 19 30.2**	**-0.7**
BNN	**Bunyan**	**2.89**	**313**	*e*PN	**Pn**	**12 19 32.1**	**+0.1**
EZC	**Erzincan**	**3.02**	**19**	*e*PN	**Pn**	**12 19 31.2**	**-2.6**
SIRT	**Sirnak**	**3.18**	**78**	*e*PN	**Pn**	**12 19 34.4**	**-1.6**
SVSK	**Karacayir**	**3.25**	**339**	*e*PN	**Pn**	**12 19 37.1**	**+0.1**
HWQ	**Hawqa**	**3.35**	**220**	*e*Pn	**Pg**	**12 19 49.0**	**-1.1**
YOZ	**Yozgat**	**3.73**	**318**	*e*PN	**Pn**	**12 19 43.8**	**+0.2**
EZM	**Erzurum**	**3.74**	**36**	*e*PN	**Pn**	**12 19 43.2**	**-0.5**
BHL	**Bhannes**	**3.80**	**219**	*e*Pn	**Pg**	**12 19 57.0**	**-1.7**

AUST ***22*** *12:36:00, 37.87S×145.03E, h10km, ML2.9*
ISC 22 12:36:37.3±1.6, 377S±02×14499E±006, h15km±8km, n5, σ0§45/10, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi** 16nm,0.3s	**0.42**	**73**	*e*P	**Pg**	**12 36 45.5**	**-0.2**
TOO				*e*S	**Sg**	**12 36 51.2**	**-0.2**
ARPS	**Mount Arapiles** 39nm,1.1s	**2.68**	**289**	*e*P	**Pn**	**12 37 20.1**	**+0.3**
ARPS				*e*S	**Sn**	**12 37 51.3**	**-0.6**
MILA	**Mila** 46nm,0.8s	**3.38**	**80**	*e*P	**Pn**	**12 37 29.7**	**+0.2**
MILA				*e*S	**Sn**	**12 38 08.8**	**-0.5**
CNB	**Canberra Magne** 27nm,1.6s	**4.25**	**57**	*e*P	**Pn**	**12 37 41.8**	**+0.4**
CNB				*e*S	**Sn**	**12 38 24.6**	**-6.2**
YNG	**Young** 5.2nm,1.7s	**4.38**	**40**	*e*P	**Pn**	**12 37 44.0**	**+0.9**
YNG				*e*S	**Sn**	**12 38 33.7**	**-0.2**

BJI ***22*** *12:37:20.8, 3653N×7053E, h203km, mB4.9, mb4.9*
MOS ***22*** *12:37:21.4±0.7, 3641N×7057E, h199km, mb4.5/5, Error ellipse: s-maj=10.9km s-min=5.8km az=88.6*
ISCJB ***22*** *12:37:22.3±0.3, 3643N±002×7068E±004, h207km±4km, mb4.0/25, Error ellipse: s-maj=5.5km s-min=2.7km az=134.7*
NEIC ***22*** *12:37:23.3±0.3, 3642N×7064E, mb4.5/9, Error ellipse: s-maj=7.1km s-min=6.0km az=65.0*
IDC ***22*** *12:37:23.6±0.8, 3641N×7063E, h210km±7km, mb3.7/17, mb1 3.9/20, mb1mx3.7/26, mbtmp4.4/20, Error ellipse: s-maj=10.2km s-min=9.6km az=2.0*
NNC ***22*** *12:37:29.8±5.8, 3698N×7062E, h214km±39km, mb3.8, mpv5.5, Error ellipse: s-maj=47.6km s-min=38.4km az=17.0*
ISC 22 12:37:23.5±0.3, 3645N±002×7067E±004, h202km±4km, h208km±4.1km: pP-P, n139, σ1§16/168, mb4.0/25, 13C-12D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**158**	⇓P	**Pn**	**12 38 13.3**	**+2.3**
CHCP	**Chirah Chowk**	**3.50**	**142**	⇓P	**Pn**	**12 38 21.7**	**+2.5**
THW	**Thamme Wali**	**3.75**	**166**	⇑P	**Pn**	**12 38 24.1**	**+1.9**
SBDP	**Sheikh Budin**	**4.14**	**178**	P	**Pn**	**12 38 26.4**	**-0.7**
SRNI	**Srinagar**	**4.14**	**123**	*e*P	**Pn**	**12 38 27.5**	**+0.4**
SRNI				*e*S	**Sn**	**12 39 14.5**	**-2.6**
DRP	**Derazinda**	**4.71**	**185**	P	**Pn**	**12 38 35.4**	**+1.2**
SARP	**Sargodha**	**4.81**	**159**	P	**Pn**	**12 38 37.0**	**+1.5**
SARP				S	**Sn**	**12 39 31.0**	**-1.3**
JMU	**Jammu**	**5.10**	**136**	*e*x	x	12 38 42.0	
JMU				*e*S	**Sn**	**12 39 36.0**	**-2.9**
JMU				*e*S	**Sn**	**12 39 36.5**	**-2.4**
THN	**Thein Dam**	**5.78**	**132**	*e*P	**Pn**	**12 38 47.8**	**-0.1**
THN				*e*S	**Sn**	**12 39 52.4**	**-2.3**
DLH	**Dalhousie**	**5.86**	**130**	*e*x	x	12 38 44.0	
DLH				*e*S	**Sn**	**12 39 51.0**	**-5.4**
AML	**Almayashu** SNR=293	**6.14**	**22**	P	**Pn**	**12 38 52.6**	**+0.1**
UCH	**Uchtor** SNR=276	**6.49**	**26**	P	**Pn**	**12 38 57.5**	**+0.5**
KK31	**Karatay Array** baz=174,slow=12	**6.65**	**359**	⇓P	**Pn**	**12 38 58.4**	**-0.6**
KK31				⇓S	**Sn**	**12 40 08.6**	**-6.3**
KZA	**Kyzart** SNR=24	**6.65**	**31**	P	**Pn**	**12 38 59.2**	**+0.1**
EKS2	**Erkin-Say** SNR=84	**6.65**	**20**	P	**Pn**	**12 38 59.2**	**+0.1**
AAK	**Ala-Archa** SNR=82	**6.84**	**24**	P	**Pn**	**12 39 02.1**	**+0.4**
AAK	**Ala-Archa** baz=167,slow=20	**6.84**	**24**	*e*PN	**Pn**	**12 39 00.9**	**-0.7**
AAK				pmax	pmax		
AAK	**Ala-Archa** comp=Z,58nm,0.4s	**6.84**	**24**	*e*Pn	**Pn**	**12 39 00.9**	**-0.7**
AAK				*e*Sn	**Sn**	**12 40 11.0**	**-8.5**
BHK	**Bhakra**	**6.93**	**135**	*e*P	**Pn**	**12 39 04.2**	**+1.5**
BHK				*e*S	**Sn**	**12 40 18.8**	**-2.7**
KBK	**Karagaybulak** SNR=35	**7.02**	**27**	P	**Pn**	**12 39 04.5**	**+0.6**
FRU	**Bishkek**	**7.06**	**24**	⇑*i*PN	**Pn**	**12 39 05.0**	**+0.5**
FRU				pmax	pmax		
FRU	comp=Z,140nm,0.9s			pmax	pmax		
SDNR	**Sundarnagar**	**7.19**	**132**	*e*P	**Pn**	**12 39 05.0**	**-1.2**
SDNR	comp=N,760μm,1.8s			*e*x	x	12 40 10.5	
ULHL	**Ulahol** SNR=73	**7.22**	**35**	P	**Pn**	**12 39 06.3**	**-0.2**
CHMS	**Chumysh** SNR=71	**7.25**	**24**	P	**Pn**	**12 39 06.7**	**-0.3**
USP	**Ospenovka** SNR=55	**7.42**	**22**	P	**Pn**	**12 39 08.2**	**-0.8**
TKM2	**Tokmak 2** SNR=78	**7.49**	**29**	P	**Pn**	**12 39 10.3**	**+0.2**
TKM2	**Tokmak 2** comp=N,134nm,0.5s	**7.49**	**29**	⇓P	**Pn**	**12 39 10.1**	**0.0**
TKM2				⇓S	**Sn**	**12 40 31.6**	**-3.3**
KNDC	**Almaty** comp=N,301nm,0.8s	**8.31**	**34**	⇑P	**Pn**	**12 39 21.2**	**+0.5**
KNDC	comp=N,223nm,1.0s			⇓S	**Sn**	**12 40 56.7**	**+2.5**
DDI	**Dehra Dun**	**8.68**	**133**	*e*P	**Pn**	**12 39 25.4**	**-0.2**
DDI				*e*S	**Sn**	**12 40 57.6**	**-5.5**
NDI	**New Delhi**	**9.51**	**143**	*e*P	**Pn**	**12 39 34.0**	**-2.3**
NDI				*e*P		12 39 35.4	
NDI				*e*S	**Sn**	**12 41 14.0**	**-8.7**
NDI				*e*S	**Sn**	**12 41 14.8**	**-7.9**
NDI				AML	AML	12 41 23.1	
NDI	comp=E,201nm,0.5s			AML	AML	12 41 25.0	
VAN	**Vannovskaya** comp=N,90nm,0.4s	**10.13**	**282**	*i* P	**Pn**	**12 39 42.0**	**-2.4**
VAN				*i* S	**Sn**	**12 41 30.0**	**-7.6**
AJM	**Ajmer**	**10.50**	**160**	*e*P	**Pn**	**12 39 48.6**	**-0.5**
AJM				AMb	AMB	12 39 49.8	
AJM	comp=Z,144nm,1.2s			*e*S	**Sn**	**12 41 40.1**	**-6.3**
AJM				AML	AML	12 41 44.2	
AJM	comp=N,122nm,0.4s			AML	AML	12 41 45.2	
PTH	comp=E,114nm,0.6s **Pithoragarh**	**10.56**	**128**	*e*P	**Pn**	**12 39 52.0**	**+2.2**
PTH				*e*x	x	12 41 46.0	
LGTI	**Lohaghat**	**10.64**	**128**	*i* P	**Pn**	**12 39 49.5**	**-1.4**
LGTI				*e*S	**Sn**	**12 41 44.3**	**-5.5**
MK31	**Makanchi Array** comp=E,48nm,0.6s,baz=227,slow=11,SNR=267	**13.49**	**36**	P	**Pn**	**12 40 26.1**	**-0.7**
MK31	**Makanchi Array**	**13.49**	**36**	*e*P	**Pn**	**12 40 26.4**	**-0.5**
MKAR	**Makanchi Array** comp=E,6.4nm,0.3s,baz=223,slow=16,SNR=113	**13.49**	**36**	P	**Pn**	**12 40 26.5**	**-0.4**
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**12 40 26.1**	**-0.8**
MKAR	comp=Z,93nm,0.8s			pmax	pmax		
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**12 40 26.5**	**-0.4**
KOLN	**Koldanda**	**13.95**	**125**	*e*Pn	**Pn**	**12 40 32.1**	**-0.6**
KOLN				*e*Sn	**Sn**	**12 42 57.9**	**-11**
BHPL	**Bhopal** comp=Z,124nm,0.6s	**14.40**	**154**	⇑*e*P	**Pn**	**12 40 37.5**	**-0.7**
BHPL				AMb	AMB	12 40 43.6	
BHPL	comp=Z,251nm,0.9s			⇑*e*x	x	12 43 00.8	
GKN	**Gorkha**	**14.50**	**122**	*e*Pn	**Pn**	**12 40 39.1**	**-0.3**
GKN				*e*Sn	**Sn**	**12 43 10.2**	**-11**
GKN	comp=Z,382nm,0.7s **Gorkha**	**14.50**	**122**	*e*Pn	**Pn**	**12 40 40.2**	**+0.8**
GKN				*e*Sn	**Sn**	**12 43 12.2**	**-9.5**
ALBI	comp=Z,340nm,0.6s **Allahabad**	**14.64**	**136**	*e*x	x	12 40 39.0	
WMQ	**Urumqi**	**14.94**	**55**	⇑*i*P	**Pn**	**12 40 45.1**	**+0.3**
WMQ				AMB	AMB		
WMQ	comp=Z,64nm,0.6s			AMB	AMB		
AB31	**Akbulak array** comp=Z,33nm,0.5s,baz=147,slow=11,SNR=356	**15.00**	**332**	P	**Pn**	**12 40 43.5**	**-2.0**
AB31				⇑S	**S**	**12 43 24.9**	**-7.2**
AB31	comp=Z,5.1nm,0.5s,baz=151,slow=22,SNR=3.5 **Akbulak array**	**15.00**	**332**	*i* P	**Pn**	**12 40 43.5**	**-2.0**
AB31				*e*		12 43 19.7	
AB31	comp=Z,16nm,0.5s			pmax	pmax		
AB31	comp=N,3.0nm,0.5s			smax			
DMN	**Daman**	**15.07**	**122**	*e*Pn	**Pn**	**12 40 46.7**	**+0.3**
DMN				*e*Sn	**S**	**12 43 24.8**	**-8.9**
KKN	comp=N,239nm,0.7s **Kakani**	**15.08**	**121**	*e*Pn	**Pn**	**12 40 46.7**	**+0.2**
KKN	**Kakani**	**15.08**	**121**	*e*Sn	**S**	**12 43 26.4**	**-7.4**
PKI	comp=N,168nm,0.7s **Pulchoki**	**15.30**	**121**	*e*Pn	**Pn**	**12 40 49.6**	**+0.4**
PKI				*e*Sn	**S**	**12 43 29.8**	**-9.1**
GUN	comp=N,184nm,0.8s **Gumba**	**15.42**	**119**	*e*Pn	**Pn**	**12 40 51.2**	**+0.5**
GUN				*e*Sn	**S**	**12 43 34.1**	**-7.5**
JIRN	comp=N,153nm,0.7s **Jiri**	**15.79**	**119**	*e*Pn	**Pn**	**12 40 56.3**	**+1.2**
VOSK	**Vostochnaya** comp=N,8.2nm,0.6s	**16.27**	**1**	⇓P	**P**	**12 41 02.2**	**+2.0**
VOSK				⇓S	**S**	**12 43 52.9**	**-7.3**
VOSK	comp=N,9.0nm,0.8s **Vostochnaya**	**16.27**	**1**	P	**P**	**12 40 59.8**	**-0.4**
VOSK						12 43 51.9	
VOSK	comp=Z,4.0nm,0.5s			pmax	pmax		
VOSK	comp=N,8.0nm,0.9s			smax			
VOSK	comp=N,29nm,1.3s			smax			
ZRNK	**Zerenda** comp=N,7.9nm,0.6s	**16.54**	**356**	⇑P	**P**	**12 41 06.7**	**+3.6**
ZRNK				⇑S	**S**	**12 43 58.5**	**-7.2**
ZRNK	comp=N,12nm,0.9s **Zerenda**	**16.54**	**356**	P	**P**	**12 41 03.3**	**+0.2**
ZRNK						12 43 57.6	
ZRNK	comp=Z,5.0nm,0.6s			pmax	pmax		
ZRNK	comp=N,12nm,1.0s			smax			
ZRNK	comp=N,46nm,1.4s			smax			
ZRNK	**Zerenda** comp=N,11nm,0.4s	**16.54**	**356**	*e*P	**P**	**12 41 03.4**	**+0.3**
ZRNK				*e*S	**S**	**12 44 01.6**	**-4.0**
BVA0	**Borovoye Array** comp=N,1.3nm,0.6s,baz=152,slow=9.6,SNR=82	**16.57**	**359**	P	**P**	**12 41 04.1**	**+0.6**
BVA0				⇑S	**S**	**12 44 02.6**	**-3.8**
BVA0	comp=N,3.9nm,1.8s,baz=152,slow=21,SNR=5.7 **Borovoye Array**	**16.57**	**359**	*i* P	**P**	**12 41 04.1**	**+0.6**
BVA0				*i*		12 44 02.5	
BVA0	comp=Z,1.0nm,0.6s			pmax	pmax		
BVA0	comp=N,7.0nm,1.8s			smax			
BVAR	**Borovoye Array** comp=N,5.2nm,0.3s,baz=158,slow=11,SNR=52	**16.57**	**359**	P	**P**	**12 41 03.9**	**+0.4**
BVAR				S	**S**	**12 44 03.5**	**-2.9**
BRVK	comp=N,1.0nm,0.3s,baz=175,slow=23,SNR=4.6 **Borovoye**	**16.61**	**359**	*e*P	**P**	**12 41 04.5**	**+0.6**
BRVK				*e*S	**S**	**12 44 01.2**	**-5.9**
BRVK	comp=Z,16nm,0.6s			pmax	pmax		
BRVK	**Borovoye** comp=Z,16nm,0.6s	**16.61**	**359**	*e*P	**P**	**12 41 04.5**	**+0.6**
BRVK				*e*S	**S**	**12 44 01.2**	**-5.9**
AKTK	**Aktyubinsk**	**16.69**	**331**	P	**P**	**12 41 05.3**	**+0.5**
AKTK				S	**S**	**12 44 04.3**	**-4.5**
AKTO	**Aktyubinsk** comp=Z,2.1nm,0.9s	**16.69**	**331**	⇓P	**P**	**12 41 04.9**	**+0.1**
AKTO				⇓S	**S**	**12 44 01.2**	**-7.5**
AKTO	comp=Z,0.9nm,1.4s **Aktyubinsk**	**16.69**	**331**	P	**P**	**12 41 05.3**	**+0.5**
AKTO	comp=Z,5.3nm,0.3s,baz=140,slow=10.0,SNR=195			S	**S**	**12 44 04.3**	**-4.5**
AKTO	comp=Z,0.1nm,0.3s,baz=38,slow=20,SNR=2.2 **Aktyubinsk**	**16.69**	**331**	P	**P**	**12 41 04.8**	**0.0**
AKTO						12 44 01.2	
AKTO	comp=Z,13nm,1.0s			pmax	pmax		
AKTO	comp=N,6.0nm,1.4s			smax			
WSAR	**Wadi Sarin** comp=N,1.0nm,0.3s,baz=66,slow=8.3,SNR=13	**16.79**	**222**	P	**P**	**12 41 07.8**	**+2.0**
WSAR	**Wadi Sarin**	**16.79**	**222**	P	**P**	**12 41 07.8**	**+2.0**
NGP	**Nagpur**	**16.91**	**152**	*e*x	x	12 41 08.9	
NGP				*e*x	x	12 41 09.3	
NGP	comp=Z,38nm,0.4s			*e*x	x	12 43 53.9	
CHKZ	**Chkalovo** comp=Z,5.9nm,0.7s	**17.23**	**360**	⇑P	**P**	**12 41 10.6**	**-0.1**
CHKZ				⇑S	**S**	**12 44 15.5**	**-4.0**
CHKZ	comp=Z,17nm,1.4s **Chkalovo**	**17.23**	**360**	P	**P**	**12 41 10.5**	**-0.1**
CHKZ						12 44 15.5	
CHKZ	comp=Z,4.0nm,0.7s			pmax	pmax		
CHKZ	comp=N,23nm,1.4s			smax			
CHKZ	comp=N,29nm,1.2s			smax			
CHKZ	**Chkalovo** comp=N,8.1nm,0.4s	**17.23**	**360**	*e*P	**P**	**12 41 10.8**	**+0.2**
CHKZ				*e*S	**S**	**12 44 14.4**	**-5.0**
POO	**Poona** comp=N,78nm,1.1s	**18.07**	**170**	⇓*i*x	x	12 41 19.0	
POO				*i* x	x	12 41 35.5	
POO				AMb	AMB	12 42 00.8	
POO	comp=Z,59nm,1.0s			*i* x	x	12 44 50.0	
BOK	**Bokaro**	**18.20**	**130**	*e*P	**P**	**12 41 22.7**	**+1.5**
BOK				AMb	AMB	12 41 24.8	
BOK	comp=Z,143nm,0.7s			*e*x	x	12 44 29.4	
LSA	**Lhasa**	**18.42**	**106**	*e*P	**P**	**12 41 28.4**	**+4.8**
LSA	**Lhasa**	**18.42**	**106**	*e*P	**P**	**12 41 28.1**	**+4.5**
LSA				pmax	pmax		
LSA	comp=Z,12nm,0.5s						
LSA	**Lhasa** comp=Z,12nm,0.5s	**18.42**	**106**	*e*Pn	**Pn**	**12 41 28.1**	**+1.9**
LATR	**Latur**	**18.70**	**162**	*e*x	x	12 41 23.8	
LATR				*e*x	x	12 44 23.8	
ORR	**Orenburg**	**18.93**	**328**	P	**P**	**12 41 29.3**	**+0.1**
ORR				pmax	pmax		
KAD	comp=Z,70nm,0.7s **Karad**	**19.32**	**170**	*e*P	**P**	**12 41 33.6**	**+0.3**
ZAL	**Zalesovo**	**20.05**	**25**	P	**P**	**12 41 41.2**	**0.0**
ZAL	comp=Z,39nm,0.5s,baz=253,slow=5.9,SNR=75			S	**S**	**12 45 12.9**	**-2.4**
HYB	comp=Z,1.5nm,0.7s,baz=15,slow=22,SNR=4.1 **Hyderabad**	**20.20**	**158**	*i* P	**P**	**12 41 44.0**	**+1.2**
HYB				*e*S	**S**	**12 45 18.0**	**-0.2**
HYB	**Hyderabad**	**20.20**	**158**	*e*P	**P**	**12 41 44.0**	**+1.2**
NVS	**Novosibirsk**	**20.32**	**21**	*e*P	**P**	**12 41 44.0**	**-0.1**
NVS				*e*S	**S**	**12 45 19.1**	**-1.4**
NVS				pmax	pmax		
NVS	comp=Z,122nm,2.1s			pmax	pmax		
NVS	comp=N,129nm,1.8s			smax			
NVS	comp=N,36nm,1.6s						
GNI	**Garni** comp=N,1.9nm,0.3s,baz=114,slow=19,SNR=2.1	**20.66**	**288**	P	**P**	**12 41 46.5**	**-1.2**
SHL	**Shillong**	**21.13**	**115**	*e*P	**P**	**12 41 52.6**	**+0.1**
SHL				*e*S	**S**	**12 45 36.5**	**+1.3**
ZEI	**Tsey**	**21.52**	**295**	*e*P	**P**	**12 41 58.6**	**+1.9**
ZEI				pmax	pmax		
ARU	comp=Z,2.0nm,0.5s,mb3.9 **Arti**	**21.59**	**342**	*e*P	**P**	**12 41 58.9**	**+1.4**
ARU				*e*SS		12 46 32.3	
VIS	**Vishakhapatnam**	**21.75**	**146**	*e*P	**P**	**12 41 59.5**	**+0.3**
VIS				AMb	AMB	12 42 02.2	
GTA	comp=Z,31nm,1.8s,mb4.5 **Gaotai**	**23.13**	**74**	P	**P**	**12 42 14.1**	**+2.4**
GTA				AMB	AMB		
MOY	comp=Z,25nm,0.7s,mb4.8 **Mondy**	**26.33**	**45**	*e*P	**P**	**12 42 42.8**	**+2.2**
ZAK	**Zakamensk**	**27.22**	**49**	*e*P	**P**	**12 42 49.9**	**+1.3**
ZAK				*e*	pP	12 43 33.6	+4.3
ZAK	comp=Z,5.0nm,1.0s,mb4.1			pmax	pmax		
ZAK	comp=Z,3.0nm,1.5s,mb3.7			pmax	pmax		
SONM	**Songino Array** comp=Z,6.7nm,0.8s,mb4.3,baz=259,slow=9.8,SNR=47	**28.58**	**55**	P	**P**	**12 43 02.5**	**+1.9**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,mb3.2,baz=99,slow=9.2,SNR=2.8	**29.20**	**288**	P	**P**	**12 43 06.3**	**+0.2**
BRTR				pP	pP	12 43 48.8	+1.7
GYA	comp=Z,1.0nm,0.8s,baz=103,slow=9.0,SNR=4.4 **Guiyang**	**32.12**	**98**	P	**P**	**12 43 33.9**	**+2.2**
GYA				AMB	AMB		
AKASG	comp=Z,10.0nm,0.8s,mb4.4 **Malin Array Be**	**32.77**	**309**	P	**P**	**12 43 37.1**	**-0.3**
AKASG				pP	pP	12 44 19.2	+0.4
BOD	comp=Z,1.4nm,0.6s,baz=87,slow=7.2,SNR=3.4 **Bodaibo**	**35.55**	**39**	*e*P	**P**	**12 44 01.2**	**-0.1**
BOD				pmax	pmax		
JOF	comp=Z,11nm,0.8s,mb4.4 **Joensuu**	**35.78**	**330**	*e*p	**P**	**12 44 03.3**	**+0.1**
JOF	comp=Z,3.5nm,0.4s,mb4.2 **Joensuu**	**35.78**	**330**	*e*P	**P**	**12 44 03.3**	**+0.1**
JOF				pmax	pmax		
FINES	comp=Z,4.0nm,0.4s,mb4.3 **FINESS Array B**	**37.38**	**326**	P	**P**	**12 44 16.8**	**0.0**
FINES				pP	pP	12 44 58.6	-0.3
KAF	comp=Z,2.2nm,0.8s,baz=123,slow=14,SNR=2.8 **Kangasniemi**	**37.52**	**327**	*e*p	**P**	**12 44 17.5**	**-0.5**
ARCES	baz=113,slow=8.3 **ARCESS Array B**	**41.09**	**338**	P	**P**	**12 44 47.8**	**+0.3**
ARCES				pP	pP	12 45 29.9	-0.4
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**12 44 47.8**	**+0.3**
ARCES				pP	pP	12 45 29.9	-0.4
PSI	**Prapat**	**42.43**	**136**	P	**P**	**12 44 58.0**	**-0.2**
YAK	comp=Z,6.6nm,0.5s,mb4.3,baz=296,slow=8.6,SNR=9.3 **Yakutsk**	**44.16**	**35**	*c i*P	**P**	**12 45 12.1**	**0.0**
YAK				pmax	pmax		
YAK	comp=Z,5.0nm,0.8s,mb3.9			pmax	pmax		
YAK	comp=N,9.0nm,1.4s			pmax	pmax		
YAK	comp=E,7.0nm,0.7s **Yakutsk**	**44.16**	**35**	*e*P	**P**	**12 45 11.9**	**-0.2**
NB2	comp=E,70nm,0.6s **NORSAR Subarra**	**44.26**	**323**	P	**P**	**12 45 12.3**	**-0.6**
NB2	comp=Z,2.2nm,0.5s,mb3.7,baz=98,slow=7.9 **NORSAR Subarra**	**44.26**	**323**	P	**P**	**12 45 12.3**	**-0.6**
NB2				pmax	pmax		
NOA	comp=Z,2.0nm,0.5s,mb3.7 **NORSAR Array B**	**44.26**	**323**	P	**P**	**12 45 12.5**	**-0.4**
NOA	comp=Z,2.3nm,0.5s,mb3.7,baz=96,slow=7.8,SNR=10 **NORSAR Array B**	**44.26**	**323**	P	**P**	**12 45 12.5**	**-0.4**
MJAR	**Matsushiro Arr**	**53.22**	**68**	P	**P**	**12 46 20.6**	**-0.4**
ESDC	comp=Z,3.2nm,1.0s,mb3.7,baz=294,slow=9.8,SNR=8.4 **Sonseca Array**	**57.25**	**298**	P	**P**	**12 46 47.7**	**-2.0**
TOA0	comp=Z,0.5nm,0.7s,mb3.2,baz=43,slow=8.4,SNR=3.2 **Torodi Ar. Sit**	**65.45**	**268**	*e*P	**P**	**12 47 43.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**65.45**	**268**	P	**P**	**12 47 43.2**	**-1.5**
TORD	comp=Z,1.1nm,0.4s,mb3.8,baz=50,slow=6.1,SNR=37			pP	pP	12 48 32.2	+0.6
TORD	comp=Z,1.3nm,0.6s,baz=47,slow=5.9,SNR=2.9 **Torodi Ar. Bea**	**65.45**	**268**	P	**P**	**12 47 43.2**	**-1.5**
TORD				pP	pP	12 48 32.2	+0.6
IMA2	**Indian Mountai**	**72.25**	**17**	*e*P	**P**	**12 48 26.1**	**-0.5**
INK	**Inuvik** comp=Z,136nm,0.5s	**74.00**	**9**	*e*P	**P**	**12 48 37.0**	**+0.2**
FITZ	**Fitzroy Crossi** comp=Z,4.1nm,1.0s,mb4.0	**75.08**	**126**	*e*P	**P**	**12 48 43.3**	**+0.3**
KAKA	**Kakadu** comp=Z,4.3nm,0.8s,mb4.1	**75.94**	**118**	*e*P	**P**	**12 48 47.9**	**-0.1**
DAWY	**Dawson**	**77.03**	**13**	*e*P	**P**	**12 48 53.8**	**-0.3**
BOSA	**Boshof** comp=Z,0.9nm,0.3s,mb3.9,baz=129,slow=4.1,SNR=7.7	**77.54**	**220**	P	**P**	**12 48 56.6**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,3.6nm,0.6s,mb4.2,baz=352,slow=5.3,SNR=8.3	**81.31**	**2**	P	**P**	**12 49 17.3**	**+0.1**
YKA	**Yellowknife Ar**	**81.31**	**2**	P	**P**	**12 49 17.3**	**+0.1**
WRA	**Warramunga Arr** comp=Z,1.3nm,0.4s,mb3.9,baz=324,slow=4.9,SNR=52	**82.19**	**122**	P	**P**	**12 49 20.9**	**-0.9**
WRAB	**Tennant Creek**	**82.19**	**122**	*e*P	**P**	**12 49 21.0**	**-0.8**
WB2	**Warramunga Arr**	**82.20**	**122**	*e*P	**P**	**12 49 21.0**	**-0.9**
ASPA	**Alice Springs**	**84.44**	**125**	*e*P	**P**	**12 49 32.6**	**-0.7**
AS31	**Alice Springs**	**84.44**	**125**	*e*P	**P**	**12 49 32.6**	**-0.7**
ASAR	**Alice Springs** comp=Z,1.6nm,0.7s,mb3.9,baz=310,slow=5.0,SNR=30	**84.44**	**125**	P	**P**	**12 49 32.8**	**-0.6**
STKA	**Stephens Creek** comp=Z,0.7nm,0.5s,mb4.0,baz=264,slow=9.2,SNR=2.5	**94.97**	**126**	P	**P**	**12 50 21.8**	**-1.1**
STKA	**Stephens Creek**	**94.97**	**126**	P	**P**	**12 50 21.8**	**-1.1**
VNA2	**Neumayer--Watz** baz=28,slow=2.4	**120.25**	**202**	*e*	PKPdf	12 55 50.0	-0.4
VNA2	**Neumayer--Watz** baz=320,slow=11	**120.25**	**202**	*e*P	PKPdf	12 55 50.0	-0.4
VNA2				*e*		12 55 53.7	
VNA3	**Neumayer Olymp**	**121.06**	**202**	*e*	PKPdf	12 55 50.6	-1.3
VNA3	**Neumayer Olymp**	**121.06**	**202**	*e*P	PKPdf	12 55 50.6	-1.3
VNA3				*e*		12 55 54.0	
QSPA	**South Pole Qui**	**126.25**	**180**	*e*P	PKPdf	12 56 01.3	-0.6

MOS ***22*** *12:53:20.3±1.3, 250N×12677E, h46km, mb5.2/30, Error ellipse: s-maj=13.1km s

KKM Kota Kinabalu 11.15 289 P **Pn** **12 56 02.6 +0.7**
KKM Kota Kinabalu 11.15 289 *e*P **Pn** **12 56 01.6 -0.3**
CAUP Cauayan 15.21 342 *e*P **Pn** **12 56 53.4 -2.3**
KMMI Kalianget 15.92 234 P **Pn** **12 57 08.2 +3.5**
294nm,1.1s
KAKA Kakadu 16.07 160 *e*P **Pn** **12 57 02.6 -4.0**
70nm,0.4s
NBBI Negara 16.23 228 P **Pn** **12 57 10.3 +1.8**
488nm,1.0s
KSM Kuching 16.52 267 *e*P **Pn** **12 57 14.1 +2.0**
KRKI Karangkates 17.78 234 P **Pn** **12 57 29.4 +1.8**
236nm,0.9s
BJII Banjamegara 19.64 240 P **Pn** **12 57 46.5 -3.3**
72nm,1.3s
FITZ Fitzroy Crossi 20.46 183 *e*P **P** **12 57 55.5 -1.1**
31nm,0.3s
FITZ *e*S **S** **13 01 38.1 -3.1**
FITZ Fitzroy Crossi 20.46 183 P **P** **12 57 55.9 -0.6**
19nm,0.4s,baz=17,slow=10.0,SNR=127
FITZ S **S** **13 01 41.3 +0.2**
2,2nm,0.8s,baz=332,slow=15,SNR=2.7
GUMO Guam 21.00 57 P **P** **12 58 01.1 -1.3**
79nm,0.9s,mb5.0,baz=180,slow=6.9,SNR=4.6
GUMO LR LR 13 06 02.8
comp=Z,362nm,19.5s,baz=237,slow=36
LEM Lembang 21.26 244 P **P** **12 58 04.1 -1.1**
190nm,0.9s,mb5.4
CBJI Citeko 21.79 246 P **P** **12 58 14.8 +4.0**
242nm,0.9s,mb5.5
SBJI Serang 22.34 248 P **P** **12 58 19.0 +2.4**
316nm,1.1s,mb5.6
YHNB Yeheng 22.70 347 *e*P **P** **12 58 18.4 -2.1**
QIZ Qiongzhong 23.39 316 P **P** **12 58 26.9 -0.2**
QIZ XP sP 12 58 53.1 -0.9
QIZ S **S** **13 02 36.6 +2.5**
QIZ AMB AMB
comp=Z,33nm,1.4s,mb4.5
QIZ LR LR
comp=N,274nm,23.2s
QIZ LR LR
comp=Z,424nm,27.3s
WRAB Tennant Creek 23.45 162 *e*P **P** **12 58 26.4 -1.2**
WRAB pmax pmax
comp=Z,32nm,0.4s,mb5.0
WRAB Tennant Creek 23.45 162 *e*P **P** **12 58 26.4 -1.2**
comp=Z,32nm,0.4s,mb5.0
WRA Warramunga Arr 23.45 162 P **P** **12 58 26.2 -1.5**
comp=Z,37nm,0.5s,mb5.0,baz=336,slow=11,SNR=320
WRA S **S** **13 02 34.7 -0.4**
comp=Z,2.3nm,0.9s,baz=346,slow=16,SNR=4.1
WB2 Warramunga Arr 23.46 162 *e*P **P** **12 58 26.0 -1.7**
WB2 *e*S **S** **13 02 35.2 +0.1**
KGM Kluang 23.48 269 P **P** **12 58 28.6 +0.6**
JOW Kunigami 24.28 3 P **P** **12 58 35.2 0.0**
comp=Z,56nm,1.0s,mb4.8,baz=210,slow=8.2,SNR=8.0
GZH Guangzhou 24.31 329 P **P** **12 58 36.8 +1.3**
GZH LR LR
comp=N,230nm,18.4s
GZH LR LR
comp=E,186nm,24.9s
GZH LR LR
comp=Z,435nm,27.7s
MBWA Marble Bar 24.47 196 *e*P **P** **12 58 36.7 -0.3**
comp=Z,37nm,0.9s,mb4.7
KULM Kulim 26.25 277 P **P** **12 58 52.4 -0.7**
AS31 Alice Springs 26.86 165 *e*P **P** **12 58 57.7 -0.9**
AS31 *e*S **S** **13 03 30.2 +0.8**
ASAR Alice Springs 26.86 165 P **P** **12 58 57.9 -0.7**
comp=Z,5.1nm,0.4s,mb4.4,baz=343,slow=7.3,SNR=216
ASAR PcP PcP 13 02 20.8 +1.6
comp=Z,4.0nm,0.6s,baz=356,slow=2.4,SNR=9.1
ASAR S **S** **13 03 28.7 -0.7**
comp=Z,0.8nm,0.8s,baz=350,slow=21,SNR=2.5
ASPA Alice Springs 26.86 165 *e*P **P** **12 58 57.7 -0.9**
ASPA *e*S **S** **13 03 30.2 +0.8**
PSI Prapat 27.86 271 P **P** **12 59 06.0 -1.5**
comp=Z,18nm,0.8s,mb4.6,baz=77,slow=4.2,SNR=21
SSE Sheshan 28.98 350 P **P** **12 59 20.3 +2.8**
SSE AP pP 12 59 39.0 +3.0
SSE S **S** **13 04 04.8 +2.2**
SSE XS sS 13 04 38.1 +3.6
SSE AMB AMB
comp=Z,33nm,0.8s,mb5.0
SSE LR LR
comp=N,110nm,22.7s
SSE LR LR
comp=E,150nm,22.6s
SSE LR LR
comp=Z,153nm,19.9s
SSE Sheshan 28.98 350 P **P** **12 59 20.3 +2.8**
comp=Z,33nm,0.8s,mb5.0
SSE pP pP 12 59 39.0 +3.0
SSE PP PP 13 00 26.4 +2.2
SSE S **S** **13 04 04.7 +2.1**
SSE sS sS 13 04 38.1 +3.6
SSE SS SS 13 06 09.7 +1.4
SSE LR LR
comp=Z,150nm,19.9s
NST Nakhon Sawan 29.38 298 P **P** **12 59 20.0 -1.0**
CTA Charters Tower 29.43 140 *e*P **P** **12 59 22.7 +1.3**
comp=Z,3.5nm,0.6s,mb4.2
CTA Charters Tower 29.43 140 P **P** **12 59 21.4 0.0**
comp=Z,5.9nm,0.7s,mb4.3,baz=323,slow=8.5,SNR=5.3
CTA Charters Tower 29.43 140 *e*P **P** **12 59 22.7 +1.3**
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 29.43 140 *e*P **P** **12 59 22.4 +1.0**
CTAO pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
CTAO Charters Tower 29.43 140 *e*P **P** **12 59 22.4 +0.9**
comp=Z,9.4nm,1.0s,mb4.4
NJ2 Nanjing 30.38 347 *e*P **P** **12 59 28.1 -1.8**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
GYA Guiyang 30.72 323 P **P** **12 59 36.8 +4.0**
GYA AP pP 12 59 55.5 +4.1
GYA PP PP 13 00 40.6 -2.9
GYA PCP PcP 13 02 31.8 +3.0
GYA S **S** **13 04 33.3 +3.4**
GYA XS sS 13 05 06.3 +4.4
GYA SCP ScP 13 06 05.9 +1.6
GYA PCS PcS 13 06 14.5 +1.8
GYA SS SS 13 06 21.8 -22
GYA SCS ScS 13 10 01.3 +0.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,390nm,17.9s
GYA LR LR
comp=E,430nm,17.4s
GYA LR LR
comp=Z,450nm,17.8s
CHG Chiang Mai 31.76 303 ⇓P **P** **12 59 41.4 -0.6**
comp=Z,20nm,0.9s,mb4.8
CHTO Chiang Mai 31.76 303 *e*P **P** **12 59 41.3 -0.7**
CHTO pmax pmax
comp=Z,23nm,1.0s,mb4.9
CHTO Chiang Mai 31.76 303 *e*P **P** **12 59 41.3 -0.7**
comp=Z,23nm,1.0s,mb4.9
KMI Kunming 32.34 316 P **P** **12 59 49.4 +2.3**
KMI S **S** **13 04 57.6 +2.4**
KMI LR LR
comp=N,172nm,20.9s
KMI LR LR
comp=E,145nm,23.3s
KMI LR LR
comp=Z,324nm,26.5s
FORT Forrest 33.07 178 *e*P **P** **12 59 53.3 -0.2**
comp=Z,56nm,0.4s,mb5.7
KLBR Kellerberrin 34.94 194 *e*P **P** **13 00 09.5 -0.1**
comp=Z,12nm,0.5s,mb5.0
KLBR *e*pP pP 13 00 18.9 -9.5
KLBR *e*PCP PcP 13 02 42.3 +1.8
MAJO Matsushiro 35.52 16 *e*P **P** **13 00 14.1 -0.5**
MAJO pmax pmax
comp=Z,18nm,1.0s,mb5.0
MAJO Matsushiro 35.52 16 *e*P **P** **13 00 14.1 -0.5**
comp=Z,18nm,1.0s,mb5.0
MAT Matsushiro 35.52 16 P **P** **13 00 13.9 -0.7**
MAT S **S** **13 05 45.0 +0.7**
MJAR Matsushiro Arr 35.52 16 P **P** **13 00 13.7 -0.9**
comp=Z,10.0nm,0.9s,mb4.7,baz=192,slow=8.3,SNR=30
MJAR PcP PcP 13 02 44.0 +1.7
comp=Z,4.4nm,0.7s,baz=180,slow=2.3,SNR=10

XAN Xi'an 35.59 334 P **P** **13 00 13.8 -1.4**
XAN AMB AMB
comp=Z,15nm,0.9s,mb4.9
CD2 Chengdu 35.72 325 *e*P **P** **13 00 15.5 -0.8**
CD2 AP pP 13 00 33.8 -1.3
CD2 XP sP 13 00 42.5 -1.9
CD2 PP PP 13 01 39.3 +0.5
CD2 S **S** **13 05 48.1 +0.7**
CD2 XS sS 13 06 19.3 -0.4
CD2 SS SS 13 08 14.3 -12
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,290nm,21.6s
CD2 LR LR
comp=E,330nm,18.0s
CD2 LR LR
comp=Z,190nm,16.8s
NWAO Narrogin (SRO) 36.34 194 P **P** **13 00 22.1 +0.5**
comp=Z,13nm,0.5s,mb5.1,baz=32,slow=8.2,SNR=20
NWAO Narrogin (SRO) 36.34 194 *e*P **P** **13 00 22.3 +0.7**
NWAO pmax pmax
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 36.34 194 *e*P **P** **13 00 22.2 +0.6**
comp=Z,16nm,0.9s,mb5.0
STKA Stephens Creek 36.92 159 *e*P **P** **13 00 25.7 -0.8**
comp=Z,40nm,0.7s,mb5.5
STKA *e*pP pP 13 00 37.0 -8.4
STKA *e*PCP PcP 13 02 48.1 +1.7
comp=Z,8.7nm,0.6s
STKA Stephens Creek 36.92 159 P **P** **13 00 26.5 0.0**
comp=Z,54nm,0.6s,mb5.6,baz=334,slow=8.2,SNR=135
STKA PcP PcP 13 02 48.2 +1.8
comp=Z,12nm,0.7s,baz=334,slow=7.2,SNR=5.1
BJI Beijing 38.64 347 P **P** **13 00 41.1 +0.1**
BJI AMB AMB
comp=Z,32nm,1.0s,mb5.1
BJI AMB AMB
comp=Z,195nm,3.5s
BJI LR LR
comp=N,128nm,35.2s
BJI LR LR
comp=E,112nm,33.0s
BJI LR LR
comp=Z,242nm,32.0s
BJI Beijing 38.64 347 P **P** **13 00 41.1 +0.1**
comp=Z,32nm,1.0s,mb5.1
BJI S S 13 06 57.6 +26
BJI LR LR
comp=Z,240nm,32.0s
SNY Shenyang 39.31 356 ⇑P **P** **13 00 48.5 +1.9**
SNY AMB AMB
comp=Z,13nm,1.3s,mb4.6
LZH Lanzhou 39.64 330 *e*P **P** **13 00 49.0 -0.4**
LZH *SP sP 13 01 01.5 -16
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.1
LZH Lanzhou 39.64 330 *e*P **P** **13 00 49.0 -0.4**
comp=Z,30nm,1.0s,mb5.1
LZH pP pP 13 00 57.0 -11
LZH sP sP 13 01 01.5 -16
CN2 Changchun 41.19 359 *e*P **P** **13 01 08.0 +5.8**
CN2 *e*S **S** **13 07 18.4 +8.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
YNG Young 41.82 153 *e*P **P** **13 01 08.0 +0.7**
comp=Z,11nm,0.7s,mb4.7
MDJ Mudanjiang 42.06 3 P **P** **13 01 10.6 +1.3**
MDJ AP pP 13 01 29.8 +1.3
MDJ XP sP 13 01 39.4 +1.8
MDJ PP PP 13 02 49.6 +1.6
MDJ PCP PcP 13 03 03.3 +0.5
MDJ SCP ScP 13 06 46.8 +0.7
MDJ S **S** **13 07 25.4 +2.8**
MDJ XS sS 13 07 59.0 +3.5
MDJ SS SS 13 10 37.3 +4.7
MDJ AMB AMB
comp=Z,29nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,86nm,3.6s
MDJ LR LR
comp=N,105nm,26.9s
MDJ LR LR
comp=E,75nm,35.8s
MDJ LR LR
comp=Z,169nm,27.8s
CNB Canberra Magne 43.10 153 *e*P **P** **13 01 18.7 +1.0**
comp=Z,12nm,0.7s,mb4.8
TOO Toolangi 43.43 158 *e*P **P** **13 01 22.0 +1.6**
comp=Z,4.6nm,0.7s,mb4.3
TOO Toolangi 43.43 158 *e*P **P** **13 01 22.0 +1.6**
TOO pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ASAJ Asahikawa 43.78 16 P **P** **13 01 22.6 -0.6**
comp=Z,13nm,0.8s,mb4.7,baz=235,slow=20,SNR=6.7
GTA Gaotai 44.23 330 *e*P **P** **13 01 26.8 0.0**
GTA AP pP 13 01 42.3 -3.8
GTA XP sP 13 01 52.8 -2.4
GTA PP PP 13 03 10.9 -0.3
GTA PCP PcP 13 03 12.8 +2.7
GTA S **S** **13 07 51.9 -2.5**
GTA XS sS 13 08 23.1 -4.3
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,95nm,6.1s
GTA LR LR
comp=N,189nm,20.9s
GTA LR LR
comp=E,273nm,21.3s
GTA LR LR
comp=Z,437nm,21.7s
JIRN Jiri 46.19 307 *e*P **P** **13 01 42.3 0.0**
comp=Z,5.1nm,0.4s,mb4.6
YSS Yuzh-Sakhalins 46.44 15 *e*P **P** **13 01 44.8 +0.5**
GUN Gumba 46.54 307 *e*P **P** **13 01 44.6 -0.5**
comp=Z,51nm,0.6s,mb5.5
PKI Pulchoki 46.78 306 *e*P **P** **13 01 45.8 -1.1**
comp=Z,14nm,0.6s,mb4.9
KLR Kul'dur 46.79 4 *e*P **P** **13 01 44.2 -2.8**
KLR pmax pmax
comp=Z,34nm,1.2s,mb5.0
KKN Kakani 46.97 307 *e*P **P** **13 01 47.8 -0.6**
comp=Z,24nm,0.6s,mb5.1
HIA Hailar 47.03 354 *e*P **P** **13 01 50.5 +1.7**
DMN Daman 47.04 306 *e*P **P** **13 01 48.2 -0.7**
comp=Z,39nm,1.0s,mb5.1
GKN Gorkha 47.58 306 *e*P **P** **13 01 52.0 -1.1**
comp=Z,27nm,0.8s,mb5.2
KOLN Koldanda 48.32 306 *e*P **P** **13 01 58.6 -0.2**
comp=Z,43nm,0.5s,mb5.5
SONM Songino Array 48.52 342 P **P** **13 02 00.3 -0.1**
comp=Z,6.6nm,0.8s,mb4.6,baz=157,slow=8.5,SNR=31
SONM PcP PcP 13 03 26.5 +1.3
comp=Z,2.9nm,0.8s,baz=152,slow=3.2,SNR=4.0
SONM LR LR 13 23 19.4
comp=Z,162nm,21.1s,baz=154,slow=37
SONM Songino Array 48.52 342 P **P** **13 02 00.3 -0.1**
SONM 13 03 26.5
HYB Hyderabad 49.63 291 *i* P **P** **13 02 08.0 -0.8**
HYB Hyderabad 49.63 291 *e*P **P** **13 02 08.0 -0.8**
ZAK Zakamensk 51.75 341 *e*P **P** **13 02 26.5 +1.7**
ZAK *e* 13 03 37.9
TLY Talaya 52.76 342 *e*P **P** **13 02 33.3 +1.1**
TLY *e*S **S** **13 09 49.6 -4.8**
TLY pmax pmax
comp=Z,12nm,0.9s,mb4.9
MOY Mondy 53.60 340 *e*P **P** **13 02 40.0 +1.6**
MOY pmax pmax
comp=Z,19nm,1.6s,mb4.9
WMQ Urumqi 53.81 326 P **P** **13 02 40.0 0.0**
WMQ AP pP 13 02 59.0 -0.9
WMQ XP sP 13 03 07.0 -1.8
WMQ PCP PcP 13 03 44.0 -0.8
WMQ *e*S **S** **13 10 08.4 -0.3**
WMQ XS sS 13 10 40.0 -2.6
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,117nm,4.3s
WMQ LR LR
comp=N,309nm,23.4s
WMQ LR LR

comp=E,442nm,23.5s
WMQ LR LR
comp=Z,504nm,24.9s
CLNS Chul'man 54.24 359 *e*P **P** **13 02 42.3 -0.8**
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=Z,20nm,1.0s,mb5.1
CLNS pmax pmax
comp=E,9.0nm,0.9s
BOD Bodaibo 56.13 352 *e*P **P** **13 02 55.8 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
MKAR Makanchi Array 58.64 326 P **P** **13 03 13.9 -0.4**
comp=Z,6.0nm,0.5s,mb4.9,baz=134,slow=6.9,SNR=14
MKAR LR LR 13 30 42.7
comp=Z,146nm,21.4s,baz=248,slow=38
MKAR Makanchi Array 58.64 326 *i* P **P** **13 03 14.1 -0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
YAK Yakutsk 59.47 2⇑ *e*P **P** **13 03 19.6 -0.5**
YAK pmax pmax
comp=Z,47nm,1.2s,mb5.4
YAK Yakutsk 59.47 2 *e*P **P** **13 03 20.5 +0.4**
comp=Z,42nm,0.8s,mb5.5
MA2 Magadan 59.91 14 *e*P **P** **13 03 24.7 +1.6**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
ZAL Zalesovo 61.76 333 P **P** **13 03 34.4 -1.2**
comp=Z,2.7nm,0.3s,mb4.7,baz=352,slow=6.7,SNR=9.9
ZAL Zalesovo 61.76 333 *i* P **P** **13 03 41.5 +5.9**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 63.04 333 *e*P **P** **13 03 42.9 -1.3**
NVS *e* pP 13 04 06.1 +1.5
NVS pmax pmax
comp=Z,14nm,1.2s,mb4.8
SEY Seymchan 63.25 13⇑ *e*P **P** **13 03 47.7 +2.1**
VOSK Vostochnaya 67.97 327 P **P** **13 04 14.2 -1.8**
VOSK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
BVA0 Borovoye Array 68.43 327 *i* P **P** **13 04 18.6 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.8
BVAR Borovoye Array 68.43 327 P **P** **13 04 18.8 0.0**
comp=Z,4.1nm,0.7s,mb4.4,baz=134,slow=8.5,SNR=23
BRVK Borovoye 68.50 327 *e*P **P** **13 04 19.3 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
BRVK Borovoye 68.50 327 *e*P **P** **13 04 19.3 0.0**
comp=Z,6.6nm,0.8s,mb4.5
CHKZ Chkalovo 68.60 328 *e*P **P** **13 04 19.3 -0.6**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
CHKZ Chkalovo 68.60 328 *e*P **P** **13 04 19.3 -0.6**
comp=Z,3.7nm,0.6s,mb4.4
WSAR Wadi Sarin 69.00 294 P **P** **13 04 20.4 -2.0**
comp=Z,2.3nm,0.7s,mb4.1,baz=102,slow=12,SNR=3.7
ZRNK Zerenda 69.15 327 Pn **P** **13 04 22.9 -0.4**
comp=Z,6.8nm,0.8s,mb4.5
ZRNK Zerenda 69.15 327 *e*P **P** **13 04 23.2 -0.1**
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb4.7
ZRNK Zerenda 69.15 327 *e*P **P** **13 04 23.2 -0.1**
comp=Z,12nm,0.9s,mb4.7
CASY Casey 69.57 187 *e*P **P** **13 04 27.2 +1.3**
comp=Z,18nm,0.8s,mb5.0
BILL Bilibino 70.76 15⇓ *e*P **P** **13 04 36.7 +3.6**
BILL *e*S S 13 13 52.0 +10
BILL pmax pmax
comp=Z,16nm,1.8s,mb4.5
MIR Mirnyy 72.94 193 *c i*P **P** **13 04 50.0 +3.8**
AB31 Akbulak array 73.18 321 *i* P **P** **13 04 47.8 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AKTK Aktyubinsk 74.70 322 P **P** **13 04 56.8 +0.3**
AKTO Aktyubinsk 74.70 322 P **P** **13 04 56.8 +0.3**
comp=Z,12nm,0.9s,mb4.7,baz=100,slow=7.3,SNR=28
ARU Arti 76.05 328⇓ *i*P **P** **13 05 04.0 -0.2**
ARU *e*S S 13 14 39.9 -1.4
ARU pmax pmax
comp=Z,28nm,0.8s,mb5.0
ORR Orenburg 76.99 322 P **P** **13 05 09.9 +0.4**
ORR pmax pmax
comp=Z,40nm,0.8s,mb5.2
QRN Al-Qurain 79.08 299 *e*P **P** **13 05 21.1 0.0**
QRN AMb AMB 13 05 21.9
comp=Z,61nm,0.8s,mb5.5
UMR Umm Al-Rimmam 79.31 299 *e*P **P** **13 05 22.5 +0.1**
UMR AMb AMB 13 05 23.2
comp=Z,16nm,0.6s,mb5.1
RDF Al-Radifah 79.42 299 *e*P **P** **13 05 23.1 +0.1**
RDF AMb AMB 13 05 23.7
comp=Z,30nm,0.7s,mb5.2
MIB Mutribah 79.65 300 *e*P **P** **13 05 24.2 0.0**
MIB AMb AMB 13 05 25.1
comp=Z,28nm,0.6s,mb5.3
NAY Al-Naaiem 79.70 299 *e*P **P** **13 05 24.2 -0.3**
NAY AMb AMB 13 05 25.3
comp=Z,10nm,0.6s,mb4.8
RST Umm Al-Ruwaisa 79.93 299 *e*P **P** **13 05 25.5 -0.2**
RST AMb AMB 13 05 26.3
comp=Z,36nm,0.5s,mb5.4
VNDA Vanda 82.16 173 P **P** **13 05 38.1 +0.6**
comp=Z,9.7nm,0.7s,mb4.8,baz=315,slow=5.9,SNR=63
VNDA Vanda 82.16 173 *e*P **P** **13 05 37.6 +0.1**
VNDA pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 82.16 173 *e*P **P** **13 05 37.6 0.0**
comp=Z,11nm,0.9s,mb4.7
GNI Garni 82.36 310 P **P** **13 05 39.7 +1.1**
comp=Z,2.3nm,0.4s,mb4.4,baz=139,slow=18,SNR=4.1
GNI Garni 82.36 310⇓ *e*P **P** **13 05 40.2 +1.6**
GNI pmax pmax
comp=Z,7.0nm,1.0s
MAW Mawson 82.59 200 *e*P **P** **13 05 40.5 +0.7**
comp=Z,15nm,0.8s,mb4.9
MAW Mawson 82.59 200 P **P** **13 05 41.1 +1.3**
comp=Z,20nm,0.8s,mb5.0,baz=65,slow=5.3,SNR=65
MAW Mawson 82.59 200 *e*P **P** **13 05 40.5 +0.7**
MAW pmax pmax
comp=Z,15nm,0.8s
KDAK Kodiak Island 82.92 32 P **P** **13 05 43.0 +1.5**
comp=Z,11nm,0.6s,mb4.9,baz=268,slow=8.1,SNR=8.8
KDAK Kodiak Island 82.92 32 P **P** **13 05 43.0 +1.5**
ZEI Tsey 83.13 313 *e*P **P** **13 05 43.9 +1.3**
ZEI pmax pmax
comp=Z,39nm,0.9s,mb5.2
IMA2 Indian Mountai 83.51 24 *e*P **P** **13 05 46.4 +1.9**
KIV Kislovodsk 84.07 314 *e*P **P** **13 05 49.4 +2.0**
KIV *e*S S 13 16 05.3 -0.2
KIV *e*SS SS 13 21 32.5 -3.0
KIV pmax pmax
comp=Z,19nm,1.0s,mb4.9
KIV Kislovodsk 84.07 314 *e*P **P** **13 05 49.2 +1.8**
comp=Z,21nm,1.0s,mb4.9
SOC Sochi 86.21 313 *e*P **P** **13 05 58.4 +0.3**
SOC *e*S S 13 16 19.9 -6.7
SOC *e*SS SS 13 22 08.5 +1.5
SOC pmax pmax
comp=Z,39nm,0.9s,mb5.3
VRSR Storozhevoye 86.61 321 *e*P **P** **13 06 01.1 +1.1**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
ANN Anapa 87.84 315 *e*P **P** **13 06 05.0 -1.0**
ANN pmax pmax
comp=Z,53nm,0.9s,mb5.6
OBN Obninsk 88.14 325⇓ *e*P **P** **13 06 07.5 +0.1**
OBN *e*S S 13 16 29.3 -16
OBN pmax pmax
comp=Z,35nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s
ASF Jabal al Asfar 88.64 302 P **P** **13 06 12.2 +2.4**
comp=Z,19nm,0.9s,mb5.1,baz=326,slow=2.6,SNR=39
APA Apatity 89.05 337⇑ *e*P **P** **13 06 12.0 +0.3**
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
DAWY Dawson 89.48 26 *e*P **P** **13 06 14.9 +1.2**
KMBO Kilima Mbogo 89.61 269 P **P** **13 06 16.1 +1.8**
comp=Z,5.4nm,1.0s,mb4.6,baz=52,slow=9.2,SNR=11
KMBO Kilima Mbogo 89.61 269 *e*P **P** **13 06 16.9 +2.6**

KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 89.61 269 *eP* **P 13 06 16.9 +2.6**
comp=Z,7.1nm,1.1s,mb4.7
JOF Joensuu 90.34 333 *ep* **P 13 06 15.4 -2.3**
comp=Z,0.7nm,0.3s,mb4.3
BR131 Keskin Array S 90.89 310 *eP* **P 13 06 20.3 +0.1**
comp=Z,5.3nm,0.9s,mb4.7
BRTR Keskin Array B 90.89 310 P **P 13 06 20.4 +0.1**
comp=Z,4.8nm,0.9s,mb4.6,baz=109,slow=3.9,SNR=22
BRTR Keskin Array B 90.89 310 *i P* **P 13 06 21.2 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
KEV Kevo 91.11 340 *ep* **P 13 06 18.3 -3.0**
SYO Syowa Base 91.27 201⇑ *eP* **P 13 06 22.6 +0.6**
SYO Syowa Base 91.27 201⇑ *epP* pP 13 06 45.0 +1.4
INK Inuvik 91.31 22 *eP* **P 13 06 22.9 +0.7**
comp=Z,370nm,1.2s
ARCES ARCESS Array B 91.67 340 P **P 13 06 23.1 -0.7**
comp=Z,7.9nm,0.8s,mb5.0,baz=78,slow=7.6,SNR=9.0
ARCES LR LR 13 50 11.2
comp=Z,121nm,18.2s,baz=189,slow=37
QSPA South Pole Qui 92.37 180 *eP* **P 13 06 28.6 +1.5**
comp=Z,5.0nm,0.9s,mb4.7
KAF Kangasniemi 92.76 332 *ep* **P 13 06 26.6 -2.3**
AKASG Malin Array Be 92.93 321 P **P 13 06 29.2 -0.5**
comp=Z,0.8nm,0.4s,mb4.4,baz=72,slow=4.1,SNR=9.1
FINES FINESS Array B 92.99 332 P **P 13 06 29.3 -0.7**
comp=Z,1.5nm,0.7s,mb4.4,baz=64,slow=4.4,SNR=6.1
FINES LR LR 13 55 26.1
comp=Z,59nm,18.8s,baz=36,slow=40
FINES FINESS Array B 92.99 332 *i P* **P 13 06 30.2 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 95.87 316 LR LR 13 51 36.0
comp=Z,107nm,20.9s,baz=78,slow=36
UZH Uzhgorod 97.72 320 *eP* **P 13 06 56.5 +5.0**
UZH pmax pmax
comp=Z,17nm,1.0s,mb5.5
HFS Hagfors 99.18 332 LR LR 13 53 12.5
comp=Z,98nm,18.3s,baz=62,slow=36
NB2 NORSAR Subarra 99.96 334 P Pdif 13 07 00.4 -1.1
comp=Z,4.0nm,0.9s,baz=69,slow=4.6
NB2 NORSAR Subarra 99.96 334 P Pdif 13 07 00.4 -1.1
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
NOA NORSAR Array B 99.96 334 P Pdif 13 06 60.0 -1.6
comp=Z,2.0nm,0.8s,baz=67,slow=4.6,SNR=4.0
NOA LR LR 13 58 27.4
comp=Z,104nm,18.6s,baz=110,slow=39
NOA NORSAR Array B 99.96 334 P Pdif 13 06 60.0 -1.6
NOA LR LR 13 58 27.4
KONO Kongsberg 101.27 333⇑ *eP* Pdif 13 07 10.3 +3.0
VNA2 Neumayer--Watz 105.62 194 *e*Pdiff Pdif 13 07 34.0 +7.3
baz=135,slow=2.8
VNA2 *e* 13 07 46.1
VNA2 *e* 13 07 49.6
VNA3 Neumayer Olymp 105.94 193 *e*Pdiff Pdif 13 07 35.8 +7.7
VNA3 *e* 13 07 46.7
VNA3 *e* 13 07 49.9
PDAR Pinedale Array 112.25 41 PKiKP PKiKP 13 11 54.1 +2.2
comp=Z,0.5nm,0.6s,baz=159,slow=0.9,SNR=5.5
PDAR PKKPbc PKKPbc 13 22 43.7 +1.2
comp=Z,0.4nm,0.6s,baz=106,slow=5.7,SNR=4.2
PV10 Paradox Valley 114.49 46 PKiKP PKiKP 13 11 59.3 +3.1
ULM Lac du Bonnet 116.03 29 PKP PKPdf 13 12 00.1 +0.9
comp=Z,1.9nm,1.0s,baz=316,slow=11,SNR=3.7
ANMO Albuquerque 117.81 48⇑ *i* PKIKP PKPdf 13 12 08.1 +5.5
SCHQ Schefferville 121.81 9 PKP PKPdf 13 12 11.4 +1.1
comp=Z,3.0nm,0.8s,baz=34,slow=9.3,SNR=5.5
TXAR Lajitas Array 122.31 53 PKP PKPdf 13 12 12.5 +1.3
comp=Z,0.6nm,0.7s,baz=180,slow=2.3,SNR=3.7
TXAR Lajitas Array 122.31 53 PKP PKPdf 13 12 12.5 +1.3
TORD Torodi Ar. Bea 123.38 287 PKP PKPdf 13 12 15.0 +1.7
comp=Z,1.5nm,0.7s,baz=74,slow=1.4,SNR=19
TORD PKKPbc PKKPbc 13 22 05.8 +3.2
comp=Z,0.4nm,0.6s,baz=296,slow=3.5,SNR=5.2
JCT Junction City 124.82 50 *e*PKIKP PKPdf 13 12 18.0 +1.9
DBIC Dimbokro 130.91 281 PKP PKPdf 13 12 27.6 0.0
comp=Z,1.7nm,0.7s,baz=72,slow=7.7,SNR=3.8
PLCA Paso Flores 138.79 160 PKP PKPdf 13 12 42.4 0.0
comp=Z,1.9nm,0.7s,baz=162,slow=3.2,SNR=3.4
CPUP Villa Florida 155.93 171 PKPab PKPab 13 13 40.1 +2.4
comp=Z,4.2nm,0.7s,baz=185,slow=4.1,SNR=12
CPUP Villa Florida 155.93 171 *e*PKPab PKPab 13 13 40.2 +2.5
LPAZ La Paz 159.87 134 PKP PKPdf 13 13 18.4 +3.3
comp=Z,2.3nm,1.0s,baz=26,slow=1.2,SNR=7.2
LPAZ PKPab PKPab 13 13 56.6 +1.9
comp=Z,0.9nm,0.7s,baz=216,slow=6.6,SNR=2.5
BDFB Brasilia 165.94 201 PKPab PKPab 13 14 23.6 +2.2
comp=Z,5.2nm,0.8s,baz=133,slow=4.6,SNR=6.4

MAN 22 12:53:58.3, 1332N×12136E, h43km, mb2.0, ML3.7, MS1.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.49**	**73**	*eP*	Pn	12 54 01.3	-7.8
OTRP	**Odiongan**	**1.15**	**146**	*eP*	Pn	12 54 18.0	+0.1
LUBP	**Lubang**	**1.16**	**291**	*eP*	Pn	12 54 18.8	+0.8
AUQP	**San Andres**	**1.28**	**90**	*eP*	Pn	12 54 21.1	+1.4
POLP	**Polilio Island**	**1.51**	**22**	*eP*	Pn	12 54 23.0	+0.2

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*CSEM **22** 13:01:29.1, 67.19N×2067E, h0km, ML3.0, Suspected Mining explosion. After UPP*
*UPP **22** 13:01:29.1, 67.19N×2067E, h0km, ML3.0, Suspected Mining explosion.*
HEL 22 13:01:29.8±0.1, 6719N×2066E, h0km, ML1.5, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**207**	*i P*	Pg	13 01 30.8	-0.4
MASU	**Masugnsbyn**	**0.58**	**62**	*i P*	Pg	13 01 40.1	-0.9
KUA	**Kurravaara**	**0.78**	**351**	*i P*	Pg	13 01 43.6	-1.2
SALU	**Saltoluokta**	**0.86**	**284**	*i P*	Pg	13 01 45.7	-0.6
ERTU	**Ertsjaerv**	**0.88**	**136**	*i P*	Pg	13 01 46.0	-0.6
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	13 01 46.0	-0.7
	baz=290						
NIKU	**Nikkaluokta**	**0.92**	**318**	*eP*	Pg	13 01 46.5	-1.1
PAJU	**Pajala**	**0.97**	**99**	*eP*	Pg	13 01 47.0	-1.5
LANU	**Lannavaara**	**1.00**	**30**	*eP*	Pg	13 01 47.4	-1.6
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	13 01 47.4	-1.6
	baz=93						
HARU	**Harads**	**1.04**	**173**	*eP*	Pg	13 01 48.1	-1.6
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	13 02 00.3	-0.9
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*PG	Pg	13 02 03.3	-1.5
KIF				*e*SG	Sg	13 02 29.7	+1.3
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	13 02 10.0	-2.0
SGF				*e*SG	Sg	13 02 40.7	-2.7
MSF	**Maaselka**	**3.59**	**107**	*e*SG	Sg	13 03 20.3	-4.8
VAF	**Ylistaro**	**4.25**	**168**	*e*SG	Sg	13 03 42.3	-4.0

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*NNC **22** 13:01:28.6±4.3, 4290N×7748E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=38.9km s-min=25.3km az=170.0*
*KNET **22** 13:01:28.9±0.6, 4299N×7736E, h0km±3km, ml3.4, Error ellipse: s-maj=3.3km s-min=3.0km az=111.0*
*ISCJB **22** 13:01:29.9±0.9, 43.14N±008×7755E±007, h10km, Error ellipse: s-maj=13.0km s-min=5.0km az=124.8*
ISC 22 13:01:30.9±0.9, 4317N±009×7752E±008, h10km, n13, σ1§19/23, 15C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.41**	**277**	⇑P	**Pg**	**13 01 37.4**	**-1.5**
KNDC	51nm,0.2s						
				⇑S	**Sg**	**13 01 44.2**	**-0.2**
	435nm,0.2s						
ULHL	**Ulahol**	**1.32**	**226**	P	**Pn**	**13 01 50.6**	**-4.7**
ULHL	144nm,0.1s,SNR=1068						
				⇓S	**Sb**	**13 02 06.9**	**-5.8**
	219nm,0.1s						
TKM2	**Tokmak 2**	**1.43**	**261**	⇑P	**Pn**	**13 01 54.2**	**-2.7**
TKM2	43nm,0.1s,SNR=67						
				⇓S	**Sn**	**13 02 13.7**	**-2.1**
	355nm,0.1s						
TKM2	**Tokmak 2**	**1.43**	**261**	⇑P	**Pn**	**13 01 54.0**	**-2.9**
TKM2	13nm,0.3s						
				⇑S	**Sn**	**13 02 13.0**	**-2.8**
	90nm,0.2s						
KBK	**Karagaybulak**	**1.96**	**256**	⇑P	**Pn**	**13 02 03.5**	**-0.7**
	93nm,0.1s,SNR=97						
KBK				⇑S	**Sn**	**13 02 30.2**	**+1.4**
	256nm,0.2s						
KZA	**Kyzart**	**2.00**	**238**	⇑P	**Pn**	**13 02 03.4**	**-1.4**
	73nm,0.2s,SNR=23						
KZA				⇑S	**Sn**	**13 02 30.4**	**+0.6**
	137nm,0.2s						
CHMS	**Chumysh**	**2.04**	**266**	⇑P	**Pn**	**13 02 04.6**	**-0.6**
	38nm,0.1s,SNR=30						
CHMS				⇑S	**Sn**	**13 02 32.3**	**+1.6**
	376nm,0.3s						
USP	**Ospenovka**	**2.21**	**274**	⇓P	**Pn**	**13 02 07.2**	**-0.4**
	43nm,0.2s,SNR=172						
AAK	**Ala-Archa**	**2.29**	**258**	⇑P	**Pn**	**13 02 09.0**	**+0.3**
	66nm,0.2s,SNR=139						
AAK				⇓S	**Sn**	**13 02 39.2**	**+2.2**
	96nm,0.2s						
UCH	**Uchtor**	**2.41**	**248**	P	**Pn**	**13 02 10.8**	**+0.4**
	42nm,0.3s,SNR=133						
UCH				⇑S	**Sn**	**13 02 44.0**	**+4.1**
	132nm,0.3s						
EKS2	**Erkin-Say**	**2.80**	**261**	⇓P	**Pn**	**13 02 16.2**	**+0.5**
	33nm,0.2s,SNR=69						
MK31	**Makanchi Array**	**4.96**	**41**	Pn	**Pn**	**13 02 46.2**	**+0.9**
	1.1nm,0.2s,baz=212,slow=14,SNR=40						
MK31				⇓Sn	**Sb**	**13 03 57.7**	**+0.3**
	2.4nm,0.3s,baz=222,slow=29,SNR=5.9						
KK31	**Karatay Array**	**5.13**	**272**	⇑Pg	**Pb**	**13 03 00.9**	**+0.2**
KK31				⇑Lg		13 04 06.9	

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*CSEM **22** 13:11:06.5, 6720N×2066E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **22** 13:11:06.5, 6720N×2066E, h0km, ML2.8, Suspected Mining explosion.*
HEL 22 13:11:07.1±0.1, 6719N×2063E, h0km, ML1.4, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**200**	*i P*	Pg	13 11 08.3	-0.2
MASU	**Masugnsbyn**	**0.59**	**63**	*i P*	Pg	13 11 17.5	-1.0
KUA	**Kurravaara**	**0.77**	**352**	*i P*	Pg	13 11 21.0	-1.0
ERTU	**Ertsjaerv**	**0.89**	**135**	*i P*	Pg	13 11 23.3	-0.8
NIKU	**Nikkaluokta**	**0.92**	**319**	*eP*	Pg	13 11 23.8	-0.8
LANU	**Lannavaara**	**1.01**	**30**	*eP*	Pg	13 11 25.1	-1.3
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	13 11 25.0	-1.4
HARU	**Harads**	**1.04**	**172**	*eP*	Pg	13 11 25.5	-1.6
SJUU	**Sjulsmark**	**1.74**	**166**	*eP*	Pn	13 11 37.6	-0.9
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*PG	Pg	13 11 40.3	-1.7
KIF				*e*SG	Sg	13 12 06.7	+1.0
LILU	**Lilltraesk**	**1.94**	**190**	*eP*	Pn	13 11 41.2	-0.1
LILU	**Lilltraesk**	**1.94**	**190**	P	Pn	13 11 41.2	-0.1
	baz=12						
SGF	**Sodankyl**	**2.30**	**81**	*e*PB	Pb	13 11 47.2	-2.2
SGF				*e*SG	Sg	13 12 17.9	-3.1
VAF	**Ylistaro**	**4.26**	**167**	*e*SG	Sg	13 13 19.0	-4.8

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*AUST **22** 13:22:00, 3852S×14627E, h18km, ML2.8*
ISC 22 13:22:20.3±1.6, 384S±01×14618E±006, h10km, n5, σ1§07/10, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	**Toolangi**	**0.99**	**326**	*eP*	**Pg**	**13 22 40.4**	**+1.1**
TOO				*e*S	**Sg**	**13 22 51.7**	**-0.5**
	42nm,0.3s						
MILA	**Mila**	**2.71**	**61**	*eP*	**Pn**	**13 23 03.4**	**-0.5**
MILA				*e*S	**Sn**	**13 23 35.1**	**-1.6**
	72nm,0.3s						
ARPS	**Mount Arapiles**	**3.81**	**294**	*eP*	**Pn**	**13 23 19.5**	**+0.4**
ARPS				*e*S	**Sn**	**13 24 02.6**	**-1.4**
	23nm,1.2s						
CNB	**Canberra Magne**	**3.99**	**41**	*eP*	**Pn**	**13 23 22.2**	**+0.6**
CNB				*e*S	**Sn**	**13 24 13.3**	**+4.9**
YNG	**Young**	**4.46**	**24**	*eP*	**Pn**	**13 23 30.0**	**+2.0**
YNG				*e*S	**Sn**	**13 24 20.0**	**0.0**
	5.7nm,1.3s						

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*CSEM **22** 13:24:44.2±0.1, 6725N×2065E, h2km, ML3.0, Error ellipse: s-maj=2.7km s-min=2.4km az=102.0, Suspected Mining explosion.*
*UPP **22** 13:24:45.5, 67.19N×2069E, h0km, ML3.0, Suspected Mining explosion.*
HEL 22 13:24:46.2±0.1, 6718N×2067E, h0km, ML2.0, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**212**	*i P*	Pg	13 24 47.2	-0.4
DUNU	**Dundret**	**0.07**	**212**	P	Pg	13 24 47.2	-0.4
MASU	**Masugnsbyn**	**0.58**	**61**	*i P*	Pg	13 24 56.3	-1.1
KUA	**Kurravaara**	**0.78**	**351**	*i P*	Pg	13 25 00.2	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i P*	Pg	13 25 02.2	-0.6
ERTU	**Ertsjaerv**	**0.87**	**136**	*i P*	Pg	13 25 02.3	-0.6
NIKU	**Nikkaluokta**	**0.93**	**318**	*eP*	Pg	13 25 02.6	-1.4
PAJU	**Pajala**	**0.97**	**98**	*eP*	Pg	13 25 03.3	-1.5
LANU	**Lannavaara**	**1.01**	**30**	*eP*	Pg	13 25 04.0	-1.4
HARU	**Harads**	**1.03**	**173**	*eP*	Pg	13 25 04.4	-1.6
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	13 25 16.5	-0.9
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	13 25 18.8	-0.1
KIF				*e*S	Sn	13 25 44.1	+1.4
KIF	**Kilpisjarvi**	**1.83**	**1**	P	Pn	13 25 18.7	-0.2
LILU	**Lilltraesk**	**1.94**	**190**	*eP*	Pn	13 25 20.6	+0.3
SGF	**Sodankyl**	**2.29**	**81**	*eP*	Pn	13 25 25.5	+0.3
SGF				*e*SG	Sg	13 25 56.6	-3.1
SGF	**Sodankyl**	**2.29**	**81**	P	Pn	13 25 25.4	+0.2
OUL	**Oulu**	**2.99**	**132**	*e*SB	Sb	13 26 16.5	-1.0
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	13 26 22.6	-0.9
KEV				*e*SG	Sg	13 26 34.2	-3.9
KEV				MSG		13 26 39.0	
	comp=Z,4.5nm,0.3s						
MSF	**Maaselka**	**3.58**	**107**	*e*SG	Sg	13 26 35.1	-6.2
MSF				MSG		13 26 40.1	
	comp=Z,2.6nm,0.3s						
KU4	**Liikasenvaara**	**3.62**	**99**	*e*SG	Sg	13 26 40.1	-2.6
KU4				MSG		13 26 45.0	
	comp=Z,2.5nm,0.3s						
KU4	**Liikasenvaara**	**3.62**	**99**	Sg	Sg	13 26 40.0	-2.7
	comp=Z,2.5nm,0.3s						
KU6	**Riekki**	**3.86**	**103**	*eP*	Pn	13 25 45.9	-0.8
KU6				*e*SG	Sg	13 26 45.6	-4.5

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*MAN **22** 13:38:38.9, 593N×12619E, h181km, mb2.5, ML4.0, MS5.9*
*ISCJB **22** 13:38:39.6±0.6, 598N±008×1263E±0.1, h174km±5km, mb3.9/16, Error ellipse: s-maj=24.3km s-min=8.0km az=126.0*
*IDC **22** 13:38:41.0±6.1, 582N×12594E, h170km±55km, mb3.5/11, mb1 3.5/11, mb1mx3.4/21, mbtmp3.9/11, Error ellipse: s-maj=73.1km s-min=13.3km az=68.0*
*NEIC **22** 13:38:40.4±1.0, 587N×12591E, h163km±10km, mb4.2/3, Error ellipse: s-maj=40.8km s-min=8.6km az=67.0*
ISC 22 13:38:40.7±0.6, 602N±008×1263E±01, h168km±5km, n36, σ1§00/38, mb3.9/16, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.27**	**325**	*e*Pn	**Pn**	**13 39 08.3**	**-1.1**
DAV				*e*Sn	**Sn**	**13 39 29.5**	**-2.1**
KCP	**Kidapawan**	**1.56**	**309**	⇓*i P*	**Pn**	**13 39 13.2**	**+0.9**
KCP				*i* S	**Sn**	**13 39 37.9**	**+1.3**
BUKP	**Musuan**	**2.23**	**326**	*eP*	**Pn**	**13 39 19.2**	**-0.3**
BUKP				*e*S	**Sn**	**13 39 50.2**	**+0.8**
BUTP	**Butuan**	**3.01**	**347**	*eP*	**Pn**	**13 39 29.3**	**+0.4**
SCPH	**Surigao**	**3.82**	**348**	*eP*	**Pn**	**13 39 38.8**	**-0.3**
MSLP	**Maasin**	**4.33**	**341**	*eP*	**Pn**	**13 39 45.6**	**-0.1**
KAKA	**Kakadu**	**19.58**	**162**	*eP*	**P**	**13 42 54.7**	**-1.1**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.98**	**182**	*eP*	**P**	**13 43 38.7**	**-1.0**
	3.0nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.98**	**182**	P	**P**	**13 43 38.5**	**-1.2**
	1.5nm,0.6s,mb3.7,baz=42,slow=11,SNR=14						
PMG	**Port Moresby**	**25.81**	**126**	*eP*	**P**	**13 43 58.9**	**+2.6**
WRAB	**Tennant Creek**	**26.98**	**163**	*eP*	**P**	**13 44 09.1**	**+2.4**
	0.9nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**26.98**	**163**	P	**P**	**13 44 07.5**	**+0.7**
	0.9nm,0.4s,mb3.7,baz=344,slow=11,SNR=12						
WB2	**Warramunga Arr**	**26.98**	**163**	*eP*	**P**	**13 44 08.6**	**+1.8**
AS31	**Alice Springs**	**30.42**	**166**	*eP*	**P**	**13 44 37.6**	**+0.4**
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**13 44 34.8**	**-2.4**
	0.2nm,0.3s,mb3.3,baz=340,slow=7.2,SNR=9.5						
ASAR				PcP	PcP	13 47 33.2	+0.7
	0.4nm,0.4s,baz=352,slow=3.0,SNR=7.0						
ASPA	**Alice Springs**	**30.42**	**166**	*eP*	**P**	**13 44 36.8**	**-0.4**
STKA	**Stephens Creek**	**40.41**	**160**	P	**P**	**13 46 01.9**	**-0.4**
	0.6nm,0.5s,mb3.5,baz=194,slow=19,SNR=2.7						
STKA				PcP	PcP	13 48 02.1	+0.1
	1.3nm,0.5s,baz=326,slow=8.0,SNR=3.8						
STKA	**Stephens Creek**	**40.41**	**160**	P	**P**	**13 46 01.9**	**-0.4**
STKA				PcP	PcP	13 48 02.1	+0.1
GUN	**Gumba**	**44.08**	**304**	*eP*	**P**	**13 46 32.5**	**+0.5**
	10nm,0.4s,mb4.8						
PKI	**Pulchoki**	**44.34**	**304**	*eP*	**P**	**13 46 34.1**	**0.0**
	5.0nm,0.7s,mb4.3						
KKN	**Kakani**	**44.52**	**304**	*eP*	**P**	**13 46 35.7**	**+0.1**
	5.6nm,0.7s,mb4.3						
DMN	**Daman**	**44.60**	**304**	*eP*	**P**	**13 46 36.6**	**+0.4**
SONM	**Songino Array**	**45.01**	**341**	P	**P**	**13 46 40.6**	**+1.2**
	0.1nm,0.3s,mb2.9,baz=144,slow=6.1,SNR=4.3						
SONM				PcP	PcP	13 48 17.4	0.0
	0.5nm,0.6s,baz=166,slow=4.2,SNR=4.0						
GKN	**Gorkha**	**45.13**	**304**	*eP*	**P**	**13 46 40.1**	**-0.2**
KOLN	**Koldanda**	**45.91**	**303**	*eP*	**P**	**13 46 46.8**	**+0.3**
	7.8nm,0.3s,mb4.8						
MK31	**Makanchi Array**	**55.45**	**325**	*eP*	**P**	**13 47 58.2**	**+0.4**
MKAR	**Makanchi Array**	**55.45**	**325**	P	**P**	**13 47 57.9**	**+0.1**
	1.6nm,0.4s,mb4.1,baz=120,slow=8.2,SNR=20						
MKAR				PcP	PcP	13 48 56.2	+0.3
	0.7nm,0.6s,baz=114,slow=5.1,SNR=4.8						
BVAR	**Borovoye Array**	**65.19**	**327**	P	**P**	**13 49 03.7**	**-0.2**
	1.1nm,0.9s,mb3.7,baz=133,slow=8.7,SNR=4.6						
AKTK	**Aktyubinsk**	**71.62**	**321**	P	**P**	**13 49 43.3**	**-0.5**
AKTO	**Aktyubinsk**	**71.62**	**321**	P	**P**	**13 49 43.3**	**-0.5**
	1.0nm,0.4s,mb3.9,baz=68,slow=8.0,SNR=4.0						
JOF	**Joensuu**	**86.97**	**333**	*ep*	**P**	**13 51 00.8**	**-6.0**
ARCES	**ARCESS Array B**	**88.17**	**340**	P	**P**	**13 51 11.4**	**-1.2**
	3.2nm,0.8s,mb4.2,baz=90,slow=6.3,SNR=8.2						
BRTR	**Keskin Array B**	**88.25**	**310**	P	**P**	**13 51 11.8**	**-1.2**
	0.7nm,0.8s,mb3.6,baz=123,slow=4.9,SNR=5.1						
KAF	**Kangasniemi**	**89.39**	**332**	*ep*	**P**	**13 51 13.4**	**-4.9**
	baz=76,slow=4.3						
FINES	**FINESS Array B**	**89.63**	**332**	P	**P**	**13 51 19.1**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=60,slow=4.3,SNR=9.7						
TORD	**Torodi Ar. Bea**	**121.80**	**289**	PKP	PKPdf	13 57 15.1	+0.4
	0.4nm,0.3s,baz=68,slow=1.4,SNR=18						

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*NEIC **22** 13:43:00.6, 1539N×9566W, h20km, MD4.4(MEX), After MEX.*
MEX 22 13:43:00.7±0.6, 1545N×9568W, h14km±23km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**308**	*i P*	Pg	13 43 09.7	-1.2
HUIG				*i* S	Sg	13 43 16.6	-1.3
CMIG	**Matias Romero**	**1.81**	**25**	*i P*	Pn	13 43 28.1	-3.2
CMIG				*i* S	Sn	13 43 49.3	-4.7
CMIG	**Matias Romero**	**1.81**	**25**	*i P*	Pn	13 43 28.1	-3.2
CMIG				*i* S	Sn	13 43 49.3	-4.7
CMIG				*i* S	Sn	13 43 51.6	-2.4
VHO	**Vista Hermosa**	**1.91**	**328**	*i P*	Pn	13 43 29.2	-3.5
VHO				*i* S	Sn	13 43 52.6	-4.0
VHO	**Vista Hermosa**	**1.91**	**328**	*i P*	Pn	13 43 31.2	-1.6
VHO				*i* S	Sn	13 43 53.9	-2.6
OXX	**Oaxaca**	**1.91**	**329**	*i P*	Pn	13 43 31.8	-1.0
OXX				*i* S	Sn	13 43 54.8	-1.8
PNIG	**Pinotepa**	**2.53**	**292**	*i P*	Pn	13 43 39.2	-2.2
PNIG				*i* S	Sn	13 44 07.0	-5.0
PNIG	**Pinotepa**	**2.53**	**292**	*i P*	Pn	13 43 38.2	-3.2
PNIG				*i* S	Sn	13 44 07.0	-5.0
TUIG	**Tuzandepetl**	**2.84**	**25**	*i P*	Pn	13 43 42.6	-3.0
TUIG				*i* S	Sn	13 44 16.6	-3.0
TUIG	**Tuzandepetl**	**2.84**	**25**	*i P*	Pn	13 43 44.0	-1.6
TUIG				*i* S	Sn	13 44 18.0	-1.7
UTMO	**Huajuapan**	**3.12**	**320**	*eP*	Pn	13 43 47.9	-1.6
UTMO				*i* S	Sn	13 44 23.8	-2.8
TPIG	**Tehuac#an**	**3.37**	**332**	*eP*	Pn	13 43 49.0	-3.9
TPIG				*i* S	Sn	13 44 30.3	-2.3
CCIG	**Comitan**	**3.51**	**76**	*i P*	Pn	13 43 50.9	-3.9
CCIG				*i* S	Sn	13 44 32.5	-3.7
LVIG	**Laguna Verde**	**4.31**	**351**	*i* S	Sn	13 44 53.1	-2.8
MEIG	**Mezcala**	**4.51**	**304**	*eP*	Pn	13 44 08.2	-0.4
MEIG				*i* S	Sn	13 44 56.5	-4.3
PPM	**Popocatepetl**	**4.57**	**322**	*eP*	Pn	13 44 09.7	+0.3
PPM				*i* S	Sn	13 44 58.8	-3.5
PLIG	**Platanillo**	**4.69**	**309**	*eP*	Pn	13 44 08.9	-2.1
PLIG				*i* S	Sn	13 45 00.5	-4.6
PLIG	**Platanillo**	**4.69**	**309**	*i P*	Pn	13 44 12.0	+1.1
PLIG				*i* S	Sn	13 45 00.7	-4.4
YAIG	**Yautepec**	**4.69**	**317**	*i* S	Sn	13 45 00.7	-4.6
IIO	**Organos**	**5.04**	**325**	*eP*	Pn	13 44 11.4	-4.5
MOIG	**Morelia**	**6.73**	**309**	*i* S	Sn	13 45 51.6	-3.9
TEIG	**Tepich**	**8.50**	**55**	*i P*	Pn	13 45 00.4	-3.0
TEIG				*i* S	Sn	13 46 34.8	-4.3
TEIG	**Tepich**	**8.50**	**55**	*i P*	Pn	13 44 59.5	-3.9
TEIG				*i* S	Sn	13 46 32.5	-6.6

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*CSEM **22** 13:52:25.0, 67.19N×2068E, h0km, ML2.9, Mining explosion. After UPP*
*UPP **22** 13:52:25.0, 67.19N×2068E, h0km, ML2.9, Mining explosion.*
HEL 22 13:52:25.6±0.1, 6719N×2069E, h0km, ML2.9(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**214**	*i P*	Pg	13 52 26.8	-0.4
MASU	**Masugnsbyn**	**0.58**	**62**	*i P*	Pg	13 52 36.0	-0.7
KUA	**Kurravaara**	**0.78**	**350**	*i P*	Pg	13 52 39.7	-0

RPZ Rata Peaks 36.69 161 LR LR 14 20 14.0
comp=Z,616nm,18.3s,MS4.4,baz=1.5,slow=31
SONM Songino Array 71.61 328 P **P 14 12 36.7 0.0**
0.4nm,0.8s,mb3.4,baz=108,slow=4.8,SNR=4.6
QSPA South Pole Qui 80.39 180 *e*P **P 14 13 26.7 0.0**
4.0nm,0.7s,mb4.5

*BNS **22** 14:14:16.6±2.4, 50.42N×9.20E, h1km, ML2.1*
*PRU **22** 14:14:19.7, 49.44N×6.71E, h0km*
*ISCJB **22** 14:14:20.7±0.2, 49.35N±0.01×6.82E±0.03, h0km, Error ellipse: s-maj=2.4km s-min=1.9km az=9.1*
*MOS **22** 14:14:20.9±0.8, 49.41N×6.78E, h7km, mb3.6/1, Error ellipse: s-maj=10.6km s-min=5.7km az=87.1*
*STR **22** 14:14:22.2±0.2, 49.37N×6.84E, h1km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **22** 14:14:22.3±0.1, 49.39N×6.90E, h2km, ML2.9/14, Error ellipse: s-maj=1.0km s-min=0.9km az=80.0*
*LDG **22** 14:14:22.6±0.1, 49.39N×6.88E, h1km, Md3.1/1, Ml3.0/15, Error ellipse: s-maj=1.7km s-min=1.5km az=155.0, Suspected Mining induced.*
*NEIC **22** 14:14:22.6, 49.39N×6.88E, h1km, ML2.6(STR), ML3.0(LDG), After LDG.*
*BGR **22** 14:14:22.6±0.5, 49.36N×6.85E, h1km, ML2.1, Error ellipse: s-maj=7.8km s-min=4.4km az=34.0*

ISC 22 14:14:21.5±0.2, 49.36N±0.001×6.85E±0.002, h0km, n66, σ19/04/125, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**22**	Pg	**Pg**	**14 14 29.0**	**+0.5**
RUP				Sg	**Sg**	**14 14 35.0**	**+1.8**
WLF	**Walferdange**	**0.55**	**304**	*e*Pg	**Pg**	**14 14 33.4**	**+1.5**
WLF				*e*Sg	**Sg**	**14 14 39.6**	**+0.6**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**14 14 34.4**	**-0.3**
LANF	**Langenberg**	**0.73**	**121**	Pg	**Pg**	**14 14 36.0**	**+0.4**
LANF				Sg	**Sg**	**14 14 47.2**	**+2.0**
BGG	**Burgeitz**	**0.90**	**20**	*e*Pg	**Pg**	**14 14 39.8**	**+1.0**
HILG	**Hillesheim**	**0.94**	**353**	*e*Pg	**Pg**	**14 14 40.4**	**+1.0**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**14 14 42.1**	**-0.6**
SNR=1.0
CDF				*e*Sg	**Sg**	**14 14 54.3**	**+0.9**
37nm,0.3s,SNR=1.0
CDF				*e*Sn	**Sn**	**14 14 56.2**	**-1.2**
SNR=1.0
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	**Pg**	**14 14 41.0**	**+0.4**
CDF				*e*Pn	**Pn**	**14 14 42.1**	**-0.6**
CDF				*e*Sg	**Sg**	**14 14 54.3**	**+0.9**
CDF				*e*Sn	**Sn**	**14 14 56.2**	**-1.2**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**14 14 42.1**	**-0.6**
SNR=1.0
CDF				*e*Sg	**Sg**	**14 14 54.3**	**+0.9**
18nm,0.3s,SNR=1.0
CDF				*e*Sn	**Sn**	**14 14 56.2**	**-1.2**
SNR=1.0
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**14 14 41.3**	**+0.5**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**14 14 44.5**	**+0.6**
ECH				Sg	**Sg**	**14 15 00.0**	**+1.0**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**14 14 44.8**	**+0.9**
baz=55
RFYF				*e*Sg	**Sg**	**14 15 00.7**	**+1.7**
40nm,0.2s
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**14 14 44.8**	**+0.9**
RFYF				*e*Sg	**Sg**	**14 15 00.7**	**+1.7**
20nm,0.2s
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**14 14 45.3**	**+0.2**
STB				*e*Sg	**Sg**	**14 15 02.4**	**+1.3**
24nm,0.5s
STB	**Steinbach**	**1.23**	**360**	Pg	**Pg**	**14 14 45.3**	**+0.2**
STB				Sg	**Sg**	**14 15 02.3**	**+1.2**
24nm,0.5s
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**14 14 46.5**	**+0.6**
THEF				Sg	**Sg**	**14 15 03.2**	**+0.8**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**14 14 46.3**	**-0.1**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**14 14 46.7**	**-0.4**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**14 14 46.2**	**-1.1**
TNS				*e*Sg	**Sg**	**14 15 05.8**	**+1.0**
DREG	**Dreilaegerbach**	**1.36**	**343**	*e*Pg	**Pg**	**14 14 47.8**	**+0.2**
MEM	**Membach**	**1.36**	**337**	P	**Pg**	**14 14 47.8**	**+0.2**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**14 14 48.9**	**+0.5**
SNR=1.0
HAU				*e*Sg	**Sg**	**14 15 07.5**	**+1.0**
51nm,0.3s
HAU	**Haudompre**	**1.40**	**194**	*e*Pn	**Pn**	**14 14 47.4**	**-0.9**
HAU				*e*Pg	**Pg**	**14 14 48.9**	**+0.5**
HAU				*e*Sg	**Sg**	**14 15 07.5**	**+1.0**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**14 14 48.9**	**+0.5**
SNR=1.0
HAU				*e*Sg	**Sg**	**14 15 07.5**	**+1.0**
25nm,0.3s
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**14 14 48.1**	**-0.7**
BFO				*e*Sg	**Sg**	**14 15 07.4**	**+0.1**
BCLA	**Clavier**	**1.46**	**317**	P	**Pn**	**14 14 49.6**	**+0.5**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**14 14 50.5**	**+0.9**
baz=55,SNR=1.0
MEZF				*e*Sn	**Sn**	**14 15 09.5**	**+0.4**
23nm,0.4s,SNR=1.0
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**14 14 50.5**	**+0.9**
SNR=1.0
MEZF				*e*Sn	**Sn**	**14 15 09.5**	**+0.4**
12nm,0.4s,SNR=1.0
GIVF	**Givet**	**1.51**	**300**	*e*Pn	**Pn**	**14 14 48.9**	**-0.9**
SNR=1.0
GIVF				*e*Sg	**Sg**	**14 15 10.6**	**+0.6**
21nm,0.4s,SNR=1.0
GIVF	**Givet**	**1.51**	**300**	*e*Pn	**Pn**	**14 14 48.9**	**-0.9**
SNR=1.0
GIVF				*e*Sg	**Sg**	**14 15 10.6**	**+0.6**
10nm,0.4s,SNR=1.0
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**14 14 51.4**	**+0.6**
MOF				Sg	**Sg**	**14 15 11.8**	**+1.3**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**14 14 51.9**	**+0.7**
SNR=1.0
HINF				*e*Sg	**Sg**	**14 15 12.2**	**+0.9**
73nm,0.3s
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pn	**Pn**	**14 14 49.4**	**-0.9**
HINF				*e*Pg	**Pg**	**14 14 51.9**	**+0.7**
HINF				*e*Sg	**Sg**	**14 15 12.2**	**+0.9**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**14 14 51.9**	**+0.7**
SNR=1.0
HINF				*e*Sg	**Sg**	**14 15 12.2**	**+0.9**
36nm,0.3s
DOU	**Dourbes**	**1.64**	**297**	P	**Pn**	**14 14 52.9**	**+1.4**
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**14 14 52.4**	**-1.1**
baz=47
SFTF				*e*Sg	**Sg**	**14 15 17.2**	**+2.1**
21nm,0.3s
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**14 14 52.4**	**-1.1**
SFTF				*e*Sg	**Sg**	**14 15 17.2**	**+2.1**
11nm,0.3s
FELD	**Feldberg im Sc**	**1.67**	**152**	Pg	**Pg**	**14 14 53.3**	**-0.3**
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**14 14 53.4**	**-1.1**
SNR=1.0
BAIF				*e*Sn	**Sn**	**14 15 16.6**	**-2.0**
SNR=1.0
BAIF				*e*Sg	**Sg**	**14 15 21.4**	**+0.4**
11nm,0.3s
BAIF	**Baives**	**1.85**	**293**	*e*P	**Pn**	**14 14 53.4**	**-1.1**
BAIF				*e*		14 15 16.6	
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**14 14 53.4**	**-1.1**
SNR=1.0
BAIF				*e*Sn	**Sn**	**14 15 16.6**	**-2.0**
SNR=1.0
BAIF				*e*Sg	**Sg**	**14 15 21.4**	**+0.4**
5.7nm,0.3s
LOMF	**Lomont**	**2.02**	**180**	Pg	**Pg**	**14 15 00.7**	**+0.6**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**14 15 07.4**	**-0.2**
CABF				*e*Sg	**Sg**	**14 15 51.6**	**0.0**
4.9nm,0.4s
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**14 15 07.4**	**-0.2**
CABF				*e*Sg	**Sg**	**14 15 51.6**	**0.0**
2.5nm,0.4s
GRF	**Grafenberg Arr**	**2.87**	**82**	*e*Pg	**Pg**	**14 15 16.7**	**+0.2**
SNR=3.3
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**14 15 08.5**	**-0.4**
baz=48,SNR=1.0
LOR				*e*Sn	**Sn**	**14 15 43.2**	**-1.2**
SNR=1.0
LOR				*e*Sg	**Sg**	**14 15 53.7**	**-0.9**
8.8nm,0.3s,SNR=1.0
LOR	**Lormes**	**2.90**	**225**	*e*P	**Pn**	**14 15 08.5**	**-0.4**
LOR				*e*		14 15 43.2	
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**14 15 08.5**	**-0.4**
SNR=1.0
LOR				*e*Sn	**Sn**	**14 15 43.2**	**-1.2**
SNR=1.0
LOR				*e*Sg	**Sg**	**14 15 53.7**	**-0.9**
4.4nm,0.3s,SNR=1.0
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**14 15 12.0**	**-1.2**
SNR=1.0
SSF				*e*Sn	**Sn**	**14 15 49.7**	**-2.4**
SNR=1.0
SSF				*e*Sg	**Sg**	**14 16 04.4**	**-0.3**
13nm,0.5s
SSF	**Saint Saulge**	**3.21**	**225**	*e*P	**Pn**	**14 15 12.0**	**-1.2**
SSF				*e*		14 15 49.7	
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**14 15 12.0**	**-1.2**
SNR=1.0
SSF				*e*Sn	**Sn**	**14 15 49.7**	**-2.4**
SNR=1.0
SSF				*e*Sg	**Sg**	**14 16 04.4**	**-0.3**
6.4nm,0.5s
MOX	**Moxa**	**3.33**	**66**	*e*Pg	**Pg**	**14 15 23.1**	**-2.3**
SNR=1.5
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**14 15 15.0**	**-0.6**
SNR=1.0
SMF				*e*Sn	**Sn**	**14 15 53.4**	**-3.1**
SNR=1.0
SMF				*e*Sg	**Sg**	**14 16 09.9**	**-0.5**
8.0nm,0.5s
SMF	**Signal de Mont**	**3.39**	**218**	*e*P	**Pn**	**14 15 15.0**	**-0.6**
SMF				*e*		14 15 53.4	
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**14 15 15.0**	**-0.6**
SNR=1.0
SMF				*e*Sn	**Sn**	**14 15 53.4**	**-3.1**
SNR=1.0
SMF				*e*Sg	**Sg**	**14 16 09.9**	**-0.5**
4.0nm,0.5s
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**14 15 17.5**	**+0.6**
SNR=1.0
AVF				*e*Sn	**Sn**	**14 15 57.1**	**-1.8**
4.3nm,0.4s,SNR=1.0
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**14 15 17.5**	**+0.6**
SNR=1.0
AVF				*e*Sn	**Sn**	**14 15 57.1**	**-1.8**
2.2nm,0.4s,SNR=1.0
GUNZ	**Gunzen**	**3.69**	**72**	*e*Sg	**Sg**	**14 16 19.2**	**-0.7**
WERD	**Werda**	**3.69**	**71**	*e*Pg	**Pg**	**14 15 30.7**	**-1.6**
SNR=1.6
WERD				*e*Sg	**Sg**	**14 16 18.7**	**-1.4**
NKC	**Novy Kostel**	**3.73**	**74**	*e*PG	**Pg**	**14 15 30.2**	**-2.8**
NKC				*e*SG	**Sg**	**14 16 20.4**	**-1.0**
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Sn	**Sn**	**14 16 06.3**	**-2.6**
SNR=1.0
BGF				*e*Sg	**Sg**	**14 16 26.0**	**-0.5**
22nm,0.4s
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Sn	**Sn**	**14 16 06.3**	**-2.6**
SNR=1.0
BGF				*e*Sg	**Sg**	**14 16 26.0**	**-0.5**
11nm,0.4s
WET	**Wettzell**	**3.96**	**91**	*e*Pn	**Pn**	**14 15 24.0**	**+0.6**
SNR=2.1
KHC	**Kasperske Hory**	**4.41**	**90**	*e*PN	**Pn**	**14 15 29.4**	**-0.3**
KHC				*e*SG	**Sg**	**14 16 43.9**	**+0.6**
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**14 15 32.0**	**+0.6**
SNR=5.7
FLN	**La Foliniere**	**4.86**	**266**	*e*Pn	**Pn**	**14 15 35.0**	**-0.8**
baz=77
FLN				*e*Sn	**Sn**	**14 16 28.8**	**-4.0**

*ISCJB **22** 14:30:29.6±4.9, 47.5S±0.3×152.8E±0.1, h69km±34km, mb4.3/7, Error ellipse: s-maj=48.2km s-min=22.0km az=176.8*
*NEIC **22** 14:30:31.0±3.4, 46.4S×152.82E, h75km±24km, mb4.7/4, Error ellipse: s-maj=32.4km s-min=15.7km az=189.0*
*IDC **22** 14:30:32.8±6.4, 48.3S×152.86E, h83km±50km, mb4.2/4, mb1 4.3/5, mb1mx3.7/16, mbtmp4.5/5, ML3.7/1, Error ellipse: s-maj=50.6km s-min=24.7km az=6.0*

ISC 22 14:30:31.2±4.5, 47.5S±0.3×152.9E±0.1, h73km±29km, n19, σ06/66/18, mb4.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.36**	**230**	P	**Pn**	**14 32 16.5**	**+0.7**
7.3nm,0.3s,baz=45,slow=13,SNR=25
PMG				S	**Sn**	**14 33 38.0**	**+0.2**
7.8nm,0.3s,baz=98,slow=10.0,SNR=5.4
PMG	**Port Moresby**	**7.36**	**230**	*e*S	**Sn**	**14 33 36.0**	**-1.9**
PMG	**Port Moresby**	**7.36**	**230**	*e*P	**Pn**	**14 32 16.3**	**+0.5**
PMG				S	**Sn**	**14 33 38.0**	**+0.2**
KAKA	**Kakadu**	**21.69**	**247**	*e*P	**P**	**14 35 15.3**	**-0.7**
30nm,0.4s,mb5.0
DZM	**Mont Dzumac**	**21.74**	**144**	P	**P**	**14 35 16.0**	**-0.5**
14nm,0.8s,mb4.3,baz=350,slow=18,SNR=17
WRAB	**Tennant Creek**	**23.56**	**228**	*e*P	**P**	**14 35 34.8**	**-0.2**
8.9nm,0.5s,mb4.3
WB2	**Warramunga Arr**	**23.57**	**228**	*e*P	**P**	**14 35 35.2**	**+0.2**
WB2	**Warramunga Arr**	**23.57**	**228**	*e*P	**P**	**14 35 34.9**	**-0.2**
WRA	**Warramunga Arr**	**23.57**	**228**	P	**P**	**14 35 35.0**	**-0.1**
8.2nm,0.5s,mb4.4,baz=54,slow=9.2,SNR=24
AS31	**Alice Springs**	**26.28**	**222**	*e*P	**P**	**14 36 00.1**	**+0.4**
ASAR	**Alice Springs**	**26.29**	**222**	P	**P**	**14 36 00.2**	**+0.5**
1.9nm,0.4s,mb3.9,baz=52,slow=8.9,SNR=30
ASPA	**Alice Springs**	**26.29**	**222**	*e*P	**P**	**14 36 00.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**29.77**	**241**	*e*P	**P**	**14 36 28.7**	**-2.1**
5.4nm,0.3s,mb4.7
FITZ	**Fitzroy Crossi**	**29.77**	**241**	P	**P**	**14 36 30.7**	**-0.1**
3.0nm,0.3s,mb4.3,baz=46,slow=7.7,SNR=23
MBWA	**Marble Bar**	**36.09**	**240**	*e*P	**P**	**14 37 26.1**	**+0.3**
VNDA	**Vanda**	**72.96**	**178**	*e*P	**P**	**14 41 52.8**	**0.0**
0.8nm,0.7s,mb3.7
TOA0	**Torodi Ar. Sit**	**150.32**	**288**	*e*PKPbc	PKPbc	14 50 15.7	+1.7
TORD	**Torodi Ar. Bea**	**150.32**	**288**	PKPbc	PKPbc	14 50 14.6	+0.5
1.2nm,0.7s,baz=71,slow=2.3,SNR=10.0
TORD				PKPab	PKPab	14 50 22.9	+2.4
0.3nm,0.4s,baz=75,slow=3.7,SNR=5.7
BDFB	**Brasilia**	**151.12**	**135**	PKPbc	PKPbc	14 50 17.6	+1.7
0.6nm,0.3s,baz=287,slow=3.2,SNR=3.3

*ISCJB **22** 14:35:42.6±0.6, 021N±0.10×1262E±02, h10km, mb4.1/10, MS4.1/3, Error ellipse: s-maj=25.6km s-min=8.9km az=124.9*
*IDC **22** 14:35:43.6±0.9, 006S×1258E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML3.6/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/22, Error ellipse: s-maj=97.9km s-min=15.8km az=68.0*
*NEIC **22** 14:35:44.7±0.5, 007N×1259.1E, h10km, mb4.3/4, Error ellipse: s-maj=44.9km s-min=7.3km az=68.0*

ISC 22 14:35:47.7±8.4, 01N±02×1261E±02, h30km±59km, n23, σ0975/19, mb4.1/10, MS4.1/3, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.86**	**275**	P	**Pn**	**14 39 29.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.13**	**181**	P	**Pn**	**14 39 56.0**	**-1.2**
0.2nm,0.3s,baz=30,slow=8.9,SNR=3.7
WRAB	**Tennant Creek**	**21.52**	**158**	*e*P	**P**	**14 40 34.1**	**-0.1**
7.7nm,0.8s,mb4.2
WRA	**Warramunga Arr**	**21.52**	**158**	P	**P**	**14 40 33.5**	**-0.7**
5.9nm,0.7s,mb4.1,baz=334,slow=11,SNR=19
WB2	**Warramunga Arr**	**21.53**	**158**	*e*P	**P**	**14 40 33.9**	**-0.4**
AS31	**Alice Springs**	**24.84**	**163**	*e*P	**P**	**14 41 08.1**	**+0.7**
ASPA	**Alice Springs**	**24.84**	**163**	*e*P	**P**	**14 41 08.1**	**+0.7**
ASAR	**Alice Springs**	**24.84**	**163**	P	**P**	**14 41 07.8**	**+0.4**
6.7nm,0.7s,mb4.3,baz=343,slow=7.1,SNR=52
ASAR				PcP	PcP	14 44 44.0	+1.1
0.6nm,0.8s,baz=341,slow=1.9,SNR=6.3
CBIJ	**Chichi jima**	**30.94**	**29**	LR	LR	14 52 49.0
comp=Z,248nm,20.8s,MS3.9,baz=138,slow=33
STKA	**Stephens Creek**	**35.05**	**157**	↑*e*P	**P**	**14 42 38.3**	**+0.5**
7.1nm,0.7s,mb4.7
STKA	**Stephens Creek**	**35.05**	**157**	P	**P**	**14 42 38.7**	**+0.9**
9.4nm,0.8s,mb4.8,baz=329,slow=7.2,SNR=18
SONM	**Songino Array**	**50.50**	**343**	P	**P**	**14 44 43.8**	**+0.8**
1.9nm,0.9s,mb4.0,baz=157,slow=8.8,SNR=9.8
SONM				PcP	PcP	14 46 02.3	+1.6
0.7nm,0.9s,baz=157,slow=5.5,SNR=3.6
MK31	**Makanchi Array**	**60.17**	**327**	*e*P	**P**	**14 45 52.5**	**-0.1**
MKAR	**Makanchi Array**	**60.17**	**327**	P	**P**	**14 45 52.1**	**-0.5**
1.9nm,0.5s,mb4.4,baz=123,slow=8.5,SNR=21
MKAR				PcP	PcP	14 46 39.3	+1.3
1.1nm,1.0s,baz=112,slow=6.4,SNR=2.9
BRVK	**Borovoye**	**70.07**	**328**	P	**P**	**14 46 57.6**	**+0.8**
1.5nm,0.8s,mb4.0
ZRNK	**Zerenda**	**70.70**	**327**	*e*P	**P**	**14 46 59.5**	**-1.2**
1.7nm,0.7s,mb4.1
VNDA	**Vanda**	**79.97**	**173**	P	**P**	**14 47 54.0**	**0.0**
0.5nm,0.7s,mb3.5,baz=348,slow=6.6,SNR=3.6
VNDA	**Vanda**	**79.97**	**173**	*e*P	**P**	**14 47 53.2**	**-0.7**
SBA	**Scott Base**	**80.89**	**172**	P	**P**	**14 47 59.6**	**+0.7**
PPT	**Papeete**	**84.62**	**108**	LR	LR	15 23 07.4
comp=Z,199nm,19.7s,MS4.5,baz=190,slow=33
KMBO	**Kilima Mbogo**	**88.86**	**269**	LR	LR	15 28 11.4
comp=Z,37nm,18.2s,MS3.8,baz=89,slow=36
BRTR	**Keskin Array B**	**91.82**	**310**	P	**P**	**14 48 51.5**	**-1.2**
0.4nm,0.7s,mb3.9,baz=127,slow=1.9,SNR=4.1
TORD	**Torodi Ar. Bea**	**123.37**	**286**	PKP	PKPdf	14 54 42.4	+0.6
1.0nm,1.0s,baz=81,slow=0.9,SNR=4.8

*STR **22** 14:58:12.4±0.9, 43.34N×0.85W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **22** 14:58:12.7±0.1, 43.25N×0.90W, h20km, ML2.4/8, Error ellipse: s-maj=1.4km s-min=0.9km az=141.0*
*LDG **22** 14:58:12.6±0.1, 43.24N×0.92W, h21km, Md2.4/2, Ml2.4/8, Error ellipse: s-maj=1.3km s-min=1.2km az=172.0*

MDD 22 14:58:12.5±0.3, 43.30N×0.92W, h19km±3km, mbLg1.8/12, 3C, Error ellipse: s-maj=4.0km s-min=2.1km az=2.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.09**	**188**	Pg	Pg	14 58 16.5	+0.3
ORDF				Sg	Sg	14 58 19.0	+0.3
ORDF	**Ordiarp**	**0.09**	**188**	P	Pg	14 58 16.5	+0.3
ORDF				S	Sg	14 58 18.9	+0.2
OSSF	**Osses**	**0.26**	**260**	Pg	Pg	14 58 18.6	+0.2
OSSF				Sg	Sg	14 58 22.1	-0.3
OSSF	**Osses**	**0.26**	**260**	P	Pg	14 58 18.6	+0.3
OSSF				S	Sg	14 58 22.0	-0.4
ATE	**Arette**	**0.27**	**143**	P	Pg	14 58 18.1	-0.5
ATE				S	Sg	14 58 21.9	-0.8
LARF	**Larrau**	**0.27**	**191**	Pg	Pg	14 58 18.2	-0.4
LARF				Sg	Sg	14 58 21.8	-0.9
LARF	**Larrau**	**0.27**	**191**	P	Pg	14 58 18.3	-0.3
LARF				S	Sg	14 58 21.8	-0.9
SJPF	**Ste Jean**	**0.29**	**230**	*e*Pg	Pg	14 58 18.9	-0.1
SJPF				*e*Sg	Sg	14 58 22.7	-0.7
63nm,0.2s
SJPF	**Ste Jean**	**0.29**	**230**	*e*Pg	Pg	14 58 18.9	-0.1
SJPF				*e*Sg	Sg	14 58 22.7	-0.7
32nm,0.2s
EALK	**Alkurruntz**	**0.44**	**259**	Pg	Pg	14 58 21.6	+0.1
9.2nm,0.1s,SNR=7.9
EALK				Lg		14 58 27.4
61nm,0.3s,SNR=4.0
REYF	**Montagne du Re**	**0.45**	**121**	Pg	Pg	14 58 20.8	-0.9
REYF				Sg	Sg	14 58 26.2	-1.7
REYF	**Montagne du Re**	**0.45**	**121**	P	Pg	14 58 21.0	-0.7
REYF				S	Sg	14 58 26.6	-1.3
ELIZ	**Elizondo**	**0.47**	**253**	⇑Pg	Pg	14 58 20.9	-1.1
3.0nm,0.2s,SNR=18
ELIZ				Lg		14 58 27.7
8.6nm,0.1s,SNR=6.2
IUSE	**Utxeti**	**0.58**	**233**	⇑Pg	Pg	14 58 23.7	-0.4
1.3nm,0.1s,SNR=18
IUSE				Lg		14 58 31.3
13nm,0.1s,SNR=13
IUSE	**Utxeti**	**0.58**	**233**	Pg	Pg	14 58 23.7	-0.4
1.3nm,0.1s,SNR=18
IPRE	**Itoiz**	**0.59**	**213**	Pg	Pg	14 58 23.9	-0.3
0.3nm,0.1s,SNR=18
IPRE				Lg		14 58 31.5
9.5nm,0.2s,SNR=7.9
IPRE	**Itoiz**	**0.59**	**213**	Pg	Pg	14 58 23.9	-0.4
0.3nm,0.1s,SNR=18
EPF	**Esparros**	**0.96**	**106**	*e*Pn	Pn	14 58 29.4	-1.5
EPF	**Esparros**	**0.96**	**106**	*e*Pg	Pg	14 58 30.7	-0.5
EPF				*e*Sg	Sg	14 58 43.0	-0.8
4.1nm,0.2s
EPF	**Esparros**	**0.96**	**106**	Pn	Pn	14 58 29.4	-1.5
EPF				Pg	Pg	14 58 30.7	-0.5
EPF				Lg		14 58 43.0
2.0nm,0.2s
EPF	**Esparros**	**0.96**	**106**	*e*Pg	Pg	14 58 30.7	-0.5
EPF				*e*Sg	Sg	14 58 43.0	-0.8
2.0nm,0.2s
EBIE	**Bielsa**	**0.99**	**128**	⇑Pg	Pg	14 58 30.4	-1.4
1.7nm,0.1s,SNR=18
EBIE				Lg		14 58 42.4
2.0nm,0.1s,SNR=11
EBIE	**Bielsa**	**0.99**	**128**	Pg	Pg	14 58 30.4	-1.4
1.7nm,0.1s,SNR=18
ESAC	**San Caprasio**	**1.61**	**168**	Pg	Pg	14 58 42.3	-1.3
11nm,0.3s,SNR=6.1
ESAC				Sn	Sn	14 59 00.5	+0.3
3.6nm,0.1s,SNR=8.0
ESAC				Lg		14 59 03.7
4.6nm,0.2s,SNR=7.9
ESAC	**San Caprasio**	**1.61**	**168**	Pg	Pg	14 58 42.3	-1.3
11nm,0.3s,SNR=6.1
ESAC				Sn	Sn	14 59 00.5	+0.4
3.6nm,0.1s,SNR=8.0
ELAN	**Lanestosa**	**1.84**	**269**	Pg	Pg	14 58 48.6	+0.7
0.1nm,0.1s,SNR=4.0
ELAN				Sn	Sn	14 59 08.5	+2.8
0.4nm,0.1s,SNR=4.0
ELAN	**Lanestosa**	**1.84**	**269**	Pg	Pg	14 58 48.6	+0.8
0.1nm,0.1s,SNR=4.0
LFF	**La Frestale**	**2.03**	**36**	*e*Pn	Pn	14 58 44.7	-0.9
LFF	**La Frestale**	**2.03**	**36**	*e*Pg	Pg	14 58 51.4	0.0
LFF				*e*Sn	Sn	14 59 08.0	-2.4
LFF				*e*Sg	Sg	14 59 18.3	+0.5
5.9nm,0.3s
LFF	**La Frestale**	**2.03**	**36**	Pn	Pn	14 58 44.7	-0.9
LFF				Pg	Pg	14 58 51.4	0.0
LFF				Sn	Sn	14 59 08.0	-2.4
LFF				Lg		14 59 18.3
3.0nm,0.3s
LFF	**La Frestale**	**2.03**	**36**	*e*Pg	Pg	14 58 51.4	0.0
LFF				*e*Sn	Sn	14 59 08.0	-2.4
LFF				*e*Sg	Sg	14 59 18.3	+0.5
3.0nm,0.3s
MTLF	**Montolieu**	**2.29**	**88**	*e*P	Pn	14 58 50.0	+0.8
MTLF	**Montolieu**	**2.29**	**88**	*e*Pg	Pg	14 58 55.3	-1.1
MTLF				*e*Sn	Sn	14 59 13.4	-3.4
MTLF				*e*Sg	Sg	14 59 24.7	-1.5
1.8nm,0.2s
MTLF	**Montolieu**	**2.29**	**88**	P	Pn	14 58 50.0	+0.8
MTLF				Pg	Pg	14 58 55.3	-1.1
MTLF				Sn	Sn	14 59 13.4	-3.4
MTLF				Lg		14 59 24.7
0.9nm,0.2s
MTLF	**Montolieu**	**2.29**	**88**	*e*Pg	Pg	14 58 55.3	-1.1
MTLF				*e*Sn	Sn	14 59 13.4	-3.4
MTLF				*e*Sg	Sg	14 59 24.7	-1.5
0.9nm,0.2s
RJF	**Les Rejaudoux**	**2.66**	**40**	*e*Pn	Pn	14 58 52.9	-1.4
RJF				*e*Sn	Sn	14 59 23.6	-2.3
RJF				*e*Sg	Sg	14 59 37.6	-0.4
3.2nm,

BGF	**Bois d'Agland**	**4.21**	**38**	*e*Pn	Pn	14 59 14.6	-1.0
BGF				*e*Sg	Sg	15 00 26.7	-1.0
4.5nm,0.3s							
BGF	**Bois d'Agland**	**4.21**	**38**	*e*Pn	Pn	14 59 14.6	-1.0
BGF				*e*Sg	Sg	15 00 26.7	-1.0
2.2nm,0.3s							
AVF	**Avril sur Loir**	**4.62**	**39**	*e*Pn	Pn	14 59 19.6	-1.6
SMF	**Signal de Mont**	**4.75**	**44**	*e*Pn	Pn	14 59 21.4	-1.6
SSF	**Saint Saulge**	**4.89**	**38**	*e*Pn	Pn	14 59 22.9	-2.0
LOR	**Lormes**	**5.21**	**39**	*e*Pn	Pn	14 59 27.8	-1.5
LDF	**La Druitiere**	**5.32**	**6**	*e*Pn	Pn	14 59 29.6	-1.3
LDF				*e*Sn	Sn	15 00 27.2	-4.4

IDC 22 15:04:21.2±1.7, 238N×12667E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=110.0km s-min=22.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.38**	**183**	P	P	15 09 01.6	+2.1
0.9nm,0.7s,baz=28,slow=13,SNR=3.2							
WRA	**Warramunga Arr**	**23.43**	**162**	P	P	15 09 31.5	-0.6
1.0nm,0.4s,baz=338,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.83**	**165**	P	P	15 10 03.1	-0.1
0.2nm,0.5s,baz=344,slow=7.5,SNR=8.1							
STKA	**Stephens Creek**	**36.90**	**159**	P	P	15 11 32.1	+0.6
1.8nm,0.7s,baz=329,slow=9.2,SNR=5.2							
MKAR	**Makanchi Array**	**58.62**	**326**	P	P	15 14 20.1	0.0
0.1nm,0.4s,baz=114,slow=8.3,SNR=4.7							

IGQ 22 15:09:20.5, 047N×7995W, h12km±4km, Mb4.0, Ms3.8, 3C-5D, Error ellipse: s-maj=5.8km s-min=3.4km az=89.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.57**	**162**	⇓P	Pg	15 09 32.7	+1.2
PINO	**Pino**	**1.48**	**115**	⇓P	Pn	15 09 48.1	+1.2
PINO				S	Sn	15 10 07.0	+0.8
TERV	**Terraza Guagua**	**1.49**	**115**	⇓P	Pn	15 09 48.3	+1.3
TERV				S	Sn	15 10 08.7	+2.3
YANA	**Yana**	**1.50**	**113**	⇑P	Pn	15 09 48.5	+1.3
YANA				S	Sn	15 10 07.1	+0.5
GGP	**Refugio Guagua**	**1.50**	**115**	⇓P	Pn	15 09 48.4	+1.2
GGP				S	Sn	15 10 10.9	+4.2
JUA2	**San Juan 2**	**1.51**	**117**	⇓P	Pn	15 09 48.7	+1.4
JUA2				S	Sn	15 10 10.9	+4.1
COTA	**Cotacachi**	**1.62**	**95**	P	Pn	15 09 52.1	+3.3
COTA				S	Sn	15 10 15.1	+5.5
NAS1	**Nasa**	**1.84**	**127**	P	Pn	15 09 54.4	+2.6
CAMI	**Rancho Maria**	**1.84**	**128**	P	Pn	15 09 53.9	+2.0
VC1	**Cotopaxi 1**	**1.90**	**126**	P	Pn	15 09 55.2	+2.5
TAMB	**Tambo**	**1.96**	**126**	⇑P	Pn	15 09 56.2	+2.8
TAMB				S	Sn	15 10 22.4	+4.3
CAYR	**Refugio Cayamb**	**2.00**	**103**	P	Pn	15 09 57.8	+3.8
CAYR				S	Sn	15 10 25.6	+6.7
CAYA	**Cayambe**	**2.00**	**101**	P	Pn	15 09 57.8	+3.7
ANTI	**Antisana**	**2.01**	**117**	⇑P	Pn	15 09 57.1	+3.0
ANTI				S	Sn	15 10 24.3	+5.1
PISA	**Pisayambo**	**2.18**	**134**	P	Pn	15 09 58.8	+2.2
IGUA	**Igualata**	**2.35**	**146**	P	Pn	15 10 03.5	+4.7
CONE	**Cono NE Rev Vo**	**2.37**	**103**	P	Pn	15 10 05.1	+6.0
ARRY	**Arrayan**	**2.47**	**143**	P	Pn	15 10 03.6	+3.1

MOS 22 15:35:00.6±0.0, 4231N×4541E, h33km, mb3.6/1, 1C-1D, Error ellipse: s-maj=74.4km s-min=17.1km az=124.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.88**	**330**	*e*PG	Pn	15 35 16.8	+0.2
SNJR				*i* S	Sn	15 35 28.5	+0.2
VLKR	**Vladikavkaz**	**0.92**	**324**	*e*PG	Pn	15 35 17.2	+0.1
VLKR				*e*S	Sn	15 35 29.2	0.0
LACR	**Lac**	**0.97**	**303**	⇓*i*PG	Pn	15 35 17.9	0.0
LACR				*e*S	Sn	15 35 30.5	0.0
ZEI	**Tsey**	**1.21**	**293**	*e*PG	Pn	15 35 21.3	+0.1
ZEI				*i* S	Sn	15 35 36.5	+0.1
ARNR	**Ardon**	**1.21**	**317**	⇑*i*PG	Pn	15 35 21.3	+0.1
ARNR				*e*S	Sn	15 35 36.6	+0.1
BTKR	**Batakoyurt**	**1.24**	**329**	*e*PG	Pn	15 35 21.7	+0.1

*ISCJB **22** 15:47:31.4±1.8, 168S±0.1×1743W±02, h124km±20km, mb4.3/9, Error ellipse: s-maj=28.7km s-min=17.1km az=88.6*
*NEIC **22** 15:47:33.8±1.5, 1683S×17422W, h135km±15km, mb4.3/2, Error ellipse: s-maj=23.4km s-min=12.9km az=136.0*
*IDC **22** 15:47:34.3±2.4, 1693S×174.19W, h139km±22km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.5/9, Error ellipse: s-maj=24.1km s-min=14.2km az=130.0*
ISC 22 15:47:33.3±1.9, 170S±02×1741W±02, h125km±20km, n15, σ0§62/15, mb4.3/9, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.81**	**37**	P	**Pn**	**15 48 30.2**	**-0.1**
115nm,0.3s,baz=207,slow=3.2,SNR=294							
AFI				S	**Sn**	**15 49 09.5**	**-4.9**
425nm,0.3s,baz=58,slow=23,SNR=20							
DZM	**Mont Dzumac**	**18.99**	**251**	P	**P**	**15 51 49.3**	**+4.3**
0.3nm,0.3s,baz=85,slow=18,SNR=4.6							
URZ	**Urewera**	**22.55**	**198**	P	**P**	**15 52 22.4**	**-0.6**
21nm,0.3s,mb4.9,baz=343,slow=3.7,SNR=49							
URZ				S	**S**	**15 56 19.5**	**-1.1**
7.2nm,0.8s,baz=212,slow=23,SNR=6.8							
ARMA	**Armidale**	**33.94**	**241**	*e*P	**P**	**15 54 05.0**	**+0.6**
STKA	**Stephens Creek**	**42.65**	**241**	⇓*i*P	**P**	**15 55 17.6**	**+0.3**
5.5nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**42.65**	**241**	P	**P**	**15 55 17.6**	**+0.3**
4.9nm,0.6s,mb4.4,baz=86,slow=11,SNR=21							
WRA	**Warramunga Arr**	**48.82**	**258**	P	**P**	**15 56 04.8**	**-0.9**
1.8nm,0.4s,mb4.3,baz=96,slow=7.0,SNR=18							
ASAR	**Alice Springs**	**48.97**	**253**	P	**P**	**15 56 07.0**	**+0.2**
25nm,0.6s,mb5.3,baz=89,slow=8.5,SNR=137							
FITZ	**Fitzroy Crossi**	**57.21**	**259**	P	**P**	**15 57 07.2**	**0.0**
1.2nm,0.7s,mb4.0,baz=108,slow=3.2,SNR=3.5							
VNDA	**Vanda**	**61.74**	**186**	P	**P**	**15 57 39.1**	**+0.8**
2.2nm,0.9s,mb4.2,baz=3.9,slow=6.8,SNR=12							
QSPA	**South Pole Qui**	**73.07**	**180**	*e*P	**P**	**15 58 50.0**	**+0.4**
6.2nm,0.7s,mb4.5							
NVAR	**Mina Array Bea**	**75.97**	**42**	P	**P**	**15 59 06.8**	**+0.4**
1.5nm,0.7s,mb3.8,baz=229,slow=8.4,SNR=13							
PDAR	**Pinedale Array**	**83.90**	**42**	P	**P**	**15 59 48.6**	**-0.5**
0.7nm,0.8s,mb3.6,baz=242,slow=3.2,SNR=5.3							
KMBO	**Kilima Mbogo**	**144.21**	**243**	PKP	PKPdf	16 06 54.8	+0.5
3.3nm,0.9s,baz=68,slow=5.9,SNR=10							
BRTR	**Keskin Array B**	**146.91**	**319**	PKPbc	PKPbc	16 06 58.5	-2.5
0.4nm,0.7s,baz=156,slow=3.9,SNR=3.6							

*IDC **22** 15:48:21.8±0.8, 1340N×12162E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/25, mbtmp4.2/16, MS3.9/16, Ms1 3.9/16, ms1mx3.6/42, Error ellipse: s-maj=33.2km s-min=9.2km az=56.0*
*BJI **22** 15:48:23.1, 1287N×12157E, h40km, mB5.0, mb4.6, Ms4.4, Msz4.1*
*NEIC **22** 15:48:23.4±0.5, 1341N×12165E, h10km, mb4.7/13, MS4.6/1, Error ellipse: s-maj=20.9km s-min=8.5km az=63.0*
NEIC Felt [II PIVS] on Marinduque and at Batangas, Luzon.
*MAN **22** 15:48:23.4, 1345N×12152E, h10km, mb4.0, ML5.0, MS1.3*
*ISCJB **22** 15:48:24.1±0.5, 1342N±003×12154E±003, h24km±4km, mb4.6/53, MS4.0/22, Error ellipse: s-maj=5.5km s-min=3.5km az=98.6*
*MOS **22** 15:48:26.6±2.7, 1333N×12150E, h33km, mb5.0/19, Error ellipse: s-maj=18.3km s-min=7.3km az=124.6*
ISC 22 15:48:23.8±0.6, 1340N±003×12153E±003, h8km±4km, h21km±4.9km: pP-P, n140, σ1§39/144, mb4.6/53, MS4.0/22, 9C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.32**	**78**	*e*P	**Pg**	**15 48 30.2**	**+0.2**
BOAC				*e*S	**Sg**	**15 48 35.7**	**+1.5**
PGP	**Puerto Galera**	**0.57**	**281**	⇑*i*P	**Pg**	**15 48 33.4**	**-1.4**
TGY	**Tagaytay City**	**0.91**	**321**	⇓*i*P	**Pg**	**15 48 40.3**	**-1.0**
TGY				*i* S	**Sg**	**15 48 53.2**	**+0.1**
TGY	**Tagaytay City**	**0.91**	**321**	Pg	**Pg**	**15 48 39.7**	**-1.6**
1μm,0.3s,baz=174,slow=2.2,SNR=204							
TGY				Lg		15 48 52.7	
4μm,0.3s,baz=162,slow=23,SNR=20							
AUQP	**San Andres**	**1.12**	**94**	*e*P	**Pg**	**15 48 46.4**	**+1.0**
OTRP	**Odiongan**	**1.13**	**155**	*e*P	**Pg**	**15 48 44.9**	**-0.7**
LUBP	**Lubang**	**1.29**	**285**	*e*P	**Pn**	**15 48 45.7**	**-2.4**
LUBP				*e*S	**Sb**	**15 49 04.8**	**-0.3**
POLP	**Polilio Island**	**1.39**	**17**	*e*P	**Pn**	**15 48 46.8**	**-2.6**
BUSP	**Coron**	**1.90**	**223**	*e*P	**Pn**	**15 48 56.7**	**+0.3**
RCP	**Roxas**	**2.18**	**147**	⇑*e*P	**Pn**	**15 49 00.7**	**+0.4**
MMPH	**Masbate**	**2.29**	**116**	*e*P	**Pn**	**15 49 04.3**	**+2.5**
MMPH				*e*S	**Sn**	**15 49 28.5**	**-1.8**
BALP	**Baler**	**2.33**	**1**	*e*P	**Pn**	**15 49 02.2**	**-0.3**
PVCP	**Virac**	**2.56**	**85**	⇓*i*P	**Pn**	**15 49 06.2**	**+0.6**
PVCP				*i* S	**Sg**	**15 49 45.3**	**-0.9**
PVCP	**Virac**	**2.56**	**85**	*e*P	**Pn**	**15 49 05.3**	**-0.3**
CUYO	**Cuyo Island**	**2.58**	**191**	*e*P	**Pn**	**15 49 05.1**	**-0.7**
SCZP	**Santa Cruz**	**2.84**	**327**	*e*P	**Pn**	**15 49 08.7**	**-0.6**
GUIM	**Jordan**	**2.94**	**159**	*e*P	**Pn**	**15 49 11.1**	**+0.3**
ENPP	**El Nido**	**2.99**	**224**	*e*P	**Pn**	**15 49 11.8**	**+0.3**
BOLP	**Bolinao**	**3.35**	**332**	*e*P	**Pn**	**15 49 16.0**	**-0.5**
CAUP	**Cauayan**	**3.54**	**5**	*e*P	**Pn**	**15 49 18.4**	**-0.7**
PALP	**Palanan**	**3.75**	**13**	⇑*i*P	**Pn**	**15 49 26.5**	**+4.6**
PALP				*i* S	**Sn**	**15 49 55.2**	**-11**
PALP	**Palanan**	**3.75**	**13**	*e*P	**Pn**	**15 49 20.9**	**-1.1**
OCLP	**Ormoc**	**3.81**	**127**	*e*P	**Pn**	**15 49 27.1**	**+4.3**
LLP	**Lapu-Lapu**	**3.88**	**142**	⇓*e*P	**Pn**	**15 49 25.4**	**+1.7**
LLP				*e*S	**Sn**	**15 50 08.5**	**-1.0**
CVP	**Callao Caves**	**4.29**	**4**	⇓*e*P	**Pn**	**15 49 35.0**	**+5.6**
CVP	**Callao Caves**	**4.29**	**4**	*e*P	**Pn**	**15 49 35.0**	**+5.6**
ABRA	**Dolores**	**4.30**	**350**	*e*P	**Pn**	**15 49 30.6**	**+1.1**
MSLP	**Maasin**	**4.60**	**134**	*e*P	**Pn**	**15 49 35.3**	**+1.7**
BATP	**Bataraza**	**5.85**	**219**	*e*P	**Pn**	**15 49 52.3**	**+1.5**
BUKP	**Musuan**	**6.49**	**147**	*e*P	**Pn**	**15 50 02.6**	**+3.0**
QZH	**Quanzhou**	**11.82**	**347**	*e*P	**Pn**	**15 51 16.3**	**+3.7**
QZH				S	**Sn**	**15 53 25.8**	**+1.2**
QZH				LR	LR		
comp=N,2μm,17.0s							
QZH				LR	LR		
comp=E,1μm,15.2s							
QZH				LR	LR		
comp=Z,1μm,14.9s							
QIZ	**Qiongzhong**	**12.54**	**298**	P	**Pn**	**15 51 22.8**	**+0.3**
QIZ				AP		15 51 31.0	
QIZ				S	**Sn**	**15 53 46.1**	**+3.8**
QIZ				AMB	AMB		
comp=Z,15nm,1.5s							
QIZ				AMB	AMB		
comp=Z,123nm,3.9s							
QIZ				LR	LR		
comp=N,450nm,15.8s							
QIZ				LR	LR		
comp=Z,323nm,15.9s							
JOW	**Kunigami**	**14.79**	**24**	LR	LR	15 57 12.0	
comp=Z,246nm,19.4s,baz=8.0,slow=36							
KSM	**Kuching**	**16.23**	**224**	*e*P	**Pn**	**15 52 14.4**	**+2.2**
WHN	**Wuhan**	**18.31**	**340**	⇑P	**Pn**	**15 52 47.1**	**+9.0**
WHN				LR	LR		
comp=Z,1μm,17.8s							
KKTK	**Khon Kaen**	**18.31**	**282**	P	**Pn**	**15 52 45.0**	**+6.8**
NJ2	**Nanjing**	**18.73**	**353**	*e*P	**Pn**	**15 52 50.4**	**+7.1**
NJ2				AP	pP	15 52 57.9	+13
NJ2				XP	sP	15 53 02.8	+17
NJ2				PP		15 53 06.8	
NJ2				S	**Sn**	**15 56 17.0**	**+4.1**
NJ2				AMB	AMB		
comp=Z,30nm,0.9s							
NJ2				AMB	AMB		
comp=Z,1μm,4.0s							
NJ2				LR	LR		
comp=N,1μm,17.6s							
NJ2				LR	LR		
comp=E,2μm,11.3s							
NJ2				LR	LR		
comp=Z,480nm,12.4s							
NST	**Nakhon Sawan**	**20.83**	**279**	P	**P**	**15 53 10.4**	**+4.6**
KMI	**Kunming**	**21.20**	**306**	P	**P**	**15 53 12.6**	**+2.9**
KMI				AMB	AMB		
comp=Z,6.0nm,1.5s,mb3.7							
KMI	**Kunming**	**21.20**	**306**	P	**P**	**15 53 12.6**	**+2.9**
comp=Z,6.0nm,1.5s,mb3.7							
CHG	**Chiang Mai**	**22.35**	**287**	⇑P	**P**	**15 53 25.1**	**+3.1**
comp=Z,16nm,0.9s,mb4.5							
XAN	**Xi'an**	**23.53**	**333**	P	**P**	**15 53 32.9**	**-1.6**
XAN				AMB	AMB		
comp=Z,5.0nm,1.6s,mb3.7							
CD2	**Chengdu**	**23.91**	**320**	*e*P	**P**	**15 53 34.5**	**-3.6**
CD2				AP		15 53 43.8	
CD2				PP		15 54 09.0	
CD2				S	**S**	**15 57 46.3**	**-8.2**
CD2				AMB	AMB		
comp=Z,70nm,1.1s,mb5.0							
CD2				AMB	AMB		
comp=Z,140nm,5.2s							
CD2				LR	LR		
comp=N,550nm,16.8s,MS4.2							
CD2				LR	LR		
comp=E,400nm,15.6s,MS4.2							
CD2				LR	LR		
comp=Z,590nm,15.6s,MS4.2							
PSI	**Prapat**	**24.70**	**247**	P	**P**	**15 53 45.8**	**+0.6**
comp=Z,34nm,1.1s,mb4.8,baz=105,slow=9.2,SNR=5.4							
JHJ	**Hachijo jima 2**	**25.74**	**37**	LR	LR	16 01 53.6	
comp=Z,345nm,21.7s,MS3.8,baz=42,slow=32							
LZH	**Lanzhou**	**27.62**	**328**	P	**P**	**15 54 12.6**	**+0.9**
LZH				AMB	AMB		
comp=Z,20nm,1.2s,mb4.6							
LZH				AMB	AMB		
comp=Z,135nm,4.2s							
LZH				LR	LR		
comp=N,2μm,16.8s							
LZH				LR	LR		
comp=Z,2μm,20.0s,MS4.6							
LZH	**Lanzhou**	**27.62**	**328**	P	**P**	**15 54 12.6**	**+0.9**
comp=Z,20nm,1.2s,mb4.6							
LZH				pP	pP	15 54 17.1	+2.9
LZH				sP	sP	15 54 22.4	+7.2
LZH				PP		15 56 10.0	
LZH				*e*S	**S**	**15 59 09.0**	**+15**
LZH				sS	sS	15 59 20.0	+22
LZH				*e*SS		16 00 46.0	
LZH				LR	LR		
comp=Z,2μm,20.0s,MS4.6							
SNY	**Shenyang**	**28.38**	**3**	⇓P	**P**	**15 54 24.1**	**+5.6**
SNY				AMB	AMB		
comp=Z,40nm,2.0s,mb4.7							
HHC	**Hu-ho-hao-te**	**28.71**	**344**	*e*P	**P**	**15 54 23.0**	**+1.6**
HHC				AP	pP	15 54 32.3	+8.4
HHC				XP	sP	15 54 36.3	+11
HHC				PP	PP	15 55 16.8	-9.3
HHC				PCP	PcP	15 57 32.0	+0.3
HHC				S	**S**	**15 59 19.9**	**+9.3**
HHC				XS	sS	15 59 27.5	+13
HHC				SS	SS	16 00 39.0	-33
HHC				AMB	AMB		
comp=Z,15nm,0.4s,mb5.1							
HHC				AMB	AMB		
comp=Z,180nm,4.3s							
HHC				LR	LR		
comp=N,391nm,16.5s							
HHC				LR	LR		
comp=E,190nm,10.0s							
HHC				LR	LR		
comp=Z,271nm,14.4s,MS4.0							
FITZ	**Fitzroy Crossi**	**31.56**	**173**	*e*P	**P**	**15 54 45.6**	**-1.0**
comp=Z,8.9nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**31.56**	**173**	P	**P**	**15 54 45.5**	**-1.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=349,slow=4.8,SNR=3.9							
MDJ	**Mudanjiang**	**31.87**	**11**	P	**P**	**15 54 47.8**	**-1.5**
MDJ				PP	PP	15 55 59.8	-1.4
MDJ				PCP	PcP	15 57 37.9	-2.1
MDJ				S	**S**	**15 59 56.8**	**-3.4**
MDJ				AMB	AMB		
comp=Z,13nm,2.1s,mb4.4							
MDJ				AMB	AMB		
comp=Z,242nm,5.3s							
MDJ				LR	LR		
comp=N,53nm,25.3s,MS3.7							
MDJ				LR	LR		
comp=E,188nm,27.8s,MS3.7							
MDJ				LR	LR		
comp=Z,160nm,22.0s							
GTA	**Gaotai**	**32.22**	**327**	*e*P	**P**	**15 54 52.3**	**-0.1**
GTA				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.5							
LSA	**Lhasa**	**32.44**	**305**	*e*P	**P**	**15 54 55.4**	**+1.0**
LSA	**Lhasa**	**32.44**	**305**	*e*P	**P**	**15 54 54.8**	**+0.4**
LSA				pmax	pmax		
comp=Z,29nm,1.0s,mb5.1							
LSA	**Lhasa**	**32.44**	**305**	*e*P	**P**	**15 54 54.8**	**+0.4**
comp=Z,29nm,1.0s,mb5.1							
BOK	**Bokaro**	**35.24**	**292**	*e*P	**P**	**15 55 19.3**	**+0.6**
BOK				AMb	AMB	15 55 24.6	
comp=Z,13nm,1.0s,mb4.8							
WRAB	**Tennant Creek**	**35.44**	**159**	*e*P	**P**	**15 55 18.6**	**-1.8**
WRAB				pmax	pmax		
comp=Z,20nm,1.1s,mb5.0							
WRAB	**Tennant Creek**	**35.44**	**159**	*e*P	**P**	**15 55 18.6**	**-1.8**
comp=Z,20nm,1.1s,mb5.0							
WRA	**Warramunga Arr**	**35.45**	**159**	P	**P**	**15 55 18.9**	**-1.6**
comp=Z,4.6nm,0.6s,mb4.6,baz=332,slow=10,SNR=38							
WB2	**Warramunga Arr**	**35.45**	**159**	*e*P	**P**	**15 55 19.1**	**-1.4**
GUN	**Gumba**	**36.19**	**299**	*e*P	**P**	**15 55 26.3**	**-0.6**
comp=Z,112nm,0.9s							
PKI	**Pulchoki**	**36.50**	**298**	*e*P	**P**	**15 55 28.6**	**-0.9**
comp=Z,48nm,0.9s,mb5.3							
SONM	**Songino Array**	**36.58**	**343**	P	**P**	**15 55 29.5**	**-0.7**
comp=Z,2.6nm,0.8s,mb4.1,baz=162,slow=11,SNR=9.5							
SONM				LR	LR	16 12 20.7	
comp=Z,95nm,18.2s,MS3.6,baz=155,slow=39							
SONM	**Songino Array**	**36.58**	**343**	P	**P**	**15 55 29.5**	**-0.7**
SONM				LR	LR	16 12 20.7	
KKN	**Kakani**	**36.67**	**299**	*e*P	**P**	**15 55 30.0**	**-1.0**
comp=Z,32nm,0.8s,mb5.2							
KLR	**Kul'dur**	**36.71**	**11**	*e*P	**P**	**15 55 24.7**	**-6.6**
DMN	**Daman**	**36.77**	**298**	*e*P	**P**	**15 55 29.9**	**-1.9**
comp=Z,62nm,1.0s,mb5.4							
VIS	**Vishakhapatnam**	**37.01**	**282**	*e*P	**P**	**15 55 35.5**	**+1.7**
VIS				AMb	AMB	15 55 41.7	
comp=Z,27nm,2.2s,mb4.7							
GKN	**Gorkha**	**37.28**	**299**	*e*P	**P**	**15 55 34.8**	**-1.3**
comp=Z,46nm,0.9s,mb5.3							
YSS	**Yuzh-Sakhalins**	**37.90**	**24**	*e*P	**P**	**15 55 47.4**	**+6.0**
YSS				pmax	pmax		
comp=Z,16nm,1.3s,mb4.6							
KOLN	**Koldanda**	**38.10**	**298**	*e*P	**P**	**15 55 41.0**	**-2.1**
comp=Z,30nm,0.9s,mb5.0							
AS31	**Alice Springs**	**38.77**	**162**	*e*P	**P**	**15 55 47.7**	**-1.0**
ASAR	**Alice Springs**	**38.77**	**162**	P	**P**	**15 55 48.1**	**-0.6**
comp=Z,7.0nm,0.7s,mb4.5,baz=338,slow=6.4,SNR=67							
ASPA	**Alice Springs**	**38.77**	**162**	*e*P	**P**	**15 55 47.7**	**-1.0**
TLY	**Talaya**	**40.82**	**343**	*e*P	**P**	**15 56 06.3**	**+0.5**
TLY				*e*		16 05 09.5	
TLY				pmax	pmax		
comp=Z,10.0nm,1.3s,mb4.3							
CTA	**Charters Tower**	**41.22**	**143**	LR	LR	16 11 54.5	
comp=Z,73nm,21.7s,MS3.5,baz=232,slow=34							
HYB	**Hyderabad**	**41.56**	**281**	*i* P	**P**	**15 56 17.0**	**+5.2**
HYB	**Hyderabad**	**41.56**	**281**	*e*P	**P**	**15 56 17.0**	**+5.2**
MOY	**Mondy**	**41.61**	**341**	*e*P	**P**	**15 56 19.0**	**+6.7**
MOY				pmax	pmax		
comp=Z,19nm,1.8s,mb4.4							
WMQ	**Urumqi**	**41.93**	**323**	*e*P	**P**	**15 56 15.0**	**+0.1**
WMQ				AP	pP	15 56 25.0	+7.6
WMQ				XP	sP	15 56 29.0	+11
WMQ				PP	PP	15 57 56.0	+4.2
WMQ				PPP		15 58 28.0	
WMQ				PCS	PcS	16 01 57.0	-4.9
WMQ				*e*S	**S**	**16 02 30.0**	**-3.4**
WMQ				AMB	AMB		
comp=Z,8.0nm,0.9s,mb4.3							
WMQ				AMB	AMB		
comp=Z,164nm,4.7s							
WMQ				LR	LR		
comp=N,522nm,13.5s,MS4.7							
WMQ				LR	LR		
comp=E,552nm,18.0s,MS4.7							
WMQ				LR	LR		
comp=Z,531nm,19.5s,MS4.4							
BHPL	**Bhopal**	**42.85**	**290**	*e*P	**P**	**15 56 21.4**	**-1.0**
BHPL				AMb	AMB	15 56 27.6	
comp=Z,12nm,0.3s,mb5.1							
NDI	**New Delhi**	**43.80**	**298**	*e*P	**P**	**15 56 28.5**	**-1.6**
NDI				AMb	AMB	15 56 35.8	
comp=Z,12nm,1.8s,mb4.3							
HNR	**Honiara**	**44.37**	**119**	LR	LR	16 14 03.0	
comp=Z,169nm,18.7s,MS4.0,baz=359,slow=35							
AJM	**Ajmer**	**45.72**	**294**	*e*P	**P**	**15 56 45.0**	**-0.3**
KAD	**Karad**	**45.73**	**281**	*e*P	**P**	**15 56 46.6**	**+1.2**
KAD				AMb	AMB	15 56 51.9	
comp=Z,21nm,0.9s,mb5.1							
POO	**Poona**	**46.02**	**283**	⇓*i*P	**P**	**15 56 50.0**	**+2.3**
comp=Z,20nm,1.0s,mb5.0							
MK31	**Makanchi Array**	**46.75**	**323**	P	**P**	**15 56 52.4**	**-1.1**
MKAR	**Makanchi Array**	**46.75**	**323**	P	**P**	**15 56 52.0**	**-1.5**
comp=Z,1.2nm,0.9s,mb3.8,baz=127,slow=8.1,SNR=6.5							
MKAR				LR	LR	16 18 01.5	
comp=Z,88nm,19.3s,MS3.7,baz=109,slow=38							
MKAR	**Makanchi Array**	**46.75**	**323**	*i* P	**P**	**15 56 52.7**	**-0.8**
MKAR				pmax	pmax		
comp=Z,10.0nm,0.9s							
MKAR	**Makanchi Array**	**46.75**	**323**	P	**P**	**15 56 52.0**	**-1.5**
MKAR				LR	LR	16 18 01.5	
YAK	**Yakutsk**	**48.92**	**5**	*e*P	**P**	**15 57 09.9**	**-0.4**
YAK				pmax	pmax		
comp=Z,15nm,0.9s,mb5.0							
YAK				pmax	pmax		
comp=N,7.0nm,1.2s							
YAK				pmax	pmax		
comp=E,7.0nm,1.2s							
STKA	**Stephens Creek**	**48.95**	**157**	*e*P	**P**	**15 57 08.8**	**-1.7**
comp=E,7.6nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**48.95**	**157**	P	**P**	**15 57 08.9**	**-1.6**
comp=E,6.9nm,1.0s,mb4.7,baz=348,slow=8.3,SNR=8.2							
STKA				LR	LR

comp=Z,4.0nm,0.8s,mb4.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.2
ASF Jabal al Asfar 78.51 301 P **P 16 00 27.7 +2.2**
comp=Z,5.5nm,0.9s,mb4.5,baz=79,slow=5.2,SNR=3.1
ARCES ARCESS Array B 79.66 339 LR LR 16 35 41.6
comp=Z,88nm,19.1s,MS4.1,baz=13,slow=36
BR131 Keskin Array S 79.97 308 P **P 16 00 33.6 +0.2**
comp=Z,1.5nm,0.8s,mb4.0
BRTR Keskin Array B 79.97 308 P **P 16 00 33.1 -0.3**
comp=Z,1.1nm,0.8s,mb3.8,baz=106,slow=4.3,SNR=9.0
BRTR Keskin Array B 79.97 308⇑ *e*P **P 16 00 37.2 +3.7**
EIL Elat 80.56 298 *e*P **P 16 00 32.7 -4.0**
comp=Z,318nm,1.1s
EIL *e* 16 00 41.8
FINES FINESS Array B 80.94 331 LR LR 16 41 23.9
comp=Z,53nm,19.5s,MS3.9,baz=58,slow=39
AKASG Malin Array Be 81.21 320 *i* P **P 16 00 43.9 +3.7**
MLR Muntele Rosu 84.43 315 P **P 16 00 58.1 +1.2**
comp=Z,7.5nm,1.1s,mb4.7,baz=258,slow=3.3,SNR=3.8
KMBO Kilima Mbogo 84.69 268 P **P 16 00 58.6 +0.5**
comp=Z,1.4nm,0.8s,mb4.1,baz=227,slow=23,SNR=3.3
KOLS Kolonicke sedl 86.00 319 *e*P **P 16 01 09.4 +4.7**
UZH Uzhgorod 86.06 319 *e*P **P 16 01 10.0 +5.0**
STHS Stebnicka Huta 86.51 320 *e*P **P 16 01 08.9 +1.7**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
STHS Stebnicka Huta 86.51 320 *e*P **P 16 01 08.9 +1.7**
comp=Z,5.4nm,0.9s,mb4.8
STHS *e* pP 16 01 13.1 +3.1
CRVS Cervenica-Dubn 86.52 319 *e*P **P 16 01 10.9 +3.6**
OJC Ojcow 87.17 321 *e*P **P 16 01 14.2 +3.7**
KECS Kecovo 87.26 319 *e*P **P 16 01 11.1 +0.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
KECS Kecovo 87.26 319 *e*P **P 16 01 11.1 +0.2**
comp=Z,3.7nm,1.0s,mb4.6
KECS *e* pP 16 01 14.9 +1.3
NB2 NORSAR Subarra 87.90 333 P **P 16 01 16.3 +2.3**
comp=Z,5.3nm,1.1s,mb4.7,baz=66,slow=4.6
NB2 NORSAR Subarra 87.90 333 P **P 16 01 16.3 +2.3**
NB2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
NOA NORSAR Array B 87.90 333 P **P 16 01 13.8 -0.2**
comp=Z,2.5nm,0.9s,mb4.5,baz=68,slow=4.6,SNR=4.9
BRG Berggiesshubel 90.47 323 *e*(P) **P 16 01 30.2 +4.2**
comp=Z,13nm,1.6s,mb5.0
BRG Berggiesshubel 90.47 323 P **P 16 01 30.2 +4.2**
BRG pmax pmax
comp=Z,13nm,1.6s,mb5.0
GERES GERESS Array B 91.37 321 P **P 16 01 31.2 +0.9**
comp=Z,0.7nm,0.6s,mb4.2,baz=229,slow=1.2,SNR=9.3
GERES LR LR 16 44 25.6
comp=Z,57nm,18.2s,MS4.0,baz=282,slow=37
VNDA Vanda 93.63 172 LR LR 16 47 08.9
comp=Z,79nm,18.6s,MS4.2,baz=224,slow=38
DAVOX Davos/Dischmat 94.56 320 LR LR 16 47 04.2
comp=Z,97nm,18.4s,MS4.3,baz=264,slow=37
TXAR Lajitas Array 119.12 45 PKP PKPdf 16 07 16.2 +2.9
comp=Z,1.0nm,0.9s,baz=0.0,slow=0.1,SNR=5.2
TXAR Lajitas Array 119.12 45 PKP PKPdf 16 07 16.2 +2.9

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*ISCJB **22** 16:02:15.0±1.0, 587S×007±785W±0.1, h67km±13km, mb3.9/6, Error ellipse: s-maj=17.6km s-min=10.7km az=151.7*
*IDC **22** 16:02:15.2±2.1, 590S×7859W, h52km±25km, mb3.8/6, mb1 4.1/8, mb1mx3.8/21, mbtmp4.2/8, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/29, Error ellipse: s-maj=25.5km s-min=17.5km az=81.0*
*NEIC **22** 16:02:15.7±1.4, 587S×7857W, h55km±14km, mb3.8/1, Error ellipse: s-maj=17.5km s-min=10.0km az=70.0*
ISC 22 16:02:16.4±1.0, 586S±006×785W±01, h58km±13km, n22, σ1§15/22, mb4.0/6, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.14**	**176**	P	**Pn**	**16 02 35.4**	**-0.8**
	145nm,0.3s,baz=11,slow=9.6,SNR=1402						
ATAH				S	**Sn**	**16 02 52.7**	**+1.8**
	227nm,0.3s,baz=331,slow=21,SNR=12						
OTAV	**Otavalo**	**6.05**	**0**	*e*P	**Pn**	**16 03 42.4**	**-0.9**
	34nm,0.9s						
NNA	**Nana**	**6.30**	**165**	P	**Pn**	**16 03 45.9**	**-0.8**
	4.2nm,0.3s,baz=333,slow=10.0,SNR=12						
NNA				S	**Sn**	**16 04 56.9**	**-0.4**
	3.3nm,0.3s,baz=217,slow=20,SNR=3.9						
NNA	**Nana**	**6.30**	**165**	*e*P	**Pn**	**16 03 46.0**	**-0.7**
NNA				*e*S	**Sn**	**16 04 50.2**	**-7.1**
LPAZ	**La Paz**	**14.50**	**136**	P	**Pn**	**16 05 41.4**	**+3.0**
	0.1nm,0.3s,baz=335,slow=18,SNR=2.7						
LPAZ				LR	LR	16 11 01.2	
	comp=Z,52nm,21.8s,baz=99,slow=36						
SAML	**Samuel**	**15.47**	**102**	P	**Pn**	**16 05 49.8**	**-1.1**
	8.9nm,1.1s						
SDV	**Santo Domingo**	**16.60**	**28**	P	**Pn**	**16 06 05.5**	**+0.3**
	baz=7.4,slow=23,SNR=3.5						
SDV	**Santo Domingo**	**16.60**	**28**	P	**Pn**	**16 06 06.2**	**+0.9**
SIV	**San Ignacio**	**19.82**	**122**	P	**Pn**	**16 06 43.0**	**-1.2**
	0.1nm,0.3s,baz=280,slow=15,SNR=4.2						
PCRV	**Puerto La Cruz**	**21.07**	**41**	P	**P**	**16 06 57.6**	**+1.9**
	25nm,1.0s,mb4.5,baz=313,slow=8.5,SNR=5.2						
SJG	**San Juan**	**26.74**	**27**	P	**P**	**16 07 51.5**	**+1.0**
	5.8nm,0.7s,mb4.2,baz=285,slow=7.8,SNR=3.1						
TXAR	**Lajitas Array**	**42.55**	**327**	P	**P**	**16 10 06.3**	**-0.1**
	0.6nm,0.7s,mb3.5,baz=145,slow=9.0,SNR=5.9						
TXAR	**Lajitas Array**	**42.55**	**327**	P	**P**	**16 10 06.3**	**-0.1**
ANMO	**Albuquerque**	**48.41**	**329**	*e*P	**P**	**16 10 52.5**	**-0.1**
GSC	**Goldstone**	**54.55**	**321**	*e*P	**P**	**16 11 39.5**	**+1.0**
PDAR	**Pinedale Array**	**56.02**	**333**	P	**P**	**16 11 46.9**	**-2.2**
	0.3nm,0.4s,mb3.7,baz=146,slow=6.6,SNR=3.9						
NVAR	**Mina Array Bea**	**57.50**	**323**	P	**P**	**16 11 60.0**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=129,slow=6.2,SNR=9.2						
TORD	**Torodi Ar. Bea**	**81.81**	**76**	P	**P**	**16 14 28.8**	**-0.3**
	1.1nm,0.7s,mb3.9,baz=301,slow=6.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**81.81**	**76**	P	**P**	**16 14 28.8**	**-0.3**
ZAL	**Zalesovo**	**130.17**	**13**	PKP	PKPdf	16 21 20.3	+0.5
	0.8nm,0.5s,baz=239,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**136.88**	**226**	PKP	PKPdf	16 21 32.8	+0.3
	0.8nm,1.0s,baz=132,slow=3.9,SNR=5.7						
WRA	**Warramunga Arr**	**138.78**	**231**	PKP	PKPdf	16 21 36.0	+0.1
	0.3nm,0.7s,baz=131,slow=1.4,SNR=6.6						

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*CSEM **22** 16:04:51.7, 67.19N×2069E, h0km, ML2.8, Mining explosion. After UPP*
*UPP **22** 16:04:51.7, 67.19N×2069E, h0km, ML2.8, Mining explosion.*
HEL 22 16:04:52.2±0.0, 6718N×2070E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**221**	*i* P	Pg	16 04 53.5	-0.2
MASU	**Masugnsbyn**	**0.57**	**61**	*i* P	Pg	16 05 02.5	-0.7
MASU	**Masugnsbyn**	**0.57**	**61**	P	Pg	16 05 02.5	-0.7
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	16 05 06.5	-0.9
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	16 05 08.4	-0.3
SALU	**Saltoluokta**	**0.88**	**284**	*i* P	Pg	16 05 08.0	-1.0
SALU	**Saltoluokta**	**0.88**	**284**	P	Pg	16 05 08.0	-1.0
	baz=123						
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	16 05 08.8	-1.4
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	16 05 09.3	-1.2
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	16 05 10.0	-1.4
HARU	**Harads**	**1.03**	**174**	*e*P	Pg	16 05 10.5	-1.4
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	16 05 22.7	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	16 05 24.8	-0.2
KIF				*e*S	Sn	16 05 50.2	+1.4
LILU	**Lilltraesk**	**1.94**	**191**	*e*P	Pn	16 05 26.1	-0.2
LILU	**Lilltraesk**	**1.94**	**191**	P	Pn	16 05 26.1	-0.2
SGF	**Sodankyl**	**2.27**	**81**	*e*PB	Pb	16 05 31.5	-2.7
SGF				*e*SG	Sg	16 06 02.4	-2.9

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*ISCJB **22** 16:07:27.7±0.8, 6707N±004×207E±0.1, h0km, Error ellipse: s-maj=6.1km s-min=5.4km az=29.0*
*NAO **22** 16:07:32.8±1.5, 67.14N×2095E, ML2.5*
*BER **22** 16:07:34.9±3.2, 67.17N×2070E, h0km, ML2.5, ML2.5(NAO), Suspected explosion*
*CSEM **22** 16:07:35.5±0.7, 67.19N×2064E, h0km±4km, ML2.5, Error ellipse: s-maj=15.8km s-min=9.6km az=107.0*
ISC 22 16:07:30.7±0.8, 6711N±004×207E±01, h0km, n11, σ1§09/12, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTK1	**Kautokeino**	**2.13**	**25**	*e*Sg	**Sg**	**16 08 38.1**	**-1.1**
KTK1				AML	AML	16 08 39.4	
	comp=Z,92nm,0.6s						
TRO	**Tromso**	**2.62**	**346**	*e*S	**Sn**	**16 08 47.3**	**+0.4**
TRO				AML	AML	16 08 52.5	
	comp=Z,33nm,0.6s						
MOR8	**Moi Rana**	**2.68**	**252**	*e*Sg	**Sg**	**16 08 51.4**	**-5.4**
MOR8				AML	AML	16 08 53.7	
	comp=Z,47nm,0.4s						
LOF	**Lofoten**	**2.94**	**294**	*e*Sg	**Sg**	**16 09 05.4**	**+0.3**
LOF				AML	AML	16 09 15.3	
	comp=Z,45nm,0.7s						
ARA0	**ARCESS Array S**	**3.01**	**34**	Pn	**Pn**	**16 08 21.4**	**+1.8**
	baz=214,slow=18						
ARA0				Sn	**Sn**	**16 08 56.0**	**-0.5**
	baz=214,slow=28						
APA0	**Apatity Array**	**4.76**	**78**	Sn	**Sn**	**16 09 39.3**	**-0.4**
	baz=274,slow=28						
APA0				Lg		16 09 57.2	
	baz=290,slow=28						
FIA0	**FINESS Array S**	**6.14**	**155**	Pn	**Pn**	**16 09 06.4**	**+3.8**
FIA0				Sn	**Sn**	**16 10 14.6**	**+1.0**
	baz=352,slow=22						
FIA0				Lg		16 10 44.5	
	baz=339,slow=28						
FIA0	**FINESS Array S**	**6.14**	**155**	Pn	**Pn**	**16 09 06.4**	**+3.7**
	SNR=50						
FIA0				Sn	**Sn**	**16 10 14.6**	**+1.0**
	SNR=50						
NB2	**NORSAR Subarra**	**7.38**	**219**	Lg		16 11 24.1	
	baz=35,slow=37						
NB2	**NORSAR Subarra**	**7.38**	**219**	Lg		16 11 24.1	
	baz=35,slow=37						
HFS	**Hagfors**	**7.67**	**207**	Sn	**Sn**	**16 10 49.4**	**-1.7**
	baz=26,slow=28						
HFS				Lg		16 11 34.4	
	baz=32,slow=37						

IDC 22 16:08:06.5±53.0, 1699S×17247W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.1/3, 1C, Error ellipse: s-maj=1018.0km s-min=170.0km az=81.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.04**	**242**	*e*P	P	16 16 16.5	+0.6
	1.7nm,1.0s						
STKA	**Stephens Creek**	**44.04**	**242**	P	P	16 16 16.5	+0.6
	0.9nm,0.3s,baz=100,slow=10,SNR=11						
WRA	**Warramunga Arr**	**50.37**	**258**	P	P	16 17 05.4	+0.1
	0.5nm,0.5s,baz=97,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**50.48**	**253**	P	P	16 17 06.5	+0.3
	3.2nm,0.5s,baz=90,slow=8.8,SNR=79						
ASPA	**Alice Springs**	**50.49**	**253⇑**	*i*P	P	16 17 06.3	+0.1

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*NEIC **22** 16:15:35.9, 3892N×2122E, h22km, MD3.3(ATH), After ATH.*
*ISCJB **22** 16:15:36.1±0.5, 3893N±003×2124E±003, h3km±5km, Error ellipse: s-maj=4.5km s-min=3.9km az=137.8*
*CSEM **22** 16:15:36.7±0.1, 3893N×2123E, h3km±1km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.1km az=158.0*
*ATH **22** 16:15:36.0, 3892N×2123E, h18km±4km, MD3.2/7*
*THE **22** 16:15:36.9, 3896N×2122E, h10km, ML2.8*
ISC 22 16:15:36.7±0.5, 3894N±003×2123E±003, h1km±5km, n31, σ0§92/43, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.45**	**92**	*e*PB	**Pg**	**16 15 45.2**	**-0.1**
EVR				*e*SB	**Sg**	**16 15 52.0**	**+0.8**
EVR	**Evrytania**	**0.45**	**92**	Pb	**Pg**	**16 15 45.5**	**+0.2**
EVR				Sb	**Sg**	**16 15 53.2**	**+2.0**
LKD	**Levkas**	**0.51**	**243**	*e*Pg	**Pg**	**16 15 46.3**	**-0.1**
LKD				*e*Sg	**Sg**	**16 15 54.6**	**+1.6**
JAN	**Janina**	**0.78**	**338**	*e*PN	**Pg**	**16 15 51.0**	**-0.6**
JAN				*e*SN	**Sg**	**16 16 02.3**	**+0.6**
JAN	**Janina**	**0.78**	**338**	Pn	**Pg**	**16 15 51.0**	**-0.6**
JAN				Sn	**Sg**	**16 16 03.0**	**+1.3**
AGG	**Agios Georgios**	**0.86**	**84**	*e*Pg	**Pg**	**16 15 52.9**	**-0.3**
AGG				*e*Sg	**Sg**	**16 16 05.5**	**+1.1**
THL	**Klokotos Trika**	**0.87**	**44**	*e*PN	**Pg**	**16 15 52.7**	**-0.8**
THL	**Klokotos Trika**	**0.87**	**44**	Pb	**Pg**	**16 15 52.6**	**-0.9**
RLS	**Riolos of Patr**	**0.90**	**168**	*e*PN	**Pg**	**16 15 53.1**	**-0.8**
RLS	**Riolos of Patr**	**0.90**	**168**	Pn	**Pg**	**16 15 53.3**	**-0.6**
VLS	**Valsamata**	**0.91**	**214**	*e*PB	**Pg**	**16 15 52.5**	**-1.6**
VLS				*e*SN	**Sg**	**16 16 06.3**	**+0.4**
IGT	**Igoumenitsa**	**0.92**	**311**	*e*Pg	**Pg**	**16 15 53.7**	**-0.5**
IGT				*e*Sg	**Sg**	**16 16 06.7**	**+0.5**
KEK	**Kerkira**	**1.35**	**305**	*e*PN	**Pn**	**16 16 01.9**	**-0.8**
LIT	**Litokhoron**	**1.52**	**40**	*e*Pg	**Pn**	**16 16 04.2**	**-0.7**
LIT				*e*Sg	**Sg**	**16 16 25.9**	**+0.5**
XOR	**Xorichti**	**1.58**	**74**	*e*Pg	**Pg**	**16 16 05.9**	**-1.2**
FNA	**Florina**	**1.85**	**3**	*e*Pb	**Pb**	**16 16 10.0**	**-1.2**
FNA				*e*Sb	**Sb**	**16 16 33.6**	**-1.2**
BIA	**Bitola**	**2.08**	**2**	*e*Pn	**Pn**	**16 16 14.7**	**+2.0**
HORT	**Hortiatis**	**2.20**	**40**	*e*Pn	**Pn**	**16 16 13.3**	**-1.0**
OHR	**Ohrid**	**2.20**	**351**	*e*Pn	**Pn**	**16 16 15.9**	**+1.6**
OHR	**Ohrid**	**2.20**	**351**	*e*Pn	**Pn**	**16 16 15.8**	**+1.5**
GRG	**Griva**	**2.21**	**24**	*e*Pn	**Pn**	**16 16 14.0**	**-0.4**
KRUS	**Krusevo**	**2.43**	**0**	*e*Pn	**Pn**	**16 16 18.5**	**+1.1**
SOH	**Sokhos**	**2.49**	**40**	*e*Pn	**Pn**	**16 16 18.5**	**+0.2**
SOH				*e*Sn	**Sn**	**16 16 50.0**	**+0.7**
SOH	**Sokhos**	**2.49**	**40**	*e*Pn	**Pn**	**16 16 18.5**	**+0.2**
SOH				*e*Sn	**Sn**	**16 16 50.0**	**+0.7**
OUR	**Ouranopolis**	**2.54**	**56**	*e*Pn	**Pn**	**16 16 18.8**	**-0.2**
KNT	**Kendrikon**	**2.56**	**29**	*e*Pn	**Pn**	**16 16 19.1**	**-0.2**
KNT	**Kendrikon**	**2.56**	**29**	*e*Pn	**Pn**	**16 16 19.1**	**-0.2**
VLI	**Veliai**	**2.59**	**148**	*e*PB	**Pn**	**16 16 19.8**	**+0.1**
SRS	**Serrai**	**2.83**	**39**	*e*Pn	**Pn**	**16 16 22.2**	**-0.8**
SRS	**Serrai**	**2.83**	**39**	*e*Pn	**Pn**	**16 16 22.2**	**-0.8**
CHOS	**Chios island**	**3.82**	**97**	*e*Pn	**Pn**	**16 16 37.2**	**+0.7**

CASC 22 16:23:19.6±2.0, 1326N×8758W, h0km±5km, MD4.0, ML3.9, 2C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.25**	**274**	*e*P	x	16 23 18.6	-5.7
CNCH				*e*S	x	16 23 23.0	-4.6
CRIN	**San Cristobal**	**0.76**	**137**	*e*P	Pg	16 23 35.5	+1.4
CRIN				*e*S	Sg	16 23 48.4	+4.5
TELN	**Telica**	**0.98**	**132**	*e*P	Pg	16 23 38.1	-0.3
TELN				*e*S	Sg	16 23 53.4	+2.4
LEON	**Leon**	**1.07**	**141⇑**	*e*P	Pg	16 23 39.5	-0.7
LEON				*e*S	Sg	16 23 55.5	+1.4
CNGN	**Cerro Negro**	**1.14**	**131⇓**	*e*P	Pg	16 23 41.1	-0.5
CNGN				*e*S	Sg	16 23 58.7	+2.4
MIRN	**Miramar**	**1.17**	**134⇓**	*e*P	Pg	16 23 41.4	-0.7
MIRN				*e*S	Sg	16 23 58.5	+1.2
MOMJ	**Momotombo**	**1.32**	**130**	*e*P	Pg	16 23 44.0	-0.9
COPN	**Copaltepe**	**1.44**	**138⇓**	*e*P	Pn	16 23 45.4	-1.5
COPN				*e*S	Sg	16 24 06.0	+0.1
XAVN	**Gruta Xavier**	**1.65**	**132**	*e*P	Pn	16 23 49.1	-0.6
XAVN				*e*S	Sn	16 24 12.4	+0.8
SNET	**Serv Nac Est T**	**1.66**	**285**	*e*P	x	16 23 48.5	-1.5
MGAN	**Managua**	**1.71**	**130**	*e*P	Pn	16 23 50.4	-0.2
MGAN				*e*S	Sn	16 24 13.7	+0.6
MGAN				*i*		16 24 22.4	
	comp=N,990nm,0.6s						
TICN	**Ticuantepe**	**1.79**	**133⇑**	*e*P	Pn	16 23 52.6	+0.9
TICN				*e*S	Sn	16 24 16.9	+1.7
APON	**Apoyo**	**1.99**	**132**	*e*P	Pn	16 23 55.1	+0.7
SSNN	**San Juan del S**	**2.59**	**139**	*e*P	Pn	16 24 02.0	-0.7

IDC 22 16:49:47.6±1.4, 469S×12657E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=95.4km s-min=22.6km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.37**	**184**	Pn	Pn	16 52 57.2	-1.4
	0.2nm,0.3s,baz=1.3,slow=13,SNR=12						
WRA	**Warramunga Arr**	**16.95**	**154**	Pn	Pn	16 53 47.3	+1.1
	0.2nm,0.3s,baz=334,slow=12,SNR=13						
ASPA	**Alice Springs**	**20.15**	**160**	*e*P	P	16 54 23.8	+0.4
ASAR	**Alice Springs**	**20.16**	**160**	P	P	16 54 23.9	+0.5
	2.5nm,0.7s,baz=341,slow=12,SNR=52						
SONM	**Songino Array**	**55.22**	**344**	P	P	16 59 22.7	+0.4
	0.3nm,0.7s,baz=156,slow=7.4,SNR=2.7						
MKAR	**Makanchi Array**	**64.45**	**328**	P	P	17 00 25.7	-0.1
	0.3nm,0.4s,baz=116,slow=8.1,SNR=5.8						

CASC 22 17:03:21.4±2.0, 969N×8455W, h10km±3km, MD3.6, 5C-12D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPA	**Esparza**	**0.30**	**352⇓**	*e*P	Pg	17 03 28.2	+0.8
CGA2	**Cerro Gallo 2**	**0.33**	**15⇓**	*e*P	Pg	17 03 29.0	+1.0
CGA2				*e*S	Sg	17 03 34.9	+2.5
PRS1	**Puriscal**	**0.38**	**39⇓**	*e*P	Pg	17 03 27.5	-1.3
LAJ	**Bijagual**	**0.46**	**68⇓**	*e*P	Pg	17 03 23.8	-6.6
LAJ				*e*S	Sg	17 03 25.9	-10
CAO	**Cobano**	**0.54**	**271⇓**	*e*P	Pg	17 03 31.4	-0.5
LCR2	**La Lucha 2**	**0.54**	**85⇓**	*e*P	Pg	17 03 31.4	-0.6
POA2	**Poas 2**	**0.57**	**32⇓**	*e*P	Pg	17 03 33.3	+0.9
JCR	**Jicaral**	**0.57**	**286⇑**	*e*P	Pg	17 03 32.4	-0.1
JCR				*e*S	Sg	17 03 41.4	+1.3
OCM	**Ochomogo**	**0.62**	**71⇓**	*e*P	Pg	17 03 32.8	-0.5
IRZ2	**Volcan Irazu 2**	**0.70**	**67⇓**	*e*P	Pg	17 03 34.6	-0.4
VCR	**Vista de Mar**	**1.15**	**292⇑**	*e*P	Pb	17 03 42.2	-1.1
VCR				*e*S	Sb	17 03 58.7	+0.4
LIM1	**Limonal**	**1.22**	**325⇑**	*i*P	Pn	17 03 43.3	-1.2
LIM1				*i* S	Sb	17 04 00.1	-0.2
LIO	**Limon**	**1.53**	**78⇑**	*e*P	Pn	17 03 46.6	-2.1
CRZC	**La Cruz**	**1.62**	**321⇓**	*e*P	Pn	17 03 49.6	-0.4
ACR	**Cerro Adams**	**1.71**	**127⇓**	*e*P	Pn	17 03 49.5	-1.8
ACR				*e*S	Sn	17 04 13.4	+0.1
CTCR	**Cotoan**	**1.94**	**114⇑**	*e*P	Pn	17 03 53.8	-0.6
CNI	**Changuinola**	**2.03**	**98⇓**	*e*P	Pn	17 03 55.7	+0.1
CNI				*e*S	Sn	17 04 23.4	+2.4
DVD	**David**	**2.42**	**121**	*e*P	Pn	17 04 01.5	+0.5
DVD				*e*S	Sn	17 04 32.2	+1.5
PTP	**Ponta Puerca**	**20.23**	**63**	*e*P		17 04 00.7	
PTP				*e*S		17 04 28.4	

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*CSEM **22** 17:10:27.8, 67.17N×2069E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **22** 17:10:27.8, 67.17N×2069E, h0km, ML2.8, Suspected Mining explosion.*
HEL 22 17:10:28.5±0.1, 6718N×2069E, h0km, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**221**	*i* P	Pg	17 10 29.3	-0.6
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P	Pg	17 10 38.7	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	17 10 43.0	-0.8
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	17 10 44.4	-0.6
SALU	**Saltoluokta**	**0.87**	**285**	*i* P	Pg	17 10 44.3	-0.9
SALU	**Saltoluokta**	**0.87**	**285**	P	Pg	17 10 44.3	-0.9
	baz=112						
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	17 10 45.7	-0.9
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	17 10 45.5	-1.4
PAJU	**Pajala**	**0.96**	**98**	P	Pg	17 10 45.5	-1.4
	baz=43						
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	17 10 46.4	-1.5
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	17 10 59.0	-0.6
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	17 11 01.4	+0.1
KIF				*e*S	Sn	17 11 26.8	+1.5
LILU	**Lilltraesk**	**1.93**	**191**	*e*P	Pn	17 11 02.5	0.0
SGF	**Sodankyl**	**2.28**	**81**	*e*PG	Pg	17 11 08.9	-3.3
SGF				*e*SG	Sg	17 11 38.6	-3.2

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*NSSP **22** 17:16:40.0, 3862N×4477E, h8km, ML3.7*
*ISK **22** 17:16:43.6, 3892N×4457E, h5km, ML4.5*
*CSEM **22** 17:16:44.7±0.0, 3891N×4453E, h5km, mb4.3/5, Error ellipse: s-maj=1.7km s-min=1.1km az=13.0*
*ISCJB **22** 17:16:45.9±0.2, 3892N±002×4459E±002, h10km, mb4.2/24, MS3.4/13, Error ellipse: s-maj=2.5km s-min=2.2km az=76.0*
*IDC **22** 17:16:45.3±0.9, 3902N×4440E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/24, mbtmp3.7/14, ML3.5/5, MS3.4/14, Ms1 3.5/14, ms1mx3.3/39, Error ellipse: s-maj=16.3km s-min=11.0km az=136.0*
*MOS **22** 17:16:45.7±2.0, 3885N×4490E, h8km, mb4.4/10, Error ellipse: s-maj=8.4km s-min=4.8km az=111.9*
*THR **22** 17:16:47.3±0.5, 3908N×4485E, h14km±10km, ML3.8*
*NEIC **22** 17:16:48.6±0.4, 3905N×4483E, h10km, mb4.2/9, ML3.8(THR), ML4.5(ISK), MN4.1(TEH), Error ellipse: s-maj=9.7km s-min=5.0km az=41.0*
*TEH **22** 17:16:51.5, 3880N×4495E, h5km, Mn4.1*
ISC 22 17:16:47.1±0.2, 3889N±002×4458E±002, h10km, n205, σ1§48/212, mb4.2/24, MS3.4/13, 15C-13D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.47**	**10**	*e*Pg	**Pg**	**17 16 54.0**	**-2.3**
MAKU				*e*Sg	**Sg**	**17 16 58.8**	**-3.6**
MAKU				AML	AML	17 17 01.9	
	comp=E,8μm,0.3s						
MAKU				AML	AML	17 17 05.6	
	comp=N,5μm,0.2s						
MAKU	**Maku**	**0.47**	**10**	*e*Pg	**Pg**	**17 16 53.0**	**-3.2**
MAKU				*e*Sg	**Sg**	**17 16 58.0**	**-4.4**
MAKU	**Maku**	**0.47**	**10**	*e*Pg	**Pg**	**17 16 54.0**	**-2.2**
	SNR=96						
MAKU				*e*Sg	**Sg**	**17 16 58.8**	**-3.6**
	comp=N,5μm,0.2s,SNR=96						
CLDR	**Caldiran**	**0.57**	**296**	*i* PG	**Pg**	**17 16 54.6**	**-3.6

DGRG	**David-gareji**	**2.63**	**13**	P	**Pn**	**17 17 31.2**	**+1.6**
DGRG				S	**Sg**	**17 18 12.9**	**+1.4**
BNGL	**BINGOL**	**2.67**	**272**	*i* P	**Pn**	**17 17 32.6**	**+2.4**
BNGL				*i* S	**Sn**	**17 18 06.1**	**+3.5**
ERZM	**Erzurum**	**2.69**	**293**	*i* P	**Pn**	**17 17 30.7**	**+0.3**
EZM	**Erzurum**	**2.69**	**293**	PN	**Pn**	**17 17 29.5**	**-0.9**
MTA	**Mtatsminda**	**2.80**	**3**	P	**Pn**	**17 17 31.8**	**-0.2**
MTA				S	**Sg**	**17 18 14.6**	**-2.5**
TBLG	**Delisi**	**2.84**	**2**	P	**Pn**	**17 17 33.2**	**+0.7**
TBLG				S	**Sg**	**17 18 16.8**	**-1.4**
MSL	**Mosul**	**2.85**	**205**	*ex*	x	17 17 32.5	
MSL				*ex*	x	17 18 12.5	
MSL				*i* x	x	17 18 19.0	
MSL				*i* x	x	17 18 25.5	
BINT	**Bingol**	**3.19**	**271**	PN	**Pn**	**17 17 36.7**	**-0.6**
MARD	**Mardin**	**3.38**	**243**	*i* P	**Pn**	**17 17 38.6**	**-1.4**
MARD				*i* S	**Sb**	**17 18 29.4**	**+1.0**
BCA	**Borcka**	**3.41**	**319**	PN	**Pn**	**17 17 40.3**	**0.0**
DIY	**Diyarbakir**	**3.56**	**255**	*e*PN	**Pn**	**17 17 42.9**	**+0.5**
ONI	**Oni**	**3.78**	**347**	P	**Pb**	**17 17 53.5**	**-0.4**
ONI				S	**Sg**	**17 18 49.6**	**+1.1**
EZC	**Erzincan**	**3.79**	**285**	*e*PN	**Pn**	**17 17 50.7**	**+5.2**
ZEI	**Tsey**	**3.91**	**353**	*e*PN	**Pn**	**17 17 49.5**	**+2.4**
ZEI				*e*		17 18 49.6	
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.1s						
ZEI				smax			
	comp=N,158nm,0.8s						
ZEI	**Tsey**	**3.91**	**353**	*e*Pn	**Pn**	**17 17 49.5**	**+2.4**
	comp=N,4.0nm,0.1s						
PTK	**Pertek**	**4.04**	**272**	PN	**Pn**	**17 17 49.0**	**-0.1**
KTUT	**Trabzon**	**4.25**	**301**	*e*PN	**Pn**	**17 17 50.7**	**-1.1**
ELZG	**Elazig**	**4.39**	**267**	*i* P	**Pn**	**17 17 56.7**	**+2.9**
SNGE	**Sanandaj**	**4.39**	**149**	*e*Pn	**Pn**	**17 17 56.7**	**+2.9**
SNGE				AML	AML	17 19 20.1	
	comp=N,99nm,0.8s						
SNGE	**Sanandaj**	**4.39**	**149**	*e*Pn	**Pn**	**17 17 56.0**	**+2.1**
IDHR	**Dehrash**	**4.43**	**160**	*e*Pn	**Pn**	**17 17 56.2**	**+1.8**
IDHR	**Dehrash**	**4.43**	**160**	Pn	**Pn**	**17 17 56.1**	**+1.7**
MAK	**Makhachkala**	**4.63**	**28**	*e*PN	**Pb**	**17 18 04.7**	**-3.7**
MAK				MLR	MLR		
	comp=Z,1μm,11.0s						
URFA	**Urfa**	**4.76**	**254**	*e*PN	**Pn**	**17 17 59.3**	**+0.4**
MYA	**Malataya**	**4.85**	**265**	*e*PN	**Pn**	**17 18 00.4**	**+0.3**
KUBR	**Kubataba**	**4.98**	**350**	*e*Pn	**Pn**	**17 18 03.0**	**+1.1**
SHAR	**Shatzhatmas**	**5.05**	**344**	*e*PN	**Pn**	**17 18 06.9**	**+4.0**
IGZV	**Gazvin**	**5.13**	**117**	*e*Pn	**Pn**	**17 18 05.5**	**+1.5**
IGZV	**Gazvin**	**5.13**	**117**	Pn	**Pn**	**17 18 05.4**	**+1.4**
KIV	**Kislovodsk**	**5.25**	**345**	PN	**Pn**	**17 18 07.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,36nm,1.0s						
KIV	**Kislovodsk**	**5.25**	**345**	P	**Pn**	**17 18 07.1**	**+1.4**
	comp=Z,36nm,1.0s						
KIV	**Kislovodsk**	**5.25**	**345**	Pn	**Pn**	**17 18 07.1**	**+1.4**
	comp=Z,36nm,1.0s						
IRAZ	**Razeghan**	**5.51**	**128**	*e*Pn	**Pn**	**17 18 11.4**	**+2.2**
IRAZ				*e*Lg		17 19 34.4	
IRAZ	**Razeghan**	**5.51**	**128**	Pn	**Pn**	**17 18 11.4**	**+2.2**
IRAZ				Lg		17 19 34.3	
BHD	**Baghdad**	**5.61**	**182**	*ex*	x	17 18 08.0	
IMHD	**Mahdasht**	**5.82**	**122**	*e*Pn	**Pn**	**17 18 14.2**	**+0.8**
THKV	**Tehran--Karaj**	**5.83**	**119**	*e*Pn	**Pn**	**17 18 14.5**	**+0.9**
THKV	**Tehran--Karaj**	**5.83**	**119**	*e*Pn	**Pn**	**17 18 14.0**	**+0.4**
SOC	**Sochi**	**5.95**	**324**	*e*P	**Pn**	**17 18 20.6**	**+5.4**
SOC				*e*		17 19 28.4	
SOC				pmax	pmax		
	comp=Z,14nm,1.3s						
SOC				pmax	pmax		
	comp=Z,31nm,1.6s						
SOC				smax			
	comp=E,24nm,1.1s						
SOC				MLR	MLR		
	comp=Z,469nm,14.0s						
SVSK	**Karacayir**	**5.96**	**282**	*e*PN	**Pn**	**17 18 16.2**	**+0.9**
CHTH	**Charan**	**6.00**	**118**	*e*Pn	**Pn**	**17 18 16.8**	**+0.8**
GAZ	**Gaziantep**	**6.06**	**256**	*e*PN	**Pn**	**17 18 17.9**	**+1.1**
ASAO	**Ashtian**	**6.16**	**133**	*e*Pn	**Pn**	**17 18 19.9**	**+1.8**
ASAO	**Ashtian**	**6.16**	**133**	*i* Pn	**Pn**	**17 18 20.0**	**+1.9**
KMRS	**Kahramanmaras**	**6.20**	**259**	*e*PN	**Pn**	**17 18 19.3**	**+0.6**
IAFJ	**Afjeh**	**6.44**	**116**	*e*Pn	**Pn**	**17 18 25.0**	**+3.0**
IAFJ	**Afjeh**	**6.44**	**116**	Pn	**Pn**	**17 18 24.9**	**+2.9**
IPRN	**Paran-Amol**	**6.64**	**111**	*e*Pn	**Pn**	**17 18 27.2**	**+2.5**
KOZT	**Kozan**	**7.04**	**261**	*e*PN	**Pn**	**17 18 31.0**	**+0.9**
IFIR	**Firoozkooh**	**7.28**	**114**	*e*Pn	**Pn**	**17 18 37.6**	**+4.1**
IFIR	**Firoozkooh**	**7.28**	**114**	Pn	**Pn**	**17 18 37.5**	**+4.0**
ISHM	**Shahmirzad**	**7.59**	**111**	*e*Pn	**Pn**	**17 18 41.4**	**+3.6**
ISFB	**Sefidab**	**7.64**	**124**	*e*Pn	**Pb**	**17 18 52.6**	**-7.1**
IKIA	**Kiasar**	**7.71**	**108**	*e*Pn	**Pn**	**17 18 40.5**	**+1.0**
ANN	**Anapa**	**7.95**	**320**	*e*P	**Pn**	**17 18 40.1**	**-2.6**
ANN				pmax	pmax		
	comp=Z,25nm,0.9s						
ANN				MLR	MLR		
	comp=Z,381nm,17.0s						
IANJ	**Anjiloo**	**8.20**	**112**	*e*Pn	**Pn**	**17 18 49.7**	**+3.6**
IANJ	**Anjiloo**	**8.20**	**112**	Pn	**Pn**	**17 18 49.6**	**+3.5**
BR131	**Keskin Array S**	**8.52**	**279**	*e*Pn	**Pn**	**17 18 53.5**	**+3.0**
	comp=Z,3.8nm,1.0s						
BR131	**Keskin Array S**	**8.52**	**279**	*e*Pn	**Pn**	**17 18 53.5**	**+3.0**
BRTR	**Keskin Array B**	**8.52**	**279**	Pn	**Pn**	**17 18 48.5**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=107,slow=13,SNR=2.8						
ASF	**Jabal al Asfar**	**9.17**	**225**	Pn	**Pn**	**17 19 00.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=271,slow=9.6,SNR=3.8						
ASF				Lg		17 21 35.7	
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=2.9						
ASF				LR	LR	17 22 37.9	
	comp=Z,95nm,20.8s,baz=86,slow=38						
MIB	**Mutribah**	**9.35**	**165**	*e*P	**Pn**	**17 18 59.6**	**-2.3**
MIB				AML	AML	17 20 54.1	
	comp=Z,10nm,0.7s						
UMR	**Umm Al-Rimmam**	**9.67**	**163**	*e*P	**Pn**	**17 19 04.2**	**-2.2**
UMR				AML	AML	17 21 03.7	
	comp=Z,4.8nm,0.4s						
KBD	**Kabd**	**10.03**	**164**	*e*P	**Pn**	**17 19 08.2**	**-3.0**
HARR	**Harsova**	**13.70**	**300**	⇑*i*P	**Pn**	**17 20 10.9**	**+10**
HARR	**Harsova**	**13.70**	**300**	⇑P	**Pn**	**17 20 10.9**	**+10**
ORR	**Orenburg**	**14.58**	**26**	*e*P	**Pn**	**17 20 11.1**	**-2.3**
ORR				pmax	pmax		
	comp=Z,20nm,1.2s						
ORR				MLR	MLR		
	comp=Z,170nm,15.0s						
VRI	**Vrincioaia**	**14.90**	**304**	⇓*i*P	**Pn**	**17 20 23.6**	**+5.8**
VRI	**Vrincioaia**	**14.90**	**304**	⇓P	**Pn**	**17 20 23.6**	**+5.9**
PLOR	**Plostina**	**14.95**	**303**	⇓*i*P	**Pn**	**17 20 25.1**	**+6.7**
AKTK	**Aktyubinsk**	**14.96**	**35**	Pn	**Pn**	**17 20 16.3**	**-2.2**
AKTK				LR	LR	17 27 38.5	
AKTO	**Aktyubinsk**	**14.96**	**35**	Pn	**Pn**	**17 20 16.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=238,slow=12,SNR=7.5						
AKTO				LR	LR	17 27 38.5	
	comp=Z,99nm,18.6s,baz=224,slow=44						
MLR	**Muntele Rosu**	**15.29**	**302**	Pn	**Pn**	**17 20 22.3**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=135,slow=16,SNR=1.9						
MLR	**Muntele Rosu**	**15.29**	**302**	⇑*i*P	**Pn**	**17 20 28.0**	**+5.1**
MLR	**Muntele Rosu**	**15.29**	**302**	⇑P	**Pn**	**17 20 28.0**	**+5.1**
VOIR		**15.87**	**301**	⇑*i*P	**Pn**	**17 20 36.3**	**+5.8**
VOIR		**15.87**	**301**	⇑P	**Pn**	**17 20 36.3**	**+5.8**
AKASG	**Malin Array Be**	**16.03**	**322**	Pn	**Pn**	**17 20 28.7**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=131,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**16.03**	**322**	*i* P	**Pn**	**17 20 34.4**	**+1.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**16.03**	**322**	Pn	**Pn**	**17 20 28.7**	**-3.9**
AKASG	**Malin Array Be**	**16.03**	**322**	*i* P	**Pn**	**17 20 34.4**	**+1.9**
	comp=Z,4.0nm,0.9s						
BURAR	**Bucovina Array**	**16.55**	**308**	⇓*i*P	**Pn**	**17 20 43.2**	**+4.0**
BURAR	**Bucovina Array**	**16.55**	**308**	⇓P	**Pn**	**17 20 43.2**	**+4.0**
VTS	**Vitosha**	**16.60**	**290**	⇑*i*P	**Pn**	**17 20 44.1**	**+4.2**
VTS	**Vitosha**	**16.60**	**290**	⇑P	**Pn**	**17 20 44.1**	**+4.2**
HATD	**Hatta, Dubai**	**17.10**	**142**	⇑P	**Pn**	**17 20 45.5**	**-0.6**
OBN	**Obninsk**	**17.10**	**344**	*e*P	**Pn**	**17 20 46.9**	**+0.7**
OBN				*e*S	**Sn**	**17 24 01.7**	**+5.4**
OBN				pmax	pmax		
	comp=Z,14nm,1.0s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s						
OBN	**Obninsk**	**17.10**	**344**	*e*P	**Pn**	**17 20 46.9**	**+0.7**
	comp=Z,14nm,1.0s						
ASHO	**Ashiyiah**	**17.18**	**142**	⇓P	**Pn**	**17 20 47.3**	**+0.1**
MOS	**Moscow**	**17.48**	**347**	*e*P	**Pn**	**17 20 52.5**	**+1.5**
MOS				*e*S	**Sn**	**17 24 06.7**	**+1.1**
MOS				pmax	pmax		
	comp=Z,35nm,1.2s						
MOS	**Moscow**	**17.48**	**347**	*e*P	**Pn**	**17 20 52.5**	**+1.5**
	comp=Z,35nm,1.2s						
DRGR		**17.83**	**303**	⇑*i*P	**Pn**	**17 20 56.1**	**+0.8**
LVV	**L'vov**	**18.24**	**313**	*e*P	**Pn**	**17 21 04.5**	**+4.1**
ARQ	**Araqi**	**18.55**	**143**	⇓P	**Pn**	**17 21 06.7**	**+2.6**
	SNR=12						
HOQ	**Hoqain**	**18.72**	**141**	⇓P	**Pn**	**17 21 06.9**	**+0.8**
KOLS	**Kolonicke sedl**	**18.88**	**309**	*e*P	**Pn**	**17 21 09.9**	**+1.8**
CRVS	**Cervenica-Dubn**	**19.36**	**309**	*e*P	**Pn**	**17 21 15.7**	**+1.8**
BSY	**Bisya**	**19.37**	**143**	P	**Pn**	**17 21 13.5**	**-0.5**
	SNR=10						
BSYO	**Bisya**	**19.40**	**142**	P	**Pn**	**17 21 13.5**	**-0.9**
	SNR=10						
SMDO	**Samad**	**19.52**	**140**	⇑P	**Pn**	**17 21 15.6**	**-0.3**
	SNR=13						
WSAR	**Wadi Sarin**	**19.67**	**138**	P	**Pn**	**17 21 17.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=343,slow=9.7,SNR=11						
WSAR	**Wadi Sarin**	**19.67**	**138**	P	**Pn**	**17 21 17.3**	**-0.3**
STHS	**Stebnicka Huta**	**19.69**	**310**	*es*P	sP	17 21 30.9	+10
ARU	**Arti**	**19.84**	**23**	*e*P	**Pn**	**17 21 11.1**	**-8.6**
ARU				*e*SS		17 24 56.5	
JMDO	**Jabal Madar**	**20.13**	**141**	⇓P	**P**	**17 21 24.4**	**+3.3**
	SNR=6.9						
NIE	**Niedzica**	**20.25**	**309**	*e*P	**P**	**17 21 27.2**	**+4.6**
PKSM	**Moragy**	**20.40**	**299**	⇑*i*P	**P**	**17 21 24.6**	**+0.5**
PKSM	**Moragy**	**20.40**	**299**	⇑P	**P**	**17 21 24.6**	**+0.5**
VYHS	**Vyhne**	**20.85**	**306**	*e*P	**P**	**17 21 33.5**	**+4.4**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VYHS	**Vyhne**	**20.85**	**306**	*e*P	**P**	**17 21 33.5**	**+4.4**
	comp=Z,7.6nm,1.2s						
OJC	**Ojcow**	**20.87**	**311**	*e*P	**P**	**17 21 33.0**	**+3.8**
OKC	**Ostrava-Krasne**	**21.72**	**309**	*e*P	**P**	**17 21 43.9**	**+5.5**
ZRNK	**Zerenda**	**21.91**	**42**	*e*P	**P**	**17 21 39.8**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**21.91**	**42**	*e*P	**P**	**17 21 39.8**	**-0.6**
	comp=Z,8.7nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**21.91**	**42**	*e*P	**P**	**17 21 39.8**	**-0.6**
	comp=Z,9.0nm,0.6s,mb4.4						
VRAC	**Vranov**	**22.51**	**307**	LR	LR	17 31 23.2	
	comp=Z,46nm,18.8s,MS2.9,baz=102,slow=39						
BRVK	**Borovoye**	**22.64**	**43**	*e*P	**P**	**17 21 44.5**	**-3.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**22.64**	**43**	*e*P	**P**	**17 21 44.5**	**-3.7**
	comp=Z,7.3nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**22.68**	**43**	P	**P**	**17 21 48.5**	**-0.1**
	comp=Z,2.9nm,0.7s,mb3.8,baz=243,slow=9.5,SNR=18						
BVAR				LR	LR	17 30 56.2	
	comp=Z,35nm,19.6s,MS2.8,baz=320,slow=38						
VSU	**Vasula**	**22.72**	**335**	*e*P	**P**	**17 21 53.0**	**+4.0**
ABTO	**Aybut**	**22.77**	**158**	⇑P	**P**	**17 21 47.8**	**-1.8**
	SNR=18						
ABTO	**Aybut**	**22.77**	**158**	P	**P**	**17 21 47.8**	**-1.8**
	SNR=18						
AAK	**Ala-Archa**	**22.91**	**71**	*e*P	**P**	**17 21 52.2**	**+1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.6						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.3						
AAK	**Ala-Archa**	**22.91**	**71**	*e*P	**P**	**17 21 52.6**	**+1.5**
	comp=Z,7.7nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**22.91**	**71**	*e*P	**P**	**17 21 52.2**	**+1.2**
	comp=Z,100nm,20.0s						
RBK	**Rabkut**	**22.91**	**156**	⇑P	**P**	**17 21 49.4**	**-1.6**
	SNR=12						
FRU	**Bishkek**	**23.00**	**70**	*e*P	**P**	**17 22 01.5**	**+10**
DPC	**Dobruska-Polom**	**23.00**	**309**	*e*P	**P**	**17 22 01.9**	**+10**
CHKZ	**Chkalovo**	**23.11**	**42**	*e*P	**P**	**17 21 52.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**23.11**	**42**	*e*P	**P**	**17 21 52.4**	**-0.8**
	comp=Z,8.7nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**23.11**	**42**	*e*P	**P**	**17 21 52.4**	**-0.8**
	comp=Z,9.0nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**24.23**	**304**	P	**P**	**17 22 03.3**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.4,baz=99,slow=8.2,SNR=8.8						
KHC	**Kasperske Hory**	**24.37**	**305**	*e*P	**P**	**17 22 06.5**	**+1.2**
FINES	**FINESS Array B**	**25.31**	**339**	P	**P**	**17 22 12.3**	**-1.5**
	comp=Z,3.5nm,0.8s,mb3.9,baz=153,slow=10,SNR=6.5						
FINES				LR	LR	17 32 50.2	
	comp=Z,88nm,19.4s,MS3.3,baz=338,slow=38						
NKC	**Novy Kostel**	**25.35**	**307**	*e*P	**P**	**17 22 18.0**	**+3.8**
JOF	**Joensuu**	**25.36**	**346**	*ep*	**P**	**17 22 12.4**	**-1.9**
	comp=Z,9.6nm,0.8s,mb4.4						
JOF	**Joensuu**	**25.36**	**346**	*e*P	**P**	**17 22 12.4**	**-1.9**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**25.80**	**340**	*ep*	**P**	**17 22 17.2**	**-1.1**
	comp=Z,4.9nm,0.8s,mb4.1						
KAF	**Kangasniemi**	**25.80**	**340**	*e*P	**P**	**17 22 17.2**	**-1.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
GRA1	**Grafenberg Arr**	**26.00**	**305**	*e*P	**P**	**17 22 23.4**	**+3.3**
	comp=Z,5.0nm,1.1s,mb4.0						
GRF	**Grafenberg Arr**	**26.00**	**305**	*e*P	**P**	**17 22 23.4**	**+3.3**
	comp=Z,5.0nm,1.1s,mb4.0						
GRF	**Grafenberg Arr**	**26.00**	**305**	*e*P	**P**	**17 22 23.4**	**+3.3**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
GRF	**Grafenberg Arr**	**26.00**	**305**	*e*P	**P**	**17 22 23.4**	**+3.3**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ATD	**Arta Tunnel**	**27.29**	**184**	LR	LR	17 33 31.0	
	comp=Z,88nm,18.8s,MS3.4,baz=36,slow=37						
KEST	**Kesra**	**28.09**	**275**	P	**P**	**17 22 37.2**	**-1.7**
	comp=Z,0.8nm,0.9s,mb3.4,baz=200,slow=4.2,SNR=4.1						
MK31	**Makanchi Array**	**28.54**	**62**	*e*P	**P**	**17 22 44.0**	**+1.1**
MKAR	**Makanchi Array**	**28.54**	**62**	P	**P**	**17 22 43.0**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=267,slow=6.1,SNR=4.7						
MKAR				LR	LR	17 36 42.6	
	comp=Z,31nm,18.7s,MS2.9,baz=264,slow=42						
HFS	**Hagfors**	**28.77**	**328**	P	**P**	**17 22 42.3**	**-2.7**
	comp=Z,2.0nm,0.8s,mb3.9,baz=142,slow=14,SNR=2.3						
HFS				LR	LR	17 36 31.2	
	comp=Z,73nm,19.7s,MS3.3,baz=306,slow=42						
NOA	**NORSAR Array B**	**30.29**	**328**	LR	LR	17 36 54.6	
	comp=Z,76nm,18.1s,MS3.4,baz=130,slow=40						
ZAL	**Zalesovo**	**31.06**	**48**	LR	LR	17 38 19.6	
	comp=Z,120nm,18.7s,MS3.6,baz=216,slow=42						
KOLN	**Koldanda**	**34.20**	**97**	*e*P	**P**	**17 23 34.0**	**+1.2**
	comp=Z,12nm,1.0s,mb4.8						
GKN	**Gorkha**	**34.90**	**96**	*e*P	**P**	**17 23 39.3**	**+0.6**
	comp=Z,12nm,0.7s,mb4.9						
DMN	**Daman**	**35.45**	**96**	*e*P	**P**	**17 23 42.1**	**-1.4**
	comp=Z,19nm,1.0s,mb5.0						
KKN	**Kakani**	**35.50**	**96**	*e*P	**P**	**17 23 44.4**	**+0.5**
	comp=Z,21nm,1.4s,mb4.9						
PKI	**Pulchoki**	**35.70**	**96**	*e*P	**P**	**17 23 45.2**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9						
GUN	**Gumba**	**35.91**	**95**	*e*P	**P**	**17 23 48.7**	**+1.3**
	comp=Z,15nm,0.8s,mb5.0						
ESDC	**Sonseca Array**	**37.21**	**287**	P	**P**	**17 23 56.7**	**-1.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=64,slow=9.3,SNR=4.3						
LSA	**Lhasa**	**39.20**	**89**	*e*P	**P**	**17 24 13.5**	**-1.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**39.20**	**89**	*e*P	**P**	**17 24 13.5**	**-1.8**
	comp=Z,4.3nm,0.7s,mb4.3						
KMBO	**Kilima Mbogo**	**40.39**	**191**	LR	LR	17 41 22.4	
	comp=Z,66nm,19.8s,MS3.5,baz=93,slow=36						
SONM	**Songino Array**	**44.73**	**58**	P	**P**	**17 25 01.3**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=280,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**45.70**	**248**	P	**P**	**17 25 06.0**	**-2.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=46,slow=8.8,SNR=3.6						
BOD	**Bodaibo**	**47.55**	**43**	*e*P	**P**	**17 25 18.4**	**-4.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BOSA	**Boshof**	**69.54**	**198**	LR	LR	17 57 37.8	
	comp=Z,46nm,19.7s,MS3.7,baz=172,slow=35						
BBB	**Bella Bella**	**89.07**	**356**	LR	LR	18 15 55.1	
	comp=Z,121nm,18.3s,MS4.4,baz=267,slow=40						
PDAR	**Pinedale Array**	**95.40**	**341**	LR	LR	18 18 38.0	
	comp=Z,56nm,19.9s,MS4.0,baz=268,slow=39						

*IDC **22** 17:17:36.8±10.0, 52.23N×179.97W, h112km±92km, mb3.3/7, mb1 3.7/8, mb1mx3.4/25, mbtmp3.8/8, ML4.3/1, Error ellipse: s-maj=35.8km s-min=20.8km az=13.0*
*ISCJB **22** 17:17:40.8±1.0, 52.3N±02.0×179.9W±0.02, h163km±10km, mb3.5/7, Error ellipse: s-maj=27.2km s-min=12.8km az=125.5*
*NEIC **22** 17:17:41.8, 52.15N×179.74W, h160km, MG3.3(AEIC), After AEIC.*
ISC 22 17:17:41.9±0.9, 522N±01×1799W±02, h160km±10km, n17, σ0°87/15, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.98**	**210**	P	**Pn**	**17 18 07.6**	**+0.2**
ATKA	**Atka Island**	**3.52**	**88**	P	**Pn**	**17 18 35.9**	**-0.3**
UNV	**Unalaska Valle**	**8.25**	**73**	*e*Pn	**Pn**	**17 19 38.8**	**+0.3**
KDAK	**Kodiak Island**	**16.57**	**60**	P	**Pn**	**17 21 21.8**	**-3.1**
	1.2nm,0.3s,baz=147,slow=3.4,SNR=18						
SLKM	**Skilak Lake**	**18.28**	**51**	*e*P	**P**	**17 21 42.6**	**-0.7**
IMA2	**Indian Mountai**	**19.10**	**33**	*e*P	**P**	**17 21 52.2**	**-0.1**
MCK	**McKinley**	**19.82**	**42**	P	**P**	**17 22 00.3**	**+0.2**
COLA	**College**	**20.68**	**40**	*e*P	**P**	**17 22 11.5**	**+2.2**
NVAR	**Mina Array Bea**	**44.13**	**83**	P	**P**	**17 25 35.5**	**+1.2**
	0.5nm,0.6s,mb3.4,baz=304,slow=9.6						
PDAR	**Pinedale Array**	**46.71**	**72**	P	**P**	**17 25 54.3**	**-0.3**
	1.0nm,0.7s,mb3.5,baz=309,slow=3.8,SNR=7.7						
MKAR	**Makanchi Array**	**58.96**	**307**	P	**P**	**17 27 24.4**	**+0.1**
	0.3nm,0.3s,mb3.6,baz=49,slow=7.0,SNR=5.2						
TXAR	**Lajitas Array**	**59.21**	**81**	P	**P**	**17 27 25.6**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=307,slow=6.4,SNR=6.2						
BVAR	**Borovoye Array**	**59.79**	**319**	P	**P**	**17 27 29.4**	**-0.7**
	0.4nm,0.4s,mb3.6,baz=45,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**82.16**	**223**	P	**P**	**17 29 44.4**	**-0.3**
	0.6nm,0.6s,mb3.4,baz=28,slow=6.3,SNR=9.6						
ASAR	**Alice Springs**	**85.66**	**222**	P	**P**	**17 30 02.8**	**+0.3**
	0.2nm,0.4s,mb3.2,baz=23,slow=5.7,SNR=11						
MAW	**Mawson**	**146.73**	**218**	PKPbc	PKPbc	17 37 03.5	-1.3
	0.9nm,0.6s,baz=32,slow=8.2,SNR=7.1						
BOSA	**Boshof**	**149.89**	**312**	PKPbc	PKPbc	17 37 12.5	-0.5
	1.2nm,0.6s,baz=48,slow=17,SNR=4.4						

*NEIC **22** 17:57:01.8, 31.42S×71.81W, h19km, ML2.8(GUC), After GUC.*
GUC 22 17:57:01.8±0.8, 31.42S×71.81W, h19km±4km, MD3.7, ML2.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**150**	⇓*i*P	Pg	17 57 12.0	-0.4
CHNG				*i* S	Sg	17 57 19.4	-0.1
CHNG				AML	AML	17 57 19.8	
	comp=N,451nm,0.4s						
CMCH	**Combarbala**	**0.73**	**70**	⇑*i*P	Pb	17 57 15.2	-0.8
CMCH				*i* S	Sb	17 57 25.5	-0.1
CMCH				AML	AML	17 57 27.6	
	comp=E,1μm,0.3s						
CMCH	**Combarbala**	**0.73**	**70**	⇑*i*P	Pb	17 57 15.2	-0.8
CMCH				*i* S	Sb	17 57 25.5	-0.1
OVCH	**Ovalle**	**0.96**	**33**	*i* P	Pb	17 57 19.0	-0.9
OVCH				*i* S	Sb	17 57 31.8	-0.5
OVCH				AML	AML	17 57 34.3	
	comp=E,493nm,0.3s						
OVCH	**Ovalle**	**0.96**	**33**	*i* P	Pb	17 57 19.0	-0.9
OVCH				*i* S	Sb	17 57 31.8	-0.5
PTCH	**Petorca**	**1.12

RLMT	**Red Lodge**	**3.14 296**	*e*Pn	**Pn**	**18 04 54.3**	**-0.1**
BW06	**Boulder Array**	**3.29 253**	*e*Pn	**Pn**	**18 04 56.0**	**-0.4**
BW06			*e*Sg	**Sg**	**18 05 41.0**	**-8.4**
PDAR	**Pinedale Array**	**3.29 253**	Pn	**Pn**	**18 04 56.4**	**-0.1**
	2.2nm,0.3s,baz=75,slow=16,SNR=78					
PDAR			Pg	**Pg**	**18 05 04.4**	**-2.4**
	6.3nm,0.3s,baz=67,slow=19,SNR=41					
PDAR			Lg		18 05 40.2	
	10nm,0.3s,baz=75,slow=31,SNR=7.0					
GCMT	**Greycliff**	**3.70 304**	*e*Pn	**Pn**	**18 05 02.8**	**+0.7**
LOHW	**Long Hollow**	**3.87 269**	*e*P	**Pn**	**18 05 04.6**	**+0.3**
FLWY	**Flagg Ranch**	**3.92 276**	*e*Pn	**Pn**	**18 05 04.8**	**-0.3**
FLWY			*e*Pg	**Pg**	**18 05 15.3**	**-3.6**
MOOW	**Moose Ponds**	**3.96 271**	*e*Pn	**Pn**	**18 05 05.5**	**-0.1**
YNR	**Norris Junctio**	**3.98 285**	*e*Pg	**Pg**	**18 05 15.1**	**-4.9**
SNOW	**Snow King Moun**	**3.99 267**	Pn	**Pn**	**18 05 06.4**	**+0.4**
ISCO	**Idaho Springs**	**4.01 184**	*e*Pn	**Pn**	**18 05 06.3**	**0.0**
YFT	**Old Faithful**	**4.05 281**	Pn	**Pn**	**18 05 07.9**	**+1.0**
REDW	**Red Top Meadow**	**4.07 266**	*e*Pn	**Pn**	**18 05 07.6**	**+0.4**
IMW	**Indian Meadow**	**4.09 273**	*e*Pn	**Pn**	**18 05 07.5**	**+0.1**
TPAW	**Teton Pass**	**4.13 268**	*e*Pn	**Pn**	**18 05 08.1**	**+0.2**
YMR	**Madison River**	**4.17 284**	*e*Pg	**Pg**	**18 05 14.9**	**-8.7**
DCID1	**Drake Creek**	**4.29 269**	*e*Pn	**Pn**	**18 05 09.0**	**-1.1**
DCID1			*e*Pg	**Pg**	**18 05 20.1**	**-5.7**
RRI2	**Red Ridge**	**4.41 266**	*e*Pn	**Pn**	**18 05 11.8**	**0.0**
QLMT	**Earthquake Lak**	**4.53 285**	*e*Pg	**Pg**	**18 05 20.5**	**-10**
DGMT	**Dagmar**	**4.73 9**	*e*Pn	**Pn**	**18 05 17.5**	**+1.3**
DGMT			*e*Pg	**Pg**	**18 05 28.6**	**-5.6**
SMCO	**Snowmass**	**4.80 196**	*e*Pn	**Pn**	**18 05 18.5**	**+1.4**
SMCO			Pg	**Pg**	**18 05 27.8**	**-7.7**
SMCO			*e*Sg	**Sg**	**18 06 31.8**	**-5.9**
HWUT	**Hardware Ranch**	**5.13 247**	*e*Pn	**Pn**	**18 05 20.7**	**-0.9**
	12nm,0.5s					
HWUT			*e*Sg	**Sg**	**18 06 40.9**	**-7.4**
EGMT	**Eagleton**	**5.25 325**	*e*Pn	**Pn**	**18 05 23.3**	**0.0**
	34nm,0.6s					
EGMT			*e*Pg	**Pg**	**18 05 39.1**	**-5.1**
TCUT	**Toone Canyon**	**5.27 241**	*e*Pn	**Pn**	**18 05 23.1**	**-0.5**
DLMT	**Dillon**	**5.45 289**	Pn	**Pn**	**18 05 28.6**	**+2.5**
	9.4nm,0.6s					
HRY	**Holter Researc**	**5.46 304**	*e*Pn	**Pn**	**18 05 26.4**	**+0.2**
MCMT	**McKenzie Canyo**	**5.53 283**	*e*Pn	**Pn**	**18 05 26.7**	**-0.4**
SPUT	**South Promonto**	**5.85 247**	*e*Pn	**Pn**	**18 05 30.8**	**-0.8**
HVU	**Hansel Valley**	**5.87 252**	*e*Pn	**Pn**	**18 05 31.3**	**-0.6**
	13nm,0.8s					
SDCO	**Great Sand Dun**	**6.06 182**	*e*P	**Pn**	**18 05 34.9**	**+0.5**
	1.7nm,0.6s					
MPU	**Maple Canyon**	**6.07 234**	*e*Pg	**Pg**	**18 05 51.3**	**-8.6**
	17nm,0.8s					
PV10	**Paradox Valley**	**6.12 209**	*e*Pn	**Pn**	**18 05 36.4**	**+1.1**
PV10			Sg	**Sg**	**18 07 10.9**	**-9.4**
SRU	**San Rafael**	**6.12 222**	*e*P	**Pn**	**18 05 34.1**	**-1.2**
	16nm,0.5s					
SRU			*e*Sg	**Sg**	**18 07 10.8**	**-10**
PV01	**Paradox Valley**	**6.19 205**	*e*Pn	**Pn**	**18 05 36.5**	**+0.3**
ECSD	**EROS,Sioux Fal**	**6.28 88**	*e*Pn	**Pn**	**18 05 37.2**	**-0.2**
TMUT	**Trail Mountain**	**6.33 227**	*e*P	**Pn**	**18 05 38.4**	**+0.2**
CHMT	**Chamberlain Mo**	**6.42 302**	*e*P	**Pn**	**18 05 39.5**	**+0.2**
BGU	**Big Grassy Mou**	**6.42 246**	*e*Pn	**Pn**	**18 05 40.3**	**+0.8**
HLID	**Hailey**	**6.63 271**	*e*Pn	**Pn**	**18 05 43.8**	**+1.5**
	2.6nm,0.6s					
DUG	**Dugway**	**6.67 240**	*e*P	**Pn**	**18 05 41.8**	**-1.1**
	5.1nm,0.6s					
MVCO	**Mesa Verde**	**7.03 201**	*e*P	**Pn**	**18 05 49.3**	**+1.5**
MSU	**Marysvale**	**7.42 227**	*e*Pn	**Pn**	**18 05 52.6**	**-0.5**
AGMN	**Agassiz Refuge**	**7.94 52**	*e*Pg	**Pg**	**18 06 28.3**	**-7.5**
KSU1	**Kansas State U**	**8.03 123**	*e*Pg	**Pg**	**18 06 28.5**	**-9.0**
ARUT	**Antelope Range**	**8.62 229**	*e*P	**Pn**	**18 06 10.0**	**+0.3**
CCUT	**Cedar City**	**8.76 227**	*e*P	**Pn**	**18 06 11.6**	**+0.1**
ULM	**Lac du Bonnet**	**9.10 42**	Pn	**Pn**	**18 06 14.0**	**-2.1**
	1.2nm,0.3s,baz=232,slow=10.0,SNR=13					
ULM			Lg		18 08 45.8	
	0.5nm,0.3s,baz=300,slow=20,SNR=2.0					
ULM	**Lac du Bonnet**	**9.10 42**	Pn	**Pn**	**18 06 14.0**	**-2.1**
ULM			Lg		18 08 45.8	
WUAZ	**Wupatki**	**9.52 212**	*e*Pn	**Pn**	**18 06 20.5**	**-1.4**
	3.8nm,0.6s					
NVAR	**Mina Array Bea**	**11.19 246**	Pn	**Pn**	**18 06 45.3**	**+0.5**
	0.1nm,0.3s,baz=54,slow=12,SNR=6.6					
MKAR	**Makanchi Array**	**89.54 355**	P	**P**	**18 17 01.9**	**-1.0**
	0.5nm,0.7s,mb3.9,baz=4.3,slow=4.9,SNR=5.8					

*ISCJB **22** 18:07:13.5±0.5, 2920N±004×1300E±0.1, h51km±9km, mb3.6/3, MS2.9/1, Error ellipse: s-maj=16.0km s-min=4.0km az=48.6*
*JMA **22** 18:07:13.3±0.1, 2922N×13000E, h60km±3km, M3.3*
*IDC **22** 18:07:15.9±2.7, 2910N×13009E, h51km±27km, mb3.3/3, mb1 3.5/5, mb1mx3.2/23, mbtmp3.5/5, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.1/16, Error ellipse: s-maj=33.3km s-min=16.8km az=109.0*

ISC 22 18:07:14.3±0.6, 2920N±004×13007E±010, h37km±12km, n16, σ0∞63/25, mb3.6/3, MS2.9/1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.66**	**345**	P	**Pn**	**18 07 26.6**	**-0.6**
JNN				*e*S	**Sn**	**18 07 36.6**	**+0.2**
JAM	**Amami Oshima**	**0.88**	**207**	P	**Pn**	**18 07 29.8**	**-0.4**
JAM				*e*S	**Sn**	**18 07 41.5**	**-0.3**
JZK	**Kikaishima**	**0.88**	**185**	P	**Pn**	**18 07 30.4**	**+0.2**
JKC	**Kuchinoerabu**	**1.27**	**5**	P	**Pn**	**18 07 35.1**	**-0.4**
JKC				*e*S	**Sn**	**18 07 51.2**	**-0.1**
JTN	**Tanegashima 3**	**1.65**	**28**	P	**Pn**	**18 07 41.1**	**+0.3**
JTN				*e*S	**Sn**	**18 08 00.9**	**+0.1**
JTK	**Tokunoshima**	**1.71**	**215**	P	**Pn**	**18 07 41.8**	**+0.1**
JTK				*e*S	**Sn**	**18 08 03.2**	**+0.8**
JTSR	**Tashiro 2**	**2.10**	**20**	*e*S	**Sn**	**18 08 11.1**	**-0.7**
JSU	**Suzuyama**	**2.33**	**8**	P	**Pn**	**18 07 50.0**	**-0.1**
JOW	**Kunigami**	**2.84**	**214**	P	**Pn**	**18 07 56.8**	**-0.3**
	7.3nm,0.3s,baz=79,slow=15,SNR=26						
JOW				S	**Sn**	**18 08 30.8**	**+0.7**
	12nm,0.3s,baz=160,slow=27,SNR=6.8						
JOW	**Kunigami**	**2.84**	**214**	P	**Pn**	**18 07 56.8**	**-0.3**
JOW				*e*S	**Sn**	**18 08 29.7**	**-0.4**
JIH	**Iheya**	**2.84**	**221**	P	**Pn**	**18 07 57.3**	**+0.1**
JIH				*e*S	**Sn**	**18 08 30.1**	**-0.1**
JAGN	**Aguni-jima**	**3.61**	**225**	P	**Pn**	**18 08 07.8**	**+0.1**
JAGN				*e*S	**Sn**	**18 08 48.6**	**-0.4**
MJAR	**Matsushiro Arr**	**10.02**	**41**	P	**Pn**	**18 09 38.7**	**+3.0**
	0.1nm,0.3s,baz=206,slow=16,SNR=2.8						
SONM	**Songino Array**	**26.08**	**322**	P	**P**	**18 12 45.3**	**+0.9**
	0.6nm,0.5s,mb3.4,baz=140,slow=11,SNR=6.0						
SONM				LR	LR	18 24 06.9	
	comp=Z,39nm,19.9s,MS2.9,baz=18,slow=39						
WRA	**Warramunga Arr**	**49.02**	**175**	P	**P**	**18 15 56.2**	**-1.2**
	0.7nm,0.6s,mb3.9,baz=354,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**52.69**	**176**	P	**P**	**18 16 25.2**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=7.8,slow=14,SNR=12						

*NEIC **22** 18:11:56.6, 1537N×9570W, h15km, MD3.5(MEX), After MEX.*

MEX 22 18:11:58.2±0.3, 1550N×9572W, h19km±120km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**305**	*i* P	Pg	18 12 06.1	-1.4
HUIG				*i* S	Sg	18 12 12.1	-1.6
HUIG	**Huatulco**	**0.45**	**305**	*i* P	Pg	18 12 06.1	-1.4
HUIG				*i* S	Sg	18 12 12.9	-0.8
CMIG	**Matias Romero**	**1.77**	**27**	*i* P	Pn	18 12 24.9	-2.9
CMIG				*i* S	Sn	18 12 45.7	-4.1
CMIG	**Matias Romero**	**1.77**	**27**	*i* P	Pn	18 12 24.9	-2.9
CMIG				*i* S	Sn	18 12 46.9	-3.0
VHO	**Vista Hermosa**	**1.84**	**328**	*e*P	Pn	18 12 25.4	-3.3
VHO				*i* S	Sn	18 12 48.0	-3.5
VHO	**Vista Hermosa**	**1.84**	**328**	*i* P	Pn	18 12 27.7	-1.0
VHO				*i* S	Sn	18 12 50.0	-1.4
OXX	**Oaxaca**	**1.84**	**329**	*i* P	Pn	18 12 30.5	+1.7

*LDG **22** 18:30:42.9±0.1, 4493N×738E, h2km, Md2.5/2, Ml2.3/18, Error ellipse: s-maj=2.8km s-min=1.4km az=81.0*
*ISCJB **22** 18:30:43.2±0.3, 4497N±002×732E±003, h26km±2km, Error ellipse: s-maj=4.2km s-min=2.7km az=148.9*
*ROM **22** 18:30:43.0±0.2, 4491N×728E, h5km±2km, Md2.3/7, Ml1.8/4, Error ellipse: s-maj=2.4km s-min=1.8km az=100.0*
*STR **22** 18:30:43.2±1.0, 4491N×739E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 22 18:30:43.0±0.3, 4493N±001×732E±003, h19km±2km, n39, σ1∞9∞06/69, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSP	**Reno Superiore**	**0.23**	**348**	Pg	**Pg**	**18 30 48.6**	**+0.3**
RSP				Sg	**Sg**	**18 30 51.6**	**-0.4**
	287nm,0.1s						
OG22	**Abries**	**0.29**	**248**	Pg	**Pg**	**18 30 50.9**	**+1.5**
OG22				Sg	**Sg**	**18 30 55.3**	**+1.6**
DOI	**San Damiano**	**0.43**	**187**	Pg	**Pg**	**18 30 52.5**	**+0.7**
DOI				Sg	**Sg**	**18 30 58.2**	**+0.4**
	103nm,0.3s						
MBDF	**Montbardon**	**0.44**	**243**	*e*Pg	**Pg**	**18 30 53.5**	**+1.5**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 30 59.4**	**+1.3**
	22nm,0.1s,SNR=1.0						
MONC	**Moncucco Torin**	**0.45**	**71**	Pg	**Pg**	**18 30 53.7**	**+1.5**
MONC				Sg	**Sg**	**18 31 01.3**	**+2.9**
	68nm,0.3s						
BNI	**Bardonecchia**	**0.47**	**285**	Pg	**Pg**	**18 30 53.4**	**+0.8**
BNI				Sg	**Sg**	**18 30 59.8**	**+0.8**
	20nm,0.2s						
SURF	**Saint Ours**	**0.58**	**219**	Pg	**Pg**	**18 30 55.9**	**+1.4**
SURF				Sg	**Sg**	**18 31 01.9**	**-0.4**
STV	**Sta Anna Valdi**	**0.69**	**180**	Pg	**Pg**	**18 30 56.4**	**-0.1**
LPG	**La Plagne**	**0.69**	**325**	*e*Pg	**Pg**	**18 30 56.8**	**+0.2**
LPG				*e*Sg	**Sg**	**18 31 05.8**	**-0.1**
	16nm,0.2s						
LPL	**La Plagne**	**0.72**	**325**	*e*Pg	**Pg**	**18 30 57.1**	**0.0**
LPL				*e*Sg	**Sg**	**18 31 05.9**	**-0.7**
	23nm,0.3s						
TOUF	**Mont Tournerai**	**0.92**	**183**	Pg	**Pg**	**18 30 59.7**	**-1.2**
AUTN	**L'Aution**	**0.94**	**175**	Pg	**Pg**	**18 31 00.5**	**-0.7**
AUTN				Sg	**Sg**	**18 31 14.3**	**+0.7**
SAOF	**Saorge**	**0.96**	**170**	Pg	**Pg**	**18 31 00.9**	**-0.7**
FIN	**Finale Ligure**	**0.96**	**138**	Pg	**Pg**	**18 31 02.1**	**+0.4**
	9.0nm,0.1s						
ORIF	**Oris-en-Rattie**	**1.02**	**270**	*e*Pg	**Pg**	**18 31 03.4**	**+0.6**
ORIF				*e*Sg	**Sg**	**18 31 13.9**	**-2.4**
	29nm,0.3s,SNR=1.0						
ORIF				*e*Sn	**Sn**	**18 31 16.0**	**-0.1**
	SNR=1.0						
MVIF	**Mont Vial**	**1.04**	**187**	Pg	**Pg**	**18 31 02.3**	**-0.9**
SBF	**Sospel**	**1.07**	**176**	*e*Pg	**Pg**	**18 31 02.6**	**-1.1**
SBF				*e*Sg	**Sg**	**18 31 16.4**	**-1.4**
	30nm,0.4s						
IMI	**Imperia**	**1.10**	**158**	Pg	**Pg**	**18 31 04.0**	**-0.3**
IMI				Sg	**Sg**	**18 31 18.4**	**-0.3**
	7.0nm,0.1s						
FRF	**La Foret Royal**	**1.45**	**200**	*e*Pn	**Pn**	**18 31 09.9**	**+1.7**
	SNR=1.0						
FRF	**La Foret Royal**	**1.45**	**200**	*e*Pg	**Pg**	**18 31 10.2**	**-0.8**
FRF				*e*Sg	**Sg**	**18 31 28.8**	**-1.2**
	9.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.57**	**233**	*e*Pn	**Pn**	**18 31 10.7**	**+0.8**
SMRF	**Simiane la Rot**	**1.57**	**233**	*e*Pg	**Pg**	**18 31 12.5**	**-0.8**
SMRF				*e*Sg	**Sg**	**18 31 32.8**	**-1.0**
	2.8nm,0.2s						
LMR	**La Mourre**	**1.70**	**200**	*e*Pg	**Pg**	**18 31 13.5**	**-2.2**
LMR				*e*Sn	**Sn**	**18 31 35.1**	**+2.3**
	4.8nm,0.2s,SNR=1.0						
LMR				*e*Sg	**Sg**	**18 31 36.2**	**-1.6**
	6.3nm,0.2s						
VIVF	**Saint-Julien-l**	**1.88**	**269**	*e*Pn	**Pn**	**18 31 15.1**	**+1.0**
VIVF	**Saint-Julien-l**	**1.88**	**269**	*e*Pg	**Pg**	**18 31 17.5**	**-1.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**18 31 37.9**	**+0.5**
	2.1nm,0.2s						
CABF	**La Chapelle**	**1.89**	**333**	*e*Pg	**Pg**	**18 31 18.7**	**-0.6**
CABF				*e*Sg	**Sg**	**18 31 42.9**	**-0.9**
	5.9nm,0.5s						
LASF	**Ste Croix**	**2.62**	**252**	*e*Pn	**Pn**	**18 31 25.2**	**+0.9**
LASF				*e*Sn	**Sn**	**18 31 55.4**	**-0.2**
	1.0nm,0.2s						
PGF	**Pioggiola**	**2.67**	**152**	*e*Pn	**Pn**	**18 31 24.8**	**-0.2**
PGF				*e*Sn	**Sn**	**18 31 55.7**	**-1.2**
	1.4nm,0.4s						
HINF	**Hinteralfeld**	**2.90**	**354**	*e*Pn	**Pn**	**18 31 28.7**	**+0.5**
HINF				*e*Sn	**Sn**	**18 32 01.7**	**-0.8**
	1.3nm,0.4s						
HINF				*e*Sg	**Sg**	**18 32 14.4**	**-1.9**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**2.98**	**306**	*e*Pn	**Pn**	**18 31 30.6**	**+1.4**
HAU	**Haudompre**	**3.15**	**348**	*e*Pn	**Pn**	**18 31 31.9**	**+0.4**
HAU				*e*Sn	**Sn**	**18 32 08.0**	**-0.5**
	2.2nm,0.3s						
AVF	**Avril sur Loir**	**3.34**	**305**	*e*Pn	**Pn**	**18 31 35.9**	**+1.8**
LOR	**Lormes**	**3.36**	**315**	*e*Pn	**Pn**	**18 31 34.6**	**+0.2**
LOR				*e*Sn	**Sn**	**18 32 12.8**	**-0.9**
	1.4nm,0.3s						
SSF	**Saint Saulge**	**3.41**	**310**	*e*Pn	**Pn**	**18 31 35.5**	**+0.4**
SSF				*e*Sn	**Sn**	**18 32 14.2**	**-0.7**
	0.3nm,0.2s						
CDF	**Champ du Feu**	**3.48**	**360**	*e*Pn	**Pn**	**18 31 36.4**	**+0.3**
CDF				*e*Sn	**Sn**	**18 32 15.9**	**-0.9**
	0.8nm,0.3s						
BGF	**Bois d'Agland**	**3.53**	**299**	*e*Pn	**Pn**	**18 31 38.1**	**+1.3**
CAF	**Calviac**	**3.73**	**272**	*e*Pn	**Pn**	**18 31 41.6**	**+2.0**
TCF	**Toulx Ste Croi**	**3.83**	**293**	*e*Pn	**Pn**	**18 31 40.9**	**-0.1**
TCF				*e*Sn	**Sn**	**18 32 24.6**	**-0.9**
	3.9nm,0.5s						
MEZF	**Maizieres J'vi**	**3.90**	**337**	*e*Pn	**Pn**	**18 31 42.1**	**+0.3**
MEZF				*e*Sn	**Sn**	**18 32 25.8**	**-1.2**
	3.1nm,0.3s						

*CSEM **22** 18:38:41.3, 6717N×2067E, h0km, ML3.1, Suspected Mining explosion. After UPP*
*UPP **22** 18:38:41.3, 6717N×2067E, h0km, ML3.1, Suspected Mining explosion.*

HEL 22 18:38:42.0±0.1, 6717N×2068E, h0km, ML3.1(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**218**	*i* P	Pg	18 38 42.8	-0.5
KUA	**Kurravaara**	**0.80**	**351**	*i* P	Pg	18 38 56.4	-0.9
ERTU	**Ertsjaerv**	**0.86**	**135**	*i* P	Pg	18 38 58.0	-0.5
SALU	**Saltoluokta**	**0.87**	**285**	*i* P	Pg	18 38 57.8	-0.8
SALU	**Saltoluokta**	**0.87**	**285**	P	Pg	18 38 57.8	-0.8
	baz=103						
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	Pg	18 38 58.8	-1.2
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	18 38 59.0	-1.5
PAJU	**Pajala**	**0.97**	**98**	P	Pg	18 38 59.0	-1.5
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	18 38 59.9	-1.6
LANU	**Lannavaara**	**1.01**	**29**	P	Pg	18 38 59.8	-1.6
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	18 39 12.2	-0.9
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	18 39 14.8	0.0
KIF				*e*S	Sn	18 39 39.7	+0.9
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	18 39 16.2	+0.2
LILU	**Lilltraesk**	**1.93**	**190**	P	Pn	18 39 16.2	+0.2
	baz=10						
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	18 39 20.9	0.0
SGF				*e*SG	Sg	18 39 51.8	-3.6

IDC 22 18:47:45.9±3.2, 609S×15190E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.4/3, ML2.4/1, Error ellipse: s-maj=153.3km s-min=41.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.74**	**235**	Pn	Pn	18 49 12.6	+0.4
	0.6nm,0.3s,baz=51,slow=17,SNR=4.5						
PMG				Sn	Sn	18 50 10.1	-8.6
	1.8nm,0.3s,baz=162,slow=16,SNR=3.4						
WB2	**Warramunga Arr**	**21.92**	**229**	*e*P	P	18 52 29.2	-11
WRA	**Warramunga Arr**	**21.93**	**229**	P	P	18 52 40.3	-0.5
	0.3nm,0.4s,baz=56,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**24.60**	**223**	P	P	18 53 08.6	+1.0
	0.5nm,0.6s,baz=56,slow=9.2,SNR=9.9						
TORD	**Torodi Ar. Bea**	**149.82**	**286**	PKPbc	PKPbc	19 07 38.5	+0.7
	0.5nm,0.4s,baz=71,slow=2.4,SNR=17						

IDC 22 18:58:59.1±6.5, 5160N×17678W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=261.5km s-min=30.2km az=7.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**45.04**	**74**	P	P	19 07 16.4	-0.2
	0.8nm,0.8s,baz=281,slow=6.2,SNR=6.3						
SONM	**Songino Array**	**47.67**	**297**	P	P	19 07 37.5	+0.3
	1.2nm,0.7s,baz=54,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**60.88**	**309**	P	P	19 09 11.9	-1.6
	0.4nm,0.8s,baz=49,slow=7.2,SNR=4.5						
BRTR	**Keskin Array B**	**85.25**	**337**	P	P	19 11 38.1	+0.5
	1.3nm,0.7s,baz=30,slow=3.6,SNR=13						

*ISCJB **22** 19:03:57.5±0.8, 466N±0.1×1536E±02, h33km, mb4.2/18, MS3.6/3, Error ellipse: s-maj=20.3km s-min=10.0km az=100.5*
*MOS **22** 19:03:57.4±1.2, 4655N×15353E, h36km, mb4.5/4, Error ellipse: s-maj=16.9km s-min=13.6km az=74.9*
*IDC **22** 19:04:01.8±5.0, 4641N×15343E, h59km±45km, mb3.5/10, mb1 3.7/12, mb1mx3.6/22, mbtmp3.8/12, ML3.5/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/35, Error ellipse: s-maj=28.1km s-min=25.2km az=42.0*
*NEIC **22** 19:04:02.0±2.4, 4639N×15339E, h62km±23km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=15.8km az=195.0*

ISC 22 19:03:56.3±4.7, 466N±01×1536E±02, h11km±29km, n33, σ1∞9∞15/31, mb4.2/18, MS3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.37**	**21**	*e*PN	**Pn**	**19 05 02.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ASAJ	**Asahikawa**	**8.17**	**256**	P	**Pn**	**19 05 56.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=104,slow=5.8,SNR=6.9						
ASAJ	**Asahikawa**	**8.17**	**256**	PN	**Pn**	**19 05 56.0**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.81**	**242**	*e*Pn	**Pn**	**19 06 04.1**	**+0.5**
ERM				*e*Sn	**Sn**	**19 07 28.8**	**-14**
MJAR	**Matsushiro Arr**	**15.30**	**234**	P	**Pn**	**19 07 29.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=23,slow=16,SNR=3.4						
JHJ	**Hachijo jima 2**	**17.15**	**223**	LR	LR	19 13 41.7	
	comp=Z,81nm,20.0s,baz=319,slow=34						
SONM	**Songino Array**	**31.70**	**290**	P	**P**	**19 10 18.7**	**-1.2**
	comp=Z,0.5nm,0.8s,mb3.4,baz=88,slow=7.8,SNR=3.8						
MK31	**Makanchi Array**	**47.31**	**298**	*e*P	**P**	**19 12 29.2**	**-0.6**
MKAR	**Makanchi Array**	**47.31**	**298**	P	**P**	**19 12 28.8**	**-1.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=62,slow=7.8,SNR=16						
MKAR				LR	LR	19 33 27.0	
	comp=Z,28nm,20.2s,MS3.2,baz=222,slow=37						
LSA	**Lhasa**	**50.63**	**274**	P	**P**	**19 12 55.1**	**-0.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**50.63**	**274**	P	**P**	**19 12 55.1**	**-0.2**
	comp=Z,6.7nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**19 12 55.2**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**50.77**	**310**	*e*P	**P**	**19 12 55.2**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.3						
BRVK	**Borovoye**	**51.24**	**310**	*e*P	**P**	**19 12 58.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**51.24**	**310**	*e*P	**P**	**19 12 58.3**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.1						
GUN	**Gumba**	**55.36**	**275**	*e*P	**P**	**19 13 32.4**	**+2.2**
KKN	**Kakani**	**55.85**	**276**	*e*P	**P**	**19 13 35.4**	**+1.7**
	comp=Z,11nm,0.7s,mb5.0						
PKI	**Pulchoki**	**55.90**	**275**	*e*P	**P**	**19 13 35.0**	**+0.9**
	comp=Z,6.4nm,0.6s,mb4.8						
DMN	**Daman**	**56.08**	**276**	*e*P	**P**	**19 13 36.7**	**+1.3**
	comp=Z,17nm,0.8s,mb5.1						
GKN	**Gorkha**	**56.16**	**276**	*e*P	**P**	**19 13 36.9**	**+1.0**
	comp=Z,10nm,0.6s,mb5.0						
KOLN	**Koldanda**	**57.01**	**277**	*e*P	**P**	**19 13 41.6**	**-0.4**
	comp=Z,9.2nm,0.7s,mb4.9						
AKTO	**Aktyubinsk**	**59.06**	**312**	LR	LR	19 42 30.3	
	comp=Z,53nm,18.9s,MS3.7,baz=251,slow=39						
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**19 14 31.1**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.3,baz=43,slow=8.6,SNR=9.1						
PDAR	**Pinedale Array**	**64.53**	**54**	P	**P**	**19 14 34.0**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.3,baz=180,slow=1.5,SNR=3.6						
NB2	**NORSAR Subarra**	**68.45**	**341**	P	**P**

BJI 22 19:55:39.7, 999N×9182E, h21km, mb4.2
ISCJB 22 19:55:41.6±0.5, 10.12N±006×9158E±007, h33km, mb4.1/16, Error ellipse: s-maj=11.0km s-min=6.6km az=102.6
NEIC 22 19:55:41.9±6.4, 10.13N×9163E, h20km±41km, mb4.2/2, Error ellipse: s-maj=13.9km s-min=7.5km az=65.0
MOS 22 19:55:42.0±0.9, 10.16N×9170E, h33km, mb4.7/5, Error ellipse: s-maj=34.4km s-min=12.1km az=111.6

ISC 22 19:55:44.2±0.5, 1018N±006×9157E±007, h35km, n41, σ1°04/45, mb4.1/16, 4C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.86	38	eP	x	19 56 00.4	
PBA				eS	x	19 56 11.4	
VIS	Vishakhapatnam	10.96	314	eP	Pn	19 58 17.5	-1.0
VIS				eS	Sn	20 00 07.6	-12
PALK	Pallekele	11.12	256	eP	Pn	19 58 20.4	-0.3
MDRS	Chennai	11.46	286	eP	Pn	19 58 23.4	-1.9
MDRS				AMb	AMB	19 58 26.2	
	comp=Z,31nm,0.2s						
MDRS				eS	Sn	20 00 23.4	-8.6
TRD	Trivandrum	14.52	265	eP	Pn	19 59 10.2	+3.1
TRD				AMb	AMB	19 59 12.8	
	comp=Z,9.5nm,0.6s						
BOK	Bokaro	14.59	339	eP	Pn	19 59 05.7	-2.3
BOK				eS	Sn	20 01 44.1	-4.3
BOK				AML	AML	20 01 52.5	
	comp=N,4.9nm,0.2s						
BOK				AML	AML	20 01 52.9	
	comp=E,4.8nm,0.3s						
SHL	Shillong	15.31	1	eP	Pn	19 59 16.0	-1.6
SHL				eS	S	20 02 03.0	-19
PKI	Pulchoki	18.25	342	eP	Pn	19 59 55.1	+0.5
	comp=E,33nm,1.0s						
KAD	Karad	18.31	295	eP	Pn	19 59 56.1	+0.7
KAD				AMb	AMB	19 59 58.8	
	comp=Z,3.4nm,0.3s						
DMN	Daman	18.38	342	eP	Pn	19 59 56.6	+0.4
	comp=Z,30nm,0.8s						
GUN	Gumba	18.43	344	eP	Pn	19 59 57.6	+0.7
	comp=Z,14nm,0.7s						
KKN	Kakani	18.49	342	eP	Pn	19 59 58.3	+0.7
	comp=Z,10.0nm,0.7s						
BHPL	Bhopal	18.75	316	eP	Pn	20 00 01.0	+0.3
BHPL				AMb	AMB	20 00 01.4	
	comp=Z,4.8nm,0.2s						
BHPL				eS	S	20 03 27.4	-4.2
GKN	Gorkha	18.89	341	eP	Pn	20 00 01.7	-0.7
	comp=Z,14nm,0.4s						
KOLN	Koldanda	19.04	338	eP	Pn	20 00 03.9	-0.3
	comp=Z,28nm,0.9s						
POO	Poona	19.06	298	eP	Pn	20 00 03.0	-1.4
LSA	Lhasa	19.43	359	eP	Pn	20 00 09.0	+0.2
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	Lhasa	19.43	359	eP	Pn	20 00 08.9	+0.1
	comp=Z,13nm,0.6s						
AJM	Ajmer	22.78	318	eP	P	20 00 44.6	+1.0
AJM				AMb	AMB	20 00 47.9	
	comp=Z,11nm,1.0s,mb4.2						
GTA	Gaotai	30.02	13	eP	P	20 01 51.0	+1.3
GTA				AP	pP	20 01 58.1	-1.7
GTA				XP	sP	20 02 01.3	-2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	Ala-Archa	35.61	338⇑	eP	P	20 02 39.9	+1.4
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
MK31	Makanchi Array	37.33	349	eP	P	20 02 53.4	+0.2
MKAR	Makanchi Array	37.33	349	P	P	20 02 53.5	+0.3
	comp=Z,0.8nm,0.4s,mb3.9,baz=170,slow=8.1,SNR=11						
SONM	Songino Array	39.56	16	P	P	20 03 12.0	+0.1
	comp=Z,2.3nm,0.8s,mb4.0,baz=199,slow=8.2,SNR=19						
FITZ	Fitzroy Crossi	43.83	130	P	P	20 03 45.9	-0.9
	comp=Z,1.5nm,0.9s,mb3.7,baz=222,slow=16,SNR=2.0						
BVAR	Borovoye Array	46.02	342	P	P	20 04 03.8	-0.4
	comp=Z,0.2nm,0.4s,mb3.4,baz=146,slow=10,SNR=3.2						
ZRNK	Zerenda	46.38	341	eP	P	20 04 06.5	-0.6
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	Zerenda	46.38	341	eP	P	20 04 06.5	-0.6
	comp=Z,1.7nm,1.0s,mb3.9						
CHKZ	Chkalovo	46.52	343	eP	P	20 04 08.6	+0.4
NWAO	Narrogin (SRO)	49.36	151	P	P	20 04 30.4	+0.2
	comp=Z,3.9nm,0.6s,mb4.6,baz=342,slow=13,SNR=4.2						
GNI	Garni	51.02	314⇑	eP	P	20 04 45.9	+3.2
GNI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WRA	Warramunga Arr	51.66	125	P	P	20 04 47.0	-0.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=300,slow=9.9,SNR=23						
WB2	Warramunga Arr	51.67	125	eP	P	20 04 47.2	-0.3
ASAR	Alice Springs	53.33	135	P	P	20 04 59.5	-0.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=307,slow=6.5,SNR=14						
KIV	Kislovodsk	53.92	318⇑	eP	P	20 05 05.1	+0.9
KIV				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
YSS	Yuzh-Sakhalins	56.59	40	eP	P	20 05 15.1	-8.3
YSS				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
PMG	Port Moresby	58.63	108⇑	eP	P	20 05 32.2	-5.6
BRTR	Keskin Array B	59.01	310	P	P	20 05 40.5	+0.1
	comp=Z,0.5nm,0.7s,mb3.7,baz=104,slow=6.0,SNR=4.4						
BRTR	Keskin Array B	59.01	310	i P	P	20 05 40.4	0.0
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
STKA	Stephens Creek	63.52	133	P	P	20 06 10.6	-0.3
	comp=Z,1.0nm,0.8s,mb3.9,baz=325,slow=12,SNR=3.1						
TORD	Torodi Ar. Bea	87.61	283	P	P	20 08 31.2	+2.4
	comp=Z,1.0nm,1.1s,mb4.0,baz=91,slow=3.9,SNR=4.6						

CSEM 22 19:58:53.4±0.1, 6720N×2098E, h1km, ML3.0, Error ellipse: s-maj=2.9km s-min=0.7km az=146.0, Suspected Mining explosion.
UPP 22 19:58:54.4, 67.15N×2076E, h0km, ML3.0, Suspected Mining explosion.

HEL 22 19:58:54.8±0.3, 6716N×2059E, h0km, ML2.0, ML3.0(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.81	353	i P	Pg	19 59 10.1	-0.1
ERTU	Ertsjaerv	0.88	133	i P	Pg	19 59 10.5	-1.1
PAJU	Pajala	1.00	97	eP	Pg	19 59 11.5	-2.4
HARU	Harads	1.01	171	eP	Pg	19 59 12.5	-1.6
LANU	Lannavaara	1.04	30	eP	Pg	19 59 12.7	-2.1
SJUU	Sjulsmark	1.71	166	eP	Pn	19 59 24.7	-1.1
KIF	Kilpisjarvi	1.86	2	eP	Pn	19 59 27.4	-0.5
KIF				eS	Sn	19 59 52.7	+0.6
KIF	Kilpisjarvi	1.86	2	P	Pn	19 59 27.3	-0.6
LILU	Lilltraesk	1.91	189	eP	Pn	19 59 28.4	-0.1
SGF	Sodankyl	2.32	80	eSG	Sg	20 00 06.0	-3.4
OUL	Oulu	3.00	132	eSB	Sb	20 00 24.6	-1.6
KEV	Kevo	3.52	39	eS	Sn	20 00 30.1	-3.0
KEV				MSG		20 00 49.5	
	comp=Z,4.9nm,0.4s						
MSF	Maaselka	3.60	106	eSG	Sg	20 00 46.3	-4.3
MSF				MSG		20 00 54.6	
	comp=Z,3.3nm,0.4s						
MSF	Maaselka	3.60	106	Sg	Sg	20 00 46.2	-4.4
	comp=Z,3.3nm,0.4s						
KU4	Liikasenvaara	3.65	98	eSG	Sg	20 00 48.7	-3.4
KU4				MSG		20 00 53.6	
	comp=Z,2.1nm,0.3s						
KU4	Liikasenvaara	3.65	98	Sg	Sg	20 00 48.7	-3.4
	comp=Z,2.1nm,0.3s						
KU6	Riekki	3.88	103	eSG	Sg	20 00 54.8	-4.7
KJN	Kajaani	4.27	133	eS	Sn	20 00 50.2	-1.3
KJN				eSG	Sg	20 01 07.5	-4.5

IDC 22 20:10:00.7±1.6, 13.18N×121.18E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=289.7km s-min=9.7km az=74.0
ISCJB 22 20:10:01.4±0.9, 1335N±003×12152E±004, h12km±7km, mb4.0/7, Error ellipse: s-maj=7.2km s-min=4.9km az=123.6
MAN 22 20:10:02.3, 1340N×12155E, h13km, mb2.9, ML4.3, MS1.6
NEIC 22 20:10:05.5±0.9, 1307N×12082E, h35km, mb4.4/2, Error ellipse: s-maj=50.3km s-min=10.9km az=83.0

ISC 22 20:10:02.5±0.8, 1336N±003×12149E±004, h11km±6km, n31, σ1°10/35, mb4.0/7, 1C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	Boac	0.36	74	eP	Pg	20 10 08.5	-1.2
TGY	Tagaytay City	0.91	324	⇓iP	Pg	20 10 20.3	+0.2
TGY				i S	Sg	20 10 32.2	+0.2
TGY	Tagaytay City	0.91	324	Pg	Pg	20 10 18.9	-1.2
	235nm,0.3s,baz=225,slow=1.4,SNR=20						
TGY				Lg		20 10 31.8	
	1μm,0.3s,baz=118,slow=18,SNR=20						
OTRP	Odiongan	1.12	152	eP	Pb	20 10 22.3	-1.5
OTRP				eS	Sg	20 10 40.2	+1.7
AUQP	San Andres	1.15	92	eP	Pb	20 10 24.6	+0.2
LUBP	Lubang	1.27	287	eP	Pn	20 10 24.4	-1.8
POLP	Polillo Island	1.43	18	eP	Pn	20 10 26.2	-2.2
BUSP	Coron	1.84	223	eP	Pn	20 10 35.0	+0.9
RCP	Roxas	2.17	145⇑	eP	Pn	20 10 43.0	+4.4
PCPH	Palayan	2.22	350⇓	eP	Pn	20 10 37.6	-1.7
PCPH				eS	Sn	20 11 06.0	-0.8
BALP	Baler	2.37	2	eP	Pn	20 10 40.5	-0.8
CUYO	Cuyo Island	2.54	191	eP	Pn	20 10 42.8	-0.9
PVCP	Virac	2.60	84	⇓iP	Pn	20 10 44.2	-0.4
PVCP				i S	Sg	20 11 26.4	+0.2
PVCP	Virac	2.60	84	eP	Pn	20 10 44.4	-0.1
SCZP	Santa Cruz	2.85	328	eP	Pn	20 10 48.0	+0.1
GUIM	Jordan	2.92	158	eP	Pn	20 10 49.2	+0.3
ENPP	El Nido	2.94	224	eP	Pn	20 10 50.4	+1.2
BOLP	Bolinao	3.37	333	eP	Pn	20 10 55.2	+0.1
CAUP	Cauayan	3.58	5	eP	Pn	20 10 59.9	+1.9
PALP	Palanan	3.79	14	⇓iP	Pn	20 11 02.5	+1.5
ABRA	Dolores	4.33	350	eP	Pn	20 11 09.6	+1.2
TATO	Taipei	11.56	360	Pn	Pn	20 12 48.9	+1.5
MAJO	Matsushiro	27.53	30	eP	P	20 15 55.0	+5.9
	5.6nm,0.5s,mb4.5						
MDJ	Mudanjiang	31.91	11	eP	P	20 16 29.9	+1.9
	3.9nm,0.4s,mb4.6						
WRAB	Tennant Creek	35.42	159	eP	P	20 16 58.1	-0.5
	1.7nm,0.8s,mb4.0						
WRA	Warramunga Arr	35.42	159	P	P	20 16 57.2	-1.4
	1.1nm,0.7s,mb3.9,baz=335,slow=9.7,SNR=13						
WB2	Warramunga Arr	35.43	159	eP	P	20 16 58.7	0.0
SONM	Songino Array	36.60	343	P	P	20 17 09.7	+1.0
	0.2nm,0.6s,mb3.1,baz=165,slow=12,SNR=2.8						
AS31	Alice Springs	38.75	162	eP	P	20 17 26.6	-0.3
ASAR	Alice Springs	38.75	162	P	P	20 17 26.8	-0.1
	1.0nm,0.6s,mb3.7,baz=343,slow=7.1,SNR=17						
STKA	Stephens Creek	48.93	157	P	P	20 18 48.5	-0.2
	1.5nm,0.7s,mb4.2,baz=348,slow=9.3,SNR=5.4						

ISCJB 22 20:21:17.5±0.2, 4301N±002×092E±002, h13km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=155.1
LDG 22 20:21:18.9±0.0, 4292N×092E, h10km, Md3.0/2, Ml2.8/8, Error ellipse: s-maj=0.9km s-min=0.9km az=68.0
CSEM 22 20:21:19.1±0.1, 4293N×092E, h10km, ML2.9/8, Error ellipse: s-maj=1.4km s-min=0.9km az=149.0
STR 22 20:21:19.0±0.2, 4288N×092E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 22 20:21:19.0, 4288N×092E, h5km, ML2.5(STR), ML2.8(LDG), MN2.3(MDD), After STR.
MDD 22 20:21:19.3±0.2, 4294N×091E, h10km±1km, mbLg2.2/24, Error ellipse: s-maj=2.6km s-min=1.5km az=5.0, PRXIMO

ISC 22 20:21:18.2±0.2, 4296N±001×092E±002, h17km±2km, n80, σ0°77/157, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLS	Moulis	0.13	92	Pg	Pg	20 21 22.6	+0.6
MLS				Sg	Sg	20 21 25.3	+0.7
MLS	Moulis	0.13	92	P	Pg	20 21 22.7	+0.7
MLS				S	Sg	20 21 25.4	+0.8
MELF	Melles	0.15	233	Pg	Pg	20 21 22.5	+0.2
MELF				Sg	Sg	20 21 24.6	-0.4
MELF	Melles	0.15	233	P	Pg	20 21 22.6	+0.3
MELF				S	Sg	20 21 25.2	+0.2
SALF	Salau	0.28	136	Pg	Pg	20 21 24.4	0.0
SALF				Sg	Sg	20 21 26.9	-1.6
SALF	Salau	0.28	136	P	Pg	20 21 24.5	+0.1
SALF				S	Sg	20 21 28.2	-0.3
EPF	Esparros	0.43	279	ePg	Pg	20 21 26.4	-0.6
	SNR=1.0						
EPF				eSg	Sg	20 21 31.8	-1.1
	38nm,0.2s						
EPF	Esparros	0.43	279	ePg	Pg	20 21 26.4	-0.6
	SNR=1.0						
EPF				eSg	Sg	20 21 31.8	-1.1
	19nm,0.2s						
RESF	Ens	0.46	250	Pg	Pg	20 21 27.7	+0.3
RESF				Sg	Sg	20 21 33.7	+0.1
RESF	Ens	0.46	250	P	Pg	20 21 27.8	+0.4
RESF				S	Sg	20 21 33.6	0.0
GRBF	Gourbit	0.47	105	P	Pg	20 21 28.1	+0.5
GRBF				S	Sg	20 21 34.6	+0.6
CSOR	Sort	0.61	165	P	Pg	20 21 29.9	-0.3
CSOR				S	Sg	20 21 37.3	-1.0
	98nm,0.2s						
LABF	Labassere	0.63	278	Pg	Pg	20 21 31.6	+1.0
LABF				Sg	Sg	20 21 39.4	+0.4
LABF	Labassere	0.63	278	P	Pg	20 21 31.6	+1.0
LABF				S	Sg	20 21 40.0	+1.0
EBIE	Bielsa	0.64	245	⇓Pg	Pg	20 21 30.9	+0.2
	18nm,0.2s,SNR=18						
EBIE				Lg		20 21 38.9	
	52nm,0.1s						
EBIE	Bielsa	0.64	245	Pg	Pg	20 21 30.9	+0.2
	18nm,0.2s,SNR=18						
PAND	Andorre	0.64	133	P	Pg	20 21 30.6	-0.2
PAND				S	Sg	20 21 38.6	-0.7
VIEF	Viey	0.66	264	Pg	Pg	20 21 31.3	0.0
VIEF				Sg	Sg	20 21 40.0	-0.1
VIEF	Viey	0.66	264	P	Pg	20 21 31.5	+0.2
VIEF				S	Sg	20 21 40.1	0.0
CORG	Organya	0.79	158	P	Pb	20 21 33.1	-0.4
CORG				S	Sb	20 21 42.9	-1.0
	33nm,0.3s						
CARF	Carcanieres	0.91	105	P	Pb	20 21 35.9	+0.4
CARF				S	Sb	20 21 47.8	+0.6
CLLI	Llivia	0.91	121	P	Pb	20 21 35.6	0.0
CLLI				S	Sb	20 21 47.4	-0.1
	15nm,0.2s						
VALF	Valcebollere	0.98	124	P	Pb	20 21 37.0	+0.1
VALF				S	Sb	20 21 49.7	+0.1
MTLF	Montolieu	1.02	68	ePg	Pg	20 21 38.8	+0.8
MTLF				eSg	Sg	20 21 52.4	+1.0
	70nm,0.3s						
MTLF	Montolieu	1.02	68	Pn	Pn	20 21 37.7	-0.1
MTLF				Pg	Pg	20 21 38.8	+0.8
MTLF				Lg		20 21 52.4	
	35nm,0.3s						
MTLF	Montolieu	1.02	68	ePn	Pn	20 21 37.7	-0.1
MTLF				ePg	Pg	20 21 38.8	+0.8
MTLF				eSg	Sg	20 21 52.4	+1.0
MTLF	Montolieu	1.02	68	ePg	Pg	20 21 38.8	+0.8
MTLF				eSg	Sg	20 21 52.4	+1.0
	35nm,0.3s						
CAVN	Les Avellanes	1.09	187	P	Pb	20 21 38.9	+0.3
CAVN				S	Sb	20 21 53.3	+0.8
	54nm,0.2s						
EMIR	Miracle	1.14	157	Pg	Pg	20 21 39.8	-0.4
	5.5nm,0.1s,SNR=69						
EMIR				Lg		20 21 53.9	
	22nm,0.1s,SNR=12						
EMIR	Miracle	1.14	157	Pg	Pg	20 21 39.8	-0.4
EMIR				Lg		20 21 53.9	
EMIR	Miracle	1.14	157	Pg	Pg	20 21 39.8	-0.5
	5.5nm,0.1s,SNR=69						
CBRU	Bruguera	1.15	126	P	Pn	20 21 40.2	+0.6
CBRU				S	Sb	20 21 55.4	+1.1
	19nm,0.3s						
EJON	La Jonquera	1.54	109	Pg	Pg	20 21 47.9	0.0
	0.4nm,0.1s,SNR=6.0						
EJON				Lg		20 22 09.0	
	5.1nm,0.2s,SNR=6.7						
EJON	La Jonquera	1.54	109	Pg	Pg	20 21 47.9	0.0
	0.4nm,0.1s,SNR=6.0						
SJPF	Ste Jean	1.58	276	ePg	Pg	20 21 48.4	-0.2
SJPF				eSg	Sg	20 22 08.7	-0.5
	9.4nm,0.4s						
SJPF	Ste Jean	1.58	276	Pn	Pn	20 21 44.8	-0.7
SJPF				Pg	Pg	20 21 48.4	-0.2
SJPF				Lg		20 22 08.7	
	4.7nm,0.4s						
SJPF	Ste Jean	1.58	276	ePn	Pn	20 21 44.8	-0.7
SJPF				ePg	Pg	20 21 48.4	-0.2
SJPF				eSg	Sg	20 22 08.7	-0.5
SJPF	Ste Jean	1.58	276	ePg	Pg	20 21 48.4	-0.2
SJPF				eSg	Sg	20 22 08.7	-0.5
	4.7nm,0.4s						
EPOB	Poblet	1.61	176	Pg	Pg	20 21 48.1	-1.2
	3.7nm,0.1s,SNR=36						
EPOB				Lg		20 22 08.0	
	61nm,0.4s,SNR=23						
EPOB	Poblet	1.61	176	Pg	Pg	20 21 48.1	-1.2
	3.7nm,0.1s,SNR=36						
ESAC	San Caprasio	1.61	220	Pg	Pg	20 21 48.9	-0.4
	18nm,0.2s,SNR=14						
ESAC				Lg		20 22 09.6	
	62nm,0.3s,SNR=23						
ESAC	San Caprasio	1.61	220	Pg	Pg	20 21 48.9	-0.3
	18nm,0.2s,SNR=14						
CFON	Fontmartina	1.64	136	P	Pn	20 21 48.4	+2.1
CGAR	Garraf	1.67	174	S	Sn	20 22 13.2	+5.3
	14nm,0.4s						
IPRE	Itoiz	1.68	265	Pg	Pg	20 21 50.4	-0.2
	0.5nm,0.1s,SNR=7.9						
IPRE				Lg		20 22 12.7	
	3.3nm,0.3s,SNR=4.0						
IPRE	Itoiz	1.68	265	Pg	Pg	20 21 50.4	-0.2
	0.5nm,0.1s,SNR=7.9						
ELIZ	Elizondo	1.81	277	Pg	Pg	20 21 52.7	-0.3
	0.2nm,0.1s,SNR=7.9						
ELIZ				Lg		20 22 18.6	
	3.7nm,0.3s,SNR=7.9						
IUSE	Utxeti	1.81	270	Pg	Pg	20 21 52.1	-1.0
	0.3nm,0.1s,SNR=4.0						
IUSE				Lg		20 22 17.2	
	3.4nm,0.3s,SNR=4.0						
IUSE	Utxeti	1.81	270	Pg	Pg	20 21 52.1	-1.0
	0.3nm,0.1s,SNR=4.0						
EARA	Aranguren	1.85	265	Lg		20 22 19.7	
	0.8nm,0.3s,SNR=4.0						
LFF	La Frestale	1.98	356	ePg	Pg	20 21 57.0	+0.7
LFF				eSg	Sg	20 22 22.8	+0.8
	29nm,0.4s						
LFF	La Frestale	1.98	356	Pn	Pn	20 21 51.4	+0.4
LFF				Pg	Pg	20 21 57.0	+0.7
LFF				Lg		20 22 22.8	
	14nm,0.4s						
LFF	La Frestale	1.98	356	ePn	Pn	20 21 51.4	+0.4
LFF				ePg	Pg	20 21 57.0	+0.7
LFF				eSg	Sg	20 22 22.8	+0.8
LFF	La Frestale	1.98	356	ePg	Pg	20 21 57.0	+0.7
LFF				eSg	Sg	20 22 22.8	+0.8
	14nm,0.4s						
ERTA	Horta de San J	2.05	193	Pg	Pg	20 21 55.9	-1.7
	0.5nm,0.1s,SNR=8.4						
ERTA				Lg		20 22 21.3	
	30nm,0.3s,SNR=14						
ERTA	Horta de San J	2.05	193	Pg	Pg	20 21 55.9	-1.7
	0.5nm,0.1s,SNR=8.4						
CAF	Calviac	2.13	22	ePg	Pg	20 21 59.5	+0.4
CAF				eSn	Sn	20 22 18.4	-0.7
CAF				eSg	Sg	20 22 27.5	+0.7
	23nm,0.2s						
CAF	Calviac	2.13	22	Pn	Pn	20 21 52.9	-0.1
CAF				Pg	Pg	20 21 59.5	+0.4
CAF				Sn	Sn	20 22 18.4	-0.7
CAF				Lg		20 22 27.5	
	12nm,0.2s						
CAF	Calviac	2.13	22	ePn	Pn	20 21 52.9	-0.1
CAF				ePg	Pg	20 21 59.5	+0.4
CAF				eSn	Sn	20 22 18.4	-0.7
CAF				eSg	Sg	20 22 27.5	+0.7
CAF	Calviac	2.13	22	ePg	Pg	20 21 59.5	+0.4
CAF				eSn	Sn	20 22 18.4	-0.7
CAF				eSg	Sg	20 22 27.5	+0.7
	12nm,0.2s						
RJF	Les Rejaudoux	2.38	10	ePg	Pg	20 22 04.0	+0.1
RJF				eSn	Sn	20 22 24.2	-1.1
RJF				eSg	Sg	20 22 35.6	+0.8
	13nm,0.2s						
RJF	Les Rejaudoux	2.38	10	Pn	Pn	20 21 56.5	0.0
RJF				Pg	Pg	20 22 04.0	+0.1
RJF				Sn	Sn	20 22 24.2	-1.1
RJF	Les Rejaudoux	2.38	10	ePn	Pn	20 21 56.5	0.0
RJF				ePg	Pg	20 22 04.0	+0.1
RJF				eSn	Sn	20 22 24.2	-1.1
RJF				eSg	Sg	20 22 35.6	+0.8
RJF	Les Rejaudoux	2.38	10	ePg	Pg	20 22 04.0	+0.1
RJF				eSn	Sn	20 22 24.2	-1.1
RJF				eSg	Sg	20 22 35.6	+0.8
	6.3nm,0.2s						
LASF	Ste Croix	2.41	61	ePg	Pg	20 22 03.9	-0.5
LASF				eSn	Sn	20 22 24.5	-1.5
LASF				eSg	Sg	20 22 35.6	-0.1
	11nm,0.3s						
LASF	Ste Croix	2.41	61	Pn	Pn	20 21 56.6	-0.3
LASF				Pg	Pg	20 22 03.9	-0.5
LASF				Sn	Sn	20 22 24.5	-1.5
LASF				Lg		20 22 35.6	
	5.4nm,0.3s						
LASF	Ste Croix	2.41	61	ePn	Pn	20 21 56.6	-0.3
LASF				ePg	Pg	20 22 03.9	-0.5
LASF				eSn	Sn	20 22 24.5	-1.5
LASF				eSg	Sg	20 22 35.6	-0.1
LASF	Ste Croix	2.41	61	ePg	Pg	20 22 03.9	-0.5
LASF				eSn	Sn	20 22 24.5	-1.5
LASF				eSg	Sg	20 22 35.6	-0.1
	5.4nm,0.3s						
EMOS	Mosqueruela	2.80	202	Pn	Pn	20 22 05.4	+3.2
	0.0nm,0.1s,SNR=7.9						
EMOS				Lg		20 22 44.1	
	6.3nm,0.3s,SNR=5.9						
EMOS	Mosqueruela	2.80	202	Pn	Pn	20 22 05.4	+3.2
	SNR=7.9						
ETOR	Torete	3.08	227	Pn	Pn	20 22 07.3	+1.1
	SNR=4.0						
ETOR				Sn	Sn	20 22 43.9	+1.2
	19nm,0.0s,SNR=7.9						
ETOR				Lg		20 22 55.1	
	7.3nm,0.0s,SNR=4.0						
ETOR	Torete	3.08	227	Pn	Pn	20 22 07.3	+1.1
	SNR=4.0						
ETOR				Sn	Sn	20 22 43.9	+1.2
	19nm,0.0s,SNR=7.9						
VIVF	Saint-Julien-l	3.31	54	ePg	Pg	20 22 20.8	-0.8
VIVF				eSn	Sn	20 22 46.0	-2.2
VIVF				eSg	Sg	20 23 03.9	-0.6
	5.0nm,0.3s						
VIVF	Saint-Julien-l	3.31	54	Pn	Pn	20 22 09.0	-0.2
VIVF				Pg	Pg	20 22 20.8	-0.8
VIVF				Sn	Sn	20 22 46.0	-2.2
VIVF		

PCPH	**Palayan**	**2.20**	**349**	⇓*e*P		Pn	20 24 10.6	+0.3
PCPH				*e*S		Sn	20 24 38.9	+1.2
BALP	**Baler**	**2.34**	**1**	*e*P		Pn	20 24 13.3	+1.1
PVCP	**Virac**	**2.55**	**85**	*e*P		Pn	20 24 20.4	+5.3
CUYO	**Cuyo Island**	**2.57**	**191**	*e*P		Pn	20 24 15.1	-0.3
ENPP	**El Nido**	**3.00**	**224**	*e*P		Pn	20 24 22.4	+1.2
BOLP	**Bolinao**	**3.37**	**332**	*e*P		Pn	20 24 26.4	+0.1

CASC 22 20:33:03.1±1.9, 1324N×8774W, h2km±9km, MD3.5, ML2.7, 2C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.10**	**292**	*e*S	x	20 33 07.2	
BLLM	**Bellamira**	**0.53**	**293**	*e*P	x	20 33 24.2	
BLLM				*e*S	x	20 33 33.5	
TELN	**Telica**	**1.08**	**125**	⇑*e*P	Pg	20 33 23.6	-0.2
SNVI	**San Vicente**	**1.14**	**289**	*e*P	x	20 33 34.5	
SNVI				*e*S	x	20 33 51.0	
LEON	**Leon**	**1.16**	**135**	⇑*e*P	Pg	20 33 25.3	0.0
LEON				*e*S	Sg	20 33 40.2	-0.2
LEON				*i*		20 33 41.4	
	comp=Z,145nm,0.3s						
LCBS	**La Ceiba**	**1.28**	**289**	⇓*e*P	x	20 33 37.3	
LCBS				*e*S	x	20 33 56.3	
LFRS	**El Faro**	**1.34**	**287**	⇓*e*P	x	20 33 38.2	
LFRS				*e*S	x	20 33 57.6	
MOMJ	**Momotombo**	**1.43**	**125**	*e*P	Pn	20 33 29.8	-0.2
MOMJ				*e*S	Sg	20 33 48.7	-0.3
COPN	**Copaltepe**	**1.54**	**133**	⇓*e*P	Pn	20 33 31.2	-0.3

CASC 22 20:35:13.7±2.0, 1468N×9064W, h8km±8km, MD3.5, 3C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCG	**Guatemala City**	**0.14**	**132**	⇓*e*P	Pg	20 35 17.3	+0.6
GCG				*e*P		20 35 18.1	
GCG				⇓*e*P		20 35 18.2	
GCG				*e*S	Sg	20 35 19.8	+0.9
GCG				*e*S	Sg	20 35 20.6	+1.8
GCG				*e*S	Sg	20 35 20.8	+1.9
PCG	**Pacaya**	**0.29**	**173**	*e*P	Pg	20 35 20.8	+1.4
NBG	**Las Nubes**	**0.30**	**108**	⇑*i*P	Pg	20 35 20.5	+0.9
FUG	**Fuego 3**	**0.30**	**220**	⇓*i*P	Pg	20 35 21.0	+1.3
TER	**Terranova**	**0.38**	**186**	*e*P	Pg	20 35 21.9	+0.8
TP2	**Tecpan 2**	**0.38**	**286**	⇑*e*P	Pg	20 35 22.3	+1.2
TP2				*e*S	Sg	20 35 28.4	+2.2
JAT	**Jato**	**1.03**	**250**	⇓*e*P	Pg	20 35 35.5	+2.0
JAT				*e*S	Sg	20 35 52.0	+5.2
RBDL	**Robledal**	**1.08**	**121**	⇑*e*P	x	20 35 41.4	
RBDL				*e*S	x	20 35 57.5	
MTO2	**Montecristo 2**	**1.27**	**103**	*e*P	x	20 35 44.7	
MTO2				*e*S	x	20 36 01.4	
SNJE	**San Jose**	**1.29**	**129**	*e*P	x	20 35 44.8	
SNJE				*e*S	x	20 36 03.7	
LFRS	**El Faro**	**1.86**	**124**	*e*P	x	20 35 53.4	
LFRS				*e*S	x	20 36 18.4	

IDC 22 20:51:39.8±3.0, 915S×10777E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/16, mbtmp3.7/4, Error ellipse: s-maj=126.7km s-min=23.2km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.83**	**116**	P	P	20 57 30.9	+0.2
	0.1nm,0.5s,baz=286,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**28.86**	**123**	P	P	20 57 40.6	+0.6
	0.3nm,0.6s,baz=302,slow=8.7,SNR=5.3						
SONM	**Songino Array**	**56.74**	**359**	P	P	21 01 25.8	+0.4
	0.8nm,0.5s,baz=176,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**60.15**	**340**	P	P	21 01 49.0	-0.2
	1.9nm,0.6s,baz=144,slow=7.7,SNR=22						

*CSEM **22** 20:58:16.7, 67.18N×2072E, h0km, ML3.2, Suspected Mining explosion. After UPP*
*UPP **22** 20:58:16.7, 67.18N×2072E, h0km, ML3.2, Suspected Mining explosion.*

HEL 22 20:58:17.3±0.0, 6718N×2071E, h0km, ML1.3, ML3.2(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**224**	*i*P	Pg	20 58 18.6	-0.2
KUA	**Kurravaara**	**0.79**	**350**	*i*P	Pg	20 58 31.8	-0.8
SALU	**Saltoluokta**	**0.88**	**284**	*i*P	Pg	20 58 33.1	-1.0
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P	Pg	20 58 34.0	-1.4
NIKU	**Nikkaluokta**	**0.95**	**318**	P	Pg	20 58 34.0	-1.4
PAJU	**Pajala**	**0.95**	**98**	*e*P	Pg	20 58 34.5	-1.1
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	20 58 35.1	-1.4
HARU	**Harads**	**1.02**	**174**	*e*P	Pg	20 58 35.8	-1.2
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	20 58 47.7	-0.7
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PN	Pn	20 58 50.6	+0.5
KIF				*e*SG	Sg	20 59 16.8	+0.5
LILU	**Lilltraesk**	**1.93**	**191**	*e*P	Pn	20 58 51.5	+0.1
SGF	**Sodankyl**	**2.27**	**81**	*e*PB	Pb	20 58 56.9	-2.3
SGF				*e*SG	Sg	20 59 28.6	-1.7
OUL	**Oulu**	**2.98**	**132**	*e*SG	Sg	20 59 47.8	-5.2
MSF	**Maaselka**	**3.57**	**107**	*e*SG	Sg	21 00 06.5	-5.4

*ISCJB **22** 20:59:39.2±0.8, 4389N±003×10573W±006, h0km, Error ellipse: s-maj=6.8km s-min=3.6km az=108.0*
*NEIC **22** 20:59:39.5±0.9, 4377N×10520W, h0km, ML3.2, Error ellipse: s-maj=12.0km s-min=10.4km az=96.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
*IDC **22** 20:59:39.8±0.9, 4399N×10570W, h0km, mb4.2/2, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx1.9/43, Error ellipse: s-maj=23.3km s-min=7.3km az=146.0*

ISC 22 20:59:39.3±0.5, 4399N±003×10557W±004, h0km, n25, σ1§40/65, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**3.15**	**249**	Pn	**Pn**	**21 00 32.4**	**+2.2**
	4.0nm,0.3s,baz=74,slow=16,SNR=66						
PDAR				Pg	**Pg**	**21 00 38.5**	**-1.2**
	9.6nm,0.3s,baz=74,slow=20,SNR=48						
PDAR				Lg		21 01 16.7	
	7.2nm,0.3s,baz=67,slow=28,SNR=5.4						
FLWY	**Flagg Ranch**	**3.70**	**273**	*e*Pn	**Pn**	**21 00 42.4**	**+4.7**
FLWY				*e*Pg	**Pg**	**21 00 51.6**	**+1.4**
FLWY				*e*Sg	**Sg**	**21 01 46.9**	**+8.7**
YNR	**Norris Junctio**	**3.74**	**283**	*e*Pn	**Pn**	**21 00 43.1**	**+4.9**
YNR				*e*Pg	**Pg**	**21 00 53.2**	**+2.3**
MOOW	**Moose Ponds**	**3.75**	**268**	*e*Pn	**Pn**	**21 00 42.2**	**+3.9**
MOOW				*e*Pg	**Pg**	**21 00 51.9**	**+0.8**
DCID1	**Drake Creek**	**4.08**	**266**	*e*Pn	**Pn**	**21 00 47.5**	**+4.6**
DCID1				*e*Pg	**Pg**	**21 00 57.6**	**+0.1**
ISCO	**Idaho Springs**	**4.18**	**180**	*e*Pn	**Pn**	**21 00 42.1**	**-2.2**
ISCO				*e*Pg	**Pb**	**21 00 51.5**	**-2.2**
ISCO				*e*Sn	**Sn**	**21 01 34.0**	**0.0**
ISCO				*e*Sg	**Sb**	**21 01 44.9**	**+0.1**
AHID	**Auburn Hatcher**	**4.21**	**255**	Pn	**Pn**	**21 00 45.9**	**+1.2**
AHID				*e*Pg	**Pg**	**21 00 58.9**	**-1.1**
AHID				*e*Sn	**Sn**	**21 01 39.6**	**+5.0**
AHID				*e*Sg	**Sg**	**21 01 52.8**	**-1.9**
QLMT	**Earthquake Lak**	**4.28**	**283**	Pn	**Pb**	**21 00 53.5**	**-2.0**
QLMT				*e*Pg	**Pg**	**21 01 01.9**	**+0.5**
QLMT				*e*Sn	**Sb**	**21 01 55.6**	**+7.9**
QLMT				*e*Sg	**Sg**	**21 02 08.3**	**+11**
SMCO	**Snowmass**	**4.92**	**193**	*e*Pn	**Pn**	**21 00 55.2**	**+0.8**
SMCO				*e*Pg	**Pb**	**21 01 06.0**	**-0.2**
SMCO				*e*Sn	**Sn**	**21 01 52.1**	**0.0**
SMCO				*e*Sg	**Sb**	**21 02 10.2**	**+4.2**
HWUT	**Hardware Ranch**	**5.01**	**244**	*e*Pn	**Pn**	**21 00 56.9**	**+1.2**
HWUT				*e*Pg	**Pg**	**21 01 09.3**	**-6.0**
HWUT				*e*Sn	**Sn**	**21 01 54.6**	**+0.2**
HWUT				*e*Sg	**Sg**	**21 02 17.7**	**-2.6**
DLMT	**Dillon**	**5.20**	**288**	*e*Pn	**Pn**	**21 01 03.3**	**+5.0**
DLMT				*e*Pg	**Pg**	**21 01 18.4**	**-0.5**
DLMT				*e*Sg	**Sg**	**21 02 31.6**	**+5.4**
MCMT	**McKenzie Canyo**	**5.28**	**282**	*e*Pn	**Pn**	**21 01 05.6**	**+6.2**
MCMT				*e*Sg	**Sg**	**21 02 22.4**	**-6.6**
CTU	**Camp Tracy**	**5.64**	**236**	*e*Pn	**Pn**	**21 01 04.4**	**0.0**
CTU				*e*Pg	**Pg**	**21 01 28.9**	**+1.6**
CTU				*e*Sn	**Sn**	**21 02 12.9**	**+3.1**
CTU				*e*Sg	**Sg**	**21 02 38.3**	**-2.2**
HVU	**Hansel Valley**	**5.73**	**250**	Pn	**Pn**	**21 01 04.7**	**-1.0**
HVU				*e*Sn	**Sn**	**21 02 10.3**	**-1.8**
HVU				Sg	**Sb**	**21 02 25.5**	**-3.9**
CHMT	**Chamberlain Mo**	**6.14**	**301**	*e*Pn	**Pn**	**21 01 16.2**	**+4.9**
CHMT				*e*Pg	**Pb**	**21 01 26.9**	**-0.3**
CHMT				*e*Sg	**Sg**	**21 03 02.5**	**+5.8**
PV10	**Paradox Valley**	**6.18**	**206**	*e*Pn	**Pn**	**21 01 11.6**	**-0.3**
PV10				*e*Pg	**Pb**	**21 01 24.2**	**-3.7**
PV10				*e*Sn	**Sb**	**21 02 45.7**	**+3.3**
PV10				*e*Sg	**Sg**	**21 02 56.8**	**-1.1**
PV01	**Paradox Valley**	**6.27**	**202**	*e*Pn	**Pn**	**21 01 12.0**	**-1.0**
PV01				*e*Pg	**Pg**	**21 01 30.7**	**-8.8**
PV01				*e*S	**Sb**	**21 02 44.8**	**0.0**
MVCO	**Mesa Verde**	**7.12**	**199**	*e*Pn	**Pn**	**21 01 24.8**	**+0.1**
MVCO				*e*Pg	**Pg**	**21 01 57.5**	**+1.7**
MVCO				*e*Sn	**Sn**	**21 02 46.2**	**-0.2**
MVCO				*e*Sg	**Sg**	**21 03 29.0**	**+0.9**
ULM	**Lac du Bonnet**	**9.10**	**43**	Pn	**Pn**	**21 01 50.7**	**-1.2**
	1.1nm,0.3s,baz=233,slow=12,SNR=12						
ULM				Pg	Pn	21 02 29.9	+38
	1.0nm,0.3s,baz=221,slow=12,SNR=6.9						
ULM				Sn	**Sn**	**21 03 32.8**	**-2.2**
	0.2nm,0.3s,baz=90,slow=19,SNR=2.5						
ULM				Lg		21 04 27.6	
	0.3nm,0.3s,baz=133,slow=19,SNR=2.8						
ULM	**Lac du Bonnet**	**9.10**	**43**	Pn	**Pn**	**21 01 50.7**	**-1.2**
ULM				Pg	Pn	21 02 29.9	+38
ULM				Sn	**Sn**	**21 03 32.8**	**-2.2**
ULM				Lg		21 04 27.6	
NVAR	**Mina Array Bea**	**11.08**	**244**	Pn	**Pn**	**21 02 21.0**	**+2.0**
	0.1nm,0.3s,baz=57,slow=14,SNR=3.5						
TXAR	**Lajitas Array**	**14.70**	**173**	Pn	**Pn**	**21 03 10.6**	**+2.1**
	0.0nm,0.3s,baz=354,slow=12,SNR=4.3						
TXAR				Lg		21 07 19.3	
	0.0nm,0.3s,baz=2.9,slow=27,SNR=5.3						
TKL	**Tuckaleechee C**	**18.66**	**109**	LR	LR	21 11 56.9	
	comp=Z,67nm,20.1s,baz=294,slow=39						
ARCES	**ARCESS Array B**	**61.25**	**18**	P	**P**	**21 09 55.5**	**-0.7**
	4.2nm,0.8s,baz=345,slow=6.5,SNR=9.2						
MKAR	**Makanchi Array**	**89.34**	**355**	P	**P**	**21 12 38.9**	**+1.3**
	0.2nm,0.2s,baz=20,slow=5.0,SNR=3.2						

*BJI **22** 21:00:50.2, 055S×9704E, h30km, mB5.0, mb4.6, Ms4.3, Msz4.1*
*ISCJB **22** 21:00:55.4±0.5, 009N±006×97.15E±006, h35km, mb4.4/32, MS3.7/3, Error ellipse: s-maj=11.0km s-min=6.8km az=93.4*
*IDC **22** 21:00:57.0±0.7, 003N×9704E, h36km±4km, mb4.1/14, mb1 4.1/15, mb1mx3.9/23, mbtmp4.3/15, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=25.4km s-min=12.0km az=47.0*
*NEIC **22** 21:00:56.3±0.5, 006N×9707E, h30km, mb4.4/10, Error ellipse: s-maj=12.5km s-min=7.3km az=58.0*

ISC 22 21:00:57.7±0.5, 006N±006×9714E±007, h37km, h37km±1.8km: pP-P, n58, σ1§29/57, mb4.4/32, MS3.7/3, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**33**	Pn	**Pn**	**21 01 43.8**	**-2.4**
	11nm,0.3s,baz=194,slow=9.9,SNR=54						
PSI				LR	LR	21 02 58.0	
	comp=Z,257nm,19.0s,baz=356,slow=37						
PPI	**Padang Panjang**	**3.30**	**99**	P	**Pn**	**21 01 44.9**	**-1.9**
	139nm,0.6s						
BSI	**Banda Aceh**	**5.70**	**341**	P	**Pn**	**21 02 26.6**	**+6.8**
	48nm,0.6s						
IPM	**Ipoh**	**5.86**	**41**	P	**Pn**	**21 02 19.6**	**-2.4**
KULM	**Kulim**	**6.27**	**34**	*e*Pn	**Pn**	**21 02 25.9**	**-1.7**
KGM	**Kluang**	**6.48**	**73**	P	**Pn**	**21 02 31.3**	**+0.8**
CHTO	**Chiang Mai**	**18.72**	**5**	*e*P	**Pn**	**21 05 12.2**	**-1.4**
	6.9nm,0.8s						
KKM	**Kota Kinabalu**	**19.95**	**72**	P	**Pn**	**21 05 26.4**	**-1.9**
KKM	**Kota Kinabalu**	**19.95**	**72**	*e*P	**Pn**	**21 05 27.2**	**-1.1**
QIZ	**Qiongzhong**	**22.60**	**33**	P	**P**	**21 05 56.9**	**+1.9**
KMI	**Kunming**	**25.50**	**12**	P	**P**	**21 06 23.3**	**+0.9**
KMI				AP	pP	21 06 31.0	-1.8
KMI				XP	sP	21 06 35.4	-1.9
KMI				PP		21 07 03.4	
KMI				S	**S**	**21 10 49.5**	**+2.3**
KMI				XS	sS	21 11 04.4	-0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,109nm,4.5s						
KMI				LR	LR		
	comp=N,131nm,15.8s,MS3.8						
KMI				LR	LR		
	comp=E,178nm,17.0s,MS3.8						
KMI				LR	LR		
	comp=Z,137nm,15.8s,MS3.6						
KMI	**Kunming**	**25.50**	**12**	P	**P**	**21 06 23.3**	**+0.9**
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				pP	pP	21 06 31.0	-1.8
KMI				sP	sP	21 06 35.4	-1.9
KMI				PP		21 07 03.4	
KMI				S	**S**	**21 10 49.5**	**+2.3**
KMI				sS	sS	21 11 04.4	-0.1
KMI				SS		21 11 52.7	
KMI				LR	LR		
	comp=Z,140nm,15.8s,MS3.6						
GYA	**Guiyang**	**27.80**	**19**	P	**P**	**21 06 46.3**	**+3.1**
GYA				AP	pP	21 06 54.8	+1.2
GYA				XP	sP	21 06 58.4	+0.3
GYA				PP		21 07 36.0	
GYA				S	**S**	**21 11 26.3**	**+2.7**
GYA				XS	sS	21 11 41.0	+0.1
GYA				SCP	ScP	21 13 39.1	+2.5
GYA				PCS	PcS	21 13 42.6	+1.8
GYA				SCS	ScS	21 17 30.0	+1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,4.0s						
GYA				LR	LR		
	comp=N,310nm,16.4s,MS4.1						
GYA				LR	LR		
	comp=E,300nm,16.0s,MS4.1						
GYA				LR	LR		
	comp=Z,320nm,15.8s,MS4.0						
GUN	**Gumba**	**29.72**	**340**	*e*P	**P**	**21 07 01.1**	**+0.8**
	comp=Z,21nm,0.9s,mb4.9						
DMN	**Daman**	**29.73**	**338**	*e*P	**P**	**21 07 04.5**	**+4.2**
	comp=Z,6.3nm,0.6s,mb4.5						
KKN	**Kakani**	**29.82**	**339**	*e*P	**P**	**21 07 01.7**	**+0.5**
	comp=Z,8.8nm,0.7s,mb4.6						
LSA	**Lhasa**	**30.02**	**350**	*e*P	**P**	**21 07 04.3**	**+1.4**
LSA	**Lhasa**	**30.02**	**350**	*e*P	**P**	**21 07 04.3**	**+1.4**
	comp=Z,3.9nm,0.8s,mb4.2						
GKN	**Gorkha**	**30.26**	**338**	*e*P	**P**	**21 07 03.7**	**-1.3**
	comp=Z,7.0nm,0.5s,mb4.7						
KOLN	**Koldanda**	**30.46**	**336**	*e*P	**P**	**21 07 07.7**	**+0.9**
	comp=Z,17nm,0.7s,mb4.9						
MBWA	**Marble Bar**	**30.53**	**135**	P	**P**	**21 07 10.3**	**+2.9**
FITZ	**Fitzroy Crossi**	**33.33**	**124**	P	**P**	**21 07 32.1**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=308,slow=7.3,SNR=5.7						
LZH	**Lanzhou**	**36.38**	**9**	*e*P	**P**	**21 08 01.0**	**+2.7**
LZH				AP	pP	21 08 10.8	+1.9
LZH				XP	sP	21 08 14.8	+1.5
LZH				PP	PP	21 09 30.3	+8.8
LZH				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
LZH	**Lanzhou**	**36.38**	**9**	*e*P	**P**	**21 08 01.0**	**+2.7**
	comp=Z,17nm,1.1s,mb4.9						
LZH				pP	pP	21 08 10.8	+1.9
LZH				sP	sP	21 08 14.7	+1.4
LZH				PP	PP	21 09 30.2	+8.7
JOW	**Kunigami**	**40.06**	**46**	P	**P**	**21 08 29.7**	**+0.4**
	comp=Z,4.9nm,0.5s,mb4.5,baz=183,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**41.50**	**121**	P	**P**	**21 08 41.0**	**-0.1**
	comp=Z,6.6nm,0.8s,mb4.3,baz=301,slow=9.0,SNR=45						
WRA				pP	pP	21 08 51.4	-0.4
	comp=Z,2.4nm,0.5s,baz=303,slow=8.9,SNR=7.4						
WRAB	**Tennant Creek**	**41.50**	**121**	*e*P	**P**	**21 08 41.2**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.2						
WRAB				*e*	pP	21 08 51.6	-0.2
WB2	**Warramunga Arr**	**41.51**	**121**	⇓*i*P	**P**	**21 08 40.7**	**-0.5**
HHC	**Hu-ho-hao-te**	**42.66**	**16**	*e*P	**P**	**21 08 52.8**	**+2.2**
HHC				XP	sP	21 09 06.3	+0.6
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,145nm,7.1s						
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**21 08 51.8**	**+0.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=300,slow=8.0,SNR=14						
WMQ	**Urumqi**	**44.38**	**350**	*e*P	**P**	**21 09 05.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,64nm,4.1s						
SONM	**Songino Array**	**48.26**	**8**	P	**P**	**21 09 35.4**	**+0.4**
	comp=Z,6.4nm,0.8s,mb4.7,baz=190,slow=9.3,SNR=36						
SONM				pP	pP	21 09 45.5	-0.3
	comp=Z,3.2nm,0.8s,baz=196,slow=9.8,SNR=9.1						
SONM				PcP	PcP	21 11 02.0	+0.4
	comp=Z,1.1nm,0.8s,baz=200,slow=2.4,SNR=3.8						
MK31	**Makanchi Array**	**48.32**	**346**	*e*P	**P**	**21 09 35.8**	**+0.4**
MKAR	**Makanchi Array**	**48.32**	**346**	P	**P**	**21 09 35.8**	**+0.4**
	comp=Z,7.4nm,0.6s,mb4.9,baz=159,slow=8.3,SNR=90						
MKAR				pP	pP	21 09 46.7	+0.4
	comp=Z,2.7nm,0.6s,baz=162,slow=8.0,SNR=8.1						
MKAR	**Makanchi Array**	**48.32**	**346**	P	**P**	**21 09 35.8**	**+0.4**
MKAR				pP	pP	21 09 46.7	+0.4
PMG	**Port Moresby**	**50.67**	**102**	*e*P	**P**	**21 09 53.9**	**+0.6**
	comp=Z,9.8nm,0.5s,mb5.0						
CTA	**Charters Tower**	**52.06**	**116**	P	**P**	**21 10 04.2**	**+0.5**
	comp=Z,11nm,1.0s,mB4.7,baz=10,slow=7.6,SNR=3.4						
CTAO	**Charters Tower**	**52.06**	**116**	P	**P**	**21 10 04.3**	**+0.6**
CTAO				*e*	pP	21 10 12.3	-2.4
MJAR	**Matsushiro Arr**	**52.57**	**42**	P	**P**	**21 10 07.6**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=227,slow=5.0,SNR=5.7						
MJAR	**Matsushiro Arr**	**52.57**	**42**	P	**P**	**21 10 07.6**	**+0.1**
STKA	**Stephens Creek**	**52.65**	**131**	*e*P	**P**	**21 10 09.0**	**+0.9**
	comp=Z,3.8nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**52.65**	**131**	P	**P**	**21 10 09.1**	**+1.0**
	comp=Z,4.7nm,0.7s,mb4.5,baz=321,slow=3.9,SNR=11						
STKA	**Stephens Creek**	**52.65**	**131**	*e*P	**P**	**21 10 09.2**	**+1.1**
STKA				*e*	pP	21 10 19.7	+0.7
MDJ	**Mudanjiang**	**52.89**	**29**	P	**P**	**21 10 09.9**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,260nm,5.6s						
BRVK	**Borovoye**	**57.36**	**341**	*e*P	**P**	**21 10 41.2**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**57.69**	**340**	*e*P	**P**	**21 10 43.3**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**57.78**	**342**	*e*P	**P**	**21 10 44.3**	**-0.8**
	comp=Z,10nm,1.2s,mb4.7						
CHKZ				*e*	pP	21 10 55.3	-0.8
BRTR	**Keskin Array B**	**69.83**	**313**	P	**P**	**21 12 03.6**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=130,slow=7.1,SNR=8.8						
BRTR				pP	pP	21 12 14.7	-1.0
	comp=Z,0.8nm,0.8s,baz=132,slow=6.7,SNR=5.7						
BOSA	**Boshof**	**74.16**	**240**	LR	LR	21 39 17.9	
	comp=Z,25nm,20.0s,MS3.5,baz=292,slow=31						
AKASG	**Malin Array Be**	**76.12**	**323**	P	**P**	**21 12 40.5**	**-1.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=14						
AKASG				pP	pP	21 12 51.6	-1.4
	comp=Z,2.9nm,0.7s,baz=90,slow=5.0,SNR=7.9						
FINES	**FINESS Array B**	**80.97**	**333**	P	**P**	**21 13 06.7**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=104,slow=6.1,SNR=9.3						
FINES				pP	pP	21 13 19.1	-0.7
	comp=Z,2.4nm,0.8s,baz=102,slow=5.2,SNR=2.9						
KAF	**Kangasniemi**	**81.06**	**333**	*e*p	**P**	**21 13 06.8**	**-2.0**
	comp=Z,1.9nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**21 13 20.1**	**-1.9**
	comp=Z,1.8nm,0.7s,mb4.3,baz=102,slow=5.2,SNR=6.7						
ARCES				pP	pP	21 13 33.2	-0.3
	comp=Z,4.2nm,0.9s,baz=84,slow=5.0,SNR=2.4						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**21 13 20.1**	**-1.9**
ARCES				pP	pP	21 13 33.2	-0.3
GERES	**GERESS Array B**	**85.62**	**319**	P	**P**	**21 13 32.9**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.7,baz=54,slow=6.8,SNR=4.7						
TXAR	**Lajitas Array**	**144.66**	**32**	PKP	PKPdf	21 20 30.1	-0.2
	comp=Z,0.7nm,0.5s,baz=33,slow=1.2,SNR=3.9						
JCT	**Junction City**	**145.62**	**26**	*e*PKPdf	PKPdf	21 20 32.7	+0.8
CFAA	**Coronel Fontan**	**145.71**	**202**	pPKPbc	pPKPbc	21 20 44.0	-0.4
	comp=Z,0.2nm,0.5s,baz=199,slow=1.0,SNR=4.3						

*ISCJB **22** 21:01:03.5±0.6, 2445S±004×67.13W±008, h174km±11km, mb3.9/2, Error ellipse: s-maj=11.8km s-min=6.4km az=176.2*
*IDC **22** 21:01:04.2±1.1, 2443S×6704W, h159km±16km, mb3.8/1, mb1 3.5/6, mb1mx3.3/18, mbtmp3.9/6, MS3.4/2, Ms1 3.4/2, ms1mx2.8/28, Error ellipse: s-maj=22.3km s-min=12.2km az=82.0*
*NEIC **22** 21:01:04.5±0.6, 2441S×6704W, h164km±9km, mb3.8/3, Error ellipse: s-maj=10.9km s-min=7.4km az=89.0*
*GUC **22** 21:01:06.3±0.8, 2463S×6747W, h180km, ML4.1*

ISC 22 21:01:04.4±0.6, 2445S±004×6709W±008, h163km±11km, n20, σ1§03/26, mb3.9/2, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.48**	**317

TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	21	25	08.6 +0.7
	1.0nm,0.7s,baz=79,slow=2.1,SNR=23							

NEIC 22 21:06:55.6±1.3, 1170S×7806W, h35km, mb4.1/4, ML4.0(LIM), Error ellipse: s-maj=23.7km s-min=14.4km az=79.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.23**	**104**	*e*P	Pn	21 07 17.0	+0.7
NNA				*e*S	Sn	21 07 30.7	-1.0
LPAZ	**La Paz**	**10.66**	**116**	Pn	Pn	21 09 25.8	0.0
LVC	**Limon Verde**	**13.93**	**142**	*e*Pn	Pn	21 10 20.2	+10
	3.5nm,0.5s						
SAML	**Samuel**	**14.89**	**81**	*e*Pn	Pn	21 10 13.9	-10
	1.1nm,0.5s						
SAML				*e*Sn	Sn	21 13 10.0	+2.8
ROSC	**El Rosal**	**16.86**	**13**	P	Pn	21 10 49.4	+0.6
SDV	**Santo Domingo**	**21.74**	**20**	*e*P	P	21 11 49.7	+5.8
	2.5nm,0.4s						
CPUP	**Villa Florida**	**24.36**	**130**	P	P	21 12 10.1	-0.1
	3.9nm,0.6s						
PLCA	**Paso Flores**	**29.67**	**168**	*e*P	P	21 12 57.7	-0.2
	1.9nm,0.8s						
TRQA	**Tornquist**	**29.93**	**154**	*e*P	P	21 13 01.4	+1.1
	13nm,1.6s						

ISCJB 22 21:15:31.9±0.3, 6713N±002×2069E±006, h0km, Error ellipse: s-maj=3.5km s-min=3.3km az=66.4
UPP 22 21:15:32.8, 6720N×2068E, h0km, ML3.0, Suspected Mining explosion.
IDC 22 21:15:33.4±0.8, 6718N×2084E, h0km, mb1 3.0/4, mb1mx3.0/19, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=14.5km s-min=6.1km az=118.0
CSEM 22 21:15:33.1±0.1, 6717N×2104E, h1km, ML3.0, Error ellipse: s-maj=2.4km s-min=2.0km az=98.0, Suspected Mining explosion.
NAO 22 21:15:33.2±1.2, 6712N×2096E, ML2.2
HEL 22 21:15:33.4±0.1, 6719N×2068E, h0km, ML2.4, ML3.0(UPP), ML2.3(BER), Suspected explosion
BER 22 21:15:36.6±4.2, 6712N×2093E, h0km, ML2.2, ML2.2(NAO), Suspected explosion

ISC 22 21:15:33.0±0.3, 6713N±002×2070E±006, h0km, n37, σ1°00/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**263**	*i* P	**Pg**	**21 15 34.7**	**+0.8**
ERTU	**Ertsjaerv**	**0.82**	**134**	*i* P	**Pg**	**21 15 49.7**	**+0.9**
KUA	**Kurravaara**	**0.84**	**351**	*i* P	**Pg**	**21 15 47.4**	**-1.7**
SALU	**Saltoluokta**	**0.89**	**288**	*i* P	**Pg**	**21 15 49.1**	**-0.9**
PAJU	**Pajala**	**0.95**	**95**	*e*P	**Pg**	**21 15 50.6**	**-0.6**
HARU	**Harads**	**0.97**	**173**	*e*P	**Pg**	**21 15 51.8**	**+0.1**
NIKU	**Nikkaluokta**	**0.98**	**320**	*e*P	**Pg**	**21 15 50.2**	**-1.6**
LANU	**Lannavaara**	**1.05**	**28**	*e*P	**Pg**	**21 15 51.2**	**-1.9**
SJUU	**Sjulsmark**	**1.67**	**167**	*e*P	**Pn**	**21 16 03.9**	**+0.5**
LILU	**Lilltraesk**	**1.88**	**191**	*e*P	**Pn**	**21 16 07.6**	**+1.2**
KIF	**Kilpisjarvi**	**1.89**	**1**	*e*P	**Pn**	**21 16 06.3**	**-0.1**
KIF				*e*S	**Sn**	**21 16 30.6**	**-0.3**
KIF				MSG		21 16 33.6	
	comp=Z,26nm,0.3s						
KTK1	**Kautokeino**	**2.12**	**26**	*e*P	**Pn**	**21 16 10.1**	**+0.5**
KTK1				*e*S	**Sn**	**21 16 38.5**	**+1.8**
KTK1				AML	AML	21 16 41.7	
	comp=Z,28nm,0.4s						
SGF	**Sodankyl**	**2.28**	**79**	*e*P	**Pn**	**21 16 12.2**	**+0.3**
SGF				*e*S	**Sn**	**21 16 40.8**	**0.0**
SGF				MSG		21 16 44.8	
	comp=Z,34nm,0.3s						
TRO	**Tromso**	**2.60**	**346**	*e*P	**Pn**	**21 16 16.2**	**0.0**
TRO				*e*S	**Sn**	**21 16 50.6**	**+2.0**
TRO				AML	AML	21 16 58.0	
	comp=Z,12nm,0.6s						
MOR8	**Moi Rana**	**2.67**	**252**	*e*S	**Sn**	**21 16 50.4**	**+0.1**
MOR8				AML	AML	21 16 55.9	
	comp=Z,37nm,0.5s						
LOF	**Lofoten**	**2.92**	**293**	*e*Sg	**Sg**	**21 17 07.4**	**+0.7**
LOF				AML	AML	21 17 11.7	
	comp=Z,13nm,0.5s						
OUL	**Oulu**	**2.95**	**132**	*e*P	**Pn**	**21 16 20.9**	**-0.1**
OUL				*e*S	**Sn**	**21 16 56.6**	**-0.4**
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**21 16 21.3**	**-0.5**
	baz=211,slow=14						
ARA0				Sn	**Sn**	**21 16 58.8**	**+0.3**
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**34**	*e*P	**Pn**	**21 16 21.3**	**-0.5**
ARA0				*e*S	**Sn**	**21 16 58.8**	**+0.3**
ARCES	**ARCESS Array B**	**3.00**	**34**	Pn	**Pn**	**21 16 21.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=218,slow=12,SNR=42						
ARCES				Sn	**Sn**	**21 16 59.1**	**+0.6**
	comp=Z,3.2nm,0.3s,baz=220,slow=24,SNR=19						
ARCES				Lg		21 17 03.4	
	comp=Z,3.2nm,0.3s,baz=222,slow=30,SNR=16						
KEV	**Kevo**	**3.52**	**39**	*e*P	**Pn**	**21 16 28.4**	**-0.5**
KEV				*e*S	**Sn**	**21 17 10.7**	**-0.5**
KEV				MSG		21 17 26.2	
	comp=Z,4.4nm,0.3s						
KEV	**Kevo**	**3.52**	**39**	P	**Pn**	**21 16 28.3**	**-0.6**
KU6	**Riekki**	**3.83**	**103**	*e*P	**Pn**	**21 16 33.5**	**+0.3**
KU6				*e*S	**Sn**	**21 17 18.9**	**0.0**
KU6				*e*SG	**Sg**	**21 17 31.9**	**-4.3**
NSS	**Namsos**	**4.44**	**238**	*e*S	**Sn**	**21 17 35.3**	**+1.4**
NSS				AML	AML	21 17 54.7	
	comp=Z,18nm,0.5s						
NSS	**Namsos**	**4.44**	**238**	*e*SG	**Sg**	**21 17 52.8**	**-2.7**
NSS				AML	AML	21 17 54.7	
	comp=Z,18nm,0.5s						
APA0	**Apatity Array**	**4.78**	**79**	Lg		21 18 00.8	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.78**	**79**	Lg		21 18 00.8	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.78**	**79**	*e*SG	**Sg**	**21 18 00.8**	**-5.6**
FIA0	**FINESS Array S**	**6.17**	**155**	Pn	**Pn**	**21 17 06.1**	**+0.8**
	baz=0.3,slow=14						
FIA0				Sn	**Sn**	**21 18 14.7**	**-1.8**
	baz=346,slow=28						
FIA0				Lg		21 18 43.7	
	baz=343,slow=28						
FIA0	**FINESS Array S**	**6.17**	**155**	*e*P	**Pn**	**21 17 06.1**	**+0.8**
FIA0				*e*S	**Sn**	**21 18 14.7**	**-1.8**
FIA0				*e*SG	**Sg**	**21 18 43.7**	**-7.3**
FINES	**FINESS Array B**	**6.17**	**155**	Pn	**Pn**	**21 17 06.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=5.9						
FINES				Sn	**Sn**	**21 18 16.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=22,SNR=7.1						
FINES				Lg		21 18 47.7	
	comp=Z,0.6nm,0.3s,baz=349,slow=28,SNR=6.1						
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn	**Pn**	**21 17 22.7**	**+0.8**
NB2				Lg		21 19 26.4	
	baz=24,slow=37						
NB2	**NORSAR Subarra**	**7.38**	**219**	*e*P	**Pn**	**21 17 22.7**	**+0.8**
NB2				*e*		21 19 26.4	
NOA	**NORSAR Array B**	**7.38**	**219**	Pn	**Pn**	**21 17 22.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=2.6						
NOA				Sn	**Sn**	**21 18 42.8**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=38,slow=22,SNR=3.3						
NOA				Lg		21 19 24.7	
	comp=Z,0.5nm,0.3s,baz=230,slow=12,SNR=4.0						
HFS	**Hagfors**	**7.68**	**207**	Sn	**Sn**	**21 18 50.2**	**-3.4**
	baz=32,slow=28						
HFS				Lg		21 19 35.4	
	baz=20,slow=37						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**21 17 26.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=12,slow=16,SNR=4.0						
HFS				Sn	**Sn**	**21 18 51.2**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=20,slow=24,SNR=5.1						
HFS				Lg		21 19 36.0	
	comp=Z,0.3nm,0.3s,baz=27,slow=29,SNR=3.0						
HFS	**Hagfors**	**7.68**	**207**	*e*S	**Sn**	**21 18 50.2**	**-3.4**
HFS				*e*		21 19 35.4	

SSS 22 21:17:24.5, 1362N×9102W, h36km, MD3.5

CASC 22 21:17:15.9±1.6, 1499N×8997W, h0km±9km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.92**	**162**	*e*P	x	21 17 48.0	
TP2	**Tecpan 2**	**1.03**	**258**	*e*P	Pg	21 17 36.6	+0.9
TP2				*e*S	Sg	21 17 53.0	+3.8
BOQS	**Boqueron**	**1.42**	**152**	*e*P	x	21 17 52.4	
BOQS				*e*S	x	21 18 14.2	
LFRS	**El Faro**	**1.62**	**147**	*e*P	x	21 17 55.2	
LFRS				*e*S	x	21 18 18.1	
LCBS	**La Ceiba**	**1.64**	**144**	*e*P	x	21 17 56.6	
LCBS				*e*S	x	21 18 20.6	

MAN 22 21:19:29.3, 1344N×12145E, h1km, mb2.3, ML3.9, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.38**	**87**	*e*P	Pg	21 19 36.7	+0.1
BOAC				*e*S	Sg	21 19 42.2	+0.7
TGY	**Tagaytay City**	**0.83**	**323**	||*i*P	Pg	21 19 38.4	-6.9
TGY				*i* S	Sg	21 19 49.1	-7.0
AUQP	**San Andres**	**1.19**	**95**	*e*P	Pg	21 19 52.9	+0.7
OTRP	**Odiongan**	**1.20**	**153**	*e*P	Pg	21 19 50.7	-1.7
LUBP	**Lubang**	**1.21**	**284**	*e*P	Pg	21 19 52.6	+0.1
POLP	**Polilio Island**	**1.37**	**20**	*e*P	Pn	21 19 54.3	-1.2
BUSP	**Coron**	**1.88**	**221**	*e*P	Pn	21 20 03.3	+0.7
BALP	**Baler**	**2.29**	**3**	*e*P	Pn	21 20 10.0	+1.8
PVCP	**Virac**	**2.63**	**86**	*e*P	Pn	21 20 14.4	+1.5
GUIM	**Jordan**	**3.00**	**158**	*e*P	Pn	21 20 18.8	+0.7

ISCJB 22 21:35:17.7±0.5, 6700N±003×2082E±006, h0km, Error ellipse: s-maj=3.7km s-min=3.4km az=150.6
IDC 22 21:35:19.9±0.9, 6725N×2082E, h0km, mb1 3.0/3, mb1mx2.9/18, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=15.5km s-min=6.5km az=114.0
HEL 22 21:35:22.9±0.2, 6716N×2069E, h0km, ML2.7, ML2.5(BER), ML2.4(NAO), Suspected explosion
NAO 22 21:35:22.4±1.1, 6715N×2081E, ML2.4
CSEM 22 21:35:24.1±0.3, 6721N×2049E, h2km, ML2.7, Error ellipse: s-maj=8.6km s-min=6.3km az=115.0
BER 22 21:35:24.4±4.7, 6717N×2069E, h0km, ML2.5, ML2.4(NAO), Suspected explosion

ISC 22 21:35:20.8±0.4, 6708N±002×2078E±006, h0km, n32, σ1°39/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.94**	**0**	*e*P	**Pn**	**21 35 55.7**	**+0.7**
KIF				*e*S	**Sn**	**21 36 20.4**	**+0.5**
KIF	**Kilpisjarvi**	**1.94**	**0**	P	**Pn**	**21 35 55.6**	**+0.7**
KTK1	**Kautokeino**	**2.15**	**24**	*e*P	**Pn**	**21 35 59.6**	**+1.7**
KTK1				*e*Sg	**Sg**	**21 36 28.1**	**-1.8**
KTK1				AML	AML	21 36 29.6	
	comp=Z,128nm,0.7s						
KTK1	**Kautokeino**	**2.15**	**24**	*e*P	**Pn**	**21 35 59.6**	**+1.7**
	SNR=50						
KTK1				*e*Sg	**Sg**	**21 36 28.1**	**-1.8**
	SNR=90						
SGF	**Sodankyl**	**2.26**	**78**	*e*P	**Pn**	**21 36 01.9**	**+2.5**
SGF				*e*SG	**Sg**	**21 36 32.8**	**-0.7**
MOR8	**Moi Rana**	**2.69**	**253**	*e*Sg	**Sg**	**21 36 40.6**	**-6.5**
MOR8				AML	AML	21 36 45.1	
	comp=Z,49nm,0.6s						
OUL	**Oulu**	**2.89**	**131**	*e*P	**Pn**	**21 36 10.3**	**+2.2**
OUL				*e*SG	**Sg**	**21 36 53.1**	**-0.5**
OUL	**Oulu**	**2.89**	**131**	P	**Pn**	**21 36 10.2**	**+2.2**
OUL				Sg	**Sg**	**21 36 53.1**	**-0.5**
LOF	**Lofoten**	**2.97**	**294**	*e*Sg	**Sg**	**21 36 56.3**	**+0.2**
LOF				AML	AML	21 36 58.9	
	comp=Z,23nm,0.4s						
LOF	**Lofoten**	**2.97**	**294**	AML	AML	21 36 58.9	
	comp=Z,23nm,0.4s						
LOF	**Lofoten**	**2.97**	**294**	*e*Sg	**Sg**	**21 36 56.3**	**+0.2**
	comp=Z,23nm,0.4s,SNR=90						
ARA0	**ARCESS Array S**	**3.03**	**33**	Pn	**Pn**	**21 36 11.0**	**+1.0**
	baz=218,slow=14						
ARA0				Sn	**Sn**	**21 36 47.8**	**+0.9**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.03**	**33**	*e*P	**Pn**	**21 36 11.0**	**+1.0**
ARA0				*e*S	**Sn**	**21 36 47.8**	**+0.9**
ARCES	**ARCESS Array B**	**3.03**	**33**	Pn	**Pn**	**21 36 05.3**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=8.1						
ARCES				Pg	**Pg**	**21 36 10.5**	**-8.3**
	comp=Z,0.8nm,0.3s,baz=216,slow=12,SNR=33						
ARCES				Sn	**Sn**	**21 36 46.0**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=216,slow=21,SNR=5.6						
ARCES				Lg		21 36 52.0	
	comp=Z,4.8nm,0.3s,baz=203,slow=28,SNR=9.2						
MSF	**Maaselka**	**3.51**	**106**	*e*SG	**Sg**	**21 37 12.5**	**-1.0**
MSF				MSG		21 37 15.1	
	comp=Z,19nm,0.5s						
KEV	**Kevo**	**3.54**	**38**	*e*P	**Pn**	**21 36 17.0**	**+0.1**
KEV				*e*PG	**Pg**	**21 36 25.3**	**-3.3**
KEV				*e*S	**Sn**	**21 36 58.9**	**-0.7**
KEV				*e*SG	**Sg**	**21 37 12.2**	**-2.3**
KEV				MSG		21 37 16.6	
	comp=Z,16nm,0.4s						
KEV	**Kevo**	**3.54**	**38**	Pg	**Pg**	**21 36 25.2**	**-3.4**
KEV				Sg	**Sg**	**21 37 12.1**	**-2.4**
	comp=Z,16nm,0.4s						
KU4	**Liikasenvaara**	**3.57**	**98**	*e*SG	**Sg**	**21 37 14.5**	**-0.9**
KU4				MSG		21 37 21.9	
	comp=Z,23nm,0.4s						
KU6	**Riekki**	**3.79**	**102**	*e*P	**Pn**	**21 36 22.3**	**+1.9**
KU6				*e*SG	**Sg**	**21 37 21.9**	**-0.7**
NSS	**Namsos**	**4.44**	**239**	*e*Sg	**Sg**	**21 37 41.2**	**-2.1**
NSS				AML	AML	21 37 47.8	
	comp=Z,24nm,0.4s						
NSS	**Namsos**	**4.44**	**239**	*e*Sg	**Sg**	**21 37 41.2**	**-2.1**
	SNR=90						
APA0	**Apatity Array**	**4.75**	**78**	Sn	**Sn**	**21 37 29.7**	**+0.3**
	baz=257,slow=22						
APA0				Lg		21 37 46.3	
	baz=266,slow=28						
APA0	**Apatity Array**	**4.75**	**78**	*e*S	**Sn**	**21 37 29.7**	**+0.3**
APA0				*e*SB	**Sb**	**21 37 46.3**	**+3.6**
FIA0	**FINESS Array S**	**6.11**	**155**	Pn	**Pn**	**21 36 55.6**	**+3.4**
	baz=339,slow=16						
FIA0				Sn	**Sn**	**21 38 06.0**	**+3.2**
	baz=345,slow=22						
FIA0				Lg		21 38 36.6	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.11**	**155**	*e*P	**Pn**	**21 36 55.6**	**+3.4**
FIA0				*e*S	**Sn**	**21 38 06.0**	**+3.2**
FIA0				*e*SG	**Sg**	**21 38 36.6**	**-0.3**
FINES	**FINESS Array B**	**6.11**	**155**	Pn	**Pn**	**21 36 55.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=341,slow=17,SNR=7.0						
FINES				Sn	**Sn**	**21 38 04.0**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=347,slow=23,SNR=9.1						
FINES				Lg		21 38 34.7	
	comp=Z,0.8nm,0.3s,baz=338,slow=29,SNR=9.3						
NB2	**NORSAR Subarra**	**7.36**	**219**	Sn	**Sn**	**21 38 32.3**	**-1.5**
	baz=42,slow=22						
NB2				Lg		21 39 13.8	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.36**	**219**	*e*S	**Sn**	**21 38 32.3**	**-1.5**
NB2				*e*SG	**Sg**	**21 39 13.8**	**-3.4**
NOA	**NORSAR Array B**	**7.36**	**219**	Pn	**Pn**	**21 37 10.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=40,slow=20,SNR=2.4						
NOA				Sn	**Sn**	**21 38 30.6**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=30,slow=21,SNR=3.9						
NOA				Lg		21 39 13.0	
	comp=Z,0.8nm,0.3s,baz=38,slow=13,SNR=5.6						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**21 37 14.7**	**+1.3**
	baz=31,slow=18						
HFS				Sn	**Sn**	**21 38 40.0**	**-0.8**
	baz=36,slow=22						
HFS				Lg		21 39 21.1	
	baz=26,slow=28						
HFS	**Hagfors**	**7.65**	**208**	*e*P	**Pn**	**21 37 14.7**	**+1.3**
HFS				*e*S	**Sn**	**21 38 40.0**	**-0.8**
HFS				*e*SG	**Sg**	**21 39 21.1**	**-5.3**
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**21 37 14.7**	**+1.3**
	SNR=50						
HFS				Sn	**Sn**	**21 38 40.0**	**-0.7**
	SNR=50						

NEIC 22 21:52:05.8, 2871S×7139W, h42km, MG3.8(GUC), After GUC.

GUC 22 21:52:05.8±0.9, 2871S×7139W, h42km±5km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.57**	**77**	*e*P	Pn	21 52 18.2	+0.7
VACH				*i* S	Sn	21 52 26.4	+0.5
VACH				AML	AML	21 52 26.8	
	comp=N,29μm,0.1s						
TLL	**Tololo Astrono**	**1.54**	**161**	*e*P	Pn	21 52 32.6	+1.9
TLL				*i* S	Sn	21 52 52.4	+2.9
TLL				AML	AML	21 53 03.4	
	comp=N,590nm,0.8s						
TLL	**Tololo Astrono**	**1.54**	**161**	*e*P	Pn	21 52 32.6	+1.9
TLL				*i* S	Sn	21 52 52.4	+2.9
CPCH	**Copiapo**	**1.63**	**35**	*e*P	Pn	21 52 33.0	+1.0
CPCH				*i* S	Sn	21 52 53.8	+2.1
CDCH	**Caldera**	**1.71**	**17**	*e*P	Pn	21 52 33.6	+0.6
CMCH	**Combarbala**	**2.48**	**172**	*e*P	Pn	21 52 44.5	+0.8
CMCH				AML	AML	21 53 29.2	
	comp=E,861nm,0.5s						

IDC 22 21:54:16.5±1.5, 2976N×5050E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=30.0km s-min=22.4km az=175.0
THR 22 21:54:18.9±0.6, 2954N×5055E, h43km±8km, ML3.6
KISR 22 21:54:19.4±1.0, 2958N×5058E, h34km, ML3.0
CSEM 22 21:54:19.7±0.1, 2961N×5062E, h45km, ML3.6, Error ellipse: s-maj=2.9km s-min=1.8km az=37.0
ISCJB 22 21:54:20.4±0.5, 2970N±004×5067E±003, h56km±7km, mb3.5/10, Error ellipse: s-maj=6.5km s-min=4.3km az=142.3
NEIC 22 21:54:20.7, 2961N×5062E, h24km, mb3.6/4, ML3.6(THR), MN3.6(TEH), After TEH.
TEH 22 21:54:20.7, 2961N×5062E, h24km, Mn3.6

ISC 22 21:54:21.9±0.4, 2967N±004×5065E±003, h54km±7km, n71, σ0°89/84, mb3.5/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.91**	**109**	Pn	**Pn**	**21 54 51.3**	**-0.7**
IMOK	**Mook**	**1.91**	**109**	*e*Pn	**Pn**	**21 54 51.4**	**-0.6**
ISRV	**Sarvestan**	**2.17**	**97**	Pn	**Pn**	**21 54 55.3**	**-0.2**
ISRV	**Sarvestan**	**2.17**	**97**	*e*Pn	**Pn**	**21 54 55.4**	**-0.1**
GHIR	**Ghir-Karzin**	**2.47**	**123**	*e*Pn	**Pn**	**21 54 58.1**	**-1.5**
GHIR				*e*Sg	**Sn**	**21 55 35.1**	**+6.5**
GHIR	**Ghir-Karzin**	**2.47**	**123**	*e*Pn	**Pn**	**21 54 58.0**	**-1.7**
GHIR				*e*Sg	**Sn**	**21 55 35.0**	**+6.4**
GHIR	**Ghir-Karzin**	**2.47**	**123**	*e*Pn	**Pn**	**21 54 58.1**	**-1.6**
	SNR=54						
GHIR				*e*Sg	**Sn**	**21 55 35.0**	**+6.4**
UMR	**Umm Al-Rimmam**	**2.56**	**268**	*e*P	**Pn**	**21 55 00.8**	**-0.1**
UMR				*e*S	**Sn**	**21 55 32.0**	**+1.2**
UMR				AML	AML	21 55 33.3	
	comp=Z,75nm,0.3s						
KBD	**Kabd**	**2.63**	**260**	*e*P	**Pn**	**21 55 01.7**	**-0.1**
KBD				*e*S	**Sn**	**21 55 33.3**	**+0.9**
KBD				AMb	AMB	21 55 35.0	
	comp=Z,492nm,0.3s						
RDF	**Al-Radifah**	**2.81**	**255**	*e*P	**Pn**	**21 55 04.0**	**-0.3**
RDF				*e*S	**Sn**	**21 55 36.8**	**-0.2**
RDF				AML	AML	21 55 37.5	
	comp=Z,70nm,0.5s						
MIB	**Mutribah**	**2.88**	**273**	*e*P	**Pn**	**21 55 04.9**	**-0.4**
MIB				*e*S	**Sn**	**21 55 39.6**	**+0.8**
MIB				AML	AML	21 55 42.7	
	comp=Z,44nm,0.4s						
SHGR	**Shooshtar-Gavs**	**2.90**	**327**	*e*Pn	**Pn**	**21 55 04.9**	**-0.6**
SHGR				Sn	**Sn**	**21 55 38.3**	**-0.9**
SHGR				AML	AML	21 56 02.9	
	comp=E,234nm,0.6s						
SHGR				AML	AML	21 56 05.8	
	comp=N,235nm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.90**	**327**	*e*Pn	**Pn**	**21 55 04.0**	**-1.6**
SHGR				Sn	**Sn**	**21 55 38.0**	**-1.2**
SHGR	**Shooshtar-Gavs**	**2.90**	**327**	*e*Pn	**Pn**	**21 55 04.9**	**-0.7**
	SNR=54						
SHGR				Sn	**Sn**	**21 55 38.3**	**-0.9**
	SNR=54						
IPIR	**Pirpir**	**3.01**	**4**	*e*Pn	**Pn**	**21 55 07.5**	**+0.5**
IZEF	**Zefreh**	**3.52**	**24**	Pn	**Pn**	**21 55 14.7**	**+0.7**
IZEF				Sn	**Sn**	**21 55 54.6**	**+0.2**
IZEF	**Zefreh**	**3.52**	**24**	*e*Pn	**Pn**	**21 55 14.8**	**+0.8**
IZEF				*e*Sn	**Sn**	**21 55 54.7**	**+0.3**
NASN	**Na'in**	**3.62**	**30**	*e*Pn	**Pn**	**21 55 16.2**	**+0.7**
NASN	**Na'in**	**3.62**	**30**	*e*Pn	**Pn**	**21 55 16.0**	**+0.5**
IKLH	**Kalahroud**	**3.72**	**12**	Pn	**Pn**	**21 55 17.8**	**+1.0**
IKLH	**Kalahroud**	**3.72**	**12**	*e*Pn	**Pn**	**21 55 17.9**	**+1.1**
ISFB	**Sefidab**	**4.86**	**16**	*e*Pn	**Pn**	**21 55 32.6**	**+0.2**
ASAO	**Ashtian**	**4.89**	**354**	*e*Pn	**Pn**	**21 55 33.5**	**+0.7**
ASAO				AML	AML	21 56 33.1	
	comp=N,31nm,0.5s						
ASAO				AML	AML	21 56 33.1	
	comp=E,24nm,0.4s						
ASAO	**Ashtian**	**4.89**	**354**	*e*Pn	**Pn**	**21 55 33.0**	**+0.2**
KRBR	**Kerman**	**5.32**	**85**	*e*Pn	**Pn**	**21 55 39.5**	**+0.8**
KRBR	**Kerman**	**5.32**	**85**	*e*Pn	**Pn**	**21 55 39.5**	**+0.8**
	SNR=54						
IVRN	**Varamin**	**5.38**	**9**	Pn	**Pn**	**21 55 39.5**	**-0.1**
IVRN	**Varamin**	**5.38**	**9**	*e*Pn	**Pn**	**21 55 39.6**	**0.0**
IRAZ	**Razeghan**	**5.75**	**354**	*e*Pn	**Pn**	**21 55 45.3**	**+0.7**
IMHD	**Mahdasht**	**6.00**	**0**	Pn	**Pn**	**21 55 47.7**	**-0.3**
IMHD	**Mahdasht**	**6.00**	**0**	*e*Pn	**Pn**	**21 55 47.8**	**-0.2**
SNGE	**Sanandaj**	**6.08**	**334**	*e*Pn	**Pn**	**21 55 49.2**	**0.0**
SNGE				AML	AML	21 57 09.9	
	comp=N,24nm,0.7s						
SNGE	**Sanandaj**	**6.08**	**334**	*e*Pn	**Pn**	**21 55 49.0**	**-0.2**
IDHR	**Dehrash**	**6.18**	**325**	Pn	**Pn**	**21 55 50.4**	**-0.1**
IDHR	**Dehrash**	**6.18**	**325**	*e*Pn	**Pn**	**21 55 50.5**	**0.0**
IFIR	**Firoozkooh**	**6.21**	**16**	Pn	**Pn**	**21 55 50.7**	**-0.2**
IFIR	**Firoozkooh**	**6.21**	**16**	*e*Pn	**Pn**	**21 55 50.8**	**-0.1**
IAFJ	**Afjeh**	**6.23**	**8**	Pn	**Pn**	**21 55 51.3**	**+0.1**
IAFJ	**Afjeh**	**6.23**	**8**	*e*Pn	**Pn**	**21 55 51.4**	**+0.2**
IANJ	**Anjiloo**	**6.40**

UPP ***22*** *22:00:39.2, 67.19N×2066E, h0km, ML3.1, Mining explosion.*

HEL 22 22:00:39.9±0.1, 6720N×2067E, h0km, ML1.1, ML3.1 (UPP), **1C, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**208**	⇑*i*P	Pg	22 00 40.9	-0.6
MASU	**Masugnsbyn**	**0.58**	**63**	*i* P	Pg	22 00 50.2	-0.7
MASU	**Masugnsbyn**	**0.58**	**63**	P	Pg	22 00 50.2	-0.7
KUA	**Kurravaara**	**0.77**	**350**	*i* P	Pg	22 00 53.5	-1.1
SALU	**Saltoluokta**	**0.86**	**283**	*i* P	Pg	22 00 55.6	-0.8
SALU	**Saltoluokta**	**0.86**	**283**	P	Pg	22 00 55.6	-0.8
	baz=111						
ERTU	**Ertsjaerv**	**0.88**	**137**	*i* P	Pg	22 00 56.1	-0.7
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	22 00 56.6	-0.9
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	22 00 57.2	-1.3
LANU	**Lannavaara**	**0.99**	**30**	*e*P	Pg	22 00 57.7	-1.2
HARU	**Harads**	**1.05**	**173**	*e*P	Pg	22 00 59.0	-1.0
SJUU	**Sjulsmark**	**1.74**	**167**	*e*P	Pn	22 01 10.3	-1.0
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*PG	Pg	22 01 13.3	-1.4
KIF				*e*SG	Sg	22 01 38.8	+0.5
SGF	**Sodankyl**	**2.28**	**81**	*e*SG	Sg	22 01 51.0	-2.2

ISCJB ***22*** *22:16:14.2±0.3, 67.17N±002×2076E±006, h0km, Error ellipse: s-maj=3.4km s-min=3.0km az=56.2*

IDC ***22*** *22:16:15.3±0.9, 67.16N×2089E, h0km, mb1 3.1/4, mb1mx3.0/20, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=15.0km s-min=6.2km az=117.0*

NAO ***22*** *22:16:15.5±1.3, 67.17N×2083E, ML2.2*

UPP ***22*** *22:16:15.4, 67.19N×2067E, h0km, ML3.0, Mining explosion.*

HEL ***22*** *22:16:16.1±0.1, 67.18N×2068E, h0km, ML2.5, ML3.0(UPP), ML2.2(BER), Explosion*

CSEM ***22*** *22:16:16.8±0.1, 6728N×2033E, h2km, ML3.0, Error ellipse: s-maj=2.5km s-min=2.0km az=108.0, Mining explosion.*

BER ***22*** *22:16:18.6±3.8, 67.17N×2087E, h0km, ML2.2, ML2.2(NAO), Suspected explosion*

ISC 22 22:16:15.4±0.3, 6717N±002×2082E±005, h0km, n45, σ1ŝ03/71, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.11**	**245**	*i* P	**Pg**	**22 16 17.2**	**-0.2**
MASU	**Masugnsbyn**	**0.54**	**57**	*i* P	**Pg**	**22 16 25.6**	**+0.7**
KUA	**Kurravaara**	**0.81**	**347**	*i* P	**Pg**	**22 16 29.9**	**-1.1**
KUA				*i* S	**Sg**	**22 16 41.3**	**-0.2**
ERTU	**Ertsjaerv**	**0.82**	**138**	*i* P	**Pg**	**22 16 32.4**	**+1.2**
PAJU	**Pajala**	**0.91**	**98**	*e*P	**Pg**	**22 16 33.2**	**+0.4**
SALU	**Saltoluokta**	**0.92**	**285**	*i* P	**Pg**	**22 16 31.8**	**-1.3**
NIKU	**Nikkaluokta**	**0.98**	**317**	*e*P	**Pg**	**22 16 32.8**	**-1.5**
LANU	**Lannavaara**	**0.99**	**26**	*e*P	**Pg**	**22 16 33.8**	**-0.7**
HARU	**Harads**	**1.01**	**176**	*e*P	**Pg**	**22 16 34.3**	**-0.5**
SJUU	**Sjulsmark**	**1.70**	**169**	*e*P	**Pn**	**22 16 46.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.85**	**360**	*e*P	**Pn**	**22 16 48.6**	**+0.2**
KIF				*e*S	**Sn**	**22 17 13.7**	**+1.4**
KIF	**Kilpisjarvi**	**1.85**	**360**	P	**Pn**	**22 16 48.5**	**+0.2**
LILU	**Lilltraesk**	**1.93**	**192**	*e*P	**Pn**	**22 16 50.0**	**+0.6**
LILU				*e*S	**Sn**	**22 17 16.5**	**+2.1**
KTK1	**Kautokeino**	**2.06**	**25**	*e*P	**Pn**	**22 16 53.6**	**+2.3**
KTK1				*e*Sg	**Sg**	**22 17 21.0**	**-0.8**
KTK1				AML	AML	22 17 22.5	
	comp=Z,55nm,0.4s						
KTK1	**Kautokeino**	**2.06**	**25**	*e*P	**Pn**	**22 16 53.6**	**+2.3**
	SNR=50						
KTK1				*e*Sg	**Sg**	**22 17 21.0**	**-0.8**
	SNR=90						
SGF	**Sodankyl**	**2.23**	**80**	*e*P	**Pn**	**22 16 55.3**	**+1.7**
SGF				*e*SG	**Sg**	**22 17 25.9**	**-1.2**
TRO	**Tromso**	**2.57**	**345**	*e*P	**Pn**	**22 16 57.6**	**-0.8**
TRO				*e*S	**Sn**	**22 17 31.5**	**+1.1**
TRO				AML	AML	22 17 36.1	
	comp=Z,16nm,0.5s						
MOR8	**Moi Rana**	**2.73**	**251**	*e*S	**Sn**	**22 17 33.0**	**-1.1**
MOR8				AML	AML	22 17 38.5	
	comp=Z,54nm,0.5s						
OUL	**Oulu**	**2.94**	**133**	*e*SB	**Sb**	**22 17 45.9**	**+0.7**
LOF	**Lofoten**	**2.94**	**293**	*e*Sg	**Sg**	**22 17 50.3**	**+0.3**
LOF				AML	AML	22 17 58.0	
	comp=Z,12nm,0.3s						
LOF	**Lofoten**	**2.94**	**293**	AML	AML	22 17 58.0	
	comp=Z,12nm,0.3s						
LOF	**Lofoten**	**2.94**	**293**	*e*Sg	**Sg**	**22 17 50.3**	**+0.3**
	comp=Z,12nm,0.3s,SNR=90						
ARA0	**ARCESS Array S**	**2.95**	**34**	Pn	**Pn**	**22 17 03.9**	**+0.4**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**22 17 39.9**	**+0.4**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**2.95**	**34**	*e*P	**Pn**	**22 17 03.9**	**+0.4**
ARA0				*e*S	**Sn**	**22 17 39.9**	**+0.4**
ARA0	**ARCESS Array S**	**2.95**	**34**	Pn	**Pn**	**22 17 03.8**	**+0.3**
	SNR=142						
ARA0				Sn	**Sn**	**22 17 39.9**	**+0.4**
	SNR=50						
ARCES	**ARCESS Array B**	**2.95**	**34**	Pn	**Pn**	**22 17 03.8**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=214,slow=14,SNR=84						
ARCES				Sn	**Sn**	**22 17 40.0**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=219,slow=17,SNR=11						
ARCES				Lg		22 17 45.8	
	comp=Z,3.4nm,0.3s,baz=220,slow=28,SNR=10						
KEV	**Kevo**	**3.46**	**38**	*e*P	**Pn**	**22 17 10.5**	**0.0**
KEV				*e*S	**Sn**	**22 17 51.7**	**-0.5**
KEV				*e*SB	**Sb**	**22 18 00.6**	**+0.5**
KEV				MSG		22 18 07.6	
	comp=Z,9.5nm,0.4s						
MSF	**Maaselka**	**3.52**	**107**	*e*SG	**Sg**	**22 18 04.9**	**-3.7**
MSF				MSG		22 18 07.4	
	comp=Z,13nm,0.4s						
KU4	**Liikasenvaara**	**3.57**	**99**	*e*SG	**Sg**	**22 18 08.7**	**-1.3**
KU4				MSG		22 18 12.9	
	comp=Z,11nm,0.4s						
KU4	**Liikasenvaara**	**3.57**	**99**	Sg	**Sg**	**22 18 08.6**	**-1.4**
KU6	**Riekki**	**3.80**	**103**	*e*P	**Pn**	**22 17 15.9**	**+0.7**
KU6				*e*SG	**Sg**	**22 18 14.7**	**-2.8**
NSS	**Namsos**	**4.50**	**238**	*e*	**Sn**	**22 18 18.0**	**+0.3**
NSS	**Namsos**	**4.50**	**238**	*e*S	**Sn**	**22 18 18.0**	**+0.3**
APA0	**Apatity Array**	**4.72**	**79**	Pn	**Pn**	**22 17 28.1**	**+0.2**
	baz=273,slow=16						
APA0				Sn	**Sn**	**22 18 23.1**	**-0.3**
	baz=280,slow=28						
APA0				Lg		22 18 41.0	
	baz=253,slow=28						
APA0	**Apatity Array**	**4.72**	**79**	*e*P	**Pn**	**22 17 28.1**	**+0.2**
APA0				*e*S	**Sn**	**22 18 23.1**	**-0.3**
APA0				*e*SG	**Sg**	**22 18 41.0**	**-6.1**
APA0	**Apatity Array**	**4.72**	**79**	Pn	**Pn**	**22 17 28.1**	**+0.2**
	SNR=50						
APA0				Sn	**Sn**	**22 18 23.0**	**-0.3**
	SNR=50						
FIA0	**FINESS Array S**	**6.18**	**156**	Pn	**Pn**	**22 17 49.3**	**+1.3**
	baz=347,slow=14						
FIA0				Sn	**Sn**	**22 18 58.5**	**-0.9**
	baz=342,slow=28						
FIA0				Lg		22 19 29.7	
	baz=350,slow=37						
FIA0	**FINESS Array S**	**6.18**	**156**	*e*P	**Pn**	**22 17 49.3**	**+1.3**
FIA0				*e*S	**Sn**	**22 18 58.5**	**-0.9**
FIA0				*e*SG	**Sg**	**22 19 29.7**	**-4.4**
FIA0	**FINESS Array S**	**6.18**	**156**	Pn	**Pn**	**22 17 49.3**	**+1.4**
	SNR=50						
FIA0				Sn	**Sn**	**22 18 58.5**	**-0.8**
	SNR=50						
FINES	**FINESS Array B**	**6.18**	**156**	Pn	**Pn**	**22 17 49.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=6.1						
FINES				Sn	**Sn**	**22 18 55.9**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=344,slow=23,SNR=6.8						
FINES				Lg		22 19 29.5	
	comp=Z,0.7nm,0.3s,baz=347,slow=26,SNR=7.8						
NB2	**NORSAR Subarra**	**7.44**	**219**	*e*P	**Pn**	**22 18 05.4**	**+0.2**
NB2				*e*S	**Sn**	**22 19 25.5**	**-4.8**
NOA	**NORSAR Array B**	**7.44**	**219**	Pn	**Pn**	**22 18 04.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=3.4						
NOA				Sn	**Sn**	**22 19 24.6**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=75,slow=17,SNR=3.3						
NOA				Lg		22 20 09.4	
	comp=Z,0.6nm,0.3s,baz=47,slow=22,SNR=3.5						
HFS	**Hagfors**	**7.73**	**207**	Sn	**Sn**	**22 19 32.5**	**-5.0**
	baz=24,slow=22						
HFS				Lg		22 20 17.1	
	baz=35,slow=37						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**22 18 07.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=22,slow=16,SNR=4.2						
HFS				Sn	**Sn**	**22 19 31.9**	**-5.6**
	comp=Z,0.4nm,0.3s,baz=23,slow=22,SNR=7.3						
HFS				Lg		22 20 17.1	
	comp=Z,0.2nm,0.3s,baz=36,slow=29,SNR=3.6						
HFS	**Hagfors**	**7.73**	**207**	*e*S	**Sn**	**22 19 32.5**	**-5.0**
HFS				*e*SG	**Sg**	**22 20 17.1**	**-6.7**

IDC ***22*** *22:24:04.6±3.2, 1057N×9388E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=128.7km s-min=23.8km az=65.0*

ISCJB ***22*** *22:24:07.2±1.1, 107N±02×940E±03, h33km, mb3.8/6, Error ellipse: s-maj=51.9km s-min=11.3km az=126.3*

NEIC ***22*** *22:24:08.7±0.9, 1064N×9388E, h30km, mb4.0/3, Error ellipse: s-maj=44.2km s-min=9.7km az=64.0*

ISC 22 22:24:09.5±1.1, 107N±02×939E±03, h35km, n13, σ1ŝ03/12, mb3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.49**	**312**	*e*P	x	22 24 21.3	
PBA				*e*S	x	22 24 24.6	
PBA				*e*x	x	22 24 30.5	
	comp=N,134nm,0.6s						
PBA				*e*x	x	22 24 30.7	
	comp=E,254nm,0.5s						
LSA	**Lhasa**	**19.12**	**353**	*e*P	**Pn**	**22 28 28.7**	**-1.7**
	comp=E,2.4nm,0.6s						
MKAR	**Makanchi Array**	**37.34**	**347**	P	**P**	**22 31 19.7**	**+1.3**
	comp=E,0.1nm,0.2s,mb3.2,baz=152,slow=6.7,SNR=2.8						
SONM	**Songino Array**	**38.53**	**14**	P	**P**	**22 31 29.0**	**+0.5**
	comp=E,0.2nm,0.5s,mb3.1,baz=200,slow=7.7,SNR=3.3						
MBWA	**Marble Bar**	**40.56**	**141**	P	**P**	**22 31 45.7**	**+0.3**
BRVK	**Borovoye**	**46.35**	**341**	*e*P	**P**	**22 32 31.5**	**-0.6**
	comp=E,1.1nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**46.77**	**341**	P	**P**	**22 32 36.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**48.73**	**154**	P	**P**	**22 32 49.9**	**-0.7**
WRA	**Warramunga Arr**	**50.12**	**127**	P	**P**	**22 33 02.0**	**+0.8**
	comp=E,1.0nm,0.5s,mb4.1,baz=304,slow=8.7,SNR=2.8						
WB2	**Warramunga Arr**	**50.13**	**127**	P	**P**	**22 32 58.5**	**-2.7**
ASAR	**Alice Springs**	**51.92**	**131**	P	**P**	**22 33 14.7**	**-0.1**
	comp=E,0.6nm,0.5s,mb3.8,baz=307,slow=7.2,SNR=5.4						
PMG	**Port Moresby**	**56.64**	**109**	*e*P	**P**	**22 33 48.8**	**-0.3**
	comp=E,6.0nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**59.92**	**121**	P	**P**	**22 34 13.2**	**+1.2**

BJI ***22*** *23:20:16.0, 2295S×172.14E, h35km, mB5.1, mb4.8, Ms5.2, Msz4.7*

ISCJB ***22*** *23:20:21.0±2.3, 2266S±009×1715E±0.1, h43km±18km, mb4.6/22, MS3.8/6, Error ellipse: s-maj=18.4km s-min=11.3km az=95.8*

IDC ***22*** *23:20:23.0±3.9, 2266S×17145E, h48km±33km, mb4.1/8, mb1 4.3/10, mb1mx4.2/15, mbtmp4.4/10, ML4.1/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/19, Error ellipse: s-maj=28.1km s-min=22.6km az=56.0*

NEIC ***22*** *23:20:22.0±0.4, 2261S×17148E, h35km, mb4.6/14, Error ellipse: s-maj=12.9km s-min=11.2km az=201.0*

ISC 22 23:20:22.4±2.1, 2264S±009×1715E±01, h42km±16km, h39km±3.4km: pP-P, n82, σ0ŝ80/41, mb4.6/22, MS3.8/6, 8C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.73**	**276**	*e*P	**Pn**	**23 21 31.1**	**-0.2**
DZM				*e*S	**Sn**	**23 22 24.4**	**-0.4**
DZM	**Mont Dzumac**	**4.73**	**276**	P	**Pn**	**23 21 31.1**	**-0.1**
	15nm,0.3s,baz=106,slow=19,SNR=54						
DZM				S	**Sn**	**23 22 24.0**	**-0.8**
	7.5nm,0.3s,baz=79,slow=20,SNR=4.5						
RAO	**Raoul Island**	**11.56**	**127**	LR	LR	23 26 29.4	
	comp=Z,436nm,21.6s,baz=257,slow=32						
URZ	**Urewera**	**16.29**	**164**	P	**Pn**	**23 24 08.9**	**+0.8**
	0.4nm,0.3s,baz=14,slow=7.5,SNR=4.0						
URZ				LR	LR	23 28 46.5	
	comp=Z,369nm,21.8s,baz=25,slow=31						
HNR	**Honiara**	**17.20**	**318**	LR	LR	23 29 53.8	
	comp=Z,106nm,19.3s,baz=64,slow=33						
HNR	**Honiara**	**17.20**	**318**	Pn	**Pn**	**23 24 16.6**	**-2.9**
AFI	**Afiamalu**	**18.07**	**64**	LR	LR	23 30 04.2	
	comp=Z,291nm,18.4s,baz=241,slow=32						
ARMA	**Armidale**	**19.39**	**242**	*e*P	**Pn**	**23 24 47.4**	**+1.2**
RPZ	**Rata Peaks**	**21.02**	**181**	LR	LR	23 31 44.7	
	comp=Z,259nm,18.7s,MS3.6,baz=207,slow=32						
CNB	**Canberra Magne**	**23.07**	**232**	*e*P	**P**	**23 25 28.2**	**+3.9**
	17nm,1.0s,mb4.4						
CTA	**Charters Tower**	**23.66**	**271**	*e*P	**P**	**23 25 31.0**	**+1.0**
	12nm,1.1s,mb4.2						
CTA	**Charters Tower**	**23.66**	**271**	P	**P**	**23 25 30.4**	**+0.4**
	18nm,1.2s,mb4.4,baz=78,slow=9.7,SNR=3.2						
CTA				LR	LR	23 32 55.3	
	comp=Z,134nm,20.8s,MS3.4,baz=51,slow=32						
CTAO	**Charters Tower**	**23.66**	**271**	*e*P	**P**	**23 25 30.4**	**+0.4**
	26nm,1.2s,mb4.5						
PMG	**Port Moresby**	**26.80**	**295**	*e*P	**P**	**23 25 59.6**	**+1.0**
	7.7nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**28.07**	**244**	*e*P	**P**	**23 26 10.2**	**+0.3**
	6.3nm,1.4s,mb4.0						
STKA	**Stephens Creek**	**28.07**	**244**	P	**P**	**23 26 10.1**	**+0.2**
	2.3nm,0.9s,mb3.8,baz=63,slow=9.0,SNR=3.0						
STKA				LR	LR	23 35 57.6	
	comp=Z,222nm,19.8s,MS3.8,baz=214,slow=33						
AS31	**Alice Springs**	**34.53**	**261**	*e*P	**P**	**23 27 07.0**	**+0.2**
ASAR	**Alice Springs**	**34.54**	**261**	P	**P**	**23 27 07.2**	**+0.4**
	5.1nm,0.8s,mb4.5,baz=83,slow=8.6,SNR=28						
ASAR				LR	LR	23 40 35.0	
	comp=Z,185nm,21.6s,MS3.8,baz=222,slow=35						
ASPA	**Alice Springs**	**34.54**	**261**	*e*P	**P**	**23 27 07.0**	**+0.2**
WB2	**Warramunga Arr**	**34.68**	**267**	*e*P	**P**	**23 27 07.5**	**-0.5**
WRA	**Warramunga Arr**	**34.69**	**267**	P	**P**	**23 27 07.3**	**-0.8**
	1.4nm,0.4s,mb4.2,baz=97,slow=8.4,SNR=8.6						
KAKA	**Kakadu**	**38.42**	**278**	*e*P	**P**	**23 27 39.8**	**-0.1**
	8.9nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**43.12**	**267**	*e*P	**P**	**23 28 19.3**	**+0.7**
	25nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**47.87**	**261**	*e*P	**P**	**23 28 56.5**	**+0.3**
	22nm,1.0s,mb5.1						
KLBR	**Kellerberrin**	**48.27**	**247**	*e*P	**P**	**23 28 59.2**	**-0.1**
	29nm,1.1s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.65**	**245**	*e*P	**P**	**23 29 02.2**	**0.0**
	16nm,0.9s,mb5.1						
NWAO				*e*	pP	23 29 14.2	+0.2
VNDA	**Vanda**	**55.13**	**183**	P	**P**	**23 29 49.1**	**-1.3**
	1.2nm,1.0s,mb3.9,baz=354,slow=5.3,SNR=4.3						
VNDA	**Vanda**	**55.13**	**183**	*e*P	**P**	**23 29 49.9**	**-0.6**
SBA	**Scott Base**	**55.31**	**181**	*e*P	**P**	**23 29 51.7**	**-0.1**
	10.0nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**67.43**	**180**	*e*P	**P**	**23 31 13.0**	**-0.6**
NJ2	**Nanjing**	**74.12**	**315**	*e*P	**P**	**23 31 54.9**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
MAW	**Mawson**	**76.09**	**202**	*e*P	**P**	**23 32 04.8**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.3						
MAW	**Mawson**	**76.09**	**202**	P	**P**	**23 32 05.0**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=144,slow=7.8,SNR=7.3						
MAW	**Mawson**	**76.09**	**202**	*e*P	**P**	**23 32 05.2**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ	**Mudanjiang**	**77.12**	**331**	P	**P**	**23 32 11.4**	**-0.1**
MDJ				AP	pP	23 32 20.8	-3.1
MDJ				XP	sP	23 32 24.8	-3.9
MDJ				S	S	23 41 59.6	+2.2
MDJ				XS	sS	23 42 15.9	-2.3
MDJ				SCS	ScS	23 42 26.4	+0.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,242nm,5.5s						
MDJ				LR	LR		
	comp=Z,40nm,23.4s,MS3.7						
CN2	**Changchun**	**78.46**	**328**	*e*P	**P**	**23 32 20.0**	**+1.1**
KMI	**Kunming**	**81.86**	**301**	P	**P**	**23 32 37.3**	**0.0**
KMI				AP	pP	23 32 50.0	+0.2
KMI				XP	sP	23 32 54.4	-0.1
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
KMI	**Kunming**	**81.86**	**301**	P	**P**	**23 32 37.3**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.3						
KMI				pP	pP	23 32 50.0	+0.2
KMI				sP	sP	23 32 54.4	-0.1
CD2	**Chengdu**	**83.98**	**307**	*e*P	**P**	**23 32 47.3**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
HHC	**Hu-ho-hao-te**	**84.17**	**319**	*e*P	**P**	**23 32 49.4**	**+0.2**
HHC				AP	pP	23 33 00.1	-1.7
HHC				XP	sP	23 33 04.4	-2.1
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,205nm,5.5s						
SNAA	**Sanae**	**85.86**	**182**	*e*P	**P**	**23 32 55.6**	**-2.1**
	comp=Z,2.8nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**89.48**	**48**	P	**P**	**23 33 16.0**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.7,baz=224,slow=7.6,SNR=18						
SONM	**Songino Array**	**91.20**	**322**	P	**P**	**23 33 22.9**	**-0.1**
	comp=Z,3.2nm,1.0s,mb4.6,baz=127,slow=4.6,SNR=8.9						
WMQ	**Urumqi**	**101.08**	**313**	*e*P	Pdif	23 34 07.0	-0.9
WMQ				AP		23 34 17.5	
WMQ				XP		23 34 21.5	
WMQ				SKS		23 44 42.0	
WMQ				S	Sdif	23 45 40.0	-3.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,94nm,5.8s						
WMQ				LR	LR		
	comp=N,301nm,22.5s,MS4.9						
WMQ				LR	LR		
	comp=E,254nm,20.9s,MS4.9						
WMQ				LR	LR		
	comp=Z,217nm,21.8s,MS4.6						
BVAR	**Borovoye Array**	**114.38**	**319**	PKP	PKiKP	23 38 56.4	-1.2
	comp=Z,0.4nm,0.3s,baz=96,slow=4.5,SNR=4.2						
AKTK	**Aktyubinsk**	**122.00**	**316**	PKP	PKPdf	23 39 11.9	-0.3
AKTO	**Aktyubinsk**	**122.00**	**316**	PKP	PKPdf	23 39 11.9	-0.3
	comp=Z,2.2nm,0.8s,baz=86,slow=2.5,SNR=7.6						
BRTR	**Keskin Array B**	**140.55**	**306**	PKP	PKPdf	23 39 46.6	-0.6
	comp=Z,0.3nm,0.5s,baz=134,slow=4.0,SNR=4.4						
MLR	**Muntele Rosu**	**143.91**	**318**	PKP	PKPdf	23 39 51.4	-1.7
	comp=Z,3.7nm,0.5s,baz=332,slow=4.2,SNR=20						
MLR	**Muntele Rosu**	**143.91**	**318** ⇑*i*P		PKPdf	23 39 52.0	-1.2
MLR	**Muntele Rosu**	**143.91**	**318** ⇑P		PKPdf	23 39 52.0	-1.2
CRVS	**Cervenica-Dubn**	**144.67**	**325**	*e*PKP	PKPdf	23 39 53.7	-0.8
DRGR		**145.20**	**321** ⇑*i*P		PKPbc	23 39 55.5	+0.4
DRGR		**145.20**	**321** ⇑P		PKPbc	23 39 55.5	+0.4
KECS	**Kecovo**	**145.44**	**325**	*e*PKP	PKPdf	23 39 56.3	+0.5
OKC	**Ostrava-Krasne**	**145.74**	**329**	*e*PKP	PKPdf	23 39 57.2	+0.9
GZR	**Gura Zlata**	**145.90**	**319** ⇓*i*P		PKPdf	23 39 57.2	+0.6
GZR	**Gura Zlata**	**145.90**	**319** ⇓P		PKPdf	23 39 57.2	+0.6
DPC	**Dobruska-Polom**	**146.22**	**331**	*e*PKP	PKPdf	23 39 58.9	+1.8
UPC	**Upice**	**146.24**	**332**	*e*PKP	PKPdf	23 39 58.8	+1.6
VYHS	**Vyhne**	**146.29**	**327**	*e*PKP	PKPdf	23 39 58.5	+1.2
VRAC	**Vranov**	**146.83**	**330**	PKPbc	PKPbc	23 40 00.6	+0.6
	comp=Z,4.9nm,1.0s,baz=72,slow=2.5,SNR=5.9						
VRAC	**Vranov**	**146.83**	**330** ⇑*i*P		PKPdf	23 40 01.0	+2.8
VRAC	**Vranov**	**146.83**	**330** ⇑P		PKPdf	23 40 01.0	+2.8
BRG	**Berggiesshubel**	**146.85**	**334**	*e*P	PKPdf	23 40 00.4	+2.2
	comp=Z,2.7nm,0.9s						
BRG				*e*		23 40 08.2	
	comp=Z,23nm,2.0s						
PVCC	**Panska Ves**	**146.85**	**333**	*e*PKP	PKPdf	23 40 00.6	+2.4
CLL	**Collm**	**146.89**	**335**	*i* PKPbc	PKPbc	23 40 00.4	+0.2
	comp=Z,5.0nm,1.0s						
VTS	**Vitosha**	**146.99**	**315** ⇑*i*P		PKPdf	23 40 01.2	+2.7
EKA	**Eskdalemuir Ar**	**147.11**	**354**	PKPbc	PKPbc	23 39 59.3	-1.5
	comp=Z,1.5nm,0.8s,baz=6.0,slow=2.9,SNR=5.9						
PRU	**Pruhonice**	**147.27**	**332**	*e*PKP	PKPdf	23 40 01.1	+2.2
TREC	**Trest**	**147.35**	**330**	*e*PKP	PKPdf	23 39 58.4	-0.7
PKSM	**Moragy**	**147.82**	**324** ⇓*i*P		PKPdf	23 40 02.8	+3.0
PKSM	**Moragy**	**147.82**	**324** ⇓P		PKPdf	23 40 02.8	+3.0
CONA	**Conrad Observa**	**148.14**	**328** ⇓⇑PKPbc		PKPbc	23 40 03.9	+0.2
	comp=Z,6.2nm,1.2s						
KHC	**Kasperske Hory**	**148.32**	**332**	*e*PKP	PKPdf	23 40 04.6	+3.9
GERES	**GERESS Array B**	**148.48**	**332**	PKPbc	PKPbc	23 40 03.7	-0.8
	comp=Z,1.9nm,0.7s,baz=20,slow=2.0,SNR=16						
GRA1	**Grafenberg Arr**	**148.86**	**335**	*e*PKP	PKPdf	23 40 07.9	+6.4
GRF	**Grafenberg Arr**	**148.86**	**335**	*e*PKP	PKPdf	23 40 07.9	+6.4
KBA	**Koelnbreinsper**	**149.95**	**330** ⇑*i*P		PKPdf	23 40 08.0	+4.8
	comp=Z,7.9nm,1.3s						
BOJS	**Bojanci**	**150.10**	**325**	*i* P	PKPdf	23 40 08.7	+5.1
DAVOX	**Davos/Dischmat**	**151.72**	**333**	P

comp=E,2.6nm,0.3s,baz=195,slow=8.8,SNR=113
LPAZ LR LR 23 35 03.3
comp=E,3µm,18.8s,baz=192,slow=36
LPAZ La Paz 9.86 15 *e*P **Pn 23 31 30.1 -1.0**
LPAZ *e* 23 33 20.9
LPAZ pmax pmax
comp=Z,48nm,0.9s
LPAZ La Paz 9.86 15 *e*Pn **Pn 23 31 30.1 -0.9**
comp=Z,48nm,0.9s
LPAZ *e*Sn **Sn 23 33 20.9 +0.1**
CPUP Villa Florida 12.07 95 Pn **Pn 23 32 00.3 -1.0**
comp=Z,1.1nm,0.3s,baz=264,slow=12,SNR=18
CPUP LR LR 23 37 09.5
comp=Z,11µm,20.2s,baz=251,slow=40
CPUP Villa Florida 12.07 95 *e*P **Pn 23 32 00.4 -0.9**
CPUP *e* 23 34 15.4
CPUP pmax pmax
comp=Z,29nm,1.4s
CPUP Villa Florida 12.07 95 *e*Pn **Pn 23 32 00.4 -0.9**
comp=Z,29nm,1.4s
CPUP *e*Sn **Sn 23 34 15.4 +0.3**
SIV San Ignacio 13.36 44 Pn **Pn 23 32 14.7 -4.2**
comp=Z,4.1nm,0.3s,baz=236,slow=11,SNR=84
SIV Sn **Sn 23 34 45.4 -1.2**
baz=239,slow=14,SNR=8.0
TRQA Tornquist 14.22 151 *e*Pn **Pn 23 32 30.8 0.0**
comp=Z,65nm,0.6s
TRQA *e*Sn **Sn 23 35 13.1 +5.5**
PLCA Paso Flores 14.81 179 Pn **Pn 23 32 37.4 -1.2**
comp=Z,0.2nm,0.3s,baz=5.2,slow=13,SNR=5.9
PLCA LR LR 23 38 15.9
comp=Z,8µm,19.8s,baz=353,slow=37
PLCA Paso Flores 14.81 179 *e*P **Pn 23 32 38.1 -0.6**
PLCA *e* 23 35 22.7
PLCA pmax pmax
comp=Z,1.0nm,0.1s
PLCA Paso Flores 14.81 179 *e*Pn **Pn 23 32 38.1 -0.6**
comp=Z,0.9nm,0.1s
PLCA *e*Sn **Sn 23 35 22.7 +0.9**
NNA Nana 14.97 336 LR LR 23 37 22.9
comp=Z,2µm,19.9s,baz=163,slow=33
NNA Nana 14.97 336 Pn **Pn 23 32 41.4 +0.5**
SAML Samuel 18.32 24 *e*Pn **Pn 23 33 20.3 -2.9**
comp=Z,21nm,0.8s
SAML *e*Sn **Sn 23 37 06.2 +19**
ATAH Atahualpa 20.15 337 LR LR 23 40 04.2
comp=Z,1µm,19.8s,MS4.2,baz=336,slow=33
OTAV Otavalo 27.02 343 *e*P **P 23 34 52.7 +1.9**
comp=Z,5.8nm,0.8s,mb4.2
OTAV *e*PcP PcP 23 38 13.6 +1.8
EFI East Falkland 27.50 163 *e*P **P 23 34 55.3 +0.1**
EFI pmax pmax
comp=Z,20nm,0.5s,mb5.0
EFI East Falkland 27.50 163 *e*P **P 23 34 55.3 0.0**
comp=Z,20nm,0.5s,mb5.0
USHA Ushuaia 28.96 177 P **P 23 35 07.1 -1.2**
comp=Z,19nm,0.8s,mb4.9,baz=278,slow=5.5,SNR=4.5
USHA LR LR 23 47 16.2
comp=Z,4µm,20.1s,MS5.0,baz=340,slow=38
ROSC El Rosal 30.76 353 P **P 23 35 24.0 -0.1**
comp=Z,3.2nm,0.4s,mb4.5,baz=98,slow=19,SNR=4.7
ROSC LR LR 23 48 05.5
comp=Z,1µm,21.0s,MS4.5,baz=192,slow=37
ROSC El Rosal 30.76 353 *e*P **P 23 35 24.9 +0.8**
ROSC *e*pP pP 23 35 33.0 +1.0
ROSC *e*sP sP 23 35 37.2 +1.8
PAYG Puerto Ayora 31.35 320 *e*P **P 23 35 29.7 +0.3**
comp=Z,23nm,0.8s,mb5.0
RPN Rapa Nui 34.46 259 LR LR 23 46 15.1
comp=Z,2µm,19.5s,MS4.9,baz=139,slow=30
SDV Santo Domingo 34.56 0 *e*P **P 23 35 55.6 -1.8**
comp=Z,4.4nm,0.8s,mb4.4
SDV *e*pP pP 23 36 05.7 +0.3
PMSA Palmer Station 39.13 175 *e*P **P 23 36 37.8 +1.5**
SJG San Juan 43.96 6 P **P 23 37 13.2 -2.7**
comp=Z,19nm,0.6s,mb5.0,baz=0.0,slow=0.0
TEIG Tepich 48.90 338 *e*P **P 23 37 54.0 -0.6**
comp=Z,5.3nm,0.5s,mb4.8
TEIG *e*pP pP 23 38 02.1 -0.7
RKT Rikitea 57.98 258 *e*S **S 23 46 58.0 -1.9**
comp=Z,2µm,27.5s
RKT *e*SS SS 23 50 49.0 -2.1
comp=Z,258nm,28.8s
RKT *e*LR LR 23 56 48.3
comp=Z,2µm,25.8s,baz=96
BBSR BB Station 58.22 6 *e*P **P 23 39 02.6 -0.4**
comp=Z,9.0nm,0.6s,mb5.0
SNAA Sanae 58.73 160 *e*P **P 23 39 05.8 -0.7**
SNAA *e**PP pP 23 39 13.9 -1.0
SNAA pmax pmax
comp=Z,19nm,1.0s
SNAA Sanae 58.73 160 *e*P **P 23 39 05.8 -0.7**
comp=Z,19nm,1.0s,mb5.1
SNAA *e*pP pP 23 39 13.9 -0.9
TKL Tuckaleechee C 62.44 348 P **P 23 39 30.1 -1.7**
comp=Z,5.6nm,0.8s,mb4.8,baz=146,slow=9.5,SNR=7.4
JCT Junction City 62.57 332 *e*P **P 23 39 32.4 -0.3**
JCT *e**PP pP 23 39 40.6 -0.5
JCT pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
JCT Junction City 62.57 332 *e*P **P 23 39 32.4 -0.3**
comp=Z,8.2nm,0.6s,mb5.0
JCT *e*pP pP 23 39 40.6 -0.5
OXF Oxford 62.62 343 *e*P **P 23 39 32.8 -0.2**
OXF pmax pmax
comp=Z,25nm,1.0s,mb5.3
OXF Oxford 62.62 343 *e*P **P 23 39 32.8 -0.2**
comp=Z,25nm,1.0s,mb5.3
PLAL Pickwick Lake 62.72 344 *e*Pn **P 23 39 31.0 -2.7**
comp=Z,7.7nm,1.0s,mb4.8
MAIT Maitri 63.34 158 *e*P **P 23 39 37.1 -0.7**
TXAR Lajitas Array 63.34 328 P **P 23 39 37.4 -0.4**
comp=Z,0.6nm,0.5s,mb4.0,baz=149,slow=10.0,SNR=6.8
TXAR LR LR 00 03 10.2
comp=Z,268nm,19.5s,MS4.4,baz=285,slow=32
NVL N'lazarevskaya 63.37 158⇓ *i*P **P 23 39 38.9 +0.9**
NVL *e* 23 49 30.8
NVL pmax pmax
comp=N,10.0nm,1.3s
NVL pmax pmax
comp=E,10.0nm,1.3s
NVL pmax pmax
comp=Z,25nm,1.3s,mb5.2
NVL MLR MLR
comp=Z,1µm,17.7s,MS5.1
WVT Waverly 63.76 345 *e*P **P 23 39 38.1 -2.4**
WVT *e**PP pP 23 39 46.2 -2.8
WVT pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WVT Waverly 63.76 345 *e*P **P 23 39 38.1 -2.4**
comp=Z,7.7nm,0.7s,mb4.8
WVT *e*pP pP 23 39 46.2 -2.7
QSPA South Pole Qui 64.32 180 *e*P **P 23 39 44.6 +0.3**
comp=Z,46nm,1.0s,mb5.5
WMOK Wichita Mounta 65.89 335 *e*P **P 23 40 00.3 +5.9**
comp=Z,1.4nm,0.6s,mb4.2
MNTX Cornudas Mount 66.12 328 *e*P **P 23 39 54.9 -1.0**
comp=Z,19nm,1.4s,mb4.9
MNTX *e*pP pP 23 40 03.1 -1.2
MNTX *e*sP sP 23 40 07.8 +0.2
TAOE Nuku Hiva Isla 67.69 271 *e*S S 23 49 00.6 -1.0
comp=Z,838nm,24.5s
TAOE *e*LR LR 00 00 24.9
comp=Z,4µm,25.0s
LPM Los Pinos Moun 68.87 329 *e*P **P 23 40 13.8 +0.6**
LPM *e*pP pP 23 40 21.5 -0.3
LPM *e*sP sP 23 40 26.6 +1.6
KSU1 Kansas State U 69.02 339 *e*P **P 23 40 14.0 -0.3**
comp=Z,3.8nm,0.4s,mb4.7
LAZ Ladron 69.18 328 *e*P **P 23 40 16.3 +1.1**
LAZ *e*pP pP 23 40 24.0 +0.3
LAZ *e*sP sP 23 40 28.7 +1.9
ANMO Albuquerque 69.31 329 P **P 23 40 16.0 -0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=98,slow=6.6,SNR=4.8
ANMO Albuquerque 69.31 329⇑ *e*P **P 23 40 16.3 +0.2**
FRNY Flat Rock 70.43 358 *e*P **P 23 40 22.1 -0.8**
TBI Tubuai 70.53 253 *e*S S 23 49 33.8 -1.4
comp=Z,452nm,29.0s
TBI *e*LR LR 00 01 49.4
comp=Z,915nm,26.0s
SDCO Great Sand Dun 71.21 331 *e*P **P 23 40 28.0 +0.3**
comp=Z,81nm,2.1s,mb5.3
SDCO *e*pP pP 23 40 36.1 -0.1
SDCO *e*sP sP 23 40 41.0 +1.7
SBA Scott Base 71.22 191 *e*P **P 23 40 28.9 +1.2**
SBA *e**PP pP 23 40 36.7 +0.4
SBA *e**SP sP 23 40 41.8 +2.4
SBA pmax pmax
comp=Z,27nm,1.4s,mb5.0
SBA Scott Base 71.22 191 *e*P **P 23 40 28.9 +1.2**
comp=Z,27nm,1.4s,mb5.0
SBA *e*pP pP 23 40 36.6 +0.4
SBA *e*sP sP 23 40 41.8 +2.3
WUAZ Wupatki 72.14 326 *e*P **P 23 40 33.9 +0.7**
comp=Z,76nm,2.0s,mb5.3
WUAZ *e*pP pP 23 40 41.5 -0.3
WUAZ *e*sP sP 23 40 47.2 +2.3
VNDA Vanda 72.25 190 P **P 23 40 34.2 +0.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=129,slow=3.4,SNR=16
VNDA LR LR 00 08 16.3
comp=Z,355nm,19.9s,MS4.6,baz=140,slow=32
PPT Papeete 72.73 259 *e*S S 23 49 58.7 -1.9
comp=Z,918nm,26.0s
PPT *e*LR LR 00 02 56.9
comp=Z,2µm,27.8s,baz=111
PPT Papeete 72.73 259 LR LR 00 03 37.8
comp=Z,802nm,21.8s,MS5.0,baz=89,slow=28
PV01 Paradox Valley 72.89 330 *e*P **P 23 40 38.7 +1.0**
PV01 *e*pP pP 23 40 45.8 -0.5
PV01 *e*sP sP 23 40 51.5 +2.0
SYO Syowa Base 73.01 159⇓ *e*P **P 23 40 37.6 -0.8**
SMCO Snowmass 73.04 331 *e*P **P 23 40 39.8 +1.2**
comp=Z,27nm,1.4s,mb5.0
SMCO *e*pP pP 23 40 47.1 0.0
SMCO *e*sP sP 23 40 52.4 +2.1
ECSD EROS,Sioux Fal 73.23 341 *e*P **P 23 40 38.5 -1.2**
comp=Z,13nm,1.0s,mb4.8
PV10 Paradox Valley 73.31 329 *e*P **P 23 40 40.3 +0.2**
PV10 *e*pP pP 23 40 48.0 -0.8
PV10 *e*sP sP 23 40 52.6 +0.7
EGOM La Gomera 74.41 48 P **P 23 40 46.9 +0.3**
comp=Z,96nm,1.3s,mb5.6
CCUT Cedar City 74.73 326 *e*P **P 23 40 49.7 +1.3**
CCUT *e*pP pP 23 40 57.7 +0.6
CCAN Las Canadas 74.85 48 P **P 23 40 50.1 +0.9**
comp=Z,6.8nm,0.6s,mb4.8
MSU Marysvale 74.89 327 *e*P **P 23 40 50.3 +0.9**
MSU *e**PP pP 23 40 57.7 -0.3
ARUT Antelope Range 74.95 326 *e*P **P 23 40 50.9 +1.1**
ARUT *e**PP pP 23 40 58.4 +0.1
ARUT *e**SP sP 23 41 03.8 +2.3
EOSO Osorio 75.46 49 P **P 23 40 54.4 +1.7**
comp=Z,154nm,1.9s,mb5.6
DAU Daniels Canyon 75.96 329 *e*P **P 23 40 57.1 +1.5**
DAU *e**PP pP 23 41 04.4 +0.3
ISA Isabella 76.03 322 *e*P **P 23 40 56.5 +0.5**
comp=Z,0.1nm,1.9s
ISA *e*pP pP 23 41 04.8 +0.2
ISA *e*PcP PcP 23 41 08.9 +0.7
RSSD Black Hills 76.05 336 *e*P **P 23 40 55.8 -0.3**
RSSD *e**PP pP 23 41 03.9 -0.7
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
RSSD Black Hills 76.05 336 *e*P **P 23 40 55.8 -0.2**
comp=Z,3.2nm,0.8s,mb4.3
RSSD *e*pP pP 23 41 03.9 -0.7
DUG Dugway 76.52 328 *e*P **P 23 40 59.2 +0.5**
DUG *e**PP pP 23 41 06.6 -0.7
DUG *e**SP sP 23 41 11.7 +1.2
DUG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DUG Dugway 76.52 328 *e*P **P 23 40 59.2 +0.5**
comp=Z,6.4nm,0.9s,mb4.5
DUG *e*pP pP 23 41 06.6 -0.7
DUG *e*sP sP 23 41 11.7 +1.2
CFTV Fuerteventura 76.68 49 P **P 23 40 59.8 +0.2**
comp=Z,12nm,0.8s,mb4.9
HWUT Hardware Ranch 77.05 330 *e*P **P 23 41 01.8 +0.1**
comp=Z,5.9nm,0.7s,mb4.6
HWUT *e*pP pP 23 41 09.3 -1.1
PDAR Pinedale Array 77.11 332 P **P 23 41 02.1 +0.1**
comp=Z,0.4nm,0.6s,baz=129,slow=9.4,SNR=4.5
PDAR LR LR 00 11 18.0
comp=Z,253nm,21.8s,MS4.5,baz=150,slow=33
TPH Tonopah 77.12 324 P **P 23 41 02.8 +0.7**
SPUT South Promonto 77.22 329 *e*P **P 23 41 01.1 -1.6**
SUR Sutherland 77.84 120 *e*P **P 23 41 07.3 +1.1**
comp=Z,12nm,0.8s,mb4.9
SUR *e*pP pP 23 41 15.6 +0.9
NVAR Mina Array Bea 77.95 324 P **P 23 41 07.0 +0.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=139,slow=7.0,SNR=6.9
NVAR Mina Array Bea 77.95 324 P **P 23 41 07.0 +0.2**
REDW Red Top Meadow 78.14 331 *e*P **P 23 41 08.3 +0.4**
comp=Z,17nm,1.2s,mb4.8
REDW *e*pP pP 23 41 15.9 -0.5
FLWY Flagg Ranch 78.66 332 *e*P **P 23 41 11.1 +0.4**
comp=Z,49nm,1.5s,mb5.2
FLWY *e*PcP PcP 23 41 18.8 -0.7
CMB Columbia Colle 78.80 322 *e*P **P 23 41 11.7 +0.3**
CMB *e* pP 23 41 18.3 -1.8
ULM Lac du Bonnet 79.01 344 P **P 23 41 11.2 -1.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=164,slow=5.0,SNR=7.1
ULM LR LR 00 22 02.9
comp=Z,181nm,18.3s,MS4.5,baz=136,slow=40
YMR Madison River 79.24 332 *e*P **P 23 41 15.2 +1.3**
comp=Z,64nm,1.5s,mb5.3
YMR *e*PcP PcP 23 41 22.3 +0.2
PAHR Pah Rah Range 79.46 324 *e*P **P 23 41 15.7 +0.6**
comp=Z,15nm,1.1s,mb4.8
PAHR *e*PcP PcP 23 41 23.2 +0.1
HLID Hailey 79.89 329 *e*P **P 23 41 17.9 +0.5**
comp=Z,8.4nm,0.9s,mb4.7
HLID *e*PcP PcP 23 41 25.2 +0.2
MCMT McKenzie Canyo 80.18 331 *e*P **P 23 41 19.3 +0.3**
MCMT *e*PcP PcP 23 41 27.1 +0.9
OHCM Honcut 80.33 322 P **P 23 41 20.2 +0.5**
TSUM Tsumeb 80.41 107 *e*P **P 23 41 22.1 +1.9**
comp=Z,27nm,1.1s,mb5.1
TOA0 Torodi Ar. Sit 80.42 70 *e*P **P 23 41 19.9 -0.4**
TORD Torodi Ar. Bea 80.42 70 P **P 23 41 19.9 -0.3**
comp=Z,46nm,0.6s,mb5.6,baz=259,slow=4.5,SNR=475
TORD LR LR 00 17 28.1
comp=Z,2µm,18.6s,MS5.4,baz=240,slow=36
SCHQ Schefferville 80.46 2 P **P 23 41 19.9 -0.6**
comp=Z,2.0nm,0.6s,mb4.2,baz=218,slow=11,SNR=6.2
SCHQ LR LR 00 16 40.5
comp=Z,316nm,18.4s,MS4.7,baz=326,slow=36
SCHQ Schefferville 80.46 2 P **P 23 41 20.4 -0.1**
DLMT Dillon 80.49 332 *e*P **P 23 41 20.6 -0.1**
comp=Z,34nm,1.5s,mb5.1
DLMT *e*PcP PcP 23 41 27.8 +0.2
MAW Mawson 80.62 164⇑ *i*P **P 23 41 20.9 -0.5**
comp=Z,16nm,0.6s,mb5.1
MAW Mawson 80.62 164 P **P 23 41 21.2 -0.1**
comp=Z,23nm,0.6s,mb5.3,baz=206,slow=6.3,SNR=66
MAW LR LR 00 20 45.0
comp=Z,599nm,18.4s,MS5.0,baz=228,slow=38
MAW Mawson 80.62 164⇑ *i*P **P 23 41 20.9 -0.5**
MAW pmax pmax
comp=Z,16nm,0.6s
CHMT Chamberlain Mo 82.00 332 *e*P **P 23 41 28.4 -0.2**
CHMT *e*pP pP 23 41 37.2 -0.1
BOSA Boshof 82.88 118 P **P 23 41 33.2 0.0**
comp=Z,19nm,1.0s,mb5.1,baz=238,slow=5.3,SNR=23
BOSA LR LR 00 16 38.3
comp=Z,728nm,18.2s,MS5.1,baz=236,slow=34
BOSA Boshof 82.88 118 P **P 23 41 33.2 0.0**
BOSA LR LR 00 16 38.3
WALA Waterton Lakes 83.96 333 P **P 23 41 38.1 -0.7**
comp=Z,8.6nm,1.0s,mb4.8
LBTB Lobatse 84.71 115 *e*P **P 23 41 43.0 +0.4**
LBTB *e**PP pP 23 41 52.3 +1.0
LBTB pmax pmax
comp=Z,13nm,0.9s,mb5.1
LBTB Lobatse 84.71 115 *e*P **P 23 41 43.0 +0.4**
comp=Z,13nm,0.9s,mb5.1
LBTB *e*pP pP 23 41 52.3 +1.1
MDT Midelt 85.83 51 LR LR 00 21 06.0
comp=Z,824nm,18.2s,MS5.2,baz=242,slow=36
EMIN Mina Concepcio 87.29 46 P **P 23 41 56.0 +0.6**
comp=Z,33nm,1.3s,mb5.4
ESPR Espera 87.30 47 P **P 23 41 56.4 +1.0**
comp=Z,76nm,1.3s,mb5.8
EMIJ Mijas 87.84 47 P **P 23 41 57.8 -0.2**
comp=Z,21nm,1.3s,mb5.2
CASY Casey 88.12 181⇑ *i*P **P 23 41 59.9 +0.6**
ELUQ Luque 88.74 47 P **P 23 42 02.1 -0.1**
ELUQ pmax pmax
comp=Z,18nm,1.0s,mb5.4
ELUQ Luque 88.74 47 P **P 23 42 02.1 -0.2**
comp=Z,18nm,1.0s,mb5.4
EQES Quesada 89.66 47 P **P 23 42 06.1 -0.5**
comp=Z,6.1nm,1.0s,mb4.9
ESDC Sonseca Array 90.12 45 P **P 23 42 08.6 -0.1**
comp=Z,1.5nm,0.9s,mb4.3,baz=237,slow=3.6,SNR=5.3
ESDC LR LR 00 20 50.9
comp=Z,828nm,19.8s,MS5.2,baz=225,slow=34
ESDC Sonseca Array 90.12 45 P **P 23 42 08.9 +0.2**
comp=Z,3.5nm,1.4s,mb4.5
LSZ Lusaka 91.23 108 *e*P **P 23 42 15.8 +1.9**
LSZ *e**PP pP 23 42 24.4 +1.8
LSZ pmax pmax
comp=Z,23nm,1.6s,mb5.3
LSZ Lusaka 91.23 108 *e*P **P 23 42 15.8 +1.9**
comp=Z,23nm,1.6s,mb5.3
LSZ *e*pP pP 23 42 24.4 +1.8
KEST Kesra 97.26 54 LR LR 00 31 38.1
comp=Z,437nm,18.2s,MS5.0,baz=1.1,slow=39
SUMG Summit 100.64 9 *e*Pdif Pdif 23 42 57.3 +0.6
COLA College 107.86 334 PKIKP PKiKP 23 47 34.6 -1.5
AKASG Malin Array Be 115.75 44 PKP PKPdf 23 47 49.5 -1.4
comp=Z,0.3nm,0.4s,baz=270,slow=0.6,SNR=3.8
BRTR Keskin Array B 116.69 57 PKP PKPdf 23 47 51.4 -1.5
comp=Z,1.0nm,1.0s,baz=188,slow=6.0,SNR=5.7
OBN Obninsk 120.63 40⇑ *e*PKIKP PKPdf 23 47 57.5 -2.9
OBN *e* 23 49 26.8
OBN *e*S SKSac 23 54 53.5 -2.8
OBN *e*SS SS 00 05 55.7 -0.4
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,600nm,19.0s,MS5.2
KIV Kislovodsk 124.00 53 *i* PKIKP PKPdf 23 48 06.1 -0.7
KIV MLR MLR
comp=Z,300nm,18.0s,MS5.0
ZEI Tsey 124.78 55 *e*PKIKP PKPdf 23 48 08.4 0.0
ASAR Alice Springs 125.26 208 PKP PKPdf 23 48 08.8 -0.5
comp=Z,2.8nm,0.7s,baz=134,slow=1.7,SNR=25
BILL Bilibino 125.93 337⇑ *i*PKIKP PKPdf 23 48 09.3 -1.2
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL MLR MLR
comp=Z,300nm,17.0s,MS5.0
WB2 Warramunga Arr 128.33 211 *e*P PKPdf 23 48 14.7 -0.4
WRA Warramunga Arr 128.33 211 PKP PKPdf 23 48 15.2 0.0
comp=Z,4.5nm,0.6s,baz=160,slow=1.8,SNR=19
WRAB Tennant Creek 128.34 211 *i* PKIKP PKPdf 23 48 15.5 +0.4
ARU Arti 132.70 36 *e*PKIKP PKPdf 23 48 26.8 +3.4
SEY Seymchan 133.38 335 *i* PKIKP PKPdf 23 48 24.9 +0.2
AKTK Aktyubinsk 133.99 44 PKP PKPdf 23 48 26.8 +0.9
AKTO Aktyubinsk 133.99 44 PKP PKPdf 23 48 26.8 +0.9
comp=Z,1.2nm,0.8s,baz=342,slow=2.0,SNR=5.0
KAKA Kakadu 135.48 213 *e*P PKPdf 23 48 29.4 +0.8
comp=Z,6.1nm,0.6s
ZRNK Zerenda 139.62 37 *e*PKIKP PKPdf 23 48 36.4 +0.1
ZRNK *e* 23 48 44.1
ZRNK *e* 23 48 49.3
BVAR Borovoye Array 140.33 36 PKP PKPdf 23 48 36.0 -1.6
comp=Z,0.8nm,0.6s,baz=297,slow=0.7,SNR=5.5
TRD Trivandrum 144.79 114 *e*P PKPdf 23 48 47.1 +1.6
NVS Novosibirsk 145.34 26⇑ *i*PKIKP PKPdf 23 48 45.2 -1.2
NVS pmax pmax
comp=Z,97nm,2.1s
YSS Yuzh-Sakhalins 146.19 317 *e*PKP2 PKPab 23 48 49.7 +0.1
KAD Karad 146.38 98 *e*P PKPdf 23 48 50.1 +1.9
POO Poona 146.50 95⇓ *i*P PKPdf 23 48 48.0 -0.4
comp=Z,50nm,1.0s
EKS2 Erkin-Say 146.55 51 P PKPdf 23 48 51.0 +2.6
SNR=19
AML Almayashu 146.65 52 P PKPdf 23 48 52.2 +3.6
SNR=25
USP Ospenovka 146.85 50 P PKPdf 23 48 52.7 +3.7
SNR=24
AAK Ala-Archa 147.06 51 P PKPdf 23 48 50.8 +1.5
SNR=44
AAK Ala-Archa 147.06 51 *e*PKPdf PKPdf 23 48 49.2 -0.2
FRU Bishkek 147.08 50 *e*PKP2 PKPab 23 48 51.0 -2.1
FRU pmax pmax
comp=Z,80nm,1.5s
PALK Pallekele 147.10 119 *e*PKPdf PKPdf 23 48 51.2 +1.8
PALK *ep*PKPdf pPKPdf 23 48 59.6 +1.2
CHMS Chumysh 147.11 50 P PKPdf 23 48 53.1 +3.7
SNR=11
UCH Uchtor 147.20 51 P PKPdf 23 48 51.4 +1.8
SNR=41
KBK Karagaybulak 147.37 50 P PKPbc 23 48 54.0 +1.7
SNR=11
TKM2 Tokmak 2 147.72 50 P PKPdf 23 48 51.5 +1.0
SNR=15
BOD Bodaibo 147.91 355 *e*PKHKP 23 48 45.2
BOD pmax pmax
comp=Z,17nm,1.7s
ULHL Ulahol 148.41 51 P PKPbc 23 48 56.2 +1.2
SNR=9.4
AJM Ajmer 149.00 81 *e*P PKPdf 23 48 55.7 +3.1
KSH Kashi 149.07 56 *e*PKP PKPbc 23 48 58.5 +1.7
KSH *e*APKP 23 49 09.4
KSH *e*SKKS SKKSac 23 59 22.8 +5.3
KSH PP PP
comp=Z,1µm,8.7s
THN Thein Dam 150.09 69 *e*P PKPbc 23 48 58.8 -0.5
MK31 Makanchi Array 150.13 39 *e*PKPdf PKPdf 23 48 55.0 +0.6
MK31 *e*PKPbc PKPbc 23 48 58.9 -0.5
MKAR Makanchi Array 150.13 39 PKPbc PKPbc 23 48 58.5 -0.8
comp=Z,8.2nm,0.6s,baz=314,slow=2.3,SNR=48
MKAR PKPab PKPab 23 49 05.0 -0.4
comp=Z,22nm,0.9s,baz=315,slow=2.3,SNR=14
HYB Hyderabad 150.31 100 *i* PKP PKPbc 23 49 01.0 +1.2
HYB Hyderabad 150.31 100 *e*P PKPbc 23 49 01.0 +1.2
KLR Kul'dur 150.86 329 *e*PKIKP PKPdf 23 48 52.9 -2.6
BHPL Bhopal 150.97 88 *e*P PKPdf 23 48 57.2 +1.6
NDI New Delhi 151.44 77 *e*P PKPdf 23 49 01.0 +4.7
MJAR Matsushiro Arr 153.14 300 PKPbc PKPbc 23 49 06.0 -0.3
comp=Z,0.8nm,0.4s,baz=42,slow=1.5,SNR=4.5
MDJ Mudanjiang 155.11 324 PKP PKPdf 23 49 02.4 +0.8
KOLN Koldanda 157.05 80 *e*P 23 49 19.9
comp=Z,18nm,1.1s
CN2 Changchun 157.80 328 *e*PKP PKPdf 23 49 02.8 -2.3
CN2 PP PP 23 53 18.8 +1.6
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2µm,17.0s,MS6.0
CN2 LR LR
comp=E,800nm,17.0s,MS6.0
CN2 LR LR
comp=Z,2µm,21.0s,MS5.9
GKN Gorkha 157.97 79 *e*P 23 49 21.3
comp=Z,14nm,0.7s
SONM Songino Array 157.98 5 PKP PKPdf 23 49 05.1 -0.2
comp=Z,3.7nm,1.0s,baz=188,slow=0.7,SNR=9.4
SONM PKPab PKPab 23 49 39.0 +0.3
comp=Z,3.1nm,0.9s,baz=350,slow=4.1,SNR=5.5
DMN Daman 158.38 80 *e*P 23 49 22.2
comp=Z,31nm,0.9s
KKN Kakani 158.53 80 *e*P 23 49 23.1
comp=Z,21nm,0.9s
GUN Gumba 159.07 79 *e*P 23 49 23.8
BJI Beijing 164.75 339 PKP PKPdf 23 49 13.3 +0.8
BJI Beijing 164.75 339 PKP PKPdf 23 49 13.2 +0.7
HHC Hu-ho-hao-te 164.95 353 *e*PKP PKPdf 23 49 13.9 +1.2
LZH Lanzhou 168.83 23 *e*PKIKP PKPdf 23 49 12.1 -3.5
LZH 23 49 21.0
LZH 23 49 26.0
LZH MLR MLR
comp=Z,270nm,20.1s
NJ2 Nanjing 169.59 308 *e*PKP PKPdf 23 49 15.9 -0.1
CD2 Chengdu 173.04 43 *e*PKP PKPdf 23 49 16.5 -1.3
CD2 APKP 23 49 27.3
CD2 XPKP 23 49 31.3
CD2 PKP2 PKPab 23 50 45.4 +0.5
CD2 SKS SKSdf 23 56 14.6 -4.5
KMI Kunming 174.07 96 PKP PKPdf 23 49 17.6 -0.5
KMI APKP 23 49 26.4
KMI XPKP 23 49 32.0
KMI PP PP 23 54 44.1 +2.6
KMI PP PP
comp=Z,208nm,10.4s
GYA Guiyang 177.61 76 PKP PKPdf 23 49 19.4 +0.4
GYA APKP 23 49 30.9
GYA XPKP 23 49 34.9
GYA PKP2 PKPab 23 51 07.3 +2.1
GYA PKS 23 52 50.1
GYA PP PP 23 55 01.3 +2.9
GYA SKS SKSdf 23 56 16.8 -3.3

GYA PP PP
comp=Z,120nm,8.4s

*CSEM **22** 23:31:56.5, 6783N×2020E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **22** 23:31:56.5, 6783N×2020E, h0km, ML2.7, Mining explosion.*
HEL 22 23:31:57.0±0.0, 6783N×2020E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	23 31 59.3	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 32 05.0	-0.6
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 32 04.9	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	23 32 09.8	-0.8
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	23 32 10.0	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 32 11.2	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 32 11.3	-0.9
SALU	**Saltoluokta** baz=77	**0.79**	**236**	P	Pg	23 32 11.3	-0.9
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 32 19.5	-0.5
KIF				*e*S	Sg	23 32 35.1	-0.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 32 21.9	-1.7
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 32 24.8	-0.4
ERTU	**Ertsjaerv** baz=305	**1.50**	**148**	P	Pn	23 32 24.8	-0.4
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 32 27.3	-0.6
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	23 32 38.1	+0.5
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23 32 39.4	-2.5
SGF				*e*SG	Sg	23 33 12.0	-3.8

*ISCJB **22** 23:34:10.3±0.5, 6778N±003×202E±0.1, h0km, Error ellipse: s-maj=7.0km s-min=4.0km az=28.1*
*HEL **22** 23:34:10.8±0.1, 6785N×2019E, h0km, ML3.2(UPP), Explosion*
*CSEM **22** 23:34:10.2, 6783N×2020E, h0km, ML3.2, Mining explosion. After UPP*
*UPP **22** 23:34:10.2, 6783N×2020E, h0km, ML3.2, Mining explosion.*
*IDC **22** 23:34:13.9±1.0, 6784N×2061E, h0km, mb1 3.1/4, mb1mx3.0/20, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=16.3km s-min=5.9km az=121.0*
ISC 22 23:34:10.7±0.5, 6782N±003×202E±01, h0km, n18, σ1§16/24, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**18**	*i* P	**Pg**	**23 34 12.9**	**-0.5**
KUA				*i* S	**Sg**	**23 34 18.6**	**+3.3**
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P	**Pg**	**23 34 18.7**	**-0.7**
LANU	**Lannavaara**	**0.71**	**70**	*i* P	**Pg**	**23 34 23.6**	**-0.7**
LANU	**Lannavaara**	**0.71**	**70**	P	**Pg**	**23 34 23.5**	**-0.8**
DUNU	**Dundret**	**0.71**	**169**	*i* P	**Pg**	**23 34 23.9**	**-0.5**
SALU	**Saltoluokta**	**0.79**	**237**	*i* P	**Pg**	**23 34 25.1**	**-0.7**
SALU	**Saltoluokta**	**0.79**	**237**	P	**Pg**	**23 34 25.1**	**-0.8**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**23 34 33.0**	**-0.9**
KIF				*e*S	**Sg**	**23 34 52.4**	**+2.8**
PAJU	**Pajala**	**1.37**	**124**	*e*P	**Pg**	**23 34 35.7**	**-1.3**
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	**Pn**	**23 34 38.7**	**+0.1**
ERTU	**Ertsjaerv** baz=304	**1.49**	**148**	P	**Pn**	**23 34 38.7**	**0.0**
HARU	**Harads**	**1.69**	**169**	*e*P	**Pn**	**23 34 41.3**	**-0.2**
SJUU	**Sjulsmark**	**2.39**	**166**	*e*P	**Pn**	**23 34 52.2**	**+1.2**
SJUU	**Sjulsmark**	**2.39**	**166**	P	**Pn**	**23 34 52.2**	**+1.1**
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=226,slow=15,SNR=5.0	**2.59**	**46**	Pn	**Pn**	**23 34 54.1**	**+0.2**
ARCES	0.8nm,0.3s,baz=224,slow=15,SNR=12			Pg	**Pg**	**23 34 58.3**	**-2.1**
ARCES	1.7nm,0.3s,baz=225,slow=24,SNR=3.9			Sn	**Sn**	**23 35 26.7**	**+0.7**
ARCES	2.0nm,0.3s,baz=228,slow=27,SNR=10			Lg		23 35 31.5	
FINES	**FINESS Array B** 0.1nm,0.3s,baz=347,slow=10,SNR=4.0	**6.88**	**156**	Pn	**Pn**	**23 35 56.4**	**+3.7**
FINES	0.1nm,0.3s,baz=350,slow=24,SNR=3.0			Sn	**Sn**	**23 37 12.7**	**+1.0**
FINES	0.2nm,0.3s,baz=346,slow=24,SNR=5.1			Lg		23 37 47.8	
NOA	**NORSAR Array B** 0.2nm,0.3s,baz=22,slow=18,SNR=2.9	**7.83**	**214**	Pn	**Pn**	**23 36 09.9**	**+4.0**
NOA	0.1nm,0.3s,baz=335,slow=12,SNR=2.5			Sn	**Sn**	**23 37 35.0**	**-0.2**
NOA	0.3nm,0.3s,baz=219,slow=25,SNR=2.9			Lg		23 38 24.0	
HFS	**Hagfors** 0.1nm,0.3s,baz=21,slow=12,SNR=2.9	**8.23**	**203**	Pn	**Pn**	**23 36 12.9**	**+1.6**
HFS	0.2nm,0.3s,baz=16,slow=28,SNR=5.2			Lg		23 38 31.9	

*NEIC **23** 00:03:13.0, 1709N×9508W, h124km, MD4.1(MEX), After MEX.*
MEX 23 00:03:12.7±0.7, 1710N×9507W, h125km±7km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.17**	**92**	*i* P	Pn	00 03 28.5	-1.4
CMIG				*i* S	Sn	00 03 40.8	-2.0
OXX	**Oaxaca**	**1.59**	**270**	*i* P	Pn	00 03 40.8	-0.6
OXX				*i* S	Sn	00 04 02.5	-0.9
VHO	**Vista Hermosa**	**1.60**	**269**	*i* P	Pn	00 03 40.6	-0.9
VHO				*i* S	Sn	00 04 02.9	-0.7
HUIG	**Huatulco**	**1.66**	**217**	*i* P	Pn	00 03 40.1	-2.2
HUIG				*i* S	Sn	00 04 03.6	-1.3
TPIG	**Tehuac#an**	**2.55**	**301**	*i* P	Pn	00 03 52.5	-0.9
TPIG				*i* S	Sn	00 04 21.8	-2.8
UTMO	**Huajuapan**	**2.71**	**286**	*i* P	Pn	00 03 54.4	-1.0
UTMO				*i* S	Sn	00 04 25.5	-2.8
CCIG	**Comitan**	**2.92**	**106**	*i* P	Pn	00 03 57.9	-0.2
CCIG				*i* S	Sn	00 04 33.1	0.0
PPM	**Popocatepetl**	**3.91**	**301**	*i* P	Pn	00 04 10.6	-0.5
PPM				*i* S	Sn	00 04 54.2	-2.3
IIO	**Organos**	**4.27**	**306**	*i* P	Pn	00 04 15.1	-0.8
IIO				*i* S	Sn	00 05 03.7	-1.3
MEIG	**Mezcala**	**4.42**	**281**	*i* P	Pn	00 04 16.9	-1.1
MEIG				*i* S	Sn	00 05 06.5	-2.1

*BJI **23** 00:19:17.5, 4.44N×12551E, h25km, mB5.6, mb5.2, Ms5.4, Msz5.2*
*IDC **23** 00:19:22.0±2.7, 494N×12514E, h12km±16km, mb5.2/29, mb1 5.3/29, mb1mx5.3/30, mbtmp5.3/29, MS5.0/22, Ms1 5.0/22, ms1mx4.9/30, Error ellipse: s-maj=15.8km s-min=8.5km az=68.0*
*NEIC **23** 00:19:21.2±0.2, 495N×12522E, h10km, mb5.5/55, MS5.2/128, MW5.6, Error ellipse: s-maj=7.2km s-min=4.6km az=69.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}2.89; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$-1.34; $M_{r\theta}$0.77; $M_{\theta\phi}$1.68; $M_{\phi r}$-2.06; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s148.00000°, δ63.00000°, λ105.00000°. NP2:ϕ_s298.00000°, δ30.00000°, λ63.00000°. Principal axes: T 3.7400, Plg68.0000°, Azm87.0000°; N 0.0100, Plg13.0000°, Azm322.0000°; P -3.7400, Plg17.0000°, Azm227.0000°;*
*GCMT **23** 00:19:21.2±0.1, 497N×12533E, h12km, MW5.7/107, Moment Tensor Solution. s93,c172; s107,c298; Duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.17±.04; $M_{\theta\theta}$-1.26±.03; $M_{\phi\phi}$-1.91±.03; $M_{r\theta}$1.20±.08; $M_{\theta\phi}$1.63±.02; $M_{\phi r}$-2.04±.10; Best double couple: $M_0$3.98700×10^{17} NP1:ϕ_s315.00000°, δ27.00000°, λ80.00000°. NP2:ϕ_s146.00000°, δ63.00000°, λ95.00000°. Principal axes: T 3.9630, Plg71.0000°, Azm67.0000°; N 0.0490, Plg4.0000°, Azm324.0000°; P -4.0120, Plg18.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **23** 00:19:23.1±1.1, 504N×12525E, h33km, mb5.7/55, MS5.2/38 Error ellipse: s-maj=9.0km s-min=4.5km az=116.9*
*ISCJB **23** 00:19:23.7±0.1, 490N±002×12530E±003, h39km, mb5.5/142, MS5.2/169, Error ellipse: s-maj=4.3km s-min=3.0km az=139.0*
ISC 23 00:19:25.8±0.1, 494N±002×12536E±003, h41km±2.2km: pP-P, n568, σ1§28/458, mb5.5/142, MS5.2/169, 58C-18D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.07**	**353**	⇓*i*P	**Pn**	**00 20 03.3**	**+5.2**
KCP				*i* S	**Sn**	**00 20 32.4**	**+10**
DAV	**Davao City (W)**	**2.13**	**6**	⇑*e*Pn	**Pn**	**00 19 59.9**	**+1.0**
DAV				Sn	**Sn**	**00 20 28.5**	**+4.5**
DAV				*e*PcP	PcP	00 27 53.0	+1.8
MATI	**Mati**	**2.18**	**24**	*e*P	**Pn**	**00 19 59.6**	**0.0**
CTBH	**Cotabato--PC H**	**2.52**	**334**	⇓*e*P	**Pn**	**00 20 04.5**	**+0.2**
BUKP	**Musuan**	**2.94**	**354**	*e*P	**Pn**	**00 20 11.2**	**+1.3**
PAGZ	**Pagadian**	**3.49**	**326**	*e*P	**Pn**	**00 20 17.7**	**+0.1**
BUTP	**Butuan**	**4.01**	**4**	*e*P	**Pn**	**00 20 26.2**	**+1.5**
DCPH	**Dipolog City**	**4.13**	**331**	⇑*e*P	**Pn**	**00 20 28.1**	**+1.7**
SCPH	**Surigao**	**4.81**	**2**	*e*P	**Pn**	**00 20 38.7**	**+3.0**
SCPH				*e*S	**Sn**	**00 21 39.6**	**+9.4**
SNPH	**Sibulan**	**4.86**	**334**	*e*P	**Pn**	**00 20 45.0**	**+8.7**
MSLP	**Maasin**	**5.18**	**355**	*e*P	**Pn**	**00 20 42.7**	**+1.9**
LLP	**Lapu-Lapu**	**5.52**	**346**	*e*P	**Pn**	**00 20 50.6**	**+5.2**
RCP	**Roxas**	**7.07**	**339**	*e*P	**Pn**	**00 21 10.0**	**+3.3**
CUYO	**Cuyo Island**	**7.28**	**324**	*e*P	**Pn**	**00 21 09.8**	**+0.2**
TSM	**Tawau**	**7.49**	**265**	P	**Pn**	**00 21 11.1**	**-1.4**
OTRP	**Odiongan**	**8.08**	**336**	*e*P	**Pn**	**00 21 24.6**	**+4.0**
BATP	**Bataraza**	**8.42**	**297**	*e*P	**Pn**	**00 21 30.1**	**+4.8**
PVCP	**Virac**	**8.68**	**352**	*e*P	**Pn**	**00 21 31.7**	**+2.9**
KKM	**Kota Kinabalu**	**9.17**	**277**	P	**Pn**	**00 21 40.1**	**+4.6**
LUBP	**Lubang**	**10.09**	**330**	*e*P	**Pn**	**00 21 56.5**	**+8.4**
TGY	**Tagaytay City** 17nm,0.3s,baz=205,slow=7.5,SNR=3.1	**10.09**	**335**	Pn	**Pn**	**00 21 51.4**	**+3.2**
TGY	157nm,0.3s,baz=156,slow=2.1,SNR=4.6			Sn	**Sn**	**00 23 28.3**	**-12**
TGY	comp=Z,114nm,18.3s,baz=161,slow=41			LR	LR	00 26 13.4	
BALP	**Baler**	**11.36**	**341**	*e*P	**Pn**	**00 22 09.5**	**+4.0**
KAPI	**Kappang** 1μm,1.2s,SNR=14	**11.36**	**210**	Pn	**Pn**	**00 22 07.5**	**+2.0**
CVP	**Callao Caves**	**13.15**	**345**	⇓*e*P	**Pn**	**00 22 40.0**	**+10**
KSM	**Kuching**	**15.41**	**258**	*e*Pn	**Pn**	**00 23 02.4**	**+2.1**
KSM				*e*		00 23 16.0	
KAKA	**Kakadu** 649nm,1.2s	**18.89**	**158**	*e*P	**Pn**	**00 23 40.5**	**-3.2**
TATO	**Taipei**	**20.27**	**350**	PFAKE		00 24 10.0	+12
TATO				LR	LR		
HKC	**Hong Kong** comp=Z,6μm,20.0s,MS4.9	**20.38**	**329**	P	**P**	**00 23 58.0**	**-0.9**
HKC				S	**S**	**00 27 45.0**	**+0.1**
QIZ	**Qiongzhong**	**20.62**	**314**	⇑P	**P**	**00 24 03.0**	**+1.4**
QIZ				XP	sP	00 24 17.6	+0.7
QIZ				PP		00 24 27.6	
QIZ				S	**S**	**00 27 51.5**	**+1.7**
QIZ				XS	sS	00 28 08.3	+2.2
QIZ	comp=Z,23nm,1.1s			AMB	AMB		
QIZ	comp=N,6μm,17.9s			LR	LR		
QIZ	comp=Z,8μm,16.0s,MS5.2			LR	LR		
QIZ	**Qiongzhong** comp=Z,151nm,1.5s	**20.62**	**314**	*e*P	**P**	**00 24 02.3**	**+0.7**
QIZ	comp=Z,5μm,19.0s,MS4.9			LR	LR		
QZH	**Quanzhou**	**20.92**	**343**	⇑*i*P	**P**	**00 24 05.3**	**+0.4**
QZH	comp=Z,250nm,1.1s			AMB	AMB		
GUMO	**Guam** comp=Z,112nm,0.7s,mb5.3,baz=270,slow=5.1,SNR=3.4	**21.07**	**65**	P	**P**	**00 24 09.0**	**+2.6**
GUMO	comp=Z,5μm,18.1s,MS4.9,baz=221,slow=34			LR	LR	00 31 16.2	
GZH	**Guangzhou**	**21.45**	**328**	P	**P**	**00 24 14.8**	**+4.3**
GZH				S	**S**	**00 28 10.6**	**+4.5**
GZH	comp=Z,153nm,1.4s,mb5.1			AMB	AMB		
GZH	comp=N,5μm,15.3s,MS5.3			LR	LR		
GZH	comp=E,10μm,16.8s,MS5.3			LR	LR		
GZH	comp=Z,12μm,15.7s,MS5.4			LR	LR		
JOW	**Kunigami** comp=Z,60nm,0.6s,mb5.2,baz=186,slow=7.0,SNR=25	**21.95**	**7**	P	**P**	**00 24 16.8**	**+0.9**
KGM	**Kluang**	**22.19**	**263**	P	**P**	**00 24 21.5**	**+3.1**
FITZ	**Fitzroy Crossi** comp=Z,538nm,0.9s,mb6.0	**22.90**	**179**	*e*P	**P**	**00 24 24.9**	**-1.0**
FITZ				*e*S	**S**	**00 28 32.0**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,267nm,0.8s,mb5.7,baz=10,slow=9.5,SNR=79	**22.90**	**179**	P	**P**	**00 24 25.1**	**-0.8**
FITZ	comp=Z,3μm,20.1s,MS4.7,baz=219,slow=37			LR	LR	00 33 20.8	
IPM	**Ipoh**	**24.25**	**270**	P	**P**	**00 24 40.4**	**+1.5**
SNG	**Songkhla** comp=Z,316nm,1.0s,mb5.8	**24.70**	**276**	P	**P**	**00 24 45.0**	**+2.0**
KKTK	**Khon Kaen**	**24.84**	**299**	P	**P**	**00 24 49.8**	**+5.5**
PMG	**Port Moresby** comp=Z,86nm,0.7s,mb5.4,baz=322,slow=7.3,SNR=20	**25.98**	**123**	P	**P**	**00 24 56.3**	**+1.7**
PMG	comp=Z,5μm,19.6s,MS5.0,baz=167,slow=35			LR	LR	00 34 26.5	
PMG	**Port Moresby** comp=Z,268nm,1.3s,mb5.6	**25.98**	**123**	⇑*i*P	**P**	**00 24 55.4**	**+0.8**
PMG	comp=Z,5μm,20.0s,MS5.0			LR	LR		
WRAB	**Tennant Creek** comp=Z,1μm,0.7s,mb6.5	**26.25**	**161**	P	**P**	**00 24 57.0**	**0.0**
WRAB	**Tennant Creek**	**26.25**	**161**	⇑*i*P	**P**	**00 24 56.5**	**-0.5**
WRAB				*e*S	**S**	**00 29 26.9**	**+0.3**
WRAB	**Tennant Creek** comp=Z,635nm,1.3s,mb6.0	**26.25**	**161**	⇑*i*P	**P**	**00 24 56.5**	**-0.6**
WRAB				*e*S	**S**	**00 29 26.9**	**+0.3**
WRAB	comp=Z,319nm,19.0s			LR	LR		
WRA	**Warramunga Arr** comp=Z,60nm,0.5s,mb5.4,baz=341,slow=10,SNR=63	**26.26**	**161**	P	**P**	**00 24 56.5**	**-0.6**
WRA	comp=Z,7.3nm,1.1s,baz=335,slow=21,SNR=3.2			S	**S**	**00 29 32.3**	**+5.6**
WRA	**Warramunga Arr**	**26.26**	**161**	*i* P	**P**	**00 24 56.5**	**-0.6**
WRA	comp=Z,60nm,0.5s			pmax	pmax		
WB2	**Warramunga Arr**	**26.26**	**161**	⇑*i*P	**P**	**00 24 56.4**	**-0.7**
WB2				*e*S	**S**	**00 29 33.0**	**+6.2**
SSE	**Sheshan**	**26.31**	**352**	P	**P**	**00 24 59.3**	**+1.7**
SSE				AP	pP	00 25 07.8	-0.9
SSE				XP	sP	00 25 11.8	-1.8
SSE				S	**S**	**00 29 28.6**	**+1.0**
SSE				XS	sS	00 29 43.5	-2.7
SSE	comp=Z,35nm,1.2s,mb4.8			AMB	AMB		
SSE	comp=Z,849nm,12.0s			AMB	AMB		
SSE	comp=N,3μm,17.7s,MS5.1			LR	LR		
SSE	comp=E,3μm,17.6s,MS5.1			LR	LR		
SSE	comp=Z,4μm,15.4s,MS5.1			LR	LR		
SSE	**Sheshan** comp=Z,35nm,1.2s,mb4.8	**26.31**	**352**	P	**P**	**00 24 59.2**	**+1.6**
SSE				pP	pP	00 25 07.7	-1.0
SSE				sP	sP	00 25 11.8	-1.8
SSE				S	**S**	**00 29 28.6**	**+1.0**
SSE				sS	sS	00 29 43.5	-2.7
SSE				LR	LR		
MBWA	comp=Z,4μm,15.4s,MS5.1			*e*S	**S**	**00 29 31.3**	**+0.5**
MBWA	comp=Z,4μm,22.0s,MS4.9			LR	LR		
NST	**Nakhon Sawan** comp=Z,75nm,0.7s,mb5.3	**26.98**	**295**	P	**P**	**00 25 05.0**	**+1.4**
CBIJ	**Chichi jima** comp=Z,173nm,0.5s,mb5.9,baz=258,slow=1.7,SNR=26	**27.26**	**34**	P	**P**	**00 25 04.9**	**-1.2**
CBIJ	comp=Z,1μm,18.0s,MS4.5,baz=132,slow=39			LR	LR	00 37 05.5	
WHN	**Wuhan**	**27.50**	**339**	P	**P**	**00 25 07.8**	**-0.5**
WHN	comp=Z,10μm,15.0s,MS5.5			LR	LR		
NJ2	**Nanjing**	**27.65**	**348**	*e*P	**P**	**00 25 09.3**	**-0.3**
NJ2				AP	pP	00 25 18.5	-2.3
NJ2				XP	sP	00 25 22.9	-2.8
NJ2				PP		00 25 57.9	
NJ2				S	**S**	**00 29 47.0**	**-1.7**
NJ2	comp=Z,40nm,1.0s,mb5.0			AMB	AMB		
NJ2	comp=Z,2μm,7.8s			AMB	AMB		
NJ2	comp=N,6μm,25.2s,MS5.3			LR	LR		
NJ2	comp=E,10μm,25.2s,MS5.3			LR	LR		
NJ2	comp=Z,14μm,19.3s			LR	LR		
GYA	**Guiyang**	**27.88**	**322**	⇑*i*P	**P**	**00 25 13.3**	**+1.6**
GYA				AP	pP	00 25 22.6	-0.2
GYA				XP	sP	00 25 25.8	-1.9
GYA				PP	PP	00 26 04.8	-10
GYA				S	**S**	**00 29 55.0**	**+2.7**
GYA				XS	sS	00 30 08.6	-2.3
GYA				SS		00 31 16.5	
GYA				SCS	ScS	00 35 59.0	+2.6
GYA	comp=Z,70nm,1.0s,mb5.2			AMB	AMB		
GYA	comp=Z,940nm,8.1s			AMB	AMB		
GYA	comp=N,4μm,16.9s,MS5.2			LR	LR		
GYA	comp=E,4μm,16.7s,MS5.2			LR	LR		
GYA	comp=Z,4μm,16.8s,MS5.1			LR	LR		
BDT	**Bhumibol Dam**	**28.56**	**297**	P	**P**	**00 25 20.0**	**+2.3**
CM31	**Chiang Mai Arr** comp=Z,15nm,0.6s,mb4.9	**29.09**	**300**	*e*P	**P**	**00 25 23.9**	**+1.5**
CM31	comp=Z,3μm,20.0s,MS4.9			LR	LR		
CHG	**Chiang Mai** comp=Z,73nm,1.4s,mb5.2	**29.23**	**300**	⇓P	**P**	**00 25 24.0**	**+0.3**
CHTO	**Chiang Mai** comp=Z,58nm,1.1s,mb5.2	**29.23**	**300**	⇑*i*P	**P**	**00 25 24.8**	**+1.0**
CHTO				*e*S	**S**	**00 30 21.2**	**+7.7**
CHTO	comp=Z,2μm,20.0s,MS4.8			LR	LR		
ENH	**Enshi**	**29.31**	**331**	PFAKE		00 25 40.0	+16
ENH	comp=Z,3.0nm,20.0s			LR	LR		
KMI	**Kunming**	**29.56**	**315**	P	**P**	**00 25 28.3**	**+1.7**
KMI				AP	pP	00 25 36.3	-1.5
KMI				XP	sP	00 25 39.6	-3.1
KMI				PP	PP	00 26 21.6	-12
KMI				S	**S**	**00 30 15.8**	**-3.0**
KMI	comp=Z,432nm,6.8s			AMB	AMB		
KMI	comp=N,3μm,15.0s,MS5.3			LR	LR		
KMI	comp=E,4μm,17.1s,MS5.3			LR	LR		
KMI	comp=Z,4μm,21.2s,MS5.0			LR	LR		
KMI	**Kunming** comp=Z,0.4nm,6.8s	**29.56**	**315**	P	**P**	**00 25 28.3**	**+1.7**
KMI				pP	pP	00 25 36.3	-1.5
KMI				sP	sP	00 25 39.6	-3.1
KMI				PP	PP	00 26 21.6	-12
KMI				PPP		00 26 36.4	
KMI				S	**S**	**00 30 15.7**	**-3.1**
KMI				sS	sS	00 30 28.1	-9.3
KMI				SS	SS	00 31 42.7	-43
KMI				SSS		00 32 04.6	
KMI	comp=Z,4μm,21.2s,MS5.0			LR	LR		
AS31	**Alice Springs**	**29.63**	**164**	*e*P	**P**	**00 25 27.6**	**+0.4**
AS31				*e*S	**S**	**00 30 16.7**	**-3.1**
ASPA	**Alice Springs**	**29.63**	**164**	*e*P	**P**	**00 25 27.6**	**+0.4**
ASPA				*e*S	**S**	**00 30 16.7**	**-3.1**
ASAR	**Alice Springs** comp=Z,17nm,0.8s,mb4.8,baz=338,slow=6.6,SNR=84	**29.63**	**164**	P	**P**	**00 25 27.6**	**+0.4**
ASAR	comp=Z,9.9nm,1.1s,baz=349,slow=19,SNR=3.8			S	**S**	**00 30 23.5**	**+3.7**
ASAR	comp=Z,1μm,20.8s,MS4.6,baz=150,slow=37			LR	LR	00 37 47.9	
ASAR	**Alice Springs**	**29.63**	**164**	P	**P**	**00 25 27.7**	**+0.5**
ASAR				S	**S**	**00 30 23.5**	**+3.7**
JHJ	**Hachijo jima 2** comp=Z,3μm,18.5s,MS5.0,baz=221,slow=38	**31.10**	**24**	LR	LR	00 38 56.9	
TIA	**Tai'an**	**32.03**	**347**	*e*P	**P**	**00 25 52.1**	**+3.7**
CTA	**Charters Tower** comp=Z,30nm,1.0s,mb5.1	**32.26**	**141**	*e*P	**P**	**00 25 52.0**	**+1.6**
CTA				*e*S	**S**	**00 31 05.0**	**+4.1**
CTA	**Charters Tower** comp=Z,32nm,1.0s,mb5.1,baz=322,slow=12,SNR=11	**32.26**	**141**	P	**P**	**00 25 51.8**	**+1.4**
CTA	**Charters Tower**	**32.26**	**141**	*e*P	**P**	**00 25 52.0**	**+1.6**
CTA				*e*S	**S**	**00 31 05.0**	**+4.1**
CTA	comp=Z,30nm,1.0s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,50nm,1.0s,mb5.3	**32.26**	**141**	*e*P	**P**	**00 25 52.1**	**+1.8**
CTAO	comp=Z,2μm,19.0s,MS4.8			LR	LR		
INCN	**Inchon**	**32.41**	**2**	PFAKE		00 26 00.0	+8.3
INCN	comp=Z,5μm,20.0s,MS5.2			LR	LR		
XAN	**Xi'an**	**32.73**	**334**	P	**P**	**00 25 53.5**	**-1.1**
XAN	comp=Z,24nm,1.8s,mb4.8			AMB	AMB		
CD2	**Chengdu**	**32.87**	**324**	⇑*i*P	**P**	**00 25 55.8**	**+0.1**
CD2				AP	pP	00 26 05.4	-1.6
CD2				XP	sP	00 26 09.3	-2.6
CD2				PP	PP	00 27 06.3	-4.2
CD2				PCP	PcP	00 28 40.8	+1.1
CD2				S	**S**	**00 31 09.8**	**-0.6**
CD2				XS	sS	00 31 26.0	-3.2
CD2				PCS	PcS	00 32 25.0	0.0
CD2				SCS	ScS	00 36 19.3	-1.2
CD2	comp=Z,80nm,1.4s,mb5.5			AMB	AMB		
CD2	comp=Z,890nm,10.8s			AMB	AMB		
CD2	comp=N,8μm,24.0s			LR	LR		
CD2	comp=E,7μm,16.8s			LR	LR		
CD2	comp=Z,5μm,19.2s,MS5.2			LR	LR		
PBA	**Port Blair**	**32.93**	**284**	*e*P	**P**	**00 25 53.2**	**-3.1**
COCO	**West Island**	**33.07**	**239**	P	**P**	**00 25 56.9**	**-0.6**
COCO	comp=Z,999nm,19.0s,MS4.5			LR	LR		
MAJO	**Matsushiro** comp=Z,142nm,1.4s,mb5.7	**33.59**	**19**	*e*P	**P**	**00 26 01.4**	**-0.7**
MAJO				*e*pP	pP	00 26 16.5	+3.2
MAJO	comp=Z,2μm,19.0s,MS4.9			LR	LR		
MAT	**Matsushiro**	**33.59**	**19**	P	**P**	**00 26 00.3**	**-1.7**
MAT				S	**S**	**00 31 18.0**	**-3.7**
MJAR	**Matsushiro Arr** comp=Z,30nm,1.0s,mb5.2,baz=196,slow=8.8,SNR=20	**33.59**	**19**	P	**P**	**00 26 01.3**	**-0.7**
MJAR	comp=Z,2.8nm,0.9s,baz=181,slow=2.9,SNR=4.4			ScP	ScP	00 32 26.2	+3.2
MJAR	**Matsushiro Arr**	**33.59**	**19**	P	**P**	**00 26 01.3**	**-0.7**
MJAR				ScP	ScP	00 32 26.2	+3.2
FORT	**Forrest** comp=Z,76nm,0.6s,mb5.8	**35.61**	**176**	*e*P	**P**	**00 26 19.8**	**+0.3**
BJT	**Baijiatuau**	**35.89**	**348**	*e*P	**P**	**00 26 22.9**	**+1.0**
BJT				*e*		00 28 49.6	
BJT	comp=Z,80nm,1.0s			pmax	pmax		
BJT	comp=Z,4μm,20.0s			MLR	MLR		
BJT	**Baijiatuau** comp=Z,80nm,1.0s,mb5.6	**35.89**	**348**	*e*P	**P**	**00 26 22.9**	**+1.0**
BJT				*e*PcP	PcP	00 28 49.6	+1.2
BJT	comp=Z,4μm,20.0s,MS5.1			LR	LR		
BJI	**Beijing**	**35.91**	**348**	P	**P**	**00 26 21.0**	**-1.1**
BJI				PP	PP	00 27 48.9	+4.8
BJI	comp=Z,19nm,1.1s,mb4.9			AMB	AMB		
BJI	comp=Z,504nm,5.7s			AMB	AMB		
BJI	comp=N,3μm,17.3s,MS5.3			LR	LR		
BJI	comp=E,3μm,18.9s,MS5.3			LR	LR		
BJI	comp=Z,3μm,29.3s			LR	LR		
BJI	**Beijing**	**35.91**	**348**	P	**P**	**00 26 21.0**	**-1.1**

comp=Z,19nm,1.1s,mb4.9
BJI PP PP 00 27 48.9 +4.8
BJI S **S** **00 32 14.3 +17**
BJI SS SS 00 34 45.5 +11
BJI LR LR
comp=Z,3μm,29.3s,MS4.8
SNY Shenyang 36.76 358 ⇑P **P** **00 26 32.4 +3.1**
SNY S **S** **00 32 16.8 +6.4**
SNY AMB AMB
comp=Z,70nm,1.4s,mb5.3
SNY AMB AMB
comp=Z,770nm,6.5s
SNY LR LR
comp=E,3μm,17.2s
SNY LR LR
comp=Z,3μm,14.9s,MS5.3
LZH Lanzhou 36.78 330 ⇑P **P** **00 26 30.8 +1.4**
LZH AP pP 00 26 41.0 +0.2
LZH XP sP 00 26 44.9 -0.8
LZH S **S** **00 32 13.1 +2.5**
LZH XS sS 00 32 29.0 -0.5
LZH *e*SS SS 00 34 44.0 -8.4
LZH AMB AMB
comp=Z,130nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,1μm,5.1s
LZH LR LR
comp=N,9μm,15.0s
LZH LR LR
comp=Z,14μm,17.8s,MS5.8
LZH Lanzhou 36.78 330 ⇑P **P** **00 26 30.7 +1.3**
LZH *PP pP 00 26 41.0 +0.2
LZH *SP sP 00 26 44.9 -0.8
LZH 00 28 18.4
LZH S **S** **00 32 13.1 +2.5**
LZH *SS sS 00 32 29.0 -0.5
LZH pmax pmax
comp=Z,130nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,14μm,17.8s,MS5.8
LZH Lanzhou 36.78 330 ⇑P **P** **00 26 30.7 +1.3**
comp=Z,130nm,1.0s,mb5.7
LZH pP pP 00 26 41.0 +0.2
LZH sP sP 00 26 44.9 -0.8
LZH PP PP 00 28 18.4 +25
LZH S **S** **00 32 13.1 +2.5**
LZH sS sS 00 32 29.0 -0.5
LZH *e*SS SS 00 34 44.0 -8.4
LZH LR LR
comp=Z,14μm,17.8s,MS5.8
KLBR Kellerberrin 37.04 191 *e*P **P** **00 26 29.7 -2.0**
comp=Z,86nm,0.9s,mb5.6
HNR Honiara 37.31 112 P **P** **00 26 35.3 +1.3**
comp=Z,63nm,0.5s,mb5.7,baz=264,slow=9.2,SNR=5.3
HNR LR LR 00 40 17.5
comp=Z,2μm,18.3s,MS4.9,baz=355,slow=34
HNR Honiara 37.31 112 *e*P **P** **00 26 35.3 +1.3**
comp=Z,408nm,1.2s,mb6.1
HNR LR LR
comp=Z,2μm,20.0s,MS4.9
MUN Mundaring 37.73 193 *e*P **P** **00 26 50.7 +13**
MUN *e*S **S** **00 32 38.8 +14**
HHC Hu-ho-hao-te 37.84 343 *e*P **P** **00 26 39.8 +1.4**
HHC AP pP 00 26 49.1 -0.7
HHC XP sP 00 26 53.6 -1.1
HHC PP PP 00 28 08.6 +3.3
HHC PCP PcP 00 28 49.8 -4.5
HHC S **S** **00 32 35.6 +8.9**
HHC XS sS 00 32 44.4 -1.2
HHC SCS ScS 00 36 48.1 +0.7
HHC AMB AMB
comp=Z,37nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,577nm,7.6s
HHC LR LR
comp=N,3μm,21.2s,MS5.2
HHC LR LR
comp=E,3μm,19.0s,MS5.2
HHC LR LR
comp=Z,4μm,30.2s
AGT Agartala 37.85 303 *i* x x 00 26 22.0
SHL Shillong 38.06 306 *e*P **P** **00 26 40.9 +0.5**
SHL *i* S **S** **00 32 31.0 +0.9**
BTO Baotou 38.09 341 *e*P **P** **00 26 37.3 -3.3**
NWAO Narrogin (SRO) 38.44 191 P **P** **00 26 43.6 +0.1**
comp=Z,74nm,0.7s,mb5.5,baz=21,slow=8.6,SNR=28
NWAO LR LR 00 41 57.3
comp=Z,2μm,19.8s,MS5.0,baz=14,slow=35
VLA Vladivostok 38.46 8 *d i*P **P** **00 26 43.9 +0.2**
VLA Vladivostok 38.46 8 *i* P **P** **00 26 43.9 +0.2**
CN2 Changchun 38.70 0 *e*P **P** **00 26 49.8 +4.1**
CN2 *e*PCP PcP 00 28 57.1 +0.2
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.2
CN2 LR LR
comp=E,2μm,15.0s,MS5.2
CN2 LR LR
comp=Z,2μm,16.0s,MS5.1
MDJ Mudanjiang 39.69 5 P **P** **00 26 55.5 +1.5**
MDJ AP pP 00 27 05.9 +0.5
MDJ XP sP 00 27 08.9 -1.3
MDJ PP PP 00 28 28.9 +3.3
MDJ S **S** **00 32 59.0 +4.4**
MDJ XS sS 00 33 16.0 +2.4
MDJ SS SS 00 35 54.8 +3.7
MDJ AMB AMB
comp=Z,75nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,550nm,4.5s
MDJ LR LR
comp=N,2μm,22.1s,MS5.0
MDJ LR LR
comp=E,289nm,20.8s,MS5.0
MDJ LR LR
comp=Z,3μm,25.3s,MS5.0
MDJ Mudanjiang 39.69 5 *e*P **P** **00 26 54.7 +0.7**
comp=Z,140nm,1.3s,mb5.5
MDJ *e*pP pP 00 27 06.5 +1.1
MDJ LR LR
comp=Z,2μm,19.0s,MS4.9
STKA Stephens Creek 39.74 158 *e*P **P** **00 26 54.0 -0.4**
comp=Z,95nm,0.8s,mb5.6
STKA *e*S **S** **00 32 54.8 -0.6**
STKA Stephens Creek 39.74 158 P **P** **00 26 54.8 +0.4**
comp=Z,138nm,1.0s,mb5.7,baz=331,slow=8.1,SNR=111
CAL Calcutta 39.83 300 *e*P **P** **00 26 54.7 -0.4**
CAL *e*x x 00 33 07.2
ERM Erimo 40.18 21 P **P** **00 27 01.1 +3.0**
comp=Z,397nm,0.8s,mb6.2,SNR=5.8
ERM Erimo 40.18 21 PFAKE 00 27 10.0 +12
ERM LR LR
comp=Z,809nm,21.0s,MS4.5
LSA Lhasa 40.62 311 P **P** **00 27 03.4 +1.8**
LSA S **S** **00 33 07.5 -1.0**
LSA AMB AMB
comp=Z,30nm,1.4s,mb4.7
LSA AMB AMB
comp=Z,520nm,6.0s
LSA LR LR
comp=N,900nm,16.0s,MS4.9
LSA LR LR
comp=E,1μm,20.0s,MS4.9
LSA LR LR
comp=Z,2μm,19.0s,MS4.9
LSA Lhasa 40.62 311 ⇑ *i*P **P** **00 27 03.5 +1.9**
LSA *e**PP pP 00 27 14.6 +1.5
LSA pmax pmax
comp=Z,30nm,0.6s,mb5.1
LSA MLR MLR
comp=Z,2μm,20.0s,MS4.9
LSA Lhasa 40.62 311 ⇑ *i*P **P** **00 27 03.5 +1.8**
comp=Z,30nm,0.6s,mb5.1
LSA *e*pP pP 00 27 14.6 +1.5
LSA *e*sP sP 00 27 23.5 +5.6
LSA *e* 00 28 48.7
LSA LR LR
comp=Z,2μm,20.0s,MS4.9
GTA Gaotai 41.37 330 P **P** **00 27 08.3 +0.5**
GTA AP pP 00 27 18.3 -1.0
GTA XP sP 00 27 22.0 -2.1
GTA PP PP 00 28 47.9 +4.1
GTA PCP PcP 00 29 06.4 +0.9
GTA SCP ScP 00 32 52.3 +0.2
GTA S **S** **00 33 20.5 +0.9**
GTA XS sS 00 33 36.5 -2.1
GTA SS SS 00 36 20.8 -3.6
GTA AMB AMB
comp=Z,25nm,1.6s,mb4.6
GTA AMB AMB
comp=Z,559nm,6.5s
GTA LR LR
comp=N,4μm,16.7s,MS5.5
GTA LR LR
comp=E,5μm,17.5s,MS5.5
GTA LR LR
comp=Z,6μm,16.7s,MS5.5
ADE Adelaide 41.64 163 *e*P **P** **00 27 11.6 +1.6**
ASAJ Asahikawa 41.86 19 P **P** **00 27 13.1 +1.2**
comp=Z,28nm,0.3s,mb5.3,baz=230,slow=10,SNR=18
BOK Bokaro 42.37 300 *e*P **P** **00 27 15.0 -1.0**
BOK AMb AMB 00 27 21.7
comp=Z,116nm,1.1s,mb5.4
BOK *i* x x 00 27 36.5
VIS Vishakhapatnam 43.01 291 *e*P **P** **00 27 20.1 -1.0**
VIS AMb AMB 00 27 28.1
comp=Z,204nm,1.5s,mb5.6
VIS *i* S **S** **00 33 47.3 +3.5**
ARMA Armidale 43.22 146 *e*P **P** **00 27 24.6 +1.7**
JIRN Jiri 43.56 306 *e*P **P** **00 27 27.1 +1.5**
GUN Gumba 43.91 306 *e*P **P** **00 27 29.4 +0.9**
comp=Z,135nm,0.7s,mb5.8
PKI Pulchoki 44.16 305 *e*P **P** **00 27 30.7 +0.3**
comp=Z,122nm,1.1s,mb5.5
KKN Kakani 44.35 305 *e*P **P** **00 27 32.1 +0.1**
comp=Z,239nm,1.3s,mb5.8
DMN Daman 44.42 305 *e*P **P** **00 27 32.9 +0.4**
comp=Z,203nm,1.2s,mb5.7
HIA Hailar 44.43 355 *c i*P **P** **00 27 31.5 -1.1**
HIA Hailar 44.43 355 ⇑ *i*P **P** **00 27 31.6 -1.0**
HIA LR LR
comp=Z,3μm,22.0s,MS5.2
PALK Pallekele 44.45 275 P **P** **00 27 36.5 +3.7**
comp=Z,163nm,1.4s,mb5.6,SNR=5.4
PALK Pallekele 44.45 275 ⇑P **P** **00 27 36.3 +3.6**
SNR=7.1
PALK Pallekele 44.45 275 ⇓ *i*P **P** **00 27 36.5 +3.7**
comp=Z,49nm,1.1s,mb5.2
PALK *e*PcP PcP 00 29 16.0 +0.2
PALK LR LR
comp=Z,338nm,21.0s,MS4.2
KLR Kul'dur 44.47 6 *e*P **P** **00 27 29.0 -3.9**
KLR *e*S **S** **00 34 03.5 -1.6**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s,mb5.6
YSS Yuzh-Sakhalins 44.47 17 ⇑ *i*P **P** **00 27 32.8 -0.1**
YSS *e**PP pP 00 27 43.7 -0.8
YSS *e* 00 29 17.0
YSS *e*S **S** **00 34 04.0 -1.1**
YSS *e*SS SS 00 37 08.0 -17
YSS pmax pmax
comp=N,70nm,1.1s
YSS pmax pmax
comp=E,30nm,1.1s
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.4
YSS pmax pmax
comp=Z,1μm,8.0s
YSS smax
comp=N,1μm,16.0s
YSS MLR MLR
comp=E,1μm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s,MS4.9
YSS Yuzh-Sakhalins 44.47 17 ⇑ *e*P **P** **00 27 32.0 -0.9**
YSS LR LR
comp=Z,2μm,22.0s,MS5.0
GKN Gorkha 44.96 305 *e*P **P** **00 27 36.9 +0.1**
comp=Z,218nm,1.4s,mb5.8
MDRS Chennai 45.22 283 *e*P **P** **00 27 40.0 +1.1**
KOLN Koldanda 45.72 304 *e*P **P** **00 27 43.7 +0.9**
comp=Z,185nm,0.9s,mb6.0
SONM Songino Array 45.73 342 P **P** **00 27 43.2 +0.3**
comp=Z,8.2nm,1.0s,mb4.6,baz=162,slow=7.5,SNR=28
SONM PcP PcP 00 29 20.2 0.0
comp=Z,19nm,1.2s,baz=165,slow=4.7,SNR=4.8
SONM LR LR 00 49 25.5
comp=Z,3μm,18.9s,MS5.2,baz=153,slow=40
SONM Songino Array 45.73 342 P **P** **00 27 43.2 +0.3**
SONM 00 29 20.2
CNB Canberra Magne 45.96 152 *e*P **P** **00 27 46.6 +1.8**
comp=Z,121nm,1.2s,mb5.7
TOO Toolangi 46.26 158 *e*P **P** **00 27 49.1 +2.0**
comp=Z,97nm,1.1s,mb5.7
TOO Toolangi 46.26 158 *e*P **P** **00 27 49.1 +2.0**
TOO pmax pmax
comp=Z,97nm,1.1s,mb5.7
ALBI Allahabad 46.37 301 *e*P **P** **00 27 47.5 -0.5**
SALM Salem 47.09 281 *e*x x 00 27 57.0
JBP Jabalpur 47.34 297 ⇑ *e*P **P** **00 27 58.2 +2.6**
JBP *e*S **S** **00 34 51.4 +4.9**
HYB Hyderabad 47.43 289 *i* P **P** **00 27 58.0 +1.8**
comp=Z,120nm,1.0s,mb5.8
HYB *e*S **S** **00 34 50.0 +2.4**
HYB Hyderabad 47.43 289 *e*P **P** **00 27 58.0 +1.8**
HYB *e*S **S** **00 34 54.0 +6.4**
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.8
HYB Hyderabad 47.43 289 *e*P **P** **00 27 58.0 +1.8**
comp=Z,120nm,1.0s,mb5.8
HYB *e*S **S** **00 34 54.0 +6.4**
NGP Nagpur 47.69 294 *e*P **P** **00 27 57.5 -0.8**
NGP *e*x x 00 28 03.0
comp=Z,170nm,1.4s
NGP *e*S **S** **00 34 54.8 +3.4**
CIT Chita 47.94 350 *e*P **P** **00 28 00.5 +0.3**
CIT *e* 00 29 26.3
CIT pmax pmax
comp=Z,91nm,1.6s,mb5.5
TRD Trivandrum 48.17 277 *e*P **P** **00 28 02.5 +0.5**
TRD AMb AMB 00 28 09.9
comp=Z,120nm,1.5s,mb5.7
DZM Mont Dzumac 48.34 125 *e*P **P** **00 28 05.1 +1.8**
ZAK Zakamensk 48.94 341 *e*P **P** **00 28 06.4 -1.5**
ZAK *e* 00 29 29.8
AKL Akola 49.45 293 *e*P **P** **00 28 12.6 +0.8**
AKL *i* S **S** **00 35 19.3 +3.1**
BHPL Bhopal 49.64 296 *e*P **P** **00 28 14.4 +1.1**
BHPL AMb AMB 00 28 20.3
comp=Z,161nm,0.8s,mb6.1
TLY Talaya 49.97 342 *e*P **P** **00 28 15.5 -0.2**
TLY *e*S **S** **00 35 36.4 +13**
TLY pmax pmax
comp=Z,32nm,1.3s,mb5.2
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.2
IRK Irkutsk 50.28 343 *e*P pP 00 28 28.8 -1.0
IRK *e*S sP 00 28 46.7 +12
MNGI Mangalore 50.47 283 *e*P **P** **00 28 19.3 -0.2**
MNGI *i* S **S** **00 35 33.9 +3.5**
MOY Mondy 50.79 341 *e*P **P** **00 28 21.2 -0.7**
MOY pmax pmax
comp=Z,74nm,2.0s,mb5.3
WMQ Urumqi 50.96 325 ⇑ *i*P **P** **00 28 23.1 -0.1**
WMQ AP pP 00 28 33.0 -1.9
WMQ XP sP 00 28 37.0 -2.7
WMQ PCP PcP 00 29 40.0 +1.0
WMQ PP PP 00 30 21.0 +1.2
WMQ PPP 00 31 20.0
WMQ S **S** **00 35 36.0 -1.1**
WMQ XS sS 00 35 52.0 -4.6
WMQ SS SS 00 39 08.0 -4.3
WMQ AMB AMB
comp=Z,52nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,798nm,6.4s
WMQ LR LR
comp=N,9μm,15.8s,MS6.0
WMQ LR LR
comp=E,7μm,16.3s,MS6.0
WMQ LR LR
comp=Z,6μm,17.8s,MS5.7
NDI New Delhi 51.32 303 *e*P **P** **00 28 24.0 -1.9**
NDI *e*P 00 28 25.6
NDI AMb AMB 00 28 30.3
comp=Z,84nm,2.5s,mb5.2
NDI *e*S **S** **00 35 43.0 +0.9**
KAD Karad 51.54 288 *e*P **P** **00 28 27.6 +0.1**
KAD AMb AMB 00 28 32.4
comp=Z,106nm,1.3s,mb5.6
NRGR Nerungri 51.58 360 *e*P **P** **00 28 27.5 -0.3**
TAU Tasmania Unive 51.62 159 *e*P **P** **00 28 30.5 +2.3**
TAU pmax pmax
comp=Z,83nm,1.1s,mb5.6
TAU MLR MLR
comp=Z,384nm,19.0s,MS4.5
TAU Tasmania Unive 51.62 159 *e*P **P** **00 28 30.5 +2.4**
comp=Z,83nm,1.1s,mb5.6
TAU LR LR
comp=Z,384nm,19.0s,MS4.5
CLNS Chul'man 51.75 360 *e*P **P** **00 28 28.2 -1.0**
CLNS *e**PP pP 00 28 35.2 -5.7
CLNS *e* 00 29 42.0
CLNS *e*S **S** **00 35 36.9 -11**
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,62nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,47nm,1.0s
CLNS smax
comp=N,177nm,13.0s
CLNS smax
comp=E,300nm,13.0s
CLNS smax
comp=Z,119nm,10.3s
POO Poona 52.02 290 ⇑ *i*P **P** **00 28 29.0 -2.2**
comp=Z,188nm,1.4s,mb5.8
AJM Ajmer 52.89 300 *e*P **P** **00 28 36.8 -0.8**
AJM AMb AMB 00 28 41.9
comp=Z,88nm,1.1s,mb5.6
BOM Bombay 53.05 290 ⇑ *e*P **P** **00 28 36.5 -2.2**
BOM *e*x x 00 28 44.0
comp=Z,123nm,1.7s
BOM *e*x x 00 35 55.1
BOD Bodaibo 53.48 352 *e*P **P** **00 28 40.6 -1.4**
BOD pmax pmax
comp=Z,25nm,1.4s,mb5.0
DLH Dalhousie 53.59 307 *e*P **P** **00 28 40.0 -2.7**
THN Thein Dam 53.75 307 *e*P **P** **00 28 43.6 -0.3**
DGAR Diego Garcia 54.20 257 P **P** **00 28 48.1 +0.9**
DGAR Diego Garcia 54.20 257 *e*P **P** **00 28 51.0 +3.9**
DGAR *e*ScP ScP 00 33 35.2 -11
DGAR *e*S **S** **00 36 18.0 -3.3**
PET Petropavlovsk 55.16 24 *e*P **P** **00 28 54.9 +0.7**
PET *e* 00 29 54.3
PET *e* 00 31 01.4
PET *e*PPP 00 32 05.8
PET *e*S **S** **00 36 36.8 +2.4**
PET *e*SS SS 00 40 21.9 +3.2
PET pmax pmax
comp=Z,63nm,1.3s,mb5.5
PET pmax pmax
comp=Z,1μm,13.6s
PET pmax pmax
comp=Z,900nm,11.2s
PET pmax pmax
comp=Z,600nm,11.2s
PET MLR MLR
comp=Z,1μm,17.0s,MS5.0
PET MLR MLR
comp=Z,900nm,13.0s
PET Petropavlovsk 55.16 24 *e*P **P** **00 28 54.9 +0.7**
PET *e*pP pP 00 29 08.6 +2.6
PET LR LR
comp=Z,802nm,19.0s,MS4.8
FUNA Funafuti 55.33 104 *e*P **P** **00 28 58.5 +3.1**
comp=Z,393nm,1.3s,mb6.3
FUNA *e*PP PP 00 31 02.6 +3.4
MK31 Makanchi Array 55.79 325 *i* P **P** **00 28 57.1 -1.6**
MK31 pmax pmax
comp=Z,26nm,0.6s,mb5.4
MKAR Makanchi Array 55.79 325 P **P** **00 28 57.5 -1.2**
comp=Z,19nm,0.5s,mb5.3,baz=121,slow=7.6,SNR=112
MKAR LR LR 00 54 11.6
comp=Z,2μm,19.5s,MS5.3,baz=7.2,slow=38
MKAR PKP2bc 00 59 09.2
comp=Z,0.2nm,0.4s,baz=251,slow=7.6,SNR=4.0
MKAR Makanchi Array 55.79 325 P **P** **00 28 57.5 -1.2**
MKAR LR LR 00 54 11.6
MKAR ⇑ *e* 00 59 09.2
NIL Nilore 56.11 308 P **P** **00 29 04.5 +3.5**
comp=Z,184nm,1.4s,mb5.9,SNR=6.5
KSH Kashi 56.23 315 ⇑P **P** **00 29 04.3 +2.5**
KSH *e*AP pP 00 29 14.5 +0.8
KSH *e*XP sP 00 29 18.8 +0.4
KSH *e*PCP PcP 00 30 01.4 +2.3
KSH *e*PP PP 00 31 10.3 +3.0
KSH *e*SCP ScP 00 33 56.1 +1.1
KSH *e*PCS PcS 00 34 01.1 +1.5
KSH *e*S **S** **00 36 49.3 +0.8**
KSH *e*PS 00 37 01.1
KSH *e*XS sS 00 37 06.1 -2.1
KSH *e*SCS ScS 00 38 47.0 -0.6
KSH *e*SS SS 00 40 35.8 +0.3
KSH AMB AMB
comp=Z,3μm,6.5s
KSH LR LR
comp=N,6μm,14.7s
KSH LR LR
comp=E,6μm,9.9s
KSH LR LR
comp=Z,9μm,26.6s
YAK Yakutsk 57.05 2 *c i*P **P** **00 29 07.7 0.0**
YAK *e* 00 30 04.4
YAK *e* 00 31 13.1
YAK *e*S **S** **00 36 55.5 -4.0**
YAK *e* 00 38 54.5
YAK *e*SS SS 00 40 44.4 -4.1
YAK *e*SSS 00 43 01.1
YAK pmax pmax
comp=N,276nm,1.5s
YAK pmax pmax
comp=E,93nm,1.5s
YAK pmax pmax
comp=Z,446nm,1.5s,mb6.3
YAK pmax pmax
comp=Z,35nm,0.9s,mb5.4
YAK pmax pmax
comp=N,355nm,5.4s
YAK pmax pmax
comp=E,167nm,5.3s
YAK smax
comp=E,545nm,5.6s
YAK smax
comp=N,259nm,2.8s
YAK MLR MLR
comp=Z,1μm,18.0s,MS5.1
YAK MLR MLR
comp=N,958nm,17.0s,MS5.1
YAK MLR MLR
comp=E,1μm,19.0s,MS5.1
YAK Yakutsk 57.05 2 ⇑ *i*P **P** **00 29 06.2 -1.5**
YAK LR LR
comp=Z,1μm,21.0s,MS5.0
MA2 Magadan 57.88 15 *c i*P **P** **00 29 14.2 +0.7**
MA2 *e* 00 31 21.3
MA2 *e*S **S** **00 37 10.5 +0.2**
MA2 pmax pmax
comp=Z,300nm,1.2s,mb6.2
MA2 MLR MLR
comp=Z,1μm,20.2s,MS5.1
MA2 Magadan 57.88 15 ⇑ *e*P **P** **00 29 14.6 +1.1**
MA2 LR LR
comp=Z,976nm,21.0s,MS4.9
TKM2 Tokmak 2 57.94 319 P **P** **00 29 14.9 +1.0**
SNR=12
TKM2 Tokmak 2 57.94 319 P **P** **00 29 11.9 -2.0**
TKM2 pmax pmax
comp=Z,58nm,1.3s,mb5.5
TKM2 Tokmak 2 57.94 319 *i* P **P** **00 29 11.9 -2.0**
KBK Karagaybulak 58.26 318 P **P** **00 29 17.4 +1.3**
SNR=19
UCH Uchtor 58.36 317 P **P** **00 29 18.0 +1.2**
SNR=22
CHMS Chumysh 58.53 318 P **P** **00 29 18.5 +0.5**
SNR=6.4
AAK Ala-Archa 58.55 318 P **P** **00 29 19.2 +1.1**
SNR=11
AAK Ala-Archa 58.55 318 P **P** **00 29 18.7 +0.5**

comp=Z,75nm,1.5s,mb5.5,SNR=7.2
AAK Ala-Archa 58.55 318 P **P 00 29 18.7 +0.5**
SNR=21
AAK Ala-Archa 58.55 318*c i*P **P 00 29 17.6 -0.6**
AAK pmax pmax
comp=Z,35nm,1.7s,mb5.1
AAK MLR MLR
comp=Z,4μm,23.0s,MS5.4
AAK Ala-Archa 58.55 318 *e*P **P 00 29 18.0 -0.2**
AAK LR LR
comp=Z,669nm,19.0s,MS4.8
FRU Bishkek 58.55 318 *e*P **P 00 29 18.0 -0.2**
FRU *e*S **S 00 37 22.0 +2.9**
FRU *e* 00 43 39.0
FRU pmax pmax
comp=Z,50nm,2.1s,mb5.2
FRU MLR MLR
comp=Z,3μm,23.0s,MS5.4
USP Ospenovka 58.81 319 P **P 00 29 20.6 +0.6**
SNR=24
AML Almayashu 58.88 317 P **P 00 29 22.1 +1.6**
SNR=12
MIDW Midway 58.96 60 PFAKE 00 29 30.0 +9.0
MIDW LR LR
comp=Z,2μm,20.0s,MS5.2
EKS2 Erkin-Say 59.04 318 P **P 00 29 22.3 +0.7**
SNR=21
KURK Kurchatov 59.99 328 P **P 00 29 27.6 -0.5**
comp=Z,517nm,0.9s,SNR=72
NVS Novosibirsk 60.18 333⇓*i*P **P 00 29 27.8 -1.6**
NVS *e*S **S 00 37 38.7 -1.4**
NVS pmax pmax
comp=Z,64nm,1.4s,mb5.5
NVS pmax pmax
comp=N,66nm,1.5s
NVS pmax pmax
comp=E,49nm,1.5s
NVS smax
comp=E,41nm,2.6s
SEY Seymchan 61.18 14⇑*e*P **P 00 29 37.6 +1.4**
SMY Shemya 62.13 31 PFAKE 00 30 00.0 +17
SMY LR LR
comp=Z,628nm,20.0s,MS4.8
RAO Raoul Island 64.14 126 P **P 00 29 57.0 +1.0**
SNZO South Karori 64.36 141 PFAKE 00 30 10.0 +13
SNZO LR LR
comp=Z,1μm,19.0s,MS5.1
AFI Afiamalu 65.11 108 *e*P **P 00 30 02.6 +0.3**
AFI pmax pmax
comp=Z,78nm,1.1s,mb5.7
AFI MLR MLR
comp=Z,1μm,19.0s,MS5.1
AFI Afiamalu 65.11 108 *e*P **P 00 30 02.6 +0.3**
comp=Z,78nm,1.1s,mb5.7
AFI LR LR
comp=Z,1μm,19.0s,MS5.1
VOSK Vostochnaya 65.11 327 P **P 00 29 59.9 -2.4**
VOSK pmax pmax
comp=Z,54nm,1.2s,mb5.5
BVA0 Borovoye Array 65.57 327 P **P 00 30 03.4 -1.8**
BVA0 pmax pmax
comp=Z,26nm,1.4s,mb5.1
BVAR Borovoye Array 65.57 327 P **P 00 30 04.5 -0.8**
comp=Z,63nm,1.1s,mb5.6,baz=123,slow=5.5,SNR=75
BRVK Borovoye 65.64 327 P **P 00 30 05.9 +0.2**
comp=Z,506nm,1.2s,mb6.4,SNR=73
BRVK Borovoye 65.64 327 P **P 00 30 05.5 -0.3**
SNR=50
BRVK Borovoye 65.64 327⇑*e*P **P 00 30 04.6 -1.1**
BRVK LR LR
comp=Z,361nm,20.0s,MS4.6
CHKZ Chkalovo 65.74 328 P **P 00 30 05.1 -1.2**
CHKZ pmax pmax
comp=Z,124nm,1.4s,mb5.8
CHKZ Chkalovo 65.74 328 *i*P **P 00 30 05.1 -1.2**
WBK Wadi Bani Khal 66.33 292 P **P 00 30 11.5 +1.3**
SNR=7.4
TIXI Tiksi 66.66 1 PFAKE 00 30 20.0 +7.7
TIXI LR LR
comp=Z,7μm,22.0s,MS5.8
WSAR Wadi Sarin 66.69 293 P **P 00 30 13.0 +0.5**
comp=Z,11nm,1.0s,mb4.8,baz=153,slow=4.8,SNR=10
JMDO Jabal Madar 67.11 292 P **P 00 30 15.9 +0.8**
SNR=8.4
BIDO Bidbid 67.18 293 P **P 00 30 16.4 +0.9**
SNR=14
SMDO Samad 67.21 293 P **P 00 30 16.6 +0.8**
SNR=7.5
HOQ Hoqain 67.93 293 P **P 00 30 21.2 +1.0**
SNR=13
BSY Bisya 67.97 292 P **P 00 30 21.4 +0.8**
SNR=10
ARQ Araqi 68.63 293⇑P **P 00 30 25.7 +1.0**
SNR=8.9
BILL Bilibino 68.75 15 *e*P **P 00 30 25.2 -0.2**
BILL pmax pmax
comp=Z,66nm,1.7s,mb5.3
BILL MLR MLR
comp=Z,600nm,16.0s,MS4.9
ABKT Ailbek 69.07 309 P **P 00 30 28.0 +0.6**
comp=Z,582nm,1.1s,mb6.4,SNR=42
HATD Hatta, Dubai 69.09 295 P **P 00 30 28.8 +1.2**
SNR=20
ASHO Ashiyiah 69.15 294 P **P 00 30 29.0 +1.1**
SNR=18
SHAO Shalim 69.22 287 P **P 00 30 30.1 +1.8**
SNR=18
AB31 Akbulak array 70.35 321 *i*P **P 00 30 33.6 -1.7**
MSEY Mahe Island 70.45 263 PFAKE 00 30 50.0 +14
MSEY LR LR
comp=Z,322nm,20.0s,MS4.6
RBK Rabkut 70.57 287 P **P 00 30 37.7 +1.0**
SNR=31
WHFO Wadi Hawf 70.99 287 P **P 00 30 39.7 +0.6**
SNR=40
ABTO Aybut 71.43 287 P **P 00 30 42.8 +0.9**
SNR=51
CASY Casey 71.85 186 *e*P **P 00 30 44.6 +0.2**
CASY LR LR
comp=Z,937nm,21.0s,MS5.0
AKTK Aktyubinsk 71.87 322 P **P 00 30 44.2 -0.3**
AKTO Aktyubinsk 71.87 322 P **P 00 30 44.2 -0.3**
comp=Z,136nm,1.3s,mb5.7,baz=97,slow=7.4,SNR=62
AKTO Aktyubinsk 71.87 322 P **P 00 30 42.8 -1.7**
AKTO pmax pmax
comp=Z,47nm,1.5s,mb5.2
ARU Arti 73.19 328 P **P 00 30 51.9 -0.4**
comp=Z,218nm,0.8s,mb6.1,SNR=7.4
ARU Arti 73.19 328⇑*i*P **P 00 30 50.3 -2.0**
ARU *e* pP 00 31 04.7 +0.1
ARU *e* 00 33 29.7
ARU *e*PPP 00 35 15.3
ARU *e*S S 00 40 16.9 -0.5
ARU *e*SS SS 00 44 54.9 -4.3
ARU pmax pmax
comp=Z,72nm,1.6s,mb5.3
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.2
ARU MLR MLR
comp=N,300nm,16.0s,MS5.0
ARU MLR MLR
comp=E,700nm,18.5s,MS5.0
UNV Unalaska Valle 73.22 35 *e*P **P 00 30 52.5 0.0**
comp=E,133nm,0.5s,mb6.1
UNV LR LR
comp=Z,8μm,22.0s,MS5.9
AKUT Akutan 73.71 35 *e*P **P 00 30 56.0 +0.6**
comp=Z,108nm,0.5s,mb6.0
ORR Orenburg 74.15 322*c i*P **P 00 30 57.1 -0.9**
ORR pmax pmax
comp=Z,220nm,1.3s,mb5.9
ORR MLR MLR
comp=Z,2μm,15.0s,MS5.4
MIR Mirnyy 75.02 193*c i*P **P 00 31 03.5 +0.5**
MIR *i* 00 31 10.0
MIR *i* 00 31 20.0
MIR pmax pmax
comp=Z,500nm,1.5s,mb6.2
TNA Tin City 76.02 23 PFAKE 00 31 20.0 +11
TNA LR LR
comp=Z,472nm,22.0s,MS4.8
QRN Al-Qurain 76.63 298 *e*P **P 00 31 12.4 +0.2**
QRN AMb AMB 00 31 15.9
comp=Z,218nm,1.3s,mb5.9
UMR Umm Al-Rimmam 76.83 299 *e*P **P 00 31 13.7 +0.3**
UMR AMb AMB 00 31 17.0
comp=Z,212nm,1.3s,mb5.9
KBD Kabd 76.84 299 *e*P **P 00 31 13.2 -0.3**
KBD AMb AMB 00 31 17.2
comp=Z,521nm,1.4s,mb6.3
RDF Al-Radifah 76.96 298 *e*P **P 00 31 14.3 +0.2**
RDF AMb AMB 00 31 17.7
comp=Z,195nm,1.3s,mb5.9
SDPT Sand Point 76.97 34 *e*P **P 00 31 14.5 +0.4**
comp=Z,512nm,1.6s,mb6.2
SDPT LR LR
comp=Z,2μm,23.0s,MS5.5
MIB Mutribah 77.17 299 *e*P **P 00 31 15.4 +0.2**
MIB AMb AMB 00 31 18.7
comp=Z,145nm,1.4s,mb5.7
MAK Makhachkala 77.76 313*d i*P **P 00 31 19.2 +0.6**
MAK *e* 00 31 27.3
MAK *e*PPP 00 36 06.1
MAK *i* S S 00 41 09.2 +1.2
MAK *i* 00 41 29.2
MAK *i* SS SS 00 46 03.1 -5.5
MAK pmax pmax
comp=Z,249nm,2.0s,mb5.8
RAR Rarotonga 77.77 113 PFAKE 00 31 30.0 +11
RAR LR LR
comp=Z,1.0nm,20.0s
CHGN Chignik 78.27 34 *e*P **P 00 31 21.7 +0.3**
DGRG David-gareji 79.24 311 P **P 00 31 28.8 +2.0**
GNI Garni 79.66 310 P **P 00 31 30.3 +1.3**
comp=Z,28nm,1.2s,mb5.1,baz=139,slow=5.1,SNR=26
GNI Garni 79.66 310*c i*P **P 00 31 28.7 -0.3**
GNI pmax pmax
comp=Z,110nm,1.7s
GNI Garni 79.66 310 *e*P **P 00 31 29.8 +0.8**
GNI LR LR
comp=Z,604nm,21.0s,MS4.9
MTA Mtatsminda 79.69 311 P **P 00 31 28.8 -0.4**
ZEI Tsey 80.40 312 *e*P **P 00 31 31.0 -2.0**
ZEI pmax pmax
comp=Z,86nm,1.3s,mb5.5
SVW2 Sparrevohn 80.41 29 *e*P **P 00 31 34.6 +1.6**
ONI Oni 80.72 312 P **P 00 31 34.4 -0.3**
MSL Mosul 80.87 306 *ex* x 00 31 35.0
MSL *ex* x 00 31 24.0
MSL *ex* x 00 31 52.5
PECR Pechory 81.07 326 *i*P **P 00 31 34.0 -2.6**
PECR *e* pP 00 31 46.4 -2.5
PECR pmax pmax
comp=Z,90nm,1.7s,mb5.4
PECR MLR MLR
comp=Z,1μm,19.0s,MS5.3
KIV Kislovodsk 81.32 314 P **P 00 31 37.5 -0.4**
comp=Z,175nm,1.4s,mb5.8,SNR=12
KIV Kislovodsk 81.32 314 P **P 00 31 38.3 +0.4**
SNR=22
KIV Kislovodsk 81.32 314*c i*P **P 00 31 37.5 -0.4**
KIV *e* 00 34 42.4
KIV *e*S S 00 41 45.5 -0.1
KIV *e*SS SS 00 47 00.7 -1.2
KIV pmax pmax
comp=Z,54nm,1.2s,mb5.3
KIV pmax pmax
comp=Z,130nm,6.6s
KIV Kislovodsk 81.32 314 *e*P **P 00 31 37.9 +0.1**
KIV LR LR
comp=Z,216nm,20.0s,MS4.5
KDAK Kodiak Island 81.61 32 P **P 00 31 40.0 +0.6**
comp=Z,409nm,0.9s,mb6.4,SNR=12
KDAK Kodiak Island 81.61 32 P **P 00 31 40.4 +0.9**
comp=Z,56nm,1.0s,mb5.5,baz=266,slow=4.8,SNR=25
KDAK LR LR 01 03 09.4
comp=Z,1μm,21.2s,MS5.2,baz=249,slow=32
IMA2 Indian Mountai 81.84 24 *e*P **P 00 31 41.3 +0.7**
ERZM Erzurum 82.25 309 *i*P **P 00 31 43.3 +0.5**
BNGL BINGOL 82.42 309 *i*P **P 00 31 43.5 -0.2**
MARD Mardin 82.72 307 *i*P **P 00 31 43.2 -2.1**
SLKM Skilak Lake 82.98 30 *e*P **P 00 31 46.9 +0.4**
MACK Trabzon 83.46 311 *i*P **P 00 31 46.7 -2.4**
SOC Sochi 83.47 313 *e*P **P 00 31 47.2 -1.9**
SOC *e*PP pP 00 31 53.5 -8.0
SOC *e* 00 35 05.2
SOC *e*S S 00 42 05.5 -2.1
SOC pmax pmax
comp=Z,49nm,1.7s,mb5.3
SOC pmax pmax
comp=Z,292nm,5.1s
SOC Sochi 83.47 313 *i*P **P 00 31 48.1 -1.0**
PMR Palmer 83.55 29 *e*P **P 00 31 49.4 -0.1**
PMR pmax pmax
comp=Z,222nm,1.2s,mb6.2
PMR MLR MLR
comp=Z,800nm,23.0s,MS5.0
PMR Palmer 83.55 29 *e*P **P 00 31 49.4 -0.1**
comp=Z,222nm,1.2s,mb6.2
PMR LR LR
comp=Z,800nm,23.0s,MS5.0
MCK McKinley 83.70 27 *e*P **P 00 31 50.6 +0.3**
comp=Z,141nm,1.3s,mb5.9
MCK LR LR
comp=Z,478nm,21.0s,MS4.8
VORD Divnogorie 83.71 321 *e*P **P 00 31 48.2 -2.2**
VORD pmax pmax
comp=Z,70nm,1.5s,mb5.6
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
VRSR Storozhevoye 83.78 321 *e*P **P 00 31 49.9 -0.8**
VRSR pmax pmax
comp=Z,70nm,1.5s,mb5.6
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.2s
ELZG Elazig 84.12 308 *i*P **P 00 31 53.1 +0.7**
COLA College 84.19 25 P **P 00 31 52.4 -0.4**
COLA pmax pmax
comp=Z,29nm,0.9s,mb5.4
COLA College 84.19 25⇓*i*P **P 00 31 52.8 0.0**
COLA LR LR
comp=Z,774nm,22.0s,MS5.0
MAW Mawson 84.41 200 *e*P **P 00 31 53.6 -0.3**
comp=Z,15nm,0.9s,mb5.1
MAW Mawson 84.41 200 P **P 00 31 53.7 -0.2**
comp=Z,19nm,1.1s,mb5.2,baz=56,slow=6.4,SNR=29
MAW LR LR 01 04 42.4
comp=Z,924nm,20.4s,MS5.2,baz=60,slow=32
MAW Mawson 84.41 200 *e*P **P 00 31 54.1 +0.2**
MAW pmax pmax
comp=Z,30nm,1.0s
MAW Mawson 84.41 200 *e*P **P 00 31 54.1 +0.2**
comp=Z,30nm,1.0s,mb5.4
TMCR Tamitsa 84.42 334 *e*P **P 00 31 52.8 -1.1**
TMCR pmax pmax
comp=Z,80nm,1.3s,mb5.7
MOS Moscow 84.67 325 *e*P **P 00 31 52.2 -3.0**
MOS *e* 00 32 09.8
MOS pmax pmax
comp=Z,152nm,1.5s,mb5.9
MOS MLR MLR
comp=Z,1μm,20.0s,MS5.3
ATAB Bozova 84.70 307 *i*P **P 00 31 55.3 0.0**
VNDA Vanda 84.79 173 P **P 00 31 55.8 0.0**
comp=Z,13nm,1.1s,mb5.0,baz=313,slow=5.8,SNR=32
VNDA LR LR 01 07 42.4
comp=Z,689nm,20.7s,MS5.0,baz=333,slow=34
VNDA Vanda 84.79 173 *e*P **P 00 31 55.6 -0.2**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA MLR MLR
comp=Z,717nm,20.0s
VNDA Vanda 84.79 173 *e*P **P 00 31 55.6 -0.2**
comp=Z,12nm,0.9s,mb5.0
VNDA LR LR
comp=Z,717nm,20.0s,MS5.1
ANN Anapa 85.08 314 *e*P **P 00 31 55.3 -2.0**
ANN *e*S S 00 42 17.3 -6.4
ANN pmax pmax
comp=Z,133nm,1.4s,mb5.9
EYAK Cordova Ski Ar 85.19 30 *e*P **P 00 31 57.1 -0.7**
EYAK *e*PP PP 00 35 19.9 +4.3
EYAK *e*S S 00 42 39.0 +14
GZT Gaziantep 85.28 307 *i*P **P 00 31 57.3 -1.0**
OBN Obninsk 85.29 325 P **P 00 31 57.6 -0.7**
comp=Z,564nm,1.6s,mb6.5,SNR=12
OBN Obninsk 85.29 325*c i*P **P 00 31 56.6 -1.7**
OBN *e* 00 35 12.9
OBN pmax pmax
comp=Z,263nm,1.6s,mb6.1
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.3
SBA Scott Base 85.72 172 *e*P **P 00 32 01.3 +0.9**
SBA *e**PP pP 00 32 13.7 +0.8
SBA pmax pmax
comp=Z,32nm,1.1s,mb5.5
SBA MLR MLR
comp=Z,731nm,19.0s,MS5.1
SBA Scott Base 85.72 172 P **P 00 32 01.8 +1.4**
SBA pmax pmax
comp=Z,32nm,1.1s,mb5.5
SBA Scott Base 85.72 172 *e*P **P 00 32 01.3 +0.8**
comp=Z,32nm,1.1s,mb5.5
SBA *e*pP pP 00 32 13.7 +0.8
SBA LR LR
comp=Z,731nm,19.0s,MS5.1
LVZ Lovozero 85.73 338 P **P 00 31 49.0 -12**
LVZ S S 00 42 19.6 -10
FURI Furi 85.98 279 *e*P **P 00 32 00.4 -1.3**
FURI S PP 00 35 26.2 +4.2
MENT Mentasta 86.06 27 *e*P **P 00 32 03.9 +1.8**
ASF Jabal al Asfar 86.10 302 P **P 00 32 03.3 +1.0**
comp=Z,31nm,1.1s,mb5.5,baz=300,slow=0.5,SNR=38
APA Apatity 86.22 337⇑*i*P **P 00 32 03.0 +0.1**
APA *i* 00 32 18.2
APA *e*S S 00 42 38.0 +3.1
APA pmax pmax
comp=Z,21nm,1.0s,mb5.3
APA MLR MLR
comp=Z,4μm,16.0s,MS5.8
COBT Iskenderun 86.37 306 *i*P **P 00 32 03.2 -0.5**
PPT Papeete 86.78 108 *e*SS SS 00 48 24.2 +1.6
comp=Z,852nm,25.0s
PPT *e*LR LR 00 59 35.8
comp=Z,2μm,25.0s
PPT Papeete 86.78 108 LR LR 01 03 55.5
comp=Z,1μm,19.4s,MS5.2,baz=275,slow=31
BHL Bhannes 87.03 304 *e*P **P 00 32 05.9 -1.0**
EGAK Eagle 87.06 25 *e*P **P 00 32 07.3 +0.3**
comp=Z,22nm,1.0s,mb5.3
EGAK *e*pP pP 00 32 22.8 +3.3
BOYT Boyabat 87.11 311 *i*P **P 00 32 05.0 -2.3**
TVO Taravao 87.11 108 *e*P **P 00 32 07.9 +0.6**
comp=Z,144nm,0.9s,mb6.2
CTKT Corum 87.25 310 *i*P **P 00 32 07.9 -0.1**
AVNT Avonos 87.33 309 *i*P **P 00 32 07.4 -1.0**
JOF Joensuu 87.48 333 *e*p **P 00 32 06.0 -3.1**
comp=Z,20nm,0.8s,mb5.4
JOF Joensuu 87.48 333 *e*P **P 00 32 06.0 -3.1**
JOF pmax pmax
comp=Z,20nm,0.8s,mb5.4
TBI Tubuai 87.52 114 *e*PP PP 00 35 27.8 -6.6
comp=Z,174nm,24.8s
TBI Tubuai 87.52 114 *e*SS SS 00 48 37.8 +4.4
comp=Z,386nm,32.2s
TBI *e*LR LR 01 00 00.1
comp=Z,1μm,26.8s
CDAG Cicekdag 87.65 309 *i*P **P 00 32 07.3 -2.5**
DAWY Dawson 87.89 26 *e*P **P 00 32 09.5 -1.6**
DAWY *e*pP pP 00 32 25.9 +2.3
EIL Elat 87.94 299 *e*P **P 00 32 12.2 +0.9**
EIL *e*pP pP 00 32 24.6 +0.8
PMOR Pomariorio Ree 88.13 105 *e*P **P 00 32 12.8 +0.6**
comp=Z,62nm,1.2s,mb5.7
BR131 Keskin Array S 88.20 310 *e*P **P 00 32 11.6 -1.0**
comp=Z,6.1nm,0.8s,mb4.9
BR131 LR LR
comp=Z,552nm,19.0s,MS5.0
BRTR Keskin Array B 88.20 310 P **P 00 32 11.2 -1.4**
comp=Z,7.0nm,0.9s,mb4.9,baz=123,slow=4.6,SNR=23
BRTR Keskin Array B 88.20 310⇑*e*P **P 00 32 11.1 -1.4**
KMBO Kilima Mbogo 88.21 269 P **P 00 32 14.0 +1.4**
comp=Z,23nm,1.2s,mb5.3,baz=55,slow=5.3,SNR=32
KMBO LR LR 01 09 38.6
comp=Z,669nm,19.2s,MS5.1,baz=90,slow=34
BALT Daday 88.24 311 *i*P **P 00 32 12.2 -0.5**
KEV Kevo 88.29 340 *e*P **P 00 32 11.0 -1.9**
KEV LR LR
comp=Z,1μm,20.0s,MS5.3
VAH Vaihoa 88.41 105 *e*P **P 00 32 14.0 +0.5**
comp=Z,55nm,0.9s,mb5.8
ANTO Ankara 88.84 310⇓*i*P **P 00 32 14.8 -0.7**
ANTO Ankara 88.84 310⇓P **P 00 32 14.8 -0.7**
ANTO LR LR
comp=Z,408nm,19.0s,MS4.9
ARCES ARCESS Array B 88.85 340 P **P 00 32 14.1 -1.5**
comp=Z,11nm,0.8s,mb5.3,baz=79,slow=6.3,SNR=14
ARCES LR LR 01 19 13.4
comp=Z,810nm,19.5s,MS5.2,baz=320,slow=40
ARE0 ARCESS Array S 88.85 340 P **P 00 32 09.8 -5.8**
SGKT Sivrigoynuk 89.33 310 *i*P **P 00 32 15.8 -2.1**
INK Inuvik 89.54 21 LR LR 01 11 25.9
comp=Z,444nm,21.4s,MS4.9,baz=97,slow=35
INK Inuvik 89.54 21 P **P 00 32 18.6 -0.2**
INK pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 89.54 21 *e*P **P 00 32 18.7 -0.1**
comp=Z,955nm,1.1s
INK *e*pP pP 00 32 33.5 +2.2
KBS Kingsbay 89.58 350 *e*P **P 00 32 22.1 +3.1**
KAF Kangasniemi 89.90 332 *e*p **P 00 32 17.8 -2.7**
comp=Z,3.7nm,0.5s,mb5.0,baz=76,slow=4.3
KAF Kangasniemi 89.90 332 *e*P **P 00 32 17.8 -2.7**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
AKASG Malin Array Be 90.10 321 P **P 00 32 19.6 -1.8**
comp=Z,4.7nm,0.7s,mb4.9,baz=69,slow=4.1,SNR=26
AKASG LR LR 01 20 38.7
comp=Z,713nm,19.2s,MS5.1,baz=95,slow=41
AKASG Malin Array Be 90.10 321 *i*P **P 00 32 19.6 -1.8**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 90.12 332 *e*P **P 00 32 17.5 -4.0**
FINES FINESS Array B 90.13 332 P **P 00 32 19.4 -2.1**
comp=Z,14nm,1.1s,mb5.2,baz=63,slow=5.6,SNR=22
FINES LR LR 01 18 17.4
comp=Z,1μm,18.1s,MS5.3,baz=76,slow=39
FINES FINESS Array B 90.13 332 *i*P **P 00 32 19.5 -2.0**
FINES pmax pmax
comp=Z,14nm,1.1s
HENT Hendek 90.18 311 *i*P **P 00 32 20.2 -1.6**
VSU Vasula 90.33 329 *e*P **P 00 32 21.4 -1.1**
SKAG Skagway 90.50 30 *e*P **P 00 32 23.6 +0.3**
comp=Z,30nm,0.9s,mb5.6
SKAG LR LR
comp=Z,1μm,23.0s,MS5.3
ISP Isparta 90.83 308⇓*i*P **P 00 32 22.8 -2.0**
ISP Isparta 90.83 308 *e*P **P 00 32 23.0 -1.8**
SIT Sitka 90.94 33 PFAKE 00 32 40.0 +15
SIT LR LR
comp=Z,2μm,22.0s,MS5.6
TIRR Tirgusor 91.52 315⇓*i*P **P 00 32 26.8 -1.2**
TIRR Tirgusor 91.52 315 P **P 00 32 26.9 -1.1**
CFR Carcaliu 91.61 315⇑*i*P **P 00 32 27.5 -1.0**
CFR Carcaliu 91.61 315 P **P 00 32 28.1 -0.4**
HARR Harsova 91.83 315 P **P 00 32 29.2 -0.3**
VRI Vrincioaia 92.48 316⇑*i*P **P 00 32 32.2 -0.3**
VRI Vrincioaia 92.48 316 P **P 00 32 31.9 -0.5**
PLOR Plostina 92.54 316⇑*i*P **P 00 32 32.3 -0.4**
PLOR Plostina 92.54 316⇑P **P 00 32 32.4 -0.3**
WRAK Wrangell Islan 92.68 33 P **P 00 32 31.5 -1.9**
comp=Z,66nm,1.2s,mb5.9
AYDN Tasoluk 92.92 308 *i*P **P 00 32 33.5 -1.0**
MLR Muntele Rosu 93.09 316 P **P 00 32 33.8 -1.5**
comp=Z,4.9nm,0.7s,mb5.1,baz=349,slow=3.3,SNR=14
MLR Muntele Rosu 93.09 316⇓*i*P **P 00 32 34.8 -0.5**
MLR Muntele Rosu 93.09 316 P **P 00 32 34.5 -0.7**
SUW Suwalki 93.15 325 *e*P **P 00 32 33.6 -2.0**
SUW Suwalki 93.15 325 *e*P **P 00 32 34.3 -1.2**
BURAR Bucovina Array 93.19 318⇑*i*P **P 00 32 34.9 -0.9**
BURAR Bucovina Array 93.19 318⇑P **P 00 32 34.9 -0.9**
DLBC Dease Lake 93.41 31 *e*P **P 00 32 38.0 +1.3**
DLBC *e*pP pP 00 32 50.7 +1.4
LVV L'vov 93.53 320 *e*P **P 00 32 35.8 -1.5**
AYVA Ayvalik 93.58 310 *i*P **P 00 32 35.4 -2.2**
BOZC Bozcaada 93.98 310 *i*P **P 00 32 36.7 -2.7**
QSPA South Pole Qui 94.84 180 *e*P **P 00 32 43.9 +0.6**
QSPA *e*P 00 32 44.0
QSPA LR LR
comp=Z,895nm,22.0s,MS5.2
KOLS Kolonicke sedl 94.84 320 *e*P **P 00 32 43.7 +0.4**

UZH Uzhgorod 94.90 320 *eP* **P 00 32 39.5 -4.1**
UZH pmax pmax
comp=Z,52nm,1.3s,mb5.8
DRGR 95.03 318 ⇓*iP* **P 00 32 43.2 -1.0**
DRGR 95.03 318 ⇓P **P 00 32 43.2 -1.0**
DRGR ⇓P 00 32 43.5
DRGR ⇑P 00 32 44.1
TAOE Nuku Hiva Isla 95.18 98 *e*LR LR 01 03 31.8
comp=Z,5μm,26.0s
GZR Gura Zlata 95.29 316 ⇑*iP* **P 00 32 45.0 -0.4**
GZR Gura Zlata 95.29 316 ⇑P **P 00 32 45.0 -0.4**
CRVS Cervenica-Dubn 95.37 320 *eP* **P 00 32 45.1 -0.7**
STHS Stebnicka Huta 95.39 320 *eP* **P 00 32 44.6 -1.2**
STHS Stebnicka Huta 95.39 320 *eP* **P 00 32 44.7 -1.1**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
STHS Stebnicka Huta 95.39 320 *eP* **P 00 32 44.7 -1.1**
comp=Z,3.3nm,0.7s,mb4.9
VTS Vitosha 95.58 314 ⇑*iP* **P 00 32 44.9 -1.8**
VTS Vitosha 95.58 314 ⇑P **P 00 32 44.9 -1.8**
BZS Buzias 96.04 317 ⇑*iP* **P 00 32 47.1 -1.7**
BZS Buzias 96.04 317 P **P 00 32 47.4 -1.4**
OJC Ojcow 96.09 322 *eP* **P 00 32 44.9 -4.1**
KECS Kecovo 96.10 320 *eP* **P 00 32 47.2 -1.9**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
KECS Kecovo 96.10 320 *eP* **P 00 32 47.2 -1.9**
comp=Z,3.1nm,0.7s,mb4.8
BBB Bella Bella 96.15 36 LR LR 01 11 49.9
comp=Z,427nm,20.4s,MS4.9,baz=271,slow=33
VAY Valandovo 96.31 312 *eP* **P 00 32 47.9 -2.1**
HFS Hagfors 96.32 332 P **P 00 32 47.6 -2.5**
comp=Z,6.1nm,0.9s,mb5.0,baz=92,slow=8.9,SNR=5.7
NB2 NORSAR Subarra 97.10 333 P **P 00 32 50.7 -2.9**
comp=Z,32nm,1.4s,mb5.6,baz=67,slow=4.6
NB2 NORSAR Subarra 97.10 333 P **P 00 32 50.7 -2.9**
NB2 pmax pmax
comp=Z,32nm,1.4s,mb5.6
NOA NORSAR Array B 97.10 333 P **P 00 32 51.0 -2.7**
comp=Z,6.5nm,0.9s,mb5.0,baz=66,slow=4.6,SNR=8.5
NOA LR LR 01 24 51.5
comp=Z,1μm,18.3s,MS5.4,baz=55,slow=40
VYHS Vyhne 97.16 320 *eP* **P 00 32 52.5 -1.4**
VYHS pmax pmax
comp=Z,6.0nm,1.6s,mb4.8
VYHS Vyhne 97.16 320 *eP* **P 00 32 52.5 -1.4**
comp=Z,5.7nm,1.6s,mb4.8
OKC Ostrava-Krasne 97.22 321 *eP* **P 00 32 54.7 +0.6**
OKC AMS AMS 01 19 20.0
comp=Z,800nm,20.6s
PKSM Moragy 97.90 318 ⇓*iP* **P 00 32 56.3 -0.9**
PKSM Moragy 97.90 318 P **P 00 32 56.1 -1.1**
KSP Ksiaz 98.06 323 *eP* **P 00 32 57.3 -0.6**
KSP MLR MLR
comp=Z,3μm,22.5s,MS5.7
LSZ Lusaka 98.19 255 PFAKE 00 33 10.0 +12
LSZ LR LR
comp=Z,1μm,22.0s,MS5.4
DPC Dobruska-Polom 98.19 322 *eP* **P 00 32 58.0 -0.5**
DPC AMS AMS 01 21 00.0
comp=Z,1μm,18.3s
UPC Upice 98.33 322 *eP* **P 00 32 58.9 -0.2**
YKA Yellowknife Ar 98.96 24 P **P 00 33 01.9 -0.1**
comp=Z,2.8nm,0.8s,mb4.8,baz=297,slow=5.5,SNR=3.1
YKA LR LR 01 16 50.1
comp=Z,481nm,21.4s,MS5.0,baz=215,slow=35
YKA Yellowknife Ar 98.96 24 P **P 00 33 01.9 -0.1**
YKA LR LR 01 16 50.1
TREC Trest 99.04 321 AMS AMS 01 20 20.0
comp=Z,1μm,26.3s
PVCC Panska Ves 99.20 323 *eP* **P 00 33 03.1 +0.1**
PVCC AMS AMS 01 19 40.0
comp=Z,2μm,17.9s
PRU Pruhonice 99.39 322 *eP* **P 00 33 04.4 +0.5**
PRU AMS AMS 01 19 50.0
comp=Z,1μm,23.8s
BRG Berggiesshubel 99.46 323 *e*Pdiff **P 00 33 03.4 -0.8**
BRG Berggiesshubel 99.46 323 *eP* **P 00 33 03.3 -0.9**
comp=Z,20nm,1.9s,mb5.3
BRG
comp=N,820nm,27.3s
BRG
comp=E,586nm,23.2s
BRG
comp=Z,820nm,23.7s
BRG Berggiesshubel 99.46 323 *eP* **P 00 33 03.3 -0.9**
BRG pmax pmax
comp=Z,23nm,1.9s,mb5.4
BRG MLR MLR
comp=N,2μm,27.3s,MS5.5
BRG MLR MLR
comp=E,820nm,23.3s,MS5.5
BRG MLR MLR
comp=Z,586nm,23.7s,MS5.0
CLL Collm 99.86 324 *e*Pdif Pdif 00 33 06.0 0.0
CLL *e* 00 36 49.0
CLL LR LR
comp=Z,2μm,21.9s,MS5.5
CLL Collm 99.86 324 *e*Pdif Pdif 00 33 06.0 0.0
CLL LmV 00 21 00.0
comp=Z,2μm,21.9s
CLL *ex* x 00 36 49.0
MOA Molln 100.27 320 ⇑*iP* Pdif 00 33 06.7 -1.1
comp=Z,7.3nm,1.1s
KHC Kasperske Hory 100.27 322 *ep*P 00 33 14.2
KHC AMS AMS 01 22 00.0
comp=Z,1μm,20.3s
GEC2 GERESS Array S 100.29 321 *e*Pdiff Pdif 00 33 07.2 -0.7
GERES GERESS Array B 100.29 321 P Pdif 00 33 07.1 -0.8
comp=Z,0.7nm,0.7s,baz=74,slow=4.9,SNR=9.6
GERES PP PP 00 37 25.7 +12
comp=Z,1.0nm,0.9s,baz=60,slow=8.0,SNR=3.9
BOJS Bojanci 100.37 318 *e*Pdiff Pdif 00 33 08.5 +0.3
BOJS *e* 00 37 32.6
TANN Tannenbergstha 100.50 323 *e*Pdiff Pdif 00 33 08.0 -0.8
NKC Novy Kostel 100.58 323 *e*PDIF Pdif 00 33 08.9 -0.2
NKC AMS AMS 01 20 40.0
comp=Z,2μm,17.3s
LJU Ljubljana 100.69 319 *e* PKiKP 00 37 33.7 -1.9
RKT Rikitea 100.80 112 *e*PP PP 00 37 12.9 -5.2
comp=Z,104nm,24.8s
RKT Rikitea 100.80 112 *e*LR LR 01 06 15.0
comp=Z,877nm,28.0s
MANZ Manzenberg 100.87 323 *e*Pdiff Pdif 00 33 10.6 +0.2
ROTZ Rotzenmuhle 100.89 323 *e*Pdiff Pdif 00 33 10.1 -0.4
LBTB Lobatse 100.91 246 P Pdif 00 33 11.7 +1.1
LBTB Lobatse 100.91 246 PFAKE 00 33 20.0 +9.4
LBTB LR LR
comp=Z,1μm,22.0s,MS5.3
MOX Moxa 100.92 324 *e*Pdiff Pdif 00 33 10.7 0.0
NRDL Niedersach Rie 101.08 326 *e*Pdiff Pdif 00 33 11.1 -0.3
CLZ Clausthal 101.19 325 *e*Pdiff Pdif 00 33 12.4 +0.5
BOSA Boshof 101.21 242 P Pdif 00 33 13.0 +1.0
BOSA Boshof 101.21 242 PFAKE 00 33 20.0 +8.0
BOSA LR LR
comp=Z,1μm,21.0s,MS5.3
COR Corvallis 101.49 43 *e*Pdif Pdif 00 33 03.7 -10
GRA1 Grafenberg Arr 101.51 323 *e*Pdif Pdif 00 33 12.3 -1.0
GRA1 LR LR
comp=Z,1μm,21.3s,MS5.3
GRF Grafenberg Arr 101.51 323 *e*Pdiff Pdif 00 33 12.3 -1.0
GRF *e*L 01 21 52.6
comp=Z,1μm,21.3s
WTTA Wattenberg 102.14 320 ⇑*iP* Pdif 00 33 14.3 -1.9
comp=Z,10nm,1.2s
WTTA Wattenberg 102.14 320 ⇑*iP* Pdif 00 33 14.3 -1.8
WTTA pmax pmax
comp=Z,10.0nm,1.2s
HUMO Hull Mountain 102.36 45 *e*Pdif Pdif 00 33 18.8 +1.7
comp=Z,6.7nm,1.0s
HUMO LR LR
comp=Z,792nm,19.0s,MS5.3
YBH Yreka Blue Hor 102.81 45 PFAKE 00 33 30.0 +11
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
WDC Whiskeytown Da 103.30 46 PFAKE 00 33 30.0 +8.7
WDC LR LR
comp=Z,890nm,20.0s,MS5.3
HAWA Hanford 103.35 40 PFAKE 00 33 30.0 +8.5
HAWA LR LR
comp=Z,683nm,20.0s,MS5.2
HOPS Hopland 103.41 48 PFAKE 00 33 30.0 +8.3
HOPS LR LR
comp=Z,1μm,20.0s,MS5.3
EDM Edmonton 104.05 32 P Pdif 00 33 27.1 +2.5
EDM Edmonton 104.05 32 *e*Pdif Pdif 00 33 26.1 +1.5
NEW Newport 104.12 38 *eP* Pdif 00 33 25.7 +0.8
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW MLR MLR
comp=Z,729nm,22.0s
NEW Newport 104.12 38 *e*Pdif Pdif 00 33 25.7 +0.8
comp=Z,8.9nm,1.1s
NEW LR LR
comp=Z,729nm,22.0s,MS5.2
CDF Champ du Feu 104.40 323 *e*PP PP 00 37 40.9 -4.1
comp=Z,90nm,1.9s
MOD Modoc 104.45 45 PFAKE 00 33 40.0 +14
MOD LR LR
comp=Z,379nm,19.0s,MS5.0
SUR Sutherland 104.91 238 PFAKE 00 33 40.0 +12
SUR LR LR
comp=Z,473nm,21.0s,MS5.0
SAO San Andreas Ge 105.32 50 PFAKE 00 38 00.0 +16
SAO LR LR
comp=Z,825nm,20.0s,MS5.3
BMO Blue Mountains 105.39 41 PFAKE 00 38 00.0 +16
BMO LR LR
comp=Z,1μm,22.0s,MS5.3
WVOR Wild Horse Val 105.42 44 PFAKE 00 38 00.0 +16
WVOR LR LR
comp=Z,663nm,19.0s,MS5.2
CMB Columbia Colle 105.71 48 PFAKE 00 38 00.0 +15
CMB LR LR
comp=Z,865nm,20.0s,MS5.3
SNAA Sanae 106.03 195 *eP* Pdif 00 33 32.7 -0.7
SNAA pmax pmax
comp=Z,5.0nm,1.3s
SNAA Sanae 106.03 195 *e*Pdif Pdif 00 33 32.7 -0.7
comp=Z,5.0nm,1.3s
ESK Eskdalemuir 106.55 332 PFAKE 00 38 00.0 +14
ESK LR LR
comp=Z,507nm,19.0s,MS5.1
MSO Missoula 106.68 38 PFAKE 00 38 00.0 +13
MSO LR LR
comp=Z,508nm,22.0s,MS5.0
ORIF Oris-en-Rattie 106.75 320 *e*PP PP 00 37 48.4 -14
comp=Z,41nm,1.4s
CHMT Chamberlain Mo 107.07 38 *e*Pdif Pdif 00 33 38.9 +0.9
NVAR Mina Array Bea 107.11 47 Pdiff Pdif 00 33 40.2 +2.0
comp=Z,1.7nm,0.8s,baz=275,slow=6.6,SNR=11
NVAR PKiKP PKiKP 00 37 49.5 +2.1
comp=Z,0.9nm,0.7s,baz=254,slow=1.6,SNR=6.9
NVAR PKKPbc PKKPbc 00 49 06.0 +2.0
comp=Z,0.5nm,0.7s,baz=126,slow=3.0,SNR=4.3
NVAR Mina Array Bea 107.11 47 Pdif Pdif 00 33 40.2 +2.0
NVAR PKPdf PKiKP 00 37 49.5 +2.1
NVAR PKKPbc PKKPbc 00 49 06.0 +2.0
BMN Battle Mountai 107.16 45 PFAKE 00 38 00.0 +13
BMN LR LR
comp=Z,744nm,20.0s,MS5.2
KEST Kesra 107.81 310 PP PP 00 38 09.6 -0.5
comp=Z,3.3nm,1.2s,baz=63,slow=2.3,SNR=4.6
KEST PKKPbc PKKPbc 00 49 05.3 +3.5
comp=Z,0.6nm,0.8s,baz=200,slow=2.3,SNR=5.3
HLID Hailey 107.81 41 *e*Pdif Pdif 00 33 41.3 0.0
comp=Z,2.6nm,1.1s
HLID LR LR
comp=Z,592nm,20.0s,MS5.2
SNCC San Nicolas Is 107.92 53 PFAKE 00 38 00.0 +11
SNCC LR LR
comp=Z,1μm,19.0s,MS5.6
ISA Isabella 107.95 50 PFAKE 00 38 00.0 +11
ISA LR LR
comp=Z,188nm,20.0s,MS4.7
TPH Tonopah 108.03 47 PFAKE 00 38 00.0 +11
TPH LR LR
comp=Z,1μm,21.0s,MS5.4
TSUM Tsumeb 108.39 252 PFAKE 00 38 00.0 +10
TSUM LR LR
comp=Z,999nm,21.0s,MS5.4
DAC Darwin (Calif) 108.40 49 PFAKE 00 38 00.0 +10
DAC LR LR
comp=Z,1μm,22.0s,MS5.4
EGMT Eagleton 108.61 36 PFAKE 00 38 00.0 +10
EGMT LR LR
comp=Z,763nm,22.0s,MS5.2
YMR Madison River 109.53 39 PFAKE 00 38 00.0 +8.1
YMR LR LR
comp=Z,939nm,20.0s,MS5.4
LKWY Lake 109.93 39 PFAKE 00 38 10.0 +17
LKWY LR LR
comp=Z,807nm,19.0s,MS5.3
PFO Pinyon Flat Ob 110.22 52 PFAKE 00 38 10.0 +17
PFO LR LR
comp=Z,264nm,20.0s,MS4.8
DUG Dugway 110.33 44 PFAKE 00 38 10.0 +17
DUG LR LR
comp=Z,658nm,20.0s,MS5.2
AHID Auburn Hatcher 110.34 41 PFAKE 00 38 10.0 +17
AHID LR LR
comp=Z,798nm,19.0s,MS5.3
HWUT Hardware Ranch 110.56 42 PFAKE 00 38 10.0 +16
HWUT LR LR
comp=Z,685nm,21.0s,MS5.2
ARUT Antelope Range 110.90 47 *e*PP PP 00 38 32.5 0.0
MPU Maple Canyon 111.23 44 PFAKE 00 38 10.0 +15
MPU LR LR
comp=Z,895nm,21.0s,MS5.3
BW06 Boulder Array 111.34 40 PFAKE 00 38 10.0 +15
BW06 LR LR
comp=Z,1μm,22.0s,MS5.4
PDAR Pinedale Array 111.34 40 Pdiff Pdif 00 33 59.6 +2.6
comp=Z,0.3nm,0.9s,baz=263,slow=4.3,SNR=3.5
PDAR PP PP 00 38 40.0 +4.3
comp=Z,1.7nm,0.9s,baz=264,slow=3.0,SNR=5.5
PDAR PKKPbc PKKPbc 00 48 53.1 +2.7
comp=Z,0.4nm,0.7s,baz=132,slow=2.2,SNR=3.9
LAO LASA Array 111.36 35 PFAKE 00 38 10.0 +15
LAO LR LR
comp=Z,825nm,19.0s,MS5.3
MVU Marysvale 111.48 45 PFAKE 00 38 10.0 +14
MVU LR LR
comp=Z,874nm,19.0s,MS5.4
DGMT Dagmar 111.49 33 PFAKE 00 38 10.0 +14
DGMT LR LR
comp=Z,654nm,19.0s,MS5.2
MSU Marysvale 111.50 45 PKIKP PKiKP 00 37 58.8 +3.2
MSU *e* 00 38 11.3
MSKU Masuku 111.81 270 PFAKE 00 38 10.0 +14
MSKU LR LR
comp=Z,3.0nm,22.0s
WUAZ Wupatki 113.35 48 *e*PKiKP PKiKP 00 37 59.9 +0.8
WUAZ LR LR
comp=Z,851nm,19.0s,MS5.4
PV10 Paradox Valley 113.77 44 *e*PKiKP PKiKP 00 38 01.4 +1.5
PV10 *e*PP PP 00 38 52.6 -0.4
PV01 Paradox Valley 114.21 44 *e*PKPdf PKiKP 00 38 02.8 +2.1
PV01 *e*PP PP 00 38 57.6 +1.5
ULM Lac du Bonnet 114.55 28 PFAKE 00 38 10.0 +8.6
ULM LR LR
comp=Z,1μm,19.0s,MS5.4
TUC Tucson 115.12 51 PFAKE 00 38 20.0 +17
TUC LR LR
comp=Z,746nm,19.0s,MS5.3
ISCO Idaho Springs 115.39 41 *e*PKIKP PKPdf 00 38 04.4 +1.4
ISCO MLR MLR
comp=Z,1μm,22.0s,MS5.5
ESDC Sonseca Array 115.65 319 PP PP 00 39 05.2 -1.1
comp=Z,0.1nm,0.3s,baz=64,slow=6.8,SNR=4.1
ESLA Sonseca Array 115.65 319 PFAKE 00 38 20.0 +16
ESLA LR LR
comp=Z,3μm,19.0s,MS6.0
SDCO Great Sand Dun 116.51 43 *e*PKPdf PKPdf 00 38 07.0 +1.8
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
ANMO Albuquerque 117.20 47 PFAKE 00 38 20.0 +13
ANMO LR LR
comp=Z,854nm,19.0s,MS5.4
LPM Los Pinos Moun 117.38 47 *e*PKPdf PKPdf 00 38 05.9 -1.0
EYMN Ely 118.21 27 PFAKE 00 38 20.0 +12
EYMN LR LR
comp=Z,1μm,21.0s,MS5.5
ECSD EROS,Sioux Fal 118.56 34 *e*PKPdf PKPdf 00 38 10.3 +1.1
MNTX Cornudas Mount 119.52 49 PFAKE 00 38 20.0 +9.0
MNTX LR LR
comp=Z,655nm,19.0s,MS5.3
SCHQ Schefferville 119.58 8 PKP PKPdf 00 38 11.5 +0.4
comp=Z,3.7nm,0.7s,baz=347,slow=5.5,SNR=5.3
CBKS Cedar Bluff 119.74 40 PFAKE 00 38 20.0 +8.6
CBKS LR LR
comp=Z,2μm,22.0s,MS5.6
AMTX Amarillo 120.63 44 PFAKE 00 38 30.0 +17
AMTX LR LR
comp=Z,1μm,21.0s,MS5.5
TOA0 Torodi Ar. Sit 121.24 289 *e*PKPdf PKPdf 00 38 14.8 +0.5
TORD Torodi Ar. Bea 121.24 289 PKP PKPdf 00 38 14.8 +0.6
comp=Z,8.3nm,1.0s,baz=57,slow=1.8,SNR=40
TORD PP PP 00 39 45.8 +0.7
comp=Z,6.2nm,1.1s,baz=52,slow=4.7,SNR=4.1
TORD PKKPbc PKKPbc 00 48 19.1 +3.4
comp=Z,3.5nm,0.7s,baz=266,slow=2.8,SNR=23
TXAR Lajitas Array 121.92 51 PKP PKPdf 00 38 17.4 +1.8
comp=Z,2.5nm,0.7s,baz=238,slow=0.7,SNR=16
TXAR PP PP 00 39 56.1 +6.5
comp=Z,3.5nm,1.1s,baz=240,slow=4.2,SNR=4.7
TXAR PKKPbc PKKPbc 00 48 15.2 +2.0
comp=Z,0.5nm,0.9s,baz=108,slow=4.1,SNR=4.3
TXAR Lajitas Array 121.92 51 PKIKP PKPdf 00 38 17.4 +1.8
TXAR 00 39 56.1
JFWS Jewell Farm 122.48 30 PFAKE 00 38 30.0 +13
JFWS LR LR
comp=Z,808nm,21.0s,MS5.3
WMOK Wichita Mounta 122.71 43 *e*PKIKP PKPdf 00 38 15.8 -1.3
WMOK MLR MLR
comp=Z,1μm,22.0s,MS5.5
JCT Junction City 124.29 48 *e*PKIKP PKPdf 00 38 21.8 +1.7
JCT MLR MLR
comp=Z,708nm,20.0s,MS5.3
NATX Nacogdoches 127.24 43 PFAKE 00 38 40.0 +14
NATX LR LR
comp=Z,876nm,21.0s,MS5.4
HKT Hockley 127.46 46 PFAKE 00 38 40.0 +14
HKT LR LR
comp=Z,850nm,20.0s,MS5.4
WCI Wyandotte Cave 127.97 32 PFAKE 00 38 40.0 +13
WCI LR LR
comp=Z,792nm,21.0s,MS5.4
NCB Newcomb 128.21 18 PFAKE 00 38 40.0 +12
NCB LR LR
comp=Z,1μm,20.0s,MS5.5
LBNH Lisbon 128.63 16 PFAKE 00 38 40.0 +12
LBNH LR LR
comp=Z,2μm,22.0s,MS5.7
WVT Waverly 128.67 35 *e*PKIKP PKPdf 00 38 26.9 -1.6
WVT MLR MLR
comp=Z,783nm,20.0s,MS5.4
OXF Oxford 128.88 37 *e*PKIKP PKPdf 00 38 27.7 -1.2
OXF MLR MLR
comp=Z,631nm,21.0s,MS5.3
BINY Binghamton 129.22 20 PFAKE 00 38 40.0 +10
BINY LR LR
comp=Z,979nm,19.0s,MS5.5
PLAL Pickwick Lake 129.34 36 PFAKE 00 38 40.0 +10
PLAL LR LR
comp=Z,711nm,22.0s,MS5.3
SSPA Standing Stone 129.88 23 *e*PKPdf PKPdf 00 38 32.6 +1.8
SSPA LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 129.91 25 PFAKE 00 38 40.0 +9.1
MCWV LR LR
comp=Z,955nm,20.0s,MS5.5
HRV Harvard--Oak R 130.34 16 PFAKE 00 38 40.0 +8.3
HRV LR LR
comp=Z,764nm,19.0s,MS5.4
WES Weston 130.52 16 PFAKE 00 38 40.0 +8.0
WES LR LR
comp=Z,1μm,19.0s,MS5.5
SHEL Horse Pasture 130.80 253 PFAKE 00 38 50.0 +17
SHEL LR LR
comp=Z,363nm,20.0s,MS5.1
ELN Prospectdale 131.50 28 *e*PKPdf PKPdf 00 38 33.6 -0.3
BLA Blacksburg 131.66 28 PFAKE 00 38 50.0 +16
BLA LR LR
comp=Z,845nm,21.0s,MS5.4
CBN Corbin 132.17 24 PFAKE 00 38 50.0 +15
CBN LR LR
comp=Z,690nm,21.0s,MS5.3
DWPF Disney 138.21 37 PFAKE 00 39 00.0 +14
DWPF LR LR
comp=Z,647nm,20.0s,MS5.4
TEIG Tepich 138.56 52 PFAKE 00 39 00.0 +13
TEIG LR LR
comp=Z,679nm,21.0s,MS5.4
ASCN Ascension 139.87 264 PFAKE 00 39 00.0 +11
ASCN LR LR
comp=Z,126nm,21.0s,MS4.6
PLCA Paso Flores 141.60 160 PKP PKPdf 00 38 53.8 +1.2
comp=Z,5.1nm,0.9s,baz=268,slow=5.9,SNR=6.3
PAYG Puerto Ayora 144.16 84 PFAKE 00 39 10.0 +13
PAYG LR LR
comp=Z,732nm,20.0s,MS5.5
TRQA Tornquist 146.37 170 PFAKE 00 39 10.0 +9.1
TRQA LR LR
comp=Z,779nm,21.0s,MS5.5
HLGC Holguin 146.82 39 P PKPdf 00 39 04.5 +2.9
MOAC Moa 147.67 37 P PKPdf 00 39 05.0 +1.9
RCC Rio Carpintero 147.71 39 P PKPdf 00 39 07.3 +4.2
FCH Farellones 148.21 155 *eP* PKPdf 00 39 08.5 +4.5
MASC Masc 148.48 37 P PKPdf 00 39 11.1 +6.7
CFAA Coronel Fontan 150.56 156 PKP PKPdf 00 39 09.2 +1.5
comp=Z,2.9nm,0.7s,baz=223,slow=3.2,SNR=5.3
CFAA PKPbc PKPbc 00 39 14.6 +1.5
comp=Z,2.9nm,0.7s,baz=229,slow=2.8,SNR=24
CFAA PKPab PKPab 00 39 22.4 +2.5
comp=Z,3.7nm,0.8s,baz=243,slow=2.8,SNR=12
SJG San Juan 154.44 26 PFAKE 00 39 30.0 +17
SJG LR LR
comp=Z,356nm,21.0s,MS5.2
CPD Cerro la Pandu 154.60 26 *e*PKPbc PKPbc 00 39 24.9 +2.8
MTP Monte Pirata 154.71 25 *e*PKPbc PKPbc 00 39 24.7 +2.4
OTAV Otavalo 155.67 78 *e*PKPdf PKPdf 00 39 18.3 +3.2
OTAV LR LR
comp=Z,692nm,21.0s,MS5.5
ATAH Atahualpa 156.29 96 PKP PKPdf 00 39 20.1 +4.2
comp=Z,12nm,1.1s,baz=237,slow=2.4,SNR=8.3
ATAH PKPab PKPab 00 39 49.1 +5.0
comp=Z,4.6nm,0.6s,baz=291,slow=6.0,SNR=4.4
NNA Nana 156.97 109 *e*PKPdf PKPdf 00 39 18.5 +1.7
NNA LR LR
comp=Z,213nm,21.0s,MS5.0
LVC Limon Verde 157.66 143 PKP PKPdf 00 39 20.6 +3.0
comp=Z,3.4nm,0.8s,baz=308,slow=4.3,SNR=3.3
LVC PKPab PKPab 00 39 50.5 +0.4
comp=Z,1.3nm,0.4s,baz=72,slow=5.7,SNR=3.9
LVC Limon Verde 157.66 143 *e*PKPdf PKPdf 00 39 20.1 +2.4
LVC LR LR
comp=Z,747nm,19.0s,MS5.5
ROSC El Rosal 158.06 64 PKP PKPdf 00 39 21.2 +3.0
comp=Z,3.0nm,0.4s,baz=101,slow=15,SNR=10
ROSC PKPab PKPab 00 39 55.2 +3.5
comp=Z,7.7nm,0.7s,baz=3.3,slow=3.8,SNR=5.4
CPUP Villa Florida 158.57 173 PKP PKPdf 00 39 20.0 +1.2
comp=Z,4.3nm,1.1s,baz=38,slow=1.0,SNR=5.5
CPUP PKPab PKPab 00 39 55.8 +1.8
comp=Z,4.4nm,0.8s,baz=205,slow=3.0,SNR=4.3
CPUP Villa Florida 158.57 173 *e*PKPdf PKPdf 00 39 19.7 +0.9
SDV Santo Domingo 158.96 49 PKP PKPdf 00 39 20.7 +1.5
comp=Z,5.7nm,0.5s,baz=19,slow=1.1,SNR=19
SDV PKPab PKPab 00 39 57.7 +2.1
comp=Z,16nm,0.7s,baz=7.0,slow=1.9,SNR=8.2
SDV Santo Domingo 158.96 49 PKP PKPdf 00 39 20.8 +1.5
SDV PKPab PKPab 00 39 57.7 +2.1
SDV LR LR
comp=Z,299nm,20.0s,MS5.1
RCBR Riachuelo 161.32 266 PFAKE 00 39 30.0 +8.1
RCBR LR LR
comp=Z,688nm,19.0s
PLAZ La Paz 162.61 131 PKP PKPdf 00 39 25.9 +2.7
comp=Z,11nm,1.2s,baz=158,slow=2.6,SNR=13
PLAZ La Paz 162.61 131 *e*PKPdf PKPdf 00 39 26.0 +2.8
LPAZ *e*PKPdf PKPdf 00 39 26.2 +3.0
LPAZ LR LR
comp=Z,658nm,21.0s
SIV San Ignacio 167.33 151 PKP PKPdf 00 39 29.4 +2.2
comp=Z,18nm,1.3s,baz=208,slow=1.1,SNR=21
SIV PKPab PKPab 00 40 34.5 +2.1
comp=Z,4.5nm,0.9s,baz=204,slow=4.6,SNR=5.3
SAML Samuel 170.63 116 *e*PKPdf PKPdf 00 39 31.2 +1.8
SAML epPKPdf pPKPdf 00 39 47.8 +5.5
SAML *e*PKPab PKPab 00 40 49.3 +2.2

*IDC **23** 00:30:27.4*E*0.9,482N*N*12507E,h0*km*,mb4.2/9,mb1 4.3/9, mb1mx4.0/20,mbtmp4.2/9,Error ellipse: s-maj=49.6km*

s-min=15.8km az=71.0
*NEIC **23** 00:30:28.7±0.3, 483N×12517E, h10km, mb4.5/7, Error ellipse: s-maj=15.8km s-min=5.8km az=66.0*
*ISCJB **23** 00:30:30.1±0.5, 484N±009×1253E±02, h33km, mb4.2/14, Error ellipse: s-maj=24.1km s-min=8.7km az=130.4*

ISC 23 00:30:32.5±0.5, 483N±009×1252E±02, h35km, n25, σ0§88/22, mb4.2/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KAKA	**Kakadu**	**18.84**	**158**	*eP*		**Pn**	**00 34 47.7**	**-2.3**
	7.3nm,0.6s							
JOW	**Kunigami**	**22.07**	**7**	P		**Pn**	**00 35 23.6**	**-0.6**
	8.8nm,0.7s,mb4.3,baz=259,slow=16,SNR=3.5							
FITZ	**Fitzroy Crossi**	**22.79**	**179**	*eP*		**P**	**00 35 32.5**	**+0.5**
	21nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**22.79**	**179**	P		**P**	**00 35 32.5**	**+0.6**
	12nm,0.8s,mb4.4,baz=15,slow=8.9,SNR=16							
PMG	**Port Moresby**	**26.02**	**123**	*eP*		**P**	**00 36 03.5**	**+1.2**
WRAB	**Tennant Creek**	**26.19**	**160**	*eP*		**P**	**00 36 03.8**	**+0.1**
	3.9nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**26.20**	**160**	P		**P**	**00 36 04.0**	**+0.2**
	5.2nm,0.8s,mb4.1,baz=331,slow=11,SNR=11							
WB2	**Warramunga Arr**	**26.20**	**160**	*eP*		**P**	**00 36 01.6**	**-2.2**
WB2	**Warramunga Arr**	**26.20**	**160**	*eP*		**P**	**00 36 04.2**	**+0.4**
PSI	**Prapat**	**26.34**	**267**	P		**P**	**00 36 09.9**	**+4.9**
	3.5nm,0.9s,mb3.9,baz=6.6,slow=14,SNR=4.0							
MBWA	**Marble Bar**	**26.39**	**192**	*eP*		**P**	**00 36 04.7**	**-0.8**
	15nm,1.1s,mb4.4							
ASAR	**Alice Springs**	**29.56**	**164**	P		**P**	**00 36 34.2**	**+0.4**
	1.1nm,0.6s,mb3.8,baz=347,slow=8.1,SNR=7.1							
CTAO	**Charters Tower**	**32.25**	**141**	P		**P**	**00 36 58.0**	**+0.5**
STKA	**Stephens Creek**	**39.69**	**158**	*eP*		**P**	**00 38 01.2**	**0.0**
	5.2nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**39.69**	**158**	P		**P**	**00 38 01.4**	**+0.2**
	2.1nm,0.4s,mb4.2,baz=345,slow=6.5,SNR=6.6							
LSA	**Lhasa**	**40.60**	**311**	*eP*		**P**	**00 38 08.5**	**-0.3**
	3.7nm,0.2s,mb4.7							
MK31	**Makanchi Array**	**55.81**	**326**	*eP*		**P**	**00 40 06.4**	**+0.3**
MKAR	**Makanchi Array**	**55.81**	**326**	P		**P**	**00 40 06.3**	**+0.2**
	0.9nm,0.6s,mb4.0,baz=123,slow=8.2,SNR=9.3							
BVAR	**Borovoye Array**	**65.59**	**327**	P		**P**	**00 41 11.8**	**-1.0**
	1.1nm,0.8s,mb3.9,baz=126,slow=7.3,SNR=6.1							
BRVK	**Borovoye**	**65.67**	**327**	*eP*		**P**	**00 41 12.5**	**-0.7**
	1.9nm,0.6s,mb4.3							
ASF	**Jabal al Asfar**	**86.06**	**302**	P		**P**	**00 43 10.7**	**+1.2**
	1.5nm,1.1s,mb4.1,baz=97,slow=3.0,SNR=4.2							
KMBO	**Kilima Mbogo**	**88.09**	**269**	P		**P**	**00 43 20.5**	**+1.1**
	0.2nm,0.5s,mb3.6,baz=194,slow=4.2,SNR=3.5							
IMW	**Indian Meadow**	**110.06**	**40**	*e*PKiKP		PKiKP	00 49 06.2	+5.9
CFAA	**Coronel Fontan**	**150.52**	**156**	PKPbc		PKPbc	00 50 21.7	+1.3
	0.3nm,0.7s,baz=194,slow=4.2,SNR=5.3							
CFAA	**Coronel Fontan**	**150.52**	**156**	PKPbc		PKPbc	00 50 21.7	+1.2

*IDC **23** 00:36:17.5±0.6, 498N×12525E, h0km, mb4.4/15, mb1 4.4/15, mb1mx4.3/22, mbtmp4.4/15, Error ellipse: s-maj=34.4km s-min=12.3km az=80.0*
*NEIC **23** 00:36:19.3±0.3, 506N×12550E, h10km, mb4.9/18, Error ellipse: s-maj=12.1km s-min=6.7km az=68.0*
*MOS **23** 00:36:21.1±1.5, 507N×12554E, h33km, mb5.0/12, Error ellipse: s-maj=15.8km s-min=8.1km az=113.7*
*BJI **23** 00:36:21.2, 5.10N×12550E, h10km, mB5.6, mb4.8, Ms5.1, Msz4.9*
*ISCJB **23** 00:36:24.3±0.8, 498N±004×12548E±006, h62km±8km, mb4.7/45, Error ellipse: s-maj=10.4km s-min=6.4km az=146.1*

ISC 23 00:36:25.7±0.8, 497N±004×12549E±006, h57km±7km, h35km±1.4km: pP-P, n95, σ1§23/97, mb4.7/45, MS4.9/1, 8C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KCP	**Kidapawan**	**2.07**	**349**	⇑*iP*		**Pn**	**00 37 01.8**	**+3.8**
KCP				*i* S		**Sn**	**00 37 29.2**	**+6.6**
DAV	**Davao City (W)**	**2.09**	**2**	*e*Pn		**Pn**	**00 36 59.9**	**+1.5**
MATI	**Mati**	**2.11**	**21**	*eP*		**Pn**	**00 36 57.3**	**-1.3**
CTBH	**Cotabato--PC H**	**2.56**	**331**	⇑*eP*		**Pn**	**00 37 03.4**	**-1.3**
BUKP	**Musuan**	**2.92**	**352**	*eP*		**Pn**	**00 37 09.8**	**+0.1**
PAGZ	**Pagadian**	**3.55**	**324**	*eP*		**Pn**	**00 37 15.9**	**-2.3**
SCPH	**Surigao**	**4.79**	**0**	*eP*		**Pn**	**00 37 38.7**	**+3.5**
SCPH				*e*S		**Sn**	**00 38 38.6**	**+9.3**
KSM	**Kuching**	**15.55**	**258**	*e*Pn		**Pn**	**00 40 01.3**	**+0.1**
KAKA	**Kakadu**	**18.87**	**159**	*eP*		**Pn**	**00 40 39.5**	**-2.8**
	22nm,0.8s							
QIZ	**Qiongzhong**	**20.70**	**314**	P		**P**	**00 40 57.2**	**-3.9**
JOW	**Kunigami**	**21.91**	**7**	P		**P**	**00 41 12.5**	**-1.5**
	30nm,0.9s,mb4.7,baz=188,slow=9,3,SNR=8.8							
FITZ	**Fitzroy Crossi**	**22.92**	**180**	⇑*iP*		**P**	**00 41 25.5**	**+0.8**
	87nm,0.7s,mb5.3							
FITZ	**Fitzroy Crossi**	**22.92**	**180**	P		**P**	**00 41 24.1**	**-0.6**
	11nm,0.7s,mb4.4,baz=13,slow=8.5,SNR=18							
PMG	**Port Moresby**	**25.89**	**123**	P		**P**	**00 41 59.6**	**+7.5**
	24nm,1.0s,mb4.7,baz=292,slow=4.2,SNR=4.0							
PMG	**Port Moresby**	**25.89**	**123**	*eP*		**P**	**00 41 52.8**	**+0.7**
PMG					pmax	pmax		
	comp=Z,37nm,1.1s							
PMG	**Port Moresby**	**25.89**	**123**	*eP*		**P**	**00 41 52.8**	**+0.6**
	comp=Z,37nm,1.1s,mb4.8							
WRAB	**Tennant Creek**	**26.23**	**161**	*eP*		**P**	**00 41 58.9**	**+3.7**
WRAB	**Tennant Creek**	**26.23**	**161**	*eP*		**P**	**00 42 00.5**	**+5.3**
	comp=Z,18nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**26.24**	**161**	P		**P**	**00 41 55.9**	**+0.6**
	comp=Z,11nm,0.9s,mb4.4,baz=340,slow=9.9,SNR=10							
WB2	**Warramunga Arr**	**26.24**	**161**	*eP*		**P**	**00 41 55.9**	**+0.6**
WB2	**Warramunga Arr**	**26.24**	**161**	*eP*		**P**	**00 41 56.0**	**+0.7**
MBWA	**Marble Bar**	**26.57**	**192**	*eP*		**P**	**00 41 58.4**	**+0.2**
	comp=Z,81nm,1.3s,mb5.1							
PSI	**Prapat**	**26.59**	**266**	P		**P**	**00 42 01.8**	**+3.4**
	comp=Z,11nm,0.9s,mb4.4,baz=75,slow=4.0,SNR=8.7							
NJ2	**Nanjing**	**27.65**	**348**	*eP*		**P**	**00 42 06.1**	**-1.9**
NJ2					AMB	AMB		
	comp=Z,120nm,1.0s,mb5.5							
ASAR	**Alice Springs**	**29.62**	**164**	P		**P**	**00 42 24.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=345,slow=7.8,SNR=7.9							
KMI	**Kunming**	**29.64**	**315**	P		**P**	**00 42 31.5**	**+5.9**
KMI					AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5							
CTAO	**Charters Tower**	**32.20**	**141**	P		**P**	**00 42 47.5**	**-0.6**
CD2	**Chengdu**	**32.92**	**324**	*eP*		**P**	**00 42 56.1**	**+1.6**
CD2					AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2							
COCO	**West Island**	**33.20**	**239**	*eP*		**P**	**00 42 55.7**	**-1.2**
MAJO	**Matsushiro**	**33.53**	**19**	P		**P**	**00 42 58.9**	**-0.9**
MAJO					pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9							
MAJO	**Matsushiro**	**33.53**	**19**	P		**P**	**00 42 58.9**	**-0.9**
	comp=Z,14nm,0.9s,mb4.9							
MAT	**Matsushiro**	**33.53**	**19**	P		**P**	**00 42 59.0**	**-0.8**
MJAR	**Matsushiro Arr**	**33.53**	**19**	P		**P**	**00 42 59.3**	**-0.4**
	comp=Z,9.0nm,0.9s,mb4.7,baz=196,slow=8.9,SNR=15							
FORT	**Forrest**	**35.63**	**176**	*eP*		**P**	**00 43 20.0**	**+2.1**
	comp=Z,31nm,0.8s,mb5.3							
LZH	**Lanzhou**	**36.82**	**330**	*eP*		**P**	**00 43 28.5**	**+0.4**
LZH					AP	pP	00 43 39.0	-3.6
LZH					XP	sP	00 43 43.5	-5.8
LZH					AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8							
LZH	**Lanzhou**	**36.82**	**330**	*eP*		**P**	**00 43 28.5**	**+0.4**
	comp=Z,20nm,1.2s,mb4.8							
LZH					pP	pP	00 43 39.0	-3.6
LZH					sP	sP	00 43 43.5	-5.8
KLBR	**Kellerberrin**	**37.09**	**191**	*eP*		**P**	**00 43 26.5**	**-3.9**
	comp=Z,17nm,0.9s,mb4.9							
HNR	**Honiara**	**37.20**	**113**	P		**P**	**00 43 31.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**37.85**	**343**	*eP*		**P**	**00 43 43.8**	**+7.0**
HHC					AMB	AMB		
	comp=Z,23nm,0.3s,mb5.4							
NWAO	**Narrogin (SRO)**	**38.49**	**191**	P		**P**	**00 43 41.8**	**-0.4**
	comp=Z,9.6nm,0.9s,mb4.5,baz=353,slow=10,SNR=3.3							
NWAO	**Narrogin (SRO)**	**38.49**	**191**	*eP*		**P**	**00 43 47.3**	**+5.1**
NWAO					pmax	pmax		
	comp=Z,20nm,1.1s							
NWAO	**Narrogin (SRO)**	**38.49**	**191**	*eP*		**P**	**00 43 47.3**	**+5.1**
	comp=Z,20nm,1.1s,mb4.8							
MDJ	**Mudanjiang**	**39.66**	**5**	P		**P**	**00 43 54.8**	**+2.9**
MDJ					AP	pP	00 44 03.9	-2.7
MDJ					XP	sP	00 44 08.1	-5.2
MDJ					AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7							
MDJ					AMB	AMB		
	comp=Z,616nm,4.5s							
STKA	**Stephens Creek**	**39.72**	**158**	*eP*		**P**	**00 43 53.5**	**+1.0**
	comp=Z,15nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**39.72**	**158**	P		**P**	**00 43 53.3**	**+0.9**
	comp=Z,16nm,0.9s,mb4.7,baz=340,slow=6.7,SNR=11							
LSA	**Lhasa**	**40.70**	**311**	*eP*		**P**	**00 44 00.2**	**-0.3**
LSA				*e*		pP	00 44 10.6	-4.7
GTA	**Gaotai**	**41.41**	**330**	*eP*		**P**	**00 44 06.9**	**+0.5**
GTA					AP	pP	00 44 16.6	-4.5
GTA					XP	sP	00 44 20.8	-7.0
GTA					PCP	PcP	00 46 04.4	+0.9
GTA					AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1							
ASAJ	**Asahikawa**	**41.80**	**19**	P		**P**	**00 44 10.4**	**+0.8**
	comp=Z,6.0nm,0.4s,mb4.6,baz=256,slow=14,SNR=3.6							
GUN	**Gumba**	**44.00**	**306**	*eP*		**P**	**00 44 27.8**	**+0.4**
	comp=Z,33nm,0.9s,mb5.0							
PKI	**Pulchoki**	**44.25**	**305**	*eP*		**P**	**00 44 29.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**44.41**	**17**	⇑*eP*		**P**	**00 44 31.0**	**+0.4**
YSS					pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7							
HIA	**Hailar**	**44.41**	**355**	*eP*		**P**	**00 44 31.1**	**+0.4**
KLR	**Kul'dur**	**44.43**	**6**	*eP*		**P**	**00 44 26.0**	**-4.8**
KKN	**Kakani**	**44.44**	**305**	*eP*		**P**	**00 44 30.8**	**-0.1**
	comp=Z,17nm,0.8s,mb4.8							
DMN	**Daman**	**44.51**	**305**	*eP*		**P**	**00 44 31.9**	**+0.4**
	comp=Z,21nm,1.0s,mb4.9							
GKN	**Gorkha**	**45.05**	**305**	*eP*		**P**	**00 44 36.2**	**+0.5**
	comp=Z,14nm,0.9s,mb4.8							
SONM	**Songino Array**	**45.74**	**342**	P		**P**	**00 44 39.7**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=140,slow=5.8,SNR=4.5							
SONM					PcP	PcP	00 46 17.8	-0.4
	comp=Z,1.7nm,1.0s,baz=142,slow=4.9,SNR=3.2							
KOLN	**Koldanda**	**45.81**	**304**	*eP*		**P**	**00 44 42.3**	**+0.6**
	comp=Z,22nm,0.9s,mb5.1							
CNB	**Canberra Magne**	**45.93**	**153**	*eP*		**P**	**00 44 44.5**	**+1.8**
	comp=Z,21nm,1.4s,mb4.9							
TOO	**Toolangi**	**46.24**	**158**	*eP*		**P**	**00 44 44.0**	**-1.1**
	comp=Z,17nm,1.1s,mb4.9							
TOO	**Toolangi**	**46.24**	**158**	*eP*		**P**	**00 44 44.0**	**-1.1**
TOO					pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9							
HYB	**Hyderabad**	**47.54**	**289**	*i* P		**P**	**00 44 58.0**	**+2.7**
HYB	**Hyderabad**	**47.54**	**289**	*eP*		**P**	**00 44 58.0**	**+2.7**
WMQ	**Urumqi**	**51.01**	**325**	*eP*		**P**	**00 45 23.0**	**+1.2**
WMQ					AP	pP	00 45 33.0	-3.9
WMQ					XP	sP	00 45 37.0	-6.5
WMQ					PCP	PcP	00 46 40.0	+2.9
WMQ				*e*S		**S**	**00 52 36.0**	**+1.3**
WMQ					XS	sS	00 52 53.0	-7.2
WMQ					AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8							
WMQ					AMB	AMB		
	comp=Z,147nm,6.4s							
WMQ					LR	LR		
	comp=N,924nm,19.2s,MS4.9							
WMQ					LR	LR		
	comp=E,770nm,20.8s,MS4.9							
WMQ					LR	LR		
	comp=Z,1μm,16.7s,MS4.9							
BOD	**Bodaibo**	**53.48**	**352**	*eP*		**P**	**00 45 36.8**	**-3.3**
MK31	**Makanchi Array**	**55.84**	**325**	*eP*		**P**	**00 45 57.0**	**-0.2**
MKAR	**Makanchi Array**	**55.84**	**325**	P		**P**	**00 45 56.8**	**-0.4**
	comp=Z,2.5nm,0.5s,mb4.5,baz=123,slow=8.4,SNR=22							
MKAR	**Makanchi Array**	**55.84**	**325**	⇑*eP*		**P**	**00 45 56.7**	**-0.5**
YAK	**Yakutsk**	**57.02**	**2**	⇑*eP*		**P**	**00 46 05.3**	**-0.3**
YAK					pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4							
MA2	**Magadan**	**57.82**	**15**	*eP*		**P**	**00 46 12.4**	**+1.2**
MA2					pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1							
AAK	**Ala-Archa**	**58.62**	**318**	*eP*		**P**	**00 46 17.7**	**+1.0**
SEY	**Seymchan**	**61.12**	**14**	⇑*eP*		**P**	**00 46 35.7**	**+1.8**
BVAR	**Borovoye Array**	**65.62**	**327**	P		**P**	**00 47 02.2**	**-1.4**
	comp=Z,6.6nm,1.1s,mb4.6,baz=116,slow=6.9,SNR=16							
BRVK	**Borovoye**	**65.69**	**327**	*eP*		**P**	**00 47 03.3**	**-0.8**
BRVK					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7							
BRVK	**Borovoye**	**65.69**	**327**	*eP*		**P**	**00 47 03.3**	**-0.8**
	comp=Z,8.9nm,1.1s,mb4.7							
CASY	**Casey**	**71.89**	**186**	*eP*		**P**	**00 47 42.7**	**0.0**
CASY				*e*			00 47 50.8	
MIR	**Mirnyy**	**75.07**	**193**	*c iP*		**P**	**00 48 11.0**	**+10**
MIR					pmax	pmax		
	comp=Z,190nm,1.0s							
KIV	**Kislovodsk**	**81.39**	**314**	*eP*		**P**	**00 48 35.4**	**-0.9**
KIV					pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2							
IMA2	**Indian Mountai**	**81.76**	**24**	*eP*		**P**	**00 48 38.9**	**+0.6**
MCK	**McKinley**	**83.62**	**27**	*eP*		**P**	**00 48 48.3**	**+0.5**
MCK					pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1							
MCK	**McKinley**	**83.62**	**27**	*eP*		**P**	**00 48 48.3**	**+0.4**
	comp=Z,22nm,1.5s,mb5.1							
MAW	**Mawson**	**84.48**	**200**	P		**P**	**00 48 58.9**	**+6.7**
MAW					pmax	pmax		
	comp=Z,6.0nm,1.1s							
MAW	**Mawson**	**84.48**	**200**	P		**P**	**00 48 58.9**	**+6.7**
	comp=Z,6.3nm,1.1s,mb4.7							
VNDA	**Vanda**	**84.80**	**173**	P		**P**	**00 48 51.6**	**-2.2**
	comp=Z,1.2nm,1.1s,mb4.0,baz=304,slow=4.6,SNR=2.2							
VNDA	**Vanda**	**84.80**	**173**	*eP*		**P**	**00 48 53.7**	**-0.1**
	comp=Z,1.0nm,0.9s,mb4.0							
SBA	**Scott Base**	**85.72**	**172**	P		**P**	**00 48 57.8**	**-0.7**
ASF	**Jabal al Asfar**	**86.20**	**302**	P		**P**	**00 49 01.2**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.3,baz=16,slow=7.4,SNR=3.7							
JOF	**Joensuu**	**87.52**	**333**	*ep*		**P**	**00 49 04.7**	**-2.5**
	comp=Z,3.1nm,0.7s,mb4.7							
BRTR	**Keskin Array B**	**88.28**	**310**	P		**P**	**00 49 10.0**	**-0.9**
	comp=Z,0.8nm,0.9s,mb4.0,baz=120,slow=5.6,SNR=6.5							
KAF	**Kangasniemi**	**89.94**	**332**	*ep*		**P**	**00 49 15.6**	**-3.0**
	baz=70,slow=4.2							
FINES	**FINESS Array B**	**90.17**	**332**	P		**P**	**00 49 17.8**	**-1.9**
	comp=Z,2.8nm,0.9s,mb4.6,baz=94,slow=7.6,SNR=5.0							
FINES	**FINESS Array B**	**90.17**	**332**	*i* P		**P**	**00 49 18.1**	**-1.6**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**90.17**	**332**	P		**P**	**00 49 17.8**	**-1.9**
QSPA	**South Pole Qui**	**94.86**	**180**	*eP*		**P**	**00 49 40.8**	**-0.6**
	comp=Z,10nm,1.2s,mb5.1							
TORD	**Torodi Ar. Bea**	**121.36**	**289**	PKP		PKPdf	00 55 12.5	+0.1
	comp=Z,1.6nm,1.0s,baz=36,slow=2.2,SNR=3.8							

*IDC **23** 00:41:35.7±0.5, 499N×12509E, h0km, mb4.5/19, mb1 4.5/19, mb1mx4.5/23, mbtmp4.5/19, MS4.2/4, Ms1 4.2/4, ms1mx3.8/33, Error ellipse: s-maj=26.4km s-min=12.0km az=75.0*
*NEIC **23** 00:41:37.6±0.2, 498N×12527E, h10km, mb4.8/17, Error ellipse: s-maj=11.2km s-min=5.4km az=76.0*
*BJI **23** 00:41:37.1, 480N×12511E, h16km, mB5.2, mb4.6*
*MOS **23** 00:41:39.8±1.8, 506N×12539E, h33km, mb5.0/9, Error ellipse: s-maj=21.7km s-min=12.6km az=126.3*
*ISCJB **23** 00:41:45.3±0.9, 497N±004×12536E±007, h90km±8km, mb4.6/40, Error ellipse: s-maj=12.8km s-min=6.6km az=145.5*

ISC 23 00:41:47.9±0.9, 497N±004×12536E±007, h97km±8km, n85, σ1§19/83, mb4.6/40, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KCP	**Kidapawan**	**2.05**	**352**	⇑*iP*		**Pn**	**00 42 19.9**	**-1.0**
KCP				*i* S		**Sn**	**00 42 48.0**	**+1.9**
DAV	**Davao City (W)**	**2.10**	**6**	*e*Pn		**Pn**	**00 42 17.8**	**-3.9**
DAV				*e*Sn		**Sn**	**00 42 44.9**	**-2.6**
BUKP	**Musuan**	**2.91**	**354**	*eP*		**Pn**	**00 42 27.6**	**-4.7**
SCPH	**Surigao**	**4.79**	**2**	*eP*		**Pn**	**00 42 56.2**	**-1.4**
SCPH				*e*S		**Sn**	**00 43 55.0**	**+3.2**
SNPH	**Sibulan**	**4.83**	**334**	*eP*		**Pn**	**00 43 13.5**	**+15**
SWI	**Sorong**	**8.26**	**134**	P		**Pn**	**00 43 56.4**	**+12**
	64nm,1.2s							
TLE	**Tual**	**12.85**	**145**	P		**Pn**	**00 44 55.2**	**+8.4**
	7μm,0.7s							
KAKA	**Kakadu**	**18.92**	**158**	*eP*		**Pn**	**00 45 58.1**	**-4.5**
	25nm,0.7s							
BJII	**Banjamegara**	**19.83**	**232**	P		**Pn**	**00 46 19.2**	**+6.0**
	78nm,2.5s							
GUMO	**Guam**	**21.06**	**65**	LR		LR	00 53 22.5	
	comp=Z,340nm,20.5s,baz=259,slow=33							
JOW	**Kunigami**	**21.92**	**7**	P		**P**	**00 46 32.6**	**-0.6**
	33nm,1.0s,mb4.6,baz=190,slow=3.6,SNR=6.2							
FITZ	**Fitzroy Crossi**	**22.92**	**179**	*eP*		**P**	**00 46 41.5**	**-2.1**
	52nm,1.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**22.92**	**179**	P		**P**	**00 46 43.4**	**-0.2**
	13nm,0.8s,mb4.3,baz=16,slow=9.9,SNR=17							
PMG	**Port Moresby**	**26.00**	**123**	P		**P**	**00 47 12.5**	**+0.9**
	10nm,0.8s,mb4.3,baz=349,slow=16,SNR=1.8							
WRAB	**Tennant Creek**	**26.27**	**161**	*eP*		**P**	**00 47 15.1**	**+1.0**
WRAB					pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6							
WRAB	**Tennant Creek**	**26.27**	**161**	*eP*		**P**	**00 47 15.1**	**+1.0**
	comp=Z,21nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**26.28**	**161**	P		**P**	**00 47 15.0**	**+0.9**
	comp=Z,13nm,0.9s,mb4.4,baz=342,slow=10,SNR=15							
WB2	**Warramunga Arr**	**26.28**	**161**	*eP*		**P**	**00 47 14.6**	**+0.5**
PSI	**Prapat**	**26.46**	**266**	P		**P**	**00 47 19.5**	**+3.8**
	comp=Z,12nm,1.0s,mb4.2,baz=81,slow=1.5,SNR=7.7							
PSI					LR	LR	00 59 02.7	
	comp=Z,900nm,18.4s,baz=118,slow=40							
PSI	**Prapat**	**26.46**	**266**	P		**P**	**00 47 19.5**	**+3.8**
PSI					LR	LR	00 59 02.7	
MBWA	**Marble Bar**	**26.54**	**192**	*eP*		**P**	**00 47 15.6**	**-0.9**
	comp=Z,12nm,0.7s,mb4.5							
ASAR	**Alice Springs**	**29.65**	**164**	P		**P**	**00 47 43.4**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.8,baz=345,slow=7.1,SNR=13							
JHJ	**Hachijo jima 2**	**31.07**	**24**	LR		LR	01 00 05.6	
	comp=Z,476nm,18.8s,baz=40,slow=36							
CTAO	**Charters Tower**	**32.28**	**141**	P		**P**	**00 48 07.5**	**+0.3**
COCO	**West Island**	**33.09**	**239**	*eP*		**P**	**00 48 14.1**	**-0.3**
MAT	**Matsushiro**	**33.57**	**19**	P		**P**	**00 48 17.3**	**-1.2**
MJAR	**Matsushiro Arr**	**33.57**	**19**	P		**P**	**00 48 17.6**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.5,baz=192,slow=8.1,SNR=11							
LZH	**Lanzhou**	**36.76**	**330**	*eP*		**P**	**00 48 46.5**	**+0.7**
LZH					AMB	AMB		
	comp=Z,43nm,1.5s,mb5.2							
LZH					AMB	AMB		
	comp=Z,170nm,4.2s							
LZH	**Lanzhou**	**36.76**	**330**	*eP*		**P**	**00 48 46.5**	**+0.7**
	comp=Z,43nm,1.5s,mb5.2							
LZH					pP	pP	00 49 02.5	-5.6
LZH					sP	sP	00 49 09.5	-10
KLBR	**Kellerberrin**	**37.07**	**191**	*eP*		**P**	**00 48 48.3**	**-0.2**
	comp=Z,43nm,1.6s,mb5.1							
HNR	**Honiara**	**37.32**	**113**	P		**P**	**00 48 49.9**	**-0.7**
MUN	**Mundaring**	**37.76**	**193**	*eP*		**P**	**00 49 03.5**	**+9.2**
NWAO	**Narrogin (SRO)**	**38.47**	**191**	P		**P**	**00 48 60.0**	**-0.3**
	comp=Z,8.2nm,0.8s,mb4.6,baz=29,slow=12,SNR=3.2							
NWAO	**Narrogin (SRO)**	**38.47**	**191**	P		**P**	**00 48 60.0**	**-0.3**
STKA	**Stephens Creek**	**39.77**	**158**	⇓*iP*		**P**	**00 49 11.6**	**+0.5**
	comp=Z,11nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**39.77**	**158**	P		**P**	**00 49 11.1**	**0.0**
	comp=Z,12nm,1.1s,mb4.7,baz=331,slow=8.4,SNR=9.5							
LSA	**Lhasa**	**40.60**	**311**	*eP*		**P**	**00 49 20.3**	**+2.3**
LSA	**Lhasa**	**40.60**	**311**	*eP*		**P**	**00 49 18.0**	**0.0**
LSA					pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.7							
LSA	**Lhasa**	**40.60**	**311**	*eP*		**P**	**00 49 18.0**	**0.0**
	comp=Z,4.0nm,0.3s,mb4.7							
GTA	**Gaotai**	**41.34**	**330**	*eP*		**P**	**00 49 24.5**	**+0.4**
GTA					AP	pP	00 49 34.3	-12
GTA					XP	sP	00 49 38.1	-20
GTA					PCP	PcP	00 51 23.3	+2.6
GTA					AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3							
GUN	**Gumba**	**43.90**	**306**	*eP*		**P**	**00 49 45.7**	**+1.0**
	comp=Z,46nm,1.0s,mb5.2							
PKI	**Pulchoki

Plg19.0000°, Azm95.0000°;
JMA Felt I J1.
*IDC **23** 00:58:14.5±0.6, 40.14N×142.45E, h47km±5km, mb3.8/13, mb1 4.0/14, mb1mx3.9/22, mbtmp4.1/14, MS3.7/1, Ms1 3.7/1, ms1mx3.1/30 Error ellipse: s-maj=20.8km s-min=10.2km az=91.0*
*ISCJB **23** 00:58:14.2±0.5, 40.17N±003×142.36E±006, h55km±3km, mb4.5/37, Error ellipse: s-maj=8.6km s-min=4.5km az=39.5*
*BJI **23** 00:58:15.3, 40.20N×142.30E, h48km, mB5.1, mb4.6*
*NEIC **23** 00:58:15.3±0.5, 40.19N×142.33E, mb4.7/15, MW4.2(NIED), Error ellipse: s-maj=12.2km s-min=7.8km az=117.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.

ISC 23 00:58:15.1±0.5, 4017N±003×14236E±006, h49km±4km, h53km±2.8km: pP-P, n98, σ1§10/107, mb4.5/37, 10C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.45**	**239**	⇓P	**Pn**	**00 58 24.1**	**-1.6**
JTH				S	**Sn**	**00 58 32.1**	**-1.1**
JANG	**Nango**	**0.68**	**288**	⇓P	**Pn**	**00 58 27.5**	**-1.0**
JANG				*e*S	**Sn**	**00 58 37.5**	**-0.7**
MIYJ	**Miyakonagasawa**	**0.72**	**215**	⇓P	**Pn**	**00 58 27.5**	**-1.6**
MIYJ				S	**Sn**	**00 58 37.6**	**-1.7**
JKZ	**Kuzumaki**	**0.81**	**257**	⇓P	**Pn**	**00 58 29.9**	**-0.4**
JKZ				*e*S	**Sn**	**00 58 41.4**	**+0.1**
JOM	**Ohasama**	**1.08**	**230**	⇓P	**Pn**	**00 58 33.7**	**-0.1**
JOM				*e*S	**Sn**	**00 58 48.7**	**+1.0**
JTM	**Tenmabayashi**	**1.16**	**302**	⇓P	**Pn**	**00 58 35.0**	**0.0**
OFUJ	**Ofunato**	**1.21**	**206**	⇓P	**Pn**	**00 58 34.9**	**-0.8**
OFUJ				*e*S	**Sn**	**00 58 50.5**	**-0.4**
JAH	**Hinai**	**1.32**	**271**	⇓P	**Pn**	**00 58 37.7**	**+0.5**
JAH				*e*S	**Sn**	**00 58 55.5**	**+1.9**
JMK	**Ichinoseki**	**1.50**	**216**	P	**Pn**	**00 58 39.6**	**0.0**
JMK				*e*S	**Sn**	**00 58 59.6**	**+1.6**
ERM	**Erimo**	**1.94**	**18**	*e*Pn	**Pn**	**00 58 45.8**	**+0.2**
ERM				*e*Sn	**Sn**	**00 59 09.5**	**+0.7**
ASAJ	**Asahikawa**	**3.95**	**2**	P	**Pn**	**00 59 14.1**	**+0.9**
	9.4nm,0.3s,baz=212,slow=11,SNR=9.1						
ASAJ				S	**Sn**	**00 59 58.8**	**+0.6**
	3.8nm,0.3s,baz=270,slow=20,SNR=3.3						
ASAJ				LR	LR	01 01 09.2	
	comp=Z,915nm,18.7s,baz=162,slow=44						
ASAJ	**Asahikawa**	**3.95**	**2**	P	**Pn**	**00 59 14.1**	**+0.9**
ASAJ				S	**Sn**	**00 59 58.8**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,915nm,18.7s						
MAJO	**Matsushiro**	**4.87**	**223**	*e*P	**Pn**	**00 59 28.4**	**+2.5**
MAT	**Matsushiro**	**4.87**	**223**	P	**Pn**	**00 59 28.0**	**+2.1**
MJAR	**Matsushiro Arr**	**4.87**	**223**	P	**Pn**	**00 59 28.1**	**+2.2**
	comp=Z,3.5nm,0.3s,baz=33,slow=13,SNR=51						
YSS	**Yuzh-Sakhalins**	**6.79**	**2**	*e*P	**Pn**	**00 59 51.3**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.79**	**2**	Pn	**Pn**	**00 59 55.0**	**+2.9**
MDJ	**Mudanjiang**	**10.44**	**299**	P	**Pn**	**01 00 46.5**	**+4.4**
MDJ				AMB	AMB		
	comp=Z,19nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,312nm,5.8s						
MDJ	**Mudanjiang**	**10.44**	**299**	*e*Pn	**Pn**	**01 00 40.5**	**-1.6**
	comp=Z,11nm,0.7s						
KLR	**Kul'dur**	**11.78**	**324**	*e*P	**Pn**	**01 01 07.8**	**+7.4**
INCN	**Inchon**	**12.55**	**263**	P	**Pn**	**01 01 12.4**	**+1.4**
PET	**Petropavlovsk**	**17.00**	**35**	P	**Pn**	**01 02 13.3**	**+4.0**
HIA	**Hailar**	**18.41**	**307**	*e*P	**Pn**	**01 02 24.6**	**-2.1**
BJT	**Baijiatuau**	**20.02**	**278**	*e*P	**P**	**01 02 43.5**	**-0.3**
MA2	**Magadan**	**20.14**	**12**	*e*P	**P**	**01 02 47.4**	**+2.3**
MA2				pmax	pmax		
	comp=Z,20nm,0.4s						
MA2	**Magadan**	**20.14**	**12**	*e*P	**P**	**01 02 47.4**	**+2.4**
	comp=Z,1.6nm,0.4s						
TATO	**Taipei**	**23.13**	**235**	*e*P	**P**	**01 03 17.0**	**0.0**
	comp=Z,12nm,0.4s,mb4.7						
YAK	**Yakutsk**	**23.21**	**345⇑**	*e*P	**P**	**01 03 16.1**	**-1.8**
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
SEY	**Seymchan**	**23.58**	**11⇑**	*e*P	**P**	**01 03 21.5**	**+0.2**
BOD	**Bodaibo**	**25.36**	**324**	*e*P	**P**	**01 03 36.6**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
SONM	**Songino Array**	**26.79**	**299**	P	**P**	**01 03 50.8**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.7,baz=106,slow=8.5,SNR=8.9						
BILL	**Bilibino**	**30.82**	**17**	*e*P	**P**	**01 04 32.6**	**+6.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
TIXI	**Tiksi**	**32.28**	**352**	*e*P	**P**	**01 04 40.8**	**+1.7**
LSA	**Lhasa**	**42.74**	**272**	P	**P**	**01 06 06.9**	**-0.6**
MK31	**Makanchi Array**	**43.15**	**299**	*e*P	**P**	**01 06 11.0**	**+0.1**
MKAR	**Makanchi Array**	**43.15**	**299**	P	**P**	**01 06 10.9**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=83,slow=9.9,SNR=18						
MKAR				pP	pP	01 06 25.4	+1.4
	comp=Z,2.3nm,0.7s,baz=83,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**43.15**	**299⇑**	*e*P	**P**	**01 06 11.0**	**+0.1**
MCK	**McKinley**	**45.64**	**35**	P	**P**	**01 06 33.0**	**+2.3**
GUN	**Gumba**	**47.65**	**273**	*e*P	**P**	**01 06 47.3**	**+0.9**
	comp=Z,28nm,0.8s,mb5.3						
KKN	**Kakani**	**48.17**	**274**	*e*P	**P**	**01 06 51.5**	**+1.0**
	comp=Z,25nm,0.8s,mb5.3						
PKI	**Pulchoki**	**48.18**	**273**	*e*P	**P**	**01 06 51.2**	**+0.7**
	comp=Z,3.8nm,0.4s,mb4.8						
DMN	**Daman**	**48.39**	**273**	*e*P	**P**	**01 06 53.3**	**+1.1**
	comp=Z,7.2nm,0.6s,mb4.9						
GKN	**Gorkha**	**48.55**	**274**	*e*P	**P**	**01 06 53.4**	**0.0**
	comp=Z,14nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**48.76**	**311**	*e*P	**P**	**01 06 54.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**48.76**	**311**	*e*P	**P**	**01 06 54.5**	**-0.5**
	comp=Z,7.1nm,0.9s,mb4.7						
BRVK	**Borovoye**	**49.11**	**311**	*e*P	**P**	**01 06 58.2**	**+0.5**
BRVK				*e*PP	pP	01 07 14.4	+3.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**49.11**	**311**	*e*P	**P**	**01 06 58.2**	**+0.5**
	comp=Z,2.9nm,0.6s,mb4.5						
BRVK				*e*pP	pP	01 07 14.4	+3.4
KOLN	**Koldanda**	**49.46**	**275**	*e*P	**P**	**01 07 00.9**	**+0.5**
	comp=Z,7.5nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**49.71**	**296**	*e*P	**P**	**01 07 01.1**	**-1.2**
AAK				*e*PP	pP	01 07 17.6	+2.0
ZRNK	**Zerenda**	**49.88**	**311**	*e*P	**P**	**01 07 03.7**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**49.88**	**311**	*e*P	**P**	**01 07 03.7**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.7						
INK	**Inuvik**	**51.27**	**28**	P	**P**	**01 07 13.9**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=100,slow=8.7,SNR=7.3						
INK	**Inuvik**	**51.27**	**28**	*e*P	**P**	**01 07 13.6**	**-0.5**
INK				*e*pP	pP	01 07 32.3	+4.9
KAKA	**Kakadu**	**53.41**	**192**	*e*P	**P**	**01 07 36.0**	**+6.1**
	comp=Z,8.0nm,0.8s,mb4.7						
ARU	**Arti**	**54.53**	**317⇑**	*i*P	**P**	**01 07 37.5**	**-0.6**
ARU				*e*		01 08 38.6	
ARU				*e*S	**S**	**01 15 02.3**	**-11**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**60.03**	**198**	*e*P	**P**	**01 08 16.9**	**+0.1**
	comp=Z,9.8nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**60.03**	**198**	P	**P**	**01 08 16.9**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.5,baz=2.4,slow=6.4,SNR=12						
WRAB	**Tennant Creek**	**60.25**	**189**	*e*P	**P**	**01 08 17.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**60.25**	**189**	*e*P	**P**	**01 08 17.3**	**-1.1**
	comp=Z,3.6nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**60.26**	**189**	*e*P	**P**	**01 08 21.1**	**+2.6**
WRA	**Warramunga Arr**	**60.26**	**189**	P	**P**	**01 08 17.1**	**-1.3**
	comp=Z,1.2nm,0.9s,mb3.9,baz=6.0,slow=7.1,SNR=6.9						
WRA				pP	pP	01 08 31.1	-1.1
	comp=Z,2.8nm,0.7s,baz=5.4,slow=7.0,SNR=9.6						
KEV	**Kevo**	**60.78**	**339**	*e*p	**P**	**01 08 20.1**	**-1.9**
	comp=Z,6.3nm,0.9s,mb4.8						
KEV	**Kevo**	**60.78**	**339**	*e*P	**P**	**01 08 20.1**	**-1.9**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
JOF	**Joensuu**	**63.56**	**332**	*e*p	**P**	**01 08 38.5**	**-2.1**
	comp=Z,1.5nm,0.5s,mb4.3						
JOF	**Joensuu**	**63.56**	**332**	*e*P	**P**	**01 08 38.5**	**-2.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**63.99**	**189**	P	**P**	**01 08 43.1**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=15,slow=6.1,SNR=6.1						
ASAR				pP	pP	01 08 56.1	-1.1
	comp=Z,1.4nm,1.0s,baz=14,slow=5.3,SNR=4.0						
KAF	**Kangasniemi**	**65.87**	**332**	*e*p	**P**	**01 08 53.4**	**-2.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=48,slow=6.1						
OBN	**Obninsk**	**66.04**	**323**	*e*P	**P**	**01 08 55.6**	**-1.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**66.39**	**332**	P	**P**	**01 08 57.7**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.4,baz=59,slow=7.4,SNR=12						
FINES				pP	pP	01 09 11.0	-1.8
	comp=Z,3.4nm,0.7s,baz=63,slow=8.8,SNR=4.2						
FINES	**FINESS Array B**	**66.39**	**332**	*i* P	**P**	**01 08 58.7**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**69.43**	**310⇑**	*e*P	**P**	**01 09 18.7**	**+0.7**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KIV	**Kislovodsk**	**69.43**	**310**	*e*P	**P**	**01 09 19.0**	**+0.9**
	comp=Z,8.2nm,0.7s,mb4.8						
NB2	**NORSAR Subarra**	**71.59**	**337**	P	**P**	**01 09 30.6**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=38,slow=6.2						
NB2	**NORSAR Subarra**	**71.59**	**337**	P	**P**	**01 09 30.6**	**-0.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**71.59**	**337**	P	**P**	**01 09 30.6**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=39,slow=6.0,SNR=9.4						
NOA				pP	pP	01 09 44.0	-1.1
	comp=Z,1.8nm,0.6s,baz=38,slow=6.1,SNR=4.2						
AKASG	**Malin Array Be**	**72.28**	**322**	P	**P**	**01 09 34.7**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=44,slow=6.0,SNR=7.4						
AKASG				pP	pP	01 09 48.4	-0.9
	comp=Z,1.5nm,0.6s,baz=42,slow=6.1,SNR=2.9						
AKASG	**Malin Array Be**	**72.28**	**322**	P	**P**	**01 09 34.7**	**-0.7**
AKASG				pP	pP	01 09 48.4	-0.9
PDAR	**Pinedale Array**	**74.96**	**46**	P	**P**	**01 09 50.4**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=67,slow=0.9,SNR=4.9						
PDAR				pP	pP	01 10 04.9	-0.2
	comp=Z,0.5nm,0.8s,baz=354,slow=1.2,SNR=3.2						
BRTR	**Keskin Array B**	**77.33**	**312**	P	**P**	**01 10 05.0**	**+0.4**
	comp=Z,1.3nm,1.0s,mb3.8,baz=122,slow=4.2,SNR=6.9						
BRTR	**Keskin Array B**	**77.33**	**312⇑**	*e*P	**P**	**01 10 05.0**	**+0.4**
GERES	**GERESS Array B**	**80.44**	**328**	P	**P**	**01 10 21.9**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=38,slow=5.0,SNR=6.6						
GERES				pP	pP	01 10 34.7	-1.1
	comp=Z,0.8nm,0.9s,baz=35,slow=4.9,SNR=2.9						
ANMO	**Albuquerque**	**82.01**	**51⇑**	*e*P	**P**	**01 10 37.7**	**+7.8**
LOR	**Lormes**	**85.43**	**333**	*e*P	**P**	**01 10 47.2**	**-0.2**
	comp=Z,16nm,1.1s,mb4.8						
LOR	**Lormes**	**85.43**	**333**	*e*P	**P**	**01 10 47.2**	**-0.2**
LOR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
LOR	**Lormes**	**85.43**	**333**	*e*P	**P**	**01 10 47.2**	**-0.2**
	comp=Z,8.2nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**85.73**	**333**	*e*P	**P**	**01 10 49.5**	**+0.6**
LPL	**La Plagne**	**85.89**	**330**	*e*P	**P**	**01 10 50.0**	**+0.3**
LPG	**La Plagne**	**85.89**	**330**	*e*P	**P**	**01 10 50.1**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.7						
LPG	**La Plagne**	**85.89**	**330**	*e*P	**P**	**01 10 50.1**	**+0.4**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**85.89**	**330**	*e*P	**P**	**01 10 50.1**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**86.02**	**333⇑**	*i*P	**P**	**01 10 50.3**	**0.0**
	comp=Z,24nm,1.0s,mb5.1						
AVF	**Avril sur Loir**	**86.02**	**333⇑**	*i*P	**P**	**01 10 50.3**	**0.0**
AVF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
AVF	**Avril sur Loir**	**86.02**	**333⇑**	*i*P	**P**	**01 10 50.3**	**0.0**
	comp=Z,12nm,1.0s,mb5.1						
MFF	**Saint Martin d**	**87.36**	**335**	*e*P	**P**	**01 10 57.2**	**+0.3**
TXAR	**Lajitas Array**	**87.63**	**53**	P	**P**	**01 10 57.9**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.7,baz=141,slow=5.8,SNR=3.9						
VNA2	**Neumayer--Watz**	**145.53**	**197**	*e*PKPdf	PKPdf	01 17 47.0	-0.8
VNA2				*e*		01 17 55.6	
VNA2				*e*		01 17 58.3	
VNA2				*e*		01 18 00.7	
VNA2				*e*		01 18 07.1	
VNA2				*e*		01 18 15.8	
VNA2				*e*		01 18 19.7	
VNA2				*e*		01 18 24.5	
VNA2				*e*		01 18 39.0	
VNA2				*e*		01 18 50.1	
VNA3	**Neumayer Olymp**	**145.78**	**196**	*e*PKPdf	PKPdf	01 17 47.0	-1.2
VNA3				*e*		01 17 57.7	
VNA3				*e*		01 18 02.9	
VNA1	**Neumayer--Stat**	**145.93**	**197**	*e*PKPdf	PKPdf	01 17 45.1	-3.4
VNA1				*e*		01 17 56.4	
VNA1				*e*		01 18 06.2	

*IDC **23** 01:03:11.9±1.4, 79N×125.00E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/18, mbtmp4.1/6, Error ellipse: s-maj=94.7km s-min=19.3km az=67.0*
*ISCJB **23** 01:03:14.6±0.6, 69N±008×124.8E±0.2, h33km, mb4.0/8, Error ellipse: s-maj=23.6km s-min=10.0km az=155.5*
*NEIC **23** 01:03:16.7±0.5, 70N×124.90E, h35km, mb4.1/2, Error ellipse: s-maj=19.7km s-min=8.4km az=77.0*

ISC 23 01:03:16.9±0.6, 72N±008×149.2E±02, h35km, n17, σ0§89/17, mb4.0/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.43**	**17**	*e*Pn	**Pn**	**01 03 54.2**	**0.0**
MBWA	**Marble Bar**	**26.21**	**191**	P	**P**	**01 08 46.8**	**-1.6**
WRAB	**Tennant Creek**	**26.21**	**159**	*e*P	**P**	**01 08 49.1**	**+0.7**
	1.8nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**26.22**	**160**	P	**P**	**01 08 50.4**	**+2.0**
	2.4nm,0.5s,mb4.0,baz=341,slow=10,SNR=9.2						
WB2	**Warramunga Arr**	**26.22**	**159**	*e*P	**P**	**01 08 49.0**	**+0.5**
WB2	**Warramunga Arr**	**26.22**	**159**	*e*P	**P**	**01 08 49.0**	**+0.5**
PMG	**Port Moresby**	**26.27**	**122**	*e*P	**P**	**01 08 47.7**	**-1.2**
	3.7nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**29.56**	**163**	P	**P**	**01 09 18.1**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=350,slow=7.8,SNR=4.9						
NWAO	**Narrogin (SRO)**	**38.14**	**190**	P	**P**	**01 10 32.7**	**0.0**
	39nm,1.4s,mb5.0,baz=27,slow=4.5,SNR=3.4						
STKA	**Stephens Creek**	**39.73**	**157**	*e*P	**P**	**01 10 43.4**	**-2.6**
	2.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**39.73**	**157**	P	**P**	**01 10 46.1**	**+0.1**
	2.4nm,0.8s,mb4.0,baz=356,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**39.73**	**157**	*e*P	**P**	**01 10 46.6**	**+0.6**
MKAR	**Makanchi Array**	**55.70**	**326**	P	**P**	**01 12 50.2**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=118,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**55.70**	**326**	P	**P**	**01 12 50.2**	**+0.5**
BVAR	**Borovoye Array**	**65.49**	**327**	P	**P**	**01 13 56.9**	**+0.4**
	1.0nm,0.8s,mb3.9,baz=115,slow=6.7,SNR=4.1						
CHKZ	**Chkalovo**	**65.67**	**328**	P	**P**	**01 13 57.3**	**-0.3**
ZRNK	**Zerenda**	**66.21**	**327**	*e*P	**P**	**01 14 00.9**	**-0.2**

IDC 23 01:08:50.0±6.6, 1638S×17306W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, ML1.5/1, Error ellipse: s-maj=238.3km s-min=24.0km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.75**	**27**	Pn	Pn	01 09 35.6	+0.3
	4.8nm,0.3s,baz=63,slow=11,SNR=5.6						
AFI				Sn	Sn	01 10 09.8	+0.6
	27nm,0.3s,baz=14,slow=24,SNR=10						
STKA	**Stephens Creek**	**43.84**	**241**	P	P	01 16 57.7	-0.1
	1.2nm,0.7s,baz=58,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**49.95**	**258**	P	P	01 17 46.1	+0.5
	0.6nm,0.7s,baz=95,slow=7.4,SNR=6.4						
ASAR	**Alice Springs**	**50.13**	**253**	P	P	01 17 47.5	+0.5
	1.9nm,0.6s,baz=88,slow=8.5,SNR=35						

*ISCJB **23** 01:10:54.6±0.7, 38.35N±003×240.9E±004, h3km±6km, Error ellipse: s-maj=5.4km s-min=4.2km az=105.2*
*NEIC **23** 01:10:54.8, 38.31N×240.8E, h18km, ML2.9(ATH), After ATH.*
*ATH **23** 01:10:54.7, 38.31N×240.8E, h17km, MD3.0/11, ML2.9*
*CSEM **23** 01:10:55.4±0.1, 38.30N×240.7E, h2km, ML2.9, Error ellipse: s-maj=2.1km s-min=1.8km az=82.0*
*THE **23** 01:10:58.1, 38.43N×241.3E, h11km, ML2.7*

ISC 23 01:10:55.3±0.6, 3835N±003×2409E±004, h3km±5km, n33, σ0§88/45, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.47**	**218⇑**	*i*PB	**Pg**	**01 11 03.8**	**-0.6**
ATH				*e*SB	**Sg**	**01 11 09.8**	**-0.7**
ATH	**Athens Observa**	**0.47**	**218⇑**	*i*Pb	**Pg**	**01 11 04.2**	**-0.2**
ATH				Sb	**Sg**	**01 11 09.8**	**-0.7**
AOS	**Alonnisos**	**0.84**	**349**	*e*Pg	**Pg**	**01 11 12.6**	**+1.3**
LKR	**Lokris**	**0.91**	**290**	*e*PN	**Pg**	**01 11 12.1**	**-0.6**
NEO	**Neokhori**	**1.17**	**325**	*e*PN	**Pn**	**01 11 17.4**	**-1.1**
NEO				*e*SN	**Sn**	**01 11 33.9**	**-1.1**
NEO	**Neokhori**	**1.17**	**325**	Pn	**Pn**	**01 11 18.4**	**-0.1**
NEO				Sn	**Sn**	**01 11 33.9**	**-1.1**
XOR	**Xorichti**	**1.23**	**326**	*e*Pg	**Pg**	**01 11 19.2**	**+0.3**
AGG	**Agios Georgios**	**1.53**	**297**	*e*Pg	**Pg**	**01 11 23.3**	**-1.4**
AGG				*e*Sg	**Sg**	**01 11 45.6**	**+1.1**
CHOS	**Chios island**	**1.55**	**88**	*e*Pg	**Pg**	**01 11 24.3**	**-0.7**
CHOS				*e*Sg	**Sg**	**01 11 45.4**	**+0.4**
APE	**Apeiranthos**	**1.71**	**138**	*e*Pb	**Pb**	**01 11 27.5**	**+0.1**
APE				*e*Sb	**Sb**	**01 11 50.1**	**+0.8**
APE	**Apeiranthos**	**1.71**	**138**	*e*PN	**Pn**	**01 11 25.6**	**-0.4**
APE	**Apeiranthos**	**1.71**	**138**	*e*Pb	**Pb**	**01 11 27.5**	**+0.1**
APE				*e*Sb	**Sb**	**01 11 50.1**	**+0.8**
VLI	**Veliai**	**1.86**	**210**	*e*PN	**Pn**	**01 11 27.3**	**-0.7**
VLI	**Veliai**	**1.86**	**210**	Pn	**Pn**	**01 11 27.0**	**-1.0**
EVR	**Evrytania**	**1.87**	**288**	*e*PN	**Pn**	**01 11 28.4**	**+0.2**
OUR	**Ouranopolis**	**1.99**	**358**	*e*Pb	**Pb**	**01 11 29.8**	**-2.2**
THL	**Klokotos Trika**	**2.02**	**308**	*e*PN	**Pn**	**01 11 30.3**	**+0.1**
THL	**Klokotos Trika**	**2.02**	**308**	Pn	**Pn**	**01 11 30.2**	**0.0**
ITM	**Ithomi**	**2.07**	**236**	*e*PN	**Pn**	**01 11 30.6**	**-0.3**
RLS	**Riolos of Patr**	**2.08**	**263**	*e*PN	**Pn**	**01 11 30.9**	**-0.2**
RLS	**Riolos of Patr**	**2.08**	**263**	Pn	**Pn**	**01 11 31.9**	**+0.8**
PLG	**Polygyros**	**2.08**	**346**	*e*PN	**Pn**	**01 11 31.1**	**0.0**
LIT	**Litokhoron**	**2.15**	**325**	*e*PN	**Pn**	**01 11 31.9**	**0.0**
KYTH	**Kithira**	**2.23**	**202**	*e*PN	**Pn**	**01 11 32.9**	**-0.1**
KYTH	**Kithira**	**2.23**	**202**	*e*Pn	**Pn**	**01 11 33.0**	**0.0**
HORT	**Hortiatis**	**2.38**	**342**	*e*Pn	**Pn**	**01 11 35.5**	**+0.5**
HORT				*e*Sn	**Sn**	**01 12 04.1**	**-0.5**
HORT	**Hortiatis**	**2.38**	**342**	*e*Pn	**Pn**	**01 11 35.5**	**+0.4**
HORT				*e*Sn	**Sn**	**01 12 04.1**	**-0.6**
SOH	**Sokhos**	**2.54**	**347**	*e*Pn	**Pn**	**01 11 38.2**	**+0.9**
SOH				*e*Sn	**Sn**	**01 12 08.5**	**-0.1**
LKD	**Levkas**	**2.72**	**279**	*e*Pn	**Pn**	**01 11 42.2**	**+2.4**
SRS	**Serrai**	**2.79**	**352**	*e*Pn	**Pn**	**01 11 41.6**	**+0.8**
SRS				*e*Sn	**Sn**	**01 12 14.2**	**-0.8**
GRG	**Griva**	**2.91**	**334**	*e*Pn	**Pn**	**01 11 42.8**	**+0.3**
ALN	**Alexandroupoli**	**2.96**	**30**	*e*Pn	**Pn**	**01 11 42.8**	**-0.3**
IGT	**Igoumenitsa**	**3.16**	**293**	*e*Pn	**Pn**	**01 11 47.9**	**+2.1**

*IDC **23** 01:40:07.5±0.5, 49.99N×125.41E, h0km, mb4.4/21, mb1 4.4/21, mb1mx4.4/27, mbtmp4.4/21, MS4.4/1, Ms1 4.4/1, ms1mx3.4/14, Error ellipse: s-maj=18.1km s-min=11.3km az=71.0*
*ISCJB **23** 01:40:10.7±0.3, 50.00N±005×125.46E±008, h33km, mb4.7/27, MS4.3/1, Error ellipse: s-maj=12.3km s-min=7.1km az=152.2*

ISC 23 01:40:11.4±6.7, 498N±005×12544E±010, h23km±48km, n70, σ0§96/64, mb4.7/27, MS4.3/1, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.98**	**65**	P	**P**	**01 44 51.9**	**-1.1**
	21nm,0.5s,baz=1.1,slow=14,SNR=2.7						
GUMO	**Guam**	**20.98**	**65**	P	**P**	**01 44 51.9**	**-1.1**
JOW	**Kunigami**	**21.90**	**7**	P	**P**	**01 45 03.1**	**+0.3**
	8.3nm,0.5s,mb4.4,baz=167,slow=14,SNR=7.0						
JOW	**Kunigami**	**21

comp=Z,1.3nm,0.8s,mb4.1,baz=53,slow=8.7,SNR=3.0
MAW Mawson 84.48 200 P **P 01 52 41.5 -0.8**
VNDA Vanda 84.82 173 P **P 01 52 44.0 0.0**
comp=Z,0.8nm,0.8s,mb3.9,baz=2.7,slow=4.6,SNR=2.9
VNDA Vanda 84.82 173 P **P 01 52 44.0 -0.1**
OBN Obninsk 85.30 325 *e*P **P 01 52 52.0 +5.6**
comp=Z,58nm,1.4s,mb5.5
BRTR Keskin Array B 88.23 310 P **P 01 53 00.3 -0.4**
comp=Z,0.8nm,0.8s,mb4.0,baz=111,slow=5.4,SNR=6.1
BRTR Keskin Array B 88.23 310 P **P 01 53 00.3 -0.4**
NOA NORSAR Array B 97.10 333 P **P 01 53 39.5 -2.2**
comp=Z,1.4nm,0.9s,mb4.4,baz=139,slow=25,SNR=3.0
NOA NORSAR Array B 97.10 333 P **P 01 53 39.5 -2.2**
GERES GERESS Array B 100.31 321 P Pdif 01 53 56.6 +0.6
comp=Z,0.4nm,0.8s,baz=304,slow=7.0,SNR=2.2
GERES GERESS Array B 100.31 321 P Pdif 01 53 56.6 +0.6
TORD Torodi Ar. Bea 121.30 289 PKP PKPdf 01 59 02.7 +0.2
comp=Z,0.3nm,0.7s,baz=69,slow=0.6,SNR=4.6
TORD Torodi Ar. Bea 121.30 289 PKP PKPdf 01 59 02.7 +0.2
CFAA Coronel Fontan 150.57 156 PKP PKPdf 01 59 56.5 +0.6
comp=Z,0.1nm,0.8s,baz=223,slow=18,SNR=2.1
CFAA PKPbc PKPbc 02 00 02.2 +0.9
comp=Z,0.5nm,0.8s,baz=270,slow=4.4,SNR=8.6
CFAA Coronel Fontan 150.57 156 PKP PKPdf 01 59 56.5 +0.6
CFAA PKPbc PKPbc 02 00 02.2 +0.9

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*NEIC **23** 01:40:13.3±0.4, 478N×12565E, h10km, mb5.2/35, MS4.7/2, Error ellipse: s-maj=14.1km s-min=8.5km az=69.0*
*GCMT **23** 01:40:13.3±0.2, 495N×12522E, h18km, MW5.3/90, Moment Tensor Solution. s61,c80; s90,c154; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.80±.03; Mθθ-0.11±.01; Mφφ-0.69±.02; Mrθ0.33±.04; Mrφ0.25±.01; Mθφ-0.87±.05; Best double couple: M=1.22000×10^17 NP1:φs340.00000°, δ20.00000°, λ91.00000°. NP2: φs159.00000°, δ70.00000°, λ90.00000°. Principal axes: T 1.2260, Plg65.0000°, Azm69.0000°; N -0.0120, Plg0.0000°, Azm159.0000°; P -1.2130, Plg25.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 01:40:14.4±3.4, 489N×12549E, h33km, mb5.3/33, MS4.6/6 Error ellipse: s-maj=10.6km s-min=5.8km az=112.7*
*BJI **23** 01:40:14.9, 467N×12561E, h16km, mB5.1, mb4.9, Ms5.0, Msz4.8*
*IDC **23** 01:40:15.1±0.4, 500N×12503E, h0km, mb4.7/24, mb1 4.8/24, mb1mx4.8/26, mbtmp4.7/24, MS4.3/1, Ms1 4.3/1, ms1mx3.3/15, Error ellipse: s-maj=16.7km s-min=9.7km az=71.0*
*ISCJB **23** 01:40:18.0±0.2, 489N±003×12525E±004, h32km, mb5.0/84, MS4.8/21, Error ellipse: s-maj=6.3km s-min=4.3km az=165.7*
ISC 23 01:40:19.8±0.3, 485N±003×12535E±004, h34km, h34km±.9km:pP-P, n221, σ1.49/225, mb5.0/85, MS4.8/21, 13C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.16**	**353**	⇑*iP*			**Pn**	**01 40 52.5**	**-0.8**
KCP				*i*S			**Sn**	**01 41 27.6**	**+8.8**
DAV	**Davao City (W)**	**2.21**	**6**	⇓*e*P			**Pn**	**01 40 50.5**	**-3.5**
DAV	**Davao City (W)**	**2.21**	**6**	*e*Pn			**Pn**	**01 40 50.5**	**-3.5**
DAV				*e*Sn			**Sn**	**01 41 16.8**	**-3.3**
MATI	**Mati**	**2.27**	**23**	*e*P			**Pn**	**01 40 54.0**	**-0.8**
BUKP	**Musuan**	**3.02**	**355**	*e*P			**Pn**	**01 41 01.7**	**-3.4**
PAGZ	**Pagadian**	**3.56**	**327**	*e*P			**Pn**	**01 41 06.4**	**-6.1**
BUTP	**Butuan**	**4.10**	**4**	*e*P			**Pn**	**01 41 22.1**	**+2.2**
DCPH	**Dipolog City**	**4.20**	**332**	⇑*e*P			**Pn**	**01 41 23.4**	**+2.0**
SCPH	**Surigao**	**4.90**	**2**	*e*P			**Pn**	**01 41 31.1**	**+0.1**
SCPH				*e*S			**Sn**	**01 42 12.6**	**-14**
SNPH	**Sibulan**	**4.93**	**335**	*e*P			**Pn**	**01 41 28.0**	**-3.3**
MSLP	**Maasin**	**5.27**	**355**	*e*P			**Pn**	**01 41 40.5**	**+4.5**
LLP	**Lapu-Lapu**	**5.60**	**346**	*e*P			**Pn**	**01 41 48.7**	**+8.1**
	389μm,1.0s								
GUIM	**Jordan**	**6.35**	**335**	*e*P			**Pn**	**01 41 52.9**	**+2.0**
RCP	**Roxas**	**7.14**	**339**	⇑*e*P			**Pn**	**01 42 10.7**	**+8.9**
OTRP	**Odiongan**	**8.15**	**336**	*e*P			**Pn**	**01 42 18.7**	**+3.1**
PVCP	**Virac**	**8.77**	**352**	*e*P			**Pn**	**01 42 28.7**	**+4.7**
LUBP	**Lubang**	**10.16**	**331**	*e*P			**Pn**	**01 42 44.1**	**+1.0**
BALP	**Baler**	**11.44**	**341**	*e*P			**Pn**	**01 42 57.0**	**-3.6**
CVP	**Callao Caves**	**13.23**	**345**	⇓*e*P			**Pn**	**01 43 31.0**	**+5.9**
KSM	**Kuching**	**15.39**	**258**	*e*Pn			**Pn**	**01 43 55.8**	**+1.6**
KAKA	**Kakadu**	**18.82**	**158**	*e*P			**Pn**	**01 44 29.0**	**-8.1**
	40nm,0.8s								
QIZ	**Qiongzhong**	**20.68**	**314**	P			**P**	**01 44 56.4**	**-0.2**
QIZ				PP				01 45 21.0	
QIZ				S			**S**	**01 48 46.5**	**+0.8**
QIZ				XS			sS	01 49 00.6	+0.4
QIZ				SS				01 49 21.0	
QIZ				AMB			AMB		
	comp=Z,395nm,10.7s								
QIZ				LR			LR		
	comp=N,2μm,16.1s,MS4.6								
QIZ				LR			LR		
	comp=E,862nm,16.7s,MS4.6								
QIZ				LR			LR		
	comp=Z,2μm,16.2s,MS4.6								
QZH	**Quanzhou**	**21.00**	**343**	⇓*iP*			**P**	**01 45 01.6**	**+1.4**
QZH				S			**S**	**01 48 47.1**	**-5.1**
QZH				AMB			AMB		
	comp=Z,140nm,1.2s,mb5.2								
QZH				AMB			AMB		
	comp=Z,2μm,5.0s								
QZH				LR			LR		
	comp=N,2μm,13.2s,MS4.8								
QZH				LR			LR		
	comp=E,2μm,14.7s,MS4.8								
QZH				LR			LR		
	comp=Z,3μm,15.3s,MS4.8								
GUMO	**Guam**	**21.11**	**64**	P			**P**	**01 45 04.6**	**+3.2**
	comp=Z,48nm,0.6s,mb5.0,baz=217,slow=10,SNR=3.4								
GUMO	**Guam**	**21.11**	**64**	P			**P**	**01 45 04.6**	**+3.2**
GZH	**Guangzhou**	**21.52**	**329**	P			**P**	**01 45 09.3**	**+3.6**
GZH				S			**S**	**01 49 05.5**	**+3.2**
GZH				LR			LR		
	comp=N,2μm,15.2s,MS4.8								
GZH				LR			LR		
	comp=E,2μm,16.5s,MS4.8								
GZH				LR			LR		
	comp=Z,3μm,15.9s,MS4.8								
JOW	**Kunigami**	**22.03**	**7**	P			**P**	**01 45 12.7**	**+1.4**
	comp=Z,75nm,0.8s,mb5.2,baz=200,slow=9.1,SNR=19								
JOW	**Kunigami**	**22.03**	**7**	P			**P**	**01 45 12.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**22.81**	**179**	P			**P**	**01 45 22.4**	**+2.9**
	comp=Z,30nm,1.0s,mb4.7,baz=8.8,slow=12,SNR=24								
FITZ	**Fitzroy Crossi**	**22.81**	**179**	P			**P**	**01 45 22.4**	**+2.9**
SNG	**Songkhla**	**24.70**	**277**	P			**P**	**01 45 41.0**	**+3.4**
PMG	**Port Moresby**	**25.94**	**123**	P			**P**	**01 45 51.6**	**+2.8**
	comp=Z,36nm,0.9s,mb4.9,baz=298,slow=4.6,SNR=5.6								
PMG	**Port Moresby**	**25.94**	**123**	*e*P			**P**	**01 45 50.9**	**+2.1**
WRAB	**Tennant Creek**	**26.17**	**161**	P			**P**	**01 45 46.0**	**-4.9**
	comp=Z,282nm,0.7s,mb5.9,SNR=12								
WRAB	**Tennant Creek**	**26.17**	**161**	*e*P			**P**	**01 45 46.5**	**-4.4**
WRAB				pmax			pmax		
	comp=Z,90nm,0.8s,mb5.3								
WRAB	**Tennant Creek**	**26.17**	**161**	*e*P			**P**	**01 45 46.5**	**-4.4**
	comp=Z,90nm,0.8s,mb5.3								
WRAB	**Tennant Creek**	**26.17**	**161**	*e*S			**S**	**01 50 27.0**	**+6.5**
WRA	**Warramunga Arr**	**26.18**	**161**	P			**P**	**01 45 54.0**	**+3.0**
	comp=Z,34nm,0.8s,mb4.9,baz=342,slow=10,SNR=27								
WRA				S			**S**	**01 50 31.3**	**+11**
	comp=Z,5.7nm,1.2s,baz=321,slow=14,SNR=3.1								
WRA	**Warramunga Arr**	**26.18**	**161**				**P**	**01 45 54.0**	**+3.1**
WRA				S			**S**	**01 50 31.3**	**+11**
WRA	**Warramunga Arr**	**26.18**	**161**	P			**P**	**01 45 54.0**	**+3.0**
WB2	**Warramunga Arr**	**26.18**	**161**	*e*P			**P**	**01 45 54.4**	**+3.4**
WB2	**Warramunga Arr**	**26.18**	**161**	*e*P			**P**	**01 45 44.8**	**-6.2**
WB2				*e*S			**S**	**01 50 26.0**	**+5.4**
WB2	**Warramunga Arr**	**26.18**	**161**	*e*P			**P**	**01 45 54.4**	**+3.4**
SSE	**Sheshan**	**26.40**	**352**	P			**P**	**01 45 54.8**	**+1.9**
SSE				AP			pP	01 46 05.8	+3.0
SSE				XP			sP	01 46 10.0	+3.0
SSE				S			**S**	**01 50 23.8**	**-0.2**
SSE				XS			sS	01 50 42.4	+2.1
SSE				AMB			AMB		
	comp=Z,28nm,0.8s,mb4.8								
SSE				AMB			AMB		
	comp=Z,80nm,4.3s								
SSE				LR			LR		
	comp=N,618nm,19.9s,MS4.2								
SSE				LR			LR		
	comp=E,426nm,20.0s,MS4.2								
SSE				LR			LR		
	comp=Z,649nm,18.9s,MS4.2								
SSE	**Sheshan**	**26.40**	**352**	P			**P**	**01 45 54.8**	**+1.9**
	comp=Z,28nm,0.8s,mb4.8								
SSE				pP			pP	01 46 05.7	+2.9
SSE				sP			sP	01 46 10.0	+3.0
SSE				S			**S**	**01 50 23.7**	**-0.3**
SSE				sS			sS	01 50 42.4	+2.1
SSE				LR			LR		
	comp=Z,650nm,18.9s,MS4.2								
MBWA	**Marble Bar**	**26.43**	**192**	*e*P			**P**	**01 45 55.0**	**+1.7**
	comp=Z,51nm,0.9s,mb5.0								
PSI	**Prapat**	**26.45**	**267**	P			**P**	**01 45 52.1**	**-1.2**
	comp=Z,3.9nm,1.0s,baz=61,slow=3.7,SNR=6.4								
PSI	**Prapat**	**26.45**	**267**	P			**P**	**01 45 52.1**	**-1.2**
NST	**Nakhon Sawan**	**27.00**	**295**	P			**P**	**01 45 58.0**	**-0.4**
	comp=Z,42nm,0.9s,mb5.0								
CBIJ	**Chichi jima**	**27.33**	**34**	P			**P**	**01 46 03.4**	**+2.0**
	comp=Z,100nm,0.6s,mb5.5,baz=307,slow=14,SNR=6.3								
NJ2	**Nanjing**	**27.73**	**348**	*e*P			**P**	**01 46 05.3**	**+0.4**
NJ2				AP			pP	01 46 15.0	+0.2
NJ2				XP			sP	01 46 18.6	-0.4
NJ2				PP				01 46 54.6	
NJ2				S			**S**	**01 50 45.0**	**-0.1**
NJ2				XS			sS	01 51 01.0	-0.4
NJ2				AMB			AMB		
	comp=Z,20nm,0.6s,mb4.9								
NJ2				AMB			AMB		
	comp=Z,740nm,7.0s								
NJ2				LR			LR		
	comp=N,2μm,13.9s,MS5.1								
NJ2				LR			LR		
	comp=E,3μm,12.0s,MS5.1								
NJ2				LR			LR		
	comp=Z,5μm,15.1s,MS5.2								
GYA	**Guiyang**	**27.94**	**322**	⇑*iP*			**P**	**01 46 08.0**	**+1.2**
GYA				AP			pP	01 46 18.0	+1.3
GYA				XP			sP	01 46 22.1	+1.2
GYA				PP			PP	01 46 57.9	-12
GYA				PPP				01 47 10.6	
GYA				PCP			PcP	01 49 24.1	+2.6
GYA				S			**S**	**01 50 47.4**	**-0.9**
GYA				XS			sS	01 51 04.4	-0.3
GYA				SCP			ScP	01 53 00.6	+0.9
GYA				PCS			PcS	01 53 04.8	+1.2
GYA				SCS			ScS	01 56 51.5	-0.5
GYA				AMB			AMB		
	comp=Z,20nm,0.8s,mb4.8								
GYA				AMB			AMB		
	comp=Z,120nm,4.6s								
GYA				LR			LR		
	comp=N,1μm,13.1s,MS4.8								
GYA				LR			LR		
	comp=E,1μm,15.5s,MS4.8								
GYA				LR			LR		
	comp=Z,2μm,15.3s,MS4.8								
CHG	**Chiang Mai**	**29.27**	**300**	⇓P			**P**	**01 46 21.0**	**+2.4**
	comp=Z,20nm,0.9s,mb4.8								
CHTO	**Chiang Mai**	**29.27**	**300**	*e*P			**P**	**01 46 16.8**	**-1.8**
CHTO				pmax			pmax		
	comp=Z,19nm,1.0s,mb4.8								
CHTO	**Chiang Mai**	**29.27**	**300**	*e*P			**P**	**01 46 16.8**	**-1.8**
	comp=Z,19nm,1.0s,mb4.8								
ASAR	**Alice Springs**	**29.55**	**164**	P			**P**	**01 46 22.9**	**+1.8**
	comp=Z,3.2nm,0.5s,mb4.3,baz=344,slow=7.4,SNR=16								
ASAR	**Alice Springs**	**29.55**	**164**	P			**P**	**01 46 22.9**	**+1.8**
ASPA	**Alice Springs**	**29.55**	**164**	*e*P			**P**	**01 46 15.4**	**-5.7**
KMI	**Kunming**	**29.62**	**315**	P			**P**	**01 46 23.5**	**+1.8**
KMI				AP			pP	01 46 33.0	+1.4
KMI				XP			sP	01 46 37.3	+1.5
KMI				PP			PP	01 47 20.5	-8.3
KMI				PPP				01 47 33.6	
KMI				S			**S**	**01 51 14.8**	**+0.1**
KMI				XS			sS	01 51 33.0	+1.9
KMI				AMB			AMB		
	comp=Z,11nm,1.4s,mb4.4								
KMI				AMB			AMB		
	comp=Z,166nm,6.0s								
KMI				LR			LR		
	comp=N,756nm,12.7s,MS4.7								
KMI				LR			LR		
	comp=E,933nm,15.4s,MS4.7								
KMI				LR			LR		
	comp=Z,1μm,13.7s,MS4.7								
KMI	**Kunming**	**29.62**	**315**	P			**P**	**01 46 23.5**	**+1.8**
KMI				*PP			pP	01 46 33.0	+1.4
KMI				*SP			sP	01 46 37.3	+1.5
KMI								01 47 20.5	
KMI				PPP				01 47 33.6	
KMI				S			**S**	**01 51 14.7**	**0.0**
KMI				*SS			sS	01 51 33.0	+1.9
KMI				SS			SS	01 52 44.5	-37
KMI				SSS				01 53 07.8	
KMI				pmax			pmax		
	comp=Z,11nm,1.4s,mb4.4								
KMI				MLR			MLR		
	comp=Z,1μm,13.7s,MS4.7								
KMI	**Kunming**	**29.62**	**315**	P			**P**	**01 46 23.5**	**+1.8**
	comp=Z,11nm,1.4s,mb4.4								
KMI				pP			pP	01 46 33.0	+1.4
KMI				sP			sP	01 46 37.3	+1.5
KMI				PP			PP	01 47 20.5	-8.3
KMI				PPP				01 47 33.6	
KMI				S			**S**	**01 51 14.7**	**0.0**
KMI				sS			sS	01 51 33.0	+1.9
KMI				SS			SS	01 52 44.5	-37
KMI				SSS				01 53 07.8	
KMI				LR			LR		
	comp=Z,1μm,13.7s,MS4.7								
CTA	**Charters Tower**	**32.20**	**141**	P			**P**	**01 46 47.1**	**+2.7**
	comp=Z,8.2nm,1.0s,mb4.5,baz=276,slow=9.2,SNR=2.9								
CTA	**Charters Tower**	**32.20**	**141**	P			**P**	**01 46 47.1**	**+2.7**
CTAO	**Charters Tower**	**32.20**	**141**	*e*P			**P**	**01 46 44.0**	**-0.4**
CTAO				*e*			pP	01 46 52.4	-2.0
CTAO				pmax			pmax		
	comp=Z,48nm,1.5s,mb5.1								
CTAO	**Charters Tower**	**32.20**	**141**	*e*P			**P**	**01 46 44.0**	**-0.4**
	comp=Z,48nm,1.5s,mb5.1								
CTAO				*e*			pP	01 46 52.4	-2.0
XAN	**Xi'an**	**32.81**	**334**	P			**P**	**01 46 49.8**	**0.0**
XAN				AP			pP	01 46 59.0	-0.7
XAN				AMB			AMB		
	comp=Z,11nm,0.9s,mb4.8								
CD2	**Chengdu**	**32.93**	**324**	⇑*iP*			**P**	**01 46 51.4**	**+0.5**
CD2				AP			pP	01 47 01.0	+0.2
CD2				XP			sP	01 47 04.9	-0.1
CD2				PP			PP	01 48 02.0	-3.6
CD2				PCP			PcP	01 49 36.1	+1.5
CD2				S			**S**	**01 52 05.1**	**-1.4**
CD2				XS			sS	01 52 21.1	-1.8
CD2				PCS			PcS	01 53 20.3	+0.3
CD2				SCS			ScS	01 57 14.8	-1.4
CD2				AMB			AMB		
	comp=Z,30nm,1.1s,mb5.1								
CD2				AMB			AMB		
	comp=Z,310nm,9.6s								
CD2				LR			LR		
	comp=N,2μm,15.6s,MS5.0								
CD2				LR			LR		
	comp=E,2μm,16.8s,MS5.0								
CD2				LR			LR		
	comp=Z,2μm,13.2s,MS5.0								
MAJO	**Matsushiro**	**33.68**	**19**	*e*P			**P**	**01 46 56.4**	**-1.0**
MAJO				pmax			pmax		
	comp=Z,31nm,0.8s,mb5.3								
MAJO	**Matsushiro**	**33.68**	**19**	*e*P			**P**	**01 46 56.4**	**-0.9**
	comp=Z,31nm,0.8s,mb5.3								
MAT	**Matsushiro**	**33.68**	**19**	P			**P**	**01 46 56.1**	**-1.3**
MAT				S			**S**	**01 52 17.0**	**-1.0**
MJAR	**Matsushiro Arr**	**33.68**	**19**	P			**P**	**01 46 57.2**	**-0.2**
	comp=Z,30nm,0.9s,mb5.2,baz=196,slow=8.9,SNR=36								
MJAR	**Matsushiro Arr**	**33.68**	**19**	P			**P**	**01 46 57.2**	**-0.2**
FORT	**Forrest**	**35.52**	**176**	*e*P			**P**	**01 47 10.5**	**-2.8**
	comp=Z,39nm,0.7s,mb5.5								
BJT	**Baijiatuau**	**35.98**	**348**	*e*P			**P**	**01 47 15.6**	**-1.6**
BJT				*e*			pP	01 47 25.4	-1.8
BJT				pmax			pmax		
	comp=Z,18nm,1.0s								
BJT	**Baijiatuau**	**35.98**	**348**	*e*P			**P**	**01 47 15.6**	**-1.5**
	comp=Z,18nm,1.0s,mb4.9								
BJT				*e*			pP	01 47 25.4	-1.8
LZH	**Lanzhou**	**36.85**	**330**	⇑P			**P**	**01 47 26.3**	**+1.7**
LZH				AP			pP	01 47 37.1	+2.4
LZH				XP			sP	01 47 40.3	+1.5
LZH				PP			PP	01 48 51.0	+2.1
LZH				S			**S**	**01 53 06.0**	**-0.8**
LZH				XS			sS	01 53 22.0	-1.3
LZH				AMB			AMB		
	comp=Z,90nm,1.0s,mb5.5								
LZH				AMB			AMB		
	comp=Z,430nm,5.4s								
LZH				LR			LR		
	comp=N,3μm,17.6s								
LZH				LR			LR		
	comp=Z,4μm,18.3s,MS5.2								
LZH	**Lanzhou**	**36.85**	**330**	⇑P			**P**	**01 47 26.2**	**+1.6**
LZH				*PP			pP	01 47 37.1	+2.4
LZH				*SP			sP	01 47 40.3	+1.5
LZH								01 48 51.0	
LZH				S			**S**	**01 53 06.0**	**-0.8**
LZH				*SS			sS	01 53 22.0	-1.3
LZH				SS			SS	01 55 35.0	-14
LZH				pmax			pmax		
	comp=Z,90nm,1.0s,mb5.5								
LZH				MLR			MLR		
	comp=Z,4μm,18.3s,MS5.2								
LZH	**Lanzhou**	**36.85**	**330**	⇑P			**P**	**01 47 26.2**	**+1.6**
	comp=Z,90nm,1.0s,mb5.5								
LZH				pP			pP	01 47 37.1	+2.4
LZH				sP			sP	01 47 40.3	+1.5
LZH				PP			PP	01 48 51.0	+2.1
LZH				S			**S**	**01 53 06.0**	**-0.8**
LZH				sS			sS	01 53 22.0	-1.3
LZH				SS			SS	01 55 35.0	-14
LZH				LR			LR		
	comp=Z,4μm,18.3s,MS5.2								
SNY	**Shenyang**	**36.85**	**358**	⇑P			**P**	**01 47 28.6**	**+4.0**
SNY				XP			sP	01 47 41.3	+2.5
SNY				AMB			AMB		
	comp=Z,29nm,1.3s,mb5.0								
SNY				AMB			AMB		
	comp=Z,860nm,4.7s								
SNY				LR			LR		
	comp=E,1μm,13.5s								
SNY				LR			LR		
	comp=Z,1μm,10.4s,MS4.9								
HNR	**Honiara**	**37.28**	**112**	P			**P**	**01 47 25.7**	**-2.7**
MUN	**Mundaring**	**37.65**	**193**	*e*P			**P**	**01 47 31.2**	**-0.2**
HHC	**Hu-ho-hao-te**	**37.92**	**343**	*e*P			**P**	**01 47 34.8**	**+1.1**
HHC				AP			pP	01 47 44.8	+1.1
HHC				XP			sP	01 47 48.5	+0.6
HHC				PP			PP	01 49 04.1	+3.5
HHC				PCP			PcP	01 49 53.5	+4.3
HHC				S			**S**	**01 53 22.6**	**-0.4**
HHC				XS			sS	01 53 37.3	-2.3
HHC				PCS			PcS	01 53 41.0	+2.9
HHC				SS			SS	01 56 01.8	-8.5
HHC				SCS			ScS	01 57 45.1	+1.8
HHC				AMB			AMB		
	comp=Z,22nm,0.3s,mb5.4								
HHC				AMB			AMB		
	comp=Z,227nm,6.7s								
HHC				LR			LR		
	comp=N,716nm,13.7s,MS4.8								
HHC				LR			LR		
	comp=E,892nm,18.2s,MS4.8								
HHC				LR			LR		
	comp=Z,703nm,24.8s								
SHL	**Shillong**	**38.11**	**306**	*e*P			**P**	**01 47 34.7**	**-0.6**
SHL				*e*S			**S**	**01 53 31.0**	**+5.1**
NWAO	**Narrogin (SRO)**	**38.35**	**191**	P			**P**	**01 47 38.7**	**+1.3**
	comp=Z,6.4nm,0.4s,mb4.7,baz=14,slow=9.1,SNR=4.8								
STKA	**Stephens Creek**	**39.67**	**158**	P			**P**	**01 47 51.0**	**+2.6**
	comp=Z,20nm,0.9s,mb4.8,baz=338,slow=10,SNR=16								
STKA	**Stephens Creek**	**39.67**	**158**	P			**P**	**01 47 51.0**	**+2.6**
MDJ	**Mudanjiang**	**39.78**	**5**	P			**P**	**01 47 50.5**	**+1.2**
MDJ				PP			PP	01 49 22.1	+1.1
MDJ				PCP			PcP	01 49 55.8	+0.7
MDJ				S			**S**	**01 53 53.8**	**+2.8**
MDJ				AMB			AMB		
	comp=Z,40nm,0.8s,mb5.2								
MDJ				AMB			AMB		
	comp=Z,60nm,9.6s								
MDJ				LR			LR		
	comp=N,175nm,22.9s,MS4.4								
MDJ				LR			LR		
	comp=E,553nm,22.2s,MS4.4								
MDJ				LR			LR		
	comp=Z,308nm,20.6s,MS4.1								
MDJ	**Mudanjiang**	**39.78**	**5**	*e*P			**P**	**01 47 49.7**	**+0.4**
	comp=Z,36nm,0.9s,mb5.1								
CAL	**Calcutta**	**39.86**	**300**	*ex*			x	01 47 53.0	
CAL				*ex*			x	01 54 01.2	
LSA	**Lhasa**	**40.67**	**311**	P			**P**	**01 48 01.0**	**+4.3**
LSA	**Lhasa**	**40.67**	**311**	*e*P			**P**	**01 47 55.9**	**-0.8**
LSA				*e*			pP	01 48 06.3	-0.5
LSA				pmax			pmax		
	comp=Z,12nm,0.8s,mb4.6								
LSA	**Lhasa**	**40.67**	**311**	*e*P			**P**	**01 47 55.9**	**-0.8**
	comp=Z,12nm,0.8s,mb4.6								
LSA				*e*			pP	01 48 06.3	-0.5
GTA	**Gaotai**	**41.44**	**330**	P			**P**	**01 48 03.9**	**+0.9**
GTA				AP			pP	01 48 14.8	+1.7
GTA				XP			sP	01 48 18.4	+1.2
GTA				PP			PP	01 49 44.1	+5.1
GTA				PCP			PcP	01 50 01.5	+1.1
GTA				S			**S**	**01 54 17.5**	**+1.8**
GTA				XS			sS	01 54 33.1	+0.7
GTA				SS			SS	01 57 18.1	-2.5
GTA				AMB			AMB		
	comp=Z,17nm,1.0s,mb4.6								
GTA				AMB			AMB		
	comp=Z,175nm,7.2s								
GTA				LR			LR		
	comp=N,951nm,16.7s,MS4.8								
GTA				LR			LR		
	comp=E,768nm,16.4s,MS4.8								
GTA				LR			LR		
	comp=Z,1μm,16.7s,MS4.9								
ASAJ	**Asahikawa**	**41.95**	**19**	P			**P**	**01 48 08.2**	**+1.1**
	comp=Z,26nm,0.8s,mb4.9,baz=236,slow=16,SNR=8.1								
BOK	**Bokaro**	**42.41**	**300**	*e*P			**P**	**01 48 11.3**	**+0.4**
BOK				AMb			AMB	01 48 17.1	
	comp=Z,32nm,0.8s,mb5.0								
VIS	**Vishakhapatn

comp=Z,29nm,0.9s,mb5.2
HYB Hyderabad 47.45 289 *i* P **P 01 48 50.0 -1.0**
HYB Hyderabad 47.45 289 *e*P **P 01 48 53.0 +2.0**
TRD Trivandrum 48.18 277 *e*P **P 01 48 57.2 +0.6**
TRD AMb AMB 01 49 05.2
comp=Z,43nm,1.3s,mb5.3
BHPL Bhopal 49.67 296 *e*P **P 01 49 08.5 +0.4**
BHPL AMb AMB 01 49 12.5
comp=Z,35nm,0.8s,mb5.5
MNGI Mangalore 50.48 283 *e*x x 01 49 02.7
MNGI AMb AMB 01 49 18.0
comp=Z,55nm,0.7s,mb5.7
WMQ Urumqi 51.02 325⇓ *i*P **P 01 49 19.5 +1.2**
WMQ AP pP 01 49 29.5 +0.8
WMQ XP sP 01 49 33.5 +0.8
WMQ PCP PcP 01 50 36.0 +2.0
WMQ PP PP 01 51 17.0 +2.0
WMQ PPP 01 52 16.0
WMQ S **S 01 56 32.0 -1.2**
WMQ XS sS 01 56 48.0 -2.2
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,325nm,5.1s
WMQ LR LR
comp=N,2μm,15.2s,MS5.2
WMQ LR LR
comp=E,978nm,14.6s,MS5.2
WMQ LR LR
comp=Z,2μm,16.9s,MS5.1
NDI New Delhi 51.36 303 *e*P **P 01 49 20.5 -0.3**
KAD Karad 51.56 288 *e*P **P 01 49 22.0 -0.3**
KAD *e*P 01 49 24.2
KAD AMb AMB 01 49 26.0
comp=Z,34nm,0.9s,mb5.3
CLNS Chul'man 51.84 360 *e*P **P 01 49 30.4 +6.0**
CLNS pmax pmax
comp=Z,18nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.8s
POO Poona 52.04 290⇑ *i*x x 01 49 24.0
comp=E,35nm,1.0s
AJM Ajmer 52.92 300 *e*P **P 01 49 29.4 -3.1**
AJM AMb AMB 01 49 35.7
comp=Z,25nm,1.0s,mb5.1
BOD Bodaibo 53.57 352 *e* **P 01 49 36.2 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
THN Thein Dam 53.80 307 *e*P **P 01 49 38.6 -0.3**
PET Petropavlovsk 55.24 24 *e*P **P 01 49 51.6 +2.2**
PET *e* 01 51 53.8
PET *e*S **S 01 57 34.1 +3.5**
PET pmax pmax
comp=Z,14nm,0.5s,mb5.2
PET pmax pmax
comp=Z,200nm,14.3s
PET smax
comp=N,300nm,14.1s
PET MLR MLR
comp=Z,300nm,19.0s,MS4.4
MK31 Makanchi Array 55.85 325 *e* **P 01 49 53.7 -0.1**
MK31 *e* pP 01 50 03.2 -1.0
MKAR Makanchi Array 55.85 325 P **P 01 49 53.4 -0.4**
comp=Z,6.2nm,0.5s,mb4.9,baz=119,slow=7.3,SNR=34
MKAR Makanchi Array 55.85 325 P **P 01 49 53.4 -0.4**
KSH Kashi 56.28 315 *e*P **P 01 49 59.8 +3.0**
KSH *e*AP pP 01 50 09.8 +2.5
KSH *e*XP sP 01 50 13.5 +2.2
KSH *e*PCP PcP 01 50 56.3 +2.3
KSH *e*PP PP 01 52 05.3 +3.0
KSH *e*SCP ScP 01 54 50.9 +0.3
KSH *e*PCS PcS 01 54 55.9 +1.4
KSH *e*S **S 01 57 44.3 -0.1**
KSH *e*PS 01 58 09.6
KSH *e*SCS ScS 01 59 42.4 -1.0
KSH LR LR
comp=N,1μm,5.5s
KSH LR LR
comp=E,2μm,5.9s
KSH LR LR
comp=Z,4μm,11.6s,MS5.8
YAK Yakutsk 57.14 2 *e*P **P 01 50 03.0 +0.1**
YAK *e* 01 50 09.4
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
YAK Yakutsk 57.14 2 *e*P **P 01 50 03.0 0.0**
comp=Z,105nm,0.8s,mb5.9
YAK *e* 01 50 09.4
MA2 Magadan 57.97 15 *e*P **P 01 50 05.7 -3.0**
MA2 pmax pmax
comp=Z,31nm,0.9s,mb5.3
MA2 Magadan 57.97 15 *e*P **P 01 50 05.7 -3.0**
comp=Z,32nm,0.9s,mb5.3
TKM2 Tokmak 2 58.00 319 P **P 01 50 07.0 -2.0**
TKM2 pmax pmax
comp=Z,15nm,1.2s,mb4.9
AAK Ala-Archa 58.60 318 *e*P **P 01 50 11.8 -1.4**
AAK pmax pmax
comp=Z,16nm,1.4s,mb4.9
AAK Ala-Archa 58.60 318 *e*P **P 01 50 11.8 -1.5**
comp=Z,16nm,1.4s,mb4.9
FRU Bishkek 58.61 318 *e*P **P 01 50 13.5 +0.3**
FRU *e* 01 50 54.0
FRU MLR MLR
comp=Z,700nm,25.0s,MS4.7
SEY Seymchan 61.26 14⇑ *e*P **P 01 50 29.1 -2.3**
RAO Raoul Island 64.10 126 *e*P **P 01 50 47.5 -2.8**
URZ Urewera 64.30 137 LR LR 02 19 26.2
comp=Z,192nm,19.1s,MS4.3,baz=31,slow=36
BVAR Borovoye Array 65.63 327 P **P 01 50 59.6 -0.8**
comp=Z,12nm,1.0s,mb4.9,baz=126,slow=7.3,SNR=5.9
BVAR Borovoye Array 65.63 327 P **P 01 50 59.6 -0.8**
BRVK Borovoye 65.71 327 *e* **P 01 51 00.0 -0.8**
BRVK Borovoye 65.71 327 *e* **P 01 51 00.0 -0.8**
CHKZ Chkalovo 65.81 328 *e* **P 01 51 00.7 -0.7**
CHKZ Chkalovo 65.81 328 *e* **P 01 51 00.7 -0.7**
ZRNK Zerenda 66.36 327 *e* **P 01 51 04.0 -1.0**
ZRNK *e* pP 01 51 13.8 -1.8
ZRNK Zerenda 66.36 327 *e* **P 01 51 04.0 -1.0**
ZRNK *e* pP 01 51 13.8 -1.8
WSAR Wadi Sarin 66.72 293 P **P 01 51 06.9 -0.4**
comp=Z,8.5nm,1.2s,mb4.6,baz=136,slow=4.9,SNR=3.4
WSAR Wadi Sarin 66.72 293 P **P 01 51 06.9 -0.4**
BILL Bilibino 68.83 15 *e*P **P 01 51 19.8 -0.8**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ABKT Ailbek 69.12 309 P **P 01 51 17.4 -5.0**
comp=Z,135nm,1.0s,mb5.8,SNR=6.0
HATD Hatta, Dubai 69.12 295 P **P 01 51 24.6 +2.2**
SNR=6.4
CASY Casey 71.77 186 *e* pP 01 51 45.2 -4.1
AKTO Aktyubinsk 71.93 322 P **P 01 51 35.8 -3.7**
AKTO pmax pmax
comp=Z,12nm,1.6s,mb4.6
ARU Arti 73.26 328 *e*P **P 01 51 46.8 -0.6**
ARU *e* pP 01 51 57.8 -0.4
ARU *e* 01 54 28.8
ARU *e*S S 02 01 16.0 +2.6
ARU *e*SS SS 02 05 58.8 +3.4
ORR Orenburg 74.21 322 P **P 01 51 52.0 -1.0**
ORR pmax pmax
comp=Z,70nm,2.3s,mb5.2
ORR MLR MLR
comp=Z,310nm,15.0s,MS4.7
MIR Mirnyy 74.94 193 *e*P **P 01 51 57.0 -0.2**
MIR pmax pmax
comp=Z,150nm,1.8s,mb5.6
GNI Garni 79.71 310 *e*P **P 01 52 23.3 -0.7**
GNI pmax pmax
comp=Z,12nm,1.0s
GNI Garni 79.71 310 *e*P **P 01 52 23.3 -0.7**
comp=Z,12nm,1.0s,mb4.8
OPO Ambohidratompo 80.37 250 P **P 01 52 27.2 -0.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=75,slow=1.2,SNR=2.8
ZEI Tsey 80.45 312 *e*P **P 01 52 27.7 -0.2**
ZEI *e*PP pP 01 52 34.6 -4.2
ZEI pmax pmax
comp=Z,16nm,1.2s,mb4.8
SVW2 Sparrevohn 80.49 29 *e*P **P 01 52 29.9 +1.7**
KIV Kislovodsk 81.37 314 *e*P **P 01 52 30.9 -2.0**
KIV *e*S S 02 02 39.9 -1.5
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.8
KIV Kislovodsk 81.37 314 *e*P **P 01 52 30.3 -2.6**
comp=Z,8.8nm,1.0s,mb4.6
ATD Arta Tunnel 81.71 281 P **P 01 52 37.6 +3.0**
comp=Z,18nm,1.0s,mb5.0,baz=284,slow=8.3,SNR=6.5
ATD Arta Tunnel 81.71 281 P **P 01 52 37.6 +3.0**
IMA2 Indian Mountai 81.92 24 *e* **P 01 52 37.4 +1.7**
PMR Palmer 83.62 29 *e*P **P 01 52 45.1 +0.5**
PMR pmax pmax
comp=Z,35nm,1.2s,mb5.4
PMR Palmer 83.62 29 *e*P **P 01 52 45.1 +0.5**
comp=Z,35nm,1.2s,mb5.4
MCK McKinley 83.78 27 *e* **P 01 52 45.9 +0.5**
MCK *e* pP 01 52 54.6 -1.7
MCK McKinley 83.78 27 *e* **P 01 52 45.9 +0.5**
MCK *e* pP 01 52 54.5 -1.7
COLA College 84.28 25 *e*P **P 01 52 42.5 -5.4**
COLA pmax pmax
comp=Z,11nm,0.8s,mb5.0
COLA College 84.28 25 *e*P **P 01 52 42.5 -5.4**
comp=Z,11nm,0.8s,mb5.0
MAW Mawson 84.33 200 *e*P **P 01 52 49.0 +0.8**
comp=Z,5.3nm,1.0s,mb4.6
MAW Mawson 84.33 200 P **P 01 52 49.2 +1.0**
comp=Z,3.6nm,1.0s,mb4.5,baz=69,slow=6.8,SNR=6.9
MAW Mawson 84.33 200 *e*P **P 01 52 49.0 +0.8**
TMCR Tamitsa 84.49 334 P **P 01 52 48.3 -0.7**
VNDA Vanda 84.71 173 P **P 01 52 50.9 +0.8**
comp=Z,2.7nm,1.0s,mb4.3,baz=294,slow=4.3,SNR=9.7
VNDA Vanda 84.71 173 P **P 01 52 50.9 +0.8**
MOS Moscow 84.74 325 *e*P **P 01 52 47.9 -2.4**
ANN Anapa 85.14 314 *e*P **P 01 52 47.1 -5.2**
ANN pmax pmax
comp=Z,30nm,1.2s,mb5.3
OBN Obninsk 85.36 325⇑ *e*P **P 01 52 52.1 -1.3**
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,400nm,22.0s,MS4.8
OBN Obninsk 85.36 325 *e* pP 01 53 01.9 -2.4
SBA Scott Base 85.63 172 *e*P **P 01 52 52.9 -1.8**
APA Apatity 86.29 337⇓ *e*P **P 01 52 57.3 -0.7**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.2
PPT Papeete 86.77 108 *e*LR LR 02 21 02.3
comp=Z,362nm,25.0s
EGAK Eagle 87.14 25 *e*P **P 01 52 59.4 -2.8**
comp=Z,7.6nm,1.1s,mb4.8
EGAK *e* pP 01 53 10.1 -3.0
TBI Tubuai 87.50 114 *e*LR LR 02 21 22.6
comp=Z,448nm,24.0s
KMBO Kilima Mbogo 88.20 269 P **P 01 53 08.4 +1.2**
comp=Z,5.1nm,1.0s,mb4.7,baz=44,slow=4.6,SNR=12
BR131 Keskin Array S 88.25 310 *e*P **P 01 53 06.6 -0.9**
comp=Z,3.3nm,0.9s,mb4.6
BR131 *e* pP 01 53 16.9 -1.5
BRTR Keskin Array B 88.25 310 P **P 01 53 07.0 -0.5**
comp=Z,3.1nm,1.0s,mb4.5,baz=96,slow=3.3,SNR=13
BRTR Keskin Array B 88.25 310 P **P 01 53 07.0 -0.5**
ARCES ARCESS Array B 88.92 340 P **P 01 53 08.7 -1.9**
comp=Z,8.7nm,0.9s,mb5.1,baz=95,slow=6.5,SNR=6.5
AKASG Malin Array Be 90.16 321 P **P 01 53 14.5 -1.9**
comp=Z,0.7nm,0.6s,mb4.1,baz=69,slow=4.5,SNR=8.0
FINES FINESS Array B 90.20 332 P **P 01 53 15.3 -1.3**
comp=Z,2.5nm,0.8s,mb4.6,baz=90,slow=1.9,SNR=5.4
FINES FINESS Array B 90.20 332 P **P 01 53 15.3 -1.3**
QSPA South Pole Qui 94.75 180 *e*P **P 01 53 32.9 -4.8**
comp=Z,16nm,1.2s,mb5.3
NB2 NORSAR Subarra 97.17 333 P **P 01 53 45.8 -2.8**
comp=Z,7.2nm,1.1s,mb5.0,baz=67,slow=4.4
NB2 NORSAR Subarra 97.17 333 P **P 01 53 45.8 -2.8**
NB2 pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
NOA NORSAR Array B 97.17 333 P **P 01 53 46.9 -1.7**
comp=Z,3.6nm,0.9s,mb4.8,baz=67,slow=4.5,SNR=5.4
NOA NORSAR Array B 97.17 333 P **P 01 53 46.9 -1.7**
BRG Berggiesshubel 99.52 323 *e*P **P 01 54 07.3 +8.2**
comp=Z,3.6nm,1.3s,mb4.6
BRG *e* 02 03 33.3
comp=Z,11nm,1.7s
GERES GERESS Array B 100.36 321 P Pdif 01 54 03.1 +0.2
comp=Z,0.4nm,0.7s,baz=101,slow=4.8,SNR=4.0
GERES GERESS Array B 100.36 321 P Pdif 01 54 03.1 +0.2
RKT Rikitea 100.78 113 *e*LR LR 02 27 31.9
comp=Z,226nm,35.2s
PDAR Pinedale Array 111.41 40 PP PP 01 59 25.4 -5.5
comp=Z,0.7nm,1.0s,baz=299,slow=6.6,SNR=3.7
TORD Torodi Ar. Bea 121.26 288 PKP PKPdf 01 59 09.5 +0.5
comp=Z,3.1nm,1.0s,baz=54,slow=1.6,SNR=12
TORD PKKPbc PKKPbc 02 09 15.4 +5.0
comp=Z,1.2nm,0.8s,baz=252,slow=2.9,SNR=5.3
TORD PKKPbc PKKPbc 02 09 15.4 +5.0
TORD Torodi Ar. Bea 121.26 288 PKP PKPdf 01 59 09.5 +0.4
TXAR Lajitas Array 121.98 51 PKP PKPdf 01 59 12.1 +1.6
comp=Z,1.0nm,1.0s,baz=31,slow=2.1,SNR=4.3
WMOK Wichita Mounta 122.78 43 PKIKP PKPdf 01 59 11.8 -0.2
JCT Junction City 124.35 48 *e*PKIKP PKPdf 01 59 16.8 +1.8
PLCA Paso Flores 141.53 160 PKP PKPdf 01 59 49.9 +2.7
comp=Z,2.7nm,1.0s,baz=198,slow=3.2,SNR=2.5
CCCC Cccc 145.59 40 *e*P PKPdf 01 59 51.1 -3.2
CFAA Coronel Fontan 150.49 156 PKPbc PKPbc 02 00 09.3 +1.6
comp=Z,1.8nm,1.1s,baz=226,slow=4.4,SNR=11
CFAA PKPab PKPab 02 00 15.9 +1.5
comp=Z,2.4nm,0.9s,baz=252,slow=2.0,SNR=10
CFAA PKPab PKPab 02 00 15.9 +1.5
CFAA Coronel Fontan 150.49 156 PKPbc PKPbc 02 00 09.3 +1.6
LVC Limon Verde 157.60 143 PKPdf PKPdf 02 00 13.6 +1.2
CPUP Villa Florida 158.49 173 PKP PKPdf 02 00 14.8 +1.3
comp=Z,1.1nm,0.7s,baz=313,slow=3.0,SNR=3.5
CPUP PKPab PKPab 02 00 49.8 +1.4
comp=Z,1.5nm,0.7s,baz=171,slow=5.1,SNR=3.5
CPUP Villa Florida 158.49 173 PKP PKPdf 02 00 14.8 +1.3
CPUP PKPab PKPab 02 00 49.8 +1.4
LPAZ La Paz 162.56 132 PKP PKPdf 02 00 20.7 +2.8
comp=Z,1.0nm,0.8s,baz=8.1,slow=0.8,SNR=2.7
LPAZ PKPab PKPab 02 01 10.9 +4.8
comp=Z,2.9nm,1.0s,baz=235,slow=6.6,SNR=2.6

SSS ***23*** *01:52:09.3, 1326N×8984W, h13km, MD3.1*
CASC 23 01:51:58.9±1.5, 1414N×8921W, h16km±14km, MD3.5, 2C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.41**	**190**⇓	*e*P	x	01 52 25.0	+18
BOQS				*e*S	x	01 52 32.1	+19
LBRS	**Las Brisas**	**0.43**	**158**	*e*P	x	01 52 26.2	+19
LBRS				*e*S	x	01 52 33.1	+20
RBDL	**Robledal**	**0.47**	**267**⇓	*e*P	x	01 52 25.3	+17
RBDL				*e*S	x	01 52 32.6	+18
SBLS	**San Blas**	**0.50**	**234**	*e*P	x	01 52 21.8	+13
SBLS				*e*S	x	01 52 30.7	+15
LCBS	**La Ceiba**	**0.53**	**155**⇑	*e*P	x	01 52 26.2	+17
LCBS				*e*S	x	01 52 33.7	+17
LFRS	**El Faro**	**0.53**	**165**⇓	*e*P	x	01 52 24.8	+15
LFRS				*e*S	x	01 52 33.0	+16
SNVI	**San Vicente**	**0.63**	**146**⇑	*e*P	x	01 52 28.5	+17
SNVI				*e*S	x	01 52 37.7	+18
TP2	**Tecpan 2**	**1.87**	**290**	*e*P	Pn	01 52 31.0	+0.8
TP2				*e*S	Sn	01 52 55.4	+1.8

IDC 23 01:58:09.4±1.8, 523N×12577E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, Error ellipse: s-maj=122.1km s-min=24.0km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.18**	**180**	P	P	02 03 18.4	+0.7
3.1nm,0.9s,baz=9.6,slow=9.7,SNR=4.1							
WRA	**Warramunga Arr**	**26.39**	**162**	P	P	02 03 48.0	+0.6
0.9nm,0.7s,baz=340,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**29.80**	**165**	P	P	02 04 16.8	-1.1
0.3nm,0.8s,baz=343,slow=6.5,SNR=4.2							
STKA	**Stephens Creek**	**39.86**	**159**	P	P	02 05 45.6	+0.9
1.9nm,0.8s,baz=325,slow=12,SNR=3.6							
MKAR	**Makanchi Array**	**55.78**	**325**	P	P	02 07 48.2	+0.1
0.4nm,0.5s,baz=110,slow=8.8,SNR=7.3							

INMG ***23*** *02:01:04.0±0.9, 42.15N×7.14W, h2km±5km, ML1.2, Error ellipse: s-maj=2.6km s-min=1.6km az=84.0*
MDD 23 02:01:04.0±0.4, 4216N×714W, h2km±15km, mbLg1.6/7, 1D, Error ellipse: s-maj=5.3km s-min=2.2km az=65.0,

PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.23**	**359**	Pg	Pg	02 01 08.0	-0.5
7.5nm,0.1s,SNR=7.9							
ERUA				Lg		02 01 11.6	
29nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**0.37**	**126**	⇓Pg	Pg	02 01 10.9	-0.2
3.3nm,0.1s,SNR=18							
ECAL				Lg		02 01 16.0	
4.8nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**0.46**	**140**	*e*Pg	Pg	02 01 12.3	-0.5
PBRG				*e*Sg	Sg	02 01 18.2	-0.6
PBRG							
6.5nm,0.1s							
PCAB	**Cabril**	**0.80**	**236**	*e*S	Sg	02 01 29.8	0.0
PCAB							
13nm,0.1s							
PCAB	**Cabril**	**0.80**	**236**	S	Sg	02 01 29.8	0.0
6.6nm,0.1s							
PVRL	**Vila Real**	**0.98**	**206**	*e*S	Sg	02 01 35.0	-0.6
PVRL							
11nm,0.1s							
PVRL	**Vila Real**	**0.98**	**206**	S	Sg	02 01 35.0	-0.6
5.3nm,0.1s							
EPON	**Pontenova**	**1.17**	**359**	Pg	Pg	02 01 25.5	-0.8
574nm,3.1s,SNR=7.9							
EPON				Lg		02 01 40.5	
1.5nm,0.1s,SNR=7.9							
STS	**Santiago**	**1.27**	**305**	Lg		02 01 42.4	
3.2nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**1.55**	**202**	*e*S	Sn	02 01 51.6	-1.7
EARI	**Arriondas**	**1.82**	**51**	Lg		02 02 00.5	
0.3nm,0.2s,SNR=7.9							

IDC 23 02:12:27.0±1.9, 500N×12499E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=125.9km s-min=24.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.97**	**178**	*e*P	P	02 17 32.1	-0.9
6.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.97**	**178**	P	P	02 17 31.4	-1.5
1.8nm,0.8s,baz=0.4,slow=14,SNR=2.9							
WRA	**Warramunga Arr**	**26.44**	**160**	P	P	02 18 05.8	+0.3
0.6nm,0.4s,baz=342,slow=10.0,SNR=3.7							
WB2	**Warramunga Arr**	**26.44**	**160**	*e*P	P	02 18 10.6	+5.1
ASAR	**Alice Springs**	**29.79**	**163**	P	P	02 18 37.2	+1.8
0.2nm,0.5s,baz=347,slow=7.6,SNR=3.1							
MKAR	**Makanchi Array**	**55.53**	**326**	P	P	02 22 03.9	0.0
0.5nm,0.6s,baz=122,slow=9.0,SNR=5.8							

MDD ***23*** *02:17:26.8±0.4, 3772N×826W, h8km±6km, mbLg2.1/6, Error ellipse: s-maj=4.3km s-min=2.7km az=135.0, PRXIMO*
INMG 23 02:17:26.9±0.9, 3770N×822W, h10km±2km, ML1.7, Error ellipse: s-maj=2.1km s-min=1.5km az=93.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	**Beja**	**0.43**	**40**	*e*Pg	Pg	02 17 35.1	-0.2
PBEJ				*e*Sg	Sg	02 17 40.8	-0.2
PBEJ							
29nm,0.1s							
MORF	**Marmelete**	**0.52**	**222**	*e*Pg	Pg	02 17 36.1	-0.9
MORF				*e*Sg	Sg	02 17 43.7	-0.1
MORF							
23nm,0.1s							
EGRO	**El Granado**	**0.60**	**105**	Pg	Pg	02 17 38.7	+0.1
2.3nm,0.0s,SNR=16							
EGRO				Lg		02 17 48.2	
15nm,0.1s,SNR=12							
MOE	**Montemor**	**0.83**	**353**	*e*P	Pg	02 17 42.4	-0.5
MOE				*e*S	Sg	02 17 53.5	-0.3
EMIN	**Mina Concepcio**	**1.23**	**86**	Pg	Pg	02 17 49.1	-1.3
1.5nm,0.1s,SNR=16							
EMIN				Lg		02 18 07.4	
3.4nm,0.1s,SNR=14							
PESTR	**Estremoz**	**1.27**	**23**	*e*P	Pn	02 17 49.8	-0.9
PESTR				*e*S	Sb	02 18 06.2	-1.1
PESTR							
4.1nm,0.2s							
EBAD	**Badajoz**	**1.42**	**41**	Pn	Pn	02 17 51.4	-1.4
0.4nm,0.0s,SNR=7.9							
EBAD				Pg	Pg	02 17 52.9	-1.3
6.5nm,0.1s,SNR=30							
EBAD				Lg		02 18 11.8	
38nm,0.2s,SNR=15							
PMAFR	**Mafra**	**1.51**	**327**	*e*S	Sn	02 18 12.2	-1.6
EADA	**Adamuz**	**2.92**	**80**	Pn	Pn	02 18 12.3	-1.1
0.1nm,0.2s,SNR=7.9							
EADA				Sn	Sn	02 18 46.0	-2.5
0.1nm,0.5s,SNR=7.9							
EADA				Lg		02 19 01.0	
1.3nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**3.87**	**58**	Pn	Pn	02 18 25.4	-1.1
1.1nm,0.2s,baz=245,slow=13,SNR=6.0							
ESDC				Sn	Sn	02 19 09.6	-2.5
0.5nm,0.2s,baz=244,slow=24,SNR=7.9							
ESDC				Lg		02 19 29.2	
baz=242,slow=30,SNR=7.9							
EQES	**Quesada**	**4.08**	**87**	Pn	Pn	02 18 29.0	-0.3
SNR=7.9							
EQES				Sn	Sn	02 19 15.7	-1.5
0.0nm,0.2s,SNR=7.9							
EQES				Lg		02 19 39.9	
0.4nm,0.2s,SNR=7.9							

IDC ***23*** *02:42:06.3±1.5, 489N×12536E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, ML6.0/1, Error ellipse: s-maj=105.8km s-min=18.7km az=68.0*
NEIC ***23*** *02:42:07.2±0.8, 505N×12563E, h10km, mb4.3/3, Error ellipse: s-maj=69.2km s-min=9.3km az=68.0*
ISCJB ***23*** *02:42:08.2±1.1, 5.1N±0.3×1255E±0.6, h33km, mb4.0/6, Error ellipse: s-maj=99.7km s-min=12.2km az=134.8*
ISC 23 02:42:11.1±1.0, 49N±02×1253E±06, h35km, n11, σ0978/11, mb4.0/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**10.07**	**335**	Pn	**Pn**	**02 44 32.1**	**-1.0**
126nm,0.3s,baz=160,slow=12,SNR=8.0							
FITZ	**Fitzroy Crossi**	**22.89**	**179**	*e*P	**P**	**02 47 12.2**	**+0.6**
11nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**22.89**	**179**	P	**P**	**02 47 10.3**	**-1.3**
6.3nm,0.7s,mb4.2,baz=8.2,slow=9.5,SNR=16							
WRAB	**Tennant Creek**	**26.27**	**160**	*e*P	**P**	**02 47 43.5**	**+0.4**
7.8nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**26.27**	**160**	P	**P**	**02 47 43.0**	**-0.1**
2.6nm,0.4s,mb4.1,baz=342,slow=10,SNR=38							
WB2	**Warramunga Arr**	**26.28**	**160**	*e*P	**P**	**02 47 43.0**	**-0.1**
ASAR	**Alice Springs**	**29.64**	**164**	P	**P**	**02 48 12.9**	**-0.3**
0.8nm,0.5s,mb3.7,baz=345,slow=7.7,SNR=12							
STKA	**Stephens Creek**	**39.77**	**158**	*e*P	**P**	**02 49 39.7**	**-0.8**
1.8nm,1.0s,mb3.8							
STKA	**Stephens Creek**	**39.77**	**158**	P	**P**	**02 49 41.4**	**+1.0**
3.0nm,1.0s,mb4.0,baz=328,slow=6.5,SNR=6.7							
MKAR	**Makanchi Array**	**55.75**	**325**	P	**P**	**02 51 45.7**	**+1.4**
1.0nm,0.6s,mb4.1,baz=123,slow=8.4,SNR=14							
MKAR	**Makanchi Array**	**55.75**	**325**	P	**P**	**02 51 45.7**	**+1.4**

NIED ***23*** *03:10:00, 3280N×13820E, h320km, Mw4.4 Best double couple: M0:3.99000×10^15 NP1:φs169.00000°, δ75.00000°, λ33.00000°. NP2:φs69.00000°, δ58.00000°, λ162.00000°.*
BJI ***23*** *03:10:03.3, 3267N×138.12E, h342km, mB4.9, mb4.7*
JMA ***23*** *03:10:04.7±0.5, 3279N×138.18E, h337km±5km, M4.2 Broadband fault plane solution: P waves. NP1: φs50.00000°, δ47.00000°, λ153.00000°. NP2: φs160.00000°, δ70.00000°, λ46.00000°. Principal axes: T Plg46.0000°, Azm25.0000°; N Plg41.0000°, Azm178.0000°; P Plg14.0000°, Azm280.0000°;*
NEIC ***23*** *03:10:04.7, 3279N×138.18E, h337km, mb4.3/15, After JMA.*
ISCJB ***23*** *03:10:05.7±0.4, 3278N±005×13802E±004, h327km±2km, mb4.0/37, Error ellipse: s-maj=8.1km s-min=5.9km az=152.7*
IDC ***23*** *03:10:06.2±0.6, 3274N×13793E, h321km±5km, mb3.6/17,*

mb1 3.7/19, mb1mx3.7/24, mbtmp4.2/19, Error ellipse: s-maj=13.6km s-min=9.3km az=76.0

ISC 23 03:10:06.6±0.4, 3282N±005×13802E±004, h322km±2km, n83, σ0°90/97, mb4.0/37, 6C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.15**	**349**	⇑P	**Pn**	**03 10 50.3**	**+0.2**
JHJ	**Hachijo jima 2**	**1.52**	**78**	P	**Pn**	**03 10 51.0**	**-1.0**
	106nm,0.3s,baz=62,slow=2.5,SNR=68						
JHJ				S	**S**	**03 11 29.6**	**+1.2**
	207nm,0.3s,baz=248,slow=22,SNR=13						
JHJ2	**Mitsune**	**1.54**	**78**	P	**Pn**	**03 10 51.1**	**-1.1**
TK04	**Tokai 4**	**1.57**	**356**	⇑P	**Pn**	**03 10 52.9**	**+0.5**
JKO	**Kozu shima**	**1.66**	**34**	⇑P	**Pn**	**03 10 52.8**	**-0.2**
JIE	**Ise**	**1.92**	**326**	⇑P	**Pn**	**03 10 55.2**	**+0.5**
JIE				S	**S**	**03 11 33.3**	**+0.1**
JWZ	**Kozaga**	**2.06**	**291**	⇑P	**Pn**	**03 10 55.7**	**-0.1**
JWZ				S	**S**	**03 11 34.2**	**-0.9**
JWY	**Kouya**	**2.46**	**305**	P	**Pn**	**03 11 00.1**	**+1.0**
JWY				S	**S**	**03 11 41.3**	**+0.3**
JOD2	**Odawara 2**	**2.60**	**20**	P	**Pn**	**03 10 59.8**	**-0.4**
JYN	**Shimob**	**2.71**	**9**	P	**Pn**	**03 11 02.0**	**+0.8**
JGM	**Miyama**	**3.07**	**340**	⇓P	**Pn**	**03 11 05.1**	**+0.5**
JGM				S	**S**	**03 11 51.6**	**+0.6**
BSO1	**Boso 1**	**3.07**	**53**	P	**Pn**	**03 11 00.9**	**-3.7**
BSO1				S	**S**	**03 11 45.3**	**-5.8**
JAI	**Aioi**	**3.14**	**289**	⇓P	**Pn**	**03 11 05.7**	**+0.4**
JAI				S	**S**	**03 11 52.5**	**+0.2**
JRY	**Ryogami san**	**3.27**	**13**	P	**Pn**	**03 11 06.6**	**0.0**
JRY				S	**S**	**03 11 54.2**	**-0.4**
JWT	**Wachi**	**3.28**	**319**	⇓P	**Pn**	**03 11 07.2**	**+0.6**
JWT				S	**S**	**03 11 55.4**	**+0.6**
JMN	**Monobe**	**3.58**	**286**	⇓P	**Pn**	**03 11 10.3**	**+0.6**
JMN				S	**S**	**03 12 00.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.72**	**2**	P	**Pn**	**03 11 10.8**	**-0.2**
	9.4nm,0.3s,baz=173,slow=11,SNR=99						
MJAR				S	**S**	**03 12 02.0**	**-0.8**
	1.9nm,0.3s,baz=309,slow=7.6,SNR=2.7						
MJAR	**Matsushiro Arr**	**3.72**	**2**	P	**Pn**	**03 11 10.8**	**-0.2**
MJAR				S	**S**	**03 12 02.0**	**-0.8**
MAJO	**Matsushiro**	**3.72**	**2**	⇑ePn	**Pn**	**03 11 10.9**	**-0.1**
MAJO				eS	**S**	**03 11 54.2**	**-8.6**
MAT	**Matsushiro**	**3.72**	**2**	P	**Pn**	**03 11 10.9**	**-0.2**
MAT				S	**S**	**03 12 01.9**	**-0.9**
MAT	**Matsushiro**	**3.72**	**2**	P	**Pn**	**03 11 11.0**	**-0.1**
MAT				S	**S**	**03 12 02.0**	**-0.8**
JAG	**Ashikaga**	**3.79**	**18**	P	**Pn**	**03 11 10.0**	**-1.8**
JAG				eS	**S**	**03 11 59.9**	**-4.2**
JTO	**Tosashimizu**	**4.39**	**272**	P	**Pn**	**03 11 18.6**	**+0.4**
JHS	**Saijyo**	**4.62**	**299**	⇓P	**Pn**	**03 11 21.6**	**+0.9**
CBIJ	**Chichi jima**	**6.75**	**147**	P	**Pn**	**03 11 41.1**	**-4.3**
	40nm,0.3s,baz=320,slow=20,SNR=53						
CBIJ				S	**S**	**03 12 53.0**	**-12**
	66nm,0.3s,baz=273,slow=21,SNR=12						
JOW	**Kunigami**	**10.35**	**237**	P	**Pn**	**03 12 32.7**	**+3.9**
	3.5nm,0.3s,baz=342,slow=7.4,SNR=8.4						
INCN	**Inchon**	**10.42**	**300**	ePn	**Pn**	**03 12 29.9**	**+0.2**
	39nm,0.4s						
ASAJ	**Asahikawa**	**11.84**	**16**	P	**Pn**	**03 12 45.2**	**-1.6**
	2.4nm,0.3s,baz=205,slow=12,SNR=9.6						
ASAJ				S	**S**	**03 14 51.0**	**-7.5**
	0.5nm,0.3s,baz=356,slow=23,SNR=4.3						
MDJ	**Mudanjiang**	**13.48**	**333**	P	**Pn**	**03 13 05.1**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,18nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,193nm,3.9s						
YSS	**Yuzh-Sakhalins**	**14.58**	**13**	ePn	**P**	**03 13 18.9**	**+1.0**
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**18.97**	**298**	ePn	**P**	**03 14 04.4**	**-0.9**
	comp=Z,22nm,0.5s						
HIA	**Hailar**	**21.36**	**326**	ePn	**P**	**03 14 27.6**	**-1.4**
	comp=Z,18nm,0.9s,mb4.3						
BTO	**Baotou**	**23.68**	**297**	ePn	**P**	**03 14 49.8**	**-0.3**
SONM	**Songino Array**	**28.16**	**312**	P	**P**	**03 15 31.0**	**+1.0**
	comp=Z,6.5nm,0.7s,mb4.0,baz=118,slow=8.6,SNR=35						
BILL	**Bilibino**	**38.85**	**16**	ePn	**P**	**03 17 02.0**	**+0.5**
	comp=Z,6.7nm,0.4s,mb4.2						
MK31	**Makanchi Array**	**44.13**	**305**	ePn	**P**	**03 17 43.6**	**-0.4**
MKAR	**Makanchi Array**	**44.13**	**305**	P	**P**	**03 17 44.1**	**0.0**
	comp=Z,2.6nm,0.4s,mb3.8,baz=88,slow=9.5,SNR=48						
JIRN	**Jiri**	**44.71**	**278**	ePn	**P**	**03 17 49.4**	**+0.9**
	comp=Z,2.7nm,0.2s,mb4.0						
GUN	**Gumba**	**44.88**	**278**	ePn	**P**	**03 17 50.2**	**+0.3**
	comp=Z,28nm,0.7s,mb4.5						
PKI	**Pulchoki**	**45.39**	**278**	ePn	**P**	**03 17 53.8**	**-0.1**
	comp=Z,19nm,0.9s,mb4.2						
KKN	**Kakani**	**45.42**	**278**	ePn	**P**	**03 17 54.4**	**+0.3**
	comp=Z,32nm,0.8s,mb4.5						
DMN	**Daman**	**45.63**	**278**	ePn	**P**	**03 17 55.5**	**-0.2**
	comp=Z,17nm,0.9s,mb4.2						
GKN	**Gorkha**	**45.89**	**279**	ePn	**P**	**03 17 57.7**	**0.0**
	comp=Z,24nm,0.8s,mb4.4						
KOLN	**Koldanda**	**46.83**	**279**	ePn	**P**	**03 18 05.3**	**+0.3**
	comp=Z,26nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**51.24**	**315**	ePn	**P**	**03 18 37.1**	**-1.1**
	comp=Z,4.5nm,1.1s,mb3.6						
IMA2	**Indian Mountai**	**51.72**	**29**	ePn	**P**	**03 18 42.4**	**+0.7**
KDAK	**Kodiak Island**	**52.11**	**39**	P	**P**	**03 18 44.5**	**0.0**
	comp=Z,8.1nm,0.4s,mb4.4,baz=297,slow=4.3,SNR=22						
WB2	**Warramunga Arr**	**52.58**	**184**	ePn	**P**	**03 18 46.6**	**-1.3**
WRA	**Warramunga Arr**	**52.58**	**184**	P	**P**	**03 18 46.1**	**-1.8**
	comp=Z,0.8nm,0.5s,mb3.3,baz=360,slow=7.6,SNR=15						
WRA				PcP	PcP	03 19 53.5	+0.2
	comp=Z,0.8nm,0.5s,baz=358,slow=4.0,SNR=5.5						
ASAR	**Alice Springs**	**56.30**	**185**	P	**P**	**03 19 13.6**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.2,baz=16,slow=12,SNR=16						
EGAK	**Eagle**	**56.98**	**30**	ePn	**P**	**03 19 19.1**	**-0.1**
	comp=Z,2.5nm,0.5s,mb3.8						
INK	**Inuvik**	**59.40**	**26**	ePn	**P**	**03 19 35.7**	**-0.2**
	comp=Z,75nm,0.4s						
STKA	**Stephens Creek**	**64.43**	**177**	P	**P**	**03 20 08.1**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.6,baz=303,slow=1.2,SNR=3.7						
ARCES	**ARCESS Array B**	**66.95**	**339**	P	**P**	**03 20 23.8**	**-1.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=57,slow=9.4,SNR=8.9						
JOF	**Joensuu**	**68.36**	**332**	ep	**P**	**03 20 32.1**	**-1.7**
	comp=Z,0.9nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**68.84**	**28**	P	**P**	**03 20 36.6**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.2,baz=299,slow=6.3,SNR=7.7						
KAF	**Kangasniemi**	**70.76**	**332**	ep	**P**	**03 20 46.7**	**-1.7**
FINES	**FINESS Array B**	**71.23**	**332**	P	**P**	**03 20 50.7**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=62,slow=5.9,SNR=17						
EDM	**Edmonton**	**74.38**	**36**	ePn	**P**	**03 21 09.7**	**+0.1**
AKASG	**Malin Array Be**	**75.89**	**322**	P	**P**	**03 21 17.5**	**-0.7**
	comp=Z,0.8nm,0.4s,mb3.8,baz=51,slow=5.5,SNR=8.8						
WALA	**Waterton Lakes**	**76.44**	**40**	ePn	**P**	**03 21 18.1**	**-3.2**
	comp=Z,4.2nm,0.6s,mb4.3						
BMO	**Blue Mountains**	**76.86**	**45**	ePn	**P**	**03 21 24.4**	**+0.8**
	comp=Z,3.1nm,0.9s,mb4.0						
NB2	**NORSAR Subarra**	**76.96**	**336**	P	**P**	**03 21 23.2**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.7,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**76.96**	**336**	P	**P**	**03 21 23.5**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.8,baz=44,slow=5.6,SNR=4.8						
HLID	**Hailey**	**79.30**	**45**	ePn	**P**	**03 21 37.9**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**79.51**	**311**	P	**P**	**03 21 39.0**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=114,slow=4.6,SNR=11						
NVAR	**Mina Array Bea**	**79.78**	**51**	P	**P**	**03 21 40.8**	**+1.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=309,slow=4.7,SNR=17						
IMW	**Indian Meadow**	**81.14**	**43**	ePn	**P**	**03 21 48.2**	**+1.7**
	comp=Z,2.4nm,0.6s,mb4.1						
RPZ	**Rata Peaks**	**81.93**	**156**	P	**P**	**03 21 50.8**	**+0.1**
	comp=Z,3.1nm,0.3s,mb4.5,baz=114,slow=6.1,SNR=5.8						
HWUT	**Hardware Ranch**	**82.16**	**45**	ePn	**P**	**03 21 51.8**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.2						
DUG	**Dugway**	**82.25**	**47**	ePn	**P**	**03 21 53.4**	**+1.0**
	comp=Z,1.1nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	**82.63**	**43**	P	**P**	**03 21 55.0**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.0,baz=4.0,slow=3.7,SNR=17						
DAU	**Daniels Canyon**	**83.06**	**46**	ePn	**P**	**03 21 58.1**	**+1.6**
MSU	**Marysvale**	**83.65**	**48**	ePn	**P**	**03 22 01.1**	**+1.6**
SRU	**San Rafael**	**84.31**	**47**	ePn	**P**	**03 22 03.6**	**+0.8**
	comp=Z,4.9nm,0.4s,mb4.7						
ULM	**Lac du Bonnet**	**84.55**	**31**	P	**P**	**03 22 04.0**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.1,baz=285,slow=12,SNR=2.0						
GERES	**GERESS Array B**	**84.76**	**327**	P	**P**	**03 22 04.5**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=38,slow=5.2,SNR=5.5						
PV10	**Paradox Valley**	**85.67**	**47**	ePn	**P**	**03 22 11.1**	**+1.5**
TXAR	**Lajitas Array**	**94.93**	**50**	P	**P**	**03 22 53.9**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.3,baz=284,slow=2.9,SNR=16						
TORD	**Torodi Ar. Bea**	**118.12**	**310**	PKP	PKPdf	03 28 14.3	-1.2
	comp=Z,0.3nm,0.4s,baz=359,slow=1.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**118.12**	**310**	PKP	PKPdf	03 28 14.3	-1.2
LPAZ	**La Paz**	**151.20**	**61**	PKPbc	PKPbc	03 29 23.6	+1.7
	comp=Z,0.8nm,0.4s,baz=308,slow=4.5,SNR=11						
SIV	**San Ignacio**	**155.93**	**50**	PKPab	PKPab	03 29 51.1	-0.2
	comp=Z,1.2nm,0.6s,baz=308,slow=5.2,SNR=10						

*ISCJB **23** 03:19:24.4±0.4, 4892S×007×1215E±02, h10km, mb4.8/23, MS4.1/2, Error ellipse: s-maj=15.3km s-min=8.6km az=40.5*

*IDC **23** 03:19:24.3±0.6, 4890S×12150E, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.5/15, mbtmp4.5/12, ML2.9/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/6, Error ellipse: s-maj=28.8km s-min=13.9km az=115.0*

*BJI **23** 03:19:24.2, 4890S×12150E, h10km, mB4.9, mb4.9, Ms4.6, Msz4.2*

*NEIC **23** 03:19:26.2±0.5, 4895S×12146E, h10km, mb4.8/8, Error ellipse: s-maj=16.4km s-min=8.8km az=110.0*

*GCMT **23** 03:19:26.2±0.3, 4896S×12169E, h12km, MW5.1/69, Moment Tensor Solution. s31,c41; s69,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.32±.17; $M_{\theta\theta}$4.91±.12; $M_{\phi\phi}$-0.58±.21; $M_{r\theta}$-0.49±.43; $M_{\theta\phi}$-2.37±.13; $M_{\phi r}$-0.08±.55; Best double couple: $M_0$5.08400×10^{16} NP1:ϕ_s295.00000°, δ43.00000°, λ-83.00000°. NP2: ϕ_s106.00000°, δ48.00000°, λ-97.00000°. Principal axes: T 5.8090, Plg2.0000°, Azm200.0000°; N -1.4470, Plg5.0000°, Azm110.0000°; P -4.3590, Plg85.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 03:19:25.9±0.4, 4893S±007×1214E±02, h10km, (h27km±3.2km:pP-P), n45, σ0°92/38, mb4.8/23, MS4.1/2, 1C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.30**	**347**	**Pn**	**Pn**	**03 23 15.9**	**+1.1**
	2.1nm,0.3s,baz=162,slow=9.4,SNR=13						
TOO	**Toolangi**	**20.78**	**66**	ePn	**P**	**03 24 08.9**	**+1.8**
	12nm,0.9s						
STKA	**Stephens Creek**	**22.82**	**49**	ePn	**P**	**03 24 30.7**	**+1.8**
	6.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**22.82**	**49**	P	**P**	**03 24 29.2**	**+0.4**
	11nm,1.1s,mb4.2,baz=179,slow=12,SNR=9.6						
ASPA	**Alice Springs**	**27.07**	**26**	ePn	**P**	**03 25 08.4**	**-0.1**
ASAR	**Alice Springs**	**27.07**	**26**	P	**P**	**03 25 08.2**	**-0.3**
	9.8nm,1.0s,mb4.3,baz=195,slow=9.0,SNR=47						
ASAR				PcP	PcP	03 28 28.9	-0.6
	1.2nm,0.6s,baz=194,slow=1.8,SNR=13						
AS31	**Alice Springs**	**27.07**	**26**	ePn	**P**	**03 25 08.2**	**-0.4**
WRA	**Warramunga Arr**	**30.73**	**24**	P	**P**	**03 25 39.8**	**-1.3**
	6.1nm,1.0s,mb4.4,baz=199,slow=9.2,SNR=14						
WRA				PcP	PcP	03 28 37.9	-0.8
	2.1nm,0.8s,baz=209,slow=2.1,SNR=8.9						
WB2	**Warramunga Arr**	**30.73**	**24**	ePn	**P**	**03 25 40.1**	**-1.0**
WRAB	**Tennant Creek**	**30.74**	**24**	ePn	**P**	**03 25 40.4**	**-0.8**
	9.0nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.94**	**8**	ePn	**P**	**03 25 43.5**	**+0.5**
	11nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.94**	**8**	P	**P**	**03 25 41.2**	**-1.8**
	6.0nm,0.9s,mb4.4,baz=200,slow=12,SNR=8.7						
VNDA	**Vanda**	**32.55**	**165**	P	**P**	**03 25 56.3**	**-0.8**
	3.6nm,0.9s,mb4.3,baz=303,slow=8.8,SNR=26						
RPZ	**Rata Peaks**	**34.16**	**100**	LR	LR	03 35 46.4	
	comp=Z,175nm,19.8s,MS3.8,baz=19,slow=29						
MAW	**Mawson**	**34.30**	**215**	ePn	**P**	**03 26 11.8**	**-0.6**
	13nm,1.0s,mb4.8						
MAW	**Mawson**	**34.30**	**215**	P	**P**	**03 26 12.6**	**+0.3**
	14nm,1.0s,mb4.8,baz=78,slow=12,SNR=14						
KAKA	**Kakadu**	**37.24**	**18**	ePn	**P**	**03 26 30.6**	**-7.0**
	14nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**41.19**	**180**	ePn	**P**	**03 27 10.9**	**+0.3**
	35nm,1.0s,mb4.9						
SYO	**Syowa Base**	**42.70**	**212**	⇑ePn	**P**	**03 27 23.0**	**+0.1**
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**03 28 45.1**	**-1.0**
	4.6nm,0.9s,mb4.4,baz=144,slow=8.8,SNR=40						
SNAA	**Sanae**	**53.45**	**199**	e	**P**	**03 28 40.0**	**-6.1**
SNAA				e		03 28 45.8	
SNAA				e		03 28 52.8	
SNAA				e		03 29 36.8	
SNAA				e		03 29 41.3	
VNA2	**Neumayer--Watz**	**54.97**	**198**	e	**P**	**03 28 51.5**	**-5.7**
	baz=32,slow=0.6						
VNA2				e		03 28 57.0	
VNA2				e		03 29 04.0	
VNA2				e		03 29 46.5	
VNA2				e		03 29 52.9	
VNA1	**Neumayer--Stat**	**55.37**	**198**	e	**P**	**03 28 55.3**	**-4.7**
VNA1				e		03 29 00.2	
VNA1				e		03 29 07.9	
OPO	**Ambohidratompo**	**65.94**	**269**	P	**P**	**03 30 13.9**	**+1.8**
	1.0nm,0.3s,mb4.3,baz=352,slow=1.7,SNR=6.0						
BOSA	**Boshof**	**72.80**	**246**	P	**P**	**03 30 54.5**	**-0.1**
	1.9nm,0.9s,mb4.0,baz=53,slow=2.5,SNR=3.0						
BOSA	**Boshof**	**72.80**	**246**	P	**P**	**03 30 54.5**	**-0.1**
KMI	**Kunming**	**75.59**	**343**	P	**P**	**03 31 12.9**	**+2.0**
KMI				AP	pP	03 31 20.4	+6.2
KMI				XP	sP	03 31 23.1	+7.7
KMI				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
KMI				AMB	AMB		
	comp=Z,51nm,3.6s						
KMI				LR	LR		
	comp=N,115nm,19.8s,MS4.4						
KMI				LR	LR		
	comp=E,166nm,20.6s,MS4.4						
KMI				LR	LR		
	comp=Z,153nm,23.5s,MS4.2						
PKI	**Pulchoki**	**82.68**	**328**	ePn	**P**	**03 31 48.6**	**-1.1**
	comp=Z,48nm,1.4s,mb5.3						
DMN	**Daman**	**82.82**	**328**	ePn	**P**	**03 31 50.8**	**+0.4**
	comp=Z,23nm,1.0s,mb5.2						
GUN	**Gumba**	**82.83**	**329**	ePn	**P**	**03 31 50.4**	**-0.1**
	comp=Z,136nm,1.4s,mb5.8						
KKN	**Kakani**	**82.93**	**328**	ePn	**P**	**03 31 50.8**	**-0.1**
	comp=Z,43nm,1.1s,mb5.4						
GKN	**Gorkha**	**83.35**	**328**	ePn	**P**	**03 31 52.5**	**-0.6**
	comp=Z,39nm,1.2s,mb5.3						
KOLN	**Koldanda**	**83.50**	**327**	ePn	**P**	**03 31 53.0**	**-0.9**
	comp=Z,106nm,1.6s,mb5.7						
LZH	**Lanzhou**	**86.08**	**346**	ePn	**P**	**03 32 08.0**	**+1.1**
LZH				AP	pP	03 32 15.0	+4.8
LZH				XP	sP	03 32 20.0	+8.6
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.3						
LZH	**Lanzhou**	**86.08**	**346**	ePn	**P**	**03 32 08.0**	**+1.1**
	comp=Z,32nm,1.5s,mb5.3						
LZH				pP	pP	03 32 15.0	+4.8
LZH				sP	sP	03 32 20.0	+8.6
MJAR	**Matsushiro Arr**	**86.39**	**13**	P	**P**	**03 32 08.5**	**0.0**
	comp=Z,4.3nm,1.0s,mb4.6,baz=187,slow=5.0,SNR=7.0						
GTA	**Gaotai**	**90.02**	**343**	ePn	**P**	**03 32 25.1**	**-0.6**
GTA				AP	pP	03 32 35.3	+6.2
GTA				XP	sP	03 32 39.1	+8.8
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.4						
PLCA	**Paso Flores**	**90.09**	**171**	P	**P**	**03 32 26.5**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.7,baz=179,slow=3.9,SNR=6.4						
PLCA	**Paso Flores**	**90.09**	**171**	P	**P**	**03 32 26.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**119.25**	**256**	PKP	PKPdf	03 38 14.4	-0.9
	comp=Z,1.3nm,0.9s,baz=113,slow=1.5,SNR=11						
NVAR	**Mina Array Bea**	**136.58**	**81**	PKP	PKPdf	03 38 49.5	+1.3
	comp=Z,0.9nm,0.7s,baz=230,slow=3.4,SNR=7.6						
NVAR	**Mina Array Bea**	**136.58**	**81**	PKP	PKPdf	03 38 49.5	+1.2
TXAR	**Lajitas Array**	**140.61**	**103**	PKhKP		03 38 48.2	
	comp=Z,0.5nm,0.6s,baz=182,slow=6.8,SNR=5.5						
TXAR				PKP	PKPdf	03 38 56.4	+0.7
	comp=Z,0.8nm,0.8s,baz=199,slow=2.7,SNR=5.3						
TXAR				PKKPab		03 46 57.5	
	comp=Z,0.4nm,0.7s,baz=290,slow=3.7,SNR=3.5						
PDAR	**Pinedale Array**	**144.51**	**80**	PKP	PKPdf	03 39 01.0	-1.5
	comp=Z,2.6nm,0.8s,baz=193,slow=2.7,SNR=21						
YKA	**Yellowknife Ar**	**146.81**	**45**	PKPbc	PKPbc	03 39 07.0	-1.2
	comp=Z,6.5nm,0.7s,baz=262,slow=2.6,SNR=7.5						

*ISCJB **23** 03:20:13.4±1.1, 489S±01×1214E±07, h10km, mb4.1/6, MS3.9/1, Error ellipse: s-maj=69.7km s-min=16.2km az=19.6*

*IDC **23** 03:20:13.7±1.0, 4885S×12107E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/12, mbtmp4.2/5, MS3.8/1, Ms1 3.8/1, ms1mx3.2/6, Error ellipse: s-maj=77.5km s-min=21.8km az=98.0*

*NEIC **23** 03:20:15.1±1.0, 4883S×12129E, h10km, mb4.1/1, Error ellipse: s-maj=64.8km s-min=14.8km az=100.0*

ISC 23 03:20:15.0±1.1, 489S±01×1213E±07, h10km, n10, σ0°90/6, mb4.1/6, MS3.9/1, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.05**	**26**	P	**P**	**03 25 57.8**	**+0.4**
	2.8nm,0.9s,mb3.8,baz=212,slow=7.7,SNR=4.6						
ASAR				PcP	PcP	03 29 18.7	+0.1
	0.6nm,0.5s,baz=196,slow=2.0,SNR=7.4						
WRA	**Warramunga Arr**	**30.70**	**24**	PcP	PcP	03 29 26.6	-1.2
	0.1nm,0.3s,baz=210,slow=2.8,SNR=5.7						
WRAB	**Tennant Creek**	**30.71**	**24**	P	**P**	**03 26 28.9**	**-1.2**
	1.7nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**30.89**	**8**	P	**P**	**03 26 31.8**	**+0.2**
	3.1nm,0.8s,mb4.2,baz=190,slow=13,SNR=2.8						
VNDA	**Vanda**	**32.62**	**165**	P	**P**	**03 26 47.1**	**+0.3**
	3.3nm,1.0s,mb4.2,baz=331,slow=9.5,SNR=2.7						
SNAA	**Sanae**	**53.48**	**199**	P	**P**	**03 29 35.0**	**-0.4**
	2.6nm,1.1s,mb4.1,baz=138,slow=6.8,SNR=3.2						
KMBO	**Kilima Mbogo**	**85.26**	**274**	LR	LR	04 01 46.8	
	comp=Z,44nm,18.7s,MS3.9,baz=273,slow=29						
MJAR	**Matsushiro Arr**	**86.35**	**14**	P	**P**	**03 32 58.1**	**+0.8**
	1.0nm,0.8s,mb4.1,baz=178,slow=8.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**119.20**	**256**	PKP	PKPdf	03 39 03.9	-0.4
	0.6nm,0.9s,baz=125,slow=1.3,SNR=4.3						
PDAR	**Pinedale Array**	**144.56**	**80**	PKP	PKPdf	03 39 50.6	-1.1
	2.3nm,1.1s,baz=157,slow=2.9,SNR=3.9						

MOS 23 03:24:56.2±1.4, 4311N×4271E, h10km, mb3.7/1, 4C-1D, Error ellipse: s-maj=15.1km s-min=11.2km az=168.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	**Shatzhatmas**	**0.63**	**358**	⇑iPG	Pg	03 25 09.9	+1.5
SHAR				eS	Sg	03 25 17.8	+1.1
DIGR	**Digorskoe uzhe**	**0.68**	**108**	⇑iPG	Pg	03 25 08.9	-0.4
DIGR				i S	Sg	03 25 14.9	-3.2
KUBR	**Kubataba**	**0.86**	**37**	ePG	Pg	03 25 11.9	-0.8
KUBR				eS	Sg	03 25 21.3	-2.6
ZEI	**Tsey**	**0.94**	**111**	⇓iPG	Pg	03 25 13.5	-0.8
ZEI				eS	Sg	03 25 23.0	-3.6
KORR	**Kora**	**1.00**	**91**	ePG	Pg	03 25 15.8	+0.4
KORR				eS	Sg	03 25 26.9	-1.5
ARNR	**Ardon**	**1.16**	**86**	ePG	Pg	03 25 18.9	+0.5
ARNR				eS	Sb	03 25 32.4	-0.9
KMSR	**Komsomolskaya**	**1.19**	**77**	ePG	Pg	03 25 20.3	+1.3
KMSR				eS	Sb	03 25 34.7	+0.5
LACR	**Lac**	**1.20**	**103**	⇑iPG	Pg	03 25 18.7	-0.6
LACR				i S	Sb	03 25 32.0	-2.6
BTKR	**Batakoyurt**	**1.37**	**78**	⇑iPG	Pg	03 25 23.3	+0.9
BTKR				eS	Sb	03 25 40.0	+0.6

*NEIC **23** 03:30:52.6, 2634S×7065W, h44km, mb4.1/1, After GUC.*

NEIC Felt [IV] at Chanaral; [III] at Caldera, Copiapo and Diego de Almagro; [II] at Taltal.

*GUC **23** 03:30:52.6±1.1, 2634S×7065W, h44km±7km, ML4.8*

*ISCJB **23** 03:30:53.0±0.4, 2639S±002×705W±01, h55km±5km, mb4.1/5, Error ellipse: s-maj=15.5km s-min=4.1km az=4.8*

*IDC **23** 03:30:54.7±0.7, 2638S×7050W, h52km±5km, mb3.9/5, mb1 4.2/7, mb1mx3.9/16, mbtmp4.3/7, MS3.2/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=27.2km s-min=12.2km az=99.0*

**ISC 23 03:30:53.2±0.6, 2634S±003×710W±

comp=N,0.2nm,0.5s,mb3.3,baz=148,slow=5.3,SNR=4.1
NVAR pP pP 03 43 05.8 +4.1
comp=N,0.7nm,0.8s,baz=161,slow=4.6,SNR=4.1
MAW Mawson 80.24 164 P P 03 42 58.5 -0.1
comp=N,1.8nm,0.6s,mb4.2,baz=220,slow=8.4,SNR=9.8
TORD Torodi Ar. Bea 80.73 70 P P 03 43 01.0 -0.1
comp=N,7.5nm,0.8s,mb4.7,baz=266,slow=5.5,SNR=124
TORD pP pP 03 43 15.7 +0.3
comp=N,12nm,0.6s,baz=264,slow=5.3,SNR=21
BOSA Boshof 82.82 118 P P 03 43 12.2 0.0
comp=N,3.2nm,1.1s,mb4.3,baz=224,slow=1.8,SNR=4.2
BOSA pP pP 03 43 27.5 +1.0
comp=N,7.1nm,1.2s,baz=329,slow=1.6,SNR=3.7
WRA Warramunga Arr 127.86 211 PKP PKPdf 03 49 54.8 +1.6
comp=N,0.9nm,0.8s,baz=159,slow=1.6,SNR=7.1
WRA pPKP pPKPdf 03 50 10.1 +1.9
comp=N,0.6nm,0.8s,baz=159,slow=1.7,SNR=3.0
MKAR Makanchi Array 150.59 39 PKPbc PKPbc 03 50 40.1 +0.6
comp=N,1.7nm,0.5s,baz=306,slow=2.3,SNR=27
MKAR PKPab PKPab 03 50 46.5 +0.1
comp=N,1.5nm,0.6s,baz=326,slow=1.4,SNR=12
MKAR pPKPbc pPKPbc 03 50 55.4 +1.0
comp=N,13nm,0.7s,baz=308,slow=2.3,SNR=37

IDC 23 03:48:30.8±3.7, 555S×15085E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.4/11, mbtmp3.3/2, Error ellipse: s-maj=154.3km s-min=47.2km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**227**	P	P	03 53 21.5	+0.2
	0.4nm,0.5s,baz=53,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**24.30**	**220**	P	P	03 53 50.5	+0.5
	0.9nm,0.7s,baz=55,slow=9.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**148.67**	**286**	PKPbc	PKPbc	04 08 20.5	+0.6
	0.9nm,0.6s,baz=90,slow=2.1,SNR=16						

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*IDC **23** 03:48:56.4±1.9, 494N×12563E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=123.5km s-min=23.3km az=68.0*

NEIC 23 03:48:58.6±1.5, 500N×12553E, h10km, mb4.0/2, Error ellipse: s-maj=97.3km s-min=19.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.95**	**180**	*e*P	P	03 54 03.4	+0.4
	3.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.95**	**180**	P	P	03 54 01.0	-1.9
	1.8nm,0.6s,baz=15,slow=12,SNR=6.0						
WRAB	**Tennant Creek**	**26.25**	**161**	*e*P	P	03 54 35.8	+2.0
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**26.25**	**161**	P	P	03 54 33.1	-0.7
	1.2nm,0.4s,baz=342,slow=10,SNR=14						
WB2	**Warramunga Arr**	**26.25**	**161**	*e*P	P	03 54 34.6	+0.7
ASAR	**Alice Springs**	**29.63**	**164**	P	P	03 55 03.3	-0.8
	0.3nm,0.5s,baz=341,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**55.84**	**325**	P	P	03 58 36.4	+0.2
	0.5nm,0.5s,baz=118,slow=8.5,SNR=9.4						

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*NIED **23** 03:52:00, 4660N×15370E, h8km, Mw4.8 Best double couple: M0 1.51000×10^16 NP1:φ=245.00000°, δ71.00000°, λ107.00000°. NP2:φ=23.00000°, δ26.00000°, λ50.00000°.*
*JMA **23** 03:52:40.5±0.9, 4661N×15373E, h30km, M5.3*
*IDC **23** 03:52:40.4±0.5, 4648N×15324E, h0km, mb4.5/20, mb1 4.7/21, mb1mx4.6/23, mbtmp4.5/21, ML3.7/1, MS4.2/7, Ms1 4.2/7, ms1mx3.7/35, Error ellipse: s-maj=16.4km s-min=14.0km az=139.0*
*SKHL **23** 03:52:40.3±1.3, 4635N×15377E, h38km±6km, mb5.2/1, mbh5.0/1, Ms4.6/8, msh5.6/2*
*ISCJB **23** 03:52:41.9±1.2, 4644N±004×15325E±005, h17km±8km, mb4.9/119, MS4.3/17, Error ellipse: s-maj=8.4km s-min=4.2km az=110.6*
*BJI **23** 03:52:42.1, 4638N×153.12E, h21km, mB5.1, mb4.8, Ms4.7, Msz4.5*
*MOS **23** 03:52:45.0±1.1, 4651N×153.18E, h38km, mb5.1/42, Error ellipse: s-maj=8.9km s-min=4.9km az=111.4*
*NEIC **23** 03:52:45.8±0.3, 4656N×15330E, h30km, mb4.9/44, MS4.5/1, Error ellipse: s-maj=8.7km s-min=5.1km az=154.0*
*SZGRF **23** 03:52:51.0, 4774N×15368E, h33km, mb5.0, Kuril Islands, Russia*

ISC 23 03:52:45.9±1.2, 4650N±004×15325E±005, h33km±8km, h35km±1.2km; pP-P, n323, σ1§11/339, mb4.9/119, MS4.3/17, 33C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**253**	*e*P	**Pn**	**03 53 43.5**	**-1.0**
KUR				AMB	AMB	03 53 44.0	
	2μm,1.0s						
KUR				AMB	AMB	03 53 44.0	
	230nm,0.6s						
KUR				AMB	AMB	03 53 44.0	
	200nm,0.6s						
KUR				AMB	AMB	03 53 44.0	
	1μm,0.6s						
KUR				*i* S	**Sn**	**03 54 30.0**	**+0.1**
KUR				A		03 54 40.8	
	6μm,2.0s						
KUR				A		03 54 40.8	
	6μm,2.0s						
KUR				A		03 54 54.0	
	2μm,0.5s						
KUR				A		03 54 54.0	
	520nm,0.5s						
KUR				AMS	AMS	03 55 34.0	
	3μm,14.0s						
KUR				AMS	AMS	03 55 34.0	
	5μm,14.0s						
KUR	**Kuril'sk**	**3.97**	**253**	*e*PN	**Pn**	**03 53 43.5**	**-1.0**
KUR				*i* S	**Sn**	**03 54 30.0**	**+0.1**
KUR				pmax	pmax		
	comp=N,230nm,0.6s						
KUR				pmax	pmax		
	comp=E,200nm,0.6s						
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,6μm,2.0s						
KUR				smax			
	comp=E,6μm,2.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,520nm,0.5s						
KUR				MLR	MLR		
	comp=N,3μm,14.0s						
KUR				MLR	MLR		
	comp=E,3μm,14.0s						
KUR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR	**Severo-Kuril's**	**4.60**	**23**	*e*P	**Pn**	**03 53 49.0**	**-4.1**
SKR				AMB	AMB	03 53 53.5	
	comp=Z,450nm,1.0s						
SKR				AMB	AMB	03 53 53.5	
	comp=Z,110nm,0.5s						
SKR				pP		03 53 59.0	
SKR				*e*S	**Sn**	**03 54 39.6**	**-5.7**
SKR				A		03 54 50.0	
	comp=Z,2μm,4.0s						
SKR				A		03 54 50.0	
	comp=Z,5μm,8.0s						
SKR				A		03 54 50.0	
	comp=Z,3μm,8.0s						
SKR				A		03 54 53.1	
	comp=Z,320nm,0.6s						
SKR				A		03 54 53.1	
	comp=Z,230nm,0.5s						
SKR				A		03 54 53.1	
	comp=Z,90nm,0.5s						
SKR				AMS	AMS	03 55 13.0	
	comp=Z,6μm,16.0s						
SKR				AMS	AMS	03 55 13.0	
	comp=Z,3μm,10.0s						
SKR				AMS	AMS	03 55 13.0	
	comp=Z,3μm,10.0s						
NEM2	**Nemuro 2**	**6.18**	**242**	P	**Pn**	**03 54 13.6**	**-1.3**
NEM2				*e*S	**Sn**	**03 55 22.6**	**-1.8**
JRA	**Rausu**	**6.29**	**249**	P	**Pn**	**03 54 17.9**	**+1.6**
JNK	**Nakash**	**6.71**	**247**	P	**Pn**	**03 54 23.0**	**+0.9**
JNK				*e*S	**Sn**	**03 55 37.7**	**+0.3**
JAK	**Akkeshi**	**7.03**	**243**	P	**Pn**	**03 54 25.3**	**-1.2**
JAK				*e*S	**Sn**	**03 55 42.9**	**-2.3**
JTKR	**Abashiri--Toko**	**7.07**	**252**	P	**Pn**	**03 54 28.6**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.23**	**277**	⇓*e*P	**Pn**	**03 54 33.4**	**+4.1**
YSS				AMB	AMB	03 54 36.2	
	comp=Z,60nm,1.0s						
YSS				pP		03 54 44.8	
YSS				*e*S	**Sn**	**03 55 58.0**	**+7.8**
YSS				A		03 56 02.0	
	comp=Z,70nm,0.7s						
YSS				AMS	AMS	03 57 13.0	
	comp=Z,2μm,16.0s						
YSS				AMS	AMS	03 57 13.0	
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.23**	**277**	⇓*e*PN	**Pn**	**03 54 33.4**	**+4.1**
YSS				*e*S	**Sn**	**03 55 58.0**	**+7.8**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=N,70nm,0.7s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.23**	**277**	*e*Pn	**Pn**	**03 54 33.4**	**+4.2**
	comp=Z,53nm,0.7s						
PET	**Petropavlovsk**	**7.41**	**26**	*e*P	**Pn**	**03 54 27.7**	**-4.0**
PET				AMB	AMB	03 54 38.1	
	comp=Z,60nm,1.0s						
PET				*e*S	**Sn**	**03 55 49.0**	**-5.5**
PET				A		03 56 26.9	
	comp=Z,280nm,0.8s						
PET				AMS	AMS	03 57 14.6	
	comp=Z,490nm,17.0s						
PET				AMS	AMS	03 57 27.2	
	comp=Z,410nm,17.0s						
PET				AMS	AMS	03 57 31.9	
	comp=Z,780nm,19.0s						
PET				AMS	AMS	03 57 39.0	
	comp=Z,1μm,18.0s						
JMP	**Maruseppu**	**7.41**	**254**	P	**Pn**	**03 54 33.6**	**+1.8**
JAR	**Ashorobuto**	**7.46**	**248**	P	**Pn**	**03 54 32.3**	**-0.1**
JAR				*e*S	**Sn**	**03 55 56.1**	**+0.3**
JOB	**Onbets**	**7.61**	**245**	P	**Pn**	**03 54 34.2**	**-0.3**
JOB				*e*S	**Sn**	**03 55 58.2**	**-1.4**
JKK2	**Kamakawa 2**	**7.87**	**254**	P	**Pn**	**03 54 40.4**	**+2.3**
ASAJ	**Asahikawa**	**7.88**	**256**	Pn	**Pn**	**03 54 41.1**	**+2.9**
	comp=Z,5.9nm,0.3s,baz=91,slow=15,SNR=38						
ASAJ				LR	LR	03 57 33.2	
	comp=Z,821nm,18.4s,baz=17,slow=37						
ASAJ	**Asahikawa**	**7.88**	**256**	P	**Pn**	**03 54 41.0**	**+2.8**
UGL	**Uglegorsk**	**7.96**	**293**	*i* P	**Pn**	**03 54 44.0**	**+4.7**
UGL				*e*P		03 54 44.0	
UGL				AMB	AMB	03 54 46.0	
	comp=Z,260nm,1.1s						
UGL				AMB	AMB	03 54 46.0	
	comp=Z,600nm,1.5s						
UGL				pP		03 54 54.0	
UGL				*e*S	**Sn**	**03 56 18.0**	**+10**
UGL				A		03 56 22.0	
	comp=Z,84nm,0.7s						
UGL				A		03 56 22.0	
	comp=Z,65nm,0.7s						
UGL				AMS	AMS	03 57 58.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	03 57 58.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	03 57 58.0	
	comp=Z,1μm,13.0s						
JCH	**Churui**	**8.06**	**245**	P	**Pn**	**03 54 39.9**	**-0.7**
JCH				*e*S	**Sn**	**03 56 08.0**	**-2.6**
TYV	**Tymovskoe**	**8.26**	**306**	*e*P	**Pn**	**03 54 46.5**	**+3.1**
TYV				AMB	AMB	03 54 54.0	
	comp=Z,400nm,6.0s						
TYV				AMB	AMB	03 54 54.0	
	comp=Z,400nm,6.0s						
TYV				AMB	AMB	03 54 57.0	
	comp=Z,57nm,1.0s						
TYV				AMB	AMB	03 54 57.0	
	comp=Z,119nm,1.0s						
TYV				AMS	AMS	03 58 22.0	
	comp=Z,2μm,16.0s						
TYV				AMS	AMS	03 58 22.0	
	comp=Z,2μm,16.0s						
TYV				AMS	AMS	03 58 22.0	
	comp=Z,4μm,16.0s						
JFR	**Furan**	**8.28**	**250**	P	**Pn**	**03 54 44.7**	**+1.1**
ERM	**Erimo**	**8.52**	**242**	*e*PN	**Pn**	**03 54 47.8**	**+0.9**
ERM				pmax	pmax		
	comp=Z,196nm,0.6s						
ERM	**Erimo**	**8.52**	**242**	*e*Pn	**Pn**	**03 54 47.8**	**+0.9**
	comp=Z,196nm,0.6s						
ERM				*e*Sn	**Sn**	**03 56 24.3**	**+2.4**
JNBK	**Urakawa-nobuka**	**8.62**	**244**	P	**Pn**	**03 54 46.9**	**-1.4**
JNBK				*e*S	**Sn**	**03 56 21.4**	**-3.0**
JEW	**Eniwo**	**9.17**	**251**	P	**Pn**	**03 54 57.8**	**+1.9**
JNB	**Noboribetsu**	**9.61**	**250**	P	**Pn**	**03 55 01.9**	**-0.1**
JNB				*e*S	**Sn**	**03 56 46.9**	**-1.9**
OKH	**Okha**	**9.68**	**321**	AMS	AMS	03 59 34.0	
	comp=Z,5μm,13.0s						
OKH				AMS	AMS	03 59 34.0	
	comp=Z,5μm,13.0s						
JKB	**Kayabe**	**9.91**	**247**	P	**Pn**	**03 55 03.3**	**-2.7**
JKB				*e*S	**Sn**	**03 56 49.9**	**-6.2**
JSH	**Shimam**	**10.18**	**252**	P	**Pn**	**03 55 11.1**	**+1.4**
JYM2	**Yakumo 2**	**10.22**	**249**	P	**Pn**	**03 55 10.0**	**-0.2**
NKL	**Nikolayevsk**	**10.49**	**314**	*e*P	**Pn**	**03 55 09.8**	**-4.2**
NKL				AMB	AMB	03 55 20.0	
	comp=Z,440nm,2.0s						
NKL				AMS	AMS	04 00 33.0	
	comp=Z,3μm,14.0s						
NKL				AMS	AMS	04 00 33.0	
	comp=Z,1μm,14.0s						
NKL				AMS	AMS	04 00 33.0	
	comp=Z,3μm,14.0s						
JTM	**Tenmabayashi**	**10.51**	**241**	P	**Pn**	**03 55 11.6**	**-2.6**
JTM				*e*S	**Sn**	**03 57 03.2**	**-7.6**
JTH	**Tanohata**	**10.58**	**236**	*e*S	**Sn**	**03 57 01.4**	**-11**
JOSM	**Okushiri--Mats**	**10.82**	**251**	P	**Pn**	**03 55 18.1**	**-0.3**
OFUJ	**Ofunato**	**11.28**	**233**	*e*S	**Sn**	**03 57 19.1**	**-11**
TEY	**Ternei**	**11.72**	**269**	*e*P	**Pn**	**03 55 36.0**	**+5.2**
JIO	**Ouri**	**11.90**	**232**	P	**Pn**	**03 55 28.6**	**-4.7**
JIO				*e*S	**Sn**	**03 57 32.8**	**-12**
GRNR	**Gornyy**	**11.92**	**297**	*e*P	**Pn**	**03 55 34.0**	**+0.5**
GRNR				AMB	AMB	03 55 35.1	
	comp=Z,42nm,1.0s						
MA2	**Magadan**	**13.18**	**354**	*e*PN	**Pn**	**03 55 51.8**	**+1.0**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MA2				MLR	MLR		
	comp=Z,300nm,13.8s						
EKMR	**Ekimchan**	**14.64**	**304**	*e*P	**Pn**	**03 56 12.9**	**+2.2**
EKMR				AMB	AMB	03 56 21.0	
	comp=Z,18nm,0.6s						
KLR	**Kul'dur**	**14.68**	**289**	*e*P	**Pn**	**03 56 11.0**	**-0.2**
KLR				AMS	AMS	04 02 47.5	
	comp=Z,1μm,14.0s						
KLR				AMS	AMS	04 02 47.5	
	comp=Z,2μm,14.0s						
MJAR	**Matsushiro Arr**	**15.01**	**234**	Pn	**Pn**	**03 56 12.7**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=29,slow=12,SNR=9.0						
MAJO	**Matsushiro**	**15.01**	**234**	*e*P	**Pn**	**03 56 14.9**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,38nm,0.8s						
MAJO	**Matsushiro**	**15.01**	**234**	*e*Pn	**Pn**	**03 56 14.9**	**-0.7**
	comp=Z,38nm,0.8s						
MAT	**Matsushiro**	**15.01**	**234**	P	**Pn**	**03 56 14.4**	**-1.2**
MAT				*e*S	**Sn**	**03 59 18.0**	**+17**
VLA	**Vladivostok**	**15.52**	**265**	P	**Pn**	**03 56 24.6**	**+2.3**
VLA				pmax	pmax		
	comp=Z,58nm,0.8s						
VLA				MLR	MLR		
	comp=Z,700nm,14.6s						
MDJ	**Mudanjiang**	**16.67**	**272**	P	**Pn**	**03 56 38.3**	**+1.4**
MDJ				AP	pP	03 56 44.6	-3.0
MDJ				XP	sP	03 56 48.0	-3.8
MDJ				S	**Sn**	**03 59 40.3**	**-0.7**
MDJ				SS		03 59 59.8	
MDJ				SCP	ScP	04 05 01.9	+4.4
MDJ				AMB	AMB		
	comp=Z,33nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,308nm,4.0s						
MDJ				LR	LR		
	comp=N,148nm,18.1s						
MDJ				LR	LR		
	comp=E,202nm,16.8s						
MDJ				LR	LR		
	comp=Z,343nm,16.0s						
MDJ	**Mudanjiang**	**16.67**	**272**	*e*Pn	**Pn**	**03 56 37.5**	**+0.6**
	comp=Z,27nm,0.9s						
BMKR	**Bomnak**	**17.47**	**307**	*e*P	**Pn**	**03 56 46.0**	**-0.9**
BMKR				AMB	AMB	03 56 51.3	
	comp=Z,14nm,0.7s						
YASR	**Yasnyy**	**17.58**	**302**	*e*P	**Pn**	**03 56 45.7**	**-2.7**
YASR				AMB	AMB	03 56 54.3	
	comp=Z,2.0nm,0.7s						
YASR				AMB	AMB	03 56 54.3	
	comp=Z,9.0nm,0.7s						
YASR				AMB	AMB	03 56 54.3	
	comp=Z,10.0nm,0.7s						
ZEA	**Zeya**	**18.11**	**303**	*e*P	**Pn**	**03 57 00.5**	**+5.7**
ZEA				AMB	AMB	03 57 02.2	
	comp=Z,29nm,1.0s						
ZEA				sP	sP	03 57 15.7	+7.9
KROS	**Kirovskiy**	**18.43**	**305**	*e*P	**Pn**	**03 56 55.8**	**-3.0**
KROS				AMB	AMB	03 57 01.8	
	comp=Z,4.0nm,0.6s						
KROS				AMB	AMB	03 57 01.8	
	comp=Z,2.0nm,0.6s						
KROS				AMB	AMB	03 57 01.8	
	comp=Z,13nm,0.6s						
CN2	**Changchun**	**19.75**	**272**	*e*P	**Pn**	**03 57 09.9**	**-4.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CLNS	**Chul'man**	**20.25**	**311**	*e*P	**P**	**03 57 07.2**	**-11**
CLNS				*e*		03 57 19.4	
CLNS				*e*S	**S**	**04 00 50.6**	**-13**
CLNS				*e*		04 01 28.9	
CLNS				*e*SS		04 01 29.6	
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLNS				smax			
	comp=N,67nm,11.6s						
CLNS				smax			
	comp=Z,117nm,12.8s						
CLNS				smax			
	comp=E,149nm,14.6s						
YAK	**Yakutsk**	**20.58**	**328**	*e*P	**P**	**03 57 22.2**	**+0.2**
YAK				*e*		03 57 38.3	
YAK				*e*S	**S**	**04 01 01.1**	**-9.3**
YAK				*e*		04 01 42.4	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,35nm,1.1s						
YAK				pmax	pmax		
	comp=N,92nm,1.0s						
YAK				pmax	pmax		
	comp=E,30nm,1.2s						
YAK				smax			
	comp=N,146nm,4.7s						
YAK				smax			
	comp=E,130nm,3.2s						
YAK				MLR	MLR		
	comp=E,367nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=Z,440nm,14.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,504nm,15.0s,MS4.1						
SNY	**Shenyang**	**21.73**	**268**	⇓P	**P**	**03 57 32.1**	**-2.2**
SNY				AMB	AMB		
	comp=Z,56nm,0.8s,mb5.0						
HIA	**Hailar**	**22.54**	**289**	*e*P	**P**	**03 57 40.9**	**-2.1**
BILL	**Bilibino**	**22.61**	**13**	⇓*e*P	**P**	**03 57 43.3**	**-0.5**
BILL				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.9						
BILL	**Bilibino**	**22.61**	**13**	*e*P	**P**	**03 57 42.6**	**-1.2**
	comp=Z,14nm,0.6s,mb4.6						
BOD	**Bodaibo**	**26.22**	**310**	*e*P	**P**	**03 58 15.1**	**-2.6**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
TIXI	**Tiksi**	**27.73**	**344**	⇑*e*P	**P**	**03 58 32.2**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
NJ2	**Nanjing**	**30.02**	**254**	*e*P	**P**	**03 58 50.0**	**-1.6**
SONM	**Songino Array**	**31.51**	**290**	P	**P**	**03 59 04.3**	**-0.5**
	comp=Z,2.4nm,0.9s,mb4.0,baz=70,slow=8.0,SNR=13						
SONM				PcP	PcP	04 01 57.2	+0.1
	comp=Z,1.9nm,0.9s,baz=149,slow=2.9,SNR=5.3						
TLY	**Talaya**	**32.38**	**298**	*e*P	**P**	**03 59 11.9**	**-0.5**
TLY				pmax	pmax		
	comp=Z,17nm,2.0s,mb4.5						
TLY				MLR	MLR		
	comp=Z,781nm,15.0s,MS4.5						
ZAK	**Zakamensk**	**32.87**	**295**	*e*P	**P**	**03 59 15.7**	**-1.0**
IMA2	**Indian Mountai**	**33.95**	**36**	*e*P	**P**	**03 59 25.4**	**-0.7**
WHN	**Wuhan**	**33.96**	**256**	*e*P	**P**	**03 59 27.0**	**+0.8**
KDAK	**Kodiak Island**	**34.19**	**51**	P	**P**	**03 59 26.3**	**-1.9**
	comp=Z,11nm,1.0s,mb4.8,baz=243,slow=4.5,SNR=3.4						
XAN	**Xi'an**	**35.59**	**266**	P	**P**	**03 59 40.9**	**+0.6**
XAN				AP	pP	03 59 49.3	-0.6
XAN				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.4						
COLA	**College**	**36.27**	**38**	*e*P	**P**	**03 59 44.9**	**-1.2**
COLA	**College**	**36.27**	**38**	*e*P	**P**	**03 59 45.4**	**-0.8**
	comp=Z,7.4nm,0.8s,mb4.7						
LZH	**Lanzhou**	**37.99**	**272**	⇑P	**P**	**04 00 02.6**	**+1.9**
LZH				AP	pP	04 00 12.3	+2.0
LZH				XP	sP	04 00 15.8	+1.5
LZH				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,260nm,4.2s						
LZH				LR	LR		
	comp=N,420nm,10.1s						
LZH				LR	LR		
	comp=Z,590nm,14.8s,MS4.5						
LZH	**Lanzhou**	**37.99**	**272**	⇑P	**P**	**04 00 02.6**	**+1.9**
	comp=Z,120nm,1.0s,mb5.6						
LZH				pP	pP	04 00 12.3	+2.0
LZH				sP	sP	04 00 15.7	+1.4
LZH				LR	LR		
	comp=Z,590nm,14.8s,MS4.5						
GTA	**Gaotai**	**39.10**	**279**	P	**P**	**04 00 11.8**	**+1.7**
GTA				AP	pP	04 00 21.4	+1.7
GTA				XP	sP	04 00 25.3	+1.7
GTA				PCP	PcP	04 02 20.5	+1.1
GTA				S	**S**	**04 06 13.9**	**+6.4**
GTA				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,212nm,5.7s						
GTA				LR	LR		
	comp=N,242nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=E,258nm,13.3s,MS4.4						
GTA				LR	LR		
	comp=Z,294nm,13.3s,MS4.3						
CD2	**Chengdu**	**40.95**	**266**	*e*P	**P**	**04 00 27.0**	**+1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**04 00 32.0**	**-0.5**
	comp=Z,8.9nm,1.1s,mb4.3,baz=213,slow=3.1,SNR=5.1						
NVS	**Novosibirsk**	**43.42**	**308**	*e*P	**P**	**04 00 43.7**	**-1.8**
QIZ	**Qiongzhong**	**44.84**	**247**	P	**P**	**04 00 52.1**	**-4.8**
QIZ				S	**S**	**04 07 24.5**	**-7.7**
QIZ				LR	LR		
	comp=Z,267nm,13.2s,MS4.3						
WMQ	**Urumqi**	**45.11**	**292**	*e*P	**P**	**04 00 59.9**	**+0.9**
WMQ				AP	pP	04 01 10.0	+1.2
WMQ				XP	sP	04 01 14.0	+1.3
WMQ				PCP	PcP	04 02 41.0	+1.8
WMQ				PPP		04 03 28.0	

WMQ eS S 04 07 36.0 0.0
WMQ XS sS 04 07 53.0 +0.9
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,173nm,5.1s
WMQ LR LR
comp=N,574nm,14.2s,MS4.8
WMQ LR LR
comp=E,547nm,15.3s,MS4.8
WMQ LR LR
comp=Z,568nm,17.2s,MS4.6
KMI Kunming 45.29 260 P P 04 01 01.6 +1.1
KMI XP sP 04 01 13.3 -0.8
KMI LR LR
comp=Z,63nm,22.3s,MS3.5
MK31 Makanchi Array 47.14 298 eP P 04 01 14.5 -0.5
MK31 e 04 02 46.5
MKAR Makanchi Array 47.14 298 P P 04 01 13.1 -1.9
comp=Z,16nm,0.9s,mb5.0,baz=68,slow=6.9,SNR=59
MKAR PcP PcP 04 02 46.5 +0.1
comp=Z,2.7nm,0.7s,baz=65,slow=4.0,SNR=4.5
MKAR LR LR 04 22 14.1
comp=Z,748nm,18.2s,MS4.7,baz=92,slow=38
MKAR Makanchi Array 47.14 298 i P P 04 01 13.8 -1.2
MKAR pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 50.38 273 eP P 04 01 41.6 +1.7
LSA pmax pmax
comp=Z,19nm,0.7s,mb5.2
LSA Lhasa 50.38 273 eP P 04 01 41.5 +1.6
comp=Z,19nm,0.7s,mb5.2
CHKZ Chkalovo 50.67 310 P P 04 01 40.1 -1.9
CHKZ pmax pmax
comp=Z,17nm,0.7s,mb5.1
CHKZ Chkalovo 50.67 310 eP P 04 01 40.1 -1.9
comp=Z,30nm,0.8s,mb5.3
VOSK Vostochnaya 50.92 309 P P 04 01 42.4 -1.5
YKA Yellowknife Ar 51.07 37 P P 04 01 44.5 -0.5
comp=Z,4.0nm,0.8s,mb4.4,baz=301,slow=7.8,SNR=4.5
YKA Yellowknife Ar 51.07 37 P P 04 01 44.5 -0.5
BVA0 Borovoye Array 51.09 310 i P P 04 01 44.0 -1.2
BVAR Borovoye Array 51.09 310 P P 04 01 44.4 -0.8
comp=Z,9.3nm,0.7s,mb4.8,baz=50,slow=8.0,SNR=41
BVAR PcP PcP 04 03 00.7 0.0
comp=Z,2.1nm,0.8s,baz=90,slow=1.5,SNR=5.3
BRVK Borovoye 51.13 310 eP P 04 01 44.1 -1.4
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.9
BRVK Borovoye 51.13 310 eP P 04 01 44.1 -1.4
comp=Z,14nm,0.8s,mb5.0
ZRNK Zerenda 51.86 310 eP P 04 01 49.8 -1.2
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZRNK Zerenda 51.86 310 eP P 04 01 49.8 -1.3
comp=Z,13nm,0.8s,mb4.9
CHTO Chiang Mai 52.16 257 eP P 04 01 54.8 +1.6
CHTO pmax pmax
comp=Z,26nm,0.9s,mb5.2
CHTO Chiang Mai 52.16 257 eP P 04 01 54.8 +1.6
comp=Z,26nm,0.9s,mb5.2
SHL Shillong 52.46 269 ex x 04 01 52.0
ULHL Ulahol 53.16 295 P P 04 02 01.4 +0.8
SNR=11
TKM2 Tokmak 2 53.20 296 P P 04 02 01.3 +0.4
SNR=8.3
TKM2 Tokmak 2 53.20 296 P P 04 02 00.6 -0.3
TKM2 pmax pmax
comp=Z,11nm,1.1s,mb4.7
USP Ospenovka 53.68 297 P P 04 02 04.8 +0.3
SNR=29
KBK Karagaybulak 53.74 296 P P 04 02 05.6 +0.8
SNR=6.9
AAK Ala-Archa 54.03 297 P P 04 02 07.4 +0.4
SNR=15
AAK Ala-Archa 54.03 297⇑ eP P 04 02 06.1 -0.9
AAK pmax pmax
comp=Z,19nm,1.1s,mb4.9
AAK Ala-Archa 54.03 297 eP P 04 02 06.1 -0.9
comp=Z,14nm,0.8s,mb5.0
EKS2 Erkin-Say 54.46 297 P P 04 02 10.8 +0.7
SNR=13
JIRN Jiri 55.06 275 eP P 04 02 16.6 +2.1
comp=Z,10nm,0.2s,mb5.5
GUN Gumba 55.12 275 eP P 04 02 16.6 +1.7
comp=Z,31nm,0.5s,mb5.6
ARU Arti 55.26 318⇓ i P P 04 02 13.7 -2.2
ARU e 04 04 15.7
ARU eS S 04 09 54.4 -3.0
ARU eSS SS 04 13 38.2 -3.7
ARU pmax pmax
comp=Z,15nm,0.8s,mb5.1
KKN Kakani 55.61 276 eP P 04 02 20.5 +2.1
comp=Z,68nm,0.6s,mb5.8
PKI Pulchoki 55.66 275 eP P 04 02 20.4 +1.6
comp=Z,30nm,0.6s,mb5.5
DMN Daman 55.84 276 eP P 04 02 21.9 +1.8
comp=Z,87nm,0.8s,mb5.8
GKN Gorkha 55.91 276 eP P 04 02 22.3 +1.7
comp=Z,63nm,0.7s,mb5.8
KK31 Karatay Array 56.20 299 i P P 04 02 21.2 -1.5
KKAR Karatay Array 56.20 299 P P 04 02 21.2 -1.5
KOLN Koldanda 56.77 277 eP P 04 02 28.4 +1.7
comp=Z,49nm,0.8s,mb5.6
BOK Bokaro 57.75 272 eP P 04 02 34.9 +1.3
BOK AMb AMB 04 02 36.2
comp=Z,15nm,0.5s,mb5.3
JOSI Joshimath 57.79 282 ex x 04 02 08.3
KLP Kalpa 58.06 284 eP P 04 02 37.3 +1.5
KLP AMb AMB 04 02 38.9
comp=Z,34nm,0.9s,mb5.4
ARCES ARCESS Array B 58.12 341 P P 04 02 34.9 -1.3
comp=Z,4.0nm,0.9s,mb4.5,baz=317,slow=30,SNR=10
AB31 Akbulak array 58.66 310 P P 04 02 38.5 -1.5
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
THN Thein Dam 59.20 286 eP P 04 02 43.3 -0.5
MSO Missoula 59.84 52 eP P 04 02 48.2 +0.1
comp=Z,3.1nm,1.2s,mb4.2
MSO e pP 04 02 59.7 +1.5
NDI New Delhi 60.55 282 eP P 04 02 53.1 +0.1
NDI AMb AMB 04 02 54.7
comp=Z,55nm,1.1s,mb5.6
AYAN Aya Nagar 60.73 282 eP P 04 02 55.2 +0.9
AYAN AMb AMB 04 02 56.0
comp=Z,22nm,1.1s,mb5.2
SONA Sohna 60.91 281 eP P 04 02 56.3 +0.8
SONA AMb AMB 04 02 57.6
comp=Z,28nm,0.9s,mb5.4
SUMG Summit 60.94 4 eP P 04 02 55.6 -0.1
comp=Z,42nm,0.9s,mb5.6
JOF Joensuu 61.60 334 ep P 04 02 58.2 -1.9
comp=Z,1.8nm,0.3s,mb4.7
JOF Joensuu 61.60 334 eP P 04 02 58.2 -1.9
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.7
KHET Khetri 61.89 282 eP P 04 03 00.4 -1.7
KHET AMb AMB 04 03 01.6
comp=Z,12nm,1.0s,mb5.0
NVAR Mina Array Bea 62.47 62 P P 04 03 06.2 +0.3
baz=299,slow=8.2
RRI2 Red Ridge 63.46 54 eP P 04 03 09.7 -2.8
comp=Z,6.4nm,0.8s,mb4.8
AJM Ajmer 63.71 281 eP P 04 03 15.4 +1.2
AJM AMb AMB 04 03 17.8
comp=Z,28nm,1.1s,mb5.2
KAF Kangasniemi 63.71 335 ep P 04 03 11.8 -2.4
comp=Z,17nm,0.8s,mb5.1,baz=38,slow=6.3
KAF Kangasniemi 63.71 335 eP P 04 03 11.8 -2.4
KAF pmax pmax
comp=Z,17nm,0.8s,mb5.1
BHPL Bhopal 63.94 277 eP P 04 03 17.1 +1.3
BHPL AMb AMB 04 03 17.8
comp=Z,32nm,0.8s,mb5.4
PSI Prapat 64.06 244 P P 04 03 18.1 +1.6
comp=Z,1.9nm,0.5s,mb4.4,baz=31,slow=8.1,SNR=3.7
FINES FINESS Array B 64.31 335 P P 04 03 17.3 -0.9
comp=Z,13nm,0.6s,mb5.1,baz=39,slow=7.5,SNR=90
FINES LR LR 04 34 39.3
comp=Z,186nm,18.7s,MS4.3,baz=156,slow=39
FINES FINESS Array B 64.31 335 i P P 04 03 17.2 -0.9
FINES pmax pmax
comp=Z,13nm,0.6s
FINES FINESS Array B 64.31 335 P P 04 03 17.3 -0.9
FINES LR LR 04 34 39.3
DUG Dugway 64.63 58 eP P 04 03 18.9 -1.3
DUG pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
DUG Dugway 64.63 58 eP P 04 03 18.9 -1.3
comp=Z,6.6nm,1.2s,mb4.5
PDAR Pinedale Array 64.82 54 P P 04 03 21.3 -0.2
comp=Z,1.4nm,0.8s,mb4.0,baz=288,slow=1.8,SNR=9.1
OBN Obninsk 65.57 326⇑ eP P 04 03 24.5 -1.8
OBN e 04 05 49.2
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
JASL Jaisalmer 65.94 284 eP P 04 03 28.8 +0.1
PV10 Paradox Valley 68.03 57 eP P 04 03 42.2 +0.3
WRAB Tennant Creek 68.30 199 eP P 04 03 41.7 -2.0
WRA Warramunga Arr 68.31 199 P P 04 03 42.5 -1.2
comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=6.6,SNR=8.8
PV01 Paradox Valley 68.46 57 eP P 04 03 45.8 +1.1
NB2 NORSAR Subarra 68.50 341 P P 04 03 44.1 -0.8
comp=Z,10nm,0.7s,mb5.0,baz=28,slow=6.5
NOA NORSAR Array B 68.50 341 P P 04 03 44.2 -0.7
comp=Z,13nm,0.7s,mb5.1,baz=28,slow=6.4,SNR=51
NOA LR LR 04 38 02.9
comp=Z,103nm,19.3s,MS4.1,baz=40,slow=40
NOA NORSAR Array B 68.50 341 P P 04 03 44.2 -0.8
NOA LR LR 04 38 02.9
FITZ Fitzroy Crossi 68.97 208 P P 04 03 47.2 -0.7
comp=Z,2.3nm,0.8s,mb4.2,baz=79,slow=3.7,SNR=4.3
POO Poona 69.58 276 ex P 04 03 50.0 -1.6
KAD Karad 70.19 274 eP P 04 03 56.2 +0.8
KAD AMb AMB 04 03 57.3
comp=Z,14nm,1.5s,mb4.7
KIV Kislovodsk 71.04 314⇑ eP P 04 04 01.0 +0.4
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.7
SUW Suwalki 71.26 332 eP P 04 04 00.8 -1.1
AKASG Malin Array Be 71.81 326 P P 04 04 04.3 -0.9
comp=Z,32nm,0.8s,mb5.3,baz=33,slow=6.1,SNR=72
AKASG LR LR 04 37 16.8
comp=Z,114nm,19.3s,MS4.2,baz=25,slow=37
AKASG Malin Array Be 71.81 326 i P P 04 04 04.3 -0.9
AKASG pmax pmax
comp=Z,32nm,0.8s
AKASG Malin Array Be 71.81 326 P P 04 04 04.3 -0.9
AKASG LR LR 04 37 16.8
AKBB Malin Array Si 71.81 326 eP P 04 04 04.2 -1.0
ANMO Albuquerque 71.88 58 eP P 04 04 04.6 -1.1
ASAR Alice Springs 72.00 199 P P 04 04 06.5 +0.1
comp=Z,2.5nm,0.7s,mb4.3,baz=11,slow=5.3,SNR=21
ASAR LR LR 04 34 44.2
comp=Z,88nm,18.5s,MS4.1,baz=265,slow=35
GNI Garni 72.77 310 eP P 04 04 11.2 +0.3
GNI pmax pmax
comp=Z,15nm,0.8s
GNI Garni 72.77 310 eP P 04 04 11.2 +0.2
comp=Z,15nm,0.8s,mb5.0
SOC Sochi 72.77 316 eP P 04 04 11.0 +0.1
SOC eS S 04 13 27.0 -7.4
SOC eSS SS 04 18 11.2 -3.2
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,258nm,16.0s,MS4.6
ANN Anapa 72.93 318 eP P 04 04 02.7 -9.2
ANN pmax pmax
comp=Z,58nm,1.2s,mb5.4
SCHQ Schefferville 73.50 23 P P 04 04 17.5 +2.2
comp=Z,6.1nm,1.1s,mb4.4,baz=285,slow=5.9,SNR=3.8
KWP Kalwaria 75.09 329 eP P 04 04 24.9 +0.4
OJC Ojcow 75.59 331 eP P 04 04 27.2 -0.2
STHS Stebnicka Huta 75.78 330 eP P 04 04 29.2 +0.7
STHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
STHS Stebnicka Huta 75.78 330 eP P 04 04 29.2 +0.7
comp=Z,7.5nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.83 329 eP P 04 04 28.5 -0.3
BURAR Bucovina Array 75.85 327⇑ i P P 04 04 29.0 +0.1
BURAR Bucovina Array 75.85 327⇑ P P 04 04 29.0 +0.1
NIE Niedzica 76.10 330 eP P 04 04 30.5 +0.2
CRVS Cervenica-Dubn 76.14 330 eP P 04 04 30.5 0.0
KSP Ksiaz 76.17 334 eP P 04 04 31.2 +0.5
NRDL Niedersach Rie 76.45 338 eP P 04 04 31.3 -1.0
comp=Z,13nm,1.0s,mb4.8
OKC Ostrava-Krasne 76.46 332 eP P 04 04 32.0 -0.3
UPC Upice 76.55 334 eP P 04 04 33.5 +0.6
DPC Dobruska-Polom 76.59 333 eP P 04 04 33.4 +0.3
CFR Carcaliu 76.70 324 P P 04 04 34.6 +0.9
VRI Vrincioaia 76.70 325 P P 04 04 34.7 +1.0
MORC Moravsky Berou 76.70 332⇑ i P P 04 04 33.8 +0.1
MORC Moravsky Berou 76.70 332 P P 04 04 33.9 +0.1
BOYT Boyabat 76.71 317 i P P 04 04 35.0 +1.2
CLL Collm 76.73 336 eP P 04 04 33.2 -0.7
comp=Z,28nm,0.8s,mb5.2
CLL Collm 76.73 336 i P P 04 04 33.3 -0.6
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 76.73 336 i P P 04 04 33.3 -0.6
comp=Z,28nm,0.8s,mb5.2
KECS Kecovo 76.84 330 eP P 04 04 34.1 -0.4
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 76.84 330 eP P 04 04 34.1 -0.4
comp=Z,4.2nm,0.9s,mb4.4
BRG Berggiesshubel 76.85 335 eP P 04 04 34.8 +0.3
comp=Z,6.0nm,0.8s,mb4.6
BRG Berggiesshubel 76.85 335 eP P 04 04 33.8 -0.7
comp=Z,3.5nm,0.8s,mb4.3
BRG e pP 04 04 44.3 -0.5
comp=Z,32nm,2.1s
BRG Berggiesshubel 76.85 335 eP P 04 04 33.8 -0.7
BRG e pP 04 04 44.3 -0.5
BRG pmax pmax
comp=Z,11nm,0.8s,mb4.8
PVCC Panska Ves 76.97 334 eP P 04 04 35.5 +0.3
CLZ Clausthal 76.98 337 eP P 04 04 35.4 +0.1
comp=Z,20nm,0.9s,mb5.0
CLZ Clausthal 76.98 337 eP P 04 04 35.4 +0.1
CLZ pmax pmax
comp=Z,20nm,0.9s,mb5.0
TIRR Tirgusor 77.17 323 P P 04 04 36.8 +0.5
MLR Muntele Rosu 77.33 325 P P 04 04 38.4 +1.2
BALT Daday 77.33 318 i P P 04 04 38.2 +1.0
CTKT Corum 77.39 317 i P P 04 04 38.9 +1.3
VYHS Vyhne 77.39 331 eP P 04 04 37.6 0.0
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VYHS Vyhne 77.39 331 eP P 04 04 37.6 0.0
comp=Z,5.1nm,0.9s,mb4.5
VRAC Vranov 77.42 333⇓ i P P 04 04 38.3 +0.6
VRAC Vranov 77.42 333 P P 04 04 38.0 +0.3
PRU Pruhonice 77.45 334 eP P 04 04 38.1 +0.2
PSZ Piszkesteto 77.53 330 P P 04 04 39.1 +0.8
TXAR Lajitas Array 77.53 61 P P 04 04 38.2 -0.2
comp=Z,2.3nm,0.6s,mb4.3,baz=290,slow=4.5,SNR=20
MOX Moxa 77.72 336 eP P 04 04 39.3 -0.1
comp=Z,10.0nm,0.9s,mb4.8
VOIR 77.72 326⇓ i P P 04 04 40.3 +0.9
VOIR 77.72 326⇓ P P 04 04 40.3 +0.9
TREC Trest 77.78 333 eP P 04 04 36.8 -3.0
NKC Novy Kostel 77.85 335 eP P 04 04 40.2 0.0
MANZ Manzenberg 78.17 336 eP P 04 04 42.1 +0.2
comp=Z,7.0nm,0.8s,mb4.6
ZST Bratislava 78.22 332 eP P 04 04 42.6 +0.4
comp=Z,8.3nm,0.9s,mb4.7
ZST LR LR
comp=Z,200nm,18.6s,MS4.5
ROTZ Rotzenmuhle 78.34 335 eP P 04 04 42.6 -0.3
comp=Z,7.0nm,0.8s,mb4.6
KHC Kasperske Hory 78.50 334 eP P 04 04 43.7 -0.1
KHC Kasperske Hory 78.50 334⇑ eP P 04 04 43.5 -0.3
GZR Gura Zlata 78.63 327 P P 04 04 44.8 +0.3
BR131 Keskin Array S 78.64 317 eP P 04 04 44.8 +0.3
comp=Z,2.7nm,0.8s,mb4.2
BRTR Keskin Array B 78.64 317 P P 04 04 44.4 -0.2
comp=Z,4.2nm,0.9s,mb4.3,baz=64,slow=3.1,SNR=24
BRTR PP PP 04 07 43.6 +1.0
comp=Z,0.8nm,0.8s,baz=39,slow=8.0,SNR=4.4
BRTR LR LR 04 47 09.5
comp=Z,158nm,20.3s,MS4.3,baz=120,slow=42
BRTR Keskin Array B 78.64 317 P P 04 04 44.4 -0.1
BRTR 04 07 43.6
GRA1 Grafenberg Arr 78.69 336 eP P 04 04 44.8 0.0
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 78.69 336 eP P 04 04 44.8 0.0
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 78.69 336 eP P 04 04 44.8 0.0
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 78.69 336 eP P 04 04 44.8 0.0
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.1
SGKT Sivrigoynuk 78.70 318 i P P 04 04 45.5 +0.7
WET Wettzell 78.70 335 eP P 04 04 44.8 -0.1
comp=Z,12nm,0.9s,mb4.8
WET Wettzell 78.70 335 eP P 04 04 44.8 -0.1
WET pmax pmax
comp=Z,12nm,0.9s,mb4.8
STKA Stephens Creek 78.72 190 P P 04 04 46.5 +1.6
comp=Z,1.8nm,0.7s,mb4.1,baz=328,slow=3.9,SNR=3.7
GEC2 GERESS Array S 78.72 334 eP P 04 04 44.7 -0.3
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 78.72 334 eP P 04 04 44.7 -0.3
GEC2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GERES GERESS Array B 78.72 334 P P 04 04 44.8 -0.2
comp=Z,4.1nm,0.7s,mb4.4,baz=38,slow=5.0,SNR=31
UMR Umm Al-Rimmam 78.84 301 eP P 04 04 46.2 +0.6
UMR AMb AMB 04 04 47.7
comp=Z,52nm,0.6s,mb5.6
CONA Conrad Observa 78.86 332⇓ i P P 04 04 46.6 +0.9
comp=Z,6.8nm,0.7s,mb4.7
BZS Buzias 78.88 328⇑ i P P 04 04 45.6 -0.2
BZS Buzias 78.88 328 P P 04 04 45.4 -0.5
MIB Mutribah 78.88 302 eP P 04 04 47.1 +1.3
MIB AMb AMB 04 04 48.6
comp=Z,91nm,0.7s,mb5.8
ANTO Ankara 78.92 317⇑ i P P 04 04 47.5 +1.4
ANTO Ankara 78.92 317 P P 04 04 47.3 +1.2
TNS Taunus Mts 78.96 338 eP P 04 04 46.2 -0.1
comp=Z,13nm,0.8s,mb4.9
TNS Taunus Mts 78.96 338 eP P 04 04 46.2 -0.1
TNS pmax pmax
comp=Z,13nm,0.8s,mb4.9
KBD Kabd 79.13 301 eP P 04 04 48.6 +1.4
KBD AMb AMB 04 04 50.2
comp=Z,167nm,0.9s
RST Umm Al-Ruwaisa 79.30 302 eP P 04 04 48.7 +0.5
RST AMb AMB 04 04 50.7
comp=Z,72nm,0.7s,mb5.7
QRN Al-Qurain 79.31 300 eP P 04 04 49.5 +1.3
QRN AMb AMB 04 04 50.4
comp=Z,52nm,0.6s,mb5.7
NAY Al-Naaiem 79.34 301 eP P 04 04 49.6 +1.2
NAY AMb AMB 04 04 51.2
comp=Z,31nm,1.1s,mb5.2
RDF Al-Radifah 79.39 301 eP P 04 04 49.7 +1.0
RDF AMb AMB 04 04 51.0
comp=Z,56nm,0.7s,mb5.6
PKSM Moragy 79.43 330 P P 04 04 48.2 -0.7
MOA Molln 79.44 333⇑ i P P 04 04 49.0 +0.1
comp=Z,7.6nm,0.8s,mb4.7
ARSA Arzberg 79.57 332⇓ i P P 04 04 50.0 +0.4
comp=Z,7.5nm,1.2s,mb4.5
GROS Grobnik 80.27 332 eP P 04 04 53.1 -0.3
KBA Koelnbreinsper 80.41 333⇓ i P P 04 04 55.1 +0.9
comp=Z,32nm,0.9s,mb5.2
KBA Koelnbreinsper 80.41 333⇓ i P P 04 04 55.1 +1.0
KBA pmax pmax
comp=Z,32nm,0.9s,mb5.2
OBKA Obir 80.54 332⇓ i P P 04 04 55.0 +0.1
comp=Z,6.2nm,1.1s,mb4.4
WATA Walderalm 80.71 335⇑ i P P 04 04 56.0 +0.3
comp=Z,15nm,1.0s,mb4.9
WATA Walderalm 80.71 335⇑ i P P 04 04 56.0 +0.2
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.9
BFO Black Forest 80.72 337 eP P 04 04 55.5 -0.3
comp=Z,11nm,1.1s,mb4.7
BFO Black Forest 80.72 337 eP P 04 04 55.5 -0.3
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.7
GCIS Gornji Cirnik 80.75 332 eP P 04 04 55.5 -0.5
WTTA Wattenberg 80.76 335⇑ i P P 04 04 56.7 +0.6
comp=Z,26nm,0.9s,mb5.2
WTTA Wattenberg 80.76 335⇑ i P P 04 04 56.7 +0.7
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
WTTA Wattenberg 80.76 335 i P P 04 04 56.6 +0.6
comp=Z,26nm,0.9s,mb5.2
DIVS Divcibare 80.77 328 i P P 04 04 55.7 -0.4
LEGS Legarje 80.78 332 eP P 04 04 55.6 -0.6
VTS Vitosha 80.83 325⇓ i P P 04 04 56.4 0.0
VTS Vitosha 80.83 325 P P 04 04 56.7 +0.3
MOTA Moosalm 80.84 335⇑ i P P 04 04 56.7 +0.2
comp=Z,17nm,1.0s,mb4.9
MOTA Moosalm 80.84 335⇑ i P P 04 04 56.7 +0.2
MOTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
SQTA Sankt Quirin 80.92 335⇑ i P P 04 04 57.3 +0.4
comp=Z,9.4nm,0.9s,mb4.7
SQTA Sankt Quirin 80.92 335⇑ i P P 04 04 57.3 +0.4
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CDF Champ du Feu 80.92 338⇑ i P P 04 04 56.8 -0.1
comp=Z,54nm,1.3s,mb5.0
VISS Visnje 81.07 332 eP P 04 04 56.9 -0.8
BOJS Bojanci 81.20 332 eP P 04 04 57.8 -0.5
DAVA Damuels 81.25 336⇓ i P P 04 04 59.1 +0.5
comp=Z,10nm,0.8s,mb4.8
MEZF Maizieres J'vi 81.40 339 eP P 04 04 59.3 -0.2
comp=Z,56nm,1.1s,mb5.1
HAU Haudompre 81.54 338 eP P 04 05 00.0 -0.2
HINF Hinteralfeld 81.58 338 eP P 04 04 59.8 -0.6
comp=Z,28nm,1.3s,mb4.8
ISP Isparta 81.61 318 eP P 04 05 00.9 +0.4
ISP pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ISP Isparta 81.61 318 eP P 04 05 00.9 +0.4
comp=Z,7.4nm,0.8s,mb4.7
VAY Valandovo 82.16 325 eP P 04 05 02.9 -0.5
DNZL Cakiroluk 82.41 319 i P P 04 05 11.7 +7.0
KRUS Krusevo 82.64 326 eP P 04 05 06.3 +0.3
GRR Gorron 82.83 343 eP P 04 05 06.6 -0.4
comp=Z,75nm,1.3s,mb5.3
LOR Lormes 82.84 340 eP P 04 05 06.7 -0.3
comp=Z,7.4nm,0.6s,mb4.6
LOR eMLR MLR
comp=Z,151nm,18.0s
AYDN Tasoluk 82.96 319 i P P 04 05 07.8 +0.2
SSF Saint Saulge 83.12 340⇑ i P P 04 05 08.2 -0.2
comp=Z,13nm,0.8s,mb4.7
HYF Humbligny 83.13 340 eP P 04 05 08.7 +0.2
SGMF Saint Gilles 83.30 344 eP P 04 05 09.0 -0.3
comp=Z,48nm,1.0s,mb5.2
ROSF Rostrenen 83.35 344 eP P 04 05 09.4 -0.2
comp=Z,68nm,1.0s,mb5.3
AVF Avril sur Loir 83.41 340⇑ i P P 04 05 09.9 0.0
comp=Z,30nm,0.9s,mb5.0
AVF Avril sur Loir 83.41 340⇑ i P P 04 05 09.9 0.0
AVF pmax pmax
comp=Z,15nm,0.9s,mb5.0
AVF Avril sur Loir 83.41 340⇑ i P P 04 05 09.9 0.0
comp=Z,15nm,0.9s,mb5.0
SMF Signal de Mont 83.43 339⇑ i P P 04 05 10.1 +0.1
comp=Z,72nm,1.1s,mb5.3
BDRM Kayabasi 83.65 319 i P P 04 05 11.0 -0.1
LPL La Plagne 83.74 337⇑ i P P 04 05 12.4 +0.8
comp=Z,15nm,1.0s,mb4.8
LPG La Plagne 83.75 337⇑ i P P 04 05 12.6 +0.9
comp=Z,23nm,1.1s,mb4.9
BGF Bois d'Agland 83.75 340⇑ i P P 04 05 11.6 -0.1
comp=Z,16nm,0.9s,mb4.8
BGF Bois d'Agland 83.75 340⇑ i P P 04 05 11.6 -0.1
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BGF Bois d'Agland 83.75 340⇑ i P P 04 05 11.6 -0.1
comp=Z,7.8nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.16 340 eP P 04 05 13.7 0.0
comp=Z,28nm,1.2s,mb5.0
MFF Saint Martin d 84.39 342 eP P 04 05 15.0 +0.1
MBDF Montbardon 84.46 337 eP P 04 05 15.4 +0.1
comp=Z,16nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.52 337 eP P 04 05 16.2 +0.6
comp=Z,27nm,1.0s,mb5.0
CAF Calviac 85.47 340 eP P 04 05 20.1 -0.3
comp=Z,17nm,0.9s,mb4.9
CAF Calviac 85.47 340 eP P 04 05 20.1 -0.3
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CAF Calviac 85.47 340 eP P 04 05 20.1 -0.3
comp=Z,8.6nm,0.9s,mb4.9

LMR	La Mourre	85.82 336	*e*P	P	04 05 22.1	0.0
PGF	Pioggiola	85.82 334	*e*P	P	04 05 22.1	0.0
	comp=Z,18nm,1.1s,mb4.9					
EIL	Elat	85.92 310	*e*P	P	04 05 24.7	+2.1
	comp=Z,308nm,1.0s					
ESDC	Sonseca Array	91.82 343	P	P	04 05 49.2	-1.4
	comp=Z,0.9nm,0.7s,mb4.2,baz=353,slow=2.7,SNR=5.5					
KEST	Kesra	91.94 331	P	P	04 05 51.3	+0.2
	comp=Z,1.4nm,0.8s,mb4.3,baz=253,slow=9.0,SNR=7.0					
TORD	Torodi Ar. Bea	115.36 329	PKP	PKPdf	04 11 23.5	-0.6
	comp=Z,0.6nm,0.6s,baz=20,slow=2.0,SNR=11					
SIV	San Ignacio	138.30 55	PKP	PKPdf	04 12 07.1	-0.6
	comp=Z,0.7nm,0.9s,baz=12,slow=4.9,SNR=4.5					
PLCA	Paso Flores	148.09 96	PKPbc	PKPbc	04 12 26.7	-1.4
	comp=Z,2.6nm,0.7s,baz=310,slow=2.2,SNR=4.4					
CPUP	Villa Florida	148.50 61	PKPbc	PKPbc	04 12 28.6	-0.7
	comp=Z,1.4nm,0.6s,baz=282,slow=3.5,SNR=7.4					
SNAA	Sanae	152.34 196	PKPbc	PKPbc	04 12 35.4	-3.0
	comp=Z,0.5nm,0.8s,baz=180,slow=4.8,SNR=12					
SNAA	Sanae	152.34 196	*e*PKPdf	PKPbc	04 12 36.1	-2.3
SNAA			*e*		04 12 43.4	
SNAA			*e*		04 12 49.6	
SNAA			*e*		04 12 54.4	
SNAA			*e*		04 13 03.0	
SNAA			*e*		04 13 08.7	
SNAA			*e*		04 13 23.9	
SNAA			*e*		04 13 36.6	
VNA2	Neumayer--Watz	153.78 194	*e*PKPdf	PKPbc	04 12 39.3	-2.3
	baz=118,slow=3.4					
VNA2			*e*		04 12 45.2	
VNA2			*e*		04 12 47.8	
VNA2			*e*		04 12 51.8	
VNA2			*e*		04 12 56.6	
VNA2			*e*		04 12 59.0	
VNA2			*e*		04 13 01.9	
VNA2			*e*		04 13 04.3	
VNA2			*e*		04 13 16.1	
VNA2			*e*		04 13 19.6	
VNA2			*e*		04 13 24.6	
VNA2			*e*		04 13 27.9	
VNA2			*e*		04 13 34.5	
VNA3	Neumayer Olymp	153.87 192	*e*PKPdf	PKPbc	04 12 39.5	-2.3
VNA3			*e*		04 12 47.5	
VNA3			*e*		04 12 52.2	
VNA3			*e*		04 12 55.3	
VNA3			*e*		04 12 56.7	
VNA3			*e*		04 13 02.0	

*CSEM **23** 03:55:34.9, 6783N×2020E, h0km, ML3.7, Suspected Mining explosion. After UPP*

UPP 23 03:55:34.9, 6783N×2020E, h0km, ML3.7, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	Nikkaluokta	0.44	276	P	Pg	03 55 43.3	-0.1
LANU	Lannavaara	0.71	71	P	Pg	03 55 48.3	-0.2
SALU	Saltoluokta	0.79	236	P	Pg	03 55 49.7	-0.3
	baz=84						
PAJU	Pajala	1.39	124	P	Pg	03 56 00.4	-1.1
ERTU	Ertsjaerv	1.50	148	P	Pn	03 56 01.7	-1.3
	baz=310						
HARU	Harads	1.70	169	P	Pn	03 56 06.9	+1.1

*NEIC **23** 03:59:35.5, 3373S×7208W, h36km, MD4.0(GUC), After GUC.*

GUC 23 03:59:35.5±0.8, 3373S×7208W, h36km±3km, MD4.0, ML3.2, 10C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.49	60	⇑*i*P	Pn	03 59 45.7	-0.4
LCCH				*i* S	Sn	03 59 53.2	-0.2
LNV	Longovilo	0.60	112	⇓*i*P	Pn	03 59 47.6	0.0
LNV				*i* S	Sn	03 59 56.3	+0.2
IHA	Instituto Hidr	0.79	28	⇑*i*P	Pn	03 59 50.4	+0.2
TACH	Talagante	0.95	86	⇑*i*P	Pn	03 59 52.9	+0.5
TACH				*i* S	Sn	04 00 05.9	+1.1
RCDM	Rinconada Maip	1.09	78	*e*P	Pn	03 59 54.7	+0.4
RCDM				*i* S	Sn	04 00 09.3	+1.2
RCDM				AML	AML	04 00 11.9	
	comp=N,797nm,0.3s						
RCDM	Rinconada Maip	1.09	78	*e*P	Pn	03 59 54.7	+0.4
RCDM				*i* S	Sn	04 00 09.3	+1.2
ROCH	El Roble	1.17	50	*e*P	Pn	03 59 56.5	+1.2
ROCH				*i* S	Sn	04 00 11.9	+1.9
CHCH	Chadas Angostu	1.21	100	⇑*i*P	Pn	03 59 57.1	+1.2
ANTU	Antumapu	1.22	83	⇑*i*P	Pn	03 59 57.3	+1.3
ANTU				*i* S	Sn	04 00 14.2	+3.0
ANTU				AML	AML	04 00 16.5	
	comp=N,1μm,0.3s						
ANTU	Antumapu	1.22	83	⇑*i*P	Pn	03 59 57.3	+1.3
ANTU				S	Sn	04 00 14.2	+3.0
STL	Santa Lucia	1.24	77	*e*P	Pn	03 59 56.2	0.0
SFDO	San Fernando	1.25	135	⇑*i*P	Pn	03 59 57.0	+0.5
SFDO				*i* S	Sn	04 00 14.0	+2.0
CACH	El Canelo	1.29	108	⇓*i*P	Pn	03 59 59.0	+2.0
PEL	Peldehue	1.30	64	⇑*i*P	Pn	03 59 59.2	+2.0
PEL				*i* S	Sn	04 00 16.2	+2.8
PEL				AML	AML	04 00 25.1	
	comp=E,1μm,0.3s						
PEL	Peldehue	1.30	64	⇑*i*P	Pn	03 59 59.2	+2.0
PEL				*i* S	Sn	04 00 16.2	+2.8
PACH	Papudo	1.30	25	*e*P	Pn	03 59 58.2	+1.0
PCH	Pirque	1.31	86	⇑*i*P	Pn	03 59 58.6	+1.3
PCH				*i* S	Sn	04 00 15.8	+2.3
FSR	Penalolen	1.32	80	*e*P	Pn	03 59 58.7	+1.3
FSR				AML	AML	04 00 26.6	
	comp=E,488nm,0.5s						
LACH	Colegio Las Am	1.32	78	⇓*i*P	Pn	03 59 58.4	+1.0
CLCH	Cerro Calan	1.33	76	*e*P	Pn	03 59 59.0	+1.4
CLCH				*i* S	Sn	04 00 16.9	+2.9
CLCH				AML	AML	04 00 28.3	
	comp=E,672nm,0.3s						
CICH	Cipreses	1.50	114	*e*P	Pn	04 00 01.6	+1.7
FCH	Farellones	1.55	76	*e*P	Pn	04 00 02.7	+2.1
FCH				*i* S	Sn	04 00 23.4	+4.1
FCH				AML	AML	04 00 27.3	
	comp=N,496nm,0.2s						
JACH	Jahuel	1.63	50	*e*P	Pn	04 00 02.9	+1.2
JACH				*i* S	Sn	04 00 24.6	+3.3
PTCH	Petorca	1.75	34	*e*P	Pn	04 00 03.8	+0.4
CMCH	Combarbala	2.71	20	*e*P	Pn	04 00 16.1	-0.4

*CSEM **23** 04:24:57.7, 6784N×2019E, h2km, ML3.3, Suspected Mining explosion. After UPP*

*UPP **23** 04:24:57.7, 6784N×2019E, h2km, ML3.3, Suspected Mining explosion.*

HEL 23 04:24:58.1±0.1, 6784N×2019E, h0km, ML3.3(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	26	*i* P	Pg	04 25 00.3	-0.3
KUA				*i* S	Sg	04 25 02.1	-0.1
NIKU	Nikkaluokta	0.44	274	*i* P	Pg	04 25 06.0	-0.5
NIKU	Nikkaluokta	0.44	274	P	Pg	04 25 05.9	-0.6
LANU	Lannavaara	0.71	72	*i* P	Pg	04 25 10.9	-0.8
MASU	Masugnsbyn	0.79	118	*i* P	Pg	04 25 12.4	-0.9
SALU	Saltoluokta	0.79	235	*i* P	Pg	04 25 12.4	-0.9
SALU	Saltoluokta	0.79	235	P	Pg	04 25 12.4	-0.9
	baz=76						
KIF	Kilpisjarvi	1.19	11	*e*P	Pg	04 25 20.4	-0.5
KIF				*e*S	Sg	04 25 36.1	-0.3
PAJU	Pajala	1.40	125	*e*P	Pn	04 25 22.9	-1.9
PAJU	Pajala	1.40	125	P	Pn	04 25 22.9	-1.9
	baz=304						
HARU	Harads	1.71	169	*e*P	Pn	04 25 28.9	-0.3
SGF	Sodankyl	2.46	96	*e*P	Pn	04 25 39.1	-0.3
SGF				*e*S	Sn	04 26 10.2	0.0
KEV	Kevo	3.14	49	*e*P	Pn	04 25 50.1	+1.4
KEV				*e*S	Sn	04 26 26.6	-0.2
OUL	Oulu	3.59	138	*e*S	Sn	04 26 36.8	-1.4

*ISCJB **23** 04:56:06.5±0.5, 3718N±003×2086E±005, h10km, mb3.6/7, Error ellipse: s-maj=5.7km s-min=3.5km az=129.8*

*THE **23** 04:56:08.0, 3725N×2095E, h10km, ML3.7*

*IDC **23** 04:56:08.5±1.4, 3761N×2092E, h0km, mb3.6/6, mb1 3.6/9, mb1mx3.5/23, mbtmp3.5/9, ML3.5/3, Error ellipse: s-maj=26.5km s-min=21.8km az=117.0*

*CSEM **23** 04:56:09.6±0.2, 3719N×2086E, h40km, ML3.6, Error ellipse: s-maj=4.6km s-min=2.4km az=59.0*

*ATH **23** 04:56:10.4, 3742N×2114E, h13km±1km, MD3.8/19, ML3.6*

*NEIC **23** 04:56:10.4, 3741N×2115E, h13km, ML3.6(ATH), After ATH.*

*HLW **23** 04:56:13.9, 3725N×2146E, h33km, Mb3.3*

ISC 23 04:56:08.3±0.5, 3723N±003×2086E±005, h10km, n72, σ1§19/94, mb3.6/7, 3C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.85	93	*e*PB	Pb	04 56 23.5	-1.7
RLS	Riolos of Patr	0.96	30	*e*PB	Pg	04 56 23.0	-3.7
RLS				*e*SB	Sg	04 56 33.6	-5.5
RLS	Riolos of Patr	0.96	30	*e*Pb	Pg	04 56 23.0	-3.7
RLS				*e*Sb	Sg	04 56 34.1	-5.0
VLS	Valsamata	0.97	347	⇑*i*PG	Pg	04 56 26.9	-0.1
VLS				*e*SB	Sg	04 56 39.8	+0.2
VLS	Valsamata	0.97	347	*i* Pgu	Pg	04 56 26.9	-0.1
VLS				*e*Sb	Sg	04 56 40.5	+0.9
VLS	Valsamata	0.97	347	*i* Pg	Pg	04 56 26.9	-0.1
VLS				*e*Sb	Sg	04 56 40.5	+0.9
LKD	Levkas	1.48	354	*e*Pg	Pn	04 56 34.9	-0.2
LKD				*e*Sg	Sn	04 56 56.2	+1.7
VLI	Veliai	1.74	106	*e*PB	Pn	04 56 40.7	+2.2
VLI	Veliai	1.74	106	*e*Pb	Pn	04 56 41.2	+2.7
EVR	Evrytania	1.84	24	*e*PB	Pn	04 56 40.4	+0.4
EVR				*e*SB	Sn	04 57 02.0	-1.3
EVR	Evrytania	1.84	24	*e*Pb	Pn	04 56 40.5	+0.5
EVR				*e*Sb	Sn	04 57 02.0	-1.3
KYTH	Kithira	1.98	118	*e*PG	Pg	04 56 45.5	-0.9
AGG	Agios Georgios	2.13	32	*e*Pn	Pn	04 56 44.5	+0.6
AGG				*e*Sn	Sn	04 57 11.2	+0.7
NAIG	Nisos Aigina	2.15	75	*e*PB	Pn	04 56 43.0	-1.3
NAIG				*e*SN	Sn	04 57 09.8	-1.2
NAIG	Nisos Aigina	2.15	75	*e*Pb	Pn	04 56 43.5	-0.8
NAIG				*e*Sn	Sn	04 57 10.0	-1.0
LKR	Lokris	2.21	49	*e*PN	Pn	04 56 44.7	-0.3
LKR	Lokris	2.21	49	*e*Pn	Pn	04 56 44.3	-0.7
ATH	Athens Observa	2.38	71	*e*PN	Pn	04 56 47.8	+0.4
ATH				*e*SN	Sn	04 57 15.0	-1.7
ATH	Athens Observa	2.38	71	*e*Pn	Pn	04 56 48.0	+0.6
ATH				*e*Sn	Sn	04 57 15.0	-1.7
KVR	Kavouri	2.39	75	*e*PB	Pn	04 56 46.7	-0.7
KVR	Kavouri	2.39	75	*e*Pb	Pn	04 56 47.0	-0.4
JAN	Janina	2.42	360	*e*PN	Pn	04 56 49.5	+1.5
JAN	Janina	2.42	360	*e*Pn	Pn	04 56 50.0	+2.0
THL	Klokotos Trika	2.50	21	⇑*i*PN	Pn	04 56 49.6	+0.6
PTL	Penteli	2.52	70	*e*PN	Pn	04 56 49.5	+0.2
KEK	Kerkira	2.62	342	*e*PN	Pn	04 56 53.6	+3.0
KEK	Kerkira	2.62	342	*e*Pn	Pn	04 56 54.1	+3.5
NEO	Neokhori	2.78	41	*e*PB	Pn	04 56 52.4	-0.5
XOR	Xorichti	2.81	40	*e*Pn	Pn	04 56 52.9	-0.4
XOR				*e*Sn	Sn	04 57 27.6	+0.4
XOR	Xorichti	2.81	40	*e*Pn	Pn	04 56 52.9	-0.4
XOR				*e*Sn	Sn	04 57 27.6	+0.4
LIT	Litokhoron	3.14	23	*e*Pn	Pn	04 56 57.8	0.0
LIT				*e*Sn	Sn	04 57 36.7	+1.5
KZN	Kozani	3.15	13	*e*PN	Pn	04 56 59.0	+1.0
VAM	Vamos	3.25	123	*e*PN	Pn	04 57 02.7	+3.4
VAM	Vamos	3.25	123	*e*Pn	Pn	04 57 02.3	+3.0
FNA	Florina	3.57	6	*e*Pn	Pn	04 57 04.2	+0.5
FNA				*e*Sn	Sn	04 57 47.5	+1.5
APE	Apeiranthos	3.73	91	*e*PN	Pn	04 57 07.9	+1.9
APE	Apeiranthos	3.73	91	⇑*i*P	Pb	04 57 12.1	-2.2
PLG	Polygyros	3.73	32	*e*PN	Pn	04 57 05.9	-0.1
PLG	Polygyros	3.73	32	*e*Pn	Pn	04 57 05.5	-0.5
SANT	Santorini	3.79	102	*e*Pn	Pn	04 57 07.2	+0.5
SANT				*e*Sn	Sn	04 57 46.5	-4.7
SANT	Santorini	3.79	102	*e*Pn	Pn	04 57 07.2	+0.5
SANT				*e*Sn	Sn	04 57 46.5	-4.8
BIA	Bitola	3.80	5	*e*Pn	Pn	04 57 06.3	-0.6
BIA	Bitola	3.80	5	*e*Pn	Pn	04 57 06.2	-0.7
GRG	Griva	3.91	17	*e*Pn	Pn	04 57 08.1	-0.3
OUR	Ouranopolis	3.94	37	*e*Pn	Pn	04 57 08.1	-0.7
KRUS	Krusevo	4.14	4	*e*Pn	Pn	04 57 12.3	+0.7
KNT	Kendrikon	4.23	21	*e*Pn	Pn	04 57 12.9	0.0
KNT				*e*Sn	Sn	04 58 03.4	+1.1
CHOS	Chios island	4.27	73	*e*Pn	Pn	04 57 13.0	-0.4
CHOS				*e*Sn	Sn	04 58 04.5	+1.2
VAY	Valandovo	4.29	17	*e*Pn	Pn	04 57 13.7	0.0
VAY	Valandovo	4.29	17	*e*Pn	Pn	04 57 13.6	-0.1
VTS	Vitosha	5.65	18	⇑*i*P	Pn	04 57 32.3	0.0
DIVS	Divcibare	6.89	355	*i* Pn	Pn	04 57 48.6	-0.8
HMAT	Matruh	8.01	138	⇓P	Pn	04 58 05.1	+0.4
GZR	Gura Zlata	8.28	9	⇓*i*P	Pn	04 58 07.5	-1.0
SWA2		8.84	153	⇓P	Pn	04 58 17.9	+1.8
SWA1		8.92	152	⇓P	Pn	04 58 18.5	+1.4
SWA1				S	Sn	04 59 49.7	-8.0
MLR	Muntele Rosu	9.09	23	Pn	Pn	04 58 18.7	-0.9
	0.3nm,0.3s,baz=188,slow=3.5,SNR=3.3						
MLR	Muntele Rosu	9.09	23	⇓*i*P	Pn	04 58 23.5	+3.9
PLOR	Plostina	9.64	25	⇓*i*P	Pn	04 58 28.0	+0.9
VOY	Vojsko	10.22	332	*e*(Pn)	Pn	04 58 39.7	+4.7
VOY				*e*		04 59 17.0	
BRTR	Keskin Array B	10.32	72	Pn	Pn	04 58 38.0	+1.5
	0.1nm,0.3s,baz=253,slow=13,SNR=3.4						
AWBH		11.16	140	⇓P	Pn	04 58 48.4	+0.5
HFRF	Wahat Farafira	11.86	146	⇓P	Pn	04 58 58.0	+0.6
HFRF	Wahat Farafira	11.86	146	P	Pn	04 58 58.0	+0.5
GERES	GERESS Array B	12.73	338	Pn	Pn	04 59 07.2	-2.1
	0.2nm,0.3s,baz=202,slow=35,SNR=2.7						
HFS	Hagfors	23.38	351	P	P	05 01 15.2	-2.0
	1.3nm,0.5s,mb3.6,baz=161,slow=9.4,SNR=8.8						
EKA	Eskdalemuir Ar	24.36	326	P	P	05 01 24.5	-1.9
	5.7nm,1.2s,mb3.9,baz=342,slow=40,SNR=3.8						
FINES	FINESS Array B	24.46	6	P	P	05 01 25.2	-2.1
	1.0nm,0.5s,mb3.5,baz=173,slow=11,SNR=11						
NOA	NORSAR Array B	24.60	349	P	P	05 01 27.4	-1.2
	0.9nm,0.8s,mb3.3,baz=156,slow=11,SNR=3.5						
KAF	Kangasniemi	25.14	6	ep	P	05 01 31.5	-2.0
	2.0nm,0.4s,mb4.0						
TORD	Torodi Ar. Bea	29.48	221	P	P	05 02 17.7	+5.3
	0.4nm,0.5s,mb3.4,baz=32,slow=8.8,SNR=7.5						
MKAR	Makanchi Array	45.57	58	P	P	05 04 26.6	-1.8
	0.3nm,0.4s,mb3.6,baz=293,slow=6.7,SNR=3.5						

*IDC **23** 05:06:14.7±1.2, 4455×13851E, h0km, mb4.0/2, mb1 4.2/5, mb1mx4.0/9, mbtmp4.1/5, ML4.1/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/19, Error ellipse: s-maj=52.1km s-min=24.1km az=81.0*

*ISCJB **23** 05:06:19.8±0.8, 4785±005×1378E±01, h33km, mb4.3/5, Error ellipse: s-maj=17.9km s-min=6.6km az=177.4*

*NEIC **23** 05:06:19.6±0.9, 4495×13834E, h30km, mb4.2/1, Error ellipse: s-maj=31.3km s-min=16.6km az=82.0*

ISC 23 05:06:22.8±0.8, 4915±004×1377E±01, h35km, n22, σ1§54/28, mb4.3/5, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.35	214	*e*P	Pn	05 08 42.7	+7.7
	48nm,0.6s						
KAKA				*e*S	Sn	05 10 30.5	+12
WB2	Warramunga Arr	15.30	192	*e*P	Pn	05 09 55.6	-0.5
WB2				*e*S	Sn	05 12 41.7	-2.7
WB2	Warramunga Arr	15.30	192	*e*Pn	Pn	05 09 55.9	-0.2
WB2				*e*Sn	Sn	05 12 42.6	-1.7
WRA	Warramunga Arr	15.30	192	Pn	Pn	05 09 55.9	-0.2
	0.6nm,0.3s,baz=16,slow=13,SNR=26						
WRA				Sn	Sn	05 12 43.7	-0.8
	1.1nm,0.3s,baz=11,slow=22,SNR=9.1						
WRA				Lg		05 14 42.5	
	baz=12,slow=29,SNR=3.5						
WRA				LR	LR	05 16 46.4	
	comp=Z,102nm,18.8s,baz=10.0,slow=40						
CTA	Charters Tower	17.22	152	P	Pn	05 10 19.0	-1.5
	0.6nm,0.3s,baz=316,slow=9.1,SNR=5.2						
CTA				Lg		05 15 27.1	
	0.3nm,0.3s,baz=262,slow=18,SNR=3.8						
CTA				LR	LR	05 17 16.9	
	comp=Z,144nm,18.7s,baz=48,slow=38						
FITZ	Fitzroy Crossi	17.66	221	*e*P	Pn	05 10 31.9	+6.0
	12nm,0.6s						
FITZ				*e*S	Sn	05 13 40.8	-0.7
FITZ	Fitzroy Crossi	17.66	221	P	Pn	05 10 32.0	+6.1
	0.1nm,0.3s,baz=42,slow=14,SNR=5.7						
FITZ				S	Sn	05 13 40.3	-1.2
	0.2nm,0.3s,baz=213,slow=23,SNR=2.1						
AS31	Alice Springs	19.01	191	*e*P	Pn	05 10 44.8	+2.4
AS31				*e*S	S	05 14 11.8	-3.5
ASAR	Alice Springs	19.01	191	P	Pn	05 10 45.3	+2.9
	1.7nm,0.3s,baz=18,slow=10,SNR=94						
ASAR				S	S	05 14 17.5	+2.1
	0.4nm,0.3s,baz=13,slow=29,SNR=4.5						
ASAR				Lg		05 16 43.6	
	baz=15,slow=30,SNR=3.3						
ASPA	Alice Springs	19.01	191	⇑*i*P	Pn	05 10 45.1	+2.7
ASPA				*e*S	S	05 14 12.7	-2.7
STKA	Stephens Creek	27.07	173	P	P	05 12 06.8	+4.8
	1.2nm,0.6s,mb3.6,baz=347,slow=9.7,SNR=4.2						
SONM	Songino Array	59.30	336	P	P	05 16 18.4	-2.6
	1.1nm,0.6s,mb4.1,baz=156,slow=7.5,SNR=8.7						
GUN	Gumba	59.66	306	*e*P	P	05 16 24.3	+0.8
	5.8nm,0.4s,mb4.9						
PKI	Pulchoki	59.90	306	*e*P	P	05 16 25.4	+0.3
KKN	Kakani	60.10	306	*e*P	P	05 16 26.9	+0.4
DMN	Daman	60.16	306	*e*P	P	05 16 27.2	+0.3
GKN	Gorkha	60.70	306	*e*P	P	05 16 30.8	+0.2
KOLN	Koldanda	61.45	305	*e*P	P	05 16 36.2	+0.5
	12nm,0.9s,mb5.1						
MKAR	Makanchi Array	70.94	323	P	P	05 17 34.4	-2.1
	1.4nm,0.8s,mb4.0,baz=119,slow=7.5,SNR=8.0						
TORD	Torodi Ar. Bea	135.88	284	PKP	PKPdf	05 25 38.6	-1.2
	0.5nm,1.0s,baz=60,slow=1.2,SNR=4.8						
CPUP	Villa Florida	145.69	156	PKPbc	PKPbc	05 25 59.5	+1.6
	0.2nm,0.3s,baz=165,slow=6.9,SNR=3.4						
LPAZ	La Paz	146.86	130	PKPbc	PKPbc	05 25 58.4	-2.9
	1.4nm,0.7s,baz=251,slow=5.3,SNR=7.8						

*NEIC **23** 05:15:53.4±0.3, 4978×12538E, h10km, mb5.3/24, Error ellipse: s-maj=12.5km s-min=6.3km az=71.0*

*GCMT **23** 05:15:53.4±0.2, 4938×12528E, h18km, MW5.2/84, Moment Tensor Solution. s60,c86; s84,c147; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.22±.20; $M_{\theta\theta}$-1.35±.11; $M_{\phi\phi}$-4.87±.14; $M_{r\theta}$2.04±.27; $M_{\theta\phi}$2.55±.08; $M_{\phi r}$-5.00±.33; Best double couple: $M_0$8.23300×10^{16} NP1:ϕ_s329.00000°, δ25.00000°, λ84.00000°. NP2: ϕ_s156.00000°, δ66.00000°, λ93.00000°. Principal axes: T 8.2510, Plg69.0000°, Azm72.0000°; N -0.0360, Plg3.0000°, Azm335.0000°; P -8.2150, Plg20.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **23** 05:15:55.0±1.2, 5068×12538E, h33km, mb5.4/26, MS4.4/4 Error ellipse: s-maj=13.3km s-min=6.8km az=114.5*

*ISCJB **23** 05:15:57.8±0.2, 4928×12538E±004, h57km, mb4.9/85, MS4.5/28, Error ellipse: s-maj=5.7km s-min=3.9km az=150.1*

*BJI **23** 05:15:57.9, 4618×12531E, h76km, mB5.3, mb4.8, Ms4.9, Msz4.8*

*IDC **23** 05:15:58.3±3.9, 4978×12541E, h48km±38km, mb4.3/25, mb1 4.3/25, mb1mx4.3/27, mbtmp4.5/25, MS4.2/11, Ms1 4.2/11, ms1mx3.9/29, Error ellipse: s-maj=19.4km s-min=10.5km az=78.0*

ISC 23 05:15:59.9±0.2, 4958N±003×12546E±004, h59km, h59km±4.1km: pP-P, n186, σ1§25/195, mb4.9/85, MS4.5/28, 5C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	2.08	350	⇓*i*P	Pn	05 16 36.9	+4.6
KCP				*i* S	Sn	05 17 04.4	+7.2
DAV	Davao City (W)	2.11	3	⇑*e*P	Pn	05 16 34.0	+1.2
DAV	Davao City (W)	2.11	3	*e*Pn	Pn	05 16 33.9	+1.1
MATI	Mati	2.13	22	*e*P	Pn	05 16 31.3	-1.8
CTBH	Cotabato--PC H	2.56	332	⇓*e*P	Pn	05 16 36.8	-2.1
BUKP	Musuan	2.94	352	*e*P	Pn	05 16 44.2	+0.1
PAGZ	Pagadian	3.54	324	*e*P	Pn	05 16 50.7	-1.7
SCPH	Surigao	4.80	0	*e*P	Pn	05 17 10.4	+0.8
SNPH	Sibulan	4.89	333	*e*P	Pn	05 17 18.0	+7.2
MSLP	Maasin	5.18	353	*e*P	Pn	05 17 24.1	+9.3
OTRP	Odiongan	8.11	335	*e*P	Pn	05 17 52.4	-2.5
KKM	Kota Kinabalu	9.27	277	*e*Pn	Pn	05 18 12.1	+1.4
LUBP	Lubang	10.13	330	*e*P	Pn	05 18 28.0	+5.5
KAPI	Kappang	11.42	210	Pn	Pn	05 18 44.8	+4.6
	445nm,1.4s,SNR=5.2						
BOLP	Bolinao	12.60	335	*e*P	Pn	05 19 01.1	+4.9
CVP	Callao Caves	13.17	345	⇓*e*P	Pn	05 19 10.0	+6.1
KSM	Kuching	15.52	258	*e*Pn	Pn	05 19 37.7	+2.8
KSM				*e*Sn	Sn	05 22 21.2	-4.6
KAKA	Kakadu	18.87	158	*e*P	Pn	05 20 12.7	-3.6
	39nm,0.6s						
QIZ	Qiongzhong	20.69	314	P	P	05 20 36.5	+1.5
QIZ				AP		05 20 52.3	
QIZ				PPP		05 21 13.4	
QIZ				S	S	05 24 25.3	+2.5
QIZ				SS		05 24 54.0	
QIZ				AMB	AMB		
	comp=Z,27nm,1.6s						
QIZ				AMB	AMB		
	comp=Z,283nm,4.1s						
QIZ				LR	LR		
	comp=N,2μm,15.6s						
QIZ				LR	LR		
	comp=Z,2μm,15.6s,MS4.5						
QZH	Quanzhou	20.95	342	P	P	05 20 37.6	-0.2
QZH				S	S	05 24 23.1	-4.8
QZH				AMB	AMB		
	comp=Z,230nm,1.6s						
QZH				AMB	AMB		
	comp=Z,1μm,6.1s						
QZH				LR	LR		
	comp

comp=Z,537nm,16.4s,MS4.2
SSE Sheshan 26.32 352 P **P** **05 21 32.8 +2.8**
comp=Z,51nm,0.7s,mb5.2
SSE sP sP 05 21 57.7 +6.2
SSE S **S** **05 25 59.8 +1.2**
SSE sS sS 05 26 28.8 +5.4
SSE LR LR
comp=Z,540nm,16.4s,MS4.2
MBWA Marble Bar 26.55 192 *e*P **P** **05 21 30.9 -1.2**
comp=Z,120nm,1.2s,mb5.3
PSI Prapat 26.56 266 P **P** **05 21 33.5 +1.3**
comp=Z,9.0nm,0.8s,mb4.3,baz=108,slow=2.9,SNR=16
PSI LR LR 05 33 38.9
comp=Z,950nm,19.4s,MS4.3,baz=239,slow=40
NST Nakhon Sawan 27.07 295 P **P** **05 21 36.0 -0.7**
CBIJ Chichi jima 27.19 34 P **P** **05 21 37.4 -0.5**
comp=Z,49nm,0.6s,mb5.2,baz=284,slow=20,SNR=6.9
CBIJ LR LR 05 32 13.5
comp=Z,165nm,21.1s,MS3.6,baz=195,slow=36
NJ2 Nanjing 27.66 348 *e*P **P** **05 21 44.4 +2.3**
NJ2 AP pP 05 22 02.1 +5.5
NJ2 XP sP 05 22 10.1 +6.5
NJ2 PP PP 05 22 36.0 -9.4
NJ2 S **S** **05 26 21.0 +1.1**
NJ2 XS sS 05 26 51.0 +6.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,570nm,5.6s
NJ2 LR LR
comp=N,2μm,25.2s
NJ2 LR LR
comp=E,2μm,16.9s
NJ2 LR LR
comp=Z,6μm,14.0s
GYA Guiyang 27.93 322 P **P** **05 21 47.1 +2.6**
GYA AP pP 05 22 04.0 +5.0
GYA PP PP 05 22 39.5 -8.9
GYA PCP PcP 05 25 01.3 +2.7
GYA S **S** **05 26 25.3 +1.2**
GYA XS sS 05 26 54.3 +5.4
GYA SS 05 27 51.0
GYA SCP ScP 05 28 34.5 +0.2
GYA PCS PcS 05 28 41.9 +1.2
GYA SCS ScS 05 32 25.8 -0.9
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,1μm,13.4s,MS4.8
GYA LR LR
comp=E,1μm,15.6s,MS4.8
GYA LR LR
comp=Z,2μm,15.7s,MS4.8
CHG Chiang Mai 29.32 300 ⇓P **P** **05 22 05.5 +8.7**
comp=Z,24nm,0.6s,mb5.1
CHTO Chiang Mai 29.32 300 *e*P **P** **05 21 57.2 +0.4**
CHTO pmax pmax
comp=Z,59nm,1.5s,mb5.1
CHTO Chiang Mai 29.32 300 *e*P **P** **05 21 57.2 +0.4**
comp=Z,59nm,1.5s,mb5.1
CHTO *e*PcP PcP 05 24 52.5 -10
AS31 Alice Springs 29.61 164 *e*P **P** **05 22 00.2 +0.8**
ASAR Alice Springs 29.61 164 P **P** **05 21 59.0 -0.3**
comp=Z,2.1nm,0.5s,mb4.1,baz=345,slow=7.5,SNR=21
ASPA Alice Springs 29.61 164 *e*P **P** **05 22 00.2 +0.8**
KMI Kunming 29.63 315 P **P** **05 21 59.4 -0.1**
KMI PP PP 05 22 56.1 -11
KMI S **S** **05 26 51.3 +0.6**
KMI SS SS 05 28 25.8 -33
KMI SSS 05 28 48.3
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,137nm,4.9s
KMI LR LR
comp=N,535nm,13.7s,MS4.6
KMI LR LR
comp=E,934nm,15.1s,MS4.6
KMI LR LR
comp=Z,1μm,13.7s,MS4.6
KMI Kunming 29.63 315 P **P** **05 21 59.4 -0.1**
KMI *PP pP 05 22 09.7 -4.5
KMI *SP sP 05 22 15.2 -5.9
KMI 05 22 56.1
KMI S **S** **05 26 51.3 +0.6**
KMI *SS sS 05 27 07.5 -8.1
KMI SS SS 05 28 25.8 -33
KMI SSS 05 28 48.2
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KMI MLR MLR
comp=Z,1μm,13.7s,MS4.6
KMI Kunming 29.63 315 P **P** **05 21 59.4 -0.1**
comp=Z,10.0nm,0.9s,mb4.5
KMI pP pP 05 22 09.7 -4.5
KMI sP sP 05 22 15.2 -5.9
KMI PP PP 05 22 56.1 -11
KMI S **S** **05 26 51.3 +0.6**
KMI sS sS 05 27 07.5 -8.1
KMI SS SS 05 28 25.8 -33
KMI SSS 05 28 48.2
KMI LR LR
comp=Z,1μm,13.7s,MS4.6
JHJ Hachijo jima 2 31.05 24 LR LR 05 32 23.4
comp=Z,348nm,20.9s,MS4.0,baz=247,slow=32
CTA Charters Tower 32.20 141 *e*P pP 05 22 34.6 -2.3
comp=Z,17nm,0.9s
CTA Charters Tower 32.20 141 P **P** **05 22 23.6 +1.4**
comp=Z,5.7nm,1.0s,mb4.4,baz=349,slow=8.7,SNR=2.0
XAN Xi'an 32.77 334 P **P** **05 22 25.9 -1.3**
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CD2 Chengdu 32.92 324 ⇓*i*P **P** **05 22 28.5 0.0**
CD2 AP pP 05 22 44.5 +1.3
CD2 PP PP 05 23 41.0 -2.8
CD2 PCP PcP 05 25 11.0 -0.7
CD2 S **S** **05 27 41.0 -1.1**
CD2 XS sS 05 28 08.9 +1.8
CD2 PCS PcS 05 28 55.6 -1.5
CD2 SS SS 05 29 44.5 -21
CD2 SCS ScS 05 32 47.0 -3.8
CD2 AMB AMB
comp=Z,20nm,1.6s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,1μm,16.8s,MS4.8
CD2 LR LR
comp=E,1μm,16.8s,MS4.8
CD2 LR LR
comp=Z,1μm,15.6s,MS4.8
MAJO Matsushiro 33.55 19 *e*P **P** **05 22 33.1 -0.9**
MAJO pmax pmax
comp=Z,43nm,1.3s,mb5.2
MAJO Matsushiro 33.55 19 *e*P **P** **05 22 33.1 -0.9**
comp=Z,43nm,1.3s,mb5.2
MAT Matsushiro 33.55 19 P **P** **05 22 33.2 -0.8**
MAT S **S** **05 27 52.0 +0.1**
MJAR Matsushiro Arr 33.55 19 P **P** **05 22 32.5 -1.4**
comp=Z,6.3nm,0.9s,mb4.6,baz=195,slow=9.2,SNR=9.1
MJAR LR LR 05 34 59.0
comp=Z,345nm,20.1s,MS4.1,baz=210,slow=34
FORT Forrest 35.61 176 *e*P **P** **05 22 52.4 +0.6**
comp=Z,30nm,0.5s,mb5.5
BJI Beijing 35.92 348 P **P** **05 23 00.0 +5.5**
BJI AMB AMB
comp=Z,15nm,1.4s,mb4.7
SNY Shenyang 36.76 358 ⇑P **P** **05 23 06.8 +5.2**
SNY AMB AMB
comp=Z,21nm,1.2s,mb4.8
LZH Lanzhou 36.82 330 P **P** **05 23 03.0 +0.9**
LZH AP pP 05 23 15.8 -1.1
LZH PP PP 05 24 30.4 +3.6
LZH S **S** **05 28 42.4 +0.3**
LZH *e*SS SS 05 31 13.0 -12
LZH AMB AMB
comp=Z,140nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,3μm,17.4s,MS5.2
LZH Lanzhou 36.82 330 P **P** **05 23 03.0 +0.9**
comp=Z,140nm,1.6s,mb5.5
LZH pP pP 05 23 15.7 -1.2
LZH sP sP 05 23 22.8 -1.0
LZH PP PP 05 24 30.4 +3.6
LZH S **S** **05 28 42.4 +0.3**
LZH sS sS 05 29 08.0 +0.7
LZH *e*SS SS 05 31 13.0 -12
LZH LR LR
comp=Z,3μm,17.4s,MS5.2
KLBR Kellerberrin 37.07 191 *e*P **P** **05 23 03.0 -1.2**
comp=Z,34nm,1.0s,mb5.1
MUN Mundaring 37.77 193 *e*P pP 05 23 22.6 -2.4
HHC Hu-ho-hao-te 37.86 343 *e*P **P** **05 23 14.5 +3.6**
HHC AP pP 05 23 30.3 +4.5
HHC XP sP 05 23 38.3 +5.6
HHC PP PP 05 24 45.4 +7.2
HHC S **S** **05 29 04.8 +6.9**
HHC XS sS 05 29 27.0 +3.9
HHC SS SS 05 31 39.9 -5.8
HHC AMB AMB
comp=Z,16nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,237nm,5.6s
HHC LR LR
comp=N,696nm,18.1s
HHC LR LR
comp=E,591nm,8.0s
HHC LR LR
comp=Z,589nm,14.1s,MS4.5
SHL Shillong 38.14 306 *e*P **P** **05 23 12.8 -0.5**
NWAO Narrogin (SRO) 38.47 191 P **P** **05 23 15.7 -0.3**
comp=Z,17nm,0.9s,mb4.8,baz=24,slow=7.5,SNR=5.6
CN2 Changchun 38.69 360 *e*P **P** **05 23 19.9 +2.0**
MDJ Mudanjiang 39.67 5 P **P** **05 23 28.3 +2.2**
MDJ AP pP 05 23 43.6 +2.6
MDJ XP sP 05 23 50.8 +2.9
MDJ S **S** **05 29 28.8 +3.6**
MDJ SCS ScS 05 33 29.3 +1.1
MDJ AMB AMB
comp=Z,30nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,462nm,5.1s
MDJ LR LR
comp=N,222nm,22.2s,MS4.2
MDJ LR LR
comp=E,318nm,24.0s,MS4.2
MDJ LR LR
comp=Z,226nm,18.7s
STKA Stephens Creek 39.72 158 *e*P **P** **05 23 26.9 +0.5**
comp=Z,17nm,0.7s,mb4.9
STKA Stephens Creek 39.72 158 P **P** **05 23 27.0 +0.6**
comp=Z,21nm,1.1s,mb4.8,baz=338,slow=8.1,SNR=14
LSA Lhasa 40.69 311 P **P** **05 23 36.4 +1.9**
GTA Gaotai 41.41 330 P **P** **05 23 40.4 0.0**
GTA AP pP 05 23 55.5 +0.1
GTA PP PP 05 25 21.1 +4.2
GTA PCP PcP 05 25 37.6 +0.1
GTA S **S** **05 29 52.3 +1.2**
GTA SS SS 05 32 54.3 -2.6
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,224nm,6.9s
GTA LR LR
comp=N,940nm,16.4s,MS4.9
GTA LR LR
comp=E,783nm,15.2s,MS4.9
GTA LR LR
comp=Z,1μm,16.0s,MS4.9
ASAJ Asahikawa 41.82 19 P **P** **05 23 45.0 +1.2**
comp=Z,5.8nm,0.3s,mb4.6,baz=253,slow=11,SNR=4.3
BOK Bokaro 42.45 300 *e*P **P** **05 23 47.6 -1.3**
VIS Vishakhapatnam 43.10 291 *e*P **P** **05 23 55.3 +1.2**
VIS AMb AMB 05 24 05.8
comp=Z,45nm,1.6s,mb5.0
ARMA Armidale 43.17 146 *e*P pP 05 24 05.1 -4.8
GUN Gumba 43.99 306 *e*P **P** **05 24 01.9 +0.6**
comp=Z,275nm,1.4s,mb5.8
PKI Pulchoki 44.24 305 *e*P **P** **05 24 03.3 0.0**
comp=Z,54nm,1.2s,mb5.2
KKN Kakani 44.43 305 *e*P **P** **05 24 04.8 0.0**
comp=Z,76nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 44.43 17 *e*P **P** **05 24 05.4 +0.6**
YSS *e* 05 24 14.5
YSS pmax pmax
comp=Z,30nm,1.1s,mb4.9
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.4
KLR Kul'dur 44.45 6 *e*P **P** **05 24 00.0 -4.9**
KLR pmax pmax
comp=Z,54nm,1.6s,mb5.0
DMN Daman 44.50 305 *e*P **P** **05 24 05.5 +0.1**
comp=Z,83nm,1.2s,mb5.3
GKN Gorkha 45.03 305 *e*P **P** **05 24 09.4 -0.2**
comp=Z,62nm,1.2s,mb5.3
MDRS Chennai 45.32 283 *ex* x 05 24 55.8
SONM Songino Array 45.75 342 P **P** **05 24 15.1 -0.2**
comp=Z,1.1nm,0.8s,mb3.9,baz=156,slow=7.0,SNR=6.5
SONM LR LR 05 46 15.7
comp=Z,450nm,18.2s,MS4.5,baz=158,slow=40
KOLN Koldanda 45.80 304 *e*P **P** **05 24 16.0 +0.4**
comp=Z,58nm,1.0s,mb5.5
CNB Canberra Magne 45.92 153 ⇓*i*P **P** **05 24 18.8 +2.1**
comp=Z,27nm,1.1s,mb5.1
TOO Toolangi 46.23 158 *e*P **P** **05 24 21.1 +2.0**
comp=Z,23nm,1.2s,mb5.0
TOO Toolangi 46.23 158 *e*P **P** **05 24 21.1 +2.0**
TOO pmax pmax
comp=Z,23nm,1.2s,mb5.0
HYB Hyderabad 47.52 289 *i* P **P** **05 24 28.0 -1.1**
HYB *e*S **S** **05 31 22.0 +2.3**
HYB Hyderabad 47.52 289 *e*P **P** **05 24 30.0 +0.9**
HYB *e* 05 27 22.0
TRD Trivandrum 48.27 277 *e*P **P** **05 24 35.0 0.0**
BHPL Bhopal 49.73 296 *e*P **P** **05 24 46.0 -0.1**
BHPL AMb AMB 05 24 51.2
comp=Z,40nm,1.6s,mb5.2
TLY Talaya 49.99 342 *e*P pP 05 25 04.3 +0.8
TLY *e*S **S** **05 31 59.8 +5.4**
TLY *e*SS ScS 05 34 39.4 +5.4
TLY pmax pmax
comp=Z,14nm,1.3s,mb4.8
TLY MLR MLR
comp=Z,382nm,17.0s,MS4.5
MNGI Mangalore 50.57 283 *e*P **P** **05 24 52.4 -0.1**
WMQ Urumqi 51.01 325 P **P** **05 24 56.4 +0.7**
WMQ AP pP 05 25 12.0 +0.8
WMQ XP sP 05 25 19.0 +1.0
WMQ PCP PcP 05 26 12.0 +0.9
WMQ PP PP 05 26 54.0 +1.4
WMQ S **S** **05 32 08.0 -0.5**
WMQ SS SS 05 35 41.0 -3.0
WMQ AMB AMB
comp=Z,20nm,1.8s,mb4.8
WMQ AMB AMB
comp=Z,222nm,6.6s
WMQ LR LR
comp=N,1μm,16.0s,MS5.2
WMQ LR LR
comp=E,991nm,14.8s,MS5.2
WMQ LR LR
comp=Z,1μm,17.2s,MS5.0
NDI New Delhi 51.40 303 *e*P **P** **05 24 58.2 -0.5**
KAD Karad 51.63 288 *e*P **P** **05 24 59.8 -0.6**
KAD AMb AMB 05 25 02.8
comp=Z,25nm,1.4s,mb4.9
POO Poona 52.11 290 *e*P **P** **05 25 02.0 -2.0**
AJM Ajmer 52.97 300 *e*P **P** **05 25 10.7 +0.4**
AJM AMb AMB 05 25 28.6
comp=Z,62nm,1.9s,mb5.2
BOD Bodaibo 53.49 352 *e*P **P** **05 25 11.7 -2.4**
BOD pmax pmax
comp=Z,13nm,1.9s,mb4.5
THN Thein Dam 53.83 307 *e*P **P** **05 25 15.5 -1.1**
PET Petropavlovsk 55.11 24 *e*P **P** **05 25 29.9 +4.0**
PET *e*S **S** **05 32 59.8 -4.6**
PET MLR MLR
comp=Z,200nm,20.0s,MS4.2
MK31 Makanchi Array 55.84 325 *e*P **P** **05 25 30.7 -0.5**
MKAR Makanchi Array 55.84 325 P **P** **05 25 30.9 -0.2**
comp=Z,4.8nm,0.6s,mb4.7,baz=122,slow=8.3,SNR=41
MKAR LR LR 05 51 53.7
comp=Z,459nm,18.6s,MS4.6,baz=11,slow=39
MKAR Makanchi Array 55.84 325 *i* P **P** **05 25 30.5 -0.7**
MKAR pmax pmax
comp=Z,163nm,1.9s
KSH Kashi 56.29 315 *e*P **P** **05 25 36.1 +1.7**
KSH *e*AP pP 05 25 50.1 0.0
KSH *e*XP sP 05 25 58.3 +1.5
KSH *e*PCP PcP 05 26 33.6 +2.4
KSH *e*PP PP 05 27 42.3 +2.1
KSH *e*PPP 05 28 58.8
KSH *e*SCP ScP 05 30 25.4 0.0
KSH *e*S **S** **05 33 17.8 -2.3**
KSH *e*SCS ScS 05 35 15.3 -3.0
KSH *e*SS SS 05 37 04.5 -2.9
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH AMB AMB
comp=Z,464nm,3.9s
KSH LR LR
comp=Z,4μm,11.6s
YAK Yakutsk 57.04 2 *e*P **P** **05 25 39.3 -0.4**
YAK pmax pmax
comp=N,36nm,1.2s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,50nm,1.2s,mb5.4
YAK Yakutsk 57.04 2 *e*P **P** **05 25 39.6 -0.1**
comp=Z,56nm,0.8s,mb5.7
MA2 Magadan 57.85 15⇑*e*P **P** **05 25 46.2 +0.8**
MA2 pmax pmax
comp=Z,86nm,1.6s,mb5.5
AAK Ala-Archa 58.61 318 P **P** **05 25 50.9 +0.2**
SNR=20
AAK Ala-Archa 58.61 318 *e*P **P** **05 25 50.0 -0.7**
AAK pmax pmax
comp=Z,58nm,1.8s,mb5.3
AAK Ala-Archa 58.61 318 *e*P **P** **05 25 50.0 -0.7**
comp=Z,58nm,1.8s,mb5.3
FRU Bishkek 58.61 318 *e*P **P** **05 25 51.0 +0.3**
FRU pmax pmax
comp=Z,100nm,2.1s,mb5.5
KURK Kurchatov 60.04 328 P **P** **05 25 59.2 -1.4**
comp=Z,123nm,1.2s,mb5.8,SNR=16
NVS Novosibirsk 60.22 333 *e*P **P** **05 25 59.3 -2.5**
NVS pmax pmax
comp=Z,38nm,1.8s,mb5.1
NVS pmax pmax
comp=N,38nm,1.9s
NVS pmax pmax
comp=E,23nm,1.6s
SEY Seymchan 61.14 14⇑*e*P **P** **05 26 08.6 +0.5**
RAO Raoul Island 64.06 126 LR LR 05 51 13.5
comp=E,216nm,19.4s,MS4.3,baz=111,slow=33
BVA0 Borovoye Array 65.61 327 *i* P **P** **05 26 36.2 -1.4**
BVA0 pmax pmax
comp=Z,19nm,2.0s,mb4.8
BVAR Borovoye Array 65.61 327 P **P** **05 26 36.8 -0.8**
comp=Z,4.7nm,0.9s,mb4.5,baz=123,slow=7.3,SNR=25
BRVK Borovoye 65.69 327 P **P** **05 26 37.7 -0.4**
comp=Z,96nm,1.2s,mb5.7,SNR=8.5
BRVK Borovoye 65.69 327 P **P** **05 26 37.8 -0.3**
SNR=14
BRVK Borovoye 65.69 327 *e*P **P** **05 26 36.8 -1.3**
BRVK pmax pmax
comp=Z,40nm,1.3s,mb5.3
BRVK Borovoye 65.69 327 *e*P **P** **05 26 36.8 -1.3**
comp=Z,40nm,1.3s,mb5.3
CHKZ Chkalovo 65.78 328 *e*P **P** **05 26 36.9 -1.8**
CHKZ pmax pmax
comp=Z,72nm,1.8s,mb5.4
CHKZ Chkalovo 65.78 328 *e*P **P** **05 26 36.9 -1.8**
comp=Z,72nm,1.8s,mb5.4
ZRNK Zerenda 66.34 327 *e*P **P** **05 26 40.8 -1.5**
ZRNK pmax pmax
comp=Z,76nm,1.6s,mb5.5
ZRNK Zerenda 66.34 327 *e*P **P** **05 26 40.8 -1.5**
comp=Z,76nm,1.6s,mb5.5
TIXI Tiksi 66.65 1 *e*P **P** **05 26 39.5 -4.8**
TIXI *e* pP 05 26 51.4 -8.9
TIXI *e*S S 05 35 29.4 -1.9
TIXI pmax pmax
comp=Z,27nm,1.5s,mb5.1
BILL Bilibino 68.71 15 *e*P **P** **05 26 58.6 +1.4**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
HATD Hatta, Dubai 69.19 295 P **P** **05 27 01.0 +0.8**
SNR=7.2
AB31 Akbulak array 70.41 321 *i* P **P** **05 27 06.4 -1.3**
AB31 pmax pmax
comp=Z,58nm,1.6s,mb5.3
RBK Rabkut 70.66 287 P **P** **05 27 10.5 +1.3**
SNR=8.5
WHFO Wadi Hawf 71.08 287 P **P** **05 27 11.9 +0.1**
SNR=11
ABTO Aybut 71.53 287 P **P** **05 27 14.8 +0.4**
SNR=13
CASY Casey 71.88 186 *e*P **P** **05 27 16.2 -0.3**
AKTK Aktyubinsk 71.92 322 P **P** **05 27 15.9 -0.9**
AKTO Aktyubinsk 71.92 322 P **P** **05 27 15.9 -0.9**
comp=Z,5.8nm,0.9s,mb4.5,baz=96,slow=9.3,SNR=18
AKTO Aktyubinsk 71.92 322 P **P** **05 27 15.9 -0.9**
AKTO pmax pmax
comp=Z,13nm,1.6s,mb4.6
ARU Arti 73.24 328 *e*P **P** **05 27 20.6 -4.0**
ARU pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ORR Orenburg 74.20 322 P **P** **05 27 29.7 -0.6**
ORR pmax pmax
comp=Z,60nm,2.2s,mb5.1
ORR MLR MLR
comp=Z,360nm,20.0s,MS4.7
MIR Mirnyy 75.05 193 *e*P **P** **05 27 36.5 +1.3**
MIR pmax pmax
comp=Z,29nm,1.9s,mb4.9
MAK Makhachkala 77.83 313 *d i*P PcP 05 28 02.3 +1.6
MAK *i* 05 28 17.3
MAK *e*S S 05 37 40.1 +1.0
MAK *e* 05 38 00.5
MAK pmax pmax
comp=Z,13nm,1.5s,mb4.6
GNI Garni 79.74 310 P **P** **05 28 03.1 +1.7**
comp=Z,2.6nm,0.4s,mb4.6,baz=350,slow=16,SNR=3.7
GNI Garni 79.74 310 *e*P **P** **05 28 01.5 +0.1**
GNI pmax pmax
comp=Z,6.0nm,1.3s
GNI Garni 79.74 310 *e*P **P** **05 28 02.7 +1.4**
comp=Z,76nm,1.5s,mb5.4
SVW2 Sparrevohn 80.35 29 *e*P **P** **05 28 07.0 +2.3**
KIV Kislovodsk 81.39 314 *e*P **P** **05 28 09.3 -0.9**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
IMA2 Indian Mountai 81.79 24 *e*P **P** **05 28 12.9 +0.6**
PMR Palmer 83.49 29 *e*P **P** **05 28 22.4 +1.2**
PMR pmax pmax
comp=Z,26nm,2.8s,mb4.8
PMR Palmer 83.49 29 *e*P **P** **05 28 22.4 +1.2**
comp=Z,257nm,2.8s,mb5.8
MCK McKinley 83.64 27 *e*P **P** **05 28 21.7 -0.3**
comp=Z,5μm,0.6s
COLA College 84.14 25 *e*P **P** **05 28 22.6 -1.9**
TMCR Tamitsa 84.45 334 P **P** **05 28 23.2 -2.9**
TMCR pmax pmax
comp=Z,25nm,1.0s,mb5.3
MAW Mawson 84.46 200 *e*P **P** **05 28 25.6 -0.5**
comp=Z,6.9nm,1.3s,mb4.6
MAW Mawson 84.46 200 P **P** **05 28 25.7 -0.4**
comp=Z,2.5nm,1.0s,mb4.3,baz=27,slow=11,SNR=5.2
MAW LR LR 06 01 04.5
comp=Z,147nm,20.7s,MS4.3,baz=179,slow=32
MAW Mawson 84.46 200 *e*P **P** **05 28 25.6 -0.5**
MAW pmax pmax
comp=Z,7.0nm,1.3s
MOS Moscow 84.72 325 *e*P **P** **05 28 23.2 -4.2**
VNDA Vanda 84.79 173 P **P** **05 28 27.2 -0.6**
comp=Z,1.5nm,0.9s,mb4.1,baz=342,slow=7.7,SNR=7.1
OBN Obninsk 85.34 325 *e*P **P** **05 28 28.6 -1.9**
OBN *i* pP 05 28 40.3 -6.9
OBN *e* pP 05 28 46.2 -1.0

OBN pmax pmax
comp=Z,40nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.6
ASF Jabal al Asfar 86.18 302 P **P** **05 28 35.3 +0.6**
comp=Z,5.5nm,1.1s,mb4.7,baz=323,slow=1.2,SNR=9.0
APA Apatity 86.25 337⇑*eP* **P** **05 28 35.5 +0.5**
APA *i* 05 28 43.2
APA pmax pmax
comp=Z,25nm,1.2s,mb5.3
BR131 Keskin Array S 88.27 310 *e*P **P** **05 28 44.5 -0.2**
comp=Z,2.4nm,0.8s,mb4.5
BRTR Keskin Array B 88.27 310 P **P** **05 28 43.4 -1.4**
comp=Z,1.1nm,1.0s,mb4.1,baz=98,slow=4.4,SNR=6.4
BRTR Keskin Array B 88.27 310 *i* P **P** **05 28 42.7 -2.1**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 88.31 269 P **P** **05 28 45.3 +0.3**
comp=Z,1.0nm,0.5s,mb4.3,baz=22,slow=22,SNR=7.6
ARCES ARCESS Array B 88.88 340 P **P** **05 28 49.6 +2.0**
comp=Z,0.7nm,0.4s,mb4.4,baz=197,slow=37,SNR=3.6
ARCES LR LR 06 10 58.6
comp=Z,126nm,18.7s,MS4.4,baz=26,slow=37
AKASG Malin Array Be 90.16 321 P **P** **05 28 51.6 -2.0**
comp=Z,0.2nm,0.3s,mb4.0,baz=69,slow=5.3,SNR=5.2
FINES FINESS Array B 90.17 332 P **P** **05 28 51.5 -2.2**
comp=Z,2.4nm,0.7s,mb4.6,baz=155,slow=5.9,SNR=3.9
SYO Syowa Base 93.10 201⇓*eP* pP 05 29 16.0 -8.0
MLR Muntele Rosu 93.15 316 P **P** **05 29 06.7 -0.8**
comp=Z,0.5nm,0.3s,mb4.4,baz=121,slow=19,SNR=3.1
NB2 NORSAR Subarra 97.14 333 P **P** **05 29 23.0 -2.7**
comp=Z,3.7nm,1.0s,mb4.8,baz=66,slow=4.6
NB2 NORSAR Subarra 97.14 333 P **P** **05 29 23.0 -2.7**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
NOA NORSAR Array B 97.14 333 P **P** **05 29 23.4 -2.3**
comp=Z,0.7nm,0.7s,mb4.2,baz=67,slow=4.6,SNR=3.3
NVAR Mina Array Bea 107.03 47 Pdiff Pdif 05 30 12.3 +2.5
comp=Z,0.3nm,0.5s,baz=251,slow=4.5,SNR=4.2
NVAR Mina Array Bea 107.03 47 Pdif Pdif 05 30 12.3 +2.5
TORD Torodi Ar. Bea 121.34 289 PKP PKPdf 05 34 46.5 +0.2
comp=Z,1.3nm,0.8s,baz=88,slow=1.5,SNR=9.2
TORD Torodi Ar. Bea 121.34 289 PKP PKPdf 05 34 46.5 +0.2
TXAR Lajitas Array 121.84 51 PKP PKPdf 05 34 49.3 +2.1
comp=Z,0.4nm,0.6s,baz=163,slow=1.3,SNR=4.6
LPAZ La Paz 162.54 131 PKP PKPdf 05 35 58.0 +3.1
comp=Z,0.9nm,0.8s,baz=333,slow=2.3,SNR=4.1

*IDC **23** 05:18:34.4±0.7, 5.15N×12555E, h0km, mb4.5/12, mb1 4.5/12, mb1mx4.4/19, mbtmp4.5/12, MS4.1/4, Ms1 4.1/4, ms1mx3.8/24, Error ellipse: s-maj=26.8km s-min=15.4km az=79.0*
*NEIC **23** 05:18:35.2±0.6, 508N×12552E, h10km, mb5.0/7, Error ellipse: s-maj=24.1km s-min=11.8km az=77.0*
*MOS **23** 05:18:37.6±1.3, 525N×12555E, h33km, mb5.0/2, Error ellipse: s-maj=28.4km s-min=16.5km az=105.5*
*ISCJB **23** 05:18:45.3±1.4, 5.11N±008×1256E±0.1, h110km±13km, mb4.5/17, Error ellipse: s-maj=23.2km s-min=12.3km az=160.6*
ISC 23 05:18:46.4±1.4, 511N±007×1256E±01, h102km±14km, n35, σ1§27/31, mb4.5/17, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.94**	**20**	*e*P	**Pn**	**05 19 13.6**	**-4.8**
KCP	**Kidapawan**	**1.94**	**346**	⇑*i*P	**Pn**	**05 19 18.5**	**+0.2**
KCP				*i* S	**Sn**	**05 19 47.8**	**+5.1**
KAKA	**Kakadu**	**18.98**	**159**	*e*P	**Pn**	**05 23 04.8**	**+3.2**
	43nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.07**	**180**	*e*P	**P**	**05 23 40.5**	**-2.6**
	32nm,0.6s,mb4.8						
FITZ				*e*pP		05 23 49.5	
FITZ	**Fitzroy Crossi**	**23.07**	**180**	P	**P**	**05 23 40.8**	**-2.3**
	21nm,0.7s,mb4.5,baz=356,slow=7.7,SNR=3.7						
WRA	**Warramunga Arr**	**26.35**	**161**	P	**P**	**05 24 12.3**	**-0.5**
	4.6nm,0.5s,mb4.2,baz=341,slow=10,SNR=5.3						
WB2	**Warramunga Arr**	**26.35**	**161**	*e*P	**P**	**05 24 19.4**	**+6.5**
PSI	**Prapat**	**26.68**	**266**	P	**P**	**05 24 16.7**	**+0.8**
	6.7nm,0.8s,mb4.2,baz=73,slow=2.3,SNR=4.8						
MBWA	**Marble Bar**	**26.73**	**192**	P	**P**	**05 24 13.4**	**-2.9**
	47nm,1.0s,mb5.0						
CBIJ	**Chichi jima**	**27.00**	**34**	P	**P**	**05 24 18.8**	**+0.1**
	36nm,0.6s,mb5.1,baz=318,slow=20,SNR=2.5						
ASAR	**Alice Springs**	**29.74**	**164**	P	**P**	**05 24 43.3**	**+0.2**
	1.8nm,0.5s,mb3.9,baz=347,slow=7.6,SNR=4.1						
CTA	**Charters Tower**	**32.26**	**142**	LR	LR	05 37 01.0	
	comp=Z,296nm,19.4s,baz=28,slow=34						
MJAR	**Matsushiro Arr**	**33.36**	**19**	P	**P**	**05 25 15.2**	**+0.4**
	4.7nm,0.8s,mb4.3,baz=202,slow=9.3,SNR=4.6						
STKA	**Stephens Creek**	**39.83**	**158**	*e*P	**P**	**05 26 09.5**	**-0.2**
	12nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**39.83**	**158**	P	**P**	**05 26 09.7**	**0.0**
	13nm,0.9s,mb4.8,baz=317,slow=6.3,SNR=3.6						
STKA				LR	LR	05 41 18.0	
	comp=Z,269nm,21.4s,baz=178,slow=34						
MK31	**Makanchi Array**	**55.77**	**325**	*e*P	**P**	**05 28 11.3**	**-1.4**
MKAR	**Makanchi Array**	**55.77**	**325**	P	**P**	**05 28 12.8**	**+0.1**
	2.2nm,0.5s,mb4.4,baz=122,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**55.77**	**325**	P	**P**	**05 28 12.8**	**+0.1**
BVAR	**Borovoye Array**	**65.54**	**327**	P	**P**	**05 29 19.6**	**+0.5**
	5.3nm,1.1s,mb4.3,baz=157,slow=7.8,SNR=3.9						
TIXI	**Tiksi**	**66.49**	**1**	*e*P	**P**	**05 29 23.6**	**-1.5**
TIXI				*e*		05 29 34.2	
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
MIR	**Mirnyy**	**75.23**	**193**	*c* *i*P	**P**	**05 30 27.5**	**+9.5**
MCK	**McKinley**	**83.45**	**27**	*e*P	**P**	**05 31 03.3**	**+0.7**
MCK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
MCK	**McKinley**	**83.45**	**27**	*e*P	**P**	**05 31 03.3**	**+0.7**
	comp=Z,19nm,1.3s,mb4.8						
MAW	**Mawson**	**84.65**	**200**	P	**P**	**05 31 11.2**	**+2.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=337,slow=22,SNR=2.5						
VNDA	**Vanda**	**84.94**	**173**	P	**P**	**05 31 12.4**	**+2.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=329,slow=7.4,SNR=3.5						
BRTR	**Keskin Array B**	**88.26**	**310**	P	**P**	**05 31 26.3**	**0.0**
	comp=Z,1.1nm,1.0s,mb3.9,baz=129,slow=3.9,SNR=4.2						
FINES	**FINESS Array B**	**90.08**	**332**	LR	LR	06 17 51.1	
	comp=Z,111nm,19.8s,baz=90,slow=40						
QSPA	**South Pole Qui**	**95.01**	**180**	*e*P	**P**	**05 31 56.3**	**-1.4**
	comp=Z,9.3nm,1.1s,mb5.1						
QSPA				*e*		05 32 06.1	
NB2	**NORSAR Subarra**	**97.04**	**333**	P	**P**	**05 32 15.0**	**+8.2**
	comp=Z,3.0nm,0.9s,mb4.7,baz=68,slow=4.4						
NB2	**NORSAR Subarra**	**97.04**	**333**	P	**P**	**05 32 15.0**	**+8.2**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
NOA	**NORSAR Array B**	**97.04**	**333**	P	**P**	**05 32 12.3**	**+5.4**
	comp=Z,1.3nm,0.7s,mb4.4,baz=67,slow=4.6,SNR=3.5						
NOA	**NORSAR Array B**	**97.04**	**333**	P	**P**	**05 32 12.3**	**+5.4**
YKA	**Yellowknife Ar**	**98.72**	**24**	LR	LR	06 12 59.4	
	comp=Z,108nm,22.0s,baz=250,slow=33						
TORD	**Torodi Ar. Bea**	**121.39**	**289**	PKP	PKPdf	05 37 28.5	+0.7
	comp=Z,1.2nm,0.9s,baz=64,slow=1.3,SNR=3.0						
TXAR	**Lajitas Array**	**121.65**	**51**	PKP	PKPdf	05 37 29.6	+1.4
	comp=Z,0.5nm,0.9s,baz=294,slow=0.9,SNR=2.6						

*NEIC **23** 05:27:00.7, 3455S×7051W, h111km, MD3.6(GUC), After GUC.*
GUC 23 05:27:00.7±0.8, 3455S×7051W, h111km±3km, MD3.6, ML3.8, 12C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.24**	**19**	⇑*i*P	Pn	05 27 16.8	+0.4
CICH				*i* S	Sn	05 27 29.1	+1.0
SFDO	**San Fernando**	**0.42**	**260**	*e*P	Pn	05 27 17.6	+0.4
CACH	**El Canelo**	**0.43**	**350**	⇓*i*P	Pn	05 27 17.8	+0.5
CACH				*i* S	Sn	05 27 30.4	+0.7
CHCH	**Chadas Angostu**	**0.62**	**349**	*e*P	Pn	05 27 18.8	+0.2
CHCH				*i* S	Sn	05 27 32.5	+0.6
PCH	**Pirque**	**0.92**	**360**	⇑*i*P	Pn	05 27 21.8	+0.6
PCH				*i* S	Sn	05 27 37.1	+0.4
LNV	**Longovilo**	**0.95**	**308**	⇑*i*P	Pn	05 27 21.5	0.0
LNV				*i* S	Sn	05 27 36.1	-1.0
TACH	**Talagante**	**0.96**	**338**	*e*P	Pn	05 27 21.9	+0.3
TACH				*i* S	Sn	05 27 37.8	+0.5
ANTU	**Antumapu**	**0.98**	**354**	*e*P	Pn	05 27 22.2	+0.4
ANTU				*i* S	Sn	05 27 38.6	+1.0
FSR	**Penalolen**	**1.06**	**359**	⇑*i*P	Pn	05 27 23.3	+0.6
FSR				*i* S	Sn	05 27 40.3	+1.1
FSR				AML	AML	05 27 41.5	
	comp=N,3μm,0.4s						
FSR	**Penalolen**	**1.06**	**359**	⇑*i*P	Pn	05 27 23.3	+0.6
FSR				*i* S	Sn	05 27 40.3	+1.1
RCDM	**Rinconada Maip**	**1.08**	**347**	*e*P	Pn	05 27 23.0	+0.1
RCDM				*i* S	Sn	05 27 40.2	+0.6
RCDM				AML	AML	05 27 42.3	
	comp=E,5μm,0.1s						
RCDM	**Rinconada Maip**	**1.08**	**347**	*e*P	Pn	05 27 23.0	+0.1
RCDM				*i* S	Sn	05 27 40.2	+0.6
LACH	**Colegio Las Am**	**1.09**	**359**	*e*P	Pn	05 27 22.8	-0.2
LACH				*i* S	Sn	05 27 40.3	+0.6
LACH				AML	AML	05 27 41.2	
	comp=N,939nm,0.4s						
STL	**Santa Lucia**	**1.11**	**354**	*e*P	Pn	05 27 22.7	-0.4
STL				*i* S	Sn	05 27 40.0	-0.2
DSCH	**Colegio Aleman**	**1.15**	**358**	⇑*i*P	Pn	05 27 23.5	0.0
DSCH				*i* S	Sn	05 27 41.3	+0.5
CLCH	**Cerro Calan**	**1.15**	**359**	⇓*i*P	Pn	05 27 24.2	+0.7
CLCH				*i* S	Sn	05 27 41.9	+1.1
CLCH				AML	AML	05 27 43.0	
	comp=E,2μm,0.4s						
CLCH				AML	AML	05 27 45.0	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**1.23**	**9**	⇓*i*P	Pn	05 27 25.3	+0.9
FCH				*i* S	Sn	05 27 43.3	+0.9
FCH				AML	AML	05 27 45.9	
	comp=N,976nm,0.2s						
TALC	**Talca**	**1.25**	**227**	*e*P	Pn	05 27 24.5	-0.2
TALC				*i* S	Sn	05 27 42.9	0.0
TALC				AML	AML	05 27 44.1	
	comp=E,3μm,0.1s						
TALC	**Talca**	**1.25**	**227**	*e*P	Pn	05 27 24.5	-0.2
TALC				*i* S	Sn	05 27 42.9	0.0
LCCH	**Las Cruces**	**1.38**	**320**	⇓*i*P	Pn	05 27 26.4	+0.1
LCCH				*i* S	Sn	05 27 46.1	+0.6
PEL	**Peldehue**	**1.41**	**354**	⇓*i*P	Pn	05 27 27.1	+0.7
PEL				*i* S	Sn	05 27 46.9	+0.9
PEL				AML	AML	05 27 47.9	
	comp=N,5μm,0.4s						
PEL	**Peldehue**	**1.41**	**354**	⇓*i*P	Pn	05 27 27.1	+0.7
PEL				*i* S	Sn	05 27 46.9	+0.9
LNCH	**Linares**	**1.58**	**214**	⇑*i*P	Pn	05 27 28.9	+0.4
LNCH				*i* S	Sn	05 27 50.6	+1.0
LNCH				AML	AML	05 27 55.4	
	comp=N,548nm,0.4s						
LNCH	**Linares**	**1.58**	**214**	⇑*i*P	Pn	05 27 28.9	+0.4
LNCH				*i* S	Sn	05 27 50.6	+1.0
ROCH	**El Roble**	**1.62**	**345**	*e*P	Pn	05 27 29.4	+0.3
ROCH				*i* S	Sn	05 27 51.4	+0.8
IHA	**Instituto Hidr**	**1.78**	**328**	⇑*i*P	Pn	05 27 31.6	+0.6
IHA				*i* S	Sn	05 27 54.7	+0.6
JACH	**Jahuel**	**1.86**	**358**	⇑*i*P	Pn	05 27 32.7	+0.7
JACH				*i* S	Sn	05 27 56.8	+1.0
PACH	**Papudo**	**2.15**	**339**	⇓*i*P	Pn	05 27 35.8	+0.2
PTCH	**Petorca**	**2.30**	**351**	⇓*i*P	Pn	05 27 38.0	+0.5
PTCH				AML	AML	05 28 10.4	
	comp=E,773nm,0.3s						
CHNG	**Los Chungos**	**2.78**	**342**	⇓*i*P	Pn	05 27 44.1	+0.3
CMCH	**Combarbala**	**3.39**	**353**	⇑*i*P	Pn	05 27 50.9	-1.0
CMCH				*i* S	Sn	05 28 29.7	-1.6
CMCH				AML	AML	05 28 47.5	
	comp=E,398nm,0.6s						
CMCH	**Combarbala**	**3.39**	**353**	⇑*i*P	Pn	05 27 50.9	-1.0
CMCH				*i* S	Sn	05 28 29.7	-1.6

*IDC **23** 05:41:10.1±0.7, 2003S×17433W, h0km, mb4.6/9, mb1 4.8/12, mb1mx4.6/20, mbtmp4.7/12, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/29, Error ellipse: s-maj=27.1km s-min=15.7km az=155.0*
*ISCJB **23** 05:41:13.7±0.3, 1994S±008×17448W±007, h33km, mb4.6/24, MS3.5/3, Error ellipse: s-maj=12.7km s-min=7.5km az=112.4*
*MOS **23** 05:41:13.3±1.2, 1998S×17440W, h33km, mb5.1/8, Error ellipse: s-maj=18.1km s-min=12.5km az=151.6*
*NEIC **23** 05:41:15.4±0.3, 2002S×17439W, h35km, mb4.7/15, Error ellipse: s-maj=10.3km s-min=5.9km az=151.0*
ISC 23 05:41:15.5±0.3, 2009S±006×17438W±006, h35km, (h41km±2.3km:pP-P), n88, σ0§86/58, mb4.6/24, MS3.5/3, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.63**	**22**	Pn	**Pn**	**05 42 48.4**	**-2.0**
	20nm,0.3s,baz=329,slow=2.4,SNR=16						
AFI				Sn	**Sn**	**05 43 57.0**	**-7.7**
	25nm,0.3s,baz=32,slow=22,SNR=4.0						
RAO	**Raoul Island**	**9.68**	**199**	Sn	**Sn**	**05 45 17.9**	**-1.7**
	122nm,0.3s,baz=101,slow=23,SNR=6.2						
RAR	**Rarotonga**	**13.72**	**97**	Pn	**Pn**	**05 44 26.5**	**-1.0**
	7.0nm,0.3s,baz=254,slow=9.2,SNR=8.3						
RAR				Sn	**Sn**	**05 46 40.5**	**-18**
	3.8nm,0.3s,baz=200,slow=8.1,SNR=3.8						
DZM	**Mont Dzumac**	**18.00**	**260**	P	**Pn**	**05 45 28.4**	**+5.5**
	2.2nm,0.3s,baz=76,slow=16,SNR=22						
URZ	**Urewera**	**19.56**	**200**	P	**Pn**	**05 45 42.2**	**+0.5**
	8.7nm,0.3s,baz=323,slow=3.9,SNR=40						
URZ				S	**S**	**05 49 05.2**	**-14**
	1.7nm,0.3s,baz=227,slow=20,SNR=12						
TBI	**Tubuai**	**23.37**	**102**	*e*LR	LR	05 51 40.3	
	177nm,29.8s						
TBI	**Tubuai**	**23.37**	**102**	*e*T		06 10 33.7	
	12nm,0.3s						
PPT	**Papeete**	**23.60**	**88**	*e*LR	LR	05 51 46.3	
	244nm,27.0s						
RPZ	**Rata Peaks**	**26.53**	**204**	P	**P**	**05 46 54.6**	**+4.8**
	16nm,0.5s,mb4.8,baz=333,slow=0.5,SNR=9.1						
HNR	**Honiara**	**26.95**	**289**	LR	LR	05 55 40.3	
	comp=Z,83nm,18.7s,MS3.3,baz=359,slow=32						
RKT	**Rikitea**	**36.69**	**102**	*e*LR	LR	05 57 50.5	
	183nm,31.2s						
RKT	**Rikitea**	**36.69**	**102**	*e*T		06 27 11.8	
	3.3nm,0.3s						
CTA	**Charters Tower**	**36.91**	**263**	*e*P	**P**	**05 48 21.9**	**+1.0**
	16nm,0.4s,mb5.2						
CTA	**Charters Tower**	**36.91**	**263**	P	**P**	**05 48 21.6**	**+0.7**
	18nm,0.4s,mb5.2,baz=86,slow=10,SNR=53						
CTA	**Charters Tower**	**36.91**	**263**	*e*P	**P**	**05 48 21.9**	**+1.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.4s						
PMG	**Port Moresby**	**38.59**	**280**	P	**P**	**05 48 35.5**	**+0.5**
	comp=Z,9.3nm,0.7s,mb4.6,baz=256,slow=3.6,SNR=3.7						
STKA	**Stephens Creek**	**41.03**	**244**	*e*P	**P**	**05 48 54.2**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**41.03**	**244**	P	**P**	**05 48 56.0**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.0,baz=92,slow=8.7,SNR=6.8						
STKA				LR	LR	06 02 29.3	
	comp=Z,108nm,19.8s,MS3.7,baz=26,slow=31						
AS31	**Alice Springs**	**47.92**	**256**	*e*P	**P**	**05 49 50.7**	**+0.3**
ASAR	**Alice Springs**	**47.92**	**256**	P	**P**	**05 49 50.6**	**+0.3**
	comp=Z,8.5nm,0.6s,mb5.0,baz=93,slow=8.1,SNR=112						
ASPA	**Alice Springs**	**47.92**	**256**	*e*P	**P**	**05 49 50.7**	**+0.3**
WB2	**Warramunga Arr**	**48.01**	**261**	*e*P	**P**	**05 49 50.9**	**-0.2**
WRAB	**Tennant Creek**	**48.01**	**261**	*e*P	**P**	**05 49 50.2**	**-0.9**
WRA	**Warramunga Arr**	**48.02**	**261**	P	**P**	**05 49 51.0**	**-0.2**
	comp=Z,3.4nm,0.3s,mb4.9,baz=97,slow=7.3,SNR=268						
WRA				LR	LR	06 07 22.7	
	comp=Z,60nm,19.7s,MS3.6,baz=215,slow=33						
KAKA	**Kakadu**	**51.37**	**270**	*e*P	**P**	**05 50 16.4**	**-0.2**
	comp=Z,8.0nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.45**	**261**	*e*P	**P**	**05 50 54.3**	**+0.6**
	comp=Z,5.2nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**69.98**	**180**	*e*P	**P**	**05 52 24.1**	**+0.7**
	comp=Z,11nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**71.95**	**321**	P	**P**	**05 52 36.2**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=156,slow=5.0,SNR=5.3						
YSS	**Yuzh-Sakhalins**	**77.10**	**331**	P	**P**	**05 53 03.0**	**-2.3**
YSS				*e*	pP	05 53 16.0	-0.2
WDC	**Whiskeytown Da**	**77.22**	**38**	*e*P	**P**	**05 53 06.0**	**0.0**
WDC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WDC	**Whiskeytown Da**	**77.22**	**38**	*e*P	**P**	**05 53 06.0**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.2						
MTUM	**Tungsten Hills**	**77.61**	**42**	*e*P	**P**	**05 53 08.1**	**0.0**
MTUM				*e*PcP	PcP	05 53 18.2	0.0
YBH	**Yreka Blue Hor**	**77.88**	**37**	*e*P	**P**	**05 53 10.1**	**+0.5**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**77.88**	**37**	*e*P	**P**	**05 53 10.1**	**+0.5**
	comp=Z,3.5nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**78.42**	**42**	P	**P**	**05 53 13.2**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.6,baz=226,slow=8.6						
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**05 53 22.4**	**+0.8**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**05 53 22.4**	**+0.7**
	comp=Z,6.9nm,1.3s,mb4.4						
WVOR	**Wild Horse Val**	**80.67**	**38**	*e*P	**P**	**05 53 23.4**	**-1.4**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**80.67**	**38**	*e*P	**P**	**05 53 23.4**	**-1.5**
	comp=Z,6.6nm,1.1s,mb4.5						
ARUT	**Antelope Range**	**81.17**	**44**	*e*P	**P**	**05 53 28.4**	**+0.9**
SRU	**San Rafael**	**83.81**	**45**	*e*P	**P**	**05 53 42.3**	**+1.0**
SRU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
SRU	**San Rafael**	**83.81**	**45**	*e*P	**P**	**05 53 42.3**	**+1.0**
	comp=Z,12nm,1.0s,mb5.0						
HLID	**Hailey**	**83.83**	**39**	*e*P	**P**	**05 53 41.8**	**+0.4**
	comp=Z,6.3nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**83.99**	**56**	P	**P**	**05 53 42.0**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.1,baz=213,slow=9.0,SNR=8.6						
TCUT	**Toone Canyon**	**84.31**	**43**	*e*P	**P**	**05 53 44.5**	**+0.6**
PV10	**Paradox Valley**	**84.42**	**46**	*e*P	**P**	**05 53 44.9**	**+0.5**
ANMO	**Albuquerque**	**84.52**	**50**	*e*P	**P**	**05 53 43.8**	**-1.1**
PV01	**Paradox Valley**	**84.62**	**46**	*e*P	**P**	**05 53 46.0**	**+0.6**
MCK	**McKinley**	**85.88**	**11**	*e*P	**P**	**05 53 50.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
MCK	**McKinley**	**85.88**	**11**	*e*P	**P**	**05 53 50.6**	**-1.1**
	comp=Z,8.5nm,0.9s,mb5.0						
SMCO	**Snowmass**	**86.22**	**46**	*e*P	**P**	**05 53 53.8**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**86.36**	**42**	P	**P**	**05 53 54.0**	**0.0**
	comp=Z,1.0nm,0.7s,mb4.2,baz=214,slow=5.3,SNR=8.8						
VNA3	**Neumayer Olymp**	**88.30**	**175**	*e*P	**P**	**05 54 04.4**	**+1.0**
VNA3				*e*		05 54 25.7	
SNAA	**Sanae**	**88.30**	**177**	*e*P	**P**	**05 54 03.3**	**-0.1**
SNAA				*e*		05 54 04.7	
SNAA	**Sanae**	**88.30**	**177**	*e*P	**P**	**05 54 03.1**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,18nm,1.9s						
SNAA	**Sanae**	**88.30**	**177**	*e*P	**P**	**05 54 03.1**	**-0.3**
	comp=Z,18nm,1.9s,mb5.0						
VNA2	**Neumayer--Watz**	**88.78**	**176**	*e*P	**P**	**05 54 06.0**	**+0.3**
	baz=210,slow=4.0						
VNA2				*e*		05 54 08.0	
VNA2				*e*		05 54 12.3	
VNA2				*e*	pP	05 54 17.5	+0.7
VNA2				*e*		05 54 21.7	
VNA2				*e*		05 54 26.8	
VNA1	**Neumayer--Stat**	**88.98**	**175**	*e*P	**P**	**05 54 07.1**	**+0.5**
VNA1				*e*		05 54 08.8	
VNA1				*e*	pP	05 54 18.3	+0.6
VNA1				*e*		05 54 22.4	
VNA1				*e*		05 54 27.6	
KMI	**Kunming**	**92.21**	**296**	P	**P**	**05 54 18.7**	**-2.9**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2						
KMI	**Kunming**	**92.21**	**296**	P	**P**	**05 54 18.7**	**-2.9**
	comp=Z,11nm,0.9s,mb5.2						
CFAA	**Coronel Fontan**	**92.58**	**125**	P	**P**	**05 54 23.5**	**+0.1**
	comp=Z,0.1nm,0.4s,mb3.6,baz=265,slow=5.2,SNR=3.8						
ARCES	**ARCESS Array B**	**129.08**	**351**	PKP	PKPdf	06 00 18.6	-1.1
	comp=Z,2.6nm,0.5s,baz=30,slow=1.4,SNR=16						
FINES	**FINESS Array B**	**136.27**	**346**	PKP	PKPdf	06 00 33.2	-0.1
	comp=Z,2.3nm,0.8s,baz=198,slow=1.8,SNR=4.6						
AKASG	**Malin Array Be**	**144.21**	**334**	PKP	PKPdf	06 00 45.2	-2.4
	comp=Z,1.8nm,0.4s,baz=42,slow=4.7,SNR=9.9						
CLL	**Collm**	**148.31**	**351**	*i* PKP2	PKPbc	06 00 58.1	+0.1
CLL				pmax	pmax		
	comp=Z,28nm,0.8s						
CLL	**Collm**	**148.31**	**351**	*i* PKPbc	PKPbc	06 00 58.1	+0.1
	comp=Z,10.0nm,0.8s						
CLL				*i* PKPab	PKPab	06 01 01.0	-0.1
	comp=Z,8.0nm,0.7s						
CLL				*e*(pPKiKP)		06 01 12.0	
BRG	**Berggiesshubel**	**148.58**	**350**	*e*P	PKPbc	06 00 59.1	+0.4
	comp=Z,4.0nm,0.9s						
BRG	**Berggiesshubel**	**148.58**	**350**	*e*PKP2	PKPbc	06 00 59.2	+0.5
BRG				pmax	pmax		
	comp=Z,13nm,0.9s						
DPC	**Dobruska-Polom**	**148.63**	**347**	*e*PKPbc	PKPbc	06 01 00.0	+1.2
PVCC	**Panska Ves**	**148.81**	**349**	*e*PKPbc	PKPbc	06 01 00.3	+1.0
BRTR	**Keskin Array B**	**149.01**	**315**	PKPbc	PKPbc	06 01 00.1	+0.3
	comp=Z,0.8nm,0.6s,baz=140,slow=4.8,SNR=7.5						

BR131 *e*Sn **Sn** **05 48 17.0 -0.8**
AMAG Maghara 5.37 164 P **Pn** **05 47 45.6 +0.1**
KOT Kottamia 5.90 177 ⇓P **Pn** **05 47 52.8 +0.1**
HMAT Matruh 6.01 219 ⇓P **Pn** **05 47 54.3 0.0**
AWBH 7.82 197 ⇓P **Pn** **05 48 18.9 -0.2**
SWA1 8.19 218 ⇓P **Pn** **05 48 24.2 +0.1**
SWA2 8.34 220 ⇓P **Pn** **05 48 26.5 +0.3**
HFRF Wahat Farafira 9.09 198 ⇓P **Pn** **05 48 36.3 -0.2**

IDC 23 05:56:32.6±0.9, 2198S×6801W, h99km±14km, mb3.6/1, mb1 3.5/5, mb1mx3.3/17, mbtmp3.7/5, Error ellipse: s-maj=32.8km s-min=14.6km az=117.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.04**	**233**	P	Pn	05 56 54.4	+1.0
LVC	150nm,0.3s,baz=16,slow=7.0,SNR=1551			S	Sn	05 57 10.0	+0.8
LPAZ	**La Paz**	**5.67**	**359**	P	Pn	05 57 54.5	+0.2
LPAZ	2.0nm,0.3s,baz=198,slow=7.1,SNR=92			S	Sn	05 58 54.4	-3.7
SIV	**San Ignacio**	**8.86**	**49**	P	Pn	05 58 39.6	+1.8
SIV	1.0nm,0.3s,baz=239,slow=15,SNR=12			S	Sn	06 00 15.1	-0.7
CFAA	**Coronel Fontan**	**9.59**	**181**	P	Pn	05 58 47.7	+0.1
CFAA	0.2nm,0.3s,baz=3.4,slow=13,SNR=12			S	Sn	06 00 30.9	-2.6
PLCA	**Paso Flores**	**18.82**	**186**	P	Pn	06 00 46.4	+0.4
TORD	0.1nm,0.3s,baz=17,slow=7.5,SNR=4.1 **Torodi Ar. Bea**	**76.73**	**70**	P	P	06 08 13.6	+0.6
MKAR	0.7nm,0.5s,baz=255,slow=5.4,SNR=18 **Makanchi Array**	**145.52**	**37**	PKPbc	PKPbc	06 15 58.1	-1.3
	0.4nm,0.5s,baz=326,slow=3.9,SNR=6.0						

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*ISCJB **23** 06:08:38.7±0.9, 24.10S±009×669W±0.1, h193km±13km, mb3.4/1, Error ellipse: s-maj=19.0km s-min=15.1km az=152.6*
*IDC **23** 06:08:40.1±2.1, 2394S×6686W, h181km±17km, mb3.3/1, mb1 3.1/4, mb1mx3.0/17, mbtmp3.5/4, Error ellipse: s-maj=48.6km s-min=22.7km az=16.0*
ISC 23 06:08:39.8±0.9, 2407S±010×669W±01, h187km±14km, n9, σ0§44/10, mb3.4/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**308**	P	**Pn**	**06 09 21.6**	**+0.6**
LVC	4.2nm,0.3s,baz=129,slow=6.6,SNR=37			S	**Sn**	**06 09 52.7**	**-0.4**
LPAZ	**La Paz**	**7.83**	**351**	P	**Pn**	**06 10 26.4**	**-4.4**
LPAZ	0.1nm,0.3s,baz=95,slow=8.4,SNR=3.4			S	**Sn**	**06 11 59.1**	**+0.4**
CPUP	**Villa Florida**	**8.97**	**107**	P	**Pn**	**06 10 46.0**	**+0.3**
SIV	0.2nm,0.3s,baz=284,slow=14,SNR=3.6 **San Ignacio**	**9.73**	**35**	P	**Pn**	**06 10 55.0**	**-0.7**
VNA3	0.5nm,0.3s,baz=216,slow=12,SNR=21 **Neumayer Olymp**	**57.06**	**161**	*e*	**P**	**06 18 06.4**	**+0.1**
VNA2	**Neumayer--Watz**	**57.63**	**160**	*e*	**P**	**06 18 10.2**	**-0.1**
SNAA	**Sanae**	**59.26**	**161**	*e*	**P**	**06 18 21.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**06 20 09.4**	**+0.3**
MKAR	0.5nm,0.5s,mb3.4,baz=255,slow=5.2,SNR=13 **Makanchi Array**	**146.53**	**40**	PKPbc	PKPbc	06 27 59.7	+0.7
	1.0nm,0.5s,baz=293,slow=3.4,SNR=8.7						

IDC 23 06:09:57.2±2.2, 498N×12671E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=186.2km s-min=26.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.88**	**163**	P	P	06 15 31.7	+1.1
ASAR	1.7nm,0.6s,baz=342,slow=10,SNR=13 **Alice Springs**	**29.32**	**166**	P	P	06 16 01.8	+0.2
STKA	0.2nm,0.4s,baz=349,slow=9.1,SNR=4.2 **Stephens Creek**	**39.30**	**160**	P	P	06 17 27.2	-0.6
MKAR	1.8nm,0.6s,baz=345,slow=9.7,SNR=6.2 **Makanchi Array**	**56.53**	**325**	P	P	06 19 41.4	+0.1
	0.1nm,0.3s,baz=104,slow=6.8,SNR=4.1						

IDC 23 06:51:57.9±16.0, 1351S×16406E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, MS3.5/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=464.9km s-min=47.5km az=124.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.54**	**225**	LR	LR	07 08 49.1	
WRA	comp=Z,87nm,19.2s,baz=24,slow=37 **Warramunga Arr**	**29.14**	**253**	P	P	06 58 01.2	+0.6
ASAR	0.5nm,0.6s,baz=76,slow=11,SNR=5.3 **Alice Springs**	**30.25**	**246**	P	P	06 58 10.7	+0.2
SONM	0.6nm,0.8s,baz=76,slow=9.1,SNR=6.7 **Songino Array**	**79.68**	**325**	P	P	07 04 07.6	+0.3
	0.6nm,0.7s,baz=132,slow=4.6,SNR=4.0						

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*ISCJB **23** 07:05:05.5±1.6, 673S±007×12953E±0.10, h144km±17km, mb3.9/3, Error ellipse: s-maj=16.2km s-min=10.8km az=154.1*
*IDC **23** 07:05:06.6±8.0, 683S×12953E, h135km±80km, mb3.8/3, mb1 3.8/6, mb1mx3.6/14, mbtmp4.2/6, Error ellipse: s-maj=60.2km s-min=26.4km az=43.0*
*NEIC **23** 07:05:07.7±2.5, 676S×12962E, h146km±24km, mb4.2/6, Error ellipse: s-maj=21.4km s-min=15.4km az=210.0*
ISC 23 07:05:09.9±1.3, 707S±007×12940E±009, h162km±11km, n19, σ1§43/29, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.36**	**152**	*e*P	**Pn**	**07 06 41.5**	**+0.1**
KAKA	20nm,0.2s			*e*S	**Sn**	**07 07 48.8**	**-4.4**
FITZ	**Fitzroy Crossi**	**11.56**	**198**	*e*P	**Pn**	**07 07 52.0**	**+1.9**
FITZ	4.2nm,0.2s			*e*S	**Sn**	**07 09 56.3**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.56**	**198**	P	**Pn**	**07 07 52.0**	**+1.9**
FITZ	0.5nm,0.3s,baz=39,slow=12,SNR=29			S	**Sn**	**07 09 57.3**	**-0.7**
WRAB	**Tennant Creek**	**13.66**	**160**	*e*Pn	**Pn**	**07 08 19.9**	**+2.9**
WRAB				*e*Sn	**Sn**	**07 10 41.7**	**-6.7**
WRA	**Warramunga Arr**	**13.66**	**160**	P	**Pn**	**07 08 15.4**	**-1.6**
WRA	1.1nm,0.3s,baz=341,slow=13,SNR=9.5			S	**Sn**	**07 10 40.5**	**-8.1**
WB2	**Warramunga Arr**	**13.67**	**160**	*e*P	**Pn**	**07 08 17.1**	**0.0**
WB2				*e*S	**Sn**	**07 10 40.5**	**-8.2**
MBWA	**Marble Bar**	**16.84**	**213**	*e*P	**Pn**	**07 08 59.6**	**+3.5**
MBWA	4.1nm,0.7s			*e*S	**S**	**07 12 02.3**	**-0.7**
AS31	**Alice Springs**	**17.06**	**166**	*e*P	**Pn**	**07 09 00.3**	**+1.5**
AS31				*e*S	**S**	**07 12 07.7**	**+0.3**
ASAR	**Alice Springs**	**17.06**	**166**	P	**Pn**	**07 08 60.0**	**+1.2**
ASAR	0.5nm,0.3s,baz=345,slow=9.2,SNR=57			S	**S**	**07 12 06.6**	**-0.8**
ASPA	**Alice Springs**	**17.06**	**166**	*e*P	**Pn**	**07 09 00.3**	**+1.5**
ASPA				*e*S	**S**	**07 12 07.7**	**+0.3**
CTA	**Charters Tower**	**20.85**	**130**	P	**P**	**07 09 38.7**	**-0.3**
CTA	3.2nm,0.5s,baz=294,slow=15,SNR=3.2 **Charters Tower**	**20.85**	**130**	P	**P**	**07 09 38.7**	**-0.3**
CTAO	**Charters Tower**	**20.85**	**130**	*e*P	**P**	**07 09 38.4**	**-0.7**
STKA	20nm,1.3s **Stephens Creek**	**27.18**	**157**	*e*P	**P**	**07 10 38.6**	**+0.3**
STKA	1.2nm,0.3s,mb4.0 **Stephens Creek**	**27.18**	**157**	P	**P**	**07 10 38.6**	**+0.3**
MK31	1.7nm,0.4s,mb4.0,baz=332,slow=7.5,SNR=8.5 **Makanchi Array**	**67.96**	**327**	*e*P	**P**	**07 15 50.0**	**-1.4**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**07 15 50.2**	**-1.2**
	1.4nm,0.4s,mb4.0,baz=123,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**07 15 50.2**	**-1.2**
VNDA	**Vanda**	**72.45**	**173**	*e*P	**P**	**07 16 13.4**	**-5.2**
	0.7nm,0.4s,mb3.7						

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*SKO **23** 07:15:55.1, 3835N×2115E, h59km*
*ATH **23** 07:15:58.7, 3894N×2119E, h13km±3km, MD3.1/8*
*NEIC **23** 07:15:58.7, 3894N×2119E, h13km, MD3.1(ATH), After ATH.*
*ISCJB **23** 07:15:58.8±0.7, 3894N±003×2122E±003, h3km±6km, Error ellipse: s-maj=5.9km s-min=4.4km az=146.9*
*CSEM **23** 07:15:59.3±0.1, 3890N×2121E, h10km, ML2.4, Error ellipse: s-maj=1.9km s-min=1.6km az=156.0*
*THE **23** 07:15:59.7, 3877N×2119E, h20km, ML2.4*
ISC 23 07:15:59.4±0.5, 3893N±003×2123E±003, h5km±6km, n18, σ1§00/29, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.45**	**92**	⇑*i*PB	**Pg**	**07 16 07.7**	**-0.4**
EVR				*e*SB	**Sg**	**07 16 15.6**	**+1.6**
LKD	**Levkas**	**0.51**	**244**	*e*Pg	**Pg**	**07 16 08.4**	**-0.7**
LKD				*e*Sg	**Sg**	**07 16 17.3**	**+1.6**
JAN	**Janina**	**0.78**	**338**	*e*PB	**Pg**	**07 16 13.4**	**-1.0**
AGG	**Agios Georgios**	**0.86**	**84**	*e*Pg	**Pg**	**07 16 15.2**	**-0.7**
AGG	comp=Z,3.2nm,0.0s			*e*Sg	**Sg**	**07 16 28.0**	**+0.8**
AGG	**Agios Georgios**	**0.86**	**84**	*e*Pg	**Pg**	**07 16 15.2**	**-0.8**
AGG				*e*Sg	**Sg**	**07 16 28.0**	**+0.8**
THL	**Klokotos Trika**	**0.88**	**44**	*e*PB	**Pg**	**07 16 15.9**	**-0.4**
RLS	**Riolos of Patr**	**0.89**	**168**	*e*PG	**Pg**	**07 16 15.7**	**-0.9**
VLS	**Valsamata**	**0.91**	**214**	*e*PG	**Pg**	**07 16 15.4**	**-1.4**
VLS				*e*SG	**Sg**	**07 16 29.0**	**+0.5**
IGT	**Igoumenitsa**	**0.92**	**311**	*e*Pg	**Pg**	**07 16 16.5**	**-0.5**
IGT				*e*Sg	**Sg**	**07 16 30.9**	**+1.9**
KEK	**Kerkira**	**1.35**	**306**	*e*PB	**Pn**	**07 16 23.7**	**-1.3**
LIT	**Litokhoron**	**1.52**	**40**	*e*Pb	**Pn**	**07 16 26.4**	**-0.9**
LIT				*e*Sb	**Sn**	**07 16 47.6**	**+0.1**
XOR	**Xorichti**	**1.59**	**74**	*e*Pb	**Pn**	**07 16 27.2**	**-1.1**
NEO	**Neokhori**	**1.60**	**76**	*e*PG	**Pn**	**07 16 29.0**	**+0.7**
ITM	**Ithomi**	**1.83**	**162**	*e*PG	**Pn**	**07 16 33.0**	**+1.4**
FNA	**Florina**	**1.85**	**3**	*e*Pn	**Pn**	**07 16 32.5**	**+0.7**
FNA				*e*Sn	**Sn**	**07 16 55.0**	**-0.7**
FNA	**Florina**	**1.85**	**3**	*e*Pn	**Pn**	**07 16 32.5**	**+0.6**
FNA				*e*Sn	**Sn**	**07 16 55.0**	**-0.7**
KRUS	**Krusevo**	**2.43**	**0**	*e*Pn	**Pn**	**07 16 39.8**	**-0.1**
KRUS				*e*Sn	**Sn**	**07 17 11.3**	**+1.3**
KRUS	**Krusevo**	**2.43**	**0**	*e*Pn	**Pn**	**07 16 39.7**	**-0.2**
KRUS				*e*Sn	**Sn**	**07 17 11.3**	**+1.3**

KRSC 23 07:20:47, 5087N×15768E, h116km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.65**	**18**	*e*P	Pn	07 21 19.6	+3.7
RUS				*i* S	Sn	07 21 42.9	+4.9
GRL	**Gorelyy**	**1.70**	**8**	*e*P	Pn	07 21 20.5	+3.9
GRL				*e*S	Sn	07 21 44.3	+5.2
NLC	**Nalytchevo**	**2.52**	**23**	P	Pn	07 21 30.3	+3.4
NLC				*i* S	Sn	07 22 01.3	+3.7
SDLR	**Sedlovina**	**2.52**	**17**	*e*P	Pn	07 21 31.0	+4.1
SPN	**Mys Shipunski**	**2.66**	**32**	P	Pn	07 21 32.5	+3.8
SPN				*i* S	Sn	07 22 05.2	+4.4
GNL	**Ganaly**	**2.83**	**3**	*e*P	Pn	07 21 33.2	+2.2
MKZ	**Mys Kozlova**	**4.44**	**32**	P	Pn	07 21 55.6	+3.3
MKZ				*i* S	Sn	07 22 45.2	+2.2
KBTR	**Krutoberegovo**	**6.16**	**28**	P	Pn	07 22 18.7	+3.2

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*BJI **23** 07:27:31.9, 451N×12546E, h31km, mB5.3, mb5.0, Ms4.8, Msz4.7*
*MOS **23** 07:27:34.9±1.4, 498N×12540E, h33km, mb5.3/41, MS4.4/7, Error ellipse: s-maj=11.8km s-min=5.6km az=111.2*
*ISCJB **23** 07:27:34.1±0.2, 487N±003×12541E±004, h25km, mb5.1/113, MS4.5/47, Error ellipse: s-maj=5.4km s-min=3.4km az=142.8*
*NEIC **23** 07:27:34.6±0.2, 494N×12537E, mb5.1/50, Error ellipse: s-maj=9.2km s-min=5.0km az=77.0*
*GCMT **23** 07:27:34.6±0.2, 499N×12534E, h12km, MW5.1/87, Moment Tensor Solution. s48,c58; s87,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.89±.09; $M_{\theta\theta}$-0.70±.07; $M_{\phi\phi}$-4.19±.10; $M_{r\theta}$0.61±.31; $M_{\theta\phi}$1.68±.07; $M_{\phi r}$-3.42±.27; Best double couple: $M_0$5.98800×10^{16} NP1:ϕ_s331.00000°, δ28.00000°, λ78.00000°. NP2: ϕ_s165.00000°, δ63.00000°, λ96.00000°. Principal axes: T 6.0340, Plg72.0000°, Azm89.0000°; N -0.0920, Plg6.0000°, Azm342.0000°; P -5.9430, Plg18.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **23** 07:27:36.9±4.8, 500N×12542E, h36km±40km, mb4.6/20, mb1 4.7/20, mb1mx4.7/22, mbtmp4.8/20, MS4.4/25, Ms1 4.4/25, ms1mx4.2/38 Error ellipse: s-maj=20.9km s-min=10.9km az=80.0*
ISC 23 07:27:36.3±0.2, 491N±003×12548E±004, h26km, h26km±2.7km: pP-P, n295, σ1§34/289, mb5.1/112, MS4.5/47, 23C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.12**	**350**	⇑*i*P	**Pn**	**07 28 16.1**	**+6.1**
KCP				*i* S	**Sn**	**07 28 44.7**	**+9.2**
DAV	**Davao City (W)**	**2.15**	**3**	⇑*e*P	**Pn**	**07 28 14.0**	**+3.6**
DAV	**Davao City (W)**	**2.15**	**3**	*e*Pn	**Pn**	**07 28 13.8**	**+3.4**
DAV				*e*S	**Sn**	**07 28 52.8**	**+17**
MATI	**Mati**	**2.17**	**21**	*e*P	**Pn**	**07 28 11.4**	**+0.8**
CTBH	**Cotabato--PC H**	**2.61**	**332**	⇓*e*P	**Pn**	**07 28 17.0**	**+0.4**
CTBH						07 28 50.7	
BUKP	**Musuan**	**2.98**	**352**	*e*P	**Pn**	**07 28 22.8**	**+1.0**
PAGZ	**Pagadian**	**3.59**	**325**	*e*P	**Pn**	**07 28 29.5**	**-0.6**
BUTP	**Butuan**	**4.04**	**2**	*e*P	**Pn**	**07 28 38.5**	**+2.1**
SCPH	**Surigao**	**4.84**	**0**	*e*P	**Pn**	**07 28 52.0**	**+4.5**
SCPH				*e*S	**Sn**	**07 29 55.7**	**+13**
SNPH	**Sibulan**	**4.94**	**333**	*e*P	**Pn**	**07 28 51.0**	**+2.3**
MSLP	**Maasin**	**5.23**	**353**	*e*P	**Pn**	**07 28 55.2**	**+2.5**
LLP	**Lapu-Lapu**	**5.58**	**345**	*e*P	**Pn**	**07 28 59.8**	**+2.2**
	250μm,1.0s						
GUIM	**Jordan**	**6.36**	**333**	*e*P	**Pn**	**07 29 11.7**	**+3.4**
RCP	**Roxas**	**7.14**	**338**	⇑*e*P	**Pn**	**07 29 22.5**	**+3.5**
SWI	**Sorong**	**8.14**	**135**	P	**Pn**	**07 29 36.2**	**+3.6**
	147nm,1.0s						
OTRP	**Odiongan**	**8.16**	**335**	*e*P	**Pn**	**07 29 36.3**	**+3.4**
BATP	**Bataraza**	**8.55**	**297**	*e*P	**Pn**	**07 29 38.7**	**+0.5**
PVCP	**Virac**	**8.73**	**351**	*e*P	**Pn**	**07 29 43.6**	**+2.8**
KKM	**Kota Kinabalu**	**9.29**	**277**	P	**Pn**	**07 29 53.0**	**+4.5**
KKM	**Kota Kinabalu**	**9.29**	**277**	*e*Pn	**Pn**	**07 29 53.7**	**+5.3**
SCZP	**Santa Cruz**	**12.11**	**334**	*e*P	**Pn**	**07 30 40.6**	**+14**
BAKI	**Biak**	**12.22**	**119**	P	**Pn**	**07 30 34.3**	**+5.7**
	491nm,1.1s						
BOLP	**Bolinao**	**12.64**	**335**	*e*P	**Pn**	**07 30 37.9**	**+3.6**
CVP	**Callao Caves**	**13.21**	**345**	⇓*e*P	**Pn**	**07 30 47.0**	**+4.9**
KSM	**Kuching**	**15.52**	**258**	*e*P	**Pn**	**07 31 15.8**	**+2.5**
KAKA	**Kakadu**	**18.82**	**158**	*e*P	**Pn**	**07 31 52.8**	**-1.7**
	126nm,1.2s						
NACB	**Ninganchiao**	**19.52**	**349**	*e*P	**Pn**	**07 32 00.1**	**-2.7**
BJII	**Banjamegara**	**19.88**	**232**	P	**Pn**	**07 32 10.0**	**+2.8**
	102nm,1.5s						
YHNB	**Yeheng**	**20.04**	**349**	*e*P	**P**	**07 32 05.7**	**-1.5**
JCJI	**Jatiwangi**	**20.57**	**237**	P	**P**	**07 32 18.3**	**+5.3**
	222nm,1.6s						
QIZ	**Qiongzhong**	**20.73**	**314**	P	**P**	**07 32 13.9**	**-0.8**
QIZ				S	**S**	**07 36 06.4**	**+1.6**
QIZ				SS		07 36 34.3	
QIZ				AMB	AMB		
	comp=Z,13nm,0.9s						
QIZ				LR	LR		
	comp=N,844nm,15.8s,MS4.4						
QIZ				LR	LR		
	comp=E,1μm,15.8s,MS4.4						
QIZ				LR	LR		
	comp=Z,2μm,17.3s,MS4.5						
QIZ	**Qiongzhong**	**20.73**	**314**	*e*P	**P**	**07 32 16.0**	**+1.3**
	comp=Z,20nm,0.9s						
GUMO	**Guam**	**20.98**	**64**	LR	LR	07 39 28.0	
	comp=Z,1μm,18.2s,MS4.3,baz=239,slow=34						
QZH	**Quanzhou**	**20.99**	**342**	P	**P**	**07 32 18.3**	**+0.8**
QZH				S	**S**	**07 36 02.8**	**-7.2**
QZH				AMB	AMB		
	comp=Z,90nm,0.9s						
QZH				LR	LR		
	comp=Z,2μm,16.0s,MS4.7						
GZH	**Guangzhou**	**21.54**	**328**	P	**P**	**07 32 26.8**	**+3.4**
GZH				S	**S**	**07 36 25.4**	**+4.6**
GZH				LR	LR		
	comp=N,898nm,13.7s,MS4.6						
GZH				LR	LR		
	comp=E,2μm,15.9s,MS4.6						
GZH				LR	LR		
	comp=Z,2μm,18.0s,MS4.5						
JOW	**Kunigami**	**21.97**	**7**	P	**P**	**07 32 28.2**	**+0.2**
	comp=Z,73nm,0.8s,mb5.2,baz=200,slow=7.3,SNR=15						
JOW				LR	LR	07 40 15.8	
	comp=Z,566nm,20.4s,MS4.0,baz=330,slow=35						
KGM	**Kluang**	**22.30**	**263**	P	**P**	**07 32 34.1**	**+2.6**
FITZ	**Fitzroy Crossi**	**22.86**	**180**	*e*P	**P**	**07 32 37.5**	**0.0**
	comp=Z,103nm,0.8s,mb5.3						
FITZ				*e*S	**S**	**07 36 48.7**	**+3.2**
FITZ	**Fitzroy Crossi**	**22.86**	**180**	P	**P**	**07 32 37.5**	**0.0**
	comp=Z,32nm,0.7s,mb4.8,baz=12,slow=9.1,SNR=47						
IPM	**Ipoh**	**24.37**	**270**	P	**P**	**07 32 53.5**	**+1.4**
KULM	**Kulim**	**24.73**	**272**	*e*P	**P**	**07 32 54.4**	**-1.0**
SNG	**Songkhla**	**24.82**	**276**	P	**P**	**07 32 58.0**	**+1.8**
KKTK	**Khon Kaen**	**24.96**	**299**	P	**P**	**07 32 58.0**	**+0.5**
	comp=Z,309nm,0.9s,mb5.8						
PPI	**Padang Panjang**	**25.61**	**259**	P	**P**	**07 33 04.5**	**+1.1**
	comp=Z,109nm,2.5s,mb4.9						
PMG	**Port Moresby**	**25.87**	**123**	P	**P**	**07 33 06.3**	**+0.6**
	comp=Z,34nm,0.8s,mb4.9,baz=358,slow=2.7,SNR=8.2						
PMG				LR	LR	07 43 05.0	
	comp=Z,584nm,21.6s,MS4.1,baz=29,slow=36						
PMG	**Port Moresby**	**25.87**	**123**	*e*P	**P**	**07 33 07.5**	**+1.8**
PMG				pmax	pmax		
	comp=Z,35nm,0.8s						
PMG	**Port Moresby**	**25.87**	**123**	*e*P	**P**	**07 33 07.5**	**+1.8**
	comp=Z,34nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**26.18**	**161**	P	**P**	**07 33 08.9**	**+0.4**
	comp=Z,409nm,0.7s,mb6.1,SNR=9.0						
WRAB	**Tennant Creek**	**26.18**	**161**	*e*P	**P**	**07 33 08.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**26.18**	**161**	*e*P	**P**	**07 33 08.7**	**+0.2**
	comp=Z,40nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**26.18**	**161**	P	**P**	**07 33 09.5**	**+0.9**
	comp=Z,7.3nm,0.3s,mb4.6,baz=329,slow=11,SNR=99						
WB2	**Warramunga Arr**	**26.19**	**161**	*e*P	**P**	**07 33 08.6**	**0.0**
WB2				*e*S	**S**	**07 37 47.7**	**+8.8**
SSE	**Sheshan**	**26.36**	**352**	P	**P**	**07 33 10.9**	**+0.7**
SSE				S	**S**	**07 37 41.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.5						
SSE				AMB	AMB		
	comp=Z,96nm,3.8s						
SSE				LR	LR		
	comp=N,260nm,17.4s,MS4.0						
SSE				LR	LR		
	comp=E,255nm,17.3s,MS4.0						
SSE				LR	LR		
	comp=Z,469nm,16.0s,MS4.1						
SSE	**Sheshan**	**26.36**	**352**	P	**P**	**07 33 10.9**	**+0.7**
	comp=Z,14nm,0.8s,mb4.5						
SSE				pP	pP	07 33 13.9	-4.0
SSE				sP	sP	07 33 15.3	-5.9
SSE				S	**S**	**07 37 41.8**	**+0.1**
SSE				sS	sS	07 37 47.2	-7.4
SSE				LR	LR		
	comp=Z,470nm,16.0s,MS4.1						
MBWA	**Marble Bar**	**26.51**	**192**	*e*P	**P**	**07 33 11.3**	**-0.2**
	comp=Z,22nm,0.6s,mb4.9						
PSI	**Prapat**	**26.57**	**266**	P	**P**	**07 33 13.5**	**+1.5**
	comp=Z,12nm,0.7s,mb4.5,baz=91,slow=3.8,SNR=5.2						
PSI				LR	LR	07 45 17.2	
	comp=Z,1μm,19.0s,MS4.4,baz=239,slow=40						
PSI	**Prapat**	**26.57**	**266**	P	**P**	**07 33 13.5**	**+1.5**
PSI				LR	LR	07 45 17.2	
NST	**Nakhon Sawan**	**27.10**	**295**	P	**P**	**07 33 16.0**	**-0.8**
	comp=Z,58nm,1.0s,mb5.1						
CBIJ	**Chichi jima**	**27.22**	**34**	P	**P**	**07 33 17.7**	**-0.2**
	comp=Z,112nm,0.6s,mb5.5,baz=270,slow=20,SNR=9.8						
CBIJ				LR	LR	07 41 46.5	
	comp=Z,516nm,21.1s,MS4.1,baz=268,slow=31						
WHN	**Wuhan**	**27.57**	**339**	*e*P	**P**	**07 33 26.3**	**+5.2**
WHN				LR	LR		
	comp=Z,2μm,18.0s,MS4.7						
NJ2	**Nanjing**	**27.71**	**348**	*e*P	**P**	**07 33 22.3**	**0.0**
NJ2				AP	pP	07 33 31.3	+1.2
NJ2				XP	sP	07 33 36.4	+3.1
NJ2				PP		07 34 11.8	
NJ2				S	**S**	**07 38 02.0**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,4μm,12.4s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,12.8s,MS5.3						
NJ2				LR	LR		
	comp=Z,4μm,16.7s,MS5.1						
GYA	**Guiyang**	**27.98**	**322**	P	**P**	**07 33 25.1**	**+0.4**
GYA				AP	pP	07 33 29.4	-3.1
GYA				PP		07 34 16.3	
GYA				PCP	PcP	07 36 42.3	+2.9
GYA				S	**S**	**07 38 09.3**	**+2.1**
GYA				SS		07 39 29.6	
GYA				PCS	PcS	07 40 23.4	+2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,970nm,14.6s,MS4.6						
GYA				LR	LR		
	comp=E,840nm,15.0s,MS4.6						
GYA				LR	LR		
	comp=Z,760nm,15.2s,MS4.4						
BDT	**Bhumibol Dam**	**28.68**	**297**	P	**P**	**07 33 32.0**	**+1.1**
CM31	**Chiang Mai Arr**	**29.21**	**300**	*e*P	**P**	**07 33 38.8**	**+3.2**
	comp=Z,11nm,0.6s,mb4.8						
CHG	**Chiang Mai**	**29.35**	**300**	⇑P	**P**	**07 33 37.3**	**+0.4**
	comp=Z,27nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**29.35**	**300**	*e*P	**P**	**07 33 37.2**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**29.35**	**300**	*e*P	**P**	**07 33 37.2**	**+0.3**
	comp=Z,22nm,0.8s,mb4.9						
AS31	**Alice Springs**	**29.56**	**164**	*e*P	**P**	**07 33 39.5**	**+0.8**
ASAR	**Alice Springs**	**29.56**	**164**	P	**P**	**07 33 39.0**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.3,baz=348,slow=7.9,SN

KMI LR LR
comp=Z,1μm,17.0s,MS4.5
BSI Banda Aceh 30.06 272 P **P** **07 33 46.3 +3.1**
comp=Z,24nm,1.6s,mb4.7
CTA Charters Tower 32.16 141 P **P** **07 34 02.2 +0.6**
comp=Z,8.5nm,0.9s,mb4.6,baz=312,slow=12,SNR=4.6
CTAO Charters Tower 32.16 141 *e*P **P** **07 34 00.4 -1.2**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
CTAO Charters Tower 32.16 141 *e*P **P** **07 34 00.4 -1.2**
comp=Z,3.6nm,0.6s,mb4.4
XAN Xi'an 32.82 334 P **P** **07 34 08.1 +0.7**
XAN AP pP 07 34 22.4 +7.2
XAN AMB AMB
comp=Z,18nm,0.7s,mb5.1
CD2 Chengdu 32.97 324⇑ *i*P **P** **07 34 07.9 -0.8**
CD2 PP PP 07 35 17.8 -5.6
CD2 PCP PcP 07 36 52.9 +0.5
CD2 S **S** **07 39 23.9 -1.4**
CD2 SS SS 07 41 22.9 -25
CD2 SCS ScS 07 44 33.8 -1.1
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
CD2 AMB AMB
comp=Z,150nm,5.2s
CD2 LR LR
comp=N,2μm,19.2s,MS4.8
CD2 LR LR
comp=E,1μm,16.8s,MS4.8
CD2 LR LR
comp=Z,1μm,13.2s,MS4.8
MAJO Matsushiro 33.59 19 *e*P **P** **07 34 13.5 -0.6**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.0
MAJO Matsushiro 33.59 19 *e*P **P** **07 34 13.5 -0.6**
comp=Z,15nm,0.8s,mb5.0
MAT Matsushiro 33.59 19 P **P** **07 34 13.1 -1.0**
MAT S **S** **07 39 44.2 +9.3**
MJAR Matsushiro Arr 33.59 19 P **P** **07 34 12.8 -1.3**
comp=Z,15nm,0.9s,mb4.9,baz=193,slow=8.8,SNR=24
MJAR LR LR 07 46 16.7
comp=Z,272nm,18.9s,MS4.0,baz=190,slow=33
FORT Forrest 35.57 176 *e*P **P** **07 34 31.5 +0.2**
comp=Z,31nm,0.7s,mb5.3
BJT Baijiatuau 35.95 348 *e*P **P** **07 34 33.8 -0.8**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 35.95 348 *e*P **P** **07 34 33.8 -0.7**
comp=Z,13nm,0.6s,mb5.0
BJI Beijing 35.97 348 P **P** **07 34 34.5 -0.2**
BJI S **S** **07 40 16.3 +4.7**
BJI AMB AMB
comp=Z,21nm,1.2s,mb4.9
BJI AMB AMB
comp=Z,466nm,6.6s
BJI LR LR
comp=N,944nm,12.9s,MS4.8
BJI LR LR
comp=E,628nm,15.5s,MS4.8
BJI LR LR
comp=Z,304nm,20.1s,MS4.1
BJI Beijing 35.97 348 P **P** **07 34 34.5 -0.2**
comp=Z,21nm,1.2s,mb4.9
BJI S **S** **07 40 16.3 +4.7**
BJI LR LR
comp=Z,300nm,20.1s,MS4.1
SNY Shenyang 36.80 358⇑P **P** **07 34 46.3 +4.5**
SNY AMB AMB
comp=Z,23nm,1.2s,mb4.9
LZH Lanzhou 36.87 330 P **P** **07 34 43.3 +0.9**
LZH AP pP 07 34 47.3 -3.0
LZH PP PP 07 36 10.0 +3.5
LZH *e*S **S** **07 40 28.0 +2.7**
LZH XS sS 07 40 38.0 -0.3
LZH *e*SS SS 07 42 59.0 -8.0
LZH AMB AMB
comp=Z,120nm,1.1s,mb5.6
LZH AMB AMB
comp=Z,370nm,4.2s
LZH LR LR
comp=E,9μm,15.2s
LZH LR LR
comp=Z,11μm,18.0s
LZH Lanzhou 36.87 330 P **P** **07 34 43.2 +0.8**
comp=Z,120nm,1.1s,mb5.6
LZH pP pP 07 34 47.2 -3.1
LZH sP sP 07 34 50.2 -3.3
LZH PP PP 07 36 10.0 +3.5
LZH *e*S **S** **07 40 28.0 +2.7**
LZH sS sS 07 40 38.0 -0.3
LZH *e*SS SS 07 42 59.0 -8.0
LZH LR LR
comp=Z,11μm,18.0s
KLBR Kellerberrin 37.03 191 *e*P **P** **07 34 43.3 -0.5**
comp=Z,22nm,0.7s,mb5.1
HNR Honiara 37.19 112 LR LR 07 48 29.8
comp=Z,470nm,19.2s,MS4.3,baz=357,slow=34
MUN Mundaring 37.73 193 *e*P **P** **07 35 02.5 +13**
HHC Hu-ho-hao-te 37.91 343 *e*P **P** **07 34 51.5 +0.3**
HHC AP pP 07 35 01.0 +1.9
HHC XP sP 07 35 05.4 +3.1
HHC PP PP 07 36 23.1 +5.2
HHC PCP PcP 07 37 06.1 -0.8
HHC S **S** **07 40 43.3 +2.2**
HHC XS sS 07 40 58.3 +4.2
HHC SS SS 07 43 20.0 -8.0
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,313nm,5.0s
HHC LR LR
comp=N,522nm,15.1s,MS4.6
HHC LR LR
comp=E,455nm,14.5s,MS4.6
HHC LR LR
comp=Z,615nm,23.3s
SHL Shillong 38.18 306 *i*P **P** **07 34 53.0 -0.5**
SHL *ex* x 07 40 53.0
NWAO Narrogin (SRO) 38.43 191 P **P** **07 34 55.3 -0.2**
comp=Z,18nm,0.9s,mb4.8,baz=36,slow=9.4,SNR=8.8
NWAO LR LR 07 50 09.8
comp=Z,299nm,21.1s,MS4.1,baz=183,slow=35
NWAO Narrogin (SRO) 38.43 191 *e*P **P** **07 34 55.4 -0.2**
NWAO pmax pmax
comp=Z,15nm,0.6s
NWAO Narrogin (SRO) 38.43 191 *e*P **P** **07 34 55.4 -0.2**
comp=Z,15nm,0.6s,mb4.9
VLA Vladivostok 38.48 8*c* *i*P **P** **07 34 57.0 +1.0**
VLA pmax pmax
comp=Z,104nm,1.0s,mb5.5
VLA Vladivostok 38.48 8⇑ *i*P **P** **07 34 57.1 +1.1**
CN2 Changchun 38.74 360 *e*P **P** **07 34 58.9 +0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
STKA Stephens Creek 39.67 158 *e*P **P** **07 35 07.0 +1.1**
comp=Z,30nm,0.9s,mb5.0
STKA Stephens Creek 39.67 158 P **P** **07 35 06.6 +0.7**
comp=Z,38nm,0.9s,mb5.1,baz=335,slow=7.8,SNR=65
MDJ Mudanjiang 39.72 5 P **P** **07 35 06.6 +0.3**
MDJ AP pP 07 35 15.5 +1.2
MDJ XP sP 07 35 19.3 +1.8
MDJ SCP ScP 07 40 58.4 -1.2
MDJ S **S** **07 41 08.9 +0.5**
MDJ SS SS 07 44 03.8 -0.6
MDJ AMB AMB
comp=Z,39nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,157nm,3.9s
MDJ LR LR
comp=N,116nm,17.9s,MS4.1
MDJ LR LR
comp=E,252nm,22.3s,MS4.1
MDJ LR LR
comp=Z,321nm,22.3s,MS4.1
MDJ Mudanjiang 39.72 5 *e*P **P** **07 35 05.9 -0.4**
comp=Z,50nm,1.1s,mb5.2
CAL Calcutta 39.95 300 *e*P **P** **07 35 06.4 -1.9**

CAL *ex* x 07 41 23.4
CAL *ex* x 07 41 23.4
ERM Erimo 40.17 21 *e*P **P** **07 35 10.0 -0.1**
LSA Lhasa 40.73 311 *e*P **P** **07 35 16.0 +1.3**
LSA pmax pmax
comp=Z,16nm,0.6s,mb4.8
LSA Lhasa 40.73 311 *e*P **P** **07 35 16.0 +1.3**
comp=Z,16nm,0.6s,mb4.8
GTA Gaotai 41.45 330 *e*P **P** **07 35 20.6 -0.1**
GTA AP pP 07 35 25.1 -3.6
GTA PP PP 07 37 00.1 +3.4
GTA PCP PcP 07 37 18.3 +0.1
GTA S **S** **07 41 36.3 +2.0**
GTA SS SS 07 44 36.8 -2.2
GTA AMB AMB
comp=Z,17nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,236nm,5.7s
GTA LR LR
comp=N,527nm,16.7s,MS4.8
GTA LR LR
comp=E,992nm,15.2s,MS4.8
GTA LR LR
comp=Z,1μm,17.5s,MS4.8
ADE Adelaide 41.57 164 *e*P **P** **07 35 23.7 +2.1**
BOK Bokaro 42.49 300 *e*P **P** **07 35 29.2 0.0**
BOK AMb AMB 07 35 34.1
comp=Z,38nm,0.8s,mb5.1
ARMA Armidale 43.13 146 *e*P **P** **07 35 36.6 +2.3**
VIS Vishakhapatnam 43.13 291 *e*P **P** **07 35 34.4 +0.1**
VIS AMb AMB 07 35 39.0
comp=Z,24nm,0.8s,mb5.0
GUN Gumba 44.03 306 *e*P **P** **07 35 42.1 +0.5**
comp=Z,94nm,1.0s,mb5.5
PKI Pulchoki 44.27 305 *e*P **P** **07 35 43.5 -0.1**
comp=Z,47nm,1.1s,mb5.1
KKN Kakani 44.47 305 *e*P **P** **07 35 45.1 0.0**
comp=Z,44nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 44.47 17⇑ *i*P **P** **07 35 45.0 -0.1**
YSS *e*S **S** **07 42 19.0 +0.5**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.3
YSS Yuzh-Sakhalins 44.47 17 *e*P **P** **07 35 44.7 -0.4**
comp=Z,41nm,0.9s,mb5.2
KLR Kul'dur 44.49 6 *e*P **P** **07 35 41.2 -4.1**
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.0
DMN Daman 44.54 305 *e*P **P** **07 35 45.6 -0.1**
comp=Z,62nm,1.0s,mb5.4
PALK Pallekele 44.57 275 *e*P **P** **07 35 46.8 +0.9**
comp=Z,12nm,1.1s,mb4.6
GKN Gorkha 45.07 305 *e*P **P** **07 35 49.5 -0.4**
comp=Z,39nm,1.0s,mb5.2
MDRS Chennai 45.34 283 *ex* x 07 40 31.7
SONM Songino Array 45.80 342 P **P** **07 35 54.1 -1.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=159,slow=7.5,SNR=18
SONM PcP PcP 07 37 32.3 -0.6
comp=Z,6.2nm,1.0s,baz=167,slow=3.0,SNR=6.0
SONM LR LR 07 57 38.4
comp=Z,372nm,19.1s,MS4.3,baz=154,slow=39
SONM Songino Array 45.80 342 P **P** **07 35 54.1 -1.6**
SONM 07 37 32.3
KOLN Koldanda 45.83 304 *e*P **P** **07 35 56.2 +0.3**
comp=Z,86nm,0.8s,mb5.8
CNB Canberra Magne 45.88 153 *e*P **P** **07 35 58.2 +1.9**
comp=Z,17nm,0.8s,mb5.0
TOO Toolangi 46.19 158 *e*P **P** **07 36 00.9 +2.2**
comp=Z,21nm,0.9s,mb5.1
TOO Toolangi 46.19 158 *e*P **P** **07 36 00.9 +2.2**
TOO pmax pmax
comp=Z,21nm,0.9s,mb5.1
SALM Salem 47.21 281 *ex* x 07 36 10.0
HYB Hyderabad 47.55 289 *i*P **P** **07 36 11.0 +1.6**
HYB Hyderabad 47.55 289 *e*P **P** **07 36 11.0 +1.6**
TRD Trivandrum 48.30 277 *e*P **P** **07 36 15.1 -0.1**
TRD AMb AMB 07 36 18.0
comp=Z,29nm,0.8s,mb5.4
ZAK Zakamensk 49.01 341 *e*P **P** **07 36 22.6 +1.9**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
BHPL Bhopal 49.76 296 *e*P **P** **07 36 25.9 -0.5**
BHPL AMb AMB 07 36 29.6
comp=Z,49nm,0.8s,mb5.6
TLY Talaya 50.03 342 *e*P **P** **07 36 29.4 +0.9**
TLY *e*S **S** **07 43 25.7 -12**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,363nm,18.0s,MS4.4
WMQ Urumqi 51.05 325 P **P** **07 36 35.5 -0.6**
WMQ AP pP 07 36 45.0 +0.7
WMQ XP sP 07 36 49.0 +1.6
WMQ PCP PcP 07 37 51.0 -0.8
WMQ PP PP 07 38 33.0 +0.2
WMQ PPP 07 39 32.0
WMQ S **S** **07 43 49.0 -2.9**
WMQ XS sS 07 44 05.0 -0.3
WMQ SS SS 07 47 22.0 -5.1
WMQ AMB AMB
comp=Z,15nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,334nm,3.6s
WMQ LR LR
comp=N,883nm,16.7s,MS5.0
WMQ LR LR
comp=E,738nm,16.7s,MS5.0
WMQ LR LR
comp=Z,982nm,17.6s,MS4.9
SONA Sohna 51.42 302 *e*P **P** **07 36 37.8 -1.1**
SONA AMb AMB 07 36 47.4
comp=Z,34nm,1.6s,mb5.0
NDI New Delhi 51.44 303 *e*P **P** **07 36 37.7 -1.4**
NDI AMb AMB 07 36 47.0
comp=Z,29nm,1.8s,mb4.9
AYAN Aya Nagar 51.45 303 *e*P **P** **07 36 38.1 -1.0**
AYAN AMb AMB 07 36 47.3
comp=Z,24nm,1.3s,mb5.0
KLP Kalpa 51.54 307 *e*P **P** **07 36 40.2 +0.4**
KLP AMb AMB 07 36 50.0
comp=Z,34nm,0.6s,mb5.5
KAD Karad 51.66 288 *e*P **P** **07 36 41.2 +0.5**
KAD *e*P 07 36 41.3
KAD AMb AMB 07 36 51.1
comp=Z,46nm,1.4s,mb5.2
CLNS Chul'man 51.79 360 *e*P **P** **07 36 41.3 -0.4**
CLNS pmax pmax
comp=Z,41nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,15nm,1.0s
POO Poona 52.14 290 *e*P **P** **07 36 42.0 -2.3**
KHET Khetri 52.44 302 *e*P **P** **07 36 43.8 -2.8**
AJM Ajmer 53.01 300 *e*P **P** **07 36 50.0 -0.7**
AJM AMb AMB 07 36 59.8
comp=Z,25nm,1.4s,mb5.0
BOD Bodaibo 53.53 352 *e*P **P** **07 36 51.6 -3.0**
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
THN Thein Dam 53.87 307 *e*P **P** **07 36 55.8 -1.2**
PET Petropavlovsk 55.15 24 *e*P **P** **07 37 09.8 +3.5**
PET *e*S **S** **07 44 51.2 +3.5**
PET *e*SS SS 07 48 35.9 +4.1
PET pmax pmax
comp=Z,100nm,12.7s
PET MLR MLR
comp=Z,100nm,20.0s,MS3.9
MK31 Makanchi Array 55.88 325 *e*P **P** **07 37 10.8 -0.8**
MKAR Makanchi Array 55.88 325 P **P** **07 37 11.2 -0.4**
comp=Z,12nm,0.6s,mb5.1,baz=120,slow=8.4,SNR=50
MKAR PcP PcP 07 38 08.7 -1.5
comp=Z,7.7nm,0.8s,baz=122,slow=4.6,SNR=5.0
MKAR LR LR 08 02 24.6
comp=Z,821nm,19.8s,MS4.8,baz=129,slow=37
MKAR Makanchi Array 55.88 325 *i*P **P** **07 37 11.1 -0.5**
MKAR pmax pmax
comp=Z,12nm,0.6s
KSH Kashi 56.34 315 *e*P **P** **07 37 16.3 +1.5**
KSH *e*AP pP 07 37 25.9 +2.9
KSH *e*XP sP 07 37 30.3 +4.1
KSH *e*PCP PcP 07 38 12.3 +0.4

KSH *e*PP PP 07 39 22.8 +2.4
KSH *e*SCP ScP 07 42 08.4 -1.0
KSH *e*S **S** **07 45 01.8 -1.7**
KSH *e*XS sS 07 45 19.5 +2.5
KSH *e*SCS ScS 07 46 59.3 -3.0
KSH *e*SS SS 07 48 50.0 -0.5
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.8
KSH LR LR
comp=Z,968nm,10.2s,MS5.2
YAK Yakutsk 57.09 2 *e*P **P** **07 37 19.1 -1.1**
YAK *e* 07 38 09.9
YAK *e* 07 39 29.2
YAK *e*PPP 07 40 50.5
YAK *e*S **S** **07 45 15.1 +1.7**
YAK *e* 07 47 02.2
YAK pmax pmax
comp=Z,174nm,1.1s,mb6.0
YAK pmax pmax
comp=N,73nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=Z,261nm,6.4s
YAK pmax pmax
comp=N,63nm,1.8s
YAK pmax pmax
comp=E,104nm,2.8s
YAK smax
comp=E,165nm,4.8s
YAK smax
comp=N,132nm,4.1s
YAK Yakutsk 57.09 2 *e*P **P** **07 37 19.7 -0.5**
comp=N,126nm,0.7s,mb6.0
KRAR Krasnoyarsk 57.20 339 *i*P **P** **07 37 19.8 -1.2**
MA2 Magadan 57.88 15*c* *i*P **P** **07 37 26.4 +0.6**
MA2 pmax pmax
comp=Z,101nm,1.4s,mb5.7
MA2 Magadan 57.88 15 *e*P **P** **07 37 25.9 +0.1**
comp=Z,39nm,0.6s,mb5.6
AAK Ala-Archa 58.65 318 P **P** **07 37 38.2 +7.0**
SNR=6.8
AAK Ala-Archa 58.65 318*c* *i*P **P** **07 37 30.1 -1.1**
AAK pmax pmax
comp=Z,30nm,2.2s,mb4.9
AAK Ala-Archa 58.65 318 *e*P **P** **07 37 30.4 -0.8**
comp=Z,31nm,1.6s,mb5.1
FRU Bishkek 58.66 318 *e*P **P** **07 37 33.0 +1.8**
KURK Kurchatov 60.09 328 P **P** **07 37 40.2 -0.9**
comp=Z,228nm,0.9s,mb6.2,SNR=27
NVS Novosibirsk 60.27 333⇑ *i*P **P** **07 37 39.4 -2.9**
NVS *e* 07 47 26.3
NVS pmax pmax
comp=N,36nm,1.9s
NVS pmax pmax
comp=Z,44nm,1.9s,mb5.2
SEY Seymchan 61.18 14⇑ *i*P **P** **07 37 49.4 +0.9**
RPZ Rata Peaks 63.44 145 LR LR 08 06 37.8
comp=Z,223nm,21.4s,MS4.3,baz=161,slow=37
URZ Urewera 64.25 137 LR LR 08 01 51.3
comp=Z,254nm,21.6s,MS4.4,baz=64,slow=32
BVA0 Borovoye Array 65.66 327 *i*P **P** **07 38 16.4 -1.7**
BVA0 pmax pmax
comp=Z,15nm,1.8s,mb4.7
BRVK Borovoye 65.73 327 P **P** **07 38 17.8 -0.8**
comp=Z,203nm,0.9s,mb6.2,SNR=16
BRVK Borovoye 65.73 327 P **P** **07 38 17.8 -0.8**
SNR=15
BRVK Borovoye 65.73 327 *e*P **P** **07 38 17.5 -1.1**
BRVK pmax pmax
comp=Z,37nm,1.0s,mb5.4
BRVK Borovoye 65.73 327 *e*P **P** **07 38 17.5 -1.1**
comp=Z,37nm,1.0s,mb5.4
CHKZ Chkalovo 65.83 328 *e*P **P** **07 38 17.3 -1.9**
CHKZ pmax pmax
comp=Z,17nm,1.1s,mb5.0
CHKZ Chkalovo 65.83 328 *e*P **P** **07 38 17.3 -1.9**
comp=Z,18nm,1.1s,mb5.0
ZRNK Zerenda 66.38 327 *e*P **P** **07 38 21.1 -1.7**
ZRNK pmax pmax
comp=Z,34nm,1.0s,mb5.3
ZRNK Zerenda 66.38 327 *e*P **P** **07 38 21.1 -1.7**
comp=Z,34nm,1.0s,mb5.3
TIXI Tiksi 66.69 1 *e*P **P** **07 38 19.0 -5.8**
TIXI *e* pP 07 38 28.4 -4.7
TIXI *e*S S 07 47 06.4 -8.5
TIXI pmax pmax
comp=Z,43nm,1.0s,mb5.4
TIXI Tiksi 66.69 1⇑ *e*P **P** **07 38 22.7 -2.1**
BILL Bilibino 68.75 15 *e*P **P** **07 38 37.7 0.0**
BILL *i* 07 38 53.3
BILL *e* 07 39 01.5
BILL *e* 07 41 11.2
BILL pmax pmax
comp=Z,40nm,1.8s,mb5.0
BILL Bilibino 68.75 15 *e*P **P** **07 38 45.5 +7.8**
comp=Z,102nm,2.1s,mb5.4
ABKT Ailbek 69.19 309 P **P** **07 38 41.4 +0.9**
comp=Z,205nm,1.0s,mb6.0,SNR=5.2
HATD Hatta, Dubai 69.22 295 P **P** **07 38 42.0 +1.3**
SNR=5.6
ASHO Ashiyiah 69.27 294 P **P** **07 38 43.2 +2.2**
SNR=7.1
AB31 Akbulak array 70.46 321 *i*P **P** **07 38 46.1 -2.2**
RBK Rabkut 70.69 287 P **P** **07 38 49.9 +0.2**
SNR=11
WHFO Wadi Hawf 71.11 287 P **P** **07 38 52.1 -0.2**
SNR=13
ABTO Aybut 71.56 287 P **P** **07 38 55.2 +0.2**
SNR=9.5
CASY Casey 71.83 186 P **P** **07 38 49.2 -7.4**
comp=Z,10nm,0.8s,mb4.8
AKTK Aktyubinsk 71.97 322 *i*P **P** **07 38 55.8 -1.6**
AKTO Aktyubinsk 71.97 322 *i*P **P** **07 38 55.8 -1.6**
ARU Arti 73.28 328⇑ *i*P **P** **07 39 01.9 -3.3**
ARU *e*S S 07 48 28.3 -3.8
ARU *e*SS SS 07 53 05.3 -8.7
ARU pmax pmax
comp=Z,17nm,0.8s,mb5.0
ARU Arti 73.28 328 *e*P **P** **07 39 02.9 -2.3**
comp=Z,26nm,1.0s,mb5.1
ORR Orenburg 74.25 322 P **P** **07 39 09.4 -1.5**
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.1
ORR MLR MLR
comp=Z,340nm,16.0s,MS4.7
MIR Mirnyy 75.01 193*d* *i*P **P** **07 39 12.0 -3.3**
MIR *i* 07 39 23.0
MIR pmax pmax
comp=Z,20nm,1.0s,mb5.0
SDPT Sand Point 76.93 34 *e*P **P** **07 39 23.7 -2.5**
comp=Z,171nm,0.8s,mb6.0
SDPT LR LR
comp=Z,400nm,22.0s,MS4.7
MAK Makhachkala 77.87 313 *e*P **P** **07 39 30.4 -1.1**
MAK *e* 07 42 29.6
MAK *e*S S 07 49 20.8 -2.0
MAK *e* 07 49 43.3
MAK pmax pmax
comp=Z,95nm,1.3s,mb5.6
POHA Pohakuloa 78.01 71 *e*P **P** **07 39 34.4 +2.1**
comp=Z,48nm,0.8s,mb5.5
CHGN Chignik 78.24 34 *e*P **P** **07 39 33.8 +0.3**
GNI Garni 79.78 310 LR LR 08 22 36.5
comp=Z,91nm,21.0s,MS4.1,baz=160,slow=41
GNI Garni 79.78 310⇑ *e*P **P** **07 39 41.6 -0.4**
GNI pmax pmax
comp=Z,23nm,1.4s
GNI Garni 79.78 310 *e*P **P** **07 39 42.0 0.0**
comp=Z,72nm,1.7s,mb5.3
SVW2 Sparrevohn 80.38 29 *e*P **P** **07 39 46.0 +0.8**
ZEI Tsey 80.51 312 *e*P **P** **07 39 45.0 -0.9**
ZEI *e*PP pP 07 39 52.5 -1.9
ZEI pmax pmax
comp=Z,23nm,1.2s,mb5.0
KIV Kislovodsk 81.43 314 *e*P **P** **07 39 50.8 0.0**
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIV Kislovodsk 81.43 314 *e*P **P** **07 39 50.8 -0.1**
comp=Z,17nm,0.9s,mb5.0
KDAK Kodiak Island 81.57 32 P **P** **07 39 52.3 +0.7**
comp=Z,320nm,0.8s,SNR=9.5
KDAK Kodiak Island 81.57 32 *e*P **P** **07 39 52.3 +0.7**
comp=Z,31nm,0.7s,mb5.3
IMA2 Indian Mountai 81.82 24 *e*P **P** **07 39 53.4 +0.5**

SLKM Skilak Lake 82.95 30 *eP* **P 07 39 59.0 +0.2**
PMR Palmer 83.52 29 *eP* **P 07 40 01.4 -0.3**
PMR pmax pmax
comp=Z,74nm,1.2s,mb5.7
PMR MLR MLR
comp=Z,200nm,23.0s,MS4.4
PMR Palmer 83.52 29 *eP* **P 07 40 01.4 -0.3**
comp=Z,74nm,1.2s,mb5.7
PMR LR LR
comp=Z,200nm,23.0s,MS4.4
SOC Sochi 83.58 313 *eP* **P 07 39 59.4 -2.6**
SOC *e* 07 43 19.0
SOC *eS* S 07 50 18.7 -3.7
SOC pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
MCK McKinley 83.67 27 *eP* **P 07 40 02.4 -0.1**
MCK pmax pmax
comp=Z,25nm,0.8s,mb5.4
MCK McKinley 83.67 27 *eP* **P 07 40 02.4 -0.2**
comp=Z,25nm,0.8s,mb5.4
VRSR Storozhevoye 83.88 321 *eP* **P 07 40 02.1 -1.5**
VRSR pmax pmax
comp=Z,20nm,1.5s,mb5.0
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
COLA College 84.17 25 ⇓*iP* **P 07 40 03.8 -1.3**
COLA College 84.17 25 *eP* **P 07 40 04.3 -0.8**
comp=E,13nm,0.8s,mb5.1
MAW Mawson 84.42 200 *eP* **P 07 40 05.6 -0.7**
comp=E,4.7nm,0.9s,mb4.6
MAW Mawson 84.42 200 P **P 07 40 05.5 -0.9**
comp=E,3.2nm,0.8s,mb4.5,baz=37,slow=6.4,SNR=7.2
MAW LR LR 08 12 52.1
comp=E,124nm,20.6s,MS4.3,baz=66,slow=32
MAW Mawson 84.42 200 *eP* **P 07 40 05.6 -0.7**
MAW pmax pmax
comp=Z,5.0nm,0.9s
TMCR Tamitsa 84.50 334 *eP* **P 07 40 05.0 -1.7**
VNDA Vanda 84.74 173 P **P 07 40 07.5 -0.4**
comp=Z,3.2nm,0.9s,mb4.5,baz=320,slow=6.0,SNR=19
VNDA LR LR 08 15 17.6
comp=Z,126nm,19.1s,MS4.3,baz=336,slow=34
VNDA Vanda 84.74 173 *eP* **P 07 40 07.6 -0.4**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 84.74 173 *eP* **P 07 40 07.6 -0.4**
comp=Z,4.4nm,0.9s,mb4.6
MOS Moscow 84.77 325 *eP* **P 07 40 09.3 +1.2**
MOS pmax pmax
comp=Z,75nm,1.4s,mb5.6
ANN Anapa 85.19 314 *eP* **P 07 40 07.8 -2.4**
ANN *eS* S 07 50 28.3 -10
ANN pmax pmax
comp=Z,54nm,1.1s,mb5.6
OBN Obninsk 85.39 325⇑*eP* **P 07 40 09.6 -1.6**
OBN pmax pmax
comp=Z,56nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.7
OBN Obninsk 85.39 325 *eP* **P 07 40 10.3 -0.9**
SBA Scott Base 85.66 172 *eP* **P 07 40 13.7 +1.1**
SBA pmax pmax
comp=Z,26nm,1.7s,mb5.2
SBA Scott Base 85.66 172 *eP* **P 07 40 13.7 +1.1**
comp=Z,26nm,1.7s,mb5.2
MENT Mentasta 86.03 27 *eP* **P 07 40 15.2 +0.8**
PPT Papeete 86.66 108 *eLR* LR 08 07 46.3
comp=Z,375nm,26.0s
PPT Papeete 86.66 108 LR LR 08 16 38.7
comp=Z,472nm,19.8s,MS4.9,baz=289,slow=34
EGAK Eagle 87.04 25 *eP* **P 07 40 19.0 -0.3**
comp=Z,6.3nm,0.8s,mb4.9
TBI Tubuai 87.40 114 *eLR* LR 08 08 08.8
comp=Z,358nm,26.5s
JOF Joensuu 87.57 333 *ep* **P 07 40 18.6 -3.3**
comp=Z,19nm,0.7s,mb5.4
DAWY Dawson 87.87 26 *eP* **P 07 40 23.7 +0.3**
BR131 Keskin Array S 88.31 310 *eP* **P 07 40 24.1 -1.3**
comp=Z,4.1nm,0.9s,mb4.7
BRTR Keskin Array B 88.31 310 P **P 07 40 23.9 -1.5**
comp=Z,4.7nm,1.0s,mb4.7,baz=128,slow=4.5,SNR=24
BRTR Keskin Array B 88.31 310 *iP* **P 07 40 23.8 -1.6**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 88.33 269 P **P 07 40 26.6 +1.1**
comp=Z,2.6nm,0.8s,mb4.5,baz=40,slow=7.0,SNR=7.9
KMBO LR LR 08 16 34.9
comp=Z,170nm,21.5s,MS4.4,baz=92,slow=33
KMBO Kilima Mbogo 88.33 269 *eP* **P 07 40 25.6 +0.1**
KMBO pmax pmax
comp=Z,17nm,1.5s
KMBO Kilima Mbogo 88.33 269 *eP* **P 07 40 25.6 +0.1**
comp=Z,17nm,1.5s,mb5.0
ARCES ARCESS Array B 88.92 340 P **P 07 40 25.6 -2.8**
comp=Z,9.3nm,0.8s,mb5.2,baz=87,slow=6.3,SNR=12
ARCES LR LR 08 25 28.8
comp=Z,169nm,19.2s,MS4.5,baz=187,slow=39
KAF Kangasniemi 89.98 332 *ep* **P 07 40 29.4 -3.9**
comp=Z,12nm,0.8s,mb5.3,baz=75,slow=4.3
KAF Kangasniemi 89.98 332 *eP* **P 07 40 29.4 -3.9**
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.3
AKASG Malin Array Be 90.20 321 P **P 07 40 31.7 -2.6**
comp=Z,1.9nm,0.6s,mb4.6,baz=69,slow=4.8,SNR=8.6
AKASG LR LR 08 26 29.7
comp=Z,128nm,18.3s,MS4.4,baz=75,slow=39
AKASG Malin Array Be 90.20 321 P **P 07 40 31.7 -2.6**
AKASG LR LR 08 26 29.7
FINES FINESS Array B 90.21 332 P **P 07 40 31.8 -2.6**
comp=Z,4.7nm,0.7s,mb4.9,baz=91,slow=8.0,SNR=14
FINES LR LR 08 26 20.8
comp=Z,204nm,18.5s,MS4.6,baz=271,slow=39
FINES FINESS Array B 90.21 332 *iP* **P 07 40 31.7 -2.6**
FINES pmax pmax
comp=Z,5.0nm,0.7s
ISP Isparta 90.94 308⇑*eP* **P 07 40 34.8 -2.9**
TIRR Tirgusor 91.63 315⇓*iP* **P 07 40 39.2 -1.7**
VRI Vrincioaia 92.59 316⇑*iP* **P 07 40 44.9 -0.5**
SYO Syowa Base 93.06 201⇑*eP* **P 07 40 45.2 -2.4**
SYO Syowa Base 93.06 201⇑*epP* pP 07 40 49.8 -6.4
MLR Muntele Rosu 93.19 316 LR LR 08 28 53.6
comp=Z,249nm,19.6s,MS4.7,baz=53,slow=40
MLR Muntele Rosu 93.19 316⇑*iP* **P 07 40 47.0 -1.2**
BURAR Bucovina Array 93.30 318⇓*iP* **P 07 40 48.6 0.0**
DLBC Dease Lake 93.38 31 *eP* **P 07 40 50.0 +1.0**
QSPA South Pole Qui 94.80 180 *eP* **P 07 40 55.1 -0.4**
comp=Z,6.2nm,0.9s,mb5.0
UZH Uzhgorod 95.00 320 *eP* **P 07 40 55.0 -1.5**
UZH pmax pmax
comp=Z,17nm,1.0s,mb5.4
TAOE Nuku Hiva Isla 95.05 98 *eSS* SS 07 58 40.0 +4.6
comp=Z,10μm,37.2s
TAOE *eLQ* 08 07 44.2
comp=Z,28μm,31.8s
TAOE *eLR* LR 08 11 45.2
comp=Z,1μm,26.7s
DRGR 95.14 318⇑*iP* **P 07 40 55.7 -1.4**
HFS Hagfors 96.40 332 LR LR 08 27 08.7
comp=Z,433nm,20.8s,MS4.9,baz=64,slow=37
NB2 NORSAR Subarra 97.19 333 P **P 07 41 02.8 -3.6**
comp=Z,4.8nm,0.8s,mb5.0,baz=66,slow=4.6
NB2 NORSAR Subarra 97.19 333 P **P 07 41 02.8 -3.6**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
NOA NORSAR Array B 97.19 333 P **P 07 41 03.1 -3.3**
comp=Z,4.7nm,0.8s,mb5.0,baz=66,slow=4.6,SNR=13
NOA LR LR 08 27 01.3
comp=Z,174nm,21.2s,MS4.5,baz=60,slow=37
NOA NORSAR Array B 97.19 333 P **P 07 41 03.1 -3.3**
NOA LR LR 08 27 01.3
PKSM Moragy 98.01 318⇓*iP* **P 07 41 09.6 -0.5**
VRAC Vranov 98.44 321 LR LR 08 31 52.2
comp=Z,177nm,18.9s,MS4.6,baz=183,slow=39
YKA Yellowknife Ar 98.95 24 LR LR 08 24 37.9
comp=Z,128nm,20.0s,MS4.4,baz=235,slow=35
RKT Rikitea 100.68 112 *eLR* LR 08 14 30.7
comp=Z,216nm,32.5s
NVAR Mina Array Bea 107.05 47 Pdiff Pdif 07 41 51.7 +1.4
comp=Z,1.9nm,1.0s,baz=277,slow=4.5,SNR=8.7
NVAR Mina Array Bea 107.05 47 Pdif Pdif 07 41 51.7 +1.4
TSUM Tsumeb 108.49 251 *ePKPdf* PKiKP 07 46 05.2 +2.8
PV10 Paradox Valley 113.71 44 *ePKPdf* PKiKP 07 46 14.2 +2.0
PV01 Paradox Valley 114.15 44 *ePKPdf* PKiKP 07 46 14.6 +1.5
TORD Torodi Ar. Bea 121.37 289 PKP PKPdf 07 46 27.0 0.0
comp=Z,3.0nm,0.8s,baz=48,slow=1.4,SNR=14
TORD PP PP 07 48 03.6 +5.4
comp=Z,3.1nm,1.2s,baz=76,slow=5.5,SNR=4.3
TORD PKKPab PKKPab 07 56 30.2 +1.5
comp=Z,1.7nm,0.7s,baz=282,slow=3.7,SNR=11
TXAR Lajitas Array 121.85 51 PKP PKPdf 07 46 27.6 -0.3
comp=Z,1.6nm,0.7s,baz=235,slow=1.3,SNR=14
JCT Junction City 124.22 48 *ePKIKP* PKPdf 07 46 33.3 +0.8
CCCC Cccc 145.46 41 *eP* PKPdf 07 47 14.7 +2.9
LMGC Las Mercedes 146.77 41 *eP* PKPdf 07 47 18.1 +4.1
HLGC Holguin 146.78 39 *eP* PKPdf 07 47 17.2 +3.2
RCC Rio Carpintero 147.66 39 *eP* PKPdf 07 47 16.8 +1.3
CPD Cerro la Pandu 154.58 26 *ePKPP2* PKPab 07 47 49.5 +0.3
OTAV Otavalo 155.56 79 *ePKPdf* PKPdf 07 47 31.2 +3.8
OTAV *ePKPab* PKPab 07 47 57.9 +4.5
ROSC El Rosal 157.97 64 PKP PKPdf 07 47 32.9 +2.4
comp=Z,4.2nm,0.4s,baz=276,slow=24,SNR=3.8
ROSC El Rosal 157.97 64 *ePKPdf* PKPdf 07 47 32.2 +1.7
CPUP Villa Florida 158.53 173 PKP PKPdf 07 47 32.9 +1.7
comp=Z,1.4nm,0.8s,baz=288,slow=3.3,SNR=3.5
LPAZ La Paz 162.50 131 PKP PKPdf 07 47 38.2 +2.7
comp=Z,1.8nm,0.8s,baz=42,slow=2.0,SNR=9.6
LPAZ La Paz 162.50 131 PKP PKPdf 07 47 38.2 +2.6
SAML Samuel 170.51 116 *ePKPdf* PKPdf 07 47 42.2 +0.5
SAML *ePKPab* PKPab 07 49 01.6 +2.7

IDC 23 07:36:38.2±1.7, 486N×12532E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=111.4km s-min=23.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.82**	**179**	P	P	07 41 41.9	-0.7
	2.2nm,0.8s,baz=139,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**26.19**	**160**	P	P	07 42 14.5	+0.1
	1.5nm,0.5s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.56**	**164**	P	P	07 42 45.6	+1.0
	0.4nm,0.4s,baz=345,slow=7.6,SNR=5.3						
STKA	**Stephens Creek**	**39.69**	**158**	P	P	07 44 12.7	+0.7
	2.3nm,1.0s,baz=330,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**55.83**	**325**	P	P	07 46 17.3	0.0
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.3						

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*SKO **23** 07:45:19.3, 3882N×2131E, h0km*
*ATH **23** 07:45:20.0, 3892N×2124E, h4km±2km, MD3.6/14*
*NEIC **23** 07:45:20.1, 3892N×2123E, h5km, MD3.5(ATH), After ATH.*
*ISCJB **23** 07:45:20.2±0.3, 3891N±002×2125E±003, h4km, Error ellipse: s-maj=3.7km s-min=2.7km az=29.2*
*CSEM **23** 07:45:21.2±0.2, 3894N×2124E, h8km, MD3.5, Error ellipse: s-maj=3.9km s-min=3.0km az=144.0*
*THE **23** 07:45:21.5, 3888N×2127E, h9km, ML3.3*
ISC 23 07:45:20.6±0.5, 3892N±002×2125E±003, h1km±4km, n39, σ0°94/63, 4C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.43**	**90**⇑*iPG*	**Pg**		**07 45 29.0**	**+0.1**
EVR			*eSG*	**Sg**		**07 45 35.2**	**+0.7**
EVR	**Evrytania**	**0.43**	**90**⇑*iPb*	**Pg**		**07 45 29.5**	**+0.6**
EVR			*eSb*	**Sg**		**07 45 36.0**	**+1.5**
LKD	**Levkas**	**0.52**	**246**	*ePg*	**Pg**	**07 45 30.5**	**0.0**
LKD			*eSg*	**Sg**		**07 45 39.1**	**+1.9**
JAN	**Janina**	**0.80**	**337**⇑*iPG*	**Pg**		**07 45 35.1**	**-0.8**
JAN			*eSG*	**Sg**		**07 45 46.0**	**-0.3**
JAN	**Janina**	**0.80**	**337**⇑*iPb*	**Pg**		**07 45 35.1**	**-0.8**
JAN			*eSb*	**Sg**		**07 45 46.5**	**+0.2**
AGG	**Agios Georgios**	**0.84**	**83**	*ePg*	**Pg**	**07 45 37.4**	**+0.6**
THL	**Klokotos Trika**	**0.87**	**42**	*ePG*	**Pg**	**07 45 36.7**	**-0.6**
THL			*eSG*	**Sg**		**07 45 49.1**	**+0.5**
THL	**Klokotos Trika**	**0.87**	**42**	*ePg*	**Pg**	**07 45 36.7**	**-0.6**
THL			*eSb*	**Sg**		**07 45 49.3**	**+0.7**
RLS	**Riolos of Patr**	**0.88**	**169**	*ePG*	**Pg**	**07 45 37.0**	**-0.4**
RLS	**Riolos of Patr**	**0.88**	**169**	*ePb*	**Pb**	**07 45 37.5**	**-1.1**
VLS	**Valsamata**	**0.91**	**215**⇓*iPG*	**Pg**		**07 45 36.7**	**-1.3**
VLS			*eSG*	**Sg**		**07 45 50.5**	**+0.8**
VLS	**Valsamata**	**0.91**	**215**⇓*iPb*	**Pg**		**07 45 36.5**	**-1.5**
VLS			*eSb*	**Sg**		**07 45 50.5**	**+0.8**
KEK	**Kerkira**	**1.38**	**305**	*ePB*	**Pn**	**07 45 45.8**	**-1.1**
LKR	**Lokris**	**1.39**	**101**	*ePN*	**Pn**	**07 45 46.6**	**-0.5**
LKR	**Lokris**	**1.39**	**101**	*ePb*	**Pn**	**07 45 47.1**	**0.0**
KZN	**Kozani**	**1.44**	**16**	*ePG*	**Pn**	**07 45 46.5**	**-1.3**
KZN			*eSB*	**Sg**		**07 46 06.9**	**0.0**
KZN	**Kozani**	**1.44**	**16**	*ePg*	**Pn**	**07 45 46.5**	**-1.3**
KZN			*eSb*	**Sg**		**07 46 06.5**	**-0.4**
LIT	**Litokhoron**	**1.52**	**39**	*ePg*	**Pn**	**07 45 48.1**	**-0.8**
LIT			*eSg*	**Sn**		**07 46 08.8**	**-0.5**
XOR	**Xorichti**	**1.57**	**73**	*ePg*	**Pn**	**07 45 49.0**	**-0.6**
NEO	**Neokhori**	**1.58**	**75**	*ePG*	**Pn**	**07 45 49.5**	**-0.2**
ITM	**Ithomi**	**1.82**	**163**	*ePB*	**Pb**	**07 45 54.5**	**-0.1**
ITM			*eSB*	**Sg**		**07 46 19.1**	**+0.1**
ITM	**Ithomi**	**1.82**	**163**	*ePn*	**Pb**	**07 45 54.8**	**+0.2**
ITM			*eSn*	**Sg**		**07 46 19.1**	**+0.1**
FNA	**Florina**	**1.86**	**3**	*ePb*	**Pn**	**07 45 53.9**	**+0.3**
FNA			*eSb*	**Sn**		**07 46 18.5**	**+0.7**
AOS	**Alonnisos**	**2.06**	**82**	*ePn*	**Pn**	**07 45 55.8**	**-0.5**
BIA	**Bitola**	**2.10**	**1**	*ePn*	**Pn**	**07 45 56.2**	**-0.6**
BIA			*eSn*	**Sn**		**07 46 25.7**	**+2.1**
BIA	**Bitola**	**2.10**	**1**	*ePn*	**Pn**	**07 45 56.2**	**-0.6**
BIA			*eSn*	**Sn**		**07 46 25.6**	**+2.1**
GRG	**Griva**	**2.22**	**23**	*ePn*	**Pn**	**07 45 58.1**	**-0.3**
GRG			*eSn*	**Sn**		**07 46 27.1**	**+0.6**
GRG	**Griva**	**2.22**	**23**	*ePn*	**Pn**	**07 45 58.1**	**-0.4**
GRG			*eSn*	**Sn**		**07 46 27.0**	**+0.5**
PLG	**Polygyros**	**2.23**	**49**	*ePB*	**Pn**	**07 45 58.8**	**+0.2**
KRUS	**Krusevo**	**2.45**	**360**	*ePn*	**Pn**	**07 46 02.4**	**+0.8**
KRUS			*eSn*	**Sn**		**07 46 33.1**	**+1.0**
SOH	**Sokhos**	**2.49**	**40**	*ePn*	**Pn**	**07 46 02.2**	**0.0**
SOH			*eSn*	**Sn**		**07 46 33.3**	**0.0**
OUR	**Ouranopolis**	**2.54**	**55**	*ePn*	**Pn**	**07 46 02.4**	**-0.4**
KNT	**Kendrikon**	**2.57**	**29**	*ePn*	**Pn**	**07 46 03.2**	**-0.2**
KNT			*eSn*	**Sn**		**07 46 35.9**	**+0.7**
VLI	**Veliai**	**2.57**	**148**	*ePN*	**Pn**	**07 46 05.1**	**+1.8**
VLI	**Veliai**	**2.57**	**148**	*ePn*	**Pn**	**07 46 05.4**	**+2.1**
VAY	**Valandovo**	**2.60**	**22**	*ePn*	**Pn**	**07 46 03.3**	**-0.5**
VAY			*eSn*	**Sn**		**07 46 33.9**	**-2.0**
VAY	**Valandovo**	**2.60**	**22**	*ePn*	**Pn**	**07 46 03.2**	**-0.6**
VAY			*eSn*	**Sn**		**07 46 33.9**	**-2.1**
KYTH	**Kithira**	**2.99**	**151**	*ePB*	**Pb**	**07 46 11.5**	**-3.1**
PRK	**Paraskevi**	**3.92**	**84**	*ePN*	**Pn**	**07 46 24.0**	**+2.1**

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*CSEM **23** 08:06:54.3, 6721N×2063E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **23** 08:06:54.3, 6721N×2063E, h0km, ML2.8, Suspected Mining explosion.*
HEL 23 08:06:54.8±0.0, 6718N×2069E, h0km, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**219**	*iP*	Pg	08 06 56.0	-0.3
DUNU				*iS*	Sg	08 06 57.2	0.0
MASU	**Masugnsbyn**	**0.58**	**61**	*iP*	Pg	08 07 05.2	-0.7
KUA	**Kurravaara**	**0.79**	**350**	*iP*	Pg	08 07 07.5	-2.5
ERTU	**Ertsjaerv**	**0.86**	**136**	*eP*	Pg	08 07 11.1	-0.3
ERTU	**Ertsjaerv**	**0.86**	**136**	P	Pg	08 07 11.1	-0.3
	baz=278						
SALU	**Saltoluokta**	**0.87**	**284**	*iP*	Pg	08 07 10.5	-1.0
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	08 07 10.5	-1.0
	baz=102						
NIKU	**Nikkaluokta**	**0.94**	**318**	*eP*	Pg	08 07 11.5	-1.3
PAJU	**Pajala**	**0.96**	**98**	*eP*	Pg	08 07 12.3	-0.9
PAJU	**Pajala**	**0.96**	**98**	P	Pg	08 07 12.3	-0.9
	baz=39						
LANU	**Lannavaara**	**1.01**	**29**	*eP*	Pg	08 07 12.8	-1.3
KIF	**Kilpisjarvi**	**1.83**	**1**	*eP*	Pn	08 07 27.8	+0.2
KIF				*eS*	Sn	08 07 53.5	+2.0
SGF	**Sodankyl**	**2.28**	**81**	*ePB*	Pb	08 07 34.4	-2.4
SGF				*eSG*	Sg	08 08 04.6	-3.4

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*IDC **23** 08:13:30.0±3.5, 3587N×7150E, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.7/23, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=68.0km s-min=32.8km az=132.0*
*NEIC **23** 08:13:32.4±2.0, 3581N×7121E, h10km, mb3.5/1, Error ellipse: s-maj=34.5km s-min=14.3km az=149.0*
*MOS **23** 08:13:35.5±1.2, 3605N×7116E, h33km, mb4.0/1, Error ellipse: s-maj=28.8km s-min=11.7km az=89.3*
*ISCJB **23** 08:13:45.3±0.5, 3639N±003×7163E±007, h132km±9km, mb3.8/5, Error ellipse: s-maj=9.9km s-min=4.9km az=159.1*
ISC 23 08:13:46.3±0.5, 3639N±003×7163E±007, h128km±8km, n43, σ1°28/49, mb3.8/5, 3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.57**	**175**	⇓P	**Pn**	**08 14 27.8**	**+0.6**
CEP				S	**Sn**	**08 15 02.0**	**+3.3**
CHCP	**Chirah Chowk**	**3.03**	**153**	P	**Pn**	**08 14 35.4**	**+2.1**
CHCP				S	**Sn**	**08 15 10.0**	**+0.5**
THW	**Thamme Wali**	**3.58**	**179**	⇓P	**Pn**	**08 14 40.4**	**-0.1**
SBDP	**Sheikh Budin**	**4.13**	**190**	P	**Pn**	**08 14 46.5**	**-1.3**
DRP	**Derazinda**	**4.78**	**195**	⇓P	**Pn**	**08 14 55.7**	**-0.7**
THN	**Thein Dam**	**5.19**	**138**	*eP*	**Pn**	**08 15 03.4**	**+1.5**
THN				*eS*	**Sn**	**08 16 00.0**	**-0.7**
DLH	**Dalhousie**	**5.25**	**136**	*ex*	x	08 15 00.0	
DLH				*eS*	**Sn**	**08 15 58.0**	**-4.1**
AML	**Almayashu**	**5.96**	**15**	P	**Pn**	**08 15 12.2**	**+0.1**
	SNR=103						
UCH	**Uchtor**	**6.25**	**20**	P	**Pn**	**08 15 16.8**	**+0.7**
	SNR=35						
EKS2	**Erkin-Say**	**6.48**	**14**	P	**Pn**	**08 15 19.3**	**+0.1**
	SNR=30						
SDNR	**Sundarnagar**	**6.59**	**136**	*eP*	**Pn**	**08 15 22.5**	**+1.8**
SDNR				*eS*	**Sn**	**08 16 33.0**	**-1.4**
AAK	**Ala-Archa**	**6.62**	**19**	P	**Pn**	**08 15 21.4**	**+0.3**
	SNR=45						
AAK	**Ala-Archa**	**6.62**	**19**	*ePN*	**Pn**	**08 15 20.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,27nm,0.6s						
AAK	**Ala-Archa**	**6.62**	**19**	*ePn*	**Pn**	**08 15 20.5**	**-0.6**
	comp=Z,27nm,0.6s						
AAK				*eSn*	**Sn**	**08 16 32.8**	**-2.3**
KBK	**Karagaybulak**	**6.76**	**21**	P	**Pn**	**08 15 23.9**	**+0.8**
	SNR=10						
ULHL	**Ulahol**	**6.85**	**30**	P	**Pn**	**08 15 25.8**	**+1.5**
	SNR=7.6						
CHMS	**Chumysh**	**7.03**	**19**	P	**Pn**	**08 15 26.7**	**+0.1**
	SNR=17						
TKM2	**Tokmak 2**	**7.21**	**24**	P	**Pn**	**08 15 29.8**	**+0.8**
	SNR=36						
USP	**Ospenovka**	**7.22**	**17**	P	**Pn**	**08 15 28.7**	**-0.4**
	SNR=13						
KLP	**Kalpa**	**7.32**	**129**	*eP*	**Pn**	**08 15 34.5**	**+3.9**
KLP				*eS*	**Sn**	**08 16 49.5**	**-2.7**
KLP				AML	AML	08 16 56.2	
	comp=E,194nm,0.4s						
KLP				AML	AML	08 16 58.5	
	comp=N,260nm,0.4s						
KHET	**Khetri**	**9.01**	**156**	*eS*	**Sn**	**08 17 22.9**	**-10**
KHET				AML	AML	08 17 26.3	
	comp=N,18nm,0.2s						
KHET				AML	AML	08 17 28.1	
	comp=E,22nm,0.2s						
NDI	**New Delhi**	**9.01**	**147**	*eS*	**Sn**	**08 17 24.7**	**-8.3**
NDI				AML	AML	08 17 33.8	
	comp=N,16nm,0.2s						
NDI				AML	AML	08 17 36.9	
	comp=E,23nm,0.2s						
SONA	**Sohna**	**9.33**	**149**	*eP*	**Pn**	**08 15 56.1**	**-1.6**
SONA				*eS*	**Sn**	**08 17 32.8**	**-7.9**
SONA				AML	AML	08 17 40.7	
	comp=E,41nm,0.4s						
SONA				AML	AML	08 17 41.1	
	comp=N,10.0nm,0.2s						
MK31	**Makanchi Array**	**13.09**	**34**	*eP*	**Pn**	**08 16 48.7**	**+1.4**
MKAR	**Makanchi Array**	**13.09**	**34**	Pn	**Pn**	**08 16 45.4**	**-2.0**
	baz=223,slow=13,SNR=9.2						
KOLN	**Koldanda**	**13.29**	**127**	*eP*	**Pn**	**08 16 49.3**	**-0.5**
GKN	**Gorkha**	**13.81**	**124**	*eP*	**Pn**	**08 16 57.0**	**+0.4**
	comp=N,25nm,0.6s						
BHPL	**Bhopal**	**14.03**	**157**	*ex*	x	08 19 26.6	
DMN	**Daman**	**14.38**	**124**	*eP*	**Pn**	**08 17 04.0**	**+0.1**
	comp=N,11nm,0.6s						
PKI	**Pulchoki**	**14.61**	**123**	*eP*	**Pn**	**08 17 07.8**	**+1.0**
	comp=N,9.9nm,0.5s						
GUN	**Gumba**	**14.72**	**121**	*eP*	**Pn**	**08 17 09.0**	**+0.9**
	comp=N,11nm,0.4s						
BVAR	**Borovoye Array**	**16.66**	**357**	P	**Pn**	**08 17 29.4**	**-2.7**
	comp=N,0.3nm,0.3s,baz=166,slow=11,SNR=11						
ZRNK	**Zerenda**	**16.66**	**354**	*eP*	**Pn**	**08 17 32.6**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZRNK	**Zerenda**	**16.66**	**354**	*eP*	**Pn**	**08 17 32.6**	**+0.4**
	comp=Z,4.1nm,1.1s						
AKTK	**Aktyubinsk**	**17.14**	**329**	P	**Pn**	**08 17 35.5**	**-2.4**
AKTO	**Aktyubinsk**	**17.14**	**329**	P	**Pn**	**08 17 35.5**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=143,slow=12,SNR=13						
JOF	**Joensuu**	**36.22**	**330**	*ep*	**P**	**08 20 37.9**	**+1.2**
	comp=Z,2.1nm,0.3s,mb4.2						
JOF	**Joensuu**	**36.22**	**330**	*eP*	**P**	**08 20 37.9**	**+1.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**08 20 51.9**	**+1.3**
	comp=Z,1.6nm,0.6s,mb3.8,baz=122,slow=9.9,SNR=11						
HFS	**Hagfors**	**43.47**	**322**	P	**P**	**08 21 37.2**	**+0.6**
	comp=Z,1.1nm,0.4s,mb3.9,baz=96,slow=11,SNR=7.8						
NB2	**NORSAR Subarra**	**44.78**	**323**	P	**P**	**08 21 48.0**	**+1.0**
	comp=Z,0.7nm,0.4s,mb3.6,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.78**	**323**	P	**P**	**08 21 48.1**	**+1.1**
	comp=Z,0.7nm,0.4s,mb3.6,baz=96,slow=7.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**66.22**	**269**	P	**P**	**08 24 19.1**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=55,slow=5.0,SNR=4.9						

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*CSEM **23** 08:18:05.2, 67.19N×2064E, h0km, ML2.8, Suspected Mining explosion. After UPP*
*UPP **23** 08:18:05.2, 67.19N×2064E, h0km, ML2.8, Suspected Mining explosion.*
HEL 23 08:18:06.0±0.1, 6719N×2065E, h0km, ML2.8(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**207**	*iP*	Pg	08 18 06.8	-0.6
DUNU				*iS*	Sg	08 18 08.8	+0.5
MASU	**Masugnsbyn**	**0.59**	**62**	*iP*	Pg	08 18 16.4	-0.9
ERTU	**Ertsjaerv**	**0.88**	**136**	*iP*	Pg	08 18 22.0	-0.8
NIKU	**Nikkaluokta**	**0.92**	**318**	*eP*	Pg	08 18 22.7	-1.1
SJUU	**Sjulsmark**	**1.73**	**167**	*eP*	Pn	08 18 36.4	-0.9
KIF	**Kilpisjarvi**	**1.83**	**2**	*eP*	Pn	08 18 39.0	+0.3
KIF				*eS*	Sn	08 19 03.2	+0.8
SGF	**Sodankyl**	**2.29**	**81**	*ePB*	Pb	08 18 45.7	-2.5
SGF				*eSB*	Sb	08 19 15.7	-1.4

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*IDC **23** 08:18:10.9±1.8, 5.15N×12571E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=112.6km s-min=24.7km az=67.0*
*ISCJB **23** 08:18:21.6±2.1, 50N±03×125A±07, h105km±31km, mb3.6/5, Error ellipse: s-maj=118.0km s-min=22.1km az=136.6*
**ISC 23 08:18:21.6

ellipse: s-maj=5.9km s-min=3.2km az=10.0
*WAR **23** 08:23:48,5154N×1603E,ML2.7,Mining Induced*
*PRU **23** 08:23:48.2,5151N×1606E,h0km*
*VIE **23** 08:23:49.9±0.5,5129N×1605E,h0km,mb2.2/2,ML2.9/4,*
Error ellipse: s-maj=2.9km s-min=2.6km az=176.0 70 km
WNW of Breslau Suspected Mining induced.

ISC 23 08:23:46.6±0.5,5156N±003×1607E±003,h0km,n27,
σ0§97/52,3C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**08 24 01.5**	**+1.0**
KSP				e		08 24 03.7	
KSP				*e*Sg	**Sg**	**08 24 10.9**	**+0.9**
KSP				e		08 24 14.9	
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**08 24 01.4**	**+0.9**
KSP				*e*Sg	**Sg**	**08 24 10.8**	**+0.8**
UPC	**Upice**	**1.05**	**182**	*e*PG	**Pg**	**08 24 07.3**	**+0.6**
UPC	**Upice**	**1.05**	**182**	*e*Pg	**Pg**	**08 24 07.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*PG	**Pg**	**08 24 10.9**	**+1.0**
DPC				*e*SG	**Sg**	**08 24 25.8**	**+0.1**
	86nm,0.7s						
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*Pg	**Pg**	**08 24 10.5**	**+0.6**
DPC				*e*Sg	**Sg**	**08 24 25.5**	**-0.2**
PVCC	**Panska Ves**	**1.40**	**223**	*e*Pn	**Pn**	**08 24 13.8**	**+0.5**
PVCC	**Panska Ves**	**1.40**	**223**	*e*Pg	**Pg**	**08 24 13.9**	**+0.5**
PVCC				*e*Sg	**Sg**	**08 24 32.9**	**+1.4**
BRG	**Berggiesshubel**	**1.50**	**244**	PG	**Pg**	**08 24 15.4**	**0.0**
BRG				SG	**Sg**	**08 24 35.2**	**+0.4**
	31nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**244**	*e*Pn	**Pn**	**08 24 15.4**	**+0.6**
BRG				*e*Sg	**Sg**	**08 24 34.9**	**+0.1**
PRU	**Pruhonice**	**1.84**	**212**	*e*PG	**Pg**	**08 24 21.5**	**-0.4**
PRU				*e*SG	**Sg**	**08 24 45.2**	**-0.7**
	29nm,0.6s						
PRU	**Pruhonice**	**1.84**	**212**	*e*Pn	**Pn**	**08 24 21.3**	**+1.8**
PRU				*e*Sg	**Sg**	**08 24 45.1**	**-0.8**
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**08 24 20.2**	**-0.5**
CLL				*e*Pg	**Pg**	**08 24 23.0**	**-0.7**
CLL				*i* x	x	08 24 26.7	
CLL				*e*Sg	**Sg**	**08 24 49.0**	**+0.2**
	comp=Z,15nm,0.6s						
CLL				*i* x	x	08 24 58.0	
CLL	**Collm**	**1.94**	**264**	*e*Pn	**Pn**	**08 24 20.2**	**-0.5**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**08 24 22.1**	**+0.3**
MORC				*e*Sg	**Sg**	**08 24 48.8**	**-2.5**
	comp=Z,20nm,0.4s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pg**	**08 24 27.5**	**-0.7**
OKC				*e*SG	**Sg**	**08 24 55.6**	**-0.7**
	comp=Z,26nm,0.5s						
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**08 24 26.2**	**+0.8**
VRAC				*e*Sg	**Sg**	**08 24 58.9**	**-0.8**
	comp=Z,14nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN	**Pn**	**08 24 31.2**	**+0.7**
NKC				*e*PG	**Pg**	**08 24 36.9**	**-0.4**
NKC				*e*SG	**Sg**	**08 25 12.2**	**+0.5**
	comp=Z,33nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**241**	*e*Pn	**Pn**	**08 24 31.1**	**+0.6**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**08 24 39.3**	**+0.7**
OJC				*e*Sg	**Sg**	**08 25 14.9**	**+1.1**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**08 24 34.7**	**+0.6**
KHC				*e*PG	**Pg**	**08 24 39.8**	**-2.5**
KHC				*e*SN	**Sn**	**08 25 09.4**	**-0.3**
KHC				*e*SG	**Sg**	**08 25 20.5**	**+0.6**
	comp=Z,17nm,0.7s						
KHC	**Kasperske Hory**	**2.91**	**214**	*e*Pg	**Pg**	**08 24 40.8**	**-1.5**
KHC				*e*Sn	**Sn**	**08 25 09.4**	**-0.3**
KHC				*e*Sg	**Sg**	**08 25 20.5**	**+0.6**
	comp=Z,17nm,0.7s						
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**08 24 43.6**	**-0.5**
BSD				*i* S	**Sn**	**08 25 25.4**	**-2.2**
CONA	**Conrad Observa**	**3.63**	**182⇑**	*i*Sg	**Sg**	**08 25 40.5**	**-2.8**
	comp=Z,6.8nm,0.3s						
MOA	**Molln**	**3.89**	**198⇑**	*i*Pn	**Pn**	**08 24 47.0**	**-0.6**
MOA				⇑*i*Sg	**Sg**	**08 25 50.0**	**-1.6**
	comp=Z,8.2nm,0.5s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PG	**Pg**	**08 25 03.2**	**+1.1**
STHS				*e*SG	**Sg**	**08 25 57.6**	**+4.5**
KECS	**Kecovo**	**4.19**	**135**	*e*SG	**Sg**	**08 26 01.0**	**-0.2**

*ISCJB **23** 08:32:55.6±0.5,771S±005×12815E±008,h100km,*
mb3.8/10,Error ellipse: s-maj=11.8km s-min=5.9km
az=149.8
*IDC **23** 08:32:58.8±3.9,750S×12839E,h114km±35km,mb3.6/7,*
mb1 3.8/10,mb1mx3.8/15,mbtmp4.1/10,Error ellipse:
s-maj=48.8km s-min=16.6km az=71.0
*NEIC **23** 08:32:59.8±1.9,751S×12850E,h124km±18km,mb4.0/7,*
Error ellipse: s-maj=22.9km s-min=13.8km az=71.0

ISC 23 08:32:57.3±0.5,761S±006×1282E±01,h100km,n27,
σ1§22/33,mb3.8/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.55**	**141**	*e*P	**Pn**	**08 34 34.8**	**+3.7**
	62nm,0.1s						
KAKA				*e*S	**Sn**	**08 35 42.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**10.73**	**193**	*e*P	**Pn**	**08 35 30.1**	**+2.3**
	5.5nm,0.2s						
FITZ				*e*S	**Sn**	**08 37 22.3**	**-3.6**
FITZ	**Fitzroy Crossi**	**10.73**	**193**	P	**Pn**	**08 35 31.7**	**+3.9**
	0.9nm,0.3s,baz=24,slow=10,SNR=27						
FITZ				S	**Sn**	**08 37 24.5**	**-1.4**
	3.7nm,0.3s,baz=123,slow=21,SNR=7.8						
WRAB	**Tennant Creek**	**13.62**	**155**	*e*Pn	**Pn**	**08 36 06.4**	**+0.2**
	13nm,0.6s						
WRAB				*e*Sn	**Sn**	**08 38 24.9**	**-11**
WRA	**Warramunga Arr**	**13.62**	**155**	P	**Pn**	**08 36 05.9**	**-0.3**
	2.4nm,0.3s,baz=334,slow=13,SNR=63						
WRA				S	**Sn**	**08 38 27.0**	**-9.1**
	3.8nm,0.3s,baz=331,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**13.62**	**155**	*e*P	**Pn**	**08 36 06.1**	**-0.2**
WB2				*e*S	**Sn**	**08 38 26.6**	**-10**
MBWA	**Marble Bar**	**15.77**	**210**	*e*P	**Pn**	**08 36 40.4**	**+6.8**
MBWA				*e*Sn	**Sn**	**08 39 21.3**	**-6.8**
AS31	**Alice Springs**	**16.87**	**162**	*e*P	**Pn**	**08 36 49.1**	**+1.9**
AS31				*e*S	**S**	**08 39 45.5**	**-13**
ASAR	**Alice Springs**	**16.87**	**162**	P	**Pn**	**08 36 48.9**	**+1.6**
	1.9nm,0.3s,baz=340,slow=10,SNR=129						
ASAR				S	**S**	**08 39 43.2**	**-15**
	0.4nm,0.3s,baz=331,slow=15,SNR=4.6						
ASPA	**Alice Springs**	**16.87**	**162**	*e*P	**Pn**	**08 36 49.1**	**+1.9**
ASPA				*e*S	**S**	**08 39 45.5**	**-13**
STKA	**Stephens Creek**	**27.17**	**154**	*e*P	**P**	**08 38 32.7**	**+1.4**
	2.9nm,1.3s,mb3.6						
STKA	**Stephens Creek**	**27.17**	**154**	P	**P**	**08 38 32.5**	**+1.2**
	0.9nm,0.4s,mb3.7,baz=128,slow=16,SNR=5.7						
MJAR	**Matsushiro Arr**	**44.91**	**11**	P	**P**	**08 41 00.4**	**-1.6**
	2.2nm,0.6s,mb4.0,baz=196,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**58.48**	**343**	P	**P**	**08 42 44.1**	**+1.2**
	1.0nm,0.9s,mb3.9,baz=171,slow=5.4,SNR=5.0						
MKAR	**Makanchi Array**	**67.78**	**328**	P	**P**	**08 43 44.6**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=125,slow=8.2,SNR=8.5						
MKAR				PcP	PcP	08 44 08.4	-2.0
	0.4nm,0.5s,baz=136,slow=6.8,SNR=3.3						
VNDA	**Vanda**	**72.06**	**173**	P	**P**	**08 44 10.3**	**-0.2**
	0.4nm,0.7s,mb3.3,baz=315,slow=6.5,SNR=4.1						
VNDA	**Vanda**	**72.06**	**173**	*e*P	**P**	**08 44 10.4**	**-0.2**
	0.5nm,0.6s,mb3.5						
BVAR	**Borovoye Array**	**77.64**	**328**	P	**P**	**08 44 42.4**	**-0.3**
	1.1nm,0.7s,mb3.7,baz=127,slow=9.6,SNR=6.7						
CHKZ	**Chkalovo**	**77.86**	**329**	*e*P	**P**	**08 44 43.8**	**-0.1**
	0.8nm,0.5s,mb3.7						
ZRNK	**Zerenda**	**78.33**	**328**	*e*P	**P**	**08 44 45.8**	**-0.7**
	3.5nm,1.0s,mb4.0						
QSPA	**South Pole Qui**	**82.37**	**180**	*e*P	**P**	**08 45 08.3**	**+0.2**
	1.4nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**83.48**	**323**	P	**P**	**08 45 13.3**	**-0.6**
AKTO	**Aktyubinsk**	**83.48**	**323**	P	**P**	**08 45 13.3**	**-0.6**
	0.5nm,0.2s,mb3.9,baz=123,slow=7.9,SNR=4.0						
LVC	**Limon Verde**	**145.60**	**151**	*e*PKPab	PKPab	08 52 25.6	+1.1
CPUP	**Villa Florida**	**145.84**	**171**	PKPbc	PKPbc	08 52 25.1	+0.2
	0.8nm,0.5s,baz=111,slow=4.0,SNR=4.2						
LPAZ	**La Paz**	**151.27**	**146**	PKP	PKPdf	08 52 35.1	+2.1
	2.1nm,0.3s,baz=201,slow=6.7,SNR=14						
LPAZ				PKPbc	PKPbc	08 52 40.4	+1.4
	1.1nm,0.4s,baz=4.1,slow=6.0,SNR=5.8						
LPAZ				PKPab	PKPab	08 52 48.5	+1.2
	1.4nm,0.6s,baz=225,slow=3.2,SNR=5.1						
LPAZ	**La Paz**	**151.27**	**146**	PKP	PKPdf	08 52 35.1	+2.1
LPAZ				PKPbc	PKPbc	08 52 40.4	+1.4
LPAZ				PKPab	PKPab	08 52 48.5	+1.2

*KISR **23** 09:01:24.6±1.1,2963N×5078E,h40km±406km,ML3.3*
*CSEM **23** 09:01:24.7±0.2,2965N×5069E,h5km,ML3.6,Error*
ellipse: s-maj=5.8km s-min=2.0km az=46.0
*ISCJB **23** 09:01:26.3±0.3,2969N±003×5063E±002,h10km,Error*
ellipse: s-maj=5.0km s-min=2.7km az=154.9
*THR **23** 09:01:26.5±0.4,2974N×5067E,h17km±8km,ML3.6*
*TEH **23** 09:01:27.0,2960N×5063E,h10km,Mn3.6*

ISC 23 09:01:27.2±0.3,2964N±003×5065E±002,h10km,n24,
σ0§75/40,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroon**	**1.04**	**82**	*e*Pn	**Pn**	**09 01 46.8**	**-1.1**
SHI	**Shiraz**	**1.62**	**89**	*e*Pn	**Pn**	**09 01 56.0**	**+0.2**
SHI				*e*Sn	**Sn**	**09 02 18.0**	**+1.2**
IMOK	**Mook**	**1.90**	**108**	*e*Pn	**Pn**	**09 01 59.7**	**+0.1**
IMOK				*e*Sn	**Sn**	**09 02 24.1**	**+0.5**
ISRV	**Sarvestan**	**2.16**	**96**	*e*Pn	**Pn**	**09 02 03.3**	**0.0**
ISRV				*e*Sn	**Sn**	**09 02 30.4**	**+0.3**
GHIR	**Ghir-Karzin**	**2.45**	**123**	*e*Pn	**Pn**	**09 02 08.6**	**+1.4**
GHIR				*e*Sg	**Sg**	**09 02 44.6**	**-1.4**
GHIR				AML	AML	09 02 56.2	
	comp=E,404nm,0.6s						
GHIR				AML	AML	09 03 05.5	
	comp=N,272nm,0.6s						
GHIR	**Ghir-Karzin**	**2.45**	**123**	*e*Pn	**Pn**	**09 02 08.6**	**+1.3**
	SNR=52						
GHIR				*e*Sg	**Sg**	**09 02 44.6**	**-1.4**
	SNR=91						
QRN	**Al-Qurain**	**2.55**	**250**	*e*P	**Pn**	**09 02 08.1**	**-0.5**
QRN				*e*S	**Sn**	**09 02 39.8**	**+0.1**
QRN				AML	AML	09 02 41.2	
	comp=Z,66nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.56**	**269**	*e*P	**Pn**	**09 02 07.9**	**-0.8**
UMR				*e*S	**Sn**	**09 02 40.3**	**+0.4**
UMR				AML	AML	09 02 44.0	
	comp=Z,103nm,0.4s						
KBD	**Kabd**	**2.62**	**261**	*e*P	**Pn**	**09 02 08.9**	**-0.7**
KBD				*e*S	**Sn**	**09 02 42.6**	**+1.2**
KBD				AML	AML	09 02 44.2	
	comp=Z,234nm,0.4s						
RDF	**Al-Radifah**	**2.80**	**256**	*e*P	**Pn**	**09 02 11.6**	**-0.5**
RDF				*e*S	**Sn**	**09 02 45.8**	**-0.1**
RDF				AML	AML	09 02 48.3	
	comp=Z,91nm,0.3s						
MIB	**Mutribah**	**2.88**	**274**	*e*P	**Pn**	**09 02 12.6**	**-0.6**
MIB				*e*S	**Sn**	**09 02 48.8**	**+0.8**
MIB				AML	AML	09 02 52.5	
	comp=Z,110nm,0.6s						
IGAR	**Garneh**	**2.92**	**27**	*e*Pn	**Pn**	**09 02 14.6**	**+0.9**
IGAR				*e*Sn	**Sn**	**09 02 50.9**	**+2.2**
NAY	**Al-Naaiem**	**3.00**	**263**	*e*P	**Pn**	**09 02 14.1**	**-0.7**
NAY				*e*S	**Sn**	**09 02 51.5**	**+0.7**
NAY				AML	AML	09 02 53.9	
	comp=Z,36nm,0.5s						
IPIR	**Pirpir**	**3.04**	**4**	*e*Pn	**Pn**	**09 02 15.5**	**+0.1**
IPIR				*e*Sn	**Sn**	**09 02 51.7**	**-0.1**
RST	**Umm Al-Ruwaisa**	**3.19**	**268**	*e*P	**Pn**	**09 02 16.2**	**-1.1**
RST				*e*S	**Sn**	**09 02 55.8**	**+0.4**
RST				AML	AML	09 03 00.5	
	comp=Z,70nm,0.5s						
ISAD	**Sadrabad**	**3.46**	**48**	*e*Pn	**Pn**	**09 02 20.9**	**-0.2**
ISAD				*e*Sn	**Sn**	**09 03 01.5**	**-0.6**
IZEF	**Zefreh**	**3.55**	**23**	*e*Pn	**Pn**	**09 02 22.6**	**+0.2**
NASN	**Na'in**	**3.65**	**30**	*e*Pn	**Pn**	**09 02 23.4**	**-0.3**
IKLH	**Kalahroud**	**3.75**	**12**	*e*Pn	**Pn**	**09 02 25.1**	**-0.1**
IKLH				*e*Sn	**Sn**	**09 03 08.5**	**-0.9**
IBAF	**Bafgh**	**4.66**	**64**	*e*Pn	**Pn**	**09 02 36.6**	**-1.1**
ASAO	**Ashtian**	**4.92**	**354**	*e*Pn	**Pn**	**09 02 41.0**	**-0.2**
ASAO				AML	AML	09 03 51.5	
	comp=N,40nm,0.5s						
ASAO				AML	AML	09 03 51.5	
	comp=E,26nm,0.4s						
BNDS	**Bandar-Abbas**	**5.34**	**113**	*e*Pn	**Pn**	**09 02 48.0**	**+1.0**
BNDS				AML	AML	09 04 03.1	
	comp=E,33nm,0.7s						
SNGE	**Sanandaj**	**6.11**	**334**	*e*Pn	**Pn**	**09 02 57.4**	**-0.2**
SNGE				AML	AML	09 04 27.7	
	comp=N,20nm,0.5s						
CHTH	**Charan**	**6.26**	**4**	*e*Pn	**Pn**	**09 02 59.5**	**-0.2**

*CSEM **23** 10:03:04.2±1.2,3850N×2852W,h19km±6km,ML1.7,Error*
ellipse: s-maj=5.9km s-min=3.1km az=25.0,After PDA
*PDA **23** 10:03:04.2±1.2,3850N×2852W,h19km±6km,MD2.8,*
ML1.7,Error ellipse: s-maj=5.9km s-min=3.1km az=25.0

SVSA 23 10:03:04.2±1.2,3850N×2852W,h19km±6km,MD2.8,
ML1.7,Error ellipse: s-maj=5.9km s-min=3.1km az=25.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCND	**Candelaria**	**0.06**	**119**	*e*P	Pg	10 03 07.7	+0.1
PCND				*e*S	Sg	10 03 09.7	-0.2
PCND							
	68nm,0.1s						
PICO	**Pico**	**0.08**	**86**	*e*P	Pg	10 03 07.1	-0.7
PICO				*e*S	Sg	10 03 09.2	-0.9
HOR	**Horta**	**0.09**	**290**	*e*P	Pg	10 03 07.2	-0.7
HOR				*e*S	Sg	10 03 09.5	-0.8
PBOI	**Pico dos Bois**	**0.13**	**117**	*e*S	Sg	10 03 10.7	-0.3
PBOI							
	18nm,0.2s						
PTEI	**Pico do Teixo**	**0.13**	**90**	*e*S	Sg	10 03 10.3	-0.7
PTEI							
	33nm,0.2s						
CALA	**Caldeira**	**0.16**	**301**	*e*P	Pg	10 03 08.4	-0.3
CALA				*e*S	Sg	10 03 11.6	-0.1
PCED	**Cedros**	**0.19**	**313**	*e*P	Pg	10 03 08.0	-1.1
PCED				*e*S	Sg	10 03 11.3	-1.1
PCED							
	48nm,0.1s						
PCED	**Cedros**	**0.19**	**313**	*e*P	Pg	10 03 08.0	-1.1
PCED				*e*S	Sg	10 03 11.3	-1.1
ROSA	**Rosais**	**0.31**	**45**	*e*P	Pg	10 03 10.0	-1.0
ROSA				*e*S	Sg	10 03 14.4	-1.2
PID	**Ribeirinha**	**0.32**	**99**	*e*P	Pg	10 03 09.8	-1.3
PID				*e*S	Sg	10 03 14.3	-1.6
PMAN	**Manadas**	**0.37**	**68**	*e*P	Pg	10 03 10.8	-1.1
PMAN				*e*S	Sg	10 03 15.5	-1.6
PMAN							
	38nm,0.1s						
PMAN	**Manadas**	**0.37**	**68**	*e*P	Pg	10 03 10.8	-1.1
PMAN				*e*S	Sg	10 03 15.5	-1.6

*NEIC **23** 10:07:22.1,1978N×6434W,h56km,MD3.7(RSPR),After*
RSPR.

RSPR 23 10:07:22.1,1978N×6434W,h56km±24km,MD3.7/6,
MD3.7/6,9C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**2.03**	**215⇑**	*e*P	Pn	10 07 52.9	-1.0
MTP				*e*S	Sn	10 08 16.8	-1.2
CDVI	**St. Croix**	**2.06**	**191⇑**	*e*P	Pn	10 07 53.4	-0.9
CDVI				*e*S	Sn	10 08 18.2	-0.5
CBYP	**Canovanas**	**2.08**	**224⇑**	*e*P	Pn	10 07 53.4	-1.2
CBYP				*e*S	Sn	10 08 18.6	-0.6
HUMP	**Col San Antoni**	**2.17**	**222⇑**	*e*P	Pn	10 07 55.0	-0.8
HUMP				*e*S	Sn	10 08 21.0	-0.4
CPD	**Cerro la Pandu**	**2.29**	**221⇑**	*e*P	Pn	10 07 56.9	-0.5
CPD				*e*S	Sn	10 08 24.1	-0.3
AOPR	**Arecibo Observ**	**2.69**	**239⇑**	*e*P	Pn	10 08 02.1	-0.9
AOPR	**Arecibo Observ**	**2.69**	**239**	*e*S	Sn	10 08 33.2	-1.1
ICM	**Isla Caja Muer**	**2.79**	**228⇑**	*e*P	Pn	10 08 04.4	+0.1
AGPR	**Aguadilla, PR**	**2.93**	**244⇑**	*e*P	Pn	10 08 05.8	-0.4
AGPR				*e*S	Sn	10 08 39.6	-0.5
CRPR	**Cabo Rojo, PR**	**3.16**	**237⇑**	*e*P	Pn	10 08 09.2	-0.2
CRPR				*e*S	Sn	10 08 46.1	+0.2

*ATH **23** 10:18:38.8,4080N×2074E,h11km±1km,MD3.6/9*
*TIR **23** 10:18:40.3,4057N×2088E,h4km,MI3.2*
*SKO **23** 10:18:41.1,4049N×2075E,h2km,M0.6,ML3.1*
*ISCJB **23** 10:18:42.4±0.3,4051N±002×2086E±003,h4km,Error*
ellipse: s-maj=3.2km s-min=2.1km az=132.0
*THE **23** 10:18:42.0,4061N×2074E,h10km,ML3.3*
*CSEM **23** 10:18:42.3±0.1,4061N×2080E,h5km,ML3.3,Error*
ellipse: s-maj=2.3km s-min=1.6km az=92.0
*NEIC **23** 10:18:43.0±1.3,4044N×2084E,h6km±13km,MD3.2(PDG),*
MD3.6(ATH),Error ellipse: s-maj=8.1km s-min=6.0km
az=64.0
*PDG **23** 10:18:44.6±0.1,4050N×2044E,h7km±8km*

ISC 23 10:18:43.0±0.3,4052N±002×2088E±003,h4km,n58,
σ1§32/89,4C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.13**	**328**	*i* Pg	**Pg**	**10 18 42.2**	**-3.4**
KBN				*i* Sg	**Sg**	**10 18 46.8**	**-0.5**
FNA	**Florina**	**0.47**	**55**	*e*Pg	**Pg**	**10 18 50.8**	**-1.2**
BIA	**Bitola**	**0.61**	**34**	*e*Pg	**Pg**	**10 18 51.7**	**-3.0**
BIA				*e*Sg	**Sg**	**10 19 02.6**	**0.0**
BIA	**Bitola**	**0.61**	**34**	*e*Pg	**Pg**	**10 18 53.3**	**-1.4**
BIA				*e*Sg	**Sg**	**10 19 02.6**	**+0.1**
BIA				*e*Lg		10 19 04.2	
	comp=E,450nm,0.4s						
BIA				*e*Lg		10 19 04.5	
	comp=N,443nm,0.6s						
BIA	**Bitola**	**0.61**	**34**	*e*Pg	**Pg**	**10 18 53.3**	**-1.4**
BIA				*e*Sg	**Sg**	**10 19 02.6**	**0.0**
KZN	**Kozani**	**0.71**	**107**	*e*PG	**Pg**	**10 18 56.3**	**-0.4**
KZN				*e*SB	**Sg**	**10 19 09.8**	**+3.8**
KZN	**Kozani**	**0.71**	**107**	*e*Pg	**Pg**	**10 18 56.3**	**-0.4**
KZN				*e*Sb	**Sg**	**10 19 09.9**	**+3.9**
JAN	**Janina**	**0.86**	**181**	*e*PB	**Pb**	**10 19 00.3**	**-0.2**
KRUS	**Krusevo**	**0.90**	**18**	*e*Pg	**Pg**	**10 18 58.3**	**-2.0**
KRUS				*e*Sg	**Sg**	**10 19 12.0**	**+0.1**
KRUS	**Krusevo**	**0.90**	**18**	*e*Pg	**Pg**	**10 18 58.2**	**-2.1**
KRUS				*e*Sg	**Sg**	**10 19 11.9**	**0.0**
SRN	**Sarande**	**0.92**	**227**	*i* Pn	**Pg**	**10 18 59.6**	**-1.1**
SRN				*i* Sn	**Sn**	**10 19 20.0**	**+3.5**
VLO	**Vlora**	**1.05**	**268**	*i* Pn	**Pn**	**10 19 01.8**	**-2.8**
IGT	**Igoumenitsa**	**1.07**	**203**	*e*Pg	**Pg**	**10 19 01.5**	**-2.0**
IGT				*e*Sg	**Sg**	**10 19 19.2**	**+1.9**
TIR	**Tirane**	**1.13**	**318**	*e*Pg	**Pn**	**10 19 01.1**	**-4.5**
KEK	**Kerkira**	**1.15**	**226**	*e*PB	**Pb**	**10 19 03.7**	**-1.8**
KEK	**Kerkira**	**1.15**	**226**	*e*Pb	**Pb**	**10 19 03.8**	**-1.7**
PHP	**Peshkopia**	**1.22**	**344**	*i* Pn	**Pn**	**10 19 03.5**	**-3.3**
PHP				*i* Sn	**Sn**	**10 19 20.5**	**-3.2**
GRG	**Griva**	**1.24**	**69**	*e*Pg	**Pg**	**10 19 06.5**	**-0.5**
THL	**Klokotos Trika**	**1.29**	**137**	*e*PG	**Pg**	**10 19 07.9**	**+0.2**
LIT	**Litokhoron**	**1.30**	**108**	*e*Pg	**Pg**	**10 19 08.3**	**+0.3**
VAY	**Valandovo**	**1.52**	**57**	*e*Pn	**Pn**	**10 19 10.7**	**-0.2**
VAY				*e*Sn	**Sn**	**10 19 32.6**	**+1.5**
VAY				*e*Lg		10 19 35.4	
	comp=N,366nm,1.0s						
VAY				*e*Lg		10 19 36.7	
	comp=E,230nm,0.9s						
VAY	**Valandovo**	**1.52**	**57**	*e*Pn	**Pn**	**10 19 10.6**	**-0.3**
VAY				*e*Sn	**Sn**	**10 19 32.5**	**+1.4**
SKO	**Skopje**	**1.52**	**16**	*e*Pg	**Pg**	**10 19 09.8**	**-2.3**
SKO	**Skopje**	**1.52**	**16**	*e*Pn	**Pn**	**10 19 09.8**	**-1.1**
SKO				*e*Sn	**Sn**	**10 19 30.7**	**-0.4**
SKO				*e*Lg		10 19 32.7	
	comp=N,241nm,0.7s						
SKO				*e*Lg		10 19 32.9	
	comp=E,296nm,0.7s						
SKO	**Skopje**	**1.52**	**16**	*e*Pg	**Pn**	**10 19 09.8**	**-1.1**
SKO				*e*Sn	**Sn**	**10 19 30.7**	**-0.4**
STIP	**Stip**	**1.54**	**40**	*e*Pg	**Pn**	**10 19 09.9**	**-1.3**
STIP	**Stip**	**1.54**	**40**	*e*Pn	**Pn**	**10 19 10.7**	**-0.5**
KNT	**Kendrikon**	**1.66**	**66**	*e*Pb	**Pb**	**10 19 12.9**	**-1.3**
HORT	**Hortiatis**	**1.69**	**86**	*e*Pb	**Pb**	**10 19 13.6**	**-1.1**
PUK	**Puka**	**1.70**	**334**	*i* Pn	**Pn**	**10 19 12.4**	**-1.0**
PUK				*i* Sn	**Sn**	**10 19 37.5**	**+1.9**
EVR	**Evrytania**	**1.75**	**155**	*e*PG	**Pg**	**10 19 16.8**	**+0.2**
EVR				*e*SN	**Sg**	**10 19 42.5**	**+3.2**
LKD	**Levkas**	**1.81**	**186**	*e*Pb	**Pb**	**10 19 15.7**	**-1.1**
AGG	**Agios Georgios**	**1.86**	**143**	*e*Pn	**Pn**	**10 19 17.3**	**+1.6**
ULC	**Ulcinj**	**1.90**	**320⇓**	*i*Pn	**Pn**	**10 19 16.0**	**-0.2**
ULC				*e*Sn	**Sn**	**10 19 40.6**	**+0.1**
SOH	**Sokhos**	**1.91**	**80**	*e*Pn	**Pn**	**10 19 16.8**	**+0.4**
BCI	**Bajram Curri**	**1.95**	**342**	*i* pn?	**Pn**	**10 19 17.5**	**+0.6**
BCI				*i* Sn	**Sn**	**10 19 44.7**	**+2.9**
PLG	**Polygyros**	**1.96**	**93**	*e*Pn	**Pn**	**10 19 17.6**	**+0.5**
PLG	**Polygyros**	**1.96**	**93**	*e*PN	**Pn**	**10 19 16.1**	**-1.0**
PLG	**Polygyros**	**1.96**	**93**	*e*Pn	**Pn**	**10 19 17.0**	**-0.1**
XOR	**Xorichti**	**2.12**	**122**	*e*Pn	**Pn**	**10 19 20.6**	**+1.4**
SRS	**Serrai**	**2.15**	**73**	*e*Pn	**Pn**	**10 19 20.2**	**+0.6**
**NEO

KECS eSN **Sn** **10 31 41.1 +0.4**
CRVS Cervenica-Dubn 2.15 113 ePN **Pn** **10 31 23.8 +3.2**
CRVS eSN **Sn** **10 31 51.6 +3.7**
CONA Conrad Observa 2.52 224⇑iPg **Pg** **10 31 30.4 -1.4**
CONA ⇓iSg **Sg** **10 32 04.6 0.0**
8.1nm,0.6s
MOA Molln 3.38 237⇑iPn **Pn** **10 31 36.2 -1.3**
MOA ⇑iSg **Sg** **10 32 32.2 +0.2**
comp=Z,2.8nm,0.4s

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*ISCJB **23** 10:54:16.8±0.3, 4760N±002×12269W±003, h21km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=148.7*
*PGC **23** 10:54:16.4±0.1, 4753N×12277W, h24km±2km, ML2.3/10, 33km southwest of Seattle, Wa Washington*
*PNSN **23** 10:54:17.5, 4758N×12271W, h22km, MD2.5, Fault plane solution: NP1:φs95.00000°, δ50.00000°, NP2: φs305.00000°, δ44.00000°, Principal axes: T Plg74.0000°, Azm300.0000°; P Plg3.0000°, Azm199.0000°;*
ISC 23 10:54:16.7±0.6, 4760N±002×12269W±004, h18km±4km, n33, σ0968/44, 11C-12D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
C04A	**Brinnon**	**0.23**	**302**	⇑P		**Pg**	**10 54 22.5**	**+0.4**
	baz=0.2,SNR=663							
C04A				⇑S		**Sg**	**10 54 26.6**	**+0.8**
	baz=0.2							
D04A	**Dobbs Creek Ra**	**0.49**	**189**	⇓P		**Pb**	**10 54 26.9**	**+0.1**
	baz=0.5,SNR=50							
D04A				⇑S		**Sb**	**10 54 34.7**	**+1.1**
	baz=0.5							
D05A	**Enumclaw**	**0.63**	**130**	⇑P		**Pb**	**10 54 29.2**	**+0.2**
	baz=0.6,SNR=15							
D05A				⇑S		**Sb**	**10 54 37.3**	**-0.2**
	baz=0.6							
C05A	**Tolt Reservoir**	**0.68**	**81**	⇓P		**Pb**	**10 54 29.8**	**-0.2**
	baz=0.7,SNR=13							
C05A				⇓S		**Sb**	**10 54 38.9**	**-0.2**
	baz=0.7							
B04A	**Port Angeles**	**0.72**	**310**	⇓P		**Pb**	**10 54 30.5**	**-0.1**
	baz=0.7,SNR=28							
B04A				⇑S		**Sb**	**10 54 40.8**	**+0.7**
	baz=0.7							
B05A	**Bryant**	**0.78**	**31**	P		**Pb**	**10 54 31.2**	**-0.5**
	baz=0.8,SNR=153							
B05A				⇓S		**Sb**	**10 54 41.8**	**-0.1**
	baz=0.8							
NLWA	**Neilton Lookou**	**0.83**	**256**	⇓P		**Pb**	**10 54 32.1**	**-0.4**
	baz=0.8							
NLWA				⇓S		**Sb**	**10 54 43.7**	**+0.4**
	baz=0.8							
D03A	**Wishkah Elem.**	**0.88**	**237**	⇓P		**Pb**	**10 54 33.3**	**-0.1**
	baz=0.9,SNR=42							
VGZ	**Gonzales**	**0.92**	**333**	P		**Pb**	**10 54 33.0**	**-1.2**
VGZ				S		**Sb**	**10 54 45.4**	**-0.7**
VGZ				Trac				
E04A	**Onalaska**	**1.00**	**181**	⇓P		**Pb**	**10 54 34.9**	**-0.6**
	baz=1.0							
E04A				⇑S		**Sb**	**10 54 48.2**	**-0.2**
	baz=1.0							
A04A	**Legoe Bay, Lum**	**1.12**	**359**	⇓P		**Pn**	**10 54 37.2**	**-0.3**
	baz=1.1,SNR=13							
PGC	**Sidney**	**1.17**	**334**	Trac				
PGC	**Sidney**	**1.17**	**334**	P		**Pn**	**10 54 37.1**	**-1.1**
PGC				S		**Sb**	**10 54 52.0**	**-1.2**
E03A	**Lebam**	**1.21**	**210**	⇑P		**Pn**	**10 54 38.0**	**-0.6**
	baz=1.2,SNR=113							
E03A				⇑S		**Sb**	**10 54 54.4**	**+0.1**
	baz=1.2							
E05A	**Randle**	**1.21**	**148**	P		**Pn**	**10 54 38.2**	**-0.6**
	baz=1.2,SNR=96							
E05A				⇑S		**Sb**	**10 54 54.0**	**-0.4**
	baz=1.2							
SNB	**Saturna Island**	**1.22**	**345**	Trac				
SNB	**Saturna Island**	**1.22**	**345**	P		**Pn**	**10 54 38.6**	**-0.3**
SNB				S		**Sb**	**10 54 54.5**	**-0.2**
B06A	**Marblemount**	**1.23**	**41**	⇓P		**Pn**	**10 54 38.8**	**-0.1**
	baz=1.2,SNR=67							
B06A				⇓S		**Sb**	**10 54 55.1**	**+0.3**
	baz=1.2							
LZB	**Mount Lazard**	**1.27**	**324**	Trac				
LZB	**Mount Lazard**	**1.27**	**324**	P		**Pn**	**10 54 38.5**	**-1.1**
LZB				S		**Sn**	**10 54 54.5**	**-1.6**
GOBB	**Galiano Island**	**1.46**	**338**	Trac				
GOBB	**Galiano Island**	**1.46**	**338**	P		**Pn**	**10 54 42.0**	**-0.1**
GOBB				S		**Sn**	**10 55 00.9**	**+0.1**
VDB	**Vedder Mountai**	**1.48**	**15**	Trac				
VDB	**Vedder Mountai**	**1.48**	**15**	P		**Pn**	**10 54 43.1**	**+0.6**
VDB				S		**Sn**	**10 55 02.7**	**+1.4**
PFB	**Port Renfrew**	**1.53**	**310**	Trac				
PFB	**Port Renfrew**	**1.53**	**310**	P		**Pn**	**10 54 43.2**	**+0.1**
PFB				S		**Sn**	**10 55 03.0**	**+0.6**
F04A	**Amboy**	**1.67**	**174**	⇑S		**Sn**	**10 55 06.6**	**+0.6**
	baz=1.7							
HNB	**Haney**	**1.68**	**2**	Trac				
HNB	**Haney**	**1.68**	**2**	P		**Pn**	**10 54 45.7**	**+0.5**
HNB				S		**Sn**	**10 55 07.2**	**+1.0**
NLLB	**Nanaimo Lost L**	**1.85**	**333**	Trac				
NLLB	**Nanaimo Lost L**	**1.85**	**333**	P		**Pn**	**10 54 48.1**	**+0.6**
NLLB				S		**Sn**	**10 55 11.6**	**+1.3**
PNT	**Penticton**	**2.67**	**49**	Trac				
PNT	**Penticton**	**2.67**	**49**	P		**Pn**	**10 54 59.7**	**+1.0**

IDC 23 11:56:47.6±4.0, 2025N×12105E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, MS3.6/3, Ms1 3.6/3, ms1mx2.8/20, 1D, Error ellipse: s-maj=328.7km s-min=28.0km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.63**	**164**	⇓eP		Pn	11 57 35.5	+4.1
MKAR	**Makanchi Array**	**41.15**	**319**	P		P	12 04 33.5	0.0
	0.4nm,0.6s,baz=118,slow=8.6,SNR=4.1							
WRA	**Warramunga Arr**	**42.01**	**161**	P		P	12 04 40.2	-0.4
	0.5nm,0.6s,baz=342,slow=9.0,SNR=5.5							
WB2	**Warramunga Arr**	**42.01**	**161**	eP		P	12 04 48.1	+7.5
ASAR	**Alice Springs**	**45.41**	**163**	P		P	12 05 08.6	+0.6
	0.2nm,0.4s,baz=343,slow=7.0,SNR=14							
ASPA	**Alice Springs**	**45.41**	**163**	eP		P	12 05 16.4	+8.4
CTA	**Charters Tower**	**47.07**	**147**	LR		LR	12 25 28.6	
	comp=Z,67nm,18.3s,baz=230,slow=37							
HNR	**Honiara**	**48.31**	**124**	LR		LR	12 23 49.7	
	comp=Z,44nm,18.6s,baz=359,slow=34							
DZM	**Mont Dzumac**	**61.11**	**131**	LR		LR	12 29 05.7	
	comp=Z,75nm,19.5s,baz=206,slow=32							

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*ISCJB **23** 12:22:50.8±3.2, 465S×02×1518E±02, h192km±26km, mb3.8/7, Error ellipse: s-maj=26.9km s-min=24.6km az=176.3*
*IDC **23** 12:22:50.6±3.9, 465S×15183E, h179km±34km, mb3.5/6, mb1 3.6/7, mb1mx3.4/15, mbtmp3.9/7, Error ellipse: s-maj=27.3km s-min=24.3km az=64.0*
*NEIC **23** 12:22:51.2±2.2, 4645S×15182E, h186km±18km, mb4.4/3, Error ellipse: s-maj=17.5km s-min=16.5km az=52.0*
ISC 23 12:22:51.1±3.1, 465S±02×1518E±02, h180km±24km, n14, σ0929/14, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.62**	**224**	P		**Pn**	**12 24 26.5**	**+0.3**
	0.9nm,0.3s,baz=189,slow=12,SNR=2.9							
PMG				S		**Sn**	**12 25 41.0**	**-0.2**
	0.4nm,0.3s,baz=0.3,slow=21,SNR=3.4							
KAKA	**Kakadu**	**20.76**	**246**	eP		**P**	**12 27 17.3**	**-0.5**
	14nm,0.6s							
DZM	**Mont Dzumac**	**22.39**	**142**	P		**P**	**12 27 34.1**	**-0.3**
	4.9nm,0.6s,mb4.1,baz=49,slow=21,SNR=6.3							
WRAB	**Tennant Creek**	**22.82**	**227**	eP		**P**	**12 27 38.6**	**+0.2**
	7.3nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**22.82**	**227**	eP		**P**	**12 27 38.6**	**+0.1**
WRA	**Warramunga Arr**	**22.83**	**227**	P		**P**	**12 27 38.8**	**+0.2**
	4.2nm,0.4s,mb4.2,baz=50,slow=9.7,SNR=88							
AS31	**Alice Springs**	**25.62**	**221**	eP		**P**	**12 28 04.1**	**+0.3**
ASAR	**Alice Springs**	**25.62**	**221**	P		**P**	**12 28 04.0**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=54,slow=8.3,SNR=19							
ASPA	**Alice Springs**	**25.63**	**221**	eP		**P**	**12 28 04.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.89**	**240**	eP		**P**	**12 28 32.4**	**-0.5**
	1.7nm,0.3s,mb4.2							
FITZ	**Fitzroy Crossi**	**28.89**	**240**	P		**P**	**12 28 32.5**	**-0.5**
	1.2nm,0.4s,mb4.0,baz=49,slow=9.4,SNR=21							
SONM	**Songino Array**	**65.67**	**328**	P		**P**	**12 33 16.3**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=144,slow=5.4,SNR=3.5							
MKAR	**Makanchi Array**	**79.56**	**319**	P		**P**	**12 34 37.8**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=99,slow=7.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**149.33**	**288**	PKPbc		PKPbc	12 42 18.6	+0.1
	1.1nm,0.3s,baz=84,slow=2.4,SNR=35							
TORD				PKPab		PKPab	12 42 24.0	+0.2
	1.0nm,0.6s,baz=64,slow=3.3,SNR=6.4							

JMA 23 12:24:20.8±0.1, 3619N×14002E, h52km±1km, M3.7, 1C-6D Broadband fault plane solution: P waves. NP1: φs194.00000°, δ15.00000°, λ68.00000°. **NP2:** φs37.00000°, δ76.00000°, λ96.00000°. **Principal axes:** T Plg58.0000°, Azm314.0000°; N Plg5.0000°, Azm215.0000°; P Plg31.0000°, Azm122.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.15**	**75**	⇑P		Pn	12 24 29.2	+0.2
JYT				S		Sn	12 24 35.0	+0.1
JAG	**Ashikaga**	**0.51**	**297**	⇓P		Pn	12 24 32.5	+0.2
JAG				S		Sn	12 24 40.4	-0.2
JKT	**Katashina**	**0.85**	**313**	⇓P		Pn	12 24 36.5	0.0
JKT				S		Sn	12 24 48.2	+0.2
JRY	**Ryogami san**	**0.92**	**260**	⇓P		Pn	12 24 37.7	+0.2
JRY				S		Sn	12 24 49.4	-0.4
JOD2	**Odawara 2**	**1.20**	**220**	P		Pn	12 24 41.8	+0.6
JOD2				S		Sn	12 24 56.7	+0.3
JFY	**Yanaizu**	**1.24**	**348**	⇓P		Pn	12 24 42.1	+0.3
JFY				eS		Sn	12 24 58.3	+0.9
JHK	**Hiroka**	**1.33**	**323**	⇓P		Pn	12 24 43.3	+0.3
JFT	**Otama**	**1.35**	**11**	⇓P		Pn	12 24 43.6	+0.3
JFT				eS		Sn	12 25 00.6	+0.5
JFK	**Kawauchi**	**1.36**	**30**	P		Pn	12 24 43.4	0.0
JFK				eS		Sn	12 24 59.7	-0.6
JYN	**Shimob**	**1.38**	**240**	P		Pn	12 24 45.1	+1.4
BSO3	**Boso 3**	**1.44**	**164**	P		Pn	12 24 44.4	-0.1
MAT	**Matsushiro**	**1.50**	**284**	P		Pn	12 24 45.8	+0.4
MAT				S		Sn	12 24 59.5	-4.4

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*ISCJB **23** 13:05:11.3±1.3, 582S±005×14556E±006, h48km±12km, mb4.8/41, MS3.8/11 Error ellipse: s-maj=10.3km s-min=7.8km az=143.0*
*IDC **23** 13:05:12.1±2.5, 583S×14555E, h41km±23km, mb4.2/14, mb1 4.4/17, mb1mx4.4/19, mbtmp4.5/17, ML4.0/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/19, Error ellipse: s-maj=20.2km s-min=12.2km az=75.0*
*MOS **23** 13:05:12.2±0.9, 577S×14558E, h56km, mb4.8/10, Error ellipse: s-maj=15.9km s-min=8.2km az=96.2*
*NEIC **23** 13:05:14.3±1.3, 584S×14553E, h60km±11km, mb4.7/14, Error ellipse: s-maj=9.3km s-min=7.0km az=58.0*
*BJI **23** 13:05:15.1, 540S×14554E, h62km, mB5.2, mb4.9, Ms4.7, Msz4.3*
ISC 23 13:05:13.9±1.2, 585S±005×14561E±006, h56km±12km, h67km±6.3km; pP-P, n97, σ0998/90, mb4.8/40, MS3.8/11, 4C-5D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.85**	**157**	P		**Pn**	**13 06 11.3**	**+0.6**
	91nm,0.3s,baz=19,slow=5.4,SNR=260							
PMG				S		**Sn**	**13 06 53.5**	**-1.2**
	286nm,0.3s,baz=127,slow=20,SNR=22							
PMG	**Port Moresby**	**3.85**	**157**	di P		**Pn**	**13 06 11.1**	**+0.4**
PMG	**Port Moresby**	**3.85**	**157**	ePn		**Pn**	**13 06 11.2**	**+0.5**
PMG				eSn		**Sn**	**13 06 54.0**	**-0.7**
CTA	**Charters Tower**	**14.17**	**178**	eP		**Pn**	**13 08 33.8**	**+2.3**
	21nm,1.1s							
CTA	**Charters Tower**	**14.17**	**178**	P		**Pn**	**13 08 33.8**	**+2.2**
	2.5nm,0.3s,baz=346,slow=13,SNR=31							
CTA	**Charters Tower**	**14.17**	**178**	eP		**Pn**	**13 08 33.8**	**+2.3**
CTA				pmax		pmax		
	comp=Z,21nm,1.1s							
CTAO	**Charters Tower**	**14.17**	**178**	eP		**Pn**	**13 08 33.9**	**+2.4**
CTAO				pmax		pmax		
	comp=Z,9.0nm,0.6s							
CTAO	**Charters Tower**	**14.17**	**178**	eP		**Pn**	**13 08 33.9**	**+2.3**
	comp=Z,8.5nm,0.6s							
HNR	**Honiara**	**14.65**	**105**	P		**Pn**	**13 08 38.3**	**+0.4**
	baz=167,slow=1.4,SNR=3.2							
HNR				LR		LR	13 13 50.7	
	comp=Z,411nm,20.7s,baz=358,slow=35							
HNR	**Honiara**	**14.65**	**105**	eP		**Pn**	**13 08 44.6**	**+6.7**
HNR				pmax		pmax		
	comp=Z,202nm,0.8s							
HNR	**Honiara**	**14.65**	**105**	eP		**Pn**	**13 08 44.6**	**+6.7**
	comp=Z,202nm,0.8s							
HNR				LR		LR	13 13 50.7	
KAKA	**Kakadu**	**14.67**	**241**	eP		**Pn**	**13 08 36.1**	**-2.0**
	comp=Z,61nm,0.6s							
WRAB	**Tennant Creek**	**17.77**	**217**	eP		**Pn**	**13 09 17.8**	**+0.6**
WRAB	**Tennant Creek**	**17.77**	**217**	eP		**Pn**	**13 09 17.0**	**-0.2**
	comp=Z,25nm,0.8s							
WB2	**Warramunga Arr**	**17.77**	**217**	eP		**Pn**	**13 09 17.1**	**-0.2**
WRA	**Warramunga Arr**	**17.78**	**217**	P		**Pn**	**13 09 17.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=38,slow=11,SNR=33							
GUMO	**Guam**	**19.32**	**358**	LR		LR	13 16 11.9	
	comp=Z,110nm,18.3s,baz=164,slow=34							
AS31	**Alice Springs**	**20.99**	**211**	eP		**P**	**13 09 52.1**	**-0.4**
ASAR	**Alice Springs**	**20.99**	**211**	P		**P**	**13 09 52.2**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=35,slow=12,SNR=62							
ASAR				LR		LR	13 18 46.6	
	comp=Z,136nm,20.2s,MS3.3,baz=40,slow=39							
ASPA	**Alice Springs**	**20.99**	**211**	eP		**P**	**13 09 52.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.98**	**236**	eP		**P**	**13 10 13.4**	**-0.3**
	comp=Z,16nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**22.98**	**236**	P		**P**	**13 10 13.1**	**-0.6**
	comp=Z,2.8nm,0.6s,mb3.9,baz=68,slow=9.4,SNR=13							
FITZ				LR		LR	13 19 53.0	
	comp=Z,298nm,18.6s,MS3.8,baz=59,slow=38							
ARMA	**Armidale**	**25.09**	**168**	eP		**P**	**13 10 33.8**	**+0.6**
DZM	**Mont Dzumac**	**25.80**	**131**	P		**P**	**13 10 40.3**	**+0.6**
	comp=Z,8.8nm,0.6s,mb4.5,baz=297,slow=24,SNR=12							
STKA	**Stephens Creek**	**26.16**	**188**	⇑iP		**P**	**13 10 42.6**	**-0.3**
	comp=Z,23nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**26.16**	**188**	P		**P**	**13 10 42.7**	**-0.2**
	comp=Z,24nm,0.7s,mb4.8,baz=352,slow=8.4,SNR=40							
STKA				LR		LR	13 21 08.6	
	comp=Z,121nm,18.2s,MS3.5,baz=15,slow=36							
CBIJ	**Chichi jima**	**32.92**	**354**	P		**P**	**13 11 41.8**	**-1.0**
	comp=Z,54nm,0.7s,mb5.6,baz=326,slow=22,SNR=6.4							
KSM	**Kuching**	**35.99**	**281**	eP		**P**	**13 12 09.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.72**	**221**	LR		LR	13 30 18.8	
	comp=Z,64nm,18.2s,MS3.5,baz=90,slow=40							
JHJ	**Hachijo jima 2**	**39.15**	**352**	P		**P**	**13 12 34.9**	**-1.1**
	comp=Z,115nm,0.7s,mb5.7,baz=55,slow=19,SNR=2.8							
MJAR	**Matsushiro Arr**	**42.73**	**351**	P		**P**	**13 13 04.5**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.1,baz=174,slow=8.1,SNR=6.5							
MAJO	**Matsushiro**	**42.73**	**351**	eP		**P**	**13 13 05.3**	**-0.2**
MAJO				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.5							
MAJO	**Matsushiro**	**42.73**	**351**	eP		**P**	**13 13 05.2**	**-0.3**
	comp=Z,4.3nm,0.4s,mb4.5							
QIZ	**Qiongzhong**	**43.04**	**306**	P		**P**	**13 13 05.3**	**-2.7**
QIZ				S		**S**	**13 19 29.6**	**0.0**
QIZ				LR		LR		
	comp=Z,102nm,34.1s,MS3.5							
URZ	**Urewera**	**43.10**	**143**	P		**P**	**13 13 09.7**	**+1.2**
	comp=Z,13nm,0.7s,mb4.8,baz=128,slow=14,SNR=6.6							
NJ2	**Nanjing**	**45.50**	**328**	eP		**P**	**13 13 26.6**	**-1.0**
NJ2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.2							
KULM	**Kulim**	**46.23**	**283**	eP		**P**	**13 13 33.3**	**0.0**
KMI	**Kunming**	**51.81**	**308**	P		**P**	**13 14 18.0**	**+1.9**
KMI				AMB		AMB		
	comp=Z,8.0nm,1.2s,mb4.5							
KMI	**Kunming**	**51.81**	**308**	P		**P**	**13 14 18.0**	**+1.9**
	comp=Z,8.0nm,1.2s,mb4.5							
CM31	**Chiang Mai Arr**	**51.96**	**299**	eP		**P**	**13 14 18.5**	**+1.3**
	comp=Z,14nm,0.8s,mb4.9							
CHTO	**Chiang Mai**	**52.10**	**299**	eP		**P**	**13 14 19.0**	**+0.8**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
CHTO	**Chiang Mai**	**52.10**	**299**	eP		**P**	**13 14 18.9**	**+0.7**
	comp=Z,4.8nm,0.8s,mb4.5							
MDJ	**Mudanjiang**	**52.26**	**346**	P		**P**	**13 14 20.6**	**+1.2**
MDJ				PP		PP	13 16 19.1	+0.8
MDJ				SCP		ScP	13 19 20.8	-1.6
MDJ				S		**S**	**13 21 40.3**	**0.0**
MDJ				AMB		AMB		
	comp=Z,11nm,1.3s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,254nm,5.0s							
MDJ				LR		LR		
	comp=N,86nm,26.9s,MS3.7							
MDJ				LR		LR		
	comp=E,21nm,23.3s,MS3.7							
MDJ				LR		LR		
	comp=Z,106nm,21.5s,MS3.9							
YSS	**Yuzh-Sakhalins**	**52.63**	**358**	⇓eP		**P**	**13 14 21.4**	**-0.8**
YSS				pmax		pmax		
	comp=Z,19nm,1.7s,mb4.8							
XAN	**Xi'an**	**52.69**	**321**	P		**P**	**13 14 22.6**	**0.0**
XAN				AP		pP	13 14 37.4	-0.2
XAN				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.7							
CD2	**Chengdu**	**54.18**	**315**	⇓iP		**P**	**13 14 34.5**	**+1.0**
CD2				AP		pP	13 14 53.6	+5.0
CD2				XP		sP	13 15 02.3	+7.3
CD2				PP		PP	13 16 38.8	+3.2
CD2				S		**S**	**13 22 04.1**	**-2.3**
CD2				SS		SS	13 25 46.4	-2.3
CD2				AMB		AMB		
	comp=Z,30nm,0.5s,mb5.5							
CD2				AMB		AMB		
	comp=Z,80nm,5.4s							
CD2				LR		LR		
	comp=N,280nm,13.2s							
CD2				LR		LR		
	comp=Z,240nm,10.8s,MS4.5							
HHC	**Hu-ho-hao-te**	**55.98**	**329**	eP		**P**	**13 14 47.6**	**+1.1**
HHC				AMB		AMB		
	comp=Z,21nm,0.5s,mb5.4							
HHC				AMB		AMB		
	comp=Z,112nm,3.6s							
LZH	**Lanzhou**	**57.20**	**320**	eP		**P**	**13 14 56.4**	**+1.2**
LZH				AP		pP	13 15 11.0	+0.7
LZH				XP		sP	13 15 15.0	-1.7
LZH				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.2							
LZH	**Lanzhou**	**57.20**	**320**	eP		**P**	**13 14 56.4**	**+1.2**
	comp=Z,30nm,1.2s,mb5.2							
LZH				pP		pP	13 15 11.0	+0.7
LZH				sP		sP	13 15 15.0	-1.7
HIA	**Hailar**	**59.34**	**341**	⇑eP		**P**	**13 15 09.1**	**-1.0**
LSA	**Lhasa**	**63.04**	**307**	eP		**P**	**13 15 37.5**	**+2.3**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**63.04**	**307**	eP		**P**	**13 15 37.5**	**+2.3**
	comp=Z,5.9nm,0.6s,mb4.9							
SONM	**Songino Array**	**63.60**	**332**	P		**P**	**13 15 39.4**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=152,slow=5.2,SNR=9.4							
SONM				LR		LR	13 40 41.5	
	comp=Z,71nm,19.9s,MS3.9,baz=138,slow=34							
PPT	**Papeete**	**64.27**	**107**	eLR		LR	13 35 55.7	
	comp=Z,170nm,27.0s							
PPT	**Papeete**	**64.27**	**107**	LR		LR	13 37 26.0	
	comp=Z,99nm,20.2s,MS4.0,baz=310,slow=30							
TBI	**Tubuai**	**64.71**	**113**	eLR		LR	13 36 07.2	
	comp=Z,159nm,37.8s							
CASY	**Casey**	**65.04**	**195**	eP		**P**	**13 15 47.7**	**-0.6**
GUN	**Gumba**	**66.63**	**304**	eP		**P**	**13 15 59.8**	**+1.3**
	comp=Z,27nm,0.4s,mb5.6							
ZAK	**Zakamensk**	**66.85**	**332**	eP		**P**	**13 15 58.4**	**-1.5**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.3							
PKI	**Pulchoki**	**66.90**	**303**	eP		**P**	**13 16 00.9**	**+0.7**
	comp=Z,11nm,0.6s,mb5.1							
KKN	**Kakani**	**67.08**	**303**	eP		**P**	**13 16 02.5**	**+1.1**
	comp=Z,24nm,0.7s,mb5.3							
DMN	**Daman**	**67.16**	**303**	eP		**P**	**13 16 03.2**	**+1.3**
	comp=Z,28nm,0.6s,mb5.5							
GKN	**Gorkha**	**67.69**	**303**	eP		**P**	**13 16 06.0**	**+0.8**
	comp=Z,24nm,0.6s,mb5.4							
BOD	**Bodaibo**	**68.41**	**342**	eP		**P**	**13 15 58.7**	**-11**
KOLN	**Koldanda**	**68.48**	**303**	eP		**P**	**13 16 11.2**	**+1.1**
	comp=Z,19nm,0.7s,mb5.2							
WMQ	**Urumqi**	**71.78**	**320**	eP		**P**	**13 16 31.0**	**+0.7**
WMQ				AP		pP	13 16 51.0	+5.1
WMQ				XP		sP	13 16 59.0	+6.8
WMQ				PP		PP	13 19 13.0	+2.8
WMQ				eS		S	13 25 44.0	-2.3
WMQ				XS		sS	13 26 17.0	+4.4
WMQ				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,118nm,5.3s							
WMQ				LR		LR		
	comp=N,126nm,18.0s,MS4.3							
WMQ				LR		LR		
	comp=E,136nm,21.4s,MS4.3							
WMQ				LR		LR		
	comp=Z,140nm,22.8s,MS4.2							
VNDA	**Vanda**	**72.15**	**176**	P		**P**	**13 16 32.4**	**-0.2**
	comp=Z,3.6nm,0.9s,mb4.3,baz=332,slow=7.2,SNR=17							
VNDA	**Vanda**	**72.15**	**176**	eP		**P**	**13 16 32.4**	**-0.1**
SBA	**Scott Base**	**72.81**	**175**	eP		**P**	**13 16 37.4**	**+0.9**
MK31	**Makanchi Array**	**76.50**	**321**	eP		**P**	**13 16 58.2**	**+0.3**
MKAR	**Makanchi Array**	**76.50**	**321**	P		**P**	**13 16 58.3**	**+0.4**
	comp=Z,2.2nm,0.5s,mb4.4,baz=98,slow=7.8,SNR=30							
MKAR				LR		LR	13 53 02.1	
	comp=Z,29nm,19.1s,MS3.6,baz=231,slow=38							
MKAR	**Makanchi Array**	**76.50**	**321**	iP		**P**	**13 16 58.2**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
RKT	**Rikitea**	**78.02**	**112**	eLR		LR	13 42

ATH 23 13:07:20.6, 4043N×2170E, h4km, MD3.3/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**156**	⇑*i*PG	Pg	13 07 23.4	+0.1
KZN				*e*SG	Sg	13 07 25.9	+0.8
THL	**Klokotos Trika**	**0.90**	**164**	*e*PG	Pg	13 07 37.7	-0.1
KRUS	**Krusevo**	**1.00**	**340**	*e*Pn	Pn	13 07 41.0	-0.4
KRUS				*e*Sn	Sn	13 08 01.1	+5.2
PLG	**Polygyros**	**1.33**	**92**	*e*PB	Pb	13 07 45.3	-0.9

OTT 23 13:07:56.5±0.7, 7658N×11772W, h18km, ML3.8/3, 60km northeast from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**5.96**	**97**	PN	Pn	13 09 23.6	-0.2
RES				SN	Sn	13 10 27.9	-3.8
RES				Trac		13 10 37.3	
	comp=Z,19nm,0.7s						
INK	**Inuvik**	**9.53**	**218**	PN	Pn	13 10 11.9	-0.9
INK				SN	Sn	13 11 49.2	-10
INK				Trac		13 11 57.5	
	comp=Z,2.4nm,0.2s						
STLN	**Stellar Camp,**	**11.90**	**128**	PN	Pn	13 10 43.1	-2.2
GIFN	**Gifford Fjord,**	**12.07**	**104**	PN	Pn	13 10 46.4	-1.2
GIFN				SN	Sn	13 12 57.0	-4.6
BULN	**Bullion Camp,**	**12.70**	**130**	PN	Pn	13 10 53.8	-2.3
BULN				SN	Sn	13 13 01.3	-16
SRLN	**Sarcpa Lake, N**	**12.82**	**111**	PN	Pn	13 10 55.6	-2.2
SRLN				SN	Sn	13 13 09.3	-11
QILN	**Qililugaq Expl**	**13.77**	**119**	PN	Pn	13 11 07.4	-3.3
QILN				SN	Sn	13 13 33.0	-10
YKW3	**Yellowknife Ar**	**14.13**	**174**	PN	Pn	13 11 13.1	-2.5
YKW3				SN	Sn	13 13 41.3	-11
YKW3				SN	Sn	13 13 41.3	-11
YKW3				Trac		13 13 52.4	
	comp=Z,2.7nm,0.4s						
DAWY	**Dawson**	**14.36**	**221**	PN	Pn	13 11 15.6	-3.3

*MOS **23** 13:19:46.2±1.2, 7445×12766E, h82km, mb4.3/9, Error ellipse: s-maj=18.6km s-min=8.8km az=119.4*
*IDC **23** 13:19:48.7±2.9, 7395×12792E, h93km±26km, mb4.2/13, mb1 4.3/16, mb1mx4.3/20, mbtmp4.7/16, Error ellipse: s-maj=20.1km s-min=11.7km az=73.0*
*ISCJB **23** 13:19:52.8±0.8, 7675±003×12772E±005, h145km±8km, mb4.5/38, Error ellipse: s-maj=9.3km s-min=4.9km az=142.9*
*BJI **23** 13:19:52.1, 7705×12780E, h138km, mB5.1, mb4.8*
*NEIC **23** 13:19:54.1±1.4, 7675×12779E, h138km±14km, mb4.4/11, Error ellipse: s-maj=14.7km s-min=8.6km az=50.0*

ISC 23 13:19:54.0±0.8, 7625±004×12792E±006, h144km±8km, n83, σ1§22/86, mb4.5/38, 1C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.92**	**4**	P	**Pn**	**13 20 55.4**	**+2.4**
	522nm,0.7s						
KAKA	**Kakadu**	**6.74**	**139**	*e*P	**Pn**	**13 21 31.8**	**+1.3**
	426nm,0.6s						
KAKA				*e*S	**Sn**	13 22 42.3	-3.7
SWI	**Sorong**	**7.50**	**27**	P	**Pn**	**13 21 41.7**	**+1.1**
	83nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.65**	**192**	⇓*i*P	**Pn**	**13 22 21.2**	**-1.5**
	54nm,0.3s						
FITZ				*e*S	**Sn**	13 24 14.7	-5.6
FITZ	**Fitzroy Crossi**	**10.65**	**192**	P	**Pn**	**13 22 21.3**	**-1.4**
	14nm,0.3s,baz=24,slow=10,SNR=158						
FITZ				S	**Sn**	13 24 13.3	-7.0
	15nm,0.3s,baz=119,slow=22,SNR=8.1						
WRAB	**Tennant Creek**	**13.74**	**154**	*e*P	**Pn**	**13 23 01.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,68nm,0.6s						
WRAB	**Tennant Creek**	**13.74**	**154**	*e*Pn	**Pn**	**13 23 01.2**	**-1.6**
	comp=Z,68nm,0.6s						
WRAB				*e*Sn	**Sn**	13 25 21.5	-13
WRA	**Warramunga Arr**	**13.74**	**154**	P	**Pn**	**13 23 01.3**	**-1.5**
	comp=Z,9.9nm,0.3s,baz=322,slow=14,SNR=259						
WRA				S	**Sn**	13 25 24.9	-10
	comp=Z,13nm,0.3s,baz=333,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.74**	**154**	*e*P	**Pn**	**13 23 01.3**	**-1.6**
WB2				*e*S	**Sn**	13 25 25.4	-10
MBWA	**Marble Bar**	**15.61**	**210**	*e*Pn	**Pn**	**13 23 26.2**	**0.0**
	comp=Z,13nm,0.7s						
MBWA				*e*Sn	**Sn**	13 26 10.6	-9.1
AS31	**Alice Springs**	**16.96**	**161**	*e*P	**Pn**	**13 23 43.2**	**+0.6**
AS31				*e*S	**S**	13 26 44.9	-6.3
ASPA	**Alice Springs**	**16.96**	**161**	*e*P	**Pn**	**13 23 43.2**	**+0.6**
ASPA				*e*S	**S**	13 26 44.9	-6.3
ASAR	**Alice Springs**	**16.96**	**161**	P	**Pn**	**13 23 42.4**	**-0.2**
	comp=Z,6.3nm,0.3s,baz=336,slow=9.8,SNR=334						
ASAR				S	**S**	13 26 45.0	-6.2
	comp=Z,3.9nm,0.3s,baz=327,slow=18,SNR=8.4						
KKM	**Kota Kinabalu**	**17.90**	**319**	*e*P	**Pn**	**13 23 54.6**	**+0.7**
PMG	**Port Moresby**	**19.11**	**97**	S	**S**	**13 27 36.0**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=181,slow=11,SNR=2.3						
PMG	**Port Moresby**	**19.11**	**97**	P	**P**	**13 24 10.0**	**+4.3**
KSM	**Kuching**	**19.75**	**297**	*e*P	**P**	**13 24 13.9**	**+1.2**
CTA	**Charters Tower**	**21.66**	**127**	*e*P	**P**	**13 24 35.8**	**+2.8**
	comp=Z,7.4nm,1.2s,mb4.0						
CTA	**Charters Tower**	**21.66**	**127**	P	**P**	**13 24 35.1**	**+2.1**
	comp=Z,4.7nm,0.7s,mb4.0,baz=324,slow=16,SNR=8.7						
CTA	**Charters Tower**	**21.66**	**127**	*e*P	**P**	**13 24 35.8**	**+2.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CTAO	**Charters Tower**	**21.66**	**127**	*e*P	**P**	**13 24 35.9**	**+2.9**
FORT	**Forrest**	**23.04**	**180**	*e*P	**P**	**13 24 48.4**	**+1.8**
	comp=Z,28nm,0.6s,mb4.9						
FORT				*e*S	**S**	13 29 05.3	+19
KLBR	**Kellerberrin**	**25.66**	**200**	*e*P	**P**	**13 25 14.4**	**+4.0**
	comp=Z,20nm,1.2s,mb4.6						
KLBR				*e*	pP	13 25 39.6	-0.9
KLBR				*e*S	S	13 30 06.4	+38
MUN	**Mundaring**	**26.57**	**203**	*e*P	sP	13 26 05.0	-0.4
NWAO	**Narrogin (SRO)**	**27.06**	**200**	P	**P**	**13 25 23.0**	**+0.1**
	comp=Z,7.2nm,0.9s,mb4.3,baz=113,slow=8.6,SNR=2.6						
NWAO	**Narrogin (SRO)**	**27.06**	**200**	P	**P**	**13 25 23.0**	**+0.1**
STKA	**Stephens Creek**	**27.29**	**154**	*e*P	**P**	**13 25 26.4**	**+1.4**
	comp=Z,2.1nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.29**	**154**	P	**P**	**13 25 26.4**	**+1.4**
	comp=Z,2.3nm,0.5s,mb4.1,baz=344,slow=7.7,SNR=10						
PSI	**Prapat**	**30.72**	**289**	P	**P**	**13 25 55.2**	**-0.1**
	comp=Z,28nm,0.8s,mb5.0,baz=108,slow=6.8,SNR=22						
PSI	**Prapat**	**30.72**	**289**	P	**P**	**13 25 55.2**	**-0.1**
CBIJ	**Chichi jima**	**37.18**	**21**	P	**P**	**13 26 47.3**	**-3.8**
	comp=Z,26nm,0.6s,mb5.1,baz=153,slow=20,SNR=3.9						
CHTO	**Chiang Mai**	**38.81**	**313**	*e*P	**P**	**13 27 06.5**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
CHTO	**Chiang Mai**	**38.81**	**313**	*e*P	**P**	**13 27 06.5**	**+1.7**
	comp=Z,3.4nm,0.8s,mb4.0						
NJ2	**Nanjing**	**40.39**	**348**	*e*P	**P**	**13 27 14.8**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
CD2	**Chengdu**	**44.76**	**330**	*e*P	**P**	**13 27 57.6**	**+4.5**
CD2				PP	PP	13 29 45.6	+5.2
CD2				S	**S**	**13 34 25.8**	**+6.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**44.98**	**12**	P	**P**	**13 27 52.4**	**-2.5**
	comp=Z,4.4nm,0.8s,mb4.1,baz=184,slow=9.2,SNR=7.3						
HHC	**Hu-ho-hao-te**	**50.53**	**344**	*e*P	**P**	**13 28 43.8**	**+6.3**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,185nm,6.7s						
LSA	**Lhasa**	**51.25**	**318**	*e*P	**P**	**13 28 44.2**	**+1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**51.25**	**318**	*e*P	**P**	**13 28 44.2**	**+1.3**
	comp=Z,8.4nm,0.6s,mb4.5						
MDJ	**Mudanjiang**	**52.02**	**2**	P	**P**	**13 28 52.5**	**+3.9**
MDJ				AMB	AMB		
	comp=Z,18nm,1.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,412nm,4.6s						
JIRN	**Jiri**	**53.46**	**313**	*e*P	**P**	**13 28 59.4**	**+0.2**
	comp=Z,2.9nm,0.2s,mb4.7						
GTA	**Gaotai**	**53.55**	**333**	*e*P	**P**	**13 29 00.3**	**+0.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
GUN	**Gumba**	**53.83**	**313**	*e*P	**P**	**13 29 01.8**	**-0.1**
	comp=Z,42nm,0.7s,mb5.3						
PKI	**Pulchoki**	**53.98**	**312**	*e*P	**P**	**13 29 02.7**	**-0.3**
	comp=Z,20nm,0.6s,mb5.0						
KKN	**Kakani**	**54.20**	**312**	*e*P	**P**	**13 29 04.5**	**-0.1**
	comp=Z,21nm,0.5s,mb5.1						
DMN	**Daman**	**54.23**	**312**	*e*P	**P**	**13 29 05.3**	**+0.5**
	comp=Z,17nm,0.5s,mb5.0						
GKN	**Gorkha**	**54.79**	**312**	*e*P	**P**	**13 29 08.5**	**-0.3**
	comp=Z,40nm,0.5s,mb5.4						
KOLN	**Koldanda**	**55.43**	**311**	*e*P	**P**	**13 29 13.2**	**-0.2**
	comp=Z,47nm,0.8s,mb5.3						
SONM	**Songino Array**	**58.40**	**343**	P	**P**	**13 29 34.9**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.1,baz=161,slow=7.0,SNR=16						
WMQ	**Urumqi**	**62.81**	**328**	*e*P	**P**	**13 30 09.0**	**+4.8**
MK31	**Makanchi Array**	**67.63**	**328**	*i* P	**P**	**13 30 34.5**	**-0.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
MK31	**Makanchi Array**	**67.63**	**328**	*e*P	**P**	**13 30 34.7**	**-0.5**
MKAR	**Makanchi Array**	**67.63**	**328**	P	**P**	**13 30 34.9**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.3,baz=116,slow=8.1,SNR=48						
MKAR				PcP	PcP	13 31 00.6	-0.7
	comp=Z,1.7nm,0.6s,baz=120,slow=6.2,SNR=8.4						
MKAR	**Makanchi Array**	**67.63**	**328**	P	**P**	**13 30 34.9**	**-0.4**
MKAR				PcP	PcP	13 31 00.6	-0.7
YAK	**Yakutsk**	**69.45**	**1d**	*i* P	**P**	**13 30 45.2**	**-1.4**
YAK				*i* *PP	pP	13 31 14.9	-6.6
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**69.69**	**321**	⇓*e*P	**P**	**13 30 47.1**	**-1.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
VNDA	**Vanda**	**72.09**	**173**	P	**P**	**13 31 03.5**	**+0.9**
	comp=Z,1.0nm,0.7s,mb3.6,baz=335,slow=6.5,SNR=11						
VNDA	**Vanda**	**72.09**	**173**	*e*P	**P**	**13 31 03.3**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.7						
NVS	**Novosibirsk**	**72.53**	**335**	*e*P	**P**	**13 31 01.0**	**-4.1**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.2						
MAW	**Mawson**	**73.62**	**201**	P	**P**	**13 31 13.3**	**+1.7**
	comp=Z,2.5nm,0.5s,mb4.2,baz=80,slow=6.5,SNR=16						
WSAR	**Wadi Sarin**	**74.29**	**297**	P	**P**	**13 31 15.2**	**-0.3**
	comp=Z,5.8nm,0.9s,mb4.3,baz=154,slow=7.3,SNR=6.8						
VOSK	**Vostochnaya**	**77.03**	**328**	*i* P	**P**	**13 31 29.7**	**-1.4**
BVAR	**Borovoye Array**	**77.50**	**329**	P	**P**	**13 31 32.6**	**-1.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=128,slow=11,SNR=7.0						
TIXI	**Tiksi**	**79.11**	**0**	⇑*e*P	**P**	**13 31 41.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
AB31	**Akbulak array**	**81.72**	**322**	*i* P	**P**	**13 31 55.1**	**-1.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
SYO	**Syowa Base**	**82.34**	**201**	⇓*e*P	**P**	**13 32 00.2**	**+0.5**
QSPA	**South Pole Qui**	**82.36**	**180**	*e*P	**P**	**13 32 00.7**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**83.31**	**323**	P	**P**	**13 32 04.2**	**-0.5**
AKTO	**Aktyubinsk**	**83.31**	**323**	P	**P**	**13 32 04.2**	**-0.5**
	comp=Z,5.6nm,0.7s,mb4.4,baz=113,slow=6.7,SNR=26						
ARU	**Arti**	**85.14**	**329**	⇓*i*P	**P**	**13 32 12.1**	**-1.8**
ARU				*e*		13 35 30.1	
ARU				*e*S	S	13 42 24.3	-7.3
ARU				*e*SS	SS	13 48 03.5	-5.0
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
SNAA	**Sanae**	**94.57**	**194**	*e*P	**P**	**13 32 58.9**	**+0.6**
SNAA				*e*		13 33 42.4	
SNAA	**Sanae**	**94.57**	**194**	*e*P	**P**	**13 32 59.5**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SNAA	**Sanae**	**94.57**	**194**	*e*P	**P**	**13 32 59.5**	**+1.2**
	comp=Z,3.1nm,1.1s,mb4.5						
ANN	**Anapa**	**95.65**	**314**	*e*P	**P**	**13 32 57.2**	**-6.0**
ANN				pmax	pmax		
	comp=Z,23nm,5.7s						
VNA1	**Neumayer--Stat**	**96.56**	**193**	*e*P	**P**	**13 33 08.0**	**+0.7**
VNA1				*e*		13 33 50.7	
PDAR	**Pinedale Array**	**118.79**	**45**	PKP	PKPdf	13 38 25.8	+0.6
	comp=Z,0.4nm,0.7s,baz=323,slow=2.2,SNR=4.2						
PDAR				PKKPbc	PKKPbc	13 48 45.0	+4.3
	comp=Z,0.3nm,0.5s,baz=138,slow=5.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**126.90**	**281**	PKP	PKPdf	13 38 41.3	+0.6
	comp=Z,1.8nm,0.6s,baz=66,slow=2.2,SNR=17						
TXAR	**Lajitas Array**	**127.02**	**59**	PKP	PKPdf	13 38 41.4	+0.5
	comp=Z,0.4nm,0.6s,baz=224,slow=2.2,SNR=4.6						
SCHQ	**Schefferville**	**131.46**	**11**	PKP	PKPdf	13 38 49.9	+0.5
	comp=Z,1.2nm,0.7s,baz=252,slow=13,SNR=3.8						
CPUP	**Villa Florida**	**145.87**	**172**	PKPbc	PKPbc	13 39 18.3	+1.9
	comp=Z,2.9nm,0.4s,baz=148,slow=1.6,SNR=22						
CPUP	**Villa Florida**	**145.87**	**172**	*e*PKP	PKPdf	13 39 18.1	+2.6
LPAZ	**La Paz**	**151.42**	**146**	PKPbc	PKPbc	13 39 34.0	+3.2
	comp=Z,1.5nm,0.4s,baz=136,slow=1.4,SNR=11						
LPAZ				PKPab	PKPab	13 39 43.5	+4.0
	comp=Z,6.0nm,0.6s,baz=210,slow=2.1,SNR=21						
LPAZ	**La Paz**	**151.42**	**146**	*e*PKPbc	PKPbc	13 39 33.5	+2.8
LPAZ				*e*PKPab	PKPab	13 39 43.5	+3.9

*ISCJB **23** 13:51:30.5±2.6, 7.1N±0.1×1267E±0.1, h34km±22km, mb3.5/5, Error ellipse: s-maj=26.6km s-min=15.3km az=115.6*
*IDC **23** 13:51:37.4±12.0, 680N×12639E, h66km±106km, mb3.3/5, mb1 3.5/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=133.7km s-min=24.1km az=66.0*

ISC 23 13:51:31.7±2.1, 71N±01×12663E±009, h29km±11km, n10, σ1§31/13, mb3.5/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.42**	**242**	*e*P	**Pb**	**13 51 41.4**	**+0.5**
MATI				*e*S	**Sb**	13 51 46.6	-0.5
KCP	**Kidapawan**	**1.54**	**265**	⇑*i*P	**Pn**	**13 52 00.4**	**+3.3**
KCP				*i* S	**Sn**	13 52 17.0	+0.9
BUKP	**Musuan**	**1.72**	**295**	*e*P	**Pn**	**13 51 58.7**	**-1.0**
BUKP				*e*S	**Sn**	13 52 18.0	-2.6
FITZ	**Fitzroy Crossi**	**25.10**	**182**	*e*P	**P**	**13 56 52.6**	**-1.2**
	5.2nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**25.10**	**182**	P	**P**	**13 56 52.6**	**-1.2**
	3.0nm,0.9s,mb3.8,baz=2.7,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**27.96**	**164**	P	**P**	**13 57 19.6**	**0.0**
	0.2nm,0.3s,mb3.2,baz=346,slow=9.5,SNR=11						
ASPA	**Alice Springs**	**31.43**	**167**	*e*P	**P**	**13 57 51.3**	**+1.0**
ASAR	**Alice Springs**	**31.43**	**167**	P	**P**	**13 57 50.2**	**-0.1**
	0.3nm,0.5s,mb3.4,baz=345,slow=7.2,SNR=20						
ASAR				PcP	PcP	14 00 44.1	+0.9
	0.2nm,0.5s,baz=351,slow=2.3,SNR=5.1						
MKAR	**Makanchi Array**	**54.73**	**324**	P	**P**	**14 01 01.0**	**+2.6**
	0.2nm,0.4s,mb3.5,baz=118,slow=8.5,SNR=3.6						
VNDA	**Vanda**	**86.80**	**173**	P	**P**	**14 04 11.9**	**-1.3**
	0.4nm,0.7s,mb3.7,baz=342,slow=7.0,SNR=5.6						

MEX 23 13:53:47.9±0.8, 1894N×10221W, h12km±10km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.21**	**53**	*i* P	Pn	13 54 06.9	-3.7
MOIG				*i* S	Sb	13 54 22.1	-4.2
MMIG	**Aquila**	**1.26**	**239**	*i* P	Pn	13 54 07.4	-4.0
MMIG				*i* S	Sb	13 54 23.4	-4.4
SFJM	**Santa Fe**	**1.73**	**333**	*i* P	Pn	13 54 15.2	-2.5
SFJM				*i* S	Sn	13 54 34.8	-4.9

*THE **23** 14:16:21.6, 3879N×2800E, h10km, ML3.9*
*CSEM **23** 14:16:21.3±0.1, 3890N×2789E, h5km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.3km az=131.0*
*ATH **23** 14:16:21.9, 3893N×2792E, h19km±1km, MD3.9/9*
*ISK **23** 14:16:22.5, 3887N×2784E, h17km, MD3.5, ML3.7*
*IDC **23** 14:16:22.0±1.6, 3886N×2778E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/25, Error ellipse: s-maj=21.0km s-min=19.2km az=10.0*
*ISCJB **23** 14:16:22.5±0.2, 3892N±002×2792E±002, h10km, mb3.3/2, MS3.8/1, Error ellipse: s-maj=2.4km s-min=2.0km az=81.5*
*NEIC **23** 14:16:23.2±0.5, 3891N×2782E, h10km, MD3.9(ATH), ML3.6(ISK), Error ellipse: s-maj=6.7km s-min=6.7km az=175.0*
*SOF **23** 14:16:26.5, 3914N×2766E, h16km, MD3.5*

ISC 23 14:16:22.3±0.4, 3892N±001×2787E±002, h2km±3km, n98, σ1§00/129, mb3.3/2, MS3.8/1, 5C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.70**	**223**	*i* P	**Pg**	**14 16 35.6**	**-0.1**
KDAG				*i* S	**Sg**	**14 16 47.3**	**+2.5**
IZM	**Izmir**	**0.70**	**222**	*i* PG	**Pg**	**14 16 35.3**	**-0.5**
IZM				*i* SG	**Sg**	**14 16 45.4**	**+0.5**
BTOK	**Tokmak**	**0.85**	**9**	*i* P	**Pg**	**14 16 39.6**	**+0.9**
BTOK				*i* S	**Sg**	**14 16 53.3**	**+3.6**
AYVA	**Ayvalik**	**0.99**	**293**	*i* P	**Pg**	**14 16 42.2**	**+0.8**
AYVA				*i* S	**Sg**	**14 16 58.4**	**+4.1**
URLA	**Izmir**	**1.14**	**241**	*i* P	**Pg**	**14 16 43.2**	**-1.0**
URLA				*i* S	**Sg**	**14 17 00.8**	**+1.8**
AYDN	**Tasoluk**	**1.26**	**180**	*i* P	**Pg**	**14 16 45.6**	**-0.8**
AYDN				*i* S	**Sg**	**14 17 04.4**	**+1.7**
CANB	**Canakkale**	**1.26**	**331**	*i* PN	**Pn**	**14 16 46.5**	**-0.5**
CANB				*i* SN	**Sn**	**14 17 04.2**	**-0.4**
GDZ	**Gediz**	**1.27**	**82**	*i* P	**Pg**	**14 16 46.2**	**-0.4**
GDZ				*i* S	**Sg**	**14 17 04.0**	**+0.9**
PRK	**Paraskevi**	**1.28**	**285**	⇓*i*PN	**Pn**	**14 16 47.1**	**-0.2**
PRK				*e*SN	**Sn**	**14 17 05.2**	**+0.1**
EDC	**Edincik**	**1.43**	**360**	*i* PN	**Pn**	**14 16 49.2**	**-0.1**
EDC				*i* SN	**Sn**	**14 17 08.3**	**-0.3**
SMG	**Samos**	**1.45**	**214**	⇑*i*PN	**Pn**	**14 16 49.5**	**-0.2**
SMG				*e*SN	**Sn**	**14 17 10.0**	**+0.7**
DENT	**Denizli**	**1.48**	**141**	*i* PN	**Pn**	**14 16 48.7**	**-1.3**
EZN	**Ezine**	**1.50**	**308**	PN	**Pn**	**14 16 49.2**	**-1.1**
CHOS	**Chios island**	**1.52**	**250**	*e*Pg	**Pn**	**14 16 49.8**	**-0.7**
ULDT	**Uludag**	**1.57**	**38**	*i* P	**Pn**	**14 16 51.0**	**-0.2**
ULDT				*i* S	**Sn**	**14 17 12.6**	**+0.4**
MLSB	**Milas**	**1.62**	**183**	PN	**Pn**	**14 16 50.4**	**-1.6**
BOZC	**Bozcaada**	**1.68**	**304**	*i* P	**Pn**	**14 16 52.5**	**-0.3**
BOZC				*i* S	**Sn**	**14 17 14.7**	**-0.2**
MRMT	**Marmara Adasi**	**1.70**	**353**	PN	**Pn**	**14 16 53.7**	**+0.7**
GEMT	**Gemlik**	**1.83**	**34**	PN	**Pn**	**14 16 54.0**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.84**	**343**	PN	**Pn**	**14 16 55.1**	**+0.1**
SART	**Tekirdag**	**1.85**	**344**	*i* P	**Pn**	**14 16 54.9**	**-0.2**
SART				*i* S	**Sn**	**14 17 20.8**	**+1.8**
BDRM	**Kayabasi**	**1.88**	**190**	*i* P	**Pn**	**14 16 57.4**	**+1.8**
BDRM				*i* S	**Sn**	**14 17 20.1**	**+0.3**
IZI	**Iznik**	**1.88**	**41**	PN	**Pn**	**14 16 55.8**	**+0.2**
BODT	**Bodrum**	**1.91**	**194**	PN	**Pn**	**14 16 54.1**	**-1.8**
MFT	**Murefte**	**1.92**	**347**	PN	**Pn**	**14 16 55.7**	**-0.4**
YLV	**Yalova**	**2.01**	**35**	PN	**Pn**	**14 16 56.7**	**-0.7**
ADVT	**Abdulvahap**	**2.09**	**43**	PN	**Pn**	**14 16 59.0**	**+0.6**
TKTP	**Tekketepe**	**2.12**	**114**	*i* P	**Pn**	**14 16 58.1**	**-0.7**
TKTP				*i* S	**Sg**	**14 17 36.2**	**+5.9**
GOLH	**Golhisar**	**2.15**	**141**	*i* P	**Pn**	**14 16 58.6**	**-0.5**
GOLH				*i* S	**Sn**	**14 17 27.4**	**+1.0**
DAT	**Datca**	**2.20**	**186**	PN	**Pn**	**14 16 59.2**	**-0.7**
BORA	**Eskisehir**	**2.22**	**64**	*i* P	**Pg**	**14 17 04.3**	**-0.6**
BORA				*i* S	**Sg**	**14 17 32.7**	**-1.1**
DALT	**Dalyan (Mudla)**	**2.23**	**164**	PN	**Pn**	**14 16 59.7**	**-0.6**
CTT	**Catalca**	**2.27**	**11**	PN	**Pn**	**14 17 00.6**	**-0.3**
LIA	**Limnos Island**	**2.30**	**296**	*e*PN	**Pn**	**14 17 01.6**	**+0.3**
GPA	**Golpazari**	**2.33**	**53**	*e*PN	**Pn**	**14 17 01.6**	**-0.1**
ISK	**Istanbul-Kandi**	**2.33**	**23**	*e*PN	**Pn**	**14 17 01.0**	**-0.7**
ISK	**Istanbul-Kandi**	**2.33**	**23**	*e*Pn	**Pn**	**14 17 01.4**	**-0.3**
ISP	**Isparta**	**2.34**	**117**	PN	**Pn**	**14 17 01.1**	**-0.7**
ISP	**Isparta**	**2.34**	**117**	*e*Pn	**Pn**	**14 17 01.2**	**-0.6**
HRT	**Hereke**	**2.35**	**36**	*e*PN	**Pn**	**14 17 01.8**	**-0.2**
LOS	**Limnos**	**2.38**	**296**	*e*Pn	**Pn**	**14 17 02.8**	**+0.3**
ESKT	**Eskisehir**	**2.39**	**75**	*i* P	**Pn**	**14 17 02.3**	**-0.3**
ESKT				*i* S	**Sg**	**14 17 39.5**	**+0.3**
ESKT	**Eskisehir**	**2.39**	**75**	*e*Pn	**Pn**	**14 17 03.1**	**+0.5**
SEYT	**Eskypehyr**	**2.39**	**75**	*i* P	**Pn**	**14 17 02.3**	**-0.3**
EYL	**Eskiyayla**	**2.41**	**46**	*e*PN	**Pn**	**14 17 03.6**	**+0.7**
ALN	**Alexandroupoli**	**2.42**	**325**	*e*Pn	**Pn**	**14 17 03.2**	**+0.2**
ALN				*e*Sn	**Sb**	**14 17 36.6**	**-0.4**
KLYT	**Kilyos**	**2.50**	**21**	*e*PN	**Pn**	**14 17 03.8**	**-0.2**
APE	**Apeiranthos**	**2.61

Error ellipse: s-maj=15.8km s-min=12.2km az=135.0
ISC 23 14:26:39.3±1.4,572S±007×15029E±008,h91km±14km, n61,σ1§47/57,mb4.5/27,4C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**220**	P	**Pn**	**14 27 47.9**	**-1.2**
	7.0nm,0.3s,baz=35,slow=10,SNR=20						
PMG				S	**Sn**	**14 28 49.9**	**+6.5**
	8.4nm,0.3s,baz=148,slow=19,SNR=3.3						
PMG				LR	LR	14 29 36.5	
	comp=Z,457nm,20.8s,baz=232,slow=36						
PMG	**Port Moresby**	**4.80**	**220**	*cePn*	**Pn**	**14 27 49.7**	**+0.5**
PMG	**Port Moresby**	**4.80**	**220**	*ePn*	**Pn**	**14 27 48.0**	**-1.1**
PMG				*eSn*	**Sn**	**14 28 51.9**	**+8.4**
HNR	**Honiara**	**10.26**	**112**	LR	LR	14 32 06.0	
	comp=Z,300nm,19.1s,baz=178,slow=33						
HNR	**Honiara**	**10.26**	**112**	*ePn*	**Pn**	**14 29 05.2**	**+1.7**
CTA	**Charters Tower**	**14.81**	**195**	P	**Pn**	**14 30 04.5**	**+0.6**
	0.2nm,0.3s,baz=200,slow=20,SNR=1.9						
CTA				LR	LR	14 34 59.9	
	comp=Z,356nm,20.9s,baz=15,slow=34						
KAKA	**Kakadu**	**18.93**	**247**	*ePn*	**Pn**	**14 30 51.6**	**-2.9**
	12nm,0.5s						
GUMO	**Guam**	**19.92**	**344**	LR	LR	14 37 11.7	
	comp=Z,148nm,21.1s,baz=336,slow=32						
WRAB	**Tennant Creek**	**20.97**	**226**	*i* P	**P**	**14 31 15.0**	**0.0**
WRAB	**Tennant Creek**	**20.97**	**226**	*ePn*	**P**	**14 31 15.3**	**+0.3**
	42nm,0.9s						
WB2	**Warramunga Arr**	**20.97**	**226**	*ePn*	**P**	**14 31 15.2**	**+0.1**
WRA	**Warramunga Arr**	**20.98**	**226**	P	**P**	**14 31 15.0**	**-0.2**
	8.5nm,0.5s,baz=49,slow=11,SNR=24						
WRA	**Warramunga Arr**	**20.98**	**226**	*i* P	**P**	**14 31 13.3**	**-1.9**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DZM	**Mont Dzumac**	**22.55**	**138**	P	**P**	**14 31 30.3**	**-1.5**
	comp=Z,40nm,1.1s,mb4.7,baz=354,slow=14,SNR=6.7						
DZM				LR	LR	14 38 39.5	
	comp=Z,457nm,18.6s,baz=206,slow=32						
AS31	**Alice Springs**	**23.81**	**220**	*ePn*	**P**	**14 31 44.9**	**+1.1**
ASAR	**Alice Springs**	**23.81**	**220**	P	**P**	**14 31 45.0**	**+1.2**
	comp=Z,3.9nm,0.6s,mb3.9,baz=47,slow=8.2,SNR=68						
ASAR				LR	LR	14 42 13.0	
	comp=Z,86nm,20.3s,baz=48,slow=39						
ASPA	**Alice Springs**	**23.82**	**220**	*ePn*	**P**	**14 31 44.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.03**	**241**	*ePn*	**P**	**14 32 12.2**	**-0.7**
	comp=Z,31nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.03**	**241**	P	**P**	**14 32 12.5**	**-0.3**
	comp=Z,20nm,0.8s,mb4.7,baz=80,slow=6.6,SNR=19						
FITZ				LR	LR	14 43 37.0	
	comp=Z,179nm,19.7s,baz=66,slow=38						
STKA	**Stephens Creek**	**27.26**	**196**	P	**P**	**14 32 14.9**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.0,baz=64,slow=5.7,SNR=7.7						
STKA				LR	LR	14 43 23.2	
	comp=Z,324nm,18.4s,baz=21,slow=37						
STKA	**Stephens Creek**	**27.26**	**196**	*ePn*	**P**	**14 32 14.5**	**-0.5**
MBWA	**Marble Bar**	**33.35**	**240**	*ePn*	**P**	**14 33 08.2**	**-0.4**
	comp=Z,8.0nm,0.7s,mb4.7						
CBIJ	**Chichi jima**	**33.55**	**347**	LR	LR	14 45 02.6	
	comp=Z,218nm,20.0s,baz=149,slow=33						
TGY	**Tagaytay City**	**35.16**	**304**	P	**P**	**14 33 24.0**	**-0.3**
	comp=Z,158nm,0.4s,baz=185,slow=7.7,SNR=3.9						
JOW	**Kunigami**	**38.75**	**328**	LR	LR	14 46 26.3	
	comp=Z,114nm,21.2s,baz=110,slow=31						
KLBR	**Kellerberrin**	**39.87**	**226**	*ePn*	**P**	**14 34 03.6**	**-0.4**
	comp=Z,14nm,0.8s,mb4.8						
JHJ	**Hachijo jima 2**	**39.89**	**346**	LR	LR	14 47 06.8	
	comp=Z,174nm,19.4s,baz=133,slow=31						
MJAR	**Matsushiro Arr**	**43.53**	**346**	P	**P**	**14 34 30.7**	**-3.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=170,slow=8.4,SNR=4.6						
MJAR				LR	LR	14 52 04.4	
	comp=Z,96nm,19.5s,baz=140,slow=35						
QIZ	**Qiongzhong**	**46.81**	**303**	P	**P**	**14 35 00.0**	**+0.1**
QIZ				S	**S**	**14 41 45.9**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
NJ2	**Nanjing**	**48.03**	**323**	*ePn*	**P**	**14 35 04.5**	**-4.8**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
ASAJ	**Asahikawa**	**50.09**	**353**	LR	LR	14 55 21.4	
	comp=Z,57nm,18.8s,baz=163,slow=35						
MDJ	**Mudanjiang**	**53.45**	**342**	P	**P**	**14 35 51.6**	**+1.6**
MDJ				XP	sP	14 36 19.9	-2.5
MDJ				PP	PP	14 37 48.3	-2.9
MDJ				S	**S**	**14 43 17.9**	**+2.4**
MDJ				XS	sS	14 43 52.3	-1.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,352nm,4.5s						
MDJ				LR	LR		
	comp=Z,71nm,21.2s						
KMI	**Kunming**	**55.45**	**306**	P	**P**	**14 36 08.5**	**+4.0**
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
KMI	**Kunming**	**55.45**	**306**	P	**P**	**14 36 08.5**	**+4.0**
	comp=Z,13nm,1.1s,mb4.9						
XAN	**Xi'an**	**55.60**	**318**	P	**P**	**14 36 03.6**	**-1.9**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
CD2	**Chengdu**	**57.46**	**312**	*ePn*	**P**	**14 36 19.9**	**+1.2**
CD2				XP	sP	14 36 52.8	+1.4
CD2				S	**S**	**14 44 07.3**	**-1.7**
CD2				SS	SS	14 48 00.4	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,9.0s						
CD2				LR	LR		
	comp=E,110nm,12.4s						
CD2				LR	LR		
	comp=Z,90nm,14.2s						
HHC	**Hu-ho-hao-te**	**58.37**	**326**	*ePn*	**P**	**14 36 25.8**	**+0.7**
HHC				AMB	AMB		
	comp=Z,14nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,129nm,4.1s						
LZH	**Lanzhou**	**60.17**	**317**	*ePn*	**P**	**14 36 40.0**	**+2.5**
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,169nm,4.2s						
LZH	**Lanzhou**	**60.17**	**317**	*ePn*	**P**	**14 36 40.0**	**+2.5**
	comp=Z,42nm,1.2s,mb5.3						
LZH				pP	pP	14 36 46.0	-14
LZH				sP	sP	14 36 51.0	-19
HIA	**Hailar**	**60.88**	**338**	⇓*i* P	**P**	**14 36 40.0**	**-2.3**
HIA	**Hailar**	**60.88**	**338**	*ePn*	**P**	**14 36 38.9**	**-3.4**
	comp=Z,30nm,1.5s,mb5.1						
GTA	**Gaotai**	**64.66**	**319**	*ePn*	**P**	**14 37 10.6**	**+3.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**65.80**	**329**	P	**P**	**14 37 12.8**	**-1.9**
	comp=Z,8.0nm,1.0s,mb4.5,baz=158,slow=3.0,SNR=11						
SONM				LR	LR	15 03 02.5	
	comp=Z,79nm,20.3s,baz=38,slow=33						
ZAK	**Zakamensk**	**69.00**	**330**	*ePn*	**P**	**14 37 33.2**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
YAK	**Yakutsk**	**69.40**	**350**	⇑*i* P	**P**	**14 37 36.6**	**-0.8**
YAK	**Yakutsk**	**69.40**	**350**	*ePn*	**P**	**14 37 37.7**	**+0.3**
	comp=Z,12nm,0.8s,mb4.8						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**14 37 52.8**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=328,slow=7.6,SNR=4.3						
VNDA	**Vanda**	**72.02**	**177**	*ePn*	**P**	**14 37 52.3**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**72.02**	**177**	*ePn*	**P**	**14 37 52.3**	**-1.0**
	comp=Z,1.3nm,0.7s,mb3.9						
WMQ	**Urumqi**	**74.74**	**318**	*ePn*	**P**	**14 38 12.0**	**+2.7**
WMQ				PCP	PcP	14 38 27.0	+4.0
WMQ				AP	pP	14 38 35.0	+2.2
WMQ				XP	sP	14 38 44.0	+1.4
WMQ				PP	PP	14 41 02.0	+4.6
WMQ				*e*S	S	14 47 39.0	+0.7
WMQ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,165nm,5.2s						
WMQ				LR	LR		
	comp=N,109nm,23.1s						
WMQ				LR	LR		
	comp=E,97nm,22.8s						
WMQ				LR	LR		
	comp=Z,112nm,21.6s						
TIXI	**Tiksi**	**78.49**	**353**	⇑*ePn*	**P**	**14 38 28.1**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.1						
MK31	**Makanchi Array**	**79.38**	**320**	*ePn*	**P**	**14 38 37.2**	**+1.9**
MKAR	**Makanchi Array**	**79.38**	**320**	P	**P**	**14 38 34.0**	**-1.3**
	comp=Z,2.3nm,0.9s,mb4.0,baz=86,slow=5.9,SNR=10.0						
MKAR				LR	LR	15 12 48.3	
	comp=Z,42nm,19.9s,baz=239,slow=35						
MKAR	**Makanchi Array**	**79.38**	**320**	*i* P	**P**	**14 38 38.2**	**+2.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**83.49**	**314**	⇑*ePn*	**P**	**14 38 58.6**	**+1.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.2						
COLA	**College**	**83.64**	**22**	P	**P**	**14 38 56.8**	**-0.9**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
COLA	**College**	**83.64**	**22**	P	**P**	**14 38 56.8**	**-0.9**
	comp=Z,2.2nm,0.5s,mb4.2						
MAW	**Mawson**	**83.76**	**203**	LR	LR	15 12 39.6	
	comp=Z,62nm,21.3s,baz=242,slow=33						
QSPA	**South Pole Qui**	**84.25**	**180**	*ePn*	**P**	**14 39 05.2**	**+4.4**
	comp=Z,6.0nm,1.0s,mb4.4						
WSAR	**Wadi Sarin**	**93.74**	**293**	LR	LR	15 22 30.8	
	comp=Z,35nm,21.4s,baz=280,slow=36						
TORD	**Torodi Ar. Bea**	**148.18**	**286**	PKPbc	PKPbc	14 46 16.6	+2.0
	comp=Z,1.0nm,0.7s,baz=49,slow=2.9,SNR=5.7						

*MOS **23** 14:34:20.8±1.4,5499N×11163E,h10km,mb4.4/1,Error ellipse: s-maj=16.9km s-min=9.9km az=71.5*
BYKL 23 14:34:22.3±0.2,5503N×11165E,h17km±5km,6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**241**	⇑*i*Pg	Pg	14 34 28.7	-0.4
YLYR				*e*Sg	Sg	14 34 33.5	-0.2
YLYR				Pmax			
	411nm,0.1s						
YLYR				Smax			
	3μm,0.1s						
YLYR	**Ulyunkhan**	**0.32**	**241**	*e*PG	Pg	14 34 28.7	-0.4
YLYR				*e*		14 34 33.6	
YLYR				pmax	pmax		
	comp=Z,418nm,0.1s						
YLYR				smax			
	comp=N,3μm,0.1s						
KMO	**Kumora**	**0.90**	**344**	⇓*i*Pg	Pg	14 34 38.4	-1.3
KMO				*e*		14 34 41.5	
KMO				*e*Sg	Sg	14 34 50.5	-1.0
KMO				max			
	comp=N,121nm,0.4s						
KMO				Smax			
	comp=N,494nm,1.4s						
KMO	**Kumora**	**0.90**	**344**	*e*PG	Pg	14 34 38.7	-1.0
KMO				*e*		14 34 50.8	
KMO				pmax	pmax		
	comp=Z,119nm,0.3s						
KMO				smax			
	comp=N,495nm,0.7s						
YOA	**Uoyan**	**1.11**	**2**	⇑*i*Pg	Pg	14 34 42.7	-1.0
YOA				*e*Sg	Sg	14 34 58.0	-0.2
YOA				Pmax			
	comp=N,239nm,0.4s						
YOA				Smax			
	comp=N,2μm,1.4s						
YOA	**Uoyan**	**1.11**	**2**	⇓*i*PG	Pg	14 34 42.9	-0.8
YOA				*i*		14 34 58.0	
YOA				pmax	pmax		
	comp=Z,179nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
UKT	**Uakit**	**1.22**	**67**	⇑*i*Pg	Pg	14 34 43.9	-2.0
UKT				*i* Sg	Sg	14 35 00.1	-1.8
UKT				*e*		14 35 04.2	
UKT				Pmax			
	comp=N,131nm,0.6s						
UKT				max			
	comp=N,746nm,0.6s						
UKT	**Uakit**	**1.22**	**67**	*e*PG	Pg	14 34 43.9	-2.0
UKT				*e*		14 35 00.2	
UKT				pmax	pmax		
	comp=Z,106nm,0.2s						
UKT				smax			
	comp=N,664nm,0.4s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	⇑*i*Pg	Pg	14 34 47.9	-1.7
NIZ				*e*Sg	Sg	14 35 07.4	-0.6
NIZ				Pmax			
	comp=N,62nm,0.5s						
NIZ				Smax			
	comp=N,257nm,0.6s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	*e*PG	Pg	14 34 48.2	-1.4
NIZ				*e*		14 35 07.3	
NIZ				pmax	pmax		
	comp=Z,61nm,0.5s						
NIZ				smax			
	comp=N,256nm,0.7s						
SVKR	**Severomuysk**	**1.54**	**44**	⇑*i*Pg	Pg	14 34 50.7	-1.2
SVKR				*i* Sg	Sg	14 35 11.6	-0.3
SVKR				Pmax			
	comp=N,350nm,0.4s						
SVKR				Smax			
	comp=N,1μm,1.0s						
SVKR	**Severomuysk**	**1.54**	**44**	*e*PN	Pn	14 34 50.7	+1.8
SVKR				*e*		14 34 51.1	
SVKR				*e*		14 35 11.6	
SVKR				pmax	pmax		
	comp=Z,347nm,0.7s						
SVKR				smax			
	comp=N,3μm,0.8s						
SYVR	**Suvo**	**1.68**	**216**	⇑*i*Pg	Pg	14 34 52.3	-2.3
SYVR				*e*Sg	Sg	14 35 15.4	-1.1
SYVR				Pmax			
	comp=N,175nm,0.5s						
SYVR				Smax			
	comp=N,424nm,1.1s						
SYVR	**Suvo**	**1.68**	**216**	*e*PN	Pn	14 34 52.2	+1.3
SYVR				*e*		14 35 15.4	
SYVR				pmax	pmax		
	comp=Z,177nm,0.6s						
SYVR				smax			
	comp=E,444nm,0.4s						
MXMB	**Maximikha**	**2.46**	**225**	*e*Pg	Pg	14 35 07.5	-2.0
MXMB				*e*Sg	Sg	14 35 39.6	-1.8
MXMB				Pmax			
	comp=E,35nm,0.6s						
MXMB				Smax			
	comp=E,618nm,0.6s						
NLYR	**Nelyaty**	**2.72**	**56**	*e*Pn	Pn	14 35 06.6	+1.4
NLYR				*e*Pg	Pg	14 35 10.8	-3.6
NLYR				*e*Sg	Sg	14 35 45.3	-4.4
OGRR	**Ongureny**	**2.75**	**241**	*e*Pg	Pg	14 35 11.3	-3.7
OGRR				*e*Sg	Sg	14 35 47.3	-3.4
OGRR				Pmax			
	comp=E,44nm,0.3s						
OGRR				Smax			
	comp=E,190nm,1.6s						
BOD	**Bodaibo**	**3.09**	**24**	*e*Pg	Pg	14 35 16.4	-5.1
BOD				*e*Sg	Sg	14 35 55.8	-5.7
BOD				Pmax			
	comp=E,17nm,0.3s						
BOD				Smax			
	comp=E,171nm,0.5s						
BOD	**Bodaibo**	**3.09**	**24**	*e*PN	Pn	14 35 10.6	+0.4
BOD				*e*		14 35 16.0	
KELR	**Kotokel**	**3.10**	**224**	*e*Pg	Pg	14 35 19.4	-2.4
KELR				*e*Sg	Sg	14 35 59.6	-2.4
KELR				Pmax			
	comp=E,42nm,0.2s						
KELR				Smax			
	comp=E,295nm,0.5s						
CIT	**Chita**	**3.22**	**159**	*e*	Pn	14 35 18.1	+6.0
CIT				*e*Sg	Sg	14 36 01.3	-4.5
CIT				max			
	comp=E,18nm,0.5s						
CIT				Smax			
	comp=E,130nm,0.7s						
TRTB	**Turuntaevo**	**3.69**	**222**	*e*	Pn	14 35 23.9	+5.4
TRTB				*e*Pg	Pg	14 35 29.2	-3.7
TRTB				*e*Sg	Sg	14 36 16.8	-3.9
TRTB				Pmax			
	comp=E,296nm,0.4s						
TRTB				Smax			
	comp=E,885nm,1.0s						
TRG	**Tyrgan**	**3.87**	**236**	*e*Pg	Pg	14 35 32.1	-4.4
TRG				*e*Sg	Sg	14 36 21.9	-4.8
TRG				Pmax			
	comp=E,10.0nm,0.8s						
TRG				Smax			
	comp=E,71nm,0.9s						
CRS	**Chara**	**4.17**	**61**	*e*Pn	Pn	14 35 26.4	+1.3
CRS				*e*Pg	Pg	14 35 37.3	-4.8
CRS				*e*Sn	Sn	14 36 11.6	-1.7
CRS				*e*Sg	Sg	14 36 30.9	-5.1
CRS				Pmax			
	comp=E,28nm,1.1s						
CRS				Smax			
	comp=E,407nm,1.4s						
CRS	**Chara**	**4.17**	**61**	*e*PN	Pn	14 35 38.0	+13
CRS				*e*		14 36 30.4	
CRS				pmax	pmax		
	comp=Z,36nm,1.0s						
CRS				smax			
	comp=E,405nm,1.5s						
TUP	**Tupik**	**4.85**	**94**	*e*Pn	Pn	14 35 35.4	+0.9
TUP				*e*Pg	Pg	14 35 49.4	-5.8
TUP				*e*Sg	Sg	14 36 52.8	-5.2
TUP				Pmax			
	comp=E,9.0nm,0.8s						
TUP				Smax			
	comp=E,112nm,0.6s						
TUP	**Tupik**	**4.85**	**94**	*e*PN	Pn	14 35 35.2	+0.7
TUP				*e*		14 35 49.2	
TUP				*e*		14 36 51.3	
TUP				pmax	pmax		
	comp=Z,20nm,0.5s						
TUP				smax			
	comp=N,114nm,0.8s						
KPC	**Khapcheranga**	**5.35**	**175**	*e*	Pn	14 35 45.6	+4.2
KPC				*e*Pg	Pg	14 35 58.0	-6.8
KPC				*e*		14 36 51.5	
KPC				*e*Sg	Sg	14 37 07.0	-7.1
KPC				Pmax			
	comp=N,4.0nm,0.6s						
KPC				Smax			
	comp=N,59nm,0.9s						
KPC	**Khapcheranga**	**5.35**	**175**	*e*PN	Pn	14 35 59.0	+18
KPC				*e*		14 37 08.0	
KPC				pmax	pmax		
	comp=Z,61nm,1.9s						
KPC				smax			
	comp=E,58nm,0.9s						
TLY	**Talaya**	**5.85**	**238**	*e*PN	Pn	14 35 48.7	+0.5
TLY				*e*		14 36 05.8	
TLY				*e*		14 37 20.9	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TLY				smax			
	comp=N,53nm,1.5s						
ARS	**Arshan**	**6.33**	**244**	*e*Pn	Pn	14 35 55.4	+0.6
ARS				*e*Pg	Pn	14 36 14.8	+20
ARS				*e*Sg	Sn	14 37 36.1	+29
ARS				Pmax			
	comp=N,9.0nm,0.8s						
ARS				Smax			
	comp=N,129nm,0.8s						
ARS	**Arshan**	**6.33**	**244**	*e*PG	Pn	14 36 16.4	+22
ARS				*e*		14 37 36.1	
ARS				pmax	pmax		
	comp=Z,4.0nm,0.1s						
ARS				smax			
	comp=E,127nm,1.1s						
ORL	**Orlik**	**7.45**	**255**	*e*Pn	Pn	14 36 10.5	+0.4
ORL				*e*Sg	Sn	14 38 12.5	+38
ORL				Smax			
	comp=E,63nm,1.7s						

*ISCJB **23** 14:37:08.6±0.6,1126S±008×4103E±008,h10km,mb3.9/8, MS3.2/4,Error ellipse: s-maj=13.0km s-min=10.1km az=108.5*
*IDC **23** 14:37:09.7±0.8,1127S×4111E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.9/25,mbtmp4.1/11,ML4.4/2,MS3.3/6, Ms1 3.3/6,ms1mx3.0/30,Error ellipse: s-maj=23.2km s-min=18.7km az=122.0*
*NEIC **23** 14:37:10.6±0.6,1127S×4104E,h10km,mb4.3/3,Error ellipse: s-maj=13.3km s-min=10.4km az=143.0*
ISC 23 14:37:10.9±0.6,1126S±008×4105E±008,h10km,n21, σ1§20/25,mb3.9/8,MS3.2/4,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**9.38**	**142**	Pn	**Pn**	**14 39 24.7**	**-1.4**
	7.2nm,0.3s,baz=307,slow=12,SNR=14						
OPO				Sn	**Sn**	**14 41 00.2**	**-12**
	8.6nm,0.3s,baz=288,slow=14,SNR=3.9						
KMBO	**Kilima Mbogo**	**10.75**	**339**	Pn	**Pn**	**14 39 43.7**	**-1.1**
	1.8nm,0.3s,baz=162,slow=17,SNR=15						
KMBO				Sn	**Sn**	**14 41 39.2**	**-5.9**
	1.5nm,0.3s,baz=61,slow=22,SNR=3.5						
KMBO	**Kilima Mbogo**	**10.75**	**339**	*e*Pn	**Pn**	**14 39 43.7**	**-1.1**
	4.5nm,0.4s						
KMBO				*e*Sn	**Sn**	**14 41 38.2**	**-6.9**
LSZ	**Lusaka**	**13.14**	**251**	Pn	**Pn**	**14 40 14.8**	**-2.8**
	3.3nm,0.3s,baz=79,slow=12,SNR=24						
LSZ				Sn	**Sn**	**14 42 33.1**	**-11**
	1.9nm,0.3s,baz=343,slow=22,SNR=5.5						
LSZ				LR	LR	14 45 11.2	
	comp=Z,132nm,18.1s,baz=144,slow=36						
LSZ	**Lusaka**	**13.14**	**251**	*ePn*	**Pn**	**14 40 15.1**	**-2.4**
	13nm,0.4s						
LSZ				*e*Sn	**Sn**	**14 42 33.1**	**-11**
MATP	**Matopo**	**15.12**	**231**	Pn	**Pn**	**14 40 42.6**	**-1.9**
	1.2nm,0.3s,baz=51,slow=14,SNR=28						
MATP				LR	LR	14 46 58.9	
	comp=Z,105nm,19.6s,baz=88,slow=39						
MSEY	**Mahe Island**	**15.71**	**67**	*ePn*	**Pn**	**14 40 51.2**	**-1.0**
LBTB	**Lobatse**	**20.04**	**225**	P	**P**	**14 41 44.5**	**+0.4**
	5.5nm,0.6s,baz=58,slow=12,SNR=12						
LBTB				LR	LR	14 49 07.9	
	comp=Z,56nm,21.7s,MS2.9,baz=333,slow=36						
LBTB	**Lobatse**	**20.04**	**225**	*ePn*	**P**	**14 41 44.2**	**+0.1**
	7.7nm,0.8s						
BOSA	**Boshof**	**22.73**	**218**	P	**P**	**14 42 13.9**	**+1.0**
	2.9nm,0.5s,mb4.0,baz=56,slow=7.7,SNR=14						
BOSA				LR	LR	14 50 30.4	
	comp=Z,46nm,18.8s,MS2.9,baz=187,slow=35						
BOSA	**Boshof**	**22.73**	**218**	*ePn*	**P**	**14 42 13.9**	**+1.0**
	11nm,1.0s,mb4.2						
TSUM	**Tsumeb**	**23.96**	**248**	P	**P**	**14 42 26.3**	**+0.9**
	4.7nm,0.8s,mb4.0,baz=72,slow=8.9,SNR=9.8						
TSUM	**Tsumeb**	**23.96**	**248**	*ePn*	**P**	**14 42 26.4**	**+1.1**
	17nm,1.1s,mb4.4						
SUR	**Sutherland**	**28.09**	**218**	P	**P**	**14 43 04.3**	**+1.6**
	2.5nm,0.9s,mb3.9,baz=44,slow=16,SNR=2.7						
SUR				LR	LR	14 54 09.3	
	comp=Z,50nm,21.3s,MS3.1,baz=77,slow=36						
TORD	**Torodi Ar. Bea**	**45.97**	**301**	P	**P**	**14 45 35.1**	**+1.0**
	0.9nm,0.7s,mb3.8,baz=124,slow=6.9,SNR=6.6						
MKAR	**Makanchi Array**	**68.53**	**29**	P	**P**	**14 48 14.0**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=218,slow=6.7,SNR=4.9						
MKAR	**Makanchi Array**	**68.53**	**29**	P	**P**	**14 48 14.0**	**+0.4**
ARCES	**ARCESS Array B**	**81.32**	**355**	P	**P**	**14 49 27.9**	**+0.4**
	1.1nm,0.5s,mb4.0,baz=155,slow=4.0,SNR=9.2						
ARCES				LR	LR	15 26 21.1	
	comp=Z,53nm,19.4s,MS3.9,baz=31,slow=36						
ASAR	**Alice Springs**	**88.13**	**114**	P	**P**	**14 50 02.6**	**+0.8**
	0.5nm,0.7s,mb3.9,baz=268,slow=4.7,SNR=8.6						
WRA	**Warramunga Arr**	**89.27**	**110**	P	**P**	**14 50 08.0**	**+0.8**
	0.6nm,0.8s,mb4.0,baz=259,slow=2.4,SNR=6.7						
NVAR	**Mina Array Bea**	**147.25**	**329**	PKPbc	PKPbc	14 56 56.4	+1.9
	0.6nm,0.6s,baz=59,slow=6.6,SNR=4.8						

*MOS **23** 14:43:33.

KUR	**Kuril'sk**	**3.38 258**	*e*PN	**Pn**	**14 44 27.5**	**-2.8**
KUR			*i* S	**Sn**	**14 45 10.0**	**+0.7**
KUR			pmax	pmax		
	comp=N,110nm,0.4s					
KUR			pmax	pmax		
	comp=E,30nm,0.4s					
KUR			pmax	pmax		
	comp=Z,210nm,0.4s					
KUR			smax			
	comp=N,240nm,0.7s					
KUR			smax			
	comp=E,90nm,0.7s					
SKR	**Severo-Kuril's**	**5.25 26**	*e*PN	**Pn**	**14 44 44.0**	**-12**
SKR			pmax	pmax		
	comp=N,70nm,0.3s					
SKR			pmax	pmax		
	comp=Z,90nm,0.3s					
NEM2	**Nemuro 2**	**5.53 244**	P	**Pn**	**14 44 57.7**	**-1.8**
NEM2			*e*S	**Sn**	**14 46 00.7**	**-1.0**
JRA	**Rausu**	**5.66 251**	P	**Pn**	**14 45 02.2**	**+0.9**
JNK	**Nakash**	**6.08 249**	P	**Pn**	**14 45 07.1**	**+0.1**
JAK	**Akkeshi**	**6.37 245**	P	**Pn**	**14 45 09.2**	**-1.8**
JAK			*e*S	**Sn**	**14 46 22.2**	**-0.1**
JTKR	**Abashiri--Toko**	**6.46 255**	P	**Pn**	**14 45 13.0**	**+0.8**
JMP	**Maruseppu**	**6.82 256**	P	**Pn**	**14 45 18.9**	**+1.9**
JAR	**Ashorobuto**	**6.83 250**	P	**Pn**	**14 45 17.1**	**-0.1**
JAR			*e*S	**Sn**	**14 46 36.5**	**+3.2**
YSS	**Yuzh-Sakhalins**	**6.83 281**	PN	**Pn**	**14 45 18.0**	**+0.8**
JKK2	**Kamakawa 2**	**7.28 256**	P	**Pn**	**14 45 24.8**	**+1.5**
ASAJ	**Asahikawa**	**7.30 259**	P	**Pn**	**14 45 24.9**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=103,slow=2.6,SNR=14					
ASAJ	**Asahikawa**	**7.30 259**	P	**Pn**	**14 45 25.7**	**+2.1**
ASAJ	**Asahikawa**	**7.30 259**	PN	**Pn**	**14 45 24.9**	**+1.3**
ASAJ			pmax	pmax		
	comp=Z,1.0nm,0.3s					
JCH	**Churui**	**7.41 246**	P	**Pn**	**14 45 24.6**	**-0.6**
JCH			*e*S	**Sn**	**14 46 46.7**	**-1.0**
JFR	**Furan**	**7.66 252**	P	**Pn**	**14 45 31.4**	**+2.9**
JEM	**Erimo**	**7.86 243**	P	**Pn**	**14 45 31.6**	**+0.3**
JEM			*e*S	**Sn**	**14 46 59.6**	**+1.0**
ERM	**Erimo**	**7.86 243**	*e*PN	**Pn**	**14 45 32.0**	**+0.7**
JNBK	**Urakawa-nobuka**	**7.97 246**	P	**Pn**	**14 45 31.1**	**-1.7**
JNBK			*e*S	**Sn**	**14 46 59.5**	**-1.8**
JBT2	**Biratori 2**	**7.98 250**	P	**Pn**	**14 45 33.3**	**+0.4**
JNB	**Noboribetsu**	**8.99 251**	P	**Pn**	**14 45 47.3**	**+0.6**
JKB	**Kayabe**	**9.27 248**	P	**Pn**	**14 45 49.4**	**-1.1**
JYM2	**Yakumo 2**	**9.59 250**	P	**Pn**	**14 45 54.1**	**-0.8**
JOSM	**Okushiri--Mats**	**10.20 252**	P	**Pn**	**14 46 02.7**	**-0.4**
YAK	**Yakutsk**	**20.74 329**	*e*P	**P**	**14 48 12.7**	**-0.6**
YAK			pmax	pmax		
	comp=Z,8.0nm,0.6s					
YAK	**Yakutsk**	**20.74 329**	*e*P	**P**	**14 48 12.7**	**-0.7**
	comp=Z,7.7nm,0.6s					
INK	**Inuvik**	**42.48 32**	*e*P	**P**	**14 51 25.5**	**-0.8**
MKAR	**Makanchi Array**	**46.94 298**	P	**P**	**14 52 00.8**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=58,slow=6.4,SNR=9.3					
MKAR	**Makanchi Array**	**46.94 298**	P	**P**	**14 52 00.8**	**-0.9**
ARCES	**ARCESS Array B**	**58.42 341**	P	**P**	**14 53 26.2**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=12,slow=7.4,SNR=4.4					
ARCES	**ARCESS Array B**	**58.42 341**	P	**P**	**14 53 26.2**	**-0.1**
JOF	**Joensuu**	**61.82 334**	*e*p	**P**	**14 53 50.0**	**+0.5**
NVAR	**Mina Array Bea**	**63.12 62**	P	**P**	**14 53 58.2**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=302,slow=8.6,SNR=3.6					
FINES	**FINESS Array B**	**64.54 335**	P	**P**	**14 54 07.1**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.9,baz=43,slow=6.8,SNR=11					
FINES	**FINESS Array B**	**64.54 335**	P	**P**	**14 54 07.1**	**-0.4**
NB2	**NORSAR Subarra**	**68.80 341**	P	**P**	**14 54 34.8**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.1,baz=29,slow=6.5					
NOA	**NORSAR Array B**	**68.80 341**	P	**P**	**14 54 34.8**	**+0.2**
	comp=Z,1.1nm,0.4s,mb4.0,baz=29,slow=6.3,SNR=3.3					
ASAR	**Alice Springs**	**71.38 198**	P	**P**	**14 54 53.2**	**+2.9**
	comp=Z,0.3nm,0.8s,mb3.2,baz=14,slow=5.9,SNR=8.2					
AKASG	**Malin Array Be**	**71.94 326**	P	**P**	**14 54 54.5**	**+0.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=34,slow=7.1,SNR=4.9					
TXAR	**Lajitas Array**	**78.20 60**	P	**P**	**14 55 29.8**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=300,slow=4.4,SNR=8.7					
TXAR	**Lajitas Array**	**78.20 60**	P	**P**	**14 55 29.8**	**+0.1**
BRTR	**Keskin Array B**	**78.66 316**	P	**P**	**14 55 31.2**	**-1.0**
	comp=Z,0.4nm,0.8s,mb3.3,baz=57,slow=9.0,SNR=3.6					

*UPP **23** 14:48:41.7, 6250N×2128E, h0km, ML2.5, Mining explosion.*

HEL 23 14:48:41.1±0.1, 6247N×2151E, h0km, ML1.5, ML2.5(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.79**	**42**	*e*P	Pg	14 48 54.7	-1.5
VAF				*e*S	Sg	14 49 05.6	-0.9
RAF	**Rauma**	**1.45**	**175**	*e*P	Pn	14 49 06.8	-1.8
RAF				*e*S	Sg	14 49 25.9	-1.9
UMAU	**Umeaa**	**1.47**	**346**	*e*P	Pn	14 49 07.4	-1.5
KEF	**Keuruu**	**1.60**	**99**	*e*P	Pn	14 49 08.9	-1.7
KEF				*e*S	Sn	14 49 30.0	-2.0
HEMU	**Hemsoen**	**1.62**	**279**	*e*P	Pn	14 49 09.1	-1.9
BREU	**Bredtraesk**	**1.95**	**318**	*e*P	Pn	14 49 15.0	-0.4
ARNU	**Arnoeviken**	**2.09**	**250**	*e*P	Pn	14 49 17.0	-0.4
SOLU	**Sollefteaa**	**2.10**	**294**	*e*P	Pn	14 49 17.5	0.0
BURU	**Burvik**	**2.13**	**358**	*e*P	Pn	14 49 18.4	+0.5
SUF	**Sumiainen**	**2.16**	**81**	*e*PB	Pb	14 49 19.0	-2.2
SUF				*e*SB	Sb	14 49 47.0	-1.5
SUF				MSG		14 49 48.5	
	comp=Z,1.5nm,0.1s						
SVAU	**Svanoeiden**	**2.21**	**338**	*e*P	Pn	14 49 19.3	+0.2
KAF	**Kangasniemi**	**2.27**	**97**	MSG		14 49 50.8	
	comp=Z,1.4nm,0.1s						
HASU	**Hassela**	**2.31**	**264**	*e*P	Pn	14 49 20.5	+0.2
FIA0	**FINESS Array S**	**2.39**	**113**	*e*P	Pn	14 49 21.6	+0.1
FIA0				*e*SB	Sb	14 49 53.2	-1.8
FIA0				MSG		14 49 54.2	
	comp=Z,1.8nm,0.2s						
AAL	**Aland**	**2.41**	**198**	*e*P	Pn	14 49 22.1	+0.4

IDC 23 15:08:51.4±27.0, 2129S×17167W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=508.7km s-min=155.6km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.30**	**264**	P	P	15 16 22.1	+0.1
	3.9nm,0.3s,baz=102,slow=11,SNR=12						
CTA				LR	LR	15 28 59.5	
	comp=Z,47nm,20.1s,baz=70,slow=31						
STKA	**Stephens Creek**	**42.82**	**246**	P	P	15 16 50.3	-0.7
	2.1nm,0.6s,baz=79,slow=8.1,SNR=9.4						
ASAR	**Alice Springs**	**50.09**	**256**	P	P	15 17 48.5	+0.4
	0.4nm,0.5s,baz=91,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**50.34**	**261**	P	P	15 17 51.3	+1.3
	0.5nm,0.3s,baz=90,slow=6.0,SNR=56						

*ISCJB **23** 15:15:38.1±5.9, 178S±02×1783W±03, h486km±68km, mb3.3/5, Error ellipse: s-maj=39.3km s-min=33.3km az=74.3*

*IDC **23** 15:15:38.7±6.2, 1770S×17837W, h483km±76km, mb2.9/4, mb1 3.3/5, mb1mx3.0/15, mbtmp3.8/5, Error ellipse: s-maj=187.7km s-min=29.0km az=158.0*

*NEIC **23** 15:15:38.4±3.1, 1766S×17835W, h480km±34km, mb3.3/1, Error ellipse: s-maj=25.4km s-min=22.6km az=141.0*

ISC 23 15:15:37.5±4.6, 178S±02×1782W±02, h463km±53km, n10, σ0§69/8, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.01**	**251**	P	**P**	**15 18 48.3**	**0.0**
	0.3nm,0.3s,baz=124,slow=20,SNR=3.0						
WB2	**Warramunga Arr**	**44.79**	**259**	*e*P	**P**	**15 23 09.7**	**+1.1**
WRA	**Warramunga Arr**	**44.80**	**259**	P	**P**	**15 23 08.3**	**-0.4**
	0.5nm,0.4s,mb3.3,baz=96,slow=7.0,SNR=8.6						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**15 23 09.3**	**-0.7**
	0.5nm,0.5s,mb3.2,baz=91,slow=8.6,SNR=24						
SBA	**Scott Base**	**60.52**	**184**	*e*P	**P**	**15 25 01.9**	**+0.3**
	0.7nm,0.5s,mb3.4						
VNDA	**Vanda**	**60.54**	**185**	P	**P**	**15 25 01.6**	**-0.2**
NVAR	**Mina Array Bea**	**79.25**	**44**	P	**P**	**15 26 53.8**	**0.0**
	0.5nm,0.6s,mb3.2,baz=216,slow=7.5,SNR=4.6						
TXAR	**Lajitas Array**	**85.81**	**58**	P	**P**	**15 27 27.0**	**0.0**
	0.7nm,0.7s,mb3.4,baz=223,slow=6.4,SNR=4.9						
BRTR	**Keskin Array B**	**144.83**	**315**	PKP	PKPdf	15 34 19.8	-1.1
	0.6nm,0.8s,baz=20,slow=4.1,SNR=4.4						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	PKPbc	15 34 26.8	-2.0
	0.9nm,0.6s,baz=25,slow=4.4,SNR=4.7						

JMA 23 15:21:16.6±0.3, 4414N×14832E, h0km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.02**	**248**	P	Pn	15 21 52.5	+0.6
NEM2				*e*S	Sn	15 22 18.7	+0.8
JRA	**Rausu**	**2.31**	**266**	P	Pn	15 21 56.6	+0.6
JRA				*e*S	Sn	15 22 25.8	+0.7
JNK	**Nakash**	**2.66**	**259**	P	Pn	15 22 01.7	+1.0
JNK				*e*S	Sn	15 22 35.1	+1.4
JAK	**Akkeshi**	**2.87**	**248**	P	Pn	15 22 04.4	+0.8
JAK				*e*S	Sn	15 22 40.2	+1.4
JTKR	**Abashiri--Toko**	**3.19**	**268**	P	Pn	15 22 08.7	+0.8
JAR	**Ashorobuto**	**3.41**	**257**	P	Pn	15 22 12.7	+1.8
JAR				*e*S	Sn	15 22 54.2	+2.2
JCH	**Churui**	**3.92**	**249**	P	Pn	15 22 20.0	+1.9
JCH				*e*S	Sn	15 23 06.3	+1.5
JKK2	**Kamakawa 2**	**4.03**	**268**	P	Pn	15 22 20.6	+1.1
JNBK	**Urakawa-nobuka**	**4.47**	**247**	P	Pn	15 22 26.5	+0.9
JKB	**Kayabe**	**5.80**	**250**	P	Pn	15 22 44.3	+0.5
JKB				*e*S	Sn	15 23 49.3	-1.7
JOT	**Ohata**	**6.02**	**245**	P	Pn	15 22 47.1	+0.2
JOT				*e*S	Sn	15 23 53.8	-2.7

MAN 23 16:01:24.9, 1710N×12088E, h44km, mb3.0, ML4.4, MS5.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.57**	**344**	*e*P	Pn	16 01 38.0	+1.3
ABRA				*e*S	Sn	16 01 43.3	-1.8
CAUP	**Cauayan**	**0.92**	**99**	*e*P	Pn	16 01 42.1	+0.8
CAUP				*e*S	Sn	16 01 55.5	+2.2
BOLP	**Bolinao**	**1.17**	**233**	*e*P	Pn	16 01 46.0	+1.3
PALP	**Palanan**	**1.48**	**91**	⇓*i*P	Pn	16 01 50.6	+1.6
PALP				*i* S	Sn	16 02 13.6	+6.4
PALP	**Palanan**	**1.48**	**91**	*e*P	Pn	16 01 50.3	+1.3
BALP	**Baler**	**1.51**	**153**	*e*P	Pn	16 01 48.3	-1.0

*ATH **23** 16:12:00.3, 3568N×2743E, h10km, MD3.0/3*

*ISCJB **23** 16:12:01.6±1.4, 3568N±007×2744E±009, h15km±13km, Error ellipse: s-maj=15.6km s-min=7.2km az=95.3*

*CSEM **23** 16:12:01.8±0.3, 3576N×2745E, h15km±2km, MD2.7, Error ellipse: s-maj=8.9km s-min=3.9km az=138.0*

*ISK **23** 16:12:01.9, 3576N×2737E, h16km, MD2.7*

ISC 23 16:12:01.3±1.3, 3571N±007×2742E±008, h10km±8km, n8, σ0§64/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.77**	**48**	*e*PB	**Pg**	**16 12 15.2**	**-0.9**
ARG	**Arkhangelos**	**0.77**	**48**	*e*Pn	**Pg**	**16 12 15.0**	**-1.1**
ARG				*e*Sn	**Sg**	**16 12 26.0**	**0.0**
DAT	**Datca**	**1.03**	**7**	PG	**Pg**	**16 12 21.1**	**0.0**
DAT				SG	**Sg**	**16 12 35.2**	**+0.7**
BODT	**Bodrum**	**1.36**	**356**	*e*PN	**Pn**	**16 12 26.6**	**+0.3**
BODT				*e*SN	**Sn**	**16 12 43.2**	**-1.1**
DALT	**Dalyan (Mudla)**	**1.45**	**42**	*e*PN	**Pn**	**16 12 27.0**	**-0.5**
DALT				*e*SN	**Sn**	**16 12 47.5**	**+1.0**
NPS	**Neapolis**	**1.54**	**254**	*e*PG	**Pn**	**16 12 29.1**	**+0.3**
NPS	**Neapolis**	**1.54**	**254**	*e*Pb	**Pn**	**16 12 29.5**	**+0.7**
NPS				*e*Sb	**Sn**	**16 12 48.5**	**-0.4**
XRY	**Khrisi**	**1.64**	**240**	*e*PG	**Pn**	**16 12 30.5**	**+0.4**

*ISCJB **23** 16:53:33.0±0.3, 4771N±002×12189W±003, h17km±4km, Error ellipse: s-maj=3.5km s-min=2.8km az=116.3*

*PGC **23** 16:53:32.2±0.1, 4762N×12188W, h25km, ML2.1/11, 33km northeast of Seattle, Wa Washington*

*PNSN **23** 16:53:33.4, 4770N×12185W, h20km, MD2.4, Fault plane solution: NP1:φs 110.00000°, δ45.00000°, NP2: φs 240.00000°, δ57.00000°, Principal axes: T Plg62.0000°, Azm96.0000°; P Plg7.0000°, Azm353.0000°;*

ISC 23 16:53:32.8±0.4, 4771N±002×12189W±003, h15km±3km, n39, σ0§82/50, 18C-8D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C05A	**Tolt Reservoir**	**0.13**	**98**	P	**Pg**	**16 53 37.1**	**+0.7**
	baz=0.1,SNR=89						
C05A				⇑S	**Sg**	**16 53 40.1**	**+1.2**
	baz=0.1						
D05A	**Enumclaw**	**0.53**	**188**	⇓P	**Pg**	**16 53 43.2**	**-0.1**
	baz=0.5,SNR=6.3						
D05A				⇑S	**Sg**	**16 53 51.0**	**+0.6**
	baz=0.5						
B05A	**Bryant**	**0.57**	**346**	P	**Pg**	**16 53 44.0**	**-0.1**
	baz=0.6,SNR=35						
B05A				⇑S	**Sg**	**16 53 52.0**	**+0.4**
	baz=0.6						
C04A	**Brinnon**	**0.73**	**271**	⇑P	**Pg**	**16 53 46.4**	**-0.7**
	baz=0.8						
C04A				⇓S	**Sg**	**16 53 56.7**	**-0.1**
	baz=0.8						
B06A	**Marblemount**	**0.85**	**18**	⇓P	**Pb**	**16 53 48.4**	**-0.8**
	baz=0.9,SNR=8.9						
B06A				⇓S	**Sb**	**16 53 59.7**	**-0.8**
	baz=0.9						
D04A	**Dobbs Creek Ra**	**0.87**	**226**	⇑S	**Sb**	**16 54 02.2**	**+1.3**
	baz=0.9						
D06A	**Cle Elum**	**0.88**	**126**	⇑P	**Pb**	**16 53 48.9**	**-0.8**
	baz=0.9,SNR=15						
D06A				⇓S	**Sb**	**16 54 00.7**	**-0.5**
	baz=0.9						
B04A	**Port Angeles**	**1.14**	**288**	⇑P	**Pn**	**16 53 53.2**	**-1.0**
	baz=1.2						
B04A				⇑S	**Sb**	**16 54 08.3**	**-0.6**
	baz=1.2						
A04A	**Legoe Bay, Lum**	**1.15**	**332**	⇑P	**Pn**	**16 53 53.5**	**-0.8**
	baz=1.2,SNR=10.0						
A04A				⇑S	**Sb**	**16 54 09.2**	**+0.2**
	baz=1.2						
E05A	**Randle**	**1.16**	**176**	⇓P	**Pn**	**16 53 53.2**	**-1.2**
	baz=1.1,SNR=7.3						
E05A				⇓S	**Sb**	**16 54 08.7**	**-0.6**
	baz=1.1						
VGZ	**Gonzales**	**1.19**	**307**	P	**Pn**	**16 53 53.4**	**-1.5**
VGZ				S	**Sb**	**16 54 09.2**	**-1.1**
VGZ				Trac			
C07A	**Waterville**	**1.23**	**90**	⇑P	**Pn**	**16 53 54.7**	**-0.7**
	baz=1.2,SNR=13						
C07A				⇑S	**Sb**	**16 54 10.3**	**-1.1**
	baz=1.2						
A05A	**Maple Falls**	**1.29**	**354**	⇑S	**Sb**	**16 54 13.3**	**+0.1**
	baz=1.3						
VDB	**Vedder Mountai**	**1.32**	**354**	Trac			
VDB	**Vedder Mountai**	**1.32**	**354**	P	**Pn**	**16 53 56.6**	**0.0**
VDB				S	**Sn**	**16 54 13.8**	**-0.2**
SNB	**Saturna Island**	**1.37**	**322**	Trac			
SNB	**Saturna Island**	**1.37**	**322**	P	**Pn**	**16 53 57.0**	**-0.3**
SNB				S	**Sn**	**16 54 15.1**	**0.0**
NLWA	**Neilton Lookou**	**1.38**	**257**	⇑S	**Sn**	**16 54 16.2**	**+0.7**
	baz=1.4						
D07A	**Quincy**	**1.40**	**111**	⇑S	**Sn**	**16 54 16.5**	**+0.6**
	baz=1.4						
B07A	**Winthrop**	**1.40**	**57**	⇑S	**Sn**	**16 54 16.7**	**+0.7**
	baz=1.4						
PGC	**Sidney**	**1.41**	**312**	Trac			
PGC	**Sidney**	**1.41**	**312**	P	**Pn**	**16 53 57.0**	**-0.8**
PGC				S	**Sn**	**16 54 15.2**	**-0.9**
LZB	**Mount Lazard**	**1.58**	**305**	Trac			
LZB	**Mount Lazard**	**1.58**	**305**	P	**Pn**	**16 53 59.4**	**-0.9**
LZB				S	**Sn**	**16 54 19.6**	**-0.8**
HNB	**Haney**	**1.63**	**344**	Trac			
HNB	**Haney**	**1.63**	**344**	P	**Pn**	**16 54 00.8**	**-0.1**
HNB				S	**Sn**	**16 54 21.9**	**+0.3**
E03A	**Lebam**	**1.64**	**225**	⇑S	**Sn**	**16 54 22.6**	**+0.9**
	baz=1.6						
GOBB	**Galiano Island**	**1.65**	**319**	Trac			
GOBB	**Galiano Island**	**1.65**	**319**	P	**Pn**	**16 54 01.2**	**0.0**
GOBB				S	**Sn**	**16 54 23.0**	**+1.0**
HOPB	**Hope**	**1.70**	**10**	Trac			
HOPB	**Hope**	**1.70**	**10**	P	**Pn**	**16 54 02.2**	**+0.3**
HOPB				S	**Sn**	**16 54 25.1**	**+1.6**
E07A	**Sunnyside**	**1.80**	**129**	⇓S	**Sn**	**16 54 26.1**	**+0.2**
	baz=1.8						
F04A	**Amboy**	**1.82**	**192**	⇑S	**Sn**	**16 54 27.1**	**+0.8**
	baz=1.8						
PFB	**Port Renfrew**	**1.92**	**298**	Trac			
PFB	**Port Renfrew**	**1.92**	**298**	P	**Pn**	**16 54 04.4**	**-0.4**
PFB				S	**Sn**	**16 54 28.9**	**+0.3**
BIB	**Bowen Island**	**1.94**	**331**	Trac			
BIB	**Bowen Island**	**1.94**	**331**	P	**Pn**	**16 54 05.4**	**+0.3**
BIB				S	**Sn**	**16 54 31.0**	**+1.8**
SHB	**Sechelt**	**2.30**	**326**	Trac			
SHB	**Sechelt**	**2.30**	**326**	P	**Pn**	**16 54 11.8**	**+1.7**
SHB				S	**Sn**	**16 54 39.9**	**+1.7**

*NEIC **23** 17:14:15.6±0.4, 501N×12559E, h10km, mb4.5/11, Error ellipse: s-maj=12.3km s-min=7.2km az=74.0*

*MOS **23** 17:14:16.7±1.4, 508N×12558E, h33km, mb4.7/9, Error ellipse: s-maj=18.5km s-min=9.9km az=102.6*

*BJI **23** 17:14:18.3, 485N×12528E, h50km, mB5.2, mb4.8, Ms4.0, Msz3.9*

*ISCJB **23** 17:14:20.1±0.9, 499N±004×12558E±007, h66km±9km, mb4.5/31, Error ellipse: s-maj=11.5km s-min=6.5km az=156.7*

*IDC **23** 17:14:22.8±5.5, 508N×12562E, h75km±53km, mb4.1/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.4/11, MS3.4/4, Ms1 3.4/4, ms1mx2.9/24, Error ellipse: s-maj=27.6km s-min=12.8km az=80.0*

ISC 23 17:14:20.7±0.8, 500N±004×12557E±006, h52km±8km, n75, σ1§18/75, mb4.5/31, MS3.3/5, 6C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.06**	**347**	⇓*i*P	**Pn**	**17 14 58.6**	**+5.8**
KCP				*i* S	**Sn**	**17 15 25.7**	**+8.4**
MATI	**Mati**	**2.06**	**19**	*e*P	**Pn**	**17 14 51.6**	**-1.3**
DAV	**Davao City (W)**	**2.06**	**0**	⇓*e*P	**Pn**	**17 14 55.0**	**+2.1**
DAV	**Davao City (W)**	**2.06**	**0**	*e*P	**Pn**	**17 14 53.1**	**+0.2**
BUKP	**Musuan**	**2.91**	**350**	*e*P	**Pn**	**17 15 04.7**	**+0.1**
BUTP	**Butuan**	**3.95**	**1**	*e*P	**Pn**	**17 15 12.7**	**-6.0**
SCPH	**Surigao**	**4.76**	**359**	*e*P	**Pn**	**17 15 31.5**	**+1.6**
SCPH				*e*S	**Sn**	**17 16 28.6**	**+4.9**
KKM	**Kota Kinabalu**	**9.37**	**277**	*e*P	**Pn**	**17 16 30.2**	**-2.8**
KSM	**Kuching**	**15.63**	**258**	*e*P	**Pn**	**17 18 00.6**	**+3.1**
KAKA	**Kakadu**	**18.87**	**159**	*e*P	**Pn**	**17 18 36.3**	**-1.4**
	15nm,0.6s						
QIZ	**Qiongzhong**	**20.73**	**314**	*e*P	**P**	**17 18 55.6**	**-1.3**
QIZ				S	**S**	**17 22 45.8**	**+0.3**
QIZ				LR	LR		
	comp=Z,129nm,6.0s						
QIZ	**Qiongzhong**	**20.73**	**314**	*e*P	**P**	**17 18 58.2**	**+1.3**
GUMO	**Guam**	**20.86**	**65**	LR	LR	17 26 07.4	
	comp=Z,58nm,20.6s,MS2.9,baz=158,slow=34						
JOW	**Kunigami**	**21.87**	**7**	P	**P**	**17 19 09.9**	**+0.8**
	comp=Z,38nm,0.9s,mb4.8,baz=242,slow=8.2,SNR=4.7						
FITZ	**Fitzroy Crossi**	**22.95**	**180**	⇓*i*P	**P**	**17 19 20.5**	**0.0**
	comp=Z,40nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**22.95**	**180**	P	**P**	**17 19 20.2**	**-0.3**
	comp=Z,9.4nm,0.8s,mb4.2,baz=7.2,slow=7.4,SNR=25						
KULM	**Kulim**	**24.82**	**272**	P	**P**	**17 19 37.7**	**-0.2**
WRAB	**Tennant Creek**	**26.23**	**161**	⇑*e*P	**P**	**17 19 50.3**	**-0.5**
WRA	**Warramunga Arr**	**26.24**	**161**	P	**P**	**17 19 50.8**	**0.0**
	comp=Z,4.4nm,0.5s,mb4.2,baz=342,slow=10,SNR=30						
WB2	**Warramunga Arr**	**26.24**	**161**	*e*P	**P**	**17 19 50.0**	**-0.9**
MBWA	**Marble Bar**	**26.61**	**192**	*e*P	**P**	**17 19 55.2**	**+1.0**
PSI	**Prapat**	**26.67**	**266**	P	**P**	**17 19 56.5**	**+1.8**
	comp=Z,4.4nm,1.0s,mb4.0,baz=81,slow=3.8,SNR=5.7						
PSI				LR	LR	17 31 48.0	
	comp=Z,120nm,18.2s,MS3.5,baz=243,slow=39						
NJ2	**Nanjing**	**27.64**	**348**	*e*P	**P**	**17 20 04.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
CM31	**Chiang Mai Arr**	**29.24**	**299**	P	**P**	**17 20 19.7**	**+2.1**
	comp=Z,1.6nm,0.6s,mb3.9						
CHTO	**Chiang Mai**	**29.38**	**300**	*e*P	**P**	**17 20 20.2**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
CHTO	**Chiang Mai**	**29.38**	**300**	*e*P	**P**	**17 20 20.2**	**+1.2**
	comp=Z,2.5nm,0.8s,mb4.0						
AS31	**Alice Springs**	**29.62**	**164**	*e*P	**P**	**17 20 21.5**	**+0.4**
ASAR	**Alice Springs**	**29.63**	**164**	P	**P**	**17 20 21.1**	**+0.1**
	comp=Z,1.4nm,0.5s,mb3.9,baz=345,slow=7.1,SNR=29						
ASPA	**Alice Springs**	**29.63**	**164**	*e*P	**P**	**17 20 21.5**	**+0.4**
XAN	**Xi'an**	**32.77**	**334**	P	**P**	**17 20 47.9**	**-0.9**
CD2	**Chengdu**	**32.94**	**324**	*e*P	**P**	**17 20 52.5**	**+2.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**33.47**	**19**	*e*P	**P**	**17 20 54.7**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**33.47**	**19**	*e*P	**P**	**17 20 54.7**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9						
MAT	**Matsushiro**	**33.47**	**19**	P	**P**	**17 20 54.4**	**-0.5**
MJAR	**Matsushiro Arr**	**33.47**	**19**	P	**P**	**17 20 54.1**	**-0.8**
	comp=Z,8.0nm,0.8s,mb4.7,baz=197,slow=8.8,SNR=19						
LZH	**Lanzhou**	**36.83**	**330**	*e*P	**P**	**17 21 24.0**	**+0.2**
LZH				AP	pP	17 21 35.5	-1.7
LZH

BRVK	**Borovoye**	**65.70**	**327**	*e*P	**P**	**17 24 58.5**	**-1.4**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**65.70**	**327**	*e*P	**P**	**17 24 58.5**	**-1.4**	
	comp=Z,3.6nm,0.9s,mb4.4							
TIXI	**Tiksi**	**66.60**	**1⇑**	*e*P	**P**	**17 25 03.3**	**-2.3**	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.5							
ARU	**Arti**	**73.25**	**328⇑**	*i*P	**P**	**17 25 45.1**	**-1.3**	
ARU				*e*	pP	17 25 59.9	-1.2	
ARU				*e*		17 28 26.0		
ARU				*e*S	S	17 35 04.5	-6.4	
ARU				*e*SS	SS	17 39 48.3	-4.9	
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
IMA2	**Indian Mountai**	**81.70**	**24**	*e*P	**P**	**17 26 34.4**	**+0.8**	
MCK	**McKinley**	**83.55**	**27**	*e*P	**P**	**17 26 43.4**	**+0.2**	
MCK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
MCK	**McKinley**	**83.55**	**27**	*e*P	**P**	**17 26 43.4**	**+0.1**	
	comp=Z,3.6nm,0.9s,mb4.5							
COLA	**College**	**84.05**	**25⇑**	*e*P	**P**	**17 26 46.0**	**+0.2**	
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**17 27 12.5**	**-2.9**	
	comp=Z,1.4nm,0.8s,mb4.3,baz=85,slow=4.0,SNR=4.8							
FINES	**FINESS Array B**	**90.18**	**332**	P	**P**	**17 27 12.5**	**-2.9**	
NOA	**NORSAR Array B**	**97.14**	**333**	LR	LR	18 15 45.8		
	comp=Z,24nm,18.9s,MS3.7,baz=250,slow=38							
TORD	**Torodi Ar. Bea**	**121.42**	**289**	PKP	PKPdf	17 33 08.0	-0.3	
	comp=Z,0.5nm,0.7s,baz=83,slow=1.9,SNR=3.3							
TXAR	**Lajitas Array**	**121.73**	**51**	PKP	PKPdf	17 33 10.1	+1.3	
	comp=Z,0.3nm,0.6s,baz=340,slow=0.7,SNR=4.0							

ISCJB ***23*** *17:32:02.0±0.5, 4936N±002×689E±005, h0km, Error ellipse: s-maj=4.7km s-min=3.4km az=163.5*
BGR ***23*** *17:32:02.7±0.4, 4939N×688E, h1km, ML1.8, Error ellipse: s-maj=7.8km s-min=4.4km az=30.0*
LDG ***23*** *17:32:03.4±0.1, 4938N×690E, h1km, Md2.4/1, Ml2.7/5, Error ellipse: s-maj=2.9km s-min=1.6km az=106.0, Suspected Mining induced.*
CSEM ***23*** *17:32:03.0±0.1, 4939N×685E, h1km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.4km az=91.0*
NEIC ***23*** *17:32:04.6, 4931N×689E, h1km, ML2.2(STR), ML2.7(LDG), After STR.*

ISC 23 17:32:02.9±0.5, 4937N±002×688E±005, h0km, n22, σ0§50/37, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**302**	*e*Pg	**Pg**	**17 32 14.2**	**+0.6**
WLF				*e*Sg	**Sg**	**17 32 20.2**	**-0.6**
CDF	**Champ du Feu**	**1.00**	**165**	*e*Pn	**Pn**	**17 32 22.8**	**-1.3**
CDF				*e*Sg	**Sg**	**17 32 34.8**	**-0.1**
	14nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**165**	*e*Pg	**Pg**	**17 32 21.7**	**-0.3**
CDF				*e*Pn	**Pn**	**17 32 22.8**	**-1.3**
CDF				*e*Sg	**Sg**	**17 32 34.8**	**-0.1**
CDF	**Champ du Feu**	**1.00**	**165**	*e*Pn	**Pn**	**17 32 22.8**	**-1.3**
CDF				*e*Sg	**Sg**	**17 32 34.8**	**-0.1**
	6.8nm,0.3s						
WLS	**Welschbruch**	**1.01**	**162**	Pg	**Pg**	**17 32 23.1**	**+0.8**
ECH	**Echery**	**1.17**	**171**	Pg	**Pg**	**17 32 25.5**	**+0.1**
ECH				Sg	**Sg**	**17 32 40.6**	**0.0**
THEF	**They Montfort**	**1.29**	**208**	Pg	**Pg**	**17 32 27.7**	**+0.1**
TNS	**Taunus Mts**	**1.32**	**49**	*e*Pg	**Pg**	**17 32 28.2**	**-0.1**
TNS				*e*Sg	**Sg**	**17 32 45.5**	**0.0**
TNS	**Taunus Mts**	**1.32**	**49**	*e*Pg	**Pg**	**17 32 28.2**	**-0.1**
TNS				*e*Sg	**Sg**	**17 32 45.5**	**0.0**
MEM	**Membach**	**1.36**	**336**	P	**Pg**	**17 32 29.7**	**+0.7**
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**17 32 29.5**	**-0.5**
HAU				*e*Sg	**Sg**	**17 32 48.3**	**0.0**
	8.6nm,0.2s						
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**17 32 29.5**	**-0.5**
HAU				*e*Sg	**Sg**	**17 32 48.3**	**0.0**
	4.3nm,0.2s						
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**17 32 30.2**	**+0.1**
BFO				*e*Sg	**Sg**	**17 32 48.9**	**+0.5**
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**17 32 30.2**	**+0.1**
BFO				*e*Sg	**Sg**	**17 32 48.9**	**+0.5**
BCLA	**Clavier**	**1.46**	**316**	P	**Pn**	**17 32 35.3**	**+4.7**
BCLA	**Clavier**	**1.46**	**316**	P	**Pn**	**17 32 35.2**	**+4.6**
MOF	**Molkenrain**	**1.53**	**174**	Pg	**Pg**	**17 32 32.3**	**0.0**
MOF				Sg	**Sg**	**17 32 52.7**	**+0.6**
HINF	**Hinteralfeld**	**1.56**	**181**	*e*Pg	**Pg**	**17 32 32.3**	**-0.5**
HINF				*e*Sg	**Sg**	**17 32 52.9**	**-0.1**
	22nm,0.3s						
HINF	**Hinteralfeld**	**1.56**	**181**	*e*Pg	**Pg**	**17 32 32.3**	**-0.5**
HINF				*e*Sg	**Sg**	**17 32 52.9**	**-0.1**
	11nm,0.3s						
FELD	**Feldberg im Sc**	**1.67**	**153**	Pg	**Pg**	**17 32 34.5**	**-0.5**
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Sg	**Sg**	**17 32 57.6**	**+0.4**
	9.7nm,0.5s						
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Sg	**Sg**	**17 32 57.6**	**+0.4**
	4.8nm,0.5s						

MAN 23 17:47:16.8, 1348N×12148E, h1km, mb2.7, ML4.1, MS1.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.36**	**93**	*e*P	Pg	17 47 23.6	-0.1
BOAC				*e*S	Sg	17 47 29.7	+1.4
TGY	**Tagaytay City**	**0.81**	**320⇑**	*i*P	Pg	17 47 32.6	+0.3
TGY				*i* S	Sg	17 47 46.8	+4.0
AUQP	**San Andres**	**1.18**	**98**	*e*P	Pg	17 47 40.7	+1.4
LUBP	**Lubang**	**1.22**	**282**	*e*P	Pg	17 47 40.1	-0.1
OTRP	**Odiongan**	**1.23**	**154**	*e*P	Pg	17 47 40.1	-0.4
POLP	**Polillo Island**	**1.32**	**20**	*e*P	Pg	17 47 41.1	-1.0
POLP				*e*S	Sg	17 48 01.0	+1.8
BUSP	**Coron**	**1.93**	**220**	*e*P	Pn	17 47 51.1	+0.4
BALP	**Baler**	**2.25**	**2**	*e*P	Pn	17 47 56.9	+1.7
PVCP	**Virac**	**2.61**	**87**	*e*P	Pn	17 48 03.1	+3.1

SOF ***23*** *17:59:17.0, 4009N×2542E, h10km, MD2.6*
ISCJB ***23*** *17:59:22.0±0.5, 4027N±002×2543E±003, h3km±5km, Error ellipse: s-maj=4.0km s-min=3.3km az=131.7*
ATH ***23*** *17:59:22.9, 4026N×2541E, h27km±1km, MD3.4/7*
CSEM ***23*** *17:59:23.9±0.1, 4026N×2545E, h15km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.3km az=110.0*
NEIC ***23*** *17:59:23.0, 4026N×2546E, h28km, MD2.6(SOF), MD3.4(ATH), After ATH.*
THE ***23*** *17:59:23.2, 4025N×2547E, h10km, ML3.3*
ISK ***23*** *17:59:24.2, 4010N×2541E, h29km, MD3.3*

ISC 23 17:59:23.4±0.4, 4026N±002×2543E±003, h12km±4km, n42, σ0§91/53, 5C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.41**	**208⇑**	*i*PB	**Pg**	**17 59 32.1**	**+0.7**
LIA				*e*SB	**Sg**	**17 59 38.3**	**+1.4**
LOS	**Limnos**	**0.42**	**220**	*e*Pg	**Pg**	**17 59 32.3**	**+0.6**
ALN	**Alexandroupoli**	**0.79**	**36**	*e*Pg	**Pg**	**17 59 38.4**	**-0.2**
ALN				*e*Sg	**Sg**	**17 59 49.2**	**+0.2**
EZN	**Ezine**	**0.81**	**122**	*i* PG	**Pg**	**17 59 39.0**	**0.0**
EZN				*i* SG	**Sg**	**17 59 49.2**	**-0.5**
RDO	**Rodhopi**	**0.89**	**5⇑**	*i*PB	**Pg**	**17 59 39.4**	**-1.1**
RDO				*e*SN	**Sg**	**17 59 53.2**	**+1.0**
RDO	**Rodhopi**	**0.89**	**5⇑**	*i*Pb	**Pb**	**17 59 39.9**	**-0.9**
RDO				*e*Sn	**Sn**	**17 59 53.6**	**-0.9**
OUR	**Ouranopolis**	**1.11**	**274**	*e*Pg	**Pg**	**17 59 44.0**	**-0.7**
PRK	**Paraskevi**	**1.20**	**147⇓**	*i*PN	**Pn**	**17 59 45.9**	**-0.1**
PRK				*e*SN	**Sn**	**18 00 02.8**	**+0.6**
CANB	**Canakkale**	**1.27**	**100**	*i* PN	**Pn**	**17 59 46.4**	**-0.6**
CANB				*i* SN	**Sn**	**18 00 03.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.40**	**72**	PN	**Pn**	**17 59 48.5**	**-0.2**
MFT	**Murefte**	**1.50**	**69**	PN	**Pn**	**17 59 50.6**	**+0.4**
PLG	**Polygyros**	**1.52**	**275**	*e*Pg	**Pn**	**17 59 50.0**	**-0.4**
PLG	**Polygyros**	**1.52**	**275**	*e*Pn	**Pn**	**17 59 49.7**	**-0.7**
PLG	**Polygyros**	**1.52**	**275**	*e*Pn	**Pn**	**17 59 49.9**	**-0.5**
RZN	**Rozhen**	**1.53**	**339**	*i* P	**Pn**	**17 59 50.5**	**0.0**
RZN				*i* Sg	**Sg**	**18 00 13.2**	**+0.7**
NVR	**Nevrokopi**	**1.61**	**313⇓**	*i*PN	**Pn**	**17 59 51.5**	**-0.2**
AOS	**Alonnisos**	**1.62**	**228**	*e*Pb	**Pb**	**17 59 52.3**	**-0.8**
SRS	**Serrai**	**1.64**	**302**	*e*Pb	**Pb**	**17 59 51.6**	**-1.9**
SRS				*e*Sb	**Sb**	**18 00 17.1**	**+2.9**
SOH	**Sokhos**	**1.68**	**290**	*e*Pb	**Pb**	**17 59 53.9**	**-0.4**
MRMT	**Marmara Adasi**	**1.69**	**78**	PN	**Pn**	**17 59 52.6**	**-0.1**
DIM	**Dimitrovgrad**	**1.79**	**2**	*i* Pg	**Pg**	**17 59 56.8**	**-0.9**
MMB	**Musomiste**	**1.85**	**316**	*i* Pg	**Pn**	**17 59 54.7**	**-0.3**
EDC	**Edincik**	**1.86**	**87**	PN	**Pn**	**17 59 56.3**	**+1.2**
EDRB	**Edirne**	**1.87**	**32**	PN	**Pn**	**17 59 57.3**	**+2.1**
PLD	**Plovdiv**	**1.92**	**344**	*i* Pg	**Pg**	**18 00 00.0**	**-0.3**
PLD				*i* Sg	**Sg**	**18 00 26.3**	**+1.1**
CHOS	**Chios island**	**1.93**	**165**	*e*Pb	**Pn**	**17 59 56.0**	**0.0**
NEO	**Neokhori**	**1.95**	**242**	*e*PN	**Pn**	**17 59 56.0**	**-0.3**
NEO	**Neokhori**	**1.95**	**242**	*e*Pn	**Pn**	**17 59 55.2**	**-1.1**
KNT	**Kendrikon**	**2.13**	**296**	*e*Pn	**Pn**	**17 59 59.2**	**+0.5**
IZM	**Izmir**	**2.34**	**142**	*e*PN	**Pn**	**17 59 59.8**	**-1.8**
JMB	**Yambol**	**2.37**	**21**	*i* Pg	**Pg**	**18 00 07.0**	**-1.8**
JMB				*i* Sg	**Sg**	**18 00 39.7**	**+0.2**
GRG	**Griva**	**2.41**	**288**	*e*Pn	**Pn**	**18 00 03.8**	**+1.1**
CTT	**Catalca**	**2.45**	**68**	*e*PN	**Pn**	**18 00 04.4**	**+1.3**
PGB	**Panagyurishte**	**2.48**	**338**	*i* Sg	**Sg**	**18 00 42.4**	**-0.6**
SMG	**Samos**	**2.77**	**156⇑**	*i*PN	**Pn**	**18 00 07.9**	**+0.3**
SMG	**Samos**	**2.77**	**156⇑**	*i*Pn	**Pn**	**18 00 07.7**	**+0.1**
VTS	**Vitosha**	**2.87**	**325**	*i* Sg	**Sg**	**18 00 55.6**	**+0.1**
GEMT	**Gemlik**	**2.88**	**85**	*e*PN	**Pn**	**18 00 10.4**	**+1.4**
KLYT	**Kilyos**	**2.92**	**69**	*e*PN	**Pn**	**18 00 11.0**	**+1.4**
IZI	**Iznik**	**3.09**	**87**	*e*PN	**Pn**	**18 00 12.3**	**+0.3**
BODT	**Bodrum**	**3.52**	**155**	*e*PN	**Pn**	**18 00 17.3**	**-0.5**
DAT	**Datca**	**3.91**	**154**	*e*PN	**Pn**	**18 00 22.4**	**-0.8**

ISC 23 18:00:12.0±1.3, 3805N±004×692E±02, h35km, n16, σ0§57/18, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.75**	**152**	P	**Pn**	**18 01 21.6**	**+0.5**
THW	**Thamme Wali**	**5.64**	**158**	P	**Pn**	**18 01 32.8**	**-0.4**
EKS2	**Erkin-Say**	**5.78**	**36**	P	**Pn**	**18 01 35.9**	**+0.7**
	SNR=6.7						
UCH	**Uchtor**	**5.82**	**43**	P	**Pn**	**18 01 35.4**	**-0.3**
	SNR=19						
SBDP	**Sheikh Budin**	**5.88**	**167**	P	**Pn**	**18 01 36.4**	**-0.2**
AAK	**Ala-Archa**	**6.10**	**40**	P	**Pn**	**18 01 40.6**	**+1.0**
	SNR=7.3						
DRP	**Derazinda**	**6.34**	**172**	P	**Pn**	**18 01 43.0**	**0.0**
DRP				S	**Sn**	**18 02 54.0**	**-0.2**
KBK	**Karagaybulak**	**6.35**	**42**	P	**Pn**	**18 01 43.2**	**+0.2**
	SNR=16						
ULHL	**Ulahol**	**6.82**	**50**	P	**Pn**	**18 01 48.5**	**-1.0**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.88**	**43**	P	**Pn**	**18 01 49.4**	**-0.9**
	SNR=7.7						
THN	**Thein Dam**	**7.73**	**135**	*e*P	**Pn**	**18 02 02.1**	**+0.2**
THN				*e*S	**Sn**	**18 03 28.1**	**-0.1**
GKN	**Gorkha**	**16.34**	**123**	*e*P	**Pn**	**18 03 59.8**	**+1.2**
	21nm,0.8s						
KKN	**Kakani**	**16.91**	**123**	*e*P	**Pn**	**18 04 05.5**	**-0.3**
	9.3nm,0.6s						
DMN	**Daman**	**16.91**	**123**	*e*P	**Pn**	**18 04 06.1**	**+0.3**
	15nm,0.8s						
PKI	**Pulchoki**	**17.14**	**123**	*e*P	**Pn**	**18 04 08.7**	**0.0**
	7.4nm,0.5s						
GUN	**Gumba**	**17.23**	**121**	*e*P	**Pn**	**18 04 09.2**	**-0.6**
	7.3nm,0.4s						

NIED ***23*** *18:08:00, 2410N×122.40E, h29km, Mw4.1 Best double couple: M0 1.44000×10^15 NP1:φ=69.00000°, δ=89.00000°, λ=60.00000°. NP2:φ=337.00000°, δ=30.00000°, λ=178.00000°.*
BJI ***23*** *18:08:26.1, 2373N×12259E, h11km, mb4.1, ML3.8*
IDC ***23*** *18:08:28.1±0.9, 2402N×12249E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/21, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=40.5km s-min=17.6km az=62.0*
NEIC ***23*** *18:08:29.9±1.6, 2400N×12251E, h12km±10km, mb4.2/1, Error ellipse: s-maj=12.3km s-min=7.9km az=50.0*
ISCJB ***23*** *18:08:32.1±0.7, 2399N±007×122.40E±003, h40km±7km, mb3.9/10, Error ellipse: s-maj=12.4km s-min=4.9km az=10.3*
JMA ***23*** *18:08:32.6±0.2, 2406N×12242E, h32km, M4.1*

ISC 23 18:08:31.6±1.2, 2399N±007×12241E±003, h21km±9km, n26, σ0§65/33, mb3.9/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**49**	P	**Pb**	**18 08 45.5**	**0.0**
YOJ				S	**Sb**	**18 08 54.6**	**-0.3**
NACB	**Ninganchiao**	**0.77**	**284**	*e*P	**Pb**	**18 08 46.2**	**-0.1**
YHNB	**Yeheng**	**1.16**	**306**	*e*P	**Pn**	**18 08 53.1**	**+0.4**
IRIF	**Iriomote-Funau**	**1.25**	**74**	P	**Pn**	**18 08 54.1**	**+0.2**
IRIF				*e*S	**Sn**	**18 09 09.8**	**-0.3**
HATJ	**Hateruma jima**	**1.28**	**87**	P	**Pn**	**18 08 54.5**	**+0.3**
HATJ				S	**Sn**	**18 09 10.9**	**+0.2**
TATO	**Taipei**	**1.29**	**320**	*e*P	**Pn**	**18 08 56.0**	**+1.5**
JKRS	**Kuro-shima**	**1.48**	**80**	P	**Pn**	**18 08 57.7**	**+0.6**
JKRS				*e*S	**Sn**	**18 09 16.0**	**+0.2**
JIJ	**Ishigaki jima**	**1.62**	**76**	P	**Pn**	**18 08 59.1**	**+0.1**
JIJ				S	**Sn**	**18 09 19.1**	**-0.2**
JTJ	**Tarama**	**2.19**	**72**	P	**Pn**	**18 09 06.9**	**+0.1**
JTJ				*e*S	**Sn**	**18 09 33.3**	**+0.1**
JMJ	**Miyako jima 2**	**2.75**	**72**	*e*S	**Sn**	**18 09 47.1**	**-0.1**
QZH	**Quanzhou**	**3.61**	**286**	P	**Pn**	**18 09 26.0**	**-0.3**
QZH				S	**Sn**	**18 10 06.8**	**-1.5**
QZH				Smax			
	comp=N,170nm,0.7s						
QZH				Smax			
	comp=E,180nm,0.4s						
JKE	**Kume jima 2**	**4.59**	**59**	P	**Pn**	**18 09 40.0**	**+0.1**
JOW	**Kunigami**	**6.01**	**61**	Pn	**Pn**	**18 09 57.5**	**-1.8**
	comp=E,2.5nm,0.3s,baz=174,slow=9.1,SNR=6.6						
GTA	**Gaotai**	**24.52**	**314**	*e*P	**P**	**18 13 50.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.9						
SONM	**Songino Array**	**26.99**	**336**	P	**P**	**18 14 12.3**	**+0.4**
	comp=Z,1.5nm,0.5s,mb3.8,baz=150,slow=6.3,SNR=3.0						
MK31	**Makanchi Array**	**39.26**	**316**	*e*P	**P**	**18 15 58.3**	**-0.4**
MKAR	**Makanchi Array**	**39.26**	**316**	P	**P**	**18 15 58.5**	**-0.2**
	comp=Z,1.3nm,0.5s,mb3.9,baz=102,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**45.18**	**164**	P	**P**	**18 16 46.4**	**-0.6**
	comp=Z,3.0nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**45.19**	**164**	P	**P**	**18 16 46.6**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=345,slow=8.7,SNR=10						
BVAR	**Borovoye Array**	**48.53**	**321**	P	**P**	**18 17 12.6**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=116,slow=8.5,SNR=6.5						
AS31	**Alice Springs**	**48.67**	**166**	*e*P	**P**	**18 17 14.5**	**+0.3**
ASAR	**Alice Springs**	**48.67**	**166**	P	**P**	**18 17 14.6**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=342,slow=7.1,SNR=26						
AKTK	**Aktyubinsk**	**55.69**	**316**	P	**P**	**18 18 07.2**	**+0.8**
AKTO	**Aktyubinsk**	**55.69**	**316**	P	**P**	**18 18 07.2**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=84,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**18 19 53.6**	**-1.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=48,slow=4.1,SNR=4.7						
BRTR	**Keskin Array B**	**74.19**	**307**	P	**P**	**18 20 07.2**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.0,baz=102,slow=5.7,SNR=12						

NEIC ***23*** *18:24:14.4, 3116S×6853W, h107km, MD3.5(GUC), After GUC.*

GUC 23 18:24:14.4±0.9, 3116S×6853W, h107km±5km, MD3.5, ML3.7, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.41**	**198⇓**	*i*P	Pn	18 24 30.5	+0.3
CMCH	**Combarbala**	**2.12**	**269**	*e*P	Pn	18 24 49.3	+0.6
CMCH				*i* S	Sn	18 25 16.0	+1.1
CMCH				AML	AML	18 25 18.1	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**2.12**	**269**	*e*P	Pn	18 24 49.3	+0.6
CMCH				*i* S	Sn	18 25 16.0	+1.1
TLL	**Tololo Astrono**	**2.19**	**296**	*e*P	Pn	18 24 51.0	+1.4
TLL				*i* S	Sn	18 25 18.5	+1.8
TLL				AML	AML	18 25 22.4	
	comp=N,475nm,0.7s						
TLL	**Tololo Astrono**	**2.19**	**296**	*e*P	Pn	18 24 51.0	+1.4
TLL				*i* S	Sn	18 25 18.5	+1.8
JACH	**Jahuel**	**2.32**	**229**	*e*P	Pn	18 24 51.8	+0.4
JACH				*i* S	Sn	18 25 22.3	+2.7
OVCH	**Ovalle**	**2.36**	**283**	*e*P	Pn	18 24 52.1	+0.2
OVCH				*i* S	Sn	18 25 20.6	+0.1
OVCH				AML	AML	18 25 26.9	
	comp=N,331nm,0.4s						
OVCH	**Ovalle**	**2.36**	**283**	*e*P	Pn	18 24 52.1	+0.2
OVCH				*i* S	Sn	18 25 20.6	+0.1
FCH	**Farellones**	**2.63**	**214**	*e*P	Pn	18 24 56.7	+1.4
FCH				*i* S	Sn	18 25 29.2	+2.3
FCH				AML	AML	18 25 35.0	
	comp=E,118nm,0.2s						
PEL	**Peldehue**	**2.69**	**222**	*e*P	Pn	18 24 57.0	+0.8
PEL				*i* S	Sn	18 25 28.6	+0.2
PEL				AML	AML	18 25 31.3	
	comp=E,295nm,0.3s						
PEL	**Peldehue**	**2.69**	**222**	*e*P	Pn	18 24 57.0	+0.8
PEL				*i* S	Sn	18 25 28.6	+0.2
CLCH	**Cerro Calan**	**2.80**	**217**	*e*P	Pn	18 24 58.7	+1.0
CLCH				*e*S	Sn	18 25 31.9	+0.9
CLCH				AML	AML	18 25 35.2	
	comp=E,246nm,0.4s						
PCH	**Pirque**	**2.97**	**214**	*e*P	Pn	18 25 00.9	+1.0
RCDM	**Rinconada Maip**	**3.02**	**219**	*e*P	Pn	18 25 01.0	+0.5
RCDM				*i* S	Sn	18 25 37.0	+0.9
RCDM				AML	AML	18 25 38.6	
	comp=E,290nm,0.4s						
RCDM	**Rinconada Maip**	**3.02**	**219**	*e*P	Pn	18 25 01.0	+0.5
RCDM				*i* S	Sn	18 25 37.0	+0.9
CHCH	**Chadas Angostu**	**3.30**	**212⇑**	*i*P	Pn	18 25 04.8	+0.6
CHCH				*i* S	Sn	18 25 44.2	+1.5
CACH	**El Canelo**	**3.43**	**210⇑**	*i*P	Pn	18 25 07.0	+1.0
CICH	**Cipreses**	**3.53**	**206⇑**	*i*P	Pn	18 25 08.1	+0.8

NEIC ***23*** *18:29:40.9, 4279N×046E, h6km, ML2.5(STR), ML2.6(LDG), MN2.3(MDD), After LDG.*
STR ***23*** *18:29:40.7±0.1, 4283N×047E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***23*** *18:29:40.9±0.1, 4279N×046E, h6km, Md2.6/2, Ml2.6/10, Error ellipse: s-maj=0.9km s-min=0.7km az=26.0*
CSEM ***23*** *18:29:41.2±0.1, 4281N×047E, h5km, ML2.7/11, Error ellipse: s-maj=1.0km s-min=0.8km az=174.0*

MDD 23 18:29:41.3±0.2, 4280N×047E, h5km±3km, mbLg2.1/23, 1C, Error ellipse: s-maj=2.0km s-min=1.4km az=175.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RESF	**Ens**	**0.10**	**277**	Pg	Pg	18 29 43.4	+0.1
RESF				Sg	Sg	18 29 45.4	+0.7
RESF	**Ens**	**0.10**	**277**	P	Pg	18 29 43.4	+0.1
RESF				S	Sg	18 29 45.0	+0.3
MELF	**Melles**	**0.23**	**71**	Pg	Pg	18 29 45.7	-0.1
MELF				Sg	Sg	18 29 48.8	0.0
MELF	**Melles**	**0.23**	**71**	P	Pg	18 29 45.8	0.0
MELF				S	Sg	18 29 48.8	0.0
EPF	**Esparros**	**0.25**	**338**	*e*Pg	Pg	18 29 46.2	0.0
EPF				*e*Sg	Sg	18 29 49.6	+0.1
	156nm,0.2s						
EPF	**Esparros**	**0.25**	**338**	*e*Pg	Pg	18 29 46.2	0.0
EPF				*e*Sg	Sg	18 29 49.6	+0.1
	78nm,0.2s						
EBIE	**Bielsa**	**0.26**	**245**	⇑Pg	Pg	18 29 46.2	-0.2
	37nm,0.1s,SNR=18						
EBIE				Lg		18 29 49.6	
	232nm,0.1s,SNR=10						
EBIE	**Bielsa**	**0.26**	**245**	Pg	Pg	18 29 46.2	-0.3
	37nm,0.1s,SNR=18						
EBIE				Lg		18 29 49.6	
	232nm,0.1s,SNR=10						
VIEF	**Viey**	**0.34**	**285**	Pg	Pg	18 29 47.4	-0.5
VIEF				Sg	Sg	18 29 52.0	-0.3
VIEF	**Viey**	**0.34**	**285**	P	Pg	18 29 47.4	-0.5
VIEF				S	Sg	18 29 52.3	0.0
LABF	**Labassere**	**0.38**	**311**	Pg	Pg	18 29 48.4	-0.3
LABF				Sg	Sg	18 29 53.7	0.0
LABF	**Labassere**	**0.38**	**311**	P	Pg	18 29 48.4	-0.3
LABF				S	Sg	18 29 53.8	+0.1
MLS	**Moulis**	**0.49**	**71**	Pg	Pg	18 29 50.2	-0.6
MLS				Sg	Sg	18 29 56.3	-0.8
MLS	**Moulis**	**0.49**	**71**	P	Pg	18 29 50.4	-0.4
MLS				S	Sg	18 29 56.4	-0.7
SALF	**Salau**	**0.53**	**94**	Pg	Pg	18 29 51.0	-0.6
SALF				Sg	Sg	18 29 58.7	+0.2
SALF	**Salau**	**0.53**	**94**	P	Pg	18 29 51.1	-0.5
SALF				S	Sg	18 29 57.9	-0.6
CSOR	**Sort**	**0.65**	**130**	P	Pg	18 29 53.1	-0.7
CSOR				S	Sg	18 30 01.5	-0.7
	48nm,0.3s						
REYF	**Montagne du Re**	**0.69**	**294**	P	Pg	18 29 53.9	-0.7
REYF				S	Sg	18 30 02.9	-0.6
GRBF	**Gourbit**	**0.79**	**86**	P	Pg	18 29 56.1	-0.4
CORG	**Organya**	**0.85**	**132**	P	Pg	18 29 56.8	-0

EPOB Pg Pg 18 30 09.4 -0.9
2.1nm,0.1s,SNR=7.1
EPOB Lg 18 30 28.9
8.8nm,0.1s,SNR=14
EPOB Poblet 1.51 162 Pn Pn 18 30 08.4 -0.7
0.7nm,0.1s,SNR=20
EPOB Poblet 1.51 162 Pg Pg 18 30 09.4 -1.0
2.1nm,0.1s,SNR=7.1
EJON La Jonquera 1.82 100 Pn Pn 18 30 13.4 +0.1
0.4nm,0.1s,SNR=7.9
EJON Pg Pg 18 30 15.5 -0.7
2.0nm,0.1s,SNR=5.5
EJON Lg 18 30 40.7
5.8nm,0.2s,SNR=4.7
EJON La Jonquera 1.82 100 Pn Pn 18 30 13.4 +0.1
0.4nm,0.1s,SNR=7.9
EJON La Jonquera 1.82 100 Pg Pg 18 30 15.5 -0.8
2.0nm,0.1s,SNR=5.5
ERTA Horta de San J 1.84 183 Pg Pg 18 30 15.3 -1.3
2.1nm,0.2s,SNR=7.4
ERTA Lg 18 30 39.0
6.0nm,0.1s,SNR=5.0
ERTA Horta de San J 1.84 183 Pg Pg 18 30 15.3 -1.3
2.1nm,0.2s,SNR=7.4
LFF La Frestale 2.15 5 *e*Pg Pg 18 30 20.8 -1.8
LFF *e*Sn Sn 18 30 41.3 -3.6
LFF *e*Sg Sg 18 30 48.7 -1.8
12nm,0.3s
LFF La Frestale 2.15 5 Pn Pn 18 30 15.8 -2.1
LFF Pg Pg 18 30 20.8 -1.8
LFF Sn Sn 18 30 41.3 -3.6
LFF Lg 18 30 48.7
6.1nm,0.3s
LFF La Frestale 2.15 5 *e*Pn Pn 18 30 15.8 -2.1
LFF *e*Pg Pg 18 30 20.8 -1.8
LFF *e*Sn Sn 18 30 41.3 -3.6
LFF *e*Sg Sg 18 30 48.7 -1.8
LFF La Frestale 2.15 5 *e*Pg Pg 18 30 20.8 -1.8
LFF *e*Sn Sn 18 30 41.3 -3.6
LFF *e*Sg Sg 18 30 48.7 -1.8
6.1nm,0.3s
CAF Calviac 2.42 28 *e*Pg Pg 18 30 25.7 -2.1
CAF *e*Sn Sn 18 30 47.6 -4.0
CAF *e*Sg Sg 18 30 57.5 -1.6
3.2nm,0.2s
CAF Calviac 2.42 28 Pn Pn 18 30 19.6 -2.0
CAF Pg Pg 18 30 25.7 -2.1
CAF Sn Sn 18 30 47.6 -4.0
CAF Lg 18 30 57.5
1.6nm,0.2s
CAF Calviac 2.42 28 *e*Pn Pn 18 30 19.6 -2.0
CAF *e*Pg Pg 18 30 25.7 -2.1
CAF *e*Sn Sn 18 30 47.6 -4.0
CAF *e*Sg Sg 18 30 57.5 -1.6
1.6nm,0.2s
CAF Calviac 2.42 28 *e*Pg Pg 18 30 25.7 -2.1
CAF *e*Sn Sn 18 30 47.6 -4.0
CAF *e*Sg Sg 18 30 57.5 -1.6
1.6nm,0.2s
EMOS Mosqueruela 2.53 196 Pg Pg 18 30 27.8 -2.0
0.5nm,0.2s,SNR=4.0
EMOS Lg 18 30 59.3
2.7nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.53 196 Pg Pg 18 30 27.8 -2.0
0.5nm,0.2s,SNR=4.0
RJF Les Rejaudoux 2.62 16 *e*Pg Pg 18 30 30.1 -1.4
RJF *e*Sn Sn 18 30 52.4 -4.1
RJF *e*Sg Sg 18 31 03.4 -2.1
6.8nm,0.3s
RJF Les Rejaudoux 2.62 16 Pn Pn 18 30 21.7 -2.6
RJF Pg Pg 18 30 30.1 -1.4
RJF Sn Sn 18 30 52.4 -4.1
RJF Lg 18 31 03.4
3.4nm,0.3s
RJF Les Rejaudoux 2.62 16 *e*Pn Pn 18 30 21.7 -2.6
RJF *e*Pg Pg 18 30 30.1 -1.4
RJF *e*Sn Sn 18 30 52.4 -4.1
RJF *e*Sg Sg 18 31 03.4 -2.1
RJF Les Rejaudoux 2.62 16 *e*Pg Pg 18 30 30.1 -1.4
RJF *e*Sn Sn 18 30 52.4 -4.1
RJF *e*Sg Sg 18 31 03.4 -2.1
3.4nm,0.3s
LASF Ste Croix 2.78 61 *e*Pg Pg 18 30 32.5 -2.1
LASF *e*Sn Sn 18 30 56.3 -4.2
LASF *e*Sg Sg 18 31 08.4 -2.3
2.9nm,0.2s
LASF Ste Croix 2.78 61 Pn Pn 18 30 24.0 -2.5
LASF Pg Pg 18 30 32.5 -2.1
LASF Sn Sn 18 30 56.3 -4.2
LASF Lg 18 31 08.4
1.4nm,0.2s
LASF Ste Croix 2.78 61 *e*Pn Pn 18 30 24.0 -2.5
LASF *e*Pg Pg 18 30 32.5 -2.1
LASF *e*Sn Sn 18 30 56.3 -4.2
LASF *e*Sg Sg 18 31 08.4 -2.3
LASF Ste Croix 2.78 61 *e*Pg Pg 18 30 32.5 -2.1
LASF *e*Sn Sn 18 30 56.3 -4.2
LASF *e*Sg Sg 18 31 08.4 -2.3
1.5nm,0.2s
ELAN Lanestosa 2.89 280 Pg Pg 18 30 34.8 -2.0
0.6nm,0.2s,SNR=7.9
ELAN Sn Sn 18 31 02.0 -1.2
1.0nm,0.1s,SNR=7.9
ELAN Lanestosa 2.89 280 Pg Pg 18 30 34.8 -2.0
0.6nm,0.2s,SNR=7.9
ELAN Sn Sn 18 31 02.0 -1.2
1.0nm,0.1s,SNR=7.9
VIVF Saint-Julien-l 3.67 54 *e*Sg Sg 18 31 36.7 -2.7
1.1nm,0.3s
VIVF Saint-Julien-l 3.67 54 *e*Sg Sg 18 31 36.7 -2.7
0.6nm,0.3s
MFF Saint Martin d 3.83 354 *e*Sg Sg 18 31 41.5 -2.9
3.1nm,0.3s
MFF Saint Martin d 3.83 354 *e*Sg Sg 18 31 41.5 -2.9
1.5nm,0.3s
BGF Bois d'Agland 4.12 23 *e*Pn Pn 18 30 42.4 -2.6
BGF *e*Sg Sg 18 31 50.9 -3.0
5.6nm,0.4s
BGF Bois d'Agland 4.12 23 *e*Pn Pn 18 30 42.4 -2.6
BGF *e*Sg Sg 18 31 50.9 -3.0
2.8nm,0.4s
EARI Arriondas 4.19 279 Pn Pn 18 30 46.4 +0.5
0.2nm,0.1s,SNR=4.1
EARI Sn Sn 18 31 34.3 -0.9
0.4nm,0.2s,SNR=4.0
EARI Arriondas 4.19 279 Pn Pn 18 30 46.4 +0.5
0.2nm,0.1s,SNR=4.1
EARI Sn Sn 18 31 34.3 -0.9

ISCJB ***23*** *18:41:32.2±1.8, 597S±004×131.14E±006, h15km±13km, mb4.8/29, MS3.6/8, Error ellipse: s-maj=9.9km s-min=6.2km az=131.2*
IDC ***23*** *18:41:32.5±0.7, 585S×13103E, h0km, mb4.6/10, mb1 4.7/12, mb1mx4.6/15, mbtmp4.7/12, ML4.8/2, MS3.6/11, Ms1 3.6/11, ms1mx3.5/16, Error ellipse: s-maj=23.8km s-min=15.5km az=80.0*
MOS ***23*** *18:41:34.6±1.2, 604S×13108E, h33km, mb4.9/6, Error ellipse: s-maj=16.0km s-min=8.7km az=111.3*
NEIC ***23*** *18:41:34.6±3.8, 589S×131.12E, h15km±24km, mb4.7/11, Error ellipse: s-maj=9.2km s-min=6.2km az=73.0*
BJI ***23*** *18:41:39.3, 526S×13041E, h14km, mB5.1, mb4.5, Ms5.0, Msz4.3*
ISC 23 18:41:33.0±2.6, 597S±004×13114E±006, h6km±17km, n86, σ1§06/92, mb4.8/29, MS3.6/8, 6C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.71**	**308**	P	**Pn**	**18 42 32.1**	**+1.2**
	976nm,0.5s						
SWI	**Sorong**	**5.08**	**1**	P	**Pn**	**18 42 49.3**	**-0.4**
	240nm,0.3s						
KAKA	**Kakadu**	**6.82**	**169**	*e*P	**Pn**	**18 43 15.1**	**+1.5**
	42nm,0.2s						
KAKA				*e*S	**Sn**	**18 44 24.5**	**-7.0**
MMPI	**Merauke**	**9.50**	**106**	P	**Pn**	**18 43 52.8**	**+2.4**
	1μm,0.6s						
PCI	**Palu**	**12.35**	**294**	P	**Pn**	**18 44 36.2**	**+6.8**
	170nm,1.4s						
FITZ	**Fitzroy Crossi**	**13.20**	**204**	*e*P	**Pn**	**18 44 39.6**	**-1.4**
	81nm,0.5s						
FITZ				*e*S	**Sn**	**18 46 59.5**	**-8.6**
FITZ	**Fitzroy Crossi**	**13.20**	**204**	Pn	**Pn**	**18 44 41.5**	**+0.6**
	7.9nm,0.3s,baz=32,slow=12,SNR=216						
FITZ				Sn	**Sn**	**18 47 00.7**	**-7.4**
	5.5nm,0.3s,baz=149,slow=22,SNR=5.8						
FITZ				LR	LR	18 50 38.1	
	comp=Z,88nm,20.2s,baz=27,slow=41						
WRAB	**Tennant Creek**	**14.22**	**168**	*ce*P	**Pn**	**18 44 52.9**	**-2.1**
WRAB	**Tennant Creek**	**14.22**	**168**	*e*P	**Pn**	**18 44 52.2**	**-2.7**
WRAB				*e*S	**Sn**	**18 47 20.1**	**-13**
WRA	**Warramunga Arr**	**14.23**	**168**	Pn	**Pn**	**18 44 53.1**	**-2.0**
	1.6nm,0.3s,baz=347,slow=13,SNR=62						
WRA				Sn	**Sn**	**18 47 22.2**	**-11**
	6.1nm,0.3s,baz=332,slow=26,SNR=11						
WB2	**Warramunga Arr**	**14.23**	**168**	*e*P	**Pn**	**18 44 52.0**	**-3.1**
WB2				*e*S	**Sn**	**18 47 21.1**	**-12**
PMG	**Port Moresby**	**16.24**	**103**	Pn	**Pn**	**18 45 22.0**	**+0.3**
	7.0nm,0.3s,baz=359,slow=5.8,SNR=21						
PMG				LR	LR	18 52 00.5	
	comp=Z,275nm,21.5s,baz=85,slow=38						
TSM	**Tawau**	**16.72**	**307**	P	**Pn**	**18 45 32.8**	**+4.9**
AS31	**Alice Springs**	**17.79**	**172**	*e*P	**Pn**	**18 45 39.7**	**-1.6**
AS31				*e*S	**Sn**	**18 48 49.8**	**-10**
ASAR	**Alice Springs**	**17.79**	**172**	P	**Pn**	**18 45 40.2**	**-1.0**
	2.1nm,0.3s,baz=349,slow=8.0,SNR=79						
ASAR				S	**Sn**	**18 48 49.3**	**-11**
	2.0nm,0.3s,baz=352,slow=27,SNR=11						
ASAR				LR	LR	18 51 55.4	
	comp=Z,183nm,20.4s,baz=349,slow=35						
ASAR	**Alice Springs**	**17.79**	**172**	P	**Pn**	**18 45 40.3**	**-1.0**
ASAR				S	**Sn**	**18 48 49.3**	**-11**
ASAR	**Alice Springs**	**17.79**	**172**	P	**Pn**	**18 45 40.2**	**-1.0**
ASAR				S	**Sn**	**18 48 49.3**	**-11**
ASAR				LR	LR	18 51 55.4	
MBWA	**Marble Bar**	**18.71**	**215**	*e*P	**Pn**	**18 45 53.5**	**+1.0**
	36nm,0.5s						
KKM	**Kota Kinabalu**	**19.09**	**308**	P	**Pn**	**18 45 58.5**	**+1.4**
KKM	**Kota Kinabalu**	**19.09**	**308**	*e*P	**Pn**	**18 45 58.1**	**+0.9**
CTA	**Charters Tower**	**20.31**	**135**	P	**P**	**18 46 11.7**	**+2.0**
	24nm,0.7s,baz=315,slow=12,SNR=25						
CTA				LR	LR	18 54 48.6	
	comp=Z,196nm,18.4s,MS3.5,baz=324,slow=39						
CTA	**Charters Tower**	**20.31**	**135**	*e*P	**P**	**18 46 11.8**	**+2.1**
CTA				*e*S	**S**	**18 49 50.9**	**-6.8**
CTA				pmax	pmax		
	comp=Z,22nm,0.9s						
CTAO	**Charters Tower**	**20.31**	**135**	*e*P	**P**	**18 46 11.8**	**+2.1**
CTAO				pmax	pmax		
	comp=Z,28nm,0.8s						
CTAO	**Charters Tower**	**20.31**	**135**	*e*P	**P**	**18 46 11.8**	**+2.1**
	comp=Z,28nm,0.8s						
LEM	**Lembang**	**23.39**	**267**	P	**P**	**18 46 42.1**	**-0.6**
	comp=Z,45nm,0.8s,mb5.0						
GUMO	**Guam**	**23.74**	**35**	P	**P**	**18 46 46.1**	**+0.1**
	comp=Z,33nm,0.7s,mb4.9,baz=179,slow=6.0,SNR=3.5						
CBJI	**Citeko**	**24.15**	**268**	P	**P**	**18 46 50.4**	**+0.6**
	comp=Z,109nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**27.57**	**161**	*e*P	**P**	**18 47 21.7**	**+0.9**
	comp=Z,2.0nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**27.57**	**161**	P	**P**	**18 47 21.9**	**+1.1**
	comp=Z,2.5nm,0.3s,mb4.3,baz=348,slow=9.5,SNR=18						
STKA				LR	LR	18 59 23.9	
	comp=Z,144nm,19.6s,MS3.6,baz=2.8,slow=39						
STKA	**Stephens Creek**	**27.57**	**161**	*e*P	**P**	**18 47 21.5**	**+0.8**
KLBR	**Kellerberrin**	**28.40**	**205**	⇑*e*P	**P**	**18 47 29.6**	**+1.4**
	comp=Z,27nm,0.6s,mb5.0						
HNR	**Honiara**	**28.75**	**99**	LR	LR	18 58 55.8	
	comp=Z,133nm,20.1s,MS3.5,baz=359,slow=36						
KGM	**Kluang**	**28.89**	**285**	P	**P**	**18 47 31.7**	**-0.9**
MUN	**Mundaring**	**29.40**	**206**	*e*P	**P**	**18 47 52.2**	**+15**
NWAO	**Narrogin (SRO)**	**29.78**	**204**	P	**P**	**18 47 42.1**	**+1.6**
	comp=Z,15nm,0.7s,mb4.9,baz=31,slow=7.3,SNR=13						
NWAO				LR	LR	18 58 38.7	
	comp=Z,134nm,20.7s,MS3.6,baz=99,slow=34						
NWAO	**Narrogin (SRO)**	**29.78**	**204**	*e*P	**P**	**18 47 41.2**	**+0.7**
NWAO				LR	LR	18 58 38.7	
QIZ	**Qiongzhong**	**32.52**	**320**	P	**P**	**18 48 02.5**	**-2.1**
QIZ				S	**S**	**18 53 17.9**	**-2.2**
QIZ				LR	LR		
	comp=Z,189nm,7.3s						
PSI	**Prapat**	**33.33**	**284**	P	**P**	**18 48 09.7**	**-2.1**
	comp=Z,6.0nm,0.8s,mb4.6,baz=93,slow=4.4,SNR=8.8						
NJ2	**Nanjing**	**39.58**	**344**	*e*P	**P**	**18 49 04.6**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**40.17**	**309**	*e*P	**P**	**18 49 10.1**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
CHTO	**Chiang Mai**	**40.17**	**309**	*e*P	**P**	**18 49 10.1**	**+0.2**
	comp=Z,8.6nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**42.80**	**8**	P	**P**	**18 49 30.4**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.1,baz=185,slow=8.3,SNR=7.2						
MJAR				LR	LR	19 05 07.1	
	comp=Z,60nm,18.6s,MS3.5,baz=185,slow=33						
XAN	**Xi'an**	**45.01**	**334**	P	**P**	**18 49 48.3**	**-1.0**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
BJT	**Baijiatuau**	**47.80**	**344**	*e*P	**P**	**18 50 11.1**	**-0.1**
LSA	**Lhasa**	**52.26**	**315**	*e*P	**P**	**18 50 46.3**	**+1.2**
LSA	**Lhasa**	**52.26**	**315**	*e*P	**P**	**18 50 45.8**	**+0.7**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**52.26**	**315**	*e*P	**P**	**18 50 45.8**	**+0.7**
	comp=Z,10nm,0.6s,mb4.9						
GTA	**Gaotai**	**53.64**	**330**	*e*P	**P**	**18 50 55.6**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
YSS	**Yuzh-Sakhalins**	**53.69**	**10**	*e*P	**P**	**18 51 05.1**	**+9.4**
JIRN	**Jiri**	**54.78**	**310**	*e*P	**P**	**18 51 03.4**	**-0.2**
	comp=Z,4.1nm,0.2s,mb5.1						
GUN	**Gumba**	**55.15**	**310**	*e*P	**P**	**18 51 06.4**	**+0.1**
	comp=Z,61nm,0.6s,mb5.8						
PKI	**Pulchoki**	**55.34**	**309**	*e*P	**P**	**18 51 07.3**	**-0.3**
	comp=Z,22nm,0.7s,mb5.3						
KKN	**Kakani**	**55.55**	**310**	*e*P	**P**	**18 51 08.9**	**-0.2**
	comp=Z,28nm,0.6s,mb5.5						
DMN	**Daman**	**55.59**	**309**	*e*P	**P**	**18 51 09.4**	**0.0**
	comp=Z,23nm,0.6s,mb5.4						
GKN	**Gorkha**	**56.14**	**309**	*e*P	**P**	**18 51 13.2**	**-0.2**
	comp=Z,55nm,0.5s,mb5.8						
KOLN	**Koldanda**	**56.83**	**309**	*e*P	**P**	**18 51 18.5**	**+0.2**
	comp=Z,42nm,0.8s,mb5.5						
SONM	**Songino Array**	**57.84**	**341**	P	**P**	**18 51 25.5**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.4,baz=164,slow=6.8,SNR=4.1						
CASY	**Casey**	**61.89**	**189**	*e*P	**P**	**18 51 54.1**	**+0.8**
YAK	**Yakutsk**	**67.81**	**359**	⇑*e*P	**P**	**18 52 31.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
YAK	**Yakutsk**	**67.81**	**359**	*e*P	**P**	**18 52 31.2**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.8						
MK31	**Makanchi Array**	**68.00**	**326**	*e*P	**P**	**18 52 33.1**	**0.0**
MKAR	**Makanchi Array**	**68.00**	**326**	P	**P**	**18 52 33.2**	**+0.1**
	comp=Z,5.5nm,0.3s,mb5.0,baz=113,slow=7.7,SNR=134						
MKAR				LR	LR	19 22 22.3	
	comp=Z,21nm,19.9s,MS3.4,baz=180,slow=36						
TKM2	**Tokmak 2**	**69.92**	**320**	P	**P**	**18 52 45.8**	**+0.7**
	SNR=10						
KBK	**Karagaybulak**	**70.22**	**319**	P	**P**	**18 52 47.6**	**+0.8**
	SNR=6.6						
UCH	**Uchtor**	**70.30**	**319**	P	**P**	**18 52 48.7**	**+1.4**
	SNR=10						
AAK	**Ala-Archa**	**70.50**	**319**	⇑*e*P	**P**	**18 52 48.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**70.50**	**319**	*e*P	**P**	**18 52 48.4**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.3						
SEY	**Seymchan**	**70.60**	**10**	⇑*e*P	**P**	**18 52 48.4**	**-0.7**
AML	**Almayashu**	**70.79**	**318**	P	**P**	**18 52 51.7**	**+1.4**
	SNR=12						
USP	**Ospenovka**	**70.80**	**320**	P	**P**	**18 52 50.9**	**+0.5**
	SNR=8.1						
EKS2	**Erkin-Say**	**70.98**	**319**	P	**P**	**18 52 52.4**	**+0.9**
	SNR=9.8						
VNDA	**Vanda**	**73.33**	**173**	P	**P**	**18 53 06.5**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=299,slow=14,SNR=5.1						
VNDA				LR	LR	19 22 29.2	
	comp=Z,77nm,21.8s,MS3.9,baz=201,slow=33						
VNDA	**Vanda**	**73.33**	**173**	*e*P	**P**	**18 53 05.2**	**-0.3**
VNDA				LR	LR	19 22 29.2	
MAW	**Mawson**	**76.31**	**201**	*e*P	**P**	**18 53 23.6**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.2						
MAW	**Mawson**	**76.31**	**201**	P	**P**	**18 53 23.8**	**+1.0**
	comp=Z,2.3nm,0.5s,mb4.4,baz=84,slow=5.3,SNR=12						
MAW				LR	LR	19 24 36.6	
	comp=Z,70nm,20.6s,MS4.0,baz=243,slow=34						
MAW	**Mawson**	**76.31**	**201**	*e*P	**P**	**18 53 23.7**	**+0.9**
TIXI	**Tiksi**	**77.48**	**359**	*e*P	**P**	**18 53 27.7**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**77.88**	**327**	*e*P	**P**	**18 53 31.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**77.88**	**327**	*e*P	**P**	**18 53 31.1**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**18 54 04.4**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.4						
SYO	**Syowa Base**	**85.03**	**201**	⇑*e*P	**P**	**18 54 09.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**129.71**	**282**	PKP	PKPdf	19 00 43.7	+0.6
	comp=Z,1.4nm,0.7s,baz=94,slow=1.9,SNR=9.3						
TORD	**Torodi Ar. Bea**	**129.71**	**282**	PKP	PKPdf	19 00 43.7	+0.6
CPUP	**Villa Florida**	**146.86**	**166**	PKPbc	PKPbc	19 01 17.9	+1.6
	comp=Z,0.5nm,0.3s,baz=172,slow=5.4,SNR=4.0						
LPAZ	**La Paz**	**150.80**	**139**	PKPbc	PKPbc	19 01 29.8	+3.4
	comp=Z,2.0nm,0.7s,baz=170,slow=1.8,SNR=13						
LPAZ	**La Paz**	**150.80**	**139**	PKPbc	PKPbc	19 01 29.8	+3.4

MOS 23 18:43:17.5±0.1, 4309N×4281E, h10km, mb3.7/1, 6C-2D, Error ellipse: s-maj=15.4km s-min=11.1km az=17.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.60**	**108**	⇑*i*PG	Pg	18 43 29.9	+0.8
DIGR				*i* S	Sg	18 43 36.8	-0.1
SHAR	**Shatzhatmas**	**0.66**	**351**	⇑*i*PG	Pg	18 43 31.1	+0.8
ZEI	**Tsey**	**0.86**	**111**	*i* PG	Pg	18 43 34.4	+0.3
ZEI				*e*S	Sg	18 43 44.5	-0.8
KIV	**Kislovodsk**	**0.87**	**354**	⇑*i*PG	Pg	18 43 34.6	+0.3
KORR	**Kora**	**0.92**	**90**	⇓*i*PG	Pg	18 43 35.4	+0.2
KORR				*e*S	Sg	18 43 46.3	-0.9
ARNR	**Ardon**	**1.08**	**84**	⇑*i*PG	Pg	18 43 38.0	-0.3
ARNR				*i* S	Sg	18 43 50.8	-1.5
KMSR	**Komsomolskaya**	**1.12**	**75**	⇑*i*PG	Pg	18 43 38.7	-0.3
KMSR				*i* S	Sb	18 43 52.0	-1.6
LACR	**Lac**	**1.12**	**103**	⇑*i*PG	Pg	18 43 38.7	-0.4
LACR				*i* S	Sb	18 43 52.0	-1.6
VLKR	**Vladikavkaz**	**1.37**	**91**	⇓*i*PG	Pg	18 43 42.6	-1.2
VLKR				*e*S	Sb	18 43 58.7	-2.0
SNJR	**Sundja**	**1.47**	**90**	*e*PG	Pg	18 43 44.0	-1.6

ISCJB ***23*** *19:06:03.4±0.6, 3889N±002×2790E±003, h3km±5km, Error ellipse: s-maj=4.0km s-min=3.1km az=77.4*
CSEM ***23*** *19:06:03.0±0.1, 3889N×2787E, h5km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.5km az=91.0*
NEIC ***23*** *19:06:03.0, 3889N×2788E, h10km, MD3.3(ISK), After ISK.*
ISK ***23*** *19:06:04.3, 3887N×2786E, h18km, MD3.3*
ATH ***23*** *19:06:10.0, 3834N×2582E, h10km, MD3.4/3*
ISC 23 19:06:04.7±0.5, 3888N±002×2787E±003, h12km±4km, n39, σ0§93/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.67**	**225**	*i* P	**Pg**	**19 06 16.7**	**-1.0**
KDAG				*i* S	**Sg**	**19 06 29.1**	**+2.5**
IZM	**Izmir**	**0.68**	**225**	*i* PG	**Pg**	**19 06 17.3**	**-0.5**
IZM				*i* SG	**Sg**	**19 06 27.5**	**+0.7**
BTOK	**Tokmak**	**0.89**	**8**	*i* P	**Pg**	**19 06 21.1**	**-0.8**
BTOK				*i* S	**Sg**	**19 06 34.5**	**+1.1**
AYVA	**Ayvalik**	**1.01**	**295**	*i* P	**Pb**	**19 06 23.7**	**-0.5**
AYVA				*i* S	**Sb**	**19 06 39.8**	**+2.3**
URLA	**Izmir**	**1.12**	**243**	*i* P	**Pb**	**19 06 25.5**	**-0.6**
URLA				*i* S	**Sb**	**19 06 42.0**	**+1.3**
AYDN	**Tasoluk**	**1.22**	**180**	*i* P	**Pn**	**19 06 26.9**	**-0.6**
AYDN				*i* S	**Sb**	**19 06 46.3**	**+3.0**
GDZ	**Gediz**	**1.27**	**80**	*i* P	**Pn**	**19 06 28.1**	**-0.1**
GDZ				*i* S	**Sb**	**19 06 47.0**	**+2.1**
CANB	**Canakkale**	**1.30**	**331**	*i* PN	**Pn**	**19 06 28.1**	**-0.5**
CANB				*i* SN	**Sn**	**19 06 45.9**	**+0.1**
PRK	**Paraskevi**	**1.30**	**287**	*e*P	**Pn**	**19 06 28.5**	**-0.1**
PRK				*e*S	**Sb**	**19 06 45.3**	**-0.3**
SMG	**Samos**	**1.42**	**215**	*e*P	**Pn**	**19 06 29.3**	**-1.1**
SMG				*e*S	**Sn**	**19 06 46.7**	**-2.3**
KCT	**Karacabey**	**1.43**	**15**	*i* PN	**Pn**	**19 06 30.1**	**-0.4**
DENT	**Denizli**	**1.45**	**141**	*i* PN	**Pn**	**19 06 30.3**	**-0.4**
EDC	**Edincik**	**1.47**	**360**	*i* PN	**Pn**	**19 06 30.6**	**-0.3**
EDC				*i* SN	**Sn**	**19 06 50.4**	**+0.4**
EZN	**Ezine**	**1.52**	**309**	*i* PN	**Pn**	**19 06 31.4**	**-0.3**
MLSB	**Milas**	**1.58**	**183**	PN	**Pn**	**19 06 31.9**	**-0.7**
MRMT	**Marmara Adasi**	**1.73**	**353**	PN	**Pn**	**19 06 34.8**	**+0.2**
GEMT	**Gemlik**	**1.86**	**33**	PN	**Pn**	**19 06 36.1**	**-0.2**
BODT	**Bodrum**	**1.87**	**194**	PN	**Pn**	**19 06 35.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.88**	**344**	PN	**Pn**	**19 06 37.1**	**+0.4**
SART	**Tekirdag**	**1.88**	**344**	*i* P	**Pn**	**19 06 36.8**	**+0.1**
SART				*i* S	**Sg**	**19 07 04.6**	**-0.6**
MFT	**Murefte**	**1.96**	**347**	PN	**Pn**	**19 06 38.2**	**+0.5**
YLV	**Yalova**	**2.04**	**34**	PN	**Pn**	**19 06 38.8**	**-0.1**
TKTP	**Tekketepe**	**2.10**	**113**	*i* P	**Pn**	**19 06 39.7**	**0.0**
TKTP				*i* S	**Sg**	**19 07 20.0**	**+7.9**
ADVT	**Abdulvahap**	**2.12**	**42**	PN	**Pn**	**19 06 40.1**	**+0.2**
DAT	**Datca**	**2.16**	**186**	*e*PN	**Pn**	**19 06 41.1**	**+0.6**
DALT	**Dalyan (Mudla)**	**2.19**	**164**	*e*PN	**Pn**	**19 06 41.5**	**+0.6**
BORA	**Eskisehir**	**2.24**	**63**	*i* P	**Pg**	**19 06 45.9**	**-1.7**
BORA				*i* S	**Sg**	**19 07 16.0**	**-0.6**
CTT	**Catalca**	**2.31**	**11**	PN	**Pn**	**19 06 42.0**	**-0.5**
LIA	**Limnos Island**	**2.32**	**297**	*e*PB	**Pn**	**19 06 40.7**	**-1.9**
ISP	**Isparta**	**2.32**	**116**	*e*PN	**Pn**	**19 06 43.4**	**+0.7**
ISP	**Isparta**	**2.32**	**116**	*e*Pn	**Pn**	**19 06 42.4**	**-0.3**
ISK	**Istanbul-Kandi**	**2.37**	**22**	*e*PN	**Pn**	**19 06 43.0**	**-0.3**
HRT	**Hereke**	**2.38**	**35**	*e*PN	**Pn**	**19 06 43.9**	**+0.4**
ESKT	**Eskisehir**	**2.40**	**74**	*i* P	**Pb**	**19 06 47.1**	**-0.8**
ESKT				*i* S	**Sg**	**19 07 22.9**	**+1.0**
ESKT	**Eskisehir**	**2.40**	**74**	*e*Pn	**Pn**	**19 06 44.6**	**+0.8**
SEYT	**Eskypehyr**	**2.40**	**74**	*i* P	**Pb**	**19 06 47.1**	**-0.7**
KYT	**Kilyos**	**2.54**	**20**	*e*PN	**Pn**	**19 06 45.4**	**-0.2**
RDO	**Rodhopi**	**2.89**	**322**	*e*P	**Pn**	**19 06 51.3**	**+0.8**
EDRB	**Edirne**	**3.09**	**344**	*e*PN	**Pn**	**19 06 54.5**	**+1.

σ0°92/9, mb3.3/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.92**	**167**	*e*P	**Pn**	**20 05 15.8**	**-0.2**
	3.4nm,0.3s						
FITZ				*e*S	**Sn**	**20 06 43.6**	**-0.7**
KAKA	**Kakadu**	**8.78**	**106**	*e*P	**Pn**	**20 05 28.0**	**+0.6**
	5.7nm,0.8s						
KAKA				*e*S	**Sn**	**20 07 04.4**	**-0.5**
WRA	**Warramunga Arr**	**13.94**	**134**	Pn	**Pn**	**20 06 35.2**	**+0.5**
	0.2nm,0.3s,baz=312,slow=16,SNR=10						
WRA				Sn	**Sn**	**20 09 08.0**	**-1.2**
	0.5nm,0.3s,baz=310,slow=24,SNR=12						
ASAR	**Alice Springs**	**16.38**	**145**	Pn	**Pn**	**20 07 08.9**	**+3.8**
	0.1nm,0.3s,baz=318,slow=12,SNR=16						
ASAR				Sn	**Sn**	**20 10 09.6**	**+1.8**
	0.2nm,0.3s,baz=310,slow=21,SNR=8.2						
ASAR				LR	LR	20 14 03.8	
	comp=Z,44nm,19.7s,baz=181,slow=38						
MKAR	**Makanchi Array**	**67.87**	**331**	P	**P**	**20 14 05.5**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=141,slow=7.6,SNR=4.6						

*IDC **23** 20:07:05.9±0.8, 4996N×17906W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.1/22, mbtmp4.1/11, MS3.4/1, Ms1 3.4/1, ms1mx2.7/31, Error ellipse: s-maj=25.6km s-min=20.5km az=146.0*

*ISCJB **23** 20:07:09.3±0.7, 501N±0.1×1788W±0.1, h33km, mb4.4/18, MS3.3/1, Error ellipse: s-maj=20.7km s-min=10.7km az=147.8*

*NEIC **23** 20:07:10.9, 5017N×17882W, h10km, ML3.7(AEIC), After AEIC.*

ISC 23 20:07:11.2±0.7, 501N±01×1789W±01, h35km, n25, σ0°97/22, mb4.4/18, MS3.3/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**8.49**	**59**	P	**Pn**	**20 09 10.8**	**-0.8**
KDAK	**Kodiak Island**	**17.18**	**53**	P	**Pn**	**20 11 06.6**	**-1.7**
	0.5nm,0.3s,baz=100,slow=15,SNR=3.4						
IMA2	**Indian Mountai**	**20.55**	**30**	*e*P	**P**	**20 11 47.1**	**+0.4**
INK	**Inuvik**	**28.52**	**34**	LR	LR	20 27 04.2	
	comp=Z,70nm,18.0s,MS3.3,baz=158,slow=42						
YKA	**Yellowknife Ar**	**36.14**	**45**	P	**P**	**20 14 11.5**	**+1.6**
	3.1nm,0.7s,mb4.4,baz=280,slow=7.5,SNR=11						
COR	**Corvallis**	**37.29**	**77**	*e*P	**P**	**20 14 19.9**	**+0.2**
	46nm,0.6s,mb5.5						
PDAR	**Pinedale Array**	**46.74**	**71**	P	**P**	**20 15 37.7**	**+0.9**
	1.3nm,0.8s,mb3.9,baz=336,slow=3.3,SNR=11						
TXAR	**Lajitas Array**	**58.89**	**80**	P	**P**	**20 17 07.5**	**+0.9**
	1.0nm,0.9s,mb3.8,baz=310,slow=7.0,SNR=5.8						
ARCES	**ARCESS Array B**	**59.33**	**350**	P	**P**	**20 17 09.7**	**+0.1**
	7.2nm,1.1s,mb4.6,baz=23,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**60.80**	**309**	P	**P**	**20 17 19.1**	**-0.5**
	0.7nm,0.7s,mb3.9,baz=54,slow=5.4,SNR=8.1						
JOF	**Joensuu**	**64.81**	**345**	*e*p	**P**	**20 17 43.4**	**-3.0**
	5.5nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**66.34**	**347**	*e*p	**P**	**20 17 54.6**	**-1.6**
	4.2nm,0.6s,mb4.7,baz=14,slow=5.8						
FINES	**FINESS Array B**	**67.01**	**347**	P	**P**	**20 18 00.3**	**-0.2**
	2.6nm,0.7s,mb4.4,baz=27,slow=13,SNR=9.6						
NB2	**NORSAR Subarra**	**68.90**	**355**	P	**P**	**20 18 12.8**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=6.3,slow=6.5						
NOA	**NORSAR Array B**	**68.90**	**355**	P	**P**	**20 18 13.1**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=6.9,slow=6.3,SNR=12						
GUN	**Gumba**	**72.30**	**292**	*e*P	**P**	**20 18 34.0**	**+0.9**
	comp=Z,13nm,0.5s,mb5.1						
KKN	**Kakani**	**72.75**	**293**	*e*P	**P**	**20 18 36.4**	**+0.6**
	comp=Z,16nm,0.9s,mb4.9						
PKI	**Pulchoki**	**72.83**	**292**	*e*P	**P**	**20 18 36.5**	**+0.2**
	comp=Z,6.2nm,0.6s,mb4.7						
GKN	**Gorkha**	**72.97**	**293**	*e*P	**P**	**20 18 37.6**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**76.74**	**342**	P	**P**	**20 18 59.2**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=20,slow=5.8,SNR=8.8						
GERES	**GERESS Array B**	**80.83**	**352**	P	**P**	**20 19 22.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.7,baz=32,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**81.08**	**224**	P	**P**	**20 19 21.1**	**-1.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=32,slow=5.8,SNR=14						
ASAR	**Alice Springs**	**84.53**	**223**	P	**P**	**20 19 40.1**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=23,slow=5.7,SNR=16						
LBTB	**Lobatse**	**148.59**	**314**	PKPbc	PKPbc	20 26 55.1	+0.8
	comp=Z,3.3nm,0.7s,baz=71,slow=2.1,SNR=7.8						
BOSA	**Boshof**	**151.79**	**311**	PKPbc	PKPbc	20 27 02.6	+0.5
	comp=Z,2.5nm,0.5s,baz=157,slow=1.3,SNR=12						

*NEIC **23** 20:19:58.0, 2852N×5107E, h34km, ML3.9(THR), After THR.*

*ISCJB **23** 20:19:59.0±0.3, 2869N±003×5142E±002, h10km, mb4.2/12, Error ellipse: s-maj=3.7km s-min=3.0km az=42.9*

*CSEM **23** 20:19:59.8±0.2, 2860N×5124E, h25km, ML3.9, Error ellipse: s-maj=4.5km s-min=3.1km az=28.0*

*TEH **23** 20:19:59.1, 2845N×5112E, h15km, Mn3.9*

*THR **23** 20:20:00.1±1.2, 2853N×5112E, h46km±15km, ML3.9*

*KISR **23** 20:20:01.0±1.2, 2836N×5119E, h25km±759km, ML3.4*

*IDC **23** 20:20:02.8±7.2, 2856N×5134E, h33km±59km, mb3.8/8, mb1 3.9/10, mb1mx3.6/23, mbtmp4.0/10, ML3.6/2, Error ellipse: s-maj=22.8km s-min=19.6km az=12.0*

ISC 23 20:20:01.1±0.3, 2868N±002×5138E±002, h10km, n65, σ1°08/86, mb4.2/12, 3C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.22**	**72**	*e*Pn	**Pn**	**20 20 24.5**	**+0.3**
IMOK				*e*Sg	**Sg**	**20 20 44.1**	**+3.7**
GHIR	**Ghir-Karzin**	**1.46**	**105**	*e*Pg	**Pg**	**20 20 30.2**	**+1.1**
GHIR				*e*Sg	**Sg**	**20 20 52.7**	**+4.5**
GHIR				AML	AML	20 20 54.0	
	comp=N,2μm,0.6s						
GHIR				AML	AML	20 21 00.0	
	comp=E,2μm,0.7s						
GHIR	**Ghir-Karzin**	**1.46**	**105**	*e*Pg	**Pg**	**20 20 28.0**	**-1.1**
GHIR				*e*Sg	**Sg**	**20 20 51.0**	**+2.9**
ISRV	**Sarvestan**	**1.67**	**65**	*e*Pn	**Pn**	**20 20 32.3**	**+2.0**
KBD	**Kabd**	**3.27**	**280**	*e*P	**Pn**	**20 20 52.7**	**+0.3**
KBD				*e*S	**Sn**	**20 21 32.1**	**+0.7**
KBD				AML	AML	20 21 34.4	
	comp=Z,132nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.33**	**286**	*e*P	**Pn**	**20 20 53.7**	**+0.6**
UMR				*e*S	**Sn**	**20 21 34.0**	**+1.4**
UMR				AML	AML	20 21 36.0	
	comp=Z,61nm,0.5s						
RDF	**Al-Radifah**	**3.37**	**275**	*e*P	**Pn**	**20 20 53.7**	**-0.1**
RDF				*e*S	**Sn**	**20 21 33.2**	**-0.6**
RDF				AML	AML	20 21 35.4	
	comp=Z,60nm,0.4s						
IGAR	**Garneh**	**3.62**	**11**	*e*Pn	**Pn**	**20 21 00.6**	**+3.4**
NAY	**Al-Naaiem**	**3.67**	**280**	*e*P	**Pn**	**20 20 58.5**	**+0.6**
NAY				*e*S	**Sn**	**20 21 40.8**	**-0.5**
NAY				AML	AML	20 21 44.9	
	comp=Z,30nm,0.5s						
MIB	**Mutribah**	**3.71**	**289**	*e*P	**Pn**	**20 20 59.3**	**+0.9**
MIB				*e*S	**Sn**	**20 21 43.5**	**+1.4**
MIB				AML	AML	20 21 44.9	
	comp=Z,105nm,0.6s						
IMEH	**Mehriz**	**3.89**	**45**	*e*Pn	**Pn**	**20 21 03.2**	**+2.3**
RST	**Umm Al-Ruwaisa**	**3.93**	**283**	*e*P	**Pn**	**20 21 02.7**	**+1.3**
RST				*e*S	**Sn**	**20 21 47.8**	**+0.3**
RST				AML	AML	20 21 50.0	
	comp=Z,84nm,0.6s						
IPIR	**Pirpir**	**4.01**	**354**	*e*Pn	**Pn**	**20 21 03.1**	**+0.5**
IPIR				*e*Sg	**Sn**	**20 21 49.8**	**+0.1**
IPIR				*e*Sn	**Sn**	**20 21 50.3**	**+0.6**
IZEF	**Zefreh**	**4.28**	**11**	*e*Pn	**Pn**	**20 21 07.1**	**+0.9**
IZEF				*e*Sg	**Sn**	**20 21 54.8**	**-1.4**
NASN	**Na'in**	**4.29**	**16**	*e*Pn	**Pn**	**20 21 06.6**	**+0.3**
NASN	**Na'in**	**4.29**	**16**	*e*Pn	**Pn**	**20 21 06.0**	**-0.3**
ICHK	**Chekchek**	**4.41**	**36**	*e*Pn	**Pn**	**20 21 09.4**	**+1.4**
ICHK				*e*Sg	**Sn**	**20 21 59.0**	**-0.4**
BNDS	**Bandar-Abbas**	**4.42**	**106**	*e*Pn	**Pn**	**20 21 08.5**	**+0.4**
BNDS				AML	AML	20 22 09.2	
	comp=E,57nm,0.3s						
BNDS				AML	AML	20 22 12.5	
	comp=N,68nm,0.8s						
BNDS	**Bandar-Abbas**	**4.42**	**106**	*e*Pn	**Pn**	**20 21 08.0**	**-0.1**
IKLH	**Kalahroud**	**4.63**	**2**	*e*Pn	**Pn**	**20 21 12.0**	**+1.0**
IKLH				*e*Sg	**Sn**	**20 22 04.6**	**-0.2**
IBAF	**Bafgh**	**4.64**	**50**	*e*Pn	**Pn**	**20 21 13.1**	**+1.9**
KRBR	**Kerman**	**4.87**	**73**	*e*Pn	**Pn**	**20 21 16.4**	**+2.1**
KRBR	**Kerman**	**4.87**	**73**	*e*Pn	**Pn**	**20 21 15.0**	**+0.7**
ISFB	**Sefidab**	**5.70**	**7**	*e*Pn	**Pn**	**20 21 25.9**	**+0.1**
ISFB				*e*Sn	**Sn**	**20 22 30.7**	**-0.6**
HATD	**Hatta, Dubai**	**5.72**	**131**	P	**Pn**	**20 21 27.9**	**+1.9**
	SNR=14						
ASHO	**Ashiyiah**	**5.77**	**133**	P	**Pn**	**20 21 27.6**	**+0.9**
	SNR=33						
ASAO	**Ashtian**	**5.96**	**349**	*e*Pn	**Pn**	**20 21 29.8**	**+0.4**
IVRN	**Varamin**	**6.31**	**3**	*e*Pn	**Pn**	**20 21 34.1**	**0.0**
IVRN				*e*Sg	**Sn**	**20 22 44.8**	**-1.3**
IDMV	**Damavand**	**6.90**	**4**	*e*Pn	**Pn**	**20 21 42.5**	**+0.3**
IDMV				*e*Sg	**Sn**	**20 22 55.0**	**-5.8**
IFIR	**Firoozkooh**	**7.04**	**9**	*e*Pn	**Pn**	**20 21 44.5**	**+0.4**
ARQ	**Araqi**	**7.05**	**138**	⇓P	**Pn**	**20 21 44.5**	**+0.3**
IANJ	**Anjiloo**	**7.10**	**17**	*e*Pn	**Pn**	**20 21 45.0**	**0.0**
IAFJ	**Afjeh**	**7.16**	**2**	*e*Pn	**Pn**	**20 21 45.9**	**+0.1**
IAFJ				*e*Sg	**Sn**	**20 23 05.3**	**-1.9**
ISHM	**Shahmirzad**	**7.29**	**12**	*e*Pn	**Pn**	**20 21 47.5**	**-0.1**
IKIA	**Kiasar**	**7.75**	**14**	*e*Pn	**Pn**	**20 21 54.4**	**+0.5**
BSY	**Bisya**	**7.90**	**137**	P	**Pn**	**20 21 56.3**	**+0.4**
	SNR=23						
BIDO	**Bidbid**	**7.94**	**129**	⇑P	**Pn**	**20 21 56.6**	**0.0**
SMDO	**Samad**	**8.21**	**131**	⇑P	**Pn**	**20 22 00.6**	**+0.5**
ZHSF	**Zahedan**	**8.27**	**81**	*e*Pn	**Pn**	**20 22 02.0**	**+1.0**
WSAR	**Wadi Sarin**	**8.48**	**128**	Pn	**Pn**	**20 22 03.2**	**-0.7**
	comp=N,1.0nm,0.3s,baz=324,slow=11,SNR=17						
WSAR				Sn	**Sn**	**20 23 35.2**	**-4.3**
	comp=N,2.8nm,0.3s,baz=224,slow=19,SNR=8.0						
WSAR	**Wadi Sarin**	**8.48**	**128**	Pn	**Pn**	**20 22 03.2**	**-0.7**
WSAR				Sn	**Sn**	**20 23 35.2**	**-4.3**
WSAR	**Wadi Sarin**	**8.48**	**128**	Pn	**Pn**	**20 22 03.2**	**-0.6**
WSAR				Sn	**Sn**	**20 23 35.2**	**-4.3**
JMDO	**Jabal Madar**	**8.73**	**134**	⇓P	**Pn**	**20 22 07.5**	**+0.1**
WHFO	**Wadi Hawf**	**10.93**	**168**	⇓P	**Pn**	**20 22 35.5**	**-2.0**
RBK	**Rabkut**	**11.42**	**166**	⇑P	**Pn**	**20 22 42.2**	**-1.9**
BRTR	**Keskin Array B**	**18.32**	**312**	P	**Pn**	**20 24 15.2**	**0.0**
	comp=N,0.1nm,0.3s,baz=135,slow=12,SNR=12						
BRTR	**Keskin Array B**	**18.32**	**312**	P	**Pn**	**20 24 15.2**	**0.0**
AKTK	**Aktyubinsk**	**22.30**	**11**	P	**P**	**20 24 58.1**	**-0.4**
AKTK	**Aktyubinsk**	**22.30**	**11**	P	**P**	**20 24 58.2**	**-0.4**
AKTO	**Aktyubinsk**	**22.30**	**11**	P	**P**	**20 24 58.1**	**-0.4**
	comp=N,2.3nm,0.5s,mb3.9,baz=188,slow=11,SNR=12						
BVAR	**Borovoye Array**	**28.08**	**25**	P	**P**	**20 25 52.5**	**-0.2**
	comp=N,1.9nm,0.4s,mb4.0,baz=220,slow=8.2,SNR=16						
GKN	**Gorkha**	**29.23**	**83**	*e*P	**P**	**20 26 02.0**	**-0.9**
	comp=N,3.9nm,0.4s,mb4.5						
DMN	**Daman**	**29.70**	**84**	*e*P	**P**	**20 26 05.9**	**-1.2**
KKN	**Kakani**	**29.82**	**83**	*e*P	**P**	**20 26 06.8**	**-1.4**
	comp=N,7.9nm,0.6s,mb4.7						
PKI	**Pulchoki**	**29.97**	**84**	*e*P	**P**	**20 26 08.6**	**-0.9**
	comp=N,11nm,0.9s,mb4.6						
MKAR	**Makanchi Array**	**30.13**	**45**	P	**P**	**20 26 10.4**	**-0.5**
	comp=N,1.2nm,0.6s,mb3.8,baz=245,slow=8.0,SNR=18						
GUN	**Gumba**	**30.32**	**83**	*e*P	**P**	**20 26 10.3**	**-2.4**
	comp=N,15nm,0.8s,mb4.8						
KEST	**Kesra**	**36.05**	**292**	P	**P**	**20 27 01.7**	**-0.9**
	comp=N,0.5nm,0.7s,mb3.5,baz=94,slow=17,SNR=4.9						
JOF	**Joensuu**	**36.66**	**345**	*e*p	**P**	**20 27 05.5**	**-2.3**
FINES	**FINESS Array B**	**36.83**	**340**	P	**P**	**20 27 07.8**	**-1.5**
	comp=N,2.4nm,0.8s,mb4.1,baz=134,slow=11,SNR=7.5						
FINES	**FINESS Array B**	**36.83**	**340**	P	**P**	**20 27 07.8**	**-1.5**
ARCES	**ARCESS Array B**	**43.53**	**347**	P	**P**	**20 28 04.1**	**-0.8**
	comp=N,3.5nm,0.9s,mb4.1,baz=156,slow=7.3,SNR=6.5						
ARCES	**ARCESS Array B**	**43.53**	**347**	P	**P**	**20 28 04.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**48.58**	**262**	P	**P**	**20 28 42.5**	**-2.1**
	comp=N,1.2nm,0.7s,mb4.1,baz=57,slow=8.6,SNR=20						
ASAR	**Alice Springs**	**94.91**	**114**	P	**P**	**20 33 22.2**	**-1.3**
	comp=N,0.4nm,0.5s,mb4.1,baz=303,slow=5.1,SNR=4.2						

IDC 23 20:25:18.1±56.0, 1811S×17675W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=1043.0km s-min=159.7km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.92**	**242**	P	P	20 32 54.7	+0.8
	1.3nm,0.5s,baz=56,slow=6.2,SNR=6.1						
WB2	**Warramunga Arr**	**46.14**	**260**	*e*P	P	20 33 44.1	-0.1
WRA	**Warramunga Arr**	**46.15**	**259**	P	P	20 33 44.6	+0.3
	0.9nm,0.3s,baz=98,slow=7.4,SNR=60						
ASAR	**Alice Springs**	**46.26**	**254**	P	P	20 33 45.1	0.0
	1.4nm,0.4s,baz=85,slow=8.2,SNR=20						

*ISCJB **23** 20:51:21.5±0.8, 3086S±003×7184W±008, h37km±8km, mb4.1/5, Error ellipse: s-maj=12.2km s-min=4.6km az=21.4*

*NEIC **23** 20:51:21.7, 3089S×7171W, h26km, ML4.1(GUC), After GUC.*

*GUC **23** 20:51:21.7±0.8, 3089S×7171W, h26km±3km, MD4.2, ML4.1*

*IDC **23** 20:51:22.7±5.6, 3084S×7196W, h41km±40km, mb3.9/5, mb1 3.8/9, mb1mx3.6/19, mbtmp3.9/9, ML3.8/4, Error ellipse: s-maj=55.8km s-min=26.0km az=98.0*

ISC 23 20:51:19.4±1.2, 3088S±003×7186W±007, h6km±6km, n37, σ0°96/56, mb4.1/5, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.62**	**65**	⇓*i*P	**Pg**	**20 51 32.2**	**+0.7**
OVCH				*i* S	**Sg**	**20 51 39.7**	**+0.1**
OVCH				AML	AML	20 51 40.6	
	comp=E,11μm,0.4s						
OVCH	**Ovalle**	**0.62**	**65**	⇓*i*P	**Pg**	**20 51 32.2**	**+0.7**
OVCH				*i* S	**Sg**	**20 51 39.7**	**+0.1**
CMCH	**Combarbala**	**0.79**	**112**	⇑*i*P	**Pg**	**20 51 34.5**	**-0.1**
CMCH				*i* S	**Sg**	**20 51 44.1**	**-0.8**
CMCH				AML	AML	20 51 45.4	
	comp=N,30μm,0.7s						
CMCH	**Combarbala**	**0.79**	**112**	⇑*i*P	**Pg**	**20 51 34.5**	**-0.1**
CMCH				*i* S	**Sg**	**20 51 44.1**	**-0.8**
CHNG	**Los Chungos**	**1.05**	**163**	*e*P	**Pg**	**20 51 39.3**	**-0.2**
CHNG				*i* S	**Sg**	**20 51 53.2**	**0.0**
CHNG				AML	AML	20 51 55.3	
	comp=E,5μm,0.4s						
TLL	**Tololo Astrono**	**1.15**	**52**	⇓*i*P	**Pg**	**20 51 41.0**	**-0.5**
TLL				*i* S	**Sg**	**20 51 55.5**	**-0.9**
TLL				AML	AML	20 51 58.7	
	comp=E,8μm,0.6s						
TLL	**Tololo Astrono**	**1.15**	**52**	⇓*i*P	**Pg**	**20 51 41.0**	**-0.5**
TLL				*i* S	**Sg**	**20 51 55.5**	**-0.9**
PTCH	**Petorca**	**1.59**	**150**	⇑*i*P	**Pn**	**20 51 47.8**	**-0.3**
PTCH				*i* S	**Sn**	**20 52 07.5**	**-1.5**
PTCH				AML	AML	20 52 11.5	
	comp=N,6μm,0.2s						
PTCH	**Petorca**	**1.59**	**150**	⇑*i*P	**Pn**	**20 51 47.8**	**-0.3**
PTCH				*i* S	**Sn**	**20 52 07.5**	**-1.5**
PACH	**Papudo**	**1.69**	**168**	*e*P	**Pn**	**20 51 50.0**	**+0.6**
JACH	**Jahuel**	**2.10**	**149**	*e*P	**Pn**	**20 51 55.5**	**+0.5**
PEL	**Peldehue**	**2.47**	**157**	⇓*i*P	**Pn**	**20 52 00.4**	**+0.2**
PEL				*i* S	**Sn**	**20 52 30.8**	**+0.2**
PEL				AML	AML	20 52 36.2	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**2.47**	**157**	⇓*i*P	**Pn**	**20 52 00.4**	**+0.2**
PEL				*i* S	**Sn**	**20 52 30.8**	**+0.2**
VACH	**Vallenar**	**2.48**	**23**	*e*P	**Pn**	**20 52 01.1**	**+0.8**
VACH				*i* S	**Sn**	**20 52 31.3**	**+0.4**
VACH				AML	AML	20 52 40.4	
	comp=E,4μm,0.4s						
VACH	**Vallenar**	**2.48**	**23**	*e*P	**Pn**	**20 52 01.1**	**+0.8**
VACH				*i* S	**Sn**	**20 52 31.3**	**+0.4**
CLCH	**Las Cruces**	**2.60**	**175**	*i* P	**Pn**	**20 52 01.8**	**-0.1**
CLCH	**Cerro Calan**	**2.75**	**156**	*e*P	**Pn**	**20 52 05.3**	**+1.3**
CLCH				AML	AML	20 52 48.8	
	comp=E,2μm,1.8s						
RCDM	**Rinconada Maip**	**2.75**	**161**	*e*P	**Pn**	**20 52 04.3**	**+0.3**
RCDM				*i* S	**Sn**	**20 52 37.3**	**-0.2**
RCDM				AML	AML	20 52 51.4	
	comp=E,778nm,0.4s						
RCDM	**Rinconada Maip**	**2.75**	**161**	*e*P	**Pn**	**20 52 04.3**	**+0.3**
RCDM				*i* S	**Sn**	**20 52 37.3**	**-0.2**
FCH	**Farellones**	**2.78**	**152**	*e*P	**Pn**	**20 52 02.8**	**-1.6**
FCH				*i* S	**Sn**	**20 52 39.2**	**+0.9**
FCH				AML	AML	20 52 47.8	
	comp=N,721nm,0.4s						
TACH	**Talagante**	**2.88**	**165**	*e*P	**Pn**	**20 52 06.3**	**+0.6**
PCH	**Pirque**	**2.96**	**158**	*e*P	**Pn**	**20 52 08.2**	**+1.3**
CFAA	**Coronel Fontan**	**3.18**	**104**	P	**Pn**	**20 52 11.9**	**+2.0**
	comp=N,3.2nm,0.3s,baz=296,slow=12,SNR=128						
CFAA				S	**Sn**	**20 52 53.8**	**+5.6**
	comp=N,4.9nm,0.3s,baz=7.1,slow=24,SNR=5.2						
CHCH	**Chadas Angostu**	**3.21**	**162**	*e*P	**Pn**	**20 52 11.1**	**+0.7**
CICH	**Cipreses**	**3.64**	**161**	*e*P	**Pn**	**20 52 17.0**	**+0.8**
LVC	**Limon Verde**	**8.64**	**18**	P	**Pn**	**20 53 32.6**	**+7.7**
	comp=N,0.5nm,0.3s,baz=200,slow=10,SNR=5.0						
LVC				S	**Sn**	**20 55 17.8**	**+15**
	comp=N,0.6nm,0.3s,baz=346,slow=23,SNR=4.6						
CPUP	**Villa Florida**	**13.54**	**74**	P	**Pn**	**20 54 32.2**	**+0.3**
	comp=N,0.4nm,0.3s,baz=223,slow=16,SNR=2.5						
CPUP				S	**Sn**	**20 57 06.2**	**+3.5**
	comp=N,0.5nm,0.3s,baz=267,slow=19,SNR=1.9						
CPUP	**Villa Florida**	**13.54**	**74**	P	**Pn**	**20 54 32.2**	**+0.3**
CPUP				S	**Sn**	**20 57 06.2**	**+3.5**
LPAZ	**La Paz**	**14.92**	**14**	P	**Pn**	**20 54 51.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=170,slow=10,SNR=11						
SIV	**San Ignacio**	**17.80**	**36**	P	**Pn**	**20 55 26.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=233,slow=14,SNR=7.1						
SNAA	**Sanae**	**54.42**	**159**	P	**P**	**21 00 45.5**	**-1.8**
	comp=N,0.9nm,0.6s,mb3.9,baz=277,slow=8.9,SNR=23						
MAW	**Mawson**	**76.12**	**164**	P	**P**	**21 03 06.6**	**-1.4**
	comp=N,1.4nm,0.6s,mb4.1,baz=235,slow=4.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**83.01**	**70**	P	**P**	**21 03 43.9**	**-1.6**
	comp=N,0.8nm,0.5s,mb4.0,baz=279,slow=6.0,SNR=16						
TORD				pP	pP	21 03 57.1	+9.5
	comp=N,1.1nm,0.6s,baz=276,slow=6.9,SNR=6.5						
MATP	**Matopo**	**88.16**	**113**	P	**P**	**21 04 09.8**	**-1.2**
	comp=N,1.0nm,0.8s,mb4.1,baz=221,slow=9.7,SNR=3.6						
LSZ	**Lusaka**	**90.63**	**108**	P	**P**	**21 04 22.0**	**-0.7**
	comp=N,0.8nm,0.5s,mb4.3,baz=107,slow=2.2,SNR=4.5						
LSZ	**Lusaka**	**90.63**	**108**	P	**P**	**21 04 22.0**	**-0.7**
MKAR	**Makanchi Array**	**154.51**	**44**	PKPab	PKPab	21 11 34.1	-1.3
	comp=N,0.2nm,0.2s,baz=349,slow=1.2,SNR=4.7						

*ISCJB **23** 21:00:35.8±0.7, 3582N±003×2977E±004, h20km±6km, Error ellipse: s-maj=6.0km s-min=4.8km az=168.8*

*ISK **23** 21:00:35.7, 3579N×2978E, h29km, MD3.5*

*CSEM **23** 21:00:35.7±0.1, 3583N×2978E, h20km, MD3.5, Error ellipse: s-maj=3.0km s-min=2.0km az=74.0*

*ATH **23** 21:00:36.0, 3602N×2982E, h39km, MD3.5/7*

*NEIC **23** 21:00:36.0, 3602N×2982E, h39km, MD3.5(ISK), MD3.5(ATH), After ATH.*

*HLW **23** 21:00:41.1, 3574N×2996E, h33km, Mb3.1*

ISC 23 21:00:37.2±0.7, 3588N±003×2974E±005, h18km±4km, n38, σ0°95/47, 4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.30**	**335**	⇓*i*PB	**Pg**	**21 00 43.8**	**+0.1**
KSL				*e*SB	**Sg**	**21 00 49.5**	**+1.4**
AKAS	**Kas**	**0.37**	**343**	*i* P	**Pg**	**21 00 44.5**	**-0.5**
AKAS				*i* S	**Sg**	**21 00 50.0**	**-0.1**
ELL	**Elmali**	**0.88**	**9**	*i* PG	**Pg**	**21 00 52.7**	**-1.6**
ELL				*i* SG	**Sg**	**21 01 06.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**1.26**	**315**	*i* PN	**Pn**	**21 00 58.8**	**-1.1**
DALT				*i* SN	**Sn**	**21 01 16.5**	**+0.1**
ANTB	**Antalya**	**1.26**	**36**	PN	**Pn**	**21 00 58.9**	**-1.1**
ARG	**Arkhangelos**	**1.35**	**285**	*e*PN	**Pn**	**21 01 00.6**	**-0.6**
GOLH	**Golhisar**	**1.36**	**354**	*i* P	**Pn**	**21 01 01.1**	**-0.3**
GOLH				*i* S	**Sn**	**21 01 20.8**	**+1.8**
BCK	**Bucak**	**1.72**	**23**	PN	**Pn**	**21 01 06.3**	**0.0**
DAT	**Datca**	**1.94**	**297**	PN	**Pn**	**21 01 08.1**	**-1.2**
DENT	**Denizli**	**1.95**	**343**	PN	**Pn**	**21 01 10.0**	**+0.5**
ISP	**Isparta**	**2.06**	**17**	PN	**Pn**	**21 01 09.8**	**-1.1**
MLSB	**Milas**	**2.12**	**312**	PN	**Pn**	**21 01 11.7**	**-0.1**
BDRM	**Kayabasi**	**2.19**	**303**	*i* P	**Pn**	**21 01 11.5**	**-1.3**
TKTP	**

17nm,0.3s,baz=32,slow=13,SNR=6.3
NNA Nana 14.57 310 P Pn 21 03 57.3 -1.6
NNA S **S** 21 06 30.6 -8.0
ATAH Atahualpa 19.26 318 P P 21 04 48.4 -0.7
11nm,0.3s,baz=152,slow=9.3,SNR=10
ATAH S **S** 21 08 09.6 -2.1
1.1nm,0.3s,baz=135,slow=17,SNR=3.4
CAM4 Nova Friburgo 21.28 96⇓ *eP* **P 21 05 09.9 +0.1**
CAM4 *i* 21 05 14.8
CAM4 *i* 21 05 16.0
CAM4 *i* 21 05 20.0
CAM4 *i* 21 05 30.9
CAM3 Guarapari 23.32 92⇓ *eP* **P 21 05 27.1 -1.2**
CAM3 *i* 21 05 30.7
CAM3 *i* 21 05 44.5
CAM3 *i* 21 05 57.0
ROSC El Rosal 27.87 341 P P 21 06 09.8 +0.8
24nm,0.5s,mb4.9,baz=127,slow=3.6,SNR=11
ROSC El Rosal 27.87 341 *eP* **P 21 06 09.6 +0.5**
SDV Santo Domingo 30.91 350 P P 21 06 35.2 -0.6
32nm,0.3s,mb5.3,baz=204,slow=4.1,SNR=44
SDV Santo Domingo 30.91 350 *eP* **P 21 06 34.4 -1.4**
31nm,0.4s,mb5.2
PCRV Puerto La Cruz 31.80 2 P P 21 06 43.8 +0.2
37nm,0.6s,mb5.1,baz=13,slow=2.5,SNR=7.6
PCRV S **S** 21 11 31.9 -0.4
17nm,0.9s,baz=209,slow=20,SNR=3.7
PAYG Puerto Ayora 31.99 308 *eP* **P 21 06 44.4 -0.8**
52nm,0.7s,mb5.2
USHA Ushuaia 33.05 183 P P 21 06 53.8 -0.5
18nm,0.5s,mb4.9,baz=353,slow=8.2,SNR=19
BIM Bigot 36.36 7 *eP* **P 21 07 22.0 -0.6**
MVM Montagne Vaucl 36.42 8 *eP* **P 21 07 22.3 -0.7**
FDF Fort de France 36.57 7 *eP* **P 21 07 23.8 -0.5**
CPD Cerro la Pandu 39.60 359 *eP* **P 21 07 47.9 -1.6**
MTP Monte Pirata 39.66 360 *eP* **P 21 07 48.0 -1.9**
HUMP Col San Antoni 39.70 360 *eP* **P 21 07 49.9 -0.5**
MPR Mayaguez 39.80 358 *eP* **P 21 07 49.9 -1.2**
CBYP Canovanas 39.83 360 *eP* **P 21 07 50.0 -1.4**
TGUH Tegucigalpa,Un 41.54 327 *eP* **P 21 08 05.0 -0.3**
185nm,1.0s,mb5.3
PMSA Palmer Station 42.96 179 P P 21 08 16.2 -0.4
13nm,0.7s,mb4.3,baz=335,slow=8.8,SNR=4.5
CCIG Comitan 45.97 323 *i P* **P 21 08 39.7 -0.6**
CMIG Matias Romero 48.18 321 P P 21 08 56.6 -0.7
32nm,0.6s,mb4.8,baz=120,slow=5.3,SNR=63
CMIG S **S** 21 15 33.1 -1.2
1.6nm,0.8s,baz=121,slow=5.9,SNR=2.1
VHO Vista Hermosa 49.27 319 *i P* **P 21 09 05.7 +0.1**
PPM Popocatepetl 51.95 319 *i P* **P 21 09 26.4 +0.9**
SFJM Santa Fe 55.77 316 *i P* **P 21 09 52.8 -0.1**
JSC Jenkinsville 57.75 345 *eP* **P 21 10 06.4 -0.4**
VNA3 Neumayer Olymp 58.79 162⇑ *i* **P 21 10 13.0 -1.0**
VNA3 *e* 21 10 16.8
VNA3 *e* 21 10 59.8
VNA1 Neumayer--Stat 58.95 161⇑ *i* **P 21 10 14.8 -0.3**
VNA1 *e* 21 10 18.8
VNA1 *e* 21 10 57.7
HKT Hockley 59.15 329 *eP* **P 21 10 15.8 -0.6**
HKT *+PP* pP 21 11 20.3 +1.8
VNA2 Neumayer--Watz 59.33 161⇑ *i* **P 21 10 16.9 -0.8**
baz=287,slow=8.4
VNA2 *e* 21 10 20.5
VNA2 *e* 21 10 45.8
VNA2 *e* 21 11 02.3
TKL Tuckaleechee C 59.71 343 S S 21 18 06.0 -2.2
1.6nm,0.4s,baz=306,slow=19,SNR=1.9
CPCT Cooper Cave 59.72 342 *eP* **P 21 10 19.4 -0.9**
NATX Nacogdoches 60.13 331 *eP* **P 21 10 23.4 +0.3**
PLAL Pickwick Lake 60.40 339 *eP* **P 21 10 23.0 -1.9**
74nm,0.9s,mb5.2
OXF Oxford 60.44 337 *eP* **P 21 10 23.4 -1.7**
TZTN Tazewell 60.48 343 *eP* **P 21 10 24.4 -1.0**
SNAA Sanae 60.97 161 P P 21 10 27.6 -1.1
8.7nm,0.8s,mb4.3,baz=288,slow=6.6,SNR=107
SNAA S **S** 21 18 22.7 -1.4
0.2nm,1.0s,baz=0.0,slow=16,SNR=2.2
SNAA Sanae 60.97 161⇑ *i* **P 21 10 27.5 -1.2**
SNAA *e* 21 10 31.7
SNAA *e* 21 11 13.4
SNAA Sanae 60.97 161 *eP* **P 21 10 27.1 -1.6**
SNAA *e*PcP PcP 21 11 13.1 +4.0
WVT Waverly 61.37 340⇓ *iP* **P 21 10 29.5 -1.9**
WVT pmax pmax
comp=Z,141nm,0.8s,mb5.5
WVT Waverly 61.37 340⇓ *iP* **P 21 10 29.5 -1.9**
comp=Z,141nm,0.8s,mb5.5
JCT Junction City 61.54 326 *eP* **P 21 10 31.3 -1.2**
JCT pmax pmax
comp=Z,30nm,0.7s,mb5.0
JCT Junction City 61.54 326 *eP* **P 21 10 31.3 -1.2**
comp=Z,30nm,0.7s,mb5.0
MVL Millersville 62.31 351 *eP* **P 21 10 37.5 -0.2**
PARMO Parma 62.49 338 *eP* **P 21 10 38.1 -0.7**
MCWV Mont Chateau 62.59 348 *eP* **P 21 10 39.7 +0.2**
comp=Z,37nm,0.9s,mb5.0
TXAR Lajitas Array 62.73 323 P P 21 10 39.5 -0.9
comp=Z,11nm,0.7s,mb4.6,baz=150,slow=8.2,SNR=117
TXAR pP pP 21 11 41.0 -2.2
comp=Z,0.8nm,0.6s,baz=128,slow=8.5,SNR=0.7
TXAR S **S** 21 18 45.0 -1.1
comp=Z,0.1nm,0.6s,baz=310,slow=42,SNR=2.2
WCI Wyandotte Cave 62.82 342 *eP* **P 21 10 39.1 -1.9**
WCI pmax pmax
comp=Z,29nm,0.4s,mb5.3
WCI Wyandotte Cave 62.82 342 *eP* **P 21 10 39.0 -2.0**
comp=Z,29nm,0.4s,mb5.3
LPIG La Paz 63.08 314 P P 21 10 42.2 -0.5
comp=Z,17nm,0.3s,mb5.1,baz=153,slow=4.5,SNR=3.2
BINY Binghamton 64.41 351 *eP* **P 21 10 51.2 -0.1**
comp=Z,50nm,0.9s,mb5.1
WMOK Wichita Mounta 64.50 330 *eP* **P 21 10 50.5 -1.4**
WMOK pmax pmax
comp=Z,39nm,1.3s,mb4.9
WMOK Wichita Mounta 64.50 330 *eP* **P 21 10 50.5 -1.4**
comp=Z,39nm,1.3s,mb4.9
ALLY Alegheny Colle 64.57 348 *eP* **P 21 10 52.3 -0.1**
GDL2 Guadalupe Moun 65.30 324 *eP* **P 21 10 56.6 -0.5**
MAIT Maitri 65.39 159 *eP* **P 21 10 57.0 -0.6**
NVL N'lazarevskaya 65.43 159*c* *iP* **P 21 10 57.4 -0.4**
NVL *i* S S 21 19 19.9 +0.8
NVL pmax pmax
comp=Z,83nm,1.4s,mb5.2
NVL MLR MLR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 65.48 323 *eP* **P 21 10 56.2 -2.0**
comp=Z,38nm,0.8s,mb5.1
NCB Newcomb 65.94 353 *eP* **P 21 10 59.5 -1.6**
comp=Z,36nm,1.3s,mb4.9
AMTX Amarillo 66.01 328 *eP* **P 21 11 00.7 -0.9**
LONY Lake Ozonia 66.62 353 *eP* **P 21 11 05.1 -0.3**
FRNY Flat Rock 66.72 354 *eP* **P 21 11 05.9 -0.1**
PKME Peaks-Kenny Pk 66.83 357 *eP* **P 21 11 06.9 +0.2**
comp=Z,20nm,0.8s,mb4.9
MSNY Massena 67.03 353 *eP* **P 21 11 08.1 +0.2**
KSU1 Kansas State U 67.21 334 *eP* **P 21 11 08.0 -1.1**
comp=Z,156nm,0.8s,mb5.8
BNM Barren Site 68.01 324 *eP* **P 21 11 14.8 +0.7**
LPM Los Pinos Moun 68.14 324 *eP* **P 21 11 15.2 +0.3**
EGOM La Gomera 68.14 45 P P 21 11 14.4 -0.5
comp=Z,116nm,1.3s,mb5.5
LENM Lemitar 68.22 324 *eP* **P 21 11 15.7 +0.3**
CBKS Cedar Bluff 68.29 332 *eP* **P 21 11 15.5 -0.3**
JFWS Jewell Farm 68.31 341 *eP* **P 21 11 14.9 -1.0**
SCIA State Center 68.38 338 *eP* **P 21 11 15.0 -1.4**
comp=Z,97nm,0.8s,mb5.6
QSPA South Pole Qui 68.39 180⇓ *iP* **P 21 11 15.3 -1.1**
comp=Z,24nm,0.8s,mb5.0
LAZ Ladron 68.48 324 *eP* **P 21 11 17.3 +0.3**
ANMO Albuquerque 68.53 325 *eP* **P 21 11 17.6 +0.3**
ANMO *e*PP pP 21 12 21.3 0.0
CCAN Las Canadas 68.59 46 P P 21 11 16.9 -0.7
comp=Z,37nm,1.0s,mb5.1
TUC Tucson 69.06 320 *eP* **P 21 11 20.0 -0.5**
TUC *e*PP pP 21 12 24.9 +0.2
TUC pmax pmax
comp=Z,49nm,1.1s,mb5.2
TUC Tucson 69.06 320 *eP* **P 21 11 20.0 -0.5**
comp=Z,49nm,1.1s,mb5.2
TUC epP pP 21 12 24.9 +0.3
116A Eloy 69.78 320⇓ *P* **P 21 11 24.9 -0.1**
baz=70
SDCO Great Sand Dun 70.16 327 *eP* **P 21 11 27.5 +0.3**
SDCO epP pP 21 12 29.6 -2.0

115A Sonoran Desert 70.20 319⇑ *P* **P 21 11 27.8 +0.3**
baz=70,SNR=7.5
CFTV Fuerteventura 70.40 47 P P 21 11 27.4 -1.3
comp=Z,21nm,1.2s,mb4.7
Z14A Wintersburg 71.09 319⇑ *P* **P 21 11 32.8 0.0**
baz=71,SNR=5.4
ECSD EROS,Sioux Fal 71.19 337 *eP* **P 21 11 32.1 -1.3**
comp=Z,82nm,1.0s,mb5.3
MVCO Mesa Verde 71.31 325 *eP* **P 21 11 34.3 +0.2**
comp=Z,122nm,1.1s,mb5.4
MVCO Mesa Verde 71.31 325⇓ *P* **P 21 11 34.5 +0.3**
baz=72,SNR=40
X15A Humboldt 71.45 321⇑ *P* **P 21 11 35.6 +0.7**
baz=72,SNR=26
Y14A Wickenburg 71.52 320 P P 21 11 35.8 +0.4
baz=72,SNR=21
WUAZ Wupatki 71.67 322 *eP* **P 21 11 37.0 +0.7**
WUAZ epP pP 21 12 42.8 +1.9
WUAZ Wupatki 71.67 322 P P 21 11 37.1 +0.9
baz=72,SNR=41
ISCO Idaho Springs 71.80 329 *eP* **P 21 11 37.2 +0.1**
ISCO pmax pmax
comp=Z,70nm,1.3s,mb5.1
ISCO Idaho Springs 71.80 329 *eP* **P 21 11 37.2 +0.2**
comp=Z,70nm,1.3s,mb5.1
ISCO epP pP 21 12 30.3 -11
X14A Yava 71.82 320 P P 21 11 37.9 +0.8
baz=72,SNR=41
Y13A Salome 71.94 319⇑ *P* **P 21 11 38.2 +0.4**
baz=72,SNR=13
W15A Williams 71.95 321⇓ *P* **P 21 11 38.9 +0.9**
baz=72,SNR=16
SMCO Snowmass 72.00 327 *eP* **P 21 11 39.0 +0.8**
comp=Z,36nm,0.7s,mb5.1
SMCO epP pP 21 12 44.4 +1.5
GLA Glamis 72.03 318 *eP* **P 21 11 38.0 -0.4**
GLA Glamis 72.03 318⇓ *P* **P 21 11 38.6 +0.2**
baz=72,SNR=11
PV01 Paradox Valley 72.03 326 *eP* **P 21 11 38.8 +0.4**
PV01 epP pP 21 12 45.4 +2.2
Y12C Blythe 72.32 319⇑ *P* **P 21 11 40.4 +0.3**
baz=72,SNR=14
W14A Seligman 72.45 321 P P 21 11 41.8 +0.9
baz=73,SNR=30
PDMCI Parker Dam,Lak 72.45 319 P P 21 11 41.1 +0.2
baz=73,SNR=5.0
PV10 Paradox Valley 72.46 325 *eP* **P 21 11 41.1 +0.1**
X13A Yucca 72.47 320 P P 21 11 41.4 +0.4
baz=73,SNR=30
SWSC Sam W. Stewart 72.57 317⇑ *P* **P 21 11 41.6 +0.1**
baz=73
DVTC Desert V Tower 72.57 317⇓ *P* **P 21 11 42.0 +0.4**
baz=73,SNR=11
BC3 Big Chuckw Mtn 72.83 318 P P 21 11 43.4 +0.4
baz=73,SNR=25
W13A Hualapai Mount 72.85 320⇑ *P* **P 21 11 44.0 +0.8**
baz=73,SNR=29
PHWY Pilot Hill 72.90 330 *eP* **P 21 11 43.9 +0.4**
MONP Monument Peak 72.93 317 P P 21 11 43.9 +0.3
baz=73,SNR=12
BAR Barrett 72.95 317 *eP* **P 21 11 43.9 +0.1**
BAR epP pP 21 12 49.9 +1.2
IRM Iron Mountain 72.98 319 P P 21 11 44.2 +0.3
baz=73,SNR=26
EYMN Ely 73.24 342 *eP* **P 21 11 44.5 -1.0**
EYMN epP pP 21 12 49.1 -1.4
109C Camp Elliot, M 73.36 317⇓ *P* **P 21 11 46.0 -0.2**
baz=74
BELC Belle Mtn. 73.39 318 P P 21 11 46.8 +0.5
baz=74,SNR=17
PFO Pinyon Flat Ob 73.42 317 P P 21 11 46.2 -0.3
comp=Z,131nm,0.9s,mb5.6,SNR=8.3
PFO Pinyon Flat Ob 73.42 317 *eP* **P 21 11 45.6 -0.9**
PFO *e*PP pP 21 12 51.8 +0.3
PFO pmax pmax
comp=Z,51nm,1.3s,mb5.0
PFO Pinyon Flat Ob 73.42 317 *eP* **P 21 11 45.6 -0.9**
comp=Z,51nm,1.3s,mb5.0
PFO epP pP 21 12 51.8 +0.2
PFO Pinyon Flat Ob 73.42 317 P P 21 11 46.9 +0.4
baz=74,SNR=12
W12A Cal Nev Ari 73.57 320⇑ *P* **P 21 11 47.5 +0.1**
baz=74
SRU San Rafael 73.79 325 *eP* **P 21 11 48.8 +0.1**
V12A Nelson 73.85 320 P P 21 11 49.5 +0.4
baz=74,SNR=29
MURC Murrieta 73.89 317⇑ *P* **P 21 11 49.3 +0.1**
baz=74
RWWY Rawlins 74.03 329 *eP* **P 21 11 50.4 +0.3**
RWWY epP pP 21 12 56.2 +1.1
U12A Valley of Fire 74.15 321⇓ *P* **P 21 11 51.3 +0.6**
baz=74,SNR=35
HEC Hector,Ludlow 74.15 318⇓ *P* **P 21 11 51.4 +0.6**
baz=74,SNR=38
CCUT Cedar City 74.24 322⇓ *iP* **P 21 11 52.5 +1.2**
CCUT epP pP 21 13 00.5 +4.1
MSU Marysvale 74.25 324 *eP* **P 21 11 52.3 +1.0**
MSU epP pP 21 13 00.0 +3.5
V11A Goodsprings 74.27 320⇓ *P* **P 21 11 52.0 +0.5**
baz=74
TMUT Trail Mountain 74.29 325 *eP* **P 21 11 52.2 +0.7**
TMUT epP pP 21 12 56.4 -0.3
TUQ Turquoise Mtn. 74.30 319 P P 21 11 52.1 +0.5
baz=74,SNR=24
SCI San Clemente I 74.35 316⇑ *P* **P 21 11 51.9 0.0**
baz=75
ARUT Antelope Range 74.45 322 *eP* **P 21 11 53.1 +0.6**
ARUT *e*PP pP 21 12 55.5 -2.1
RSSD Black Hills 74.48 332 *eP* **P 21 11 52.7 0.0**
RSSD pmax pmax
comp=Z,33nm,0.8s,mb5.0
RSSD Black Hills 74.48 332 *eP* **P 21 11 52.7 +0.1**
comp=Z,32nm,0.8s,mb5.0
TOA0 Torodi Ar. Sit 74.51 69⇑ *iP* **P 21 11 52.7 -0.2**
TOA0 epP pP 21 12 57.2 -0.8
TORD Torodi Ar. Bea 74.51 69 P P 21 11 52.9 0.0
comp=Z,87nm,0.8s,mb5.4,baz=252,slow=5.6,SNR=327
TORD pP pP 21 12 57.3 -0.7
comp=Z,15nm,0.8s,baz=251,slow=5.5,SNR=1.9
TORD S S 21 21 04.2 0.0
comp=Z,4.5nm,1.0s,baz=248,slow=9.5,SNR=9.5
CIS Catalina Islan 74.53 316⇓ *P* **P 21 11 53.0 +0.1**
baz=75
SHPR Sheep Range 74.56 320 *eP* **P 21 11 53.8 +0.7**
SHPR epP pP 21 13 00.8 +2.5
BFSC Mount Baldy St 74.59 317 P P 21 11 53.2 0.0
baz=75,SNR=10
RRX Edison Barstow 74.59 318⇑ *P* **P 21 11 53.9 +0.6**
baz=75
GSC Goldstone 74.75 319 *eP* **P 21 11 54.8 +0.6**
GSC *e*PP pP 21 13 01.1 +1.7
GSC Goldstone 74.75 319⇓ *P* **P 21 11 54.8 +0.6**
baz=75,SNR=9.8
SHOC Shoshone 74.83 319⇑ *P* **P 21 11 54.6 0.0**
baz=75
MWC Mount Wilson 74.83 317 *eP* **P 21 11 56.1 +1.4**
MWC *e*PP pP 21 13 01.8 +1.9
AGMN Agassiz Refuge 74.89 340 *eP* **P 21 11 53.9 -1.1**
comp=Z,53nm,0.8s,mb5.2
DECC Green Verdugo 75.02 317⇓ *P* **P 21 11 55.9 +0.2**
baz=75
MPU Maple Canyon 75.03 325 *eP* **P 21 11 56.3 +0.5**
MPU epP pP 21 13 02.6 +1.5
SYO Syowa Base 75.10 159⇑ *eP* **P 21 11 52.2 -4.0**
DAU Daniels Canyon 75.12 326 *eP* **P 21 11 57.2 +0.9**
DAU *e*PP pP 21 13 00.9 -0.7
SNCC San Nicolas Is 75.15 315⇓ *P* **P 21 11 56.2 -0.2**
baz=75
U10A Ash Meadows, A 75.20 320⇓ *P* **P 21 11 57.4 +0.7**
baz=75,SNR=21
EDW2 Edwards Air Fo 75.21 318⇓ *P* **P 21 11 56.7 -0.1**
baz=75,SNR=29
NLU North Lily Min 75.22 325 *eP* **P 21 11 57.5 +0.6**
NLU epP pP 21 13 04.2 +2.0
BLG Laguna Peak 75.40 316⇓ *P* **P 21 11 57.6 -0.3**
baz=76
LRMC Laurel Mountai 75.41 318 P P 21 11 58.2 +0.3
baz=76,SNR=33
OSI Osito Adit 75.50 317⇑ *P* **P 21 11 58.2 -0.3**
baz=76
FURC Furnace Creek, 75.56 319⇓ *P* **P 21 11 59.3 +0.6**
baz=76
MPMC Manual Prospec 75.67 319⇓ *P* **P 21 11 59.5 +0.1**
baz=76,SNR=38
BSC Santa Cruz Isl 75.69 316⇑ *P* **P 21 11 59.4 -0.2**
baz=76

SUR Sutherland 75.70 119 P P 21 12 00.5 +0.9
comp=Z,137nm,1.1s,mb5.5,SNR=12
SUR Sutherland 75.70 119 P P 21 12 00.0 +0.5
comp=Z,8.0nm,0.4s,mb4.7,baz=217,slow=3.4,SNR=18
SUR Sutherland 75.70 119 *eP* **P 21 12 00.0 +0.4**
comp=Z,20nm,0.9s,mb4.8
SUR epP pP 21 13 03.8 -1.2
TCUT Toone Canyon 75.71 326 *eP* **P 21 11 59.9 +0.3**
TCUT epP pP 21 13 06.4 +1.4
DUG Dugway 75.79 325 *eP* **P 21 12 00.5 +0.4**
DUG *e*PP pP 21 13 07.4 +1.9
DUG pmax pmax
comp=Z,30nm,0.8s,mb5.0
DUG Dugway 75.79 325 *eP* **P 21 12 00.5 +0.4**
comp=Z,30nm,0.8s,mb5.0
DUG epP pP 21 13 07.4 +1.9
DUG Dugway 75.79 325⇑ *P* **P 21 12 00.7 +0.6**
baz=76
DAC Darwin (Calif) 75.87 319 *eP* **P 21 12 00.0 -0.6**
DAC pmax pmax
comp=Z,50nm,0.8s,mb5.2
DAC Darwin (Calif) 75.87 319 *eP* **P 21 11 60.0 -0.6**
comp=Z,50nm,0.8s,mb5.2
DAC epP pP 21 13 08.2 +2.2
ARVC Arvin 75.90 317⇑ *P* **P 21 12 00.8 +0.1**
baz=76
BW06 Boulder Array 75.99 328 *eP* **P 21 12 06.7 +5.5**
BW06 epP pP 21 13 07.1 +0.5
PDAR Pinedale Array 75.99 328 P P 21 12 01.1 -0.1
comp=Z,12nm,0.6s,mb4.7,baz=128,slow=8.2,SNR=101
ISA Isabella 76.02 318 *eP* **P 21 12 01.9 +0.5**
comp=Z,0.1nm,0.8s
ISA epP pP 21 13 09.0 +2.2
ISA Isabella 76.02 318 P P 21 12 01.9 +0.6
baz=76,SNR=66
TRCR Troy Canyon 76.06 322 *eP* **P 21 12 02.5 +0.9**
SBA Scott Base 76.08 190 *eP* **P 21 12 01.6 -0.1**
Q12A Willow Creek R 76.10 323⇑ *P* **P 21 12 02.6 +0.7**
baz=76,SNR=32
HWUT Hardware Ranch 76.14 326 *eP* **P 21 12 02.0 -0.1**
comp=Z,25nm,0.6s,mb5.0
HWUT epP pP 21 13 07.6 +0.1
GRAC Grapevine Rang 76.21 320⇓ *P* **P 21 12 02.8 +0.4**
baz=76,SNR=16
SCHQ Schefferville 76.33 359 P P 21 12 01.7 -1.4
comp=Z,5.2nm,0.8s,mb4.2,baz=190,slow=4.7,SNR=10
SCHQ Schefferville 76.33 359 *eP* **P 21 12 01.9 -1.2**
comp=Z,11nm,0.7s,mb4.6
PKM Peak Mountain 76.38 317⇓ *P* **P 21 12 03.8 +0.4**
baz=77,SNR=28
SPUT South Promonto 76.39 326 *eP* **P 21 12 01.4 -2.0**
SPUT epP pP 21 13 06.2 -2.8
BGU Big Grassy Mou 76.43 325 *eP* **P 21 12 03.6 0.0**
BGU epP pP 21 13 09.8 +0.6
R10A Warm Springs 76.44 321 P P 21 12 05.0 +1.3
baz=77,SNR=82
Q11A Duckwater 76.44 322 P P 21 12 04.5 +0.8
baz=77,SNR=43
P12A McGill 76.44 323 P P 21 12 04.6 +0.9
baz=77,SNR=26
VES Vestal, Richgr 76.51 318⇑ *P* **P 21 12 04.2 +0.1**
baz=77,SNR=17
S09A Goldfield 76.60 320⇓ *P* **P 21 12 05.0 +0.3**
baz=77,SNR=20
ULM Lac du Bonnet 76.61 341 P P 21 12 03.6 -1.1
comp=Z,26nm,0.5s,mb5.2,baz=149,slow=6.4,SNR=66
ULM pP pP 21 13 08.4 -1.8
comp=Z,24nm,1.0s,baz=154,slow=7.1,SNR=2.9
ULM Lac du Bonnet 76.61 341 *eP* **P 21 12 03.2 -1.5**
comp=Z,32nm,0.5s,mb5.3
ULM epP pP 21 13 05.2 -5.0
AHID Auburn Hatcher 76.75 327 *eP* **P 21 12 04.8 -0.6**
AHID epP pP 21 13 11.1 +0.1
SMMC Simmler 76.75 317⇓ *P* **P 21 12 06.1 +0.6**
baz=77,SNR=19
TIN Tinemaha 76.77 319⇑ *P* **P 21 12 06.2 +0.7**
baz=77
TPH Tonopah 76.83 321 *eP* **P 21 12 06.0 +0.1**
TPH pmax pmax
comp=Z,76nm,1.3s,mb5.3
TPH Tonopah 76.83 321 *eP* **P 21 12 06.0 +0.1**
comp=Z,76nm,1.3s,mb5.3
TPH epP pP 21 13 14.6 +3.1
R09A Tonopah 76.85 321 P P 21 12 06.5 +0.4
baz=77,SNR=46
HVU Hansel Valley 76.90 326 *eP* **P 21 12 05.2 -1.1**
HVU *e*PP pP 21 13 12.3 +0.4
O12A Currie 76.90 323⇓ *P* **P 21 12 06.7 +0.4**
baz=77,SNR=45
TSUM Tsumeb 76.93 106 P P 21 12 07.0 +0.5
comp=Z,39nm,0.8s,mb5.2,baz=230,slow=6.0,SNR=64
TSUM Tsumeb 76.93 106 *eP* **P 21 12 06.9 +0.4**
comp=Z,42nm,0.9s,mb5.2
TSUM epP pP 21 13 10.9 -1.2
P11A Circle Ranch, 76.97 322⇓ *P* **P 21 12 07.3 +0.6**
baz=77
N13A Wendover, West 77.01 324⇑ *P* **P 21 12 06.9 0.0**
baz=77,SNR=8.2
HELL Mitchell Peak, 77.01 318 P P 21 12 06.9 0.0
baz=77,SNR=58
S08C White Mtn Res 77.02 320⇓ *P* **P 21 12 07.5 +0.5**
baz=77,SNR=29
V05C Boulder Hill, 77.04 317⇑ *P* **P 21 12 07.5 +0.4**
baz=77
REDW Red Top Meadow 77.07 328 *eP* **P 21 12 07.3 +0.1**
comp=Z,51nm,0.9s,mb5.2
VNDA Vanda 77.08 189 P P 21 12 06.4 -0.9
comp=Z,4.4nm,0.8s,mb4.2,baz=128,slow=4.5,SNR=32
VNDA Vanda 77.08 189 *eP* **P 21 12 06.0 -1.3**
VNDA epP pP 21 13 12.0 -0.9
SNOW Snow King Moun 77.09 328 *eP* **P 21 12 07.4 +0.1**
comp=Z,63nm,1.0s,mb5.3
LOHW Long Hollow 77.13 328 *eP* **P 21 12 07.8 +0.3**
comp=Z,38nm,0.8s,mb5.2
LOHW epP pP 21 13 12.5 -0.7
MTUM Tungsten Hills 77.17 319 *eP* **P 21 12 08.2 +0.4**
MTUM epP pP 21 13 16.6 +3.2
TPAW Teton Pass 77.21 328 *eP* **P 21 12 08.3 +0.3**
comp=Z,96nm,1.3s,mb5.4
TPAW epP pP 21 13 12.7 -0.9
RRI2 Red Ridge 77.29 328 *eP* **P 21 12 09.0 +0.6**
RRI2 epP pP 21 13 15.3 +1.2
MOOW Moose Ponds 77.30 328 *eP* **P 21 12 08.6 +0.1**
comp=Z,18nm,0.8s,mb4.9
MOOW epP pP 21 13 13.9 -0.3
Q09A Carvers 77.31 321 P P 21 12 09.4 +0.9
baz=78,SNR=11
O11A Cowboy Ranch, 77.31 323⇓ *P* **P 21 12 08.9 +0.3**
baz=78
M13A Montello 77.34 325⇑ *P* **P 21 12 08.7 0.0**
baz=78,SNR=9.4
DCID1 Drake Creek 77.40 328 *eP* **P 21 12 10.3 +1.3**
P10A Eureka 77.42 322 P P 21 12 10.3 +1.1
baz=78,SNR=16
LAO LASA Array 77.46 333 *eP* **P 21 12 09.2 -0.2**
comp=Z,45nm,0.9s,mb5.2
N12A Clover Valley, 77.46 324⇑ *P* **P 21 12 09.4 0.0**
baz=78,SNR=14
PKD Parkfield 77.50 317 P P 21 12 09.6 0.0
baz=78,SNR=10
IMW Indian Meadow 77.50 328 *eP* **P 21 12 10.2 +0.6**
IMW epP pP 21 13 15.3 0.0
MLAC Mammoth Lakes 77.51 319⇑ *P* **P 21 12 10.2 +0.6**
baz=78
V04C Ramage Ranch, 77.51 317⇓ *P* **P 21 12 10.1 +0.4**
baz=78,SNR=7.9
FLWY Flagg Ranch 77.52 328 *eP* **P 21 12 10.6 +0.9**
FLWY epP pP 21 13 16.8 +1.3
R08A Mina 77.54 320⇓ *P* **P 21 12 10.3 +0.5**
baz=78
KCC Kaiser Creek 77.61 319⇑ *P* **P 21 12 09.8 -0.4**
baz=78,SNR=12
RLMT Red Lodge 77.61 330 *eP* **P 21 12 10.4 +0.1**
comp=Z,33nm,0.7s,mb5.2
T06C Millerton Lake 77.64 318⇓ *P* **P 21 12 09.2 -1.2**
baz=78
P09A Austin 77.77 322⇓ *P* **P 21 12 11.6 +0.5**
baz=78,SNR=7.8
Q08A Gabbs 77.77 321 P P 21 12 11.4 +0.3
baz=78,SNR=16
M12A Wells 77.78 324⇑ *P* **P 21 12 11.5 +0.3**
baz=78,SNR=38
N11A Elko Archery C 77.82 323⇑ *P* **P 21 12 11.6 +0.2**
baz=78
YFT Old Faithful 77.86 329 *eP* **P 21 12 13.1 +1.5**
O10A Cortez Mining, 77.90 323⇓ *P* **P 21 12 12.2 +0.4**

baz=78,SNR=8.7
U04C Hernandez Rese 77.91 317 ⇑P P 21 12 12.1 +0.2
baz=78,SNR=24
R07C Lee Vining 77.93 320 P P 21 12 12.7 +0.7
baz=78,SNR=26
YNR Norris Junctio 77.98 329 eP P 21 12 13.0 +0.8
V03C Hunter Liggett 77.98 317 ⇓P P 21 12 12.8 +0.6
baz=78,SNR=8.9
DGMT Dagmar 78.04 335 eP P 21 12 12.9 +0.3
DGMT epP pP 21 13 15.8 -2.6
YMR Madison River 78.08 329 eP P 21 12 13.3 +0.5
comp=Z,53nm,0.8s,mb5.3
LRV Little Rabbit 78.09 317 eP P 21 12 13.4 +0.5
T05C Eagle Field, D 78.17 318 ⇓P P 21 12 13.6 +0.3
baz=78
O09A Fish Creek Ran 78.21 322 ⇓P P 21 12 13.2 -0.2
baz=78,SNR=16
S05C Merced 78.24 318 ⇓P P 21 12 13.9 +0.2
baz=78,SNR=12
M11A Holland Ranch, 78.27 324 ⇑P P 21 12 14.6 +0.7
baz=78,SNR=10
S06C San Francisco 78.28 319 ⇑P P 21 12 13.9 0.0
baz=78,SNR=42
GCMT Greycliff 78.30 330 eP P 21 12 13.9 -0.1
Q07A Schurz 78.34 320 ⇑P P 21 12 14.8 +0.6
baz=79
P08A Dixie Valley 78.40 321 ⇑P P 21 12 14.8 +0.2
baz=79,SNR=18
HAST UC Hastings Re 78.41 317 P P 21 12 14.9 +0.3
baz=79,SNR=17
QLMT Earthquake Lak 78.42 329 eP P 21 12 15.7 +1.0
WAKR Walker 78.43 320 eP P 21 12 15.5 +0.8
WAKR epP pP 21 13 21.3 +0.7
R06C Coleville 78.45 320 P P 21 12 15.8 +0.9
baz=79,SNR=25
SAO San Andreas Ge 78.58 317 eP P 21 12 14.6 -0.9
PACP Pacheco Peak 78.63 318 ⇓P P 21 12 16.1 +0.3
baz=79,SNR=7.6
CMB Columbia Colle 78.71 319 eP P 21 12 16.0 -0.2
CMB Columbia Colle 78.71 319 P P 21 12 16.0 -0.3
baz=79,SNR=7.9
M10A I.L. Ranch, Tu 78.75 323 ⇓P P 21 12 16.8 +0.4
baz=79,SNR=24
P07A Fallon 78.78 321 ⇑P P 21 12 17.1 +0.5
baz=79
N09A Rock Creek Ran 78.85 322 ⇓P P 21 12 16.6 -0.4
baz=79,SNR=8.1
R05C Kirkwood Meado 78.94 320 P P 21 12 18.2 +0.7
baz=79,SNR=14
S04C Ingram Canyon, 78.96 318 ⇓P P 21 12 17.6 0.0
baz=79,SNR=8.0
HLID Hailey 79.01 326 eP P 21 12 18.8 +0.9
HLID epP pP 21 13 25.7 +1.8
HLID Hailey 79.01 326 ⇓P P 21 12 18.8 +0.9
baz=79,SNR=102
MCMT McKenzie Canyo 79.12 328 eP P 21 12 19.1 +0.7
WCN Washoe City 79.14 320 ⇓P P 21 12 19.1 +0.6
baz=79,SNR=7.2
O07A Toulon 79.17 321 ⇑P P 21 12 18.7 0.0
baz=79,SNR=27
PAHR Pah Rah Range 79.17 321 eP P 21 12 19.3 +0.5
PAHR epP pP 21 13 26.6 +1.8
R04C Big Horse Ranc 79.19 319 ⇓P P 21 12 19.2 +0.4
baz=79
M09A Marrel Ranch, 79.19 323 ⇓P P 21 12 18.9 +0.1
baz=79,SNR=19
BNLO Ben Lomond (Sa 79.26 317 ⇓P P 21 12 19.3 +0.1
baz=80
WENL Wente Brothers 79.30 318 ⇑P P 21 12 20.0 +0.6
baz=80
DLMT Dillon 79.38 328 ⇓iP P 21 12 19.8 0.0
comp=Z,87nm,1.3s,mb5.3
DLMT epP pP 21 13 23.2 -2.7
LAVA Lava Cap Winer 79.38 319 ⇑P P 21 12 19.5 -0.3
baz=80,SNR=11
P06A Stead Airport, 79.46 320 ⇓P P 21 12 20.9 +0.7
baz=80
MORF Marmelete 79.51 43 eP P 21 12 20.5 -0.1
comp=Z,74nm,1.8s,mb5.1
MDT Midelt 79.56 48 P P 21 12 21.4 +0.5
comp=Z,29nm,1.0s,mb5.0,baz=252,slow=5.0,SNR=12
BDM Black Diamond 79.57 318 ⇓P P 21 12 21.5 +0.6
baz=80
PTEO Sao Teotonio 79.61 43 eP P 21 12 21.1 0.0
comp=Z,65nm,2.2s,mb5.0
N07B Gerlach 79.63 322 ⇑P P 21 12 21.2 0.0
baz=80,SNR=57
LRM Limekiln Ridge 79.64 329 eP P 21 12 21.7 +0.4
L09A Wilkinson Ranc 79.71 323 ⇓P P 21 12 21.9 +0.3
baz=80,SNR=7.4
M08A Happy Creek Ra 79.73 322 P P 21 12 21.9 +0.2
baz=80,SNR=12
O06A Flanigan 79.73 321 P P 21 12 22.1 +0.4
baz=80,SNR=10
Q04C Lincoln 79.82 319 ⇑P P 21 12 22.6 +0.4
baz=80
BEKR Beckwourth 79.85 320 P P 21 12 22.8 +0.4
baz=80,SNR=30
HRY Holter Researc 79.99 330 ePP PP 21 15 31.4 +2.2
EGMT Eagleton 80.02 332 eP P 21 12 22.9 -0.3
comp=Z,65nm,1.0s,mb5.3
EGMT Eagleton 80.02 332 ⇑P P 21 12 22.7 -0.5
baz=80,SNR=12
F14A Wisdom 80.08 328 ⇑P P 21 12 24.4 +0.8
baz=80
Q03C Winters 80.08 318 ⇑P P 21 12 24.4 +0.8
baz=80
N06A Buffalo Meadow 80.11 321 P P 21 12 23.9 +0.2
baz=80,SNR=25
FARB Farallon Islan 80.13 317 ⇑P P 21 12 23.4 -0.5
baz=80
M07A Soldier Meadow 80.14 322 ⇑P P 21 12 24.0 +0.1
baz=80,SNR=28
E15A Deer Lodge 80.17 329 ⇑P P 21 12 24.3 +0.3
baz=80
CVS Carmenet Viney 80.18 318 ⇓P P 21 12 23.8 -0.3
baz=80,SNR=7.3
K09A Rome 80.19 324 P P 21 12 24.4 +0.2
baz=80,SNR=32
OHCM Honcut 80.19 319 eP P 21 12 24.1 -0.1
OHCM epP pP 21 13 29.6 -0.7
L08A Fields 80.20 323 P P 21 12 24.0 -0.2
baz=80,SNR=38
O05C Quincy 80.25 320 ⇓P P 21 12 24.8 +0.3
baz=80,SNR=11
SUTB Sutter Butte 80.31 319 ⇑P P 21 12 24.4 -0.4
baz=80
ORV Oroville 80.34 319 P P 21 12 25.0 +0.1
baz=81,SNR=31
EGRO El Granado 80.39 43 P P 21 12 25.1 -0.1
comp=Z,211nm,2.3s,mb5.5
PBEJ Beja 80.44 43 eP P 21 12 26.6 +1.1
comp=Z,25nm,0.8s,mb5.0
MNRC McLaughlin Nat 80.50 318 ⇓P P 21 12 25.9 +0.1
baz=81
BOSA Boshof 80.52 117 P P 21 12 24.8 -1.1
comp=Z,9.3nm,0.5s,mb4.8,baz=259,slow=4.8,SNR=38
BOSA Boshof 80.52 117 eP P 21 12 25.1 -0.8
BOSA epP pP 21 13 31.0 -1.1
WVOR Wild Horse Val 80.52 323 eP P 21 12 25.3 -0.6
WVOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
WVOR Wild Horse Val 80.52 323 eP P 21 12 25.2 -0.7
comp=Z,8.0nm,0.8s,mb4.5
F13A Darby 80.54 328 ⇓P P 21 12 26.3 +0.2
baz=81
ELFS Eagle Lake Fie 80.55 321 ⇑P P 21 12 26.3 +0.2
baz=81,SNR=21
E14A Clinton 80.57 329 ⇑P P 21 12 26.6 +0.4
baz=81
O04C Chester 80.57 320 ⇓P P 21 12 26.1 -0.1
baz=81,SNR=8.5
K08A Mann Creek Ran 80.63 323 ⇓P P 21 12 26.5 0.0
baz=81,SNR=15
J09A Fry Pan Ranch, 80.64 324 ⇑P P 21 12 26.6 0.0
baz=81,SNR=5.3
L07A Adell 80.64 322 ⇑P P 21 12 27.0 +0.4
baz=81,SNR=18
EVO Evora 80.66 42 ⇑iP P 21 12 27.1 +0.5
comp=Z,28nm,0.8s,mb4.7
M06C Likely Place G 80.78 321 ⇓P P 21 12 27.4 +0.1
baz=81,SNR=33
CHMT Chamberlain Mo 80.81 329 eP P 21 12 27.6 +0.1
E13A Victor 80.93 328 ⇑P P 21 12 28.5 +0.5
baz=81
HOPS Hopland 80.96 318 ⇓P P 21 12 28.5 +0.3
baz=81

K07A Rock Creek Ran 81.03 323 P P 21 12 29.2 +0.6
baz=81,SNR=41
J08A Circle Bar Ran 81.04 324 P P 21 12 29.2 +0.6
baz=81,SNR=56
ESPR Espera 81.04 44 P P 21 12 29.6 +1.0
comp=Z,130nm,2.2s,mb5.3
EMIN Mina Concepcio 81.05 43 P P 21 12 29.0 +0.3
comp=Z,325nm,3.1s
I09A Lost Marbles R 81.05 325 ⇑P P 21 12 28.9 +0.2
baz=81,SNR=35
LBCM Butte Creek Ri 81.05 321 P P 21 12 28.4 -0.4
D14A Greenough 81.05 329 P P 21 12 28.6 -0.1
baz=81,SNR=13
EJIF Jimena Fronter 81.06 45 P P 21 12 28.8 +0.1
EJIF pmax pmax
comp=Z,46nm,1.2s,mb5.1
EJIF Jimena Fronter 81.06 45 P P 21 12 28.8 +0.1
comp=Z,46nm,1.2s,mb5.1
HATC Hat Creek Radi 81.11 320 P P 21 12 28.8 -0.2
baz=81,SNR=7.8
MOD Modoc 81.12 322 eP P 21 12 29.2 +0.1
comp=Z,24nm,0.9s,mb4.9
MOD epP pP 21 13 38.0 +2.6
MOD Modoc 81.12 322 ⇑P P 21 12 29.3 +0.2
baz=81,SNR=12
PESTR Estremoz 81.12 42 eP P 21 12 29.9 +0.8
comp=Z,45nm,1.3s,mb5.0
GASB Alder Springs 81.14 319 ⇓P P 21 12 29.9 +0.7
baz=81,SNR=9.1
M05C Lookout 81.26 321 ⇑P P 21 12 29.7 -0.1
baz=82
P01C Double 8 Ranch 81.41 319 P P 21 12 31.2 +0.6
baz=82,SNR=5.2
BMO Blue Mountains 81.41 326 eP P 21 12 30.6 0.0
comp=Z,70nm,1.2s,mb5.3
BMO epP pP 21 13 38.0 +1.0
I08A Drewsey 81.46 324 P P 21 12 31.2 +0.4
baz=82,SNR=33
H09A Durkee 81.47 325 P P 21 12 31.3 +0.4
baz=82,SNR=9.0
O02C Red Bluff 81.50 319 ⇓P P 21 12 31.9 +0.8
baz=82
J07A Hines 81.51 324 P P 21 12 31.7 +0.6
baz=82,SNR=15
L05A Lakeview 81.52 322 P P 21 12 31.9 +0.8
baz=82,SNR=20
D13A Huson 81.52 329 ⇓P P 21 12 31.0 -0.1
baz=82,SNR=36
EMIJ Mijas 81.58 45 P P 21 12 31.5 0.0
comp=Z,73nm,1.7s,mb5.1
WDC Whiskeytown Da 81.60 320 eP P 21 12 29.7 -1.9
WDC pmax pmax
comp=Z,24nm,0.6s,mb5.1
WDC Whiskeytown Da 81.60 320 eP P 21 12 29.7 -1.9
comp=Z,24nm,0.6s,mb5.1
WDC Whiskeytown Da 81.60 320 P P 21 12 30.1 -1.5
baz=82,SNR=17
C14A Swan Lake 81.66 329 ⇓P P 21 12 31.9 0.0
baz=82,SNR=33
K06A Valley Falls 81.66 323 P P 21 12 32.5 +0.6
baz=82,SNR=9.7
PCBR Castelo Branco 81.78 41 eP P 21 12 33.7 +1.2
comp=Z,38nm,1.3s,mb5.0
J06A Christmas Vall 81.90 323 P P 21 12 33.3 +0.2
baz=82,SNR=30
H08A Prairie City 81.91 325 P P 21 12 33.6 +0.4
baz=82,SNR=13
M04C Macdoel 81.93 321 P P 21 12 33.2 -0.1
baz=82,SNR=15
K05A Summer Lake 81.98 322 P P 21 12 34.3 +0.7
baz=82,SNR=24
C13A Hot Springs 81.99 329 P P 21 12 33.8 +0.2
baz=82,SNR=14
LBTB Lobatse 82.02 114 eP P 21 12 33.5 -0.3
LBTB e*PP pP 21 13 37.4 -2.9
PVIS Viseu 82.06 40 eP P 21 12 34.5 +0.5
comp=Z,52nm,2.1s,mb4.9
I07A Izee 82.08 324 P P 21 12 34.5 +0.5
baz=82,SNR=22
O01C Eel River Cons 82.11 319 ⇑P P 21 12 34.7 +0.5
baz=82
F10A Beach Ranch, E 82.13 326 P P 21 12 34.3 0.0
baz=82,SNR=30
L04A Klamath Falls 82.21 321 P P 21 12 34.7 -0.1
baz=82,SNR=11
N02C Big Bar 82.21 320 P P 21 12 34.9 +0.1
baz=82,SNR=17
BSMT Bassoo Peak 82.21 329 P P 21 12 34.8 +0.1
M02C Callahan 82.29 320 ⇑P P 21 12 34.5 -0.6
baz=82
F09A S2 Ranch, Elgi 82.30 326 ⇑P P 21 12 35.0 -0.2
baz=82
ELOJ Sierra Loja 82.32 45 P P 21 12 34.8 -0.5
ELOJ pmax pmax
comp=Z,29nm,1.2s,mb4.9
ELOJ Sierra Loja 82.32 45 P P 21 12 34.8 -0.5
comp=Z,29nm,1.2s,mb4.9
FFC Flin Flon 82.37 340 P P 21 12 34.6 -1.0
comp=Z,105nm,1.2s,mb5.4,SNR=6.3
I06A Prineville 82.38 324 P P 21 12 36.3 +0.7
baz=83,SNR=13
K04A Chilquin 82.39 322 ⇑P P 21 12 35.5 -0.2
baz=83
YBH Yreka Blue Hor 82.41 321 eP P 21 12 34.0 -1.8
YBH Yreka Blue Hor 82.41 321 ⇓P P 21 12 34.5 -1.3
baz=83,SNR=8.8
B13A Whitefish 82.43 330 P P 21 12 35.6 -0.2
baz=83,SNR=15
H07A Lands Inn, Kim 82.44 324 ⇑P P 21 12 36.1 +0.1
baz=83,SNR=8.0
C12A Trout Creek 82.44 329 ⇓P P 21 12 35.7 -0.3
baz=83
ERON Agron 82.47 45 P P 21 12 35.6 -0.5
comp=Z,6.5nm,0.6s,mb4.5
ELUQ Luque 82.48 45 ⇑P P 21 12 35.6 -0.5
ELUQ pmax pmax
comp=Z,22nm,0.8s,mb4.9
ELUQ Luque 82.48 45 ⇑P P 21 12 35.6 -0.5
comp=Z,22nm,0.8s,mb4.9
PVRL Vila Real 82.51 40 eP P 21 12 37.6 +1.3
J05A Fort Rock 82.53 323 P P 21 12 36.6 +0.2
baz=83,SNR=17
G08A Pilot Rock 82.58 325 P P 21 12 36.7 +0.1
baz=83,SNR=19
PCAB Cabril 82.59 40 eP P 21 12 36.3 -0.4
comp=Z,126nm,1.4s,mb5.5
EADA Adamuz 82.62 44 P P 21 12 37.6 +0.7
comp=Z,680nm,3.8s
WALA Waterton Lakes 82.66 330 eP P 21 12 36.1 -1.0
comp=Z,24nm,0.9s,mb5.0
ECOG Cogollos-Vega 82.78 45 P P 21 12 38.4 +0.7
ECOG pmax pmax
comp=Z,20nm,1.2s,mb4.8
ECOG Cogollos-Vega 82.78 45 P P 21 12 38.4 +0.7
comp=Z,20nm,1.2s,mb4.8
A13A Flathead Natio 82.80 330 P P 21 12 38.0 +0.2
baz=83,SNR=46
F08A Pendleton 82.81 326 P P 21 12 37.0 -0.8
baz=83,SNR=8.8
G07A Ruggs Ranch, H 82.94 325 P P 21 12 39.1 +0.6
baz=83,SNR=22
H06A Lindquist Farm 82.95 324 P P 21 12 39.2 +0.7
baz=83,SNR=17
E09A Wood Farm, Sta 82.96 326 P P 21 12 38.0 -0.6
baz=83,SNR=10
VIPM Ingram Point 82.97 324 P P 21 12 39.2 +0.6
B12A Libby 83.03 329 P P 21 12 39.1 +0.1
baz=83,SNR=8.0
HUMO Hull Mountain 83.09 321 eP P 21 12 37.8 -1.5
comp=Z,6.8nm,0.5s,mb4.7
HUMO Hull Mountain 83.09 321 P P 21 12 38.2 -1.1
baz=83,SNR=5.6
BBOR Butler Butte 83.11 322 P P 21 12 38.3 -1.1
MAW Mawson 83.11 162 eP P 21 12 38.9 -0.5
comp=Z,14nm,0.7s,mb4.9
MAW iP pP 21 13 34.5 -12
MAW eS S 21 22 32.3 -2.4
MAW Mawson 83.11 162 P P 21 12 38.8 -0.5
comp=Z,27nm,0.9s,mb5.1,baz=238,slow=5.9,SNR=20
MAW Mawson 83.11 162 eP P 21 12 38.9 -0.5
MAW eS S 21 22 32.3 -2.4
MAW pmax pmax
comp=Z,15nm,0.7s
EBAN Banos Encina 83.13 44 P P 21 12 39.1 -0.4
EBAN pmax pmax
comp=Z,28nm,0.7s,mb5.2
EBAN Banos Encina 83.13 44 P P 21 12 39.1 -0.4

comp=Z,28nm,0.7s,mb5.2
L02A Cave Junction 83.20 321 ⇓P P 21 12 39.7 -0.1
baz=83,SNR=5.6
B11A Sandpoint 83.38 329 P P 21 12 40.1 -0.7
baz=84,SNR=6.3
A12A Yaak River Ran 83.38 329 P P 21 12 40.7 -0.1
baz=84,SNR=8.6
EQES Quesada 83.40 45 P P 21 12 41.3 +0.5
comp=Z,289nm,2.3s,mb5.7
PBRG Braganca 83.41 40 eP P 21 12 41.7 +0.8
comp=Z,51nm,1.1s,mb5.3
D09A Jones Farm, Ri 83.41 327 P P 21 12 40.6 -0.3
baz=84,SNR=11
C10A Spilker Farm, 83.42 328 ⇓P P 21 12 40.4 -0.6
baz=84
G06A Carlson Farm, 83.44 324 P P 21 12 41.3 +0.2
baz=84,SNR=7.1
F07A Phinny Hill Vi 83.49 325 ⇑P P 21 12 41.5 +0.3
baz=84
HBO Huckleberry Mo 83.49 322 P P 21 12 40.8 -0.5
K02A Glendale 83.50 321 P P 21 12 41.4 0.0
baz=84,SNR=6.0
NEW Newport 83.63 328 eP P 21 12 40.8 -1.2
RSW Rattlesnake Hi 83.63 326 P P 21 12 42.1 +0.1
FCC Fort Churchill 83.68 345 eP P 21 12 41.8 -0.4
GBL Gable Mountain 83.70 326 P P 21 12 42.4 +0.1
D08A Wollman Farm, 83.72 326 P P 21 12 42.4 -0.1
baz=84,SNR=14
A11A Hall Mountain, 83.74 329 ⇓P P 21 12 42.0 -0.5
baz=84
G05A Wamic 83.81 324 ⇓P P 21 12 43.6 +0.6
baz=84
F06A Goldendale 83.86 325 ⇓P P 21 12 43.2 +0.1
baz=84
ESDC Sonseca Array 83.88 43 P P 21 12 44.2 +0.9
comp=Z,33nm,1.0s,mb5.1,baz=246,slow=4.5,SNR=46
ESDC Sonseca Array 83.88 43 P P 21 12 43.5 +0.2
comp=Z,34nm,1.0s,mb5.1
ESLA Sonseca Array 83.88 43 eP P 21 12 43.9 +0.7
E07A Sunnyside 83.88 326 ⇓P P 21 12 43.3 +0.1
baz=84,SNR=8.2
C09A Chrisman Ranch 83.89 327 ⇑P P 21 12 43.0 -0.3
baz=84,SNR=11
J02A Umpqua 83.92 322 ⇓P P 21 12 43.4 -0.1
baz=84,SNR=5.1
HOOD Mount Hood Mea 84.05 324 eP P 21 12 44.3 +0.2
EVIA Vianos 84.23 45 ⇓P P 21 12 44.6 -0.4
EVIA pmax pmax
comp=Z,33nm,0.8s,mb5.2
EVIA Vianos 84.23 45 ⇓P P 21 12 44.6 -0.4
comp=Z,33nm,0.8s,mb5.2
B09A Rice 84.24 328 ⇑P P 21 12 44.2 -0.9
baz=84,SNR=14
C08A Higginbotham F 84.27 327 ⇑P P 21 12 45.1 -0.1
baz=84
F05A White Salmon 84.30 324 ⇑P P 21 12 45.3 -0.1
baz=84
GUD Guadarrama 84.31 42 ⇓P P 21 12 45.3 -0.1
GUD pmax pmax
comp=Z,30nm,0.8s,mb5.2
GUD Guadarrama 84.31 42 ⇓P P 21 12 45.3 -0.1
comp=Z,30nm,0.8s,mb5.2
D07A Quincy 84.35 326 ⇓P P 21 12 45.7 +0.1
baz=85
G04A Mulino 84.43 323 ⇓P P 21 12 45.5 -0.6
baz=85
EBG Ellensburg 84.48 326 P P 21 12 46.5 +0.2
WTV Waterville 84.67 327 P P 21 12 46.9 -0.4
C07A Waterville 84.72 326 ⇑P P 21 12 47.1 -0.4
baz=85,SNR=30
D06A Cle Elum 84.81 326 ⇑P P 21 12 47.6 -0.3
baz=85
A09A Danville 84.83 328 P P 21 12 47.2 -0.8
baz=85,SNR=7.6
F04A Amboy 84.85 324 P P 21 12 47.6 -0.5
baz=85,SNR=8.6
ETOB Tobarra 84.86 45 P P 21 12 48.5 +0.3
comp=Z,278nm,2.2s,mb5.7
G03A Yamhill 84.94 323 ⇓P P 21 12 48.8 +0.2
baz=85
B07A Winthrop 85.25 327 P P 21 12 49.4 -0.7
baz=86,SNR=32
FRB Frobisher Bay 85.30 359 P P 21 12 49.6 -0.7
comp=Z,12nm,0.8s,mb4.8,baz=110,slow=4.0,SNR=3.7
D05A Enumclaw 85.41 325 ⇑P P 21 12 50.3 -0.5
baz=86,SNR=10
EDM Edmonton 85.41 333 eP P 21 12 48.8 -2.1
EDM e*PP pP 21 13 56.8 -1.1
E04A Onalaska 85.43 324 ⇓P P 21 12 50.5 -0.5
baz=86
C05A Tolt Reservoir 85.57 326 ⇓P P 21 12 50.3 -1.3
baz=86,SNR=12
A07A Ashnola River, 85.77 327 ⇓P P 21 12 52.4 -0.2
baz=86
E03A Lebam 85.85 324 ⇑P P 21 12 52.6 -0.5
baz=86
B06A Marblemount 85.98 326 P P 21 12 52.8 -0.9
baz=86,SNR=18
GNW Green Mountain 86.08 325 eP P 21 12 53.4 -0.8
B05A Bryant 86.14 326 P P 21 12 53.4 -1.0
baz=86,SNR=24
CMW Cultus Mountai 86.25 326 P P 21 12 54.2 -0.8
C04A Brinnon 86.26 325 ⇓P P 21 12 54.5 -0.5
baz=86,SNR=12
A06A Chilliwack 86.35 327 ⇓P P 21 12 54.4 -1.1
baz=87
NLWA Neilton Lookou 86.54 325 ⇓P P 21 12 56.0 -0.4
baz=87
A05A Maple Falls 86.60 327 P P 21 12 55.9 -0.8
baz=87,SNR=17
VDB Vedder Mountai 86.62 327 P P 21 12 55.8 -1.0
OSD Olympics--Snow 86.71 325 P P 21 12 57.6 +0.5
A04A Legoe Bay, Lum 86.74 326 P P 21 12 57.0 -0.4
baz=87,SNR=10
B04A Port Angeles 86.75 325 P P 21 12 57.5 +0.1
baz=87,SNR=5.1
MCW Mount Constitu 86.78 326 P P 21 12 57.2 -0.3
PGC Sidney 87.09 326 eP P 21 12 59.1 +0.1
SJPF Ste Jean 87.50 41 eP P 21 13 02.0 +1.0
comp=Z,31nm,0.9s,mb4.8
SJPF Ste Jean 87.50 41 eP P 21 13 02.0 +1.0
SJPF pmax pmax
comp=Z,15nm,0.9s,mb4.8
SJPF Ste Jean 87.50 41 eP P 21 13 02.0 +1.0
comp=Z,15nm,0.9s,mb4.8
LSZ Lusaka 87.79 105 eP P 21 13 04.3 +2.0
LSZ e*PP pP 21 14 09.5 -0.2
LSZ e 21 16 30.0
LSZ pmax pmax
comp=Z,37nm,1.3s,mb5.0
LSZ Lusaka 87.79 105 eP P 21 13 04.3 +2.0
comp=Z,37nm,1.3s,mb5.1
LSZ epP pP 21 14 09.5 -0.3
LSZ ePP PP 21 16 30.0 -2.4
EPF Esparros 88.42 42 eP P 21 13 06.1 +0.8
comp=Z,26nm,0.9s,mb4.8
EPF Esparros 88.42 42 eP P 21 13 06.1 +0.8
EPF pmax pmax
comp=Z,13nm,0.9s,mb4.8
EPF Esparros 88.42 42 eP P 21 13 06.1 +0.8
comp=Z,13nm,0.9s,mb4.8
MELF Melles 88.60 42 eP P 21 13 07.5 +1.4
SALF Salau 88.81 43 eP P 21 13 08.7 +1.6
MLS Moulis 88.86 42 eP P 21 13 08.3 +1.0
QUIF Quistinic 89.04 37 eP P 21 13 07.8 -0.4
comp=Z,140nm,1.2s,mb5.3
QUIF Quistinic 89.04 37 eP P 21 13 07.8 -0.4
QUIF pmax pmax
comp=Z,70nm,1.2s,mb5.4
QUIF Quistinic 89.04 37 eP P 21 13 07.8 -0.4
comp=Z,70nm,1.2s,mb5.4
ROSF Rostrenen 89.22 36 eP P 21 13 08.1 -0.9
comp=Z,126nm,1.2s,mb5.3
ROSF Rostrenen 89.22 36 eP P 21 13 08.1 -0.9
ROSF pmax pmax
comp=Z,63nm,1.3s,mb5.3
ROSF Rostrenen 89.22 36 eP P 21 13 08.1 -0.9
comp=Z,63nm,1.3s,mb5.3
LFF La Frestale 89.68 41 eP P 21 13 11.4 +0.3
MTLF Montolieu 89.76 42 eP P 21 13 11.7 +0.2
comp=Z,49nm,1.1s,mb5.0
MTLF Montolieu 89.76 42 eP P 21 13 11.7 +0.2
MTLF pmax pmax
comp=Z,25nm,1.1s,mb5.0
MTLF Montolieu 89.76 42 eP P 21 13 11.7 +0.2
comp=Z,24nm,1.1s,mb5.0
MFF Saint Martin d 90.03 39 eP P 21 13 12.9 +0.1

comp=Z,60nm,0.8s,mb5.2
MFF Saint Martin d 90.03 39 *e*P **P 21 13 12.9 +0.1**
MFF pmax pmax
comp=Z,30nm,0.8s,mb5.2
MFF Saint Martin d 90.03 39 *e*P **P 21 13 12.9 +0.1**
comp=Z,30nm,0.8s,mb5.2
RJF Les Rejaudoux 90.34 41 *e*P **P 21 13 14.2 0.0**
CAF Calviac 90.47 41 *e*P **P 21 13 15.1 +0.3**
comp=Z,66nm,1.5s,mb5.0
CAF Calviac 90.47 41 *e*P **P 21 13 15.1 +0.3**
CAF pmax pmax
comp=Z,33nm,1.5s,mb4.9
CAF Calviac 90.47 41 *e*P **P 21 13 15.1 +0.3**
comp=Z,33nm,1.5s,mb4.9
GRR Gorron 90.59 37 *e*P **P 21 13 14.9 -0.5**
KEST Kesra 91.00 52 P **P 21 13 18.5 +1.2**
comp=Z,3.8nm,1.0s,mb4.2,baz=228,slow=4.6,SNR=14
FLN La Foliniere 91.00 37 *e*P **P 21 13 17.1 -0.2**
comp=Z,220nm,1.6s,mb5.4
FLN La Foliniere 91.00 37 *e*P **P 21 13 17.1 -0.2**
FLN pmax pmax
comp=Z,110nm,1.6s,mb5.4
FLN La Foliniere 91.00 37 *e*P **P 21 13 17.1 -0.2**
comp=Z,110nm,1.6s,mb5.4
LDF La Druitiere 91.11 37 *e*P **P 21 13 17.4 -0.4**
comp=Z,26nm,0.7s,mb4.8
LDF La Druitiere 91.11 37 *e*P **P 21 13 17.4 -0.4**
LDF pmax pmax
comp=Z,13nm,0.7s,mb4.9
LDF La Druitiere 91.11 37 *e*P **P 21 13 17.4 -0.4**
comp=Z,13nm,0.7s,mb4.9
LASF Ste Croix 91.16 42 *e*P **P 21 13 18.0 0.0**
TCF Toulx Ste Croi 91.26 40 *e*P **P 21 13 18.2 -0.3**
comp=Z,60nm,1.3s,mb5.0
TCF Toulx Ste Croi 91.26 40 *e*P **P 21 13 18.2 -0.3**
TCF pmax pmax
comp=Z,30nm,1.3s,mb5.0
TCF Toulx Ste Croi 91.26 40 *e*P **P 21 13 18.2 -0.3**
comp=Z,30nm,1.3s,mb5.0
BGF Bois d'Agland 91.78 40 *e*P **P 21 13 20.9 0.0**
comp=Z,67nm,1.2s,mb5.1
BGF Bois d'Agland 91.78 40 *e*P **P 21 13 20.9 0.0**
BGF pmax pmax
comp=Z,33nm,1.2s,mb5.1
BGF Bois d'Agland 91.78 40 *e*P **P 21 13 20.9 0.0**
comp=Z,33nm,1.2s,mb5.1
HYF Humbligny 92.01 39 *e*P **P 21 13 22.0 +0.1**
VIVF Saint-Julien-l 92.05 42 *e*P **P 21 13 22.8 +0.7**
comp=Z,50nm,1.3s,mb5.0
VIVF Saint-Julien-l 92.05 42 *e*P **P 21 13 22.8 +0.7**
VIVF pmax pmax
comp=Z,25nm,1.3s,mb5.0
VIVF Saint-Julien-l 92.05 42 *e*P **P 21 13 22.8 +0.7**
comp=Z,25nm,1.3s,mb5.0
CASY Casey 92.14 178 *e*P **P 21 13 21.6 -0.9**
CASY *i* pP pP 21 14 13.1 -17
AVF Avril sur Loir 92.19 40 *e*P **P 21 13 22.6 -0.2**
comp=Z,37nm,1.1s,mb4.9
AVF Avril sur Loir 92.19 40 *e*P **P 21 13 22.6 -0.2**
AVF pmax pmax
comp=Z,19nm,1.1s,mb4.9
AVF Avril sur Loir 92.19 40 *e*P **P 21 13 22.6 -0.2**
comp=Z,18nm,1.1s,mb4.9
SMRF Simiane la Rot 92.19 43 *e*P **P 21 13 22.7 -0.1**
comp=Z,111nm,1.4s,mb5.3
SMRF Simiane la Rot 92.19 43 *e*P **P 21 13 22.7 -0.1**
comp=Z,111nm,1.4s,mb5.6
SMF Signal de Mont 92.41 40 *e*P **P 21 13 23.8 0.0**
comp=Z,77nm,1.3s,mb5.2
SMF Signal de Mont 92.41 40 *e*P **P 21 13 23.8 0.0**
SMF pmax pmax
comp=Z,39nm,1.3s,mb5.2
SMF Signal de Mont 92.41 40 *e*P **P 21 13 23.8 0.0**
comp=Z,39nm,1.3s,mb5.2
SSF Saint Saulge 92.42 40 *e*P **P 21 13 23.4 -0.4**
comp=Z,32nm,1.1s,mb4.8
SSF Saint Saulge 92.42 40 *e*P **P 21 13 23.4 -0.4**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SSF Saint Saulge 92.42 40 *e*P **P 21 13 23.4 -0.4**
comp=Z,16nm,1.1s,mb4.9
LMR La Mourre 92.49 44 *e*P **P 21 13 24.7 +0.6**
comp=Z,75nm,1.4s,mb5.1
LMR La Mourre 92.49 44 *e*P **P 21 13 24.7 +0.6**
LMR pmax pmax
comp=Z,37nm,1.4s,mb5.1
LMR La Mourre 92.49 44 *e*P **P 21 13 24.7 +0.6**
comp=Z,37nm,1.4s,mb5.1
YKA Yellowknife Ar 92.55 339 P **P 21 13 23.6 -0.8**
comp=Z,15nm,0.6s,mb5.1,baz=127,slow=4.5,SNR=66
YKA pP pP 21 14 27.9 -4.3
comp=Z,7.1nm,0.8s,baz=127,slow=4.4,SNR=2.7
YKA Yellowknife Ar 92.55 339 P **P 21 13 23.6 -0.8**
YKA pP pP 21 14 27.9 -4.3
YKW3 Yellowknife Ar 92.60 339 *e*P **P 21 13 23.9 -0.7**
FRF La Foret Royal 92.68 44 *e*P **P 21 13 25.5 +0.5**
LOR Lormes 92.73 40 *e*P **P 21 13 24.9 -0.4**
comp=Z,42nm,1.2s,mb4.9
LOR *e*pP pP 21 14 35.9 +2.9
LOR Lormes 92.73 40 *e*P **P 21 13 24.9 -0.4**
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.9
LOR Lormes 92.73 40 *e*P **P 21 13 24.9 -0.4**
comp=Z,21nm,1.2s,mb4.9
LOR *e*pP pP 21 14 35.9 +2.9
ORIF Oris-en-Rattie 92.83 42 *e*P **P 21 13 26.8 +1.1**
comp=Z,27nm,0.7s,mb5.0
ORIF Oris-en-Rattie 92.83 42 *e*P **P 21 13 26.8 +1.1**
ORIF pmax pmax
comp=Z,13nm,0.7s,mb5.0
ORIF Oris-en-Rattie 92.83 42 *e*P **P 21 13 26.8 +1.1**
comp=Z,13nm,0.7s,mb5.0
EKA Eskdalemuir Ar 93.26 30 P **P 21 13 26.4 -1.3**
comp=Z,2.5nm,0.8s,mb4.2,baz=191,slow=8.2,SNR=5.9
MBDF Montbardon 93.30 43 *e*P **P 21 13 28.8 +0.9**
comp=Z,35nm,1.1s,mb4.9
MBDF Montbardon 93.30 43 *e*P **P 21 13 28.8 +0.9**
MBDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
MBDF Montbardon 93.30 43 *e*P **P 21 13 28.8 +0.9**
comp=Z,18nm,1.1s,mb4.9
SBF Sospel 93.33 44 *e*P **P 21 13 27.6 -0.4**
comp=Z,129nm,1.3s,mb5.4
SBF Sospel 93.33 44 *e*P **P 21 13 27.6 -0.4**
SBF pmax pmax
comp=Z,65nm,1.3s,mb5.4
SBF Sospel 93.33 44 *e*P **P 21 13 27.6 -0.4**
comp=Z,65nm,1.3s,mb5.4
BNI Bardonecchia 93.39 43 *e*P **P 21 13 31.0 +2.7**
LPL La Plagne 93.64 42 *e*P **P 21 13 30.6 +1.1**
comp=Z,48nm,1.2s,mb5.1
LPL La Plagne 93.64 42 *e*P **P 21 13 30.6 +1.1**
LPL pmax pmax
comp=Z,24nm,1.2s,mb5.1
LPL La Plagne 93.64 42 *e*P **P 21 13 30.6 +1.1**
comp=Z,24nm,1.2s,mb5.1
LPG La Plagne 93.65 42 *e*P **P 21 13 30.8 +1.3**
comp=Z,26nm,0.7s,mb5.1
LPG La Plagne 93.65 42 *e*P **P 21 13 30.8 +1.3**
LPG pmax pmax
comp=Z,13nm,0.7s,mb5.1
LPG La Plagne 93.65 42 *e*P **P 21 13 30.8 +1.3**
comp=Z,13nm,0.7s,mb5.1
CABF La Chapelle 93.75 41 *e*P **P 21 13 30.2 +0.2**
comp=Z,31nm,1.0s,mb5.0
CABF La Chapelle 93.75 41 *e*P **P 21 13 30.2 +0.2**
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
CABF La Chapelle 93.75 41 *e*P **P 21 13 30.2 +0.2**
comp=Z,16nm,1.0s,mb5.0
PGF Pioggiola 93.76 46 *e*P **P 21 13 29.8 -0.2**
comp=Z,64nm,1.3s,mb5.2
PGF Pioggiola 93.76 46 *e*P **P 21 13 29.8 -0.2**
PGF pmax pmax
comp=Z,32nm,1.3s,mb5.2
PGF Pioggiola 93.76 46 *e*P **P 21 13 29.8 -0.2**
comp=Z,32nm,1.3s,mb5.2
MEZF Maizieres J'vi 94.03 39 *e*P **P 21 13 31.1 -0.1**
comp=Z,16nm,0.7s,mb4.8
MEZF Maizieres J'vi 94.03 39 *e*P **P 21 13 31.1 -0.1**
comp=Z,16nm,0.7s,mb5.2
BAIF Baives 94.30 37 *e*P **P 21 13 32.1 -0.3**
comp=Z,95nm,1.8s,mb5.2
BAIF Baives 94.30 37 *e*P **P 21 13 32.1 -0.3**
BAIF pmax pmax
comp=Z,48nm,1.8s,mb5.2
BAIF Baives 94.30 37 *e*P **P 21 13 32.1 -0.3**
comp=Z,48nm,1.8s,mb5.2
DOU Dourbes 94.53 37 P **P 21 13 33.6 0.0**
HAU Haudompre 94.56 40 *e*P **P 21 13 33.2 -0.5**
GIVF Givet 94.67 37 *e*P **P 21 13 34.0 -0.1**
comp=Z,122nm,1.5s,mb5.5
GIVF Givet 94.67 37 *e*P **P 21 13 34.0 -0.1**
GIVF pmax pmax
comp=Z,61nm,1.5s,mb5.5
GIVF Givet 94.67 37 *e*P **P 21 13 34.0 -0.1**
comp=Z,61nm,1.5s,mb5.5
HINF Hinteralfeld 94.78 40 *e*P **P 21 13 34.1 -0.5**
WLF Walferdange 95.22 38 *e*P **P 21 13 36.2 -0.4**
comp=Z,37nm,1.1s,mb5.4
WLF Walferdange 95.22 38 P **P 21 13 37.1 +0.4**
WLF Walferdange 95.22 38 *e*P **P 21 13 37.0 +0.4**
CDF Champ du Feu 95.30 40 *e*P **P 21 13 36.8 -0.2**
comp=Z,24nm,1.1s,mb4.9
CDF Champ du Feu 95.30 40 *e*P **P 21 13 36.8 -0.2**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.9
CDF Champ du Feu 95.30 40 *e*P **P 21 13 36.8 -0.2**
comp=Z,12nm,1.1s,mb4.9
MEM Membach 95.57 37 P **P 21 13 38.7 +0.4**
BFO Black Forest 95.89 40 *e*P **P 21 13 39.3 -0.4**
comp=Z,7.0nm,1.0s,mb4.8
BFO Black Forest 95.89 40 *e*P **P 21 13 39.3 -0.4**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
DLBC Dease Lake 95.95 331 *e*P **P 21 13 40.2 +0.2**
DAVOX Davos/Dischmat 96.17 42 P **P 21 13 40.9 -0.1**
comp=Z,22nm,0.9s,mb5.3,baz=225,slow=3.3,SNR=16
DAVA Damuels 96.38 42⇑ *i*P **P 21 13 42.4 +0.5**
comp=Z,24nm,0.9s,mb5.3
BUG Bochum--Univer 96.66 37 *e*P **P 21 13 43.5 +0.3**
comp=Z,15nm,0.7s,mb5.3
TNS Taunus Mts 96.79 38 *e*P **P 21 13 43.6 -0.2**
comp=Z,18nm,1.2s,mb5.2
TNS Taunus Mts 96.79 38 *e*P **P 21 13 43.6 -0.2**
TNS pmax pmax
comp=Z,18nm,1.2s,mb5.2
MOTA Moosalm 97.16 42⇑ *i*P **P 21 13 45.6 +0.2**
comp=Z,19nm,1.0s,mb5.3
MOTA Moosalm 97.16 42⇑ *i*PcP PcP 21 13 45.6 +0.2
comp=Z,19nm,1.0s
MOTA Moosalm 97.16 42⇑ *i*P **P 21 13 45.6 +0.2**
MOTA pmax pmax
comp=Z,19nm,1.0s,mb5.3
SQTA Sankt Quirin 97.17 42⇓ *i*P **P 21 13 45.9 +0.4**
comp=Z,20nm,0.9s,mb5.3
SQTA Sankt Quirin 97.17 42⇓ *i*PcP PcP 21 13 45.9 +0.4
comp=Z,20nm,0.9s
SQTA Sankt Quirin 97.17 42⇓ *i*P **P 21 13 45.9 +0.4**
SQTA pmax pmax
comp=Z,20nm,0.9s,mb5.3
IBBN Ibbenburen 97.32 36 *e*P **P 21 13 46.6 +0.5**
comp=Z,20nm,0.8s,mb5.4
WTTA Wattenberg 97.46 42⇑ *i*P **P 21 13 47.2 +0.4**
comp=Z,33nm,1.0s,mb5.5
WTTA Wattenberg 97.46 42⇑ *i*P **P 21 13 47.2 +0.4**
WTTA pmax pmax
comp=Z,33nm,1.0s,mb5.5
GRA1 Grafenberg Arr 98.19 40 *e*P **P 21 13 50.3 +0.2**
comp=Z,18nm,1.1s,mb5.3
GRF Grafenberg Arr 98.19 40 *e*P **P 21 13 50.3 +0.2**
comp=Z,18nm,1.1s,mb5.3
GRF Grafenberg Arr 98.19 40 *e*P **P 21 13 50.3 +0.2**
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.3
GRF Grafenberg Arr 98.19 40 *e*P **P 21 13 50.3 +0.2**
GRF pmax pmax
comp=Z,18nm,1.1s,mb5.3
KBA Koelnbreinsper 98.45 43⇑ *i*P **P 21 13 51.1 -0.1**
comp=Z,7.3nm,1.0s,mb5.0
KBA Koelnbreinsper 98.45 43⇑ *i*P **P 21 13 51.1 -0.1**
KBA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
CLZ Clausthal 98.58 37 *e*P **P 21 13 51.5 -0.3**
comp=Z,8.0nm,1.1s,mb5.0
CLZ Clausthal 98.58 37 *e*P **P 21 13 51.5 -0.3**
CLZ pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
MANZ Manzenberg 98.84 40 *e*P Pdif 21 13 53.2 +0.3
comp=Z,8.0nm,1.1s
WET Wettzell 98.97 41 *e*P Pdif 21 13 53.9 +0.4
comp=Z,9.0nm,1.1s
WET Wettzell 98.97 41 *e*P Pdif 21 13 53.9 +0.4
WET pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
TANN Tannenbergstha 99.22 39 *e*P Pdif 21 13 55.4 +0.8
comp=Z,6.0nm,1.2s
MOA Molln 99.33 42⇑ *i*P Pdif 21 13 55.3 +0.2
comp=Z,14nm,1.1s
GEC2 GERESS Array S 99.36 41 *e*P Pdif 21 13 55.1 -0.1
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 99.36 41 *e*P Pdif 21 13 55.1 -0.1
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
GERES GERESS Array B 99.36 41 P Pdif 21 13 55.4 +0.2
comp=Z,2.3nm,0.9s,baz=214,slow=4.5,SNR=15
KHC Kasperske Hory 99.39 41 *e*P Pdif 21 13 55.7 +0.3
BSEG Bad Segeberg 99.41 36 *e*P Pdif 21 13 55.5 0.0
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 100.26 39 *e*(P) Pdif 21 13 59.4 +0.1
comp=Z,3.0nm,1.1s
BRG Berggiesshubel 100.26 39 P Pdif 21 13 59.4 +0.1
BRG pmax pmax
comp=Z,3.0nm,1.1s
PRU Pruhonice 100.29 40 *e*P Pdif 21 14 00.2 +0.8
TREC Trest 100.61 41 *e*P Pdif 21 13 58.3 -2.5
VRAC Vranov 101.30 41 P Pdif 21 14 03.8 0.0
comp=Z,3.2nm,0.8s,baz=258,slow=2.5,SNR=4.7
UPC Upice 101.36 40 *e*P Pdif 21 14 03.9 -0.2
DPC Dobruska-Polom 101.49 40 *e*P Pdif 21 14 06.1 +1.4
VYHS Vyhne 102.42 43 PDIF Pdif 21 14 08.5 -0.3
VYHS Vyhne 102.42 43 *e*P Pdif 21 14 08.5 -0.3
KECS Kecovo 103.46 43 PDIF Pdif 21 14 11.2 -2.3
KECS Kecovo 103.46 43 *e*P Pdif 21 14 11.2 -2.3
STHS Stebnicka Huta 104.21 42 PDIF Pdif 21 14 09.5 -7.3
STHS Stebnicka Huta 104.21 42 *e*P Pdif 21 14 09.6 -7.2
AKASG Malin Array Be 109.51 42 PP PP 21 19 07.0 -10
comp=Z,1.3nm,0.8s,baz=258,slow=7.4,SNR=6.8
BRTR Keskin Array B 110.44 54 PP PP 21 19 14.8 -9.0
comp=Z,1.8nm,1.1s,baz=266,slow=5.0,SNR=5.3
STKA Stephens Creek 120.64 207 PKP PKPdf 21 19 02.8 -0.4
comp=Z,2.8nm,0.8s,baz=146,slow=1.5,SNR=5.6
KLBR Kellerberrin 126.81 183 *e*P PKPdf 21 19 14.3 -0.8
AKTK Aktyubinsk 127.76 42 PKP PKPdf 21 19 18.6 +1.7
AKTK PP PP 21 21 17.8 -4.6
AKTO Aktyubinsk 127.76 42 PKP PKPdf 21 19 18.6 +1.7
comp=Z,2.4nm,0.7s,baz=1.9,slow=4.9,SNR=3.5
AKTO PP PP 21 21 17.8 -4.6
comp=Z,1.3nm,0.9s,baz=334,slow=4.0,SNR=4.0
AS31 Alice Springs 131.00 204 *e*P PKPdf 21 19 22.7 -0.3
AS31 *e*S 21 22 46.8
ASAR Alice Springs 131.00 204 PKP PKPdf 21 19 21.7 -1.3
comp=Z,6.6nm,0.7s,baz=136,slow=1.9,SNR=34
ASAR pPKP pPKPdf 21 20 31.9 -2.3
comp=Z,2.4nm,0.9s,baz=166,slow=2.2,SNR=2.9
ASAR SKPbc SKPbc 21 22 20.8 +0.3
comp=Z,17nm,0.8s,baz=147,slow=4.3,SNR=32
ASAR Alice Springs 131.00 204 PKIKP PKPdf 21 19 21.7 -1.3
ASAR 21 20 32.0
ASPA Alice Springs 131.00 204 *e*P PKPdf 21 19 22.7 -0.3
ASPA *e*S 21 22 46.8
WB2 Warramunga Arr 134.18 206 *e*P 21 19 15.7
WB2 *e* 21 19 27.4
WB2 *e*S 21 22 57.3
BVAR Borovoye Array 134.23 36 PKP PKPdf 21 19 29.3 +0.2
comp=Z,2.1nm,0.6s,baz=260,slow=1.4,SNR=10
BVAR pPKP pPKPdf 21 20 37.3 -3.1
comp=Z,1.6nm,1.0s,baz=162,slow=0.5,SNR=1.4
BVAR SKPbc SKPbc 21 22 33.8 +2.3
comp=Z,2.1nm,0.8s,baz=230,slow=5.8,SNR=2.6
BVAR Borovoye Array 134.23 36 PKIKP PKPdf 21 19 29.3 +0.2
BVAR 21 20 37.3
FITZ Fitzroy Crossi 138.86 196 *e*P PKPdf 21 19 30.1 -7.6
comp=Z,8.4nm,0.7s
KAKA Kakadu 141.43 209 *e*P PKPdf 21 19 35.4 -6.9
comp=Z,7.6nm,0.4s
MK31 Makanchi Array 143.97 38 *e*PKIKP PKPdf 21 19 45.8 -1.0
MKAR Makanchi Array 143.97 38 PKP PKPdf 21 19 46.1 -0.7
comp=Z,20nm,0.5s,baz=328,slow=2.8,SNR=127
MKAR PP PP 21 23 00.7 -3.0
comp=Z,8.2nm,1.0s,baz=302,slow=2.7,SNR=3.7
BOD Bodaibo 144.03 0⇑ *i*PKIKP PKPdf 21 19 44.1 -2.8
BOD pmax pmax
comp=Z,32nm,0.8s
HYB Hyderabad 145.93 91 *i*PKP PKPdf 21 19 50.0 -0.2
HYB *e* 21 21 00.0
HYB Hyderabad 145.93 91 *e*P PKPdf 21 19 52.0 +1.8
HYB *e* 21 21 00.0
YSS Yuzh-Sakhalins 146.07 324⇑ *e*PKP2 PKPab 21 19 50.7 -2.3
YSS pmax pmax
comp=Z,50nm,1.0s
ASAJ Asahikawa 147.84 320 PKP PKPdf 21 19 52.7 -0.6
comp=Z,21nm,0.7s,baz=270,slow=8.1,SNR=5.2
ASAJ PKPbc PKPbc 21 19 56.8 +0.1
comp=Z,46nm,0.8s,baz=258,slow=6.5,SNR=14
MOY Mondy 148.41 16 *e*PKP2 PKPab 21 19 59.2 -3.1
MOY pmax pmax
comp=Z,34nm,2.2s
WMQ Urumqi 148.80 39 *e*PKP PKPdf 21 19 55.3 +0.4
WMQ PKP2 PKPab 21 20 06.0 +2.1
WMQ APKP 21 21 00.0
WMQ PP PP 21 23 36.0 +4.1
WMQ PP PP
comp=Z,216nm,4.2s
WMQ LR LR
comp=N,507nm,20.0s
WMQ LR LR
comp=E,690nm,19.9s
WMQ LR LR
comp=Z,449nm,21.3s
KLR Kul'dur 149.39 338 *e*PKHKP 21 19 57.0
GUMO Guam 149.96 259 PKPbc PKPbc 21 20 01.5 -0.5
comp=Z,170nm,0.9s,baz=185,slow=7.7,SNR=6.2
KOLN Koldanda 151.40 72 *e*P PKPbc 21 20 05.5 +0.2
comp=Z,44nm,0.9s
GKN Gorkha 152.29 71 *e*P PKPbc 21 20 07.0 -0.3
comp=Z,70nm,0.7s
DMN Daman 152.74 72 *e*P PKPbc 21 20 09.5 +1.2
comp=Z,91nm,0.8s
KKN Kakani 152.88 71 *e*P PKPbc 21 20 09.4 +0.8
comp=Z,57nm,0.8s
PKI Pulchoki 153.01 72 *e*P PKPbc 21 20 10.7 +1.8
comp=Z,50nm,0.9s
SONM Songino Array 153.23 12 PKP PKPdf 21 20 02.7 +1.0
comp=Z,1.8nm,0.7s,baz=166,slow=1.7,SNR=3.8
SONM PKPbc PKPbc 21 20 09.5 +0.1
comp=Z,2.0nm,0.4s,baz=299,slow=1.1,SNR=7.9
SONM pPKP pPKPdf 21 21 12.3 -1.0
comp=Z,3.2nm,0.9s,baz=45,slow=0.6,SNR=1.8
SONM pPKPbc pPKPbc 21 21 19.2 -1.3
comp=Z,11nm,1.0s,baz=332,slow=1.5,SNR=5.4
GUN Gumba 153.39 71 *e*P PKPbc 21 20 10.7 +1.0
comp=Z,83nm,0.7s
LSA Lhasa 157.60 65 *e*PKP PKPab 21 20 43.1 +1.9
HHC Hu-ho-hao-te 160.86 7 *e*PKP PKPdf 21 20 07.9 -3.4
CD2 Chengdu 166.80 44 *e*PKP PKPdf 21 20 11.8 -4.9
KMI Kunming 168.74 71 P PKPdf 21 20 14.4 -3.6
KMI pP 21 21 31.3

NEIC ***23*** *21:01:49.5, 3087S×7174W, h27km, After GUC.*
NEIC Felt [II] at Illapel.
GUC 23 21:01:49.5±0.8, 3087S×7174W, h27km±3km, ML5.1, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.53**	**60⇓**	*i*P	Pb	21 02 00.6	+0.3
OVCH				*i*S	Sb	21 02 07.8	+0.2
CMCH	**Combarbala**	**0.70**	**116⇑**	*i*P	Pb	21 02 02.9	-0.2
CMCH				*i*S	Sb	21 02 12.3	0.0
CMCH				AML	AML	21 02 13.7	
comp=N,150μm,0.6s							
CMCH	**Combarbala**	**0.70**	**116⇑**	*i*P	Pb	21 02 02.9	-0.2
CMCH				*i*S	Sb	21 02 12.3	0.0
CHNG	**Los Chungos**	**1.03**	**169⇓**	*i*P	Pn	21 02 07.7	-0.4
CHNG				*i*S	Sn	21 02 21.4	-0.2
LSCH	**La Serena**	**1.05**	**24⇓**	*i*P	Pn	21 02 38.7	+30
LSCH				*i*S	Sn	21 02 52.3	+30
PTCH	**Petorca**	**1.55**	**154**	*e*P	Pn	21 02 15.7	+0.4
PTCH				*i*S	Sn	21 02 35.7	+1.3
PTCH				AML	AML	21 02 39.8	
comp=N,34μm,0.4s							
PTCH	**Petorca**	**1.55**	**154**	*e*P	Pn	21 02 15.7	+0.4
PTCH				*i*S	Sn	21 02 35.7	+1.3
PACH	**Papudo**	**1.68**	**171**	*e*P	Pn	21 02 17.1	+0.1
PACH				*i*S	Sn	21 02 39.5	+1.8
JACH	**Jahuel**	**2.05**	**152**	*i*P	Pn	21 02 23.7	+1.5
JACH				*i*S	Sn	21 02 49.5	+2.7
PEL	**Peldehue**	**2.43**	**159**	*i*P	Pn	21 02 28.8	+1.3
PEL				*i*S	Sn	21 02 59.2	+2.9
PEL				AML	AML	21 03 04.5	
comp=E,21μm,0.8s							
PEL	**Peldehue**	**2.43**	**159**	*i*P	Pn	21 02 28.8	+1.3
PEL				*i*S	Sn	21 02 59.2	+2.9
CLCH	**Cerro Calan**	**2.71**	**158**	*e*P	Pn	21 02 32.4	+1.1
CLCH				AML	AML	21 03 17.9	
comp=E,14μm,0.8s							
CLCH				AML	AML	21 03 18.5	
comp=E,17μm,0.7s							
RCDM	**Rinconada Maip**	**2.73**	**163⇑**	*i*P	Pn	21 02 32.6	+1.2
RCDM				*e*S	Sn	21 03 05.7	+2.2
RCDM				AML	AML	21 03 17.9	
comp=E,5μm,0.8s							
RCDM	**Rinconada Maip**	**2.73**	**163⇑**	*i*P	Pn	21 02 32.6	+1.2
RCDM				*e*S	Sn	21 03 05.7	+2.2
FCH	**Farellones**	**2.74**	**154**	*e*P	Pn	21 02 34.4	+2.8
FCH				*i*S	Sn	21 03 08.3	+4.5
FCH				AML	AML	21 03 18.2	
comp=E,5μm,0.6s							
FSR	**Penalolen**	**2.79**	**159**	*e*P	Pn	21 02 34.2	+1.9
FSR				AML	AML	21 03 18.6	
comp=N,8μm,0.8s							
ANTU	**Antumapu**	**2.85**	**161**	*e*P	Pn	21 02 34.6	+1.5
ANTU				*i*S	Sn	21 03 08.7	+2.2
ANTU				AML	AML	21 03 22.2	
comp=N,6μm,0.6s							
ANTU	**Antumapu**	**2.85**	**161**	*e*P	Pn	21 02 34.6	+1.5
ANTU				*i*S	Sn	21 03 08.7	+2.2
TACH	**Talagante**	**2.85**	**166⇓**	*i*P	Pn	21 02 34.3	+1.1
PCH	**Pirque**	**2.93**	**160⇑**	*i*P	Pn	21 02 35.6	+1.3
PCH				*i*S	Sn	21 03 11.1	+2.6
CHCH	**Chadas Angostu**	**3.19**	**164⇑**	*i*P	Pn	21 02 39.2	+1.4
CACH	**El Canelo**	**3.37**	**164⇑**	*i*P	Pn	21 02 42.1	+1.7
CICH	**Cipreses**	**3.61**	**162⇑**	*i*P	Pn	21 02 45.3	+1.7

NIED ***23*** *21:17:00, 2920N×14040E, h5km, Mw6.4 Best double couple: M0 3.83000×10^18 NP1:φs318.00000°, δ56.00000°, λ-99.00000°. NP2:φs153.00000°, δ35.00000°, λ-77.00000°.*
BJI ***23*** *21:17:16.5, 29.16N×14126E, h41km, mB6.5, mb5.7, Ms6.5, Msz6.3*
JMA ***23*** *21:17:16.9±0.6, 29.17N×14035E, h3km±5km, M6.8*
JMA Felt II J1.
IDC ***23*** *21:17:17.9±0.4, 2933N×14023E, h0km, mb5.6/28, mb1 5.7/30, mb1mx5.7/31, mbtmp5.6/30, ML5.0/2, MS6.1/36, Ms1 6.1/36, ms1mx6.0/39, Error ellipse: s-maj=16.2km s-min=12.0km az=70.0*
BGS ***23*** *21:17:18.8, 2950N×14153E, h11km, mb6.2, MS6.2*
NEIC ***23*** *21:17:20.0±0.1, 2935N×14027E, h11km, mb6.1/136, ME6.3, MS6.2/171, MW6.4, MW6.3(NIED), Error ellipse: s-maj=4.3km s-min=3.7km az=172.0, Moment Tensor Solution. s79 Moment tensor: Scale 10^18Nm; Mrr=4.19; Mθθ0.85; Mφφ3.34; Mrθ-0.75; Mθφ-2.11; Mφr1.94; Best double couple: M0 4.80000×10^18 NP1:φs154.00000°, δ58.00000°, λ-86.00000°. NP2:φs326.00000°, δ33.00000°, λ-97.00000°. Principal axes: T 5.0100, Plg13.0000°, Azm241.0000°; N -0.3300, Plg4.0000°, Azm332.0000°; P -4.6700, Plg77.0000°, Azm78.0000°; Broadband fault plane solution: P waves. NP1:φs267.00000°, δ46.00000°, λ-144.00000°. NP2:φs150.00000°, δ65.00000°, λ-50.00000°. Principal axes: T Plg11.0000°, Azm212.0000°; N Plg0.0000°, Azm0.0000°; P Plg52.0000°, Azm108.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Recorded [2 JMA] in Chichijima-retto and [1 JMA] on Aoga-shima. Also recorded [1 JMA] in Chiba and Miyagi Prefectures, Honshu.
GCMT ***23*** *21:17:20.0±0.1, 2934N×14038E, h12km, MW6.4/106, Moment Tensor Solution. s105, c241; s106, c447;*

Duration: 3s7 Moment tensor: Scale 10^{18}Nm; M_{rr}=3.89±.02; $M_{\theta\theta}$1.22±.02; $M_{\phi\phi}$2.67±.02; $M_{r\theta}$0.51±.06; $M_{r\phi}$-1.96±.02; $M_{\theta\phi}$1.94±.06; Best double couple: $M_0$4.43300×10^{18} NP1:ϕ_s308.00000°, δ39.00000°, λ-120.00000°. NP2:ϕ_s164.00000°, δ57.00000°, λ-68.00000°. Principal axes: T 4.2560, Plg10.0000°, Azm239.0000°; N 0.3530, Plg18.0000°, Azm332.0000°; P -4.6100, Plg69.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISCJB **23** *21:17:21.9±0.1,29.41N±002×140.35E±002, h30km, mb6.0/264, MS6.2/237 Error ellipse: s-maj=2.6km s-min=1.9km az=153.1*

MOS **23** *21:17:21.1±1.5,29.38N×140.66E, h33km, mb6.3/99, MS6.3/74, Error ellipse: s-maj=15.1km s-min=6.4km az=103.3*

CRAAG **23** *21:17:23.7,29.14N×140.36E, Mw6.4*

SZGRF **23** *21:17:26.8,30.34N×140.83E, h33km, mb6.0, MS6.3, Southeast of Honshu, Japan*

ISC 23 21:17:23.8±0.1,2947N±002×14034E±002,h31km, h31km±2.0km:pP-P,n1461,σ1908/1378,mb6.0/264, MS6.2/237,277C-313D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**145**	Pn			**Pn**	**21 18 01.4**	**-6.0**
	4μm,0.3s,baz=346,slow=5.0,SNR=434								
CBIJ				Sn			**Sn**	**21 18 34.6**	**-6.2**
	12μm,0.3s,baz=258,slow=23,SNR=15								
CBIJ	**Chichi jima**	**2.87**	**145**	⇓P			**Pn**	**21 18 01.2**	**-6.2**
CBIJ					*e*	S	**Sn**	**21 18 34.4**	**-6.4**
JHHJ	**Haha-jima-NKT**	**3.26**	**150**	⇓P			**Pn**	**21 18 06.9**	**-5.9**
JHHJ				S			**Sn**	**21 18 42.9**	**-7.6**
JHJ2	**Mitsune**	**3.66**	**353**	P			**Pn**	**21 18 20.8**	**+2.5**
JHJ	**Hachijo jima 2**	**3.67**	**353**	Pn			**Pn**	**21 18 22.2**	**+3.8**
	281nm,0.3s,baz=211,slow=18,SNR=64								
JHJ				Sn			**Sn**	**21 19 02.3**	**+1.7**
	1μm,0.3s,baz=50,slow=22,SNR=7.7								
JHJ				LR			LR	21 19 47.7	
	comp=Z,325μm,19.1s,baz=161,slow=40								
JKO	**Kozu shima**	**4.81**	**348**	⇓P			**Pn**	**21 18 39.4**	**+5.3**
JKO				S			**Sn**	**21 19 40.3**	**+11**
NJJJ	**Nii jima 2**	**5.00**	**350**	P			**Pn**	**21 18 41.3**	**+4.6**
NJJJ				S			**Sn**	**21 19 41.2**	**+7.8**
BSO1	**Boso 1**	**5.20**	**6**	P			**Pn**	**21 18 38.5**	**-0.9**
BSO3	**Boso 3**	**5.32**	**1**	P			**Pn**	**21 18 41.1**	**0.0**
JSG	**Sagara**	**5.50**	**341**	P			**Pn**	**21 18 51.5**	**+7.9**
BSO4	**Boso 4**	**5.50**	**360**	P			**Pn**	**21 18 44.6**	**+1.0**
BSO4				S			**Sn**	**21 19 46.6**	**+0.8**
JWZ	**Kozaga**	**5.66**	**317**	P			**Pn**	**21 18 45.8**	**+0.1**
JIE	**Ise**	**5.80**	**329**	P			**Pn**	**21 18 49.3**	**+1.6**
HMMJ	**Hamamatsu 2**	**5.81**	**338**	P			**Pn**	**21 18 53.9**	**+6.1**
JOD2	**Odawara 2**	**5.87**	**350**	P			**Pn**	**21 18 51.6**	**+2.9**
JOD2				S			**Sn**	**21 19 59.7**	**+4.8**
JYN	**Shimob**	**6.20**	**346**	P			**Pn**	**21 18 58.2**	**+5.0**
JNY	**Yasuok**	**6.24**	**341**	P			**Pn**	**21 18 59.0**	**+5.3**
JGF	**Kuroka**	**6.61**	**338**	P			**Pn**	**21 19 05.3**	**+6.5**
JRY	**Ryogami san**	**6.64**	**350**	P			**Pn**	**21 19 03.2**	**+4.0**
JRY				S			**Sn**	**21 20 19.1**	**+5.3**
JNT	**Takato**	**6.65**	**344**	P			**Pn**	**21 19 05.5**	**+6.1**
JGM	**Miyama**	**6.92**	**335**	P			**Pn**	**21 19 10.6**	**+7.5**
JNG	**Nsakai**	**7.17**	**345**	P			**Pn**	**21 19 11.6**	**+5.1**
JGN	**Niukaw**	**7.20**	**340**	P			**Pn**	**21 19 13.0**	**+6.1**
MJAR	**Matsushiro Arr**	**7.28**	**346**	Pn			**Pn**	**21 19 11.5**	**+3.5**
	20nm,0.3s,baz=148,slow=5.4,SNR=120								
MAJO	**Matsushiro**	**7.28**	**346**	*e*P			**Pn**	**21 19 11.5**	**+3.5**
MAT	**Matsushiro**	**7.28**	**346**	P			**Pn**	**21 19 11.0**	**+3.0**
MAT				S			**Sn**	**21 20 38.0**	**+8.5**
MAT	**Matsushiro**	**7.28**	**346**	P			**Pn**	**21 19 13.6**	**+5.6**
JTO	**Tosashimizu**	**7.29**	**300**	P			**Pn**	**21 19 10.1**	**+1.9**
JKG	**Kaga**	**7.58**	**335**	P			**Pn**	**21 19 20.6**	**+8.5**
JJH	**Hakui**	**8.01**	**339**	P			**Pn**	**21 19 22.1**	**+4.1**
JHS	**Saijyo**	**8.24**	**314**	P			**Pn**	**21 19 30.8**	**+10**
JMZ	**Minamidaito 2**	**8.87**	**248**	P			**Pn**	**21 19 28.0**	**-1.8**
JSJ	**Shimokoshiki**	**9.42**	**286**	P			**Pn**	**21 19 40.1**	**+2.7**
JAM	**Amami Oshima**	**9.47**	**266**	P			**Pn**	**21 19 40.1**	**+2.1**
JMK	**Ichinoseki**	**9.49**	**4**	P			**Pn**	**21 19 37.7**	**-0.6**
JMK					*e*	S	**Sn**	**21 21 21.4**	**-2.4**
JOW	**Kunigami**	**10.97**	**259**	Pn			**Pn**	**21 19 57.2**	**-1.4**
	18nm,0.3s,baz=101,slow=17,SNR=31								
JOW				LR			LR	21 23 42.5	
	comp=Z,275μm,21.3s,baz=145,slow=36								
JOW	**Kunigami**	**10.97**	**259**	P			**Pn**	**21 19 58.9**	**+0.3**
JOT	**Ohata**	**11.90**	**3**	P			**Pn**	**21 20 12.7**	**+1.4**
ERM	**Erimo**	**12.72**	**10**	Pn			**Pn**	**21 20 21.1**	**-1.5**
	3μm,1.2s,SNR=12								
ERM	**Erimo**	**12.72**	**10**	*d*	*i*	P	**Pn**	**21 20 20.7**	**-1.9**
ERM	**Erimo**	**12.72**	**10**	*e*	P		**Pn**	**21 20 19.6**	**-3.0**
	626nm,0.8s								
KS15	**Wonju Array Si**	**13.08**	**311**	*e*Pn			**Pn**	**21 20 35.5**	**+8.0**
INCN	**Inchon**	**13.95**	**309**	Pn			**Pn**	**21 20 38.3**	**-0.9**
INCN				*e*P				21 20 49.6	
ASAJ	**Asahikawa**	**14.73**	**6**	Pn			**Pn**	**21 20 49.2**	**-0.7**
	9.6nm,0.3s,baz=211,slow=12,SNR=23								
ASAJ				Sn			**Sn**	**21 23 30.2**	**-1.8**
	11nm,0.3s,baz=108,slow=19,SNR=4.1								
ASAJ	**Asahikawa**	**14.73**	**6**	P			**Pn**	**21 20 49.2**	**-0.7**
ASAJ								21 23 30.2	
ASAJ				pmax			pmax		
	comp=Z,10.0nm,0.3s								
ASAJ				smax					
	comp=N,11nm,0.3s								
VLA	**Vladivostok**	**15.22**	**336**	*d*	*i*	P	**Pn**	**21 20 57.0**	**+0.6**
VLA				pmax			pmax		
	comp=Z,340nm,2.5s								
VLA				MLR			MLR		
	comp=Z,30μm,16.0s								
VLA	**Vladivostok**	**15.22**	**336**	*i*	P		**Pn**	**21 20 57.1**	**+0.7**
GUMO	**Guam**	**16.35**	**164**	Pn			**Pn**	**21 21 08.8**	**-2.2**
	comp=Z,6.4nm,0.3s,baz=333,slow=18,SNR=4.0								
GUMO				LR			LR	21 26 27.2	
	comp=Z,46μm,18.9s,baz=347,slow=34								
GUMO	**Guam**	**16.35**	**164**	P			**Pn**	**21 21 08.8**	**-2.2**
GUMO				pmax			pmax		
	comp=Z,6.0nm,0.3s								
GUMO				MLR			MLR		
	comp=Z,46μm,18.9s								
GUMO	**Guam**	**16.35**	**164**	*e*Pn			**Pn**	**21 21 09.9**	**-1.1**
SSE	**Sheshan**	**16.63**	**280**	P			**Pn**	**21 21 17.8**	**+3.2**
SSE				AP			pP	21 21 30.1	+5.2
SSE				XP			sP	21 21 35.4	+6.5
SSE				S			**Sn**	**21 24 20.1**	**+1.9**
SSE				AMB			AMB		
	comp=Z,68nm,1.1s								
SSE				AMB			AMB		
	comp=Z,20μm,10.8s								
SSE				LR			LR		
	comp=N,61μm,16.1s								
SSE				LR			LR		
	comp=E,40μm,16.2s								
SSE				LR			LR		
	comp=Z,64μm,17.8s								
SSE	**Sheshan**	**16.63**	**280**	P			**Pn**	**21 21 17.8**	**+3.2**
	comp=Z,68nm,1.1s								
SSE				pP			pP	21 21 30.1	+5.2
SSE				sP			sP	21 21 35.4	+6.5
SSE				S			**Sn**	**21 24 20.1**	**+1.9**
SSE				sS			sS	21 24 43.8	+1.9
KUR	**Kuril'sk**	**16.82**	**19**	*e*P			**Pn**	**21 21 11.8**	**-5.1**
KUR					*e*	S	**Sn**	**21 24 11.0**	**-12**
KUR				pmax			pmax		
	comp=N,3μm,1.1s								
KUR				pmax			pmax		
	comp=E,2μm,1.1s								
KUR				pmax			pmax		
	comp=Z,5μm,1.1s								
KUR				smax					
	comp=N,10μm,2.0s								
KUR				smax					
	comp=E,10μm,2.0s								
KUR				smax					
	comp=N,350nm,0.7s								
KUR				smax					
	comp=E,690nm,0.7s								
KUR				MLR			MLR		
	comp=N,79μm,16.0s								
KUR				MLR			MLR		
	comp=E,124μm,16.0s								
TATO	**Taipei**	**17.36**	**260**	*e*P			**Pn**	**21 21 22.9**	**-0.8**
	comp=E,4μm,2.0s								
MDJ	**Mudanjiang**	**17.36**	**333**	P			**Pn**	**21 21 24.8**	**+1.1**
MDJ				AP			pP	21 21 29.3	-3.7
MDJ				PP				21 21 39.3	
MDJ				S			**Sn**	**21 24 42.3**	**+6.4**
MDJ				XS			sS	21 24 53.8	-2.9
MDJ				SS				21 25 01.3	
MDJ				AMB			AMB		
	comp=Z,112nm,1.1s								
MDJ				AMB			AMB		
	comp=Z,11μm,7.3s								
MDJ				LR			LR		
	comp=N,73μm,13.7s								
MDJ				LR			LR		
	comp=E,61μm,12.6s								
MDJ				LR			LR		
	comp=Z,74μm,14.9s								
MDJ	**Mudanjiang**	**17.36**	**333**	*e*P			**Pn**	**21 21 26.0**	**+2.3**
	comp=Z,288nm,0.8s								
NACB	**Ninganchiao**	**17.54**	**257**	*e*P			**Pn**	**21 21 26.1**	**+0.1**
YHNB	**Yeheng**	**17.55**	**259**	*e*P			**Pn**	**21 21 27.6**	**+1.6**
YSS	**Yuzh-Sakhalins**	**17.56**	**5**	*d*	*i*	P	**Pn**	**21 21 26.6**	**+0.5**
YSS				pmax			pmax		
	comp=Z,3μm,0.2s								
YSS	**Yuzh-Sakhalins**	**17.56**	**5**	*e*Pn			**Pn**	**21 21 26.2**	**+0.1**
	comp=Z,844nm,0.9s								
DL2	**Dalian**	**18.09**	**306**	*i*	P		**Pn**	**21 21 35.1**	**+2.4**
DL2				S			**Sn**	**21 25 00.3**	**+6.7**
DL2				AMB			AMB		
	comp=Z,430nm,1.1s								
DL2				AMB			AMB		
	comp=Z,20μm,7.7s								
DL2				LR			LR		
	comp=N,36μm,12.8s								
DL2				LR			LR		
	comp=E,36μm,15.5s								
DL2				LR			LR		
	comp=Z,39μm,13.7s								
SNY	**Shenyang**	**18.34**	**317**	⇑P			**Pn**	**21 21 40.6**	**+4.9**
SNY				AP			pP	21 21 44.3	+0.5
SNY				XS			sS	21 25 16.8	+0.2
SNY				AMB			AMB		
	comp=Z,135nm,1.7s								
SNY				AMB			AMB		
	comp=Z,21μm,10.0s								
SNY				LR			LR		
	comp=N,60μm,12.0s								
SNY				LR			LR		
	comp=Z,61μm,15.1s								
CN2	**Changchun**	**18.60**	**324**	⇓*i*	P		**Pn**	**21 21 43.9**	**+5.0**
CN2					*e*	S	**Sn**	**21 25 05.8**	**0.0**
CN2				LR			LR		
	comp=N,104μm,14.0s								
CN2				LR			LR		
	comp=E,64μm,14.0s								
CN2				LR			LR		
	comp=Z,83μm,14.0s								
NJ2	**Nanjing**	**18.65**	**283**	*e*P			**Pn**	**21 21 42.3**	**+2.8**
NJ2				AP			pP	21 21 51.0	+3.8
NJ2				XP			sP	21 21 54.1	+2.9
NJ2				PP				21 21 57.9	
NJ2				AMB			AMB		
	comp=Z,2μm,1.1s								
NJ2				AMB			AMB		
	comp=Z,71μm,7.0s								
NJ2				LR			LR		
	comp=N,104μm,13.6s								
NJ2				LR			LR		
	comp=E,80μm,19.3s								
NJ2				LR			LR		
	comp=Z,132μm,15.2s								
QZH	**Quanzhou**	**19.86**	**262**	⇑*i*	P		**Pn**	**21 21 55.0**	**+1.0**
QZH				AMB			AMB		
	comp=Z,430nm,1.1s								
QZH				AMB			AMB		
	comp=Z,64μm,9.6s								
QZH				LR			LR		
	comp=N,72μm,15.2s								
QZH				LR			LR		
	comp=E,128μm,16.0s								
QZH				LR			LR		
	comp=Z,211μm,20.4s								
PALP	**Palanan**	**20.55**	**237**	⇑*e*P			**P**	**21 22 02.4**	**+2.7**
PALP	**Palanan**	**20.55**	**237**	*e*P			**P**	**21 22 02.1**	**+2.4**
CVP	**Callao Caves**	**20.59**	**239**	⇓*e*P			**P**	**21 22 03.0**	**+2.8**
TIA	**Tai'an**	**20.61**	**295**	P			**P**	**21 22 03.1**	**+2.7**
TIA				AMB			AMB		
	comp=Z,1μm,1.5s								
TIA				AMB			AMB		
	comp=Z,4μm,7.0s								
TIA				LR			LR		
	comp=N,35μm,13.1s,MS6.0								
TIA				LR			LR		
	comp=E,21μm,13.1s,MS6.0								
KLR	**Kul'dur**	**20.80**	**344**	*e*P			**P**	**21 21 58.0**	**-4.4**
KLR				*e*S			**S**	**21 25 51.5**	**-1.3**
KLR				pmax			pmax		
	comp=N,7μm,12.0s								
KLR				pmax			pmax		
	comp=E,4μm,12.0s								
KLR				pmax			pmax		
	comp=Z,15μm,12.0s								
CAUP	**Cauayan**	**21.06**	**238**	*e*P			**P**	**21 22 09.9**	**+4.6**
ABRA	**Dolores**	**21.46**	**241**	*e*P			**P**	**21 22 10.3**	**+0.7**
PVCP	**Virac**	**21.78**	**227**	*e*P			**P**	**21 22 14.4**	**+1.4**
BALP	**Baler**	**22.02**	**236**	*e*P			**P**	**21 22 16.2**	**+0.6**
BCPH	**Baguio City Da**	**22.34**	**239**	⇑*i*P			**P**	**21 22 20.6**	**+1.6**
BJT	**Baijiatuau**	**22.42**	**304**	*e*P			**P**	**21 22 19.7**	**-0.1**
BJT				pmax			pmax		
	comp=Z,2μm,1.9s								
BJT				MLR			MLR		
	comp=Z,61μm,20.0s								
BJT	**Baijiatuau**	**22.42**	**304**	*e*P			**P**	**21 22 19.7**	**0.0**
	comp=Z,2μm,1.9s,mb6.3								
BJT				LR			LR		
	comp=Z,61μm,20.0s,MS6.0								
BJI	**Beijing**	**22.42**	**304**	P			**P**	**21 22 22.5**	**+2.7**
BJI				AP				21 22 33.3	
BJI				XP			sP	21 22 38.0	+5.9
BJI				S			**S**	**21 26 23.9**	**-0.6**
BJI				AMB			AMB		
	comp=Z,210nm,2.0s,mb5.2								
BJI				AMB			AMB		
	comp=Z,19μm,8.3s								
BJI				LR			LR		
	comp=N,73μm,16.9s,MS6.3								
BJI				LR			LR		
	comp=E,61μm,16.0s,MS6.3								
BJI	**Beijing**	**22.42**	**304**	P			**P**	**21 22 22.5**	**+2.7**
	comp=E,210nm,2.0s,mb5.2								
BJI				pP				21 22 33.3	
BJI				sP			sP	21 22 38.0	+5.9
BJI				S			**S**	**21 26 23.9**	**-0.6**
BJI				LR			LR		
	comp=Z,470nm,19.5s								
PCPH	**Palayan**	**22.49**	**236**	⇑*e*P			**P**	**21 22 21.4**	**+0.8**
WHN	**Wuhan**	**22.52**	**279**	⇑P			**P**	**21 22 23.1**	**+2.2**
WHN				AP				21 22 33.6	
WHN				LR			LR		
	comp=Z,104μm,13.2s,MS6.4								
BOLP	**Bolinao**	**22.84**	**240**	*e*P			**P**	**21 22 25.0**	**+0.8**
AUQP	**San Andres**	**22.94**	**229**	*e*P			**P**	**21 22 25.4**	**0.0**
PLP	**Palo**	**23.17**	**221**	*e*P			**P**	**21 22 29.4**	**+1.6**
SCZP	**Santa Cruz**	**23.22**	**238**	*e*P			**P**	**21 22 27.3**	**-0.9**
TGY	**Tagaytay City**	**23.58**	**234**	P			**P**	**21 22 32.3**	**+0.4**
	comp=Z,791nm,0.9s,baz=143,slow=8.9,SNR=18								
TGY				LR			LR	21 31 21.0	
	comp=Z,376nm,18.5s,baz=359,slow=36								
SCPH	**Surigao**	**24.02**	**218**	*e*P			**P**	**21 22 37.5**	**+1.6**
MSLP	**Maasin**	**24.08**	**220**	*e*P			**P**	**21 22 37.0**	**+0.6**
OTRP	**Odiongan**	**24.08**	**229**	*e*P			**P**	**21 22 39.0**	**+2.6**
RCP	**Roxas**	**24.21**	**226**	⇑*e*P			**P**	**21 22 40.1**	**+2.5**
SKR	**Severo-Kuril's**	**24.29**	**25**	*e*P			**P**	**21 22 34.0**	**-4.3**
SKR				*e*				21 22 44.5	
SKR				*e*				21 23 16.0	
SKR				*i*	S		**S**	**21 26 58.0**	**+2.8**
SKR				pmax			pmax		
	comp=Z,18μm,10.0s								
SKR				pmax			pmax		
	comp=N,10μm,8.0s								
SKR				pmax			pmax		
	comp=E,13μm,8.0s								
SKR				pmax			pmax		
	comp=E,220nm,1.0s								
SKR				pmax			pmax		
	comp=Z,450nm,1.0s,mb5.8								
SKR				pmax			pmax		
	comp=N,1μm,1.5s								
SKR				pmax			pmax		
	comp=N,8μm,6.0s								
SKR				pmax			pmax		
	comp=E,13μm,6.0s								
SKR				pmax			pmax		
	comp=Z,8μm,6.0s								
SKR				smax					
	comp=N,130nm,0.9s								
SKR				smax					
	comp=E,800nm,1.5s								
SKR				smax					
	comp=N,46μm,14.0s								
SKR				smax					
	comp=E,44μm,14.0s								
SKR				MLR			MLR		
	comp=N,30μm,18.0s								
SKR				MLR			MLR		
	comp=Z,56μm,18.0s,MS6.1								
SKR				MLR			MLR		
	comp=E,18μm,10.0s								
LUBP	**Lubang**	**24.32**	**234**	*e*P			**P**	**21 22 39.4**	**+0.9**
LLP	**Lapu-Lapu**	**24.44**	**222**	⇓*e*P			**P**	**21 22 41.2**	**+1.5**
	comp=E,442μm,1.0s								
HKC	**Hong Kong**	**24.57**	**259**	⇑*i*P			**P**	**21 22 44.0**	**+3.1**
HKC				*i*	S		**S**	**21 27 08.0**	**+8.2**
BUTP	**Butuan**	**24.63**	**217**	*e*P			**P**	**21 22 39.3**	**-2.1**
GZH	**Guangzhou**	**25.00**	**262**	P			**P**	**21 22 43.3**	**-1.5**
GZH				S			**S**	**21 27 01.8**	**-4.8**
GZH				AMB			AMB		
	comp=Z,145nm,0.9s,mb5.5								
GZH				LR			LR		
	comp=N,34μm,14.3s,MS6.2								
GZH				LR			LR		
	comp=E,44μm,16.5s,MS6.2								
GZH				LR			LR		
	comp=Z,106μm,20.5s,MS6.3								
GUIM	**Jordan**	**25.03**	**225**	*e*P			**P**	**21 22 46.6**	**+1.6**
HIA	**Hailar**	**25.24**	**327**	*e*P			**P**	**21 22 45.8**	**-1.2**
HIA				pmax			pmax		
	comp=Z,195nm,1.1s								
HIA	**Hailar**	**25.24**	**327**	*e*P			**P**	**21 22 45.8**	**-1.2**
	comp=Z,195nm,1.1s,mb5.5								
BUSP	**Coron**	**25.56**	**231**	*e*P			**P**	**21 22 49.9**	**+0.1**
BUKP	**Musuan**	**25.84**	**217**	*e*P			**P**	**21 22 54.6**	**+2.2**
CUYO	**Cuyo Island**	**25.85**	**228**	*e*P			**P**	**21 22 55.1**	**+2.5**
HHC	**Hu-ho-hao-te**	**26.01**	**304**	*e*P			**P**	**21 22 54.1**	**+0.2**
HHC				PP				21 23 36.8	
HHC				PCP			PcP	21 26 21.3	-0.2
HHC				S			**S**	**21 27 22.8**	**+0.1**
HHC				PCS			PcS	21 30 02.6	+0.2
HHC				AMB			AMB		
	comp=Z,102nm,2.5s								
HHC				AMB			AMB		
	comp=Z,9μm,9.3s								
HHC				LR			LR		
	comp=N,51μm,15.5s,MS6.2								
HHC				LR			LR		
	comp=E,36μm,16.7s,MS6.2								
HHC				LR			LR		
	comp=Z,52μm,18.0s,MS6.1								
MATI	**Mati**	**26.04**	**213**	*e*P			**P**	**21 22 55.0**	**+0.8**
DCPH	**Dipolog City**	**26.19**	**221**	*e*P			**P**	**21 22 56.0**	**+0.4**
DAV	**Davao City (W)**	**26.27**	**215**	*e*P			**P**	**21 23 00.0**	**+3.7**
DAV	**Davao City (W)**	**26.27**	**215**	PFAKE				21 23 10.0	+14
DAV				LR			LR		
	comp=Z,84μm,19.0s,MS6.3								
ENPP	**El Nido**	**26.66**	**231**	*e*P			**P**	**21 23 00.2**	**+0.4**
XAN	**Xi'an**	**27.05**	**288**	P			**P**	**21 23 03.9**	**+0.6**
XAN				S			**S**	**21 27 42.9**	**+3.9**
XAN				AMB			AMB		
	comp=Z,1μm,1.7s,mb6.1								
XAN				AMB			AMB		
	comp=Z,9μm,10.4s								
XAN				LR			LR		
	comp=N,33μm,14.9s,MS6.3								
XAN				LR			LR		
	comp=E,54μm,16.5s,MS6.3								
XAN				LR			LR		
	comp=Z,58μm,17.3s,MS6.2								
BTO	**Baotou**	**27.07**	**302**	*e*P			**P**	**21 23 05.5**	**+2.0**
BTO				S			**S**	**21 27 42.5**	**+3.0**
BTO				AMB			AMB		
	comp=Z,92nm,1.7s,mb5.0								
BTO				LR			LR		
	comp=N,14μm,15.2s,MS5.8								
BTO				LR			LR		
	comp=E,17μm,14.7s,MS5.8								
PET	**Petropavlovsk**	**27.11**	**25**	*d*	*i*	P	**P**	**21 23 03.0**	**-0.8**
PET					*e*	S	**S**	**21 27 38.2**	**-1.8**
PET				pmax			pmax		
	comp=Z,12μm,12.7s								
PET				pmax			pmax		
	comp=Z,13μm,14.0s								
PET				pmax			pmax		
	comp=Z,551nm,1.8s,mb5.8								
PET				smax					
	comp=N,21μm,15.9s								
PET				smax					
	comp=N,24μm,17.8s								
PET				MLR			MLR		
	comp=Z,43μm,18.0s,MS6.1								
PET				MLR			MLR		
	comp=Z,39μm,19.0s								
PET	**Petropavlovsk**	**27.11**	**25**	*e*P			**P**	**21 23 03.8**	**-0.1**
PET				LR			LR		
	comp=Z,37μm,19.0s,MS6.0								
NRGR	**Nerungri**	**29.33**	**342**	*i*	P		**P**	**21 23 25.9**	**+2.3**
CLNS	**Chul'man**	**29.44**	**343**	*e*P			**P**	**21 23 25.2**	**+0.6**
CLNS				*e**PP			pP	21 23 32.0	-1.7
CLNS				*e*PPP				21 24 20.9	
CLNS				*e*S			**S**	**21 28 12.6**	**-4.1**
CLNS				pmax			pmax		
	comp=Z,337nm,1.0s,mb6.0								
CLNS				pmax			pmax		
	comp=N,555nm,1.5s								
CLNS				pmax			pmax		
	comp=E,119nm,1.5s								
CLNS				smax					
	comp=E,6μm,12.8s								
CLNS				smax					
	comp=Z,24μm,14.1s								
CLNS				smax					
	comp=N,13μm,13.5s								
CLNS				MLR			MLR		
	comp=N,17μm,14.0s,MS6.1								
CLNS				MLR			MLR		
	comp=E,29μm,14.0s,MS6.1								
CLNS				MLR			MLR		
	comp=Z,57μm,14.0s,MS6.3								
BATP	**Bataraza**	**29.49**	**230**	*e*P			**P**	**21 23 26.1**	**+1.0**
QIZ	**Qiongzhong**	**29.61**	**256**	P			**P**	**21 23 25.4**	**-0.7**
QIZ				PP			PP	21 24 24.1	-9.1
QIZ				S			**S**	**21 28 19.6**	**+0.2**
QIZ				PCS			PcS	21 30 10.1	-3.3
QIZ				AMB			AMB		
	comp=Z,7μm,9.8s								
QIZ				LR			LR		
	comp=E,37μm,20.9s								
QIZ				LR			LR		
	comp=Z,72μm,33.5s								
QIZ	**Qiongzhong**	**29.61**	**256**	*e*P			**P**	**21 23 24.8**	**-1.4**
	comp=Z,220nm,1.4s,mb5.7								
QIZ		

MA2 eS S 21 28 40.4 +0.3
MA2 pmax pmax
comp=N,400nm,1.0s
MA2 pmax pmax
comp=E,100nm,1.0s
MA2 pmax pmax
comp=Z,600nm,1.0s,mb6.4
MA2 MLR MLR
comp=Z,18μm,15.0s,MS5.9
MA2 Magadan 30.93 10 eP **P 21 23 37.9 +0.1**
MA2 LR LR
comp=Z,21μm,19.0s,MS5.8
LZH Lanzhou 31.26 292 ⇑P **P 21 23 42.3 +1.6**
LZH AP pP 21 23 53.0 +3.3
LZH XP sP 21 23 57.0 +3.5
LZH PP PP 21 24 50.0 -1.5
LZH S **S 21 28 50.3 +5.1**
LZH XS sS 21 29 06.0 +5.8
LZH AMB AMB
comp=Z,860nm,1.0s,mb6.5
LZH AMB AMB
comp=Z,7μm,5.3s
LZH LR LR
comp=E,124μm,13.6s
LZH LR LR
comp=Z,145μm,14.9s,MS6.8
LZH Lanzhou 31.26 292 ⇑P **P 21 23 42.2 +1.5**
LZH *PP pP 21 23 53.0 +3.3
LZH *SP sP 21 23 57.0 +3.5
LZH 21 24 50.0
LZH PPP 21 25 02.0
LZH S **S 21 28 50.2 +5.0**
LZH *SS sS 21 29 06.0 +5.8
LZH SS SS 21 30 44.0 -16
LZH pmax pmax
comp=Z,860nm,1.0s,mb6.5
LZH MLR MLR
comp=Z,145μm,14.9s,MS6.8
LZH Lanzhou 31.26 292 ⇑P **P 21 23 42.2 +1.5**
comp=Z,860nm,1.0s,mb6.5
LZH pP pP 21 23 53.0 +3.3
LZH sP sP 21 23 57.0 +3.5
LZH PP PP 21 24 50.0 -1.5
LZH PPP 21 25 02.0
LZH S **S 21 28 50.2 +5.0**
LZH sS sS 21 29 06.0 +5.8
LZH SS SS 21 30 44.0 -16
LZH LR LR
comp=Z,145μm,14.9s,MS6.8
CD2 Chengdu 31.57 282⇓*i*P **P 21 23 43.8 +0.4**
CD2 AP pP 21 23 54.5 +2.0
CD2 XP sP 21 23 59.3 +3.0
CD2 PP PP 21 24 48.3 -6.7
CD2 PCP PcP 21 26 35.3 -0.2
CD2 S **S 21 28 47.9 -2.2**
CD2 PCS PcS 21 30 19.3 -0.6
CD2 SCS ScS 21 34 07.8 -6.4
CD2 AMB AMB
comp=Z,1μm,1.3s,mb6.5
CD2 AMB AMB
comp=Z,9μm,8.3s
CD2 LR LR
comp=N,151μm,15.6s,MS6.8
CD2 LR LR
comp=E,56μm,16.8s,MS6.8
CD2 LR LR
comp=Z,70μm,18.0s,MS6.4
SONM Songino Array 31.89 315 P **P 21 23 44.6 -1.6**
comp=Z,3.3nm,0.9s,baz=120,slow=2.3,SNR=4.7
SONM PcP PcP 21 26 37.0 +0.7
comp=Z,13nm,0.7s,baz=109,slow=1.7,SNR=3.8
SONM ScP ScP 21 30 18.9 +1.5
comp=Z,4.4nm,0.8s,baz=132,slow=2.1,SNR=3.4
SONM P3KPbc 21 55 20.1
comp=Z,2.9nm,0.7s,baz=289,slow=4.5,SNR=5.3
SONM Songino Array 31.89 315 P **P 21 23 44.6 -1.6**
SONM 21 26 37.0
SONM Songino Array 31.89 315 P **P 21 23 44.6 -1.6**
SONM PcP PcP 21 26 37.0 +0.7
SONM ScP ScP 21 30 18.9 +1.5
SONM *e* 21 55 20.1
KKM Kota Kinabalu 32.58 229 P **P 21 23 55.2 +2.9**
KKM Kota Kinabalu 32.58 229 *e*P **P 21 23 51.7 -0.6**
TSM Tawau 32.86 225 P **P 21 23 55.5 +0.8**
YAK Yakutsk 33.31 351 *e*P **P 21 23 59.5 +0.8**
YAK *e*PPP 21 25 07.7
YAK pmax pmax
comp=Z,248nm,1.0s,mb6.1
YAK pmax pmax
comp=N,242nm,1.5s
YAK pmax pmax
comp=E,123nm,1.5s
YAK MLR MLR
comp=Z,52μm,19.0s,MS6.3
YAK MLR MLR
comp=N,44μm,18.0s,MS6.4
YAK MLR MLR
comp=E,54μm,16.0s,MS6.4
YAK Yakutsk 33.31 351 *e*P **P 21 23 58.1 -0.7**
YAK LR LR
comp=Z,50μm,19.0s,MS6.2
KMI Kunming 33.60 272 P **P 21 24 03.6 +2.4**
KMI AP pP 21 24 12.1 +1.8
KMI XP sP 21 24 16.3 +2.2
KMI PP PP 21 25 15.1 -2.4
KMI S **S 21 29 18.3 -3.4**
KMI AMB AMB
comp=Z,184nm,1.7s,mb5.7
KMI AMB AMB
comp=Z,6μm,7.7s
KMI LR LR
comp=N,26μm,16.2s
KMI LR LR
comp=E,36μm,21.4s
KMI LR LR
comp=Z,48μm,20.8s,MS6.2
KMI Kunming 33.60 272 P **P 21 24 03.6 +2.4**
KMI *PP pP 21 24 12.1 +1.8
KMI *SP sP 21 24 16.2 +2.1
KMI 21 25 15.1
KMI PPP 21 25 34.3
KMI S **S 21 29 18.2 -3.5**
KMI *SS sS 21 29 33.1 -3.6
KMI pmax pmax
comp=Z,184nm,1.7s,mb5.7
KMI MLR MLR
comp=Z,48μm,20.8s,MS6.2
KMI Kunming 33.60 272 P **P 21 24 03.6 +2.4**
comp=Z,184nm,1.7s,mb5.7
KMI pP pP 21 24 12.1 +1.8
KMI sP sP 21 24 16.2 +2.1
KMI PP PP 21 25 15.1 -2.4
KMI PPP 21 25 34.3
KMI S **S 21 29 18.2 -3.5**
KMI sS sS 21 29 33.1 -3.6
KMI SS SS 21 31 19.5 -28
KMI SSS 21 31 45.0
KMI LR LR
comp=Z,48μm,20.8s,MS6.2
BOD Bodaibo 33.73 335 *e*P **P 21 24 01.8 -0.5**
BOD pmax pmax
comp=Z,89nm,1.1s,mb5.6
SMY Shemya 33.96 37 *e*P **P 21 24 07.0 +2.7**
SEY Seymchan 34.37 10 *i*P **P 21 24 08.6 +0.7**
SEY Seymchan 34.37 10 *i*P **P 21 24 08.6 +0.7**
GTA Gaotai 34.62 298 ⇑P **P 21 24 10.3 +0.3**
GTA AP pP 21 24 21.8 +2.7
GTA XP sP 21 24 25.5 +2.6
GTA PP PP 21 25 26.6 -2.1
GTA S **S 21 29 34.9 -2.5**
GTA AMB AMB
comp=Z,230nm,1.9s,mb5.8
GTA AMB AMB
comp=Z,6μm,7.2s
GTA LR LR
comp=N,60μm,14.1s,MS6.5
GTA LR LR
comp=E,41μm,16.0s,MS6.5
GTA LR LR
comp=Z,43μm,16.7s,MS6.3
ZAK Zakamensk 34.77 317⇑*i*P **P 21 24 11.4 +0.1**
ZAK *e* 21 34 34.0
IRK Irkutsk 34.98 321 *e*P **P 21 24 14.0 +0.9**
IRK *e* 21 25 29.9
IRK *e* 21 34 35.1
IRK pmax pmax
comp=Z,122nm,2.1s,mb5.5
TLY Talaya 35.08 320 P **P 21 24 15.1 +1.1**
comp=Z,150nm,1.3s,mb5.8,SNR=5.8
TLY Talaya 35.08 320 P **P 21 24 19.0 +5.0**
SNR=9.3
TLY Talaya 35.08 320 *e*P **P 21 24 12.8 -1.2**
TLY *e* 21 25 35.8
TLY *e*SSS 21 32 26.5
TLY pmax pmax
comp=Z,126nm,2.1s,mb5.5
TLY MLR MLR
comp=Z,45μm,17.0s,MS6.3
TLY Talaya 35.08 320 *e*P **P 21 24 14.8 +0.8**
TLY LR LR
comp=Z,5μm,21.0s,MS5.3
MOY Mondy 36.59 319 *e*P **P 21 24 28.2 +1.2**
MOY pmax pmax
comp=Z,251nm,3.3s
KKTK Khon Kaen 36.79 258 P **P 21 24 30.6 +2.0**
comp=Z,1μm,1.0s,mb6.8
MIDW Midway 36.92 81 PFAKE 21 24 40.0 +10
MIDW LR LR
comp=Z,25μm,20.0s,MS6.0
CHTO Chiang Mai 39.06 264 PFAKE 21 25 00.0 +12
CHTO LR LR
comp=Z,57μm,20.0s,MS6.4
PMG Port Moresby 39.20 169 P **P 21 24 45.9 -3.1**
comp=Z,12nm,0.7s,baz=322,slow=15,SNR=3.3
PMG Port Moresby 39.20 169⇓*i*P **P 21 24 45.2 -3.8**
PMG Port Moresby 39.20 169 *e*P **P 21 24 47.4 -1.6**
PMG LR LR
comp=Z,22μm,20.0s,MS6.0
CM31 Chiang Mai Arr 39.20 263 PFAKE 21 25 00.0 +11
CM31 LR LR
comp=Z,55μm,20.0s,MS6.4
NST Nakhon Sawan 39.39 259 P **P 21 24 51.0 +0.5**
comp=Z,117nm,1.2s,mb5.5
KAPI Kappang 39.58 213 P **P 21 24 53.9 +1.7**
comp=Z,2μm,1.3s,mb6.7,SNR=39
BDT Bhumibol Dam 39.66 262 P **P 21 24 55.0 +2.2**
comp=Z,40nm,1.0s,mb5.1
NNT Nongplab 41.21 255 P **P 21 25 08.8 +3.2**
IMP Imphal 41.36 275 *e*P **P 21 25 08.0 +1.1**
BILL Bilibino 41.54 14 *e*P **P 21 25 07.6 -0.7**
BILL pmax pmax
comp=Z,314nm,0.9s,mb5.9
BILL MLR MLR
comp=Z,27μm,19.0s,MS6.1
BILL Bilibino 41.54 14 *e*P **P 21 25 07.6 -0.7**
comp=Z,314nm,0.9s,mb5.9
BILL LR LR
comp=Z,27μm,19.0s,MS6.1
LSA Lhasa 42.52 283 P **P 21 25 18.8 +2.5**
LSA AP pP 21 25 33.3 +7.7
LSA XP sP 21 25 36.1 +6.8
LSA AMB AMB
comp=Z,230nm,1.5s,mb5.7
LSA LR LR
comp=N,14μm,15.0s
LSA LR LR
comp=E,23μm,29.0s
LSA LR LR
comp=Z,32μm,28.0s
LSA Lhasa 42.52 283 *e*P **P 21 25 18.9 +2.6**
LSA pmax pmax
comp=Z,1μm,1.6s,mb6.3
LSA MLR MLR
comp=Z,30μm,19.0s,MS6.2
LSA Lhasa 42.52 283 *e*P **P 21 25 18.9 +2.6**
comp=Z,1μm,1.6s,mb6.3
LSA LR LR
comp=Z,30μm,19.0s,MS6.2
KRAR Krasnoyarsk 42.61 322*c i*P **P 21 25 18.5 +1.5**
KRAR pmax pmax
comp=Z,85nm,1.0s,mb5.4
KRAR MLR MLR
comp=Z,23μm,15.0s,MS6.2
KAKA Kakadu 42.62 191⇓*i*P **P 21 25 14.3 -2.9**
comp=Z,236nm,0.9s,mb5.9
TIXI Tiksi 42.70 355 *e*P **P 21 25 15.8 -2.0**
TIXI *e* 21 27 02.6
TIXI *e*SS SS 21 34 45.3 -4.9
TIXI pmax pmax
comp=Z,134nm,1.1s,mb5.6
TIXI Tiksi 42.70 355 *i* P **P 21 25 17.1 -0.7**
TIXI LR LR
comp=Z,75μm,22.0s,MS6.5
SHL Shillong 42.91 277 *e*P **P 21 25 20.0 +0.5**
SHL *e*S **S 21 31 44.0 +1.6**
SHL *e*SCS ScS 21 35 18.0 0.0
HNR Honiara 43.04 151 P **P 21 25 17.0 -3.6**
comp=Z,41nm,0.3s,mb5.6,baz=202,slow=0.5,SNR=3.9
HNR LR LR 21 43 21.1
comp=Z,17μm,18.0s,MS6.0,baz=358,slow=36
HNR Honiara 43.04 151 *e*P **P 21 25 18.4 -2.2**
HNR pmax pmax
comp=Z,261nm,0.9s,mb6.0
HNR MLR MLR
comp=Z,19μm,20.0s,MS6.0
HNR Honiara 43.04 151 *e*P **P 21 25 18.4 -2.2**
comp=Z,260nm,0.9s,mb6.0
HNR LR LR
comp=Z,19μm,20.0s,MS6.0
SNG Songkhla 43.43 247 P **P 21 25 26.0 +2.3**
comp=Z,280nm,1.0s,mb6.0
WMQ Urumqi 43.89 304⇑*i*P **P 21 25 28.8 +1.4**
WMQ AP pP 21 25 39.0 +2.3
WMQ XP sP 21 25 43.0 +2.6
WMQ PP PP 21 27 13.0 +3.1
WMQ PPP 21 27 51.0
WMQ PCS PcS 21 31 06.0 -0.2
WMQ S **S 21 31 58.0 +1.3**
WMQ SCS ScS 21 35 22.0 -2.1
WMQ AMB AMB
comp=Z,110nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,6μm,9.0s
WMQ LR LR
comp=N,30μm,16.6s,MS6.4
WMQ LR LR
comp=E,23μm,14.1s,MS6.4
WMQ LR LR
comp=Z,41μm,21.2s
AGT Agartala 43.97 275 *i* x x 21 25 32.0
AGT *i* x x 21 26 08.0
SPIA Saint Paul Isl 43.99 37 *e*P **P 21 25 32.9 +4.7**
KULM Kulim 44.52 245 *e*P **P 21 25 32.9 +0.4**
KGM Kluang 44.53 239 P **P 21 25 35.1 +2.5**
IPM Ipoh 44.72 244 P **P 21 25 36.4 +2.3**
UNV Unalaska Valle 45.24 42 *e*P **P 21 25 37.8 -0.4**
UNV LR LR
comp=Z,156μm,22.0s,MS6.9
GTK Gangtok 45.25 280 *e*P **P 21 25 40.0 +1.8**
SLGI Shiliguri 45.59 280 *e*x x 21 25 44.0
AKUT Akutan 45.72 42 *e*P **P 21 25 40.4 -1.6**
comp=Z,152nm,0.6s,mb6.1
CAL Calcutta 46.94 274 *e*P **P 21 25 58.0 +6.4**
CAL *e*S **S 21 32 51.9 +11**
JIRN Jiri 47.24 282 *e*P **P 21 25 56.0 +2.1**
comp=Z,1μm,1.0s,mb6.8
PSI Prapat 47.40 244 LR LR 21 44 53.7
comp=Z,30μm,20.7s,MS6.2,baz=110,slow=35
GUN Gumba 47.43 282 *e*P **P 21 25 56.9 +1.5**
comp=Z,9μm,1.8s
PBA Port Blair 47.60 258 *e*x x 21 25 50.3
PBA *e*x x 21 25 54.6
comp=Z,317nm,2.2s
PBA *e*x x 21 32 41.9
NVS Novosibirsk 47.69 319⇑*i*P **P 21 25 57.7 +0.3**
NVS *e* 21 27 28.2
NVS *e*S **S 21 32 46.2 -5.1**
NVS *e* 21 35 46.1
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=E,15nm,1.8s
NVS pmax pmax
comp=Z,159nm,1.8s,mb5.8
NVS smax
comp=N,140nm,2.5s
NVS smax
comp=E,66nm,2.5s
MK31 Makanchi Array 47.73 308 *i* P **P 21 25 58.2 +0.5**
MK31 pmax pmax
comp=Z,41nm,0.8s,mb5.5
MK31 Makanchi Array 47.73 308 *e*P **P 21 25 57.8 0.0**
MKAR Makanchi Array 47.73 308 P **P 21 25 56.8 -1.0**
comp=Z,9.0nm,0.8s,baz=88,slow=9.5,SNR=19
MKAR PcP PcP 21 27 27.8 +1.2
comp=Z,15nm,0.6s,baz=86,slow=5.9,SNR=6.5
MKAR ScP ScP 21 31 18.5 0.0
comp=Z,4.7nm,0.9s,baz=84,slow=5.7,SNR=3.2
MKAR LR LR 21 47 02.4
comp=Z,23μm,19.8s,MS6.1,baz=92,slow=37
MKAR PKPPKP 21 56 53.0
comp=Z,0.1nm,0.3s,baz=253,slow=3.7,SNR=4.1
MKAR Makanchi Array 47.73 308 P **P 21 25 56.8 -0.9**
MKAR 21 27 27.8
PKI Pulchoki 47.93 282 *e*P **P 21 26 00.4 +1.1**
comp=Z,914nm,1.3s,mb6.6
TNA Tin City 47.95 26 *e*P **P 21 25 59.8 +0.4**
comp=Z,138nm,1.0s,mb5.9
TNA LR LR
comp=Z,8μm,20.0s,MS5.7
KKN Kakani 47.98 282 *e*P **P 21 26 00.2 +0.6**
comp=Z,937nm,1.2s,mb6.7
DMN Daman 48.18 282 *e*P **P 21 26 01.8 +0.6**
comp=Z,983nm,1.4s,mb6.7
GKN Gorkha 48.47 283 *e*P **P 21 26 04.4 +1.0**
comp=Z,3μm,1.6s,mb7.1
GKN Gorkha 48.47 283 *e*P **P 21 26 05.2 +1.8**
comp=Z,3μm,1.6s,mb7.1
BOK Bokaro 48.65 277 *e*P **P 21 26 05.8 +1.0**
BOK AMb AMB 21 26 13.4
comp=Z,2μm,1.3s,mb6.9
SDPT Sand Point 48.93 41 *e*P **P 21 26 06.7 -0.3**
comp=Z,334nm,0.7s,mb6.5
FITZ Fitzroy Crossi 49.38 199⇓*i*P **P 21 26 08.8 -1.6**
comp=Z,676nm,1.8s,mb6.4
FITZ *i* S **S 21 33 14.8 -0.3**
FITZ Fitzroy Crossi 49.38 199 LR LR 21 45 50.8
comp=Z,10μm,20.8s,MS5.8,baz=7.4,slow=35
KOLN Koldanda 49.41 283 *e*P **P 21 26 11.5 +0.8**
comp=Z,2μm,1.2s,mb6.9
KOLN Koldanda 49.41 283 *e*P **P 21 26 11.5 +0.8**
comp=Z,2μm,1.2s,mb7.0
WRAB Tennant Creek 49.45 187 P **P 21 26 08.3 -2.7**
comp=Z,2μm,1.8s,mb6.7,SNR=27
WRAB Tennant Creek 49.45 187 *e*P **P 21 26 07.8 -3.2**
WRAB Tennant Creek 49.45 187 *e*P **P 21 26 07.2 -3.8**
comp=Z,1μm,1.7s,mb6.7
WRAB LR LR
comp=Z,3μm,21.0s,MS5.3
WB2 Warramunga Arr 49.46 187⇓*i*P **P 21 26 07.3 -3.7**
WB2 *e*S **S 21 33 14.2 -2.1**
CTA Charters Tower 49.60 173 *e*P **P 21 26 09.6 -2.5**
comp=Z,28nm,0.6s,mb5.5
CTA *e*S **S 21 33 13.6 -4.6**
CTA Charters Tower 49.60 173 LR LR 21 46 46.2
comp=Z,13μm,18.4s,MS6.0,baz=334,slow=36
CTA Charters Tower 49.60 173 *e*P **P 21 26 09.6 -2.5**
CTA *e*S **S 21 33 13.6 -4.6**
CTA pmax pmax
comp=Z,28nm,0.6s
CTAO Charters Tower 49.60 173 *e*P **P 21 26 09.7 -2.4**
CTAO pmax pmax
comp=Z,156nm,1.3s,mb5.9
CTAO MLR MLR
comp=Z,12μm,20.0s,MS5.9
CTAO Charters Tower 49.60 173 *e*P **P 21 26 09.7 -2.3**
comp=Z,156nm,1.3s,mb5.9
CTAO LR LR
comp=Z,12μm,20.0s,MS5.9
KURK Kurchatov 50.18 313 P **P 21 26 16.0 -0.5**
comp=Z,409nm,0.9s,mb6.5,SNR=21
CHGN Chignik 50.19 40 *e*P **P 21 26 16.5 -0.1**
ALBI Allahabad 51.68 280 *e*P **P 21 26 27.5 -0.3**
AAA Alma-Ata 51.72 304 *i* P **P 21 26 28.8 +0.7**
AAA *i* S **S 21 33 56.0 +8.4**
AAA pmax pmax
comp=Z,5μm,9.1s
AAA smax
comp=E,9μm,15.5s
AAA MLR MLR
comp=Z,30μm,16.0s,MS6.4
PTH Pithoragarh 51.78 286 *e*x x 21 26 32.0
LGTI Lohaghat 51.79 286 *i* x x 21 26 32.5
SVW2 Sparrevohn 52.19 34 *e*P **P 21 26 32.1 +0.5**
ULHL Ulahol 52.36 302 P **P 21 26 35.8 +2.9**
SNR=7.8
TKM2 Tokmak 2 52.74 303 P **P 21 26 37.5 +1.9**
SNR=24
TKM2 Tokmak 2 52.74 303 *i* P **P 21 26 37.1 +1.4**
KSH Kashi 52.99 299 P **P 21 26 39.1 +1.6**
KSH *e*AP pP 21 26 53.8 +6.9
KSH *e*XP sP 21 26 57.5 +6.9
KSH *e*PCP PcP 21 27 47.3 +1.4
KSH *e*PP PP 21 28 42.1 +4.8
KSH *e*SCP ScP 21 31 39.8 -1.3
KSH *e*S **S 21 34 05.8 +0.8**
KSH *e*PS 21 34 14.5
KSH *e*XS sS 21 34 27.5 +6.9
KSH *e*SCS ScS 21 36 23.5 -1.3
KSH *e*SS SS 21 37 47.5 +3.2
KSH AMB AMB
comp=Z,20μm,8.8s
KSH LR LR
comp=Z,80μm,13.0s,MS7.0
VIS Vishakhapatnam 53.09 271 *e*P **P 21 26 39.9 +1.6**
VIS AMb AMB 21 26 46.2
comp=Z,1μm,1.9s,mb6.6
VIS *i* S **S 21 34 10.7 +4.3**
FUNA Funafuti 53.16 129 *e*P **P 21 26 38.3 -0.5**
comp=Z,2μm,1.7s,mb6.7
FUNA LR LR
comp=Z,28μm,20.0s,MS6.3
AS31 Alice Springs 53.19 187 *e*P **P 21 26 37.9 -1.1**
ASAR Alice Springs 53.19 187 P **P 21 26 35.5 -3.4**
comp=Z,11nm,0.4s,mb5.2,baz=356,slow=4.0,SNR=84
ASAR PcP PcP 21 27 47.7 +1.0
comp=Z,34nm,0.8s,baz=12,slow=3.5,SNR=9.1
ASAR PKiKP PKiKP 21 34 23.0 -1.2
comp=Z,1.4nm,0.7s,baz=22,slow=2.1,SNR=4.7
ASAR LR LR 21 50 47.5
comp=Z,9μm,18.7s,MS5.9,baz=354,slow=38
ASAR PKPPKP 21 56 52.9
comp=Z,0.9nm,0.7s,baz=140,slow=2.4,SNR=5.9
ASAR PKP2bc 21 57 19.6
comp=Z,3.6nm,0.8s,baz=171,slow=2.1,SNR=4.2
ASAR Alice Springs 53.19 187 P **P 21 26 35.5 -3.4**
ASAR PcP PcP 21 27 47.7 +1.0
ASPA Alice Springs 53.19 187 *e*P **P 21 26 37.9 -1.1**
KBK Karagaybulak 53.25 303 P **P 21 26 40.4 +0.9**
SNR=22
CHMS Chumysh 53.35 304 P **P 21 26 43.0 +2.9**
SNR=13
KDAK Kodiak Island 53.47 38 P **P 21 26 40.0 -1.0**
comp=Z,2μm,1.4s,mb6.8,SNR=41
KDAK Kodiak Island 53.47 38 P **P 21 26 40.4 -0.6**
comp=Z,181nm,0.7s,mb6.1,baz=281,slow=7.0,SNR=38
KDAK LR LR 21 47 49.4
comp=Z,22μm,21.0s,MS6.2,baz=250,slow=34
KDAK Kodiak Island 53.47 38 *e*P **P 21 26 40.5 -0.5**
KDAK *e*pP pP 21 26 57.4 +7.0
KDAK LR LR
comp=Z,9μm,22.0s,MS5.8
FRU Bishkek 53.47 303*de*P **P 21 26 42.0 +1.0**
FRU *e* 21 27 41.0
FRU *e* 21 28 40.0
FRU *e*S **S 21 34 15.5 +3.9**
FRU pmax pmax
comp=Z,550nm,3.0s
FRU pmax pmax
comp=Z,4μm,10.0s
USP Ospenovka 53.49 304 P **P 21 26 44.1 +2.9**
SNR=20
AAK Ala-Archa 53.59 303 P **P 21 26 43.2 +1.4**
SNR=16
AAK Ala-Archa 53.59 303 P **P 21 26 42.0 +0.1**
comp=Z,132nm,1.1s,mb5.8,SNR=11
AAK Ala-Archa 53.59 303 P **P 21 26 42.6 +0.7**
SNR=21
AAK Ala-Archa 53.59 303*de*P **P 21 26 41.3 -0.6**
AAK pmax pmax
comp=Z,38nm,1.7s,mb5.0
AAK MLR MLR
comp=Z,14μm,15.0s,MS6.1
AAK Ala-Archa 53.59 303 *e*P **P 21 26 41.2 -0.7**
AAK LR LR

comp=Z,4μm,21.0s,MS5.4
UCH Uchtor 53.64 303 P **P 21 26 42.8 +0.5**
SNR=26
IMA2 Indian Mountai 53.72 28 *e*P **P 21 26 43.1 +0.2**
JBP Jabalpur 53.96 278⇓*e*P **P 21 26 45.7 +1.1**
JBP *ex* x 21 26 53.5
comp=Z,410nm,1.9s
JBP *e*S **S 21 34 20.9 +2.7**
SDNR Sundarnagar 53.96 289 *ex* x 21 26 48.5
EKS2 Erkin-Say 54.11 303 P **P 21 26 46.3 +0.6**
SNR=12
MBWA Marble Bar 54.11 204 *e*P **P 21 26 43.7 -2.0**
comp=Z,254nm,1.2s,mb6.0
MBWA LR LR
comp=Z,14μm,20.0s,MS6.0
AML Almayashu 54.25 303 P **P 21 26 48.3 +1.6**
SNR=33
BHK Bhakra 54.44 289 *ex* x 21 26 53.2
DLH Dalhousie 54.51 291 *e*P **P 21 26 46.0 -2.6**
NDI New Delhi 54.55 286 *e*P **P 21 26 48.9 0.0**
NDI AMb AMB 21 26 57.2
comp=Z,823nm,1.6s,mb6.5
NDI *ex* x 21 34 40.0
THN Thein Dam 54.74 291 *e*P **P 21 26 49.5 -0.8**
THN *ex* x 21 34 49.2
SLKM Skilak Lake 54.77 35 P **P 21 26 49.8 -0.7**
SLKM Skilak Lake 54.77 35 *e*P **P 21 26 48.6 -1.9**
VOSK Vostochnaya 54.87 316 P **P 21 26 49.7 -1.5**
VOSK pmax pmax
comp=Z,148nm,1.2s,mb5.9
BVA0 Borovoye Array 55.21 316 *i* P **P 21 26 52.9 -0.8**
BVA0 pmax pmax
comp=Z,133nm,1.9s,mb5.7
BVAR Borovoye Array 55.21 316 P **P 21 26 52.8 -0.9**
comp=Z,33nm,0.7s,mb5.5,baz=92,slow=7.6,SNR=66
BVAR PcP PcP 21 27 53.4 -1.0
comp=Z,51nm,0.6s,baz=101,slow=3.0,SNR=6.6
BVAR LR LR 21 52 03.3
comp=Z,32μm,18.4s,MS6.4,baz=32,slow=38
BVAR PKPPKP 21 56 46.4
comp=Z,0.9nm,0.8s,baz=207,slow=1.7,SNR=3.7
BVAR PKP2bc 21 57 12.3
comp=Z,2.3nm,0.7s,baz=281,slow=3.9,SNR=9.2
BVAR Borovoye Array 55.21 316 P **P 21 26 52.8 -0.9**
BVAR 21 27 53.4
BVAR Borovoye Array 55.21 316 P **P 21 26 52.8 -0.9**
BVAR PcP PcP 21 27 53.4 -1.0
BVAR LR LR 21 52 03.3
BVAR P'P' 21 56 46.4
BVAR ⇑*e* 21 57 12.3
BRVK Borovoye 55.27 316 P **P 21 26 53.2 -0.9**
comp=Z,761nm,0.8s,mb6.8,SNR=20
BRVK Borovoye 55.27 316 P **P 21 26 53.8 -0.3**
SNR=62
BRVK Borovoye 55.27 316 *e*P **P 21 26 53.0 -1.1**
BRVK pmax pmax
comp=Z,190nm,1.1s,mb6.0
BRVK MLR MLR
comp=Z,8μm,19.0s,MS5.8
BRVK Borovoye 55.27 316 *e*P **P 21 26 53.0 -1.1**
comp=Z,190nm,1.1s,mb6.0
BRVK LR LR
comp=Z,8μm,19.0s,MS5.8
PMR Palmer 55.33 33 *e*P **P 21 26 53.9 -0.6**
PMR pmax pmax
comp=Z,170nm,0.8s,mb6.1
PMR Palmer 55.33 33 *e*P **P 21 26 56.2 +1.7**
comp=Z,330nm,1.2s,mb6.2
PMR LR LR
comp=Z,20μm,23.0s,MS6.1
NGP Nagpur 55.49 277 *e*P **P 21 26 56.2 +0.5**
NGP *ex* x 21 27 03.0
comp=Z,988nm,1.8s
NGP *e*S **S 21 34 41.4 +2.7**
MCK McKinley 55.50 31 *e*P **P 21 26 55.5 -0.3**
MCK pmax pmax
comp=Z,119nm,1.2s,mb5.8
MCK MLR MLR
comp=Z,10μm,21.0s,MS5.9
MCK McKinley 55.50 31 *e*P **P 21 26 55.5 -0.3**
comp=Z,119nm,1.2s,mb5.8
MCK LR LR
comp=Z,10μm,21.0s,MS5.9
KIP Kipapa 55.69 83 *e*P **P 21 26 58.5 +1.4**
KIP pmax pmax
comp=Z,207nm,0.9s,mb6.2
KIP MLR MLR
comp=Z,19μm,20.0s,MS6.2
KIP Kipapa 55.69 83 *e*P **P 21 26 58.5 +1.3**
comp=Z,207nm,0.9s,mb6.2
KIP LR LR
comp=Z,19μm,20.0s,MS6.2
COLA College 56.02 29*d i*P **P 21 26 59.3 -0.2**
COLA College 56.02 29 *e*P **P 21 26 59.6 +0.1**
comp=Z,161nm,0.8s,mb6.1
COLA LR LR
comp=Z,15μm,22.0s,MS6.0
ZRNK Zerenda 56.05 316 P **P 21 26 59.6 -0.1**
ZRNK pmax pmax
comp=Z,200nm,1.2s,mb6.0
BHPL Bhopal 56.14 280 *e*P **P 21 27 01.1 +0.8**
BHPL AMb AMB 21 27 05.9
comp=Z,352nm,1.7s,mb6.1
KK31 Karatay Array 56.40 304 *i* P **P 21 27 02.3 +0.1**
KKAR Karatay Array 56.40 304 P **P 21 27 02.3 +0.1**
KKAR pmax pmax
comp=Z,186nm,1.4s,mb5.9
NIL Nilore 56.42 293 P **P 21 27 04.9 +2.5**
comp=Z,141nm,1.2s,mb5.9,SNR=6.9
EYAK Cordova Ski Ar 56.98 34 *e*P **P 21 27 06.4 +0.1**
DZM Mont Dzumac 57.07 151 *e*P **P 21 27 04.2 -2.8**
DZM Mont Dzumac 57.07 151 LR LR 21 49 11.4
comp=Z,15μm,18.4s,MS6.1,baz=321,slow=34
HYB Hyderabad 57.38 273 *i* P **P 21 27 10.0 +0.9**
comp=Z,885nm,1.6s,mb6.5
HYB *e*S **S 21 35 05.0 +1.3**
HYB LR LR 21 54 05.0
comp=Z,24nm,18.0s
HYB Hyderabad 57.38 273 *e*P **P 21 27 10.0 +0.9**
HYB *e*S **S 21 35 10.0 +6.3**
HYB pmax pmax
comp=Z,885nm,1.6s,mb6.5
HYB Hyderabad 57.38 273 *e*P **P 21 27 10.0 +0.9**
comp=Z,885nm,1.6s,mb6.5
HYB *e*S **S 21 35 10.0 +6.3**
AJM Ajmer 57.41 284 *i* P **P 21 27 10.0 +0.7**
AKL Akola 57.42 277 *i* x x 21 27 13.9
AKL *i* S **S 21 35 03.3 -1.0**
HKL Haleakala 57.48 83 *e*P **P 21 27 11.8 +2.0**
MDRS Chennai 57.75 267 *e*P **P 21 27 12.2 +0.4**
MDRS AMb AMB 21 27 20.1
comp=Z,1μm,1.2s,mb6.8
MENT Mentasta 57.85 32 *e*P **P 21 27 12.0 -0.4**
POHA Pohakuloa 58.47 84 PFAKE 21 27 30.0 +13
POHA LR LR
comp=Z,18μm,19.0s,MS6.2
LATR Latur 58.71 275 *e*P **P 21 27 20.5 +2.0**
EGAK Eagle 58.88 29 *e*P **P 21 27 18.8 -0.9**
comp=Z,73nm,0.8s,mb5.8
EGAK LR LR
comp=Z,12μm,21.0s,MS6.0
COCO West Island 58.96 232 P **P 21 27 22.7 +2.5**
comp=Z,3μm,1.6s,mb7.1,SNR=6.8
COCO West Island 58.96 232 P **P 21 27 23.3 +3.1**
SNR=9.8
COCO West Island 58.96 232 *e*P **P 21 27 21.4 +1.2**
COCO LR LR
comp=Z,3μm,20.0s,MS5.5
DAWY Dawson 59.71 30 *e*P **P 21 27 25.7 +0.4**
PALK Pallekele 60.08 261 P **P 21 27 31.3 +3.4**
comp=Z,1μm,1.5s,mb6.7,SNR=13
PALK Pallekele 60.08 261 ⇓P **P 21 27 30.6 +2.7**
SNR=30
PALK Pallekele 60.08 261 *e*P **P 21 27 30.2 +2.3**
SALM Salem 60.17 267 *ex* x 21 27 33.0
ARMA Armidale 60.52 169 *e*P **P 21 27 27.4 -3.5**
POO Poona 61.02 276⇓*i*P **P 21 27 34.0 -0.3**
comp=Z,260nm,1.0s,mb6.3
POO *e*PCP PcP 21 28 17.0 -0.3
POO *i* S **S 21 35 52.0 +1.2**
POO *e*SCS ScS 21 37 23.0 -0.2
POO *i* SS SS 21 39 52.0 +1.4
STKA Stephens Creek 61.02 179 *e*P **P 21 27 30.8 -3.5**
comp=Z,41nm,0.6s,mb5.7
STKA *e*S **S 21 35 44.5 -6.4**
STKA *e*PKPPKP 21 56 53.7
STKA Stephens Creek 61.02 179 P **P 21 27 32.0 -2.3**
comp=Z,49nm,0.7s,mb5.7,baz=342,slow=7.2,SNR=45
STKA LR LR 21 50 33.7
comp=Z,16μm,21.7s,MS6.1,baz=340,slow=33
FORT Forrest 61.05 192 *e*P **P 21 27 32.5 -2.0**
comp=Z,110nm,0.9s,mb6.0
FORT *e*S **S 21 35 46.5 -4.7**
KAD Karad 61.22 275 *e*P **P 21 27 36.5 +0.8**
KAD AMb AMB 21 27 43.1
comp=Z,505nm,1.8s,mb6.3
ARU Arti 61.56 321 P **P 21 27 38.7 +0.7**
comp=Z,1μm,1.1s,mb6.9,SNR=19
ARU Arti 61.56 321*d i*P **P 21 27 36.9 -1.1**
ARU pmax pmax
comp=Z,83nm,0.6s,mb6.0
ARU MLR MLR
comp=Z,20μm,20.0s,MS6.3
ARU Arti 61.56 321 *e*P **P 21 27 37.1 -0.9**
ARU LR LR
comp=Z,5μm,19.0s,MS5.7
INK Inuvik 61.56 25 P **P 21 27 37.8 -0.3**
comp=Z,35nm,0.8s,mb5.6,baz=273,slow=5.4,SNR=29
INK LR LR 21 55 30.8
comp=Z,18μm,21.1s,MS6.2,baz=262,slow=37
INK Inuvik 61.56 25 *e*P **P 21 27 37.2 -0.8**
comp=Z,4μm,1.0s
BOM Bombay 61.77 277 *ex* x 21 27 54.5
comp=Z,421nm,2.0s
BOM *e*S **S 21 36 02.3 +2.0**
SKAG Skagway 62.30 35 *e*P **P 21 27 43.3 +0.3**
comp=Z,564nm,1.6s,mb6.5
SKAG LR LR
comp=Z,18μm,22.0s,MS6.2
MNGI Mangalore 62.54 270 *i* P **P 21 27 44.5 0.0**
MNGI AMb AMB 21 27 51.0
comp=Z,559nm,2.3s,mb6.3
MNGI *i* S **S 21 36 13.8 +3.8**
TRD Trivandrum 62.72 264 *e*P **P 21 27 46.5 +0.7**
TRD AMb AMB 21 27 53.4
comp=Z,728nm,1.4s,mb6.6
SIT Sitka 62.81 38 *e*P **P 21 27 48.2 +1.9**
SIT MLR MLR
comp=Z,34μm,20.0s,MS6.5
AFI Afiamalu 63.19 126 PFAKE 21 28 00.0 +11
AFI LR LR
comp=Z,10μm,20.0s,MS6.0
AKTK Aktyubinsk 63.21 315 P **P 21 27 48.5 -0.6**
AKTK P'P' 21 56 48.1
AKTK LR LR 21 57 02.2
AKTO Aktyubinsk 63.21 315 P **P 21 27 48.5 -0.6**
comp=Z,26nm,0.7s,mb5.5,baz=90,slow=6.9,SNR=36
AKTO PKPPKP 21 56 48.1
comp=Z,1.2nm,0.8s,baz=302,slow=3.0,SNR=3.8
AKTO LR LR 21 57 02.2
comp=Z,14μm,21.3s,MS6.1,baz=267,slow=38
RIV Riverview 63.78 170 *e*P **P 21 27 51.9 -0.9**
ADE Adelaide 64.11 181 *e*P **P 21 27 54.2 -0.8**
CRAG Craig 64.38 39 *e*P **P 21 27 56.2 -0.5**
comp=Z,203nm,1.2s,mb6.0
CRAG *e*P 21 28 01.2
CRAG LR LR
comp=Z,10μm,21.0s,MS6.0
KLBR Kellerberrin 64.41 201 *e*P **P 21 27 56.0 -0.9**
comp=Z,212nm,1.3s,mb6.0
WRAK Wrangell Islan 64.55 38 *e*P **P 21 27 58.1 +0.2**
comp=Z,265nm,1.5s,mb6.0
WRAK LR LR
comp=Z,16μm,22.0s,MS6.2
ORR Orenburg 64.88 317 P **P 21 28 00.8 +0.8**
ORR pmax pmax
comp=Z,110nm,1.2s,mb5.8
ORR MLR MLR
comp=Z,24μm,16.0s,MS6.5
CNB Canberra Magne 65.00 172 *e*P **P 21 27 58.1 -2.7**
comp=Z,45nm,1.0s,mb5.5
DLBC Dease Lake 65.21 35 *e*P **P 21 28 02.9 +0.7**
MUN Mundaring 65.27 202 *e*P **P 21 28 16.8 +14**
MUN *e*S S 21 37 00.9 +17
NWAO Narrogin (SRO) 65.81 201 LR LR 21 53 58.5
comp=Z,6μm,20.2s,MS5.8,baz=15,slow=34
NWAO Narrogin (SRO) 65.81 201 *e*P **P 21 28 03.1 -2.9**
NWAO pmax pmax
comp=Z,163nm,1.0s
NWAO MLR MLR
comp=Z,6μm,22.0s
NWAO Narrogin (SRO) 65.81 201 *e*P **P 21 28 03.1 -2.9**
comp=Z,163nm,1.0s,mb6.0
NWAO LR LR
comp=Z,6μm,22.0s,MS5.7
TOO Toolangi 66.86 176 *e*P **P 21 28 10.6 -2.2**
comp=Z,49nm,1.4s,mb5.3
TOO Toolangi 66.86 176 *e*P **P 21 28 10.6 -2.2**
TOO pmax pmax
comp=Z,49nm,1.4s,mb5.3
ABKT Ailbek 66.87 302 P **P 21 28 13.4 +0.6**
comp=Z,227nm,1.1s,mb6.1,SNR=11
ALE Alert 67.69 3 P **P 21 28 16.3 -1.7**
comp=Z,575nm,0.9s,mb6.6,SNR=26
SPB4 Spitsbergen Ar 67.77 349 *e*P **P 21 28 18.6 +0.1**
KBS Kingsbay 67.94 351 *e*P **P 21 28 18.9 -0.8**
KBS *e*S S 21 37 15.4 -0.9
KBS AMS AMS 21 56 52.6
comp=Z,6μm,18.9s,MS5.8
KBS Kingsbay 67.94 351*d i*P **P 21 28 20.1 +0.5**
KBS Kingsbay 67.94 351 *e*P **P 21 28 19.7 +0.1**
comp=Z,206nm,1.1s,mb6.1
KBS LR LR
comp=Z,13μm,20.0s,MS6.1
BBB Bella Bella 68.21 42 LR LR 22 00 50.6
comp=Z,9μm,18.1s,MS6.0,baz=299,slow=38
LVZ Lovozero 68.67 337 P **P 21 28 25.4 +1.3**
comp=Z,1μm,1.3s,mb6.6,SNR=9.8
LVZ Lovozero 68.67 337 *i* P **P 21 28 23.5 -0.6**
TMCR Tamitsa 68.99 333⇑*i*P **P 21 28 26.8 +0.7**
TMCR *e**PP pP 21 28 37.0 +1.2
TMCR *e**SP sP 21 28 41.2 +1.7
TMCR pmax pmax
comp=Z,596nm,1.4s,mb6.3
APA Apatity 69.24 337⇓*i*P **P 21 28 27.0 -0.7**
APA *i* 21 28 58.6
APA *i* S S 21 37 30.0 -1.8
APA *i* 21 38 10.0
APA pmax pmax
comp=Z,380nm,1.0s,mb6.3
APA pmax pmax
comp=N,1μm,11.0s
APA pmax pmax
comp=E,2μm,11.0s
APA pmax pmax
comp=Z,5μm,11.0s
APA MLR MLR
comp=Z,24μm,18.0s,MS6.5
PECR Pechory 69.30 324⇑*e*P **P 21 28 27.4 -0.7**
PECR *i* S S 21 37 32.4 -0.1
PECR *e* 21 38 16.6
PECR pmax pmax
comp=Z,4μm,10.0s
PECR pmax pmax
comp=N,700nm,6.0s
PECR pmax pmax
comp=E,2μm,6.0s
PECR smax
comp=E,4μm,10.0s
PECR smax
comp=N,4μm,8.8s
PECR MLR MLR
comp=Z,36μm,15.0s,MS6.7
PECR MLR MLR
comp=N,16μm,14.0s,MS6.7
PECR MLR MLR
comp=E,22μm,14.0s,MS6.7
BJO Bjornoya 69.50 346 *e*P **P 21 28 26.0 -3.3**
BJO *e*S S 21 37 20.5 -14
BJO AMS AMS 22 03 39.0
comp=Z,23μm,18.5s,MS6.4
RES Resolute Bay 70.14 13 *e*P **P 21 28 34.1 +0.9**
RES pmax pmax
comp=Z,6μm,0.9s
RES Resolute Bay 70.14 13 *e*P **P 21 28 34.1 +0.9**
comp=Z,6μm,0.9s
KEV Kevo 70.21 340 P **P 21 28 32.7 -1.0**
KEV pmax pmax
comp=Z,240nm,1.0s,mb6.1
KEV Kevo 70.21 340 *e*P **P 21 28 33.4 -0.3**
comp=Z,204nm,0.8s,mb6.1
KEV LR LR
comp=Z,30μm,22.0s,MS6.5
RAO Raoul Island 70.69 142 LR LR 21 52 27.5
comp=Z,6μm,22.0s,MS5.8,baz=146,slow=30
RAO Raoul Island 70.69 142 PFAKE 21 28 50.0 +13
RAO LR LR
comp=Z,6μm,19.0s,MS5.9
ARCES ARCESS Array B 70.77 340 P **P 21 28 36.8 -0.3**
comp=Z,201nm,0.8s,mb6.1,baz=67,slow=6.8,SNR=147
ARCES LR LR 22 03 27.8
comp=Z,32μm,21.2s,MS6.6,baz=66,slow=39
ARE0 ARCESS Array S 70.77 340 *e*P **P 21 28 36.6 -0.5**
YKW3 Yellowknife Ar 70.80 28 *e*P **P 21 28 35.7 -1.5**
YKA Yellowknife Ar 70.83 28 P **P 21 28 36.2 -1.3**
comp=Z,61nm,0.7s,mb5.6,baz=295,slow=6.4,SNR=68
YKA LR LR 22 02 44.0
comp=Z,6μm,19.4s,MS5.9,baz=220,slow=38
YKA Yellowknife Ar 70.83 28 P **P 21 28 36.2 -1.3**
YKA LR LR 22 02 44.0
KTK1 Kautokeino 71.73 340⇑*i*P **P 21 28 43.6 +0.7**
KTK1 AMb AMB 21 28 49.3
comp=Z,478nm,1.6s,mb6.2
C03A Quillayute Air 71.92 45 ⇑P **P 21 28 43.6 -0.4**
baz=72
C03A ⇑S S 21 38 08.5 +5.5
baz=72
OTR Olympics--Tyee 72.00 45 P **P 21 28 46.9 +2.4**
WBK Wadi Bani Khal 72.06 286 P **P 21 28 45.9 +1.0**
SNR=29
JOF Joensuu 72.24 333 *ep* **P 21 28 44.8 -1.1**
comp=Z,142nm,0.7s,mb6.0
TAU Tasmania Unive 72.31 175 *e*P **P 21 28 46.0 -0.3**
TAU MLR MLR
comp=Z,3μm,19.0s,MS5.5
PGC Sidney 72.31 44 *e*P **P 21 28 46.5 +0.1**
BIDO Bidbid 72.39 287 P **P 21 28 47.7 +0.9**
SNR=24
MAK Makhachkala 72.50 310*d i*P **P 21 28 48.1 +0.6**
MAK *i* 21 29 05.2
MAK *e* 21 31 31.1
MAK *i* PPP 21 33 14.0
MAK *i* S S 21 38 09.8 +0.1
MAK *i* 21 38 53.0
MAK *i* SS SS 21 42 56.4 +7.7
MAK *i* SSS 21 46 03.5
MAK pmax pmax
comp=Z,209nm,1.3s,mb5.9
MAK pmax pmax
comp=Z,5μm,7.4s
MAK smax
comp=N,4μm,11.9s
MAK smax
comp=E,9μm,13.0s
MAK MLR MLR
comp=E,45μm,15.0s,MS7.0
MAK MLR MLR
comp=Z,44μm,15.0s,MS6.8
MAK MLR MLR
comp=N,28μm,14.0s,MS7.0
B04A Port Angeles 72.53 44⇓P **P 21 28 48.7 +1.1**
baz=72,SNR=17
B04A ⇑S S 21 38 13.5 +3.5
baz=72
NLWA Neilton Lookou 72.58 45 PFAKE 21 29 00.0 +12
NLWA LR LR
comp=Z,18μm,22.0s,MS6.3
NLWA Neilton Lookou 72.58 45⇓P **P 21 28 48.7 +0.7**
baz=72,SNR=14
NLWA ⇑S S 21 38 13.8 +3.2
baz=72
TRO Tromso 72.58 342 *e*P **P 21 28 46.2 -1.7**
TRO AMb AMB 21 28 53.4
comp=Z,279nm,1.7s,mb5.9
TRO *e*S S 21 38 11.0 +0.5
TRO AMS AMS 22 06 42.2
comp=Z,12μm,18.2s,MS6.2
TRO Tromso 72.58 342 *e*P **P 21 28 46.2 -1.7**
comp=Z,279nm,1.7s,mb5.9
SMDO Samad 72.64 287 P **P 21 28 50.6 +2.2**
SNR=12
A04A Legoe Bay, Lum 72.73 44⇓P **P 21 28 49.2 +0.3**
baz=73,SNR=11
A04A ⇑S S 21 38 14.7 +2.4
baz=73
VRHR Novokhopersk 72.75 319 *e*P **P 21 28 50.2 +1.2**
VRHR *e**SP sP 21 28 59.7 -2.7
VRHR *e*S S 21 38 12.0 -0.5
VRHR pmax pmax
comp=Z,150nm,1.1s,mb5.8
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,70nm,0.8s
D03A Wishkah Elem. 72.75 45⇑P **P 21 28 49.7 +0.7**
baz=73,SNR=5.1
D03A ⇑S S 21 38 15.5 +2.9
baz=73
MOS Moscow 72.84 325κ *i*P **P 21 28 47.6 -1.9**
MOS *e*PPP 21 33 11.1
MOS *i* S S 21 38 13.2 -0.3
MOS *e* 21 38 56.6
MOS pmax pmax
comp=Z,397nm,1.7s,mb6.1
MOS pmax pmax
comp=Z,2μm,2.9s,mb6.6
MOS smax
comp=N,3μm,5.9s
MOS smax
comp=E,3μm,8.4s
MOS MLR MLR
comp=Z,37μm,16.0s,MS6.8
MOS MLR MLR
comp=E,19μm,15.0s
JMDO Jabal Madar 72.89 286 P **P 21 28 50.6 +0.8**
SNR=18
A05A Maple Falls 72.98 43⇓P **P 21 28 50.3 -0.1**
baz=73,SNR=17
A05A ⇑S S 21 38 16.1 +1.0
baz=73
C04A Brinnon 72.99 45⇓P **P 21 28 50.9 +0.5**
baz=73,SNR=11
C04A ⇓S S 21 38 18.2 +3.0
baz=73
HOQ Hoqain 73.04 288 P **P 21 28 53.3 +2.6**
SNR=34
E03A Lebam 73.12 46⇑P **P 21 28 51.5 +0.3**
baz=73,SNR=9.2
E03A ⇑S S 21 38 19.0 +2.3
baz=73
GNW Green Mountain 73.15 45 *e*P **P 21 28 52.8 +1.4**
B05A Bryant 73.29 44⇓P **P 21 28 52.6 +0.4**
baz=73,SNR=34
B05A ⇓S S 21 38 21.3 +2.6
baz=73
D04A Dobbs Creek Ra 73.36 45⇓P **P 21 28 53.0 +0.5**
baz=73
D04A ⇓S S 21 38 22.3 +3.0
baz=73
F03A Seaside 73.39 46⇓P **P 21 28 53.3 +0.6**
baz=73,SNR=5.3
F03A ⇑S S 21 38 22.2 +2.5
baz=73
JCW Jim Creek 73.42 44 P **P 21 28 53.5 +0.6**
HATD Hatta, Dubai 73.48 289 P **P 21 28 54.2 +0.9**
SNR=26
BSY Bisya 73.49 287 P **P 21 28 53.2 -0.2**
SNR=67
B06A Marblemount 73.55 43⇓P **P 21 28 54.0 +0.3**
baz=73,SNR=13
B06A ⇓S S 21 38 23.5 +1.9
baz=73
ASHO Ashiyiah 73.61 289 P **P 21 28 54.8 +0.8**
SNR=29
E04A Onalaska 73.63 46⇑P **P 21 28 55.2 +1.1**
baz=74
E04A ⇑S S 21 38 24.4 +1.9
baz=74
H02A Toledo 73.64 48⇑P **P 21 28 54.4 +0.1**
baz=74
OBN Obninsk 73.66 324 P **P 21 28 54.0 -0.4**
comp=E,1μm,1.0s,mb6.8,SNR=10
OBN Obninsk 73.66 324*d i*P **P 21 28 53.9 -0.5**
OBN *i* pP 21 29 02.6 -1.5
OBN *i* 21 29 12.2
OBN *i* S S 21 38 22.8 0.0
OBN pmax pmax
comp=Z,317nm,1.6s,mb6.0

OBN MLR MLR
comp=Z,33µm,15.0s,MS6.7
OBN Obninsk 73.66 324 *e*P **P 21 28 53.1 -1.2**
comp=Z,289nm,1.1s,mb6.1
OBN LR LR
comp=Z,6µm,19.0s,MS5.9
C05A Tolt Reservoir 73.79 44 ⇓P **P 21 28 55.4 +0.3**
baz=74,SNR=18
C05A ⇑S S 21 38 24.9 +0.7
baz=74
ARQ Araqi 73.80 288 P **P 21 28 55.1 0.0**
SNR=93
D05A Enumclaw 73.82 45 ⇑P **P 21 28 56.6 +1.3**
baz=74,SNR=9.6
D05A ⇓S S 21 38 27.1 +2.4
baz=74
G03A Yamhill 73.83 47 ⇓P **P 21 28 55.2 -0.1**
baz=74
G03A ⇓S S 21 38 26.7 +2.0
baz=74
VOR Voronezh 73.83 321 *e*P **P 21 28 56.0 +0.6**
VOR *e**SP sP 21 29 06.0 -2.7
VOR S S 21 38 21.5 -3.2
VOR pmax pmax
comp=N,70nm,2.0s
VOR pmax pmax
comp=E,130nm,2.0s
VOR pmax pmax
comp=Z,300nm,2.0s,mb5.9
VOR smax
comp=E,110nm,2.5s
I02A Mapleton 74.04 48 ⇑P **P 21 28 57.3 +0.7**
baz=74
VRSR Storozhevoye 74.07 320 *d i*P **P 21 28 56.5 -0.3**
VRSR *e**SP sP 21 29 07.1 -3.1
VRSR *e* 21 29 12.6
VRSR *e*S S 21 38 27.6 +0.1
VRSR pmax pmax
comp=N,140nm,0.9s
VRSR pmax pmax
comp=E,200nm,0.9s
VRSR pmax pmax
comp=Z,170nm,0.9s,mb6.0
VRSR smax
comp=N,720nm,5.8s
VRSR smax
comp=Z,300nm,4.0s
VRSR smax
comp=E,3µm,11.4s
VRSR MLR MLR
comp=Z,16µm,17.0s,MS6.4
VRSR MLR MLR
comp=N,7µm,16.0s,MS6.3
VRSR MLR MLR
comp=E,10µm,16.0s,MS6.3
H03A Soap Creek Ran 74.10 48 ⇑P **P 21 28 56.9 0.0**
baz=74
H03A ⇓S S 21 38 30.1 +2.4
baz=74
F04A Amboy 74.11 46 ⇑P **P 21 28 56.9 0.0**
baz=74,SNR=19
F04A ⇓S S 21 38 27.4 -0.4
baz=74
VORD Divnogorie 74.13 320 *e*P **P 21 28 56.6 -0.5**
VORD *e*S S 21 38 26.5 -1.6
VORD pmax pmax
comp=Z,60nm,1.1s,mb5.4
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,1.0s
VORD smax
comp=Z,1µm,12.8s
VORD smax
comp=N,2µm,10.9s
VORD smax
comp=E,3µm,10.5s
VORD MLR MLR
comp=Z,23µm,17.0s,MS6.5
VORD MLR MLR
comp=N,9µm,16.0s,MS6.5
VORD MLR MLR
comp=E,20µm,16.0s,MS6.5
COR Corvallis 74.13 48 *e*P **P 21 28 58.3 +1.2**
COR pmax pmax
comp=Z,999nm,1.9s,mb6.4
COR MLR MLR
comp=Z,15µm,19.0s,MS6.3
COR Corvallis 74.13 48 *e*P **P 21 28 58.3 +1.2**
comp=Z,999nm,1.9s,mb6.4
COR LR LR
comp=Z,15µm,19.0s,MS6.3
K01A Sixes 74.13 50 ⇑P **P 21 28 57.0 -0.1**
baz=74
KEBM Edson Butte 74.20 50 *e*P **P 21 28 59.4 +2.0**
PUL Pulkovo 74.28 330 *e*P **P 21 28 58.9 +1.0**
PUL *e*S S 21 38 29.5 -0.2
PUL pmax pmax
comp=N,191nm,1.0s
PUL pmax pmax
comp=Z,285nm,1.0s,mb6.2
PUL pmax pmax
comp=E,286nm,1.1s
PUL smax
comp=N,2µm,5.2s
PUL smax
comp=E,4µm,7.7s
PUL MLR MLR
comp=Z,20µm,23.0s,MS6.3
PUL MLR MLR
comp=N,10µm,19.0s,MS6.2
PUL MLR MLR
comp=E,5µm,14.0s,MS6.2
PUL Pulkovo 74.28 330 ⇓ *i*P **P 21 28 59.3 +1.4**
G04A Mulino 74.39 47 ⇓P **P 21 28 58.4 -0.2**
baz=74
G04A ⇓S S 21 38 32.0 +1.0
baz=74
B07A Winthrop 74.39 43 ⇑P **P 21 28 58.4 -0.2**
baz=74,SNR=29
B07A ⇓S S 21 38 30.3 -0.7
baz=74
I03A Eugene 74.41 48 ⇓P **P 21 28 59.0 +0.2**
baz=74,SNR=6.4
I03A ⇑S S 21 38 33.9 +2.6
baz=74
J02A Umpqua 74.48 49 ⇑P **P 21 28 59.3 +0.1**
baz=74
J02A ⇓S S 21 38 34.7 +2.7
baz=74
D06A Cle Elum 74.52 44 ⇓P **P 21 28 59.3 -0.1**
baz=74
D06A ⇑S S 21 38 34.5 +2.0
baz=74
GOF Gofitskoye 74.54 313 *e*P **P 21 28 58.0 -1.5**
GOF *i* S S 21 38 27.7 -4.9
GOF pmax pmax
comp=Z,220nm,1.2s,mb6.0
GOF smax
comp=N,160nm,2.5s
GOF smax
comp=E,40nm,2.5s
KBO Bosley Butte 74.55 50 *e*P **P 21 29 03.9 +4.3**
DGRG David-gareji 74.58 309 P **P 21 28 59.3 -0.4**
KAF Kangasniemi 74.64 334 *e*p **P 21 28 58.9 -1.1**
comp=E,130nm,0.7s,mb6.0,baz=54,slow=5.5
KAF Kangasniemi 74.64 334 *e*P **P 21 28 58.9 -1.1**
KAF pmax pmax
comp=Z,130nm,0.7s,mb6.0
TBM Table Mountain 74.68 44 P **P 21 29 00.4 +0.1**
F05A White Salmon 74.73 46 ⇓P **P 21 29 00.9 +0.3**
baz=75,SNR=11
F05A ⇑S S 21 38 37.5 +2.7
baz=75
DGAR Diego Garcia 74.77 252 PFAKE 21 29 10.0 +9.2
DGAR LR LR
comp=Z,2µm,20.0s,MS5.5
C07A Waterville 74.77 44 ⇑P **P 21 29 00.5 -0.3**
baz=75,SNR=25
C07A ⇓S S 21 38 36.1 +0.8
baz=75
M01C Crescent City 74.78 50 ⇓P **P 21 29 00.8 -0.1**
baz=75
M01C ⇑S S 21 38 38.2 +2.8
baz=75
K02A Glendale 74.80 49 ⇑P **P 21 29 01.5 +0.5**
baz=75,SNR=9.1
K02A ⇑S S 21 38 38.1 +2.5
baz=75
H04A Detroit Lake 74.80 47 ⇓P **P 21 29 01.0 0.0**
baz=75,SNR=25
H04A ⇑S S 21 38 37.5 +1.9
baz=75
EBG Ellensburg 74.82 45 P **P 21 29 01.6 +0.5**
HOOD Mount Hood Mea 74.86 46 *e*P **P 21 29 02.5 +1.1**
MTA Mtatsminda 74.86 309 P **P 21 29 00.7 -0.6**
J03A Ideyld Park 74.88 49 ⇓P **P 21 29 02.1 +0.6**
baz=75,SNR=7.0
J03A ⇓S S 21 38 38.6 +2.1
baz=75
TBLG Delisi 74.88 310 P **P 21 29 05.0 +3.5**
ZEI Tsey 74.98 311 *e*P **P 21 29 02.5 +0.4**
ZEI *e**PP pP 21 29 10.5 -1.3
ZEI pmax pmax
comp=Z,50nm,1.1s,mb5.4
L02A Cave Junction 75.00 50 ⇑P **P 21 29 02.5 +0.4**
baz=75
L02A ⇓S S 21 38 40.0 +2.3
baz=75
LOF Lofoten 75.04 342 *e*P **P 21 29 02.8 +0.4**
LOF *e*pP pP 21 29 05.8 -6.4
LOF AMb AMB 21 29 11.3
comp=Z,194nm,1.9s,mb5.7
D07A Quincy 75.05 44 ⇓P **P 21 29 02.8 +0.3**
baz=75,SNR=11
D07A ⇓S S 21 38 38.2 -0.2
baz=75
A09A Danville 75.06 42 P **P 21 29 02.9 +0.4**
baz=75,SNR=42
A09A ⇓S S 21 38 39.5 +1.1
baz=75
KRMB Red Mountain 75.07 51 *e*P **P 21 29 01.5 -1.0**
FIA1 FINESS Array S 75.11 333 *e*P **P 21 29 01.9 -0.9**
G05A Wamic 75.11 46 ⇓P **P 21 29 03.0 +0.2**
baz=75,SNR=13
G05A ⇓S S 21 38 39.2 +0.2
baz=75
FINES FINESS Array B 75.11 333 P **P 21 29 01.9 -0.9**
comp=Z,93nm,0.6s,mb5.9,baz=81,slow=5.6,SNR=124
FINES LR LR 22 06 09.3
comp=Z,18µm,18.4s,MS6.4,baz=247,slow=39
MXC Moxie City 75.14 45 P **P 21 29 04.5 +1.5**
HUMO Hull Mountain 75.22 49 *e*P **P 21 29 04.0 +0.5**
comp=Z,140nm,1.5s,mb5.7
HUMO LR LR
comp=Z,24µm,21.0s,MS6.5
HUMO Hull Mountain 75.22 49 ⇑P **P 21 29 04.4 +1.0**
baz=75,SNR=7.0
HUMO ⇓S S 21 38 40.2 -0.1
baz=75
KIV Kislovodsk 75.25 312 P **P 21 29 04.1 +0.5**
comp=Z,849nm,0.9s,mb6.7,SNR=23
KIV Kislovodsk 75.25 312 P **P 21 29 03.9 +0.3**
SNR=60
KIV P 21 29 05.5
SNR=32
KIV Kislovodsk 75.25 312 *d i*P **P 21 29 03.4 -0.2**
KIV *e* pP 21 29 14.2 +0.8
KIV *e*S S 21 38 41.8 +1.2
KIV pmax pmax
comp=Z,1µm,2.9s,mb6.3
KIV MLR MLR
comp=Z,12µm,19.0s,MS6.2
KIV Kislovodsk 75.25 312 *e*P **P 21 29 03.0 -0.6**
comp=Z,163nm,1.0s,mb5.9
KIV LR LR
comp=Z,4µm,20.0s,MS5.7
JCC Jacoby Creek 75.30 51 ⇑P **P 21 29 03.9 0.0**
baz=75
JCC ⇓S S 21 38 41.6 +0.5
baz=75
C08A Higginbotham F 75.34 43 P **P 21 29 04.2 +0.1**
baz=75,SNR=43
C08A ⇓S S 21 38 41.2 -0.4
baz=75
ONI Oni 75.37 311 P **P 21 29 03.8 -0.4**
E07A Sunnyside 75.42 45 ⇓P **P 21 29 04.6 +0.1**
baz=75,SNR=25
E07A ⇓S S 21 38 42.9 +0.5
baz=75
H05A Madras 75.43 47 ⇓P **P 21 29 04.6 0.0**
baz=75,SNR=11
H05A ⇑S S 21 38 43.0 +0.4
baz=75
KHMM Horse Mountain 75.47 51 *e*P **P 21 29 05.1 +0.2**
G06A Carlson Farm, 75.54 46 ⇑P **P 21 29 05.4 +0.2**
baz=75,SNR=46
G06A ⇓S S 21 38 43.6 -0.2
baz=75
B09A Rice 75.57 42 ⇑P **P 21 29 05.6 +0.2**
baz=75,SNR=42
B09A ⇑S S 21 38 44.3 +0.1
baz=75
GNI Garni 75.58 308 *e*P **P 21 29 04.8 -0.6**
GNI Garni 75.58 308 *d i*P **P 21 29 06.4 +0.9**
GNI pmax pmax
comp=Z,186nm,1.7s
GNI MLR MLR
comp=Z,5µm,19.0s
GNI Garni 75.58 308 *e*P **P 21 29 06.0 +0.6**
comp=Z,187nm,1.3s,mb5.9
GNI LR LR
comp=Z,13µm,19.0s,MS6.2
URZ Urewera 75.63 151 LR LR 22 00 15.1
comp=Z,7µm,19.9s,MS5.9,baz=137,slow=34
A10A Northport 75.65 42 ⇓P **P 21 29 05.7 -0.2**
baz=76,SNR=7.3
A10A ⇑S S 21 38 46.2 +1.2
baz=76
F07A Phinny Hill Vi 75.68 45 ⇓P **P 21 29 06.0 -0.1**
baz=76
F07A ⇑S S 21 38 45.5 +0.2
baz=76
HAWA Hanford 75.69 45 *e*P **P 21 29 07.5 +1.4**
HAWA LR LR
comp=Z,15µm,22.0s,MS6.2
O01C Eel River Cons 75.74 52 ⇑P **P 21 29 06.5 +0.1**
baz=76
O01C ⇑S S 21 38 46.9 +0.9
baz=76
D08A Wollman Farm, 75.75 44 ⇑P **P 21 29 06.9 +0.4**
baz=76,SNR=38
D08A ⇓S S 21 38 45.9 -0.3
baz=76
YBH Yreka Blue Hor 75.78 50 *e*P **P 21 29 06.9 +0.3**
YBH pmax pmax
comp=Z,212nm,1.5s
YBH MLR MLR
comp=Z,28µm,22.0s
YBH Yreka Blue Hor 75.78 50 *e*P **P 21 29 06.8 +0.2**
comp=Z,212nm,1.5s,mb5.8
YBH LR LR
comp=Z,28µm,22.0s,MS6.5
YBH Yreka Blue Hor 75.78 50 ⇓P **P 21 29 07.5 +0.9**
baz=76,SNR=21
YBH ⇓S S 21 38 48.4 +1.9
baz=76
N02C Big Bar 75.79 51 ⇓P **P 21 29 06.7 0.0**
baz=76,SNR=7.2
N02C ⇑S S 21 38 47.8 +1.2
baz=76
C09A Chrisman Ranch 75.79 43 ⇑P **P 21 29 06.8 +0.2**
baz=76,SNR=28
C09A ⇓S S 21 38 47.7 +1.1
baz=76
M02C Callahan 75.84 50 ⇓P **P 21 29 08.5 +1.6**
baz=76,SNR=11
M02C ⇓S S 21 38 47.6 +0.6
baz=76
VIPM Ingram Point 75.88 47 P **P 21 29 07.7 +0.5**
EDM Edmonton 75.89 37 *e*P **P 21 29 07.1 -0.1**
H06A Lindquist Farm 75.96 46 ⇓P **P 21 29 08.1 +0.4**
baz=76,SNR=23
H06A ⇓S S 21 38 47.9 -0.5
baz=76
K04A Chilquin 76.03 49 ⇓P **P 21 29 08.4 +0.4**
baz=76
K04A ⇑S S 21 38 49.1 -0.1
baz=76
J05A Fort Rock 76.05 48 ⇑P **P 21 29 09.0 +0.8**
baz=76,SNR=43
J05A ⇑S S 21 38 49.2 -0.2
baz=76
KCPM Cahto Peak 76.11 52 *e*P **P 21 29 08.1 -0.4**
D09A Jones Farm, Ri 76.12 44 ⇓P **P 21 29 08.5 -0.1**
baz=76,SNR=18
D09A ⇑S S 21 38 50.2 0.0
baz=76
KIPM Iron Peak 76.12 52 *e*P **P 21 29 09.9 +1.3**
L04A Klamath Falls 76.12 49 ⇑P **P 21 29 09.6 +1.0**
baz=76,SNR=13
L04A ⇓S S 21 38 50.3 +0.1
baz=76
G07A Ruggs Ranch, H 76.13 46 P **P 21 29 09.8 +1.1**
baz=76,SNR=27
G07A ⇑S S 21 38 49.0 -1.3
baz=76
MOR8 Moi Rana 76.14 340 ⇑ *i*P **P 21 29 07.0 -1.7**
MOR8 AMb AMB 21 29 12.0
comp=Z,479nm,1.0s,mb6.4
B10A Chitwood Farm, 76.17 42 ⇑P **P 21 29 08.5 -0.3**
baz=76
B10A ⇓S S 21 38 51.2 +0.4
baz=76
NEW Newport 76.25 42 P **P 21 29 10.1 +0.8**
comp=Z,40nm,0.9s,mb5.4,baz=303,slow=4.8,SNR=16
NEW LR LR 22 01 03.5
comp=Z,8µm,20.3s,MS6.0,baz=308,slow=34
NEW Newport 76.25 42 P **P 21 29 10.1 +0.8**
NEW pmax pmax
comp=Z,40nm,0.9s
NEW MLR MLR
comp=Z,8µm,20.3s
NEW Newport 76.25 42 *e*P **P 21 29 08.7 -0.6**
comp=Z,204nm,1.4s,mb5.9
NEW LR LR
comp=Z,12µm,22.0s,MS6.1
M04C Macdoel 76.34 50 ⇓P **P 21 29 10.4 +0.6**
baz=76,SNR=27
M04C ⇑S S 21 38 52.8 +0.2
baz=76
C10A Spilker Farm, 76.35 43 ⇑P **P 21 29 09.9 0.0**
baz=76
C10A ⇓S S 21 38 53.5 +0.8
baz=76
P01C Double 8 Ranch 76.37 52 ⇑P **P 21 29 10.2 +0.1**
baz=76,SNR=5.3
P01C ⇑S S 21 38 54.4 +1.4
baz=76
I06A Prineville 76.40 47 ⇓P **P 21 29 10.5 +0.3**
baz=76,SNR=35
I06A ⇑S S 21 38 54.5 +1.2
baz=76
WDC Whiskeytown Da 76.42 51 *e*P **P 21 29 10.7 +0.5**
WDC pmax pmax
comp=Z,313nm,1.6s,mb6.0
WDC MLR MLR
comp=Z,29µm,22.0s,MS6.5
WDC Whiskeytown Da 76.42 51 *e*P **P 21 29 10.7 +0.4**
comp=Z,313nm,1.6s,mb6.0
WDC LR LR
comp=Z,29µm,22.0s,MS6.5
WDC Whiskeytown Da 76.42 51 ⇓P **P 21 29 11.0 +0.7**
baz=76,SNR=20
WDC ⇓S S 21 38 52.7 -0.8
baz=76
O02C Red Bluff 76.43 51 ⇑P **P 21 29 10.8 +0.5**
baz=76,SNR=20
O02C ⇓S S 21 38 55.9 +2.3
baz=76
F08A Pendleton 76.43 45 ⇑P **P 21 29 11.5 +1.2**
baz=76,SNR=28
F08A ⇑S S 21 38 54.5 +0.9
baz=76
E09A Wood Farm, Sta 76.48 44 P **P 21 29 11.0 +0.4**
baz=76,SNR=58
E09A ⇓S S 21 38 54.4 +0.2
baz=76
KARS Kars 76.49 309 *e*P **P 21 29 11.6 +0.9**
H07A Lands Inn, Kim 76.51 46 ⇑P **P 21 29 11.2 +0.4**
baz=76,SNR=11
H07A ⇑S S 21 38 55.1 +0.6
baz=76
K05A Summer Lake 76.53 48 ⇑P **P 21 29 12.2 +1.3**
baz=76,SNR=37
K05A ⇑S S 21 38 55.2 +0.6
baz=76
VSU Vasula 76.54 330 ⇑ *i*P **P 21 29 12.7 +1.8**
G08A Pilot Rock 76.56 45 ⇑P **P 21 29 11.1 +0.1**
baz=76,SNR=30
G08A ⇓S S 21 38 56.2 +1.2
baz=76
RAR Rarotonga 76.57 124 PFAKE 21 29 20.0 +8.9
RAR LR LR
comp=Z,1.0nm,19.0s
CLDR Caldiran 76.60 307 *e*P **P 21 29 10.9 -0.3**
B11A Sandpoint 76.61 42 ⇓P **P 21 29 12.1 +0.8**
baz=76,SNR=27
B11A ⇓S S 21 38 56.6 +1.1
baz=76
GASB Alder Springs 76.72 52 ⇓P **P 21 29 12.7 +0.8**
baz=77,SNR=18
GASB ⇑S S 21 38 59.7 +2.9
baz=77
J06A Christmas Vall 76.76 48 ⇓P **P 21 29 12.0 -0.2**
baz=77,SNR=36
J06A ⇑S S 21 39 00.3 +3.1
baz=77
HOPS Hopland 76.77 53 PFAKE 21 29 20.0 +7.7
HOPS LR LR
comp=Z,31µm,19.0s,MS6.6
HOPS Hopland 76.77 53 ⇓P **P 21 29 12.0 -0.2**
baz=77
HOPS ⇑S S 21 39 00.7 +3.3
baz=77
A12A Yaak River Ran 76.77 41 ⇓P **P 21 29 13.3 +1.0**
baz=77,SNR=22
A12A ⇑S S 21 38 59.3 +2.0
baz=77
I07A Izee 76.79 47 ⇑P **P 21 29 12.7 +0.3**
baz=77,SNR=22
I07A ⇑S S 21 39 00.0 +2.5
baz=77
L05A Lakeview 76.88 49 ⇓P **P 21 29 13.0 +0.1**
baz=77,SNR=21
L05A ⇓S S 21 38 59.6 +1.1
baz=77
SHAO Shalim 76.89 283 P **P 21 29 15.0 +2.1**
SNR=11
K06A Valley Falls 76.91 48 ⇓P **P 21 29 12.8 -0.3**
baz=77,SNR=38
K06A ⇑S S 21 38 59.4 +0.5
baz=77
SEMD Semdilli 76.99 306 *e*P **P 21 29 11.6 -1.9**
M05C Lookout 76.99 50 ⇑P **P 21 29 13.6 +0.1**
baz=77
M05C ⇑S S 21 39 01.2 +1.4
baz=77
F09A S2 Ranch, Elgi 77.01 45 ⇑P **P 21 29 14.0 +0.4**
baz=77,SNR=9.0
F09A ⇓S S 21 38 59.9 0.0
baz=77
AGRT Agri 77.03 308 *e*P **P 21 29 13.0 -0.7**
O03C Acorn Hollow, 77.03 51 ⇑P **P 21 29 13.7 0.0**
baz=77
O03C ⇑S S 21 39 02.9 +2.7
baz=77
HATC Hat Creek Radi 77.03 50 ⇑P **P 21 29 14.1 +0.4**
baz=77,SNR=10
HATC ⇓S S 21 39 02.1 +1.9
baz=77
B12A Libby 77.04 41 ⇑P **P 21 29 14.5 +0.7**
baz=77,SNR=7.0
B12A ⇑S S 21 39 01.0 +0.8
baz=77
BCA Borcka 77.10 310 *e*P **P 21 29 08.7 -5.4**
H08A Prairie City 77.11 46 ⇑P **P 21 29 14.8 +0.7**
baz=77,SNR=32
H08A ⇑S S 21 39 03.1 +2.1
baz=77
VANB Van 77.21 307 *e*P **P 21 29 12.2 -2.5**
TVAN Van 77.23 307 *i* P **P 21 29 15.4 +0.6**
J07A Hines 77.25 47 ⇓P **P 21 29 15.0 +0.1**
baz=77,SNR=67
J07A ⇑S S 21 39 03.0 +0.5
baz=77
MNRC McLaughlin Nat 77.26 53 ⇑P **P 21 29 15.9 +0.9**
baz=77,SNR=12
MNRC ⇑S S 21 39 03.4 +0.7
baz=77
SNZO South Karori 77.27 154 *e*P **P 21 29 10.8 -4.2**
comp=Z,156nm,0.8s,mb6.0

SNZO LR LR
comp=Z,11μm,22.0s,MS6.1
MCCM Marconi Confer 77.30 53 PFAKE 21 29 30.0 +15
MCCM LR LR
comp=Z,23μm,22.0s,MS6.5
MCCM Marconi Confer 77.30 53 ⇓P **P 21 29 15.1 -0.1**
baz=77
MCCM ⇓S S 21 39 04.4 +1.3
baz=77
F10A Beach Ranch, E 77.30 44 ⇓P **P 21 29 15.1 -0.1**
baz=77,SNR=15
F10A ⇓S S 21 39 05.5 +2.4
baz=77
MOD Modoc 77.30 49 *e*P **P 21 29 16.1 +0.9**
MOD LR LR
comp=Z,9μm,21.0s,MS6.1
MOD Modoc 77.30 49 ⇓P **P 21 29 15.6 +0.3**
baz=77,SNR=23
MOD ⇓S S 21 39 05.6 +2.5
baz=77
SOC Sochi 77.33 313 *i* P **P 21 29 16.8 +1.4**
SOC Sochi 77.33 313 *i* P **P 21 29 16.9 +1.5**
FARB Farallon Islan 77.42 54 ⇓P **P 21 29 15.7 -0.2**
baz=77
FARB ⇓S S 21 39 04.9 +0.5
baz=77
JMIC Jan Mayen 77.42 350 *e*P **P 21 29 14.8 -1.1**
JMIC AMS AMS 22 06 36.0
comp=Z,5μm,18.4s,MS5.9
HKR Hakkari 77.44 306 *e*P **P 21 29 15.4 -0.6**
I08A Drewsey 77.46 47 ⇓P **P 21 29 16.8 +0.7**
baz=77,SNR=25
I08A ⇑S S 21 39 05.1 +0.3
baz=77
HAKT HAKKARI 77.47 306 *i* P **P 21 29 11.1 -5.0**
A13A Flathead Natio 77.48 41 ⇓P **P 21 29 17.0 +0.7**
baz=77,SNR=24
A13A ⇓S S 21 39 05.1 +0.1
baz=77
C12A Trout Creek 77.48 42 ⇑P **P 21 29 16.1 -0.1**
baz=77,SNR=35
C12A ⇓S S 21 39 04.5 -0.6
baz=77
CVS Carmenet Viney 77.50 53 ⇓P **P 21 29 16.7 +0.4**
baz=77,SNR=9.7
CVS ⇓S S 21 39 05.4 +0.2
baz=77
M06C Likely Place G 77.51 50 ⇑P **P 21 29 16.8 +0.3**
baz=77,SNR=20
M06C ⇑S S 21 39 05.4 0.0
baz=77
O04C Chester 77.52 51 ⇑P **P 21 29 17.1 +0.6**
baz=77,SNR=18
O04C ⇑S S 21 39 06.6 +1.1
baz=77
SUTB Sutter Butte 77.55 52 ⇑P **P 21 29 16.2 -0.5**
baz=77
SUTB ⇑S S 21 39 07.0 +1.2
baz=77
ORV Oroville 77.60 52 ⇑P **P 21 29 16.6 -0.2**
baz=78,SNR=44
ORV ⇓S S 21 39 06.6 +0.3
baz=78
K07A Rock Creek Ran 77.61 48 ⇓P **P 21 29 17.2 +0.2**
baz=78,SNR=52
K07A ⇓S S 21 39 07.3 +0.8
baz=78
ELFS Eagle Lake Fie 77.62 50 ⇑P **P 21 29 17.3 +0.2**
baz=78,SNR=25
ELFS ⇓S S 21 39 06.7 +0.1
baz=78
H09A Durkee 77.67 46 ⇓P **P 21 29 17.8 +0.5**
baz=78,SNR=21
H09A ⇓S S 21 39 07.9 +0.9
baz=78
Q03C Winters 77.67 53 ⇓P **P 21 29 17.9 +0.6**
baz=78
Q03C ⇓S S 21 39 05.7 -1.4
baz=78
CUKT Cukurca 77.68 306 *e*P **P 21 29 12.9 -4.5**
WALA Waterton Lakes 77.70 40 *e*P **P 21 29 17.8 +0.4**
comp=Z,66nm,0.6s,mb5.7
OHCM Honcut 77.71 52 *e*P **P 21 29 18.1 +0.6**
B13A Whitefish 77.73 41 ⇓P **P 21 29 18.1 +0.5**
baz=78,SNR=50
B13A ⇑S S 21 39 07.5 -0.3
baz=78
J08A Circle Bar Ran 77.79 47 ⇑P **P 21 29 18.8 +0.8**
baz=78,SNR=60
J08A ⇓S S 21 39 08.2 -0.2
baz=78
BMO Blue Mountains 77.80 45 *e*P **P 21 29 17.9 -0.1**
comp=Z,179nm,1.3s,mb5.8
BMO LR LR
comp=Z,12μm,22.0s,MS6.2
O05C Quincy 77.80 51 ⇓P **P 21 29 18.0 0.0**
baz=78
O05C ⇑S S 21 39 06.4 -2.1
baz=78
BSMT Bassoo Peak 77.81 42 *e*P **P 21 29 18.9 +0.8**
L07A Adell 77.88 49 ⇑P **P 21 29 18.5 +0.1**
baz=78,SNR=78
L07A ⇓S S 21 39 09.4 +0.1
baz=78
I09A Lost Marbles R 77.96 46 ⇑P **P 21 29 18.9 +0.1**
baz=78,SNR=40
I09A ⇑S S 21 39 09.9 -0.3
baz=78
ERZM Erzurum 77.99 309 *i* P **P 21 29 19.4 +0.3**
EZM Erzurum 77.99 309 *e*P **P 21 29 19.2 +0.1**
Q04C Lincoln 78.02 52 ⇑P **P 21 29 19.0 -0.2**
baz=78
Q04C ⇓S S 21 39 09.6 -1.2
baz=78
C13A Hot Springs 78.03 42 P **P 21 29 19.8 +0.5**
baz=78,SNR=44
C13A ⇓S S 21 39 09.5 -1.4
baz=78
NSS Namsos 78.04 340 *e*P **P 21 29 15.9 -3.5**
NSS *i* 21 35 19.9
NSS *e*S S 21 39 13.3 +2.2
NSS AMS AMS 22 05 44.9
comp=Z,18μm,22.2s,MS6.4
RPZ Rata Peaks 78.08 158 LR LR 22 00 00.6
comp=Z,6μm,18.8s,MS5.9,baz=324,slow=33
K08A Mann Creek Ran 78.09 48 ⇓P **P 21 29 19.4 -0.2**
baz=78,SNR=61
K08A ⇑S S 21 39 11.9 +0.3
baz=78
JRSC Jasper Ridge 78.09 54 ⇓P **P 21 29 19.7 0.0**
baz=78
JRSC ⇓S S 21 39 11.2 -0.5
baz=78
BDM Black Diamond 78.09 53 ⇑P **P 21 29 19.8 +0.1**
baz=78
BDM ⇓S S 21 39 11.4 -0.3
baz=78
WVOR Wild Horse Val 78.13 48 *e*P **P 21 29 20.1 +0.2**
WVOR pmax pmax
comp=Z,493nm,1.8s,mb6.1
WVOR MLR MLR
comp=Z,26μm,22.0s,MS6.5
WVOR Wild Horse Val 78.13 48 *e*P **P 21 29 20.1 +0.2**
comp=Z,493nm,1.8s,mb6.1
WVOR LR LR
comp=Z,26μm,22.0s,MS6.5
UMR Umm Al-Rimmam 78.15 297 *e*P **P 21 29 19.0 -0.9**
UMR AMb AMB 21 29 21.9
comp=Z,110nm,0.6s,mb6.0
N06A Buffalo Meadow 78.16 50 ⇓P **P 21 29 20.7 +0.7**
baz=78,SNR=42
N06A ⇓S S 21 39 12.3 0.0
baz=78
ANN Anapa 78.17 315 *e*P **P 21 29 19.0 -1.1**
ANN *e* 21 32 22.3
ANN *e*S S 21 39 11.9 -0.6
ANN *e* 21 39 38.9
ANN *e*SSS 21 47 37.9
ANN pmax pmax
comp=Z,270nm,1.5s,mb6.0
ANN MLR MLR
comp=Z,11μm,20.0s,MS6.2
ANN MLR MLR
comp=N,18μm,20.0s,MS6.4
ANN MLR MLR
comp=E,5μm,20.0s,MS6.4
BEKR Beckwourth 78.22 51 ⇓P **P 21 29 20.5 +0.1**
baz=78,SNR=64
BEKR ⇓S S 21 39 12.1 -1.0
baz=78
SUMG Summit 78.23 360 *e*P **P 21 29 21.1 +0.7**
comp=E,306nm,1.4s,mb6.0
J09A Fry Pan Ranch, 78.25 47 ⇓P **P 21 29 21.2 +0.7**
baz=78,SNR=50
J09A ⇑S S 21 39 12.2 -1.2
baz=78
BNLO Ben Lomond (Sa 78.26 54 ⇑P **P 21 29 20.7 +0.2**
baz=78
BNLO ⇓S S 21 39 14.9 +1.4
baz=78
M07A Soldier Meadow 78.29 49 ⇑P **P 21 29 20.8 +0.1**
baz=78,SNR=17
M07A ⇑S S 21 39 13.0 -0.7
baz=78
MNK Minsk 78.30 327 *de*P **P 21 29 18.0 -2.8**
MNK *e* 21 32 16.0
MNK *e*S S 21 39 08.0 -5.9
MNK S S 21 39 10.0 -3.9
MNK pmax pmax
comp=Z,590nm,1.5s,mb6.3
MNK pmax pmax
comp=E,910nm,1.5s
MNK pmax pmax
comp=N,720nm,1.6s
MNK MLR MLR
comp=E,50μm,14.0s
MNK MLR MLR
comp=Z,32μm,14.0s,MS6.8
IZAR Zarasai 78.32 328 *e*P **P 21 29 20.8 -0.1**
IZAR AMb AMB 21 29 26.2
comp=Z,2μm,0.8s,mb7.0
WENL Wente Brothers 78.32 53 ⇓P **P 21 29 20.8 -0.1**
baz=78
WENL ⇑S S 21 39 14.6 +0.5
baz=78
RBK Rabkut 78.33 284 P **P 21 29 20.8 -0.1**
SNR=38
MIB Mutribah 78.33 298 *e*P **P 21 29 19.9 -1.0**
MIB AMb AMB 21 29 22.9
comp=Z,247nm,0.7s,mb6.3
KBD Kabd 78.34 297 *e*P **P 21 29 20.9 -0.1**
KBD AMb AMB 21 29 26.7
comp=Z,747nm,1.2s,mb6.5
IDID Didziasalis 78.35 328 *e*P **P 21 29 20.9 -0.1**
IDID AMb AMB 21 29 26.2
comp=Z,2μm,0.7s,mb7.0
QRN Al-Qurain 78.36 296 *e*P **P 21 29 20.6 -0.6**
QRN AMb AMB 21 29 24.9
comp=Z,211nm,0.7s,mb6.2
SIRT Sirnak 78.39 306 *e*P **P 21 29 21.1 -0.1**
D13A Huson 78.39 42 ⇑P **P 21 29 21.2 -0.1**
baz=78,SNR=35
D13A ⇓S S 21 39 14.9 0.0
baz=78
L08A Fields 78.44 48 ⇑P **P 21 29 22.4 +0.8**
baz=78,SNR=66
L08A ⇓S S 21 39 17.2 +1.8
baz=78
O06A Flanigan 78.44 50 ⇓P **P 21 29 21.9 +0.4**
baz=78,SNR=6.1
O06A ⇓S S 21 39 15.2 -0.2
baz=78
C14A Swan Lake 78.46 41 ⇓P **P 21 29 21.8 +0.1**
baz=78,SNR=57
C14A ⇑S S 21 39 15.2 -0.4
baz=78
LAVA Lava Cap Winer 78.49 52 ⇓P **P 21 29 21.9 0.0**
baz=78,SNR=26
LAVA ⇑S S 21 39 16.2 +0.2
baz=78
MSL Mosul 78.50 305 *ex* x 21 29 21.5
MSL *ex* x 21 29 44.0
MSL *ex* x 21 39 35.0
MSL *ex* x 21 40 19.5
MSL *ex* x 21 41 05.0
WHFO Wadi Hawf 78.50 284 P **P 21 29 21.3 -0.6**
SNR=50
KTUT Trabzon 78.54 311 *e*P **P 21 29 21.1 -1.0**
MACK Trabzon 78.56 311 *i* P **P 21 29 21.7 -0.6**
IIGN Ignalina 78.57 328 *e*P **P 21 29 22.1 -0.1**
IIGN AMb AMB 21 29 27.4
comp=Z,2μm,0.7s
K09A Rome 78.59 47 ⇑P **P 21 29 22.8 +0.4**
baz=78,SNR=58
K09A ⇓S S 21 39 14.7 -2.3
baz=78
BNGL BINGOL 78.59 308 *i* P **P 21 29 22.6 +0.2**
R04C Big Horse Ranc 78.60 53 ⇑P **P 21 29 22.3 -0.1**
baz=78
R04C ⇑S S 21 39 16.1 -0.9
baz=78
P06A Stead Airport, 78.63 51 ⇑P **P 21 29 22.5 -0.1**
baz=78
P06A ⇓S S 21 39 17.6 +0.2
baz=78
NAY Al-Naaiem 78.66 297 *e*P **P 21 29 21.8 -0.9**
NAY AMb AMB 21 29 24.8
comp=Z,116nm,0.7s,mb6.0
S04C Ingram Canyon, 78.68 53 ⇓P **P 21 29 23.3 +0.4**
baz=79,SNR=11
S04C ⇓S S 21 39 19.9 +1.9
baz=79
N07B Gerlach 78.72 50 ⇓P **P 21 29 23.8 +0.7**
baz=79,SNR=24
N07B ⇑S S 21 39 18.7 +0.4
baz=79
BTMT Batman 78.72 307 *e*P **P 21 29 24.5 +1.4**
RST Umm Al-Ruwaisa 78.73 297 *e*P **P 21 29 21.9 -1.3**
RST AMb AMB 21 29 24.9
comp=Z,194nm,0.7s,mb6.2
M08A Happy Creek Ra 78.78 49 ⇓P **P 21 29 23.6 +0.2**
baz=79,SNR=21
M08A ⇑S S 21 39 19.1 0.0
baz=79
MSO Missoula 78.83 42 *e*P **P 21 29 24.1 +0.4**
MSO LR LR
comp=Z,5μm,19.0s,MS5.9
E13A Victor 78.89 43 ⇑P **P 21 29 23.5 -0.5**
baz=79
E13A ⇓S S 21 39 20.9 +0.7
baz=79
WCN Washoe City 78.90 51 ⇑P **P 21 29 24.6 +0.5**
baz=79,SNR=16
WCN ⇓S S 21 39 20.4 +0.1
baz=79
PACP Pacheco Peak 78.94 54 ⇑P **P 21 29 24.9 +0.5**
baz=79,SNR=36
PACP ⇑S S 21 39 20.0 -0.8
baz=79
SAO San Andreas Ge 78.95 54 *e*P **P 21 29 25.6 +1.2**
SAO MLR MLR
comp=Z,32μm,22.0s,MS6.6
D14A Greenough 78.96 42 P **P 21 29 24.6 +0.2**
baz=79,SNR=46
D14A ⇑S S 21 39 20.6 -0.3
baz=79
PAHR Pah Rah Range 78.96 51 *e*P **P 21 29 24.6 +0.2**
comp=Z,361nm,1.7s,mb6.0
L09A Wilkinson Ranc 78.96 48 ⇓P **P 21 29 24.9 +0.4**
baz=79,SNR=12
BHD Baghdad 78.97 302 *ex* x 21 29 18.0
BHD Baghdad 78.97 302 *ex* x 21 40 06.0
R05C Kirkwood Meado 78.97 52 ⇓P **P 21 29 25.1 +0.6**
baz=79,SNR=32
R05C ⇓S S 21 39 22.2 +1.0
baz=79
HAST UC Hastings Re 79.05 54 ⇑P **P 21 29 25.1 +0.2**
baz=79,SNR=28
HAST ⇑S S 21 39 22.6 +0.7
baz=79
O07A Toulon 79.08 50 ⇓P **P 21 29 25.1 0.0**
baz=79,SNR=34
O07A ⇓S S 21 39 22.0 -0.2
baz=79
BINT Bingol 79.08 308 *e*P **P 21 29 27.3 +2.3**
CMB Columbia Colle 79.08 53 *e*P **P 21 29 25.2 +0.1**
CMB pmax pmax
comp=Z,241nm,1.6s,mb5.9
CMB MLR MLR
comp=Z,19μm,21.0s,MS6.4
CMB Columbia Colle 79.08 53 *e*P **P 21 29 25.2 +0.1**
comp=Z,241nm,1.6s,mb5.9
CMB LR LR
comp=Z,19μm,21.0s,MS6.4
CMB Columbia Colle 79.08 53 ⇓P **P 21 29 25.2 +0.1**
baz=79,SNR=42
CMB ⇑S S 21 39 22.1 -0.2
baz=79
ABTO Aybut 79.17 284 P **P 21 29 24.9 -0.7**
SNR=58
CHMT Chamberlain Mo 79.19 42 *e*P **P 21 29 25.9 +0.2**
E14A Clinton 79.31 43 ⇑P **P 21 29 26.0 -0.4**
baz=79
E14A ⇓S S 21 39 25.2 +0.5
baz=79
P07A Fallon 79.38 51 ⇓P **P 21 29 27.7 +1.0**
baz=79
P07A ⇑S S 21 39 25.0 -0.4
baz=79
M09A Marrel Ranch, 79.40 48 ⇑P **P 21 29 27.3 +0.4**
baz=79,SNR=10
M09A ⇑S S 21 39 25.8 +0.1
baz=79
LRV Little Rabbit 79.41 54 *e*P **P 21 29 29.9 +3.0**
T05C Eagle Field, D 79.43 54 ⇓P **P 21 29 27.5 +0.5**
baz=79
V03C Hunter Liggett 79.45 55 ⇑P **P 21 29 27.3 +0.2**
baz=79,SNR=11
V03C ⇑S S 21 39 26.5 +0.4
baz=79
S05C Merced 79.45 53 ⇑P **P 21 29 27.4 +0.3**
baz=79,SNR=8.1
S05C ⇑S S 21 39 26.3 +0.1
baz=79
R06C Coleville 79.49 52 ⇑P **P 21 29 27.6 +0.2**
baz=79,SNR=37
R06C ⇓S S 21 39 26.3 -0.3
baz=79
O08A Rochester Mine 79.50 50 ⇑P **P 21 29 27.8 +0.5**
baz=79
O08A ⇑S S 21 39 26.3 -0.4
baz=79
WAKR Walker 79.51 52 *e*P **P 21 29 28.2 +0.8**
S06C San Francisco 79.53 52 ⇓P **P 21 29 27.3 -0.2**
baz=79,SNR=49
S06C ⇓S S 21 39 27.1 +0.1
baz=79
U04C Hernandez Rese 79.61 54 ⇑P **P 21 29 28.4 +0.4**
baz=80,SNR=24
U04C ⇓S S 21 39 29.0 +1.1
baz=80
MARD Mardin 79.64 307 *i* P **P 21 29 22.6 -5.5**
N09A Rock Creek Ran 79.64 49 ⇓P **P 21 29 28.3 +0.2**
baz=80,SNR=36
N09A ⇓S S 21 39 29.7 +1.6
baz=80
Q07A Schurz 79.72 51 ⇑P **P 21 29 28.8 +0.2**
baz=80
Q07A ⇑S S 21 39 30.2 +1.1
baz=80
DIY Diyarbakir 79.74 308 *e*P **P 21 29 30.8 +2.2**
AKASG Malin Array Be 79.75 323 P **P 21 29 27.0 -1.7**
comp=Z,30nm,0.7s,mb5.3,baz=50,slow=5.5,SNR=111
AKASG PKKPbc PKKPbc 21 48 13.7 -1.4
comp=Z,1.8nm,0.6s,baz=263,slow=2.6,SNR=10
AKASG LR LR 22 08 15.1
comp=Z,19μm,18.1s,MS6.5,baz=55,slow=38
AKBB Malin Array Si 79.75 323 *e*P **P 21 29 27.5 -1.2**
E15A Deer Lodge 79.81 42 ⇓P **P 21 29 29.6 +0.6**
baz=80
E15A ⇑S S 21 39 29.9 -0.1
baz=80
PTK Pertek 79.82 309 *e*P **P 21 29 27.3 -1.8**
P08A Dixie Valley 79.84 50 ⇓P **P 21 29 29.9 +0.7**
baz=80
P08A ⇑S S 21 39 30.6 +0.2
baz=80
V04C Ramage Ranch, 79.90 55 ⇑P **P 21 29 30.5 +1.0**
baz=80,SNR=6.4
V04C ⇓S S 21 39 34.5 +3.6
baz=80
M10A I.L. Ranch, Tu 79.94 48 ⇑P **P 21 29 29.5 -0.3**
baz=80,SNR=33
M10A ⇑S S 21 39 32.7 +1.3
baz=80
R07C Lee Vining 79.98 52 ⇓P **P 21 29 30.2 +0.2**
baz=80,SNR=56
R07C ⇑S S 21 39 32.3 +0.5
baz=80
PKD Parkfield 79.98 54 ⇓P **P 21 29 29.9 -0.1**
baz=80,SNR=21
PKD ⇓S S 21 39 31.0 -0.8
baz=80
BMN Battle Mountai 80.05 49 *e*P **P 21 29 28.8 -1.5**
BMN MLR MLR
comp=Z,20μm,22.0s,MS6.4
T06C Millerton Lake 80.05 53 ⇑P **P 21 29 30.4 0.0**
baz=80,SNR=31
T06C ⇑S S 21 39 30.7 -1.8
baz=80
U05C Westside ANR, 80.09 54 ⇓P **P 21 29 31.0 +0.4**
baz=80
SIM Simferopol' 80.12 316 *c i*P **P 21 29 30.2 -0.5**
SIM *e*S S 21 39 36.0 +2.8
SIM pmax pmax
comp=Z,65nm,1.0s,mb5.5
SIM MLR MLR
comp=E,10μm,16.0s
HRY Holter Researc 80.13 42 *e*P **P 21 29 32.6 +1.9**
KCC Kaiser Creek 80.17 53 ⇓P **P 21 29 31.1 +0.1**
baz=80,SNR=25
KCC ⇓S S 21 39 33.3 -0.5
baz=80
O09A Fish Creek Ran 80.20 49 P **P 21 29 31.2 0.0**
baz=80,SNR=42
O09A ⇑S S 21 39 32.7 -1.3
baz=80
LRM Limekiln Ridge 80.24 43 *e*P **P 21 29 31.7 +0.3**
HLID Hailey 80.24 45 *e*P **P 21 29 30.0 -1.4**
HLID LR LR
comp=Z,9μm,22.0s,MS6.1
HLID Hailey 80.24 45 P **P 21 29 32.0 +0.6**
baz=80,SNR=59
HLID ⇓S S 21 39 36.9 +2.4
baz=80
ELZG Elazig 80.29 309 *i* P **P 21 29 31.6 0.0**
NVAR Mina Array Bea 80.32 51 P **P 21 29 32.0 +0.1**
comp=Z,22nm,0.7s,mb5.2,baz=300,slow=6.0,SNR=79
MLAC Mammoth Lakes 80.35 52 ⇑P **P 21 29 31.7 -0.3**
baz=80
MLAC ⇓S S 21 39 38.2 +2.6
baz=80
Q08A Gabbs 80.36 51 ⇑P **P 21 29 31.9 -0.2**
baz=80,SNR=16
Q08A ⇓S S 21 39 37.6 +1.9
baz=80
DLMT Dillon 80.40 43 *e*P **P 21 29 32.3 +0.1**
comp=Z,186nm,1.2s,mb5.9
M11A Holland Ranch, 80.47 48 ⇑P **P 21 29 33.2 +0.5**
baz=80,SNR=15
M11A ⇓S S 21 39 36.2 -0.8
baz=80
V05C Boulder Hill, 80.47 54 ⇓P **P 21 29 33.5 +0.9**
baz=80
V05C ⇑S S 21 39 38.3 +1.3
baz=80
R08A Mina 80.49 51 ⇑P **P 21 29 32.8 +0.1**
baz=80
R08A ⇑S S 21 39 38.3 +1.2
baz=80
MCMT McKenzie Canyo 80.53 44 *e*P **P 21 29 32.8 -0.2**
P09A Austin 80.54 50 ⇑P **P 21 29 33.2 +0.2**
baz=80
P09A ⇓S S 21 39 37.5 -0.2
baz=80
FFC Flin Flon 80.58 31 P **P 21 29 32.5 -0.7**
comp=Z,738nm,1.0s,mb6.6,SNR=35
EGMT Eagleton 80.59 40 *e*P **P 21 29 34.2 +1.0**
comp=Z,207nm,1.4s,mb5.9
EGMT LR LR
comp=Z,9μm,22.0s,MS6.1
EGMT Eagleton 80.59 40 ⇓P **P 21 29 33.6 +0.3**
baz=80,SNR=12
EGMT ⇑S S 21 39 37.4 -0.8
baz=80
O10A Cortez Mining, 80.59 49 ⇓P **P 21 29 33.5 +0.2**
baz=80
O10A ⇑S S 21 39 40.1 +2.0
baz=80
HFS Hagfors 80.61 336 P **P 21 29 32.2 -1.2**
comp=Z,169nm,0.9s,mb6.0,baz=64,slow=6.9,SNR=55
MTUM Tungsten Hills 80.68 52 *e*P **P 21 29 34.7 +1.0**

MTUM *e*PP PP 21 32 41.7 +4.0
SMMC Simmler 80.68 55 ⇑P P 21 29 34.1 +0.4
baz=81,SNR=10
SMMC ⇑S S 21 39 40.7 +1.6
baz=81
HELL Mitchell Peak, 80.69 53 ⇓P P 21 29 33.7 -0.1
baz=81,SNR=30
HELL ⇑S S 21 39 39.4 +0.2
baz=81
RCTC Rector, Farmer 80.72 54 ⇑P P 21 29 33.6 -0.4
baz=81
MYA Malataya 80.76 309 *e*P **P 21 29 35.5 +1.3**
DOMB Dombas 80.76 339 *e*P **P 21 29 33.4 -0.8**
DOMB AMb AMB 21 29 38.6
comp=Z,339nm,1.4s,mb6.1
SUW Suwalki 80.78 328 *e*P **P 21 29 33.5 -0.8**
SUW *e*PcP PcP 21 29 37.9 -3.0
SUW *e*pP pP 21 29 41.8 -2.4
SUW *e*S S 21 39 40.2 0.0
SUW *e*SKS 21 39 44.6
SUW L 22 09 33.7
comp=Z,28nm,17.1s
SUW Suwalki 80.78 328 *e*P **P 21 29 33.5 -0.8**
SUW *e*PcP PcP 21 29 37.9 -3.0
SUW *e*pP pP 21 29 41.8 -2.4
SUW *e*S S 21 39 40.2 0.0
SUW *e*SKS 21 39 44.6
NB2 NORSAR Subarra 80.81 338 P **P 21 29 33.5 -0.9**
comp=Z,441nm,1.2s,mb6.3,baz=43,slow=5.6
NB2 NORSAR Subarra 80.81 338 P **P 21 29 33.5 -0.9**
NB2 pmax pmax
comp=Z,441nm,1.2s,mb6.3
NOA NORSAR Array B 80.81 338 P **P 21 29 33.1 -1.3**
comp=Z,116nm,0.9s,mb5.8,baz=43,slow=5.3,SNR=104
NOA PKKPbc PKKPbc 21 48 12.1 -0.7
comp=Z,1.8nm,0.8s,baz=228,slow=2.2,SNR=4.3
NOA LR LR 22 11 39.7
comp=Z,15μm,18.6s,MS6.4,baz=15,slow=40
N11A Elko Archery C 80.82 48 ⇓P **P 21 29 34.6 0.0**
baz=81
N11A ⇑S S 21 39 43.4 +2.8
baz=81
MOL Molde 80.83 340 *e*P **P 21 29 34.2 -0.3**
MOL AMS AMS 22 11 44.7
comp=Z,17μm,18.9s,MS6.4
S08C White Mtn Res 80.87 52 P **P 21 29 35.4 +0.6**
baz=81,SNR=71
S08C ⇑S S 21 39 43.2 +2.1
baz=81
Q09A Carvers 80.88 51 ⇓P **P 21 29 34.9 +0.1**
baz=81
Q09A ⇓S S 21 39 41.7 +0.5
baz=81
SVSK Karacayir 80.91 311 *e*P **P 21 29 33.1 -1.9**
URFA Urfa 80.93 308 *e*P **P 21 29 33.5 -1.5**
KVT Kavak 80.93 312 *e*P **P 21 29 33.1 -2.0**
P10A Eureka 80.96 50 P **P 21 29 35.4 +0.2**
baz=81,SNR=10
P10A ⇓S S 21 39 42.8 +0.8
baz=81
PKM Peak Mountain 81.01 55 ⇓P **P 21 29 35.3 -0.2**
baz=81,SNR=29
PKM ⇓S S 21 39 44.5 +1.9
baz=81
M12A Wells 81.04 47 ⇓P **P 21 29 36.1 +0.4**
baz=81,SNR=44
M12A ⇑S S 21 39 43.9 +0.9
baz=81
TIN Tinemaha 81.06 53 ⇓P **P 21 29 35.5 -0.3**
baz=81
TIN ⇑S S 21 39 45.3 +2.3
baz=81
NAO01 NORSAR Array S 81.06 337 *e*P **P 21 29 33.8 -2.0**
comp=Z,188nm,1.1s,mb5.9
NAO01 LR LR
comp=Z,19μm,20.0s,MS6.5
VES Vestal, Richgr 81.07 54 ⇑P **P 21 29 35.6 -0.3**
baz=81,SNR=25
VES ⇓S S 21 39 44.0 +0.9
baz=81
DIKM Dikmen 81.14 313 *e*P **P 21 29 36.4 +0.2**
FCC Fort Churchill 81.18 25 *e*P **P 21 29 36.9 +0.5**
FCC pmax pmax
comp=Z,302nm,1.7s,mb6.0
FCC Fort Churchill 81.18 25 *e*P **P 21 29 36.9 +0.5**
comp=Z,302nm,1.7s,mb6.0
O11A Cowboy Ranch, 81.23 49 ⇑P **P 21 29 37.0 +0.3**
baz=81
O11A ⇑S S 21 39 45.5 +0.7
baz=81
TPH Tonopah 81.23 51 *e*P **P 21 29 37.6 +0.9**
TPH pmax pmax
comp=Z,186nm,1.4s,mb5.8
TPH Tonopah 81.23 51 *e*P **P 21 29 37.6 +0.9**
comp=Z,186nm,1.4s,mb5.8
R09A Tonopah 81.25 51 ⇑P **P 21 29 37.1 +0.3**
baz=81,SNR=80
R09A ⇓S S 21 39 46.0 +0.9
baz=81
N12A Clover Valley, 81.26 48 ⇑P **P 21 29 37.1 +0.3**
baz=81
N12A ⇓S S 21 39 45.0 -0.1
baz=81
ATAB Bozova 81.28 308 *i* P **P 21 29 33.2 -3.8**
SBC Santa Barbara 81.31 55 ⇓P **P 21 29 37.1 0.0**
baz=81
SBC ⇑S S 21 39 47.7 +2.1
baz=81
QLMT Earthquake Lak 81.38 43 *e*P **P 21 29 37.8 +0.3**
S09A Goldfield 81.41 52 P **P 21 29 37.5 -0.1**
baz=81,SNR=47
S09A ⇑S S 21 39 47.8 +1.1
baz=81
P11A Circle Ranch, 81.46 49 ⇑P **P 21 29 38.2 +0.3**
baz=81
CWC Cottonwood Cre 81.47 53 ⇓P **P 21 29 38.0 +0.1**
baz=81,SNR=15
CWC ⇓S S 21 39 47.2 -0.1
baz=81
BOYT Boyabat 81.49 313 *i* P **P 21 29 38.1 0.0**
BYBT Boyabat 81.55 313 *e*P **P 21 29 38.3 0.0**
M13A Montello 81.55 47 ⇓P **P 21 29 38.9 +0.5**
baz=81,SNR=26
ISA Isabella 81.58 54 *e*P **P 21 29 37.7 -0.8**
ISA MLR MLR
comp=Z,9μm,22.0s,MS6.1
ISA Isabella 81.58 54 ⇑P **P 21 29 37.9 -0.6**
baz=82,SNR=23
ISA ⇓S S 21 39 45.2 -3.3
baz=82
BSC Santa Cruz Isl 81.59 56 ⇑P **P 21 29 37.5 -1.1**
baz=82
BSC ⇑S S 21 39 48.6 +0.1
baz=82
ARVC Arvin 81.60 54 ⇑P **P 21 29 38.6 0.0**
baz=82
ARVC ⇑S S 21 39 49.4 +0.8
baz=82
GRAC Grapevine Rang 81.68 52 ⇓P **P 21 29 38.9 -0.1**
baz=82,SNR=8.7
GRAC ⇑S S 21 39 50.0 +0.5
baz=82
R10A Warm Springs 81.75 51 ⇓P **P 21 29 39.2 -0.2**
baz=82,SNR=18
R10A ⇑S S 21 39 52.3 +2.1
baz=82
YMR Madison River 81.75 43 *e*P **P 21 29 40.3 +0.9**
comp=Z,174nm,1.4s,mb5.8
YMR LR LR
comp=Z,8μm,20.0s,MS6.1
O12A Currie 81.75 48 ⇑P **P 21 29 39.2 -0.2**
baz=82,SNR=30
O12A ⇑S S 21 39 50.3 0.0
baz=82
BZK Bozkurt 81.78 314 *e*P **P 21 29 40.1 +0.5**
OSL Oslo 81.78 337 *e*P **P 21 29 39.0 -0.6**
N13A Wendover, West 81.80 48 P **P 21 29 40.0 +0.3**
baz=82,SNR=17
N13A ⇑S S 21 39 52.5 +1.8
baz=82
GZT Gaziantep 81.84 308 *i* P **P 21 29 39.4 -0.5**
GCMT Greycliff 81.89 42 *e*P **P 21 29 40.2 0.0**
DAC Darwin (Calif) 81.89 53 *e*P **P 21 29 40.8 +0.6**
DAC MLR MLR
comp=Z,25μm,22.0s,MS6.5
YNR Norris Junctio 81.89 43 *e*P **P 21 29 42.8 +2.6**
Q11A Duckwater 81.89 50 ⇓P **P 21 29 40.4 +0.2**
baz=82,SNR=32
Q11A ⇑S S 21 39 52.1 +0.4
baz=82
OSI Osito Adit 81.93 55 ⇑P **P 21 29 40.4 0.0**
baz=82
OSI ⇓S S 21 39 51.3 -0.8
baz=82
BLG Laguna Peak 81.94 55 ⇑P **P 21 29 40.3 -0.1**
baz=82
BLG ⇓S S 21 39 52.4 +0.3
baz=82
YFT Old Faithful 81.95 43 *e*P **P 21 29 43.1 +2.6**
CTKT Corum 81.98 312 *i* P **P 21 29 40.8 +0.2**
SNCC San Nicolas Is 82.04 56 PFAKE 21 29 50.0 +9.1
SNCC LR LR
comp=Z,18μm,19.0s,MS6.5
SNCC San Nicolas Is 82.04 56 ⇑P **P 21 29 41.2 +0.3**
baz=82
SNCC ⇑S S 21 39 53.2 0.0
baz=82
P12A McGill 82.06 49 ⇓P **P 21 29 41.0 -0.1**
baz=82,SNR=38
P12A ⇑S S 21 39 53.9 +0.4
baz=82
MPMC Manual Prospec 82.07 53 ⇑P **P 21 29 41.0 -0.1**
baz=82,SNR=32
MPMC ⇓S S 21 39 54.0 +0.5
baz=82
PMOR Pomariorio Ree 82.08 112 *e*P **P 21 29 43.7 +2.6**
KIS Kishinev 82.08 320 ⇓*i*P **P 21 29 39.0 -2.2**
comp=Z,4μm,8.0s
KIS Kishinev 82.08 320 *i* PP PP 21 32 42.0 -7.3
comp=Z,2μm,10.0s
KIS *i* S S 21 39 50.0 -3.6
comp=Z,4μm,10.0s
KIS *e*SS SS 21 45 40.0 +27
KIS LQM 22 06 22.0
comp=Z,22μm,16.0s
KIS LRM 22 10 07.0
comp=Z,14μm,15.0s
LKWY Lake 82.14 43 *e*P **P 21 29 43.6 +2.1**
LKWY pmax pmax
comp=Z,118nm,1.1s,mb5.7
LKWY MLR MLR
comp=Z,10μm,20.0s,MS6.2
LKWY Lake 82.14 43 *e*P **P 21 29 43.6 +2.1**
comp=Z,118nm,1.1s,mb5.7
LKWY LR LR
comp=Z,10μm,20.0s,MS6.2
PPT Papeete 82.15 115 *e*S S 21 39 51.7 -2.6
PPT *e*SS SS 21 45 09.2 -5.0
comp=Z,3μm,26.2s
PPT *e*LQ 21 51 10.0
comp=Z,20μm,33.0s
PPT *e*LR LR 21 54 24.4
comp=Z,22μm,27.0s,baz=311
PPT Papeete 82.15 115 LR LR 22 00 47.4
comp=Z,5μm,19.3s,MS5.9,baz=301,slow=32
YOZ Yozgat 82.16 311 *e*P **P 21 29 41.4 -0.2**
GAZ Gaziantep 82.17 308 *e*P **P 21 29 40.2 -1.4**
IMW Indian Meadow 82.19 44 *e*P **P 21 29 41.7 0.0**
comp=Z,92nm,0.9s,mb5.7
PAE Paea 82.20 115 *e*P **P 21 29 44.3 +2.5**
HVU Hansel Valley 82.21 46 *e*P **P 21 29 42.1 +0.2**
KMRS Kahramanmaras 82.21 309 *e*P **P 21 29 38.8 -3.0**
BNN Bunyan 82.22 310 *e*P **P 21 29 42.2 +0.2**
LRMC Laurel Mountai 82.23 54 ⇓P **P 21 29 41.8 -0.1**
baz=82,SNR=38
LRMC ⇓S S 21 39 54.2 -1.0
baz=82
FLWY Flagg Ranch 82.23 43 *e*P **P 21 29 43.4 +1.5**
TOS Tosya 82.26 313 *e*P **P 21 29 42.7 +0.6**
RRI2 Red Ridge 82.26 44 *e*P **P 21 29 43.1 +1.0**
FURC Furnace Creek, 82.30 52 ⇑P **P 21 29 42.2 -0.2**
baz=82,SNR=15
FURC ⇑S S 21 39 56.4 +0.6
baz=82
EDW2 Edwards Air Fo 82.32 54 P **P 21 29 42.5 +0.1**
baz=82,SNR=35
EDW2 ⇑S S 21 39 57.9 +1.9
baz=82
CORM Corum 82.32 312 *e*P **P 21 29 42.7 +0.3**
Q12A Willow Creek R 82.34 49 ⇓P **P 21 29 42.9 +0.4**
baz=82,SNR=16
Q12A ⇑S S 21 39 57.3 +1.0
baz=82
KONO Kongsberg 82.38 337 *e*P **P 21 29 40.8 -1.9**
KONO *e*PP PP 21 32 48.6 -3.2
KONO *e*S S 21 39 59.7 +3.0
KONO Kongsberg 82.38 337 *e*P **P 21 29 42.8 0.0**
KONO LR LR
comp=Z,22μm,19.0s,MS6.5
MOOW Moose Ponds 82.39 44 *e*P **P 21 29 43.5 +0.7**
BALT Daday 82.39 314 *i* P **P 21 29 43.1 +0.3**
DECC Green Verdugo 82.39 55 ⇑P **P 21 29 42.3 -0.5**
baz=82
DECC ⇓S S 21 39 57.3 +0.5
baz=82
TPAW Teton Pass 82.41 44 *e*P **P 21 29 42.8 -0.1**
VAH Vaihoa 82.42 112 *e*P **P 21 29 45.2 +2.3**
RLMT Red Lodge 82.50 42 *e*P **P 21 29 43.8 +0.4**
comp=Z,125nm,1.2s,mb5.7
RLMT LR LR
comp=Z,10μm,20.0s,MS6.2
BGU Big Grassy Mou 82.51 47 *e*P **P 21 29 43.7 +0.3**
TVO Taravao 82.53 115 *e*P **P 21 29 46.4 +2.9**
REDW Red Top Meadow 82.54 44 *e*P **P 21 29 43.5 -0.1**
SNOW Snow King Moun 82.54 44 *e*P **P 21 29 44.6 +1.0**
comp=Z,122nm,1.2s,mb5.8
LOHW Long Hollow 82.55 44 *e*P **P 21 29 44.3 +0.7**
MWC Mount Wilson 82.60 55 *e*P **P 21 29 44.8 +0.9**
SPUT South Promonto 82.67 47 *e*P **P 21 29 43.1 -1.2**
U10A Ash Meadows, A 82.69 52 ⇑P **P 21 29 44.7 +0.3**
baz=83,SNR=21
U10A ⇓S S 21 40 00.5 +0.7
baz=83
FMP Fort Macarthur 82.70 55 ⇑P **P 21 29 44.1 -0.3**
baz=83
FMP ⇓S S 21 40 00.3 +0.4
baz=83
AHID Auburn Hatcher 82.72 45 *e*P **P 21 29 45.1 +0.6**
comp=Z,98nm,1.2s,mb5.7
AHID LR LR
comp=Z,12μm,21.0s,MS6.2
CANT Cankiri 82.75 313 *e*P **P 21 29 46.5 +1.8**
CIS Catalina Islan 82.77 56 ⇓P **P 21 29 44.5 -0.3**
baz=83
CIS ⇓S S 21 40 02.9 +2.3
baz=83
CDAG Cicekdag 82.79 312 *i* P **P 21 29 44.7 -0.2**
SUE Sulen 82.84 340 *e*P **P 21 29 46.6 +1.5**
BFSC Mount Baldy St 82.88 55 ⇓P **P 21 29 45.0 -0.4**
baz=83,SNR=12
BFSC ⇓S S 21 40 03.5 +1.7
baz=83
SCI San Clemente I 82.88 56 ⇓P **P 21 29 45.0 -0.3**
baz=83
SCI ⇓S S 21 40 06.2 +4.4
baz=83
WAR Warsaw 82.91 327 *e*P **P 21 29 45.9 +0.4**
WAR *e*PcP PcP 21 29 48.1 -2.1
WAR *e*S S 21 40 04.2 +2.1
WAR L 22 07 00.3
comp=Z,16nm,20.6s
ELDT Eldivan 82.93 313 *i* P **P 21 29 44.8 -0.9**
GSC Goldstone 82.94 53 *e*P **P 21 29 46.8 +1.2**
GSC Goldstone 82.94 53 ⇓P **P 21 29 45.5 -0.1**
baz=83,SNR=30
GSC ⇓S S 21 40 05.8 +3.4
baz=83
KOZT Kozan 82.95 309 *e*P **P 21 29 45.0 -0.7**
LVV L'vov 82.96 324 *c i*P **P 21 29 46.2 +0.4**
LVV *e*S S 21 40 03.2 +0.6
LVV *e*PS 21 40 55.2
LVV *e*SSS 21 48 55.8
LVV MLR MLR
comp=N,16μm,16.0s,MS6.7
LVV MLR MLR
comp=E,23μm,16.0s,MS6.7
LVV MLR MLR
comp=Z,31μm,16.0s,MS6.8
SAFT Safranbolu 83.00 314 *e*P **P 21 29 47.0 +1.0**
SHOC Shoshone 83.00 53 ⇑P **P 21 29 46.0 +0.1**
baz=83
SHOC ⇑S S 21 40 07.0 +4.0
baz=83
RRX Edison Barstow 83.02 54 ⇓P **P 21 29 45.9 -0.1**
baz=83
DUG Dugway 83.04 48 *e*P **P 21 29 46.6 +0.4**
DUG pmax pmax
comp=Z,163nm,1.2s,mb5.9
DUG MLR MLR
comp=Z,17μm,20.0s,MS6.4
DUG Dugway 83.04 48 *e*P **P 21 29 46.6 +0.4**
comp=Z,163nm,1.2s,mb5.9
DUG LR LR
comp=Z,17μm,20.0s,MS6.4
DUG Dugway 83.04 48 ⇑P **P 21 29 46.4 +0.3**
baz=83,SNR=32
DUG ⇑S S 21 40 07.3 +3.9
baz=83
HWUT Hardware Ranch 83.07 46 *e*P **P 21 29 46.2 -0.1**
HWUT LR LR
comp=Z,14μm,22.0s,MS6.3
ASK Askoy 83.16 339 *e*P **P 21 29 46.8 0.0**
ASK AMb AMB 21 29 52.7
comp=Z,455nm,1.6s,mb6.2
BER Bergen 83.20 339 *e*P **P 21 29 46.0 -0.9**
BER *e*P 21 29 46.7
BER AMb AMB 21 29 53.2
comp=Z,274nm,1.6s,mb6.0
BER *e*S S 21 40 06.8 +1.8
BER *e* 21 51 25.1
BER AMS AMS 22 13 09.5
comp=Z,14μm,17.7s,MS6.4
BR131 Keskin Array S 83.21 312 *e*P **P 21 29 46.3 -0.8**
BR131 LR LR
comp=Z,5μm,20.0s,MS5.9
BRTR Keskin Array B 83.21 312 P **P 21 29 46.1 -0.9**
comp=Z,51nm,0.7s,mb5.7,baz=103,slow=3.4,SNR=78
BRTR PKKPbc PKKPbc 21 48 07.5 +0.1
comp=Z,1.8nm,0.6s,baz=206,slow=3.7,SNR=13
BRTR PKPPKP 21 56 15.3
comp=Z,1.0nm,1.0s,baz=160,slow=3.9,SNR=6.0
BRTR LR LR 22 11 45.8
comp=Z,6μm,19.1s,MS6.0,baz=40,slow=39
CEYT Ceyhan 83.25 309 *e*P **P 21 29 46.5 -0.8**
EGD Espegrend 83.32 339 *e*P **P 21 29 47.0 -0.6**
EGD AMb AMB 21 29 53.4
comp=Z,475nm,1.9s,mb6.2
LAO LASA Array 83.32 39 *e*P **P 21 29 47.8 +0.2**
LAO LR LR
comp=Z,10μm,21.0s,MS6.2
U11A Corn Creek 83.34 52 ⇓P **P 21 29 47.5 -0.2**
baz=83
U11A ⇓S S 21 40 07.7 +1.3
baz=83
DGMT Dagmar 83.35 37 *e*P **P 21 29 47.9 +0.2**
DGMT LR LR
comp=Z,10μm,20.0s,MS6.2
KAMT Kaman 83.35 312 *e*P **P 21 29 47.0 -0.8**
BBRC Big Bear Sol-O 83.39 54 ⇑P **P 21 29 47.8 -0.1**
baz=83
BBRC ⇑S S 21 40 07.5 +0.5
baz=83
TCUT Toone Canyon 83.44 46 *e*P **P 21 29 49.5 +1.3**
SHPR Sheep Range 83.45 52 *e*P **P 21 29 49.4 +1.1**
HTY Hatay 83.45 308 *e*P **P 21 29 50.3 +2.0**
TUQ Turquoise Mtn. 83.48 53 ⇑P **P 21 29 48.7 +0.2**
baz=83,SNR=69
TUQ ⇓S S 21 40 09.5 +1.5
baz=83
HEC Hector,Ludlow 83.52 54 ⇑P **P 21 29 48.8 +0.2**
baz=83,SNR=5.4
HEC ⇑S S 21 40 10.1 +1.9
baz=83
CFR Carcaliu 83.52 319 ⇓*i*P **P 21 29 50.7 +2.1**
CFR Carcaliu 83.52 319 ⇓P **P 21 29 50.6 +2.0**
MURC Murrieta 83.53 55 ⇑P **P 21 29 48.2 -0.5**
baz=83
MURC ⇓S S 21 40 08.9 +0.5
baz=83
KARA Karaisali 83.59 309 *e*P **P 21 29 48.4 -0.6**
BLS5 Blasjo 83.59 338 *e*P **P 21 29 49.9 +0.9**
BLS5 AMb AMB 21 29 55.6
comp=Z,196nm,1.4s,mb6.0
NLU North Lily Min 83.65 48 *e*P **P 21 29 49.4 +0.1**
BW06 Boulder Array 83.66 44 *e*P **P 21 29 48.4 -1.0**
BW06 LR LR
comp=Z,14μm,21.0s,MS6.3
PDAR Pinedale Array 83.66 44 P **P 21 29 49.5 +0.2**
comp=Z,18nm,0.8s,mb5.3,baz=264,slow=1.5,SNR=28
PDAR LR LR 22 01 02.9
comp=Z,11μm,21.1s,MS6.2,baz=327,slow=31
BSD Bornholm Skovb 83.67 332 *i* S S 21 40 07.4 -2.4
BSD
comp=Z,12μm,20.0s
BSD Bornholm Skovb 83.67 332 *i* P **P 21 29 50.8 +1.4**
BSD *i* S S 21 40 07.4 -2.4
BSD pmax pmax
comp=Z,313nm,1.3s,mb6.3
BSD Bornholm Skovb 83.67 332 *i* P **P 21 29 50.8 +1.4**
comp=Z,313nm,1.3s,mb6.3
BSD *i* S S 21 40 07.4 -2.4
ANTO Ankara 83.68 312 *e*P **P 21 29 49.2 -0.2**
ANTO Ankara 83.68 312 ⇓*i*P **P 21 29 49.3 -0.1**
ANTO Ankara 83.68 312 *e*P **P 21 29 48.9 -0.5**
ANTO pmax pmax
comp=Z,176nm,1.2s,mb6.1
ANTO MLR MLR
comp=Z,7μm,19.0s,MS6.1
ANTO Ankara 83.68 312 *e*P **P 21 29 48.9 -0.6**
comp=Z,176nm,1.2s,mb6.1
ANTO LR LR
comp=Z,7μm,19.0s,MS6.1
BURAR Bucovina Array 83.69 322 ⇓*i*P **P 21 29 48.9 -0.6**
BURAR Bucovina Array 83.69 322 ⇓P **P 21 29 48.9 -0.6**
KDZE Karadeniz Ereo 83.74 314 *e*P **P 21 29 47.0 -2.8**
KRTS Karatas 83.74 309 *e*P **P 21 29 49.8 +0.1**
KWP Kalwaria 83.75 325 *e*P **P 21 29 50.4 +0.6**
KWP *e*PcP PcP 21 29 52.8 -1.1
KWP *e*pP pP 21 29 57.6 -2.1
KWP *e*pS 21 40 12.9
KWP *e*S S 21 40 18.6 +8.0
KWP L 22 10 38.4
comp=Z,60nm,16.8s
KWP Kalwaria 83.75 325 *e*P **P 21 29 50.4 +0.6**
KWP *e**PP pP 21 29 57.6 -2.1
KWP *e*PS 21 40 12.9
KWP Kalwaria 83.75 325 *e*P **P 21 29 50.4 +0.6**
KWP *e*PcP PcP 21 29 52.8 -1.1
KWP *e*pP pP 21 29 57.6 -2.1
KWP *e*PS 21 40 12.9
KWP *e*S S 21 40 18.6 +8.0
SGKT Sivrigoynuk 83.76 313 *i* P **P 21 29 47.5 -2.3**
TIRR Tirgusor 83.78 318 ⇓*i*P **P 21 29 48.6 -1.4**
TIRR Tirgusor 83.78 318 *e*P **P 21 29 48.8 -1.1**
comp=Z,62nm,0.9s,mb5.7
MPU Maple Canyon 83.90 47 *e*P **P 21 29 50.7 +0.1**
VRI Vrincioaia 83.91 320 ⇓*i*P **P 21 29 50.6 -0.1**
VRI Vrincioaia 83.91 320 ⇓P **P 21 29 50.6 0.0**
U12A Valley of Fire 83.92 52 ⇑P **P 21 29 50.6 -0.1**
baz=84,SNR=8.7
U12A ⇑S S 21 40 13.4 +1.2
baz=84
DAU Daniels Canyon 83.92 47 *e*P **P 21 29 51.5 +0.8**
HARR Harsova 83.92 318 ⇓*i*P **P 21 29 50.7 0.0**
HARR Harsova 83.92 318 ⇓P **P 21 29 50.7 0.0**
ARUT Antelope Range 83.93 50 *e*P **P 21 29 50.8 +0.1**
GKP Gorka Klasztor 83.96 330 *e*P **P 21 29 50.7 -0.2**
GKP *e*PcP PcP 21 29 53.1 -1.7
GKP *e*pP pP 21 29 58.2 -2.6
GKP *e*ScS ScS 21 40 17.6 -7.5
GKP L 22 10 56.1
comp=Z,26nm,18.6s
109C Camp Elliot, M 83.97 56 ⇓P **P 21 29 50.7 -0.2**
baz=84
109C ⇓S S 21 40 13.8 +1.0
baz=84
PFO Pinyon Flat Ob 84.06 55 P **P 21 29 51.9 +0.5**
comp=Z,353nm,0.8s,mb6.5,SNR=18
PFO Pinyon Flat Ob 84.06 55 *e*P **P 21 29 51.1 -0.3**
PFO pmax pmax
comp=Z,175nm,1.4s,mb6.0
PFO MLR MLR
comp=Z,6μm,19.0s,MS6.0
PFO Pinyon Flat Ob 84.06 55 *e*P **P 21 29 51.1 -0.3**
comp=Z,175nm,1.4s,mb6.0
PFO LR LR
comp=Z,6μm,19.0s,MS6.0
PFO Pinyon Flat Ob 84.06 55 ⇓P **P 21 29 51.5 +0.1**

baz=84,SNR=32
PFO ⇓S S 21 40 13.5 -0.2
baz=84
V12A Nelson 84.08 52 ⇑P **P 21 29 51.3 -0.2**
baz=84,SNR=34
V12A ⇓S S 21 40 14.0 +0.2
baz=84
CCUT Cedar City 84.11 50 *e*P **P 21 29 52.4 +0.7**
BELC Belle Mtn. 84.18 54 ⇓P **P 21 29 51.4 -0.6**
baz=84,SNR=38
BELC ⇓S S 21 40 15.0 +0.1
baz=84
STAV Stavanger 84.22 338 *e*P **P 21 29 52.5 +0.3**
STAV AMb AMB 21 29 57.4
comp=Z,337nm,1.6s,mb6.2
COP Copenhagen 84.26 333 *i* P **P 21 29 53.4 +1.0**
comp=Z,274nm,1.1s,mb6.3
COP Copenhagen 84.26 333 *i* S S 21 40 16.7 +0.9
COP
comp=Z,11μm,18.0s
COP Copenhagen 84.26 333 *e*P **P 21 29 53.4 +1.0**
COP *i* S S 21 40 16.7 +0.9
COP pmax pmax
comp=Z,274nm,1.1s,mb6.3
COP MLR MLR
comp=Z,11μm,18.0s,MS6.3
COP Copenhagen 84.26 333 *e*P **P 21 29 53.4 +1.0**
comp=Z,274nm,1.1s,mb6.3
COP *i* S S 21 40 16.7 +0.9
COP LR LR
comp=Z,11μm,18.0s,MS6.3
W12A Cal Nev Ari 84.29 53 ⇓P **P 21 29 52.5 0.0**
baz=84
W12A ⇓S S 21 40 16.0 0.0
baz=84
FRB Frobisher Bay 84.33 12 P **P 21 29 51.9 -0.9**
comp=Z,86nm,0.8s,mb5.9,baz=341,slow=5.6,SNR=26
FRB LR LR 22 10 15.8
comp=Z,13μm,21.9s,MS6.2,baz=338,slow=38
MVU Marysvale 84.36 49 PFAKE 21 30 00.0 +7.1
MVU LR LR
comp=Z,21μm,22.0s,MS6.5
PSN Preselentsi 84.36 318 *e*P **P 21 29 53.0 +0.1**
MSU Marysvale 84.37 49 *e*P **P 21 29 53.4 +0.4**
BAR Barrett 84.39 56 *e*P **P 21 29 53.7 +0.6**
KOLS Kolonicke sedl 84.41 324 *e*P **P 21 29 53.4 +0.2**
KOLS *e*S S 21 40 15.3 -2.0
MONP Monument Peak 84.46 55 ⇓P **P 21 29 53.3 -0.1**
baz=84,SNR=22
MONP ⇓S S 21 40 18.0 +0.3
baz=84
TMUT Trail Mountain 84.57 48 *e*P **P 21 29 54.1 +0.1**
MLR Muntele Rosu 84.58 320 P **P 21 29 54.1 0.0**
comp=Z,86nm,1.3s,mb5.7,baz=31,slow=4.3,SNR=30
MLR Muntele Rosu 84.58 320 ⇓*i*P **P 21 29 53.1 -0.9**
MLR Muntele Rosu 84.58 320 ⇓P **P 21 29 53.1 -0.9**
UZH Uzhgorod 84.60 324 ⇓*i*P **P 21 29 53.2 -0.9**
UZH *e* 21 33 17.0
UZH *i* S S 21 40 17.0 -2.1
UZH *e*PS 21 41 31.0
UZH pmax pmax
comp=Z,112nm,1.5s,mb5.8
UZH MLR MLR
comp=Z,29μm,16.0s,MS6.8
STHS Stebnicka Huta 84.62 325 *e*P **P 21 29 55.2 +0.9**
STHS Stebnicka Huta 84.62 325 *e*P **P 21 29 55.3 +1.0**
STHS pmax pmax
comp=Z,33nm,0.8s,mb5.5
STHS Stebnicka Huta 84.62 325 *e*P **P 21 29 55.3 +1.0**
comp=Z,33nm,0.8s,mb5.5
IRM Iron Mountain 84.70 54 ⇓P **P 21 29 54.4 -0.3**
baz=85,SNR=39
IRM ⇑S S 21 40 19.4 -0.6
baz=85
RGN Rugen 84.73 332 *e*P **P 21 29 53.9 -0.9**
comp=Z,356nm,1.3s,mb6.3
RGN *e*S S 21 40 24.0 +3.6
RGN Rugen 84.73 332 *e*P **P 21 29 53.8 -1.0**
comp=Z,303nm,1.1s,mb6.3
BC3 Big Chuckw Mtn 84.75 54 ⇓P **P 21 29 55.1 +0.2**
baz=85,SNR=43
BC3 ⇑S S 21 40 19.4 -1.1
baz=85
DVTC Desert V Tower 84.81 55 ⇑P **P 21 29 54.8 -0.4**
baz=85,SNR=8.0
DVTC ⇑S S 21 40 21.2 0.0
baz=85
OJC Ojcow 84.81 326 *e*P **P 21 29 54.5 -0.7**
OJC *e*S S 21 40 13.7 -7.5
OJC L 22 12 16.0
comp=Z,86nm,18.9s
CRVS Cervenica-Dubn 84.85 325 *e*P **P 21 29 54.8 -0.6**
CRVS *e*S S 21 40 19.9 -1.7
SWSC Sam W. Stewart 84.88 55 ⇓P **P 21 29 55.0 -0.5**
baz=85,SNR=9.1
SWSC ⇓S S 21 40 21.0 -0.9
baz=85
MUD Monsted U'grnd 84.93 335 *i* P **P 21 29 55.2 -0.6**
comp=Z,185nm,0.9s,mb6.2
MUD Monsted U'grnd 84.93 335 *i* S S 21 40 21.4 -1.0
MUD *i* 21 52 19.7
MUD
comp=Z,19μm,19.0s
MUD Monsted U'grnd 84.93 335 *e*P **P 21 29 55.2 -0.6**
MUD *i* S S 21 40 21.4 -1.0
MUD pmax pmax
comp=Z,185nm,0.9s,mb6.2
MUD Monsted U'grnd 84.93 335 *e*P **P 21 29 55.2 -0.6**
comp=Z,185nm,0.9s,mb6.2
MUD *i* S S 21 40 21.4 -1.0
MUD *i* 21 52 19.7
BHL Bhannes 84.96 306 *e*P **P 21 29 55.9 0.0**
BORG Borgarnes 85.01 352 P **P 21 29 54.3 -1.9**
comp=Z,116nm,1.1s,mb5.9,baz=24,slow=3.4,SNR=7.9
BORG LR LR 22 08 55.3
comp=Z,6μm,19.9s,MS6.0,baz=8.4,slow=36
BORG Borgarnes 85.01 352 *e*P **P 21 29 52.9 -3.3**
BORG LR LR
comp=Z,2μm,20.0s,MS5.4
KONT Konya--Tatoy 85.02 311 *e*P **P 21 29 53.6 -2.6**
RCY Rachaya 85.07 306 *e*P **P 21 29 57.1 +0.6**
W13A Hualapai Mount 85.08 52 ⇓P **P 21 29 56.8 +0.3**
baz=85,SNR=18
W13A ⇓S S 21 40 24.6 +0.8
baz=85
NIE Niedzica 85.09 325 *e*P **P 21 29 56.9 +0.3**
NIE e 21 30 09.6
NIE Niedzica 85.09 325 *e*P **P 21 29 56.9 +0.3**
NIE *e* 21 30 09.6
PRD Provadia 85.11 317 *e*P **P 21 29 56.6 -0.1**
VOIR 85.11 320 ⇑*i*P **P 21 29 55.9 -0.8**
VOIR 85.11 320 ⇑P **P 21 29 55.9 -0.8**
SRU San Rafael 85.11 48 *e*P **P 21 29 56.8 +0.1**
ESKT Eskisehir 85.12 313 *e*P **P 21 29 55.1 -1.7**
HRT Hereke 85.12 315 *e*P **P 21 29 55.1 -1.7**
FVA Vagar 85.13 345 *e*P **P 21 29 55.7 -1.1**
BORA Eskisehir 85.17 313 *i* P **P 21 30 01.0 +4.0**
KLYT Kilyos 85.26 315 *e*P **P 21 29 51.7 -5.7**
LRW Lerwick 85.29 342 P **P 21 29 57.1 -0.5**
LRW AMb AMB 21 30 03.3
comp=Z,288nm,1.6s,mb6.1
LRW Lerwick 85.29 342 *e*P **P 21 29 57.1 -0.5**
LRW *e*P 21 29 57.1
LRW AMb AMB 21 30 03.3
comp=Z,288nm,1.6s,mb6.1
LRW AMS AMS 22 10 20.5
comp=Z,8μm,22.1s,MS6.1
TAOE Nuku Hiva Isla 85.29 103 *e*S S 21 40 24.0 -2.0
comp=Z,19μm,29.8s
TAOE *e*SS SS 21 45 52.6 -8.0
comp=Z,7μm,24.6s
TAOE *e*LQ 21 52 42.6
comp=Z,71μm,29.7s
TAOE *e*LR LR 21 55 59.2
comp=Z,66μm,24.2s,baz=301
ADVT Abdulvahap 85.30 314 *e*P **P 21 29 55.1 -2.6**
WAL1 Walls 85.31 342 *e*P **P 21 29 57.1 -0.6**
PDMCI Parker Dam,Lak 85.33 53 ⇑P **P 21 29 57.5 -0.3**
baz=85,SNR=11
PDMCI ⇓S S 21 40 25.9 -0.5
baz=85
Y12C Blythe 85.35 54 ⇓P **P 21 29 57.9 0.0**
baz=85,SNR=15
Y12C ⇑S S 21 40 25.4 -1.2
baz=85

ISK Istanbul-Kandi 85.36 315 *e*P **P 21 29 56.0 -1.9**
ISK Istanbul-Kandi 85.36 315 *e*P **P 21 29 55.8 -2.1**
X13A Yucca 85.39 53 P **P 21 29 58.1 0.0**
baz=85,SNR=28
X13A ⇑S S 21 40 26.2 -0.7
baz=85
YLV Yalova 85.45 314 *e*P **P 21 29 54.6 -3.8**
TBI Tubuai 85.49 120 *e*S S 21 40 23.2 -4.7
comp=Z,4μm,27.2s
TBI *e*SS SS 21 45 52.2 -11
comp=Z,3μm,26.0s
TBI *e*LQ 21 52 39.6
comp=Z,18μm,28.5s
TBI *e*LR LR 21 56 02.8
comp=Z,30μm,32.5s,baz=307
PHNC Paralimni 85.50 308 P **P 21 30 00.2 +1.5**
comp=Z,2.1nm,0.9s
GLA Glamis 85.51 55 *e*P **P 21 29 57.9 -0.8**
GLA Glamis 85.51 55 ⇑P **P 21 29 59.2 +0.5**
baz=85,SNR=29
GLA ⇑S S 21 40 27.5 -0.7
baz=85
DRGR 85.54 322 ⇑*i*P **P 21 29 57.1 -1.8**
DRGR 85.54 322 ⇑P **P 21 29 57.1 -1.8**
W14A Seligman 85.57 52 P **P 21 29 59.2 +0.2**
baz=85,SNR=29
W14A ⇑S S 21 40 27.0 -1.6
baz=85
KECS Kecovo 85.61 325 *e*P **P 21 30 00.6 +1.4**
KECS pmax pmax
comp=Z,34nm,1.5s,mb5.4
KECS Kecovo 85.61 325 *e*P **P 21 30 00.6 +1.4**
comp=Z,34nm,1.5s,mb5.3
GEMT Gemlik 85.64 314 *e*P **P 21 29 56.0 -3.3**
RAC Raciborz 85.67 327 *e*P **P 21 29 59.9 +0.4**
RAC *e*PcP PcP 21 30 01.4 -1.0
RAC *e*pP pP 21 30 07.7 -1.7
RAC LR LR
comp=Z,20μm,19.6s,MS6.5
CTT Catalca 85.70 315 *e*P **P 21 30 00.6 +1.0**
RWWY Rawlins 85.70 44 *e*P **P 21 30 00.3 +0.6**
comp=Z,160nm,1.3s,mb6.1
Y13A Salome 85.81 53 ⇓P **P 21 30 00.7 +0.6**
baz=86
Y13A ⇓S S 21 40 28.3 -2.8
baz=86
OKC Ostrava-Krasne 85.86 327 *e*P **P 21 30 00.4 -0.1**
OKC *e*SKS 21 40 29.0
OKC *e*x x 21 46 23.1
OKC AMS AMS 22 12 40.0
comp=Z,18μm,15.7s
OKC Ostrava-Krasne 85.86 327 *e*P **P 21 30 00.4 -0.1**
OKC *e*S S 21 40 29.0 -2.6
OKC Ostrava-Krasne 85.86 327 *e*P **P 21 30 00.4 -0.1**
OKC *e*S S 21 40 29.0 -2.6
OKC *e*SS SS 21 46 23.1 +14
MAMC Mammari 85.97 308 P **P 21 30 00.6 -0.4**
CSS Prodhromos 86.01 308 P **P 21 30 00.3 -0.9**
comp=Z,1.1nm,0.7s
CSS Prodhromos 86.01 308 *e*P **P 21 29 57.5 -3.7**
CSS Prodhromos 86.01 308 *e*P **P 21 29 58.4 -2.8**
RUE Ruedersdorf 86.02 330 *e*P **P 21 30 00.2 -1.0**
comp=Z,136nm,1.0s,mb6.1
RUE *e*S S 21 40 36.6 +3.5
RUE Ruedersdorf 86.02 330 *e*P **P 21 30 02.5 +1.3**
comp=Z,121nm,1.0s,mb6.1
JMB Yambol 86.03 317 *e*P **P 21 30 01.9 +0.6**
KSP Ksiaz 86.05 328 *e*P **P 21 30 01.4 0.0**
KSP *e*PcP PcP 21 30 03.7 -0.3
KSP *e*pP pP 21 30 09.1 -2.2
KSP *e*S S 21 40 35.8 +2.4
KSP L 22 07 56.6
comp=Z,26nm,22.5s
KSP Ksiaz 86.05 328 *e*P **P 21 30 00.2 -1.2**
KSP *e*PP PP 21 33 19.0 -2.7
KSP *e*S S 21 40 32.0 -1.4
KSP *e*SS SS 21 46 08.0 -3.8
KSP LR LR
comp=Z,30μm,22.5s,MS6.6
RSSD Black Hills 86.10 41 PFAKE 21 30 10.0 +8.4
RSSD LR LR
comp=Z,10μm,21.0s,MS6.2
X14A Yava 86.11 52 P **P 21 30 02.2 +0.6**
baz=86,SNR=31
X14A ⇓S S 21 40 30.4 -3.6
baz=86
W15A Williams 86.14 52 ⇓P **P 21 30 02.5 +0.7**
baz=86,SNR=20
W15A ⇓S S 21 40 31.9 -2.5
baz=86
MORC Moravsky Berou 86.19 327 ⇓*i*P **P 21 30 00.1 -2.0**
MORC Moravsky Berou 86.19 327 *e*P **P 21 30 01.9 -0.2**
comp=Z,240nm,1.8s,mb6.1
PSZ Piszkesteto 86.28 324 ⇑*i*P **P 21 30 01.3 -1.2**
PSZ Piszkesteto 86.28 324 *e*P **P 21 30 01.8 -0.8**
comp=Z,292nm,1.8s,mb6.2
ISP Isparta 86.29 312 *e*P **P 21 29 58.4 -4.1**
ISP Isparta 86.29 312 *e*P **P 21 30 00.3 -2.2**
EDRB Edirne 86.30 317 *e*P **P 21 29 58.9 -3.7**
PVL Pavlikeni 86.31 318 *e*P **P 21 30 02.0 -0.6**
Y14A Wickenburg 86.32 53 ⇓P **P 21 30 02.6 -0.1**
baz=86,SNR=24
Y14A ⇑S S 21 40 32.8 -3.3
baz=86
ULM Lac du Bonnet 86.33 32 P **P 21 30 02.1 -0.6**
comp=Z,13nm,0.9s,mb5.2,baz=311,slow=5.9,SNR=12
ULM LR LR 22 05 19.5
comp=Z,10μm,21.8s,MS6.2,baz=319,slow=33
ULM Lac du Bonnet 86.33 32 *e*P **P 21 30 01.1 -1.7**
comp=Z,127nm,1.5s,mb5.9
ULM LR LR
comp=Z,15μm,22.0s,MS6.3
DPC Dobruska-Polom 86.37 328 *e*P **P 21 30 02.2 -0.8**
DPC *e*S S 21 40 33.8 -2.8
DPC MLR MLR
comp=Z,24μm,14.5s,MS6.7
DPC Dobruska-Polom 86.37 328 *e*P **P 21 30 02.2 -0.8**
DPC *e*S S 21 40 33.8 -2.8
DPC *e*SS SS 21 46 41.6 +25
DPC LR LR
comp=Z,24μm,14.5s,MS6.7
BSEG Bad Segeberg 86.38 333 *e*P **P 21 30 01.9 -1.1**
comp=Z,407nm,1.6s,mb6.4
BSEG *e*S S 21 40 39.9 +3.2
GZR Gura Zlata 86.39 321 ⇓*i*P **P 21 30 02.7 -0.4**
ALFC Alevga 86.40 309 P **P 21 30 01.5 -1.6**
comp=Z,2.3nm,0.6s
UPC Upice 86.41 328 *e*P **P 21 30 03.2 +0.1**
SZAC Souni-Zanaja 86.43 308 P **P 21 30 03.4 +0.2**
VYHS Vyhne 86.43 325 *e*P **P 21 30 02.4 -0.8**
VYHS *e*PP PP 21 33 32.8 +8.1
VYHS *e*S S 21 40 29.8 -7.3
VYHS *e*PKKPDF 21 47 54.0
VYHS Vyhne 86.43 325 *e*P **P 21 30 02.4 -0.8**
VYHS *e* 21 33 32.8
VYHS *e*S S 21 40 29.8 -7.3
VYHS pmax pmax
comp=Z,127nm,1.7s,mb5.9
VYHS MLR MLR
comp=Z,12μm,16.9s,MS6.4
VYHS Vyhne 86.43 325 *e*P **P 21 30 02.4 -0.8**
comp=Z,127nm,1.7s,mb5.9
VYHS *e*PP PP 21 33 32.8 +8.1
VYHS *e*S S 21 40 29.8 -7.3
VYHS *e* 21 47 54.0
VYHS *e* 21 47 59.2
VYHS *e* 21 49 05.2
VYHS LR LR
comp=Z,12μm,16.9s,MS6.4
PV10 Paradox Valley 86.49 47 *e*P **P 21 30 03.8 +0.2**
X15A Humboldt 86.55 52 ⇑P **P 21 30 04.0 +0.2**
baz=86,SNR=32
X15A ⇓S S 21 40 35.9 -2.4
baz=86
WUAZ Wupatki 86.56 51 *e*P **P 21 30 03.1 -0.8**
comp=Z,127nm,1.3s,mb6.0
WUAZ LR LR
comp=Z,17μm,22.0s,MS6.4
WUAZ Wupatki 86.56 51 ⇓P **P 21 30 04.8 +0.9**
baz=86,SNR=20
WUAZ ⇓S S 21 40 37.3 -1.2
baz=86
MFT Murefte 86.61 316 *e*P **P 21 30 02.1 -2.0**
Z14A Wintersburg 86.67 53 ⇑P **P 21 30 04.5 +0.1**
baz=87

Z14A ⇓S S 21 40 39.1 -0.3
baz=87
PPCY Paphos 86.72 308 P **P 21 30 01.7 -3.0**
ANTB Antalya 86.73 311 *e*P **P 21 29 58.9 -5.8**
SART Tekirdag 86.73 316 *i* P **P 21 30 01.9 -2.8**
RKY Sarkoy-Tekirda 86.73 316 *e*P **P 21 30 03.4 -1.3**
BZS Buzias 86.88 322 ⇑*i*P **P 21 30 04.7 -0.7**
BZS Buzias 86.88 322 ⇑P **P 21 30 04.7 -0.7**
PV01 Paradox Valley 86.93 47 *e*P **P 21 30 05.6 -0.1**
VRAC Vranov 86.97 327 P **P 21 30 05.0 -0.9**
comp=Z,28nm,0.8s,mb5.5,baz=54,slow=4.4,SNR=19
VRAC Vranov 86.97 327 ⇓*i*P **P 21 30 05.5 -0.4**
VRAC Vranov 86.97 327 P **P 21 30 05.0 -0.9**
VRAC pmax pmax
comp=Z,28nm,0.8s
VRAC Vranov 86.97 327 ⇓P **P 21 30 05.5 -0.3**
PHWY Pilot Hill 86.99 43 *e*P **P 21 30 06.3 +0.3**
PVCC Panska Ves 87.05 329 *e*P **P 21 30 06.0 -0.3**
PVCC *e*SKS 21 40 35.6
PVCC *e*SS SS 21 46 34.4 +7.9
PVCC AMS AMS 22 13 00.0
comp=Z,26μm,16.5s
BRG Berggiesshubel 87.09 329 *e*P **P 21 30 05.2 -1.3**
comp=Z,74nm,1.0s,mb5.9
BRG *e*S S 21 40 46.0 +2.5
BRG Berggiesshubel 87.09 329 *e*P **P 21 30 06.4 -0.1**
comp=Z,13nm,1.4s,mb5.0
BRG *i* 21 30 07.6
comp=Z,44nm,1.1s
BRG PP PP 21 33 36.0 +5.9
BRG *e* 21 40 33.0
BRG S S 21 40 48.0 +4.5
BRG SS SS 21 46 30.0 +3.0
BRG *e*PKPPKP 21 56 06.4
comp=Z,32nm,2.3s
BRG
comp=N,10μm,15.6s
BRG
comp=E,12μm,15.9s
BRG
comp=Z,13μm,18.1s
BRG Berggiesshubel 87.09 329 *e*P **P 21 30 06.4 -0.1**
BRG 21 33 36.0
BRG *e* 21 40 33.0
BRG S S 21 40 48.0 +4.5
BRG SS SS 21 46 30.0 +3.0
BRG pmax pmax
comp=Z,130nm,1.4s,mb6.0
BRG MLR MLR
comp=Z,13μm,18.0s,MS6.4
BRG Berggiesshubel 87.09 329 *e*P **P 21 30 06.4 -0.1**
comp=Z,13nm,1.4s,mb5.0
BRG *i* 21 30 07.6
BRG PP PP 21 33 36.0 +5.9
BRG *e* 21 40 33.0
BRG S S 21 40 48.0 +4.5
BRG SS SS 21 46 30.0 +3.0
BRG *e*P'P' 21 56 06.4
BRG LR LR
comp=Z,13μm,18.0s,MS6.4
SMOL Smolenice 87.11 326 *e*P **P 21 30 08.3 +1.7**
HLG Helgoland 87.14 334 *e*S S 21 40 46.1 +2.1
MANT Manisa 87.17 313 *i* P **P 21 30 05.5 -1.3**
CLL Collm 87.19 330 *e*P **P 21 30 06.0 -1.0**
comp=Z,120nm,1.2s,mb6.0
CLL *e*PP PP 21 33 31.1 +0.2
CLL *e*SKSac SKSac 21 40 34.9 +2.8
CLL *e*S S 21 40 44.4 -0.1
CLL *e*SP 21 41 41.2
CLL *e*SS SS 21 46 36.8 +8.3
CLL *e*SSS 21 50 18.7
CLL *e*SSSS 21 53 29.4
CLL *e*LQ 21 57 35.5
CLL *e*LR LR 21 59 50.9
CLL *e*L 22 15 24.6
comp=Z,20μm,20.0s
CLL Collm 87.19 330 *i* P **P 21 30 06.3 -0.7**
CLL *i* pP 21 30 13.8 -3.1
CLL *e* 21 40 32.0
CLL *e*S S 21 40 42.0 -2.5
CLL pmax pmax
comp=Z,119nm,1.2s,mb6.0
CLL MLR MLR
comp=Z,24μm,15.2s,MS6.7
CLL Collm 87.19 330 *i* P **P 21 30 06.3 -0.7**
comp=Z,119nm,1.2s,mb6.0
CLL *i* pP 21 30 13.8 -3.1
CLL *e*SKS 21 40 32.0
CLL *e*S S 21 40 42.0 -2.5
CLL LR LR
comp=Z,24μm,15.2s,MS6.7
CLL Collm 87.19 330 *i* P **P 21 30 06.3 -0.7**
comp=Z,119nm,1.2s,mb6.0
CLL *i* (sP) sP 21 30 13.8 -6.7
CLL *i* x x 21 30 32.5
CLL *e*x x 21 30 48.0
CLL *i* x x 21 32 06.2
CLL *e*PPk 21 33 24.0
CLL *e*PPlp 21 33 36.0
CLL *e*x x 21 34 58.0
CLL *e*SKSac SKSac 21 40 32.0 -0.1
CLL *e*S S 21 40 42.0 -2.5
CLL *e*sS sS 21 41 02.0 +1.1
CLL *e*SP 21 41 43.0
CLL *e*PPS 21 42 12.0
CLL *e*x x 21 43 03.0
CLL *e*SS SS 21 46 48.0 +19
CLL *e*(SSS) 21 50 41.0
CLL *e*(SSSS) 21 53 36.0
CANB Canakkale 87.20 315 *e*P **P 21 29 59.9 -7.2**
KDZ Kurdzhali 87.21 317 *e*P **P 21 30 06.3 -0.8**
GOLH Golhisar 87.25 312 *i* P **P 21 30 02.9 -4.4**
DENT Denizli 87.29 312 *e*P **P 21 30 07.0 -0.4**
ALN Alexandroupoli 87.30 316 *e*P **P 21 30 05.8 -1.7**
ELL Elmali 87.31 311 *e*P **P 21 30 04.7 -2.9**
FBE Freiberg 87.32 330 *e*P **P 21 30 06.4 -1.2**
SMCO Snowmass 87.33 46 *e*P **P 21 30 08.1 +0.5**
comp=Z,121nm,1.2s,mb6.0
ORE Reay 87.34 342 *e*P **P 21 30 07.2 -0.5**
PLD Plovdiv 87.36 318 *e*P **P 21 30 06.5 -1.2**
PLD Plovdiv 87.36 318 *e*P **P 21 30 06.3 -1.5**
PGB Panagyurishte 87.39 318 *e*P **P 21 30 07.0 -0.9**
PRA Prague 87.44 329 P **P 21 30 09.0 +0.8**
PRA *e*x x 21 30 14.0
PRU Pruhonice 87.45 328 *e*P **P 21 30 07.2 -1.0**
PRU *e*SKS 21 40 35.8
PRU *e*SS SS 21 46 31.3 -0.9
PRU AMS AMS 22 12 50.0
comp=Z,26μm,18.0s
RDO Rodhopi 87.45 317 *e*P **P 21 30 06.5 -1.7**
ZST Bratislava 87.48 326 *e*P **P 21 30 09.0 +0.6**
ZST *e*S S 21 40 39.6 -7.7
ZST pmax pmax
comp=Z,190nm,2.0s,mb6.0
ZST MLR MLR
comp=Z,17μm,16.6s,MS6.5
ZST Bratislava 87.48 326 *e*P **P 21 30 09.0 +0.6**
comp=Z,190nm,2.0s,mb6.0
ZST *e*S S 21 40 39.6 -7.7
ZST LR LR
comp=Z,17μm,16.6s,MS6.5
TREC Trest 87.50 327 *e*P **P 21 30 04.7 -3.7**
TREC *e*SKS 21 40 31.5
TREC *e*SS SS 21 46 31.3 -1.7
TREC AMS AMS 22 13 20.0
comp=Z,21μm,16.7s
MVCO Mesa Verde 87.51 48 *e*P **P 21 30 08.5 0.0**
comp=Z,75nm,1.1s,mb5.8
MVCO LR LR
comp=Z,14μm,21.0s,MS6.3
MVCO Mesa Verde 87.51 48 ⇓P **P 21 30 08.7 +0.2**
baz=87,SNR=7.4
MVCO ⇓S S 21 40 44.4 -3.1
baz=87
115A Sonoran Desert 87.54 54 ⇑P **P 21 30 09.2 +0.5**
baz=87
115A ⇓S S 21 40 45.3 -2.5
baz=87
NRDL Niedersach Rie 87.54 332 *e*P **P 21 30 07.4 -1.3**
comp=Z,160nm,1.8s,mb6.0
NRDL *e*S S 21 40 50.0 +2.1
LBOS 87.63 284 ⇓*e*P **P 21 30 10.5 +1.4**
AGMN Agassiz Refuge 87.68 34 *e*P **P 21 30 07.5 -1.8**

comp=Z,124nm,1.3s,mb6.0
AGMN LR LR
EIL Elat 87.73 303 *e*pP pP 21 30 19.6 +0.1
AKAS Kas 87.80 311 *i* P **P 21 30 05.8 -4.1**
ISCO Idaho Springs 87.80 45 *e*P **P 21 30 09.4 -0.5**
ISCO pmax pmax
comp=Z,123nm,1.8s,mb5.8
ISCO MLR MLR
comp=Z,13µm,22.0s,MS6.3
ISCO Idaho Springs 87.80 45 *e*P **P 21 30 09.4 -0.5**
comp=Z,123nm,1.8s,mb5.8
ISCO LR LR
comp=Z,13µm,22.0s,MS6.3
MSEY Mahe Island 87.81 263 P **P 21 30 12.7 +2.8**
comp=Z,401nm,1.0s,mb6.6,SNR=7.9
MSEY Mahe Island 87.81 263 P **P 21 30 12.9 +3.0**
SNR=7.2
MSEY Mahe Island 87.81 263 *e*P **P 21 30 10.1 +0.1**
MSEY LR LR
comp=Z,3µm,22.0s,MS5.7
AYVA Ayvalik 87.86 315 *i* P **P 21 30 10.4 +0.2**
CLZ Clausthal 87.92 332 *e*P **P 21 30 09.4 -1.1**
comp=Z,75nm,1.0s,mb5.9
CLZ *e*S S 21 40 53.4 +1.9
CLZ Clausthal 87.92 332 *e*P **P 21 30 09.4 -1.1**
CLZ *e*S S 21 40 53.4 +1.9
CLZ pmax pmax
comp=Z,75nm,1.0s,mb5.9
VTS Vitosha 87.92 319 *e*P **P 21 30 07.4 -3.0**
VTS Vitosha 87.92 319 *e*P **P 21 30 08.0 -2.5**
VTS Vitosha 87.92 319 ⇓*i*P **P 21 30 09.2 -1.3**
BOZC Bozcaada 87.93 315 *i* P **P 21 30 04.8 -5.7**
116A Eloy 87.98 53 ⇓P **P 21 30 11.4 +0.7**
baz=88
116A ⇓S S 21 40 48.8 -3.3
baz=88
DHBB Dhamar BB 88.01 286 *e*P **P 21 30 11.5 +0.6**
MCD Coleburn Disti 88.03 341 *e*P **P 21 30 10.2 -0.8**
KDAG Bornova 88.04 314 *i* P **P 21 30 11.1 0.0**
IZM Izmir 88.05 314 *e*P **P 21 30 10.2 -0.8**
PKSM Moragy 88.05 324 ⇓*i*P **P 21 30 06.2 -4.9**
PKSM Moragy 88.05 324 ⇓P **P 21 30 06.2 -4.9**
TANN Tannenbergstha 88.08 330 *e*P **P 21 30 10.0 -1.2**
comp=Z,87nm,1.5s,mb5.8
TANN *e*S S 21 40 54.3 +1.4
AYDN Tasoluk 88.09 313 *i* P **P 21 30 10.9 -0.4**
WERD Werda 88.12 330 *e*P **P 21 30 10.1 -1.3**
comp=Z,112nm,1.7s,mb5.8
DALT Dalyan (Mudla) 88.12 312 *e*P **P 21 30 06.6 -4.9**
PRK Paraskevi 88.16 315 *e*P **P 21 30 09.7 -1.9**
GUNZ Gunzen 88.17 330 *e*P **P 21 30 10.6 -1.0**
comp=Z,121nm,1.4s,mb5.9
MME1 Meikle Cairn 88.18 341 *e*P **P 21 30 11.0 -0.7**
WERN Wernitzgruen 88.20 330 *e*P **P 21 30 10.7 -1.1**
comp=Z,151nm,1.5s,mb6.0
NKC Novy Kostel 88.21 330 *e*P **P 21 30 12.0 +0.2**
NKC *e*SKS 21 40 41.7
NKC *e*SS SS 21 46 43.7 +0.3
NKC AMS AMS 22 15 00.0
comp=Z,25µm,14.5s
NKC Novy Kostel 88.21 330 *e*P **P 21 30 12.0 +0.2**
NKC *e*S S 21 40 41.7 -13
NKC *e*SS SS 21 46 43.7 +0.3
MMB Musomiste 88.25 318 *e*P **P 21 30 12.9 +0.9**
CONA Conrad Observa 88.27 326 ⇓*i*P **P 21 30 12.1 0.0**
comp=Z,96nm,1.9s,mb5.7,SNR=31
MOX Moxa 88.28 330 *e*P **P 21 30 10.9 -1.2**
comp=Z,205nm,1.9s,mb6.0
MOX *e*S S 21 40 56.5 +1.6
MOX Moxa 88.28 330 *e*P **P 21 30 12.8 +0.7**
comp=Z,172nm,1.8s,mb6.0
MOX *e* 21 30 56.9
MOX *e* 21 33 59.2
MOX
comp=Z,13µm,19.0s
MOX Moxa 88.28 330 *e*P **P 21 30 12.8 +0.7**
MOX *e*S S 21 40 44.0 -11
MOX *e*SS SS 21 46 45.0 +0.6
MOX pmax pmax
comp=Z,172nm,1.8s,mb6.0
MOX MLR MLR
comp=Z,13µm,19.0s,MS6.4
MOX Moxa 88.28 330 *e*P **P 21 30 12.8 +0.7**
comp=Z,172nm,1.8s,mb6.0
MOX *e* 21 30 56.9
MOX *e*PP PP 21 33 59.2 +20
MOX *e*S S 21 40 44.0 -11
MOX *e*SS SS 21 46 45.0 +0.6
MOX LR LR
comp=Z,13µm,19.0s,MS6.4
NVR Nevrokopi 88.32 318 *e*P **P 21 30 11.1 -1.2**
MLSB Milas 88.37 313 *e*P **P 21 30 08.5 -4.1**
LIA Limnos Island 88.43 316 *e*P **P 21 30 10.7 -2.2**
KKB Krupnik 88.45 318 *e*P **P 21 30 11.1 -1.9**
LOS Limnos 88.47 316 *e*P **P 21 30 12.3 -0.7**
URLA Izmir 88.49 314 *i* P **P 21 30 08.6 -4.5**
KHC Kasperske Hory 88.50 328 *e*P **P 21 30 13.2 0.0**
KHC *e*SKS 21 40 39.9
KHC *e*SS SS 21 46 43.3 -4.3
KHC AMS AMS 22 13 40.0
comp=Z,30µm,15.2s
KHC Kasperske Hory 88.50 328 *d*⇓*i*P **P 21 30 11.7 -1.5**
MANZ Manzenberg 88.54 330 *e*P **P 21 30 12.5 -0.9**
comp=Z,110nm,1.6s,mb5.9
MANZ *e*S S 21 40 58.6 +1.2
SRS Serrai 88.62 318 *e*P **P 21 30 12.4 -1.4**
IBBN Ibbenburen 88.62 333 *e*P **P 21 30 12.3 -1.5**
comp=Z,306nm,1.4s,mb6.4
IBBN *e*S S 21 40 58.4 +0.2
GEC2 GERESS Array S 88.65 328 *e*P **P 21 30 12.5 -1.4**
comp=Z,60nm,1.2s,mb5.8
GEC2 *e*S S 21 40 59.8 +1.4
GEC2 GERESS Array S 88.65 328 P **P 21 30 12.6 -1.3**
GERES GERESS Array B 88.65 328 P **P 21 30 12.4 -1.5**
comp=Z,17nm,0.9s,mb5.4,baz=39,slow=5.1,SNR=40
GERES PKKP PKKPbc 21 47 45.9 -8.5
comp=Z,0.6nm,0.7s,baz=252,slow=2.7,SNR=4.1
GERES PKKPbc PKKPbc 21 47 53.8 -0.6
comp=Z,1.9nm,0.7s,baz=218,slow=3.2,SNR=9.4
GERES LR LR 22 13 59.7
comp=Z,16µm,20.3s,MS6.4,baz=37,slow=38
WIT Witteveen 88.66 334 *e*P **P 21 30 15.8 +1.8**
ROTZ Rotzenmuhle 88.66 329 *e*P **P 21 30 13.2 -0.8**
comp=Z,182nm,1.5s,mb6.2
ROTZ *e*S S 21 41 02.3 +3.8
KAC Achnashellach 88.66 342 *e*P **P 21 30 13.6 -0.4**
BDRM Kayabasi 88.72 313 *i* P **P 21 30 12.5 -1.7**
SMG Samos 88.72 313 *e*P **P 21 30 13.0 -1.2**
DIVS Divcibare 88.74 322 *i* P **P 21 30 14.0 -0.4**
DIVS Divcibare 88.74 322 *e*P **P 21 30 11.5 -2.9**
TUC Tucson 88.77 53 *e*P **P 21 30 14.3 -0.2**
TUC MLR MLR
comp=Z,25µm,19.0s,MS6.7
ARG Arkhangelos 88.78 312 *e*P **P 21 30 15.4 +0.9**
WET Wettzell 88.81 329 *e*P **P 21 30 13.8 -0.9**
comp=Z,220nm,2.2s,mb6.1
WET *e*S S 21 41 01.2 +1.3
WET Wettzell 88.81 329 *e*P **P 21 30 13.8 -0.9**
WET *e*S S 21 41 01.2 +1.3
WET pmax pmax
comp=Z,220nm,2.2s,mb6.1
BODT Bodrum 88.81 313 *e*P **P 21 30 11.8 -2.8**
CHOS Chios island 88.81 314 *e*P **P 21 30 13.2 -1.4**
DAT Datca 88.83 312 *e*P **P 21 30 09.3 -5.5**
UBBA Unterbreizbach 88.84 331 *e*P **P 21 30 13.5 -1.3**
comp=Z,202nm,1.9s,mb6.1
UBBA *e*S S 21 41 00.4 +0.2
OUR Ouranopolis 88.88 317 *e*P **P 21 30 15.4 +0.4**
KPL Plockton 88.90 342 P **P 21 30 14.4 -0.7**
KPL AMb AMB 21 30 19.7
comp=Z,306nm,1.5s,mb6.4
KPL Plockton 88.90 342⇑*e*P **P 21 30 14.4 -0.7**
KPL AMb AMB 21 30 19.7
comp=Z,306nm,1.5s,mb6.4
KPL AMS AMS 22 11 55.3
comp=Z,14µm,21.1s,MS6.4
ARSA Arzberg 88.91 326 ⇓*i*P **P 21 30 14.5 -0.6**
comp=Z,580nm,2.8s,mb6.4,SNR=23
SOH Sokhos 88.95 317 *e*P **P 21 30 12.7 -2.6**
KNT Kendrikon 89.00 318 *e*P **P 21 30 14.8 -0.8**
STIP Stip 89.08 319 *e*P **P 21 30 16.2 +0.3**
MOA Molln 89.09 327 ⇓*i*P **P 21 30 15.0 -1.0**
comp=Z,1µm,5.5s,SNR=14

VAY Valandovo 89.09 318 *e*P **P 21 30 13.5 -2.4**
VAY Valandovo 89.09 318 *e*P **P 21 30 15.2 -0.8**
KOGS Kog 89.11 325 *e*P **P 21 30 16.8 +0.8**
KOGS *e*S S 21 40 43.2 -20
KOGS *e* 21 41 01.6
KOGS *e*SP 21 42 05.2
SDCO Great Sand Dun 89.11 46 *e*P **P 21 30 16.4 +0.4**
SDCO LR LR
comp=Z,19µm,22.0s,MS6.5
GRA1 Grafenberg Arr 89.15 330 *e*P **P 21 30 15.4 -0.9**
comp=Z,330nm,1.6s,mb6.4
GRA1 *e*S S 21 41 04.0 +0.9
GRA1 LR LR
comp=Z,12µm,19.1s,MS6.3
GRF Grafenberg Arr 89.15 330 *e*P **P 21 30 15.4 -0.9**
comp=Z,330nm,1.6s,mb6.4
GRF *e*S S 21 41 04.0 +0.9
GRF *e*L 22 14 29.4
comp=Z,12µm,19.1s
GRF Grafenberg Arr 89.15 330 *e*P **P 21 30 15.4 -0.9**
GRF *e*S S 21 41 04.0 +0.9
GRF pmax pmax
comp=Z,330nm,1.6s,mb6.4
GRF MLR MLR
comp=Z,12µm,19.1s,MS6.3
GRF Grafenberg Arr 89.15 330 *e*P **P 21 30 15.4 -0.9**
GRF *e*S S 21 41 04.0 +0.9
GRF pmax pmax
comp=Z,330nm,1.6s,mb6.4
GRF MLR MLR
comp=Z,12µm,19.1s,MS6.3
PLG Polygyros 89.17 317 *e*P **P 21 30 17.0 +0.6**
PLG Polygyros 89.17 317 *e*P **P 21 30 16.8 +0.4**
HORT Hortiatis 89.24 317 *e*P **P 21 30 13.8 -2.9**
WTSB Winterswijk 89.27 333 *e*P **P 21 30 17.4 +0.6**
comp=Z,104nm,2.9s,mb5.7
ESY Stoneypath 89.28 340 *e*P **P 21 30 15.8 -1.1**
THE Thessaloniki 89.30 317 *e*P **P 21 30 15.4 -1.6**
SKO Skopje 89.32 319 *e*P **P 21 30 19.1 +2.0**
SKO Skopje 89.32 319 *e*P **P 21 30 18.0 +0.9**
GRG Griva 89.42 318 *e*P **P 21 30 18.2 +0.7**
EDI Edinburgh 89.44 340 P **P 21 30 18.1 +0.5**
EDI AMb AMB 21 30 24.9
comp=Z,80nm,1.8s,mb5.8
EDI Edinburgh 89.44 340 *e*P **P 21 30 18.1 +0.5**
EDI AMb AMB 21 30 24.9
comp=Z,80nm,1.8s,mb5.8
EDI AMS AMS 22 15 37.7
comp=Z,12µm,19.8s,MS6.3
BUG Bochum--Univer 89.49 333 *e*P **P 21 30 16.1 -1.7**
comp=Z,94nm,1.1s,mb6.0
BUG *e*S S 21 41 04.8 -1.4
EBL Broad Law 89.53 340 *e*P **P 21 30 17.2 -0.8**
XSO Sourhope Farm 89.53 340⇑*e*P **P 21 30 17.1 -0.9**
PERS Pernice 89.54 326 *e*P **P 21 30 18.7 +0.6**
PERS *e*PP PP 21 33 53.4 +3.7
PERS *e*S S 21 40 44.3 -22
EAB Aberfoyle 89.54 341 *e*P **P 21 30 17.8 -0.3**
EAU Auchinoon 89.58 341 *e*P **P 21 30 17.3 -1.0**
AOS Alonnisos 89.67 316 *e*P **P 21 30 18.7 0.0**
KRUS Krusevo 89.82 319 *e*P **P 21 30 17.0 -2.4**
OBKA Obir 89.90 326 ⇓*i*P **P 21 30 19.7 -0.1**
comp=Z,443nm,3.8s
PGBU Glenifferbraes 89.91 341 P **P 21 30 19.1 -0.7**
PGBU AMb AMB 21 30 25.0
comp=Z,174nm,1.5s,mb6.2
PGBU Glenifferbraes 89.91 341 *e*P **P 21 30 19.1 -0.7**
PGBU AMb AMB 21 30 25.0
comp=Z,174nm,1.5s,mb6.2
PGBU AMS AMS 22 11 26.9
comp=Z,4µm,22.4s,MS5.8
LIT Litokhoron 89.91 317 *e*P **P 21 30 18.4 -1.5**
CRES Cresnjev 89.94 325 *e*P **P 21 30 20.4 +0.5**
EKA Eskdalemuir Ar 89.94 340 P **P 21 30 19.2 -0.7**
comp=Z,55nm,0.9s,mb5.9,baz=17,slow=4.1,SNR=56
EKA PP PP 21 33 49.3 -3.6
comp=Z,4.8nm,0.8s,baz=34,slow=6.7,SNR=4.1
APE Apeiranthos 89.94 313 *e*P **P 21 30 15.9 -4.1**
APE Apeiranthos 89.94 313 *e*P **P 21 30 16.4 -3.6**
APE Apeiranthos 89.94 313⇑*i*P **P 21 30 15.7 -4.3**
APE Apeiranthos 89.94 313⇑*e*P **P 21 30 18.6 -1.4**
TNS Taunus Mts 89.94 331 *e*P **P 21 30 18.8 -1.2**
comp=Z,80nm,1.5s,mb5.8
TNS Taunus Mts 89.94 331 *e*P **P 21 30 18.8 -1.2**
TNS pmax pmax
comp=Z,80nm,1.5s,mb5.8
XOR Xorichti 89.96 316 *e*P **P 21 30 20.6 +0.6**
ESK Eskdalemuir 89.96 340 P **P 21 30 21.2 +1.1**
comp=Z,682nm,0.9s,mb7.0,SNR=8.5
ESK Eskdalemuir 89.96 340 P **P 21 30 18.9 -1.2**
ESK AMb AMB 21 30 24.4
comp=Z,185nm,1.3s,mb6.2
ESK Eskdalemuir 89.96 340 *e*P **P 21 30 18.9 -1.2**
ESK AMb AMB 21 30 24.4
comp=Z,185nm,1.3s,mb6.2
ESK AMS AMS 22 15 44.1
comp=Z,13µm,19.0s,MS6.4
ESK Eskdalemuir 89.96 340 *e*P **P 21 30 19.3 -0.8**
ESK pmax pmax
comp=Z,116nm,0.9s,mb6.2
ESK MLR MLR
comp=Z,3µm,19.0s,MS5.8
ESK Eskdalemuir 89.96 340 *e*P **P 21 30 19.3 -0.7**
comp=Z,116nm,0.9s,mb6.2
ESK LR LR
comp=Z,3µm,19.0s,MS5.8
EYMN Ely 90.00 32 *e*P **P 21 30 19.2 -1.0**
EYMN LR LR
comp=Z,13µm,22.0s,MS6.3
ECK Cauldkaine Hil 90.06 340⇑*e*P **P 21 30 19.6 -0.9**
KBA Koelnbreinsper 90.08 327 ⇓*i*P **P 21 30 19.7 -0.9**
comp=Z,825nm,4.7s,SNR=10.0
KBA Koelnbreinsper 90.08 327 ⇓*i*P **P 21 30 19.7 -0.9**
KBA pmax pmax
comp=Z,825nm,4.7s
FNA Florina 90.13 318 *e*P **P 21 30 21.5 +0.7**
BHH Howats Hill 90.16 340⇑*e*P **P 21 30 20.4 -0.6**
ANMO Albuquerque 90.17 49 *d*⇓*i*P **P 21 30 21.8 +0.8**
ANMO Albuquerque 90.17 49 *e*P **P 21 30 21.1 +0.1**
ANMO LR LR
comp=Z,32µm,22.0s,MS6.7
KZN Kozani 90.20 318 *e*P **P 21 30 22.0 +0.8**
BWH Wardlaw 90.22 340⇑*e*P **P 21 30 20.6 -0.7**
LJU Ljubljana 90.24 326 *e*P **P 21 30 21.7 +0.3**
LJU *e*PP PP 21 33 56.9 +1.6
LJU *e*S S 21 40 49.5 -24
LJU *e* 21 41 06.6
LJU *e*SP SP 21 42 19.7 +0.2
FUR Furstenfeldbru 90.25 329 *e*P **P 21 30 20.4 -1.0**
comp=Z,301nm,1.4s,mb6.4
FUR Furstenfeldbru 90.25 329 *e*P **P 21 30 20.4 -1.0**
FUR pmax pmax
comp=Z,301nm,1.4s,mb6.4
TOD Tromm 90.26 331 *e*P **P 21 30 20.8 -0.6**
BOJS Bojanci 90.26 325 *e*P **P 21 30 22.0 +0.5**
BOJS *e*PP PP 21 33 54.1 -1.4
BOJS *e*S S 21 40 50.8 -23
BOJS *e*SP SP 21 42 19.9 +0.2
LENM Lemitar 90.30 50 *e*P **P 21 30 24.4 +2.8**
LENM *e*PP PP 21 33 60.0 +4.2
BDL Dobcross Hall 90.32 340 *e*P **P 21 30 21.6 -0.1**
Y22C iRIS PASSCAL I 90.39 50 ⇓P **P 21 30 22.6 +0.6**
baz=90
SANT Santorini 90.41 313 *e*P **P 21 30 19.0 -3.1**
ECSD EROS,Sioux Fal 90.43 37 *e*P **P 21 30 20.5 -1.8**
comp=Z,57nm,1.2s,mb5.8
ECSD LR LR
comp=Z,12µm,21.0s,MS6.3
LPM Los Pinos Moun 90.44 50 *e*P **P 21 30 24.1 +1.8**
LPM *e*PP PP 21 34 00.6 +3.7
ATH Athens Observa 90.52 315 *e*P **P 21 30 20.4 -2.2**
THL Klokotos Trika 90.54 317 *e*P **P 21 30 20.3 -2.5**
HGN Heimansgroeve 90.54 333 *e*P **P 21 30 23.9 +1.1**
comp=Z,92nm,1.3s,mb6.0
HGN Heimansgroeve 90.54 333 *e*S S 21 40 53.6 -22
CKE Keswick 90.56 340 *e*P **P 21 30 22.2 -0.7**
VOY Vojsko 90.56 326 *e*P **P 21 30 21.2 -1.7**
ABH Alteburg 90.57 332 *e*P **P 21 30 21.9 -1.0**
BEBN Eben Emael 90.62 333 P **P 21 30 26.2 +3.0**
GMK Mull of Kintyr 90.62 341 *e*P **P 21 30 23.1 0.0**
MEM Membach 90.64 333 P **P 21 30 23.9 +0.7**
ZKR Zakros 90.69 312 *e*P **P 21 30 22.4 -1.0**
AGG Agios Georgios 90.69 317 *e*P **P 21 30 22.9 -0.6**
STU Stuttgart 90.72 330 *e*P **P 21 30 22.2 -1.4**
comp=Z,174nm,1.3s,mb6.2
STU *e*S S 21 41 14.7 -2.9
STU Stuttgart 90.72 330 *e*P **P 21 30 23.8 +0.2**
STU pmax pmax
comp=Z,90nm,1.0s,mb6.0
STU Stuttgart 90.72 330 *e*P **P 21 30 23.0 -0.6**
comp=Z,90nm,0.9s,mb6.1
WATA Walderalm 90.72 328 ⇓*i*P **P 21 30 23.0 -0.6**
comp=Z,40nm,1.1s,mb5.7,SNR=7.3
WATA Walderalm 90.72 328 ⇓*i*P **P 21 30 23.0 -0.6**
WATA pmax pmax
comp=Z,40nm,1.1s,mb5.7
XDE Dent Fell 90.74 340 *e*P **P 21 30 22.9 -0.8**
WTTA Wattenberg 90.75 328 ⇓*i*P **P 21 30 21.7 -2.0**
comp=Z,644nm,3.8s,SNR=13
WTTA Wattenberg 90.75 328 ⇓*i*P **P 21 30 21.7 -2.0**
WTTA pmax pmax
comp=Z,644nm,3.8s
NAIG Nisos Aigina 90.79 315 *e*P **P 21 30 22.5 -1.4**
GAL1 Galloway 90.79 341 P **P 21 30 22.7 -1.2**
GAL1 AMb AMB 21 30 28.1
comp=Z,272nm,1.2s,mb6.5
GAL1 Galloway 90.79 341 *e*P **P 21 30 22.5 -1.4**
GAL1 *e*P 21 30 22.7
GAL1 AMb AMB 21 30 28.1
comp=Z,272nm,1.2s,mb6.5
GAL1 AMS AMS 22 16 27.4
comp=Z,10µm,18.6s,MS6.3
CDU1 Dunnerdale 90.80 340 *e*P **P 21 30 22.9 -1.1**
STON Ston 90.80 322 *i* P **P 21 30 22.4 -1.6**
MOTA Moosalm 90.93 328⇑*i*P **P 21 30 24.0 -0.6**
comp=Z,54nm,1.2s,mb5.8,SNR=7.7
MOTA Moosalm 90.93 328⇑*i*P **P 21 30 24.0 -0.6**
MOTA pmax pmax
comp=Z,54nm,1.2s,mb5.8
SQTA Sankt Quirin 90.98 328⇑*i*P **P 21 30 24.2 -0.6**
comp=Z,115nm,1.6s,mb6.0,SNR=16
SQTA Sankt Quirin 90.98 328⇑*i*P **P 21 30 24.2 -0.6**
SQTA pmax pmax
comp=Z,115nm,1.6s,mb6.0
NPS Neapolis 90.99 312 *e*P **P 21 30 25.5 +0.7**
LHO Holmfirth 91.06 339⇑*e*P **P 21 30 24.2 -0.9**
BCLA Clavier 91.06 333 P **P 21 30 25.9 +0.7**
EVR Evrytania 91.08 317 *e*P **P 21 30 25.2 -0.1**
NVLJ Novalja 91.12 324 *i* P **P 21 30 25.0 -0.5**
UCC Uccle 91.13 334 P **P 21 30 25.8 +0.3**
LAST Lasithi 91.14 312 *e*P **P 21 30 22.2 -3.4**
LANF Langenberg 91.16 331 *e*P **P 21 30 24.5 -1.1**
JAN Janina 91.16 318 *e*P **P 21 30 27.0 +1.3**
KBI1 Birley Grange 91.20 338 *e*P **P 21 30 24.7 -1.1**
WLF Walferdange 91.31 332 *e*P **P 21 30 25.5 -0.9**
comp=Z,252nm,1.5s,mb6.3
WLF *e*S S 21 41 20.1 -3.0
WLF Walferdange 91.31 332 P **P 21 30 27.5 +1.1**
WLF Walferdange 91.31 332 *e*P **P 21 30 26.4 +0.1**
SNF Seneffe 91.39 334 P **P 21 30 27.4 +0.7**
SPAK Spaichingen-Ko 91.41 330 *e*P **P 21 30 25.4 -1.4**
WIM Isle of Man 91.41 340 *e*P **P 21 30 26.3 -0.4**
BFO Black Forest 91.43 330 P **P 21 30 26.8 -0.1**
comp=Z,516nm,1.0s,mb6.8,SNR=14
BFO Black Forest 91.43 330 *e*P **P 21 30 25.4 -1.5**
comp=Z,170nm,1.3s,mb6.2
BFO *e*S S 21 41 21.2 -2.9
BFO Black Forest 91.43 330 *e*P **P 21 30 25.4 -1.5**
BFO *e*S S 21 41 21.2 -2.9
BFO pmax pmax
comp=Z,170nm,1.3s,mb6.2
BFO MLR MLR
comp=Z,4µm,20.0s,MS5.8
BFO Black Forest 91.43 330 *e*P **P 21 30 25.4 -1.5**
comp=Z,170nm,1.3s,mb6.2
BFO *e*S S 21 41 21.2 -2.9
BFO LR LR
comp=Z,4µm,20.0s,MS5.8
GIVF Givet 91.50 333 *e*P **P 21 30 25.6 -1.6**
comp=Z,361nm,1.6s,mb6.1
GIVF Givet 91.50 333 *e*P **P 21 30 25.6 -1.6**
GIVF pmax pmax
comp=Z,181nm,1.6s,mb6.2
GIVF Givet 91.50 333 *e*P **P 21 30 25.6 -1.6**
comp=Z,181nm,1.6s,mb6.2
KWE Weaver Farm 91.50 338 *e*P **P 21 30 26.2 -1.1**
APPI Appiano 91.51 328 P **P 21 30 28.6 +1.3**
DAVA Damuels 91.53 329 ⇓*i*P **P 21 30 27.1 -0.2**
comp=Z,786nm,3.6s,SNR=16
IGT Igoumenitsa 91.55 318 *e*P **P 21 30 27.4 -0.1**
DOU Dourbes 91.60 333 P **P 21 30 28.0 +0.3**
CTI Castel Tesino 91.63 327 P **P 21 30 28.1 +0.3**
SIVA Sivas 91.66 312 *e*P **P 21 30 29.5 +1.6**
GMM Mts of Mourne 91.69 341 *e*P **P 21 30 27.9 -0.3**
KEK Kerkira 91.74 318 *e*P **P 21 30 28.6 +0.2**
BAIF Baives 91.78 333 *e*P **P 21 30 26.7 -1.8**
comp=Z,190nm,1.5s,mb5.9
BAIF Baives 91.78 333 *e*P **P 21 30 26.7 -1.8**
BAIF pmax pmax
comp=Z,95nm,1.5s,mb5.9
BAIF Baives 91.78 333 *e*P **P 21 30 26.7 -1.8**
comp=Z,95nm,1.5s,mb5.9
VLI Veliai 91.79 314 *e*P **P 21 30 27.6 -0.9**
WLS Welschbruch 91.79 331 *e*P **P 21 30 27.5 -1.0**
VAM Vamos 91.81 313 *e*P **P 21 30 29.2 +0.6**
CDF Champ du Feu 91.82 331 *e*P **P 21 30 27.1 -1.6**
comp=Z,634nm,1.6s,mb6.4
CDF Champ du Feu 91.82 331 *e*P **P 21 30 27.1 -1.6**
CDF pmax pmax
comp=Z,317nm,1.6s,mb6.4
CDF Champ du Feu 91.82 331 *e*P **P 21 30 27.1 -1.6**
comp=Z,317nm,1.6s,mb6.4
RLS Riolos of Patr 91.83 316 *e*P **P 21 30 28.2 -0.6**
LIBD Limburg 91.88 331 *e*P **P 21 30 29.5 +0.5**
LKD Levkas 91.90 317 *e*P **P 21 30 25.2 -3.8**
FELD Feldberg im Sc 91.92 330⇓*e*P **P 21 30 29.8 +0.6**
WPM1 Penmaenmawr 91.94 339 *e*P **P 21 30 28.6 -0.6**
CBKS Cedar Bluff 91.96 43 *e*P **P 21 30 29.3 -0.1**
CBKS pmax pmax
comp=Z,82nm,1.0s,mb6.0
CBKS MLR MLR
comp=Z,10µm,22.0s,MS6.2
CBKS Cedar Bluff 91.96 43 *e*P **P 21 30 29.3 -0.1**
comp=Z,82nm,1.0s,mb6.0
CBKS LR LR
comp=Z,10µm,22.0s,MS6.2
KARN Karanos 91.99 313 *e*P **P 21 30 28.2 -1.3**
KYTH Kithira 92.00 314 *e*P **P 21 30 30.5 +1.0**
ECH Echery 92.02 331 *e*P **P 21 30 28.6 -1.0**
WCB1 Church Bay 92.03 340⇑*e*P **P 21 30 30.3 +0.6**
SBD1 Bryn Du 92.05 339 *e*P **P 21 30 29.0 -0.7**
WLF1 Llynfaes 92.07 340 *e*P **P 21 30 28.9 -0.9**
ITM Ithomi 92.12 315 *e*P **P 21 30 30.5 +0.4**
YRC Rhoscolyn 92.15 340 *e*P **P 21 30 29.7 -0.5**
MENF Mencas 92.16 335 *e*P **P 21 30 29.8 -0.4**
GVD Gavdhos 92.23 312 *e*P **P 21 30 29.3 -1.3**
SKP1 Kophill 92.25 337⇑*e*P **P 21 30 31.0 +0.3**
HLM1 Long Mynd 92.26 339 *e*P **P 21 30 30.8 +0.1**
VLS Valsamata 92.28 317 *e*P **P 21 30 27.4 -3.5**
MOF Molkenrain 92.31 331 *e*P **P 21 30 29.3 -1.7**
TSA1 Sevenoaks 92.31 336 *e*P **P 21 30 31.5 +0.5**
TUE Stuetta 92.39 329 P **P 21 30 32.8 +1.5**
SSW Stow on the Wo 92.39 338⇑*e*P **P 21 30 31.6 +0.2**
BBS Basel-Blauen 92.45 330 *e*P **P 21 30 30.1 -1.5**
HINF Hinteralfeld 92.46 331 *e*P **P 21 30 29.7 -2.0**
comp=Z,138nm,1.1s,mb5.9
HINF Hinteralfeld 92.46 331 *e*P **P 21 30 29.7 -2.0**
HINF pmax pmax
comp=Z,69nm,1.1s,mb5.9
HINF Hinteralfeld 92.46 331 *e*P **P 21 30 29.7 -2.0**
comp=Z,69nm,1.1s,mb5.9
HAU Haudompre 92.53 331 *e*P **P 21 30 30.1 -1.9**
comp=Z,148nm,1.1s,mb6.0
HAU *e*MLR MLR
comp=Z,15µm,20.0s
HAU Haudompre 92.53 331 *e*P **P 21 30 30.1 -1.9**
HAU pmax pmax
comp=Z,74nm,1.1s,mb6.0
HAU MLR MLR
comp=Z,15µm,20.0s,MS6.5
HAU Haudompre 92.53 331 *e*P **P 21 30 30.1 -1.9**
comp=Z,74nm,1.1s,mb6.0
HAU LR LR
comp=Z,15µm,20.0s,MS6.5
MEZF Maizieres J'vi 92.68 332 *e*P **P 21 30 31.3 -1.4**
comp=Z,733nm,1.6s,mb6.5
MEZF Maizieres J'vi 92.68 332 *e*P **P 21 30 31.3 -1.4**
comp=Z,733nm,1.6s,mb6.9

DLF Lyons Farm 92.69 341⇑ *iP* **P 21 30 30.9 -1.8**
DSB Dublin 92.69 341 *eP* **P 21 30 32.1 -0.6**
comp=Z,128nm,1.4s,mb6.2
MCH1 Michaelchurch 92.74 338 P **P 21 30 32.6 -0.4**
MCH1 AMb AMB 21 30 37.9
comp=Z,217nm,1.6s,mb6.3
MCH1 Michaelchurch 92.74 338 *eP* **P 21 30 32.6 -0.4**
MCH1 *eP* 21 30 32.6
MCH1 AMb AMB 21 30 37.9
comp=Z,217nm,1.6s,mb6.3
MCH1 AMS AMS 22 13 49.9
comp=Z,6μm,22.8s,MS6.0
SWN1 Swindon 92.76 337 *eP* **P 21 30 32.9 -0.2**
SWN1 AMb AMB 21 30 38.1
comp=Z,461nm,1.9s,mb6.6
RGNG Rignano Grg 92.77 322 P **P 21 30 32.9 -0.2**
CING Cingoli 92.81 324 P **P 21 30 34.5 +1.2**
LOMF Lomont 92.83 330 *eP* **P 21 30 31.0 -2.4**
SCHQ Schefferville 92.84 15 P **P 21 30 33.1 -0.3**
comp=Z,21nm,0.8s,mb5.6,baz=346,slow=4.6,SNR=20
SCHQ PKKPbc PKKPbc 21 47 41.8 -2.0
comp=Z,3.8nm,0.8s,baz=143,slow=3.9,SNR=7.0
SCHQ LR LR 22 15 45.1
comp=Z,4μm,19.0s,MS5.9,baz=347,slow=38
SCHQ Schefferville 92.84 15 *eP* **P 21 30 33.8 +0.4**
comp=Z,41nm,1.0s,mb5.8
SCHQ LR LR
comp=Z,7μm,20.0s,MS6.1
MNTX Cornudas Mount 92.85 51 *eP* **P 21 30 33.2 -0.2**
MNTX LR LR
comp=Z,13μm,20.0s,MS6.4
DCN Croghan 92.86 341 *eP* **P 21 30 31.8 -1.7**
HGH Gray Hill 92.99 338 *eP* **P 21 30 32.9 -1.2**
FG5 Orsara di Pugl 93.21 322 P **P 21 30 36.8 +1.7**
FG5 pmax pmax
comp=Z,70nm,1.0s,mb6.0
FG5 Orsara di Pugl 93.21 322 P **P 21 30 36.8 +1.7**
comp=Z,70nm,1.0s,mb6.0
GDL2 Guadalupe Moun 93.23 50 *eP* **P 21 30 36.1 +0.9**
MURB Monte Urbino 93.23 325 P **P 21 30 36.5 +1.3**
CRE Caprese Michel 93.26 325 P **P 21 30 35.8 +0.5**
CRE pmax pmax
comp=Z,118nm,1.6s,mb6.1
CRE Caprese Michel 93.26 325 P **P 21 30 35.8 +0.5**
comp=Z,118nm,1.6s,mb6.1
FNVD Fontana Vidola 93.27 326 P **P 21 30 37.1 +1.7**
AMTX Amarillo 93.30 47 *eP* **P 21 30 35.8 +0.2**
AMTX LR LR
comp=Z,12μm,19.0s,MS6.4
GSCL Gusciola 93.39 326 P **P 21 30 37.5 +1.6**
comp=Z,110nm,1.3s,mb6.1
ORI Oriolo Calabro 93.41 320 P **P 21 30 37.7 +1.7**
ERBM Eremo 93.42 327 P **P 21 30 38.1 +2.0**
AQU L'Aquila 93.44 324⇑ *iP* **P 21 30 34.8 -1.4**
SCIA State Center 93.50 37 *eP* **P 21 30 37.3 +0.9**
comp=Z,207nm,1.4s,mb6.4
SCIA LR LR
comp=Z,10μm,22.0s,MS6.2
RNI2 Rionero Sannit 93.51 323 P **P 21 30 37.9 +1.4**
KSU1 Kansas State U 93.59 41 *eP* **P 21 30 36.0 -0.9**
comp=Z,77nm,0.8s,mb6.2
KSU1 LR LR
comp=Z,17μm,21.0s,MS6.5
SLCN Sala Consilina 93.63 321 P **P 21 30 38.2 +1.1**
CABF La Chapelle 93.73 330 *eP* **P 21 30 35.9 -1.6**
comp=Z,129nm,1.0s,mb6.0
CABF La Chapelle 93.73 330 *eP* **P 21 30 35.9 -1.6**
CABF pmax pmax
comp=Z,65nm,1.0s,mb6.0
CABF La Chapelle 93.73 330 *eP* **P 21 30 35.9 -1.6**
comp=Z,65nm,1.0s,mb6.0
LPIG La Paz 93.74 60 P **P 21 30 39.3 +1.8**
comp=Z,26nm,0.4s,mb6.1,baz=53,slow=4.0,SNR=4.7
LPIG LR LR 22 04 10.8
comp=Z,13μm,21.4s,MS6.4,baz=322,slow=30
MNS Montasola 93.79 324 P **P 21 30 37.6 -0.2**
HEX Exmoor 93.80 338 *eP* **P 21 30 37.4 -0.4**
TIP Timpagrande 93.84 320 *eP* **P 21 30 35.9 -2.1**
CERT Cerreto 93.94 324 P **P 21 30 38.4 -0.1**
LOR Lormes 94.14 332 *eP* **P 21 30 37.7 -1.7**
comp=Z,411nm,1.4s,mb6.4
LOR *e*MLR MLR
comp=Z,12μm,21.8s
LOR Lormes 94.14 332 *eP* **P 21 30 37.7 -1.7**
LOR pmax pmax
comp=Z,205nm,1.4s,mb6.4
LOR MLR MLR
comp=Z,12μm,21.8s,MS6.3
LOR Lormes 94.14 332 *eP* **P 21 30 37.7 -1.7**
comp=Z,205nm,1.4s,mb6.4
LOR LR LR
comp=Z,12μm,21.8s,MS6.3
JFWS Jewell Farm 94.28 35 *eP* **P 21 30 41.0 +1.0**
JFWS MLR MLR
comp=Z,9μm,21.0s,MS6.2
LPL La Plagne 94.29 329 *eP* **P 21 30 38.7 -1.4**
comp=Z,58nm,0.7s,mb5.8
LPL La Plagne 94.29 329 *eP* **P 21 30 38.7 -1.4**
LPL pmax pmax
comp=Z,29nm,0.7s,mb5.8
LPL La Plagne 94.29 329 *eP* **P 21 30 38.7 -1.4**
comp=Z,29nm,0.7s,mb5.8
LPG La Plagne 94.30 329 *eP* **P 21 30 38.9 -1.2**
comp=Z,81nm,0.8s,mb5.9
LPG La Plagne 94.30 329 *eP* **P 21 30 38.9 -1.2**
LPG pmax pmax
comp=Z,41nm,0.8s,mb5.9
LPG La Plagne 94.30 329 *eP* **P 21 30 38.9 -1.2**
comp=Z,41nm,0.8s,mb5.9
DYA Yadsworthy 94.38 338 *eP* **P 21 30 40.4 -0.1**
DYA AMb AMB 21 30 49.1
comp=Z,150nm,1.7s,mb6.1
OG05 Jujurieux 94.44 330 *eP* **P 21 30 41.7 +0.9**
SSF Saint Saulge 94.45 332 *eP* **P 21 30 39.3 -1.5**
comp=Z,182nm,1.0s,mb6.1
SSF Saint Saulge 94.45 332 *eP* **P 21 30 39.3 -1.5**
SSF pmax pmax
comp=Z,91nm,1.0s,mb6.2
SSF Saint Saulge 94.45 332 *eP* **P 21 30 39.3 -1.5**
comp=Z,91nm,1.0s,mb6.2
FLN La Foliniere 94.61 335 *eP* **P 21 30 39.8 -1.7**
comp=Z,175nm,1.0s,mb6.1
FLN *e*MLR MLR
comp=Z,25μm,20.5s
FLN La Foliniere 94.61 335 *eP* **P 21 30 39.8 -1.7**
FLN pmax pmax
comp=Z,87nm,1.0s,mb6.1
FLN MLR MLR
comp=Z,25μm,20.5s,MS6.7
FLN La Foliniere 94.61 335 *eP* **P 21 30 39.8 -1.7**
comp=Z,87nm,1.0s,mb6.1
FLN LR LR
comp=Z,25μm,20.5s,MS6.7
LDF La Druitiere 94.62 335 *eP* **P 21 30 39.8 -1.8**
comp=Z,158nm,1.0s,mb6.1
LDF La Druitiere 94.62 335 *eP* **P 21 30 39.8 -1.8**
LDF pmax pmax
comp=Z,79nm,1.0s,mb6.1
LDF La Druitiere 94.62 335 *eP* **P 21 30 39.8 -1.8**
comp=Z,79nm,1.0s,mb6.1
SMF Signal de Mont 94.65 332 *eP* **P 21 30 40.0 -1.7**
comp=Z,312nm,1.2s,mb6.3
SMF Signal de Mont 94.65 332 *eP* **P 21 30 40.0 -1.7**
SMF pmax pmax
comp=Z,156nm,1.2s,mb6.3
SMF Signal de Mont 94.65 332 *eP* **P 21 30 40.0 -1.7**
comp=Z,156nm,1.2s,mb6.3
BNI Bardonecchia 94.68 329 *eP* **P 21 30 41.3 -0.6**
BNI pmax pmax
comp=Z,83nm,1.1s,mb6.1
BNI Bardonecchia 94.68 329 *eP* **P 21 30 41.3 -0.5**
comp=Z,83nm,1.1s,mb6.1
AVF Avril sur Loir 94.73 332 *eP* **P 21 30 40.5 -1.6**
comp=Z,427nm,1.2s,mb6.4
AVF Avril sur Loir 94.73 332 *eP* **P 21 30 40.5 -1.6**
AVF pmax pmax
comp=Z,214nm,1.2s,mb6.5
AVF Avril sur Loir 94.73 332 *eP* **P 21 30 40.5 -1.6**
comp=Z,214nm,1.2s,mb6.5
GDM Grand'Maison 94.81 329 *eP* **P 21 30 44.0 +1.5**
GRN Grenoble 94.94 330 *eP* **P 21 30 44.0 +0.9**
GRR Gorron 95.06 335 *eP* **P 21 30 42.0 -1.6**
comp=Z,424nm,1.3s,mb6.4
GRR Gorron 95.06 335 *eP* **P 21 30 42.0 -1.6**
GRR pmax pmax
comp=Z,212nm,1.3s,mb6.4
GRR Gorron 95.06 335 *eP* **P 21 30 42.0 -1.6**
comp=Z,212nm,1.3s,mb6.4
BGF Bois d'Agland 95.13 332 *eP* **P 21 30 42.4 -1.5**
comp=Z,320nm,1.5s,mb6.2
BGF Bois d'Agland 95.13 332 *eP* **P 21 30 42.4 -1.5**
BGF pmax pmax
comp=Z,160nm,1.5s,mb6.2
BGF Bois d'Agland 95.13 332 *eP* **P 21 30 42.4 -1.5**
comp=Z,160nm,1.5s,mb6.2
ORIF Oris-en-Rattie 95.14 329 *eP* **P 21 30 42.3 -1.7**
comp=Z,42nm,0.9s,mb5.6
ORIF *e*MLR MLR
comp=Z,29μm,18.2s
ORIF Oris-en-Rattie 95.14 329 *eP* **P 21 30 42.3 -1.7**
ORIF pmax pmax
comp=Z,21nm,0.9s,mb5.6
ORIF Oris-en-Rattie 95.14 329 *eP* **P 21 30 42.3 -1.7**
comp=Z,21nm,0.9s,mb5.6
WMOK Wichita Mounta 95.22 45 *eP* **P 21 30 43.7 -0.6**
WMOK MLR MLR
comp=Z,18μm,21.0s,MS6.5
PLDF La Plantade 95.28 331 *eP* **P 21 30 43.3 -1.3**
AGO Saint Agoulin 95.42 332 *eP* **P 21 30 44.2 -1.0**
TXAR Lajitas Array 95.46 52 P **P 21 30 45.6 +0.2**
comp=Z,14nm,0.6s,mb5.6,baz=307,slow=2.6,SNR=92
TXAR LR LR 22 14 56.0
comp=Z,21μm,18.4s,MS6.6,baz=0.0,slow=36
TCF Toulx Ste Croi 95.61 332 *eP* **P 21 30 44.6 -1.5**
COLF Collangettes 95.61 331 *eP* **P 21 30 45.8 -0.3**
FURI Furi 95.68 283 *eP* **P 21 30 44.9 -1.6**
SGMF Saint Gilles 95.78 336 *eP* **P 21 30 45.7 -1.2**
comp=Z,312nm,1.4s,mb6.3
SGMF Saint Gilles 95.78 336 *eP* **P 21 30 45.7 -1.2**
SGMF pmax pmax
comp=Z,156nm,1.4s,mb6.2
SGMF Saint Gilles 95.78 336 *eP* **P 21 30 45.7 -1.2**
comp=Z,156nm,1.4s,mb6.2
DRV Dumont d'Urvil 95.83 180 P **P 21 30 44.0 -3.1**
DRV Dumont d'Urvil 95.83 180 PP PP 21 34 34.0 -5.1
DRV SKS 21 41 20.0
DRV S S 21 42 01.0 -1.9
DRV SP SP 21 43 20.0 -1.1
DRV SS SS 21 48 31.0 -1.9
LBL Lubilhac 96.03 331 *eP* **P 21 30 45.3 -2.7**
VAE Valguarnera 96.35 320 P **P 21 30 52.1 +2.6**
comp=Z,5.7nm,0.8s,mb5.1,baz=3.2,slow=18,SNR=2.5
HVZN Vizzini 96.39 319 P **P 21 30 51.5 +1.9**
HDIL Hopedale 96.50 36 PFAKE 21 31 00.0 +10
HDIL LR LR
comp=Z,8μm,19.0s,MS6.2
RKT Rikitea 96.70 113 *e*LQ 21 57 17.8
comp=Z,10μm,33.5s
RKT Rikitea 96.70 113 *e*PP PP 21 34 38.6 -7.3
comp=Z,562nm,25.0s
RKT Rikitea 96.70 113 *e*SKSac SKSac 21 41 25.8 +0.1
comp=Z,1μm,26.8s
RKT *e*SP SP 21 43 28.1 -2.6
comp=Z,5μm,26.8s
RKT *e*SS SS 21 48 43.7 -1.6
comp=Z,4μm,30.5s
RKT *e*LR LR 22 01 08.3
comp=Z,15μm,34.8s,baz=304
JCT Junction City 97.34 49 *eP* **P 21 30 56.1 +2.1**
JCT MLR MLR
comp=Z,16μm,22.0s,MS6.5
AAM Ann Arbor 97.88 31 PFAKE 21 31 10.0 +14
AAM LR LR
comp=Z,7μm,20.0s,MS6.2
CASY Casey 98.14 192 *e*PKP PP 21 34 51.3 -5.6
CASY Casey 98.14 192 *eP* **P 21 30 56.0 -1.5**
CASY LR LR
comp=Z,4μm,20.0s,MS5.9
LONY Lake Ozonia 99.67 25 PFAKE 21 31 20.0 +16
LONY LR LR
comp=Z,10μm,22.0s,MS6.3
NATX Nacogdoches 99.77 45 PFAKE 21 31 20.0 +15
NATX LR LR
comp=Z,19μm,22.0s,MS6.5
WCI Wyandotte Cave 99.78 36 PFAKE 21 31 20.0 +15
WCI LR LR
comp=Z,7μm,21.0s,MS6.2
HKT Hockley 100.26 47 PFAKE 21 31 20.0 +13
HKT LR LR
comp=Z,19μm,20.0s,MS6.6
NCB Newcomb 100.36 25 PFAKE 21 31 20.0 +13
NCB LR LR
comp=Z,10μm,22.0s,MS6.3
KEST Kesra 100.42 321 P Pdif 21 31 08.2 +0.5
comp=Z,5.1nm,1.2s,baz=144,slow=2.8,SNR=6.6
KEST PKKPbc PKKPbc 21 47 22.7 -0.5
comp=Z,1.0nm,0.8s,baz=262,slow=2.9,SNR=5.1
WVT Waverly 100.57 38 PFAKE 21 31 20.0 +12
WVT LR LR
comp=Z,6μm,22.0s,MS6.1
PKME Peaks-Kenny Pk 100.88 21 PFAKE 21 31 20.0 +10
PKME LR LR
comp=Z,8μm,20.0s,MS6.2
OXF Oxford 100.91 40 PFAKE 21 31 20.0 +10
OXF LR LR
comp=Z,10μm,20.0s,MS6.3
LBNH Lisbon 100.93 23 PFAKE 21 31 20.0 +10
LBNH LR LR
comp=Z,8μm,19.0s,MS6.2
BINY Binghamton 101.21 27 PFAKE 21 31 20.0 +8.7
BINY LR LR
comp=Z,6μm,20.0s,MS6.1
PLAL Pickwick Lake 101.30 39 PFAKE 21 31 20.0 +8.4
PLAL LR LR
comp=Z,10μm,22.0s,MS6.3
MCWV Mont Chateau 101.72 31 PFAKE 21 31 20.0 +6.5
MCWV LR LR
comp=Z,11μm,21.0s,MS6.4
SSPA Standing Stone 101.76 29 PFAKE 21 31 20.0 +6.3
SSPA LR LR
comp=Z,14μm,22.0s,MS6.4
KMBO Kilima Mbogo 101.95 276 P Pdif 21 31 14.8 +0.2
comp=Z,2.1nm,0.8s,baz=53,slow=8.7,SNR=6.2
KMBO Kilima Mbogo 101.95 276 *eP* Pdif 21 31 13.3 -1.2
KMBO *e* 21 35 22.9
KMBO Kilima Mbogo 101.95 276 P Pdif 21 31 14.8 +0.2
KMBO LR LR
comp=Z,5μm,20.0s,MS6.0
MIR Mirnyy 102.24 198 *eP* Pdif 21 31 16.0 +0.2
MIR pmax pmax
comp=Z,190nm,2.0s
TZTN Tazewell 102.47 35 PFAKE 21 31 30.0 +13
TZTN LR LR
comp=Z,8μm,19.0s,MS6.3
HRV Harvard--Oak R 102.59 24 PFAKE 21 31 30.0 +13
HRV LR LR
comp=Z,6μm,19.0s,MS6.2
WES Weston 102.78 24 PFAKE 21 31 30.0 +12
WES LR LR
comp=Z,6μm,20.0s,MS6.1
ABA Alger-Bouzarea 102.86 326 P PKiKP 21 35 32.0 -6.9
EMHD Djebel Mahouad 103.37 326 P PKiKP 21 35 29.9 -10
BLA Blacksburg 103.45 32 PFAKE 21 31 30.0 +8.8
BLA LR LR
comp=Z,15μm,19.0s,MS6.5
ESDC Sonseca Array 103.61 332 Pdiff Pdif 21 31 22.0 +0.1
comp=Z,0.1nm,0.3s,baz=261,slow=30,SNR=4.1
ESDC PP PP 21 35 26.9 -11
comp=Z,4.4nm,0.9s,baz=18,slow=7.1,SNR=5.4
ESDC PKKPbc PKKPbc 21 47 13.1 -0.9
comp=Z,0.6nm,0.6s,baz=241,slow=3.1,SNR=4.5
ESLA Sonseca Array 103.61 332 PFAKE 21 31 30.0 +8.1
ESLA LR LR
comp=Z,73μm,20.0s,MS7.2
EBNR Beni Rached 103.99 327 P PKiKP 21 35 31.7 -9.2
CBN Corbin 104.00 30 PFAKE 21 31 30.0 +6.3
CBN LR LR
comp=Z,7μm,19.0s,MS6.2
ECHA Ech Chlef 104.18 327 P PKiKP 21 35 33.0 -8.3
EANR 'Ain N'Sour 104.47 327 P PKiKP 21 35 38.5 -3.3
ETRT Tiaret 104.83 326 P PKiKP 21 35 43.6 +1.1
CNNC Cliffs of the 106.23 32 PFAKE 21 36 00.0 +15
CNNC LR LR
comp=Z,10μm,20.0s,MS6.4
VNDA Vanda 107.53 175 PKKPbc PKKPbc 21 47 01.5 -0.5
comp=Z,2.3nm,1.0s,baz=315,slow=1.0,SNR=6.7
VNDA Vanda 107.53 175 PFAKE 21 36 00.0 +13
VNDA LR LR
comp=Z,6μm,19.0s,MS6.2
SBA Scott Base 108.23 174 PFAKE 21 36 00.0 +11
SBA LR LR
comp=Z,3μm,20.0s,MS5.8
MDT Midelt 109.71 329 Pdiff Pdif 21 31 52.9 +3.9
comp=Z,3.9nm,1.0s,baz=27,slow=4.5,SNR=3.5
MDT PKiKP PKiKP 21 35 53.0 +1.4
comp=Z,3.4nm,0.8s,baz=186,slow=1.8,SNR=6.5
MDT PP PP 21 36 21.6 -1.5
comp=Z,7.7nm,1.0s,baz=79,slow=3.3,SNR=4.0
DWPF Disney 110.19 39 PFAKE 21 36 00.0 +7.6
DWPF LR LR
comp=Z,10μm,21.0s,MS6.4
TEIG Tepich 111.91 49 PFAKE 21 36 10.0 +14
TEIG LR LR
comp=Z,5μm,21.0s,MS6.1
MAW Mawson 112.31 204 *e*PKP PKiKP 21 35 56.3 -0.2
comp=Z,2.3nm,0.6s
MAW Mawson 112.31 204 PKiKP PKiKP 21 35 56.0 -0.5
comp=Z,3.3nm,0.8s,baz=306,slow=6.5,SNR=7.3
MAW PP PP 21 36 38.0 -3.9
comp=Z,11nm,1.0s,baz=9.7,slow=7.3,SNR=4.7
MAW PKKPbc PKKPbc 21 46 46.8 +0.3
comp=Z,2.2nm,0.9s,baz=258,slow=8.6,SNR=3.6
MAW Mawson 112.31 204 *i* PKIKP PKiKP 21 35 56.0 -0.5
MAW 21 36 38.0
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 112.31 204 *e*PKP PKiKP 21 35 56.3 -0.2
MAW LR LR
comp=Z,9μm,22.0s,MS6.3
SOR Soroa 113.37 44 *eP* PP 21 36 36.6 -13
BBSR BB Station 114.06 23 PFAKE 21 36 10.0 +10
BBSR LR LR
comp=Z,5μm,20.0s,MS6.1
LSZ Lusaka 116.46 267 *e*PKIKP PKPdf 21 36 05.5 +1.1
LSZ MLR MLR
comp=Z,12μm,22.0s,MS6.5
TGUH Tegucigalpa,Un 116.89 53 PFAKE 21 36 20.0 +15
TGUH LR LR
comp=Z,10μm,20.0s,MS6.4
QSPA South Pole Qui 119.23 180 *eP* PKPdf 21 36 07.7 -2.1
QSPA LR LR
comp=Z,8μm,22.0s,MS6.3
RCC Rio Carpintero 119.79 40 *eP* PKPdf 21 36 11.5 +0.7
SYO Syowa Base 121.01 204⇑ *e*PKPdf PKPdf 21 36 10.4 -2.8
SYO Syowa Base 121.01 204⇑ *e*PP PP 21 37 41.2 -1.4
TOA0 Torodi Ar. Sit 121.81 311 *e*PKPdf PKPdf 21 36 13.5 -1.2
TORD Torodi Ar. Bea 121.81 311 PKP PKPdf 21 36 13.6 -1.1
comp=Z,17nm,0.6s,baz=3.5,slow=2.4,SNR=87
TORD PKKPbc PKKPbc 21 46 12.6 -0.2
comp=Z,8.0nm,0.7s,baz=226,slow=2.1,SNR=27
TORD SKKPbc 21 49 57.6
comp=Z,3.6nm,1.2s,baz=228,slow=5.2,SNR=4.2
TORD PKPPKP 21 54 49.1
comp=Z,0.2nm,0.5s,baz=216,slow=3.3,SNR=6.8
LBTB Lobatse 122.48 258 *e*PKIKP PKPdf 21 36 17.2 +1.2
LBTB MLR MLR
comp=Z,10μm,21.0s,MS6.5
BOSA Boshof 123.94 254 PKhKP 21 36 11.2
comp=Z,2.1nm,0.6s,baz=59,slow=5.3,SNR=6.2
BOSA Boshof 123.94 254 *e*PKIKP PKPdf 21 36 13.3 -5.5
BOSA Boshof 123.94 254 PFAKE 21 36 30.0 +11
BOSA LR LR
comp=Z,6μm,21.0s,MS6.3
PAYG Puerto Ayora 123.97 69 PFAKE 21 36 30.0 +11
PAYG LR LR
comp=Z,8μm,19.0s,MS6.4
HUMP Col San Antoni 126.34 31 *e*PKPdf PKPdf 21 36 24.5 +1.1
MTP Monte Pirata 126.51 31 *e*PKPdf PKPdf 21 36 25.3 +1.6
TSUM Tsumeb 127.30 267 *e*PKPdf PKPdf 21 36 25.7 +0.5
TSUM LR LR
comp=Z,5μm,19.0s,MS6.2
SUR Sutherland 128.65 251 PFAKE 21 36 40.0 +12
SUR LR LR
comp=Z,2μm,22.0s,MS5.8
NVL N'lazarevskaya 129.92 200 *c i*PKIKP PKPdf 21 36 30.1 -0.1
NVL *i* 21 38 41.5
NVL pmax pmax
comp=Z,46nm,1.5s
NVL MLR MLR
comp=Z,1μm,19.0s,MS5.5
MAIT Maitri 129.95 200 *e*PKP PKPdf 21 36 28.1 -2.2
SDV Santo Domingo 131.58 43 *e*PKPdf PKPdf 21 36 34.3 +1.0
SDV LR LR
comp=Z,3μm,21.0s,MS5.9
ROSC El Rosal 132.33 50 PKP PKPdf 21 36 36.9 +2.1
comp=Z,5.1nm,0.4s,baz=104,slow=19,SNR=18
ROSC El Rosal 132.33 50 *e*PKPdf PKPdf 21 36 34.7 -0.1
OTAV Otavalo 132.66 58 *e*PKPdf PKPdf 21 36 34.6 -0.8
OTAV LR LR
comp=Z,6μm,21.0s,MS6.3
SNAA Sanae 133.25 195 *e*PKPdf PKPdf 21 36 36.1 -0.4
SNAA *e* 21 39 00.1
SNAA *e* 21 40 01.2
SNAA *e* 21 40 09.8
SNAA Sanae 133.25 195 *e*PKHKP 21 36 19.9
BBGH Gun Hill 133.48 27 PFAKE 21 36 50.0 +13
BBGH LR LR
comp=Z,19μm,22.0s,MS6.8
VNA2 Neumayer--Watz 134.80 194 *e*PKPdf PKPdf 21 36 39.5 +0.1
baz=81,slow=1.5
VNA2 *e* 21 36 50.7
VNA2 *e* 21 36 54.5
VNA2 *e* 21 39 12.8
VNA2 *e* 21 40 05.9
VNA2 *e* 21 40 12.3
VNA3 Neumayer Olymp 135.03 193 *e*PKPdf PKPdf 21 36 38.9 -0.9
VNA3 *e* 21 36 51.8
VNA3 *e* 21 36 55.1
VNA3 *e* 21 39 13.8
VNA3 *e* 21 40 06.5
VNA3 *e* 21 40 13.5
VNA1 Neumayer--Stat 135.20 194 *e*PKPdf PKPdf 21 36 39.7 -0.5
VNA1 *e* 21 39 14.2
NNA Nana 141.33 71 *e*PKPpre 21 36 44.7
NNA LR LR
comp=Z,2μm,19.0s,MS6.0
PMSA Palmer Station 141.50 163 PFAKE 21 37 00.0 +8.3
PMSA LR LR
comp=Z,5μm,22.0s,MS6.2
SHEL Horse Pasture 146.09 286 *e*PKPdf PKPdf 21 37 00.5 +0.7
SHEL LR LR
comp=Z,1μm,22.0s,MS5.7
ASCN Ascension 148.00 307 PFAKE 21 37 10.0 +7.1
ASCN LR LR
comp=Z,1μm,22.0s,MS5.7
ARE Arequipa 148.07 73 *e*PKP2 PKPab 21 37 06.0 -3.1
LPAZ La Paz 150.76 70 PKP PKPdf 21 37 08.2 +0.9
comp=Z,25nm,1.0s,baz=339,slow=2.2,SNR=45
LPAZ PKPbc PKPbc 21 37 15.7 +2.8
comp=Z,115nm,0.8s,baz=214,slow=3.6,SNR=104
LPAZ La Paz 150.76 70 PKIKP PKPdf 21 37 08.3 +0.9
LPAZ 21 37 15.7
LPAZ pmax pmax
comp=Z,25nm,1.0s
LPAZ pmax pmax
comp=Z,115nm,0.8s
LPAZ La Paz 150.76 70 *e*PKPdf PKPdf 21 37 08.6 +1.3
LPAZ LR LR
comp=Z,6μm,22.0s,MS6.3
LVC Limon Verde 152.89 82 *e*PKPdf PKPdf 21 37 11.7 +1.1
LVC *e*PKPbc PKPbc 21 37 18.5 +0.7
LVC LR LR
comp=Z,5μm,22.0s,MS6.3
FCH Farellones 153.62 106 *eP* PKPdf 21 37 13.7 +2.1
EFI East Falkland 153.92 153 PFAKE 21 37 20.0 +8.0
EFI LR LR
comp=Z,2μm,20.0s,MS5.8
HOPE Hope Point 155.10 184 PFAKE 21 37 20.0 +6.3
HOPE LR LR
comp=Z,2μm,19.0s,MS5.9
TRIS Tristan da Cun 155.97 244 PFAKE 21 37 30.0 +15
TRIS LR LR
comp=Z,5μm,21.0s,MS6.3
RCBR Riachuelo 156.22 351 *e*PKPdf PKPdf 21 37 17.2 +2.0
RCBR LR LR
comp=Z,5μm,21.0s,MS6.3
CPUP Villa Florida 164.06 83 PKP PKPdf 21 37 23.6 -0.4
comp=Z,7.0nm,0.7s,baz=230,slow=2.1,SNR=20
CPUP PKPab PKPab 21 38 17.2 -0.1
comp=Z,17nm,0.7s,baz=279,slow=3.7,SNR=12
CPUP Villa Florida 164.06 83 *e*PKPdf PKPdf 21 37 22.8 -1.1
CPUP *e*PKPab PKPab 21 38 15.5 -1.8
CPUP LR LR
comp=Z,935nm,21.0s
CAM3 Guarapari 171.26 5⇓ *iP* PKPdf 21 37 31.2 +2.2
CAM3 *i* 21 37 37.3

CAM3				*i*		21 37 37.9	
CAM4	**Nova Friburgo**	**172.45**	**21**	⇑*i*P	PKPdf	21 37 29.4	-0.2
CAM4				*i*		21 37 31.8	
CAM4				*i*		21 37 36.2	
CAM4				*i*		21 38 06.7	

IDC 23 21:25:49.3±1.7, 2873N×14094E, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/17, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=95.1km s-min=44.6km az=58.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.12**	**344**	Pn	Pn	21 27 48.6	+0.2
	0.7nm,0.3s,baz=149,slow=13,SNR=3.8						
ARCES	**ARCESS Array B**	**71.64**	**340**	P	P	21 37 12.4	-0.3
	5.3nm,0.8s,baz=74,slow=8.9,SNR=4.9						
JOF	**Joensuu**	**73.14**	**333**	*ep*	P	21 37 19.8	-1.8
	0.6nm,0.4s						
KAF	**Kangasniemi**	**75.53**	**334**	*ep*	P	21 37 34.0	-1.6
	1.6nm,0.5s						
FINES	**FINESS Array B**	**76.00**	**333**	P	P	21 37 37.6	-0.7
	1.6nm,0.7s,baz=64,slow=9.4,SNR=3.9						
NB2	**NORSAR Subarra**	**81.69**	**338**	P	P	21 38 09.1	-0.4
	comp=Z,3.4nm,0.9s,baz=45,slow=5.3						
NOA	**NORSAR Array B**	**81.69**	**338**	P	P	21 38 09.9	+0.4
	comp=Z,1.7nm,0.8s,baz=46,slow=4.9,SNR=3.9						
BRTR	**Keskin Array B**	**84.09**	**312**	P	P	21 38 21.9	-0.1
	comp=Z,0.8nm,0.8s,baz=102,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.69**	**311**	PKP	PKPdf	21 44 48.6	+1.6
	comp=Z,0.7nm,0.9s,baz=32,slow=2.6,SNR=4.4						
LPAZ	**La Paz**	**150.51**	**71**	PKPbc	PKPbc	21 45 43.8	+0.9
	comp=Z,2.1nm,1.0s,baz=319,slow=3.9,SNR=2.3						

*ISCJB **23** 21:33:50.9±4.5, 2942N±009×1406E±0.1, h13km±28km, mb4.5/17, Error ellipse: s-maj=24.1km s-min=8.8km az=116.0*
*IDC **23** 21:33:51.2±0.9, 2935N×14034E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.0/22, mbtmp4.1/12, ML4.5/1, Error ellipse: s-maj=37.4km s-min=16.6km az=77.0*
*NEIC **23** 21:33:53.0±0.6, 2936N×14020E, h10km, mb4.5/2, Error ellipse: s-maj=21.4km s-min=8.4km az=84.0*
*MOS **23** 21:33:54.2±0.9, 2938N×14031E, h33km, mb4.7/2, Error ellipse: s-maj=30.1km s-min=15.7km az=104.7*

ISC 23 21:33:54.0±4.2, 2944N±009×1407E±02, h23km±32km, n27, σ0=74/26, mb4.5/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.67**	**151**	Pn	**Pn**	**21 34 35.8**	**+0.2**
	94nm,0.3s,baz=357,slow=4.7,SNR=29						
CBIJ				Sn	**Sn**	**21 35 07.5**	**+0.3**
	101nm,0.3s,baz=277,slow=22,SNR=14						
MJAR	**Matsushiro Arr**	**7.39**	**344**	Pn	**Pn**	**21 35 40.2**	**-0.2**
	0.0nm,0.3s,baz=155,slow=12,SNR=2.8						
MJAR	**Matsushiro Arr**	**7.39**	**344**	Pn	**Pn**	**21 35 40.2**	**-0.2**
LSA	**Lhasa**	**42.84**	**283**	*eP*	**P**	**21 41 47.6**	**-2.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
LSA	**Lhasa**	**42.84**	**283**	*eP*	**P**	**21 41 47.6**	**-2.7**
	comp=Z,7.6nm,1.2s,mb4.3						
PSI	**Prapat**	**47.68**	**244**	P	**P**	**21 42 27.8**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.3,baz=51,slow=13,SNR=3.8						
GUN	**Gumba**	**47.76**	**282**	*eP*	**P**	**21 42 30.5**	**+1.3**
	comp=Z,55nm,1.1s,mb5.5						
MKAR	**Makanchi Array**	**48.00**	**308**	PcP	PcP	21 43 58.2	-0.8
	comp=Z,0.2nm,0.2s,baz=84,slow=3.8,SNR=3.6						
PKI	**Pulchoki**	**48.25**	**282**	*eP*	**P**	**21 42 33.4**	**+0.4**
KKN	**Kakani**	**48.30**	**282**	*eP*	**P**	**21 42 34.3**	**+0.9**
	comp=Z,22nm,1.1s,mb5.1						
DMN	**Daman**	**48.50**	**282**	*eP*	**P**	**21 42 35.8**	**+0.8**
	comp=Z,5.9nm,0.6s,mb4.8						
GKN	**Gorkha**	**48.79**	**283**	*eP*	**P**	**21 42 37.7**	**+0.5**
	comp=Z,71nm,1.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**49.45**	**199**	P	**P**	**21 42 41.9**	**-0.4**
	comp=Z,8.8nm,1.1s,mb4.7,baz=41,slow=6.5						
WRAB	**Tennant Creek**	**49.47**	**188**	*eP*	**P**	**21 42 42.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**49.47**	**188**	*eP*	**P**	**21 42 42.0**	**-0.4**
	comp=Z,6.9nm,0.9s,mb4.7						
KOLN	**Koldanda**	**49.74**	**283**	*eP*	**P**	**21 42 45.1**	**+0.7**
	comp=Z,31nm,1.0s,mb5.3						
ASAR	**Alice Springs**	**53.21**	**188**	P	**P**	**21 43 09.8**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=12,slow=6.6,SNR=5.0						
BVAR	**Borovoye Array**	**55.45**	**316**	P	**P**	**21 43 25.8**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=48,slow=11,SNR=2.7						
AKTK	**Aktyubinsk**	**63.46**	**315**	P	**P**	**21 44 21.4**	**-0.6**
AKTO	**Aktyubinsk**	**63.46**	**315**	P	**P**	**21 44 21.4**	**-0.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=77,slow=14,SNR=3.6						
NWAO	**Narrogin (SRO)**	**65.90**	**202**	P	**P**	**21 44 38.0**	**0.0**
	comp=Z,12nm,1.0s,mb4.9,baz=290,slow=18,SNR=3.2						
NWAO	**Narrogin (SRO)**	**65.90**	**202**	P	**P**	**21 44 38.0**	**0.0**
ARCES	**ARCESS Array B**	**70.91**	**340**	P	**P**	**21 45 09.8**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.5,baz=57,slow=8.8,SNR=8.8						
FINES	**FINESS Array B**	**75.28**	**333**	P	**P**	**21 45 35.6**	**+0.5**
	comp=Z,2.1nm,1.0s,mb4.0,baz=49,slow=9.5,SNR=3.2						
AKASG	**Malin Array Be**	**79.97**	**323**	P	**P**	**21 46 00.8**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=48,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**83.47**	**312**	P	**P**	**21 46 20.1**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=108,slow=4.0,SNR=9.3						
LPAZ	**La Paz**	**150.46**	**70**	PKPbc	PKPbc	21 53 47.4	+3.7
	comp=Z,1.2nm,0.9s,baz=255,slow=3.0,SNR=6.1						

*NEIC **23** 21:43:10.8, 3089S×7168W, h29km±3km, ML3.9(GUC), After GUC.*

GUC 23 21:43:10.8±0.8, 3089S×7168W, h29km±3km, MD4.2, ML3.9, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.50**	**56**	⇓*i*P	Pb	21 43 20.9	-0.2
OVCH				*i* S	Sb	21 43 28.5	+0.3
OVCH				AML	AML	21 43 29.2	
	comp=E,7μm,0.5s						
OVCH	**Ovalle**	**0.50**	**56**	⇓*i*P	Pb	21 43 20.9	-0.2
OVCH				*i* S	Sb	21 43 28.5	+0.3
CMCH	**Combarbala**	**0.65**	**116**	⇑*i*P	Pb	21 43 23.3	-0.3
CMCH				*i* S	Sb	21 43 32.7	+0.4
CMCH				AML	AML	21 43 33.5	
	comp=N,18μm,0.3s						
CMCH	**Combarbala**	**0.65**	**116**	⇑*i*P	Pb	21 43 23.3	-0.3
CMCH				*i* S	Sb	21 43 32.7	+0.4
CHNG	**Los Chungos**	**1.00**	**171**	⇑*i*P	Pn	21 43 28.5	-0.4
CHNG				*i* S	Sn	21 43 42.4	+0.3
CHNG				AML	AML	21 43 44.3	
	comp=E,2μm,0.4s						
LSCH	**La Serena**	**1.05**	**21**	⇑*i*P	Pn	21 43 59.8	+30
LSCH				*i* S	Sn	21 44 13.6	+30
PTCH	**Petorca**	**1.51**	**155**	*eP*	Pn	21 43 36.3	+0.4
PTCH				*i* S	Sn	21 43 56.2	+1.5
PTCH				AML	AML	21 43 59.7	
	comp=E,3μm,0.4s						
PTCH	**Petorca**	**1.51**	**155**	*eP*	Pn	21 43 36.3	+0.4
PTCH				*i* S	Sn	21 43 56.2	+1.5
PACH	**Papudo**	**1.66**	**173**	*eP*	Pn	21 43 38.8	+0.9
PACH				*i* S	Sn	21 44 01.0	+2.8
JACH	**Jahuel**	**2.01**	**153**	⇑*i*P	Pn	21 43 44.4	+1.5
PEL	**Peldehue**	**2.40**	**160**	*eP*	Pn	21 43 49.1	+0.9
PEL				*e*S	Sn	21 44 19.8	+3.2
VACH	**Vallenar**	**2.44**	**19**	⇑*i*P	Pn	21 43 50.6	+1.9
VACH				*i* S	Sn	21 44 22.2	+4.6
VACH				AML	AML	21 44 28.2	
	comp=N,5μm,0.5s						
VACH	**Vallenar**	**2.44**	**19**	⇑*i*P	Pn	21 43 50.6	+1.9
VACH				S	Sn	21 44 22.2	+4.6
FCH	**Farellones**	**2.70**	**154**	*eP*	Pn	21 43 54.1	+1.8
FCH				AML	AML	21 44 38.1	
	comp=E,304nm,0.8s						
TACH	**Talagante**	**2.83**	**167**	*eP*	Pn	21 43 55.0	+1.0
PCH	**Pirque**	**2.90**	**160**	*eP*	Pn	21 43 56.5	+1.5
CHCH	**Chadas Angostu**	**3.16**	**164**	⇑*i*P	Pn	21 43 59.9	+1.3
CHCH				*e*S	Sn	21 44 37.2	+2.0
SFDO	**San Fernando**	**3.76**	**172**	*eP*	Pn	21 44 08.2	+1.4

JMA 23 21:43:12.7, 2462N×12548E, h10km±1km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.15**	**334**	P	Pg	21 43 16.3	+0.2
JOGS				S	Sg	21 43 18.7	+0.2
JMJ	**Miyako jima 2**	**0.26**	**319**	P	Pg	21 43 18.1	+0.2
JMJ				S	Sg	21 43 22.0	+0.6
JTJ	**Tarama**	**0.71**	**272**	P	Pg	21 43 26.3	-0.1
JTJ				*e*S	Sg	21 43 35.6	0.0
JIJ	**Ishigaki jima**	**1.25**	**258**	P	Pn	21 43 35.4	-0.7
JIJ				S	Sb	21 43 51.6	-0.8
JKRS	**Kuro-shima**	**1.39**	**254**	P	Pn	21 43 38.6	+0.4
JKRS				*e*S	Sn	21 43 56.5	-0.1
IRIF	**Iriomote-Funau**	**1.62**	**260**	P	Pn	21 43 41.4	+0.1
IRIF				*e*S	Sn	21 44 02.7	+0.5
HATJ	**Hateruma jima**	**1.63**	**250**	P	Pn	21 43 42.8	+1.4
HATJ				*e*S	Sn	21 44 04.0	+1.6
JKE	**Kume jima 2**	**2.07**	**35**	P	Pn	21 43 47.9	+0.4
JKE				*e*S	Sn	21 44 15.9	+2.6
YOJ	**Yonaguni jima**	**2.25**	**267**	P	Pn	21 43 51.0	+1.0
JAGN	**Aguni-jima**	**2.52**	**39**	P	Pn	21 43 54.2	+0.5
JOW	**Kunigami**	**3.35**	**48**	P	Pn	21 44 06.5	+1.4
JTK	**Tokunoshima**	**4.43**	**44**	P	Pn	21 44 19.8	-0.2
JAM	**Amami Oshima**	**5.28**	**43**	P	Pn	21 44 31.4	-0.3

MAN 23 21:53:28.1, 1336N×12165E, h20km, mb3.2, ML4.5, MS3.4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.21**	**63**	*eP*	Pb	21 53 33.9	+0.5
BOAC				*e*S	Sb	21 53 38.2	+1.2
AUQP	**San Andres**	**1.00**	**92**	*eP*	Pb	21 53 50.6	+3.9
TGY	**Tagaytay City**	**1.01**	**317**	⇑*i*P	Pb	21 53 46.5	-0.5
TGY				*i* S	Sb	21 53 55.8	-4.0
OTRP	**Odiongan**	**1.06**	**160**	*eP*	Pb	21 53 47.9	+0.3
POLP	**Polillo Island**	**1.39**	**12**	*eP*	Pn	21 53 52.8	+0.5
LUBP	**Lubang**	**1.42**	**285**	*eP*	Pn	21 53 49.9	-2.7
BUSP	**Coron**	**1.96**	**227**	*eP*	Pn	21 54 00.5	+0.4
PCPH	**Palayan**	**2.25**	**346**	⇓*e*P	Pn	21 54 04.2	0.0
PCPH						21 54 32.0	
BALP	**Baler**	**2.37**	**358**	*eP*	Pn	21 54 07.2	+1.5
PVCP	**Virac**	**2.45**	**84**	*eP*	Pn	21 54 11.4	+4.5
CUYO	**Cuyo Island**	**2.57**	**194**	*eP*	Pn	21 54 08.8	+0.2
GUIM	**Jordan**	**2.87**	**161**	*eP*	Pn	21 54 13.0	+0.4
SCZP	**Santa Cruz**	**2.93**	**325**	*eP*	Pn	21 54 16.7	+3.2
ENPP	**El Nido**	**3.05**	**226**	*eP*	Pn	21 54 16.0	+0.8
CAUP	**Cauayan**	**3.57**	**3**	*eP*	Pn	21 54 29.7	+7.5

*IDC **23** 21:56:47.7±0.9, 2935N×14029E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.9/6, ML4.7/1, MS4.2/2, Ms1 4.2/2, ms1mx3.6/30, Error ellipse: s-maj=62.4km s-min=22.3km az=68.0*
*ISCJB **23** 21:56:50.6±0.7, 2941N±02×1406E±04, h33km, mb3.9/5, Error ellipse: s-maj=54.9km s-min=8.7km az=121.4*
*MOS **23** 21:56:50.3±1.2, 2950N×14073E, h33km, mb4.3/4, Error ellipse: s-maj=99.9km s-min=22.3km az=105.5*

ISC 23 21:56:50.8±4.7, 295N±02×1408E±05, h25km±36km, n16, σ0=66/13, mb4.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.67**	**153**	Pn	**Pn**	**21 57 33.4**	**+1.1**
	132nm,0.3s,baz=335,slow=6.2,SNR=17						
CBIJ				Sn	**Sn**	**21 58 03.0**	**-0.7**
	102nm,0.3s,baz=309,slow=21,SNR=6.3						
CBIJ				LR	LR	21 58 40.3	
	comp=Z,1μm,20.3s,baz=85,slow=40						
MJAR	**Matsushiro Arr**	**7.36**	**343**	Pn	**Pn**	**21 58 35.7**	**-0.9**
	baz=154,slow=11,SNR=3.0						
ASAJ	**Asahikawa**	**14.66**	**5**	LR	LR	22 06 42.4	
	comp=Z,4μm,18.6s,baz=61,slow=40						
ASAR	**Alice Springs**	**53.27**	**188**	P	**P**	**22 06 06.8**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=358,slow=4.7,SNR=4.9						
ARCES	**ARCESS Array B**	**70.89**	**340**	P	**P**	**22 08 06.4**	**+0.8**
	2.5nm,1.0s,mb4.1,baz=64,slow=11,SNR=4.8						
ARCES	**ARCESS Array B**	**70.89**	**340**	P	**P**	**22 08 06.4**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JOF	**Joensuu**	**72.41**	**333**	*ep*	**P**	**22 08 14.4**	**-0.3**
KAF	**Kangasniemi**	**74.80**	**334**	*ep*	**P**	**22 08 28.7**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**74.80**	**334**	*eP*	**P**	**22 08 28.7**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**75.27**	**333**	P	**P**	**22 08 31.9**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=72,slow=5.7,SNR=9.0						
FINES	**FINESS Array B**	**75.27**	**333**	P	**P**	**22 08 31.9**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**83.50**	**312**	P	**P**	**22 09 16.7**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=116,slow=3.4,SNR=4.8						
BRTR	**Keskin Array B**	**83.50**	**312**	P	**P**	**22 09 16.7**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.10**	**311**	PKP	PKPdf	22 15 43.5	+0.4
	comp=Z,0.3nm,0.6s,baz=50,slow=1.0,SNR=8.0						
LPAZ	**La Paz**	**150.36**	**70**	PKPbc	PKPbc	22 16 43.6	+3.8
	comp=Z,1.1nm,0.7s,baz=297,slow=4.0,SNR=6.6						
LPAZ	**La Paz**	**150.36**	**70**	PKIKP	PKPdf	22 16 43.6	+9.0
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*CSEM **23** 21:59:35.9, 67.18N×2064E, h0km, ML2.6, Mining explosion. After UPP*
*UPP **23** 21:59:35.9, 67.18N×2064E, h0km, ML2.6, Mining explosion.*

HEL 23 21:59:36.7±0.1, 6717N×2059E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**191**	*i* P	Pg	21 59 37.4	-0.2
KUA	**Kurravaara**	**0.80**	**353**	*i* P	Pg	21 59 50.7	-1.3
SALU	**Saltoluokta**	**0.84**	**286**	*i* P	Pg	21 59 52.0	-0.8
SALU	**Saltoluokta**	**0.84**	**286**	P	Pg	21 59 52.0	-0.8
	baz=113						
ERTU	**Ertsjaerv**	**0.88**	**134**	*i* P	Pg	21 59 52.8	-0.8
ERTU	**Ertsjaerv**	**0.88**	**134**	P	Pg	21 59 52.8	-0.8
	baz=283						
NIKU	**Nikkaluokta**	**0.92**	**320**	*eP*	Pg	21 59 53.2	-1.2
PAJU	**Pajala**	**1.00**	**97**	*eP*	Pg	21 59 54.0	-1.9
PAJU	**Pajala**	**1.00**	**97**	P	Pg	21 59 54.0	-1.8
	baz=35						
HARU	**Harads**	**1.02**	**171**	*eP*	Pg	21 59 54.7	-1.6
LANU	**Lannavaara**	**1.04**	**30**	*eP*	Pg	21 59 54.8	-1.7
LANU	**Lannavaara**	**1.04**	**30**	P	Pg	21 59 54.8	-1.8
	baz=129						
SJUU	**Sjulsmark**	**1.72**	**166**	*eP*	Pn	22 00 06.9	-0.9
KIF	**Kilpisjarvi**	**1.85**	**2**	*eP*	Pn	22 00 10.0	+0.4
KIF				*e*S	Sn	22 00 34.8	+1.1
LILU	**Lilltraesk**	**1.91**	**189**	*eP*	Pn	22 00 10.2	-0.3
LILU	**Lilltraesk**	**1.91**	**189**	P	Pn	22 00 10.2	-0.3
	baz=20						
SGF	**Sodankyl**	**2.32**	**80**	*eP*	Pn	22 00 16.6	+0.5
SGF				*e*SB	Sb	22 00 47.1	-1.4

*CSEM **23** 22:08:49.2±0.9, 3870N×2859W, h5km, ML1.5, Error ellipse: s-maj=2.9km s-min=1.8km az=152.0, After PDA*
*PDA **23** 22:08:49.2±0.9, 3870N×2859W, h5km, MD2.8, ML1.5, Error ellipse: s-maj=2.9km s-min=1.8km az=152.0*

SVSA 23 22:08:49.2±0.9, 3870N×2859W, h5km, MD2.8, ML1.5, Error ellipse: s-maj=2.9km s-min=1.8km az=152.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.11**	**230**	*eP*	Pg	22 08 51.1	-0.4
PCED				*e*S	Sg	22 08 53.4	+0.4
PCED							
	100nm,0.2s						
PCED	**Cedros**	**0.11**	**230**	*eP*	Pg	22 08 51.1	-0.4
PCED				*e*S	Sg	22 08 53.4	+0.4
CALA	**Caldeira**	**0.14**	**216**	*eP*	Pg	22 08 52.1	0.0
CALA				*e*S	Sg	22 08 54.5	+0.4
HOR	**Horta**	**0.17**	**189**	*eP*	Pg	22 08 52.5	-0.2
PICO	**Pico**	**0.24**	**146**	*eP*	Pg	22 08 53.4	-0.5
PICO				*e*S	Sg	22 08 56.9	-0.1
PCND	**Candelaria**	**0.25**	**156**	*i* P	Pg	22 08 53.8	-0.3
PCND				*e*S	Sg	22 08 57.5	0.0
PCND							
	46nm,0.2s						
ROSA	**Rosais**	**0.28**	**86**	*eP*	Pg	22 08 54.3	-0.3
ROSA				*e*S	Sg	22 08 57.6	-0.6
PTEI	**Pico do Teixo**	**0.28**	**138**	*e*S	Sg	22 08 58.4	+0.2
PTEI							
	17nm,0.1s						
PBOI	**Pico dos Bois**	**0.31**	**147**	*e*S	Sg	22 08 59.3	-0.1
PBOI							
	34nm,0.3s						
PAMA	**Santo Amaro**	**0.33**	**93**	*eP*	Pg	22 08 55.5	0.0
PAMA				*e*S	Sg	22 08 59.9	+0.2
PAMA							
	31nm,0.1s						
PAMA	**Santo Amaro**	**0.33**	**93**	*eP*	Pg	22 08 55.5	0.0
PAMA				*e*S	Sg	22 08 59.9	+0.2

*ISCJB **23** 22:43:04.5±1.5, 200S±0.1×1777W±0.1, h521km±23km, mb3.6/11, Error ellipse: s-maj=21.1km s-min=17.7km az=179.9*
*IDC **23** 22:43:05.7±2.1, 1998S×17763W, h525km±27km, mb3.2/5, mb1 3.4/7, mb1mx3.3/14, mbtmp4.2/7, Error ellipse: s-maj=27.7km s-min=19.0km az=149.0*
*NEIC **23** 22:43:05.6±1.2, 1998S×17765W, h523km±16km, mb3.7/7, Error ellipse: s-maj=15.2km s-min=13.4km az=162.0*

ISC 23 22:43:05.5±1.5, 201S±01×1776W±01, h520km±23km, n18, σ0=82/17, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.28**	**43**	P	**P**	**22 45 05.1**	**-0.1**
	3.5nm,0.3s,baz=202,slow=5.4,SNR=3.5						
URZ	**Urewera**	**18.71**	**193**	P	**P**	**22 46 50.4**	**-0.9**
	2.4nm,0.3s,baz=266,slow=7.7,SNR=11						
HNR	**Honiara**	**24.10**	**293**	P	**P**	**22 47 39.1**	**-0.7**
CTA	**Charters Tower**	**33.89**	**264**	P	**P**	**22 49 05.1**	**+0.3**
	2.8nm,0.5s,mb4.0,baz=81,slow=13,SNR=4.3						
CTAO	**Charters Tower**	**33.89**	**264**	*eP*	**P**	**22 49 05.2**	**+0.4**
	1.2nm,0.4s,mb3.8						
PMG	**Port Moresby**	**35.60**	**282**	P	**P**	**22 49 19.8**	**+0.7**
TAU	**Tasmania Unive**	**37.19**	**224**	*eP*	**P**	**22 49 33.0**	**+0.8**
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**22 49 41.8**	**+0.5**
	3.6nm,0.6s,mb4.1,baz=88,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**44.97**	**256**	P	**P**	**22 50 34.0**	**-0.1**
	2.9nm,0.6s,mb4.0,baz=93,slow=7.6,SNR=40						
ASAR				PcP	PcP	22 52 03.4	-0.8
	0.8nm,0.7s,baz=104,slow=4.5,SNR=5.3						
MBWA	**Marble Bar**	**58.30**	**257**	*eP*	**P**	**22 52 09.5**	**-0.8**
	2.2nm,0.6s,mb3.6						
SBA	**Scott Base**	**58.33**	**184**	*eP*	**P**	**22 52 12.3**	**+1.8**
	2.5nm,0.8s,mb3.5						
VNDA	**Vanda**	**58.38**	**185**	P	**P**	**22 52 11.4**	**+0.6**
	0.6nm,0.6s,mb3.0,baz=32,slow=4.2,SNR=3.7						
CASY	**Casey**	**64.52**	**205**	*eP*	**P**	**22 52 50.3**	**-0.7**
	2.5nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**70.01**	**180**	*eP*	**P**	**22 53 24.9**	**+0.2**
	4.6nm,0.7s,mb4.1						
MAW	**Mawson**	**82.10**	**200**	*eP*	**P**	**22 54 30.7**	**-0.8**
	0.9nm,0.5s,mb3.5						
TXAR	**Lajitas Array**	**86.52**	**57**	P	**P**	**22 54 53.8**	**+0.7**
	0.3nm,0.7s,mb3.1,baz=213,slow=7.5,SNR=3.9						
SNAA	**Sanae**	**88.44**	**178**	*eP*	**P**	**22 55 00.6**	**-1.6**
	0.6nm,0.6s,mb3.5						
BRTR	**Keskin Array B**	**146.81**	**313**	PKPbc	PKPbc	23 01 47.6	-1.6
	0.2nm,0.4s,baz=44,slow=4.6,SNR=4.6						

IDC 23 22:44:45.0±2.4, 2882N×13958E, h0km, mb4.2/2, mb1 4.0/4, mb1mx3.6/19, mbtmp4.0/4, ML2.9/1, Error ellipse: s-maj=122.7km s-min=28.7km az=51.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**126**	Pn	Pn	22 45 32.1	+0.1
	29nm,0.3s,baz=291,slow=21,SNR=10						
CBIJ				Sn	Sn	22 46 03.5	-3.8
	86nm,0.3s,baz=318,slow=22,SNR=11						
MJAR	**Matsushiro Arr**	**7.79**	**352**	Pn	Pn	22 46 39.5	0.0
	0.2nm,0.3s,baz=161,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**71.15**	**340**	P	P	22 56 04.8	-0.6
	2.0nm,0.8s,baz=56,slow=7.5,SNR=4.0						
FINES	**FINESS Array B**	**75.38**	**333**	P	P	22 56 30.4	0.0
	2.7nm,1.0s,baz=64,slow=4.4,SNR=5.7						
LPAZ	**La Paz**	**151.61**	**70**	PKPbc	PKPbc	23 04 42.4	+1.2
	0.2nm,0.4s,baz=312,slow=6.8,SNR=3.9						

*NEIC **23** 22:46:43.7, 1958N×66.10W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 23 22:46:43.7, 1958N×6610W, h25km±24km, MD3.5/11, MD3.5/11, 11C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.32**	**170**	⇓*e*P	Pn	22 47 04.2	-2.2
CBYP				*e*S	Sn	22 47 20.6	-2.7
AOPR	**Arecibo Observ**	**1.37**	**207**	⇑*e*P	Pn	22 47 04.9	-2.3
AOPR				*e*S	Sn	22 47 22.1	-2.4
HUMP	**Col San Antoni**	**1.45**	**170**	⇑*e*P	Pn	22 47 05.9	-2.4
HUMP				*e*S	Sn	22 47 23.3	-3.1
SJG	**San Juan**	**1

HARU	Harads	1.70	169	eP	Pn	23 23 47.2 -0.9
SJUU	Sjulsmark	2.40	166	eP	Pn	23 23 57.8 +0.2
SGF	Sodankyl	2.45	96	ePB	Pb	23 23 59.5 -2.6
SGF				eSB	Sb	23 24 30.5 -2.4
KEV	Kevo	3.14	49	eS	Sn	23 24 43.9 -2.2
KU4	Liikasenvaara	3.95	107	eP	Pn	23 24 18.6 -0.5
KU4	Liikasenvaara	3.95	107	P	Pn	23 24 18.5 -0.5
MSF	Maaselka	3.98	115	eP	Pn	23 24 19.7 +0.2
MSF	Maaselka	3.98	115	P	Pn	23 24 19.6 +0.1
KU6	Riekki	4.22	111	eP	Pn	23 24 23.2 +0.4
KU6				eS	Sn	23 25 11.1 -1.7
KU6	Riekki	4.22	111	P	Pn	23 24 23.1 +0.3

*ISCJB **23** 23:38:36.4±2.7, 047S±008×1257E±02, h80km±26km, mb4.1/11, Error ellipse: s-maj=27.9km s-min=10.6km az=139.0*
*IDC **23** 23:38:37.1±5.9, 044S×12573E, h68km±56km, mb4.0/5, mb1 4.0/6, mb1mx3.7/15, mbtmp4.2/6, ML3.8/1, Error ellipse: s-maj=108.0km s-min=17.9km az=70.0*
*NEIC **23** 23:38:37.4±1.8, 045S×12578E, h73km±18km, mb4.1/7, Error ellipse: s-maj=19.2km s-min=7.3km az=70.0*
ISC 23 23:38:38.2±2.4,**046S**±008×**1258E**±02,**h80**km±24km,**n22,** σ0§82/21,**mb4.1**/11,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	15.24	342	P	Pn	23 42 08.9	+0.1
	26nm,0.3s,baz=144,slow=14,SNR=2.7						
FITZ	Fitzroy Crossi	17.53	180	eP	Pn	23 42 36.6	-0.6
	9.1nm,1.5s						
FITZ	Fitzroy Crossi	17.53	180	P	Pn	23 42 36.2	-1.0
	0.2nm,0.3s,baz=49,slow=9.5,SNR=9.5						
WB2	Warrarnunga Arr	21.11	157	eP	P	23 43 07.7	-8.5
MBWA	Marble Bar	21.39	196	eP	P	23 43 20.0	+0.8
	5.3nm,0.9s,mb3.9						
PMG	Port Moresby	23.07	113	P	P	23 43 36.9	0.0
ASAR	Alice Springs	24.38	162	P	P	23 43 49.6	+0.8
	3.0nm,0.8s,mb3.7,baz=336,slow=8.5,SNR=24						
CTAO	Charters Tower	27.98	135	P	P	23 44 21.0	-0.2
STKA	Stephens Creek	34.64	156	P	P	23 45 20.3	+0.5
	1.7nm,0.7s,mb4.0,baz=325,slow=13,SNR=3.7						
STKA	Stephens Creek	34.64	156	P	P	23 45 20.3	+0.5
LSA	Lhasa	44.59	315	eP	P	23 46 42.5	+0.2
	4.1nm,0.7s,mb4.3						
TAU	Tasmania Unive	46.47	158	P	P	23 46 56.3	-0.8
SONM	Songino Array	50.97	343	P	P	23 47 31.6	0.0
	1.7nm,0.5s,mb4.3,baz=161,slow=8.7,SNR=6.6						
MK31	Makanchi Array	60.48	327	eP	P	23 48 39.8	+0.2
MKAR	Makanchi Array	60.48	327	P	P	23 48 39.7	+0.1
	2.9nm,0.4s,mb4.7,baz=122,slow=7.8,SNR=56						
CASY	Casey	66.57	187	eP	P	23 49 18.0	-1.7
	4.2nm,0.6s,mb4.5						
BRVK	Borovoye	70.39	328	eP	P	23 49 44.0	+0.4
	1.8nm,0.3s,mb4.4						
VNDA	Vanda	79.42	173	eP	P	23 50 36.6	+1.0
	0.6nm,0.9s,mb3.4						
MAW	Mawson	79.51	200	P	P	23 50 35.3	-0.8
QSPA	South Pole Qui	89.47	180	eP	P	23 51 27.9	+1.6
	0.2nm,0.3s,mb3.6						
ARCES	ARCESS Array B	94.02	340	P	P	23 51 45.8	-1.5
	2.5nm,0.9s,mb4.6,baz=76,slow=7.5,SNR=4.9						
TORD	Torodi Ar. Bea	123.19	285	PKP	PKPdf	23 57 27.5	+1.9
	0.5nm,0.7s,baz=64,slow=1.8,SNR=7.4						

*NEIC **23** 23:44:40.5, 3186N×627W, h0km, MG4.1(MDD), After MDD.*
*CSEM **23** 23:44:41.8±0.3, 3183N×550W, h2km, ML3.6/3, Error ellipse: s-maj=5.9km s-min=4.7km az=13.0*
*CNRM **23** 23:44:43.7, 3185N×556W, h0km, MD3.8*
*MDD **23** 23:44:43.9±1.2, 3190N×557W, h9km±12km, mb4.0/8, Error ellipse: s-maj=9.7km s-min=5.1km az=0.0, PRXIMO*
*ISCJB **23** 23:44:43.5±0.7, 3215N±004×568W±004, h10km, Error ellipse: s-maj=6.1km s-min=5.1km az=149.8*
*INMG **23** 23:44:44.1±1.1, 3207N×570W, h0km, ML2.6, Error ellipse: s-maj=10.4km s-min=7.6km az=69.0*
ISC 23 23:44:43.9±0.7,**3201N**±005×**560W**±004,**h10**km,**n43,** σ1§35/67,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	El Ksiba	0.68	327	P	Pg	23 44 58.0	+1.0
KIB				S	Sg	23 45 10.0	+4.2
KIB	El Ksiba	0.68	327	i P	Pg	23 44 58.0	+1.0
TZC	Tazercounte	0.77	281	P	Pg	23 44 59.0	+0.3
TZC				S	Sg	23 45 11.0	+2.3
TZC	Tazercounte	0.77	281	i P	Pg	23 44 59.0	+0.3
ZFT	Errachidia	1.06	88	P	Pg	23 45 03.0	-1.3
ZFT				S	Sg	23 45 17.0	-1.1
ZFT	Errachidia	1.06	88	i P	Pg	23 45 03.0	-1.3
CZD	Col de Zad	1.13	25	P	Pb	23 45 06.0	+0.6
CZD				S	Sb	23 45 23.5	+3.4
CZD	Col de Zad	1.13	25	i P	Pb	23 45 06.0	+0.6
MIF	Mishlifen	1.43	13	P	Pn	23 45 11.5	+1.6
MIF				S	Sn	23 45 32.0	+3.3
MIF	Mishlifen	1.43	13	i P	Pn	23 45 11.5	+1.6
IFR	Ifrane	1.56	15	P	Pn	23 45 12.0	+0.4
AVE	Averroes	2.00	311	P	Pn	23 45 18.0	+0.3
TGT	Taghat	2.11	12	P	Pn	23 45 22.0	+2.8
TGT				S	Sn	23 45 49.0	+3.6
TGT	Taghat	2.11	12	i P	Pn	23 45 22.0	+2.8
CIA	Chichaoua	2.73	262	P	Pn	23 45 28.0	+0.3
CIA				S	Sn	23 45 59.0	-1.7
CIA	Chichaoua	2.73	262	i P	Pn	23 45 28.0	+0.3
EJIF	Jimena Fronter	4.43	1	P	Pn	23 45 51.2	0.0
	2.5nm,0.2s,SNR=12						
EJIF				S	Sn	23 46 44.1	+1.3
	0.9nm,0.2s,SNR=4.0						
EMIJ	Mijas	4.60	8	P	Pn	23 45 52.7	-0.7
	3.0nm,0.3s,SNR=8.7						
EMIJ				S	Sn	23 46 45.1	-1.8
	2.0nm,0.3s,SNR=4.0						
ESPR	Espera	4.85	358	P	Pn	23 45 57.4	+0.5
	1.2nm,0.2s,SNR=4.0						
ESPR				S	Sn	23 46 53.2	+0.1
	3.6nm,0.3s,SNR=4.0						
ESPR	Espera	4.85	358	P	Pn	23 45 57.4	+0.5
	1.2nm,0.2s,SNR=4.0						
EBER	Berja	5.37	24	P	Pn	23 46 06.9	+3.0
	1.0nm,0.1s,SNR=7.9						
EBER	Berja	5.37	24	P	Pn	23 46 06.9	+2.9
	1.0nm,0.1s,SNR=7.9						
EQUE	Quentar	5.48	18	P	Pn	23 46 06.7	+1.2
	1.3nm,0.2s,SNR=5.9						
EGRO	El Granado	5.73	345	P	Pn	23 46 08.4	-0.5
	2.3nm,0.2s,SNR=16						
EGRO				S	Sn	23 47 08.6	-6.0
	1.4nm,0.1s,SNR=4.0						
EMIN	Mina Concepcio	5.81	352	P	Pn	23 46 09.2	-0.9
	0.6nm,0.1s,SNR=16						
EMIN				S	Sn	23 47 12.1	-4.7
	0.2nm,0.1s,SNR=4.0						
MORF	Marmelete	5.85	335	ePn	Pn	23 46 09.8	-0.8
MORF				eSn	Sn	23 47 14.6	-3.2
MORF							
	5.8nm,0.1s						
MORF	Marmelete	5.85	335	ePn	Pn	23 46 09.8	-0.8
MORF				eSn	Sn	23 47 14.6	-3.2
	5.8nm,0.1s						
PTEO	Sao Teotonio	6.09	336	ePn	Pn	23 46 13.4	-0.5
PTEO				eSn	Sn	23 47 19.9	-3.8
EQES	Quesada	6.14	19	P	Pn	23 46 16.5	+1.8
	0.7nm,0.2s,SNR=8.2						
EQES				S	Sn	23 47 26.0	+1.0
	0.7nm,0.3s,SNR=4.0						
EQES	Quesada	6.14	19	P	Pn	23 46 16.5	+1.9
	0.7nm,0.2s,SNR=8.2						
EADA	Adamuz	6.20	7	P	Pn	23 46 15.3	-0.1
	1.2nm,0.2s,SNR=14						
EADA				S	Sn	23 47 23.8	-2.6
	2.1nm,0.2s,SNR=4.0						
PBEJ	Beja	6.29	343	ePn	Pn	23 46 16.0	-0.6
PBEJ				eSn	Sn	23 47 25.6	-2.8
PBEJ							
	1.6nm,0.3s						
PBEJ	Beja	6.29	343	ePn	Pn	23 46 16.0	-0.6
PBEJ				eSn	Sn	23 47 25.6	-2.8
	1.6nm,0.3s						
EBAN	Banos Encina	6.32	13	P	Pn	23 46 16.2	-0.9
	2.4nm,0.2s,SNR=7.9						
MOE	Montemor	6.88	342	ePn	Pn	23 46 25.3	+0.6
MOE				eSn	Sn	23 47 40.4	-2.6
PESTR	Estremoz	7.03	347	ePn	Pn	23 46 26.7	-0.2
PESTR				eSn	Sn	23 47 42.9	-4.0
PESTR							
	3.3nm,0.7s						
PESTR	Estremoz	7.03	347	ePn	Pn	23 46 26.7	-0.2
PESTR				eSn	Sn	23 47 42.9	-4.0
	3.3nm,0.7s						
ETOB	Tobarra	7.40	25	P	Pn	23 46 34.9	+2.9
	0.8nm,0.2s,SNR=4.0						
ETOB	Tobarra	7.40	25	P	Pn	23 46 34.9	+3.0
	0.8nm,0.2s,SNR=4.0						
PMAFR	Mafra	7.55	338	ePn	Pn	23 46 34.0	0.0
ESDC	Sonseca Array	7.76	9	P	Pn	23 46 36.2	-0.7
	3.2nm,0.2s,baz=196,slow=13,SNR=27						
ESDC				S	Sn	23 47 58.9	-6.0
	0.3nm,0.3s,baz=194,slow=24,SNR=4.0						
PCBR	Castelo Branco	7.96	350	ePn	Pn	23 46 39.3	-0.3
PCBR				eSn	Sn	23 48 04.9	-4.8
PBRG	Braganca	9.82	355	ePn	Pn	23 47 04.8	-0.3

*ISCJB **24** 00:04:10.5±0.2, 43579N±0009×061W±002, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.5km az=31.0*
*MDD **24** 00:04:13.4±0.3, 4349N×060W, h1km±3km, mbLg2.9/36, Error ellipse: s-maj=2.4km s-min=1.7km az=173.0, PRXIMO*
*NEIC **24** 00:04:13.8, 4347N×060W, h0km, ML3.2(STR), ML3.6(LDG), MN2.8(MDD), After MDD.*
*STR **24** 00:04:13.1±0.4, 4347N×059W, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **24** 00:04:14.5±0.0, 4343N×060W, h10km, ML3.4/46, Error ellipse: s-maj=0.8km s-min=0.6km az=109.0*
*LDG **24** 00:04:14.3±0.1, 4344N×060W, h5km, Md3.3/2, Ml3.6/36, Error ellipse: s-maj=1.3km s-min=1.0km az=122.0*
ISC 24 00:04:12.7±0.2,**43498N**±0009×**059W**±001,**h12**km±1km, **n187,** σ1§15/432,**1C-1D,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.38	222	Pg	Pg	00 04 20.1	-0.1
ORDF				Sg	Sg	00 04 25.3	-0.1
ORDF	Ordiarp	0.38	222	P	Pg	00 04 20.1	-0.1
ORDF				S	Sg	00 04 25.9	+0.5
ATE	Arette	0.42	191	Pg	Pg	00 04 20.4	-0.6
ATE				Sg	Sg	00 04 27.0	+0.4
REYF	Montagne du Re	0.45	161	P	Pg	00 04 21.2	-0.4
REYF				S	Sg	00 04 27.7	+0.1
LARF	Larrau	0.54	212	Pg	Pg	00 04 22.8	-0.5
LARF	Larrau	0.54	212	P	Pg	00 04 22.9	-0.5
LARF				S	Sg	00 04 30.2	-0.3
OSSF	Osses	0.55	244	Pg	Pg	00 04 23.4	0.0
OSSF				Sg	Sg	00 04 30.5	-0.1
OSSF	Osses	0.55	244	P	Pg	00 04 23.3	0.0
OSSF				S	Sg	00 04 30.4	-0.2
SJPF	Ste Jean	0.60	231	ePn	Pg	00 04 26.3	+1.9
	SNR=1.0						
SJPF				eSg	Sg	00 04 32.4	0.0
	388nm,0.5s,SNR=1.0						
SJPF				eSn	Sg	00 04 36.4	+4.0
SJPF	Ste Jean	0.60	231	Pg	Pg	00 04 23.8	-0.6
SJPF				Lg		00 04 32.4	
	194nm,0.5s						
SJPF	Ste Jean	0.60	231	ePg	Pg	00 04 23.8	-0.6
SJPF				ePn	Pg	00 04 26.3	+1.9
SJPF				eSg	Sg	00 04 32.4	0.0
SJPF				eSn	Sg	00 04 36.4	+4.0
SJPF	Ste Jean	0.60	231	ePn	Pg	00 04 26.3	+1.9
	SNR=1.0						
SJPF				eSg	Sg	00 04 32.4	0.0
	194nm,0.5s,SNR=1.0						
SJPF				eSn	Sg	00 04 36.4	+4.0
LABF	Labassere	0.66	133	Pg	Pg	00 04 25.8	+0.3
LABF				Sg	Sg	00 04 36.1	+1.9
LABF	Labassere	0.66	133	P	Pg	00 04 25.7	+0.2
LABF				S	Sg	00 04 35.6	+1.4
FDAF	Les Forges d'A	0.68	179	P	Pg	00 04 25.2	-0.7
FDAF				S	Sg	00 04 33.9	-0.8
EALK	Alkurruntz	0.72	248	Pg	Pg	00 04 26.6	-0.1
	38nm,0.3s,SNR=41						
EALK				Lg		00 04 37.2	
	871nm,0.4s,SNR=28						
VIEF	Viey	0.76	144	Pg	Pg	00 04 27.2	-0.2
VIEF				Sg	Sg	00 04 37.1	-0.2
VIEF	Viey	0.76	144	P	Pg	00 04 27.1	-0.3
VIEF				S	Sg	00 04 37.5	+0.2
ELIZ	Elizondo	0.76	244	⇓Pg	Pg	00 04 26.0	-1.5
	20nm,0.2s,SNR=18						
ELIZ				Lg		00 04 37.9	
	115nm,0.2s,SNR=20						
EPF	Esparros	0.82	124	ePn	Pn	00 04 29.8	-0.3
	SNR=1.0						
EPF				eSg	Sg	00 04 40.0	+0.6
	303nm,0.3s,SNR=1.0						
EPF	Esparros	0.82	124	Pg	Pg	00 04 29.1	+0.5
EPF				Lg		00 04 40.0	
	152nm,0.3s						
EPF	Esparros	0.82	124	ePg	Pg	00 04 29.1	+0.5
EPF				ePn	Pn	00 04 29.8	-0.3
EPF				eSg	Sg	00 04 40.0	+0.6
EPF	Esparros	0.82	124	ePn	Pn	00 04 29.8	-0.3
	SNR=1.0						
EPF				eSg	Sg	00 04 40.0	+0.6
	152nm,0.3s,SNR=1.0						
IPRE	Itoiz	0.89	219	⇑Pg	Pg	00 04 29.5	-0.3
	24nm,0.3s,SNR=18						
IPRE				Lg		00 04 40.8	
	89nm,0.3s,SNR=27						
IPRE	Itoiz	0.89	219	Pg	Pg	00 04 29.5	-0.4
	24nm,0.3s,SNR=18						
IUSE	Utxeti	0.89	232	Pg	Pg	00 04 29.3	-0.6
	4.6nm,0.2s,SNR=33						
IUSE				Lg		00 04 41.5	
	50nm,0.2s,SNR=22						
IUSE	Utxeti	0.89	232	Pg	Pg	00 04 29.3	-0.6
	4.6nm,0.2s,SNR=33						
RESF	Ens	0.97	135	Pg	Pg	00 04 31.2	-0.1
RESF				Sg	Sg	00 04 45.7	+1.7
RESF	Ens	0.97	135	P	Pg	00 04 31.3	-0.1
RESF				S	Sg	00 04 46.1	+2.2
EBIE	Bielsa	0.97	146	Pg	Pg	00 04 31.1	-0.3
	8.5nm,0.2s,SNR=18						
EBIE				Lg		00 04 44.5	
	44nm,0.2s,SNR=13						
EBIE	Bielsa	0.97	146	Pg	Pg	00 04 31.1	-0.3
	8.5nm,0.2s,SNR=18						
EARA	Aranguren	1.03	225	Pg	Pg	00 04 32.4	0.0
	4.8nm,0.2s,SNR=22						
EARA				Lg		00 04 46.1	
	175nm,0.4s,SNR=13						
EARA	Aranguren	1.03	225	Pg	Pg	00 04 32.4	0.0
	4.8nm,0.2s,SNR=22						
MELF	Melles	1.17	122	Pg	Pg	00 04 34.5	-0.6
MELF	Melles	1.17	122	P	Pb	00 04 34.7	-0.1
MELF				S	Sb	00 04 50.6	+0.7
MLS	Moulis	1.34	113	Pg	Pg	00 04 37.1	-1.4
MLS				Sg	Sg	00 04 55.0	-1.0
MLS	Moulis	1.34	113	P	Pn	00 04 37.5	+0.3
MLS				S	Sb	00 04 54.2	-0.7
SALF	Salau	1.50	119	Pg	Pg	00 04 40.3	-1.1
SALF	Salau	1.50	119	P	Pn	00 04 40.8	+1.5
SALF				S	Sn	00 05 05.2	+6.4
GRBF	Gourbit	1.69	112	P	Pn	00 04 42.7	+0.7
LFF	La Frestale	1.73	33	ePg	Pg	00 04 48.1	+2.3
LFF				eSn	Sn	00 05 05.8	+1.2
	SNR=1.0						
LFF				eSg	Sg	00 05 10.8	+2.5
	230nm,0.4s,SNR=1.0						
LFF	La Frestale	1.73	33	Pn	Pn	00 04 42.9	+0.3
LFF				Pg	Pg	00 04 48.1	+2.3
LFF				Sn	Sn	00 05 05.8	+1.2
LFF				Lg		00 05 10.8	
	115nm,0.4s						
LFF	La Frestale	1.73	33	ePn	Pn	00 04 42.9	+0.3
LFF				ePg	Pg	00 04 48.1	+2.3
LFF				eSn	Sn	00 05 05.8	+1.2
LFF				eSg	Sg	00 05 10.8	+2.5
LFF	La Frestale	1.73	33	ePg	Pg	00 04 48.1	+2.3
LFF				eSn	Sn	00 05 05.8	+1.2
	SNR=1.0						
LFF				eSg	Sg	00 05 10.8	+2.5
	115nm,0.4s,SNR=1.0						
ESAC	San Caprasio	1.78	177	Pn	Pn	00 04 44.6	+1.4
	18nm,0.3s,SNR=127						
ESAC				Pg	Pg	00 04 46.4	-0.4
	219nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	00 05 05.8	+0.1
	57nm,0.2s,SNR=7.9						
ESAC				Lg		00 05 09.7	
	212nm,0.3s,SNR=9.4						
ESAC	San Caprasio	1.78	177	Pn	Pn	00 04 44.6	+1.4
	18nm,0.3s,SNR=127						
ESAC	San Caprasio	1.78	177	Pg	Pg	00 04 46.4	-0.4
	219nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	00 05 05.8	+0.1
	57nm,0.2s,SNR=7.9						
PAND	Andorre	1.84	121	P	Pn	00 04 49.1	+4.9
PAND				S	Sn	00 05 12.8	+5.4
MTLF	Montolieu	2.05	93	ePg	Pg	00 04 52.7	+0.7
MTLF				eSn	Sn	00 05 12.7	+0.2
MTLF				eSg	Sg	00 05 19.2	+0.6
	59nm,0.3s,SNR=1.0						
MTLF	Montolieu	2.05	93	Pn	Pn	00 04 48.0	+1.0
MTLF				Pg	Pg	00 04 52.7	+0.7
MTLF				Sn	Sn	00 05 12.7	+0.2
MTLF				Lg		00 05 19.2	
	29nm,0.3s						
MTLF	Montolieu	2.05	93	ePn	Pn	00 04 48.0	+1.0
MTLF				ePg	Pg	00 04 52.7	+0.7
MTLF				eSn	Sn	00 05 12.7	+0.2
MTLF				eSg	Sg	00 05 19.2	+0.6
MTLF	Montolieu	2.05	93	ePg	Pg	00 04 52.7	+0.7
MTLF				eSn	Sn	00 05 12.7	+0.2
MTLF				eSg	Sg	00 05 19.2	+0.6
	29nm,0.3s,SNR=1.0						
ELAN	Lanestosa	2.09	264	Pn	Pn	00 04 48.7	+1.1
	0.2nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	00 04 53.2	+0.4
	4.5nm,0.2s,SNR=35						
ELAN				Lg		00 05 19.5	
	31nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.09	264	Pn	Pn	00 04 48.7	+1.2
	0.2nm,0.2s,SNR=7.9						
ELAN	Lanestosa	2.09	264	Pg	Pg	00 04 53.2	+0.4
	4.5nm,0.2s,SNR=35						
VALF	Valcebollere	2.21	119	Pg	Pg	00 04 52.8	-2.2
VALF	Valcebollere	2.21	119	P	Pn	00 04 53.1	+4.0
VALF				S	Sn	00 05 19.0	+2.7
RJF	Les Rejaudoux	2.35	39	ePg	Pg	00 04 59.4	+1.6
	SNR=1.0						
RJF				eSn	Sn	00 05 20.2	+0.2
RJF				eSg	Sg	00 05 30.2	+1.9
	91nm,0.4s,SNR=1.0						
RJF	Les Rejaudoux	2.35	39	Pn	Pn	00 04 51.8	+0.7
RJF				Pg	Pg	00 04 59.4	+1.6
RJF				Sn	Sn	00 05 20.2	+0.2
RJF				Lg		00 05 30.2	
	45nm,0.4s						
RJF	Les Rejaudoux	2.35	39	ePn	Pn	00 04 51.8	+0.7
RJF				ePg	Pg	00 04 59.4	+1.6
RJF				eSn	Sn	00 05 20.2	+0.2
RJF				eSg	Sg	00 05 30.2	+1.9
RJF	Les Rejaudoux	2.35	39	ePg	Pg	00 04 59.4	+1.6
	SNR=1.0						
RJF				eSn	Sn	00 05 20.2	+0.2
RJF				eSg	Sg	00 05 30.2	+1.9
	45nm,0.4s,SNR=1.0						
CAF	Calviac	2.38	52	ePg	Pg	00 04 59.9	+1.6
CAF				eSn	Sn	00 05 21.1	+0.4
CAF				eSg	Sg	00 05 31.0	+1.8
	49nm,0.3s						
CAF	Calviac	2.38	52	Pn	Pn	00 04 52.9	+1.4
CAF				Pg	Pg	00 04 59.9	+1.6
CAF				Sn	Sn	00 05 21.1	+0.4
CAF				Lg		00 05 31.0	
	24nm,0.3s						
CAF	Calviac	2.38	52	ePn	Pn	00 04 52.9	+1.4
CAF				ePg	Pg	00 04 59.9	+1.6
CAF				eSn	Sn	00 05 21.1	+0.4
CAF				eSg	Sg	00 05 31.0	+1.8
CAF	Calviac	2.38	52	ePg	Pg	00 04 59.9	+1.6
CAF				eSn	Sn	00 05 21.1	+0.4
CAF				eSg	Sg	00 05 31.0	+1.8
	24nm,0.3s						
EPOB	Poblet	2.47	150	Pn	Pn	00 04 53.9	+1.1
	0.1nm,0.2s,SNR=4.0						
EPOB				Pg	Pg	00 04 58.4	-1.7
	2.7nm,0.1s,SNR=21						
EPOB				Sn	Sn	00 05 23.2	+0.2
	2.7nm,0.2s,SNR=7.9						
EPOB				Lg		00 05 30.7	
	36nm,0.4s						
EPOB	Poblet	2.47	150	Pn	Pn	00 04 53.8	+1.0
EPOB	Poblet	2.47	150	Pg	Pg	00 04 58.4	-1.7
	2.7nm,0.1s,SNR=21						
EPOB				Sn	Sn	00 05 23.2	+0.3
	2.7nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.63	165	Pn	Pn	00 04 56.1	+1.1
	1.9nm,0.2s,SNR=5.7						
ERTA				Pg	Pg	00 05 01.2	-1.9
	6.3nm,0.3s,SNR=31						
ERTA				Lg		00 05 35.7	
	46nm,0.3s,SNR=10						
ERTA	Horta de San J	2.63	165	Pn	Pn	00 04 56.1	+1.1
	1.9nm,0.2s,SNR=5.7						
ERTA	Horta de San J	2.63	165	Pg	Pg	00 05 01.2	-1.9
	6.3nm,0.3s,SNR=31						
EJON	La Jonquera	2.76	111	Pn	Pn	00 04 58.3	+1.6
	0.2nm,0.1s,SNR=4.0						
EJON				Pg	Pg	00 05 03.2	-2.3
	3.6nm,0.2s,SNR=7.9						
EJON				Sn	Sn	00 05 31.4	+1.4
	SNR=7.9						
EJON				Lg		00 05 41.4	
	6.6nm,0.3s,SNR=4.0						
EJON	La Jonquera	2.76	111	Pn	Pn	00 04 58.3	+1.6
	0.2nm,0.1s,SNR=4.0						
EJON	La Jonquera	2.76	111	Pg	Pg	00 05 03.2	-2.4
	3.6nm,0.2s,SNR=7.9						
EJON				Sn	Sn	00 05 31.4	+1.4
	SNR=7.9						
MFF	Saint Martin d	3.12	6	ePg	Pg	00 05 13.6	+1.1
MFF				eSn	Sn	00 05 38.9	0.0
	40nm,0.3s,SNR=1.0						
MFF				eSg	Sg	00 05 54.5	+1.6
	44nm,0.3s						
MFF	Saint Martin d	3.12	6	Pn	Pn	00 05 02.5	+0.8
MFF				Pg	Pg	00 05 13.6	+1.1
MFF				Sn	Sn	00 05 38.9	0.0
	20nm,0.3s						
MFF				Lg		00 05 54.5	
	22nm,0.3s						
MFF	Saint Martin d	3.12	6	ePn	Pn	00 05 02.5	+0.8
MFF				ePg	Pg	00 05 13.6	+1.1
MFF				eSn	Sn	00 05 38.9	0.0
MFF				eSg	Sg	00 05 54.5	+1.6
MFF	Sa

LASF				*e*Pg	**Pg**	**00 05 15.2**	**-0.1**
LASF				*e*Sn	**Sn**	**00 05 41.5**	**-1.1**
LASF				*e*Sg	**Sg**	**00 05 58.1**	**+0.4**
LASF	**Ste Croix**	**3.27**	**78**	*e*Pg	**Pg**	**00 05 15.2**	**-0.1**
LASF				*e*Sn	**Sn**	**00 05 41.5**	**-1.1**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**00 05 58.1**	**+0.4**
	20nm,0.4s,SNR=1.0						
EARI	**Arriondas**	**3.37**	**268**	Pn	**Pn**	**00 05 06.8**	**+1.6**
	0.2nm,0.1s,SNR=8.1						
EARI				Sn	**Sn**	**00 05 44.5**	**-0.6**
	2.3nm,0.2s,SNR=5.0						
EARI	**Arriondas**	**3.37**	**268**	Pn	**Pn**	**00 05 06.8**	**+1.6**
	0.2nm,0.1s,SNR=8.1						
EARI				Sn	**Sn**	**00 05 44.5**	**-0.6**
	2.3nm,0.2s,SNR=5.0						
TCF	**Toulx Ste Croi**	**3.43**	**35**	*e*Pg	**Pg**	**00 05 18.8**	**+0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**00 05 46.0**	**-0.4**
TCF				*e*Sg	**Sg**	**00 06 03.6**	**+0.9**
	122nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.43**	**35**	Pn	**Pn**	**00 05 06.1**	**+0.2**
TCF				Pg	**Pg**	**00 05 18.8**	**+0.5**
TCF				Sn	**Sn**	**00 05 46.0**	**-0.4**
TCF				Lg		00 06 03.6	
	61nm,0.5s						
TCF	**Toulx Ste Croi**	**3.43**	**35**	*e*Pn	**Pn**	**00 05 06.1**	**+0.2**
TCF				*e*Pg	**Pg**	**00 05 18.8**	**+0.5**
TCF				*e*Sn	**Sn**	**00 05 46.0**	**-0.4**
TCF				*e*Sg	**Sg**	**00 06 03.6**	**+0.9**
TCF	**Toulx Ste Croi**	**3.43**	**35**	*e*Pg	**Pg**	**00 05 18.8**	**+0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**00 05 46.0**	**-0.4**
TCF				*e*Sg	**Sg**	**00 06 03.6**	**+0.9**
	61nm,0.5s,SNR=1.0						
AGO	**Saint Agoulin**	**3.68**	**45**	Pn	**Pn**	**00 05 10.1**	**+0.7**
GUD	**Guadarrama**	**3.90**	**224**	Pn	**Pn**	**00 05 12.6**	**+0.3**
	1.2nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**00 05 57.6**	**-0.4**
	5.9nm,0.5s,SNR=7.9						
BGF	**Bois d'Agland**	**3.91**	**37**	*e*Pg	**Pg**	**00 05 27.9**	**+0.3**
BGF				*e*Sn	**Sn**	**00 05 57.1**	**-1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**00 06 19.6**	**+1.4**
	186nm,0.4s						
BGF	**Bois d'Agland**	**3.91**	**37**	Pn	**Pn**	**00 05 13.1**	**+0.6**
BGF				Pg	**Pg**	**00 05 27.9**	**+0.3**
BGF				Sn	**Sn**	**00 05 57.1**	**-1.3**
BGF				Lg		00 06 19.6	
	93nm,0.4s						
BGF	**Bois d'Agland**	**3.91**	**37**	*e*Pn	**Pn**	**00 05 13.1**	**+0.6**
BGF				*e*Pg	**Pg**	**00 05 27.9**	**+0.3**
BGF				*e*Sn	**Sn**	**00 05 57.1**	**-1.3**
BGF				*e*Sg	**Sg**	**00 06 19.6**	**+1.4**
BGF	**Bois d'Agland**	**3.91**	**37**	*e*Pg	**Pg**	**00 05 27.9**	**+0.3**
BGF				*e*Sn	**Sn**	**00 05 57.1**	**-1.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**00 06 19.6**	**+1.4**
	93nm,0.4s						
VIVF	**Saint-Julien-I**	**4.02**	**68**	*e*Pg	**Pg**	**00 05 29.6**	**-0.1**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**00 05 58.1**	**-3.0**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**00 06 21.7**	**-0.1**
	24nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-I**	**4.02**	**68**	Pn	**Pn**	**00 05 15.4**	**+1.3**
VIVF				Pg	**Pg**	**00 05 29.6**	**-0.1**
VIVF				Sn	**Sn**	**00 05 58.1**	**-3.0**
VIVF				Lg		00 06 21.7	
	12nm,0.4s						
VIVF	**Saint-Julien-I**	**4.02**	**68**	*e*Pn	**Pn**	**00 05 15.4**	**+1.3**
VIVF				*e*Pg	**Pg**	**00 05 29.6**	**-0.1**
VIVF				*e*Sn	**Sn**	**00 05 58.1**	**-3.0**
VIVF				*e*Sg	**Sg**	**00 06 21.7**	**-0.1**
VIVF	**Saint-Julien-I**	**4.02**	**68**	*e*Pg	**Pg**	**00 05 29.6**	**-0.1**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**00 05 58.1**	**-3.0**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**00 06 21.7**	**-0.1**
	12nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.31**	**39**	*e*Pn	**Pn**	**00 05 18.2**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**00 06 07.9**	**-0.4**
AVF				*e*Sg	**Sg**	**00 06 31.2**	**0.0**
	51nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.31**	**39**	*e*Pn	**Pn**	**00 05 18.2**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**00 06 07.9**	**-0.4**
AVF				*e*Sg	**Sg**	**00 06 31.2**	**0.0**
	26nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**4.40**	**30**	*e*Pn	**Pn**	**00 05 20.0**	**+0.7**
HYF				*e*Sg	**Sg**	**00 06 34.7**	**+0.7**
SMF	**Signal de Mont**	**4.44**	**43**	*e*Pn	**Pn**	**00 05 20.2**	**+0.3**
SMF				*e*Sn	**Sn**	**00 06 10.1**	**-1.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**00 06 35.6**	**+0.3**
	17nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.44**	**43**	*e*Pn	**Pn**	**00 05 20.2**	**+0.3**
SMF				*e*Sn	**Sn**	**00 06 10.1**	**-1.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**00 06 35.6**	**+0.3**
	8.6nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**4.49**	**82**	*e*Pn	**Pn**	**00 05 21.6**	**+1.1**
SMRF				*e*Sg	**Sg**	**00 06 36.0**	**-0.9**
	20nm,0.6s						
SMRF	**Simiane la Rot**	**4.49**	**82**	*e*Pn	**Pn**	**00 05 21.6**	**+1.1**
SMRF				*e*Sg	**Sg**	**00 06 36.0**	**-0.9**
	10.0nm,0.6s						
ETOS	**Mallorca**	**4.52**	**144**	Pn	**Pn**	**00 05 21.8**	**+0.9**
	14nm,0.4s,SNR=4.0						
ETOS	**Mallorca**	**4.52**	**144**	Pn	**Pn**	**00 05 21.8**	**+0.9**
	14nm,0.4s,SNR=4.0						
ESDC	**Sonseca Array**	**4.58**	**215**	Pn	**Pn**	**00 05 22.1**	**+0.3**
	2.2nm,0.2s,baz=39,slow=13,SNR=55						
ESDC				Pg	**Pg**	**00 05 38.5**	**-1.9**
	3.6nm,0.4s,baz=39,slow=14,SNR=7.9						
ESDC				Sn	**Sn**	**00 06 13.2**	**-1.7**
	3.3nm,0.2s,baz=37,slow=24,SNR=8.3						
ESDC				Lg		00 06 35.0	
	4.0nm,0.6s,baz=42,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**4.58**	**215**	Pn	**Pn**	**00 05 22.1**	**+0.3**
	2.2nm,0.2s,SNR=55						
ESDC	**Sonseca Array**	**4.58**	**215**	Pg	**Pg**	**00 05 38.5**	**-1.9**
	3.6nm,0.4s,SNR=7.9						
ESDC				Sn	**Sn**	**00 06 13.2**	**-1.7**
	3.3nm,0.2s,SNR=8.3						
SSF	**Saint Saulge**	**4.59**	**38**	*e*Pn	**Pn**	**00 05 21.4**	**-0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**00 06 14.2**	**-0.9**
SSF				*e*Sg	**Sg**	**00 06 40.4**	**+0.4**
	24nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.59**	**38**	*e*Pn	**Pn**	**00 05 21.4**	**-0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**00 06 14.2**	**-0.9**
SSF				*e*Sg	**Sg**	**00 06 40.4**	**+0.4**
	12nm,0.4s,SNR=1.0						
EIBI	**Ibiza**	**4.70**	**161**	Pn	**Pn**	**00 05 23.5**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**00 06 15.5**	**-2.3**
	0.5nm,0.1s,SNR=4.0						
EIBI	**Ibiza**	**4.70**	**161**	Pn	**Pn**	**00 05 23.5**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**00 06 15.5**	**-2.3**
	0.5nm,0.1s,SNR=4.0						
QUIF	**Quistinic**	**4.77**	**339**	*e*Pg	**Pg**	**00 05 44.2**	**+0.1**
QUIF				*e*Sn	**Sn**	**00 06 18.3**	**-1.4**
	15nm,0.2s,SNR=1.0						
QUIF				*e*Sg	**Sg**	**00 06 45.3**	**-0.6**
	16nm,0.4s						
QUIF	**Quistinic**	**4.77**	**339**	Pn	**Pn**	**00 05 25.4**	**+1.0**
QUIF				Pg	**Pg**	**00 05 44.2**	**+0.1**
QUIF				Sn	**Sn**	**00 06 18.3**	**-1.4**
	7.4nm,0.2s						
QUIF				Lg		00 06 45.3	
	7.9nm,0.4s						
QUIF	**Quistinic**	**4.77**	**339**	*e*Pn	**Pn**	**00 05 25.4**	**+1.0**
QUIF				*e*Pg	**Pg**	**00 05 44.2**	**+0.1**
QUIF				*e*Sn	**Sn**	**00 06 18.3**	**-1.4**
QUIF				*e*Sg	**Sg**	**00 06 45.3**	**-0.6**
QUIF	**Quistinic**	**4.77**	**339**	*e*Pg	**Pg**	**00 05 44.2**	**+0.1**
QUIF				*e*Sn	**Sn**	**00 06 18.3**	**-1.4**
	7.4nm,0.2s,SNR=1.0						
QUIF				*e*Sg	**Sg**	**00 06 45.3**	**-0.6**
	7.9nm,0.4s						
EPON	**Pontenova**	**4.78**	**270**	Pn	**Pn**	**00 05 26.6**	**+2.0**
	0.6nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**00 06 17.8**	**-2.1**
	0.8nm,0.2s,SNR=7.0						
EPON	**Pontenova**	**4.78**	**270**	Pn	**Pn**	**00 05 26.6**	**+2.1**
	0.6nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**00 06 17.8**	**-2.1**
	0.8nm,0.2s,SNR=7.0						
ECAL	**Calabor**	**4.79**	**253**	Pn	**Pn**	**00 05 26.1**	**+1.5**
	0.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**00 06 19.7**	**-0.4**
	1.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**4.79**	**253**	Pn	**Pn**	**00 05 26.1**	**+1.5**
	0.9nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**00 06 19.7**	**-0.4**
	1.1nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.80**	**177**	Pn	**Pn**	**00 05 25.6**	**+0.8**
	0.6nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**00 06 18.1**	**-2.2**
	0.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.80**	**177**	Pn	**Pn**	**00 05 25.6**	**+0.9**
	0.6nm,0.2s,SNR=7.9						
EBEN				Sn	**Sn**	**00 06 18.1**	**-2.2**
	0.5nm,0.3s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**4.86**	**71**	*e*Pn	**Pn**	**00 05 26.8**	**+1.2**
ORIF				*e*Sn	**Sn**	**00 06 20.6**	**-1.3**
GRR	**Gorron**	**4.89**	**358**	*e*Pg	**Pg**	**00 05 45.9**	**-0.5**
GRR				*e*Sn	**Sn**	**00 06 21.5**	**-1.2**
GRR				*e*Sg	**Sg**	**00 06 49.2**	**-0.6**
	18nm,0.3s						
GRR	**Gorron**	**4.89**	**358**	Pn	**Pn**	**00 05 27.1**	**+1.0**
GRR				Pg	**Pg**	**00 05 45.9**	**-0.5**
GRR				Sn	**Sn**	**00 06 21.5**	**-1.2**
GRR				Lg		00 06 49.2	
	9.0nm,0.3s						
GRR	**Gorron**	**4.89**	**358**	*e*Pn	**Pn**	**00 05 27.1**	**+1.0**
GRR				*e*Pg	**Pg**	**00 05 45.9**	**-0.5**
GRR				*e*Sn	**Sn**	**00 06 21.5**	**-1.2**
GRR				*e*Sg	**Sg**	**00 06 49.2**	**-0.6**
GRR	**Gorron**	**4.89**	**358**	*e*Pg	**Pg**	**00 05 45.9**	**-0.5**
GRR				*e*Sn	**Sn**	**00 06 21.5**	**-1.2**
GRR				*e*Sg	**Sg**	**00 06 49.2**	**-0.6**
	9.0nm,0.3s						
LOR	**Lormes**	**4.90**	**38**	*e*Pn	**Pn**	**00 05 25.6**	**-0.6**
	baz=239						
LOR	**Lormes**	**4.90**	**38**	*e*Pg	**Pg**	**00 05 46.5**	**0.0**
	baz=220						
LOR				*e*Sn	**Sn**	**00 06 21.3**	**-1.5**
LOR				*e*Sg	**Sg**	**00 06 50.2**	**+0.2**
	31nm,0.5s,baz=219,SNR=1.0						
LOR	**Lormes**	**4.90**	**38**	Pn	**Pn**	**00 05 25.6**	**-0.6**
LOR				Pg	**Pg**	**00 05 46.5**	**0.0**
LOR				Sn	**Sn**	**00 06 21.3**	**-1.5**
LOR				Lg		00 06 50.2	
	0.0nm,0.5s						
LOR	**Lormes**	**4.90**	**38**	*e*Pn	**Pn**	**00 05 25.6**	**-0.6**
LOR				*e*Pg	**Pg**	**00 05 46.5**	**0.0**
LOR				*e*Sn	**Sn**	**00 06 21.3**	**-1.5**
LOR				*e*Sg	**Sg**	**00 06 50.2**	**+0.2**
LOR	**Lormes**	**4.90**	**38**	*e*Pg	**Pg**	**00 05 46.5**	**0.0**
LOR				*e*Sn	**Sn**	**00 06 21.3**	**-1.5**
LOR				*e*Sg	**Sg**	**00 06 50.2**	**+0.2**
	16nm,0.5s,SNR=1.0						
ETOB	**Tobarra**	**4.90**	**189**	Pn	**Pn**	**00 05 28.2**	**+2.0**
	0.3nm,0.1s,SNR=6.3						
ETOB	**Tobarra**	**4.90**	**189**	Pn	**Pn**	**00 05 28.2**	**+2.0**
	0.3nm,0.1s,SNR=6.3						
SGMF	**Saint Gilles**	**4.95**	**345**	*e*Pg	**Pg**	**00 05 47.1**	**-0.4**
SGMF				*e*Sn	**Sn**	**00 06 22.2**	**-1.8**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**00 06 51.6**	**0.0**
	20nm,0.4s,SNR=1.0						
SGMF	**Saint Gilles**	**4.95**	**345**	Pn	**Pn**	**00 05 27.7**	**+0.8**
SGMF				Pg	**Pg**	**00 05 47.1**	**-0.4**
SGMF				Sn	**Sn**	**00 06 22.2**	**-1.8**
SGMF				Lg		00 06 51.6	
	9.9nm,0.4s						
SGMF	**Saint Gilles**	**4.95**	**345**	*e*Pn	**Pn**	**00 05 27.7**	**+0.8**
SGMF				*e*Pg	**Pg**	**00 05 47.1**	**-0.4**
SGMF				*e*Sn	**Sn**	**00 06 22.2**	**-1.8**
SGMF				*e*Sg	**Sg**	**00 06 51.6**	**0.0**
SGMF	**Saint Gilles**	**4.95**	**345**	*e*Pg	**Pg**	**00 05 47.1**	**-0.4**
SGMF				*e*Sn	**Sn**	**00 06 22.2**	**-1.8**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**00 06 51.6**	**0.0**
	9.9nm,0.4s,SNR=1.0						
EVIA	**Vianos**	**5.07**	**197**	Pn	**Pn**	**00 05 28.9**	**+0.5**
	8.5nm,0.3s,SNR=11						
LDF	**La Druitiere**	**5.11**	**3**	*e*Pn	**Pn**	**00 05 29.5**	**+0.5**
LDF				*e*Sn	**Sn**	**00 06 25.5**	**-2.4**
LDF				*e*Sg	**Sg**	**00 06 56.8**	**+0.2**
	18nm,0.4s						
LDF	**La Druitiere**	**5.11**	**3**	*e*Pn	**Pn**	**00 05 29.5**	**+0.5**
LDF				*e*Sn	**Sn**	**00 06 25.5**	**-2.4**
LDF				*e*Sg	**Sg**	**00 06 56.8**	**+0.2**
	8.8nm,0.4s						
LMR	**La Mourre**	**5.17**	**89**	*e*Pn	**Pn**	**00 05 30.9**	**+1.0**
LMR				*e*Sn	**Sn**	**00 06 27.3**	**-2.2**
LMR				*e*Sg	**Sg**	**00 06 57.0**	**-1.8**
	3.4nm,0.4s						
LMR	**La Mourre**	**5.17**	**89**	*e*Pn	**Pn**	**00 05 30.9**	**+1.0**
LMR				*e*Sn	**Sn**	**00 06 27.3**	**-2.2**
LMR				*e*Sg	**Sg**	**00 06 57.0**	**-1.8**
	1.7nm,0.4s						
ROSF	**Rostrenen**	**5.19**	**340**	*e*Pg	**Pg**	**00 05 51.6**	**-0.4**
ROSF				*e*Sn	**Sn**	**00 06 27.5**	**-2.4**
ROSF				*e*Sg	**Sg**	**00 06 59.0**	**-0.2**
	17nm,0.5s						
ROSF	**Rostrenen**	**5.19**	**340**	Pn	**Pn**	**00 05 31.4**	**+1.3**
ROSF				Pg	**Pg**	**00 05 51.6**	**-0.4**
ROSF				Sn	**Sn**	**00 06 27.5**	**-2.4**
ROSF				Lg		00 06 59.0	
	8.5nm,0.5s						
ROSF	**Rostrenen**	**5.19**	**340**	*e*Pn	**Pn**	**00 05 31.4**	**+1.3**
ROSF				*e*Pg	**Pg**	**00 05 51.6**	**-0.4**
ROSF				*e*Sn	**Sn**	**00 06 27.5**	**-2.4**
ROSF				*e*Sg	**Sg**	**00 06 59.0**	**-0.2**
ROSF	**Rostrenen**	**5.19**	**340**	*e*Pg	**Pg**	**00 05 51.6**	**-0.4**
ROSF				*e*Sn	**Sn**	**00 06 27.5**	**-2.4**
ROSF				*e*Sg	**Sg**	**00 06 59.0**	**-0.2**
	8.5nm,0.5s						
FRF	**La Foret Royal**	**5.26**	**87**	*e*Pg	**Pg**	**00 05 51.9**	**-1.5**
FRF				*e*Sn	**Sn**	**00 06 29.9**	**-1.8**
FRF				*e*Sg	**Sg**	**00 06 59.9**	**-1.7**
	5.9nm,0.4s						
FRF	**La Foret Royal**	**5.26**	**87**	Pn	**Pn**	**00 05 32.4**	**+1.3**
FRF				Pg	**Pg**	**00 05 51.9**	**-1.5**
FRF				Sn	**Sn**	**00 06 29.9**	**-1.8**
FRF				Lg		00 06 59.9	
	3.0nm,0.4s						
FRF	**La Foret Royal**	**5.26**	**87**	*e*Pn	**Pn**	**00 05 32.4**	**+1.3**
FRF				*e*Pg	**Pg**	**00 05 51.9**	**-1.5**
FRF				*e*Sn	**Sn**	**00 06 29.9**	**-1.8**
FRF				*e*Sg	**Sg**	**00 06 59.9**	**-1.7**
FRF	**La Foret Royal**	**5.26**	**87**	*e*Pg	**Pg**	**00 05 51.9**	**-1.5**
FRF				*e*Sn	**Sn**	**00 06 29.9**	**-1.8**
FRF				*e*Sg	**Sg**	**00 06 59.9**	**-1.7**
	3.0nm,0.4s						
FLN	**La Foliniere**	**5.27**	**1**	*e*Pg	**Pg**	**00 05 52.5**	**-1.0**
	baz=189						
FLN				*e*Sn	**Sn**	**00 06 29.6**	**-2.2**
FLN				*e*Sg	**Sg**	**00 07 01.6**	**-0.1**
	29nm,0.5s,baz=192,SNR=1.0						
FLN	**La Foliniere**	**5.27**	**1**	Pn	**Pn**	**00 05 32.1**	**+0.9**
FLN				Pg	**Pg**	**00 05 52.5**	**-1.0**
FLN				Sn	**Sn**	**00 06 29.6**	**-2.2**
FLN				Lg		00 07 01.6	
	15nm,0.5s						
FLN	**La Foliniere**	**5.27**	**1**	*e*Pn	**Pn**	**00 05 32.1**	**+0.9**
FLN				*e*Pg	**Pg**	**00 05 52.5**	**-1.0**
FLN				*e*Sn	**Sn**	**00 06 29.6**	**-2.2**
FLN				*e*Sg	**Sg**	**00 07 01.6**	**-0.1**
FLN	**La Foliniere**	**5.27**	**1**	*e*Pg	**Pg**	**00 05 52.5**	**-1.0**
FLN				*e*Sn	**Sn**	**00 06 29.6**	**-2.2**
FLN				*e*Sg	**Sg**	**00 07 01.6**	**-0.1**
	15nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**5.66**	**54**	*e*Pn	**Pn**	**00 05 37.7**	**+1.1**
CABF				*e*Sg	**Sg**	**00 07 13.2**	**-1.2**
	28nm,0.7s						
CABF	**La Chapelle**	**5.66**	**54**	*e*Pn	**Pn**	**00 05 37.7**	**+1.1**
CABF				*e*Sg	**Sg**	**00 07 13.2**	**-1.2**
	14nm,0.7s						
SBF	**Sospel**	**5.83**	**84**	*e*Pn	**Pn**	**00 05 39.4**	**+0.5**
EQES	**Quesada**	**5.99**	**199**	Pn	**Pn**	**00 05 43.1**	**+1.9**
	0.7nm,0.2s,SNR=16						
EQES				Sn	**Sn**	**00 06 46.7**	**-3.0**
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.99**	**199**	Pn	**Pn**	**00 05 43.1**	**+1.9**
	0.7nm,0.2s,SNR=16						
EQES				Sn	**Sn**	**00 06 46.7**	**-3.0**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.12**	**211**	Pn	**Pn**	**00 05 43.8**	**+0.8**
	0.3nm,0.2s,SNR=4.8						
EADA				Sn	**Sn**	**00 06 51.2**	**-1.8**
	2.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.12**	**211**	Pn	**Pn**	**00 05 43.8**	**+0.8**
	0.3nm,0.2s,SNR=4.8						
EADA				Sn	**Sn**	**00 06 51.2**	**-1.7**
	2.0nm,0.4s,SNR=7.9						
SFTF	**Sexfontaines**	**6.13**	**38**	*e*Pn	**Pn**	**00 05 43.4**	**+0.3**
SFTF				*e*Sg	**Sg**	**00 07 28.1**	**-1.4**
	23nm,0.6s,baz=220						
SFTF	**Sexfontaines**	**6.13**	**38**	*e*Pn	**Pn**	**00 05 43.4**	**+0.3**
SFTF				*e*Sg	**Sg**	**00 07 28.1**	**-1.4**
	12nm,0.6s						
MEZF	**Maizieres J'vi**	**6.36**	**36**	*e*Sg	**Sg**	**00 07 35.8**	**-1.0**
	25nm,0.5s						
MEZF	**Maizieres J'vi**	**6.36**	**36**	*e*Sg	**Sg**	**00 07 35.8**	**-1.0**
	12nm,0.5s						
HAU	**Haudompre**	**6.62**	**45**	*e*Pn	**Pn**	**00 05 50.8**	**+1.0**
HAU				*e*Sg	**Sg**	**00 07 43.5**	**-1.7**
	16nm,0.7s						
HAU	**Haudompre**	**6.62**	**45**	*e*Pn	**Pn**	**00 05 50.8**	**+1.0**
HAU				*e*Sg	**Sg**	**00 07 43.5**	**-1.7**
	8.2nm,0.7s						
RFYF	**Reffroy**	**6.64**	**37**	*e*Sg	**Sg**	**00 07 43.6**	**-2.2**
	7.6nm,0.2s						
RFYF	**Reffroy**	**6.64**	**37**	*e*Sg	**Sg**	**00 07 43.6**	**-2.2**
	3.8nm,0.2s						
EQUE	**Quentar**	**6.65**	**200**	Pn	**Pn**	**00 05 52.5**	**+2.3**
	0.5nm,0.2s,SNR=9.3						
EQUE				Sn	**Sn**	**00 07 02.8**	**-3.1**
	SNR=7.9						
HINF	**Hinteralfeld**	**6.77**	**48**	*e*Pn	**Pn**	**00 05 52.3**	**+0.5**
HINF				*e*Sg	**Sg**	**00 07 48.4**	**-1.5**
	9.6nm,0.7s						
HINF	**Hinteralfeld**	**6.77**	**48**	*e*Pn	**Pn**	**00 05 52.3**	**+0.5**
HINF				*e*Sg	**Sg**	**00 07 48.4**	**-1.5**
	4.8nm,0.7s						
PGF	**Pioggiola**	**7.09**	**94**	*e*Pn	**Pn**	**00 05 55.8**	**-0.5**
PGF				*e*Sn	**Sn**	**00 07 11.8**	**-5.0**
	14nm,0.6s						
PGF	**Pioggiola**	**7.09**	**94**	*e*Pn	**Pn**	**00 05 55.8**	**-0.5**
PGF				*e*Sn	**Sn**	**00 07 11.8**	**-5.0**
	7.2nm,0.6s						
BAIF	**Baives**	**7.34**	**25**	*e*Pn	**Pn**	**00 06 00.1**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 08 06.2**	**-2.0**
	2.2nm,0.3s						
BAIF	**Baives**	**7.34**	**25**	*e*Pn	**Pn**	**00 06 00.1**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 08 06.2**	**-2.0**
	1.1nm,0.3s						
CDF	**Champ du Feu**	**7.36**	**45**	*e*Sg	**Sg**	**00 08 06.6**	**-2.2**
	8.5nm,0.6s						
CDF	**Champ du Feu**	**7.36**	**45**	*e*Sg	**Sg**	**00 08 06.6**	**-2.2**
	4.2nm,0.6s						
EVO	**Evora**	**7.49**	**231**	*e*Pn	**Pn**	**00 06 02.0**	**+0.3**
EVO				*e*Sn	**Sn**	**00 07 22.4**	**-4.2**
	5.2nm,0.5s						
GIVF	**Givet**	**7.58**	**27**	*e*Pn	**Pn**	**00 06 03.7**	**+0.8**

IDC 24 00:09:27.7±2.6, 2930N×14063E, h53km±33km, mb4.0/2, mb1 4.1/5, mb1mx3.5/21, mbtmp4.3/5, ML4.4/3, Error ellipse: s-maj=86.7km s-min=12.8km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.59**	**148**	P	Pn	00 10 06.5	-0.7
	474nm,0.3s,baz=16,slow=3.8,SNR=101						
CBIJ				S	Sn	00 10 38.1	+0.7
	221nm,0.3s,baz=288,slow=22,SNR=12						
JHJ	**Hachijo jima 2**	**3.87**	**349**	P	Pn	00 10 24.5	-0.2
	11nm,0.3s,baz=242,slow=20,SNR=4.1						
JHJ				S	Sn	00 11 05.1	-3.8
	20nm,0.3s,baz=249,slow=23,SNR=2.7						
MJAR	**Matsushiro Arr**	**7.50**	**345**	P	Pn	00 11 15.1	+0.6
	0.7nm,0.3s,baz=158,slow=12,SNR=4.3						
MAT	**Matsushiro**	**7.50**	**345**	P	Pn	00 11 15.9	+1.5
WRA	**Warramunga Arr**	**49.33**	**188**	P	P	00 18 11.8	+0.2
	0.7nm,0.4s,baz=4.6,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**75.37**	**333**	P	P	00 21 05.0	-0.6
	7.9nm,1.2s,baz=89,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.10**	**311**	PKP	PKPdf	00 28 17.2	+0.8
	1.2nm,1.

0.2nm,0.1s,SNR=7.9
EADA S Sn 00 54 00.2 -5.4
0.3nm,0.1s,SNR=7.9
PVIS Viseu 4.44 18 *e*Sn Sn 00 54 01.2 -5.2
PVRL Vila Real 5.02 17 *e*Sn Sn 00 54 14.5 -6.0
EQES Quesada 5.45 74 S Sn 00 54 26.3 -5.0
0.2nm,0.2s,SNR=7.9
ESDC Sonseca Array 5.53 53 P Pn 00 53 27.8 -1.0
0.8nm,0.1s,baz=242,slow=14,SNR=4.0
ESDC S Sn 00 54 27.7 -5.4
0.7nm,0.6s,baz=240,slow=24,SNR=4.0

*NEIC **24** 01:14:29.0, 3373S×7220W, h25km, ML3.0(GUC), After GUC.*
GUC 24 01:14:29.0±0.6, 3373S×7220W, h25km±14km, MD3.9, ML3.0, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.59**	**65**	⇑*i*P	Pb	01 14 40.4	-0.2
LCCH				*i* S	Sb	01 14 48.4	-0.1
LNV	**Longovilo**	**0.70**	**109**	⇓*i*P	Pb	01 14 42.3	-0.2
LNV				*i* S	Sb	01 14 51.4	-0.3
TACH	**Talagante**	**1.06**	**86**	⇑*i*P	Pn	01 14 47.6	-0.6
TACH				*i* S	Sb	01 15 02.1	0.0
RCDM	**Rinconada Maip**	**1.19**	**79**	⇓*i*P	Pn	01 14 49.5	-0.6
RCDM				*i* S	Sn	01 15 04.1	-1.3
RCDM				AML	AML	01 15 06.7	
	comp=N,449nm,0.1s						
RCDM	**Rinconada Maip**	**1.19**	**79**	⇓*i*P	Pn	01 14 49.5	-0.6
RCDM				S	Sn	01 15 04.1	-1.3
CHCH	**Chadas Angostu**	**1.31**	**99**	⇑*i*P	Pn	01 14 51.7	+0.1
ANTU	**Antumapu**	**1.32**	**83**	*e*P	Pn	01 14 52.0	+0.2
ANTU				*i* S	Sn	01 15 09.3	+0.7
ANTU				AML	AML	01 15 11.3	
	comp=N,745nm,0.4s						
ANTU	**Antumapu**	**1.32**	**83**	*e*P	Pn	01 14 52.0	+0.2
ANTU				*i* S	Sn	01 15 09.3	+0.7
SFDO	**San Fernando**	**1.32**	**132**	⇓*i*P	Pn	01 14 51.9	0.0
CACH	**El Canelo**	**1.39**	**107**	*e*P	Pn	01 14 53.7	+0.9
PEL	**Peldehue**	**1.40**	**66**	*e*P	Pn	01 14 52.8	-0.1
PEL				*i* S	Sn	01 15 11.8	+1.3
PEL				AML	AML	01 15 19.9	
	comp=E,756nm,0.4s						
PEL	**Peldehue**	**1.40**	**66**	*e*P	Pn	01 14 52.8	-0.1
PEL				*i* S	Sn	01 15 11.8	+1.3
PCH	**Pirque**	**1.41**	**86**	⇑*i*P	Pn	01 14 53.5	+0.4
PCH				*i* S	Sn	01 15 11.8	+0.9
CLCH	**Cerro Calan**	**1.43**	**77**	*e*P	Pn	01 14 53.8	+0.5
CLCH				*i* S	Sn	01 15 12.4	+1.1
CLCH				AML	AML	01 15 23.1	
	comp=E,333nm,0.3s						
CICH	**Cipreses**	**1.59**	**112**	*i* P	Pn	01 14 56.5	+0.9
FCH	**Farellones**	**1.65**	**76**	*e*P	Pn	01 14 57.5	+1.2
FCH				*i* S	Sn	01 15 19.6	+2.9
FCH				AML	AML	01 15 25.2	
	comp=E,291nm,0.3s						
JACH	**Jahuel**	**1.71**	**53**	*e*P	Pn	01 14 58.0	+0.8

IDC 24 01:17:56.9±1.5, 2933N×14031E, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.5/20, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=76.2km s-min=24.3km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.77**	**143**	Pn	Pn	01 18 42.1	-0.4
	53nm,0.3s,baz=350,slow=5.0,SNR=21						
CBIJ				Sn	Sn	01 19 12.8	-3.9
	128nm,0.3s,baz=274,slow=23,SNR=17						
MJAR	**Matsushiro Arr**	**7.41**	**347**	Pn	Pn	01 19 46.2	-0.1
	0.2nm,0.3s,baz=151,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**49.32**	**187**	P	P	01 26 47.9	+0.2
	0.4nm,0.4s,baz=4.5,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**75.22**	**333**	P	P	01 29 41.1	-0.3
	2.1nm,0.9s,baz=53,slow=5.4,SNR=3.7						

IDC 24 01:22:44.8±2.6, 2930N×14098E, h76km±31km, mb3.7/3, mb1 3.8/5, mb1mx3.3/20, mbtmp3.9/5, Error ellipse: s-maj=97.4km s-min=16.6km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.44**	**154**	P	Pn	01 23 21.3	-1.1
	18nm,0.3s,baz=252,slow=4.7,SNR=10						
CBIJ				S	Sn	01 23 52.0	+0.7
	29nm,0.3s,baz=305,slow=22,SNR=11						
MJAR	**Matsushiro Arr**	**7.59**	**343**	P	Pn	01 24 33.5	+0.9
	0.4nm,0.3s,baz=154,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**49.37**	**188**	P	P	01 31 26.9	+0.5
	0.6nm,0.7s,baz=4.1,slow=7.7,SNR=7.9						
ARCES	**ARCESS Array B**	**71.12**	**340**	P	P	01 33 55.0	0.0
	4.4nm,1.0s,baz=30,slow=9.8,SNR=5.3						
FINES	**FINESS Array B**	**75.51**	**333**	P	P	01 34 19.5	-1.3
	2.2nm,1.0s,baz=62,slow=8.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.34**	**311**	PKP	PKPdf	01 41 31.8	+0.8
	0.4nm,0.9s,baz=75,slow=0.7,SNR=5.1						

*NEIC **24** 01:25:11.2, 4094S×17700E, h46km, ML3.8(WEL), After WEL.*
WEL 24 01:25:10.5±0.2, 4097S×17701E, h33km, ML3.7/18, 1C, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.65**	**296**	*e*P	Pn	01 25 23.8	+0.4
BFZ	**Birch Farm**	**0.65**	**296**	⇑P*	Pb	01 25 23.7	+0.2
BFZ				S*	Sb	01 25 32.8	+0.4
TIWZ	**Tintock**	**0.88**	**282**	P*	Pb	01 25 26.6	-0.7
PXZ	**Pawanui**	**0.94**	**353**	P*	Pb	01 25 27.1	-1.2
PXZ				S*	Sb	01 25 39.2	-1.4
WPHZ	**Waipukurau**	**1.00**	**334**	P*	Pb	01 25 28.1	-1.2
WPHZ				S*	Sb	01 25 40.1	-2.1
TRWZ	**Traveller**	**1.09**	**246**	P*	Pb	01 25 28.7	-2.1
TRWZ				S*	Sb	01 25 43.1	-1.6
MRZ	**Mangatainoka R**	**1.13**	**285**	P	Pn	01 25 29.8	-0.2
MRZ				S	Sn	01 25 43.1	-1.3
MRZ	**Mangatainoka R**	**1.13**	**285**	P*	Pb	01 25 29.8	-1.8
MRZ				S*	Sb	01 25 43.0	-2.9
MTW	**Mount Morrison**	**1.16**	**260**	P	Pn	01 25 30.0	-0.4
MTW				S	Sn	01 25 44.8	-0.3
MTW	**Mount Morrison**	**1.16**	**260**	P*	Pb	01 25 29.9	-2.1
MTW				S*	Sb	01 25 44.4	-2.3
TSZ	**Takapari Road**	**1.21**	**318**	P	Pn	01 25 31.0	-0.1
TSZ				S	Sn	01 25 45.2	-1.2
TSZ	**Takapari Road**	**1.21**	**318**	P*	Pb	01 25 30.9	-2.0
TSZ				S*	Sb	01 25 45.0	-3.2
PAWZ	**Paruwai Farm**	**1.27**	**250**	S*	Sb	01 25 47.0	-2.8
MSWZ	**Moikau Station**	**1.40**	**251**	P	Pn	01 25 33.9	+0.1
MSWZ	**Moikau Station**	**1.40**	**251**	PN	Pn	01 25 33.9	+0.1
CAW	**Cannon Point**	**1.48**	**264**	S*	Sb	01 25 52.3	-3.5
KIW	**Kapiti Island**	**1.60**	**273**	P	Pn	01 25 36.4	0.0
KIW				S	Sn	01 25 54.5	-1.4
KIW	**Kapiti Island**	**1.60**	**273**	PN	Pn	01 25 36.3	-0.2
KIW				S*	Sb	01 25 54.5	-4.7
MRW	**Makara Radio**	**1.77**	**261**	P	Pn	01 25 38.2	-0.6
MRW				S	Sn	01 25 58.2	-1.9
MRW	**Makara Radio**	**1.77**	**261**	PN	Pn	01 25 38.2	-0.5
MRW				S*	Sb	01 25 58.2	-5.9
MOVZ	**Moawhango**	**1.83**	**328**	P	Pn	01 25 40.0	+0.3
MOVZ				S	Sn	01 26 00.1	-1.6
MOVZ	**Moawhango**	**1.83**	**328**	PN	Pn	01 25 40.0	+0.4
MOVZ				SN	Sn	01 26 00.1	-1.7
BKZ	**Black Stump Fm**	**1.84**	**347**	*e*P	Pn	01 25 39.5	-0.3
BKZ				S	Sn	01 25 59.9	-2.1
BKZ	**Black Stump Fm**	**1.84**	**347**	PN	Pn	01 25 39.5	-0.3
BKZ				SN	Sn	01 25 59.9	-2.1
WNVZ	**Wahianoa**	**1.96**	**326**	P	Pn	01 25 42.3	+0.8
WNVZ	**Wahianoa**	**1.96**	**326**	PN	Pn	01 25 42.3	+0.9
TUVZ	**Tukino**	**1.99**	**328**	P	Pn	01 25 42.7	+0.8
TUVZ				S	Sn	01 26 05.3	-0.3
TUVZ	**Tukino**	**1.99**	**328**	PN	Pn	01 25 42.7	+0.9
TUVZ				SN	Sn	01 26 05.3	-0.3
TCW	**Tory Channel**	**2.08**	**262**	P	Pn	01 25 42.4	-0.7
TCW				S	Sn	01 26 05.6	-2.3
TCW	**Tory Channel**	**2.08**	**262**	PN	Pn	01 25 42.4	-0.7
TCW				S*	Sb	01 26 05.6	-7.5
NGZ	**Ngauruhoe**	**2.09**	**328**	P	Pn	01 25 43.8	+0.6
NGZ				S	Sn	01 26 07.6	-0.5
NGZ	**Ngauruhoe**	**2.09**	**328**	PN	Pn	01 25 43.8	+0.6
NGZ				SN	Sn	01 26 06.8	-1.3
DUWZ	**D'Urville Isla**	**2.35**	**273**	PN	Pn	01 25 46.7	0.0
TUWZ	**Tuamarina**	**2.36**	**258**	PN	Pn	01 25 45.7	-1.3
RAEZ	**Rainy Point**	**2.62**	**309**	P	Pn	01 25 51.8	+1.3
RAEZ	**Rainy Point**	**2.62**	**309**	PN	Pn	01 25 51.8	+1.4
NNZ	**Nelson**	**2.76**	**264**	*e*P	Pn	01 25 51.8	-0.6
NNZ				S	Sn	01 26 22.8	-1.7
NNZ	**Nelson**	**2.76**	**264**	*e*PN	Pn	01 25 51.4	-1.0
NNZ				SN	Sn	01 26 22.2	-2.4
NEZ	**North Egmont**	**2.81**	**306**	P	Pn	01 25 54.8	+1.8
NEZ	**North Egmont**	**2.81**	**306**	PN	Pn	01 25 54.7	+1.6
NRZ	**Ngariki Road**	**2.87**	**304**	*e*P	Pn	01 25 55.3	+1.4
PKE	**Pukeiti**	**2.92**	**306**	P	Pn	01 25 55.9	+1.3
PKE				S	Sn	01 26 28.2	-0.3
PKE	**Pukeiti**	**2.92**	**306**	PN	Pn	01 25 55.8	+1.2
NWEZ	**Newall Road**	**2.95**	**304**	P	Pn	01 25 56.8	+1.8
KHZ	**Kahutara**	**2.98**	**240**	*e*P	Pn	01 25 54.3	-1.1
KHZ				S	Sn	01 26 26.9	-3.0
KHZ	**Kahutara**	**2.98**	**240**	*e*PN	Pn	01 25 53.8	-1.6
KHZ				S*	Sb	01 26 26.9	-12
THZ	**Tophouse**	**3.19**	**254**	*e*P	Pn	01 25 57.1	-1.3
THZ	**Tophouse**	**3.19**	**254**	*e*PN	Pn	01 25 56.8	-1.6
QRZ	**Quartz Range**	**3.40**	**271**	*e*P	Pn	01 26 00.8	-0.4
QRZ	**Quartz Range**	**3.40**	**271**	*e*PN	Pn	01 26 00.6	-0.7
LTZ	**Lake Taylor**	**3.98**	**241**	*e*P	Pn	01 26 08.0	-1.2
LTZ				S	Sn	01 26 50.5	-4.2
LTZ	**Lake Taylor**	**3.98**	**241**	SN	Sn	01 26 50.5	-4.2
MQZ	**McQueen's Vall**	**4.24**	**228**	SN	Sn	01 26 54.8	-6.2
LBZ	**Lake Benmore**	**6.08**	**234**	*e*PN	Pn	01 26 36.9	-1.2
ODZ	**Otahua Downs**	**6.20**	**227**	*e*PN	Pn	01 26 37.8	-1.8

IDC 24 01:45:13.1±2.3, 2942N×14117E, h76km±29km, mb3.6/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=103.6km s-min=15.3km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.48**	**159**	P	Pn	01 45 50.4	-0.9
	43nm,0.3s,baz=338,slow=7.3,SNR=15						
CBIJ				S	Sn	01 46 21.3	+0.8
	57nm,0.3s,baz=262,slow=23,SNR=8.5						
MJAR	**Matsushiro Arr**	**7.53**	**341**	P	Pn	01 47 00.6	+0.4
	0.4nm,0.3s,baz=154,slow=13,SNR=5.1						
MAT	**Matsushiro**	**7.53**	**341**	P	Pn	01 47 08.9	+8.8
ASAJ	**Asahikawa**	**14.72**	**4**	LR	LR	01 54 07.9	
	comp=Z,87nm,18.7s,baz=210,slow=36						
WRA	**Warramunga Arr**	**49.51**	**188**	P	P	01 53 55.7	-0.2
	0.8nm,0.6s,baz=5.4,slow=7.9,SNR=18						
ASAR	**Alice Springs**	**53.24**	**188**	P	P	01 54 24.1	+0.4
	0.3nm,0.6s,baz=11,slow=14,SNR=5.2						
ARCES	**ARCESS Array B**	**71.07**	**340**	P	P	01 56 22.4	-0.6
	4.1nm,1.0s,baz=55,slow=9.2,SNR=4.8						
FINES	**FINESS Array B**	**75.48**	**333**	P	P	01 56 48.5	-0.5
	2.6nm,0.9s,baz=47,slow=9.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**122.39**	**311**	PKP	PKPdf	02 04 00.5	+1.2
	0.3nm,0.6s,baz=32,slow=1.7,SNR=5.4						

MOS 24 01:57:28.2±1.6, 4323N×4474E, h19km, mb3.6/1, 3C-3D, Error ellipse: s-maj=20.7km s-min=13.4km az=61.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.19**	**193**	*e*PG	Pg	01 57 36.5	+3.4
BTKR	**Batakoyurt**	**0.20**	**314**	⇓*i*PG	Pg	01 57 36.8	+3.6
ARNR	**Ardon**	**0.34**	**263**	⇑*i*PG	Pg	01 57 38.0	+2.6
TRKR	**Terskaya**	**0.49**	**360**	⇓*i*PG	Pg	01 57 38.0	-0.1
TRKR				*i* S	Sg	01 57 49.1	+4.3
KORR	**Kora**	**0.51**	**253**	⇓*i*PG	Pg	01 57 39.6	+1.1
KORR				*i* S	Sg	01 57 51.7	+6.2
LACR	**Lac**	**0.52**	**218**	⇑*i*PG	Pg	01 57 39.2	+0.5
LACR				*i* S	Sg	01 57 51.1	+5.4
ZEI	**Tsey**	**0.77**	**233**	*e*PG	Pg	01 57 42.0	-1.3
ZEI				*i* S	Sb	01 57 55.8	+2.8
DIGR	**Digorskoe uzhe**	**0.91**	**249**	⇑*i*PG	Pg	01 57 43.9	-2.1
DIGR				*i* S	Sb	01 57 59.3	+2.2

*NEIC **24** 01:58:07.3, 1818N×6785W, h109km, MD3.5(RSPR), After RSPR.*
RSPR 24 01:58:07.3, 1818N×6785W, h109km±1km, MD3.5/13, MD3.5/13, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.72**	**103**	⇓*e*P	Pn	01 58 24.8	-0.9
CRPR				*e*S	Sn	01 58 39.8	+0.2
LSP	**Las Mesas**	**0.72**	**90**	⇑*e*P	Pn	01 58 25.2	-0.5
LSP				*e*S	Sn	01 58 39.1	-0.4
AGPR	**Aguadilla, PR**	**0.76**	**67**	⇑*e*P	Pn	01 58 25.9	-0.1
AGPR				*e*S	Sn	01 58 40.1	0.0
GBPR	**Guanica, Bosqu**	**0.94**	**102**	⇑*e*P	Pn	01 58 27.6	-0.2
GBPR	**Guanica, Bosqu**	**0.94**	**102**	*e*S	Sn	01 58 43.1	-0.2
LRS	**Lares**	**0.96**	**83**	⇑*e*P	Pn	01 58 27.8	-0.1
LRS				*e*S	Sn	01 58 44.0	+0.4
AOPR	**Arecibo Observ**	**1.05**	**81**	⇑*e*P	Pn	01 58 28.4	-0.5
AOPR				*e*S	Sn	01 58 44.6	-0.7
CELP	**Cerrillos**	**1.21**	**95**	⇑*e*P	Pn	01 58 30.2	-0.4
CELP				*e*S	Sn	01 58 48.4	0.0
ICM	**Isla Caja Muer**	**1.29**	**102**	⇓*e*P	Pn	01 58 31.0	-0.6
ICM				*e*S	Sn	01 58 49.7	-0.3
SJG	**San Juan**	**1.62**	**92**	⇓*e*P	Pn	01 58 34.6	-0.8
SJG				*e*S	Sn	01 58 57.4	+0.6
CPD	**Cerro la Pandu**	**1.84**	**94**	⇑*e*P	Pn	01 58 38.2	0.0
CPD				*e*S	Sn	01 59 01.8	-0.1
CBYP	**Canovanas**	**1.90**	**87**	⇑*e*P	Pn	01 58 38.3	-0.5
CBYP				*e*S	Sn	01 59 02.4	-0.6
HUMP	**Col San Antoni**	**1.90**	**91**	⇑*e*P	Pn	01 58 38.9	0.0
HUMP				*e*S	Sn	01 59 03.2	+0.1
MTP	**Monte Pirata**	**2.19**	**92**	⇑*e*P	Pn	01 58 43.0	+0.4
MTP				*e*S	Sn	01 59 09.7	+0.1

*ISCJB **24** 02:03:47.0±1.6, 4152N±007×7559E±006, h21km±12km, Error ellipse: s-maj=12.4km s-min=7.5km az=161.1*
*KNET **24** 02:03:47.3±1.0, 4161N×7549E, h18km±4km, ml2.4, Error ellipse: s-maj=6.3km s-min=3.7km az=167.0*
ISC 24 02:03:46.1±1.5, 4153N±006×7554E±006, h2km±8km, n12, σ0°69/24, 10C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.59**	**339**	P	**Pg**	**02 03 57.5**	**+0.1**
	81nm,0.2s,SNR=135						
KZA				⇑S	**Sg**	**02 04 05.3**	**+0.3**
	112nm,0.2s						
ULHL	**Ulahol**	**0.89**	**36**	⇑P	**Pg**	**02 04 03.3**	**+0.2**
	10nm,0.1s,SNR=6.8						
ULHL				⇓S	**Sg**	**02 04 15.2**	**+0.6**
	58nm,0.4s						
UCH	**Uchtor**	**1.04**	**313**	⇓P	**Pg**	**02 04 05.5**	**-0.4**
	46nm,0.2s,SNR=54						
UCH				⇑S	**Sg**	**02 04 18.9**	**-0.5**
	345nm,0.3s						
KBK	**Karagaybulak**	**1.21**	**339**	⇓P	**Pg**	**02 04 08.9**	**-0.3**
	17nm,0.1s,SNR=12						
KBK				⇓S	**Sg**	**02 04 25.1**	**+0.1**
	130nm,0.2s						
AAK	**Ala-Archa**	**1.35**	**325**	⇓P	**Pn**	**02 04 11.3**	**-0.6**
	14nm,0.2s,SNR=18						
AAK				⇓S	**Sg**	**02 04 29.0**	**-0.5**
	36nm,0.2s						
TKM2	**Tokmak 2**	**1.39**	**2**	⇑P	**Pn**	**02 04 12.3**	**-0.2**
	5.3nm,0.1s,SNR=9.1						
TKM2				⇓S	**Sg**	**02 04 30.6**	**-0.2**
	37nm,0.1s						
TKM2	**Tokmak 2**	**1.39**	**2**	⇑P	**Pn**	**02 04 12.0**	**-0.5**
	0.1nm,0.3s						
TKM2				⇑S	**Sg**	**02 04 30.1**	**-0.7**
	0.6nm,0.3s						
AML	**Almayashu**	**1.50**	**294**	⇑P	**Pn**	**02 04 14.0**	**0.0**
	29nm,0.2s,SNR=27						
AML				⇓S	**Sn**	**02 04 32.7**	**-1.5**
	36nm,0.3s						
CHMS	**Chumysh**	**1.58**	**339**	P	**Pb**	**02 04 15.8**	**-0.2**
	7.1nm,0.1s,SNR=13						
CHMS				⇓S	**Sb**	**02 04 36.0**	**-0.5**
	22nm,0.2s						
EKS2	**Erkin-Say**	**1.73**	**311**	⇓P	**Pb**	**02 04 18.6**	**0.0**
	6.4nm,0.2s,SNR=23						
EKS2				⇑S	**Sb**	**02 04 41.5**	**+0.7**
	27nm,0.2s						
USP	**Ospenovka**	**1.90**	**336**	⇑P	**Pb**	**02 04 21.4**	**0.0**
	13nm,0.2s,SNR=8.4						
USP				⇑S	**Sb**	**02 04 46.3**	**+0.7**
	46nm,0.4s						
KK31	**Karatay Array**	**4.05**	**295**	⇓P	**Pb**	**02 04 58.9**	**+0.8**
	1.6nm,0.5s,baz=109,slow=16						
KK31				⇓S	**Sb**	**02 05 49.9**	**+2.5**
	14nm,0.8s,baz=111,slow=26						

IDC 24 02:34:12.3±1.5, 2383S×6736W, h209km±18km, mb3.1/1, mb1 3.2/4, mb1mx3.0/17, mbtmp3.6/4, Error ellipse: s-maj=31.8km s-min=25.0km az=61.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.87**	**310**	P	Pn	02 34 50.0	-0.2
	4.3nm,0.3s,baz=136,slow=6.8,SNR=93						
LVC				S	Sn	02 35 20.6	+0.9
	26nm,0.3s,baz=343,slow=23,SNR=84						
LPAZ	**La Paz**	**7.54**	**354**	P	Pn	02 36 02.0	+2.5
	0.5nm,0.3s,baz=151,slow=6.2,SNR=16						
LPAZ				S	Sn	02 37 26.9	+2.0
	0.1nm,0.3s,baz=174,slow=24,SNR=2.5						
CPUP	**Villa Florida**	**9.43**	**107**	P	Pn	02 36 25.2	+1.3
	0.3nm,0.3s,baz=287,slow=8.7,SNR=5.0						
SIV	**San Ignacio**	**9.78**	**38**	P	Pn	02 36 26.8	-1.8
	0.4nm,0.3s,baz=217,slow=14,SNR=16						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	P	02 45 41.5	+0.5
	0.3nm,0.4s,baz=253,slow=5.6,SNR=15						

*SSS **24** 03:02:33.9, 1304N×8912W, h34km, MD3.1*
CASC 24 03:02:32.9±1.6, 1296N×8914W, h13km±13km, MD3.6, 3C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.66**	**6**	⇓*i*P	x	03 02 46.1	+0.4
LFRS				*e*S	x	03 02 55.4	+0.9
LCBS	**La Ceiba**	**0.70**	**13**	⇓*i*P	x	03 02 46.6	0.0
LCBS				*e*S	x	03 02 56.5	+0.6
SNVI	**San Vicente**	**0.71**	**24**	*e*P	x	03 02 46.9	+0.3
SNVI				*e*S	x	03 02 56.9	+0.9
BOQS	**Boqueron**	**0.78**	**350**	⇑*e*P	x	03 02 48.1	+0.1
BOQS				*e*S	x	03 02 59.3	+1.1
VSM	**San Miguel**	**0.96**	**61**	⇑*e*P	x	03 02 51.0	-0.4
VSM				*e*S	x	03 03 04.2	+0.2
SBLS	**San Blas**	**0.99**	**332**	*e*P	x	03 02 51.2	-0.7
BLLM	**Bellamira**	**1.00**	**61**	⇑*e*P	x	03 02 51.0	-1.0
BLLM				*e*S	x	03 03 04.2	-0.8
CNCH	**Conchagua**	**1.31**	**76**	*e*P	x	03 02 55.1	-1.7
TP2	**Tecpan 2**	**2.57**	**315**	*e*P	Pn	03 03 30.7	+16
TP2				*e*S	Sn	03 03 47.9	+2.5

*IDC **24** 03:03:43.7±0.3, 501N×12534E, h0km, mb5.2/36, mb1 5.2/36, mb1mx5.2/37, mbtmp5.2/36, MS5.5/26, Ms1 5.5/26, ms1mx5.4/33, Error ellipse: s-maj=11.7km s-min=7.1km az=78.0*
*GCMT **24** 03:03:45.3±0.1, 504N×12534E, h12km, MW5.9/106, Moment Tensor Solution. s102,c206; s106,c337; Duration: 2≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.81±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-0.79±.01; $M_{r\theta}$0.14±.01; $M_{\theta\phi}$0.27±.01; $M_{\phi r}$-0.55±.02; Best double couple: $M_0$1.01700×10^{18} NP1:ϕ_s340.00000°, δ28.00000°, λ86.00000°. NP2:ϕ_s164.00000°, δ62.00000°, λ92.00000°. Principal axes: T 0.9840, Plg73.0000°, Azm79.0000°; N 0.0660, Plg2.0000°, Azm343.0000°; P -1.0500, Plg17.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **24** 03:03:45.3±0.2, 490N×12530E, h10km, mb5.6/50, MS5.5/166, MW6.1 Error ellipse: s-maj=7.0km s-min=5.0km az=76.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{18}Nm; M_{rr}0.94; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.87; $M_{r\theta}$0.21; $M_{\theta\phi}$0.08; $M_{\phi r}$-1.33; Best double couple: $M_0$1.60000×10^{18} NP1:ϕ_s172.00000°, δ73.00000°, λ88.00000°. NP2:ϕ_s357.00000°, δ17.00000°, λ95.00000°. Principal axes: T 1.6500, Plg62.0000°, Azm79.0000°; N -0.0700, Plg1.0000°, Azm172.0000°; P -1.5900, Plg28.0000°, Azm263.0000°;*
NEIC Felt [III] on Pulau Sangihe.
*MOS **24** 03:03:47.1±1.6, 497N×12537E, h33km, mb5.8/59, MS5.6/44 Error ellipse: s-maj=12.3km s-min=6.4km az=110.0*
*BJI **24** 03:03:48.5, 477N×12531E, h39km, mB5.9, mb5.1, Ms5.9, Msz5.7*
*ISCJB **24** 03:03:49.1±0.1, 492N±002×12542E±003, h53km, mb5.4/148, MS5.5/212, Error ellipse: s-maj=4.2km s-min=3.2km az=152.0*
ISC 24 03:03:51.2±0.1, 492N±002×12545E±003, h56km, h56km±2.4km: pP-P, n576, σ1⇕31/438, mb5.4/147, MS5.5/212, 28C-26D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.14**	**3**	*e*Pn	**Pn**	**03 04 24.8**	**+0.3**
DCPH	**Dipolog City**	**4.20**	**330**	*e*P	**Pn**	**03 04 59.8**	**+7.1**
SNPH	**Sibulan**	**4.92**	**334**	*e*P	**Pn**	**03 05 07.5**	**+5.0**
	11μm,1.0s						
LLP	**Lapu-Lapu**	**5.56**	**345**	⇑*e*P	**Pn**	**03 05 14.2**	**+2.8**
	1391μm,1.3s						
LLP				*e*S	**Sn**	**03

comp=Z,23μm,18.2s,MS5.6
QIZ Qiongzhong 20.70 314 *e*Pn **P 03 08 27.7 +0.9**
comp=Z,1μm,2.2s
QIZ LR LR
comp=Z,17μm,19.0s,MS5.4
QZH Quanzhou 20.97 342⇑ *i*P **P 03 08 30.0 +0.3**
QZH S **S 03 12 21.5 +1.3**
QZH AMB AMB
comp=Z,180nm,1.0s
QZH AMB AMB
comp=Z,6μm,4.8s
QZH LR LR
comp=N,14μm,9.5s
QZH LR LR
comp=E,20μm,11.5s
QZH LR LR
comp=Z,30μm,15.6s,MS5.8
GUMO Guam 20.99 64 P **P 03 08 31.4 +1.5**
comp=Z,39nm,0.3s,baz=175,slow=8.2,SNR=3.9
GUMO LR LR 03 15 33.0
comp=Z,11μm,19.8s,MS5.2,baz=239,slow=34
GUMO Guam 20.99 64 *e*P **P 03 08 33.1 +3.2**
comp=Z,338nm,1.1s
GUMO LR LR
comp=Z,12μm,19.0s,MS5.3
LEM Lembang 21.29 237 P **P 03 08 33.9 +0.9**
comp=Z,454nm,1.3s,mb5.6
GZH Guangzhou 21.52 328 P **P 03 08 38.0 +2.5**
GZH S **S 03 12 35.3 +4.4**
GZH LR LR
comp=N,17μm,14.9s,MS5.8
GZH LR LR
comp=E,24μm,14.6s,MS5.8
GZH LR LR
comp=Z,26μm,17.8s,MS5.7
CBJI Citeko 21.72 239 P **P 03 08 40.7 +3.0**
comp=Z,727nm,2.1s,mb5.7
JOW Kunigami 21.96 7 P **P 03 08 39.5 -0.7**
comp=Z,194nm,1.0s,mb5.5,baz=199,slow=8.9,SNR=9.1
JOW S **S 03 12 40.4 +1.0**
comp=Z,42nm,1.1s,baz=182,slow=15,SNR=1.7
SBJI Serang 22.19 241 P **P 03 08 45.0 +2.3**
comp=Z,662nm,1.4s,mb5.9
KGM Kluang 22.28 263 P **P 03 08 46.3 +2.7**
KLI Kotabumi 22.75 245 P **P 03 08 49.6 +1.0**
comp=Z,850nm,1.3s,mb6.0
FITZ Fitzroy Crossi 22.87 180 *e*P **P 03 08 47.6 -2.3**
comp=Z,639nm,0.9s,mb6.0
FITZ Fitzroy Crossi 22.87 180 P **P 03 08 48.6 -1.4**
comp=Z,71nm,0.8s,mb5.2,baz=6.4,slow=8.3,SNR=62
FITZ S **S 03 12 55.6 +0.2**
comp=Z,42nm,1.0s,baz=182,slow=19,SNR=1.9
IPM Ipoh 24.35 270 P **P 03 09 05.1 +1.3**
KULM Kulim 24.71 272 *e*P **P 03 09 06.8 -0.4**
SNG Songkhla 24.80 276 P **P 03 09 08.0 +0.1**
comp=Z,280nm,0.1s
KKTK Khon Kaen 24.93 299 P **P 03 09 11.0 +1.8**
comp=Z,1μm,0.5s
PPI Padang Panjang 25.59 259 P **P 03 09 15.0 -0.1**
comp=Z,354nm,2.4s,mb5.5
PMG Port Moresby 25.89 123 P **P 03 09 19.6 +1.8**
comp=Z,50nm,0.7s,mb5.1,baz=326,slow=8.7,SNR=12
PMG S **S 03 13 50.7 +6.9**
comp=Z,5.0nm,0.4s,baz=118,slow=23,SNR=2.2
PMG LR LR 03 18 54.0
comp=Z,15μm,21.7s,MS5.5,baz=298,slow=35
PMG Port Moresby 25.89 123⇑ *i*P **P 03 09 20.0 +2.2**
PMG Port Moresby 25.89 123 *e*P **P 03 09 19.2 +1.4**
comp=Z,228nm,1.0s,mb5.7
PMG LR LR
comp=Z,6μm,20.0s,MS5.1
WRAB Tennant Creek 26.20 161⇑ *e*P **P 03 09 22.5 +1.9**
WRAB Tennant Creek 26.20 161 *e*P **P 03 09 20.3 -0.3**
comp=Z,237nm,0.8s,mb5.8
WRAB LR LR
comp=Z,1μm,19.0s,MS4.5
WRA Warramunga Arr 26.20 161 P **P 03 09 19.8 -0.8**
comp=Z,20nm,0.4s,mb5.0,baz=340,slow=10,SNR=74
WRA S **S 03 13 57.5 +8.7**
comp=Z,14nm,1.1s,baz=338,slow=17,SNR=2.3
WB2 Warramunga Arr 26.21 161 *e*P **P 03 09 19.6 -1.1**
WB2 *e*S **S 03 13 54.4 +5.6**
SSE Sheshan 26.35 352 P **P 03 09 23.3 +1.3**
SSE AP pP 03 09 38.4 +2.6
SSE S **S 03 13 58.8 +2.7**
SSE PCS PcS 03 16 25.8 -1.9
SSE AMB AMB
comp=Z,19nm,0.9s,mb4.6
SSE AMB AMB
comp=Z,2μm,6.7s
SSE LR LR
comp=N,4μm,15.1s,MS5.4
SSE LR LR
comp=E,7μm,15.1s,MS5.4
SSE LR LR
comp=Z,8μm,16.6s,MS5.3
SSE Sheshan 26.35 352 P **P 03 09 23.3 +1.3**
comp=Z,19nm,0.9s,mb4.6
SSE pP pP 03 09 38.4 +2.6
SSE sP sP 03 09 45.1 +2.7
SSE S **S 03 13 53.8 +2.7**
SSE sS sS 03 14 17.1 +2.4
SSE PcS PcS 03 16 25.7 -2.0
SSE LR LR
comp=Z,8μm,16.6s,MS5.3
MBWA Marble Bar 26.52 192 *e*P **P 03 09 23.1 -0.4**
comp=Z,381nm,1.1s,mb5.8
MBWA LR LR
comp=Z,5μm,20.0s,MS5.0
NNT Nongplab 26.52 288 P **P 03 09 27.0 +3.5**
PSI Prapat 26.55 266 P **P 03 09 23.9 +0.1**
comp=Z,47nm,1.0s,mb5.0,baz=83,slow=5.8,SNR=13
PSI LR LR 03 21 31.8
comp=Z,15μm,18.6s,MS5.6,baz=242,slow=40
NST Nakhon Sawan 27.07 295 P **P 03 09 28.8 +0.3**
comp=Z,138nm,1.2s,mb5.4
CBIJ Chichi jima 27.22 34 P **P 03 09 28.2 -1.6**
comp=Z,143nm,0.5s,mb5.8,baz=230,slow=2.6,SNR=9.3
CBIJ LR LR 03 18 01.3
comp=Z,6μm,21.2s,MS5.1,baz=214,slow=32
WHN Wuhan 27.55 339 P **P 03 09 30.3 -2.5**
WHN LR LR
comp=Z,28μm,16.9s,MS5.9
NJ2 Nanjing 27.69 348 *e*P **P 03 09 35.5 +1.5**
NJ2 AP pP 03 09 50.6 +2.6
NJ2 PP PP 03 10 25.9 -11
NJ2 S **S 03 14 11.0 -1.3**
NJ2 XS sS 03 14 36.0 +0.1
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,4μm,6.0s
NJ2 LR LR
comp=N,15μm,18.7s,MS5.8
NJ2 LR LR
comp=E,19μm,18.0s,MS5.8
NJ2 LR LR
comp=Z,19μm,16.6s,MS5.8
GYA Guiyang 27.95 322⇑ *i*P **P 03 09 35.8 -0.6**
GYA AP pP 03 09 53.3 +3.0
GYA PP PP 03 10 29.8 -10
GYA PPP 03 10 43.0
GYA PCP PcP 03 12 53.6 +3.1
GYA S **S 03 14 16.9 +0.5**
GYA SS 03 15 40.8
GYA SCP ScP 03 16 27.9 +1.4
GYA PCS PcS 03 16 34.3 +1.8
GYA SCS ScS 03 20 19.0 +0.1
GYA AMB AMB
comp=Z,310nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,3μm,9.5s
GYA LR LR
comp=N,10μm,14.0s,MS5.8
GYA LR LR
comp=E,11μm,13.7s,MS5.8
GYA LR LR
comp=Z,19μm,16.4s,MS5.8
BDT Bhumibol Dam 28.65 297 P **P 03 09 46.5 +3.9**
comp=Z,16nm,1.0s,mb4.7
CM31 Chiang Mai Arr 29.18 300 PFAKE 03 10 00.0 +13
CM31 LR LR
comp=Z,10μm,22.0s,MS5.4
CHG Chiang Mai 29.33 300⇑P **P 03 09 50.8 +2.2**
comp=Z,79nm,0.8s,mb5.5
CHTO Chiang Mai 29.33 300 *e*P **P 03 09 47.7 -0.9**
CHTO pmax pmax
comp=Z,59nm,1.0s,mb5.3
CHTO MLR MLR
comp=Z,7μm,19.0s,MS5.3
CHTO Chiang Mai 29.33 300 *e*P **P 03 09 47.7 -0.9**
comp=Z,60nm,1.0s,mb5.3
CHTO LR LR
comp=Z,7μm,19.0s,MS5.3
ENH Enshi 29.38 331 PFAKE 03 10 00.0 +11
ENH LR LR
comp=Z,2.0nm,22.0s
AS31 Alice Springs 29.58 164 *e*P **P 03 09 50.7 -0.1**
ASPA Alice Springs 29.58 164 *e*P **P 03 09 50.4 -0.4**
ASAR Alice Springs 29.58 164 P **P 03 09 50.5 -0.4**
comp=Z,5.4nm,0.6s,mb4.5,baz=337,slow=6.9,SNR=38
ASAR S **S 03 14 52.6 +11**
comp=Z,7.2nm,0.9s,baz=345,slow=13,SNR=2.5
KMI Kunming 29.64 315 P **P 03 09 51.4 0.0**
KMI AP pP 03 10 02.1 -3.3
KMI XP sP 03 10 08.3 -3.6
KMI PP PP 03 10 48.3 -11
KMI PPP 03 11 02.5
KMI S **S 03 14 44.6 +1.6**
KMI XS sS 03 15 05.5 -1.2
KMI SS SS 03 16 22.0 -29
KMI SSS 03 16 45.9
KMI AMB AMB
comp=Z,29nm,1.7s,mb4.7
KMI AMB AMB
comp=Z,613nm,6.0s
KMI LR LR
comp=N,6μm,17.4s,MS5.7
KMI LR LR
comp=E,15μm,16.8s,MS5.7
KMI LR LR
comp=Z,18μm,19.9s,MS5.7
KMI Kunming 29.64 315 P **P 03 09 51.4 0.0**
KMI *PP pP 03 10 02.1 -3.3
KMI *SP sP 03 10 08.3 -3.6
KMI 03 10 48.2
KMI PPP 03 11 02.5
KMI S **S 03 14 44.6 +1.6**
KMI *SS sS 03 15 05.5 -1.2
KMI SS SS 03 16 22.0 -29
KMI pmax pmax
comp=Z,29nm,1.7s,mb4.7
KMI MLR MLR
comp=Z,18μm,19.9s,MS5.7
KMI Kunming 29.64 315 P **P 03 09 51.4 0.0**
comp=Z,29nm,1.7s,mb4.7
KMI pP pP 03 10 02.1 -3.3
KMI sP sP 03 10 08.3 -3.6
KMI PP PP 03 10 48.2 -11
KMI PPP 03 11 02.5
KMI S **S 03 14 44.6 +1.6**
KMI sS sS 03 15 05.5 -1.2
KMI SS SS 03 16 22.0 -29
KMI SSS 03 16 45.9
KMI LR LR
comp=Z,18μm,19.9s,MS5.7
BSI Banda Aceh 30.04 272 P **P 03 09 55.3 +0.4**
comp=Z,76nm,1.4s,mb5.2
JHJ Hachijo jima 2 31.08 24 P **P 03 10 05.2 +1.2**
comp=Z,73nm,0.6s,mb5.7,baz=72,slow=20,SNR=2.5
JHJ LR LR 03 20 16.8
comp=Z,8μm,19.1s,MS5.4,baz=112,slow=32
TIA Tai'an 32.07 347 *e*P **P 03 10 11.8 -1.0**
CTA Charters Tower 32.18 141 *e*P **P 03 10 15.0 +1.3**
comp=Z,50nm,1.2s,mb5.2
CTA *e*S **S 03 15 25.5 +2.9**
CTA Charters Tower 32.18 141 P **P 03 10 15.5 +1.8**
comp=Z,11nm,0.6s,mb4.9,baz=318,slow=11,SNR=9.9
CTA Charters Tower 32.18 141 *e*P **P 03 10 15.0 +1.3**
CTA *e*S **S 03 15 25.5 +2.9**
CTA pmax pmax
comp=Z,50nm,1.2s
CTAO Charters Tower 32.18 141 *e*P **P 03 10 15.5 +1.8**
comp=Z,76nm,1.0s,mb5.5
CTAO *e*pP pP 03 10 32.0 +4.3
CTAO LR LR
comp=Z,3μm,21.0s,MS4.9
INCN Inchon 32.43 2 PFAKE 03 10 30.0 +14
INCN LR LR
comp=Z,7μm,19.0s,MS5.3
KS15 Wonju Array Si 32.45 4 *e*P **P 03 10 17.0 +0.9**
XAN Xi'an 32.79 334 P **P 03 10 17.6 -1.5**
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
XAN AMB AMB
comp=Z,509nm,4.9s
XAN LR LR
comp=N,3μm,23.1s,MS5.5
XAN LR LR
comp=E,8μm,18.3s,MS5.5
XAN LR LR
comp=Z,12μm,15.6s,MS5.7
CD2 Chengdu 32.94 324⇑ *i*P **P 03 10 19.3 -1.1**
CD2 AP pP 03 10 34.1 -0.3
CD2 XP sP 03 10 41.3 +0.3
CD2 PP PP 03 11 31.1 -4.5
CD2 PCP PcP 03 13 02.0 -1.5
CD2 S **S 03 15 32.3 -2.1**
CD2 XS sS 03 15 57.8 -0.4
CD2 PCS PcS 03 16 46.3 -2.6
CD2 SS SS 03 17 35.3 -23
CD2 SCS ScS 03 20 38.6 -4.5
CD2 AMB AMB
comp=Z,70nm,1.3s,mb5.4
CD2 AMB AMB
comp=Z,2μm,10.8s
CD2 LR LR
comp=N,22μm,20.4s,MS6.0
CD2 LR LR
comp=E,20μm,19.2s,MS6.0
CD2 LR LR
comp=Z,20μm,14.4s,MS6.0
PBA Port Blair 33.03 284 *e*P **P 03 10 14.8 -6.4**
PBA *e*x x 03 10 23.1
comp=Z,198nm,1.2s
PBA *e*S **S 03 15 31.4 -4.5**
COCO West Island 33.14 239 PFAKE 03 10 30.0 +7.9
COCO LR LR
comp=Z,2μm,20.0s,MS4.8
MJAR Matsushiro Arr 33.58 19 P **P 03 10 24.3 -1.7**
comp=Z,45nm,0.9s,mb5.4,baz=194,slow=8.4,SNR=36
MJAR S **S 03 15 51.0 +6.6**
comp=Z,8.9nm,1.2s,baz=313,slow=42,SNR=3.4
MJAR LR LR 03 22 50.7
comp=Z,5μm,19.9s,MS5.2,baz=200,slow=34
MJAR Matsushiro Arr 33.58 19 P **P 03 10 24.3 -1.7**
MJAR S **S 03 15 51.0 +6.6**
MAJO Matsushiro 33.58 19 *e*P **P 03 10 24.4 -1.6**
comp=Z,464nm,1.8s,mb6.1
MAJO LR LR
comp=Z,6μm,20.0s,MS5.3
MAT Matsushiro 33.58 19 P **P 03 10 24.6 -1.4**
MAT S **S 03 15 45.0 +0.6**
DL2 Dalian 34.01 355 P **P 03 10 36.9 +7.2**
DL2 PCP PcP 03 13 12.1 +5.6
DL2 S **S 03 16 03.8 +13**
DL2 AMB AMB
comp=Z,40nm,1.1s,mb5.3
DL2 AMB AMB
comp=Z,840nm,6.3s
DL2 LR LR
comp=N,3μm,16.9s,MS5.5
DL2 LR LR
comp=E,6μm,15.5s,MS5.5
DL2 LR LR
comp=Z,4μm,15.8s,MS5.2
FORT Forrest 35.58 176 *e*P **P 03 10 42.7 -0.5**
comp=Z,111nm,0.8s,mb5.8
BJT Baijiatuau 35.93 348 *e*P **P 03 10 46.0 -0.2**
BJT pmax pmax
comp=Z,170nm,1.3s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 35.93 348 *e*P **P 03 10 46.0 -0.3**
comp=Z,170nm,1.3s,mb5.8
BJT LR LR
comp=Z,5μm,20.0s,MS5.3
BJI Beijing 35.95 348 P **P 03 10 45.6 -0.8**
BJI AP pP 03 11 00.4 -0.2
BJI XP sP 03 11 07.1 0.0
BJI S **S 03 16 27.9 +7.0**
BJI AMB AMB
comp=Z,16nm,1.4s,mb4.8
BJI AMB AMB
comp=Z,751nm,4.1s
BJI LR LR
comp=N,5μm,21.8s,MS5.6
BJI LR LR
comp=E,9μm,19.4s,MS5.6
BJI LR LR
comp=Z,4μm,22.9s,MS5.1
BJI Beijing 35.95 348 P **P 03 10 45.6 -0.8**
comp=Z,16nm,1.4s,mb4.8
BJI pP pP 03 11 00.4 -0.2
BJI sP sP 03 11 07.1 0.0
BJI S **S 03 16 27.9 +7.0**
BJI SS SS 03 19 07.2 +7.9
BJI LR LR
comp=Z,4μm,22.9s,MS5.1
IMP Imphal 36.14 306 *e*P **P 03 10 48.0 0.0**
IMP *e*x x 03 13 02.0
SNY Shenyang 36.79 358⇓⇓P **P 03 10 54.5 +1.0**
SNY S **S 03 16 39.3 +5.7**
SNY AMB AMB
comp=Z,63nm,1.1s,mb5.4
SNY LR LR
comp=N,7μm,16.8s,MS5.5
SNY LR LR
comp=E,4μm,21.0s,MS5.5
SNY LR LR
comp=Z,6μm,17.1s,MS5.4
LZH Lanzhou 36.84 330 *e*P **P 03 10 53.5 -0.5**
LZH AP pP 03 11 08.5 +0.3
LZH XP sP 03 11 15.0 +0.3
LZH PP PP 03 12 17.4 -1.3
LZH PCP PcP 03 13 15.5 +0.6
LZH *e*S **S 03 16 31.0 -3.5**
LZH XS sS 03 16 57.0 -1.5
LZH AMB AMB
comp=Z,241nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,2μm,5.0s
LZH LR LR
comp=N,21μm,16.2s
LZH LR LR
comp=Z,24μm,17.8s,MS6.0
LZH Lanzhou 36.84 330 *e*P **P 03 10 53.5 -0.5**
LZH *PP pP 03 11 08.5 +0.3
LZH 03 12 17.4
LZH 03 13 15.5
LZH *e*S **S 03 16 31.0 -3.5**
LZH SS SS 03 19 03.1 -14
LZH pmax pmax
comp=Z,241nm,1.0s,mb6.0
LZH MLR MLR
comp=Z,24μm,17.8s,MS6.0
LZH Lanzhou 36.84 330 *e*P **P 03 10 53.5 -0.5**
comp=Z,241nm,1.0s,mb6.0
LZH pP pP 03 11 08.5 +0.3
LZH sP sP 03 11 15.0 +0.3
LZH PP PP 03 12 17.4 -1.3
LZH PcP PcP 03 13 15.5 +0.6
LZH *e*S **S 03 16 31.0 -3.5**
LZH sS sS 03 16 57.0 -1.5
LZH SS SS 03 19 03.1 -14
LZH LR LR
comp=Z,24μm,17.8s,MS6.0
KLBR Kellerberrin 37.04 191 *e*P **P 03 10 54.7 -1.0**
comp=Z,140nm,1.0s,mb5.8
HNR Honiara 37.21 113 P **P 03 10 59.2 +2.1**
comp=Z,167nm,0.6s,mb6.1,baz=233,slow=3.2,SNR=4.6
HNR Honiara 37.21 113 *e*P **P 03 10 59.5 +2.4**
comp=Z,553nm,1.0s,mb6.3
HNR LR LR
comp=Z,6μm,20.0s,MS5.4
MUN Mundaring 37.73 193 *e*P **P 03 11 14.3 +13**
HHC Hu-ho-hao-te 37.89 343 *e*P **P 03 11 03.6 +0.8**
HHC AP pP 03 11 18.8 +1.7
HHC PP PP 03 12 33.5 +3.3
HHC PCP PcP 03 13 19.3 +1.3
HHC S **S 03 16 49.8 -0.5**
HHC PCS PcS 03 17 06.8 -0.1
HHC XS sS 03 17 16.0 +1.7
HHC SS SS 03 19 29.3 -8.7
HHC SCS ScS 03 21 10.3 +0.3
HHC AMB AMB
comp=Z,40nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,1μm,8.8s
HHC LR LR
comp=N,7μm,23.3s
HHC LR LR
comp=E,7μm,18.2s
HHC LR LR
comp=Z,7μm,26.2s,MS5.4
BTO Baotou 38.14 341 *e*P **P 03 11 04.8 -0.2**
SHL Shillong 38.15 306 *i*P **P 03 11 04.0 -1.1**
SHL *e*S **S 03 16 58.0 +3.7**
NWAO Narrogin (SRO) 38.44 191 P **P 03 11 06.4 -1.0**
comp=Z,45nm,0.5s,mb5.5,baz=11,slow=7.9,SNR=21
NWAO LR LR 03 30 38.5
comp=Z,3μm,18.3s,MS5.2,baz=15,slow=42
NWAO Narrogin (SRO) 38.44 191 *e*P **P 03 11 06.8 -0.6**
comp=Z,133nm,0.9s,mb5.7
NWAO LR LR
comp=Z,3μm,22.0s,MS5.1
VLA Vladivostok 38.47 8 *e*P **P 03 11 06.3 -1.4**
VLA *e*S **S 03 17 03.5 +4.4**
VLA pmax pmax
comp=Z,145nm,1.1s,mb5.6
VLA MLR MLR
comp=Z,4μm,17.9s,MS5.2
VLA Vladivostok 38.47 8⇑ *e*P **P 03 11 07.7 0.0**
CN2 Changchun 38.72 360 *e*P **P 03 11 14.0 +4.1**
CN2 PP PP 03 12 49.0 +10
CN2 PCP PcP 03 13 22.6 +2.0
CN2 *e*S **S 03 17 07.3 +4.4**
CN2 SCS ScS 03 21 14.5 -0.3
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,14.0s,MS5.7
CN2 LR LR
comp=E,6μm,14.0s,MS5.7
CN2 LR LR
comp=Z,5μm,16.0s,MS5.5
STKA Stephens Creek 39.69 158 *e*P **P 03 11 18.1 +0.2**
comp=Z,115nm,0.8s,mb5.7
STKA Stephens Creek 39.69 158 P **P 03 11 18.4 +0.4**
comp=Z,55nm,0.8s,mb5.3,baz=328,slow=7.8,SNR=26
MDJ Mudanjiang 39.70 5 P **P 03 11 17.8 -0.2**
MDJ AP pP 03 11 31.8 -0.6
MDJ XP sP 03 11 35.5 -3.4
MDJ PCP PcP 03 13 25.8 +2.1
MDJ SCP ScP 03 17 08.3 +0.5
MDJ S **S 03 17 20.3 +2.6**
MDJ SS SS 03 20 12.8 -2.1
MDJ AMB AMB
comp=Z,86nm,1.2s,mb5.4
MDJ AMB AMB
comp=Z,453nm,3.7s
MDJ LR LR
comp=N,4μm,19.4s,MS5.5
MDJ LR LR
comp=E,6μm,18.0s,MS5.5
MDJ LR LR
comp=Z,4μm,17.5s,MS5.3
MDJ Mudanjiang 39.70 5 *e*P **P 03 11 18.4 +0.4**
comp=Z,143nm,1.1s,mb5.6
MDJ LR LR
comp=Z,4μm,19.0s,MS5.3
CAL Calcutta 39.92 300 *e*P **P 03 11 18.8 -1.1**
CAL *e*S **S 03 17 23.7 +2.8**
ERM Erimo 40.17 21 *e*P **P 03 11 24.8 +2.9**
comp=Z,150nm,1.0s,mb5.7
ERM LR LR
comp=Z,1μm,20.0s,MS4.8
LSA Lhasa 40.70 311 P **P 03 11 28.4 +2.1**
LSA AP pP 03 11 39.3 -1.4
LSA XP sP 03 11 46.5 -0.7
LSA S **S 03 17 32.8 +0.2**
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.8
LSA AMB AMB

comp=Z,690nm,8.0s
LSA LR LR
comp=N,5μm,26.0s,MS5.4
LSA LR LR
comp=E,6μm,26.0s,MS5.4
LSA LR LR
comp=Z,5μm,29.0s,MS5.2
LSA Lhasa 40.70 311 *e*P **P 03 11 27.9 +1.6**
LSA LR LR
comp=Z,6μm,19.0s,MS5.5
GTA Gaotai 41.43 330 P **P 03 11 32.3 0.0**
GTA AP pP 03 11 47.3 +0.6
GTA XP sP 03 11 53.8 +0.6
GTA PP PP 03 13 12.4 +3.6
GTA PCP PcP 03 13 31.9 +2.6
GTA S **S 03 17 42.4 -1.0**
GTA XS sS 03 18 08.3 +0.6
GTA AMB AMB
comp=Z,31nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=N,9μm,17.1s,MS5.9
GTA LR LR
comp=E,10μm,15.2s,MS5.9
GTA LR LR
comp=Z,16μm,17.9s,MS5.9
ADE Adelaide 41.59 164 *e*P **P 03 11 31.1 -2.5**
ASAJ Asahikawa 41.85 19 P **P 03 11 35.7 -0.1**
comp=Z,31nm,0.4s,mb5.3,baz=229,slow=10,SNR=18
ASAJ S **S 03 17 54.5 +4.8**
comp=Z,7.6nm,0.9s,baz=184,slow=32,SNR=3.4
BOK Bokaro 42.46 300 *e*P **P 03 11 39.9 -0.8**
BOK AMb AMB 03 11 48.4
comp=Z,80nm,0.9s,mb5.3
BOK *e*S **S 03 18 00.6 +2.0**
VIS Vishakhapatnam 43.10 291 *e*P **P 03 11 47.0 +1.1**
VIS AMb AMB 03 11 56.6
comp=Z,176nm,1.4s,mb5.6
VIS *e*S **S 03 18 09.4 +1.4**
ARMA Armidale 43.15 146 *e*P **P 03 11 48.1 +1.8**
JIRN Jiri 43.65 306 *e*P **P 03 11 51.1 +0.8**
GUN Gumba 44.00 306 *e*P **P 03 11 53.2 +0.1**
comp=Z,524nm,1.1s,mb6.2
PKI Pulchoki 44.25 305 *e*P **P 03 11 55.0 -0.1**
comp=Z,221nm,1.4s,mb5.7
KKN Kakani 44.44 305 *e*P **P 03 11 56.1 -0.5**
comp=Z,302nm,1.3s,mb5.9
HIA Hailar 44.46 355 *e*P **P 03 11 56.8 +0.1**
HIA pmax pmax
comp=Z,48nm,1.1s
HIA MLR MLR
comp=Z,6μm,20.0s
HIA Hailar 44.46 355 *e*P **P 03 11 56.8 0.0**
comp=Z,48nm,1.1s,mb5.1
HIA LR LR
comp=Z,6μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 44.46 17⇓ *i*P **P 03 11 56.6 -0.2**
YSS pmax pmax
comp=Z,118nm,1.3s,mb5.5
YSS MLR MLR
comp=Z,4μm,21.0s,MS5.3
YSS Yuzh-Sakhalins 44.46 17 *e*P **P 03 11 57.0 +0.2**
comp=Z,92nm,0.9s,mb5.5
YSS LR LR
comp=Z,4μm,21.0s,MS5.3
KLR Kul'dur 44.48 6 *e*P **P 03 11 52.7 -4.2**
KLR *e* 03 13 47.0
KLR *e*S **S 03 18 20.0 -8.0**
KLR *e* 03 21 52.0
KLR pmax pmax
comp=E,140nm,2.8s
KLR pmax pmax
comp=Z,450nm,2.8s,mb5.7
KLR pmax pmax
comp=N,1μm,10.0s
KLR pmax pmax
comp=Z,3μm,10.0s
KLR MLR MLR
comp=Z,5μm,14.0s,MS5.6
DMN Daman 44.51 305 *e*P **P 03 11 57.1 -0.1**
comp=Z,201nm,1.0s,mb5.9
PALK Pallekele 44.55 275 *e*P **P 03 12 02.9 +5.5**
PALK LR LR
comp=Z,1μm,21.0s,MS4.8
GKN Gorkha 45.05 305 *e*P **P 03 12 01.1 -0.3**
comp=Z,158nm,1.1s,mb5.8
MDRS Chennai 45.32 283 *e*P **P 03 12 04.0 +0.4**
SONM Songino Array 45.78 342 P **P 03 12 06.3 -0.9**
comp=Z,4.5nm,0.7s,mb4.5,baz=156,slow=8.2,SNR=18
SONM LR LR 03 33 42.0
comp=Z,5μm,18.7s,MS5.5,baz=154,slow=39
SONM Songino Array 45.78 342 P **P 03 12 06.3 -0.9**
SONM LR LR 03 33 42.0
KOLN Koldanda 45.81 304 *e*P **P 03 12 07.4 -0.1**
comp=Z,218nm,0.9s,mb6.1
CNB Canberra Magne 45.90 153 *e*P **P 03 12 09.6 +1.4**
comp=Z,105nm,1.1s,mb5.7
TOO Toolangi 46.21 158 *e*P **P 03 12 12.4 +1.8**
comp=Z,122nm,1.0s,mb5.8
TOO Toolangi 46.21 158 *e*P **P 03 12 12.4 +1.8**
TOO pmax pmax
comp=Z,122nm,1.0s,mb5.8
ALBI Allahabad 46.47 300 *e*P **P 03 12 13.0 +0.4**
SALM Salem 47.19 281 *e*x x 03 12 21.0
JBP Jabalpur 47.44 297⇑ *e*P **P 03 12 23.3 +3.0**
comp=Z,180nm,1.1s,mb5.9
JBP *e*x x 03 12 42.0
comp=Z,178nm,1.2s
JBP *e*S **S 03 19 18.5 +8.0**
HYB Hyderabad 47.52 289 *i*P **P 03 12 22.0 +1.1**
comp=Z,120nm,1.0s,mb5.9
HYB *e*S **S 03 19 15.0 +3.3**
HYB Hyderabad 47.52 289 *e*P **P 03 12 24.0 +3.1**
HYB *e*S **S 03 19 20.0 +8.3**
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 47.52 289 *e*P **P 03 12 24.0 +3.1**
comp=Z,120nm,1.0s,mb5.9
HYB *e*S **S 03 19 20.0 +8.3**
NGP Nagpur 47.79 294 *e*P **P 03 12 26.8 +3.9**
NGP *e*S **S 03 19 22.0 +6.5**
KOD Kodaikanal 47.82 279 *e*P **P 03 12 22.0 -1.2**
CIT Chita 47.98 350 *e*P **P 03 12 23.9 -0.5**
TRD Trivandrum 48.27 277 *e*P **P 03 12 25.9 -0.7**
TRD AMb AMB 03 12 32.9
comp=Z,119nm,1.0s,mb5.9
ZAK Zakamensk 48.99 341 *e*P **P 03 12 32.1 -0.1**
AKL Akola 49.55 293 *e*P **P 03 12 39.1 +2.6**
AKL *i*S **S 03 19 45.8 +5.5**
LATR Latur 49.56 290 *e*P **P 03 12 34.2 -2.3**
BHPL Bhopal 49.74 296 *e*P **P 03 12 39.5 +1.6**
BHPL AMb AMB 03 12 42.1
comp=Z,110nm,1.0s,mb5.9
BHPL *e*S **S 03 19 43.9 +1.0**
TLY Talaya 50.02 342 *e*P **P 03 12 41.3 +1.3**
TLY *e* 03 13 54.4
TLY pmax pmax
comp=Z,28nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.0
TLY Talaya 50.02 342 *e*P **P 03 12 41.3 +1.3**
comp=Z,28nm,0.9s,mb5.3
TLY *e*PcP PcP 03 13 54.4 -4.8
TLY *e*ScP ScP 03 17 52.3 +2.2
TLY LR LR
comp=Z,1μm,19.0s,MS5.0
IRK Irkutsk 50.33 343 *e*P **P 03 12 31.7 -11**
IRK pmax pmax
comp=Z,139nm,3.2s
AGRA Agra 50.36 301 *e*P **P 03 12 43.2 +0.7**
AGRA AMb AMB 03 12 51.2
comp=Z,156nm,1.4s,mb5.9
MNGI Mangalore 50.57 283 *e*P **P 03 12 43.8 -0.4**
MNGI *i*x x 03 20 04.1
MOY Mondy 50.84 341 *e*P **P 03 12 47.9 +1.7**
MOY pmax pmax
comp=Z,133nm,3.4s
WMQ Urumqi 51.03 325 *e*P **P 03 12 49.0 +1.4**
WMQ AP pP 03 13 04.0 +1.6
WMQ XP sP 03 13 10.0 +1.2
WMQ PCP PcP 03 14 04.0 +1.0
WMQ PPP 03 15 47.0
WMQ PCS PcS 03 18 00.0 -0.6
WMQ S **S 03 20 01.0 +0.2**
WMQ XS sS 03 20 26.0 +0.3
WMQ SCS ScS 03 22 30.0 -3.2
WMQ SS SS 03 23 40.0 +3.7
WMQ AMB AMB
comp=Z,59nm,1.6s,mb5.3
WMQ AMB AMB
comp=Z,937nm,4.3s
WMQ LR LR
comp=N,14μm,17.7s,MS6.1
WMQ LR LR
comp=E,10μm,16.3s,MS6.1
WMQ LR LR
comp=Z,9μm,17.7s,MS5.9
SONA Sohna 51.39 302 *e*P **P 03 12 49.1 -1.3**
SONA AMb AMB 03 12 58.9
comp=Z,124nm,1.8s,mb5.5
NDI New Delhi 51.41 303 *e*P **P 03 12 49.0 -1.5**
NDI *e*P 03 12 49.2
NDI *e*S **S 03 20 08.0 +1.9**
AYAN Aya Nagar 51.42 303 *e*P **P 03 12 49.7 -0.9**
AYAN AMb AMB 03 12 58.7
comp=Z,82nm,1.9s,mb5.3
KLP Kalpa 51.51 307 *e*P **P 03 12 51.4 +0.1**
KLP AMb AMB 03 13 01.0
comp=Z,184nm,1.3s,mb5.8
TAU Tasmania Unive 51.57 160 *e*P **P 03 12 55.2 +3.5**
comp=Z,64nm,1.0s,mb5.5
TAU LR LR
comp=Z,572nm,19.0s,MS4.6
KAD Karad 51.63 288 *e*P **P 03 12 52.3 +0.2**
KAD AMb AMB 03 13 02.9
comp=Z,185nm,1.6s,mb5.8
KAD *e*S **S 03 20 11.4 +2.2**
GOA Goa 51.76 286 *e*P **P 03 12 52.0 -1.1**
CLNS Chul'man 51.78 360 *e*P **P 03 12 51.6 -1.6**
CLNS *e**PP pP 03 12 57.7 -10
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=Z,67nm,1.1s,mb5.5
CLNS pmax pmax
comp=E,18nm,1.0s
KUDL Kundal 51.86 302 *e*P **P 03 12 52.1 -1.7**
KUDL AMb AMB 03 13 11.7
comp=Z,130nm,1.1s,mb5.8
POO Poona 52.12 290⇑ *i*P **P 03 12 54.0 -1.8**
comp=Z,140nm,1.0s,mb5.8
SKR Severo-Kuril's 52.34 24 P **P 03 12 52.0 -5.4**
SKR *e* 03 14 56.0
SKR *e*S **S 03 20 20.0 +1.1**
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.0
SKR pmax pmax
comp=N,2μm,8.0s
SKR pmax pmax
comp=E,3μm,8.0s
SKR pmax pmax
comp=Z,4μm,8.0s
SKR smax
comp=N,4μm,12.0s
SKR smax
comp=E,5μm,12.0s
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.4
KHET Khetri 52.41 302 *e*P **P 03 12 54.7 -3.3**
KHET AMb AMB 03 13 04.8
comp=Z,135nm,2.0s,mb5.5
AJM Ajmer 52.98 300 *e*P **P 03 12 59.2 -3.0**
AJM AMb AMB 03 13 11.4
comp=Z,103nm,2.0s,mb5.4
BOD Bodaibo 53.52 352 *e*P **P 03 13 04.9 -1.2**
BOD pmax pmax
comp=Z,50nm,2.3s,mb5.0
DLH Dalhousie 53.68 307 *e*P **P 03 13 05.0 -2.3**
THN Thein Dam 53.84 307 *e*P **P 03 13 08.1 -0.4**
DGAR Diego Garcia 54.28 257 PFAKE 03 13 20.0 +8.3
DGAR LR LR
comp=Z,1μm,21.0s,MS5.0
PET Petropavlovsk 55.15 24*c* *i*P **P 03 13 18.0 +0.1**
PET *e* 03 15 20.9
PET *i*S **S 03 21 03.1 +6.3**
PET pmax pmax
comp=Z,95nm,1.6s,mb5.6
PET pmax pmax
comp=N,700nm,10.9s
PET pmax pmax
comp=Z,2μm,11.4s
PET pmax pmax
comp=E,700nm,13.1s
PET pmax pmax
comp=Z,3μm,9.6s
PET pmax pmax
comp=Z,100nm,2.1s,mb5.5
PET smax
comp=E,2μm,9.6s
PET smax
comp=N,2μm,11.1s
PET smax
comp=E,1μm,10.9s
PET smax
comp=N,2μm,10.2s
PET MLR MLR
comp=Z,3μm,18.0s,MS5.4
PET MLR MLR
comp=Z,3μm,18.0s
PET Petropavlovsk 55.15 24⇑ *e*P **P 03 13 20.1 +2.2**
PET LR LR
comp=Z,2μm,20.0s,MS5.3
FUNA Funafuti 55.23 104 PFAKE 03 13 30.0 +11
FUNA LR LR
comp=Z,13μm,20.0s,MS6.0
MK31 Makanchi Array 55.86 325 P **P 03 13 22.3 -0.7**
MK31 Makanchi Array 55.86 325 *i*P **P 03 13 21.8 -1.2**
MKAR Makanchi Array 55.86 325 P **P 03 13 21.9 -1.1**
comp=Z,30nm,0.5s,mb5.6,baz=122,slow=8.3,SNR=129
MKAR S **S 03 21 10.4 +4.1**
comp=Z,3.2nm,1.1s,baz=120,slow=8.5,SNR=2.8
MKAR LR LR 03 38 28.1
comp=Z,12μm,20.2s,MS6.0,baz=131,slow=37
MKAR Makanchi Array 55.86 325 P **P 03 13 22.0 -1.0**
MKAR S **S 03 21 10.4 +4.1**
KSH Kashi 56.31 315 P **P 03 13 29.8 +3.6**
KSH *e*AP pP 03 13 43.9 +2.7
KSH *e*PCP PcP 03 14 24.0 +0.9
KSH *e*PP PP 03 15 37.1 +5.1
KSH *e*SCP ScP 03 18 17.3 -0.2
KSH *e*PCS PcS 03 18 26.0 +2.4
KSH *e*S **S 03 21 14.3 +2.0**
KSH *e*PS 03 21 22.3
KSH *e*SCS ScS 03 23 08.6 -1.9
KSH *e*SS SS 03 25 01.0 +1.3
KSH LR LR
comp=N,20μm,16.9s
KSH LR LR
comp=E,21μm,10.5s
KSH LR LR
comp=Z,9μm,26.6s
YAK Yakutsk 57.07 2*d* *i*P **P 03 13 31.3 -0.4**
YAK *e**PP pP 03 13 41.4 -5.3
YAK *e* 03 14 28.2
YAK *e* 03 15 39.3
YAK *e*S **S 03 21 23.2 +0.8**
YAK *i* 03 21 37.3
YAK *i* 03 23 15.1
YAK *e*SS SS 03 25 08.8 -2.9
YAK pmax pmax
comp=Z,243nm,1.3s,mb6.1
YAK pmax pmax
comp=N,109nm,1.2s
YAK pmax pmax
comp=E,49nm,1.2s
YAK pmax pmax
comp=Z,610nm,5.4s
YAK pmax pmax
comp=N,671nm,6.1s
YAK pmax pmax
comp=E,226nm,4.8s
YAK smax
comp=E,2μm,5.6s
YAK smax
comp=Z,718nm,5.9s
YAK smax
comp=N,1μm,6.4s
YAK MLR MLR
comp=Z,4μm,19.0s,MS5.6
YAK MLR MLR
comp=N,3μm,18.0s,MS5.7
YAK MLR MLR
comp=E,3μm,17.0s,MS5.7
YAK Yakutsk 57.07 2 *e*P **P 03 13 31.4 -0.2**
YAK LR LR
comp=Z,3μm,20.0s,MS5.4
ULHL Ulahol 57.29 318 P **P 03 13 34.9 +1.7**
SNR=9.2
AAA Alma-Ata 57.30 319 *i*P **P 03 13 35.9 +2.7**
AAA *i*S **S 03 21 29.4 +4.1**
AAA pmax pmax
comp=Z,2μm,8.2s
AAA smax
comp=E,2μm,9.4s
AAA MLR MLR
comp=Z,6μm,19.8s,MS5.7
MA2 Magadan 57.88 15 *e*P **P 03 13 37.7 +0.4**
MA2 *e* 03 15 45.6
MA2 *e*PPP 03 17 13.4
MA2 *e*S **S 03 21 25.4 -7.5**
MA2 *e*PS 03 21 41.5
MA2 pmax pmax
comp=N,100nm,1.2s
MA2 pmax pmax
comp=E,50nm,1.2s
MA2 pmax pmax
comp=Z,200nm,1.2s,mb6.0
MA2 MLR MLR
comp=Z,5μm,20.0s,MS5.6
MA2 Magadan 57.88 15 *e*P **P 03 13 37.8 +0.4**
comp=Z,148nm,1.1s,mb5.9
MA2 LR LR
comp=Z,2μm,20.0s,MS5.3
KZA Kyzart 57.88 318 P **P 03 13 39.8 +2.5**
SNR=6.5
TKM2 Tokmak 2 58.02 319 P **P 03 13 39.7 +1.4**
SNR=17
KBK Karagaybulak 58.34 318 P **P 03 13 42.4 +1.8**
SNR=6.6
UCH Uchtor 58.44 317 P **P 03 13 41.9 +0.6**
SNR=50
AAK Ala-Archa 58.63 318 P **P 03 13 42.2 -0.4**
SNR=11
AAK Ala-Archa 58.63 318 *i*P **P 03 13 41.2 -1.4**
AAK pmax pmax
comp=Z,84nm,2.1s,mb5.4
AAK MLR MLR
comp=Z,8μm,19.0s,MS5.9
AAK Ala-Archa 58.63 318 *e*P **P 03 13 41.2 -1.3**
AAK LR LR
comp=Z,2μm,22.0s,MS5.3
FRU Bishkek 58.63 318 *i*P **P 03 13 44.0 +1.4**
FRU *i* 03 14 36.0
FRU *e* 03 21 48.0
FRU pmax pmax
comp=Z,130nm,2.6s,mb5.5
FRU MLR MLR
comp=E,8μm,22.0s
FRU MLR MLR
comp=Z,8μm,22.0s,MS5.8
MIDW Midway 58.89 60 PFAKE 03 14 00.0 +16
MIDW LR LR
comp=Z,3μm,19.0s,MS5.5
USP Ospenovka 58.89 319 P **P 03 13 45.5 +1.1**
SNR=30
AML Almayashu 58.96 317 P **P 03 13 45.1 +0.3**
SNR=33
EKS2 Erkin-Say 59.12 318 P **P 03 13 47.7 +1.7**
SNR=16
KURK Kurchatov 60.06 328 P **P 03 13 51.9 -0.6**
comp=Z,377nm,0.5s,SNR=45
NVS Novosibirsk 60.24 333 *i*P **P 03 13 51.5 -2.2**
NVS *e*S **S 03 21 58.2 -5.4**
NVS *e*PS 03 22 29.6
NVS *i* 03 23 31.4
NVS pmax pmax
comp=Z,147nm,2.6s,mb5.5
NVS pmax pmax
comp=N,67nm,1.8s
NVS pmax pmax
comp=E,76nm,2.7s
NVS smax
comp=N,49nm,2.1s
NVS smax
comp=E,36nm,2.2s
SEY Seymchan 61.18 14⇓ *i*P **P 03 14 00.9 +0.9**
KK31 Karatay Array 61.50 317 *i*P **P 03 14 01.7 -0.5**
KK31 pmax pmax
comp=Z,45nm,1.0s,mb5.5
KKAR Karatay Array 61.50 317 P **P 03 14 01.7 -0.5**
KKAR pmax pmax
comp=Z,48nm,1.1s,mb5.5
SMY Shemya 62.10 31 PFAKE 03 14 20.0 +14
SMY LR LR
comp=Z,3μm,19.0s,MS5.5
RAO Raoul Island 64.05 126 PFAKE 03 14 30.0 +11
RAO LR LR
comp=Z,3μm,22.0s,MS5.5
SNZO South Karori 64.28 141 *e*P **P 03 14 22.3 +1.6**
SNZO LR LR
comp=Z,3μm,21.0s,MS5.4
AFI Afiamalu 65.02 108 PFAKE 03 14 40.0 +15
AFI LR LR
comp=Z,3μm,20.0s,MS5.5
VOSK Vostochnaya 65.18 327 P **P 03 14 24.7 -1.9**
BVA0 Borovoye Array 65.64 327 *i*P **P 03 14 27.6 -1.9**
BVA0 pmax pmax
comp=Z,229nm,2.9s,mb5.7
BVAR Borovoye Array 65.64 327 P **P 03 14 27.8 -1.7**
comp=Z,29nm,1.0s,mb5.3,baz=116,slow=6.8,SNR=48
BVAR S S 03 23 08.4 -2.6
comp=Z,1.0nm,0.5s,baz=225,slow=44,SNR=2.3
BVAR LR LR 03 44 32.5
comp=Z,4μm,20.4s,MS5.7,baz=267,slow=37
BVAR Borovoye Array 65.64 327 P **P 03 14 27.8 -1.7**
BVAR S S 03 23 08.4 -2.6
BRVK Borovoye 65.71 327 *e*P **P 03 14 28.0 -2.0**
comp=Z,94nm,1.1s,mb5.7
BRVK LR LR
comp=Z,2μm,22.0s,MS5.2
CHKZ Chkalovo 65.81 328 P **P 03 14 29.3 -1.3**
CHKZ pmax pmax
comp=Z,32nm,1.6s,mb5.1
CHKZ Chkalovo 65.81 328 *i*P **P 03 14 29.3 -1.3**
ZRNK Zerenda 66.36 327 P **P 03 14 31.3 -2.8**
ZRNK pmax pmax
comp=Z,178nm,1.6s,mb5.8
TIXI Tiksi 66.68 1 *e*P **P 03 14 28.8 -7.4**
TIXI *e* 03 16 57.4
TIXI *e*S S 03 23 18.6 -5.1
TIXI pmax pmax
comp=Z,68nm,1.3s,mb5.5
TIXI MLR MLR
comp=Z,6μm,17.0s,MS5.9
TIXI Tiksi 66.68 1 PFAKE 03 14 50.0 +14
TIXI LR LR
comp=Z,8μm,19.0s,MS5.9
WSAR Wadi Sarin 66.79 293 P **P 03 14 37.8 +0.9**
comp=Z,19nm,1.2s,mb5.0,baz=99,slow=10,SNR=6.0
WSAR LR LR 03 44 27.7
comp=Z,3μm,21.1s,MS5.5,baz=205,slow=37
BILL Bilibino 68.74 15⇓ *i*P **P 03 14 49.6 +0.4**
BILL pmax pmax
comp=Z,58nm,1.7s,mb5.2
AB31 Akbulak array 70.43 321 P **P 03 14 57.5 -2.1**
AB31 pmax pmax
comp=Z,242nm,1.6s,mb5.9
AB31 Akbulak array 70.43 321⇑ *e*P **P 03 14 57.5 -2.1**
MSEY Mahe Island 70.54 263 *e*P **P 03 15 02.7 +2.5**
MSEY LR LR
comp=Z,885nm,20.0s,MS5.0
CASY Casey 71.84 186 *e*P **P 03 15 07.7 -0.4**
CASY LR LR
comp=Z,2μm,20.0s,MS5.3
AKTK Aktyubinsk 71.94 322 P **P 03 15 07.6 -1.1**
AKTK LR LR 03 51 01.0
AKTO Aktyubinsk 71.94 322 P **P 03 15 07.6 -1.1**
comp=Z,22nm,1.0s,mb5.0,baz=97,slow=8.5,SNR=34
AKTO LR LR 03 51 01.0
comp=Z,7μm,19.6s,MS5.9,baz=234,slow=40
AKTO Aktyubinsk 71.94 322 P **P 03 15 06.9 -1.8**
AKTO pmax pmax
comp=Z,152nm,2.4s,mb5.5
DRV Dumont d'Urvil 72.18 174 P **P 03 15 10.0 -0.1**
DRV S S 03 24 33.0 +4.7

DRV SS SS 03 29 10.0 +3.4
UNV Unalaska Valle 73.18 35 *e*P **P 03 15 16.8 +0.7**
UNV LR LR
comp=Z,11µm,22.0s,MS6.1
ARU Arti 73.26 328⇑ *i*P **P 03 15 14.2 -2.3**
ARU *e* pP 03 15 28.9 -3.1
ARU *e* 03 17 57.4
ARU *e*PPP 03 19 40.2
ARU *e*S S 03 24 38.9 -1.8
ARU *e* 03 25 15.3
ARU *e*SS SS 03 29 22.9 -0.2
ARU pmax pmax
comp=Z,34nm,0.8s,mb5.3
ARU MLR MLR
comp=E,3µm,19.0s,MS5.7
ARU MLR MLR
comp=Z,4µm,19.0s,MS5.7
ARU MLR MLR
comp=N,800nm,15.0s,MS5.7
ARU Arti 73.26 328 *e*P **P 03 15 14.4 -2.2**
ARU LR LR
comp=Z,1µm,20.0s,MS5.2
AKUT Akutan 73.67 35 *e*P **P 03 15 19.1 +0.2**
comp=Z,265nm,1.1s,mb6.1
ORR Orenburg 74.22 322 P **P 03 15 21.4 -0.8**
ORR pmax pmax
comp=Z,180nm,1.8s,mb5.7
ORR MLR MLR
comp=Z,5µm,19.0s,MS5.8
MIR Mirnyy 75.02 193 *e*P **P 03 15 28.0 +1.2**
MIR *e* 03 18 16.0
MIR pmax pmax
comp=Z,2µm,8.0s
KIP Kipapa 75.69 69 PFAKE 03 15 40.0 +9.4
KIP LR LR
comp=Z,5µm,21.0s,MS5.8
HON Honolulu 75.70 69 *e*P **P 03 15 30.4 -0.3**
TNA Tin City 76.00 23 PFAKE 03 15 40.0 +7.6
TNA LR LR
comp=Z,744nm,19.0s,MS5.0
SDPT Sand Point 76.93 34 *e*P **P 03 15 37.2 -0.4**
RAR Rarotonga 77.67 113 PFAKE 03 15 50.0 +8.2
RAR LR LR
comp=Z,1.0nm,22.0s
MAK Makhachkala 77.85 313 *e*P **P 03 15 41.5 -1.3**
MAK *e*S S 03 25 28.9 -2.4
MAK *e* 03 26 09.7
MAK pmax pmax
comp=Z,191nm,1.4s,mb5.8
POHA Pohakuloa 78.03 71 PFAKE 03 16 00.0 +16
POHA LR LR
comp=Z,4µm,22.0s,MS5.7
CHGN Chignik 78.24 34 *e*P **P 03 15 45.2 +0.2**
GNI Garni 79.75 310 *e*P **P 03 15 54.9 +1.7**
GNI Garni 79.75 310 P **P 03 15 55.3 +2.0**
comp=Z,2.8nm,0.5s,mb4.5,baz=162,slow=8.2,SNR=13
GNI LR LR 03 57 55.1
comp=Z,2µm,21.2s,MS5.3,baz=204,slow=41
GNI Garni 79.75 310⇑ *i*P **P 03 15 54.2 +1.0**
GNI pmax pmax
comp=Z,69nm,1.7s
GNI Garni 79.75 310 *e*P **P 03 15 55.7 +2.5**
comp=Z,256nm,1.6s,mb5.9
GNI LR LR
comp=Z,2µm,21.0s,MS5.3
MTA Mtatsminda 79.78 311 P **P 03 15 54.1 +0.8**
SEMD Semdili 79.83 307 *e*P **P 03 15 51.6 -2.1**
BHD Baghdad 79.86 303 *i* x x 03 15 50.0
BHD Baghdad 79.86 303 *i* x x 03 26 38.0
DHBB Dhamar BB 80.15 284⇓ *e*P **P 03 15 57.1 +1.8**
CLDR Caldiran 80.35 309 *e*P **P 03 15 56.8 +0.3**
CLDR Caldiran 80.35 309 *e*P **P 03 15 56.8 +0.3**
SVW2 Sparrevohn 80.38 29 *e*P **P 03 15 58.3 +1.7**
HKR Hakkari 80.46 307 *e*P **P 03 15 57.1 0.0**
ZEI Tsey 80.48 312 *e*P **P 03 15 56.4 -0.8**
ZEI *e**PP pP 03 16 10.5 -2.4
ZEI pmax pmax
comp=Z,51nm,1.2s,mb5.3
OPO Ambohidratompo 80.49 250 P **P 03 15 59.5 +2.3**
comp=Z,8.2nm,0.9s,mb4.7,baz=43,slow=6.1,SNR=4.6
CUKT Cukurca 80.56 307 *e*P **P 03 15 56.5 -1.0**
VANB Van 80.75 308 *e*P **P 03 15 54.9 -3.7**
ONI Oni 80.81 312 P **P 03 16 00.8 +1.9**
MSL Mosul 80.96 306 *e*x x 03 16 01.0
MSL *e*x x 03 16 24.5
MSL *e*x x 03 16 36.5
MSL *e*x x 03 26 02.5
MSL *e*x x 03 26 42.5
KARS Kars 81.02 310 *e*P **P 03 16 00.8 +0.7**
PECR Pechory 81.14 326 *i* P **P 03 15 59.3 -1.4**
PECR *e* 03 16 08.0
PECR *e*S S 03 26 02.4 -3.8
PECR *e* 03 26 50.0
PECR pmax pmax
comp=Z,180nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,500nm,5.0s
PECR smax
comp=N,900nm,6.0s
PECR smax
comp=E,600nm,6.0s
PECR MLR MLR
comp=Z,3µm,19.0s,MS5.7
PECR MLR MLR
comp=N,900nm,17.0s,MS5.4
PECR MLR MLR
comp=E,1µm,20.0s,MS5.4
KIV Kislovodsk 81.40 314⇑ *i*P **P 03 16 02.7 +0.6**
KIV pmax pmax
comp=Z,38nm,1.3s,mb5.2
KIV Kislovodsk 81.40 314 *e*P **P 03 16 00.9 -1.2**
KIV LR LR
comp=Z,606nm,22.0s,MS4.9
SIRT Sirnak 81.49 307 *e*P **P 03 15 56.2 -6.3**
KDAK Kodiak Island 81.57 32 P **P 03 16 03.2 +0.2**
comp=Z,64nm,0.9s,mb5.5,baz=170,slow=11,SNR=15
KDAK Kodiak Island 81.57 32 *e*P **P 03 16 04.3 +1.4**
comp=Z,179nm,1.3s,mb5.8
KDAK LR LR
comp=Z,547nm,20.0s,MS4.9
ATD Arta Tunnel 81.80 281 LR LR 03 50 49.4
comp=Z,1µm,20.3s,MS5.2,baz=85,slow=35
IMA2 Indian Mountai 81.82 24 *e*P **P 03 16 04.3 0.0**
BCA Borcka 82.15 311 *e*P **P 03 16 01.8 -4.1**
VRHR Novokhopersk 82.32 321 *e*P **P 03 16 06.9 0.0**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRHR MLR MLR
comp=Z,1µm,15.0s,MS5.4
VRHR MLR MLR
comp=N,610nm,12.0s
VRHR MLR MLR
comp=E,1µm,19.0s
EZM Erzurum 82.34 309 *e*P **P 03 16 06.0 -1.0**
SLKM Skilak Lake 82.95 30 *e*P **P 03 16 10.4 +0.2**
BINT Bingol 83.02 308 *e*P **P 03 16 11.4 +0.9**
PMR Palmer 83.52 29 *e*P **P 03 16 13.1 0.0**
PMR pmax pmax
comp=Z,130nm,1.1s,mb6.0
PMR Palmer 83.52 29 PFAKE 03 16 20.0 +6.9
PMR LR LR
comp=Z,1µm,21.0s,MS5.3
SOC Sochi 83.55 313 *e*P **P 03 16 13.4 +0.1**
SOC *e**PP pP 03 16 23.1 -6.0
SOC *e*S S 03 26 28.8 -2.1
SOC pmax pmax
comp=Z,45nm,1.5s,mb5.4
SOC pmax pmax
comp=Z,686nm,5.2s
MCK McKinley 83.67 27 *e*P **P 03 16 13.8 0.0**
comp=Z,68nm,1.0s,mb5.7
MCK LR LR
comp=Z,957nm,22.0s,MS5.1
VORD Divnogorie 83.79 321 *e*P **P 03 16 12.5 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,8.0nm,0.6s
VOR Voronezh 83.85 321 P **P 03 16 13.0 -1.8**
VOR S S 03 26 30.0 -3.8
VOR pmax pmax
comp=Z,170nm,2.0s,mb5.8
VOR pmax pmax
comp=E,100nm,1.5s
VOR smax
comp=E,130nm,2.0s
VRSR Storozhevoye 83.86 321 *e*P **P 03 16 14.3 -0.5**
VRSR pmax pmax
comp=Z,30nm,1.3s,mb5.3
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,1.1s
COLA College 84.17 25⇑ *i*P **P 03 16 16.4 0.0**
COLA College 84.17 25⇑ *i*P **P 03 16 16.5 +0.1**
COLA LR LR
comp=Z,954nm,20.0s,MS5.2
MAW Mawson 84.42 200 *e*S S 03 26 47.3 +7.7
MAW Mawson 84.42 200 P **P 03 16 18.0 +0.3**
comp=Z,6.5nm,0.7s,mb4.9,baz=330,slow=6.9,SNR=10
MAW LR LR 03 48 59.5
comp=Z,2µm,21.0s,MS5.4,baz=58,slow=32
MAW Mawson 84.42 200 *e*P **P 03 16 17.2 -0.5**
MAW *e*S S 03 26 47.3 +7.7
MAW pmax pmax
comp=Z,10.0nm,0.7s
MAW MLR MLR
comp=Z,2µm,20.0s
MAW Mawson 84.42 200 *e*P **P 03 16 17.2 -0.5**
comp=Z,9.7nm,0.7s,mb5.0
MAW *e*S S 03 26 47.3 +7.7
MAW LR LR
comp=Z,2µm,20.0s,MS5.5
TMCR Tamitsa 84.48 334 *e*P **P 03 16 17.8 -0.2**
MOS Moscow 84.75 325 *e*P **P 03 16 15.5 -3.8**
MOS *e*S S 03 26 33.8 -9.0
MOS pmax pmax
comp=Z,238nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,800nm,2.6s,mb6.4
MOS MLR MLR
comp=E,2µm,20.8s
MOS MLR MLR
comp=Z,6µm,20.8s,MS5.9
VNDA Vanda 84.76 173 P **P 03 16 18.6 -0.8**
comp=Z,6.8nm,0.9s,mb4.8,baz=325,slow=5.3,SNR=24
VNDA Vanda 84.76 173 *e*P **P 03 16 19.3 -0.1**
VNDA LR LR
comp=Z,2µm,19.0s,MS5.4
EYAK Cordova Ski Ar 85.16 30 *e*P **P 03 16 22.5 +1.1**
ANN Anapa 85.17 314 *c i*P **P 03 16 18.8 -2.6**
ANN *i**PP pP 03 16 33.4 -3.9
ANN *e* 03 19 35.9
ANN *e*PPP 03 21 26.4
ANN *e*S S 03 26 37.9 -9.1
ANN *e*SS SS 03 32 14.6 -7.0
ANN pmax pmax
comp=Z,149nm,1.1s,mb6.0
OBN Obninsk 85.36 325 *k e*P **P 03 16 20.6 -1.8**
OBN *e* pP 03 16 36.0 -2.3
OBN *i* 03 26 45.5
OBN *e*PS 03 28 14.9
OBN SS SS 03 32 23.0 -1.6
OBN pmax pmax
comp=Z,106nm,1.7s,mb5.7
OBN MLR MLR
comp=Z,3µm,17.0s,MS5.8
OBN Obninsk 85.36 325 *e*P **P 03 16 21.0 -1.4**
OBN LR LR
comp=Z,1µm,21.0s,MS5.2
SBA Scott Base 85.68 172 *e*P **P 03 16 25.1 +1.1**
SBA pmax pmax
comp=Z,34nm,1.1s,mb5.5
SBA Scott Base 85.68 172 *e*P **P 03 16 25.1 +1.2**
comp=Z,34nm,1.1s,mb5.5
SBA LR LR
comp=Z,833nm,19.0s,MS5.2
LVZ Lovozero 85.78 338 P **P 03 16 28.8 +4.3**
LVZ *e*S S 03 26 52.7 -0.3
LVZ smax
comp=N,878nm,6.8s
LVZ smax
comp=E,968nm,7.5s
MENT Mentasta 86.03 27 *e*P **P 03 16 26.7 +1.0**
ASF Jabal al Asfar 86.19 302 P **P 03 16 27.4 +0.9**
comp=E,19nm,1.0s,mb5.3,baz=192,slow=0.0,SNR=17
ASF LR LR 03 58 08.1
comp=E,1µm,20.6s,MS5.2,baz=310,slow=38
WNDE Wendo Genet 86.25 277 *e*P **P 03 16 30.6 +3.7**
APA Apatity 86.28 337⇑ *e*P **P 03 16 26.7 -0.2**
APA *i* pP 03 16 40.7 -2.1
APA *e*S S 03 26 52.0 -5.8
APA *e*SS SS 03 32 42.0 +4.1
APA pmax pmax
comp=Z,30nm,1.1s,mb5.4
PPT Papeete 86.69 108 *e*LQ 03 40 34.9
comp=Z,5µm,34.5s
PPT Papeete 86.69 108 *e*PP PP 03 19 55.8 +4.2
comp=Z,332nm,22.8s
PPT Papeete 86.69 108 *e*SKSac SKSac 03 26 58.6 +7.6
PPT *e*SS SS 03 32 56.1 +12
comp=Z,1µm,26.2s
PPT *e*LR LR 03 44 19.3
comp=Z,6µm,26.2s
PPT Papeete 86.69 108 LR LR 03 46 26.5
comp=Z,2µm,21.4s,MS5.5,baz=274,slow=30
EGAK Eagle 87.04 25 *e*P **P 03 16 30.8 +0.1**
comp=Z,32nm,1.1s,mb5.5
EGAK LR LR
comp=Z,1µm,21.0s,MS5.3
BHL Bhannes 87.12 304 *e*P **P 03 16 32.7 +1.6**
TBI Tubuai 87.43 114 *e*PP PP 03 19 55.8 -1.8
comp=Z,312nm,23.0s
TBI Tubuai 87.43 114 *e*SKSac SKSac 03 27 03.2 +7.7
comp=Z,2µm,27.0s
TBI *e*SS SS 03 33 03.4 +8.6
comp=Z,1µm,26.8s
TBI *e*LR LR 03 43 19.3
comp=Z,6µm,30.2s
TBI Tubuai 87.43 114 *e*PP PP 03 19 55.8 -1.8
TBI *e*SKSac SKSac 03 27 03.2 +7.7
TBI *e*SS SS 03 33 03.4 +8.6
SIM Simferopol' 87.51 315 *e*P **P 03 16 33.1 +0.2**
SIM *e* 03 20 02.0
SIM *e*S S 03 27 10.0 +0.2
SIM pmax pmax
comp=Z,350nm,11.0s
SIM MLR MLR
comp=Z,2µm,20.0s,MS5.6
JOF Joensuu 87.55 333 *e*p **P 03 16 29.6 -3.5**
comp=Z,12nm,0.5s,mb5.4
JOF Joensuu 87.55 333 *e*P **P 03 16 29.6 -3.5**
JOF pmax pmax
comp=Z,12nm,0.5s,mb5.4
DAWY Dawson 87.87 26 *e*P **P 03 16 35.3 +0.7**
BR131 Keskin Array S 88.29 310 *e*P **P 03 16 37.0 +0.4**
BR131 LR LR
comp=Z,1µm,21.0s,MS5.3
BRTR Keskin Array B 88.29 310 P **P 03 16 36.1 -0.5**
comp=Z,9.3nm,0.9s,mb5.0,baz=124,slow=3.3,SNR=18
BRTR LR LR 04 03 35.2
comp=Z,1µm,20.9s,MS5.4,baz=342,slow=41
KMBO Kilima Mbogo 88.30 269 P **P 03 16 38.4 +1.7**
comp=Z,15nm,1.1s,mb5.1,baz=58,slow=5.2,SNR=16
KMBO Kilima Mbogo 88.30 269 *e*P **P 03 16 37.2 +0.5**
comp=Z,38nm,1.3s,mb5.5
KMBO LR LR
comp=Z,2µm,19.0s,MS5.5
KEV Kevo 88.34 340 *e*P **P 03 16 35.1 -1.8**
comp=Z,4.6nm,0.9s,mb4.7
KEV LR LR
comp=Z,2µm,19.0s,MS5.5
PUL Pulkovo 88.38 330 P **P 03 16 33.8 -3.3**
PUL S S 03 27 07.9 -10
SAFT Safranbolu 88.87 311 *e*P **P 03 16 33.9 -5.5**
ARCES ARCESS Array B 88.90 340 P **P 03 16 36.8 -2.7**
comp=Z,21nm,1.0s,mb5.4,baz=72,slow=4.0,SNR=14
ARCES LR LR 04 03 39.1
comp=Z,3µm,18.9s,MS5.7,baz=198,slow=40
ARE0 ARCESS Array S 88.90 340 *e*P **P 03 16 38.5 -1.0**
ANTO Ankara 88.92 310⇓ *i*P **P 03 16 39.3 -0.3**
ANTO Ankara 88.92 310⇓ P **P 03 16 39.4 -0.2**
ANTO Ankara 88.92 310 *e*P **P 03 16 38.6 -1.1**
comp=Z,9.2nm,0.9s,mb5.1
ANTO LR LR
comp=Z,1µm,19.0s,MS5.3
INK Inuvik 89.53 21 P **P 03 16 41.4 -1.1**
comp=Z,17nm,1.2s,mb5.3,baz=243,slow=3.8,SNR=5.8
INK Inuvik 89.53 21 *e*P **P 03 16 42.5 +0.1**
comp=Z,2µm,1.3s
KBS Kingsbay 89.62 350 *e*P **P 03 16 38.5 -4.3**
KBS AMS AMS 04 04 11.9
comp=Z,2µm,18.3s,MS5.6
KBS Kingsbay 89.62 350 PFAKE 03 16 50.0 +7.1
KBS LR LR
comp=Z,4µm,19.0s,MS5.8
KAF Kangasniemi 89.96 332 *e*p **P 03 16 41.3 -3.2**
comp=Z,23nm,1.0s,mb5.5,baz=77,slow=4.3
KAF Kangasniemi 89.96 332 *e*P **P 03 16 41.3 -3.2**
KAF pmax pmax
comp=Z,23nm,1.0s,mb5.5
AKASG Malin Array Be 90.17 321 P **P 03 16 43.8 -1.7**
comp=Z,3.0nm,0.7s,mb4.8,baz=69,slow=4.5,SNR=7.6
AKASG LR LR 04 05 03.3
comp=Z,2µm,18.2s,MS5.6,baz=80,slow=41
AKASG Malin Array Be 90.17 321 *i* P **P 03 16 44.0 -1.5**
AKASG pmax pmax
comp=Z,30nm,0.7s
FINES FINESS Array B 90.19 332 P **P 03 16 43.6 -2.0**
comp=Z,9.5nm,0.9s,mb5.1,baz=67,slow=5.0,SNR=13
FINES FINESS Array B 90.19 332 *i* P **P 03 16 43.2 -2.4**
FINES pmax pmax
comp=Z,10.0nm,0.9s
SKAG Skagway 90.47 30 *e*P **P 03 16 47.9 +1.0**
comp=Z,61nm,1.4s,mb5.7
SIT Sitka 90.91 33 PFAKE 03 17 00.0 +11
SIT LR LR
comp=Z,3µm,21.0s,MS5.7
ISP Isparta 90.92 308⇓ *i*P **P 03 16 47.5 -1.4**
KIS Kishinev 90.96 317 *e*P **P 03 16 56.0 +6.9**
KIS Kishinev 90.96 317 *e*PP PP 03 20 32.0 +6.2
KIS *e*SKS 03 27 16.0
KIS *e*S S 03 27 42.0 0.0
KIS Kishinev 90.96 317 *e*PS PS 03 28 54.0 -2.8
TRO Tromso 91.11 340 *e*P **P 03 16 49.8 0.0**
TRO *i* 03 21 45.0
TRO *e*S S 03 27 42.7 -0.7
TRO AMS AMS 04 04 00.0
comp=Z,2µm,18.7s,MS5.6
ADVT Abdulvahap 91.19 311 *e*P **P 03 16 44.2 -6.0**
YLV Yalova 91.45 311 *e*P **P 03 16 49.1 -2.3**
ELL Elmali 91.53 307 *e*P **P 03 16 50.0 -1.7**
GEMT Gemlik 91.60 311 *e*P **P 03 16 49.1 -3.0**
TIRR Tirgusor 91.61 315⇓ *i*P **P 03 16 51.0 -1.1**
TIRR Tirgusor 91.61 315⇓ P **P 03 16 51.0 -1.1**
VRI Vrincioaia 92.56 316⇑ *i*P **P 03 16 57.3 +0.8**
VRI Vrincioaia 92.56 316⇑ P **P 03 16 57.4 +0.8**
PLOR Plostina 92.62 316⇓ *i*P **P 03 16 58.4 +1.6**
WRAK Wrangell Islan 92.65 33 PFAKE 03 17 10.0 +13
WRAK LR LR
comp=Z,3µm,19.0s,MS5.8
MLR Muntele Rosu 93.17 316 P **P 03 16 59.0 -0.4**
comp=Z,3.8nm,0.7s,mb5.0,baz=135,slow=7.1,SNR=4.4
MLR LR LR 04 05 07.7
comp=Z,3µm,21.6s,MS5.7,baz=321,slow=40
BURAR Bucovina Array 93.27 318⇓ *i*P **P 03 16 59.2 -0.6**
BURAR Bucovina Array 93.27 318⇓ P **P 03 16 59.2 -0.6**
DLBC Dease Lake 93.38 31 *e*P **P 03 17 01.8 +1.4**
QSPA South Pole Qui 94.82 180 *e*P **P 03 17 07.2 +0.3**
QSPA LR LR
comp=Z,1µm,20.0s,MS5.5
KOLS Kolonicke sedl 94.92 320 *e*P **P 03 17 07.1 -0.3**
UZH Uzhgorod 94.98 320 *e*P **P 03 17 06.0 -1.7**
UZH *e*S S 03 28 11.0 -6.6
UZH *i* PS PS 03 29 32.0 -9.2
UZH pmax pmax
comp=Z,45nm,1.2s,mb5.8
TAOE Nuku Hiva Isla 95.08 98 *e*LR LR 03 47 58.7
comp=Z,16µm,26.4s
DRGR 95.11 318⇓ *i*P **P 03 17 07.9 -0.4**
DRGR 95.11 318⇓ P **P 03 17 08.0 -0.3**
GZR Gura Zlata 95.37 316⇓ *i*P **P 03 17 08.2 -1.3**
GZR Gura Zlata 95.37 316⇓ P **P 03 17 08.2 -1.2**
NSS Namsos 95.45 337 AMS AMS 04 05 30.2
comp=Z,3µm,18.2s,MS5.8
CRVS Cervenica-Dubn 95.45 320 *e*P **P 03 17 08.3 -1.5**
STHS Stebnicka Huta 95.47 321 *e*P **P 03 17 11.5 +1.6**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
STHS Stebnicka Huta 95.47 321 *e*P **P 03 17 11.5 +1.6**
comp=Z,4.9nm,0.9s,mb4.9
VTS Vitosha 95.66 314⇓ *i*P **P 03 17 10.4 -0.4**
VTS Vitosha 95.66 314⇓ P **P 03 17 10.4 -0.3**
DAG Danmarks Havn 95.91 352⇑ *i*P **P 03 17 09.9 -2.0**
comp=Z,20nm,1.2s,mb5.4
DAG Danmarks Havn 95.91 352⇑ *i*P **P 03 17 09.9 -2.0**
DAG pmax pmax
comp=Z,20nm,1.2s,mb5.4
BZS Buzias 96.12 317⇓ *i*P **P 03 17 11.4 -1.4**
BZS Buzias 96.12 317⇓ P **P 03 17 11.4 -1.5**
KECS Kecovo 96.18 320 *e*P **P 03 17 12.8 -0.3**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
KECS Kecovo 96.18 320 *e*P **P 03 17 12.8 -0.3**
comp=Z,3.5nm,1.0s,mb4.7
HFS Hagfors 96.38 332 LR LR 04 03 33.1
comp=Z,5µm,21.2s,MS6.0,baz=63,slow=37
VAY Valandovo 96.39 312 *e*P **P 03 17 11.9 -2.2**
NB2 NORSAR Subarra 97.16 333 P **P 03 17 14.3 -3.3**
comp=Z,13nm,1.0s,mb5.3,baz=66,slow=4.6
NB2 NORSAR Subarra 97.16 333 P **P 03 17 14.3 -3.3**
NB2 pmax pmax
comp=Z,13nm,1.0s,mb5.3
NOA NORSAR Array B 97.16 333 P **P 03 17 14.6 -3.0**
comp=Z,12nm,1.0s,mb5.3,baz=66,slow=4.6,SNR=9.5
NOA LR LR 04 09 17.0
comp=Z,3µm,18.0s,MS5.8,baz=70,slow=40
NOA NORSAR Array B 97.16 333 P **P 03 17 14.6 -3.0**
NOA LR LR 04 09 17.0
OKC Ostrava-Krasne 97.30 321 *e*x x 03 21 36.5
OKC AMS AMS 04 03 30.0
comp=Z,2µm,20.3s
NAO01 NORSAR Array S 97.39 333 *e*P **P 03 17 18.4 -0.1**
comp=Z,14nm,1.0s,mb5.4
NAO01 LR LR
comp=Z,5µm,21.0s,MS6.0
BSD Bornholm Skovb 97.54 327 *i* P pP 03 17 29.7 -5.6
BSD *i* 03 21 26.0
BSD *i* S SKSac 03 27 58.9 +7.0
BSD
comp=Z,3µm,19.0s
BSD Bornholm Skovb 97.54 327 *e*P pP 03 17 29.7 -5.6
BSD *i* 03 21 26.0
BSD *i* S SKSac 03 27 58.9 +7.0
PKSM Moragy 97.98 318⇑ *i*P **P 03 17 21.6 +0.3**
PKSM Moragy 97.98 318⇑ P **P 03 17 21.6 +0.4**
MATP Matopo 98.20 250 P **P 03 17 23.8 +1.5**
comp=Z,7.2nm,1.1s,mb5.1,baz=130,slow=7.8,SNR=4.8
MATP LR LR 04 02 39.4
comp=Z,2µm,18.2s,MS5.6,baz=84,slow=36
MATP Matopo 98.20 250 P **P 03 17 23.8 +1.5**
MATP LR LR 04 02 39.4
DPC Dobruska-Polom 98.27 322 *e*PDIF **P 03 17 23.0 +0.4**
DPC *ex* x 03 21 41.6
DPC AMS AMS 04 07 10.0
comp=Z,3µm,18.7s
LSZ Lusaka 98.27 255 P **P 03 17 24.3 +1.7**
comp=Z,2.5nm,0.8s,mb4.8,baz=86,slow=2.5,SNR=7.1
LSZ LR LR 03 58 43.7
comp=Z,3µm,22.0s,MS5.8,baz=68,slow=34
LSZ Lusaka 98.27 255 *e*P **P 03 17 23.4 +0.9**
LSZ LR LR
comp=Z,3µm,22.0s,MS5.8
UPC Upice 98.41 323 *e*Pdif sP 03 17 41.6 -3.7
JMIC Jan Mayen 98.41 346 AMS AMS 04 06 06.8
comp=Z,1µm,20.2s,MS5.4
VRAC Vranov 98.42 321 P **P 03 17 23.6 +0.4**
comp=Z,2.4nm,0.6s,mb4.9,baz=77,slow=14,SNR=3.2
KONO Kongsberg 98.47 332 *e*PP PP 03 21 27.9 +3.6
KONO Kongsberg 98.47 332 PFAKE 03 17 30.0 +6.5
KONO LR LR
comp=Z,4µm,20.0s,MS5.9
COP Copenhagen 98.66 328 *i* P **P 03 17 30.2 +5.9**
COP *i* 03 21 34.4
COP
comp=Z,2µm,19.0s
COP Copenhagen 98.66 328 *e*P **P 03 17 30.2 +5.9**
COP *i* 03 21 34.4

COP LR LR
comp=Z,2µm,19.0s,MS5.7
YKA Yellowknife Ar 98.94 24 P **P 03 17 25.5 -0.1**
comp=Z,6.0nm,1.1s,mb5.0,baz=300,slow=4.8,SNR=7.4
YKA LR LR 04 01 03.5
comp=Z,1µm,21.9s,MS5.3,baz=220,slow=35
TREC Trest 99.11 321 *e*P **P 03 17 23.9 -2.4**
TREC *e*PP PP 03 21 36.8 +7.7
TREC AMS AMS 04 05 00.0
comp=Z,3µm,19.3s
PVCC Panska Ves 99.27 323 *ex* x 03 21 40.2
PVCC AMS AMS 04 04 20.0
comp=Z,4µm,20.2s
PRU Pruhonice 99.47 322 *ex* x 03 21 43.1
PRU AMS AMS 04 04 30.0
comp=Z,4µm,21.0s
BRG Berggiesshubel 99.53 323 *e*P Pdif 03 17 28.6 +0.4
comp=Z,8.8nm,1.4s
BRG *i* 03 17 41.4
comp=Z,5.9nm,1.0s
BRG PP PP 03 21 39.0 +6.7
BRG *e* 03 21 47.5
comp=Z,11nm,1.8s
BRG SKS 03 28 05.0
BRG S S 03 29 01.0 +4.5
BRG SS SS 03 35 48.0 +0.2
BRG
comp=N,1µm,31.2s
BRG
comp=E,2µm,23.2s
BRG
comp=Z,2µm,21.5s
BRG Berggiesshubel 99.53 323 *e*P Pdif 03 17 28.6 +0.4
BRG *i* 03 17 41.4
BRG 03 21 39.0
BRG 03 28 05.0
BRG S S 03 29 01.0 +4.5
BRG SS SS 03 35 48.0 +0.2
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
BRG MLR MLR
comp=N,1µm,31.2s
BRG MLR MLR
comp=E,2µm,23.2s
BRG MLR MLR
comp=Z,2µm,21.5s
BRG Berggiesshubel 99.53 323 *e*P Pdif 03 17 28.6 +0.4
comp=Z,8.8nm,1.4s
BRG *i* 03 17 41.4
BRG PP PP 03 21 39.0 +6.7
BRG *e* 03 21 47.5
BRG SKS 03 28 05.0
BRG S S 03 29 01.0 +4.5
BRG SS SS 03 35 48.0 +0.2
BRG LR LR
comp=Z,2µm,21.5s,MS5.6
CLL Collm 99.94 324 *e*P Pdif 03 17 33.0 +3.0
CLL *e*S Sdif 03 28 58.0 -1.9
CLL MLR MLR
comp=Z,4µm,19.2s,MS5.9
CLL Collm 99.94 324 *e*(Pdif) 03 17 33.0
CLL LmV 03 05 00.0
comp=Z,4µm,19.2s
CLL *e*PP PP 03 21 27.0 -8.4
CLL *ex* x 03 21 51.0
CLL *ex* x 03 24 14.0
CLL *e*SKSac SKSac 03 28 06.0 +2.1
CLL *e*Sdif Sdif 03 28 58.0 -1.9
CLL *e*PS PS 03 30 54.0 +19
CLL *e*PPS 03 31 42.0
CLL *e*SS SS 03 36 06.0 +13
MUD Monsted U'grnd 100.03 330 *i* P Pdif 03 17 38.6 +8.2
MUD *i* 03 21 46.8
MUD *e* 03 28 15.5
MUD
comp=Z,3µm,17.0s
MUD Monsted U'grnd 100.03 330 *e*P Pdif 03 17 38.6 +8.2
MUD *i* 03 21 46.8
MUD MLR MLR
comp=Z,3µm,17.0s,MS5.8
MUD Monsted U'grnd 100.03 330 *e*P Pdif 03 17 38.6 +8.2
MUD *i* 03 21 46.8
MUD *e* 03 28 15.5
BER Bergen 100.05 334 *e*PP PP 03 21 35.0 -1.2
BER AMS AMS 04 08 52.7
comp=Z,4µm,17.1s,MS5.9
NLWA Neilton Lookou 100.17 40 PFAKE 03 17 40.0 +9.0
NLWA LR LR
comp=Z,2µm,20.0s,MS5.5
KHC Kasperske Hory 100.35 322 *e*PDIF Pdif 03 17 29.5 -2.3
KHC *e*PP PP 03 21 38.2 -0.3
KHC AMS AMS 04 08 30.0
comp=Z,3µm,15.6s
GERES GERESS Array B 100.37 321 P Pdif 03 17 31.3 -0.6
comp=Z,2.4nm,0.9s,baz=66,slow=4.5,SNR=6.9
GERES PP PP 03 21 37.8 -0.9
comp=Z,0.4nm,0.6s,baz=83,slow=16,SNR=2.2
NKC Novy Kostel 100.65 323 *e*PKP PKiKP 03 21 55.9 -3.2
NKC AMS AMS 04 05 20.0
comp=Z,4µm,20.7s
RKT Rikitea 100.71 112 *e*PP PP 03 21 39.4 -1.8
comp=Z,275nm,26.0s
RKT Rikitea 100.71 112 *e*PS PS 03 30 51.1 +7.9
comp=Z,800nm,35.5s
RKT Rikitea 100.71 112 *e*SKSac SKSac 03 28 15.1 +7.4
comp=Z,833nm,24.2s
RKT *e*SS SS 03 36 16.2 +12
RKT *e*LR LR 03 50 08.6
comp=Z,1µm,31.0s
comp=Z,3µm,28.5s
GNW Green Mountain 100.78 40 *e*Pdif Pdif 03 17 36.9 +3.1
LBTB Lobatse 100.99 246 *e*PP PP 03 21 50.1 +6.8
LBTB LR LR
comp=Z,2µm,21.0s,MS5.7
BOSA Boshof 101.28 242 PFAKE 03 17 50.0 +14
BOSA LR LR
comp=Z,3µm,21.0s,MS5.7
COR Corvallis 101.44 43 PFAKE 03 17 50.0 +13
COR LR LR
comp=Z,2µm,21.0s,MS5.7
GRA1 Grafenberg Arr 101.59 323 *e*Pdif Pdif 03 17 38.0 +0.7
GRA1 LR LR
comp=Z,3µm,21.2s,MS5.8
GRF Grafenberg Arr 101.59 323 *e*Pdiff Pdif 03 17 38.0 +0.7
GRF *e*L 04 06 08.5
comp=Z,3µm,21.2s
HUMO Hull Mountain 102.31 45 PFAKE 03 17 50.0 +9.4
HUMO LR LR
comp=Z,2µm,21.0s,MS5.5
YBH Yreka Blue Hor 102.76 45 *e*P Pdif 03 17 45.9 +3.3
YBH MLR MLR
comp=Z,2µm,22.0s
WDC Whiskeytown Da 103.25 47 *e*P Pdif 03 17 48.4 +3.7
WDC MLR MLR
comp=Z,2µm,20.0s,MS5.7
HAWA Hanford 103.31 40 PFAKE 03 18 00.0 +15
HAWA LR LR
comp=Z,2µm,21.0s,MS5.5
HOPS Hopland 103.35 48 PFAKE 03 18 00.0 +15
HOPS LR LR
comp=Z,2µm,19.0s,MS5.7
MCCM Marconi Confer 103.75 49 PFAKE 03 18 00.0 +13
MCCM LR LR
comp=Z,2µm,21.0s,MS5.7
BFO Black Forest 103.87 322 PFAKE 03 18 00.0 +13
BFO LR LR
comp=Z,760nm,20.0s,MS5.2
EDM Edmonton 104.02 32 *e*Pdif Pdif 03 17 50.8 +2.7
NEW Newport 104.08 38 *e*P Pdif 03 17 51.2 +2.8
NEW MLR MLR
comp=Z,2µm,21.0s
MOD Modoc 104.40 45 *e*Pdif Pdif 03 17 53.6 +3.7
MOD *e*PP PP 03 22 08.5 -0.4
MOD LR LR
comp=Z,870nm,20.0s,MS5.3
SUR Sutherland 104.98 238 PFAKE 03 18 00.0 +7.6
SUR LR LR
comp=Z,1µm,22.0s,MS5.5
SAO San Andreas Ge 105.26 50 PFAKE 03 22 20.0 +12
SAO LR LR
comp=Z,2µm,20.0s,MS5.7
BMO Blue Mountains 105.34 41 PFAKE 03 22 20.0 +12
BMO LR LR
comp=Z,1µm,21.0s,MS5.4
WVOR Wild Horse Val 105.37 44 PFAKE 03 22 20.0 +12
WVOR LR LR
comp=Z,1µm,20.0s,MS5.4
CMB Columbia Colle 105.65 48 *e*P Pdif 03 17 59.7 +4.3
CMB MLR MLR
comp=Z,2µm,21.0s,MS5.5
WALA Waterton Lakes 105.65 36 *e*Pdif Pdif 03 17 59.6 +4.2
WALA *e*PP PP 03 22 20.1 +2.0
BSMT Bassoo Peak 105.67 37 *e*Pdif Pdif 03 17 59.1 +3.6
PGF Pioggiola 105.70 317 *e*PKIKP PKiKP 03 22 06.6 -1.8
comp=Z,183nm,1.6s
PAHR Pah Rah Range 105.82 47 *e*Pdif Pdif 03 18 02.7 +6.5
BORG Borgarnes 106.30 346 PFAKE 03 22 20.0 +11
BORG LR LR
comp=Z,471nm,20.0s,MS5.0
MBDF Montbardon 106.33 319 *e*PKIKP PKiKP 03 22 07.8 -1.7
ESK Eskdalemuir 106.61 332 PFAKE 03 22 20.0 +10
ESK LR LR
comp=Z,820nm,22.0s,MS5.2
MSO Missoula 106.64 38 *e*PP PP 03 22 31.6 +6.2
MSO LR LR
comp=Z,772nm,20.0s,MS5.2
LOR Lormes 107.05 323 *e*PKIKP PKiKP 03 22 08.8 -2.0
NVAR Mina Array Bea 107.06 47 Pdiff Pdif 03 18 03.2 +1.6
comp=Z,4.2nm,0.9s,baz=273,slow=8.3,SNR=16
NVAR PKiKP PKiKP 03 22 14.1 +3.3
comp=Z,1.1nm,0.7s,baz=236,slow=0.3,SNR=5.3
NVAR PP PP 03 22 29.9 +1.4
comp=Z,4.5nm,1.0s,baz=277,slow=7.4,SNR=8.2
NVAR PKKPbc PKKPbc 03 33 26.9 -0.9
comp=Z,0.4nm,0.7s,baz=344,slow=4.9,SNR=2.9
BMN Battle Mountai 107.10 45 PFAKE 03 22 20.0 +9.1
BMN LR LR
comp=Z,1µm,19.0s,MS5.5
SMRF Simiane la Rot 107.42 319 *e*PKIKP PKiKP 03 22 09.6 -1.9
comp=Z,83nm,1.3s
HLID Hailey 107.77 41 *e*Pdif Pdif 03 18 09.0 +4.2
HLID LR LR
comp=Z,1µm,20.0s,MS5.4
SNCC San Nicolas Is 107.86 53 PFAKE 03 22 30.0 +18
SNCC LR LR
comp=Z,3µm,19.0s,MS5.8
ISA Isabella 107.89 50 PFAKE 03 22 30.0 +18
ISA LR LR
comp=Z,471nm,19.0s,MS5.1
KEST Kesra 107.89 310 PP PP 03 22 31.4 -3.2
comp=Z,2.2nm,1.0s,baz=299,slow=4.5,SNR=5.0
KEST PKKPbc PKKPbc 03 33 28.1 +2.9
comp=Z,0.5nm,0.7s,baz=312,slow=22,SNR=6.4
TPH Tonopah 107.98 47 PFAKE 03 22 30.0 +17
TPH LR LR
comp=Z,2µm,20.0s,MS5.6
DAC Darwin (Calif) 108.35 49 PFAKE 03 22 30.0 +17
DAC LR LR
comp=Z,2µm,20.0s,MS5.7
TSUM Tsumeb 108.47 251 PFAKE 03 22 30.0 +17
TSUM LR LR
comp=Z,2µm,19.0s,MS5.7
EGMT Eagleton 108.58 36 PFAKE 03 22 30.0 +16
EGMT LR LR
comp=Z,1µm,21.0s,MS5.4
YMR Madison River 109.49 39 PFAKE 03 22 30.0 +15
YMR LR LR
comp=Z,2µm,22.0s,MS5.7
IMW Indian Meadow 109.87 40 *e*PP PP 03 22 49.3 +0.3
LKWY Lake 109.89 39 PFAKE 03 22 30.0 +14
LKWY LR LR
comp=Z,2µm,20.0s,MS5.6
PFO Pinyon Flat Ob 110.16 52 PFAKE 03 22 30.0 +13
PFO LR LR
comp=Z,442nm,22.0s,MS5.0
LOHW Long Hollow 110.22 40 *e*PKKPab PKKPab 03 33 37.5 +8.5
DUG Dugway 110.28 44 *e*PP PP 03 22 53.3 +1.3
DUG LR LR
comp=Z,1µm,20.0s,MS5.5
AHID Auburn Hatcher 110.29 41 PFAKE 03 22 30.0 +13
AHID LR LR
comp=Z,1µm,20.0s,MS5.5
BAR Barrett 110.31 53 *e*PP PP 03 22 54.6 +2.4
HWUT Hardware Ranch 110.51 42 *e*PKKPab PKKPab 03 33 29.8 +2.2
HWUT LR LR
comp=Z,2µm,21.0s,MS5.6
MPU Maple Canyon 111.18 44 PFAKE 03 22 30.0 +11
MPU LR LR
comp=Z,1µm,20.0s,MS5.5
DAU Daniels Canyon 111.26 43 *e*PP PP 03 23 03.1 +4.1
BW06 Boulder Array 111.29 40 PFAKE 03 22 30.0 +11
BW06 LR LR
comp=Z,2µm,21.0s,MS5.6
PDAR Pinedale Array 111.29 40 PKiKP PKiKP 03 22 20.6 +1.7
comp=Z,0.2nm,0.4s,baz=298,slow=4.0,SNR=2.5
PDAR PP PP 03 23 02.0 +2.8
comp=Z,3.3nm,1.0s,baz=291,slow=4.1,SNR=7.1
PDAR PKKPbc PKKPbc 03 33 15.1 +0.8
comp=Z,0.6nm,0.9s,baz=108,slow=2.9,SNR=3.2
LAO LASA Array 111.32 35 PFAKE 03 22 30.0 +11
LAO LR LR
comp=Z,2µm,22.0s,MS5.6
MVU Marysvale 111.43 45 PFAKE 03 22 30.0 +11
MVU LR LR
comp=Z,2µm,22.0s,MS5.7
DGMT Dagmar 111.45 33 PFAKE 03 22 30.0 +11
DGMT LR LR
comp=Z,1µm,19.0s,MS5.4
MSKU Masuku 111.90 270 PFAKE 03 22 30.0 +10
MSKU LR LR
comp=Z,3.0nm,20.0s
WUAZ Wupatki 113.30 48 *e*PKKPab PKKPab 03 33 18.4 +3.0
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.5
RSSD Black Hills 114.02 37 PFAKE 03 22 40.0 +16
RSSD LR LR
comp=Z,986nm,19.0s,MS5.4
ULM Lac du Bonnet 114.52 28 PKP PKiKP 03 22 26.3 +1.4
comp=Z,1.3nm,0.7s,baz=255,slow=3.2,SNR=5.1
ULM Lac du Bonnet 114.52 28 PKP PKiKP 03 22 26.3 +1.4
ULM LR LR
comp=Z,2µm,20.0s,MS5.6
MVCO Mesa Verde 114.64 45 PFAKE 03 22 40.0 +15
MVCO LR LR
comp=Z,1µm,20.0s,MS5.6
TUC Tucson 115.06 51 *e*PP PP 03 23 27.3 +1.3
TUC LR LR
comp=Z,2µm,19.0s,MS5.8
ESLA Sonseca Array 115.73 319 PFAKE 03 22 40.0 +13
ESLA LR LR
comp=Z,8µm,20.0s,MS6.3
AGMN Agassiz Refuge 115.87 29 PFAKE 03 22 40.0 +12
AGMN LR LR
comp=Z,1µm,22.0s,MS5.5
SDCO Great Sand Dun 116.46 43 PFAKE 03 22 40.0 +11
SDCO LR LR
comp=Z,2µm,19.0s,MS5.7
ANMO Albuquerque 117.15 47 ⇑ *i*PKIKP PKPdf 03 22 31.0 +1.0
ANMO Albuquerque 117.15 47 *e*PKPdf PKPdf 03 22 34.2 +4.2
ANMO LR LR
comp=Z,1µm,19.0s,MS5.5
EYMN Ely 118.18 27 PFAKE 03 22 40.0 +8.0
EYMN LR LR
comp=Z,1µm,20.0s,MS5.5
ECSD EROS,Sioux Fal 118.52 34 PFAKE 03 22 50.0 +17
ECSD LR LR
comp=Z,1µm,21.0s,MS5.5
MNTX Cornudas Mount 119.46 49 *e*PKPdf PKPdf 03 22 36.7 +2.3
MNTX *e*PKKPab PKKPab 03 32 57.3 +9.1
MNTX LR LR
comp=Z,2µm,19.0s,MS5.7
SCHQ Schefferville 119.59 8 PKP PKPdf 03 22 35.3 +0.6
comp=Z,4.8nm,0.7s,baz=245,slow=7.1,SNR=4.7
SCHQ Schefferville 119.59 8 PKP PKPdf 03 22 35.3 +0.6
SCHQ LR LR
comp=Z,2µm,19.0s,MS5.7
CBKS Cedar Bluff 119.70 40 PFAKE 03 22 50.0 +15
CBKS LR LR
comp=Z,494nm,19.0s,MS5.2
PMSA Palmer Station 119.87 175 PFAKE 03 22 50.0 +15
PMSA LR LR
comp=Z,2µm,20.0s,MS5.6
AMTX Amarillo 120.58 44 PFAKE 03 22 50.0 +13
AMTX LR LR
comp=Z,1µm,21.0s,MS5.5
TOA0 Torodi Ar. Sit 121.34 289 *e*PKPdf PKPdf 03 22 38.3 +0.2
TORD Torodi Ar. Bea 121.34 289 PKP PKPdf 03 22 38.5 +0.4
comp=Z,10.0nm,1.1s,baz=36,slow=1.5,SNR=26
TORD PKKPbc PKKPbc 03 32 41.1 +2.1
comp=Z,3.0nm,0.9s,baz=286,slow=4.1,SNR=8.7
KSU1 Kansas State U 121.47 38 *e*PKPdf PKPdf 03 22 40.0 +1.7
KSU1 LR LR
comp=Z,2µm,19.0s,MS5.7
SCIA State Center 121.60 33 PFAKE 03 22 50.0 +11
SCIA LR LR
comp=Z,713nm,20.0s,MS5.3
TXAR Lajitas Array 121.86 51 PKP PKPdf 03 22 40.5 +1.5
comp=Z,2.3nm,0.7s,baz=303,slow=0.8,SNR=10
TXAR PP PP 03 24 17.4 +4.3
comp=Z,2.7nm,1.0s,baz=270,slow=3.8,SNR=3.8
TXAR PKKPbc PKKPbc 03 32 39.1 +2.1
comp=Z,0.2nm,0.5s,baz=121,slow=9.2,SNR=2.7
TXAR Lajitas Array 121.86 51 PKIKP PKPdf 03 22 40.6 +1.5
TXAR 03 24 17.4
JFWS Jewell Farm 122.46 31 *e*PKIKP PKPdf 03 22 43.9 +3.7
JFWS MLR MLR
comp=Z,1µm,20.0s,MS5.6
WMOK Wichita Mounta 122.66 43 *e*PKIKP PKPdf 03 22 43.9 +3.3
WMOK MLR MLR
comp=Z,2µm,22.0s,MS5.7
JCT Junction City 124.23 48 *e*PKIKP PKPdf 03 22 45.5 +1.9
JCT MLR MLR
comp=Z,2µm,20.0s,MS5.7
HDIL Hopedale 124.66 32 PFAKE 03 23 00.0 +16
HDIL LR LR
comp=Z,1µm,21.0s,MS5.6
AAM Ann Arbor 126.06 27 PFAKE 03 23 00.0 +13
AAM LR LR
comp=Z,2µm,21.0s,MS5.7
NATX Nacogdoches 127.19 44 PFAKE 03 23 00.0 +11
NATX LR LR
comp=Z,1µm,19.0s,MS5.7
HKT Hockley 127.41 46 PFAKE 03 23 00.0 +10
HKT LR LR
comp=Z,2µm,19.0s,MS5.7
LONY Lake Ozonia 127.51 18 PFAKE 03 23 00.0 +10
LONY LR LR
comp=Z,1µm,21.0s,MS5.7
WCI Wyandotte Cave 127.94 32 PFAKE 03 23 00.0 +9.3
WCI LR LR
comp=Z,1µm,21.0s,MS5.6
NCB Newcomb 128.21 18 PFAKE 03 23 00.0 +8.8
NCB LR LR
comp=Z,1µm,20.0s,MS5.6
PKME Peaks-Kenny Pk 128.33 13 PFAKE 03 23 00.0 +8.5
PKME LR LR
comp=Z,2µm,22.0s,MS5.7
LBNH Lisbon 128.63 16 PFAKE 03 23 00.0 +8.0
LBNH LR LR
comp=Z,1µm,21.0s,MS5.6
WVT Waverly 128.63 35 *e*PKIKP PKPdf 03 22 54.6 +2.6
WVT MLR MLR
comp=Z,1µm,20.0s,MS5.6
OXF Oxford 128.84 37 *e*PKIKP PKPdf 03 22 53.7 +1.3
OXF MLR MLR
comp=Z,1µm,20.0s,MS5.5
BINY Binghamton 129.21 21 *e*PKPdf PKPdf 03 22 56.3 +3.2
BINY LR LR
comp=Z,1µm,19.0s,MS5.7
PLAL Pickwick Lake 129.30 36 *e*PKPdf PKPdf 03 22 56.1 +2.8
PLAL LR LR
comp=Z,1µm,20.0s,MS5.6
SSPA Standing Stone 129.86 23 *e*PKPdf PKPdf 03 22 56.3 +1.9
SSPA LR LR
comp=Z,1µm,20.0s,MS5.7
MCWV Mont Chateau 129.89 25 PFAKE 03 23 10.0 +16
MCWV LR LR
comp=Z,2µm,20.0s,MS5.8
HRV Harvard--Oak R 130.33 16 PFAKE 03 23 10.0 +15
HRV LR LR
comp=Z,1µm,22.0s,MS5.5
SWET Sewanee 130.36 34 *e*PKPdf PKPdf 03 22 59.0 +3.7
WES Weston 130.51 16 PFAKE 03 23 10.0 +14
WES LR LR
comp=Z,1µm,20.0s,MS5.5
TZTN Tazewell 130.64 31 PFAKE 03 23 10.0 +14
TZTN LR LR
comp=Z,2µm,21.0s,MS5.8
SHEL Horse Pasture 130.89 253 PFAKE 03 23 10.0 +14
SHEL LR LR
comp=Z,742nm,19.0s,MS5.4
CPCT Cooper Cave 130.96 33 *e*PKPdf PKPdf 03 23 02.8 +6.4
MVL Millersville 131.00 22 *e*PKPdf PKPdf 03 22 58.0 +1.5
BLA Blacksburg 131.64 28 PFAKE 03 23 10.0 +12
BLA LR LR
comp=Z,1µm,20.0s,MS5.6
CBN Corbin 132.15 24 PFAKE 03 23 10.0 +11
CBN LR LR
comp=Z,1µm,21.0s,MS5.6
CNNC Cliffs of the 134.42 27 PFAKE 03 23 20.0 +17
CNNC LR LR
comp=Z,1µm,20.0s,MS5.6
DWPF Disney 138.17 37 PFAKE 03 23 20.0 +10
DWPF LR LR
comp=Z,2µm,21.0s,MS5.7
ASCN Ascension 139.97 264 PFAKE 03 23 30.0 +17
ASCN LR LR
comp=Z,434nm,19.0s,MS5.2
BBSR BB Station 141.68 14 PFAKE 03 23 30.0 +14
BBSR LR LR
comp=Z,1µm,22.0s,MS5.6
TGUH Tegucigalpa,Un 142.46 59 *e*PKPdf PKPdf 03 23 18.6 +0.9
TGUH LR LR
comp=Z,999nm,20.0s,MS5.6
PAYG Puerto Ayora 144.06 84 PFAKE 03 23 30.0 +9.5
PAYG LR LR
comp=Z,2µm,20.0s,MS5.8
CCCC Cccc 145.47 40 *e*P PKPdf 03 23 25.8 +2.8
TRQA Tornquist 146.33 169 *e*PKPdf PKPdf 03 23 26.0 +1.6
TRQA LR LR
comp=Z,2µm,21.0s,MS5.8
LMGC Las Mercedes 146.78 41 *e*P PKPdf 03 23 28.9 +3.7
HLGC Holguin 146.78 39 *e*P PKPdf 03 23 29.4 +4.2
MOAC Moa 147.63 38 *e*P PKPdf 03 23 25.9 -0.7
MASC Masc 148.44 37 *e*P PKPbc 03 23 35.5 +4.0
CFAA Coronel Fontan 150.51 156 PKP PKPdf 03 23 33.3 +2.1
comp=Z,3.7nm,1.0s,baz=240,slow=2.5,SNR=19
CBYP Canovanas 154.40 26 *e*PKPdf PKPdf 03 23 39.4 +2.4
CBYP *e*PKPab PKPab 03 24 00.6 +0.8
HUMP Col San Antoni 154.52 26 *e*PKPdf PKPdf 03 23 40.7 +3.6
CPD Cerro la Pandu 154.58 26 *e*PKIKP PKPdf 03 23 37.0 -0.2
CPD *e* 03 24 01.6
OTAV Otavalo 155.58 79 *e*PKPdf PKPdf 03 23 43.6 +5.0
OTAV LR LR
comp=Z,1µm,22.0s,MS5.7
NNA Nana 156.87 109 PFAKE 03 23 50.0 +10
NNA LR LR
comp=Z,474nm,21.0s,MS5.3
LVC Limon Verde 157.59 143 PKP PKPdf 03 23 43.5 +2.3
comp=Z,3.1nm,1.0s,baz=70,slow=0.6,SNR=3.6
LVC PKPab PKPab 03 24 16.2 +2.8
comp=Z,8.7nm,0.9s,baz=269,slow=7.6,SNR=5.3
LVC Limon Verde 157.59 143 *e*PKPdf PKPdf 03 23 43.6 +2.4
LVC LR LR
comp=Z,2µm,22.0s,MS5.9
ROSC El Rosal 157.98 64 PKP PKPdf 03 23 44.6 +2.9
comp=Z,7.9nm,0.7s,baz=276,slow=5.8,SNR=8.0
CPUP Villa Florida 158.54 173 PKP PKPdf 03 23 44.6 +2.2
comp=Z,3.4nm,1.0s,baz=53,slow=3.5,SNR=4.2
CPUP PKPab PKPab 03 24 18.4 +0.8
comp=Z,4.6nm,0.7s,baz=196,slow=3.1,SNR=4.4
CPUP Villa Florida 158.54 173 *e*PKPdf PKPdf 03 23 46.3 +3.9
CPUP *e*PKPab PKPab 03 24 19.1 +1.6
CPUP LR LR
comp=Z,260nm,22.0s,MS5.0
SDV Santo Domingo 158.90 50 *e*PKPdf PKPdf 03 23 44.4 +1.7
SDV LR LR
comp=Z,821nm,21.0s,MS5.5
BBGH Gun Hill 161.38 15 PFAKE 03 24 00.0 +14
BBGH LR LR
comp=Z,2µm,22.0s
RCBR Riachuelo 161.41 266 PFAKE 03 24 00.0 +14
RCBR LR LR
comp=Z,1µm,20.0s
LPAZ La Paz 162.53 131 PKP PKPdf 03 23 50.0 +3.3
comp=Z,4.2nm,0.9s,baz=333,slow=2.5,SNR=18
LPAZ La Paz 162.53 131 PKP PKPdf 03 23 50.0 +3.3
LPAZ LR LR
comp=Z,2µm,22.0s
SIV San Ignacio 167.27 150 PKP PKPdf 03 23 52.7 +1.9
comp=Z,11nm,1.2s,baz=255,slow=1.5,SNR=14
SAML Samuel 170.54 116 PFAKE 03 24 10.0 +17
SAML LR LR
comp=Z,2µm,21.0s

*ISCJB **24** 03:04:27.1±0.3, 1374S±007×1458W±006, h10km, mb4.7/38, Error ellipse: s-maj=10.6km s-min=7.4km az=118.2*
*IDC **24** 03:04:27.2±0.5, 1376S×1459W, h0km, mb4.4/23, mb1 4.4/23, mb1mx4.4/30, mbtmp4.4/23, Error ellipse: s-maj=16.2km s-min=11.5km az=158.0*
*NEIC **24** 03:04:28.9±0.3, 1379S×1457W, h10km, mb5.2/16, Error ellipse: s-maj=8.4km s-min=5.9km az=149.0*

ISC 24 03:04:29.4±0.3, 1375S±007×1456W±006, h10km, n73, σ0§86/72, mb4.7/38, 1C-2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	22.44	288	eP	P	03 09 27.7	-0.6
	51nm,1.0s,mb4.9						
TOA0	Torodi Ar. Sit	31.20	32	eP	P	03 10 47.6	-1.2
TORD	Torodi Ar. Bea	31.20	32	P	P	03 10 47.2	-1.5
	14nm,1.0s,mb4.8,baz=216,slow=9.2,SNR=47						
TORD	Torodi Ar. Bea	31.20	32	P	P	03 10 47.2	-1.5
LBTB	Lobatse	39.36	113	P	P	03 11 58.0	-0.9
	8.1nm,1.3s,mb4.3,baz=302,slow=13,SNR=5.0						
BOSA	Boshof	39.76	118	P	P	03 12 02.0	-0.2
	4.5nm,1.1s,mb4.1,baz=271,slow=8.7,SNR=3.2						
LSZ	Lusaka	41.36	98	P	P	03 12 15.7	+0.2
	23nm,1.2s,mb4.7,baz=263,slow=7.9,SNR=20						
LSZ	Lusaka	41.36	98	⇑P	P	03 12 16.2	+0.7
	SNR=8.5						
MATP	Matopo	41.60	105	P	P	03 12 16.7	-0.7
	19nm,1.1s,mb4.6,baz=267,slow=7.5,SNR=17						
MATP	Matopo	41.60	105	P	P	03 12 16.7	-0.7
CPUP	Villa Florida	41.90	246	P	P	03 12 19.6	-0.3
	5.3nm,0.8s,mb4.2,baz=75,slow=8.5,SNR=13						
SIV	San Ignacio	44.94	261	P	P	03 12 44.6	+0.2
	4.6nm,1.0s,mb4.2,baz=97,slow=9.5,SNR=18						
MDT	Midelt	47.27	11	P	P	03 13 03.7	+0.9
	4.5nm,1.2s,mb4.3,baz=224,slow=5.0,SNR=4.6						
SAML	Samuel	47.85	270	eP	P	03 13 08.1	+0.8
	15nm,0.6s,mb5.2						
LPAZ	La Paz	51.69	260	P	P	03 13 35.8	-0.7
	3.5nm,0.9s,mb4.3,baz=88,slow=6.5,SNR=11						
CFAA	Coronel Fontan	52.10	241	P	P	03 13 38.5	-1.0
	0.6nm,0.7s,mb3.6,baz=71,slow=6.7,SNR=13						
LVC	Limon Verde	52.15	252	P	P	03 13 40.5	+0.6
	4.5nm,0.9s,mb4.4,baz=48,slow=5.2,SNR=3.6						
KMBO	Kilima Mbogo	52.75	81	P	P	03 13 45.3	+0.9
	3.6nm,1.1s,mb4.2,baz=244,slow=9.4,SNR=11						
KMBO	Kilima Mbogo	52.75	81	⇓P	P	03 13 46.3	+1.8
	SNR=5.6						
KEST	Kesra	54.17	24	P	P	03 13 55.5	+0.7
	12nm,1.3s,mb4.7,baz=95,slow=2.2,SNR=14						
ARE	Arequipa	54.88	259	eP	P	03 14 00.0	0.0
SNAA	Sanae	58.32	176	P	P	03 14 24.3	-0.1
	2.7nm,1.1s,mb4.2,baz=339,slow=6.0,SNR=9.6						
OPO	Ambohidratompo	59.26	104	P	P	03 14 32.5	+1.4
	8.3nm,1.1s,mb4.7,baz=264,slow=6.4,SNR=5.0						
LASF	Ste Croix	59.95	15	eP	P	03 14 37.6	+1.8
	103nm,1.4s,mb5.4						
SDV	Santo Domingo	60.02	289	eP	P	03 14 37.0	+0.8
	30nm,1.5s,mb5.1						
ORIF	Oris-en-Rattie	61.27	16	eP	P	03 14 43.6	-1.2
	51nm,1.3s,mb5.2						
ORIF	Oris-en-Rattie	61.27	16	eP	P	03 14 43.6	-1.2
	25nm,1.3s,mb5.2						
MBDF	Montbardon	61.34	17	eP	P	03 14 45.7	+0.4
	57nm,1.4s,mb5.2						
MBDF	Montbardon	61.34	17	eP	P	03 14 45.7	+0.4
	29nm,1.4s,mb5.2						
LPG	La Plagne	62.05	17	eP	P	03 14 50.5	+0.5
LPL	La Plagne	62.06	17	eP	P	03 14 50.4	+0.3
	90nm,1.7s,mb5.3						
LPL	La Plagne	62.06	17	eP	P	03 14 50.4	+0.3
	45nm,1.7s,mb5.3						
ROSC	El Rosal	62.12	283	P	P	03 14 51.0	+0.5
	4.7nm,0.6s,mb4.8,baz=203,slow=4.5,SNR=10						
SSF	Saint Saulge	62.67	14	eP	P	03 14 55.8	+1.6
	52nm,1.5s,mb5.1						
SSF	Saint Saulge	62.67	14	eP	P	03 14 55.8	+1.6
	26nm,1.5s,mb5.1						
CABF	La Chapelle	62.89	16	eP	P	03 14 56.3	+0.7
	76nm,1.3s,mb5.4						
CABF	La Chapelle	62.89	16	eP	P	03 14 56.3	+0.7
	38nm,1.3s,mb5.4						
LOR	Lormes	62.94	14	eP	P	03 14 58.2	+2.2
	52nm,1.4s,mb5.2						
LOR	Lormes	62.94	14	eP	P	03 14 58.2	+2.2
	26nm,1.4s,mb5.2						
OTAV	Otavalo	64.75	277	eP	P	03 15 08.3	+0.4
	28nm,1.7s,mb5.0						
BOJS	Bojanci	64.85	23	eP	P	03 15 09.7	+1.1
DOBS	Dobrina	65.48	22	iP	P	03 15 13.2	+0.5
PERS	Pernice	65.76	22	iP	P	03 15 14.2	-0.2
PERS				e		03 43 11.5	
MOA	Molln	66.50	21	iP	P	03 15 19.0	-0.2
GRA1	Grafenberg Arr	67.13	18	eP	P	03 15 22.3	-0.9
	18nm,1.8s,mb4.8						
GRF	Grafenberg Arr	67.13	18	eP	P	03 15 22.3	-0.9
	comp=Z,18nm,1.8s,mb4.8						
ASF	Jabal al Asfar	67.15	46	P	P	03 15 24.7	+1.4
	comp=Z,12nm,1.3s,mb4.8,baz=42,slow=2.5,SNR=14						
GERES	GERESS Array B	67.17	20	P	P	03 15 22.5	-1.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=243,slow=5.5,SNR=5.8						
KHC	Kasperske Hory	67.38	20	eP	P	03 15 24.6	-0.2
NKC	Novy Kostel	67.98	18	eP	P	03 15 28.1	-0.5
VYHS	Vyhne	68.70	23	eP	P	03 15 33.0	-0.1
PVCC	Panska Ves	68.91	19	eP	P	03 15 33.6	-0.8
ANTO	Ankara	69.16	37	⇓P	P	03 15 37.1	+1.1
	SNR=8.2						
ANTO	Ankara	69.16	37	eP	P	03 15 36.6	+0.7
	comp=Z,30nm,1.4s,mb5.0						
KECS	Kecovo	69.33	24	eP	P	03 15 36.8	-0.2
DPC	Dobruska-Polom	69.34	21	eP	P	03 15 37.2	+0.1
MLR	Muntele Rosu	69.40	29	P	P	03 15 36.7	-0.7
	comp=Z,25nm,1.2s,mb5.0,baz=74,slow=0.7,SNR=22						
EKA	Eskdalemuir Ar	69.49	7	P	P	03 15 38.0	0.0
	comp=Z,2.1nm,1.0s,mb4.0,baz=280,slow=25,SNR=3.5						
BR131	Keskin Array S	69.56	38	eP	P	03 15 38.9	+0.4
	comp=Z,25nm,1.5s,mb4.9						
BRTR	Keskin Array B	69.56	38	P	P	03 15 38.8	+0.3
	comp=Z,3.4nm,1.0s,mb4.2,baz=201,slow=6.6,SNR=25						
CRVS	Cervenica-Dubn	70.06	24	eP	P	03 15 41.0	-0.5
STHS	Stebnicka Huta	70.38	24	eP	P	03 15 42.2	-1.3
KOLS	Kolonicke sedl	70.41	25	eP	P	03 15 43.2	-0.5
KOLS	Kolonicke sedl	70.41	25	eP	P	03 15 43.3	-0.4
OJC	Ojcow	70.47	23	eP	P	03 15 43.5	-0.5
AKASG	Malin Array Be	74.70	27	P	P	03 16 07.8	-1.4
	comp=Z,9.4nm,1.0s,mb4.7,baz=226,slow=6.6,SNR=55						
AKASG	Malin Array Be	74.70	27	P	P	03 16 07.8	-1.4
AKBB	Malin Array Si	74.70	27	eP	P	03 16 07.8	-1.4
QSPA	South Pole Qui	76.40	180	eP	P	03 16 19.3	+0.3
	comp=Z,100nm,2.1s,mb5.4						
NB2	NORSAR Subarra	77.32	13	P	P	03 16 24.1	0.0
	comp=Z,4.4nm,0.9s,mb4.4,baz=204,slow=6.2						
NOA	NORSAR Array B	77.32	13	P	P	03 16 23.8	-0.3
	comp=Z,2.1nm,0.8s,mb4.1,baz=191,slow=8.1,SNR=5.7						
TXAR	Lajitas Array	95.85	299	P	P	03 17 55.3	-0.8
	comp=Z,0.5nm,0.8s,mb4.0,baz=111,slow=7.1,SNR=4.3						
MJAR	Matsushiro Arr	146.71	42	PKPbc	PKPbc	03 24 11.3	-0.1
	comp=Z,9.0nm,1.1s,baz=288,slow=5.3,SNR=9.5						

*NEIC **24** 03:06:13.8±0.5, 508N×1251.4E, h10km, mb5.4/14, Error ellipse: s-maj=20.5km s-min=8.5km az=86.0*
*ISCJB **24** 03:06:15.8±0.6, 504N±008×1253E±02, h33km, mb5.3/12, MS5.2/5, Error ellipse: s-maj=27.0km s-min=11.5km az=169.4*
*MOS **24** 03:06:15.4±1.2, 508N×1252.5E, h33km, mb4.6/6, Error ellipse: s-maj=40.0km s-min=16.5km az=101.3*
*IDC **24** 03:06:36.1±7.2, 283N×1268.9E, h0km, mb5.2/5, mb1 5.3/5, mb1mx4.7/17, mbtmp5.2/5, MS5.2/5, Ms1 5.2/5, ms1mx4.8/32, Error ellipse: s-maj=118.0km s-min=52.7km az=146.0*

ISC 24 03:06:17.5±0.6, 508N±008×1252E±02, h35km, n29, σ0§71/26, mb5.3/12, MS5.2/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.04	179	eP	P	03 11 19.5	-0.1
	133nm,0.7s,mb5.5						
FITZ	Fitzroy Crossi	23.04	179	P	P	03 11 19.8	+0.2
	103nm,1.0s,mb5.2,baz=3.2,slow=10,SNR=3.5						
FITZ				LR	LR	03 19 54.4	
	comp=Z,4μm,19.5s,MS4.9,baz=11,slow=38						
KULM	Kulim	24.40	272	P	P	03 11 38.8	+6.4
PMG	Port Moresby	26.24	123	P	P	03 11 48.7	-0.4
	56nm,0.8s,mb5.2,baz=328,slow=8.7,SNR=3.6						
PMG	Port Moresby	26.24	123	eP	P	03 11 47.4	-1.7
PMG				pmax	pmax		
	comp=Z,147nm,1.2s						
PMG	Port Moresby	26.24	123	eP	P	03 11 47.4	-1.8
	comp=Z,147nm,1.2s,mb5.4						
WRAB	Tennant Creek	26.45	160	eP	P	03 11 51.2	+0.1
WRAB				pmax	pmax		
	comp=Z,79nm,0.6s,mb5.4						
WRAB	Tennant Creek	26.45	160	eP	P	03 11 51.2	+0.1
	comp=Z,79nm,0.6s,mb5.4						
WRA	Warramunga Arr	26.46	160	P	P	03 11 51.7	+0.5
	comp=Z,69nm,0.8s,mb5.2,baz=341,slow=10,SNR=6.6						
MBWA	Marble Bar	26.61	191	P	P	03 11 51.7	-0.8
	comp=Z,116nm,1.1s,mb5.3						
AS31	Alice Springs	29.82	164	eP	P	03 12 21.6	+0.4
ASAR	Alice Springs	29.82	164	P	P	03 12 21.5	+0.3
	comp=Z,8.6nm,0.6s,mb4.7,baz=348,slow=7.8,SNR=3.7						
ASAR				LR	LR	03 22 12.7	
	comp=Z,2μm,18.3s,MS4.9,baz=342,slow=34						
ASAR	Alice Springs	29.82	164	P	P	03 12 21.5	+0.3
ASAR				LR	LR	03 22 12.7	
CTA	Charters Tower	32.50	141	LR	LR	03 23 41.7	
	comp=Z,4μm,18.6s,MS5.1,baz=328,slow=35						
BJT	Baijiatuau	35.71	348	P	P	03 13 10.9	-1.7
BJT				pmax	pmax		
	comp=Z,37nm,1.0s						
BJT	Baijiatuau	35.71	348	P	P	03 13 10.9	-1.7
	comp=Z,37nm,1.0s,mb5.3						
NWAO	Narrogin (SRO)	38.54	191	eP	P	03 13 36.2	-0.4
NWAO				pmax	pmax		
	comp=Z,24nm,0.8s						
NWAO	Narrogin (SRO)	38.54	191	eP	P	03 13 36.2	-0.4
	comp=Z,24nm,0.8s,mb5.0						
STKA	Stephens Creek	39.95	158	eP	P	03 13 48.5	+0.1
	comp=Z,70nm,0.8s,mb5.4						
STKA	Stephens Creek	39.95	158	P	P	03 13 48.3	-0.1
	comp=Z,78nm,0.8s,mb5.5,baz=333,slow=7.2,SNR=5.6						
STKA				LR	LR	03 30 09.2	
	comp=Z,5μm,18.1s,MS5.4,baz=338,slow=38						
YAK	Yakutsk	56.92	3	eP	P	03 16 00.2	+1.1
SLKM	Skilak Lake	82.96	30	eP	P	03 18 39.0	+0.1
PMR	Palmer	83.52	29	eP	P	03 18 42.3	+0.5
PMR				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.5						
PMR	Palmer	83.52	29	eP	P	03 18 42.3	+0.5
	comp=Z,38nm,1.0s,mb5.5						
MAW	Mawson	84.47	200	eP	P	03 18 47.1	+0.5
MAW				pmax	pmax		
	comp=Z,15nm,1.8s						
OBN	Obninsk	85.06	325	eP	P	03 18 49.7	+0.2
OBN				pmax	pmax		
	comp=Z,84nm,1.7s,mb5.6						
FINES	FINESS Array B	89.90	332	LR	LR	04 06 29.6	
	comp=Z,2μm,18.6s,MS6.5,baz=254,slow=39						
QSPA	South Pole Qui	94.98	180	eP	P	03 19 36.4	+0.1
	comp=Z,14nm,1.1s,mb5.3						
TRQA	Tornquist	146.54	170	ePKPdf	PKPdf	03 25 55.1	+1.6

*IDC **24** 03:21:25.7±1.7, 504N×12535E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=112.5km s-min=23.1km az=67.0*

NEIC 24 03:21:27.5±1.3, 497N×12517E, h10km, Error ellipse: s-maj=86.5km s-min=18.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.93	179	P	P	03 26 31.9	+0.3
	3.2nm,0.7s,baz=356,slow=12,SNR=6.5						
WRA	Warramunga Arr	26.34	160	P	P	03 27 03.0	-0.6
	0.8nm,0.4s,baz=341,slow=10,SNR=11						
ASAR	Alice Springs	29.70	164	P	P	03 27 34.3	+0.7
	0.1nm,0.3s,baz=344,slow=6.8,SNR=2.8						
STKA	Stephens Creek	39.84	158	P	P	03 29 01.8	+0.8
	1.2nm,0.6s,baz=337,slow=17,SNR=3.0						
MKAR	Makanchi Array	55.66	326	P	P	03 31 03.9	+0.2
	0.4nm,0.5s,baz=120,slow=7.9,SNR=8.1						

*NEIC **24** 03:24:58.7, 3467S×7182W, h44km, MD3.9(GUC), After GUC.*

GUC 24 03:24:58.7±0.7, 3467S×7182W, h44km±2km, MD3.9, ML2.8, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.58	124	⇓iP	Pn	03 25 10.8	+0.1
NICH				iS	Sn	03 25 19.9	+0.7
SFDO	San Fernando	0.67	85	⇑iP	Pn	03 25 12.0	+0.2
SFDO				iS	Sn	03 25 22.6	+1.5
TALC	Talca	0.74	168	eP	Pn	03 25 13.1	+0.3
TALC				iS	Sn	03 25 24.4	+1.5
CACH	El Canelo	1.15	62	eP	Pn	03 25 19.7	+1.4
CACH				iS	Sn	03 25 35.6	+2.7
LNCH	Linares	1.19	172	⇑iP	Pn	03 25 19.9	+1.0
LNCH				iS	Sn	03 25 35.2	+1.4
LNCH				AML	AML	03 25 36.5	
	comp=E,418nm,0.6s						
LNCH	Linares	1.19	172	⇑iP	Pn	03 25 19.9	+1.0
LNCH				iS	Sn	03 25 35.2	+1.4
CICH	Cipreses	1.21	73	eP	Pn	03 25 19.9	+0.8
CICH				iS	Sn	03 25 36.2	+1.9
CHCH	Chadas Angostu	1.21	53	eP	Pn	03 25 20.5	+1.3
CHCH				iS	Sn	03 25 36.6	+2.2
TACH	Talagante	1.25	36	eP	Pn	03 25 20.0	+0.3
TACH				iS	Sn	03 25 36.8	+1.4
RCDM	Rinconada Maip	1.45	36	⇓iP	Pn	03 25 23.0	+0.6
RCDM				iS	Sn	03 25 41.9	+1.7
RCDM				AML	AML	03 25 45.8	
	comp=E,260nm,0.1s						
RCDM	Rinconada Maip	1.45	36	⇓iP	Pn	03 25 23.0	+0.6
RCDM				iS	Sn	03 25 41.9	+1.7

*IDC **24** 03:25:40.4±1.6, 626S×130.16E, h0km, mb4.3/2, mb1 4.4/5, mb1mx4.1/13, mbtmp4.3/5, ML4.2/3, Error ellipse: s-maj=88.8km s-min=22.9km az=71.0*
*ISCJB **24** 03:25:43.6±1.4, 645±01×1300E±03, h33km, mb4.2/2, Error ellipse: s-maj=37.9km s-min=16.1km az=139.1*
*NEIC **24** 03:25:45.8±1.8, 636S×1308E, h35km, mb4.2/1, Error ellipse: s-maj=48.2km s-min=20.8km az=69.0*

ISC 24 03:25:46.0±1.4, 63S±01×1301E±02, h35km, n11, σ1§19/12, mb4.2/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.75	160	eP	Pn	03 27 24.5	+2.0
	7.5nm,0.1s						
KAKA				eS	Sn	03 28 29.6	-8.5
FITZ	Fitzroy Crossi	12.46	200	eP	Pn	03 28 40.8	0.0
	9.7nm,0.3s						
FITZ				eS	Sx	03 30 45.1	
FITZ	Fitzroy Crossi	12.46	200	Pn	Pn	03 28 40.9	+0.1
	2.3nm,0.3s,baz=32,slow=11,SNR=52						
FITZ				Sn	Sx	03 30 47.2	
	1.4nm,0.3s,baz=133,slow=19,SNR=9.2						
WRA	Warramunga Arr	14.14	163	Pn	Pn	03 29 02.0	-1.7
	0.7nm,0.3s,baz=339,slow=13,SNR=18						
WRA				Sn	Sx	03 31 23.4	
	2.5nm,0.3s,baz=345,slow=22,SNR=11						
WB2	Warramunga Arr	14.14	163	eP	Pn	03 29 00.8	-3.0
WB2				eS	Sx	03 31 22.4	
AS31	Alice Springs	17.61	168	ePn	Pn	03 29 49.0	+0.4
AS31				eSn	Sx	03 32 46.6	
ASAR	Alice Springs	17.61	168	P	Pn	03 29 48.7	+0.1
	0.8nm,0.3s,baz=338,slow=8.4,SNR=21						
ASAR				S	Sx	03 32 47.9	
	0.3nm,0.3s,baz=337,slow=15,SNR=4.0						
ASPA	Alice Springs	17.61	168	eP	Pn	03 29 49.5	+0.9
STKA	Stephens Creek	27.59	158	eP	P	03 31 30.3	+0.4
	1.8nm,0.3s,mb4.2						
STKA	Stephens Creek	27.59	158	P	P	03 31 30.0	+0.1
	2.1nm,0.3s,mb4.2,baz=332,slow=10,SNR=8.6						
MKAR	Makanchi Array	67.72	327	P	P	03 36 39.6	-0.2
	1.5nm,0.6s,mb4.2,baz=124,slow=7.9,SNR=14						

*IDC **24** 03:33:37.9±2.0, 519N×12595E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=121.5km s-min=23.7km az=69.0*
*ISCJB **24** 03:33:47.3±2.1, 52N±04×1260E±09, h100km, mb3.6/4, Error ellipse: s-maj=131.3km s-min=22.3km az=137.6*

ISC 24 03:33:51.9±1.3, 47N±03×1253E±08, h100km, n6, σ1§74/6, mb3.6/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	11.54	339	⇑eP	Pn	03 36 34.7	+1.3
FITZ	Fitzroy Crossi	22.67	179	eP	P	03 38 45.7	+0.8
	6.6nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	22.67	179	P	P	03 38 46.1	+1.2
	3.7nm,0.7s,mb3.8,baz=11,slow=7.2,SNR=10						
WRA	Warramunga Arr	26.07	160	P	P	03 39 16.5	+0.6
	1.3nm,0.5s,mb3.6,baz=341,slow=10,SNR=9.0						
ASAR	Alice Springs	29.43	164	P	P	03 39 44.8	-1.2
	0.2nm,0.4s,mb3.1,baz=346,slow=7.7,SNR=3.4						
MKAR	Makanchi Array	55.93	326	P	P	03 43 17.7	-1.8
	0.6nm,0.5s,mb3.9,baz=123,slow=7.6,SNR=8.2						

CASC 24 03:38:01.7±1.9, 1150N×8578W, h7km±5km, MD3.8, ML3.9, 13C-8D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.17	67	⇑iP	Pg	03 38 06.5	+1.4
SSNN	San Juan del S	0.22	198	⇓iP	Pg	03 38 06.7	+0.6
MADN	Villa Maderas	0.26	110	⇑iP	Pg	03 38 08.4	+1.5
APON	Apoyo	0.50	326	⇑eP	Pg	03 38 11.8	+0.5
TICN	Ticuantepe	0.69	320	eP	Pg	03 38 15.4	+0.4
MGAN	Managua	0.79	325	⇓eP	Pg	03 38 17.0	+0.1
MGAN				eS	Sg	03 38 28.3	+1.2
	comp=E,3μm,0.5s						
MGAN				eS	Sg	03 38 28.9	+1.7
TISN	Laguna Tiscapa	0.80	323	eP	Pg	03 38 17.0	0.0
XAVN	Gruta Xavier	0.84	321	⇓eP	Pg	03 38 17.9	+0.1
COPN	Copaltepe	1.04	311	⇑eP	Pg	03 38 21.1	-0.6
COPN				eS	Sg	03 38 35.5	+0.2
MOMJ	Momotombo	1.17	321	⇑eP	Pg	03 38 22.8	-1.4
MIRN	Miramar	1.30	316	⇓eP	Pn	03 38 25.3	-1.0
CNGN	Cerro Negro	1.34	318	⇑eP	Pn	03 38 25.5	-1.3
VCR	Vista de Mar	1.37	174	⇓eP	Pn	03 38 26.0	-1.3
VCR				eS	Sb	03 38 45.8	+0.3
LEON	Leon	1.42	310	⇑eP	Pn	03 38 26.9	-1.1
VACR	Volcan Arenal	1.49	133	⇓eP	Pn	03 38 27.5	-1.4
TELN	Telica	1.50	317	eP	Pn	03 38 28.8	-0.3
CRIN	San Cristobal	1.72	314	⇑eP	Pn	03 38 32.3	+0.2
JCR	Jicaral	1.77	158	⇑eP	Pn	03 38 32.1	-0.6
JCR				eS	Sn	03 38 54.7	-0.7
EPA	Esparza	1.90	142	⇑eP	Pn	03 38 34.7	+0.2
CAO	Cobano	1.91	159	⇑eP	Pn	03 38 34.1	-0.5
POA2	Poas 2	2.00	131	eP	Pn	03 38 34.7	-1.2
PRS1	Puriscal	2.09	136	⇑eP	Pn	03 38 36.7	-0.4
PRS1				eS	Sn	03 39 06.8	+3.4
LAJ	Bijagual	2.30	135	⇓eP	Pn	03 38 37.5	-2.6
LAJ				eS	Sn	03 39 07.3	-1.4
OCM	Ochomogo	2.40	132	⇑eP	Pn	03 38 42.6	+1.3
LCR2	La Lucha 2	2.47	135	⇓eP	Pn	03 38 41.9	-0.5
LCR2				eS	Sn	03 39 14.8	+2.0
LIO	Limon	3.08	119	eP	Pn	03 38 49.4	-1.4

*ISK **24** 03:38:35.1, 3499N×2701E, h70km, ML4.7*
*MOS **24** 03:39:32.8±1.2, 3486N×2710E, h20km, mb4.7/30, Error ellipse: s-maj=4.7km s-min=2.2km az=107.1*
*GRAL **24** 03:39:34.4±1.7, 3482N×2709E, h0km±999km, MD4.7*
*BJI **24** 03:39:35.8, 3556N×2680E, h29km, mB5.7, mb4.9, Ms5.1, Msz4.9*
*ISCJB **24** 03:39:36.3±0.2, 3505N±001×2721E±001, h38km±3km, mb4.6/52, Error ellipse: s-maj=2.6km s-min=1.5km az=73.7*
*CRAAG **24** 03:39:36.2, 3506N×2720E, Mb4.7*
*NIC **24** 03:39:37.6±0.2, 3530N×2714E, h25km, mb4.7, ML4.4, MW4.1*
*HLW **24** 03:39:37.9, 3519N×2741E, h33km, Mb4.3*
*NEIC **24** 03:39:37.3, 3526N×2712E, h24km, mb4.5/42, MD4.5(ATH), ML4.4(NIC), After ATH.*
*ATH **24** 03:39:37.1, 3525N×2712E, h24km±1km, MD4.6/25, ML4.6*
*CSEM **24** 03:39:37.2±0.0, 3509N×2734E, h39km, mb4.7/11, Mw4.1, Error ellipse: s-maj=1.2km s-min=0.7km az=45.0*
*GII **24** 03:39:39.5±0.7, 3465N×2745E, h2km±30km, mb4.6/14, ML4.5/14, Mw4.5/8*
*THE **24** 03:39:39.8, 3521N×2733E, h21km, ML4.5*
*IDC **24** 03:39:41.5±2.7, 3535N×2706E, h57km±26km, mb4.1/21, mb1 4.1/27, mb1mx4.1/32, mbtmp4.3/27, ML4.1/6, MS3.8/2, Ms1 3.8/2, ms1mx3.4/36, Error ellipse: s-maj=12.1km s-min=11.5km az=144.0*
*NSSC **24** 03:39:42, 3559N×2780E, h38km*
*NAO **24** 03:40:39.3, 4159N×2514E, h33km, mb3.5*

ISC 24 03:39:38.7±0.2, 3507N±001×2719E±001, h39km±2km, h31km±4.0km: pP-P, n653, σ1§25/716, mb4.6/51, 38C-87D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	1.31	279	⇑iPN	Pn	03 40 00.6	+0.1
NPS				eSN	Sn	03 40 17.5	+0.7
NPS	Neapolis	1.31	279	⇑iPn	Pn	03 40 00.8	+0.3
NPS				eSn	Sn	03 40 17.8	+1.0
ARG	Arkhangelos	1.38	33	⇑iPN	Pn	03 40 01.3	-0.1
ARG				eSN	Sn	03 40 19.1	+0.7
DAT	Datca	1.69	11	iPN	Pn	03 40 05.1	-0.6
IDI	Anoyia	1.90	277	P	Pn	03 40 11.2	+2.6
SIVA	Sivas	1.96	269	P	Pn	03 40 13.6	+4.2
BODT	Bodrum	1.99	3	iPN	Pn	03 40 08.7	-1.2
BODT	Bodrum	1.99	3	P	Pn	03 40 08.7	-1.2
BDRM	Kayabasi	2.01	6	iP	Pn	03 40 09.1	-1.0

ALFC S Sn 03 41 34.3 +0.6
ALFC Alevga 4.43 87⇑eP Pn 03 40 43.0 -0.4
ALFC S Sn 03 41 34.3 +0.6
ALFC Alevga 4.43 87⇑eP Pn 03 40 43.0 -0.4
61nm,0.7s
SZAC Souni-Zanaja 4.69 92 ⇑P Pn 03 40 46.6 -0.3
33nm,0.5s
SZAC S Sn 03 41 41.1 +1.1
SZAC Souni-Zanaja 4.69 92⇑eP Pn 03 40 46.6 -0.3
SZAC S Sn 03 41 41.1 +1.1
SZAC Souni-Zanaja 4.69 92⇑eP Pn 03 40 46.6 -0.3
33nm,0.5s
BTOK Tokmak 4.74 8 iP Pn 03 40 47.5 -0.1
ITM Ithomi 4.76 298 ePN Pn 03 40 48.3 +0.4
ITM Ithomi 4.76 298 ePn Pn 03 40 48.0 +0.1
EZN Ezine 4.80 352 PN Pn 03 40 47.8 -0.7
EZN Ezine 4.80 352 P Pn 03 40 47.8 -0.7
BOZC Bozcaada 4.85 350 iP Pn 03 40 48.2 -1.0
AOS Alonnisos 4.88 328 ePn Pn 03 40 49.6 0.0
AOS eSn Sn 03 41 44.5 -0.2
AOS Alonnisos 4.88 328 P Pn 03 40 49.5 -0.1
LKR Lokris 4.91 318⇓iPN Pn 03 40 50.3 +0.3
MAMC Mammari 4.94 87 P Pn 03 40 50.0 -0.4
CANB Canakkale 4.94 359 PN Pn 03 40 50.0 -0.4
CANB Canakkale 4.94 359 P Pn 03 40 50.0 -0.4
CSS Prodhromos 5.04 89 P Pn 03 40 51.1 -0.6
18nm,0.5s
CSS S Sn 03 41 49.3 +0.6
CSS Prodhromos 5.04 89 ePn Pn 03 40 51.3 -0.4
CSS eSn Sn 03 41 46.6 -2.1
KONT Konya--Tatoy 5.06 54 PN Pn 03 40 53.4 +1.4
KONT Konya--Tatoy 5.06 54 P Pn 03 40 53.4 +1.4
LIA Limnos Island 5.08 342⇓iPN Pn 03 40 52.0 -0.3
LIA Limnos Island 5.08 342⇓iPn Pn 03 40 51.6 -0.7
LOS Limnos 5.14 342 ePn Pn 03 40 52.9 -0.2
LOS eSn Sn 03 41 50.0 -1.2
LOS Limnos 5.14 342 P Pn 03 40 52.8 -0.4
KDHN Kadinhani 5.24 47 iP Pn 03 40 55.0 +0.5
NEO Neokhori 5.29 324⇓iPN Pn 03 40 55.7 +0.5
ULDT Uludag 5.30 16 iP Pn 03 40 55.4 +0.1
EDC Edincik 5.30 6 PN Pn 03 40 55.6 +0.3
EDC Edincik 5.30 6 P Pn 03 40 55.6 +0.3
ESKT Eskisehir 5.32 32 PN Pn 03 40 56.3 +0.7
ESKT Eskisehir 5.32 32 iP Pn 03 40 55.3 -0.3
ESKT Eskisehir 5.32 32 P Pn 03 40 56.3 +0.7
SEYT Eskypehyr 5.32 32 iP Pn 03 40 55.3 -0.3
XOR Xorichti 5.35 325 ePn Pn 03 40 56.3 +0.3
BORA Eskisehir 5.46 27 iP Pn 03 40 57.5 0.0
RLS Riolos of Patr 5.49 305⇓iPN Pn 03 40 59.0 +1.0
RLS Riolos of Patr 5.49 305⇓iPn Pn 03 40 59.1 +1.1
MRMT Marmara Adasi 5.54 3 PN Pn 03 40 57.0 -1.6
MRMT Marmara Adasi 5.54 3 P Pn 03 40 57.0 -1.6
AGG Agios Georgios 5.54 317 ePn Pn 03 40 60.0 +1.3
AGG eSn Sn 03 42 01.2 +0.1
AGG Agios Georgios 5.54 317 P Pn 03 41 00.1 +1.4
GEMT Gemlik 5.59 16 PN Pn 03 40 59.4 +0.1
GEMT Gemlik 5.59 16 P Pn 03 40 59.4 +0.1
PHNC Paralimni 5.61 89 P Pn 03 41 00.8 +1.2
PHNC S Sn 03 41 56.7 -6.1
RKY Sarkoy-Tekirda 5.61 360 PN Pn 03 40 58.4 -1.2
RKY Sarkoy-Tekirda 5.61 360 P Pn 03 40 58.4 -1.2
SART Tekirdag 5.61 360 iP Pn 03 41 00.3 +0.6
MFT Murefte 5.71 1 PN Pn 03 41 00.3 -0.7
MFT Murefte 5.71 1 P Pn 03 41 00.3 -0.7
ADVT Abdulvahap 5.72 20 PN Pn 03 41 01.3 +0.1
ADVT Abdulvahap 5.72 20 P Pn 03 41 01.3 +0.1
YLV Yalova 5.76 17 PN Pn 03 41 01.3 -0.3
YLV Yalova 5.76 17 P Pn 03 41 01.3 -0.3
EVR Evrytania 5.77 313⇓iPN Pn 03 41 02.1 +0.2
EVR Evrytania 5.77 313⇓iPn Pn 03 41 02.0 +0.1
OUR Ouranopolis 5.84 335 ePn Pn 03 41 02.2 -0.6
OUR Ouranopolis 5.84 335 P Pn 03 41 02.5 -0.3
ALN Alexandroupoli 5.89 351 ePn Pn 03 41 02.9 -0.6
ALN eSn Sn 03 42 07.6 -2.1
ALN Alexandroupoli 5.89 351 P Pn 03 41 02.8 -0.7
SWA1 5.92 193 P Pn 03 41 05.9 +2.0
SWA1 S Sn 03 42 10.4 0.0
SWA2 5.99 195 ⇓P Pn 03 41 06.9 +2.1
HRT Hereke 6.07 18 PN Pn 03 41 06.0 +0.1
HRT Hereke 6.07 18 P Pn 03 41 06.0 +0.1
PLG Polygyros 6.07 332 ePN Pn 03 41 05.7 -0.3
PLG Polygyros 6.07 332 ePn Pn 03 41 05.6 -0.4
THL Klokotos Trika 6.10 319⇓iPN Pn 03 41 07.1 +0.8
THL Klokotos Trika 6.10 319⇓iPn Pn 03 41 07.4 +1.1
HNAT Natroun 6.14 151 ⇓P Pn 03 41 07.0 +0.1
CTT Catalca 6.15 9 PN Pn 03 41 05.5 -1.5
CTT Catalca 6.15 9 P Pn 03 41 05.5 -1.5
ELBA Catalca 6.15 9 iP Pn 03 41 08.8 +1.8
VLS Valsamata 6.15 302 ePN Pn 03 41 08.4 +1.4
VLS Valsamata 6.15 302 ePn Pn 03 41 07.4 +0.4
ISK Istanbul-Kandi 6.17 13 PN Pn 03 41 06.0 -1.3
ISK Istanbul-Kandi 6.17 13 P Pn 03 41 06.0 -1.3
SQR 6.18 146 ⇓P Pn 03 41 07.7 +0.3
RDO Rodhopi 6.21 348⇓iPN Pn 03 41 08.3 +0.5
RDO Rodhopi 6.21 348⇓iPn Pn 03 41 07.3 -0.5
RDO P 03 41 08.4
RDO Rodhopi 6.21 348 P Pn 03 41 08.4 +0.6
LIT Litokhoron 6.26 325 ePn Pn 03 41 09.2 +0.7
LIT eSn Sn 03 42 17.9 -1.0
LIT Litokhoron 6.26 325 P Pn 03 41 09.3 +0.8
LIT S Sn 03 42 16.1 -2.7
FYM Al Fayyum 6.27 148 P Pn 03 41 09.1 +0.5
KLYT Kilyos 6.35 13 PN Pn 03 41 08.8 -0.9
KLYT Kilyos 6.35 13 P Pn 03 41 08.8 -0.9
LKD Levkas 6.38 307 ePn Pn 03 41 10.7 +0.6
LKD eSn Sn 03 42 22.9 +1.1
LKD Levkas 6.38 307 P Pn 03 41 11.0 +0.8
LKD S Sn 03 42 21.9 +0.2
HORT Hortiatis 6.40 331 ePn Pn 03 41 11.2 +0.7
HORT Hortiatis 6.40 331 P Pn 03 41 11.3 +0.8
KOT Kottamia 6.45 141 ⇓P Pn 03 41 10.3 -0.8
KOT S Sn 03 42 19.2 -4.2
HENT Hendek 6.45 26 iP Pn 03 41 11.2 +0.1
THE Thessaloniki 6.49 330 P Pn 03 41 12.7 +1.1
SOH Sokhos 6.50 333 ePn Pn 03 41 12.3 +0.5
SOH eSn Sn 03 42 23.2 -1.4
SOH Sokhos 6.50 333 P Pn 03 41 12.3 +0.6
ANTO Ankara 6.54 41 PN Pn 03 41 12.2 -0.2
ANTO Ankara 6.54 41 P Pn 03 41 12.7 +0.3
SNR=24
ANTO Ankara 6.54 41⇓iP Pn 03 41 12.6 +0.2
ANTO Ankara 6.54 41 ⇓P Pn 03 41 12.7 +0.3
HSAF As Saff 6.56 145 ⇓P Pn 03 41 12.8 +0.1
GLL Jalalah 6.67 144 ⇓P Pn 03 41 14.3 +0.1
SRS Serrai 6.67 336 P Pn 03 41 15.6 +1.4
SGKT Sivrigoynuk 6.71 34 iP Pn 03 41 15.7 +1.0
AMAG Maghara 6.71 129 P Pn 03 41 14.0 -0.7
KDZ Kurdzhali 6.72 349 P Pn 03 41 14.2 -0.6
KARA Karaisali 6.72 69 PN Pn 03 41 14.9 0.0
KAMT Kaman 6.74 49 PN Pn 03 41 15.1 -0.1
KAMT Kaman 6.74 49 P Pn 03 41 15.1 -0.1
KZN Kozani 6.77 322 ePN Pn 03 41 16.1 +0.6
KZN Kozani 6.77 322 ePn Pn 03 41 16.0 +0.5
EDRB Edirne 6.78 357 PN Pn 03 41 14.4 -1.3
EDRB Edirne 6.78 357 P Pn 03 41 14.4 -1.3
NVR Nevrokopi 6.80 338⇓iPN Pn 03 41 16.2 +0.3
NVR Nevrokopi 6.80 338⇓iPn Pn 03 41 15.7 -0.2
JAN Janina 6.82 314 ePN Pn 03 41 16.9 +0.7
JAN Janina 6.82 314 ePn Pn 03 41 15.9 -0.3
AWBH 6.88 167 ⇑P Pn 03 41 17.9 +0.8
AWBH S Sn 03 42 31.1 -2.9
RZN Rozhen 6.89 344 P Pn 03 41 16.8 -0.4
HNTI Hanita 6.91 104 P Pn 03 41 18.0 +0.6
HNTI S Sn 03 42 33.9 -0.9
BR131 Keskin Array S 6.92 46 ePn Pn 03 41 17.6 0.0
15nm,0.5s
BR131 eSn Sn 03 42 36.3 +1.2
BR131 Keskin Array S 6.92 46 ePn Pn 03 41 17.6 0.0
15nm,0.5s
BRTR Keskin Array B 6.92 46 P Pn 03 41 17.1 -0.5
2.1nm,0.3s,baz=0.1,slow=8.5,SNR=96
BRTR S Sn 03 42 35.3 +0.2
1.8nm,0.3s,baz=208,slow=26,SNR=6.6
BRTR LR 03 44 19.3
comp=Z,624nm,18.1s,baz=212,slow=41
BRTR Keskin Array B 6.92 46 P Pn 03 41 17.2 -0.4
BRTR S Sn 03 42 35.3 +0.2
BRTR pmax pmax
comp=Z,2.0nm,0.3s
BRTR smax
comp=N,2.0nm,0.3s
BRTR MLR MLR
comp=Z,624nm,18.1s
OFRI 'Ofer 6.92 108 Pn Pn 03 41 18.3 +0.7
KNT Kendrikon 6.96 332 ePn Pn 03 41 19.1 +0.9
KNT eSn Sn 03 42 35.7 -0.4
KNT Kendrikon 6.96 332 P Pn 03 41 19.1 +0.9
HBNS Bani Suwayf 6.99 150 ⇓P Pn 03 41 18.7 +0.3
MMB Musomiste 7.06 338 P Pn 03 41 19.8 +0.3
SUZ 7.06 136 ⇑P Pn 03 41 19.0 -0.5
BHL Bhannes 7.08 97 ePn Pn 03 41 18.5 -1.2
BHL Sn Sn 03 42 35.8 -3.2
DIM Dimitrovgrad 7.09 350 P Pn 03 41 19.4 -0.6
MMA0B Mount Meron ar 7.11 104 Pn Pn 03 41 19.8 -0.4
SLTI Sal'it 7.12 111 Pn Pn 03 41 20.3 -0.1
SLTI Sn Sn 03 42 39.0 -1.0
SLTI Sal'it 7.12 111 P Pn 03 41 20.1 -0.3
SLTI S Sn 03 42 39.1 -0.9
CEYT Ceyhan 7.20 72 PN Pn 03 41 20.7 -0.7
CEYT Ceyhan 7.20 72 P Pn 03 41 20.1 -1.3
ARNB Al Arnab 7.21 81⇓iP Pn 03 41 19.7 -1.8
ARNB Al Arnab 7.21 81 ⇓P Pn 03 41 19.0 -2.5
ARNB ⇓S Sn 03 42 29.0 -13
VAY Valandovo 7.23 331 ePn Pn 03 41 22.9 +1.1
VAY Valandovo 7.23 331 P Pn 03 41 23.7 +1.9
HWQ Hawqa 7.25 94 ePn Pn 03 41 21.3 -0.8
HWQ Sn Sn 03 42 41.1 -2.1
KSDI Kefar Szold 7.26 103 Pn Pn 03 41 23.0 +0.7
KSDI Kefar Szold 7.26 103 P Pn 03 41 21.1 -1.2
LSK Leskovik 7.29 316 iPn Pn 03 41 25.5 +2.9
PLD Plovdiv 7.29 345 P Pn 03 41 23.7 +1.0
HRI Mount Hermon 7.30 102 Pn Pn 03 41 22.8 -0.1
CDAG Cicekdag 7.30 49 iP Pn 03 41 23.0 +0.2
RCY Rachaya 7.31 100 ePn Pn 03 41 22.6 -0.4
RCY Sn Sn 03 42 43.3 -1.3
ELDT Eldivan 7.33 40 iP Pn 03 41 23.0 -0.2
FNA Florina 7.33 323 ePn Pn 03 41 24.2 +1.0
FNA eSn Sn 03 42 44.5 -0.6
FNA Florina 7.33 323 P Pn 03 41 25.1 +1.9
FNA S Sn 03 42 44.5 -0.6
FNA Florina 7.33 323 P Pn 03 41 25.1 +1.9
KZIT Kziot 7.33 122 Pn Pn 03 41 22.4 -0.9
KZIT Sn Sn 03 42 43.9 -1.3
KZIT Kziot 7.33 122 P Pn 03 41 22.5 -0.8
KZIT S Sn 03 42 41.6 -3.6
MMLI Mount Malkishu 7.34 109 Pn Pn 03 41 23.9 +0.6
MMLI Mount Malkishu 7.34 109 P Pn 03 41 24.0 +0.7
ZAF 7.34 140 ⇓P Pn 03 41 22.6 -0.7
AMAZ Amatzia 7.36 116 Pn Pn 03 41 23.8 +0.2
AMAZ Sn Sn 03 42 42.5 -3.3
HTY Hatay 7.36 79 PN Pn 03 41 23.4 -0.2
HTY Hatay 7.36 79 P Pn 03 41 22.4 -1.2
KOZT Kozan 7.38 68 PN Pn 03 41 23.4 -0.5
SLNF Slenfeh 7.40 83⇓iP Pn 03 41 21.8 -2.3
SLNF Slenfeh 7.40 83 ⇓P Pn 03 41 21.0 -3.1
SLNF ⇓S Sn 03 42 34.0 -13
BRBR Barbar 7.44 100⇓iP Pn 03 41 24.6 -0.1
BRBR Barbar 7.44 100 ⇓P Pn 03 41 24.0 -0.7
BRBR ⇓S Sn 03 42 39.0 -8.7
ZNM 7.44 138 P Pn 03 41 24.3 -0.4
KSHT Keshet 7.45 104 Pn Pn 03 41 24.7 -0.1
RTMI Retamim 7.46 120 Pn Pn 03 41 25.0 +0.1
SRN Sarande 7.47 312 iPn Pn 03 41 25.9 +0.8
HMDT Nahal Hemdat 7.49 110 Pn Pn 03 41 25.0 -0.4
HMDT Nahal Hemdat 7.49 110 P Pn 03 41 25.4 0.0
KEK Kerkira 7.49 310 ePN Pn 03 41 26.6 +1.2
KEK Kerkira 7.49 310 ePn Pn 03 41 25.6 +0.2
KEK P 03 41 28.7
KEK Kerkira 7.49 310 P Pn 03 41 28.7 +3.3
COBT Iskenderun 7.50 76 iP Pn 03 41 25.6 0.0
CANT Cankiri 7.51 41 PN Pn 03 41 25.2 -0.5
CANT Cankiri 7.51 41 P Pn 03 41 25.2 -0.5
KBN Korca 7.51 319 iPn Pn 03 41 30.8 +5.1
KKB Krupnik 7.52 336 P Pn 03 41 27.4 +1.6
SAFT Safranbolu 7.53 33 PN Pn 03 41 24.8 -1.1
SAFT Safranbolu 7.53 33 P Pn 03 41 24.8 -1.1
BIA Bitola 7.53 324 ePn Pn 03 41 27.6 +1.6
BIA Bitola 7.53 324 P Pn 03 41 28.5 +2.5
YTIR Yattir 7.59 117 Pn Pn 03 41 26.1 -0.7
BTCH Batrach 7.61 80⇓iP Pn 03 41 25.2 -1.9
BTCH Batrach 7.61 80 ⇓P Pn 03 41 25.0 -2.1
BTCH ⇓S Sn 03 42 38.0 -14
QASN Qassioun 7.67 99⇓iP Pn 03 41 27.7 -0.2
QASN Qassioun 7.67 99 ⇓P Pn 03 41 27.0 -0.9
QASN ⇓S Sn 03 42 44.0 -9.5
DRGI Dragot 7.68 114 Pn Pn 03 41 27.6 -0.4
DRGI Dragot 7.68 114 P Pn 03 41 27.2 -0.9
DRGI Dragot 7.68 114 Pn Pn 03 41 27.6 -0.5
HNKL Nakhl 7.69 130 P Pn 03 41 27.7 -0.4
DSI Dead Sea 7.69 115 Pn Pn 03 41 27.8 -0.3
STIP Stip 7.70 331 ePn Pn 03 41 29.0 +0.7
STIP Stip 7.70 331 ePn Pn 03 41 28.9 +0.7
MARH Ras Al Marh 7.73 95⇑iP Pn 03 41 28.0 -0.7
MARH Ras Al Marh 7.73 95 ⇑P Pn 03 41 28.0 -0.7
MARH ⇑S Sn 03 42 44.0 -11
CORM Corum 7.80 47 ePN Pn 03 41 29.3 -0.3
MZDA Masada 7.80 116 Pn Pn 03 41 29.3 -0.4
MZDA Sn Sn 03 42 55.0 -1.8
MZDA Masada 7.80 116 P Pn 03 41 29.3 -0.4
MZDA S Sn 03 42 55.4 -1.3
TOTH TOTAH 7.84 100⇓iP Pn 03 41 30.9 +0.8
TOTH TOTAH 7.84 100 ⇓P Pn 03 41 30.0 -0.1
TOTH ⇓S Sn 03 42 49.0 -8.5
KRUS Krusevo 7.84 325 ePn Pn 03 41 32.7 +2.5
DRWC Darouich 7.85 76 ⇑P Pn 03 41 27.0 -3.3
DRWC ⇑S Sn 03 42 43.0 -15
BNN Bunyan 7.89 59 PN Pn 03 41 31.4 +0.5
BNN Bunyan 7.89 59 P Pn 03 41 32.2 +1.3
YOZ Yozgat 7.92 52 ePN Pn 03 41 30.8 -0.5
YOZ Yozgat 7.92 52 P Pn 03 41 31.4 +0.1
HFRF Wahat Farafira 7.95 173 ⇓P Pn 03 41 33.7 +2.0
TOS Tosya 8.03 40 ePN Pn 03 41 31.8 -1.0
TOS Tosya 8.03 40 P Pn 03 41 31.8 -1.0
KMTI Karmit 8.05 126 Pn Pn 03 41 32.0 -1.1
KMTI Karmit 8.05 126 Pn Pn 03 41 32.0 -1.1
BALT Daday 8.09 35 iP Pn 03 41 33.9 +0.4
ZFRI Zfri 8.09 122 Pn Pn 03 41 33.7 +0.1
-0-PRNI Paran 8.09 123 Pn Pn 03 41 33.1 -0.5
PRNI Sn Sn 03 43 01.2 -2.5
PRNI Paran 8.09 123 P Pn 03 41 32.3 -1.3
VTS Vitosha 8.13 339⇓iP Pn 03 41 35.3 +1.1
VTS Vitosha 8.13 339 ⇓P Pn 03 41 35.3 +1.1
KMRS Kahramanmaras 8.21 70 PN Pn 03 41 34.5 -0.7
SKO Skopje 8.24 329 ePn Pn 03 41 37.8 +2.1
SKO Skopje 8.24 329 ePn Pn 03 41 37.7 +2.1
SZH Strazhica 8.25 354 P Pn 03 41 37.4 +1.6
PVL Pavlikeni 8.27 350 P Pn 03 41 35.2 -0.9
SALA Sala 8.27 104⇓iP Pn 03 41 36.6 +0.5
SALA Sala 8.27 104 ⇓P Pn 03 41 36.0 -0.1
SALA ⇓S Sn 03 43 00.0 -8.2
GRB Gharib 8.28 143 ⇑P Pn 03 41 36.3 0.0
HRFI Mount Harif 8.30 125 Pn Pn 03 41 36.2 -0.4
HRFI Sn Sn 03 43 06.7 -2.3
ROOS tl_alroos 8.37 93⇓iP Pn 03 41 36.8 -0.7
ROOS tl_alroos 8.37 93 ⇓P Pn 03 41 36.0 -1.5
ROOS ⇓S Sn 03 43 01.0 -10
GAZ Gaziantep 8.37 73 PN Pn 03 41 36.5 -1.0
GAZ Gaziantep 8.37 73 P Pn 03 41 36.5 -1.0
MBH Mount Berech 8.38 127 Pn Pn 03 41 37.7 +0.1
PHP Peshkopia 8.47 323 iPn Pn 03 41 41.3 +2.5
EIL Elat 8.48 127 Pn Pn 03 41 38.8 -0.3
EIL Elat 8.48 127 P Pn 03 41 38.2 -0.8
AQBJ Aqaba 8.51 127 Pn Pn 03 41 38.8 -0.6
TIR Tirane 8.52 320 P Pn 03 41 41.4 +1.9
ASF Jabal al Asfar 8.59 107 P Pn 03 41 40.2 -0.3
comp=Z,1.9nm,0.3s,baz=166,slow=4.1,SNR=30
ASF S Sn 03 43 14.9 -1.2
comp=Z,1.4nm,0.3s,baz=355,slow=19,SNR=2.3
ASF LR LR 03 46 40.7
comp=Z,795nm,20.3s,baz=161,slow=48
ASF Jabal al Asfar 8.59 107 P Pn 03 41 40.2 -0.3
ASF S Sn 03 43 14.9 -1.2
ASF pmax pmax
comp=Z,2.0nm,0.3s
ASF smax
comp=N,1.0nm,0.3s
ASF MLR MLR
comp=Z,795nm,20.3s
HBST Basata 8.65 130 ⇓P Pn 03 41 41.8 +0.5
GZT Gaziantep 8.69 72 iP Pn 03 41 41.0 -0.8
BZK Bozkurt 8.71 36 ePN Pn 03 41 41.7 -0.4
BZK Bozkurt 8.71 36 P Pn 03 41 41.7 -0.4
HKAT Jabal Katrina 8.72 137 ⇓P Pn 03 41 42.0 -0.2
BYBT Boyabat 8.73 41 ePN Pn 03 41 41.7 -0.7
BYBT Boyabat 8.73 41 P Pn 03 41 41.7 -0.7
BOYT Boyabat 8.77 41 iP Pn 03 41 43.2 +0.2
LCI Lecce 8.91 309 Pn Pn 03 41 43.0 -1.9
LCI P 03 41 45.0
LCI Lecce 8.91 309 P Pn 03 41 45.0 +0.1
HDHB Dhahab 8.93 133 ⇓P Pn 03 41 44.9 -0.3
BCI Bajram Curri 9.17 325 iPn Pn 03 41 51.8 +3.4
SVSK Karacayir 9.17 55 ePN Pn 03 41 47.8 -0.6
SVSK Karacayir 9.17 55 P Pn 03 41 47.8 -0.6
ATAB Bozova 9.28 72 iP Pn 03 41 50.0 0.0
SHRM 9.28 138 P Pn 03 41 50.0 +0.1
GRI Girifalco 9.40 297 P Pn 03 41 51.9 +0.3
TIRR Tirgusor 9.43 5⇓iP Pn 03 41 53.8 +1.8
TIRR Tirgusor 9.43 5 ⇓P Pn 03 41 53.8 +1.8
SOI Samo 9.45 292 P Pn 03 41 51.4 -0.9
HDK1 Dakhla 9.68 168 P Pn 03 41 57.0 +1.6
URFA Urfa 9.69 72 ePN Pn 03 41 54.4 -1.1
URFA Urfa 9.69 72 P Pn 03 41 54.4 -1.1
MTTG Motta San Giov 9.71 291 P Pn 03 41 58.0 +2.2
AGST Augusta-Monte 9.92 286 P Pn 03 41 56.4 -2.3
AKRG Al Kharijah 9.95 162 ⇓P Pn 03 41 59.0 -0.1
GTR Jabal at Tayr 9.96 162 ⇓P Pn 03 41 59.6 +0.4
HAVL Avola 9.96 284 Pn Pn 03 41 57.1 -2.1
HAVL P 03 41 58.5
SSY Sortino 10.03 286 P Pn 03 42 00.4 +0.2
ELZG Elazig 10.06 67 iP Pn 03 42 00.4 -0.1
HMDC Modica 10.23 284 P Pn 03 42 02.7 -0.3
HSFG 10.26 144 P Pn 03 42 03.4 +0.1
CUC Castrocucco 10.29 302 P Pn 03 42 01.2 -2.5
CUC Pn Pn 03 42 02.1 -1.6
CUC Castrocucco 10.29 302 Pn Pn 03 42 02.1 -1.6
HVZN Vizzini 10.31 285 P Pn 03 42 03.0 -1.1
WDD Wield Dalam 10.37 278 P Pn 03 42 06.0 +1.2
MLR Muntele Rosu 10.46 355⇓iP Pn 03 42 07.9 +1.8
MLR Muntele Rosu 10.46 355 ⇓P Pn 03 42 07.9 +1.8
PTK Pertek 10.48 65 ePN Pn 03 42 05.2 -1.1
PTK Pertek 10.48 65 P Pn 03 42 05.2 -1.1
VOIR 10.49 352⇑iP Pn 03 42 07.4 +0.9
VOIR 10.49 352 ⇑P Pn 03 42 07.4 +1.0
SLNA Salina 10.51 293 P Pn 03 42 08.0 +1.3
SLCN Sala Consilina 10.58 304 Pn Pn 03 42 04.6 -3.2
DIVS Divcibare 10.59 331 iPn Pn 03 42 09.6 +1.7
VAE Valguarnera 10.60 287 P Pn 03 42 11.5 +3.5
comp=Z,1.3nm,0.3s,baz=112,slow=11,SNR=1.9
PLOR Plostina 10.78 358⇑iP Pn 03 42 12.0 +1.5
VRI Vrincioaia 10.79 358⇓iP Pn 03 42 11.4 +0.7
VRI Vrincioaia 10.79 358 ⇓P Pn 03 42 11.4 +0.7
KELT Kelkit 10.83 59 iP Pn 03 42 13.2 +2.0
MRLC Muro Lucano 10.85 305 Pn Pn 03 42 09.1 -2.3
MRLC P 03 42 11.0
GZR Gura Zlata 10.85 343⇓iP Pn 03 42 11.9 +0.4
GZR Gura Zlata 10.85 343 ⇓P Pn 03 42 11.8 +0.4
EZC Erzincan 11.07 61 ePN Pn 03 42 09.0 -5.5
EZC Erzincan 11.07 61 P Pn 03 42 09.0 -5.5
SIM Simferopol' 11.20 26 eP Pn 03 42 17.1 +0.9
SIM S Sn 03 44 28.0 +7.9
SIM pmax pmax
comp=Z,17nm,0.8s
SIM Simferopol' 11.20 26 eP Pn 03 42 17.1 +0.9
comp=Z,17nm,0.8s
RGNG Rignano Grg 11.24 309 P Pn 03 42 16.5 -0.3
BZS Buzias 11.36 340⇓iP Pn 03 42 18.5 +0.1
BZS Buzias 11.36 340 ⇓P Pn 03 42 18.5 +0.1
DRGR 12.19 345⇑iP Pn 03 42 31.2 +1.4
DRGR 12.19 345 ⇑P Pn 03 42 31.2 +1.4
EZM Erzurum 12.24 63 ePN Pn 03 42 29.7 -0.8
EZM Erzurum 12.24 63 P Pn 03 42 29.7 -0.8
ERZM Erzurum 12.25 63 iP Pn 03 42 32.4 +1.8
SDI San Donato 12.41 306 P Pn 03 42 37.1 +4.3
ANN Anapa 12.49 36 eP Pn 03 42 38.0 +4.2
ANN eS Sn 03 45 00.3 +8.7
ANN pmax pmax
comp=Z,81nm,1.3s
BURAR Bucovina Array 12.62 354⇑iP Pn 03 42 38.0 +2.3
BURAR Bucovina Array 12.62 354 ⇑P Pn 03 42 38.0 +2.4
PKSM Moragy 12.88 332⇑iP Pn 03 42 40.3 +1.1
PKSM Moragy 12.88 332 ⇑P Pn 03 42 40.3 +1.1
SOC Sochi 12.88 45 eP Pn 03 42 38.9 -0.3
SOC pmax pmax
comp=Z,8.0nm,0.5s
SOC Sochi 12.88 45 eP Pn 03 42 38.9 -0.3
comp=Z,8.0nm,0.5s
CUKT Cukurca 13.44 76 ePN Pn 03 42 46.1 -0.8
HAKT HAKKARI 13.55 75 iP Pn 03 42 51.1 +2.8
BOJS Bojanci 13.83 323 iPn Pn 03 42 48.9 -3.2
PSZ Piszkesteto 13.95 339 eP Pn 03 42 56.0 +2.3
UZH Uzhgorod 14.03 346 eP Pn 03 42 56.0 +1.1
UZH pmax pmax
comp=Z,49nm,1.2s
UZH MLR MLR
comp=Z,1μm,1.4s
UZH Uzhgorod 14.03 346 eP Pn 03 42 58.0 +3.1
UZH Uzhgorod 14.03 346 eP Pn 03 42 56.0 +1.1
comp=Z,1μm,1.4s
SEMD Semdilli 14.18 76 ePN Pn 03 42 54.1 -2.8
KECS Kecovo 14.30 342 ePN Pn 03 42 59.9 +1.3
KOLS Kolonicke sedl 14.33 347 ePN Pn 03 43 00.4 +1.5
CRVS Cervenica-Dubn 14.46 345 ePN Pn 03 43 01.2 +0.5
KEST Kesra 14.58 278 P Pn 03 43 04.9 +2.6
comp=Z,0.1nm,0.3s,baz=87,slow=3.3,SNR=8.9
KEST S Sn 03 45 38.4 -4.2
comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=2.5
PERS Pernice 14.71 325 iPn Pn 03 43 05.0 +0.8
VYHS Vyhne 14.78 338 ePN Pn 03 43 06.0 +1.0
GNI Garni 14.80 65 P Pn 03 43 07.2 +1.9
comp=Z,0.7nm,0.3s,baz=245,slow=2.1,SNR=5.8
GNI Garni 14.80 65 P Pn 03 43 12.6 +7.3
SNR=7.4
GNI Garni 14.80 65⇑iP Pn 03 43 06.5 +1.2
GNI pmax pmax
comp=Z,20nm,0.8s
GNI Garni 14.80 65 iP Pn 03 43 06.5 +1.2
comp=Z,20nm,0.8s
KIV Kislovodsk 14.87 49 P Pn 03 43 12.8 +6.6
SNR=24
KIV Kislovodsk 14.87 49⇓eP Pn 03 43 07.9 +1.7
KIV pmax pmax
comp=Z,46nm,1.3s
KIV Kislovodsk 14.87 49 eP Pn 03 43 11.9 +5.7
comp=Z,122nm,1.4s
VOY Vojsko 14.88 321 e(Pn) Pn 03 43 05.0 -1.4
VOY e 03 43 13.2
VOY e 03 43 28.4
VOY e 03 43 37.7
SOP Sopron 14.90 331⇓eP Pn 03 43 08.0 +1.4
KWP Kalwaria 14.92 349 eP Pn 03 43 11.5 +4.6
LVV L'vov 14.93 352 eP Pn 03 43 18.6 +12
LVV MLR MLR
comp=E,300nm,9.0s
LVV MLR MLR
comp=N,500nm,10.0s
LVV MLR MLR
comp=Z,600nm,10.0s
ARSA Arzberg 14.99 328⇑iP Pn 03 43 08.8 +1.0
comp=Z,31nm,1.4s
STHS Stebnicka Huta 14.99 345 ePN Pn 03 43 13.2 +5.4
ZEI Tsey 15.09 54 eP Pn 03 43 09.8 +0.7
NIE Niedzica 15.21 343 eP Pn 03 43 12.8 +2.2
NIE e 03 43 20.6
NIE Niedzica 15.21 343 eP Pn 03 43 12.8 +2.2
NIE e 03 43 20.6
ROBS Robic 15.22 321 ePn Pn 03 43 11.7 +0.9
CONA Conrad Observa 15.38 330⇑iP Pn 03 43 13.4 +0.6
comp=Z,16nm,1.4s
KIEV Kiev 15.69 5 P Pn 03 43 19.0 +2.1
AKASG Malin Array Be 15.70 5 P Pn 03 43 16.0 -1.0
comp=Z,3.3nm,0.3s,baz=193,slow=10,SNR=9.3
AKASG Malin Array Be 15.70 5 P Pn 03 43 16.0 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 15.70 5 eP Pn 03 43 19.1 +2.1
KBA Koelnbreinsper 15.88 323⇑iP Pn 03 43 20.2 +0.9
comp=Z,106nm,1.2s
KBA Koelnbreinsper 15.88 323⇑iP Pn 03 43 20.2 +0.9
KBA pmax pmax
comp=Z,106nm,1.3s
PGF Pioggiola 16.01 303 eP Pn 03 43 18.3 -2.7
comp=Z,46nm,0.7s

PGF **Pioggiola** 16.01 303 eP Pn 03 43 18.3 -2.7
PGF pmax pmax
comp=Z,23nm,0.7s
PGF **Pioggiola** 16.01 303 eP Pn 03 43 18.3 -2.7
comp=Z,23nm,0.7s
OJC **Ojcow** 16.08 343 eP Pn 03 43 21.6 -0.2
OKC **Ostrava-Krasne** 16.18 339 eP Pn 03 43 24.6 +1.4
OKC epP pP 03 43 32.6 -3.0
VRAC **Vranov** 16.23 334 P Pn 03 43 23.5 -0.3
comp=Z,1.2nm,0.3s,baz=158,slow=10,SNR=9.2
VRAC **Vranov** 16.23 334⇓iP Pn 03 43 25.4 +1.6
VRAC **Vranov** 16.23 334 P Pn 03 43 23.5 -0.3
VRAC pmax pmax
comp=Z,1.0nm,0.3s
MORC **Moravsky Berou** 16.32 337⇓iP Pn 03 43 26.1 +1.2
MORC **Moravsky Berou** 16.32 337 eP Pn 03 43 26.0 +1.1
TREC **Trest** 16.63 332 eP Pn 03 43 26.9 -1.9
TREC epP pP 03 43 34.6 -6.0
WTTA **Wattenberg** 16.86 321⇓iP Pn 03 43 31.7 -0.1
comp=Z,46nm,1.4s
WTTA **Wattenberg** 16.86 321⇓iP Pn 03 43 31.7 -0.1
WTTA pmax pmax
comp=Z,46nm,1.4s
GEC2 **GERESS Array S** 17.00 328 eP Pn 03 43 34.1 +0.6
comp=Z,75nm,1.4s
GEC2 **GERESS Array S** 17.00 328 eP Pn 03 43 34.1 +0.6
GEC2 pmax pmax
comp=Z,148nm,1.4s
GERES **GERESS Array B** 17.00 328 P Pn 03 43 32.6 -0.9
comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=31
GERES **GERESS Array B** 17.00 328 P Pn 03 43 32.6 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.3s
SQTA **Sankt Quirin** 17.06 320⇓iP Pn 03 43 33.9 -0.4
comp=Z,84nm,1.8s
SQTA **Sankt Quirin** 17.06 320⇓iP Pn 03 43 33.9 -0.3
SQTA pmax pmax
comp=Z,84nm,1.8s
MOTA **Moosalm** 17.19 320⇑iP Pn 03 43 35.3 -0.6
comp=Z,32nm,1.4s
MOTA **Moosalm** 17.19 320⇑iP Pn 03 43 35.3 -0.6
MOTA pmax pmax
comp=Z,32nm,1.4s
DPC **Dobruska-Polom** 17.21 336 eP Pn 03 43 35.7 -0.4
DPC epP pP 03 43 45.5 -1.5
KHC **Kasperske Hory** 17.27 329 eP Pn 03 43 36.9 +0.1
KHC epP pP 03 43 46.3 -1.4
UPC **Upice** 17.45 336 eP Pn 03 43 39.3 +0.3
UPC epP pP 03 43 48.1 -1.6
DAVOX **Davos/Dischmat** 17.51 317 P Pn 03 43 39.4 -0.4
baz=150,slow=14,SNR=3.6
PRU **Pruhonice** 17.55 332 eP Pn 03 43 39.7 -0.6
PRU epP pP 03 43 48.1 -2.7
SBF **Sospel** 17.57 306 eP Pn 03 43 37.7 -2.9
comp=Z,93nm,0.9s
SBF **Sospel** 17.57 306 eP Pn 03 43 37.7 -2.9
SBF pmax pmax
comp=Z,47nm,0.9s
SBF **Sospel** 17.57 306 eP Pn 03 43 37.7 -2.9
comp=Z,47nm,0.9s
WET **Wettzell** 17.58 327 eP Pn 03 43 40.2 -0.5
comp=Z,31nm,1.3s
WET **Wettzell** 17.58 327 eP Pn 03 43 40.2 -0.5
WET pmax pmax
comp=Z,39nm,1.3s
KSP **Ksiaz** 17.64 337 eP Pn 03 43 43.5 +2.1
KSP **Ksiaz** 17.64 337 eP Pn 03 43 41.7 +0.3
FUR **Furstenfeldbru** 17.64 323 eP Pn 03 43 40.4 -1.0
comp=Z,148nm,1.7s
FUR **Furstenfeldbru** 17.64 323 eP Pn 03 43 40.4 -1.0
FUR pmax pmax
comp=Z,50nm,1.7s
DAVA **Damuels** 17.81 319⇑iP Pn 03 43 42.9 -0.6
comp=Z,21nm,0.7s
DAVA **Damuels** 17.81 319⇑iP Pn 03 43 42.8 -0.7
comp=Z,21nm,0.7s
PVCC **Panska Ves** 17.98 333 eP Pn 03 43 47.2 +1.7
PVCC epP pP 03 43 55.3 -0.2
FRF **La Foret Royal** 17.99 304 eP Pn 03 43 42.8 -2.9
comp=Z,22nm,0.7s
FRF **La Foret Royal** 17.99 304 eP Pn 03 43 42.8 -2.9
FRF pmax pmax
comp=Z,11nm,0.7s
FRF **La Foret Royal** 17.99 304 eP Pn 03 43 42.8 -2.9
comp=Z,11nm,0.7s
LMR **La Mourre** 18.00 303 eP Pn 03 43 43.3 -2.5
comp=Z,55nm,1.2s
LMR **La Mourre** 18.00 303 eP Pn 03 43 43.3 -2.5
LMR pmax pmax
comp=Z,27nm,1.2s
LMR **La Mourre** 18.00 303 eP Pn 03 43 43.3 -2.5
comp=Z,27nm,1.2s
VRSR **Storozhevoye** 18.32 25 eP Pn 03 43 48.0 -1.7
VRSR pmax pmax
comp=Z,6.0nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR **Storozhevoye** 18.32 25 eP Pn 03 43 48.0 -1.7
comp=E,10.0nm,0.9s
ROTZ **Rotzenmuhle** 18.34 328 eP Pn 03 43 47.7 -2.3
comp=Z,31nm,1.3s
MBDF **Montbardon** 18.36 308 eP Pn 03 43 48.2 -2.0
comp=Z,38nm,0.7s
MBDF **Montbardon** 18.36 308 eP Pn 03 43 48.2 -2.0
MBDF pmax pmax
comp=Z,19nm,0.7s
MBDF **Montbardon** 18.36 308 eP Pn 03 43 48.2 -2.0
comp=Z,19nm,0.7s
BRG **Berggiesshubel** 18.49 333 eP Pn 03 43 52.5 +0.7
comp=Z,28nm,1.3s
MANZ **Manzenberg** 18.55 328 eP Pn 03 43 50.7 -1.8
comp=Z,32nm,1.2s
NKC **Novy Kostel** 18.59 329 eP Pn 03 43 51.7 -1.2
NKC epP pP 03 44 01.6 -0.6
LPG **La Plagne** 18.71 310 eP Pn 03 43 52.2 -2.2
comp=Z,33nm,0.7s
LPG **La Plagne** 18.71 310 eP Pn 03 43 52.2 -2.2
LPG pmax pmax
comp=Z,17nm,0.7s
LPG **La Plagne** 18.71 310 eP Pn 03 43 52.2 -2.2
comp=Z,16nm,0.7s
TANN **Tannenbergstha** 18.72 330 eP Pn 03 43 54.6 +0.1
comp=Z,14nm,1.2s
GRA1 **Grafenberg Arr** 18.73 326 eP Pn 03 43 53.8 -0.8
comp=Z,96nm,1.5s
GRF **Grafenberg Arr** 18.73 326 eP Pn 03 43 53.8 -0.8
comp=Z,96nm,1.5s
GRF **Grafenberg Arr** 18.73 326 eP Pn 03 43 53.8 -0.8
GRF pmax pmax
comp=Z,3.0nm,1.5s
GRF **Grafenberg Arr** 18.73 326 eP Pn 03 43 53.8 -0.8
GRF pmax pmax
comp=Z,96nm,1.5s
LPL **La Plagne** 18.73 310 eP Pn 03 43 52.8 -1.9
comp=Z,38nm,0.9s
LPL **La Plagne** 18.73 310 eP Pn 03 43 52.8 -1.9
LPL pmax pmax
comp=Z,19nm,0.9s
LPL **La Plagne** 18.73 310 eP Pn 03 43 52.8 -1.9
comp=Z,19nm,0.9s
GUNZ **Gunzen** 18.73 329 eP Pn 03 43 53.5 -1.2
comp=Z,27nm,1.2s
FBE **Freiberg** 18.75 332 eP Pn 03 43 53.6 -1.4
comp=Z,96nm,1.3s
WERD **Werda** 18.81 329 eP Pn 03 43 55.6 0.0
comp=Z,33nm,1.3s
SMRF **Simiane la Rot** 18.86 305 eP Pn 03 43 53.5 -2.8
ORIF **Oris-en-Rattie** 19.02 308 eP Pn 03 43 54.3 -3.9
comp=Z,39nm,1.0s
ORIF **Oris-en-Rattie** 19.02 308 eP Pn 03 43 54.3 -3.9
ORIF pmax pmax
comp=Z,20nm,1.0s
ORIF **Oris-en-Rattie** 19.02 308 eP Pn 03 43 54.3 -3.9
comp=Z,20nm,1.0s
VRHR **Novokhopersk** 19.12 29 eP Pn 03 43 58.0 -1.4
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.5s
VRHR **Novokhopersk** 19.12 29 eP Pn 03 43 58.0 -1.4
comp=E,10.0nm,0.4s
CLL **Collm** 19.19 332 eP Pn 03 43 59.0 -1.3
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL **Collm** 19.19 332 eP Pn 03 43 59.0 -1.3
comp=Z,35nm,1.3s
CLL epP pP 03 44 04.0 -4.9
CLL i (PP) 03 44 08.1
comp=Z,81nm,1.4s
CLL i x x 03 44 32.9
MOX **Moxa** 19.25 329 eP Pn 03 43 59.0 -1.9
comp=Z,96nm,2.0s
MOX **Moxa** 19.25 329 eP Pn 03 44 02.2 +1.3
MOX pmax pmax
comp=Z,13nm,1.8s
MOX **Moxa** 19.25 329 eP Pn 03 44 02.2 +1.3
comp=Z,71nm,1.8s
BFO **Black Forest** 19.27 319 eP Pn 03 43 59.1 -2.1
BFO pmax pmax
comp=Z,16nm,0.9s
BFO **Black Forest** 19.27 319 eP Pn 03 43 59.1 -2.1
comp=Z,16nm,0.9s
BFO **Black Forest** 19.27 319 eP Pn 03 43 59.1 -2.1
comp=Z,16nm,0.9s
MNK **Minsk** 19.44 1 eP Pn 03 43 57.0 -6.2
GKP **Gorka Klasztor** 19.52 342 eP Pn 03 44 04.2 +0.1
CABF **La Chapelle** 19.63 312 eP Pn 03 44 02.2 -3.3
comp=Z,80nm,1.0s
CABF **La Chapelle** 19.63 312 eP Pn 03 44 02.2 -3.3
CABF pmax pmax
comp=Z,40nm,1.0s
CABF **La Chapelle** 19.63 312 eP Pn 03 44 02.2 -3.3
comp=Z,40nm,1.0s
EMHD **Djebel Mahouad** 19.73 280 P Pn 03 44 18.0 +11
VIVF **Saint-Julien-l** 19.78 306 eP Pn 03 44 03.5 -3.8
comp=Z,87nm,1.2s
VIVF **Saint-Julien-l** 19.78 306 eP Pn 03 44 03.5 -3.8
VIVF pmax pmax
comp=Z,43nm,1.2s
VIVF **Saint-Julien-l** 19.78 306 eP Pn 03 44 03.5 -3.8
comp=Z,43nm,1.2s
HINF **Hinterlafeld** 19.80 316 eP Pn 03 44 04.1 -3.3
comp=Z,21nm,0.8s
HINF **Hinterlafeld** 19.80 316 eP Pn 03 44 04.1 -3.3
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF **Hinterlafeld** 19.80 316 eP Pn 03 44 04.1 -3.3
comp=Z,10nm,0.8s
WLS **Welschbruch** 19.85 318 eP Pn 03 44 15.2 +7.1
CDF **Champ du Feu** 19.89 318 eP Pn 03 44 05.5 -3.1
comp=Z,61nm,1.1s
CDF **Champ du Feu** 19.89 318 eP Pn 03 44 05.5 -3.1
CDF pmax pmax
comp=Z,30nm,1.1s
CDF **Champ du Feu** 19.89 318 eP Pn 03 44 05.5 -3.1
comp=Z,30nm,1.1s
LANF **Langenberg** 19.94 320 eP Pn 03 44 13.1 +4.0
LASF **Ste Croix** 20.06 304 eP P 03 44 07.1 -1.5
comp=Z,130nm,1.4s
HAU **Haudompre** 20.18 316 eP P 03 44 08.6 -1.3
comp=Z,25nm,0.7s
HAU **Haudompre** 20.18 316 eP P 03 44 08.6 -1.3
HAU pmax pmax
comp=Z,13nm,0.7s
HAU **Haudompre** 20.18 316 eP P 03 44 08.6 -1.3
comp=Z,12nm,0.7s
TNS **Taunus Mts** 20.40 324 eP P 03 44 10.4 -1.8
comp=Z,60nm,1.2s
THEF **They Montfort** 20.51 316 eP P 03 44 12.6 -0.8
ABH **Alteburg** 20.63 322 eP P 03 44 17.8 +3.1
CZ **Clausthal** 20.66 329 eP P 03 44 14.3 -0.7
comp=Z,49nm,1.6s
CLZ **Clausthal** 20.66 329 eP P 03 44 14.3 -0.7
CLZ pmax pmax
comp=Z,30nm,1.6s
EBNR **Beni Rached** 20.87 281 P P 03 44 22.5 +5.2
PLDF **La Plantade** 20.89 309 eP P 03 44 16.1 -1.5
MTLF **Montolieu** 20.99 301 eP P 03 44 17.8 -0.8
comp=Z,122nm,1.6s
MTLF **Montolieu** 20.99 301 eP P 03 44 17.8 -0.8
MTLF pmax pmax
comp=Z,61nm,1.6s
MTLF **Montolieu** 20.99 301 eP P 03 44 17.8 -0.8
comp=Z,61nm,1.6s
ECHA **Ech Chlef** 21.01 280 P P 03 44 24.0 +5.1
SMF **Signal de Mont** 21.03 310 eP P 03 44 17.8 -1.2
comp=Z,53nm,0.8s,mb4.6
SMF **Signal de Mont** 21.03 310 eP P 03 44 17.8 -1.2
SMF pmax pmax
comp=Z,26nm,0.8s,mb4.6
SMF **Signal de Mont** 21.03 310 eP P 03 44 17.8 -1.2
comp=Z,26nm,0.8s,mb4.6
OBN **Obninsk** 21.07 15⇓eP P 03 44 20.6 +1.1
OBN e*PP 03 44 27.3
OBN e 03 44 41.2
OBN e 03 44 57.0
OBN eS S 03 48 06.6 -5.3
OBN pmax pmax
comp=Z,23nm,0.8s,mb4.6
OBN **Obninsk** 21.07 15 eP P 03 44 20.4 +0.9
comp=Z,34nm,0.6s,mb4.8
OBN **Obninsk** 21.07 15 eP P 03 44 20.4 +0.9
comp=Z,34nm,0.6s,mb4.8
ETRT **Tiaret** 21.14 278 P P 03 44 28.5 +8.3
MEZF **Maizieres J'vi** 21.18 316 eP P 03 44 19.0 -1.7
comp=Z,68nm,1.0s,mb4.7
MEZF **Maizieres J'vi** 21.18 316 eP P 03 44 19.0 -1.7
comp=Z,68nm,1.0s,mb4.9
AGO **Saint Agoulin** 21.24 308 eP P 03 44 17.1 -4.2
EANR **'Ain N'Sour** 21.25 280 P P 03 44 25.5 +4.1
LOR **Lormes** 21.29 312 eP P 03 44 19.7 -2.1
comp=Z,81nm,1.2s,mb4.6
LOR **Lormes** 21.29 312 eP P 03 44 19.7 -2.1
LOR pmax pmax
comp=Z,40nm,1.2s,mb4.6
LOR **Lormes** 21.29 312 eP P 03 44 19.7 -2.1
comp=Z,40nm,1.2s,mb4.6
AVF **Avril sur Loir** 21.40 310 eP P 03 44 20.8 -2.2
comp=Z,133nm,1.2s,mb4.8
AVF **Avril sur Loir** 21.40 310 eP P 03 44 20.8 -2.2
AVF pmax pmax
comp=Z,66nm,1.2s,mb4.8
AVF **Avril sur Loir** 21.40 310 eP P 03 44 20.8 -2.2
comp=Z,66nm,1.2s,mb4.8
SSF **Saint Saulge** 21.42 311 eP P 03 44 20.7 -2.5
comp=Z,47nm,0.7s,mb4.7
SSF **Saint Saulge** 21.42 311 eP P 03 44 20.7 -2.5
SSF pmax pmax
comp=Z,24nm,0.7s,mb4.6
SSF **Saint Saulge** 21.42 311 eP P 03 44 20.7 -2.5
comp=Z,24nm,0.7s,mb4.6
CAF **Calviac** 21.55 305 eP P 03 44 23.1 -1.5
comp=Z,45nm,1.1s,mb4.5
CAF **Calviac** 21.55 305 eP P 03 44 23.1 -1.5
CAF pmax pmax
comp=Z,22nm,1.1s,mb4.5
CAF **Calviac** 21.55 305 eP P 03 44 23.1 -1.5
comp=Z,22nm,1.1s,mb4.5
BGF **Bois d'Agland** 21.62 309 eP P 03 44 24.2 -1.2
MOS **Moscow** 21.89 16 eP P 03 44 24.4 -3.8
MOS e 03 48 29.2
TCF **Toulx Ste Croi** 21.92 308 eP P 03 44 27.0 -1.6
RJF **Les Rejaudoux** 22.04 305 eP P 03 44 27.8 -2.0
comp=Z,145nm,1.2s,mb5.0
RJF **Les Rejaudoux** 22.04 305 eP P 03 44 27.8 -2.0
RJF pmax pmax
comp=Z,72nm,1.2s,mb5.0
RJF **Les Rejaudoux** 22.04 305 eP P 03 44 27.8 -2.0
comp=Z,72nm,1.2s,mb5.0
GIVF **Givet** 22.17 320 eP P 03 44 28.0 -3.3
LFF **La Frestale** 22.45 304 eP P 03 44 31.8 -2.4
BAIF **Baives** 22.48 319 eP P 03 44 32.1 -2.4
MFF **Saint Martin d** 23.56 308 eP P 03 44 42.4 -3.2
LDF **La Druitiere** 24.28 312 eP P 03 44 50.0 -2.2
FLN **La Foliniere** 24.56 312 eP P 03 44 52.9 -1.9
comp=Z,24nm,0.6s,mb4.6
FLN **La Foliniere** 24.56 312 eP P 03 44 52.9 -1.9
FLN pmax pmax
comp=Z,12nm,0.6s,mb4.6
FLN **La Foliniere** 24.56 312 eP P 03 44 52.9 -1.9
comp=Z,12nm,0.6s,mb4.6
GRR **Gorron** 24.65 311 eP P 03 44 53.4 -2.2
comp=Z,47nm,0.8s,mb4.8
GRR **Gorron** 24.65 311 eP P 03 44 53.4 -2.2
GRR pmax pmax
comp=Z,24nm,0.8s,mb4.8
GRR **Gorron** 24.65 311 eP P 03 44 53.4 -2.2
comp=Z,24nm,0.8s,mb4.8
ESDC **Sonseca Array** 25.12 290 P P 03 44 59.3 -0.5
comp=Z,1.7nm,0.5s,mb3.9,baz=82,slow=9.6,SNR=12
ORR **Orenburg** 25.77 42 P P 03 45 05.7 0.0
ORR pmax pmax
comp=Z,30nm,1.3s,mb4.7
ROSF **Rostrenen** 26.14 310 eP P 03 45 07.1 -2.0
FINES **FINESS Array B** 26.41 359 P P 03 45 09.2 -2.4
comp=Z,3.0nm,0.5s,mb4.0,baz=163,slow=11,SNR=11
FINES **FINESS Array B** 26.41 359 iP P 03 45 10.0 -1.5
FINES pmax pmax
comp=Z,3.0nm,0.5s
ZFT **Errachidia** 26.41 272 iP P 03 45 13.5 +2.0
MDT **Midelt** 26.43 274 P P 03 45 12.1 +0.4
comp=Z,6.3nm,0.9s,mb4.1,baz=80,slow=9.8,SNR=8.9
HFS **Hagfors** 26.57 345 P P 03 45 11.4 -1.6
comp=Z,3.8nm,0.6s,mb4.1,baz=128,slow=9.6,SNR=12
HFS **Hagfors** 26.57 345 P P 03 45 11.4 -1.6
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFA0 **Hagfors New Ar** 26.58 345 P P 03 45 13.7 +0.6
MIF **Mishlifen** 26.80 276 iP P 03 45 18.5 +3.5
HATD **Hatta, Dubai** 26.99 104 P P 03 45 18.8 +2.1
SNR=8.4
ASHO **Ashiyiah** 27.00 105 P P 03 45 18.8 +1.9
SNR=5.6
KAF **Kangasniemi** 27.07 359 ep P 03 45 17.0 -0.5
comp=Z,2.7nm,0.5s,mb4.0,baz=172,slow=10
KAF **Kangasniemi** 27.07 359 eP P 03 45 17.0 -0.5
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
AKTK **Aktyubinsk** 27.10 46 P P 03 45 17.4 -0.4
AKTO **Aktyubinsk** 27.10 46 P P 03 45 17.4 -0.4
comp=Z,3.1nm,0.5s,mb4.1,baz=248,slow=11,SNR=8.8
AKTO **Aktyubinsk** 27.10 46 P P 03 45 17.4 -0.4
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
NB2 **NORSAR Subarra** 27.94 343 P P 03 45 22.2 -3.1
comp=Z,1.9nm,0.8s,mb3.8,baz=150,slow=11
NB2 **NORSAR Subarra** 27.94 343 P P 03 45 22.2 -3.1
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
NOA **NORSAR Array B** 27.94 343 P P 03 45 23.1 -2.2
comp=Z,1.6nm,0.8s,mb3.7,baz=142,slow=8.7,SNR=5.7
NOA **NORSAR Array B** 27.94 343 P P 03 45 23.1 -2.2
NOA pmax pmax
comp=Z,2.0nm,0.8s
JOF **Joensuu** 28.00 4 ep P 03 45 24.6 -1.2
comp=Z,1.4nm,0.4s,mb3.9
JOF **Joensuu** 28.00 4 eP P 03 45 24.6 -1.2
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ARQ **Araqi** 28.04 107 P P 03 45 28.7 +2.5
SNR=8.5
HOQ **Hoqain** 28.54 105 P P 03 45 32.6 +2.0
SNR=5.9
EKA **Eskdalemuir Ar** 29.09 324 P P 03 45 34.8 -0.8
comp=Z,2.4nm,0.7s,mb4.0,baz=120,slow=9.5,SNR=7.5
EKA **Eskdalemuir Ar** 29.09 324 P P 03 45 34.8 -0.7
EKA pmax pmax
comp=Z,2.0nm,0.7s
RBK **Rabkut** 29.73 119 P P 03 45 44.0 +2.8
SNR=8.8
WSAR **Wadi Sarin** 29.75 105 P P 03 45 45.4 +4.0
comp=Z,4.1nm,0.9s,mb4.1,baz=2.8,slow=14,SNR=5.0
WSAR **Wadi Sarin** 29.75 105 P P 03 45 45.4 +4.0
TOA0 **Torodi Ar. Sit** 31.73 233 eP P 03 46 00.5 +1.6
TORD **Torodi Ar. Bea** 31.73 233 P P 03 45 59.9 +1.0
comp=Z,3.8nm,0.6s,mb4.4,baz=38,slow=7.3,SNR=72
ARCES **ARCESS Array B** 34.54 359 P P 03 46 20.8 -2.5
comp=Z,0.9nm,0.4s,mb4.1,baz=169,slow=8.0,SNR=19
ARCES **ARCESS Array B** 34.54 359 P P 03 46 20.8 -2.5
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES **ARCESS Array B** 34.54 359 P P 03 46 20.8 -2.5
KEV **Kevo** 34.74 360 ep P 03 46 24.5 -0.6
comp=Z,1.7nm,0.5s,mb4.2
KEV **Kevo** 34.74 360 eP P 03 46 24.5 -0.6
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BVAR **Borovoye Array** 35.21 46 P P 03 46 28.4 -0.8
comp=Z,3.3nm,0.9s,mb4.2,baz=237,slow=8.1,SNR=12
BVAR **Borovoye Array** 35.21 46 P P 03 46 28.4 -0.7
BVAR pmax pmax
comp=Z,3.0nm,0.9s
EKS2 **Erkin-Say** 36.67 64 P P 03 46 44.0 +2.4
SNR=11
USP **Ospenovka** 37.16 63 P P 03 46 47.2 +1.4
SNR=6.6
AAK **Ala-Archa** 37.20 64 P P 03 46 48.3 +2.1
SNR=14
AAK **Ala-Archa** 37.20 64 P P 03 46 47.9 +1.7
SNR=6.4
AAK **Ala-Archa** 37.20 64⇑iP P 03 46 47.0 +0.8
AAK pmax pmax
comp=Z,54nm,1.7s,mb5.1
UCH **Uchtor** 37.25 64 P P 03 46 48.5 +2.0
SNR=6.8
FRU **Bishkek** 37.28 63 eP P 03 46 48.0 +1.2
FRU e pP 03 46 57.0 -0.8
FRU pmax pmax
comp=Z,12nm,1.6s,mb4.5
CHMS **Chumysh** 37.37 63 P P 03 46 49.5 +2.0
SNR=9.8
KBK **Karagaybulak** 37.54 64 P P 03 46 51.5 +2.6
SNR=7.0
KZA **Kyzart** 37.81 65 P P 03 46 54.1 +2.8
SNR=7.4
TKM2 **Tokmak 2** 37.99 63 P P 03 46 54.4 +1.6
SNR=15
ULHL **Ulahol** 38.53 64 P P 03 46 59.9 +2.6
SNR=13
MK31 **Makanchi Array** 42.44 57⇑iP P 03 47 30.4 +0.8
MKAR **Makanchi Array** 42.44 57 P P 03 47 30.6 +1.0
comp=Z,19nm,0.5s,mb5.0,baz=272,slow=7.9,SNR=396
MKAR **Makanchi Array** 42.44 57⇑eP P 03 47 30.6 +1.0
NVS **Novosibirsk** 42.98 45 iP P 03 47 34.5 +0.5
NVS e 03 49 13.3
NVS pmax pmax
comp=Z,28nm,1.3s,mb4.8
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,13nm,1.1s
WMQ **Urumqi** 46.61 60⇑iP P 03 48 04.3 +1.4
WMQ AMB AMB
comp=Z,26nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,159nm,6.4s
DANN **Dangsing** 48.05 82 eP P 03 48 16.6 +2.5
KOLN **Koldanda** 48.14 82 eP P 03 48 16.5 +1.6
comp=Z,31nm,0.9s,mb5.3
GKN **Gorkha** 48.89 82 eP P 03 48 22.1 +1.5
comp=Z,53nm,1.0s,mb5.5
DMN **Daman** 49.43 82 eP P 03 48 26.6 +1.9
comp=Z,65nm,1.1s,mb5.6
KKN **Kakani** 49.50 81 eP P 03 48 26.5 +1.2
comp=Z,30nm,0.9s,mb5.3
PKI **Pulchoki** 49.69 82 eP P 03 48 28.2 +1.5
comp=Z,60nm,1.1s,mb5.5
GUN **Gumba** 49.94 81 eP P 03 48 30.1 +1.5
comp=Z,50nm,0.9s,mb5.5
LSZ **Lusaka** 50.07 179 P P 03 48 33.4 +3.8
comp=Z,1.1nm,0.5s,mb4.2,baz=12,slow=11,SNR=3.6
LSZ **Lusaka** 50.07 179 P P 03 48 33.4 +3.8
LSZ pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
MOY **Mondy** 53.84 48 eP P 03 48 59.5 +1.8
MOY pmax pmax
comp=Z,27nm,1.9s,mb4.8
MOY **Mondy** 53.84 48 eP P 03 48 59.5 +1.8
comp=Z,27nm,1.9s,mb4.8
TSUM **Tsumeb** 54.73 191 P P 03 49 07.3 +3.2
comp=Z,2.9nm,0.7s,mb4.4,baz=355,slow=7.7,SNR=4.1
MATP **Matopo** 55.20 179 P P 03 49 10.5 +3.0
comp=Z,2.8nm,0.6s,mb4.5,baz=354,slow=9.0,SNR=13
MATP **Matopo** 55.20 179 P P 03 49 10.5 +3.0
TLY **Talaya** 55.44 47⇑eP P 03 49 11.3 +2.0
TLY pmax pmax
comp=Z,16nm,1.7s,mb4.8
TLY **Talaya** 55.44 47 eP P 03 49 11.3 +2.0
comp=Z,16nm,1.7s,mb4.8
ZAK **Zakamensk** 55.55 49⇓eP P 03 49 11.4 +1.3
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ZAK **Zakamensk** 55.55 49 eP P 03 49 11.4 +1.3
comp=Z,10.0nm,1.1s,mb4.8

GTA	**Gaotai**	**56.53**	**62**	*e*P	**P**	**03 49 18.6 +1.5**
GTA				AP	pP	03 49 26.0 -2.6
GTA				XP	sP	03 49 28.3 -4.8
GTA				AMB	AMB	
	comp=Z,8.0nm,1.0s,mb4.7					
SONM	**Songino Array**	**58.25**	**51**	P	**P**	**03 49 30.3 +1.1**
	comp=Z,8.0nm,0.6s,mb4.9,baz=288,slow=7.8,SNR=39					
SONM	**Songino Array**	**58.25**	**51**	P	**P**	**03 49 30.3 +1.1**
SONM				pmax	pmax	
	comp=Z,8.0nm,0.6s					
BOD	**Bodaibo**	**59.50**	**38**	*e*P	**P**	**03 49 37.4 -0.4**
BOD				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.7					
BOD	**Bodaibo**	**59.50**	**38**	*e*P	**P**	**03 49 37.4 -0.4**
	comp=Z,7.0nm,0.8s,mb4.7					
TIXI	**Tiksi**	**60.67**	**21**	⇓*i*P	**P**	**03 49 45.1 -0.7**
TIXI				pmax	pmax	
	comp=Z,6.0nm,1.7s,mb4.5					
TIXI	**Tiksi**	**60.67**	**21**	*i*P	**P**	**03 49 45.1 -0.7**
	comp=Z,6.0nm,1.7s,mb4.5					
BOSA	**Boshof**	**63.36**	**182**	P	**P**	**03 50 06.2 +2.2**
	comp=Z,1.4nm,0.4s,mb4.5,baz=30,slow=11,SNR=9.1					
BOSA	**Boshof**	**63.36**	**182**	P	**P**	**03 50 06.2 +2.3**
BOSA				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.3					
SCHQ	**Schefferville**	**64.33**	**320**	P	**P**	**03 50 09.3 -1.0**
	comp=Z,1.7nm,0.4s,mb4.5,baz=59,slow=2.2,SNR=12					
SCHQ	**Schefferville**	**64.33**	**320**	P	**P**	**03 50 09.3 -1.0**
BILL	**Bilibino**	**72.74**	**15**	P	**P**	**03 51 03.0 +0.2**
BILL				*e*PP	pP	03 51 14.1 -0.5
KLR	**Kul'dur**	**72.74**	**42**	*e*P	**P**	**03 51 01.8 -1.0**
PSI	**Prapat**	**73.46**	**98**	P	**P**	**03 51 10.3 +3.3**
	comp=Z,2.2nm,0.5s,mb4.3,baz=302,slow=11,SNR=4.4					
PSI	**Prapat**	**73.46**	**98**	P	**P**	**03 51 10.3 +3.2**
PSI				pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.3					
PSI	**Prapat**	**73.46**	**98**	P	**P**	**03 51 10.3 +3.3**
ULM	**Lac du Bonnet**	**81.31**	**327**	P	**P**	**03 51 49.2 -1.7**
	comp=Z,1.2nm,0.6s,mb4.0,baz=30,slow=8.1,SNR=3.6					
MJAR	**Matsushiro Arr**	**84.14**	**49**	P	**P**	**03 52 04.9 -0.7**
	comp=Z,4.9nm,1.0s,mb4.6,baz=309,slow=5.1,SNR=7.0					
MJAR	**Matsushiro Arr**	**84.14**	**49**	P	**P**	**03 52 04.9 -0.7**
MJAR				pmax	pmax	
	comp=Z,5.0nm,1.0s					

IDC 24 03:50:17.9±1.9, 515N×12568E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.9/33, Error ellipse: s-maj=122.2km s-min=22.4km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**21.70**	**6**	LR	LR	04 02 43.1	
	comp=Z,40nm,21.8s,baz=206,slow=34						
FITZ	**Fitzroy Crossi**	**23.11**	**180**	P	P	03 55 25.3	-0.1
	3.1nm,0.9s,baz=348,slow=8.7,SNR=7.1						
WRA	**Warramunga Arr**	**26.35**	**161**	P	P	03 55 56.4	+0.8
	0.8nm,0.4s,baz=341,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.75**	**165**	P	P	03 56 26.1	+0.1
	0.2nm,0.4s,baz=346,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**55.79**	**325**	P	P	03 59 56.8	+0.1
	1.0nm,0.4s,baz=121,slow=7.3,SNR=18						

IDC 24 03:57:23.1±2.2, 507N×12514E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=206.5km s-min=26.6km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.45**	**160**	P	P	04 03 00.6	-1.1
	1.7nm,0.6s,baz=338,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**29.81**	**164**	P	P	04 03 33.5	+1.9
	0.4nm,0.7s,baz=349,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**55.56**	**325**	P	P	04 07 00.2	+0.1
	0.4nm,0.6s,baz=114,slow=7.5,SNR=5.3						

*IDC **24** 04:13:23.8±1.1, 505N×12552E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/17, mbtmp4.1/6, Error ellipse: s-maj=56.9km s-min=18.7km az=78.0*
*NEIC **24** 04:13:26.1±0.7, 508N×12575E, h10km, mb4.5/2, Error ellipse: s-maj=19.4km s-min=12.1km az=70.0*
*ISCJB **24** 04:13:46.6±1.2, 47N±01×125.1E±0.2, h220km±16km, mb3.8/7, Error ellipse: s-maj=28.1km s-min=18.2km az=119.1*
ISC 24 04:13:47.6±1.2, 46N±01×1250E±0.2, h208km±17km, n12, σ0991/12, mb3.8/7, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.35**	**1**	⇑*i*P	**Pn**	**04 14 30.5**	**0.0**
KCP				*i*S		04 15 30.5	
KSM	**Kuching**	**15.03**	**258**	*e*Pn	**Pn**	**04 17 09.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**22.61**	**178**	*e*P	**P**	**04 18 31.2**	**+0.7**
	17nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**22.61**	**178**	P	**P**	**04 18 30.5**	**0.0**
	6.3nm,0.8s,mb4.2,baz=13,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**26.09**	**160**	P	**P**	**04 19 00.9**	**-1.1**
	3.9nm,0.7s,mb4.2,baz=342,slow=10,SNR=22						
WB2	**Warramunga Arr**	**26.09**	**160**	*e*P	**P**	**04 19 02.0**	**-0.1**
ASAR	**Alice Springs**	**29.43**	**163**	P	**P**	**04 19 32.6**	**+0.8**
	0.8nm,0.6s,mb3.6,baz=345,slow=6.8,SNR=8.5						
MJAR	**Matsushiro Arr**	**33.98**	**19**	P	**P**	**04 20 05.1**	**-6.4**
	2.8nm,0.8s,mb3.8,baz=195,slow=8.8,SNR=5.0						
STKA	**Stephens Creek**	**39.59**	**158**	*e*P	**P**	**04 20 59.3**	**+0.6**
	5.5nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**39.59**	**158**	P	**P**	**04 20 58.0**	**-0.7**
	7.8nm,1.0s,mb4.1,baz=332,slow=7.6,SNR=7.0						
MKAR	**Makanchi Array**	**55.85**	**326**	P	**P**	**04 23 02.2**	**-1.1**
	1.1nm,0.7s,mb3.5,baz=130,slow=8.5,SNR=9.5						
BVAR	**Borovoye Array**	**65.64**	**327**	P	**P**	**04 24 11.6**	**+2.2**
	0.3nm,0.4s,mb3.3,baz=146,slow=10,SNR=2.5						

*IDC **24** 04:18:04.5±1.7, 503N×12533E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/17, mbtmp4.0/5, Error ellipse: s-maj=112.9km s-min=22.6km az=67.0*
NEIC 24 04:18:06.1±1.2, 504N×12532E, h10km, mb4.4/1, Error ellipse: s-maj=77.9km s-min=16.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.00**	**179**	*e*P	P	04 23 11.1	+0.1
	7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.00**	**179**	P	P	04 23 10.4	-0.5
	3.8nm,0.8s,baz=12,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**26.36**	**161**	P	P	04 23 42.0	-0.4
	2.5nm,0.6s,baz=340,slow=10,SNR=9.5						
WB2	**Warramunga Arr**	**26.37**	**161**	*e*P	P	04 23 43.0	+0.6
ASAR	**Alice Springs**	**29.74**	**164**	P	P	04 24 13.6	+1.1
	0.5nm,0.7s,baz=345,slow=8.2,SNR=4.1						
STKA	**Stephens Creek**	**39.85**	**158**	P	P	04 25 39.8	0.0
	2.3nm,0.7s,baz=326,slow=9.4,SNR=6.9						
MKAR	**Makanchi Array**	**55.68**	**325**	P	P	04 27 42.7	+0.2
	0.8nm,0.6s,baz=129,slow=8.4,SNR=9.2						
MKAR	**Makanchi Array**	**55.68**	**325**	P	P	04 27 42.7	+0.2

*NEIC **24** 04:20:42.4, 3145S×7154W, h31km, ML3.8(GUC), After GUC.*
GUC 24 04:20:42.4±0.9, 3145S×7154W, h31km±3km, MD4.2, ML3.8, 9C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**176**	⇑*i*P	Pb	04 20 51.5	-0.2
CHNG				*i*S	Sb	04 20 58.0	-0.2
CHNG				AML	AML	04 20 58.6	
	comp=E,15μm,0.2s						
CMCH	**Combarbala**	**0.54**	**59**	⇑*i*P	Pb	04 20 53.5	+0.1
CMCH				*i*S	Sb	04 21 01.0	0.0
CMCH				AML	AML	04 21 08.5	
	comp=E,11μm,0.6s						
CMCH	**Combarbala**	**0.54**	**59**	⇑*i*P	Pb	04 20 53.5	+0.1
CMCH				*i*S	Sb	04 21 01.0	0.0
OVCH	**Ovalle**	**0.89**	**19**	⇑*e*P	Pn	04 20 58.8	0.0
OVCH				*i*S	Sn	04 21 10.8	+0.2
OVCH				AML	AML	04 21 14.6	
	comp=E,5μm,0.6s						
OVCH	**Ovalle**	**0.89**	**19**	⇑*e*P	Pn	04 20 58.8	0.0
OVCH				*i*S	Sn	04 21 10.8	+0.2
PTCH	**Petorca**	**0.96**	**148**	*e*P	Pn	04 20 59.9	+0.1
PTCH				*i*S	Sn	04 21 12.6	+0.3
PTCH				AML	AML	04 21 16.5	
	comp=E,10μm,0.3s						
PTCH	**Petorca**	**0.96**	**148**	*e*P	Pn	04 20 59.9	+0.1
PTCH				*i*S	Sn	04 21 12.6	+0.3
PACH	**Papudo**	**1.08**	**175**	⇑*i*P	Pn	04 21 01.3	-0.2
TLL	**Tololo Astrono**	**1.43**	**26**	*e*P	Pn	04 21 07.8	+1.6
TLL				*i*S	Sn	04 21 26.6	+2.7
TLL				AML	AML	04 21 34.0	
	comp=E,4μm,0.5s						
TLL	**Tololo Astrono**	**1.43**	**26**	*e*P	Pn	04 21 07.8	+1.6
TLL				*i*S	Sn	04 21 26.6	+2.7
JACH	**Jahuel**	**1.47**	**147**	*e*P	Pn	04 21 08.1	+1.4
JACH				*i*S	Sn	04 21 27.2	+2.4
LSCH	**La Serena**	**1.56**	**9**	*e*P	Pn	04 21 44.8	+37
LSCH				*i*S	Sn	04 22 04.6	+37
LSCH				AML	AML	04 22 11.3	
	comp=E,320nm,0.4s						
IHA	**Instituto Hidr**	**1.57**	**183**	*i*P	Pn	04 21 07.9	-0.3
ROCH	**El Roble**	**1.58**	**164**	⇓*i*P	Pn	04 21 09.4	+1.2
PEL	**Peldehue**	**1.83**	**157**	*e*P	Pn	04 21 13.3	+1.5
PEL				*i*S	Sn	04 21 36.6	+2.6
PEL				AML	AML	04 21 41.9	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**1.83**	**157**	*e*P	Pn	04 21 13.3	+1.5
PEL				*i*S	Sn	04 21 36.6	+2.6
CLCH	**Cerro Calan**	**2.12**	**157**	⇑*e*P	Pn	04 21 17.2	+1.6
CLCH				*i*S	Sn	04 21 43.7	+2.8
RCDM	**Rinconada Maip**	**2.12**	**163**	*e*P	Pn	04 21 16.9	+1.2
RCDM				AML	AML	04 21 55.5	
	comp=E,1μm,0.4s						
FCH	**Farellones**	**2.15**	**151**	⇑*i*P	Pn	04 21 18.3	+2.2
FCH				*i*S	Sn	04 21 46.6	+5.0
ANTU	**Antumapu**	**2.25**	**160**	*e*P	Pn	04 21 18.7	+1.3
ANTU				*i*S	Sn	04 21 46.8	+2.7
ANTU				AML	AML	04 21 54.7	
	comp=E,2μm,0.5s						
ANTU	**Antumapu**	**2.25**	**160**	*e*P	Pn	04 21 18.7	+1.3
ANTU				*i*S	Sn	04 21 46.8	+2.7
TACH	**Talagante**	**2.25**	**167**	⇑*i*P	Pn	04 21 18.7	+1.2
PCH	**Pirque**	**2.33**	**158**	*e*P	Pn	04 21 19.8	+1.2
ZON	**Zonda**	**2.44**	**93**	*e*P	Pn	04 21 25.5	+5.4
CHCH	**Chadas Angostu**	**2.58**	**163**	*e*P	Pn	04 21 23.4	+1.3

IDC 24 04:26:39.2±2.0, 497N×12538E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=123.1km s-min=25.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.93**	**179**	P	P	04 31 43.9	-0.9
	1.3nm,0.8s,baz=15,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**26.28**	**161**	P	P	04 32 15.8	-0.4
	0.8nm,0.4s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.66**	**164**	P	P	04 32 48.4	+2.0
	0.2nm,0.6s,baz=343,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**55.77**	**325**	P	P	04 36 17.8	0.0
	0.2nm,0.4s,baz=110,slow=8.3,SNR=4.2						

*IDC **24** 04:31:06.9±0.8, 498N×12527E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/17, mbtmp4.1/9, Error ellipse: s-maj=51.6km s-min=15.1km az=75.0*
*NEIC **24** 04:31:08.4±0.5, 499N×12542E, h10km, mb4.4/2, Error ellipse: s-maj=33.8km s-min=8.9km az=74.0*
*ISCJB **24** 04:31:14.8±2.5, 50N±01×1255E±0.3, h79km±26km, mb4.0/9, Error ellipse: s-maj=51.3km s-min=12.5km az=149.4*
ISC 24 04:31:16.0±2.3, 49N±01×1254E±0.3, h71km±23km, n15, σ0975/14, mb4.0/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**4.81**	**1**	*e*P	**Pn**	**04 32 26.4**	**+0.5**
KAKA	**Kakadu**	**18.89**	**158**	*e*P	**Pn**	**04 35 27.9**	**-0.4**
	7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.89**	**179**	*e*P	**P**	**04 36 13.1**	**-0.6**
	15nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.89**	**179**	P	**P**	**04 36 12.3**	**-1.4**
	10.0nm,0.7s,mb4.2,baz=6.5,slow=8.2,SNR=27						
WRA	**Warramunga Arr**	**26.25**	**161**	P	**P**	**04 36 44.4**	**0.0**
	3.3nm,0.5s,mb4.0,baz=342,slow=10,SNR=32						
WB2	**Warramunga Arr**	**26.25**	**161**	*e*P	**P**	**04 36 44.2**	**-0.2**
ASAR	**Alice Springs**	**29.62**	**164**	P	**P**	**04 37 14.3**	**-0.2**
	0.9nm,0.5s,mb3.6,baz=344,slow=7.5,SNR=11						
MJAR	**Matsushiro Arr**	**33.59**	**19**	P	**P**	**04 37 48.5**	**-0.8**
	3.0nm,0.7s,mb4.2,baz=198,slow=8.7,SNR=7.0						
STKA	**Stephens Creek**	**39.74**	**158**	P	**P**	**04 38 42.9**	**+1.3**
	6.5nm,0.8s,mb4.5,baz=336,slow=5.3,SNR=9.6						
SONM	**Songino Array**	**45.73**	**342**	P	**P**	**04 39 29.3**	**-0.8**
	0.3nm,0.4s,mb3.3,baz=134,slow=10,SNR=3.0						
MK31	**Makanchi Array**	**55.80**	**325**	*e*P	**P**	**04 40 45.6**	**-0.1**
MK31				*e*		04 40 53.7	
MKAR	**Makanchi Array**	**55.80**	**325**	P	**P**	**04 40 45.9**	**+0.2**
	2.5nm,0.5s,mb4.5,baz=119,slow=8.0,SNR=31						
VNDA	**Vanda**	**84.79**	**173**	P	**P**	**04 43 43.5**	**+1.0**
	1.0nm,1.1s,mb3.6,baz=294,slow=6.4,SNR=3.4						
BRTR	**Keskin Array B**	**88.21**	**310**	P	**P**	**04 43 59.5**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=15,slow=6.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**121.25**	**289**	PKP	PKPdf	04 50 01.8	+1.1
	0.4nm,0.7s,baz=48,slow=1.3,SNR=4.9						

*NEIC **24** 04:31:58.3±2.0, 3443N×7349E, h10km, mb4.2/1, Error ellipse: s-maj=40.6km s-min=33.1km az=128.0*
*ISCJB **24** 04:31:59.4±0.4, 3475N±004×7322E±005, h10km, mb4.0/4, Error ellipse: s-maj=6.3km s-min=5.6km az=107.9*
*IDC **24** 04:31:59.5±4.1, 3452N×7297E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.6/23, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=87.6km s-min=33.2km az=123.0*
*NDI **24** 04:32:04.0±2.8, 3464N×7276E, h31km±999km, ML3.2*
ISC 24 04:32:01.2±0.4, 3473N±004×7312E±005, h10km, n25, σ0995/29, mb4.0/4, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.08**	**173**	P	**Pg**	**04 32 21.1**	**-0.8**
CEP	**Cherat**	**1.35**	**228**	P	**Pn**	**04 32 23.6**	**-2.5**
CEP				S	**Sb**	**04 32 44.0**	**+0.2**
THW	**Thamme Wali**	**2.25**	**211**	⇓P	**Pn**	**04 32 39.2**	**+0.8**
SBDP	**Sheikh Budin**	**3.10**	**219**	P	**Pn**	**04 32 50.6**	**+0.5**
DLH	**Dalhousie**	**3.23**	**132**	*e*P	**Pn**	**04 32 56.0**	**+4.1**
DLH				*e*S	**Sn**	**04 33 31.0**	**+0.6**
DRP	**Derazinda**	**3.85**	**220**	P	**Pn**	**04 33 01.2**	**+0.7**
KHET	**Khetri**	**7.02**	**160**	*e*P	**Pn**	**04 33 43.8**	**-0.2**
KHET				*e*S	**Sn**	**04 34 57.8**	**-6.1**
KHET				AML	AML	04 35 01.6	
	comp=N,14nm,0.3s						
KHET				AML	AML	04 35 01.7	
	comp=E,18nm,0.4s						
SONA	**Sohna**	**7.29**	**151**	*e*S	**Sn**	**04 35 06.2**	**-4.4**
SONA				AML	AML	04 35 11.8	
	comp=N,15nm,0.3s						
SONA				AML	AML	04 35 12.3	
	comp=E,37nm,0.6s						
KK31	**Karatay Array**	**8.60**	**347**	⇓Pn	**Pn**	**04 34 07.6**	**+1.9**
	comp=E,1.9nm,0.3s,baz=165,slow=12						
KK31				⇓Sn	**Sn**	**04 35 40.6**	**-2.2**
	comp=E,2.4nm,0.5s,baz=171,slow=22						
KOLN	**Koldanda**	**11.33**	**125**	*e*P	**Pn**	**04 34 43.1**	**-0.1**
	comp=E,3.6nm,0.3s						
GKN	**Gorkha**	**11.91**	**121**	*e*P	**Pn**	**04 34 50.5**	**-0.5**
	comp=E,5.1nm,0.2s						
DMN	**Daman**	**12.47**	**121**	*e*P	**Pn**	**04 34 59.1**	**+0.4**
	comp=E,4.9nm,0.3s						
PKI	**Pulchoki**	**12.71**	**121**	*e*P	**Pn**	**04 35 01.7**	**-0.3**
	comp=E,6.5nm,0.5s						
GUN	**Gumba**	**12.85**	**118**	*e*P	**Pn**	**04 35 03.7**	**-0.1**
	comp=E,9.0nm,0.4s						
JIRN	**Jiri**	**13.22**	**119**	*e*P	**Pn**	**04 35 08.6**	**-0.3**
	comp=E,9.5nm,0.2s						
MKAR	**Makanchi Array**	**13.90**	**27**	Pn	**Pn**	**04 35 22.8**	**+4.6**
	comp=E,0.1nm,0.3s,baz=211,slow=20,SNR=2.6						
AB31	**Akbulak array**	**17.47**	**330**	⇑P	**Pn**	**04 36 01.7**	**-3.1**
	comp=E,1.5nm,0.8s						
BVAR	**Borovoye Array**	**18.39**	**355**	P	**Pn**	**04 36 17.1**	**+0.9**
	comp=E,1.0nm,0.3s,baz=156,slow=9.8,SNR=12						
AKTK	**Aktyubinsk**	**19.18**	**330**	P	**Pn**	**04 36 25.9**	**+0.1**
AKTO	**Aktyubinsk**	**19.18**	**330**	P	**Pn**	**04 36 25.9**	**+0.1**
	comp=E,0.7nm,0.3s,baz=136,slow=9.9,SNR=12						
ARCES	**ARCESS Array B**	**43.43**	**338**	P	**P**	**04 40 04.4**	**+0.3**
	comp=E,3.4nm,0.9s,mb4.1,baz=110,slow=7.1,SNR=7.9						
HFS	**Hagfors**	**45.52**	**323**	P	**P**	**04 40 21.7**	**+0.8**
	comp=E,2.8nm,0.9s,mb4.2,baz=102,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**67.43**	**271**	P	**P**	**04 42 56.6**	**-0.3**
	comp=E,0.4nm,0.6s,mb3.6,baz=50,slow=6.5,SNR=8.7						
IMA2	**Indian Mountai**	**73.27**	**18**	*e*P	**P**	**04 43 28.8**	**-3.9**
EGAK	**Eagle**	**77.25**	**14**	*e*P	**P**	**04 43 55.2**	**-0.3**
	comp=E,1.9nm,0.8s,mb4.1						

*IDC **24** 04:36:53.6±1.0, 1321N×12131E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=154.7km s-min=9.7km az=68.0*
*ISCJB **24** 04:36:55.9±0.7, 1322N±006×121.13E±007, h33km, mb3.8/5, Error ellipse: s-maj=11.5km s-min=6.9km az=119.3*
ISC 24 04:36:57.1±0.7, 1330N±006×12111E±008, h35km, n13, σ1930/15, mb3.8/5, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.25**	**323**	⇑*e*P	**Pn**	**04 37 03.9**	**-0.6**
TGY	**Tagaytay City**	**0.81**	**348**	⇑*i*P	**Pn**	**04 37 12.3**	**+0.2**
TGY				*e*S	**Sn**	**04 37 24.9**	**+1.9**
TGY	**Tagaytay City**	**0.81**	**348**	Pg	**Pn**	**04 37 10.2**	**-1.9**
	358nm,0.3s,baz=134,slow=1.7,SNR=23						
TGY				Lg		04 37 25.6	
	2μm,0.3s,baz=126,slow=15,SNR=27						
PCPH	**Palayan**	**2.25**	**360**	⇑*e*P	**Pn**	**04 37 30.3**	**-1.5**
RCP	**Roxas**	**2.36**	**137**	⇑*e*P	**Pn**	**04 37 34.4**	**+1.1**
MMPH	**Masbate**	**2.63**	**111**	*e*P	**Pn**	**04 37 26.0**	**-11**
PVCP	**Virac**	**2.98**	**84**	⇓*e*P	**Pn**	**04 37 39.8**	**-2.1**
PVCP				*e*S	**Sn**	**04 38 17.4**	**+1.1**
WRA	**Warramunga Arr**	**35.51**	**158**	P	**P**	**04 43 50.1**	**-0.4**
	1.2nm,0.6s,mb4.0,baz=333,slow=9.8,SNR=14						
WB2	**Warramunga Arr**	**35.51**	**158**	*e*P	**P**	**04 43 50.2**	**-0.3**
SONM	**Songino Array**	**36.55**	**343**	P	**P**	**04 44 03.2**	**+3.8**
	0.3nm,0.6s,mb3.3,baz=134,slow=4.2,SNR=2.5						
ASAR	**Alice Springs**	**38.81**	**161**	P	**P**	**04 44 19.1**	**+0.6**
	2.0nm,0.6s,mb4.0,baz=340,slow=6.6,SNR=19						
MKAR	**Makanchi Array**	**46.59**	**324**	P	**P**	**04 45 26.2**	**+4.6**
	0.4nm,0.8s,mb3.4,baz=107,slow=4.8,SNR=3.4						
STKA	**Stephens Creek**	**49.02**	**157**	P	**P**	**04 45 40.9**	**+0.4**
	2.3nm,0.7s,mb4.3,baz=323,slow=13,SNR=5.3						

*ISCJB **24** 04:45:37.6±0.2, 501N±003×12548E±004, h23km, mb5.0/80, MS4.3/22, Error ellipse: s-maj=5.3km s-min=3.9km az=132.9*
*NEIC **24** 04:45:37.1±0.3, 498N×12549E, h10km, mb5.1/23, Error ellipse: s-maj=9.5km s-min=5.9km az=75.0*
*BJI **24** 04:45:37.1, 500N×12550E, h10km, mB5.2, mb4.9, Ms4.8, Msz4.5*
*MOS **24** 04:45:38.7±1.5, 506N×12544E, h33km, mb5.3/20, MS4.3/4, Error ellipse: s-maj=12.7km s-min=6.8km az=111.6*
*IDC **24** 04:45:41.5±2.8, 501N×12534E, h49km±26km, mb4.5/20, mb1 4.6/20, mb1mx4.5/23, mbtmp4.8/20, MS4.1/8, Ms1 4.1/8, ms1mx3.9/23, Error ellipse: s-maj=22.8km s-min=9.4km az=74.0*
ISC 24 04:45:39.7±0.2, 501N±003×12554E±004, h25km, h25km±1.3km: pP-P, n181, σ1930/197, mb5.0/80, MS4.3/22, 11C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.03**	**347**	⇓*i*P	**Pn**	**04 46 14.9**	**+2.5**
KCP				*i*S	**Sn**	**04 46 42.9**	**+5.9**
DAV	**Davao City (W)**	**2.05**	**1**	⇓*e*P	**Pn**	**04 46 17.0**	**+4.5**
DAV	**Davao City (W)**	**2.05**	**1**	*e*Pb	**Pb**	**04 46 16.8**	**+0.6**
DCPH	**Dipolog City**	**4.16**	**329**	⇑*e*P	**Pn**	**04 46 50.6**	**+9.0**
SCPH	**Surigao**	**4.74**	**359**	*e*P	**Pn**	**04 46 52.9**	**+3.3**
SNPH	**Sibulan**	**4.87**	**332**	*e*P	**Pn**	**04 47 01.5**	**+10**
PLP	**Palo**	**6.14**	**355**	*e*P	**Pn**	**04 47 13.4**	**+4.6**
SWI	**Sorong**	**8.17**	**135**	P	**Pn**	**04 47 39.7**	**+3.0**
	106nm,0.7s						
AAI	**Ambon**	**9.04**	**163**	P	**Pn**	**04 47 53.5**	**+4.9**
	168nm,0.8s						
KKM	**Kota Kinabalu**	**9.33**	**277**	P	**Pn**	**04 47 53.3**	**+0.7**
KKM	**Kota Kinabalu**	**9.33**	**277**	*e*Pn	**Pn**	**04 47 52.9**	**+0.2**
KKM				*e*Sn	**Sn**	**04 49 36.6**	**-0.2**
BAKI	**Biak**	**12.23**	**120**	P	**Pn**	**04 48 38.1**	**+5.9**
	429nm,1.3s						
KSM	**Kuching**	**15.60**	**257**	*e*Pn	**Pn**	**04 49 18.0**	**+0.1**
KRKI	**Karangkates**	**18.48**	**225**	P	**Pn**	**04 49 57.9**	**+3.9**
	276nm,1.6s						
KAKA	**Kakadu**	**18.90**	**159**	*e*P	**Pn**	**04 49 56.4**	**-2.7**
	44nm,0.6s						
BJII	**Banjamegara**	**19.99**	**232**	P	**Pn**	**04 50 12.5**	**+0.3**
	146nm,1.7s						
JCJI	**Jatiwangi**	**20.68**	**237**	P	**P**	**04 50 20.4**	**+2.6**
	260nm,1.4s						
QIZ	**Qiongzhong**	**20.70**	**314**	P	**P**	**04 50 18.5**	**+0.5**
QIZ				XP	sP	04 50 29.1	+1.1
QIZ				S	**S**	**04 54 12.8**	**+4.8**
QIZ				AMB	AMB		
	comp=Z,257nm,2.5s					

MBWA Marble Bar 26.62 192 *eP* **P 04 51 15.2 -1.0**
comp=Z,186nm,1.6s,mb5.4
PSI Prapat 26.64 266 P **P 04 51 17.4 +1.1**
comp=Z,12nm,0.7s,mb4.5,baz=85,slow=8.1,SNR=10
CBIJ Chichi jima 27.10 34 P **P 04 51 19.6 -0.9**
comp=Z,41nm,0.6s,mb5.1,baz=277,slow=20,SNR=4.1
NST Nakhon Sawan 27.11 295 P **P 04 51 20.2 -0.3**
comp=Z,54nm,0.7s,mb5.2
GYA Guiyang 27.93 322⇑ *iP* **P 04 51 30.8 +2.9**
GYA AP pP 04 51 38.8 +3.5
GYA XP sP 04 51 42.3 +4.0
GYA PP 04 52 20.9
GYA PPP 04 52 33.8
GYA PCP PcP 04 54 45.6 +2.6
GYA S **S 04 56 11.8 +1.6**
GYA XS sS 04 56 25.6 +3.2
GYA SS 04 57 33.9
GYA SCP ScP 04 58 23.0 +0.9
GYA PCS PcS 04 58 26.3 +1.3
GYA SCS ScS 05 02 14.1 -0.3
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,180nm,4.6s
GYA LR LR
comp=N,770nm,14.1s,MS4.5
GYA LR LR
comp=E,680nm,14.7s,MS4.5
GYA LR LR
comp=Z,690nm,16.4s,MS4.3
CHG Chiang Mai 29.35 300 ⇓*P* **P 04 51 40.7 +0.2**
comp=Z,16nm,1.1s,mb4.7
CHTO Chiang Mai 29.35 300 *eP* **P 04 51 40.8 +0.3**
CHTO pmax pmax
comp=Z,11nm,1.0s,mb4.5
CHTO Chiang Mai 29.35 300 *eP* **P 04 51 40.8 +0.3**
comp=Z,11nm,1.0s,mb4.6
KMI Kunming 29.64 315 P **P 04 51 44.9 +1.8**
KMI AP pP 04 51 50.6 +0.1
KMI XP sP 04 51 54.5 +1.0
KMI PP PP 04 52 40.9 -9.2
KMI PPP 04 52 53.9
KMI S **S 04 56 36.5 -0.6**
KMI XS sS 04 56 47.8 -1.4
KMI SS SS 04 58 09.8 -34
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.5
KMI LR LR
comp=N,350nm,15.0s,MS4.4
KMI LR LR
comp=E,596nm,17.1s,MS4.4
KMI LR LR
comp=Z,808nm,17.1s,MS4.4
KMI Kunming 29.64 315 P **P 04 51 44.9 +1.8**
KMI *SP sP 04 51 54.5 +1.0
KMI 04 52 40.9
KMI PPP 04 52 53.9
KMI S **S 04 56 36.5 -0.6**
KMI *SS sS 04 56 47.8 -1.4
KMI SS SS 04 58 09.8 -34
KMI SSS 04 58 28.6
KMI pmax pmax
comp=Z,11nm,1.0s,mb4.5
KMI MLR MLR
comp=Z,810nm,17.1s,MS4.4
KMI Kunming 29.64 315 P **P 04 51 44.9 +1.8**
comp=Z,11nm,1.0s,mb4.5
KMI pP pP 04 51 50.6 +0.1
KMI sP sP 04 51 54.5 +1.0
KMI PP PP 04 52 40.9 -9.2
KMI PPP 04 52 53.9
KMI S **S 04 56 36.5 -0.6**
KMI sS sS 04 56 47.8 -1.4
KMI SS SS 04 58 09.8 -34
KMI SSS 04 58 28.6
KMI LR LR
comp=Z,810nm,17.1s,MS4.4
AS31 Alice Springs 29.65 164 *eP* **P 04 51 44.0 +0.8**
ASAR Alice Springs 29.65 164 P **P 04 51 42.8 -0.4**
comp=Z,5.9nm,0.6s,mb4.5,baz=347,slow=7.2,SNR=65
ASAR S **S 04 56 49.6 +12**
comp=Z,0.9nm,0.8s,baz=358,slow=21,SNR=2.9
ASPA Alice Springs 29.65 164 *eP* **P 04 51 44.0 +0.8**
JHJ Hachijo jima 2 30.96 24 LR LR 05 02 05.7
comp=Z,310nm,20.3s,MS4.0,baz=194,slow=32
CTA Charters Tower 32.20 141 *eP* **P 04 52 07.2 +1.5**
comp=Z,9.4nm,0.9s,mb4.6
CTA Charters Tower 32.20 141 *eP* **P 04 52 07.2 +1.5**
CTA pmax pmax
comp=Z,9.0nm,0.9s
XAN Xi'an 32.75 334 P **P 04 52 09.3 -1.2**
XAN AP pP 04 52 24.0 +6.1
XAN AMB AMB
comp=Z,12nm,0.8s,mb4.9
CD2 Chengdu 32.91 324⇑ *iP* **P 04 52 12.6 +0.7**
CD2 AP pP 04 52 19.9 +0.6
CD2 XP sP 04 52 23.3 +0.9
CD2 PP PP 04 53 23.3 -3.2
CD2 PCP PcP 04 54 56.3 +0.3
CD2 S **S 04 57 28.5 +0.2**
CD2 XS sS 04 57 40.6 +0.1
CD2 SS SS 04 59 28.8 -22
CD2 SCS ScS 05 02 36.4 -2.1
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,120nm,9.8s
CD2 LR LR
comp=N,1μm,18.0s,MS4.7
CD2 LR LR
comp=E,820nm,18.0s,MS4.7
CD2 LR LR
comp=Z,900nm,18.0s,MS4.5
MAJO Matsushiro 33.47 19 *eP* **P 04 52 15.6 -1.2**
MAJO pmax pmax
comp=Z,32nm,0.9s,mb5.2
MAJO Matsushiro 33.47 19 *eP* **P 04 52 15.6 -1.2**
comp=Z,32nm,0.9s,mb5.3
MAT Matsushiro 33.47 19 P **P 04 52 16.3 -0.5**
MAT S **S 04 57 36.0 -0.9**
MJAR Matsushiro Arr 33.47 19 P **P 04 52 16.3 -0.5**
comp=Z,9.5nm,0.8s,mb4.8,baz=196,slow=8.8,SNR=20
MJAR LR LR 05 05 11.1
comp=Z,219nm,18.5s,MS3.9,baz=205,slow=35
FORT Forrest 35.67 176 *eP* **P 04 52 35.1 -0.7**
comp=Z,24nm,1.1s,mb5.0
BJI Beijing 35.88 348 P **P 04 52 42.9 +5.3**
BJI AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
BJI AMB AMB
comp=Z,410nm,7.6s
BJI LR LR
comp=N,430nm,19.2s,MS4.4
BJI LR LR
comp=E,476nm,18.1s,MS4.4
BJI LR LR
comp=Z,216nm,22.8s,MS3.9
BJI Beijing 35.88 348 P **P 04 52 42.9 +5.3**
comp=Z,9.0nm,1.7s,mb4.4
BJI S **S 04 57 59.0 -15**
BJI LR LR
comp=Z,220nm,22.8s,MS3.9
SNY Shenyang 36.70 358 *eP* **P 04 52 49.4 +4.8**
LZH Lanzhou 36.80 330 *eP* **P 04 52 46.0 +0.5**
LZH AP pP 04 52 52.0 -1.0
LZH XP sP 04 52 55.0 -1.0
LZH PP PP 04 54 17.5 +8.0
LZH PCP PcP 04 55 04.6 -2.7
LZH *eS* **S 04 58 23.1 -5.1**
LZH SS SS 05 01 02.0 -7.5
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,294nm,4.2s
LZH LR LR
comp=N,2μm,11.9s
LZH LR LR
comp=Z,2μm,17.2s
LZH Lanzhou 36.80 330 *eP* **P 04 52 46.0 +0.5**
LZH *SP sP 04 52 55.0 -1.0
LZH 04 54 17.5
LZH 04 55 04.6
LZH *eS* **S 04 58 23.1 -5.1**
LZH pmax pmax
comp=Z,70nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,2μm,17.2s,MS5.0
LZH Lanzhou 36.80 330 *eP* **P 04 52 46.0 +0.5**
comp=Z,70nm,1.0s,mb5.5
LZH pP pP 04 52 52.0 -1.0
LZH sP sP 04 52 55.0 -1.0
LZH PP PP 04 54 17.5 +8.0
LZH PcP PcP 04 55 04.6 -2.7
LZH *eS* **S 04 58 23.1 -5.1**
LZH sS sS 04 58 51.0 +11
LZH SS SS 05 01 02.0 -7.5
LZH LR LR
comp=Z,2μm,17.2s,MS5.0
KLBR Kellerberrin 37.15 191 *eP* **P 04 52 47.1 -1.3**
comp=Z,41nm,1.2s,mb5.1
HHC Hu-ho-hao-te 37.82 343 *eP* **P 04 52 57.6 +3.5**
HHC AP pP 04 53 03.5 +1.9
HHC XP sP 04 53 06.6 +2.0
HHC PP PP 04 54 27.3 +6.6
HHC PCP PcP 04 55 15.0 +4.6
HHC S **S 04 58 50.4 +6.7**
HHC PCS PcS 04 59 04.8 +5.7
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,238nm,7.2s
HHC LR LR
comp=N,384nm,24.5s,MS4.3
HHC LR LR
comp=E,369nm,23.0s,MS4.3
HHC LR LR
comp=Z,475nm,30.0s
MUN Mundaring 37.84 193 *eP* **P 04 53 06.9 +13**
VLA Vladivostok 38.37 8 *eP* **P 04 52 58.4 -0.3**
VLA *eS* **S 04 58 53.5 +1.6**
VLA pmax pmax
comp=Z,50nm,1.0s,mb5.2
NWAO Narrogin (SRO) 38.54 191 P **P 04 52 59.3 -0.9**
comp=Z,14nm,0.6s,mb4.9,baz=20,slow=9.1,SNR=13
NWAO LR LR 05 11 13.7
comp=Z,60nm,21.0s,MS3.4,baz=208,slow=40
NWAO Narrogin (SRO) 38.54 191 *eP* **P 04 52 59.0 -1.3**
CN2 Changchun 38.63 360 *eP* **P 04 53 03.3 +2.3**
MDJ Mudanjiang 39.61 5 P **P 04 53 11.5 +2.4**
MDJ AP pP 04 53 17.8 +1.2
MDJ XP sP 04 53 20.4 +0.8
MDJ PP PP 04 54 43.0 +2.8
MDJ S **S 04 59 21.5 +11**
MDJ SCS ScS 05 03 14.8 -0.7
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
MDJ LR LR
comp=N,70nm,22.1s,MS3.9
MDJ LR LR
comp=E,171nm,20.4s,MS3.9
MDJ LR LR
comp=Z,170nm,24.6s,MS3.8
MDJ Mudanjiang 39.61 5 *eP* **P 04 53 16.6 +7.5**
STKA Stephens Creek 39.75 158⇑ *iP* **P 04 53 10.7 +0.4**
comp=Z,28nm,0.8s,mb5.0
STKA Stephens Creek 39.75 158 P **P 04 53 10.8 +0.5**
comp=Z,32nm,0.7s,mb5.1,baz=333,slow=7.4,SNR=54
LSA Lhasa 40.70 311 *eP* **P 04 53 20.8 +2.6**
LSA Lhasa 40.70 311 *eP* **P 04 53 20.4 +2.2**
LSA pmax pmax
comp=Z,12nm,0.8s,mb4.6
LSA Lhasa 40.70 311 *eP* **P 04 53 20.4 +2.2**
comp=Z,12nm,0.8s,mb4.6
GTA Gaotai 41.39 329 *eP* **P 04 53 23.8 -0.1**
GTA AP pP 04 53 30.5 -0.9
GTA XP sP 04 53 33.3 -1.1
GTA PP PP 04 55 03.8 +4.1
GTA PCP PcP 04 55 21.3 -0.4
GTA S **S 04 59 36.8 -0.4**
GTA XS sS 04 59 49.3 -0.3
GTA SS SS 05 02 35.0 -6.6
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,128nm,4.9s
GTA LR LR
comp=N,377nm,14.4s,MS4.6
GTA LR LR
comp=E,546nm,16.0s,MS4.6
GTA LR LR
comp=Z,762nm,18.3s,MS4.6
BOK Bokaro 42.49 300 *eP* **P 04 53 33.9 +1.0**
BOK AMb AMB 04 53 43.5
comp=Z,21nm,0.8s,mb4.8
VIS Vishakhapatnam 43.15 291 *eP* **P 04 53 37.3 -0.9**
VIS AMb AMB 04 53 55.7
comp=Z,87nm,1.2s,mb5.4
ARMA Armidale 43.19 146⇑ *iP* **P 04 53 39.9 +1.4**
GUN Gumba 44.01 306 *eP* **P 04 53 44.9 -0.3**
comp=Z,114nm,0.9s,mb5.6
PKI Pulchoki 44.26 305 *eP* **P 04 53 45.8 -1.3**
comp=Z,30nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 44.35 17 P **P 04 53 48.2 +0.3**
YSS *e* pP 04 53 55.0 -0.4
YSS Yuzh-Sakhalins 44.35 17 *eP* **P 04 53 48.6 +0.7**
comp=Z,24nm,0.3s,mb5.4
KLR Kul'dur 44.38 6 *eP* **P 04 53 43.3 -4.8**
KLR pmax pmax
comp=Z,82nm,2.2s,mb5.1
KKN Kakani 44.45 305 *eP* **P 04 53 48.6 -0.1**
comp=Z,48nm,1.1s,mb5.1
DMN Daman 44.52 305 *eP* **P 04 53 48.6 -0.6**
comp=Z,60nm,1.0s,mb5.4
GKN Gorkha 45.06 305 *eP* **P 04 53 54.0 +0.5**
comp=Z,29nm,1.0s,mb5.0
SONM Songino Array 45.72 342 P **P 04 53 56.5 -2.2**
comp=Z,0.9nm,0.7s,baz=166,slow=7.4,SNR=5.6
SONM PcP PcP 04 55 33.8 -2.6
comp=Z,1.5nm,0.7s,baz=166,slow=4.6,SNR=3.9
SONM LR LR 05 17 15.1
comp=Z,234nm,18.6s,baz=25,slow=42
SONM Songino Array 45.72 342 P **P 04 53 56.5 -2.2**
SONM 04 55 33.8
KOLN Koldanda 45.82 304 *eP* **P 04 53 58.9 -0.6**
comp=Z,62nm,0.9s,mb5.5
CNB Canberra Magne 45.94 153 *eP* **P 04 54 02.7 +2.2**
comp=Z,40nm,1.3s,mb5.2
TOO Toolangi 46.26 158 *eP* **P 04 54 04.8 +1.8**
comp=Z,22nm,1.0s,mb5.0
TOO Toolangi 46.26 158 *eP* **P 04 54 04.8 +1.8**
TOO pmax pmax
comp=Z,22nm,1.0s,mb5.0
HYB Hyderabad 47.57 289 *i P* **P 04 54 14.0 +0.8**
HYB Hyderabad 47.57 289 *eP* **P 04 54 14.0 +0.8**
KOD Kodaikanal 47.89 279 *eP* **P 04 54 14.0 -1.7**
TRD Trivandrum 48.34 277 *eP* **P 04 54 18.6 -0.6**
TRD AMb AMB 04 54 27.8
comp=Z,50nm,1.6s,mb5.3
ZAK Zakamensk 48.93 341 *eP* **P 04 54 23.4 -0.4**
BHPL Bhopal 49.77 296 *eP* **P 04 54 30.0 -0.2**
BHPL AMb AMB 04 54 38.4
comp=Z,56nm,1.4s,mb5.4
TLY Talaya 49.95 342 *eP* **P 04 54 28.8 -2.7**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,237nm,18.0s,MS4.2
WMQ Urumqi 51.00 325 *eP* **P 04 54 40.8 +1.4**
WMQ AP pP 04 54 48.0 +0.9
WMQ XP sP 04 54 52.0 +1.9
WMQ PCP PcP 04 55 57.0 +1.7
WMQ PPP 04 57 38.0
WMQ S **S 05 01 54.0 -1.0**
WMQ XS sS 05 02 07.0 -0.6
WMQ SCS ScS 05 04 26.0 -2.5
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,156nm,3.7s
WMQ LR LR
comp=N,1μm,17.8s,MS5.1
WMQ LR LR
comp=E,926nm,17.0s,MS5.1
WMQ LR LR
comp=Z,837nm,19.5s,MS4.8
KAD Karad 51.68 288 *eP* **P 04 54 43.2 -1.4**
KAD AMb AMB 04 54 47.1
comp=Z,49nm,1.4s,mb5.2
POO Poona 52.16 290 *eP* **P 04 54 46.0 -2.1**
AJM Ajmer 53.01 299 *eP* **P 04 54 51.9 -2.5**
AJM AMb AMB 04 55 16.0
comp=Z,31nm,1.4s,mb5.0
BOD Bodaibo 53.44 352 *eP* **P 04 54 53.3 -4.3**
BOD pmax pmax
comp=Z,70nm,1.6s,mb5.3
PET Petropavlovsk 55.03 24⇑ *eP* **P 04 55 12.3 +3.2**
PET pmax pmax
comp=Z,103nm,1.3s,mb5.7
MK31 Makanchi Array 55.83 325 *eP* **P 04 55 13.9 -1.0**
MKAR Makanchi Array 55.83 325 P **P 04 55 13.9 -1.0**
comp=Z,5.7nm,0.6s,mb4.8,baz=119,slow=7.1,SNR=59
MKAR PcP PcP 04 56 11.5 -2.2
comp=Z,3.2nm,0.8s,baz=122,slow=2.8,SNR=2.6
MKAR LR LR 05 20 16.7
comp=Z,672nm,20.0s,MS4.7,baz=138,slow=37
MKAR Makanchi Array 55.83 325 P **P 04 55 13.9 -1.0**
MKAR 04 56 11.5
KSH Kashi 56.30 315 *eP* **P 04 55 19.8 +1.5**
KSH *e*AP pP 04 55 29.9 +3.9
KSH *e*XP sP 04 55 35.3 +6.3
KSH *e*PP PP 04 57 26.0 +2.3
KSH *e*SCP ScP 05 00 11.9 -1.2
KSH *e*PCS PcS 05 00 19.5 +3.5
KSH *e*S **S 05 03 05.6 -1.3**
KSH *e*XS sS 05 03 22.1 +2.5
KSH *e*SCS ScS 05 05 02.9 -3.0
KSH *e*SS SS 05 06 52.8 -1.0
KSH LR LR
comp=N,867nm,7.2s
KSH LR LR
comp=E,877nm,8.6s
KSH LR LR
comp=Z,968nm,10.2s,MS5.2
YAK Yakutsk 56.98 2 *eP* **P 04 55 22.5 -0.6**
YAK pmax pmax
comp=Z,81nm,0.8s,mb5.8
YAK Yakutsk 56.98 2 *eP* **P 04 55 22.5 -0.6**
comp=Z,81nm,0.8s,mb5.8
MA2 Magadan 57.77 15⇓ *eP* **P 04 55 29.5 +0.8**
MA2 pmax pmax
comp=Z,65nm,1.7s,mb5.4
MA2 Magadan 57.77 15 *eP* **P 04 55 29.6 +1.0**
AAK Ala-Archa 58.61 318⇓ *iP* **P 04 55 33.5 -1.1**
AAK pmax pmax
comp=Z,170nm,2.5s,mb5.6
AAK Ala-Archa 58.61 318 *eP* **P 04 55 34.3 -0.3**
FRU Bishkek 58.62 318 *eP* **P 04 55 35.0 +0.4**
KURK Kurchatov 60.03 328 P **P 04 55 43.6 -0.8**
comp=Z,175nm,0.6s,SNR=13
NVS Novosibirsk 60.20 333 *i* P **P 04 55 43.5 -2.0**
NVS *eS* **S 05 03 51.8 -5.9**
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=Z,24nm,1.6s,mb5.0
NVS pmax pmax
comp=E,22nm,1.8s
NVS smax
comp=E,23nm,1.6s
SEY Seymchan 61.07 14⇑ *eP* **P 04 55 52.4 +0.9**
BVAR Borovoye Array 65.60 327 P **P 04 56 19.7 -1.7**
comp=E,5.4nm,0.9s,mb4.6,baz=133,slow=10,SNR=14
BRVK Borovoye 65.67 327 P **P 04 56 20.7 -1.3**
SNR=10
BRVK Borovoye 65.67 327 *eP* **P 04 56 20.9 -1.0**
BRVK pmax pmax
comp=Z,46nm,1.4s,mb5.3
BRVK Borovoye 65.67 327 *eP* **P 04 56 20.9 -1.1**
comp=Z,46nm,1.4s,mb5.3
TIXI Tiksi 66.59 1⇓ *iP* **P 04 56 26.0 -1.8**
TIXI pmax pmax
comp=Z,28nm,1.7s,mb5.0
TIXI Tiksi 66.59 1 *eP* **P 04 56 27.4 -0.5**
BILL Bilibino 68.63 15⇓ *eP* **P 04 56 40.4 -0.3**
BILL *e* pP 04 56 47.1 -1.5
BILL *e* 04 56 53.2
BILL 04 57 04.0
BILL 04 59 15.0
BILL S S 05 05 31.0 -11
BILL pmax pmax
comp=Z,22nm,1.7s,mb4.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
WHFO Wadi Hawf 71.14 287 P **P 04 56 55.2 -0.9**
SNR=7.4
ABTO Aybut 71.58 287 P **P 04 56 59.6 +0.9**
SNR=5.3
CASY Casey 71.94 186 *eP* **P 04 56 59.9 -1.1**
MIR Mirnyy 75.13 193 *eP* **P 04 57 20.5 +0.8**
MIR *e* pP 04 57 27.0 -0.7
MIR *e* 04 57 33.0
MIR pmax pmax
comp=Z,25nm,1.0s,mb5.1
GNI Garni 79.75 310 P **P 04 57 46.9 +1.3**
SNR=6.4
GNI Garni 79.75 310⇑ *eP* **P 04 57 44.8 -0.8**
GNI pmax pmax
comp=Z,25nm,1.7s
ZEI Tsey 80.48 312 *eP* **P 04 57 47.3 -2.2**
ZEI *e*PP pP 04 57 55.1 -2.4
KIV Kislovodsk 81.40 314⇓ *iP* **P 04 57 53.9 -0.5**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
IMA2 Indian Mountai 81.70 24 *eP* **P 04 57 56.6 +0.6**
PMR Palmer 83.40 29 *eP* **P 04 58 05.0 +0.2**
PMR pmax pmax
comp=Z,53nm,1.2s,mb5.5
PMR Palmer 83.40 29 *eP* **P 04 58 05.0 +0.1**
comp=Z,54nm,1.2s,mb5.5
MCK McKinley 83.56 27 *eP* **P 04 58 05.8 +0.2**
MAW Mawson 84.54 200 *eP* **P 04 58 09.5 -1.1**
comp=Z,6.1nm,1.4s,mb4.5
MAW Mawson 84.54 200 P **P 04 58 09.1 -1.5**
comp=Z,4.2nm,1.0s,mb4.5,baz=57,slow=6.2,SNR=7.7
MOS Moscow 84.72 325 *eP* **P 04 58 08.4 -3.1**
VNDA Vanda 84.84 173 P **P 04 58 11.3 -0.8**
comp=Z,3.1nm,1.1s,mb4.4,baz=322,slow=6.4,SNR=14
VNDA Vanda 84.84 173 *eP* **P 04 58 11.4 -0.8**
ANN Anapa 85.16 314 *eP* **P 04 58 08.3 -5.5**
ANN *i* *PP pP 04 58 18.8 -3.0
ANN *eS* S 05 08 28.9 -13
ANN pmax pmax
comp=Z,59nm,1.3s,mb5.6
OBN Obninsk 85.33 325⇑ *P* **P 04 58 13.0 -1.6**
OBN *i* pP 04 58 19.2 -3.5
OBN *i* 04 58 31.3
OBN *e* 05 08 25.9
OBN *e*PS 05 09 48.1
OBN pmax pmax
comp=Z,66nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.6
SBA Scott Base 85.76 172 *eP* **P 04 58 17.2 +0.4**
ASF Jabal al Asfar 86.21 302 P **P 04 58 18.2 -0.8**
comp=Z,5.4nm,0.9s,mb4.8,baz=346,slow=3.3,SNR=14
EGAK Eagle 86.92 25 *eP* **P 04 58 22.3 -0.2**
comp=Z,5.2nm,0.9s,mb4.8
DAWY Dawson 87.75 26 *eP* **P 04 58 27.6 +1.1**
BR131 Keskin Array S 88.29 310 *eP* **P 04 58 27.7 -1.3**
BRTR Keskin Array B 88.29 310 P **P 04 58 26.8 -2.2**
comp=Z,2.7nm,1.0s,mb4.4,baz=125,slow=4.6,SNR=12
KMBO Kilima Mbogo 88.39 269 P **P 04 58 29.2 -0.2**
comp=Z,4.7nm,1.0s,mb4.7,baz=50,slow=4.8,SNR=14
KMBO Kilima Mbogo 88.39 269 P **P 04 58 30.5 +1.1**
SNR=9.3
KMBO Kilima Mbogo 88.39 269 *eP* **P 04 58 29.9 +0.4**
KMBO pmax pmax
comp=Z,41nm,1.6s
KMBO Kilima Mbogo 88.39 269 *eP* **P 04 58 29.9 +0.4**
comp=Z,41nm,1.6s,mb5.4
ARCES ARCESS Array B 88.84 340 P **P 04 58 31.4 -0.2**
comp=Z,5.0nm,0.9s,mb4.9,baz=51,slow=13,SNR=3.4
ARCES LR LR 05 41 13.6
comp=Z,111nm,18.5s,MS4.3,baz=10,slow=38
FINES FINESS Array B 90.15 332 P **P 04 58 34.1 -3.6**
comp=Z,2.3nm,0.9s,mb4.5,baz=54,slow=9.7,SNR=5.6
MLR Muntele Rosu 93.16 316 P **P 04 58 48.8 -2.9**
comp=Z,1.6nm,0.5s,mb4.7,baz=71,slow=7.3,SNR=4.7
SYO Syowa Base 93.18 201⇓ *eP* **P 04 58 50.0 -1.8**
QSPA South Pole Qui 94.91 180 *eP* **P 04 58 59.5 -0.2**
comp=Z,7.9nm,1.0s,mb5.1
NOA NORSAR Array B 97.12 333 P **P 04 59 06.5 -3.3**
comp=Z,1.3nm,0.8s,mb4.4,baz=66,slow=4.5,SNR=3.3
NOA NORSAR Array B 97.12 333 P **P 04 59 06.5 -3.3**

NVAR	Mina Array Bea	106.93	47	Pdiff	Pdif	04 59 54.2	+0.6
	comp=Z,1.0nm,0.9s,baz=272,slow=6.4,SNR=4.7						
NVAR	Mina Array Bea	106.93	47	Pdif	Pdif	04 59 54.2	+0.6
HRY	Holter Researc	107.86	38	ePdif	Pdif	04 59 51.1	-6.6
ULM	Lac du Bonnet	114.40	28	PKP	PKiKP	05 04 15.0	-2.3
	comp=Z,0.8nm,0.5s,baz=6.6,slow=10,SNR=3.1						
TORD	Torodi Ar. Bea	121.39	289	PKP	PKPdf	05 04 29.4	-1.4
	comp=Z,2.4nm,0.8s,baz=48,slow=1.5,SNR=13						
TORD				PKKPab	PKKPab	05 14 32.9	+0.5
	comp=Z,1.1nm,0.7s,baz=305,slow=2.5,SNR=7.8						
TXAR	Lajitas Array	121.74	51	PKP	PKPdf	05 04 32.1	+0.6
	comp=Z,0.7nm,0.7s,baz=164,slow=1.3,SNR=7.6						
RCC	Rio Carpintero	147.55	39	eP	PKPdf	05 05 21.4	+2.4
LPAZ	La Paz	162.53	131	PKP	PKPdf	05 05 41.4	+2.1
	comp=Z,1.2nm,0.9s,baz=26,slow=9.4,SNR=4.7						
LPAZ	La Paz	162.53	131	PKP	PKPdf	05 05 41.4	+2.1

*ISCJB **24** 05:00:07.6±0.3, 4250N±002×1981E±003, h2km, Error ellipse: s-maj=2.8km s-min=2.6km az=55.2*
*NEIC **24** 05:00:07.8, 4250N×1983E, h2km, ML2.7(PDG), After PDG.*
*PDG **24** 05:00:07.8±0.3, 4250N×1983E, h2km±1km*
*TIR **24** 05:00:07.1, 4250N×1980E, h5km, Ml2.5*

ISC 24 05:00:08.1±0.3, 4250N±002×1982E±003, h2km, n18, σ0°92/35, 5C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.15	49	⇑iPg	Pg	05 00 10.0	-1.0
PVY				eSg	Sg	05 00 12.6	-0.4
BCI	Bajram Curri	0.23	125	iPg	Pg	05 00 11.5	-0.9
BCI				iSg	Sg	05 00 15.0	-0.3
IVA	Berane	0.38	9	⇓iPg	Pg	05 00 15.0	-0.3
IVA				eSg	Sg	05 00 20.4	+0.1
TTG	Podgorica	0.42	261	⇑iPg	Pg	05 00 15.3	-0.8
TTG				eSg	Sg	05 00 21.7	+0.2
PUK	Puka	0.46	173	iPg	Pg	05 00 16.0	-0.8
PUK				iSg	Sg	05 00 23.6	+0.9
ULC	Ulcinj	0.68	219	⇓iPg	Pg	05 00 20.8	-0.4
ULC				eSg	Sg	05 00 30.2	+0.3
NKY	Niksic	0.68	298	⇓iPg	Pg	05 00 20.3	-0.9
NKY				eSg	Sg	05 00 30.3	+0.3
BUM	Brajici-Budva	0.71	254	⇑iPg	Pg	05 00 21.3	-0.4
BUM				eSg	Sg	05 00 31.3	+0.5
PLE	Pljevlja	0.89	340	⇓iPg	Pg	05 00 24.6	-0.6
PLE				eSg	Sg	05 00 37.4	+0.7
UPM	Unac-Piva	0.97	317	⇑iPg	Pg	05 00 26.5	-0.2
UPM				eSg	Sg	05 00 40.0	+0.6
HCY	Herceg Novi	0.98	268	⇑iPg	Pg	05 00 25.9	-0.9
HCY				eSg	Sg	05 00 40.2	+0.7
BRY	Bratogost	1.02	294	⇓iPg	Pg	05 00 26.7	-1.0
BRY				eSg	Sg	05 00 41.8	+0.8
SKO	Skopje	1.31	113	ePn	Pn	05 00 33.6	+0.2
SKO				eSn	Sn	05 00 52.1	+0.6
GRUS	Gruza	1.54	25	iPg	Pg	05 00 37.0	-0.6
GRUS				Sg	Sg	05 00 59.9	+2.4
KRUS	Krusevo	1.55	136	ePn	Pn	05 00 37.2	+0.5
KRUS				eSn	Sn	05 00 58.7	+1.3
DIVS	Divcibare	1.61	4	iPg	Pg	05 00 37.1	-1.7
DIVS				Sg	Sg	05 01 02.7	+3.0
STON	Ston	1.61	284	iPn	Pn	05 00 36.8	-0.6
STON				iSn	Sn	05 01 02.7	+3.9
KBN	Korca	2.01	158	iPn	Pn	05 00 46.2	+3.2

*NEIC **24** 05:01:22.4±2.1, 983S×10700E, h10km, Error ellipse: s-maj=91.6km s-min=14.1km az=51.0*

IDC 24 05:01:20.9±3.1, 980S×10702E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/17, mbtmp4.0/6, ML3.5/1, Error ellipse: s-maj=134.0km s-min=19.4km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.85	117	P	Pn	05 05 54.2	-0.7
	0.1nm,0.3s,baz=294,slow=9.5,SNR=4.8						
WRA	Warramunga Arr	28.22	114	P	P	05 07 14.9	-0.5
	0.7nm,0.7s,baz=285,slow=12,SNR=7.9						
ASAR	Alice Springs	29.13	122	P	P	05 07 23.9	+0.5
	0.6nm,0.6s,baz=296,slow=8.7,SNR=3.1						
STKA	Stephens Creek	38.80	130	P	P	05 08 47.4	0.0
	2.1nm,0.5s,baz=289,slow=6.3,SNR=4.8						
SONM	Songino Array	57.38	360	P	P	05 11 11.0	-0.1
	1.2nm,0.5s,baz=180,slow=8.3,SNR=8.4						
MKAR	Makanchi Array	60.52	341	P	P	05 11 32.5	-0.3
	2.7nm,0.5s,baz=141,slow=7.3,SNR=18						
TXAR	Lajitas Array	145.34	52	PKPbc	PKPbc	05 21 02.4	+1.8
	0.4nm,0.7s,baz=38,slow=1.6,SNR=5.0						

*NEIC **24** 05:01:35.8, 2878S×7143W, h33km, ML3.4(GUC), After GUC.*

GUC 24 05:01:35.8±0.9, 2878S×7143W, h33km±6km, MD4.0, ML3.4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.63	71	⇓iP	Pn	05 01 48.2	-0.2
VACH				iS	Sb	05 01 57.0	0.0
VACH				AML	AML	05 01 58.0	
	comp=E,12μm,0.1s						
LSCH	La Serena	1.13	172	eP	Pn	05 02 32.5	+37
LSCH				iS	Sn	05 02 48.0	+38
LSCH				AML	AML	05 02 49.7	
	comp=E,167nm,0.3s						
TLL	Tololo Astrono	1.48	158	eP	Pn	05 02 02.3	+2.1
TLL				iS	Sn	05 02 21.7	+3.2
CPCH	Copiapo	1.71	34	eP	Pn	05 02 04.6	+1.3
CPCH				iS	Sn	05 02 27.0	+3.0
CDCH	Caldera	1.79	18	eP	Pn	05 02 04.0	-0.3
CMCH	Combarbala	2.41	171	⇑iP	Pn	05 02 14.1	+1.2
CMCH				iS	Sn	05 02 44.0	+2.7
CMCH				AML	AML	05 02 55.4	
	comp=E,888nm,0.7s						
CMCH	Combarbala	2.41	171	⇑iP	Pn	05 02 14.1	+1.2
CMCH				iS	Sn	05 02 44.0	+2.7

*ISCJB **24** 05:19:54.7±0.7, 3448N±007×259E±0.1, h33km, Error ellipse: s-maj=15.7km s-min=7.3km az=111.5*
*CSEM **24** 05:19:54.7±0.1, 3450N×2593E, h40km, ML3.2, Error ellipse: s-maj=5.6km s-min=2.5km az=54.0*
*ATH **24** 05:19:58.8, 3469N×2549E, h2km, MD3.4/4*
*HLW **24** 05:19:59.1, 3432N×2602E, h33km, Mb3.2*

ISC 24 05:19:56.3±0.7, 3458N±008×259E±01, h35km, n10, σ0°44/11, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.34	333	ePG	Pn	05 20 03.8	-0.9
NPS	Neapolis	0.72	342	ePG	Pn	05 20 10.0	0.0
GVD	Gavdhos	1.50	281	ePB	Pn	05 20 21.0	+0.3
VAM	Vamos	1.61	301	ePG	Pn	05 20 22.8	+0.6
SWA1		5.30	182	⇓P	Pn	05 21 12.6	-0.3
SWA1				S	Sn	05 22 06.4	-6.3
SWA2		5.33	184	⇓P	Pn	05 21 13.1	-0.2
AWBH		6.75	157	P	Pn	05 21 32.8	0.0
GLL	Jalalah	7.02	134	P	Pn	05 21 36.2	-0.3
AMAG	Maghara	7.32	120	P	Pn	05 21 41.3	+0.7
HFRF	Wahat Farafira	7.69	164	P	Pn	05 21 45.8	+0.1

IDC 24 05:22:19.1±7.5, 3025S×17798W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/11, mbtmp3.7/2, Error ellipse: s-maj=309.8km s-min=60.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.13	267	P	P	05 30 22.3	+1.1
	1.1nm,0.9s,baz=103,slow=7.5,SNR=6.2						
WRA	Warramunga Arr	44.11	272	P	P	05 30 28.5	-0.6
	0.8nm,0.4s,baz=111,slow=8.0,SNR=22						
FINES	FINESS Array B	145.01	340	PKPbc	PKPbc	05 41 56.4	-1.3
	3.3nm,1.0s,baz=59,slow=5.4,SNR=4.0						

*ISCJB **24** 05:27:25.6±1.5, 3466N×007×23.1E±0.2, h10km, Error ellipse: s-maj=21.8km s-min=9.7km az=0.3*
*CSEM **24** 05:27:26.6±0.3, 3462N×2315E, h10km, ML3.2, Error ellipse: s-maj=27.0km s-min=4.5km az=75.0*
*ATH **24** 05:27:30.9, 3500N×2335E, h10km, MD3.3/3*
*HLW **24** 05:27:31.9, 3458N×2324E, h33km, Mb3.2*

ISC 24 05:27:27.0±1.4, 3477N±007×232E±02, h10km, n7, σ0°55/8, 4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.75	84	ePB	Pb	05 27 43.0	+0.8
VAM	Vamos	1.05	52	ePB	Pb	05 27 46.5	-0.9
KYTH	Kithira	1.52	356	ePB	Pb	05 27 55.5	+0.3
HMAT	Matruh	4.93	137	⇓P	Pn	05 28 41.4	+0.3
SWA2		5.84	160	⇓P	Pn	05 28 53.4	-0.2
SWA1		5.89	158	⇓P	Pn	05 28 54.7	+0.4
SWA1				S	Sn	05 29 54.9	-7.1
HFRF	Wahat Farafira	8.78	148	⇓P	Pn	05 29 33.3	-0.7

IDC 24 05:30:28.5±2.9, 2926N×14093E, h64km±36km, mb3.6/5, mb1 3.8/7, mb1mx3.5/20, mbtmp3.9/7, ML4.0/2, Error ellipse: s-maj=88.6km s-min=15.1km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.42	152	P	Pn	05 31 04.5	-1.2
	59nm,0.3s,baz=332,slow=5.6,SNR=34						
CBIJ				S	Sn	05 31 35.0	+0.7
	58nm,0.3s,baz=290,slow=22,SNR=15						
MJAR	Matsushiro Arr	7.61	343	P	Pn	05 32 17.6	+0.9
	0.5nm,0.3s,baz=167,slow=14,SNR=5.5						
WRA	Warramunga Arr	49.33	188	P	P	05 39 11.6	+0.5
	1.1nm,0.5s,baz=5.0,slow=7.5,SNR=23						
ASAR	Alice Springs	53.05	188	P	P	05 39 39.3	+0.3
	0.4nm,0.6s,baz=358,slow=5.1,SNR=4.7						
ARCES	ARCESS Array B	71.14	340	P	P	05 41 40.3	+0.1
	3.2nm,0.9s,baz=62,slow=5.9,SNR=5.4						
FINES	FINESS Array B	75.52	333	P	P	05 42 05.6	-0.4
	1.6nm,0.7s,baz=85,slow=4.6,SNR=5.1						
BRTR	Keskin Array B	83.73	312	P	P	05 42 49.9	-0.6
	0.6nm,0.8s,baz=94,slow=4.7,SNR=5.0						

*ISCJB **24** 05:49:44.5±4.0, 110S±02×166.1E±0.1, h191km±39km, mb4.0/11, Error ellipse: s-maj=33.0km s-min=18.3km az=146.8*
*IDC **24** 05:49:44.5±5.1, 1090S×16621E, h178km±45km, mb3.7/8, mb1 3.9/9, mb1mx3.9/14, mbtmp4.2/9, Error ellipse: s-maj=28.1km s-min=22.3km az=164.0*
*NEIC **24** 05:49:45.8±2.7, 1092S×166.18E, h192km±25km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=11.0km az=168.0*

ISC 24 05:49:44.6±4.4, 109S±02×1662E±01, h177km±43km, n20, σ0°61/16, mb4.0/11, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.08	179	eP	Pn	05 52 17.1	-1.1
DZM				eS	Sn	05 54 11.5	-10
DZM	Mont Dzumac	11.08	179	P	Pn	05 52 19.2	+1.0
	13nm,0.3s,baz=329,slow=23,SNR=86						
STKA	Stephens Creek	30.84	224	P	P	05 55 44.9	+1.0
	0.6nm,0.4s,mb3.7,baz=24,slow=14,SNR=2.8						
WB2	Warramunga Arr	31.94	250	⇑iP	P	05 55 53.4	-0.2
WRA	Warramunga Arr	31.95	250	P	P	05 55 53.8	+0.1
	3.0nm,0.4s,mb4.4,baz=83,slow=9.2,SNR=56						
WRA				PcP	PcP	05 58 40.3	+0.8
	1.0nm,1.1s,baz=89,slow=3.2,SNR=5.7						
KAKA	Kakadu	33.09	263	eP	P	05 56 03.3	-0.3
	5.5nm,0.5s,mb4.5						
ASAR	Alice Springs	33.25	243	P	P	05 56 04.4	-0.6
	1.7nm,0.8s,mb3.8,baz=77,slow=9.0,SNR=14						
ASAR				PcP	PcP	05 58 43.5	+0.4
	0.7nm,0.6s,baz=89,slow=2.1,SNR=6.7						
FITZ	Fitzroy Crossi	39.85	255	eP	P	05 57 01.0	+0.2
	12nm,0.7s,mb4.6						
VNDA	Vanda	66.62	181	P	P	06 00 15.4	-0.5
	0.4nm,0.6s,mb3.4,baz=352,slow=6.6,SNR=3.5						
SONM	Songino Array	78.84	324	P	P	06 01 28.6	+0.7
	0.8nm,0.5s,mb3.6,baz=152,slow=6.7,SNR=3.7						
EGAK	Eagle	85.11	20	eP	P	06 01 59.5	-1.1
	5.3nm,0.6s,mb4.5						
NVAR	Mina Array Bea	85.60	50	P	P	06 02 03.0	0.0
	0.9nm,0.7s,mb3.6,baz=240,slow=7.9,SNR=7.0						
MSU	Marysvale	90.25	51	eP	P	06 02 26.0	+0.9
PDAR	Pinedale Array	93.14	47	P	P	06 02 38.5	0.0
	0.4nm,0.7s,mb3.6,baz=306,slow=1.3,SNR=4.4						
MKAR	Makanchi Array	93.75	317	P	P	06 02 41.0	-0.2
	1.8nm,0.6s,mb4.3,baz=93,slow=5.9,SNR=19						
ARCES	ARCESS Array B	116.34	346	PKP	PKPdf	06 08 05.5	-1.4
	1.9nm,0.6s,baz=29,slow=2.8,SNR=7.6						
NOA	NORSAR Array B	126.71	345	PKP	PKPdf	06 08 25.5	-1.4
	0.3nm,0.6s,baz=37,slow=2.1,SNR=3.9						
KEST	Kesra	147.60	323	PKPbc	PKPbc	06 09 08.4	+0.5
	1.6nm,0.8s,baz=312,slow=5.6,SNR=5.3						
TORD	Torodi Ar. Bea	164.70	280	PKP	PKPdf	06 09 27.5	+0.4
	1.1nm,1.2s,baz=132,slow=2.2,SNR=3.8						
TORD				PKPab	PKPab	06 10 24.4	+0.8
	0.6nm,0.9s,baz=59,slow=5.1,SNR=2.9						
TORD	Torodi Ar. Bea	164.70	280	PKP	PKPdf	06 09 27.5	+0.4
TORD				PKPab	PKPab	06 10 24.4	+0.8

IDC 24 05:59:59.9±3.3, 3043S×13825E, h0km, mb1 3.1/3, mb1mx3.0/11, mbtmp2.8/3, ML2.9/3, Error ellipse: s-maj=69.8km s-min=15.3km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.21	118	Pn	Pn	06 00 52.0	+0.5
	0.4nm,0.3s,baz=297,slow=14,SNR=5.9						
STKA				Pg	Pg	06 00 58.0	-3.4
	2.3nm,0.3s,baz=298,slow=14,SNR=20						
STKA				Sn	Sn	06 01 31.8	+1.4
	2.9nm,0.3s,baz=305,slow=12,SNR=6.5						
STKA				Lg		06 01 41.5	
	3.9nm,0.3s,baz=201,slow=23,SNR=7.1						
ASAR	Alice Springs	7.77	329	Pn	Pn	06 01 55.2	+1.1
	0.2nm,0.3s,baz=148,slow=12,SNR=7.7						
ASAR				Sn	Sn	06 03 23.2	+0.4
	0.1nm,0.3s,baz=154,slow=22,SNR=3.0						
WRA	Warramunga Arr	11.02	340	Pn	Pn	06 02 38.7	-0.1
	0.1nm,0.3s,baz=155,slow=13,SNR=8.4						
WRA				Sn	Sn	06 04 42.2	-0.5
	0.1nm,0.3s,baz=164,slow=26,SNR=3.0						

IDC 24 06:07:14.6±1.7, 510N×12548E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=110.1km s-min=22.7km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.05	180	eP	P	06 12 21.2	-0.3
	11nm,0.6s						
FITZ	Fitzroy Crossi	23.05	180	P	P	06 12 21.4	-0.2
	1.7nm,0.5s,baz=3.4,slow=6.7,SNR=14						
WRA	Warramunga Arr	26.37	161	P	P	06 12 52.4	0.0
	2.5nm,0.5s,baz=341,slow=10,SNR=16						
WB2	Warramunga Arr	26.37	161	eP	P	06 12 53.1	+0.6
ASAR	Alice Springs	29.75	164	P	P	06 13 23.3	+0.6
	0.4nm,0.8s,baz=338,slow=7.0,SNR=4.6						
ASPA	Alice Springs	29.75	164	eP	P	06 13 29.7	+7.0
STKA	Stephens Creek	39.85	158	P	P	06 14 50.6	+0.8
	3.5nm,0.9s,baz=322,slow=9.8,SNR=3.5						
MKAR	Makanchi Array	55.73	325	P	P	06 16 53.0	0.0
	0.6nm,0.5s,baz=119,slow=8.2,SNR=9.1						

*NEIC **24** 06:08:22.5, 2876S×7140W, h38km, MD4.1(GUC), After GUC.*

GUC 24 06:08:22.5±1.3, 2876S×7140W, h38km±7km, MD4.1, ML3.7, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.59	72	⇓iP	Pn	06 08 34.8	+0.4
VACH				iS	Sn	06 08 43.4	+0.5
VACH				AML	AML	06 08 44.2	
	comp=E,9μm,0.1s						
VACH	Vallenar	0.59	72	⇓iP	Pn	06 08 34.8	+0.4
VACH				iS	Sn	06 08 43.4	+0.5
LSCH	La Serena	1.16	173	eP	Pn	06 09 20.6	+38
LSCH				iS	Sn	06 09 35.4	+39
TLL	Tololo Astrono	1.50	160	eP	Pn	06 08 49.0	+2.1
TLL				iS	Sn	06 09 08.7	+3.5
TLL				AML	AML	06 09 12.0	
	comp=E,1μm,0.3s						
TLL	Tololo Astrono	1.50	160	eP	Pn	06 08 49.0	+2.1
TLL				iS	Sn	06 09 08.7	+3.5
CPCH	Copiapo	1.67	34	eP	Pn	06 08 50.0	+0.8
CPCH				iS	Sn	06 09 12.2	+2.7
CDCH	Caldera	1.75	17	⇓iP	Pn	06 08 50.0	-0.4
CDCH				iS	Sn	06 09 11.5	+0.1

IDC 24 06:26:40.3±2.1, 541N×12665E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=124.2km s-min=24.4km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.39	182	P	P	06 31 51.1	+0.4
	1.1nm,0.6s,baz=0.0,slow=10.0,SNR=7.4						
WRA	Warramunga Arr	26.31	163	P	P	06 32 17.3	-0.3
	0.6nm,0.7s,baz=342,slow=10.0,SNR=5.9						
ASAR	Alice Springs	29.76	167	P	P	06 32 49.1	+0.7
	0.2nm,0.5s,baz=348,slow=7.7,SNR=3.0						
MKAR	Makanchi Array	56.14	325	P	P	06 36 21.7	+0.1
	0.5nm,0.5s,baz=124,slow=7.8,SNR=7.2						

*ISCJB **24** 06:30:31.9±0.4, 4031N±002×2540E±002, h3km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=171.0*
*NEIC **24** 06:30:32.5, 4026N×2519E, h38km, MD3.4(ISK), MD3.5(ATH), After ATH.*
*ATH **24** 06:30:32.6, 4026N×2521E, h37km±2km, MD3.5/5*
*CSEM **24** 06:30:33.2±0.1, 4026N×2547E, h7km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.6km az=128.0*
*THE **24** 06:30:33.6, 4032N×2539E, h10km, ML3.2*
*ISK **24** 06:30:34.6, 4015N×2543E, h28km, MD3.4*
*SKO **24** 06:30:41.3, 4042N×2502E, h9km*

ISC 24 06:30:32.8±0.4, 4030N±002×2540E±002, h7km±3km, n49, σ1°05/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.44	202	ePB	Pg	06 30 42.0	+0.8
LIA				eSB	Sg	06 30 48.3	+1.4
LIA	Limnos Island	0.44	202	ePb	Pg	06 30 42.1	+0.9
LIA				eSb	Sg	06 30 48.3	+1.4
LOS	Limnos	0.44	214	ePg	Pg	06 30 42.3	+1.0
LOS				eSg	Sg	06 30 48.5	+1.4
BOZC	Bozcaada	0.68	132	iP	Pg	06 30 46.0	+0.2
BOZC				iS	Sg	06 30 54.3	-0.4
ALN	Alexandroupoli	0.77	39	ePg	Pg	06 30 48.5	+1.0
ALN				eSg	Sg	06 30 58.3	+0.7
RDO	Rodhopi	0.85	7	ePB	Pb	06 30 49.6	-0.2
RDO				eSN	Sn	06 31 03.7	-0.1
RDO	Rodhopi	0.85	7	ePb	Pb	06 30 49.8	0.0
RDO				ePn	Pn	06 30 50.0	-1.1
RDO				eSn	Sn	06 31 03.7	-0.1
RDO	Rodhopi	0.85	7	ePn	Pn	06 30 50.0	-1.1
RDO				eSn	Sn	06 31 03.7	-0.1
EZN	Ezine	0.86	124	PG	Pg	06 30 48.9	-0.3
EZN				SG	Sg	06 31 00.0	-0.3
EZN	Ezine	0.86	124	Pg	Pg	06 30 49.0	-0.2
EZN				Sg	Sg	06 30 60.0	-0.3
EZN	Ezine	0.86	124	Pg	Pg	06 30 49.0	-0.2
EZN				eSg	Sg	06 31 00.0	-0.3
OUR	Ouranopolis	1.08	272	ePg	Pg	06 30 54.1	+0.6
OUR				eSg	Sg	06 31 08.3	+0.7
PRK	Paraskevi	1.25	147	ePN	Pn	06 30 56.0	-0.7
CANB	Canakkale	1.31	102	PN	Pn	06 30 57.0	-0.4
CANB				SN	Sn	06 31 13.6	-1.5
CANB	Canakkale	1.31	102	Pn	Pn	06 30 57.1	-0.4
CANB				Sg	Sg	06 31 13.1	-1.7
CANB	Canakkale	1.31	102	Pn	Pn	06 30 57.1	-0.3
CANB				Sg	Sg	06 31 13.1	-1.7
AYVA	Ayvalik	1.41	135	iP	Pn	06 30 57.8	-0.9
AYVA				iS	Sb	06 31 16.6	-0.8
RKY	Sarkoy-Tekirda	1.41	74	PN	Pn	06 30 59.1	+0.3
RKY	Sarkoy-Tekirda	1.41	74	Pn	Pn	06 30 59.1	+0.3
SART	Tekirdag	1.41	74	iP	Pn	06 30 57.6	-1.3
SART				iS	Sb	06 31 17.8	+0.2
PLG	Polygyros	1.50	273	ePg	Pg	06 31 00.1	-1.4
PLG				eSg	Sg	06 31 19.9	-0.9
PLG	Polygyros	1.50	273	ePN	Pn	06 30 56.2	-3.8
PLG	Polygyros	1.50	273	ePn	Pn	06 30 55.5	-4.5
MFT	Murefte	1.51	71	PN	Pn	06 31 00.8	+0.5
NVR	Nevrokopi	1.57	312	ePN	Pn	06 30 59.1	-1.9
NVR	Nevrokopi	1.57	312	ePn	Pn	06 30 59.5	-1.5
AOS	Alonnisos	1.63	226	ePb	Pb	06 31 01.4	-1.8
AOS				eSb	Sb	06 31 24.0	+0.2
MRMT	Marmara Adasi	1.70	79	PN	Pn	06 31 03.6	+0.7
EDRB	Edirne	1.85	33	PN	Pn	06 31 06.6	+1.7
EDRB				SN	Sn	06 31 30.7	+2.2
EDRB	Edirne	1.85	33	Pn	Pn	06 31 06.7	+1.8
EDRB				Sg	Sg	06 31 30.7	-1.5
EDC	Edincik	1.88	88	PN	Pn	06 31 04.9	-0.5
EDC	Edincik	1.88	88	Pn	Pn	06 31 05.0	-0.4
EDC	Edincik	1.88	88	Pn	Pn	06 31 05.0	-0.4
XOR	Xorichti	1.94	242	ePb	Pn	06 31 05.3	-0.9
CHOS	Chios island	1.98	165	ePn	Pn	06 31 06.1	-0.6
BTOK	Tokmak	2.09	104	iP	Pg	06 31 13.1	+0.2
BTOK				iS	Sn	06 31 33.9	-0.6
URLA	Izmir	2.15	154	iP	Pn	06 31 08.3	-0.7
URLA				iS	Sn	06 31 37.8	+1.8
VAY	Valandovo	2.38	296	ePn	Pg	06 31 16.7	-1.6
VAY				eSn	Sn	06 31 42.1	+0.6
IZM	Izmir	2.39	142	PN	Pn	06 31 11.7	-0.6
IZM	Izmir	2.39	142	Pn	Pn	06 31 11.8	-0.6
CTT	Catalca	2.45	69	ePN	Pn	06 31 14.7	+1.5
CTT	Catalca	2.45	69	Pn	Pn	06 31 14.5	+1.3
CTT	Catalca	2.45	69	Pn	Pn	06 31 14.5	+1.3
GEMT	Gemlik	2.90	86	ePN	Pn	06 31 20.1	+0.8
GEMT	Gemlik	2.90	86	Pn	Pn	06 31 20.2	+0.9
GEMT	Gemlik	2.90	86	Pn	Pn	06 31 20.2	+0.9
KLYT	Kilyos	2.92	70	ePN	Pn	06 31 21.3	+1.6
YLV	Yalova	3.04	84	ePN	Pn	06 31 22.6	+1.3
HRT	Hereke	3.29	80	ePN	Pn	06 31 26.2	+1.5

**IDC 24 06:49:22.6±6.0, 2928N×14375E, h68km±47km, mb3.5/3, mb1 3.7/5, mb1mx3.3/20, mbtmp3.8/5, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/20, Error ellipse: s-ma

s-min=3.2km az=63.5
MOS ***24*** *07:42:37.5±0.9, 4058N×14340E, h33km, mb4.4/15, Error ellipse: s-maj=15.9km s-min=9.9km az=90.4*
BJI ***24*** *07:42:38.6, 3984N×14286E, h18km, mB5.1, mb4.5, Ms4.2, Msz4.0*
NEIC ***24*** *07:42:39.0±0.3, 4061N×14344E, mb4.3/9, Error ellipse: s-maj=8.7km s-min=6.0km az=140.0*
IDC ***24*** *07:42:39.6±4.4, 4057N×14341E, h36km±36km, mb3.8/11, mb1 4.0/13, mb1mx3.9/23, mbtmp4.0/13, ML3.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/21, Error ellipse: s-maj=22.4km s-min=16.1km az=104.0*

ISC 24 07:42:38.8±0.3, 4063N±003×14351E±004, h30km, h30km±1.1km: pP-P, n74, σ0§95/85, mb4.2/25, MS4.2/1, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.41**	**349**	*e*P	**Pn**	**07 43 02.6**	**+0.1**
JEM	**Erimo**	**1.42**	**349**	P	**Pn**	**07 43 01.6**	**-0.9**
JTH	**Tanohata**	**1.44**	**242**	P	**Pn**	**07 43 01.3**	**-1.4**
JTH				*e*S	**Sn**	07 43 20.2	-0.4
JANG	**Nango**	**1.54**	**261**	P	**Pn**	**07 43 03.1**	**-1.1**
JANG				*e*S	**Sn**	07 43 22.8	-0.4
JNBK	**Urakawa-nobuka**	**1.75**	**341**	P	**Pn**	**07 43 06.8**	**-0.3**
JCH	**Churui**	**1.99**	**357**	P	**Pn**	**07 43 09.5**	**-0.9**
JCH				*e*S	**Sn**	07 43 33.6	-0.7
JOT	**Ohata**	**2.01**	**293**	P	**Pn**	**07 43 10.6**	**-0.1**
JOT				*e*S	**Sn**	07 43 35.3	+0.5
JOM	**Ohasama**	**2.06**	**237**	P	**Pn**	**07 43 11.0**	**-0.3**
JOM				*e*S	**Sn**	07 43 36.3	+0.4
JKB	**Kayabe**	**2.25**	**305**	P	**Pn**	**07 43 14.1**	**+0.1**
JKB				*e*S	**Sn**	07 43 41.9	+1.1
JMK	**Ichinoseki**	**2.43**	**227**	P	**Pn**	**07 43 15.9**	**-0.5**
JMK				*e*S	**Sn**	07 43 44.5	-0.7
JAK	**Akkeshi**	**2.53**	**20**	P	**Pn**	**07 43 16.1**	**-1.7**
JAK				*e*S	**Sn**	07 43 45.6	-2.0
JFR	**Furan**	**2.63**	**345**	*e*S	**Sn**	**07 43 52.8**	**+2.8**
JAR	**Ashorobuto**	**2.68**	**4**	P	**Pn**	**07 43 18.2**	**-1.6**
JAR				*e*S	**Sn**	07 43 49.3	-1.9
JEW	**Eniwo**	**2.70**	**326**	*e*S	**Sn**	**07 43 53.7**	**+2.0**
JYK	**Kaneyama**	**2.97**	**236**	P	**Pn**	**07 43 23.8**	**0.0**
ASAJ	**Asahikawa**	**3.55**	**349**	Pn	**Pn**	**07 43 31.6**	**-0.3**
	2.6nm,0.3s,baz=202,slow=12,SNR=6.6						
ASAJ				Sn	**Sn**	**07 44 13.8**	**+1.0**
	4.5nm,0.3s,baz=95,slow=29,SNR=6.3						
ASAJ	**Asahikawa**	**3.55**	**349**	P	**Pn**	**07 43 31.6**	**-0.3**
ASAJ						07 44 13.9	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
KUR	**Kuril'sk**	**5.61**	**33**	⇑*i*P	**Pn**	**07 43 55.7**	**-4.4**
KUR				*i* S	**Sn**	**07 44 57.0**	**-6.5**
KUR				pmax	pmax		
	comp=N,90nm,0.9s						
KUR				pmax	pmax		
	comp=E,130nm,0.9s						
KUR				pmax	pmax		
	comp=Z,570nm,0.9s						
KUR				smax			
	comp=N,90nm,0.7s						
KUR				smax			
	comp=E,130nm,0.7s						
MAJO	**Matsushiro**	**5.82**	**227**	*e*P	**Pn**	**07 44 03.7**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,43nm,0.8s						
MAJO	**Matsushiro**	**5.82**	**227**	*e*Pn	**Pn**	**07 44 03.6**	**+0.6**
	comp=Z,43nm,0.8s						
MAT	**Matsushiro**	**5.82**	**227**	P	**Pn**	**07 44 02.9**	**-0.1**
MAT				*e*S	**Sn**	**07 45 09.4**	**+0.7**
MJAR	**Matsushiro Arr**	**5.82**	**227**	Pn	**Pn**	**07 44 02.9**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=24,slow=15,SNR=18						
MJAR	**Matsushiro Arr**	**5.82**	**227**	P	**Pn**	**07 44 02.9**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.82**	**227**	Pn	**Pn**	**07 44 02.9**	**-0.1**
JHJ	**Hachijo jima 2**	**8.06**	**203**	LR	LR	07 47 58.4	
	comp=Z,237nm,20.7s,baz=283,slow=40						
VLA	**Vladivostok**	**9.02**	**290**	P	**Pn**	**07 44 55.0**	**+8.1**
KLR	**Kul'dur**	**11.97**	**320**	*e*P	**Pn**	**07 45 32.0**	**+4.7**
KLR				MLR	MLR		
	comp=N,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,900nm,12.0s						
BOD	**Bodaibo**	**25.53**	**322**	*e*P	**P**	**07 48 04.1**	**-0.6**
BOD				*e*	pP	07 48 12.2	-1.1
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**27.35**	**298**	P	**P**	**07 48 22.0**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.3,baz=98,slow=11,SNR=3.7						
SONM	**Songino Array**	**27.35**	**298**	P	**P**	**07 48 22.0**	**+0.9**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAK	**Zakamensk**	**29.51**	**303**	*e*P	**P**	**07 48 37.0**	**-3.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
LZH	**Lanzhou**	**31.25**	**275**	*e*P	**P**	**07 48 54.5**	**-1.2**
LZH				AP	pP	07 49 03.6	-0.9
LZH				XP	sP	07 49 07.8	-0.3
LZH				*e*PP	PP	07 49 57.9	-8.6
LZH				AMB	AMB		
	comp=Z,45nm,5.1s						
LZH				LR	LR		
	comp=E,297nm,13.2s						
LZH				LR	LR		
	comp=Z,503nm,17.5s,MS4.2						
LZH	**Lanzhou**	**31.25**	**275**	*e*P	**P**	**07 48 54.5**	**-1.2**
	comp=Z,170nm,1.5s						
LZH				pP	pP	07 49 03.6	-0.9
LZH				sP	sP	07 49 07.8	-0.3
LZH				*e*PP	PP	07 49 57.9	-8.6
LZH				LR	LR		
	comp=Z,500nm,17.5s						
GTA	**Gaotai**	**33.23**	**282**	*e*P	**P**	**07 49 13.8**	**+0.7**
GTA				AP	pP	07 49 19.3	-2.6
GTA				XP	sP	07 49 22.1	-3.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
WMQ	**Urumqi**	**40.80**	**294**	*e*P	**P**	**07 50 18.8**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**43.70**	**299**	*e*P	**P**	**07 50 41.3**	**+0.3**
MK31				*e**PP	pP	07 50 49.9	0.0
MKAR	**Makanchi Array**	**43.70**	**299**	P	**P**	**07 50 40.3**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.7,baz=80,slow=8.7,SNR=7.8						
MKAR	**Makanchi Array**	**43.70**	**299**	P	**P**	**07 50 40.3**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**49.48**	**311**	*e*P	**P**	**07 51 26.3**	**0.0**
BRVK				*e**PP	pP	07 51 34.8	-0.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**49.48**	**311**	*e*P	**P**	**07 51 26.3**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.4						
BRVK				*e*pP	pP	07 51 34.8	-0.6
INK	**Inuvik**	**50.45**	**29**	P	**P**	**07 51 34.0**	**+0.4**
	comp=Z,1.7nm,0.4s,mb4.4,baz=270,slow=2.7,SNR=14						
INK	**Inuvik**	**50.45**	**29**	P	**P**	**07 51 34.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARU	**Arti**	**54.79**	**317**	*e*P	**P**	**07 52 06.1**	**+0.3**
ARU				*e**PP	pP	07 52 14.4	-0.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ARU	**Arti**	**54.79**	**317**	*e*P	**P**	**07 52 06.1**	**+0.3**
	comp=Z,4.6nm,0.5s,mb4.8						
ARU				*e*pP	pP	07 52 14.4	-0.6
WRA	**Warramunga Arr**	**60.86**	**190**	P	**P**	**07 52 47.1**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=8.6,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**60.86**	**190**	P	**P**	**07 52 47.1**	**-1.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**64.58**	**190**	P	**P**	**07 53 12.9**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=7.4,slow=5.6,SNR=8.9						
ASAR	**Alice Springs**	**64.58**	**190**	P	**P**	**07 53 12.9**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**66.40**	**332**	P	**P**	**07 53 24.7**	**-0.3**
	comp=Z,3.7nm,1.0s,mb4.4,baz=127,slow=15,SNR=4.0						
FINES	**FINESS Array B**	**66.40**	**332**	P	**P**	**07 53 24.7**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	**FINESS Array B**	**66.40**	**332**	P	**P**	**07 53 24.7**	**-0.3**
NEW	**Newport**	**66.44**	**46**	*e*P	**P**	**07 53 25.9**	**+0.7**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**66.44**	**46**	*e*P	**P**	**07 53 25.9**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.3						
KIV	**Kislovodsk**	**69.80**	**311**	*e*P	**P**	**07 53 46.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
HLID	**Hailey**	**70.75**	**49**	*e*P	**P**	**07 53 53.2**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.0						
NOA	**NORSAR Array B**	**71.50**	**338**	P	**P**	**07 53 56.2**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=38,slow=5.8,SNR=4.0						
NOA	**NORSAR Array B**	**71.50**	**338**	P	**P**	**07 53 56.2**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**71.50**	**338**	P	**P**	**07 53 56.2**	**-0.5**
NVAR	**Mina Array Bea**	**71.56**	**55**	P	**P**	**07 53 58.4**	**+1.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=280,slow=8.7,SNR=11						
AKASG	**Malin Array Be**	**72.45**	**323**	P	**P**	**07 54 01.2**	**-1.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=8.4						
AKASG	**Malin Array Be**	**72.45**	**323**	P	**P**	**07 54 01.2**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HWUT	**Hardware Ranch**	**73.62**	**49**	*e*P	**P**	**07 54 10.2**	**+1.0**
	comp=Z,6.8nm,1.5s,mb4.4						
HWUT				*e*pP	pP	07 54 19.9	+1.2
DUG	**Dugway**	**73.79**	**51**	*e*P	**P**	**07 54 11.2**	**+0.9**
DUG				*e**PP	pP	07 54 20.1	+0.4
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DUG	**Dugway**	**73.79**	**51**	*e*P	**P**	**07 54 11.2**	**+0.9**
	comp=Z,3.8nm,0.9s,mb4.3						
DUG				*e*pP	pP	07 54 20.1	+0.4
BW06	**Boulder Array**	**74.00**	**47**	*e*P	**P**	**07 54 11.8**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9						
BW06				*e*pP	pP	07 54 21.3	+0.4
PDAR	**Pinedale Array**	**74.00**	**47**	P	**P**	**07 54 11.8**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=322,slow=0.9,SNR=9.0						
RSSD	**Black Hills**	**76.08**	**43**	*e*P	**P**	**07 54 23.8**	**+0.3**
RSSD				*e**PP	pP	07 54 32.6	-0.4
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RSSD	**Black Hills**	**76.08**	**43**	*e*P	**P**	**07 54 23.8**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2						
RSSD				*e*pP	pP	07 54 32.6	-0.4
PV10	**Paradox Valley**	**77.20**	**50**	*e*P	**P**	**07 54 30.9**	**+1.1**
PV10				*e*pP	pP	07 54 40.7	+1.4
ANMO	**Albuquerque**	**81.04**	**51**	*e*P	**P**	**07 54 52.1**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ANMO	**Albuquerque**	**81.04**	**51**	*e*P	**P**	**07 54 52.1**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.6						
TXAR	**Lajitas Array**	**86.66**	**54**	P	**P**	**07 55 20.3**	**+0.8**
	comp=Z,1.2nm,0.9s,mb4.1,baz=298,slow=3.4,SNR=11						
TXAR	**Lajitas Array**	**86.66**	**54**	P	**P**	**07 55 20.3**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**86.66**	**54**	P	**P**	**07 55 20.3**	**+0.8**

IDC 24 08:04:09.7±2.3, 2184S×11366W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/14, mbtmp3.8/5, MS3.8/4, Ms1 3.7/4, ms1mx3.4/12, Error ellipse: s-maj=76.1km s-min=25.2km az=48.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**41.47**	**113**	P	P	08 11 58.4	+0.1
	0.5nm,0.7s,baz=260,slow=8.5,SNR=12						
LPAZ	**La Paz**	**43.27**	**91**	P	P	08 12 14.0	+1.1
	3.7nm,1.1s,baz=270,slow=6.1,SNR=9.5						
ROSC	**El Rosal**	**46.77**	**60**	LR	LR	08 28 04.9	
	comp=Z,62nm,21.0s,baz=350,slow=31						
CPUP	**Villa Florida**	**51.29**	**107**	LR	LR	08 31 53.6	
	comp=Z,50nm,21.2s,baz=65,slow=32						
TXAR	**Lajitas Array**	**51.78**	**11**	P	P	08 13 19.6	+0.5
	0.4nm,0.9s,baz=186,slow=10,SNR=4.5						
NVAR	**Mina Array Bea**	**60.11**	**356**	P	P	08 14 19.8	+1.1
	1.1nm,0.6s,baz=198,slow=10,SNR=8.5						
PDAR	**Pinedale Array**	**64.39**	**3**	P	P	08 14 46.6	-0.9
	1.1nm,0.6s,baz=182,slow=7.3,SNR=8.5						
SCHQ	**Schefferville**	**86.21**	**25**	LR	LR	08 51 40.8	
	comp=Z,96nm,21.1s,baz=179,slow=33						
MAW	**Mawson**	**90.79**	**179**	LR	LR	08 56 47.6	
	comp=Z,59nm,18.2s,baz=91,slow=35						
BRTR	**Keskin Array B**	**146.98**	**50**	PKPbc	PKPbc	08 23 54.4	+0.2
	1.0nm,1.0s,baz=245,slow=3.0,SNR=3.2						
MKAR	**Makanchi Array**	**151.95**	**336**	PKPbc	PKPbc	08 24 06.4	-0.3
	0.5nm,0.6s,baz=46,slow=3.5,SNR=5.0						

IDC ***24*** *08:21:38.9±1.6, 1074S×16557E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.1/13, mbtmp4.3/4, MS3.9/4, Ms1 3.8/4, ms1mx3.4/13, Error ellipse: s-maj=99.2km s-min=29.2km az=145.0*
ISCJB ***24*** *08:21:42.6±1.4, 109S±05×1655E±03, h33km, mb4.3/5, MS3.8/4, Error ellipse: s-maj=76.8km s-min=23.1km az=116.6*

ISC 24 08:21:44.8±1.4, 108S±05×1656E±03, h35km, n11, σ0§56/7, mb4.3/5, MS3.8/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.48**	**223**	P	**P**	**08 27 54.8**	**+0.5**
	3.0nm,0.7s,mb4.1,baz=45,slow=10.0,SNR=8.9						
STKA				LR	LR	08 39 08.1	
	comp=Z,138nm,19.2s,MS3.6,baz=25,slow=34						
WB2	**Warramunga Arr**	**31.38**	**249**	*e*P	**P**	**08 28 02.7**	**+0.5**
WRA	**Warramunga Arr**	**31.39**	**249**	P	**P**	**08 28 02.0**	**-0.4**
	3.7nm,0.6s,mb4.4,baz=81,slow=9.1,SNR=25						
ASAR	**Alice Springs**	**32.73**	**243**	P	**P**	**08 28 13.6**	**-0.5**
	4.6nm,0.7s,mb4.5,baz=69,slow=9.9,SNR=49						
ASAR				LR	LR	08 40 35.4	
	comp=Z,116nm,21.2s,MS3.5,baz=356,slow=35						
ASPA	**Alice Springs**	**32.74**	**243**	*e*P	**P**	**08 28 13.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.27**	**255**	*e*P	**P**	**08 29 10.8**	**+0.8**
	6.6nm,0.8s,mb4.4						
PPT	**Papeete**	**43.92**	**104**	*e*LR	LR	08 41 58.3	
	119nm,27.0s						
PPT	**Papeete**	**43.92**	**104**	LR	LR	08 44 11.8	
	comp=Z,178nm,18.9s,MS4.0,baz=231,slow=31						
TBI	**Tubuai**	**44.58**	**112**	*e*LR	LR	08 42 53.7	
	177nm,27.8s						
NVAR	**Mina Array Bea**	**86.01**	**50**	P	**P**	**08 34 21.5**	**-0.1**
	0.6nm,0.7s,mb4.0,baz=231,slow=4.3,SNR=5.6						
TXAR	**Lajitas Array**	**95.88**	**61**	LR	LR	09 13 24.4	
	comp=Z,73nm,19.2s,MS4.2,baz=75,slow=32						

IDC ***24*** *08:42:47.6±2.5, 3762N×7207E, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, ML3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/32, Error ellipse: s-maj=46.0km s-min=24.8km az=135.0*
MOS ***24*** *08:42:47.0±2.5, 3763N×7233E, h33km, mb4.2/2, Error ellipse: s-maj=99.9km s-min=20.9km az=110.0*
ISCJB ***24*** *08:42:57.6±0.9, 3797N±005×720E±0.1, h142km±16km, mb3.6/4, Error ellipse: s-maj=18.5km s-min=4.7km az=139.0*
NNC ***24*** *08:43:01.7±9.5, 3862N×7207E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=77.3km s-min=48.2km az=174.0*

ISC 24 08:42:59.2±0.9, 3796N±004×721E±01, h107km±13km, n35, σ1§37/43, mb3.7/4, 4C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.34**	**16**	P	**Pn**	**08 44 03.1**	**+0.1**
	SNR=102						
UCH	**Uchtor**	**4.65**	**23**	P	**Pn**	**08 44 07.4**	**+0.2**
	SNR=44						
KZA	**Kyzart**	**4.77**	**30**	P	**Pn**	**08 44 09.5**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**4.87**	**15**	P	**Pn**	**08 44 10.5**	**+0.3**
	SNR=24						
AAK	**Ala-Archa**	**5.01**	**21**	P	**Pn**	**08 44 12.8**	**+0.7**
	SNR=15						
KK31	**Karatay Array**	**5.27**	**347**	⇓P	**Pn**	**08 44 14.4**	**-1.3**
	20nm,0.4s,baz=162,slow=12						
KK31				⇑S	**Sn**	**08 45 08.5**	**-6.7**
	15nm,0.3s,baz=159,slow=22						
ULHL	**Ulahol**	**5.33**	**35**	P	**Pn**	**08 44 17.3**	**+0.9**
	SNR=15						
CHMS	**Chumysh**	**5.42**	**21**	P	**Pn**	**08 44 18.1**	**+0.4**
	SNR=12						
USP	**Ospenovka**	**5.61**	**18**	P	**Pn**	**08 44 20.0**	**-0.2**
	SNR=16						
TKM2	**Tokmak 2**	**5.63**	**27**	P	**Pn**	**08 44 21.0**	**+0.6**
	SNR=27						
TKM2	**Tokmak 2**	**5.63**	**27**	⇓P	**Pn**	**08 44 20.1**	**-0.4**
	0.8nm,0.5s						
TKM2				⇑S	**Sn**	**08 45 19.7**	**-4.1**
	1.0nm,0.7s						
THN	**Thein Dam**	**6.26**	**151**	*e*P	**Pn**	**08 44 32.4**	**+3.3**
THN				*e*S	**Sn**	**08 45 40.5**	**+1.3**
DLH	**Dalhousie**	**6.27**	**148**	*ex*	x	08 44 36.0	
DLH				*e*S	**Sn**	**08 45 39.0**	**-0.4**
KLP	**Kalpa**	**8.17**	**140**	*e*P	**Pn**	**08 44 57.1**	**+2.1**
KLP				*e*S	**Sn**	**08 46 27.6**	**+2.0**
KLP				*ex*	x	08 46 32.0	
	comp=E,202nm,0.6s						
KLP				*ex*	x	08 46 33.0	
	comp=N,175nm,0.6s						
NDI	**New Delhi**	**10.20**	**154**	*e*S	**Sn**	**08 47 12.0**	**-2.8**
AYAN	**Aya Nagar**	**10.35**	**155**	*e*P	**Pn**	**08 45 25.3**	**+0.7**
AYAN				*e*S	**Sn**	**08 47 15.9**	**-2.6**
AYAN				*ex*	x	08 47 26.8	
	comp=Z,44nm,0.1s						
SONA	**Sohna**	**10.55**	**155**	*e*P	**Pn**	**08 45 27.9**	**+0.6**
SONA				*e*S	**Sn**	**08 47 18.8**	**-4.6**
SONA				*ex*	x	08 47 25.9	
	comp=E,38nm,0.3s						
SONA				*ex*	x	08 47 26.0	
	comp=N,13nm,0.3s						
MKAR	**Makanchi Array**	**11.60**	**37**	Pn	**Pn**	**08 45 40.1**	**-1.2**
	comp=N,0.2nm,0.3s,baz=226,slow=15,SNR=12						
KOLN	**Koldanda**	**14.02**	**133**	*e*P	**Pn**	**08 46 12.4**	**-0.6**
	comp=N,5.6nm,0.5s						
AB31	**Akbulak array**	**14.29**	**326**	⇑Pn	**Pn**	**08 46 12.4**	**-4.2**
	comp=N,2.0nm,0.4s						
AB31				⇓Sn	**Sn**	**08 48 41.7**	**-12**
	comp=N,2.3nm,0.5s						
GKN	**Gorkha**	**14.46**	**130**	*e*P	**Pn**	**08 46 18.6**	**-0.1**
	comp=N,9.4nm,0.3s						
KKN	**Kakani**	**15.01**	**129**	*e*P	**Pn**	**08 46 24.5**	**-1.1**
	comp=N,10nm,0.5s						
BVAR	**Borovoye Array**	**15.11**	**356**	Pn	**Pn**	**08 46 23.8**	**-3.1**
	comp=N,0.4nm,0.3s,baz=156,slow=11,SNR=9.4						
PKI	**Pulchoki**	**15.24**	**129**	*e*P	**Pn**	**08 46 27.4**	**-1.2**
	comp=N,5.1nm,0.5s						
GUN	**Gumba**	**15.30**	**127**	*e*P	**Pn**	**08 46 28.5**	**-0.8**
	comp=N,5.5nm,0.4s						
AKTO	**Aktyubinsk**	**16.00**	**326**	⇑Pn	**Pn**	**08 46 35.8**	**-2.3**
AKTO				⇓Sn	**Sn**	**08 49 23.7**	**-12**
	comp=N,0.2nm,1.5s						
AKTO	**Aktyubinsk**	**16.00**	**326**	Pn	**Pn**	**08 46 36.3**	**-1.8**
	comp=N,1.0nm,0.3s,baz=146,slow=9.2,SNR=7.1						
AKTO				Sn	**Sn**	**08 49 21.9**	**-14**
	comp=N,0.2nm,0.3s,baz=128,slow=19,SNR=4.2						
JOF	**Joensuu**	**35.06**	**329**	*e*p	**P**	**08 49 37.7**	**-4.0**
FINES	**FINESS Array B**	**36.78**	**325**	P	**P**	**08 49 58.1**	**+1.7**
	comp=N,0.8nm,0.5s,mb3.9,baz=114,slow=8.3,SNR=7.3						
FINES	**FINESS Array B**	**36.78**	**325**	P	**P**	**08 49 58.1**	**+1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**40.14**	**337**	P	**P**	**08 50 26.2**	**+1.7**
	comp=Z,1.5nm,0.6s,mb4.0,baz=113,slow=7.4,SNR=10						
ARCES	**ARCESS Array B**	**40.14**	**337**	P	**P**	**08 50 26.3**	**+1.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**42.81**	**304**	LR	LR	09 13 36.4	
	comp=Z,50nm,18.8s,baz=306,slow=43						
NOA	**NORSAR Array B**	**43.75**	**322**	P	**P**	**08 50 55.0**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=94,slow=7.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.32**	**269**	P	**P**	**08 53 40.8**	**+2.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=49,slow=5.5,SNR=13						

WEL 24 08:43:04.0±0.4, 3724S×17664E, h223km±4km, ML3.6/4, Error ellipse: s-maj=5.2km s-min=5.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.09**	**160**	PN	Pn	08 43 36.9	+0.1
URZ				SN	S	08 44 02.2	-0.1
MWZ	**Matawai**	**1.31**	**148**	PN	Pn	08 43 38.3	+0.1
MWZ				SN	S	08 44 05.5	+0.5
PUZ	**Puketiti**	**1.54**	**124**	PN	Pn	08 43 40.1	0.0
PUZ				SN	S	08 44 07.0	-1.3
BKZ	**Black Stump Fm**	**1.93**	**183**	PN	Pn	08 43 43.9	+0.2
KNZ	**Kokohu**	**1.96**	**156**	PN	Pn	08 43 44.2	+0.3
WPHZ	**Waipukurau**	**2.83**	**183**	SN	S	08 44 30.6	-0.9
TUWZ	**Tuamarina**	**4.68**	**206**	*e*PN	Pn	08 44 13.8	-1.2
THZ	**Tophouse**	**5.37**	**211**	*e*PN	Pn	08 44 23.2	-0.4

IDC ***24*** *09:03:34.6±0.7, 506N×12552E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.3/18, mbtmp4.3/10, MS3.1/1, Ms1 3.1/1, ms1mx2.8/17, Error ellipse: s-maj=27.3km s-min=13.8km az=78.0*
NEIC ***24*** *09:03:36.3±0.5, 488N×12505E, h10km, mb4.8/5, Error ellipse: s-maj=27.7km s-min=9.1km az=78.0*
ISCJB ***24*** *09:03:42.2±1.0, 498N±005×1256E±0.1, h74km±9km, mb4.4/24, Error ellipse: s-maj=17.9km s-min=6.9km az=138.5*
BJI ***24*** *09:03:44.5, 533N×12552E, h60km, mB5.0, mb4.7, Ms4.4, Msz4.1*

ISC 24 09:03:43.8±0.9, 500N±005×12557E±010, h71km±9km, n42, σ1§18/44, mb4.4/24, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.05**	**347**	⇑*i*P	**Pn**

LZH				pP	pP	09 10 51.5	-11
LZH				sP	sP	09 10 55.7	-15
LZH				PP	PP	09 12 13.1	+3.1
LZH				eS	**S**	**09 16 24.5**	**+0.3**
LZH				sS	sS	09 16 55.4	+2.0
LZH				eSS	SS	09 18 57.6	-10
LZH				LR	LR		
	comp=Z,890nm,17.2s						
STKA	**Stephens Creek**	**39.72**	**158**	P	**P**	**09 11 10.4**	**+1.1**
	comp=Z,12nm,0.8s,mb4.8,baz=334,slow=6.7,SNR=17						
STKA	**Stephens Creek**	**39.72**	**158**	*eP*	**P**	**09 11 10.8**	**+1.5**
GTA	**Gaotai**	**41.42**	**329**	*eP*	**P**	**09 11 23.4**	**+0.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
GUN	**Gumba**	**44.05**	**306**	*eP*	**P**	**09 11 43.9**	**-0.6**
	comp=Z,20nm,0.7s,mb5.0						
KKN	**Kakani**	**44.49**	**305**	*eP*	**P**	**09 11 46.8**	**-1.2**
	comp=Z,11nm,0.9s,mb4.6						
DMN	**Daman**	**44.56**	**305**	*eP*	**P**	**09 11 47.8**	**-0.8**
	comp=Z,13nm,0.8s,mb4.7						
GKN	**Gorkha**	**45.09**	**305**	*eP*	**P**	**09 11 50.3**	**-2.5**
	comp=Z,5.4nm,0.6s,mb4.4						
SONM	**Songino Array**	**45.74**	**342**	P	**P**	**09 11 57.3**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.4,baz=148,slow=8.4,SNR=3.9						
SONM	**Songino Array**	**45.74**	**342**	P	**P**	**09 11 57.3**	**-0.6**
KOLN	**Koldanda**	**45.85**	**304**	*eP*	**P**	**09 11 57.5**	**-1.3**
	comp=Z,15nm,0.9s,mb4.7						
WMQ	**Urumqi**	**51.03**	**325**	*eP*	**P**	**09 12 41.0**	**+2.4**
WMQ				AP	pP	09 13 00.0	+3.5
WMQ				PCP	PcP	09 13 56.0	+2.3
WMQ				eS	**S**	**09 19 51.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,65nm,3.6s						
WMQ				LR	LR		
	comp=N,231nm,23.0s						
WMQ				LR	LR		
	comp=E,203nm,22.6s						
WMQ				LR	LR		
	comp=Z,188nm,23.3s						
MK31	**Makanchi Array**	**55.86**	**325**	*eP*	**P**	**09 13 13.2**	**-0.7**
MKAR	**Makanchi Array**	**55.86**	**325**	P	**P**	**09 13 13.3**	**-0.7**
	comp=Z,4.6nm,0.5s,mb4.7,baz=123,slow=8.2,SNR=51						
BVAR	**Borovoye Array**	**65.63**	**327**	P	**P**	**09 14 18.7**	**-1.6**
	comp=Z,0.9nm,0.6s,mb3.8,baz=142,slow=7.5,SNR=5.7						
MCK	**McKinley**	**83.55**	**27**	*eP*	**P**	**09 16 04.8**	**+0.7**
	comp=Z,16nm,1.6s,mb4.6						
VNDA	**Vanda**	**84.82**	**173**	P	**P**	**09 16 10.8**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.7,baz=315,slow=7.5,SNR=6.3						
VNDA	**Vanda**	**84.82**	**173**	P	**P**	**09 16 10.8**	**+0.3**
BRTR	**Keskin Array B**	**88.33**	**310**	P	**P**	**09 16 25.8**	**-1.8**
	comp=Z,0.7nm,0.8s,mb3.8,baz=130,slow=3.7,SNR=4.1						
QSPA	**South Pole Qui**	**94.90**	**180**	*eP*	**P**	**09 16 58.2**	**+0.2**
	comp=Z,2.8nm,1.1s,mb4.6						
TORD	**Torodi Ar. Bea**	**121.42**	**289**	PKP	PKPdf	09 22 29.3	+0.4
	comp=Z,0.9nm,0.8s,baz=47,slow=2.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**121.42**	**289**	PKP	PKPdf	09 22 29.3	+0.3
TXAR	**Lajitas Array**	**121.72**	**51**	PKP	PKPdf	09 22 31.4	+1.9
	comp=Z,0.3nm,0.7s,baz=199,slow=2.3,SNR=5.0						

MAN 24 09:12:59.9, 1337N×1214$\overline{7}$E, h6^{km}, mb2.3, ML3.9, MS1.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.52**	**285**	*eP*	Pg	09 13 10.7	+0.8

IDC 24 09:15:42.8±1.2, 1247N×9160E, h0^{km}, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=54.7km s-min=21.0km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.38**	**126**	*eP*	x	09 16 01.3	
PBA				*eS*	x	09 16 19.7	
PBA				*ex*	x	09 16 23.1	
	comp=E,2μm,0.4s						
PBA				*ex*	x	09 16 23.4	
	comp=N,2μm,0.4s						
MKAR	**Makanchi Array**	**35.11**	**349**	P	P	09 22 38.5	+0.7
	comp=N,0.2nm,0.3s,baz=148,slow=9.4,SNR=5.0						
SONM	**Songino Array**	**37.37**	**16**	P	P	09 22 56.6	-0.5
	comp=N,0.7nm,0.6s,baz=209,slow=7.5,SNR=4.9						
WRA	**Warramunga Arr**	**52.97**	**127**	P	P	09 25 01.1	+0.1
	comp=N,0.3nm,0.4s,baz=300,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**54.78**	**131**	P	P	09 25 15.0	+0.7
	comp=N,0.3nm,0.4s,baz=311,slow=7.0,SNR=12						
BRTR	**Keskin Array B**	**57.58**	**309**	P	P	09 25 34.3	0.0
	comp=N,0.3nm,0.5s,baz=101,slow=6.2,SNR=2.8						
ARCES	**ARCESS Array B**	**70.12**	**340**	P	P	09 26 57.2	+0.3
	comp=N,1.9nm,0.9s,baz=65,slow=5.8,SNR=3.5						

*ISCJB **24** 09:30:27.5±0.9, 134N±0.1×5025E±006, h10^{km}, mb3.7/5, MS3.4/4, Error ellipse: s-maj=15.9km s-min=7.9km az=16.6*

*IDC **24** 09:30:27.5±1.6, 1326N×5052E, h0^{km}, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, MS3.3/5, Ms1 3.4/5, ms1mx3.0/25, Error ellipse: s-maj=44.5km s-min=30.6km az=171.0*

*DHMR **24** 09:30:32.2±1.1, 1340N×5001E, h25^{km}±372^{km}, ML2.9*

ISC 24 09:30:29.9±1.0, 135N±01×5025E±006, h10^{km}, n12, σ1°03/11, mb3.7/5, MS3.4/4, 2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.52**	**310**	‖*iP*	**Pn**	**09 30 56.5**	**-0.5**
MUKL				*i* S	**Sn**	**09 31 16.6**	**-0.3**
MUKL				AML	AML	09 31 19.5	
	comp=N,168nm,0.5s						
BDHA	**Al Bayda'**	**4.57**	**276**	‖*eP*	**Pn**	**09 31 39.6**	**+0.6**
BDHA				*e*		09 31 39.8	
	baz=99,slow=12						
BDHA				*i* S	**Sn**	**09 32 31.2**	**-1.0**
LBOS		**4.87**	**275**	*eP*	**Pn**	**09 31 43.6**	**+0.4**
LBOS				*i* S	**Sn**	**09 32 39.3**	**-0.2**
KMBO	**Kilima Mbogo**	**19.42**	**223**	LR	LR	09 42 08.8	
	comp=N,96nm,21.0s,baz=12,slow=36						
AKASG	**Malin Array Be**	**40.84**	**340**	P	**P**	**09 38 13.2**	**+1.5**
	comp=N,1.8nm,0.8s,mb3.8,baz=153,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**42.69**	**33**	P	**P**	**09 38 26.1**	**-0.7**
	comp=N,0.6nm,0.4s,mb3.6,baz=223,slow=6.6,SNR=4.1						
MKAR				LR	LR	09 56 34.7	
	comp=N,41nm,20.9s,MS3.3,baz=283,slow=37						
TORD	**Torodi Ar. Bea**	**47.18**	**275**	P	**P**	**09 39 04.6**	**+2.0**
	comp=N,0.4nm,0.8s,mb3.4,baz=88,slow=8.0,SNR=2.4						
BOSA	**Boshof**	**48.35**	**210**	LR	LR	09 59 28.5	
	comp=N,34nm,18.2s,MS3.4,baz=359,slow=36						
NOA	**NORSAR Array B**	**55.22**	**338**	LR	LR	10 07 21.8	
	comp=N,19nm,19.2s,MS3.2,baz=100,slow=40						
SONM	**Songino Array**	**57.55**	**42**	P	**P**	**09 40 19.8**	**+0.2**
	comp=N,0.4nm,0.5s,mb3.7,baz=243,slow=6.5,SNR=4.7						
ARCES	**ARCESS Array B**	**58.13**	**350**	LR	LR	10 08 08.9	
	comp=N,53nm,21.3s,MS3.6,baz=30,slow=39						
WRA	**Warramunga Arr**	**89.11**	**111**	P	**P**	**09 43 23.6**	**-1.9**
	comp=N,0.8nm,0.9s,mb4.1,baz=303,slow=3.7,SNR=4.7						

CASC 24 09:38:51.1±1.8, 783N×8304W, h10^{km}, MD4.2, 3C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.83**	**351**	‖*eP*	Pg	09 39 06.1	-1.0
DVD	**David**	**0.84**	**44**	*eP*	Pg	09 39 06.7	-0.6
BRU2	**Volcan**	**1.02**	**20**	‖*iP*	Pg	09 39 10.1	-0.6
BRU	**Baru**	**1.08**	**26**	*eP*	Pb	09 39 11.3	-0.6
CTCR	**Cotoan**	**1.10**	**15**	‖*iP*	Pb	09 39 11.3	-0.9
CNI	**Changuinola**	**1.66**	**18**	*eP*	Pn	09 39 20.0	-0.3
LCR2	**La Lucha 2**	**2.13**	**333**	‖*eP*	Pn	09 39 25.9	-0.8
LCR2				*eS*	Sn	09 39 54.4	+1.2
LIO	**Limon**	**2.16**	**0**	‖*eP*	Pn	09 39 27.2	+0.1
LIO				*eS*	Sn	09 39 58.1	+4.1
OCM	**Ochomogo**	**2.25**	**336**	‖*eP*	Pn	09 39 27.9	-0.4
IRZ2	**Volcan Irazu 2**	**2.29**	**338**	‖*eP*	Pn	09 39 28.8	-0.1
SJS	**Escuela Geolog**	**2.33**	**335**	*eP*	Pn	09 39 29.2	-0.2
PRS1	**Puriscal**	**2.48**	**330**	‖*eP*	Pn	09 39 29.6	-2.0
CGA2	**Cerro Gallo 2**	**2.59**	**327**	‖*eP*	Pn	09 39 31.9	-1.2
POA2	**Poas 2**	**2.62**	**333**	‖*eP*	Pn	09 39 33.4	-0.1
EPA	**Esparza**	**2.64**	**324**	*eP*	Pn	09 39 33.5	-0.3
AZU	**Azuero**	**2.74**	**91**	*eP*	Pn	09 39 33.7	-1.4
JCR	**Jicaral**	**2.87**	**315**	*eP*	Pn	09 39 35.6	-1.3
VACR	**Volcan Arenal**	**3.09**	**329**	*eP*	Pn	09 39 40.0	+0.1
ACH	**Altos**	**3.19**	**75**	*eP*	Pn	09 39 41.5	+0.2
VCR	**Vista de Mar**	**3.43**	**312**	*eP*	Pn	09 39 42.9	-1.7
LIM1	**Limonal**	**3.60**	**323**	‖*eP*	Pn	09 39 47.1	+0.2
MADN	**Villa Maderas**	**4.33**	**326**	*eP*	Pn	09 39 58.3	+1.4
CONN	**Concepcion**	**4.50**	**326**	*eP*	Pn	09 40 00.3	+1.0
TICN	**Ticuantepe**	**5.23**	**323**	*eP*	Pn	09 40 10.7	+1.3
MGAN	**Managua**	**5.33**	**324**	*eP*	Pn	09 40 12.3	+1.6
COPN	**Copaltepe**	**5.56**	**321**	*eP*	Pn	09 40 15.1	+1.2
COPN				*eS*	Sn	09 41 19.7	+1.8
MIRN	**Miramar**	**5.84**	**322**	*eP*	Pn	09 40 19.1	+1.4
CNGN	**Cerro Negro**	**5.88**	**322**	*eP*	Pn	09 40 20.4	+2.2
LEON	**Leon**	**5.93**	**321**	*eP*	Pn	09 40 20.8	+1.8

IDC 24 09:50:31.6±2.1, 177N×12651E, h0^{km}, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=175.3km s-min=25.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.90**	**161**	P	P	09 55 35.7	-1.2
	2.9nm,0.7s,baz=339,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**26.29**	**165**	P	P	09 56 10.4	+1.6
	1.7nm,0.8s,baz=344,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**59.04**	**326**	P	P	10 00 33.4	0.0
	0.3nm,0.4s,baz=120,slow=7.4,SNR=5.4						

*NIED **24** 10:04:00, 2960N×142.10E, h29^{km}, Mw4.2 Best double couple: M0 1.91000×10^{15} NP1:φs261.00000°, δ68.00000°, λ-109.00000°. NP2:φs124.00000°, δ29.00000°, λ-51.00000°.*

*IDC **24** 10:04:35.5±0.6, 2941N×14027E, h0^{km}, mb3.9/13, mb1 4.1/15, mb1mx4.1/21, mbtmp4.0/15, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/25, Error ellipse: s-maj=23.5km s-min=16.4km az=75.0*

*NEIC **24** 10:04:37.0±0.4, 2942N×14026E, h10^{km}, mb4.3/1, Error ellipse: s-maj=16.5km s-min=11.1km az=85.0*

*BJI **24** 10:04:37.0, 2940N×14030E, h10^{km}, mb4.1*

*MOS **24** 10:04:38.7±1.5, 2928N×14024E, h33^{km}, mb4.5/8, Error ellipse: s-maj=29.6km s-min=11.4km az=100.4*

*ISCJB **24** 10:04:40.0±1.0, 2928N±006×1404E±01, h44^{km}±11^{km}, mb4.2/17, Error ellipse: s-maj=17.3km s-min=6.9km az=134.7*

ISC 24 10:04:42.6±0.8, 2928N±006×1405E±01, h53^{km}±9^{km}, n45, σ1°32/42, mb4.2/17, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.62**	**146**	Pn	**Pn**	**10 05 20.8**	**-1.7**
	95nm,0.3s,baz=345,slow=5.7,SNR=54						
CBIJ				Sn	**Sn**	**10 05 52.5**	**-0.6**
	140nm,0.3s,baz=238,slow=21,SNR=15						
MJAR	**Matsushiro Arr**	**7.50**	**346**	Pn	**Pn**	**10 06 30.1**	**+0.8**
	0.6nm,0.3s,baz=159,slow=12,SNR=8.7						
MJAR	**Matsushiro Arr**	**7.50**	**346**	P	**Pn**	**10 06 30.1**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**7.50**	**346**	*eP*	**Pn**	**10 06 30.4**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**7.50**	**346**	*e*Pn	**Pn**	**10 06 30.4**	**+1.1**
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**7.50**	**346**	P	**Pn**	**10 06 30.9**	**+1.6**
MAT				*e*S	**Sn**	**10 07 52.1**	**-0.8**
JOW	**Kunigami**	**11.10**	**260**	LR	LR	10 10 53.7	
	comp=Z,137nm,19.1s,baz=102,slow=35						
ASAJ	**Asahikawa**	**14.90**	**6**	Pn	**Pn**	**10 08 06.3**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=270,slow=17,SNR=3.9						
ASAJ	**Asahikawa**	**14.90**	**6**	P	**Pn**	**10 08 06.3**	**-3.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**17.73**	**5**	*eP*	**Pn**	**10 08 52.0**	**+6.4**
WHN	**Wuhan**	**22.71**	**280**	‖P	**P**	**10 09 41.4**	**+1.6**
SONM	**Songino Array**	**32.13**	**315**	P	**P**	**10 11 03.1**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=108,slow=4.7,SNR=1.9						
PSI	**Prapat**	**47.46**	**244**	P	**P**	**10 13 12.4**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.4,baz=73,slow=3.9,SNR=5.3						
PSI	**Prapat**	**47.46**	**244**	P	**P**	**10 13 12.4**	**+0.3**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GUN	**Gumba**	**47.63**	**282**	*eP*	**P**	**10 13 14.3**	**+0.9**
	comp=Z,34nm,0.8s,mb5.5						
MKAR	**Makanchi Array**	**47.97**	**308**	P	**P**	**10 13 13.8**	**-2.2**
	comp=Z,0.2nm,0.2s,mb3.7,baz=95,slow=9.4,SNR=3.0						
PKI	**Pulchoki**	**48.12**	**282**	*eP*	**P**	**10 13 17.6**	**+0.4**
	comp=Z,12nm,0.9s,mb4.9						
KKN	**Kakani**	**48.17**	**282**	*eP*	**P**	**10 13 18.0**	**+0.4**
	comp=Z,16nm,0.7s,mb5.1						
DMN	**Daman**	**48.37**	**282**	*eP*	**P**	**10 13 19.6**	**+0.5**
	comp=Z,15nm,0.8s,mb5.0						
GKN	**Gorkha**	**48.67**	**283**	*eP*	**P**	**10 13 19.2**	**-2.2**
WRA	**Warramunga Arr**	**49.30**	**188**	P	**P**	**10 13 26.8**	**+0.6**
	comp=Z,3.8nm,0.5s,mb4.7,baz=4.6,slow=7.8,SNR=84						
WRA	**Warramunga Arr**	**49.30**	**188**	P	**P**	**10 13 26.8**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTA	**Charters Tower**	**49.39**	**173**	LR	LR	10 30 19.3	
	comp=Z,80nm,21.1s,baz=227,slow=31						
KOLN	**Koldanda**	**49.61**	**283**	*eP*	**P**	**10 13 23.4**	**-5.2**
	comp=Z,33nm,0.8s						
AS31	**Alice Springs**	**53.03**	**188**	*eP*	**P**	**10 13 55.1**	**+1.0**
ASAR	**Alice Springs**	**53.03**	**188**	P	**P**	**10 13 55.0**	**+0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=357,slow=4.6,SNR=25						
ASAR	**Alice Springs**	**53.03**	**188**	P	**P**	**10 13 55.1**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**71.00**	**340**	P	**P**	**10 15 52.1**	**-2.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=62,slow=8.4,SNR=5.8						
ARCES	**ARCESS Array B**	**71.00**	**340**	P	**P**	**10 15 52.1**	**-2.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**75.34**	**333**	P	**P**	**10 16 19.7**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=59,slow=6.3,SNR=14						
FINES	**FINESS Array B**	**75.34**	**333**	P	**P**	**10 16 19.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**75.34**	**333**	P	**P**	**10 16 19.7**	**-0.7**
AKASG	**Malin Array Be**	**80.00**	**323**	P	**P**	**10 16 45.4**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.8,baz=47,slow=5.6,SNR=4.9						
NVAR	**Mina Array Bea**	**80.31**	**51**	P	**P**	**10 16 50.0**	**+2.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=292,slow=5.7,SNR=3.3						
NB2	**NORSAR Subarra**	**81.04**	**338**	P	**P**	**10 16 50.8**	**-1.1**
	comp=Z,3.9nm,1.1s,mb4.2,baz=41,slow=5.3						
NB2	**NORSAR Subarra**	**81.04**	**338**	P	**P**	**10 16 50.8**	**-1.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
NOA	**NORSAR Array B**	**81.04**	**338**	P	**P**	**10 16 50.6**	**-1.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=42,slow=5.7,SNR=2.8						
NOA	**NORSAR Array B**	**81.04**	**338**	P	**P**	**10 16 50.6**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**83.45**	**312**	P	**P**	**10 17 03.5**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=2.5,SNR=7.0						
BRTR	**Keskin Array B**	**83.45**	**312**	P	**P**	**10 17 03.5**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**83.68**	**44**	P	**P**	**10 17 06.4**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.5,baz=320,slow=4.0,SNR=2.5						
TXAR	**Lajitas Array**	**95.44**	**52**	P	**P**	**10 18 03.6**	**+2.2**
	comp=Z,0.2nm,0.5s,mb3.8,baz=308,slow=3.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**122.05**	**311**	PKP	PKPdf	10 23 30.7	-0.4
	comp=Z,0.5nm,0.8s,baz=248,slow=0.8,SNR=4.3						
LPAZ	**La Paz**	**150.67**	**70**	PKPbc	PKPbc	10 24 32.1	+3.4
	comp=Z,1.3nm,0.7s,baz=289,slow=2.0,SNR=8.5						
LPAZ	**La Paz**	**150.67**	**70**	PKIKP	PKPbc	10 24 32.1	+3.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **24** 10:11:31.9±1.0, 2.13N×12669E, h0^{km}, mb4.2/9, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, Error ellipse: s-maj=77.1km s-min=15.2km az=71.0*

*ISCJB **24** 10:11:40.9±6.6, 2.1N±0.1×1267E±03, h91^{km}±63^{km}, mb4.3/10, Error ellipse: s-maj=54.2km s-min=18.0km az=148.1*

*NEIC **24** 10:11:45.5±4.4, 204N×12675E, h118^{km}±43^{km}, mb4.5/4, Error ellipse: s-maj=43.8km s-min=14.7km az=74.0*

ISC 24 10:11:45.9±4.8, 21N±01×1268E±03, h122^{km}±46^{km}, n16, σ0°88/16, mb4.3/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.70**	**159**	*eP*	**Pn**	**10 15 21.6**	**+1.4**
	9.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.05**	**183**	*eP*	**P**	**10 16 08.5**	**-0.9**
	3.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.05**	**183**	P	**P**	**10 16 08.5**	**-0.9**
	1.9nm,0.3s,baz=19,slow=12,SNR=9.6						
WRA	**Warramunga Arr**	**23.07**	**162**	P	**P**	**10 16 39.9**	**-0.8**
	7.9nm,0.6s,mb4.2,baz=338,slow=11,SNR=26						
WB2	**Warramunga Arr**	**23.08**	**162**	*eP*	**P**	**10 16 39.8**	**-1.0**
AS31	**Alice Springs**	**26.48**	**165**	*eP*	**P**	**10 17 10.5**	**-1.1**
ASAR	**Alice Springs**	**26.48**	**165**	P	**P**	**10 17 11.8**	**+0.2**
	1.1nm,0.4s,mb3.7,baz=344,slow=8.0,SNR=16						
ASAR				PcP	PcP	10 20 36.8	+3.3
	0.6nm,0.6s,baz=8.5,slow=2.1,SNR=5.1						
ASPA	**Alice Springs**	**26.48**	**165**	*eP*	**P**	**10 17 10.5**	**-1.1**
FORT	**Forrest**	**32.66**	**178**	*eP*	**P**	**10 18 07.0**	**+0.7**
	18nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**34.54**	**194**	*eP*	**P**	**10 18 23.1**	**+0.6**
	16nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**35.94**	**194**	P	**P**	**10 18 34.6**	**+0.1**
	5.1nm,0.8s,mb4.5,baz=63,slow=4.5,SNR=3.1						
STKA	**Stephens Creek**	**36.55**	**159**	P	**P**	**10 18 40.6**	**+0.9**
	1.3nm,0.3s,mb4.4,baz=332,slow=5.9,SNR=11						
SONM	**Songino Array**	**48.90**	**342**	P	**P**	**10 20 19.2**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=152,slow=9.5,SNR=6.2						
MKAR	**Makanchi Array**	**58.97**	**326**	P	**P**	**10 21 31.8**	**-0.7**
	1.7nm,0.5s,mb4.4,baz=120,slow=7.3,SNR=14						
BVAR	**Borovoye Array**	**68.76**	**327**	P	**P**	**10 22 37.2**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=155,slow=4.8,SNR=3.5						
VNDA	**Vanda**	**81.76**	**173**	P	**P**	**10 23 52.5**	**+1.5**
	0.9nm,0.4s,mb4.0,baz=302,slow=8.2,SNR=18						

IDC 24 10:53:42.4±15.0, 687S×11662E, h0^{km}, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=322.9km s-min=173.7km az=11.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.56**	**129**	P	P	10 58 33.1	-0.2
	0.8nm,0.6s,baz=303,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**23.55**	**137**	P	P	10 58 55.5	+0.9
	0.7nm,0.4s,baz=311,slow=9.1,SNR=19						
STKA	**Stephens Creek**	**34.09**	**140**	P	P	11 00 28.4	-0.1
	1.1nm,0.8s,baz=310,slow=7.9,SNR=1.9						

*ISCJB **24** 11:00:19.7±0.6, 3522N±004×2678E±007, h10^{km}, Error ellipse: s-maj=9.1km s-min=5.1km az=48.2*

*HLW **24** 11:00:19.2, 3555N×2724E, h33^{km}, Mb3.2*

*ATH **24** 11:00:20.6, 3532N×2679E, h5^{km}, MD3.6/5*

*CSEM **24** 11:00:20.4±0.1, 3523N×2685E, h15^{km}, MD3.6, Error ellipse: s-maj=3.9km s-min=2.5km az=99.0*

*NEIC **24** 11:00:20.6, 3532N×2679E, h5^{km}, MD3.6(ATH), After ATH.*

ISC 24 11:00:20.6±0.5, 3529N±004×2677E±007, h10^{km}, n16, σ0°99/18, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.94**	**269**	*e*PG	**Pg**	**11 00 38.5**	**-0.3**
NPS	**Neapolis**	**0.94**	**269**	*e*Pg	**Pg**	**11 00 38.1**	**-0.7**
XRY	**Khrisi**	**0.97**	**245**	*e*PB	**Pb**	**11 00 40.0**	**+0.5**
ARG	**Arkhangelos**	**1.44**	**50**	*e*PB	**Pb**	**11 00 47.5**	**-0.1**
DAT	**Datca**	**1.58**	**24**	PN	**Pn**	**11 00 49.8**	**+1.1**
DAT				SN	**Sn**	**11 01 10.2**	**+1.0**
BODT	**Bodrum**	**1.82**	**14**	*e*PN	**Pb**	**11 00 54.7**	**+0.6**
APE	**Apeiranthos**	**2.04**	**331**	*e*PN	**Pb**	**11 00 58.2**	**+0.4**
VAM	**Vamos**	**2.10**	**274**	*e*PG	**Pg**	**11 01 00.1**	**-0.8**
DALT	**Dalyan (Mudla)**	**2.12**	**45**	PN	**Pn**	**11 00 54.3**	**-1.8**
MLSB	**Milas**	**2.16**	**22**	*e*PN	**Pn**	**11 00 56.5**	**-0.2**
DENT	**Denizli**	**3.06**	**36**	*e*P	**Pn**	**11 01 06.3**	**-2.8**
HMAT	**Matruh**	**4.19**	**176**	‖P	**Pn**	**11 01 24.5**	**-0.1**
SWA1		**6.07**	**189**	P	**Pn**	**11 01 51.5**	**+1.1**
SWA1		**6.07**	**189**	P	**Pn**	**11 01 51.5**	**+1.1**
SWA2		**6.13**	**191**	P	**Pn**	**11 01 52.3**	**+1.1**
SWA2				S	**Sn**	**11 03 00.6**	**-0.7**
**SUZ

SMG				*e*SN		**Sg**	**11 47 36.2 +1.7**
IZM	**Izmir**	**0.49**	**60**	PG		**Pg**	**11 47 29.3 -0.1**
IZM				SG		**Sg**	**11 47 36.2 +0.4**
KDAG	**Bornova**	**0.50**	**60**	*i* P		**Pg**	**11 47 29.1 -0.4**
KDAG				*i* S		**Sg**	**11 47 35.7 -0.3**
PRK	**Paraskevi**	**1.15**	**342**	*e*PN		**Pn**	**11 47 39.4 -2.9**
PRK				*e*SN		**Sn**	**11 47 55.8 -2.4**
AYVA	**Ayvalik**	**1.16**	**359**	*i* P		**Pg**	**11 47 40.7 -1.3**
AYVA				*i* S		**Sg**	**11 47 59.2 +2.2**
BODT	**Bodrum**	**1.18**	**156**	PN		**Pn**	**11 47 42.7 -0.1**
BODT				SN		**Sn**	**11 47 58.9 -0.2**
MLSB	**Milas**	**1.20**	**135**	*e*PN		**Pn**	**11 47 42.4 -0.5**
BDRM	**Kayabasi**	**1.23**	**152**	*i* P		**Pb**	**11 47 42.6 -0.7**
BDRM				*i* S		**Sg**	**11 47 59.2 -0.1**
APE	**Apeiranthos**	**1.44**	**222**	*e*PN		**Pn**	**11 47 46.8 +0.6**
DAT	**Datca**	**1.57**	**154**	*e*PN		**Pn**	**11 47 47.3 -0.9**
BOZC	**Bozcaada**	**1.77**	**343**	*i* P		**Pn**	**11 47 51.4 +0.6**
BOZC				*i* S		**Sn**	**11 48 15.8 +2.3**
DENT	**Denizli**	**1.87**	**102**	*e*PN		**Pn**	**11 47 52.1 -0.1**
CANB	**Canakkale**	**1.88**	**8**	*e*PN		**Pn**	**11 47 53.0 +0.6**
MRMT	**Marmara Adasi**	**2.54**	**15**	*e*PN		**Pn**	**11 48 01.9 +0.5**
RKY	**Sarkoy-Tekirda**	**2.56**	**8**	*e*PN		**Pn**	**11 48 02.5 +0.8**
YLV	**Yalova**	**3.17**	**40**	*e*PN		**Pn**	**11 48 10.4 +0.3**

BJI ***24*** *12:05:20.2, 180S×12797E, h15km, mB5.4, mb5.4, Ms4.8, Msz4.6*

ISCJB ***24*** *12:05:27.3±0.2, 119S±002×12742E±003, h23km, mb5.4/98, MS4.6/27, Error ellipse: s-maj=5.1km s-min=3.0km az=130.1*

GCMT ***24*** *12:05:28.0±0.1, 117S×12735E, h19km, MW5.4/89, Moment Tensor Solution. s58,c88; s89,c154; Duration: 1½2 Moment tensor: Scale 10^17^Nm; Mrr=0.58±.03; Mθθ=-0.72±.02; Mφφ=1.30±.03; Mrθ=-0.32±.06; Mφθ=0.99±.03; Mφr=0.29±.06; Best double couple: M0=1.53100×10^17^ NP1:φs=64.00000°, δ68.00000°, λ-18.00000°. NP2: φs=161.00000°, δ73.00000°, λ-156.00000°. Principal axes: T 1.7180, Plg4.0000°, Azm292.0000°; N -0.3730, Plg61.0000°, Azm195.0000°; P -1.3440, Plg28.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***24*** *12:05:28.9±1.2, 110S×12736E, h33km, mb5.6/33 Error ellipse: s-maj=12.8km s-min=5.8km az=112.1*

NEIC ***24*** *12:05:28.0±0.2, 121S×12733E, mb5.3/28, Error ellipse: s-maj=8.6km s-min=4.4km az=71.0*

NEIC Felt [IV] at Labuha.

IDC ***24*** *12:05:30.0±2.3, 102S×12738E, h25km±14km, mb4.9/17, mb1 4.9/18, mb1mx4.9/19, mbtmp5.1/18, ML5.3/1, MS4.6/9, Ms1 4.6/9, ms1mx4.2/25, Error ellipse: s-maj=16.6km s-min=11.6km az=62.0*

ISC 24 12:05:29.5±0.2, 120S±002×12750E±003, h24km, h24km±2.0km: pP-P, n272, σ1§22/287, mb5.4/98, MS4.6/27, 13C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.57**	**164**	P	**Pn**	**12 06 11.0**	**+1.4**
	4μm,1.0s						
SWI	**Sorong**	**3.78**	**85**	P	**Pn**	**12 06 27.3**	**+1.1**
	4μm,0.9s						
PCI	**Palu**	**7.67**	**272**	P	**Pn**	**12 07 15.7**	**-3.9**
	977nm,1.2s						
KCP	**Kidapawan**	**8.50**	**344⇓**	*e*P	**Pn**	**12 07 32.8**	**+1.8**
BAKI	**Biak**	**8.61**	**90**	P	**Pn**	**12 07 38.0**	**+5.5**
	353nm,1.0s						
KAPI	**Kappang**	**8.61**	**244**	Pn	**Pn**	**12 07 33.9**	**+1.3**
	1μm,0.5s,SNR=38						
TSM	**Tawau**	**11.06**	**300**	P	**Pn**	**12 08 04.1**	**-1.9**
SNPH	**Sibulan**	**11.30**	**338**	*e*P	**Pn**	**12 08 09.5**	**+0.1**
KAKA	**Kakadu**	**12.44**	**157**	*e*P	**Pn**	**12 08 24.2**	**-0.8**
	154nm,0.5s						
KAKA				*e*S	**Sn**	**12 10 41.1**	**-1.8**
JAY	**Jayapura**	**13.27**	**96**	P	**Pn**	**12 08 42.0**	**+5.8**
	96nm,1.9s						
KKM	**Kota Kinabalu**	**13.37**	**303**	P	**Pn**	**12 08 37.9**	**+0.3**
KKM	**Kota Kinabalu**	**13.37**	**303**	*e*Pn	**Pn**	**12 08 35.7**	**-1.9**
KKM				*e*Sn	**Sn**	**12 11 06.9**	**+1.5**
TGY	**Tagaytay City**	**16.53**	**337**	Pn	**Pn**	**12 09 16.3**	**-3.4**
	12nm,0.3s,baz=208,slow=13,SNR=6.4						
FITZ	**Fitzroy Crossi**	**16.90**	**186**	*e*P	**Pn**	**12 09 22.2**	**-2.1**
	83nm,1.2s						
FITZ				*e*S	**Sn**	**12 12 37.1**	**+5.8**
FITZ	**Fitzroy Crossi**	**16.90**	**186**	P	**Pn**	**12 09 21.9**	**-2.4**
	1.2nm,0.3s,baz=25,slow=14,SNR=30						
FITZ				S	**Sn**	**12 12 33.8**	**+2.5**
	0.4nm,0.3s,baz=185,slow=18,SNR=3.6						
FITZ				LR	LR	12 16 31.0	
	comp=Z,2μm,21.4s,baz=9.2,slow=39						
KSM	**Kuching**	**17.39**	**279**	*e*P	**Pn**	**12 09 28.8**	**-1.7**
KSM				*e*S	**Sn**	**12 12 48.0**	**+4.8**
BJII	**Banjamegara**	**18.75**	**251**	P	**Pn**	**12 09 43.3**	**-3.8**
	411nm,2.0s						
CVP	**Callao Caves**	**19.59**	**344⇑**	*e*P	**Pn**	**12 09 56.0**	**-1.3**
	22μm,1.5s						
WRAB	**Tennant Creek**	**19.79**	**161**	P	**Pn**	**12 09 57.0**	**-2.6**
	878nm,0.8s,SNR=62						
WRAB	**Tennant Creek**	**19.79**	**161**	*e*P	**Pn**	**12 09 56.7**	**-2.9**
WRAB				*e*S	**Sn**	**12 13 35.0**	**-6.3**
WRAB				pmax	pmax		
	comp=Z,151nm,0.9s						
WRAB	**Tennant Creek**	**19.79**	**161**	*e*P	**Pn**	**12 09 56.7**	**-2.9**
	comp=Z,151nm,0.9s						
WRAB				*e*S	**Sn**	**12 13 35.0**	**-6.2**
WRA	**Warramunga Arr**	**19.80**	**161**	P	**Pn**	**12 09 56.5**	**-3.1**
	comp=Z,60nm,0.7s,baz=339,slow=11,SNR=159						
WRA				S	**Sn**	**12 13 31.9**	**-9.5**
	comp=Z,6.3nm,0.8s,baz=355,slow=19,SNR=3.9						
WB2	**Warramunga Arr**	**19.80**	**161**	*e*P	**Pn**	**12 09 57.1**	**-2.6**
WB2				*e*S	**Sn**	**12 13 33.4**	**-8.1**
JCJI	**Jatiwangi**	**19.89**	**254**	P	**Pn**	**12 10 03.1**	**+2.4**
	comp=Z,471nm,1.6s						
LEM	**Lembang**	**20.60**	**254**	P	**P**	**12 10 10.9**	**+4.2**
	comp=Z,124nm,0.9s						
PMG	**Port Moresby**	**21.19**	**113**	P	**P**	**12 10 12.6**	**-0.6**
	comp=Z,53nm,0.8s,mb5.0,baz=286,slow=8.9,SNR=8.2						
PMG	**Port Moresby**	**21.19**	**113**	*e*P	**P**	**12 10 14.1**	**+0.9**
PMG				pmax	pmax		
	comp=Z,194nm,1.3s						
PMG	**Port Moresby**	**21.19**	**113**	*e*P	**P**	**12 10 14.1**	**+0.9**
	comp=Z,194nm,1.3s,mb5.3						
MBWA	**Marble Bar**	**21.24**	**200**	*e*P	**P**	**12 10 12.9**	**-0.8**
	comp=Z,120nm,1.1s,mb5.1						
CBJI	**Citeko**	**21.24**	**255**	P	**P**	**12 10 18.6**	**+4.9**
	comp=Z,383nm,0.9s,mb5.7						
KLI	**Kotabumi**	**22.90**	**260**	P	**P**	**12 10 33.7**	**+2.3**
	comp=Z,343nm,0.9s,mb5.8						
AS31	**Alice Springs**	**23.18**	**165**	*e*P	**P**	**12 10 33.4**	**-1.0**
AS31				*e*S	**S**	**12 14 42.2**	**-2.3**
ASAR	**Alice Springs**	**23.18**	**165**	P	**P**	**12 10 33.0**	**-1.3**
	comp=Z,46nm,0.8s,mb5.0,baz=345,slow=9.8,SNR=218						
ASAR				S	**S**	**12 14 39.5**	**-5.1**
	comp=Z,27nm,1.1s,baz=347,slow=23,SNR=12						
ASPA	**Alice Springs**	**23.18**	**165**	*e*P	**P**	**12 10 33.4**	**-1.0**
ASPA				*e*S	**S**	**12 14 42.2**	**-2.3**
KGM	**Kluang**	**24.38**	**277**	P	**P**	**12 10 47.0**	**+1.3**
CTA	**Charters Tower**	**26.25**	**137**	*e*P	**P**	**12 11 04.6**	**+1.9**
	comp=Z,46nm,0.9s,mb5.0						
CTA				*e*S	**S**	**12 15 39.2**	**+5.6**
CTA	**Charters Tower**	**26.25**	**137**	P	**P**	**12 11 05.0**	**+2.3**
	comp=Z,55nm,1.0s,mb5.0,baz=315,slow=12,SNR=18						
CTA	**Charters Tower**	**26.25**	**137**	*e*P	**P**	**12 11 04.6**	**+1.9**
CTA				*e*S	**S**	**12 15 39.2**	**+5.6**
CTA				pmax	pmax		
	comp=Z,46nm,0.9s						
CTAO	**Charters Tower**	**26.25**	**137**	*e*P	**P**	**12 11 04.1**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**26.25**	**137**	*e*P	**P**	**12 11 04.1**	**+1.5**
	comp=Z,83nm,1.0s,mb5.2						
YHNB	**Yeheng**	**26.39**	**347**	*e*P	**P**	**12 11 03.5**	**-0.4**
QIZ	**Qiongzhong**	**26.55**	**320**	P	**P**	**12 11 07.0**	**+1.6**
QIZ				S	**S**	**12 15 37.5**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,31nm,1.4s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,767nm,6.3s						
QIZ				LR	LR		
	comp=N,914nm,20.0s,MS4.4						
QIZ				LR	LR		
	comp=E,598nm,16.4s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,24.0s						
TATO	**Taipei**	**26.66**	**348**	*e*P	**P**	**12 11 06.5**	**+0.2**
IPM	**Ipoh**	**27.05**	**282**	P	**P**	**12 11 09.6**	**-0.3**
PPI	**Padang Panjang**	**27.11**	**271**	P	**P**	**12 11 11.3**	**+0.9**
	comp=Z,188nm,1.5s,mb5.4						
QZH	**Quanzhou**	**27.38**	**342⇑**	*i*P	**P**	**12 11 13.3**	**+0.4**
QZH				AMB	AMB		
	comp=Z,560nm,1.6s,mb5.8						
KULM	**Kulim**	**27.58**	**284**	*e*P	**P**	**12 11 14.0**	**-0.6**
GZH	**Guangzhou**	**27.80**	**331**	P	**P**	**12 11 20.1**	**+3.5**
GZH				S	**S**	**12 16 03.8**	**+5.8**
GZH				LR	LR		
	comp=N,812nm,18.0s,MS4.4						
GZH				LR	LR		
	comp=E,644nm,21.5s,MS4.4						
GZH				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
JOW	**Kunigami**	**27.88**	**1**	P	**P**	**12 11 16.5**	**-0.8**
	comp=Z,82nm,0.7s,mb5.5,baz=206,slow=8.9,SNR=14						
JOW				LR	LR	12 21 25.2	
	comp=Z,2μm,20.6s,MS4.6,baz=303,slow=34						
PSI	**Prapat**	**28.84**	**278**	P	**P**	**12 11 26.1**	**+0.2**
	comp=Z,62nm,0.9s,mb5.3,baz=105,slow=6.3,SNR=32						
PSI				S	**S**	**12 16 14.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=334,slow=22,SNR=5.5						
FORT	**Forrest**	**29.42**	**179**	*e*P	**P**	**12 11 30.7**	**-0.4**
	comp=Z,83nm,0.7s,mb5.6						
KKTK	**Khon Kaen**	**29.95**	**307**	⇓P	**P**	**12 11 35.0**	**-0.7**
	comp=Z,370nm,0.5s,mb6.4						
NST	**Nakhon Sawan**	**31.82**	**303**	P	**P**	**12 11 52.0**	**-0.2**
SSE	**Sheshan**	**32.67**	**350**	P	**P**	**12 12 00.5**	**+0.8**
SSE				XP	sP	12 12 09.3	-0.5
SSE				S	**S**	**12 17 20.5**	**+6.1**
SSE				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.4						
SSE				AMB	AMB		
	comp=Z,234nm,5.7s						
SSE				LR	LR		
	comp=N,505nm,23.0s,MS4.3						
SSE				LR	LR		
	comp=E,591nm,23.0s,MS4.3						
SSE				LR	LR		
	comp=Z,684nm,17.9s						
SSE	**Sheshan**	**32.67**	**350**	P	**P**	**12 12 00.5**	**+0.8**
	comp=Z,45nm,0.9s,mb5.4						
SSE				sP	sP	12 12 09.3	-0.5
SSE				S	**S**	**12 17 20.5**	**+6.1**
SSE				LR	LR		
	comp=Z,680nm,17.9s,MS4.4						
BSI	**Banda Aceh**	**32.84**	**282**	P	**P**	**12 12 05.9**	**+4.7**
	comp=Z,54nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**33.01**	**196**	P	**P**	**12 12 04.1**	**+1.5**
	comp=Z,11nm,0.7s,mb4.9,baz=32,slow=9.2,SNR=4.6						
STKA	**Stephens Creek**	**33.29**	**158⇓**	*i*P	**P**	**12 12 06.8**	**+1.7**
	comp=Z,56nm,0.7s,mb5.6						
STKA				*i* S	**S**	**12 17 22.7**	**-1.4**
STKA	**Stephens Creek**	**33.29**	**158**	P	**P**	**12 12 06.8**	**+1.7**
	comp=Z,74nm,0.7s,mb5.7,baz=327,slow=8.7,SNR=63						
STKA	**Stephens Creek**	**33.29**	**158**	*e*P	**P**	**12 12 06.6**	**+1.5**
STKA				⇓*i*P		12 12 06.8	
STKA				*i* S	**S**	**12 17 22.7**	**-1.4**
HNR	**Honiara**	**33.30**	**105**	P	**P**	**12 12 06.4**	**+1.3**
	comp=Z,87nm,0.7s,mb5.8,baz=148,slow=1.1,SNR=6.6						
BDT	**Bhumibol Dam**	**33.53**	**304**	P	**P**	**12 12 00.8**	**-6.4**
WHN	**Wuhan**	**33.96**	**339**	⇑P	**P**	**12 12 11.4**	**+0.5**
WHN				S	**S**	**12 17 37.3**	**+2.9**
WHN				AMB	AMB		
	comp=Z,1μm,8.0s						
WHN				LR	LR		
	comp=Z,2μm,17.7s,MS4.8						
GYA	**Guiyang**	**34.06**	**325⇑**	*i*P	**P**	**12 12 13.3**	**+1.5**
GYA				AP	pP	12 12 20.4	+1.4
GYA				XP	sP	12 12 22.3	+0.4
GYA				PP	PP	12 13 29.6	+0.6
GYA				PPP		12 13 47.3	
GYA				S	**S**	**12 17 39.1**	**+3.1**
GYA				SCS	ScS	12 22 35.6	+1.2
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,290nm,6.8s						
GYA				LR	LR		
	comp=N,1μm,22.7s,MS4.6						
GYA				LR	LR		
	comp=E,870nm,22.0s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,18.3s,MS4.6						
NJ2	**Nanjing**	**34.07**	**347**	*e*P	**P**	**12 12 12.3**	**+0.5**
NJ2				AP	pP	12 12 22.4	+3.4
NJ2				XP	sP	12 12 27.0	+5.0
NJ2				PP	PP	12 13 25.9	-3.2
NJ2				S	**S**	**12 17 34.0**	**-2.1**
NJ2				XS	sS	12 17 51.0	+3.1
NJ2				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,17.6s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,6μm,27.3s						
CHTO	**Chiang Mai**	**34.39**	**307**	P	**P**	**12 12 15.6**	**+0.9**
	SNR=18						
CHTO	**Chiang Mai**	**34.39**	**307**	*e*P	**P**	**12 12 13.7**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
CHTO	**Chiang Mai**	**34.39**	**307**	*e*P	**P**	**12 12 13.7**	**-0.9**
	comp=Z,38nm,1.2s,mb5.2						
ADE	**Adelaide**	**35.19**	**164**	P	**P**	**12 12 23.5**	**+2.0**
KMI	**Kunming**	**35.49**	**319**	P	**P**	**12 12 27.0**	**+2.9**
KMI				PP	PP	12 13 44.3	-0.5
KMI				S	**S**	**12 17 56.3**	**-1.7**
KMI				XS	sS	12 18 16.1	+6.2
KMI				AMB	AMB		
	comp=Z,35nm,1.6s,mb5.0						
KMI				AMB	AMB		
	comp=Z,460nm,7.1s						
KMI				LR	LR		
	comp=N,586nm,16.9s,MS4.6						
KMI				LR	LR		
	comp=E,729nm,21.5s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,21.5s,MS4.6						
KMI	**Kunming**	**35.49**	**319**	P	**P**	**12 12 27.0**	**+2.9**
KMI				*PP	pP	12 12 38.0	+6.7
KMI				*SP	sP	12 12 42.1	+7.8
KMI						12 13 44.3	
KMI				PPP		12 14 03.6	
KMI				S	**S**	**12 17 56.2**	**-1.8**
KMI				*SS	sS	12 18 16.1	+6.2
KMI				SS	SS	12 20 12.3	-20
KMI				SSS		12 20 40.5	
KMI				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1μm,21.5s,MS4.6						
KMI	**Kunming**	**35.49**	**319**	P	**P**	**12 12 27.0**	**+2.9**
	comp=Z,35nm,1.6s,mb5.0						
KMI				pP	pP	12 12 38.0	+6.7
KMI				sP	sP	12 12 42.1	+7.8
KMI				PP	PP	12 13 44.3	-0.5
KMI				PPP		12 14 03.6	
KMI				S	**S**	**12 17 56.2**	**-1.8**
KMI				sS	sS	12 18 16.1	+6.2
KMI				SS	SS	12 20 12.3	-20
KMI				SSS		12 20 40.5	
KMI				LR	LR		
	comp=Z,1μm,21.5s,MS4.6						
ARMA	**Armidale**	**37.00**	**144**	*e*P	**P**	**12 12 39.1**	**+2.1**
KS15	**Wonju Array Si**	**38.45**	**0**	*e*P	**P**	**12 12 50.3**	**+1.0**
TIA	**Tai'an**	**38.45**	**346**	⇑P	**P**	**12 12 48.8**	**-0.5**
MAJO	**Matsushiro**	**38.85**	**14**	*e*P	**P**	**12 12 52.3**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,38nm,0.7s,mb5.2						
MAJO	**Matsushiro**	**38.85**	**14**	*e*P	**P**	**12 12 52.3**	**-0.3**
	comp=Z,38nm,0.7s,mb5.2						
MAT	**Matsushiro**	**38.85**	**14**	P	**P**	**12 12 51.4**	**-1.2**
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**12 12 51.6**	**-1.0**
	comp=Z,19nm,0.6s,mb5.0,baz=192,slow=8.4,SNR=50						
MJAR				PcP	PcP	12 15 05.3	+1.8
	comp=Z,4.4nm,0.8s,baz=175,slow=1.8,SNR=4.3						
MJAR				ScP	ScP	12 18 50.9	+0.8
	comp=Z,4.8nm,0.9s,baz=203,slow=4.3,SNR=6.0						
MJAR				LR	LR	12 26 31.4	
	comp=Z,1μm,21.7s,MS4.7,baz=200,slow=33						
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**12 12 51.6**	**-1.0**
MJAR						12 15 05.3	
MJAR						12 18 50.9	
MJAR	**Matsushiro Arr**	**38.85**	**14**	P	**P**	**12 12 51.6**	**-1.0**
MJAR				PcP	PcP	12 15 05.3	+1.9
MJAR				ScP	ScP	12 18 50.9	+0.8
MJAR				LR	LR	12 26 31.4	
CD2	**Chengdu**	**39.10**	**327⇑**	*i*P	**P**	**12 12 54.8**	**0.0**
CD2				AP	pP	12 13 01.9	-0.1
CD2				XP	sP	12 13 03.8	-1.2
CD2				PP	PP	12 14 29.0	+4.4
CD2				PCP	PcP	12 15 04.3	+0.1
CD2				S	**S**	**12 18 53.8**	**+0.8**
CD2				SCS	ScS	12 23 00.8	-1.7
CD2				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.6						
CD2				AMB	AMB		
	comp=Z,400nm,7.4s						
CD2				LR	LR		
	comp=N,700nm,21.6s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,720nm,19.2s,MS4.5						
XAN	**Xi'an**	**39.16**	**335**	P	**P**	**12 12 54.8**	**-0.4**
XAN				AP	pP	12 13 01.8	-0.7
XAN				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.7						
CNB	**Canberra Magne**	**39.58**	**151**	*e*P	**P**	**12 13 00.8**	**+2.1**
	comp=Z,52nm,1.5s,mb5.0						
TOO	**Toolangi**	**39.81**	**157**	*e*P	**P**	**12 13 03.3**	**+2.6**
	comp=Z,34nm,0.8s,mb5.1						
TOO	**Toolangi**	**39.81**	**157**	*e*P	**P**	**12 13 03.3**	**+2.6**
TOO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
DL2	**Dalian**	**40.27**	**353**	P	**P**	**12 13 04.8**	**+0.3**
DL2				S	**S**	**12 19 11.1**	**+0.6**
DL2				XS	sS	12 19 29.5	+7.1
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
DL2				LR	LR		
	comp=N,270nm,16.6s,MS4.5						
DL2				LR	LR		
	comp=E,430nm,16.9s,MS4.5						
DL2				LR	LR		
	comp=Z,460nm,18.5s,MS4.4						
IMP	**Imphal**	**41.53**	**311**	*e*P	**P**	**12 13 14.0**	**-0.9**
BJT	**Baijiatuau**	**42.31**	**347**	*e*P	**P**	**12 13 20.9**	**-0.3**
BJT				pmax	pmax		
	comp=Z,131nm,1.3s						
BJT	**Baijiatuau**	**42.31**	**347**	*e*P	**P**	**12 13 20.9**	**-0.3**
	comp=Z,131nm,1.3s,mb5.4						
BJI	**Beijing**	**42.33**	**347**	P	**P**	**12 13 21.4**	**0.0**
BJI				S	**S**	**12 19 38.8**	**-2.2**
BJI				SS	SS	12 22 46.3	-3.6
BJI				AMB	AMB		
	comp=Z,74nm,1.2s,mb5.2						
BJI				AMB	AMB		
	comp=Z,334nm,3.6s						
BJI				LR	LR		
	comp=N,719nm,17.6s						
BJI				LR	LR		
	comp=E,489nm,24.2s						
BJI				LR	LR		
	comp=Z,534nm,29.3s						
BJI	**Beijing**	**42.33**	**347**	P	**P**	**12 13 21.4**	**0.0**
	comp=Z,74nm,1.2s,mb5.2						
BJI				PP	PP	12 14 55.9	-3.7
BJI				S	**S**	**12 19 38.7**	**-2.3**
BJI				SS	SS	12 22 46.3	-3.6
BJI				LR	LR		
	comp=Z,530nm,29.3s,MS4.3						
SNY	**Shenyang**	**42.97**	**356**	⇑P	**P**	**12 13 26.3**	**-0.3**
SNY				S	**S**	**12 19 55.3**	**+4.8**
SNY				AMB	AMB		
	comp=Z,62nm,0.8s,mb5.4						
SNY				LR	LR		
	comp=N,775nm,16.8s						
SNY				LR	LR		
	comp=Z,814nm,20.1s,MS4.6						
LZH	**Lanzhou**	**43.15**	**332**	*e*P	**P**	**12 13 28.5**	**+0.5**
LZH				AP	pP	12 13 34.5	-0.8
LZH				XP	sP	12 13 37.5	-0.7
LZH				PP	PP	12 15 13.1	+4.7
LZH				*e*S	**S**	**12 19 52.0**	**-1.0**
LZH				SS	SS	12 23 06.0	0.0
LZH				AMB	AMB		
	comp=Z,75nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,146nm,4.5s						
LZH				LR	LR		
	comp=E,2μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,19.2s						
LZH	**Lanzhou**	**43.15**	**332**	*e*P	**P**	**12 13 28.5**	**+0.5**
LZH				*SP	sP	12 13 37.5	-0.7
LZH						12 15 13.1	
LZH						12 15 20.4	
LZH				*e*S	**S**	**12 19 52.0**	**-1.0**
LZH				pmax	pmax		
	comp=Z,75nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,19.2s,MS5.1						
LZH	**Lanzhou**	**43.15**	**332**	*e*P	**P**	**12 13 28.5**	**+0.5**
	comp=Z,75nm,1.5s,mb5.2						
LZH				pP	pP	12 13 34.5	-0.8
LZH				sP	sP	12 13 37.5	-0.7
LZH				PP	PP	12 15 13.1	+4.7
LZH				PcP	PcP	12 15 20.4	+3.0
LZH				*e*S	**S**	**12 19 52.0**	**-1.0**
LZH				sS	sS	12 20 01.0	-4.0
LZH				SS	SS	12 23 06.0	0.0
LZH				LR	LR		
	comp=Z,2μm,19.2s,MS5.1						
DZM	**Mont Dzumac**	**43.20**	**122**	P	**P**	**12 13 30.0**	**+1.5**
	comp=Z,11nm,0.7s,mb4.7,baz=278,slow=5.0,SNR=5.6						
SHL	**Shillong**	**43.51**	**310**	*e*P	**P**	**12 13 30.5**	**-0.5**
SHL				*e*S	**S**	**12 19 56.0**	**-2.4**
HHC	**Hu-ho-hao-te**	**44.29**	**343**	*e*P	**P**	**12 13 38.4**	**+1.1**
HHC				AP	pP	12 13 44.5	-0.1
HHC				XP	sP	12 13 46.9	-0.6
HHC				PP	PP	12 15 23.4	+2.7
HHC				PCS	PcS	12 19 15.6	+1.1
HHC				S	**S**	**12 20 09.9**	**+0.1**
HHC				XS	sS	12 20 23.8	+2.0
HHC				SCS	ScS	12 23 30.8	-3.3
HHC				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,271nm,4.9s						
HHC				LR	LR		
	comp=N,410nm,14.3s						
HHC				LR	LR		
	comp=E,401nm,25.9s						
HHC				L

MDJ LR LR
comp=E,220nm,25.5s,MS4.5
MDJ LR LR
comp=Z,812nm,26.8s,MS4.5
MDJ Mudanjiang 45.65 2 *e*P **P 12 13 48.0 -0.1**
comp=Z,172nm,1.4s,mb5.8
LSA Lhasa 46.34 315 P **P 12 13 55.4 +1.9**
LSA AMB AMB
comp=Z,120nm,0.9s,mb5.8
LSA AMB AMB
comp=Z,420nm,8.0s
LSA LR LR
comp=N,260nm,28.0s,MS4.3
LSA LR LR
comp=E,330nm,26.0s,MS4.3
LSA LR LR
comp=Z,360nm,28.0s,MS4.2
LSA Lhasa 46.34 315 *e*P **P 12 13 54.2 +0.7**
LSA pmax pmax
comp=Z,93nm,0.8s,mb5.8
LSA Lhasa 46.34 315 *e*P **P 12 13 54.2 +0.7**
comp=Z,93nm,0.8s,mb5.8
LSA *e*pP pP 12 13 57.8 -3.0
VIS Vishakhapatnam 47.37 295 *e*P **P 12 14 03.0 +1.4**
VIS AMb AMB 12 14 08.2
comp=Z,88nm,1.1s,mb5.6
BOK Bokaro 47.44 304 *e*P **P 12 14 01.6 -0.4**
BOK AMb AMB 12 14 12.5
comp=Z,64nm,0.9s,mb5.5
GTA Gaotai 47.72 331 P **P 12 14 04.3 0.0**
GTA AP pP 12 14 10.8 -0.8
GTA XP sP 12 14 13.5 -1.0
GTA PCP PcP 12 15 35.6 +2.3
GTA PP PP 12 15 55.1 -0.9
GTA S **S 12 20 56.6 -2.4**
GTA SCS ScS 12 23 55.6 -0.7
GTA AMB AMB
comp=Z,174nm,1.0s,mb6.0
GTA AMB AMB
comp=Z,337nm,4.7s
GTA LR LR
comp=N,694nm,17.5s,MS4.8
GTA LR LR
comp=E,553nm,17.9s,MS4.8
GTA LR LR
comp=Z,733nm,18.3s,MS4.7
MDRS Chennai 48.96 288 *e*P **P 12 14 13.3 -0.5**
JIRN Jiri 48.96 309 *e*P **P 12 14 15.3 +1.5**
comp=Z,18nm,0.3s,mb5.7
GUN Gumba 49.32 309 *e*P **P 12 14 17.2 +0.6**
comp=Z,324nm,0.7s,mb6.4
PKI Pulchoki 49.53 309 *e*P **P 12 14 18.3 +0.1**
comp=Z,238nm,1.2s,mb6.1
KKN Kakani 49.73 309 *e*P **P 12 14 20.2 +0.5**
comp=Z,172nm,0.9s,mb6.1
DMN Daman 49.78 308 *e*P **P 12 14 20.6 +0.5**
comp=Z,368nm,1.1s,mb6.3
YSS Yuzh-Sakhalins 49.79 14 *e*P **P 12 14 20.7 +0.6**
YSS pmax pmax
comp=Z,121nm,1.3s,mb5.8
YSS Yuzh-Sakhalins 49.79 14 *e*P **P 12 14 20.7 +0.6**
comp=Z,121nm,1.3s,mb5.8
GKN Gorkha 50.33 309 *e*P **P 12 14 24.5 +0.2**
comp=Z,357nm,1.1s,mb6.3
KLR Kul'dur 50.36 4 *e*P **P 12 14 20.2 -4.3**
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,96nm,1.4s,mb5.6
HIA Hailar 50.71 353 *e*P **P 12 14 27.2 +0.1**
HIA pmax pmax
comp=Z,66nm,1.4s
HIA Hailar 50.71 353 *e*P **P 12 14 27.2 0.0**
comp=Z,66nm,1.4s,mb5.4
HIA *e*pP pP 12 14 32.0 -2.6
KOLN Koldanda 51.04 308 *e*P **P 12 14 30.0 +0.4**
comp=Z,455nm,1.0s,mb6.4
KOD Kodaikanal 51.06 284 *e*x x 12 14 49.0
TRD Trivandrum 51.28 282 *e*P **P 12 14 31.7 +0.3**
TRD AMb AMB 12 14 36.9
comp=Z,49nm,0.7s,mb5.6
ALBI Allahabad 51.44 304 *e*P **P 12 14 32.5 -0.1**
HYB Hyderabad 51.63 293 *i* P **P 12 14 38.0 +4.0**
HYB Hyderabad 51.63 293 *e*P **P 12 14 38.0 +4.0**
SONM Songino Array 52.19 342 P **P 12 14 38.0 -0.2**
comp=Z,42nm,0.8s,mb5.4,baz=151,slow=7.9,SNR=234
SONM ScP ScP 12 19 45.4 +0.3
comp=Z,1.7nm,0.8s,baz=148,slow=4.6,SNR=4.3
MNGI Mangalore 54.10 287 *e*P **P 12 14 51.9 -0.4**
MNGI AMb AMB 12 14 59.1
comp=Z,33nm,1.4s,mb5.1
CIT Chita 54.32 349 *e*P **P 12 14 53.1 -0.8**
CIT *e* pP 12 15 01.2 -0.1
CIT *e* 12 15 11.2
CIT *e* 12 15 53.2
CIT *e* 12 16 50.8
CIT pmax pmax
comp=Z,196nm,1.5s,mb5.8
BHPL Bhopal 54.40 300 *e*P **P 12 14 54.1 -0.4**
BHPL AMb AMB 12 14 59.1
comp=Z,69nm,1.2s,mb5.5
ZAK Zakamensk 55.40 341 *e*P **P 12 15 01.4 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.3s,mb5.0
KAD Karad 55.64 292 *e*P **P 12 15 02.5 -0.8**
KAD AMb AMB 12 15 11.1
comp=Z,35nm,0.8s,mb5.4
POO Poona 56.24 293 *e*P **P 12 15 05.0 -2.7**
TLY Talaya 56.42 342 P **P 12 15 09.2 +0.2**
comp=Z,226nm,0.9s,mb6.2,SNR=5.3
TLY Talaya 56.42 342 P **P 12 15 10.3 +1.3**
SNR=6.1
TLY Talaya 56.42 342 *e*P **P 12 15 09.7 +0.7**
TLY *e*S **S 12 22 50.0 -8.4**
TLY pmax pmax
comp=Z,49nm,1.2s,mb5.4
TLY Talaya 56.42 342 *e*P **P 12 15 09.1 0.0**
NDI New Delhi 56.53 306 *e*P **P 12 15 09.0 -0.8**
NDI *e*P 12 15 09.6
NDI AMb AMB 12 15 17.9
comp=Z,72nm,2.9s,mb5.2
IRK Irkutsk 56.73 343 *e*P **P 12 15 10.6 -0.6**
IRK pmax pmax
comp=Z,128nm,3.4s
WMQ Urumqi 57.20 327 P **P 12 15 14.8 +0.2**
WMQ AP pP 12 15 21.0 -1.1
WMQ XP sP 12 15 23.5 -1.4
WMQ PCP PcP 12 16 09.0 +0.1
WMQ PP PP 12 17 23.0 +1.4
WMQ S **S 12 23 08.0 -0.8**
WMQ SCS ScS 12 24 59.0 -3.4
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,287nm,4.7s
WMQ LR LR
comp=N,2μm,25.2s,MS5.2
WMQ LR LR
comp=E,1μm,21.2s,MS5.2
WMQ LR LR
comp=Z,908nm,22.6s,MS4.8
MOY Mondy 57.25 341 *e*P **P 12 15 15.2 +0.3**
MOY pmax pmax
comp=Z,115nm,2.2s,mb5.5
AJM Ajmer 57.87 302 *e*P **P 12 15 19.0 -0.2**
AJM AMb AMB 12 15 22.5
comp=Z,33nm,1.0s,mb5.3
DLH Dalhousie 59.05 310 *e*P **P 12 15 23.0 -4.5**
THN Thein Dam 59.20 309 *e*P **P 12 15 28.2 -0.3**
BOD Bodaibo 59.82 352 *e*P **P 12 15 30.9 -1.9**
BOD pmax pmax
comp=Z,44nm,1.3s,mb5.3
PET Petropavlovsk 59.98 21⇑ *e*P **P 12 15 34.8 +0.9**
MK31 Makanchi Array 62.04 326 *e*P **P 12 15 47.2 -0.7**
MKAR Makanchi Array 62.04 326 P **P 12 15 47.1 -0.8**
comp=Z,48nm,0.5s,mb5.8,baz=122,slow=8.5,SNR=195
MKAR PcP PcP 12 16 28.2 +0.1
comp=Z,19nm,0.8s,baz=136,slow=5.0,SNR=3.7
MKAR ScP ScP 12 20 28.6 +0.1
comp=Z,5.8nm,0.9s,baz=111,slow=6.6,SNR=6.1
MKAR S **S 12 24 07.8 -3.3**
comp=Z,0.3nm,0.7s,baz=99,slow=16,SNR=1.6
MKAR LR LR 12 45 28.9
comp=Z,314nm,19.6s,MS4.5,baz=114,slow=39
MKAR Makanchi Array 62.04 326 P **P 12 15 47.1 -0.8**

MKAR S **S 12 24 07.9 -3.2**
KSH Kashi 62.09 317 P **P 12 15 50.1 +1.9**
KSH *e*AP pP 12 15 56.6 +0.8
KSH *e*XP sP 12 15 59.1 +0.4
KSH *e*PCP PcP 12 16 29.0 +0.6
KSH *e*PP PP 12 18 09.3 +4.4
KSH *e*SCP ScP 12 20 27.5 -1.3
KSH *e*S **S 12 24 12.4 +0.6**
KSH *e*PS 12 24 32.0
KSH *e*SCS ScS 12 25 37.6 -1.1
KSH AMB AMB
comp=Z,105nm,1.0s,mb5.9
KSH LR LR
comp=N,2μm,15.5s
KSH LR LR
comp=E,834nm,6.4s
YAK Yakutsk 63.08 1 *e*P **P 12 15 54.5 -0.3**
YAK *e**PP pP 12 16 06.6 +4.2
YAK *e* 12 16 32.3
YAK *e* 12 18 12.1
YAK *e*S **S 12 24 21.2 -3.0**
YAK *e**SS sS 12 24 44.4 +7.7
YAK *e* 12 25 43.4
YAK pmax pmax
comp=Z,181nm,0.9s,mb6.2
YAK pmax pmax
comp=N,102nm,1.4s
YAK pmax pmax
comp=E,32nm,1.3s
YAK pmax pmax
comp=Z,118nm,3.7s
YAK smax
comp=E,199nm,5.3s
YAK smax
comp=N,107nm,3.4s
YAK MLR MLR
comp=Z,610nm,19.0s,MS4.8
YAK MLR MLR
comp=N,481nm,17.0s,MS4.8
YAK MLR MLR
comp=E,296nm,22.0s,MS4.8
YAK Yakutsk 63.08 1 *e*P **P 12 15 54.0 -0.8**
comp=E,167nm,0.5s,mb6.4
MA2 Magadan 63.28 13 *i* P **P 12 15 57.6 +1.4**
MA2 *e*S **S 12 24 27.9 +1.2**
MA2 PS 12 24 43.8
MA2 pmax pmax
comp=Z,200nm,0.9s,mb6.2
MA2 Magadan 63.28 13 *e*P **P 12 15 56.7 +0.5**
KZA Kyzart 63.78 319 P **P 12 16 00.3 +0.9**
SNR=18
TKM2 Tokmak 2 63.95 320 P **P 12 16 00.6 0.0**
SNR=28
KBK Karagaybulak 64.25 319 P **P 12 16 03.5 +0.9**
SNR=12
UCH Uchtor 64.33 319 P **P 12 16 04.9 +1.9**
SNR=42
AAK Ala-Archa 64.53 319 P **P 12 16 04.5 +0.1**
SNR=16
AAK Ala-Archa 64.53 319 P **P 12 16 03.7 -0.7**
comp=Z,114nm,1.3s,mb5.7,SNR=15
AAK Ala-Archa 64.53 319 P **P 12 16 03.9 -0.5**
SNR=30
AAK Ala-Archa 64.53 319 *e*P **P 12 16 03.4 -1.0**
CHMS Chumysh 64.54 320 P **P 12 16 06.3 +1.9**
SNR=7.1
FRU Bishkek 64.55 319 *e*P **P 12 16 06.0 +1.5**
FRU *i* 12 16 32.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.5
USP Ospenovka 64.83 320 P **P 12 16 05.6 -0.7**
SNR=44
AML Almayashu 64.83 318 P **P 12 16 07.9 +1.6**
SNR=27
EKS2 Erkin-Say 65.02 319 P **P 12 16 08.1 +0.6**
SNR=20
CASY Casey 66.06 187 *e*P **P 12 16 14.3 +0.1**
KURK Kurchatov 66.30 328 P **P 12 16 14.6 -1.2**
comp=Z,1μm,0.9s
NVS Novosibirsk 66.59 334 *i* P **P 12 16 15.7 -2.0**
NVS *i* S S 12 24 59.5 -8.0
NVS pmax pmax
comp=E,57nm,1.2s
NVS pmax pmax
comp=Z,97nm,1.2s,mb5.7
NVS pmax pmax
comp=N,57nm,1.3s
NVS smax
comp=N,9.0nm,1.0s
NVS smax
comp=E,42nm,1.5s
SEY Seymchan 66.64 12⇑ *i* P **P 12 16 19.0 +1.0**
KKAR Karatay Array 67.37 318 P **P 12 16 21.8 -0.8**
KKAR pmax pmax
comp=Z,36nm,0.9s,mb5.4
MIR Mirnyy 69.58 194 *e*P **P 12 16 38.5 +2.0**
MIR *i* 12 16 57.0
MIR pmax pmax
comp=Z,30nm,1.5s,mb5.0
WBK Wadi Bani Khal 70.72 294 P **P 12 16 44.3 +0.9**
SNR=5.7
VOSK Vostochnaya 71.40 328 P **P 12 16 45.7 -1.8**
VOSK pmax pmax
comp=Z,31nm,0.7s,mb5.3
JMDO Jabal Madar 71.47 294 P **P 12 16 48.6 +0.6**
SNR=13
SMDO Samad 71.63 295 P **P 12 16 50.1 +1.1**
SNR=9.5
BIDO Bidbid 71.63 295 P **P 12 16 49.8 +0.8**
SNR=12
BVA0 Borovoye Array 71.86 328 *i* P **P 12 16 48.9 -1.4**
BVA0 pmax pmax
comp=Z,34nm,1.3s,mb5.1
BRVK Borovoye 71.93 328 P **P 12 16 49.7 -1.0**
comp=Z,545nm,1.1s,mb6.4,SNR=43
BRVK Borovoye 71.93 328 P **P 12 16 49.7 -1.1**
SNR=47
BRVK P 12 16 50.6
SNR=9.4
BRVK Borovoye 71.93 328 *e*P **P 12 16 49.3 -1.5**
CHKZ Chkalovo 72.04 328 P **P 12 16 49.3 -2.1**
CHKZ pmax pmax
comp=Z,66nm,1.1s,mb5.5
BSY Bisya 72.35 294 P **P 12 16 53.0 -0.3**
SNR=38
HOQ Hoqain 72.38 295 P **P 12 16 54.2 +0.8**
SNR=9.9
ZRNK Zerenda 72.56 327 P **P 12 16 53.2 -1.3**
ZRNK pmax pmax
comp=Z,54nm,0.8s,mb5.5
ARQ Araqi 73.06 295 P **P 12 16 57.3 -0.2**
SNR=42
HATD Hatta, Dubai 73.64 296 P **P 12 17 01.9 +1.0**
SNR=8.1
ASHO Ashiyiah 73.69 296 P **P 12 17 01.4 +0.3**
SNR=15
BILL Bilibino 74.10 14⇓ *e*P **P 12 17 03.7 +0.1**
BILL *e* 12 17 20.5
BILL Bilibino 74.10 14⇓ *e*P **P 12 17 03.7 +0.1**
BILL P 12 17 04.3
BILL *e*PcP PcP 12 17 20.5 +1.9
RBK Rabkut 74.45 288 P **P 12 17 07.2 +1.6**
SNR=8.6
ABKT Ailbek 74.59 310 P **P 12 17 06.3 -0.1**
comp=Z,154nm,0.7s,mb6.0,SNR=9.6
AB31 Akbulak array 76.44 321 P **P 12 17 14.1 -3.0**
AB31 pmax pmax
comp=Z,198nm,1.6s,mb5.8
AKTO Aktyubinsk 77.99 322 P **P 12 17 23.9 -1.8**
AKTO pmax pmax
comp=Z,18nm,1.1s,mb4.9
VNDA Vanda 78.47 173 P **P 12 17 28.8 +0.3**
comp=Z,6.0nm,0.8s,mb4.6,baz=315,slow=7.7,SNR=22
VNDA Vanda 78.47 173 *e*P **P 12 17 28.0 -0.4**
SBA Scott Base 79.38 172 *e*P **P 12 17 31.9 -1.5**
MAW Mawson 79.44 201 *e*P **P 12 17 34.3 +0.6**
comp=Z,12nm,1.1s,mb4.7
MAW Mawson 79.44 201 P **P 12 17 34.3 +0.6**
comp=Z,13nm,1.0s,mb4.8,baz=38,slow=4.0,SNR=14
MAW LR LR 12 50 12.5
comp=Z,190nm,21.6s,MS4.4,baz=70,slow=34
MAW Mawson 79.44 201 *e*P **P 12 17 34.3 +0.6**
MAW pmax pmax
comp=Z,12nm,1.1s
ARU Arti 79.49 328⇓ *i* P **P 12 17 32.1 -1.9**

ARU *e* 12 20 33.0
ARU *e*PPP 12 22 21.0
ARU *e*S S 12 27 32.8 -1.2
ARU *e*SS SS 12 32 36.8 -4.9
ARU pmax pmax
comp=Z,56nm,0.9s,mb5.5
ARU Arti 79.49 328 *e*P **P 12 17 32.9 -1.2**
comp=Z,53nm,0.8s,mb5.5
ORR Orenburg 80.29 323 P **P 12 17 37.3 -1.0**
ORR pmax pmax
comp=Z,12nm,1.2s,mb4.7
PPT Papeete 82.90 107 *e*SS SS 12 33 29.7 -2.8
comp=Z,356nm,29.8s
PPT *e*LR LR 12 44 03.5
comp=Z,1μm,31.2s
TBI Tubuai 83.14 113 *e*SS SS 12 33 37.9 +1.8
comp=Z,398nm,37.8s
TBI *e*LR LR 12 44 10.1
comp=Z,517nm,29.8s
SVW2 Sparrevohn 84.73 28 *e*P **P 12 18 00.6 -0.9**
SVW2 *e*P 12 18 03.2
GNI Garni 85.22 310 *e*P **P 12 18 04.9 +1.0**
KDAK Kodiak Island 85.63 32 LR LR 12 52 38.5
comp=Z,454nm,20.5s,MS4.8,baz=256,slow=33
KDAK Kodiak Island 85.63 32 *e*P **P 12 18 07.7 +1.8**
ZEI Tsey 86.10 313 *e*P **P 12 18 08.2 -0.1**
ZEI *e**PP pP 12 18 17.9 +1.8
ZEI *e* 12 21 32.7
ZEI pmax pmax
comp=Z,48nm,1.4s,mb5.5
IMA2 Indian Mountai 86.55 24 *e*P **P 12 18 11.4 +0.9**
KIV Kislovodsk 87.08 314 *e*P **P 12 18 11.2 -1.9**
KIV *e* 12 28 33.8
KIV *e*SS SS 12 34 31.6 -2.5
KIV pmax pmax
comp=Z,12nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,112nm,19.0s,MS4.3
KIV Kislovodsk 87.08 314⇑ *e*P **P 12 18 11.3 -1.8**
PMR Palmer 87.88 28 *e*P **P 12 18 17.2 +0.2**
PMR pmax pmax
comp=Z,16nm,1.1s,mb5.2
PMR Palmer 87.88 28 *e*P **P 12 18 17.2 +0.2**
comp=Z,16nm,1.1s,mb5.2
SYO Syowa Base 88.14 201⇑ *e*P **P 12 18 17.6 -0.6**
SYO Syowa Base 88.14 201⇑ *e*pP pP 12 18 25.0 -1.0
MCK McKinley 88.21 26 *e*P **P 12 18 18.5 0.0**
QSPA South Pole Qui 88.74 180 *e*P **P 12 18 20.9 -0.2**
QSPA *e*P 12 18 21.4
QSPA *e*pP pP 12 18 25.0 -3.9
SOC Sochi 89.20 313 *e*P **P 12 18 28.5 +5.3**
SOC *e* 12 21 58.9
SOC *e*S S 12 28 47.0 -24
SOC *e*PS PS 12 30 36.5 +18
SOC *e*SS SS 12 34 58.4 -6.7
KMBO Kilima Mbogo 90.22 269 P **P 12 18 29.4 +1.5**
comp=Z,5.8nm,1.0s,mb4.8,baz=66,slow=5.5,SNR=8.6
KMBO Kilima Mbogo 90.22 269 P **P 12 18 30.1 +2.1**
SNR=7.6
KMBO Kilima Mbogo 90.22 269 *e*P **P 12 18 29.0 +1.1**
MENT Mentasta 90.50 27 *e*P **P 12 18 30.8 +1.5**
ANN Anapa 90.88 315 *e*P **P 12 18 22.4 -8.6**
ANN *i **PP pP 12 18 32.6 -6.3
ANN pmax pmax
comp=Z,55nm,1.4s,mb5.7
MOS Moscow 90.91 326 *e*P **P 12 18 26.3 -4.9**
OBN Obninsk 91.51 325⇑ *e*P **P 12 18 33.0 -0.9**
OBN SS SS 12 35 38.0 -0.4
OBN pmax pmax
comp=Z,45nm,1.4s,mb5.6
OBN Obninsk 91.51 325 *i* P **P 12 18 32.7 -1.2**
EGAK Eagle 91.65 25 *e*P **P 12 18 34.7 +0.1**
comp=Z,11nm,1.1s,mb5.1
TAOE Nuku Hiva Isla 92.14 99 *e*LR LR 12 48 55.5
comp=Z,1μm,23.5s
DAWY Dawson 92.44 26 *e*P **P 12 18 39.0 +0.7**
BRTR Keskin Array B 93.73 310 P **P 12 18 44.0 -0.3**
comp=Z,1.0nm,0.8s,baz=134,slow=9.2,SNR=4.5
JOF Joensuu 93.89 333 *e*p **P 12 18 40.6 -4.3**
comp=Z,1.4nm,0.4s,mb4.7
INK Inuvik 94.43 22 *e*P **P 12 18 46.8 -0.6**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 94.43 22 *e*P **P 12 18 46.8 -0.6**
comp=Z,12nm,1.1s,mb5.2
SKAG Skagway 94.68 31 *e*P **P 12 18 50.1 +1.5**
comp=Z,29nm,1.2s,mb5.6
ARCES ARCESS Array B 95.31 340 P **P 12 18 49.0 -2.4**
comp=Z,7.2nm,0.8s,mb5.2,baz=72,slow=4.0,SNR=12
ARCES LR LR 13 10 56.5
comp=Z,254nm,20.0s,MS4.7,baz=290,slow=41
AKASG Malin Array Be 96.17 321 P **P 12 18 53.7 -1.6**
comp=Z,0.1nm,0.2s,baz=72,slow=3.7,SNR=4.5
AKASG Malin Array Be 96.17 321 P **P 12 18 53.7 -1.6**
KAF Kangasniemi 96.29 332 *e*p **P 12 18 52.7 -3.2**
comp=Z,1.1nm,0.3s,mb4.8
KAF Kangasniemi 96.29 332 *e*P **P 12 18 52.7 -3.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.7
RKT Rikitea 96.46 113 *e*SS SS 12 36 50.1 +1.0
comp=Z,159nm,32.8s
RKT *e*LR LR 12 50 20.9
comp=Z,305nm,29.0s
FINES FINESS Array B 96.51 332 P **P 12 18 54.1 -2.8**
comp=Z,2.9nm,0.9s,mb4.7,baz=64,slow=4.4,SNR=5.8
FINES LR LR 13 03 39.7
comp=Z,196nm,21.5s,MS4.5,baz=260,slow=36
LSZ Lusaka 98.66 254 LR LR 12 58 33.5
comp=Z,306nm,20.1s,MS4.8,baz=257,slow=32
UZH Uzhgorod 100.92 319 *e*P Pdif 12 19 17.0 +0.3
UZH pmax pmax
comp=Z,23nm,1.1s
NB2 NORSAR Subarra103.51 333 P Pdif 12 19 25.7 -2.5
comp=Z,0.7nm,0.6s,baz=67,slow=4.6
NB2 NORSAR Subarra103.51 333 P Pdif 12 19 25.7 -2.5
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B103.51 333 Pdiff Pdif 12 19 25.9 -2.3
comp=Z,1.6nm,0.9s,baz=77,slow=4.2,SNR=4.7
GERES GERESS Array B 106.38 321 PP PP 12 24 03.3 -2.2
comp=Z,0.4nm,0.2s,baz=88,slow=7.2,SNR=3.5
HWUT Hardware Ranch 113.53 45 *e*PKPdf PKiKP 12 24 08.3 +2.8
PDAR Pinedale Array 114.48 43 PKP PKiKP 12 24 07.2 -0.1
comp=Z,0.6nm,0.7s,baz=180,slow=1.3,SNR=6.3
PV01 Paradox Valley 116.93 47 *e*PKPdf PKPdf 12 24 13.3 +1.2
ULM Lac du Bonnet 118.85 30 PKP PKPdf 12 24 14.9 -0.8
comp=Z,2.0nm,0.5s,baz=305,slow=5.7,SNR=5.9
MNTX Cornudas Mount 121.68 53 *e*PKPdf PKPdf 12 24 22.5 +1.3
TXAR Lajitas Array 123.89 55 PKP PKPdf 12 24 27.8 +2.4
comp=Z,1.5nm,0.9s,baz=288,slow=0.8,SNR=11
TOA0 Torodi Ar. Sit 125.06 285 *e*PKPdf PKPdf 12 24 29.9 +2.3
TORD Torodi Ar. Bea 125.06 285 PKP PKPdf 12 24 28.9 +1.2
comp=Z,2.5nm,0.7s,baz=48,slow=2.5,SNR=10
TORD PP PP 12 26 19.6 +3.0
comp=Z,1.1nm,0.8s,baz=72,slow=5.5,SNR=4.3
TORD PKKPbc 12 34 09.9
comp=Z,0.5nm,0.6s,baz=274,slow=3.9,SNR=3.6
SCHQ Schefferville 125.27 10 PKP PKPdf 12 24 29.3 +1.3
comp=Z,3.6nm,0.7s,baz=228,slow=2.9,SNR=4.4
JCT Junction City 126.57 52 *e*PKiKP PKPdf 12 24 32.4 +1.8
PLAL Pickwick Lake 132.81 41 *e*PKPdf PKPdf 12 24 43.5 +1.1
CFAA Coronel Fontan 144.12 157 PKP PKPdf 12 25 02.5 -0.6
comp=Z,1.0nm,0.7s,baz=237,slow=3.3,SNR=13
CFAA Coronel Fontan 144.12 157 PKP PKPdf 12 25 02.5 -0.6
RCC Rio Carpintero 150.61 49 *e*P PKPbc 12 25 21.9 +2.6
CPUP Villa Florida 152.24 171 PKPbc PKPbc 12 25 25.2 +2.2
comp=Z,4.3nm,0.8s,baz=85,slow=2.4,SNR=8.5
ATAH Atahualpa 152.91 108 PKPbc PKPbc 12 25 28.8 +4.2
comp=Z,9.5nm,0.8s,baz=192,slow=4.8,SNR=7.2
LPAZ La Paz 156.76 139 PKP PKPdf 12 25 26.9 +4.2
comp=Z,1.1nm,0.7s,baz=56,slow=4.8,SNR=4.6
SDV Santo Domingo 160.40 66 PKP PKPdf 12 25 30.7 +3.7
comp=Z,5.8nm,0.8s,baz=294,slow=16,SNR=7.8
SIV San Ignacio 160.94 154 PKP PKPdf 12 25 30.0 +2.5
comp=Z,2.0nm,0.8s,baz=104,slow=0.5,SNR=8.1

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*IDC **24** 12:12:34.3± 1.2, 1.10S× 12760E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=70.2km s-min=21.1km az=74.0*
*ISCJB **24** 12:12:36.8± 0.8, 12S± 0.1× 1274E± 02, h33km, mb4.8/9, Error ellipse: s-maj=34.0km s-min=13.4km az=127.3*
*NEIC **24** 12:12:38.6± 0.7, 1.10S× 12771E, h30km, Error ellipse: s-maj=46.8km s-min=11.7km az=74.0*

ISC 24 12:12:38.9±0.8, 12S±01×1275E±02, h35km, n12, σ1§16/12, mb4.8/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.80**	**161**	P	**Pn**	**12 17 06.8**	**-1.2**
	0.3nm,0.3s,baz=339,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**23.19**	**165**	P	**P**	**12 17 43.8**	**+1.3**
	2.7nm,0.7s,mb3.8,baz=342,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	**38.86**	**14**	P	**P**	**12 19 59.8**	**-0.9**
	1.7nm,1.0s,baz=188,slow=8.1,SNR=4.0						
GUN	**Gumba**	**49.29**	**309**	*e*P	**P**	**12 21 22.2**	**-2.1**
	87nm,1.3s,mb5.6						
PKI	**Pulchoki**	**49.50**	**309**	*e*P	**P**	**12 21 24.9**	**-0.9**
	34nm,1.2s,mb5.2						
KKN	**Kakani**	**49.70**	**309**	*e*P	**P**	**12 21 26.8**	**-0.6**
	15nm,0.9s,mb5.0						
DMN	**Daman**	**49.75**	**308**	*e*P	**P**	**12 21 26.9**	**-0.9**
	52nm,1.5s,mb5.3						
GKN	**Gorkha**	**50.30**	**309**	*e*P	**P**	**12 21 32.5**	**+0.6**
	15nm,0.9s,mb5.0						
KOLN	**Koldanda**	**51.01**	**308**	*e*P	**P**	**12 21 39.3**	**+2.0**
	20nm,0.7s,mb5.2						
SONM	**Songino Array**	**52.18**	**342**	P	**P**	**12 21 47.2**	**+1.2**
	1.0nm,0.7s,mb3.8,baz=150,slow=7.3,SNR=4.5						
MK31	**Makanchi Array**	**62.02**	**327**	*e*P	**P**	**12 22 56.3**	**+0.8**
MKAR	**Makanchi Array**	**62.02**	**327**	P	**P**	**12 22 56.2**	**+0.7**
	2.1nm,0.5s,mb4.5,baz=119,slow=7.9,SNR=12						

IDC 24 12:20:43.9±1.5, 110S×12785E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=132.2km s-min=21.6km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.77**	**162**	P	Pn	12 25 15.3	-1.6
	0.3nm,0.3s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.19**	**166**	P	P	12 25 52.8	+0.6
	1.5nm,0.7s,baz=344,slow=8.9,SNR=14						
SONM	**Songino Array**	**52.20**	**342**	P	P	12 29 56.8	+0.4
	0.5nm,0.6s,baz=159,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**62.15**	**326**	P	P	12 31 06.8	+0.1
	1.3nm,0.6s,baz=119,slow=7.8,SNR=17						

MAN 24 12:28:23.3, 1678N×12234E, h40km, mb2.0, ML3.7, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.29**	**16**	⇓*e*P	Pn	12 28 33.3	+1.9

IDC 24 12:33:57.8±2.4, 536N×12579E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=204.0km s-min=28.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.52**	**162**	P	P	12 39 37.8	+0.9
	2.2nm,0.7s,baz=341,slow=10.0,SNR=9.5						
ASAR	**Alice Springs**	**29.92**	**165**	P	P	12 40 07.1	-0.2
	0.3nm,0.6s,baz=344,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**55.69**	**325**	P	P	12 43 35.9	+0.1
	0.2nm,0.5s,baz=129,slow=8.5,SNR=3.7						

*CSEM **24** 12:34:32.6, 1496N×4321E, h9km, ML3.5, After DHMR*

DHMR 24 12:34:32.6±1.8, 1496N×4321E, h10km±14km, ML3.5, 1C-4D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**0.83**	**27**	⇓*i*P	Pg	12 34 48.6	+0.1
HAJJ				*i* S	Sg	12 34 59.4	+0.1
HAJJ				AML	AML	12 35 00.9	
	comp=Z,2μm,0.2s						
HAJJ	**Hajjah**	**0.83**	**27**	⇓*i*P	Pg	12 34 48.6	0.0
HAJJ				*i* S	Sg	12 34 59.4	0.0
	comp=Z,1μm,0.2s						
DHBB	**Dhamar BB**	**1.21**	**108**	⇓*i*P	Pb	12 34 55.0	-0.5
DHBB				*i* S	Sb	12 35 11.9	+0.8
UDYN	**Al 'Udayn**	**1.23**	**143**	⇑*i*P	Pn	12 34 56.1	+0.3
UDYN				*i* S	Sb	12 35 13.0	+1.2
TRBA	**At Turbah**	**1.93**	**153**	⇓*i*P	Pn	12 35 06.0	+0.5
TRBA				*i* S	Sn	12 35 32.9	+3.2
LBOS		**2.25**	**118**	*i* P	Pn	12 35 13.0	+3.0
LBOS				*i* S	Sn	12 35 43.2	+5.4
BDHA	**Al Bayda'**	**2.48**	**113**	*i* P	Pn	12 35 16.2	+3.1
BDHA				*i* S	Sn	12 35 49.9	+6.4
BDHA				AML	AML	12 35 51.5	
	comp=N,280nm,0.3s						
BDHA	**Al Bayda'**	**2.48**	**113**	*i* P	Pn	12 35 16.2	+3.1
BDHA				*i* S	Sn	12 35 49.9	+6.4
	comp=N,140nm,0.3s						

*NEIC **24** 12:36:56.7, 17.15N×94.64W, h139km, MD4.0(MEX), After MEX.*

MEX 24 12:36:56.5±1.2, 1714N×9465W, h141km±10km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**257**	*i* P	Pn	12 37 14.5	-1.2
CMIG				*i* S	Sn	12 37 28.0	-2.2
HUIG	**Huatulco**	**1.96**	**226**	*i* P	Pn	12 37 28.3	-2.3
HUIG				*i* S	Sn	12 37 55.4	-1.3
OXX	**Oaxaca**	**1.99**	**269**	*i* P	Pn	12 37 30.5	-0.4
OXX				*i* S	Sn	12 37 56.5	-0.7
VHO	**Vista Hermosa**	**2.00**	**268**	*i* P	Pn	12 37 30.4	-0.6
VHO				*i* S	Sn	12 37 56.7	-0.7
CCIG	**Comitan**	**2.55**	**109**	*i* P	Pn	12 37 38.2	+0.4
CCIG				*i* S	Sn	12 38 06.8	-2.8
TPIG	**Tehuac#an**	**2.88**	**297**	*i* P	Pn	12 37 40.9	-1.1
TPIG				*i* S	Sn	12 38 14.5	-2.5
UTMO	**Huajuapan**	**3.09**	**283**	*i* P	Pn	12 37 43.8	-0.8
UTMO				*i* S	Sn	12 38 17.8	-4.0
IIO	**Organos**	**4.57**	**303**	*i* P	Pn	12 38 04.5	+0.4

IDC 24 12:40:26.2±2.5, 103S×12788E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/14, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=215.5km s-min=26.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.83**	**162**	P	Pn	12 44 59.4	-0.6
	0.1nm,0.3s,baz=344,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**23.25**	**166**	P	P	12 45 35.0	-0.2
	0.3nm,0.6s,baz=351,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**62.11**	**326**	P	P	12 50 49.0	+0.2
	0.2nm,0.4s,baz=127,slow=7.7,SNR=6.1						

*ISCJB **24** 13:08:09.8±0.2, 4675N±002×983E±002, h12km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=156.9*
*ROM **24** 13:08:10.5±0.2, 4677N×989E, h10km±1km, Md2.6/5, Ml2.3/3, Error ellipse: s-maj=3.0km s-min=1.8km az=24.0*
*CSEM **24** 13:08:10.6±0.1, 4668N×993E, h10km, ML3.0/20, Error ellipse: s-maj=2.4km s-min=1.9km az=162.0*
*NEIC **24** 13:08:11.0, 4670N×990E, h6km, ML2.3(ROM), ML2.6(ZUR), ML2.8(LDG), After ZUR.*
*LDG **24** 13:08:11.5±0.1, 4666N×988E, h5km, Ml2.8/14, Error ellipse: s-maj=2.3km s-min=1.8km az=70.0*
*ZUR **24** 13:08:11.0, 4675N×987E, h6km±1km, ML2.6/15*
*PRU **24** 13:08:12.7, 4679N×999E, h0km*

ISC 24 13:08:10.4±0.2, 4674N±002×985E±002, h11km±2km, n75, σ1§14/148, 11C-11D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.04**	**28**	⇓*i*Pg	**Pg**	**13 08 12.7**	**+0.1**
DAVOX				*i* Sg	**Sg**	**13 08 13.7**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**0.31**	**113**	⇑*i*Pg	**Pg**	**13 08 17.0**	**+0.3**
	651nm,0.5s						
BERNI	**Berninapass**	**0.35**	**160**	⇑*i*Pg	**Pg**	**13 08 18.2**	**+0.8**
	1μm,0.3s						
BERNI				*i* Sg	**Sg**	**13 08 23.0**	**+0.9**
	1μm,0.3s						
VDL	**Val di Lei**	**0.36**	**226**	⇑*i*Pg	**Pg**	**13 08 18.9**	**+1.2**
	897nm,0.3s						
TUE	**Stuetta**	**0.44**	**232**	Pg	**Pg**	**13 08 20.0**	**+0.9**
TUE				Sg	**Sg**	**13 08 26.3**	**+1.4**
	344nm,0.2s						
PLONS	**Plons/SG**	**0.45**	**314**	⇑*i*Pg	**Pg**	**13 08 19.9**	**+0.7**
	245nm,0.2s						
PLONS				*e*Sg	**Sg**	**13 08 26.3**	**+1.2**
	245nm,0.2s						
BRMO	**Bormio**	**0.45**	**126**	Pg	**Pg**	**13 08 19.4**	**+0.1**
BRMO				Sg	**Sg**	**13 08 26.2**	**+1.0**
	47nm,0.2s						
DAVA	**Damuels**	**0.55**	**2**	⇑*e*Pg	**Pg**	**13 08 21.6**	**+0.5**
	SNR=15						
DAVA				⇑*i*Sg	**Sg**	**13 08 28.9**	**+0.6**
	comp=Z,67nm,0.2s						
DAVA	**Damuels**	**0.55**	**2**	Pg	**Pg**	**13 08 21.6**	**+0.5**
	14nm,7.0s						
DAVA				Sg	**Sg**	**13 08 28.9**	**+0.6**
	67nm,0.2s						
LLS	**Linth-Limmern**	**0.59**	**281**	⇑*i*Pg	**Pg**	**13 08 21.6**	**-0.3**
	112nm,0.5s						
LIENZ	**Kamor/St.Gall**	**0.61**	**336**	*e*P	**Pg**	**13 08 22.6**	**+0.4**
	280nm,0.5s						
MABI	**Malga Bissina**	**0.83**	**146**	Pg	**Pg**	**13 08 26.6**	**+0.2**
MABI				Sg	**Sg**	**13 08 37.4**	**+0.2**
	23nm,0.2s						
MUO	**Muotathal**	**0.86**	**286**	⇓*i*P	**Pg**	**13 08 27.4**	**+0.3**
	428nm,0.5s						
FUSIO	**Fusio**	**0.87**	**251**	⇓*i*Pg	**Pg**	**13 08 27.7**	**+0.5**
	509nm,0.1s						
MDI	**Monti di Nese**	**0.97**	**186**	Pg	**Pg**	**13 08 30.2**	**+1.1**
	96nm,0.3s						
BNALP	**Bannalp**	**0.99**	**278**	*e*P	**Pg**	**13 08 28.5**	**-1.0**
	147nm,0.8s						
MUGIO	**Muggio**	**0.99**	**215**	Pg	**Pg**	**13 08 30.0**	**+0.4**
MUGIO				Sg	**Sg**	**13 08 43.6**	**+1.1**
MUGIO	**Muggio**	**0.99**	**215**	⇑*i*Pg	**Pg**	**13 08 30.2**	**+0.6**
	415nm,0.4s						
SQTA	**Sankt Quirin**	**1.05**	**62**	⇓*e*Pg	**Pg**	**13 08 30.1**	**-0.5**
	SNR=12						
SQTA				⇓*i*Sg	**Sg**	**13 08 43.8**	**-0.5**
	70nm,0.3s						
SQTA	**Sankt Quirin**	**1.05**	**62**	Pg	**Pg**	**13 08 30.1**	**-0.5**
	12nm,5.0s						
SQTA				Sg	**Sg**	**13 08 43.8**	**-0.4**
	70nm,0.3s						
MOTA	**Moosalm**	**1.05**	**54**	⇓*e*Pg	**Pg**	**13 08 30.1**	**-0.5**
	SNR=6.5						
MOTA				⇓*i*Sg	**Sg**	**13 08 44.6**	**+0.3**
	44nm,0.3s						
MOTA	**Moosalm**	**1.05**	**54**	Pg	**Pg**	**13 08 30.1**	**-0.5**
	6.0nm,5.0s						
MOTA				Sg	**Sg**	**13 08 44.6**	**+0.3**
	44nm,0.3s						
SCE	**Schlegeis**	**1.31**	**76**	*e*Pg	**Pg**	**13 08 34.5**	**-1.1**
WATA	**Walderalm**	**1.32**	**63**	⇓*i*Pn	**Pn**	**13 08 35.3**	**+0.5**
WATA				⇓*i*Sg	**Sg**	**13 08 53.2**	**+0.2**
	29nm,0.3s						
WTTA	**Wattenberg**	**1.33**	**66**	⇑*i*Pg	**Pn**	**13 08 35.4**	**+0.5**
WTTA	**Wattenberg**	**1.33**	**66**	⇓*e*Pn	**Pn**	**13 08 35.0**	**+0.1**
	SNR=21						
WTTA				⇑*i*Pn	**Pn**	**13 08 35.4**	**+0.5**
WTTA				⇑*i*Sg	**Sg**	**13 08 53.2**	**0.0**
	20nm,0.3s						
WTTA	**Wattenberg**	**1.33**	**66**	Pn	**Pn**	**13 08 35.0**	**+0.1**
	21nm,3.0s						
WTTA	**Wattenberg**	**1.33**	**66**	Pg	**Pg**	**13 08 35.4**	**-0.6**
WTTA				Sg	**Sg**	**13 08 53.2**	**-0.1**
	20nm,0.3s						
MMK	**Mattmark**	**1.48**	**243**	⇓*i*P	**Pn**	**13 08 30.2**	**-6.7**
	116nm,0.4s						
HINF	**Hinteralfeld**	**2.31**	**299**	*e*Pg	**Pg**	**13 08 55.6**	**+0.9**
HINF				*e*Sn	**Sn**	**13 09 16.8**	**+0.1**
HINF				*e*Sg	**Sg**	**13 09 25.6**	**+1.0**
	13nm,0.3s						
HINF	**Hinteralfeld**	**2.31**	**299**	*e*Pn	**Pn**	**13 08 50.1**	**+1.8**
HINF				*e*Pg	**Pg**	**13 08 55.6**	**+0.9**
HINF				*e*Sn	**Sn**	**13 09 16.8**	**+0.1**
HINF				*e*Sg	**Sg**	**13 09 25.6**	**+1.0**
HINF	**Hinteralfeld**	**2.31**	**299**	*e*Pg	**Pg**	**13 08 55.6**	**+0.9**
HINF				*e*Sn	**Sn**	**13 09 16.8**	**+0.1**
HINF				*e*Sg	**Sg**	**13 09 25.6**	**+1.0**
	6.4nm,0.3s						
CDF	**Champ du Feu**	**2.41**	**315**	*e*Pg	**Pg**	**13 08 57.5**	**+0.8**
CDF				*e*Sn	**Sn**	**13 09 20.4**	**+1.1**
CDF				*e*Sg	**Sg**	**13 09 29.8**	**+1.8**
	19nm,0.3s						
CDF	**Champ du Feu**	**2.41**	**315**	*e*Pn	**Pn**	**13 08 51.7**	**+1.9**
CDF				*e*Pg	**Pg**	**13 08 57.5**	**+0.8**
CDF				*e*Sn	**Sn**	**13 09 20.4**	**+1.1**
CDF				*e*Sg	**Sg**	**13 09 29.8**	**+1.8**
CDF	**Champ du Feu**	**2.41**	**315**	*e*Pg	**Pg**	**13 08 57.5**	**+0.8**
CDF				*e*Sn	**Sn**	**13 09 20.4**	**+1.1**
CDF				*e*Sg	**Sg**	**13 09 29.8**	**+1.8**
	9.7nm,0.3s						
LPG	**La Plagne**	**2.49**	**241**	*e*Pg	**Pg**	**13 08 57.3**	**-0.8**
LPG				*e*Sg	**Sg**	**13 09 29.1**	**-1.3**
	27nm,0.6s						
LPG	**La Plagne**	**2.49**	**241**	*e*Pn	**Pn**	**13 08 50.8**	**0.0**
LPG				*e*Pg	**Pg**	**13 08 57.3**	**-0.8**
LPG				*e*Sg	**Sg**	**13 09 29.1**	**-1.3**
LPG	**La Plagne**	**2.49**	**241**	*e*Pg	**Pg**	**13 08 57.3**	**-0.8**
LPG				*e*Sg	**Sg**	**13 09 29.1**	**-1.3**
	14nm,0.6s						
LPL	**La Plagne**	**2.49**	**242**	*e*Pg	**Pg**	**13 08 56.9**	**-1.3**
LPL				*e*Sg	**Sg**	**13 09 29.5**	**-0.9**
	13nm,0.4s						
LPL	**La Plagne**	**2.49**	**242**	*e*Pn	**Pn**	**13 08 51.0**	**+0.2**
LPL				*e*Pg	**Pg**	**13 08 56.9**	**-1.3**
LPL				*e*Sg	**Sg**	**13 09 29.5**	**-0.9**
LPL	**La Plagne**	**2.49**	**242**	*e*Pg	**Pg**	**13 08 56.9**	**-1.3**
LPL				*e*Sg	**Sg**	**13 09 29.5**	**-0.9**
	6.4nm,0.4s						
CABF	**La Chapelle**	**2.59**	**268**	*e*Pg	**Pg**	**13 09 00.4**	**+0.2**
CABF				*e*Sg	**Sg**	**13 09 33.5**	**-0.3**
	18nm,0.4s						
CABF	**La Chapelle**	**2.59**	**268**	*e*Pn	**Pn**	**13 08 53.1**	**+0.8**
CABF				*e*Pg	**Pg**	**13 09 00.4**	**+0.2**
CABF				*e*Sg	**Sg**	**13 09 33.5**	**-0.3**
CABF	**La Chapelle**	**2.59**	**268**	*e*Pg	**Pg**	**13 09 00.4**	**+0.2**
CABF				*e*Sg	**Sg**	**13 09 33.5**	**-0.3**
	8.8nm,0.4s						
HAU	**Haudompre**	**2.69**	**299**	*e*P	**Pn**	**13 08 57.5**	**+3.8**
HAU	**Haudompre**	**2.69**	**299**	*e*Pg	**Pg**	**13 09 02.5**	**+0.4**
HAU				*e*Sn	**Sn**	**13 09 25.5**	**-0.7**
HAU				*e*Sg	**Sg**	**13 09 37.2**	**+0.2**
	16nm,0.3s						
HAU	**Haudompre**	**2.69**	**299**	*e*Pn	**Pn**	**13 08 54.5**	**+0.8**
HAU				*e*P		13 08 57.5	
HAU				*e*Pg	**Pg**	**13 09 02.5**	**+0.4**
HAU				*e*Sn	**Sn**	**13 09 25.5**	**-0.7**
HAU				*e*Sg	**Sg**	**13 09 37.2**	**+0.2**
HAU	**Haudompre**	**2.69**	**299**	*e*P	**Pn**	**13 08 57.5**	**+3.8**
HAU	**Haudompre**	**2.69**	**299**	*e*Pg	**Pg**	**13 09 02.5**	**+0.4**
HAU				*e*Sn	**Sn**	**13 09 25.5**	**-0.7**
HAU				*e*Sg	**Sg**	**13 09 37.2**	**+0.2**
	7.8nm,0.3s						
MBDF	**Montbardon**	**2.95**	**228**	*e*P	**Pn**	**13 08 59.9**	**+2.7**
MBDF				*e*Sn	**Sn**	**13 09 30.7**	**-1.8**
	3.5nm,0.3s						
MBDF	**Montbardon**	**2.95**	**228**	*e*Pn	**Pn**	**13 08 56.8**	**-0.4**
MBDF				*e*P		13 08 59.9	
MBDF				*e*Sn	**Sn**	**13 09 30.7**	**-1.8**
MBDF	**Montbardon**	**2.95**	**228**	*e*P	**Pn**	**13 08 59.9**	**+2.7**
MBDF				*e*Sn	**Sn**	**13 09 30.7**	**-1.8**
	1.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.32**	**238**	*e*Pn	**Pn**	**13 09 01.6**	**-0.7**
ORIF				*e*Sg	**Sg**	**13 09 54.9**	**-2.2**
	7.3nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.32**	**238**	*e*Pn	**Pn**	**13 09 01.6**	**-0.7**
ORIF				*e*Sg	**Sg**	**13 09 54.9**	**-2.2**
	3.7nm,0.5s						
SBF	**Sospel**	**3.34**	**211**	*e*P	**Pn**	**13 09 05.0**	**+2.4**
SBF				*e*Sn	**Sn**	**13 09 39.1**	**-3.2**
	13nm,0.5s						
SBF	**Sospel**	**3.34**	**211**	*e*P	**Pn**	**13 09 05.0**	**+2.4**
SBF				*e*Sn	**Sn**	**13 09 39.1**	**-3.2**
	6.5nm,0.5s						
KHC	**Kasperske Hory**	**3.46**	**45**	*e*PN	**Pn**	**13 09 06.3**	**+2.1**
KHC				*e*PG	**Pg**	**13 09 14.4**	**-2.4**
KHC				*e*SN	**Sn**	**13 09 46.9**	**+1.7**
KHC				*e*SG	**Sg**	**13 09 59.8**	**-1.9**
	12nm,0.7s						
NKC	**Novy Kostel**	**3.90**	**25**	*e*SG	**Sg**	**13 10 14.0**	**-1.6**
FRF	**La Foret Royal**	**3.91**	**217**	*e*Pn	**Pn**	**13 09 09.8**	**-0.5**
FRF				*e*Sn	**Sn**	**13 09 53.1**	**-3.0**
	7.0nm,0.3s						
FRF	**La Foret Royal**	**3.91**	**217**	*e*Pn	**Pn**	**13 09 09.8**	**-0.5**
FRF				*e*Sn	**Sn**	**13 09 53.1**	**-3.0**
	3.5nm,0.3s						
VIVF	**Saint-Julien-l**	**4.08**	**244**	*e*P	**Pn**	**13 09 16.4**	**+3.7**
VIVF				*e*Sg	**Sg**	**13 10 18.8**	**-2.7**
	6.7nm,0.3s						
VIVF	**Saint-Julien-l**	**4.08**	**244**	*e*Pn	**Pn**	**13 09 12.4**	**-0.3**
VIVF				*e*P		13 09 16.4	
VIVF				*e*Sg	**Sg**	**13 10 18.8**	**-2.7**
VIVF	**Saint-Julien-l**	**4.08**	**244**	*e*Pn	**Pn**	**13 09 12.4**	**-0.3**
VIVF				*e*Sg	**Sg**	**13 10 18.8**	**-2.7**
	3.3nm,0.3s						
SMRF	**Simiane la Rot**	**4.09**	**229**	*e*Pn	**Pn**	**13 09 12.2**	**-0.6**
LOR	**Lormes**	**4.13**	**280**	*e*Pn	**Pn**	**13 09 13.4**	**0.0**
LOR				*e*Sn	**Sn**	**13 10 00.4**	**-1.3**
LOR				*e*Sg	**Sg**	**13 10 22.2**	**-0.9**
	3.4nm,0.3s						
LOR	**Lormes**	**4.13**	**280**	*e*Pn	**Pn**	**13 09 13.4**	**0.0**
LOR				*e*Sn	**Sn**	**13 10 00.4**	**-1.3**
LOR				*e*Sg	**Sg**	**13 10 22.2**	**-0.9**
	1.7nm,0.3s						
SMF	**Signal de Mont**	**4.14**	**271**	*e*P	**Pn**	**13 09 17.2**	**+3.7**
SMF				*e*Sg	**Sg**	**13 10 21.9**	**-1.4**
	3.8nm,0.3s						
SMF	**Signal de Mont**	**4.14**	**271**	*e*P	**Pn**	**13 09 17.2**	**+3.7**
SMF				*e*Sg	**Sg**	**13 10 21.9**	**-1.4**
	1.9nm,0.3s						
SSF	**Saint Saulge**	**4.36**	**277**	*e*Pn	**Pn**	**13 09 16.8**	**+0.2**
SSF				*e*Sg	**Sg**	**13 10 28.9**	**-1.6**
	1.4nm,0.3s						
SSF	**Saint Saulge**	**4.36**	**277**	*e*Pn	**Pn**	**13 09 16.8**	**+0.2**
SSF				*e*Sg	**Sg**	**13 10 28.9**	**-1.6**
	0.7nm,0.3s						
AVF	**Avril sur Loir**	**4.46**	**273**	*e*P	**Pn**	**13 09 21.6**	**+3.6**
AVF	**Avril sur Loir**	**4.46**	**273**	*e*Pn	**Pn**	**13 09 18.6**	**+0.6**
AVF				*e*P		13 09 21.6	
AVF	**Avril sur Loir**	**4.46**	**273**	*e*P	**Pn**	**13 09 21.6**	**+3.6**
PRU	**Pruhonice**	**4.51**	**42**	*e*SG	**Sg**	**13 10 33.1**	**-2.1**
DPC	**Dobruska-Polom**	**5.61**	**48**	*e*SG	**Sg**	**13 11 08.5**	**-2.1**
	4.9nm,0.6s						

MOS 24 13:20:36.3±0.2, 4256N×4561E, h26km, mb3.6/1, 4C, Error ellipse: s-maj=66.3km s-min=17.3km az=32.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**1.00**	**286**	⇑*i*PG	Pn	13 20 54.3	-0.4
LACR				*i* S	Sb	13 21 07.1	-0.7
BTKR	**Batakoyurt**	**1.13**	**316**	*e*PG	Pn	13 20 56.4	0.0
BTKR				*e*S	Sn	13 21 10.7	-0.3
ARNR	**Ardon**	**1.16**	**303**	*e*PG	Pn	13 20 56.9	0.0
ARNR				*e*S	Sn	13 21 11.5	-0.4
KORR	**Kora**	**1.25**	**295**	⇑*i*PG	Pn	13 20 58.3	+0.2
KORR				*i* S	Sn	13 21 13.9	-0.1
ZEI	**Tsey**	**1.28**	**280**	⇑*i*PG	Pn	13 20 58.9	+0.4
ZEI				*i* S	Sn	13 21 15.0	+0.2
DIGR	**Digorskoe uzhe**	**1.53**	**283**	⇑*i*PG	Pn	13 21 02.3	+0.3

*ISCJB **24** 13:21:09.2±0.8, 5854N±006×130E±0.1, h0km, Error ellipse: s-maj=10.4km s-min=6.7km az=110.4*
*CSEM **24** 13:21:10.9±0.1, 5851N×1305E, h10km, ML2.7, Error ellipse: s-maj=3.0km s-min=1.8km az=55.0*
*NAO **24** 13:21:10.8±2.5, 5849N×1305E, ML2.0*
*UPP **24** 13:21:11.5, 5850N×1312E, h10km, ML2.7*
*BER **24** 13:21:11.1±1.5, 5848N×1308E, h0km, ML2.0(NAO), Suspected explosion*

ISC 24 13:21:09.7±0.7, 5850N±005×131E±01, h0km, n16, σ0§86/20, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**1.01**	**66**	P	**Pg**	**13 21 29.6**	**+0.5**
STRU	**Stroemstad**	**1.11**	**300**	P	**Pg**	**13 21 32.5**	**+1.4**
LNKU	**Linkoeping**	**1.32**	**101**	P	**Pg**	**13 21 34.3**	**-0.8**
NRAU	**Nora**	**1.49**	**43**	P	**Pn**	**13 21 38.0**	**+0.3**
HFS	**Hagfors**	**1.67**	**11**	Pg	**Pg**	**13 21 40.7**	**-1.2**
	baz=197,slow=14						
HFS				Lg		13 22 03.5	
	baz=190,slow=28						
VXJU	**Vaexsjoe**	**1.88**	**147**	P	**Pn**	**13 21 43.6**	**+0.5**
ESKU	**Eskilstuna**	**1.89**	**66**	P	**Pn**	**13 21 43.7**	**+0.5**
VIKU	**Vikbolandet**	**1.92**	**88**	P	**Pn**	**13 21 44.2**	**+0.6**
VSTU	**Vaestervik**	**2.03**	**113**	P	**Pn**	**13 21 45.5**	**+0.3**
OSKU	**Oskarshamn**	**2.09**	**127**	P	**Pn**	**13 21 46.7**	**+0.7**
FALU	**Falun**	**2.45**	**34**	P	**Pn**	**13 21 51.3**	**+0.3**
NB2	**NORSAR Subarra**	**2.71**	**341**	Pn	**Pn**	**13 21 54.3**	**-0.3**
	baz=162,slow=14						
NB2				Pg	**Pg**	**13 22 00.4**	**-1.4**
	baz=161,slow=16						
NB2				Lg		13 22 35.8	
	baz=162,slow=37						
NB2	**NORSAR Subarra**	**2.71**	**341**	Pg	**Pg**	**13 22 00.4**	**-1.4**
	SNR=90						
BSD	**Bornholm Skovb**	**3.54**	**162**	*i* P	**Pn**	**13 22 05.7**	**-0.3**
BSD				*i* S	**Sn**	**13 22 45.7**	**-2.9**
BSD				*i* LG		13 22 59.6	
FIA0	**FINESS Array S**	**7.17**	**60**	Pn	**Pn**	**13 22 56.0**	**+0.1**
FIA0				Sn	**Sn**	**13 24 13.3**	**-4.7**
FIA0				Lg		13 24 51.1	
	baz=246,slow=28						
FIA0	**FINESS Array S**	**7.17**	**60**	Pn	**Pn**	**13 22 56.0**	**+0.1**
	SN

BJI ***24*** *14:00:15.8, 40.16N×2842E, h10km, mB5.0, mb4.8, Ms4.9, Msz4.7*
CRAAG ***24*** *14:00:20.8, 4045N×2904E, Mw4.8*
ISCJB ***24*** *14:00:22.0±0.2, 4048N±001×2904E±001, h23km±2km, mb4.7/92, MS4.3/31, Error ellipse: s-maj=2.1km s-min=1.5km az=31.9*
NEIC ***24*** *14:00:21.7±0.2, 4042N×29.11E, mb4.7/75, MS4.4/1, MD5.1(SOF), ML4.6(BUC), ML5.2(ISK), Error ellipse: s-maj=3.3km s-min=2.6km az=31.0*
NEIC Felt [IV] at Bursa and [III] at Istanbul. Felt at Bandirma, Eskisehir, Gebze, Gemlik, Izmir, Izmit, Karamursel, Menemen, Mudanya, Sakarya and Sultanbeyli. Also felt at Burgas, Bulgaria.
CSEM ***24*** *14:00:21.5±0.0, 4046N×2905E, h20km, mb4.7/55, Ms4.2, Mw4.8, Error ellipse: s-maj=1.1km s-min=0.7km az=26.0*
MOS ***24*** *14:00:21.1±0.9, 4047N×2908E, h19km, mb4.8/48, MS4.2/28, Error ellipse: s-maj=3.6km s-min=2.5km az=122.8*
PDG ***24*** *14:00:21.6±0.5, 4044N×2898E, h16km*
ISK ***24*** *14:00:21.1, 4042N×2900E, h14km, ML5.2*
GCMT ***24*** *14:00:21.7±0.3, 4046N×2898E, h14km±1km, MW5.0/72, Moment Tensor Solution. s25,c29; s72,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.24±.18; Mθθ=4.49±.16; Mφφ=-2.25±.11; Mrθ=0.72±.27; Mrφ=-0.86±.09; Mθφ=2.32±.36; Best double couple: M0=4.66600×10^16 NP1:φs=133.00000°, δ57.00000°, λ=-32.00000°. NP2: φs=242.00000°, δ64.00000°, λ=-143.00000°. Principal axes: T 4.6290, Plg4.0000°, Azm6.0000°; N 0.0730, Plg45.0000°, Azm272.0000°; P -4.7020, Plg44.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
THE ***24*** *14:00:22.5, 4045N×2918E, h28km, ML5.1*
IDC ***24*** *14:00:24.7±1.6, 4045N×2905E, h31km±12km, mb4.2/23, mb1 4.4/32, mb1mx4.4/34, mbtmp4.4/32, ML3.7/9, MS4.2/20, Ms1 4.2/20, ms1mx4.0/36, Error ellipse: s-maj=9.2km s-min=7.4km az=35.0*
NAO ***24*** *14:00:25.4, 4079N×3000E, h33km, mb4.6*
SZGRF ***24*** *14:00:25.9, 4059N×2823E, h33km, mb4.5, MS3.5, Turkey*
SOF ***24*** *14:00:25.4, 4070N×2867E, h12km, MD5.1*
ISC 24 14:00:22.7±0.2, 4048N±001×2904E±001, h14km±1km, h13km±2.1km; pP-P, n697, σ1§19/778, mb4.7/92, MS4.3/31, 37C-28D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.12**	**109**	*i* PG			**Pg**	**14 00 25.4**	**-0.8**
GEMT				*i* SG			**Sg**	**14 00 27.8**	**-0.8**
YLV	**Yalova**	**0.27**	**70**	*i* PG			**Pg**	**14 00 27.3**	**-1.2**
YLV				*i* SG			**Sg**	**14 00 32.9**	**+0.5**
ULDT	**Uludag**	**0.34**	**167**	*i* P			**Pg**	**14 00 28.4**	**-1.4**
ULDT				*i* S			**Sg**	**14 00 34.2**	**-0.2**
BADT	**Buyukada**	**0.38**	**9**	*i* PG			**Pg**	**14 00 30.8**	**+0.4**
ADVT	**Abdulvahap**	**0.54**	**94**	*i* PG			**Pg**	**14 00 33.0**	**-0.3**
KCT	**Karacabey**	**0.56**	**248**	*i* PG			**Pg**	**14 00 31.8**	**-1.9**
ISK	**Istanbul-Kandi**	**0.59**	**2**	*i* PG			**Pg**	**14 00 34.4**	**+0.1**
ISK	**Istanbul-Kandi**	**0.59**	**2**	*e* Pg			**Pg**	**14 00 34.3**	**0.0**
ISK				*e* Sg			**Sg**	**14 00 43.2**	**+1.1**
HRT	**Hereke**	**0.59**	**54**	*i* PG			**Pg**	**14 00 33.5**	**-0.9**
KLYT	**Kilyos**	**0.78**	**0**	*i* PG			**Pg**	**14 00 37.8**	**0.0**
CTT	**Catalca**	**0.81**	**326**	*i* PG			**Pg**	**14 00 37.8**	**-0.7**
ELBA	**Catalca**	**0.81**	**326**	*i* P			**Pg**	**14 00 38.0**	**-0.5**
ELBA				*i* S			**Sg**	**14 00 49.0**	**-0.2**
EYL	**Eskiyayla**	**0.86**	**84**	*i* PG			**Pg**	**14 00 38.7**	**-0.7**
EDC	**Edincik**	**0.90**	**262**	*i* PG			**Pg**	**14 00 37.8**	**-2.5**
GPA	**Golpazari**	**0.99**	**100**	*i* PG			**Pg**	**14 00 40.8**	**-1.1**
BTOK	**Tokmak**	**1.05**	**228**	*i* P			**Pb**	**14 00 41.5**	**-1.1**
BTOK				*i* S			**Sb**	**14 00 55.7**	**-0.5**
MRMT	**Marmara Adasi**	**1.10**	**277**	*i* PN			**Pn**	**14 00 41.7**	**-2.1**
MFT	**Murefte**	**1.37**	**284**	*i* PN			**Pn**	**14 00 46.0**	**-1.4**
GDZ	**Gediz**	**1.43**	**166**	*i* P			**Pn**	**14 00 47.5**	**-0.7**
GDZ				*i* S			**Sn**	**14 01 07.2**	**+0.4**
SART	**Tekirdag**	**1.43**	**279**	*i* P			**Pn**	**14 00 48.3**	**0.0**
SART				*i* S			**Sn**	**14 01 08.2**	**+1.3**
RKY	**Sarkoy-Tekirda**	**1.43**	**279**	*i* PN			**Pn**	**14 00 46.7**	**-1.6**
HENT	**Hendek**	**1.46**	**76**	*i* P			**Pn**	**14 00 49.0**	**+0.3**
HENT				*i* S			**Sg**	**14 01 13.3**	**+3.5**
CANB	**Canakkale**	**1.58**	**254**	*i* PN			**Pn**	**14 00 49.1**	**-1.2**
ESKT	**Eskisehir**	**1.69**	**124**	*i* PN			**Pn**	**14 00 51.4**	**-0.4**
KDZE	**Karadeniz Ereo**	**2.01**	**65**	*i* PN			**Pn**	**14 00 56.9**	**+0.7**
MANT	**Manisa**	**2.02**	**191**	*i* P			**Pn**	**14 00 58.4**	**+2.1**
MANT				*i* S			**Sn**	**14 01 25.2**	**+3.9**
EZN	**Ezine**	**2.18**	**254**	*i* PN			**Pn**	**14 00 57.5**	**-1.0**
EDRB	**Edirne**	**2.21**	**309**	*i* PN			**Pn**	**14 00 58.2**	**-0.7**
ALN	**Alexandroupoli**	**2.31**	**281**	*e* Pn			**Pn**	**14 00 59.1**	**-1.2**
BOZC	**Bozcaada**	**2.37**	**255**	*i* P			**Pn**	**14 01 04.7**	**+3.5**
BOZC				*i* S			**Sn**	**14 01 36.0**	**+5.9**
PRK	**Paraskevi**	**2.46**	**241**	*e* P			**Pn**	**14 01 01.5**	**-0.9**
PRK	**Paraskevi**	**2.46**	**241**	P			**Pn**	**14 01 02.0**	**-0.4**
KDAG	**Bornova**	**2.48**	**214**	*i* P			**Pn**	**14 01 00.5**	**-2.2**
KDAG				*i* S			**Sn**	**14 01 38.5**	**+5.7**
IZM	**Izmir**	**2.49**	**214**	PN			**Pn**	**14 01 01.0**	**-1.8**
JMB	**Yambol**	**2.71**	**318**	*i* P			**Pn**	**14 01 06.3**	**+0.4**
JMB				*i* Pg			**Pg**	**14 01 13.5**	**-1.2**
JMB				*i* S			**Sn**	**14 01 40.9**	**+2.4**
JMB	**Yambol**	**2.71**	**318**	*i* P			**Pn**	**14 01 06.3**	**+0.4**
JMB				*i* Pg			**Pg**	**14 01 13.5**	**-1.2**
DENT	**Denizli**	**2.72**	**180**	PN			**Pn**	**14 01 04.1**	**-1.9**
RDO	**Rodhopi**	**2.74**	**285**	*e* P			**Pn**	**14 01 06.0**	**-0.2**
RDO	**Rodhopi**	**2.74**	**285**	P			**Pn**	**14 01 04.7**	**-1.5**
URLA	**Izmir**	**2.83**	**223**	*i* P			**Pn**	**14 01 10.0**	**+2.4**
URLA				*i* S			**Sg**	**14 01 53.6**	**-0.2**
ISP	**Isparta**	**2.87**	**156**	PN			**Pn**	**14 01 07.3**	**-0.7**
ISP	**Isparta**	**2.87**	**156**	*d i* P			**Pn**	**14 01 07.2**	**-0.8**
ISP	**Isparta**	**2.87**	**156**	*e* Pn			**Pn**	**14 01 07.2**	**-0.8**
ISP				*e* Sn			**Sg**	**14 01 55.0**	**+0.2**
SAFT	**Safranbolu**	**2.87**	**73**	PN			**Pn**	**14 01 08.5**	**+0.4**
ANTO	**Ankara**	**2.94**	**101**	PN			**Pn**	**14 01 08.5**	**-0.5**
ANTO	**Ankara**	**2.94**	**101**	P			**Pn**	**14 01 08.4**	**-0.7**
	SNR=1044								
ANTO	**Ankara**	**2.94**	**101**	↑*i* P			**Pn**	**14 01 09.3**	**+0.3**
ANTO	**Ankara**	**2.94**	**101**	*e* Pn			**Pn**	**14 01 08.6**	**-0.4**
ANTO				*e* Sn			**Pg**	**14 01 17.1**	**-2.0**
PRD	**Provadia**	**2.98**	**336**	*i* P			**Pn**	**14 01 09.2**	**-0.4**
LIA	**Limnos Island**	**3.01**	**260**	P			**Pn**	**14 01 10.2**	**+0.3**
DIM	**Dimitrovgrad**	**3.07**	**302**	*i* P			**Pn**	**14 01 10.4**	**-0.4**
LOS	**Limnos**	**3.08**	**261**	*e* Pn			**Pn**	**14 01 10.5**	**-0.4**
CHOS	**Chios island**	**3.11**	**229**	*e* Pn			**Pn**	**14 01 09.7**	**-1.6**
BCK	**Bucak**	**3.25**	**158**	PN			**Pn**	**14 01 12.3**	**-0.9**
SMG	**Samos**	**3.25**	**212**	*e* P			**Pn**	**14 01 12.0**	**-1.3**
SMG	**Samos**	**3.25**	**212**	P			**Pn**	**14 01 13.9**	**+0.6**
MLSB	**Milas**	**3.32**	**198**	PN			**Pn**	**14 01 13.0**	**-1.3**
RZN	**Rozhen**	**3.48**	**292**	*i* P			**Pn**	**14 01 16.0**	**-0.5**
RZN				*i* S			**Sg**	**14 02 10.6**	**-4.0**
CANT	**Cankiri**	**3.50**	**86**	PN			**Pn**	**14 01 17.5**	**+0.8**
BR131	**Keskin Array S**	**3.61**	**101**	*e* Pn			**Pn**	**14 01 18.2**	**0.0**
BR131				*e* Sn			**Pg**	**14 01 30.6**	**-1.3**
BR131	**Keskin Array S**	**3.61**	**101**	*e* Pn			**Pn**	**14 01 18.2**	**0.0**
BRTR	**Keskin Array B**	**3.61**	**101**	Pn			**Pn**	**14 01 17.9**	**-0.3**
	29nm,0.3s,baz=268,slow=12,SNR=823								
BRTR				Pg			**Pg**	**14 01 29.0**	**-2.9**
	129nm,0.3s,baz=280,slow=15,SNR=83								
BRTR				Sn			**Sn**	**14 01 59.6**	**-1.0**
	38nm,0.3s,baz=260,slow=14,SNR=4.8								
BRTR				Lg				14 02 19.6	
	22nm,0.3s,baz=276,slow=29,SNR=5.6								
BRTR				LR			LR	14 03 15.2	
	comp=Z,4μm,18.4s,baz=338,slow=48								
BRTR	**Keskin Array B**	**3.61**	**101**	P			**Pn**	**14 01 17.9**	**-0.3**
BRTR								14 01 59.6	
BRTR				pmax			pmax		
	comp=Z,29nm,0.3s								
BRTR				smax					
	comp=N,39nm,0.3s								
BRTR				MLR			MLR		
	comp=Z,4μm,18.4s								
BRTR	**Keskin Array B**	**3.61**	**101**	Pg			**Pg**	**14 01 29.0**	**-2.9**
KONT	**Konya--Tatoy**	**3.61**	**133**	PN			**Pn**	**14 01 18.3**	**0.0**
SZH	**Strazhica**	**3.62**	**321**	*i* P			**Pn**	**14 01 18.1**	**-0.3**
SZH				*i* S			**Sn**	**14 01 57.8**	**-3.2**
PLD	**Plovdiv**	**3.65**	**298**	*i* P			**Pn**	**14 01 18.6**	**-0.1**
BODT	**Bodrum**	**3.67**	**202**	PN			**Pn**	**14 01 18.5**	**-0.5**
DALT	**Dalyan (Mudla)**	**3.71**	**185**	PN			**Pn**	**14 01 19.5**	**-0.2**
KAMT	**Kaman**	**3.76**	**106**	PN			**Pn**	**14 01 20.3**	**0.0**
ELL	**Elmali**	**3.78**	**169**	PN			**Pn**	**14 01 20.9**	**+0.3**
ANTB	**Antalya**	**3.79**	**160**	PN			**Pn**	**14 01 20.4**	**-0.3**
TOS	**Tosya**	**3.83**	**80**	PN			**Pn**	**14 01 22.4**	**+1.2**
OUR	**Ouranopolis**	**3.86**	**270**	*e* Pn			**Pn**	**14 01 20.3**	**-1.3**
PVL	**Pavlikeni**	**3.89**	**316**	*i* P			**Pn**	**14 01 22.6**	**+0.5**
DAT	**Datca**	**3.91**	**197**	PN			**Pn**	**14 01 21.7**	**-0.7**
TIRR	**Tirgusor**	**4.01**	**354**	↑*i* P			**Pn**	**14 01 23.8**	**+0.1**
TIRR	**Tirgusor**	**4.01**	**354**	*e* Pn			**Pn**	**14 01 23.5**	**-0.2**
TIRR				*e* Sn			**Sn**	**14 02 09.4**	**-1.0**
TIRR	**Tirgusor**	**4.01**	**354**	*e* Pn			**Pn**	**14 01 23.5**	**-0.2**
TIRR				*e* Sn			**Sn**	**14 02 09.4**	**-1.0**
NVR	**Nevrokopi**	**4.02**	**284**	P			**Pn**	**14 01 26.0**	**+2.2**
BZK	**Bozkurt**	**4.03**	**67**	PN			**Pn**	**14 01 25.0**	**+1.0**
NISR	**Nisiros**	**4.14**	**202**	*e* P			**Pg**	**14 01 39.0**	**-3.0**
MMB	**Musomiste**	**4.17**	**287**	*i* P			**Pn**	**14 01 25.4**	**-0.5**
MMB				*i* S			**Sn**	**14 02 14.9**	**+0.6**
MMB				*i* Sg			**Sg**	**14 02 31.3**	**-5.2**
AOS	**Alonnisos**	**4.18**	**253**	*e* Pn			**Pn**	**14 01 25.1**	**-1.0**
SRS	**Serrai**	**4.18**	**281**	*e* Pn			**Pn**	**14 01 25.0**	**-1.0**
PLG	**Polygyros**	**4.27**	**270**	*e* P			**Pn**	**14 01 26.5**	**-0.8**
PLG	**Polygyros**	**4.27**	**270**	P			**Pn**	**14 01 27.6**	**+0.3**
CORM	**Corum**	**4.29**	**92**	PN			**Pn**	**14 01 28.2**	**+0.7**
HARR	**Harsova**	**4.29**	**349**	↓*i* P			**Pn**	**14 01 28.2**	**+0.6**
HARR	**Harsova**	**4.29**	**349**	↓P			**Pn**	**14 01 28.2**	**+0.7**
ARG	**Arkhangelos**	**4.31**	**190**	*e* P			**Pn**	**14 01 28.5**	**+0.6**
ARG	**Arkhangelos**	**4.31**	**190**	P			**Pn**	**14 01 28.0**	**+0.1**
SOH	**Sokhos**	**4.34**	**276**	*e* Pn			**Pn**	**14 01 27.8**	**-0.4**
KSL	**Kastellorizon**	**4.34**	**174**	*e* P			**Pn**	**14 01 29.0**	**+0.7**
APE	**Apeiranthos**	**4.37**	**220**	*e* Pn			**Pn**	**14 01 27.1**	**-1.5**
APE	**Apeiranthos**	**4.37**	**220**	*e* P			**Pn**	**14 01 27.0**	**-1.6**
APE	**Apeiranthos**	**4.37**	**220**	↑*i* P			**Pn**	**14 01 26.8**	**-1.8**
APE	**Apeiranthos**	**4.37**	**220**	*e* P			**Pn**	**14 01 26.6**	**-2.0**
BYBT	**Boyabat**	**4.45**	**75**	PN			**Pn**	**14 01 31.0**	**+1.2**
HORT	**Hortiatis**	**4.53**	**273**	*e* Pn			**Pn**	**14 01 30.4**	**-0.4**
NEO	**Neokhori**	**4.62**	**257**	*e* P			**Pn**	**14 01 31.0**	**-1.1**
NEO	**Neokhori**	**4.62**	**257**	P			**Pn**	**14 01 32.0**	**-0.1**
THE	**Thessaloniki**	**4.63**	**274**	*e* Pn			**Pn**	**14 01 32.6**	**+0.4**
XOR	**Xorichti**	**4.63**	**258**	*e* Pn			**Pn**	**14 01 31.5**	**-0.7**
PTL	**Penteli**	**4.69**	**241**	*e* P			**Pn**	**14 01 35.0**	**+2.0**
KKB	**Krupnik**	**4.70**	**289**	*i* P			**Pn**	**14 01 31.2**	**-2.0**
KKB				*i* S			**Sn**	**14 02 25.0**	**-2.6**
KKB				*i* Sg			**Sg**	**14 02 45.5**	**-8.2**
KNT	**Kendrikon**	**4.71**	**280**	*e* Pn			**Pn**	**14 01 33.0**	**-0.3**
CFR	**Carcaliu**	**4.75**	**352**	↑*i* P			**Pn**	**14 01 34.8**	**+1.0**
CFR	**Carcaliu**	**4.75**	**352**	↑P			**Pn**	**14 01 34.8**	**+0.9**
ATH	**Athens Observa**	**4.83**	**241**	*e* P			**Pn**	**14 01 36.0**	**+1.0**
DIKM	**Dikmen**	**4.85**	**74**	PN			**Pn**	**14 01 36.6**	**+1.4**
VTS	**Vitosha**	**4.86**	**298**	*i* P			**Pn**	**14 01 35.6**	**+0.2**
VTS				*i* S			**Sn**	**14 02 30.8**	**-0.6**
VTS				*i* Sg			**Sg**	**14 02 58.3**	**-0.4**
VTS	**Vitosha**	**4.86**	**298**	↑*i* P			**Pn**	**14 01 35.4**	**0.0**
KVR	**Kavouri**	**4.87**	**239**	*e* P			**Pn**	**14 01 35.0**	**-0.6**
YOZ	**Yozgat**	**4.89**	**98**	PN			**Pn**	**14 01 37.1**	**+1.2**
SANT	**Santorini**	**4.97**	**216**	*e* Pn			**Pn**	**14 01 34.4**	**-2.4**
SANT	**Santorini**	**4.97**	**216**	*e* Pn			**Pn**	**14 01 34.4**	**-2.5**
VAY	**Valandovo**	**4.97**	**282**	*e* Pn			**Pn**	**14 01 36.7**	**-0.3**
VAY				*e* Sn			**Sg**	**14 02 56.5**	**-5.9**
VAY	**Valandovo**	**4.97**	**282**	*e* Pn			**Pn**	**14 01 36.6**	**-0.3**
LKR	**Lokris**	**5.01**	**251**	P			**Pn**	**14 01 42.0**	**+4.6**
LIT	**Litokhoron**	**5.02**	**268**	*e* Pn			**Pn**	**14 01 37.5**	**-0.1**
NAIG	**Nisos Aigina**	**5.10**	**240**	*e* P			**Pn**	**14 01 38.0**	**-0.6**
MGER	**Gerania Oros**	**5.13**	**243**	*e* P			**Pn**	**14 01 39.0**	**-0.1**
SEV	**Sevastopol'**	**5.32**	**39**	↓*i* P			**Pn**	**14 01 41.5**	**-0.2**
SEV				*e* S			**Sn**	**14 02 40.1**	**-2.6**
SEV				pmax			pmax		
	comp=Z,55nm,0.8s								
SEV				smax					
	comp=N,37nm,1.5s								
SEV				smax					
	comp=E,180nm,0.9s								
SEV	**Sevastopol'**	**5.32**	**39**	*i* P			**Pn**	**14 01 41.5**	**-0.2**
	comp=E,55nm,0.8s								
STIP	**Stip**	**5.32**	**285**	*e* Pn			**Pn**	**14 01 41.7**	**+0.1**
STIP				*e* Sn			**Sg**	**14 03 09.1**	**-4.3**
KVT	**Kavak**	**5.36**	**81**	PN			**Pn**	**14 01 43.5**	**+1.3**
AGG	**Agios Georgios**	**5.37**	**256**	*e* Pn			**Pn**	**14 01 42.3**	**-0.1**
BNN	**Bunyan**	**5.50**	**105**	PN			**Pn**	**14 01 45.4**	**+1.2**
MLR	**Muntele Rosu**	**5.50**	**337**	Pn			**Pn**	**14 01 45.6**	**+1.3**
	comp=E,5.8nm,0.3s,baz=345,slow=1.3,SNR=94								
MLR				Lg				14 03 20.9	
	comp=E,12nm,0.3s,baz=282,slow=20,SNR=3.1								
MLR	**Muntele Rosu**	**5.50**	**337**	↑*i* P			**Pn**	**14 01 45.2**	**+1.0**
MLR	**Muntele Rosu**	**5.50**	**337**	↑P			**Pn**	**14 01 45.2**	**+1.0**
YAL	**Yalta**	**5.51**	**42**	↓*e* P			**Pn**	**14 01 44.5**	**+0.1**
YAL				*e* S			**Sn**	**14 02 44.8**	**-2.7**
YAL				pmax			pmax		
	comp=Z,430μm,1.3s								
YAL				smax					
	comp=N,339μm,0.9s								
YAL				smax					
	comp=E,209μm,0.9s								
YAL	**Yalta**	**5.51**	**42**	*e* P			**Pn**	**14 01 44.5**	**+0.1**
	comp=E,30μm,1.3s								
KZN	**Kozani**	**5.55**	**271**	P			**Pn**	**14 01 46.4**	**+1.5**
MTUR	**Matau**	**5.57**	**330**	↑*i* P			**Pn**	**14 01 46.1**	**+0.9**
VRI	**Vrincioaia**	**5.65**	**343**	↑*i* P			**Pn**	**14 01 47.1**	**+0.9**
VRI	**Vrincioaia**	**5.65**	**343**	↑P			**Pn**	**14 01 47.1**	**+0.9**
KARA	**Karaisali**	**5.69**	**122**	PN			**Pn**	**14 01 48.5**	**+1.7**
TOKT	**Tokat**	**5.74**	**89**	PN			**Pn**	**14 01 49.0**	**+1.6**
VOIR		**5.76**	**331**	↑*i* P			**Pn**	**14 01 48.8**	**+1.1**
VOIR		**5.76**	**331**	↑P			**Pn**	**14 01 48.8**	**+1.0**
ALU	**Alushta**	**5.78**	**42**	↓*e* P			**Pn**	**14 01 48.1**	**+0.1**
ALU				*e* S			**Sn**	**14 02 50.9**	**-3.1**
ALU				pmax			pmax		
	comp=Z,340nm,0.5s								
ALU				smax					
	comp=N,450nm,0.4s								
ALU				smax					
	comp=E,406nm,0.4s								
ALU	**Alushta**	**5.78**	**42**	*e* P			**Pn**	**14 01 48.1**	**+0.1**
	comp=E,340nm,0.5s								
EVR	**Evrytania**	**5.79**	**257**	*e* P			**Pn**	**14 01 48.5**	**+0.4**
SIM	**Simferopol'**	**5.83**	**38**	↓*i* P			**Pn**	**14 01 49.0**	**+0.3**
SIM				*e* S			**Sn**	**14 02 52.4**	**-2.9**
SIM				pmax			pmax		
	comp=Z,670nm,0.4s								
SIM				smax					
	comp=E,2μm,1.0s								
SIM				smax					
	comp=N,1μm,0.9s								
SIM	**Simferopol'**	**5.83**	**38**	*i* P			**Pn**	**14 01 49.0**	**+0.3**
	comp=N,670nm,0.4s								
FNA	**Florina**	**5.84**	**276**	*e* Pn			**Pn**	**14 01 49.2**	**+0.4**
NPS	**Neapolis**	**5.87**	**209**	*e* P			**Pn**	**14 01 48.0**	**-1.2**
BARS	**Barje**	**5.89**	**296**	*i* Pn			**Pn**	**14 01 49.9**	**+0.3**
BARS				Sn			**Sb**	**14 03 17.6**	**+2.1**
SKO	**Skopje**	**5.92**	**287**	*e* Pn			**Pn**	**14 01 51.3**	**+1.3**
SKO				*e* Sn			**Sg**	**14 03 32.1**	**-0.7**
SKO	**Skopje**	**5.92**	**287**	*e* Pn			**Pn**	**14 01 51.2**	**+1.2**
KRUS	**Krusevo**	**5.97**	**281**	*e* Pn			**Pn**	**14 01 51.2**	**+0.6**
KRUS				*e* Sn			**Sg**	**14 03 31.5**	**-2.7**
ALFC	**Alevga**	**6.01**	**151**	P			**Pn**	**14 01 47.5**	**-3.7**
	comp=N,3.8nm,0.4s								
AKMC	**Akamas**	**6.03**	**153**	↑*e* P			**Pn**	**14 01 52.3**	**+0.8**
VLI	**Veliai**	**6.07**	**234**	*e* P			**Pn**	**14 01 52.0**	**-0.1**
KOZT	**Kozan**	**6.08**	**117**	PN			**Pn**	**14 01 53.7**	**+1.6**
SVSK	**Karacayir**	**6.12**	**93**	PN			**Pn**	**14 01 53.7**	**+0.9**
IDI	**Anoyia**	**6.13**	**214**	P			**Pn**	**14 01 51.4**	**-1.4**
PPCY	**Paphos**	**6.17**	**154**	P			**Pn**	**14 01 53.5**	**+0.1**
XRY	**Khrisi**	**6.19**	**206**	*e* P			**Pn**	**14 01 54.0**	**+0.4**
SUDU	**Sudak**	**6.23**	**43**	↑*i* P			**Pn**	**14 01 53.6**	**-0.6**
SUDU				*e* S			**Sn**	**14 03 01.4**	**-3.7**
SUDU				smax					
	comp=E,1μm,0.7s								
OHR	**Ohrid**	**6.28**	**278**	*e* Pn			**Pn**	**14 01 52.7**	**-2.3**
OHR				*e* Sn			**Sg**	**14 03 44.5**	**+0.1**
CEYT	**Ceyhan**	**6.28**	**121**	PN			**Pn**	**14 01 56.7**	**+1.7**
KBN	**Korca**	**6.29**	**274**	*i* Pn			**Pn**	**14 01 58.7**	**+3.7**
KYTH	**Kithira**	**6.30**	**230**	*e* P			**Pn**	**14 01 56.0**	**+0.8**
KRTS	**Karatas**	**6.31**	**126**	PN			**Pn**	**14 01 57.1**	**+1.7**
JAN	**Janina**	**6.33**	**265**	*e* P			**Pn**	**14 01 59.0**	**+3.4**
VAM	**Vamos**	**6.34**	**219**	*e* P			**Pn**	**14 01 58.0**	**+2.3**
ITM	**Ithomi**	**6.45**	**242**	*e* P			**Pn**	**14 01 58.5**	**+1.2**
ITM	**Ithomi**	**6.45**	**242**	P			**Pn**	**14 01 58.8**	**+1.5**
CSS	**Prodhromos**	**6.47**	**147**	P			**Pn**	**14 01 57.6**	**+0.1**
	comp=E,4.5nm,1.2s								
KIS	**Kishinev**	**6.52**	**359**	*e* P			**Pn**	**14 01 56.0**	**-2.2**
KIS				*e* S			**Sn**	**14 03 11.0**	**-1.4**
KIS	**Kishinev**	**6.52**	**359**	*e* P			**Pn**	**14 01 56.0**	**-2.2**
KIS				*e* S			**Sn**	**14 03 11.0**	**-1.4**
KIS				LRM				14 04 58.0	
	comp=E,5μm,10.0s								
GZR	**Gura Zlata**	**6.72**	**319**	↓*i* P			**Pn**	**14 02 00.4**	**-0.6**
GZR	**Gura Zlata**	**6.72**	**319**	↓P			**Pn**	**14 02 00.4**	**-0.6**
KMRS	**Kahramanmaras**	**6.80**	**113**	PN			**Pn**	**14 02 03.5**	**+1.4**
GVD	**Gavdhos**	**6.86**	**216**	*e* P			**Pn**	**14 02 05.0**	**+2.1**
SVIS	**Svilajnac**	**6.93**	**306**	P			**Pn**	**14 02 03.6**	**-0.2**
SRN	**Sarande**	**6.95**	**268**	*i* Pn			**Pn**	**14 02 12.2**	**+8.2**
BCI	**Bajram Curri**	**7.00**	**289**	*i* Pn			**Pn**	**14 02 08.9**	**+4.1**
TIR	**Tirane**	**7.00**	**280**	*i* Pn			**Pn**	**14 02 11.3**	**+6.5**
GRUS	**Gruza**	**7.06**	**302**	*i* Pn			**Pn**	**14 02 05.1**	**-0.5**
PUK	**Puka**	**7.07**	**286**	*i* Pn			**Pn**	**14 02 01.7**	**-4.0**
HTY	**Hatay**	**7.08**	**126**	*e* PN			**Pn**	**14 02 07.0**	**+1.2**
PVY	**Plav**	**7.12**	**290**	↓*i* Pn			**Pn**	**14 02 06.9**	**+0.4**
PVY				*e* Sn			**Sn**	**14 03 25.9**	**-1.3**
KEK	**Kerkira**	**7.12**	**267**	*e* P			**Pn**	**14 02 10.0**	**+3.5**
GAZ	**Gaziantep**	**7.18**	**115**	*e* PN			**Pn**	**14 02 08.2**	**+0.9**
IVA	**Berane**	**7.25**	**292**	↓*i* Pn			**Pn**	**14 02 08.6**	**+0.4**
IVA				*e* Sn			**Sn**	**14 02 29.0**	**-1.3**
KERU	**Kerch**	**7.28**	**46**	*e* P			**Pn**	**14 02 13.5**	**+4.8**
BZS	**Buzias**	**7.48**	**316**	↑*i* P			**Pn**	**14 02 11.1**	**-0.2**
BZS	**Buzias**	**7.48**	**316**	↑P			**Pn**	**14 02 11.1**	**-0.3**
ULC	**Ulcinj**	**7.53**	**285**	↑*i* Pn			**Pn**	**14 02 12.5**	**+0.5**
ULC				*e* Sn			**Sn**	**14 03 35.8**	**-1.4**
ANN	**Anapa**	**7.55**	**52**	↑*i* P			**Pn**	**14 02 09.1**	**-3.2**
ANN				*e* S			**Sn**	**14 03 32.5**	**-5.2**
ANN				pmax			pmax		
	comp=Z,68nm,1.2s								
MYA	**Malataya**	**7.58**	**103**	*e* PN			**Pn**	**14 02 13.8**	**+1.0**
TTG	**Podgorica**	**7.60**	**288**	↑*i* Pn			**Pn**	**14 02 13.3**	**+0.3**
TTG				*e* Sn			**Sn**	**14 03 37.3

OKC AMS AMS 14 08 50.0
comp=Z,7μm,12.8s
OKC Ostrava-Krasne 12.10 324 *e*P **Pn 14 03 15.3 +0.6**
comp=Z,7μm,12.8s
WDD Wield Dalam 12.31 253 P **Pn 14 03 17.6 0.0**
MORC Moravsky Berou 12.33 323 P **Pn 14 03 20.2 +2.4**
comp=Z,0.5nm,1.3s
VOY Vojsko 12.35 302 *e*(Pn) **Pn 14 03 24.8 +6.7**
VOY *e* 14 03 37.0
VOY *e* 14 04 18.3
VOY *e* 14 04 33.1
VOY *e* 14 07 11.2
VOY *e* 14 07 31.1
DGRG David-gareji 12.39 80 P **Pn 14 03 23.1 +4.4**
KRUC Moravsky 12.41 318 P **Pn 14 03 19.0 +0.1**
SEMD Semdilli 12.46 100 *e*PN **Pn 14 03 20.4 +0.8**
VRAC Vranov 12.47 319 Pn **Pn 14 03 20.8 +1.0**
comp=Z,0.4nm,0.3s,baz=128,slow=13,SNR=11
VRAC LR LR 14 08 48.6
comp=Z,1μm,19.2s,baz=130,slow=40
FSSB Fossombrone 12.50 290 P **Pn 14 03 23.7 +3.6**
VRSR Storozhevoye 12.85 30 *e*P **Pn 14 03 24.9 0.0**
VRSR *e*S **Sn 14 05 42.4 -5.3**
VRSR pmax pmax
comp=Z,10.0nm,0.7s
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.6s
VRSR smax
comp=N,260nm,1.0s
VRSR smax
comp=Z,20nm,1.0s
VRSR smax
comp=E,210nm,1.3s
VRSR pmax pmax
comp=E,370nm,19.0s
VRSR pmax pmax
comp=N,640nm,18.0s
VRSR pmax pmax
comp=E,480nm,17.0s
VRSR Storozhevoye 12.85 30 *e*P **Pn 14 03 24.9 0.0**
comp=E,20nm,0.8s
MOA Molln 12.90 310⇑*i*P **Pn 14 03 31.1 +5.4**
comp=E,7.5nm,0.6s
MOA Molln 12.90 310⇓*e*Pn **Pn 14 03 27.9 +2.2**
comp=E,7.5nm,0.6s
TREC Trest 13.02 317 AMS AMS 14 09 30.0
comp=E,3μm,11.3s
CRE Caprese Michel 13.08 289 P **Pn 14 03 35.0 +6.9**
VOR Voronezh 13.27 29 *e*P **Pn 14 03 30.5 -0.1**
VOR pmax pmax
comp=Z,140nm,2.0s
VOR Voronezh 13.27 29 *e*P **Pn 14 03 30.5 -0.1**
comp=Z,140nm,2.0s
FVI Forni Avoltri 13.28 303 P **Pn 14 03 32.6 +1.8**
DPC Dobruska-Polom 13.29 322 *e*P **Pn 14 03 33.0 +2.0**
DPC AMS AMS 14 09 50.0
comp=Z,4μm,9.8s
DPC Dobruska-Polom 13.29 322 *e*P **Pn 14 03 33.0 +2.0**
comp=Z,4μm,9.8s
UPC Upice 13.55 322 *e*P **Pn 14 03 34.8 +0.4**
KSP Ksiaz 13.65 324 *e*P **Pn 14 03 38.0 +2.2**
KSP Ksiaz 13.65 324 *e*P **Pn 14 03 36.9 +1.1**
KSP *e*S **Sn 14 06 06.0 -1.2**
GEC2 GERESS Array S 13.73 313 *e*P **Pn 14 03 38.4 +1.4**
comp=Z,34nm,1.5s
GEC2 GERESS Array S 13.73 313 *e*P **Pn 14 03 38.4 +1.4**
GEC2 pmax pmax
comp=Z,75nm,1.5s
GERES GERESS Array B 13.73 313 Pn **Pn 14 03 37.7 +0.7**
comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=10
VRHR Novokhopersk 13.76 35 *e*P **Pn 14 03 38.3 +0.9**
VRHR *e*S **Sn 14 06 08.0 -1.9**
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR pmax pmax
comp=N,4.0nm,0.5s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR smax
comp=N,100nm,1.0s
VRHR smax
comp=E,160nm,1.0s
VRHR smax
comp=Z,60nm,1.4s
VRHR MLR MLR
comp=Z,530nm,15.0s
VRHR MLR MLR
comp=N,280nm,8.0s
VRHR MLR MLR
comp=E,450nm,20.0s
VRHR Novokhopersk 13.76 35 *e*P **Pn 14 03 38.3 +0.9**
comp=E,4.0nm,0.5s
PRU Pruhonice 13.93 318 *e*P **Pn 14 03 47.6 +7.9**
PRU AMS AMS 14 10 20.0
comp=E,2μm,10.0s
KHC Kasperske Hory 13.95 313 *e*P **Pn 14 03 40.7 +0.7**
KHC AMS AMS 14 09 50.0
comp=E,3μm,10.3s
KHC Kasperske Hory 13.95 313⇓*i*P **Pn 14 03 40.2 +0.2**
KHC Kasperske Hory 13.95 313 *e*P **Pn 14 03 40.7 +0.7**
comp=E,33nm,2.3s
MAK Makhachkala 14.02 74 *e*P **Pn 14 03 43.5 +2.6**
MAK *e*S **Sn 14 06 24.6 +8.3**
MAK pmax pmax
comp=Z,385nm,1.9s
MAK MLR MLR
comp=Z,780nm,7.0s
MAK Makhachkala 14.02 74 *e*P **Pn 14 03 43.5 +2.6**
comp=Z,385nm,1.9s
MNK Minsk 14.05 357 *e*P **Pn 14 03 33.0 -8.4**
SUW Suwalki 14.11 346 *e*P **Pn 14 03 38.2 -3.9**
BHD Baghdad 14.22 116 *ex* x 14 03 40.0
BHD *ex* x 14 06 35.0
BHD *ex* x 14 10 14.0
PVCC Panska Ves 14.26 320 *e*P **Pn 14 03 45.4 +1.3**
PVCC AMS AMS 14 10 10.0
comp=Z,4μm,10.7s
PVCC Panska Ves 14.26 320 *e*P **Pn 14 03 45.4 +1.3**
comp=Z,4μm,10.7s
WET Wettzell 14.35 313 *e*P **Pn 14 03 45.6 +0.2**
comp=Z,40nm,1.3s
WET Wettzell 14.35 313 *e*P **Pn 14 03 45.6 +0.2**
WET pmax pmax
comp=Z,31nm,1.3s
SQTA Sankt Quirin 14.51 304⇓*i*P **Pn 14 03 54.4 +6.9**
comp=Z,21nm,1.0s
SQTA Sankt Quirin 14.51 304⇑*i*Pn **Pn 14 03 48.4 +0.8**
comp=Z,21nm,1.0s
SQTA Sankt Quirin 14.51 304⇓*i*P **Pn 14 03 54.4 +6.8**
SQTA pmax pmax
comp=Z,21nm,1.0s
BRG Berggiesshubel 14.78 320 *e*P **Pn 14 03 51.8 +0.5**
comp=Z,41nm,1.6s
BRG Berggiesshubel 14.78 320 *e*P **Pn 14 03 52.0 +0.7**
comp=Z,23nm,2.0s
BRG
comp=N,2μm,11.8s
BRG
comp=E,2μm,11.6s
BRG
comp=Z,3μm,11.6s
BRG Berggiesshubel 14.78 320 *e*P **Pn 14 03 52.0 +0.7**
BRG pmax pmax
comp=Z,23nm,2.0s
BRG MLR MLR
comp=N,2μm,11.8s
BRG MLR MLR
comp=E,2μm,11.6s
BRG MLR MLR
comp=Z,3μm,11.6s
BRG Berggiesshubel 14.78 320 *e*P **Pn 14 03 52.0 +0.7**
comp=Z,23nm,2.0s
ROTZ Rotzenmuhle 15.05 314 *e*P **Pn 14 03 56.4 +1.5**
comp=Z,33nm,1.7s
PGF Pioggiola 15.15 284 *e*P **Pn 14 03 59.6 +3.3**
comp=Z,108nm,1.1s
PGF Pioggiola 15.15 284 *e*P **Pn 14 03 59.6 +3.3**
PGF pmax pmax
comp=Z,54nm,1.1s
PGF Pioggiola 15.15 284 *e*P **Pn 14 03 59.6 +3.3**
comp=Z,54nm,1.1s
NKC Novy Kostel 15.17 316 *e*P **Pn 14 03 57.3 +0.8**
NKC AMS AMS 14 10 30.0
comp=Z,3μm,11.4s
NKC Novy Kostel 15.17 316 *e*P **Pn 14 03 57.3 +0.8**
comp=Z,3μm,11.4s
DAVOX Davos/Dischmat 15.22 301 Pn **Pn 14 03 59.6 +2.4**
baz=144,slow=19,SNR=3.0
DAVOX LR LR 14 10 53.7
comp=Z,994nm,18.2s,baz=97,slow=41
WERN Wernitzgruen 15.24 316 *e*P **Pn 14 03 55.2 -2.2**
comp=Z,31nm,1.4s
TANN Tannenbergstha 15.27 316 *e*P **Pn 14 03 57.5 -0.3**
comp=Z,55nm,1.7s
GUNZ Gunzen 15.31 316 *e*P **Pn 14 03 58.2 -0.1**
comp=Z,21nm,1.1s
WERD Werda 15.37 316 *e*P **Pn 14 03 56.6 -2.5**
comp=Z,32nm,1.4s
DAVA Damuels 15.38 303⇑*i*P **Pn 14 04 04.8 +5.5**
comp=Z,20nm,0.8s
DAVA Damuels 15.38 303⇓*i*Pn **Pn 14 04 00.9 +1.6**
comp=Z,20nm,0.8s
OBN Obninsk 15.48 16*e*P **Pn 14 03 59.6 -1.0**
OBN *e*S **Sn 14 06 45.8 -6.1**
OBN pmax pmax
comp=Z,87nm,1.6s
OBN MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 15.48 16 *e*P **Pn 14 03 57.1 -3.5**
comp=Z,39nm,0.6s
OBN Obninsk 15.48 16 *e*P **Pn 14 03 59.6 -1.0**
comp=Z,87nm,1.6s
CLL Collm 15.52 320 *e*P **Pn 14 04 01.0 -0.1**
comp=Z,40nm,1.3s
CLL Collm 15.52 320 *i*P **Pn 14 04 03.7 +2.6**
CLL pmax pmax
comp=Z,35nm,1.5s
CLL MLR MLR
comp=Z,6μm,10.1s
CLL Collm 15.52 320 *i*P **Pn 14 04 03.7 +2.6**
comp=Z,35nm,1.5s
CLL *i* 14 04 08.2
CLL *e* 14 04 17.0
CLL Collm 15.52 320 *e*P **Pn 14 04 01.0 -0.1**
CLL *i*pP pP 14 04 03.7 -5.7
comp=Z,35nm,1.5s
CLL *i* (PP) 14 04 08.2
CLL *ex* x 14 04 17.0
GRA1 Grafenberg Arr 15.56 312 *e*P **Pn 14 04 01.1 -0.5**
GRF Grafenberg Arr 15.56 312 *e*P **Pn 14 04 01.1 -0.5**
GRF *e*L 14 17 20.6
comp=Z,336nm,18.1s
GRF Grafenberg Arr 15.56 312 *e*P **Pn 14 04 01.1 -0.5**
MOX Moxa 15.84 316 *e*P **Pn 14 04 04.2 -1.1**
comp=Z,57nm,1.7s
MOX Moxa 15.84 316 *e*P **Pn 14 04 10.0 +4.7**
comp=Z,73nm,1.9s
MOX
comp=Z,2μm,15.0s
MOX Moxa 15.84 316 *e*P **Pn 14 04 10.0 +4.7**
MOX pmax pmax
comp=Z,71nm,1.9s
MOX MLR MLR
comp=Z,73μm,15.0s
RORO 15.93 290 P **Pn 14 04 09.0 +2.6**
IMI Imperia 16.04 289 P **Pn 14 04 12.8 +5.0**
comp=Z,22nm,1.0s
KEST Kesra 16.20 259 Pn **Pn 14 04 11.5 +1.6**
comp=Z,0.1nm,0.3s,baz=21,slow=8.1,SNR=8.8
KEST LR LR 14 11 49.3
comp=Z,308nm,18.5s,baz=210,slow=42
ORO Oropa 16.21 295 P **Pn 14 04 14.4 +4.3**
ORX Oropa 16.21 295 P **Pn 14 04 11.6 +1.5**
SAOF Saorge 16.29 290 *e*P **Pn 14 04 15.7 +4.7**
MOS Moscow 16.29 18 *e*P **Pn 14 04 06.9 -4.2**
MOS *e*S **Sn 14 07 07.8 -3.8**
MOS pmax pmax
comp=Z,900nm,2.7s
MOS pmax pmax
comp=Z,258nm,1.9s
MOS MLR MLR
comp=Z,2μm,13.2s
STU Stuttgart 16.35 307 P **Pn 14 04 08.6 -3.2**
STU pmax pmax
comp=Z,35nm,0.8s
STU Stuttgart 16.35 307 P **Pn 14 04 08.6 -3.1**
comp=Z,35nm,0.8s
SBF Sospel 16.36 289 *e*P **Pn 14 04 15.4 +3.4**
comp=Z,214nm,1.0s
SBF Sospel 16.36 289 *e*P **Pn 14 04 15.4 +3.4**
SBF pmax pmax
comp=Z,107nm,1.0s
SBF Sospel 16.36 289 *e*P **Pn 14 04 15.4 +3.4**
comp=Z,107nm,1.0s
AUTN L'Aution 16.38 290 *e*P **Pn 14 04 16.2 +4.0**
REVF Revere 16.40 289 *e*P **Pn 14 04 17.0 +4.5**
LUCF Luceram 16.43 289 *e*P **Pn 14 04 17.7 +4.9**
STV Sta Anna Valdi 16.47 290 P **Pn 14 04 16.2 +2.8**
TOUF Mont Tournerai 16.51 290 *e*P **Pn 14 04 18.8 +5.0**
MVIF Mont Vial 16.57 289 *e*P **Pn 14 04 19.5 +4.9**
RSP Reno Superiore 16.64 293 P **Pn 14 04 16.8 +1.4**
PZZ Prazzo 16.66 291 P **Pn 14 04 17.8 +2.0**
BFO Black Forest 16.72 305 *e*P **Pn 14 04 14.3 -2.2**
comp=Z,51nm,1.4s
BFO Black Forest 16.72 305 *e*P **Pn 14 04 14.3 -2.2**
BFO pmax pmax
comp=Z,2.0nm,1.4s
LSD Ceresole Reale 16.75 295 P **Pn 14 04 19.6 +2.7**
FELD Feldberg im Sc 16.77 303 *e*P pP 14 04 27.3 +4.0
UBBA Unterbreizbach 16.81 314 *e*P **Pn 14 04 16.4 -1.2**
comp=Z,96nm,2.1s
FRF La Foret Royal 16.91 288 *e*P **Pn 14 04 21.5 +2.6**
MBDF Montbardon 16.92 292 *e*P **Pn 14 04 21.7 +2.7**
comp=Z,222nm,1.3s
MBDF Montbardon 16.92 292 *e*P **Pn 14 04 21.7 +2.7**
MBDF pmax pmax
comp=Z,111nm,1.3s
MBDF Montbardon 16.92 292 *e*P **Pn 14 04 21.7 +2.7**
comp=Z,111nm,1.3s
TOD Tromm 16.92 309 *e*P **Pn 14 04 21.7 +2.7**
LMR La Mourre 17.00 287 *e*P **Pn 14 04 22.1 +2.0**
BNI Bardonecchia 17.03 293 P **Pn 14 04 21.7 +1.3**
BNI pmax pmax
comp=Z,28nm,0.8s
BNI Bardonecchia 17.03 293 P **Pn 14 04 21.7 +1.3**
comp=Z,28nm,0.8s
BNI Bardonecchia 17.03 293 P **Pn 14 04 21.7 +1.3**
comp=Z,28nm,0.8s
LPG La Plagne 17.04 294 *e*P **Pn 14 04 23.7 +3.1**
comp=Z,87nm,1.1s
LPG La Plagne 17.04 294 *e*P **Pn 14 04 23.7 +3.1**
LPG pmax pmax
comp=Z,44nm,1.1s
LPG La Plagne 17.04 294 *e*P **Pn 14 04 23.7 +3.1**
comp=Z,44nm,1.1s
LPL La Plagne 17.06 295 *e*P **Pn 14 04 23.2 +2.4**
comp=Z,63nm,0.9s
LPL La Plagne 17.06 295 *e*P **Pn 14 04 23.2 +2.4**
LPL pmax pmax
comp=Z,32nm,0.9s
LPL La Plagne 17.06 295 *e*P **Pn 14 04 23.2 +2.4**
comp=Z,32nm,0.9s
MOF Molkenrain 17.32 302 *e*P **Pn 14 04 28.0 +3.9**
WLS Welschbruch 17.36 304 *e*P **Pn 14 04 27.8 +3.3**
LOMF Lomont 17.38 301 *e*P **Pn 14 04 28.9 +4.1**
TNS Taunus Mts 17.39 311 *e*P **Pn 14 04 21.6 -3.4**
comp=Z,23nm,1.4s
TNS Taunus Mts 17.39 311 *e*P **Pn 14 04 21.6 -3.4**
TNS pmax pmax
comp=Z,60nm,1.4s
BSD Bornholm Skovb 17.40 332 *i*P **Pn 14 04 25.2 +0.2**
comp=Z,99nm,1.3s
BSD *i* 14 07 41.3
BSD
comp=Z,1μm,19.0s
BSD Bornholm Skovb 17.40 332 *e*P **Pn 14 04 25.2 +0.2**
BSD *i* 14 07 41.3
BSD pmax pmax
comp=Z,99nm,1.3s
BSD MLR MLR
comp=Z,1μm,19.0s
BSD Bornholm Skovb 17.40 332 *e*P **Pn 14 04 25.2 +0.2**
comp=Z,99nm,1.3s
BSD *i* 14 07 41.3
CDF Champ du Feu 17.41 304 *e*P **Pn 14 04 26.4 +1.3**
comp=Z,99nm,1.2s
CDF Champ du Feu 17.41 304 *e*P **Pn 14 04 26.4 +1.3**
CDF pmax pmax
comp=Z,49nm,1.3s
CDF Champ du Feu 17.41 304 *e*P **Pn 14 04 26.4 +1.3**
comp=Z,50nm,1.2s
ECH Echery 17.42 304 *e*P **Pn 14 04 28.2 +2.9**
HINF Hinteralfeld 17.49 302 *e*P **Pn 14 04 27.8 +1.6**
ORIF Oris-en-Rattie 17.57 292 *e*P **Pn 14 04 29.6 +2.4**
comp=Z,51nm,1.0s
ORIF *e*MLR MLR
comp=Z,2μm,19.8s
ORIF Oris-en-Rattie 17.57 292 *e*P **Pn 14 04 29.6 +2.4**
ORIF pmax pmax
comp=Z,25nm,1.0s
ORIF Oris-en-Rattie 17.57 292 *e*P **Pn 14 04 29.6 +2.4**
comp=Z,25nm,1.0s
CABF La Chapelle 17.70 298 *e*P **Pn 14 04 29.9 +1.1**
comp=Z,194nm,1.7s
CABF La Chapelle 17.70 298 *e*P **Pn 14 04 29.9 +1.1**
CABF pmax pmax
comp=Z,97nm,1.7s
CABF La Chapelle 17.70 298 *e*P **Pn 14 04 29.9 +1.1**
comp=Z,97nm,1.7s
SMRF Simiane la Rot 17.71 289 *e*P **Pn 14 04 30.5 +1.6**
comp=Z,68nm,1.4s
SMRF Simiane la Rot 17.71 289 *e*P **Pn 14 04 30.5 +1.6**
comp=Z,34nm,1.4s
HAU Haudompre 17.87 302 *e*P **Pn 14 04 31.7 +0.8**
HAU *e*MLR MLR
comp=Z,1μm,21.2s
VSU Vasula 18.06 356*c i*P **Pn 14 04 32.8 -0.5**
VSU Vasula 18.06 356 *i*P **Pn 14 04 32.8 -0.5**
MIB Mutribah 18.34 120 *e*P **Pn 14 04 35.7 -0.9**
MIB AMb AMB 14 04 39.6
comp=Z,98nm,0.7s
VIVF Saint-Julien-l 18.42 292 *e*P **Pn 14 04 38.8 +1.2**
comp=Z,32nm,1.0s
VIVF Saint-Julien-l 18.42 292 *e*P **Pn 14 04 38.8 +1.2**
VIVF pmax pmax
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 18.42 292 *e*P **Pn 14 04 38.8 +1.2**
comp=Z,16nm,1.0s
WLF Walferdange 18.53 307 P **Pn 14 04 39.1 +0.2**
NAY Al-Naaiem 18.63 121 *e*P **Pn 14 04 39.5 -0.7**
NAY AMb AMB 14 04 41.6
comp=Z,42nm,0.8s
UMR Umm Al-Rimmam 18.75 120 *e*P **Pn 14 04 40.9 -0.7**
UMR AMb AMB 14 04 43.7
comp=Z,145nm,1.1s
COP Copenhagen 18.75 330 *i*P **Pn 14 04 41.4 -0.3**
comp=Z,45nm,0.9s
COP
comp=Z,630nm,16.0s
COP Copenhagen 18.75 330 *e*P **Pn 14 04 41.4 -0.3**
COP pmax pmax
comp=Z,45nm,0.9s
COP MLR MLR
comp=Z,630nm,16.0s
COP Copenhagen 18.75 330 *e*P **Pn 14 04 41.4 -0.3**
comp=Z,45nm,0.9s
MEZF Maizieres J'vi 18.84 303 *e*P **Pn 14 04 41.6 -1.2**
LASF Ste Croix 18.95 289 *e*P **Pn 14 04 44.5 +0.4**
comp=Z,112nm,1.5s
LASF Ste Croix 18.95 289 *e*P **Pn 14 04 44.5 +0.4**
comp=Z,56nm,1.5s
MEM Membach 18.98 310 P **Pn 14 04 46.3 +1.9**
KBD Kabd 18.98 121 *e*P **Pn 14 04 43.2 -1.2**
KBD AMb AMB 14 04 45.4
comp=Z,224nm,0.7s
SET Setif 19.01 265 P **Pn 14 04 47.0 +2.2**
RDF Al-Radifah 19.05 121 *e*P **Pn 14 04 44.4 -0.9**
RDF AMb AMB 14 04 47.5
comp=Z,123nm,1.3s
HGN Heimansgroeve 19.08 310 *e*P **Pn 14 04 47.1 +1.5**
HGN *ex* x 14 10 14.4
WTSB Winterswijk 19.12 314 *e*P **Pn 14 04 47.4 +1.4**
SMF Signal de Mont 19.23 297 *e*P **Pn 14 04 47.1 -0.3**
comp=Z,183nm,1.6s
SMF Signal de Mont 19.23 297 *e*P **Pn 14 04 47.1 -0.3**
SMF pmax pmax
comp=Z,92nm,1.6s
SMF Signal de Mont 19.23 297 *e*P **Pn 14 04 47.1 -0.3**
comp=Z,92nm,1.6s
PLDF La Plantade 19.28 295 *e*P **Pn 14 04 49.8 +1.8**
BCLA Clavier 19.32 309 P **Pn 14 04 49.8 +1.3**
LOR Lormes 19.33 299 *e*P **Pn 14 04 48.3 -0.3**
comp=Z,84nm,1.2s
LOR *e*MLR MLR
comp=Z,1μm,22.2s
LOR Lormes 19.33 299 *e*P **Pn 14 04 48.3 -0.3**
LOR pmax pmax
comp=Z,42nm,1.2s
LOR Lormes 19.33 299 *e*P **Pn 14 04 48.3 -0.3**
comp=Z,42nm,1.2s
PUL Pulkovo 19.33 2 P **Pn 14 04 41.1 -7.5**
PUL *e*S **Sn 14 08 20.2 -4.9**
PUL MLR MLR
comp=N,1μm,12.0s
PUL MLR MLR
comp=Z,1μm,12.0s
PUL MLR MLR
comp=E,272nm,9.0s
LBL Lubilhac 19.46 293 *e*P **Pn 14 04 50.0 -0.2**
GIVF Givet 19.49 308 *e*P **Pn 14 04 48.8 -1.7**
comp=E,84nm,1.2s
GIVF Givet 19.49 308 *e*P **Pn 14 04 48.8 -1.7**
GIVF pmax pmax
comp=Z,42nm,1.2s
GIVF Givet 19.49 308 *e*P **Pn 14 04 48.8 -1.7**
comp=Z,42nm,1.2s
SSF Saint Saulge 19.53 298 *e*P **Pn 14 04 50.4 -0.6**
comp=Z,36nm,0.9s
SSF Saint Saulge 19.53 298 *e*P **Pn 14 04 50.4 -0.6**
SSF pmax pmax
comp=Z,18nm,0.9s
SSF Saint Saulge 19.53 298 *e*P **Pn 14 04 50.4 -0.6**
comp=Z,18nm,0.9s
AVF Avril sur Loir 19.58 297 *e*P **Pn 14 04 51.0 -0.7**
comp=Z,98nm,1.3s
AVF Avril sur Loir 19.58 297 *e*P **Pn 14 04 51.0 -0.7**
AVF pmax pmax
comp=Z,49nm,1.3s
AVF Avril sur Loir 19.58 297 *e*P **Pn 14 04 51.0 -0.7**
comp=Z,49nm,1.3s
DOU Dourbes 19.62 307 P **Pn 14 04 52.0 -0.1**
AGO Saint Agoulin 19.63 295 *e*P **Pn 14 04 49.5 -2.7**
EJON La Jonquera 19.67 284 P **Pn 14 04 52.4 -0.3**
comp=Z,9.1nm,0.5s
EJON La Jonquera 19.67 284 P **Pn 14 04 52.4 -0.3**
comp=Z,9.1nm,0.5s
BAIF Baives 19.85 307 *e*P **Pn 14 04 53.6 -1.2**
comp=Z,48nm,1.1s
BAIF Baives 19.85 307 *e*P **Pn 14 04 53.6 -1.2**
BAIF pmax pmax
comp=Z,24nm,1.1s
BAIF Baives 19.85 307 *e*P **Pn 14 04 53.6 -1.2**
comp=Z,24nm,1.1s
BGF Bois d'Agland 19.89 296 *e*P **Pn 14 04 54.6 -0.7**
comp=Z,78nm,1.0s
BGF Bois d'Agland 19.89 296 *e*P **Pn 14 04 54.6 -0.7**
BGF pmax pmax
comp=Z,39nm,1.0s
BGF Bois d'Agland 19.89 296 *e*P **Pn 14 04 54.6 -0.7**
comp=Z,39nm,1.0s
SNF Seneffe 19.96 308 P **Pn 14 04 55.7 -0.3**
ATAF Djebel Tarf 19.98 265 P **Pn 14 04 55.9 -0.4**
ETOS Mallorca 20.05 277 P **P 14 04 54.9 -0.4**
comp=Z,47nm,0.9s
ETOS Mallorca 20.05 277 P **P 14 04 54.9 -0.4**
comp=Z,47nm,0.9s
MTLF Montolieu 20.13 287 *e*P **P 14 04 57.6 +1.3**
comp=Z,141nm,1.5s
MTLF Montolieu 20.13 287 *e*P **P 14 04 57.6 +1.3**
MTLF pmax pmax
comp=Z,71nm,1.5s
MTLF Montolieu 20.13 287 *e*P **P 14 04 57.6 +1.3**
comp=Z,71nm,1.5s
AKET Djebel Ketaf 20.21 265 P **P 14 04 59.1 +1.9**
CAF Calviac 20.27 292 *e*P **P 14 04 59.7 +1.9**
TCF Toulx Ste Croi 20.29 296 *e*P **P 14 04 58.6 +0.6**
ADJB Djebel Djouab 20.52 266 P **P 14 05 01.0 +0.5**
MUD Monsted U'grnd 20.59 328 *i*P **P 14 05 06.3 +5.0**
comp=Z,23nm,1.2s
MUD *i*S **S 14 08 53.3 +2.2**
comp=Z,1μm,16.0s
MUD Monsted U'grnd 20.59 328 *e*P **P 14 05 06.3 +5.0**
MUD *i*S **S 14 08 53.3 +2.2**
MUD pmax pmax
comp=Z,23nm,1.2s

MUD MLR MLR
comp=Z,1μm,16.0s,MS4.4
MUD Monsted U'grnd 20.59 328 *eP* **P 14 05 06.3 +5.0**
comp=Z,23nm,1.2s
MUD *i* S **S 14 08 53.3 +2.2**
ABA Alger-Bouzarea 20.61 268 P **P 14 05 03.7 +2.2**
RJF Les Rejaudoux 20.68 293 *eP* **P 14 05 03.7 +1.4**
comp=Z,208nm,1.6s
RJF *e*MLR MLR
comp=Z,1μm,22.5s
RJF Les Rejaudoux 20.68 293 *eP* **P 14 05 03.7 +1.4**
RJF pmax pmax
comp=Z,104nm,1.6s
RJF MLR MLR
comp=Z,1μm,22.5s,MS4.3
RJF Les Rejaudoux 20.68 293 *eP* **P 14 05 03.7 +1.4**
comp=Z,104nm,1.6s
RJF LR LR
comp=Z,1μm,22.5s,MS4.3
EMHD Djebel Mahouad 20.87 267 P **P 14 05 02.7 -1.6**
ORR Orenburg 20.93 49 P **P 14 05 04.7 -0.2**
ORR pmax pmax
comp=Z,140nm,1.2s
ORR Orenburg 20.93 49 P **P 14 05 04.7 -0.2**
comp=Z,140nm,1.2s
FINES FINESS Array B 21.07 356 P **P 14 05 06.0 -0.5**
comp=Z,8.4nm,0.6s,mb4.2,baz=163,slow=10,SNR=32
FINES S **S 14 08 52.5 -8.1**
comp=Z,3.5nm,0.8s,baz=168,slow=21,SNR=3.5
FINES LR LR 14 13 26.1
comp=Z,1μm,20.2s,MS4.3,baz=170,slow=37
FINES FINESS Array B 21.07 356 *i* P **P 14 05 06.0 -0.5**
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES FINESS Array B 21.07 356 P **P 14 05 06.0 -0.5**
FINES S **S 14 08 52.5 -8.1**
FINES LR LR 14 13 26.1
FINES FINESS Array B 21.07 356 *i* P **P 14 05 06.0 -0.5**
comp=Z,8.0nm,0.6s,mb4.2
FIA1 FINESS Array S 21.07 356 *eP* **P 14 05 05.9 -0.6**
FIA1 FINESS Array S 21.07 356 *eP* **P 14 05 05.9 -0.6**
EPOB Poblet 21.11 282 P **P 14 05 08.4 +1.4**
comp=Z,27nm,0.9s,mb4.6
EPOB Poblet 21.11 282 P **P 14 05 08.4 +1.5**
comp=Z,27nm,0.9s,mb4.6
EPF Esparros 21.52 286 *eP* **P 14 05 11.5 +0.2**
EBIE Bielsa 21.68 285 P **P 14 05 13.8 +0.7**
comp=Z,20nm,0.6s,mb4.7
EBIE Bielsa 21.68 285 P **P 14 05 13.8 +0.8**
comp=Z,20nm,0.6s,mb4.7
ERTA Horta de San J 21.73 281 P **P 14 05 14.8 +1.3**
comp=Z,12nm,0.6s,mb4.5
KAF Kangasniemi 21.73 357 *ep* **P 14 05 12.7 -0.9**
comp=Z,8.3nm,0.6s,mb4.3,baz=171,slow=11
KAF Kangasniemi 21.73 357 *eP* **P 14 05 12.7 -0.9**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
HFS Hagfors 21.88 339 P **P 14 05 15.0 -0.2**
comp=Z,9.7nm,0.8s,mb4.3,baz=150,slow=12,SNR=12
HFS LR LR 14 14 08.3
comp=Z,592nm,18.1s,MS4.0,baz=151,slow=38
HFS Hagfors 21.88 339 P **P 14 05 15.0 -0.1**
HFS pmax pmax
comp=Z,10.0nm,0.8s
HFS MLR MLR
comp=Z,592nm,18.1s
MFF Saint Martin d 21.95 296 *eP* **P 14 05 15.7 -0.2**
comp=Z,68nm,0.9s,mb4.8
MFF Saint Martin d 21.95 296 *eP* **P 14 05 15.7 -0.2**
MFF pmax pmax
comp=Z,34nm,0.9s,mb4.8
MFF Saint Martin d 21.95 296 *eP* **P 14 05 15.7 -0.2**
comp=Z,34nm,0.9s,mb4.8
LDF La Druitiere 22.21 301 *eP* **P 14 05 17.9 -0.8**
comp=Z,74nm,0.9s,mb4.8
LDF La Druitiere 22.21 301 *eP* **P 14 05 17.9 -0.8**
LDF pmax pmax
comp=Z,37nm,0.9s,mb4.8
LDF La Druitiere 22.21 301 *eP* **P 14 05 17.9 -0.8**
comp=Z,37nm,0.9s,mb4.8
ESAC San Caprasio 22.23 283 P **P 14 05 19.1 +0.3**
comp=Z,24nm,0.6s,mb4.8
EMOS Mosqueruela 22.42 279 P **P 14 05 21.2 +0.3**
comp=Z,58nm,1.0s,mb5.0
EMOS Mosqueruela 22.42 279 P **P 14 05 21.2 +0.2**
comp=Z,58nm,1.0s,mb5.0
FLN La Foliniere 22.48 301 *eP* **P 14 05 21.3 -0.2**
comp=Z,62nm,0.9s,mb4.7
FLN *e*MLR MLR
comp=Z,1μm,20.0s
FLN La Foliniere 22.48 301 *eP* **P 14 05 21.3 -0.2**
FLN pmax pmax
comp=Z,31nm,0.9s,mb4.7
FLN MLR MLR
comp=Z,1μm,20.0s,MS4.4
FLN La Foliniere 22.48 301 *eP* **P 14 05 21.3 -0.2**
comp=Z,31nm,0.9s,mb4.7
FLN LR LR
comp=Z,1μm,20.0s,MS4.4
AKTK Aktyubinsk 22.50 54 P **P 14 05 21.0 -0.8**
AKTK S **S 14 09 27.3 -1.3**
AKTK LR LR 14 17 33.1
AKTK Aktyubinsk 22.50 54 P **P 14 05 21.0 -0.8**
comp=Z,17nm,1.2s,mb4.3
AKTO Aktyubinsk 22.50 54 P **P 14 05 21.0 -0.8**
comp=Z,16nm,1.2s,mb4.3,baz=254,slow=13,SNR=25
AKTO S **S 14 09 27.3 -1.3**
comp=Z,1.7nm,0.6s,baz=40,slow=19,SNR=3.8
AKTO LR LR 14 17 33.1
comp=Z,492nm,18.9s,MS4.0,baz=82,slow=46
AKTO Aktyubinsk 22.50 54 P **P 14 05 21.0 -0.8**
AKTO S **S 14 09 27.3 -1.3**
AKTO pmax pmax
comp=Z,17nm,1.2s,mb4.3
AKTO smax
comp=N,2.0nm,0.6s
AKTO MLR MLR
comp=Z,492nm,18.9s,MS4.0
JOF Joensuu 22.52 3 *ep* **P 14 05 20.4 -1.6**
comp=Z,10nm,0.6s,mb4.4
JOF Joensuu 22.52 3 *eP* **P 14 05 20.4 -1.6**
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
GRR Gorron 22.66 300 *eP* **P 14 05 22.5 -0.9**
SJPF Ste Jean 22.66 287 *eP* **P 14 05 22.8 -0.6**
comp=Z,33nm,0.8s,mb4.5
SJPF Ste Jean 22.66 287 *eP* **P 14 05 22.8 -0.6**
SJPF pmax pmax
comp=Z,17nm,0.8s,mb4.5
SJPF Ste Jean 22.66 287 *eP* **P 14 05 22.8 -0.6**
comp=Z,16nm,0.8s,mb4.5
KONO Kongsberg 22.73 334 *eP* **P 14 05 22.2 -2.0**
comp=Z,149nm,1.5s,mb5.2
ELIZ Elizondo 22.88 287 P **P 14 05 26.2 +0.5**
ELIZ pmax pmax
comp=Z,13nm,0.8s,mb4.4
ELIZ Elizondo 22.88 287 P **P 14 05 26.2 +0.5**
comp=Z,13nm,0.8s,mb4.4
NAO01 NORSAR Array S 23.26 337 *eP* **P 14 05 29.2 -0.6**
comp=Z,34nm,0.8s,mb4.8
NAO01 NORSAR Array S 23.26 337 *eP* **P 14 05 29.2 -0.6**
comp=Z,34nm,0.8s,mb4.8
NB2 NORSAR Subarra 23.32 338 P **P 14 05 29.4 -1.0**
comp=Z,24nm,1.0s,mb4.6,baz=142,slow=10
NB2 NORSAR Subarra 23.32 338 P **P 14 05 29.4 -1.0**
NB2 pmax pmax
comp=Z,24nm,1.0s,mb4.6
NOA NORSAR Array B 23.32 338 P **P 14 05 29.3 -1.1**
comp=Z,5.5nm,0.8s,mb4.0,baz=141,slow=9.7,SNR=14
NOA LR LR 14 16 19.4
comp=Z,1μm,20.7s,MS4.3,baz=140,slow=41
NOA NORSAR Array B 23.32 338 P **P 14 05 29.3 -1.1**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,1μm,20.7s
AB31 Akbulak array 23.46 58 P **P 14 05 30.4 -1.6**
AB31 pmax pmax
comp=Z,19nm,1.0s,mb4.5
AB31 Akbulak array 23.46 58 P **P 14 05 30.4 -1.6**
comp=Z,19nm,1.0s,mb4.5
ETOB Tobarra 23.60 276 P **P 14 05 33.4 +0.2**
comp=Z,22nm,1.1s,mb4.5
ETOB Tobarra 23.60 276 P **P 14 05 33.4 +0.2**
comp=Z,22nm,1.1s,mb4.5
ECRI Cripan 23.64 286 P **P 14 05 33.2 -0.4**
ECRI pmax pmax
comp=Z,3.0nm,0.2s,mb4.4
ECRI Cripan 23.64 286 P **P 14 05 33.2 -0.4**
comp=Z,2.9nm,0.2s,mb4.4
ECRI Cripan 23.64 286 P **P 14 05 33.2 -0.4**
comp=Z,2.9nm,0.2s,mb4.4
SGMF Saint Gilles 23.76 300 *eP* **P 14 05 33.0 -1.7**
ROSF Rostrenen 24.25 300 *eP* **P 14 05 38.8 -0.4**
comp=Z,78nm,1.1s,mb4.8
ROSF Rostrenen 24.25 300 *eP* **P 14 05 38.8 -0.4**
ROSF pmax pmax
comp=Z,39nm,1.1s,mb4.8
ROSF Rostrenen 24.25 300 *eP* **P 14 05 38.8 -0.4**
comp=Z,39nm,1.1s,mb4.8
ELAN Lanestosa 24.26 287 P **P 14 05 38.6 -0.7**
comp=Z,14nm,0.7s,mb4.5
EVIA Vianos 24.32 276 P **P 14 05 40.1 +0.2**
EVIA pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
EVIA Vianos 24.32 276 P **P 14 05 40.1 +0.3**
comp=Z,3.4nm,0.4s,mb4.1
EVIA Vianos 24.32 276 P **P 14 05 40.1 +0.2**
comp=Z,3.4nm,0.4s,mb4.1
EQES Quesada 24.97 274 P **P 14 05 45.1 -0.7**
comp=Z,15nm,0.7s,mb4.6
EQES Quesada 24.97 274 P **P 14 05 45.1 -0.7**
comp=Z,15nm,0.7s,mb4.6
ARU Arti 24.99 40⇓ *iP* **P 14 05 45.5 -0.4**
ARU *e*PPP 14 06 26.8
ARU *e*S **S 14 10 09.3 0.0**
ARU *e*SSS 14 11 05.1
ARU pmax pmax
comp=Z,78nm,1.3s,mb5.1
ARU MLR MLR
comp=E,500nm,18.0s,MS4.2
ARU MLR MLR
comp=Z,600nm,18.0s,MS4.1
ARU MLR MLR
comp=N,400nm,18.5s,MS4.2
ARU Arti 24.99 40 *eP* **P 14 05 45.4 -0.5**
comp=N,64nm,1.1s,mb5.1
ARU Arti 24.99 40 *eP* **P 14 05 45.4 -0.5**
comp=N,64nm,1.1s,mb5.1
EBER Berja 25.10 272 P **P 14 05 47.3 +0.3**
EBER Berja 25.10 272 P **P 14 05 47.3 +0.3**
GUD Guadarrama 25.14 281 P **P 14 05 48.1 +0.8**
GUD pmax pmax
comp=Z,11nm,0.7s,mb4.5
GUD Guadarrama 25.14 281 P **P 14 05 48.1 +0.8**
comp=Z,11nm,0.7s,mb4.5
GUD Guadarrama 25.14 281 P **P 14 05 48.1 +0.8**
comp=Z,11nm,0.7s,mb4.5
ESDC Sonseca Array 25.19 279 P **P 14 05 47.2 -0.5**
comp=Z,7.0nm,0.6s,mb4.3,baz=72,slow=9.7,SNR=22
ESDC LR LR 14 16 33.6
comp=Z,326nm,18.7s,MS3.9,baz=50,slow=38
ESDC Sonseca Array 25.19 279 P **P 14 05 46.8 -0.9**
comp=Z,8.3nm,0.6s,mb4.4
ESDC Sonseca Array 25.19 279 P **P 14 05 46.8 -0.9**
comp=Z,8.3nm,0.6s,mb4.4
ESLA Sonseca Array 25.19 279 *eP* **P 14 05 47.9 +0.1**
comp=Z,4.8nm,0.9s,mb4.0
ESLA Sonseca Array 25.19 279 *eP* **P 14 05 47.9 +0.2**
comp=Z,4.8nm,0.9s,mb4.0
EBAN Banos Encina 25.42 275 P **P 14 05 48.6 -1.2**
EBAN pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
EBAN Banos Encina 25.42 275 P **P 14 05 48.6 -1.2**
comp=Z,9.5nm,0.6s,mb4.5
EBAN Banos Encina 25.42 275 P **P 14 05 48.6 -1.2**
comp=Z,9.5nm,0.6s,mb4.5
ECOG Cogollos-Vega 25.50 273 P **P 14 05 49.2 -1.4**
ECOG pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
ECOG Cogollos-Vega 25.50 273 P **P 14 05 49.2 -1.4**
comp=Z,6.1nm,0.6s,mb4.3
ECOG Cogollos-Vega 25.50 273 P **P 14 05 49.2 -1.4**
comp=Z,6.1nm,0.6s,mb4.3
ERON Agron 25.76 273 P **P 14 05 50.7 -2.2**
comp=Z,6.5nm,0.6s,mb4.3
ERON Agron 25.76 273 P **P 14 05 50.7 -2.3**
comp=Z,6.5nm,0.6s,mb4.3
EKA Eskdalemuir Ar 25.91 316 P **P 14 05 54.0 -0.3**
comp=Z,9.2nm,0.9s,mb4.3,baz=111,slow=9.0,SNR=15
EKA Eskdalemuir Ar 25.91 316 P **P 14 05 54.0 -0.3**
EKA pmax pmax
comp=Z,9.0nm,0.9s
EADA Adamuz 26.02 276 P **P 14 05 54.2 -1.1**
comp=Z,36nm,0.9s,mb4.9
EADA Adamuz 26.02 276 P **P 14 05 54.2 -1.1**
comp=Z,36nm,0.9s,mb4.9
EMIJ Mijas 26.64 273 P **P 14 05 59.6 -1.3**
comp=Z,9.8nm,0.5s,mb4.6
EMIJ Mijas 26.64 273 P **P 14 05 59.6 -1.3**
comp=Z,9.8nm,0.5s,mb4.6
APA Apatity 27.25 4⇑ *eP* **P 14 06 08.0 +1.6**
APA *e*S **S 14 10 48.0 +2.9**
APA pmax pmax
comp=Z,22nm,1.2s,mb4.6
APA MLR MLR
comp=Z,2μm,11.0s,MS4.9
APA Apatity 27.25 4 *eP* **P 14 06 08.0 +1.6**
comp=Z,22nm,1.2s,mb4.6
HATD Hatta, Dubai 27.50 116 P **P 14 06 08.8 +0.2**
SNR=6.3
ASHO Ashiyiah 27.54 117 P **P 14 06 09.3 +0.3**
SNR=11
EMIN Mina Concepcio 27.72 276 P **P 14 06 10.1 -0.5**
comp=Z,96nm,1.6s,mb5.2
EMIN Mina Concepcio 27.72 276 P **P 14 06 10.1 -0.5**
comp=Z,96nm,1.6s,mb5.2
MDT Midelt 27.93 265 P **P 14 06 12.7 +0.2**
comp=Z,3.1nm,0.9s,mb3.9,baz=68,slow=12,SNR=4.6
MDT LR LR 14 17 35.5
comp=Z,170nm,18.9s,MS3.7,baz=300,slow=37
ZFT Errachidia 28.08 263 *i* P **P 14 06 15.0 +1.2**
MIF Mishlifen 28.15 266 *i* P **P 14 06 16.0 +1.5**
ARQ Araqi 28.75 118 P **P 14 06 19.5 -0.3**
SNR=31
HOQ Hoqain 29.12 117 P **P 14 06 23.0 -0.1**
SNR=9.1
ARCES ARCESS Array B 29.18 357 P **P 14 06 23.1 -0.5**
comp=Z,18nm,1.0s,mb4.8,baz=157,slow=6.6,SNR=9.7
ARCES LR LR 14 18 39.8
comp=Z,512nm,18.4s,MS4.2,baz=175,slow=38
ARCES ARCESS Array B 29.18 357 P **P 14 06 23.1 -0.5**
ARCES pmax pmax
comp=Z,18nm,1.0s
ARCES MLR MLR
comp=Z,512nm,18.4s
KEV Kevo 29.36 359 *ep* **P 14 06 24.3 -0.9**
BSY Bisya 29.61 118 P **P 14 06 28.1 +0.6**
SNR=7.0
BSYO Bisya 29.65 118 P **P 14 06 28.1 +0.4**
SNR=7.0
ZRNK Zerenda 29.71 52 *i* P **P 14 06 26.6 -1.7**
ZRNK pmax pmax
comp=Z,19nm,1.5s,mb4.6
ZRNK Zerenda 29.71 52 *i* P **P 14 06 26.6 -1.7**
comp=Z,19nm,1.5s,mb4.6
BIDO Bidbid 29.72 116 P **P 14 06 28.1 -0.3**
SNR=9.0
SMDO Samad 29.98 117 P **P 14 06 30.1 -0.5**
SNR=13
WSAR Wadi Sarin 30.25 116 P **P 14 06 32.2 -0.9**
comp=Z,11nm,0.8s,mb4.6,baz=328,slow=7.3,SNR=24
WSAR LR LR 14 21 25.1
comp=Z,521nm,19.6s,MS4.2,baz=329,slow=42
WSAR Wadi Sarin 30.25 116 P **P 14 06 32.2 -0.9**
JMDO Jabal Madar 30.48 118 P **P 14 06 34.9 -0.2**
SNR=14
BRVK Borovoye 30.49 52 *eP* **P 14 06 32.4 -2.8**
BVA0 Borovoye Array 30.55 52 *i* P **P 14 06 35.7 0.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
BVA0 Borovoye Array 30.55 52 *i* P **P 14 06 35.7 0.0**
comp=Z,1.0nm,0.7s,mb3.8
BVAR Borovoye Array 30.55 52 P **P 14 06 35.7 -0.1**
comp=Z,0.8nm,0.2s,mb4.1,baz=278,slow=10,SNR=6.6
BVAR LR LR 14 22 12.6
comp=Z,274nm,18.9s,MS3.9,baz=138,slow=43
BVAR Borovoye Array 30.55 52 P **P 14 06 35.7 0.0**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,275nm,18.9s
CHKZ Chkalovo 30.77 51 *i* P **P 14 06 37.6 -0.1**
CHKZ pmax pmax
comp=Z,27nm,2.0s,mb4.7
CHKZ Chkalovo 30.77 51 *i* P **P 14 06 37.6 -0.1**
comp=Z,27nm,2.0s,mb4.7
KK31 Karatay Array 30.81 71 *i* P **P 14 06 38.2 +0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KK31 Karatay Array 30.81 71 *i* P **P 14 06 38.2 +0.1**
comp=Z,4.0nm,0.6s,mb4.4
KKAR Karatay Array 30.81 71 P **P 14 06 38.2 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
VOSK Vostochnaya 30.87 52 P **P 14 06 39.2 +0.7**
VOSK pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
VOSK Vostochnaya 30.87 52 P **P 14 06 39.2 +0.7**
comp=Z,1.0nm,0.8s,mb3.7
WBK Wadi Bani Khal 30.90 116 P **P 14 06 39.1 +0.3**
SNR=16
WHFO Wadi Hawf 30.98 129 P **P 14 06 38.8 -0.7**
SNR=7.4
RBK Rabkut 31.56 129 P **P 14 06 45.4 +0.8**
SNR=6.9
AAK Ala-Archa 33.78 71 P **P 14 07 04.7 +0.6**
SNR=10
AAK Ala-Archa 33.78 71 *eP* **P 14 07 03.3 -0.7**
AAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AAK Ala-Archa 33.78 71 *eP* **P 14 07 03.3 -0.7**
comp=Z,8.5nm,0.7s,mb4.8
FRU Bishkek 33.82 71 *eP* **P 14 07 06.0 +1.5**
FRU *e* 14 08 11.0
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU Bishkek 33.82 71 *eP* **P 14 07 06.0 +1.5**
comp=Z,100nm,2.0s,mb5.4
TOA0 Torodi Ar. Sit 36.27 229 *eP* **P 14 07 24.5 -1.0**
TOA0 Torodi Ar. Sit 36.27 229 *eP* **P 14 07 24.5 -1.1**
TORD Torodi Ar. Bea 36.27 229 P **P 14 07 25.1 -0.5**
comp=Z,10nm,0.7s,mb4.9,baz=34,slow=8.6,SNR=17
TORD PcP PcP 14 09 49.5 -1.0
comp=Z,0.7nm,0.7s,baz=26,slow=3.7,SNR=2.2
TORD Torodi Ar. Bea 36.27 229 P **P 14 07 25.1 -0.5**
TORD PcP PcP 14 09 49.5 -1.0
NVS Novosibirsk 38.23 49 *i* P **P 14 07 42.6 +0.4**
NVS *i* S **S 14 13 38.6 +3.2**
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=Z,14nm,0.7s,mb4.8
NVS pmax pmax
comp=E,16nm,1.1s
NVS smax
comp=N,26nm,2.0s
NVS smax
comp=E,7.0nm,1.6s
MK31 Makanchi Array 38.43 62 *i* P **P 14 07 44.0 +0.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MK31 Makanchi Array 38.43 62 *eP* **P 14 07 44.0 +0.1**
MK31 Makanchi Array 38.43 62 *i* P **P 14 07 44.0 +0.1**
comp=Z,10.0nm,0.7s,mb4.7
MKAR Makanchi Array 38.43 62 P **P 14 07 44.3 +0.5**
comp=Z,7.0nm,0.7s,mb4.5,baz=283,slow=6.9,SNR=52
MKAR LR LR 14 26 49.3
comp=Z,399nm,21.2s,MS4.2,baz=274,slow=41
MKAR Makanchi Array 38.43 62 *i* P **P 14 07 44.0 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
NDI New Delhi 40.92 91 *eP* **P 14 08 03.5 -1.1**
KMBO Kilima Mbogo 42.08 168 P **P 14 08 15.2 +1.1**
comp=Z,4.9nm,1.3s,mb4.0,baz=357,slow=12,SNR=7.4
KMBO LR LR 14 27 36.8
comp=Z,171nm,18.1s,MS4.0,baz=269,slow=39
KMBO Kilima Mbogo 42.08 168 *eP* **P 14 08 13.2 -0.9**
KMBO pmax pmax
comp=Z,11nm,1.4s
KMBO Kilima Mbogo 42.08 168 *eP* **P 14 08 13.2 -0.9**
comp=Z,11nm,1.4s,mb4.3
KMBO Kilima Mbogo 42.08 168 *eP* **P 14 08 13.2 -0.9**
comp=Z,11nm,1.4s,mb4.3
WMQ Urumqi 42.83 65⇓ *iP* **P 14 08 21.1 +0.9**
WMQ AP pP 14 08 25.5 +0.9
WMQ XP sP 14 08 28.0 +1.6
WMQ PP PP 14 10 03.0 +3.4
WMQ PPP 14 10 37.0
WMQ S **S 14 14 46.0 +1.9**
WMQ SS SS 14 17 51.0 -4.3
WMQ AMB AMB
comp=Z,19nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,163nm,4.5s
WMQ LR LR
comp=N,1μm,17.0s,MS5.0
WMQ LR LR
comp=E,921nm,13.8s,MS5.0
WMQ LR LR
comp=Z,1μm,25.3s
POO Poona 44.14 106 *ex* x 14 08 29.0
KOLN Koldanda 46.24 88 *eP* **P 14 08 47.5 0.0**
comp=Z,79nm,1.2s,mb5.5
GKN Gorkha 46.92 87 *eP* **P 14 08 52.3 -0.5**
comp=Z,70nm,1.2s,mb5.5
DMN Daman 47.47 88 *eP* **P 14 08 57.1 0.0**
comp=Z,76nm,1.2s,mb5.5
KKN Kakani 47.52 87 *eP* **P 14 08 56.9 -0.5**
comp=Z,18nm,0.8s,mb5.2
PKI Pulchoki 47.73 87 *eP* **P 14 08 59.0 -0.1**
comp=Z,96nm,1.6s,mb5.6
GUN Gumba 47.91 87 *eP* **P 14 09 00.3 -0.2**
comp=Z,44nm,1.0s,mb5.5
TLY Talaya 50.80 51 *eP* **P 14 09 23.4 +0.8**
TLY *e*S **S 14 16 41.8 +3.9**
TLY pmax pmax
comp=Z,35nm,1.5s,mb5.1
TLY MLR MLR
comp=Z,197nm,20.0s,MS4.1
TLY Talaya 50.80 51 *eP* **P 14 09 23.4 +0.8**
comp=Z,35nm,1.5s,mb5.1
ZAK Zakamensk 51.00 52⇑ *eP* **P 14 09 24.5 +0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
ZAK Zakamensk 51.00 52 *eP* **P 14 09 24.5 +0.4**
comp=Z,8.0nm,1.4s,mb4.5
GTA Gaotai 52.89 67 *eP* **P 14 09 38.8 +0.7**
GTA AP pP 14 09 42.3 -0.3
GTA PP PP 14 11 42.3 +4.7
GTA S **S 14 17 05.8 -0.8**
GTA SS SS 14 20 43.0 -2.5
GTA AMB AMB
comp=Z,11nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,88nm,5.3s
GTA LR LR
comp=N,168nm,16.4s,MS4.3
GTA LR LR
comp=E,157nm,15.2s,MS4.3
GTA LR LR
comp=Z,195nm,16.7s,MS4.2
SONM Songino Array 53.82 55 P **P 14 09 45.4 +0.3**
comp=Z,3.2nm,0.7s,mb4.4,baz=289,slow=8.6,SNR=26
SONM PcP PcP 14 10 52.6 +1.9
comp=Z,2.9nm,1.0s,baz=263,slow=4.5,SNR=4.1
SONM Songino Array 53.82 55 P **P 14 09 45.4 +0.4**
SONM 14 10 52.6
SONM pmax pmax
comp=Z,3.0nm,0.7s
BOD Bodaibo 54.41 41 *eP* **P 14 09 48.5 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOD Bodaibo 54.41 41 *eP* **P 14 09 48.5 -0.8**
comp=Z,10.0nm,1.1s,mb4.7
LSZ Lusaka 55.47 181 P **P 14 09 56.8 -0.1**
comp=Z,1.5nm,0.8s,mb4.1,baz=34,slow=7.3,SNR=2.4
LSZ Lusaka 55.47 181 P **P 14 09 56.8 -0.1**
CIT Chita 56.40 48 *eP* **P 14 10 02.0 -1.6**
LZH Lanzhou 57.24 68 *eP* **P 14 10 10.0 +0.4**
LZH PCP PcP 14 11 00.3 -3.6
LZH PP PP 14 12 18.6 +1.9
LZH *e*S **S 14 18 05.0 0.0**
LZH XS sS 14 18 15.0 +2.6
LZH AMB AMB
comp=Z,35nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,50nm,4.0s
LZH LR LR
comp=N,391nm,12.1s

LZH				LR	LR		
	comp=Z,675nm,14.8s,MS4.9						
LZH	**Lanzhou**	**57.24**	**68**	*eP*	**P**	**14 10 10.0**	**+0.4**
LZH				*SP	sP	14 10 11.5	-4.3
LZH						14 11 00.2	
LZH						14 12 18.6	
LZH				*e*S	**S**	**14 18 05.0**	**0.0**
LZH				*SS	sS	14 18 15.0	+2.6
LZH				SS	SS	14 21 48.1	-6.0
LZH				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,680nm,14.8s,MS4.9						
LZH	**Lanzhou**	**57.24**	**68**	*eP*	**P**	**14 10 10.0**	**+0.4**
	comp=Z,35nm,1.5s,mb5.2						
LZH				pP	pP	14 10 11.0	-3.1
LZH				sP	sP	14 10 11.5	-4.3
LZH				PcP	PcP	14 11 00.2	-3.7
LZH				PP	PP	14 12 18.6	+1.9
LZH				*e*S	**S**	**14 18 05.0**	**0.0**
LZH				sS	sS	14 18 15.0	+2.6
LZH				SS	SS	14 21 48.1	-6.0
LZH				LR	LR		
	comp=Z,680nm,14.8s,MS4.9						
YAK	**Yakutsk**	**59.75**	**32** ⇓	*iP*	**P**	**14 10 26.1**	**-1.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
YAK				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
YAK	**Yakutsk**	**59.75**	**32**	*eP*	**P**	**14 10 25.9**	**-1.2**
	comp=Z,15nm,0.6s,mb5.2						
CD2	**Chengdu**	**59.78**	**74**	*eP*	**P**	**14 10 25.8**	**-1.5**
CD2				PP	PP	14 12 39.3	+0.1
CD2				S	**S**	**14 18 35.3**	**-2.8**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,290nm,16.8s						
CD2				LR	LR		
	comp=Z,110nm,16.8s,MS4.1						
HHC	**Hu-ho-hao-te**	**60.23**	**60**	*eP*	**P**	**14 10 31.4**	**+1.0**
HHC				PP	PP	14 12 47.6	+4.4
HHC				S	**S**	**14 18 45.3**	**+1.5**
HHC				PS		14 18 58.3	
HHC				SCS	ScS	14 20 20.1	-0.6
HHC				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.4						
HHC				LR	LR		
	comp=N,366nm,18.6s,MS4.7						
HHC				LR	LR		
	comp=E,282nm,16.5s,MS4.7						
HHC				LR	LR		
	comp=Z,159nm,21.4s,MS4.1						
SCHQ	**Schefferville**	**61.17**	**319**	P	**P**	**14 10 36.7**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.7,baz=78,slow=8.0,SNR=4.0						
SCHQ				LR	LR	14 37 05.0	
	comp=Z,185nm,19.6s,MS4.2,baz=96,slow=36						
XAN	**Xi'an**	**61.87**	**68**	P	**P**	**14 10 41.8**	**+0.3**
XAN				AP	pP	14 10 47.0	+0.9
XAN				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.9						
KMI	**Kunming**	**62.16**	**80**	P	**P**	**14 10 43.5**	**0.0**
KMI				AP	pP	14 10 48.3	+0.3
KMI				XP	sP	14 10 50.6	+0.9
KMI				PCP	PcP	14 11 24.8	+1.3
KMI				PP	PP	14 13 03.5	+3.3
KMI				PPP		14 14 30.0	
KMI				S	**S**	**14 19 07.1**	**-1.3**
KMI				SS	SS	14 23 11.3	0.0
KMI				SSS		14 25 49.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,110nm,3.5s						
KMI				LR	LR		
	comp=N,239nm,19.6s						
KMI				LR	LR		
	comp=E,211nm,25.5s						
KMI				LR	LR		
	comp=Z,193nm,27.4s						
KMI	**Kunming**	**62.16**	**80**	P	**P**	**14 10 43.5**	**0.0**
KMI				*PP	pP	14 10 48.2	+0.2
KMI				*SP	sP	14 10 50.6	+0.9
KMI						14 11 24.7	
KMI						14 13 03.5	
KMI				PPP		14 14 30.0	
KMI				S	**S**	**14 19 07.1**	**-1.3**
KMI				SS	SS	14 23 11.3	0.0
KMI				SSS		14 25 49.5	
KMI				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.7						
KMI				MLR	MLR		
	comp=Z,190nm,27.4s,MS4.1						
KMI	**Kunming**	**62.16**	**80**	P	**P**	**14 10 43.5**	**0.0**
	comp=Z,9.0nm,1.5s,mb4.7						
KMI				pP	pP	14 10 48.2	+0.2
KMI				sP	sP	14 10 50.6	+0.9
KMI				PcP	PcP	14 11 24.7	+1.2
KMI				PP	PP	14 13 03.5	+3.3
KMI				PPP		14 14 30.0	
KMI				S	**S**	**14 19 07.1**	**-1.3**
KMI				SS	SS	14 23 11.3	0.0
KMI				SSS		14 25 49.5	
KMI				LR	LR		
	comp=Z,190nm,27.4s,MS4.1						
CHG	**Chiang Mai**	**62.90**	**88**	P	**P**	**14 10 47.7**	**-0.7**
	comp=Z,12nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**62.90**	**88**	*eP*	**P**	**14 10 47.1**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
CHTO	**Chiang Mai**	**62.90**	**88**	*eP*	**P**	**14 10 47.1**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.8						
GYA	**Guiyang**	**64.34**	**76** ⇑	*iP*	**P**	**14 10 57.8**	**-0.1**
GYA				AP	pP	14 11 02.0	-0.5
GYA				XP	sP	14 11 04.9	+0.7
GYA				PCP	PcP	14 11 32.9	+0.5
GYA				PP	PP	14 13 21.5	+2.1
GYA				PPP		14 14 53.9	
GYA				SCP		14 15 35.1	
GYA				S	**S**	**14 19 34.8**	**-0.8**
GYA				PS		14 19 53.9	
GYA				SCS	ScS	14 20 49.3	-2.4
GYA				SS	SS	14 23 45.6	+0.2
GYA				SSS		14 26 34.1	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,420nm,19.4s,MS4.8						
GYA				LR	LR		
	comp=E,340nm,18.9s,MS4.8						
GYA				LR	LR		
	comp=Z,360nm,19.0s,MS4.6						
NST	**Nakhon Sawan**	**65.69**	**90**	P	**P**	**14 11 05.7**	**-1.0**
BILL	**Bilibino**	**67.14**	**16**	P	**P**	**14 11 14.0**	**-2.0**
CN2	**Changchun**	**67.40**	**51**	*eP*	**P**	**14 11 15.6**	**-2.0**
CN2				*e*S	S	14 20 08.3	-4.7
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				LR	LR		
	comp=N,800nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=E,700nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=Z,700nm,16.0s,MS5.0						
SEY	**Seymchan**	**67.47**	**24** ⇓	*iP*	**P**	**14 11 18.5**	**+0.4**
KLR	**Kul'dur**	**67.78**	**44**	*eP*	**P**	**14 11 16.8**	**-3.2**
BOSA	**Boshof**	**68.83**	**184**	P	**P**	**14 11 25.6**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.5,baz=349,slow=10,SNR=6.2						
BOSA				LR	LR	14 45 50.6	
	comp=Z,282nm,18.9s,MS4.5,baz=4.7,slow=40						
BOSA	**Boshof**	**68.83**	**184**	P	**P**	**14 11 25.7**	**-0.9**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BOSA				MLR	MLR		
	comp=Z,283nm,18.9s,MS4.5						
MDJ	**Mudanjiang**	**69.34**	**49**	P	**P**	**14 11 27.6**	**-2.2**
MDJ				S	S	14 20 35.4	-0.7
MDJ				SCS	ScS	14 21 27.1	-3.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,140nm,4.0s						
MDJ				LR	LR		
	comp=N,374nm,21.9s,MS4.6						
MDJ				LR	LR		
	comp=E,142nm,21.9s,MS4.6						
MDJ				LR	LR		
	comp=Z,422nm,29.9s						
INK	**Inuvik**	**70.75**	**353**	LR	LR	14 41 39.5	
	comp=Z,225nm,21.3s,MS4.4,baz=24,slow=35						
PSI	**Prapat**	**72.94**	**101**	P	**P**	**14 11 50.7**	**-0.9**
	comp=Z,18nm,0.7s,mb5.1,baz=314,slow=4.9,SNR=19						
PSI	**Prapat**	**72.94**	**101**	P	**P**	**14 11 50.7**	**-0.9**
PSI				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
PSI	**Prapat**	**72.94**	**101**	P	**P**	**14 11 50.7**	**-0.9**
YKA	**Yellowknife Ar**	**73.30**	**343**	P	**P**	**14 11 52.3**	**-1.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=29,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**73.30**	**343**	P	**P**	**14 11 52.3**	**-1.4**
YKA				pmax	pmax		
	comp=Z,20nm,0.7s						
YKA	**Yellowknife Ar**	**73.30**	**343**	P	**P**	**14 11 52.3**	**-1.4**
IMA2	**Indian Mountai**	**73.77**	**1**	*eP*	**P**	**14 11 57.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**74.88**	**41**	P	**P**	**14 12 02.6**	**-0.4**
YSS				*e*		14 12 09.2	
YSS				*e*		14 12 19.0	
ULM	**Lac du Bonnet**	**77.56**	**327**	P	**P**	**14 12 17.4**	**-0.8**
	comp=Z,7.2nm,1.0s,mb4.6,baz=39,slow=5.8,SNR=6.2						
MJAR	**Matsushiro Arr**	**79.54**	**51**	P	**P**	**14 12 29.1**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=343,slow=3.8,SNR=3.6						
MJAR	**Matsushiro Arr**	**79.54**	**51**	P	**P**	**14 12 29.1**	**0.0**
MJAR				pmax	pmax		
	comp=Z,20nm,0.8s						
EGMT	**Eagleton**	**84.61**	**334**	*eP*	**P**	**14 12 55.9**	**+0.2**
	comp=Z,25nm,1.2s,mb5.2						
GCMT	**Greycliff**	**86.51**	**332**	*eP*	**P**	**14 13 05.8**	**+0.7**
YMR	**Madison River**	**87.94**	**333**	P	**P**	**14 13 11.1**	**-1.0**
	comp=Z,25nm,1.3s,mb5.3						
CBKS	**Cedar Bluff**	**88.26**	**322**	*eP*	**P**	**14 13 13.7**	**+0.1**
CBKS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
CBKS	**Cedar Bluff**	**88.26**	**322**	*eP*	**P**	**14 13 13.7**	**+0.1**
	comp=Z,17nm,1.1s,mb5.2						
IMW	**Indian Meadow**	**88.60**	**332**	*eP*	**P**	**14 13 15.9**	**+0.7**
	comp=Z,14nm,1.4s,mb5.1						
PHWY	**Pilot Hill**	**88.72**	**327**	*eP*	**P**	**14 13 15.6**	**-0.2**
BW06	**Boulder Array**	**89.08**	**331**	*eP*	**P**	**14 13 15.5**	**-2.0**
	comp=Z,9.1nm,1.5s,mb4.9						
PDAR	**Pinedale Array**	**89.08**	**331**	P	**P**	**14 13 15.8**	**-1.7**
	comp=Z,0.8nm,0.7s,mb4.2,baz=63,slow=4.4,SNR=6.8						
WMOK	**Wichita Mounta**	**91.06**	**319**	*eP*	**P**	**14 13 25.5**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
WMOK	**Wichita Mounta**	**91.06**	**319**	*eP*	**P**	**14 13 25.5**	**-1.2**
	comp=Z,7.4nm,1.1s,mb4.9						
ROSC	**El Rosal**	**96.97**	**282**	LR	LR	14 56 20.2	
	comp=Z,32nm,19.2s,MS3.8,baz=26,slow=35						
TXAR	**Lajitas Array**	**97.85**	**320**	P	**P**	**14 13 57.0**	**-0.8**
	comp=Z,2.6nm,1.0s,mb4.7,baz=59,slow=4.2,SNR=8.5						
TXAR	**Lajitas Array**	**97.85**	**320**	P	**P**	**14 13 57.0**	**-0.8**
TXAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**114.12**	**96**	PKP	PKiKP	14 19 00.0	-1.5
	comp=Z,0.3nm,0.5s,baz=307,slow=2.0,SNR=13						
ASAR	**Alice Springs**	**115.95**	**100**	PKP	PKPdf	14 19 03.6	-1.5
	comp=Z,1.1nm,0.6s,baz=317,slow=1.5,SNR=26						
ASAR	**Alice Springs**	**115.95**	**100**	PKIKP	PKPdf	14 19 03.6	-1.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**126.07**	**104**	PKP	PKPdf	14 19 23.1	-1.4
	comp=Z,2.8nm,0.7s,baz=349,slow=5.7,SNR=9.0						
QSPA	**South Pole Qui**	**130.32**	**180**	*eP*	PKPdf	14 19 26.3	-6.3

IDC ***24*** *14:00:12.5±4.2, 2343N×9478E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/19, mbtmp4.3/3, Error ellipse: s-maj=365.2km s-min=24.8km az=60.0*

NEIC ***24*** *14:00:20.9±0.6, 2473N×9708E, h35km, mb4.4/1, Error ellipse: s-maj=64.3km s-min=8.7km az=52.0*

ISCJB ***24*** *14:00:26.4±1.4, 234N±0.1×943E±0.1, h149km±16km, mb4.2/4, Error ellipse: s-maj=26.8km s-min=9.9km az=56.8*

ISC 24 14:00:26.9±1.5, 234N±01×943E±01, h129km±17km, n16, σ1$04/24, mb4.2/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.08**	**314**	*i* PN	**Pn**	**14 01 14.0**	**-0.5**
SHL				*e*SN	**Sn**	**14 01 49.0**	**-2.2**
LSA	**Lhasa**	**6.86**	**336**	*e*Pn	**Pn**	**14 02 04.7**	**-0.3**
	17nm,0.6s						
JIRN	**Jiri**	**8.47**	**301**	*e*Pn	**Pn**	**14 02 28.3**	**+1.6**
JIRN				*e*Sn	**Sn**	**14 04 00.3**	**-0.3**
	46nm,0.3s						
GUN	**Gumba**	**8.83**	**302**	*e*Pn	**Pn**	**14 02 32.3**	**+0.8**
GUN				*e*Sn	**Sn**	**14 04 10.1**	**+0.8**
	62nm,0.5s						
PKI	**Pulchoki**	**9.05**	**299**	*e*Pn	**Pn**	**14 02 36.3**	**+1.8**
PKI				*e*Sn	**Sn**	**14 04 14.7**	**+0.1**
	27nm,0.5s						
KKN	**Kakani**	**9.25**	**300**	*e*Pn	**Pn**	**14 02 38.1**	**+1.0**
KKN				*e*Sn	**Sn**	**14 04 19.7**	**+0.3**
	17nm,0.2s						
DMN	**Daman**	**9.31**	**298**	*e*Pn	**Pn**	**14 02 39.5**	**+1.5**
DMN				*e*Sn	**Sn**	**14 04 19.0**	**-1.9**
	27nm,0.5s						
GKN	**Gorkha**	**9.86**	**300**	*e*Pn	**Pn**	**14 02 45.5**	**+0.3**
GKN				*e*Sn	**Sn**	**14 04 33.0**	**-1.0**
	66nm,0.3s						
KOLN	**Koldanda**	**10.61**	**296**	*e*Pn	**Pn**	**14 02 56.1**	**+0.9**
KOLN				*e*Sn	**Sn**	**14 04 50.7**	**-1.5**
	25nm,0.4s						
MK31	**Makanchi Array**	**25.25**	**340**	*e*P	**P**	**14 05 41.2**	**+0.4**
MKAR	**Makanchi Array**	**25.25**	**340**	P	**P**	**14 05 41.4**	**+0.6**
	2.3nm,0.5s,mb4.0,baz=148,slow=11,SNR=35						
MKAR	**Makanchi Array**	**25.25**	**340**	P	**P**	**14 05 41.4**	**+0.6**
WRA	**Warramunga Arr**	**58.14**	**135**	P	**P**	**14 10 06.0**	**-1.0**
	2.1nm,0.4s,mb4.3,baz=322,slow=7.4,SNR=52						
WRAB	**Tennant Creek**	**58.14**	**135**	*e*P	**P**	**14 10 06.0**	**-1.0**
	2.5nm,0.6s,mb4.2						
AS31	**Alice Springs**	**60.57**	**138**	*e*P	**P**	**14 10 23.2**	**-0.5**
ASAR	**Alice Springs**	**60.57**	**138**	P	**P**	**14 10 23.4**	**-0.2**
	2.1nm,0.5s,mb4.2,baz=321,slow=6.8,SNR=48						

PRE 24 14:10:04.2±1.4, 2031S×3281E, h5km, ML4.5, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.29**	**232**	*e*P	Pn	14 10 58.7	+2.3
MSNA				*e*S	Sn	14 11 37.0	+1.1
MSNA				AML	AML	14 11 51.9	
	comp=Z,324nm,0.6s						
SLR	**Silverton**	**6.82**	**217**	*e*S	Sn	14 12 59.1	-3.7
SLR				AML	AML	14 13 42.9	
	comp=Z,84nm,0.5s						
POGA	**Pongola**	**7.11**	**189**	*e*P	Pn	14 11 49.4	+0.6
POGA				*e*S	Sn	14 13 06.0	-4.0
POGA				AML	AML	14 13 55.7	
	comp=Z,87nm,0.5s						
KSR	**Koster**	**7.74**	**224**	*e*P	Pn	14 11 58.7	+1.1
PRYS	**Parys**	**8.26**	**216**	*e*P	Pn	14 12 05.5	+0.9
PRYS				*e*S	Sn	14 13 35.5	-2.8
PRYS				AML	AML	14 14 30.0	
	comp=Z,56nm,0.6s						
SWZ	**Schweizer**	**9.67**	**224**	*e*P	Pn	14 12 25.3	+1.3
SWZ				*e*S	Sn	14 14 08.8	-4.2
SWZ				AML	AML	14 15 21.9	
	comp=Z,30nm,0.6s						
KSD	**Kokstad**	**10.63**	**196**	*e*P	Pn	14 12 38.3	+1.1
KSD				*e*S	Sn	14 14 31.5	-5.1
KSD				AML	AML	14 15 51.9	
	comp=Z,19nm,0.7s						

IDC 24 14:16:17.8±1.8, 2943N×14051E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=83.8km s-min=27.7km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.75**	**147**	Pn	Pn	14 17 02.9	-0.3
	31nm,0.3s,baz=283,slow=22,SNR=16						
CBIJ				Sn	Sn	14 17 33.2	-3.9
	51nm,0.3s,baz=270,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**7.35**	**345**	Pn	Pn	14 18 12.6	+6.2
	0.3nm,0.3s,baz=150,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**49.44**	**188**	P	P	14 25 09.2	-0.3
	0.3nm,0.5s,baz=4.8,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**53.17**	**188**	P	P	14 25 38.0	+0.5
	0.3nm,0.8s,baz=7.5,slow=7.8,SNR=2.9						
FINES	**FINESS Array B**	**75.21**	**333**	P	P	14 28 02.0	-0.2
	1.6nm,0.9s,baz=39,slow=5.3,SNR=5.0						

NIED ***24*** *14:21:00, 29.10N×140.00E, h20km, Mw5.0 Best double couple: M0 3.02000×10^16 NP1:φ=281.00000°, δ61.00000°, λ-136.00000°. NP2:φ=166.00000°, δ52.00000°, λ-38.00000°.*

BJI ***24*** *14:21:36.0, 2920N×141.14E, h50km, mB5.0, mb4.7, Ms4.5, Msz4.2*

IDC ***24*** *14:21:36.2±0.6, 2935N×14022E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/23, mbtmp4.4/19, ML4.8/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/28, Error ellipse: s-maj=19.4km s-min=16.3km az=64.0*

NEIC ***24*** *14:21:38.0±0.3, 2930N×140.30E, h10km, mb4.9/27, MW4.9(NIED), Error ellipse: s-maj=8.7km s-min=7.4km az=94.0*

JMA ***24*** *14:21:38.7±0.1, 2907N×139.97E, h46km, M4.6*

MOS ***24*** *14:21:39.7±1.1, 2935N×140.30E, h33km, mb4.9/21, Error ellipse: s-maj=12.2km s-min=6.4km az=111.5*

ISCJB ***24*** *14:21:40.0±0.6, 2929N±003×140.34E±004, h36km±5km, mb4.8/59, MS4.3/23, Error ellipse: s-maj=6.0km s-min=4.2km az=127.0*

ISC 24 14:21:42.8±0.6, 2936N±003×14038E±004, h43km±5km, h69km±1.9km: pP-P, n186, σ1$33/203, mb4.8/59, MS4.3/23, 10C-7D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.77**	**144**	Pn	**Pn**	**14 22 22.0**	**-2.5**
	176nm,0.3s,baz=329,slow=7.5,SNR=53						
CBIJ				Sn	**Sn**	**14 22 53.6**	**-3.0**
	359nm,0.3s,baz=272,slow=23,SNR=15						
CBIJ	**Chichi jima**	**2.77**	**144**	P	**Pn**	**14 22 21.8**	**-2.7**
CBIJ				S	**Sn**	**14 22 52.9**	**-3.8**
JHHJ	**Haha-jima-NKT**	**3.15**	**149**	P	**Pn**	**14 22 27.6**	**-2.3**
JHHJ				S	**Sn**	**14 23 02.4**	**-3.9**
JHJ2	**Mitsune**	**3.77**	**353**	P	**Pn**	**14 22 39.5**	**+1.2**
JHJ	**Hachijo jima 2**	**3.78**	**352**	LR	LR	14 24 03.4	
	comp=Z,4μm,18.8s,baz=178,slow=39						
JKO	**Kozu shima**	**4.92**	**348**	P	**Pn**	**14 22 56.8**	**+2.6**
BSO3	**Boso 3**	**5.42**	**1**	P	**Pn**	**14 22 58.8**	**-2.2**
BSO3				S	**Sn**	**14 23 58.6**	**-3.6**
BSO4	**Boso 4**	**5.61**	**360**	S	**Sn**	**14 24 03.1**	**-3.7**
JWZ	**Kozaga**	**5.76**	**317**	P	**Pn**	**14 23 03.5**	**-2.1**
JWZ				*e*S	**Sn**	**14 24 07.6**	**-2.7**
JOD2	**Odawara 2**	**5.98**	**350**	P	**Pn**	**14 23 10.2**	**+1.5**
JNY	**Yasuok**	**6.34**	**341**	P	**Pn**	**14 23 17.2**	**+3.5**
JHU	**Hanno**	**6.54**	**352**	P	**Pn**	**14 23 16.4**	**+0.1**
JHU				*e*S	**Sn**	**14 24 26.9**	**-2.6**
JRY	**Ryogami san**	**6.75**	**350**	P	**Pn**	**14 23 20.9**	**+1.7**
JHO	**Hitachi**	**7.23**	**1**	P	**Pn**	**14 23 24.0**	**-1.8**
JHO				*e*S	**Sn**	**14 24 43.0**	**-3.6**
MJAR	**Matsushiro Arr**	**7.39**	**346**	Pn	**Pn**	**14 23 29.6**	**+1.6**
	1.8nm,0.3s,baz=159,slow=13,SNR=19						
MJAR				LR	LR	14 26 20.6	
	comp=Z,3μm,18.2s,baz=215,slow=39						
MJAR	**Matsushiro Arr**	**7.39**	**346**	P	**Pn**	**14 23 29.6**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,3μm,18.2s						
MAJO	**Matsushiro**	**7.39**	**346**	*e*P	**Pn**	**14 23 29.8**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,114nm,0.9s						
MAJO	**Matsushiro**	**7.39**	**346**	*e*P	**Pn**	**14 23 29.8**	**+1.8**
	comp=Z,114nm,0.9s						
MAT	**Matsushiro**	**7.39**	**346**	P	**Pn**	**14 23 30.1**	**+2.1**
MAT				S	**Sn**	**14 24 51.0**	**+0.5**
JOW	**Kunigami**	**10.98**	**260**	LR	LR	14 27 55.6	
	comp=Z,1μm,20.8s,baz=348,slow=35						
ERM	**Erimo**	**12.82**	**9**	P	**Pn**	**14 24 38.4**	**-4.0**
ERM				*e*S	**Sn**	**14 26 54.6**	**-9.1**
INCN	**Inchon**	**14.04**	**309**	P	**Pn**	**14 25 09.4**	**+11**
	SNR=7.0						
INCN	**Inchon**	**14.04**	**309**	*e*P	**Pn**	**14 25 07.8**	**+8.9**
ASAJ	**Asahikawa**	**14.83**	**6**	Pn	**Pn**	**14 25 04.4**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=184,slow=17,SNR=5.4						
ASAJ				LR	LR	14 31 52.7	
	comp=Z,1μm,19.4s,baz=196,slow=42						
ASAJ	**Asahikawa**	**14.83**	**6**	P	**Pn**	**14 25 04.4**	**-5.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,19.5s						
VLA	**Vladivostok**	**15.33**	**336**	P	**Pn**	**14 25 18.0**	**+2.0**
VLA				MLR	MLR		
	comp=Z,500nm,14.3s						
GUMO	**Guam**	**16.24**	**164**	LR	LR	14 30 41.8	
	comp=Z,528nm,18.9s,baz=211,slow=34						
SSE	**Sheshan**	**16.68**	**281**	P	**Pn**	**14 25 29.9**	**-3.4**
	comp=Z,44nm,0.7s						
SSE				S	**S**	**14 28 33.1**	**-14**
MDJ	**Mudanjiang**	**17.47**	**334**	P	**Pn**	**14 25 43.0**	**-0.1**
MDJ				AP	pP	14 25 57.3	+3.1
MDJ				XP	sP	14 26 04.4	+4.7
MDJ				S	**S**	**14 29 02.3**	**-0.8**
MDJ				SCP	ScP	14 33 51.9	-1.6
MDJ				AMB	AMB		
	comp=Z,17nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,63nm,4.3s						
MDJ				LR	LR		
	comp=N,242nm,18.1s						
MDJ				LR	LR		
	comp=E,318nm,18.1s						
MDJ				LR	LR		
	comp=Z,354nm,17.2s						
MDJ	**Mudanjiang**	**17.47**	**334**	P	**Pn**	**14 25 43.3**	**+0.2**
YSS	**Yuzh-Sakhalins**	**17.66**	**5**	P	**Pn**	**14 25 43.1**	**-2.4**
YSS				*e*S	**S**	**14 29 08.0**	**+1.0**
YSS				MLR	MLR		
	comp=N,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**17.66**	**5**	*e*P	**Pn**	**14 25 46.2**	**+0.7**
	comp=E,55nm,1.0s						
DL2	**Dalian**	**18.18**	**306**	P	**Pn**	**14 25 54.8**	**+3.0**
DL2				AP	pP	14 26 03.8	+1.7
DL2				*e*S	**S**	**14 29 20.3**	**+2.8**
DL2				AMB	AMB		
	comp=Z,50nm,1.2s						
DL2				AMB	AMB		
	comp=Z,210nm,4.5s						
DL2				LR	LR		
	comp=N,390nm,12.0s						
DL2				LR	LR		
	comp=E,370nm,13.6s						
DL2				LR	LR		
	comp=Z,470nm

CN2 AMB AMB
comp=Z,20nm,1.2s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,13.0s
CN2 LR LR
comp=E,900nm,13.0s
CN2 LR LR
comp=Z,700nm,14.0s
TIA Tai'an 20.68 295 ⇑P **P 14 26 21.4 +2.4**
TIA AMB AMB
comp=Z,92nm,1.5s
KLR Kul'dur 20.91 344 *e*P **P 14 26 16.8 -4.6**
KLR *e*S **S 14 30 16.5 +4.4**
KLR pmax pmax
comp=Z,64nm,1.8s
KLR MLR MLR
comp=E,600nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS4.5
BJT Baijiatuau 22.50 305 *e*P **P 14 26 38.4 -0.1**
BJT pmax pmax
comp=Z,100nm,1.5s
BJT Baijiatuau 22.50 305 *e*P **P 14 26 38.4 -0.1**
comp=Z,100nm,1.5s,mb5.0
BJI Beijing 22.50 305 P **P 14 26 37.8 -0.7**
BJI AMB AMB
comp=Z,16nm,2.2s,mb4.1
BJI AMB AMB
comp=Z,394nm,5.6s
BJI LR LR
comp=N,347nm,21.3s
BJI LR LR
comp=E,549nm,15.0s
BJI LR LR
comp=Z,439nm,21.6s,MS3.9
BJI Beijing 22.50 305 P **P 14 26 37.8 -0.7**
comp=Z,16nm,2.2s,mb4.1
BJI S **S 14 30 54.7 +12**
BJI LR LR
comp=Z,440nm,21.6s,MS3.9
WHN Wuhan 22.57 279 ⇓P **P 14 26 42.3 +3.1**
WHN AP 14 26 55.0
WHN LR LR
comp=Z,800nm,19.6s,MS4.2
HIA Hailar 25.35 327 *e*P **P 14 27 04.8 -0.8**
HIA pmax pmax
comp=Z,11nm,1.0s
HIA Hailar 25.35 327 *e*P **P 14 27 04.8 -0.8**
comp=Z,11nm,1.0s,mb4.3
HHC Hu-ho-hao-te 26.09 304 *e*P **P 14 27 13.4 +1.1**
HHC AP pP 14 27 28.3 +4.4
HHC XP sP 14 27 34.5 +5.4
HHC PP 14 27 55.6
HHC S **S 14 31 37.8 -2.9**
HHC XS sS 14 32 01.3 +1.2
HHC AMB AMB
comp=Z,17nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,206nm,5.1s
HHC LR LR
comp=N,425nm,13.9s,MS4.2
HHC LR LR
comp=E,409nm,17.8s,MS4.2
HHC LR LR
comp=Z,870nm,15.5s,MS4.4
PET Petropavlovsk 27.19 24 *e*P **P 14 27 26.2 +4.0**
PET *e*S **S 14 31 59.4 +1.4**
PET pmax pmax
comp=Z,100nm,12.2s
PET smax
comp=N,300nm,17.8s
PET MLR MLR
comp=Z,600nm,18.0s,MS4.2
CLNS Chul'man 29.55 343 *e*P **P 14 27 41.5 -1.7**
CLNS pmax pmax
comp=Z,24nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.9s
QIZ Qiongzhong 29.61 257 P **P 14 27 43.1 -0.7**
QIZ AP pP 14 28 00.3 +4.9
QIZ S **S 14 32 30.8 -5.3**
QIZ AMB AMB
comp=Z,14nm,1.7s,mb4.4
QIZ AMB AMB
comp=Z,127nm,5.3s
QIZ LR LR
comp=N,471nm,21.4s
QIZ LR LR
comp=Z,373nm,30.7s
GYA Guiyang 29.88 273 ⇑*i*P **P 14 27 45.3 -0.8**
GYA AP pP 14 28 01.8 +4.1
GYA XP sP 14 28 10.3 +7.4
GYA PP PP 14 28 44.8 -9.2
GYA PCP PcP 14 30 48.3 0.0
GYA S **S 14 32 36.9 -3.3**
GYA XS sS 14 33 06.0 +6.4
GYA SCP ScP 14 34 24.8 -2.0
GYA PCS PcS 14 34 32.1 +0.5
GYA SCS ScS 14 38 18.3 -3.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,170nm,3.9s
GYA LR LR
comp=N,430nm,14.1s,MS4.3
GYA LR LR
comp=E,320nm,15.6s,MS4.3
GYA LR LR
comp=Z,440nm,15.0s,MS4.2
MA2 Magadan 31.03 10*c i*P **P 14 27 56.7 +0.4**
MA2 *e* 14 29 08.6
MA2 *e*S **S 14 32 57.8 -0.5**
MA2 *e*SSS 14 35 11.7
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.2
MA2 MLR MLR
comp=Z,300nm,18.0s,MS4.0
MA2 Magadan 31.03 10 *e*P **P 14 27 56.2 0.0**
comp=Z,18nm,1.0s,mb4.9
LZH Lanzhou 31.33 292 *e*P **P 14 28 00.0 +1.1**
LZH AP pP 14 28 16.0 +5.4
LZH XP sP 14 28 23.5 +7.8
LZH PP PP 14 29 07.0 -3.1
LZH PCP PcP 14 30 52.4 +0.3
LZH *e*S **S 14 33 01.0 -1.9**
LZH XS sS 14 33 26.1 +3.7
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,67nm,5.1s
LZH LR LR
comp=N,591nm,12.1s
LZH LR LR
comp=Z,775nm,14.8s,MS4.5
LZH Lanzhou 31.33 292 *e*P **P 14 28 00.0 +1.1**
LZH *PP pP 14 28 16.0 +5.4
LZH 14 29 07.0
LZH 14 30 52.4
LZH *e*S **S 14 33 01.0 -1.9**
LZH pmax pmax
comp=Z,20nm,1.5s,mb4.7
LZH MLR MLR
comp=Z,780nm,14.8s,MS4.5
LZH Lanzhou 31.33 292 *e*P **P 14 28 00.0 +1.1**
comp=Z,20nm,1.5s,mb4.7
LZH pP pP 14 28 16.0 +5.4
LZH sP sP 14 28 23.5 +7.8
LZH PP PP 14 29 07.0 -3.1
LZH PcP PcP 14 30 52.4 +0.3
LZH *e*S **S 14 33 01.0 -1.9**
LZH sS sS 14 33 26.1 +3.7
LZH SS SS 14 34 41.1 -37
LZH LR LR
comp=Z,780nm,14.8s,MS4.5
CD2 Chengdu 31.62 282 ⇑*i*P **P 14 28 01.8 +0.3**
CD2 AP pP 14 28 17.3 +4.2
CD2 XP sP 14 28 26.3 +8.0
CD2 PP PP 14 29 07.3 -6.1
CD2 S **S 14 33 03.3 -4.2**
CD2 XS sS 14 33 31.3 +4.3
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,150nm,4.8s
CD2 LR LR
comp=N,950nm,15.6s,MS4.6
CD2 LR LR
comp=E,460nm,15.6s,MS4.6
CD2 LR LR
comp=Z,310nm,16.8s,MS4.1
SONM Songino Array 31.99 315 P **P 14 28 04.0 -0.7**
comp=Z,2.1nm,1.0s,mb3.9,baz=101,slow=5.8,SNR=8.1
SONM Songino Array 31.99 315 P **P 14 28 04.0 -0.7**
SONM pmax pmax
comp=Z,20nm,1.0s
YAK Yakutsk 33.42 351*d i*P **P 14 28 16.1 -1.2**
YAK pmax pmax
comp=Z,51nm,1.3s,mb5.3
YAK Yakutsk 33.42 351 *e*P **P 14 28 15.8 -1.5**
comp=Z,98nm,1.5s,mb5.5
KMI Kunming 33.63 272 P **P 14 28 20.4 +1.3**
KMI AP pP 14 28 38.6 +7.8
KMI PP PP 14 29 37.0 +1.3
KMI S **S 14 33 34.5 -4.3**
KMI XS sS 14 34 05.5 +7.1
KMI AMB AMB
comp=Z,12nm,1.5s,mb4.6
KMI AMB AMB
comp=Z,99nm,5.3s
KMI LR LR
comp=N,333nm,14.1s,MS4.3
KMI LR LR
comp=E,282nm,16.4s,MS4.3
KMI LR LR
comp=Z,172nm,14.1s,MS3.9
KMI Kunming 33.63 272 P **P 14 28 20.4 +1.3**
KMI *PP pP 14 28 38.6 +7.8
KMI 14 29 37.0
KMI S **S 14 33 34.5 -4.3**
KMI SS SS 14 35 44.9 -20
KMI pmax pmax
comp=Z,12nm,1.5s,mb4.6
KMI MLR MLR
comp=Z,170nm,14.1s,MS3.9
KMI Kunming 33.63 272 P **P 14 28 20.4 +1.3**
comp=Z,12nm,1.5s,mb4.6
KMI pP pP 14 28 38.6 +7.8
KMI sP sP 14 28 46.5 +11
KMI PP PP 14 29 37.0 +1.3
KMI S **S 14 33 34.5 -4.3**
KMI sS sS 14 34 05.5 +7.1
KMI SS SS 14 35 44.9 -20
KMI LR LR
comp=Z,170nm,14.1s,MS3.9
BOD Bodaibo 33.84 335 *e*P **P 14 28 17.9 -3.0**
SEY Seymchan 34.47 10⇑*e*P **P 14 28 26.2 -0.2**
GTA Gaotai 34.69 298 ⇑P **P 14 28 29.5 +1.2**
GTA AP pP 14 28 46.1 +6.1
GTA PP PP 14 29 47.5 +0.1
GTA S **S 14 33 52.8 -2.4**
GTA XS sS 14 34 20.4 +5.6
GTA AMB AMB
comp=Z,17nm,1.7s,mb4.7
GTA AMB AMB
comp=Z,123nm,4.9s
GTA LR LR
comp=N,362nm,14.8s,MS4.3
GTA LR LR
comp=E,265nm,15.6s,MS4.3
GTA LR LR
comp=Z,354nm,16.3s,MS4.2
ZAK Zakamensk 34.86 318 *e*P **P 14 28 28.5 -1.3**
CHTO Chiang Mai 39.08 264 P **P 14 29 07.5 +1.9**
SNR=10
CHTO Chiang Mai 39.08 264 *e*P **P 14 29 06.7 +1.1**
CHTO pmax pmax
comp=Z,52nm,1.6s,mb5.0
CHTO Chiang Mai 39.08 264 *e*P **P 14 29 06.7 +1.1**
comp=Z,52nm,1.6s,mb5.0
BILL Bilibino 41.63 14*ke*P **P 14 29 26.6 -0.1**
BILL *i* 14 29 32.7
BILL pmax pmax
comp=Z,20nm,1.4s,mb4.5
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.1
BILL Bilibino 41.63 14 *e*P **P 14 29 26.4 -0.3**
comp=Z,28nm,1.2s,mb4.8
KAKA Kakadu 42.52 192 *e*P **P 14 29 34.6 +0.7**
comp=Z,9.3nm,0.8s,mb4.6
LSA Lhasa 42.57 283 P **P 14 29 35.4 +1.1**
LSA AMB AMB
comp=Z,30nm,1.4s,mb4.8
LSA Lhasa 42.57 283 *e*P **P 14 29 36.3 +2.0**
LSA pmax pmax
comp=Z,71nm,1.5s,mb5.2
LSA Lhasa 42.57 283 *e*P **P 14 29 36.3 +2.0**
comp=Z,71nm,1.5s,mb5.2
SHL Shillong 42.96 277 *e*P **P 14 29 37.5 +0.1**
WMQ Urumqi 43.98 304 *e*P **P 14 29 45.3 -0.4**
WMQ AP pP 14 30 02.0 +4.4
WMQ PP PP 14 31 30.0 +1.4
WMQ S **S 14 36 11.0 -3.5**
WMQ SCS ScS 14 39 31.0 -10
WMQ AMB AMB
comp=Z,12nm,2.0s,mb4.3
WMQ AMB AMB
comp=Z,164nm,6.4s
WMQ LR LR
comp=N,498nm,15.2s,MS4.8
WMQ LR LR
comp=E,636nm,14.3s,MS4.8
WMQ LR LR
comp=Z,630nm,17.0s,MS4.6
JIRN Jiri 47.29 282 *e*P **P 14 30 13.9 +2.1**
comp=Z,10nm,0.7s,mb4.9
PSI Prapat 47.38 244 P **P 14 30 13.0 +0.5**
comp=Z,4.4nm,0.6s,mb4.5,baz=34,slow=7.6,SNR=5.9
PSI Prapat 47.38 244 P **P 14 30 13.0 +0.5**
PSI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
PSI Prapat 47.38 244 P **P 14 30 13.0 +0.5**
GUN Gumba 47.49 282 *e*P **P 14 30 15.5 +2.1**
comp=Z,346nm,1.3s
MK31 Makanchi Array 47.82 308 *e*P **P 14 30 13.9 -2.0**
MKAR Makanchi Array 47.82 308 P **P 14 30 13.6 -2.3**
comp=Z,0.4nm,0.3s,mb3.9,baz=90,slow=10,SNR=10
MKAR PcP PcP 14 31 43.9 -0.3
comp=Z,1.0nm,0.7s,baz=93,slow=2.7,SNR=5.2
MKAR Makanchi Array 47.82 308⇑*e*P **P 14 30 16.3 +0.4**
MKAR Makanchi Array 47.82 308 P **P 14 30 13.6 -2.3**
MKAR PcP PcP 14 31 43.9 -0.3
PKI Pulchoki 47.98 282 *e*P **P 14 30 18.5 +1.3**
comp=Z,80nm,1.1s,mb5.7
KKN Kakani 48.03 282 *e*P **P 14 30 18.9 +1.3**
comp=Z,116nm,1.0s,mb5.8
DMN Daman 48.23 282 *e*P **P 14 30 20.7 +1.6**
comp=Z,170nm,1.5s,mb5.8
GKN Gorkha 48.52 283 *e*P **P 14 30 22.7 +1.3**
comp=Z,318nm,1.7s
BOK Bokaro 48.69 277 *e*P **P 14 30 21.2 -1.4**
FITZ Fitzroy Crossi 49.28 199 *e*P **P 14 30 28.1 +0.9**
comp=Z,17nm,1.1s,mb5.0
WRAB Tennant Creek 49.35 187 *e*P **P 14 30 27.0 -0.7**
WRAB Tennant Creek 49.35 187 *e*P **P 14 30 27.5 -0.3**
comp=Z,40nm,1.5s,mb5.2
WB2 Warramunga Arr 49.36 187 *e*P **P 14 30 26.6 -1.2**
WRA Warramunga Arr 49.36 187 P **P 14 30 27.6 -0.2**
comp=Z,3.7nm,0.6s,mb4.6,baz=4.2,slow=7.7,SNR=50
WRA LR LR 14 49 27.0
comp=Z,103nm,20.8s,MS3.8,baz=235,slow=34
KOLN Koldanda 49.47 283 *e*P **P 14 30 29.9 +1.3**
comp=Z,194nm,1.1s
AS31 Alice Springs 53.09 187 *e*P **P 14 30 56.5 +0.8**
ASAR Alice Springs 53.09 187 P **P 14 30 53.9 -1.9**
comp=Z,0.3nm,0.6s,baz=80,slow=8.8,SNR=4.5
ASPA Alice Springs 53.09 187 *e*P **P 14 30 56.5 +0.7**
VIS Vishakhapatnam 53.12 271 *e*P **P 14 30 56.2 +0.2**
VIS AMb AMB 14 31 00.5
comp=Z,41nm,1.3s,mb5.2
KDAK Kodiak Island 53.53 38 P **P 14 30 57.7 -1.3**
comp=Z,12nm,1.0s,mb4.8,baz=262,slow=3.1,SNR=4.0
KDAK LR LR 14 52 52.2
comp=Z,188nm,21.8s,MS4.1,baz=196,slow=35
AAK Ala-Archa 53.67 303 *i* P **P 14 30 59.2 -0.8**
AAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
IMA2 Indian Mountai 53.80 27 P **P 14 31 01.8 +0.8**
NDI New Delhi 54.60 286 *e*P **P 14 31 06.5 -0.3**
NDI *e*P 14 31 07.8
THN Thein Dam 54.81 291 *e*P **P 14 31 08.4 +0.1**
BVAR Borovoye Array 55.30 316 P **P 14 31 10.2 -1.7**
comp=Z,2.8nm,0.9s,mb4.3,baz=87,slow=7.6,SNR=12
BVAR PcP PcP 14 32 11.7 -0.5
comp=Z,1.9nm,0.7s,baz=114,slow=3.5,SNR=4.1
BVAR Borovoye Array 55.30 316 P **P 14 31 10.2 -1.7**
BVAR 14 32 11.7
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 55.37 316 *e*P **P 14 31 11.5 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BRVK Borovoye 55.37 316 *e*P **P 14 31 11.5 -0.8**
comp=Z,8.4nm,1.1s,mb4.7
BHPL Bhopal 56.19 280 *e*P **P 14 31 18.4 +0.2**
BHPL AMb AMB 14 31 22.6
comp=Z,36nm,1.2s,mb5.3
AJM Ajmer 57.46 284 *e*P **P 14 31 27.2 -0.1**
AJM AMb AMB 14 31 29.9
comp=Z,29nm,1.2s,mb5.2
MDRS Chennai 57.78 267 *e*P **P 14 31 28.3 -1.2**
EGAK Eagle 58.96 29 *e*P **P 14 31 37.8 +0.1**
DAWY Dawson 59.78 30 *e*P **P 14 31 43.8 +0.4**
STKA Stephens Creek 60.91 179 LR LR 14 55 28.3
comp=Z,188nm,22.0s,MS4.2,baz=21,slow=33
POO Poona 61.05 276 *e*P **P 14 31 51.0 -1.1**
KAD Karad 61.26 275 *e*P **P 14 31 53.3 -0.2**
KAD AMb AMB 14 31 59.0
comp=Z,35nm,1.4s,mb5.3
ARU Arti 61.66 321⇓*i*P **P 14 31 55.3 -0.9**
ARU *e* 14 32 38.6
ARU *e* 14 34 14.0
ARU *e*PPP 14 35 37.7
ARU *e*S **S 14 40 15.9 +0.4**
ARU *e*SS SS 14 44 14.8 -2.6
ARU pmax pmax
comp=Z,15nm,1.1s,mb5.0
ARU Arti 61.66 321 *e*P **P 14 31 55.1 -1.1**
comp=Z,26nm,1.3s,mb5.2
MNGI Mangalore 62.57 270 *e*P **P 14 32 02.4 +0.1**
MNGI AMb AMB 14 32 07.2
comp=Z,36nm,1.4s,mb5.3
TRD Trivandrum 62.74 264 *e*P **P 14 32 03.7 +0.3**
APA Apatity 69.35 337⇓*i*P **P 14 32 45.7 -0.1**
APA pmax pmax
comp=Z,36nm,1.1s,mb5.2
ARCES ARCESS Array B 70.88 340 P **P 14 32 55.4 +0.2**
comp=Z,17nm,1.0s,mb5.0,baz=66,slow=6.8,SNR=16
ARCES ARCESS Array B 70.88 340 P **P 14 32 55.4 +0.2**
YKA Yellowknife Ar 70.91 28 P **P 14 32 55.2 -0.2**
comp=Z,3.8nm,0.9s,mb4.3,baz=291,slow=6.4,SNR=5.7
YKA Yellowknife Ar 70.91 28 P **P 14 32 55.2 -0.2**
JOF Joensuu 72.35 333 *ep* **P 14 33 02.7 -1.3**
OBN Obninsk 73.77 324⇑*e*P **P 14 33 12.3 -0.1**
OBN *e* 14 33 19.3
OBN *e* 14 33 32.1
OBN SS SS 14 47 28.0 +3.4
OBN pmax pmax
comp=Z,32nm,1.4s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
ARQ Araqi 73.86 288 P **P 14 33 14.3 +1.3**
SNR=7.0
VRSR Storozhevoye 74.17 320 *e*P **P 14 33 14.6 -0.2**
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.9s
KAF Kangasniemi 74.74 334 *ep* **P 14 33 15.7 -2.4**
comp=N,3.6nm,0.4s,mb4.7,baz=52,slow=5.5
KAF Kangasniemi 74.74 334 *e*P **P 14 33 15.7 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
ZEI Tsey 75.08 311 *e*P **P 14 33 19.2 -0.8**
ZEI *e*PP pP 14 33 27.7 -5.1
FIA1 FINESS Array S 75.21 333 *e*P **P 14 33 19.6 -1.2**
FINES FINESS Array B 75.21 333 P **P 14 33 20.6 -0.2**
comp=Z,6.0nm,0.8s,mb4.5,baz=68,slow=5.3,SNR=23
FINES LR LR 15 10 22.3
comp=Z,112nm,19.3s,MS4.2,baz=21,slow=39
FINES FINESS Array B 75.21 333 *i* P **P 14 33 20.6 -0.2**
FINES pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 75.34 312 P **P 14 33 19.9 -1.7**
KIV Kislovodsk 75.34 312 P **P 14 33 19.9 -1.6**
GNI Garni 75.67 308⇑*e*P **P 14 33 24.3 +0.9**
GNI pmax pmax
comp=Z,23nm,1.8s
EDM Edmonton 75.95 37 *e*P **P 14 33 25.9 +0.9**
NEW Newport 76.31 42 P **P 14 33 28.1 +1.0**
comp=Z,2.3nm,0.4s,mb4.4,baz=357,slow=4.1,SNR=4.3
NEW Newport 76.31 42 *e*P **P 14 33 27.7 +0.6**
NEW pmax pmax
comp=Z,10.0nm,1.3s
NEW Newport 76.31 42 *e*P **P 14 33 27.7 +0.6**
comp=Z,10nm,1.3s,mb4.6
WVOR Wild Horse Val 78.18 48 *e*P **P 14 33 38.5 +0.9**
ANN Anapa 78.27 315 *e*P **P 14 33 38.3 +0.3**
SUMG Summit 78.33 360 *e*P **P 14 33 38.9 +0.5**
comp=Z,14nm,1.1s,mb4.8
AKASG Malin Array Be 79.85 323 P **P 14 33 46.1 -0.6**
comp=Z,2.2nm,0.7s,mb4.2,baz=48,slow=5.6,SNR=13
AKASG LR LR 15 13 31.7
comp=Z,206nm,18.2s,MS4.5,baz=35,slow=39
AKASG Malin Array Be 79.85 323 *i* P **P 14 33 46.2 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 79.85 323 *e*P **P 14 33 45.9 -0.8**
HLID Hailey 80.30 45 *e*P **P 14 33 50.8 +1.7**
comp=Z,1.4nm,0.7s,mb4.0
NVAR Mina Array Bea 80.36 51 P **P 14 33 50.6 +1.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=270,slow=6.1,SNR=5.1
SUW Suwalki 80.89 328 *e*P **P 14 33 52.4 +0.1**
NB2 NORSAR Subarra 80.92 338 P **P 14 33 51.8 -0.6**
comp=Z,33nm,1.2s,mb5.1,baz=42,slow=5.1
NB2 NORSAR Subarra 80.92 338 P **P 14 33 51.8 -0.6**
NB2 pmax pmax
comp=Z,33nm,1.2s,mb5.1
NOA NORSAR Array B 80.92 338 P **P 14 33 51.5 -0.9**
comp=Z,10nm,1.0s,mb4.7,baz=42,slow=5.3,SNR=12
NOA LR LR 15 12 35.3
comp=Z,146nm,20.0s,MS4.3,baz=25,slow=38
HWUT Hardware Ranch 83.12 46 *e*P **P 14 34 04.6 +0.7**
comp=Z,17nm,1.4s,mb4.9
BR131 Keskin Array S 83.30 312 *e*P **P 14 34 04.1 -0.8**
comp=Z,4.4nm,0.8s,mb4.5
BRTR Keskin Array B 83.30 312 P **P 14 34 04.8 -0.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=106,slow=4.0,SNR=27
PDAR Pinedale Array 83.71 44 P **P 14 34 08.2 +1.1**
comp=Z,1.7nm,1.0s,mb4.1,baz=267,slow=3.0,SNR=6.0
PDAR LR LR 15 10 04.3
comp=Z,145nm,18.4s,MS4.4,baz=343,slow=35
ANTO Ankara 83.77 312 P **P 14 34 08.4 +1.0**
SNR=5.1
SRU San Rafael 85.17 48 *e*P **P 14 34 15.5 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SRU San Rafael 85.17 48 *e*P **P 14 34 15.5 +1.1**
comp=Z,7.5nm,0.9s,mb4.8
KSP Ksiaz 86.15 328 *e*P **P 14 34 19.6 +0.3**
KSP Ksiaz 86.15 328 *e*P **P 14 34 18.7 -0.6**
ULM Lac du Bonnet 86.41 32 LR LR 15 08 59.2
comp=Z,174nm,21.2s,MS4.4,baz=306,slow=33
PV10 Paradox Valley 86.54 47 *e*P **P 14 34 22.8 +1.7**
CLL Collm 87.30 330 *i* P **P 14 34 24.4 -0.5**
CLL *e*PP pP 14 34 43.0 +5.1
CLL pmax pmax
comp=Z,35nm,1.6s,mb5.3
CLL Collm 87.30 330 *i* P **P 14 34 24.4 -0.5**
comp=Z,21nm,1.6s,mb5.1
CLL *e*pP pP 14 34 43.0 +5.1
KHC Kasperske Hory 88.60 328⇑*e*P **P 14 34 29.7 -1.4**
GERES GERESS Array B 88.75 328 P **P 14 34 30.0 -1.8**
comp=Z,0.3nm,0.3s,mb4.1,baz=64,slow=3.1,SNR=4.6
GRA1 Grafenberg Arr 89.26 330 *e*PcP PcP 14 34 33.6 -1.9
GRF Grafenberg Arr 89.26 330 *e*P **P 14 34 33.6 -0.5**
GRF Grafenberg Arr 89.26 330 *e*PcP PcP 14 34 33.6 -1.9
BFO Black Forest 91.54 330 *e*P **P 14 34 44.2 -0.6**
BFO pmax pmax
comp=Z,24nm,1.7s,mb5.2
BFO Black Forest 91.54 330 *e*P **P 14 34 44.2 -0.6**

comp=Z,24nm,1.7s,mb5.3
SCHQ Schefferville 92.94 15 LR LR 15 17 49.4
comp=Z,103nm,18.8s,MS4.3,baz=299,slow=36
TXAR Lajitas Array 95.50 52 P **P** **14 35 04.4 +1.4**
comp=Z,1.6nm,0.9s,mb4.5,baz=307,slow=2.9,SNR=9.7
TORD Torodi Ar. Bea 121.90 311 PKP PKPdf 14 40 31.9 -0.3
comp=Z,1.3nm,0.8s,baz=53,slow=1.1,SNR=9.8
TORD PKKPbc PKKPbc 14 50 31.3 +1.4
comp=Z,0.6nm,0.7s,baz=226,slow=2.8,SNR=4.5
TORD Torodi Ar. Bea 121.90 311 PKP PKPdf 14 40 31.9 -0.3
TORD PKKPbc PKKPbc 14 50 31.3 +1.4
SDV Santo Domingo 131.64 43 *e*P PKPdf 14 40 52.5 +1.7
ROSC El Rosal 132.38 50 PKP PKPdf 14 40 54.9 +2.7
comp=Z,3.5nm,0.3s,baz=88,slow=20,SNR=4.2
LPAZ La Paz 150.77 70 PKP PKPdf 14 41 26.5 +1.8
comp=Z,2.8nm,0.9s,baz=162,slow=6.2,SNR=6.3
LPAZ PKPbc PKPbc 14 41 32.7 +2.5
comp=Z,5.9nm,0.8s,baz=296,slow=2.6,SNR=24
LPAZ La Paz 150.77 70 PKIKP PKPdf 14 41 26.5 +1.8
LPAZ 14 41 32.7
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 150.77 70 *e*PKPdf PKPdf 14 41 27.5 +2.8
LPAZ *e*PKPbc PKPbc 14 41 32.9 +2.6

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*ISCJB **24** 14:26:42.1±0.4,4039N±002×12497W±004,h10km, mb3.8/1,MS4.2/6,Error ellipse: s-maj=4.2km s-min=2.1km az=160.6*
*NEIC **24** 14:26:42.0,4039N×12507W,h0km,mb4.2/1, MW4.4(BRK),After NCEDC.*
NEIC Felt [III] at Fortuna and [II] at Ferndale. Felt at Eureka, Garberville, Loleta, Los Gatos, Petrolia, Sacramento, Santa Cruz, Scotia and Whitehorn.
*BJI **24** 14:26:42.0,4040N×125.10W,h10km,mB4.9,mb4.5,Ms4.9, Msz4.7*
*IDC **24** 14:26:53.9±3.5,4040N×12376W,h0km,mb3.7/1, mb1 3.9/4,mb1mx3.6/21,mbtmp3.6/4,ML3.4/2,MS3.8/8, Ms1 3.8/8,ms1mx3.4/35,Error ellipse: s-maj=45.9km s-min=24.5km az=53.0*

ISC 24 14:26:43.6±0.4,4043N±001×12496W±004,h10km,n143, σ1§20/171,mb3.8/1,MS4.2/6,68C-57D,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.80**	**61**	P	**Pg**	**14 26 59.7**	**+0.6**
JCC	baz=0.9,SNR=1000			⇑S	**Sg**	**14 27 10.7**	**+1.2**
O01C	**Eel River Cons**	**0.92**	**108**	⇓P	**Pg**	**14 27 01.6**	**+0.3**
O01C	baz=1.0,SNR=178			⇑S	**Sg**	**14 27 15.1**	**+1.9**
KHMM	**Horse Mountain**	**1.03**	**64**	⇑*i*Pg	**Pg**	**14 27 03.8**	**+0.3**
KCPM	**Cahto Peak**	**1.29**	**125**	⇓*i*Pn	**Pn**	**14 27 06.5**	**-1.1**
KCPM				*e*S	**Sb**	**14 27 27.2**	**+2.6**
KIPM	**Iron Peak**	**1.29**	**118**	*e*P	**Pn**	**14 27 06.7**	**-1.0**
N02C	**Big Bar**	**1.31**	**72**	P	**Pn**	**14 27 07.5**	**-0.5**
N02C	baz=1.4,SNR=520			⇑S	**Sb**	**14 27 24.9**	**-0.4**
KRMB	**Red Mountain**	**1.35**	**36**	⇑*e*Pn	**Pn**	**14 27 07.3**	**-1.2**
KRMB	baz=1.4			*e*S	**Sb**	**14 27 24.7**	**-1.5**
M01C	**Crescent City**	**1.55**	**24**	⇓P	**Pn**	**14 27 09.6**	**-1.6**
M01C	baz=1.6,SNR=26			⇑S	**Sn**	**14 27 28.9**	**-2.5**
P01C	**Double 8 Ranch**	**1.57**	**127**	P	**Pn**	**14 27 10.2**	**-1.3**
P01C	baz=1.6,SNR=478			⇑S	**Sn**	**14 27 30.1**	**-1.8**
O02C	**Red Bluff**	**1.68**	**98**	P	**Pn**	**14 27 12.8**	**-0.1**
O02C	baz=1.8,SNR=1000			⇑S	**Sn**	**14 27 34.8**	**+0.3**
WDC	**Whiskeytown Da**	**1.85**	**85**	⇑*e*Pn	**Pn**	**14 27 15.0**	**-0.3**
WDC	**Whiskeytown Da**	**1.85**	**85**	⇓P	**Pn**	**14 27 14.9**	**-0.4**
WDC	baz=1.9,SNR=228			⇓S	**Sn**	**14 27 37.8**	**-0.9**
M02C	**Callahan**	**1.86**	**58**	P	**Pn**	**14 27 15.0**	**-0.5**
M02C	baz=1.9,SNR=1000			⇑S	**Sn**	**14 27 38.6**	**-0.5**
KBO	**Bosley Butte**	**1.86**	**17**	*e*Pn	**Pn**	**14 27 14.0**	**-1.5**
GASB	**Alder Springs**	**1.89**	**114**	P	**Pn**	**14 27 15.1**	**-0.8**
GASB	baz=1.9,SNR=140			⇓S	**Sn**	**14 27 39.2**	**-0.5**
L02A	**Cave Junction**	**2.00**	**30**	⇑P	**Pn**	**14 27 16.5**	**-1.0**
L02A	baz=2.1,SNR=17			⇓S	**Sn**	**14 27 41.7**	**-0.8**
HOPS	**Hopland**	**2.04**	**134**	*e*Pn	**Pn**	**14 27 16.4**	**-1.6**
HOPS	**Hopland**	**2.04**	**134**	P	**Pn**	**14 27 16.6**	**-1.4**
YBH	**Yreka Blue Hor**	**2.14**	**52**	*e*Pn	**Pn**	**14 27 19.0**	**-0.3**
YBH	**Yreka Blue Hor**	**2.14**	**52**	⇓P	**Pn**	**14 27 19.2**	**-0.1**
YBH	baz=2.2,SNR=133			⇓S	**Sn**	**14 27 45.7**	**-0.2**
O03C	**Acorn Hollow,**	**2.28**	**100**	⇑P	**Pn**	**14 27 20.9**	**-0.3**
O03C	baz=2.4			⇑S	**Sn**	**14 27 48.6**	**-0.8**
K01A	**Sixes**	**2.40**	**9**	P	**Pn**	**14 27 22.1**	**-0.8**
KEBM	**Edson Butte**	**2.48**	**11**	*e*Pn	**Pn**	**14 27 24.3**	**+0.2**
MNRC	**McLaughlin Nat**	**2.48**	**128**	⇑P	**Pn**	**14 27 23.3**	**-0.7**
K02A	**Glendale**	**2.58**	**25**	⇓P	**Pn**	**14 27 24.7**	**-0.6**
K02A	baz=2.6,SNR=22			⇓S	**Sn**	**14 27 55.9**	**-0.9**
NSHM	**Saint Helena R**	**2.64**	**136**	*e*Pn	**Pn**	**14 27 25.0**	**-1.2**
HUMO	**Hull Mountain**	**2.64**	**34**	*e*Pn	**Pn**	**14 27 25.6**	**-0.7**
HUMO	**Hull Mountain**	**2.64**	**34**	⇓P	**Pn**	**14 27 25.7**	**-0.6**
HUMO	baz=2.7,SNR=30			⇓S	**Sn**	**14 27 57.7**	**-0.6**
HATC	**Hat Creek Radi**	**2.69**	**81**	⇓P	**Pn**	**14 27 27.4**	**+0.6**
M04C	**Macdoel**	**2.71**	**59**	⇓P	**Pn**	**14 27 27.6**	**+0.4**
SUTB	**Sutter Butte**	**2.72**	**115**	⇑P	**Pn**	**14 27 26.2**	**-1.1**
SUTB	baz=2.8,SNR=14			⇑S	**Sn**	**14 27 56.7**	**-3.6**
MCCM	**Marconi Confer**	**2.79**	**144**	*e*Pn	**Pn**	**14 27 26.6**	**-1.8**
MCCM	**Marconi Confer**	**2.79**	**144**	⇑P	**Pn**	**14 27 27.0**	**-1.4**
ORV	**Oroville**	**2.79**	**107**	⇓P	**Pn**	**14 27 27.4**	**-1.0**
ORV	baz=2.9,SNR=22			⇑S	**Sn**	**14 28 01.2**	**-0.9**
CVS	**Carmenet Viney**	**2.84**	**136**	⇓P	**Pn**	**14 27 27.8**	**-1.2**
CVS	baz=2.9,SNR=16			⇑S	**Sn**	**14 28 01.1**	**-2.2**
OHCM	**Honcut**	**2.89**	**111**	*e*Pn	**Pn**	**14 27 28.6**	**-1.0**
L04A	**Klamath Falls**	**2.89**	**52**	⇓P	**Pn**	**14 27 29.4**	**-0.3**
Q03C	**Winters**	**2.90**	**127**	⇑P	**Pn**	**14 27 29.7**	**-0.1**
Q03C	baz=2.9,SNR=8.4			⇑S	**Sn**	**14 28 05.0**	**+0.4**
O04C	**Chester**	**2.96**	**91**	⇑P	**Pn**	**14 27 30.8**	**+0.2**
O04C	baz=3.0,SNR=20			⇑S	**Sn**	**14 28 07.6**	**+1.5**
M05C	**Lookout**	**3.03**	**71**	⇑P	**Pn**	**14 27 32.0**	**+0.4**
J02A	**Umpqua**	**3.11**	**19**	⇓P	**Pn**	**14 27 32.4**	**-0.3**
FARB	**Farallon Islan**	**3.12**	**150**	⇑P	**Pn**	**14 27 31.6**	**-1.3**
FARB	baz=3.1			⇓S	**Sn**	**14 28 05.8**	**-4.5**
O05C	**Quincy**	**3.13**	**97**	⇓P	**Pn**	**14 27 33.9**	**+0.9**
Q04C	**Lincoln**	**3.19**	**119**	⇓S	**Sn**	**14 28 10.0**	**-1.8**
ELFS	**Eagle Lake Fie**	**3.23**	**85**	⇓P	**Pn**	**14 27 34.1**	**-0.2**
K04A	**Chilquin**	**3.26**	**47**	⇓P	**Pn**	**14 27 34.8**	**0.0**
J03A	**Ideyld Park**	**3.29**	**26**	⇓P	**Pn**	**14 27 36.2**	**+1.0**
BDM	**Black Diamond**	**3.45**	**135**	⇑P	**Pn**	**14 27 37.9**	**+0.6**
SAC	**San Andreas**	**3.46**	**144**	*e*Pn	**Pn**	**14 27 35.9**	**-1.7**
M06C	**Likely Place G**	**3.48**	**76**	⇑P	**Pn**	**14 27 37.6**	**-0.2**
L05A	**Lakeview**	**3.50**	**61**	P	**Pn**	**14 27 38.4**	**+0.3**
BEKR	**Beckwourth**	**3.57**	**98**	⇓P	**Pn**	**14 27 39.5**	**+0.6**
LAVA	**Lava Cap Winer**	**3.66**	**116**	⇑P	**Pn**	**14 27 41.2**	**+1.0**
LAVA	baz=3.7,SNR=18			⇑S	**Sn**	**14 28 22.6**	**-0.9**
I02A	**Mapleton**	**3.67**	**13**	⇓P	**Pn**	**14 27 41.1**	**+0.7**
I02A	baz=3.7,SNR=17			⇑S	**Sn**	**14 28 21.2**	**-2.4**
JRSC	**Jasper Ridge**	**3.69**	**144**	⇑P	**Pn**	**14 27 38.9**	**-1.8**
I03A	**Eugene**	**3.75**	**19**	⇓P	**Pn**	**14 27 41.5**	**0.0**
I03A	baz=3.8			⇑S	**Sn**	**14 28 23.7**	**-2.1**
WENL	**Wente Brothers**	**3.75**	**137**	⇑P	**Pn**	**14 27 41.0**	**-0.5**
WENL	baz=3.8,SNR=20			⇑S	**Sn**	**14 28 24.5**	**-1.2**
R04C	**Big Horse Ranc**	**3.80**	**124**	⇑P	**Pn**	**14 27 42.2**	**+0.1**
R04C	baz=3.8			⇑S	**Sn**	**14 28 26.1**	**-0.8**
MOD	**Modoc**	**3.81**	**66**	*e*Pn	**Pn**	**14 27 41.5**	**-0.8**
MOD	**Modoc**	**3.81**	**66**	⇓P	**Pn**	**14 27 41.9**	**-0.3**
K05A	**Summer Lake**	**3.81**	**52**	⇑P	**Pn**	**14 27 42.6**	**+0.3**
N06A	**Buffalo Meadow**	**3.91**	**84**	⇑P	**Pn**	**14 27 43.4**	**-0.3**
N06A	baz=4.0,SNR=37			⇓S	**Sn**	**14 28 29.9**	**+0.2**
BNLO	**Ben Lomond (Sa**	**3.95**	**146**	P	**Pn**	**14 27 42.5**	**-1.7**
J05A	**Fort Rock**	**3.98**	**43**	⇑P	**Pn**	**14 27 45.4**	**+0.8**
S04C	**Ingram Canyon,**	**4.07**	**135**	⇑P	**Pn**	**14 27 45.5**	**-0.4**
R05C	**Kirkwood Meado**	**4.15**	**113**	⇑P	**Pn**	**14 27 47.4**	**+0.5**
WCN	**Washoe City**	**4.16**	**104**	⇓P	**Pn**	**14 27 47.6**	**+0.5**
K06A	**Valley Falls**	**4.25**	**55**	⇓P	**Pn**	**14 27 48.9**	**+0.6**
CMB	**Columbia Colle**	**4.28**	**123**	*e*Pn	**Pn**	**14 27 48.9**	**+0.1**
CMB	**Columbia Colle**	**4.28**	**123**	⇓P	**Pn**	**14 27 49.5**	**+0.7**
CMB	baz=4.3			⇓S	**Sn**	**14 28 39.1**	**+0.4**
H02A	**Toledo**	**4.30**	**9**	⇑S	**Sn**	**14 28 36.8**	**-2.4**
COR	**Corvallis**	**4.33**	**16**	*e*Pn	**Pn**	**14 27 49.5**	**+0.1**
PAHR	**Pah Rah Range**	**4.33**	**98**	*e*Pn	**Pn**	**14 27 49.3**	**-0.2**
H03A	**Soap Creek Ran**	**4.42**	**16**	⇑P	**Pn**	**14 27 51.6**	**+0.9**
H03A	baz=4.5			⇓S	**Sn**	**14 28 40.0**	**-2.1**
PACP	**Pacheco Peak**	**4.46**	**139**	P	**Pn**	**14 27 49.9**	**-1.4**
PACP	baz=4.5,SNR=50			⇑S	**Sn**	**14 28 42.1**	**-1.2**
M07A	**Soldier Meadow**	**4.49**	**76**	⇓P	**Pn**	**14 27 51.4**	**-0.2**
L07A	**Adell**	**4.52**	**68**	⇓P	**Pn**	**14 27 52.9**	**+0.8**
J06A	**Christmas Vall**	**4.56**	**50**	⇑P	**Pn**	**14 27 53.2**	**+0.6**
N07B	**Gerlach**	**4.57**	**84**	⇓P	**Pn**	**14 27 52.6**	**-0.2**
O07A	**Toulon**	**4.66**	**91**	P	**Pn**	**14 27 54.3**	**+0.4**
H04A	**Detroit Lake**	**4.71**	**25**	⇓P	**Pn**	**14 27 56.3**	**+1.6**
H04A	baz=4.8,SNR=18			⇑S	**Sn**	**14 28 49.2**	**-0.3**
S06C	**San Francisco**	**4.71**	**121**	⇑P	**Pn**	**14 27 56.3**	**+1.5**
S05C	**Merced**	**4.75**	**129**	⇓P	**Pn**	**14 27 55.5**	**+0.4**
S05C	baz=4.8,SNR=21			⇑S	**Sn**	**14 28 50.5**	**+0.3**
HAST	**UC Hastings Re**	**4.84**	**145**	⇑P	**Pn**	**14 27 54.4**	**-2.1**
HAST	baz=4.9,SNR=24			⇑S	**Sn**	**14 28 49.8**	**-2.8**
K07A	**Rock Creek Ran**	**4.84**	**60**	⇓P	**Pn**	**14 27 56.5**	**0.0**
LRV	**Little Rabbit**	**5.06**	**141**	*e*Pn	**Pn**	**14 27 58.7**	**-0.7**
M08A	**Happy Creek Ra**	**5.08**	**76**	⇑P	**Pn**	**14 28 00.3**	**+0.5**
WVOR	**Wild Horse Val**	**5.15**	**65**	*e*Pn	**Pn**	**14 27 57.7**	**-3.1**
N08A	**GE Springer Mi**	**5.20**	**84**	⇑P	**Pn**	**14 28 01.2**	**-0.3**
U04C	**Hernandez Rese**	**5.22**	**140**	⇓P	**Pn**	**14 28 01.2**	**-0.5**
V03C	**Hunter Liggett**	**5.29**	**145**	⇑P	**Pn**	**14 28 01.0**	**-1.6**
T06C	**Millerton Lake**	**5.34**	**128**	⇓P	**Pn**	**14 28 04.7**	**+1.3**
KCC	**Kaiser Creek**	**5.38**	**123**	⇑P	**Pn**	**14 28 05.8**	**+1.9**
NVAR	**Mina Array Bea**	**5.52**	**109**	Pn	**Pn**	**14 28 06.6**	**+0.8**
NVAR	1.7nm,0.3s,baz=287,slow=15,SNR=28			Lg		14 29 19.6	
F03A	**Seaside**	**5.59**	**10**	⇓S	**Sn**	**14 29 09.6**	**-1.4**
J08A	**Circle Bar Ran**	**5.65**	**57**	⇓P	**Pn**	**14 28 07.9**	**+0.3**
N09A	**Rock Creek Ran**	**5.67**	**83**	⇑P	**Pn**	**14 28 07.7**	**-0.2**
PKD	**Parkfield**	**5.67**	**141**	⇑P	**Pn**	**14 28 06.7**	**-1.2**
G06A	**Carlson Farm,**	**5.76**	**32**	⇓P	**Pn**	**14 28 11.7**	**+2.6**
H07A	**Lands Inn, Kim**	**5.76**	**42**	⇑P	**Pn**	**14 28 11.7**	**+2.6**
F04A	**Amboy**	**5.80**	**18**	⇑P	**Pn**	**14 28 11.7**	**+2.0**
F04A	baz=5.9,SNR=5.8			⇑S	**Sn**	**14 29 14.4**	**-1.9**
MTUM	**Tungsten Hills**	**5.86**	**120**	*e*Pn	**Pn**	**14 28 13.8**	**+3.4**
HELL	**Mitchell Peak,**	**5.97**	**127**	⇓P	**Pn**	**14 28 13.6**	**+1.7**
PTRM	**Twissleman Ran**	**6.06**	**140**	*e*Pn	**Pn**	**14 28 11.7**	**-1.6**
H08A	**Prairie City**	**6.19**	**47**	⇓P	**Pn**	**14 28 17.2**	**+2.2**
G07A	**Ruggs Ranch, H**	**6.20**	**37**	⇑P	**Pn**	**14 28 17.3**	**+2.2**
VES	**Vestal, Richgr**	**6.51**	**133**	⇓P	**Pn**	**14 28 20.0**	**+0.5**
S09A	**Goldfield**	**6.59**	**112**	⇑P	**Pn**	**14 28 22.8**	**+2.2**
H09A	**Durkee**	**6.85**	**49**	⇓P	**Pn**	**14 28 26.8**	**+2.8**
PKM	**Peak Mountain**	**6.86**	**142**	⇑P	**Pn**	**14 28 25.0**	**+0.8**
ISA	**Isabella**	**6.99**	**131**	*e*Pn	**Pn**	**14 28 26.9**	**+1.0**
ISA	**Isabella**	**6.99**	**131**	⇓P	**Pn**	**14 28 27.3**	**+1.4**
DAC	**Darwin (Calif)**	**7.12**	**123**	*e*Pn	**Pn**	**14 28 29.8**	**+2.1**
BMO	**Blue Mountains**	**7.16**	**49**	*e*Pn	**Pn**	**14 28 30.3**	**+1.9**
ARVC	**Arvin**	**7.18**	**136**	⇑P	**Pn**	**14 28 30.5**	**+1.9**
MPMC	**Manual Prospec**	**7.32**	**124**	⇑P	**Pn**	**14 28 32.2**	**+1.7**
N12A	**Clover Valley,**	**7.55**	**84**	⇓P	**Pn**	**14 28 34.0**	**+0.3**
LRMC	**Laurel Mountai**	**7.58**	**128**	⇓P	**Pn**	**14 28 35.2**	**+1.2**
EDW2	**Edwards Air Fo**	**7.82**	**133**	⇑P	**Pn**	**14 28 38.4**	**+1.0**
GSC	**Goldstone**	**8.23**	**126**	*e*Pn	**Pn**	**14 28 44.7**	**+1.7**
HEC	**Hector,Ludlow**	**8.83**	**127**	⇓P	**Pn**	**14 28 52.0**	**+0.7**
BELC	**Belle Mtn.**	**9.60**	**129**	⇑P	**Pn**	**14 29 02.5**	**+0.7**
NEW	**Newport**	**9.63**	**33**	LR	LR	14 33 13.3	
MCMT	**McKenzie Canyo**	**9.94**	**60**	*e*Pn	**Pn**	**14 29 09.3**	**+2.8**
IRM	**Iron Mountain**	**10.01**	**126**	⇓P	**Pn**	**14 29 08.1**	**+0.8**
MONP	**Monument Peak**	**10.18**	**135**	⇑P	**Pn**	**14 29 10.9**	**+1.2**
D14A	**Greenough**	**10.61**	**47**	⇑P	**Pn**	**14 29 17.3**	**+1.6**
CHMT	**Chamberlain Mo**	**10.66**	**49**	*e*Pn	**Pn**	**14 29 19.4**	**+3.0**
C14A	**Swan Lake**	**10.89**	**44**	⇓P	**Pn**	**14 29 20.6**	**+1.1**
GLA	**Glamis**	**10.96**	**129**	⇓P	**Pn**	**14 29 20.8**	**+0.3**
PDAR	**Pinedale Array**	**11.76**	**74**	Pn	**Pn**	**14 29 35.9**	**+4.5**
PDAR	0.0nm,0.3s,baz=262,slow=14,SNR=4.7			LR	LR	14 34 12.8	
SDCO	**Great Sand Dun**	**15.34**	**94**	*e*P	**Pn**	**14 30 23.6**	**+3.4**
ANMO	**Albuquerque**	**15.62**	**105**	LR	LR	14 37 07.0	
TXAR	**Lajitas Array**	**20.62**	**116**	P	**P**	**14 31 25.6**	**+2.5**
TXAR	0.0nm,0.3s,baz=304,slow=8.9,SNR=15			LR	LR	14 40 10.0	
ULM	**Lac du Bonnet**	**22.55**	**54**	P	**P**	**14 31 46.1**	**+2.4**
SCHQ	**Schefferville**	**40.52**	**49**	LR	LR	14 51 57.4	
CN2	**Changchun**	**74.92**	**315**	*e*P	**P**	**14 38 25.8**	**+1.1**
SONM	**Songino Array**	**81.02**	**328**	LR	LR	15 14 10.0	
DAVOX	**Davos/Dischmat**	**84.30**	**29**	LR	LR	15 17 31.1	
MLR	**Muntele Rosu**	**90.57**	**20**	LR	LR	15 19 10.8	
WMQ	**Urumqi**	**91.12**	**337**	*e*P	**P**	**14 39 50.0**	**+1.5**
LZH	**Lanzhou**	**91.63**	**322**	*e*P	**P**	**14 39 51.5**	**+0.6**
LZH				AP	pP	14 39 54.0	-0.3
LZH				XP	sP	14 39 56.0	+0.6
LZH				*e*PP	PP	14 43 31.3	+2.1
LZH				AMB	AMB		
	comp=Z,45nm,8.5s						
LZH				LR	LR		
	comp=N,205nm,15.4s						
LZH				LR	LR		
	comp=Z,312nm,18.4s,MS4.8						
KMI	**Kunming**	**101.13**	**317**	P	Pdif	14 40 33.6	-0.4

IDC 24 14:30:10.4±1.4,2929N×14025E,h0km,mb3.8/3, mb1 3.8/5,mb1mx3.6/20,mbtmp3.7/5,ML3.4/2,MS3.8/2, Ms1 3.8/2,ms1mx2.7/37,Error ellipse: s-maj=70.1km s-min=22.8km az=74.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.78**	**142**	Pn	Pn	14 30 55.8	-0.4
CBIJ	35nm,0.3s,baz=314,slow=6.4,SNR=40			Sn	Sn	14 31 26.6	-3.7
MJAR	**Matsushiro Arr**	**7.43**	**347**	Pn	Pn	14 32 01.4	+1.4
JOW	**Kunigami**	**10.86**	**260**	LR	LR	14 36 17.0	
WRA	**Warramunga Arr**	**49.28**	**187**	P	P	14 39 01.3	+0.4
ASAR	**Alice Springs**	**53.01**	**187**	P	P	14 39 29.1	+0.2
FINES	**FINESS Array B**	**75.23**	**333**	P	P	14 41 54.1	-0.9
GNI	**Garni**	**75.62**	**308**	LR	LR	15 16 31.0	
	comp=Z,86nm,19.0s,baz=231,slow=37						

BJI 24 14:41:04.7,2714N×10377E,h17km,ML3.6,Ms3.9, Msz3.3,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.21**	**205**	PG	Pg	14 41 41.6	-5.5
KMI				SG	Sg	14 42 12.0	-3.8
KMI				Smax			
	comp=N,120nm,1.1s						
KMI				Smax			
	comp=E,86nm,1.4s						
GYA	**Guiyang**	**2.67**	**104**	P		14 40 19.0	
GYA				AP		14 40 23.4	
GYA				XP		14 40 26.8	
GYA				AMB	AMB		
	comp=Z,60nm,4.8s						
GYA	**Guiyang**	**2.67**	**104**	P	Pn	14 41 49.3	+2.3
GYA				PG	Pg	14 41 52.5	-3.5
GYA				S	Sn	14 42 23.8	+4.9
GYA				SG	Sg	14 42 27.8	-2.9
GYA				Smax			
	comp=N,560nm,0.9s						
GYA				Smax			
	comp=E,210nm,0.9s						
CD2	**Chengdu**	**3.76**	**360**	*e*P		14 40 09.3	
CD2	**Chengdu**	**3.76**	**360**	*e*P	Pn	14 42 00.5	-1.3
CD2				PG	Pg	14 42 12.5	-4.2
CD2				S	Sn	14 42 44.8	-0.9
CD2				SG	Sg	14 42 58.8	-6.5
CD2				Smax			
	comp=N,480nm,0.8s						
CD2				Smax			
	comp=E,470nm,1.0s						
CD2				LR	LR		
	comp=E,1μm,10.4s						
CD2				LR	LR		
	comp=Z,410nm,8.4s						
XAN	**Xi'an**	**8.18**	**32**	P	Pn	14 43 00.9	-1.8
XAN				S	Sn	14 44 30.0	-4.7
XAN				Smax			
	comp=N,58nm,1.4s						
XAN				Smax			
	comp=E,44nm,1.1s						

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*NEIC **24** 14:46:14.6,3754N×2068E,h2km,MD4.1(ATH),After ATH.*
*ATH **24** 14:46:14.3,3753N×2069E,h5km,MD4.0/8*
*ISCJB **24** 14:46:16.1±1.1,3764N±005×2073E±006,h2km,Error ellipse: s-maj=8.5km s-min=5.9km az=71.5*
*CSEM **24** 14:46:17.0±0.2,3759N×2073E,h2km,MD4.1,Error ellipse: s-maj=5.3km s-min=3.8km az=59.0*
*THE **24** 14:46:19.3,3776N×2080E,h10km,ML3.3*

ISC 24 14:46:16.4±1.1,3762N±005×2073E±006,h2km,n23, σ1§09/33,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.57**	**349**	*e*PG	**Pg**	**14 46 26.8**	**-0.4**
RLS	**Riolos of Patr**	**0.73**	**53**	*e*PB	**Pg**	**14 46 30.4**	**0.0**
RLS				*e*SB	**Sg**	**14 46 41.3**	**+1.4**
RLS	**Riolos of Patr**	**0.73**	**53**	*e*Pg	**Pg**	**14 46 30.6**	**+0.2**
RLS				*e*Sg	**Sg**	**14 46 41.0**	**+1.1**
ITM	**Ithomi**	**1.05**	**114**	*e*PG	**Pg**	**14 46 34.0**	**-2.5**
LKD	**Levkas**	**1.09**	**357**	*e*Pg	**Pg**	**14 46 36.4**	**-0.8**
LKD				*e*Sg	**Sg**	**14 46 51.1**	**-0.2**
EVR	**Evrytania**	**1.55**	**33**	*e*PB	**Pb**	**14 46 45.6**	**-0.2**
EVR	**Evrytania**	**1.55**	**33**	*e*Pb	**Pb**	**14 46 45.9**	**+0.1**
AGG	**Agios Georgios**	**1.89**	**42**	*e*Pb	**Pb**	**14 46 50.2**	**-1.2**
AGG				*e*Sb	**Sb**	**14 47 13.7**	**-1.8**
AGG	**Agios Georgios**	**1.89**	**42**	*e*Pb	**Pb**	**14 46 50.2**	**-1.3**
AGG				*e*Sb	**Sb**	**14 47 13.6**	**-1.9**
IGT	**Igoumenitsa**	**1.94**	**351**	*e*Pb	**Pb**	**14 46 52.3**	**0.0**
IGT				*e*Sb	**Sb**	**14 47 14.9**	**-2.0**
VLI	**Veliai**	**1.98**	**116**	*e*PN	**Pn**	**14 46 51.3**	**+0.4**
JAN	**Janina**	**2.04**	**3**	*e*PN	**Pn**	**14 46 53.0**	**+1.4**
JAN	**Janina**	**2.04**	**3**	*e*Pn	**Pn**	**14 46 52.5**	**+0.9**
LKR	**Lokris**	**2.07**	**59**	*e*PG	**Pg**	**14 46 54.3**	**-1.7**
KEK	**Kerkira**	**2.21**	**341**	*e*PN	**Pn**	**14 46 55.8**	**+1.7**
KEK	**Kerkira**	**2.21**	**341**	*e*Pn	**Pn**	**14 46 56.0**	**+1.9**
XOR	**Xorichti**	**2.60**	**47**	*e*Pn	**Pn**	**14 46 59.9**	**+0.5**
XOR				*e*Sn	**Sn**	**14 47 33.0**	**+1.4**
XOR	**Xorichti**	**2.60**	**47**	*e*Pn	**Pn**	**14 46 59.9**	**+0.5**
XOR				*e*Sn	**Sn**	**14 47 33.0**	**+1.4**

LIT	Litokhoron	2.83	29	*e*Pn	Pn	14 47 03.0	+0.4
LIT	Litokhoron	2.83	29	*e*Pn	Pn	14 47 03.0	+0.4
AOS	Alonnisos	2.92	57	*e*Pn	Pn	14 47 04.3	+0.5
AOS				*e*Sn	Sn	14 47 40.2	+0.7
FNA	Florina	3.20	9	*e*Pn	Pn	14 47 08.6	+0.9
FNA				*e*Sn	Sn	14 47 47.3	+0.9
KRUS	Krusevo	3.77	6	*e*Pn	Pn	14 47 14.9	-0.5

IDC 24 14:47:17.4±11.0, 3339N×13945E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=413.6km s-min=33.5km az=64.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	44.79	305	P	P	14 55 32.6	-0.2
	0.2nm,0.4s,baz=100,slow=9.2,SNR=4.3						
BVAR	Borovoye Array	51.90	314	LR	LR	15 17 55.6	
	comp=Z,56nm,18.2s,baz=318,slow=35						
WRA	Warramunga Arr	53.25	186	P	P	14 56 37.0	-0.7
	0.4nm,0.5s,baz=5.3,slow=7.7,SNR=11						
ASAR	Alice Springs	56.98	186	P	P	14 57 05.8	+1.1
	0.1nm,0.5s,baz=355,slow=6.1,SNR=4.9						

*BJI **24** 14:51:44.1, 1371N×12041E, h83km, mb4.3*
*ISCJB **24** 14:51:46.4±0.6, 1391N±006×1208E±0.1, h106km±6km, mb4.8/13, Error ellipse: s-maj=18.5km s-min=10.1km az=163.5*
*MAN **24** 14:51:46.1, 1373N×12047E, h69km, mb3.9, ML4.9, MS1.9*
MAN F QUEZON CITY - INTENSITY I.
*IDC **24** 14:51:46.7±1.0, 1388N×12092E, h95km±13km, mb3.5/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.9/7, Error ellipse: s-maj=103.3km s-min=15.4km az=66.0*
*NEIC **24** 14:51:47.2±0.8, 1392N×12089E, h101km±7km, mb4.4/4, Error ellipse: s-maj=18.1km s-min=10.4km az=70.0*
ISC 24 14:51:47.7±0.6, 1392N±006×1208E±01, h100km±6km, n27, σ0§84/32, mb4.8/13, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.24	40	*e*P	Pn	14 52 02.2	+0.2
TGY				*e*S	Sn	14 52 13.1	+0.4
TGY	Tagaytay City	0.24	40	P	Pn	14 52 01.5	-0.5
	2μm,0.3s,baz=260,slow=1.7,SNR=135						
TGY				S	Sn	14 52 12.2	-0.6
	20μm,0.3s,baz=79,slow=16,SNR=175						
PGP	Puerto Galera	0.45	158	*e*P	Pn	14 52 06.7	+3.5
PCPH	Palayan	1.66	11⇑	*e*P	Pn	14 52 16.1	+0.1
PCPH				*i*S	Sn	14 52 37.9	+0.5
BCPH	Baguio City Da	2.46	356⇓	*e*P	Pn	14 52 25.9	-0.2
BCPH				*e*S	Sn	14 52 55.4	-0.3
QIZ	Qiongzhong	11.65	297	*e*Pn	Pn	14 54 28.2	-2.5
QIZ				*e*Sn	Sn	14 56 26.2	-13
KSM	Kuching	16.13	221	*e*P	Pn	14 55 30.0	+1.5
KMI	Kunming	20.30	306	P	P	14 56 14.9	-0.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s						
KMI	Kunming	20.30	306	P	P	14 56 14.9	-0.6
	comp=Z,7.0nm,1.0s						
CM31	Chiang Mai Arr	21.45	285	P	P	14 56 27.9	+0.2
	comp=Z,13nm,0.6s,mb4.4						
LSA	Lhasa	31.55	305	*e*P	P	14 58 01.8	+1.4
	comp=Z,2.7nm,0.3s,mb4.5						
JIRN	Jiri	34.97	299	*e*P	P	14 58 30.5	+0.4
	comp=Z,12nm,0.3s,mb5.1						
GUN	Gumba	35.31	299	*e*P	P	14 58 33.4	+0.4
	comp=Z,56nm,0.4s						
PKI	Pulchoki	35.62	298	*e*P	P	14 58 35.3	-0.3
	comp=Z,35nm,0.5s,mb5.5						
KKN	Kakani	35.79	298	*e*P	P	14 58 36.8	-0.3
	comp=Z,50nm,0.9s,mb5.5						
SONM	Songino Array	35.87	343	P	P	14 58 38.5	+0.7
	comp=Z,5.5nm,0.6s,mb4.7,baz=163,slow=10,SNR=53						
DMN	Daman	35.89	298	*e*P	P	14 58 37.7	-0.2
	comp=Z,29nm,0.6s,mb5.4						
WRA	Warramunga Arr	36.20	158	P	P	14 58 39.6	-1.0
	comp=Z,0.3nm,0.5s,baz=341,slow=9.1,SNR=8.9						
WRA				pP	pP	14 58 59.6	-3.8
	comp=Z,1.7nm,0.7s,baz=335,slow=9.7,SNR=8.3						
GKN	Gorkha	36.39	298	*e*P	P	14 58 41.6	-0.6
	comp=Z,51nm,0.9s,mb5.5						
KOLN	Koldanda	37.22	298	*e*P	P	14 58 48.9	-0.4
	comp=Z,20nm,0.8s,mb5.1						
ASAR	Alice Springs	39.50	161	P	P	14 59 07.5	-0.8
	comp=Z,0.2nm,0.4s,baz=337,slow=7.4,SNR=6.2						
ASAR				pP	pP	14 59 28.3	-3.2
	comp=Z,1.2nm,0.6s,baz=338,slow=6.7,SNR=11						
MK31	Makanchi Array	45.90	323	*e*P	P	15 00 00.6	+0.5
MKAR	Makanchi Array	45.90	323	P	P	15 00 00.9	+0.8
	comp=Z,0.9nm,0.6s,mb3.7,baz=123,slow=9.1,SNR=14						
BVAR	Borovoye Array	55.64	326	P	P	15 01 13.6	+0.5
	comp=Z,4.5nm,0.6s,mb4.7,baz=118,slow=9.3,SNR=35						
BRVK	Borovoye	55.71	326	*e*P	P	15 01 14.1	+0.4
	comp=Z,5.3nm,0.5s,mb4.8						
BRTR	Keskin Array B	79.08	308	P	P	15 03 41.4	+0.5
	comp=Z,0.3nm,0.6s,baz=105,slow=8.1,SNR=4.1						
FINES	FINESS Array B	80.13	331	P	P	15 03 45.1	-1.5
	comp=Z,1.5nm,0.8s,mb3.9,baz=79,slow=10,SNR=4.2						

*NEIC **24** 14:58:11.5, 1948N×6435W, h69km, MD3.5(RSPR), After RSPR.*
RSPR 24 14:58:11.5, 1948N×6435W, h69km±21km, MD3.5/3, MD3.5/3, 7C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	St. Croix	1.76	193⇑	*e*P	Pn	14 58 39.8	-0.1
CDVI				*e*S	Sn	14 59 00.6	-0.8
MTP	Monte Pirata	1.78	220⇑	*e*P	Pn	14 58 39.2	-1.0
MTP				*e*S	Sn	14 59 01.9	0.0
CBYP	Canovanas	1.86	230⇑	*e*P	Pn	14 58 40.1	-1.1
CBYP				*e*S	Sn	14 59 03.2	-0.6
HUMP	Col San Antoni	1.94	227⇑	*e*P	Pn	14 58 41.6	-0.7
HUMP				*e*S	Sn	14 59 05.1	-0.7
CPD	Cerro la Pandu	2.06	226⇑	*e*P	Pn	14 58 43.2	-0.7
CPD				*e*S	Sn	14 59 08.4	-0.3
CELP	Cerrillos	2.53	237⇑	*e*P	Pn	14 58 50.3	0.0
ICM	Isla Caja Muer	2.59	233⇑	*e*P	Pn	14 58 50.7	-0.4

*ISCJB **24** 15:13:02.6±9.0, 1.10S±009×1276E±0.1, h6km±59km, mb4.7/21, Error ellipse: s-maj=19.7km s-min=13.2km az=133.0*
*IDC **24** 15:13:03.2±0.8, 1.12S×12759E, h0km, mb4.4/9, mb1 4.3/11, mb1mx4.2/19, mbtmp4.3/11, ML3.8/2, Error ellipse: s-maj=29.5km s-min=15.7km az=73.0*
*NEIC **24** 15:13:05.0±0.3, 1.10S×12762E, h10km, mb4.8/4, Error ellipse: s-maj=14.4km s-min=6.0km az=73.0*
*BJI **24** 15:13:05.0, 1.10S×12760E, h10km, mB5.0, mb4.8*
ISC 24 15:13:08.7±2.5, 115S±008×1277E±01, h36km±27km, n32, σ0§82/32, mb4.7/21, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.41	158	*e*P	Pn	15 16 03.8	+1.1
	15nm,0.6s						
FITZ	Fitzroy Crossi	16.97	187	*e*P	Pn	15 17 03.9	+0.7
	3.6nm,0.8s						
FITZ	Fitzroy Crossi	16.97	187	Pn	Pn	15 17 04.1	+0.9
	0.1nm,0.3s,baz=1.8,slow=6.9,SNR=4.4						
WRAB	Tennant Creek	19.77	161	*e*P	Pn	15 17 36.1	-1.2
WRA	Warramunga Arr	19.77	161	P	Pn	15 17 35.5	-1.8
	0.5nm,0.3s,baz=342,slow=12,SNR=25						
WB2	Warramunga Arr	19.78	161	*e*P	Pn	15 17 36.2	-1.2
GUMO	Guam	22.45	49	P	P	15 18 04.5	+0.1
	94nm,1.1s,mb5.1,baz=342,slow=20,SNR=3.5						
AS31	Alice Springs	23.17	165	*e*P	P	15 18 12.6	+0.5
ASAR	Alice Springs	23.18	165	P	P	15 18 12.0	-0.1
	3.1nm,0.6s,mb3.9,baz=345,slow=11,SNR=31						
ASPA	Alice Springs	23.18	165	*e*P	P	15 18 12.6	+0.5
PSI	Prapat	29.04	278	P	P	15 19 03.9	-1.4
	4.5nm,0.9s,mb4.2,baz=160,slow=10.0,SNR=4.3						
STKA	Stephens Creek	33.26	158	P	P	15 19 43.0	+0.5
	3.3nm,0.8s,mb4.3,baz=329,slow=5.7,SNR=5.6						
STKA	Stephens Creek	33.26	158	P	P	15 19 43.0	+0.5
MJAR	Matsushiro Arr	38.75	14	P	P	15 20 29.2	-0.2
	1.3nm,0.5s,mb3.9,baz=186,slow=8.5,SNR=4.6						
LSA	Lhasa	46.45	314	*e*P	P	15 21 33.6	+1.6
	6.9nm,0.7s,mb4.7						
GTA	Gaotai	47.78	331	*e*P	P	15 21 42.8	+0.5
GTA				AP	pP	15 21 50.9	-2.1
GTA				XP	sP	15 21 54.3	-3.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
JIRN	Jiri	49.09	309	*e*P	P	15 21 53.2	+0.8
	comp=Z,1.7nm,0.2s,mb4.7						
GUN	Gumba	49.45	309	*e*P	P	15 21 55.3	+0.1
	comp=Z,31nm,0.7s,mb5.5						
PKI	Pulchoki	49.66	308	*e*P	P	15 21 56.9	+0.1
	comp=Z,8.6nm,0.7s,mb4.9						
KKN	Kakani	49.87	309	*e*P	P	15 21 58.3	0.0
	comp=Z,14nm,0.9s,mb5.0						
DMN	Daman	49.92	308	*e*P	P	15 21 58.6	-0.1
	comp=Z,18nm,1.0s,mb5.0						
GKN	Gorkha	50.47	308	*e*P	P	15 22 02.9	0.0
	comp=Z,13nm,0.7s,mb5.1						
KOLN	Koldanda	51.18	308	*e*P	P	15 22 08.4	+0.2
	comp=Z,29nm,0.7s,mb5.3						
SONM	Songino Array	52.21	342	P	P	15 22 16.0	+0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=154,slow=7.9,SNR=22						
MK31	Makanchi Array	62.11	326	*e*P	P	15 23 25.6	-0.3
MKAR	Makanchi Array	62.11	326	P	P	15 23 25.8	-0.2
	comp=Z,3.6nm,0.4s,mb4.9,baz=115,slow=8.0,SNR=68						
YAK	Yakutsk	63.03	1	*e*P	P	15 23 32.5	+0.4
	comp=Z,16nm,0.6s,mb5.3						
BVAR	Borovoye Array	71.93	328	P	P	15 24 27.5	-0.7
	comp=Z,3.4nm,0.8s,mb4.3,baz=134,slow=6.4,SNR=16						
BRVK	Borovoye	72.00	328	*e*P	P	15 24 27.6	-1.0
	comp=Z,8.1nm,1.0s,mb4.6						
AKTK	Aktyubinsk	78.08	322	P	P	15 25 03.2	-0.5
AKTO	Aktyubinsk	78.08	322	P	P	15 25 03.2	-0.5
	comp=Z,2.2nm,0.6s,mb4.3,baz=114,slow=7.1,SNR=14						
QSPA	South Pole Qui	88.79	180	*e*P	P	15 26 01.1	+2.4
	comp=Z,1.5nm,0.7s,mb4.4						

IDC 24 15:16:07.6±2.0, 022N×12624E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=171.1km s-min=26.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.55	159	P	P	15 20 58.2	-0.4
	0.6nm,0.5s,baz=337,slow=11,SNR=4.5						
ASAR	Alice Springs	24.88	163	P	P	15 21 32.9	+0.9
	0.3nm,0.4s,baz=343,slow=9.5,SNR=4.3						
MKAR	Makanchi Array	60.17	327	P	P	15 26 17.2	+0.1
	0.5nm,0.4s,baz=122,slow=7.7,SNR=6.2						

SKHL 24 15:18:59.1±0.3, 5584N×12583E, h16km±2km, mb4.0/7, 1C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNS	Chul'man	1.13	333	*e*Pg	Pg	15 19 20.3	-0.6
CLNS				AMB	AMB	15 19 21.2	
	93nm,0.3s						
CLNS				AMB	AMB	15 19 21.2	
	35nm,0.3s						
CLNS				AMB	AMB	15 19 21.2	
	84nm,0.3s						
CLNS				*e*Sg	Sg	15 19 34.7	-0.9
CLNS				A		15 19 37.9	
	240nm,0.3s						
CLNS				A		15 19 37.9	
	129nm,0.3s						
CLNS				A		15 19 37.9	
	80nm,0.3s						
KROS	Kirovskiy	1.56	155	*e*Pn	Pn	15 19 26.2	+0.1
KROS				⇑*i*Pg	Pg	15 19 27.5	-1.5
KROS				AMB	AMB	15 19 27.8	
	110nm,0.4s						
KROS				AMB	AMB	15 19 27.8	
	120nm,0.4s						
KROS				pPg		15 19 32.3	
KROS				*e*Sg	Sg	15 19 48.3	-0.9
KROS				A		15 19 51.0	
	220nm,0.5s						
KROS				A		15 19 51.0	
	140nm,0.5s						
BMKR	Bomnak	2.06	122	*e*Pn	Pn	15 19 32.4	-0.7
BMKR				⇓*i*Pg	Pg	15 19 35.9	-2.8
BMKR				AMB	AMB	15 19 36.4	
	16nm,0.4s						
BMKR				AMB	AMB	15 19 36.4	
	26nm,0.4s						
BMKR				AMB	AMB	15 19 36.4	
	38nm,0.4s						
BMKR				pPg		15 19 41.0	
BMKR				*e*Sn	Sn	15 19 59.3	+0.9
BMKR				*e*Sg	Sg	15 20 03.1	-2.3
BMKR				A		15 20 04.9	
	160nm,0.4s						
BMKR				A		15 20 04.9	
	80nm,0.4s						
BMKR				A		15 20 04.9	
	77nm,0.4s						
ZEA	Zeya	2.26	158	*e*Pn	Pn	15 19 36.0	+0.2
ZEA				*e*Pg	Pg	15 19 39.8	-2.7
ZEA				AMB	AMB	15 19 40.2	
	30nm,0.3s						
ZEA				AMB	AMB	15 19 40.2	
	20nm,0.3s						
ZEA				AMB	AMB	15 19 40.2	
	60nm,0.3s						
ZEA				*e*Sg	Sg	15 20 09.1	-2.7
ZEA				A		15 20 10.5	
	100nm,0.5s						
ZEA				A		15 20 10.8	
	110nm,0.5s						
ZEA				A		15 20 10.8	
	97nm,0.5s						
YASR	Yasnyy	2.85	153	*e*Pn	Pn	15 19 44.9	+1.1
YASR				*e*Pg	Pg	15 19 49.9	-3.7
YASR				AMB	AMB	15 19 55.5	
	7.0nm,0.5s						
YASR				AMB	AMB	15 19 55.5	
	3.0nm,0.5s						
YASR				AMB	AMB	15 19 55.5	
	11nm,0.5s						
YASR				sPg		15 19 57.7	
YASR				*e*Sg	Sg	15 20 27.6	-2.9
YASR				A		15 20 38.6	
	10.0nm,0.5s						
YASR				A		15 20 38.6	
	25nm,0.5s						
TUP	Tupik	3.66	250	*e*Pn	Pn	15 19 56.8	+1.8
TUP				*e*Pg	Pg	15 20 05.4	-3.8
TUP				AMB	AMB	15 20 08.4	
	11nm,0.4s						
TUP				*e*Sn	Sn	15 20 39.1	+1.3
TUP				*e*Sg	Sg	15 20 53.8	-2.8
TUP				A		15 20 58.6	
	30nm,0.8s						
EKMR	Ekimchan	5.00	121	*e*Pn	Pn	15 20 13.3	-0.1
EKMR				pPn		15 20 19.0	
EKMR				*e*Pg	Pg	15 20 29.4	-5.4
EKMR				AMB	AMB	15 20 31.0	
	3.0nm,0.5s						
EKMR				AMB	AMB	15 20 31.0	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	15 21 34.8	-4.7
EKMR				A		15 21 39.9	
	17nm,0.5s						
EKMR				A		15 21 39.9	
	9.0nm,0.5s						
KLR	Kul'dur	7.54	149	*e*rx	rx	15 23 03.6	

*BJI **24** 15:24:36.9, 168S×12766E, h10km, mB5.0, mb4.6, Ms4.6, Msz4.3*
*ISCJB **24** 15:24:40.4±0.4, 124S±005×12743E±0.10, h10km, mb4.8/28, MS4.1/3, Error ellipse: s-maj=15.1km s-min=4.8km az=129.4*
*IDC **24** 15:24:40.4±0.8, 122S×12732E, h0km, mb4.4/9, mb1 4.4/11, mb1mx4.2/18, mbtmp4.3/11, ML4.0/2, MS3.6/1, Ms1 3.5/1, ms1mx2.4/24, Error ellipse: s-maj=37.5km s-min=14.5km az=70.0*
*NEIC **24** 15:24:41.9±0.3, 121S×12740E, h10km, mb4.7/9, Error ellipse: s-maj=12.4km s-min=5.1km az=65.0*
ISC 24 15:24:43.9±2.1, 130S±006×1275E±01, h21km±14km, h24km±4.5km: pP-P, n47, σ1§10/51, mb4.8/28, MS4.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.36	157	*e*P	Pn	15 27 39.9	+1.3
	22nm,0.6s						
KKM	Kota Kinabalu	13.40	303	*e*P	Pn	15 27 51.7	-1.1
FITZ	Fitzroy Crossi	16.80	186	*e*P	Pn	15 28 41.4	+3.6
	5.7nm,0.7s						
FITZ	Fitzroy Crossi	16.80	186	Pn	Pn	15 28 37.7	-0.1
	0.2nm,0.3s,baz=24,slow=17,SNR=7.1						
KSM	Kuching	17.38	279	*e*P	Pn	15 28 42.7	-2.3
WRAB	Tennant Creek	19.71	160	*e*P	Pn	15 29 12.2	-1.1
	10nm,0.6s						
WRA	Warramunga Arr	19.71	161	P	Pn	15 29 12.4	-1.0
	0.8nm,0.3s,baz=341,slow=12,SNR=42						
WRA				S	Sn	15 32 51.7	-2.5
	0.1nm,0.3s,baz=334,slow=21,SNR=4.1						
WB2	Warramunga Arr	19.72	160	*e*P	Pn	15 29 12.5	-1.0
MBWA	Marble Bar	21.14	200	*e*P	P	15 29 27.6	+0.2
AS31	Alice Springs	23.09	165	*e*P	P	15 29 48.8	+0.6
ASAR	Alice Springs	23.10	165	P	P	15 29 48.9	+0.7
	5.2nm,0.7s,mb4.1,baz=344,slow=9.3,SNR=61						
ASAR				S	S	15 33 57.0	-1.1
	3.7nm,1.1s,baz=344,slow=20,SNR=8.8						
ASPA	Alice Springs	23.10	165	*e*P	P	15 29 48.8	+0.6
QIZ	Qiongzhong	26.61	320	P	P	15 30 20.6	-0.1
QIZ				S	S	15 34 55.5	+1.1
QIZ				AMB	AMB		
	comp=Z,87nm,4.5s						
KULM	Kulim	27.58	284	*e*P	P	15 30 29.7	+0.2
PSI	Prapat	28.83	278	P	P	15 30 39.6	-1.0
	comp=Z,10nm,0.8s,mb4.6,baz=121,slow=4.6,SNR=9.4						
FORT	Forrest	29.33	179	*e*P	P	15 30 46.6	+1.6
	comp=Z,11nm,0.6s,mb4.8						
STKA	Stephens Creek	33.21	158	P	P	15 31 21.3	+2.1
	comp=Z,5.7nm,0.7s,mb4.6,baz=334,slow=8.6,SNR=15						
STKA				LR	LR	15 45 50.4	
	comp=Z,93nm,20.1s,MS3.5,baz=206,slow=38						
STKA	Stephens Creek	33.21	158	*e*P	P	15 31 21.4	+2.2
MJAR	Matsushiro Arr	38.95	14	P	P	15 32 07.6	-0.7
	comp=Z,2.5nm,1.0s,mb3.9,baz=193,slow=8.9,SNR=4.8						
CD2	Chengdu	39.17	327	*e*P	P	15 32 10.9	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
XAN	Xi'an	39.24	335	P	P	15 32 10.8	+0.1
XAN				AP	pP	15 32 21.9	+4.7
XAN				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
LZH	Lanzhou	43.22	332	*e*P	P	15 32 40.6	-2.8
LZH				AP	pP	15 32 46.5	-3.4
LZH				XP	sP	15 32 49.5	-3.0
LZH				*e*PP	PP	15 34 24.3	+0.4
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,48nm,6.5s						
LZH				LR	LR		
	comp=E,357nm,14.6s						
LZH				LR	LR		
	comp=Z,509nm,17.9s,MS4.5						
LZH	Lanzhou	43.22	332	*e*P	P	15 32 40.6	-2.8
	comp=Z,19nm,1.0s,mb4.8						
LZH				pP	pP	15 32 46.5	-3.4
LZH				sP	sP	15 32 49.5	-3.0
LZH				*e*PP	PP	15 34 24.3	+0.4
LZH				LR	LR		
	comp=Z,510nm,17.9s,MS4.5						
HHC	Hu-ho-hao-te	44.38	343	*e*P	P	15 32 54.4	+1.7
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.1						
LSA	Lhasa	46.39	315	*e*P	P	15 33 12.0	+3.3
LSA	Lhasa	46.39	315	P	P	15 33 10.0	+1.3
	comp=Z,5.9nm,0.6s,mb4.7						
GTA	Gaotai	47.79	331	P	P	15 33 20.8	+1.2
GTA				AP	pP	15 33 28.3	+2.1
GTA				XP	sP	15 33 31.3	+2.5
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
JIRN	Jiri	49.00	309	*e*P	P	15 33 30.2	+1.2
	comp=Z,4.8nm,0.2s,mb5.1						
GUN	Gumba	49.37	309	*e*P	P	15 33 32.7	+1.0
	comp=Z,59nm,0.9s,mb5.6						
PKI	Pulchoki	49.57	309	*e*P	P	15 33 34.0	+0.7
	comp=Z,18nm,0.8s,mb5.1						
KKN	Kakani	49.77	309	*e*P	P	15 33 35.5	+0.7
	comp=Z,22nm,0.8s,mb5.2						
DMN	Daman	49.82	308	*e*P	P	15 33 35.9	+0.7
	comp=Z,47nm,1.2s,mb5.4						
GKN	Gorkha	50.37	309	*e*P	P	15 33 39.9	+0.5
	comp=Z,16nm,0.6s,mb5.2						
KOLN	Koldanda	51.08	308	*e*P	P	15 33 45.4	+0.7
	comp=Z,54nm,0.7s,mb5.6						
SONM	Songino Array	52.27	342	P	P	15 33 53.3	-0.3
	comp=Z,3.5nm,0.8s,mb4.3,baz=150,slow=8.4,SNR=17						
WMQ	Urumqi	57.27	327	*e*P	P	15 34 30.5	+0.6
WMQ				AP	pP	15 34 35.0	-1.5
WMQ				XP	sP	15 34 37.5	-1.6
WMQ				*e*S	S	15 42 24.0	-0.7
WMQ				XS	sS	15 42 33.0	-2.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,104nm,5.0s						
WMQ				LR	LR		
	comp=N,326nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=E,273nm,20.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,228nm,20.8s,MS4.3						
MK31	Makanchi Array	62.10	327	*e*P	P	15 35 02.3	-0.8
MKAR	Makanchi Array	62.10	327	P	P	15 35 02.4	-0.8
	comp=Z,3.2nm,0.4s,mb4.8,baz=117,slow=7.8,SNR=52						
YAK	Yakutsk	63.18	1	*e*P	P	15 35 09.0	-1.3
	comp=Z,8.7nm,0.6s,mb5.1						
AAK	Ala-Archa	64.59	319	*e*P	P	15 35 19.5	-0.1
	comp=Z,2.4nm,0.9s,mb4.2						
BVAR	Borovoye Array	71.92	328	P	P	15 36 04.5	-1.0
	comp=Z,4.0nm,0.8s,mb4.4,baz=126,slow=7.5,SNR=24						
BRVK	Borovoye	72.00	328	*e*P	P	15 36 04.2	-1.8
	comp=Z,6.0nm,0.9s,mb4.5						
AKTK	Aktyubinsk	78.05	322	P	P	15 36 39.9	-1.0
AKTO	Aktyubinsk	78.05	322	P	P	15 36 39.9	-1.0
	comp=Z,2.8nm,0.7s,mb4.3,baz=116,slow=7.6,SNR=9.0						
VNDA	Vanda	78.38	173	P	P	15 36 42.6	-0.1
	comp=Z,1.1nm,0.9s,mb3.8,baz=304,slow=7.3,SNR=6.5						
VNDA	Vanda	78.38	173	*e*P	P	15 36 43.4	+0.7
	comp=Z,1.4nm,0.9s,mb3.9						
QSPA	South Pole Qui	88.64	180	*e*P	P	15 37 36.5	+1.1
	comp=Z,4.2nm,0.9s,mb4.8						

*IDC **24** 15:44:08.4±0.8, 1977S×174.19W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML2.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=30.1km s-min=17.9km az=130.0*
*NEIC **24** 15:44:08.6±5.8, 1975S×174.15W, h3km±36km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=10.8km az=129.0*
*ISCJB **24** 15:44:11.4±0.6, 197S±01×1742W±01, h33km, mb4.1/11, MS3.7/2, Error ellipse: s-maj=18.2

CTAO	**Charters Tower**	**37.19 262**	*eP*	**P**		**15 51 22.1**	**+0.7**
STKA	**Stephens Creek**	**41.40 244**	P	**P**		**15 51 55.9**	**-0.6**
	2.2nm,0.7s,mb3.9,baz=69,slow=8.6,SNR=3.6						
STKA			LR	LR		16 07 24.8	
	comp=Z,72nm,21.2s,MS3.5,baz=30,slow=34						
AS31	**Alice Springs**	**48.24 256**	*eP*	**P**		**15 52 52.0**	**+1.1**
ASAR	**Alice Springs**	**48.24 256**	P	**P**		**15 52 49.6**	**-1.3**
	1.7nm,0.7s,mb4.2,baz=90,slow=8.0,SNR=35						
ASPA	**Alice Springs**	**48.24 256**	*eP*	**P**		**15 52 52.0**	**+1.1**
WB2	**Warramunga Arr**	**48.30 261**	*eP*	**P**		**15 52 51.5**	**+0.1**
WRAB	**Tennant Creek**	**48.30 261**	*eP*	**P**		**15 52 51.4**	**0.0**
	1.0nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**48.31 261**	P	**P**		**15 52 50.3**	**-1.2**
	0.7nm,0.3s,mb4.2,baz=96,slow=7.6,SNR=36						
VNDA	**Vanda**	**59.04 186**	P	**P**		**15 54 09.6**	**-0.5**
	0.7nm,0.8s,mb3.8,baz=359,slow=7.1,SNR=5.2						
VNDA			LR	LR		16 15 19.0	
	comp=Z,81nm,20.6s,MS3.8,baz=328,slow=32						
VNDA	**Vanda**	**59.04 186**	*eP*	**P**		**15 54 10.0**	**0.0**
	2.3nm,1.3s,mb4.0						
VNDA			LR	LR		16 15 19.0	
QSPA	**South Pole Qui**	**70.36 180**	*eP*	**P**		**15 55 23.7**	**-0.1**
	4.2nm,1.2s,mb4.2						
NVAR	**Mina Array Bea**	**77.99 42**	P	**P**		**15 56 09.5**	**+1.2**
	0.7nm,0.9s,mb3.6,baz=218,slow=8.0,SNR=4.4						
NVAR	**Mina Array Bea**	**77.99 42**	P	**P**		**15 56 09.5**	**+1.2**
PMSA	**Palmer Station**	**80.55 156**	*eP*	**P**		**15 56 22.4**	**+0.1**
	34nm,0.6s						
MAW	**Mawson**	**83.51 199**	P	**P**		**15 56 36.7**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=79,slow=5.2,SNR=3.8						
TXAR	**Lajitas Array**	**83.59 56**	P	**P**		**15 56 38.4**	**+0.2**
	0.4nm,0.8s,mb3.6,baz=225,slow=1.6,SNR=4.3						
TXAR	**Lajitas Array**	**83.59 56**	P	**P**		**15 56 38.4**	**+0.2**
MKAR	**Makanchi Array**	**113.30 313**	PKiKP	PKiKP		16 02 47.0	-0.5
	0.3nm,0.7s,baz=83,slow=2.5,SNR=3.9						
AKASG	**Malin Array Be**	**143.97 335**	PKP	PKPdf		16 03 43.3	-2.0
	1.5nm,0.6s,baz=40,slow=4.5,SNR=13						
CLL	**Collm**	**147.97 352**	*i* PKPbc	PKPbc		16 03 56.9	+1.7
	comp=Z,9.0nm,1.0s						
CLL			*i* PKPab	PKPab		16 03 59.6	+1.7
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**148.25 350**	*eP*	PKPbc		16 03 58.0	+2.1
	comp=Z,3.6nm,1.0s						
BRTR	**Keskin Array B**	**148.90 316**	PKPbc	PKPbc		16 03 59.5	+2.0
	comp=Z,0.8nm,0.7s,baz=147,slow=4.2,SNR=7.0						
GERES	**GERESS Array B**	**150.25 350**	PKPbc	PKPbc		16 04 02.9	+2.0
	comp=Z,1.2nm,0.7s,baz=318,slow=1.8,SNR=7.7						

IDC 24 15:48:52.8±4.3, 2922N×13963E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=305.5km s-min=33.0km az=82.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.14 187**		P	P	15 57 42.2	0.0
	1.3nm,0.7s,baz=5.0,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**52.86 187**		P	P	15 58 10.4	+0.1
	0.4nm,0.8s,baz=3.8,slow=6.0,SNR=6.1						
FINES	**FINESS Array B**	**75.05 333**		P	P	16 00 36.1	-0.2
	1.2nm,0.8s,baz=67,slow=5.0,SNR=3.5						

*ISCJB **24** 15:59:04.2±0.9, 2546S±004×698W±02, h70km±17km, mb3.9/2, Error ellipse: s-maj=32.1km s-min=5.5km az=12.6*
*NEIC **24** 15:59:04.8±0.7, 2545S×6983W, h63km±13km, MG4.4(GUC), Error ellipse: s-maj=35.9km s-min=7.1km az=102.0*
*GUC **24** 15:59:04.4±1.0, 2555S×6986W, h25km±7km, ML4.4*
*IDC **24** 15:59:06.1±2.0, 2553S×6987W, h75km±7km, mb3.8/2, mb1 3.9/4, mb1mx3.6/16, mbtmp4.1/4, Error ellipse: s-maj=77.4km s-min=26.9km az=96.0*
ISC 24 15:59:04.4±1.3, 2529S±005×710W±03, h95km±7km, n18, σ0§86/24, mb3.9/2, 1C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.86**	**40**	⇓*iP*	**Pn**	**15 59 23.6**	**+0.7**
CPN1				*i* S	**Sn**	**15 59 37.1**	**+0.3**
CPN1				AML	AML	15 59 37.8	
	comp=N,8μm,0.1s						
ANCH	**Antofagasta**	**1.69**	**19**	⇑*iP*	**Pn**	**15 59 34.2**	**+1.4**
ANCH				*i* S	**Sn**	**15 59 59.0**	**+4.7**
CDCH	**Caldera**	**1.79**	**175**	⇓*iP*	**Pn**	**15 59 33.9**	**-0.1**
CDCH				*i* S	**Sn**	**15 59 56.8**	**+0.3**
CDCH				AML	AML	16 00 02.2	
	comp=E,3μm,0.4s						
CDCH	**Caldera**	**1.79**	**175**	⇓*iP*	**Pn**	**15 59 33.9**	**-0.1**
CDCH				*i* S	**Sn**	**15 59 56.8**	**+0.3**
CEN1	**Los Morros**	**2.03**	**22**	*eP*	**Pn**	**15 59 35.5**	**-1.6**
CEN1				*i* S	**Sn**	**16 00 01.8**	**-0.4**
CEN1				AML	AML	16 00 06.7	
	comp=E,1μm,0.7s						
CPCH	**Copiapo**	**2.15**	**164**	*eP*	**Pn**	**15 59 36.1**	**-2.6**
CPCH				AML	AML	16 00 06.4	
	comp=N,18μm,0.1s						
VACH	**Vallenar**	**3.28**	**176**	*eP*	**Pn**	**15 59 53.7**	**-0.1**
VACH				*i* S	**Sn**	**16 00 32.2**	**+0.3**
VACH				AML	AML	16 00 45.6	
	comp=E,3μm,0.4s						
VACH	**Vallenar**	**3.28**	**176**	*eP*	**Pn**	**15 59 53.7**	**-0.1**
VACH				*i* S	**Sn**	**16 00 32.2**	**+0.3**
LVC	**Limon Verde**	**3.28**	**36**	P	**Pn**	**15 59 52.2**	**-1.6**
LVC	**Limon Verde**	**3.28**	**36**	*e*Pn	**Pn**	**15 59 48.2**	**-5.6**
LPAZ	**La Paz**	**9.35**	**17**	P	**Pn**	**16 01 16.7**	**+0.5**
	comp=E,0.9nm,0.3s,baz=195,slow=9.2,SNR=22						
LPAZ	**La Paz**	**9.35**	**17**	*eP*	**Pn**	**16 01 16.5**	**+0.3**
TRQA	**Tornquist**	**14.86**	**151**	*eP*	**Pn**	**16 02 30.3**	**+0.8**
SAML	**Samuel**	**17.88**	**26**	*eP*	**Pn**	**16 03 07.1**	**+0.2**
	comp=E,5.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**80.44**	**71**	*eP*	**P**	**16 11 05.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**80.44**	**71**	P	**P**	**16 11 05.5**	**-0.2**
	comp=E,1.3nm,0.6s,mb3.9,baz=254,slow=5.0,SNR=12						
TORD				pP	pP	16 11 25.9	-4.4
	comp=E,0.5nm,0.5s,baz=251,slow=5.1,SNR=3.6						
TORD				sP	sP	16 11 33.2	-7.3
	comp=E,0.6nm,0.5s,baz=259,slow=5.3,SNR=2.8						
MAW	**Mawson**	**81.26 164**		P	**P**	**16 11 10.3**	**+0.3**
	comp=E,0.5nm,0.2s,mb3.9,baz=205,slow=19,SNR=3.0						
MKAR	**Makanchi Array**	**149.81**	**38**	PKPbc	PKPbc	16 18 46.6	+3.3
	comp=E,0.4nm,0.7s,baz=325,slow=1.8,SNR=5.1						
MKAR				pPKPbc	pPKPbc	16 19 07.7	-1.7
	comp=E,0.2nm,0.5s,baz=320,slow=2.9,SNR=2.4						

*ISCJB **24** 16:01:23.1±1.2, 318S±01×1797W±03, h402km±18km, mb3.3/4, Error ellipse: s-maj=45.9km s-min=10.3km az=35.4*
*IDC **24** 16:01:23.4±2.7, 3162S×17988W, h362km±24km, mb3.0/3, mb1 3.3/5, mb1mx3.1/13, mbtmp4.0/5, Error ellipse: s-maj=27.7km s-min=26.2km az=35.0*
*NEIC **24** 16:01:24.4±1.8, 31.12S×17990W, h369km±14km, mb3.9/1, Error ellipse: s-maj=26.4km s-min=23.3km az=149.0*
ISC 24 16:01:28.3±1.0, 3187S±007×1795E±02, h372km±10km, n53, σ1§10/56, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.27**	**189**	*eP*	**Pn**	**16 03 04.4**	**+1.5**
PUZ				S	**S**	**16 04 19.7**	**-0.1**
PUZ	**Puketiti**	**6.27**	**189**	*e*PN	**Pn**	**16 03 04.4**	**+1.5**
PUZ				SN	**S**	**16 04 19.7**	**-0.1**
MWZ	**Matawai**	**6.65**	**194**	*eP*	**Pn**	**16 03 02.8**	**-4.4**
MWZ				S	**S**	**16 04 29.4**	**+1.7**
MWZ	**Matawai**	**6.65**	**194**	*e*PN	**Pn**	**16 03 02.9**	**-4.3**
MWZ				SN	**S**	**16 04 29.4**	**+1.7**
URZ	**Urewera**	**6.67**	**196**	P	**Pn**	**16 03 07.1**	**-0.3**
	4.3nm,0.3s,baz=283,slow=4.2,SNR=67						
URZ				S	**S**	**16 04 30.1**	**+2.0**
	6.2nm,0.3s,baz=90,slow=23,SNR=20						
URZ	**Urewera**	**6.67**	**196**	*eP*	**Pn**	**16 03 05.7**	**-1.7**
URZ	**Urewera**	**6.67**	**196**	*e*PN	**Pn**	**16 03 05.7**	**-1.8**
URZ				SN	**S**	**16 04 29.7**	**+1.6**
BKZ	**Black Stump Fm**	**7.68**	**198**	*eP*	**Pn**	**16 03 19.1**	**0.0**
BKZ	**Black Stump Fm**	**7.68**	**198**	*e*PN	**Pn**	**16 03 17.6**	**-1.5**
BKZ				SN	**S**	**16 04 50.7**	**+1.2**
MOVZ	**Moawhango**	**8.12**	**201**	P	**Pn**	**16 03 25.0**	**+0.9**
MOVZ	**Moawhango**	**8.12**	**201**	*e*PN	**Pn**	**16 03 24.7**	**+0.6**
PXZ	**Pawanui**	**8.42**	**194**	*e*PN	**Pn**	**16 03 25.5**	**-2.2**
PXZ				SN	**S**	**16 05 04.5**	**-0.8**
WPHZ	**Waipukurau**	**8.54**	**196**	*e*PN	**Pn**	**16 03 30.9**	**+1.7**
MRZ	**Mangatainoka R**	**9.33**	**199**	*eP*	**Pn**	**16 03 37.2**	**-1.1**
MRZ	**Mangatainoka R**	**9.33**	**199**	*e*PN	**Pn**	**16 03 37.0**	**-1.3**
MRZ				SN	**S**	**16 05 23.4**	**-1.4**
TIWZ	**Tintock**	**9.35**	**197**	SN	**S**	**16 05 27.2**	**+1.7**
CAW	**Cannon Point**	**9.88**	**200**	SN	**S**	**16 05 37.1**	**+0.1**
DUWZ	**D'Urville Isla**	**9.98**	**205**	*e*PN	**Pn**	**16 03 45.8**	**-0.2**
PAWZ	**Paruwai Farm**	**10.04**	**198**	SN	**S**	**16 05 40.9**	**+0.5**
TCW	**Tory Channel**	**10.22**	**203**	P	**Pn**	**16 03 48.4**	**-0.5**
TCW	**Tory Channel**	**10.22**	**203**	PN	**Pn**	**16 03 48.3**	**-0.6**
TCW				SN	**S**	**16 05 43.2**	**-1.2**
TUWZ	**Tuamarina**	**10.53**	**204**	*e*PN	**Pn**	**16 03 51.4**	**-1.1**
NNZ	**Nelson**	**10.55**	**206**	*eP*	**Pn**	**16 03 51.4**	**-1.2**
NNZ	**Nelson**	**10.55**	**206**	*e*PN	**Pn**	**16 03 51.2**	**-1.4**
NNZ				SN	**S**	**16 05 51.1**	**-0.3**
QRZ	**Quartz Range**	**10.56**	**210**	*eP*	**Pn**	**16 03 54.0**	**+1.2**
QRZ	**Quartz Range**	**10.56**	**210**	*e*PN	**Pn**	**16 03 52.6**	**-0.2**
THZ	**Tophouse**	**11.20**	**206**	*eP*	**Pn**	**16 04 00.0**	**-0.3**
THZ				S	**S**	**16 06 05.9**	**+0.4**
THZ	**Tophouse**	**11.20**	**206**	*e*PN	**Pn**	**16 03 59.6**	**-0.7**
THZ				SN	**S**	**16 06 04.9**	**-0.5**
KHZ	**Kahutara**	**11.55**	**203**	*eP*	**Pn**	**16 04 03.4**	**-1.0**
KHZ	**Kahutara**	**11.55**	**203**	PN	**Pn**	**16 04 02.3**	**-2.1**
DSZ	**Denniston Nort**	**11.62**	**210**	*e*PN	**Pn**	**16 04 05.1**	**-0.2**
DSZ				SN	**S**	**16 06 14.3**	**+0.1**
LTZ	**Lake Taylor**	**12.31**	**206**	*eP*	**P**	**16 04 12.6**	**+0.2**
LTZ	**Lake Taylor**	**12.31**	**206**	PN	**Pn**	**16 04 12.5**	**-0.9**
LTZ				SN	**S**	**16 06 27.4**	**-0.8**
MQZ	**McQueen's Vall**	**12.99**	**203**	SN	**S**	**16 06 41.4**	**-0.6**
RPZ	**Rata Peaks**	**13.57**	**207**	P	**P**	**16 04 27.8**	**+1.5**
	0.7nm,0.3s,baz=8.1,slow=7.1,SNR=5.7						
RPZ				S	**S**	**16 06 54.3**	**+0.7**
	0.7nm,0.3s,baz=338,slow=17,SNR=8.7						
STKA	**Stephens Creek**	**32.09**	**260**	*eP*	**P**	**16 07 24.4**	**+2.2**
	1.0nm,0.5s,mb3.3,baz=119,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**32.09**	**260**	*eP*	**P**	**16 07 24.6**	**+2.5**
ASAR	**Alice Springs**	**40.93**	**270**	P	**P**	**16 08 36.3**	**+0.3**
	0.6nm,0.9s,mb2.8,baz=109,slow=7.7,SNR=5.9						
ASAR				ScP	ScP	16 13 40.8	-0.8
	1.2nm,0.8s,baz=121,slow=4.2,SNR=14						
ASAR	**Alice Springs**	**40.93**	**270**	ScP	ScP	16 13 40.8	-0.8
WRA	**Warramunga Arr**	**42.06**	**275**	P	**P**	**16 08 44.7**	**-0.3**
	0.4nm,0.4s,mb2.9,baz=111,slow=8.1,SNR=20						
QSPA	**South Pole Qui**	**58.24**	**180**	*eP*	**P**	**16 10 46.0**	**+1.0**
	3.1nm,0.6s,mb3.8						
BVAR	**Borovoye Array**	**125.95**	**315**	PKP	PKPdf	16 19 42.4	-4.2
	1.1nm,0.4s,baz=133,slow=1.3,SNR=9.6						
JOF	**Joensuu**	**142.95**	**336**	*e*pkp	PKPdf	16 20 08.0	-10
KAF	**Kangasniemi**	**145.17**	**338**	*e*pkp	PKPdf	16 20 15.2	-6.8
FIA1	**FINESS Array S**	**145.74**	**338**	*eP*	PKPdf	16 20 18.7	-4.3
FINES	**FINESS Array B**	**145.74**	**338**	PKPbc	PKPdf	16 20 18.7	-4.2
	5.6nm,0.6s,baz=61,slow=3.6,SNR=36						
ASF	**Jabal al Asfar**	**148.40**	**281**	PKPbc	PKPbc	16 20 29.4	-2.0
	1.1nm,0.6s,baz=261,slow=2.9,SNR=4.9						
NB2	**NORSAR Subarra**	**149.83**	**349**	PKP	PKPdf	16 20 29.4	-0.2
	comp=Z,0.9nm,0.6s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**149.83**	**349**	PKPbc	PKPdf	16 20 29.6	-0.1
	comp=Z,1.8nm,0.7s,baz=16,slow=4.1,SNR=5.0						
AKASG	**Malin Array Be**	**151.09**	**319**	PKPbc	PKPdf	16 20 33.0	+1.4
	comp=Z,1.4nm,0.6s,baz=62,slow=2.8,SNR=9.7						
AKASG	**Malin Array Be**	**151.09**	**319**	PKPbc	PKPdf	16 20 33.0	+1.4
BRTR	**Keskin Array B**	**151.36**	**295**	PKPbc	PKPdf	16 20 35.3	+3.3
	comp=Z,1.7nm,0.6s,baz=139,slow=4.0,SNR=16						
TORD	**Torodi Ar. Bea**	**161.26**	**187**	PKPab	PKPab	16 21 29.4	-1.5
	comp=Z,0.7nm,0.8s,baz=163,slow=4.5,SNR=6.2						

*ISCJB **24** 16:06:37.3±0.4, 4089N±002×2774E±003, h6km±4km, Error ellipse: s-maj=4.0km s-min=3.7km az=8.4*
*ISK **24** 16:06:37.9, 4080N×2775E, h17km, MD2.9, ML3.1*
*CSEM **24** 16:06:37.7±0.1, 4081N×2776E, h10km, MD2.9, Error ellipse: s-maj=2.3km s-min=1.3km az=172.0*
*SOF **24** 16:06:41.9, 4072N×2718E, h14km, MD2.5*
*ATH **24** 16:06:43.5, 4069N×2735E, h46km, MD3.6/3*
*NEIC **24** 16:06:43.5, 4069N×2735E, h46km, MD2.9(ISK), MD3.6(ATH), After ATH.*
ISC 24 16:06:38.1±0.4, 4085N±002×2775E±003, h9km±4km, n35, σ0§88/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.27**	**205**	*i* Pg	**Pg**	**16 06 42.7**	**-0.8**
MRMT				*i* SG	**Sg**	**16 06 47.0**	**-0.2**
MFT	**Murefte**	**0.36**	**260**	*i* Pg	**Pg**	**16 06 45.5**	**+0.4**
MFT				*i* SG	**Sg**	**16 06 51.6**	**+1.7**
SART	**Tekirdag**	**0.46**	**250**	*i* P	**Pg**	**16 06 47.5**	**+0.5**
SART				*i* S	**Sg**	**16 06 54.0**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.46**	**250**	*i* Pg	**Pg**	**16 06 47.4**	**+0.3**
EDC	**Edincik**	**0.51**	**170**	*i* Pg	**Pg**	**16 06 48.1**	**+0.1**
CTT	**Catalca**	**0.59**	**60**	*i* Pg	**Pg**	**16 06 50.2**	**+0.6**
ELBA	**Catalca**	**0.59**	**60**	*i* P	**Pg**	**16 06 49.9**	**+0.4**
ELBA				*i* S	**Sg**	**16 07 02.8**	**+5.4**
KCT	**Karacabey**	**0.75**	**141**	*i* Pg	**Pg**	**16 06 52.5**	**0.0**
CANB	**Canakkale**	**0.98**	**212**	*i* Pg	**Pg**	**16 06 56.1**	**-0.9**
ISK	**Istanbul-Kandi**	**1.02**	**77**	*i* Pg	**Pg**	**16 06 57.5**	**-0.1**
BADT	**Buyukada**	**1.04**	**89**	*i* Pg	**Pg**	**16 06 57.9**	**-0.1**
KLYT	**Kilyos**	**1.06**	**67**	*i* PN	**Pn**	**16 06 59.0**	**0.0**
BTOK	**Tokmak**	**1.11**	**169**	*i* P	**Pb**	**16 06 59.3**	**-0.1**
BTOK				*i* S	**Sg**	**16 07 13.7**	**-0.1**
GEMT	**Gemlik**	**1.17**	**110**	PN	**Pn**	**16 07 00.1**	**-0.5**
EDRB	**Edirne**	**1.25**	**323**	PN	**Pn**	**16 07 02.2**	**+0.6**
YLV	**Yalova**	**1.27**	**102**	PN	**Pn**	**16 07 00.9**	**-1.0**
HRT	**Hereke**	**1.46**	**91**	PN	**Pn**	**16 07 04.0**	**-0.5**
EZN	**Ezine**	**1.49**	**227**	*e*PN	**Pn**	**16 07 04.8**	**-0.2**
ADVT	**Abdulvahap**	**1.57**	**105**	*e*PN	**Pn**	**16 07 06.4**	**+0.3**
BOZC	**Bozcaada**	**1.64**	**233**	*i* P	**Pn**	**16 07 07.0**	**-0.1**
BOZC				*i* S	**Sn**	**16 07 30.1**	**+1.9**
BOZC	**Bozcaada**	**1.64**	**233**	*i* P	**Pn**	**16 07 06.9**	**-0.1**
RDO	**Rodhopi**	**1.70**	**281**	*eP*	**Pn**	**16 07 08.4**	**+0.6**
RDO				*e*S	**Sn**	**16 07 26.6**	**-3.0**
JMB	**Yambol**	**1.83**	**332**	*eP*	**Pg**	**16 07 13.6**	**+0.4**
JMB				*i* Sg	**Sg**	**16 07 43.3**	**+6.3**
KDZ	**Kurdzhali**	**1.93**	**295**	*eP*	**Pg**	**16 07 17.8**	**+2.7**
PRK	**Paraskevi**	**1.96**	**216**	*eP*	**Pn**	**16 07 11.5**	**+0.1**
DIM	**Dimitrovgrad**	**2.05**	**306**	*eP*	**Pn**	**16 07 13.2**	**+0.5**
DIM				*e*Pg	**Pg**	**16 07 16.6**	**-0.8**
DIM				*e*Sg	**Sg**	**16 07 43.5**	**-0.5**
DIM	**Dimitrovgrad**	**2.05**	**306**	*eP*	**Pn**	**16 07 13.2**	**+0.5**
DIM				*e*Pg	**Pg**	**16 07 16.6**	**-0.8**
LIA	**Limnos Island**	**2.18**	**245**	*eP*	**Pn**	**16 07 14.0**	**-0.4**
PRD	**Provadia**	**2.36**	**354**	*i* P	**Pg**	**16 07 23.9**	**+0.6**
PRD				*i* S	**Sg**	**16 07 54.3**	**+0.4**
RZN	**Rozhen**	**2.43**	**291**	*i* P	**Pn**	**16 07 18.6**	**+0.7**
RZN				*i* Pg	**Pg**	**16 07 24.1**	**-0.6**
RZN				*i* Sg	**Sg**	**16 07 56.3**	**+0.1**
RZN	**Rozhen**	**2.43**	**291**	*i* P	**Pn**	**16 07 18.6**	**+0.7**
RZN				*i* Pg	**Pg**	**16 07 24.1**	**-0.6**
SZH	**Strazhica**	**2.77**	**331**	*eP*	**Pn**	**16 07 26.3**	**+3.8**
MMB	**Musomiste**	**3.12**	**285**	*i* P	**Pg**	**16 07 36.1**	**-1.8**
KKB	**Krupnik**	**3.66**	**288**	*e*S	**Sg**	**16 08 33.0**	**-2.4**
VTS	**Vitosha**	**3.82**	**299**	*i* Sg	**Sg**	**16 08 39.6**	**-1.0**

IDC 24 16:08:20.9±58.0, 1789S×17766W, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.0/13, mbtmp4.5/3, Error ellipse: s-maj=1065.0km s-min=152.8km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	**Canberra Magne**	**34.01**	**233**	*eP*	P	16 15 07.9	+1.6
	27nm,1.4s						
CTA	**Charters Tower**	**34.15**	**260**	*eP*	P	16 15 12.4	+4.8
	9.4nm,1.9s						
STKA	**Stephens Creek**	**39.27**	**241**	P	P	16 15 52.0	+0.9
	2.0nm,0.3s,baz=88,slow=8.9,SNR=7.6						
WB2	**Warramunga Arr**	**45.33**	**259**	*eP*	P	16 16 40.8	+0.2
WRA	**Warramunga Arr**	**45.34**	**259**	P	P	16 16 40.9	+0.2
	3.7nm,0.4s,baz=97,slow=7.4,SNR=147						
ASAR	**Alice Springs**	**45.48**	**254**	P	P	16 16 41.8	-0.1
	7.1nm,0.7s,baz=88,slow=7.9,SNR=202						
ASPA	**Alice Springs**	**45.49**	**254**	*eP*	P	16 16 41.7	-0.2
KAKA	**Kakadu**	**48.30**	**269**	*eP*	P	16 17 04.8	+0.9
	5.7nm,0.4s						
FORT	**Forrest**	**50.66**	**245**	*eP*	P	16 17 18.5	-3.4
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.74**	**260**	*eP*	P	16 17 43.2	-1.6
	3.0nm,0.3s						
KLBR	**Kellerberrin**	**59.48**	**243**	*eP*	P	16 18 19.9	-5.7
	36nm,1.6s						

TRN 24 16:11:20.6, 1757N×6071W, h54km, MD3.5, M3.9(FDF), 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.06 274**		*eP*	Pn	16 11 40.9	+1.7
CPB				*e*S	Sn	16 11 54.4	+1.3
BPA	**Boggy Peak**	**1.21 245**		*eP*	Pn	16 11 43.3	+2.1
BPA				*e*S	Sn	16 11 59.7	+3.0
MGG	**Marie-Galante**	**1.75 199**		*eP*	Pn	16 11 50.2	+1.8
LZG	**Guadaloupe-1**	**1.75 216**		⇓*eP*	Pn	16 11 50.9	+2.4
TBG	**Guadaloupe-3**	**1.93 208**		*eP*	Pn	16 11 53.2	+2.2
FDF	**Fort de France**	**2.85 189**		*eP*	Pn	16 12 04.9	+1.3
FDF				*e*S	Sn	16 12 38.2	+1.5
MVM	**Montagne Vaucl**	**3.01 183**		*eP*	Pn	16 12 07.5	+1.8
BIM	**Bigot**	**3.06 187**		*eP*	Pn	16 12 08.0	+1.6
BIM				*e*S	Sn	16 12 42.6	+0.9

*ISCJB **24** 16:19:59.7±0.8, 3835N±003×2199E±004, h4km±6km, Error ellipse: s-maj=6.0km s-min=5.2km az=53.2*
*NEIC **24** 16:20:00.3, 3839N×2195E, h18km, MD3.4(ATH), After ATH.*
*CSEM **24** 16:20:00.9±0.2, 3836N×2201E, h2km, MD3.4, Error ellipse: s-maj=4.7km s-min=4.6km az=8.0*
*ATH **24** 16:20:00.3, 3839N×2197E, h16km±3km, MD3.4/9*
*THE **24** 16:20:01.0, 3838N×2203E, h10km, ML2.9*
ISC 24 16:20:00.5±0.7, 3836N±003×2200E±004, h6km±5km, n21, σ1§21/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.52 235**		*e*PN	**Pg**	**16 20 10.9**	**+0.5**
EVR	**Evrytania**	**0.58 345**		*e*PN	**Pg**	**16 20 10.9**	**-0.8**
AGG	**Agios Georgios**	**0.71 21**		*e*Pg	**Pg**	**16 20 13.2**	**-1.0**
AGG				*e*Sg	**Sg**	**16 20 24.4**	**+0.9**
LKR	**Lokris**	**0.83 69**		*e*PB	**Pg**	**16 20 16.0**	**-0.5**
MGER	**Gerania Oros**	**1.06 110**		*e*PN	**Pn**	**16 20 21.4**	**-0.4**
MGER	**Gerania Oros**	**1.06 110**		*e*Pn	**Pn**	**16 20 22.0**	**+0.2**
LKD	**Levkas**	**1.12 289**		*e*Pg	**Pg**	**16 20 21.2**	**-0.8**
LKD				*e*Sg	**Sg**	**16 20 38.9**	**+2.4**
LKD	**Levkas**	**1.12 289**		*e*Pg	**Pg**	**16 20 21.2**	**-0.7**
LKD				*e*Sg	**Sg**	**16 20 38.8**	**+2.4**
VLS	**Valsamata**	**1.13 261**		*e*PN	**Pn**	**16 20 21.1**	**-1.7**
VLS	**Valsamata**	**1.13 261**		*e*Pn	**Pn**	**16 20 20.9**	**-1.9**
ITM	**Ithomi**	**1.18 183**		*e*PN	**Pn**	**16 20 22.8**	**-0.6**
THL	**Klokotos Trika**	**1.21 0**		*e*PN	**Pn**	**16 20 22.4**	**-1.5**
THL				*e*SN	**Sn**	**16 20 38.8**	**-1.8**
NAIG	**Nisos Aigina**	**1.31 116**		*e*PN	**Pn**	**16 20 26.0**	**+0.6**
XOR	**Xorichti**	**1.37 42**		*e*Pg	**Pg**	**16 20 26.7**	**-0.1**
XOR				*e*Sg	**Sg**	**16 20 46.3**	**+1.7**
AOS	**Alonnisos**	**1.68 60**		*e*Pb	**Pb**	**16 20 30.2**	**-1.5**
IGT	**Igoumenitsa**	**1.75 313**		*e*Pb	**Pb**	**16 20 33.1**	**+0.1**
LIT	**Litokhoron**	**1.78 12**		*e*Pb	**Pb**	**16 20 31.6**	**-1.9**
LIT				*e*Sb	**Sb**	**16 20 55.4**	**-0.7**
VLI	**Veliai**	**1.79 155**		*e*PN	**Pn**	**16 20 33.5**	**+1.5**
FNA	**Florina**	**2.47 349**		*e*Pn	**Pn**	**16 20 42.3**	**+1.0**
FNA				*e*Sn	**Sn**	**16 21 12.8**	**+1.0**
GRG	**Griva**	**2.62 7**		*e*Pn	**Pn**	**16 20 44.2**	**+1.0**
GRG				*e*Sn	**Sn

LMEL			*i* S	Sn	17 12 05.3	+0.3
CHCH	**Chadas Angostu**	**0.35 302**	⇓*i*P	Pn	17 11 53.5	+0.1
CHCH			*i* S	Sn	17 12 05.3	-0.2
ANTU	**Antumapu**	**0.62 333**	⇑*i*P	Pn	17 11 55.3	+0.2
ANTU			*i* S	Sn	17 12 08.8	+0.3
ANTU			AML	AML	17 12 09.8	
	comp=E,1μm,0.4s					
ANTU	**Antumapu**	**0.62 333**	⇑*i*P	Pn	17 11 55.3	+0.2
ANTU			*i* S	Sn	17 12 08.8	+0.3
FSR	**Penalolen**	**0.67 343**	⇑*i*P	Pn	17 11 55.9	+0.4
FSR			*i* S	Sn	17 12 09.8	+0.6
FSR			AML	AML	17 12 10.7	
	comp=N,1μm,0.3s					
FSR	**Penalolen**	**0.67 343**	⇑*i*P	Pn	17 11 55.9	+0.4
FSR			*i* S	Sn	17 12 09.8	+0.6
STL	**Santa Lucia**	**0.74 337**	⇓*i*P	Pn	17 11 55.5	-0.6
STL			*i* S	Sn	17 12 09.7	-0.6
CLCH	**Cerro Calan**	**0.75 344**	⇓*i*P	Pn	17 11 56.8	+0.6
CLCH			*i* S	Sn	17 12 11.1	+0.6
CLCH			AML	AML	17 12 12.0	
	comp=N,2μm,0.5s					
DSCH	**Colegio Aleman**	**0.76 342**	*e*P	Pn	17 11 56.0	-0.3
DSCH			*i* S	Sn	17 12 10.4	-0.1
RCDM	**Rinconada Maip**	**0.76 326**	*e*P	Pn	17 11 56.3	0.0
RCDM			*i* S	Sn	17 12 10.7	+0.1
FCH	**Farellones**	**0.79 360**	⇓*i*P	Pn	17 11 57.1	+0.5
FCH			*i* S	Sn	17 12 12.5	+1.4
FCH			AML	AML	17 12 13.6	
	comp=N,1μm,0.2s					
LNV	**Longovilo**	**0.94 280**	⇑*i*P	Pn	17 11 57.9	-0.1
LNV			*i* S	Sn	17 12 13.4	-0.2
PEL	**Peldehue**	**1.03 341**	⇑*i*P	Pn	17 11 59.2	+0.3
PEL			*i* S	Sn	17 12 15.8	+0.6
PEL			AML	AML	17 12 20.3	
	comp=N,858nm,0.3s					
PEL	**Peldehue**	**1.03 341**	⇑*i*P	Pn	17 11 59.2	+0.3
PEL			*i* S	Sn	17 12 15.8	+0.6
PACH	**Papudo**	**1.85 328**	*e*P	Pn	17 12 08.7	+0.3
PTCH	**Petorca**	**1.93 344**	*e*P	Pn	17 12 10.4	+1.0
PTCH			*i* S	Sn	17 12 34.5	+0.6
PTCH			AML	AML	17 12 40.0	
	comp=E,476nm,0.3s					
PTCH	**Petorca**	**1.93 344**	*e*P	Pn	17 12 10.4	+1.0
PTCH			*i* S	Sn	17 12 34.5	+0.6
CMCH	**Combarbala**	**3.00 348**	*e*P	Pn	17 12 23.6	+0.3
CMCH			*i* S	Sn	17 12 57.3	-1.5
CMCH			AML	AML	17 13 22.3	
	comp=E,372nm,0.7s					
CMCH	**Combarbala**	**3.00 348**	*e*P	Pn	17 12 23.6	+0.3
CMCH			S	Sn	17 12 57.3	-1.5

NIED ***24*** *17:23:00,2930N×14030E,h5km,Mw4.3 Best double couple: M₀3.39000×1015 NP1:φs311.00000°,δ80.00000°, λ-90.00000°. NP2:φs129.00000°,δ10.00000°, λ-92.00000°.*
NEIC ***24*** *17:23:52.2±1.0,2921N×14020E,h10km,MG4.2(JMA), Error ellipse: s-maj=70.2km s-min=16.4km az=82.0*
JMA ***24*** *17:23:53.0±0.1,2932N×14032E,h50km,M4.2*
ISCJB ***24*** *17:23:55.1±0.9,2938N±006×1407E±02,h50km±13km, mb4.4/13,Error ellipse: s-maj=26.9km s-min=6.1km az=145.3*
IDC ***24*** *17:23:56.4±3.2,2930N×14049E,h40km±31km,mb3.7/7, mb1 3.8/9,mb1mx3.6/21,mbtmp3.9/9,ML4.1/2,MS2.9/1, Ms1 2.9/1,ms1mx2.2/24,Error ellipse: s-maj=56.3km s-min=16.9km az=76.0*

ISC 24 17:23:57.3±0.7,2942N±005×1409E±02,h59km±11km,n29, σ0°71/30,mb4.4/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.57 154**		Pn	**Pn**	**17 24 35.4**	**-1.1**
	86nm,0.3s,baz=301,slow=8.2,SNR=36						
CBIJ				Sn	**Sn**	**17 25 06.5**	**-0.1**
	70nm,0.3s,baz=277,slow=23,SNR=12						
CBIJ	**Chichi jima**	**2.57 154**		P	**Pn**	**17 24 36.1**	**-0.4**
CBIJ				*e*S	**Sn**	**17 25 06.9**	**+0.3**
JHHJ	**Haha-jima-NKT**	**2.99 158**		P	**Pn**	**17 24 41.8**	**-0.5**
JHHJ				*e*S	**Sn**	**17 25 17.1**	**+0.2**
BSO1	**Boso 1**	**5.22**	**1**	P	**Pn**	**17 25 13.2**	**+0.5**
BSO3	**Boso 3**	**5.38 356**		P	**Pn**	**17 25 14.8**	**-0.1**
JOD2	**Odawara 2**	**6.03 346**		P	**Pn**	**17 25 24.8**	**+1.0**
JWZ	**Kozaga**	**6.05 314**		P	**Pn**	**17 25 17.7**	**-6.4**
JRY	**Ryogami san**	**6.79 346**		P	**Pn**	**17 25 35.4**	**+1.1**
JHO	**Hitachi**	**7.18 358**		P	**Pn**	**17 25 38.8**	**-0.7**
JHO				*e*S	**Sn**	**17 26 57.8**	**-1.8**
MJAR	**Matsushiro Arr**	**7.46 343**		Pn	**Pn**	**17 25 44.3**	**+0.9**
	0.5nm,0.3s,baz=166,slow=13,SNR=4.8						
MAT	**Matsushiro**	**7.46 343**		P	**Pn**	**17 25 38.5**	**-4.9**
JOW	**Kunigami**	**11.46 260**		LR	LR	17 30 18.6	
	comp=Z,60nm,18.9s,baz=2.3,slow=35						
GUN	**Gumba**	**47.94 282**		*e*P	**P**	**17 32 30.0**	**+0.3**
	32nm,1.0s,mb5.3						
PKI	**Pulchoki**	**48.43 282**		*e*P	**P**	**17 32 33.2**	**-0.3**
	2.1nm,0.3s,mb4.7						
KKN	**Kakani**	**48.48 282**		*e*P	**P**	**17 32 33.3**	**-0.6**
	14nm,0.9s,mb5.0						
DMN	**Daman**	**48.68 282**		*e*P	**P**	**17 32 35.1**	**-0.4**
	13nm,1.0s,mb4.9						
GKN	**Gorkha**	**48.97 283**		*e*P	**P**	**17 32 37.1**	**-0.6**
	25nm,1.4s,mb5.1						
WRA	**Warramunga Arr**	**49.48 188**		P	**P**	**17 32 41.6**	**0.0**
	0.9nm,0.5s,mb4.0,baz=4.7,slow=7.8,SNR=20						
KOLN	**Koldanda**	**49.91 283**		*e*P	**P**	**17 32 44.6**	**-0.3**
	16nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**53.21 188**		P	**P**	**17 33 10.2**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=1.4,slow=4.9,SNR=13						
ARCES	**ARCESS Array B**	**70.99 340**		P	**P**	**17 35 09.6**	**+1.0**
	2.7nm,0.8s,mb4.2,baz=60,slow=7.4,SNR=5.2						
JOF	**Joensuu**	**72.51 333**		*e*p	**P**	**17 35 16.8**	**-0.9**
KAF	**Kangasniemi**	**74.90 334**		*e*p	**P**	**17 35 31.5**	**-0.2**
FINES	**FINESS Array B**	**75.38 333**		P	**P**	**17 35 34.5**	**0.0**
	0.5nm,0.4s,mb3.8,baz=66,slow=6.3,SNR=11						
AKASG	**Malin Array Be**	**80.09 323**		P	**P**	**17 36 00.6**	**-0.1**
	0.1nm,0.3s,mb3.3,baz=49,slow=5.1,SNR=4.2						
HFS	**Hagfors**	**80.86 336**		P	**P**	**17 36 06.1**	**+1.3**
	2.6nm,0.8s,mb4.2,baz=232,slow=1.6,SNR=3.5						
BRTR	**Keskin Array B**	**83.62 312**		P	**P**	**17 36 19.3**	**+0.1**
	0.6nm,0.7s,mb3.8,baz=76,slow=2.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**122.22 311**		PKP	PKPdf	17 42 45.8	+0.4
	0.3nm,0.5s,baz=34,slow=2.2,SNR=4.3						
LPAZ	**La Paz**	**150.31**	**70**	PKPbc	PKPbc	17 43 46.3	+4.6
	0.9nm,0.8s,baz=326,slow=4.2,SNR=4.7						

ISCJB ***24*** *17:29:30.7±1.2,3466N±008×260E±02,h30km±12km, Error ellipse: s-maj=23.7km s-min=7.7km az=119.1*
CSEM ***24*** *17:29:30.5±0.1,3456N×2604E,h20km,MD3.5,Error ellipse: s-maj=3.3km s-min=1.4km az=53.0*
ATH ***24*** *17:29:31.4,3467N×2595E,h28km,MD3.5/3*
HLW ***24*** *17:29:33.6,3457N×2596E,h33km,Mb2.7*

ISC 24 17:29:32.1±1.0,3466N±006×258E±02,h32km±10km,n9, σ0°98/12,4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.25 330**		*e*PB	**Pb**	**17 29 38.7**	**-0.3**
NPS	**Neapolis**	**0.63 342**		*e*PN	**Pn**	**17 29 44.2**	**-0.6**
NPS				*e*SN	**Sn**	**17 29 53.5**	**-0.3**
VAM	**Vamos**	**1.54 299**		*e*PN	**Pn**	**17 30 00.2**	**+2.9**
HMAT	**Matruh**	**3.71 163**		⇓P	**Pn**	**17 30 27.5**	**+0.4**
SWA1		**5.38 181**		⇓P	**Pn**	**17 30 50.7**	**+0.6**
SWA1				S	**Sn**	**17 31 46.9**	**-4.1**
SWA2		**5.41 184**		⇓P	**Pn**	**17 30 50.6**	**+0.1**
SWA2				S	**Sn**	**17 31 47.4**	**-4.4**
AWBH		**6.84 157**		P	**Pn**	**17 31 10.2**	**0.0**
GLL	**Jalalah**	**7.10 134**		⇓P	**Pn**	**17 31 14.2**	**+0.5**
AMAG	**Maghara**	**7.39 121**		P	**Pn**	**17 31 17.6**	**-0.1**

IDC ***24*** *17:31:46.9±1.4,4398N×757E,h0km,mb3.6/1,mb1 3.6/6, mb1mx3.5/22,mbtmp3.5/6,ML3.8/5,Error ellipse: s-maj=38.8km s-min=14.2km az=122.0*
MOS ***24*** *17:31:46.6±0.7,4388N×765E,h10km,mb4.0/1,Error ellipse: s-maj=5.0km s-min=3.0km az=103.4*
ISCJB ***24*** *17:31:47.9±0.2,4387N±002×762E±002,h20km±2km, Error ellipse: s-maj=2.8km s-min=2.0km az=123.2*
MDD ***24*** *17:31:47.5±3.0,4394N×775E,h0km,mb4.4/7,Error ellipse: s-maj=31.1km s-min=27.7km az=147.0*
CSEM ***24*** *17:31:47.9±0.1,4386N×772E,h10km,ML3.8/33,Error ellipse: s-maj=1.9km s-min=1.2km az=176.0*
ROM ***24*** *17:31:47.5±0.3,4391N×762E,h8km±2km,Md3.3/23, Ml3.3/12,Error ellipse: s-maj=6.1km s-min=2.1km az=165.0*
LDG ***24*** *17:31:48.9±0.1,4388N×765E,h3km,Md3.3/3,Ml3.8/36, Error ellipse: s-maj=2.5km s-min=1.8km az=157.0*
GEN ***24*** *17:31:48.4,4391N×762E,h10km,ML3.0*
PRU ***24*** *17:31:48.7,44.18N×738E,h0km*
NEIC ***24*** *17:31:48.9,4388N×765E,h3km,MD3.3(ROM), ML3.6(STR),ML3.8(LDG),After LDG.*
STR ***24*** *17:31:49.8±0.3,4391N×757E,h5km±1km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***24*** *17:31:52.1,44.10N×765E,h5km,ML3.0/8*

ISC 24 17:31:48.8±0.2,4393N±001×759E±001,h14km±1km,n227, σ1°27/381,8C-10D,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.06 339**		Pg	**Pg**	**17 31 51.2**	**-0.4**
SAOF				Sg	**Sg**	**17 31 52.9**	**-0.7**
SBF	**Sospel**	**0.13 240**		*e*Pg	**Pg**	**17 31 52.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 31 53.9**	**-0.9**
	12μm,0.2s						
SBF	**Sospel**	**0.13 240**		*e*Pg	**Pg**	**17 31 52.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 31 53.9**	**-0.9**
	6μm,0.2s						
AUTN	**L'Aution**	**0.13 301**		Pg	**Pg**	**17 31 52.7**	**+0.3**
AUTN				Sg	**Sg**	**17 31 55.5**	**+0.5**
LUCF	**Luceram**	**0.18 259**		Pg	**Pg**	**17 31 53.4**	**+0.4**
LUCF				Sg	**Sg**	**17 31 56.9**	**+0.9**
IMI	**Imperia**	**0.22**	**94**	⇑*i*Pg	**Pg**	**17 31 52.6**	**-1.1**
IMI				Sg	**Sg**	**17 31 55.3**	**-1.7**
REVF	**Revere**	**0.25 220**		Pg	**Pg**	**17 31 54.5**	**+0.4**
REVF				Sg	**Sg**	**17 31 59.4**	**+1.7**
TOUF	**Mont Tournerai**	**0.26 290**		Pg	**Pg**	**17 31 55.1**	**+0.8**
TOUF				Sg	**Sg**	**17 31 59.4**	**+1.3**
MVIF	**Mont Vial**	**0.32 265**		Pg	**Pg**	**17 31 56.0**	**+0.7**
ENR	**Entracque**	**0.32 338**		*e*P	**Pg**	**17 31 55.7**	**+0.3**
STV	**Sta Anna Valdi**	**0.37 329**		⇓*i*Pg	**Pg**	**17 31 56.6**	**+0.3**
STV				Sg	**Sg**	**17 32 01.7**	**+0.4**
	7μm,0.2s						
STV	**Sta Anna Valdi**	**0.37 329**		P	**Pg**	**17 31 56.2**	**-0.1**
STV	**Sta Anna Valdi**	**0.37 329**		⇓*i*Pg	**Pg**	**17 31 56.6**	**+0.3**
STV				Sg	**Sg**	**17 32 01.7**	**+0.4**
	7μm,0.2s						
ROB	**Roburent**	**0.42**	**29**	*e*P	**Pg**	**17 31 57.0**	**-0.2**
FIN	**Finale Ligure**	**0.53**	**58**	⇑*i*Pg	**Pg**	**17 31 58.2**	**-1.0**
FIN				Sg	**Sg**	**17 32 04.7**	**-1.6**
DOI	**San Damiano**	**0.63 337**		Pg	**Pg**	**17 32 01.1**	**+0.1**
DOI				Sg	**Sg**	**17 32 09.5**	**+0.1**
	3μm,0.2s						
PZZ	**Prazzo**	**0.68 329**		*e*P	**Pg**	**17 32 01.9**	**-0.1**
FRF	**La Foret Royal**	**0.77 242**		*e*Pg	**Pg**	**17 32 03.9**	**+0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 32 13.3**	**-0.7**
	2μm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.77 242**		*e*Pg	**Pg**	**17 32 03.9**	**+0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 32 13.3**	**-0.7**
	887nm,0.2s,SNR=1.0						
PCP	**Pian Castagno**	**0.92**	**48**	*e*P	**Pb**	**17 32 05.4**	**-1.1**
LMR	**La Mourre**	**0.98 233**		*e*Pg	**Pg**	**17 32 07.4**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**17 32 20.8**	**-0.9**
	1μm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.98 233**		*e*Pg	**Pg**	**17 32 07.4**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**17 32 20.8**	**-0.9**
	688nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.99 324**		*e*Pg	**Pg**	**17 32 07.6**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 32 21.3**	**+0.4**
	1μm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**0.99 324**		*e*Pg	**Pg**	**17 32 07.6**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 32 21.3**	**+0.4**
	612nm,0.4s,SNR=1.0						
OG22	**Abries**	**1.01 333**		Pg	**Pg**	**17 32 07.3**	**-0.9**
GENL	**Genova Univers**	**1.10**	**64**	P	**Pb**	**17 32 07.4**	**-2.2**
RRL	**Cesana Torines**	**1.15 330**		*e*P	**Pn**	**17 32 09.8**	**-0.6**
TAVF	**Tavernes**	**1.15 255**		Pg	**Pg**	**17 32 11.3**	**+0.3**
MONC	**Moncucco Torin**	**1.17**	**12**	Pg	**Pg**	**17 32 11.6**	**+0.2**
	1μm,0.3s						
OG25	**Le Caire**	**1.18 293**		Pg	**Pg**	**17 32 11.9**	**+0.4**
STOF	**St-Etienne Org**	**1.21 274**		Pg	**Pg**	**17 32 14.6**	**+2.4**
RSP	**Reno Superiore**	**1.25 349**		Pg	**Pg**	**17 32 10.2**	**-2.6**
	426nm,0.4s						
BNI	**Bardonecchia**	**1.30 330**		Pg	**Pg**	**17 32 12.5**	**-1.3**
	331nm,0.4s						
BNI	**Bardonecchia**	**1.30 330**		*e*Pn	**Pn**	**17 32 12.2**	**-0.2**
BNI				Pg	**Pg**	**17 32 12.5**	**-1.3**
BNI				*e*S	**Sb**	**17 32 30.6**	**+1.2**
BNI	**Bardonecchia**	**1.30 330**		Pg	**Pg**	**17 32 12.5**	**-1.3**
	331nm,0.4s						
VILF	**Villemus**	**1.36 267**		Pg	**Pg**	**17 32 15.1**	**+0.2**
VILF				Sg	**Sg**	**17 32 34.9**	**+2.4**
PUYF	**Puyloubier**	**1.42 255**		Pg	**Pg**	**17 32 15.6**	**-0.6**
PUYF				Sg	**Sg**	**17 32 35.2**	**+0.5**
SMRF	**Simiane la Rot**	**1.45 273**		*e*Pn	**Pn**	**17 32 15.8**	**+1.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 32 35.8**	**+0.1**
	2μm,0.3s						
SMRF	**Simiane la Rot**	**1.45 273**		*e*Pn	**Pn**	**17 32 15.8**	**+1.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 32 35.8**	**+0.1**
	997nm,0.3s						
SC2M	**Scurtabr**	**1.48**	**71**	P	**Pn**	**17 32 13.6**	**-1.3**
BERF	**Bertagne**	**1.51 247**		Pg	**Pg**	**17 32 17.2**	**-0.6**
LSD	**Ceresole Reale**	**1.56 349**			**Pn**	**17 32 15.6**	**-0.4**
LSD	**Ceresole Reale**	**1.56 349**		*e*P	**Pn**	**17 32 15.6**	**-0.4**
ORIF	**Oris-en-Rattie**	**1.57 310**		*e*Pg	**Pg**	**17 32 19.9**	**+0.9**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 32 37.1**	**+0.7**
ORIF				*e*Sg	**Sg**	**17 32 40.5**	**+1.0**
	900nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.57 310**		*e*P	**Pn**	**17 32 18.4**	**+2.2**
ORIF				*e*		17 32 37.1	
ORIF	**Oris-en-Rattie**	**1.57 310**		*e*Pn	**Pn**	**17 32 18.4**	**+2.2**
ORIF				*e*Pg	**Pg**	**17 32 19.9**	**+0.9**
ORIF				*e*Sn	**Sn**	**17 32 37.1**	**+0.7**
ORIF				*e*Sg	**Sg**	**17 32 40.5**	**+1.0**
ORIF	**Oris-en-Rattie**	**1.57 310**		*e*Pg	**Pg**	**17 32 19.9**	**+0.9**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 32 37.1**	**+0.7**
ORIF				*e*Sg	**Sg**	**17 32 40.5**	**+1.0**
	450nm,0.4s,SNR=1.0						
TREF	**Trevaresse**	**1.62 260**		Pg	**Pg**	**17 32 19.8**	**-0.2**
TREF				Sg	**Sg**	**17 32 41.9**	**+0.8**
GELF	**Grande-Etoile**	**1.66 252**		Pg	**Pg**	**17 32 19.8**	**-0.9**
GELF				Sg	**Sg**	**17 32 42.1**	**-0.1**
LPG	**La Plagne**	**1.68 340**		*e*Pn	**Pn**	**17 32 18.2**	**+0.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**17 32 40.2**	**+1.2**
	540nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**1.68 340**		*e*Pn	**Pn**	**17 32 18.2**	**+0.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**17 32 40.2**	**+1.2**
	270nm,0.6s,SNR=1.0						
CODM		**1.69**	**73**	P	**Pn**	**17 32 16.5**	**-1.4**
LPL	**La Plagne**	**1.70 339**		*e*Pn	**Pn**	**17 32 18.8**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**17 32 41.0**	**+1.5**
	268nm,0.4s						
LPL	**La Plagne**	**1.70 339**		*e*Pn	**Pn**	**17 32 18.8**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**17 32 41.0**	**+1.5**
	134nm,0.4s						
PGF	**Pioggiola**	**1.72 143**		*e*Pn	**Pn**	**17 32 15.6**	**-2.7**
PGF				*e*Sn	**Sn**	**17 32 34.5**	**-5.5**
	316nm,0.2s						
PGF	**Pioggiola**	**1.72 143**		*e*Pn	**Pn**	**17 32 15.6**	**-2.7**
PGF				*e*Sn	**Sn**	**17 32 34.5**	**-5.5**
	158nm,0.2s						
ORO	**Oropa**	**1.72**	**9**	Pg	**Pn**	**17 32 17.7**	**-0.6**
	156nm,0.2s						
ORX	**Oropa**	**1.73**	**9**	*e*P	**Pn**	**17 32 17.8**	**-0.5**
GROG	**Isola di Gorgo**	**1.75 106**		Pg	**Pn**	**17 32 17.0**	**-1.6**
	157nm,0.5s						
PRAF	**Pradon**	**1.75 267**		Pg	**Pg**	**17 32 23.0**	**+0.5**
BACM		**1.82**	**78**	P	**Pn**	**17 32 18.2**	**-1.5**
VINC	**Vinca**	**1.86**	**83**	P	**Pn**	**17 32 18.9**	**-1.3**
GRAM		**1.87**	**72**	P	**Pn**	**17 32 19.4**	**-0.9**
MRGE	**Morge**	**1.88 349**		Pg	**Pn**	**17 32 21.3**	**+0.9**
	260nm,0.7s						
RSL	**Roselend**	**1.89 339**		Pn	**Pn**	**17 32 22.9**	**+2.3**
VLC	**Villacollemand**	**2.03**	**82**	*e*Pn	**Pn**	**17 32 21.0**	**-1.5**
VLC	**Villacollemand**	**2.03**	**82**	*e*Pn	**Pn**	**17 32 21.0**	**-1.5**
SARO	**Sassorosso**	**2.04**	**82**	P	**Pn**	**17 32 21.1**	**-1.6**
ERBM	**Eremo**	**2.09**	**75**	Pg	**Pg**	**17 32 23.5**	**-5.4**
	271nm,1.1s						
MAIM		**2.10**	**89**	P	**Pn**	**17 32 21.7**	**-1.7**
PII	**Pisa**	**2.14**	**95**	Pg	**Pn**	**17 32 22.6**	**-1.3**
	23nm,0.2s						
MMK	**Mattmark**	**2.14**	**7**	Pg	**Pn**	**17 32 24.1**	**+0.1**
DIX	**Grande Dixence**	**2.16 357**		Pg	**Pn**	**17 32 24.9**	**+0.7**
BDI	**Bagni Di Lucca**	**2.18**	**85**	Pg	**Pn**	**17 32 23.6**	**-0.9**
EMV	**Vieux Emosson**	**2.19 347**		Pg	**Pg**	**17 32 27.3**	**-3.5**
GSCL	**Gusciola**	**2.20**	**78**	Pg	**Pn**	**17 32 24.7**	**-0.1**
	73nm,0.8s						
MUGIO	**Muggio**	**2.25**	**27**	Pg	**Pn**	**17 32 26.2**	**+0.7**
SALAN	**Lac Salanfe**	**2.26 349**		*e*Pn	**Pn**	**17 32 24.5**	**-1.1**
	98nm,0.5s						
VIVF	**Saint-Julien-l**	**2.29 295**		*e*Pn	**Pn**	**17 32 27.0**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**17 32 53.7**	**-0.2**
VIVF				*e*Sg	**Sg**	**17 33 02.5**	**+0.2**
	514nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.29 295**		*e*P	**Pn**	**17 32 27.0**	**+1.0**
VIVF				*e*		17 32 53.7	
VIVF	**Saint-Julien-l**	**2.29 295**		*e*Pn	**Pn**	**17 32 27.0**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**17 32 53.7**	**-0.2**
VIVF				*e*Sg	**Sg**	**17 33 02.5**	**+0.2**
	257nm,0.5s,SNR=1.0						
GRYON	**Gryon**	**2.35 352**		⇑*i*Pn	**Pn**	**17 32 24.9**	**-2.0**
	76nm,0.9s						
MDI	**Monti di Nese**	**2.39**	**38**	Pg	**Pn**	**17 32 28.6**	**+1.2**
SENIN	**Lac Senin/Sane**	**2.44 355**		⇓*i*Pn	**Pn**	**17 32 28.2**	**0.0**
	196nm,0.7s						
AIGLE	**Aigle**	**2.46 350**		*i* Pn	**Pn**	**17 32 30.0**	**+1.7**
	384nm,0.7s						
LKBD	**Leukerbad**	**2.46**	**1**	⇑*i*Pn	**Pn**	**17 32 29.1**	**+0.7**
	143nm,0.5s						
OG01	**Vacheresse**	**2.49 345**		Pn	**Pn**	**17 32 30.8**	**+2.0**
OG05	**Jujurieux**	**2.60 325**		Pn	**Pn**	**17 32 32.5**	**+2.2**
SALO	**Salr**	**2.69**	**50**	Pg	**Pn**	**17 32 32.5**	**+0.9**
LASF	**Ste Croix**	**2.70 274**		*e*Pn	**Pn**	**17 32 31.4**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 33 03.0**	**-1.0**
	92nm,0.2s						
LASF	**Ste Croix**	**2.70 274**		*e*Pn	**Pn**	**17 32 31.4**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 33 03.0**	**-1.0**
	46nm,0.2s						
GIMEL	**St. Georges /**	**2.77 341**		⇓*i*Pn	**Pn**	**17 32 30.2**	**-2.4**
TUE	**Stuetta**	**2.83**	**25**	Pg	**Pn**	**17 32 35.0**	**+1.5**
TUE				Sg	**Sn**	**17 33 08.9**	**+1.5**
	81nm,0.4s						
CABF	**La Chapelle**	**2.88 339**		*e*Pn	**Pn**	**17 32 35.9**	**+1.6**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**17 33 08.9**	**+0.2**
CABF				*e*Sg	**Sg**	**17 33 22.6**	**+1.1**
	95nm,0.6s						
CABF	**La Chapelle**	**2.88 339**		*e*P	**Pn**	**17 32 35.9**	**+1.6**
CABF				*e*		17 33 08.9	
CABF	**La Chapelle**	**2.88 339**		*e*Pn	**Pn**	**17 32 35.9**	**+1.6**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**17 33 08.9**	**+0.2**
CABF				*e*Sg	**Sg**	**17 33 22.6**	**+1.1**
	48nm,0.6s						
COLF	**Collangettes**	**3.20 301**		Pn	**Pn**	**17 32 39.8**	**+1.2**
BRMO	**Bormio**	**3.22**	**37**	Pg	**Pn**	**17 32 41.1**	**+2.2**
	23nm,0.5s						
DAVOX	**Davos/Dischmat**	**3.28**	**29**	Pg	**Pn**	**17 32 41.6**	**+1.9**
DAVOX	**Davos/Dischmat**	**3.28**	**29**	Pn	**Pn**	**17 32 41.3**	**+1.6**
	baz=246,slow=4.9,SNR=76						
DAVOX				Sn	**Sn**	**17 33 19.3**	**+0.9**
	baz=306,slow=19,SNR=4.1						
LBL	**Lubilhac**	**3.37 294**		Pn	**Pn**	**17 32 41.9**	**+1.1**
LOMF	**Lomont**	**3.46 351**		Pn	**Pn**	**17 32 43.3**	**+1.1**
PLDF	**La Plantade**	**3.48 307**		Pn	**Pn**	**17 32 43.8**	**+1.4**
BBS	**Basel-Blauen**	**3.54 359**		Pn	**Pn**	**17 32 43.7**	**+0.5**
CTI	**Castel Tesino**	**3.58**	**52**	Pg	**Pn**	**17 32 44.1**	**+0.3**
	38nm,0.3s						
DAVA	**Damuels**	**3.73

AVF	**Avril sur Loir**	**4.14**	**315**	*e*Pn	**Pn**	**17 32 53.0**	**+1.6**
AVF				*e*Pg	**Pg**	**17 33 06.9**	**-1.1**
AVF				*e*Sn	**Sn**	**17 33 37.6**	**-2.0**
AVF				*e*Sg	**Sg**	**17 34 00.0**	**-1.6**
AVF	**Avril sur Loir**	**4.14**	**315**	*e*Pg	**Pg**	**17 33 06.9**	**-1.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**17 33 37.6**	**-2.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**17 34 00.0**	**-1.6**
	17nm,0.5s,SNR=1.0						
SQTA	**Sankt Quirin**	**4.16**	**36**	⇓*i*Pn	**Pn**	**17 32 53.6**	**+1.8**
	SNR=12						
SQTA				⇓*i*Sn	**Sn**	**17 33 43.3**	**+3.1**
SQTA	**Sankt Quirin**	**4.16**	**36**	Pn	**Pn**	**17 32 53.6**	**+1.8**
	12nm,4.0s						
SQTA				Sn	**Sn**	**17 33 43.3**	**+3.1**
HAU	**Haudompre**	**4.17**	**348**	*e*Pn	**Pn**	**17 32 52.5**	**+0.6**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**17 33 38.3**	**-2.1**
	63nm,0.3s						
HAU	**Haudompre**	**4.17**	**348**	*e*Pn	**Pn**	**17 32 52.5**	**+0.6**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**17 33 38.3**	**-2.1**
	31nm,0.3s						
MOTA	**Moosalm**	**4.21**	**35**	⇓*i*Pn	**Pn**	**17 32 54.8**	**+2.3**
	SNR=9.9						
MOTA				⇓*i*Sn	**Sn**	**17 33 43.4**	**+1.9**
MOTA	**Moosalm**	**4.21**	**35**	Pn	**Pn**	**17 32 54.8**	**+2.3**
	9.0nm,9.0s						
MOTA				Sn	**Sn**	**17 33 43.4**	**+1.9**
LOR	**Lormes**	**4.24**	**323**	*e*Pn	**Pn**	**17 32 53.9**	**+1.0**
	baz=146,SNR=1.0						
LOR	**Lormes**	**4.24**	**323**	*e*Pg	**Pg**	**17 33 08.5**	**-1.6**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**17 33 40.7**	**-1.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**17 34 04.4**	**-0.6**
	26nm,0.4s,SNR=1.0						
LOR	**Lormes**	**4.24**	**323**	*e*P	**Pn**	**17 32 53.9**	**+1.0**
LOR				*e*		17 33 40.7	
LOR	**Lormes**	**4.24**	**323**	*e*Pn	**Pn**	**17 32 53.9**	**+1.0**
LOR				*e*Pg	**Pg**	**17 33 08.5**	**-1.6**
LOR				*e*Sn	**Sn**	**17 33 40.7**	**-1.5**
LOR				*e*Sg	**Sg**	**17 34 04.4**	**-0.6**
LOR	**Lormes**	**4.24**	**323**	*e*Pg	**Pg**	**17 33 08.5**	**-1.6**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**17 33 40.7**	**-1.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**17 34 04.4**	**-0.6**
	13nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.25**	**319**	*e*Pg	**Pg**	**17 33 09.0**	**-1.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**17 33 41.2**	**-1.2**
SSF				*e*Sg	**Sg**	**17 34 04.6**	**-0.6**
	27nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**4.25**	**319**	*e*P	**Pn**	**17 32 54.9**	**+1.9**
SSF				*e*		17 33 41.2	
SSF	**Saint Saulge**	**4.25**	**319**	*e*Pn	**Pn**	**17 32 54.9**	**+1.9**
SSF				*e*Pg	**Pg**	**17 33 09.0**	**-1.2**
SSF				*e*Sn	**Sn**	**17 33 41.2**	**-1.2**
SSF				*e*Sg	**Sg**	**17 34 04.6**	**-0.6**
SSF	**Saint Saulge**	**4.25**	**319**	*e*Pg	**Pg**	**17 33 09.0**	**-1.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**17 33 41.2**	**-1.2**
SSF				*e*Sg	**Sg**	**17 34 04.6**	**-0.6**
	14nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**4.26**	**310**	*e*Pn	**Pn**	**17 32 54.8**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 33 40.7**	**-1.9**
BGF				*e*Sg	**Sg**	**17 34 03.7**	**-1.8**
	101nm,0.5s						
BGF	**Bois d'Agland**	**4.26**	**310**	*e*P	**Pn**	**17 32 54.8**	**+1.7**
BGF				*e*		17 33 40.7	
BGF	**Bois d'Agland**	**4.26**	**310**	*e*Pn	**Pn**	**17 32 54.8**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 33 40.7**	**-1.9**
BGF				*e*Sg	**Sg**	**17 34 03.7**	**-1.8**
	50nm,0.5s						
ECH	**Echery**	**4.30**	**356**	Pn	**Pn**	**17 32 53.4**	**-0.3**
VALF	**Valcebollere**	**4.35**	**251**	Pn	**Pn**	**17 32 55.1**	**+0.7**
WTTA	**Wattenberg**	**4.38**	**39**	⇑*i*Pn	**Pn**	**17 32 56.6**	**+1.8**
WTTA				⇑*i*Sn	**Sn**	**17 33 48.7**	**+3.0**
WTTA	**Wattenberg**	**4.38**	**39**	Pn	**Pn**	**17 32 56.6**	**+1.8**
WTTA				Sn	**Sn**	**17 33 48.7**	**+3.1**
WATA	**Walderalm**	**4.41**	**38**	⇓*i*Pn	**Pn**	**17 32 57.2**	**+2.0**
WATA				⇑*i*Sn	**Sn**	**17 33 49.4**	**+3.1**
BFO	**Black Forest**	**4.43**	**6**	*e*Pn	**Pn**	**17 32 55.2**	**-0.3**
BFO				*e*Sn	**Sn**	**17 33 47.5**	**+0.6**
THEF	**They Montfort**	**4.44**	**346**	Pn	**Pn**	**17 32 56.5**	**+0.8**
TCF	**Toulx Ste Croi**	**4.48**	**304**	*e*Pn	**Pn**	**17 32 58.2**	**+2.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**17 33 45.1**	**-2.9**
	17nm,0.4s,SNR=1.0						
TCF				*e*Sg	**Sg**	**17 34 11.1**	**-1.5**
	18nm,0.4s						
TCF	**Toulx Ste Croi**	**4.48**	**304**	*e*P	**Pn**	**17 32 58.2**	**+2.0**
TCF				*e*		17 33 45.1	
TCF	**Toulx Ste Croi**	**4.48**	**304**	*e*Pn	**Pn**	**17 32 58.2**	**+2.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**17 33 45.1**	**-2.9**
	8.5nm,0.4s,SNR=1.0						
TCF				*e*Sg	**Sg**	**17 34 11.1**	**-1.5**
	9.1nm,0.4s						
WLS	**Welschbruch**	**4.49**	**358**	Pn	**Pn**	**17 32 56.1**	**-0.2**
CDF	**Champ du Feu**	**4.49**	**357**	*e*Pn	**Pn**	**17 32 56.2**	**-0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**17 33 47.2**	**-1.1**
	28nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**4.49**	**357**	*e*Pn	**Pn**	**17 32 56.2**	**-0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**17 33 47.2**	**-1.1**
	14nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.55**	**290**	*e*Pn	**Pn**	**17 32 56.9**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**17 33 47.6**	**-2.1**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 34 13.3**	**-1.5**
	26nm,0.3s						
RJF	**Les Rejaudoux**	**4.55**	**290**	*e*P	**Pn**	**17 32 56.9**	**-0.2**
RJF				*e*		17 33 47.6	
RJF	**Les Rejaudoux**	**4.55**	**290**	*e*Pn	**Pn**	**17 32 56.9**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**17 33 47.6**	**-2.1**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 34 13.3**	**-1.5**
	13nm,0.3s						
VSL	**Villasalto**	**4.63**	**163**	Pg	**Pn**	**17 32 57.5**	**-0.7**
	117nm,1.9s						
SFTF	**Sexfontaines**	**4.63**	**338**	*e*Pn	**Pn**	**17 32 59.3**	**+1.0**
	baz=142						
SFTF				*e*Sn	**Sn**	**17 33 51.2**	**-0.6**
	34nm,0.3s						
SFTF	**Sexfontaines**	**4.63**	**338**	*e*Pn	**Pn**	**17 32 59.3**	**+1.0**
SFTF				*e*Sn	**Sn**	**17 33 51.2**	**-0.6**
	17nm,0.3s						
HYF	**Humbligny**	**4.82**	**316**	*e*Sn	**Sn**	**17 33 54.6**	**-1.8**
MEZF	**Maizieres J'vi**	**4.90**	**340**	*e*Pn	**Pn**	**17 33 03.4**	**+1.4**
	baz=164,SNR=1.0						
MEZF				*e*Sn	**Sn**	**17 33 56.6**	**-1.9**
	30nm,0.5s						
MEZF	**Maizieres J'vi**	**4.90**	**340**	*e*Pn	**Pn**	**17 33 03.4**	**+1.4**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**17 33 56.6**	**-1.9**
	15nm,0.5s						
RFYF	**Reffroy**	**4.93**	**343**	*e*Pn	**Pn**	**17 33 03.0**	**+0.7**
	baz=162						
RFYF				*e*Sn	**Sn**	**17 33 58.1**	**-0.9**
	64nm,0.3s						
RFYF	**Reffroy**	**4.93**	**343**	*e*Pn	**Pn**	**17 33 03.0**	**+0.7**
RFYF				*e*Sn	**Sn**	**17 33 58.1**	**-0.9**
	32nm,0.3s						
VOY	**Vojsko**	**4.94**	**63**	*e*Pn	**Pn**	**17 33 02.7**	**+0.1**
VOY				*e*Sn	**Sn**	**17 33 56.0**	**-3.5**
LFF	**La Frestale**	**5.01**	**284**	*e*Pn	**Pn**	**17 33 03.2**	**-0.2**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**17 33 58.5**	**-2.6**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**17 34 26.0**	**-3.5**
	26nm,0.3s						
LFF	**La Frestale**	**5.01**	**284**	*e*P	**Pn**	**17 33 03.2**	**-0.2**
LFF				*e*		17 33 58.5	
LFF	**La Frestale**	**5.01**	**284**	*e*Pn	**Pn**	**17 33 03.2**	**-0.2**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**17 33 58.5**	**-2.6**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**17 34 26.0**	**-3.5**
	13nm,0.3s						
NVLJ	**Novalja**	**5.27**	**81**	*i*Pn	**Pn**	**17 33 07.0**	**-0.1**
NVLJ				*i*Sn	**Sn**	**17 34 04.1**	**-3.5**
NVLJ	**Novalja**	**5.27**	**81**	*i*Pn	**Pn**	**17 33 06.9**	**-0.2**
NVLJ				*i*Sn	**Sn**	**17 34 04.1**	**-3.5**
EPF	**Esparros**	**5.35**	**263**	*e*Pn	**Pn**	**17 33 07.9**	**-0.2**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**17 34 05.8**	**-3.7**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**17 34 36.2**	**-4.3**
	20nm,0.4s						
EPF	**Esparros**	**5.35**	**263**	*e*P	**Pn**	**17 33 07.9**	**-0.2**
EPF				*e*		17 34 05.8	
EPOB	**Poblet**	**5.45**	**244**	P	**Pn**	**17 33 10.5**	**+1.1**
	1.1nm,0.1s,SNR=8.5						
EPOB				S	**Sn**	**17 34 10.4**	**-1.5**
	1.6nm,0.3s						
EPOB	**Poblet**	**5.45**	**244**	P	**Pn**	**17 33 10.5**	**+1.1**
EPOB				S	**Sn**	**17 34 10.4**	**-1.5**
EPOB	**Poblet**	**5.45**	**244**	P	**Pn**	**17 33 10.5**	**+1.0**
	1.1nm,0.1s,SNR=8.5						
ETOS	**Mallorca**	**5.47**	**222**	P	**Pn**	**17 33 10.5**	**+0.6**
	2.9nm,0.2s,SNR=20						
ETOS				S	**Sn**	**17 34 06.1**	**-6.4**
	0.7nm,0.1s						
ETOS	**Mallorca**	**5.47**	**222**	P	**Pn**	**17 33 10.5**	**+0.7**
	2.9nm,0.2s,SNR=20						
EBIE	**Bielsa**	**5.57**	**260**	P	**Pn**	**17 33 13.8**	**+2.6**
	4.2nm,0.3s,SNR=8.7						
EBIE				S	**Sn**	**17 34 14.6**	**-0.4**
	1.0nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**5.57**	**260**	P	**Pn**	**17 33 13.8**	**+2.6**
	4.2nm,0.3s,SNR=8.7						
MFF	**Saint Martin d**	**6.08**	**299**	*e*Pn	**Pn**	**17 33 19.5**	**+1.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**17 35 00.6**	**-3.2**
	15nm,0.6s						
ERTA	**Horta de San J**	**6.13**	**244**	P	**Pn**	**17 33 20.7**	**+1.8**
	2.9nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**17 34 27.3**	**-1.5**
	1.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**6.13**	**244**	P	**Pn**	**17 33 20.7**	**+1.8**
	2.9nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**6.32**	**252**	P	**Pn**	**17 33 22.5**	**+1.0**
	4.2nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**17 34 32.3**	**-1.1**
	14nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**6.32**	**252**	P	**Pn**	**17 33 22.5**	**+1.0**
	4.2nm,0.2s,SNR=7.9						
TNS	**Taunus Mts**	**6.33**	**5**	*e*Pn	**Pn**	**17 33 21.2**	**-0.3**
TNS				*e*Sn	**Sn**	**17 34 31.7**	**-1.8**
WET	**Wettzell**	**6.37**	**33**	*e*Pn	**Pn**	**17 33 22.2**	**+0.1**
WET				*e*Sn	**Sn**	**17 34 31.8**	**-2.7**
SJPF	**Ste Jean**	**6.46**	**266**	*e*Pn	**Pn**	**17 33 23.1**	**-0.3**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**17 34 31.2**	**-5.6**
	SNR=1.0						
GIVF	**Givet**	**6.46**	**344**	*e*Pn	**Pn**	**17 33 24.2**	**+0.8**
GIVF				*e*Sg	**Sg**	**17 35 14.1**	**-2.0**
	3.0nm,0.3s						
GEC2	**GERESS Array S**	**6.49**	**39**	*e*Pn	**Pn**	**17 33 23.4**	**-0.3**
GEC2				*e*Sn	**Sn**	**17 34 34.9**	**-2.6**
GERES	**GERESS Array B**	**6.49**	**39**	Pn	**Pn**	**17 33 23.3**	**-0.4**
	1.8nm,0.3s,baz=224,slow=13,SNR=29						
GERES				Sn	**Sn**	**17 34 34.5**	**-3.0**
	1.6nm,0.3s,baz=235,slow=25,SNR=7.2						
DOU	**Dourbes**	**6.50**	**343**	P	**Pn**	**17 33 25.3**	**+1.4**
BAIF	**Baives**	**6.55**	**341**	*e*Pn	**Pn**	**17 33 26.2**	**+1.5**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**17 35 16.9**	**-2.2**
	6.2nm,0.5s						
IPRE	**Itoiz**	**6.62**	**263**	P	**Pn**	**17 33 27.0**	**+1.5**
	0.6nm,0.1s,SNR=7.9						
IPRE				S	**Sn**	**17 34 39.6**	**-1.1**
	0.3nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**6.62**	**263**	P	**Pn**	**17 33 27.0**	**+1.5**
	0.6nm,0.1s,SNR=7.9						
KHC	**Kasperske Hory**	**6.64**	**36**	*e*PN	**Pn**	**17 33 26.5**	**+0.6**
KHC				*e*SN	**Sn**	**17 34 38.8**	**-2.6**
ELIZ	**Elizondo**	**6.67**	**267**	P	**Pn**	**17 33 25.8**	**-0.4**
	2.0nm,0.1s,SNR=7.2						
ELIZ				S	**Sn**	**17 34 36.2**	**-5.8**
	1.0nm,0.2s						
IUSE	**Utxeti**	**6.72**	**265**	P	**Pn**	**17 33 27.7**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
IUSE				S	**Sn**	**17 34 37.2**	**-6.1**
	0.3nm,0.1s,SNR=7.9						
MEM	**Membach**	**6.77**	**351**	P	**Pn**	**17 33 28.6**	**+0.9**
MEM	**Membach**	**6.77**	**351**	P	**Pn**	**17 33 28.5**	**+0.8**
EIBI	**Ibiza**	**6.78**	**226**	P	**Pn**	**17 33 28.1**	**+0.4**
	4.4nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**17 34 41.2**	**-3.5**
	2.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**6.78**	**226**	P	**Pn**	**17 33 28.1**	**+0.4**
	4.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.97**	**242**	P	**Pn**	**17 33 31.0**	**+0.6**
	0.6nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**17 34 47.7**	**-1.6**
	0.8nm,0.3s,SNR=7.9						
LDF	**La Drutiiere**	**7.09**	**314**	*e*Pn	**Pn**	**17 33 34.1**	**+2.0**
	SNR=1.0						
LDF				*e*Sg	Sn	17 35 32.8	+40
	4.5nm,0.3s						
NKC	**Novy Kostel**	**7.13**	**26**	*e*SN	**Sn**	**17 34 49.3**	**-4.0**
FLN	**La Foliniere**	**7.38**	**314**	*e*Pn	**Pn**	**17 33 37.8**	**+1.7**
	baz=130,SNR=1.0						
FLN				*e*Sg	Sn	17 35 42.1	+42
	3.4nm,0.4s						
PRU	**Pruhonice**	**7.70**	**36**	*e*PN	**Pn**	**17 33 41.6**	**+1.1**
PRU				*e*SN	**Sn**	**17 35 04.0**	**-3.5**
ELAN	**Lanestosa**	**8.03**	**269**	S	**Sn**	**17 35 06.6**	**-9.0**
	3.6nm,0.6s,SNR=7.9						
BRG	**Berggiesshubel**	**8.18**	**30**	SG	Sx	17 35 39.5	
	2.6nm,0.8s						
SGMF	**Saint Gilles**	**8.27**	**305**	*e*Pn	**Pn**	**17 33 48.3**	**+0.1**
SGMF				*e*Sg	Sn	17 36 09.5	+48
	2.2nm,0.3s						
SGMF	**Saint Gilles**	**8.27**	**305**	*e*Pn	**Pn**	**17 33 48.3**	**+0.1**
SGMF				*e*Sg	Sn	17 36 09.5	+48
	1.1nm,0.3s						
KEST	**Kesra**	**8.30**	**170**	Pn	**Pn**	**17 33 49.7**	**+1.1**
	0.1nm,0.3s,baz=209,slow=7.1,SNR=3.0						
KEST				Sn	**Sn**	**17 35 19.4**	**-2.6**
	0.0nm,0.3s,baz=195,slow=11,SNR=2.1						
QUIF	**Quistinic**	**8.49**	**302**	*e*Pn	**Pn**	**17 33 51.0**	**-0.2**
QUIF				*e*Sg	Sn	17 36 16.3	+49
	2.6nm,0.3s						
QUIF	**Quistinic**	**8.49**	**302**	*e*Pn	**Pn**	**17 33 51.0**	**-0.2**
QUIF				*e*Sg	Sn	17 36 16.3	+49
	1.3nm,0.3s						
ROSF	**Rostrenen**	**8.73**	**304**	*e*Pn	**Pn**	**17 33 54.6**	**0.0**
EARI	**Arriondas**	**9.31**	**271**	P	**Pn**	**17 34 02.0**	**-0.4**
	0.5nm,0.3s,SNR=7.9						
EARI				S	**Sn**	**17 35 40.5**	**-6.3**
	3.6nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**9.61**	**248**	Pn	**Pn**	**17 34 07.2**	**+0.6**
	0.3nm,0.3s,baz=65,slow=13,SNR=3.9						
EPON	**Pontenova**	**10.70**	**272**	P	**Pn**	**17 34 22.6**	**+1.0**
	0.7nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**17 36 12.6**	**-8.6**
	6.0nm,0.6s,SNR=7.9						
EKA	**Eskdalemuir Ar**	**13.35**	**333**	Pn	**Pn**	**17 34 55.1**	**-2.7**
	0.3nm,0.3s,baz=141,slow=14,SNR=9.4						
TORD	**Torodi Ar. Bea**	**31.09**	**191**	P	**P**	**17 38 06.6**	**+0.1**
	0.6nm,0.8s,baz=358,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**31.09**	**191**	P	**P**	**17 38 06.6**	**+0.1**

*ISCJB **24** 17:32:25.0±1.7, 69S±0.1×1269E±02, h420km±21km, mb3.5/4, Error ellipse: s-maj=37.1km s-min=12.8km az=136.7*
*IDC **24** 17:32:26.6±2.7, 688S×12696E, h420km±34km, mb3.2/4, mb1 3.3/7, mb1mx3.1/13, mbtmp4.0/7, Error ellipse: s-maj=48.4km s-min=12.8km az=75.0*
*NEIC **24** 17:32:26.2±1.6, 686S×12691E, h414km±21km, mb4.0/2, Error ellipse: s-maj=26.3km s-min=14.0km az=83.0*
ISC 24 17:32:27.2±1.5, 69S±01×1271E±02, h427km±20km, n14, σ0°68/17, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.84**	**138**	*e*P	**P**	**17 34 20.8**	**+0.2**
	5.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.22**	**187**	*e*P	**P**	**17 34 57.2**	**-0.6**
	6.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.22**	**187**	P	**P**	**17 34 57.2**	**-0.6**
	0.3nm,0.3s,baz=32,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**14.77**	**152**	P	**P**	**17 35 36.6**	**+0.2**
	0.4nm,0.3s,baz=332,slow=9.8,SNR=22						
WRA				S	**S**	**17 38 11.6**	**-1.1**
	0.1nm,0.3s,baz=320,slow=20,SNR=6.1						
WB2	**Warramunga Arr**	**14.78**	**152**	*e*P	**P**	**17 35 36.7**	**+0.3**
WB2				*e*S	**S**	**17 38 11.7**	**-1.2**
AS31	**Alice Springs**	**17.93**	**159**	*e*P	**P**	**17 36 10.3**	**+0.5**
ASAR	**Alice Springs**	**17.93**	**159**	P	**P**	**17 36 10.2**	**+0.3**
	1.3nm,0.3s,baz=330,slow=8.0,SNR=65						
ASAR				S	**S**	**17 39 15.1**	**+1.2**
	0.1nm,0.3s,baz=343,slow=21,SNR=6.6						
STKA	**Stephens Creek**	**28.32**	**153**	P	**P**	**17 37 45.1**	**+0.8**
	2.9nm,0.5s,mb3.9,baz=333,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**28.32**	**153**	*e*P	**P**	**17 37 45.4**	**+1.1**
MJAR	**Matsushiro Arr**	**44.46**	**13**	P	**P**	**17 39 58.3**	**-0.1**
	3.9nm,0.9s,mb3.7,baz=188,slow=9.8,SNR=7.5						
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**17 42 32.9**	**-0.5**
	0.2nm,0.3s,mb3.2,baz=128,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**17 42 32.9**	**-0.5**
VNDA	**Vanda**	**72.92**	**173**	P	**P**	**17 43 11.7**	**0.0**
	0.3nm,0.6s,mb3.0,baz=315,slow=9.6,SNR=3.2						
VNDA	**Vanda**	**72.92**	**173**	*e*P	**P**	**17 43 11.3**	**-0.3**

MAN 24 18:25:03.9, 1114N×12471E, h37km, mb2.9, ML4.3, MS1.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.27**	**85**	*e*P	Pn	18 25 13.1	+1.6
PLP				*e*S	Sn	18 25 19.7	+2.9

IDC 24 18:36:37.8±61.0, 1588S×17335W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/14, mbtmp3.8/3, Error ellipse: s-maj=1175.0km s-min=178.0km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.84**	**240**	P	P	18 44 46.0	+0.5
	1.8nm,1.0s,baz=73,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	18 45 32.6	+0.5
	0.3nm,0.5s,baz=95,slow=7.1,SNR=9.1						
ASAR	**Alice Springs**	**50.01**	**252**	P	P	18 45 34.0	+0.2
	2.3nm,0.6s,baz=89,slow=8.3,SNR=43						

TRN 24 18:43:14.0, 1782N×6066W, h25km, MD3.7, M3.5(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.12**	**261**	*e*P	Pn	18 43 35.1	+1.0
CPB				*e*S	Sn	18 43 52.0	+3.3
BPA	**Boggy Peak**	**1.37**	**236**	*e*P	Pn	18 43 39.3	+1.7
BPA				*e*S	Sn	18 43 57.7	+2.8
DEG	**La Desirade**	**1.54**	**194**	*e*P	Pn	18 43 42.2	+2.3
DEG				*e*S	Sn	18 44 01.5	+2.4
LZG	**Guadaloupe-1**	**1.98**	**213**	*e*P	Pn	18 43 49.6	+3.7

TRN 24 18:52:50.9, 1748N×6064W, h34km, MD3.5, M3.3(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**1.14**	**278**	*e*P	Pn	18 53 11.8	+1.4
CPB				*e*S	Sn	18 53 27.2	+2.5
DEG	**La Desirade**	**1.23**	**199**	*e*P	Pn	18 53 12.8	+1.2
DEG				*e*S	Sn	18 53 29.9	+2.9
BPA	**Boggy Peak**	**1.24**	**250**	*e*P	Pn	18 53 13.7	+2.0
BPA				*e*S	Sn	18 53 29.7	+2.5
LZG	**Guadaloupe-1**	**1.72**	**219**	*e*P	Pn	18 53 19.8	+1.5
TBG	**Guadaloupe-3**	**1.89**	**211**	*e*P	Pn	18 53 22.6	+2.0
FDF	**Fort de France**	**2.78**	**190**	*e*P	Pn	18 53 34.3	+1.4
FDF				*e*S	Sn	18 54 06.5	+1.3
MVM	**Montagne Vaucl**	**2.92**	**185**	*e*P	Pn	18 53 37.4	+2.6
BIM	**Bigot**	**2.98**	**188**	*e*P	Pn	18 53 39.8	+4.2
BIM				*e*S	Sn	18 54 13.9	+3.8

*ISCJB **24** 18:54:30.1±0.5, 1635S±008×17368W±009, h33km, mb4.3/11, Error ellipse: s-maj=16.1km s-min=6.7km az=87.0*
*NEIC **24** 18:54:34.0±1.4, 1646S×17364W, h52km±15km, mb4.4/3, Error ellipse: s-maj=14.8km s-min=11.6km az=128.0*
*IDC **24** 18:54:34.3±3.0, 1643S×17366W, h53km±31km, mb4.0/7, mb1 4.3/9, mb1mx4.0/18, mbtmp4.4/9, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/23, Error ellipse: s-maj=37.3km s-min=17.3km az=140.0*
ISC 24 18:54:34.1±1.8, 165S±01×1736W±01, h51km±20km, n22, σ0°72/23, mb4.3/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.10**	**35**	P	**Pn**	**18 55 21.5**	**+1.0**
	123nm,0.3s,baz=186,slow=2.3,SNR=52						
AFI				S	**Sn**	**18 55 53.3**	**-3.0**
	783nm,0.3s,baz=67,slow=20,SNR=30						
AFI	**Afiamalu**	**3.10**	**35**	P	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado** 4.2nm,0.4s,SNR=5.6	**0.78**	**70**	Pg	Pg	19 00 01.1	-0.7
EGRO	7.4nm,0.1s,SNR=18			Lg		19 00 11.2	
EGRO	**El Granado** 4.2nm,0.4s,SNR=5.6	**0.78**	**70**	Pg	Pg	19 00 01.1	-0.7
PBEJ	**Beja**	**0.86**	**29**	*e*P	Pg	19 00 02.5	-0.9
PBEJ				*e*S	Sg	19 00 14.1	-0.6
PBEJ	4.8nm,0.1s						
MOE	**Montemor**	**1.25**	**2**	*e*P	Pn	19 00 08.2	-1.5
MOE				*e*S	Sb	19 00 24.8	-1.2
EMIN	**Mina Concepcio** 3.1nm,0.8s,SNR=6.9	**1.46**	**70**	Pg	Pg	19 00 12.5	-2.3
EMIN	1.7nm,0.1s,SNR=9.5			Lg		19 00 30.6	
EMIN	**Mina Concepcio** 3.1nm,0.8s,SNR=6.9	**1.46**	**70**	Pg	Pg	19 00 12.5	-2.3
PESTR	**Estremoz** 4.7nm,0.6s	**1.71**	**22**	*e*Sg	Sg	19 00 39.8	-2.1
PESTR							
EBAD	**Badajoz** 0.5nm,0.1s,SNR=7.9	**1.84**	**36**	Pg	Pg	19 00 20.5	-1.6
EBAD	4.8nm,0.2s,SNR=54			Lg		19 00 42.2	
EBAD	**Badajoz** 0.5nm,0.1s,SNR=7.9	**1.84**	**36**	Pg	Pg	19 00 20.5	-1.6
EADA	**Adamuz** SNR=4.0	**3.16**	**72**	Sn	Sn	19 01 09.9	-3.7
EADA	0.4nm,0.1s,SNR=4.0			Lg		19 01 26.0	
EADA	**Adamuz** SNR=4.0	**3.16**	**72**	Sn	Sn	19 01 09.9	-3.7

MAN 24 19:01:58.1, 1181N×12527E, h42km, mb2.0, ML3.7, MS4.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.70**	**204**	*e*P	Pn	19 02 13.3	+1.8
PLP				*e*S	Sn	19 02 23.1	+1.9

IDC 24 19:08:20.7±1.3, 2889N×14017E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/25, Error ellipse: s-maj=49.2km s-min=21.0km az=67.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima** 27nm,0.3s,baz=303,slow=20,SNR=13	**2.52**	**135**	Pn	Pn	19 09 03.2	+0.2
CBIJ	44nm,0.3s,baz=287,slow=22,SNR=10			Sn	Sn	19 09 33.7	-0.7
MJAR	**Matsushiro Arr** 0.2nm,0.3s;baz=306,slow=20,SNR=3.2	**7.80**	**348**	Pn	Pn	19 10 15.1	-0.5
JOW	**Kunigami** comp=Z,33nm,19.3s,baz=355,slow=30	**10.73**	**262**	LR	LR	19 13 46.2	
WRA	**Warramunga Arr** 0.9nm,0.5s;baz=3.8,slow=7.7,SNR=23	**48.88**	**187**	P	P	19 17 08.2	0.0
ASAR	**Alice Springs** 0.4nm,0.9s;baz=358,slow=5.0,SNR=5.6	**52.60**	**187**	P	P	19 17 36.5	+0.2
FINES	**FINESS Array B** 0.5nm,0.4s,baz=64,slow=4.4,SNR=5.1	**75.55**	**333**	P	P	19 20 07.0	-0.2

*NEIC **24** 19:12:48.5, 3234S×7181W, h15km, ML3.3(GUC), After GUC.*

GUC 24 19:12:48.5±0.8, 3234S×7181W, h15km±4km, MD4.0, ML3.3, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.37**	**122**	⇓*i*P	Pg	19 12 56.5	+0.3
PACH				*i* S	Sg	19 13 02.0	+0.8
CHNG	**Los Chungos**	**0.52**	**30**	⇑*i*P	Pg	19 12 58.6	-0.3
CHNG				*i* S	Sg	19 13 06.4	+0.5
CHNG	comp=E,1μm,0.5s			AML	AML	19 13 07.1	
PTCH	**Petorca**	**0.75**	**85**	⇓*i*P	Pg	19 13 02.7	-0.4
PTCH				*i* S	Sg	19 13 13.1	+0.1
PTCH	comp=N,4μm,0.3s			AML	AML	19 13 13.6	
ROCH	**El Roble**	**0.93**	**133**	⇑*i*P	Pb	19 13 05.2	-1.0
ROCH				*i* S	Sb	19 13 17.8	-0.5
JACH	**Jahuel**	**1.08**	**109**	⇑*i*P	Pb	19 13 07.7	-1.3
JACH				*i* S	Sb	19 13 22.4	-0.5
LCCH	**Las Cruces**	**1.15**	**170**	*e*P	Pn	19 13 08.5	-1.5
LCCH				*i* S	Sb	19 13 23.3	-1.5
PEL	**Peldehue**	**1.24**	**131**	⇑*i*P	Pn	19 13 10.3	-1.0
PEL				*i* S	Sb	19 13 26.7	-0.8
PEL	comp=N,2μm,0.3s			AML	AML	19 13 29.1	
PEL	**Peldehue**	**1.24**	**131**	⇑*i*P	Pn	19 13 10.3	-1.0
PEL				*i* S	Sb	19 13 26.7	-0.8
CMCH	**Combarbala**	**1.35**	**31**	⇓*i*P	Pn	19 13 11.5	-1.3
CMCH				*i* S	Sn	19 13 29.4	-1.1
CMCH	comp=E,2μm,0.5s			AML	AML	19 13 34.5	
CMCH	**Combarbala**	**1.35**	**31**	⇓*i*P	Pn	19 13 11.5	-1.3
CMCH				*i* S	Sn	19 13 29.4	-1.1
RCDM	**Rinconada Maip**	**1.43**	**144**	*e*P	Pn	19 13 12.8	-1.0
RCDM				*i* S	Sn	19 13 31.6	-0.7
RCDM	comp=E,540nm,0.2s			AML	AML	19 13 33.9	
RCDM	**Rinconada Maip**	**1.43**	**144**	*e*P	Pn	19 13 12.8	-1.0
RCDM				*i* S	Sn	19 13 31.6	-0.7
TACH	**Talagante**	**1.50**	**151**	⇑*i*P	Pn	19 13 14.6	-0.3
CLCH	**Cerro Calan**	**1.50**	**135**	*e*P	Pn	19 13 14.5	-0.4
CLCH				*i* S	Sn	19 13 34.2	-0.1
CLCH	comp=E,584nm,0.7s			AML	AML	19 13 43.5	
ANTU	**Antumapu**	**1.58**	**141**	*i* S	Sn	19 13 36.1	+0.1
ANTU				AML	AML	19 13 42.7	
FCH	**Farellones**	**1.62**	**128**	⇑*i*P	Pn	19 13 16.4	0.0
FCH				*i* S	Sn	19 13 38.0	+0.9
FCH	comp=N,329nm,0.3s			AML	AML	19 13 41.4	
LNV	**Longovilo**	**1.65**	**168**	*i* P	Pn	19 13 16.9	0.0
PCH	**Pirque**	**1.68**	**140**	*e*P	Pn	19 13 17.5	+0.2
OVCH	**Ovalle**	**1.80**	**17**	*e*P	Pn	19 13 20.1	+1.1
OVCH				*i* S	Sn	19 13 43.0	+1.4
OVCH	comp=N,532nm,0.6s			AML	AML	19 13 55.5	
OVCH	**Ovalle**	**1.80**	**17**	*e*P	Pn	19 13 20.1	+1.1
OVCH				*i* S	Sn	19 13 43.0	+1.4
CHCH	**Chadas Angostu**	**1.86**	**149**	*e*P	Pn	19 13 20.5	+0.7
CHCH				*i* S	Sn	19 13 43.7	+0.6
LMEL	**Las Melosas**	**2.02**	**139**	*e*P	Pn	19 13 22.8	+0.7
LMEL				*i* S	Sn	19 13 48.8	+1.8
LMEL	comp=N,322nm,0.2s			AML	AML	19 13 55.5	
LMEL	**Las Melosas**	**2.02**	**139**	*e*P	Pn	19 13 22.8	+0.7
LMEL				*i* S	Sn	19 13 48.8	+1.8
CACH	**El Canelo**	**2.04**	**151**	*e*P	Pn	19 13 23.3	+0.9
CICH	**Cipreses**	**2.29**	**150**	*e*P	Pn	19 13 27.1	+1.4

IDC 24 19:32:25.7±1.9, 154N×12684E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=170.3km s-min=24.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=340,slow=11,SNR=19	**22.58**	**161**	P	P	19 37 27.1	-0.6
ASAR	**Alice Springs** 1.5nm,0.3s,baz=347,slow=12,SNR=36	**25.98**	**165**	P	P	19 38 00.3	+0.3
STKA	**Stephens Creek** 2.0nm,1.0s,baz=336,slow=11,SNR=5.2	**36.06**	**158**	P	P	19 39 29.9	+1.0
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=123,slow=8.0,SNR=5.5	**59.41**	**326**	P	P	19 42 30.0	+0.1

MAN 24 19:34:34.3, 1594N×11975E, h26km, mb2.2, ML3.9, MS1.4, Luzon

*ISCJB **24** 19:57:60.0±1.0, 42.11N±007×7345E±005, h10km, Error ellipse: s-maj=10.6km s-min=5.3km az=10.7*
*KNET **24** 19:57:59.8±0.2, 42.16N×7352E, h11km, ml1.4, Error ellipse: s-maj=1.0km s-min=0.8km az=25.0*

ISC 24 19:58:00.4±1.0, 4213N±007×7347E±005, h10km, n11, σ1§13/20, 12C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** 165nm,0.1s,SNR=439	**0.17**	**90**	⇓P	Pg	19 58 03.4	-0.7
AML	88nm,0.1s			⇓S	Sg	19 58 06.3	-0.2
EKS2	**Erkin-Say** 2.6nm,0.1s,SNR=9.4	**0.58**	**23**	⇑P	Pg	19 58 10.2	-1.4
UCH	**Uchtor** 2.4nm,0.1s,SNR=16	**0.78**	**83**	⇓P	Pg	19 58 14.1	-1.4
UCH	9.3nm,0.1s			⇑S	Sg	19 58 26.0	+0.3
AAK	**Ala-Archa** 1.5nm,0.1s	**0.91**	**56**	⇑P	Pg	19 58 16.7	-1.2
AAK	3.1nm,0.1s			⇑S	Sg	19 58 29.7	-0.1
KBK	**Karagaybulak** 2.5nm,0.1s,SNR=12	**1.22**	**64**	⇑P	Pn	19 58 22.2	-1.2
KBK	14nm,0.2s			⇑S	Sb	19 58 39.6	+0.4
KZA	**Kyzart** 4.3nm,0.2s	**1.33**	**92**	⇓P	Pn	19 58 24.6	-0.3
KZA	13nm,0.2s			⇑S	Sb	19 58 43.4	+1.0
USP	**Ospenovka** 2.1nm,0.1s,SNR=13	**1.37**	**33**	⇑P	Pn	19 58 24.7	-0.8
USP	8.9nm,0.2s			⇑S	Sb	19 58 44.2	+0.7
TKM2	**Tokmak 2** 2.1nm,0.2s,SNR=6.8	**1.76**	**63**	⇓P	Pn	19 58 31.8	+0.9
TKM2	7.7nm,0.2s			⇓S	Sn	19 58 56.2	+2.9
TKM2	**Tokmak 2** 0.1nm,0.3s	**1.76**	**63**	⇑P	Pn	19 58 31.3	+0.4
TKM2				⇓S	Sn	19 58 55.3	+1.9
ULHL	**Ulahol** 1.0nm,0.1s,SNR=7.8	**2.06**	**86**	⇑P	Pn	19 58 37.1	+2.0
KK31	**Karatay Array** 1.6nm,0.6s,baz=117,slow=16	**2.39**	**295**	⇓P	Pn	19 58 39.0	-0.5
KK31	0.7nm,0.3s,baz=112,slow=32			⇑S	Sn	19 59 11.6	+2.7

IDC 24 19:59:41.1±5.8, 621S×15643E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, MS3.9/4, Ms1 3.9/4, ms1mx3.2/24, Error ellipse: s-maj=171.5km s-min=31.4km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=60,slow=8.9,SNR=9.6	**25.43**	**235**	P	P	20 05 12.0	+1.6
WRA	comp=Z,178nm,19.5s,baz=280,slow=34			LR	LR	20 14 12.0	
ASAR	**Alice Springs** 0.3nm,0.7s,baz=61,slow=9.6,SNR=3.3	**27.76**	**229**	P	P	20 05 30.7	-0.7
ASAR	comp=Z,380nm,20.0s,baz=346,slow=35			LR	LR	20 15 54.5	
JHJ	**Hachijo jima 2** comp=Z,202nm,19.2s,baz=266,slow=31	**42.19**	**339**	LR	LR	20 21 39.7	
JOW	**Kunigami** comp=Z,78nm,20.3s,baz=149,slow=32	**42.69**	**322**	LR	LR	20 22 30.5	
SONM	**Songino Array** 0.9nm,0.6s,baz=129,slow=4.7,SNR=4.6	**69.46**	**327**	P	P	20 10 53.0	+1.9
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=101,slow=5.2,SNR=9.6	**83.77**	**318**	P	P	20 12 10.8	-1.3

IDC 24 20:04:37.0±4.3, 681N×7297W, h159km±57km, mb1 3.3/2, mb1mx2.9/20, mbtmp3.8/2, Error ellipse: s-maj=516.5km s-min=7.7km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 14nm,0.3s,baz=282,slow=13,SNR=17	**2.37**	**215**	P	Pn	20 05 17.4	+0.5
ROSC	34nm,0.3s,baz=260,slow=24,SNR=10			S	Sn	20 05 49.0	+1.3
SDV	**Santo Domingo** 8.7nm,0.3s,baz=220,slow=1.3,SNR=31	**3.10**	**48**	P	Pn	20 05 27.7	+1.8
SDV	17nm,0.3s,baz=79,slow=22,SNR=33			S	Sn	20 06 04.2	+0.4
ASAR	**Alice Springs** 0.1nm,0.4s,baz=118,slow=3.0,SNR=5.0	**149.23**	**234**	PKPbc	PKPbc	20 24 07.2	+0.5
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=107,slow=2.8,SNR=7.2	**150.46**	**241**	PKPbc	PKPbc	20 24 10.3	+0.7

*BJI **24** 20:04:31.1, 846S×128.11E, h135km, mB5.1, mb5.1*
*MOS **24** 20:04:39.6±1.9, 755S×12762E, h146km, mb5.1/29, Error ellipse: s-maj=17.2km s-min=7.7km az=112.6*
*NEIC **24** 20:04:41.5±0.7, 758S×12756E, h151km±6km, mb5.0/42, Error ellipse: s-maj=6.9km s-min=4.2km az=64.0*
*ISCJB **24** 20:04:41.1±0.7, 767S±003×12760E±004, h164km±7km, mb5.1/82, Error ellipse: s-maj=7.1km s-min=4.6km az=137.4*
*IDC **24** 20:04:41.9±2.9, 750S×12751E, h149km±26km, mb4.7/18, mb1 4.7/19, mb1mx4.6/21, mbtmp5.1/19, MS4.0/5, Ms1 4.0/5, ms1mx3.4/18, Error ellipse: s-maj=14.6km s-min=9.0km az=79.0*
*GCMT **24** 20:04:41.5±0.3, 766S×12764E, h172km±2km, MW5.0/69, Moment Tensor Solution. s26,c31; s69,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.49±.13; $M_{\theta\theta}$-0.43±.17; $M_{\phi\phi}$-4.07±.20; $M_{r\theta}$0.91±.15; $M_{\theta\phi}$-0.37±.19; $M_{r\phi}$-0.19±.18; Best double couple: $M_0$4.38500×10^{16} NP1:ϕ_s16.00000°, δ45.00000°, λ105.00000°. NP2: ϕ_s176.00000°, δ47.00000°, λ76.00000°. Principal axes: T 4.6610, Plg80.0000°, Azm9.0000°; N -0.5600, Plg10.0000°, Azm185.0000°; P -4.1090, Plg1.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 20:04:42.4±0.6, 766S±003×12762E±004, h157km±6km, h134km±4.8km: pP-P, n395, σ1§11/235, mb5.1/81, 48C-18D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon** 223nm,0.8s	**3.98**	**8**	P	Pn	20 05 47.5	+4.9
KAKA	**Kakadu** 555nm,0.2s	**6.91**	**137**	⇓*i*P	Pn	20 06 21.9	+0.7
KAKA				*e*S	Sn	20 07 34.2	-4.6
WSI	**Waingapu** 10μm,0.6s	**7.51**	**254**	P	Pn	20 06 28.0	-1.2
SWI	**Sorong** 308nm,0.6s	**7.66**	**28**	P	Pn	20 06 32.9	+1.7
KAPI	**Kappang** 780nm,1.2s,SNR=26	**8.25**	**288**	Pn	Pn	20 06 40.7	+1.7
PCI	**Palu** 72nm,1.1s	**10.25**	**310**	P	Pn	20 07 12.0	+6.5
FITZ	**Fitzroy Crossi** 162nm,0.9s	**10.56**	**190**	*e*P	Pn	20 07 07.5	-2.1
FITZ				*e*S	Sn	20 08 59.5	-7.0
FITZ	**Fitzroy Crossi** 15nm,0.3s,baz=25,slow=11,SNR=212	**10.56**	**190**	P	Pn	20 07 07.5	-2.0
FITZ	18nm,0.3s,baz=23,slow=16,SNR=9.3			S	Sn	20 08 57.6	-8.9
WRAB	**Tennant Creek** 2μm,0.7s	**13.84**	**153**	Pn	Pn	20 07 50.9	-1.0
WRAB	**Tennant Creek** 367nm,1.0s	**13.84**	**153**	*e*P	Pn	20 07 49.4	-2.5
WRAB	**Tennant Creek** 367nm,1.0s	**13.84**	**153**	*e*Pn	Pn	20 07 49.0	-2.9
WRAB				*e*Sn	Sn	20 10 12.0	-13
WRA	**Warramunga Arr** 13nm,0.3s,baz=322,slow=13,SNR=317	**13.84**	**153**	P	Pn	20 07 49.6	-2.4
WRA	37nm,0.3s,baz=328,slow=24,SNR=23			S	Sn	20 10 15.2	-10
WB2	**Warramunga Arr** 63nm,0.9s	**13.85**	**153**	⇓*i*P	Pn	20 07 49.7	-2.3
WB2				*e*S	Sn	20 10 11.8	-14
JAY	**Jayapura** 63nm,0.9s	**13.99**	**69**	P	Pn	20 07 55.7	+1.8
DAV	**Davao City (W)** SNR=9.3	**14.77**	**352**	P	Pn	20 08 09.2	+5.7
DAV	**Davao City (W)** 245nm,0.7s	**14.77**	**352**	*e*Pn	Pn	20 08 08.3	+4.8
TARAI	**Tarakan** 232nm,1.0s	**14.82**	**317**	P	Pn	20 08 09.8	+5.7
MBWA	**Marble Bar** 64nm,1.1s	**15.44**	**209**	⇑*i*Pn	Pn	20 08 13.7	+1.9
MBWA				*e*Sn	Sn	20 10 51.9	-12
AS31	**Alice Springs**	**17.02**	**160**	*e*P	Pn	20 08 30.9	-0.2
AS31				*e*S	S	20 11 31.3	-8.4
ASAR	**Alice Springs** 13nm,0.3s,baz=345,slow=12,SNR=421	**17.02**	**160**	P	Pn	20 08 31.3	+0.2
ASAR	3.9nm,0.3s,baz=341,slow=16,SNR=4.3			S	S	20 11 29.1	-11
ASAR	0.1nm,0.3s,baz=3.2,slow=0.8,SNR=5.3			PKiKP	PKiKP	20 20 59.3	-0.3
ASAR	**Alice Springs**	**17.02**	**160**	P	Pn	20 08 31.3	+0.2
ASAR				S	S	20 11 29.1	-11
ASPA	**Alice Springs**	**17.02**	**160**	*e*P	Pn	20 08 30.9	-0.2
ASPA				*e*S	S	20 11 31.3	-8.4
SCPH	**Surigao**	**17.45**	**353**	*e*P	Pn	20 08 38.6	+2.4
KKM	**Kota Kinabalu**	**17.74**	**320**	P	Pn	20 08 41.3	+1.7
KKM	**Kota Kinabalu**	**17.74**	**320**	*e*Pn	Pn	20 08 39.5	0.0
BJII	**Banjamegara** 41nm,1.4s	**17.76**	**270**	P	Pn	20 08 37.6	-2.2
PMG	**Port Moresby** 5.7nm,0.3s,baz=277,slow=5.7,SNR=33	**19.40**	**97**	P	P	20 09 00.7	+4.4
PMG	comp=Z,249nm,20.8s,baz=255,slow=37			LR	LR	20 16 43.8	
PMG	**Port Moresby** 336nm,1.0s	**19.40**	**97**	*e*P	P	20 08 57.9	+1.6
PMG	**Port Moresby** 336nm,1.0s	**19.40**	**97**	*e*P	P	20 09 00.3	+4.1
KSM	**Kuching** 66nm,0.8s	**19.50**	**297**	⇑*i*P	P	20 08 57.7	+0.4
KSM				*e*S	S	20 12 28.5	-0.7
LEM	**Lembang** 136nm,0.8s	**19.86**	**271**	P	P	20 09 02.0	+0.8
CBJI	**Citeko**	**20.65**	**272**	P	P	20 09 08.1	-1.6
PVCP	**Virac**	**21.39**	**351**	⇓*e*P	P	20 09 19.7	+2.2
CTA	**Charters Tower** 23nm,0.9s,mb4.6	**21.88**	**126**	*e*P	P	20 09 25.1	+2.4
CTA	14nm,0.8s,mb4.4,baz=304,slow=11,SNR=10			*e*S	sS	20 13 56.0	-6.5
CTA	**Charters Tower**	**21.88**	**126**	P	P	20 09 25.1	+2.5
CTA	comp=Z,669nm,19.4s,baz=324,slow=38			LR	LR	20 18 48.8	
CTA	**Charters Tower**	**21.88**	**126**	*e*P	P	20 09 25.1	+2.4
CTA				*e*S	sS	20 13 56.0	-6.5
CTA	comp=Z,23nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**21.88**	**126**	*e*P	P	20 09 24.8	+2.1
CTAO	comp=Z,43nm,1.0s,mb4.8			pmax	pmax		
CTAO	**Charters Tower** comp=Z,43nm,1.0s,mb4.8	**21.88**	**126**	*e*P	P	20 09 24.8	+2.1
TGY	**Tagaytay City** comp=Z,2μm,0.5s,baz=190,slow=1.3,SNR=70	**22.61**	**343**	P	P	20 09 31.3	+1.5
FORT	**Forrest** comp=Z,55nm,0.5s,mb5.2	**23.01**	**179**	*e*P	P	20 09 34.8	+1.3
FORT				*e*S	S	20 13 51.1	+19
KLBR	**Kellerberrin** comp=Z,42nm,0.6s,mb5.2	**25.53**	**200**	*e*P	P	20 09 57.1	+0.7
KLBR				*e*S	S	20 14 45.2	+33
KGM	**Kluang**	**26.08**	**291**	P	P	20 10 01.8	+0.5
NWAO	**Narrogin (SRO)** comp=Z,46nm,0.6s,mb5.3,baz=26,slow=8.4,SNR=47	**26.93**	**200**	P	P	20 10 09.8	+0.9
NWAO	comp=Z,228nm,19.1s,baz=158,slow=35			LR	LR	20 20 24.7	
NWAO	**Narrogin (SRO)**	**26.93**	**200**	*e*P	P	20 10 09.6	+0.7
NWAO	comp=Z,28nm,0.6s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,28nm,0.6s,mb5.1	**26.93**	**200**	*e*P	P	20 10 09.6	+0.7
STKA	**Stephens Creek** comp=Z,11nm,0.6s,mb4.7	**27.39**	**153**	⇑*i*P	P	20 10 14.8	+1.8
STKA	**Stephens Creek** comp=Z,7.0nm,0.4s,mb4.6,baz=332,slow=7.8,SNR=49	**27.39**	**153**	P	P	20 10 14.8	+1.8
STKA	comp=Z,15nm,0.5s,baz=327,slow=6.7,SNR=4.0			PcP	PcP	20 13 28.4	+0.6
PPI	**Padang Panjang** comp=Z,60nm,1.2s,mb5.2	**28.06**	**284**	P	P	20 10 19.1	+0.1
IPM	**Ipoh**	**29.14**	**294**	P	P	20 10 28.7	+0.2
KULM	**Kulim**	**29.82**	**295**	⇑*i*P	P	20 10 33.9	-0.6
KULM				*e*PcP	PcP	20 13 34.2	+0.2
PSI	**Prapat** comp=Z,48nm,0.9s,mb5.2,baz=148,slow=9.0,SNR=21	**30.46**	**289**	P	P	20 10 39.9	-0.2
QIZ	**Qiongzhong**	**31.78**	**327**	P	P	20 10 53.5	+1.7
QIZ				XP	sP	20 11 38.9	-4.1
QIZ				S	S	20 15 54.8	+4.5
QIZ	comp=Z,113nm,4.2s			AMB	AMB		
QIZ	**Qiongzhong** comp=Z,28nm,1.1s,mb4.9	**31.78**	**327**	*e*P	P	20 10 51.8	0.0
QZH	**Quanzhou**	**33.57**	**345**	P	P	20 11 07.0	-0.4
GZH	**Guangzhou**	**33.59**	**336**	P	P	20 11 10.8	+3.2
KKTK	**Khon Kaen** comp=Z,370nm,0.5s	**34.21**	**314**	⇓P	P	20 11 13.0	+0.1
NNT	**Nongplab**	**34.24**	**306**	P	P	20 11 14.0	+0.8
JOW	**Kunigami** comp=Z,19nm,0.5s,mb5.1,baz=217,slow=4.1,SNR=9.4	**34.29**	**1**	P	P	20 11 14.3	+0.8
BSI	**Banda Aceh** comp=Z,45nm,1.1s,mb5.0	**34.79**	**291**	P	P	20 11 15.3	-2.6
NST	**Nakhon Sawan**	**35.76**	**310**	P	P	20 11 26.3	+0.2
CBIJ	**Chichi jima** comp=Z,31nm,0.4s,mb5.3,baz=96,slow=13,SNR=11	**37.32**	**22**	P	P	20 11 38.1	-1.2
BDT	**Bhumibol Dam** comp=Z,20nm,1.0s,mb4.7	**37.58**	**311**	P	P	20 11 42.5	+1.0
CM31	**Chiang Mai Arr** comp=Z,23nm,0.7s,mb4.9	**38.39**	**313**	*e*P	P	20 11 48.4	+0.1
CHG	**Chiang Mai** comp=Z,32nm,0.7s,mb5.0	**38.62**	**313**	⇑P	P	20 11 50.5	+0.3
CHTO	**Chiang Mai** SNR=7.5	**38.62**	**313**	P	P	20 11 51.0	+0.7
CHTO	**Chiang Mai**	**38.62**	**313**	⇑*i*P	P	20 11 50.3	+0.1
CHTO				*e*		20 14 00.1	
CHTO				*e*		20 17 32.2	
CHTO	comp=Z,23nm,0.7s,mb4.9			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,23nm,0.7s,mb4.9	**38.62**	**313**	⇑*i*P	P	20 11 50.3	+0.1
CHTO				*e*PcP	PcP	20 14 00.1	+0.9
CHTO				*e*ScP	ScP	20 17 32.2	-0.3
SSE	**Sheshan**	**39.02**	**351**	P	P	20 11 54.1	+0.5
SSE	comp=Z,31nm,0.6s,mb5.1			AMB	AMB		
SSE	comp=Z,117nm,3.9s			AMB	AMB		
SSE	comp=N,7.0nm,25.0s			LR	LR		
SSE	comp=E,48nm,25.0s			LR	LR		
SSE	comp=Z,33nm,23.4s			LR	LR		
SSE	**Sheshan** comp=Z,31nm,0.6s,mb5.1	**39.02**	**351**	P	P	20 11 54.1	+0.5
SSE	comp=Z,30nm,23.4s			LR	LR		
GYA	**Guiyang**	**39.54**	**330**	⇑*i*P	P	20 12 00.0	+2.1
GYA				AP	pP	20 12 30.3	-1.7
GYA				XP	sP	20 12 45.8	-4.0
GYA				PP	PP	20 13 37.3	+5.4
GYA				S	S	20 17 52.8	+4.2
GYA				SCS	ScS	20 21 51.5	+2.7
GYA	comp=Z,30nm,0.8s,mb5.0			AMB	AMB		
GYA	comp=Z,110nm,4.9s			AMB	AMB		
GYA	comp=N,640nm,17.9s			LR	LR		
GYA	comp=E,840nm,17.6s			LR	LR		
GYA	comp=Z,640nm,17.4s			LR	LR		
DZM	**Mont Dzumac** comp=Z,229nm,20.4s,baz=68,slow=35	**40.03**	**115**	LR	LR	20 28 26.5	
WHN	**Wuhan**	**40.06**	**342**	⇓P	P	20 12 03.3	+1.1
NJ2	**Nanjing**	**40.36**	**348**	*e*P	P	20 12 05.0	+0.3
NJ2				S	S	20 18 08.0	+7.2
NJ2	comp=Z,100nm,0.5s,mb5.7			AMB	AMB		
NJ2	comp=Z,1μm,4.2s			AMB	AMB		
NJ2	comp=N,2μm,14.6s			LR	LR		
NJ2	comp=E,2μm,14.4s			LR	LR		
NJ2	comp=Z,2μm,17.3s			LR	LR		
KMI	**Kunming**	**40.60**	**324**	P	P	20 12 08.3	+1.7
KMI				AP	pP	20 12 41.8	+0.9
KMI				XP	sP	20 12 55.9	-2.7
KMI				PP	PP	20 13 48.6	+5.2

KMI			PCP	PcP	20 14 07.1	+1.5
KMI			S	**S**	**20 18 11.3**	**+7.0**
KMI			XS	sS	20 19 08.8	+4.6
KMI			AMB	AMB		
	comp=Z,29nm,1.2s,mb4.8					
KMI			AMB	AMB		
	comp=Z,78nm,5.7s					
KMI			LR	LR		
	comp=N,85nm,17.4s					
KMI			LR	LR		
	comp=E,95nm,20.6s					
KMI			LR	LR		
	comp=Z,103nm,23.3s					
KMI	**Kunming**	**40.60 324**	P	**P**	**20 12 08.3**	**+1.7**
KMI			*PP	pP	20 12 41.8	+0.9
KMI			*SP	sP	20 12 55.9	-2.7
KMI					20 13 48.6	
KMI					20 14 07.1	
KMI			S	**S**	**20 18 11.3**	**+7.0**
KMI			*SS	sS	20 19 08.8	+4.6
KMI			SS	SS	20 21 09.8	-1.0
KMI			SSS		20 21 51.7	
KMI			pmax	pmax		
	comp=Z,29nm,1.2s,mb4.8					
KMI			MLR	MLR		
	comp=Z,100nm,23.3s					
KMI	**Kunming**	**40.60 324**	P	**P**	**20 12 08.3**	**+1.7**
	comp=Z,29nm,1.2s,mb4.8					
KMI			pP	pP	20 12 41.8	+0.9
KMI			sP	sP	20 12 55.9	-2.7
KMI			PP	PP	20 13 48.6	+5.2
KMI			PcP	PcP	20 14 07.1	+1.5
KMI			S	**S**	**20 18 11.3**	**+7.0**
KMI			sS	sS	20 19 08.8	+4.6
KMI			SS	SS	20 21 09.8	-1.0
KMI			SSS		20 21 51.7	
KMI			LR	LR		
	comp=Z,100nm,23.3s					
CD2	**Chengdu**	**44.65 330**	*e*P	**P**	**20 12 39.0**	**-0.2**
CD2			AP	pP	20 13 08.5	-5.5
CD2			XP	sP	20 13 24.0	-7.6
CD2			PP	PP	20 14 26.5	-0.1
CD2			PCS	PcS	20 18 12.3	-0.5
CD2			S	**S**	**20 19 05.5**	**+2.0**
CD2			AMB	AMB		
	comp=Z,70nm,0.8s,mb5.3					
CD2			AMB	AMB		
	comp=Z,130nm,5.8s					
CD2			LR	LR		
	comp=E,160nm,14.4s					
CD2			LR	LR		
	comp=Z,120nm,15.6s					
MJAR	**Matsushiro Arr**	**45.07 12**	P	**P**	**20 12 41.2**	**-1.4**
	comp=Z,9.6nm,0.7s,mb4.5,baz=189,slow=9.0,SNR=23					
MJAR			PcP	PcP	20 14 20.9	+0.2
	comp=Z,3.7nm,0.7s,baz=182,slow=4.1,SNR=7.1					
MAJO	**Matsushiro**	**45.07 12**	*e*P	**P**	**20 12 40.6**	**-2.0**
MAJO			*e*		20 14 20.3	
MAJO			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6					
MAJO	**Matsushiro**	**45.07 12**	*e*P	**P**	**20 12 40.6**	**-2.0**
	comp=Z,14nm,0.9s,mb4.6					
MAJO			*e*PcP	PcP	20 14 20.3	-0.3
MAT	**Matsushiro**	**45.07 12**	P	**P**	**20 12 41.2**	**-1.4**
XAN	**Xi'an**	**45.10 338**	P	**P**	**20 12 41.9**	**-0.9**
XAN			AMB	AMB		
	comp=Z,66nm,1.0s,mb5.2					
BJT	**Baijiatuau**	**48.60 348**	*e*P	**P**	**20 13 09.3**	**-0.7**
BJT			*e*		20 14 33.4	
BJT			pmax	pmax		
	comp=Z,27nm,0.6s					
BJT	**Baijiatuau**	**48.60 348**	*e*P	**P**	**20 13 09.3**	**-0.7**
	comp=Z,27nm,0.6s,mb5.1					
BJT			*e*PcP	PcP	20 14 33.4	+0.3
BJI	**Beiping**	**48.62 348**	P	**P**	**20 13 09.4**	**-0.7**
BJI			AMB	AMB		
	comp=Z,41nm,0.7s,mb5.2					
BJI			AMB	AMB		
	comp=Z,121nm,3.5s					
BJI			LR	LR		
	comp=Z,47nm,28.9s					
BJI	**Beiping**	**48.62 348**	P	**P**	**20 13 09.4**	**-0.7**
	comp=Z,41nm,0.7s,mb5.2					
BJI			S	ScP	20 18 03.6	-10
BJI			LR	LR		
	comp=Z,50nm,28.9s					
LZH	**Lanzhou**	**48.92 334**	⇓P	**P**	**20 13 13.0**	**+0.6**
LZH			AP	pP	20 13 42.5	-5.3
LZH			XP	sP	20 13 55.0	-10
LZH			PCP	PcP	20 14 35.3	+1.0
LZH			PP	PP	20 15 09.6	+2.4
LZH			*e*S	**S**	**20 20 05.0**	**+0.8**
LZH			XS	sS	20 21 06.0	+0.4
LZH			AMB	AMB		
	comp=Z,37nm,1.5s,mb4.8					
LZH			AMB	AMB		
	comp=Z,134nm,6.4s					
LZH			LR	LR		
	comp=N,415nm,14.9s					
LZH			LR	LR		
	comp=Z,712nm,17.8s					
LZH	**Lanzhou**	**48.92 334**	⇓P	**P**	**20 13 13.0**	**+0.6**
LZH			*PP	pP	20 13 42.5	-5.3
LZH					20 14 35.3	
LZH					20 15 09.6	
LZH			*e*S	**S**	**20 20 05.0**	**+0.8**
LZH			*SS	sS	20 21 06.0	+0.4
LZH			SS	SS	20 23 31.0	-5.9
LZH			pmax	pmax		
	comp=Z,37nm,1.5s,mb4.8					
LZH			MLR	MLR		
	comp=Z,710nm,17.8s					
LZH	**Lanzhou**	**48.92 334**	⇓P	**P**	**20 13 13.0**	**+0.6**
	comp=Z,37nm,1.5s,mb4.8					
LZH			pP	pP	20 13 42.5	-5.3
LZH			sP	sP	20 13 55.0	-10
LZH			PcP	PcP	20 14 35.3	+1.0
LZH			PP	PP	20 15 09.6	+2.4
LZH			*e*S	**S**	**20 20 05.0**	**+0.8**
LZH			sS	sS	20 21 06.0	+0.4
LZH			SS	SS	20 23 31.0	-5.9
LZH			LR	LR		
	comp=Z,710nm,17.8s					
PALK	**Pallekele**	**49.08 286**	*e*P	**P**	**20 13 13.6**	**0.0**
	comp=Z,16nm,0.9s,mb4.6					
SNY	**Shenyang**	**49.38 356**	⇓P	**P**	**20 13 15.8**	**-0.1**
SNY			AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8					
HHC	**Hu-ho-hao-te**	**50.48 344**	*e*P	**P**	**20 13 24.1**	**-0.1**
HHC			AP	pP	20 13 56.6	-3.2
HHC			XP	sP	20 14 14.8	-2.4
HHC			AMB	AMB		
	comp=Z,16nm,0.6s,mb4.8					
HHC			AMB	AMB		
	comp=Z,111nm,4.2s					
VIS	**Vishakhapatnam**	**50.49 300**	*e*P	**P**	**20 13 23.6**	**-0.7**
VIS			AMb	AMB	20 13 24.7	
	comp=Z,45nm,1.1s,mb5.0					
LSA	**Lhasa**	**51.08 318**	*e*P	**P**	**20 13 29.3**	**+0.7**
LSA	**Lhasa**	**51.08 318**	*e*P	**P**	**20 13 29.5**	**+0.9**
LSA			pmax	pmax		
	comp=Z,50nm,0.6s,mb5.3					
LSA	**Lhasa**	**51.08 318**	*e*P	**P**	**20 13 29.5**	**+0.8**
	comp=Z,50nm,0.6s,mb5.3					
CN2	**Changchun**	**51.25 358**	*e*P	**P**	**20 13 33.4**	**+3.4**
CN2			*e*XP	sP	20 14 18.4	-4.6
CN2			*e*S	**S**	**20 20 41.8**	**+5.3**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
BOK	**Bokaro**	**51.36 309**	*e*P	**P**	**20 13 30.5**	**-0.2**
MDRS	**Chennai**	**51.36 293**	*e*x	x	20 13 14.0	
MDJ	**Mudanjiang**	**52.06 2**	P	**P**	**20 13 34.8**	**-1.1**
MDJ			AMB	AMB		
	comp=Z,13nm,1.1s,mb4.5					
MDJ			AMB	AMB		
	comp=Z,86nm,5.8s					
MDJ	**Mudanjiang**	**52.06 2**	*e*P	**P**	**20 13 35.4**	**-0.5**
	comp=Z,10nm,0.9s,mb4.5					
JIRN	**Jiri**	**53.27 313**	*e*P	**P**	**20 13 45.2**	**+0.4**
	comp=Z,6.0nm,0.2s,mb5.0					
ASAJ	**Asahikawa**	**53.28 13**	P	**P**	**20 13 44.9**	**-0.1**
	comp=Z,8.0nm,0.5s,mb4.7,baz=226,slow=2.0,SNR=12					
GTA	**Gaotai**	**53.45 333**	⇑P	**P**	**20 13 46.8**	**+0.7**
GTA			AP	pP	20 14 16.3	-5.8
GTA			XP	sP	20 14 30.3	-9.1
GTA			PCP	PcP	20 14 51.4	+0.3
GTA			PP	PP	20 15 49.8	+1.6
GTA			S	**S**	**20 21 08.8**	**+2.4**
GTA			AMB	AMB		
	comp=Z,59nm,0.7s,mb5.4					
GTA			AMB	AMB		
	comp=Z,124nm,6.5s					
GTA			LR	LR		
	comp=N,83nm,12.9s					
GTA			LR	LR		
	comp=E,106nm,14.4s					
GTA			LR	LR		
	comp=Z,98nm,12.5s					
GUN	**Gumba**	**53.64 313**	*e*P	**P**	**20 13 47.6**	**+0.1**
	comp=Z,141nm,0.7s,mb5.8					
PKI	**Pulchoki**	**53.79 312**	*e*P	**P**	**20 13 48.2**	**-0.4**
	comp=Z,54nm,0.4s,mb5.6					
KKN	**Kakani**	**54.00 312**	*e*P	**P**	**20 13 50.0**	**-0.2**
	comp=Z,52nm,0.5s,mb5.5					
DMN	**Daman**	**54.03 312**	*e*P	**P**	**20 13 50.3**	**-0.1**
	comp=Z,77nm,0.8s,mb5.5					
GKN	**Gorkha**	**54.59 312**	*e*P	**P**	**20 13 54.3**	**-0.1**
	comp=Z,100nm,0.3s,mb6.0					
KOLN	**Koldanda**	**55.23 311**	*e*P	**P**	**20 13 59.0**	**0.0**
	comp=Z,53nm,0.4s,mb5.6					
YSS	**Yuzh-Sakhalins**	**56.01 12**	*e*P	**P**	**20 14 04.1**	**-0.5**
YSS			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
YSS	**Yuzh-Sakhalins**	**56.01 12**	*e*P	**P**	**20 14 03.4**	**-1.2**
	comp=Z,14nm,0.7s,mb4.9					
MNGI	**Mangalore**	**56.30 291**	*e*P	**P**	**20 14 03.1**	**-3.5**
KLR	**Kul'dur**	**56.76 3**	*e*P	**P**	**20 14 06.2**	**-3.7**
HIA	**Hailar**	**57.10 354**	*e*P	**P**	**20 14 10.6**	**-1.7**
HIA			pmax	pmax		
	comp=Z,50nm,0.8s					
HIA	**Hailar**	**57.10 354**	*e*P	**P**	**20 14 10.6**	**-1.7**
	comp=Z,5.4nm,0.8s,mb4.4					
BHPL	**Bhopal**	**57.88 303**	*e*P	**P**	**20 14 16.3**	**-1.4**
BHPL			AMb	AMB	20 14 18.4	
	comp=Z,48nm,0.9s,mb5.3					
ULN	**Ulaanbaatar**	**58.19 344**	P	**P**	**20 14 20.8**	**+0.9**
	SNR=14					
ULN	**Ulaanbaatar**	**58.19 344**	*c i*P	**P**	**20 14 18.8**	**-1.1**
ULN	**Ulaanbaatar**	**58.19 344**	*e*P	**P**	**20 14 19.8**	**-0.1**
ULN			*es*P	sP	20 15 00.9	-13
ULN			*e*PcP	PcP	20 15 09.5	-0.1
KAD	**Karad**	**58.34 296**	*e*P	**P**	**20 14 19.7**	**-1.2**
KAD			AMb	AMB	20 14 21.1	
	comp=Z,32nm,0.5s,mb5.5					
SONM	**Songino Array**	**58.35 343**	P	**P**	**20 14 21.3**	**+0.3**
	comp=Z,11nm,0.5s,mb4.9,baz=163,slow=7.2,SNR=66					
SONM			PcP	PcP	20 15 07.8	-2.4
	comp=Z,4.2nm,0.5s,baz=150,slow=4.4,SNR=5.2					
POO	**Poona**	**59.07 297**	*ex*	x	20 14 22.0	
CASY	**Casey**	**59.71 188**	*e*P	**P**	**20 14 31.1**	**+0.7**
	comp=Z,19nm,0.8s,mb5.0					
CASY			*e*PcP	PcP	20 15 15.8	+0.2
NDI	**New Delhi**	**60.53 309**	*e*P	**P**	**20 14 34.5**	**-1.5**
NDI			AMb	AMB	20 14 35.6	
	comp=Z,63nm,0.6s,mb5.6					
CIT	**Chita**	**60.65 350**	*e*P	**P**	**20 14 37.3**	**+0.5**
CIT			*e*		20 15 20.4	
ZAK	**Zakamensk**	**61.54 343**	*e*P	**P**	**20 14 42.7**	**0.0**
AJM	**Ajmer**	**61.56 306**	*e*P	**P**	**20 14 41.5**	**-1.4**
AJM			AMb	AMB	20 14 43.6	
	comp=Z,27nm,0.8s,mb5.2					
TLY	**Talaya**	**62.59 343**	*e*P	**P**	**20 14 47.6**	**-2.1**
TLY			pmax	pmax		
	comp=Z,70nm,0.8s,mb5.5					
TLY	**Talaya**	**62.59 343**	*e*P	**P**	**20 14 47.6**	**-2.1**
	comp=Z,7.0nm,0.8s,mb4.5					
WMQ	**Urumqi**	**62.68 328**	⇑*i*P	**P**	**20 14 50.4**	**+0.1**
WMQ			AP	pP	20 15 23.0	-4.4
WMQ			XP	sP	20 15 38.0	-6.4
WMQ			PP	PP	20 17 12.0	+1.9
WMQ			S	**S**	**20 23 07.0**	**+0.7**
WMQ			AMB	AMB		
	comp=Z,58nm,0.7s,mb5.5					
WMQ			AMB	AMB		
	comp=Z,118nm,4.6s					
WMQ			LR	LR		
	comp=N,218nm,25.7s					
WMQ			LR	LR		
	comp=E,236nm,23.6s					
WMQ			LR	LR		
	comp=Z,198nm,22.9s					
MIR	**Mirnyy**	**63.40 195**	*d i*P	**P**	**20 14 58.0**	**+2.9**
MIR			pmax	pmax		
	comp=Z,200nm,1.4s,mb5.8					
THN	**Thein Dam**	**63.48 312**	*e*P	**P**	**20 14 54.0**	**-1.6**
NIL	**Nilore**	**65.88 312**	P	**P**	**20 15 11.0**	**-0.1**
	comp=Z,111nm,0.4s,mb6.0,SNR=21					
BOD	**Bodaibo**	**66.19 352**	*e*P	**P**	**20 15 12.4**	**-0.7**
BOD			pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5					
KSH	**Kashi**	**66.93 319**	*e*P	**P**	**20 15 19.6**	**+1.8**
KSH			*e*AP	pP	20 15 48.9	-6.4
KSH			*e*XP	sP	20 16 02.9	-9.3
KSH			*e*PP	PP	20 17 49.1	+1.9
KSH			*e*SCS	ScS	20 25 00.1	-0.1
KSH			AMB	AMB		
	comp=Z,105nm,1.0s,mb5.6					
KSH			LR	LR		
	comp=N,594nm,5.6s					
KSH			LR	LR		
	comp=E,455nm,4.1s					
KSH			LR	LR		
	comp=Z,4μm,11.6s					
MK31	**Makanchi Array**	**67.50 328**	*e*P	**P**	**20 15 21.1**	**-0.3**
MKAR	**Makanchi Array**	**67.50 328**	P	**P**	**20 15 21.2**	**-0.2**
	comp=Z,33nm,0.6s,mb5.2,baz=127,slow=7.8,SNR=370					
MKAR			PcP	PcP	20 15 45.7	-1.9
	comp=Z,2.8nm,0.5s,baz=118,slow=5.4,SNR=4.1					
TKM2	**Tokmak 2**	**69.01 322**	P	**P**	**20 15 31.1**	**+0.3**
	SNR=25					
KBK	**Karagaybulak**	**69.27 321**	P	**P**	**20 15 33.0**	**+0.6**
	SNR=9.6					
UCH	**Uchtor**	**69.31 321**	P	**P**	**20 15 33.5**	**+0.9**
	SNR=11					
YAK	**Yakutsk**	**69.49 1**	*c i*P	**P**	**20 15 33.3**	**-0.5**
YAK			pmax	pmax		
	comp=Z,42nm,0.6s,mb5.3					
YAK			pmax	pmax		
	comp=N,33nm,1.6s					
YAK			pmax	pmax		
	comp=E,4.0nm,0.7s					
YAK	**Yakutsk**	**69.49 1**	*e*P	**P**	**20 15 32.9**	**-0.9**
	comp=E,46nm,0.6s,mb5.4					
AAK	**Ala-Archa**	**69.53 321**	P	**P**	**20 15 34.6**	**+0.5**
	SNR=23					
AAK	**Ala-Archa**	**69.53 321**	P	**P**	**20 15 33.1**	**-0.9**
	comp=E,182nm,0.7s,mb5.9,SNR=15					
AAK	**Ala-Archa**	**69.53 321**	P	**P**	**20 15 33.9**	**-0.1**
	SNR=5.8					
AAK	**Ala-Archa**	**69.53 321**	*c i*P	**P**	**20 15 32.6**	**-1.4**
AAK			pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9					
AAK	**Ala-Archa**	**69.53 321**	*e*P	**P**	**20 15 33.3**	**-0.7**
	comp=Z,19nm,0.6s,mb5.0					
CHMS	**Chumysh**	**69.57 321**	P	**P**	**20 15 34.0**	**-0.2**
	SNR=5.2					
KRAR	**Krasnoyarsk**	**69.64 340**	*e*P	**P**	**20 15 32.4**	**-2.3**
KRAR			pmax	pmax		
	comp=Z,40nm,0.7s,mb5.3					
AML	**Almayashu**	**69.78 320**	P	**P**	**20 15 36.2**	**+0.8**
	SNR=26					
USP	**Ospenovka**	**69.87 322**	P	**P**	**20 15 36.2**	**+0.1**
	SNR=23					
EKS2	**Erkin-Say**	**70.00 321**	P	**P**	**20 15 37.3**	**+0.4**
	SNR=10					
KURK	**Kurchatov**	**71.86 330**	P	**P**	**20 15 47.3**	**-0.8**
	comp=Z,560nm,0.6s,SNR=63					
VNDA	**Vanda**	**72.09 173**	P	**P**	**20 15 50.2**	**+0.7**
	comp=Z,16nm,0.6s,mb4.9,baz=318,slow=6.5,SNR=210					
VNDA			LR	LR	20 46 37.6	
	comp=Z,104nm,21.8s,baz=333,slow=35					
VNDA	**Vanda**	**72.09 173**	*e*P	**P**	**20 15 50.2**	**+0.7**
VNDA			pmax	pmax		
	comp=Z,16nm,0.6s					
VNDA	**Vanda**	**72.09 173**	*e*P	**P**	**20 15 50.1**	**+0.7**
	comp=Z,16nm,0.6s,mb4.9					
SEY	**Seymchan**	**72.90 12**	*e*P	**P**	**20 15 53.6**	**-0.6**
SBA	**Scott Base**	**73.01 172**	*e*P	**P**	**20 15 56.5**	**+1.6**
SBA			pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7					
SBA	**Scott Base**	**73.01 172**	*e*P	**P**	**20 15 56.5**	**+1.6**
	comp=Z,12nm,0.7s,mb4.7					
MAW	**Mawson**	**73.48 201**	⇑*i*P	**P**	**20 15 58.7**	**+1.0**
	comp=Z,8.0nm,0.6s,mb4.6					
MAW	**Mawson**	**73.48 201**	P	**P**	**20 15 58.7**	**+1.1**
	comp=Z,10.0nm,0.6s,mb4.7,baz=74,slow=6.7,SNR=31					
MAW	**Mawson**	**73.48 201**	⇑*i*P	**P**	**20 15 58.7**	**+1.0**
MAW			pmax	pmax		
	comp=Z,8.0nm,0.6s					
WBK	**Wadi Bani Khal**	**73.57 296**	P	**P**	**20 15 58.3**	**+0.2**
	SNR=11					
WSAR	**Wadi Sarin**	**74.04 297**	P	**P**	**20 16 00.8**	**-0.1**
	comp=Z,30nm,0.8s,mb5.1,baz=138,slow=6.6,SNR=35					
WSAR	**Wadi Sarin**	**74.04 297**	P	**P**	**20 16 00.8**	**-0.1**
JMDO	**Jabal Madar**	**74.28 296**	⇑P	**P**	**20 16 02.3**	**0.0**
	SNR=5.6					
SMDO	**Samad**	**74.51 296**	P	**P**	**20 16 03.8**	**+0.2**
	SNR=13					
BIDO	**Bidbid**	**74.56 297**	P	**P**	**20 16 04.2**	**+0.3**
	SNR=45					
BSY	**Bisya**	**75.18 296**	P	**P**	**20 16 07.3**	**-0.2**
	SNR=27					
HOQ	**Hoqain**	**75.30 297**	P	**P**	**20 16 08.3**	**+0.2**
	SNR=16					
ARQ	**Araqi**	**75.94 296**	P	**P**	**20 16 11.6**	**-0.2**
	SNR=8.3					
HATD	**Hatta, Dubai**	**76.66 298**	P	**P**	**20 16 16.1**	**+0.2**
	SNR=8.0					
RBK	**Rabkut**	**76.68 290**	P	**P**	**20 16 15.6**	**-0.3**
	SNR=9.6					
WHFO	**Wadi Hawf**	**77.17 290**	⇑P	**P**	**20 16 18.2**	**-0.5**
	SNR=44					
BVAR	**Borovoye Array**	**77.37 329**	P	**P**	**20 16 19.2**	**-0.6**
	comp=Z,6.2nm,0.5s,mb4.5,baz=134,slow=8.4,SNR=37					
BRVK	**Borovoye**	**77.44 329**	P	**P**	**20 16 19.5**	**-0.7**
	comp=Z,133nm,0.7s,mb5.7,SNR=5.2					
BRVK	**Borovoye**	**77.44 329**	P	**P**	**20 16 20.0**	**-0.2**
	SNR=12					
BRVK	**Borovoye**	**77.44 329**	*e*P	**P**	**20 16 19.5**	**-0.7**
BRVK			pmax	pmax		
	comp=Z,43nm,1.3s,mb4.9					
BRVK	**Borovoye**	**77.44 329**	*e*P	**P**	**20 16 19.5**	**-0.7**
	comp=Z,43nm,1.3s,mb4.9					
ABTO	**Aybut**	**77.49 290**	P	**P**	**20 16 20.2**	**-0.3**
	SNR=14					
OPO	**Ambohidratompo**	**78.57 253**	P	**P**	**20 16 27.7**	**+1.3**
	comp=Z,14nm,0.6s,mb4.8,baz=80,slow=4.5,SNR=55					
ABKT	**Ailbek**	**78.84 311**	P	**P**	**20 16 28.2**	**+0.3**
	comp=Z,118nm,1.1s,mb5.4,SNR=12					
BILL	**Bilibino**	**80.30 14**	P	**P**	**20 16 36.0**	**+0.2**
BILL			pmax	pmax		
	comp=Z,16nm,1.6s,mb4.4					
SYO	**Syowa Base**	**82.20 201**	⇓*e*P	**P**	**20 16 46.0**	**+0.2**
SYO	**Syowa Base**	**82.20 201**	⇑*e*PcP	PcP	20 16 50.0	-0.7
QSPA	**South Pole Qui**	**82.33 180**	*e*P	**P**	**20 16 47.1**	**+0.6**
	comp=Z,31nm,0.8s,mb5.0					
UNV	**Unalaska Valle**	**82.33 33**	*e*P	**P**	**20 16 46.7**	**+0.2**
	comp=Z,38nm,0.6s,mb5.2					
ARU	**Arti**	**85.02 329**	P	**P**	**20 16 59.7**	**-0.5**
	comp=Z,168nm,0.5s,mb6.0,SNR=11					
ARU	**Arti**	**85.02 329**	⇑*i*P	**P**	**20 16 59.0**	**-1.2**
ARU			*e*		20 20 16.0	
ARU			*e*PPP		20 22 09.8	
ARU			*e*S	S	20 27 13.9	-2.2
ARU			*e*SS	SS	20 32 45.4	-7.3
ARU			pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8					
ARU	**Arti**	**85.02 329**	*e*P	**P**	**20 16 58.5**	**-1.6**
	comp=Z,12nm,0.6s,mb4.8					
ORR	**Orenburg**	**85.49 323**	P	**P**	**20 17 01.9**	**-0.6**
ORR			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1					
ATD	**Arta Tunnel**	**86.43 282**	P	**P**	**20 17 08.1**	**+0.9**
	comp=Z,8.7nm,0.7s,mb4.6,baz=139,slow=6.9,SNR=4.1					
ZEI	**Tsey**	**90.56 313**	*e*P	**P**	**20 17 26.5**	**-0.1**
ZEI			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8					
MAIT	**Maitri**	**91.06 197**	*e*P	**P**	**20 17 30.2**	**+1.3**
KIV	**Kislovodsk**	**91.62 314**	*e*P	**P**	**20 17 25.0**	**-6.5**
KIV			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5					
IMA2	**Indian Mountai**	**92.38 24**	*e*P	**P**	**20 17 33.5**	**-1.6**
PMR	**Palmer**	**93.47 28**	*e*P	**P**	**20 17 38.0**	**-2.1**
PMR			pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1					
PMR	**Palmer**	**93.47 28**	*e*P	**P**	**20 17 38.0**	**-2.0**
	comp=Z,13nm,0.9s,mb5.0					
MCK	**McKinley**	**93.91 26**	*e*P	**P**	**20 17 39.8**	**-2.3**
MCK			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6					
MCK	**McKinley**	**93.91 26**	*e*P	**P**	**20 17 39.8**	**-2.3**
	comp=Z,5.3nm,0.9s,mb4.7					
SNAA	**Sanae**	**94.47 194**	*e*P	**P**	**20 17 45.6**	**+1.0**
SNAA			*e*		20 17 47.6	
SNAA			*e*		20 17 50.7	
SNAA			*e*		20 18 33.0	
SNAA	**Sanae**	**94.47 194**	*e*P	**P**	**20 17 45.5**	**+0.9**
SNAA			pmax	pmax		
	comp=Z,18nm,1.1s					
SNAA	**Sanae**	**94.47 194**	*e*P	**P**	**20 17 45.5**	**+0.8**
	comp=Z,18nm,1.1s,mb5.1					
VNA2	**Neumayer--Watz**	**96.06 194**	*e*P	**P**	**20 17 52.6**	**+0.7**
VNA3	**Neumayer Olymp**	**96.34 193**	*e*P	**P**	**20 17 52.4**	**-0.7**
VNA1	**Neumayer--Stat**	**96.45 194**	*e*P	**P**	**20 17 55.3**	**+1.6**
VNA1			*e*		20 17 59.3	
OBN	**Obninsk**	**96.82 325**	⇓*e*P	**P**	**20 17 53.6**	**-1.7**
OBN			*e*PS	PS	20 30 29.4	-16
OBN			*e*		20 31 29.5	
OBN			pmax	pmax		
	comp=Z,11nm,1.2s,mb5.1					
OBN	**Obninsk**	**96.82 325**	P	**P**	**20 17 52.6**	**-2.7**
	comp=Z,18nm,1.1s,mb5.3					
BOSA	**Boshof**	**97.10 240**	P	**P**	**20 17 57.4**	**+0.8**
	comp=Z,1.9nm,0.6s,mb4.6,baz=118,slow=4.0,SNR=5.6					
BR131	**Keskin Array S**	**97.89 309**	*e*P	**P**	**20 17 58.5**	**-1.6**
	comp=Z,1.0nm,0.5s,mb4.5					
BRTR	**Keskin Array B**	**97.89 309**	P	**P**	**20 17 58.6**	**-1.5**
	comp=Z,1.7nm,0.7s,mb4.6,baz=143,slow=6.4,SNR=18					
BRTR			PP	PP	20 21 52.5	-8.1
	comp=Z,0.6nm,0.8s,baz=115,slow=8.3,SNR=4.9					
BRTR			PKiKP	PKiKP	20 22 33.4	+0.4
	comp=Z,3.2nm,1.2s,baz=155,slow=5.5,SNR=4.4					
BRTR	**Keskin Array B**	**97.89 309**	P	**P**	**20 17 58.6**	**-1.5**
BRTR			PP	PP	20 21 52.5	-8.1
JOF	**Joensuu**	**99.64 333**	*ep*	Pdif	20 18 03.3	-4.7
	comp=Z,2.9nm,0.5s					
JOF	**Joensuu**	**99.64 333**	*ep*	PKiKP	20 22 30.7	-5.3
KEV	**Kevo**	**100.81 340**	*ep*	PKiKP	20 22 36.9	-1.2
AKASG	**Malin Array Be**	**101.20 320**	P	Pdif	20 18 13.3	-1.5
	comp=Z,1.2nm,0.6s,baz=75,slow=4.6,SNR=6.5					
AKASG			PKiKP	PKiKP	20 22 38.5	-0.3
	comp=Z,2.7nm,0.7s,baz=70,slow=1.9,SNR=8.8					
AKASG	**Malin Array Be**	**101.20 320**	*i* P	Pdif	20 18 13.6	-1.3
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ARCES	**ARCESS Array B**	**101.36 339**	P	Pdif	20 18 13.8	-1.8
	comp=Z,3.1nm,0.6s,baz=78,slow=6.1,SNR=14					
ARCES			PKiKP

comp=Z,1.1nm,0.6s,baz=68,slow=1.9
NOA NORSAR Array B 109.28 332 PKiKP PKiKP 20 22 52.9 -0.8
comp=Z,2.6nm,0.7s,baz=270,slow=3.2,SNR=10
NOA NORSAR Array B 109.28 332 PKPdf PKiKP 20 22 52.9 -0.8
YKA Yellowknife Ar 109.37 26 PKiKP PKiKP 20 22 53.3 -0.6
comp=Z,4.9nm,0.6s,baz=298,slow=1.6,SNR=18
YKA PKKPbc PKKPbc 20 33 59.4 0.0
comp=Z,2.5nm,0.7s,baz=113,slow=3.6,SNR=5.3
YKA Yellowknife Ar 109.37 26 PKPdf PKiKP 20 22 53.3 -0.6
YKA PKKPbc PKKPbc 20 33 59.4 0.0
DPC Dobruska-Polom 109.41 321 *e*PKP PKiKP 20 22 54.3 +0.3
UPC Upice 109.57 321 *e*PKP PKiKP 20 22 54.6 +0.3
TREC Trest 110.15 320 *e*PKP PKiKP 20 22 52.2 -3.2
PVCC Panska Ves 110.46 321 *e*PKP PKiKP 20 22 56.2 +0.3
PRU Pruhonice 110.60 321 *e*PKP PKiKP 20 22 56.1 -0.1
BRG Berggiesshubel 110.77 322 *i* P PKiKP 20 22 56.5 0.0
comp=Z,3.2nm,0.8s
CLL Collm 111.23 322 *i* PKiKP PKiKP 20 22 57.2 -0.2
comp=Z,7.0nm,0.8s
GERES GERESS Array B 111.40 320 PKiKP PKiKP 20 22 57.7 0.0
comp=Z,6.0nm,0.6s,baz=65,slow=1.8,SNR=34
KHC Kasperske Hory 111.41 320 *e*PKP PKiKP 20 22 57.8 +0.1
NKC Novy Kostel 111.85 321 *e*PKP PKiKP 20 22 58.8 +0.2
GRA1 Grafenberg Arr 112.76 321 *e*PKP PKiKP 20 23 00.1 -0.2
GRF Grafenberg Arr 112.76 321 *e*PKIKP PKiKP 20 23 00.1 -0.2
WTTA Wattenberg 113.12 318⇑*i*P PKiKP 20 23 01.0 0.0
comp=Z,38nm,0.7s
WATA Walderalm 113.14 318⇑*i*P PKiKP 20 23 00.6 -0.4
comp=Z,4.4nm,0.8s
SQTA Sankt Quirin 113.41 318⇓*i*P PKiKP 20 23 01.4 -0.1
comp=Z,8.7nm,1.2s
MOTA Moosalm 113.45 318⇑*i*P PKiKP 20 23 01.3 -0.4
comp=Z,4.6nm,0.7s
NVAR Mina Array Bea 113.55 51 PKiKP PKiKP 20 23 03.9 +2.1
comp=Z,2.9nm,0.9s,baz=275,slow=4.0,SNR=8.5
DAVA Damuels 114.27 319⇓*i*P PKiKP 20 23 03.1 0.0
comp=Z,24nm,0.8s
STU Stuttgart 114.29 320 *e*PKIKP PKiKP 20 23 02.2 -1.0
DAVOX Davos/Dischmat 114.41 318 PKiKP PKiKP 20 23 03.7 +0.3
comp=Z,9.6nm,0.5s,baz=215,slow=3.4,SNR=23
BFO Black Forest 114.97 320 *e*PKIKP PKiKP 20 23 02.5 -2.0
GSC Goldstone 115.22 55 *e*PKIKP PKPdf 20 23 06.7 +1.7
HLID Hailey 115.39 45 *e*PKPdf PKPdf 20 23 07.2 +1.8
CDF Champ du Feu 115.61 320⇑*i*PKIKP PKPdf 20 23 05.0 -0.8
comp=Z,12nm,0.8s
MEM Membach 115.66 323 PKP PKPdf 20 23 05.9 0.0
HINF Hinteralfeld 116.07 320⇑*i*PKIKP PKPdf 20 23 06.1 -0.6
comp=Z,32nm,0.6s
PGF Pioggiola 116.11 314⇑*i*PKIKP PKPdf 20 23 06.7 0.0
comp=Z,11nm,0.5s
BCLA Clavier 116.15 323 PKP PKPdf 20 23 06.9 +0.1
HAU Haudompre 116.33 320 *e*PKIKP PKPdf 20 23 06.8 -0.4
comp=Z,25nm,0.7s
GIVF Givet 116.55 323 *e*PKIKP PKPdf 20 23 07.7 +0.1
comp=Z,22nm,0.8s
DOU Dourbes 116.69 323 PKP PKPdf 20 23 08.2 +0.3
SNF Seneffe 116.72 323 PKP PKPdf 20 23 08.1 +0.2
LPG La Plagne 116.86 317⇑*i*PKIKP PKPdf 20 23 08.5 +0.3
comp=Z,13nm,0.5s
SBF Sospel 116.86 316⇑*i*PKIKP PKPdf 20 23 08.1 -0.1
comp=Z,23nm,0.6s
LPL La Plagne 116.86 317⇑*i*PKIKP PKPdf 20 23 08.5 +0.3
comp=Z,24nm,0.5s
BAIF Baives 116.94 323⇑*i*PKIKP PKPdf 20 23 08.4 +0.1
comp=Z,23nm,0.9s
CABF La Chapelle 116.95 319⇑*i*PKIKP PKPdf 20 23 08.6 +0.2
comp=Z,46nm,0.6s
MEZF Maizieres J'vi 116.98 321 *e*PKIKP PKPdf 20 23 09.1 +0.7
comp=Z,9.8nm,0.5s
MBDF Montbardon 117.07 317 *e*PKIKP PKPdf 20 23 08.3 -0.3
comp=Z,26nm,0.7s
EGMT Eagleton 117.18 39 *e*PKPdf PKPdf 20 23 09.1 +0.3
KEST Kesra 117.32 306 PKP PKPdf 20 23 10.0 +0.9
comp=Z,4.3nm,0.8s,baz=246,slow=1.5,SNR=18
KEST PKKPbc PKKPbc 20 33 35.9 +3.2
comp=Z,0.8nm,0.7s,baz=310,slow=9.8,SNR=4.0
FRF La Foret Royal 117.50 315 *e*PKIKP PKPdf 20 23 09.4 0.0
comp=Z,38nm,0.9s
RRI2 Red Ridge 117.62 45 *e*PKPdf PKPdf 20 23 11.1 +1.4
ORIF Oris-en-Rattie 117.62 317⇑*i*PKIKP PKPdf 20 23 09.6 0.0
comp=Z,21nm,0.5s
YFT Old Faithful 117.63 44 *e*PKPdf PKPdf 20 23 12.9 +3.2
LMR La Mourre 117.66 315 *e*PKIKP PKPdf 20 23 09.6 -0.1
comp=Z,23nm,0.8s
IMW Indian Meadow 117.72 44 *e*PKPdf PKPdf 20 23 12.0 +2.1
HWUT Hardware Ranch 117.93 47 *e*PKPdf PKPdf 20 23 10.9 +0.7
REDW Red Top Meadow 117.94 45 *e*PKPdf PKPdf 20 23 11.5 +1.3
SNOW Snow King Moun 117.98 45 *e*PKPdf PKPdf 20 23 12.2 +1.8
LOHW Long Hollow 118.04 44 *e*PKPdf PKPdf 20 23 11.9 +1.4
SMRF Simiane la Rot 118.12 316⇑*i*PKIKP PKPdf 20 23 11.1 +0.5
comp=Z,21nm,0.6s
LOR Lormes 118.17 320⇑*i*PKIKP PKPdf 20 23 10.5 -0.2
comp=Z,25nm,0.8s
MSU Marysvale 118.25 50 *e*PKIKP PKPdf 20 23 12.8 +2.0
SMF Signal de Mont 118.40 319⇑*i*PKIKP PKPdf 20 23 10.8 -0.3
VIVF Saint-Julien-l 118.45 317⇑*i*PKIKP PKPdf 20 23 11.2 0.0
comp=Z,18nm,0.7s
SSF Saint Saulge 118.47 320⇑*i*PKIKP PKPdf 20 23 11.3 0.0
comp=Z,43nm,0.7s
AVF Avril sur Loir 118.66 320⇑*i*PKIKP PKPdf 20 23 11.3 -0.3
comp=Z,16nm,0.5s
HYF Humbligny 118.94 320 *e*PKIKP PKPdf 20 23 12.4 +0.2
PDAR Pinedale Array 119.03 45 PKP PKPdf 20 23 13.2 +0.9
comp=Z,5.6nm,0.7s,baz=276,slow=0.3,SNR=32
PDAR PKKPbc PKKPbc 20 33 29.1 +2.4
comp=Z,2.4nm,0.7s,baz=111,slow=7.0,SNR=9.9
BGF Bois d'Agland 119.07 320⇑*i*PKIKP PKPdf 20 23 12.6 +0.2
comp=Z,88nm,0.6s
LASF Ste Croix 119.26 317⇑*i*PKIKP PKPdf 20 23 12.9 +0.1
comp=Z,30nm,1.0s
WUAZ Wupatki 119.54 53 *e*PKPdf PKPdf 20 23 15.1 +1.8
TCF Toulx Ste Croi 119.58 319⇑*i*PKIKP PKPdf 20 23 13.5 +0.1
comp=Z,47nm,0.8s
FCC Fort Churchill 119.91 24 *e*PKIKP PKPdf 20 23 12.8 -1.2
LDF La Druitiere 120.12 323 *e*PKIKP PKPdf 20 23 14.2 -0.2
comp=Z,70nm,1.1s
CAF Calviac 120.17 318 *e*PKIKP PKPdf 20 23 15.0 +0.5
comp=Z,43nm,0.8s
FLN La Foliniere 120.26 323⇑*i*PKIKP PKPdf 20 23 14.5 -0.2
comp=Z,25nm,0.8s
RJF Les Rejaudoux 120.39 319 *e*PKIKP PKPdf 20 23 15.2 +0.2
EJON La Jonquera 120.46 315 PKP PKPdf 20 23 13.8 -1.3
MTLF Montolieu 120.63 316⇑*i*PKIKP PKPdf 20 23 15.4 0.0
comp=Z,22nm,0.7s
GRR Gorron 120.65 323 *e*PKIKP PKPdf 20 23 15.2 -0.3
comp=Z,9.7nm,0.5s
PV10 Paradox Valley 120.67 50 *e*PKPdf PKPdf 20 23 16.8 +1.3
TUC Tucson 120.67 57 *e*PKIKP PKPdf 20 23 17.2 +1.7
MFF Saint Martin d 120.96 321⇑*i*PKIKP PKPdf 20 23 16.0 -0.1
comp=Z,46nm,0.6s
RWWY Rawlins 121.02 46 *e*PKPdf PKPdf 20 23 16.9 +0.7
LFF La Frestale 121.04 318 *e*PKIKP PKPdf 20 23 16.7 +0.5
comp=Z,41nm,0.7s
PV01 Paradox Valley 121.09 50 *e*PKPdf PKPdf 20 23 17.9 +1.6
ETOS Mallorca 121.36 312 PKP PKPdf 20 23 16.6 -0.2
MVCO Mesa Verde 121.39 51 *e*PKPdf PKPdf 20 23 18.9 +2.0
SGMF Saint Gilles 121.72 323 *e*PKIKP PKPdf 20 23 17.2 -0.3
comp=Z,39nm,0.8s
SMCO Snowmass 121.98 48 *e*PKPdf PKPdf 20 23 19.9 +1.9
EPF Esparros 122.02 317 *e*PKIKP PKPdf 20 23 18.2 +0.1
comp=Z,14nm,0.5s
EPOB Poblet 122.10 314 PKP PKPdf 20 23 17.8 -0.5
ROSF Rostrenen 122.11 323 *e*PKIKP PKPdf 20 23 17.9 -0.4
comp=Z,49nm,0.8s
QUIF Quistinic 122.24 323 *e*PKIKP PKPdf 20 23 18.3 -0.2
comp=Z,31nm,0.8s
EBIE Bielsa 122.28 316 PKP PKPdf 20 23 18.8 +0.2
RSSD Black Hills 122.32 42 *e*PKIKP PKPdf 20 23 18.7 0.7
ERTA Horta de San J 122.77 314 PKP PKPdf 20 23 18.8 -0.7
FRB Frobisher Bay 122.81 8 PKP PKPdf 20 23 18.4 -1.2
comp=Z,22nm,0.7s,baz=357,slow=3.4,SNR=13
SJPF Ste Jean 123.05 317 *e*PKIKP PKPdf 20 23 20.9 +0.8
comp=Z,32nm,0.9s
ESAC San Caprasio 123.06 315 PKP PKPdf 20 23 19.8 -0.3
LENM Lemitar 123.38 54 *e*PKPdf PKPdf 20 23 22.2 +1.5
SDCO Great Sand Dun 123.52 50 *e*PKPdf PKPdf 20 23 22.8 +1.8
EMOS Mosqueruela 123.55 314 PKP PKPdf 20 23 21.8 +0.8
ANMO Albuquerque 123.58 53⇑*i*PKIKP PKPdf 20 23 22.9 +1.8
ANMO Albuquerque 123.58 53 *e*PKPdf PKPdf 20 23 22.8 +1.7
ECRI Cripan 124.12 317 PKIKP PKPdf 20 23 22.2 +0.1
ULM Lac du Bonnet 124.27 32 PKP PKPdf 20 23 22.1 -0.3
comp=Z,14nm,0.6s,baz=298,slow=2.1,SNR=33
ULM Lac du Bonnet 124.27 32 *e*PKPdf PKPdf 20 23 21.5 -0.9
ELAN Lanestosa 124.48 318 PKP PKPdf 20 23 22.2 -0.6
ETOB Tobarra 124.93 312 PKP PKPdf 20 23 23.4 -0.3

MNTX Cornudas Mount 125.29 57 *e*PKPdf PKPdf 20 23 25.6 +1.2
EARI Arriondas 125.62 319 PKP PKPdf 20 23 23.2 -1.8
EVIA Vianos 125.63 313 PKIKP PKPdf 20 23 25.1 +0.1
ENIJ Nijar 125.99 311 PKIKP PKPdf 20 23 25.3 -0.4
GUD Guadarrama 126.04 315 PKIKP PKPdf 20 23 25.7 -0.1
ESDC Sonseca Array 126.29 314 PKP PKPdf 20 23 26.5 +0.2
comp=Z,4.8nm,0.7s,baz=18,slow=3.6,SNR=15
ESDC Sonseca Array 126.29 314 PKP PKPdf 20 23 26.2 -0.1
EQES Quesada 126.35 312 PKP PKPdf 20 23 25.9 -0.5
EBER Berja 126.53 311 PKP PKPdf 20 23 27.6 +0.9
TOA0 Torodi Ar. Sit 126.61 281 *e*PKPdf PKPdf 20 23 27.3 +0.4
TORD Torodi Ar. Bea 126.61 281 PKPhKP 20 23 19.5
comp=Z,0.4nm,0.9s,baz=73,slow=3.8,SNR=7.6
TORD PKP PKPdf 20 23 27.4 +0.5
comp=Z,12nm,0.7s,baz=61,slow=1.9,SNR=74
TORD Torodi Ar. Bea 126.61 281 PKP PKPdf 20 23 27.4 +0.5
EBAN Banos Encina 126.74 312 PKIKP PKPdf 20 23 26.3 -0.8
ECOG Cogollos-Vega 126.90 311 PKIKP PKPdf 20 23 26.4 -1.1
EALB Alboran 126.97 310 PKP PKPdf 20 23 26.6 -1.0
ERON Agron 127.17 311 PKP PKPdf 20 23 27.1 -0.8
TXAR Lajitas Array 127.29 59 PKP PKPdf 20 23 29.0 +0.8
comp=Z,2.6nm,0.6s,baz=213,slow=4.8,SNR=21
TXAR Lajitas Array 127.29 59 PKP PKPdf 20 23 29.0 +0.8
ECSD EROS,Sioux Fal 127.30 39 *e*PKPdf PKPdf 20 23 28.6 +0.4
PBRG Braganca 127.30 318 *e*PKPdf PKPdf 20 23 29.3 +1.1
EADA Adamuz 127.32 313 PKP PKPdf 20 23 28.1 -0.1
ELUQ Luque 127.32 312 PKIKP PKPdf 20 23 28.3 +0.1
ELOJ Sierra Loja 127.39 311 PKIKP PKPdf 20 23 27.5 -0.9
CBKS Cedar Bluff 127.39 46 *e*PKIKP PKPdf 20 23 29.7 +1.3
EMIJ Mijas 128.06 311 PKP PKPdf 20 23 30.1 +0.4
PVRL Vila Real 128.19 318 *e*PKPdf PKPdf 20 23 31.5 +1.6
PCAB Cabril 128.20 318 *e*PKPdf PKPdf 20 23 31.0 +1.1
PVIS Viseu 128.57 317 *e*PKPdf PKPdf 20 23 32.4 +1.8
EJIF Jimena Fronter 128.62 311 PKIKP PKPdf 20 23 30.8 +0.1
PCBR Castelo Branco 128.68 316 *e*PKPdf PKPdf 20 23 32.0 +1.2
ESPR Espera 128.75 312 PKP PKPdf 20 23 31.8 +0.8
EMIN Mina Concepcio 129.00 313 PKP PKPdf 20 23 31.5 +0.1
MDT Midelt 129.23 306 PKP PKPdf 20 23 33.1 +1.2
comp=Z,7.8nm,0.7s,baz=105,slow=1.8,SNR=25
EVO Evora 129.63 315 *e*PKIKP PKPdf 20 23 33.7 +1.1
EGRO El Granado 129.68 313 PKP PKPdf 20 23 32.8 0.0
PBEJ Beja 129.75 314 *e*PKPdf PKPdf 20 23 34.0 +1.1
JCT Junction City 130.22 56 *e*PKIKP PKPdf 20 23 34.6 +0.8
SCHQ Schefferville 131.55 11 PKP PKPdf 20 23 36.4 +0.1
comp=Z,8.2nm,0.7s,baz=9.3,slow=1.9,SNR=16
SCHQ Schefferville 131.55 11 *e*PKPdf PKPdf 20 23 35.8 -0.5
JFWS Jewell Farm 131.66 37 *e*PKIKP PKPdf 20 23 36.5 0.0
PLAL Pickwick Lake 137.44 45 *e*PKPdf PKPdf 20 23 46.7 -0.6
CMIG Matias Romero 137.52 73 PKP PKPdf 20 23 47.6 +0.1
comp=Z,5.7nm,0.6s,baz=347,slow=2.4,SNR=7.9
TZTN Tazewell 139.59 40 *e*PKPpre 20 23 46.5
BLA Blacksburg 141.09 37 *e*PKIKP PKPdf 20 23 54.5 +0.5
TGUH Tegucigalpa,Un 145.18 76 *e*PKPdf PKPdf 20 24 02.8 +1.6
LVC Limon Verde 145.84 152 PKPbc PKPbc 20 24 06.2 +3.1
comp=Z,24nm,0.7s,baz=257,slow=2.5,SNR=23
CPUP Villa Florida 145.88 172 PKPbc PKPbc 20 24 04.9 +1.6
comp=Z,22nm,0.5s,baz=183,slow=1.6,SNR=59
CPUP PP PP 20 27 27.2 +1.6
comp=Z,2.4nm,0.6s,baz=157,slow=0.8,SNR=4.0
CPUP Villa Florida 145.88 172 *e*PKPdf PKPdf 20 24 04.0 +1.7
CPUP *e*SKP 20 27 27.1
CAM4 Nova Friburgo 148.66 198⇑*i*P PKPbc 20 24 13.4 +2.5
CAM4 *i* 20 24 14.8
NNA Nana 148.82 129 PKPbc PKPbc 20 24 13.6 +2.3
comp=Z,19nm,0.6s,baz=261,slow=5.7,SNR=6.8
CAM3 Guarapari 149.48 202⇑*i*P PKPbc 20 24 15.0 +2.1
CAM3 *i* 20 24 17.4
CAM3 *i* 20 24 20.6
LPAZ La Paz 151.56 147 PKP PKPdf 20 24 15.1 +3.6
comp=Z,2.4nm,1.1s,baz=79,slow=1.1,SNR=5.9
LPAZ PKPbc PKPbc 20 24 20.8 +3.0
comp=Z,12nm,0.4s,baz=32,slow=1.2,SNR=92
LPAZ PKPab PKPab 20 24 29.7 +2.8
comp=Z,15nm,0.7s,baz=225,slow=7.1,SNR=16
LPAZ La Paz 151.56 147 *e*PKPdf PKPdf 20 24 14.7 +3.2
LPAZ *e*PKPbc PKPbc 20 24 20.9 +3.1
SIV San Ignacio 154.98 160 PKP PKPdf 20 24 18.6 +2.2
comp=Z,5.0nm,0.8s,baz=198,slow=1.2,SNR=26
SIV PKPab PKPab 20 24 43.4 +2.0
comp=Z,7.1nm,0.7s,baz=208,slow=5.7,SNR=3.6
SDV Santo Domingo 161.90 85 *e*PKPdf PKPdf 20 24 25.9 +1.2

*ISCJB **24** 20:05:28.6±0.2,4678N±001×990E±001,h5km±1km, Error ellipse: s-maj=1.8km s-min=1.6km az=143.6*
*ZUR **24** 20:05:29.4,4674N×987E,h6km±1km,ML3.0/19*
*NEIC **24** 20:05:29.4,4674N×987E,h6km,ML2.5(ROM), ML2.8(STR),ML3.0(ZUR),ML3.1(LDG),ML3.1(LEDBW), ML3.3(SZGRF),After ZUR.*
*CSEM **24** 20:05:29.3±0.1,4673N×994E,h5km,ML3.5/11,Error ellipse: s-maj=1.4km s-min=1.1km az=21.0*
*ROM **24** 20:05:29.3±0.2,4674N×987E,h7km±4km,Md2.8/6, Ml2.5/4,Error ellipse: s-maj=6.6km s-min=1.7km az=88.0*
*BGR **24** 20:05:30.2±0.8,4676N×988E,h10km,ML3.3,Error ellipse: s-maj=8.9km s-min=6.7km az=17.0*
*PRU **24** 20:05:30.5,4678N×998E,h0km*
*LDG **24** 20:05:31.6±0.2,4681N×995E,h5km,Ml3.1/15,Error ellipse: s-maj=3.3km s-min=2.4km az=132.0*
*LEDBW **24** 20:05:31.5±1.1,4679N±006×991E±005,h10km,ML3.1, Error ellipse: s-maj=22.0km s-min=16.0km az=167.0*
*STR **24** 20:05:33.6±0.7,4694N×982E,h5km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 24 20:05:29.6±0.2,4678N±001×992E±001,h5km±1km,n192,
σ1§11/378,38C-20D,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVOX	**Davos/Dischmat**	**0.03**	**270**	Pg	**Pg**	**20 05 31.1**	**+0.4**
DAVOX				Sg	**Sg**	**20 05 32.1**	**+0.6**
DAVOX	**Davos/Dischmat**	**0.03**	**270**	⇓*i*Pg	**Pg**	**20 05 32.5**	**+1.8**
DAVOX	**Davos/Dischmat**	**0.03**	**270**	⇓*i*P	**Pg**	**20 05 31.1**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.03**	**270**	*i* Sg	**Sg**	**20 05 32.0**	**+0.5**
DAVOX	**Davos/Dischmat**	**0.03**	**270**	⇓*i*Pg	**Pg**	**20 05 32.5**	**+1.8**
FUORN	**Ofenpass-Fuorn**	**0.29**	**124**	⇑*i*Pg	**Pg**	**20 05 35.3**	**+0.1**
	1μm,0.3s						
FUORN	**Ofenpass-Fuorn**	**0.29**	**124**	⇑*i*P	**Pg**	**20 05 35.5**	**+0.3**
BERNI	**Berninapass**	**0.37**	**169**	⇑*i*Pg	**Pg**	**20 05 36.6**	**-0.2**
	3μm,0.3s						
BERNI				*e*Sg	**Sg**	**20 05 41.4**	**-0.3**
	3μm,0.3s						
VDL	**Val di Lei**	**0.43**	**227**	⇑*i*Pg	**Pg**	**20 05 37.2**	**-0.7**
	1μm,0.2s						
BRMO	**Bormio**	**0.44**	**134**	Pg	**Pg**	**20 05 38.0**	**0.0**
BRMO				Sg	**Sg**	**20 05 45.4**	**+1.7**
	75nm,0.2s						
TUE	**Stuetta**	**0.50**	**232**	Pg	**Pg**	**20 05 38.3**	**-1.0**
TUE				Sg	**Sg**	**20 05 45.8**	**0.0**
	507nm,0.2s						
DAVA	**Damuels**	**0.51**	**357**	⇑*e*Pg	**Pg**	**20 05 40.0**	**+0.6**
	SNR=56						
DAVA				⇓*i*Sg	**Sg**	**20 05 47.3**	**+1.3**
	comp=Z,161nm,0.2s						
DAVA	**Damuels**	**0.51**	**357**	Pg	**Pg**	**20 05 40.0**	**+0.6**
	55nm,5.0s						
DAVA				Sg	**Sg**	**20 05 47.3**	**+1.3**
	161nm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.59**	**331**	*e*Pg	**Pg**	**20 05 41.0**	**0.0**
	611nm,0.6s						
LIENZ	**Kamor/St.Gall**	**0.59**	**331**	*e*P	**Pg**	**20 05 41.4**	**+0.4**
LLS	**Linth-Limmern**	**0.63**	**277**	⇑*i*Pg	**Pg**	**20 05 40.0**	**-1.7**
	201nm,0.2s						
LLS	**Linth-Limmern**	**0.63**	**277**	⇑*i*P	**Pg**	**20 05 41.0**	**-0.7**
OBER	**Oberstdorf**	**0.68**	**22**	⇓*i*Pg	**Pg**	**20 05 43.2**	**+0.6**
MABI	**Malga Bissina**	**0.83**	**150**	Pg	**Pg**	**20 05 45.1**	**-0.5**
MABI				Sg	**Sg**	**20 05 57.0**	**+0.6**
	36nm,0.2s						
MUO	**Muotathal**	**0.90**	**282**	⇑*e*Pg	**Pg**	**20 05 45.7**	**-1.2**
	745nm,0.4s						
MUO	**Muotathal**	**0.90**	**282**	⇑*e*P	**Pg**	**20 05 46.3**	**-0.6**
UBR	**Ueberruh**	**0.91**	**8**	⇑P*	**Pb**	**20 05 48.2**	**+0.4**
UBR				S*	**Sb**	**20 06 04.1**	**+3.9**
UBR				SmS		20 06 06.0	
UBR	**Ueberruh**	**0.91**	**8**	⇑P	**Pg**	**20 05 48.2**	**+1.1**
UBR				S	**Sg**	**20 06 04.1**	**+5.2**
UBR				S	**Sg**	**20 06 06.0**	**+7.1**
UBR	**Ueberruh**	**0.91**	**8**	⇑Pg	**Pb**	**20 05 48.2**	**+0.4**
UBR				Sg	**Sb**	**20 06 04.1**	**+3.9**
UBR				SmS		20 06 06.0	
FUSIO	**Fusio**	**0.93**	**250**	⇑*i*Pg	**Pg**	**20 05 45.9**	**-1.5**
	758nm,0.1s						
WILA	**Wila**	**0.94**	**313**	⇑*i*P	**Pg**	**20 05 46.3**	**-1.3**
	3μm,0.3s						
WILA	**Wila**	**0.94**	**313**	⇑*i*P	**Pg**	**20 05 48.1**	**+0.5**
APPI	**Appiano**	**0.95**	**108**	Pg	**Pg**	**20 05 47.7**	**-0.1**
	180nm,0.7s						
SQTA	**Sankt Quirin**	**0.99**	**63**	*e*Pg	**Pg**	**20 05 48.2**	**-0.3**
	SNR=43						
SQTA				⇑*i*Sg	**Sg**	**20 06 02.2**	**+0.9**
	146nm,0.3s						
SQTA	**Sankt Quirin**	**0.99**	**63**	Pg	**Pg**	**20 05 48.2**	**-0.3**
	42nm,9.0s						
SQTA				Sg	**Sg**	**20 06 02.2**	**+0.9**
	146nm,0.3s						
MOTA	**Moosalm**	**0.99**	**55**	⇑*e*Pg	**Pg**	**20 05 48.1**	**-0.4**
	SNR=25						
MOTA				⇓*i*Sg	**Sg**	**20 06 02.5**	**+1.1**
	132nm,0.4s						
MOTA	**Moosalm**	**0.99**	**55**	Pg	**Pg**	**20 05 48.1**	**-0.4**
	25nm,1.0s						
MOTA				Sg	**Sg**	**20 06 02.5**	**+1.2**
	132nm,0.4s						
MDI	**Monti di Nese**	**1.01**	**188**	Pg	**Pg**	**20 05 48.5**	**-0.6**
	185nm,0.3s						
BNALP	**Bannalp**	**1.03**	**276**	⇑*i*P	**Pg**	**20 05 48.1**	**-1.3**
	464nm,0.4s						
BNALP	**Bannalp**	**1.03**	**276**	⇑*i*P	**Pg**	**20 05 48.6**	**-0.8**
MUGIO	**Muggio**	**1.05**	**216**	Pg	**Pg**	**20 05 48.3**	**-1.5**
MUGIO	**Muggio**	**1.05**	**216**	⇑*i*P	**Pg**	**20 05 48.4**	**-1.4**
	647nm,0.6s						
ZUR	**Degenried**	**1.09**	**303**	*i* P	**Pg**	**20 05 48.6**	**-1.9**
	1μm,0.4s						
ZUR	**Degenried**	**1.09**	**303**	*i* P	**Pg**	**20 05 50.8**	**+0.3**
SISB	**Singen-Schiene**	**1.12**	**325**	⇓P*	**Pb**	**20 05 51.2**	**-0.1**
SISB				S*	**Sb**	**20 06 07.5**	**+1.4**
HASLI	**Hasliberg/Brie**	**1.22**	**270**	⇑*i*P	**Pg**	**20 05 48.6**	**-4.3**
	906nm,0.3s						
HASLI	**Hasliberg/Brie**	**1.22**	**270**	⇑*i*P	**Pg**	**20 05 51.8**	**-1.1**
SALO	**Salr**	**1.24**	**160**	Pg	**Pg**	**20 05 52.4**	**-0.9**
SCE	**Schlegeis**	**1.25**	**77**	⇓*i*Pg	**Pg**	**20 05 53.1**	**-0.6**
WATA	**Walderalm**	**1.26**	**63**	⇑*e*Pn	**Pn**	**20 05 53.3**	**-0.5**
	SNR=19						
WATA				⇑*i*Sg	**Sg**	**20 06 11.2**	**+1.0**
	82nm,0.3s						
WATA	**Walderalm**	**1.26**	**63**	Pg	**Pg**	**20 05 53.3**	**-0.5**
	18nm,9.0s						
WATA				Sg	**Sg**	**20 06 11.2**	**+1.0**
	82nm,0.3s						
WTTA	**Wattenberg**	**1.27**	**67**	⇓*e*Pn	**Pn**	**20 05 53.3**	**-0.6**
	SNR=72						
WTTA				⇑*i*Sg	**Sg**	**20 06 11.4**	**+0.9**
	72nm,0.2s						
WTTA	**Wattenberg**	**1.27**	**67**	⇓*e*Pg	**Pg**	**20 05 53.3**	**-0.6**
WTTA				*i* Sg	**Sg**	**20 06 11.4**	**+0.9**
WTTA	**Wattenberg**	**1.27**	**67**	Pg	**Pg**	**20 05 53.3**	**-0.7**
	72nm,3.0s						
WTTA				Sg	**Sg**	**20 06 11.4**	**+1.0**
	72nm,0.2s						
SLE	**Schleitheim**	**1.38**	**316**	⇓*i*Pn	**Pn**	**20 05 50.8**	**-4.7**
	687nm,0.5s						
SLE	**Schleitheim**	**1.38**	**316**	⇓*i*P	**Pn**	**20 05 55.9**	**+0.4**
GUT	**Gutenstein**	**1.40**	**337**	P	**Pn**	**20 05 56.2**	**+0.4**
GUT				⇑Pg	**Pg**	**20 05 57.4**	**+0.9**
GUT				S	**Sn**	**20 06 14.5**	**-0.1**
GUT				Sg	**Sg**	**20 06 16.8**	**+2.1**
GUT	**Gutenstein**	**1.40**	**337**	P	**Pn**	**20 05 56.2**	**+0.5**
GUT				⇑Pg	**Pg**	**20 05 57.4**	**+0.9**
GUT				S	**Sb**	**20 06 14.5**	**+0.1**
GUT				Sg	**Sg**	**20 06 16.8**	**+2.1**
GUT	**Gutenstein**	**1.40**	**337**	Pn	**Pn**	**20 05 56.2**	**+0.4**
GUT				Sn	**Sn**	**20 06 14.5**	**-0.1**
GUT	**Gutenstein**	**1.40**	**337**	⇑P	**Pg**	**20 05 57.4**	**+0.9**
GUT				S	**Sg**	**20 06 16.8**	**+2.1**
CTI	**Castel Tesino**	**1.40**	**121**	Pg	**Pg**	**20 05 56.3**	**-0.2**
CTI				Sg	**Sg**	**20 06 15.4**	**+0.7**
	26nm,0.3s						
SPAK	**Spaichingen-Ko**	**1.53**	**330**	Pg	**Pg**	**20 05 59.7**	**+0.8**
SPAK				Sg	**Sg**	**20 06 20.2**	**+1.4**
MMK	**Mattmark**	**1.54**	**242**	Pg	**Pg**	**20 05 56.9**	**-2.2**
MSS	**Messtetten**	**1.54**	**335**	⇑*e*Pn	**Pn**	**20 05 58.4**	**+0.7**
MSS	**Messtetten**	**1.54**	**335**	*e*P	**Pn**	**20 05 59.9**	**+2.3**
MSS				*e*Sn	**Sn**	**20 06 18.2**	**+0.2**
MSS				*e*S	**Sn**	**20 06 20.6**	**+2.5**
SEST	**Monte Rota**	**1.58**	**90**	Pg	**Pg**	**20 05 58.9**	**-1.0**
LKBD	**Leukerbad**	**1.63**	**257**	*e*Pn	**Pn**	**20 05 51.8**	**-7.1**
	406nm,0.6s						
LKBD	**Leukerbad**	**1.63**	**257**	*e*P	**Pn**	**20 05 59.2**	**+0.3**
FUR	**Furstenfeldbru**	**1.66**	**33**	*e*Pn	**Pn**	**20 06 00.8**	**+1.4**
FUR				*e*Sn	**Sn**	**20 06 23.0**	**+2.0**
FELD	**Feldberg im Sc**	**1.70**	**311**	⇓P	**Pn**	**20 06 00.3**	**+0.4**
FELD				Pg	**Pg**	**20 06 02.4**	**+0.2**
FELD				S	**Sn**	**20 06 21.5**	**-0.5**
FELD	**Feldberg im Sc**	**1.70**	**311**	⇓P	**Pn**	**20 06 00.3**	**+0.4**
FELD				Pg	**Pg**	**20 06 02.4**	**+0.1**
FELD				S	**Sn**	**20 06 21.5**	**-0.5**
FELD	**Feldberg im Sc**	**1.70**	**311**	P	**Pg**	**20 06 02.4**	**+0.2**
FELD	**Feldberg im Sc**	**1.70**	**311**	Pg	**P

ECH	**Echery**	**2.36 308**	Pn	**Pn**	**20 06 09.1**	**+0.2**
ECH			Sg	**Sg**	**20 06 49.0**	**+3.6**
ECH	**Echery**	**2.36 308**	Px	Px	20 06 09.2	
KBA	**Koelnbreinsper**	**2.37 82**	⇑ePg	**Pg**	**20 06 12.7**	**-2.2**
	SNR=18					
KBA			⇑iSg	**Sg**	**20 06 46.5**	**+0.9**
	12nm,0.3s					
WLS	**Welschbruch**	**2.38 314**	Pn	**Pn**	**20 06 09.7**	**+0.4**
WLS	**Welschbruch**	**2.38 314**	⇑Pn	**Pn**	**20 06 09.9**	**+0.7**
CDF	**Champ du Feu**	**2.42 313**	ePg	**Pg**	**20 06 17.5**	**+1.5**
CDF			eSn	**Sn**	**20 06 39.1**	**-0.7**
CDF			eSg	**Sg**	**20 06 48.3**	**+0.9**
	59nm,0.4s					
CDF	**Champ du Feu**	**2.42 313**	ePn	**Pn**	**20 06 10.2**	**+0.4**
CDF			ePg	**Pg**	**20 06 17.5**	**+1.5**
CDF			eSn	**Sn**	**20 06 39.1**	**-0.7**
CDF			eSg	**Sg**	**20 06 48.3**	**+0.9**
CDF	**Champ du Feu**	**2.42 313**	ePg	**Pg**	**20 06 17.5**	**+1.5**
CDF			eSn	**Sn**	**20 06 39.1**	**-0.7**
CDF			eSg	**Sg**	**20 06 48.3**	**+0.9**
	30nm,0.4s					
RSP	**Reno Superiore**	**2.47 230**	P	**Pn**	**20 06 09.9**	**-0.5**
RSL	**Roselend**	**2.53 246**	Pn	**Pb**	**20 06 15.3**	**-0.2**
LPG	**La Plagne**	**2.55 241**	ePg	**Pg**	**20 06 20.4**	**+1.9**
LPG			eSg	**Sg**	**20 06 53.4**	**+1.9**
	55nm,0.6s					
LPG	**La Plagne**	**2.55 241**	ePn	**Pn**	**20 06 14.3**	**+2.8**
LPG			ePg	**Pg**	**20 06 20.4**	**+1.9**
LPG			eSg	**Sg**	**20 06 53.4**	**+1.9**
LPG	**La Plagne**	**2.55 241**	ePg	**Pg**	**20 06 20.4**	**+1.9**
LPG			eSg	**Sg**	**20 06 53.4**	**+1.9**
	27nm,0.6s					
LPL	**La Plagne**	**2.55 241**	ePg	**Pg**	**20 06 19.8**	**+1.3**
LPL			eSg	**Sg**	**20 06 53.2**	**+1.6**
	33nm,0.4s					
LPL	**La Plagne**	**2.55 241**	ePn	**Pn**	**20 06 14.9**	**+3.3**
LPL			ePg	**Pg**	**20 06 19.8**	**+1.3**
LPL			eSg	**Sg**	**20 06 53.2**	**+1.6**
LPL	**La Plagne**	**2.55 241**	ePg	**Pg**	**20 06 19.8**	**+1.3**
LPL			eSg	**Sg**	**20 06 53.2**	**+1.6**
	16nm,0.4s					
SIND	**Sindeldorf**	**2.58 355**	P	**Pn**	**20 06 11.6**	**-0.3**
SIND			Pg	**Pg**	**20 06 18.7**	**-0.3**
SIND			Sg	**Sn**	**20 06 43.2**	**-0.4**
SIND	**Sindeldorf**	**2.58 355**	P	**Pn**	**20 06 11.6**	**-0.3**
SIND			Sg	**Sn**	**20 06 43.2**	**-0.4**
SIND	**Sindeldorf**	**2.58 355**	Px	Px	20 06 18.7	
CABF	**La Chapelle**	**2.64 268**	ePg	**Pg**	**20 06 19.6**	**-0.7**
CABF			eSg	**Sg**	**20 06 53.2**	**-1.3**
	49nm,0.6s					
CABF	**La Chapelle**	**2.64 268**	ePn	**Pn**	**20 06 13.8**	**+1.0**
CABF			ePg	**Pg**	**20 06 19.6**	**-0.7**
CABF			eSg	**Sg**	**20 06 53.2**	**-1.3**
CABF	**La Chapelle**	**2.64 268**	ePg	**Pg**	**20 06 19.6**	**-0.7**
CABF			eSg	**Sg**	**20 06 53.2**	**-1.3**
	25nm,0.6s					
HAU	**Haudompre**	**2.72 298**	ePn	**Pn**	**20 06 14.4**	**+0.5**
HAU			eSn	**Sn**	**20 06 46.4**	**-0.7**
HAU			eSg	**Sg**	**20 06 58.1**	**+1.2**
	33nm,0.3s					
HAU	**Haudompre**	**2.72 298**	ePn	**Pn**	**20 06 14.4**	**+0.5**
HAU			eSn	**Sn**	**20 06 46.4**	**-0.7**
HAU			eSg	**Sg**	**20 06 58.1**	**+1.2**
	17nm,0.3s					
SWS	**Schriesheim-Wi**	**2.83 344**	S	**Sn**	**20 06 49.4**	**-0.3**
VOY	**Vojsko**	**2.85 104**	ePn	**Pn**	**20 06 19.2**	**+3.5**
VOY			eSn	**Sn**	**20 06 54.0**	**+3.7**
JAVS	**Javornik**	**3.00 106**	iPn	**Pn**	**20 06 21.9**	**+4.2**
JAVS			iSn	**Sb**	**20 07 00.3**	**-0.2**
MBDF	**Montbardon**	**3.01 228**	ePn	**Pn**	**20 06 18.4**	**+0.5**
MBDF			eSn	**Sn**	**20 06 53.7**	**-0.6**
PZZ	**Prazzo**	**3.01 222**	P	**Pn**	**20 06 16.8**	**-1.1**
GRA1	**Grafenberg Arr**	**3.04 16**	ePg	**Pg**	**20 06 26.0**	**-1.9**
GRA1			eSn	**Sn**	**20 06 55.1**	**+0.1**
GRA1			eSg	**Sg**	**20 07 07.5**	**+0.2**
GRA1	**Grafenberg Arr**	**3.04 16**	ePg	**Pg**	**20 06 26.0**	**-1.9**
GRA1			eSn	**Sn**	**20 06 55.1**	**+0.1**
GRF	**Grafenberg Arr**	**3.04 16**	ePg	**Pg**	**20 06 26.0**	**-1.8**
GRF			eSn	**Sn**	**20 06 55.1**	**0.0**
GRF			eSg	**Sg**	**20 07 07.5**	**+0.2**
GRF	**Grafenberg Arr**	**3.04 16**	ePg	**Pg**	**20 06 26.0**	**-1.9**
GRF			eSn	**Sn**	**20 06 55.1**	**+0.1**
GRF			eSg	**Sg**	**20 07 07.5**	**+0.2**
GRF	**Grafenberg Arr**	**3.04 16**	ePg	**Pg**	**20 06 26.0**	**-1.9**
GRF			eSn	**Sn**	**20 06 55.1**	**+0.1**
WET	**Wettzell**	**3.09 39**	ePn	**Pn**	**20 06 19.4**	**+0.4**
WET			eSn	**Sn**	**20 06 56.5**	**+0.3**
WET			eSg	**Sg**	**20 07 07.8**	**-1.0**
WET	**Wettzell**	**3.09 39**	ePn	**Pn**	**20 06 19.4**	**+0.4**
WET			eSn	**Sn**	**20 06 56.5**	**+0.3**
WET			eSg	**Sg**	**20 07 07.8**	**-1.0**
WET	**Wettzell**	**3.09 39**	ePn	**Pn**	**20 06 19.4**	**+0.4**
WET			eSn	**Sn**	**20 06 56.5**	**+0.3**
MOA	**Molln**	**3.14 69**	⇑iPn	**Pn**	**20 06 21.2**	**+1.5**
MOA			⇑iPg	**Pg**	**20 06 29.3**	**-0.6**
MOA	**Molln**	**3.14 69**	⇑iPn	**Pn**	**20 06 21.2**	**+1.5**
MOA			⇑iPg	**Pg**	**20 06 29.3**	**-0.6**
MOA			⇓iSn	**Sn**	**20 06 59.9**	**+2.3**
OBKA	**Obir**	**3.20 93**	⇓iPn	**Pn**	**20 06 18.8**	**-1.7**
GEC2	**GERESS Array S**	**3.28 50**	ePn	**Pn**	**20 06 22.6**	**+1.0**
GEC2			eSn	**Sn**	**20 07 01.7**	**+0.8**
ORIF	**Oris-en-Rattie**	**3.38 238**	ePn	**Pn**	**20 06 24.2**	**+1.2**
ORIF			ePg	**Pg**	**20 06 34.1**	**-0.3**
KHC	**Kasperske Hory**	**3.40 45**	ePN	**Pn**	**20 06 24.3**	**+1.0**
KHC			ePG	**Pg**	**20 06 34.6**	**-0.2**
KHC			eSN	**Sn**	**20 07 04.3**	**+0.4**
KHC			eSG	**Sg**	**20 07 17.0**	**-1.9**
	25nm,0.8s					
SBF	**Sospel**	**3.40 212**	ePn	**Pn**	**20 06 24.1**	**+0.8**
PERS	**Pernice**	**3.58 90**	iPn	**Pn**	**20 06 30.1**	**+4.4**
TNS	**Taunus Mts**	**3.58 345**	eSg	**Sg**	**20 07 25.6**	**+1.0**
SFTF	**Sexfontaines**	**3.60 295**	ePn	**Pn**	**20 06 27.0**	**+1.0**
	baz=120					
SFTF			eSn	**Sn**	**20 07 08.0**	**-0.9**
SFTF			eSg	**Sg**	**20 07 25.6**	**+0.3**
	8.5nm,0.4s					
SFTF	**Sexfontaines**	**3.60 295**	ePn	**Pn**	**20 06 27.0**	**+1.0**
SFTF			eSn	**Sn**	**20 07 08.0**	**-0.9**
SFTF			eSg	**Sg**	**20 07 25.6**	**+0.3**
	4.2nm,0.4s					
MEZF	**Maizieres J'vi**	**3.71 299**	ePn	**Pn**	**20 06 28.9**	**+1.4**
MEZF			ePg	**Pg**	**20 06 39.7**	**-1.1**
MEZF			eSn	**Sn**	**20 07 09.7**	**-1.9**
NKC	**Novy Kostel**	**3.84 25**	ePG	**Pg**	**20 06 42.4**	**-0.8**
NKC			eSN	**Sn**	**20 07 13.3**	**-1.5**
NKC			eSG	**Sg**	**20 07 30.9**	**-2.1**
	15nm,0.4s					
BOJS	**Bojanci**	**3.92 107**	ePn	**Pn**	**20 06 34.6**	**+4.2**
BOJS			iSn	**Sn**	**20 07 21.8**	**+5.0**
FRF	**La Foret Royal**	**3.96 217**	ePn	**Pn**	**20 06 33.0**	**+2.0**
FRF			eSn	**Sn**	**20 07 17.1**	**-0.7**
TANN	**Tannenbergstha**	**4.01 24**	eSn	**Sn**	**20 07 18.6**	**-0.3**
MOX	**Moxa**	**4.03 16**	ePn	**Pn**	**20 06 30.2**	**-1.6**
MOX			ePg	**Pg**	**20 06 45.8**	**-1.0**
MOX			eSn	**Sn**	**20 07 17.9**	**-1.5**
MOX			eSg	**Sg**	**20 07 40.8**	**+1.9**
MOX	**Moxa**	**4.03 16**	ePN	**Pn**	**20 06 30.2**	**-1.6**
MOX			ePG	**Pg**	**20 06 45.8**	**-1.0**
MOX			eSN	**Sn**	**20 07 17.8**	**-1.6**
MOX			eSG	**Sg**	**20 07 40.8**	**+1.9**
VIVF	**Saint-Julien-l**	**4.14 244**	ePn	**Pn**	**20 06 35.0**	**+1.6**
VIVF			eSn	**Sn**	**20 07 21.3**	**-0.9**
VIVF			eSg	**Sg**	**20 07 43.7**	**+1.0**
	5.8nm,0.5s					
VIVF	**Saint-Julien-l**	**4.14 244**	ePn	**Pn**	**20 06 35.0**	**+1.6**
VIVF			eSn	**Sn**	**20 07 21.3**	**-0.9**
VIVF			eSg	**Sg**	**20 07 43.7**	**+1.0**
	2.9nm,0.5s					
SMRF	**Simiane la Rot**	**4.15 229**	ePn	**Pn**	**20 06 35.1**	**+1.5**
LOR	**Lormes**	**4.17 279**	ePn	**Pn**	**20 06 35.0**	**+1.1**
	baz=100					
LOR	**Lormes**	**4.17 279**	ePg	**Pg**	**20 06 48.6**	**-1.0**
	baz=100					
LOR			eSn	**Sn**	**20 07 21.5**	**-1.5**
LOR			eSg	**Sg**	**20 07 42.5**	**-1.2**
	6.1nm,0.3s					
LOR	**Lormes**	**4.17 279**	ePn	**Pn**	**20 06 35.0**	**+1.1**
LOR			ePg	**Pg**	**20 06 48.6**	**-1.0**
LOR			eSn	**Sn**	**20 07 21.5**	**-1.5**
LOR	**Lormes**	**4.17 279**	ePg	**Pg**	**20 06 48.6**	**-1.0**
LOR			eSn	**Sn**	**20 07 21.5**	**-1.5**
LOR			eSg	**Sg**	**20 07 42.5**	**-1.2**
	3.0nm,0.3s					
SMF	**Signal de Mont**	**4.18 270**	ePg	**Pg**	**20 06 48.0**	**-1.8**
SMF			eSg	**Sg**	**20 07 42.4**	**-1.6**
	7.9nm,0.3s					
SMF	**Signal de Mont**	**4.18 270**	ePn	**Pn**	**20 06 34.9**	**+0.9**
SMF			ePg	**Pg**	**20 06 48.0**	**-1.8**
SMF			eSg	**Sg**	**20 07 42.4**	**-1.6**
SMF	**Signal de Mont**	**4.18 270**	ePg	**Pg**	**20 06 48.0**	**-1.8**
SMF			eSg	**Sg**	**20 07 42.4**	**-1.6**
	4.0nm,0.3s					
CONA	**Conrad Observa**	**4.20 72**	⇓iPn	**Pn**	**20 06 33.0**	**-1.2**
CONA			⇓iSn	**Sn**	**20 07 23.7**	**+0.1**
LMR	**La Mourre**	**4.21 216**	ePn	**Pn**	**20 06 36.5**	**+2.2**
LMR			eSn	**Sn**	**20 07 23.0**	**-0.8**
SSF	**Saint Saulge**	**4.40 276**	ePg	**Pg**	**20 06 53.1**	**-0.9**
SSF			eSg	**Sg**	**20 07 50.7**	**-0.4**
	6.0nm,0.4s					
SSF	**Saint Saulge**	**4.40 276**	ePn	**Pn**	**20 06 38.0**	**+1.0**
SSF			ePg	**Pg**	**20 06 53.1**	**-0.9**
SSF			eSg	**Sg**	**20 07 50.7**	**-0.4**
SSF	**Saint Saulge**	**4.40 276**	ePg	**Pg**	**20 06 53.1**	**-0.9**
SSF			eSg	**Sg**	**20 07 50.7**	**-0.4**
	3.0nm,0.4s					
PRU	**Pruhonice**	**4.45 42**	ePN	**Pn**	**20 06 38.2**	**+0.6**
PRU			ePG	**Pg**	**20 06 51.7**	**-3.1**
PRU			eSG	**Sg**	**20 07 50.5**	**-2.0**
	16nm,1.1s					
AVF	**Avril sur Loir**	**4.51 273**	ePn	**Pn**	**20 06 39.4**	**+0.9**
AVF			eSg	**Sg**	**20 07 53.5**	**-1.0**
	6.8nm,0.6s					
AVF	**Avril sur Loir**	**4.51 273**	ePn	**Pn**	**20 06 39.4**	**+0.9**
AVF			eSg	**Sg**	**20 07 53.5**	**-1.0**
	3.4nm,0.6s					
GIVF	**Givet**	**4.75 316**	ePn	**Pn**	**20 06 42.0**	**+0.2**
PVCC	**Panska Ves**	**4.85 38**	ePG	**Pg**	**20 07 00.0**	**-2.6**
BGF	**Bois d'Agland**	**4.88 270**	ePg	**Pg**	**20 07 02.4**	**-0.6**
BGF			eSn	**Sn**	**20 07 37.9**	**-2.4**
BGF			eSg	**Sg**	**20 08 05.7**	**-0.5**
	13nm,0.5s					
BGF	**Bois d'Agland**	**4.88 270**	ePn	**Pn**	**20 06 43.9**	**+0.4**
BGF			ePg	**Pg**	**20 07 02.4**	**-0.6**
BGF			eSn	**Sn**	**20 07 37.9**	**-2.4**
BGF			eSg	**Sg**	**20 08 05.7**	**-0.5**
BGF	**Bois d'Agland**	**4.88 270**	ePg	**Pg**	**20 07 02.4**	**-0.6**
BGF			eSn	**Sn**	**20 07 37.9**	**-2.4**
BGF			eSg	**Sg**	**20 08 05.7**	**-0.5**
	6.7nm,0.5s					
BRG	**Berggiesshubel**	**4.88 31**	e(PN)	**Pg**	**20 07 00.9**	**-2.2**
BRG			SG	**Sg**	**20 08 04.8**	**-1.6**
	3.6nm,0.5s					
CLL	**Collm**	**4.96 23**	e(Sn)	**Sn**	**20 07 42.0**	**-0.5**
CLL			eSg	**Sg**	**20 08 16.0**	**+7.0**
CLL	**Collm**	**4.96 23**	eSn	**Sn**	**20 07 42.0**	**-0.5**
CLL			eSg	**Sg**	**20 08 16.0**	**+7.0**
HYF	**Humbligny**	**5.00 278**	ePn	**Pn**	**20 06 45.8**	**+0.5**
BAIF	**Baives**	**5.02 313**	ePn	**Pn**	**20 06 45.8**	**+0.3**
BAIF			eSn	**Sn**	**20 07 40.8**	**-3.1**
LASF	**Ste Croix**	**5.05 240**	ePn	**Pn**	**20 06 47.0**	**+1.1**
LASF			eSn	**Sn**	**20 07 42.8**	**-1.8**
VRAC	**Vranov**	**5.14 58**	ePn	**Pn**	**20 06 49.0**	**+1.9**
VRAC			eSn	**Sn**	**20 07 45.3**	**-1.5**
VRAC			eSg	**Sg**	**20 08 14.0**	**-0.7**
TCF	**Toulx Ste Croi**	**5.34 268**	ePn	**Pn**	**20 06 50.2**	**+0.3**
TCF			eSn	**Sn**	**20 07 48.9**	**-2.9**
UPC	**Upice**	**5.50 45**	eSG	**Sg**	**20 08 25.0**	**-1.1**
DPC	**Dobruska-Polom**	**5.55 48**	ePN	**Pn**	**20 06 53.3**	**+0.5**
DPC			ePG	**Pg**	**20 07 12.4**	**-3.5**
DPC			eSG	**Sg**	**20 08 26.7**	**-1.1**
	31nm,1.6s					
DPC	**Dobruska-Polom**	**5.55 48**	ePn	**Pn**	**20 06 53.3**	**+0.5**
	31nm,1.6s					
DPC			ePg	**Pg**	**20 07 12.4**	**-3.5**
DPC			eSg	**Sg**	**20 08 26.7**	**-1.1**
DPC	**Dobruska-Polom**	**5.55 48**	ePn	**Pn**	**20 06 53.3**	**+0.5**
	31nm,1.6s					
DPC			eSg	**Sg**	**20 08 26.7**	**-1.1**
	31nm,1.6s					
CAF	**Calviac**	**5.79 254**	ePn	**Pn**	**20 06 57.1**	**+1.0**
CAF			eSg	**Sg**	**20 08 33.4**	**-2.2**
	1.9nm,0.3s					
CAF	**Calviac**	**5.79 254**	ePn	**Pn**	**20 06 57.1**	**+1.0**
CAF			eSg	**Sg**	**20 08 33.4**	**-2.2**
	0.9nm,0.3s					
MORC	**Moravsky Berou**	**5.91 57**	eSg	**Sg**	**20 08 39.5**	**+0.3**
RJF	**Les Rejaudoux**	**6.03 259**	ePn	**Pn**	**20 07 00.1**	**+0.7**
OKC	**Ostrava-Krasne**	**6.28 58**	eSG	**Sg**	**20 08 49.9**	**-1.4**
	14nm,0.8s					
MFF	**Saint Martin d**	**6.93 272**	ePn	**Pn**	**20 07 12.3**	**+0.6**
FLN	**La Foliniere**	**7.29 290**	ePn	**Pn**	**20 07 16.7**	**+0.1**

*ROM **24** 20:11:04.7±0.4,4676N×988E,h9km±4km,Md2.5/7,*
Ml2.0/5,Error ellipse: s-maj=13.3km s-min=2.2km az=88.0
*ISCJB **24** 20:11:04.3±0.2,4678N±002×987E±002,h6km±2km,Error*
ellipse: s-maj=2.6km s-min=2.0km az=143.4
*CSEM **24** 20:11:05.6±0.1,4672N×995E,h2km,ML2.8/17,Error*
ellipse: s-maj=2.3km s-min=1.7km az=170.0
*ZUR **24** 20:11:05.1,4675N×987E,h6km±1km,ML2.5/13*
*NEIC **24** 20:11:05.1,4675N×987E,h6km,ML2.0(ROM),*
ML2.4(STR),ML2.5(ZUR),ML2.6(LDG),ML2.7(SZGRF),
After ZUR.
*PRU **24** 20:11:07.3,4681N×1001E,h0km*
*STR **24** 20:11:08.5±1.7,4681N×973E,h5km±1km,Ml2.4,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*LDG **24** 20:11:08.3±0.2,4682N×988E,h5km,Ml2.6/14,Error*
ellipse: s-maj=3.7km s-min=2.6km az=134.0

ISC 24 20:11:05.3±0.2,4678N±001×989E±002,h4km±2km,n82,
σ1§16/158,16C-12D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.01**	**288**	Pg	**Sg**	**20 11 06.8**	**+0.4**
DAVOX				Sg	**Sg**	**20 11 07.8**	**+1.4**
DAVOX	**Davos/Dischmat**	**0.01**	**288**	iSg	**Sg**	**20 11 06.8**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.01**	**288**	⇓iPg	**Sg**	**20 11 07.8**	**+1.4**
FUORN	**Ofenpass-Fuorn**	**0.30**	**122**	⇑iPg	**Pg**	**20 11 11.6**	**+0.6**
	352nm,1.4s						
BERNI	**Berninapass**	**0.38**	**166**	⇑iPg	**Pg**	**20 11 12.3**	**-0.2**
	866nm,0.3s						
BERNI				iSg	**Sg**	**20 11 17.1**	**-0.3**
	866nm,0.3s						
VDL	**Val di Lei**	**0.41**	**225**	⇑iPg	**Pg**	**20 11 12.9**	**-0.3**
	665nm,0.2s						
PLONS	**Plons/SG**	**0.44**	**308**	iPg	**Pg**	**20 11 14.0**	**+0.2**
	152nm,0.2s						
BRMO	**Bormio**	**0.45**	**132**	Pg	**Pg**	**20 11 13.6**	**-0.3**
BRMO				Sg	**Sg**	**20 11 20.0**	**+0.3**
	45nm,0.2s						
TUE	**Stuetta**	**0.48**	**231**	Pg	**Pg**	**20 11 14.1**	**-0.5**
TUE				Sg	**Sg**	**20 11 21.0**	**+0.2**
	198nm,0.1s						
DAVA	**Damuels**	**0.51**	**359**	⇑iPg	**Pg**	**20 11 15.6**	**+0.6**
DAVA				⇓iSg	**Sg**	**20 11 23.2**	**+1.5**
	comp=Z,50nm,0.2s						
LLS	**Linth-Limmern**	**0.61**	**277**	⇑iPg	**Pg**	**20 11 15.6**	**-1.4**
	76nm,0.2s						
MABI	**Malga Bissina**	**0.84**	**149**	Pg	**Pg**	**20 11 20.7**	**-0.7**
	14nm,0.1s						
MUO	**Muotathal**	**0.88**	**283**	⇓iP	**Pg**	**20 11 20.3**	**-1.9**
	228nm,0.4s						
FUSIO	**Fusio**	**0.91**	**250**	⇓iPg	**Pg**	**20 11 21.8**	**-0.8**
	263nm,0.1s						
APPI	**Appiano**	**0.97**	**108**	Pg	**Pg**	**20 11 23.5**	**-0.3**
	49nm,0.6s						
MOTA	**Moosalm**	**1.00**	**55**	⇓iPg	**Pg**	**20 11 23.9**	**-0.6**
MOTA				⇓iSg	**Sg**	**20 11 38.3**	**+0.8**
	17nm,0.2s						
SQTA	**Sankt Quirin**	**1.00**	**63**	⇑iPg	**Pg**	**20 11 24.0**	**-0.5**
SQTA				⇑iSg	**Sg**	**20 11 37.8**	**+0.3**
	28nm,0.2s						
SQTA	**Sankt Quirin**	**1.00**	**63**	⇑iPg	**Pg**	**20 11 24.0**	**-0.5**
SQTA				iSg	**Sg**	**20 11 37.8**	**+0.3**
MDI	**Monti di Nese**	**1.01**	**187**	Pg	**Pg**	**20 11 24.3**	**-0.3**
	56nm,0.3s						
BNALP	**Bannalp**	**1.01**	**276**	⇑iP	**Pg**	**20 11 22.8**	**-1.9**
	107nm,0.2s						
MUGIO	**Muggio**	**1.04**	**215**	Pg	**Pg**	**20 11 24.1**	**-1.1**
MUGIO	**Muggio**	**1.04**	**215**	⇑iP	**Pg**	**20 11 24.2**	**-1.0**
	219nm,0.4s						
HASLI	**Hasliberg/Brie**	**1.20**	**270**	⇑iP	**Pg**	**20 11 24.3**	**-3.9**
	210nm,0.3s						

SCE	**Schlegeis**	**1.27 78**	⇓iPg	**Pg**	**20 11 28.8**	**-0.9**
WATA	**Walderalm**	**1.28 64**	⇑iPn	**Pn**	**20 11 29.2**	**-0.7**
WATA			⇑iSg	**Sg**	**20 11 47.3**	**+0.9**
	26nm,0.3s					
WTTA	**Wattenberg**	**1.29 67**	⇑iPn	**Pn**	**20 11 28.8**	**-1.3**
WTTA			⇓iPg	**Pg**	**20 11 29.2**	**-0.8**
WTTA	**Wattenberg**	**1.29 67**	⇑iPn	**Pn**	**20 11 28.8**	**-1.3**
WTTA			⇓iPn	**Pg**	**20 11 29.2**	**-0.8**
WTTA			⇓iSg	**Sg**	**20 11 47.3**	**+0.6**
	14nm,0.2s					
WTTA	**Wattenberg**	**1.29 67**	⇓iPg	**Pg**	**20 11 29.2**	**-0.8**
WTTA			iSg	**Sg**	**20 11 47.3**	**+0.6**
WTTA	**Wattenberg**	**1.29 67**	Pg	**Pg**	**20 11 29.2**	**-0.8**
WTTA			Sg	**Sg**	**20 11 47.3**	**+0.6**
	14nm,0.2s					
FUR	**Furstenfeldbru**	**1.68 34**	ePg	**Pg**	**20 11 37.8**	**+0.4**
FUR			eSg	**Sg**	**20 12 01.4**	**+2.3**
FELD	**Feldberg im Sc**	**1.69 311**	Pg	**Pg**	**20 11 37.7**	**0.0**
FELD			Sg	**Sg**	**20 11 59.8**	**+0.2**
BBS	**Basel-Blauen**	**1.77 294**	Pg	**Pg**	**20 11 39.4**	**+0.3**
BBS			Sg	**Sg**	**20 12 02.9**	**+0.9**
BFO	**Black Forest**	**1.88 326**	ePn	**Pn**	**20 11 38.4**	**+0.2**
BFO			eSn	**Sn**	**20 12 01.1**	**-1.3**
BFO			eSg	**Sg**	**20 12 06.3**	**+0.7**
BFO	**Black Forest**	**1.88 326**	ePn	**Pn**	**20 11 38.4**	**+0.2**
BFO			eSn	**Sn**	**20 12 01.1**	**-1.3**
LOMF	**Lomont**	**2.17 286**	Pg	**Pg**	**20 11 46.5**	**-0.4**
HINF	**Hinteralfeld**	**2.31 298**	ePn	**Pn**	**20 11 44.3**	**+0.1**
HINF			eSn	**Sn**	**20 12 11.3**	**-1.8**
HINF			eSg	**Sg**	**20 12 20.4**	**+0.8**
	9.6nm,0.5s					
HINF	**Hinteralfeld**	**2.31 298**	ePn	**Pn**	**20 11 44.3**	**+0.1**
HINF			eSn	**Sn**	**20 12 11.3**	**-1.8**
HINF			eSg	**Sg**	**20 12 20.4**	**+0.8**
	4.8nm,0.5s					
ECH	**Echery**	**2.35 309**	Pg	**Pg**	**20 11 52.2**	**+2.0**
KBA	**Koelnbreinsper**	**2.38 82**	⇑iPg	**Pg**	**20 11 49.0**	**-2.0**
KBA			⇓iSg	**Sg**	**20 12 22.8**	**+0.9**
	comp=N,5.0nm,0.3s					
CDF	**Champ du Feu**	**2.41 314**	ePg	**Pg**	**20 11 53.1**	**+1.7**
CDF			eSn	**Sn**	**20 12 14.6**	**-0.9**
CDF			eSg	**Sg**	**20 12 24.4**	**+1.7**
	12nm,0.3s					
CDF	**Champ du Feu**	**2.41 314**	ePn	**Pn**	**20 11 45.9**	**+0.4**
CDF			ePg	**Pg**	**20 11 53.1**	**+1.7**
CDF			eSn	**Sn**	**20 12 14.6**	**-0.9**
CDF			eSg	**Sg**	**20 12 24.4**	**+1.7**
CDF	**Champ du Feu**	**2.41 314**	ePg	**Pg**	**20 11 53.1**	**+1.7**
CDF			eSn	**Sn**	**20 12 14.6**	**-0.9**
CDF			eSg	**Sg**	**20 12 24.4**	**+1.7**
	5.9nm,0.3s					
LPG	**La Plagne**	**2.53 241**	ePg	**Pg**	**20 11 56.0**	**+2.2**
LPG	**La Plagne**	**2.53 241**	ePn	**Pn**	**20 11 50.1**	**+2.9**
LPG			ePg	**Pg**	**20 11 56.0**	**+2.2**
LPG	**La Plagne**	**2.53 241**	ePg	**Pg**	**20 11 56.0**	**+2.2**
LPL	**La Plagne**	**2.53 241**	ePg	**Pg**	**20 11 55.5**	**+1.7**
LPL			eSn	**Sn**	**20 12 19.2**	**+0.7**
LPL			eSg	**Sg**	**20 12 29.1**	**+2.5**
	9.0nm,0.4s					
LPL	**La Plagne**	**2.53 241**	ePn	**Pn**	**20 11 50.7**	**+3.5**
LPL			ePg	**Pg**	**20 11 55.5**	**+1.7**
LPL			eSn	**Sn**	**20 12 19.2**	**+0.7**
LPL			eSg	**Sg**	**20 12 29.1**	**+2.5**
LPL	**La Plagne**	**2.53 241**	ePg	**Pg**	**20 11 55.5**	**+1.7**
LPL			eSn	**Sn**	**20 12 19.2**	**+0.7**
LPL			eSg	**Sg**	**20 12 29.1**	**+2.5**
	4.5nm,0.4s					
CABF	**La Chapelle**	**2.62 268**	ePg	**Pg**	**20 11 54.9**	**-0.6**
CABF			eSg	**Sg**	**20 12 28.4**	**-1.2**
	12nm,0.5s					
CABF	**La Chapelle**	**2.62 268**	ePg	**Pg**	**20 11 54.9**	**-0.6**
CABF			eSg	**Sg**	**20 12 28.4**	**-1.2**
	5.9nm,0.5s					
HAU	**Haudompre**	**2.70 298**	ePn	**Pn**	**20 11 49.8**	**+0.3**
HAU			eSn	**Sn**	**20 12 22.1**	**-0.6**
HAU			eSg	**Sg**	**20 12 33.9**	**+1.8**
	7.1nm,0.3s					
HAU	**Haudompre**	**2.70 298**	ePn	**Pn**	**20 11 49.8**	**+0.3**
HAU			eSn	**Sn**	**20 12 22.1**	**-0.6**
HAU			eSg	**Sg**	**20 12 33.9**	**+1.8**
	3.5nm,0.3s					
MBDF	**Montbardon**	**3.00 228**	ePn	**Pn**	**20 11 54.1**	**+0.5**
MBDF			eSn	**Sn**	**20 12 29.4**	**-0.5**
WET	**Wettzell**	**3.10 39**	ePn	**Pn**	**20 11 55.0**	**0.0**
WET			eSn	**Sn**	**20 12 32.3**	**-0.3**
WET			eSg	**Sg**	**20 12 43.5**	**-1.5**
WET	**Wettz

IDC 24 20:25:14.1±7.3, 3077S×17766W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/12, mbtmp3.8/2, Error ellipse: s-maj=310.3km s-min=56.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.38**	**267**	P	P	20 33 18.2	0.0
	0.3nm,0.3s,baz=105,slow=7.5,SNR=7.1						
WRA	**Warramunga Arr**	**44.40**	**272**	P	P	20 33 26.7	+0.3
	0.9nm,0.3s,baz=111,slow=8.0,SNR=33						
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	PKPbc	20 44 52.9	-1.5
	2.1nm,0.9s,baz=46,slow=8.0,SNR=7.4						

DHMR 24 20:34:19.4±1.8, 1178N×4314E, h13km±15km, ML3.8, 4C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.73**	**33**⇑	*e*P	Pn	20 34 51.1	+2.0
TRBA				*i* S	Sn	20 35 14.7	+3.5
TRBA				AML	AML	20 35 15.9	
	comp=E,2μm,0.4s						
ADEN	**Aden**	**2.05**	**61**⇑	*i*P	Pn	20 34 56.0	+2.3
ADEN				*i* S	Sn	20 35 22.3	+3.1
ADEN				AML	AML	20 35 32.6	
	comp=E,677nm,0.5s						
ADEN	**Aden**	**2.05**	**61**⇑	*i*P	Pn	20 34 56.0	+2.3
ADEN				*i* S	Sn	20 35 22.3	+3.1
	comp=E,338nm,0.5s						
UDYN	**Al 'Udayn**	**2.32**	**20**⇑	*e*P	Pn	20 34 59.7	+2.4
UDYN				*i* S	Sn	20 35 30.3	+4.6
UDYN				AML	AML	20 35 38.9	
	comp=N,621nm,0.7s						
LBOS		**2.92**	**44**⇓	*i*P	Pn	20 35 08.2	+2.6
LBOS				*i* S	Sn	20 35 47.5	+6.9
DHBB	**Dhamar BB**	**3.03**	**23**⇓	*i*P	Pn	20 35 09.8	+2.7
DHBB				*i* S	Sn	20 35 50.8	+7.5
BDHA	**Al Bayda'**	**3.22**	**47**	*e*P	Pn	20 35 12.2	+2.5
BDHA				*i* S	Sn	20 35 54.4	+6.6
BDHA				AML	AML	20 36 12.9	
	comp=N,474nm,0.5s						
BDHA	**Al Bayda'**	**3.22**	**47**	*e*P	Pn	20 35 12.2	+2.5
BDHA				*i* S	Sn	20 35 54.4	+6.5
	comp=N,237nm,0.5s						
HAJJ	**Hajjah**	**3.92**	**6**	*e*P	Pn	20 35 22.0	+2.7
HAJJ				*i* S	Sn	20 36 10.7	+5.4
HAJJ				AML	AML	20 36 26.8	
	comp=Z,238nm,0.6s						
HAJJ	**Hajjah**	**3.92**	**6**	*e*P	Pn	20 35 22.0	+2.6
HAJJ				*i* S	Sn	20 36 10.7	+5.4
	comp=Z,119nm,0.6s						

*NEIC **24** 20:48:58.3, 3678N×2649E, h10km, MD3.4(ATH), After ATH.*
*ATH **24** 20:48:58.3, 3678N×2650E, h10km, MD3.4/4*
*CSEM **24** 20:48:59.3±0.6, 36.10N×2699E, h10km, ML3.2, Error ellipse: s-maj=17.4km s-min=5.4km az=21.0*
*ISCJB **24** 20:49:04.5±1.2, 3581N±009×268E±0.1, h33km, Error ellipse: s-maj=14.6km s-min=10.7km az=94.5*
*HLW **24** 20:49:04.9, 3601N×2699E, h33km, Mb3.2*

ISC 24 20:49:06.0±1.3, 359N±01×268E±01, h35km, n11, σ1§02/12, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.13**	**235**	*e*PG	**Pn**	**20 49 29.5**	**+4.2**
ARG	**Arkhangelos**	**1.15**	**74**	*e*PB	**Pn**	**20 49 25.3**	**-0.3**
VAM	**Vamos**	**2.14**	**257**	*e*PN	**Pn**	**20 49 38.7**	**-0.5**
VAM	**Vamos**	**2.14**	**257**	*e*Pn	**Pn**	**20 49 38.3**	**-0.9**
VLI	**Veliai**	**3.19**	**286**	*e*PB	**Pn**	**20 49 46.3**	**-7.2**
HMAT	**Matruh**	**4.81**	**176**	⇓P	**Pn**	**20 50 16.5**	**+0.6**
SWA1		**6.69**	**188**	P	**Pn**	**20 50 42.9**	**+1.2**
SWA1				S	**Sn**	**20 51 54.7**	**-1.9**
KOT	**Kottamia**	**7.33**	**143**	P	**Pn**	**20 50 50.0**	**-0.5**
GLL	**Jalalah**	**7.57**	**145**	P	**Pn**	**20 50 52.9**	**-0.9**
AWBH		**7.78**	**166**	⇓P	**Pn**	**20 50 57.3**	**+0.6**
HDK1	**Dakhla**	**10.58**	**167**	P	**Pn**	**20 51 36.4**	**+1.3**

*IDC **24** 21:03:10.2±4.9, 1291N×8807W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=96.9km s-min=60.3km az=11.0*
*ISCJB **24** 21:03:19.5±0.6, 129N±0.1×8864W±0.09, h84km±11km, mb3.9/3, Error ellipse: s-maj=24.2km s-min=5.3km az=67.4*
*CASC **24** 21:03:19.8±2.4, 1284N×8871W, h43km±115km, MD4.2, ML4.0*

ISC 24 21:03:21.4±0.5, 1275N±007×8866W±005, h95km±7km, n37, σ1§45/51, mb3.9/3, 12C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.77**	**29**	*e*P	**x**	**21 03 40.5**	**+1.5**
VSM				*e*S	**x**	**21 03 53.0**	**+0.8**
BLLM	**Bellamira**	**0.80**	**30**	*e*P	**x**	**21 03 41.0**	**+1.7**
BLLM				*e*S	**x**	**21 03 51.6**	**-1.1**
SNVI	**San Vicente**	**0.88**	**348**	*e*P	**x**	**21 03 41.0**	**+0.9**
SNVI				*e*S	**x**	**21 03 52.5**	**-1.6**
LCBS	**La Ceiba**	**0.95**	**341**	*e*P	**x**	**21 03 40.9**	**0.0**
LFRS	**El Faro**	**0.95**	**336**	*e*P	**x**	**21 03 41.1**	**+0.2**
LFRS				*e*S	**x**	**21 03 54.2**	**-1.4**
CNCH	**Conchagua**	**0.96**	**57**	*e*P	**x**	**21 03 43.2**	**+2.3**
CNCH				*e*S	**x**	**21 03 57.5**	**+1.9**
LBRS	**Las Brisas**	**1.05**	**339**	*e*P	**x**	**21 03 42.8**	**+0.8**
LBRS				*e*S	**x**	**21 03 55.4**	**-2.2**
BOQS	**Boqueron**	**1.15**	**328**	*e*P	**x**	**21 03 44.1**	**+1.0**
BOQS				*e*S	**x**	**21 03 58.9**	**-0.7**
SBLS	**San Blas**	**1.44**	**319**	*e*P	**x**	**21 03 48.1**	**+1.6**
SBLS				*e*S	**x**	**21 04 05.3**	**-0.3**
SNJE	**San Jose**	**1.45**	**320**	*e*P	**x**	**21 03 48.4**	**+1.7**
SNJE				*e*S	**x**	**21 04 05.7**	**-0.2**
RTR	**El Retiro**	**1.49**	**320**	*e*P	**x**	**21 03 48.9**	**+1.7**
RTR				*e*S	**x**	**21 04 07.5**	**+0.6**
CRIN	**San Cristobal**	**1.57**	**92**⇑	*e*P	**Pn**	**21 03 47.2**	**-1.0**
RBDL	**Robledal**	**1.69**	**324**	*e*P	**x**	**21 03 51.7**	**+2.0**
LEON	**Leon**	**1.75**	**101**⇑	*e*P	**Pn**	**21 03 48.6**	**-1.9**
MTO2	**Montecristo 2**	**1.78**	**337**	*e*P	**x**	**21 03 53.2**	**+2.4**
MTO2				*e*S	**x**	**21 04 14.9**	**+1.6**
TELN	**Telica**	**1.79**	**94**⇑	*e*P	**Pn**	**21 03 49.6**	**-1.3**
MIRN	**Miramar**	**1.92**	**99**⇑	*e*P	**Pn**	**21 03 51.4**	**-1.3**
CNGN	**Cerro Negro**	**1.93**	**97**	*e*P	**Pn**	**21 03 49.7**	**-3.1**
CNGN				⇑ *e*P		21 03 51.8	
COPN	**Copaltepe**	**2.09**	**105**⇑	*e*P	**Pn**	**21 03 53.3**	**-1.6**
MOMJ	**Momotombo**	**2.09**	**99**	*e*P	**Pn**	**21 03 53.6**	**-1.3**
APYN	**Apoyeque**	**2.31**	**103**⇑	*e*P	**Pn**	**21 03 56.8**	**-1.0**
XAVN	**Gruta Xavier**	**2.35**	**104**	*e*P	**Pn**	**21 03 56.6**	**-1.7**
MGAN	**Managua**	**2.43**	**104**	*e*P	**Pn**	**21 03 59.0**	**-0.3**
MGAN				*e*S	**Sn**	**21 04 26.9**	**-1.5**
MGAN				*i*		21 04 29.6	
	comp=N,707nm,0.4s						
TP2	**Tecpan 2**	**3.06**	**312**	*e*P	**Pn**	**21 04 05.7**	**-2.1**
TP2				*e*S	**Sn**	**21 04 41.9**	**-1.7**
CRZC	**La Cruz**	**3.49**	**120**⇑	*e*P	**Pn**	**21 04 13.9**	**+0.4**
VCR	**Vista de Mar**	**3.95**	**131**⇑	*e*P	**Pn**	**21 04 19.4**	**-0.3**
JCR	**Jicaral**	**4.51**	**129**⇓	*e*P	**Pn**	**21 04 27.4**	**0.0**
CGA2	**Cerro Gallo 2**	**4.92**	**123**⇓	*e*P	**Pn**	**21 04 34.8**	**+1.9**
PRS1	**Puriscal**	**5.07**	**122**	*e*P	**Pn**	**21 04 36.7**	**+1.7**
LAJ	**Bijagual**	**5.29**	**122**⇑	*e*P	**Pn**	**21 04 34.9**	**-3.0**
LCR2	**La Lucha 2**	**5.46**	**123**	*e*P	**Pn**	**21 04 41.4**	**+1.3**
LCR2				*e*S	**Sn**	**21 05 43.4**	**+1.9**
ACR	**Cerro Adams**	**6.76**	**127**⇑	*e*P	**Pn**	**21 04 59.5**	**+1.7**
CMIG	**Matias Romero**	**7.41**	**306**	Pn	**Pn**	**21 05 04.4**	**-2.3**
	comp=N,0.6nm,0.3s,baz=103,slow=9.1,SNR=5.4						
CMIG				Sn	**Sn**	**21 06 27.2**	**-1.9**
	comp=N,0.9nm,0.3s,baz=81,slow=16,SNR=3.1						
TXAR	**Lajitas Array**	**21.61**	**322**	P	**P**	**21 08 04.9**	**+1.4**
	comp=N,0.8nm,0.4s,mb3.4,baz=142,slow=12,SNR=17						
ULM	**Lac du Bonnet**	**37.86**	**352**	P	**P**	**21 10 27.8**	**-1.0**
	comp=N,1.7nm,0.7s,mb4.0,baz=185,slow=9.0,SNR=3.0						
YKA	**Yellowknife Ar**	**53.02**	**345**	P	**P**	**21 12 28.5**	**+0.1**
	comp=N,1.6nm,0.3s,mb4.5,baz=130,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**138.22**	**254**	PKP	PKPdf	21 22 39.0	+3.7
	comp=N,0.6nm,0.9s,baz=92,slow=2.4,SNR=5.7						

*NIED **24** 21:28:00, 2960N×14150E, h29km, Mw4.4 Best double couple: M0:4.5000×10^15 NP1:φs=226.00000°, δ79.00000°, λ-136.00000°. NP2:φs=125.00000°, δ47.00000°, λ-15.00000°.*
*IDC **24** 21:28:35.4±0.6, 2933N×140.18E, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, ML4.3/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=27.9km s-min=15.4km az=74.0*
*NEIC **24** 21:28:36.7±0.3, 2939N×14047E, h10km, mb4.6/18, MW4.4(NIED), Error ellipse: s-maj=11.5km s-min=7.4km az=85.0*
*ISCJB **24** 21:28:38.8±0.3, 2924N±003×14044E±006, h33km, mb4.7/46, MS3.8/9, Error ellipse: s-maj=7.8km s-min=4.6km az=143.8*
*MOS **24** 21:28:38.8±1.6, 2924N×14033E, h33km, mb4.8/11, Error ellipse: s-maj=16.1km s-min=8.3km az=105.7*
*BJI **24** 21:28:40.2, 2928N×14077E, h72km, mB4.6, mb4.4, Ms4.4, Msz4.0*

ISC 24 21:28:40.5±0.3, 2936N±004×14057E±007, h35km, (h83km±4.8km:pP-P), n97, σ1§06/95, mb4.7/46, MS3.8/9, 2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.67**	**147**	Pn	**Pn**	**21 29 20.9**	**0.0**
	197nm,0.3s,baz=343,slow=5.0,SNR=78						
CBIJ				Sn	**Sn**	**21 29 51.1**	**-0.9**
	531nm,0.3s,baz=290,slow=22,SNR=18						
CBIJ				LR	LR	21 29 56.6	
	comp=Z,245nm,19.4s,baz=346,slow=29						
JHJ	**Hachijo jima 2**	**3.81**	**350**	LR	LR	21 31 01.1	
	comp=Z,616nm,20.6s,baz=321,slow=38						
MJAR	**Matsushiro Arr**	**7.43**	**345**	Pn	**Pn**	**21 30 30.6**	**+4.2**
	1.3nm,0.3s,baz=162,slow=13,SNR=14						
MJAR				LR	LR	21 33 09.8	
	comp=Z,744nm,20.8s,baz=130,slow=37						
MAJO	**Matsushiro**	**7.43**	**345**	*e*P	**Pn**	**21 30 31.1**	**+4.7**
MAJO				pmax	pmax		
	comp=Z,32nm,0.9s						
MAJO	**Matsushiro**	**7.43**	**345**	*e*Pn	**Pn**	**21 30 31.1**	**+4.7**
	comp=Z,32nm,0.9s						
MAT	**Matsushiro**	**7.43**	**345**	P	**Pn**	**21 30 31.5**	**+5.1**
MAT				*e*S	**Sn**	**21 31 54.0**	**+4.5**
JOW	**Kunigami**	**11.14**	**260**	LR	LR	21 34 54.4	
	comp=Z,225nm,20.8s,baz=130,slow=35						
INCN	**Inchon**	**14.17**	**309**	*e*P	**Pn**	**21 32 06.6**	**+8.0**
ASAJ	**Asahikawa**	**14.82**	**6**	Pn	**Pn**	**21 32 08.2**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=206,slow=9.2,SNR=5.0						
ASAJ	**Asahikawa**	**14.82**	**6**	P	**Pn**	**21 32 08.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GUMO	**Guam**	**16.19**	**165**	LR	LR	21 38 14.0	
	comp=Z,129nm,18.6s,baz=12,slow=36						
MDJ	**Mudanjiang**	**17.55**	**333**	P	**Pn**	**21 32 45.4**	**+3.2**
MDJ				AP	pP	21 33 01.4	+9.2
MDJ				XP	sP	21 33 11.6	+15
MDJ				S	**S**	**21 36 00.3**	**-3.1**
MDJ				PCP	PcP	21 37 20.4	-0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,46nm,4.4s						
MDJ				LR	LR		
	comp=Z,87nm,23.4s						
YSS	**Yuzh-Sakhalins**	**17.65**	**5**	P	**Pn**	**21 32 47.0**	**+3.5**
YSS	**Yuzh-Sakhalins**	**17.65**	**5**	*e*P	**Pn**	**21 32 48.0**	**+4.5**
	comp=Z,30nm,0.9s						
KLR	**Kul'dur**	**20.96**	**344**	*e*P	**P**	**21 33 16.0**	**-4.3**
BJT	**Baijiatuau**	**22.64**	**304**	*e*P	**P**	**21 33 37.3**	**-1.0**
BJT				pmax	pmax		
	comp=Z,27nm,1.2s						
BJT	**Baijiatuau**	**22.64**	**304**	*e*P	**P**	**21 33 37.3**	**-1.0**
	comp=Z,27nm,1.2s,mb4.5						
WHN	**Wuhan**	**22.73**	**280**	⇓P	**P**	**21 33 40.6**	**+1.3**
HHC	**Hu-ho-hao-te**	**26.23**	**304**	*e*P	**P**	**21 34 12.9**	**+0.8**
HHC				AP	pP	21 34 33.8	+12
HHC				AMB	AMB		
	comp=Z,16nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,84nm,6.7s						
XAN	**Xi'an**	**27.27**	**288**	P	**P**	**21 34 21.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.7						
BTO	**Baotou**	**27.30**	**302**	*e*P	**P**	**21 34 19.5**	**-2.2**
QIZ	**Qiongzhong**	**29.77**	**257**	*e*P	**P**	**21 34 43.6**	**-0.1**
QIZ				S	**S**	**21 39 33.8**	**-3.9**
QIZ				LR	LR		
	comp=Z,48nm,19.4s,MS3.1						
LZH	**Lanzhou**	**31.48**	**292**	*e*P	**P**	**21 34 58.5**	**-0.3**
LZH				AP	pP	21 35 16.0	+7.1
LZH				XP	sP	21 35 25.5	+12
LZH				PP	PP	21 36 04.8	-5.4
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,172nm,5.0s						
LZH				LR	LR		
	comp=N,398nm,12.9s						
LZH				LR	LR		
	comp=Z,507nm,16.8s,MS4.3						
LZH	**Lanzhou**	**31.48**	**292**	*e*P	**P**	**21 34 58.5**	**-0.3**
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	21 35 16.0	+7.1
LZH				sP	sP	21 35 25.5	+12
LZH				PP	PP	21 36 04.7	-5.5
LZH				LR	LR		
	comp=Z,510nm,16.8s,MS4.3						
ULN	**Ulaanbaatar**	**31.71**	**315**	*e*P	**P**	**21 35 01.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**31.71**	**315**	*e*P	**P**	**21 35 01.0**	**+0.2**
	comp=Z,3.0nm,1.0s,mb4.1						
CD2	**Chengdu**	**31.78**	**282**	⇓*i*P	**P**	**21 35 01.3**	**-0.1**
CD2				AP	pP	21 35 19.1	+7.6
CD2				XP	sP	21 35 28.3	+13
CD2				PP	PP	21 36 12.5	-1.0
CD2				S	**S**	**21 40 10.4**	**+1.2**
CD2				XS	sS	21 40 41.4	+16
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=N,200nm,10.8s,MS4.2						
CD2				LR	LR		
	comp=E,200nm,12.0s,MS4.2						
CD2				LR	LR		
	comp=Z,170nm,9.6s						
KMI	**Kunming**	**33.80**	**272**	P	**P**	**21 35 19.0**	**-0.1**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
KMI	**Kunming**	**33.80**	**272**	P	**P**	**21 35 19.0**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.4						
GTA	**Gaotai**	**34.84**	**298**	*e*P	**P**	**21 35 28.0**	**-0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
CHTO	**Chiang Mai**	**39.24**	**264**	*e*P	**P**	**21 36 05.0**	**-0.5**
CHTO				*e*		21 36 11.5	
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**39.24**	**264**	*e*P	**P**	**21 36 05.0**	**-0.4**
	comp=Z,9.9nm,1.0s,mb4.5						
CHTO				*e*		21 36 11.5	
CM31	**Chiang Mai Arr**	**39.38**	**264**	*e*P	**P**	**21 36 06.7**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.1						
KSM	**Kuching**	**39.98**	**232**	*e*P	**P**	**21 36 12.6**	**+1.0**
BILL	**Bilibino**	**41.60**	**14**	P	**P**	**21 36 31.0**	**+6.0**
BILL				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
KAKA	**Kakadu**	**42.55**	**192**	*e*P	**P**	**21 36 33.3**	**+0.6**
	comp=Z,18nm,0.8s,mb4.9						
LSA	**Lhasa**	**42.73**	**283**	P	**P**	**21 36 36.3**	**+2.1**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
LSA	**Lhasa**	**42.73**	**283**	*e*P	**P**	**21 36 35.7**	**+1.5**
LSA				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
LSA	**Lhasa**	**42.73**	**283**	*e*P	**P**	**21 36 35.7**	**+1.6**
	comp=Z,24nm,1.4s,mb4.7						
WMQ	**Urumqi**	**44.11**	**304**	*e*P	**P**	**21 36 45.5**	**+0.2**
WMQ				AP	pP	21 37 06.0	+10
WMQ				XP	sP	21 37 16.0	+16
WMQ				PP	PP	21 38 31.0	+2.5
WMQ				*e*S	**S**	**21 43 10.0**	**-5.7**
WMQ				XS	sS	21 43 46.0	+13
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,90nm,3.7s						
WMQ				LR	LR		
	comp=N,198nm,19.8s,MS4.2						
WMQ				LR	LR		
	comp=E,240nm,19.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,205nm,20.2s,MS4.0						
KULM	**Kulim**	**44.65**	**245**	P	**P**	**21 36 49.2**	**-0.4**
JIRN	**Jiri**	**47.45**	**282**	*e*P	**P**	**21 37 13.0**	**+1.3**
	comp=Z,5.0nm,0.4s,mb4.8						
GUN	**Gumba**	**47.65**	**282**	*e*P	**P**	**21 37 14.1**	**+0.9**
	comp=Z,72nm,0.8s,mb5.8						
MKAR	**Makanchi Array**	**47.95**	**308**	P	**P**	**21 37 13.8**	**-1.8**
	comp=Z,0.3nm,0.2s,mb3.9,baz=91,slow=9.5,SNR=6.0						
PKI	**Pulchoki**	**48.14**	**282**	*e*P	**P**	**21 37 17.4**	**+0.4**
	comp=Z,32nm,1.0s,mb5.3						
KKN	**Kakani**	**48.19**	**282**	*e*P	**P**	**21 37 17.8**	**+0.4**
	comp=Z,48nm,0.8s,mb5.6						
DMN	**Daman**	**48.39**	**282**	*e*P	**P**	**21 37 19.5**	**+0.6**
	comp=Z,33nm,0.9s,mb5.3						
GKN	**Gorkha**	**48.68**	**283**	*e*P	**P**	**21 37 21.5**	**+0.3**
	comp=Z,46nm,1.1s,mb5.4						
BOK	**Bokaro**	**48.85**	**277**	*e*P	**P**	**21 37 22.3**	**-0.2**
BOK				AMb	AMB	21 37 27.2	
	comp=Z,29nm,1.3s,mb5.2						
FITZ	**Fitzroy Crossi**	**49.33**	**199**	*e*P	**P**	**21 37 26.8**	**+0.6**
	comp=Z,19nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**49.37**	**188**	*e*P	**P**	**21 37 26.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**49.37**	**188**	*e*P	**P**	**21 37 26.4**	**0.0**
	comp=Z,22nm,1.2s,mb5.1						
WB2	**Warramunga Arr**	**49.38**	**188**	*e*P	**P**	**21 37 26.4**	**-0.1**
WRA	**Warramunga Arr**	**49.38**	**188**	P	**P**	**21 37 26.6**	**+0.1**
	comp=Z,8.1nm,0.5s,mb5.0,baz=4.5,slow=7.7,SNR=166						
KOLN	**Koldanda**	**49.63**	**283**	*e*P	**P**	**21 37 29.0**	**+0.6**
	comp=Z,72nm,0.9s,mb5.7						
AS31	**Alice Springs**	**53.10**	**188**	*e*P	**P**	**21 37 54.4**	**-0.1**
ASAR	**Alice Springs**	**53.11**	**188**	P	**P**	**21 37 54.5**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.3,baz=360,slow=5.0,SNR=37						
ASPA	**Alice Springs**	**53.11**	**188**	*e*P	**P**	**21 37 54.4**	**-0.1**
VIS	**Vishakhapatnam**	**53.28**	**271**	*e*P	**P**	**21 37 53.7**	**-2.1**
MBWA	**Marble Bar**	**54.09**	**204**	*e*P	**P**	**21 38 02.1**	**+0.4**
	comp=Z,6.0nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**55.42**	**316**	P	**P**	**21 38 10.1**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=113,slow=9.8,SNR=7.0						
BHPL	**Bhopal**	**56.35**	**280**	*e*P	**P**	**21 38 18.1**	**+0.2**
BHPL				AMb	AMB	21 38 19.3	
	comp=Z,24nm,1.1s,mb5.1						
AJM	**Ajmer**	**57.62**	**284**	*e*P	**P**	**21 38 27.2**	**+0.3**
AJM				AMb	AMB	21 38 28.3	
	comp=Z,12nm,0.7s,mb5.0						
MDRS	**Chennai**	**57.94**	**267**	*e*P	**P**	**21 38 30.3**	**+1.1**
STKA	**Stephens Creek**	**60.91**	**179**	P	**P**	**21 38 49.2**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.5,baz=323,slow=14,SNR=3.6						
STKA				LR	LR	22 04 01.8	
	comp=Z,58nm,20.6s,MS3.7,baz=206,slow=35						
STKA	**Stephens Creek**	**60.91**	**179**	*e*P	**P**	**21 38 46.9**	**-2.7**
FORT	**Forrest**	**60.98**	**192**	*e*P	**P**	**21 38 51.1**	**+0.9**
	comp=Z,13nm,0.6s,mb5.2						
KAD	**Karad**	**61.42**	**275**	*e*P	**P**	**21 38 53.0**	**-0.1**
KAD				AMb	AMB	21 39 01.9	
	comp=Z,20nm,1.2s,mb5.1						
INK	**Inuvik**	**61.58**	**25**	*e*P	**P**	**21 38 54.6**	**+0.4**
	comp=Z,240nm,1.1s						
ARU	**Arti**	**61.77**	**321**	*e*P	**P**	**21 38 53.9**	**-1.6**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
ARU	**Arti**	**61.77**	**321**	*e*P	**P**	**21 38 53.9**	**-1.6**
	comp=Z,3.4nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**70.84**	**28**	P	**P**	**21 39 54.2**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=294,slow=6.5,SNR=4.1						
YKA	**Yellowknife Ar**	**70.84**	**28**	P	**P**	**21 39 54.2**	**+0.7**
ARCES	**ARCESS Array B**	**70.94**	**340**	P	**P**	**21 39 54.0**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8,baz=64,slow=8.2,SNR=8.6						
ARCES				LR	LR	22 14 07.8	
	comp=Z,46nm,19.4s,MS3.7,baz=161,slow=39						
ARCES	**ARCESS Array B**	**70.94**	**340**	P	**P**	**21 39 54.0**	**-0.2**
ARCES				LR	LR	22 14 07.8	
ARE0	**ARCESS Array S**	**70.94**	**340**	P	**P**	**21 39 53.0**	**-1.2**
JOF	**Joensuu**	**72.43**	**333**	*e*p	**P**	**21 40 01.7**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.3						
JOF	**Joensuu**	**72.43**	**333**	*e*P	**P**	**21 40 01.7**	**-1.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**74.82**	**334**	*e*p	**P**	**21 40 15.3**	**-1.9**
	comp=Z,3.2nm,0.5s,mb4.5,baz=54,slow=5.5						
KAF	**Kangasniemi**	**74.82**	**334**	*e*P	**P**	**21 40 15.3**	**-1.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**75.29**	**333**	P	**P**	**21 40 19.6**	**-0.3**
	comp=Z,2.0nm,0.4s,mb4.4,baz=60,slow=5.6,SNR=29						
AKASG	**Malin Array Be**	**79.96**	**323**	P	**P**	**21 40 44.7**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=48,slow=5.5,SNR=11						
AKASG	**Malin Array Be**	**79.96**	**323**	P	**P**	**21 40 44.7**	**-1.3**
HFS	**Hagfors**	**80.79**	**336**	LR	LR	22 21 15.3	
	comp=Z,57nm,20.9s,MS3.9,baz=249,slow=39						
SUW	**Suwalki**	**80.98**	**328**	P	**P**	**21 40 49.4**	**-2.0**
SUW				pmax	pmax		

VIVF				*e*Sn	Sn	21 29 31.5	+0.1
VIVF				*e*Sg	Sg	21 29 34.0	+1.4
	7.5nm,0.2s						
SMRF	**Simiane la Rot**	**1.69**	**205**	*e*Pg	**Pg**	**21 29 17.0**	**0.0**
SMRF				*e*Sg	**Sg**	**21 29 38.9**	**0.0**
	8.3nm,0.6s						
SBF	**Sospel**	**1.76**	**159**	*e*Pg	**Pg**	**21 29 17.4**	**-0.9**
SBF				*e*Sg	**Sg**	**21 29 39.8**	**-1.3**
	13nm,0.5s						
FRF	**La Foret Royal**	**1.95**	**178**	*e*Pg	**Pg**	**21 29 20.4**	**-1.6**
FRF				*e*Sg	**Sg**	**21 29 46.4**	**-0.8**
	4.4nm,0.4s						
LMR	**La Mourre**	**2.18**	**181**	*e*Sg	**Sg**	**21 29 54.0**	**-0.5**
	1.9nm,0.2s						
SMF	**Signal de Mont**	**2.21**	**302**	*e*Pn	**Pn**	**21 29 23.0**	**+1.4**
SMF	**Signal de Mont**	**2.21**	**302**	*e*Pg	**Pg**	**21 29 26.9**	**-0.1**
SMF				*e*Sn	**Sn**	**21 29 49.2**	**0.0**
HINF	**Hinteralfeld**	**2.31**	**5**	*e*Sg	**Sg**	**21 29 57.5**	**-1.5**
	2.3nm,0.2s						
LASF	**Ste Croix**	**2.41**	**234**	*e*Pn	**Pn**	**21 29 24.8**	**+0.5**
LASF	**Ste Croix**	**2.41**	**234**	*e*Pg	**Pg**	**21 29 30.4**	**-0.3**
LASF				*e*Sn	**Sn**	**21 29 53.0**	**-1.0**
LASF				*e*Sg	**Sg**	**21 30 01.4**	**-0.5**
	2.1nm,0.3s						
HAU	**Haudompre**	**2.50**	**357**	*e*Sg	**Sg**	**21 30 04.9**	**0.0**
	4.2nm,0.2s						
LOR	**Lormes**	**2.57**	**314**	*e*Pn	**Pn**	**21 29 26.7**	**+0.1**
	baz=131						
LOR	**Lormes**	**2.57**	**314**	*e*Pg	**Pg**	**21 29 33.0**	**-0.9**
	baz=134						
LOR				*e*Sg	**Sg**	**21 30 07.0**	**-0.2**
	1.7nm,0.2s						
AVF	**Avril sur Loir**	**2.58**	**301**	*e*Pn	**Pn**	**21 29 27.4**	**+0.8**
AVF	**Avril sur Loir**	**2.58**	**301**	*e*Pg	**Pg**	**21 29 33.9**	**-0.1**
AVF				*e*Sn	**Sn**	**21 29 57.4**	**-0.8**
SSF	**Saint Saulge**	**2.63**	**307**	*e*Pn	**Pn**	**21 29 28.8**	**+1.4**
SSF	**Saint Saulge**	**2.63**	**307**	*e*Pg	**Pg**	**21 29 34.5**	**-0.5**
BGF	**Bois d'Agland**	**2.80**	**293**	*e*Pn	**Pn**	**21 29 30.4**	**+0.7**
BGF	**Bois d'Agland**	**2.80**	**293**	*e*Pg	**Pg**	**21 29 37.7**	**-0.5**
BGF				*e*Sn	**Sn**	**21 30 03.0**	**-0.6**
BGF				*e*Sg	**Sg**	**21 30 15.5**	**+1.0**
	6.3nm,0.3s						
TCF	**Toulx Ste Croi**	**3.14**	**286**	*e*Pn	**Pn**	**21 29 34.7**	**+0.3**
TCF	**Toulx Ste Croi**	**3.14**	**286**	*e*Pg	**Pg**	**21 29 44.0**	**-0.8**
TCF				*e*Sn	**Sn**	**21 30 11.3**	**-0.8**
TCF				*e*Sg	**Sg**	**21 30 24.9**	**-0.6**
	1.2nm,0.2s						
MTLF	**Montolieu**	**3.80**	**237**	*e*Sg	**Sg**	**21 30 45.2**	**-1.4**
	0.9nm,0.3s						
GRR	**Gorron**	**5.84**	**302**	*e*Pn	**Pn**	**21 30 11.5**	**0.0**

IDC 24 22:34:01.6±2.0,614S×12863E,h0km,mb4.0/1,mb1 4.0/3, mb1mx3.7/12,mbtmp3.8/3,ML4.0/2,Error ellipse: s-maj=154.1km s-min=29.8km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.80**	**159**	Pn	Pn	22 37 31.8	-0.3
	1.0nm,0.3s,baz=341,slow=13,SNR=47						
WRA				Sn	Sn	22 39 56.2	-21
	0.8nm,0.3s,baz=331,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**18.16**	**164**	P	Pn	22 38 15.6	+0.5
	0.3nm,0.3s,baz=343,slow=9.4,SNR=11						
ASAR				S	Sn	22 41 17.1	-21
	0.2nm,0.3s,baz=93,slow=20,SNR=4.7						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	22 44 54.9	+0.2
	0.6nm,0.3s,baz=116,slow=8.0,SNR=14						

NEIC 24 22:42:13.6,3837N×2199E,h22km,MD3.4(ATH),After ATH.
ATH 24 22:42:13.7,3837N×2194E,h28km±1km,MD3.4/9
ISCJB 24 22:42:14.3±0.7,3834N±003×2202E±005,h15km±8km, Error ellipse: s-maj=6.6km s-min=4.4km az=55.3
CSEM 24 22:42:14.5±0.1,3837N×2206E,h2km,MD3.4,Error ellipse: s-maj=2.2km s-min=2.1km az=88.0
THE 24 22:42:15.8,3847N×2211E,h10km,ML2.8
ISC 24 22:42:13.4±0.7,3835N±003×2208E±004,h1km±5km,n28, σ1.04/42,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.56**	**239**	*e*PB	**Pg**	**22 42 24.1**	**-0.1**
RLS				*e*SB	**Sg**	**22 42 31.9**	**+0.4**
RLS	**Riolos of Patr**	**0.56**	**239**	*e*Pn	**Pg**	**22 42 24.1**	**-0.1**
RLS				*e*Sn	**Sg**	**22 42 32.7**	**+1.2**
EVR	**Evrytania**	**0.60**	**340**	*e*PN	**Pg**	**22 42 24.8**	**-0.1**
EVR				*e*SN	**Sg**	**22 42 33.8**	**+1.1**
EVR	**Evrytania**	**0.60**	**340**	*e*Pn	**Pg**	**22 42 24.4**	**-0.5**
EVR				*e*Sn	**Sg**	**22 42 33.8**	**+1.1**
AGG	**Agios Georgios**	**0.70**	**16**	*e*Pg	**Pg**	**22 42 26.6**	**-0.1**
AGG				*e*Sg	**Sg**	**22 42 35.5**	**-0.2**
LKR	**Lokris**	**0.78**	**67**	*e*PN	**Pn**	**22 42 29.4**	**-2.1**
LKD	**Levkas**	**1.17**	**288**	*e*Pg	**Pg**	**22 42 36.0**	**+0.1**
LKD				*e*Sg	**Sg**	**22 42 55.4**	**+4.3**
LKD	**Levkas**	**1.17**	**288**	*e*Pg	**Pg**	**22 42 36.0**	**+0.1**
LKD				*e*Sg	**Sg**	**22 42 55.3**	**+4.2**
ITM	**Ithomi**	**1.18**	**186**	*e*PN	**Pn**	**22 42 36.0**	**-0.9**
VLS	**Valsamata**	**1.18**	**262**	*e*Pn	**Pn**	**22 42 34.5**	**-2.5**
VLS	**Valsamata**	**1.18**	**262**	*e*Pb	**Pb**	**22 42 34.4**	**-2.2**
THL	**Klokotos Trika**	**1.21**	**358**	*e*PN	**Pn**	**22 42 35.9**	**-1.5**
THL				*e*SN	**Sn**	**22 42 53.0**	**-1.4**
THL	**Klokotos Trika**	**1.21**	**358**	*e*Pn	**Pn**	**22 42 36.0**	**-1.4**
THL				*e*Sn	**Sn**	**22 42 53.1**	**-1.3**
NAIG	**Nisos Aigina**	**1.26**	**118**	*e*PN	**Pn**	**22 42 39.2**	**+1.1**
NAIG	**Nisos Aigina**	**1.26**	**118**	*e*Pn	**Pn**	**22 42 39.5**	**+1.4**
NEO	**Neokhori**	**1.31**	**43**	*e*PN	**Pn**	**22 42 39.0**	**+0.3**
NEO				*e*SN	**Sn**	**22 42 57.5**	**+0.7**
XOR	**Xorichti**	**1.33**	**40**	*e*Pg	**Pg**	**22 42 39.3**	**+0.4**
AOS	**Alonnisos**	**1.63**	**59**	*e*Pg	**Pg**	**22 42 43.3**	**-1.3**
VLI	**Veliai**	**1.77**	**157**	*e*PN	**Pn**	**22 42 45.6**	**+0.5**
VLI	**Veliai**	**1.77**	**157**	*e*Pn	**Pn**	**22 42 46.1**	**+1.0**
LIT	**Litokhoron**	**1.77**	**10**	*e*Pb	**Pb**	**22 42 45.5**	**-1.1**
LIT				*e*Sb	**Sb**	**22 43 08.9**	**-0.5**
IGT	**Igoumenitsa**	**1.80**	**311**	*e*Pb	**Pb**	**22 42 48.1**	**+1.1**
IGT				*e*Sb	**Sb**	**22 43 10.5**	**+0.4**
PLG	**Polygyros**	**2.28**	**27**	*e*Pn	**Pn**	**22 42 52.5**	**+0.4**
FNA	**Florina**	**2.49**	**348**	*e*Pn	**Pn**	**22 42 56.2**	**+1.3**
FNA				*e*Sn	**Sn**	**22 43 26.5**	**+0.7**
GRG	**Griva**	**2.61**	**5**	*e*Pn	**Pn**	**22 42 57.4**	**+0.8**
GRG				*e*Sn	**Sn**	**22 43 29.1**	**+0.1**
SOH	**Sokhos**	**2.66**	**21**	*e*Pn	**Pn**	**22 42 57.6**	**+0.4**
APE	**Apeiranthos**	**3.02**	**114**	*e*Pn	**Pn**	**22 43 03.8**	**+1.5**
KARN	**Karanos**	**3.29**	**153**	*e*Pn	**Pn**	**22 43 10.9**	**+4.9**

NEIC 24 22:51:33.0,4534S×16716E,h98km,ML4.2(WEL),After WEL.
WEL 24 22:51:33.1±0.3,4534S×16716E,h97km±1km,ML4.2/14, 5C-5D,Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.14**	**182**	P	Pn	22 51 46.5	-0.2
DCZ				S	Sn	22 51 56.5	-0.3
DCZ	**Deep Cove**	**0.14**	**182**	⇑PN	Pn	22 51 46.5	-0.2
DCZ				SN	Sn	22 51 56.0	-0.8
MLZ	**Mavora Lakes**	**0.71**	**91**	P	Pn	22 51 50.0	-0.3
MLZ				S	Sn	22 52 02.4	-0.8
MLZ	**Mavora Lakes**	**0.71**	**91**	⇑PN	Pn	22 51 50.0	-0.3
MLZ				SN	Sn	22 52 02.4	-0.8
WHZ	**Wether Hill Ro**	**0.78**	**135**	P	Pn	22 51 50.9	-0.1
WHZ				S	Sn	22 52 04.0	-0.3
WHZ	**Wether Hill Ro**	**0.78**	**135**	⇓PN	Pn	22 51 50.9	-0.1
WHZ				SN	Sn	22 52 04.0	-0.4
MSZ	**Milford Sound**	**0.86**	**39**	P	Pn	22 51 51.7	-0.1
MSZ	**Milford Sound**	**0.86**	**39**	PN	Pn	22 51 51.6	-0.1
WKZ	**Wanaka**	**1.41**	**69**	P	Pn	22 51 58.0	-0.1
WKZ	**Wanaka**	**1.41**	**69**	⇑PN	Pn	22 51 58.0	-0.1
EAZ	**Earnscleugh**	**1.52**	**87**	⇓PN	Pn	22 51 59.1	-0.3
JCZ	**Jackson Bay**	**1.70**	**43**	⇑PN	Pn	22 52 01.2	-0.5
SYZ	**Scrubby Hill**	**1.83**	**132**	⇓PN	Pn	22 52 02.9	-0.4
TUZ	**Tuapeka**	**1.84**	**110**	P	Pn	22 52 02.9	-0.5
TUZ	**Tuapeka**	**1.84**	**110**	PN	Pn	22 52 02.9	-0.6
LBZ	**Lake Benmore**	**2.35**	**67**	P	Pn	22 52 08.3	-1.8
LBZ	**Lake Benmore**	**2.35**	**67**	⇑PN	Pn	22 52 08.3	-1.9
HHSZ	**Highcliff Hill**	**2.47**	**104**	⇓PN	Pn	22 52 10.8	-0.9
ODZ	**Otahua Downs**	**2.48**	**84**	P	Pn	22 52 10.2	-1.6
ODZ	**Otahua Downs**	**2.48**	**84**	⇓PN	Pn	22 52 10.1	-1.7
FOZ	**Fox Glacier**	**2.54**	**46**	*e*P	Pn	22 52 11.7	-0.8
FOZ	**Fox Glacier**	**2.54**	**46**	PN	Pn	22 52 11.5	-1.1
RPZ	**Rata Peaks**	**3.22**	**61**	P	Pn	22 52 19.1	-2.6
RPZ	**Rata Peaks**	**3.22**	**61**	PN	Pn	22 52 19.0	-2.7
WVZ	**Waitaha Valley**	**3.42**	**50**	PN	Pn	22 52 21.5	-2.9
MQZ	**McQueen's Vall**	**4.25**	**69**	SN	Sn	22 53 16.6	-7.5
LTZ	**Lake Taylor**	**4.48**	**57**	*e*P	Pn	22 52 35.3	-3.4
LTZ	**Lake Taylor**	**4.48**	**57**	*e*PN	Pn	22 52 35.2	-3.5
DSZ	**Denniston Nort**	**4.93**	**45**	*e*P	Pn	22 52 41.6	-3.2
DSZ	**Denniston Nort**	**4.93**	**45**	*e*PN	Pn	22 52 41.5	-3.2
THZ	**Tophouse**	**5.50**	**51**	*e*P	Pn	22 52 48.9	-3.6
THZ	**Tophouse**	**5.50**	**51**	*e*PN	Pn	22 52 48.8	-3.7

ISCJB 24 22:59:55.7±0.4,5822N±004×114E±006,h10km,Error ellipse: s-maj=6.8km s-min=3.1km az=117.9
BER 24 23:00:01.7±1.9,5830N×123E,h6km±72km,MD2.4,ML1.9
BGS 24 23:00:01.0±1.6,5811N×084E,h12km±15km,ML2.5
ISC 24 22:59:57.1±0.4,5823N±004×109E±006,h10km,n30, σ1.36/48,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRW	**Lerwick**	**2.24**	**330**	*e*P	**Pn**	**23 00 37.2**	**+3.0**
LRW				*e*S	**Sn**	**23 01 02.4**	**+0.5**
LRW				AML	AML	23 01 04.8	
	comp=E,13nm,0.2s						
LRW				AML	AML	23 01 05.5	
	comp=N,9.9nm,0.3s						
MME1	**Meikle Cairn**	**2.36**	**249**	*e*P	**Pn**	**23 00 35.6**	**-0.2**
KMY	**Karmoy**	**2.38**	**64**	*e*P	**Pn**	**23 00 37.7**	**+1.6**
KMY				*e*S	**Sn**	**23 01 05.4**	**0.0**
KMY				AML	AML	23 01 07.1	
	comp=Z,14nm,0.1s						
MCD	**Coleburn Disti**	**2.41**	**256**	*e*P	**Pn**	**23 00 36.6**	**+0.1**
MCD				*e*S	**Sn**	**23 01 02.5**	**-3.5**
MCD				AML	AML	23 01 05.1	
	comp=N,28nm,0.1s						
MCD				AML	AML	23 01 05.2	
	comp=E,26nm,0.1s						
MCD	**Coleburn Disti**	**2.41**	**256**	*e*P	**Pn**	**23 00 36.6**	**+0.1**
MCD				*e*S	**Sn**	**23 01 02.5**	**-3.5**
MCD				AML	AML	23 01 05.1	
	comp=N,28nm,0.1s						
MCD				AML	AML	23 01 05.2	
	comp=E,26nm,0.1s						
MCD	**Coleburn Disti**	**2.41**	**256**	*e*P	**Pn**	**23 00 36.6**	**+0.1**
MCD				*e*S	**Sn**	**23 01 02.5**	**-3.5**
MCD				AML	AML	23 01 05.1	
	comp=N,28nm,0.1s						
MCD				AML	AML	23 01 05.2	
	comp=E,26nm,0.1s						
WAL1	**Walls**	**2.46**	**327**	*e*P	**Pn**	**23 00 40.3**	**+3.0**
STAV	**Stavanger**	**2.52**	**72**	*e*P	**Pn**	**23 00 39.4**	**+1.4**
STAV				*e*S	**Sn**	**23 01 07.5**	**-1.2**
ORE	**Reay**	**2.58**	**279**	*e*P	**Pn**	**23 00 39.6**	**+0.8**
ORE				*e*S	**Sn**	**23 01 07.2**	**-2.9**
ORE				AML	AML	23 01 08.6	
	comp=E,36nm,0.2s						
ORE				AML	AML	23 01 09.4	
	comp=N,40nm,0.2s						
EGD	**Espegrend**	**2.95**	**44**	*e*P	**Pn**	**23 00 46.0**	**+2.1**
EGD				*e*S	**Sn**	**23 01 18.2**	**-1.2**
BLS5	**Blasjo**	**3.04**	**65**	*e*P	**Pn**	**23 00 47.3**	**+2.2**
BLS5				AML	AML	23 01 22.6	
	comp=Z,13nm,0.5s						
ESY	**Stoneypath**	**3.08**	**223**	*e*P	**Pn**	**23 00 44.9**	**-0.8**
ASK	**Askoy**	**3.08**	**41**	*e*P	**Pn**	**23 00 47.6**	**+1.8**
ASK				*e*S	**Sn**	**23 01 21.0**	**-1.8**
EDI	**Edinburgh**	**3.29**	**227**	*e*P	**Pn**	**23 00 49.1**	**+0.6**
EDI				*e*S	**Sn**	**23 01 23.7**	**-4.0**
EDI				AML	AML	23 01 25.6	
	comp=N,24nm,0.2s						
EDI				AML	AML	23 01 25.8	
	comp=E,27nm,0.3s						
EDI	**Edinburgh**	**3.29**	**227**	*e*P	**Pn**	**23 00 49.1**	**+0.6**
EDI				*e*S	**Sn**	**23 01 23.7**	**-4.0**
EDI				AML	AML	23 01 25.6	
	comp=N,24nm,0.2s						
EDI				AML	AML	23 01 25.8	
	comp=E,27nm,0.3s						
EDI	**Edinburgh**	**3.29**	**227**	*e*P	**Pn**	**23 00 49.1**	**+0.6**
EDI				*e*S	**Sn**	**23 01 23.7**	**-4.0**
EDI				AML	AML	23 01 25.6	
	comp=N,24nm,0.2s						
EDI				AML	AML	23 01 25.8	
	comp=E,27nm,0.3s						
ODD1	**Odda**	**3.32**	**57**	*e*P	**Pn**	**23 00 50.4**	**+1.4**
ODD1				*e*S	**Sn**	**23 01 27.1**	**-1.5**
ODD1				AML	AML	23 01 31.3	
	comp=Z,8.3nm,0.2s						
EBL	**Broad Law**	**3.34**	**224**	*e*P	**Pn**	**23 00 48.5**	**-0.8**
SUE	**Sulen**	**3.39**	**32**	*e*S	**Sn**	**23 01 28.9**	**-1.5**
EAU	**Auchinoon**	**3.44**	**228**	*e*P	**Pn**	**23 00 50.3**	**-0.4**
KAC	**Achnashellach**	**3.49**	**261**	*e*P	**Pn**	**23 00 51.0**	**-0.4**
EAB	**Aberfoyle**	**3.59**	**238**	*e*P	**Pn**	**23 00 53.0**	**+0.2**
KPL	**Plockton**	**3.72**	**259**	*e*P	**Pn**	**23 00 54.0**	**-0.5**
ESK	**Eskdalemuir**	**3.76**	**221**	*e*P	**Pn**	**23 00 54.2**	**-0.9**
ESK				*e*S	**Sn**	**23 01 33.6**	**-5.7**
HYA	**Hoyanger**	**3.92**	**39**	*e*P	**Pn**	**23 01 00.2**	**+3.0**
HYA				*e*S	**Sn**	**23 01 42.8**	**-0.5**
HYA				AML	AML	23 01 43.7	
	comp=Z,5.9nm,0.1s						
FOO	**Floro**	**3.92**	**29**	*e*S	**Sn**	**23 01 40.8**	**-2.6**
KAR1	**Arisaig**	**3.95**	**253**	*e*P	**Pn**	**23 00 57.3**	**-0.5**
KONO	**Kongsberg**	**4.63**	**69**	*e*P	**Pn**	**23 01 08.4**	**+1.4**
KONO				*e*S	**Sn**	**23 01 59.4**	**-1.5**
MUD	**Monsted U'grnd**	**4.73**	**109**	*i*P	**Pn**	**23 01 09.0**	**+0.6**
MUD				*e*S	**Sn**	**23 01 57.9**	**-5.3**
MUD				*i*LG		23 01 59.2	
BSD	**Bornholm Skovb**	**8.23**	**106**	*i*P	**Pn**	**23 01 55.9**	**-0.6**
BSD				*i*S	**Sn**	**23 03 19.2**	**-10**

NIED 24 23:21:00,2950N×14120E,h14km,Mw4.4 Best double couple: Mo4.35000×10^15 NP1:φs228.00000°,δ84.00000°, λ-133.00000°. NP2:φs132.00000°,δ44.00000°, λ-8.00000°.
IDC 24 23:21:44.9±0.9,2937N×14029E,h0km,mb3.9/8, mb1 4.0/9,mb1mx3.9/20,mbtmp3.9/9,ML4.5/1,MS3.4/4, Ms1 3.4/4,ms1mx2.9/25,Error ellipse: s-maj=48.7km s-min=18.1km az=68.0
NEIC 24 23:21:46.4±0.6,2943N×14020E,h10km,mb4.3/1,Error ellipse: s-maj=19.8km s-min=12.0km az=76.0
ISCJB 24 23:21:47.6±0.6,2937N±008×1406E±01,h33km,mb4.3/13, MS3.3/2,Error ellipse: s-maj=18.0km s-min=7.4km az=108.3
MOS 24 23:21:47.6±1.6,2925N×14043E,h33km,mb4.7/1,Error ellipse: s-maj=33.9km s-min=15.7km az=105.0
ISC 24 23:21:49.5±0.6,2941N±008×1407E±01,h35km,n29, σ0.83/24,mb4.3/13,MS3.3/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.65**	**150**	Pn	**Pn**	**23 22 30.4**	**+0.6**
	79nm,0.3s,baz=292,slow=8.1,SNR=14						
CBIJ				Sn	**Sn**	**23 22 59.6**	**-0.9**
	69nm,0.3s,baz=269,slow=22,SNR=10						
JHJ	**Hachijo jima 2**	**3.78**	**348**	LR	LR	23 24 10.4	
	comp=Z,558nm,18.8s,baz=303,slow=39						
MJAR	**Matsushiro Arr**	**7.41**	**344**	Pn	**Pn**	**23 23 40.8**	**+5.6**
	0.6nm,0.3s,baz=159,slow=13,SNR=8.7						
JOW	**Kunigami**	**11.28**	**260**	LR	LR	23 28 04.3	
	comp=Z,279nm,20.9s,baz=82,slow=35						
ASAJ	**Asahikawa**	**14.75**	**5**	LR	LR	23 31 28.8	
	comp=Z,192nm,21.2s,baz=208,slow=39						
MDJ	**Mudanjiang**	**17.55**	**333**	Pn	**Pn**	**23 25 47.5**	**-3.9**
NACB	**Ninganchiao**	**17.84**	**257**	*e*Pn	**Pn**	**23 25 49.8**	**-5.1**
PET	**Petropavlovsk**	**27.02**	**24**	*e*P	**P**	**23 27 28.9**	**+0.6**
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.5						
LSA	**Lhasa**	**42.84**	**283**	*e*P	**P**	**23 29 42.5**	**-1.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
LSA	**Lhasa**	**42.84**	**283**	*e*P	**P**	**23 29 42.5**	**-1.7**
	comp=Z,1.9nm,0.3s,mb4.3						
JIRN	**Jiri**	**47.56**	**282**	*e*P	**P**	**23 30 22.5**	**+0.9**
GUN	**Gumba**	**47.76**	**282**	*e*P	**P**	**23 30 24.0**	**+0.9**
	comp=Z,48nm,0.9s						
MKAR	**Makanchi Array**	**48.02**	**308**	P	**P**	**23 30 25.2**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=90,slow=8.9,SNR=3.8						
PKI	**Pulchoki**	**48.25**	**282**	*e*P	**P**	**23 30 26.7**	**-0.2**
KKN	**Kakani**	**48.30**	**282**	*e*P	**P**	**23 30 27.7**	**+0.4**
	comp=Z,21nm,0.8s,mb5.2						
DMN	**Daman**	**48.50**	**282**	*e*P	**P**	**23 30 28.6**	**-0.2**
	comp=Z,11nm,0.8s,mb4.9						
GKN	**Gorkha**	**48.80**	**283**	*e*P	**P**	**23 30 31.5**	**+0.4**
	comp=Z,14nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**49.45**	**188**	P	**P**	**23 30 36.4**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=4.7,slow=7.7,SNR=20						
KOLN	**Koldanda**	**49.74**	**283**	*e*P	**P**	**23 30 38.8**	**+0.5**
	comp=Z,22nm,0.8s,mb5.2						
ASAR	**Alice Springs**	**53.18**	**188**	P	**P**	**23 31 04.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=359,slow=5.2,SNR=6.7						
BVAR	**Borovoye Array**	**55.47**	**316**	P	**P**	**23 31 18.2**	**-2.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=108,slow=6.8,SNR=3.6						
STKA	**Stephens Creek**	**60.96**	**179**	LR	LR	23 57 40.1	
	comp=Z,15nm,18.7s,MS3.2,baz=114,slow=35						
STKA	**Stephens Creek**	**60.96**	**179**	*e*P	**P**	**23 31 59.7**	**+0.6**
ARCES	**ARCESS Array B**	**70.93**	**340**	P	**P**	**23 33 03.7**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.3,baz=58,slow=9.2,SNR=4.8						
FINES	**FINESS Array B**	**75.30**	**333**	P	**P**	**23 33 29.2**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=72,slow=6.2,SNR=6.4						
AKASG	**Malin Array Be**	**79.99**	**323**	P	**P**	**23 33 54.9**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=49,slow=6.1,SNR=4.5						
BRTR	**Keskin Array B**	**83.49**	**312**	P	**P**	**23 34 12.6**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=117,slow=2.9,SNR=8.3						
TORD	**Torodi Ar. Bea**	**122.09**	**311**	PKP	PKPdf	23 40 40.0	-0.3
	comp=Z,0.4nm,0.6s,baz=2.5,slow=1.5,SNR=6.2						
LPAZ	**La Paz**	**150.48**	**70**	PKPbc	PKPbc	23 41 41.5	+4.1
	comp=Z,0.7nm,0.5s,baz=342,slow=4.8,SNR=6.2						

CSEM 24 23:21:59.4,6784N×2020E,h1km,ML2.9,Mining explosion. After UPP
UPP 24 23:21:59.4,6784N×2020E,h1km,ML2.9,Mining explosion.
HEL 24 23:21:59.8±0.0,6785N×2020E,h0km,ML2.9(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**26**	*i*P	Pg	23 22 01.8	-0.3
KUA				*i*S	Sg	23 22 03.5	-0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	*i*P	Pg	23 22 07.7	-0.5
LANU	**Lannavaara**	**0.71**	**73**	*i*P	Pg	23 22 12.5	-0.8
DUNU	**Dundret**	**0.74**	**169**	*i*P	Pg	23 22 13.0	-1.0
MASU	**Masugnsbyn**	**0.79**	**119**	*i*P	Pg	23 22 14.1	-0.9
SALU	**Saltoluokta**	**0.80**	**235**	*i*P	Pg	23 22 14.2	-1.0
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	23 22 14.2	-0.9
	baz=69						
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	23 22 21.9	-0.6
KIF				*e*S	Sg	23 22 37.6	-0.2
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	23 22 24.7	-1.9
HARU	**Harads**	**1.72**	**169**	*e*P	Pn	23 22 30.5	-0.5
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	23 22 40.9	+0.4
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	23 22 42.4	+1.3
SGF				*e*S	Sn	23 23 09.9	-1.8
KEV	**Kevo**	**3.13**	**49**	*e*P	Pn	23 22 50.3	0.0
KEV				*e*S	Sn	23 23 25.3	-3.1

CSEM 24 23:25:42.4±0.0,6780N×2017E,h2km,ML2.8,Error ellipse: s-maj=1.4km s-min=1.0km az=157.0,Mining explosion.
UPP 24 23:25:43.4,6783N×2019E,h0km,ML2.8,Mining explosion.
HEL 24 23:25:44.1±0.1,6784N×2019E,h0km,ML2.2,ML2.8(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**25**	*i*P	Pg	23 25 46.2	-0.4
NIKU	**Nikkaluokta**	**0.44**	**275**	*i*P	Pg	23 25 51.8	-0.7
LANU	**Lannavaara**	**0.71**	**72**	*i*P	Pg	23 25 56.9	-0.8
DUNU	**Dundret**	**0.73**	**168**	*i*P	Pg	23 25 56.9	-1.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i*P	Pg	23 25 58.3	-0.9
SALU	**Saltoluokta**	**0.79**	**235**	*i*P	Pg	23 25 58.5	-0.8
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 26 06.6	-0.5
KIF				*e*S	Sg	23 26 22.1	-0.4
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	23 26 06.5	-0.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	23 26 08.8	-2.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 26 11.6	-0.7
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 26 25.7	+0.3
SGF				*e*S	Sn	23 26 55.4	-0.7
SGF				MSG		23 27 02.4	
	comp=Z,13nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	23 26 34.2	-0.6
KEV				*e*S	Sn	23 27 12.2	-0.8
KEV				MSG		23 27 20.0	
	comp=Z,5.7nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	*e*P	Pn	23 26 41.4	+0.4
OUL				*e*S	Sn	23 27 21.9	-2.1
OUL				*e*SG	Sg	23 27 34.1	-5.3
KU4	**Liikasenvaara**	**3.96**	**108**	*e*P	Pn	23 26 45.0	-1.0
KU4				*e*S	Sn	23 27 31.8	-1.4

CSEM 24 23:28:34.0±0.1,6784N×2001E,h1km,ML2.2,Error ellipse: s-maj=4.3km s-min=2.7km az=122.0,Mining explosion.
UPP 24 23:28:35.0,6784N×2018E,h7km,ML3.3,Mining explosion.
HEL 24 23:28:35.5±0.0,6783N×2017E,h0km,ML2.2,ML3.3(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**27**	*i*P	Pg	23 28 37.6	-0.5
KUA				*i*S	Sg	23 28 39.7	-0.2
NIKU	**Nikkaluokta**	**0.43**	**275**	*i*P	Pg	23 28 43.2	-0.6
SALU	**Saltoluokta**	**0.78**	**235**	*i*P	Pg	23 28 49.6	-0.9
MASU	**Masugnsbyn**	**0.80**	**118**	*i*P	Pg	23 28 49.7	-1.1
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 28 57.9	-0.7
KIF				*e*S	Sg	23 29 13.6	-0.5
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	23 28 57.8	-0.7
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23 29 05.5	-1.0
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 29 16.7	-0.2
SGF				*e*S	Sn	23 29 47.2	-0.4
SGF				MSG		23 29 52.6	
	comp=Z,8.7nm,0.2s						
SGF	**Sodankyl**	**2.46**	**96**	P	Pn	23 29 16.6	-0.3
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	23 29 26.5	+0.2
KEV				*e*S	Sn	23 30 04.2	-0.3
KEV				MSG		23 30 11.6	
	comp=Z,6.5nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	P	Pn	23 29 26.4	+0.1
KU4	**Liikasenvaara**	**3.96**	**107**	*e*SG	Sg	23 30 38.3	-4.5
KU4	**Liikasenvaara**	**3.96**	**107**	Sg	Sg	23 30 38.2	-4.6
MSF	**Maaselka**	**4.00**	**115**	*e*P	Pn	23 29 38.2	+0.2
MSF				*e*S	Sn	23 30 24.1	-1.3

IDC 24 23:43:48.6±0.6,2933N×14145E,h0km,mb4.2/13, mb1 4.4/13,mb1mx4.3/19,mbtmp4.2/13,MS3.3/4, Ms1 3.3/4,ms1mx2.9/26,Error ellipse: s-maj=25.1km s-min=17.8km az=74.0
MOS 24 23:43:51.8±1.0,2928N×14129E,h33km,mb4.5/2,Error ellipse: s-maj=27.0km s-min=10.3km az=114.0
ISCJB 24 23:43:52.5±1.0,2928N±005×14127E±009,h37km±9km, mb4.2/18,MS3.5/2,Error ellipse: s-maj=14.2km s-min=6.5km az=140.7
NEIC 24 23:43:54.6±1.5,2934N×14130E,h40km±12km,mb4.5/4, Error ellipse: s-maj=11.5km s-min=9.3km az=105.0
ISC 24 23:43:54.7±0.8,2927N±005×14132E±009,h43km±8km, n46,σ0.96/42,mb4.2/18,MS3.5/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.29**	**160**	Pn	**Pn**	**23 44 30.8**	**+0.8**
	22nm,0.3s,baz=282,slow=19,SNR=15						
CBIJ				Sn	**Sn**	**23 44 55.5**	**-1.5**
	54nm,0.3s,baz=67,slow=23,SNR=5.0						
CBIJ				LR	LR	23 45 26.4	
	comp=Z,480nm,18.9s,baz=359,slow=42						
MJAR	**Matsushiro Arr**	**7.71**	**341**	Pn	**Pn**	**23 45 44.6**	**+0.2**
	1.8nm,0.3s,baz=163,slow=12,SNR=14						
MJAR				Sn	**Sn**	**23 47 12.7**	**+2.2**
	0.5nm,0.3s,baz=166,slow=10,SNR=2.9						
MAJO	**Matsushiro**	**7.71**	**341**	*e*P	**Pn**	**23 45 44.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**	**7.71**	**341**	*e*Pn	**Pn**	**23 45 44.9**	**+0.4**
	comp=Z,12nm,0.6s						

MAT	**Matsushiro**	**7.71 341**	P	**Pn**	**23 45 45.5**	**+1.1**
MAT			eS	**Sn**	**23 47 02.7**	**-7.8**
INCN	**Inchon**	**14.74 308**	Pn	**Pn**	**23 47 18.0**	**-2.4**
ASAJ	**Asahikawa**	**14.86 4**	LR	LR	23 52 34.0	
comp=Z,105nm,21.8s,baz=176,slow=36						
MDJ	**Mudanjiang**	**17.93 332**	Pn	**Pn**	**23 47 57.2**	**-3.6**
YHNB	**Yeheng**	**18.35 260**	P	**Pn**	**23 48 06.0**	**+0.1**
KLR	**Kul'dur**	**21.24 342**	eP	**P**	**23 48 33.7**	**-3.3**
ULN	**Ulaanbaatar**	**32.24 315**	P	**P**	**23 50 18.0**	**-1.0**
BOD	**Bodaibo**	**34.28 334**	eP	pP	23 50 47.5	-0.8
BOD			pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3						
TLY	**Talaya**	**35.79 319**	P	**P**	**23 50 48.9**	**-0.9**
LSA	**Lhasa**	**43.39 283**	P	**P**	**23 51 53.3**	**+0.3**
PSI	**Prapat**	**48.08 245**	LR	LR	00 10 07.6	
comp=Z,34nm,19.6s,MS3.3,baz=95,slow=33						
MK31	**Makanchi Array**	**48.52 308**	eP	**P**	**23 52 33.2**	**-0.2**
MKAR	**Makanchi Array**	**48.52 308**	P	**P**	**23 52 33.4**	**-0.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=91,slow=8.9,SNR=9.7						
MKAR			PcP	PcP	23 53 59.5	+0.7
comp=Z,0.3nm,0.2s,baz=90,slow=5.8,SNR=4.5						
WB2	**Warramunga Arr**	**49.38 189**	eP	**P**	**23 52 40.7**	**+0.7**
WRA	**Warramunga Arr**	**49.38 189**	P	**P**	**23 52 40.6**	**+0.6**
comp=Z,6.2nm,0.6s,mb4.8,baz=8.9,slow=8.1,SNR=113						
WRA			PcP	PcP	23 54 03.3	+1.3
comp=Z,1.9nm,0.7s,baz=359,slow=3.8,SNR=4.7						
FITZ	**Fitzroy Crossi**	**49.46 200**	eP	**P**	**23 52 42.1**	**+1.5**
comp=Z,4.8nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**53.11 189**	P	**P**	**23 53 08.2**	**+0.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=3.3,slow=6.1,SNR=9.8						
ASAR			PcP	PcP	23 54 17.4	+1.7
comp=Z,1.7nm,0.9s,baz=14,slow=4.7,SNR=7.5						
BVAR	**Borovoye Array**	**55.94 316**	P	**P**	**23 53 28.0**	**-0.5**
comp=Z,2.6nm,0.6s,mb4.5,baz=89,slow=7.5,SNR=16						
BVAR			LR	LR	00 17 30.4	
comp=Z,44nm,19.0s,MS3.6,baz=313,slow=36						
BRVK	**Borovoye**	**56.00 316**	P	**P**	**23 53 28.8**	**-0.1**
DAWY	**Dawson**	**59.45 30**	eP	**P**	**23 53 52.6**	**-0.5**
INK	**Inuvik**	**61.39 25**	P	**P**	**23 54 04.2**	**-2.1**
ARCES	**ARCESS Array B**	**71.25 340**	P	**P**	**23 55 10.4**	**+0.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=67,slow=7.2,SNR=3.5						
JOF	**Joensuu**	**72.81 333**	ep	**P**	**23 55 11.9**	**-6.9**
comp=Z,3.3nm,0.7s,mb4.4						
JOF	**Joensuu**	**72.81 333**	eP	**P**	**23 55 11.9**	**-6.9**
JOF			pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**75.20 334**	ep	**P**	**23 55 32.2**	**-0.5**
FINES	**FINESS Array B**	**75.67 333**	P	**P**	**23 55 35.5**	**0.0**
comp=Z,3.5nm,0.9s,mb4.3,baz=85,slow=6.2,SNR=9.2						
NVAR	**Mina Array Bea**	**79.78 52**	P	**P**	**23 55 58.7**	**+0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=291,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**79.78 52**	P	**P**	**23 55 58.7**	**+0.3**
AKASG	**Malin Array Be**	**80.43 323**	P	**P**	**23 56 01.8**	**-0.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=51,slow=5.4,SNR=7.3						
NOA	**NORSAR Array B**	**81.32 338**	P	**P**	**23 56 06.5**	**-0.1**
comp=Z,0.6nm,0.8s,mb3.5,baz=52,slow=5.7,SNR=2.8						
IMW	**Indian Meadow**	**81.75 44**	eP	**P**	**23 56 09.3**	**+0.4**
comp=Z,8.5nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	**83.21 44**	P	**P**	**23 56 15.9**	**-0.5**
comp=Z,1.2nm,0.8s,mb4.0,baz=298,slow=3.2,SNR=8.3						
BR131	**Keskin Array S**	**83.98 312**	eP	**P**	**23 56 21.1**	**+0.7**
comp=Z,3.0nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**83.98 312**	P	**P**	**23 56 21.8**	**+1.3**
comp=Z,4.1nm,0.8s,mb4.6,baz=104,slow=3.9,SNR=35						
PV10	**Paradox Valley**	**85.99 48**	P	**P**	**23 56 30.7**	**+0.2**
SMCO	**Snowmass**	**86.86 46**	eP	**P**	**23 56 34.9**	**+0.1**
comp=Z,4.5nm,1.3s,mb4.5						
GERES	**GERESS Array B**	**89.27 328**	P	**P**	**23 56 46.8**	**+0.5**
comp=Z,0.5nm,0.7s,mb3.9,baz=19,slow=8.5,SNR=4.6						
TXAR	**Lajitas Array**	**94.91 53**	P	**P**	**23 57 12.9**	**+0.6**
comp=Z,1.7nm,0.9s,mb4.5,baz=294,slow=2.8,SNR=13						
TORD	**Torodi Ar. Bea**	**122.58 312**	PKP	PKPdf	00 02 45.8	+0.3
comp=Z,0.2nm,0.4s,baz=36,slow=1.5,SNR=6.1						
SAML	**Samuel**	**149.39 54**	ePKPdf	PKPdf	00 03 37.2	+2.7
LPAZ	**La Paz**	**150.03 71**	PKPbc	PKPbc	00 03 41.6	+1.1
comp=Z,1.2nm,0.7s,baz=298,slow=4.2,SNR=9.1						
LPAZ			PKPab	PKPab	00 03 46.6	+0.2
comp=Z,1.3nm,0.8s,baz=358,slow=13,SNR=5.7						
LPAZ	**La Paz**	**150.03 71**	PKIKP	PKPbc	00 03 41.7	+1.2
LPAZ					00 03 46.6	
LPAZ			pmax	pmax		
comp=Z,1.0nm,0.7s						

*IDC **24** 23:50:31.8±0.7,2938N×140.11E,h0km,mb4.1/13, mb1 4.3/13,mb1mx4.2/19,mbtmp4.0/13,MS3.7/2, Ms1 3.7/2,ms1mx2.9/25,Error ellipse: s-maj=26.4km s-min=19.8km az=75.0*

*BJI **24** 23:50:32.6,2982N×140.77E,h20km,mB5.1,mb4.6*

*ISCJB **24** 23:50:33.5±2.8,2924N±006×14035E±008,h23km±20km, mb4.3/23,Error ellipse: s-maj=13.4km s-min=8.0km az=97.8*

*NEIC **24** 23:50:33.5±0.3,2938N×14008E,h10km,mb4.3/5,Error ellipse: s-maj=10.0km s-min=8.4km az=159.0*

*MOS **24** 23:50:35.0±0.8,2930N×14007E,h33km,mb4.7/5,Error ellipse: s-maj=26.4km s-min=12.7km az=109.3*

ISC 24 23:50:35.6±3.1,2933N±007×14041E±009,h24km±22km, n53,σ1§44/49,mb4.3/23,1C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.72**	**144**	Pn	**Pn**	**23 51 16.9**	**-0.9**
63nm,0.3s,baz=316,slow=5.0,SNR=17							
CBIJ				Sn	**Sn**	**23 51 46.6**	**-3.3**
97nm,0.3s,baz=291,slow=22,SNR=10.0							
JHJ	**Hachijo jima 2**	**3.81**	**352**	LR	LR	23 52 59.0	
comp=Z,642nm,19.0s,baz=105,slow=39							
MJAR	**Matsushiro Arr**	**7.43**	**346**	Pn	**Pn**	**23 52 25.2**	**+2.8**
0.6nm,0.3s,baz=159,slow=13,SNR=8.5							
MJAR				LR	LR	23 55 15.0	
comp=Z,704nm,18.4s,baz=70,slow=39							
MAJO	**Matsushiro**	**7.43**	**346**	eP	**Pn**	**23 52 27.8**	**+5.4**
MAJO				pmax	pmax		
comp=Z,43nm,0.9s							
MAJO	**Matsushiro**	**7.43**	**346**	ePn	**Pn**	**23 52 27.8**	**+5.4**
comp=Z,43nm,0.9s							
MAT	**Matsushiro**	**7.43**	**346**	P	**Pn**	**23 52 31.3**	**+8.9**
MAT				eS	**Sn**	**23 53 42.8**	**-3.1**
INCN	**Inchon**	**14.08**	**309**	ePn	**Pn**	**23 53 54.1**	**+0.6**
comp=Z,36nm,0.8s							
ASAJ	**Asahikawa**	**14.86**	**6**	Pn	pP	23 54 17.4	+1.3
comp=Z,0.4nm,0.3s,baz=162,slow=5.5,SNR=3.7							
MDJ	**Mudanjiang**	**17.51**	**334**	Pn	**Pn**	**23 54 35.6**	**-2.4**
YHNB	**Yeheng**	**17.58**	**259**	Pn	**Pn**	**23 54 36.0**	**-2.9**
YSS	**Yuzh-Sakhalins**	**17.69**	**5**	eP	**Pn**	**23 54 47.0**	**+6.7**
KLR	**Kul'dur**	**20.95**	**344**	eP	**P**	**23 55 12.6**	**-4.1**
BJT	**Baijiatuan**	**22.54**	**305**	eP	**P**	**23 55 30.5**	**-3.3**
BJT				pmax	pmax		
comp=Z,5.0nm,0.3s							
BJT	**Baijiatuan**	**22.54**	**305**	eP	**P**	**23 55 30.5**	**-3.3**
comp=Z,4.9nm,0.3s,mb4.4							
WHN	**Wuhan**	**22.61**	**280**	⇑P	**P**	**23 55 37.3**	**+2.9**
XAN	**Xi'an**	**27.14**	**288**	P	**P**	**23 56 17.1**	**+0.2**
XAN				AP	pP	23 56 25.8	+1.9
XAN				AMB	AMB		
comp=Z,18nm,0.8s,mb4.7							
QIZ	**Qiongzhong**	**29.63**	**257**	P	**P**	**23 56 35.8**	**-3.3**
GTA	**Gaotai**	**34.73**	**298**	eP	**P**	**23 57 25.0**	**+1.2**
GTA				AP	pP	23 57 30.5	-0.4
GTA				XP	sP	23 57 33.3	-0.5
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.3							
CHTO	**Chiang Mai**	**39.10**	**264**	eP	**P**	**23 58 01.6**	**+0.7**
CHTO				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.2							
CHTO	**Chiang Mai**	**39.10**	**264**	eP	**P**	**23 58 01.6**	**+0.7**
comp=Z,5.3nm,1.0s,mb4.2							
LSA	**Lhasa**	**42.60**	**283**	eP	**P**	**23 58 28.4**	**-1.4**
LSA				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.3							
LSA	**Lhasa**	**42.60**	**283**	eP	**P**	**23 58 28.4**	**-1.4**
comp=Z,2.2nm,0.3s,mb4.4							
GUN	**Gumba**	**47.52**	**282**	eP	**P**	**23 59 10.3**	**+1.4**
comp=Z,59nm,0.9s							
MKAR	**Makanchi Array**	**47.86**	**308**	P	**P**	**23 59 10.8**	**-0.6**
comp=Z,0.2nm,0.2s,mb3.7,baz=98,slow=11,SNR=3.7							
MKAR				PcP	PcP	00 00 38.3	-1.6
comp=Z,0.2nm,0.3s,baz=83,slow=3.9,SNR=4.1							
PKI	**Pulchoki**	**48.01**	**282**	eP	**P**	**23 59 13.7**	**+1.0**
comp=Z,28nm,1.0s,mb5.2							
KKN	**Kakani**	**48.06**	**282**	eP	**P**	**23 59 14.2**	**+1.1**
comp=Z,34nm,0.8s,mb5.4							
DMN	**Daman**	**48.26**	**282**	eP	**P**	**23 59 15.7**	**+1.1**
comp=Z,28nm,1.0s,mb5.3							
GKN	**Gorkha**	**48.56**	**283**	eP	**P**	**23 59 17.5**	**+0.6**
comp=Z,39nm,1.0s,mb5.4							
WRA	**Warramunga Arr**	**49.33**	**188**	P	**P**	**23 59 23.1**	**+0.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=4.2,slow=7.7,SNR=16							
KOLN	**Koldanda**	**49.50**	**283**	eP	**P**	**23 59 25.1**	**+1.0**
comp=Z,57nm,1.0s							
ASAR	**Alice Springs**	**53.06**	**187**	P	**P**	**23 59 51.5**	**+0.7**
comp=Z,0.8nm,0.8s,mb3.7,baz=12,slow=12,SNR=6.7							
BVAR	**Borovoye Array**	**55.35**	**316**	P	**P**	**00 00 05.6**	**-1.8**
comp=Z,1.3nm,0.9s,mb4.0,baz=111,slow=8.1,SNR=6.7							
BVAR				PcP	PcP	00 01 07.5	-0.3
comp=Z,0.9nm,0.6s,baz=90,slow=1.5,SNR=3.8							
INK	**Inuvik**	**61.66**	**25**	P	**P**	**00 00 51.8**	**+0.3**
ARCES	**ARCESS Array B**	**70.92**	**340**	P	**P**	**00 01 50.4**	**-0.4**
comp=Z,7.5nm,0.9s,mb4.6,baz=51,slow=6.6,SNR=7.0							
YKA	**Yellowknife Ar**	**70.93**	**28**	P	**P**	**00 01 51.2**	**+0.4**
comp=Z,2.7nm,0.8s,mb4.2,baz=300,slow=4.8,SNR=5.2							
YKA	**Yellowknife Ar**	**70.93**	**28**	P	**P**	**00 01 51.2**	**+0.4**
JOF	**Joensuu**	**72.39**	**333**	ep	**P**	**00 01 57.8**	**-1.9**
comp=Z,9.9nm,1.0s,mb4.7							
JOF	**Joensuu**	**72.39**	**333**	eP	**P**	**00 01 57.8**	**-1.9**
JOF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
FINES	**FINESS Array B**	**75.26**	**333**	P	**P**	**00 02 15.0**	**-1.5**
comp=Z,3.1nm,1.0s,mb4.2,baz=72,slow=6.2,SNR=9.1							
AKASG	**Malin Array Be**	**79.90**	**323**	P	**P**	**00 02 41.1**	**-1.2**
comp=Z,1.8nm,0.8s,mb4.0,baz=46,slow=5.0,SNR=9.8							
NVAR	**Mina Array Bea**	**80.36**	**51**	P	**P**	**00 02 47.4**	**+2.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=285,slow=7.4,SNR=3.9							
NB2	**NORSAR Subarra**	**80.96**	**338**	P	**P**	**00 02 46.6**	**-1.5**
comp=Z,5.7nm,1.0s,mb4.5,baz=44,slow=5.3							
NB2	**NORSAR Subarra**	**80.96**	**338**	P	**P**	**00 02 46.6**	**-1.5**
NB2				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5							
NOA	**NORSAR Array B**	**80.96**	**338**	P	**P**	**00 02 47.1**	**-1.0**
comp=Z,3.3nm,0.9s,mb4.2,baz=42,slow=5.3,SNR=5.6							
BR131	**Keskin Array S**	**83.35**	**312**	eP	**P**	**00 02 59.5**	**-1.0**
comp=Z,1.2nm,0.6s,mb4.1							
BRTR	**Keskin Array B**	**83.35**	**312**	P	**P**	**00 02 59.4**	**-1.2**
comp=Z,1.7nm,0.8s,mb4.1,baz=104,slow=3.1,SNR=12							
PDAR	**Pinedale Array**	**83.72**	**44**	P	**P**	**00 03 03.7**	**+1.2**
comp=Z,0.2nm,0.5s,mb3.5,baz=318,slow=2.0,SNR=3.9							
TXAR	**Lajitas Array**	**95.50**	**52**	P	**P**	**00 03 59.5**	**+1.0**
comp=Z,0.5nm,0.8s,mb4.0,baz=339,slow=3.2,SNR=5.0							
TXAR	**Lajitas Array**	**95.50**	**52**	P	**P**	**00 03 59.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**121.94**	**311**	PKP	PKPdf	00 09 26.4	-1.4
comp=Z,0.4nm,0.9s,baz=107,slow=0.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**121.94**	**311**	PKP	PKPdf	00 09 26.4	-1.4
SAML	**Samuel**	**149.99**	**52**	ePKPdf	PKPdf	00 10 20.7	+1.7
SAML				ePKPbc	PKPbc	00 10 24.8	+0.8
LPAZ	**La Paz**	**150.75**	**70**	PKPbc	PKPbc	00 10 27.6	+1.9
comp=Z,1.8nm,0.7s,baz=301,slow=4.8,SNR=13							
LPAZ				PKPab	PKPab	00 10 34.5	+1.7
comp=Z,1.0nm,0.7s,baz=332,slow=10,SNR=4.0							

*NIED **24** 23:59:00,4240N×14130E,h122km,Mw4.1 Best double couple: M0=1.78000×10^15 NP1:φ=276.00000°,δ=53.00000°, λ=-63.00000°. NP2:φ=55.00000°,δ=45.00000°, λ=-121.00000°.*

*MOS **24** 23:59:31.6±1.3,4233N×14097E,h118km,mb4.5/6,Error ellipse: s-maj=17.4km s-min=8.5km az=98.6*

*ISCJB **24** 23:59:33.1±0.2,4236N±003×14134E±004,h134km±2km, mb4.3/31,Error ellipse: s-maj=5.7km s-min=3.8km az=46.4*

*IDC **24** 23:59:34.0±1.1,4239N×14120E,h123km±11km,mb3.9/14, mb1 4.0/16,mb1mx3.8/26,mbtmp4.2/16,MS3.0/1, Ms1 3.0/1,ms1mx2.6/26,Error ellipse: s-maj=16.8km s-min=11.6km az=103.0*

*NEIC **24** 23:59:34.9±1.7,4241N×14138E,h137km±16km,mb4.4/10, Error ellipse: s-maj=12.6km s-min=9.3km az=83.0*

*JMA **24** 23:59:34.6±0.1,4238N×14129E,h125km±1km,M3.6*

ISC 24 23:59:34.2±0.2,4238N±003×14133E±005,h129km±2km, n84,σ0§91/101,mb4.3/31,1C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.24**	**293**	P	**Pn**	**23 59 51.8**	**-0.2**
JEW	**Eniwo**	**0.47**	**11**	P	**Pn**	**23 59 53.2**	**+0.2**
JEW				eS	**Sn**	**00 00 07.2**	**0.0**
JKB	**Kayabe**	**0.54**	**205**	P	**Pn**	**23 59 53.3**	**-0.1**
JKB				eS	**Sn**	**00 00 07.1**	**-0.8**
JYM2	**Yakumo 2**	**0.76**	**250**	P	**Pn**	**23 59 55.0**	**+0.1**
JYM2				eS	**Sn**	**00 00 09.8**	**-0.8**
JBT2	**Biratori 2**	**0.86**	**62**	P	**Pn**	**23 59 56.0**	**+0.2**
JSH	**Shimam**	**0.99**	**286**	P	**Pn**	**23 59 56.8**	**-0.1**
JOT	**Ohata**	**1.02**	**192**	P	**Pn**	**23 59 57.3**	**+0.1**
JOT				eS	**Sn**	**00 00 14.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.06**	**95**	P	**Pn**	**23 59 58.1**	**+0.5**
JNBK				eS	**Sn**	**00 00 16.6**	**+1.3**
JSK	**Shakotan**	**1.16**	**327**	P	**Pn**	**23 59 58.6**	**0.0**
JSK				eS	**Sn**	**00 00 16.9**	**-0.2**
JFR	**Furan**	**1.22**	**49**	P	**Pn**	**23 59 58.7**	**-0.5**
JHR	**Hokuryu**	**1.40**	**12**	P	**Pn**	**00 00 02.0**	**+0.9**
JHR				eS	**Sn**	**00 00 22.7**	**+1.2**
JOSM	**Okushiri--Mats**	**1.41**	**259**	P	**Pn**	**00 00 01.0**	**-0.2**
JOSM				eS	**Sn**	**00 00 21.1**	**-0.7**
JCH	**Churui**	**1.52**	**80**	P	**Pn**	**00 00 03.1**	**+0.7**
JCH				eS	**Sn**	**00 00 23.9**	**-0.1**
JKK2	**Kamakawa 2**	**1.82**	**34**	P	**Pn**	**00 00 06.3**	**+0.4**
JKK2				eS	**Sn**	**00 00 29.8**	**-0.4**
ASAJ	**Asahikawa**	**1.97**	**28**	P	**Pn**	**00 00 08.3**	**+0.6**
29nm,0.3s,baz=229,slow=12,SNR=42							
ASAJ				S	**Sn**	**00 00 33.5**	**+0.1**
46nm,0.3s,baz=97,slow=32,SNR=27							
ASAJ	**Asahikawa**	**1.97**	**28**	PN	**Pn**	**00 00 08.4**	**+0.7**
ASAJ				S	**Sn**	**00 00 33.6**	**+0.2**
ASAJ				pmax	pmax		
comp=Z,29nm,0.3s							
ASAJ				smax			
comp=N,46nm,0.3s							
JANG	**Nango**	**2.01**	**176**	P	**Pn**	**00 00 07.4**	**-0.8**
JANG				eS	**Sn**	**00 00 32.0**	**-2.2**
JAR	**Ashorobuto**	**2.02**	**62**	P	**Pn**	**00 00 08.2**	**-0.1**
JAR				eS	**Sn**	**00 00 33.4**	**-1.0**
JYG	**Yagishiri**	**2.05**	**2**	P	**Pn**	**00 00 09.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.69**	**12**	⇑iPN	**Pn**	**00 00 43.5**	**+0.4**
YSS				eS	**Sn**	**00 01 36.8**	**+0.2**
YSS				pmax	pmax		
comp=Z,70nm,1.0s							
YSS				smax			
comp=E,60nm,1.0s							
MAJO	**Matsushiro**	**6.31**	**204**	ePN	**Pn**	**00 00 59.9**	**-4.9**
MAJO				pmax	pmax		
comp=Z,17nm,0.5s							
MAJO	**Matsushiro**	**6.31**	**204**	ePn	**Pn**	**00 00 59.9**	**-4.9**
comp=Z,17nm,0.5s							
MAJO				*e*		00 01 39.7	
MAT	**Matsushiro**	**6.31**	**204**	P	**Pn**	**00 01 06.0**	**+1.2**
MAT				S	**Sn**	**00 02 18.0**	**+2.4**
MJAR	**Matsushiro Arr**	**6.31**	**204**	P	**Pn**	**00 01 05.7**	**+0.9**
comp=Z,2.2nm,0.3s,baz=26,slow=13,SNR=15							
KLR	**Kul'dur**	**9.57**	**319**	ePN	**Pn**	**00 01 45.2**	**-3.6**
KLR				pmax	pmax		
comp=E,20nm,1.2s							
KLR				pmax	pmax		
comp=Z,23nm,1.2s							
INCN	**Inchon**	**12.29**	**251**	eP	**Pn**	**00 02 26.6**	**+1.8**
comp=Z,16nm,0.2s							
CBIJ	**Chichi jima**	**15.26**	**177**	P	**Pn**	**00 03 00.2**	**-2.6**
comp=Z,7.0nm,0.3s,baz=294,slow=21,SNR=4.3							
CBIJ				S	**S**	**00 05 46.0**	**-13**
comp=Z,5.7nm,0.3s,baz=282,slow=20,SNR=4.2							
HIA	**Hailar**	**16.52**	**302**	P	**Pn**	**00 03 22.8**	**+4.5**
CLNS	**Chul'man**	**17.90**	**330**	eP	**Pn**	**00 03 30.6**	**-4.3**
CLNS				pmax	pmax		
comp=Z,17nm,0.9s							
CLNS				pmax	pmax		
comp=N,8.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,5.0nm,0.8s							
JOW	**Kunigami**	**18.83**	**219**	LR	LR	00 11 02.0	
comp=E,47nm,18.1s,baz=27,slow=37							
BJT	**Baijiatuan**	**19.07**	**271**	eP	**P**	**00 03 52.0**	**+5.5**
YAK	**Yakutsk**	**20.88**	**345**	eP	**P**	**00 04 03.3**	**-2.7**
YAK				eS	**S**	**00 07 43.9**	**-7.6**
YAK				pmax	pmax		
comp=Z,27nm,0.9s							
YAK				pmax	pmax		
comp=N,9.0nm,1.1s							
YAK				pmax	pmax		
comp=E,5.0nm,1.1s							
YAK				smax			
comp=N,8.0nm,1.0s							
YAK				smax			
comp=Z,7.0nm,0.7s							
YAK				smax			
comp=E,9.0nm,1.1s							
ULN	**Ulaanbaatar**	**24.67**	**295**	eP	**P**	**00 04 46.6**	**+3.7**
ULN				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.0							
ULN	**Ulaanbaatar**	**24.67**	**295**	eP	**P**	**00 04 46.6**	**+3.7**
comp=Z,1.5nm,0.4s,mb3.9							
SONM	**Songino Array**	**25.11**	**295**	P	**P**	**00 04 46.6**	**-0.3**
comp=Z,2.0nm,0.4s,mb4.0,baz=83,slow=8.6,SNR=8.4							
TLY	**Talaya**	**27.05**	**303**	P	**P**	**00 05 08.2**	**+3.8**
MK31	**Makanchi Array**	**41.43**	**297**	P	**P**	**00 07 07.5**	**-0.4**
MKAR	**Makanchi Array**	**41.43**	**297**	P	**P**	**00 07 07.0**	**-0.9**
comp=Z,1.2nm,0.5s,mb3.8,baz=82,slow=9.2,SNR=9.3							
LSA	**Lhasa**	**41.94**	**269**	eP	**P**	**00 07 14.5**	**+2.4**
LSA				pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.3							
LSA	**Lhasa**	**41.94**	**269**	eP	**P**	**00 07 14.5**	**+2.4**
comp=Z,3.1nm,0.4s,mb4.3							
IMA2	**Indian Mountai**	**42.19**	**33**	P	**P**	**00 07 14.0**	**-0.1**
GUN	**Gumba**	**46.80**	**271**	eP	**P**	**00 07 51.5**	**+0.8**
comp=Z,36nm,0.3s							
BVAR	**Borovoye Array**	**47.05**	**309**	P	**P**	**00 07 52.6**	**-0.1**
comp=Z,10.0nm,0.5s,mb4.7,baz=75,slow=8.5,SNR=39							
BRVK	**Borovoye**	**47.11**	**309**	eP	**P**	**00 07 52.9**	**-0.2**
BRVK				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.4							
BRVK	**Borovoye**	**47.11**	**309**	eP	**P**	**00 07 52.9**	**-0.3**
comp=Z,5.9nm,0.6s,mb4.4							
KKN	**Kakani**	**47.31**	**271**	eP	**P**	**00 07 55.2**	**+0.5**
comp=Z,30nm,0.8s,mb5.0							
PKI	**Pulchoki**	**47.34**	**271**	eP	**P**	**00 07 55.3**	**+0.4**
comp=Z,6.9nm,0.3s,mb4.8							
DMN	**Daman**	**47.54**	**271**	eP	**P**	**00 07 57.0**	**+0.5**
comp=Z,7.6nm,0.3s,mb4.8							
GKN	**Gorkha**	**47.67**	**272**	eP	**P**	**00 07 57.7**	**+0.2**
comp=Z,9.2nm,0.3s,mb5.0							
KOLN	**Koldanda**	**48.56**	**272**	eP	**P**	**00 08 04.9**	**+0.5**
comp=Z,17nm,0.3s,mb5.2							
INK	**Inuvik**	**49.71**	**29**	P	**P**	**00 08 14.4**	**+1.3**
comp=Z,2.3nm,0.5s,mb4.1,baz=284,slow=3.6,SNR=4.8							
PSI	**Prapat**	**54.62**	**236**	P	**P**	**00 08 49.6**	**+0.3**
comp=Z,3.5nm,0.5s,mb4.4,baz=27,slow=9.0,SNR=4.8							
AKTK	**Aktyubinsk**	**55.15**	**309**	P	**P**	**00 08 52.7**	**-0.5**
AKTO	**Aktyubinsk**	**55.15**	**309**	P	**P**	**00 08 52.7**	**-0.5**
comp=Z,0.8nm,0.3s,mb3.9,baz=43,slow=9.4,SNR=4.9							
ARCES	**ARCESS Array B**	**59.00**	**338**	P	**P**	**00 09 19.7**	**-0.6**
comp=Z,2.6nm,0.8s,mb4.1,baz=53,slow=8.1,SNR=7.4							
ARCES	**ARCESS Array B**	**59.00**	**338**	P	**P**	**00 09 19.7**	**-0.6**
JOF	**Joensuu**	**61.25**	**331**	ep	**P**	**00 09 34.0**	**-1.6**
comp=Z,1.5nm,0.3s,mb4.3							
JOF	**Joensuu**	**61.25**	**331**	eP	**P**	**00 09 34.0**	**-1.6**
JOF				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**61.89**	**197**	eP	**P**	**00 09 40.6**	**+0.7**
comp=Z,3.5nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**62.33**	**187**	eP	**P**	**00 09 42.4**	**-0.4**
WRAB				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.2							
WRAB	**Tennant Creek**	**62.33**	**187**	eP	**P**	**00 09 42.4**	**-0.4**
comp=Z,2.5nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**62.34**	**187**	eP	**P**	**00 09 42.5**	**-0.4**
WRA	**Warramunga Arr**	**62.34**	**187**	P	**P**	**00 09 42.6**	**-0.3**
comp=Z,3.1nm,0.4s,mb4.5,baz=5.9,slow=6.7,SNR=109							
KAF	**Kangasniemi**	**63.56**	**332**	ep	**P

TRD				AML	AML	00 32 45.8	
	comp=N,654nm,0.1s						
PSI	**Prapat**	**24.08**	**88**	LR	LR	00 44 02.0	
	comp=N,75nm,19.4s,baz=68,slow=34						
KMBO	**Kilima Mbogo**	**37.71**	**265**	LR	LR	00 49 49.4	
	comp=N,40nm,18.7s,baz=92,slow=31						
MKAR	**Makanchi Array**	**44.95**	**7**	LR	LR	00 57 21.1	
	comp=N,58nm,19.1s,baz=13,slow=36						
BRTR	**Keskin Array B**	**52.87**	**320**	P	P	00 39 31.5	+0.2
	comp=N,0.5nm,0.8s,baz=134,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**53.05**	**26**	P	P	00 39 32.7	+0.2
	comp=N,0.9nm,0.7s,baz=232,slow=7.3,SNR=4.1						
BOSA	**Boshof**	**56.49**	**233**	LR	LR	01 00 50.9	
	comp=N,20nm,18.5s,baz=264,slow=32						
AKASG	**Malin Array Be**	**61.76**	**329**	P	P	00 40 37.6	+3.6
	comp=N,0.3nm,0.2s,baz=133,slow=5.7,SNR=5.4						
WRA	**Warramunga Arr**	**62.33**	**114**	P	P	00 40 38.9	+1.1
	comp=N,0.5nm,0.7s,baz=290,slow=7.0,SNR=4.5						
ASAR	**Alice Springs**	**62.86**	**118**	P	P	00 40 41.6	+0.2
	comp=N,0.3nm,0.5s,baz=296,slow=6.4,SNR=4.5						
ARCES	**ARCESS Array B**	**74.70**	**344**	LR	LR	01 19 27.1	
	comp=N,17nm,19.0s,baz=202,slow=40						
TXAR	**Lajitas Array**	**148.67**	**357**	PKPbc	PKPbc	00 50 03.4	+0.6
	comp=N,0.3nm,0.9s,baz=27,slow=2.4,SNR=3.2						

MOS 25 00:34:29.4±0.2, 4275N×4588E, h20km, mb3.6/1, 3C-4D, Error ellipse: s-maj=57.4km s-min=14.7km az=21.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**1.16**	**303**	⇓*i*PG	Pn	00 34 50.3	-0.1
BTKR				*i* S	Sb	00 35 05.5	+0.2
LACR	**Lac**	**1.17**	**274**	⇑*i*PG	Pn	00 34 50.7	+0.1
LACR				*i* S	Sb	00 35 06.3	+0.8
ARNR	**Ardon**	**1.25**	**291**	⇓*i*PG	Pn	00 34 51.8	+0.1
ARNR				*i* S	Sb	00 35 08.2	+0.2
KMSR	**Komsomolskaya**	**1.31**	**299**	⇑*i*PG	Pn	00 34 52.8	+0.2
KMSR				*i* S	Sn	00 35 09.8	+0.2
KORR	**Kora**	**1.37**	**285**	⇓*i*PG	Pn	00 34 53.6	+0.2
KORR				*i* S	Sn	00 35 11.2	+0.3
ZEI	**Tsey**	**1.46**	**271**	⇑*i*PG	Pn	00 34 54.9	+0.3
ZEI				*i* S	Sn	00 35 13.6	+0.5
DIGR	**Digorskoe uzhe**	**1.70**	**276**	⇓*i*PN	Pn	00 34 58.2	+0.4

*ISCJB **25** 00:36:52.6±0.4, 4366N±003×624E±003, h20km±4km, Error ellipse: s-maj=4.8km s-min=3.3km az=21.4*
*LDG **25** 00:36:52.5±0.1, 4372N×623E, h8km, Md2.6/3, Ml2.5/11, Error ellipse: s-maj=1.3km s-min=1.0km az=8.0*
*CSEM **25** 00:36:52.5±0.1, 4372N×622E, h12km, ML2.4/11, Error ellipse: s-maj=1.2km s-min=0.9km az=8.0*
*NEIC **25** 00:36:53.0, 4375N×623E, h5km, ML2.4(STR), ML2.5(LDG), After STR.*
*STR **25** 00:36:53.0±0.1, 4375N×623E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 00:36:51.9±0.3, 4372N±002×620E±002, h20km±2km, n55, σ0=78/106, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVF	**Tavernes**	**0.15**	**225**	Pg	**Pg**	**00 36 56.6**	**+0.2**
TAVF				Sg	**Sg**	**00 36 59.8**	**+0.4**
STOF	**St-Etienne Org**	**0.35**	**322**	Pg	**Pg**	**00 37 01.3**	**+1.9**
FRF	**La Foret Royal**	**0.36**	**117**	*e*Pg	**Pg**	**00 36 59.3**	**-0.3**
FRF				*e*Sg	**Sg**	**00 37 03.6**	**-1.2**
	263nm,0.2s						
FRF	**La Foret Royal**	**0.36**	**117**	*e*Pg	**Pg**	**00 36 59.3**	**-0.3**
FRF				*e*Sg	**Sg**	**00 37 03.6**	**-1.2**
	131nm,0.2s						
LMR	**La Mourre**	**0.45**	**150**	*e*Pn	**Pg**	**00 37 02.4**	**+1.2**
LMR				*e*Sg	**Sg**	**00 37 06.6**	**-0.8**
	57nm,0.2s						
LMR	**La Mourre**	**0.45**	**150**	*e*Pg	**Pg**	**00 37 00.9**	**-0.2**
LMR				*e*Pn	**Pg**	**00 37 02.4**	**+1.2**
LMR				*e*Sg	**Sg**	**00 37 06.6**	**-0.8**
LMR	**La Mourre**	**0.45**	**150**	*e*Pn	**Pg**	**00 37 02.4**	**+1.2**
LMR				*e*Sg	**Sg**	**00 37 06.6**	**-0.8**
	28nm,0.2s						
SMRF	**Simiane la Rot**	**0.52**	**299**	*e*Pg	**Pg**	**00 37 02.9**	**+0.5**
SMRF				*e*Sg	**Sg**	**00 37 10.9**	**+1.4**
	79nm,0.2s						
SMRF	**Simiane la Rot**	**0.52**	**299**	*e*Pg	**Pg**	**00 37 02.9**	**+0.5**
SMRF				*e*Sg	**Sg**	**00 37 10.9**	**+1.4**
	40nm,0.2s						
GELF	**Grande-Etoile**	**0.66**	**239**	Pg	**Pg**	**00 37 07.1**	**+2.1**
MVIF	**Mont Vial**	**0.71**	**76**	Pg	**Pg**	**00 37 05.9**	**0.0**
PRAF	**Pradon**	**0.75**	**276**	Pg	**Pg**	**00 37 07.4**	**+0.6**
TOUF	**Mont Tournerai**	**0.81**	**69**	Pg	**Pg**	**00 37 07.9**	**+0.1**
REVF	**Revere**	**0.84**	**89**	Pg	**Pg**	**00 37 08.4**	**0.0**
REVF				Sg	**Sg**	**00 37 20.2**	**+0.6**
LUCF	**Luceram**	**0.84**	**78**	Pg	**Pg**	**00 37 08.4**	**0.0**
SURF	**Saint Ours**	**0.87**	**30**	Pg	**Pg**	**00 37 09.3**	**+0.3**
SBF	**Sospel**	**0.90**	**81**	*e*Pn	**Pn**	**00 37 09.7**	**+0.2**
SBF				*e*Sg	**Sg**	**00 37 21.1**	**-0.4**
	44nm,0.3s						
SBF	**Sospel**	**0.90**	**81**	*e*Pg	**Pg**	**00 37 09.0**	**-0.5**
SBF				*e*Pn	**Pn**	**00 37 09.7**	**+0.2**
SBF				*e*Sg	**Sg**	**00 37 21.1**	**-0.4**
SBF	**Sospel**	**0.90**	**81**	*e*Pn	**Pn**	**00 37 09.7**	**+0.2**
SBF				*e*Sg	**Sg**	**00 37 21.1**	**-0.4**
	22nm,0.3s						
AUTN	**L'Aution**	**0.93**	**73**	Pg	**Pg**	**00 37 09.9**	**-0.1**
AUTN				Sg	**Sg**	**00 37 22.8**	**+0.6**
STV	**Sta Anna Valdi**	**0.96**	**57**	P	**Pb**	**00 37 10.3**	**+0.4**
ENR	**Entracque**	**1.01**	**60**	P	**Pb**	**00 37 11.2**	**+0.4**
SAOF	**Saorge**	**1.01**	**75**	Pg	**Pg**	**00 37 11.2**	**-0.4**
SAOF				Sg	**Sg**	**00 37 24.7**	**-0.2**
PZZ	**Prazzo**	**1.01**	**39**	P	**Pb**	**00 37 11.8**	**+1.0**
MBDF	**Montbardon**	**1.08**	**22**	*e*Pg	**Pg**	**00 37 13.1**	**+0.2**
MBDF				*e*Sg	**Sg**	**00 37 27.1**	**-0.1**
	20nm,0.3s						
MBDF	**Montbardon**	**1.08**	**22**	*e*Pg	**Pg**	**00 37 13.1**	**+0.2**
MBDF				*e*Sg	**Sg**	**00 37 27.1**	**-0.1**
	9.8nm,0.3s						
NEGI	**Negi**	**1.09**	**83**	P	**Pn**	**00 37 11.8**	**-0.3**
MONE	**Monesi**	**1.18**	**72**	P	**Pn**	**00 37 13.5**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.22**	**349**	*e*Pg	**Pg**	**00 37 15.1**	**-0.4**
ORIF				*e*Sg	**Sg**	**00 37 31.1**	**-0.3**
	10nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.22**	**349**	*e*Pg	**Pg**	**00 37 15.1**	**-0.4**
ORIF				*e*Sg	**Sg**	**00 37 31.1**	**-0.3**
	5.1nm,0.2s						
RRL	**Cesana Torines**	**1.27**	**19**	P	**Pn**	**00 37 16.2**	**+1.7**
ROB	**Roburent**	**1.33**	**64**	P	**Pn**	**00 37 16.5**	**+1.1**
RORO		**1.40**	**73**	P	**Pn**	**00 37 16.3**	**0.0**
FIN	**Finale Ligure**	**1.53**	**71**	P	**Pn**	**00 37 17.9**	**-0.2**
VIVF	**Saint-Julien-l**	**1.58**	**316**	*e*Pg	**Pg**	**00 37 22.1**	**-0.2**
VIVF				*e*Sn	**Sn**	**00 37 37.8**	**-0.8**
VIVF				*e*Sg	**Sg**	**00 37 42.3**	**-0.6**
	6.2nm,0.2s						
VIVF	**Saint-Julien-l**	**1.58**	**316**	*e*Pn	**Pn**	**00 37 19.3**	**+0.5**
VIVF				*e*Pg	**Pg**	**00 37 22.1**	**-0.2**
VIVF				*e*Sn	**Sn**	**00 37 37.8**	**-0.8**
VIVF				*e*Sg	**Sg**	**00 37 42.3**	**-0.6**
VIVF	**Saint-Julien-l**	**1.58**	**316**	*e*Pg	**Pg**	**00 37 22.1**	**-0.2**
VIVF				*e*Sn	**Sn**	**00 37 37.8**	**-0.8**
VIVF				*e*Sg	**Sg**	**00 37 42.3**	**-0.6**
	3.1nm,0.2s						
LASF	**Ste Croix**	**1.73**	**283**	*e*Pg	**Pg**	**00 37 24.8**	**-0.5**
LASF				*e*Sg	**Sg**	**00 37 46.9**	**-1.0**
	7.0nm,0.4s						
LASF	**Ste Croix**	**1.73**	**283**	*e*Pn	**Pn**	**00 37 20.9**	**0.0**
LASF				*e*Pg	**Pg**	**00 37 24.8**	**-0.5**
LASF				*e*Sg	**Sg**	**00 37 46.9**	**-1.0**
LASF	**Ste Croix**	**1.73**	**283**	*e*Pg	**Pg**	**00 37 24.8**	**-0.5**
LASF				*e*Sg	**Sg**	**00 37 46.9**	**-1.0**
	3.5nm,0.4s						
LPG	**La Plagne**	**1.82**	**12**	*e*Pg	**Pg**	**00 37 26.5**	**-0.4**
LPG				*e*Sn	**Sn**	**00 37 44.7**	**+0.2**
LPG				*e*Sg	**Sg**	**00 37 50.4**	**-0.1**
	6.9nm,0.4s						
LPG	**La Plagne**	**1.82**	**12**	*e*Pn	**Pn**	**00 37 22.9**	**+0.8**
LPG				*e*Pg	**Pg**	**00 37 26.5**	**-0.4**
LPG				*e*Sn	**Sn**	**00 37 44.7**	**+0.2**
LPG				*e*Sg	**Sg**	**00 37 50.4**	**-0.1**
LPG	**La Plagne**	**1.82**	**12**	*e*Pg	**Pg**	**00 37 26.5**	**-0.4**
LPG				*e*Sn	**Sn**	**00 37 44.7**	**+0.2**
LPG				*e*Sg	**Sg**	**00 37 50.4**	**-0.1**
	3.5nm,0.4s						
LPL	**La Plagne**	**1.83**	**12**	*e*Pg	**Pg**	**00 37 26.4**	**-0.8**
LPL				*e*Sg	**Sg**	**00 37 50.6**	**-0.4**
	9.8nm,0.5s						
LPL	**La Plagne**	**1.83**	**12**	*e*Pn	**Pn**	**00 37 22.9**	**+0.6**
LPL				*e*Pg	**Pg**	**00 37 26.4**	**-0.8**
LPL				*e*Sg	**Sg**	**00 37 50.6**	**-0.4**
LPL	**La Plagne**	**1.83**	**12**	*e*Pg	**Pg**	**00 37 26.4**	**-0.8**
LPL				*e*Sg	**Sg**	**00 37 50.6**	**-0.4**
	4.9nm,0.5s						
PGF	**Pioggiola**	**2.36**	**119**	*e*Pn	**Pn**	**00 37 29.2**	**-0.3**
PGF				*e*Sn	**Sn**	**00 37 55.9**	**-2.0**
	5.2nm,0.2s						
PGF	**Pioggiola**	**2.36**	**119**	*e*Pn	**Pn**	**00 37 29.2**	**-0.3**
PGF				*e*Sn	**Sn**	**00 37 55.9**	**-2.0**
	2.6nm,0.2s						
CABF	**La Chapelle**	**2.89**	**358**	*e*Sg	**Sg**	**00 38 23.3**	**-1.5**
	5.2nm,0.4s						
CABF	**La Chapelle**	**2.89**	**358**	*e*Sg	**Sg**	**00 38 23.3**	**-1.5**
	2.6nm,0.4s						
MTLF	**Montolieu**	**2.92**	**264**	*e*Pg	**Pg**	**00 37 46.8**	**-1.2**
MTLF				*e*Sn	**Sn**	**00 38 11.8**	**-0.1**
MTLF				*e*Sg	**Sg**	**00 38 24.1**	**-1.8**
	1.4nm,0.3s						
MTLF	**Montolieu**	**2.92**	**264**	*e*Pn	**Pn**	**00 37 38.1**	**+0.8**
MTLF				*e*Pg	**Pg**	**00 37 46.8**	**-1.2**
MTLF				*e*Sn	**Sn**	**00 38 11.8**	**-0.1**
MTLF				*e*Sg	**Sg**	**00 38 24.1**	**-1.8**
MTLF	**Montolieu**	**2.92**	**264**	*e*Pg	**Pg**	**00 37 46.8**	**-1.2**
MTLF				*e*Sn	**Sn**	**00 38 11.8**	**-0.1**
MTLF				*e*Sg	**Sg**	**00 38 24.1**	**-1.8**
	0.7nm,0.3s						
SMF	**Signal de Mont**	**3.37**	**331**	*e*Sn	**Sn**	**00 38 21.9**	**-0.8**
	1.2nm,0.2s						
SMF	**Signal de Mont**	**3.37**	**331**	*e*Sn	**Sn**	**00 38 21.9**	**-0.8**
	0.6nm,0.2s						

IDC 25 00:47:52.0±2.1, 094S×12815E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=152.2km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.83**	**163**	P	Pn	00 52 24.8	-1.0
	0.2nm,0.3s,baz=342,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**23.27**	**167**	P	P	00 53 01.4	+0.1
	0.4nm,0.5s,baz=347,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**62.19**	**326**	P	P	00 58 15.3	+0.1
	0.3nm,0.3s,baz=129,slow=8.0,SNR=7.7						

IDC 25 00:50:04.7±7.8, 2237N×14491E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=291.4km s-min=26.3km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.86**	**319**	P	P	00 57 40.6	+0.6
	0.7nm,0.4s,baz=131,slow=8.3,SNR=3.4						
WRA	**Warramunga Arr**	**43.30**	**195**	P	P	00 58 09.0	+0.8
	0.8nm,0.7s,baz=17,slow=9.3,SNR=7.8						
ASAR	**Alice Springs**	**46.99**	**194**	P	P	00 58 37.0	-0.5
	0.5nm,0.6s,baz=15,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**55.43**	**312**	P	P	00 59 40.4	-0.5
	0.4nm,0.4s,baz=95,slow=8.9,SNR=4.9						

*STR **25** 00:54:47.4±1.8, 4363N×6.15E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **25** 00:54:48.2±0.6, 4368N±004×6.12E±004, h22km±8km, Error ellipse: s-maj=7.2km s-min=4.7km az=53.5*
*LDG **25** 00:54:48.7±0.1, 4373N×6.15E, h6km, Md2.1/3, Ml2.2/4, Error ellipse: s-maj=3.0km s-min=1.8km az=32.0*

ISC 25 00:54:48.2±0.5, 4373N±003×616E±003, h18km±5km, n15, σ0=71/27, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRF	**La Foret Royal**	**0.39**	**115**	*e*Pg	**Pg**	**00 54 56.1**	**-0.2**
FRF				*e*Sg	**Sg**	**00 55 00.7**	**-1.1**
	8.8nm,0.2s						
LMR	**La Mourre**	**0.47**	**147**	*e*Pg	**Pg**	**00 54 58.3**	**+0.6**
LMR				*e*Sg	**Sg**	**00 55 04.8**	**+0.7**
	4.0nm,0.2s						
SMRF	**Simiane la Rot**	**0.49**	**300**	*e*Pg	**Pg**	**00 54 57.7**	**-0.4**
SMRF	**Simiane la Rot**	**0.49**	**300**	*e*Pn	**Pg**	**00 54 59.2**	**+1.1**
SMRF				*e*Sg	**Sg**	**00 55 05.1**	**+0.3**
	6.4nm,0.3s						
TOUF	**Mont Tournerai**	**0.84**	**70**	Pg	**Pg**	**00 55 03.4**	**-1.1**
LUCF	**Luceram**	**0.87**	**79**	Pg	**Pg**	**00 55 04.9**	**-0.3**
LUCF				Sg	**Sg**	**00 55 17.0**	**+0.2**
SBF	**Sospel**	**0.93**	**81**	*e*Pg	**Pg**	**00 55 06.2**	**-0.2**
SBF				*e*Sg	**Sg**	**00 55 18.7**	**+0.1**
	9.3nm,0.3s						
AUTN	**L'Aution**	**0.95**	**73**	Pg	**Pg**	**00 55 05.6**	**-1.2**
AUTN				Sg	**Sg**	**00 55 21.7**	**+2.4**
SAOF	**Saorge**	**1.04**	**75**	Pg	**Pg**	**00 55 08.7**	**+0.3**
SAOF				Sg	**Sg**	**00 55 21.5**	**-0.6**
MBDF	**Montbardon**	**1.09**	**24**	*e*Pg	**Pg**	**00 55 09.8**	**+0.5**
MBDF				*e*Sg	**Sg**	**00 55 24.3**	**+0.7**
	1.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.21**	**350**	*e*Pg	**Pg**	**00 55 11.4**	**-0.1**
ORIF				*e*Sg	**Sg**	**00 55 26.9**	**-0.4**
	2.6nm,0.2s						
VIVF	**Saint-Julien-l**	**1.55**	**317**	*e*Pn	**Pn**	**00 55 14.8**	**-0.1**
VIVF				*e*Sn	**Sn**	**00 55 34.2**	**-0.4**
LASF	**Ste Croix**	**1.70**	**283**	*e*Pn	**Pn**	**00 55 18.0**	**+1.1**
LASF	**Ste Croix**	**1.70**	**283**	*e*Pg	**Pg**	**00 55 20.2**	**-0.7**
LASF				*e*Sn	**Sn**	**00 55 37.9**	**-0.3**
LASF				*e*Sg	**Sg**	**00 55 43.1**	**0.0**
	52nm,1.4s						
PGF	**Pioggiola**	**2.39**	**119**	*e*Pn	**Pn**	**00 55 26.6**	**+0.2**

*SOF **25** 00:56:41.8, 3973N×2962E, h2km, MD3.1*
*MOS **25** 00:56:54.7±0.7, 4040N×2905E, h10km, mb4.0/1, Error ellipse: s-maj=9.8km s-min=6.6km az=85.8*
*ISK **25** 00:56:55.6, 4041N×2900E, h10km, ML3.6*
*ISCJB **25** 00:56:55.9±0.3, 4045N±002×2900E±002, h10km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=48.6*
*CSEM **25** 00:56:55.5±0.0, 4042N×2901E, h10km, ML3.7, Error ellipse: s-maj=1.0km s-min=0.8km az=10.0*
*NEIC **25** 00:56:55.0, 4041N×2900E, h10km, MD3.9(ATH), ML3.6(ISK), After ISK.*
*THE **25** 00:56:57.6, 4048N×2895E, h1km, ML3.7*
*ATH **25** 00:57:02.3, 4036N×2851E, h47km, MD3.9/3*

ISC 25 00:56:56.4±0.3, 4041N±002×2900E±002, h6km±3km, n98, σ0=91/126, 9C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.14**	**81**	*i* PG	**Pg**	**00 57 00.9**	**-0.1**
GEMT				*i* SG	**Sg**	**00 57 02.0**	**+0.7**
ULDT	**Uludag**	**0.29**	**159**	*i* P	**Pg**	**00 57 01.8**	**-0.2**
ULDT				*i* S	**Sg**	**00 57 09.6**	**+3.7**
YLV	**Yalova**	**0.32**	**61**	*i* PG	**Pg**	**00 57 01.9**	**-0.7**
YLV				*i* SG	**Sg**	**00 57 08.0**	**+1.2**
BADT	**Buyukada**	**0.45**	**11**	*i* PG	**Pg**	**00 57 05.2**	**+0.2**
KCT	**Karacabey**	**0.52**	**254**	*i* PG	**Pg**	**00 57 06.4**	**+0.1**
ADVT	**Abdulvahap**	**0.56**	**88**	*i* PG	**Pg**	**00 57 07.0**	**-0.2**
HRT	**Hereke**	**0.65**	**51**	*i* PG	**Pg**	**00 57 08.3**	**-0.6**
ISK	**Istanbul-Kandi**	**0.65**	**4**	*i* PG	**Pg**	**00 57 08.9**	**0.0**
ISK	**Istanbul-Kandi**	**0.65**	**4**	*e*Pg	**Pg**	**00 57 08.8**	**-0.1**
ISK				*e*Sg	**Sg**	**00 57 18.1**	**+0.7**
KLYT	**Kilyos**	**0.84**	**2**	*i* PG	**Pg**	**00 57 12.4**	**-0.1**
ELBA	**Catalca**	**0.85**	**330**	*i* P	**Pg**	**00 57 12.3**	**-0.4**
ELBA				*i* S	**Sg**	**00 57 23.7**	**0.0**
ELBA	**Catalca**	**0.85**	**330**	*i* P	**Pg**	**00 57 12.3**	**-0.4**
ELBA				*i* S	**Sg**	**00 57 23.7**	**0.0**
CTT	**Catalca**	**0.85**	**330**	*i* PG	**Pg**	**00 57 12.5**	**-0.2**
EDC	**Edincik**	**0.87**	**266**	*i* PG	**Pg**	**00 57 12.4**	**-0.7**
EYL	**Eskiyayla**	**0.89**	**80**	*i* PG	**Pg**	**00 57 12.9**	**-0.6**
BTOK	**Tokmak**	**0.99**	**229**	*i* P	**Pg**	**00 57 14.6**	**-0.7**
BTOK				*i* S	**Sg**	**00 57 28.8**	**+0.7**
GPA	**Golpazari**	**1.01**	**97**	*i* PG	**Pg**	**00 57 15.3**	**-0.4**
MRMT	**Marmara Adasi**	**1.09**	**280**	*i* PN	**Pn**	**00 57 16.8**	**-1.4**
BORA	**Eskisehir**	**1.23**	**115**	*i* P	**Pg**	**00 57 18.9**	**-1.2**
BORA				*i* S	**Sg**	**00 57 37.5**	**+1.5**
MFT	**Murefte**	**1.36**	**286**	*i* PN	**Pn**	**00 57 21.5**	**-0.4**
SART	**Tekirdag**	**1.42**	**282**	*i* P	**Pn**	**00 57 22.7**	**0.0**
SART				*i* S	**Sb**	**00 57 42.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.42**	**282**	PN	**Pn**	**00 57 22.1**	**-0.6**
HENT	**Hendek**	**1.50**	**74**	*i* P	**Pn**	**00 57 23.1**	**-0.7**
HENT				*i* S	**Sn**	**00 57 44.0**	**+0.3**
CANB	**Canakkale**	**1.54**	**256**	PN	**Pn**	**00 57 23.4**	**-0.9**
ESKT	**Eskisehir**	**1.68**	**122**	PN	**Pn**	**00 57 26.0**	**-0.3**
KDZE	**Karadeniz Ereo**	**2.06**	**63**	PN	**Pn**	**00 57 31.9**	**+0.4**
EZN	**Ezine**	**2.13**	**255**	*e*PN	**Pn**	**00 57 32.2**	**-0.4**
EDRB	**Edirne**	**2.23**	**311**	PN	**Pn**	**00 57 33.2**	**-0.6**
ALN	**Alexandroupoli**	**2.30**	**283**	*e*Pn	**Pn**	**00 57 34.5**	**-0.3**
ALN				*e*Sn	**Sn**	**00 58 02.9**	**-0.6**
PRK	**Paraskevi**	**2.40**	**242**	*e*P	**Pn**	**00 57 36.0**	**-0.3**
PRK				*e*S	**Sn**	**00 58 00.1**	**-5.9**
IZM	**Izmir**	**2.42**	**214**	PN	**Pn**	**00 57 36.4**	**-0.1**
RDO	**Rodhopi**	**2.73**	**287**	*e*P	**Pn**	**00 57 40.3**	**-0.5**
JMB	**Yambol**	**2.74**	**319**	*e*Pn	**Pn**	**00 57 41.4**	**+0.4**
JMB				*e*Sn	**Sn**	**00 58 13.9**	**-0.5**
JMB	**Yambol**	**2.74**	**319**	*e*P	**Pn**	**00 57 40.3**	**-0.6**
JMB				*i* S	**Sg**	**00 58 24.9**	**+0.5**
JMB	**Yambol**	**2.74**	**319**	*e*Pn	**Pn**	**00 57 41.3**	**+0.4**
JMB				*e*Sn	**Sn**	**00 58 13.9**	**-0.5**
ISP	**Isparta**	**2.82**	**155**	*e*PN	**Pn**	**00 57 42.6**	**+0.6**
ISP	**Isparta**	**2.82**	**155**	*e*Pn	**Pn**	**00 57 44.1**	**+2.1**
ISP				*e*Sn	**Sn**	**00 58 19.6**	**+3.2**
ISP	**Isparta**	**2.82**	**155**	*e*P	**Pn**	**00 57 41.9**	**-0.1**
ISP				*e*		00 58 13.4	
ISP	**Isparta**	**2.82**	**155**	*e*Pn	**Pn**	**00 57 41.9**	**-0.1**
ISP				*e*Pg	**Pg**	**00 57 49.2**	**-1.2**
ISP				*e*Sn	**Sn**	**00 58 13.4**	**-2.9**
ISP				*e*Sg	**Sg**	**00 58 31.6**	**+4.6**
SAFT	**Safranbolu**	**2.92**	**72**	PN	**Pn**	**00 57 43.0**	**-0.3**
ANTO	**Ankara**	**2.96**	**99**	*e*PN	**Pn**	**00 57 43.9**	**0.0**
ANTO	**Ankara**	**2.96**	**99**	⇓*i*P	**Pn**	**00 57 43.9**	**0.0**
ANTO	**Ankara**	**2.96**	**99**	⇓P	**Pn**	**00 57 43.9**	**+0.1**
KDZ	**Kurdzhali**	**2.98**	**296**	*i* P	**Pg**	**00 57 55.9**	**+2.4**
KDZ				*i* S	**Sg**	**00 58 31.9**	**-0.2**
PRD	**Provadia**	**3.03**	**337**	*i* P	**Pn**	**00 57 50.6**	**+5.7**
LOS	**Limnos**	**3.04**	**262**	*e*Pn	**Pn**	**00 57 45.6**	**+0.6**
CHOS	**Chios island**	**3.05**	**229**	*e*Pn	**Pn**	**00 57 44.4**	**-0.7**
DIM	**Dimitrovgrad**	**3.08**	**303**	*i* P	**Pn**	**00 57 45.6**	**0.0**
SMG	**Samos**	**3.18**	**213**	*e*P	**Pn**	**00 57 48.2**	**+1.2**
BCK	**Bucak**	**3.20**	**157**	*e*PN	**Pn**	**00 57 47.5**	**+0.3**
MLSB	**Milas**	**3.26**	**197**	*e*PN	**Pn**	**00 57 48.8**	**+0.8**
RZN	**Rozhen**	**3.48**	**293**	*i* P	**Pn**	**00 57 53.6**	**+2.5**
RZN				*i* S	**Sg**	**00 58 44.8**	**-3.4**
CANT	**Cankiri**	**3.53**	**85**	*e*PN	**Pn**	**00 57 51.9**	**+0.2**
KONT	**Konya--Tatoy**	**3.59**	**132**	*e*PN	**Pn**	**00 57 52.9**	**+0.3**
BR131	**Keskin Array S**	**3.62**	**99**	*e*Pn	**Pn**	**00 57 52.2**	**-0.8**
BR131				*e*Pg	**Pg**	**00 58 03.8**	**-2.0**
BR131	**Keskin Array S**	**3.62**	**99**	*e*Pn	**Pn**	**00 57 52.2**	**-0.8**
BR131	**Keskin Array S**	**3.62**	**99**	*e*Pg	**Pg**	**00 58 03.8**	**-2.0**
DALT	**Dalyan (Mudla)**	**3.65**	**185**	*e*PN	**Pn**	**00 57 54.2**	**+0.8**
ELL	**Elmali**	**3.73**	**169**	*e*PN	**Pn**	**00 57 55.0**	**+0.5**
KAMT	**Kaman**	**3.77**	**105**	*e*PN	**Pn**	**00 57 54.6**	**-0.5**
DAT	**Datca**	**3.84**	**197**	*e*PN	**Pn**	**00 57 56.0**	**-0.1**
TOS	**Tosya**	**3.87**	**79**	*e*PN	**Pn**	**00 57 56.9**	**+0.5**
TIRR	**Tirgusor**	**4.07**	**354**	⇑*i*P	**Pn**	**00 57 58.8**	**-0.3**
TIRR	**Tirgusor**	**4.07**	**354**	⇑P	**Pn**	**00 57 58.9**	**-0.3**
TIRR	**Tirgusor**	**4.07**	**354**	P	**Pn**	**00 57 58.9**	**-0.2**
BZK	**Bozkurt**	**4.08**	**66**	*e*PN	**Pn**	**00 57 59.5**	**+0.2**
AOS	**Alonnisos**	**4.14**	**254**	*e*Pn	**Pn**	**00 58 01.3**	**+1.2**
MMB	**Musomiste**	**4.16**	**288**	*i* P	**Pn**	**00 57 57.3**	**-3.1**
SRS	**Serrai**	**4.17**	**281**	*e*Pn	**Pn**	**00 58 00.4**	**-0.1**
PLG	**Polygyros**	**4.24**	**271**	*e*Pn

mb4.4/19, Error ellipse: s-maj=20.7km s-min=5.3km az=141.7
JMA ***25*** *01:30:12.7±0.1, 2939N×14052E, h50km, M4.3*
MOS ***25*** *01:30:12.5±1.1, 2931N×13999E, h33km, mb4.8/5, Error ellipse: s-maj=31.9km s-min=10.4km az=106.8*

ISC 25 01:30:15.0±0.7, 2948N±005×1409E±02, h55km±10km, n49, σ1§13/49, mb4.4/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.64**	**154**	Pn	**Pn**	**01 30 55.2**	**+0.2**
	52nm,0.3s,baz=329,slow=7.7,SNR=24						
CBIJ				Sn	**Sn**	**01 31 25.4**	**-0.4**
	82nm,0.3s,baz=79,slow=23,SNR=18						
CBIJ	**Chichi jima**	**2.64**	**154**	P	**Pn**	**01 30 55.1**	**0.0**
CBIJ				*e*S	**Sn**	**01 31 25.7**	**-0.1**
JHHJ	**Haha-jima-NKT**	**3.06**	**158**	P	**Pn**	**01 31 00.9**	**0.0**
JHHJ				*e*S	**Sn**	**01 31 36.3**	**+0.1**
BSO3	**Boso 3**	**5.32**	**357**	P	**Pn**	**01 31 32.9**	**+1.1**
BSO3				*e*S	**Sn**	**01 32 29.4**	**-2.3**
JWZ	**Kozaga**	**5.98**	**314**	P	**Pn**	**01 31 37.9**	**-3.0**
JHU	**Hanno**	**6.50**	**348**	*e*S	**Sn**	**01 33 00.4**	**-0.3**
JRY	**Ryogami san**	**6.73**	**346**	P	**Pn**	**01 31 56.0**	**+4.8**
JRY				*e*S	**Sn**	**01 33 09.2**	**+2.8**
MJAR	**Matsushiro Arr**	**7.39**	**343**	Pn	**Pn**	**01 32 03.7**	**+3.5**
	0.8nm,0.3s,baz=160,slow=13,SNR=6.2						
MJAR	**Matsushiro Arr**	**7.39**	**343**	Pn	**Pn**	**01 32 03.7**	**+3.5**
MAJO	**Matsushiro**	**7.39**	**343**	*e*P	**Pn**	**01 32 00.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**7.39**	**343**	*e*Pn	**Pn**	**01 32 00.3**	**0.0**
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**7.39**	**343**	P	**Pn**	**01 32 05.0**	**+4.7**
JOW	**Kunigami**	**11.43**	**260**	LR	LR	01 37 05.2	
	comp=Z,66nm,18.2s,baz=64,slow=38						
GUMO	**Guam**	**16.24**	**166**	LR	LR	01 38 39.2	
	comp=Z,33nm,21.2s,baz=123,slow=31						
YHNB	**Yeheng**	**18.01**	**259**	Pn	**Pn**	**01 34 14.5**	**-6.9**
KLR	**Kul'dur**	**20.92**	**343**	*e*P	**P**	**01 34 52.1**	**-0.9**
TLY	**Talaya**	**35.38**	**319**	P	**P**	**01 37 01.8**	**-3.6**
LSA	**Lhasa**	**42.97**	**283**	*e*P	**P**	**01 38 05.4**	**-3.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
LSA	**Lhasa**	**42.97**	**283**	*e*P	**P**	**01 38 05.4**	**-3.2**
	comp=Z,3.4nm,0.3s,mb4.5						
GUN	**Gumba**	**47.89**	**282**	*e*P	**P**	**01 38 48.6**	**+1.0**
	comp=Z,27nm,0.8s,mb5.3						
MKAR	**Makanchi Array**	**48.09**	**308**	P	**P**	**01 38 49.4**	**+0.2**
	comp=Z,0.4nm,0.9s,mb3.5,baz=107,slow=5.0,SNR=2.9						
PKI	**Pulchoki**	**48.38**	**282**	*e*P	**P**	**01 38 51.6**	**+0.2**
	comp=Z,16nm,1.1s,mb5.0						
KKN	**Kakani**	**48.43**	**282**	*e*P	**P**	**01 38 52.1**	**+0.3**
	comp=Z,20nm,0.9s,mb5.1						
DMN	**Daman**	**48.63**	**282**	*e*P	**P**	**01 38 53.9**	**+0.6**
GKN	**Gorkha**	**48.92**	**283**	*e*P	**P**	**01 38 55.1**	**-0.4**
	comp=Z,20nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**49.52**	**188**	*e*P	**P**	**01 39 01.4**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**49.52**	**188**	*e*P	**P**	**01 39 01.4**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**49.53**	**199**	P	**P**	**01 39 00.5**	**+0.3**
	comp=Z,2.3nm,1.0s,mb4.2,baz=34,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**49.53**	**188**	P	**P**	**01 39 00.3**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=3.9,slow=7.7,SNR=34						
KOLN	**Koldanda**	**49.87**	**283**	*e*P	**P**	**01 39 03.5**	**+0.8**
	comp=Z,25nm,1.0s,mb5.2						
ASAR	**Alice Springs**	**53.26**	**188**	P	**P**	**01 39 27.9**	**-0.2**
	comp=Z,1.1nm,1.1s,mb3.7,baz=0.3,slow=5.1,SNR=6.2						
BVAR	**Borovoye Array**	**55.52**	**316**	P	**P**	**01 39 43.1**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=60,slow=8.5,SNR=3.3						
STKA	**Stephens Creek**	**61.02**	**179**	P	**P**	**01 40 19.9**	**-2.9**
ARCES	**ARCESS Array B**	**70.92**	**340**	P	**P**	**01 41 27.8**	**+1.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=69,slow=13,SNR=4.4						
JOF	**Joensuu**	**72.45**	**333**	*e*p	**P**	**01 41 34.2**	**-1.4**
	comp=Z,8.9nm,1.0s,mb4.7						
JOF	**Joensuu**	**72.45**	**333**	*e*P	**P**	**01 41 34.2**	**-1.4**
JOF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KAF	**Kangasniemi**	**74.84**	**334**	*e*p	**P**	**01 41 49.2**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.6						
KAF	**Kangasniemi**	**74.84**	**334**	*e*P	**P**	**01 41 49.2**	**-0.4**
KAF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**75.31**	**333**	P	**P**	**01 41 53.0**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=67,slow=5.9,SNR=13						
FINES	**FINESS Array B**	**75.31**	**333**	P	**P**	**01 41 53.0**	**+0.6**
AKASG	**Malin Array Be**	**80.03**	**323**	P	**P**	**01 42 18.5**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=45,slow=4.8,SNR=5.8						
NB2	**NORSAR Subarra**	**80.98**	**338**	P	**P**	**01 42 24.3**	**+0.6**
	comp=Z,6.1nm,1.2s,mb4.4,baz=46,slow=5.1						
NB2	**NORSAR Subarra**	**80.98**	**338**	P	**P**	**01 42 24.3**	**+0.6**
NB2				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
NOA	**NORSAR Array B**	**80.98**	**338**	P	**P**	**01 42 25.0**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=44,slow=9.4,SNR=3.3						
BR131	**Keskin Array S**	**83.55**	**312**	P	**P**	**01 42 37.6**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**83.55**	**312**	P	**P**	**01 42 36.4**	**-0.7**
	comp=Z,0.9nm,0.9s,mb3.9,baz=29,slow=2.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**122.16**	**311**	PKP	PKPdf	01 49 04.9	+1.4
	comp=Z,0.3nm,0.7s,baz=65,slow=1.4,SNR=8.4						
LPAZ	**La Paz**	**150.32**	**70**	PKPbc	PKPbc	01 50 05.0	+4.9
	comp=Z,1.2nm,0.7s,baz=12,slow=3.8,SNR=6.9						
LPAZ	**La Paz**	**150.32**	**70**	PKPbc	PKPbc	01 50 05.0	+4.9

ISCJB ***25*** *01:37:57.2±0.6, 52N±0.1×1253E±03, h10km, mb3.9/9, Error ellipse: s-maj=39.7km s-min=10.1km az=148.4*
IDC ***25*** *01:37:58.0±1.1, 506N×12529E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=58.2km s-min=19.0km az=79.0*
NEIC ***25*** *01:37:59.3±0.5, 5.14N×12527E, h10km, mb4.2/5, Error ellipse: s-maj=30.9km s-min=7.9km az=75.0*

ISC 25 01:37:59.5±0.6, 513N±010×1252E±03, h10km, n15, σ0§65/15, mb3.9/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**20.05**	**350**	*e*P	**P**	**01 42 32.5**	**-0.3**
	12nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.09**	**179**	*e*P	**P**	**01 43 05.6**	**+0.3**
	12nm,1.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.09**	**179**	P	**P**	**01 43 05.1**	**-0.2**
	1.7nm,0.7s,mb3.6,baz=9.1,slow=8.8,SNR=6.8						
WRAB	**Tennant Creek**	**26.47**	**160**	*e*P	**P**	**01 43 38.1**	**+1.4**
	1.8nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**26.48**	**161**	P	**P**	**01 43 35.9**	**-0.9**
	1.1nm,0.3s,mb3.9,baz=338,slow=10,SNR=31						
WB2	**Warramunga Arr**	**26.48**	**160**	*e*P	**P**	**01 43 36.9**	**+0.1**
ASAR	**Alice Springs**	**29.85**	**164**	P	**P**	**01 44 06.7**	**-0.1**
	0.4nm,0.7s,mb3.2,baz=346,slow=10,SNR=4.2						
CTAO	**Charters Tower**	**32.48**	**141**	P	**P**	**01 44 29.3**	**-0.7**
MJAR	**Matsushiro Arr**	**33.45**	**19**	P	**P**	**01 44 39.2**	**+0.7**
	2.6nm,0.8s,mb4.2,baz=196,slow=8.7,SNR=6.4						
MJAR	**Matsushiro Arr**	**33.45**	**19**	P	**P**	**01 44 39.2**	**+0.7**
STKA	**Stephens Creek**	**39.97**	**158**	P	**P**	**01 45 33.8**	**-0.2**
	5.6nm,1.0s,mb4.3,baz=4.7,slow=8.0,SNR=4.6						
STKA	**Stephens Creek**	**39.97**	**158**	P	**P**	**01 45 34.4**	**+0.4**
ULN	**Ulaanbaatar**	**45.34**	**343**	*e*P	**P**	**01 46 17.1**	**-0.6**
	0.4nm,0.4s,mb3.6						
MKAR	**Makanchi Array**	**55.56**	**325**	P	**P**	**01 47 35.8**	**+0.8**
	0.8nm,0.5s,mb4.0,baz=127,slow=8.1,SNR=8.4						
BRVK	**Borovoye**	**65.41**	**327**	*e*P	**P**	**01 48 41.9**	**-0.4**
	0.6nm,0.4s,mb4.0						

CSEM ***25*** *01:54:09.7±0.2, 3690N×4.18E, h8km, mb3.4/3, Error ellipse: s-maj=5.7km s-min=4.8km az=14.0*
ISCJB ***25*** *01:54:10.1±0.7, 3701N±005×4.18E±007, h10km, Error ellipse: s-maj=8.5km s-min=6.3km az=108.0*
MDD ***25*** *01:54:11.0±0.7, 3689N×423E, h0km, mb3.6/4, Error ellipse: s-maj=10.2km s-min=6.4km az=12.0, PRXIMO*
CRAAG ***25*** *01:54:10.6, 3699N×4.10E, Ml2.5*
NEIC ***25*** *01:54:14.4, 3709N×405E, h0km, MG3.4(MDD), After MDD.*

ISC 25 01:54:10.7±0.7, 3695N±005×418E±007, h10km, n17, σ1§37/21, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.60**	**250**	P	**Pg**	**01 54 22.0**	**-0.3**
ABA	**Alger-Bouzarea**	**0.93**	**261**	P	**Pg**	**01 54 28.5**	**-0.1**
SET	**Setif**	**1.24**	**127**	P	**Pn**	**01 54 32.0**	**-2.0**
EMHD	**Djebel Mahouad**	**1.24**	**233**	P	**Pn**	**01 54 34.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.42**	**106**	P	**Pn**	**01 54 36.0**	**-0.5**
ETOS	**Mallorca**	**3.01**	**339**	P	**Pn**	**01 54 59.7**	**+1.4**
	1.3nm,0.1s,SNR=7.0						
ETOS				S	**Sn**	**01 55 32.7**	**-1.7**
	1.2nm,0.2s,SNR=5.1						
ETOS	**Mallorca**	**3.01**	**339**	P	**Pn**	**01 54 59.7**	**+1.4**
	1.3nm,0.1s,SNR=7.0						
EIBI	**Ibiza**	**3.05**	**314**	P	**Pn**	**01 55 00.3**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**01 55 34.0**	**-1.5**
	1.4nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.05**	**314**	P	**Pn**	**01 55 00.3**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.90**	**298**	P	**Pn**	**01 55 11.2**	**+0.6**
	0.2nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**3.90**	**298**	P	**Pn**	**01 55 11.2**	**+0.6**
	0.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.84**	**292**	P	**Pn**	**01 55 25.8**	**+2.3**
	0.9nm,0.2s,SNR=6.0						
ETOB				S	**Sn**	**01 56 18.4**	**-1.2**
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.84**	**292**	P	**Pn**	**01 55 25.8**	**+2.3**
	0.9nm,0.2s,SNR=6.0						
EPOB	**Poblet**	**5.01**	**332**	P	**Pn**	**01 55 27.5**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**01 56 22.1**	**-1.7**
	0.1nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**5.01**	**332**	P	**Pn**	**01 55 27.5**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**5.58**	**350**	P	**Pn**	**01 55 35.7**	**+2.0**
	5.9nm,1.0s,SNR=4.6						
EJON	**La Jonquera**	**5.58**	**350**	P	**Pn**	**01 55 35.7**	**+2.0**
	5.9nm,1.0s,SNR=4.6						

BJI ***25*** *02:05:10.2, 346S×12923E, h35km, mB5.0, mb4.5*
IDC ***25*** *02:05:14.1±0.7, 269S×12848E, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.2/8, ML3.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/20, Error ellipse: s-maj=43.3km s-min=18.2km az=59.0*
ISCJB ***25*** *02:05:17.6±0.5, 274S±007×1285E±0.1, h33km, mb4.5/19, MS3.4/5, Error ellipse: s-maj=19.2km s-min=6.6km az=125.5*
NEIC ***25*** *02:05:19.7±0.4, 275S×12849E, h35km, mb4.6/9, Error ellipse: s-maj=16.5km s-min=7.3km az=66.0*

ISC 25 02:05:20.7±2.0, 280S±008×1286E±01, h45km±18km, h26km±3.9km: pP-P, n45, σ0§94/37, mb4.5/19, MS3.4/5, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.57**	**159**	*e*P	**Pn**	**02 07 53.2**	**+3.6**
	24nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.48**	**190**	*e*P	**Pn**	**02 08 59.3**	**+3.4**
	30nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.48**	**190**	Pn	**Pn**	**02 08 55.1**	**-0.8**
	0.1nm,0.3s,baz=27,slow=9.0,SNR=4.2						
FITZ				LR	LR	02 15 49.7	
	comp=Z,161nm,18.4s,baz=189,slow=41						
FITZ	**Fitzroy Crossi**	**15.48**	**190**	Pn	**Pn**	**02 08 55.1**	**-0.8**
FITZ				*e*P		02 08 59.3	
FITZ				LR	LR	02 15 49.7	
WRAB	**Tennant Creek**	**17.95**	**162**	*e*P	**Pn**	**02 09 26.1**	**-0.8**
	12nm,0.6s						
WRA	**Warramunga Arr**	**17.95**	**162**	P	**Pn**	**02 09 20.6**	**-6.3**
	0.3nm,0.3s,baz=344,slow=12,SNR=18						
WRA				S	**S**	**02 12 48.0**	**-2.6**
	0.1nm,0.3s,baz=338,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	**17.96**	**162**	*e*P	**Pn**	**02 09 26.3**	**-0.7**
KSM	**Kuching**	**18.73**	**283**	*e*P	**Pn**	**02 09 35.7**	**-0.6**
MBWA	**Marble Bar**	**20.17**	**205**	*e*P	**P**	**02 09 52.2**	**+0.9**
	26nm,1.3s						
AS31	**Alice Springs**	**21.38**	**166**	*e*P	**P**	**02 10 05.2**	**+0.8**
AS31				*e*		02 10 05.9	
AS31				*e*S	**S**	**02 13 59.9**	**+0.8**
ASAR	**Alice Springs**	**21.38**	**166**	P	**P**	**02 09 59.8**	**-4.6**
	0.9nm,0.4s,mb3.4,baz=347,slow=12,SNR=19						
ASAR				S	**S**	**02 14 00.0**	**+0.9**
	5.2nm,0.9s,baz=346,slow=19,SNR=12						
ASAR				PcP	PcP	02 14 08.9	+2.2
	3.4nm,0.7s,baz=332,slow=1.7,SNR=16						
ASPA	**Alice Springs**	**21.38**	**166**	*e*P	**P**	**02 09 59.9**	**-4.5**
ASPA				*e*		02 10 05.9	
GUMO	**Guam**	**22.95**	**44**	LR	LR	02 18 25.7	
	comp=Z,64nm,18.7s,MS3.1,baz=189,slow=34						
CTA	**Charters Tower**	**24.37**	**136**	P	**P**	**02 10 35.5**	**+1.0**
	4.3nm,0.7s,mb4.0,baz=294,slow=14,SNR=3.5						
CTA	**Charters Tower**	**24.37**	**136**	P	**P**	**02 10 35.5**	**+1.0**
JOW	**Kunigami**	**29.45**	**359**	LR	LR	02 22 05.6	
	comp=Z,152nm,19.6s,MS3.6,baz=140,slow=34						
PSI	**Prapat**	**30.14**	**280**	P	**P**	**02 11 25.4**	**-0.9**
	3.9nm,0.8s,mb4.2,baz=148,slow=8.6,SNR=5.4						
STKA	**Stephens Creek**	**31.42**	**158**	P	**P**	**02 11 38.0**	**+0.4**
	2.1nm,0.9s,mb4.0,baz=333,slow=9.0,SNR=2.2						
CBIJ	**Chichi jima**	**32.50**	**23**	LR	LR	02 22 09.7	
	comp=Z,55nm,20.8s,MS3.2,baz=311,slow=31						
CM31	**Chiang Mai Arr**	**36.00**	**307**	*e*P	**P**	**02 12 16.9**	**-0.5**
	32nm,0.6s,mb5.4						
LZH	**Lanzhou**	**45.05**	**331**	*e*P	**P**	**02 13 32.5**	**+0.5**
LZH				AP	pP	02 13 41.5	-2.9
LZH				XP	sP	02 13 45.0	-4.8
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH	**Lanzhou**	**45.05**	**331**	*e*P	**P**	**02 13 32.5**	**+0.5**
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	02 13 41.5	-2.9
LZH				sP	sP	02 13 45.0	-4.8
GTA	**Gaotai**	**49.62**	**331**	*e*P	**P**	**02 14 08.1**	**+0.5**
GTA				AP	pP	02 14 16.6	-3.6
GTA				XP	sP	02 14 19.6	-5.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
GUN	**Gumba**	**51.15**	**310**	*e*P	**P**	**02 14 20.1**	**+1.0**
	comp=Z,29nm,1.0s,mb5.2						
KKN	**Kakani**	**51.55**	**309**	*e*P	**P**	**02 14 22.6**	**+0.5**
DMN	**Daman**	**51.60**	**309**	*e*P	**P**	**02 14 23.1**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9						
GKN	**Gorkha**	**52.15**	**309**	*e*P	**P**	**02 14 27.2**	**+0.6**
	comp=Z,21nm,1.0s,mb5.0						
KOLN	**Koldanda**	**52.85**	**308**	*e*P	**P**	**02 14 32.6**	**+0.8**
	comp=Z,28nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**53.85**	**342**	*e*P	**P**	**02 14 38.5**	**-0.5**
	comp=Z,3.2nm,0.3s,mb4.7						
SONM	**Songino Array**	**54.02**	**342**	P	**P**	**02 14 38.0**	**-2.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=139,slow=5.8,SNR=7.2						
MKAR	**Makanchi Array**	**63.95**	**326**	P	**P**	**02 15 48.5**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=129,slow=8.0,SNR=13						
MKAR				LR	LR	02 42 33.6	
	comp=Z,29nm,18.4s,MS3.5,baz=329,slow=35						
CASY	**Casey**	**64.62**	**188**	*e*P	**P**	**02 15 53.4**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.3						
BRVK	**Borovoye**	**73.83**	**328**	*e*P	**P**	**02 16 49.9**	**-0.6**
	comp=Z,3.8nm,1.1s,mb4.2						
BRVK				*e*pP	pP	02 16 57.1	-6.8
VNDA	**Vanda**	**76.77**	**173**	P	**P**	**02 17 06.8**	**-0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=314,slow=6.8,SNR=16						
VNDA	**Vanda**	**76.77**	**173**	*e*P	**P**	**02 17 07.7**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**87.15**	**180**	*e*P	**P**	**02 18 02.7**	**+0.8**
	comp=Z,3.9nm,1.0s,mb4.6						
KMBO	**Kilima Mbogo**	**91.25**	**269**	LR	LR	02 52 00.8	
	comp=Z,35nm,21.6s,MS3.8,baz=90,slow=31						
BRTR	**Keskin Array B**	**95.56**	**309**	P	**P**	**02 18 40.5**	**-0.5**
	comp=Z,1.0nm,0.9s,mb4.2,baz=134,slow=7.0,SNR=6.6						
TXAR	**Lajitas Array**	**123.91**	**56**	PKP	PKPdf	02 24 15.4	+1.6
	comp=Z,0.2nm,0.9s,baz=359,slow=8.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**126.49**	**284**	PKP	PKPdf	02 24 20.6	+1.9
	comp=Z,0.6nm,0.7s,baz=95,slow=1.9,SNR=7.1						
LVC	**Limon Verde**	**149.53**	**147**	*e*PKPbc	PKPbc	02 25 08.7	+3.7
CPUP	**Villa Florida**	**150.49**	**169**	PKPbc	PKPbc	02 25 08.8	+1.5
	comp=Z,7.1nm,0.9s,baz=148,slow=0.1,SNR=9.3						
CPUP	**Villa Florida**	**150.49**	**169**	*e*PKPbc	PKPbc	02 25 09.6	+2.3
LPAZ	**La Paz**	**154.87**	**140**	PKPbc	PKPbc	02 25 21.3	+4.2
	comp=Z,0.4nm,0.4s,baz=333,slow=4.5,SNR=4.5						
LPAZ				PKPab	PKPab	02 25 36.5	+4.1
	comp=Z,0.9nm,0.8s,baz=197,slow=8.1,SNR=4.1						
LPAZ	**La Paz**	**154.87**	**140**	PKPbc	PKPbc	02 25 21.3	+4.2
LPAZ				PKPab	PKPab	02 25 36.5	+4.1

ISCJB ***25*** *02:21:55.0±0.5, 3981N±003×2297E±005, h28km±6km, Error ellipse: s-maj=7.0km s-min=4.4km az=153.6*
ATH ***25*** *02:21:54.0, 3981N×2300E, h35km±20km, MD2.9/3*
THE ***25*** *02:21:55.2, 3985N×2301E, h11km, ML2.0*
CSEM ***25*** *02:21:55.0±0.1, 3981N×2298E, h20km, ML2.0, Error ellipse: s-maj=2.8km s-min=1.9km az=79.0*

ISC 25 02:21:55.1±0.5, 3982N±003×2296E±005, h25km±7km, n11, σ0§91/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.46**	**308**	*e*Pg	**Pb**	**02 22 03.9**	**-0.7**
LIT				*e*Sg	**Sb**	**02 22 11.4**	**+0.4**
XOR	**Xorichti**	**0.49**	**159**	*e*Pg	**Pb**	**02 22 04.2**	**-0.9**
XOR				*e*Sg	**Sb**	**02 22 12.8**	**+0.9**
NEO	**Neokhori**	**0.55**	**158**	*e*PN	**Pn**	**02 22 05.3**	**-2.1**
NEO				*e*SN	**Sb**	**02 22 13.7**	**+0.1**
PLG	**Polygyros**	**0.67**	**34**	*e*Pg	**Pb**	**02 22 07.1**	**-0.9**
PLG				*e*Sg	**Sb**	**02 22 16.3**	**-0.6**
THL	**Klokotos Trika**	**0.78**	**251**	*e*PN	**Pn**	**02 22 10.0**	**-0.5**
THL				*e*SN	**Sn**	**02 22 21.1**	**-0.2**
HORT	**Hortiatis**	**0.78**	**8**	*e*Pg	**Pb**	**02 22 10.0**	**0.0**
HORT				*e*Sg	**Sb**	**02 22 20.0**	**-0.2**
AGG	**Agios Georgios**	**0.94**	**212**	*e*Pg	**Pn**	**02 22 13.1**	**+0.4**
AGG				*e*Sg	**Sb**	**02 22 28.6**	**+4.0**
AOS	**Alonnisos**	**0.96**	**132**	*e*Pg	**Pn**	**02 22 12.3**	**-0.7**
AOS				*e*Sg	**Sb**	**02 22 27.2**	**+1.9**
SOH	**Sokhos**	**1.04**	**17**	*e*Pg	**Pn**	**02 22 14.6**	**+0.5**
SOH				*e*Sg	**Sb**	**02 22 28.2**	**+0.5**
GRG	**Griva**	**1.21**	**339**	*e*Pg	**Pn**	**02 22 16.7**	**+0.2**
GRG				*e*Sg	**Sn**	**02 22 33.9**	**+1.7**
GRG	**Griva**	**1.21**	**339**	*e*Pg	**Pn**	**02 22 16.7**	**+0.2**
GRG				*e*Sg	**Sn**	**02 22 33.8**	**+1.7**

NEIC ***25*** *02:36:31.6, 3143S×7168W, h22km, ML3.0(GUC), After GUC.*

GUC 25 02:36:31.6±0.6, 3143S×7168W, h22km±3km, MD3.8, ML3.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.47**	**161⇓**	*i*P	Pb	02 36 41.0	-0.2
CHNG				*i* S	Sb	02 36 47.9	+0.1
CHNG				AML	AML	02 36 48.9	
	comp=E,543nm,0.5s						
CMCH	**Combarbala**	**0.63**	**66⇑**	*i*P	Pb	02 36 43.6	-0.4
CMCH				*i* S	Sb	02 36 52.7	+0.3
CMCH				AML	AML	02 36 55.0	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**0.63**	**66⇑**	*i*P	Pb	02 36 43.6	-0.4
CMCH				*i* S	Sb	02 36 52.7	+0.3
PTCH	**Petorca**	**1.04**	**143**	*e*P	Pn	02 36 50.0	-0.9
PTCH				*i* S	Sb	02 37 03.7	-0.5
PTCH				AML	AML	02 37 06.5	
	comp=E,2μm,0.1s						
PTCH	**Petorca**	**1.04**	**143**	*e*P	Pn	02 36 50.0	-0.9
PTCH				*i* S	Sb	02 37 03.7	-0.5
PACH	**Papudo**	**1.12**	**170**	*e*P	Pn	02 36 50.9	-1.0
TLL	**Tololo Astrono**	**1.47**	**31**	*e*P	Pn	02 36 57.3	+0.6
TLL				*i* S	Sn	02 37 16.7	+1.4
TLL				AML	AML	02 37 19.2	
	comp=E,296nm,0.2s						
TLL	**Tololo Astrono**	**1.47**	**31**	*e*P	Pn	02 36 57.3	+0.6
TLL				*i* S	Sn	02 37 16.7	+1.4
JACH	**Jahuel**	**1.55**	**144**	*e*P	Pn	02 36 58.4	+0.6
JACH				*i* S	Sn	02 37 18.8	+1.6
ROCH	**El Roble**	**1.63**	**160**	*e*P	Pn	02 36 58.8	-0.2
PEL	**Peldehue**	**1.90**	**154**	*e*P	Pn	02 37 03.6	+1.0
PEL				*i* S	Sn	02 37 27.9	+2.0
PEL				AML	AML	02 37 31.8	
	comp=E,390nm,0.3s						
PEL	**Peldehue**	**1.90**	**154**	*e*P	Pn	02 37 03.6	+1.0
PEL				*i* S	Sn

4.0nm,0.6s,mb4.3,baz=190,slow=8.3,SNR=16
ULN Ulaanbaatar 46.30 9 eP P 03 27 48.6 -0.1
2.7nm,0.9s,mb4.0
MK31 Makanchi Array 46.58 345 eP P 03 27 51.0 +0.2
MKAR Makanchi Array 46.58 345 P P 03 27 50.9 0.0
13nm,0.6s,mb4.8,baz=158,slow=7.7,SNR=72
MKAR Makanchi Array 46.58 345 P P 03 27 50.9 0.0
STKA Stephens Creek 53.42 133 P P 03 28 43.2 +0.5
2.1nm,0.7s,mb4.2,baz=323,slow=17,SNR=3.2
BRVK Borovoye 55.73 340 eP P 03 28 58.7 -0.7
5.9nm,0.6s,mb4.8
BRTR Keskin Array B 69.05 312 P P 03 30 27.4 -0.9
0.8nm,0.7s,mb3.7,baz=123,slow=6.3,SNR=9.0
AKASG Malin Array Be 75.00 322 P P 03 31 02.8 -1.0
2.0nm,0.6s,mb4.0,baz=90,slow=5.1,SNR=9.7
FINES FINESS Array B 79.56 332 P P 03 31 28.6 -0.7
4.4nm,0.8s,mb4.3,baz=107,slow=5.9,SNR=16
ARCES ARCESS Array B 81.96 340 P P 03 31 41.7 -0.5
4.3nm,0.9s,mb4.3,baz=100,slow=5.0,SNR=15
ARCES ARCESS Array B 81.96 340 P P 03 31 41.7 -0.5
GERES GERESS Array B 84.63 319 P P 03 31 55.8 0.0
0.2nm,0.4s,mb3.4,baz=59,slow=8.0,SNR=3.6
GERES GERESS Array B 84.63 319 P P 03 31 55.8 0.0
NB2 NORSAR Subarra 86.59 331 P P 03 32 05.1 -0.5
comp=Z,0.9nm,0.6s,mb3.9,baz=97,slow=4.6
NOA NORSAR Array B 86.59 331 P P 03 32 05.2 -0.4
comp=Z,1.6nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=5.5
NOA NORSAR Array B 86.59 331 P P 03 32 05.2 -0.4
TXAR Lajitas Array 142.56 32 PKP PKPdf 03 38 54.8 -0.1
comp=Z,0.3nm,0.6s,baz=45,slow=0.1,SNR=3.7

*NEIC **25** 03:38:08.5±1.8, 688S×15631E, h150km±18km, mb4.6/8, Error ellipse: s-maj=16.8km s-min=13.4km az=149.0*
*IDC **25** 03:38:09.9±2.0, 698S×15638E, h157km±19km, mb3.9/6, mb1 4.0/10, mb1mx3.8/16, mbtmp4.4/10, Error ellipse: s-maj=22.6km s-min=14.6km az=1.0*
*ISCJB **25** 03:38:10.4±1.3, 7.1S±0.1×15644E±006, h189km±13km, mb4.4/18, Error ellipse: s-maj=16.9km s-min=9.8km az=176.6*

ISC 25 03:38:11.0±1.2, 71S±01×15642E±006, h173km±11km, n32, σ0°85/34, mb4.4/18, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.21	124	P		Pn	03 39 13.2	-1.3
	25nm,0.3s,baz=276,slow=3.0,SNR=6.4							
HNR				S		Sn	03 40 04.6	+0.4
	61nm,0.3s,baz=276,slow=24,SNR=9.2							
PMG	Port Moresby	9.46	255	P		Pn	03 40 24.5	+1.1
	5.7nm,0.3s,baz=58,slow=7.5,SNR=12							
PMG				S		Sn	03 42 08.1	-0.5
	1.7nm,0.3s,baz=70,slow=18,SNR=5.1							
PMG	Port Moresby	9.46	255	ePn		Pn	03 40 26.3	+2.9
PMG				eSn		Sn	03 42 09.5	+0.9
CTA	Charters Tower	16.28	216	eP		Pn	03 41 51.4	+1.5
	5.4nm,0.6s							
CTA	Charters Tower	16.28	216	P		Pn	03 41 51.4	+1.5
	0.8nm,0.3s,baz=47,slow=12,SNR=7.5							
CTAO	Charters Tower	16.28	216	eP		Pn	03 41 51.2	+1.4
	7.0nm,0.7s							
DZM	Mont Dzumac	17.79	148	P		Pn	03 42 07.8	-0.1
	1.0nm,0.3s,baz=46,slow=15,SNR=8.0							
KAKA	Kakadu	24.27	255	eP		P	03 43 10.7	-1.4
	39nm,0.6s,mb5.1							
WRAB	Tennant Creek	24.94	237	eP		P	03 43 18.0	-0.2
	5.7nm,0.6s,mb4.3							
WB2	Warramunga Arr	24.95	237	⇓iP		P	03 43 18.1	-0.1
WRA	Warramunga Arr	24.95	237	P		P	03 43 18.4	+0.1
	2.8nm,0.4s,mb4.2,baz=60,slow=9.6,SNR=41							
WRA				PcP		PcP	03 46 50.9	+2.0
	0.5nm,0.4s,baz=68,slow=2.8,SNR=5.0							
AS31	Alice Springs	27.20	230	eP		P	03 43 38.3	-0.2
ASAR	Alice Springs	27.20	230	P		P	03 43 38.1	-0.3
	1.7nm,0.7s,mb3.8,baz=62,slow=8.3,SNR=17							
ASAR				PcP		PcP	03 46 56.1	+2.0
	0.5nm,0.5s,baz=70,slow=2.7,SNR=4.4							
ASPA	Alice Springs	27.21	230	eP		P	03 43 38.3	-0.2
STKA	Stephens Creek	28.30	207	P		P	03 43 49.6	+1.4
	1.5nm,0.5s,mb4.0,baz=40,slow=14,SNR=5.9							
FITZ	Fitzroy Crossi	31.93	247	eP		P	03 44 19.3	-0.9
	12nm,0.5s,mb4.9							
FORT	Forrest	35.53	225	eP		P	03 44 49.7	-1.5
	9.2nm,0.4s,mb4.8							
MBWA	Marble Bar	38.12	245	eP		P	03 45 12.5	-0.7
	7.3nm,0.6s,mb4.5							
KKM	Kota Kinabalu	42.17	287	eP		P	03 45 45.6	-0.8
KLBR	Kellerberrin	43.53	231	⇑iP		P	03 45 57.2	-0.2
	7.8nm,0.6s,mb4.5							
KSM	Kuching	46.78	279	eP		P	03 46 22.4	-0.6
KULM	Kulim	56.99	281	eP		P	03 47 37.0	-1.4
SONM	Songino Array	70.16	327	P		P	03 49 05.2	+0.5
	1.4nm,0.4s,mb4.0,baz=131,slow=6.4,SNR=4.6							
GUN	Gumba	76.36	301	eP		P	03 49 41.7	+0.7
	9.8nm,0.5s,mb4.7							
PKI	Pulchoki	76.67	300	eP		P	03 49 43.0	+0.3
	4.0nm,0.4s,mb4.4							
KKN	Kakani	76.84	301	eP		P	03 49 44.1	+0.4
	8.6nm,0.6s,mb4.6							
DMN	Daman	76.94	300	eP		P	03 49 44.8	+0.6
	9.1nm,0.5s,mb4.7							
GKN	Gorkha	77.44	301	eP		P	03 49 47.5	+0.5
	9.2nm,0.4s,mb4.8							
KOLN	Koldanda	78.27	300	eP		P	03 49 51.7	+0.1
	6.0nm,0.5s,mb4.5							
MKAR	Makanchi Array	84.39	318	P		P	03 50 24.2	+0.4
	1.8nm,0.5s,mb4.0,baz=104,slow=6.8,SNR=13							
MAW	Mawson	84.88	203	P		P	03 50 27.8	+1.5
	1.1nm,0.5s,mb3.8,baz=99,slow=8.5,SNR=5.3							
TORD	Torodi Ar. Bea	154.40	286	PKPbc		PKPbc	03 57 51.7	+1.0
	0.2nm,0.4s,baz=62,slow=1.8,SNR=13							

IDC 25 03:55:37.2±2.4, 127S×12722E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=195.5km s-min=28.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.82	160	P		Pn	04 00 09.7	-1.1
	0.1nm,0.3s,baz=342,slow=12,SNR=8.1							
ASAR	Alice Springs	23.18	164	P		P	04 00 45.8	+0.3
	0.4nm,0.5s,baz=346,slow=12,SNR=6.6							
MKAR	Makanchi Array	61.95	327	P		P	04 05 58.9	+0.1
	0.4nm,0.4s,baz=126,slow=7.3,SNR=2.8							

*ISCJB **25** 03:58:25.0±0.2, 4677N±002×989E±002, h6km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=146.2*
*ZUR **25** 03:58:25.7, 4675N×987E, h6km±1km, ML2.4/14*
*ROM **25** 03:58:25.6±0.2, 4673N×989E, h7km±5km, Md2.6/9, Ml2.0/6, Error ellipse: s-maj=7.6km s-min=1.9km az=87.0*
*NEIC **25** 03:58:25.7, 4675N×987E, h6km, ML2.0(ROM), ML2.4(ZUR), ML2.6(LDG), After ZUR.*
*CSEM **25** 03:58:26.0±0.1, 4673N×997E, h5km, ML2.6/8, Error ellipse: s-maj=2.0km s-min=1.3km az=168.0*
*LDG **25** 03:58:28.9±0.3, 4680N×988E, h4km, Ml2.6/9, Error ellipse: s-maj=5.3km s-min=3.2km az=78.0*
*PRU **25** 03:58:30.4, 4696N×990E, h13km*

ISC 25 03:58:25.9±0.2, 4677N±002×991E±002, h3km±3km, n66, σ0°9.09/106, 19C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAVOX	Davos/Dischmat	0.02	306	⇓iPg		Pg	03 58 27.5	+0.9
DAVOX				iSg		Sg	03 58 28.5	+1.5
FUORN	Ofenpass-Fuorn	0.28	121	⇑iPg		Pg	03 58 31.7	+0.3
	330nm,0.3s							
FUORN	Ofenpass-Fuorn	0.28	121	⇑iP		Pg	03 58 31.9	+0.5
BERNI	Berninapass	0.36	167	iSg		Pg	03 58 33.7	+0.8
	763nm,0.3s							
BERNI	Berninapass	0.36	167	⇑iPg		Sg	03 58 37.8	+0.2
	763nm,0.3s							
BERNI	Berninapass	0.36	167	⇑iP		Pg	03 58 33.0	+0.1
VDL	Val di Lei	0.41	227	⇑iPg		Pg	03 58 33.6	-0.2
	598nm,0.2s							
BRMO	Bormio	0.43	132	Pg		Pg	03 58 34.2	0.0
BRMO				Sg		Sg	03 58 40.4	+0.5
	41nm,0.2s							
PLONS	Plons/SG	0.46	308	⇑iPg		Pg	03 58 34.6	-0.1
	120nm,0.1s							
PLONS				eSg		Sg	03 58 40.8	+0.1
	120nm,0.1s							
TUE	Stuetta	0.49	233	Pg		Pg	03 58 34.7	-0.5
TUE				Sg		Sg	03 58 41.8	+0.2
	183nm,0.2s							
DAVA	Damuels	0.52	358	⇑iPg		Pg	03 58 36.3	+0.4
DAVA				⇑iSg		Sg	03 58 43.9	+1.2
	comp=Z,50nm,0.2s							
LIENZ	Kamor/St.Gall	0.60	332	ePg		Pg	03 58 37.3	-0.1
	168nm,0.6s							
LIENZ	Kamor/St.Gall	0.60	332	eP		Pg	03 58 37.9	+0.5
LLS	Linth-Limmern	0.62	278	⇑iPg		Pg	03 58 36.3	-1.6
	67nm,0.2s							
LLS	Linth-Limmern	0.62	278	⇑iP		Pg	03 58 37.3	-0.6
MABI	Malga Bissina	0.83	149	Pg		Pg	03 58 41.5	-0.3
	16nm,0.1s							
MUO	Muotathal	0.90	283	⇓iPg		Pg	03 58 40.6	-2.5
	201nm,0.5s							
MUO	Muotathal	0.90	283	⇓iP		Pg	03 58 42.8	-0.3
FUSIO	Fusio	0.91	250	⇓iPg		Pg	03 58 42.4	-1.0
	205nm,0.1s							
APPI	Appiano	0.95	107	Pg		Pg	03 58 44.1	-0.1
APPI				Sg		Sg	03 58 56.8	+0.2
	34nm,0.2s							
MDI	Monti di Nese	1.00	188	Pg		Pg	03 58 44.9	-0.2
	55nm,0.3s							
SQTA	Sankt Quirin	1.00	63	⇑iPg		Pg	03 58 44.6	-0.5
SQTA				⇑iSg		Sg	03 58 58.5	+0.4
	31nm,0.2s							
MOTA	Moosalm	1.00	54	⇑iPg		Pg	03 58 44.7	-0.4
MOTA				⇑iSg		Sg	03 58 58.8	+0.6
	19nm,0.2s							
BNALP	Bannalp	1.02	276	⇑iP		Pg	03 58 42.8	-2.7
	112nm,0.5s							
BNALP	Bannalp	1.02	276	⇑iP		Pg	03 58 44.9	-0.6
MUGIO	Muggio	1.04	216	eP		Pg	03 58 44.9	-0.9
	236nm,0.4s							
MUGIO	Muggio	1.04	216	Pg		Pg	03 58 44.8	-1.0
MUGIO				Sg		Sg	03 58 58.5	-0.7
SCE	Schlegeis	1.27	77	⇓iPg		Pg	03 58 49.4	-0.8
WATA	Walderalm	1.27	63	⇑iPn		Pn	03 58 50.0	-0.6
WATA				⇓iSg		Sg	03 59 07.7	+0.8
	26nm,0.3s							
WTTA	Wattenberg	1.28	67	⇓iPn		Pn	03 58 49.8	-0.9
WTTA				⇓iSg		Sg	03 59 08.1	+0.9
	30nm,0.4s							
MMK	Mattmark	1.52	243	Pg		Pg	03 58 53.3	-1.8
SEST	Monte Rota	1.59	90	Pg		Pg	03 58 55.4	-1.0
	6μm,12.0s							
ORO	Oropa	1.76	230	Pg		Pg	03 58 57.3	-2.3
	22nm,0.3s							
HINF	Hinteralfeld	2.33	298	ePn		Pn	03 59 05.3	+0.1
HINF				eSn		Sn	03 59 32.0	-2.3
HINF				eSg		Sg	03 59 41.1	+0.3
	4.0nm,0.2s							
HINF	Hinteralfeld	2.33	298	ePn		Pn	03 59 05.3	+0.1
HINF				eSn		Sn	03 59 32.0	-2.3
HINF				eSg		Sg	03 59 41.1	+0.3
	2.0nm,0.2s							
KBA	Koelnbreinsper	2.38	81	⇑iPg		Pg	03 59 09.6	-1.8
KBA				⇑iSg		Sg	03 59 42.9	+0.6
	comp=N,4.0nm,0.2s							
CDF	Champ du Feu	2.42	314	ePg		Pg	03 59 13.8	+1.4
CDF				eSg		Sg	03 59 44.7	+0.8
	19nm,0.6s							
CDF	Champ du Feu	2.42	314	ePn		Pn	03 59 06.6	+0.1
CDF				ePg		Pg	03 59 13.8	+1.4
CDF				eSg		Sg	03 59 44.7	+0.8
CDF	Champ du Feu	2.42	314	ePg		Pg	03 59 13.8	+1.4
CDF				eSg		Sg	03 59 44.7	+0.8
	9.6nm,0.6s							
LPG	La Plagne	2.54	241	ePn		Pn	03 59 09.2	+1.2
LPG				eSg		Sg	03 59 49.5	+2.1
	12nm,0.5s							
LPG	La Plagne	2.54	241	ePn		Pn	03 59 09.2	+1.2
LPG				eSg		Sg	03 59 49.5	+2.1
	6.1nm,0.5s							
LPL	La Plagne	2.54	242	ePg		Pg	03 59 16.2	+1.6
LPL				eSg		Sg	03 59 49.4	+2.0
	7.8nm,0.4s							
LPL	La Plagne	2.54	242	ePn		Pn	03 59 10.3	+2.3
LPL				ePg		Pg	03 59 16.2	+1.6
LPL				eSg		Sg	03 59 49.4	+2.0
LPL	La Plagne	2.54	242	ePg		Pg	03 59 16.2	+1.6
LPL				eSg		Sg	03 59 49.4	+2.0
	3.9nm,0.4s							
CABF	La Chapelle	2.63	268	ePg		Pg	03 59 15.9	-0.5
CABF				eSg		Sg	03 59 49.5	-1.1
	8.2nm,0.4s							
CABF	La Chapelle	2.63	268	ePn		Pn	03 59 10.5	+1.2
CABF				ePg		Pg	03 59 15.9	-0.5
CABF				eSg		Sg	03 59 49.5	-1.1
CABF	La Chapelle	2.63	268	ePg		Pg	03 59 15.9	-0.5
CABF				eSg		Sg	03 59 49.5	-1.1
	4.1nm,0.4s							
HAU	Haudompre	2.72	298	ePn		Pn	03 59 10.9	+0.4
MBDF	Montbardon	3.00	228	ePn		Pn	03 59 14.9	+0.6
MBDF				eSn		Sn	03 59 49.9	-0.9
ORIF	Oris-en-Rattie	3.37	238	ePg		Pg	03 59 30.6	+0.1
SBF	Sospel	3.39	212	ePn		Pn	03 59 20.6	+0.9
KHC	Kasperske Hory	3.42	45	ePN		Pn	03 59 21.0	+0.9
KHC				ePG		Pg	03 59 29.6	-1.8
KHC				eSN		Sn	04 00 00.7	-0.5
KHC				eSG		Sg	04 00 12.8	-2.9
NKC	Novy Kostel	3.86	25	eSG		Sg	04 00 28.8	-1.1
FRF	La Foret Royal	3.95	217	ePn		Pn	03 59 29.2	+1.8
FRF				eSn		Sn	04 00 13.2	-1.1
VIVF	Saint-Julien-l	4.13	244	ePn		Pn	03 59 31.4	+1.5
LOR	Lormes	4.17	279	eSg		Sg	04 00 39.0	-0.8
	2.0nm,0.2s							
LOR	Lormes	4.17	279	eSg		Sg	04 00 39.0	-0.8
	1.0nm,0.2s							
SMF	Signal de Mont	4.18	271	ePg		Pg	03 59 44.5	-1.4
SMF				eSg		Sg	04 00 38.5	-1.6
	2.7nm,0.4s							
SMF	Signal de Mont	4.18	271	ePn		Pn	03 59 30.9	+0.4
SMF				ePg		Pg	03 59 44.5	-1.4
SMF				eSg		Sg	04 00 38.5	-1.6
SMF	Signal de Mont	4.18	271	ePg		Pg	03 59 44.5	-1.4
SMF				eSg		Sg	04 00 38.5	-1.6
	1.4nm,0.4s							
LMR	La Mourre	4.19	216	ePn		Pn	03 59 32.8	+2.0
LMR				eSn		Sn	04 00 18.0	-2.3
SSF	Saint Saulge	4.40	276	eSg		Sg	04 00 47.1	-0.1
	1.6nm,0.3s							
SSF	Saint Saulge	4.40	276	eSg		Sg	04 00 47.1	-0.1
	0.8nm,0.3s							
AVF	Avril sur Loir	4.50	273	ePn		Pn	03 59 35.9	+0.8
TCF	Toulx Ste Croi	5.33	268	ePn		Pn	03 59 46.9	+0.4
CAF	Calviac	5.78	254	ePn		Pn	03 59 53.7	+1.1

IDC 25 04:08:20.6±2.2, 131S×12734E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=191.5km s-min=26.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.74	160	P		Pn	04 12 51.9	-1.4
	0.2nm,0.3s,baz=342,slow=13,SNR=14							
ASAR	Alice Springs	23.12	165	P		P	04 13 28.8	+0.6
	0.9nm,0.7s,baz=344,slow=12,SNR=9.8							
MKAR	Makanchi Array	62.05	327	P		P	04 18 42.9	+0.1
	0.4nm,0.4s,baz=129,slow=9.1,SNR=4.6							

*ISCJB **25** 04:14:11.3±0.4, 5556S±008×2673W±0.10, h10km, mb4.7/18, MS4.5/13, Error ellipse: s-maj=11.5km s-min=7.3km az=41.1*
*IDC **25** 04:14:11.6±0.6, 5552S×2662W, h0km, mb4.7/10, mb1 4.7/11, mb1mx4.5/16, mbtmp4.6/11, ML3.7/1, MS4.5/13, Ms1 4.5/13, ms1mx4.5/16, Error ellipse: s-maj=20.4km s-min=17.0km az=45.0*
*NEIC **25** 04:14:12.6±3.4, 5553S×2660W, h7km±20km, mb4.9/12, Error ellipse: s-maj=8.6km s-min=5.7km az=214.0*
*GCMT **25** 04:14:12.6±0.2, 5561S×2641W, h14km, MW5.1/53, Moment Tensor Solution. s43,c64; s53,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.43±.22; $M_{\theta\theta}$=-2.22±.17; $M_{\phi\phi}$=-2.21±.14; $M_{r\theta}$=1.47±.38; $M_{\theta\phi}$=3.34±.12; $M_{\phi r}$=2.78±.38; Best double couple: M_0=5.92400×10^{16} NP1:ϕ_s=121.00000°, δ31.00000°, λ69.00000°. NP2: ϕ_s=326.00000°, δ62.00000°, λ102.00000°. Principal axes: T 5.4500, Plg71.0000°, Azm263.0000°; N 0.9480, Plg11.0000°, Azm140.0000°; P -6.3980, Plg16.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 04:14:13.0±0.4, 5560S±008×2668W±010, h10km, n55, σ0°78/29, mb4.7/18, MS4.5/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.80	279	ePn		Pn	04 15 39.0	-0.1
	160nm,0.8s							
HOPE				eSn		Sn	04 16 44.1	-1.6
SNAA	Sanae	19.05	157	P		Pn	04 18 35.4	-0.5
	0.2nm,0.3s,baz=324,slow=12,SNR=24							
SNAA				PcP		PcP	04 22 58.8	-1.2
	0.1nm,0.3s,baz=332,slow=8.5,SNR=3.5							
SNAA				LR		LR	04 24 27.2	
	comp=Z,654nm,19.9s,baz=330,slow=32							
SNAA	Sanae	19.05	157	eP		Pn	04 18 35.1	-0.8
	59nm,1.2s							
SNAA				PcP		PcP	04 22 58.8	-1.2
SNAA				LR		LR	04 24 27.2	
PMSA	Palmer Station	20.42	228	P		P	04 18 51.9	+1.7
	31nm,0.8s,baz=42,slow=6.1,SNR=7.6							
PMSA				LR		LR	04 25 30.1	
	comp=Z,2μm,19.9s,MS4.4,baz=71,slow=33							
USHA	Ushuaia	23.58	254	LR		LR	04 26 42.5	
	comp=Z,2μm,18.8s,MS4.5,baz=86,slow=32							
TRQA	Tornquist	29.41	292	eP		P	04 20 17.0	+0.5
	14nm,0.9s,mb4.7							
QSPA	South Pole Qui	34.66	180	eP		P	04 21 02.0	-0.5
	13nm,0.6s,mb5.0							
CPUP	Villa Florida	36.73	310	P		P	04 21 19.4	-0.9
	8.8nm,0.8s,mb4.7,baz=137,slow=7.8,SNR=18							
CPUP				LR		LR	04 35 53.7	
	comp=Z,833nm,19.8s,MS4.5,baz=139,slow=36							
CPUP	Villa Florida	36.73	310	P		P	04 21 19.4	-0.9
CPUP				LR		LR	04 35 53.7	
SUR	Sutherland	40.24	75	P		P	04 21 50.9	+1.1
	8.8nm,1.1s,mb4.4,baz=245,slow=12,SNR=3.2							
MAW	Mawson	40.35	144	P		P	04 21 50.5	-0.2
	8.7nm,1.0s,mb4.4,baz=265,slow=6.7,SNR=8.0							
MAW				LR		LR	04 36 45.1	
	comp=Z,783nm,19.0s,MS4.6,baz=258,slow=34							
LVC	Limon Verde	45.32	299	eP		P	04 22 32.1	+1.0
	23nm,0.8s,mb5.1							
BOSA	Boshof	45.58	76	P		P	04 22 32.0	-1.1
	6.7nm,0.6s,mb4.7,baz=232,slow=8.8,SNR=12							
BOSA				LR		LR	04 38 18.4	
	comp=Z,2μm,19.1s,MS5.1,baz=193,slow=32							
BOSA	Boshof	45.58	76	eP		P	04 22 32.5	-0.7
	13nm,0.9s,mb4.8							
VNDA	Vanda	47.04	183	P		P	04 22 44.6	0.0
	4.6nm,0.6s,mb4.6,baz=188,slow=6.3,SNR=37							
VNDA				LR		LR	04 41 19.4	
	comp=Z,414nm,18.4s,MS4.4,baz=347,slow=34							
LBTB	Lobatse	48.60	73	eP		P	04 22 56.2	-0.5
	14nm,1.1s,mb4.9							
LPAZ	La Paz	50.35	304	P		P	04 23 11.3	+1.2
	14nm,0.8s,mb5.0,baz=144,slow=6.0,SNR=69							
LPAZ				LR		LR	04 44 21.7	
	comp=Z,274nm,19.6s,MS4.3,baz=160,slow=36							
LPAZ	La Paz	50.35	304	eP		P	04 23 11.0	+0.9
	20nm,0.8s,mb5.2							
ARE	Arequipa	51.81	301	eP		P	04 23 21.0	0.0
CASY	Casey	54.24	160	eP		P	04 23 39.1	+0.1
	10nm,1.0s,mb4.7							
SAML	Samuel	54.69	314	eP		P	04 23 41.2	-1.0
	14nm,1.0s,mb4.9							
LSZ	Lusaka	57.94	69	eP		P	04 24 04.8	-0.6
	3.2nm,0.8s,mb4.4							
OTAV	Otavalo	69.64	303	eP		P	04 25 24.0	+1.4
	9.9nm,1.1s,mb4.7							
ROSC	El Rosal	71.83	309	P		P	04 25 36.3	+0.5
	6.8nm,0.9s,mb4.6,baz=271,slow=23,SNR=4.9							
ROSC				LR		LR	04 58 40.6	
	comp=Z,315nm,19.1s,MS4.6,baz=188,slow=37							
TOA0	Torodi Ar. Sit	72.52	29	eP		P	04 25 40.0	0.0
TORD	Torodi Ar. Bea	72.52	29	P		P	04 25 40.0	0.0
	17nm,0.6s,mb5.1,baz=199,slow=6.2,SNR=275							
TORD				LR		LR	04 53 25.0	
	comp=Z,270nm,18.4s,MS4.5,baz=195,slow=32							
TORD	Torodi Ar. Bea	72.52	29	P		P	04 25 40.0	0.0
TORD				LR		LR	04 53 25.0	
SDV	Santo Domingo	73.89	314	eP		P	04 25 48.1	0.0
	11nm,0.8s,mb4.8							
KMBO	Kilima Mbogo	74.61	69	LR		LR	04 56 21.7	
	comp=Z,578nm,19.4s,MS4.9,baz=275,slow=34							
RKT	Rikitea	80.94	242	eS		S	04 36 40.0	+3.6
	109nm,24.5s							
RKT				eLR		LR	04 52 01.3	
	582nm,36.0s							
TBI	Tubuai	87.59	231	eLR		LR	04 55 03.3	
	387nm,25.5s							
PPT	Papeete	92.70	233	eLR		LR	04 57 19.8	
	472nm,31.2s							
PPT	Papeete	92.70	233	LR		LR	04 58 40.7	
	comp=Z,19nm,18.1s,MS3.6,baz=268,slow=29							
TAOE	Nuku Hiva Isla	95.59	246	eLR		LR	04 58 54.2	
	775nm,23.0s							
KEST	Kesra	96.04	29	LR		LR	05 06 52.0	
	comp=Z,121nm,19.1s,MS4.4,baz=196,slow=33							
ESDC	Sonseca Array	96.86	17	LR		LR	05 07 60.0	
	comp=Z,181nm,19.1s,MS4.6,baz=145,slow=33							
ASAR	Alice Springs	99.34	162	P		P	04 27 55.3	-0.1
	0.7nm,0.6s,mb4.3,baz=184,slow=4.2,SNR=11							
TPAW	Teton Pass	121.56	302	ePKPdf		PKPdf	04 33 06.2	-0.6
MOOW	Moose Ponds	121.65	302	ePKPdf		PKPdf	04 33 06.3	-0.7
FINES	FINESS Array B	123.85	27	PKP		PKPdf	04 33 08.8	-2.4
	2.0nm,0.7s,baz=348,slow=2.7,SNR=4.4							
JOF	Joensuu	126.46	29	ep		PKPdf	04 33 14.7	-1.5
	6.2nm,0.8s							
EDM	Edmonton	129.64	309	ePK

ASAR				S	S	04 39 08.0	-1.1
	0.5nm,0.6s,baz=35,slow=28,SNR=4.1						
ASPA	Alice Springs	20.52	219	eP	P	04 35 23.8	+0.6
FITZ	Fitzroy Crossi	23.82	243	eP	P	04 35 56.3	-0.9
	5.0nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	23.82	243	P	P	04 35 57.4	+0.2
	3.4nm,0.5s,mb4.0,baz=71,slow=8.8,SNR=32						
STKA	Stephens Creek	24.45	193	eP	P	04 36 03.2	+0.2
QSPA	South Pole Qui	81.97	180	eP	P	04 43 02.7	-0.4
	1.1nm,0.5s,mb3.9						
TORD	Torodi Ar. Bea	146.36	282	PKPbc	PKPbc	04 50 25.2	+1.5
	1.1nm,0.7s,baz=63,slow=3.0,SNR=21						

*ISCJB **25** 04:36:47.2±0.5, 1426N±007×9162W±004, h153km±18km, Error ellipse: s-maj=12.5km s-min=4.2km az=57.1*
*MEX **25** 04:36:50.2±0.6, 1426N×9167W, h150km±27km, MD4.6*
*NEIC **25** 04:36:52.1, 1435N×9168W, h137km, MD4.6(MEX), After MEX.*
*CASC **25** 04:36:52.7±2.0, 1331N×9137W, h10km, MD4.4, ML3.9*

ISC 25 04:36:48.5±0.5, 1421N±007×9163W±004, h135km±24km, n38, σ0°99/38, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	Robledal	1.89	93	eP	x	04 37 28.8	
SBLS	San Blas	1.98	101	eP	x	04 37 29.9	
SBLS				eS	x	04 37 54.4	
CCIG	Comitan	2.11	347	i P	Pn	04 37 24.8	+0.7
CCIG				i S	Sn	04 37 52.2	+0.9
MTO2	Montecristo 2	2.21	85	eP	x	04 37 32.9	
BOQS	Boqueron	2.33	102	eP	x	04 37 34.8	
BOQS				eS	x	04 38 02.6	
LFU	La Fuente	2.49	100	eP	x	04 37 36.9	
LBRS	Las Brisas	2.56	100	eP	x	04 37 37.6	
LFRS	El Faro	2.56	103	eP	x	04 37 37.8	
LCBS	La Ceiba	2.63	102	eP	x	04 37 38.8	
SNVI	San Vicente	2.78	102	eP	x	04 37 41.0	
SNVI				eS	x	04 38 13.4	
VSM	San Miguel	3.35	103	eP	x	04 37 49.6	
CNCH	Conchagua	3.81	104	eP	x	04 37 54.5	
CMIG	Matias Romero	4.24	313	eP	Pn	04 37 51.2	-0.3
CMIG				i S	Sn	04 38 10.4	-1.4
CMIG	Matias Romero	4.24	313	eP	Pn	04 37 51.2	-0.3
CMIG				i S	Sn	04 38 38.4	-2.1
HUIG	Huatulco	4.59	290	i S	Sn	04 38 48.4	-0.4
HUIG	Huatulco	4.59	290	i S	Sn	04 38 48.9	0.0
CRIN	San Cristobal	4.70	108	eP	Pn	04 37 58.1	+0.5
TELN	Telica	4.94	108	eP	Pn	04 38 01.2	+0.4
LEON	Leon	4.95	111	eP	Pn	04 37 60.0	-0.9
CNGN	Cerro Negro	5.09	109	eP	Pn	04 38 02.1	-0.7
MIRN	Miramar	5.10	110	eP	Pn	04 38 02.1	-0.8
MOMJ	Momotombo	5.27	109	eP	Pn	04 38 05.0	-0.2
COPN	Copaltepe	5.31	112	eP	Pn	04 38 05.0	-0.7
APYN	Apoyeque	5.51	110	eP	Pn	04 38 08.6	+0.2
XAVN	Gruta Xavier	5.56	111	eP	Pn	04 38 09.3	+0.2
MGAN	Managua	5.63	111	eP	Pn	04 38 10.0	-0.1
MGAN				eS	Sn	04 39 07.9	-5.8
MGAN				i		04 39 24.9	
	comp=E,229nm,0.4s						
OXX	Oaxaca	5.67	301	i P	Pn	04 38 13.7	+3.1
OXX				i S	Sn	04 39 10.7	-4.0
VHO	Vista Hermosa	5.68	301	i P	Pn	04 38 12.1	+1.4
VHO				i S	Sn	04 39 14.4	-0.4
TICN	Ticuantepe	5.69	112	eP	Pn	04 38 11.5	+0.7
APON	Apoyo	5.88	112	eP	Pn	04 38 13.8	+0.4
SSNN	San Juan del S	6.34	117	eP	Pn	04 38 18.6	-1.0
CONN	Concepcion	6.42	114	eP	Pn	04 38 20.1	-0.5
MADN	Villa Maderas	6.57	114	eP	Pn	04 38 23.1	+0.5
TEIG	Tepich	6.78	28	i P	Pn	04 38 27.5	+2.0
TEIG				i S	Sn	04 39 39.5	-1.9
TEIG	Tepich	6.78	28	i P	Pn	04 38 27.9	+2.4
TEIG				i S	Sn	04 39 39.5	-1.9
TPIG	Tehuac#an	6.91	308	i P	Pn	04 38 28.2	+1.0
TPIG				i S	Sn	04 39 43.9	-0.5
UTMO	Huajuapan	6.94	302	i P	Pn	04 38 28.3	+0.7
UTMO				i S	Sn	04 39 43.8	-1.3
IIO	Organos	8.64	309	i P	Pn	04 38 54.6	+4.2
IIO				i S	Sn	04 40 16.7	-10

*SSNC **25** 04:40:44.1, 2196N×7021W, h0km, MD3.7, ML3.8*
*ISCJB **25** 04:40:45.1±1.5, 20.1N±03×6994W±009, h33km, Error ellipse: s-maj=46.1km s-min=4.3km az=29.8*
*NEIC **25** 04:40:50.0, 2079N×6910W, h3km, MD4.1(RSPR), After RSPR.*
*RSPR **25** 04:40:50.0, 2079N×6910W, h3km±68km, MD4.1/8, MD4.1/8*

ISC 25 04:40:46.9±1.5, 201N±03×6991W±009, h35km, n14, σ1°01/22, 9C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	3.12	122	⇑eP	Pn	04 41 34.3	+0.8
AGPR				eS	Sn	04 42 12.1	+2.6
LSP	Las Mesas	3.30	126	⇑eP	Pn	04 41 36.9	+0.9
LRS	Lares	3.42	122	⇓eP	Pn	04 41 37.9	+0.2
AOPR	Arecibo Observ	3.47	120	⇑eP	Pn	04 41 42.8	+4.5
GBPR	Guanica, Bosqu	3.58	126	⇓eP	Pn	04 41 45.1	+5.3
OBIP	Obispado Ponce	3.75	123	⇑eP	Pn	04 41 47.6	+5.4
OBIP				eS	Sn	04 42 25.4	+0.4
CELP	Cerrillos	3.75	122	⇑eP	Pn	04 41 43.2	+1.0
MASC	Masc	4.06	271	eP	Pn	04 41 46.8	+0.3
	baz=69						
MASC				eS	Sn	04 42 33.5	+0.8
	comp=N,1μm,0.2s						
MASC				e			
	comp=E,1μm,0.2s						
SJG	San Juan	4.08	119	⇑eP	Pn	04 41 46.6	-0.1
CBYP	Canovanas	4.25	115	⇑eP	Pn	04 41 49.2	+0.1
CBYP				eS	Sn	04 42 37.4	-0.1
CPD	Cerro la Pandu	4.31	118	⇑eP	Pn	04 41 50.1	+0.2
CPD				eS	Sn	04 42 36.8	-2.2
HUMP	Col San Antoni	4.32	117	⇓eP	Pn	04 41 50.2	+0.3
HUMP				eS	Sn	04 42 37.6	-1.5
MTP	Monte Pirata	4.59	115	⇑eP	Pn	04 41 53.5	-0.2
MTP				eS	Sn	04 42 44.3	-1.5
RCC	Rio Carpintero	5.44	270	eP	Pn	04 42 05.0	-0.4
	baz=74						
RCC				eS	Sn	04 43 05.2	-1.6
	comp=N,7.5nm,0.6s						
RCC				e			
	comp=E,8.3nm,0.6s						

*NEIC **25** 05:03:41.2, 1116N×6114W, h23km, MD3.5(TRN), After TRN.*

TRN 25 05:03:41.1, 1116N×6114W, h24km, MD3.5, 4C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPR	Prospect	0.36	86	eP	Pb	05 03 49.5	+0.4
TPR				eS	Sb	05 03 55.7	+1.4
TRN	Trinidad (W)	0.57	207	⇓iP	Pb	05 03 52.7	+0.2
TRN				i S	Sb	05 04 01.0	+0.8
TBH	Brigand Hill	0.68	174	⇑eP	Pb	05 03 53.9	-0.4
TBH				eS	Sb	05 04 03.5	+0.2
TCE	Chacachacare	0.76	232	⇑eP	Pb	05 03 56.4	+0.7
TCE				eS	Sb	05 04 07.0	+1.5
TPP	Pointe-a-Pierr	0.89	200	eP	Pb	05 03 58.7	+0.7
TPP				eS	Sb	05 04 11.4	+2.0
GRW	Mount Saint Ca	1.11	333	⇑iP	Pn	05 04 01.2	0.0
GRW				eS	Sb	05 04 16.7	+0.9
GRHS	Sauteurs	1.16	335	eP	Pn	05 04 01.4	-0.5
GRHS				eS	Sn	05 04 17.7	+0.7
BUAY	Buenos Aires	1.18	207	eP	Pn	05 04 03.5	+1.4
GRIC	Isle de Caille	1.20	339	eP	Pn	05 04 01.6	-0.8
GRIC				eS	Sn	05 04 18.9	+0.9
GRSS	Sisters	1.22	338	⇑eP	Pn	05 04 02.1	-0.6
GRSS				eS	Sn	05 04 19.6	+1.1
BIM	Bigot	3.34	1	eP	Pn	05 04 32.4	+0.6
FDF	Fort de France	3.55	360	eP	Pn	05 04 35.1	+0.4
SCG	Saint Claude	4.87	354	eP	Pn	05 04 56.4	+3.6
LZG	Guadaloupe-1	4.99	353	eP	Pn	05 04 55.6	+1.1
LZG				eS	Sn	05 05 52.5	+1.1

*BJI **25** 05:05:58.0, 070N×9745E, h23km, mB5.4, mb5.4, Ms5.3, Msz5.2*

*IDC **25** 05:05:59.0±0.4, 1.11N×9753E, h0km, mb4.8/22, mb1 4.8/22, mb1mx4.8/23, mbtmp4.8/22, MS4.7/24, Ms1 4.7/24, ms1mx4.5/32, Error ellipse: s-maj=18.1km s-min=10.5km az=51.0*
*ISCJB **25** 05:06:01.9±0.2, 1.11N±003×9747E±003, h24km, mb5.3/68, MS4.9/65, Error ellipse: s-maj=4.3km s-min=3.7km az=69.5*
*MOS **25** 05:06:03.6±0.9, 1.18N×9748E, h33km, mb5.6/82, MS4.8/23, Error ellipse: s-maj=8.4km s-min=4.5km az=114.9*
*NEIC **25** 05:06:03.5±0.1, 1.11N×9743E, mb5.3/96, Error ellipse: s-maj=4.2km s-min=3.3km az=38.0*
NEIC Felt [III] at Gunungsitoli.
*GCMT **25** 05:06:03.5±0.3, 0.93N×97.12E, h31km±1km, MW5.2/72, Moment Tensor Solution. s69,c101; s72,c109; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁶Nm; M_{rr}5.52±.23; $M_{\theta\theta}$-1.94±.15; $M_{\phi\phi}$-3.58±.18; $M_{r\theta}$4.15±.29; $M_{\theta\phi}$3.95±.14; $M_{\phi r}$-4.01±.30; Best double couple: $M_0$8.44500×10¹⁶ NP1:φs328.00000°, δ24.00000°, λ102.00000°. NP2:φs135.00000°, δ67.00000°, λ85.00000°. Principal axes: T 7.8360, Plg68.0000°, Azm36.0000°; N 1.2180, Plg5.0000°, Azm138.0000°; P -9.0540, Plg22.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **25** 05:06:04.5, 132N×9743E, h26km, mb5.3, MS4.6, Northern Sumatera, Indonesia*

ISC 25 05:06:04.0±0.2, 109N±003×9746E±003, h25km, h25km±.6km:pP-P, n499, σ0°99/483, mb5.3/168, MS4.9/65, 78C-16D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.25	41	Pn	Pn	05 06 39.0	-0.5
	69nm,0.3s,baz=196,slow=5.9,SNR=184						
PSI				LR	LR	05 07 19.4	
	comp=Z,8μm,19.6s,baz=301,slow=38						
PPI	Padang Panjang	3.32	118	P	Pn	05 06 54.5	+0.2
	720nm,0.9s						
BSI	Banda Aceh	4.88	334	P	Pn	05 07 12.4	-3.4
	251nm,1.1s						
IPM	Ipoh	4.90	47	P	Pn	05 07 19.1	+3.0
KULM	Kulim	5.25	37	ePn	Pn	05 07 21.5	+0.6
KGM	Kluang	5.93	81	P	Pn	05 07 34.3	+4.1
SNG	Songkhla	6.82	27	P	Pn	05 07 44.0	+1.6
	780nm,0.1s						
NNT	Nongplab	11.65	11	P	Pn	05 08 50.0	+1.4
CBJI	Citeko	11.98	129	P	Pn	05 08 57.1	+4.0
	165nm,0.7s						
KSM	Kuching	12.85	88	ePn	Pn	05 09 07.1	+2.1
NST	Nakhon Sawan	14.73	10	P	Pn	05 09 30.9	+0.2
KKTK	Khon Kaen	16.05	19	P	Pn	05 09 48.5	+0.6
BDT	Bhumibol Dam	16.13	5	P	Pn	05 09 50.0	+1.1
	44nm,0.9s						
CM31	Chiang Mai Arr	17.32	5	ePn	Pn	05 10 03.5	-0.5
CHG	Chiang Mai	17.68	5	⇓P	Pn	05 10 07.4	-1.0
	57nm,0.8s						
CHTO	Chiang Mai	17.68	5	P	Pn	05 10 07.9	-0.5
	SNR=24						
CHTO	Chiang Mai	17.68	5	eP	Pn	05 10 07.5	-0.9
CHTO				pmax	pmax		
	comp=Z,50nm,0.9s						
CHTO	Chiang Mai	17.68	5	ePn	Pn	05 10 07.5	-0.9
	comp=Z,50nm,0.9s						
PALK	Pallekele	17.80	291	ePn	Pn	05 10 10.4	+0.5
	comp=Z,185nm,1.8s						
KKM	Kota Kinabalu	19.35	75	P	Pn	05 10 29.7	+0.9
KKM	Kota Kinabalu	19.35	75	eP	Pn	05 10 28.7	-0.1
TARAI	Tarakan	20.22	83	P	P	05 10 39.3	+2.3
	comp=Z,262nm,1.2s						
TSM	Tawau	20.64	81	P	P	05 10 43.6	+2.1
QIZ	Qiongzhong	21.57	33	⇓P	P	05 10 51.8	+0.2
QIZ				PP		05 11 18.4	
QIZ				S	S	05 14 52.8	+3.4
QIZ				XS	sS	05 15 00.6	+0.1
QIZ				LR	LR		
	comp=N,3μm,15.3s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,15.3s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,14.0s,MS4.8						
QIZ	Qiongzhong	21.57	33	eP	P	05 10 51.4	-0.3
	comp=Z,122nm,1.4s,mb5.1						
VIS	Vishakhapatnam	21.59	321	eP	P	05 10 53.9	+2.0
VIS				AMb	AMB	05 10 56.6	
	comp=Z,213nm,1.2s,mb5.4						
VIS				ex	x	05 14 49.0	
TRD	Trivandrum	21.70	290	eP	P	05 10 54.6	+1.5
TRD				AMb	AMB	05 11 02.2	
	comp=Z,48nm,0.5s,mb5.1						
SALM	Salem	21.80	300	ex	x	05 10 47.0	
AGT	Agartala	23.44	346	eP	P	05 11 13.0	+1.5
KMI	Kunming	24.43	12	P	P	05 11 21.9	+1.3
KMI				AP		05 11 28.4	
KMI				XP	sP	05 11 30.8	-0.3
KMI				PP		05 11 57.5	
KMI				PPP		05 12 09.1	
KMI				S	S	05 15 38.1	-0.9
KMI				XS	sS	05 15 50.3	-0.9
KMI				AMB	AMB		
	comp=Z,159nm,1.2s,mb5.3						
KMI				LR	LR		
	comp=N,5μm,14.9s,MS5.3						
KMI				LR	LR		
	comp=E,5μm,13.8s,MS5.3						
KMI				LR	LR		
	comp=Z,7μm,14.4s,MS5.3						
KMI	Kunming	24.43	12	P	P	05 11 21.9	+1.3
KMI				*SP	sP	05 11 30.7	-0.4
KMI						05 11 57.5	
KMI				PPP		05 12 09.1	
KMI				S	S	05 15 38.1	-0.9
KMI				*SS	sS	05 15 50.2	-1.0
KMI				SS		05 16 30.2	
KMI				SSS		05 16 49.9	
KMI				pmax	pmax		
	comp=Z,159nm,1.2s,mb5.3						
KMI				MLR	MLR		
	comp=Z,7μm,14.4s,MS5.3						
KMI	Kunming	24.43	12	P	P	05 11 21.9	+1.3
	comp=Z,159nm,1.2s,mb5.3						
KMI				pP		05 11 28.4	
KMI				sP	sP	05 11 30.7	-0.4
KMI				PP		05 11 57.5	
KMI				PPP		05 12 09.1	
KMI				S	S	05 15 38.1	-0.9
KMI				sS	sS	05 15 50.2	-1.0
KMI				SS		05 16 30.2	
KMI				SSS		05 16 49.9	
KMI				LR	LR		
	comp=Z,7μm,14.4s,MS5.3						
HYB	Hyderabad	24.68	312	i P	P	05 11 24.0	+1.2
SHL	Shillong	24.92	348	eP	P	05 11 28.2	+3.2
SHL				ex	x	05 15 56.0	
BOK	Bokaro	25.20	334	eP	P	05 11 29.7	+2.1
BOK				AMb	AMB	05 11 30.7	
	comp=Z,312nm,1.1s,mb5.8						
BOK				ex	x	05 15 50.2	
MNGI	Mangalore	25.33	299	eP	P	05 11 29.6	+0.9
MNGI				i x	x	05 16 00.9	
GYA	Guiyang	26.73	19	⇑iP	P	05 11 41.3	-0.1
GYA				AP	pP	05 11 47.6	-1.2
GYA				XP	sP	05 11 50.8	-1.1
GYA				PP		05 12 26.4	
GYA				PPP		05 12 38.3	
GYA				PCP	PcP	05 15 04.6	+0.3
GYA				S	S	05 16 14.8	-0.8
GYA				XS	sS	05 16 26.8	-1.1
GYA				SSS		05 17 44.3	
GYA				SCP	ScP	05 18 41.6	-1.1
GYA				PCS	PcS	05 18 43.5	-2.1
GYA				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,17.2s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,16.8s,MS4.7						
GYA				LR	LR		
	comp=Z,970nm,17.0s,MS4.4						
GZH	Guangzhou	26.76	34	P	P	05 11 44.9	+3.2
GZH				LR	LR		
	comp=N,3μm,14.5s,MS5.1						
GZH				LR	LR		
	comp=E,2μm,11.8s,MS5.1						
GZH				LR	LR		
	comp=Z,4μm,14.0s,MS5.2						
NGP	Nagpur	26.84	319	eP	P	05 11 43.7	+1.4
NGP				eS	S	05 16 23.0	+5.8
KAD	Karad	28.00	306	eP	P	05 11 54.6	+1.8
KAD				AMb	AMB	05 11 55.5	
	comp=Z,12nm,0.7s,mb4.7						
JIRN	Jiri	28.54	339	eP	P	05 11 59.0	+1.4
	comp=Z,5.8nm,0.2s,mb4.9						
PKI	Pulchoki	28.75	337	eP	P	05 12 00.6	+1.1
	comp=Z,83nm,0.8s,mb5.5						
GUN	Gumba	28.88	338	eP	P	05 12 02.0	+1.4
	comp=Z,469nm,1.3s,mb6.1						
DMN	Daman	28.91	337	eP	P	05 12 01.8	+1.0
	comp=Z,110nm,0.8s,mb5.6						
POO	Poona	28.93	308	ex	x	05 11 56.0	
KKN	Kakani	29.00	337	eP	P	05 12 02.5	+0.8
	comp=Z,147nm,1.0s,mb5.7						
LSA	Lhasa	29.08	349	P	P	05 12 03.4	+1.0
LSA				XS	sS	05 17 08.9	+4.1
LSA				AMB	AMB		
	comp=Z,760nm,1.2s,mb6.3						
LSA				LR	LR		
	comp=N,930nm,20.0s,MS4.6						
LSA				LR	LR		
	comp=E,1μm,23.0s,MS4.6						
LSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
LSA	Lhasa	29.08	349	eP	P	05 12 03.7	+1.3
LSA				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.3						
LSA	Lhasa	29.08	349	eP	P	05 12 03.7	+1.3
	comp=Z,57nm,0.8s,mb5.3						
BHPL	Bhopal	29.38	320	eP	P	05 12 07.0	+1.9
BHPL				AMb	AMB	05 12 07.4	
	comp=Z,16nm,0.8s,mb4.8						
GKN	Gorkha	29.44	336	eP	P	05 12 06.6	+1.0
	comp=Z,203nm,1.2s,mb5.7						
KOLN	Koldanda	29.67	335	eP	P	05 12 08.6	+1.0
	comp=Z,123nm,0.8s,mb5.7						
CD2	Chengdu	30.25	11	⇑iP	P	05 12 12.0	-0.8
CD2				AP	pP	05 12 18.5	-1.8
CD2				XP	sP	05 12 21.6	-1.7
CD2				PP	PP	05 13 11.6	-10
CD2				PCP	PcP	05 15 11.5	-1.5
CD2				S	S	05 17 10.5	-0.5
CD2				SS	SS	05 18 50.4	-30
CD2				AMB	AMB		
	comp=Z,40nm,1.7s,mb4.9						
CD2				AMB	AMB		
	comp=Z,300nm,10.8s						
CD2				LR	LR		
	comp=N,7μm,16.8s,MS5.5						
CD2				LR	LR		
	comp=E,6μm,14.4s,MS5.5						
CD2				LR	LR		
	comp=Z,9μm,14.4s,MS5.5						
MBWA	Marble Bar	31.04	137	eP	P	05 12 20.8	+1.1
	comp=Z,40nm,1.3s,mb5.1						
AGRA	Agra	32.03	326	eP	P	05 12 28.7	+0.3
AGRA				AMb	AMB	05 12 30.8	
	comp=Z,62nm,0.2s,mb6.1						
SONA	Sohna	33.30	326	eP	P	05 12 39.5	-0.1
SONA				AMb	AMB	05 12 40.6	
	comp=Z,59nm,1.0s,mb5.5						
WHN	Wuhan	33.39	27	⇓P	P	05 12 41.0	+0.6
WHN				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.4						
WHN				LR	LR		
	comp=Z,8μm,12.2s,MS5.6						
AJM	Ajmer	33.45	321	eP	P	05 12 42.6	+1.8
AJM				AMb	AMB	05 12 45.0	
	comp=Z,51nm,1.0s,mb5.4						
AYAN	Aya Nagar	33.46	326	eP	P	05 12 40.9	0.0
AYAN				AMb	AMB	05 12 41.9	
	comp=Z,46nm,1.4s,mb5.2						
KUDL	Kundal	33.56	325	eP	P	05 12 41.3	-0.5
KUDL				AMb	AMB	05 12 42.9	
	comp=Z,48nm,1.4s,mb5.2						
NDI	New Delhi	33.57	327	eP	P	05 12 41.8	-0.1
FITZ	Fitzroy Crossi	33.66	126	⇑iP	P	05 12 41.5	-1.2
	comp=Z,9.4nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	33.66	126	P	P	05 12 40.9	-1.8
	comp=Z,4.6nm,0.5s,mb4.7,baz=312,slow=5.9,SNR=31						
FITZ				LR	LR	05 28 36.3	
	comp=Z,1μm,18.8s,MS4.7,baz=303,slow=40						
JOSI	Joshimath	33.87	332	ex	x	05 12 17.5	
JOSI				AMb	AMB	05 12 20.1	
	comp=Z,570nm,1.3s,mb6.3						
KHET	Khetri	33.90	324	eP	P	05 12 44.0	-0.7
KHET				AMb	AMB	05 12 44.1	
	comp=Z,48nm,1.1s,mb5.3						
XAN	Xi'an	34.49	17	P	P	05 12 48.8	-1.1
XAN				AP	pP	05 12 54.6	-2.8
XAN				S	S	05 18 10.4	-6.6
XAN				AMB	AMB		
	comp=Z,121nm,1.2s,mb5.7						
XAN				LR	LR		
	comp=N,2μm,14.5s,MS5.1						
XAN				LR	LR		
	comp=E,2μm,12.9s,MS5.1						
XAN				LR	LR		
	comp=Z,4μm,17.7s,MS5.2						
KLP	Kalpa	35.31	331	eP	P	05 12 57.7	+0.7
KLP				AMb	AMB	05 13 00.3	
	comp=Z,66nm,1.1s,mb5.5						
LZH	Lanzhou	35.32	9	eP	P	05 12 56.5	-0.6
LZH				PP	PP	05 14 14.0	-3.4
LZH				PCP	PcP	05 15 28.0	+0.9
LZH				eS	S	05 18 28.0	-1.7
LZH				SS	SS	05 20 47.0	-17
LZH				AMB	AMB		
	comp=Z,111nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,395nm,4.7s						
LZH				LR	LR		
	comp=E,4μm,15.9s						
LZH				LR	LR		
	comp=Z,3μm,19.5s,MS5.1						
LZH	Lanzhou	35.32	9	eP	P	05 12 56.5	-0.6
LZH						05 14 14.0	
LZH						05 15 28.0	
LZH				eS	S	05 18 28.0	-1.7
LZH				*SS	sS	05 18 40.0	-2.1
LZH				SS	SS	05 20 47.0	-17
LZH				pmax	pmax		
	comp=Z,111nm,1.5s,mb5.6						
LZH				MLR	MLR		
	comp=Z,3μm,19.5s,MS5.1						
LZH	Lanzhou	35.32	9	eP	P	05 12 56.5	-0.6
	comp=Z,111nm,1.5s,mb5.6						
LZH				PP	PP	05 14 14.0	-3.4
LZH				PcP	PcP	05 15 28.0	+0.9
LZH				eS	S	05 18 28.0	-1.7
LZH				sS	sS	05 18 40.0	-2.1
LZH				SS	SS	05 20 47.0	-17
LZH				LR	LR		
	comp=Z,3μm,19.5s,MS5.1						
TLE	Tual	35.86	101	P	P	05 13 02.9	+1.2
	comp=Z,69μm,1.0s						
SDNR	Sundarnagar	35.92	329	eP	P	05 13 03.5	+1.3
NJ2	Nanjing	36.83	31	eP	P	05 13 09.5	-0.4
NJ2				AP	pP	05 13 20.1	+2.6
NJ2				XP	sP	05 13 23.5	+3.0
NJ2				PP	PP	05 14 34.3	+0.3
NJ2				S	S	05 18 49.0	-3.7
NJ2				XS	sS	05 19 05.0	-0.2
NJ2				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,11.5s,MS5.5						
NJ2				LR	LR		
	comp=E,3μm,13.2s,MS5.5						
NJ2				LR	LR		
	comp=Z,570nm,13.8s,MS4.5						
THN	Thein Dam	37.30	329	eP	P	05 13 15.1	+1.1
KAKA	Kakadu	37.32	113	eP	P	05 13 12.0	-2.2
	comp=Z,66nm,1.4s,mb5.3						
SSE	Sheshan	37.36	35	P	P	05 13 11.0	-3.5

SSE				XP	sP	05 13 23.8	-1.3
SSE				S	**S**	**05 18 58.1**	**-2.7**
SSE				SCS	ScS	05 23 22.4	-4.3
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,209nm,6.9s						
SSE				LR	LR		
	comp=N,2μm,14.0s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,14.0s,MS5.2						
SSE				LR	LR		
	comp=Z,4μm,13.6s,MS5.3						
SSE	**Sheshan**	**37.36**	**35**	P	**P**	**05 13 11.0**	**-3.5**
	comp=Z,36nm,0.7s,mb5.3						
SSE				sP	sP	05 13 23.7	-1.4
SSE				PP	PP	05 14 36.7	-3.1
SSE				S	**S**	**05 18 58.1**	**-2.7**
SSE				ScS	ScS	05 23 22.4	-4.3
SSE				LR	LR		
	comp=Z,4μm,13.6s,MS5.3						
GTA	**Gaotai**	**38.20**	**3**	P	**P**	**05 13 21.3**	**-0.3**
GTA				AP	pP	05 13 30.8	+1.7
GTA				XP	sP	05 13 35.0	+2.8
GTA				PP	PP	05 14 51.3	+2.2
GTA				PCP	PcP	05 15 36.6	+0.8
GTA				S	**S**	**05 19 10.9**	**-2.7**
GTA				XS	sS	05 19 26.1	0.0
GTA				AMB	AMB		
	comp=Z,76nm,1.1s,mb5.3						
GTA				AMB	AMB		
	comp=Z,379nm,8.0s						
GTA				LR	LR		
	comp=N,1μm,15.2s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,13.7s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,16.0s,MS4.9						
NWAO	**Narrogin (SRO)**	**38.64**	**153**	P	**P**	**05 13 25.9**	**+0.6**
	comp=Z,17nm,1.1s,mb4.7,baz=316,slow=12,SNR=3.4						
NWAO	**Narrogin (SRO)**	**38.64**	**153**	P	**P**	**05 13 25.9**	**+0.6**
JOW	**Kunigami**	**39.13**	**47**	LR	LR	05 29 28.1	
	comp=Z,527nm,19.2s,MS4.4,baz=310,slow=36						
TIA	**Tai'an**	**39.42**	**25**	P	**P**	**05 13 31.3**	**-0.5**
NIL	**Nilore**	**39.55**	**328**	P	**P**	**05 13 32.1**	**-0.8**
	comp=Z,76nm,0.7s,mb5.5,SNR=8.2						
BTO	**Baotou**	**40.95**	**15**	*e*P	**P**	**05 13 43.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**41.59**	**16**	*e*P	**P**	**05 13 50.9**	**+1.1**
HHC				AP	pP	05 13 58.6	+1.2
HHC				XP	sP	05 14 00.9	+0.5
HHC				PP	PP	05 15 29.0	+3.0
HHC				PCP	PcP	05 15 44.9	-1.7
HHC				S	**S**	**05 20 07.6**	**+3.2**
HHC				XS	sS	05 20 17.8	+0.9
HHC				SS	SS	05 23 05.3	-4.4
HHC				SCS	ScS	05 23 50.0	-1.5
HHC				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,393nm,6.3s						
HHC				LR	LR		
	comp=N,4μm,15.3s,MS5.5						
HHC				LR	LR		
	comp=E,3μm,16.3s,MS5.5						
HHC				LR	LR		
	comp=Z,4μm,15.7s,MS5.3						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**05 13 50.3**	**-0.8**
	comp=Z,5.7nm,0.5s,mb4.5,baz=301,slow=9.0,SNR=50						
WRA				LR	LR	05 34 54.5	
	comp=Z,929nm,19.1s,MS4.7,baz=310,slow=42						
WRAB	**Tennant Creek**	**41.76**	**122**	P	**P**	**05 13 51.0**	**-0.2**
	comp=Z,125nm,1.7s,mb5.3,SNR=5.5						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**05 13 50.5**	**-0.7**
WB2	**Warramunga Arr**	**41.77**	**122**	*e*P	**P**	**05 13 50.6**	**-0.6**
BJT	**Baijiatuau**	**42.33**	**21**	*e*P	**P**	**05 13 56.4**	**+0.7**
BJT				pmax	pmax		
	comp=Z,114nm,0.8s						
BJT	**Baijiatuau**	**42.33**	**21**	*e*P	**P**	**05 13 56.4**	**+0.6**
	comp=Z,114nm,0.8s,mb5.5						
BJI	**Beijing**	**42.35**	**21**	P	**P**	**05 13 56.8**	**+0.9**
BJI				XP	sP	05 14 05.3	-1.3
BJI				PP	PP	05 15 37.0	+2.8
BJI				S	**S**	**05 20 21.4**	**+5.9**
BJI				XS	sS	05 20 35.1	+7.0
BJI				AMB	AMB		
	comp=Z,135nm,0.9s,mb5.6						
BJI				AMB	AMB		
	comp=Z,708nm,4.2s						
BJI				LR	LR		
	comp=N,1μm,14.3s,MS5.1						
BJI				LR	LR		
	comp=E,1μm,14.7s,MS5.1						
BJI				LR	LR		
	comp=Z,892nm,17.3s,MS4.7						
BJI	**Beijing**	**42.35**	**21**	P	**P**	**05 13 56.7**	**+0.8**
BJI				*SP	sP	05 14 05.2	-1.4
BJI						05 15 37.0	
BJI				S	**S**	**05 20 21.4**	**+5.9**
BJI				*SS	sS	05 20 35.1	+7.0
BJI				pmax	pmax		
	comp=Z,135nm,0.9s,mb5.6						
BJI				MLR	MLR		
	comp=Z,890nm,17.3s,MS4.7						
BJI	**Beijing**	**42.35**	**21**	P	**P**	**05 13 56.7**	**+0.8**
	comp=Z,135nm,0.9s,mb5.6						
BJI				sP	sP	05 14 05.2	-1.4
BJI				PP	PP	05 15 37.0	+2.8
BJI				S	**S**	**05 20 21.4**	**+5.9**
BJI				sS	sS	05 20 35.1	+7.0
BJI				SS	SS	05 23 35.1	+10
BJI				LR	LR		
	comp=Z,890nm,17.3s,MS4.7						
KSH	**Kashi**	**42.98**	**335**	*e*P	**P**	**05 14 01.9**	**+0.9**
KSH				*e*AP	pP	05 14 08.8	+0.1
KSH				*e*XP	sP	05 14 11.8	+0.1
KSH				*e*PP	PP	05 15 43.9	+2.9
KSH				*e*PCP	PcP	05 15 53.4	+2.2
KSH				*e*PPP		05 16 16.6	
KSH				*e*SCP	ScP	05 19 40.3	-0.3
KSH				*e*S	**S**	**05 20 24.1**	**-0.7**
KSH				*e*SCS	ScS	05 23 58.5	-1.6
KSH				AMB	AMB		
	comp=Z,105nm,1.0s,mb5.5						
KSH				LR	LR		
	comp=N,4μm,13.9s,MS5.5						
KSH				LR	LR		
	comp=E,2μm,12.4s,MS5.5						
KSH				LR	LR		
	comp=Z,4μm,11.6s,MS5.6						
FORT	**Forrest**	**43.03**	**140**	*e*P	**P**	**05 14 03.1**	**+1.7**
	comp=Z,72nm,0.6s,mb5.6						
WBK	**Wadi Bani Khal**	**43.08**	**303**	⇑P	**P**	**05 14 04.0**	**+2.1**
	SNR=6.7						
ASPA	**Alice Springs**	**43.12**	**127**	*e*P	**P**	**05 14 01.9**	**-0.3**
ASAR	**Alice Springs**	**43.12**	**127**	P	**P**	**05 14 01.5**	**-0.7**
	comp=Z,5.5nm,0.7s,mb4.4,baz=299,slow=8.1,SNR=63						
ASAR				PcP	PcP	05 15 51.5	-0.1
	comp=Z,2.2nm,0.9s,baz=351,slow=1.1,SNR=4.2						
ASAR				S	**S**	**05 20 25.5**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=304,slow=16,SNR=3.5						
ASAR				LR	LR	05 34 40.3	
	comp=Z,1μm,20.9s,MS4.8,baz=302,slow=40						
ASAR	**Alice Springs**	**43.12**	**127**	P	**P**	**05 14 01.5**	**-0.7**
ASAR						05 15 51.6	
ASAR				S	**S**	**05 20 25.5**	**-1.4**
AS31	**Alice Springs**	**43.12**	**127**	*e*P	**P**	**05 14 01.9**	**-0.3**
WMQ	**Urumqi**	**43.43**	**350**	⇑*i*P	**P**	**05 14 05.3**	**+0.6**
WMQ				AP	pP	05 14 12.0	-0.3
WMQ				XP	sP	05 14 15.5	+0.1
WMQ				PP	PP	05 15 48.0	+2.2
WMQ				S	**S**	**05 20 31.0**	**-0.4**
WMQ				XS	sS	05 20 43.0	-1.0
WMQ				SS	SS	05 23 39.0	-6.8
WMQ				AMB	AMB		
	comp=Z,138nm,1.0s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,573nm,6.0s						
WMQ				LR	LR		
	comp=N,3μm,18.8s,MS5.4						
WMQ				LR	LR		
	comp=E,3μm,15.4s,MS5.4						
WMQ				LR	LR		
	comp=Z,3μm,22.9s						
WSAR	**Wadi Sarin**	**43.62**	**303**	LR	LR	05 32 46.7	
	comp=Z,612nm,18.1s,MS4.5,baz=130,slow=37						

DL2	**Dalian**	**43.66**	**28**	⇑P	**P**	**05 14 07.3**	**+0.8**
DL2				*e*S	**S**	**05 20 36.9**	**+2.2**
DL2				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.6						
DL2				AMB	AMB		
	comp=Z,200nm,3.7s						
DL2				LR	LR		
	comp=N,770nm,14.1s,MS4.8						
DL2				LR	LR		
	comp=E,500nm,15.5s,MS4.8						
DL2				LR	LR		
	comp=Z,950nm,12.9s,MS4.9						
SMDO	**Samad**	**44.04**	**303**	P	**P**	**05 14 11.8**	**+2.2**
	SNR=5.7						
BIDO	**Bidbid**	**44.16**	**303**	P	**P**	**05 14 12.8**	**+2.2**
	SNR=6.3						
BSY	**Bisya**	**44.63**	**302**	P	**P**	**05 14 16.0**	**+1.6**
	SNR=14						
ULHL	**Ulahol**	**45.19**	**338**	P	**P**	**05 14 20.0**	**+1.2**
	SNR=7.6						
UCH	**Uchtor**	**45.85**	**336**	P	**P**	**05 14 25.4**	**+1.4**
	SNR=56						
TKM2	**Tokmak 2**	**46.02**	**338**	P	**P**	**05 14 26.2**	**+0.9**
	SNR=40						
KBK	**Karagaybulak**	**46.04**	**337**	P	**P**	**05 14 27.3**	**+1.7**
	SNR=17						
AML	**Almayashu**	**46.11**	**335**	P	**P**	**05 14 26.6**	**+0.6**
	SNR=17						
AAK	**Ala-Archa**	**46.20**	**336**	P	**P**	**05 14 28.5**	**+1.7**
	SNR=8.7						
AAK	**Ala-Archa**	**46.20**	**336**	P	**P**	**05 14 27.2**	**+0.4**
	comp=Z,134nm,1.0s,mb5.8,SNR=8.0						
AAK	**Ala-Archa**	**46.20**	**336**	P	**P**	**05 14 27.4**	**+0.6**
	SNR=14						
AAK	**Ala-Archa**	**46.20**	**336***c*	*i*P	**P**	**05 14 26.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
AAK				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
AAK	**Ala-Archa**	**46.20**	**336**	*e*P	**P**	**05 14 26.4**	**-0.4**
	comp=Z,42nm,1.2s,mb5.2						
FRU	**Bishkek**	**46.32**	**337**	*i*P	**P**	**05 14 29.0**	**+1.3**
FRU				*e*		05 14 43.0	
FRU				*e*		05 21 20.0	
FRU				pmax	pmax		
	comp=Z,90nm,2.1s,mb5.3						
FRU				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
CHMS	**Chumysh**	**46.41**	**337**	P	**P**	**05 14 28.9**	**+0.4**
	SNR=11						
EKS2	**Erkin-Say**	**46.52**	**336**	P	**P**	**05 14 30.6**	**+1.4**
	SNR=29						
USP	**Ospenovka**	**46.73**	**337**	P	**P**	**05 14 31.8**	**+0.8**
	SNR=60						
SNY	**Shenyang**	**46.88**	**27**	⇑P	**P**	**05 14 30.6**	**-1.5**
SNY				AP	pP	05 14 39.3	-0.5
SNY				XP	sP	05 14 41.5	-1.4
SNY				AMB	AMB		
	comp=Z,86nm,1.0s,mb5.6						
SNY				LR	LR		
	comp=N,2μm,14.9s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,15.5s,MS5.2						
SNY				LR	LR		
	comp=Z,3μm,14.1s,MS5.4						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**05 14 34.7**	**+0.1**
	comp=Z,26nm,0.8s,mb5.2,baz=190,slow=8.6,SNR=88						
SONM				PcP	PcP	05 16 05.0	-0.8
	comp=Z,9.9nm,0.8s,baz=190,slow=3.6,SNR=6.9						
ULN	**Ulaanbaatar**	**47.33**	**9**	P	**P**	**05 14 36.4**	**+0.8**
	SNR=16						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**05 14 35.3**	**-0.3**
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**05 14 35.8**	**+0.2**
	comp=Z,30nm,1.0s,mb5.2						
ULN				*e*PcP	PcP	05 16 06.0	-0.3
MK31	**Makanchi Array**	**47.41**	**346**	*i*P	**P**	**05 14 35.6**	**-0.6**
MK31				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.6						
MK31	**Makanchi Array**	**47.41**	**346**	*e*P	**P**	**05 14 35.8**	**-0.4**
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**05 14 35.6**	**-0.7**
	comp=Z,63nm,0.8s,mb5.6,baz=158,slow=6.7,SNR=338						
MKAR				LR	LR	05 38 19.7	
	comp=Z,924nm,20.4s,MS4.7,baz=160,slow=41						
MKAR	**Makanchi Array**	**47.41**	**346**	*i*P	**P**	**05 14 35.5**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,63nm,0.8s						
KK31	**Karatay Array**	**48.27**	**334**	*i*P	**P**	**05 14 41.3**	**-1.6**
KKAR	**Karatay Array**	**48.27**	**334**	P	**P**	**05 14 41.3**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.3						
CN2	**Changchun**	**49.29**	**27**	*e*P	**P**	**05 14 50.0**	**-0.7**
CN2				*e*AP	pP	05 14 56.0	-2.4
CN2				*e*S	**S**	**05 21 54.8**	**-0.6**
CN2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s,MS5.4						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS5.4						
CN2				LR	LR		
	comp=Z,4μm,15.0s,MS5.5						
TLY	**Talaya**	**50.68**	**5**	P	**P**	**05 15 02.5**	**+1.2**
	comp=Z,168nm,0.8s,mb6.0,SNR=8.1						
TLY	**Talaya**	**50.68**	**5**	P	**P**	**05 15 02.2**	**+1.0**
	SNR=12						
TLY	**Talaya**	**50.68**	**5**	*e*P	**P**	**05 15 01.7**	**+0.4**
TLY				*e*PS		05 22 34.2	
TLY				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
TLY				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.3						
TLY	**Talaya**	**50.68**	**5**	*e*P	**P**	**05 15 01.4**	**+0.2**
	comp=Z,18nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**51.60**	**42**	*e*P	**P**	**05 15 07.4**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**51.60**	**42**	*e*P	**P**	**05 15 07.4**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.8						
MAT	**Matsushiro**	**51.60**	**42**	P	**P**	**05 15 08.1**	**-0.1**
MAT				*e*S	**S**	**05 22 33.0**	**+5.5**
MJAR	**Matsushiro Arr**	**51.60**	**42**	P	**P**	**05 15 07.5**	**-0.7**
	comp=Z,8.7nm,0.9s,mb4.7,baz=222,slow=6.4,SNR=18						
MJAR				PcP	PcP	05 16 21.6	-0.2
	comp=Z,5.0nm,0.9s,baz=246,slow=5.6,SNR=4.2						
MJAR				LR	LR	05 37 53.8	
	comp=Z,576nm,20.7s,MS4.6,baz=245,slow=37						
MJAR	**Matsushiro Arr**	**51.60**	**42**	P	**P**	**05 15 07.5**	**-0.7**
MJAR						05 16 21.6	
HIA	**Hailar**	**51.66**	**18**	*e*P	**P**	**05 15 08.2**	**-0.5**
HIA				pmax	pmax		
	comp=Z,57nm,1.0s						
HIA	**Hailar**	**51.66**	**18**	*e*P	**P**	**05 15 08.2**	**-0.4**
	comp=Z,57nm,1.0s,mb5.5						
MDJ	**Mudanjiang**	**51.84**	**29**	P	**P**	**05 15 10.3**	**+0.3**
MDJ				AP	pP	05 15 16.8	-0.9
MDJ				XP	sP	05 15 19.8	-1.0
MDJ				PCP	PcP	05 16 17.8	-4.9
MDJ				PP	PP	05 17 12.8	+5.0
MDJ				SCP	ScP	05 20 13.9	-3.9
MDJ				PCS	PcS	05 20 17.1	-3.7
MDJ				S	**S**	**05 22 36.0**	**+5.2**
MDJ				SCS	ScS	05 24 59.3	+0.8
MDJ				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,322nm,6.8s						
MDJ				LR	LR		
	comp=N,2μm,16.4s,MS5.2						
MDJ				LR	LR		
	comp=E,893nm,15.6s,MS5.2						
MDJ				LR	LR		
	comp=Z,2μm,16.0s,MS5.3						
MDJ	**Mudanjiang**	**51.84**	**29**	*e*P	**P**	**05 15 10.6**	**+0.6**
	comp=Z,35nm,0.9s,mb5.3						
VLA	**Vladivostok**	**51.93**	**32**	*e*P	**P**	**05 15 10.2**	**-0.4**
KURK	**Kurchatov**	**51.97**	**345**	P	**P**	**05 15 11.6**	**+0.7**
	comp=Z,399nm,0.9s,mb6.3,SNR=44						
CTA	**Charters Tower**	**52.22**	**117**	LR	LR	05 40 22.5	
	comp=Z,960nm,18.1s,MS4.9,baz=60,slow=40						
CTAO	**Charters Tower**	**52.22**	**117**	*e*P	**P**	**05 15 13.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**52.22**	**117**	*e*P	**P**	**05 15 13.3**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						

CIT	**Chita**	**52.52**	**12**	*e*P	**P**	**05 15 16.3**	**+1.3**
CIT				pmax	pmax		
	comp=Z,174nm,1.4s,mb5.8						
STKA	**Stephens Creek**	**53.09**	**132**	⇑*i*P	**P**	**05 15 20.0**	**+0.8**
	comp=Z,23nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**53.09**	**132**	P	**P**	**05 15 19.5**	**+0.2**
	comp=Z,24nm,0.9s,mb5.1,baz=302,slow=7.9,SNR=22						
STKA				LR	LR	05 39 56.8	
	comp=Z,1μm,20.8s,MS5.0,baz=294,slow=38						
NVS	**Novosibirsk**	**54.83**	**350**	*i*P	**P**	**05 15 31.2**	**-0.7**
NVS				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.5						
NVS				pmax	pmax		
	comp=N,40nm,1.0s						
NVS				pmax	pmax		
	comp=E,20nm,1.0s						
KRAR	**Krasnoyarsk**	**54.88**	**357**	*e*P	**P**	**05 15 32.4**	**+0.1**
KRAR				pmax	pmax		
	comp=Z,154nm,1.5s,mb5.8						
KRAR				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.6						
KLR	**Kul'dur**	**56.24**	**26***de*P		**P**	**05 15 39.0**	**-3.1**
KLR				*e*S	**S**	**05 23 29.0**	**-1.3**
KLR				*e*		05 25 21.5	
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
KLR				pmax	pmax		
	comp=Z,800nm,9.5s						
BVA0	**Borovoye Array**	**56.44**	**341**	*i*P	**P**	**05 15 42.3**	**-1.2**
BVAR	**Borovoye Array**	**56.44**	**341**	P	**P**	**05 15 42.7**	**-0.8**
	comp=Z,33nm,0.7s,mb5.5,baz=139,slow=8.4,SNR=9.8						
BRVK	**Borovoye**	**56.50**	**341**	P	**P**	**05 15 43.2**	**-0.7**
	comp=Z,293nm,0.9s,mb6.3,SNR=12						
BRVK	**Borovoye**	**56.50**	**341**	P	**P**	**05 15 43.4**	**-0.6**
	SNR=16						
BRVK	**Borovoye**	**56.50**	**341**	*e*P	**P**	**05 15 43.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.5						
BRVK	**Borovoye**	**56.50**	**341**	*e*P	**P**	**05 15 43.0**	**-1.0**
	comp=Z,39nm,0.8s,mb5.5						
CHKZ	**Chkalovo**	**56.91**	**341**	*i*P	**P**	**05 15 46.5**	**-0.4**
BOD	**Bodaibo**	**58.07**	**10**	*e*P	**P**	**05 15 53.8**	**-1.2**
BOD				pmax	pmax		
	comp=Z,78nm,1.0s,mb5.7						
ASAJ	**Asahikawa**	**58.60**	**37**	P	**P**	**05 15 58.1**	**-0.5**
	comp=Z,3.5nm,0.3s,mb4.8,baz=243,slow=4.5						
ASAJ				LR	LR	05 40 34.4	
	comp=Z,672nm,21.3s,MS4.7,baz=203,slow=36						
AKTK	**Aktyubinsk**	**59.45**	**332**	P	**P**	**05 16 03.0**	**-1.7**
AKTO	**Aktyubinsk**	**59.45**	**332**	P	**P**	**05 16 03.0**	**-1.7**
	baz=18,slow=20						
AKTO	**Aktyubinsk**	**59.45**	**332**	*i*P	**P**	**05 16 02.6**	**-2.0**
CLNS	**Chul'man**	**59.77**	**17**	*e*P	**P**	**05 16 05.6**	**-1.2**
CLNS				*e*		05 19 45.3	
CLNS				*e*		05 25 47.0	
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS5.2						
KMBO	**Kilima Mbogo**	**60.24**	**268**	P	**P**	**05 16 10.8**	**+0.7**
	comp=E,2.0nm,1.0s,baz=56,slow=12,SNR=5.5						
KMBO				LR	LR	05 37 29.1	
	comp=E,571nm,19.7s,MS4.7,baz=294,slow=31						
KMBO	**Kilima Mbogo**	**60.24**	**268**	P	pP	05 16 18.7	+0.8
	SNR=7.0						
KMBO	**Kilima Mbogo**	**60.24**	**268**	*e*P	**P**	**05 16 11.2**	**+1.1**
KMBO				*e**PP	pP	05 16 18.1	+0.2
KMBO				pmax	pmax		
	comp=Z,47nm,1.9s						
KMBO	**Kilima Mbogo**	**60.24**	**268**	*e*P	**P**	**05 16 11.2**	**+1.2**
	comp=Z,47nm,1.9s,mb5.2						
KMBO				*e*pP	pP	05 16 18.1	+0.2
ARMA	**Armidale**	**60.26**	**126**	*e*P	**P**	**05 16 12.5**	**+2.3**
YSS	**Yuzh-Sakhalins**	**60.30**	**34**	*e*P	**P**	**05 16 10.2**	**-0.2**
YSS				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.5						
YSS	**Yuzh-Sakhalins**	**60.30**	**34**	*e*P	**P**	**05 16 10.0**	**-0.4**
	comp=Z,126nm,1.4s,mb5.8						
MAK	**Makhachkala**	**60.98**	**320***d*	*i*P	**P**	**05 16 10.9**	**-4.2**
MAK				*e*		05 16 53.0	
MAK				*e*S	**S**	**05 24 26.9**	**-5.1**
MAK				*e*		05 26 04.0	
MAK				pmax	pmax		
	comp=Z,285nm,1.3s,mb6.2						
HAKT	**HAKKARI**	**61.23**	**313**	*i*P	**P**	**05 16 14.6**	**-2.2**
GNI	**Garni**	**61.55**	**316**	P	**P**	**05 16 20.0**	**+1.0**
	SNR=7.3						
GNI	**Garni**	**61.55**	**316***c*	*i*P	**P**	**05 16 19.1**	**+0.1**
GNI				pmax	pmax		
	comp=Z,31nm,1.3s						
GNI	**Garni**	**61.55**	**316**	*e*P	**P**	**05 16 18.7**	**-0.2**
	comp=Z,38nm,1.2s,mb5.4						
ZEI	**Tsey**	**63.25**	**318**	*e*P	**P**	**05 16 30.7**	**+0.4**
ZEI				*e**PP	pP	05 16 39.6	+1.4
ARU	**Arti**	**63.38**	**337**	⇓*i*P	**P**	**05 16 30.0**	**-1.2**
ARU				*e*		05 17 06.8	
ARU				*e*		05 18 48.1	
ARU				*e*S	**S**	**05 25 02.1**	**-0.2**
ARU				*e*SS	SS	05 29 04.4	-4.7
ARU				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.5						
ARU				MLR	MLR		
	comp=N,400nm,18.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,400nm,17.0s,MS4.8						
ARU	**Arti**	**63.38**	**337**	*e*P	**P**	**05 16 29.8**	**-1.4**
	comp=E,53nm,1.2s,mb5.5						
KIV	**Kislovodsk**	**64.56**	**319**	P	**P**	**05 16 38.9**	**0.0**
	SNR=6.0						
KIV	**Kislovodsk**	**64.56**	**319***c*	*i*P	**P**	**05 16 38.6**	**-0.3**
KIV				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
KIV	**Kislovodsk**	**64.56**	**319**	*e*P	**P**	**05 16 38.4**	**-0.5**
	comp=Z,26nm,0.9s,mb5.3						
ELZG	**Elazig**	**65.04**	**312**	*i*P	**P**	**05 16 41.5**	**-0.6**
KELT	**Kelkit**	**65.42**	**314**	*i*P	**P**	**05 16 42.8**	**-1.7**
YAK	**Yakutsk**	**65.45**	**16***c*	*i*P	**P**	**05 16 43.9**	**-0.9**
YAK				*e**PP	pP	05 16 51.4	-1.3
YAK				*e*S	S	05 25 27.8	0.0
YAK				*e**SS	sS	05 25 45.2	+4.3
YAK				*e*SS	SS	05 29 45.2	+3.8
YAK				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.6						
YAK				pmax	pmax		
	comp=N,34nm,1.4s						
YAK				pmax	pmax		
	comp=E,47nm,1.4s						
YAK				pmax	pmax		
	comp=Z,87nm,2.3s,mb5.4						
YAK				pmax	pmax		
	comp=N,34nm,1.6s						
YAK				pmax	pmax		
	comp=E,

comp=Z,37nm,1.0s,mb5.4
SOC MLR MLR
comp=Z,255nm,19.0s,MS4.5
GRSN GIRESUNGRSN 66.40 315 *i* P **P 05 16 47.3 -3.6**
COBT Iskenderun 66.47 310 *i* P **P 05 16 49.0 -2.3**
CASY Casey 67.87 174 *eP* pP 05 17 07.4 -0.7
CASY Casey 67.87 174 *eP* **P 05 17 00.5 +0.3**
comp=Z,36nm,1.9s,mb5.1
CASY *epP* pP 05 17 07.2 -1.0
ANN Anapa 68.35 318 *eP* **P 05 16 57.8 -5.4**
ANN *eS* S 05 25 56.2 -6.6
ANN pmax pmax
comp=Z,26nm,0.9s,mb5.3
CTKT Corum 68.80 314 *i* P **P 05 16 56.5 -9.4**
CDAG Cicekdag 68.81 312 *i* P **P 05 17 04.1 -2.0**
BOYT Boyabat 68.96 314 *i* P **P 05 17 05.5 -1.5**
BR131 Keskin Array S 69.38 312 *eP* **P 05 17 08.0 -1.6**
comp=Z,6.8nm,0.8s,mb4.6
BRTR Keskin Array B 69.38 312 P **P 05 17 08.6 -1.0**
comp=Z,6.9nm,0.9s,mb4.6,baz=132,slow=7.4,SNR=47
BRTR LR LR 05 52 13.4
comp=Z,166nm,18.7s,MS4.3,baz=117,slow=40
ELDT Eldivan 69.75 313 *i* P **P 05 17 06.7 -5.2**
VRSR Storozhevoye 69.79 325 *eP* **P 05 17 10.8 -1.3**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,9.0nm,1.1s
VRSR pmax pmax
comp=E,20nm,1.0s
ANTO Ankara 70.04 312⇑ *iP* **P 05 17 13.0 -0.7**
ANTO Ankara 70.04 312 *eP* **P 05 17 12.5 -1.2**
comp=E,17nm,1.0s,mb4.9
BALT Daday 70.08 314 *i* P **P 05 17 12.7 -1.2**
LSZ Lusaka 70.33 253 LR LR 05 45 31.7
comp=E,1μm,18.1s,MS5.3,baz=258,slow=34
LSZ Lusaka 70.33 253 P **P 05 17 23.1 +7.7**
SNR=5.8
LSZ Lusaka 70.33 253 *eP* **P 05 17 21.4 +6.0**
LSZ pmax pmax
comp=Z,42nm,1.8s,mb5.1
LSZ Lusaka 70.33 253 *eP* **P 05 17 21.4 +6.0**
comp=Z,42nm,1.8s,mb5.1
SIM Simferopol' 70.62 318 *eP* **P 05 17 17.1 -0.1**
SIM *eS* S 05 26 23.6 -5.9
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.2
MATP Matopo 70.72 248 LR LR 05 44 50.5
comp=Z,416nm,18.7s,MS4.7,baz=68,slow=33
SGKT Sivrigoynuk 70.78 313 *i* P **P 05 17 16.3 -1.8**
ISP Isparta 71.25 310 *eP* **P 05 17 21.0 0.0**
ISP Isparta 71.25 310 *eP* **P 05 17 19.8 -1.3**
comp=Z,16nm,1.0s,mb4.9
MA2 Magadan 71.32 26 *eP* **P 05 17 21.1 -0.4**
MA2 *e* 05 17 45.9
MA2 *eS* S 05 26 36.6 -1.1
MA2 *ePS* 05 26 59.8
MA2 *e* 05 27 20.1
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 MLR MLR
comp=Z,1μm,14.5s,MS5.2
MA2 Magadan 71.32 26 *eP* **P 05 17 20.8 -0.7**
comp=Z,19nm,0.8s,mb5.1
ESKT Eskisehir 71.40 311 *i* P **P 05 17 21.4 -0.5**
TKTP Tekketepe 71.44 310 *i* P **P 05 17 20.7 -1.4**
GOLH Golhisar 71.84 309 *i* P **P 05 17 23.1 -1.5**
PET Petropavlovsk 72.18 34α *iP* **P 05 17 26.4 -0.2**
PET *eS* S 05 26 47.3 -0.3
PET pmax pmax
comp=Z,300nm,6.2s
PET pmax pmax
comp=Z,52nm,1.3s,mb5.3
PET pmax pmax
comp=Z,200nm,12.7s
PET smax
comp=N,100nm,12.9s
PET MLR MLR
comp=Z,500nm,17.0s,MS4.8
PET MLR MLR
comp=Z,600nm,16.0s
PET Petropavlovsk 72.18 34 *eP* **P 05 17 25.8 -0.9**
comp=Z,93nm,1.4s,mb5.5
MOS Moscow 72.56 329 *eP* **P 05 17 26.7 -2.2**
MOS pmax pmax
comp=Z,68nm,1.0s,mb5.5
MAW Mawson 72.66 193 *eP* pP 05 17 37.2 -0.3
comp=Z,9.8nm,0.9s
MAW Mawson 72.66 193 P **P 05 17 29.1 -0.4**
comp=Z,1.4nm,0.5s,baz=54,slow=8.7,SNR=4.9
MAW LR LR 05 46 08.5
comp=Z,671nm,18.2s,MS5.0,baz=203,slow=33
MAW Mawson 72.66 193 *eP* **P 05 17 29.9 +0.4**
MAW *e*PP* pP 05 17 36.9 -0.6
MAW pmax pmax
comp=Z,19nm,1.3s
MAW Mawson 72.66 193 *eP* **P 05 17 29.9 +0.4**
comp=Z,19nm,1.3s,mb4.9
MAW *epP* pP 05 17 36.9 -0.6
OBN Obninsk 72.85 328*c iP* **P 05 17 29.4 -1.2**
OBN *e* 05 17 41.0
OBN *e* 05 20 16.2
OBN *eS* S 05 26 53.2 -2.0
OBN pmax pmax
comp=Z,61nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.6
OBN Obninsk 72.85 328⇑ *iP* **P 05 17 29.5 -1.1**
SEY Seymchan 73.76 23 *eP* **P 05 17 35.6 -0.4**
KDAG Bornova 73.86 310 *i* P **P 05 17 35.3 -1.3**
LBTB Lobatse 74.07 244 *eP* **P 05 17 38.9 +1.1**
LBTB *e*PP* pP 05 17 45.7 -0.1
LBTB pmax pmax
comp=Z,41nm,1.3s,mb5.2
LBTB Lobatse 74.07 244 *eP* **P 05 17 38.9 +1.1**
comp=Z,42nm,1.3s,mb5.2
LBTB *epP* pP 05 17 45.7 -0.1
URLA Izmir 74.37 310 *i* P **P 05 17 38.8 -0.8**
TIRR Tirgusor 74.38 316⇑ *iP* **P 05 17 39.0 -0.6**
TIRR Tirgusor 74.38 316⇑ P **P 05 17 39.0 -0.6**
BOSA Boshof 74.95 240 P **P 05 17 43.4 +0.5**
comp=Z,2.8nm,1.0s,baz=107,slow=11,SNR=2.5
BOSA LR LR 05 49 06.0
comp=Z,637nm,18.3s,MS5.0,baz=38,slow=34
BOSA Boshof 74.95 240 *eP* **P 05 17 43.5 +0.6**
BOSA *e*PP* pP 05 17 50.3 -0.6
BOSA pmax pmax
comp=Z,24nm,1.2s,mb5.0
BOSA Boshof 74.95 240 *eP* **P 05 17 43.5 +0.6**
comp=Z,24nm,1.2s,mb5.0
BOSA *epP* pP 05 17 50.3 -0.6
AKASG Malin Array Be 75.50 322 P **P 05 17 44.2 -1.9**
comp=Z,12nm,0.8s,mb4.9,baz=89,slow=4.8,SNR=55
AKASG LR LR 05 56 56.1
comp=Z,155nm,21.5s,MS4.3,baz=100,slow=40
AKASG Malin Array Be 75.50 322 *i* P **P 05 17 44.7 -1.4**
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG Malin Array Be 75.50 322 P **P 05 17 44.2 -1.9**
AKASG LR LR 05 56 56.1
AKBB Malin Array Si 75.50 322 *eP* **P 05 17 44.2 -1.9**
VRI Vrincioaia 75.87 317⇑ *iP* **P 05 17 48.4 +0.2**
VRI Vrincioaia 75.87 317⇑ P **P 05 17 48.4 +0.2**
MLR Muntele Rosu 76.32 317⇑ *iP* **P 05 17 50.9 +0.1**
MLR Muntele Rosu 76.32 317⇑ P **P 05 17 50.9 +0.1**
BURAR Bucovina Array 77.28 319⇑ *iP* **P 05 17 56.8 +0.7**
BURAR Bucovina Array 77.28 319⇑ P **P 05 17 56.8 +0.7**
VTS Vitosha 77.69 313⇑ *iP* **P 05 17 57.8 -0.7**
JOF Joensuu 78.36 335 *ep* **P 05 18 00.5 -1.6**
comp=Z,8.4nm,0.8s,mb4.7
LVV L'vov 78.52 321 *eP* **P 05 18 07.9 +4.9**
LVV *e* 05 28 04.5
LVV *eS* S 05 28 21.3 +23
DRGR 78.79 317⇑ *iP* **P 05 18 04.8 +0.3**
DRGR 78.79 317⇑ P **P 05 18 04.8 +0.2**
LVZ Lovozero 79.02 340 *eP* **P 05 18 04.4 -1.4**
LVZ pmax pmax
comp=N,39nm,1.7s
LVZ pmax pmax
comp=Z,116nm,1.7s,mb5.5
LVZ pmax pmax
comp=E,17nm,1.5s
LVZ MLR MLR
comp=Z,995nm,21.0s,MS5.1
LVZ MLR MLR
comp=N,261nm,19.0s,MS5.0
LVZ MLR MLR
comp=E,775nm,24.0s,MS5.0
KWP Kalwaria 79.32 320 *eP* **P 05 18 07.4 0.0**
SUR Sutherland 79.32 237 *eP* **P 05 18 09.7 +2.2**
comp=E,55nm,1.2s,mb5.4
SUR *epP* pP 05 18 16.4 +0.9
APA Apatity 79.32 339⇓ *eP* **P 05 17 58.8 -8.6**
APA *i* pP 05 18 05.5 -10
APA *i* 05 18 13.0
APA pmax pmax
comp=Z,47nm,1.2s,mb5.3
BZS Buzias 79.33 316⇑ *iP* **P 05 18 06.9 -0.6**
BZS Buzias 79.33 316⇑ P **P 05 18 06.9 -0.6**
KOLS Kolonicke sedl 79.47 320 *eP* **P 05 18 08.5 +0.3**
SUW Suwalki 79.91 325 *eP* **P 05 18 09.6 -1.1**
SYO Syowa Base 79.98 198⇓ *ePcP* PcP 05 18 18.2 -0.2
CRVS Cervenica-Dubn 79.99 319 *eP* **P 05 18 10.8 -0.3**
FINES FINESS Array B 80.22 332 P **P 05 18 10.8 -1.5**
comp=Z,9.0nm,0.8s,mb4.8,baz=98,slow=6.6,SNR=19
FINES LR LR 05 56 48.0
comp=Z,458nm,21.8s,MS4.8,baz=327,slow=38
FINES FINESS Array B 80.22 332 *i* P **P 05 18 11.6 -0.7**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 80.22 332 P **P 05 18 10.8 -1.5**
FINES LR LR 05 56 48.0
STHS Stebnicka Huta 80.22 320 *eP* **P 05 18 12.9 +0.6**
STHS pmax pmax
comp=Z,16nm,0.9s,mb5.0
STHS Stebnicka Huta 80.22 320 *eP* **P 05 18 12.9 +0.6**
comp=Z,16nm,0.9s,mb5.0
KAF Kangasniemi 80.30 333 *ep* **P 05 18 11.3 -1.4**
comp=Z,35nm,0.9s,mb5.3,baz=103,slow=5.0
KAF Kangasniemi 80.30 333 *eP* **P 05 18 11.3 -1.4**
KAF pmax pmax
comp=Z,35nm,0.9s,mb5.3
KECS Kecovo 80.56 319 *i* P **P 05 18 13.9 -0.2**
KECS *e* 05 18 25.8
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS Kecovo 80.56 319 *i* P **P 05 18 13.9 -0.2**
comp=Z,7.7nm,0.9s,mb4.6
KECS *e* pP 05 18 20.7 -1.6
KECS *e* 05 18 25.8
TSUM Tsumeb 80.80 250 *eP* pP 05 18 23.2 -0.3
comp=Z,16nm,0.9s
NIE Niedzica 80.82 320 *eP* **P 05 18 16.1 +0.6**
PSZ Piszkesteto 80.86 318⇑ *eP* **P 05 18 15.6 -0.2**
PSZ Piszkesteto 80.86 318⇓ *iP* **P 05 18 15.7 -0.1**
BILL Bilibino 81.18 21 *eP* **P 05 18 17.3 -0.1**
OJC Ojcow 81.27 321 *eP* **P 05 18 17.6 -0.3**
PKSM Moragy 81.47 316⇓ *iP* **P 05 18 18.6 -0.4**
PKSM Moragy 81.47 316⇑ *eP* **P 05 18 18.4 -0.6**
VYHS Vyhne 81.64 319 *eP* **P 05 18 19.2 -0.7**
VYHS *e* 05 18 30.6
VYHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VYHS Vyhne 81.64 319 *eP* **P 05 18 19.2 -0.7**
comp=Z,9.8nm,1.1s,mb4.7
VYHS *e* pP 05 18 27.0 -1.0
VYHS *e* 05 18 30.6
TIP Timpagrande 82.10 309 *eP* **P 05 18 22.4 +0.1**
TIP *epP* pP 05 18 29.9 -0.5
OKC Ostrava-Krasne 82.27 320 *eP* **P 05 18 23.6 +0.4**
OKC *epP* pP 05 18 30.5 -0.8
MORC Moravsky Berou 82.65 320⇑ *iP* **P 05 18 25.0 -0.2**
MORC Moravsky Berou 82.65 320 *eP* **P 05 18 24.6 -0.6**
comp=Z,27nm,1.1s,mb5.2
ARCES ARCESS Array B 82.73 340 P **P 05 18 24.3 -1.3**
comp=Z,23nm,1.0s,mb5.2,baz=116,slow=5.5,SNR=18
ARCES LR LR 05 59 26.5
comp=Z,793nm,21.6s,MS5.0,baz=106,slow=39
ARCES ARCESS Array B 82.73 340 P **P 05 18 24.3 -1.3**
ARCES LR LR 05 59 26.5
ARE0 ARCESS Array S 82.73 340 *eP* **P 05 18 25.0 -0.5**
ZST Bratislava 82.75 318 *eP* **P 05 18 25.8 +0.1**
ZST *epP* pP 05 18 33.7 -0.2
ZST *esP* sP 05 18 37.7 +0.9
ZST Bratislava 82.75 318 *eP* **P 05 18 25.8 +0.1**
ZST *e* 05 18 37.7
ZST pmax pmax
comp=Z,30nm,0.9s,mb5.3
ZST MLR MLR
comp=Z,200nm,19.0s,MS4.5
ZST Bratislava 82.75 318 *eP* **P 05 18 25.8 +0.1**
comp=Z,30nm,0.9s,mb5.3
ZST *e* pP 05 18 33.7 -0.2
ZST *e* 05 18 37.7
ZST LR LR
comp=Z,200nm,19.0s,MS4.5
KOGS Kog 83.15 317 *eP* **P 05 18 27.8 0.0**
KOGS *epP* pP 05 18 35.4 -0.6
DPC Dobruska-Polom 83.50 320 *eP* **P 05 18 30.0 +0.4**
DPC *epP* pP 05 18 37.2 -0.5
GCIS Gornji Cirnik 83.52 316 *i* P **P 05 18 29.8 +0.1**
KSP Ksiaz 83.57 321 *eP* **P 05 18 30.4 +0.5**
KSP Ksiaz 83.57 321 *eP* **P 05 18 30.3 +0.4**
UPC Upice 83.71 321 *eP* **P 05 18 31.0 +0.3**
ARSA Arzberg 83.72 317⇑ *iP* **P 05 18 30.7 0.0**
comp=Z,52nm,1.5s,mb5.5
BOJS Bojanci 83.75 315 *eP* **P 05 18 30.8 -0.1**
TREC Trest 83.93 319 *eP* **P 05 18 28.5 -3.3**
PERS Pernice 83.94 317 *i* P **P 05 18 32.0 +0.1**
LJU Ljubljana 84.30 316 *i* P **P 05 18 33.9 +0.2**
LJU *epP* pP 05 18 41.7 -0.1
LJU *e* 05 18 45.8
PRU Pruhonice 84.61 320 *eP* **P 05 18 35.3 +0.1**
PRU LR LR
comp=Z,300nm,19.9s,MS4.7
MOA Molln 84.62 318⇓ *iP* **P 05 18 35.0 -0.2**
comp=Z,19nm,1.3s,mb5.1
PVCC Panska Ves 84.63 320 *eP* **P 05 18 35.7 +0.3**
VOY Vojsko 84.74 316 *eP* **P 05 18 35.1 -0.8**
VOY *e* pP 05 18 44.6 +0.5
CADS Cadrg 84.86 316 *eP* **P 05 18 36.1 -0.4**
AQU L'Aquila 84.87 312 *eP* **P 05 18 36.3 -0.2**
AQU pmax pmax
comp=Z,67nm,1.1s,mb5.7
AQU L'Aquila 84.87 312 *eP* **P 05 18 36.3 -0.3**
comp=Z,67nm,1.1s,mb5.7
BRG Berggiesshubel 85.06 321 *eP* **P 05 18 37.2 -0.3**
comp=Z,18nm,1.0s,mb5.2
BRG Berggiesshubel 85.06 321 *i* P **P 05 18 37.4 -0.1**
comp=Z,11nm,1.0s,mb4.9
BRG *e* pP 05 18 45.1 -0.6
comp=Z,14nm,1.4s
BRG
comp=N,170nm,21.3s
BRG
comp=E,198nm,20.3s
BRG
comp=Z,194nm,22.1s
BRG Berggiesshubel 85.06 321 *i* P **P 05 18 37.4 -0.1**
BRG *e* pP 05 18 45.1 -0.6
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.9
BRG MLR MLR
comp=Z,190nm,22.1s,MS4.4
BRG Berggiesshubel 85.06 321 *i* P **P 05 18 37.4 -0.1**
comp=Z,11nm,1.0s,mb4.9
BRG *e* pP 05 18 45.1 -0.6
BRG LR LR
comp=Z,190nm,22.1s,MS4.4
GEC2 GERESS Array S 85.07 319 *eP* **P 05 18 37.5 0.0**
comp=Z,40nm,1.1s,mb5.5
GEC2 *epP* pP 05 18 45.0 -0.7
GEC2 GERESS Array S 85.07 319 *eP* **P 05 18 37.5 0.0**
GEC2 *e*PP* pP 05 18 45.0 -0.7
GEC2 pmax pmax
comp=Z,40nm,1.1s,mb5.5
GERES GERESS Array B 85.07 319 P **P 05 18 37.6 0.0**
comp=Z,17nm,0.9s,mb5.2,baz=98,slow=5.5,SNR=58
KHC Kasperske Hory 85.17 319 *eP* **P 05 18 37.8 -0.2**
KHC *epP* pP 05 18 45.6 -0.6
KHC AMS AMS 06 02 50.0
comp=Z,300nm,16.0s
KHC Kasperske Hory 85.17 319 *eP* **P 05 18 37.8 -0.2**
KHC *epP* pP 05 18 45.6 -0.6
KHC LR LR
comp=Z,300nm,16.0s,MS4.8
KBA Koelnbreinsper 85.19 317⇑ *iP* **P 05 18 37.4 -0.7**
comp=Z,11nm,1.2s,mb4.9
KBA Koelnbreinsper 85.19 317⇑ *iP* **P 05 18 37.4 -0.7**
KBA pmax pmax
comp=Z,11nm,1.2s,mb4.9
WET Wettzell 85.63 319 *eP* **P 05 18 40.0 -0.3**
comp=Z,21nm,0.9s,mb5.4
WET Wettzell 85.63 319 *eP* **P 05 18 40.0 -0.3**
WET pmax pmax
comp=Z,21nm,0.9s,mb5.4
VNDA Vanda 85.67 169 P **P 05 18 39.5 -1.0**
comp=Z,0.8nm,0.8s,baz=304,slow=5.3,SNR=5.1
VNDA LR LR 05 53 29.4
comp=Z,442nm,18.6s,MS4.9,baz=315,slow=33
CLL Collm 85.68 321 *eP* **P 05 18 39.7 -0.9**
comp=Z,22nm,1.1s,mb5.3
CLL Collm 85.68 321⇓ *iP* **P 05 18 40.6 0.0**
CLL *e*PP* pP 05 18 49.0 +0.2
CLL *eS* S 05 29 15.0 +3.6
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,300nm,25.3s,MS4.6
CLL Collm 85.68 321⇓ *iP* **P 05 18 40.6 0.0**
comp=Z,22nm,1.1s,mb5.3
CLL *epP* pP 05 18 49.0 +0.2
CLL *eS* S 05 29 15.0 +3.6
CLL LR LR
comp=Z,300nm,25.3s,MS4.6
CLL Collm 85.68 321⇓ *iP* **P 05 18 40.6 0.0**
comp=Z,22nm,1.1s,mb5.3
CLL *epP* pP 05 18 49.0 +0.2
CLL *esP* sP 05 18 53.0 +1.3
CLL *eS* S 05 29 15.0 +3.6
NKC Novy Kostel 85.97 320 *eP* **P 05 18 42.4 +0.4**
TANN Tannenbergstha 85.97 320 *eP* **P 05 18 42.0 0.0**
comp=Z,15nm,1.3s,mb5.1
ROTZ Rotzenmuhle 86.10 320 *eP* **P 05 18 43.0 +0.3**
comp=Z,21nm,1.0s,mb5.3
ROTZ *epP* pP 05 18 50.3 -0.5
MANZ Manzenberg 86.17 320 *eP* **P 05 18 43.5 +0.5**
comp=Z,34nm,1.0s,mb5.5
WTTA Wattenberg 86.36 317⇓ *iP* **P 05 18 43.2 -0.7**
comp=Z,24nm,1.1s,mb5.4
WTTA Wattenberg 86.36 317⇓ *iP* **P 05 18 43.2 -0.8**
WTTA pmax pmax
comp=Z,24nm,1.1s,mb5.3
MOX Moxa 86.52 320 *eP* **P 05 18 44.6 -0.1**
comp=Z,30nm,1.5s,mb5.3
MOX Moxa 86.52 320 *eP* **P 05 18 44.9 +0.2**
MOX
comp=Z,200nm,20.0s
MOTA Moosalm 86.73 317⇑ *iP* **P 05 18 45.1 -0.6**
comp=Z,17nm,1.1s,mb5.2
MOTA Moosalm 86.73 317⇑ *iP* **P 05 18 45.1 -0.7**
MOTA pmax pmax
comp=Z,17nm,1.1s,mb5.2
GRA1 Grafenberg Arr 86.73 320 *eP* **P 05 18 46.0 +0.2**
comp=Z,28nm,1.1s,mb5.4
GRA1 LR LR
comp=Z,200nm,21.5s,MS4.5
GRF Grafenberg Arr 86.73 320 *eP* **P 05 18 46.0 +0.2**
comp=Z,28nm,1.1s,mb5.4
GRF *eL* 06 04 43.2
comp=Z,238nm,21.5s
GRF Grafenberg Arr 86.73 320 *eP* **P 05 18 46.0 +0.2**
GRF pmax pmax
comp=Z,28nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.5
GRF Grafenberg Arr 86.73 320 *eP* **P 05 18 46.0 +0.2**
GRF pmax pmax
comp=Z,28nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,200nm,21.5s,MS4.5
NB2 NORSAR Subarra 87.23 331 P **P 05 18 47.0 -1.2**
comp=Z,22nm,0.9s,mb5.4,baz=95,slow=4.8
NB2 NORSAR Subarra 87.23 331 P **P 05 18 47.0 -1.2**
NB2 pmax pmax
comp=Z,22nm,0.9s,mb5.4
NOA NORSAR Array B 87.23 331 P **P 05 18 46.7 -1.5**
comp=Z,14nm,0.9s,mb5.2,baz=94,slow=4.9,SNR=29
NOA LR LR 06 05 06.5
comp=Z,333nm,18.9s,MS4.8,baz=95,slow=41
NOA NORSAR Array B 87.23 331 P **P 05 18 46.7 -1.5**
NOA LR LR 06 05 06.5
CLZ Clausthal 87.34 322 *eP* **P 05 18 47.9 -0.9**
comp=Z,32nm,1.4s,mb5.4
CLZ Clausthal 87.34 322 *eP* **P 05 18 47.9 -0.9**
CLZ pmax pmax
comp=Z,32nm,1.4s,mb5.4
NAO01 NORSAR Array S 87.38 331 *eP* **P 05 18 48.3 -0.6**
comp=Z,17nm,0.9s,mb5.3
BSEG Bad Segeberg 87.44 324 *eP* **P 05 18 48.8 -0.4**
comp=Z,30nm,0.9s,mb5.5
NRDL Niedersach Rie 87.52 322 *eP* **P 05 18 49.7 +0.1**
comp=Z,46nm,1.2s,mb5.6
DAVA Damuels 87.56 317⇑ *iP* **P 05 18 49.9 +0.1**
comp=Z,58nm,1.5s,mb5.6
KEST Kesra 87.83 306 P **P 05 18 51.4 +0.3**
comp=Z,6.5nm,0.9s,mb4.9,baz=250,slow=1.0,SNR=22
KEST LR LR 05 58 35.1
comp=Z,162nm,21.2s,MS4.4,baz=11,slow=36
PGF Pioggiola 88.13 312 *eP* **P 05 18 53.0 +0.5**
comp=Z,34nm,0.9s,mb5.2
PGF Pioggiola 88.13 312 *eP* **P 05 18 53.0 +0.5**
PGF pmax pmax
comp=Z,17nm,0.9s,mb5.3
PGF Pioggiola 88.13 312 *eP* **P 05 18 53.0 +0.5**
comp=Z,17nm,0.9s,mb5.3
TNS Taunus Mts 88.53 320 *eP* **P 05 18 54.1 -0.3**
comp=Z,32nm,1.3s,mb5.5
TNS *epP* pP 05 19 01.9 -0.7
TNS Taunus Mts 88.53 320 *eP* **P 05 18 54.1 -0.3**
TNS *e*PP* pP 05 19 01.9 -0.7
TNS pmax pmax
comp=Z,32nm,1.3s,mb5.5
BFO Black Forest 88.61 318 *eP* **P 05 18 53.8 -1.0**
comp=Z,10.0nm,1.1s,mb5.1
BFO Black Forest 88.61 318 *eP* **P 05 18 53.8 -1.0**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
IBBN Ibbenburen 88.96 322 *eP* **P 05 18 56.8 +0.4**
comp=Z,50nm,0.9s,mb5.8
SBF Sospel 89.27 314 *eP* **P 05 18 57.8 -0.1**
comp=Z,48nm,0.8s,mb5.5
SBF Sospel 89.27 314 *eP* **P 05 18 57.8 -0.1**
SBF pmax pmax
comp=Z,24nm,0.8s,mb5.6
SBF Sospel 89.27 314 *eP* **P 05 18 57.8 -0.1**
comp=Z,24nm,0.8s,mb5.6
BUG Bochum--Univer 89.27 321 *eP* **P 05 18 57.9 0.0**
BUG *epP* pP 05 19 05.4 -0.7
CDF Champ du Feu 89.31 318 *eP* **P 05 18 57.7 -0.4**
comp=Z,57nm,1.6s,mb5.3
CDF Champ du Feu 89.31 318 *eP* **P 05 18 57.7 -0.4**
CDF pmax pmax
comp=Z,28nm,1.6s,mb5.3
CDF Champ du Feu 89.31 318 *eP* **P 05 18 57.7 -0.4**
comp=Z,28nm,1.6s,mb5.3
NVL N'lazarevskaya 89.57 199*c iP* pP 05 19 08.5 +1.0
NVL pmax pmax
comp=E,14nm,1.4s
NVL pmax pmax
comp=Z,66nm,1.4s,mb5.8
NVL pmax pmax
comp=N,13nm,0.9s
NVL MLR MLR
comp=E,410nm,17.4s
NVL MLR MLR
comp=Z,569nm,17.2s,MS5.1
MAIT Maitri 89.60 199 *eP* **P 05 19 00.9 +1.5**
LPG La Plagne 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
comp=Z,41nm,1.0s,mb5.4
LPG La Plagne 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
LPG pmax pmax
comp=Z,20nm,1.0s,mb5.4
LPG La Plagne 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
comp=Z,20nm,1.0s,mb5.4
MBDF Montbardon 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
comp=Z,6.1nm,0.6s,mb4.8
MBDF Montbardon 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
MBDF Montbardon 89.73 315⇑ *iP* **P 05 19 00.4 +0.4**
comp=Z,3.0nm,0.6s,mb4.8
LPL La Plagne 89.74 315⇑ *iP* **P 05 19 00.4 +0.3**
comp=Z,48nm,1.0s,mb5.5
LPL La Plagne 89.74 315⇑ *iP* **P 05 19 00.4 +0.3**

LPL pmax pmax
comp=Z,24nm,1.0s,mb5.5
LPL La Plagne 89.74 315 ⇑*iP* **P 05 19 00.4 +0.3**
comp=Z,24nm,1.0s,mb5.5
BNI Bardonecchia 89.79 315 *eP* **P 05 18 59.8 -0.5**
BNI pmax pmax
comp=Z,15nm,1.1s,mb5.2
BNI Bardonecchia 89.79 315 *eP* **P 05 18 59.8 -0.5**
comp=Z,15nm,1.1s,mb5.2
FRF La Foret Royal 89.85 313 ⇑*iP* **P 05 19 00.8 +0.2**
comp=Z,36nm,0.9s,mb5.4
FRF La Foret Royal 89.85 313 ⇑*iP* **P 05 19 00.8 +0.2**
FRF pmax pmax
comp=Z,18nm,0.9s,mb5.4
FRF La Foret Royal 89.85 313 ⇑*iP* **P 05 19 00.8 +0.2**
comp=Z,18nm,0.9s,mb5.4
HAU Haudompre 89.94 318 ⇑*iP* **P 05 19 00.7 -0.3**
comp=Z,37nm,1.0s,mb5.4
HAU *e*MLR MLR
comp=Z,358nm,21.5s
HAU Haudompre 89.94 318 ⇑*iP* **P 05 19 00.7 -0.3**
HAU pmax pmax
comp=Z,18nm,1.0s,mb5.4
HAU MLR MLR
comp=Z,360nm,21.5s,MS4.8
HAU Haudompre 89.94 318 ⇑*iP* **P 05 19 00.7 -0.3**
comp=Z,18nm,1.0s,mb5.4
HAU LR LR
comp=Z,360nm,21.5s,MS4.8
LMR La Mourre 89.95 313 ⇑*iP* **P 05 19 01.2 +0.1**
comp=Z,26nm,1.1s,mb5.2
LMR La Mourre 89.95 313 ⇑*iP* **P 05 19 01.2 +0.1**
LMR pmax pmax
comp=Z,13nm,1.1s,mb5.2
LMR La Mourre 89.95 313 ⇑*iP* **P 05 19 01.2 +0.1**
comp=Z,13nm,1.1s,mb5.2
WLF Walferdange 90.03 319 *eP* **P 05 19 01.9 +0.5**
comp=Z,53nm,1.3s,mb5.7
WLF Walferdange 90.03 319 P **P 05 19 02.4 +1.0**
WLF Walferdange 90.03 319 *eP* **P 05 19 01.9 +0.5**
WLF pmax pmax
comp=Z,14nm,0.9s,mb5.3
WLF Walferdange 90.03 319 *eP* **P 05 19 01.9 +0.4**
comp=Z,14nm,0.9s,mb5.3
MEM Membach 90.09 320 P **P 05 19 01.7 0.0**
CABF La Chapelle 90.16 316 ⇑*iP* **P 05 19 02.4 +0.4**
comp=Z,55nm,1.1s,mb5.5
CABF La Chapelle 90.16 316 ⇑*iP* **P 05 19 02.4 +0.4**
CABF pmax pmax
comp=Z,27nm,1.1s,mb5.5
CABF La Chapelle 90.16 316 ⇑*iP* **P 05 19 02.4 +0.4**
comp=Z,28nm,1.1s,mb5.5
ORIF Oris-en-Rattie 90.36 315 *eP* **P 05 19 03.4 +0.4**
comp=Z,24nm,1.0s,mb5.2
ORIF *e*MLR MLR
comp=Z,306nm,22.0s
ORIF Oris-en-Rattie 90.36 315 *eP* **P 05 19 03.4 +0.4**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.2
ORIF Oris-en-Rattie 90.36 315 *eP* **P 05 19 03.4 +0.4**
comp=Z,12nm,1.0s,mb5.2
BCLA Clavier 90.55 320 P **P 05 19 04.1 +0.2**
SMRF Simiane la Rot 90.61 314 *eP* **P 05 19 04.8 +0.7**
comp=Z,40nm,1.2s,mb5.3
SMRF Simiane la Rot 90.61 314 *eP* **P 05 19 04.8 +0.7**
comp=Z,40nm,1.2s,mb5.6
MEZF Maizieres J'vi 90.79 318 *eP* **P 05 19 05.1 +0.1**
GIVF Givet 90.87 320 *eP* **P 05 19 05.4 +0.1**
comp=Z,52nm,1.1s,mb5.5
GIVF Givet 90.87 320 *eP* **P 05 19 05.4 +0.1**
GIVF pmax pmax
comp=Z,26nm,1.1s,mb5.5
GIVF Givet 90.87 320 *eP* **P 05 19 05.4 +0.1**
comp=Z,26nm,1.1s,mb5.5
DOU Dourbes 91.02 320 P **P 05 19 05.9 -0.1**
QSPA South Pole Qui 91.03 180 *eP* **P 05 19 05.8 -0.3**
comp=Z,19nm,1.3s,mb5.3
SNF Seneffe 91.19 320 P **P 05 19 07.2 +0.4**
VIVF Saint-Julien-l 91.22 315 *eP* **P 05 19 07.1 +0.1**
comp=Z,52nm,1.2s,mb5.4
VIVF Saint-Julien-l 91.22 315 *eP* **P 05 19 07.1 +0.1**
VIVF pmax pmax
comp=Z,26nm,1.3s,mb5.4
VIVF Saint-Julien-l 91.22 315 *eP* **P 05 19 07.1 +0.1**
comp=Z,26nm,1.3s,mb5.4
BAIF Baives 91.27 320 *eP* **P 05 19 07.5 +0.3**
comp=Z,80nm,1.0s,mb5.7
BAIF Baives 91.27 320 *eP* **P 05 19 07.5 +0.3**
BAIF pmax pmax
comp=Z,40nm,1.0s,mb5.7
BAIF Baives 91.27 320 *eP* **P 05 19 07.5 +0.3**
comp=Z,40nm,1.0s,mb5.7
LOR Lormes 91.66 317 ⇑*iP* **P 05 19 09.0 0.0**
comp=Z,76nm,1.1s,mb5.7
LOR *e*MLR MLR
comp=Z,327nm,22.5s
LOR Lormes 91.66 317 ⇑*iP* **P 05 19 09.0 0.0**
LOR pmax pmax
comp=Z,38nm,1.1s,mb5.6
LOR MLR MLR
comp=Z,330nm,22.5s,MS4.7
LOR Lormes 91.66 317 ⇑*iP* **P 05 19 09.0 0.0**
comp=Z,38nm,1.1s,mb5.6
LOR LR LR
comp=Z,330nm,22.5s,MS4.7
SMF Signal de Mont 91.71 317 ⇑*iP* **P 05 19 09.1 -0.1**
comp=Z,58nm,1.0s,mb5.6
SMF Signal de Mont 91.71 317 ⇑*iP* **P 05 19 09.1 -0.1**
SMF pmax pmax
comp=Z,29nm,1.0s,mb5.6
SMF Signal de Mont 91.71 317 ⇑*iP* **P 05 19 09.1 -0.1**
comp=Z,29nm,1.0s,mb5.6
LASF Ste Croix 91.84 314 *eP* **P 05 19 10.3 +0.4**
comp=Z,32nm,1.1s,mb5.2
SSF Saint Saulge 91.91 317 ⇑*iP* **P 05 19 10.3 +0.1**
comp=Z,54nm,1.4s,mb5.4
SSF Saint Saulge 91.91 317 ⇑*iP* **P 05 19 10.3 +0.1**
SSF pmax pmax
comp=Z,27nm,1.4s,mb5.4
SSF Saint Saulge 91.91 317 ⇑*iP* **P 05 19 10.3 +0.1**
comp=Z,27nm,1.4s,mb5.4
AVF Avril sur Loir 92.03 317 ⇑*iP* **P 05 19 10.7 0.0**
comp=Z,50nm,1.1s,mb5.5
AVF Avril sur Loir 92.03 317 ⇑*iP* **P 05 19 10.7 0.0**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.5
AVF Avril sur Loir 92.03 317 ⇑*iP* **P 05 19 10.7 0.0**
comp=Z,25nm,1.1s,mb5.5
BGF Bois d'Agland 92.40 316 ⇑*iP* **P 05 19 12.8 +0.4**
comp=Z,72nm,1.0s,mb5.6
BGF Bois d'Agland 92.40 316 ⇑*iP* **P 05 19 12.8 +0.4**
BGF pmax pmax
comp=Z,36nm,1.0s,mb5.7
BGF Bois d'Agland 92.40 316 ⇑*iP* **P 05 19 12.8 +0.4**
comp=Z,36nm,1.0s,mb5.7
HYF Humbligny 92.48 317 *eP* **P 05 19 13.4 +0.6**
TCF Toulx Ste Croi 92.86 316 *eP* **P 05 19 14.8 +0.3**
comp=Z,100nm,1.7s,mb5.7
TCF Toulx Ste Croi 92.86 316 *eP* **P 05 19 14.8 +0.3**
TCF pmax pmax
comp=Z,50nm,1.7s,mb5.7
TCF Toulx Ste Croi 92.86 316 *eP* **P 05 19 14.8 +0.3**
comp=Z,50nm,1.7s,mb5.7
CAF Calviac 93.06 315 *eP* **P 05 19 16.1 +0.6**
comp=Z,31nm,1.2s,mb5.3
CAF Calviac 93.06 315 *eP* **P 05 19 16.1 +0.6**
CAF pmax pmax
comp=Z,15nm,1.2s,mb5.3
CAF Calviac 93.06 315 *eP* **P 05 19 16.1 +0.6**
comp=Z,15nm,1.2s,mb5.3
MTLF Montolieu 93.08 313 ⇑*iP* **P 05 19 16.0 +0.4**
comp=Z,39nm,1.1s,mb5.4
MTLF Montolieu 93.08 313 ⇑*iP* **P 05 19 16.0 +0.4**
MTLF pmax pmax
comp=Z,20nm,1.1s,mb5.5
MTLF Montolieu 93.08 313 ⇑*iP* **P 05 19 16.0 +0.4**
comp=Z,20nm,1.1s,mb5.5
RJF Les Rejaudoux 93.42 315 *eP* **P 05 19 17.7 +0.6**
comp=Z,38nm,1.2s,mb5.4
RJF *e*MLR MLR
comp=Z,163nm,20.8s
RJF Les Rejaudoux 93.42 315 *eP* **P 05 19 17.7 +0.6**
RJF pmax pmax
comp=Z,19nm,1.2s,mb5.4
RJF MLR MLR
comp=Z,160nm,20.8s,MS4.5
RJF Les Rejaudoux 93.42 315 *eP* **P 05 19 17.7 +0.6**
comp=Z,19nm,1.2s,mb5.4
RJF LR LR
comp=Z,160nm,20.8s,MS4.5
LFF La Frestale 94.00 315 *eP* **P 05 19 20.4 +0.6**
comp=Z,52nm,1.2s,mb5.5
LFF La Frestale 94.00 315 *eP* **P 05 19 20.4 +0.6**
LFF pmax pmax
comp=Z,26nm,1.2s,mb5.5
LFF La Frestale 94.00 315 *eP* **P 05 19 20.4 +0.6**
comp=Z,26nm,1.2s,mb5.5
LDF La Druitiere 94.21 319 *eP* **P 05 19 20.7 -0.1**
comp=Z,50nm,1.2s,mb5.5
LDF La Druitiere 94.21 319 *eP* **P 05 19 20.7 -0.1**
LDF pmax pmax
comp=Z,25nm,1.2s,mb5.5
LDF La Druitiere 94.21 319 *eP* **P 05 19 20.7 -0.1**
comp=Z,25nm,1.2s,mb5.5
MFF Saint Martin d 94.45 317 *eP* **P 05 19 21.7 -0.2**
comp=Z,32nm,1.2s,mb5.3
MFF Saint Martin d 94.45 317 *eP* **P 05 19 21.7 -0.2**
MFF pmax pmax
comp=Z,16nm,1.2s,mb5.3
MFF Saint Martin d 94.45 317 *eP* **P 05 19 21.7 -0.2**
comp=Z,16nm,1.2s,mb5.3
TORD Torodi Ar. Bea 95.37 283 P **P 05 19 26.0 -0.1**
comp=Z,1.8nm,1.1s,mb4.4,baz=88,slow=2.1,SNR=6.4
TORD LR LR 06 02 04.9
comp=Z,339nm,18.1s,MS4.9,baz=115,slow=35
SJPF Ste Jean 95.61 313 *eP* **P 05 19 27.6 +0.4**
comp=Z,26nm,1.2s,mb5.2
SJPF Ste Jean 95.61 313 *eP* **P 05 19 27.6 +0.4**
SJPF pmax pmax
comp=Z,13nm,1.2s,mb5.2
SJPF Ste Jean 95.61 313 *eP* **P 05 19 27.6 +0.4**
comp=Z,13nm,1.2s,mb5.2
ROSF Rostrenen 96.32 319 *eP* **P 05 19 30.6 +0.2**
comp=Z,35nm,1.2s,mb5.4
ROSF Rostrenen 96.32 319 *eP* **P 05 19 30.6 +0.2**
ROSF pmax pmax
comp=Z,17nm,1.2s,mb5.3
ROSF Rostrenen 96.32 319 *eP* **P 05 19 30.6 +0.2**
comp=Z,18nm,1.2s,mb5.4
MCMT McKenzie Canyo 126.94 27 *e*PKPdf PKPdf 05 25 06.5 +0.9
ULM Lac du Bonnet 127.60 11 *e*PKPdf PKPdf 05 25 06.2 -0.7
NVAR Mina Array Bea 128.72 36 PKP PKPdf 05 25 08.9 -0.1
comp=Z,1.6nm,0.8s,baz=270,slow=0.7,SNR=7.5
TPAW Teton Pass 128.84 26 *e*PKPdf PKPdf 05 25 10.8 +1.6
TPAW *ep*PKPdf pPKPdf 05 25 18.5 +0.8
LOHW Long Hollow 128.89 26 *e*PKPdf PKPdf 05 25 10.1 +0.7
LOHW *ep*PKPdf pPKPdf 05 25 17.4 -0.4
SNOW Snow King Moun 128.95 26 *e*PKPdf PKPdf 05 25 10.9 +1.5
SNOW *ep*PKPdf pPKPdf 05 25 18.5 +0.6
BW06 Boulder Array 130.03 26 *e*PKPdf PKPdf 05 25 12.2 +0.7
HWUT Hardware Ranch 130.03 28 *e*PKPdf PKPdf 05 25 12.1 +0.6
PDAR Pinedale Array 130.03 26 PKP PKPdf 05 25 08.8 -2.8
comp=Z,1.6nm,1.1s,baz=304,slow=0.5,SNR=7.4
DUG Dugway 130.49 31 *e*PKIKP PKPdf 05 25 13.6 +1.2
RSSD Black Hills 131.07 20 *e*PKIKP PKPdf 05 25 14.1 +0.6
PV10 Paradox Valley 133.76 29 *e*PKPdf PKPdf 05 25 20.2 +1.6
TUC Tucson 137.38 36 *e*PKIKP PKPdf 05 25 25.6 +0.3
ANMO Albuquerque 137.73 30 *e*PKIKP PKPdf 05 25 27.7 +1.7
WCI Wyandotte Cave 140.72 5 *e*PKIKP PKPdf 05 25 31.5 +0.1
MNTX Cornudas Mount 140.86 32 *e*PKPdf PKPdf 05 25 33.0 +1.3
TKL Tuckaleechee C 143.43 2 PKhKP 05 25 32.0
comp=Z,5.6nm,0.8s,baz=58,slow=1.5,SNR=4.6
TXAR Lajitas Array 143.63 32 PKP PKPdf 05 25 35.0 -1.6
comp=Z,4.2nm,1.0s,baz=227,slow=1.1,SNR=20
TXAR Lajitas Array 143.63 32 PKP PKPdf 05 25 35.0 -1.6
PLAL Pickwick Lake 143.75 8 *e*PKPpre 05 25 33.2
JCT Junction City 144.56 26 *e*PKIKP PKPdf 05 25 37.2 -1.0
CPUP Villa Florida 145.10 222 PKPbc PKPbc 05 25 38.6 -0.1
comp=Z,2.5nm,0.5s,baz=75,slow=3.4,SNR=11
CPUP Villa Florida 145.10 222 *e*PKPbc PKPbc 05 25 39.2 +0.6
CPUP *ep*PKPdf pPKPdf 05 25 46.8 -0.8
NATX Nacogdoches 145.37 18 *e*PKPbc PKPbc 05 25 40.3 +0.7
NATX *ep*PKPdf pPKPdf 05 25 48.6 +0.5
HKT Hockley 146.63 21 *e*PKPbc PKPbc 05 25 43.2 -0.1
HKT *ep*PKPdf pPKPdf 05 25 51.8 +1.6
CFAA Coronel Fontan 146.77 203 PKPbc PKPbc 05 25 43.8 0.0
comp=Z,0.7nm,0.8s,baz=149,slow=1.3,SNR=8.6
SIV San Ignacio 154.16 234 PKP PKPdf 05 25 53.9 +0.4
comp=Z,1.2nm,1.0s,baz=59,slow=2.4,SNR=4.0
SIV PKPbc PKPbc 05 26 01.7 +0.1
comp=Z,1.2nm,1.0s,baz=108,slow=14,SNR=3.2
CPD Cerro la Pandu 154.92 320 *e*PKP2 PKPab 05 26 19.2 +0.6
LPAZ La Paz 159.27 222 PKP PKPdf 05 26 00.8 +0.8
comp=Z,1.3nm,1.0s,baz=336,slow=2.7,SNR=5.0
LPAZ La Paz 159.27 222 *e*PKPdf PKPdf 05 26 02.0 +2.0
SDV Santo Domingo 164.54 310 PKPab PKPab 05 27 00.9 +0.5
comp=Z,4.7nm,0.9s,baz=323,slow=1.0,SNR=6.0
OTAV Otavalo 175.70 288 *e*PKPdf PKPdf 05 26 13.1 +1.3
OTAV *ep*PKPdf pPKPdf 05 26 19.9 -0.3

IDC ***25*** *05:16:43.5±0.7,2186N×14307E,h0km,mb4.1/10,*
mb1 4.3/10,mb1mx4.1/22,mbtmp4.1/10,MS3.4/1,
Ms1 3.4/1,ms1mx2.6/31,Error ellipse: s-maj=27.4km
s-min=19.2km az=80.0
ISCJB ***25*** *05:16:46.8±0.7,219N±0.1×1430E±02,h33km,mb4.1/10,*
Error ellipse: s-maj=26.2km s-min=14.9km az=172.5
NEIC ***25*** *05:17:06.7±0.5,2177N×14286E,h200km,Error ellipse:*
s-maj=21.3km s-min=12.6km az=87.0
ISC 25 05:16:48.9±0.7,219N±01×143.1E±02,h35km,n16,
σ0=62/13,mb4.1/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**22.17**	**359**	LR	LR	05 30 35.5	
	comp=Z,100nm,19.2s,baz=204,slow=38						
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**05 24 13.8**	**+0.9**
	1.1nm,0.5s,mb3.9,baz=115,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**42.44**	**192**	P	**P**	**05 24 40.1**	**-0.2**
	2.3nm,0.7s,mb3.9,baz=17,slow=9.0,SNR=13						
AS31	**Alice Springs**	**46.15**	**192**	*eP*	**P**	**05 25 10.8**	**+0.9**
ASAR	**Alice Springs**	**46.15**	**192**	P	**P**	**05 25 09.4**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=16,slow=11,SNR=16						
MKAR	**Makanchi Array**	**54.49**	**313**	P	**P**	**05 26 13.5**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=98,slow=9.0,SNR=6.8						
BVAR	**Borovoye Array**	**62.45**	**319**	P	**P**	**05 27 09.0**	**+0.5**
	5.4nm,0.8s,mb4.7,baz=96,slow=7.7,SNR=16						
INK	**Inuvik**	**67.44**	**24**	P	**P**	**05 27 40.3**	**-0.6**
	5.7nm,1.1s,mb4.5,baz=280,slow=6.1,SNR=3.5						
AKTK	**Aktyubinsk**	**70.35**	**317**	P	**P**	**05 27 58.3**	**-0.8**
AKTO	**Aktyubinsk**	**70.35**	**317**	P	**P**	**05 27 58.3**	**-0.8**
	0.8nm,0.6s,mb3.8,baz=72,slow=6.4,SNR=4.3						
YKA	**Yellowknife Ar**	**76.33**	**28**	P	**P**	**05 28 34.5**	**+0.2**
	2.3nm,0.7s,mb4.2,baz=293,slow=5.9,SNR=6.2						
YKA	**Yellowknife Ar**	**76.33**	**28**	P	**P**	**05 28 34.5**	**+0.2**
NVAR	**Mina Array Bea**	**83.11**	**51**	P	**P**	**05 29 11.6**	**+0.6**
	1.3nm,0.7s,mb4.0,baz=271,slow=4.5,SNR=4.5						
BRTR	**Keskin Array B**	**90.13**	**313**	P	**P**	**05 29 44.9**	**-0.5**
	0.8nm,0.8s,mb4.1,baz=132,slow=1.8,SNR=6.2						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	PKPbc	05 36 37.0	+1.3
	1.5nm,1.0s,baz=335,slow=3.0,SNR=3.9						
LPAZ				PKPab	PKPab	05 36 44.0	+2.4
	2.3nm,0.9s,baz=225,slow=1.4,SNR=7.3						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	PKPbc	05 36 37.0	+1.3
LPAZ				PKPab	PKPab	05 36 44.0	+2.4

MOS ***25*** *05:17:30.3±3.4,5579N×11286E,h21km,mb4.3/1,Error*
ellipse: s-maj=14.3km s-min=9.9km az=73.4
BYKL 25 05:17:30.0±0.2,5573N×11296E,h11km±6km,6C-1D,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.45**	**122**	⇓*iPg*	Pg	05 17 38.4	-0.4
	234nm,0.3s						
UKT				⇑*iPg*	Pg	05 17 38.4	-0.4
	275nm,0.3s						
UKT				⇑*iPg*	Pg	05 17 38.4	-0.4
	275nm,0.3s						
UKT				*e*		05 17 40.6	
UKT				*e*Sg	Sg	05 17 44.8	0.0
UKT				*e*		05 17 46.9	
UKT				max			
	359nm,0.2s						
UKT				max			
	3μm,0.2s						
UKT	**Uakit**	**0.45**	**122**	*e*PG	Pg	05 17 38.4	-0.4
UKT				*e*		05 17 44.8	
UKT				pmax	pmax		
	comp=Z,199nm,0.1s						
UKT				smax			
	comp=N,2μm,0.1s						
SVKR	**Severomuysk**	**0.51**	**41**	⇑*iPg*	Pg	05 17 40.1	+0.1
SVKR				*e*Sg	Sg	05 17 47.8	+1.0
SVKR				Pmax			
	comp=N,500nm,0.1s						
SVKR				Smax			
	comp=N,3μm,0.6s						
SVKR	**Severomuysk**	**0.51**	**41**	*e*PG	Pg	05 17 39.9	-0.1
SVKR				*e*		05 17 47.0	
SVKR				pmax	pmax		
	comp=Z,681nm,0.2s						
SVKR				smax			
	comp=E,3μm,0.5s						
YOA	**Uoyan**	**0.80**	**301**	*e*Pg	Pg	05 17 44.8	-0.7
YOA				*e*Sg	Sg	05 17 56.0	0.0
YOA				Pmax			
	comp=E,621nm,0.2s						
YOA				Smax			
	comp=E,3μm,0.6s						
YOA	**Uoyan**	**0.80**	**301**	⇑*iPG*	Pg	05 17 44.9	-0.6
YOA				*i*		05 17 56.6	
YOA				pmax	pmax		
	comp=Z,1μm,0.3s						
YOA				smax			
	comp=E,3μm,0.5s						
KMO	**Kumora**	**1.01**	**280**	⇑*iPg*	Pg	05 17 48.2	-1.2
KMO				*e*Pb	Pb	05 17 50.2	+0.8
KMO				*e*Sg	Sg	05 18 01.8	-0.7
KMO				max			
	comp=E,183nm,0.3s						
KMO				Smax			
	comp=E,992nm,1.3s						
KMO	**Kumora**	**1.01**	**280**	*e*PG	Pg	05 17 48.1	-1.3
KMO				*e*		05 18 01.8	
KMO				pmax	pmax		
	comp=Z,183nm,0.3s						
KMO				smax			
	comp=E,868nm,0.9s						
YLYR	**Ulyunkhan**	**1.34**	**231**	⇑*iPg*	Pg	05 17 54.1	-1.6
YLYR				*e*Sg	Sg	05 18 12.5	-0.6
YLYR				Pmax			
	comp=E,69nm,0.2s						
YLYR				Smax			
	comp=E,671nm,0.1s						
YLYR	**Ulyunkhan**	**1.34**	**231**	*e*PN	Pn	05 17 54.3	-0.3
YLYR				*e*		05 18 13.1	
YLYR				pmax	pmax		
	comp=Z,69nm,0.2s						
YLYR				smax			
	comp=E,668nm,0.1s						
NLYR	**Nelyaty**	**1.71**	**62**	*e*Pg	Pg	05 18 00.7	-2.2
NLYR				*e*		05 18 01.4	
NLYR				*e*		05 18 07.0	
NLYR				*e*Sg	Sg	05 18 23.5	-1.7
NIZ	**Nizh Angarsk**	**1.93**	**273**	*e*Pg	Pg	05 18 04.0	-3.1
NIZ				*e*		05 18 09.7	
NIZ				*e*Sg	Sg	05 18 29.2	-3.0
NIZ				max			
	comp=E,115nm,0.8s						
NIZ				Smax			
	comp=E,566nm,1.0s						
NIZ	**Nizh Angarsk**	**1.93**	**273**	*e*PN	Pn	05 18 03.8	+1.0
NIZ				*e*		05 18 29.0	
NIZ				pmax	pmax		
	comp=Z,106nm,0.8s						
NIZ				smax			
	comp=N,469nm,0.9s						
BOD	**Bodaibo**	**2.17**	**15**	*e*Pg	Pg	05 18 07.7	-3.9
BOD				*e*		05 18 13.2	
BOD				*e*Sg	Sg	05 18 35.5	-4.3
BOD				max			
	comp=N,37nm,0.2s						
BOD				Smax			
	comp=N,455nm,0.6s						
BOD	**Bodaibo**	**2.17**	**15**	*e*PN	Pn	05 18 05.3	-0.8
BOD				*e*		05 18 07.0	
BOD				pmax	pmax		
	comp=Z,75nm,0.5s						
SYVR	**Suvo**	**2.69**	**221**	*e*Pn	Pn	05 18 13.7	+0.4
SYVR				*e*Pg	Pg	05 18 18.5	-3.2
SYVR				*i* Sg	Sg	05 18 53.8	-2.8
SYVR				Pmax			
	comp=Z,28nm,0.9s						
SYVR				Smax			
	comp=Z,240nm,0.6s						
SYVR	**Suvo**	**2.69**	**221**	*e*PN	Pn	05 18 13.6	+0.3
SYVR				*e*		05 18 17.6	
SYVR				*e*		05 18 53.7	
SYVR				pmax	pmax		
	comp=Z,25nm,0.5s						
SYVR				smax			
	comp=E,162nm,0.8s						
CRS	**Chara**	**3.18**	**66**	*e*Pg	Pg	05 18 26.8	-4.2
CRS				*e*Sg	Sg	05 19 07.8	-4.4
CRS				Pmax			
	comp=E,56nm,1.0s						
CRS				Smax			
	comp=E,189nm,1.1s						
CRS	**Chara**	**3.18**	**66**	*e*PN	Pn	05 18 27.1	+7.1
CRS				*e*		05 19 09.8	
CRS				pmax	pmax		
	comp=Z,45nm,1.0s						
CRS				smax			
	comp=E,189nm,1.0s						
MXMB	**Maximikha**	**3.49**	**227**	*e*	Sn	05 18 54.8	-11
MXMB				*e*Sg	Sg	05 19 18.9	-3.1
MXMB				Smax			
	comp=E,513nm,0.6s						
CIT	**Chita**	**3.73**	**174**	*e*	Pn	05 18 30.5	+3.0
CIT				*e*Pg	Pg	05 18 36.8	-4.7
CIT				*e*Sn	Sn	05 19 09.9	-1.6
CIT				*e*Sg	Sg	05 19 25.0	-4.9
CIT				Pmax			
	comp=E,61nm,0.7s						
CIT				Smax			
	comp=E,208nm,2.1s						
CIT	**Chita**	**3.73**	**174**	*e*PN	Pn	05 18 37.0	+9.5
CIT				*e*		05 19 25.6	
CIT				pmax	pmax		
	comp=Z,56nm,0.8s						
CIT				smax			
	comp=E,208nm,1.4s						
OGRR	**Ongureny**	**3.75**	**238**	*e*Pn	Pn	05 18 28.4	+0.6
OGRR				*e*Pg	Pg	05 18 37.9	-4.0
OGRR				*e*Sg	Sg	05 19 26.6	-3.8
OGRR				Pmax			
	comp=E,17nm,0.8s						
OGRR				Smax			
	comp=E,79nm,0.8s						
OGRR	**Ongureny**	**3.75**	**238**	*e*PN	Pn	05 18 27.8	0.0
OGRR				*e*		05 18 37.2	
OGRR				*e*		05 19 27.2	
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.2s						
OGRR				smax			
	comp=E,65nm,1.0s						
KELR	**Kotokel**	**4.13**	**226**	*e*	Sn	05 19 15.4	-5.8
KELR				*e*Sg	Sg	05 19 35.8	-6.8
KELR				Smax			
	comp=E,193nm,0.5s						
TUP	**Tupik**	**4.23**	**105**	*e*Pn	Pn	05 18 35.5	+1.2
TUP				*e*Pg	Pg	05 18 46.4	-4.6
TUP				*e*Sg	Sg	05 19 41.8	-3.9
TUP				Pmax			
	comp=E,8.0nm,0.3s						
TUP				Smax			
	comp=E,159nm,1.2s						
TUP	**Tupik**	**4.23**	**105**	*e*PN	Pn	05 18 33.4	-0.9
TUP				*e*		05 18 45.0	
TUP				*e*		05 19 40.3	
TUP				pmax	pmax		
	comp=Z,17nm,0.5s						
TUP				smax			
	comp=N,162nm,1.1s						
TRG	**Tyrgan**	**4.89**	**235**	*e*	Pg	05 19 13.7	+10
TRG				*e*Sg	Sg	05 20 01.0	-5.9
TRG				Smax			
	comp=N,38nm,0.6s						
KPC	**Khapcheranga**	**6.05**	**184**	*e*Pn	Pn	05 19 00.7	+1.4
KPC				*e*Pg	Pg	05 19 18.6	-7.2
KPC				*e*Sg	Sg	05 20 37.0	-7.1
KPC				Pmax			
	comp=N,4.0nm,0.5s						

KPC Smax
comp=N,79nm,1.4s
KPC Khapcheranga 6.05 184 *e*PN Pn 05 18 58.1 -1.2
KPC *e* 05 19 18.8
KPC *e* 05 20 37.6
KPC pmax pmax
comp=Z,12nm,0.7s
KPC smax
comp=E,79nm,0.9s
TLY Talaya 6.86 238 *e*Sg Sg 05 21 02.5 -7.6
TLY Smax
comp=E,35nm,1.9s

BJI ***25*** *05:19:36.9, 060N×9750E, h20km, mB5.3, mb5.0, Ms5.1, Msz5.0*
IDC ***25*** *05:19:38.5±0.5, 102N×9748E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.4/26, mbtmp4.4/21, ML4.0/1, MS4.5/11, Ms1 4.5/11, ms1mx4.2/31, Error ellipse: s-maj=18.6km s-min=11.2km az=48.0*
ISCJB ***25*** *05:19:41.0±0.3, 103N±004×9739E±004, h24km, mb4.8/60, MS4.8/23, Error ellipse: s-maj=7.0km s-min=5.2km az=79.3*
MOS ***25*** *05:19:42.3±1.0, 107N×9739E, h33km, mb5.1/17, MS4.7/7, Error ellipse: s-maj=12.0km s-min=6.5km az=97.4*
NEIC ***25*** *05:19:42.3±0.3, 104N×9736E, mb4.8/16, Error ellipse: s-maj=8.3km s-min=7.1km az=220.0*
NEIC Felt [III] at Gunungsitoli.
GCMT ***25*** *05:19:42.3±0.7, 078N×9726E, h36km±1km, MW5.0/44, Moment Tensor Solution. s30,c39; s44,c55; Duration: 0 Moment tensor: Scale 10^16Nm; Mn2.89±.27; Mθθ-1.92±.17; Mφφ-0.96±.19; Mrr1.70±.19; Mθφ2.47±.12; Mθr-1.32±.19; Best double couple: M0=4.04500×10^16 NP1:φs311.00000°, δ29.00000°, λ93.00000°. NP2: φs128.00000°, δ61.00000°, λ88.00000°. Principal axes: T 3.5110, Plg74.0000°, Azm34.0000°; N 1.0710, Plg1.0000°, Azm129.0000°; P -4.5780, Plg16.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 05:19:43.5±0.3, 106N±004×9741E±004, h25km, h25km±1.5km: pP-P, n133, σ1§16/129, mb4.8/60, MS4.8/23, 10C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.30**	**41**	Pn	**Pn**	**05 20 18.5**	**-1.3**
	48nm,0.3s,baz=238,slow=5.3,SNR=166						
PPI	**Padang Panjang**	**3.34**	**117**	P	**Pn**	**05 20 34.9**	**+0.8**
	344nm,1.3s						
BSI	**Banda Aceh**	**4.89**	**334**	P	**Pn**	**05 20 53.1**	**-2.3**
	58nm,0.5s						
IPM	**Ipoh**	**4.96**	**47**	P	**Pn**	**05 20 57.5**	**+1.2**
KULM	**Kulim**	**5.30**	**37**	*e*Pn	**Pn**	**05 21 01.6**	**+0.6**
KGM	**Kluang**	**5.98**	**81**	P	**Pn**	**05 21 13.0**	**+2.6**
KSM	**Kuching**	**12.90**	**88**	*e*Pn	**Pn**	**05 22 47.8**	**+2.6**
KSM				*ep*Pn		05 22 59.5	
BDT	**Bhumibol Dam**	**16.16**	**5**	P	**Pn**	**05 23 31.5**	**+2.6**
CHG	**Chiang Mai**	**17.71**	**5**	⇑P	**Pn**	**05 23 48.3**	**0.0**
	17nm,0.9s						
CHTO	**Chiang Mai**	**17.71**	**5**	*e*P	**Pn**	**05 23 47.2**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CHTO	**Chiang Mai**	**17.71**	**5**	*e*P	**Pn**	**05 23 47.2**	**-1.2**
	comp=Z,7.3nm,0.6s						
KKM	**Kota Kinabalu**	**19.40**	**75**	P	**Pn**	**05 24 07.8**	**-1.1**
KKM	**Kota Kinabalu**	**19.40**	**75**	*e*P	**Pn**	**05 24 09.1**	**+0.2**
TSM	**Tawau**	**20.69**	**81**	P	**P**	**05 24 22.3**	**+0.7**
KMI	**Kunming**	**24.47**	**12**	P	**P**	**05 25 01.3**	**+0.9**
KMI				AP		05 25 07.8	
KMI				XP	sP	05 25 09.9	-1.1
KMI				PP		05 25 38.8	
KMI				S	**S**	**05 29 19.0**	**-0.2**
KMI				XS	sS	05 29 28.3	-3.1
KMI				SS		05 30 15.1	
KMI				SSS		05 30 31.3	
KMI				AMB	AMB		
	comp=Z,52nm,2.0s,mb4.6						
KMI				LR	LR		
	comp=N,2μm,12.0s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,13.1s,MS5.0						
KMI				LR	LR		
	comp=Z,4μm,14.2s,MS5.0						
KMI	**Kunming**	**24.47**	**12**	P	**P**	**05 25 01.3**	**+0.9**
KMI				*SP	sP	05 25 09.9	-1.1
KMI						05 25 38.8	
KMI				S	**S**	**05 29 19.0**	**-0.2**
KMI				SS		05 30 15.1	
KMI				SSS		05 30 31.2	
KMI				pmax	pmax		
	comp=Z,52nm,2.0s,mb4.6						
KMI				MLR	MLR		
	comp=Z,4μm,14.2s,MS5.0						
KMI	**Kunming**	**24.47**	**12**	P	**P**	**05 25 01.3**	**+0.9**
	comp=Z,52nm,2.0s,mb4.6						
KMI				pP		05 25 07.8	
KMI				sP	sP	05 25 09.9	-1.1
KMI				PP		05 25 38.8	
KMI				S	**S**	**05 29 19.0**	**-0.2**
KMI				sS	sS	05 29 28.2	-3.2
KMI				SS		05 30 15.1	
KMI				SSS		05 30 31.2	
KMI				LR	LR		
	comp=Z,4μm,14.2s,MS5.0						
HYB	**Hyderabad**	**24.66**	**312**	*i* P	**P**	**05 25 12.0**	**+10**
JIRN	**Jiri**	**28.56**	**339**	*e*P	**P**	**05 25 39.4**	**+2.2**
	comp=Z,3.5nm,0.2s,mb4.7						
PKI	**Pulchoki**	**28.77**	**337**	*e*P	**P**	**05 25 41.2**	**+2.1**
	comp=Z,54nm,1.1s,mb5.2						
GUN	**Gumba**	**28.90**	**339**	*e*P	**P**	**05 25 41.5**	**+1.2**
	comp=Z,37nm,0.5s,mb5.3						
DMN	**Daman**	**28.92**	**337**	*e*P	**P**	**05 25 41.4**	**+0.9**
	comp=Z,28nm,0.9s,mb5.0						
KKN	**Kakani**	**29.01**	**337**	*e*P	**P**	**05 25 42.1**	**+0.8**
	comp=Z,40nm,0.9s,mb5.1						
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**05 25 44.0**	**+1.9**
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**05 25 43.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**05 25 43.0**	**+0.9**
	comp=Z,10.0nm,0.5s,mb4.8						
GKN	**Gorkha**	**29.45**	**337**	*e*P	**P**	**05 25 45.9**	**+0.7**
	comp=Z,14nm,0.4s,mb5.1						
KOLN	**Koldanda**	**29.68**	**335**	*e*P	**P**	**05 25 48.3**	**+1.1**
	comp=Z,66nm,1.1s,mb5.3						
CD2	**Chengdu**	**30.29**	**11**	*e*P	**P**	**05 25 53.0**	**+0.4**
CD2				AP	pP	05 25 59.5	-0.6
CD2				XP	sP	05 26 02.8	-0.4
CD2				PP	PP	05 26 52.5	-8.7
CD2				S	**S**	**05 30 51.3**	**+0.2**
CD2				XS	sS	05 31 02.5	-0.9
CD2				SS	SS	05 32 31.5	-29
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				LR	LR		
	comp=N,5μm,16.8s,MS5.3						
CD2				LR	LR		
	comp=E,3μm,14.4s,MS5.3						
CD2				LR	LR		
	comp=Z,5μm,14.4s,MS5.3						
FITZ	**Fitzroy Crossi**	**33.67**	**126**	*e*P	**P**	**05 26 21.6**	**-0.7**
	comp=Z,10nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.67**	**126**	P	**P**	**05 26 20.6**	**-1.7**
	comp=Z,2.4nm,0.5s,mb4.4,baz=322,slow=8.5,SNR=15						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**05 26 37.0**	**+0.1**
LZH				AP	pP	05 26 42.5	-2.0
LZH				XP	sP	05 26 45.5	-2.0
LZH				PP	PP	05 28 01.0	+3.7
LZH				PCP	PcP	05 29 05.0	-1.7
LZH				*e*S	**S**	**05 32 09.1**	**-0.7**
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,233nm,7.5s						
LZH				LR	LR		
	comp=E,1μm,12.2s						
LZH				LR	LR		
	comp=Z,2μm,17.4s						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**05 26 37.0**	**+0.1**
	comp=Z,56nm,1.5s,mb5.3						
LZH				pP	pP	05 26 42.5	-2.0
LZH				sP	sP	05 26 45.5	-2.0
LZH				PP	PP	05 28 01.0	+3.7
LZH				PcP	PcP	05 29 05.0	-1.7
LZH				*e*S	**S**	**05 32 09.1**	**-0.7**
LZH				sS	sS	05 32 20.1	-2.2
LZH				SS	SS	05 34 25.0	-19
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.9						
NJ2	**Nanjing**	**36.88**	**31**	*e*P	**P**	**05 26 48.8**	**-1.1**
NJ2				AP	pP	05 26 58.9	+1.5
NJ2				XP	sP	05 27 02.3	+1.8
NJ2				PP	PP	05 28 16.0	+2.0
NJ2				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,540nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,11.5s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,13.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,13.8s,MS5.0						
GTA	**Gaotai**	**38.23**	**3**	⇑P	**P**	**05 27 01.3**	**-0.1**
GTA				AP	pP	05 27 10.9	+1.9
GTA				XP	sP	05 27 14.5	+2.5
GTA				PCP	PcP	05 29 16.3	+0.9
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
JOW	**Kunigami**	**39.18**	**47**	P	**P**	**05 27 08.2**	**-1.2**
	comp=Z,37nm,0.7s,mb5.2,baz=254,slow=7.7,SNR=10						
HHC	**Hu-ho-hao-te**	**41.63**	**16**	*e*P	**P**	**05 27 31.1**	**+1.5**
HHC				AP	pP	05 27 38.8	+1.6
HHC				XP	sP	05 27 41.6	+1.3
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**05 27 29.6**	**-1.2**
	comp=Z,3.3nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=65						
WRA				LR	LR	05 44 00.4	
	comp=Z,806nm,20.9s,MS4.6,baz=345,slow=35						
WRAB	**Tennant Creek**	**41.78**	**122**	‖*e*P	**P**	**05 27 30.3**	**-0.5**
WB2	**Warramunga Arr**	**41.79**	**122**	*e*P	**P**	**05 27 30.3**	**-0.6**
BJT	**Baijiatuau**	**42.37**	**21**	*e*P	**P**	**05 27 36.2**	**+0.6**
BJT				pmax	pmax		
	comp=Z,33nm,0.8s						
BJT	**Baijiatuau**	**42.37**	**21**	*e*P	**P**	**05 27 36.2**	**+0.6**
	comp=Z,33nm,0.8s,mb5.0						
BJI	**Beijing**	**42.39**	**21**	*e*P	**P**	**05 27 36.4**	**+0.6**
BJI				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,640nm,14.8s,MS4.9						
BJI				LR	LR		
	comp=E,840nm,13.4s,MS4.9						
BJI				LR	LR		
	comp=Z,373nm,16.2s,MS4.4						
BJI	**Beijing**	**42.39**	**21**	*e*P	**P**	**05 27 36.4**	**+0.6**
	comp=Z,25nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=Z,370nm,16.2s,MS4.4						
AS31	**Alice Springs**	**43.14**	**127**	*e*P	**P**	**05 27 41.1**	**-0.7**
ASAR	**Alice Springs**	**43.14**	**127**	P	**P**	**05 27 41.5**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.1,baz=297,slow=7.9,SNR=33						
ASAR				S	**S**	**05 34 04.2**	**-2.5**
	comp=Z,1.3nm,1.0s,baz=294,slow=14,SNR=6.2						
WMQ	**Urumqi**	**43.45**	**350**	⇑*i*P	**P**	**05 27 45.0**	**+0.6**
WMQ				AP	pP	05 27 52.0	0.0
WMQ				XP	sP	05 27 55.0	-0.1
WMQ				PP	PP	05 29 29.0	+3.4
WMQ				*e*S	**S**	**05 34 11.0**	**-0.2**
WMQ				XS	sS	05 34 25.0	+1.1
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,219nm,3.6s						
WMQ				LR	LR		
	comp=N,1μm,17.6s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,21.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,993nm,24.2s,MS4.6						
WSAR	**Wadi Sarin**	**43.61**	**303**	LR	LR	05 43 28.3	
	comp=Z,328nm,18.5s,MS4.3,baz=122,slow=33						
AAK	**Ala-Archa**	**46.21**	**337**	*e*P	**P**	**05 28 05.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0						
AAK	**Ala-Archa**	**46.21**	**337**	*e*P	**P**	**05 28 05.9**	**-0.4**
	comp=Z,35nm,1.6s,mb5.0						
SNY	**Shenyang**	**46.93**	**27**	⇑P	**P**	**05 28 09.0**	**-3.0**
SNY				AP	pP	05 28 16.6	-3.1
SNY				XP	sP	05 28 19.8	-3.0
SNY				*e*S	**S**	**05 34 56.5**	**-5.1**
SNY				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.9						
SNY				LR	LR		
	comp=N,1μm,15.5s,MS5.0						
SNY				LR	LR		
	comp=E,614nm,13.9s,MS5.0						
SNY				LR	LR		
	comp=Z,2μm,14.1s,MS5.1						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**05 28 14.1**	**-0.4**
	comp=Z,7.3nm,0.4s,mb4.9,baz=190,slow=10,SNR=26						
SONM				PcP	PcP	05 29 45.3	-0.2
	comp=Z,1.8nm,0.5s,baz=182,slow=3.9,SNR=5.7						
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**05 28 15.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**05 28 15.4**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.6						
MK31	**Makanchi Array**	**47.43**	**346**	*i* P	**P**	**05 28 16.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.2						
MK31	**Makanchi Array**	**47.43**	**346**	*e*P	**P**	**05 28 15.8**	**-0.1**
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**05 28 15.4**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1,baz=160,slow=8.1,SNR=106						
MKAR	**Makanchi Array**	**47.43**	**346**	*e*P	**P**	**05 28 16.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KK31	**Karatay Array**	**48.28**	**334**	*i* P	**P**	**05 28 23.3**	**+0.8**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KKAR	**Karatay Array**	**48.28**	**334**	P	**P**	**05 28 23.3**	**+0.8**
GUMO	**Guam**	**48.58**	**73**	LR	LR	05 51 01.8	
	comp=Z,289nm,18.4s,MS4.3,baz=232,slow=39						
CN2	**Changchun**	**49.34**	**27**	*e*P	**P**	**05 28 30.0**	**-0.6**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS5.1						
CN2				LR	LR		
	comp=E,700nm,15.0s,MS5.1						
CN2				LR	LR		
	comp=Z,2μm,15.0s,MS5.1						
ZAK	**Zakamensk**	**49.40**	**5**	*e*P	**P**	**05 28 30.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.2						
MJAR	**Matsushiro Arr**	**51.65**	**42**	P	**P**	**05 28 47.9**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.3,baz=225,slow=6.4,SNR=7.3						
MJAR				LR	LR	05 51 34.9	
	comp=Z,457nm,21.0s,MS4.5,baz=250,slow=37						
MJAR	**Matsushiro Arr**	**51.65**	**42**	P	**P**	**05 28 47.9**	**-0.1**
MJAR				LR	LR	05 51 34.9	
HIA	**Hailar**	**51.71**	**18**	*e*P	**P**	**05 28 48.1**	**-0.4**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HIA	**Hailar**	**51.71**	**18**	*e*P	**P**	**05 28 48.0**	**-0.4**
	comp=Z,7.7nm,0.5s,mb4.9						
MDJ	**Mudanjiang**	**51.89**	**29**	P	**P**	**05 28 51.0**	**+1.2**
MDJ				AP	pP	05 28 57.4	-0.2
MDJ				XP	sP	05 29 00.9	+0.2
MDJ				PCP	PcP	05 30 02.3	-0.1
MDJ				SCP	ScP	05 33 58.3	+0.8
MDJ				PCS	PcS	05 34 01.4	+0.9
MDJ				S	**S**	**05 36 14.0**	**+3.0**
MDJ				SCS	ScS	05 38 39.3	+1.0
MDJ				SS	SS	05 39 52.1	+4.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,212nm,5.6s						
MDJ				LR	LR		
	comp=N,861nm,16.0s,MS4.9						
MDJ				LR	LR		
	comp=E,503nm,17.5s,MS4.9						
MDJ				LR	LR		
	comp=Z,1μm,16.5s,MS5.1						
VLA	**Vladivostok**	**51.98**	**32**	*e*P	**P**	**05 28 48.4**	**-2.1**
VLA				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.3						
VLA				MLR	MLR		
	comp=Z,800nm,13.6s,MS4.9						
CTA	**Charters Tower**	**52.25**	**116**	LR	LR	05 52 53.5	
	comp=Z,719nm,21.6s,MS4.7,baz=88,slow=38						
CIT	**Chita**	**52.56**	**12**	*e*P	**P**	**05 28 55.6**	**+0.8**
OPO	**Ambohidratompo**	**53.06**	**246**	P	**P**	**05 28 58.8**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=75,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**53.10**	**132**	*e*P	**P**	**05 28 59.7**	**+0.9**
	comp=Z,10nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**53.10**	**132**	P	**P**	**05 28 58.9**	**+0.1**
	comp=Z,3.2nm,0.5s,mb4.5,baz=274,slow=4.7,SNR=8.2						
NVS	**Novosibirsk**	**54.85**	**350**	*e*P	**P**	**05 29 10.9**	**-0.7**
ATD	**Arta Tunnel**	**55.13**	**283**	LR	LR	05 46 37.8	
	comp=Z,221nm,19.1s,MS4.2,baz=82,slow=29						
KLR	**Kul'dur**	**56.29**	**26**	*e*P	**P**	**05 29 18.8**	**-3.1**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
BVA0	**Borovoye Array**	**56.45**	**341**	*i* P	**P**	**05 29 22.1**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**05 29 22.1**	**-1.0**
	comp=Z,6.8nm,0.6s,mb4.8,baz=139,slow=9.7,SNR=26						
BRVK	**Borovoye**	**56.52**	**341**	*e*P	**P**	**05 29 22.4**	**-1.2**
BRVK				*e*PP	pP	05 29 29.8	-1.6
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**56.52**	**341**	*e*P	**P**	**05 29 22.4**	**-1.1**
	comp=Z,9.4nm,0.8s,mb4.9						
BRVK				*ep*P	pP	05 29 29.8	-1.6
CHKZ	**Chkalovo**	**56.93**	**341**	*i* P	**P**	**05 29 25.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AB31	**Akbulak array**	**57.74**	**332**	P	**P**	**05 29 30.8**	**-1.4**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BOD	**Bodaibo**	**58.11**	**10**	*e*P	**P**	**05 29 34.2**	**-0.6**
BOD				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
AKTK	**Aktyubinsk**	**59.46**	**332**	P	**P**	**05 29 42.6**	**-1.5**
AKTO	**Aktyubinsk**	**59.46**	**332**	P	**P**	**05 29 42.6**	**-1.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=132,slow=3.4,SNR=12						
KMBO	**Kilima Mbogo**	**60.20**	**268**	LR	LR	05 51 07.0	
	comp=Z,350nm,19.3s,MS4.5,baz=275,slow=31						
KMBO	**Kilima Mbogo**	**60.20**	**268**	*e*P	**P**	**05 29 50.9**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KMBO	**Kilima Mbogo**	**60.20**	**268**	*e*P	**P**	**05 29 50.9**	**+1.6**
	comp=Z,3.5nm,1.3s,mb4.2						
GNI	**Garni**	**61.54**	**316**	⇑*e*P	**P**	**05 29 59.9**	**+1.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GNI				MLR	MLR		
	comp=Z,200nm,17.0s						
ZEI	**Tsey**	**63.24**	**318**	*e*P	**P**	**05 30 09.6**	**-0.2**
ZEI				*e*PP	pP	05 30 16.9	-0.8
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
ARU	**Arti**	**63.40**	**337**	⇑*i*P	**P**	**05 30 09.2**	**-1.6**
ARU				*e*		05 30 44.1	
ARU				*e*		05 32 31.8	
ARU				*e*PPP		05 34 02.6	
ARU				*e*S	**S**	**05 38 40.6**	**-1.3**
ARU				*e*SS	SS	05 42 45.7	-3.1
ARU				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.2						
ARU				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,19.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,300nm,19.0s,MS4.6						
ARU	**Arti**	**63.40**	**337**	*e*P	**P**	**05 30 09.5**	**-1.3**
	comp=E,14nm,0.7s,mb5.2						
ARU				*ep*P	pP	05 30 15.4	-3.3
KIV	**Kislovodsk**	**64.55**	**319**	*e*P	**P**	**05 30 18.8**	**+0.4**
KIV				*e*		05 30 51.1	
KIV				*e*S	**S**	**05 38 53.8**	**-2.5**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK	**Yakutsk**	**65.50**	**16**	*i* P	**P**	**05 30 24.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
YAK				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.0						
EIL	**Elat**	**65.71**	**302**	*e*P	**P**	**05 30 27.7**	**+1.8**
	comp=Z,140nm,1.0s						
EIL				*ep*P	pP	05 30 34.0	+0.1
BR131	**Keskin Array S**	**69.36**	**312**	*e*P	**P**	**05 30 47.9**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**69.36**	**312**	P	**P**	**05 30 47.4**	**-1.6**
	comp=Z,1.7nm,1.0s,mb3.9,baz=139,slow=7.1,SNR=7.8						
LSZ	**Lusaka**	**70.28**	**253**	LR	LR	05 58 35.4	
	comp=Z,817nm,18.2s,MS5.0,baz=268,slow=33						
MATP	**Matopo**	**70.67**	**248**	LR	LR	05 56 31.0	
	comp=Z,220nm,19.1s,MS4.4,baz=78,slow=31						
MAW	**Mawson**	**72.62**	**193**	LR	LR	05 58 36.3	
	comp=Z,498nm,18.8s,MS4.8,baz=74,slow=32						
OBN	**Obninsk**	**72.85**	**328**	*i* P	**P**	**05 31 09.1**	**-1.0**
OBN				*i*		05 31 26.3	
OBN				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
SEY	**Seymchan**	**73.81**	**23**	⇑*e*P	**P**	**05 31 16.8**	**+1.0**
BOSA	**Boshof**	**74.89**	**240**	P	**P**	**05 31 22.6**	**+0.5**
	comp=Z,3.1nm,1.0s,mb4.2,baz=217,slow=5.1,SNR=2.2						
AKASG	**Malin Array Be**	**75.50**	**322**	P	**P**	**05 31 23.9**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=94,slow=4.1,SNR=8.2						
AKASG	**Malin Array Be**	**75.50**	**322**	*i* P	**P**	**05 31 24.0**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**75.50**	**322**	P	**P**	**05 31 23.9**	**-1.6**
MLR	**Muntele Rosu**	**76.32**	**317**	⇑*i*P	**P**	**05 31 31.1**	**+0.9**
BURAR	**Bucovina Array**	**77.27**	**319**	⇑*i*P	**P**	**05 31 36.6**	**+1.0**
JOF	**Joensuu**	**78.36**	**335**	*ep*	**P**	**05 31 39.6**	**-2.1**
	comp=Z,2.5nm,0.7s,mb4.2						
DRGR		**78.78**	**317**	⇑*i*P	**P**	**05 31 44.8**	**+0.8**
RPZ	**Rata Peaks**	**78.95**	**135**	P	**P**	**05 31 45.2**	**+0.3**
	comp=Z,7.7nm,0.8s,mb4.7,baz=248,slow=5.4,SNR=3.4						
SYO	**Syowa Base**	**79.93**	**198**	‖*e*PcP	PcP	05 31 57.4	-0.3
FINES	**FINESS Array B**	**80.22**	**332**	P	**P**	**05 31 50.7**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=6.2						
FINES	**FINESS Array B**	**80.22**	**332**	*i* P	**P**	**05 31 52.0**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KAF	**Kangasniemi**	**80.31**	**333**	*ep*	**P**	**05 31 50.7**	**-1.6**
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**05 32 04.1**	**-1.1**
	comp=Z,6.3nm,1.0s,mb4.6,baz=90,slow=4.9,SNR=11						
GEC2	**GERESS Array S**	**85.06**	**319**	*e*P	**P**	**05 32 16.9**	**-0.1**
GERES	**GERESS Array B**	**85.06**	**319**	P	**P**	**05 32 16.5**	**-0.5**
	comp=Z,2.8nm,0.9s,m

mb1 4.4/6, mb1mx4.3/13, mbtmp4.3/6, ML3.7/2, MS4.3/3, Ms1 4.3/3, ms1mx3.9/16, Error ellipse: s-maj=55.1km s-min=32.6km az=81.0
*NEIC **25** 05:24:55.7±0.6, 6181S×16062E, h10km, mb4.6/2, Error ellipse: s-maj=25.6km s-min=8.1km az=81.0*
*GCMT **25** 05:24:55.7±0.5, 6161S×16093E, h24km±2km, MW5.0/55, Moment Tensor Solution. s12,c14; s55,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.30; $M_{\theta\theta}$3.60±.23; $M_{\phi\phi}$-3.12±.20; $M_{r\theta}$-1.42±.30; $M_{\phi\theta}$-1.08±.18; $M_{r\phi}$0.19±.31; Best double couple: $M_0$3.74800×10^{16} NP1:ϕ_s325.00000°, δ78.00000°, λ12.00000°. NP2: ϕ_s233.00000°, δ79.00000°, λ167.00000°. Principal axes: T 4.2070, Plg17.0000°, Azm189.0000°; N -0.9170, Plg73.0000°, Azm11.0000°; P -3.2900, Plg1.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 05:24:55.3±0.7, 6180S±007×1608E±04, h10km, n13, σ0^{0}72/11, mb4.4/6, MS4.0/1, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.80**	**179**	Pn	**Pn**	**05 28 36.7**	**-1.1**
	0.2nm,0.3s,baz=350,slow=13,SNR=4.6						
VNDA				LR	LR	05 33 52.9	
	comp=Z,1μm,18.6s,baz=359,slow=34						
VNDA	**Vanda**	**15.80**	**179**	Pn	**Pn**	**05 28 36.7**	**-1.1**
VNDA				LR	LR	05 33 52.9	
SBA	**Scott Base**	**16.24**	**175**	*e*P	**Pn**	**05 28 44.3**	**+0.8**
	151nm,1.9s						
RPZ	**Rata Peaks**	**19.10**	**23**	P	**Pn**	**05 29 18.7**	**-0.3**
	0.7nm,0.3s,baz=166,slow=11,SNR=4.3						
RPZ				LR	LR	05 34 54.1	
	comp=Z,847nm,20.7s,baz=178,slow=31						
URZ	**Urewera**	**25.64**	**31**	LR	LR	05 39 06.9	
	comp=Z,502nm,21.2s,MS4.0,baz=194,slow=33						
QSPA	**South Pole Qui**	**28.29**	**180**	P	**P**	**05 30 49.4**	**+0.6**
	67nm,2.2s,mb4.9						
ASAR	**Alice Springs**	**42.30**	**322**	P	**P**	**05 32 48.4**	**-0.6**
	7.1nm,1.0s,mb4.2,baz=162,slow=8.5,SNR=24						
AS31	**Alice Springs**	**42.30**	**322**	*e*P	**P**	**05 32 48.1**	**-0.9**
CTA	**Charters Tower**	**42.90**	**340**	P	**P**	**05 32 54.6**	**+0.7**
	4.1nm,0.7s,mb4.3,baz=149,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**45.70**	**324**	P	**P**	**05 33 17.4**	**+1.1**
	4.1nm,1.1s,mb4.3,baz=162,slow=7.1,SNR=8.0						
SNAA	**Sanae**	**46.33**	**187**	*e*P	**P**	**05 33 21.1**	**-0.2**
	4.3nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.12**	**314**	P	**P**	**05 33 50.7**	**0.0**
	4.8nm,1.1s,mb4.5,baz=151,slow=8.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**129.14**	**207**	PKP	PKPdf	05 44 03.8	+0.2
	1.1nm,1.2s,baz=205,slow=2.4,SNR=3.2						

CASC 25 05:33:15.2±1.3, 1246N×8976W, h15km, MD3.9, ML3.4, 9C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.34**	**30⇑**	*e*P	x	05 33 46.9	+7.5
LFRS				*e*S	x	05 34 05.0	+8.1
BOQS	**Boqueron**	**1.35**	**20⇑**	*e*P	x	05 33 47.3	+7.8
BOQS				*e*S	x	05 34 06.5	+9.3
LBRS	**Las Brisas**	**1.45**	**29⇓**	*e*P	x	05 33 49.0	+8.1
LBRS				*e*S	x	05 34 09.1	+9.4
RBDL	**Robledal**	**1.65**	**2**	*e*P	x	05 33 51.4	+7.9
RBDL				*e*S	x	05 34 13.9	+9.5
VSM	**San Miguel**	**1.74**	**56**	*e*P	x	05 33 54.0	+9.1
VSM				*e*S	x	05 34 17.3	+11
CRIN	**San Cristobal**	**2.66**	**85⇑**	*e*P	Pn	05 33 57.8	+0.3
LEON	**Leon**	**2.80**	**91⇑**	*e*P	Pn	05 33 58.8	-0.6
MIRN	**Miramar**	**2.98**	**90⇑**	*e*P	Pn	05 34 01.5	-0.3
CNGN	**Cerro Negro**	**2.99**	**89**	*e*P	Pn	05 34 01.8	-0.2
COPN	**Copaltepe**	**3.11**	**95⇑**	*e*P	Pn	05 34 03.5	-0.2
APYN	**Apoyeque**	**3.34**	**93⇑**	*e*P	Pn	05 34 07.0	+0.1
XAVN	**Gruta Xavier**	**3.37**	**95⇑**	*e*P	Pn	05 34 07.7	+0.4
MGAN	**Managua**	**3.45**	**95⇓**	*e*P	Pn	05 34 08.3	-0.1
MGAN				*e*S	Sn	05 34 49.5	+0.6
MGAN				*i*		05 34 50.2	
	comp=N,162nm,0.3s						
TICN	**Ticuantepe**	**3.48**	**97⇓**	*e*P	Pn	05 34 08.2	-0.6
MADN	**Villa Maderas**	**4.27**	**104⇑**	*e*P	Pn	05 34 19.8	+0.3

*BJI **25** 05:34:55.5, 732S×10235E, h30km, mB5.2, mb4.9*
*IDC **25** 05:35:00.2±1.6, 639S×10192E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, MS3.7/1, Ms1 3.7/1, ms1mx3.0/25, Error ellipse: s-maj=71.6km s-min=18.1km az=49.0*
*ISCJB **25** 05:35:04.1±1.1, 63S±02×1022E±03, h33km, mb4.4/15, Error ellipse: s-maj=46.1km s-min=10.6km az=102.3*
*NEIC **25** 05:35:04.7±1.0, 638S×10197E, h30km, mb4.4/2, Error ellipse: s-maj=41.5km s-min=9.8km az=53.0*

ISC 25 05:35:06.5±1.1, 63S±02×1021E±03, h35km, n19, σ0^{0}69/17, mb4.4/15, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.59**	**340**	LR	LR	05 41 09.7	
	comp=Z,457nm,18.5s,baz=138,slow=39						
CHTO	**Chiang Mai**	**25.15**	**353**	*e*P	**P**	**05 40 27.5**	**-0.8**
	8.8nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.76**	**119**	P	**P**	**05 40 34.3**	**+0.5**
	3.6nm,1.1s,mb3.8,baz=228,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**34.09**	**117**	P	**P**	**05 41 47.9**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=291,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**35.08**	**123**	P	**P**	**05 41 57.0**	**+0.8**
	0.9nm,0.8s,mb3.7,baz=301,slow=7.5,SNR=8.7						
GUN	**Gumba**	**37.46**	**336**	*e*P	**P**	**05 42 17.3**	**+0.8**
	16nm,0.6s,mb5.0						
DMN	**Daman**	**37.51**	**335**	*e*P	**P**	**05 42 17.5**	**+0.5**
	10nm,0.8s,mb4.6						
GKN	**Gorkha**	**38.06**	**334**	*e*P	**P**	**05 42 22.0**	**+0.5**
	9.0nm,0.5s,mb4.8						
KOLN	**Koldanda**	**38.31**	**333**	*e*P	**P**	**05 42 24.6**	**+0.9**
	11nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**44.75**	**130**	P	**P**	**05 43 15.0**	**-1.4**
	1.0nm,0.3s,mb4.1,baz=312,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**44.75**	**130**	P	**P**	**05 43 15.0**	**-1.4**
GTA	**Gaotai**	**45.53**	**357**	*e*P	**P**	**05 43 22.6**	**0.0**
GTA				AP	pP	05 43 30.3	-2.7
GTA				XP	sP	05 43 33.3	-3.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
WMQ	**Urumqi**	**51.57**	**347**	P	**P**	**05 44 09.5**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,181nm,5.9s						
SONM	**Songino Array**	**54.03**	**4**	P	**P**	**05 44 26.6**	**-0.7**
	comp=Z,8.6nm,0.7s,mb4.8,baz=180,slow=7.3,SNR=23						
ULN	**Ulaanbaatar**	**54.11**	**4**	*e*P	**P**	**05 44 27.9**	**0.0**
	comp=Z,5.4nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**55.72**	**344**	*e*P	**P**	**05 44 38.9**	**-0.5**
MKAR	**Makanchi Array**	**55.72**	**344**	P	**P**	**05 44 38.8**	**-0.7**
	comp=Z,7.4nm,0.8s,mb4.8,baz=145,slow=8.1,SNR=47						
BRTR	**Keskin Array B**	**77.78**	**313**	P	**P**	**05 46 59.2**	**-0.8**
	comp=Z,0.8nm,0.8s,mb3.7,baz=123,slow=9.0,SNR=5.5						
TXAR	**Lajitas Array**	**146.58**	**44**	PKPbc	PKPbc	05 54 45.5	+1.3
	comp=Z,2.8nm,0.8s,baz=306,slow=1.8,SNR=28						

OTT 25 06:04:02.5±0.8, 6969N×6193W, h18km, ML3.6/5, Baffin Bay. 255km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone., Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**5.99**	**308**	PN		06 09 45.6	
PINU				SN		06 10 49.6	
PINU				Trac		06 10 52.5	
	comp=Z,8.6nm,0.2s						
FRB	**Frobisher Bay**	**6.52**	**207**	PN	Pn	06 05 37.5	0.0
FRB				Trac		06 06 52.4	
	comp=Z,7.7nm,0.2s						
GIFN	**Gifford Fjord,**	**6.81**	**282**	PN	Pn	06 05 40.4	-1.1
GIFN				SN	Sn	06 06 53.2	-5.3
GIFN				Trac		06 06 59.1	
	comp=Z,5.3nm,0.1s						
ILON	**Igloolik, Nuna**	**6.97**	**277**	PN	Pn	06 05 43.2	-0.5
ILON				SN	Sn	06 06 57.3	-5.3
ILON				Trac		06 07 01.2	
	comp=Z,4.9nm,0.1s						
SRLN	**Sarcpa Lake, N**	**7.71**	**272**	PN	Pn	06 05 53.3	-0.6
SRLN				SN	Sn	06 07 14.9	-5.8
SRLN				Trac		06 07 22.9	
	comp=Z,5.4nm,0.1s						
QILN	**Qililugaq Expl**	**9.56**	**263**	PN	Pn	06 06 18.6	-0.6
QILN				SN	Sn	06 07 58.8	-7.4
QILN				Trac		06 08 02.7	
	comp=Z,6.9nm,0.1s						
IVKQ	**Ivujivik**	**9.73**	**229**	PN	Pn	06 06 19.9	-1.8
IVKQ				SN	Sn	06 08 00.8	-10
AKVQ	**Akulik**	**11.17**	**225**	PN	Pn	06 06 40.3	-1.0
AKVQ				SN	Sn	06 08 34.9	-11
STLN	**Stellar Camp,**	**11.56**	**273**	PN	Pn	06 06 44.8	-1.8
STLN				SN	Sn	06 08 45.7	-10
STLN				Trac		06 08 49.5	
	comp=Z,3.8nm,0.2s						
KUQ	**Kuujjuuaa**	**11.96**	**197**	PN	Pn	06 06 45.3	-6.8
KUQ				SN	Sn	06 08 49.2	-16
KUQ				Trac		06 08 54.8	
	comp=Z,0.6nm,0.1s						
BULN	**Bullion Camp,**	**12.04**	**269**	PN	Pn	06 06 50.1	-3.1
BULN				SN	Sn	06 08 55.6	-11
BULN				Trac		06 09 05.1	
	comp=Z,3.8nm,0.2s						
SEDN	**First Sedna Si**	**13.23**	**255**	PN	Pn	06 07 06.3	-3.2
SEDN				SN	Sn	06 09 23.8	-12
SEDN				Trac		06 09 27.7	
	comp=Z,4.7nm,0.3s						
INUQ	**Inukjuak**	**13.25**	**220**	PN	Pn	06 07 06.5	-3.2
INUQ				SN	Sn	06 09 20.9	-16
SCHQ	**Schefferville**	**15.08**	**191**	PN	Pn	06 07 29.1	-5.6
SCHQ				SN	Sn	06 10 07.7	-13
SCHQ				Trac		06 10 15.7	
	comp=Z,1.8nm,0.7s						
LG4Q	**La Grande 4**	**17.06**	**205**	PN	Pn	06 07 53.3	-6.7
LG4Q				SN	Sn	06 10 47.9	-21
LG4Q				Trac		06 11 00.3	
	comp=Z,1.3nm,0.3s						
FCC	**Fort Churchill**	**17.48**	**247**	PN	Pn	06 08 04.0	-1.4
FCC				SN	Sn	06 11 08.1	-11
SILO	**Sutton Inlier**	**18.46**	**226**	PN	Pn	06 08 15.3	-2.1
SILO				SN	Sn	06 11 26.0	-17

*NNC **25** 06:20:15.9±5.2, 5512N×9601E, h0km, mb3.9, Error ellipse: s-maj=43.9km s-min=34.3km az=61.0*
*ISCJB **25** 06:20:33.6±0.8, 5471N±008×936E±0.1, h10km, Error ellipse: s-maj=13.6km s-min=7.0km az=109.8*
*MOS **25** 06:20:33.8±1.8, 5467N×9359E, h12km, mb4.4/1, Error ellipse: s-maj=16.1km s-min=8.8km az=71.0*

ISC 25 06:20:34.6±0.7, 5463N±010×936E±01, h10km, n15, σ1^{0}35/16, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINR	**Mina**	**0.42**	**49**	*e*PG	**Pg**	**06 20 44.1**	**+1.2**
KRAR	**Krasnoyarsk**	**1.46**	**343**	*i* PG	**Pn**	**06 20 57.8**	**-3.1**
CERR	**Cheremushki**	**2.21**	**218**	*e*PN	**Pn**	**06 21 11.7**	**+0.4**
CERR				*e*		06 21 40.5	
TASR	**Tashtagol**	**3.90**	**244**	*e*PN	**Pb**	**06 21 42.6**	**-0.9**
TASR				*e*	**Sb**	**06 22 30.7**	**0.0**
ZAL	**Zalesovo**	**5.23**	**266**	*i* PN	**Pn**	**06 21 56.0**	**+3.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKAR	**Aktash**	**5.67**	**223**	*e*PN	**Pn**	**06 21 57.2**	**-1.6**
AKAR				*e*		06 22 18.0	
AKAR				*e*		06 23 28.2	
NVS	**Novosibirsk**	**6.04**	**276**	*e*PN	**Pn**	**06 21 58.5**	**-5.4**
NVS				*i*		06 23 29.8	
TLY	**Talaya**	**6.70**	**112**	*i* PN	**Pn**	**06 22 22.9**	**+10**
MK31	**Makanchi Array**	**10.63**	**227**	⇑Pn	**Pn**	**06 23 07.7**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=36,slow=13,SNR=24						
MK31				⇑Sn	Sx	06 25 23.0	
	comp=Z,16nm,0.8s						
BOD	**Bodaibo**	**11.76**	**66**	*e*P	**Pn**	**06 23 21.7**	**-0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.1s						
CHKZ	**Chkalovo**	**13.52**	**275**	⇑Pn	**Pn**	**06 23 47.4**	**+1.0**
	comp=Z,4.4nm,1.4s						
CHKZ				⇓Sn	Sx	06 26 34.5	
	comp=Z,4.2nm,0.8s						
VOSK	**Vostochnaya**	**13.56**	**271**	⇓Pn	**Pn**	**06 23 46.5**	**-0.4**
	comp=Z,0.9nm,0.3s						
VOSK				⇓Sn	Sx	06 26 36.4	
	comp=Z,11nm,1.4s						
BVA0	**Borovoye Array**	**13.81**	**273**	⇑Pn	**Pn**	**06 23 53.4**	**+3.0**
	comp=Z,1.1nm,1.4s,baz=67,slow=16,SNR=6.0						
BVA0				⇑Sn	Sx	06 26 39.4	
	comp=Z,1.2nm,1.1s,baz=72,slow=24						
BRVK	**Borovoye**	**13.87**	**273**	*i* P	**Pn**	**06 23 52.6**	**+1.4**
ZRNK	**Zerenda**	**14.64**	**274**	⇑Pn	**Pn**	**06 24 00.3**	**-1.4**
	comp=Z,4.7nm,1.4s						
ZRNK				⇓Sn	Sx	06 27 00.2	
	comp=Z,4.2nm,0.9s						

*ATH **25** 06:49:47.8, 3584N×2156E, h5km, MD3.9/8, ML4.0*
*IDC **25** 06:49:47.4±1.5, 3613N×2169E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=45.7km s-min=25.7km az=119.0*
*NEIC **25** 06:49:48.2, 3585N×2152E, h4km, ML3.1(ATH), After ATH.*
*ISCJB **25** 06:49:48.2±0.4, 3577N±003×2149E±005, h10km, mb3.7/5, Error ellipse: s-maj=5.6km s-min=4.6km az=134.6*
*CSEM **25** 06:49:50.9±0.1, 3576N×2163E, h40km, ML4.0, Error ellipse: s-maj=3.7km s-min=2.8km az=46.0*
*HLW **25** 06:49:58.9, 3574N×2252E, h33km, Mb3.4*

ISC 25 06:49:50.1±0.4, 3585N±003×2153E±005, h10km, n46, σ1^{0}37/50, mb3.7/5, 2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.29**	**70**	*e*Pn	**Pn**	**06 50 13.5**	**-0.7**
ITM	**Ithomi**	**1.36**	**13**	*e*Pg	**Pn**	**06 50 13.5**	**-1.7**
ITM				*e*Sb	**Sb**	**06 50 32.0**	**-1.2**
VLI	**Veliai**	**1.43**	**52**	*e*Pg	**Pn**	**06 50 15.0**	**-1.1**
VLI				*e*Sb	**Sb**	**06 50 34.7**	**-0.3**
RLS	**Riolos of Patr**	**2.20**	**359**	*e*PG	**Pn**	**06 50 28.9**	**+2.1**
RLS	**Riolos of Patr**	**2.20**	**359**	*e*Pg	**Pn**	**06 50 28.6**	**+1.8**
VAM	**Vamos**	**2.22**	**101**	*e*PN	**Pn**	**06 50 27.8**	**+0.8**
VAM	**Vamos**	**2.22**	**101**	*e*Pb	**Pn**	**06 50 26.9**	**-0.1**
GVD	**Gavdhos**	**2.32**	**115**	*e*Pn	**Pn**	**06 50 29.5**	**+1.1**
GVD				*e*Pg	**Pg**	**06 50 36.6**	**+2.0**
GVD	**Gavdhos**	**2.32**	**115**	*e*Pg	**Pg**	**06 50 36.6**	**+2.0**
VLS	**Valsamata**	**2.44**	**342**	*e*PN	**Pn**	**06 50 31.5**	**+1.5**
VLS	**Valsamata**	**2.44**	**342**	*e*Pb	**Pn**	**06 50 30.0**	**0.0**
NAIG	**Nisos Aigina**	**2.47**	**39**	*e*PN	**Pn**	**06 50 31.8**	**+1.4**
NAIG	**Nisos Aigina**	**2.47**	**39**	*e*Pn	**Pn**	**06 50 32.5**	**+2.1**
ATH	**Athens Observa**	**2.75**	**39**	*e*PN	**Pn**	**06 50 35.7**	**+1.5**
ATH	**Athens Observa**	**2.75**	**39**	*e*Pb	**Pn**	**06 50 37.0**	**+2.8**
LKR	**Lokris**	**3.03**	**22**	*e*Pn	**Pn**	**06 50 38.2**	**+0.1**
EVR	**Evrytania**	**3.07**	**4**	*e*Pb	**Pn**	**06 50 41.0**	**+2.4**
SANT	**Santorini**	**3.22**	**80**	*e*Pg	**Pg**	**06 50 53.1**	**+1.3**
SANT	**Santorini**	**3.22**	**80**	*e*Pg	**Pg**	**06 50 53.1**	**+1.2**
APE	**Apeiranthos**	**3.44**	**68**	P	**Pn**	**06 50 43.3**	**-0.5**
NEO	**Neokhori**	**3.70**	**21**	P	**Pn**	**06 50 48.5**	**+1.1**
SOI	**Samo**	**4.92**	**298**	Pn	**Pn**	**06 51 04.8**	**+0.8**
TIP	**Timpagrande**	**5.04**	**313**	*e*Pn	**Pn**	**06 51 05.8**	**0.0**
TIP	**Timpagrande**	**5.04**	**313**	*e*Pn	**Pn**	**06 51 05.8**	**0.0**
AGST	**Augusta-Monte**	**5.27**	**287**	Pn	**Pn**	**06 51 07.7**	**-1.2**
	49nm,0.5s						
HAVL	**Avola**	**5.29**	**284**	Pn	**Pn**	**06 51 08.9**	**-0.2**
	242nm,0.3s						
KRUS	**Krusevo**	**5.51**	**358**	*e*Pn	**Pn**	**06 51 11.1**	**-1.2**
HMAT	**Matruh**	**6.64**	**134**	⇓P	**Pn**	**06 51 26.5**	**-1.3**
SWA2		**7.37**	**152**	⇓P	**Pn**	**06 51 38.8**	**+0.9**
SWA1		**7.46**	**151**	P	**Pn**	**06 51 39.6**	**+0.6**
ISP	**Isparta**	**7.47**	**72**	*e*Pn	**Pn**	**06 51 40.5**	**+1.4**
	4.9nm,0.8s						
ISP	**Isparta**	**7.47**	**72**	*e*Pn	**Pn**	**06 51 40.5**	**+1.4**
	4.9nm,0.8s						
AWBH		**9.77**	**138**	P	**Pn**	**06 52 10.2**	**-0.4**
AWBH		**9.77**	**138**	P	**Pn**	**06 52 10.2**	**-0.4**
HFRF	**Wahat Farafira**	**10.42**	**144**	P	**Pn**	**06 52 19.3**	**-0.4**
GLL	**Jalalah**	**10.61**	**123**	P	**Pn**	**06 52 19.9**	**-2.3**
AMAG	**Maghara**	**11.07**	**115**	P	**Pn**	**06 52 25.3**	**-3.1**
AMAG				S	**Sn**	**06 54 12.7**	**-20**
ASUT		**12.00**	**132**	P	**Pn**	**06 52 39.6**	**-1.6**
HDK1	**Dakhla**	**12.30**	**145**	P	**Pn**	**06 52 45.7**	**+0.4**
HFS	**Hagfors**	**24.82**	**351**	P	**P**	**06 55 09.0**	**-3.5**
	1.0nm,0.5s,mb3.6,baz=149,slow=12,SNR=6.2						
FINES	**FINESS Array B**	**25.77**	**5**	P	**P**	**06 55 16.6**	**-4.5**
	1.7nm,0.9s,mb3.6,baz=184,slow=13,SNR=4.3						
TORD	**Torodi Ar. Bea**	**28.81**	**223**	P	**P**	**06 55 49.9**	**+1.5**
	0.6nm,0.8s,mb3.4,baz=37,slow=7.9,SNR=5.8						
ARCES	**ARCESS Array B**	**33.81**	**3**	P	**P**	**06 56 28.4**	**-3.9**
	1.4nm,0.5s,mb4.1,baz=187,slow=9.4,SNR=14						
MK31	**Makanchi Array**	**45.87**	**57**	*e*P	**P**	**06 58 09.5**	**-3.0**
MK31	**Makanchi Array**	**45.87**	**57**	*e*P	**P**	**06 58 09.5**	**-3.0**
MKAR	**Makanchi Array**	**45.87**	**57**	P	**P**	**06 58 09.2**	**-3.3**
	0.7nm,0.4s,mb4.0,baz=271,slow=8.0,SNR=21						

MAN 25 06:52:49.4, 899N×12623E, h30km, mb3.5, ML4.7, MS2.1, Mindanao

*ISCJB **25** 07:28:48.2±0.2, 4326N±001×053W±002, h10km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=140.2*
*MDD **25** 07:28:50.9±0.2, 4312N×054W, h3km±3km, mbLg2.8/29, Error ellipse: s-maj=2.5km s-min=1.3km az=6.0, PRXIMO*
*NEIC **25** 07:28:50.6, 4312N×053W, h5km, ML2.8(STR), ML3.3(CSEM), ML3.4(LDG), MN2.8(MDD), After STR.*
*CSEM **25** 07:28:50.8±0.0, 4311N×054W, h2km, ML3.3/26, Error ellipse: s-maj=0.9km s-min=0.7km az=142.0*
*STR **25** 07:28:50.6±0.2, 4312N×053W, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **25** 07:28:51.2±0.1, 4312N×053W, h5km, Md3.3/2, Ml3.4/16, Error ellipse: s-maj=1.5km s-min=1.3km az=136.0*

ISC 25 07:28:49.7±0.2, 4318N±001×054W±001, h12km±1km, n137, σ1^{0}16/275, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.15**	**232**	Pg	**Pg**	**07 28 53.1**	**-0.2**
ATE				Sg	**Sg**	**07 28 57.1**	**+1.3**
REYF	**Montagne du Re**	**0.15**	**136**	Pg	**Pg**	**07 28 53.3**	**0.0**
REYF				Sg	**Sg**	**07 28 56.7**	**+0.9**
REYF	**Montagne du Re**	**0.15**	**136**	P	**Pg**	**07 28 53.3**	**0.0**
REYF				S	**Sg**	**07 28 55.3**	**-0.5**
ORDF	**Ordiarp**	**0.29**	**277**	Pg	**Pg**	**07 28 56.6**	**+0.9**
ORDF				Sg	**Sg**	**07 29 01.0**	**+1.3**
ORDF	**Ordiarp**	**0.29**	**277**	P	**Pg**	**07 28 56.6**	**+0.9**
ORDF				S	**Sg**	**07 29 01.6**	**+1.9**
LARF	**Larrau**	**0.36**	**247**	Pg	**Pg**	**07 28 57.0**	**+0.1**
LARF				Sg	**Sg**	**07 29 03.2**	**+1.5**
LARF	**Larrau**	**0.36**	**247**	P	**Pg**	**07 28 57.0**	**+0.1**
LARF				S	**Sg**	**07 29 02.4**	**+0.7**
FDAF	**Les Forges d'A**	**0.36**	**183**	P	**Pg**	**07 28 55.9**	**-1.0**
FDAF				S	**Sg**	**07 28 59.7**	**-2.1**
LABF	**Labassere**	**0.47**	**106**	Pg	**Pg**	**07 28 59.2**	**+0.3**
LABF				Sg	**Sg**	**07 29 06.4**	**+1.3**
LABF	**Labassere**	**0.47**	**106**	P	**Pg**	**07 28 59.1**	**+0.2**
LABF				S	**Sg**	**07 29 06.0**	**+0.9**
VIEF	**Viey**	**0.51**	**126**	Pg	**Pg**	**07 28 59.1**	**-0.5**
VIEF				Sg	**Sg**	**07 29 06.0**	**-0.4**
VIEF	**Viey**	**0.51**	**126**	P	**Pg**	**07 28 59.2**	**-0.4**
VIEF				S	**Sg**	**07 29 06.0**	**-0.4**
SJPF	**Ste Jean**	**0.51**	**263**	*e*Pg	**Pg**	**07 28 59.8**	**+0.2**
SJPF				*e*Sg	**Sg**	**07 29 05.9**	**-0.5**
	220nm,0.3s						
SJPF	**Ste Jean**	**0.51**	**263**	*e*Pg	**Pg**	**07 28 59.8**	**+0.2**
SJPF				*e*Sg	**Sg**	**07 29 05.9**	**-0.5**
	110nm,0.3s						
OSSF	**Osses**	**0.54**	**278**	Pg	**Pg**	**07 29 00.5**	**+0.3**
OSSF	**Osses**	**0.54**	**278**	P	**Pg**	**07 29 00.1**	**0.0**
EPF	**Esparros**	**0.66**	**103**	*e*Pg	**Pg**	**07 29 03.1**	**+0.6**
EPF				*e*Sg	**Sg**	**07 29 12.1**	**+0.9**
	111nm,0.2s						
EPF	**Esparros**	**0.66**	**103**	*e*Pg	**Pg**	**07 29 03.1**	**+0.6**
EPF				*e*Sg	**Sg**	**07 29 12.1**	**+0.9**
	56nm,0.2s						
EBIE	**Bielsa**	**0.70**	**134**	⇑Pg	**Pg**	**07 29 02.6**	**-0.7**
	SNR=18						
EBIE				Lg		07 29 11.0	
	194nm,0.1s,SNR=48						
EBIE	**Bielsa**	**0.70**	**134**	Pg	**Pg**	**07 29 02.6**	**-0.7**
	SNR=18						
IPRE	**Itoiz**	**0.71**	**238**	Pg	**Pg**	**07 29 03.9**	**+0.4**
	7.5nm,0.1s,SNR=37						
IPRE				Lg		07 29 12.4	
	91nm,0.3s,SNR=20						
IPRE	**Itoiz**	**0.71**	**238**	Pg	**Pg**	**07 29 03.9**	**+0.5**
	7.5nm,0.1s,SNR=37						
ELIZ	**Elizondo**	**0.72**	**269**	Pg	**Pg**	**07 29 03.4**	**-0.4**
	14nm,0.1s,SNR=20						
ELIZ				Lg		07 29 11.6	
	42nm,0.2s,SNR=13						
RESF	**Ens**	**0.74**	**120**	Pg	**Pg**	**07 29 03.8**	**-0.3**
RESF				Sg	**Sg**	**07 29 13.6**	**-0.2**
RESF	**Ens**	**0.74**	**120**	P	**Pg**	**07 29 03.6**	**-0.5**
RESF				S	**Sg**	**07 29 13.4**	**-0.5**
IUSE	**Utxeti**	**0.78**	**253**	Pg	**Pg**	**07 29 04.6**	**-0.1**
	24nm,0.1s,SNR=30						
IUS

26nm,0.2s,SNR=8.2
EPOB Poblet 2.19 146 Pg Pg 07 29 29.5 -2.1
ERTA Horta de San J 2.31 163 Pg Pg 07 29 32.3 -1.8
10.0nm,0.2s,SNR=13
ERTA Lg 07 30 00.8
42nm,0.1s,SNR=9.6
ERTA Horta de San J 2.31 163 Pg Pg 07 29 32.3 -1.8
10.0nm,0.2s,SNR=13
FILF Fillols 2.36 104 Pg Pg 07 29 31.7 -3.2
FILF Fillols 2.36 104 P Pn 07 29 31.8 +3.6
FILF S **Sn 07 30 02.4 +5.3**
CAF Calviac 2.56 46 ePg Pg 07 29 39.4 +0.6
RJF Les Rejaudoux 2.59 34 ePg Pg 07 29 39.8 +0.5
RJF eSg **Sg 07 30 13.9 +1.1**
45nm,0.2s
RJF Les Rejaudoux 2.59 34 ePg Pg 07 29 39.8 +0.5
RJF eSg **Sg 07 30 13.9 +1.1**
23nm,0.2s
SJAF Saint Jean de 2.61 104 S Sg 07 30 12.2 -1.4
EJON La Jonquera 2.62 105 Pg Pg 07 29 38.8 -1.2
5.2nm,0.3s,SNR=4.8
EJON Lg 07 30 13.3
23nm,0.3s,SNR=7.9
EJON La Jonquera 2.62 105 Pg Pg 07 29 38.8 -1.2
5.2nm,0.3s,SNR=4.8
EMOS Mosqueruela 2.81 179 Pn Pn 07 29 35.6 +1.1
1.4nm,0.1s,SNR=8.6
EMOS Sn **Sn 07 30 07.4 -0.9**
6.8nm,0.2s,SNR=5.0
EMOS Lg 07 30 15.0
8.5nm,0.1s,SNR=5.9
EMOS Mosqueruela 2.81 179 Pn Pn 07 29 35.6 +1.1
1.4nm,0.1s,SNR=8.6
EMOS Sn **Sn 07 30 07.4 -0.9**
6.8nm,0.2s,SNR=5.0
LASF Ste Croix 3.31 73 ePn Pn 07 29 42.4 +1.1
LASF eSn **Sn 07 30 21.4 +0.8**
LASF eSg **Sg 07 30 35.7 -0.4**
17nm,0.4s
LASF Ste Croix 3.31 73 ePn Pn 07 29 42.4 +1.1
LASF eSn **Sn 07 30 21.4 +0.8**
LASF eSg **Sg 07 30 35.7 -0.4**
8.5nm,0.4s
LBL Lubilhac 3.41 52 Pn Pn 07 29 44.3 +1.7
EARI Arriondas 3.42 274 Pn Pn 07 29 44.8 +2.0
0.8nm,0.1s,SNR=10.0
EARI Sn **Sn 07 30 24.3 +1.1**
8.3nm,0.4s,SNR=7.9
EARI Arriondas 3.42 274 Pn Pn 07 29 44.8 +2.0
0.8nm,0.1s,SNR=10.0
EARI Sn **Sn 07 30 24.3 +1.1**
8.3nm,0.4s,SNR=7.9
MFF Saint Martin d 3.43 5 ePg Pg 07 29 55.7 +0.2
MFF eSg **Sg 07 30 40.2 +0.2**
20nm,0.3s
MFF Saint Martin d 3.43 5 Pn Pn 07 29 45.7 +2.7
MFF Pg **Pg 07 29 55.7 +0.2**
MFF Lg 07 30 40.2
9.9nm,0.3s
MFF Saint Martin d 3.43 5 ePn Pn 07 29 45.7 +2.7
MFF ePg **Pg 07 29 55.7 +0.2**
MFF eSg **Sg 07 30 40.2 +0.2**
MFF Saint Martin d 3.43 5 ePg Pg 07 29 55.7 +0.2
MFF eSg **Sg 07 30 40.2 +0.2**
9.9nm,0.3s
TCF Toulx Ste Croi 3.67 31 ePg Pg 07 29 59.9 -0.2
TCF eSn **Sn 07 30 29.2 -0.3**
TCF eSg **Sg 07 30 47.3 -0.3**
32nm,0.4s
TCF Toulx Ste Croi 3.67 31 Pn Pn 07 29 47.4 +1.1
TCF Pg **Pg 07 29 59.9 -0.2**
TCF Sn **Sn 07 30 29.2 -0.3**
TCF Lg 07 30 47.3
16nm,0.4s
TCF Toulx Ste Croi 3.67 31 ePn Pn 07 29 47.4 +1.1
TCF ePg **Pg 07 29 59.9 -0.2**
TCF eSn **Sn 07 30 29.2 -0.3**
TCF eSg **Sg 07 30 47.3 -0.3**
TCF Toulx Ste Croi 3.67 31 ePg Pg 07 29 59.9 -0.2
TCF eSn **Sn 07 30 29.2 -0.3**
TCF eSg **Sg 07 30 47.3 -0.3**
16nm,0.4s
GUD Guadarrama 3.70 228 Pn Pn 07 29 47.1 +0.4
2.0nm,0.3s,SNR=7.9
GUD Sn **Sn 07 30 29.0 -1.2**
2.2nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 4.11 64 ePg Pg 07 30 08.3 -0.2
VIVF eSn **Sn 07 30 39.9 -0.5**
VIVF eSg **Sg 07 31 00.6 -1.2**
13nm,0.4s
VIVF Saint-Julien-l 4.11 64 Pn Pn 07 29 53.6 +1.3
VIVF Pg **Pg 07 30 08.3 -0.2**
VIVF Sn **Sn 07 30 39.9 -0.5**
VIVF Lg 07 31 00.6
6.7nm,0.4s
VIVF Saint-Julien-l 4.11 64 ePn Pn 07 29 53.6 +1.3
VIVF ePg **Pg 07 30 08.3 -0.2**
VIVF eSn **Sn 07 30 39.9 -0.5**
VIVF eSg **Sg 07 31 00.6 -1.2**
VIVF Saint-Julien-l 4.11 64 ePg Pg 07 30 08.3 -0.2
VIVF eSn **Sn 07 30 39.9 -0.5**
VIVF eSg **Sg 07 31 00.6 -1.2**
6.7nm,0.4s
BGF Bois d'Agland 4.15 34 ePg Pg 07 30 08.9 -0.2
BGF eSn **Sn 07 30 40.0 -1.2**
BGF eSg **Sg 07 31 02.5 -0.3**
63nm,0.4s
BGF Bois d'Agland 4.15 34 Pn Pn 07 29 53.7 +0.9
BGF Pg **Pg 07 30 08.9 -0.2**
BGF Sn **Sn 07 30 40.0 -1.2**
BGF Lg 07 31 02.5
31nm,0.4s
BGF Bois d'Agland 4.15 34 ePn Pn 07 29 53.7 +0.9
BGF ePg **Pg 07 30 08.9 -0.2**
BGF eSn **Sn 07 30 40.0 -1.2**
BGF eSg **Sg 07 31 02.5 -0.3**
BGF Bois d'Agland 4.15 34 ePg Pg 07 30 08.9 -0.2
BGF eSn **Sn 07 30 40.0 -1.2**
BGF eSg **Sg 07 31 02.5 -0.3**
31nm,0.4s
ETOS Mallorca 4.24 142 Pn Pn 07 29 54.1 +0.1
2.0nm,0.3s,SNR=7.9
ETOS Sn **Sn 07 30 40.6 -2.9**
2.2nm,0.2s,SNR=7.9
ETOS Mallorca 4.24 142 Pn Pn 07 29 54.1 0.0
2.0nm,0.3s,SNR=7.9
ETOS Sn **Sn 07 30 40.6 -2.8**
2.2nm,0.2s,SNR=7.9
ESDC Sonseca Array 4.35 217 Pn Pn 07 29 56.7 +1.1
2.6nm,0.1s,baz=40,slow=14,SNR=4.9
ESDC Sn **Sn 07 30 43.7 -2.4**
3.0nm,0.2s,SNR=7.9
ESDC Lg 07 31 04.3
2.5nm,0.3s,SNR=7.9
ESDC Sonseca Array 4.35 217 Pn Pn 07 29 56.7 +1.1
2.6nm,0.1s,SNR=4.9
ESDC Sn **Sn 07 30 43.7 -2.4**
3.0nm,0.2s,SNR=7.9
EIBI Ibiza 4.39 160 Pn Pn 07 29 55.7 -0.4
2.0nm,0.3s,SNR=7.9
EIBI Sn **Sn 07 30 42.5 -4.5**
3.9nm,0.2s,SNR=7.9
EIBI Ibiza 4.39 160 Pn Pn 07 29 55.7 -0.4
2.0nm,0.3s,SNR=7.9
EBEN Beniarda 4.48 177 Pn Pn 07 29 58.0 +0.6
2.5nm,0.3s,SNR=7.3
EBEN Sn **Sn 07 30 46.0 -3.4**
2.4nm,0.3s,SNR=5.0
EBEN Beniarda 4.48 177 Pn Pn 07 29 58.0 +0.6
2.5nm,0.3s,SNR=7.3
EBEN Sn **Sn 07 30 46.0 -3.4**
2.4nm,0.3s,SNR=5.0
SMRF Simiane la Rot 4.51 78 ePn Pn 07 29 58.6 +0.8
AVF Avril sur Loir 4.54 36 ePg Pg 07 30 16.0 -0.7
AVF eSg **Sg 07 31 15.2 -0.4**
21nm,0.5s
AVF Avril sur Loir 4.54 36 Pn Pn 07 29 59.4 +1.2
AVF Pg **Pg 07 30 16.0 -0.7**
AVF Lg 07 31 15.2
11nm,0.5s
AVF Avril sur Loir 4.54 36 ePn Pn 07 29 59.4 +1.2
AVF ePg **Pg 07 30 16.0 -0.7**
AVF eSg **Sg 07 31 15.2 -0.4**
AVF Avril sur Loir 4.54 36 ePg Pg 07 30 16.0 -0.7
AVF eSg **Sg 07 31 15.2 -0.4**
11nm,0.5s
ETOB Tobarra 4.59 190 Pn Pn 07 29 59.1 +0.2
0.9nm,0.3s,SNR=7.9
ETOB Sn **Sn 07 30 47.9 -4.4**
2.2nm,0.3s,SNR=7.9
ETOB Tobarra 4.59 190 Pn Pn 07 29 59.1 +0.1
0.9nm,0.3s,SNR=7.9
SMF Signal de Mont 4.66 40 ePn Pn 07 30 00.6 +0.8
SMF eSn **Sn 07 30 52.1 -1.6**
SMF eSg **Sg 07 31 17.3 -1.9**
13nm,0.4s
SMF Signal de Mont 4.66 40 ePn Pn 07 30 00.6 +0.8
SMF eSn **Sn 07 30 52.1 -1.6**
SMF eSg **Sg 07 31 17.3 -1.9**
6.4nm,0.4s
HYF Humbligny 4.66 28 eSg Sg 07 31 19.8 +0.4
ECAL Calabor 4.74 257 Pn Pn 07 30 02.5 +1.5
4.2nm,0.1s,SNR=7.9
ECAL Sn **Sn 07 30 53.9 -2.0**
5.3nm,0.2s,SNR=7.9
ECAL Calabor 4.74 257 Pn Pn 07 30 02.5 +1.5
ECAL Sn **Sn 07 30 53.9 -2.0**
EVIA Vianos 4.78 199 Pn Pn 07 30 01.8 +0.4
2.0nm,0.4s,SNR=7.9
EVIA Sn **Sn 07 30 53.6 -3.1**
0.8nm,0.2s,SNR=7.9
PBRG Braganca 4.79 255 eSn Sn 07 30 53.1 -3.9
PBRG
4.7nm,0.2s
PBRG Braganca 4.79 255 eSn Sn 07 30 53.1 -3.9
4.7nm,0.2s
SSF Saint Saulge 4.82 35 ePg Pg 07 30 22.3 +0.3
SSF eSg **Sg 07 31 24.0 -0.5**
13nm,0.4s
SSF Saint Saulge 4.82 35 Pn Pn 07 30 03.0 +0.9
SSF Pg **Pg 07 30 22.3 +0.3**
SSF Lg 07 31 24.0
6.4nm,0.4s
SSF Saint Saulge 4.82 35 ePn Pn 07 30 03.0 +0.9
SSF ePg **Pg 07 30 22.3 +0.3**
SSF eSg **Sg 07 31 24.0 -0.5**
SSF Saint Saulge 4.82 35 ePg Pg 07 30 22.3 +0.3
SSF eSg **Sg 07 31 24.0 -0.5**
6.4nm,0.4s
EPON Pontenova 4.83 274 Pn Pn 07 30 04.1 +1.9
1.4nm,0.2s,SNR=7.9
EPON Sn **Sn 07 30 57.2 -0.9**
4.0nm,0.5s,SNR=7.9
EPON Pontenova 4.83 274 Pn Pn 07 30 04.1 +1.9
EPON Sn **Sn 07 30 57.2 -0.9**
QUIF Quistinic 5.08 340 ePn Pn 07 30 07.3 +1.6
QUIF ePg **Pg 07 30 26.1 -1.0**
QUIF eSn **Sn 07 31 03.6 -0.7**
LOR Lormes 5.13 36 ePg Pg 07 30 26.9 -1.1
baz=214
LOR eSg **Sg 07 31 33.2 -1.3**
14nm,0.5s
LOR Lormes 5.13 36 ePg Pg 07 30 26.9 -1.1
LOR eSg **Sg 07 31 33.2 -1.3**
6.9nm,0.5s
GRR Gorron 5.21 358 ePg Pg 07 30 28.3 -1.2
GRR eSn **Sn 07 31 06.0 -1.5**
GRR eSg **Sg 07 31 35.6 -1.5**
8.8nm,0.4s
GRR Gorron 5.21 358 Pn Pn 07 30 08.6 +1.1
GRR Pg **Pg 07 30 28.3 -1.2**
GRR Sn **Sn 07 31 06.0 -1.5**
GRR Lg 07 31 35.6
4.4nm,0.4s
GRR Gorron 5.21 358 ePn Pn 07 30 08.6 +1.1
GRR ePg **Pg 07 30 28.3 -1.2**
GRR eSn **Sn 07 31 06.0 -1.5**
GRR eSg **Sg 07 31 35.6 -1.5**
GRR Gorron 5.21 358 ePg Pg 07 30 28.3 -1.2
GRR eSn **Sn 07 31 06.0 -1.5**
GRR eSg **Sg 07 31 35.6 -1.5**
4.4nm,0.4s
SGMF Saint Gilles 5.27 345 ePg Pg 07 30 29.3 -1.3
SGMF eSn **Sn 07 31 07.8 -1.0**
SGMF eSg **Sg 07 31 38.6 -0.2**
9.1nm,0.4s
SGMF Saint Gilles 5.27 345 Pn Pn 07 30 09.9 +1.7
SGMF Pg **Pg 07 30 29.3 -1.3**
SGMF Sn **Sn 07 31 07.8 -1.0**
SGMF Lg 07 31 38.6
4.6nm,0.4s
SGMF Saint Gilles 5.27 345 ePn Pn 07 30 09.9 +1.7
SGMF ePg **Pg 07 30 29.3 -1.3**
SGMF eSn **Sn 07 31 07.8 -1.0**
SGMF eSg **Sg 07 31 38.6 -0.2**
SGMF Saint Gilles 5.27 345 ePg Pg 07 30 29.3 -1.3
SGMF eSn **Sn 07 31 07.8 -1.0**
SGMF eSg **Sg 07 31 38.6 -0.2**
4.6nm,0.4s
LDF La Druitiere 5.42 3 eSn Sn 07 31 11.5 -1.1
LDF eSg **Sg 07 31 43.6 -0.2**
7.6nm,0.4s
LDF La Druitiere 5.42 3 eSn Sn 07 31 11.5 -1.1
LDF eSg **Sg 07 31 43.6 -0.2**
3.8nm,0.4s
ROSF Rostrenen 5.50 341 ePn Pn 07 30 11.5 +0.1
ROSF eSn **Sn 07 31 12.2 -2.4**
FLN La Foliniere 5.58 0 eSn Sn 07 31 15.4 -1.2
FLN eSg **Sg 07 31 47.5 -1.4**
8.0nm,0.4s
FLN La Foliniere 5.58 0 eSn Sn 07 31 15.4 -1.2
FLN eSg **Sg 07 31 47.5 -1.4**
4.0nm,0.4s
PVRL Vila Real 5.66 253 ePn Pn 07 30 14.7 +1.1
PVRL eSn **Sn 07 31 15.4 -3.1**
PVRL
6.1nm,0.1s
PVRL Vila Real 5.66 253 ePn Pn 07 30 14.7 +1.1
PVRL eSn **Sn 07 31 15.4 -3.1**
6.1nm,0.1s
EADA Adamuz 5.87 213 Pn Pn 07 30 17.9 +1.4
1.4nm,0.4s,SNR=7.9
EADA Sn **Sn 07 31 20.1 -3.7**
1.6nm,0.3s,SNR=7.9
EADA Lg 07 31 54.0
1.9nm,0.2s,SNR=7.9
EADA Adamuz 5.87 213 Pn Pn 07 30 17.9 +1.4
EADA Sn **Sn 07 31 20.1 -3.7**
PVIS Viseu 6.01 248 eSn Sn 07 31 23.1 -4.1

NEIC ***25*** *08:01:12.6±4.6, 589S×15109E, h77km±32km, mb4.1/3, Error ellipse: s-maj=42.3km s-min=36.2km az=171.0*
ISCJB ***25*** *08:01:16.4±5.2, 60S±03×1507E±03, h96km±33km, mb3.8/7, Error ellipse: s-maj=61.6km s-min=40.5km az=122.2*
IDC ***25*** *08:01:17.6±7.7, 598S×15063E, h94km±54km, mb3.8/4, mb1 3.9/5, mb1mx3.6/14, mbtmp4.1/5, ML2.5/1, Error ellipse: s-maj=61.0km s-min=50.2km az=104.0*
ISC 25 08:01:17.2±5.1, 61S±04×1508E±03, h91km±31km, n13, σ0§65/12, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**227**	P	P	**Pn**	**08 02 28.5**	**+0.2**
	1.4nm,0.3s,baz=62,slow=15,SNR=3.5							
PMG				S	S	**Sn**	**08 03 23.2**	**-0.4**
	9.3nm,0.3s,baz=227,slow=22,SNR=11							
WRAB	**Tennant Creek**	**21.09**	**228**	*e*P	P	**P**	**08 05 54.0**	**-0.3**
	3.0nm,0.5s,mb3.9							
WB2	**Warramunga Arr**	**21.10**	**228**	*e*P	P	**P**	**08 05 54.0**	**-0.3**
WRA	**Warramunga Arr**	**21.11**	**228**	P	P	**P**	**08 05 54.2**	**-0.2**
	3.5nm,0.5s,mb3.9,baz=54,slow=10,SNR=50							
WRA				PcP	PcP	PcP	08 09 56.9	-0.2
	0.2nm,0.7s,baz=41,slow=1.7,SNR=4.8							
AS31	**Alice Springs**	**23.87**	**221**	*e*P	P	**P**	**08 06 22.6**	**+0.4**
ASAR	**Alice Springs**	**23.88**	**221**	P	P	**P**	**08 06 22.5**	**+0.3**
	3.5nm,0.6s,mb3.9,baz=58,slow=8.6,SNR=66							
ASPA	**Alice Springs**	**23.88**	**221**	*e*P		**P**	**08 06 22.5**	**+0.2**
STKA	**Stephens Creek**	**27.09**	**197**	P		**P**	**08 06 52.5**	**+1.2**
	0.7nm,0.3s,mb3.7,baz=19,slow=17,SNR=3.1							
FITZ	**Fitzroy Crossi**	**27.29**	**242**	P		**P**	**08 06 53.5**	**+0.4**
	2.2nm,0.8s,mb3.8,baz=64,slow=10,SNR=6.7							
VNDA	**Vanda**	**71.67**	**177**	*e*P		**P**	**08 12 24.2**	**-4.9**
	0.5nm,0.6s,mb3.5							
QSPA	**South Pole Qui**	**83.92**	**180**	*e*P		**P**	**08 13 35.6**	**-1.5**
	1.4nm,0.4s,mb4.1							
TORD	**Torodi Ar. Bea**	**148.73**	**285**	PKPbc	PKPbc		08 20 54.0	0.0
	1.7nm,0.6s,baz=88,slow=2.6,SNR=16							
TORD	**Torodi Ar. Bea**	**148.73**	**285**	PKPbc	PKPbc		08 20 54.0	0.0

IDC 25 08:17:36.2±2.0, 1667S×6584W, h63km±24km, mb3.3/1, mb1 3.8/5, mb1mx3.4/20, mbtmp3.8/5, ML4.2/4, Error ellipse: s-maj=37.3km s-min=23.7km az=1.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.23**	**280**	P	P	Pn	08 18 11.2	+0.4
	8.0nm,0.3s,baz=104,slow=12,SNR=269							
LPAZ				S	S	Sn	08 18 42.7	+5.4
	38nm,0.3s,baz=310,slow=10,SNR=7.3							
LPAZ				Lg			08 18 48.6	
	54nm,0.3s,baz=233,slow=14,SNR=6.7							
SIV	**San Ignacio**	**4.63**	**82**	P	P	Pn	08 18 44.6	+1.1
	21nm,0.3s,baz=276,slow=10,SNR=382							
SIV				S	S	Sn	08 19 33.5	-2.4
	21nm,0.3s,baz=280,slow=19,SNR=3.6							
SIV				Lg			08 20 08.8	
	38nm,0.3s,baz=208,slow=21,SNR=6.3							
LVC	**Limon Verde**	**6.58**	**206**	P	P	Pn	08 19 11.6	+1.3
	0.5nm,0.3s,baz=24,slow=12,SNR=8.9							
CPUP	**Villa Florida**	**12.45**	**142**	P	P	Pn	08 20 28.7	-1.8
	1.3nm,0.3s,baz=302,slow=11,SNR=14							
CPUP	**Villa Florida**	**12.45**	**142**	*e*PKPdf	P	Pn	08 20 28.4	-2.1
CFAA	**Coronel Fontan**	**15.03**	**188**	P	P	Pn	08 21 08.3	+3.6
	0.1nm,0.3s,baz=7.0,slow=12,SNR=21							
TORD	**Torodi Ar. Bea**	**73.00**	**70**	P	P		08 28 59.6	+0.4
	0.4nm,0.8s,baz=258,slow=7.8,SNR=4.6							
ASAR	**Alice Springs**	**135.51**	**206**	PKP	PKPdf		08 36 50.1	+1.0
	0.1nm,0.7s,baz=129,slow=1.6,SNR=4.4							
WRA	**Warramunga Arr**	**138.57**	**209**	PKP	PKPdf		08 36 55.9	+1.1
	0.6nm,1.0s,baz=154,slow=1.6,SNR=7.1							

ISCJB ***25*** *08:30:49.4±0.8, 5104N±007×1577E±01, h51km±8km, mb3.7/5, MS3.2/1, Error ellipse: s-maj=16.2km s-min=5.6km az=78.4*
MOS ***25*** *08:30:49.2±1.1, 5107N×15769E, h54km, mb4.0/4, Error ellipse: s-maj=23.2km s-min=7.4km az=73.4*
KRSC ***25*** *08:30:50, 5122N×15825E, h10km, ML4.6*
IDC ***25*** *08:30:53.0±6.3, 5117N×15769E, h75km±55km, mb3.4/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.8/7, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=33.7km s-min=26.2km az=96.0*
ISC 25 08:30:52.3±0.9, 5112N±007×1579E±01, h67km±10km, n40, σ1§40/49, mb3.6/5, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.23**	**250**	‖*i*PN		**Pn**	**08 31 06.5**	**-7.1**
SKR				*i* S		**Sn**	**08 31 21.5**	**-8.1**
SKR				pmax		pmax		
	comp=Z,540nm,0.5s							
SKR				pmax		pmax		
	comp=N,110nm,0.3s							
SKR				pmax		pmax		
	comp=E,390nm,0.3s							
SKR				smax				
	comp=N,500nm,0.3s							
SKR				smax				
	comp=E,3μm,0.3s							
RUS	**Russkaya**	**1.36**	**15**	*i* P		**Pn**	**08 31 13.5**	**-1.8**
RUS				*i* S		**Sn**	**08 31 30.5**	**-2.1**
GRL	**Gorelyy**	**1.44**	**3**	*i* P		**Pn**	**08 31 15.8**	**-0.5**
GRL				*i* S		**Sn**	**08 31 34.0**	**-0.4**
PET	**Petropavlovsk**	**1.96**	**13**	⇑*i*PN		**Pn**	**08 31 22.6**	**-0.7**
PET				*i* S		**Sn**	**08 31 46.8**	**0.0**
PET				pmax		pmax		
	comp=Z,135nm,0.5s							
PET				pmax		pmax		
	comp=Z,100nm,0.7s							
PET				smax				
	comp=E,800nm,0.4s							
PET				smax				
	comp=E,1μm,0.4s							
PET				smax				
	comp=N,1μm,0.5s							
PET				smax				
	comp=N,1μm,0.4s							
PET				MLR		MLR		
	comp=Z,100nm,14.0s							
PET	**Petropavlovsk**	**1.96**	**13**	*i* P		**Pn**	**08 31 22.7**	**-0.6**
PET				*i* S		**Sn**	**08 31 46.2**	**-0.6**
NLC	**Nalytchevo**	**2.23**	**22**	*e*P		**Pn**	**08 31 25.0**	**-1.9**
NLC				*i* S		**Sn**	**08 31 50.0**	**-3.4**
SDLR	**Sedlovina**	**2.24**	**15**	*i* P		**Pn**	**08 31 26.7**	**-0.4**
SDLR				*i* S		**Sn**	**08 31 52.6**	**-1.1**
SPN	**Mys Shipunski**	**2.36**	**32**	*e*P		**Pn**	**08 31 28.1**	**-0.6**
SPN				*i* S		**Sn**	**08 31 54.7**	**-2.0**
GNL	**Ganaly**	**2.58**	**0**	*i* P		**Pn**	**08 31 32.3**	**+0.6**
GNL				*i* S		**Sn**	**08 32 02.8**	**+0.9**
KII	**Karymskiy**	**3.06**	**17**	P		**Pn**	**08 31 38.8**	**+0.5**
KII				*i* S		**Sn**	**08 32 13.3**	**-0.4**
MKZ	**Mys Kozlova**	**4.14**	**32**	*e*P		**Pn**	**08 31 52.6**	**-0.4**
MKZ				*i* S		**Sn**	**08 32 38.2**	**-1.9**
TUMR	**Tumrok**	**4.38**	**17**	P		**Pn**	**08 31 58.1**	**+1.9**
KMNR	**Kamenistaya**	**4.84**	**16**	P		**Pn**	**08 32 05.3**	**+2.7**
KPT	**Kopyto**	**5.04**	**15**	P		**Pn**	**08 32 05.9**	**+0.6**
KOZ	**Kozyrevsk**	**5.08**	**12**	P		**Pn**	**08 32 08.1**	**+2.3**
KOZR	**Kozyr**	**5.09**	**12**	PN		**Pn**	**08 32 08.1**	**+2.1**
ZLN	**Zelenaya**	**5.20**	**18**	P		**Pn**	**08 32 09.9**	**+2.5**
SRDR	**Sredinnyy**	**5.31**	**11**	P		**Pn**	**08 32 11.6**	**+2.6**
KRSR	**Krestovskiy**	**5.34**	**16**	P		**Pn**	**08 32 11.9**	**+2.5**
KLY	**Klyuchi**	**5.45**	**16**	P		**Pn**	**08 32 12.0**	**+1.2**
SRKR	**Sorokina**	**5.86**	**18**	P		**Pn**	**08 32 18.1**	**+1.6**
KBTR	**Krutoberegovo**	**5.87**	**28**	*e*P		**Pn**	**08 32 16.9**	**+0.3**
ASAJ	**Asahikawa**	**12.48**	**242**	P		**Pn**	**08 33 46.0**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=65,slow=9.9,SNR=4.2							
ASAJ	**Asahikawa**	**12.48**	**242**	PN		**Pn**	**08 33 46.0**	**-0.9**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
YAK	**Yakutsk**	**18.84**	**316**	*i* P		**Pn**	**08 34 59.8**	**-8.1**
MJAR	**Matsushiro Arr**	**20.28**	**232**	P		**P**	**08 35 21.5**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=25,slow=9.4,SNR=5.9							
MJAR	**Matsushiro Arr**	**20.28**	**232**	P		**P**	**08 35 21.5**	**-0.8**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	**24.37**	**338**	*i* P		**P**	**08 36 02.6**	**-1.4**
SONM	**Songino Array**	**33.09**	**285**	PcP		PcP	08 40 02.7	-0.8
	comp=Z,0.6nm,0.7s,baz=95,slow=2.3,SNR=4.0							
SONM				LR		LR	08 51 47.4	
	comp=Z,42nm,18.5s,baz=88,slow=38							
MKAR	**Makanchi Array**	**47.82**	**296**	P		**P**	**08 39 21.3**	**-1.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=71,slow=5.7,SNR=4.6							
BVAR	**Borovoye Array**	**50.58**	**309**	P		**P**	**08 39 42.5**	**-1.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=64,slow=6.2,SNR=6.0							
BVAR	**Borovoye Array**	**50.58**	**309**	P		**P**	**08 39 42.5**	**-1.5**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AAK	**Ala-Archa**	**54.76**	**296**	*i* P		**P**	**08 40 16.8**	**+1.9**
PDAR	**Pinedale Array**	**59.67**	**58**	pP		pP	08 41 04.2	-3.0
	comp=Z,0.9nm,0.7s,baz=332,slow=2.8,SNR=8.4							
TXAR	**Lajitas Array**	**72.66**	**65**	P		**P**	**08 42 13.4**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.3,baz=303,slow=4.9,SNR=5.8							
TXAR				pP		pP	08 42 27.4	-3.4
	comp=Z,0.7nm,0.8s,baz=300,slow=4.1,SNR=7.1							
TXAR	**Lajitas Array**	**72.66**	**65**	P		**P**	**08 42 13.4**	**+0.7**
TXAR				*PP		pP	08 42 27.4	-3.4
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**73.73**	**203**	P		**P**	**08 42 18.5**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=19,slow=6.2,SNR=14							
WRA	**Warramunga Arr**	**73.73**	**203**	P		**P**	**08 42 18.5**	**-0.5**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**77.42**	**202**	P		**P**	**08 42 40.0**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=13,slow=5.7,SNR=10							
ASAR	**Alice Springs**	**77.42**	**202**	P		**P**	**08 42 40.0**	**-0.1**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							

NEIC ***25*** *08:33:23.9, 2956S×7199W, h38km, MD4.2(GUC), After GUC.*
GUC 25 08:33:23.9±1.0, 2956S×7199W, h38km±4km, MD4.2, ML3.8, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.73**	**118**	‖*e*P		Pn	08 34 36.6	+59

LSCH *i* S Sn 08 34 47.2 +59
TLL Tololo Astrono 1.19 121 ⇓*i*P Pn 08 33 45.9 +1.8
TLL *i* S Sn 08 34 02.0 +3.0
TLL AML AML 08 34 09.2
comp=N,3μm,0.4s
TLL Tololo Astrono 1.19 121 ⇓*i*P Pn 08 33 45.9 +1.8
TLL *i* S Sn 08 34 02.0 +3.0
OVCH Ovalle 1.25 147 *e*P Pn 08 33 45.4 +0.6
OVCH *i* S Sn 08 34 02.3 +1.9
OVCH AML AML 08 34 05.5
comp=N,2μm,0.4s
OVCH Ovalle 1.25 147 *e*P Pn 08 33 45.4 +0.6
OVCH *i* S Sn 08 34 02.3 +1.9
VACH Vallenar 1.46 48 *e*P Pn 08 33 48.7 +1.0
VACH *i* S Sn 08 34 08.3 +2.7
VACH AML AML 08 34 15.0
comp=E,2μm,0.5s
VACH Vallenar 1.46 48 *e*P Pn 08 33 48.7 +1.0
VACH *i* S Sn 08 34 08.3 +2.7
CMCH Combarbala 1.82 152 ⇓*i*P Pn 08 33 54.1 +1.4
CMCH *i* S Sn 08 34 16.7 +2.2
CMCH AML AML 08 34 27.4
comp=E,3μm,0.7s
CMCH Combarbala 1.82 152 ⇓*i*P Pn 08 33 54.1 +1.4
CMCH S Sn 08 34 16.7 +2.2
CPCH Copiapo 2.62 34 *e*P Pn 08 34 03.2 -0.5
PTCH Petorca 2.84 162 *e*P Pn 08 34 08.6 +1.8
PTCH *i* S Sn 08 34 41.0 +1.2
PTCH AML AML 08 35 00.5
comp=E,569nm,0.3s
PTCH Petorca 2.84 162 *e*P Pn 08 34 08.6 +1.8
PTCH *i* S Sn 08 34 41.0 +1.2
PEL Peldehue 3.74 163 *e*P Pn 08 34 20.7 +1.6
PEL *i* S Sn 08 35 03.5 +1.6
CLCH Cerro Calan 4.02 162 *e*P Pn 08 34 25.4 +2.4
CLCH *i* S Sn 08 35 11.1 +2.4
FCH Farellones 4.03 159 *e*P Pn 08 34 26.2 +3.2
FCH *i* S Sn 08 35 13.1 +4.2
LVC Limon Verde 7.45 22 *e*Pn Pn 08 35 10.2 +0.1

ISCJB ***25*** *09:05:12.5±0.4, 3837N±002×2198E±003, h5km, Error ellipse: s-maj=3.8km s-min=3.3km az=91.4*
ATH ***25*** *09:05:12.7, 3837N×2196E, h14km±1km, MD3.4/13, ML3.3*
NEIC ***25*** *09:05:13.1, 3839N×2198E, h18km, ML3.1(THE), ML3.3(ATH), After ATH.*
CSEM ***25*** *09:05:13.4±0.2, 3836N×2200E, h5km, ML3.3, Error ellipse: s-maj=4.0km s-min=3.4km az=133.0*
THE ***25*** *09:05:13.4, 3837N×2201E, h3km, ML3.0*
ISC 25 09:05:13.0±0.5, 3837N±002×**2202E**±003, **h5**km±5km, **n29,** σ**1**§**04**/40, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.53**	**234**	*e*PB	**Pg**	**09 05 22.7**	**-0.6**
RLS	**Riolos of Patr**	**0.53**	**234**	*e*Pn	**Pg**	**09 05 23.1**	**-0.2**
RLS				*e*Sn	**Sg**	**09 05 31.8**	**+1.6**
EVR	**Evrytania**	**0.57**	**344**	*e*Pn	**Pg**	**09 05 23.3**	**-0.7**
EVR				*e*Sn	**Sg**	**09 05 32.2**	**+0.9**
AGG	**Agios Georgios**	**0.70**	**21**	*e*Pg	**Pg**	**09 05 27.1**	**+0.7**
AGG				*e*Sg	**Sg**	**09 05 36.1**	**+0.7**
LKR	**Lokris**	**0.82**	**70**	*e*PG	**Pg**	**09 05 28.7**	**-0.1**
LKR	**Lokris**	**0.82**	**70**	*e*Pb	**Pb**	**09 05 28.6**	**-1.2**
MGER	**Gerania Oros**	**1.05**	**111**	*e*PN	**Pn**	**09 05 33.5**	**-0.9**
MGER	**Gerania Oros**	**1.05**	**111**	*e*Pn	**Pn**	**09 05 34.5**	**+0.1**
LKD	**Levkas**	**1.12**	**288**	*e*Pg	**Pg**	**09 05 33.4**	**-1.2**
LKD				*e*Sg	**Sg**	**09 05 50.7**	**+1.6**
VLS	**Valsamata**	**1.14**	**261**	*e*PN	**Pn**	**09 05 33.4**	**-2.2**
VLS	**Valsamata**	**1.14**	**261**	*e*Pb	**Pb**	**09 05 33.2**	**-2.0**
VLS				*e*Sn	**Sn**	**09 05 51.0**	**-0.6**
ITM	**Ithomi**	**1.19**	**183**	*e*PB	**Pb**	**09 05 35.2**	**-0.9**
THL	**Klokotos Trika**	**1.19**	**360**	⇑*i*PB	**Pb**	**09 05 35.3**	**-0.8**
THL				*e*SB	**Sb**	**09 05 51.9**	**+0.1**
NAIG	**Nisos Aigina**	**1.31**	**117**	*e*PB	**Pb**	**09 05 38.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.31**	**117**	*e*Pn	**Pn**	**09 05 39.0**	**+1.0**
NEO	**Neokhori**	**1.33**	**45**	*e*PG	**Pg**	**09 05 38.0**	**-0.5**
XOR	**Xorichti**	**1.35**	**42**	*e*Pg	**Pg**	**09 05 38.1**	**-0.9**
XOR				*e*Sg	**Sg**	**09 05 57.5**	**+0.9**
ATH	**Athens Observa**	**1.40**	**106**	*e*PB	**Pb**	**09 05 40.0**	**+0.4**
ATH	**Athens Observa**	**1.40**	**106**	*e*Pn	**Pn**	**09 05 41.0**	**+1.8**
PTL	**Penteli**	**1.49**	**102**	*e*PB	**Pb**	**09 05 40.9**	**-0.3**
PTL	**Penteli**	**1.49**	**102**	*e*Pn	**Pn**	**09 05 40.5**	**0.0**
AOS	**Alonnisos**	**1.66**	**61**	*e*Pb	**Pb**	**09 05 42.4**	**-1.7**
AOS				*e*Sb	**Sb**	**09 06 04.8**	**-0.6**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**09 05 44.6**	**-1.3**
LIT				*e*Sb	**Sb**	**09 06 07.7**	**-0.7**
VLI	**Veliai**	**1.81**	**156**	⇑*i*PN	**Pn**	**09 05 45.8**	**+1.0**
VLI	**Veliai**	**1.81**	**156**	*i* Pnu	**Pn**	**09 05 45.8**	**+1.0**
KYTH	**Kithira**	**2.24**	**158**	*e*PN	**Pn**	**09 05 52.0**	**+1.2**
KYTH	**Kithira**	**2.24**	**158**	*e*Pn	**Pn**	**09 05 53.0**	**+2.2**
FNA	**Florina**	**2.46**	**349**	*e*Pn	**Pn**	**09 05 54.6**	**+0.8**
FNA				*e*Sn	**Sn**	**09 06 24.7**	**+0.4**
GRG	**Griva**	**2.60**	**6**	*e*Pn	**Pn**	**09 05 56.5**	**+0.8**
GRG				*e*Sn	**Sn**	**09 06 29.2**	**+1.5**

SZGRF ***25*** *09:17:19.6, 1904S×17389W, h33km, Tonga Islands*
BJI ***25*** *09:17:38.0, 1896S×17546W, h187km, mB5.0, mb4.9*
ISCJB ***25*** *09:17:43.4±1.4, 1918S±005×17588W±006, h231km±12km, mb4.8/37, Error ellipse: s-maj=10.0km s-min=7.3km az=72.3*
IDC ***25*** *09:17:45.5±0.8, 1911S×17592W, h240km±7km, mb4.5/12, mb1 4.6/12, mb1mx4.5/16, mbtmp5.0/12, Error ellipse: s-maj=14.0km s-min=10.5km az=130.0*
NEIC ***25*** *09:17:46.1±0.3, 1919S×17592W, mb5.0/22, Error ellipse: s-maj=11.2km s-min=7.9km az=147.0*
MOS ***25*** *09:17:48.5±2.0, 1806S×17658W, h228km, mb5.0/2, Error ellipse: s-maj=29.4km s-min=20.5km az=125.9*
ISC 25 09:17:45.0±1.4, 1920S±006×**17583W**±006, **h232**km±14km, **h189**km±2.4km;**pP-P, n185,** σ**0**§**90**/91, **mb4.8**/37, **20C-16D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.54**	**37**	P	**Pn**	**09 19 11.1**	**-8.4**
	45nm,0.3s,baz=176,slow=9.1,SNR=27						
AFI				S	**S**	**09 20 16.9**	**-18**
	81nm,0.3s,baz=242,slow=24,SNR=11						
AFI	**Afiamalu**	**6.54**	**37**	*e*Pn	**Pn**	**09 19 11.2**	**-8.4**
AFI				*e*Sn	**S**	**09 20 19.8**	**-15**
RAO	**Raoul Island**	**10.18**	**190**	Pn	**Pn**	**09 20 05.0**	**-1.0**
	222nm,0.3s						
RAR	**Rarotonga**	**15.21**	**100**	P	**Pn**	**09 21 12.3**	**+4.0**
	3.0nm,0.3s,baz=346,slow=7.2,SNR=6.8						
DZM	**Mont Dzumac**	**16.83**	**257**	*e*P	**P**	**09 21 29.9**	**+4.0**
DZM	**Mont Dzumac**	**16.83**	**257**	P	**P**	**09 21 29.6**	**+3.7**
	2.0nm,0.3s,baz=85,slow=15,SNR=20						
PUZ	**Puketiti**	**19.50**	**194**	PN	**P**	**09 21 55.5**	**+0.8**
MWZ	**Matawai**	**19.92**	**195**	*e*PN	**P**	**09 21 59.0**	**-0.2**
URZ	**Urewera**	**19.96**	**196**	P	**P**	**09 21 59.2**	**-0.4**
	32nm,0.3s,baz=33,slow=4.4,SNR=50						
URZ				S	**S**	**09 25 25.9**	**-5.2**
	5.4nm,0.4s,baz=49,slow=19,SNR=9.0						
URZ	**Urewera**	**19.96**	**196**	*e*PN	**P**	**09 21 58.9**	**-0.7**
BKZ	**Black Stump Fm**	**20.98**	**197**	PN	**P**	**09 22 08.3**	**-2.0**
QRZ	**Quartz Range**	**23.75**	**202**	PN	**P**	**09 22 37.1**	**+0.9**
NNZ	**Nelson**	**23.80**	**200**	PN	**P**	**09 22 36.0**	**-0.8**
THZ	**Tophouse**	**24.45**	**201**	PN	**P**	**09 22 43.2**	**+0.6**
TBI	**Tubuai**	**24.91**	**104**	*e*T		09 47 17.6	
	7.3nm,0.2s						
PAE	**Paea**	**24.95**	**91**	*e*T		09 47 17.6	
	31nm,0.2s						
PPT	**Papeete**	**24.96**	**91**	*e*LR	LR	09 27 53.9	
	168nm,26.8s						
PPT	**Papeete**	**24.96**	**91**	*e*T		09 47 18.9	
	2.2nm,0.2s						
HNR	**Honiara**	**25.37**	**289**	P	**P**	**09 22 50.0**	**-0.8**
	77nm,0.8s,mb5.4,baz=94,slow=19,SNR=3.6						
HNR	**Honiara**	**25.37**	**289**	*e*P	**P**	**09 22 51.0**	**+0.1**
	95nm,0.8s,mb5.5						
RPZ	**Rata Peaks**	**26.81**	**201**	P	**P**	**09 23 03.5**	**-0.2**
	10nm,0.4s,mb4.8,baz=333,slow=2.7,SNR=13						
ARMA	**Armidale**	**31.47**	**243**	*e*P	**P**	**09 23 46.0**	**+1.1**
CNB	**Canberra Magne**	**34.64**	**235**	*e*P	**P**	**09 24 12.8**	**+0.5**
	51nm,1.1s,mb5.0						
CTA	**Charters Tower**	**35.67**	**262**	⇓*i*P	**P**	**09 24 21.5**	**+0.5**
	100nm,0.8s,mb5.4						
CTAO	**Charters Tower**	**35.67**	**262**	*e*P	**P**	**09 24 21.8**	**+0.7**
	100nm,0.7s,mb5.5						
PMG	**Port Moresby**	**37.09**	**280**	*d*iP	**P**	**09 24 33.6**	**+0.6**
PMG	**Port Moresby**	**37.09**	**280**	*e*P	**P**	**09 24 33.7**	**+0.7**
RKT	**Rikitea**	**38.22**	**103**	*e*T		10 03 55.0	
	1.9nm,0.2s						
STKA	**Stephens Creek**	**40.19**	**243**	*e*P	**P**	**09 24 57.9**	**-0.8**
	15nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**40.19**	**243**	P	**P**	**09 24 59.5**	**+0.8**
	17nm,0.9s,mb4.5,baz=80,slow=8.6,SNR=18						
STKA	**Stephens Creek**	**40.19**	**243**	*e*P	**P**	**09 24 59.5**	**+0.7**
WB2	**Warramunga Arr**	**46.80**	**260**	⇓*i*P	**P**	**09 25 50.8**	**-0.6**
WRAB	**Tennant Creek**	**46.80**	**260**	P	**P**	**09 25 50.9**	**-0.5**
	326nm,0.6s,mb5.8,SNR=39						
WRAB	**Tennant Creek**	**46.80**	**260**	*d*iP	**P**	**09 25 50.9**	**-0.5**
WRAB	**Tennant Creek**	**46.80**	**260**	*e*P	**P**	**09 25 50.9**	**-0.5**
	76nm,1.1s,mb4.9						
AS31	**Alice Springs**	**46.81**	**255**	⇓*i*P	**P**	**09 25 51.3**	**-0.1**
AS31				*e*S	**S**	**09 32 23.1**	**-0.5**
ASAR	**Alice Springs**	**46.81**	**255**	P	**P**	**09 25 51.5**	**0.0**
	132nm,0.8s,mb5.3,baz=88,slow=8.4,SNR=707						
ASAR				PcP	PcP	09 27 20.9	+0.3
	4.7nm,0.8s,baz=92,slow=4.5,SNR=5.4						
ASAR				S	**S**	**09 32 22.9**	**-0.7**
	3.1nm,0.9s,baz=90,slow=15,SNR=16						
ASPA	**Alice Springs**	**46.81**	**255**	⇓*i*P	**P**	**09 25 51.3**	**-0.2**
ASPA				*e*S	**S**	**09 32 23.1**	**-0.6**
WRA	**Warramunga Arr**	**46.81**	**260**	P	**P**	**09 25 51.0**	**-0.5**
	28nm,0.7s,mb4.7,baz=93,slow=7.9,SNR=276						
WRA				S	**S**	**09 32 21.5**	**-2.2**
	1.1nm,0.9s,baz=93,slow=13,SNR=4.6						
KAKA	**Kakadu**	**50.01**	**269**	⇓*i*P	**P**	**09 26 15.4**	**-0.4**
	72nm,0.6s,mb5.2						
GUMO	**Guam**	**50.59**	**307**	P	**P**	**09 26 19.7**	**-0.4**
	89nm,1.0s,mb5.2,baz=89,slow=6.4,SNR=3.7						
FORT	**Forrest**	**51.68**	**246**	⇑*i*P	**P**	**09 26 27.6**	**-0.6**
	42nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**55.23**	**261**	*e*P	**P**	**09 26 53.3**	**-0.7**
	30nm,0.6s,mb5.0						
SBA	**Scott Base**	**59.30**	**184**	*e*P	**P**	**09 27 23.9**	**+1.5**
	8.9nm,0.8s,mb4.5						
VNDA	**Vanda**	**59.38**	**186**	P	**P**	**09 27 24.1**	**+1.1**
	4.0nm,0.8s,mb4.1,baz=5.2,slow=6.3,SNR=29						
MBWA	**Marble Bar**	**60.13**	**256**	*e*P	**P**	**09 27 27.7**	**-0.4**
	29nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**60.45**	**244**	⇑*i*P	**P**	**09 27 29.8**	**-0.4**
	47nm,0.9s,mb5.1						
MJAR	**Matsushiro Arr**	**70.41**	**322**	P	**P**	**09 28 33.1**	**-0.8**
	34nm,0.8s,mb5.1,baz=157,slow=5.7,SNR=82						
MAJO	**Matsushiro**	**70.41**	**322**	*e*P	**P**	**09 28 33.2**	**-0.6**
	44nm,0.8s,mb5.1						
MAT	**Matsushiro**	**70.41**	**322**	P	**P**	**09 28 33.2**	**-0.7**
QSPA	**South Pole Qui**	**70.86**	**180**	*e*P	**P**	**09 28 37.1**	**+0.5**
	17nm,1.0s,mb4.6						
KSM	**Kuching**	**75.27**	**277**	*e*P	**P**	**09 29 03.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**75.68**	**332**	*i* P	**P**	**09 29 04.5**	**-0.2**
YSS				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.9						
KS15	**Wonju Array Si**	**77.31**	**317**	*e*P	**P**	**09 29 14.8**	**+1.0**
NVAR	**Mina Array Bea**	**78.69**	**43**	P	**P**	**09 29 20.9**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.8,baz=229,slow=7.9,SNR=7.5						
NVAR				pP	pP	09 30 18.0	+1.5
	comp=Z,1.5nm,0.8s,baz=237,slow=13,SNR=3.1						
TUC	**Tucson**	**80.58**	**51**	*e*P	**P**	**09 29 31.6**	**+0.1**
MDJ	**Mudanjiang**	**80.65**	**324**	P	**P**	**09 29 32.8**	**+0.9**
MDJ				AP	pP	09 30 17.0	-10
MDJ				XP	sP	09 30 36.0	-16
MDJ				PP	PP	09 32 40.5	+1.5
MDJ				S	S	09 39 28.3	+8.8
MDJ				XS	sS	09 40 42.5	-14
MDJ				SS	SS	09 44 41.0	+3.3
MDJ				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.5						
MDJ	**Mudanjiang**	**80.65**	**324**	*e*P	**P**	**09 29 32.5**	**+0.6**
	comp=Z,15nm,0.9s,mb4.6						
CN2	**Changchun**	**82.54**	**321**	⇑P	**P**	**09 29 42.5**	**+0.7**
CN2				*e*AP	pP	09 30 29.0	-8.5
CN2				*e*S	S	09 39 42.0	+3.2
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MSU	**Marysvale**	**82.75**	**45**	*e*P	**P**	**09 29 43.2**	**+0.3**
COCO	**West Island**	**83.59**	**259**	*e*P	**P**	**09 29 49.6**	**+2.5**
TMUT	**Trail Mountain**	**83.80**	**45**	*e*P	**P**	**09 29 48.6**	**+0.4**
SRU	**San Rafael**	**84.16**	**45**	*e*P	**P**	**09 29 49.5**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.3						
LENM	**Lemitar**	**84.27**	**51**	*e*P	**P**	**09 29 51.0**	**+0.4**
MNTX	**Cornudas Mount**	**84.34**	**54**	*e*P	**P**	**09 29 50.9**	**-0.1**
	comp=Z,7.5nm,0.9s,mb4.4						
LPM	**Los Pinos Moun**	**84.59**	**51**	*e*P	**P**	**09 29 52.4**	**+0.2**
TXAR	**Lajitas Array**	**84.64**	**57**	P	**P**	**09 29 52.4**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.0,baz=214,slow=7.4,SNR=27						
TXAR	**Lajitas Array**	**84.64**	**57**	P	**P**	**09 29 52.4**	**0.0**
ANMO	**Albuquerque**	**85.01**	**51**	⇓*e*P	**P**	**09 29 51.3**	**-3.0**
ANMO	**Albuquerque**	**85.01**	**51**	*e*P	**P**	**09 29 54.4**	**+0.1**
GDL2	**Guadalupe Moun**	**85.34**	**54**	*e*P	**P**	**09 29 56.5**	**+0.6**
SEY	**Seymchan**	**85.60**	**346**	⇑*e*P	**P**	**09 29 56.0**	**-1.2**
BJI	**Beijing**	**86.42**	**315**	*e*P	**P**	**09 30 01.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
BJI	**Beijing**	**86.42**	**315**	*e*P	**P**	**09 30 01.8**	**+0.6**
	comp=Z,21nm,1.0s,mb4.8						
COLA	**College**	**86.52**	**12**	*i* P	**P**	**09 29 59.0**	**-2.7**
PDAR	**Pinedale Array**	**86.63**	**42**	P	**P**	**09 30 01.0**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=248,slow=0.8,SNR=3.4						
PDAR				pP	pP	09 30 59.4	+1.0
	comp=Z,1.4nm,0.8s,baz=253,slow=3.1,SNR=6.5						
GYA	**Guiyang**	**87.80**	**299**	⇑*i*P	**P**	**09 30 08.8**	**+1.0**
GYA				AP	pP	09 30 56.0	-8.1
GYA				XP	sP	09 31 15.5	-13
GYA				PP	PP	09 33 40.3	+3.3
GYA				SKS		09 40 17.3	
GYA				S	S	09 40 34.3	+4.1
GYA				XS	sS	09 41 55.5	-14
GYA				PS	PS	09 42 03.5	+0.1
GYA				SS	SS	09 46 29.0	+6.3
GYA				SSS		09 50 02.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,430nm,19.7s						
GYA				LR	LR		
	comp=E,410nm,20.4s						
GYA				LR	LR		
	comp=Z,460nm,20.6s						
XAN	**Xi'an**	**88.98**	**307**	P	**P**	**09 30 14.3**	**+1.0**
XAN				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
SNAA	**Sanae**	**89.23**	**178**	*e*P	**P**	**09 30 13.5**	**-1.0**
	comp=Z,6.6nm,1.3s,mb4.3						
HHC	**Hu-ho-hao-te**	**89.92**	**314**	*e*P	**P**	**09 30 19.0**	**+1.3**
HHC				PP	PP	09 33 57.8	+3.9
HHC				S	S	09 40 51.8	+1.8
HHC				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,112nm,3.7s						
KMI	**Kunming**	**90.59**	**296**	P	**P**	**09 30 22.5**	**+1.7**
KMI				AP	pP	09 31 10.3	-7.1
KMI				S	S	09 40 58.8	+2.7
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
KMI				LR	LR		
	comp=Z,27nm,27.1s						
KMI	**Kunming**	**90.59**	**296**	P	**P**	**09 30 22.6**	**+1.8**
	comp=Z,12nm,0.7s,mb4.9						
KMI				pP	pP	09 31 10.3	-7.1
KMI				S	S	09 40 58.7	+2.6
KMI				LR	LR		
	comp=Z,30nm,27.1s						
CD2	**Chengdu**	**91.82**	**302**	*e*P	**P**	**09 30 26.3**	**-0.2**
CD2				AP	pP	09 31 13.8	-9.3
CD2				XP	sP	09 31 33.5	-14
CD2				PP	PP	09 34 10.5	+1.7
CD2				SKS		09 40 39.0	
CD2				S	S	09 41 07.8	+0.7
CD2				XS	sS	09 42 31.0	-16
CD2				SS	SS	09 47 23.8	+3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,10.2s						
LZH	**Lanzhou**	**93.61**	**307**	*e*P	**P**	**09 30 35.5**	**+0.7**
LZH				AP	pP	09 31 21.0	-10
LZH				XP	sP	09 31 40.0	-16
LZH				*e*PP	PP	09 34 25.5	+2.7
LZH				SKS		09 40 45.5	
LZH				*e*S	S	09 41 25.3	+2.4
LZH				XS	sS	09 42 47.5	-16
LZH				PS	PS	09 43 10.3	+2.7
LZH				*e*SS	SS	09 47 52.5	+6.2
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,95nm,9.2s						
LZH				LR	LR		
	comp=N,306nm,15.3s						
LZH				LR	LR		
	comp=Z,537nm,18.6s						
LZH	**Lanzhou**	**93.61**	**307**	*e*P	**P**	**09 30 35.5**	**+0.7**
	comp=Z,19nm,1.3s,mb5.0						
LZH				pP	pP	09 31 21.0	-10
LZH				sP	sP	09 31 40.0	-16
LZH				*e*PP	PP	09 34 25.6	+2.8
LZH				SKS		09 40 45.4	
LZH				*e*S	S	09 41 25.2	+2.3
LZH				sS	sS	09 42 47.5	-16
LZH				PS	PS	09 43 10.3	+2.7
LZH				*e*SS	SS	09 47 52.6	+6.3
LZH				LR	LR		
	comp=Z,540nm,18.6s						
ULN	**Ulaanbaatar**	**95.73**	**319**	*c iP*	**P**	**09 30 44.5**	**+0.1**
ULN	**Ulaanbaatar**	**95.73**	**319**	*e*P	**P**	**09 30 44.3**	**-0.2**
	comp=Z,6.7nm,1.1s,mb4.8						
SONM	**Songino Array**	**96.13**	**319**	P	**P**	**09 30 46.5**	**+0.3**
	comp=Z,1.6nm,1.0s,mb4.2,baz=124,slow=4.1,SNR=7.8						
TIXI	**Tiksi**	**98.03**	**345**	⇑*e*P	**P**	**09 30 52.4**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.8						
ALLY	**Alegheny Colle**	**106.66**	**51**	*e*Pdif	Pdif	09 31 39.4	+6.2
WMQ	**Urumqi**	**107.62**	**311**	PDIF	Pdif	09 31 40.0	+2.6
WMQ				*e*PP	PP	09 36 12.0	+3.8
WMQ				PP	PP		
	comp=Z,97nm,7.3s						
WMQ				LR	LR		
	comp=N,212nm,22.5s						
WMQ				LR	LR		
	comp=E,156nm,21.0s						
WMQ				LR	LR		
	comp=Z,142nm,21.6s						
MKAR	**Makanchi Array**	**111.79**	**314**	PKiKP	PKiKP	09 35 50.0	-2.0
	comp=Z,0.5nm,0.5s,baz=80,slow=1.6,SNR=9.0						
MKAR	**Makanchi Array**	**111.79**	**314**	*i* PKIKP	PKiKP	09 35 50.4	-1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**125.27**	**326**	*i* PKIKP	PKPdf	09 36 16.8	-1.1
ARU				*e*		09 38 09.7	
ARU				*e*		09 43 01.8	
ARU				*e*SS	SS	09 54 58.0	+8.4
ARCES	**ARCESS Array B**	**128.00**	**351**	PKP	PKPdf	09 36 21.2	-1.9
	comp=Z,2.3nm,0.5s,baz=25,slow=1.7,SNR=24						
FINES	**FINESS Array B**	**135.07**	**345**	PKP	PKPdf	09 36 35.9	-0.5
	comp=Z,1.1nm,0.6s,baz=42,slow=4.3,SNR=3.8						
FINES	**FINESS Array B**	**135.07**	**345**	*i* PKIKP	PKPdf	09 36 32.7	-3.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**135.07**	**345**	PKP	PKPdf	09 36 35.9	-0.5
NB2	**NORSAR Subarra**	**137.91**	**355**	PKP	PKPdf	09 36 42.1	+0.4
	comp=Z,1.0nm,0.7s,baz=19,slow=4.0						
NOA	**NORSAR Array B**	**137.91**	**355**	PKP	PKPdf	09 36 42.0	+0.3
	comp=Z,0.9nm,0.7s,baz=55,slow=2.3,SNR=4.0						
NOA	**NORSAR Array B**	**137.91**	**355**	PKP	PKPdf	09 36 42.0	+0.2
AKASG	**Malin Array Be**	**142.82**	**334**	PKhKP		09 36 43.6	
	comp=Z,0.6nm,0.3s,baz=38,slow=3.8,SNR=8.1						
AKASG				PKP	PKPdf	09 36 51.2	+0.6
	comp=Z,1.3nm,0.5s,baz=36,slow=3.2,SNR=3.8						
AKASG	**Malin Array Be**	**142.82**	**334**	*i* PKHKP		09 36 45.7	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**142.82**	**334**	PKP	PKPdf	09 36 43.6	-7.0
AKASG				PKP	PKPdf	09 36 51.2	+0.6
SIM	**Simferopol'**	**144.26**	**323**	*i* PKHKP		09 36 51.8	
SIM				pmax	pmax		
	comp=Z,31nm,0.7s						
BSEG	**Bad Segeberg**	**145.01**	**354**	*e*PKPbc	PKPbc	09 36 52.9	-1.4
LVV	**L'vov**	**145.57**	**337**	*e*PKHKP		09 36 54.3	
LVV				*i*		09 37 00.0	
KWP	**Kalwaria**	**146.20**	**338**	*e*PKPdf	PKPdf	09 36 57.2	+0.8
KWP				*e*PKPbc	PKPbc	09 36 59.2	+1.3
KWP				*e*PKPab	PKPab	09 37 00.4	+1.3
NRDL	**Niedersach Rie**	**146.45**	**353**	*e*PKPbc	PKPbc	09 36 57.2	-1.4
OJC	**Ojcow**	**146.64**	**342**	*e*PKP	PKPdf	09 36 58.4	+1.2
BURAR	**Bucovina Array**	**146.88**	**334**	⇓*i*P	PKPdf	09 36 59.6	+2.0
BURAR	**Bucovina Array**	**146.88**	**334**	⇓P	PKPdf	09 36 59.6	+2.0
KOLS	**Kolonicke sedl**	**146.94**	**338**	*e*PKP	PKPdf	09 36 59.8	+2.1
KSP	**Ksiaz**	**147.00**	**346**	*e*PKIKP	PKPdf	09 36 59.5	+1.7
CLZ	**Clausthal**	**147.06**	**353**	*e*PKPbc	PKPbc	09 36 57.3	-3.0
NIE	**Niedzica**	**147.18**	**340**	*e*PKP	PKPdf	09 37 00.8	+2.7
UZH	**Uzhgorod**	**147.19**	**338**	⇑*e*PKIKP

ISP	Isparta	150.48	315	*e*PKPdf	PKPbc	09 37 08.2	-0.8
PKSM	Moragy	150.54	339	⇑*i*P	PKPbc	09 37 08.4	-0.7
PKSM	Moragy	150.54	339	⇑P	PKPbc	09 37 08.4	-0.6
GRR	Gorron	150.60	7	*e*PKP1	PKPbc	09 37 08.1	-1.1
	comp=Z,11nm,0.6s						
CDF	Champ du Feu	150.75	356	*e*PKP1	PKPbc	09 37 08.8	-0.8
	comp=Z,21nm,0.9s						
KBA	Koelnbreinsper	151.20	347	⇓*i*P	PKPbc	09 37 10.2	-0.4
	comp=Z,6.0nm,0.6s						
HAU	Haudompre	151.21	357	*e*PKP1	PKPbc	09 37 09.7	-1.0
	comp=Z,13nm,0.6s						
WATA	Walderalm	151.29	349	⇑*i*P	PKPbc	09 37 10.2	-0.7
	comp=Z,2.9nm,0.7s						
WTTA	Wattenberg	151.35	349	⇑*i*P	PKPbc	09 37 10.7	-0.3
	comp=Z,16nm,0.5s						
HINF	Hinteralfeld	151.37	356	*e*PKP1	PKPbc	09 37 09.8	-1.2
SQTA	Sankt Quirin	151.47	350	⇑*i*P	PKPbc	09 37 10.8	-0.4
	comp=Z,2.9nm,0.7s						
VTS	Vitosha	151.66	330	⇑*i*P	PKPbc	09 37 11.5	-0.2
VTS	Vitosha	151.66	330	⇑P	PKPbc	09 37 11.5	-0.2
LJU	Ljubljana	151.90	345	*e*PKPbc	PKPbc	09 37 11.3	-0.9
LOR	Lormes	152.01	0	*e*PKP1	PKPbc	09 37 11.5	-1.0
	comp=Z,6.9nm,0.6s						
VOJS	Vojsko	152.07	345	*e*PKPbc	PKPbc	09 37 11.3	-1.3
JAVS	Javornik	152.15	345	*e*PKPbc	PKPbc	09 37 11.7	-1.1
JAVS				*e*		09 37 21.8	
BOJS	Bojanci	152.21	343	*e*PKPbc	PKPbc	09 37 12.4	-0.5
SSF	Saint Saulge	152.21	1	*e*PKP1	PKPbc	09 37 12.1	-0.8
	comp=Z,11nm,0.8s						
AVF	Avril sur Loir	152.48	1	*e*PKP1	PKPbc	09 37 12.2	-1.3
CABF	La Chapelle	152.62	357	*e*PKP1	PKPbc	09 37 13.3	-0.5
SMF	Signal de Mont	152.63	0	*e*PKP1	PKPbc	09 37 13.0	-0.8
	comp=Z,8.2nm,0.7s						
BGF	Bois d'Agland	152.70	2	*e*PKP1	PKPbc	09 37 13.1	-0.9
	comp=Z,13nm,0.7s						
TCF	Toulx Ste Croi	152.94	3	*e*PKP1	PKPbc	09 37 13.4	-1.1
	comp=Z,4.8nm,0.7s						
MBDF	Montbardon	154.46	356	*e*PKP1	PKPbc	09 37 17.2	-0.6
	comp=Z,5.3nm,0.7s						
TORD	Torodi Ar. Bea	173.53	158	PKP	PKPdf	09 37 25.5	-0.8
	comp=Z,0.8nm,0.9s,baz=259,slow=3.4,SNR=4.0						
TORD				pPKP	pPKPdf	09 38 29.1	+2.8
	comp=Z,1.0nm,0.4s,baz=255,slow=5.6,SNR=7.4						
TORD				PKPab	PKPab	09 38 57.6	+0.7
	comp=Z,1.1nm,0.7s,baz=220,slow=4.1,SNR=5.2						

CSEM ***25*** *09:32:57.8±0.1, 3075N×3504E, h1km, ML2.4, Error ellipse: s-maj=1.7km s-min=0.9km az=83.0, Mining explosion.*
GII ***25*** *09:32:57.7±0.2, 3076N×3503E, h0km, ML2.4/8*
ISCJB ***25*** *09:32:58.1±0.4, 3074N±002×3505E±004, h0km, Error ellipse: s-maj=5.5km s-min=3.3km az=15.3*
HLW ***25*** *09:32:58.1, 3082N×3504E, h11km, Mb2.7*

ISC 25 09:32:58.6±0.4, 3075N±002×3504E±004, h0km, n27, σ0°91/30, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	Zfri	0.23	148	Pg	Pg	09 33 03.1	+0.2
RMNI	Mount Ramon	0.28	238	Pg	Pg	09 33 04.6	+0.7
MASH	Mash'abbe Sade	0.33	319	Pg	Pg	09 33 05.0	+0.1
PRNI	Paran	0.39	184	Pg	Pg	09 33 06.6	+0.5
PRNI				Sg	Sg	09 33 13.6	+2.4
SVTA	Shivta	0.41	297	Pg	Pg	09 33 06.6	+0.3
RTMI	Retamim	0.43	316	Pg	Pg	09 33 06.8	0.0
KZIT	Kziot	0.57	286	Pg	Pg	09 33 09.8	+0.2
KZIT				Sg	Sg	09 33 18.9	+1.8
YTIR	Yattir	0.62	6	Pg	Pg	09 33 10.4	-0.1
MZDA	Masada	0.63	26	Pg	Pg	09 33 10.1	-0.5
MZDA				Sg	Sg	09 33 20.4	+1.6
KMTI	Karmit	0.69	203	Pg	Pg	09 33 12.0	+0.2
HRFI	Mount Harif	0.71	180	Pg	Pg	09 33 12.1	0.0
AMAZ	Amatzia	0.79	352	Pg	Pg	09 33 13.9	+0.1
DSI	Dead Sea	0.87	19	Pg	Pg	09 33 16.4	+1.1
DRGI	Dragot	0.90	20	Pg	Pg	09 33 15.7	-0.1
MBH	Mount Berech	0.95	186	Pg	Pg	09 33 17.4	+0.5
AQBJ	Aqaba	1.01	179	Pg	Pg	09 33 17.9	-0.1
EIL	Elat	1.07	184	Pg	Pg	09 33 19.7	+0.5
HNKL	Nakhl	1.22	229	P	Pg	09 33 21.4	-0.7
HBST	Basata	1.55	190	P	Pn	09 33 26.6	-0.7
HBST	Basata	1.55	190	P	Pn	09 33 26.6	-0.8
HMDT	Nahal Hemdat	1.56	15	Pn	Pn	09 33 26.3	-1.3
AMAG	Maghara	1.58	267	P	Pn	09 33 26.4	-1.5
MMLI	Mount Malkishu	1.72	11	Pn	Pn	09 33 28.9	-0.9
MMLI	Mount Malkishu	1.72	11	Pn	Pn	09 33 28.8	-0.9
SUZ		2.11	245	P	Pn	09 33 33.7	-1.4
HKAT	Jabal Katrina	2.39	203	P	Pn	09 33 38.2	-0.9
TR2		2.62	206	P	Pn	09 33 40.5	-1.6

NEIC ***25*** *09:42:35.6, 1554N×9731W, h20km, MD4.4(MEX), After MEX.*

MEX 25 09:42:36.0±0.8, 1556N×9732W, h28km±13km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.14	317	*e*P	Pn	09 42 54.0	-2.1
PNIG				*i*S	Sn	09 43 07.1	-3.6
HUIG	Huatulco	1.19	80	*i*P	Pn	09 42 54.0	-2.8
HUIG				*i*S	Sn	09 43 09.2	-2.8
VHO	Vista Hermosa	1.61	20	*e*P	Pn	09 43 00.4	-2.1
VHO				*i*S	Sn	09 43 19.5	-2.9
OXX	Oaxaca	1.62	21	*i*P	Pn	09 43 01.2	-1.5
OXX				*i*S	Sn	09 43 20.0	-2.7
OXX	Oaxaca	1.62	21	*i*P	Pn	09 43 01.2	-1.5
OXX				*i*S	Sn	09 43 20.7	-2.0
UTMO	Huajuapan	2.31	348	*e*P	Pn	09 43 11.1	-1.1
UTMO				*i*S	Sn	09 43 37.9	-1.8
CMIG	Matias Romero	2.79	57	*i*P	Pn	09 43 16.3	-2.5
CMIG				*i*S	Sn	09 43 48.9	-2.7
CMIG	Matias Romero	2.79	57	*i*P	Pn	09 43 16.1	-2.8
CMIG				*i*S	Sn	09 43 48.0	-3.6
ACX	Acapulco	2.81	298	*i*P	Pn	09 43 16.0	-3.1
TPIG	Tehuac#an	2.85	359	*e*P	Pn	09 43 18.6	-1.0
TPIG				*i*S	Sn	09 43 50.8	-2.2
CAIG	El Cayaco	3.19	298	*e*P	Pn	09 43 24.6	+0.2
CAIG				*i*S	Sn	09 43 57.6	-4.0
CAIG	El Cayaco	3.19	298	*i*P	Pn	09 43 24.4	0.0
CAIG				*i*S	Sn	09 43 57.6	-4.0
MEIG	Mezcala	3.23	317	*e*P	Pn	09 43 23.6	-1.2
MEIG				*i*S	Sn	09 43 59.6	-2.7
PLIG	Platanillo	3.51	324	*e*P	Pn	09 43 28.5	-0.2
PLIG				*i*S	Sn	09 44 07.0	-2.3
PLIG	Platanillo	3.51	324	*e*P	Pn	09 43 33.9	+5.2
PLIG				*i*S	Sn	09 44 19.0	+10
YAIG	Yautepec	3.69	333	*e*P	Pn	09 43 31.4	+0.2
YAIG				*i*S	Sn	09 44 12.4	-1.2
YAIG	Yautepec	3.69	333	*e*P	Pn	09 43 36.9	+5.8
YAIG				*i*S	Sn	09 44 25.0	+11
PPM	Popocatepetl	3.71	341	*e*P	Pn	09 43 33.2	+1.8
PPM				*i*S	Sn	09 44 14.5	+0.3
PPM	Popocatepetl	3.71	341	*i*P	Pn	09 43 36.7	+5.3
PPM				*i*S	Sn	09 44 26.1	+12
TUIG	Tuzandepetl	3.71	48	*i*S	Sn	09 44 13.6	-0.7
UNM	Universidad Na	4.15	335	*i*S	Sn	09 44 24.2	-0.9
IIO	Organos	4.23	342	*e*P	Pn	09 43 48.0	+9.4
IIO				*i*S	Sn	09 44 28.6	+1.6
SZVM	Salazar	4.23	333	*e*P	Pn	09 43 37.5	-1.1
SZVM				*i*S	Sn	09 44 25.8	-1.3
LVIG	Laguna Verde	4.23	12	*i*P	Pn	09 43 41.3	+2.7
LVIG				*i*S	Sn	09 44 24.9	-2.3
LVIG	Laguna Verde	4.23	12	*i*P	Pn	09 43 48.8	+10
LVIG				*i*S	Sn	09 44 33.6	+6.5
ZIIG	Zihuatanejo	4.47	298	*i*S	Sn	09 44 29.1	-3.8
CCIG	Comitan	5.04	81	*i*P	Pn	09 43 49.2	-0.5
CCIG				*i*S	Sn	09 44 46.8	-0.2
CCIG	Comitan	5.04	81	*i*P	Pn	09 43 49.2	-0.5
CCIG				*i*S	Sn	09 44 42.5	-4.6
MOIG	Morelia	5.51	319	*e*P	Pn	09 43 56.8	+0.5
MOIG				*i*S	Sn	09 44 57.4	-1.4
MOIG	Morelia	5.51	319	*e*P	Pn	09 44 03.9	+7.6
MOIG				*i*S	Sn	09 45 12.0	+13
MMIG	Aquila	6.38	296	*i*P	Pn	09 44 07.9	-0.2
MMIG				*i*S	Sn	09 45 18.8	-1.2
TEIG	Tepich	9.78	60	*i*P	Pn	09 44 52.5	-2.3
TEIG				*i*S	Sn	09 46 39.8	-3.9
TEIG	Tepich	9.78	60	*i*P	Pn	09 44 53.7	-1.1

NEIC ***25*** *09:45:22.4, 3840N×2180E, h25km, MD3.4(ATH), After ATH.*
CSEM ***25*** *09:45:22.9±0.1, 3838N×2183E, h2km, MD3.4, Error ellipse: s-maj=2.5km s-min=2.3km az=113.0*
ATH ***25*** *09:45:22.3, 3841N×2177E, h27km, MD3.4/10*
ISCJB ***25*** *09:45:23.4±0.9, 3832N±004×2182E±004, h14km±7km, Error ellipse: s-maj=6.0km s-min=4.8km az=141.3*
THE ***25*** *09:45:23.2, 38.11N×2190E, h20km, ML3.0*

ISC 25 09:45:24.0±0.6, 3831N±003×2183E±004, h21km±8km, n23, σ1°36/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.38	229	*e*PB	Pb	09 45 31.3	-0.7
RLS				*e*SB	Sb	09 45 38.5	+1.0
RLS	Riolos of Patr	0.38	229	*e*Pb	Pb	09 45 31.3	-0.7
RLS				*e*Sb	Sb	09 45 38.7	+1.2
EVR	Evrytania	0.61	358	*e*PN	Pn	09 45 32.9	-4.5
AGG	Agios Georgios	0.81	29	*e*Pg	Pb	09 45 40.5	+1.0
AGG				*e*Sg	Sb	09 45 52.2	+2.2
LKR	Lokris	0.98	69	*e*PN	Pn	09 45 41.4	-1.1
LKR	Lokris	0.98	69	*e*Pn	Pn	09 45 41.1	-1.4
VLS	Valsamata	0.98	263	*e*Pn	Pn	09 45 41.2	-1.3
VLS				*e*Sn	Sn	09 45 56.8	+1.0
LKD	Levkas	1.01	294	*e*Pg	Pb	09 45 41.1	-1.6
LKD				*e*Sg	Sb	09 45 57.9	+2.4
ITM	Ithomi	1.13	176	*e*PB	Pb	09 45 44.3	-0.5
ITM	Ithomi	1.13	176	*e*Pb	Pb	09 45 44.5	-0.3
MGER	Gerania Oros	1.17	105	*e*PN	Pn	09 45 45.7	+0.6
MGER	Gerania Oros	1.17	105	*e*Pn	Pn	09 45 45.5	+0.4
THL	Klokotos Trika	1.27	6	*e*PN	Pn	09 45 44.6	-1.8
THL	Klokotos Trika	1.27	6	*e*Pn	Pn	09 45 45.2	-1.2
NAIG	Nisos Aigina	1.42	112	*e*PN	Pn	09 45 49.7	+1.2
NAIG	Nisos Aigina	1.42	112	*e*Pn	Pn	09 45 50.5	+2.0
XOR	Xorichti	1.50	45	*e*Pb	Pb	09 45 49.3	-1.8
XOR				*e*Sb	Sb	09 46 09.6	-0.1
IGT	Igoumenitsa	1.69	317	*e*Pb	Pb	09 45 53.2	-1.2
IGT				*e*Sb	Sb	09 46 16.1	+0.8
VLI	Veliai	1.81	151	*e*PB	Pb	09 45 55.5	-1.0
VLI	Veliai	1.81	151	*e*Pn	Pn	09 45 56.0	+2.1
LIT	Litokhoron	1.86	16	*e*Pn	Pn	09 45 55.8	+1.2
KEK	Kerkira	2.12	312	*e*PN	Pn	09 45 56.3	-1.8
KEK	Kerkira	2.12	312	*e*Pn	Pn	09 45 55.9	-2.2

ISCJB ***25*** *09:45:30.4±2.3, 4051N±008×206E±0.1, h1km±13km, Error ellipse: s-maj=15.9km s-min=11.4km az=84.0*
SKO ***25*** *09:45:32.7, 4054N×2062E, h0km, M0.4, ML2.2*
THE ***25*** *09:45:34.0, 4061N×2070E, h10km, ML2.9*
CSEM ***25*** *09:45:34.4±0.7, 4068N×2067E, h2km, ML2.9, Error ellipse: s-maj=12.4km s-min=6.6km az=59.0*

ISC 25 09:45:30.6±2.6, 4050N±010×205E±01, h11km±13km, n7, σ0°40/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.64	18	*e*Pg	Pg	09 45 43.6	+0.7
OHR				*e*Sg	Sg	09 45 51.2	-0.1
OHR	Ohrid	0.64	18	*e*Pg	Pg	09 45 43.6	+0.6
OHR				*e*Sg	Sg	09 45 50.7	-0.6
OHR				*e*Lg		09 45 51.3	
	comp=E,110nm,0.5s						
OHR				*e*Lg		09 45 51.5	
	comp=N,66nm,0.4s						
OHR	Ohrid	0.64	18	*e*Pg	Pg	09 45 43.5	+0.5
OHR				*e*Sg	Sg	09 45 51.2	-0.1
FNA	Florina	0.69	66	*e*Pg	Pg	09 45 43.6	-0.4
FNA				*e*Sg	Sg	09 45 52.7	-0.4
KRUS	Krusevo	1.02	32	*e*Pg	Pg	09 45 49.8	-0.3
KRUS				*e*Sg	Sg	09 46 03.6	+0.2
GRG	Griva	1.48	72	*e*Pg	Pg	09 45 59.0	-0.1
GRG				*e*Sg	Sg	09 46 19.1	+0.7
KNT	Kendrikon	1.91	69	*e*Pb	Pb	09 46 05.5	+0.2
KNT				*e*Sb	Sb	09 46 29.0	-0.2

KRSC 25 09:49:56, 4978N×15749E, h10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.73	13	P	Pn	09 50 40.8	+0.9
RUS				*i*S	Sn	09 51 12.6	-0.4
GRL	Gorelyy	2.80	7	P	Pn	09 50 42.6	+1.8
GRL				*i*S	Sn	09 51 15.6	+1.0
PET	Petropavlovsk	3.33	12	P	Pn	09 50 50.7	+2.6
PET				*i*S	Sn	09 51 29.8	+2.1
SDLR	Sedlovina	3.61	13	P	Pn	09 50 54.3	+2.3
SDLR				*i*S	Sn	09 51 36.9	+2.3
SPN	Mys Shipunski	3.68	25	P	Pn	09 50 55.8	+2.9
SPN				*i*S	Sn	09 51 39.2	+2.8
GNL	Ganaly	3.93	4	*e*P	Pn	09 50 59.3	+2.9
GNL				*e*S	Sn	09 51 44.7	+2.1
MKZ	Mys Kozlova	5.45	27	*e*P	Pn	09 51 19.4	+2.2
MKZ				*e*S	Sn	09 52 20.1	+0.1
KBTR	Krutoberegovo	7.20	24	P	Pn	09 51 43.9	+2.7

MOS ***25*** *10:03:56.7±1.3, 2804N×5736E, h33km, mb4.3/4, Error ellipse: s-maj=23.4km s-min=9.8km az=127.4*
IDC ***25*** *10:03:58.0±1.0, 2860N×5688E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/24, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=23.8km s-min=13.9km az=100.0*
ISCJB ***25*** *10:03:59.5±0.3, 2853N±002×57.11E±003, h10km, mb4.2/18, MS3.4/2, Error ellipse: s-maj=4.3km s-min=3.1km az=0.2*
BJI ***25*** *10:03:59.5, 2762N×5794E, h10km, mB4.8, mb4.4, Ms3.9, Msz3.7*
CSEM ***25*** *10:04:00.6±0.1, 2852N×5709E, h15km, mb4.2/4, Error ellipse: s-maj=2.5km s-min=1.6km az=70.0*
THR ***25*** *10:04:00.7±0.6, 2861N×5708E, h16km±5km, ML4.0*
TEH ***25*** *10:04:01.2, 2842N×5709E, h6km, Mn4.0*
NEIC ***25*** *10:04:01.2, 2842N×5709E, h7km, mb4.2/4, ML4.0(THR), MN4.0(TEH), After TEH.*

ISC 25 10:04:01.0±0.2, 2854N±002×5708E±003, h10km, n97, σ1°39/111, mb4.2/18, MS3.4/2, 4C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.39	215	*e*Pg	Pg	10 04 27.3	-0.5
BNDS				*e*Sg	Sg	10 04 47.4	+1.6
BNDS				AML	AML	10 04 50.4	
	comp=E,3μm,0.4s						
BNDS				AML	AML	10 04 51.4	
	comp=N,2μm,0.3s						
BNDS	Bandar-Abbas	1.39	215	Pg	Pg	10 04 27.0	-0.8
BNDS				Sg	Sg	10 04 47.0	+1.2
BNDS	Bandar-Abbas	1.39	215	*e*Pg	Pg	10 04 27.3	-0.5
	SNR=91						
BNDS				Sg	Sg	10 04 47.0	+1.2
KRBR	Kerman	1.46	349	*e*Pg	Pn	10 04 26.5	-1.0
KRBR				*e*Sg	Sn	10 04 45.6	-1.1
KRBR				AML	AML	10 04 49.1	
	comp=E,2μm,0.7s						
KRBR				AML	AML	10 04 54.3	
	comp=N,2μm,0.6s						
KRBR	Kerman	1.46	349	Pg	Pn	10 04 26.0	-1.5
KRBR				Sg	Sn	10 04 45.0	-1.6
IBAF	Bafgh	3.31	337	*e*Pn	Pn	10 04 54.1	+1.3
IBAF				*e*Sn	Sn	10 05 34.3	+2.1
IBAF	Bafgh	3.31	337	*e*Pn	Pn	10 04 54.1	+1.3
IBAF				Sn	Sn	10 05 34.2	+2.0
ZHSF	Zahedan	3.41	71	*e*Pn	Pn	10 04 55.1	+0.9
ZHSF	Zahedan	3.41	71	Pn	Pn	10 04 55.0	+0.8
IMEH	Mehriz	3.55	324	*e*Pn	Pn	10 04 57.4	+1.2
ISRV	Sarvestan	3.57	284	*e*Pn	Pn	10 04 57.8	+1.3
ISRV	Sarvestan	3.57	284	Pn	Pn	10 04 57.7	+1.2
GHIR	Ghir-Karzin	3.61	267	*e*Pn	Pn	10 04 58.2	+1.2
GHIR	Ghir-Karzin	3.61	267	Pn	Pn	10 04 57.0	0.0
IPAR	Pars	3.75	291	*e*Pn	Pn	10 05 00.7	+1.7
IPAR	Pars	3.75	291	Pn	Pn	10 05 00.6	+1.6
HATD	Hatta, Dubai	3.80	193	⇑P	Pn	10 05 01.7	+2.1
IMOK	Mook	3.86	279	*e*Pn	Pn	10 04 56.1	-4.4
IMOK	Mook	3.86	279	Pn	Pn	10 04 56.0	-4.5
ASHO	Ashiyiah	3.95	194	⇑P	Pn	10 05 03.1	+1.4
SHI	Shiraz	4.14	286	*e*Pn	Pn	10 05 05.3	+1.0
IKOO		4.21	23	*e*Pn	Pn	10 05 05.3	0.0
ICHK	Chekchek	4.35	329	*e*Pn	Pn	10 05 09.1	+1.9
ICHK				*e*Lg		10 06 20.4	

ISAD	Sadrabad	4.46	320	*e*Pn	Pn	10 05 06.5	-2.2
ITEG		4.57	18	*e*Pn	Pn	10 05 11.4	+1.2
IDAH		4.83	29	*e*Pn	Pn	10 05 15.4	+1.7
IDAH				*e*Sn	Sn	10 06 10.6	+1.0
HOQ	Hoqain	4.94	178	⇓P	Pn	10 05 15.8	+0.4
	SNR=9.1						
BIDO	Bidbid	5.09	169	⇑P	Pn	10 05 16.2	-1.1
	SNR=14						
ARQ	Araqi	5.21	186	⇓P	Pn	10 05 20.2	+1.2
	SNR=8.8						
WSAR	Wadi Sarin	5.46	165	Pn	Pn	10 05 22.3	-0.2
	comp=N,5.9nm,0.3s,baz=0.6,slow=12,SNR=181						
WSAR				Sn	Sn	10 06 21.1	-4.2
	comp=N,20nm,0.3s,baz=87,slow=20,SNR=14						
WSAR	Wadi Sarin	5.46	165	Pn	Pn	10 05 22.3	-0.2
WSAR				Sn	Sn	10 06 21.1	-4.3
SMDO	Samad	5.53	171	P	Pn	10 05 24.2	+0.8
	SNR=12						
IGAR	Garneh	5.60	312	*e*Pn	Pn	10 05 26.1	+1.7
NASN	Na'in	5.61	320	*e*Pn	Pn	10 05 25.3	+0.8
NASN	Na'in	5.61	320	Pn	Pn	10 05 25.0	+0.5
BSY	Bisya	5.77	179	P	Pn	10 05 27.5	+0.8
	SNR=14						
BSYO	Bisya	5.79	179	P	Pn	10 05 27.5	+0.6
	SNR=14						
IZEF	Zefreh	5.96	318	*e*Pn	Pn	10 05 29.8	+0.5
IZEF	Zefreh	5.96	318	Pn	Pn	10 05 29.7	+0.4
WBK	Wadi Bani Khal	6.15	163	⇓P	Pn	10 05 31.2	-0.7
JMDO	Jabal Madar	6.22	171	P	Pn	10 05 34.4	+1.6
	SNR=8.0						
IKLH	Kalahroud	6.71	317	*e*Pn	Pn	10 05 42.8	+3.3
IKLH	Kalahroud	6.71	317	Pn	Pn	10 05 42.7	+3.2
IPIR	Pirpir	6.74	309	*e*Pn	Pn	10 05 39.4	-0.6
IANJ	Anjiloo	7.41	340	*e*Pn	Pn	10 05 50.3	+1.1
IANJ	Anjiloo	7.41	340	Pn	Pn	10 05 50.2	+1.0
ISHM	Shahmirzad	7.92	337	*e*Pn	Pn	10 05 58.0	+1.8
IPAY	Payeh	8.05	11	*e*Pn	Pn	10 06 01.6	+3.6
KBD	Kabd	8.25	277	*e*P	Pn	10 05 58.4	-2.4
KBD				AML	AML	10 07 31.4	
	comp=Z,129nm,0.3s						
UMR	Umm Al-Rimmam	8.26	279	*e*P	Pn	10 05 58.9	-1.9
UMR				AML	AML	10 07 26.8	
	comp=Z,19nm,0.3s						
RDF	Al-Radifah	8.37	275	*e*P	Pn	10 06 00.7	-1.7
RDF				AML	AML	10 07 32.0	
	comp=Z,13nm,0.2s						
ISFR	Esferayen	8.51	5	*e*Pn	Pn	10 06 07.8	+3.5
ISFR	Esferayen	8.51	5	Pn	Pn	10 06 07.7	+3.4
MIB	Mutribah	8.61	281	*e*P	Pn	10 06 04.0	-1.7
MIB				AML	AML	10 07 40.8	
	comp=Z,19nm,0.3s						
NAY	Al-Naaiem	8.65	277	*e*P	Pn	10 06 04.5	-1.7
NAY				AML	AML	10 07 36.7	
	comp=Z,4.3nm,0.3s						
RST	Umm Al-Ruwaisa	8.88	279	*e*P	Pn	10 06 07.2	-2.1
RST				AML	AML	10 07 44.8	
	comp=Z,20nm,0.3s						
GNI	Garni	15.40	322	Pn	Pn	10 07 43.3	+4.9
	comp=Z,1.0nm,0.3s,baz=23,slow=13,SNR=6.0						
GNI	Garni	15.40	322	*e*P	Pn	10 07 40.7	+2.3
GNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GNI	Garni	15.40	322	*e*Pn	Pn	10 07 40.7	+2.3
	comp=Z,10nm,0.6s						
GNI	Garni	15.40	322	*e*P	Pn	10 07 40.7	+2.3
	comp=Z,10.0nm,0.6s						
ZEI	Tsey	17.75	327	*e*P	Pn	10 08 08.4	+0.2
ASF	Jabal al Asfar	17.79	287	P	Pn	10 08 08.8	+0.1
	comp=Z,0.2nm,0.3s,baz=335,slow=8.8,SNR=9.0						
KIV	Kislovodsk	19.22	327	*i*P	Pn	10 08 28.3	+2.1
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
AAK	Ala-Archa	19.90	40	⇓*e*P	Pn	10 08 35.1	+0.8
AAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
AAK	Ala-Archa	19.90	40	*e*P	Pn	10 08 33.4	-0.9
	comp=Z,3.7nm,1.0s						
AAK	Ala-Archa	19.90	40	*e*P	Pn	10 08 33.4	-0.9
	comp=Z,3.7nm,1.0s						
AKTK	Aktyubinsk	21.88	2	P	P	10 08 53.0	-1.0
AKTK				S	S	10 12 54.7	-0.9
AKTK	Aktyubinsk	21.88	2	P	P	10 08 53.0	-1.0
AKTO	Aktyubinsk	21.88	2	P	P	10 08 53.0	-1.0
	comp=Z,5.8nm,0.8s,mb4.0,baz=187,slow=11,SNR=21						
AKTO				S	S	10 12 54.7	-0.9
	comp=Z,1.3nm,0.4s,baz=82,slow=15,SNR=16						
BRTR	Keskin Array B	22.31	306	P	P	10 08 57.0	-1.7
	comp=Z,5.6nm,0.9s,mb4.0,baz=125,slow=11,SNR=33						
BR131	Keskin Array S	22.31	306	*e*P	P	10 08 56.7	-1.9
	comp=Z,6.4nm,0.8s,mb4.1						
BR131	Keskin Array S	22.31	306	*e*P	P	10 08 56.7	-2.0
	comp=Z,6.4nm,0.8s,mb4.1						
ANN	Anapa	22.53	321	*e*P	P	10 09 01.8

BILL	Bilibino	70.63	22	i P	P	10 15 13.8	-2.9
ASAR	Alice Springs	90.34	117	P	P	10 17 02.2	-0.1
	comp=Z,0.2nm,0.6s,mb3.6,baz=306,slow=4.7,SNR=5.1						

IDC 25 10:37:35.2±13.0, 690S×12889E, h75km±145km, mb3.3/1, mb1 3.9/4, mb1mx3.5/14, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=118.6km s-min=58.6km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	196	P	Pn	10 40 16.5	-1.0
	1.3nm,0.3s,baz=20,slow=15,SNR=17						
FITZ				S	Sn	10 42 10.9	-14
	0.6nm,0.3s,baz=324,slow=5.9,SNR=5.1						
WRA	Warramunga Arr	14.00	158	P	Pn	10 40 50.1	+0.1
	0.7nm,0.3s,baz=338,slow=12,SNR=13						
WRA				S	Sn	10 43 15.0	-8.8
	0.7nm,0.3s,baz=340,slow=22,SNR=5.5						
ASAR	Alice Springs	17.35	164	P	Pn	10 41 33.5	+1.2
	0.5nm,0.3s,baz=337,slow=9.3,SNR=51						
ASAR				S	S	10 44 38.5	-11
	0.1nm,0.3s,baz=340,slow=24,SNR=4.4						
MKAR	Makanchi Array	67.54	327	P	P	10 48 23.7	+0.2
	0.2nm,0.4s,baz=125,slow=7.7,SNR=3.7						

*NEIC **25** 10:42:43.4, 3120S×7144W, h52km, MD4.2(GUC), After GUC.*

GUC 25 10:42:43.4±0.9, 3120S×7144W, h52km±6km, MD4.2, ML3.5, 9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.37	87	⇓i P	Pn	10 42 54.1	+0.7
CMCH				i S	Sn	10 43 01.8	+1.3
CMCH				AML	AML	10 43 02.6	
	comp=N,17μm,0.3s						
CMCH	Combarbala	0.37	87	⇓i P	Pn	10 42 54.1	+0.7
CMCH				i S	Sn	10 43 01.8	+1.3
OVCH	Ovalle	0.62	19	⇓i P	Pn	10 42 56.8	+0.6
OVCH				i S	Sn	10 43 06.5	+1.1
OVCH				AML	AML	10 43 08.0	
	comp=N,3μm,0.6s						
OVCH	Ovalle	0.62	19	⇓i P	Pn	10 42 56.8	+0.6
OVCH				i S	Sn	10 43 06.5	+1.1
CHNG	Los Chungos	0.69	185	⇓i P	Pn	10 42 57.1	+0.1
CHNG				i S	Sn	10 43 07.3	+0.3
TLL	Tololo Astrono	1.16	28	⇓i P	Pn	10 43 04.3	+1.0
TLL				i S	Sn	10 43 19.7	+1.6
TLL				AML	AML	10 43 22.1	
	comp=N,2μm,0.5s						
TLL	Tololo Astrono	1.16	28	⇓i P	Pn	10 43 04.3	+1.0
TLL				i S	Sn	10 43 19.7	+1.6
LSCH	La Serena	1.29	7	eP	Pn	10 43 06.4	+1.2
LSCH				i S	Sn	10 43 22.8	+1.5
PACH	Papudo	1.34	180	eP	Pn	10 43 06.0	+0.3
JACH	Jahuel	1.65	154	eP	Pn	10 43 10.3	+0.5
JACH				i S	Sn	10 43 31.3	+1.4
ROCH	El Roble	1.81	169	eP	Pn	10 43 12.7	+0.6
PEL	Peldehue	2.04	162	eP	Pn	10 43 16.1	+0.8
PEL				i S	Sn	10 43 40.5	+0.8
PEL				AML	AML	10 43 46.2	
	comp=N,627nm,0.1s						
PEL	Peldehue	2.04	162	eP	Pn	10 43 16.1	+0.8
PEL				i S	Sn	10 43 40.5	+0.8
CLCH	Cerro Calan	2.32	161	eP	Pn	10 43 20.2	+1.1
CLCH				i S	Sn	10 43 47.5	+1.0
CLCH				AML	AML	10 44 01.9	
	comp=N,318nm,0.4s						
FCH	Farellones	2.34	156	eP	Pn	10 43 21.3	+1.9
FCH				i S	Sn	10 43 49.1	+2.2
FCH				AML	AML	10 43 58.8	
	comp=E,156nm,0.1s						
TACH	Talagante	2.49	170	⇓i P	Pn	10 43 22.4	+1.0
PCH	Pirque	2.54	162	eP	Pn	10 43 23.2	+1.0
CACH	El Canelo	3.00	167	eP	Pn	10 43 29.8	+1.5
SFDO	San Fernando	3.43	174	⇓eP	Pn	10 43 35.1	+0.8

IDC 25 10:55:38.6±1.9, 672S×14724E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/13, mbtmp3.6/5, ML3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/15, Error ellipse: s-maj=62.7km s-min=24.5km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.67	182	Pn	Pn	10 56 24.1	+1.2
	13nm,0.3s,baz=352,slow=9.1,SNR=25						
PMG				Sn	Sn	10 56 58.0	+2.0
	48nm,0.3s,baz=315,slow=19,SNR=10						
CTA	Charters Tower	13.33	184	LR	LR	11 02 46.5	
	comp=Z,93nm,19.5s,baz=42,slow=32						
WRA	Warramunga Arr	18.16	222	P	Pn	10 59 50.6	-1.5
	0.2nm,0.3s,baz=48,slow=12,SNR=9.7						
ASAR	Alice Springs	21.18	216	P	P	11 00 26.3	+0.8
	1.3nm,0.5s,baz=51,slow=8.6,SNR=29						
VNDA	Vanda	71.19	177	P	P	11 06 58.1	-1.2
	0.6nm,0.7s,baz=319,slow=9.3,SNR=4.1						
MKAR	Makanchi Array	78.20	321	P	P	11 07 40.0	+0.1
	0.3nm,0.5s,baz=100,slow=6.5,SNR=3.8						
TORD	Torodi Ar. Bea	145.50	283	PKPbc	PKPbc	11 15 19.8	+1.1
	1.0nm,0.6s,baz=69,slow=3.2,SNR=12						

IDC 25 10:56:41.8±6.1, 396N×9600E, h63km±50km, mb3.6/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=70.7km s-min=22.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.13	111	P	Pn	10 57 30.4	+1.7
	1.9nm,0.3s,baz=306,slow=15,SNR=16						
PSI				S	Sn	10 58 06.5	+1.6
	2.9nm,0.3s,baz=291,slow=19,SNR=5.7						
MKAR	Makanchi Array	44.30	347	P	P	11 04 44.7	-0.5
	0.5nm,0.4s,baz=154,slow=9.3,SNR=11						
SONM	Songino Array	44.62	10	P	P	11 04 48.0	+0.2
	1.4nm,0.6s,baz=191,slow=9.2,SNR=12						
SONM				PcP	PcP	11 06 30.6	+0.9
	0.2nm,0.4s,baz=162,slow=3.4,SNR=3.8						
ASAR	Alice Springs	46.02	128	P	P	11 04 59.0	+0.1
	0.5nm,0.9s,baz=307,slow=7.7,SNR=6.1						
ZAL	Zalesovo	50.66	351	P	P	11 05 34.8	+0.2
	1.7nm,0.4s,baz=286,slow=4.7,SNR=5.0						
BVAR	Borovoye Array	53.27	341	P	P	11 05 53.5	-0.5
	0.5nm,0.6s,baz=150,slow=12,SNR=4.3						
ARCES	ARCESS Array B	79.55	340	P	P	11 08 41.6	-0.2
	5.7nm,1.0s,baz=96,slow=6.4,SNR=3.7						

*NEIC **25** 10:57:42.1, 1572N×9729W, h20km, MD3.7(MEX), After MEX.*

MEX 25 10:57:37.9±0.9, 1553N×9731W, h16km±93km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.16	318	i P	Pn	10 57 55.8	-3.7
PNIG				i S	Sb	10 58 09.0	-5.5
PNIG	Pinotepa	1.16	318	i P	Pn	10 57 57.6	-1.9
PNIG				i S	Sb	10 58 11.9	-2.5
HUIG	Huatulco	1.18	78	i P	Pn	10 57 56.0	-3.7
HUIG				i S	Sb	10 58 09.2	-5.8
HUIG	Huatulco	1.18	78	i P	Pn	10 58 00.4	+0.6
HUIG				i S	Sb	10 58 13.6	-1.4
VHO	Vista Hermosa	1.63	20	i P	Pn	10 58 03.5	-2.4
VHO				i S	Sn	10 58 21.6	-4.9
OXX	Oaxaca	1.64	20	i P	Pn	10 58 04.7	-1.4
OXX				i S	Sn	10 58 23.3	-3.6
UTMO	Huajuapan	2.34	348	i P	Pn	10 58 11.8	-3.8
UTMO				i S	Sn	10 58 40.0	-4.0
TPIG	Tehuac#an	2.88	359	eP	Pn	10 58 20.5	-2.5
TPIG				i S	Sn	10 58 53.7	-3.6
MEIG	Mezcala	3.25	317	i P	Pn	10 58 35.1	+6.9
MEIG				i S	Sn	10 59 02.7	-3.8

*NEIC **25** 10:59:31.2, 1554N×9728W, h35km, MD3.7(MEX), After MEX.*

MEX 25 10:59:31.2±1.1, 1553N×9728W, h16km±999km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.15	78	eP	Pn	10 59 48.3	-4.3
HUIG				i S	Sb	11 00 03.3	-4.1
PNIG	Pinotepa	1.19	317	i P	Pn	10 59 49.4	-3.7
PNIG				i S	Sb	11 00 03.7	-4.7
VHO	Vista Hermosa	1.62	19	eP	Pn	10 59 56.1	-3.0
VHO				i S	Sn	11 00 14.3	-5.3
VHO	Vista Hermosa	1.62	19	eP	Pn	10 59 56.1	-3.0
VHO				i S	Sn	11 00 13.9	-5.7
OXX	Oaxaca	1.63	19	i P	Pn	10 59 57.2	-2.1
OXX				i S	Sn	11 00 16.5	-3.4
UTMO	Huajuapan	2.34	348	i P	Pn	11 00 06.8	-2.2
UTMO				i S	Sn	11 00 32.9	-4.5
CMIG	Matias Romero	2.77	56	i P	Pn	11 00 12.9	-2.0
CMIG				i S	Sn	11 00 43.7	-4.4
CMIG	Matias Romero	2.77	56	i P	Pn	11 00 10.1	-4.8
CMIG				i S	Sn	11 00 43.7	-4.4
TPIG	Tehuac#an	2.88	358	i P	Pn	11 00 16.3	0.0
TPIG				i S	Sn	11 00 46.9	-3.7

*STR **25** 11:19:25.3±0.1, 4788N×6.10E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 25 11:19:23.9±0.1, 4781N×599E, h15km, Md1.9/2, Ml1.8/8, Error ellipse: s-maj=1.5km s-min=1.1km az=142.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	Haudompre	0.31	50	ePg	Pg	11 19 31.0	+0.6
HAU				eSg	Sg	11 19 35.0	+0.2
	19nm,0.2s						
THEF	They Montfort	0.42	359	Pg	Pg	11 19 32.8	+0.4
THEF				Sg	Sg	11 19 38.3	+0.2
HINF	Hinteralfeld	0.58	89	ePg	Pg	11 19 35.4	+0.1
HINF				eSg	Sg	11 19 42.9	-0.1
	14nm,0.2s						
LOMF	Lomont	0.72	129	Pg	Pg	11 19 39.1	+1.1
SFTF	Sexfontaines	0.76	302	ePg	Pg	11 19 38.5	-0.1
SFTF	Sexfontaines	0.76	302	ePn	Pn	11 19 39.4	-0.6
	baz=122						
SFTF				eSg	Sg	11 19 47.9	-0.7
	5.0nm,0.2s						
MOF	Molkenrain	0.77	86	Pg	Pg	11 19 38.8	-0.1
MOF				Sg	Sg	11 19 48.7	-0.3
ECH	Echery	0.88	62	Pg	Pg	11 19 40.0	-1.0
ECH				Sg	Sg	11 19 51.5	-1.1
RFYF	Reffroy	0.89	337	ePg	Pg	11 19 40.8	-0.4
	baz=162						
RFYF				eSg	Sg	11 19 52.3	-0.7
	6.9nm,0.2s						
MEZF	Maizieres J'vi	0.94	318	ePn	Pn	11 19 41.1	-1.4
MEZF				eSg	Sg	11 19 53.9	-0.5
	5.8nm,0.3s,baz=133						
CDF	Champ du Feu	1.05	54	ePn	Pn	11 19 42.5	-1.6
CDF	Champ du Feu	1.05	54	ePg	Pg	11 19 43.4	-0.8
CDF				eSn	Sn	11 19 56.2	-2.3
	1.6nm,0.2s						
WLS	Welschbruch	1.09	56	Pg	Pg	11 19 44.1	-0.9
CABF	La Chapelle	1.20	177	ePg	Pg	11 19 46.2	-0.8
CABF				eSg	Sg	11 20 02.3	-0.3
	1.2nm,0.2s						
LOR	Lormes	1.54	250	ePn	Pn	11 19 49.6	-1.2
	baz=70						
LOR				eSg	Sg	11 20 12.9	-0.7
	2.1nm,0.3s						
SSF	Saint Saulge	1.85	247	ePn	Pn	11 19 53.3	-1.7
SSF				eSg	Sg	11 20 22.2	-1.1
	0.4nm,0.2s						
SMF	Signal de Mont	1.87	232	ePn	Pn	11 19 53.7	-1.7
SMF	Signal de Mont	1.87	232	ePg	Pg	11 19 58.8	-1.0
SMF				eSg	Sg	11 20 23.0	-1.1
	0.8nm,0.2s						
AVF	Avril sur Loir	2.06	241	ePn	Pn	11 19 56.6	-1.4
AVF				eSg	Sg	11 20 29.1	-1.2
	0.5nm,0.2s						

IDC 25 11:21:03.0±3.4, 341N×12750E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=146.6km s-min=61.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.16	164	P	P	11 26 21.1	+0.3
	2.0nm,0.3s,baz=344,slow=10,SNR=7.4						
WB2	Warramunga Arr	24.16	164	eP	P	11 26 21.2	+0.4
ASAR	Alice Springs	27.62	167	P	P	11 26 52.4	+0.2
	0.2nm,0.5s,baz=347,slow=7.5,SNR=5.2						
ASAR				PcP	PcP	11 30 10.2	+0.5
	0.2nm,0.4s,baz=358,slow=1.9,SNR=4.2						
STKA	Stephens Creek	37.56	160	P	P	11 28 19.0	0.0
	0.8nm,0.4s,baz=359,slow=9.2,SNR=7.9						

*NEIC **25** 11:25:38.6, 2846S×7075W, h60km, MD3.6(GUC), After GUC.*

GUC 25 11:25:38.6±0.9, 2846S×7075W, h60km±4km, MD3.6, ML4.0, 6C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.11	184	⇑i P	Pn	11 25 48.0	+0.4
VACH				i S	Sn	11 25 54.6	+0.5
VACH				AML	AML	11 25 55.0	
	comp=E,47μm,0.1s						
CPCH	Copiapo	1.16	18	eP	Pn	11 25 58.9	+0.2
CPCH				i S	Sn	11 26 14.8	+1.2
CPCH				AML	AML	11 26 19.1	
	comp=E,15μm,0.1s						
CPCH	Copiapo	1.16	18	eP	Pn	11 25 58.9	+0.2
CPCH				i S	Sn	11 26 14.8	+1.2
CDCH	Caldera	1.39	357	eP	Pn	11 26 01.4	-0.3
CDCH				i S	Sn	11 26 20.3	+1.2
LSCH	La Serena	1.50	197	⇑i P	Pn	11 27 04.8	+62
LSCH				i S	Sn	11 27 24.1	+62
TLL	Tololo Astrono	1.70	182	⇑eP	Pn	11 26 07.0	+1.1
TLL				i S	Sn	11 26 28.9	+2.2
TLL				AML	AML	11 26 32.4	
	comp=N,671nm,0.5s						
TLL	Tololo Astrono	1.70	182	⇑eP	Pn	11 26 07.0	+1.1
TLL				i S	Sn	11 26 28.9	+2.2
OVCH	Ovalle	2.17	190	eP	Pn	11 26 12.7	+0.3
OVCH				i S	Sn	11 26 39.0	+0.8
OVCH				AML	AML	11 26 45.0	
	comp=N,540nm,0.3s						
OVCH	Ovalle	2.17	190	eP	Pn	11 26 12.7	+0.3
OVCH				i S	Sn	11 26 39.0	+0.8
CMCH	Combarbala	2.71	185	⇑i P	Pn	11 26 20.1	+0.4
CMCH				i S	Sn	11 26 52.1	+0.8
CMCH				AML	AML	11 27 03.5	
	comp=N,814nm,0.3s						
CMCH	Combarbala	2.71	185	⇑i P	Pn	11 26 20.1	+0.4
CMCH				i S	Sn	11 26 52.1	+0.8

*ISCJB **25** 11:28:32.4±1.3, 2984N×007×3630E±008, h0km, Error ellipse: s-maj=11.7km s-min=8.7km az=100.0*
*CSEM **25** 11:28:34.8±0.3, 2982N×3612E, h2km, ML2.2, Error ellipse: s-maj=7.8km s-min=3.4km az=111.0, Mining explosion.*
*GII **25** 11:28:34.2±0.9, 2990N×3618E, h0km±8km, ML2.2/4*
*HLW **25** 11:28:35.2, 2980N×3643E, h19km, Mb3.3*

ISC 25 11:28:32.5±1.3, 2984N±007×3635E±008, h0km, n14, σ0§60/16, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.15	280	Pg	Pg	11 28 53.8	-0.8
HRFI				Sg	Sg	11 29 10.6	+1.1
EIL	Elat	1.22	262	Pg	Pg	11 28 55.7	-0.3
EIL				Sg	Sg	11 29 12.0	+0.2
ZFRI	Zfri	1.24	305	Pg	Pg	11 28 55.5	-0.7
MBH	Mount Berech	1.24	268	Pg	Pg	11 28 56.6	+0.3
PRNI	Paran	1.27	294	Pg	Pg	11 28 55.7	-1.1
KMTI	Karmit	1.43	281	Pg	Pg	11 28 59.0	-0.9
HBST	Basata	1.54	247	P	Pn	11 29 01.0	-0.1
MZDA	Masada	1.69	330	Pn	Pn	11 29 03.4	+0.2
YTIR	Yattir	1.85	325	Pn	Pn	11 29 05.8	+0.3
HDHB	Dhahab	1.88	234	P	Pn	11 29 05.8	0.0
DSI	Dead Sea	1.92	335	Pn	Pn	11 29 07.1	+0.8
HNKL	Nakhl	2.06	273	P	Pn	11 29 09.0	+0.7
HKAT	Jabal Katrina	2.44	238	P	Pn	11 29 13.6	+0.1
SUZ		3.05	271	P	Pn	11 29 22.2	+0.2

*ISCJB **25** 11:37:43.9±1.5, 6080N±008×292E±0.1, h0km, Error ellipse: s-maj=13.9km s-min=5.4km az=95.6*
*CSEM **25** 11:37:45.3±1.1, 6055N×2921E, h2km, ML2.3, Error ellipse: s-maj=32.5km s-min=6.0km az=125.0, Mining explosion.*
*HEL **25** 11:37:48.9±0.4, 6082N×2894E, h0km, ML2.3, ML2.6(NAO), Explosion*
*NAO **25** 11:37:49.9±1.8, 6090N×2889E, ML2.6*
*BER **25** 11:37:49.9±5.2, 6101N×2898E, h0km, ML2.6(NAO), Suspected explosion*

ISC 25 11:37:47.5±1.2, 6086N±006×290E±01, h0km, n16, σ1§12/23, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.76	246	eP	Pg	11 38 02.3	+0.2
VJF				eS	Sg	11 38 12.7	+0.8
VJF	Virojoki	0.76	246	P	Pg	11 38 02.2	+0.1
FIA0	FINESS Array S	1.52	294	Pg	Pg	11 38 15.5	-1.1
	baz=118,slow=18						
FIA0				Lg		11 38 36.7	
	baz=100,slow=37						
FIA0				Rg		11 38 44.1	
	baz=114,slow=37						
FIA0	FINESS Array S	1.52	294	eP	Pn	11 38 15.4	-0.5
FIA0				eS	Sg	11 38 36.2	-0.1
PVF	Pernaja	1.56	260	eP	Pn	11 38 15.5	-0.9
PVF				eS	Sn	11 38 36.1	-1.2
KAF	Kangasniemi	1.79	316	eP	Pn	11 38 21.0	+1.4
KAF				eS	Sn	11 38 44.8	+1.7
SUF	Sumiainen	2.30	326	MSG		11 39 01.6	
	comp=Z,15nm,0.2s						
JOF	Joensuu	2.35	27	eP	Pn	11 38 29.9	+2.5
JOF				eSG	Sg	11 39 01.5	-1.5
KEF	Keuruu	2.36	306	MSG		11 39 03.1	
	comp=Z,10nm,0.2s						
HFS	Hagfors	7.57	271	Pn	Pn	11 39 39.6	+0.5
	baz=98,slow=12						
HFS				Sn	Sn	11 41 01.9	-3.8
	baz=77,slow=28						
HFS	Hagfors	7.57	271	eP	Pn	11 39 39.6	+0.5
HFS				eS	Sn	11 41 01.9	-3.8
NB2	NORSAR Subarra	8.64	279	Pn	Pn	11 39 53.2	-0.5
	baz=86,slow=12						
NB2	NORSAR Subarra	8.64	279	eP	Pn	11 39 53.2	-0.5
NB2	NORSAR Subarra	8.64	279	Pn	Pn	11 39 53.2	-0.5
	SNR=6.8						
ARA0	ARCESS Array S	8.84	352	Pn	Pn	11 39 56.6	+0.2
	baz=162,slow=14						
ARA0				Sn	Sn	11 41 32.3	-4.4
	baz=167,slow=28						
ARA0				Lg		11 42 12.8	
	baz=155,slow=28						
ARA0	ARCESS Array S	8.84	352	eP	Pn	11 39 56.6	+0.2
ARA0				eS	Sn	11 41 32.3	-4.4

IDC 25 11:45:30.4±3.6, 005S×12305E, h158km±30km, mb3.0/3, mb1 3.4/4, mb1mx3.2/17, mbtmp3.6/4, Error ellipse: s-maj=117.5km s-min=23.1km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.11	172	P	P	11 49 30.5	+0.3
	0.5nm,0.3s,baz=11,slow=9.7,SNR=12						
WRA	Warramunga Arr	22.65	151	P	P	11 50 17.7	-0.3
	1.8nm,0.5s,baz=327,slow=11,SNR=23						
ASAR	Alice Springs	25.73	157	P	P	11 50 47.0	+1.1
	0.4nm,0.4s,baz=344,slow=14,SNR=11						
ASAR				PcP	PcP	11 54 11.6	-0.2
	0.2nm,0.6s,baz=346,slow=1.7,SNR=4.7						
ASAR				ScP	ScP	11 57 36.0	-0.3
	0.2nm,0.6s,baz=348,slow=3.1,SNR=5.6						
SONM	Songino Array	49.85	345	P	P	11 54 07.5	+0.3
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.6						

*ISCJB **25** 11:50:33.3±0.7, 3806N±003×2007E±004, h12km±4km, mb3.9/8, Error ellipse: s-maj=6.1km s-min=3.4km az=120.9*
*CSEM **25** 11:50:33.8±0.2, 3790N×2024E, h1km, ML3.9, Error ellipse: s-maj=4.4km s-min=2.1km az=92.0*
*NEIC **25** 11:50:35.0, 38.11N×2022E, h13km, MD3.8(PDG), ML3.9(ATH), After ATH.*
*PDG **25** 11:50:35.9±0.2, 38.18N×2016E, h12km±1km*
*ATH **25** 11:50:35.4, 38.13N×2026E, h15km±1km, MD3.9/18, ML3.9*
*MOS **25** 11:50:36.6±2.1, 3828N×2025E, h14km, mb4.3/5, Error ellipse: s-maj=12.0km s-min=6.5km az=91.2*
*THE **25** 11:50:37.0, 38.16N×2031E, h10km, ML3.6*
*HLW **25** 11:50:38.5, 38.18N×2054E, h19km, Mb3.7*
*IDC **25** 11:50:42.1±3.3, 3828N×2030E, h60km±32km, mb3.7/8, mb1 3.7/11, mb1mx3.6/24, mbtmp3.8/11, ML3.6/3, Error ellipse: s-maj=25.9km s-min=21.9km az=129.0*
*NAO **25** 11:50:45.7, 40.15N×2678E, h33km, mb3.5*

ISC 25 11:50:34.7±0.7, 3807N±002×2018E±004, h6km±4km, n91, σ1§05/110, mb3.9/8, 6C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.34	72	⇓i PB	Pg	11 50 41.3	0.0
LKD	Levkas	0.74	30	ePg	Pg	11 50 48.0	-0.9
LKD				eSg	Sg	11 50 57.4	-1.1
RLS	Riolos of Patr	1.02	90	ePN	Pn	11 50 53.4	-2.1
RLS	Riolos of Patr	1.02	90	ePg	Pg	11 50 53.1	-1.1
IGT	Igoumenitsa	1.47	5	ePg	Pg	11 51 02.2	-0.6
IGT				eSg	Sg	11 51 22.8	+1.0
EVR	Evrytania	1.54	56	ePN	Pn	11 51 02.8	+0.2
EVR				eSN	Sn	11 51 22.7	-0.2
EVR	Evrytania	1.54	56	ePg	Pn	11 51 02.8	+0.2
EVR				eSb	Sb	11 51 24.2	+1.0
ITM	Ithomi	1.65	122	ePN	Pn	11 51 06.0	+1.8
KEK	Kerkira	1.67	350	⇑i PN	Pn	11 51 05.6	+1.2
KEK	Kerkira	1.67	350	i Pbu		11 51 05.6	
JAN	Janina	1.67	18	ePN	Pn	11 51 05.1	+0.6
JAN	Janina	1.67	18	ePg	Pg	11 51 06.3	-0.4
AGG	Agios Georgios	1.94	60	ePb	Pb	11 51 09.6	-0.8
THL	Klokotos Trika	2.07	43	⇑i PN	Pn	11 51 10.8	+0.8
THL	Klokotos Trika	2.07	43	i Pn	Pn	11 51 11.2	+1.2
LKR	Lokris	2.29	74	ePN	Pn	11 51 13.6	+0.5
MGER	Gerania Oros	2.44	91	ePN	Pn	11 51 16.5	+1.5
MGER	Gerania Oros	2.44	91	ePn	Pn	11 51 17.0	+2.0
KZN	Kozani	2.55	29	ePB	Pn	11 51 17.5	+0.9
VLI	Veliai	2.58	121	ePB	Pb	11 51 19.0	-2.4
VLI	Veliai	2.58	121	ePg	Pg	11 51 22.3	-1.8
NEO	Neokhori	2.69	62	ePN	Pn	11 51 19.1	+0.7
NEO	Neokhori	2.69	62	ePb	Pn	11 51 18.7	+0.3
XOR	Xorichti	2.69	60	ePn	Pn	11 51 19.1	+0.6
LIT	Litokhoron	2.71	41	ePn	Pn	11 51 19.9	+1.1
ATH	Athens Observa	2.80	91	ePN	Pn	11 51 20.8	+0.8
ATH	Athens Observa	2.80	91	ePn	Pn	11 51 20.5	+0.5
KVR	Kavouri	2.85	94	ePB	Pb	11 51 22.5	-3.5
FNA	Florina	2.87	19	ePn	Pn	11 51 22.1	+1.2
FNA	Florina	2.87	19	ePn	Pn	11 51 22.1	+1.2
TIP	Timpagrande	2.90	294	ePn	Pn	11 51 24.8	+3.5
TIP	Timpagrande	2.90	294	ePn	Pn	11 51 24.8	+3.5
KYTH	Kithira	2.90	127	ePB	Pb	11 51 24.5	-2.3
KYTH	Kithira	2.90	127	ePb	Pb	11 51 25.0	-1.8
PTL	Penteli	2.91	89

BUM	**Brajici-Budva**	**4.34**	**347**	⇓*i*Pn	**Pn**	**11 51 41.7**	**+0.6**
BUM				*e*Sn	**Sn**	**11 52 31.2**	**-0.8**
TTG	**Podgorica**	**4.41**	**351**	⇓*i*Pn	**Pn**	**11 51 42.6**	**+0.5**
TTG				*e*Sn	**Sn**	**11 52 32.7**	**-1.1**
PVY	**Plav**	**4.52**	**358**	⇓*i*Pn	**Pn**	**11 51 44.6**	**+0.9**
PVY				*e*Sn	**Sn**	**11 52 36.0**	**-0.6**
HCY	**Herceg Novi**	**4.56**	**344**	⇓*i*Pn	**Pn**	**11 51 44.3**	**+0.1**
HCY				*e*Sn	**Sn**	**11 52 36.0**	**-1.5**
IVA	**Berane**	**4.80**	**358**	⇓*i*Pn	**Pn**	**11 51 48.4**	**+0.9**
IVA				*e*Sn	**Sn**	**11 52 42.6**	**-0.9**
NKY	**Niksic**	**4.82**	**350**	⇓*i*Pn	**Pn**	**11 51 48.2**	**+0.4**
NKY				*e*Sn	**Sn**	**11 52 43.2**	**-0.7**
BRY	**Bratogost**	**4.98**	**346**	⇑*i*Pn	**Pn**	**11 51 50.2**	**+0.2**
BRY				*e*Sn	**Sn**	**11 52 47.2**	**-0.7**
STON	**Ston**	**5.15**	**339**	*i* Pn	**Pn**	**11 51 52.5**	**+0.2**
STON				*i* Sn	**Sn**	**11 52 48.2**	**-3.9**
RDO	**Rodhopi**	**5.16**	**52**	*e*PN	**Sn**	**11 51 53.8**	**+1.4**
RDO	**Rodhopi**	**5.16**	**52**	*e*Pn	**Pn**	**11 51 52.5**	**+0.1**
UPM	**Unac-Piva**	**5.22**	**350**	⇑*i*Pn	**Pn**	**11 51 53.9**	**+0.6**
UPM				*e*Sn	**Sn**	**11 52 52.4**	**-1.3**
PLE	**Pljevlja**	**5.29**	**354**	⇑*i*Pn	**Pn**	**11 51 54.9**	**+0.7**
PLE				*e*Sn	**Sn**	**11 52 53.8**	**-1.6**
CRES	**Cresnjev**	**8.51**	**337**	*i* Pn	**Pn**	**11 52 38.7**	**+0.3**
CRES				*e*		11 54 08.5	
MLR	**Muntele Rosu**	**8.57**	**28**	P	**Pn**	**11 52 41.1**	**+1.8**
	0.1nm,0.3s,baz=133,slow=20,SNR=3.1						
MLR				S	**Sn**	**11 54 17.5**	**+1.2**
	0.3nm,0.3s,baz=153,slow=20,SNR=2.5						
PDKS	**Podkum**	**8.86**	**336**	*e*Pn	**Pn**	**11 52 43.9**	**+0.6**
HMAT	**Matruh**	**9.00**	**139**	P	**Pn**	**11 52 44.6**	**-0.5**
VOY	**Vojsko**	**9.22**	**332**	*e*Sn	**Sn**	**11 54 27.8**	**-4.5**
VOJS	**Vojsko**	**9.23**	**332**	*e*Pn	**Pn**	**11 52 49.1**	**+0.9**
PERS	**Pernice**	**9.34**	**338**	*i* Pn	**Pn**	**11 52 50.0**	**+0.1**
OBKA	**Obir**	**9.40**	**336**	⇑*i*Pn	**Pn**	**11 52 50.9**	**+0.2**
OBKA				⇓*i*Sn	**Sn**	**11 54 32.3**	**-4.5**
SWA2		**9.84**	**152**	P	**Pn**	**11 52 57.0**	**+0.3**
SWA1		**9.92**	**151**	P	**Pn**	**11 52 58.0**	**+0.2**
BRTR	**Keskin Array B**	**10.62**	**77**	P	**Pn**	**11 53 10.3**	**+2.9**
	0.1nm,0.3s,baz=246,slow=11,SNR=2.8						
MOA	**Molln**	**10.69**	**338**	⇓*i*Pn	**Pn**	**11 53 08.5**	**+0.2**
MOA				⇑*i*Sn	**Sn**	**11 55 03.3**	**-4.9**
GERES	**GERESS Array B**	**11.75**	**339**	P	**Pn**	**11 53 22.8**	**0.0**
	0.5nm,0.3s,baz=156,slow=13,SNR=4.7						
GERES	**GERESS Array B**	**11.75**	**339**	P	**Pn**	**11 53 22.8**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AWBH		**12.16**	**141**	P	**Pn**	**11 53 27.6**	**-0.7**
HDK1	**Dakhla**	**14.74**	**145**	P	**Pn**	**11 54 03.1**	**-0.5**
HFS	**Hagfors**	**22.46**	**351**	P	**P**	**11 55 34.7**	**+0.2**
	comp=Z,5.6nm,0.7s,mb4.1,baz=156,slow=11,SNR=18						
HFS	**Hagfors**	**22.46**	**351**	P	**P**	**11 55 34.7**	**+0.2**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NB2	**NORSAR Subarra**	**23.67**	**349**	P	**P**	**11 55 46.8**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.5,baz=148,slow=10						
NOA	**NORSAR Array B**	**23.67**	**349**	P	**P**	**11 55 46.4**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.4,baz=153,slow=11,SNR=4.6						
NOA	**NORSAR Array B**	**23.67**	**349**	P	**P**	**11 55 46.4**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**23.69**	**7**	P	**P**	**11 55 45.7**	**-1.5**
	comp=Z,1.7nm,0.5s,mb3.8,baz=173,slow=11,SNR=14						
FINES	**FINESS Array B**	**23.69**	**7**	P	**P**	**11 55 45.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.78**	**218**	P	**P**	**11 56 45.2**	**+3.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=29,slow=9.8,SNR=6.5						
ARCES	**ARCESS Array B**	**31.66**	**4**	P	**P**	**11 56 57.6**	**-1.1**
	comp=Z,5.5nm,1.0s,mb4.4,baz=187,slow=10,SNR=5.6						
ARCES	**ARCESS Array B**	**31.66**	**4**	P	**P**	**11 56 57.6**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BVAR	**Borovoye Array**	**37.40**	**50**	P	**P**	**11 57 46.7**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=253,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**	**11 58 54.1**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=275,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**	**11 58 54.1**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**45.95**	**48**	P	**P**	**11 58 57.1**	**-1.3**
	comp=Z,2.0nm,0.3s,mb4.5,baz=200,slow=4.6,SNR=5.5						
ZAL	**Zalesovo**	**45.95**	**48**	P	**P**	**11 58 57.2**	**-1.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						

CSEM ***25*** *11:56:03.9±0.0, 4047N×2902E, h15km, ML3.7, Error ellipse: s-maj=1.4km s-min=0.9km az=7.0*
MOS ***25*** *11:56:03.5±0.9, 4045N×2903E, h19km, mb4.0/2, Error ellipse: s-maj=10.0km s-min=6.5km az=95.6*
ISK ***25*** *11:56:03.9, 4045N×2902E, h15km, ML3.9*
NEIC ***25*** *11:56:03.8, 4042N×2900E, h15km, ML3.0(BUC), ML3.7(ISK), After ISK.*
THE ***25*** *11:56:04.3, 4042N×2900E, h10km*
ISCJB ***25*** *11:56:04.2±0.3, 4048N±002×2904E±002, h14km±2km, Error ellipse: s-maj=3.3km s-min=2.8km az=12.1*

ISC 25 11:56:04.7±0.3, 4047N±002×2901E±002, h9km±2km, n113, σ0°96/137, 11C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.14**	**104**	*i* PG	**Pg**	**11 56 08.0**	**+0.1**
GEMT				*i* SG	**Sg**	**11 56 10.8**	**+0.7**
YLV	**Yalova**	**0.29**	**70**	*i* PG	**Pg**	**11 56 10.3**	**-0.3**
YLV				*i* SG	**Sg**	**11 56 14.5**	**-0.1**
ULDT	**Uludag**	**0.34**	**163**	*i* P	**Pg**	**11 56 10.7**	**-0.8**
ULDT				*i* S	**Sg**	**11 56 17.5**	**+1.5**
BADT	**Buyukada**	**0.39**	**12**	*i* PG	**Pg**	**11 56 13.3**	**+0.9**
BADT	**Buyukada**	**0.39**	**12**	Pg	**Pg**	**11 56 13.3**	**+0.9**
KCT	**Karacabey**	**0.54**	**248**	*i* PG	**Pg**	**11 56 14.6**	**-0.5**
KCT	**Karacabey**	**0.54**	**248**	Pg	**Pg**	**11 56 14.7**	**-0.5**
ADVT	**Abdulvahap**	**0.56**	**93**	PG	**Pg**	**11 56 15.5**	**-0.1**
ADVT				SG	**Sg**	**11 56 22.9**	**0.0**
ADVT	**Abdulvahap**	**0.56**	**93**	Pg	**Pg**	**11 56 15.6**	**0.0**
ISK	**Istanbul-Kandi**	**0.60**	**4**	PG	**Pg**	**11 56 16.9**	**+0.6**
HRT	**Hereke**	**0.61**	**55**	PG	**Pg**	**11 56 16.4**	**-0.2**
KLYT	**Kilyos**	**0.78**	**2**	PG	**Pg**	**11 56 20.3**	**+0.5**
ELBA	**Catalca**	**0.81**	**327**	*i* P	**Pg**	**11 56 20.2**	**-0.1**
ELBA				*i* S	**Sg**	**11 56 31.4**	**+0.6**
CTT	**Catalca**	**0.81**	**327**	PG	**Pg**	**11 56 20.5**	**+0.2**
CTT	**Catalca**	**0.81**	**327**	Pg	**Pg**	**11 56 20.6**	**+0.3**
EDC	**Edincik**	**0.88**	**262**	PG	**Pg**	**11 56 20.8**	**-0.9**
EDC	**Edincik**	**0.88**	**262**	Pg	**Pg**	**11 56 20.9**	**-0.8**
EDC	**Edincik**	**0.88**	**262**	Pg	**Pg**	**11 56 20.9**	**-0.8**
EYL	**Eskiyayla**	**0.88**	**83**	PG	**Pg**	**11 56 21.2**	**-0.5**
EYL	**Eskiyayla**	**0.88**	**83**	Pg	**Pg**	**11 56 21.3**	**-0.4**
GPA	**Golpazari**	**1.01**	**100**	PG	**Pg**	**11 56 23.8**	**-0.3**
GPA	**Golpazari**	**1.01**	**100**	Pg	**Pg**	**11 56 23.7**	**-0.4**
BTOK	**Tokmak**	**1.03**	**227**	*i* P	**Pg**	**11 56 23.8**	**-0.7**
BTOK				*i* S	**Sg**	**11 56 37.2**	**-0.7**
MRMT	**Marmara Adasi**	**1.08**	**278**	PN	**Pn**	**11 56 24.5**	**-1.5**
BORA	**Eskisehir**	**1.25**	**117**	*i* P	**Pn**	**11 56 27.8**	**-0.6**
BORA				*i* S	**Sb**	**11 56 44.6**	**-0.1**
MFT	**Murefte**	**1.35**	**284**	PN	**Pn**	**11 56 28.4**	**-1.3**
SART	**Tekirdag**	**1.41**	**280**	*i* P	**Pn**	**11 56 30.8**	**+0.3**
SART				*i* S	**Sn**	**11 56 50.0**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.41**	**280**	PN	**Pn**	**11 56 30.0**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.41**	**280**	Pn	**Pn**	**11 56 31.4**	**+0.8**
HENT	**Hendek**	**1.48**	**76**	*i* P	**Pn**	**11 56 31.3**	**-0.2**
HENT				*i* S	**Sn**	**11 56 53.3**	**+2.4**
CANB	**Canakkale**	**1.56**	**254**	PN	**Pn**	**11 56 32.0**	**-0.5**
CANB	**Canakkale**	**1.56**	**254**	Pn	**Pn**	**11 56 31.7**	**-0.8**
CANB	**Canakkale**	**1.56**	**254**	Pn	**Pn**	**11 56 31.7**	**-0.8**
ESKT	**Eskisehir**	**1.70**	**123**	PN	**Pn**	**11 56 34.4**	**-0.1**
ESKT	**Eskisehir**	**1.70**	**123**	*i* P	**Pn**	**11 56 33.5**	**-1.0**
ESKT				*i* S	**Sn**	**11 56 44.4**	**-12**
ESKT	**Eskisehir**	**1.70**	**123**	Pn	**Pn**	**11 56 34.4**	**-0.1**
SEYT	**Eskypehyr**	**1.70**	**123**	*i* P	**Pn**	**11 56 33.5**	**-1.0**
KDZE	**Karadeniz Ereo**	**2.03**	**65**	PN	**Pn**	**11 56 38.6**	**-0.4**
AYVA	**Ayvalik**	**2.13**	**238**	*i* P	**Pn**	**11 56 39.9**	**-0.5**
AYVA				*i* S	**Sn**	**11 57 10.5**	**+3.7**
EZN	**Ezine**	**2.15**	**254**	PN	**Pn**	**11 56 40.6**	**-0.1**
EZN	**Ezine**	**2.15**	**254**	Pn	**Pn**	**11 56 40.8**	**+0.1**
EDRB	**Edirne**	**2.19**	**310**	PN	**Pn**	**11 56 40.4**	**-0.9**
EDRB	**Edirne**	**2.19**	**310**	Pn	**Pn**	**11 56 41.1**	**-0.2**
EDRB	**Edirne**	**2.19**	**310**	Pn	**Pn**	**11 56 41.1**	**-0.2**
ALN	**Alexandroupoli**	**2.29**	**282**	*e*Pn	**Pn**	**11 56 42.3**	**-0.3**
ALN				*e*Sn	**Sn**	**11 57 12.2**	**+1.2**
BOZC	**Bozcaada**	**2.35**	**256**	*i* P	**Pb**	**11 56 47.1**	**-0.1**
BOZC				*i* S	**Sb**	**11 57 17.8**	**+1.6**
IZM	**Izmir**	**2.47**	**214**	*e*PN	**Pn**	**11 56 43.6**	**-1.5**
IZM	**Izmir**	**2.47**	**214**	Pn	**Pn**	**11 56 43.6**	**-1.4**
JMB	**Yambol**	**2.70**	**318**	*e*Pn	**Pn**	**11 56 48.6**	**+0.3**
DENT	**Denizli**	**2.71**	**180**	*e*PN	**Pn**	**11 56 48.4**	**0.0**
ISP	**Isparta**	**2.87**	**156**	*e*Pn	**Pn**	**11 56 49.9**	**-0.7**
ISP	**Isparta**	**2.87**	**156**	*i* P	**Pn**	**11 56 49.9**	**-0.7**
ISP	**Isparta**	**2.87**	**156**	*e*Pn	**Pn**	**11 56 49.8**	**-0.7**
ISP				*e*Pg	**Pg**	**11 56 58.2**	**-1.5**
ISP				*e*Sg	**Sg**	**11 57 38.1**	**+1.2**
SAFT	**Safranbolu**	**2.90**	**73**	*e*PN	**Pn**	**11 56 50.3**	**-0.6**
ANTO	**Ankara**	**2.96**	**100**	⇑*i*P	**Pg**	**11 56 59.5**	**-2.0**
ANTO	**Ankara**	**2.96**	**100**	*e*Pn	**Pn**	**11 56 50.1**	**-1.7**
ANTO				*e*Pg	**Pg**	**11 56 59.6**	**-1.9**
ANTO				*e*Sg	**Sg**	**11 57 42.2**	**+2.3**
ANTO	**Ankara**	**2.96**	**100**	*e*Pn	**Pn**	**11 56 50.1**	**-1.7**
ANTO	**Ankara**	**2.96**	**100**	*e*Pg	**Pg**	**11 56 59.6**	**-1.9**
LOS	**Limnos**	**3.05**	**261**	*e*Pn	**Pn**	**11 56 52.9**	**-0.3**
LOS	**Limnos**	**3.05**	**261**	*e*Pn	**Pn**	**11 56 52.8**	**-0.3**
MLSB	**Milas**	**3.31**	**197**	*e*PN	**Pn**	**11 56 57.4**	**+0.8**
KONT	**Konya--Tatoy**	**3.62**	**133**	*e*PN	**Pn**	**11 57 01.3**	**+0.4**
BR131	**Keskin Array S**	**3.63**	**100**	*e*Pn	**Pn**	**11 57 00.8**	**-0.2**
BR131				*e*Pg	**Pg**	**11 57 12.8**	**-1.5**
BR131	**Keskin Array S**	**3.63**	**100**	*e*PN	**Pn**	**11 57 00.9**	**-0.1**
BR131	**Keskin Array S**	**3.63**	**100**	*e*Pg	**Pg**	**11 57 12.8**	**-1.4**
PLD	**Plovdiv**	**3.63**	**298**	*e*Pn	**Pn**	**11 57 01.1**	**+0.1**
BODT	**Bodrum**	**3.65**	**202**	*e*PN	**Pn**	**11 57 01.8**	**+0.5**
DALT	**Dalyan (Mudla)**	**3.71**	**185**	*e*PN	**Pn**	**11 57 02.7**	**+0.6**
ELL	**Elmali**	**3.78**	**169**	*e*PN	**Pn**	**11 57 03.6**	**+0.5**
KAMT	**Kaman**	**3.78**	**105**	*e*PN	**Pn**	**11 57 03.2**	**+0.1**
TOS	**Tosya**	**3.85**	**80**	*e*PN	**Pn**	**11 57 04.4**	**+0.3**
DAT	**Datca**	**3.90**	**197**	*e*PN	**Pn**	**11 57 04.3**	**-0.4**
TIRR	**Tirgusor**	**4.01**	**354**	⇑*i*P	**Pn**	**11 57 06.5**	**+0.2**
TIRR	**Tirgusor**	**4.01**	**354**	*e*Pn	**Pn**	**11 57 06.3**	**0.0**
TIRR				*e*Sn	**Sn**	**11 57 51.4**	**-1.9**
TIRR	**Tirgusor**	**4.01**	**354**	*e*P	**Pn**	**11 57 06.3**	**0.0**
TIRR				*e*Sn	**Sn**	**11 57 51.4**	**-1.9**
BZK	**Bozkurt**	**4.05**	**67**	*e*PN	**Pn**	**11 57 07.9**	**+1.1**
PAIG	**Paliouri**	**4.12**	**264**	*e*Pn	**Pn**	**11 57 07.5**	**-0.2**
MMB	**Musomiste**	**4.15**	**287**	*e*Pn	**Pn**	**11 57 08.3**	**+0.2**
CORM	**Corum**	**4.31**	**92**	*e*PN	**Pn**	**11 57 11.0**	**+0.7**
APE	**Apeiranthos**	**4.35**	**220**	⇑*i*P	**Pn**	**11 57 15.5**	**+4.6**
APE	**Apeiranthos**	**4.35**	**220**	*c i*P	**Pn**	**11 57 09.5**	**-1.4**
APE	**Apeiranthos**	**4.35**	**220**	⇑P	**Pn**	**11 57 15.5**	**+4.6**
VTS	**Vitosha**	**4.84**	**298**	*e*Pn	**Pn**	**11 57 18.0**	**+0.3**
VTS	**Vitosha**	**4.84**	**298**	⇓*i*P	**Pn**	**11 57 17.9**	**+0.2**
VTS	**Vitosha**	**4.84**	**298**	⇓P	**Pn**	**11 57 17.9**	**+0.3**
DIKM	**Dikmen**	**4.87**	**74**	*e*PN	**Pn**	**11 57 19.3**	**+1.2**
YOZ	**Yozgat**	**4.91**	**98**	*e*PN	**Pn**	**11 57 19.3**	**+0.6**
SEV	**Sevastopol'**	**5.33**	**39**	*e*P	**Pn**	**11 57 24.0**	**-0.4**
SEV				*e*S	**Sn**	**11 58 22.2**	**-3.8**
SEV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SEV				smax			
	comp=E,5.0nm,0.2s						
SEV				smax			
	comp=N,2.0nm,0.3s						
SEV	**Sevastopol'**	**5.33**	**39**	*e*P	**Pn**	**11 57 24.0**	**-0.4**
	comp=N,3.0nm,0.3s						
MLR	**Muntele Rosu**	**5.50**	**337**	⇓*i*P	**Pn**	**11 57 28.7**	**+2.0**
MLR	**Muntele Rosu**	**5.50**	**337**	⇓P	**Pn**	**11 57 28.7**	**+1.9**
BNN	**Bunyan**	**5.52**	**105**	*e*PN	**Pn**	**11 57 28.8**	**+1.8**
YAL	**Yalta**	**5.53**	**42**	*e*P	**Pn**	**11 57 27.6**	**+0.4**
YAL				*e*S	**Sn**	**11 58 29.3**	**-1.6**
YAL				pmax	pmax		
	comp=Z,53μm,0.4s						
YAL				smax			
	comp=N,36μm,0.3s						
YAL				smax			
	comp=E,45μm,0.3s						
YAL	**Yalta**	**5.53**	**42**	*e*P	**Pn**	**11 57 27.6**	**+0.4**
	comp=E,53μm,0.4s						
VRI	**Vrincioaia**	**5.65**	**344**	⇑*i*P	**Pn**	**11 57 30.0**	**+1.3**
VRI	**Vrincioaia**	**5.65**	**344**	⇑P	**Pn**	**11 57 30.0**	**+1.2**
VOIR		**5.75**	**331**	⇓*i*P	**Pn**	**11 57 31.3**	**+1.1**
VOIR		**5.75**	**331**	⇓P	**Pn**	**11 57 31.3**	**+1.1**
ALU	**Alushta**	**5.79**	**42**	*e*P	**Pn**	**11 57 30.7**	**-0.1**
ALU				*e*S	**Sn**	**11 58 34.4**	**-2.9**
ALU				pmax	pmax		
	comp=Z,30nm,0.5s						
ALU				smax			
	comp=N,50nm,0.5s						
ALU	**Alushta**	**5.79**	**42**	*e*P	**Pn**	**11 57 30.7**	**-0.1**
	comp=N,30nm,0.5s						
SUDU	**Sudak**	**6.25**	**43**	*e*P	**Pn**	**11 57 36.5**	**-0.5**
SUDU				*e*S	**Sn**	**11 58 44.0**	**-4.4**
SUDU				smax			
	comp=E,40nm,0.7s						
GZR	**Gura Zlata**	**6.72**	**319**	⇑*i*P	**Pn**	**11 57 43.7**	**+0.3**
GZR	**Gura Zlata**	**6.72**	**319**	⇑P	**Pn**	**11 57 43.7**	**+0.3**
BURAR	**Bucovina Array**	**7.65**	**340**	⇓*i*P	**Pn**	**11 57 58.0**	**+1.8**
BURAR	**Bucovina Array**	**7.65**	**340**	⇓P	**Pn**	**11 57 58.0**	**+1.8**
DRGR		**7.79**	**326**	⇑*i*P	**Pn**	**11 57 56.7**	**-1.5**
DRGR		**7.79**	**326**	⇑P	**Pn**	**11 57 56.7**	**-1.5**
LVV	**L'vov**	**9.99**	**341**	*e*P	**Pn**	**11 58 27.1**	**-1.2**
LVV				MLR	MLR		
	comp=Z,100nm,14.0s						
LVV				MLR	MLR		
	comp=N,100nm,12.0s						
LVV				MLR	MLR		
	comp=E,100nm,13.0s						
AKASG	**Malin Array Be**	**10.23**	**1**	*i* P	**Pn**	**11 58 36.2**	**+4.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**10.23**	**1**	*i* P	**Pn**	**11 58 36.2**	**+4.5**
	comp=Z,1.0nm,0.4s						
KHC	**Kasperske Hory**	**13.94**	**314**	*i* P	**Pn**	**11 59 26.7**	**+4.3**
MKAR	**Makanchi Array**	**38.45**	**62**	*i* P	**P**	**12 03 27.1**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**39.20**	**51**	*i* P	**P**	**12 03 38.7**	**+5.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***25*** *11:56:26.5±2.7, 56S±0.1×1467E±02, h86km±22km, mb4.4/4, Error ellipse: s-maj=31.8km s-min=21.2km az=146.9*
NEIC ***25*** *11:56:26.5±4.5, 528S×14659E, h86km±31km, mb4.7/3, Error ellipse: s-maj=43.8km s-min=26.2km az=196.0*
IDC ***25*** *11:56:30.9±2.4, 575S×14679E, h115km±28km, mb4.1/3, mb1 4.2/5, mb1mx3.8/13, mbtmp4.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=49.6km s-min=16.3km az=100.0*

ISC 25 11:56:29.9±2.2, 57S±01×1466E±02, h95km±20km, n19, σ0°64/22, mb4.4/4, 1C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**172**	P	**Pn**	**11 57 25.9**	**+0.4**
	25nm,0.3s,baz=347,slow=14,SNR=104						
PMG				S	**Sn**	**11 58 08.6**	**0.0**
	23nm,0.3s,baz=90,slow=20,SNR=9.3						
PMG	**Port Moresby**	**3.75**	**172**	*e*Pn	**Pn**	**11 57 25.7**	**+0.1**
CTA	**Charters Tower**	**14.33**	**181**	*e*P	**Pn**	**11 59 52.4**	**+4.2**
	2.7nm,0.3s						
CTA	**Charters Tower**	**14.33**	**181**	P	**Pn**	**11 59 52.0**	**+3.9**
	1.3nm,0.3s,baz=4.4,slow=15,SNR=10						
CTAO	**Charters Tower**	**14.33**	**181**	*e*P	**Pn**	**11 59 52.3**	**+4.1**
	4.4nm,0.4s						
KAKA	**Kakadu**	**15.62**	**242**	*e*P	**Pn**	**12 00 05.0**	**+0.4**
	14nm,0.4s						
WB2	**Warramunga Arr**	**18.52**	**219**	*e*P	**Pn**	**12 00 38.8**	**-1.2**
WB2				*e*S	**S**	**12 04 17.0**	**+12**
WRA	**Warramunga Arr**	**18.53**	**219**	P	**Pn**	**12 00 39.0**	**-1.1**
	1.7nm,0.3s,baz=41,slow=11,SNR=35						
WRA				S	**S**	**12 04 14.3**	**+9.2**
	0.0nm,0.3s,baz=39,slow=18,SNR=6.2						
AS31	**Alice Springs**	**21.67**	**213**	⇓*i*P	**P**	**12 01 13.1**	**+0.4**
ASAR	**Alice Springs**	**21.67**	**213**	P	**P**	**12 01 13.2**	**+0.5**
	6.1nm,0.6s,mb4.1,baz=48,slow=8.7,SNR=124						
ASAR				S	**S**	**12 05 07.1**	**0.0**
	0.6nm,0.8s,baz=30,slow=18,SNR=4.2						
ASAR				LR	LR	12 10 06.7	
	comp=Z,69nm,20.3s,baz=165,slow=38						
ASAR	**Alice Springs**	**21.67**	**213**	P	**P**	**12 01 13.2**	**+0.5**
ASAR				S	**S**	**12 05 07.1**	**0.0**
ASPA	**Alice Springs**	**21.67**	**213**	⇓*i*P	**P**	**12 01 13.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.91**	**237**	⇑*i*P	**P**	**12 01 35.2**	**+0.4**
	38nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**23.91**	**237**	P	**P**	**12 01 35.6**	**+0.8**
	25nm,0.7s,mb4.7,baz=58,slow=7.2,SNR=43						
STKA	**Stephens Creek**	**26.48**	**190**	P	**P**	**12 01 57.6**	**-0.6**
	2.0nm,0.4s,mb3.9,baz=22,slow=11,SNR=4.2						
KLBR	**Kellerberrin**	**37.34**	**223**	*e*P	**P**	**12 03 33.4**	**+0.4**
	5.6nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**77.00**	**321**	P	**P**	**12 08 11.9**	**-0.3**
	0.2nm,0.8s,baz=116,slow=6.7,SNR=2.9						
MKAR				pP	pP	12 08 41.4	+4.6
	0.5nm,0.7s,baz=98,slow=7.5,SNR=5.1						
BVAR	**Borovoye Array**	**86.28**	**324**	pP	pP	12 09 29.3	+3.3
	0.8nm,0.7s,baz=101,slow=7.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**144.63**	**285**	PKP	PKPdf	12 15 54.8	-0.5
	0.3nm,0.6s,baz=82,slow=2.3,SNR=4.3						
TORD				pPKP	pPKPdf	12 16 26.9	+5.3
	0.3nm,0.6s,baz=42,slow=3.6,SNR=1.6						

IDC 25 11:56:43.0±2.1, 2914N×14041E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/21, mbtmp3.6/4, ML3.9/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/27, Error ellipse: s-maj=56.9km s-min=27.9km az=64.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.57**	**142**	Pn	Pn	11 57 26.1	+0.2
	47nm,0.3s,baz=322,slow=18,SNR=30						
CBIJ				Sn	Sn	11 57 57.5	-0.4
	50nm,0.3s,baz=126,slow=21,SNR=8.5						
MJAR	**Matsushiro Arr**	**7.61**	**347**	Pn	Pn	11 58 34.7	-0.5
	0.3nm,0.3s,baz=185,slow=13,SNR=3.9						
MJAR				LR	LR	12 01 21.8	
	comp=Z,168nm,20.2s,baz=100,slow=37						
JOW	**Kunigami**	**10.97**	**261**	LR	LR	12 02 54.8	
	comp=Z,54nm,20.5s,baz=140,slow=34						
WRA	**Warramunga Arr**	**49.14**	**188**	P	P	12 05 31.6	-0.8
	0.6nm,0.7s,baz=4.4,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**52.87**	**187**	P	P	12 06 01.8	+1.3
	1.1nm,1.1s,baz=6.3,slow=9.3,SNR=2.8						

NNC 25 12:17:51.9±3.1, 5684N×6036E, h31km±24km, mb3.6, mpv3.2, 13C-5D, Error ellipse: s-maj=22.7km s-min=10.1km az=156.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRNK	**Zerenda**	**6.33**	**124**	⇑Pn	Pn	12 19 24.1	+1.2
	2.1nm,0.8s						
ZRNK				⇑Sn	Sn	12 20 36.2	+2.1
	3.3nm,0.6s						
ZRNK				⇑Lg		12 21 11.5	
	8.4nm,1.0s						
ZRNK	**Zerenda**	**6.33**	**124**	Pn	Pn	12 19 24.1	+1.1
	2.1nm,0.8s						
ZRNK				Sn	Sn	12 20 36.2	+2.0
	3.3nm,0.6s						
ZRNK				Lg		12 21 11.5	
	8.4nm,1.0s			

KMI LR LR
comp=Z,244nm,12.9s,MS3.9
KMI Kunming 24.47 12 P **P 12 53 21.6 +0.7**
comp=Z,18nm,1.2s,mb4.4
KMI pP 12 53 30.2
KMI sP sP 12 53 35.1 -0.9
KMI PP 12 53 50.8
KMI S **S 12 57 21.7 -17**
KMI sS sS 12 57 38.0 -18
KMI SS 12 58 09.3
KMI LR LR
comp=Z,240nm,12.9s,MS3.9
JIRN Jiri 28.56 339 *e*P **P 12 53 59.1 +1.4**
comp=Z,9.1nm,0.8s,mb4.6
PKI Pulchoki 28.77 337 *e*P **P 12 54 00.2 +0.6**
comp=Z,12nm,0.8s,mb4.7
GUN Gumba 28.90 339 *e*P **P 12 54 01.4 +0.7**
comp=Z,21nm,0.8s,mb4.9
DMN Daman 28.92 337 *e*P **P 12 54 02.3 +1.4**
comp=Z,24nm,1.0s,mb4.9
KKN Kakani 29.02 337 *e*P **P 12 54 01.0 -0.7**
comp=Z,10nm,0.6s,mb4.7
GKN Gorkha 29.46 337 *e*P **P 12 54 06.0 +0.3**
comp=Z,9.7nm,0.6s,mb4.7
KOLN Koldanda 29.68 335 *e*P **P 12 54 08.5 +0.9**
comp=Z,14nm,0.7s,mb4.8
XAN Xi'an 34.54 17 P **P 12 54 48.8 -1.4**
XAN AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
GTA Gaotai 38.24 3 *e*P **P 12 55 21.5 -0.3**
GTA AP pP 12 55 29.0 -3.6
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.3
WRA Warramunga Arr 41.77 122 P **P 12 55 51.3 +0.2**
comp=Z,1.1nm,0.9s,mb3.5,baz=302,slow=9.0,SNR=6.3
BJT Baijiatuau 42.37 21 *e*P **P 12 55 56.7 +0.7**
comp=Z,11nm,0.4s,mb4.8
BJI Beijing 42.39 21 *e*P **P 12 55 57.0 +0.9**
BJI AMB AMB
comp=Z,19nm,0.7s,mb4.8
BJI LR LR
comp=Z,30nm,13.0s,MS3.4
BJI Beijing 42.39 21 *e*P **P 12 55 56.9 +0.8**
BJI LR LR
comp=Z,30nm,13.0s,MS3.4
ASAR Alice Springs 43.13 127 P **P 12 56 02.6 +0.5**
comp=Z,0.5nm,0.6s,mb3.4,baz=300,slow=7.4,SNR=10
WMQ Urumqi 43.45 350⇓*i*P **P 12 56 05.8 +1.1**
WMQ AP pP 12 56 14.0 -1.7
WMQ XP sP 12 56 17.0 -3.2
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,117nm,5.6s
WMQ LR LR
comp=N,133nm,21.4s,MS4.0
WMQ LR LR
comp=E,137nm,19.8s,MS4.0
WMQ LR LR
comp=Z,142nm,20.7s,MS3.9
SONM Songino Array 47.24 8 P **P 12 56 35.0 +0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=191,slow=9.4,SNR=19
SONM PcP PcP 12 58 06.0 +0.4
comp=Z,1.5nm,0.6s,baz=181,slow=3.6,SNR=7.3
ULN Ulaanbaatar 47.37 9 *e*P **P 12 56 35.4 -0.3**
comp=Z,2.5nm,0.7s,mb4.2
MK31 Makanchi Array 47.44 346 *e*P **P 12 56 36.2 0.0**
MKAR Makanchi Array 47.44 346 P **P 12 56 36.2 -0.1**
comp=Z,6.6nm,0.7s,mb4.7,baz=159,slow=7.6,SNR=69
MKAR Makanchi Array 47.44 346 P **P 12 56 36.2 -0.1**
CN2 Changchun 49.34 27 *e*P **P 12 56 50.5 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ZAL Zalesovo 53.73 351 P **P 12 57 24.2 +0.5**
comp=Z,6.5nm,0.5s,mb4.8,baz=317,slow=6.3,SNR=25
BRVK Borovoye 56.52 341 *e*P **P 12 57 42.6 -1.2**
comp=Z,4.9nm,0.9s,mb4.5
BRTR Keskin Array B 69.37 312 P **P 12 59 08.3 -1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=125,slow=7.2,SNR=3.6
FINES FINESS Array B 80.23 332 P **P 13 00 11.1 -1.0**
comp=Z,4.2nm,1.0s,mb4.3,baz=133,slow=11,SNR=3.9
ARCES ARCESS Array B 82.75 340 P **P 13 00 25.0 -0.4**
comp=Z,3.6nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=7.5
GERES GERESS Array B 85.07 319 P **P 13 00 36.5 -0.7**
comp=Z,1.9nm,0.7s,mb4.3,baz=82,slow=28,SNR=7.2
NB2 NORSAR Subarra 87.24 331 P **P 13 00 47.0 -0.9**
comp=Z,1.0nm,0.8s,mb4.1,baz=97,slow=4.6
NOA NORSAR Array B 87.24 331 P **P 13 00 47.5 -0.4**
comp=Z,1.4nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=4.7

MOS 25 12:57:56.6±0.2, 4231N×4567E, h18km, mb3.6/1, 5C-2D, Error ellipse: s-maj=58.8km s-min=13.2km az=44.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.99**	**320**	⇑*i*PG	Pg	12 58 15.1	-0.7
SNJR				*i* S	Sb	12 58 27.2	-0.7
LACR	**Lac**	**1.14**	**297**	⇑*i*PG	Pg	12 58 17.6	-1.1
LACR				*i* S	Sb	12 58 31.5	-0.7
BTKR	**Batakoyurt**	**1.35**	**322**	⇓*i*PG	Pg	12 58 20.8	-1.8
BTKR				*i* S	Sn	12 58 37.0	-0.9
ARNR	**Ardon**	**1.35**	**311**	⇑*i*PG	Pg	12 58 20.8	-1.9
ARNR				*i* S	Sn	12 58 37.0	-1.0
ZEI	**Tsey**	**1.39**	**290**	⇑*i*PG	Pg	12 58 21.6	-1.8
ZEI				*i* S	Sn	12 58 38.4	-0.6
KORR	**Kora**	**1.41**	**304**	⇑*i*PG	Pg	12 58 21.6	-2.3
DIGR	**Digorskoe uzhe**	**1.65**	**292**	⇓*i*PN	Pn	12 58 25.1	+0.4

*IDC **25** 13:04:30.8±2.4, 1223N×87.12W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=54.9km s-min=23.5km az=26.0*
*ISCJB **25** 13:04:31.6±1.6, 116N±0.1×8748W±009, h54km±11km, mb4.0/8, Error ellipse: s-maj=23.2km s-min=10.3km az=63.5*
*CASC **25** 13:04:31.2±2.3, 1232N×8703W, h147km±28km, MD4.1, mb4.1(NEIC)*
*NEIC **25** 13:04:33.8±1.7, 1169N×8737W, h54km±13km, mb4.1/2, Error ellipse: s-maj=27.6km s-min=9.9km az=207.0*
ISC 25 13:04:33.2±1.4, 116N±01×8742W±008, h50km±11km, n30, σ0§73/25, mb4.0/8, 5C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.94**	**33**	⇑*i*P	**Pn**	**13 04 49.9**	**-0.2**
COPN	**Copaltepe**	**0.98**	**56**	⇓*i*P	**Pn**	**13 04 50.4**	**-0.2**
MIRN	**Miramar**	**1.06**	**41**	⇓*e*P	**Pn**	**13 04 51.5**	**-0.3**
CNGN	**Cerro Negro**	**1.12**	**39**	⇑*e*P	**Pn**	**13 04 52.2**	**-0.3**
CRIN	**San Cristobal**	**1.12**	**19**	⇓*i*P	**Pn**	**13 04 52.6**	**+0.1**
TELN	**Telica**	**1.13**	**31**	⇓*e*P	**Pn**	**13 04 52.6**	**-0.1**
XAVN	**Gruta Xavier**	**1.19**	**64**	*e*P	**Pn**	**13 04 53.0**	**-0.5**
APYN	**Apoyeque**	**1.21**	**60**	⇑*e*P	**Pn**	**13 04 53.4**	**-0.3**
TICN	**Ticuantepe**	**1.23**	**71**	*e*P	**Pn**	**13 04 54.3**	**+0.3**
MGAN	**Managua**	**1.26**	**66**	⇓*e*P	**Pn**	**13 04 54.0**	**-0.4**
MGAN				*e*S	**Sn**	**13 05 12.1**	**+1.8**
SSNN	**San Juan del S**	**1.58**	**102**	*e*P	**Pn**	**13 05 03.0**	**+4.2**
CNCH	**Conchagua**	**1.69**	**346**	⇑*e*P	x	13 05 12.5	
CNCH				*e*S	x	13 05 33.2	
CONN	**Concepcion**	**1.76**	**92**	*e*P	**Pn**	**13 05 00.3**	**-1.0**
MADN	**Villa Maderas**	**1.86**	**97**	*e*P	**Pn**	**13 05 03.1**	**+0.5**
SNVI	**San Vicente**	**2.41**	**325**	*e*P	x	13 05 21.6	
SNVI				*e*S	x	13 05 51.4	
TGUH	**Tegucigalpa,Un**	**2.42**	**3**	*e*Pn	**Pn**	**13 05 10.3**	**+0.1**
LCBS	**La Ceiba**	**2.52**	**323**	⇑*e*P	x	13 05 23.8	
LCBS				*e*S	x	13 05 54.4	
CMIG	**Matias Romero**	**9.04**	**308**	Pn	**Pn**	**13 06 41.3**	**+0.3**
	0.4nm,0.3s,baz=123,slow=11,SNR=3.5						
ROSC	**El Rosal**	**14.59**	**116**	LR	LR	13 14 13.5	
	comp=Z,42nm,19.1s,baz=3.3,slow=40						
SDV	**Santo Domingo**	**16.74**	**98**	Pn	**Pn**	**13 08 23.8**	**-0.4**
	0.4nm,0.3s,baz=310,slow=16,SNR=2.3						
PCRV	**Puerto La Cruz**	**22.42**	**91**	P	**P**	**13 09 28.6**	**+1.1**
	2.9nm,0.4s,mb4.1,baz=326,slow=7.3,SNR=3.8						
TXAR	**Lajitas Array**	**23.23**	**322**	P	**P**	**13 09 37.2**	**+1.2**
	1.8nm,0.6s,mb3.7,baz=133,slow=10.0,SNR=28						
TKL	**Tuckaleechee C**	**24.15**	**7**	P	**P**	**13 09 44.1**	**-0.4**
	9.0nm,0.8s,mb4.2,baz=195,slow=7.7,SNR=6.5						
WMOK	**Wichita Mounta**	**25.22**	**338**	*e*P	**P**	**13 09 54.8**	**+0.5**
	3.3nm,1.1s,mb3.8						
PDAR	**Pinedale Array**	**36.51**	**332**	P	**P**	**13 11 33.5**	**-0.1**
	0.5nm,0.6s,mb3.5,baz=128,slow=10,SNR=4.5						
REDW	**Red Top Meadow**	**37.56**	**332**	*e*P	**P**	**13 11 43.6**	**+0.9**
	3.6nm,0.7s,mb4.2						
ULM	**Lac du Bonnet**	**39.13**	**351**	P	**P**	**13 11 54.4**	**-1.4**
	2.0nm,0.8s,mb3.9,baz=149,slow=12,SNR=2.9						
SCHQ	**Schefferville**	**46.05**	**16**	P	**P**	**13 12 51.0**	**-1.0**
	3.6nm,0.8s,mb4.4,baz=204,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**138.99**	**247**	PKP	PKPdf	13 24 02.5	+8.4
	0.5nm,0.8s,baz=117,slow=1.2,SNR=4.2						
WRA	**Warramunga Arr**	**139.06**	**253**	PKP	PKPdf	13 24 02.6	+8.3
	0.7nm,0.7s,baz=95,slow=1.9,SNR=7.1						

*CSEM **25** 13:34:13.7±0.1, 4154N×1380E, h12km, ML3.5/3, Error ellipse: s-maj=1.6km s-min=0.9km az=18.0*
*ISCJB **25** 13:34:14.0±0.3, 4152N±003×1370E±002, h10km, Error ellipse: s-maj=4.2km s-min=2.2km az=13.8*
*ROM **25** 13:34:14.2±0.2, 4155N×1379E, h9km±2km, Md3.2/8, Ml3.4/27, Error ellipse: s-maj=2.0km s-min=1.3km az=162.0*
*NEIC **25** 13:34:14.2, 4155N×1379E, h9km, MD3.5(PDG), ML3.2(LDG), ML3.4(ROM), After ROM.*
*PDG **25** 13:34:15.7±0.6, 4162N×1380E, h1km±1km*
*LDG **25** 13:34:17.1±0.3, 4142N×1368E, h10km, Ml3.2/3, Error ellipse: s-maj=10.5km s-min=5.0km az=10.0*
ISC 25 13:34:15.2±0.3, 4154N±003×1373E±002, h10km, n63, σ1§43/87, 5C-5D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDI	**San Donato**	**0.18**	**20**	Pg	**Pg**	**13 34 18.3**	**-0.8**
CERA	**Filignano**	**0.23**	**75**	Pg	**Pg**	**13 34 18.3**	**-1.6**
CERA				Sg	**Sg**	**13 34 22.2**	**-0.9**
	18μm,0.4s						
VVLD	**Villa Vallelon**	**0.34**	**347**	Pg	**Pg**	**13 34 21.3**	**-0.7**
VVLD				Sg	**Sg**	**13 34 27.3**	**+0.7**
	8μm,0.9s						
GIUL	**Giuliano Di Ro**	**0.35**	**274**	Pg	**Pg**	**13 34 22.7**	**+0.5**
GIUL				Sg	**Sg**	**13 34 29.7**	**+2.8**
	2μm,0.7s						
RNI2	**Rionero Sannit**	**0.36**	**63**	Pg	**Pg**	**13 34 21.0**	**-1.3**
	6μm,0.5s						
GUAR	**Guarcino**	**0.40**	**310**	Pg	**Pg**	**13 34 23.4**	**+0.3**
	2μm,0.5s						
VAGA	**Valle Agricola**	**0.40**	**107**	Pg	**Pg**	**13 34 21.4**	**-1.7**
	4μm,0.4s						
MIDA	**Miranda**	**0.41**	**75**	Pg	**Pg**	**13 34 21.3**	**-2.0**
MIDA				Sg	**Sg**	**13 34 27.8**	**-0.9**
	5μm,0.8s						
INTR	**Introdacqua**	**0.49**	**16**	Pg	**Pg**	**13 34 22.6**	**-2.2**
	9μm,1.2s						
SGG	**Gregorio Mates**	**0.51**	**107**	Pg	**Pg**	**13 34 23.6**	**-1.6**
	4μm,1.0s						
BSSO	**Busso**	**0.65**	**89**	Pg	**Pg**	**13 34 26.1**	**-1.7**
	2μm,1.1s						
TRIV	**Trivento**	**0.66**	**69**	Pg	**Pg**	**13 34 26.1**	**-1.9**
	1μm,0.7s						
CERT	**Cerreto**	**0.69**	**307**	Pg	**Pg**	**13 34 28.1**	**-0.5**
CERT				Sg	**Sg**	**13 34 39.2**	**+1.6**
	2μm,0.5s						
FAGN	**Fagnano**	**0.74**	**352**	Pg	**Pg**	**13 34 28.5**	**-0.9**
	3μm,0.5s						
SACR	**S. Croce Del S**	**0.75**	**100**	Pg	**Pg**	**13 34 28.2**	**-1.5**
	2μm,0.9s						
VENT	**Ventotene**	**0.78**	**197**	Pg	**Pg**	**13 34 29.3**	**-0.9**
	1μm,0.4s						
RDP	**Rocca di Papa**	**0.79**	**287**	Pg	**Pg**	**13 34 30.4**	**0.0**
	4μm,0.7s						
FRES	**Fresagrandinar**	**0.83**	**58**	Pg	**Pg**	**13 34 29.5**	**-1.7**
	2μm,0.9s						
AQU	**L'Aquila**	**0.85**	**344**	Pg	**Pg**	**13 34 30.9**	**-0.7**
AQU	**L'Aquila**	**0.85**	**344**	*e*Pg	**Pg**	**13 34 31.1**	**-0.5**
FIAM	**Fiamignano**	**0.86**	**328**	Pg	**Pg**	**13 34 31.2**	**-0.6**
	2μm,1.1s						
VCEL	**Villa Celiera**	**0.86**	**6**	Pg	**Pg**	**13 34 30.1**	**-1.7**
	2μm,0.9s						
MTCE	**Montecelio**	**0.88**	**304**	Pg	**Pg**	**13 34 31.2**	**-1.0**
	1μm,0.8s						
TERO	**Teramo**	**1.09**	**355**	Pg	**Pg**	**13 34 34.7**	**-1.4**
	759nm,0.9s						
MNS	**Montasola**	**1.15**	**318**	Pg	**Pg**	**13 34 35.9**	**-1.4**
	700nm,0.9s						
CAFE	**Carife**	**1.25**	**114**	Pg	**Pg**	**13 34 37.2**	**-2.0**
	485nm,0.8s						
MCRV	**Calabrutti - M**	**1.32**	**124**	Pg	**Pn**	**13 34 38.0**	**-1.8**
	271nm,0.6s						
TOLF	**Tolfa**	**1.39**	**293**	Pg	**Pg**	**13 34 40.7**	**-1.3**
	247nm,0.7s						
RGNG	**Rignano Grg**	**1.40**	**84**	Pg	**Pn**	**13 34 39.7**	**-1.1**
SGRT	**San Giovanni R**	**1.53**	**81**	Pg	**Pn**	**13 34 41.7**	**-0.9**
	390nm,0.8s						
MSAG	**Monte S. Angel**	**1.65**	**83**	Pg	**Pn**	**13 34 43.9**	**-0.3**
	599nm,0.7s						
FGMS	**Monte Sant'Ang**	**1.68**	**83**	Pg	**Pn**	**13 34 44.1**	**-0.5**
	168nm,0.6s						
TIP	**Timpagrande**	**3.31**	**134**	*e*Pn	**Pn**	**13 35 08.3**	**+1.3**
PGF	**Pioggiola**	**3.66**	**288**	*e*Pn	**Pn**	**13 35 12.0**	**+0.1**
PGF				*e*Sn	**Sn**	**13 35 54.0**	**-1.1**
	12nm,0.5s						
PGF	**Pioggiola**	**3.66**	**288**	*e*Pn	**Pn**	**13 35 12.0**	**+0.1**
PGF				*e*Sn	**Sn**	**13 35 54.0**	**-1.1**
	6.2nm,0.5s						
HCY	**Herceg Novi**	**3.67**	**74**	⇓*i*Pn	**Pn**	**13 35 13.8**	**+1.8**
HCY				*e*Sn	**Sn**	**13 35 58.3**	**+2.9**
BRY	**Bratogost**	**3.83**	**68**	⇓*i*Pn	**Pn**	**13 35 15.5**	**+1.3**
BRY				*e*Sn	**Sn**	**13 36 02.3**	**+3.1**
VSL	**Villasalto**	**3.89**	**240**	*e*Pn	**Pn**	**13 35 15.2**	**+0.1**
VSL				*e*Sn	**Sn**	**13 36 01.9**	**+1.2**
VSL	**Villasalto**	**3.89**	**240**	*e*Pn	**Pn**	**13 35 15.1**	**+0.1**
VSL				*e*Sn	**Sn**	**13 36 01.9**	**+1.1**
BUM	**Brajici-Budva**	**3.94**	**77**	⇑*i*Pn	**Pn**	**13 35 17.1**	**+1.5**
BUM				*e*Sn	**Sn**	**13 36 05.1**	**+3.2**
BUM	**Brajici-Budva**	**3.94**	**77**	⇑*i*Pn	**Pn**	**13 35 17.1**	**+1.4**
NKY	**Niksic**	**4.12**	**70**	⇑*i*Pn	**Pn**	**13 35 19.8**	**+1.6**
NKY				*e*Sn	**Sn**	**13 36 08.8**	**+2.4**
ULC	**Ulcinj**	**4.16**	**82**	⇓*i*Pn	**Pn**	**13 35 20.8**	**+2.1**
ULC				*e*Sn	**Sn**	**13 36 10.3**	**+3.0**
UPM	**Unac-Piva**	**4.19**	**65**	⇓*i*Pn	**Pn**	**13 35 20.6**	**+1.5**
UPM				*e*Sn	**Sn**	**13 36 10.6**	**+2.5**
TTG	**Podgorica**	**4.22**	**76**	⇓*i*Pn	**Pn**	**13 35 20.7**	**+1.1**
TTG				*e*Sn	**Sn**	**13 36 11.2**	**+2.2**
VOY	**Vojsko**	**4.50**	**1**	Pn	**Pn**	**13 35 25.5**	**+2.2**
PLE	**Pljevlja**	**4.56**	**65**	⇑*i*Pn	**Pn**	**13 35 26.4**	**+2.1**
PLE				*e*Sn	**Sn**	**13 36 19.5**	**+2.2**
PVY	**Plav**	**4.77**	**75**	⇑*i*Pn	**Pn**	**13 35 28.8**	**+1.6**
PVY				*e*Sn	**Sn**	**13 36 25.4**	**+2.9**
SBF	**Sospel**	**5.18**	**299**	*e*Pn	**Pn**	**13 35 33.6**	**+0.8**
OHR	**Ohrid**	**5.34**	**92**	*e*Pn	**Pn**	**13 35 34.9**	**-0.1**
FRF	**La Foret Royal**	**5.61**	**293**	*e*Pn	**Pn**	**13 35 38.8**	**+0.2**
FRF				*e*Sn	**Sn**	**13 36 40.0**	**-3.1**
	6.0nm,0.3s						
FRF	**La Foret Royal**	**5.61**	**293**	*e*Pn	**Pn**	**13 35 38.8**	**+0.2**
FRF				*e*Sn	**Sn**	**13 36 40.0**	**-3.1**
	3.0nm,0.3s						
LMR	**La Mourre**	**5.63**	**291**	*e*Pn	**Pn**	**13 35 39.5**	**+0.5**
LMR				*e*Sn	**Sn**	**13 36 40.3**	**-3.4**
	4.7nm,0.4s						
LMR	**La Mourre**	**5.63**	**291**	*e*Pn	**Pn**	**13 35 39.5**	**+0.5**
LMR				*e*Sn	**Sn**	**13 36 40.3**	**-3.4**
	2.3nm,0.4s						
KRUS	**Krusevo**	**5.66**	**89**	*e*Pn	**Pn**	**13 35 38.6**	**-0.7**
KRUS				*e*Sg	**Sn**	**13 36 38.5**	**-5.8**
KRUS	**Krusevo**	**5.66**	**89**	*e*Pn	**Pn**	**13 35 38.5**	**-0.8**
BIA	**Bitola**	**5.75**	**93**	*e*Pn	**Pn**	**13 35 40.9**	**+0.3**
BIA				*e*Sg	**Sn**	**13 36 42.0**	**-4.6**
MBDF	**Montbardon**	**6.00**	**304**	*e*Pn	**Pn**	**13 35 45.2**	**+1.1**
SMRF	**Simiane la Rot**	**6.47**	**295**	*e*Pn	**Pn**	**13 35 52.4**	**+1.8**
ORIF	**Oris-en-Rattie**	**6.65**	**303**	*e*Pn	**Pn**	**13 35 53.9**	**+0.9**
CABF	**La Chapelle**	**7.48**	**315**	*e*Sn	**Sn**	**13 37 21.8**	**-7.4**
LASF	**Ste Croix**	**7.69**	**293**	*e*Pn	**Pn**	**13 36 07.0**	**-0.2**
VYHS	**Vyhne**	**7.84**	**26**	*e*PN	**Pn**	**13 36 09.1**	**-0.2**

IDC 25 13:37:58.2±2.2, 662S×12937E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=89.1km s-min=28.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.98**	**197**	Pn	Pn	13 40 48.2	-2.0
	0.2nm,0.3s,baz=41,slow=13,SNR=9.0						
FITZ				Sn	Sn	13 42 43.8	-21
	0.6nm,0.3s,baz=114,slow=23,SNR=5.1						
WRA	**Warramunga Arr**	**14.10**	**160**	Pn	Pn	13 41 19.7	+0.6
	0.4nm,0.3s,baz=346,slow=13,SNR=13						
WRA				Sn	Sn	13 43 41.7	-15
	0.4nm,0.3s,baz=334,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.50**	**166**	P	Pn	13 42 05.3	+1.7
	0.3nm,0.3s,baz=341,slow=10,SNR=24						
ASAR				S	Sn	13 45 08.5	-11
	0.2nm,0.3s,baz=235,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	13 48 56.7	+0.2
	0.2nm,0.3s,baz=118,slow=7.6,SNR=4.1						

JMA 25 13:49:27.4±0.2, 4368N×14725E, h26km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.14**	**254**	P	Pn	13 49 47.9	+0.2
NEM2				*e*S	Sn	13 50 02.7	+0.3
JRA	**Rausu**	**1.56**	**280**	P	Pn	13 49 53.8	+0.3
JRA				S	Sn	13 50 13.6	+0.8
JNK	**Nakash**	**1.84**	**268**	P	Pn	13 49 57.9	+0.6
JNK				*e*S	Sn	13 50 20.2	+0.5
JAK	**Akkeshi**	**1.98**	**251**	P	Pn	13 49 59.8	+0.5
JAK				*e*S	Sn	13 50 23.6	+0.3
JTKR	**Abashiri--Toko**	**2.44**	**278**	P	Pn	13 50 06.9	+1.4
JAR	**Ashorobuto**	**2.56**	**263**	P	Pn	13 50 08.8	+1.6
JAR				*e*S	Sn	13 50 39.5	+2.0
JOB	**Onbets**	**2.61**	**254**	P	Pn	13 50 09.2	+1.3
JMP	**Maruseppu**	**2.83**	**278**	P	Pn	13 50 12.6	+1.7
JCH	**Churui**	**3.04**	**251**	P	Pn	13 50 15.1	+1.3
JCH				*e*S	Sn	13 50 49.8	+0.5
JFR	**Furan**	**3.43**	**263**	*e*S	Sn	13 51 01.4	+2.4
JEM	**Erimo**	**3.44**	**242**	P	Pn	13 50 22.6	+3.3
JNBK	**Urakawa-nobuka**	**3.58**	**249**	P	Pn	13 50 22.4	+1.1

*NEIC **25** 13:52:53.3, 2921S×7042W, h91km, MD3.5(GUC), After GUC.*
GUC 25 13:52:53.3±0.8, 2921S×7042W, h91km±10km, MD3.5, ML3.5, 4C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.70**	**334**	*e*P	Pn	13 53 10.1	+0.2
VACH				*i* S	Sn	13 53 22.7	+0.4
LSCH	**La Serena**	**1.01**	**226**	*e*P	Pn	13 54 17.0	+64
LSCH				*i* S	Sn	13 54 32.4	+64
TLL	**Tololo Astrono**	**1.02**	**199**	⇑*e*P	Pn	13 53 14.3	+1.1
TLL				*i* S	Sn	13 53 30.2	+2.0
TLL				AML	AML	13 53 32.2	
	comp=E,1μm,0.3s						
TLL	**Tololo Astrono**	**1.02**	**199**	⇑*e*P	Pn	13 53 14.3	+1.1
TLL				*i* S	Sn	13 53 30.2	+2.0
OVCH	**Ovalle**	**1.56**	**206**	⇑*i*P	Pn	13 53 20.0	+0.3
OVCH				*i* S	Sn	13 53 39.9	+0.1
OVCH				AML	AML	13 53 40.7	
	comp=N,812nm,0.5s						
OVCH	**Ovalle**	**1.56**	**206**	⇑*i*P	Pn	13 53 20.0	+0.3
OVCH				*i* S	Sn	13 53 39.9	+0.1
CMCH	**Combarbala**	**2.03**	**194**	⇓*i*P	Pn	13 53 26.1	+0.2
CMCH				*i* S	Sn	13 53 51.3	+0.6
CMCH				AML	AML	13 53 52.4	
	comp=N,604nm,0.4s						
CMCH	**Combarbala**	**2.03**	**194**	⇓*i*P	Pn	13 53 26.1	+0.2
CMCH				*i* S	Sn	13 53 51.3	+0.6
CDCH	**Caldera**	**2.16**	**350**	*e*P	Pn	13 53 26.7	-0.9
CHNG	**Los Chungos**	**2.83**	**199**	⇓*i*P	Pn	13 53 37.3	+0.8
CHNG				*i* S	Sn	13 54 10.2	+0.4
JACH	**Jahuel**	**3.47**	**182**	⇓*i*P	Pn	13 53 45.9	+0.8
LCCH	**Las Cruces**	**4.37**	**193**	*i* P	Pn	13 53 55.9	-1.5

*IDC **25** 13:55:01.8±0.8, 5556S×2588W, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.2/15, mbtmp4.2/7, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/18, Error ellipse: s-maj=24.2km s-min=21.9km az=81.0*
*NEIC **25** 13:55:02.6±0.5, 5554S×2578W, h10km, mb4.4/7, Error ellipse: s-maj=15.1km s-min=11.5km az=63.0*
*BJI **25** 13:55:02.5, 5550S×2580W, h10km, mB4.9, Ms4.8, Msz4.7*
*ISCJB **25** 13:55:04.8±4.2, 556S±01×259W±02, h35km±41km, mb4.3/8, Error ellipse: s-maj=22.2km s-min=15.0km az=81.3*
ISC 25 13:55:06.8±3.5, 557S±01×259W±02, h39km±36km, n29, σ0§78/21, mb4.3/8, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.90**	**160**	*e*	**Pn**	**13 58 59.9**	**-0.5**
VNA3	**Neumayer Olymp**	**17.14**	**162**	*e*	**Pn**	**13 59 03.3**	**0.0**
VNA3				*e*		13 59 07.1	
VNA2	**Neumayer--Watz**	**17.30**	**159**	*e*	**Pn**	**13 59 05.9**	**+0.6**
	baz=316,slow=9.3						
VNA2				*e*		13 59 09.2	
SNAA	**Sanae**	**18.82**	**157**	P	**Pn**	**13 59 23.2**	**-0.7**
	0.2nm,0.3s,baz=315,slow=11,SNR=31						
SNAA				LR	LR	14 04 35.1	
	comp=Z,36nm,20.3s,baz=204,slow=30						
SNAA	**Sanae**	**18.82**	**157**	*e*	**Pn**	**13 59 23.2**	**-0.7**
SNAA				*e*		13 59 26.7	
SNAA	**Sanae**	**18.82**	**157**	*e*P	**Pn**	**13 59 22.9**	**-1.0**
	4.3nm,0.6s						
PMSA	**Palmer Station**	**20.72**	**228**	P	**P**	**13 59 45.7**	**+1.9**
	17nm,0.8s,baz=41,slow=3.4,SNR=6.8						
TRQA	**Tornquist**	**29.86**	**291**	*e*P	**P**	**14 01 09.3**	**-1.2**
	2.5nm,0.5s,mb4.2						
SYO	**Syowa Base**	**31.43**	**141**	⇑*e*pP	**P**	**14 01 24.6**	**+0.3**
QSPA	**South Pole Qui**	**34.60**	**180**	*e*P	**P**	**14 01 51.6**	**-0.4**
	11nm,0.8s,mb4.8						
CPUP	**Villa Florida**	**37.12**	**309**	P	**P**	**14 02 12.5**	**-1.0**
	1.0nm,

VHO	**Vista Hermosa**	**1.60**	**21**	*e*P	Pn	14 05 21.3	-3.5
VHO				*i* S	Sn	14 05 40.4	-4.7
OXX	**Oaxaca**	**1.61**	**21**	*i* P	Pn	14 05 21.8	-3.1
OXX				*i* S	Sn	14 05 42.5	-2.9
UTMO	**Huajuapan**	**2.30**	**348**	*e*P	Pn	14 05 31.6	-2.7
UTMO				*i* S	Sn	14 05 58.6	-3.6
CMIG	**Matias Romero**	**2.79**	**57**	*i* P	Pn	14 05 38.3	-2.8
CMIG				*i* S	Sn	14 06 10.0	-4.4
CMIG	**Matias Romero**	**2.79**	**57**	*i* P	Pn	14 05 36.6	-4.5
CMIG				*i* S	Sn	14 06 11.4	-3.1
TPIG	**Tehuac#an**	**2.84**	**359**	*i* S	Sn	14 06 12.2	-3.4
MEIG	**Mezcala**	**3.22**	**317**	*i* S	Sn	14 06 21.3	-3.7

*ISCJB **25** 14:11:37.3±0.3, 5121N±002×1051E±002, h0km, Error ellipse: s-maj=2.9km s-min=2.0km az=177.3*
*NEIC **25** 14:11:39.9, 5130N×1065E, h1km, ML2.8(SZGRF), ML3.0(LDG), After LDG.*
*BGR **25** 14:11:39.4±0.2, 5125N×1061E, h1km, ML2.8/10, Error ellipse: s-maj=2.2km s-min=2.2km az=33.0*
*LDG **25** 14:11:39.9±0.1, 5130N×1065E, h1km, Ml3.0/6, Error ellipse: s-maj=1.5km s-min=1.0km az=177.0, Suspected Mining induced.*
*CSEM **25** 14:11:40.0±0.1, 5128N×1067E, h2km, ML3.0/5, Error ellipse: s-maj=1.1km s-min=0.9km az=4.0*

ISC 25 14:11:38.8±0.3, 5124N±002×1060E±002, h0km, n44, σ0=84/89, 3C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UBBA	**Unterbreizbach**	**0.57**	**222**	*e*Pg		**Pg**	**14 11 51.0**	**+1.3**
UBBA	SNR=9.5				*e*Sg	**Sg**	**14 11 59.7**	**+2.7**
CLZ	**Clausthal**	**0.61**	**347**	*e*Pg		**Pg**	**14 11 51.1**	**+0.5**
CLZ	SNR=35				*e*Sg	**Sg**	**14 11 58.1**	**-0.5**
CLZ	**Clausthal**	**0.61**	**347**	*e*Pg		**Pg**	**14 11 50.8**	**+0.3**
CLZ	SNR=4.9				*e*Sg	**Sg**	**14 11 58.7**	**+0.2**
CLZ	**Clausthal**	**0.61**	**347**	Pg		**Pg**	**14 11 51.1**	**+0.6**
CLZ	SNR=35				*e*Sg	**Sg**	**14 11 58.7**	**+0.2**
NEUB	**Neuenburg**	**0.74**	**92**	*e*Pg		**Pg**	**14 11 53.7**	**+0.8**
NEUB	SNR=6.0				*e*Sg	**Sg**	**14 12 03.5**	**+0.9**
HROE	**Hohe Rhon--Fla**	**0.76**	**202**	⇓*i*Pg		**Pg**	**14 11 55.3**	**+2.0**
HROE	SNR=6.4			*i* Sg		**Sg**	**14 12 06.2**	**+3.0**
MOX	**Moxa**	**0.88**	**133**	*e*Pg		**Pg**	**14 11 56.6**	**+1.0**
MOX	SNR=20				*e*Sg	**Sg**	**14 12 08.7**	**+1.6**
NRDL	**Niedersach Rie**	**1.29**	**347**	*e*Pg		**Pg**	**14 12 03.8**	**+0.3**
NRDL	SNR=5.7				*e*Sg	**Sg**	**14 12 20.9**	**+0.7**
WERD	**Werda**	**1.34**	**126**	*e*Pg		**Pg**	**14 12 05.1**	**+0.6**
WERD	SNR=22				*e*Sg	**Sg**	**14 12 22.5**	**+0.5**
GUNZ	**Gunzen**	**1.41**	**128**	*e*Pg		**Pg**	**14 12 05.9**	**+0.1**
GUNZ	SNR=14				*e*Sg	**Sg**	**14 12 23.9**	**-0.2**
VIEL	**Selb-Vielitz**	**1.43**	**137**	⇓*i*Pn		**Pn**	**14 12 06.3**	**+0.4**
VIEL				*i* Sn		**Sn**	**14 12 25.1**	**-0.3**
TANN	**Tannenbergstha**	**1.44**	**124**	*e*Pg		**Pg**	**14 12 06.1**	**-0.3**
TANN	SNR=14				*e*Sg	**Sg**	**14 12 25.5**	**+0.3**
WERN	**Wernitzgruen**	**1.48**	**130**	*e*Pn		**Pn**	**14 12 06.7**	**+0.1**
WERN	SNR=11				*e*Sg	**Sg**	**14 12 27.3**	**+1.0**
CLL	**Collm**	**1.51**	**87**	*e*Pg		**Pg**	**14 12 06.9**	**-0.8**
CLL	SNR=14				*e*Sg	**Sg**	**14 12 27.2**	**-0.1**
CLL	**Collm**	**1.51**	**87**	*i* Pg		**Pg**	**14 12 07.2**	**-0.5**
CLL	SNR=9.5				*e*Sg	**Sg**	**14 12 27.0**	**-0.3**
MROB	**Rosenbuehl-Arz**	**1.54**	**139**	⇑*i*Pn		**Pn**	**14 12 07.4**	**0.0**
MROB	comp=Z,70nm,0.5s				*e*Sn	**Sn**	**14 12 28.0**	**-0.1**
MZEK	**Zeckenberg-Ebn**	**1.54**	**146**	⇓*i*Pn		**Pn**	**14 12 08.0**	**+0.5**
MZEK					*e*Sn	**Sn**	**14 12 28.0**	**-0.3**
MHAI	**Haid-Arzberg**	**1.58**	**140**	⇑*i*Pn		**Pn**	**14 12 07.9**	**-0.1**
MHAI				*i* Sn		**Sn**	**14 12 28.8**	**-0.4**
GRF	**Grafenberg Arr**	**1.60**	**165**	*e*Pg		**Pg**	**14 12 09.3**	**-0.2**
GRF	SNR=6.0				*e*Sg	**Sg**	**14 12 30.9**	**+0.6**
MGBB	**Grossbuechelbe**	**1.64**	**140**	⇑*i*Pn		**Pn**	**14 12 08.6**	**-0.2**
MGBB	SNR=6.8			*i* Sn		**Sn**	**14 12 30.0**	**-0.6**
TNS	**Taunus Mts**	**1.71**	**234**	*e*Pn		**Pn**	**14 12 09.7**	**-0.1**
TNS	SNR=3.2				*e*Sg	**Sg**	**14 12 33.7**	**+0.1**
FBE	**Freiberg**	**1.77**	**99**	*e*Sg		**Sg**	**14 12 35.1**	**-0.5**
ROTZ	**Rotzenmuhle**	**1.80**	**145**	*e*Pn		**Pn**	**14 12 11.5**	**+0.5**
BRG	**Berggiesshubel**	**2.14**	**99**	*e*Pg		**Pg**	**14 12 19.4**	**-0.4**
BRG	SNR=3.0				*e*Sg	**Sg**	**14 12 46.0**	**-1.6**
WET	**Wettzell**	**2.56**	**144**	*e*Sg		**Sg**	**14 13 00.8**	**-0.3**
GEC2	**GERESS Array S**	**3.12**	**139**	*e*Sg		**Sg**	**14 13 17.6**	**-1.6**
WLF	**Walferdange**	**3.25**	**243**	*e*Sg		**Sg**	**14 13 22.2**	**-1.0**
BFO	**Black Forest**	**3.27**	**208**	*e*Sg		**Sg**	**14 13 24.1**	**+0.4**
CDF	**Champ du Feu**	**3.56**	**218**	*e*Pg		**Pg**	**14 12 47.3**	**+0.4**
CDF				*e*Sn		**Sn**	**14 13 16.3**	**-1.6**
CDF				*e*Sg		**Sg**	**14 13 33.9**	**+0.8**
CDF	**Champ du Feu**	**3.56**	**218**	*e*Pn		**Pn**	**14 12 35.4**	**+0.2**
CDF	comp=Z,16nm,0.6s				*e*Pg	**Pg**	**14 12 47.3**	**+0.4**
CDF				*e*Sn		**Sn**	**14 13 16.3**	**-1.6**
CDF				*e*Sg		**Sg**	**14 13 33.9**	**+0.8**
CDF	**Champ du Feu**	**3.56**	**218**	*e*Pg		**Pg**	**14 12 47.3**	**+0.4**
CDF				*e*Sn		**Sn**	**14 13 16.3**	**-1.6**
CDF				*e*Sg		**Sg**	**14 13 33.9**	**+0.8**
KSP	**Ksiaz**	**3.62**	**94**	*e*Pg		**Sb**	**14 13 28.0**	**0.0**
KSP	comp=Z,7.8nm,0.6s				*e*Sg	**Sg**	**14 13 33.8**	**-1.2**
GIVF	**Givet**	**3.85**	**255**	*e*Pg		**Pg**	**14 12 52.2**	**-0.3**
GIVF				*e*Sg		**Sg**	**14 13 43.2**	**+0.8**
HINF	**Hinteralfeld**	**4.21**	**217**	*e*Pg		**Pg**	**14 12 58.9**	**-0.5**
HINF	comp=Z,12nm,0.6s				*e*Sg	**Sg**	**14 13 54.1**	**+0.1**
HINF	**Hinteralfeld**	**4.21**	**217**	*e*Pn		**Pn**	**14 12 43.9**	**-0.2**
HINF				*e*Pg		**Pg**	**14 12 58.9**	**-0.5**
HINF				*e*Sg		**Sg**	**14 13 54.1**	**+0.1**
HINF	**Hinteralfeld**	**4.21**	**217**	*e*Pg		**Pg**	**14 12 58.9**	**-0.5**
HINF	comp=Z,6.1nm,0.6s				*e*Sg	**Sg**	**14 13 54.1**	**+0.1**
BAIF	**Baives**	**4.24**	**256**	*e*Pn		**Pn**	**14 12 44.4**	**-0.1**
BAIF	comp=Z,18nm,0.8s				*e*Sg	**Sg**	**14 13 54.2**	**-0.6**
BAIF	**Baives**	**4.24**	**256**	*e*Pn		**Pn**	**14 12 44.4**	**-0.1**
BAIF	comp=Z,8.9nm,0.8s				*e*Sg	**Sg**	**14 13 54.2**	**-0.6**
HAU	**Haudompre**	**4.26**	**222**	*e*Pg		**Pg**	**14 12 59.5**	**-0.9**
HAU				*e*Sn		**Sn**	**14 13 32.6**	**-2.6**
HAU	comp=Z,7.4nm,0.3s				*e*Sg	**Sg**	**14 13 55.2**	**-0.4**
HAU	**Haudompre**	**4.26**	**222**	*e*Pn		**Pn**	**14 12 44.8**	**0.0**
HAU				*e*Pg		**Pg**	**14 12 59.5**	**-0.9**
HAU				*e*Sn		**Sn**	**14 13 32.6**	**-2.6**
HAU				*e*Sg		**Sg**	**14 13 55.2**	**-0.4**
HAU	**Haudompre**	**4.26**	**222**	*e*Pg		**Pg**	**14 12 59.5**	**-0.9**
HAU				*e*Sn		**Sn**	**14 13 32.6**	**-2.6**
HAU	comp=Z,3.7nm,0.3s				*e*Sg	**Sg**	**14 13 55.2**	**-0.4**
SFTF	**Sexfontaines**	**4.72**	**232**	*e*Pn		**Pn**	**14 12 51.0**	**-0.1**
SFTF				*e*Pg		**Pg**	**14 13 08.0**	**-1.2**
CABF	**La Chapelle**	**5.51**	**214**	*e*Sg		**Sg**	**14 14 34.2**	**-1.4**
CABF	comp=Z,2.3nm,0.4s **La Chapelle**	**5.51**	**214**	*e*Sg		**Sg**	**14 14 34.2**	**-1.4**
	comp=Z,1.1nm,0.4s							

*ISCJB **25** 14:13:39.7±0.6, 5560S±008×26.1W±02, h10km, mb4.5/9, MS4.0/6, Error ellipse: s-maj=14.7km s-min=8.9km az=106.2*
*IDC **25** 14:13:39.7±0.9, 5571S×2607W, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.3/13, mbtmp4.3/6, MS4.0/6, Ms1 3.9/6, ms1mx3.8/15, Error ellipse: s-maj=29.1km s-min=24.7km az=50.0*
*NEIC **25** 14:13:41.4±0.4, 5563S×2597W, h10km, mb4.7/5, Error ellipse: s-maj=12.3km s-min=10.0km az=218.0*

ISC 25 14:13:41.4±0.6, 5563S±008×260W±02, h10km, n25, σ0=96/20, mb4.5/9, MS4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.18**	**278**	*e*Pn		**Pn**	**14 15 12.4**	**-0.2**
HOPE				*e*Sn		**Sn**	**14 16 10.2**	**-13**
VNA1	**Neumayer--Stat**	**16.95**	**160**	*e*P		**Pn**	**14 17 39.9**	**+1.3**
VNA1				*e*			14 17 42.1	
VNA3	**Neumayer Olymp**	**17.18**	**162**	*e*P		**Pn**	**14 17 41.4**	**0.0**
VNA2	**Neumayer--Watz**	**17.34**	**159**	*e*P		**Pn**	**14 17 44.9**	**+1.4**
	baz=308,slow=18							
SNAA	**Sanae**	**18.87**	**157**	*e*P		**Pn**	**14 18 01.1**	**-1.1**
SNAA	**Sanae**	**18.87**	**157**	*e*P		**Pn**	**14 18 00.7**	**-1.5**
	6.7nm,0.6s							
PMSA	**Palmer Station**	**20.67**	**228**	P		**P**	**14 18 24.4**	**+3.0**
	47nm,0.9s,baz=78,slow=9.4,SNR=6.4							
PMSA	**Palmer Station**	**20.67**	**228**	*e*P		**P**	**14 18 23.4**	**+2.1**
TRQA	**Tornquist**	**29.77**	**291**	*e*P		**P**	**14 19 47.5**	**-0.6**
	8.5nm,0.8s,mb4.5							
QSPA	**South Pole Qui**	**34.62**	**180**	*e*P		**P**	**14 20 29.7**	**-0.9**
	19nm,0.6s,mb5.2							
CPUP	**Villa Florida**	**37.04**	**309**	P		**P**	**14 20 51.0**	**-0.4**
	1.0nm,0.5s,mb3.9,baz=87,slow=7.2,SNR=4.7							
MAW	**Mawson**	**40.10**	**143**	LR		LR	14 35 09.1	
	comp=Z,130nm,21.1s,MS3.8,baz=74,slow=32							
BOSA	**Boshof**	**45.23**	**75**	P		**P**	**14 21 59.3**	**+0.6**
	2.2nm,0.7s,mb4.1,baz=214,slow=7.9,SNR=5.1							
BOSA				LR		LR	14 37 58.7	
	comp=Z,339nm,18.2s,MS4.3,baz=261,slow=32							
LVC	**Limon Verde**	**45.66**	**298**	*e*P		**P**	**14 22 02.7**	**+0.5**
	18nm,1.1s,mb4.9							
VNDA	**Vanda**	**47.02**	**182**	P		**P**	**14 22 11.5**	**-1.4**
	4.6nm,0.6s,mb4.6,baz=190,slow=6.1,SNR=54							
VNDA				LR		LR	14 40 31.2	
	comp=Z,91nm,21.2s,MS3.7,baz=344,slow=34							
LPAZ	**La Paz**	**50.68**	**304**	P		**P**	**14 22 42.0**	**+1.1**
	5.8nm,0.8s,mb4.6,baz=156,slow=6.2,SNR=30							
LPAZ				LR		LR	14 43 39.6	
	comp=Z,72nm,19.6s,MS3.7,baz=104,slow=36							
LPAZ	**La Paz**	**50.68**	**304**	*e*P		**P**	**14 22 41.5**	**+0.5**
	6.1nm,0.8s,mb4.6							
LPAZ				LR		LR	14 43 39.6	
TOA0	**Torodi Ar. Sit**	**72.37**	**28**	*e*P		**P**	**14 25 07.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.37**	**28**	P		**P**	**14 25 07.8**	**+0.3**
	2.7nm,0.7s,mb4.3,baz=199,slow=6.0,SNR=14							
TORD				LR		LR	14 51 01.8	
	comp=Z,75nm,18.8s,MS4.0,baz=220,slow=31							
STKA	**Stephens Creek**	**92.20**	**169**	LR		LR	15 07 29.3	
	comp=Z,181nm,20.2s,MS4.5,baz=24,slow=35							
ASAR	**Alice Springs**	**99.19**	**161**	P		**P**	**14 27 22.0**	**-1.1**
	0.4nm,0.8s,mb4.0,baz=183,slow=4.8,SNR=5.2							
INK	**Inuvik**	**145.89**	**321**	*e*PKPdf		PKPdf	14 33 19.2	-1.2
DAWY	**Dawson**	**147.00**	**312**	*e*PKPdf		PKPdf	14 33 22.1	-0.1
SONM	**Songino Array**	**150.04**	**85**	PKPbc		PKPbc	14 33 30.8	-1.3
	0.7nm,0.6s,baz=214,slow=3.1,SNR=6.3							
MCK	**McKinley**	**151.01**	**310**	*e*PKPdf		PKPdf	14 33 27.2	-1.5
MCK				*e*PKPbc		PKPbc	14 33 33.1	-1.4

IDC 25 14:34:06.4±1.3, 4889N×15364E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=41.8km s-min=37.0km az=122.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.30**	**296**	P		P	14 42 33.6	-0.3
	0.4nm,0.5s,baz=64,slow=7.6,SNR=5.1							
WRA	**Warramunga Arr**	**70.65**	**199**	P		P	14 45 23.6	-0.2
	0.4nm,0.7s,baz=14,slow=6.5,SNR=3.4							
ASAR	**Alice Springs**	**74.35**	**199**	P		P	14 45 45.8	-0.1
	0.3nm,0.5s,baz=8.3,slow=5.3,SNR=9.5							
TXAR	**Lajitas Array**	**76.14**	**61**	P		P	14 45 56.3	+0.1
	0.4nm,0.6s,baz=303,slow=5.3,SNR=4.3							

*IDC **25** 15:03:02.0±0.8, 1341S×7676W, h0km, mb3.9/6, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, ML4.3/1, MS3.7/8, Ms1 3.8/8, ms1mx3.5/32, Error ellipse: s-maj=31.0km s-min=13.9km az=69.0*
*ISCJB **25** 15:03:04.9±0.6, 1351S±005×768W±0.1, h33km, mb4.3/11, MS3.9/4, Error ellipse: s-maj=15.7km s-min=5.3km az=144.5*
*NEIC **25** 15:03:07.1±0.4, 1335S×7660W, h35km, mb4.7/4, ML4.1(LIM), Error ellipse: s-maj=13.4km s-min=7.6km az=61.0*
NEIC Felt [III] at Chincha Alta and San Vicente de Canete.

ISC 25 15:03:07.3±0.6, 1345S±006×767W±01, h35km, n37, σ0=82/33, mb4.3/11, MS3.9/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.46**	**355**	Pn		**Pn**	**15 03 29.9**	**-1.2**
	199nm,0.3s,baz=171,slow=12,SNR=112							
NNA					Sn	**Sn**	**15 03 49.7**	**+0.8**
	2μm,0.3s,baz=248,slow=17,SNR=40							
NNA	**Nana**	**1.46**	**355**	*e*P		**Pn**	**15 03 29.9**	**-1.2**
NNA				*e*Sg		**Sn**	**15 03 48.5**	**-0.5**
ATAH	**Atahualpa**	**6.62**	**345**	Pn		**Pn**	**15 04 43.0**	**+1.1**
	7.4nm,0.3s,baz=299,slow=1.9,SNR=15							
ATAH					Sn	**Sn**	**15 06 09.8**	**+14**
	14nm,0.3s,baz=27,slow=17,SNR=7.1							
ATAH				LR		LR	15 06 33.9	
	comp=Z,135nm,21.9s,baz=99,slow=33							
LPAZ	**La Paz**	**8.76**	**110**	Pn		**Pn**	**15 05 16.8**	**+5.4**
	2.7nm,0.3s,baz=294,slow=12,SNR=57							
LPAZ					Sn	**Sn**	**15 06 58.7**	**+10**
	0.3nm,0.3s,baz=328,slow=17,SNR=2.2							
LPAZ				LR		LR	15 09 14.2	
	comp=Z,652nm,21.0s,baz=144,slow=42							
LPAZ	**La Paz**	**8.76**	**110**	*e*Pn		**Pn**	**15 05 15.5**	**+4.1**
LPAZ					Sn	**Sn**	**15 06 58.7**	**+10**
LPAZ					LR	LR	15 09 14.2	
LVC	**Limon Verde**	**11.75**	**142**	Pn		**Pn**	**15 05 52.5**	**+0.2**
	2.1nm,0.3s,baz=305,slow=8.6,SNR=16							
LVC					Sn	**Sn**	**15 08 07.9**	**+5.7**
	0.8nm,0.3s,baz=43,slow=19,SNR=3.1							
LVC				LR		LR	15 10 06.1	
	comp=Z,269nm,18.3s,baz=101,slow=36							
LVC	**Limon Verde**	**11.75**	**142**	*e*Pn		**Pn**	**15 05 52.4**	**+0.1**
LVC				*e*Sn		**Sn**	**15 08 01.8**	**-0.4**
LVC				LR		LR	15 10 06.1	
SAML	**Samuel**	**14.00**	**73**	*e*Pn		**Pn**	**15 06 19.6**	**-3.4**
	11nm,0.6s							
SIV	**San Ignacio**	**15.34**	**101**	Pn		**Pn**	**15 06 41.9**	**+0.9**
	0.6nm,0.3s,baz=297,slow=12,SNR=13							
SIV				Lg			15 11 07.6	
	0.3nm,0.3s,baz=270,slow=22,SNR=3.0							
ROSC	**El Rosal**	**18.34**	**8**	LR		LR	15 15 17.7	
	comp=Z,401nm,19.8s,baz=23,slow=40							
CFAA	**Coronel Fontan**	**19.68**	**158**	P		**Pn**	**15 07 34.6**	**-0.2**
	0.1nm,0.3s,baz=334,slow=9.0,SNR=13							
CFAA				LR		LR	15 13 32.2	
	comp=Z,18nm,21.5s,baz=336,slow=32							
CPUP	**Villa Florida**	**22.24**	**128**	P		**P**	**15 08 00.2**	**-0.6**
	4.4nm,0.8s,mb3.9,baz=308,slow=9.5,SNR=7.5							
CPUP				LR		LR	15 16 55.5	
	comp=Z,153nm,22.0s,MS3.4,baz=292,slow=37							
CPUP	**Villa Florida**	**22.24**	**128**	*e*P		**P**	**15 07 59.9**	**-1.0**
CPUP				LR		LR	15 16 55.5	
SDV	**Santo Domingo**	**22.99**	**16**	P		**P**	**15 08 09.0**	**+0.2**
	7.5nm,0.5s,mb4.3,baz=206,slow=9.1,SNR=9.8							
SDV	**Santo Domingo**	**22.99**	**16**	*e*P		**P**	**15 08 08.2**	**-0.6**
PCRV	**Puerto La Cruz**	**26.35**	**28**	LR		LR	15 19 57.4	
	comp=Z,585nm,18.2s,MS4.2,baz=205,slow=38							
TRQA	**Tornquist**	**27.79**	**154**	*e*P		**P**	**15 08 52.7**	**-0.2**
TXAR	**Lajitas Array**	**49.86**	**329**	P		**P**	**15 11 57.4**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=148,slow=5.2,SNR=3.2							
RKT	**Rikitea**	**55.85**	**251**	*e*LR		LR	15 28 58.5	
	98nm,25.5s							
PDAR	**Pinedale Array**	**63.54**	**334**	P		**P**	**15 13 33.9**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=125,slow=4.7,SNR=2.8							
AGMN	**Agassiz Refuge**	**63.79**	**346**	*e*P		**P**	**15 13 34.4**	**-1.3**
	6.5nm,0.8s,mb4.7							
RRI2	**Red Ridge**	**64.78**	**333**	P		**P**	**15 13 43.7**	**+1.4**
	4.0nm,0.8s,mb4.5							

ULM	**Lac du Bonnet**	**65.62**	**347**	P		**P**	**15 13 46.7**	**-1.0**
	6.6nm,0.8s,mb4.7,baz=150,slow=5.0,SNR=8.2							
PPT	**Papeete**	**69.96**	**256**	*e*LR		LR	15 35 20.0	
	96nm,28.2s							
SNAA	**Sanae**	**72.26**	**161**	*e*P		**P**	**15 14 28.5**	**-0.5**
	4.0nm,0.6s,mb4.5							
TOA0	**Torodi Ar. Sit**	**82.05**	**74**	*e*P		**P**	**15 15 24.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**82.05**	**74**	P		**P**	**15 15 24.5**	**+0.6**
	16nm,0.9s,mb5.0,baz=260,slow=4.5,SNR=63							
TORD	**Torodi Ar. Bea**	**82.05**	**74**	P		**P**	**15 15 24.5**	**+0.6**
VNDA	**Vanda**	**83.39**	**191**	P		**P**	**15 15 31.6**	**+0.8**
	0.8nm,0.8s,mb3.8,baz=99,slow=3.9,SNR=6.3							
SUMG	**Summit**	**89.44**	**11**	*e*P		**P**	**15 16 00.4**	**-0.1**
	6.6nm,0.9s,mb5.0							
BOSA	**Boshof**	**93.86**	**120**	LR		LR	15 57 31.1	
	comp=Z,75nm,18.3s,MS4.2,baz=91,slow=35							
KEST	**Kesra**	**94.58**	**55**	LR		LR	16 01 01.9	
	comp=Z,31nm,18.1s,MS3.8,baz=268,slow=37							
ASAR	**Alice Springs**	**132.49**	**219**	PKP		PKPdf	15 22 17.9	-0.1
	0.4nm,0.8s,baz=106,slow=2.2,SNR=5.9							
WRA	**Warramunga Arr**	**134.90**	**223**	PKP		PKPdf	15 22 22.8	+0.4
	1.4nm,0.8s,baz=140,slow=1.3,SNR=9.4							
ZAL	**Zalesovo**	**137.05**	**16**	PKP		PKPdf	15 22 27.4	+0.9
	1.0nm,0.7s,baz=189,slow=4.0,SNR=6.1							
MKAR	**Makanchi Array**	**142.37**	**24**	PKP		PKPdf	15 22 34.1	-2.0
	0.5nm,0.8s,baz=340,slow=3.2,SNR=4.9							
SONM	**Songino Array**	**145.62**	**356**	PKPbc		PKPbc	15 22 42.3	+0.3
	3.9nm,0.8s,baz=325,slow=2.4,SNR=29							

IDC 25 15:11:26.2±20.0, 2634S×17899E, h578km±153km, mb2.7/2, mb1 3.1/3, mb1mx2.9/12, mbtmp3.9/3, Error ellipse: s-maj=287.8km s-min=60.7km az=136.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.21**	**288**	P		P	15 14 07.4	+0.5
	0.8nm,0.3s,baz=99,slow=18,SNR=8.9							
ASAR	**Alice Springs**	**40.80**	**264**	P		P	15 18 18.2	+0.1
	0.5nm,0.4s,baz=98,slow=7.1,SNR=23							
WRA	**Warramunga Arr**	**41.39**	**269**	P		P	15 18 23.1	+0.2
	0.9nm,0.5s,baz=107,slow=7.6,SNR=9.4							
AKASG	**Malin Array Be**	**146.47**	**325**	PKPbc		PKPbc	15 30 02.2	-1.0
	1.0nm,0.5s,baz=43,slow=3.4,SNR=6.6							

*NEIC **25** 15:25:01.9, 3148S×7164W, h26km, ML2.8(GUC), After GUC.*

GUC 25 15:25:01.9±0.6, 3148S×7164W, h26km±3km, MD3.8, ML2.8, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.42**	**164**	*e*P		Pb	15 25 10.6	-0.2
CHNG				*i* S		Sb	15 25 16.8	-0.1
CHNG					AML	AML	15 25 18.0	
	comp=E,667nm,0.4s							
CMCH	**Combarbala**	**0.62**	**61**	⇑*i*P		Pb	15 25 13.8	-0.3
CMCH				*i* S		Sb	15 25 23.1	+0.5
CMCH					AML	AML	15 25 26.8	
	comp=N,1μm,0.6s							
CMCH	**Combarbala**	**0.62**	**61**	⇑*i*P		Pb	15 25 13.8	-0.3
CMCH				*i* S		Sb	15 25 23.1	+0.5
OVCH	**Ovalle**	**0.94**	**23**	*e*P		Pn	15 25 18.7	-0.7
OVCH				*i* S		Sb	15 25 31.7	0.0
OVCH					AML	AML	15 25 34.8	
	comp=E,557nm,0.6s							
OVCH	**Ovalle**	**0.94**	**23**	*e*P		Pn	15 25 18.7	-0.7
OVCH				*i* S		Sb	15 25 31.7	0.0
TLL	**Tololo Astrono**	**1.49**	**29**	⇓*e*P		Pn	15 25 27.9	+0.9
TLL				*i* S		Sn	15 25 47.8	+2.2
TLL					AML	AML	15 25 51.9	
	comp=E,339nm,0.5s							
TLL	**Tololo Astrono**	**1.49**	**29**	⇓*e*P		Pn	15 25 27.9	+0.9
TLL				*i* S		Sn	15 25 47.8	+2.2
PEL	**Peldehue**	**1.85**	**154**	*e*P		Pn	15 25 33.5	+1.7
PEL				*i* S		Sn	15 25 57.0	+2.6
PEL					AML	AML	15 26 01.1	
	comp=N,217nm,0.6s							
PEL	**Peldehue**	**1.85**	**154**	*e*P		Pn	15 25 33.5	+1.7
PEL				*i* S		Sn	15 25 57.0	+2.6
FCH	**Farellones**	**2.17**	**149**	*e*P		Pn	15 25 38.1	+1.8
FCH				*i* S		Sn	15 26 06.1	+3.8
FCH					AML	AML	15 26 14.7	
	comp=E,67nm,0.4s							
LMEL	**Las Melosas**	**2.65**	**153**	*e*P		Pn	15 25 43.7	+0.8
LMEL				*i* S		Sn	15 26 16.0	+1.7
LMEL					AML	AML	15 26 24.8	
	comp=N,79nm,0.1s							
LMEL	**Las Melosas**	**2.65**	**153**	*e*P		Pn	15 25 43.7	+0.8
LMEL				*i* S		Sn	15 26 16.0	+1.7

**IDC 25 15:38:02.7±4.7, 2086S×16994E, h218km±24km, mb3.7/3, mb1 3.9/4, mb1mx3.5/12, mbtmp4.2/4, Error ellipse: s-maj=86.1km s-min=42.2km az=145.0, Vanuat

BJI LR LR
comp=E,112nm,13.0s
BJI Beijing 19.48 351 *e*P **Pn 15 58 29.9 -0.4**
BJI pmax pmax
comp=Z,20nm,0.9s
BJI Beijing 19.48 351 *e*P **Pn 15 58 29.9 -0.4**
comp=Z,20nm,0.9s
LZH Lanzhou 20.82 321 *e*P **P 15 58 47.0 +3.5**
LZH AP 15 58 53.5
LZH XP sP 15 58 55.5 -1.7
LZH AMB AMB
comp=Z,22nm,1.0s
LZH AMB AMB
comp=Z,74nm,4.1s
LZH LR LR
comp=N,199nm,12.4s
LZH LR LR
comp=Z,199nm,14.1s,MS3.6
LZH Lanzhou 20.82 321 *e*P **P 15 58 47.0 +3.5**
comp=Z,22nm,1.0s
LZH pP 15 58 53.5
LZH sP sP 15 58 55.5 -1.7
LZH LR LR
comp=Z,200nm,14.1s,MS3.6
MJAR Matsushiro Arr 22.31 41 P **P 15 59 02.6 +3.1**
comp=Z,2.8nm,0.8s,mb3.7,baz=231,slow=11,SNR=8.4
MDJ Mudanjiang 25.05 16 P **P 15 59 27.0 +1.0**
MDJ AMB AMB
comp=Z,16nm,1.5s,mb4.3
MDJ AMB AMB
comp=Z,53nm,3.8s
GTA Gaotai 25.42 321 *e*P **P 15 59 30.3 +1.0**
GTA AP pP 15 59 38.8 -0.5
GTA XP sP 15 59 42.5 -1.0
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb3.8
PSI Prapat 27.26 232 LR LR 16 10 38.2
comp=Z,98nm,19.6s,MS3.4,baz=94,slow=37
ULN Ulaanbaatar 28.99 342 *e*P **P 16 00 01.4 0.0**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ULN Ulaanbaatar 28.99 342 *e*P **P 16 00 01.4 +0.1**
comp=Z,2.0nm,0.6s,mb4.0
SONM Songino Array 29.16 341 P **P 16 00 02.4 -0.4**
comp=Z,2.0nm,0.9s,mb3.8,baz=157,slow=7.9,SNR=13
SONM LR LR 16 12 36.9
comp=Z,66nm,18.4s,MS3.3,baz=289,slow=38
ASAJ Asahikawa 29.87 34 LR LR 16 13 21.5
comp=Z,53nm,18.8s,MS3.2,baz=349,slow=39
GUN Gumba 31.86 290 *e*P **P 16 00 27.1 +0.4**
comp=Z,33nm,0.9s,mb5.1
KKN Kakani 32.37 289 *e*P **P 16 00 31.4 +0.2**
comp=Z,14nm,0.9s,mb4.8
ZAK Zakamensk 32.38 340 *e*P **P 16 00 29.4 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.7
DMN Daman 32.51 289 *e*P **P 16 00 32.6 +0.2**
comp=Z,13nm,0.8s,mb4.9
GKN Gorkha 32.96 290 *e*P **P 16 00 35.7 -0.6**
comp=Z,12nm,0.9s,mb4.8
KOLN Kolganda 33.86 289 *e*P **P 16 00 44.0 -0.2**
comp=Z,13nm,0.8s,mb4.9
FITZ Fitzroy Crossi 39.03 172 *e*P **P 16 01 32.7 +4.4**
comp=Z,8.1nm,0.8s,mb4.5
MK31 Makanchi Array 40.13 319 *e*P **P 16 01 37.8 +0.3**
MKAR Makanchi Array 40.13 319 P **P 16 01 38.0 +0.5**
comp=Z,1.8nm,0.7s,mb3.9,baz=111,slow=10,SNR=22
MKAR PcP PcP 16 03 42.1 +0.6
comp=Z,0.5nm,0.6s,baz=94,slow=3.8,SNR=3.7
MKAR Makanchi Array 40.13 319 P **P 16 01 38.0 +0.5**
MKAR PcP PcP 16 03 42.1 +0.6
ZAL Zalesovo 42.59 330 P **P 16 01 57.5 -0.1**
comp=Z,0.7nm,0.3s,mb3.8,baz=80,slow=7.4,SNR=4.3
ZAL Zalesovo 42.59 330 P **P 16 01 57.5 -0.1**
WRA Warramunga Arr 42.82 160 P **P 16 01 59.0 -0.5**
comp=Z,14nm,0.9s,mb4.7,baz=342,slow=9.1,SNR=42
WRA PcP PcP 16 03 50.3 +0.1
comp=Z,0.7nm,0.8s,baz=344,slow=3.2,SNR=2.8
WRA Warramunga Arr 42.82 160 P **P 16 01 59.0 -0.5**
WRA PcP PcP 16 03 50.3 +0.1
WB2 Warramunga Arr 42.82 160⇑ *e*P **P 16 01 58.9 -0.6**
AS31 Alice Springs 46.19 162 *e*P **P 16 02 26.1 -0.3**
ASAR Alice Springs 46.19 162 P **P 16 02 26.4 0.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=344,slow=6.8,SNR=45
CTA Charters Tower 48.03 146 P **P 16 02 42.9 +2.2**
comp=Z,21nm,0.9s,mb5.2,baz=325,slow=12,SNR=9.5
CTA Charters Tower 48.03 146 P **P 16 02 42.9 +2.1**
CTAO Charters Tower 48.03 146 P **P 16 02 42.1 +1.4**
comp=Z,376nm,0.5s
BVAR Borovoye Array 49.69 323 P **P 16 02 53.5 0.0**
comp=Z,1.0nm,0.8s,mb3.9,baz=125,slow=15,SNR=5.5
BVAR PcP PcP 16 04 14.6 +0.3
comp=Z,1.2nm,0.7s,baz=123,slow=5.3,SNR=6.4
BRVK Borovoye 49.76 323 *e*P **P 16 02 54.2 +0.2**
STKA Stephens Creek 56.28 158 *e*P **P 16 03 41.8 -0.3**
comp=Z,1.7nm,0.6s,mb4.2
STKA Stephens Creek 56.28 158 P **P 16 03 42.1 0.0**
comp=Z,2.6nm,0.8s,mb4.3,baz=304,slow=7.4,SNR=4.6
ARCES ARCESS Array B 72.30 338 P **P 16 05 26.8 -0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=46,slow=6.9,SNR=5.1
ARCES ARCESS Array B 72.30 338 P **P 16 05 26.8 -0.2**
FINES FINESS Array B 73.85 330 P **P 16 05 35.9 -0.2**
comp=Z,1.8nm,0.8s,mb4.0,baz=93,slow=6.5,SNR=5.0
FINES FINESS Array B 73.85 330 P **P 16 05 35.9 -0.2**
NOA NORSAR Array B 80.73 332 P **P 16 06 13.8 -0.9**
comp=Z,0.8nm,0.6s,mb3.8,baz=71,slow=5.1,SNR=2.7
NOA LR LR 16 45 33.1
comp=Z,43nm,18.3s,MS3.8,baz=45,slow=38
GERES GERESS Array B 84.79 320 P **P 16 06 36.8 +1.0**
comp=Z,1.4nm,0.8s,mb4.2,baz=70,slow=4.4,SNR=7.8

ISCJB ***25*** *16:30:34.6±1.0, 198S±02×1770W±03, h613km±35km, mb4.3/6, Error ellipse: s-maj=38.8km s-min=24.3km az=48.2*
NEIC ***25*** *16:30:34.7±1.2, 1985S×17724W, h567km±45km, mb4.1/2, Error ellipse: s-maj=41.7km s-min=24.3km az=77.0*
IDC ***25*** *16:30:35.5±1.4, 1969S×17692W, h621km±74km, mb3.6/3, mb1 3.7/6, mb1mx3.3/16, mbtmp4.6/6, Error ellipse: s-maj=67.1km s-min=24.7km az=84.0*
ISC 25 16:30:35.1±1.2, 198S±02×1771W±04, h589km±49km, n13, σ0§63/16, mb4.3/6, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**42**	P	**P**	**16 32 32.1**	**+1.0**
	5.5nm,0.3s,baz=24,slow=10,SNR=8.6						
AFI				S	**S**	**16 34 05.3**	**-0.9**
	1.7nm,0.3s,baz=90,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**15.58**	**259**	P	**P**	**16 33 48.3**	**-0.6**
	0.4nm,0.3s,baz=107,slow=19,SNR=4.5						
URZ	**Urewera**	**19.12**	**194**	P	**P**	**16 34 20.6**	**-0.6**
	1.6nm,0.3s,baz=265,slow=0.3,SNR=11						
CTA	**Charters Tower**	**34.44**	**263**⇑	*i*P	**P**	**16 36 34.9**	**+0.1**
	5.9nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**38.90**	**243**⇑	*i*P	**P**	**16 37 11.6**	**+0.3**
	3.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.90**	**243**	P	**P**	**16 37 11.8**	**+0.5**
	4.4nm,0.5s,mb4.2,baz=95,slow=11,SNR=17						
AS31	**Alice Springs**	**45.54**	**256**⇑	*i*P	**P**	**16 38 03.5**	**+0.3**
ASAR	**Alice Springs**	**45.54**	**256**	P	**P**	**16 38 03.6**	**+0.4**
	4.5nm,0.3s,mb4.5,baz=87,slow=8.7,SNR=308						
ASAR				S	**S**	**16 44 02.5**	**-0.6**
	0.8nm,0.7s,baz=91,slow=17,SNR=5.7						
ASPA	**Alice Springs**	**45.55**	**256**⇑	*i*P	**P**	**16 38 03.5**	**+0.3**
WB2	**Warramunga Arr**	**45.56**	**261**⇑	*i*P	**P**	**16 38 03.1**	**-0.2**
WRAB	**Tennant Creek**	**45.56**	**261**	*e*P	**P**	**16 38 02.9**	**-0.4**
	2.9nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**45.57**	**261**	P	**P**	**16 38 03.5**	**+0.1**
	3.6nm,0.3s,mb4.4,baz=97,slow=6.9,SNR=280						
WRA				S	**S**	**16 44 02.2**	**-1.4**
	0.2nm,0.7s,baz=99,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**54.00**	**262**	*e*P	**P**	**16 39 06.0**	**+1.1**
	4.8nm,0.6s,mb4.0						

ISCJB ***25*** *16:40:52.6±0.5, 2182N±005×1433E±01, h26km, mb4.3/25, MS3.6/11, Error ellipse: s-maj=14.4km s-min=6.5km az=162.1*
IDC ***25*** *16:40:54.0±0.6, 2185N×14320E, h23km±3km, mb4.0/14, mb1 4.1/16, mb1mx4.1/23, mbtmp4.1/16, ML3.7/2, MS3.3/14, Ms1 3.3/14, ms1mx3.1/41, Error ellipse: s-maj=24.0km s-min=12.9km az=82.0*
MOS ***25*** *16:40:53.2±0.8, 2185N×14336E, h33km, mb4.6/10, Error ellipse: s-maj=25.0km s-min=10.8km az=111.6*
NEIC ***25*** *16:40:54.2±0.4, 2186N×14328E, mb4.7/7, Error ellipse: s-maj=15.5km s-min=7.5km az=83.0*
BJI ***25*** *16:40:55.8, 2190N×14330E, h25km, mB4.6, mb4.6, Ms4.4, Mss4.1*
ISC 25 16:40:54.7±0.5, 2182N±005×1433E±01, h28km, h28km±1.4km: pP-P, n56, σ0§90/50, mb4.3/25, MS3.6/11, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.35**	**349**	Pn	**Pn**	**16 42 13.2**	**+0.4**
	6.8nm,0.3s,baz=279,slow=19,SNR=4.4						
CBIJ				Sn	**Sn**	**16 43 14.7**	**+1.3**
	4.8nm,0.3s,baz=302,slow=17,SNR=2.5						
CBIJ				LR	LR	16 44 04.4	
	comp=Z,161nm,19.1s,baz=70,slow=36						
GUMO	**Guam**	**8.32**	**169**	LR	LR	16 45 47.2	
	comp=Z,81nm,21.8s,baz=35,slow=35						
JHJ	**Hachijo jima 2**	**11.68**	**345**	LR	LR	16 48 00.6	
	comp=Z,158nm,18.7s,baz=199,slow=37						
JOW	**Kunigami**	**14.57**	**293**	LR	LR	16 48 47.6	
	comp=Z,153nm,20.9s,baz=105,slow=33						
MJAR	**Matsushiro Arr**	**15.32**	**344**	Pn	**Pn**	**16 44 29.6**	**+0.6**
	0.2nm,0.3s,baz=170,slow=10,0,SNR=3.6						
MJAR				LR	LR	16 49 46.5	
	comp=Z,191nm,18.4s,baz=170,slow=35						
ASAJ	**Asahikawa**	**22.25**	**359**	LR	LR	16 54 43.1	
	comp=Z,46nm,19.1s,MS2.9,baz=143,slow=37						
NJ2	**Nanjing**	**24.01**	**300**	*e*P	**P**	**16 46 06.0**	**-1.1**
MDJ	**Mudanjiang**	**25.39**	**337**	P	**P**	**16 46 20.3**	**+0.6**
MDJ				AP	pP	16 46 28.5	+0.7
MDJ				XP	sP	16 46 32.5	+1.3
MDJ				PCP	PcP	16 49 50.0	-1.5
MDJ				S	**S**	**16 50 47.0**	**+2.4**
MDJ				PCS	PcS	16 53 32.5	+0.5
MDJ				SCS	ScS	16 57 18.5	+0.8
MDJ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.2						
CD2	**Chengdu**	**36.41**	**293**	*e*P	**P**	**16 47 57.5**	**+0.7**
CD2				XP	sP	16 48 11.0	+2.6
CD2				PP	PP	16 49 21.5	+1.7
CD2				S	**S**	**16 53 36.3**	**-0.3**
CD2				XS	sS	16 53 52.0	+1.9
CD2				SS	SS	16 56 02.0	-14
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,90nm,12.2s						
CD2				LR	LR		
	comp=Z,80nm,13.2s,MS3.7						
LZH	**Lanzhou**	**37.08**	**301**	*e*P	**P**	**16 48 03.5**	**+1.1**
LZH				AP	pP	16 48 12.5	+1.8
LZH				XP	sP	16 48 18.0	+4.0
LZH				*e*PP	PP	16 49 30.5	+3.4
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,47nm,5.4s						
LZH				LR	LR		
	comp=N,334nm,13.5s						
LZH				LR	LR		
	comp=Z,497nm,17.6s,MS4.4						
LZH	**Lanzhou**	**37.08**	**301**	*e*P	**P**	**16 48 03.5**	**+1.1**
LZH				*PP	pP	16 48 12.5	+1.8
LZH				*SP	sP	16 48 18.0	+4.0
LZH				*e*		16 49 30.6	
LZH				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
LZH				MLR	MLR		
	comp=Z,500nm,17.6s,MS4.4						
LZH	**Lanzhou**	**37.08**	**301**	*e*P	**P**	**16 48 03.5**	**+1.1**
	comp=Z,18nm,1.0s,mb4.9						
LZH				pP	pP	16 48 12.5	+1.8
LZH				sP	sP	16 48 18.0	+4.0
LZH				*e*PP	PP	16 49 30.6	+3.5
LZH				LR	LR		
	comp=Z,500nm,17.6s,MS4.4						
ULN	**Ulaanbaatar**	**38.94**	**321**	*e*P	**P**	**16 48 18.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**38.94**	**321**	*e*P	**P**	**16 48 18.2**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**39.31**	**320**	P	**P**	**16 48 20.9**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.1,baz=129,slow=6.9,SNR=22						
SONM				LR	LR	17 03 35.5	
	comp=Z,58nm,19.2s,MS3.4,baz=222,slow=35						
YAK	**Yakutsk**	**41.27**	**350**	*d*P	**P**	**16 48 36.4**	**-1.1**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
YAK	**Yakutsk**	**41.27**	**350**	*e*P	**P**	**16 48 36.5**	**-0.9**
	comp=Z,9.3nm,0.6s,mb4.6						
CTA	**Charters Tower**	**41.75**	**176**	LR	LR	17 04 44.5	
	comp=Z,19nm,18.2s,MS3.0,baz=230,slow=34						
ZAK	**Zakamensk**	**42.31**	**322**	*e*P	**P**	**16 48 45.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
WRAB	**Tennant Creek**	**42.41**	**193**	*e*P	**P**	**16 48 47.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**42.41**	**193**	*e*P	**P**	**16 48 47.2**	**+0.4**
	comp=Z,8.2nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**42.42**	**193**	*e*P	**P**	**16 48 47.3**	**+0.5**
WRA	**Warramunga Arr**	**42.42**	**193**	P	**P**	**16 48 47.1**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.0,baz=19,slow=8.9,SNR=17						
AS31	**Alice Springs**	**46.12**	**192**	*e*P	**P**	**16 49 16.8**	**+0.3**
AS31				*e*	pP	16 49 24.3	-0.6
ASAR	**Alice Springs**	**46.12**	**192**	P	**P**	**16 49 16.9**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=9.8,SNR=25						
ASAR				pP	pP	16 49 23.7	-1.2
	comp=Z,2.9nm,0.6s,baz=11,slow=8.7,SNR=20						
ASPA	**Alice Springs**	**46.13**	**192**	*e*P	**P**	**16 49 16.8**	**+0.3**
ASPA				*e*	pP	16 49 24.3	-0.6
WMQ	**Urumqi**	**50.59**	**309**	*e*P	**P**	**16 49 51.5**	**+0.6**
WMQ				AP	pP	16 50 01.5	+2.1
WMQ				XP	sP	16 50 05.5	+2.8
WMQ				PCP	PcP	16 51 09.0	+0.6
WMQ				*e*S	**S**	**16 57 02.3**	**-1.4**
WMQ				XS	sS	16 57 19.3	+1.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,87nm,4.2s						
WMQ				LR	LR		
	comp=N,170nm,22.7s,MS4.2						
WMQ				LR	LR		
	comp=E,185nm,21.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,159nm,23.8s,MS4.0						
STKA	**Stephens Creek**	**53.41**	**182**	*e*P	**P**	**16 50 12.5**	**+0.5**
	comp=Z,4.4nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**53.41**	**182**	P	**P**	**16 50 12.6**	**+0.6**
	comp=Z,2.5nm,0.9s,mb4.1,baz=351,slow=8.5,SNR=3.8						
STKA				pP	pP	16 50 19.5	-1.0
	comp=Z,4.5nm,0.9s,baz=338,slow=6.2,SNR=4.8						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**16 50 17.3**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=12,slow=6.9,SNR=12						
ZAL				LR	LR	17 13 29.0	
	comp=Z,26nm,21.4s,MS3.3,baz=269,slow=36						
ZAL	**Zalesovo**	**54.19**	**322**	*i* P	**P**	**16 50 17.2**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**16 50 17.3**	**-0.4**
ZAL				LR	LR	17 13 29.0	
MKAR	**Makanchi Array**	**54.70**	**313**	P	**P**	**16 50 21.2**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=92,slow=8.9,SNR=23						
MKAR				pP	pP	16 50 28.3	-1.5
	comp=Z,1.0nm,0.6s,baz=90,slow=9.8,SNR=8.3						
AAK	**Ala-Archa**	**60.18**	**308**	*i* P	**P**	**16 51 01.4**	**+1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BRVK	**Borovoye**	**62.71**	**319**	*e*P	**P**	**16 51 16.6**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
BRVK	**Borovoye**	**62.71**	**319**	*e*P	**P**	**16 51 16.6**	**-0.6**
	comp=Z,11nm,1.2s,mb4.9						
INK	**Inuvik**	**67.42**	**24**	P	**P**	**16 51 47.6**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=330,slow=7.0,SNR=4.2						
INK	**Inuvik**	**67.42**	**24**	*e*P	**P**	**16 51 46.3**	**-1.3**
INK				pmax	pmax		
	comp=Z,29nm,0.6s						
INK	**Inuvik**	**67.42**	**24**	*e*P	**P**	**16 51 46.3**	**-1.4**
	comp=Z,29nm,0.6s						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**16 52 41.2**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=292,slow=5.9,SNR=6.8						
YKA	**Yellowknife Ar**	**76.30**	**28**	*i* P	**P**	**16 52 40.9**	**-0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**16 52 41.2**	**+0.2**
PPT	**Papeete**	**76.48**	**115**	LR	LR	17 25 41.1	
	comp=Z,2.8nm,18.2s,baz=279,slow=35						
ARCES	**ARCESS Array B**	**78.84**	**342**	P	**P**	**16 52 53.3**	**-1.8**
	comp=Z,5.5nm,1.1s,mb4.4,baz=76,slow=7.7,SNR=3.6						
ARCES				pP	pP	16 53 01.7	-2.3
	comp=Z,2.9nm,0.8s,baz=61,slow=5.7,SNR=1.7						
KIV	**Kislovodsk**	**82.42**	**314**	*e*P	**P**	**16 53 14.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
NVAR	**Mina Array Bea**	**82.98**	**52**	P	**P**	**16 53 18.3**	**+1.1**
	comp=Z,1.7nm,0.3s,mb4.5,baz=284,slow=6.0,SNR=6.6						
FINES	**FINESS Array B**	**83.12**	**335**	P	**P**	**16 53 16.1**	**-1.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=54,slow=7.1,SNR=4.6						
PDAR	**Pinedale Array**	**87.23**	**45**	P	**P**	**16 53 38.6**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.8,baz=266,slow=3.6,SNR=2.3						
PDAR				LR	LR	17 27 23.1	
	comp=Z,64nm,20.2s,MS4.0,baz=263,slow=32						
AKASG	**Malin Array Be**	**87.47**	**324**	P	**P**	**16 53 37.5**	**-2.3**
	comp=Z,0.3nm,0.3s,mb4.1,baz=50,slow=6.1,SNR=5.4						
AKASG	**Malin Array Be**	**87.47**	**324**	*i* P	**P**	**16 53 38.0**	**-1.7**
NOA	**NORSAR Array B**	**88.87**	**339**	LR	LR	17 34 12.2	
	comp=Z,12nm,18.9s,MS3.3,baz=285,slow=36						
BRTR	**Keskin Array B**	**90.34**	**313**	P	**P**	**16 53 52.3**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.2,baz=92,slow=3.7,SNR=7.5						
BRTR	**Keskin Array B**	**90.34**	**313**	*i* P	**P**	**16 53 52.2**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VRAC	**Vranov**	**94.83**	**328**	LR	LR	17 40 14.7	
	comp=Z,28nm,20.1s,MS3.7,baz=31,slow=38						
TXAR	**Lajitas Array**	**97.90**	**54**	LR	LR	17 30 51.4	
	comp=Z,43nm,20.1s,MS3.9,baz=5.0,slow=31						
LPAZ	**La Paz**	**149.82**	**85**	PKPbc	PKPbc	17 00 44.6	+2.5
	comp=Z,1.6nm,1.0s,baz=1.6,slow=5.1,SNR=4.6						
LPAZ				pPKPbc	pPKPbc	17 00 51.0	-0.2
	comp=Z,1.7nm,0.7s,baz=197,slow=1.1,SNR=5.9						

CSEM ***25*** *17:01:53.8±0.1, 3546N×420W, h30km, MD2.6, Error ellipse: s-maj=2.1km s-min=1.1km az=47.0*
ISCJB ***25*** *17:01:54.0±1.2, 3544N±006×421W±006, h48km±26km, Error ellipse: s-maj=10.6km s-min=7.4km az=34.6*
MDD ***25*** *17:01:55.2±1.6, 3553N×4.13W, h10km±15km, mbLg1.9/4, Error ellipse: s-maj=9.3km s-min=7.1km az=83.0, PRXIMO*
CNRM ***25*** *17:01:56.8, 3549N×403W, h30km, MD2.6*
ISC 25 17:01:54.7±1.1, 3543N±005×420W±006, h44km±27km, n17, σ1§13/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.29**	**134**	*e*P	**Pn**	**17 02 03.0**	**-0.2**
TOU	**Touzarine**	**0.59**	**142**	P	**Pn**	**17 02 08.0**	**+1.3**
TOU				S	**Sn**	**17 02 16.0**	**+0.6**
TOU	**Touzarine**	**0.59**	**142**	*i* P	**Pn**	**17 02 08.0**	**+1.3**
EALB	**Alboran**	**1.08**	**61**	P	**Pn**	**17 02 11.8**	**-1.6**
	3.1nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**17 02 26.1**	**-1.0**
	22nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.08**	**61**	P	**Pn**	**17 02 11.8**	**-1.5**
	3.1nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**1.28**	**111**	P	**Pn**	**17 02 16.0**	**0.0**
ZAI				S	**Sn**	**17 02 30.0**	**-1.9**
ZAI	**Zaio**	**1.28**	**111**	*e*P	**Pn**	**17 02 16.0**	**0.0**
EJIF	**Jimena Fronter**	**1.45**	**315**	P	**Pn**	**17 02 18.0**	**-0.4**
	1.8nm,0.2s,SNR=4.0						
EJIF				S	**Sn**	**17 02 34.9**	**-1.3**
	2.3nm,0.2s,SNR=4.0						
ERON	**Agron**	**1.62**	**11**	S	**Sn**	**17 02 41.4**	**+1.1**
	SNR=7.9						
EBER	**Berja**	**1.81**	**35**	P	**Pn**	**17 02 23.3**	**-0.1**
	SNR=4.0						
EBER				S	**Sn**	**17 02 44.0**	**-1.0**
	2.9nm,0.2s,SNR=4.0						
EBER	**Berja**	**1.81**	**35**	P	**Pn**	**17 02 23.3**	**0.0**
	SNR=4.0						
EQUE	**Quentar**	**1.88**	**19**	P	**Pn**	**17 02 25.6**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**17 02 46.6**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.54**	**21**	P	**Pn**	**17 02 35.4**	**+2.1**
	2.7nm,0.2s,SNR=4.6						
EQES				S	**Sn**	**17 03 04.2**	**+1.2**
	3.0nm,0.2s,SNR=4.0						
EQES	**Quesada**	**2.54**	**21**	P	**Pn**	**17 02 35.4**	**+2.1**
	2.7nm,0.2s,SNR=4.6						
EADA	**Adamuz**	**2.75**	**354**	P	**Pn**	**17 02 37.5**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**17 03 08.0**	**-0.2**
	0.6nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**2.75**	**354**	P	**Pn**	**17 02 37.5**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.07**	**320**	P	**Pn**	**17 02 41.2**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**17 03 13.9**	**-2.1**
	0.3nm,0.1s,SNR=4.0						

ISCJB ***25*** *17:06:17.8±3.8, 25S±0.1×1294E±04, h7km±24km, mb3.6/5, Error ellipse: s-maj=62.6km s-min=12.9km az=147.4*
IDC ***25*** *17:06:19.1±1.2, 259S×12904E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.9/17, mbtmp3.8/7, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.0/28, Error ellipse: s-maj=101.5km s-min=20.1km az=73.0*
NEIC ***25*** *17:06:25.1±3.5, 256S×12935E, h48km±34km, mb3.8/2, Error ellipse: s-maj=41.5km s-min=15.0km az=66.0*
ISC 25 17:06:25.6±3.0, 26S±01×1293E±04, h51km±28km, n12, σ0§34/13, mb3.6/5, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.82**	**193**	*e*P	**Pn**	**17 10 05.5**	**+0.6**
	9.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.82**	**193**	Pn	**Pn**	**17 10 04.6**	**-0.3**
	0.4nm,0.3s,baz=23,slow=16,SNR=14						
WRAB	**Tennant Creek**	**17.94**	**164**	*e*P	**Pn**	**17 10 31.4**	**+0.2**
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**17.94**	**164**	P	**Pn**	**17 10 30.9**	**-0.4**
	0.4nm,0.3s,baz=346,slow=12,SNR=34						
WB2	**Warramunga Arr**	**17.95**	**164**⇓	*i* P	**Pn**	**17 10 31.3**	**-0.1**
AS31	**Alice Springs**	**21.43**	**168**	*e*P	**P**	**17 11 09.2**	**-0.1**
ASAR	**Alice Springs**	**21.43**	**168**	P	**P**	**17 11 09.7**	**+0.4**
	4.5nm,0.6s,mb4.0,baz=346,slow=12,SNR=88						
ASAR				S	**S**	**17 15 04.4**	**+0.3

2.2nm,0.3s,baz=7.2,slow=2.3,SNR=14
URZ S **S** **17 16 11.7 -3.0**
1.4nm,0.3s,baz=202,slow=21,SNR=11
RPZ Rata Peaks 21.39 198 P **P** **17 14 42.9 -0.1**
7.1nm,0.7s,mb4.3,baz=45,slow=8.6,SNR=3.0
PPT Papeete 28.90 84 *e*LR LR 17 15 53.1
114nm,26.2s
CTA Charters Tower 31.65 270 *e*P **P** **17 16 14.2 +0.8**
2.8nm,0.4s,mb4.0
CTA Charters Tower 31.65 270 P **P** **17 16 14.4 +0.9**
3.9nm,0.5s,mb4.1,baz=89,slow=12,SNR=14
STKA Stephens Creek 34.98 248 *e*P **P** **17 16 42.2 +0.5**
2.1nm,0.4s,mb3.9
STKA Stephens Creek 34.98 248 P **P** **17 16 42.3 +0.6**
2.5nm,0.4s,mb4.0,baz=87,slow=8.5,SNR=9.8
ASAR Alice Springs 42.25 260 P **P** **17 17 41.0 +0.1**
0.9nm,0.4s,mb3.5,baz=93,slow=7.1,SNR=29
ASAR ScP ScP 17 22 25.9 -2.7
0.7nm,0.8s,baz=96,slow=5.0,SNR=4.7
ASPA Alice Springs 42.26 260 *e*P **P** **17 17 40.6 -0.3**
WB2 Warramunga Arr 42.59 266 *e*P **P** **17 17 42.9 -0.6**
WRAB Tennant Creek 42.59 266 *e*P **P** **17 17 42.9 -0.7**
WRA Warramunga Arr 42.60 266 P **P** **17 17 43.1 -0.5**
0.7nm,0.3s,mb3.6,baz=90,slow=5.9,SNR=39
FITZ Fitzroy Crossi 51.02 265 P **P** **17 18 47.7 +0.2**
1.3nm,0.8s,mb3.3,baz=140,slow=9.7,SNR=4.0
MNTX Cornudas Mount 89.92 55 P **P** **17 22 37.9 -0.1**
1.4nm,0.8s,mb3.8
TXAR Lajitas Array 90.14 58 P **P** **17 22 39.7 +0.6**
1.1nm,0.7s,mb3.8,baz=214,slow=5.9,SNR=7.1
TXAR Lajitas Array 90.14 58 P **P** **17 22 39.7 +0.6**
PDAR Pinedale Array 92.38 44 P **P** **17 22 49.4 0.0**
0.2nm,0.5s,mb3.3,baz=212,slow=5.0,SNR=3.9
HFS Hagfors 142.32 349 PKhKP 17 29 01.8
0.9nm,0.3s,baz=74,slow=5.3,SNR=11
AKASG Malin Array Be 144.85 328 PKP PKPdf 17 29 10.2 -2.3
0.5nm,0.4s,baz=41,slow=4.1,SNR=7.4
BRTR Keskin Array B 147.56 308 PKPbc PKPbc 17 29 21.4 +1.0
0.8nm,0.5s,baz=109,slow=3.7,SNR=6.4

*ISCJB **25** 17:17:49.7±2.9,8.1S±01×1495E±02,h33km±22km, mb3.8/6,Error ellipse: s-maj=29.5km s-min=15.2km az=49.8*
*NEIC **25** 17:17:53.9±3.6,8.09S×149.36E,h51km±27km,mb3.9/3, Error ellipse: s-maj=35.3km s-min=15.0km az=95.0*
*IDC **25** 17:17:55.0±3.6,8.21S×149.39E,h64km±24km,mb3.5/6, mb1 3.7/8,mb1mx3.7/14,mbtmp3.8/8,ML3.5/1,Error ellipse: s-maj=40.2km s-min=14.1km az=117.0*
ISC 25 17:17:54.1±2.8,81S±01×1494E±02,h53km±21km,n17, σ0°79/19,mb3.8/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.56**	**240**	P	**Pn**	**17 18 32.9**	**-0.3**
	95nm,0.3s,baz=56,slow=5.9,SNR=352						
PMG				S	**Sn**	**17 19 04.0**	**+0.8**
	105nm,0.3s,baz=173,slow=20,SNR=15						
PMG	**Port Moresby**	**2.56**	**240**	*e*Pn	**Pn**	**17 18 32.7**	**-0.5**
PMG				*e*Sn	**Sn**	**17 19 04.5**	**+1.3**
KAKA	**Kakadu**	**17.30**	**253**	*e*P	**Pn**	**17 21 50.4**	**-1.5**
	6.0nm,0.6s						
WRAB	**Tennant Creek**	**18.72**	**230**	*e*P	**Pn**	**17 22 09.8**	**+0.7**
	2.6nm,0.6s						
WB2	**Warramunga Arr**	**18.73**	**230**	*e*P	**Pn**	**17 22 08.9**	**-0.3**
WRA	**Warramunga Arr**	**18.73**	**230**	P	**Pn**	**17 22 07.8**	**-1.6**
	0.3nm,0.3s,baz=58,slow=11,SNR=10.0						
AS31	**Alice Springs**	**21.44**	**222**	*e*P	**P**	**17 22 38.6**	**+0.8**
ASAR	**Alice Springs**	**21.44**	**222**	P	**P**	**17 22 38.1**	**+0.4**
	1.0nm,0.6s,mb3.4,baz=55,slow=9.1,SNR=21						
ASAR				S	**S**	**17 26 32.0**	**-0.6**
	0.8nm,1.0s,baz=33,slow=25,SNR=4.6						
ASPA	**Alice Springs**	**21.44**	**222**	*e*P	**P**	**17 22 38.6**	**+0.8**
STKA	**Stephens Creek**	**24.72**	**196**	P	**P**	**17 23 09.9**	**-0.5**
	1.5nm,0.7s,mb3.7,baz=0.6,slow=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**25.15**	**244**	*e*P	**P**	**17 23 14.8**	**+0.5**
	5.6nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.15**	**244**	P	**P**	**17 23 13.3**	**-1.0**
	2.3nm,0.5s,mb4.0,baz=55,slow=9.7,SNR=22						
MJAR	**Matsushiro Arr**	**45.66**	**347**	P	**P**	**17 26 09.4**	**-0.1**
	2.0nm,0.8s,mb4.1,baz=163,slow=6.7,SNR=6.0						
SONM	**Songino Array**	**67.42**	**330**	P	**P**	**17 28 44.9**	**+0.8**
	1.2nm,0.5s,mb4.2,baz=133,slow=6.1,SNR=12						
MKAR	**Makanchi Array**	**80.65**	**320**	P	**P**	**17 30 01.4**	**+0.1**
	0.2nm,0.4s,mb3.4,baz=118,slow=7.3,SNR=3.8						
QSPA	**South Pole Qui**	**81.85**	**180**	*e*P	**P**	**17 30 08.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**147.90**	**282**	PKPbc	PKPbc	17 37 33.0	-0.4
	0.4nm,0.8s,baz=62,slow=1.6,SNR=3.8						

*NEIC **25** 17:21:58.4,31.37S×71.66W,h26km±2km,ML3.3(GUC),After GUC.*
GUC 25 17:21:58.4±0.8,3137S×7166W,h26km±2km,MD3.9, ML3.3,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.53**	**165**	⇑*i*P	Pb	17 22 08.8	-0.2
CHNG				*i* S	Sb	17 22 16.3	0.0
CHNG				AML	AML	17 22 16.8	
	comp=N,2μm,0.2s						
CMCH	**Combarbala**	**0.60**	**71**	⇑*i*P	Pb	17 22 10.2	-0.1
CMCH				*i* S	Sb	17 22 19.0	+0.7
CMCH				AML	AML	17 22 20.0	
	comp=N,8μm,0.5s						
OVCH	**Ovalle**	**0.86**	**27**	*e*P	Pb	17 22 13.9	-0.8
OVCH				*i* S	Sb	17 22 25.8	+0.1
OVCH				AML	AML	17 22 28.6	
	comp=N,1000nm,0.3s						
OVCH	**Ovalle**	**0.86**	**27**	*e*P	Pb	17 22 13.9	-0.8
OVCH				*i* S	Sb	17 22 25.8	+0.1
PTCH	**Petorca**	**1.08**	**145**	*e*P	Pn	17 22 17.2	-0.7
PTCH				*i* S	Sn	17 22 31.5	-0.5
PTCH				AML	AML	17 22 35.0	
	comp=E,2μm,0.3s						
PTCH	**Petorca**	**1.08**	**145**	*e*P	Pn	17 22 17.2	-0.7
PTCH				*i* S	Sn	17 22 31.5	-0.5
TLL	**Tololo Astrono**	**1.41**	**32**	*e*P	Pn	17 22 23.3	+0.9
TLL				*i* S	Sn	17 22 41.7	+1.6
TLL				AML	AML	17 22 45.9	
	comp=E,603nm,0.6s						
TLL	**Tololo Astrono**	**1.41**	**32**	*e*P	Pn	17 22 23.3	+0.9
TLL				*i* S	Sn	17 22 41.7	+1.6
JACH	**Jahuel**	**1.59**	**146**	*e*P	Pn	17 22 25.9	+1.1
JACH				*i* S	Sn	17 22 46.6	+2.1
ROCH	**El Roble**	**1.69**	**161**	*i* P	Pn	17 22 26.4	+0.3
PEL	**Peldehue**	**1.95**	**155**	*e*P	Pn	17 22 31.2	+1.4
PEL				*i* S	Sn	17 22 56.5	+3.2
PEL				AML	AML	17 22 59.8	
	comp=N,500nm,0.3s						
PEL	**Peldehue**	**1.95**	**155**	*e*P	Pn	17 22 31.2	+1.4
PEL				*i* S	Sn	17 22 56.5	+3.2
CLCH	**Cerro Calan**	**2.23**	**155**	*e*P	Pn	17 22 35.2	+1.6
CLCH				*i* S	Sn	17 23 02.8	+2.5
CLCH				AML	AML	17 23 11.6	
	comp=E,312nm,0.6s						
FCH	**Farellones**	**2.27**	**150**	*e*P	Pn	17 22 36.1	+1.9
FCH				*i* S	Sn	17 23 04.7	+3.5
FCH				AML	AML	17 23 11.7	
	comp=E,117nm,0.1s						
TACH	**Talagante**	**2.35**	**165**	*e*P	Pn	17 22 36.4	+1.1
TACH				*i* S	Sn	17 23 06.3	+2.9
PCH	**Pirque**	**2.44**	**157**	*e*P	Pn	17 22 38.1	+1.6
CHCH	**Chadas Angostu**	**2.69**	**162**	*e*P	Pn	17 22 40.8	+0.8
LMEL	**Las Melosas**	**2.76**	**154**	*e*P	Pn	17 22 42.6	+1.8
LMEL				*i* S	Sn	17 23 15.8	+2.5
LMEL				AML	AML	17 23 27.8	
	comp=N,166nm,0.1s						
LMEL	**Las Melosas**	**2.76**	**154**	*e*P	Pn	17 22 42.6	+1.8
LMEL				*i* S	Sn	17 23 15.8	+2.5
CACH	**El Canelo**	**2.88**	**162**	*e*P	Pn	17 22 43.9	+1.3

*PRU **25** 17:40:45.8,44.75N×10.80E,h0km*
*ISCJB **25** 17:40:46.5±0.2,44.85N±002×1064E±002,h10km,Error ellipse: s-maj=2.4km s-min=1.8km az=106.5*
*CSEM **25** 17:40:47.0±0.1,44.72N×108.8E,h10km,ML3.0/16,Error ellipse: s-maj=1.9km s-min=1.5km az=129.0*
*NEIC **25** 17:40:48.3,44.78N×106.4E,h10km,ML2.7(ROM), ML3.0(SZGRF),ML3.1(LDG),After ROM.*
*GEN **25** 17:40:48.1,44.80N×106.6E,h9km,ML2.0*
*ROM **25** 17:40:48.3±0.1,44.78N×106.4E,h10km,Md2.7/12, Ml2.7/14,Error ellipse: s-maj=2.4km s-min=1.6km az=96.0*
*SZGRF **25** 17:40:48.3,44.73N×106.2E,h10km,mb3.0,Northern Italy*
*LDG **25** 17:40:49.5±0.3,44.76N×107.3E,h10km,Ml3.1/16,Error ellipse: s-maj=5.9km s-min=3.0km az=117.0*
ISC 25 17:40:48.0±0.2,44.79N±002×106.8E±002,h16km±2km, n109,σ1°03/161,17C-5D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	**Novellara**	**0.03**	**66**	Pg	**Pg**	**17 40 50.1**	**-0.8**
NOVE				Sg	**Sg**	**17 40 51.3**	**-1.6**
	37μm,0.3s						
RAVA	**Ravarino**	**0.32**	**95**	Pg	**Pg**	**17 40 55.7**	**+1.0**
	741nm,0.3s						
SBPO	**S.Benedetto Po**	**0.32**	**33**	Pg	**Pg**	**17 40 56.3**	**+1.6**
	406nm,0.4s						
ERBM	**Eremo**	**0.41**	**207**	Pg	**Pg**	**17 40 56.7**	**+0.3**
	80nm,0.4s						
GSCL	**Gusciola**	**0.44**	**188**	Pg	**Pg**	**17 40 57.0**	**+0.1**
	76nm,0.2s						
ZCCA	**Zocca**	**0.48**	**154**	Pg	**Pg**	**17 40 58.6**	**+0.9**
GRAM		**0.53**	**236**	P	**Pg**	**17 40 58.2**	**-0.2**
VALM		**0.53**	**215**	P	**Pg**	**17 40 58.4**	**-0.2**
FIU	**Minerbio Fiu**	**0.60**	**104**	Pg	**Pg**	**17 41 01.7**	**+1.9**
	562nm,0.2s						
VLC	**Villacollemand**	**0.66**	**198**	Pg	**Pg**	**17 41 00.8**	**-0.1**
	203nm,1.1s						
BACM		**0.67**	**221**	P	**Pg**	**17 41 00.7**	**-0.4**
PZZT	**Monte Pizzetto**	**0.67**	**168**	Pg	**Pg**	**17 41 00.9**	**-0.2**
	205nm,0.5s						
FNVD	**Fontana Vidola**	**0.70**	**152**	Pg	**Pg**	**17 41 01.1**	**-0.5**
	207nm,0.6s						
CODM		**0.71**	**237**	P	**Pg**	**17 41 01.5**	**-0.4**
VINC	**Vinca**	**0.74**	**210**	P	**Pb**	**17 41 02.4**	**-0.1**
SALO	**Salr**	**0.84**	**353**	Pg	**Pg**	**17 41 04.5**	**+0.2**
	3μm,0.6s						
SEI	**Scarperia**	**0.88**	**146**	Pg	**Pg**	**17 41 05.3**	**+0.2**
	180nm,0.3s						
MAIM		**0.88**	**189**	Pg	**Pg**	**17 41 05.1**	**0.0**
	128nm,0.4s						
MAIM		**0.88**	**189**	P	**Pb**	**17 41 04.6**	**-0.3**
MAIM		**0.88**	**189**	Pg	**Pg**	**17 41 05.1**	**0.0**
	128nm,0.4s						
SC2M	**Scurtabr**	**0.90**	**245**	P	**Pb**	**17 41 04.8**	**-0.4**
TEOL	**Teolo**	**0.91**	**50**	⇑*i*Pg	**Pg**	**17 41 05.0**	**-0.7**
TEOL				*i* Sg	**Sg**	**17 41 17.9**	**+0.3**
CRMI	**Carmignano**	**1.02**	**168**	Pg	**Pg**	**17 41 07.2**	**-0.5**
	21nm,0.5s						
VMG	**Vicchio**	**1.03**	**143**	Pg	**Pg**	**17 41 08.0**	**0.0**
	54nm,0.3s						
PII	**Pisa**	**1.07**	**186**	Pg	**Pg**	**17 41 08.2**	**-0.5**
	122nm,0.3s						
MDI	**Monti di Nese**	**1.20**	**326**	Pg	**Pg**	**17 41 10.6**	**-0.6**
	345nm,0.4s						
SFI	**Santa Sofia**	**1.22**	**136**	Pg	**Pg**	**17 41 11.5**	**0.0**
	101nm,0.7s						
MABI	**Malga Bissina**	**1.27**	**355**	Pg	**Pg**	**17 41 11.3**	**-1.3**
	87nm,0.5s						
CGRP	**Cima Grappa**	**1.35**	**36**	⇑*i*Pg	**Pg**	**17 41 11.4**	**-2.6**
CGRP				*i* Sg	**Sg**	**17 41 31.5**	**-0.2**
CRE	**Caprese Michel**	**1.48**	**141**	Pg	**Pg**	**17 41 15.5**	**-1.0**
	16nm,0.3s						
PCP	**Pian Castagno**	**1.54**	**262**	P	**Pn**	**17 41 14.4**	**-0.3**
FAU	**Forcella Aurin**	**1.71**	**32**	⇑*i*Pn	**Pn**	**17 41 17.6**	**+0.6**
APPI	**Appiano**	**1.74**	**13**	Pg	**Pn**	**17 41 18.1**	**+0.7**
CAE	**Caneva**	**1.74**	**45**	⇑*i*Pn	**Pn**	**17 41 16.9**	**-0.6**
FIN	**Finale Ligure**	**1.86**	**253**	Pg	**Pn**	**17 41 20.2**	**+1.1**
	17nm,0.4s						
MLNI	**Malnisio**	**1.93**	**44**	⇑*i*Pn	**Pn**	**17 41 19.6**	**-0.5**
MLNI				*i* Sn	**Sn**	**17 41 44.0**	**+0.1**
MLNI	**Malnisio**	**1.93**	**44**	*i* Pn	**Pn**	**17 41 19.6**	**-0.4**
MLNI				*i* Sn	**Sn**	**17 41 44.0**	**+0.1**
TUE	**Stuetta**	**1.93**	**332**	Pg	**Pn**	**17 41 21.6**	**+1.6**
	57nm,0.4s						
RORO		**1.99**	**251**	P	**Pn**	**17 41 19.9**	**-1.0**
ROB	**Roburent**	**2.06**	**257**	P	**Pn**	**17 41 21.2**	**-0.7**
DAVOX	**Davos/Dischmat**	**2.07**	**345**	Pg	**Pn**	**17 41 24.2**	**+2.2**
ORX	**Oropa**	**2.08**	**295**	P	**Pn**	**17 41 21.9**	**-0.3**
IMI	**Imperia**	**2.18**	**247**	Pg	**Pn**	**17 41 24.7**	**+1.2**
	16nm,0.3s						
MONE	**Monesi**	**2.21**	**252**	P	**Pn**	**17 41 23.8**	**-0.1**
NEGI	**Negi**	**2.33**	**247**	P	**Pn**	**17 41 24.6**	**-1.0**
ENR	**Entracque**	**2.40**	**258**	P	**Pn**	**17 41 25.7**	**-0.8**
SQTA	**Sankt Quirin**	**2.46**	**8**	⇑*i*Pn	**Pn**	**17 41 29.3**	**+1.8**
SQTA				⇑*i*Sn	**Sn**	**17 42 00.4**	**+3.2**
SQTA	**Sankt Quirin**	**2.46**	**8**	⇑*i*Pn	**Pn**	**17 41 29.2**	**+1.8**
SQTA				*i* Sn	**Sn**	**17 42 00.4**	**+3.3**
SBF	**Sospel**	**2.50**	**250**	*e*Pn	**Pn**	**17 41 29.0**	**+1.1**
SBF				*e*Sn	**Sn**	**17 41 58.2**	**+0.1**
	25nm,0.4s						
SBF	**Sospel**	**2.50**	**250**	*e*Pn	**Pn**	**17 41 29.0**	**+1.1**
SBF				*e*Sn	**Sn**	**17 41 58.2**	**+0.1**
	12nm,0.4s						
DRE	**Drenchia**	**2.51**	**55**	⇑*i*Pn	**Pn**	**17 41 27.3**	**-0.7**
PGF	**Pioggiola**	**2.55**	**209**	*e*Pn	**Pn**	**17 41 29.3**	**+0.8**
PGF				*e*Sn	**Sn**	**17 41 58.2**	**-1.0**
	12nm,0.3s						
PGF	**Pioggiola**	**2.55**	**209**	*e*Pn	**Pn**	**17 41 29.3**	**+0.8**
PGF				*e*Sn	**Sn**	**17 41 58.2**	**-1.0**
	6.1nm,0.3s						
DAVA	**Damuels**	**2.56**	**348**	⇓*i*Pn	**Pn**	**17 41 30.9**	**+2.1**
DAVA				⇑*i*Sn	**Sn**	**17 42 04.2**	**+4.6**
DAVA	**Damuels**	**2.56**	**348**	*e*Pn	**Pn**	**17 41 31.1**	**+2.3**
PZZ	**Prazzo**	**2.57**	**265**	P	**Pn**	**17 41 28.3**	**-0.5**
WTTA	**Wattenberg**	**2.57**	**15**	⇑*i*Pn	**Pn**	**17 41 30.4**	**+1.5**
WTTA				⇑*i*Sn	**Sn**	**17 42 02.6**	**+2.9**
WTTA	**Wattenberg**	**2.57**	**15**	*e*Pn	**Pn**	**17 41 31.5**	**+2.7**
MOTA	**Moosalm**	**2.58**	**6**	⇓*i*Pn	**Pn**	**17 41 30.7**	**+1.7**
MOTA				⇓*i*Sn	**Sn**	**17 42 03.5**	**+3.5**
VOJS	**Vojsko**	**2.58**	**60**	*i* Pn	**Pn**	**17 41 28.3**	**-0.7**
VOJS				*i* Sn	**Sn**	**17 41 59.2**	**-0.8**
CADS	**Cadrg**	**2.59**	**55**	*i* Pn	**Pn**	**17 41 28.4**	**-0.7**
WATA	**Walderalm**	**2.63**	**13**	⇑*i*Pn	**Pn**	**17 41 31.1**	**+1.4**
WATA				⇓*i*Sn	**Sn**	**17 42 03.5**	**+2.4**
JAVS	**Javornik**	**2.63**	**64**	*i* Pn	**Pn**	**17 41 29.0**	**-0.8**
JAVS				*i* Sn	**Sn**	**17 41 59.9**	**-1.4**
JAVS							
	comp=Z,6.0nm,0.1s						
JAVS	**Javornik**	**2.63**	**64**	*i* Pn	**Pn**	**17 41 29.0**	**-0.8**
JAVS				*i* Sn	**Sn**	**17 41 59.9**	**-1.5**
	comp=Z,6.0nm,0.1s						
MBDF	**Montbardon**	**2.78**	**270**	*e*Pn	**Pn**	**17 41 32.3**	**+0.5**
LPG	**La Plagne**	**2.87**	**286**	*e*Pn	**Pn**	**17 41 33.5**	**+0.5**
LPL	**La Plagne**	**2.88**	**286**	*e*Pn	**Pn**	**17 41 33.7**	**+0.5**
LPL				*e*Pg	**Pg**	**17 41 43.7**	**+0.4**
NVLJ	**Novalja**	**3.00**	**93**	*i* Pn	**Pn**	**17 41 34.3**	**-0.6**
NVLJ				*i* Sn	**Sn**	**17 42 08.4**	**-2.0**
NVLJ	**Novalja**	**3.00**	**93**	*i* Pn	**Pn**	**17 41 34.2**	**-0.6**
NVLJ				*i* Sn	**Sn**	**17 42 08.4**	**-2.0**
VISS	**Visnje**	**3.11**	**69**	*i* Pg	**Sg**	**17 42 35.1**	**+7.2**
FRF	**La Foret Royal**	**3.15**	**249**	*e*Pg	**Pg**	**17 41 48.6**	**+0.3**
FRF				*e*Sn	**Sn**	**17 42 15.1**	**+1.1**
	comp=Z,6.3nm,0.2s						
FRF	**La Foret Royal**	**3.15**	**249**	*e*Pn	**Pn**	**17 41 37.8**	**+1.0**
FRF				*e*Pg	**Pg**	**17 41 48.6**	**+0.3**
FRF				*e*Sn	**Sn**	**17 42 15.1**	**+1.1**
FRF	**La Foret Royal**	**3.15**	**249**	*e*Pg	**Pg**	**17 41 48.6**	**+0.3**
FRF				*e*Sn	**Sn**	**17 42 15.1**	**+1.1**
	comp=Z,3.2nm,0.2s						
OBKA	**Obir**	**3.22**	**56**	⇑*i*Pn	**Pn**	**17 41 37.8**	**0.0**
OBKA				⇑*i*Sn	**Sn**	**17 42 15.5**	**-0.2**
OBKA				⇑*i*Sg	**Sg**	**17 42 31.5**	**+0.1**
	comp=Z,13nm,0.3s						
PDKS	**Podkum**	**3.30**	**66**	*i* Pn	**Pn**	**17 41 38.7**	**-0.3**
PDKS	**Podkum**	**3.30**	**66**	*i* Sg	**Sg**	**17 42 35.3**	**+1.3**
PDKS							
	comp=Z,15nm,0.1s						
LMR	**La Mourre**	**3.33**	**246**	*e*Pg	**Pg**	**17 41 51.5**	**-0.4**
LMR				*e*Sn	**Sn**	**17 42 18.9**	**+0.2**
	comp=Z,11nm,0.3s						
LMR	**La Mourre**	**3.33**	**246**	*e*Pn	**Pn**	**17 41 40.3**	**+0.9**
LMR				*e*Pg	**Pg**	**17 41 51.5**	**-0.4**
LMR				*e*Sn	**Sn**	**17 42 18.9**	**+0.2**
LMR	**La Mourre**	**3.33**	**246**	*e*Pg	**Pg**	**17 41 51.5**	**-0.4**
LMR				*e*Sn	**Sn**	**17 42 18.9**	**+0.2**
	comp=Z,5.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.41**	**274**	*e*Pn	**Pn**	**17 41 42.0**	**+1.5**
CABF	**La Chapelle**	**3.70**	**301**	*e*Pn	**Pn**	**17 41 45.0**	**+0.6**
CABF				*e*Sn	**Sn**	**17 42 28.2**	**+0.6**
	comp=Z,6.7nm,0.4s						
CABF	**La Chapelle**	**3.70**	**301**	*e*Pn	**Pn**	**17 41 45.0**	**+0.6**
CABF				*e*Sn	**Sn**	**17 42 28.2**	**+0.6**
	comp=Z,3.3nm,0.4s						
SMRF	**Simiane la Rot**	**3.75**	**259**	*e*Pn	**Pn**	**17 41 47.1**	**+2.1**
BFO	**Black Forest**	**3.90**	**336**	*e*Pn	**Pn**	**17 41 47.5**	**+0.4**
BFO				*e*Sn	**Sn**	**17 42 30.4**	**-2.1**
MOA	**Molln**	**3.95**	**38**	⇑*i*Pn	**Pn**	**17 41 48.5**	**+0.7**
MOA				⇓*i*Sn	**Sn**	**17 42 34.4**	**+0.7**
HINF	**Hinteralfeld**	**4.03**	**320**	*e*Pn	**Pn**	**17 41 49.1**	**+0.2**
HINF				*e*Sn	**Sn**	**17 42 33.9**	**-1.8**
	comp=Z,19nm,0.5s						
HINF	**Hinteralfeld**	**4.03**	**320**	*e*Pn	**Pn**	**17 41 49.1**	**+0.2**
HINF				*e*Sn	**Sn**	**17 42 33.9**	**-1.8**
	comp=Z,9.3nm,0.5s						
VIVF	**Saint-Julien-I**	**4.27**	**273**	*e*Pn	**Pn**	**17 41 53.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**17 42 41.0**	**-0.7**
CDF	**Champ du Feu**	**4.32**	**328**	*e*Pn	**Pn**	**17 41 53.3**	**+0.4**
CDF				*e*Sn	**Sn**	**17 42 42.4**	**-0.5**
	comp=Z,3.4nm,0.2s						
CDF	**Champ du Feu**	**4.32**	**328**	*e*Pn	**Pn**	**17 41 53.3**	**+0.4**
CDF				*e*Sn	**Sn**	**17 42 42.4**	**-0.5**
	comp=Z,1.7nm,0.2s						
HAU	**Haudompre**	**4.40**	**319**	*e*Pn	**Pn**	**17 41 54.3**	**+0.3**
HAU				*e*Sn	**Sn**	**17 42 43.4**	**-1.4**
	comp=Z,24nm,0.3s						
HAU	**Haudompre**	**4.40**	**319**	*e*Pn	**Pn**	**17 41 54.3**	**+0.3**
HAU				*e*Sn	**Sn**	**17 42 43.4**	**-1.4**
	comp=Z,12nm,0.3s						
GEC2	**GERESS Array S**	**4.56**	**26**	*e*Pn	**Pn**	**17 41 55.8**	**-0.5**
GEC2				*e*Sn	**Sn**	**17 42 47.8**	**-1.1**
WET	**Wettzell**	**4.61**	**18**	*e*Pn	**Pn**	**17 41 56.6**	**-0.4**
WET				*e*Sn	**Sn**	**17 42 49.4**	**-0.8**
KHC	**Kasperske Hory**	**4.78**	**24**	*e*PN	**Pn**	**17 41 58.7**	**-0.6**
KHC				*e*SN	**Sn**	**17 42 52.8**	**-1.5**
KHC				*e*SG	**Sg**	**17 43 18.2**	**-3.2**
	comp=Z,6.9nm,0.9s						
LASF	**Ste Croix**	**4.94**	**264**	*e*Pn	**Pn**	**17 42 01.9**	**+0.5**
LASF				*e*Sn	**Sn**	**17 42 56.2**	**-1.9**
	comp=Z,0.8nm,0.3s						
LASF	**Ste Croix**	**4.94**	**264**	*e*Pn	**Pn**	**17 42 01.9**	**+0.5**
LASF				*e*Sn	**Sn**	**17 42 56.2**	**-1.9**
	comp=Z,0.4nm,0.3s						
SMF	**Signal de Mont**	**5.13**	**294**	*e*Pn	**Pn**	**17 42 04.6**	**+0.5**
SMF				*e*Sn	**Sn**	**17 43 01.8**	**-1.2**
	comp=Z,5.9nm,0.5s						
SMF	**Signal de Mont**	**5.13**	**294**	*e*Pn	**Pn**	**17 42 04.6**	**+0.5**
SMF				*e*Sn	**Sn**	**17 43 01.8**	**-1.2**
	comp=Z,3.0nm,0.5s						
LOR	**Lormes**	**5.36**	**300**	*e*Pn	**Pn**	**17 42 07.9**	**+0.7**
LOR				*e*Sn	**Sn**	**17 43 07.3**	**-1.2**
	comp=Z,3.3nm,0.3s						
LOR	**Lormes**	**5.36**	**300**	*e*Pn	**Pn**	**17 42 07.9**	**+0.7**
LOR				*e*Sn	**Sn**	**17 43 07.3**	**-1.2**
	comp=Z,1.6nm,0.3s						
MEZF	**Maizieres J'vi**	**5.37**	**316**	*e*Sn	**Sn**	**17 43 08.6**	**-0.2**
	comp=Z,9.4nm,0.5s						
MEZF	**Maizieres J'vi**	**5.37**	**316**	*e*Sn	**Sn**	**17 43 08.6**	**-0.2**
	comp=Z,4.7nm,0.5s						
SSF	**Saint Saulge**	**5.50**	**297**	*e*Sn	**Sn**	**17 43 09.8**	**-2.1**
	comp=Z,4.8nm,0.5s						
SSF	**Saint Saulge**	**5.50**	**297**	*e*Sn	**Sn**	**17 43 09.8**	**-2.1**
	comp=Z,2.4nm,0.5s						
AVF	**Avril sur Loir**	**5.50**	**294**	*e*Pn	**Pn**	**17 42 09.5**	**+0.3**
PRU	**Pruhonice**	**5.83**	**25**	*e*SG	**Sg**	**17 43 50.2**	**-4.9**
TCF	**Toulx Ste Croi**	**6.13**	**287**	*e*Sn	**Sn**	**17 43 24.4**	**-3.2**
	comp=Z,3.4nm,0.4s						
TCF	**Toulx Ste Croi**	**6.13**	**287**	*e*Sn	**Sn**	**17 43 24.4**	**-3.2**
	comp=Z,1.7nm,0.4s						

IDC 25 17:46:22.9±2.1,718N×12486E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/19,mbtmp3.7/5,Error ellipse: s-maj=146.9km s-min=25.3km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.13**	**178**	P	P	17 51 50.8	+1.3
	1.0nm,0.5s,baz=11,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**28.52**	**161**	P	P	17 52 19.9	-0.1
	0.2nm,0.4s,baz=332,slow=9.8,SNR=7.6						
ASAR	**Alice Springs**	**31.91**	**164**	P	P	17 52 50.5	+0.5
	0.

ARCES **ARCESS Array B 61.42 18** P **P 18 13 48.8 -2.3**
1.7nm,0.6s,mb4.4,baz=329,slow=6.1,SNR=6.5

IDC 25 18:12:32.5±9.0,579S×15100E,h75km±63km,mb2.9/2, mb1 3.2/3,mb1mx3.0/12,mbtmp3.3/3,ML2.2/1,Error ellipse: s-maj=129.9km s-min=56.7km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**226**	P	Pn	18 13 48.5	+0.3
	0.5nm,0.3s,baz=94,slow=16,SNR=2.9						
PMG				S	Sn	18 14 48.4	+1.1
	1.3nm,0.3s,baz=165,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**21.46**	**228**	P	P	18 17 14.3	-0.4
	0.2nm,0.4s,baz=53,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**24.23**	**221**	P	P	18 17 42.5	+0.4
	0.5nm,0.6s,baz=56,slow=9.0,SNR=13						
TORD	**Torodi Ar. Bea**	**148.88**	**286**	PKPbc	PKPbc	18 32 12.4	+0.8
	0.4nm,0.6s,baz=85,slow=1.7,SNR=5.2						

*IDC **25** 18:14:38.1±1.0,2435N×12648E,h0km,mb3.8/9, mb1 3.8/10,mb1mx3.8/21,mbtmp3.8/10,ML3.0/1,Error ellipse: s-maj=41.9km s-min=17.8km az=69.0*
*ISCJB **25** 18:14:40.5±0.5,2431N±004×12650E±003,h33km, mb3.7/10,Error ellipse: s-maj=6.8km s-min=3.2km az=123.0*
*JMA **25** 18:14:41.3±0.2,2439N×12641E,h83km±4km,M3.3*
*NEIC **25** 18:14:44.3±0.6,2441N×12669E,h50km,mb3.8/1,Error ellipse: s-maj=21.7km s-min=11.9km az=77.0*

ISC 25 18:14:41.1±1.4,2436N±004×12646E±003,h24km±10km, n30,σ0°97/45,mb3.7/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.04**	**293**	P	Pn	18 15 00.6	+0.4
JOGS				eS	Sb	18 15 14.8	+1.2
JMJ	**Miyako jima 2**	**1.16**	**293**	P	Pn	18 15 02.1	+0.3
JMJ				eS	Sn	18 15 17.0	+0.2
JTJ	**Tarama**	**1.63**	**280**	P	Pn	18 15 08.1	-0.1
JTJ				eS	Sn	18 15 28.8	+0.4
JKE	**Kume jima 2**	**1.98**	**8**	P	Pn	18 15 13.1	0.0
JKE				eS	Sn	18 15 37.1	-0.1
JIJ	**Ishigaki jima**	**2.12**	**271**	P	Pn	18 15 14.5	-0.4
JIJ				eS	Sn	18 15 39.6	-0.9
JJT2	**Tamagusuku 2**	**2.12**	**33**	P	Pn	18 15 15.4	+0.3
JJT2				eS	Sn	18 15 40.7	0.0
NAH1	**Naha**	**2.15**	**31**	eS	Sn	18 15 40.9	-0.4
JKRS	**Kuro-shima**	**2.24**	**267**	P	Pn	18 15 16.6	-0.1
JKRS				eS	Sn	18 15 42.7	-0.9
JAGN	**Aguni-jima**	**2.33**	**17**	P	Pn	18 15 18.1	+0.2
JAGN				eS	Sn	18 15 46.2	+0.4
HATJ	**Hateruma jima**	**2.44**	**264**	P	Pn	18 15 18.6	-0.9
HATJ				eS	Sn	18 15 46.7	-1.9
IRIF	**Iriomote-Funau**	**2.49**	**270**	P	Pn	18 15 19.7	-0.4
IRIF				eS	Sn	18 15 48.7	-1.1
JOW	**Kunigami**	**2.96**	**33**	Pn	Pn	18 15 26.9	+0.3
	3.8nm,0.3s,baz=162,slow=6.8,SNR=74						
JOW	**Kunigami**	**2.96**	**33**	P	Pn	18 15 26.7	+0.1
JOW				eS	Sn	18 16 01.0	-0.3
JIH	**Iheya**	**2.99**	**27**	P	Pn	18 15 27.3	+0.3
JIH				eS	Sn	18 16 03.0	+0.9
JTK	**Tokunoshima**	**4.08**	**33**	P	Pn	18 15 42.2	+0.2
JTK				eS	Sn	18 16 26.2	-2.8
JMZ	**Minamidaito 2**	**4.55**	**70**	P	Pn	18 15 46.0	-2.5
JMZ				eS	Sn	18 16 34.8	-5.8
JAM	**Amami Oshima**	**4.92**	**34**	P	Pn	18 15 52.9	-0.7
JAM				eS	Sn	18 16 46.6	-3.2
JZK	**Kikaishima**	**5.05**	**38**	P	Pn	18 15 55.0	-0.2
SONM	**Songino Array**	**28.33**	**331**	P	P	18 20 32.9	-0.1
	0.8nm,0.4s,mb3.7,baz=158,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**41.63**	**314**	P	P	18 22 27.7	+0.4
	0.8nm,0.7s,mb3.4,baz=96,slow=10,SNR=9.2						
ZAL	**Zalesovo**	**42.81**	**325**	P	P	18 22 37.7	+0.8
	0.9nm,0.5s,mb3.8,baz=358,slow=9.5,SNR=5.4						
ZAL	**Zalesovo**	**42.81**	**325**	P	P	18 22 37.7	+0.8
WRAB	**Tennant Creek**	**44.69**	**169**	eP	P	18 22 51.9	-0.1
	1.1nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.69**	**169**	P	P	18 22 51.9	-0.2
	1.1nm,0.6s,mb3.9,baz=352,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**48.28**	**171**	P	P	18 23 21.9	+1.7
	0.3nm,0.5s,mb3.5,baz=354,slow=13,SNR=8.0						
BVAR	**Borovoye Array**	**50.63**	**320**	P	P	18 23 38.4	+0.2
	0.2nm,0.3s,mb3.6,baz=113,slow=10,SNR=2.4						
AKTK	**Aktyubinsk**	**58.02**	**315**	P	P	18 24 34.7	+2.8
AKTO	**Aktyubinsk**	**58.02**	**315**	P	P	18 24 34.7	+2.8
	0.6nm,0.3s,mb4.1,baz=54,slow=12,SNR=4.3						
AKASG	**Malin Array Be**	**75.91**	**319**	P	P	18 26 26.1	+0.4
	0.5nm,0.5s,mb3.7,baz=57,slow=6.3,SNR=6.8						
BRTR	**Keskin Array B**	**76.91**	**308**	P	P	18 26 33.2	+1.8
	0.9nm,0.8s,mb3.7,baz=90,slow=6.2,SNR=6.7						

*SZGRF **25** 18:15:23.5,12.11N×8745W,h16km,mb5.1,Near coast of Nicaragua*
*BJI **25** 18:15:26.7,13.10N×8750W,h15km,mB5.2,Ms5.0,Msz4.7*
*IDC **25** 18:15:26.8±0.6,1321N×8743W,h14km±2km,mb4.4/19, mb1 4.6/19,mb1mx4.6/21,mbtmp4.5/19,MS4.2/23, Ms1 4.2/23,ms1mx4.2/25,Error ellipse: s-maj=23.2km s-min=11.9km az=58.0*
*NEIC **25** 18:15:26.7±0.3,1311N×8745W,mb5.0/81,MD5.2(SNET), Error ellipse: s-maj=9.5km s-min=4.9km az=216.0*
NEIC Felt [V] at Meanguera del Golfo, El Salvador and [III] at Tegucigalpa, Honduras. Also felt at San Miguel, El Salvador.
*CASC **25** 18:15:26.6±2.1,1338N×8761W,h21km±5km,MD4.5, ML4.9,mb5.0(NEIC)*
*ISCJB **25** 18:15:27.1±0.1,1345N±003×8733W±004,h16km, mb4.9/97,MS4.3/31,Error ellipse: s-maj=6.4km s-min=2.2km az=101.9*
*MOS **25** 18:15:27.4±1.1,1308N×8752W,h33km,mb5.2/47, MS4.5/11,Error ellipse: s-maj=9.3km s-min=5.8km az=91.4*

ISC 25 18:15:28.8±0.1,1340N±003×8729W±004,h16km, h16km±4km:pP-P,n398,σ1°§05/368,mb4.9/97,MS4.3/31, 47C-67D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**0.65**	**1**	eP	Pg	18 15 43.5	+1.9
TGUH				eS	Sg	18 15 54.2	+3.9
CRIN	**San Cristobal**	**0.73**	**161**	eP	Pg	18 15 42.5	-0.7
CRIN				eS	Sg	18 15 57.1	+4.2
TELN	**Telica**	**0.91**	**151⇑**	eP	Pb	18 15 46.0	-0.1
TELN				eS	Sb	18 16 01.7	+3.8
TEL3	**Telica 3**	**0.93**	**152⇑**	eP	Pb	18 15 46.7	+0.2
TEL3				eS	Sb	18 16 02.0	+3.4
LEON	**Leon**	**1.05**	**158⇓**	iP	Pb	18 15 46.8	-1.7
CNGN	**Cerro Negro**	**1.06**	**147⇓**	eP	Pb	18 15 48.3	-0.5
CNGN				eS	Sb	18 16 04.7	+2.3
MIRN	**Miramar**	**1.11**	**149⇑**	iP	Pb	18 15 49.0	-0.5
MOMJ	**Momotombo**	**1.23**	**143⇓**	eP	Pn	18 15 50.9	-0.3
COPN	**Copaltepe**	**1.39**	**151⇑**	eP	Pn	18 15 52.4	-1.1
XAVN	**Gruta Xavier**	**1.56**	**143⇓**	eP	Pn	18 15 55.7	0.0
TISN	**Laguna Tiscapa**	**1.60**	**141⇑**	eP	Pn	18 15 56.3	0.0
MGAN	**Managua**	**1.61**	**141⇓**	eP	Pn	18 15 56.4	0.0
MGAN				eS	Sn	18 16 19.6	+2.8
TICN	**Ticuantepe**	**1.71**	**143**	eP	Pn	18 15 57.0	-0.8
APON	**Apoyo**	**1.90**	**141⇓**	eP	Pn	18 16 02.7	+2.3
SNET	**Serv Nac Est T**	**1.91**	**279**	eP	x	18 15 54.5	
SNET				e		18 16 03.3	
	comp=Z,17μm,1.0s						
SNET				eS	x	18 16 14.9	
CONN	**Concepcion**	**2.44**	**138⇑**	eP	Pn	18 16 08.6	+0.7
SSNN	**San Juan del S**	**2.53**	**146⇑**	eP	Pn	18 16 09.1	+0.1
LIM1	**Limonal**	**3.34**	**143**	iP	Pn	18 16 19.3	-0.9
VCR	**Vista de Mar**	**3.64**	**153⇑**	eP	Pn	18 16 23.4	-1.0
VACR	**Volcan Arenal**	**3.87**	**138**	eP	Pn	18 16 27.8	+0.2
JCR	**Jicaral**	**4.12**	**149**	eP	Pn	18 16 31.0	0.0
CAO	**Cobano**	**4.25**	**150⇑**	eP	Pn	18 16 32.5	-0.4
EPA	**Esparza**	**4.30**	**142⇑**	eP	Pn	18 16 33.1	-0.2
POA2	**Poas 2**	**4.37**	**137**	eP	Pn	18 16 36.8	+2.4
PRS1	**Puriscal**	**4.48**	**139**	eP	Pn	18 16 36.7	+0.9
LAJ	**Bijagual**	**4.69**	**138**	eP	Pn	18 16 37.0	-1.8
IRZ2	**Volcan Irazu 2**	**4.76**	**135⇑**	eP	Pn	18 16 42.4	+2.7
OCM	**Ochomogo**	**4.77**	**137⇑**	eP	Pn	18 16 42.4	+2.5
LCR2	**La Lucha 2**	**4.86**	**138**	eP	Pn	18 16 41.8	+0.7
CCIG	**Comitan**	**5.49**	**302**	iP	Pn	18 16 52.0	+2.1
CCIG				iS	Sn	18 18 09.0	+16
CTCR	**Cotoan**	**6.31**	**135⇑**	eP	Pn	18 17 03.4	+2.4
TEIG	**Tepich**	**6.85**	**352**	eP	Pn	18 17 12.6	+4.1
	comp=Z,67nm,0.7s						
OXX	**Oaxaca**	**9.81**	**293**	iP	Pn	18 17 50.5	+1.4
RCC	**Rio Carpintero**	**12.89**	**58**	eP	Pn	18 18 39.9	+8.6
ROSC	**El Rosal**	**15.35**	**122**	Pn	Pn	18 19 10.2	+5.7
	comp=Z,2.0nm,0.3s,baz=89,slow=16,SNR=7.9						
ROSC				LR	LR	18 25 44.4	
	comp=Z,467nm,18.2s,baz=343,slow=40						
ROSC	**El Rosal**	**15.35**	**122**	eP	Pn	18 19 09.6	+5.0
SDV	**Santo Domingo**	**16.94**	**104**	P	Pn	18 19 27.8	+2.7
	comp=Z,0.4nm,0.3s,baz=291,slow=5.3,SNR=22						
SDV	**Santo Domingo**	**16.94**	**104**	eP	Pn	18 19 26.9	+1.9
	comp=Z,131nm,1.0s						
HKT	**Hockley**	**18.27**	**336**	eP	Pn	18 19 41.3	-0.2
HKT				pmax	pmax		
	comp=Z,38nm,1.1s						
HKT	**Hockley**	**18.27**	**336**	eP	Pn	18 19 41.3	-0.1
	comp=Z,38nm,1.1s						
NATX	**Nagdoches**	**19.49**	**341**	eP	Pn	18 19 58.0	+1.8
	comp=Z,68nm,0.9s						
JCT	**Junction City**	**20.55**	**328**	eP	P	18 20 07.1	+0.6
JCT				pmax	pmax		
	comp=Z,55nm,1.3s						
JCT	**Junction City**	**20.55**	**328**	eP	P	18 20 07.1	+0.6
	comp=Z,55nm,1.3s						
CPD	**Cerro la Pandu**	**21.08**	**75**	P	P	18 20 15.7	+3.5
OXF	**Oxford**	**21.11**	**355**	eP	P	18 20 15.2	+2.7
OXF				pmax	pmax		
	comp=Z,125nm,1.1s,mb5.2						
OXF	**Oxford**	**21.11**	**355**	eP	P	18 20 15.2	+2.7
	comp=Z,125nm,1.1s,mb5.2						
MTP	**Monte Pirata**	**21.43**	**75**	eP	P	18 20 19.7	+3.7
MTP				epP		18 20 25.0	
JSC	**Jenkinsville**	**21.50**	**14**	eP	P	18 20 20.5	+3.8
PLAL	**Pickwick Lake**	**21.50**	**358**	eP	P	18 20 16.9	+0.1
	comp=Z,28nm,1.3s,mb4.4						
LHS	**Liberty Hill**	**21.79**	**15**	P	P	18 20 22.2	+2.3
TXAR	**Lajitas Array**	**21.95**	**319**	P	P	18 20 20.8	-0.9
	comp=Z,20nm,0.9s,mb4.5,baz=136,slow=9.7,SNR=61						
TXAR	**Lajitas Array**	**21.95**	**319**	P	P	18 20 20.8	-0.9
ATAH	**Atahualpa**	**22.11**	**156**	P	P	18 20 26.0	+2.7
	comp=Z,31nm,1.1s,mb4.7,baz=338,slow=7.6,SNR=16						
ATAH				LR	LR	18 28 22.9	
	comp=Z,656nm,20.5s,MS4.0,baz=335,slow=35						
TKL	**Tuckaleechee C**	**22.39**	**8**	P	P	18 20 29.9	+3.7
	comp=Z,47nm,1.0s,mb4.9,baz=185,slow=11,SNR=22						
TKL				LR	LR	18 32 03.4	
	comp=Z,294nm,18.1s,MS3.8,baz=11,slow=44						
PCRV	**Puerto La Cruz**	**22.40**	**96**	P	P	18 20 30.9	+4.5
	comp=Z,50nm,0.8s,mb5.0,baz=48,slow=2.1,SNR=11						
PCRV				LR	LR	18 29 33.4	
	comp=Z,610nm,20.7s,MS4.0,baz=117,slow=38						
WVT	**Waverly**	**22.64**	**359**	eP	P	18 20 30.9	+2.0
WVT				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
WVT	**Waverly**	**22.64**	**359**	eP	P	18 20 30.9	+2.0
	comp=Z,15nm,1.0s,mb4.4						
GLAT	**Glass**	**22.84**	**356**	P	P	18 20 32.5	+1.4
WMOK	**Wichita Mounta**	**23.65**	**336**	eP	P	18 20 38.4	-1.0
WMOK				pmax	pmax		
	comp=Z,48nm,1.0s,mb4.9						
WMOK	**Wichita Mounta**	**23.65**	**336**	eP	P	18 20 38.4	-1.0
	comp=Z,48nm,1.0s,mb4.9						
LPIG	**La Paz**	**24.22**	**299**	LR	LR	18 29 52.3	
	comp=Z,1μm,21.9s,MS4.4,baz=288,slow=36						
MNTX	**Cornudas Mount**	**24.65**	**321**	eP	P	18 20 46.2	-2.3
	comp=Z,59nm,1.3s,mb5.0						
WCI	**Wyandotte Cave**	**24.74**	**2**	eP	P	18 20 51.1	+1.7
WCI				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
WCI	**Wyandotte Cave**	**24.74**	**2**	eP	P	18 20 51.1	+1.8
	comp=Z,30nm,0.8s,mb4.9						
KSU1	**Kansas State U**	**26.89**	**344**	P	P	18 21 09.4	+0.6
	comp=Z,82nm,1.1s,mb5.2						
KSU1				epP	pP	18 21 13.6	-0.3
LPM	**Los Pinos Moun**	**27.22**	**323**	eP	P	18 21 12.0	+0.2
LENM	**Lemitar**	**27.32**	**323**	eP	P	18 21 13.7	+1.0
ANMO	**Albuquerque**	**27.58**	**324**	P	P	18 21 15.9	+0.9
	comp=Z,5.7nm,0.8s,mb4.2,baz=145,slow=12,SNR=9.4						
ANMO				LR	LR	18 35 59.9	
	comp=Z,382nm,18.5s,MS4.0,baz=233,slow=45						
ANMO	**Albuquerque**	**27.58**	**324**	eP	P	18 21 15.8	+0.8
ANMO				pmax	pmax		
	comp=Z,30nm,1.4s						
ANMO	**Albuquerque**	**27.58**	**324**	eP	P	18 21 15.8	+0.8
	comp=Z,30nm,1.4s,mb4.7						
LAZ	**Ladron**	**27.58**	**323**	eP	P	18 21 16.1	+1.1
CBKS	**Cedar Bluff**	**27.61**	**339**	eP	P	18 21 13.6	-1.7
CBKS				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.8						
CBKS	**Cedar Bluff**	**27.61**	**339**	eP	P	18 21 13.6	-1.6
	comp=Z,24nm,0.9s,mb4.8						
TUC	**Tucson**	**28.57**	**315**	eP	P	18 21 23.8	-0.1
TUC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
TUC	**Tucson**	**28.57**	**315**	eP	P	18 21 23.8	-0.1
	comp=Z,12nm,1.1s,mb4.5						
SDCO	**Great Sand Dun**	**29.17**	**329**	eP	P	18 21 29.8	+0.6
	comp=Z,16nm,1.0s,mb4.7						
116A	**Eloy**	**29.35**	**315**	⇓P	P	18 21 31.4	+0.6
	baz=29						
115A	**Sonoran Desert**	**29.80**	**314**	⇑P	P	18 21 35.3	+0.6
	baz=30						
MVCO	**Mesa Verde**	**30.35**	**325**	eP	P	18 21 39.7	+0.1
	comp=Z,18nm,0.9s,mb4.8						
MVCO	**Mesa Verde**	**30.35**	**325**	⇓P	P	18 21 39.9	+0.3
	baz=30						
X15A	**Humboldt**	**30.84**	**317**	⇓P	P	18 21 44.1	+0.2
	baz=31						
ISCO	**Idaho Springs**	**30.85**	**332**	eP	P	18 21 46.7	+2.7
ISCO				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.6						
ISCO	**Idaho Springs**	**30.85**	**332**	eP	P	18 21 46.7	+2.7
	comp=Z,12nm,1.2s,mb4.6						
WUAZ	**Wupatki**	**30.91**	**320**	P	P	18 21 43.5	-1.1
	comp=Z,18nm,1.2s,mb4.8						
WUAZ				epP	pP	18 21 49.4	-0.2
WUAZ	**Wupatki**	**30.91**	**320**	⇓P	P	18 21 44.2	-0.4
	baz=31,SNR=5.7						
SMCO	**Snowmass**	**31.01**	**329**	eP	P	18 21 45.9	+0.4
	comp=Z,24nm,1.3s,mb4.9						
Y14A	**Wickenburg**	**31.03**	**316**	⇓P	P	18 21 45.7	0.0
	baz=31						
X14A	**Yava**	**31.26**	**317**	⇓P	P	18 21 47.8	+0.1
	baz=31						
ECSD	**EROS,Sioux Fal**	**31.27**	**347**	eP	P	18 21 47.4	-0.3
	comp=Z,30nm,1.1s,mb5.0						
W15A	**Williams**	**31.27**	**318**	⇑P	P	18 21 47.6	-0.1
	baz=31						
PV10	**Paradox Valley**	**31.48**	**326**	P	P	18 21 48.0	-1.6
GLA	**Glamis**	**31.82**	**313**	⇓P	P	18 21 52.0	-0.6
	baz=32						
W14A	**Seligman**	**31.83**	**317**	⇑P	P	18 21 53.2	+0.6
	baz=32						
X13A	**Yucca**	**31.97**	**316**	⇓P	P	18 21 54.8	+0.9
	baz=32						
Y12C	**Blythe**	**31.98**	**314**	⇓P	P	18 21 54.5	+0.5
	baz=32						
PHWY	**Pilot Hill**	**32.00**	**334**	eP	P	18 21 55.0	+0.8
W13A	**Hualapai Mount**	**32.29**	**317**	⇓P	P	18 21 57.7	+0.9
	baz=32						
BC3	**Big Chuckw Mtn**	**32.58**	**313**	⇑P	P	18 22 00.7	+1.4
	baz=33						
IRM	**Iron Mountain**	**32.64**	**314**	⇑P	P	18 22 01.5	+1.8
	baz=33						
SRU	**San Rafael**	**32.82**	**326**	P	P	18 22 00.8	-0.5
SRU				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
SRU	**San Rafael**	**32.82**	**326**	P	P	18 22 00.8	-0.6
	comp=Z,19nm,1.0s,mb5.0						
LONY	**Lake Ozonia**	**32.95**	**17**	eP	P	18 22 03.6	+1.2
	comp=Z,149nm,1.7s,mb5.6						
LONY				epP	pP	18 22 09.2	+1.7
RWWY	**Rawlins**	**33.09**	**332**	eP	P	18 22 03.5	-0.2
	comp=Z,31nm,1.2s,mb5.1						
BELC	**Belle Mtn.**	**33.15**	**313**	⇓P	P	18 22 04.7	+0.5
	baz=33						
V12A	**Nelson**	**33.30**	**317**	⇓P	P	18 22 06.5	+0.9
	baz=33						
MSU	**Marysvale**	**33.35**	**323**	P	P	18 22 03.6	-2.4
ARUT	**Antelope Range**	**33.63**	**321**	eP	P	18 22 10.7	+2.2
RSSD	**Black Hills**	**33.81**	**338**	eP	P	18 22 10.6	+0.6
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
RSSD	**Black Hills**	**33.81**	**338**	eP	P	18 22 10.6	+0.6
	comp=Z,5.1nm,0.8s,mb4.5						
HEC	**Hector,Ludlow**	**33.82**	**314**	⇑P	P	18 22 11.6	+1.6
	baz=34						
TUQ	**Turquoise Mtn.**	**33.86**	**315**	⇓P	P	18 22 11.4	+1.0
	baz=34						
MPU	**Maple Canyon**	**34.06**	**326**	eP	P	18 22 12.3	+0.1
	comp=Z,44nm,1.1s,mb5.3						
DAU	**Daniels Canyon**	**34.14**	**326**	eP	P	18 22 13.7	+0.9
GSC	**Goldstone**	**34.40**	**314**	⇑P	P	18 22 17.1	+2.0
	baz=34						
DUG	**Dugway**	**34.84**	**325**	P	P	18 22 18.4	-0.5
DUG				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
DUG	**Dugway**	**34.84**	**325**	P	P	18 22 18.4	-0.6
	comp=Z,16nm,1.3s,mb4.8						
DUG	**Dugway**	**34.84**	**325**	⇑P	P	18 22 19.7	+0.7
	baz=35,SNR=6.3						
EDW2	**Edwards Air Fo**	**35.01**	**313**	⇑P	P	18 22 21.5	+1.1
	baz=35						
PDAR	**Pinedale Array**	**35.02**	**331**	P	P	18 22 20.1	-0.3
	comp=Z,2.4nm,0.9s,mb4.1,baz=116,slow=10,SNR=12						
PDAR				pP	pP	18 22 24.5	-1.0
	comp=Z,2.1nm,0.8s,baz=136,slow=9.4,SNR=9.9						
PDAR				LR	LR	18 41 15.3	
	comp=Z,514nm,19.6s,MS4.3,baz=132,slow=44						
LPAZ	**La Paz**	**35.05**	**147**	P	P	18 22 19.8	-0.9
	comp=Z,3.3nm,0.7s,mb4.3,baz=319,slow=9.5,SNR=8.4						
LPAZ				pP	pP	18 22 24.4	-1.4
	comp=Z,3.3nm,0.7s,baz=341,slow=12,SNR=10						
LPAZ				LR	LR	18 37 42.2	
	comp=Z,342nm,21.3s,MS4.1,baz=83,slow=38						
LPAZ	**La Paz**	**35.05**	**147**	eP	P	18 22 19.2	-1.6
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**35.05**	**147**	eP	P	18 22 19.2	-1.5
	comp=Z,3.3nm,0.8s,mb4.3						
LPAZ				epP	pP	18 22 23.8	-2.1
LRMC	**Laurel Mountai**	**35.10**	**314**	⇓P	P	18 22 22.5	+1.3
	baz=35						
HWUT	**Hardware Ranch**	**35.16**	**328**	eP	P	18 22 21.7	+0.1
	comp=Z,27nm,1.2s,mb5.0						
HWUT				epP	pP	18 22 26.2	-0.5
MPMC	**Manual Prospec**	**35.27**	**315**	⇑P	P	18 22 24.5	+1.9
	baz=35						
Q12A	**Willow Creek R**	**35.27**	**321**	⇓P	P	18 22 23.5	+0.9
	baz=35						
AGMN	**Agassiz Refuge**	**35.51**	**350**	eP	P	18 22 22.8	-1.9
	comp=Z,20nm,1.0s,mb5.0						
P12A	**McGill**	**35.59**	**322**	⇑P	P	18 22 26.1	+0.8
	baz=36,SNR=5.3						
R10A	**Warm Springs**	**35.73**	**319**	⇓P	P	18 22 27.2	+0.7
	baz=36						
HVU	**Hansel Valley**	**35.92**	**327**	eP	P	18 22 27.6	-0.6
HVU				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.2						
HVU	**Hansel Valley**	**35.92**	**327**	eP	P	18 22 27.6	-0.5
	comp=Z,48nm,1.6s,mb5.2						
O12A	**Currie**	**36.00**	**323**	⇓P	P	18 22 29.5	+0.6
	baz=36,SNR=7.3						
N13A	**Wendover, West**	**36.07**	**324**	⇑P	P	18 22 30.2	+0.7
	baz=36						
REDW	**Red Top Meadow**	**36.09**	**330**	eP	P	18 22 28.8	-0.8
	comp=Z,66nm,1.2s,mb5.4						
SNOW	**Snow King Moun**	**36.12**	**331**	eP	P	18 22 30.2	+0.3
	comp=Z,46nm,1.0s,mb5.4						
R09A	**Tonopah**	**36.19**	**319**	⇑P	P	18 22 31.0	+0.5
	baz=36						
TPAW	**Teton Pass**	**36.23**	**330**	eP	P	18 22 30.1	-0.8
	comp=Z,36nm,1.1s,mb5.2						
RRI2	**Red Ridge**	**36.30**	**330**	eP	P	18 22 30.9	-0.6
	comp=Z,61nm,1.4s,mb5.3						
O11A	**Cowboy Ranch,**	**36.45**	**322**	⇓P	P	18 22 32.5	-0.3
	baz=36						
S08C	**White Mtn Res**	**36.50**	**317**	⇓P	P	18 22 33.4	+0.2
	baz=36						
N12A	**Clover Valley,**	**36.55**	**324**	⇓P	P	18 22 33.5	-0.1
	baz=37,SNR=5.6						
FLWY	**Flagg Ranch**	**36.56**	**331**	eP	P	18 22 33.2	-0.4
	comp=Z,22nm,1.1s,mb4.9						
HELL	**Mitchell Peak,**	**36.65**	**315**	⇓P	P	18 22 34.9	+0.5
	baz=37						
YFT	**Old Faithful**	**36.90**	**332**	eP	P	18 22 38.4	+1.8
R08A	**Mina**	**36.93**	**318**	⇓P	P	18 22 37.5	+0.7
	baz=37						
NVAR	**Mina Array Bea**	**37.10**	**318**	P	P	18 22 37.2	-1.1
	comp=Z,1.1nm,0.7s,baz=128,slow=10,SNR=5.0						
Q08A	**Gabbs**	**37.10**	**319**	⇓P	P	18 22 38.3	+0.1
	baz=37						
YMR	**Madison River**	**37.13**	**332**	P	P	18 22 39.8	+1.2
	comp=Z,36nm,1.2s,mb5.1						
O09A	**Fish Creek Ran**	**37.40**	**321**	⇓P	P	18 22 41.5	+0.7
	baz=38						
ULM	**Lac du Bonnet**	**37.41**	**351**	P	P	18 22 39.3	-1.6
	comp=Z,4.

D13A **Huson** 40.56 331 ⇓P P 18 23 07.1 -0.2
baz=41
C14A **Swan Lake** 40.74 333 ⇓P P 18 23 08.6 -0.1
baz=41
K06A **Valley Falls** 40.81 322 ⇓P P 18 23 10.3 +1.0
baz=41
J06A **Christmas Vall** 41.02 323 ⇓P P 18 23 10.6 -0.5
baz=41
C13A **Hot Springs** 41.05 332 ⇓P P 18 23 10.9 -0.3
baz=41
F10A **Beach Ranch, E** 41.14 328 ⇑P P 18 23 11.2 -0.9
baz=41
I07A **Izee** 41.15 324 ⇓P P 18 23 11.8 -0.3
baz=41
M04C **Macdoel** 41.21 320 ⇑P P 18 23 12.6 0.0
baz=41
F09A **S2 Ranch, Elgi** 41.31 327 ⇓P P 18 23 13.3 -0.2
baz=41
H07A **Lands Inn, Kim** 41.50 325 ⇓P P 18 23 13.7 -1.3
baz=42
G08A **Pilot Rock** 41.60 326 ⇓P P 18 23 15.8 -0.1
baz=42
A13A **Flathead Natio** 41.90 333 ⇓P P 18 23 18.6 +0.3
baz=42
B12A **Libby** 42.09 332 ⇓P P 18 23 19.1 -0.7
baz=42
D09A **Jones Farm, Ri** 42.42 329 ⇓P P 18 23 21.8 -0.7
baz=42
B11A **Sandpoint** 42.42 331 ⇓P P 18 23 22.6 +0.1
baz=43
D08A **Wollman Farm,** 42.73 328 ⇓P P 18 23 24.5 -0.6
baz=43
E07A **Sunnyside** 42.90 327 ⇑P P 18 23 25.5 -0.9
baz=43
C09A **Chrisman Ranch** 42.90 329 ⇓P P 18 23 25.5 -0.9
baz=43
F06A **Goldendale** 42.90 325 ⇓P P 18 23 26.0 -0.5
baz=43
H04A **Detroit Lake** 43.05 323 ⇑P P 18 23 26.7 -1.0
baz=43
B09A **Rice** 43.26 330 ⇓P P 18 23 28.8 -0.6
baz=43,SNR=6.0
C08A **Higginbotham F** 43.28 329 ⇑P P 18 23 28.7 -0.8
baz=43
F05A **White Salmon** 43.35 325 ⇓P P 18 23 29.3 -0.8
baz=43
C07A **Waterville** 43.73 328 ⇓P P 18 23 32.5 -0.7
baz=44
A09A **Danville** 43.85 330 ⇓P P 18 23 32.8 -1.3
baz=44
SCHQ **Schefferville** 44.33 17 P P 18 23 38.2 +0.3
comp=Z,12nm,0.8s,mb4.7,baz=236,slow=5.9,SNR=9.3
SCHQ LR LR 18 41 38.8
comp=Z,319nm,19.3s,MS4.2,baz=154,slow=35
SCHQ **Schefferville** 44.33 17 P P 18 23 38.2 +0.2
SCHQ LR LR 18 41 38.8
C05A **Tolt Reservoir** 44.58 327 ⇓P P 18 23 38.8 -1.2
baz=45
EDM **Edmonton** 44.79 338 eP P 18 23 40.5 -1.1
B05A **Bryant** 45.15 327 ⇑P P 18 23 43.4 -1.1
baz=45
C04A **Brinnon** 45.28 326 ⇑P P 18 23 44.7 -0.8
baz=45
CPUP **Villa Florida** 49.08 144 P P 18 24 12.3 -2.8
comp=Z,0.7nm,0.5s,mb4.0,baz=328,slow=9.5,SNR=3.3
CPUP LR LR 18 45 46.7
comp=Z,178nm,20.1s,MS4.0,baz=46,slow=37
FRB **Frobisher Bay** 51.97 10 P P 18 24 36.5 -0.5
comp=Z,7.3nm,0.6s,mb4.8,baz=220,slow=12,SNR=3.4
FRB pP pP 18 24 41.4 -0.8
comp=Z,11nm,0.7s,baz=184,slow=7.9,SNR=3.8
YKA **Yellowknife Ar** 52.74 344 P P 18 24 42.0 -0.7
comp=Z,13nm,0.8s,mb4.9,baz=137,slow=8.0,SNR=20
YKA pP pP 18 24 46.5 -1.5
comp=Z,15nm,0.8s,baz=138,slow=7.7,SNR=24
YKA LR LR 18 50 31.8
comp=Z,203nm,19.5s,MS4.2,baz=155,slow=40
YKA **Yellowknife Ar** 52.74 344 P P 18 24 42.0 -0.7
YKA pP pP 18 24 46.5 -1.5
YKA LR LR 18 50 31.8
DLBC **Dease Lake** 55.12 334 eP P 18 25 00.1 0.0
DLBC epP pP 18 25 04.7 -0.7
TRQA **Tornquist** 56.42 156 eP P 18 25 09.7 +0.3
comp=Z,97nm,1.9s,mb5.5
TAOE **Nuku Hiva Isla** 56.95 250 eS S 18 32 57.3 -9.2
comp=Z,496nm,28.6s
TAOE eLR LR 18 41 38.0
comp=Z,2μm,28.0s
SFJD **Kangerlussuaq** 58.77 16 i P P 18 25 30.3 +4.4
RKT **Rikitea** 59.12 232 eS S 18 33 25.2 -10
comp=Z,182nm,33.2s
RKT eLR LR 18 42 39.5
comp=Z,417nm,31.8s
DAWY **Dawson** 61.99 337 eP P 18 25 46.0 -1.9
INK **Inuvik** 62.35 342 P P 18 25 49.4 -1.0
comp=Z,18nm,1.0s,mb5.2,baz=129,slow=7.5,SNR=8.3
INK pP pP 18 25 53.9 -1.8
comp=Z,18nm,1.0s,baz=114,slow=6.8,SNR=14
INK LR LR 18 59 29.3
comp=Z,397nm,18.5s,MS4.6,baz=290,slow=42
INK **Inuvik** 62.35 342 eP P 18 25 48.3 -2.1
comp=Z,996nm,1.1s
INK epP pP 18 25 53.6 -2.1
SUMG **Summit** 65.63 14 eP P 18 26 11.3 -0.7
comp=Z,38nm,0.9s,mb5.4
SUMG epP pP 18 26 17.4 0.0
COLA **College** 65.64 336⇓eP P 18 26 14.0 +2.0
PPT **Papeete** 68.74 245 eS S 18 35 24.5 -10
comp=Z,130nm,25.5s
PPT eLR LR 18 47 08.8
comp=Z,778nm,28.8s,baz=62
PPT **Papeete** 68.74 245 LR LR 18 50 11.1
comp=Z,123nm,21.7s,MS4.1,baz=90,slow=30
USHA **Ushuaia** 69.82 169 LR LR 18 51 52.8
comp=Z,234nm,20.5s,MS4.4,baz=120,slow=31
TBI **Tubuai** 70.93 239 eLR LR 18 48 08.1
comp=Z,455nm,31.8s,baz=68
DAG **Danmarks Havn** 72.20 13⇑iP P 18 26 51.8 -1.0
comp=Z,23nm,1.3s,mb5.0
DAG **Danmarks Havn** 72.20 13⇑iP P 18 26 51.8 -1.0
DAG pmax pmax
comp=Z,23nm,1.3s,mb5.0
EVO **Evora** 73.45 54 eP P 18 26 59.8 -0.4
comp=Z,62nm,1.0s,mb5.2
EVO eMLR MLR
comp=Z,198nm,21.0s
QUIF **Quistinic** 76.27 44 eP P 18 27 16.0 -0.5
comp=Z,118nm,1.1s,mb5.4
QUIF **Quistinic** 76.27 44 eP P 18 27 16.0 -0.5
QUIF pmax pmax
comp=Z,59nm,1.1s,mb5.4
QUIF **Quistinic** 76.27 44 eP P 18 27 16.0 -0.5
comp=Z,59nm,1.1s,mb5.4
ESDC **Sonseca Array** 76.48 52 P P 18 27 18.5 +0.7
comp=Z,16nm,0.8s,mb5.0,baz=286,slow=5.6,SNR=28
ESDC pP pP 18 27 22.8 -0.4
comp=Z,16nm,0.8s,baz=287,slow=5.9,SNR=26
ESDC LR LR 18 56 21.4
comp=Z,125nm,20.5s,MS4.2,baz=320,slow=32
ESLA **Sonseca Array** 76.48 52 eP P 18 27 17.7 0.0
comp=Z,5.6nm,0.9s,mb4.5
ESLA epP pP 18 27 23.2 0.0
GRR **Gorron** 77.76 43 eP P 18 27 24.3 -0.6
comp=Z,81nm,0.9s,mb5.3
GRR **Gorron** 77.76 43 eP P 18 27 24.3 -0.6
GRR pmax pmax
comp=Z,41nm,0.9s,mb5.4
GRR **Gorron** 77.76 43 eP P 18 27 24.3 -0.6
comp=Z,41nm,0.9s,mb5.4
FLN **La Foliniere** 77.96 42 eP P 18 27 25.4 -0.7
comp=Z,68nm,0.9s,mb5.3
FLN eMLR MLR
comp=Z,198nm,20.2s
FLN **La Foliniere** 77.96 42 eP P 18 27 25.4 -0.7
FLN pmax pmax
comp=Z,34nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,200nm,20.3s,MS4.4
FLN **La Foliniere** 77.96 42 eP P 18 27 25.4 -0.7
comp=Z,34nm,0.9s,mb5.3
FLN LR LR
comp=Z,200nm,20.3s,MS4.4
SJPF **Ste Jean** 78.13 48 eP P 18 27 27.3 +0.3
comp=Z,63nm,0.9s,mb5.2
SJPF **Ste Jean** 78.13 48 eP P 18 27 27.3 +0.3
SJPF pmax pmax
comp=Z,32nm,0.9s,mb5.2
SJPF **Ste Jean** 78.13 48 eP P 18 27 27.3 +0.3
comp=Z,32nm,0.9s,mb5.2
LDF **La Druitiere** 78.22 43 eP P 18 27 26.8 -0.7
comp=Z,89nm,1.1s,mb5.3
LDF **La Druitiere** 78.22 43 eP P 18 27 26.8 -0.7
LDF pmax pmax
comp=Z,45nm,1.1s,mb5.3
LDF **La Druitiere** 78.22 43 eP P 18 27 26.8 -0.7
comp=Z,44nm,1.1s,mb5.3
MFF **Saint Martin d** 78.45 45 eP P 18 27 28.1 -0.7
comp=Z,62nm,1.0s,mb5.2
MFF **Saint Martin d** 78.45 45 eP P 18 27 28.1 -0.7
MFF pmax pmax
comp=Z,31nm,1.0s,mb5.2
MFF **Saint Martin d** 78.45 45 eP P 18 27 28.1 -0.7
comp=Z,31nm,1.0s,mb5.2
ETSF **Etsaut** 78.64 48 eP P 18 27 30.0 +0.2
comp=Z,28nm,1.0s,mb4.9
ETSF **Etsaut** 78.64 48 eP P 18 27 30.0 +0.2
ETSF pmax pmax
comp=Z,14nm,1.0s,mb4.8
ETSF **Etsaut** 78.64 48 eP P 18 27 30.0 +0.2
comp=Z,14nm,1.0s,mb4.8
KBS **Kingsbay** 78.71 11 i P P 18 27 27.5 -2.7
KBS **Kingsbay** 78.71 11 P P 18 27 30.5 +0.3
KBS epP pP 18 27 35.8 +0.2
RAR **Rarotonga** 79.02 245 LR LR 18 53 18.6
comp=Z,275nm,18.3s,MS4.6,baz=107,slow=29
EPF **Esparros** 79.28 48 eP P 18 27 33.2 -0.1
comp=Z,37nm,0.9s,mb5.2
EPF **Esparros** 79.28 48 eP P 18 27 33.2 -0.1
EPF pmax pmax
comp=Z,18nm,0.9s,mb5.0
EPF **Esparros** 79.28 48 eP P 18 27 33.2 -0.1
comp=Z,18nm,0.9s,mb5.0
LFF **La Frestale** 79.29 46 eP P 18 27 32.1 -1.3
comp=Z,118nm,1.3s,mb5.4
LFF **La Frestale** 79.29 46 eP P 18 27 32.1 -1.3
LFF pmax pmax
comp=Z,59nm,1.3s,mb5.4
LFF **La Frestale** 79.29 46 eP P 18 27 32.1 -1.3
comp=Z,59nm,1.3s,mb5.4
RJF **Les Rejaudoux** 79.78 46 eP P 18 27 35.4 -0.6
comp=Z,45nm,1.1s,mb5.0
RJF eMLR MLR
comp=Z,201nm,21.8s
RJF **Les Rejaudoux** 79.78 46 eP P 18 27 35.4 -0.6
RJF pmax pmax
comp=Z,22nm,1.1s,mb5.0
RJF MLR MLR
comp=Z,200nm,21.8s,MS4.4
RJF **Les Rejaudoux** 79.78 46 eP P 18 27 35.4 -0.6
comp=Z,22nm,1.1s,mb5.0
RJF LR LR
comp=Z,200nm,21.8s,MS4.4
TCF **Toulx Ste Croi** 80.11 45 eP P 18 27 36.7 -1.1
comp=Z,54nm,1.1s,mb5.1
TCF **Toulx Ste Croi** 80.11 45 eP P 18 27 36.7 -1.1
TCF pmax pmax
comp=Z,27nm,1.1s,mb5.1
TCF **Toulx Ste Croi** 80.11 45 eP P 18 27 36.7 -1.1
comp=Z,27nm,1.1s,mb5.1
CAF **Calviac** 80.22 46 eP P 18 27 37.9 -0.5
comp=Z,54nm,1.3s,mb5.0
CAF **Calviac** 80.22 46 eP P 18 27 37.9 -0.5
CAF pmax pmax
comp=Z,27nm,1.3s,mb5.0
CAF **Calviac** 80.22 46 eP P 18 27 37.9 -0.5
comp=Z,27nm,1.3s,mb5.0
HYF **Humbligny** 80.24 44 eP P 18 27 37.8 -0.7
BGF **Bois d'Agland** 80.50 44 eP P 18 27 38.8 -1.1
comp=Z,42nm,0.9s,mb5.1
BGF **Bois d'Agland** 80.50 44 eP P 18 27 38.8 -1.1
BGF pmax pmax
comp=Z,21nm,0.9s,mb5.1
BGF **Bois d'Agland** 80.50 44 eP P 18 27 38.8 -1.1
comp=Z,21nm,0.9s,mb5.1
MTLF **Montolieu** 80.58 48 eP P 18 27 39.7 -0.7
comp=Z,97nm,1.4s,mb5.2
MTLF **Montolieu** 80.58 48 eP P 18 27 39.7 -0.7
MTLF pmax pmax
comp=Z,49nm,1.4s,mb5.2
MTLF **Montolieu** 80.58 48 eP P 18 27 39.7 -0.7
comp=Z,49nm,1.4s,mb5.2
AVF **Avril sur Loir** 80.80 44 eP P 18 27 40.1 -1.4
comp=Z,27nm,1.1s,mb4.8
AVF **Avril sur Loir** 80.80 44 eP P 18 27 40.1 -1.4
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.8
AVF **Avril sur Loir** 80.80 44 eP P 18 27 40.1 -1.4
comp=Z,13nm,1.1s,mb4.8
BAIF **Baives** 80.81 41 eP P 18 27 40.5 -1.1
comp=Z,14nm,0.9s,mb4.6
BAIF **Baives** 80.81 41 eP P 18 27 40.5 -1.1
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BAIF **Baives** 80.81 41 eP P 18 27 40.5 -1.1
comp=Z,7.2nm,0.9s,mb4.6
SSF **Saint Saulge** 80.86 44 eP P 18 27 40.6 -1.3
comp=Z,22nm,0.9s,mb4.8
SSF **Saint Saulge** 80.86 44 eP P 18 27 40.6 -1.3
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SSF **Saint Saulge** 80.86 44 eP P 18 27 40.6 -1.3
comp=Z,11nm,0.9s,mb4.8
DOU **Dourbes** 81.05 41 P P 18 27 47.0 +4.1
LOR **Lormes** 81.06 44 eP P 18 27 41.8 -1.1
comp=Z,53nm,1.1s,mb5.1
LOR eMLR MLR
comp=Z,218nm,20.0s
LOR **Lormes** 81.06 44 eP P 18 27 41.8 -1.1
LOR pmax pmax
comp=Z,27nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,220nm,20.0s,MS4.5
LOR **Lormes** 81.06 44 eP P 18 27 41.8 -1.1
comp=Z,26nm,1.1s,mb5.1
LOR LR LR
comp=Z,220nm,20.0s,MS4.5
SMF **Signal de Mont** 81.16 44 eP P 18 27 42.0 -1.4
comp=Z,17nm,0.9s,mb4.7
SMF **Signal de Mont** 81.16 44 eP P 18 27 42.0 -1.4
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SMF **Signal de Mont** 81.16 44 eP P 18 27 42.0 -1.4
comp=Z,8.5nm,0.9s,mb4.7
BCLA **Clavier** 81.44 40 P P 18 27 49.2 +4.2
LASF **Ste Croix** 81.63 47 eP P 18 27 45.6 -0.3
comp=Z,36nm,0.9s,mb5.0
MEZF **Maizieres J'vi** 81.63 42 eP P 18 27 44.9 -1.0
comp=Z,75nm,1.1s,mb5.2
MEZF **Maizieres J'vi** 81.63 42 eP P 18 27 44.9 -1.0
comp=Z,75nm,1.1s,mb5.5
HGN **Heimansgroeve** 81.77 40 eP P 18 27 50.5 +3.8
comp=Z,22nm,0.6s,mb5.2
MEM **Membach** 81.84 40 P P 18 27 51.6 +4.5
VIVF **Saint-Julien-l** 82.06 46 eP P 18 27 48.1 -0.1
comp=Z,68nm,1.2s,mb5.2
VIVF **Saint-Julien-l** 82.06 46 eP P 18 27 48.1 -0.1
VIVF pmax pmax
comp=Z,34nm,1.2s,mb5.2
VIVF **Saint-Julien-l** 82.06 46 eP P 18 27 48.1 -0.1
comp=Z,34nm,1.2s,mb5.2
WTSB **Winterswijk** 82.07 39 eP P 18 27 51.8 +3.5
comp=Z,50nm,1.4s,mb5.3
WLF **Walferdange** 82.12 41 P P 18 27 54.1 +5.6
NB2 **NORSAR Subarra** 82.47 29 P P 18 27 50.1 -0.2
comp=Z,15nm,1.0s,mb4.9,baz=285,slow=5.1
NB2 **NORSAR Subarra** 82.47 29 P P 18 27 50.1 -0.2
NB2 pmax pmax
comp=Z,15nm,1.0s,mb4.9
NOA **NORSAR Array B** 82.47 29 P P 18 27 50.4 +0.1
comp=Z,4.7nm,0.9s,mb4.4,baz=287,slow=5.0,SNR=5.4
NOA pP pP 18 27 54.6 -1.2
comp=Z,9.7nm,0.9s,baz=286,slow=5.1,SNR=21
NOA LR LR 19 00 51.6
comp=Z,77nm,20.4s,MS4.1,baz=270,slow=33
HAU **Haudompre** 82.58 43 eP P 18 27 49.8 -1.1
comp=Z,42nm,1.1s,mb5.1
HAU eMLR MLR
comp=Z,167nm,21.0s
HAU **Haudompre** 82.58 43 eP P 18 27 49.8 -1.1
HAU pmax pmax
comp=Z,21nm,1.1s,mb5.1
HAU MLR MLR
comp=Z,170nm,21.0s,MS4.4
HAU **Haudompre** 82.58 43 eP P 18 27 49.8 -1.1
comp=Z,21nm,1.1s,mb5.1
HAU LR LR
comp=Z,170nm,21.0s,MS4.4
CABF **La Chapelle** 82.69 44 eP P 18 27 50.8 -0.7
comp=Z,29nm,1.1s,mb4.9
CABF **La Chapelle** 82.69 44 eP P 18 27 50.8 -0.7
CABF pmax pmax
comp=Z,15nm,1.1s,mb4.9
CABF **La Chapelle** 82.69 44 eP P 18 27 50.8 -0.7
comp=Z,14nm,1.1s,mb4.9
ORIF **Oris-en-Rattie** 82.89 46 eP P 18 27 52.2 -0.3
comp=Z,24nm,1.0s,mb4.9
ORIF eMLR MLR
comp=Z,167nm,22.2s
ORIF **Oris-en-Rattie** 82.89 46 eP P 18 27 52.2 -0.3
ORIF pmax pmax
comp=Z,12nm,1.0s,mb4.9
ORIF **Oris-en-Rattie** 82.89 46 eP P 18 27 52.2 -0.3
comp=Z,12nm,1.0s,mb4.9
HINF **Hinteralfeld** 82.95 43 eP P 18 27 51.6 -1.2
comp=Z,16nm,0.9s,mb4.7
HINF **Hinteralfeld** 82.95 43 eP P 18 27 51.6 -1.2
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
HINF **Hinteralfeld** 82.95 43 eP P 18 27 51.6 -1.2
comp=Z,8.1nm,0.9s,mb4.8
CDF **Champ du Feu** 83.10 42 eP P 18 27 52.5 -1.1
comp=Z,19nm,0.9s,mb4.8
CDF **Champ du Feu** 83.10 42 eP P 18 27 52.5 -1.1
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CDF **Champ du Feu** 83.10 42 eP P 18 27 52.5 -1.1
comp=Z,9.4nm,0.9s,mb4.8
LPL **La Plagne** 83.35 45 eP P 18 27 54.8 -0.1
comp=Z,17nm,0.9s,mb4.8
LPL **La Plagne** 83.35 45 eP P 18 27 54.8 -0.1
LPL pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
LPL **La Plagne** 83.35 45 eP P 18 27 54.8 -0.1
comp=Z,8.5nm,0.9s,mb4.8
LPG **La Plagne** 83.37 45 eP P 18 27 55.1 +0.1
comp=Z,12nm,0.8s,mb4.6
LPG **La Plagne** 83.37 45 eP P 18 27 55.1 +0.1
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LPG **La Plagne** 83.37 45 eP P 18 27 55.1 +0.1
comp=Z,5.8nm,0.8s,mb4.7
DAVA **Damuels** 85.07 43⇑iP P 18 28 04.1 +0.4
comp=Z,22nm,1.0s,mb5.2
DAVOX **Davos/Dischmat** 85.19 43 LR LR 19 04 29.2
comp=Z,83nm,18.4s,MS4.2,baz=281,slow=34
ARCES **ARCESS Array B** 85.24 19 P P 18 28 03.5 -1.1
comp=Z,6.8nm,0.9s,mb4.8,baz=316,slow=3.3,SNR=6.4
MOX **Moxa** 85.31 39 eP P 18 28 05.1 +0.2
comp=Z,12nm,1.1s,mb4.9
MOX **Moxa** 85.31 39 eP P 18 28 05.1 +0.2
MOX pmax pmax
comp=Z,12nm,1.1s,mb4.9
GRA1 **Grafenberg Arr** 85.32 40 eP P 18 28 04.8 -0.1
comp=Z,18nm,1.0s,mb5.2
GRA1 epP pP 18 28 09.7 -0.7
GRF **Grafenberg Arr** 85.32 40 eP P 18 28 04.8 -0.1
comp=Z,18nm,1.0s,mb5.2
GRF epP pP 18 28 09.7 -0.7
GRF **Grafenberg Arr** 85.32 40 eP P 18 28 04.8 -0.1
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.2
GRF **Grafenberg Arr** 85.32 40 eP P 18 28 04.8 -0.1
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.2
NKC **Novy Kostel** 85.94 39 eP P 18 28 08.5 +0.5
NKC epP pP 18 28 12.7 -0.8
CLL **Collm** 85.98 38 i P P 18 28 07.7 -0.5
CLL i 18 28 19.3
CLL pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
CLL **Collm** 85.98 38 i P P 18 28 07.7 -0.5
comp=Z,4.0nm,0.7s,mb4.8
CLL i pP 18 28 12.1 -1.6
CLL i 18 28 19.3
CLL **Collm** 85.98 38 i P P 18 28 07.7 -0.5
comp=Z,4.0nm,0.7s,mb4.8
CLL ⇓ipP pP 18 28 12.1 -1.6
comp=Z,17nm,0.9s
CLL **Collm** 85.98 38⇓i(P) sP 18 28 19.3 +3.7
comp=Z,13nm,1.1s
TORD **Torodi Ar. Bea** 86.05 77 P P 18 28 06.7 -1.8
comp=Z,2.4nm,0.9s,mb4.4,baz=292,slow=5.5,SNR=6.8
TORD LR LR 19 01 48.7
comp=Z,200nm,19.5s,MS4.5,baz=255,slow=32
TORD **Torodi Ar. Bea** 86.05 77 P P 18 28 06.7 -1.8
TORD LR LR 19 01 48.7
BRG **Berggiesshubel** 86.67 38 eP P 18 28 15.6 +4.1
comp=Z,4.0nm,0.9s,mb4.6
BRG
comp=N,107nm,23.7s
BRG
comp=E,74nm,17.1s
BRG
comp=Z,108nm,17.5s
KHC **Kasperske Hory** 86.95 40 eP P 18 28 12.9 -0.1
KHC epP pP 18 28 17.3 -1.2
KHC AMS AMS 19 03 40.0
comp=Z,200nm,18.0s
GEC2 **GERESS Array S** 87.12 40 eP P 18 28 13.1 -0.6
GEC2 epP pP 18 28 17.7 -1.6
GERES **GERESS Array B** 87.12 40 P P 18 28 13.5 -0.3
comp=Z,5.6nm,0.9s,mb4.8,baz=300,slow=4.0,SNR=8.5
GERES pP pP 18 28 18.2 -1.1
comp=Z,4.6nm,0.8s,baz=298,slow=2.9,SNR=21
GERES LR LR 19 03 46.0
comp=Z,132nm,18.5s,MS4.4,baz=75,slow=33
PVCC **Panska Ves** 87.15 39 AMS AMS 19 07 00.0
PRU **Pruhonice** 87.30 39 eP P 18 28 17.6 +3.0
PRU AMS AMS 19 03 10.0
comp=Z,200nm,14.5s
KEST **Kesra** 87.57 54 P P 18 28 16.8 +0.8
comp=Z,1.3nm,0.8s,mb4.2,baz=220,slow=1.9,SNR=7.7
KEST LR LR 18 59 11.7
comp=Z,30nm,21.0s,MS3.7,baz=227,slow=30
ROBS **Robic** 87.75 43 eP P 18 28 17.1 +0.3
ROBS e pP 18 28 21.2 -1.1
CADS **Cadrg** 87.91 43 eP P 18 28 22.0 +4.4
UPC **Upice** 88.04 38 epP pP 18 28 23.3 -0.4
TREC **Trest** 88.10 40 eP P 18 28 20.1 +1.6
TREC AMS AMS 19 07 00.0
comp=Z,200nm,16.1s
DPC **Dobruska-Polom** 88.28 39 eP P 18 28 23.5 +4.2
DPC AMS AMS 19 08 30.0
comp=Z,200nm,15.7s
PDKS **Podkum** 88.79 43 eP P 18 28 21.4 -0.3
PDKS e pP 18 28 26.2 -1.0
FINES **FINESS Array B** 89.05 26 P P 18 28 22.9 -0.1
comp=Z,5.6nm,1.0s,mb4.9,baz=298,slow=3.0,SNR=3.0
FINES LR LR 19 05 49.0
comp=Z,101nm,20.9s,MS4.2,baz=311,slow=34
FINES **FINESS Array B** 89.05 26 P P 18 28 22.9 -0.1
FINES LR LR 19 05 49.0
OKC **Ostrava-Krasne** 89.55 39 AMS AMS 19 05 00.0
VYHS **Vyhne** 90.45 40 eP P 18 28 30.2 +0.7
KECS **Kecovo** 91.47 39 eP P 18 28 34.3 0.0
STHS **Stebnicka Huta** 91.58 38 eP P 18 28 35.3 +0.5
TIXI **Tiksi** 91.75 349 i P P 18 28 34.3 -1.2
TIXI pmax pmax
comp=Z,23nm,1.4s,mb5.3
KOLS **Kolonicke sedl** 92.39 38 eP P 18 28 39.3 +0.8
LVV **L'vov** 93.08 37 eP P 18 28 40.3 -1.4
AKASG **Malin Array Be** 95.65 35 LR LR 19 10 06.7
comp=Z,78nm,18.4s,MS4.2,baz=265,slow=34
CN2 **Changchun** 115.71 334 ePKP PKPdf 18 34 14.3 +4.1
CN2 PP PP 18 35 13.8 +0.8
SONM **Songino Array** 117.83 350 PP PP 18 35 26.9 -0.9
comp=Z,1.9nm,1.1s,baz=23,slow=6.0,SNR=7.2
SONM PKKPbc PKKPbc 18 44 31.6 -3.2
comp=Z,1.2nm,0.9s,baz=222,slow=1.5,SNR=4.5
MKAR **Makanchi Array** 119.36 8 PP PP 18 35 39.3 +0.9
comp=Z,0.4nm,0.8s,baz=345,slow=5.1,SNR=3.3
WMQ **Urumqi** 122.87 4 ePKP PKPdf 18 34 25.0 +1.0
WMQ ePP PP 18 36 08.0 +5.6
WMQ PKS 18 38 00.0
WMQ PPP 18 38 50.0
WMQ SKS SKSdf 18 41 34.0 -1.2
WMQ SKKS SKKSac 18 43 00.0 -0.9
WMQ PP PP
comp=Z,82nm,4.6s
WMQ LR LR

comp=N,213nm,25.2s,MS5.0
WMQ LR LR
comp=E,341nm,28.0s,MS5.0
WMQ LR LR
comp=Z,196nm,24.2s,MS4.7
HHC Hu-ho-hao-te 123.27 343 *e*PKP PKPdf 18 34 20.0 -4.7
HHC PP PP 18 36 06.0 +1.0
HHC SS SS 18 52 52.0 +2.1
HHC PP PP
comp=Z,70nm,7.6s
HHC LR LR
comp=N,140nm,4.7s
HHC LR LR
comp=E,143nm,4.9s
HHC LR LR
comp=Z,190nm,16.2s,MS4.8
NJ2 Nanjing 128.33 332 *e*PKP PKPdf 18 34 33.0 -1.4
LZH Lanzhou 129.67 348 *e*PKP PKPdf 18 34 32.5 -4.5
LZH XPKP 18 34 40.0
LZH *e*PP PP 18 36 46.8 -0.7
LZH SKS SKSdf 18 41 40.5 -7.4
LZH SKKS SKKSac 18 43 46.3 +2.4
LZH PP PP
comp=Z,82nm,8.6s
LZH LR LR
comp=E,156nm,18.2s
LZH LR LR
comp=Z,215nm,20.1s,MS4.8
LZH Lanzhou 129.67 348 *e*PKIKP PKPdf 18 34 32.5 -4.5
LZH 18 34 39.9
LZH *e* 18 36 46.7
LZH 18 41 40.6
LZH *e*SS SS 18 54 04.3 -5.6
LZH MLR MLR
comp=Z,220nm,20.1s,MS4.8
LZH Lanzhou 129.67 348 *e*PKP PKPdf 18 34 32.5 -4.5
LZH pPKP pPKPdf 18 34 38.1 -4.5
LZH sPKP 18 34 39.9
LZH *e*PP PP 18 36 46.7 -0.8
LZH SKS SKSdf 18 41 40.6 -7.3
LZH SKKS SKKSac 18 43 46.2 +2.3
LZH *e*SS SS 18 54 04.3 -5.6
LZH LR LR
comp=Z,220nm,20.1s,MS4.8
STKA Stephens Creek 131.72 239 PKP PKPdf 18 34 38.8 -2.1
comp=Z,4.2nm,1.0s,baz=90,slow=4.0,SNR=7.0
CD2 Chengdu 134.68 347 *e*PKP PKPdf 18 34 44.0 -2.4
CD2 XPKP 18 34 51.8
CD2 PP PP 18 37 20.5 +0.8
CD2 PKS 18 38 18.8
CD2 SKS SKSdf 18 41 49.5 -7.4
CD2 PP PP
comp=Z,90nm,10.2s
GYA Guiyang 138.12 341 *e*PDIF Pdif 18 32 02.5 0.0
GYA XPKP 18 35 01.8
GYA PP PP 18 37 45.0 +3.7
GYA PKS 18 38 28.5
GYA PPP 18 40 47.0
GYA SKS SKSdf 18 42 00.8 -2.0
GYA SKKS SKKSac 18 44 33.5 -1.6
GYA SS SS 18 55 51.5 -0.5
GYA PP PP
comp=Z,110nm,7.6s
GYA LR LR
comp=N,130nm,22.4s,MS4.8
GYA LR LR
comp=E,160nm,21.7s,MS4.8
GYA LR LR
comp=Z,140nm,22.0s,MS4.7
WB2 Warramunga Arr 139.66 255 *e*P 18 34 45.5
WRAB Tennant Creek 139.66 255 *i*PKIKP PKPdf 18 34 59.0 +3.4
WRA Warramunga Arr 139.67 255 PKhKP 18 34 44.7
comp=Z,2.0nm,0.8s,baz=96,slow=3.2,SNR=7.8
WRA PKP PKPdf 18 34 53.7 -2.0
comp=Z,1.7nm,0.7s,baz=84,slow=1.3,SNR=10
WRA pPKP pPKPdf 18 34 58.5 -2.8
comp=Z,2.9nm,0.8s,baz=87,slow=1.8,SNR=11
WRA Warramunga Arr 139.67 255 PKP PKPdf 18 34 53.7 -2.0
WRA pPKP pPKPdf 18 34 58.5 -2.8
ASAR Alice Springs 139.76 249 PKhKP 18 34 44.9
comp=Z,0.6nm,0.6s,baz=109,slow=2.9,SNR=15
ASPA Alice Springs 139.76 249 *e*P 18 34 46.3
KMI Kunming 140.48 346 PKP PKPdf 18 34 58.0 +0.9
KMI XPKP 18 35 06.0
KMI PP PP 18 37 57.3 +1.5
KMI PKS 18 38 32.5
KMI PPP 18 41 05.5
KMI SS SS 18 56 21.3 +1.6
KMI PP PP
comp=Z,55nm,5.0s
KMI LR LR
comp=Z,100nm,28.8s,MS4.4
KMI Kunming 140.48 346 PKIKP PKPdf 18 34 58.0 +0.9
KMI 18 35 06.0
KMI 18 37 57.2
KMI PPP 18 41 05.5
KMI SS SS 18 56 21.2 +1.5
KMI SSS 19 01 36.4
KMI MLR MLR
comp=Z,100nm,28.8s,MS4.4
KMI Kunming 140.48 346 PKP PKPdf 18 34 58.0 +0.9
KMI sPKP 18 35 06.0
KMI PP PP 18 37 57.2 +1.4
KMI PKS 18 38 32.5
KMI PPP 18 41 05.5
KMI SS SS 18 56 21.2 +1.5
KMI SSS 19 01 36.4
KMI LR LR
comp=Z,100nm,28.8s,MS4.4
FITZ Fitzroy Crossi 147.99 257 *e*P PKPdf 18 35 11.2 +1.0
comp=Z,12nm,0.9s
FITZ Fitzroy Crossi 147.99 257 PKPbc PKPbc 18 35 11.5 -1.8
comp=Z,3.5nm,0.7s,baz=114,slow=3.5,SNR=14
MUN Mundaring 151.62 225 *e*P PKPab 18 35 34.3 +3.5

ISCJB ***25*** *18:18:03.3±0.5, 2066N±008×1199E±0.1, h10km, mb4.0/14, MS3.3/2, Error ellipse: s-maj=20.6km s-min=6.8km az=127.3*
IDC ***25*** *18:18:03.4±0.7, 2065N×11981E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=40.0km s-min=14.1km az=68.0*
NEIC ***25*** *18:18:05.0±0.4, 2067N×11992E, h10km, mb4.3/4, Error ellipse: s-maj=16.7km s-min=7.4km az=68.0*
ISC 25 18:18:05.1±0.5, 2069N±008×1200E±01, h10km, n27, σ0°80/25, mb4.0/14, MS3.3/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.44**	**149**	*e*P		**Pn**	**18 18 59.5**	**+0.7**
CVP				*e*S		**Sn**	**18 19 39.0**	**-0.7**
MJAR	**Matsushiro Arr**	**22.43**	**41**	P		**P**	**18 23 05.6**	**+1.6**
	2.7nm,0.8s,mb3.7,baz=228,slow=10,SNR=5.6							
GUMO	**Guam**	**24.80**	**103**	LR		LR	18 30 53.7	
	comp=Z,22nm,20.8s,MS2.6,baz=34,slow=31							
MDJ	**Mudanjiang**	**25.16**	**16**	*e*P		**P**	**18 23 29.3**	**-1.2**
	7.2nm,0.8s,mb4.2							
LSA	**Lhasa**	**27.52**	**295**	*e*P		**P**	**18 23 53.5**	**+1.6**
	2.1nm,0.7s,mb3.9							
SONM	**Songino Array**	**29.22**	**341**	P		**P**	**18 24 06.2**	**-0.8**
	1.3nm,0.9s,mb3.7,baz=156,slow=7.9,SNR=9.5							
FITZ	**Fitzroy Crossi**	**38.95**	**171**	*e*P		**P**	**18 25 30.2**	**-1.0**
	5.9nm,0.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**38.95**	**171**	P		**P**	**18 25 30.8**	**-0.4**
	2.4nm,1.1s,mb3.8,baz=354,slow=10,SNR=3.3							
MK31	**Makanchi Array**	**40.15**	**319**	*e*P		**P**	**18 25 41.4**	**+0.1**
MKAR	**Makanchi Array**	**40.15**	**319**	P		**P**	**18 25 41.4**	**+0.1**
	0.8nm,0.7s,mb3.5,baz=114,slow=9.7,SNR=8.7							
MKAR				PcP		PcP	18 27 45.9	+0.4
	0.4nm,0.7s,baz=88,slow=6.2,SNR=3.6							
MKAR	**Makanchi Array**	**40.15**	**319**	P		**P**	**18 25 41.4**	**+0.1**
MKAR				PcP		PcP	18 27 45.9	+0.4
WRAB	**Tennant Creek**	**42.75**	**160**	*e*P		**P**	**18 26 02.3**	**-0.3**
	9.8nm,1.0s,mb4.5							
WRA	**Warramunga Arr**	**42.76**	**160**	P		**P**	**18 26 02.3**	**-0.3**
	3.5nm,0.7s,mb4.2,baz=342,slow=9.0,SNR=20							
WB2	**Warramunga Arr**	**42.76**	**160**	*e*P		**P**	**18 26 02.4**	**-0.3**
AS31	**Alice Springs**	**46.13**	**162**	*e*P		**P**	**18 26 30.0**	**+0.4**
ASPA	**Alice Springs**	**46.13**	**162**	*e*P		**P**	**18 26 30.0**	**+0.4**
ASAR	**Alice Springs**	**46.13**	**162**	P		**P**	**18 26 30.0**	**+0.4**
	0.8nm,0.4s,mb4.0,baz=345,slow=6.9,SNR=46							
CTA	**Charters Tower**	**48.00**	**146**	P		**P**	**18 26 45.7**	**+1.5**
	8.1nm,0.9s,mb4.8,baz=336,slow=7.1,SNR=4.0							
CTA	**Charters Tower**	**48.00**	**146**	P		**P**	**18 26 45.4**	**+1.2**
CTAO	**Charters Tower**	**48.00**	**146**	P		**P**	**18 26 45.4**	**+1.2**
BVAR	**Borovoye Array**	**49.72**	**323**	PcP		PcP	18 28 17.9	-0.5
	0.4nm,0.4s,baz=85,slow=5.1,SNR=4.5							
STKA	**Stephens Creek**	**56.22**	**158**	P		**P**	**18 27 45.2**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=329,slow=18,SNR=2.6							
STKA	**Stephens Creek**	**56.22**	**158**	P		**P**	**18 27 44.7**	**-0.8**
ARCES	**ARCESS Array B**	**72.36**	**338**	LR		LR	19 04 29.3	
	comp=Z,86nm,18.6s,MS4.0,baz=294,slow=38							
FINES	**FINESS Array B**	**73.89**	**330**	P		**P**	**18 29 39.5**	**-0.7**
	1.5nm,0.8s,mb4.0,baz=50,slow=7.4,SNR=2.7							
NOA	**NORSAR Array B**	**80.78**	**332**	P		**P**	**18 30 17.9**	**-0.9**
	1.3nm,0.9s,mb3.9,baz=66,slow=5.2,SNR=3.1							
GERES	**GERESS Array B**	**84.81**	**320**	P		**P**	**18 30 39.9**	**+0.1**
	0.2nm,0.3s,mb3.7,baz=60,slow=5.3,SNR=4.3							

CASC 25 18:24:20.7±1.5, 1335N×8758W, h18km±14km, MD3.7, 2C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.82**	**141⇑**	*e*P		Pb	18 24 35.6	-0.8
TELN	**Telica**	**1.04**	**135**	*e*P		Pb	18 24 40.7	+0.6
LEON	**Leon**	**1.14**	**144⇑**	*e*P		Pn	18 24 40.1	-1.6
LEON				*e*S		Sb	18 24 56.0	-0.4
CNGN	**Cerro Negro**	**1.20**	**134**	*e*P		Pn	18 24 41.7	-0.9
MIRN	**Miramar**	**1.24**	**137⇓**	*e*P		Pn	18 24 42.1	-0.9
MOMJ	**Momotombo**	**1.38**	**133⇓**	*e*P		Pn	18 24 45.1	+0.1
LFRS	**El Faro**	**1.47**	**281⇓**	*e*P		x	18 25 01.3	+15
LFRS				*e*S		x	18 25 21.8	+17
COPN	**Copaltepe**	**1.51**	**140⇓**	*e*P		Pn	18 24 46.1	-0.7
MTO2	**Montecristo 2**	**2.02**	**301⇓**	*e*P		x	18 25 14.0	+20
MTO2				*e*S		x	18 25 39.6	+21

ISCJB ***25*** *18:25:30.5±3.1, 38S±03×1503E±03, h503km±17km, mb3.2/3, Error ellipse: s-maj=63.6km s-min=36.3km az=98.1*
NEIC ***25*** *18:25:31.3±5.2, 388S×15044E, h495km±22km, mb4.0/1, Error ellipse: s-maj=76.5km s-min=35.7km az=196.0*
IDC ***25*** *18:25:32.7±2.5, 402S×15036E, h500km±19km, mb2.7/3, mb1 2.9/5, mb1mx2.8/14, mbtmp3.6/5, Error ellipse: s-maj=65.8km s-min=24.8km az=131.0*
ISC 25 18:25:32.1±3.0, 40S±04×1505E±03, h497km±16km, n10, σ0°29/13, mb3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.30**	**211**	P		**P**	**18 27 11.1**	**0.0**
	2.6nm,0.3s,baz=290,slow=2.1,SNR=12							
PMG				S		**S**	**18 28 32.0**	**-0.2**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.4							
CTA	**Charters Tower**	**16.51**	**194**	P		**P**	**18 28 58.4**	**+0.4**
	0.3nm,0.3s,baz=16,slow=13,SNR=3.9							
CTAO	**Charters Tower**	**16.51**	**194**	*e*P		**P**	**18 28 58.8**	**+0.8**
	2.9nm,0.7s							
WB2	**Warramunga Arr**	**22.32**	**224**	*e*P		**P**	**18 29 52.0**	**+0.2**
WRA	**Warramunga Arr**	**22.33**	**224**	P		**P**	**18 29 52.2**	**+0.3**
	0.3nm,0.3s,mb3.3,baz=46,slow=9.6,SNR=5.5							
WRA				PcP		PcP	18 33 28.5	+0.3
	0.3nm,0.6s,baz=42,slow=2.0,SNR=4.5							
AS31	**Alice Springs**	**25.27**	**218**	*e*P		**P**	**18 30 17.8**	**-0.2**
ASAR	**Alice Springs**	**25.27**	**218**	P		**P**	**18 30 18.1**	**0.0**
	0.3nm,0.4s,mb3.1,baz=46,slow=8.1,SNR=11							
ASAR				PcP		PcP	18 33 35.0	+0.3
	1.0nm,1.2s,baz=14,slow=2.2,SNR=5.4							
ASAR				S		**S**	**18 34 08.1**	**0.0**
	0.2nm,0.7s,baz=36,slow=17,SNR=3.2							
ASAR	**Alice Springs**	**25.27**	**218**	P		**P**	**18 30 18.1**	**0.0**
ASAR				PcP		PcP	18 33 35.0	+0.3
ASAR				S		**S**	**18 34 08.1**	**0.0**
ASPA	**Alice Springs**	**25.27**	**218**	*e*P		**P**	**18 30 17.8**	**-0.2**
VNDA	**Vanda**	**73.71**	**177**	P		**P**	**18 36 14.4**	**-0.4**
	0.4nm,0.5s,mb3.2,baz=326,slow=7.4,SNR=2.3							

MAN 25 18:29:39.6, 1335N×12145E, h1km, mb2.6, ML4.1, MS3.1, Mindoro

WEL 25 18:32:45.8±0.3, 3573S×17796E, h250km±6km, ML3.5/3, Error ellipse: s-maj=6.6km s-min=6.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.85**	**172**	*e*PN		Pn	18 33 26.9	+0.1
MXZ				SN		S	18 33 59.1	-0.1
PUZ	**Puketiti**	**2.35**	**174**	*e*PN		Pn	18 33 31.7	+0.2
PUZ				SN		S	18 34 06.5	-1.1
URZ	**Urewera**	**2.62**	**195**	PN		Pn	18 33 34.4	+0.3
URZ				SN		S	18 34 12.0	-0.4

CASC 25 18:45:34.7±2.2, 1324N×8761W, h0km±5km, MD4.0, ML3.9, 12C-10D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.22**	**279⇑**	*e*P		x	18 45 54.9	+16
CNCH				*e*S		x	18 46 00.1	+18
BLLM	**Bellamira**	**0.64**	**288⇓**	*e*P		x	18 46 02.3	+15
BLLM				*e*S		x	18 46 11.8	+16
VSM	**San Miguel**	**0.67**	**286⇓**	*e*P		x	18 46 03.2	+16
VSM				*e*S		x	18 46 14.6	+18
CRIN	**San Cristobal**	**0.77**	**134⇓**	*e*P		Pg	18 45 51.0	+1.6
CRIN				*e*S		Sg	18 46 03.3	+3.9
TELN	**Telica**	**0.99**	**130⇑**	*e*P		Pg	18 45 53.7	0.0
TELN				*e*S		Sg	18 46 09.6	+3.1
LEON	**Leon**	**1.08**	**139⇓**	*e*P		Pg	18 45 54.8	-0.6
LEON				*e*S		Sg	18 46 10.2	+0.7
CNGN	**Cerro Negro**	**1.16**	**130⇓**	*i*P		Pg	18 45 55.0	-1.8
CNGN				⇓*e*P			18 45 56.4	
CNGN				*e*S		Sg	18 46 12.2	+0.4
MIRN	**Miramar**	**1.19**	**132⇑**	*e*P		Pg	18 45 56.6	-0.8
SNVI	**San Vicente**	**1.25**	**287**	*e*P		x	18 46 12.8	+14
SNVI				*e*S		x	18 46 31.1	+16
MOMJ	**Momotombo**	**1.33**	**128⇑**	*e*P		Pg	18 45 59.0	-1.3
LCBS	**La Ceiba**	**1.39**	**287⇑**	*e*P		x	18 46 15.1	+14
LCBS				*e*S		x	18 46 34.8	+15
COPN	**Copaltepe**	**1.45**	**137⇑**	*e*P		Pn	18 46 00.7	-1.4
LFRS	**El Faro**	**1.46**	**285⇑**	*e*P		x	18 46 16.1	+14
LFRS				*e*S		x	18 46 36.6	+15
LBRS	**Las Brisas**	**1.48**	**290⇓**	*e*P		x	18 46 16.3	+14
LBRS				*e*S		x	18 46 39.1	+17
XAVN	**Gruta Xavier**	**1.66**	**131⇓**	*e*P		Pn	18 46 05.2	+0.2
BOQS	**Boqueron**	**1.69**	**287⇓**	*e*P		x	18 46 20.4	+15
TISN	**Laguna Tiscapa**	**1.71**	**130⇓**	*e*P		Pn	18 46 05.8	+0.1
MGAN	**Managua**	**1.72**	**129⇓**	*e*P		Pn	18 46 05.6	-0.3
MGAN				*i*			18 46 41.5	
	comp=E,951nm,0.7s							
TICN	**Ticuantepe**	**1.81**	**132⇑**	*e*P		Pn	18 46 07.0	-0.1
APON	**Apoyo**	**2.00**	**131⇑**	*e*P		Pn	18 46 10.6	+0.9
MTO2	**Montecristo 2**	**2.05**	**304⇑**	*e*P		x	18 46 26.4	+16
MTO2				*e*S		x	18 46 54.7	+18
RBDL	**Robledal**	**2.19**	**293⇑**	*e*P		x	18 46 28.7	+16
RBDL				*e*S		x	18 46 59.6	+19

IDC 25 19:44:49.3±3.7, 495S×15298E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/13, mbtmp3.5/2, Error ellipse: s-maj=173.1km s-min=47.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.47**	**229**	*e*P		P	19 50 00.7	+0.1
WRA	**Warramunga Arr**	**23.48**	**229**	P		P	19 50 00.6	-0.1
	0.9nm,0.4s,baz=53,slow=9.9,SNR=13							
ASAR	**Alice Springs**	**26.16**	**223**	P		P	19 50 25.8	+0.5
	0.3nm,0.5s,baz=61,slow=8.4,SNR=8.6							
TORD	**Torodi Ar. Bea**	**150.52**	**288**	PKPbc		PKPbc	20 04 44.0	+1.0
	0.5nm,0.8s,baz=57,slow=2.4,SNR=5.6							

NEIC ***25*** *19:48:04.4±2.1, 739S×12824E, h113km±21km, mb4.3/4, Error ellipse: s-maj=27.5km s-min=15.8km az=66.0*
IDC ***25*** *19:48:04.2±8.7, 738S×12829E, h112km±89km, mb3.5/3, mb1 3.6/6, mb1mx3.5/14, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=102.3km s-min=29.3km az=57.0*
ISCJB ***25*** *19:48:05.8±1.7, 737S±009×1285E±02, h148km±19km, mb3.6/3, Error ellipse: s-maj=28.4km s-min=11.7km az=135.7*
ISC 25 19:48:06.3±1.9, 74S±01×1286E±01, h127km±21km, n13, σ1°54/19, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.48**	**145**	*e*P		**Pn**	**19 49 40.7**	**+1.5**
	19nm,0.2s							
KAKA				*e*S		**Sn**	**19 50 49.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**11.01**	**195**	*e*P		**Pn**	**19 50 37.8**	**-2.3**
	3.5nm,0.3s							
FITZ				*e*S		Sx	19 52 34.4	
FITZ	**Fitzroy Crossi**	**11.01**	**195**	P		**Pn**	**19 50 37.8**	**-2.3**
	0.6nm,0.3s,baz=27,slow=11,SNR=29							
FITZ				S		Sx	19 52 34.3	
	1.2nm,0.3s,baz=283,slow=21,SNR=8.9							
WRAB	**Tennant Creek**	**13.64**	**156**	*e*P		**Pn**	**19 51 15.5**	**+1.1**
	3.2nm,0.6s							
WRA	**Warramunga Arr**	**13.64**	**157**	P		**Pn**	**19 51 14.1**	**-0.4**
	0.2nm,0.3s,baz=332,slow=13,SNR=7.6							
WRA				S		**Sn**	**19 53 40.6**	**-4.3**
	0.7nm,0.3s,baz=330,slow=22,SNR=5.5							
WB2	**Warramunga Arr**	**13.64**	**156**	*e*P		**Pn**	**19 51 15.1**	**+0.6**
WB2				*e*S		**Sn**	**19 53 37.4**	**-7.7**
MBWA	**Marble Bar**	**16.14**	**211**	P		**Pn**	**19 51 46.5**	**+0.8**
	12nm,1.2s							
AS31	**Alice Springs**	**16.94**	**163**	*e*P		**Pn**	**19 51 56.9**	**+1.3**
AS31				*e*S		**S**	**19 54 58.6**	**-5.7**
ASAR	**Alice Springs**	**16.94**	**163**	P		**Pn**	**19 51 57.1**	**+1.6**
	0.5nm,0.3s,baz=339,slow=10.0,SNR=56							
ASAR				S		**S**	**19 55 03.4**	**-1.0**
	0.2nm,0.3s,baz=316,slow=20,SNR=4.8							
ASPA	**Alice Springs**	**16.94**	**163**	*e*P		**Pn**	**19 51 56.9**	**+1.3**
ASPA				*e*S		**S**	**19 54 58.6**	**-5.7**
STKA	**Stephens Creek**	**27.19**	**155**	P		**P**	**19 53 38.8**	**+1.0**
	1.3nm,0.6s,mb3.6,baz=329,slow=12,SNR=3.9							
SONM	**Songino Array**	**58.40**	**343**	P		**P**	**19 57 47.3**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=164,slow=5.6,SNR=4.9							
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**19 58 49.0**	**-1.5**
	0.5nm,0.4s,mb3.7,baz=116,slow=7.9,SNR=14							

HLW ***25*** *19:55:52.2, 3449N×2364E, h26km, Mb3.0*
CSEM ***25*** *19:55:52.9±0.1, 3434N×2405E, h30km, ML3.0, Error ellipse: s-maj=5.5km s-min=2.2km az=66.0*
ISCJB ***25*** *19:55:53.6±1.0, 3442N±009×2421E±02, h60km±17km, Error ellipse: s-maj=24.4km s-min=13.3km az=149.1*
NEIC ***25*** *19:55:55.4, 3466N×2434E, h58km, MD3.4(ATH), After ATH.*
ATH ***25*** *19:55:56.4, 3471N×2438E, h48km, MD3.4/4*
ISC 25 19:55:54.8±1.1, 3440N±010×239E±02, h47km±26km, n12, σ0°73/13, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.46**	**20**	*e*P		**Pn**	**19 56 05.5**	**+0.2**
GVD				*e*S		**Sn**	**19 56 13.0**	**+0.1**
VAM	**Vamos**	**1.03**	**14**	*e*P		**Pn**	**19 56 11.2**	**-1.6**
NPS	**Neapolis**	**1.65**	**58**	*e*P		**Pn**	**19 56 16.8**	**-4.5**
VLI	**Veliai**	**2.44**	**342**	*e*P		**Pn**	**19 56 33.4**	**+1.3**
VLI	**Veliai**	**2.44**	**342**	*e*P		**Pn**	**19 56 32.9**	**+0.8**
HMAT	**Matruh**	**4.26**	**140**	P		**Pn**	**19 56 57.9**	**+0.8**
SWA2		**5.31**	**165**	P		**Pn**	**19 57 11.2**	**-0.3**
SWA1		**5.35**	**163**	P		**Pn**	**19 57 11.4**	**-0.7**
AWBH		**7.42**	**143**	P		**Pn**	**19 57 40.3**	**-0.1**
HFRF	**Wahat Farafira**	**8.17**	**151**	P		**Pn**	**19 57 50.5**	**-0.1**
GLL	**Jalalah**	**8.19**	**124**	P		**Pn**	**19 57 51.8**	**+0.8**
AMAG	**Maghara**	**8.71**	**113**	P		**Pn**	**19 57 57.9**	**-0.2**

MAN 25 20:06:14.3, 1005N×12618E, h28km, mb3.2, ML4.5, MS3.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.62**	**313**	*e*P		Pn	20 06 40.5	-0.4
PLP				*e*S		Sn	20 07 03.3	+2.5

IDC ***25*** *20:10:25.8±2.2, 1310N×8750W, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.1/11, ML3.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=53.1km s-min=24.9km az=16.0*
CASC ***25*** *20:10:25.0±2.2, 1347N×8760W, h0km±6km, ML4.2, mb4.6(NEIC)*
ISCJB ***25*** *20:10:27.8±1.0, 1324N±005×8770W±007, h15km±8km, mb4.2/13, MS3.6/9, Error ellipse: s-maj=12.6km s-min=5.4km az=122.3*
NEIC ***25*** *20:10:33.0±2.1, 1351N×8758W, h28km±13km, mb4.6/2, MD4.5(SNET), Error ellipse: s-maj=20.2km s-min=8.8km az=214.0*
NEIC Felt [III] at Meanguera del Golfo, El Salvador.
ISC 25 20:10:28.1±1.0, 1323N±004×8761W±007, h6km±6km, n48, σ1°04/38, mb4.2/13, MS3.6/9, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.23**	**282**	*e*P		x	20 10 29.7	
VSM	**San Miguel**	**0.68**	**287**	*e*P		x	20 10 38.1	
CRIN	**San Cristobal**	**0.76**	**134**	*e*P		**Pg**	**20 10 44.0**	**+1.4**
TGUH	**Tegucigalpa,Un**	**0.89**	**21**	*e*P		**Pg**	**20 10 44.4**	**-0.8**
TGUH				*e*S		**Sg**	**20 10 57.1**	**+0.5**
TELN	**Telica**	**0.98**	**129**	*e*P		**Pg**	**20 10 46.7**	**-0.2**
LEON	**Leon**	**1.07**	**139**	*e*P		**Pg**	**20 10 48.0**	**-0.6**
CNGN	**Cerro Negro**	**1.14**	**129⇑**	*i*P		**Pg**	**20 10 47.8**	**-2.2**
CNGN				*e*P			20 10 49.4	
CNGN				*e*S		**Sg**	**20 11 08.0**	**+3.1**
MIRN	**Miramar**	**1.17**	**132**	*e*P		**Pg**	**20 10 50.0**	**-0.6**
SNVI	**San Vicente**	**1.26**	**288**	*e*P		x	20 10 47.9	
SNVI				*e*S		x	20 11 06.1	
MOMJ	**Momotombo**	**1.32**	**128**	*e*P		**Pn**	**20 10 52.0**	**-1.1**
LCBS	**La Ceiba**	**1.40**	**288**	*e*P		x	20 10 50.0	
COPN	**Copaltepe**	**1.44**	**136**	*e*P		**Pn**	**20 10 54.0**	**-0.7**
SNET	**Serv Nac Est T**	**1.65**	**286**	*e*P		x	20 10 56.3	
SNET				*e*S		x	20 11 18.6	
XAVN	**Gruta Xavier**	**1.65**	**131**	*e*P		**Pn**	**20 10 57.9**	**+0.3**
TISN	**Laguna Tiscapa**	**1.69**	**129**	*e*P		**Pn**	**20 10 59.0**	**+0.8**
BOQS	**Boqueron**	**1.70**	**287**	*e*P		x	20 10 54.8	
MGAN	**Managua**	**1.71**	**129**	*e*P		**Pn**	**20 10 58.3**	**-0.1**
MGAN				*e*P			20 10 58.9	
MGAN				*e*S		**Sn**	**20 11 20.7**	**+0.2**
MGAN				*i*			20 11 36.7	
	comp=E,1μm,0.4s							
TICN	**Ticuantepe**	**1.79**	**131**	*e*P		**Pn**	**20 10 59.4**	**-0.2**
TEIG	**Tepich**	**6.99**	**355**	*e*P		**Pn**	**20 12 11.5**	**+0.6**
CMIG	**Matias Romero**	**8.01**	**300**	Pn		**Pn**	**20 12 25.7**	**+0.8**
	comp=E,0.4nm,0.3s,baz=109,slow=9.5,SNR=10							
CMIG				Sn		**Sn**	**20 14 04.5**	**+8.7**
	comp=E,0.6nm,0.3s,baz=148,slow=9.0,SNR=2.7							
ROSC	**El Rosal**	**15.52**	**121**	**Pn**		**Pn**	**20 14 15.1**	**+7.6**
	comp=E,1.6nm,0.3s,baz=85,slow=19,SNR=8.3							
ROSC				LR		LR	20 19 53.9	
	comp=E,78nm,20.5s,baz=45,slow=37							
ROSC	**El Rosal**	**15.52**	**121**	*e*P		**Pn**	**20 14 13.0**	**+5.6**
ROSC				LR		LR	20 19 53.9	
SDV	**Santo Domingo**	**17.21**	**103**	P		**Pn**	**20 14 31.4**	**+2.4**
	comp=E,0.5nm,0.3s,baz=292,slow=5.8,SNR=13							
TXAR	**Lajitas Array**	**21.88**	**320**	P		**P**	**20 15 22.3**	**+0.6**
	comp=E,13nm,0.8s,mb4.4,baz=144,slow

comp=E,0.6nm,0.7s,mb3.6,baz=130,slow=9.5,SNR=3.7
NVAR Mina Array Bea 37.02 318 P **P 20 17 39.8 +1.3**
comp=E,0.8nm,0.6s,mb3.7,baz=128,slow=7.2,SNR=6.8
MCMT McKenzie Canyo 38.14 331 *e*P **P 20 17 48.5 +0.5**
SCHQ Schefferville 44.58 17 P **P 20 18 39.6 -1.3**
comp=E,5.6nm,0.7s,mb4.5,baz=215,slow=13,SNR=6.1
CPUP Villa Florida 49.12 143 LR LR 20 41 43.1
comp=E,63nm,18.9s,MS3.6,baz=65,slow=38
YKA Yellowknife Ar 52.83 345 P **P 20 19 42.7 -1.6**
comp=E,5.4nm,0.8s,mb4.5,baz=139,slow=7.9,SNR=14
YKA LR LR 20 44 04.4
comp=E,66nm,19.3s,MS3.7,baz=155,slow=38
YKA Yellowknife Ar 52.83 345 P **P 20 19 42.7 -1.6**
YKA LR LR 20 44 04.4
PPT Papeete 68.39 245 LR LR 20 45 19.9
comp=E,144nm,18.2s,MS4.2,baz=332,slow=31
ESDC Sonseca Array 76.83 52 P **P 20 22 19.8 -1.0**
comp=E,1.4nm,0.7s,mb4.0,baz=293,slow=5.7,SNR=6.9
NOA NORSAR Array B 82.77 29 P **P 20 22 51.7 -1.2**
comp=E,0.9nm,0.8s,mb3.9,baz=288,slow=5.0,SNR=2.8
ARCES ARCESS Array B 85.50 19 LR LR 21 00 38.6
comp=E,29nm,20.1s,MS3.7,baz=75,slow=35
TORD Torodi Ar. Bea 86.39 77 LR LR 20 56 28.8
comp=E,44nm,19.1s,MS3.9,baz=240,slow=32
GERES GERESS Array B 87.45 40 P **P 20 23 17.0 +0.6**
comp=E,0.5nm,0.8s,mb3.8,baz=263,slow=6.6,SNR=4.4
WRA Warramunga Arr 139.33 255 PKP PKPdf 20 29 54.9 -1.3
comp=E,0.5nm,0.9s,baz=87,slow=2.8,SNR=5.7
ASAR Alice Springs 139.41 249 PKP PKPdf 20 29 54.5 -1.7
comp=E,0.5nm,0.7s,baz=119,slow=2.3,SNR=5.3

CASC 25 21:07:03.7±2.6, 1338N×8754W, h12km±16km, MD3.6, ML3.0, 5C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.30**	**250⇓**	*e*P	x	21 07 24.0	+14
CNCH				*e*S	x	21 07 29.8	+16
BLLM	**Bellamira**	**0.68**	**275⇑**	*e*P	x	21 07 31.6	+15
BLLM				*e*S	x	21 07 41.1	+15
VSM	**San Miguel**	**0.71**	**274⇑**	*e*P	x	21 07 32.5	+15
VSM				*e*S	x	21 07 43.2	+16
CRIN	**San Cristobal**	**0.83**	**145**	*e*P	Pg	21 07 20.1	+0.4
CRIN				*e*S	Sg	21 07 31.8	+1.2
LEON	**Leon**	**1.15**	**147**	*e*P	Pb	21 07 21.9	-3.6
LEON				*e*S	Sb	21 07 38.6	-1.8
LEON				*i*		21 07 40.0	
	comp=Z,303nm,0.4s						
CNGN	**Cerro Negro**	**1.20**	**137**	*e*P	Pn	21 07 24.2	-2.1
CNGN				*e*S	Sb	21 07 42.6	+0.7
MIRN	**Miramar**	**1.24**	**139**	*e*P	Pn	21 07 26.9	0.0
SNVI	**San Vicente**	**1.28**	**281**	*e*P	x	21 07 42.5	+15
SNVI				*e*S	x	21 08 00.4	+16
LCBS	**La Ceiba**	**1.42**	**281⇑**	*e*P	x	21 07 44.7	+15
LCBS				*e*S	x	21 08 04.2	+16
LFRS	**El Faro**	**1.50**	**279⇑**	*e*P	x	21 07 45.3	+15
LFRS				*e*S	x	21 08 06.5	+17
COPN	**Copaltepe**	**1.51**	**142⇑**	*e*P	Pn	21 07 29.1	-1.5
SNET	**Serv Nac Est T**	**1.67**	**281⇓**	*e*P	x	21 07 33.1	+0.3
SNET				*e*S	x	21 07 55.3	+1.1
BOQS	**Boqueron**	**1.73**	**282⇓**	*e*P	x	21 07 50.0	+16
BOQS				*e*S	x	21 08 12.9	+17
MTO2	**Montecristo 2**	**2.04**	**300⇓**	*e*P	x	21 07 55.5	+18
MTO2				*e*S	x	21 08 22.5	+19

CASC 25 21:09:20.3±3.4, 1329N×8757W, h13km±23km, MD3.6, ML3.1, 5C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.26**	**268**	*i*P	x	21 09 40.1	+14
CNCH				*e*S	x	21 09 43.8	+14
BLLM	**Bellamira**	**0.67**	**284⇑**	*e*P	x	21 09 47.5	+14
BLLM				*e*S	x	21 09 57.0	+15
VSM	**San Miguel**	**0.70**	**282⇑**	*e*P	x	21 09 48.3	+14
VSM				*e*S	x	21 09 58.6	+15
CRIN	**San Cristobal**	**0.77**	**139**	*e*P	Pg	21 09 34.2	-1.1
CRIN				*e*S	Sg	21 09 46.7	+1.3
TELN	**Telica**	**0.99**	**133**	*e*P	Pb	21 09 37.0	-2.3
LEON	**Leon**	**1.09**	**142⇑**	*e*P	Pb	21 09 38.6	-2.4
LEON				*e*S	Sb	21 09 52.7	-2.4
LEON				*i*		21 09 54.6	
	comp=Z,498nm,0.4s						
CNGN	**Cerro Negro**	**1.16**	**132**	*e*P	Pb	21 09 39.0	-3.1
CNGN				*e*P		21 09 39.7	
CNGN				*e*S	Sb	21 09 54.9	-2.1
MIRN	**Miramar**	**1.19**	**135**	*e*P	Pn	21 09 39.7	-2.9
MIRN				*e*S	Sb	21 09 56.1	-1.8
SNVI	**San Vicente**	**1.27**	**285⇑**	*e*P	x	21 09 58.5	+15
SNVI				*e*S	x	21 10 16.1	+16
MOMJ	**Momotombo**	**1.33**	**131**	*e*P	Pn	21 09 42.1	-2.4
MOMJ				*e*S	Sb	21 10 00.9	-1.2
LCBS	**La Ceiba**	**1.42**	**285⇓**	*e*P	x	21 10 00.7	+15
LCBS				*e*S	x	21 10 20.6	+16
COPN	**Copaltepe**	**1.46**	**139**	*e*S	Sn	21 10 03.7	-1.6
COPN				*i*		21 10 08.8	
	comp=Z,262nm,0.6s						
LFRS	**El Faro**	**1.49**	**283⇓**	*e*P	x	21 10 01.5	+15
LFRS				*e*S	x	21 10 22.5	+16
BOQS	**Boqueron**	**1.72**	**285⇓**	*e*P	x	21 10 06.1	+16
BOQS				*e*S	x	21 10 29.5	+18
TICN	**Ticuantepe**	**1.81**	**133**	*e*P	Pn	21 09 50.6	-0.4

CASC 25 21:51:08.2±2.5, 1323N×8760W, h6km±10km, mb5.6, MD3.9, ML4.1, 12C-6D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.23**	**282⇑**	*i*P	x	21 51 29.5	+17
BLLM	**Bellamira**	**0.65**	**289⇑**	*e*P	x	21 51 37.0	+16
BLLM				*e*S	x	21 51 46.7	+17
VSM	**San Miguel**	**0.68**	**287⇑**	*e*P	x	21 51 37.7	+16
VSM				*e*S	x	21 51 49.8	+20
CRIN	**San Cristobal**	**0.75**	**134**	*e*P	Pg	21 51 23.3	+0.7
CRIN				*e*S	Sg	21 51 34.1	+1.7
TELN	**Telica**	**0.98**	**129⇓**	*e*P	Pg	21 51 26.5	-0.5
LEON	**Leon**	**1.06**	**139⇑**	*e*P	Pg	21 51 27.1	-1.6
CNGN	**Cerro Negro**	**1.14**	**129⇓**	*e*P	Pg	21 51 29.0	-1.1
CNGN				*e*S	Sg	21 51 44.6	-0.4
CNGN				*i*		21 52 01.5	
	comp=N,4μm,0.4s						
MIRN	**Miramar**	**1.17**	**132⇑**	*e*P	Pg	21 51 29.2	-1.5
MIRN				*e*S	Sg	21 51 46.6	+0.8
SNVI	**San Vicente**	**1.26**	**288⇓**	*e*P	x	21 51 47.9	+16
SNVI				*e*S	x	21 52 05.9	+17
MOMJ	**Momotombo**	**1.32**	**128⇑**	*e*P	Pn	21 51 31.3	-1.8
LCBS	**La Ceiba**	**1.40**	**288⇑**	*e*P	x	21 51 49.9	+16
LCBS				*e*S	x	21 52 10.0	+17
COPN	**Copaltepe**	**1.44**	**136⇓**	*e*P	Pn	21 51 33.2	-1.5
COPN				*e*S	Sb	21 51 52.4	-1.4
LFRS	**El Faro**	**1.47**	**286⇑**	*e*P	x	21 51 50.7	+15
LFRS				*e*S	x	21 52 11.9	+17
LBRS	**Las Brisas**	**1.49**	**290⇑**	*e*P	x	21 51 51.9	+16
LBRS				*e*S	x	21 52 12.6	+17
SNET	**Serv Nac Est T**	**1.65**	**286**	*e*P	x	21 51 37.1	-0.6
	comp=Z,2μm,0.8s						
SNET				*e*S	x	21 51 58.6	-0.5
SNET				*e*		21 52 11.1	
	comp=Z,2μm,0.8s						
TISN	**Laguna Tiscapa**	**1.69**	**130⇓**	*e*P	Pn	21 51 38.9	+0.7
MGAN	**Managua**	**1.71**	**129⇑**	*e*P	Pn	21 51 39.4	+1.0
MGAN				*i*		21 52 09.5	
	comp=N,1μm,0.6s						
BOQS	**Boqueron**	**1.71**	**287**	*e*P	x	21 51 55.4	+17
BOQS				*e*S	x	21 52 19.6	+19
TICN	**Ticuantepe**	**1.79**	**131⇑**	*e*P	Pn	21 51 40.1	+0.6
MTO2	**Montecristo 2**	**2.07**	**304⇓**	*e*P	x	21 52 01.2	+18
MTO2				*e*S	x	21 52 29.2	+20
RBDL	**Robledal**	**2.21**	**294⇑**	*e*P	x	21 52 02.9	+18
RBDL				*e*S	x	21 52 30.1	+17

MAN 25 21:52:38.5, 1338N×12153E, h5km, mb2.3, ML3.9, MS1.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.92**	**321⇑**	*i*P	Pg	21 52 56.2	0.0
TGY				*i* S	Sg	21 53 10.7	+2.6

NEIC ***25*** *22:00:14.9, 3902N×4114E, h5km, ML3.8(ISK), After ISK.*
ISK ***25*** *22:00:15.6, 3904N×4114E, h6km, ML3.9*
CSEM ***25*** *22:00:15.6±0.1, 3905N×4114E, h5km, mb3.9, Error ellipse: s-maj=1.6km s-min=1.2km az=175.0*
IDC ***25*** *22:00:16.5±1.2, 3905N×4135E, h0km, mb3.3/3, mb1 3.4/9, mb1mx3.3/23, mbtmp3.3/9, ML3.4/4, MS3.0/9, Ms1 3.0/9, ms1mx2.8/25, Error ellipse: s-maj=21.6km s-min=12.4km az=161.0*
ISCJB ***25*** *22:00:16.0±0.6, 3907N±002×41.15E±003, h5km±4km, mb3.2/3, MS2.9/8, Error ellipse: s-maj=4.5km s-min=3.9km az=81.5*
MOS ***25*** *22:00:16.6±1.9, 3900N×4122E, h15km, mb3.9/1, Error ellipse: s-maj=10.5km s-min=8.1km az=66.0*
ISC 25 22:00:16.9±0.5, 3906N±002×4118E±003, h4km±4km, n77, σ1$09/82, mb3.2/3, MS2.9/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.11**	**194**	*i* P	**Pg**	**22 00 18.8**	**-0.3**
BNGL				*i* S	**Sg**	**22 00 21.7**	**+1.1**
BINT	**Bingol**	**0.57**	**252**	*i* PG	**Pg**	**22 00 26.9**	**-0.9**
BINT	**Bingol**	**0.57**	**252**	Pg	**Pg**	**22 00 27.0**	**-0.8**
EZM	**Erzurum**	**0.86**	**9**	*i* PG	**Pg**	**22 00 32.6**	**-0.7**
EZM	**Erzurum**	**0.86**	**9**	Pg	**Pg**	**22 00 32.7**	**-0.7**
ERZM	**Erzurum**	**0.86**	**9**	*i* P	**Pg**	**22 00 32.5**	**-0.8**
ERZM				*i* S	**Sg**	**22 00 46.4**	**+1.9**
BTMT	**Batman**	**0.90**	**164**	*i* PG	**Pg**	**22 00 33.2**	**-0.8**
EZC	**Erzincan**	**1.26**	**304**	PN	**Pn**	**22 00 45.0**	**+3.8**
DIY	**Diyarbakir**	**1.38**	**213**	*i* PN	**Pn**	**22 00 41.7**	**-1.1**
DIY				*i* SN	**Sn**	**22 01 00.8**	**-0.7**
DIY	**Diyarbakir**	**1.38**	**213**	Pn	**Pn**	**22 00 41.7**	**-1.1**
PTK	**Pertek**	**1.41**	**264**	*i* PN	**Pn**	**22 00 40.9**	**-2.3**
PTK				*i* SN	**Sn**	**22 01 00.1**	**-2.0**
PTK	**Pertek**	**1.41**	**264**	Pn	**Pn**	**22 00 40.8**	**-2.3**
AGRT	**Agri**	**1.50**	**68**	PN	**Pn**	**22 00 43.9**	**-0.6**
AGRT	**Agri**	**1.50**	**68**	Pn	**Pn**	**22 00 44.5**	**0.0**
AGRT	**Agri**	**1.50**	**68**	Pn	**Pn**	**22 00 44.5**	**0.0**
MARD	**Mardin**	**1.77**	**190**	*i* P	**Pn**	**22 00 47.6**	**-0.5**
MARD				*i* S	**Sn**	**22 01 11.9**	**+0.8**
VANB	**Van**	**1.78**	**104**	PN	**Pn**	**22 00 47.8**	**-0.6**
VANB	**Van**	**1.78**	**104**	Pn	**Pn**	**22 00 47.8**	**-0.5**
TVAN	**Van**	**1.82**	**106**	*i* P	**Pn**	**22 00 48.9**	**+0.1**
TVAN				*i* S	**Sn**	**22 01 13.6**	**+1.4**
VANT	**Van**	**1.83**	**109**	PN	**Pn**	**22 00 48.0**	**-1.0**
VANT	**Van**	**1.83**	**109**	Pn	**Pn**	**22 00 47.8**	**-1.2**
SIRT	**Sirnak**	**1.84**	**147**	PN	**Pn**	**22 00 48.8**	**-0.4**
KELT	**Kelkit**	**1.85**	**307**	*i* P	**Pn**	**22 00 49.8**	**+0.6**
KELT				*i* S	**Sn**	**22 01 15.3**	**+2.4**
CLDR	**Caldiran**	**2.13**	**87**	PN	**Pn**	**22 00 52.2**	**-0.9**
CLDR	**Caldiran**	**2.13**	**87**	Pn	**Pn**	**22 00 53.3**	**+0.2**
KARS	**Kars**	**2.14**	**43**	PN	**Pn**	**22 00 53.9**	**+0.6**
KARS	**Kars**	**2.14**	**43**	Pn	**Pn**	**22 00 53.9**	**+0.7**
KTUT	**Trabzon**	**2.21**	**331**	PN	**Pn**	**22 00 54.0**	**-0.3**
MYA	**Malataya**	**2.28**	**252**	PN	**Pn**	**22 00 53.9**	**-1.3**
MYA	**Malataya**	**2.28**	**252**	Pn	**Pn**	**22 00 53.9**	**-1.2**
BCA	**Borcka**	**2.41**	**8**	PN	**Pn**	**22 00 57.1**	**+0.1**
BCA	**Borcka**	**2.41**	**8**	Pn	**Pn**	**22 00 57.2**	**+0.2**
URFA	**Urfa**	**2.46**	**230**	PN	**Pn**	**22 00 56.3**	**-1.4**
URFA	**Urfa**	**2.46**	**230**	Pn	**Pn**	**22 00 56.3**	**-1.4**
HKR	**Hakkari**	**2.50**	**125**	PN	**Pn**	**22 00 58.9**	**+0.7**
HKR	**Hakkari**	**2.50**	**125**	Pn	**Pn**	**22 00 59.7**	**+1.5**
GNI	**Garni**	**2.96**	**67**	Pn	**Pn**	**22 01 04.7**	**+0.1**
	4.3nm,0.3s,baz=287,slow=2.6,SNR=34						
GNI				Lg		22 01 46.3	
	2.6nm,0.3s,baz=40,slow=21,SNR=3.5						
SEMD	**Semdilli**	**3.13**	**122**	PN	**Pn**	**22 01 07.8**	**+0.9**
MSL	**Mosul**	**3.15**	**151**	*ex*		**22 01 06.5**	**-0.6**
MSL				*ex*		**22 01 16.0**	**-1.2**
MSL				*ex*		**22 01 44.5**	**-0.6**
MSL				*i* x		**22 01 52.5**	**+0.5**
MSL				*i* x		**22 02 00.5**	**+2.5**
SVSK	**Karacayir**	**3.35**	**286**	PN	**Pn**	**22 01 10.1**	**+0.2**
SVSK	**Karacayir**	**3.35**	**286**	Pn	**Pn**	**22 01 10.1**	**+0.2**
GAZ	**Gaziantep**	**3.65**	**240**	PN	**Pn**	**22 01 14.6**	**+0.5**
KMRS	**Kahramanmaras**	**3.71**	**247**	PN	**Pn**	**22 01 14.6**	**-0.2**
BNN	**Bunyan**	**4.17**	**269**	PN	**Pn**	**22 01 21.3**	**+0.2**
BNN	**Bunyan**	**4.17**	**269**	Pn	**Pn**	**22 01 21.3**	**+0.2**
ZEI	**Tsey**	**4.24**	**28**	*e*P	**Pn**	**22 01 19.1**	**-3.1**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.1s						
ZEI	**Tsey**	**4.24**	**28**	*e*P	**Pn**	**22 01 19.1**	**-3.1**
	comp=Z,3.0nm,0.1s						
KOZT	**Kozan**	**4.50**	**251**	*e*PN	**Pn**	**22 01 26.1**	**+0.4**
YOZ	**Yozgat**	**4.58**	**279**	*e*PN	**Pn**	**22 01 27.5**	**+0.7**
YOZ	**Yozgat**	**4.58**	**279**	Pn	**Pn**	**22 01 27.6**	**+0.7**
SOC	**Sochi**	**4.66**	**347**	*e*P	**Pn**	**22 01 27.7**	**-0.2**
SOC				pmax	pmax		
	comp=Z,38nm,0.4s						
SOC	**Sochi**	**4.66**	**347**	*e*P	**Pn**	**22 01 27.7**	**-0.2**
	comp=Z,38nm,0.4s						
KIV	**Kislovodsk**	**5.02**	**12**	*e*P	**Pn**	**22 01 34.5**	**+1.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**5.02**	**12**	*e*Pn	**Pn**	**22 01 34.5**	**+1.6**
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**5.02**	**12**	*e*Pn	**Pn**	**22 01 34.5**	**+1.6**
	comp=Z,15nm,1.1s						
KARA	**Karaisali**	**5.15**	**252**	*e*PN	**Pn**	**22 01 35.2**	**+0.5**
KRTS	**Karatas**	**5.22**	**243**	*e*PN	**Pn**	**22 01 36.7**	**+1.0**
BR131	**Keskin Array S**	**5.88**	**279**	*e*Pn	**Pn**	**22 01 44.5**	**-0.3**
	comp=Z,2.0nm,0.5s						
BR131	**Keskin Array S**	**5.88**	**279**	*e*Pn	**Pn**	**22 01 44.5**	**-0.2**
	comp=Z,2.0nm,0.5s						
BRTR	**Keskin Array B**	**5.88**	**279**	Pn	**Pn**	**22 01 45.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=104,slow=15,SNR=13						
MMAI	**Mount Meron Ar**	**7.63**	**220**	Pn	**Pn**	**22 02 10.9**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=71,slow=14,SNR=12						
MMAI				Lg		22 04 17.3	
	comp=Z,1.7nm,0.3s,baz=36,slow=20,SNR=4.6						
MMAI				LR	LR	22 05 02.2	
	comp=Z,79nm,20.5s,baz=70,slow=37						
ASF	**Jabal al Asfar**	**7.70**	**208**	Pn	**Pn**	**22 02 10.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=6.4,slow=2.6,SNR=7.3						
ASF				Lg		22 04 23.0	
	comp=Z,1.0nm,0.3s,baz=288,slow=22,SNR=3.7						
AKASG	**Malin Array Be**	**14.38**	**328**	Pn	**Pn**	**22 03 41.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=14,SNR=4.3						
AKASG	**Malin Array Be**	**14.38**	**328**	Pn	**Pn**	**22 03 41.5**	**+0.4**
AKTK	**Aktyubinsk**	**16.46**	**41**	Pn	**Pn**	**22 04 06.8**	**-1.8**
AKTK	**Aktyubinsk**	**16.46**	**41**	Pn	**Pn**	**22 04 06.8**	**-1.8**
AKTO	**Aktyubinsk**	**16.46**	**41**	Pn	**Pn**	**22 04 06.8**	**-1.8**
	baz=217,slow=11,SNR=2.3						
VRAC	**Vranov**	**20.31**	**308**	LR	LR	22 12 45.4	
	comp=Z,40nm,19.2s,MS2.8,baz=119,slow=37						
WSAR	**Wadi Sarin**	**21.66**	**132**	LR	LR	22 14 38.5	
	comp=Z,40nm,21.7s,MS2.8,baz=90,slow=40						
GERES	**GERESS Array B**	**21.96**	**305**	P	**P**	**22 05 13.4**	**+1.9**
	comp=Z,0.1nm,0.4s,mb2.6,baz=104,slow=12,SNR=2.6						
GERES				LR	LR	22 14 55.8	
	comp=Z,36nm,20.8s,MS2.8,baz=107,slow=40						
DAVOX	**Davos/Dischmat**	**24.07**	**299**	LR	LR	22 16 46.2	
	comp=Z,60nm,19.4s,MS3.1,baz=91,slow=41						
FINES	**FINESS Array B**	**24.28**	**342**	P	**P**	**22 05 34.4**	**-0.6**
	comp=Z,2.8nm,0.9s,mb3.7,baz=132,slow=14,SNR=4.2						
FINES	**FINESS Array B**	**24.28**	**342**	P	**P**	**22 05 34.4**	**-0.6**
NOA	**NORSAR Array B**	**28.78**	**330**	LR	LR	22 20 29.2	
	comp=Z,27nm,19.4s,MS2.9,baz=85,slow=42						
MKAR	**Makanchi Array**	**30.79**	**62**	P	**P**	**22 06 33.0**	**-0.4**
	comp=Z,0.3nm,0.8s,mb3.2,baz=258,slow=7.2,SNR=3.0						
MKAR				LR	LR	22 19 33.2	
	comp=Z,26nm,18.2s,MS2.9,baz=178,slow=38						
ARCES	**ARCESS Array B**	**31.67**	**350**	LR	LR	22 20 14.2	
	comp=Z,26nm,19.0s,MS2.9,baz=282,slow=38						
ZAL	**Zalesovo**	**32.93**	**49**	LR	LR	22 22 02.8	
	comp=Z,44nm,18.2s,MS3.2,baz=56,slow=40						

CSEM ***25*** *22:15:49.6, 67.19N×2066E, h0km, ML2.6, Mining explosion. After UPP*
UPP ***25*** *22:15:49.6, 67.19N×2066E, h0km, ML2.6, Mining explosion.*
HEL 25 22:15:50.2±0.0, 6718N×2067E, h0km, ML1.2, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**212**	*i* P	Pg	22 15 51.4	-0.2
DUNU	**Dundret**	**0.07**	**212**	P	Pg	22 15 51.4	-0.2
	baz=114						
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	22 16 00.7	-0.7
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 16 04.1	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	22 16 05.8	-1.0
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	22 16 06.6	-0.3
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	22 16 07.2	-0.9
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	22 16 07.5	-1.3
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	22 16 08.1	-1.4
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	22 16 08.1	-1.4
	baz=285						
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	22 16 08.7	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	22 16 08.7	-1.3
	baz=343						
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 16 20.8	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*PN	Pn	22 16 23.4	+0.6
KIF				*e*SG	Sg	22 16 49.1	+0.1
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 16 24.1	-0.3
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	22 16 30.2	-2.1
SGF				*e*SG	Sg	22 17 01.3	-2.3
BURU	**Burvik**	**2.63**	**173**	*e*P	Pn	22 16 34.2	+0.3

ISCJB ***25*** *22:22:09.6±1.3, 3227S×007×17895W±008, h38km±10km, mb4.8/20, MS3.7/7, Error ellipse: s-maj=12.1km s-min=10.3km az=111.4*
NEIC ***25*** *22:22:10.7±1.3, 3227S×17856W, h51km±11km, mb4.9/16, Error ellipse: s-maj=12.5km s-min=11.8km az=79.0*
IDC ***25*** *22:22:17.5±2.6, 3195S×17869W, h103km±22km, mb4.3/10, mb1 4.5/11, mb1mx4.4/15, mbtmp4.6/11, MS3.7/9, Ms1 3.7/9, ms1mx3.4/26, Error ellipse: s-maj=21.3km s-min=13.5km az=177.0*
ISC 25 22:22:11.1±1.1, 3226S±007×17886W±008, h40km±8km, h39km±.5km: pP-P, n103, σ1$44/89, mb4.8/20, MS3.7/7, 2C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.78**	**203**	P	**Pn**	**22 23 35.8**	**+1.4**
MXZ	**Matakaoa Point**	**5.78**	**203**	PN	**Pn**	**22 23 35.7**	**+1.3**
MXZ				SN	**Sn**	**22 24 46.8**	**+7.4**
PUZ	**Puketiti**	**6.27**	**201**	*e*P	**Pn**	**22 23 42.0**	**+1.0**
PUZ				S	**Sn**	**22 24 55.4**	**+4.1**
PUZ	**Puketiti**	**6.27**	**201**	*e*PN	**Pn**	**22 23 42.1**	**+1.1**
PUZ				SN	**Sn**	**22 24 55.1**	**+3.8**
WCZ	**Waipu Caves**	**6.73**	**235**	*e*P	**Pn**	**22 23 55.9**	**+8.5**
WCZ	**Waipu Caves**	**6.73**	**235**	PN	**Pn**	**22 23 55.0**	**+7.6**
MWZ	**Matawai**	**6.75**	**205**	*e*P	**Pn**	**22 23 48.8**	**+1.2**
MWZ	**Matawai**	**6.75**	**205**	PN	**Pn**	**22 23 48.3**	**+0.7**
URZ	**Urewera**	**6.84**	**208**	P	**Pn**	**22 23 52.5**	**+3.6**
	7.1nm,0.3s,baz=312,slow=2.7,SNR=31						
URZ				S	**Sn**	**22 25 10.1**	**+4.8**
	14nm,0.3s,baz=253,slow=20,SNR=9.3						
URZ	**Urewera**	**6.84**	**208**	P	**Pn**	**22 23 50.5**	**+1.6**
URZ	**Urewera**	**6.84**	**208**	PN	**Pn**	**22 23 50.0**	**+1.2**
OUZ	**Omahuta**	**6.94**	**243**	*e*P	**Pn**	**22 23 59.3**	**+9.0**
OUZ	**Omahuta**	**6.94**	**243**	PN	**Pn**	**22 23 59.3**	**+9.0**
KNZ	**Kokohu**	**7.32**	**202**	PN	**Pn**	**22 23 55.6**	**+0.2**
KNZ				*e*SN	**Sn**	**22 25 14.4**	**-2.8**
BKZ	**Black Stump Fm**	**7.86**	**207**	*e*P	**Pn**	**22 24 04.1**	**+1.2**
BKZ	**Black Stump Fm**	**7.86**	**207**	PN	**Pn**	**22 24 04.1**	**+1.1**
BKZ				*e*SN	**Sn**	**22 25 32.3**	**+1.7**
MOVZ	**Moawhango**	**8.37**	**210**	P	**Pn**	**22 24 10.4**	**+0.5**
WNVZ	**Wahianoa**	**8.37**	**211**	P	**Pn**	**22 24 12.8**	**+2.9**
PXZ	**Pawanui**	**8.49**	**203**	PN	**Pn**	**22 24 10.1**	**-1.5**
PXZ				*e*SN	**Sn**	**22 25 44.4**	**-1.8**
BFZ	**Birch Farm**	**9.28**	**204**	*e*P	**Pn**	**22 24 21.3**	**-1.1**
MRZ	**Mangatainoka R**	**9.51**	**206**	*e*P	**Pn**	**22 24 22.7**	**-2.8**
MRZ	**Mangatainoka R**	**9.51**	**206**	*e*PN	**Pn**	**22 24 22.8**	**-2.7**
KIW	**Kapiti Island**	**9.94**	**208**	P	**Pn**	**22 24 28.5**	**-2.9**
TCW	**Tory Channel**	**10.49**	**210**	P	**Pn**	**22 24 36.5**	**-2.5**
THZ	**Tophouse**	**11.54**	**212**	*e*P	**Pn**	**22 24 51.8**	**-1.5**
THZ	**Tophouse**	**11.54**	**212**	*e*PN	**Pn**	**22 24 51.1**	**-2.2**
THZ				*e*SN	**Sn**	**22 26 56.4**	**-4.4**
KHZ	**Kahutara**	**11.80**	**209**	*e*P	**Pn**	**22 24 54.6**	**-2.3**
MOZ	**McQueen's Vall**	**13.24**	**208**	*e*SN	**Sn**	**22 27 31.6**	**-11**
RPZ	**Rata Peaks**	**13.92**	**212**	P	**Pn**	**22 25 25.4**	**-0.3**
0.9nm,0.3s,baz=35,slow=7.0,SNR=3.9							
RPZ				S	**Sn**	**22 27 49.8**	**-9.1**
1.9nm,0.3s,baz

NWAO Narrogin (SRO) 53.07 251 *eP* **P 22 31 25.9 +1.5**
CASY Casey 53.16 208 *eP* **P 22 31 25.1 +0.1**
CASY Casey 53.16 208 *eP* **P 22 31 25.4 +0.3**
9.2nm,0.4s,mb5.1
MBWA Marble Bar 55.31 265 P **P 22 31 40.6 -0.1**
QSPA South Pole Qui 57.86 180 *eP* **P 22 32 01.3 +2.5**
14nm,0.5s,mb5.3
MAW Mawson 70.32 201 P **P 22 33 20.8 +0.2**
5.7nm,0.9s,mb4.5,baz=156,slow=7.1,SNR=4.2
MAW Mawson 70.32 201 *eP* **P 22 33 21.2 +0.6**
4.6nm,0.7s,mb4.5
SYO Syowa Base 75.15 193⇑ LP **P 22 33 39.8 -9.4**
SYO Syowa Base 75.15 193⇓ *eP* **P 22 33 48.4 -0.8**
JHJ Hachijo jima 2 75.82 325 LR LR 23 00 51.8
comp=Z,175nm,21.4s,MS4.3,baz=158,slow=31
SNAA Sanae 76.33 179 *e* **P 22 33 55.5 -0.4**
SNAA *e* 22 34 00.4
SNAA *e* pP 22 34 07.0 -1.0
SNAA *e* 22 34 37.6
SNAA Sanae 76.33 179 *eP* **P 22 33 55.9 0.0**
9.6nm,0.9s,mb4.7
SNAA *e*PP PP 22 36 49.4 +1.7
VNA3 Neumayer Olymp 76.51 176 *e* **P 22 33 57.0 0.0**
VNA3 *e* 22 34 02.3
VNA3 *e* pP 22 34 08.5 -0.5
VNA3 *e* 22 34 13.7
VNA3 *e* 22 34 23.6
VNA3 *e* 22 34 39.0
VNA2 Neumayer--Watz 76.93 177 *e* **P 22 33 59.8 +0.4**
baz=168,slow=3.7
VNA2 *e* 22 34 04.7
VNA2 *e* pP 22 34 10.8 -0.6
VNA2 *e* 22 34 15.9
VNA2 *e* 22 34 24.6
VNA2 *e* 22 34 41.8
VNA2 *e* 22 34 48.0
VNA1 Neumayer--Stat 77.17 177 *e* **P 22 34 01.3 +0.6**
VNA1 *e* 22 34 06.8
VNA1 *e* pP 22 34 12.6 -0.1
TRQA Tornquist 88.65 135 *eP* **P 22 35 00.8 +0.7**
4.6nm,1.0s,mb4.8
NVAR Mina Array Bea 90.09 43 P **P 22 35 04.3 -2.5**
1.9nm,0.6s,mb4.6,baz=212,slow=6.9,SNR=9.5
TUC Tucson 90.84 52 *eP* **P 22 35 10.8 +0.5**
3.2nm,0.8s,mb4.7
TXAR Lajitas Array 94.00 58 P **P 22 35 23.0 -1.9**
0.8nm,1.0s,mb4.1,baz=190,slow=5.0,SNR=4.6
PDAR Pinedale Array 97.98 44 P **P 22 35 41.9 -1.1**
0.6nm,0.8s,mb4.2,baz=243,slow=4.0,SNR=2.6
PDAR Pinedale Array 97.98 44 P **P 22 35 41.9 -1.1**
MK31 Makanchi Array 118.39 309 *e*PKPdf PKPdf 22 40 51.2 -3.0
MKAR Makanchi Array 118.39 309 PKP PKPdf 22 40 51.3 -2.9
0.8nm,0.7s,baz=107,slow=5.0,SNR=10.0
BRVK Borovoye 127.27 315 *e*PKPdf PKPdf 22 41 08.6 -2.7
KMBO Kilima Mbogo 132.38 233 SKPbc SKPbc 22 44 42.4 -2.2
1.4nm,0.7s,baz=158,slow=2.4,SNR=7.6
ARCES ARCESS Array B 140.23 347 PKhKP 22 41 26.3
3.5nm,0.8s,baz=82,slow=3.4,SNR=7.9
ARCES PKP PKPdf 22 41 33.2 -2.4
3.3nm,0.6s,baz=69,slow=1.8,SNR=9.6
JOF Joensuu 143.85 337 *e*pkp PKPdf 22 41 35.0 -7.0
KAF Kangasniemi 146.03 339 *e*pkp PKPdf 22 41 42.4 -3.4
OBN Obninsk 146.24 323 *e*PKPdf PKPdf 22 41 43.5 -2.6
FIA1 FINESS Array S 146.61 338 *e*PKP PKPdf 22 41 45.1 -1.7
FINES FINESS Array B 146.61 338 PKPbc PKPbc 22 41 45.1 -3.2
15nm,0.7s,baz=55,slow=4.4,SNR=85
NB2 NORSAR Subarra150.46 350 PKP PKPdf 22 41 55.1 +2.1
comp=Z,6.5nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 150.46 350 PKPbc PKPbc 22 41 55.4 -3.0
comp=Z,7.6nm,0.7s,baz=15,slow=4.1,SNR=28
NAO01 NORSAR Array S 150.69 350 *e*PKPbc PKPbc 22 41 55.8 -3.1
AKASG Malin Array Be 152.28 320 PKPbc PKPbc 22 41 59.8 -2.8
comp=Z,3.0nm,0.7s,baz=67,slow=2.3,SNR=10.0
BR131 Keskin Array S 152.77 295 PKPdf PKPdf 22 41 56.4 -0.2
BR131 *e*PKPbc PKPbc 22 42 02.4 -1.3
BRTR Keskin Array B 152.77 295 PKPbc PKPbc 22 42 01.4 -2.3
comp=Z,2.1nm,0.8s,baz=118,slow=2.9,SNR=16
BRG Berggiesshubel 159.13 337 *eP* PKPab 22 42 39.6 -2.3
comp=Z,3.0nm,0.9s
GERES GERESS Array B 160.92 334 PKP PKPdf 22 42 05.4 -1.6
comp=Z,0.3nm,0.5s,baz=22,slow=1.4,SNR=3.8
GERES PKPab PKPab 22 42 47.3 -2.4
comp=Z,0.5nm,0.8s,baz=41,slow=4.3,SNR=4.1
TORD Torodi Ar. Bea 160.97 182 PKP PKPdf 22 42 06.9 -0.1
comp=Z,2.1nm,1.1s,baz=265,slow=2.3,SNR=6.2
TORD PKPab PKPab 22 42 50.1 +0.2
comp=Z,6.1nm,0.7s,baz=181,slow=3.2,SNR=26

CASC 25 22:27:18.7±2.5, 1292N×8777W, h31km±8km, MD3.9, ML3.4, 7C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.36**	**349**	⇑*iP*	x	22 27 37.5	+10
CNCH				*eS*	x	22 27 43.2	+10
BLLM	**Bellamira**	**0.69**	**318**	⇓*eP*	x	22 27 45.3	+13
BLLM				*eS*	x	22 27 57.0	+15
CRIN	**San Cristobal**	**0.73**	**107**	⇑*eP*	Pn	22 27 32.1	-0.7
CRIN				*eS*	Sb	22 27 45.1	+2.4
TELN	**Telica**	**0.96**	**109**	*eP*	Pn	22 27 34.5	-1.5
TELN				*eS*	Sn	22 27 50.1	+1.4
TELN				*i*		22 27 52.9	
	comp=Z,440nm,0.4s						
LEON	**Leon**	**0.99**	**120**	⇓*eP*	Pn	22 27 36.1	-0.3
LEON				*eS*	Sn	22 27 50.1	+0.8
LEON				*i*		22 27 54.5	
	comp=Z,809nm,0.7s						
CNGN	**Cerro Negro**	**1.12**	**112**	⇓*eP*	Pn	22 27 37.6	-0.7
CNGN				*eS*	Sn	22 27 51.9	-0.7
MIRN	**Miramar**	**1.14**	**115**	⇑*eP*	Pn	22 27 38.0	-0.4
MIRN				*eS*	Sn	22 27 53.4	+0.5
SNVI	**San Vicente**	**1.25**	**303**	⇓*eP*	x	22 27 55.9	+16
SNVI				*eS*	x	22 28 13.7	+18
MOMJ	**Momotombo**	**1.30**	**113**	⇑*eP*	Pn	22 27 40.8	+0.2
MOMJ				*eS*	Sn	22 27 58.1	+1.1
COPN	**Copaltepe**	**1.36**	**123**	⇓*eP*	Pn	22 27 41.9	+0.4
COPN				*eS*	Sn	22 27 59.3	+0.8
COPN				*i*		22 28 05.4	
	comp=Z,891nm,0.5s						
LCBS	**La Ceiba**	**1.39**	**302**	⇓*eP*	x	22 27 58.3	+16
LCBS				*eS*	x	22 28 16.6	+17
LFRS	**El Faro**	**1.44**	**299**	⇑*eP*	x	22 27 58.6	+16
LFRS				*eS*	x	22 28 17.2	+17
LBRS	**Las Brisas**	**1.48**	**303**	⇑*eP*	x	22 27 59.9	+17
LBRS				*eS*	x	22 28 19.2	+18
MGAN	**Managua**	**1.67**	**117**	*eS*	Sn	22 28 07.2	+1.1
MGAN				*i*		22 28 18.3	
	comp=N,506nm,0.6s						
BOQS	**Boqueron**	**1.68**	**299**	⇓*eP*	x	22 28 03.7	+18
BOQS				*eS*	x	22 28 26.0	+20
RBDL	**Robledal**	**2.21**	**303**	⇑*eP*	x	22 28 11.5	+18
RBDL				*eS*	x	22 28 38.6	+19

CASC 25 22:43:54.0±1.4, 1316N×8768W, h4km, MD3.5, ML3.4, 1C-11D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.18**	**308**	⇑*eP*	x	22 44 15.3	
CNCH				*eS*	x	22 44 18.0	
BLLM	**Bellamira**	**0.61**	**297**	*eP*	x	22 44 23.1	
BLLM				*eS*	x	22 44 32.3	
VSM	**San Miguel**	**0.63**	**295**	⇓*eP*	x	22 44 23.6	
CRIN	**San Cristobal**	**0.77**	**127**	⇓*eP*	Pg	22 44 09.9	+1.1
TELN	**Telica**	**1.00**	**124**	⇓*eP*	Pg	22 44 12.9	-0.2
LEON	**Leon**	**1.07**	**134**	⇓*eP*	Pg	22 44 13.4	-1.1
LEON				*eS*	Sg	22 44 29.3	+0.9
MIRN	**Miramar**	**1.19**	**127**	⇓*eP*	Pg	22 44 15.8	-1.0
SNVI	**San Vicente**	**1.21**	**292**	⇓*eP*	x	22 44 33.8	
SNVI				*eS*	x	22 44 51.2	
MOMJ	**Momotombo**	**1.34**	**124**	*eP*	Pn	22 44 17.8	-1.7
LCBS	**La Ceiba**	**1.35**	**291**	⇓*eP*	x	22 44 35.8	
LFRS	**El Faro**	**1.42**	**289**	⇓*eP*	x	22 44 36.3	
LFRS				*eS*	x	22 44 56.4	
LBRS	**Las Brisas**	**1.44**	**294**	*eP*	x	22 44 37.4	
COPN	**Copaltepe**	**1.45**	**132**	⇓*eP*	Pn	22 44 19.7	-1.2
COPN				*eS*	Sb	22 44 39.5	-0.7
XAVN	**Gruta Xavier**	**1.66**	**127**	*eP*	Pn	22 44 23.0	-0.9
TISN	**Laguna Tiscapa**	**1.71**	**126**	⇓*eP*	Pn	22 44 24.1	-0.5
MGAN	**Managua**	**1.73**	**126**	⇓*eP*	Pn	22 44 25.1	+0.3
MGAN				*eS*	Sn	22 44 47.6	+0.3
MGAN				*i*		22 44 57.2	

comp=N,493nm,0.2s

IDC ***25*** *22:55:31.2±2.1, 1870S×17766W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, Error ellipse: s-maj=55.7km s-min=39.5km az=117.0*
ISCJB ***25*** *22:55:35.9±1.6, 189S±02×1778W±02, h33km, mb4.6/9, Error ellipse: s-maj=35.8km s-min=17.9km az=84.5*
NEIC ***25*** *22:55:44.2±0.9, 1897S×17775W, h100km, mb4.6/5, Error ellipse: s-maj=20.6km s-min=15.6km az=45.0*
ISC 25 22:55:38.0±1.6, 190S±02×1777W±02, h35km, n18, σ0≶68/15, mb4.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.69**	**192**	P	**Pn**	**23 00 06.0**	**+0.2**
	2.2nm,0.3s,baz=230,slow=3.5,SNR=5.7						
SNZO	**South Karori**	**23.14**	**195**	*eP*	**P**	**23 00 41.4**	**+0.3**
	144nm,1.5s,mb5.2						
CTAO	**Charters Tower**	**33.93**	**262**	*eP*	**P**	**23 02 22.3**	**+4.6**
	4.3nm,0.4s,mb4.7						
PMG	**Port Moresby**	**35.30**	**281**	*eP*	**P**	**23 02 28.9**	**-0.6**
STKA	**Stephens Creek**	**38.69**	**243**	P	**P**	**23 02 57.1**	**-1.2**
	0.6nm,0.3s,mb3.7,baz=72,slow=6.4,SNR=2.9						
WB2	**Warramunga Arr**	**45.08**	**261**	*eP*	**P**	**23 03 50.9**	**+0.4**
WRAB	**Tennant Creek**	**45.08**	**261**	*eP*	**P**	**23 03 51.0**	**+0.5**
	2.7nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**23 03 50.9**	**+0.3**
	2.9nm,0.3s,mb4.7,baz=96,slow=7.3,SNR=144						
AS31	**Alice Springs**	**45.13**	**255**	*eP*	**P**	**23 03 50.5**	**-0.4**
ASAR	**Alice Springs**	**45.13**	**255**	P	**P**	**23 03 50.9**	**0.0**
	3.9nm,0.5s,mb4.5,baz=93,slow=7.9,SNR=61						
ASPA	**Alice Springs**	**45.14**	**255**	*eP*	**P**	**23 03 50.5**	**-0.5**
KAKA	**Kakadu**	**48.23**	**270**	*eP*	**P**	**23 04 17.1**	**+1.9**
	10nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.50**	**261**	*eP*	**P**	**23 04 54.5**	**-0.4**
	5.1nm,1.4s,mb4.3						
MAW	**Mawson**	**83.04**	**200**	P	**P**	**23 07 59.5**	**-0.2**
TRQA	**Tornquist**	**97.21**	**134**	*eP*	**P**	**23 09 06.8**	**-0.1**
	4.5nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**141.85**	**332**	PKhKP		23 14 59.0	
	1.9nm,0.4s,baz=43,slow=4.1,SNR=16						
BRTR	**Keskin Array B**	**146.03**	**314**	PKPbc	PKPbc	23 15 11.3	-2.7
	0.7nm,0.6s,baz=138,slow=4.5,SNR=4.8						
GERES	**GERESS Array B**	**148.85**	**345**	PKPbc	PKPbc	23 15 20.0	-1.8
	0.5nm,0.7s,baz=343,slow=3.1,SNR=3.0						

ISCJB ***25*** *22:57:56.1±0.8, 3699N±003×14161E±006, h34km±5km, mb4.5/39, MS3.6/7, Error ellipse: s-maj=7.9km s-min=5.0km az=20.6*
MOS ***25*** *22:57:57.7±1.0, 3702N×14147E, h44km, mb4.8/21, Error ellipse: s-maj=12.0km s-min=6.6km az=116.6*
IDC ***25*** *22:57:58.9±2.2, 3698N×14146E, h41km±20km, mb4.1/13, mb1 4.2/17, mb1mx4.1/26, mbtmp4.4/17, ML4.1/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/38, Error ellipse: s-maj=22.5km s-min=12.4km az=85.0*
NEIC ***25*** *22:57:59.0±1.2, 3700N×14149E, h42km±9km, mb4.6/18, MW4.2(NIED), Error ellipse: s-maj=10.6km s-min=5.9km az=88.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Miyagi Prefectures.
JMA ***25*** *22:57:58.0±0.2, 3705N×14149E, h47km±2km, M4.1*
JMA Felt I J1.
BJI ***25*** *22:58:00.5, 3681N×14083E, h42km, mB5.0, mb4.6, Ms4.3, Msz3.6*
NIED ***25*** *22:58:00, 3700N×14160E, h41km, Mw4.3 Best double couple: M0=2.86000×10^15 NP1:φs=30.00000°, δ74.00000°, λ89.00000°. NP2:φs=214.00000°, δ16.00000°, λ94.00000°.*
SZGRF ***25*** *22:58:03.4, 37.18N×13993E, h33km, mb4.8, Eastern Honshu, Japan*
ISC 25 22:57:56.0±1.1, 3703N±003×14162E±006, h21km±6km, n131, σ0≶81/133, mb4.5/39, MS3.6/7, 8C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.66**	**276**	⇓P	**Pb**	**22 58 09.7**	**+0.9**
ONAJ				S	**Sb**	**22 58 18.0**	**+0.5**
JFK	**Kawauchi**	**0.68**	**300**	⇓P	**Pb**	**22 58 10.0**	**+0.9**
JFK				S	**Sb**	**22 58 18.1**	**0.0**
JHO	**Hitachi**	**0.94**	**244**	⇓P	**Pb**	**22 58 13.3**	**-0.3**
JHO				S	**Sb**	**22 58 24.5**	**-1.1**
JMM	**Marumori**	**1.06**	**322**	⇓P	**Pn**	**22 58 15.4**	**-0.2**
JMM				S	**Sb**	**22 58 27.6**	**-1.4**
JFT	**Otama**	**1.13**	**296**	⇓P	**Pn**	**22 58 17.1**	**+0.5**
JFT				*e*S	**Sb**	**22 58 30.0**	**-1.0**
JIO	**Ouri**	**1.43**	**352**	⇓P	**Pn**	**22 58 21.0**	**+0.2**
JIO				S	**Sn**	**22 58 37.3**	**-1.7**
JOU	**Okura**	**1.53**	**331**	⇓P	**Pn**	**22 58 23.1**	**+1.0**
JFY	**Yanaizu**	**1.57**	**284**	⇓P	**Pn**	**22 58 23.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.78**	**261**	P	**Pn**	**22 58 39.9**	**+0.6**
	14nm,0.3s,baz=66,slow=8.9,SNR=89						
MAJO	**Matsushiro**	**2.78**	**261**	*e*Pn	**Pn**	**22 58 40.8**	**+1.5**
MAJO				*e*Sn	**Sn**	**22 59 12.5**	**+0.3**
MAT	**Matsushiro**	**2.78**	**261**	P	**Pn**	**22 58 40.9**	**+1.6**
MAT				S	**Sn**	**22 59 13.9**	**+1.7**
JHJ	**Hachijo jima 2**	**4.18**	**202**	P	**Pn**	**22 58 58.0**	**-0.6**
	24nm,0.3s,baz=76,slow=21,SNR=3.2						
JHJ				S	**Sn**	**22 59 45.7**	**-1.2**
	104nm,0.3s,baz=250,slow=21,SNR=5.5						
ASAJ	**Asahikawa**	**7.11**	**6**	P	**Pn**	**22 59 40.5**	**+1.6**
	2.9nm,0.3s,baz=206,slow=7.9,SNR=7.9						
ASAJ	**Asahikawa**	**7.11**	**6**	P	**Pn**	**22 59 40.5**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CBIJ	**Chichi jima**	**9.92**	**177**	P	**Pn**	**23 00 17.5**	**+0.2**
	comp=Z,16nm,0.3s,baz=299,slow=15,SNR=7.1						
CBIJ				S	**Sn**	**23 01 58.4**	**-10**
	comp=Z,9.6nm,0.3s,baz=296,slow=21,SNR=4.2						
MDJ	**Mudanjiang**	**11.84**	**314**	P	**Pn**	**23 00 49.0**	**+5.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s						
MDJ	**Mudanjiang**	**11.84**	**314**	*e*Pn	**Pn**	**23 00 43.6**	**0.0**
CN2	**Changchun**	**14.04**	**304**	*e*P	**Pn**	**23 01 12.0**	**-1.6**
HIA	**Hailar**	**20.02**	**315**	P	**P**	**23 02 26.6**	**-0.8**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HIA	**Hailar**	**20.02**	**315**	P	**P**	**23 02 26.6**	**-0.8**
	comp=Z,4.7nm,0.3s						
BJT	**Baijiatuau**	**20.11**	**286**	P	**P**	**23 02 28.3**	**-0.1**
NACB	**Ninganchiao**	**21.42**	**239**	P	**P**	**23 02 41.5**	**-1.1**
MA2	**Magadan**	**23.32**	**12**	P	**P**	**23 03 02.9**	**+0.1**
YAK	**Yakutsk**	**26.11**	**347**	*e*P	**P**	**23 03 29.2**	**+0.9**
YAK				pmax	pmax		
	comp=Z,21nm,0.5s,mb4.9						
YAK	**Yakutsk**	**26.11**	**347**	*e*P	**P**	**23 03 29.2**	**+0.9**
	comp=Z,21nm,0.5s,mb4.9						
SEY	**Seymchan**	**26.76**	**11**	*i*P	pP	23 03 46.3	+5.8
ULN	**Ulaanbaatar**	**27.49**	**304**	⇓*e*P	**P**	**23 03 41.0**	**+0.2**
ULN	**Ulaanbaatar**	**27.49**	**304**	*e*P	**P**	**23 03 40.9**	**+0.1**
	comp=Z,4.2nm,0.6s,mb4.2						
BOD	**Bodaibo**	**27.62**	**328**	*e*P	**P**	**23 03 41.6**	**-0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**27.92**	**304**	P	**P**	**23 03 43.7**	**-1.0**
	comp=Z,4.6nm,0.8s,mb4.2,baz=105,slow=8.1,SNR=28						
SONM				LR	LR	23 15 28.4	
	comp=Z,53nm,18.5s,MS3.2,baz=359,slow=38						
ZAK	**Zakamensk**	**30.40**	**308**	*e*P	**P**	**23 03 59.7**	**-6.9**
BILL	**Bilibino**	**33.98**	**16**	*e*P	pP	23 04 51.0	+6.6
BILL				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
KMI	**Kunming**	**35.12**	**261**	P	**P**	**23 04 48.3**	**+0.4**
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=Z,69nm,19.6s,MS3.4						
KMI	**Kunming**	**35.12**	**261**	P	**P**	**23 04 48.3**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=Z,70nm,19.6s,MS3.4						
TIXI	**Tiksi**	**35.31**	**353**	*e*P	**P**	**23 04 51.4**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WMQ	**Urumqi**	**40.98**	**297**	*e*P	**P**	**23 05 38.8**	**+1.4**
WMQ				AP	pP	23 05 49.0	+5.2
WMQ				XP	sP	23 05 53.0	+6.7
WMQ				PP	PP	23 07 13.0	+1.0
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,121nm,4.8s						
WMQ				LR	LR		
	comp=N,205nm,20.9s,MS4.2						
WMQ				LR	LR		
	comp=E,233nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,189nm,22.3s,MS3.9						
ZAL	**Zalesovo**	**42.05**	**312**	P	**P**	**23 05 46.5**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.1,baz=16,slow=7.9,SNR=15						
ZAL	**Zalesovo**	**42.05**	**312**	*i*P	**P**	**23 05 46.7**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LSA	**Lhasa**	**42.37**	**275**	*e*P	**P**	**23 05 49.8**	**+1.1**
LSA	**Lhasa**	**42.37**	**275**	P	**P**	**23 05 48.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LSA	**Lhasa**	**42.37**	**275**	P	**P**	**23 05 48.9**	**+0.1**
	comp=Z,2.3nm,0.4s,mb4.2						
NVS	**Novosibirsk**	**42.96**	**314**	*e*P	**P**	**23 05 52.2**	**-1.3**
MK31	**Makanchi Array**	**44.26**	**302**	*e*P	**P**	**23 06 03.5**	**-0.4**
MK31				*e*		23 06 15.0	
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**23 06 03.4**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.3,baz=87,slow=9.8,SNR=75						
MKAR	**Makanchi Array**	**44.26**	**302**	⇑*e*P	**P**	**23 06 03.4**	**-0.5**
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**23 06 03.4**	**-0.5**
JIRN	**Jiri**	**47.18**	**275**	*e*P	**P**	**23 06 27.6**	**+0.6**
	comp=Z,30nm,1.1s,mb5.1						
GUN	**Gumba**	**47.32**	**276**	*e*P	**P**	**23 06 28.7**	**+0.6**
	comp=Z,11nm,0.5s,mb5.1						
PKI	**Pulchoki**	**47.84**	**276**	*e*P	**P**	**23 06 32.2**	**0.0**
	comp=Z,4.8nm,0.5s,mb4.8						
KKN	**Kakani**	**47.85**	**276**	*e*P	**P**	**23 06 32.1**	**-0.1**
	comp=Z,13nm,0.7s,mb5.1						
GKN	**Gorkha**	**48.26**	**277**	*e*P	**P**	**23 06 35.3**	**-0.2**
	comp=Z,44nm,1.1s,mb5.4						
KOLN	**Koldanda**	**49.19**	**277**	*e*P	**P**	**23 06 42.5**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
BRVK	**Borovoye**	**50.75**	**312**	*e*P	**P**	**23 06 53.8**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**50.75**	**312**	*e*P	**P**	**23 06 53.8**	**-0.6**
	comp=Z,7.1nm,0.7s,mb4.7						
INK	**Inuvik**	**54.31**	**27**	P	**P**	**23 07 21.3**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=332,slow=5.9,SNR=6.6						
ARU	**Arti**	**56.47**	**319**	*d*P	**P**	**23 07 35.1**	**-1.2**
ARU	**Arti**	**56.47**	**319**	*e*P	**P**	**23 07 35.6**	**-0.8**
	comp=Z,14nm,0.9s,mb5.0						
ARU				*e*		23 07 47.0	
WRAB	**Tennant Creek**	**57.07**	**188**	*e*P	**P**	**23 07 40.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**57.07**	**188**	*e*P	**P**	**23 07 40.2**	**-0.4**
	comp=Z,2.1nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**57.08**	**188**	*e*P	**P**	**23 07 40.4**	**-0.3**
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**23 07 40.4**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=6.0,slow=7.4,SNR=19						
AKL	**Akola**	**57.85**	**273**	*ex*	x	23 08 03.2	
AKL				*ex*	x	23 09 44.9	
ASAR	**Alice Springs**	**60.81**	**188**	P	**P**	**23 08 06.5**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=11,slow=7.8,SNR=7.0						
MBWA	**Marble Bar**	**61.45**	**203**	P	**P**	**23 08 10.1**	**-0.8**
ARCES	**ARCESS Array B**	**64.05**	**339**	P	**P**	**23 08 28.0**	**-0.3**
	comp=Z,7.2nm,1.0s,mb4.7,baz=52,slow=7.9,SNR=9.3						
ARCES				LR	LR	23 38 35.7	
	comp=Z,50nm,21.0s,MS3.7,baz=205,slow=38						
JOF	**Joensuu**	**66.04**	**332**	*e*p	**P**	**23 08 38.6**	**-2.6**
	comp=Z,5.0nm,0.6s,mb4.7						
JOF	**Joensuu**	**66.04**	**332**	*e*P	**P**	**23 08 38.6**	**-2.6**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
OBN	**Obninsk**	**68.19**	**323**	*c iP*	**P**	**23 08 53.8**	**-1.0**
OBN				*e*		23 09 24.7	
OBN				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
KAF	**Kangasniemi**	**68.38**	**333**	*e*p	**P**	**23 08 54.7**	**-1.3**
	comp=Z,5.4nm,0.5s,mb4.8,baz=49,slow=6.0						
KAF	**Kangasniemi**	**68.38**	**333**	*e*P	**P**	**23 08 54.7**	**-1.3**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**68.89**	**332**	P	**P**	**23 08 58.5**	**-0.7**
	comp=Z,5.8nm,0.7s,mb4.6,baz=62,slow=8.9,SNR=16						
FINES	**FINESS Array B**	**68.89**	**332**	*i* P	**P**	**23 08 58.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIV	**Kislovodsk**	**71.03**	**311**	*e*P	**P**	**23 09 11.8**	**-0.5**
KIV				*e*		23 09 24.8	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**71.03**	**311**	*e*P	**P**	**23 09 11.8**	**-0.5**
	comp=Z,10nm,1.0s,mb4.7						
KIV				*e*		23 09 24.8	
GNI	**Garni**	**71.84**	**307**	LR	LR	23 44 39.4	
	comp=Z,25nm,20.9s,MS3.5,baz=254,slow=39						
GNI	**Garni**	**71.84**	**307**	*i* P	pP	23 09 29.4	+5.5
GNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**73.23**	**201**	*e*P	**P**	**23 09 25.5**	**0.0**
NB2	**NORSAR Subarra**	**74.25**	**337**	P	**P**	**23 09 30.7**	**-0.8**
	comp=Z,7.8nm,0.8s,mb4.7,baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**74.25**	**337**	P	**P**	**23 09 30.7**	**-0.8**
NB2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
NOA	**NORSAR Array B**	**74.25**	**337**	P	**P**	**23 09 31.2**	**-0.3**
	comp=Z,6.5nm,0.8s,mb4.6,baz=39,slow=5.9,SNR=25						
AKASG	**Malin Array Be**	**74.40**	**322**	P	**P**	**23 09

GRA1	**Grafenberg Arr**	**83.15 330**	*e*P	**P**	**23 10 20.6**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.7					
GRF	**Grafenberg Arr**	**83.15 330**	*e*P	**P**	**23 10 20.6**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.7					
GRF	**Grafenberg Arr**	**83.15 330**	*e*P	**P**	**23 10 20.6**	**+0.1**
GRF			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1					
GRF	**Grafenberg Arr**	**83.15 330**	*e*P	**P**	**23 10 20.6**	**+0.1**
GRF			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7					
PERS	**Pernice**	**83.88 326**	*e*P	**P**	**23 10 24.0**	**-0.2**
GOLS	**Golise**	**84.13 325**	*e*P	**P**	**23 10 25.0**	**-0.5**
DAVOX	**Davos/Dischmat**	**86.01 329**	LR	LR	23 55 26.7	
	comp=Z,39nm,18.6s,MS3.8,baz=58,slow=40					
TXAR	**Lajitas Array**	**89.99 52**	P	**P**	**23 10 55.4**	**+1.4**
	comp=Z,0.5nm,0.6s,mb4.0,baz=305,slow=3.4,SNR=8.9					
TORD	**Torodi Ar. Bea**	**117.45 315**	PKP	PKPdf	23 16 38.6	-1.5
	comp=Z,0.4nm,1.0s,baz=324,slow=1.7,SNR=4.8					
LPAZ	**La Paz**	**146.55 60**	PKPbc	PKPbc	23 17 37.5	+1.7
	comp=Z,1.0nm,0.6s,baz=238,slow=3.3,SNR=6.5					

CSEM ***25*** *23:16:49.3, 6783N×2019E, h0km, ML2.9, Mining explosion. After UPP*
UPP ***25*** *23:16:49.3, 6783N×2019E, h0km, ML2.9, Mining explosion.*
HEL 25 23:16:50.0±0.1, 6784N×2018E, h0km, ML1.5, ML2.9(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**28**	*i* P	Pg	23 16 52.1	-0.3
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	23 16 57.7	-0.6
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	23 17 02.7	-1.0
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	23 17 02.9	-1.3
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	23 17 04.2	-1.0
MASU	**Masugnsbyn**	**0.80**	**118**	*i* P	Pg	23 17 04.2	-1.1
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pb	23 17 12.2	-1.2
KIF				*e*SN	Sn	23 17 30.1	-0.6
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	23 17 14.7	-2.1
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 17 17.7	-0.6
HARU	**Harads**	**1.72**	**169**	*e*P	Pn	23 17 20.5	-0.6
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	23 17 31.1	+0.4
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pb	23 17 33.3	-1.8
SGF				*e*SG	Sg	23 18 05.6	-3.4
KEV	**Kevo**	**3.14**	**49**	*e*PB	Pb	23 17 44.0	-2.6
KEV				*e*SB	Sb	23 18 23.7	-1.7
KU6	**Riekki**	**4.23**	**111**	*e*SG	Sg	23 19 01.8	-4.2

ISCJB ***25*** *23:21:07.6±0.4, 6780N±002×2018E±008, h0km, Error ellipse: s-maj=4.3km s-min=3.6km az=18.8*
CSEM ***25*** *23:21:08.6±0.1, 6789N×2045E, h1km, ML2.8, Error ellipse: s-maj=2.9km s-min=2.0km az=84.0, Mining explosion.*
UPP ***25*** *23:21:08.4, 6783N×2020E, h0km, ML2.8, Mining explosion.*
HEL ***25*** *23:21:09.1±0.1, 6784N×2021E, h0km, ML2.0, ML2.8(UPP), ML1.9(BER), Explosion*
NAO ***25*** *23:21:09.5±1.2, 6779N×2052E, ML2.1*
BER ***25*** *23:21:11.0±4.6, 6787N×2013E, h0km, ML1.9, ML2.1(NAO), Suspected explosion*
ISC 25 23:21:08.6±0.4, 6782N±002×2024E±008, h0km, n34, σ1$07/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**16**	*i* P	**Pg**	**23 21 11.1**	**-0.1**
KUA				*i* S	**Sg**	**23 21 13.0**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	**Pg**	**23 21 16.9**	**-0.5**
LANU	**Lannavaara**	**0.70**	**70**	*i* P	**Pg**	**23 21 21.7**	**-0.3**
DUNU	**Dundret**	**0.71**	**170**	*i* P	**Pg**	**23 21 22.0**	**-0.3**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P	**Pg**	**23 21 23.1**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	**Pg**	**23 21 23.3**	**-0.6**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**23 21 31.1**	**-0.6**
KIF				*e*S	**Sg**	**23 21 46.9**	**-0.4**
PAJU	**Pajala**	**1.37**	**124**	*e*P	**Pg**	**23 21 33.8**	**-1.0**
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pn**	**23 21 39.1**	**+0.6**
KTK1				AML	AML	23 22 04.4	
	comp=Z,13nm,0.2s						
HARU	**Harads**	**1.69**	**170**	*e*P	**Pn**	**23 21 39.4**	**0.0**
TRO	**Tromso**	**1.88**	**346**	*e*P	**Pn**	**23 21 41.2**	**-0.7**
TRO				*e*Sg	**Sg**	**23 22 05.8**	**-3.2**
TRO				AML	AML	23 22 08.6	
	comp=Z,13nm,0.3s						
TRO	**Tromso**	**1.88**	**346**	*e*P	**Pn**	**23 21 41.2**	**-0.8**
	SNR=50						
TRO				*e*Sg	**Sg**	**23 22 05.8**	**-3.2**
	SNR=90						
SJUU	**Sjulsmark**	**2.39**	**166**	*e*P	**Pn**	**23 21 50.0**	**+1.0**
SGF	**Sodankyl**	**2.44**	**96**	*e*P	**Pn**	**23 21 49.7**	**+0.1**
SGF				*e*S	**Sn**	**23 22 21.2**	**+1.2**
SGF				MSG		23 22 27.3	
	comp=Z,10nm,0.2s						
SGF	**Sodankyl**	**2.44**	**96**	P	**Pn**	**23 21 49.6**	**0.0**
LOF	**Lofoten**	**2.54**	**280**	*e*P	**Pn**	**23 21 52.9**	**+1.8**
LOF				*e*Sg	**Sg**	**23 22 29.8**	**-0.5**
LILU	**Lilltraesk**	**2.55**	**184**	*e*P	**Pn**	**23 21 52.7**	**+1.5**
ARA0	**ARCESS Array S**	**2.58**	**46**	Pn	**Pn**	**23 21 51.9**	**+0.3**
	baz=225,slow=14						
ARA0				Sn	**Sn**	**23 22 24.4**	**+0.7**
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	**Pn**	**23 21 51.9**	**+0.3**
ARA0				*e*S	**Sn**	**23 22 24.4**	**+0.7**
MOR8	**Moi Rana**	**2.81**	**237**	*e*Sg	**Sg**	**23 22 31.3**	**-7.7**
MOR8				AML	AML	23 22 32.9	
	comp=Z,20nm,0.4s						
BURU	**Burvik**	**3.29**	**171**	*e*P	**Pn**	**23 22 03.2**	**+2.0**
OUL	**Oulu**	**3.56**	**138**	*e*PG	**Pg**	**23 22 13.2**	**-3.7**
OUL				*e*S	**Sn**	**23 22 47.3**	**-0.6**
OUL				*e*SG	**Sg**	**23 22 58.5**	**-4.6**
OUL				MSG		23 23 06.7	
	comp=Z,2.3nm,0.2s						
OUL	**Oulu**	**3.56**	**138**	Pg	**Pg**	**23 22 13.2**	**-3.7**
OUL				Sg	**Sg**	**23 22 58.5**	**-4.6**
	comp=Z,2.3nm,0.2s						
NSS	**Namsos**	**4.71**	**229**	*e*Sg	**Sg**	**23 23 35.5**	**-4.2**
NSS				AML	AML	23 23 36.5	
	comp=Z,5.3nm,0.4s						
KJN	**Kajaani**	**4.84**	**137**	*e*SG	**Sg**	**23 23 38.0**	**-6.0**
KJN				MSG		23 23 40.7	
	comp=Z,1.7nm,0.3s						
KJN	**Kajaani**	**4.84**	**137**	Sg	**Sg**	**23 23 38.0**	**-6.0**
	comp=Z,1.7nm,0.3s						
VAF	**Ylistaro**	**4.91**	**167**	*e*P	**Pn**	**23 22 24.6**	**+1.1**
VAF				*e*S	**Sn**	**23 23 19.3**	**-1.7**
VAF				*e*SG	**Sg**	**23 23 40.5**	**-5.7**
VAF				MSG		23 23 43.4	
	comp=Z,2.2nm,0.3s						
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	**Pn**	**23 22 50.6**	**0.0**
	baz=349,slow=14						
FIA0				Sn	**Sn**	**23 24 07.7**	**-1.9**
	baz=349,slow=22						
FIA0				Lg		23 24 43.8	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.87**	**156**	*e*P	**Pn**	**23 22 50.6**	**0.0**
FIA0				*e*S	**Sn**	**23 24 07.7**	**-1.9**
FIA0				*e*SG		23 24 43.8	
NB2	**NORSAR Subarra**	**7.84**	**214**	Pn	**Pn**	**23 23 05.2**	**+1.3**
NB2				Lg		23 25 16.6	
NB2	**NORSAR Subarra**	**7.84**	**214**	*e*P	**Pn**	**23 23 05.2**	**+1.3**
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**23 23 09.8**	**+0.6**
HFS				Sn	**Sn**	**23 24 38.2**	**-4.7**
	baz=42,slow=28						
HFS				Lg		23 25 25.2	
	baz=29,slow=28						
HFS	**Hagfors**	**8.23**	**203**	*e*P	**Pn**	**23 23 09.8**	**+0.6**
HFS				*e*S	**Sn**	**23 24 38.2**	**-4.7**
HFS				*e*SG		23 25 25.2	
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**23 23 09.8**	**+0.6**
	SNR=50						
HFS				Sn	**Sn**	**23 24 38.2**	**-4.7**
	SNR=50						

ISCJB ***25*** *23:27:23.6±0.2, 1339S×004×7669W×005, h28km, mb4.7/37, MS4.3/20, Error ellipse: s-maj=8.2km s-min=4.5km az=113.6*
IDC ***25*** *23:27:24.5±6.4, 1337S×7676W, h23km±41km, mb4.5/19, mb1 4.7/22, mb1mx4.6/25, mbtmp4.6/22, ML4.2/1, MS4.3/20, Ms1 4.3/20, ms1mx4.2/23, Error ellipse: s-maj=23.6km s-min=11.6km az=71.0*
NEIC ***25*** *23:27:25.6±0.4, 1341S×7671W, h30km±2km, mb4.9/22, ML4.8(LIM), Error ellipse: s-maj=8.4km s-min=4.7km az=57.0*
NEIC Felt [III] at San Vicente de Canete.
BJI ***25*** *23:27:26.0, 1340S×7670W, h29km, mB5.1, Ms5.1, Msz4.8*
ISC 25 23:27:25.9±0.2, 1339S±004×7664W±005, h29km, h29km±1.2km: pP-P, n227, σ0$83/191, mb4.7/37, MS4.3/20, 43C-34D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.41**	**352**	Pn	**Pn**	**23 27 48.7**	**-0.9**
	340nm,0.3s,baz=179,slow=12,SNR=460						
NNA				Sn	**Sn**	**23 28 07.0**	**-0.2**
	7μm,0.3s,baz=226,slow=19,SNR=41						
NNA	**Nana**	**1.41**	**352**	*e*Pn	**Pn**	**23 27 49.6**	**+0.1**
NNA				*e*Sn	**Sn**	**23 28 06.1**	**-1.1**
ATAH	**Atahualpa**	**6.58**	**345**	Pn	**Pn**	**23 29 00.1**	**-0.5**
	7.9nm,0.3s,baz=160,slow=7.7,SNR=22						
ATAH				Sn	**Sn**	**23 30 25.4**	**+11**
	40nm,0.3s,baz=20,slow=22,SNR=3.7						
LPAZ	**La Paz**	**8.72**	**110**	Pn	**Pn**	**23 29 34.9**	**+4.9**
	2.0nm,0.3s,baz=302,slow=12,SNR=59						
LPAZ				LR	LR	23 33 33.5	
	comp=Z,3μm,21.1s,baz=292,slow=42						
LPAZ	**La Paz**	**8.72**	**110**	*e*Sn	**Sn**	**23 31 01.2**	**-6.0**
LVC	**Limon Verde**	**11.75**	**142**	Pn	**Pn**	**23 30 12.0**	**+0.5**
	2.2nm,0.3s,baz=309,slow=9.3,SNR=32						
LVC				Sn	**Sn**	**23 32 28.6**	**+7.0**
	1.3nm,0.3s,baz=56,slow=21,SNR=4.4						
LVC				LR	LR	23 35 16.2	
	comp=Z,1μm,18.2s,baz=305,slow=40						
LVC	**Limon Verde**	**11.75**	**142**	*e*Pn	**Pn**	**23 30 12.1**	**+0.6**
LVC				*e*Sn	**Sn**	**23 32 16.6**	**-5.0**
OTAV	**Otavalo**	**13.66**	**352**	*e*Pn	**Pn**	**23 30 34.5**	**-3.1**
OTAV				*e*Sn	**Sn**	**23 33 02.3**	**-6.0**
SAML	**Samuel**	**13.92**	**73**	*e*Pn	**Pn**	**23 30 40.5**	**-0.6**
SIV	**San Ignacio**	**15.28**	**102**	Pn	**Pn**	**23 31 01.1**	**+1.6**
	0.5nm,0.3s,baz=287,slow=14,SNR=14						
SIV				Lg		23 35 27.8	
	0.6nm,0.3s,baz=199,slow=19,SNR=2.7						
ROSC	**El Rosal**	**18.27**	**7**	P	**Pn**	**23 31 39.0**	**+1.8**
	1.6nm,0.3s,baz=100,slow=22,SNR=4.0						
ROSC				LR	LR	23 39 57.3	
	comp=Z,2μm,19.9s,baz=293,slow=41						
ROSC	**El Rosal**	**18.27**	**7**	*e*Pn	**Pn**	**23 31 38.9**	**+1.7**
ROSC				*e*Sn	**Sn**	**23 35 06.3**	**+5.9**
PAYG	**Puerto Ayora**	**18.50**	**312**	*e*P	**Pn**	**23 31 38.4**	**-1.6**
CFAA	**Coronel Fontan**	**19.70**	**158**	P	**Pn**	**23 31 53.7**	**-0.7**
	0.1nm,0.3s,baz=329,slow=13,SNR=15						
CFAA				LR	LR	23 38 50.9	
	comp=Z,33nm,18.9s,baz=347,slow=35						
CFAA	**Coronel Fontan**	**19.70**	**158**	P	**Pn**	**23 31 53.7**	**-0.7**
CFAA				LR	LR	23 38 50.9	
MDZ	**Mendoza**	**20.66**	**161**	*e*P	**P**	**23 32 06.5**	**+3.2**
CPUP	**Villa Florida**	**22.22**	**128**	P	**P**	**23 32 19.9**	**0.0**
	16nm,1.0s,mb4.4,baz=287,slow=9.6,SNR=19						
CPUP				LR	LR	23 43 07.5	
	comp=Z,900nm,18.9s,MS4.2,baz=293,slow=42						
CPUP	**Villa Florida**	**22.22**	**128**	*e*P	**P**	**23 32 19.9**	**-0.1**
	56nm,1.0s,mb5.0						
SDV	**Santo Domingo**	**22.92**	**15**	P	**P**	**23 32 27.6**	**+0.2**
	39nm,0.8s,mb4.9,baz=212,slow=10,SNR=61						
SDV	**Santo Domingo**	**22.92**	**15**	*e*P	**P**	**23 32 27.6**	**+0.2**
	61nm,1.0s,mb5.0						
PCRV	**Puerto La Cruz**	**26.27**	**28**	P	**P**	**23 33 00.7**	**+2.0**
	24nm,0.9s,mb4.7,baz=153,slow=9.0,SNR=4.7						
PCRV				LR	LR	23 44 43.8	
	comp=Z,938nm,22.0s,MS4.3,baz=205,slow=40						
TRQA	**Tornquist**	**27.81**	**155**	*e*P	**P**	**23 33 11.6**	**-0.8**
	4.6nm,0.9s,mb4.1						
CBYP	**Canovanas**	**33.21**	**19**	*e*P	**P**	**23 33 59.4**	**-0.8**
RPN	**Rapa Nui**	**33.46**	**241**	LR	LR	23 43 35.6	
	comp=Z,675nm,21.7s,MS4.3,baz=51,slow=29						
CAM4	**Nova Friburgo**	**33.57**	**110**	*e*P	**P**	**23 34 01.7**	**-1.6**
CAM4				*i*		23 34 03.5	
CAM4				*i*	pP	23 34 08.4	-3.5
CAM3	**Guarapari**	**35.23**	**107**	*e*P	**P**	**23 34 18.4**	**+0.7**
CAM3				*i*		23 34 22.1	
CAM3				*i*	pP	23 34 25.5	-0.9
CMIG	**Matias Romero**	**35.24**	**329**	P	**P**	**23 34 18.3**	**+0.6**
	4.2nm,0.7s,mb4.5,baz=89,slow=4.9,SNR=10.0						
CMIG				LR	LR	23 46 51.2	
	comp=Z,207nm,19.9s,MS3.9,baz=134,slow=33						
CMIG	**Matias Romero**	**35.24**	**329**	P	**P**	**23 34 18.3**	**+0.5**
CMIG				LR	LR	23 46 51.2	
TEIG	**Tepich**	**35.31**	**341**	*e*P	**P**	**23 34 18.5**	**+0.2**
RCBR	**Riachuelo**	**40.82**	**83**	P	**P**	**23 35 05.5**	**+0.8**
USHA	**Ushuaia**	**41.84**	**173**	P	**P**	**23 35 12.1**	**-1.1**
	15nm,0.8s,mb4.7,baz=7.7,slow=4.5,SNR=4.1						
BBSR	**BB Station**	**46.92**	**14**	P	**P**	**23 35 54.7**	**+1.0**
SWET	**Sewanee**	**49.14**	**350**	*e*P	**P**	**23 36 09.8**	**-1.0**
SWET				*e*pP	pP	23 36 18.3	-1.5
OXF	**Oxford**	**49.16**	**346**	*e*P	**P**	**23 36 10.5**	**-0.6**
	7.2nm,0.2s,mb5.4						
TKL	**Tuckaleechee C**	**49.25**	**352**	LR	LR	23 57 00.1	
	comp=Z,275nm,18.8s,MS4.3,baz=329,slow=36						
LPIG	**La Paz**	**49.71**	**318**	LR	LR	23 53 29.9	
	comp=Z,105nm,20.1s,MS3.8,slow=32						
TXAR	**Lajitas Array**	**49.85**	**329**	P	**P**	**23 36 16.1**	**-0.2**
	2.1nm,0.8s,mb4.2,baz=150,slow=8.7,SNR=13						
TXAR				LR	LR	23 56 14.8	
	comp=Z,235nm,18.3s,MS4.2,baz=280,slow=35						
WMOK	**Wichita Mounta**	**52.28**	**337**	*e*P	**P**	**23 36 41.5**	**+6.9**
GDL2	**Guadalupe Moun**	**52.53**	**330**	*e*P	**P**	**23 36 35.7**	**-0.7**
MNTX	**Cornudas Mount**	**52.63**	**329**	*e*P	**P**	**23 36 39.4**	**+2.3**
	20nm,1.4s,mb4.8						
Y22C	**IRIS PASSCAL I**	**55.30**	**329**	⇓P	**P**	**23 36 56.7**	**0.0**
	baz=55						
BINY	**Binghamton**	**55.32**	**1**	*e*P	**P**	**23 36 56.6**	**-0.2**
BINY				*e*pP	pP	23 37 05.2	-0.6
LAZ	**Ladron**	**55.67**	**329**	*e*P	**P**	**23 36 59.0**	**-0.4**
LAZ				*e*	pP	23 37 07.6	-0.8
ANMO	**Albuquerque**	**55.78**	**330**	P	**P**	**23 36 58.0**	**-2.1**
	3.7nm,0.9s,mb4.4,baz=174,slow=8.3,SNR=7.9						
ANMO				PcP	PcP	23 37 59.0	0.0
	4.0nm,0.9s,baz=163,slow=6.5,SNR=3.6						
ANMO				LR	LR	23 58 20.7	
	comp=Z,193nm,21.1s,MS4.2,baz=197,slow=33						
ANMO	**Albuquerque**	**55.78**	**330**	*e*P	**P**	**23 37 00.3**	**+0.1**
	17nm,1.1s,mb5.0						
RKT	**Rikitea**	**55.93**	**251**	*e*S	**S**	**23 44 48.0**	**+0.9**
	118nm,29.2s						
RKT				*e*LR	LR	23 53 16.3	
	457nm,27.5s						
TUC	**Tucson**	**55.97**	**325**	*e*P	**P**	**23 37 00.4**	**-1.1**
ACCN	**Adirondack Com**	**56.56**	**3**	*e*P	**P**	**23 37 06.0**	**+0.3**
116A	**Eloy**	**56.68**	**325**	⇑P	**P**	**23 37 07.1**	**+0.6**
	baz=57						
115A	**Sonoran Desert**	**57.08**	**324**	⇑P	**P**	**23 37 10.5**	**+1.2**
	baz=57						
SDCO	**Great Sand Dun**	**57.63**	**333**	*e*P	**P**	**23 37 17.8**	**+4.5**
Z14A	**Wintersburg**	**57.97**	**324**	⇓P	**P**	**23 37 16.4**	**+0.8**
	baz=58						
FRNY	**Flat Rock**	**58.02**	**3**	*e*P	**P**	**23 37 15.9**	**0.0**
FRNY				*e*pP	pP	23 37 23.9	-1.1
X15A	**Humboldt**	**58.40**	**326**	⇑P	**P**	**23 37 19.4**	**+0.8**
	baz=58						
Y14A	**Wickenburg**	**58.42**	**325**	⇓P	**P**	**23 37 19.5**	**+0.7**
	baz=58						
MVCO	**Mesa Verde**	**58.58**	**330**	⇑P	**P**	**23 37 20.2**	**+0.4**
	baz=59						
X14A	**Yava**	**58.75**	**325**	⇓P	**P**	**23 37 22.3**	**+1.2**
	baz=59						
Y13A	**Salome**	**58.80**	**324**	⇑P	**P**	**23 37 22.4**	**+1.0**
	baz=59						
GLA	**Glamis**	**58.84**	**323**	*e*pP	pP	23 37 31.9	+1.2
GLA	**Glamis**	**58.84**	**323**	⇓P	**P**	**23 37 22.6**	**+0.9**
	baz=59						
W15A	**Williams**	**58.94**	**326**	⇓P	**P**	**23 37 21.9**	**-0.5**
	baz=59						
Y12C	**Blythe**	**59.16**	**323**	⇑P	**P**	**23 37 24.5**	**+0.6**
	baz=59						
PDMCI	**Parker Dam,Lak**	**59.33**	**324**	⇑P	**P**	**23 37 25.7**	**+0.6**
	baz=59						
PV01	**Paradox Valley**	**59.35**	**331**	*e*P	**P**	**23 37 25.6**	**+0.4**
PV01				*e*	pP	23 37 32.7	-1.6
X13A	**Yucca**	**59.37**	**325**	⇓P	**P**	**23 37 26.2**	**+0.8**
	baz=60						
ISCO	**Idaho Springs**	**59.39**	**334**	*e*P	**P**	**23 37 29.3**	**+3.8**
	11nm,1.3s,mb4.7						
W14A	**Seligman**	**59.41**	**326**	⇑P	**P**	**23 37 26.2**	**+0.5**
	baz=60						
SMCO	**Snowmass**	**59.47**	**333**	*e*P	**P**	**23 37 29.0**	**+3.0**
	16nm,1.2s,mb4.9						
BC3	**Big Chuckw Mtn**	**59.63**	**323**	⇑P	**P**	**23 37 27.9**	**+0.7**
	baz=60						
BAR	**Barrett**	**59.69**	**321**	*e*pP	pP	23 37 42.7	+6.1
ECSD	**EROS,Sioux Fal**	**59.70**	**343**	*e*P	**P**	**23 37 25.8**	**-1.9**
	14nm,1.0s,mb4.9						
ECSD				*e*	pP	23 37 33.6	-3.2
W13A	**Hualapai Mount**	**59.77**	**325**	⇑P	**P**	**23 37 28.9**	**+0.8**
	baz=60						
IRM	**Iron Mountain**	**59.81**	**323**	P	**P**	**23 37 29.1**	**+0.7**
	baz=60,SNR=5.5						
PFO	**Pinyon Flat Ob**	**60.20**	**322**	*e*pP	pP	23 37 41.3	+1.1
V12A	**Nelson**	**60.77**	**325**	⇓P	**P**	**23 37 35.7**	**+0.8**
	baz=61						
SRU	**San Rafael**	**61.06**	**330**	*e*pP	pP	23 37 45.5	-0.6
BFSC	**Mount Baldy St**	**61.35**	**322**	⇓P	**P**	**23 37 39.8**	**+0.9**
	baz=62						
MSU	**Marysvale**	**61.41**	**329**	*e*P	**P**	**23 37 39.3**	**0.0**
MSU				*e*pP	pP	23 37 49.3	+0.9
ARUT	**Antelope Range**	**61.51**	**327**	*e*P	**P**	**23 37 40.7**	**+0.7**
TAOE	**Nuku Hiva Isla**	**62.34**	**267**	*e*LR	LR	23 56 13.6	
	2μm,26.3s						
RSSD	**Black Hills**	**62.44**	**338**	P	**P**	**23 37 46.1**	**-0.1**
MPMC	**Manual Prospec**	**62.51**	**323**	⇓P	**P**	**23 37 48.0**	**+1.3**
	baz=63						
DAC	**Darwin (Calif)**	**62.72**	**323**	*e*P	**P**	**23 37 46.6**	**-1.5**
ISA	**Isabella**	**62.81**	**322**	*e*P	**P**	**23 37 47.8**	**-0.9**
DUG	**Dugway**	**63.01**	**330**	*e*P	**P**	**23 37 50.6**	**+0.6**
DUG	**Dugway**	**63.01**	**330**	⇓P	**P**	**23 37 50.3**	**+0.2**
	baz=63						
CWC	**Cottonwood Cre**	**63.12**	**323**	⇓P	**P**	**23 37 50.8**	**+0.1**
	baz=63						
HWUT	**Hardware Ranch**	**63.51**	**331**	*e*P	**P**	**23 37 53.0**	**-0.3**
	12nm,0.9s,mb4.9						
BW06	**Boulder Array**	**63.52**	**333**	*e*pP	pP	23 38 00.2	-2.3
PDAR	**Pinedale Array**	**63.52**	**333**	P	**P**	**23 37 52.5**	**-0.9**
	0.9nm,0.8s,mb3.9,baz=128,slow=7.9,SNR=5.2						
PDAR				LR	LR	00 04 18.6	
	comp=Z,78nm,19.7s,MS3.9,baz=126,slow=35						
PDAR	**Pinedale Array**	**63.52**	**333**	P	**P**	**23 37 52.5**	**-0.9**
PDAR				LR	LR	00 04 18.6	
P12A	**McGill**	**63.53**	**328**	⇑P	**P**	**23 37 53.4**	**-0.1**
	baz=64						
AGMN	**Agassiz Refuge**	**63.75**	**346**	*e*P	**P**	**23 37 53.7**	**-1.3**
	30nm,0.9s,mb5.3						
AGMN				*e*	pP	23 38 02.4	-1.7
S08C	**White Mtn Res**	**63.90**	**324**	⇑P	**P**	**23 37 56.3**	**+0.3**
	baz=64						
MTUM	**Tungsten Hills**	**64.03**	**324**	*e*P	**P**	**23 37 57.2**	**+0.5**
MTUM				*e*pP	pP	23 38 07.5	+1.6
O12A	**Currie**	**64.04**	**328**	⇓P	**P**	**23 37 57.1**	**+0.3**
	baz=64						
HVU	**Hansel Valley**	**64.21**	**331**	*e*P	**P**	**23 37 56.2**	**-1.7**
O11A	**Cowboy Ranch,**	**64.41**	**328**	⇓P	**P**	**23 37 59.8**	**+0.5**
	baz=64						
R08A	**Mina**	**64.46**	**325**	⇑P	**P**	**23 38 00.0**	**+0.5**
	baz=65						
M13A	**Montello**	**64.56**	**329**	⇑P	**P**	**23 38 00.6**	**+0.4**
	baz=65						
REDW	**Red Top Meadow**	**64.56**	**333**	*e*P	**P**	**23 38 04.0**	**+3.8**
	12nm,1.1s,mb4.8						
NVAR	**Mina Array Bea**	**64.62**	**325**	P	**P**	**23 37 59.5**	**-1.2**
	0.5nm,0.3s,mb4.0,baz=171,slow=5.0,SNR=4.1						
RRI2	**Red Ridge**	**64.76**	**333**	*e*P	**P**	**23 38 01.7**	**+0.2**
S05C	**Merced**	**65.05**	**323**	⇓P	**P**	**23 38 04.2**	**+0.8**
	baz=65						
FLWY	**Flagg Ranch**	**65.07**	**334**	*e*P	**P**	**23 38 03.9**	**+0.3**
S06C	**San Francisco**	**65.13**	**323**	⇑P	**P**	**23 38 04.1**	**+0.2**
	baz=65						
CMB	**Columbia Colle**	**65.55**	**323**	P	**P**	**23 38 06.3**	**-0.4**
ULM	**Lac du Bonnet**	**65.58**	**347**	P	**P**	**23 38 05.2**	**-1.7**
	24nm,0.8s,mb5.2,baz=156,slow=6.1,SNR=36						
PAHR	**Pah Rah Range**	**66.12**	**325**	*e*P	**P**	**23 38 08.0**	**-2.3**
	13nm,1.1s,mb4.9						
O07A	**Toulon**	**66.15**	**326**	⇓P	**P**	**23 38 10.7**	**+0.1**
	baz=66,SNR=5.8						
DGMT	**Dagmar**	**66.27**	**340**	*e*P	**P**	**23 38 11.8**	**+0.5**
M09A	**Marrel Ranch,**	**66.28**	**328**	⇓P	**P**	**23 38 11.5**	**+0.2**
	baz=66						
HLID	**Hailey**	**66.35**	**331**	*e*P	**P**	**23 38 12.2**	**+0.4**
HLID	**Hailey**	**66.35**	**331**	⇑P	**P**	**23 38 12.1**	**+0.3**
	baz=66						
BOZ	**Bozeman (W)**	**66.72**	**334**	*e*P	**P**	**23 38

comp=Z,93nm,21.6s,MS4.0,baz=169,slow=28
B13A Whitefish 70.06 334 ⇓P **P 23 38 35.2 +0.1**
baz=70
H06A Lindquist Farm 70.12 328 ⇑P **P 23 38 36.0 +0.6**
baz=70
WALA Waterton Lakes 70.36 335 *e*P **P 23 38 36.8 -0.2**
A13A Flathead Natio 70.47 335 ⇓P **P 23 38 37.0 -0.6**
baz=71
B12A Libby 70.61 334 ⇑P **P 23 38 38.7 +0.3**
baz=71
F07A Phinny Hill Vi 70.73 330 ⇑P **P 23 38 39.3 +0.2**
baz=71
D09A Jones Farm, Ri 70.79 331 ⇑P **P 23 38 39.5 0.0**
baz=71
B11A Sandpoint 70.93 333 ⇓P **P 23 38 40.4 0.0**
baz=71
A12A Yaak River Ran 71.00 334 P **P 23 38 41.4 +0.6**
baz=71,SNR=5.5
NEW Newport 71.13 333 P **P 23 38 41.1 -0.5**
4.2nm,0.8s,mb4.4,baz=127,slow=10,SNR=4.2
E07A Sunnyside 71.17 330 ⇑P **P 23 38 42.2 +0.4**
baz=71
D07A Quincy 71.67 330 ⇑P **P 23 38 45.1 +0.3**
baz=72
F04A Amboy 72.01 328 ⇓P **P 23 38 46.8 -0.1**
baz=72
C07A Waterville 72.07 331 ⇑P **P 23 38 47.8 +0.5**
baz=72
SNAA Sanae 72.29 161 *e*P **P 23 38 47.8 -0.8**
9.0nm,0.6s,mb4.9
A09A Danville 72.31 332 ⇑P **P 23 38 48.9 +0.2**
baz=72
D05A Enumclaw 72.65 329 ⇑P **P 23 38 50.7 0.0**
baz=73
C05A Tolt Reservoir 72.86 330 ⇑P **P 23 38 51.4 -0.5**
baz=73
EDM Edmonton 73.43 338 *e*P **P 23 38 54.3 -1.0**
B05A Bryant 73.45 330 ⇓P **P 23 38 55.3 -0.1**
baz=74
C04A Brinnon 73.50 329 ⇓P **P 23 38 55.7 -0.1**
baz=74
QSPA South Pole Qui 76.75 180 *e*P **P 23 39 14.3 -0.1**
3.6nm,0.9s,mb4.3
MAIT Maitri 76.92 160 *e*P **P 23 39 15.0 -0.4**
FRB Frobisher Bay 77.15 4 P **P 23 39 15.5 -1.2**
19nm,0.8s,mb5.1,baz=196,slow=8.0,SNR=9.2
YKA Yellowknife Ar 81.23 343 P **P 23 39 37.3 -1.7**
5.4nm,0.8s,mb4.5,baz=137,slow=5.1,SNR=18
YKA LR LR 00 20 08.2
comp=Z,132nm,19.6s,MS4.3,baz=75,slow=39
TOA0 Torodi Ar. Sit 81.97 74 *e*P **P 23 39 43.8 +0.8**
TORD Torodi Ar. Bea 81.97 74 P **P 23 39 43.6 +0.7**
52nm,0.9s,mb5.5,baz=263,slow=4.8,SNR=187
TORD LR LR 00 16 53.0
comp=Z,274nm,18.0s,MS4.7,baz=225,slow=36
SBA Scott Base 82.38 191 *e*P **P 23 39 45.2 +0.2**
SBA *e* pP 23 39 53.8 -0.7
VNDA Vanda 83.45 191 P **P 23 39 50.9 +0.3**
2.4nm,0.8s,mb4.3,baz=122,slow=3.7,SNR=16
VNDA LR LR 00 09 32.2
comp=Z,124nm,19.5s,MS4.3,baz=18,slow=30
VNDA Vanda 83.45 191 P **P 23 39 50.9 +0.3**
VNDA LR LR 00 09 32.2
DLBC Dease Lake 83.71 335 *e*P **P 23 39 52.0 +0.1**
DLBC *e* pP 23 40 01.1 -0.3
ESDC Sonseca Array 85.57 48 P **P 23 40 02.0 +0.7**
4.1nm,0.9s,mb4.7,baz=255,slow=5.9,SNR=10
ESDC LR LR 00 16 59.6
comp=Z,151nm,18.6s,MS4.4,baz=235,slow=35
SYO Syowa Base 86.58 161 ⇑*e*P **P 23 40 05.0 -1.3**
SUMG Summit 89.37 11 *e*P **P 23 40 19.4 -0.2**
TSUM Tsumeb 89.57 110 *e*P **P 23 40 20.8 +0.2**
5.6nm,0.9s,mb4.9
DAWY Dawson 90.62 337 *e*P **P 23 40 24.6 -0.9**
INK Inuvik 90.91 342 P **P 23 40 25.8 -1.0**
12nm,1.0s,mb5.2,baz=129,slow=5.3,SNR=13
INK Inuvik 90.91 342 *e*P **P 23 40 25.8 -1.0**
EGAK Eagle 91.64 337 *e*P **P 23 40 29.1 -1.1**
BOSA Boshof 93.83 120 LR LR 00 21 04.0
comp=Z,282nm,18.9s,MS4.8,baz=250,slow=34
MAW Mawson 94.07 166 LR LR 00 18 54.1
comp=Z,189nm,20.3s,MS4.5,baz=99,slow=33
COLA College 94.26 336 *e*P **P 23 40 40.5 -1.7**
6.7nm,0.8s,mb5.1
MCK McKinley 94.27 335 P **P 23 40 42.1 -0.2**
KEST Kesra 94.50 55 P **P 23 40 43.1 -0.2**
1.1nm,0.8s,mb4.3,baz=253,slow=2.2,SNR=4.5
AKTK Aktyubinsk 127.91 35 PKP PKPdf 23 46 28.7 0.0
AKTO Aktyubinsk 127.91 35 PKP PKPdf 23 46 28.7 0.0
1.9nm,0.8s,baz=312,slow=3.0,SNR=8.3
ASAR Alice Springs 132.58 219 PKP PKPdf 23 46 37.5 0.0
1.3nm,0.8s,baz=138,slow=2.3,SNR=10
BVAR Borovoye Array 132.58 27 PKP PKPdf 23 46 36.8 -0.8
0.9nm,0.8s,baz=270,slow=0.7,SNR=5.7
WRA Warramunga Arr 134.98 223 PKP PKPdf 23 46 42.1 0.0
4.3nm,0.8s,baz=140,slow=1.5,SNR=25
ZAL Zalesovo 136.98 16 PKP PKPdf 23 46 45.9 +0.1
3.0nm,0.8s,baz=188,slow=1.9,SNR=15
ZAL Zalesovo 136.98 16 PKP PKPdf 23 46 45.9 +0.1
MJAR Matsushiro Arr 141.22 313 PKhKP 23 46 46.0
0.6nm,0.3s,baz=71,slow=1.1,SNR=4.7
MDJ Mudanjiang 141.68 329 PKP PKPdf 23 46 55.0 +0.6
MK31 Makanchi Array 142.29 24 *e*PKPdf PKPdf 23 46 50.5 -5.0
MKAR Makanchi Array 142.29 24 PKhKP 23 46 50.2
1.3nm,0.8s,baz=340,slow=2.2,SNR=11
MKAR Makanchi Array 142.29 24 PKP PKPdf 23 46 50.2 -5.3
CN2 Changchun 144.26 332 *e*PKP PKPdf 23 46 58.5 -0.4
ULN Ulaanbaatar 145.50 356 *e*PKPbc PKPbc 23 47 00.9 -0.2
SONM Songino Array 145.57 356 PKPbc PKPbc 23 47 01.3 -0.1
15nm,0.9s,baz=330,slow=2.5,SNR=93
WMQ Urumqi 146.83 21 *e*PKP PKPdf 23 47 02.5 -0.8
WMQ PKP2 PKPab 23 47 08.0 +1.5
WMQ APKP 23 47 13.0
WMQ XPKP 23 47 17.0
WMQ *e*PP PP 23 50 33.0 +3.8
WMQ SKS SKSdf 23 54 06.0 -4.0
WMQ PP PP
comp=Z,96nm,5.2s
WMQ LR LR
comp=N,176nm,27.2s,MS4.9
WMQ LR LR
comp=E,197nm,29.0s,MS4.9
WMQ LR LR
comp=Z,142nm,26.5s,MS4.6
THN Thein Dam 148.41 49 *e*P PKPdf 23 47 09.0 +3.0
HHC Hu-ho-hao-te 151.72 347 *e*PKP PKPdf 23 47 17.0 +5.8
HHC PP PP 23 51 03.0 +5.4
HHC PP PP
comp=Z,168nm,4.1s
HHC LR LR
comp=N,142nm,4.3s
HHC LR LR
comp=E,156nm,4.5s
HHC LR LR
comp=Z,111nm,17.1s,MS4.7
KOLN Koldanda 156.67 49 *e*P PKPab 23 47 47.4 0.0
comp=Z,10nm,1.0s
GKN Gorkha 157.29 47 *e*P PKPab 23 47 50.4 +0.4
comp=Z,39nm,1.2s
LZH Lanzhou 157.40 359 *e*PKP PKPdf 23 47 20.0 +1.0
LZH APKP 23 47 30.0
LZH XPKP 23 47 34.5
LZH PKS 23 50 52.3
LZH *e*PP PP 23 51 33.0 +3.6
LZH SKS SKSdf 23 54 25.5 +2.7
LZH SKKS SKKSac 23 58 17.0 +0.3
LZH PP PP
comp=Z,78nm,9.1s
LZH LR LR
comp=E,147nm,18.2s
LZH LR LR
comp=Z,213nm,20.3s,MS5.0
DMN Daman 157.85 48 *e*P PKPab 23 47 53.3 +0.8
comp=Z,46nm,1.0s
KKN Kakani 157.87 47 *e*P PKPab 23 47 52.9 +0.3
comp=Z,48nm,1.2s
PKI Pulchoki 158.09 47 *e*P PKPab 23 47 54.0 +0.5
comp=Z,20nm,0.9s
GUN Gumba 158.22 46 *e*P PKPab 23 47 55.3 +1.2
comp=Z,36nm,1.0s
JIRN Jiri 158.59 46 *e*P PKPab 23 47 56.6 +0.9
comp=Z,36nm,1.4s
CD2 Chengdu 162.56 359 *e*PKP PKPdf 23 47 21.8 -3.0
GYA Guiyang 166.64 347 PKP PKPdf 23 47 28.0 -0.4
GYA APKP 23 47 37.8
GYA XPKP 23 47 41.3
GYA PKP2 PKPab 23 48 32.5 +1.6
GYA PKS 23 50 59.5
GYA PP PP 23 52 20.8 +2.2
GYA SKS SKSdf 23 54 27.5 -2.8
GYA SKKS SKKSac 23 59 04.0 -0.1
GYA PP PP
comp=Z,110nm,8.0s
GYA LR LR
comp=N,160nm,22.9s
GYA LR LR
comp=E,130nm,21.8s
GYA LR LR
comp=Z,140nm,22.4s
KMI Kunming 168.32 3 PKP PKPdf 23 47 23.5 -6.1

MAN 25 23:40:29.8, 1242N×12375E, h87km, mb3.0, ML4.3, MS4.9, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.23**	**19**	⇑*i*P	Pn	23 40 52.4	+0.3
PVCP				*i* S	Sn	23 41 14.6	+5.8
RCP	**Roxas**	**1.30**	**229**	⇓*e*P	Pn	23 40 47.8	-5.2
RCP				*e*S	Sn	23 41 09.5	-0.9
PLP	**Palo**	**1.73**	**136**	*e*P	Pn	23 40 59.1	+0.7
PLP				*e*S	Sn	23 41 20.8	+0.7
LLP	**Lapu-Lapu**	**2.10**	**174**	⇓*i*P	Pn	23 41 04.0	+0.7
LLP				*e*S	Sn	23 41 29.4	+0.6
CVP	**Callao Caves**	**5.57**	**341**	*e*P	Sn	23 42 50.0	-2.8

MAN 25 23:47:28.6, 1094N×12314E, h11km, mb3.7, ML4.8, MS1.8, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.72**	**328**	⇓*e*P	Pg	23 47 43.0	+0.4
RCP				*e*S	Sg	23 47 54.7	+2.6
LLP	**Lapu-Lapu**	**1.02**	**127**	*i* P	Pg	23 47 46.2	-2.1
LLP				*e*S	Sg	23 47 59.8	-1.8
SNPH	**Sibulan**	**1.59**	**177**	⇑*i*P	Pn	23 47 56.5	-0.2
SNPH				*i* S	Sn	23 48 18.0	+0.7
PLP	**Palo**	**1.82**	**83**	*e*P	Pn	23 47 59.1	-0.7
DCPH	**Dipolog City**	**2.35**	**175**	*e*P	Pn	23 48 08.5	+1.3

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*STR **26** 00:29:26.5±0.1, 4852N×766E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **26** 00:29:26.8±0.1, 4851N±0010×769E±001, h12km±2km, ML2.3, Error ellipse: s-maj=4.0km s-min=3.0km az=131.0*
*LDG **26** 00:29:26.8±0.0, 4852N×767E, h15km, Md2.7/1, Ml2.5/11, Error ellipse: s-maj=1.0km s-min=0.7km az=165.0*
*NEIC **26** 00:29:26.5, 4852N×766E, h10km, ML2.2(STR), ML2.3(LEDBW), ML2.5(LDG), After STR.*
*BGR **26** 00:29:26.5±0.2, 4856N×768E, h10km, ML2.2/2, Error ellipse: s-maj=3.3km s-min=3.3km az=113.0*
CSEM 26 00:29:26.6±0.0, 4853N×768E, h15km, ML2.5/10**, 6C-6D, Error ellipse: s-maj=1.0km s-min=0.7km az=158.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STR	**Strasbourg**	**0.08**	**44**	Pg	Pg	00 29 29.5	-0.1
STR				Sg	Sg	00 29 31.9	+0.3
STR	**Strasbourg**	**0.08**	**44**	*e*Pg	Pg	00 29 29.5	-0.1
SNR=5.2							
WLS	**Welschbruch**	**0.25**	**242**	⇑*i*P*	Pg	00 29 32.0	0.0
WLS				S*	Sg	00 29 35.6	-0.1
WLS	**Welschbruch**	**0.25**	**242**	⇑*i*Pg	Pg	00 29 32.0	0.0
WLS				Sg	Sg	00 29 35.6	-0.1
WLS	**Welschbruch**	**0.25**	**242**	Pg	Pg	00 29 31.9	-0.1
WLS				Sg	Sg	00 29 35.5	-0.2
CDF	**Champ du Feu**	**0.29**	**247**	*e*Pg	Pg	00 29 32.7	-0.1
CDF				*e*Sg	Sg	00 29 36.7	-0.3
65nm,0.2s							
CDF	**Champ du Feu**	**0.29**	**247**	*e*Pg	Pg	00 29 32.7	-0.1
CDF				*e*Sg	Sg	00 29 36.7	-0.3
33nm,0.2s							
LIBD	**Limburg**	**0.38**	**188**	⇑P*	Pg	00 29 34.7	+0.3
LIBD				S*	Sg	00 29 40.4	+0.8
LIBD	**Limburg**	**0.38**	**188**	⇑Pg	Pg	00 29 34.7	+0.3
LIBD				Sx	Sx	00 29 40.4	
LIBD	**Limburg**	**0.38**	**188**	Pg	Pg	00 29 34.6	+0.2
LANF	**Langenberg**	**0.46**	**10**	⇑*i*P*	Pb	00 29 35.9	-0.5
LANF	**Langenberg**	**0.46**	**10**	⇑*i*Pg	Pg	00 29 35.9	+0.2
LANF	**Langenberg**	**0.46**	**10**	Pg	Pg	00 29 35.7	-0.1
ECH	**Echery**	**0.47**	**228**	Pg	Pg	00 29 35.6	-0.4
ECH				Sg	Sg	00 29 42.2	-0.1
ECH	**Echery**	**0.47**	**228**	P*	Pb	00 29 35.8	-0.7
ECH				PmP		00 29 37.0	
ECH				S*	Sb	00 29 42.3	-1.0
ECH				SmS		00 29 45.1	
ECH	**Echery**	**0.47**	**228**	Pg	Pg	00 29 35.8	-0.1
ECH				Sg	Sg	00 29 42.3	0.0
ECH	**Echery**	**0.47**	**228**	PmP		00 29 37.0	
ECH				SmS		00 29 45.1	
BFO	**Black Forest**	**0.47**	**115**	⇓P*	Pb	00 29 35.9	-0.7
BFO				PmP		00 29 37.6	
BFO				S*	Sb	00 29 42.1	-1.4
BFO				SmS		00 29 45.1	
BFO	**Black Forest**	**0.47**	**115**	PmP		00 29 37.6	
BFO				Sg	Sg	00 29 42.1	-0.3
BFO				SmS		00 29 45.1	
BFO	**Black Forest**	**0.47**	**115**	*e*Pg	Pg	00 29 36.0	0.0
BFO				*e*Sg	Sg	00 29 41.9	-0.5
KIZ	**Kirchzarten**	**0.59**	**165**	P*	Pb	00 29 38.0	-0.7
KIZ				PmP		00 29 38.9	
KIZ				S*	Sb	00 29 45.7	-1.2
KIZ				SmS		00 29 47.6	
KIZ	**Kirchzarten**	**0.59**	**165**	P	Pg	00 29 38.0	-0.3
KIZ				S	Sg	00 29 45.7	-0.5
KIZ				S	Sg	00 29 47.7	+1.5
KIZ	**Kirchzarten**	**0.59**	**165**	Pg	Pg	00 29 38.0	-0.3
KIZ				Sg	Sg	00 29 45.7	-0.5
KIZ	**Kirchzarten**	**0.59**	**165**	PmP		00 29 38.9	
KIZ				SmS		00 29 47.6	
FELD	**Feldberg im Sc**	**0.69**	**162**	P*	Pb	00 29 40.1	-0.2
FELD				PmP		00 29 40.5	
FELD	**Feldberg im Sc**	**0.69**	**162**	P	Pg	00 29 40.1	+0.1
FELD	**Feldberg im Sc**	**0.69**	**162**	PmP		00 29 40.5	
FELD	**Feldberg im Sc**	**0.69**	**162**	Pg	Pg	00 29 39.8	-0.2
FELD				Sg	Sg	00 29 48.7	-0.4
LBG	**Lerchenberg**	**0.75**	**79**	⇓P*	Pb	00 29 41.0	-0.3
LBG				SmS		00 29 51.7	
LBG	**Lerchenberg**	**0.75**	**79**	⇓P	Pg	00 29 41.0	-0.2
LBG				S	Sg	00 29 51.7	+0.6
MOF	**Molkenrain**	**0.77**	**209**	Pg	Pg	00 29 41.5	-0.1
MOF	**Molkenrain**	**0.77**	**209**	Pg	Pg	00 29 41.6	0.0
KTD	**Kalmit**	**0.83**	**18**	*e*Pg	Pg	00 29 43.1	+0.3
SNR=4.8							
SPAK	**Spaichingen-Ko**	**0.85**	**120**	*e*Pg	Pg	00 29 43.3	+0.2
SNR=2.9							
HINF	**Hinteralfeld**	**0.90**	**218**	*e*Pg	Pg	00 29 43.7	-0.4
HINF				*e*Sg	Sg	00 29 55.4	-0.6
28nm,0.2s							
HINF	**Hinteralfeld**	**0.90**	**218**	*e*Pn	Pn	00 29 43.2	-1.6
HINF				*e*Pg	Pg	00 29 43.7	-0.4
HINF				*e*Sg	Sg	00 29 55.4	-0.6
HINF	**Hinteralfeld**	**0.90**	**218**	*e*Pg	Pg	00 29 43.7	-0.4
HINF				*e*Sg	Sg	00 29 55.4	-0.6
14nm,0.2s							
TUBL	**Tuebingen-Lenn**	**0.93**	**90**	Pg	Pg	00 29 45.9	+1.3
TUBL				Sg	Sg	00 29 57.9	+1.1
HAU	**Haudompre**	**1.03**	**240**	*e*Pg	Pg	00 29 46.5	-0.1
HAU				*e*Sg	Sg	00 29 59.5	-0.6
22nm,0.3s							
HAU	**Haudompre**	**1.03**	**240**	*e*Pn	Pn	00 29 45.4	-1.2
HAU				*e*Pg	Pg	00 29 46.5	-0.1
HAU				*e*Sg	Sg	00 29 59.5	-0.6
HAU	**Haudompre**	**1.03**	**240**	*e*Pg	Pg	00 29 46.5	-0.1
HAU				*e*Sg	Sg	00 29 59.5	-0.6
11nm,0.3s							
GUT	**Gutenstein**	**1.06**	**115**	⇓P	Pb	00 29 46.0	-0.7
GUT				Pg	Pg	00 29 47.0	-0.1
GUT				S	Sb	00 29 59.5	-0.8
GUT				Sg	Sg	00 30 00.9	-0.1
GUT	**Gutenstein**	**1.06**	**115**	⇓P	Pb	00 29 46.0	-0.6
GUT				Pg	Pg	00 29 47.0	-0.1
GUT				S	Sb	00 29 59.5	-0.8
GUT				Sg	Sg	00 30 00.9	0.0
GUT	**Gutenstein**	**1.06**	**115**	⇓Pn	Pn	00 29 46.0	-0.9
GUT				Sn	Sn	00 29 59.5	-1.9
GUT	**Gutenstein**	**1.06**	**115**	P	Pb	00 29 47.0	+0.4
GUT				S	Sb	00 30 00.9	+0.6
BBS	**Basel-Blauen**	**1.07**	**186**	*e*Pg	Pg	00 29 47.3	0.0
SNR=2.5							
BBS	**Basel-Blauen**	**1.07**	**186**	Pg	Pg	00 29 47.2	-0.1
BBS				Sg	Sg	00 30 01.3	0.0
BUCH	**Bad Urach**	**1.11**	**93**	⇑P	Pb	00 29 46.7	-0.8
BUCH				Pg	Pg	00 29 48.1	0.0
BUCH				S	Sb	00 30 01.0	-0.8
BUCH				Sg	Sg	00 30 02.9	+0.3
BUCH	**Bad Urach**	**1.11**	**93**	P	Pb	00 29 46.7	-0.8
BUCH				Pg	Pg	00 29 48.1	0.0
BUCH				S	Sb	00 30 01.0	-0.8
BUCH				Sg	Sg	00 30 02.9	+0.3
BUCH	**Bad Urach**	**1.11**	**93**	⇑Pn	Pn	00 29 46.7	-0.9
BUCH				Sn	Sn	00 30 01.0	-1.6
BUCH	**Bad Urach**	**1.11**	**93**	P	Pb	00 29 48.1	+0.6
BUCH				S	Sb	00 30 02.9	+1.0
BUCH	**Bad Urach**	**1.11**	**93**	Pg	Pg	00 29 48.1	0.0
SWS	**Schriesheim-Wi**	**1.17**	**35**	Sg	Sg	00 30 05.7	+1.4
THEF	**They Montfort**	**1.17**	**256**	*e*Pg	Pg	00 29 48.6	-0.6
SNR=3.3							
THEF				Sg	Sg	00 30 04.5	0.0
THEF	**They Montfort**	**1.17**	**256**	S	Sb	00 30 04.5	+1.0
THEF	**They Montfort**	**1.17**	**256**	Pg	Pg	00 29 48.7	-0.5
THEF				Sg	Sg	00 30 04.0	-0.5
SISB	**Singen-Schiene**	**1.20**	**134**	Pg	Pg	00 29 49.5	-0.2
SISB				Sg	Sg	00 30 05.8	+0.3
LOMF	**Lomont**	**1.31**	**206**	*e*Pg	Pg	00 29 50.8	-1.1
SNR=2.6							
ABH	**Alteburg**	**1.36**	**356**	Pg	Pg	00 29 52.4	-0.3
ABH				Sg	Sg	00 30 09.8	-0.6
RFYF	**Reffroy**	**1.47**	**275**	*e*Pg	Pg	00 29 54.0	-0.9
RFYF				*e*Sg	Sg	00 30 13.1	-0.9
10nm,0.2s,baz=107							
RFYF	**Reffroy**	**1.47**	**275**	*e*Pg	Pg	00 29 54.0	-0.9
RFYF				*e*Sg	Sg	00 30 13.1	-0.9
5.2nm,0.2s							
SIND	**Sindeldorf**	**1.51**	**56**	Pg	Pg	00 29 55.0	-0.6
SIND				Sg	Sg	00 30 15.3	0.0
WLF	**Walferdange**	**1.52**	**319**	*e*Sg	Sg	00 30 12.9	-2.7
SNR=1.2							
HDH	**Heidenheim-Cha**	**1.68**	**87**	Pg	Pg	00 29 58.5	-0.3
HDH				Sg	Sg	00 30 20.0	-0.6
MEZF	**Maizieres J'vi**	**1.75**	**270**	*e*Pg	Pg	00 29 59.1	-1.1
MEZF				*e*Sn	Sn	00 30 15.3	-3.1
MEZF				*e*Sg	Sg	00 30 21.6	-1.4
3.6nm,0.2s							
MEZF	**Maizieres J'vi**	**1.75**	**270**	*e*Pn	Pn	00 29 54.8	-1.6
MEZF				*e*Pg	Pg	00 29 59.1	-1.1
MEZF				*e*Sn	Sn	00 30 15.3	-3.1
MEZF				*e*Sg	Sg	00 30 21.6	-1.4
MEZF	**Maizieres J'vi**	**1.75**	**270**	*e*Pg	Pg	00 29 59.1	-1.1
MEZF				*e*Sn	Sn	00 30 15.3	-3.1
MEZF				*e*Sg	Sg	00 30 21.6	-1.4
1.8nm,0.2s							
TNS	**Taunus Mts**	**1.77**	**16**	*e*Sg	Sg	00 30 20.2	-3.3
SNR=2.1							
SFTF	**Sexfontaines**	**1.79**	**261**	*e*Pg	Pg	00 30 00.3	-0.7
baz=82							
SFTF				*e*Sn	Sn	00 30 16.4	-3.1
SFTF				*e*Sg	Sg	00 30 23.0	-1.3
10.0nm,0.2s							
SFTF	**Sexfontaines**	**1.79**	**261**	*e*Pn	Pn	00 29 55.5	-1.5
SFTF				*e*Pg	Pg	00 30 00.3	-0.7
SFTF				*e*Sn	Sn	00 30 16.4	-3.1
SFTF				*e*Sg	Sg	00 30 23.0	-1.3
SFTF	**Sexfontaines**	**1.79**	**261**	*e*Pg	Pg	00 30 00.3	-0.7
SFTF				*e*Sn	Sn	00 30 16.4	-3.1
SFTF				*e*Sg	Sg	00 30 23.0	-1.3
5.0nm,0.2s							
UBR	**Ueberruh**	**1.83**	**117**	Pg	Pg	00 30 01.9	+0.1
UBR				Sg	Sg	00 30 24.7	-0.9
UBR	**Ueberruh**	**1.83**	**117**	Px	Px	00 30 01.9	
UBR				S	Sn	00 30 24.7	+4.2
CABF	**La Chapelle**	**2.20**	**210**	*e*Pg	Pg	00 30 07.4	-1.4
CABF				*e*Sg	Sg	00 30 35.9	-1.5
2.4nm,0.2s							
CABF	**La Chapelle**	**2.20**	**210**	*e*Pn	Pn	00 30 01.0	-1.6
CABF				*e*Pg	Pg	00 30 07.4	-1.4
CABF				*e*Sg	Sg	00 30 35.9	-1.5
CABF	**La Chapelle**	**2.20**	**210**	*e*Pg	Pg	00 30 07.4	-1.4
CABF				*e*Sg	Sg	00 30 35.9	-1.5
1.2nm,0.2s							
FUR	**Furstenfeldbru**	**2.42**	**97**	*e*Sg	Sg	00 30 43.6	-1.0
SNR=1.8							
LOR	**Lormes**	**2.87**	**245**	*e*Pn	Pn	00 30 10.3	-1.4
baz=67							
LOR	**Lormes**	**2.87**	**245**	*e*Pg	Pg	00 30 20.2	-1.3
baz=68							
LOR				*e*Sg	Sg	00 30 56.3	-2.4
3.3nm,0.2s,baz=78							
LOR	**Lormes**	**2.87**	**245**	*e*Pn	Pn	00 30 10.3	-1.4
LOR				*e*Pg	Pg	00 30 20.2	-1.3
LOR				*e*Sg	Sg	00 30 56.3	-2.4
LOR	**Lormes**	**2.87**	**245**	*e*Pg	Pg	00 30 20.2	-1.3
LOR				*e*Sg	Sg	00 30 56.3	-2.4
1.6nm,0.2s							
SSF	**Saint Saulge**	**3.18**	**244**	*e*Pg	Pg	00 30 26.0	-1.5
SSF				*e*Sn	Sn	00 30 49.6	-4.0
SSF				*e*Sg	Sg	00 31 06.3	-2.3
1.6nm,0.2s							
SSF	**Saint Saulge**	**3.18**	**244**	*e*Pn	Pn	00 30 14.3	-1.7
SSF				*e*Pg	Pg	00 30 26.0	-1.5
SSF				*e*Sn	Sn	00 30 49.6	-4.0
SSF				*e*Sg	Sg	00 31 06.3	-2.3
SSF	**Saint Saulge**	**3.18**	**244**	*e*Pg	Pg	00 30 26.0	-1.5
SSF				*e*Sn	Sn	00 30 49.6	-4.0
SSF				*e*Sg	Sg	00 31 06.3	-2.3
0.8nm,0.2s							
SMF	**Signal de Mont**	**3.21**	**236**	*e*Pg	Pg	00 30 26.6	-1.5
SMF				*e*Sn	Sn	00 30 50.2	-4.3
SMF				*e*Sg	Sg	00 31 07.2	-2.6
1.5nm,0.2s							
SMF	**Signal de Mont**	**3.21**	**236**	*e*Pn	Pn	00 30 14.8	-1.7
SMF				*e*Pg	Pg	00 30 26.6	-1.5
SMF				*e*Sn	Sn	00 30 50.2	-4.3
SMF				*e*Sg	Sg	00 31 07.2	-2.6
SMF	**Signal de Mont**	**3.21**	**236**	*e*Pg	Pg	00 30 26.6	-1.5
SMF				*e*Sn	Sn	00 30 50.2	-4.3
SMF				*e*Sg	Sg	00 31 07.2	-2.6
0.8nm,0.2s							
AVF	**Avril sur Loir**	**3.41**	**241**	*e*Pg	Pg	00 30 29.9	-1.9
AVF				*e*Sn	Sn	00 30 54.9	-4.3
AVF				*e*Sg	Sg	00 31 13.2	-2.8
0.6nm,0.2s							
AVF	**Avril sur Loir**	**3.41**	**241**	*e*Pn	Pn	00 30 17.3	-1.8
AVF				*e*Pg	Pg	00 30 29.9	-1.9
AVF				*e*Sn	Sn	00 30 54.9	-4.3
AVF				*e*Sg	Sg	00 31 13.2	-2.8
AVF	**Avril sur Loir**	**3.41**	**241**	*e*Pg	Pg	00 30 29.9	-1.9
AVF				*e*Sn	Sn	00 30 54.9	-4.3
AVF				*e*Sg	Sg	00 31 13.2	-2.8
0.3nm,0.2s							
GUNZ	**Gunzen**	**3.54**	**57**	*e*Sg	Sg	00 31 17.8	-2.7
SNR=1.7							

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*IDC **26** 00:29:50.5±0.8, 1207N×14377E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=35.6km s-min=16.7km az=107.0*
*ISCJB **26** 00:29:53.7±0.5, 1200N±007×1438E±0.1, h33km, mb4.0/11, Error ellipse: s-maj=16.7km s-min=8.0km az=49.0*
*NEIC **26** 00:29:55.5±0.5, 1204N×14384E, h35km, mb4.5/2, Error ellipse: s-maj=17.0km s-min=9.1km az=98.0*
ISC 26 00:29:52.4±6.3, 1205N±007×1438E±01, h12km±39km, n16, σ0s79/17, mb4.0/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.83**	**33**	Pn	**Pn**	**00 30 23.5**	**-0.2**
79nm,0.3s,baz=222,slow=5.3,SNR=17							
GUMO				Sn	**Sn**	**00 30 46

WRA	**Warramunga Arr**	**33.14 196**	P	**P**		**00 36 28.4**	**-0.1**
	0.8nm,0.5s,mb3.9,baz=20,slow=9.7,SNR=18						
MDJ	**Mudanjiang**	**34.67 342**	P	**P**		**00 36 41.8**	**0.0**
ASAR	**Alice Springs**	**36.80 195**	P	**P**		**00 37 01.1**	**+0.9**
	0.2nm,0.6s,mb3.1,baz=16,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**43.73 183**	P	**P**		**00 37 56.3**	**-1.2**
	0.4nm,0.3s,mb3.6,baz=346,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**61.90 317**	P	**P**		**00 40 12.2**	**+0.4**
	0.2nm,0.4s,mb3.6,baz=88,slow=8.7,SNR=4.1						
BVAR	**Borovoye Array**	**70.50 322**	P	**P**		**00 41 06.4**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=103,slow=8.1,SNR=6.3						
YKA	**Yellowknife Ar**	**84.68 27**	P	**P**		**00 42 26.6**	**+0.5**
	0.5nm,0.5s,mb3.9,baz=284,slow=5.1,SNR=4.3						
YKA	**Yellowknife Ar**	**84.68 27**	P	**P**		**00 42 26.6**	**+0.5**
NEW	**Newport**	**87.05 41**	P	**P**		**00 42 39.3**	**+1.5**
	1.1nm,0.5s,mb4.4,baz=263,slow=17,SNR=3.6						
ARCES	**ARCESS Array B**	**88.22 342**	P	**P**		**00 42 42.9**	**-0.6**
	5.8nm,1.1s,mb4.7,baz=39,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**92.12 335**	P	**P**		**00 43 00.4**	**-1.3**
	1.0nm,0.8s,mb4.2,baz=163,slow=14,SNR=4.3						

NNC 26 00:30:15.5±3.2, 3773N×6903E, h0^{km}, mpv3.1, 6C-2D, Error ellipse: s-maj=42.4km s-min=26.4km az=85.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.48**	**11**	⇑Pn		Pn	00 31 38.8	+0.3
	0.3nm,0.2s,baz=185,slow=10							
KK31				⇑Pg		Pg	00 31 59.0	-1.6
	1.8nm,0.5s,baz=188,slow=15							
KK31				⇑Sn		Sn	00 32 40.3	-1.8
	1.4nm,0.4s,baz=195,slow=20							
KK31				⇑Lg			00 33 11.2	
	28nm,1.0s,baz=190,slow=29							
TKM2	**Tokmak 2**	**7.21**	**42**	⇓Pn		Pn	00 32 01.7	-0.5
MK31	**Makanchi Array**	**13.34**	**43**	⇓Pn		Pn	00 33 23.1	-3.0
	0.4nm,0.6s,baz=229,slow=13,SNR=8.3							
AKTO	**Aktyubinsk**	**14.94**	**332**	⇑Pn		Pn	00 33 46.2	-1.7
	1.2nm,3.0s							
AKTO				⇑Sn		Sn	00 36 30.9	-3.2
	0.1nm,1.4s							

*IDC **26** 00:40:24.7±4.4, 1298N×125.11E, h0^{km}, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/16, Error ellipse: s-maj=341.0km s-min=23.8km az=64.0*
*MAN **26** 00:40:29.2, 1237N×12368E, h10^{km}, mb3.4, ML4.5, MS8.9*
MAN F INTENSITY III - MASBATE MASBATE.
*ISCJB **26** 00:40:31.1±2.0, 125N±0.1×12378E±008, h33^{km}±20^{km}, mb3.6/4, MS3.2/1, Error ellipse: s-maj=20.0km s-min=11.2km az=38.6*

ISC 26 00:40:31.6±3.9, 1242N±008×12377E±007, h25^{km}±30^{km}, n9, σ0§98/11, mb3.6/4, MS3.2/1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.31**	**230**	⇑*e*P		**Pn**	**00 40 52.9**	**-1.5**
RCP				*e*S		**Sn**	**00 41 10.7**	**-0.3**
PLP	**Palo**	**1.72**	**136**	*e*P		**Pn**	**00 41 00.4**	**+0.6**
PLP				*e*S		**Sn**	**00 41 19.7**	**-1.3**
LLP	**Lapu-Lapu**	**2.10**	**175**	⇑*i*P		**Pn**	**00 41 05.0**	**-0.1**
LLP				*e*S		**Sn**	**00 41 31.5**	**+1.1**
SNPH	**Sibulan**	**3.10**	**190**	*e*P		**Pn**	**00 41 20.0**	**+1.1**
WRA	**Warramunga Arr**	**33.80**	**162**	P		**P**	**00 47 08.2**	**-3.3**
	0.3nm,0.7s,mb3.4,baz=345,slow=9.0,SNR=6.2							
ASAR	**Alice Springs**	**37.20**	**165**	P		**P**	**00 47 41.1**	**+0.4**
	1.1nm,0.8s,mb3.7,baz=345,slow=7.3,SNR=9.0							
CTA	**Charters Tower**	**39.15**	**145**	LR		LR	01 01 36.3	
	comp=Z,35nm,20.8s,MS3.2,baz=218,slow=33							
MKAR	**Makanchi Array**	**48.84**	**323**	P		**P**	**00 49 15.3**	**+0.4**
	0.7nm,0.8s,mb3.8,baz=127,slow=7.7,SNR=7.5							
BRTR	**Keskin Array B**	**82.28**	**309**	P		**P**	**00 52 51.2**	**+0.3**
	0.4nm,0.7s,mb3.5,baz=92,slow=4.9,SNR=3.6							

*BJI **26** 00:41:09.9, 1225N×12389E, h39^{km}, mB4.9, mb4.7, Ms4.4, Msz4.2*
*MAN **26** 00:41:10.2, 1238N×12365E, h26^{km}, mb4.1, ML5.0, MS2.3*
MAN F INTENSITY V - MASBATE MASBATE INTENSITY IV - IROSIN SORSOGON.
*ISCJB **26** 00:41:10.7±0.7, 1232N±003×12381E±004, h38^{km}±6^{km}, mb4.8/84, MS4.2/20, Error ellipse: s-maj=7.2km s-min=4.7km az=120.8*
*MOS **26** 00:41:10.1±1.1, 1229N×12381E, h33^{km}, mb5.0/37, MS4.1/6, Error ellipse: s-maj=12.7km s-min=5.6km az=124.0*
*GCMT **26** 00:41:11.9±0.2, 1242N×12379E, h16^{km}, MW4.9/69, Moment Tensor Solution. s36,c40; s69,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.97±.16; $M_{\theta\theta}$2.22±.10; $M_{\phi\phi}$0.74±.12; $M_{r\theta}$0.27±.29; $M_{\theta\phi}$1.25±.07; $M_{\phi r}$-0.36±.40; Best double couple: M_o2.98600×10^{16} NP1:ϕ_s52.00000°, δ45.00000°, λ-102.00000°. NP2: ϕ_s248.00000°, δ46.00000°, λ-78.00000°. Principal axes: T 2.9350, Plg1.0000°, Azm330.0000°; N 0.0990, Plg8.0000°, Azm60.0000°; P -3.0360, Plg82.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 00:41:11.9±0.2, 1234N×12387E, h35^{km}, mb4.8/30 Error ellipse: s-maj=7.4km s-min=4.2km az=72.0*
NEIC Felt [V PIVS] at Masbate. Felt [IV PIVS] at Irosin, Luzon.
*IDC **26** 00:41:13.4±2.8, 1226N×12372E, h46^{km}±26^{km}, mb4.2/24, mb1 4.4/24, mb1mx4.3/27, mbtmp4.5/24, ML5.2/1, MS3.9/6, Ms1 3.9/6, ms1mx3.6/21, Error ellipse: s-maj=22.4km s-min=10.4km az=70.0*
*SZGRF **26** 00:41:17.9, 1261N×12199E, h33^{km}, mb5.0, Mindoro, Philippine Islands*

ISC 26 00:41:12.5±0.6, 1231N±003×12378E±004, h36^{km}±6^{km}, h34^{km}±1.8^{km}: pP-P, n212, σ0§98/218, mb4.8/84, MS4.2/20, 26C-14D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.26**	**234**	⇑*e*P		**Pn**	**00 41 31.6**	**-1.9**
RCP				*e*S		**Sn**	**00 41 48.8**	**-0.5**
PLP	**Palo**	**1.63**	**134**	*e*P		**Pn**	**00 41 38.7**	**+0.1**
PLP				*e*S		**Sn**	**00 41 59.1**	**+0.7**
LLP	**Lapu-Lapu**	**1.99**	**175**	⇓*i*P		**Pn**	**00 41 43.2**	**-0.3**
LLP				*i* S		**Sn**	**00 42 10.5**	**+3.3**
TBP	**Tagbilaran**	**2.60**	**178**	*e*P		**Pn**	**00 41 52.1**	**+0.1**
SNPH	**Sibulan**	**3.00**	**190**	*e*P		**Pn**	**00 41 48.5**	**-8.9**
TGY	**Tagaytay City**	**3.30**	**303**	⇓*e*P		**Pn**	**00 42 06.6**	**+5.1**
TGY	**Tagaytay City**	**3.30**	**303**	P		**Pn**	**00 42 02.6**	**+1.1**
	233nm,0.3s,baz=140,slow=8.9,SNR=9.1							
DCPH	**Dipolog City**	**3.73**	**187**	*i* P		**Pn**	**00 42 07.5**	**0.0**
DCPH				*e*S		**Sn**	**00 42 49.8**	**-0.4**
NACB	**Ninganchiao**	**11.98**	**350**	*e*Pn		**Pn**	**00 44 00.2**	**-0.5**
QIZ	**Qiongzhong**	**14.99**	**298**	P		**Pn**	**00 44 42.5**	**+0.9**
QIZ				AP		pP	00 44 50.3	-5.6
QIZ				XP		sP	00 44 54.0	-6.5
QIZ				S		**Sn**	**00 47 30.0**	**+3.6**
QIZ				XS		sS	00 47 41.3	-16
QIZ				AMB		AMB		
	comp=Z,29nm,1.8s							
QIZ				LR		LR		
	comp=N,409nm,24.4s							
QIZ				LR		LR		
	comp=E,385nm,24.0s							
QIZ				LR		LR		
	comp=Z,734nm,22.0s							
JOW	**Kunigami**	**15.05**	**16**	LR		LR	00 50 38.6	
	comp=Z,340nm,18.5s,baz=152,slow=37							
KSM	**Kuching**	**17.16**	**232**	*e*Pn		**Pn**	**00 45 12.3**	**+3.1**
SSE	**Sheshan**	**18.85**	**353**	P		**Pn**	**00 45 28.5**	**-1.5**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s							
SSE				AMB		AMB		
	comp=Z,194nm,7.1s							
SSE				LR		LR		
	comp=N,290nm,21.1s							
SSE				LR		LR		
	comp=E,101nm,22.4s							
SSE				LR		LR		
	comp=Z,153nm,17.2s							
SSE	**Sheshan**	**18.85**	**353**	P		**Pn**	**00 45 28.6**	**-1.4**
	comp=Z,30nm,0.7s							
WHN	**Wuhan**	**20.14**	**336**	*e*P		**P**	**00 45 44.0**	**+0.7**
NJ2	**Nanjing**	**20.17**	**348**	*e*P		**P**	**00 45 45.0**	**+1.4**
NJ2				AP			00 45 51.0	
NJ2				XP		sP	00 45 57.0	-0.7
NJ2				PP			00 46 03.5	
NJ2				S		**S**	**00 49 22.0**	**-6.0**
NJ2				AMB		AMB		
	comp=Z,30nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,100nm,4.4s							
NJ2				LR		LR		
	comp=N,580nm,11.0s							
NJ2				LR		LR		
	comp=E,450nm,16.8s							
GUMO	**Guam**	**20.59**	**84**	LR		LR	00 51 55.1	
	comp=E,207nm,21.3s,MS3.5,baz=233,slow=31							
GYA	**Guiyang**	**21.38**	**314**	⇑*i*P		**P**	**00 46 01.5**	**+4.7**
GYA				AP			00 46 11.0	
GYA				XP		sP	00 46 15.3	+4.4
GYA				PPP			00 46 36.0	
GYA				PCP		PcP	00 50 04.5	+4.9
GYA				XS		sS	00 50 08.3	+1.0
GYA				SS			00 50 28.5	
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.5							
GYA				AMB		AMB		
	comp=Z,120nm,4.3s							
GYA				LR		LR		
	comp=N,1μm,14.9s,MS4.6							
GYA				LR		LR		
	comp=E,1μm,14.6s,MS4.6							
GYA				LR		LR		
	comp=Z,1μm,15.0s,MS4.4							
KMI	**Kunming**	**23.61**	**306**	P		**P**	**00 46 21.0**	**+0.9**
KMI				AP			00 46 30.5	
KMI				XP		sP	00 46 35.3	+0.7
KMI				PP			00 46 54.5	
KMI				PPP			00 47 04.8	
KMI				S		**S**	**00 50 30.3**	**-1.6**
KMI				XS		sS	00 50 47.0	-1.8
KMI				SS			00 51 20.5	
KMI				SSS			00 51 36.3	
KMI				AMB		AMB		
	comp=Z,21nm,1.6s,mb4.3							
KMI				AMB		AMB		
	comp=Z,298nm,5.7s							
KMI				LR		LR		
	comp=N,281nm,15.5s,MS4.1							
KMI				LR		LR		
	comp=E,319nm,12.7s,MS4.1							
KMI				LR		LR		
	comp=Z,319nm,13.9s,MS3.9							
KMI	**Kunming**	**23.61**	**306**	P		**P**	**00 46 21.1**	**+1.0**
KMI				*PP			00 46 30.5	
KMI				*SP		sP	00 46 35.2	+0.6
KMI							00 46 54.4	
KMI				PPP			00 47 04.8	
KMI				S		**S**	**00 50 30.3**	**-1.6**
KMI				*SS		sS	00 50 46.9	-1.9
KMI				SS			00 51 20.4	
KMI				SSS			00 51 36.2	
KMI				pmax		pmax		
	comp=Z,21nm,1.6s,mb4.3							
KMI				MLR		MLR		
	comp=Z,320nm,13.9s,MS3.9							
KMI	**Kunming**	**23.61**	**306**	P		**P**	**00 46 21.1**	**+1.0**
	comp=Z,21nm,1.6s,mb4.3							
KMI				pP			00 46 30.5	
KMI				sP		sP	00 46 35.2	+0.6
KMI				PP			00 46 54.4	
KMI				PPP			00 47 04.8	
KMI				S		**S**	**00 50 30.3**	**-1.6**
KMI				sS		sS	00 50 46.9	-1.9
KMI				SS			00 51 20.4	
KMI				SSS			00 51 36.2	
KMI				LR		LR		
	comp=Z,320nm,13.9s,MS3.9							
KULM	**Kulim**	**23.89**	**255**	*e*P		**P**	**00 46 23.2**	**+0.6**
CHTO	**Chiang Mai**	**24.77**	**288**	*e*P		**P**	**00 46 29.1**	**-1.5**
	comp=Z,5.3nm,1.0s,mb4.0							
JHJ	**Hachijo jima 2**	**25.36**	**33**	LR		LR	00 56 00.6	
	comp=Z,374nm,18.6s,MS3.9,baz=173,slow=35							
XAN	**Xi'an**	**25.52**	**330**	P		**P**	**00 46 36.3**	**-1.2**
XAN				AMB		AMB		
	comp=Z,19nm,1.1s,mb4.5							
CD2	**Chengdu**	**26.17**	**318**	*e*P		**P**	**00 46 43.0**	**-0.4**
CD2				AP		pP	00 46 52.0	-1.6
CD2				XP		sP	00 46 56.3	-1.7
CD2				PP			00 47 26.5	
CD2				S		**S**	**00 51 09.5**	**-3.3**
CD2				XS		sS	00 51 26.5	-3.3
CD2				SS			00 52 17.3	
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.7							
CD2				AMB		AMB		
	comp=Z,290nm,6.1s							
CD2				LR		LR		
	comp=N,610nm,12.0s,MS4.5							
CD2				LR		LR		
	comp=E,620nm,12.6s,MS4.5							
CD2				LR		LR		
	comp=Z,590nm,11.8s,MS4.3							
KAKA	**Kakadu**	**26.30**	**161**	*e*P		**P**	**00 46 44.3**	**-0.2**
	comp=Z,30nm,0.7s,mb4.9							
PSI	**Prapat**	**26.36**	**251**	P		**P**	**00 46 45.0**	**-0.1**
	comp=Z,4.7nm,0.7s,mb4.2,baz=46,slow=3.9,SNR=8.0							
MJAR	**Matsushiro Arr**	**27.40**	**26**	P		**P**	**00 46 55.8**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=208,slow=7.4,SNR=4.4							
MJAR				PcP		PcP	00 50 13.0	+0.4
	comp=Z,0.6nm,0.3s,baz=182,slow=0.6,SNR=3.7							
MJAR				LR		LR	00 56 14.1	
	comp=Z,198nm,19.4s,MS3.7,baz=205,slow=33							
MJAR	**Matsushiro Arr**	**27.40**	**26**	P		**P**	**00 46 55.8**	**+1.4**
MJAR							00 50 13.0	
MJAR	**Matsushiro Arr**	**27.40**	**26**	P		**P**	**00 46 55.8**	**+1.4**
MJAR				PcP		PcP	00 50 13.0	+0.3
MJAR				LR		LR	00 56 14.1	
BJT	**Baijiatuau**	**28.41**	**348**	*e*P		**P**	**00 47 02.3**	**-1.1**
BJT				pmax		pmax		
	comp=Z,6.0nm,0.5s							
BJT	**Baijiatuau**	**28.41**	**348**	*e*P		**P**	**00 47 02.3**	**-1.1**
	comp=Z,5.8nm,0.5s,mb4.5							
BJI	**Beijing**	**28.43**	**348**	*e*P		**P**	**00 47 06.5**	**+2.9**
BJI				XP		sP	00 47 20.8	+2.5
BJI				S		**S**	**00 51 50.5**	**+2.2**
BJI				XS		sS	00 52 10.0	+4.6
BJI				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.4							
BJI				LR		LR		
	comp=N,312nm,15.2s,MS4.1							
BJI				LR		LR		
	comp=E,195nm,16.6s,MS4.1							
BJI				LR		LR		
	comp=Z,258nm,26.3s							
BJI	**Beijing**	**28.43**	**348**	*e*P		**P**	**00 47 06.6**	**+3.0**
BJI				*SP		sP	00 47 20.7	+2.4
BJI				S		**S**	**00 51 50.6**	**+2.3**
BJI				*SS		sS	00 52 10.0	+4.6
BJI				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.4							
BJI				MLR		MLR		
	comp=Z,260nm,26.3s,MS3.7							
BJI	**Beijing**	**28.43**	**348**	*e*P		**P**	**00 47 06.6**	**+3.0**
	comp=Z,12nm,1.2s,mb4.4							
BJI				sP		sP	00 47 20.7	+2.4
BJI				S		**S**	**00 51 50.6**	**+2.3**
BJI				sS		sS	00 52 10.0	+4.6
BJI				LR		LR		
	comp=Z,260nm,26.3s,MS3.7							
SNY	**Shenyang**	**29.41**	**360**	⇑P		**P**	**00 47 12.5**	**+0.2**
SNY				AMB		AMB		
	comp=Z,15nm,1.1s,mb4.6							
SNY				AMB		AMB		
	comp=Z,104nm,4.6s							
SNY				LR		LR		
	comp=N,360nm,12.9s							
SNY				LR		LR		
	comp=E,291nm,19.2s							
SNY				LR		LR		
	comp=Z,283nm,18.6s							
LZH	**Lanzhou**	**29.73**	**326**	*e*P		**P**	**00 47 16.0**	**+0.8**
LZH				AP		pP	00 47 25.0	-0.5
LZH				XP		sP	00 47 30.0	+0.1
LZH				PCP		PcP	00 50 18.8	+0.3
LZH				*e*S		**S**	**00 52 07.3**	**-1.5**
LZH				SS		SS	00 53 42.0	-34
LZH				AMB		AMB		
	comp=Z,35nm,1.5s,mb4.9							
LZH				AMB		AMB		
	comp=Z,200nm,5.6s							
LZH				LR		LR		
	comp=N,2μm,14.8s							
LZH				LR		LR		
	comp=Z,2μm,15.4s,MS4.8							
LZH	**Lanzhou**	**29.73**	**326**	*e*P		**P**	**00 47 16.0**	**+0.8**
LZH				*PP		pP	00 47 25.0	-0.5
LZH				*SP		sP	00 47 30.0	+0.1
LZH							00 48 06.0	
LZH							00 50 18.8	
LZH				*e*S		**S**	**00 52 07.2**	**-1.6**
LZH				*SS		sS	00 52 21.0	-4.9
LZH				SS		SS	00 53 42.0	-34
LZH				pmax		pmax		
	comp=Z,35nm,1.5s,mb4.9							
LZH				MLR		MLR		
	comp=Z,2μm,15.4s,MS4.8							
LZH	**Lanzhou**	**29.73**	**326**	*e*P		**P**	**00 47 16.0**	**+0.8**
	comp=Z,35nm,1.5s,mb4.9							
LZH				pP		pP	00 47 25.0	-0.5
LZH				sP		sP	00 47 30.0	+0.1
LZH				PP		PP	00 48 06.0	-17
LZH				PcP		PcP	00 50 18.8	+0.3
LZH				*e*S		**S**	**00 52 07.2**	**-1.6**
LZH				sS		sS	00 52 21.0	-4.9
LZH				SS		SS	00 53 42.0	-34
LZH				LR		LR		
	comp=Z,2μm,15.4s,MS4.8							
FITZ	**Fitzroy Crossi**	**30.27**	**176**	*e*P		**P**	**00 47 19.7**	**-0.3**
	comp=Z,13nm,1.0s,mb4.6							
FITZ	**Fitzroy Crossi**	**30.27**	**176**	P		**P**	**00 47 19.6**	**-0.4**
	comp=Z,8.8nm,1.0s,mb4.5,baz=356,slow=8.7,SNR=12							
HHC	**Hu-ho-hao-te**	**30.39**	**341**	*e*P		**P**	**00 47 17.0**	**-4.0**
HHC				PP		PP	00 48 26.3	-3.6
HHC				S		**S**	**00 52 16.5**	**-2.6**
HHC				AMB		AMB		
	comp=Z,22nm,0.4s,mb5.2							
HHC				AMB		AMB		
	comp=Z,103nm,3.9s							
HHC				LR		LR		
	comp=N,330nm,16.9s,MS4.2							
HHC				LR		LR		
	comp=E,285nm,14.3s,MS4.2							
HHC				LR		LR		
	comp=Z,356nm,16.7s,MS4.1							
CN2	**Changchun**	**31.41**	**2**	*e*P		**P**	**00 47 34.0**	**+4.0**
CN2				*e*XP		sP	00 47 47.5	+2.8
CN2				*e*S		**S**	**00 52 39.3**	**+4.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,200nm,15.0s,MS4.1							
CN2				LR		LR		
	comp=E,200nm,15.0s,MS4.1							
CN2				LR		LR		
	comp=Z,400nm,17.0s,MS4.2							
PMG	**Port Moresby**	**31.70**	**132**	*e*P		**P**	**00 47 31.3**	**-1.3**
MDJ	**Mudanjiang**	**32.58**	**8**	P		**P**	**00 47 40.5**	**+0.2**
MDJ				AP		pP	00 47 49.3	-1.3
MDJ				XP		sP	00 47 53.5	-1.5
MDJ				PCP		PcP	00 50 25.8	-0.3
MDJ				S		**S**	**00 52 55.0**	**+1.7**
MDJ				XS		sS	00 53 09.5	-1.0
MDJ				PCS		PcS	00 54 11.0	-0.2
MDJ				AMB		AMB		
	comp=Z,19nm,1.1s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,66nm,4.8s							
MDJ				LR		LR		
	comp=N,126nm,14.8s,MS4.0							
MDJ				LR		LR		
	comp=E,233nm,15.8s,MS4.0							
MDJ				LR		LR		
	comp=Z,199nm,11.4s,MS4.0							
MDJ	**Mudanjiang**	**32.58**	**8**	P		**P**	**00 47 39.1**	**-1.1**
MBWA	**Marble Bar**	**33.50**	**187**	*e*P		**P**	**00 47 48.1**	**-0.1**
WRAB	**Tennant Creek**	**33.69**	**162**	⇑*e*P		**P**	**00 47 49.9**	**0.0**
WRAB	**Tennant Creek**	**33.69**	**162**	*e*P		**P**	**00 47 49.5**	**-0.4**
	comp=Z,8.0nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**33.69**	**162**	P		**P**	**00 47 49.4**	**-0.6**
	comp=Z,5.7nm,0.7s,mb4.6,baz=338,slow=9.7,SNR=53							
WRA				PcP		PcP	00 50 28.7	-0.4
	comp=Z,1.8nm,0.9s,baz=348,slow=3.5,SNR=4.6							
WB2	**Warramunga Arr**	**33.69**	**162**	*e*P		**P**	**00 47 49.5**	**-0.5**
WB2	**Warramunga Arr**	**33.69**	**162**	*e*P		**P**	**00 47 49.6**	**-0.4**
WB2				*e*PP		PP	00 49 06.8	+0.2
GTA	**Gaotai**	**34.33**	**326**	*e*P		**P**	**00 47 56.3**	**+0.8**
GTA				AP		pP	00 48 05.8	-0.1
GTA				XP		sP	00 48 09.8	-0.5
GTA				PP		PP	00 49 11.5	-2.2
GTA				S		**S**	**00 53 20.5**	**0.0**
GTA				XS		sS	00 53 36.5	-1.2
GTA				SS		SS	00 55 32.3	-18
GTA				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.7							
GTA				AMB		AMB		
	comp=Z,60nm,4.9s							
GTA				LR		LR		
	comp=N,283nm,17.5s,MS4.3							
GTA				LR		LR		
	comp=E,407nm,16.0s,MS4.3							
GTA				LR		LR		
	comp=Z,513nm,19.8s,MS4.3							
LSA	**Lhasa**	**34.87**	**305**	P		**P**	**00 48 02.0**	**+1.9**
LSA	**Lhasa**	**34.87**	**305**	*e*P		**P**	**00 48 01.6**	**+1.4**
HIA	**Hailar**	**37.00**	**356**	⇑*e*P		**P**	**00 48 18.3**	**-0.1**
AS31	**Alice Springs**	**37.10**	**165**	*e*P		**P**	**00 48 19.7**	**+0.4**
ASAR	**Alice Springs**	**37.10**	**165**	P		**P**	**00 48 19.5**	**+0.2**
	comp=Z,9.9nm,0.6s,mb4.8,baz=350,slow=7.5,SNR=57							
ASPA	**Alice Springs**	**37.10**	**165**	*e*P		**P**	**00 48 19.7**	**+0.4**
KLR	**Kul'dur**	**37.40**	**9**	*e*P		**P**	**00 48 18.0**	**-3.8**
ULN	**Ulaanbaatar**	**38.11**	**342**	⇓*e*P		**P**	**00 48 28.0**	**+0.2**
ULN	**Ulaanbaatar**	**38.11**	**342**	*e*P		**P**	**00 48 27.9**	**+0.1**
SONM	**Songino Array**	**38.29**	**341**	P		**P**	**00 48 29.0**	**-0.3**
	comp=Z,4.6nm,1.1s,mb4.1,baz=156,slow=9.4,SNR=16							
SONM				PcP		PcP	00 50 42.7	-0.1
	comp=Z,0.9nm,0.8s,baz=161,slow=4.5,SNR=4.3							
JIRN	**Jiri**	**38.31**	**299**	*e*P		**P**	**00 48 29.3**	**-0.2**
	comp=Z,58nm,1.2s,mb5.2							
GUN	**Gumba**	**38.64**	**299**	*e*P		**P**	**00 48 32.0**	**-0.3**
	comp=Z,66nm,1.0s,mb5.3							
PKI	**Pulchoki**	**38.95**	**299**	*e*P		**P**	**00 48 34.0**	**-0.9**
	comp=Z,66nm,1.6s,mb5.1							
KKN	**Kakani**	**39.12**	**299**	*e*P		**P**	**00 48 35.5**	**-0.8**
	comp=Z,37nm,1.1s,mb5.0							
DMN	**Daman**	**39.22**	**299**	*e*P		**P**	**00 48 36.5**	**-0.6**
	comp=Z,36nm,1.0s,mb5.1							
GKN	**Gorkha**	**39.73**	**299**	*e*P		**P**	**00 48 40.2**	**-1.1**
	comp=Z,35nm,1.1s,mb5.0							
KOLN	**Koldanda**	**40.55**	**298**	*e*P		**P**	**00 48 47.5**	**-0.7**
	comp=Z,38nm,1.1s,mb4.9							
FORT	**Forrest**

STKA Stephens Creek 47.13 159 P **P** **00 49 41.2 +0.1**
comp=Z,7.1nm,0.6s,mb4.8,baz=337,slow=6.5,SNR=25
STKA Stephens Creek 47.13 159 *e*P **P** **00 49 42.0 +0.9**
MK31 Makanchi Array 48.94 323 *i* P **P** **00 49 55.0 0.0**
MK31 pmax pmax
comp=Z,14nm,1.1s,mb4.9
MK31 Makanchi Array 48.94 323 *e*P **P** **00 49 55.3 +0.3**
MK31 *e*PcP PcP 00 51 19.1 +0.3
MKAR Makanchi Array 48.94 323 P **P** **00 49 55.2 +0.2**
comp=Z,4.8nm,0.8s,mb4.6,baz=124,slow=8.4,SNR=36
MKAR PcP PcP 00 51 19.1 +0.3
comp=Z,3.5nm,0.7s,baz=105,slow=4.0,SNR=7.8
MKAR Makanchi Array 48.94 323 *i* P **P** **00 49 55.0 0.0**
MKAR pmax pmax
comp=Z,15nm,1.1s
PET Petropavlovsk 49.22 27 *e*P **P** **00 49 55.3 -1.8**
PET *e* 00 56 56.1
PET *e* 01 00 22.0
PET MLR MLR
comp=Z,100nm,20.0s,MS3.8
YAK Yakutsk 49.82 4⇑ *e*P **P** **00 50 01.3 -0.4**
YAK pmax pmax
comp=Z,16nm,0.6s,mb5.2
YAK Yakutsk 49.82 4 P **P** **00 49 59.6 -2.2**
TKM2 Tokmak 2 51.51 316 *i* P **P** **00 50 14.8 +0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZAL Zalesovo 51.68 332 P **P** **00 50 15.6 -0.1**
comp=Z,2.1nm,0.9s,mb4.1,baz=10,slow=4.9,SNR=8.7
ZAL PcP PcP 00 51 28.2 -0.7
comp=Z,1.1nm,0.4s,baz=23,slow=6.2,SNR=3.1
KBK Karagaybulak 51.86 315 P **P** **00 50 18.6 +1.5**
SNR=7.0
UCH Uchtor 52.02 314 P **P** **00 50 20.1 +1.8**
SNR=16
AAK Ala-Archa 52.17 315⇑ *e*P **P** **00 50 19.5 +0.2**
AAK pmax pmax
comp=Z,12nm,2.4s,mb4.4
AAK MLR MLR
comp=Z,300nm,25.0s,MS4.2
AAK Ala-Archa 52.17 315 *e*P **P** **00 50 20.3 +1.0**
USP Ospenovka 52.39 316 P **P** **00 50 21.5 +0.5**
SNR=7.8
AML Almayashu 52.56 314 P **P** **00 50 24.1 +1.8**
SNR=6.8
EKS2 Erkin-Say 52.67 315 P **P** **00 50 24.0 +0.9**
SNR=6.9
CNB Canberra Magne 53.20 154 *e*P **P** **00 50 28.3 +1.3**
comp=Z,20nm,0.8s,mb5.1
KK31 Karatay Array 55.09 314 *i* P **P** **00 50 40.2 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KKAR Karatay Array 55.09 314 P **P** **00 50 40.2 -0.6**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
VOSK Vostochnaya 58.16 325 P **P** **00 51 00.0 -2.6**
VOSK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BVA0 Borovoye Array 58.61 325 *i* P **P** **00 51 05.0 -0.7**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVAR Borovoye Array 58.61 325 P **P** **00 51 05.2 -0.5**
comp=Z,2.6nm,0.9s,mb4.3,baz=107,slow=10,SNR=14
BVAR PcP PcP 00 51 54.3 -1.3
comp=Z,5.6nm,0.7s,baz=116,slow=4.0,SNR=14
BRVK Borovoye 58.68 325 *e*P **P** **00 51 05.6 -0.6**
BRVK *e* 00 53 14.7
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BRVK Borovoye 58.68 325 *e*P **P** **00 51 05.6 -0.7**
comp=Z,4.9nm,0.7s,mb4.7
BRVK *e*PP PP 00 53 14.7 -1.5
CHKZ Chkalovo 58.75 326 *i* P **P** **00 51 06.2 -0.5**
CHKZ pmax pmax
comp=Z,15nm,2.4s,mb4.6
AB31 Akbulak array 63.75 319 P **P** **00 51 38.7 -1.8**
AB31 pmax pmax
comp=Z,12nm,1.2s,mb4.8
AKTK Aktyubinsk 65.20 320 P **P** **00 51 49.6 -0.4**
AKTO Aktyubinsk 65.20 320 P **P** **00 51 49.6 -0.4**
comp=Z,3.3nm,1.0s,mb4.3,baz=100,slow=7.3,SNR=10
AKTO Aktyubinsk 65.20 320 *i* P **P** **00 51 48.3 -1.7**
AKTO pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
ARU Arti 66.19 327 *i*P **P** **00 51 55.2 -1.2**
ARU *e* 00 52 23.8
ARU *e* 00 54 17.6
ARU *e*PPP 00 55 54.4
ARU *e*S S 01 00 42.9 +0.2
ARU *e*SS SS 01 04 56.8 -2.1
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ARU Arti 66.19 327 P **P** **00 51 55.5 -0.9**
ORR Orenburg 67.44 321 P **P** **00 52 04.6 +0.3**
ORR pmax pmax
comp=Z,20nm,1.6s,mb4.9
GNI Garni 73.83 308 P **P** **00 52 45.0 +1.7**
comp=Z,3.4nm,0.7s,mb4.4,baz=19,slow=8.3,SNR=8.8
GNI Garni 73.83 308 *d* *i*P **P** **00 52 44.5 +1.2**
GNI pmax pmax
comp=Z,30nm,1.6s
GNI Garni 73.83 308 *e*P **P** **00 52 45.0 +1.7**
comp=Z,48nm,1.6s,mb5.2
GNI *e*PP PP 00 55 26.3 -1.9
ZEI Tsey 74.35 311 *e*P **P** **00 52 46.8 +0.5**
ZEI *e* 00 55 27.3
ZEI pmax pmax
comp=Z,16nm,0.7s,mb5.1
GOF Gofitskoye 74.88 314 *e*P **P** **00 52 52.3 +2.9**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV Kislovodsk 75.18 312 P **P** **00 52 51.8 +0.7**
comp=Z,226nm,0.7s,SNR=6.7
KIV Kislovodsk 75.18 312 *d* *i*P **P** **00 52 51.2 +0.1**
KIV pmax pmax
comp=Z,42nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.2
KIV Kislovodsk 75.18 312 *e*P **P** **00 52 51.8 +0.7**
KIV *e*PP PP 00 55 32.7 -6.9
KDAK Kodiak Island 76.29 33 *e*P **P** **00 53 01.4 +3.9**
SOC Sochi 77.35 312 *e*P **P** **00 53 01.7 -1.7**
SOC *e* 00 55 55.5
SOC *e*S S 01 02 49.7 -1.4
SOC *e*SSS 01 11 07.8
SOC pmax pmax
comp=Z,16nm,0.8s,mb5.0
SOC MLR MLR
comp=Z,171nm,17.0s,MS4.4
MCK McKinley 77.86 27 *e*P **P** **00 53 06.3 +0.1**
MCK pmax pmax
comp=Z,12nm,1.0s,mb4.8
MCK McKinley 77.86 27 *e*P **P** **00 53 06.3 +0.1**
comp=Z,12nm,1.0s,mb4.8
PMR Palmer 77.89 29 *e*P **P** **00 53 05.0 -1.4**
PMR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
PMR Palmer 77.89 29 *e*P **P** **00 53 05.0 -1.4**
comp=Z,5.1nm,0.5s,mb4.7
COLA College 78.26 26 *e*P **P** **00 53 07.8 -0.7**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 78.26 26 *e*P **P** **00 53 07.8 -0.7**
comp=Z,2.8nm,0.6s,mb4.4
OBN Obninsk 78.42 324⇓ *e*P **P** **00 53 09.3 -0.1**
OBN *e* 00 56 08.1
OBN *e*S S 01 03 07.7 +5.1
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.1
APA Apatity 78.86 337⇓ *i*P **P** **00 53 07.3 -4.5**
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3
ANN Anapa 78.87 314 *e*P **P** **00 53 10.2 -1.6**
ANN *e*S S 01 03 05.4 -2.0
ANN pmax pmax
comp=Z,60nm,1.5s,mb5.3
ASF Jabal al Asfar 80.95 301 P **P** **00 53 24.8 +1.7**
comp=Z,7.4nm,1.1s,mb4.5,baz=307,slow=3.1,SNR=9.2
SIM Simferopol' 81.19 314 *de*P **P** **00 53 24.3 -0.1**
SIM pmax pmax
comp=Z,20nm,0.7s,mb5.2
DAWY Dawson 82.00 26 P **P** **00 53 29.2 +0.6**
BRTR Keskin Array B 82.36 309 P **P** **00 53 30.2 -0.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=107,slow=4.0,SNR=17
FINES FINESS Array B 82.95 331 P **P** **00 53 32.4 -1.2**
comp=Z,3.2nm,1.0s,mb4.3,baz=93,slow=9.7,SNR=3.6
FINES FINESS Array B 82.95 331 *i* P **P** **00 53 33.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,1.0s
ANTO Ankara 82.98 309⇓ *i*P **P** **00 53 34.3 +0.6**
ANTO Ankara 82.98 309 ⇓P **P** **00 53 34.4 +0.6**
EIL Elat 83.01 299 *e*P **P** **00 53 34.7 +0.8**
INK Inuvik 83.29 21 P **P** **00 53 35.2 -0.2**
comp=Z,9.5nm,1.0s,mb4.8,baz=289,slow=6.6,SNR=10
INK Inuvik 83.29 21 *e*P **P** **00 53 35.6 +0.3**
comp=Z,484nm,1.1s
CSS Prodhromos 83.43 304 *e*P **P** **00 53 36.7 +0.6**
AKASG Malin Array Be 83.45 320 P **P** **00 53 35.0 -1.1**
comp=Z,0.3nm,0.3s,mb3.8,baz=69,slow=4.7,SNR=9.1
AKASG Malin Array Be 83.45 320 *i* P **P** **00 53 36.2 0.0**
ISP Isparta 85.11 308 *e*P **P** **00 53 44.0 -0.6**
ISP pmax pmax
comp=Z,20nm,1.0s,mb5.2
ISP Isparta 85.11 308 *e*P **P** **00 53 44.0 -0.6**
comp=Z,20nm,1.0s,mb5.2
TIRR Tirgusor 85.28 314⇑ *i*P **P** **00 53 45.5 +0.1**
TIRR Tirgusor 85.28 314 ⇑P **P** **00 53 45.5 +0.1**
PLOR Plostina 86.18 316⇓ *i*P **P** **00 53 50.7 +0.8**
SUW Suwalki 86.28 324 *e*P **P** **00 53 50.5 +0.1**
BURAR Bucovina Array 86.70 318⇓ *i*P **P** **00 53 53.0 +0.5**
BURAR Bucovina Array 86.70 318 ⇓P **P** **00 53 53.0 +0.5**
MLR Muntele Rosu 86.74 316 P **P** **00 53 53.2 +0.5**
comp=Z,6.2nm,0.9s,mb4.8,baz=302,slow=5.6,SNR=7.4
MLR Muntele Rosu 86.74 316⇑ *i*P **P** **00 53 53.2 +0.5**
MLR Muntele Rosu 86.74 316 ⇑P **P** **00 53 53.2 +0.5**
KMBO Kilima Mbogo 86.85 268 P **P** **00 53 54.3 +1.1**
comp=Z,2.8nm,0.9s,mb4.5,baz=45,slow=8.5,SNR=10
KMBO LR LR 01 33 02.0
comp=Z,78nm,18.2s,MS4.2,baz=87,slow=36
KMBO Kilima Mbogo 86.85 268 *e*P **P** **00 53 55.0 +1.8**
KMBO pmax pmax
comp=Z,10.0nm,1.4s
KMBO Kilima Mbogo 86.85 268 *e*P **P** **00 53 55.0 +1.8**
comp=Z,10nm,1.4s,mb4.9
KWP Kalwaria 87.77 320 *e*P **P** **00 53 57.4 -0.2**
KOLS Kolonicke sedl 88.25 320 *e*P **P** **00 54 00.3 +0.4**
UZH Uzhgorod 88.32 319 *e*P **P** **00 53 56.8 -3.4**
UZH pmax pmax
comp=Z,41nm,1.0s,mb5.6
DRGR 88.57 318⇑ *i*P **P** **00 54 01.6 +0.2**
DRGR 88.57 318 ⇑P **P** **00 54 01.6 +0.2**
STHS Stebnicka Huta 88.75 320 *e*P **P** **00 54 03.8 +1.5**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
STHS Stebnicka Huta 88.75 320 *e*P **P** **00 54 03.8 +1.5**
comp=Z,5.2nm,1.0s,mb4.8
CRVS Cervenica-Dubn 88.77 320 *e*P **P** **00 54 03.2 +0.9**
NIE Niedzica 89.33 321 *e*P **P** **00 54 05.9 +0.9**
SANT Santorini 89.38 307 *e*P **P** **00 54 04.0 -1.3**
KECS Kecovo 89.51 320 *e*P **P** **00 54 06.0 +0.2**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
KECS Kecovo 89.51 320 *e*P **P** **00 54 06.0 +0.2**
comp=Z,3.4nm,1.0s,mb4.6
BZS Buzias 89.64 317⇑ *i*P **P** **00 54 06.0 -0.4**
NOA NORSAR Array B 89.86 333 P **P** **00 54 07.3 -0.1**
comp=Z,0.5nm,0.8s,mb3.9,baz=207,slow=19,SNR=3.0
NOA NORSAR Array B 89.86 333 P **P** **00 54 07.3 -0.1**
PSZ Piszkesteto 90.06 319 *e*P **P** **00 54 08.4 0.0**
PSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
PSZ Piszkesteto 90.06 319 *e*P **P** **00 54 08.4 0.0**
comp=Z,5.8nm,1.0s,mb4.9
VYHS Vyhne 90.55 320 *e*P **P** **00 54 11.0 +0.3**
VYHS pmax pmax
comp=Z,7.0nm,1.7s,mb4.7
VYHS Vyhne 90.55 320 *e*P **P** **00 54 11.0 +0.3**
comp=Z,7.3nm,1.7s,mb4.7
PKSM Moragy 91.42 318⇑ *i*P **P** **00 54 14.7 0.0**
PKSM Moragy 91.42 318 ⇑P **P** **00 54 14.7 -0.1**
VNDA Vanda 92.26 172 P **P** **00 54 16.1 -2.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=333,slow=5.4,SNR=5.7
YKA Yellowknife Ar 92.88 23 P **P** **00 54 21.8 +0.3**
comp=Z,4.1nm,0.9s,mb4.9,baz=300,slow=4.5,SNR=9.2
YKA Yellowknife Ar 92.88 23⇑ *e*P **P** **00 54 21.7 +0.2**
KHC Kasperske Hory 93.56 322⇑ *e*P **P** **00 54 24.5 -0.1**
GERES GERESS Array B 93.59 322 P **P** **00 54 25.0 +0.2**
comp=Z,1.3nm,0.8s,mb4.4,baz=70,slow=4.4,SNR=12
GERES LR LR 01 37 40.6
comp=Z,77nm,19.1s,MS4.2,baz=261,slow=36
MOA Molln 93.63 320⇑ *i*P **P** **00 54 25.5 +0.6**
comp=Z,12nm,0.9s,mb5.3
KBA Koelnbreinsper 94.51 320⇑ *i*P **P** **00 54 28.9 -0.1**
comp=Z,8.6nm,1.4s,mb5.0
KBA Koelnbreinsper 94.51 320⇑ *i*P **P** **00 54 28.9 -0.1**
KBA pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
KBA Koelnbreinsper 94.51 320⇑ *i*P **P** **00 54 28.9 -0.1**
comp=Z,8.6nm,1.4s,mb5.0
GRA1 Grafenberg Arr 94.73 323 *e*P **P** **00 54 29.6 -0.4**
comp=Z,5.0nm,0.9s,mb4.9
GRF Grafenberg Arr 94.73 323 *e*P **P** **00 54 29.6 -0.4**
comp=Z,5.0nm,0.9s,mb4.9
GRF Grafenberg Arr 94.73 323 *e*P **P** **00 54 29.6 -0.4**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
GRF Grafenberg Arr 94.73 323 *e*P **P** **00 54 29.6 -0.4**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
WTTA Wattenberg 95.50 321⇑ *i*P **P** **00 54 33.5 0.0**
comp=Z,16nm,1.2s,mb5.3
WTTA Wattenberg 95.50 321⇑ *i*P **P** **00 54 33.5 0.0**
WTTA pmax pmax
comp=Z,16nm,1.2s,mb5.3
SQTA Sankt Quirin 95.78 321⇑ *i*P **P** **00 54 34.8 0.0**
comp=Z,7.9nm,1.1s,mb5.1
SQTA Sankt Quirin 95.78 321⇑ *i*P **P** **00 54 34.8 0.0**
SQTA pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
DCID1 Drake Creek 105.19 38 *e*Pdif Pdif 00 55 14.8 -2.0
MAIT Maitri 108.75 199 *e*PKP 00 59 48.6
TORD Torodi Ar. Bea 117.25 292 PKP PKPdf 00 59 53.5 -0.3
comp=Z,0.4nm,0.6s,baz=22,slow=0.8,SNR=5.8
TORD PP PP 01 01 05.8 +1.1
comp=Z,0.9nm,0.9s,baz=35,slow=5.3,SNR=3.7
WMOK Wichita Mounta 118.21 39 PKIKP PKPdf 00 59 55.9 +0.3
TXAR Lajitas Array 118.28 47 PKP PKPdf 00 59 56.9 +1.1
comp=Z,0.8nm,0.8s,baz=278,slow=1.7,SNR=9.2
CPD Cerro la Pandu 148.36 18 *e*PKP2 PKPab 01 00 56.3 -1.8
MTP Monte Pirata 148.41 17 *e*PKPab PKPab 01 00 56.3 -2.0
SDV Santo Domingo 154.53 35 *e*PKPdf PKPdf 01 01 02.3 +1.5
CPUP Villa Florida 166.01 176 PKP PKPdf 01 01 13.6 +0.2
comp=Z,0.6nm,0.5s,baz=61,slow=8.4,SNR=3.8
LPAZ La Paz 167.79 110 PKP PKPdf 01 01 17.1 +2.3
comp=Z,3.6nm,0.9s,baz=36,slow=1.5,SNR=17
LPAZ La Paz 167.79 110 *e*PKPdf PKPdf 01 01 17.2 +2.5
SIV San Ignacio 174.03 128 PKP PKPdf 01 01 18.4 +0.4
comp=Z,3.3nm,0.9s,baz=168,slow=1.7,SNR=13

*IDC **26** 00:43:47.6±0.8, 1245N×12384E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, Error ellipse: s-maj=57.5km s-min=19.1km az=67.0*
*ISCJB **26** 00:43:51.7±0.7, 1237N±004×12377E±006, h44km±7km, mb4.3/14, Error ellipse: s-maj=9.7km s-min=6.3km az=7.5*
*MAN **26** 00:43:51.2, 1234N×12379E, h27km, mb2.8, ML4.2, MS2.9*
*NEIC **26** 00:43:52.6±0.5, 1244N×12379E, h35km, mb4.4/6, Error ellipse: s-maj=23.4km s-min=8.3km az=75.0*
ISC 26 00:43:50.1±2.9, 1239N±003×12376E±006, h17km±19km, n25, σ0985/29, mb4.3/14, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.26**	**18**	⇑ *i*P	**Pn**	**00 44 13.0**	**+0.1**
PVCP				*i* S	**Sb**	**00 44 30.9**	**+1.6**
RCP	**Roxas**	**1.29**	**230**	⇓ *e*P	**Pn**	**00 44 12.4**	**-1.0**
RCP				*e*S	**Sb**	**00 44 30.2**	**0.0**
PLP	**Palo**	**1.71**	**135**	*e*P	**Pn**	**00 44 19.4**	**+0.3**
PLP				*e*S	**Sn**	**00 44 38.9**	**-1.6**
LLP	**Lapu-Lapu**	**2.07**	**174**	⇑ *i*P	**Pn**	**00 44 24.0**	**-0.1**
LLP				*e*S	**Sn**	**00 44 50.5**	**+1.0**
SNPH	**Sibulan**	**3.07**	**190**	*e*P	**Pn**	**00 44 39.0**	**+1.1**
YHNB	**Yeheng**	**12.42**	**350**	Pn	**Pn**	**00 46 44.6**	**-1.5**
TATO	**Taipei**	**12.70**	**351**	Pn	**Pn**	**00 46 48.7**	**-1.2**
MAJO	**Matsushiro**	**27.34**	**26**	P	**P**	**00 49 34.7**	**+0.6**
WRAB	**Tennant Creek**	**33.77**	**162**	*e*P	**P**	**00 50 30.7**	**-0.3**
	2.6nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**33.78**	**162**	*e*P	**P**	**00 50 30.9**	**-0.1**
ASAR	**Alice Springs**	**37.18**	**164**	P	**P**	**00 51 00.8**	**+0.6**
	1.9nm,0.5s,mb4.2,baz=345,slow=7.4,SNR=6.9						
ULN	**Ulaanbaatar**	**38.02**	**342**	*e*P	**P**	**00 51 08.4**	**+1.0**
	3.3nm,0.8s,mb4.1						
SONM	**Songino Array**	**38.20**	**341**	P	**P**	**00 51 09.4**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=158,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**47.22**	**159**	P	**P**	**00 52 22.9**	**+0.8**
	1.8nm,0.7s,mb4.1,baz=344,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**48.86**	**323**	P	**P**	**00 52 35.7**	**+1.0**
	1.6nm,0.8s,mb4.1,baz=130,slow=9.5,SNR=4.0						
MKAR				PcP	PcP	00 53 58.7	-0.5
	1.0nm,0.7s,baz=90,slow=3.6,SNR=4.3						
MKAR	**Makanchi Array**	**48.86**	**323**	P	**P**	**00 52 35.7**	**+1.0**
MKAR				PcP	PcP	00 53 58.7	-0.5
YAK	**Yakutsk**	**49.74**	**4**	*e*P	**P**	**00 52 39.8**	**-1.7**
	12nm,0.4s,mb5.3						
BVAR	**Borovoye Array**	**58.53**	**325**	P	**P**	**00 53 46.0**	**+0.4**
	1.2nm,0.9s,mb3.9,baz=95,slow=8.8,SNR=4.3						
BVAR				PcP	PcP	00 54 35.9	0.0
	1.6nm,0.7s,baz=116,slow=3.4,SNR=5.6						
BRVK	**Borovoye**	**58.60**	**325**	*e*P	**P**	**00 53 46.4**	**+0.3**
	2.0nm,0.6s,mb4.3						
MCK	**McKinley**	**77.80**	**27**	*e*P	**P**	**00 55 45.9**	**-0.6**
	4.3nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**82.29**	**309**	P	**P**	**00 56 10.4**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=79,slow=6.4,SNR=4.4						
INK	**Inuvik**	**83.23**	**21**	P	**P**	**00 56 14.8**	**-0.8**
	2.8nm,0.8s,mb4.4,baz=286,slow=3.9,SNR=4.9						
INK	**Inuvik**	**83.23**	**21**	*e*P	**P**	**00 56 15.9**	**+0.3**
	95nm,0.7s,mb5.9						
ISP	**Isparta**	**85.04**	**307**	*e*P	**P**	**00 56 24.5**	**-0.3**
	4.8nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**92.81**	**23**	P	**P**	**00 57 01.3**	**-0.4**
	0.7nm,0.5s,mb4.3,baz=303,slow=4.6,SNR=4.2						

*NEIC **26** 00:44:41.3, 3502S×7054W, h21km, ML2.6(GUC), After GUC.*
GUC 26 00:44:41.3±0.5, 3502S×7054W, h21km±4km, MD3.7, ML2.6, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.70**	**8**	⇓ *i*P	Pb	00 44 54.6	-0.2
CICH				*i* S	Sb	00 45 04.7	+0.7
CACH	**El Canelo**	**0.90**	**357**	⇑ *i*P	Pb	00 44 57.9	-0.3
CACH				*i* S	Sb	00 45 10.9	+1.2
CHCH	**Chadas Angostu**	**1.08**	**355**	*e*P	Pn	00 45 01.1	-0.1
CHCH				*i* S	Sb	00 45 16.4	+1.4
LNV	**Longovilo**	**1.28**	**325**	⇑ *i*P	Pn	00 45 04.3	+0.3
LNV				*i* S	Sn	00 45 21.6	+1.1
RCDM	**Rinconada Maip**	**1.54**	**352**	⇓ *e*P	Pn	00 45 08.8	+1.2
RCDM				*i* S	Sn	00 45 29.8	+2.9
RCDM				AML	AML	00 45 31.8	
	comp=E,114nm,0.1s						
RCDM	**Rinconada Maip**	**1.54**	**352**	⇓ *e*P	Pn	00 45 08.8	+1.2
RCDM				*i* S	Sn	00 45 29.8	+2.9
FCH	**Farellones**	**1.70**	**7**	*e*P	Pn	00 45 12.2	+2.5
FCH				*i* S	Sn	00 45 35.3	+4.5
FCH				AML	AML	00 45 37.4	
	comp=N,81nm,0.1s						
PEL	**Peldehue**	**1.87**	**356**	*e*P	Pn	00 45 14.9	+2.8
PEL				*i* S	Sn	00 45 39.5	+4.5
PEL				AML	AML	00 45 42.2	
	comp=N,140nm,0.4s						
PEL	**Peldehue**	**1.87**	**356**	*e*P	Pn	00 45 14.9	+2.8
PEL				*i* S	Sn	00 45 39.5	+4.5

*IDC **26** 01:06:06.5±0.9, 469N×12600E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=99.0km s-min=15.2km az=71.0*
*NEIC **26** 01:06:08.0±0.4, 474N×12599E, h10km, mb4.1/4, Error ellipse: s-maj=16.3km s-min=7.5km az=60.0*
*ISCJB **26** 01:06:09.6±0.6, 468N±010×1259E±0.1, h33km, mb3.8/11, Error ellipse: s-maj=21.5km s-min=9.9km az=119.1*
ISC 26 01:06:11.9±0.6, 471N±010×1259E±01, h35km, n18, σ0961/16, mb3.8/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.76**	**278**	Pn	**Pn**	**01 08 29.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.66**	**181**	*e*P	**P**	**01 11 10.7**	**+0.7**
	5.3nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**22.66**	**181**	P	**P**	**01 11 10.1**	**+0.1**
	1.9nm,0.6s,mb3.7,baz=23,slow=11,SNR=13						
PMG	**Port Moresby**	**25.38**	**124**	P	**P**	**01 11 34.9**	**-0.9**
WRAB	**Tennant Creek**	**25.85**	**162**	*e*P	**P**	**01 11 41.0**	**+0.9**
	1.5nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**25.85**	**162**	P	**P**	**01 11 39.5**	**-0.6**
	1.6nm,0.7s,mb3.7,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**25.86**	**162**	*e*P	**P**	**01 11 40.7**	**+0.6**
MBWA	**Marble Bar**	**26.41**	**193**	*e*P	**P**	**01 11 44.9**	**-0.2**
	4.3nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**29.25**	**165**	P	**P**	**01 12 09.8**	**-0.7**
	0.6nm,0.6s,mb3.5,baz=346,slow=7.4,SNR=17						
ASAR				PcP	PcP	01 15 17.2	+0.4
	0.3nm,0.6s,baz=347,slow=2.5,SNR=4.6						
STKA	**Stephens Creek**	**39.32**	**159**	P	**P**	**01 13 37.9**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=0.5,slow=11,SNR=2.9						
SONM	**Songino Array**	**46.13**	**342**	P	**P**	**01 14 33.3**	**+0.6**
	0.1nm,0.4s,mb3.1,baz=162,slow=6.3,SNR=2.3						
SONM				PcP	PcP	01 16 08.9	+0.5
	0.5nm,0.7s,baz=160,slow=5.4,SNR=4.1						
MKAR	**Makanchi Array**	**56.30**	**325**	P	**P**	**01 15 49.4**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=122,slow=8.3,SNR=9.6						
MKAR				PcP	PcP	01 16 46.6	+0.5
	0.6nm,0.6s,baz=126,slow=4.0,SNR=5.7						
BVAR	**Borovoye Array**	**66.07**	**327**	P	**P**	**01 16 55.6**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=100,slow=5.0,SNR=2.7						
BRVK	**Borovoye**	**66.14**	**327**	P	**P**	**01 16 54.6**	**-1.1**
	0.5nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**01 19 04.5**	**+0.2**
	6.4nm,1.1s,mb4.8,baz=76,slow=5.1,SNR=3.7						
ARCES	**ARCESS Array B**	**89.26**	**340**	P	**P**	**01 19 04.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**121.86**	**289**	PKP	PKPdf	01 25 03.2	+1.0
	0.4nm,0.6s,baz=54,slow=1.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**121.86**	**289**	PKP	PKPdf	01 25 03.2	+1.0

CASC 26 01:16:15.9±2.6, 1262N×8829W, h70km±52km, MD3.6, ML3.6, 10C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.79**	**34**	⇑ *e*P	x	01 16 48.7	+17
CNCH				*e*S	x	01 17 02.0	+19
VSM	**San Miguel**	**0.80**	**1**	⇑ *e*P	x	01 16 49.7	+18
VSM				*e*S	x	01 17 02.6	+19
BLLM	**Bellamira**	**0.82**	**3**	*e*P	x	01 16 49.2	+17
BLLM				*e*S	x	01 17 02.0	+18
SNVI	**San Vicente**	**1.12**	**331**	⇑ *e*P	x	01 16 53.9	+18
SNVI				*e*S	x	01 17 09.1	+18
CRIN	**San Cristobal**	**1.21**	**86**	⇑ *e*P	Pn	01 16 37.3	+0.2
CRIN				*e*S	Sn	01 16 55.4	+2.5
LCBS	**La Ceiba**	**1.23**	**327**	⇓ *e*P	x	01 16 54.9	+18
LCBS				*e*S	x	01 17 10.7	+17
LFRS	**El Faro**	**1.25**	**323**	⇓ *e*P	x	01 16 55.5	+18
LFRS				*e*S	x	01 17 12.2	+18
LBRS	**Las Brisas**	**1.33**	**327**	⇑ *e*P	x	01 16 56.3	+18
LFU	**La Fuente**	**1.38**	**324**	⇑ *e*P	x	01 16 56.9	+18
LEON	**Leon**	**1.38**	**98**	⇑ *e*P	Pn	01 16 39.2	-0.1
LEON				*e*S	Sn	01 16 57.7	+0.9
BOQS	**Boqueron**	**1.47**	**319**	*e*P	x	01 16 58.5	+18
BOQS				*e*S	x	01 17 17.9	+19
MIRN	**Miramar**	**1.55**	**97**	⇓ *e*P	Pn	01 16 41.2	-0.3
CNGN	**Cerro Negro**	**1.56**	**94**	⇑ *e*P	Pn	01 16 41.0	-0.6
CNGN				*e*S	Sn	01 17 01.8	+0.8
COPN	**Copaltepe**	**1.72**	**105**	⇑ *e*P	Pn	01 16 43.8	+0.1
MOMJ	**Momotombo**	**1.72**	**97**	⇓ *e*P	Pn	01 16 43.1	-0.7
SBLS	**San Blas**	**1.77**	**313**	⇓ *e*P	x	01 17 02.7	+18
XAVN	**Gruta Xavier**	**1.98**	**104

JCR				*e*S	Sn	01 18 04.0	-0.3
PRS1	**Puriscal**	**4.70**	**124**	*e*P	Pn	01 17 26.1	+1.8
LAJ	**Bijagual**	**4.92**	**123**	*e*P	Pn	01 17 24.8	-2.5
LCR2	**La Lucha 2**	**5.09**	**124**	*e*P	Pn	01 17 32.0	+2.4
LCR2				*e*S	Sn	01 18 28.8	+1.9

IDC 26 01:24:26.7±3.5, 550S×15222E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/26, Error ellipse: s-maj=129.4km s-min=47.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.46**	**141**	LR	LR	01 35 09.2	
	comp=Z,182nm,19.5s,baz=243,slow=30						
WRA	**Warramunga Arr**	**22.55**	**229**	P	P	01 29 28.2	-0.1
	1.3nm,0.6s,baz=53,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**25.25**	**223**	P	P	01 29 54.7	+0.3
	0.8nm,0.6s,baz=56,slow=9.1,SNR=9.4						
FITZ	**Fitzroy Crossi**	**26.82**	**242**	P	P	01 30 27.2	+0.6
	0.4nm,0.3s,baz=63,slow=9.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**149.97**	**287**	PKPbc	PKPbc	01 44 20.0	+1.0
	0.4nm,1.0s,baz=87,slow=2.2,SNR=7.0						

MAN 26 01:32:51, 1253N×12376E, h46km, mb2.8, ML4.3, MS5.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.38**	**226⇑**	*e*P	Pn	01 33 14.5	+0.7
RCP				*e*S	Sn	01 33 32.2	+1.3
LLP	**Lapu-Lapu**	**2.21**	**175**	*e*P	Pn	01 33 25.5	+0.3
LLP				*e*S	Sn	01 33 46.8	-4.5
SNPH	**Sibulan**	**3.21**	**189**	*e*P	Pn	01 33 42.0	+3.1

IDC 26 01:36:47.7±20.0, 507S×12847E, h222km±213km, mb3.1/1, mb1 3.3/4, mb1mx3.1/16, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=156.1km s-min=45.9km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.24**	**192**	P	Pn	01 39 47.2	-0.1
	0.2nm,0.3s,baz=24,slow=11,SNR=7.6						
WRA	**Warramunga Arr**	**15.85**	**159**	P	Pn	01 40 19.7	+0.7
	0.4nm,0.3s,baz=342,slow=13,SNR=31						
ASAR	**Alice Springs**	**19.22**	**165**	P	P	01 40 55.0	0.0
	0.7nm,0.3s,baz=343,slow=12,SNR=35						
MKAR	**Makanchi Array**	**65.79**	**327**	P	P	01 47 09.1	+0.1
	0.3nm,0.4s,baz=118,slow=7.7,SNR=3.8						

*IDC **26** 01:46:12.4±1.5, 3125S×17802W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.2/14, mbtmp4.3/5, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=39.3km s-min=33.9km az=171.0*
*ISCJB **26** 01:46:14.0±2.7, 3146S±005×1784W±0.1, h7km±18km, mb4.3/7, Error ellipse: s-maj=20.7km s-min=8.9km az=8.3*
*NEIC **26** 01:46:17.5±0.8, 3131S×17806W, h35km, mb4.4/4, Error ellipse: s-maj=18.5km s-min=13.9km az=68.0*
ISC 26 01:46:15.8±3.3, 3139S±005×1782W±01, h14km±21km, h17km±.7km: pP-P, n28, σ0§81/26, mb4.3/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.79**	**204**	PN	**Pn**	**01 47 54.6**	**-0.4**
MXZ				SN	**Sn**	**01 49 12.2**	**+0.1**
PUZ	**Puketiti**	**7.26**	**202**	*e*PN	**Pn**	**01 48 01.5**	**-0.1**
PUZ				SN	**Sn**	**01 49 22.4**	**-1.4**
MWZ	**Matawai**	**7.75**	**206**	PN	**Pn**	**01 48 08.9**	**+0.6**
MWZ				SN	**Sn**	**01 49 37.3**	**+1.4**
URZ	**Urewera**	**7.85**	**208**	Pn	**Pn**	**01 48 09.7**	**+0.1**
	0.6nm,0.3s,baz=270,slow=6.2,SNR=5.1						
URZ				Sn	**Sn**	**01 49 38.5**	**+0.2**
	3.0nm,0.3s,baz=128,slow=21,SNR=12						
KNZ	**Kokohu**	**8.31**	**203**	SN	**Sn**	**01 49 45.6**	**-4.1**
DZM	**Mont Dzumac**	**16.53**	**300**	LR	LR	01 55 03.2	
	comp=Z,143nm,18.2s,baz=114,slow=32						
CTA	**Charters Tower**	**33.78**	**281**	P	**P**	**01 52 58.7**	**+1.5**
	3.3nm,0.6s,mb4.4,baz=85,slow=12,SNR=6.2						
CTAO	**Charters Tower**	**33.78**	**281**	*e*P	**P**	**01 52 58.4**	**+1.2**
	2.5nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**34.07**	**258**	P	**P**	**01 53 01.4**	**+1.6**
	1.1nm,0.4s,mb4.1,baz=109,slow=8.6,SNR=4.0						
AS31	**Alice Springs**	**42.87**	**268**	*e*P	**P**	**01 54 13.5**	**-0.2**
ASAR	**Alice Springs**	**42.87**	**268**	P	**P**	**01 54 13.4**	**-0.3**
	5.7nm,0.7s,mb4.4,baz=105,slow=7.5,SNR=64						
ASPA	**Alice Springs**	**42.87**	**268**	*e*P	**P**	**01 54 13.5**	**-0.2**
WB2	**Warramunga Arr**	**43.94**	**273**	*e*P	**P**	**01 54 21.8**	**-0.5**
WRAB	**Tennant Creek**	**43.94**	**273**	*e*P	**P**	**01 54 21.6**	**-0.8**
	5.3nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**43.95**	**273**	P	**P**	**01 54 21.9**	**-0.5**
	8.2nm,0.5s,mb4.7,baz=112,slow=7.9,SNR=109						
SBA	**Scott Base**	**47.03**	**184**	P	**P**	**01 54 45.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.17**	**271**	*e*P	**P**	**01 55 25.7**	**-0.3**
	3.2nm,0.8s,mb4.3						
CASY	**Casey**	**54.17**	**208**	P	**P**	**01 55 40.4**	**-0.4**
MAW	**Mawson**	**71.31**	**201**	P	**P**	**01 57 34.0**	**-1.0**
SNAA	**Sanae**	**77.17**	**179**	*e*	**P**	**01 58 10.3**	**+1.1**
SNAA				*e*	pP	01 58 15.0	+1.3
SNAA				*e*		01 58 17.9	
SNAA	**Sanae**	**77.17**	**179**	*e*P	**P**	**01 58 09.4**	**+0.2**
	0.6nm,0.3s,mb4.0						
VNA3	**Neumayer Olymp**	**77.33**	**176**	*e*	**P**	**01 58 10.8**	**+0.7**
VNA3				*e*	pP	01 58 16.3	+1.7
VNA3				*e*		01 58 19.6	
VNA2	**Neumayer--Watz**	**77.76**	**177**	*e*	**P**	**01 58 13.5**	**+1.0**
	baz=196,slow=5.7						
VNA2				*e*	pP	01 58 18.5	+1.5
VNA2				*e*		01 58 22.2	
KAF	**Kangasniemi**	**145.41**	**340**	*e*pkp	PKPdf	02 05 50.0	-3.4
FINES	**FINESS Array B**	**146.00**	**339**	PKPbc	PKPbc	02 05 52.1	-3.1
	1.8nm,0.5s,baz=58,slow=5.2,SNR=17						
NOA	**NORSAR Array B**	**149.70**	**351**	PKPbc	PKPbc	02 06 02.5	-2.7
	1.2nm,0.9s,baz=14,slow=4.2,SNR=3.3						
NOA	**NORSAR Array B**	**149.70**	**351**	PKPbc	PKPbc	02 06 02.5	-2.7
TORD	**Torodi Ar. Bea**	**161.84**	**180**	PKPab	PKPab	02 07 02.4	+0.1
	0.5nm,0.5s,baz=181,slow=3.4,SNR=11						

*CSEM **26** 01:57:04.9, 3723N×2093E, h5km, MD3.6/5, After ATH*
*NEIC **26** 01:57:04.9, 3723N×2093E, h5km, MD3.6(ATH), After ATH.*
ATH 26 01:57:02.0, 3713N×2073E, h5km±2km, MD3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.96**	**87**	*e*PB	Pb	01 57 20.5	-0.6
ITM	**Ithomi**	**0.96**	**87**	*e*Pb	Pb	01 57 21.0	-0.1
VLS	**Valsamata**	**1.05**	**354**	*e*PN	Pn	01 57 22.1	-1.3
VLS				*e*SB	Sb	01 57 37.5	+0.8
VLS	**Valsamata**	**1.05**	**354**	*e*Pb	Pb	01 57 22.0	-0.7
VLS				*e*Sb	Sb	01 57 39.1	+2.4
RLS	**Riolos of Patr**	**1.10**	**32**	*e*PN	Pn	01 57 22.8	-1.2
VLI	**Veliai**	**1.82**	**102**	*e*PN	Pn	01 57 36.3	+2.4
VLI	**Veliai**	**1.82**	**102**	*e*Pg	Pg	01 57 36.0	-0.8
EVR	**Evrytania**	**1.98**	**25**	*e*PN	Pn	01 57 39.2	+3.1
EVR	**Evrytania**	**1.98**	**25**	*e*Pn	Pn	01 57 39.6	+3.5
KYTH	**Kithira**	**2.04**	**114**	*e*PG	Pg	01 57 40.2	-0.9
KYTH	**Kithira**	**2.04**	**114**	*e*Pn	Pn	01 57 42.5	+5.6

*CSEM **26** 02:02:24.2, 3694N×2054E, h5km, MD3.7/6, After ATH*
*NEIC **26** 02:02:24.2, 3694N×2054E, h5km, MD3.7(ATH), After ATH.*
ATH 26 02:02:24.2, 3693N×2054E, h5km±2km, MD3.7/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.14**	**77**	*e*PN	Pn	02 02 45.5	-1.3
ITM				*e*SB	Sb	02 03 01.9	+0.5
VLS	**Valsamata**	**1.25**	**2**	*e*PB	Pb	02 02 47.9	-0.3
VLS				*e*SB	Sb	02 03 05.8	+1.3
VLS	**Valsamata**	**1.25**	**2**	*e*Pb	Pb	02 02 47.8	-0.4
VLS				*e*Sb	Sb	02 03 05.8	+1.3
RLS	**Riolos of Patr**	**1.35**	**33**	*e*PB	Pb	02 02 49.7	-0.2
RLS				*e*SB	Sb	02 03 08.6	+1.2
VLI	**Veliai**	**1.94**	**96**	*e*PN	Pn	02 03 00.5	+2.8
KYTH	**Kithira**	**2.11**	**107**	*e*PG	Pg	02 03 03.5	-1.2
KYTH	**Kithira**	**2.11**	**107**	*e*Pg	Pg	02 03 04.5	-0.2
EVR	**Evrytania**	**2.22**	**26**	*e*PN	Pn	02 03 04.8	+3.1
EVR	**Evrytania**	**2.22**	**26**	*e*Pg	Pg	02 03 05.0	-1.8

*ISCJB **26** 02:05:58.7±0.8, 4076N±004×21.16E±005, h3km, Error ellipse: s-maj=5.7km s-min=4.7km az=66.2*
*SKO **26** 02:05:58.1, 4075N×2109E, h15km, M0.7, ML2.2*
*CSEM **26** 02:05:59.3±0.2, 4085N×2113E, h2km, ML2.6, Error ellipse: s-maj=4.1km s-min=2.3km az=30.0*
*THE **26** 02:06:00.1, 4087N×2120E, h3km, ML2.6*
ISC 26 02:05:59.2±0.9, 4077N±004×2116E±005, h13km±10km, n17, σ0§85/28, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.17**	**86**	*e*Pg	**Pg**	**02 06 03.5**	**+0.4**
FNA				*e*Sg	**Sg**	**02 06 06.0**	**+0.1**
BIA	**Bitola**	**0.28**	**27**	*e*Pg	**Pg**	**02 06 04.3**	**-0.7**
BIA	**Bitola**	**0.28**	**27**	*i* Pg	**Pg**	**02 06 04.3**	**-0.7**
BIA				*i* Sg	**Sg**	**02 06 09.0**	**+0.1**
BIA				*e*Lg		02 06 09.5	
	comp=E,52nm,0.2s						
BIA				*e*Lg		02 06 10.2	
	comp=N,84nm,0.2s						
BIA	**Bitola**	**0.28**	**27**	*e*Pg	**Pg**	**02 06 04.3**	**-0.7**
BIA				*i* Sg	**Sg**	**02 06 08.9**	**0.0**
OHR	**Ohrid**	**0.43**	**322**	*e*Pg	**Pg**	**02 06 06.6**	**-1.2**
OHR				*e*Sg	**Sg**	**02 06 13.2**	**-0.4**
OHR	**Ohrid**	**0.43**	**322**	*i* Pg	**Pg**	**02 06 06.7**	**-1.1**
OHR				*i* Sg	**Sg**	**02 06 13.2**	**-0.4**
OHR				*e*Lg		02 06 13.9	
	comp=N,99nm,0.5s						
OHR				*e*Lg		02 06 14.1	
	comp=E,229nm,0.4s						
OHR	**Ohrid**	**0.43**	**322**	*i* Pg	**Pg**	**02 06 06.7**	**-1.1**
OHR				*i* Sg	**Sg**	**02 06 13.2**	**-0.4**
KRUS	**Krusevo**	**0.60**	**7⇑**	*i*Pg	**Pg**	**02 06 10.7**	**-0.2**
KRUS				*i* Sg	**Sg**	**02 06 19.9**	**+1.0**
KRUS				*e*Lg		02 06 20.6	
	comp=N,0.0nm,0.4s						
KRUS	**Krusevo**	**0.60**	**7⇑**	*i*Pg	**Pg**	**02 06 10.7**	**-0.2**
KRUS				*i* Sg	**Sg**	**02 06 19.8**	**+0.9**
GRG	**Griva**	**0.96**	**79**	*e*Pg	**Pg**	**02 06 17.4**	**-0.3**
VAY	**Valandovo**	**1.20**	**62**	*e*Pg	**Pg**	**02 06 20.9**	**-1.4**
VAY	**Valandovo**	**1.20**	**62**	*e*Pg	**Pg**	**02 06 21.5**	**-0.8**
STIP	**Stip**	**1.21**	**40**	*e*Pg	**Pg**	**02 06 23.3**	**+0.9**
STIP				*i* Sg	**Sg**	**02 06 39.5**	**+1.5**
STIP				*e*Lg		02 06 40.8	
	comp=E,1.7nm,0.2s						
STIP				*e*Lg		02 06 41.6	
	comp=N,4.4nm,0.5s						
STIP	**Stip**	**1.21**	**40**	*e*Pg	**Pg**	**02 06 23.3**	**+0.9**
STIP				*i* Sg	**Sg**	**02 06 39.5**	**+1.4**
LIT	**Litokhoron**	**1.22**	**123**	*e*Pg	**Pg**	**02 06 22.2**	**-0.4**
KNT	**Kendrikon**	**1.38**	**73**	*e*Pg	**Pg**	**02 06 24.6**	**-1.0**
KNT				*e*Sg	**Sg**	**02 06 43.5**	**0.0**
IGT	**Igoumenitsa**	**1.39**	**207**	*e*Pg	**Pg**	**02 06 27.8**	**+1.9**

*NEIC **26** 02:06:28.8, 1545N×9479W, h15km, MD4.3(MEX), After MEX.*
MEX 26 02:06:28.6±0.6, 1546N×9478W, h14km±11km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.32**	**284**	*e*P	Pn	02 06 49.1	-3.4
HUIG				*i* S	Sb	02 07 04.3	-5.5
CMIG	**Matias Romero**	**1.63**	**357**	*i* P	Pn	02 06 53.2	-3.6
CMIG				*i* S	Sn	02 07 12.3	-5.3
OXX	**Oaxaca**	**2.47**	**311**	*i* P	Pn	02 07 07.5	-0.9
VHO	**Vista Hermosa**	**2.47**	**311**	*e*P	Pn	02 07 06.5	-1.9
VHO				*i* S	Sn	02 07 34.7	-3.6
VHO	**Vista Hermosa**	**2.47**	**311**	*e*P	Pn	02 07 06.5	-1.9
VHO				*i* S	Sn	02 07 35.6	-2.7
TUIG	**Tuzandepetl**	**2.59**	**8**	*i* P	Pn	02 07 07.4	-2.6
TUIG				*i* S	Sn	02 07 37.5	-3.7
CCIG	**Comitan**	**2.67**	**72**	*e*P	Pn	02 07 09.0	-2.2
CCIG				*i* S	Sn	02 07 39.0	-4.3
UTMO	**Huajuapan**	**3.74**	**310**	*i* P	Pn	02 07 23.7	-2.1
UTMO				*i* S	Sn	02 08 06.6	-3.0
TPIG	**Tehuac#an**	**3.85**	**320**	*e*P	Pn	02 07 26.4	-0.9
TPIG				*i* S	Sn	02 08 10.2	-2.1
IIO	**Organos**	**5.57**	**318**	*i* P	Pn	02 07 59.5	+8.4
TEIG	**Tepich**	**7.80**	**52**	*e*P	Pn	02 08 18.1	-3.5

*ISCJB **26** 02:11:16.8±1.3, 182N±0.1×9459E±007, h50km±12km, mb4.0/13, Error ellipse: s-maj=19.4km s-min=6.5km az=52.5*
*NEIC **26** 02:11:20.3±2.6, 1816N×9466E, h64km±23km, Error ellipse: s-maj=28.9km s-min=8.6km az=57.0*
*IDC **26** 02:11:23.7±11.0, 1820N×9468E, h94km±104km, mb3.6/12, mb1 3.8/12, mb1mx3.6/22, mbtmp3.9/12, Error ellipse: s-maj=49.5km s-min=13.8km az=52.0*
ISC 26 02:11:19.4±1.0, 1822N±009×9462E±006, h51km±9km, n27, σ0§84/29, mb4.0/13, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**4.12**	**86**	*e*Pn	**Pn**	**02 12 20.4**	**+0.7**
CM31				*e*Sn	**Sn**	**02 13 06.4**	**-0.1**
CHTO	**Chiang Mai**	**4.15**	**81**	*e*Pn	**Pn**	**02 12 20.5**	**+0.4**
CHTO				*e*Sn	**Sn**	**02 13 07.2**	**-0.2**
NST	**Nakhon Sawan**	**5.86**	**115**	P	**Pn**	**02 12 43.0**	**-0.6**
SHL	**Shillong**	**7.73**	**341**	*e*PN	**Pn**	**02 13 12.0**	**+2.7**
SHL				*e*SN	**Sn**	**02 14 33.0**	**-2.5**
JIRN	**Jiri**	**12.18**	**322**	*e*P	**Pn**	**02 14 09.9**	**-0.2**
	8.3nm,0.3s						
GUN	**Gumba**	**12.55**	**322**	*e*P	**Pn**	**02 14 14.1**	**-1.0**
	11nm,0.4s						
PKI	**Pulchoki**	**12.58**	**319**	*e*P	**Pn**	**02 14 16.0**	**+0.4**
	6.4nm,0.3s						
DMN	**Daman**	**12.80**	**319**	*e*P	**Pn**	**02 14 19.0**	**+0.4**
	12nm,0.6s						
KKN	**Kakani**	**12.82**	**320**	*e*P	**Pn**	**02 14 17.9**	**-0.9**
	6.7nm,0.3s						
GKN	**Gorkha**	**13.37**	**319**	*e*P	**Pn**	**02 14 25.6**	**-0.7**
	14nm,0.2s						
KOLN	**Koldanda**	**13.89**	**315**	*e*P	**Pn**	**02 14 34.6**	**+1.2**
	7.8nm,0.3s						
MKAR	**Makanchi Array**	**30.25**	**343**	P	**P**	**02 17 26.3**	**+1.0**
	0.6nm,0.4s,mb3.7,baz=158,slow=8.9,SNR=10						
SONM	**Songino Array**	**31.07**	**15**	P	**P**	**02 17 32.8**	**+0.3**
	0.8nm,0.6s,mb3.8,baz=202,slow=11,SNR=7.2						
ZAL	**Zalesovo**	**36.45**	**350**	P	**P**	**02 18 20.1**	**+0.8**
	1.7nm,0.5s,mb4.2,baz=310,slow=4.8,SNR=4.8						
AKTK	**Aktyubinsk**	**43.37**	**326**	P	**P**	**02 19 16.8**	**+0.2**
AKTO	**Aktyubinsk**	**43.37**	**326**	P	**P**	**02 19 16.8**	**+0.2**
	2.0nm,0.5s,mb4.1,baz=122,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**47.26**	**138**	P	**P**	**02 19 47.4**	**0.0**
	1.8nm,1.0s,mb4.0,baz=340,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**54.38**	**132**	P	**P**	**02 20 40.7**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=323,slow=8.5,SNR=11						
WRA				PcP	PcP	02 21 44.2	-0.2
	0.4nm,0.7s,baz=300,slow=4.7,SNR=4.6						
BRTR	**Keskin Array B**	**56.39**	**306**	P	**P**	**02 20 56.0**	**+0.5**
	0.8nm,0.8s,mb3.8,baz=132,slow=8.5,SNR=7.0						
ASAR	**Alice Springs**	**56.60**	**136**	P	**P**	**02 20 56.1**	**-0.8**
	0.3nm,0.3s,mb3.8,baz=314,slow=7.1,SNR=5.6						
JOF	**Joensuu**	**61.85**	**332**	*e*p	**P**	**02 21 27.3**	**-5.9**
	5.2nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**63.91**	**330**	P	**P**	**02 21 46.4**	**-0.6**
	1.4nm,0.7s,mb4.1,baz=128,slow=12,SNR=7.1						
ARCES	**ARCESS Array B**	**65.78**	**339**	P	**P**	**02 21 58.2**	**-0.9**
	1.8nm,0.6s,mb4.3,baz=104,slow=7.0,SNR=8.9						
ARCES	**ARCESS Array B**	**65.78**	**339**	P	**P**	**02 21 58.2**	**-0.9**
GERES	**GERESS Array B**	**70.58**	**316**	P	**P**	**02 22 30.0**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=79,slow=6.9,SNR=6.0						
NOA	**NORSAR Array B**	**71.05**	**329**	P	**P**	**02 22 31.4**	**-0.6**
	1.0nm,0.9s,mb3.7,baz=90,slow=5.6,SNR=3.9						
CPUP	**Villa Florida**	**152.86**	**248**	PKPbc	PKPbc	02 31 10.6	-0.1
	0.4nm,0.4s,baz=187,slow=4.4,SNR=3.0						

JMA 26 02:19:13.6±0.8, 4322N×14890E, h30km, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.31**	**275**	P	Pn	02 19 49.1	-0.5
NEM2				*e*S	Sn	02 20 15.3	-1.7
JRA	**Rausu**	**2.84**	**286**	P	Pn	02 19 57.1	+0.3
JRA				*e*S	Sn	02 20 29.7	-0.3
JAK	**Akkeshi**	**3.09**	**267**	P	Pn	02 19 59.5	-0.8
JAK				*e*S	Sn	02 20 33.1	-3.0
JTKR	**Abashiri--Toko**	**3.70**	**283**	*e*S	Sn	02 20 50.5	-0.8
JOB	**Onbets**	**3.73**	**267**	*e*S	Sn	02 20 48.8	-3.1
JAR	**Ashorobuto**	**3.75**	**273**	P	Pn	02 20 09.3	-0.1
JAR				*e*S	Sn	02 20 50.7	-1.8
JCH	**Churui**	**4.11**	**263**	P	Pn	02 20 13.5	-0.9
JCH				*e*S	Sn	02 20 57.7	-3.7
JANG	**Nango**	**6.21**	**245**	*e*S	Sn	02 21 42.4	-11
JTM	**Tenmabayashi**	**6.32**	**250**	P	Pn	02 20 42.8	-1.9
OFUJ	**Ofunato**	**6.85**	**235**	P	Pn	02 20 48.2	-3.7

WEL 26 02:30:33.1±0.9, 3637S×17919E, h232km±12km, ML3.8/3, Error ellipse: s-maj=21.8km s-min=18.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**210**	*e*PN	Pn	02 31 06.3	-2.4
PUZ	**Puketiti**	**1.86**	**203**	*e*PN	Pn	02 31 12.7	0.0
PUZ				SN	S	02 31 42.3	-1.5
MWZ	**Matawai**	**2.37**	**213**	PN	Pn	02 31 18.6	+0.9
MWZ				SN	S	02 31 54.1	+1.4
URZ	**Urewera**	**2.51**	**221**	PN	Pn	02 31 19.1	0.0
URZ				SN	S	02 31 54.8	-0.5
PXZ	**Pawanui**	**4.09**	**206**	PN	Pn	02 31 39.2	+2.1
PXZ				SN	S	02 32 30.5	+2.7
THZ	**Tophouse**	**7.27**	**220**	PN	Pn	02 32 17.4	+0.4

*ATH **26** 02:47:53.4, 3832N×2753E, h3km, MD3.2/4*
*ISCJB **26** 02:47:56.7±0.4, 3828N±002×2723E±004, h11km±3km, Error ellipse: s-maj=5.8km s-min=3.9km az=160.6*
*ISK **26** 02:47:56.3, 3834N×2731E, h17km, MD2.9*
*CSEM **26** 02:47:56.2±0.1, 3831N×2737E, h10km, MD2.9, Error ellipse: s-maj=4.5km s-min=2.5km az=64.0*
*NEIC **26** 02:47:56.0, 3835N×2734E, h16km, MD2.7(ISK), MD3.1(ATH), After ISK.*
ISC 26 02:47:57.0±0.4, 3830N±002×2723E±004, h13km±3km, n20, σ0§89/30, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.10**	**13**	*i* PG	**Pg**	**02 47 59.8**	**-0.1**
IZM				*i* SG	**Sg**	**02 48 02.0**	**0.0**
KDAG	**Bornova**	**0.11**	**14**	*i* P	**Pg**	**02 48 00.0**	**0.0**
KDAG				*i* S	**Sg**	**02 48 02.4**	**+0.3**
URLA	**Izmir**	**0.51**	**277**	*i* P	**Pg**	**02 48 06.3**	**-0.6**
URLA				*i* S	**Sg**	**02 48 13.5**	**-0.1**
SMG	**Samos**	**0.67**	**208⇑**	*i*PG	**Pg**	**02 48 08.8**	**-1.1**
SMG				*e*SG	**Sg**	**02 48 20.4**	**+1.7**
AYDN	**Tasoluk**	**0.81**	**141**	*i* P	**Pg**	**02 48 12.3**	**-0.5**
AYDN				*i* S	**Sg**	**02 48 23.8**	**+0.4**
MLSB	**Milas**	**1.09**	**157**	PN	**Pn**	**02 48 18.2**	**+0.2**
MLSB				SN	**Sn**	**02 48 32.3**	**-0.6**
AYVA	**Ayvalik**	**1.09**	**337**	*i* P	**Pb**	**02 48 19.1**	**+1.3**
AYVA				*i* S	**Sb**	**02 48 33.0**	**+1.1**
PRK	**Paraskevi**	**1.21**	**322**	*e*PB	**Pb**	**02 48 19.0**	**-0.7**
PRK	**Paraskevi**	**1.21**	**322**	*e*Pb	**Pb**	**02 48 20.0**	**+0.3**
PRK				*e*Sb	**Sb**	**02 48 35.6**	**+0.3**
BODT	**Bodrum**	**1.24**	**177**	*e*PN	**Pn**	**02 48 20.6**	**+0.6**
BDRM	**Kayabasi**	**1.24**	**172**	*i* P	**Pn**	**02 48 19.3**	**-0.8**
BDRM				*i* S	**Sb**	**02 48 39.4**	**+3.2**
DENT	**Denizli**	**1.52**	**110**	*e*PN	**Pn**	**02 48 22.7**	**-1.2**
BTOK	**Tokmak**	**1.59**	**23**	*i* P	**Pn**	**02 48 26.2**	**+1.4**
BTOK				*i* S	**Sn**	**02 48 44.8**	**-0.4**
DAT	**Datca**	**1.59**	**170**	*e*PN	**Pn**	**02 48 25.3**	**+0.5**
EZN	**Ezine**	**1.68**	**335**	*e*PN	**Pn**	**02 48 25.7**	**-0.4**
CANB	**Canakkale**	**1.72**	**356**	*e*PN	**Pn**	**02 48 26.4**	**-0.2**
APE	**Apeiranthos**	**1.83**	**228**	*e*PG	**Pg**	**02 48 31.2**	**-0.8**
APE	**Apeiranthos**	**1.83**	**228**	*e*Pg	**Pg**	**02 48 31.5**	**-0.5**
LIA	**Limnos Island**	**2.26**	**316**	*e*PB	**Pb**	**02 48 35.6**	**-2.0**
LIA	**Limnos Island**	**2.26**	**316**	*e*Pb	**Pb**	**02 48 35.0**	**-2.6**

*CSEM **26** 02:51:56.5, 3699N×2055E, h5km, MD3.7/7, After ATH*
*NEIC **26** 02:51:56.5, 3699N×2055E, h5km, MD3.7(ATH), After ATH.*
ATH 26 02:51:55.8, 3697N×2052E, h5km, MD3.7/7, 1C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.14**	**79⇑**	*i*PG	Pg	02 52 17.1	-0.6
ITM				*e*SB	Sb	02 52 34.0	+0.8
VLS	**Valsamata**	**1.21**	**3**	*e*PB	Pb	02 52 18.9	-0.2
VLS				*e*SB	Sb	02 52 36.5	+1.5
VLS	**Valsamata**	**1.21**	**3**	*e*Pg	Pg	02 52 19.0	+0.1
VLS				*e*Sb	Sb	02 52 36.7	+1.7
RLS	**Riolos of Patr**	**1.32**	**34**	*e*PB	Pb	02 52 20.8	-0.3
VLI	**Veliai**	**1.

YKA LR LR 03 23 49.8
NEW Newport 29.25 83 P **P** **03 14 47.2 +1.8**
1.4nm,0.6s,mb3.8,baz=124,slow=24,SNR=3.6
NEW Newport 29.25 83 P **P** **03 14 47.2 +1.8**
NVAR Mina Array Bea 34.48 99 P **P** **03 15 33.4 +2.0**
0.6nm,0.5s,mb3.8,baz=299,slow=7.1,SNR=5.3
PDAR Pinedale Array 36.74 86 P **P** **03 15 51.8 +1.1**
0.4nm,0.7s,mb3.3,baz=304,slow=6.4,SNR=3.2
MDJ Mudanjiang 42.81 285 P **P** **03 16 40.3 -0.9**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
MDJ AMB AMB
comp=Z,109nm,4.4s
CN2 Changchun 45.63 287 *e*P **P** **03 17 04.8 +0.9**
TXAR Lajitas Array 49.44 95 P **P** **03 17 33.1 -0.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=302,slow=5.9,SNR=21
NJ2 Nanjing 57.52 281 *e*P **P** **03 18 33.8 +0.9**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
FINES FINESS Array B 63.98 355 P **P** **03 19 13.5 -3.4**
comp=Z,1.3nm,0.7s,mb4.0,baz=22,slow=6.2,SNR=8.1
NOA NORSAR Array B 64.57 3 P **P** **03 19 18.1 -2.6**
comp=Z,1.0nm,0.8s,mb3.9,baz=312,slow=4.7,SNR=3.3
WMQ Urumqi 64.70 311 *e*P **P** **03 19 23.0 +1.4**
GYA Guiyang 68.67 286 P **P** **03 19 49.3 +2.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI Kunming 71.89 288 P **P** **03 20 05.0 -1.6**
BRTR Keskin Array B 84.82 347 P **P** **03 21 13.9 -4.1**
comp=Z,0.4nm,0.8s,mb3.6,baz=3.8,slow=6.5,SNR=2.9

NEIC ***26*** *03:31:55.0±4.6, 555S×15395E, h202km±32km, mb3.6/1, Error ellipse: s-maj=46.0km s-min=26.3km az=83.0*
ISCJB ***26*** *03:31:55.3±4.5, 57S±02×1539E±02, h210km±33km, mb3.8/7, Error ellipse: s-maj=38.2km s-min=33.2km az=135.3*
IDC ***26*** *03:31:58.5±6.7, 553S×15359E, h217km±48km, mb3.3/5, mb1 3.5/7, mb1mx3.4/15, mbtmp4.0/7, Error ellipse: s-maj=59.9km s-min=30.9km az=88.0*
ISC 26 03:31:55.4±4.6, 56S±02×1539E±03, h197km±33km, n12, σ0§88/12, mb3.8/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.67**	**240**	P	**Pn**	**03 33 44.7**	**+0.4**
	8.0nm,0.3s,baz=52,slow=8.7,SNR=14						
PMG				S	**Sn**	**03 35 10.3**	**-0.5**
	2.4nm,0.3s,baz=158,slow=19,SNR=4.0						
CTA	**Charters Tower**	**16.17**	**207**	P	**Pn**	**03 35 31.5**	**-0.4**
	0.2nm,0.3s,baz=20,slow=14,SNR=3.5						
CTA	**Charters Tower**	**16.17**	**207**	P	**Pn**	**03 35 31.5**	**-0.4**
WRAB	**Tennant Creek**	**23.74**	**231**	*e*P	**P**	**03 36 50.0**	**+0.3**
	0.8nm,0.5s,mb3.6						
WB2	**Warramunga Arr**	**23.75**	**231**	*e*P	**P**	**03 36 50.1**	**+0.4**
WRA	**Warramunga Arr**	**23.75**	**231**	P	**P**	**03 36 50.2**	**+0.4**
	2.7nm,0.5s,mb4.1,baz=54,slow=9.8,SNR=56						
ASAR	**Alice Springs**	**26.31**	**225**	P	**P**	**03 37 12.6**	**-0.3**
	0.5nm,0.4s,mb3.5,baz=57,slow=9.4,SNR=9.9						
STKA	**Stephens Creek**	**28.53**	**202**	P	**P**	**03 37 35.0**	**+2.3**
	0.8nm,0.5s,mb3.6,baz=6.8,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.25**	**243**	P	**P**	**03 37 47.3**	**-0.5**
	2.1nm,0.9s,mb3.8,baz=67,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**81.69**	**319**	P	**P**	**03 43 51.9**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=95,slow=7.2,SNR=3.7						
QSPA	**South Pole Qui**	**84.32**	**180**	*e*P	**P**	**03 44 03.5**	**-1.8**
	25nm,1.2s,mb4.8						
TORD	**Torodi Ar. Bea**	**151.62**	**287**	PKPbc	PKPbc	03 51 25.7	-0.5
	1.1nm,1.1s,baz=78,slow=2.2,SNR=4.9						
TORD				PKPab	PKPab	03 51 36.4	+0.8
	0.6nm,1.0s,baz=84,slow=3.4,SNR=5.0						

ISCJB ***26*** *03:33:10.7±0.2, 2692N±002×5741E±003, h10km, mb4.3/33, MS3.2/6, Error ellipse: s-maj=4.3km s-min=3.3km az=146.5*
IDC ***26*** *03:33:10.4±0.6, 2694N×5751E, h0km, mb4.1/20, mb1 4.2/23, mb1mx4.2/29, mbtmp4.1/23, ML4.2/2, MS3.2/8, Ms1 3.2/8, ms1mx3.0/35, Error ellipse: s-maj=15.0km s-min=14.3km az=115.0*
CSEM ***26*** *03:33:11.9±0.1, 2694N×5758E, h15km, mb4.7/12, Error ellipse: s-maj=3.5km s-min=2.0km az=67.0*
THR ***26*** *03:33:11.5±0.9, 2667N×5755E, h18km±10km, ML4.5*
NEIC ***26*** *03:33:12.5, 2678N×5757E, h18km, mb4.6/15, ML4.5(THR), MN4.1(TEH), After THR.*
MOS ***26*** *03:33:13.2±1.6, 2692N×5743E, h33km, mb4.8/12, Error ellipse: s-maj=10.7km s-min=6.3km az=117.2*
TEH ***26*** *03:33:14.1, 2670N×5733E, h12km, Mn4.1*
ISC 26 03:33:12.4±0.2, 2690N±002×5748E±003, h10km, n173, σ1§40/182, mb4.3/33, MS3.2/6, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.27**	**294**	*e*Pg	**Pg**	**03 33 38.5**	**+1.8**
BNDS				*e*Sg	**Sg**	**03 33 57.1**	**+3.9**
BNDS				AML	AML	03 33 58.7	
	comp=N,12μm,0.5s						
BNDS				AML	AML	03 34 05.8	
	comp=E,14μm,0.5s						
BNDS	**Bandar-Abbas**	**1.27**	**294**	Pg	**Pg**	**03 33 38.0**	**+1.3**
BNDS				Sg	**Sg**	**03 33 57.0**	**+3.8**
BNDS	**Bandar-Abbas**	**1.27**	**294**	*e*Pg	**Pg**	**03 33 38.5**	**+1.8**
	SNR=92						
BNDS				*e*Sg	**Sg**	**03 33 57.2**	**+4.0**
	SNR=92						
HATD	**Hatta, Dubai**	**2.39**	**211**	P	**Pn**	**03 33 51.1**	**-0.5**
	SNR=47						
ASHO	**Ashiyiah**	**2.55**	**210**	⇓P	**Pn**	**03 33 56.4**	**+2.6**
	SNR=71						
KRBR	**Kerman**	**3.14**	**349**	*e*Pn	**Pn**	**03 34 05.7**	**+3.8**
KRBR				AML	AML	03 34 58.1	
	comp=N,736nm,0.6s						
KRBR	**Kerman**	**3.14**	**349**	Pn	**Pn**	**03 34 05.0**	**+3.1**
KRBR				Sg	**Sg**	**03 34 54.0**	**+0.8**
HOQ	**Hoqain**	**3.30**	**183**	P	**Pn**	**03 34 03.5**	**-0.6**
	SNR=32						
BIDO	**Bidbid**	**3.41**	**170**	P	**Pn**	**03 34 05.3**	**-0.3**
	SNR=23						
ARQ	**Araqi**	**3.65**	**194**	P	**Pn**	**03 34 11.1**	**+2.3**
	SNR=86						
WSAR	**Wadi Sarin**	**3.79**	**164**	Pn	**Pn**	**03 34 11.5**	**+0.7**
	comp=N,23nm,0.3s,baz=359,slow=10,SNR=148						
WSAR				Sn	**Sn**	**03 34 52.2**	**-3.1**
	comp=N,47nm,0.3s,baz=111,slow=18,SNR=11						
WSAR				LR	LR	03 35 53.9	
	comp=N,150nm,21.9s,baz=26,slow=43						
WSAR	**Wadi Sarin**	**3.79**	**164**	Pn	**Pn**	**03 34 11.5**	**+0.7**
WSAR				Sn	**Sn**	**03 34 52.2**	**-3.2**
SMDO	**Samad**	**3.85**	**172**	P	**Pn**	**03 34 12.6**	**+0.9**
	SNR=20						
ZHSF	**Zahedan**	**3.97**	**46**	*e*Pn	**Pn**	**03 34 15.2**	**+1.9**
ZHSF				*e*Sg	**Sg**	**03 35 18.4**	**-1.5**
ZHSF	**Zahedan**	**3.97**	**46**	Pn	**Pn**	**03 34 15.0**	**+1.7**
ZHSF				Sg	**Sg**	**03 35 16.0**	**-3.9**
ZHSF	**Zahedan**	**3.97**	**46**	*e*Pn	**Pn**	**03 34 15.2**	**+1.9**
	SNR=52						
ZHSF				Sg	**Sg**	**03 35 16.0**	**-3.9**
BSY	**Bisya**	**4.14**	**184**	P	**Pn**	**03 34 17.6**	**+2.0**
	SNR=50						
BSYO	**Bisya**	**4.15**	**183**	P	**Pn**	**03 34 17.6**	**+1.8**
	SNR=50						
GHIR	**Ghir-Karzin**	**4.22**	**290**	*e*Pn	**Pn**	**03 34 19.0**	**+2.3**
GHIR				AML	AML	03 35 16.7	
	comp=E,303nm,0.4s						
GHIR				AML	AML	03 35 39.2	
	comp=N,283nm,0.4s						
WBK	**Wadi Bani Khal**	**4.48**	**162**	P	**Pn**	**03 34 20.6**	**+0.4**
	SNR=26						
JMDO	**Jabal Madar**	**4.54**	**173**	P	**Pn**	**03 34 22.6**	**+1.5**
	SNR=30						
ISRV	**Sarvestan**	**4.58**	**304**	*e*Pn	**Pn**	**03 34 23.2**	**+1.5**
ISRV	**Sarvestan**	**4.58**	**304**	Pn	**Pn**	**03 34 23.1**	**+1.4**
IMOK	**Mook**	**4.73**	**298**	*e*Pn	**Pn**	**03 34 24.7**	**+1.0**
IMOK	**Mook**	**4.73**	**298**	Pn	**Pn**	**03 34 24.6**	**+0.9**
IBAF	**Bafgh**	**4.97**	**341**	*e*Pn	**Pn**	**03 34 28.5**	**+1.5**
IMEH	**Mehriz**	**5.13**	**331**	*e*Pn	**Pn**	**03 34 30.9**	**+1.6**
IMEH	**Mehriz**	**5.13**	**331**	Pn	**Pn**	**03 34 30.8**	**+1.5**
SHI	**Shiraz**	**5.16**	**303**	*e*Pn	**Pn**	**03 34 31.0**	**+1.3**
SHI				*e*Sn	**Sn**	**03 35 27.7**	**-1.6**
IKOO		**5.67**	**13**	*e*Pn	**Pn**	**03 34 38.1**	**+1.5**
ICHK	**Chekchek**	**5.96**	**334**	*e*Pn	**Pn**	**03 34 43.2**	**+2.5**
ICHK	**Chekchek**	**5.96**	**334**	Pn	**Pn**	**03 34 43.1**	**+2.4**
ITEG		**6.08**	**10**	*e*Pn	**Pn**	**03 34 44.2**	**+1.9**
IDAH		**6.18**	**19**	*e*Pn	**Pn**	**03 34 46.0**	**+2.3**
IGAR	**Garneh**	**7.04**	**320**	*e*Pn	**Pn**	**03 34 59.6**	**+4.2**
IZEF	**Zefreh**	**7.46**	**324**	*e*Pn	**Pn**	**03 35 02.0**	**+0.7**
IPIR	**Pirpir**	**8.12**	**317**	*e*Pn	**Pn**	**03 35 10.4**	**+0.1**
IPIR	**Pirpir**	**8.12**	**317**	Pn	**Pn**	**03 35 10.3**	**0.0**
IKLH	**Kalahroud**	**8.19**	**323**	*e*Pn	**Pn**	**03 35 12.9**	**+1.7**
QRN	**Al-Qurain**	**8.66**	**284**	*e*P	**Pn**	**03 35 17.7**	**-0.1**
QRN				AML	AML	03 36 52.8	
	comp=Z,153nm,0.3s						
ISFB	**Sefidab**	**8.70**	**330**	*e*Pn	**Pn**	**03 35 19.9**	**+1.7**
KBD	**Kabd**	**8.94**	**287**	*e*P	**Pn**	**03 35 21.1**	**-0.4**
KBD				AML	AML	03 36 58.4	
	comp=Z,226nm,0.3s						
SHAO	**Shalim**	**8.99**	**191**	P	**Pn**	**03 35 25.1**	**+2.8**
	SNR=6.8						
UMR	**Umm Al-Rimmam**	**9.01**	**289**	*e*P	**Pn**	**03 35 22.3**	**-0.2**
UMR				AML	AML	03 36 59.4	
	comp=Z,61nm,0.3s						
RDF	**Al-Radifah**	**9.01**	**285**	*e*P	**Pn**	**03 35 21.8**	**-0.7**
RDF				AML	AML	03 37 02.1	
	comp=Z,108nm,0.4s						
IANJ	**Anjiloo**	**9.07**	**341**	*e*Pn	**Pn**	**03 35 25.7**	**+2.4**
NAY	**Al-Naaiem**	**9.34**	**287**	*e*P	**Pn**	**03 35 26.6**	**-0.5**
NAY				AML	AML	03 37 07.5	
	comp=Z,46nm,0.6s						
MIB	**Mutribah**	**9.39**	**290**	*e*P	**Pn**	**03 35 27.1**	**-0.6**
MIB				AML	AML	03 37 09.7	
	comp=Z,59nm,0.4s						
IVRN	**Varamin**	**9.46**	**330**	*e*Pn	**Pn**	**03 35 31.1**	**+2.4**
IVRN	**Varamin**	**9.46**	**330**	Pn	**Pn**	**03 35 31.0**	**+2.3**
ISHM	**Shahmirzad**	**9.58**	**339**	*e*Pn	**Pn**	**03 35 33.3**	**+3.1**
RST	**Umm Al-Ruwaisa**	**9.61**	**288**	*e*P	**Pn**	**03 35 29.9**	**-0.8**
IFIR	**Firoozkooh**	**9.61**	**336**	*e*Pn	**Pn**	**03 35 30.9**	**+0.2**
IPAY	**Payeh**	**9.61**	**7**	*e*Pn	**Pn**	**03 35 34.4**	**+3.6**
IPAY	**Payeh**	**9.61**	**7**	Pn	**Pn**	**03 35 34.3**	**+3.5**
IMYA	**Miamay**	**9.68**	**13**	*e*Pn	**Pn**	**03 35 34.4**	**+2.7**
IMYA	**Miamay**	**9.68**	**13**	Pn	**Pn**	**03 35 34.3**	**+2.6**
IAKL	**Akhlamad**	**9.71**	**6**	*e*Pn	**Pn**	**03 35 35.8**	**+3.7**
IDMV	**Damavand**	**9.83**	**333**	*e*Pn	**Pn**	**03 35 35.6**	**+1.9**
IKRD	**Kardeh**	**9.89**	**5**	*e*Pn	**Pn**	**03 35 39.4**	**+4.9**
ISFR	**Esferayen**	**10.13**	**2**	*e*Pn	**Pn**	**03 35 41.8**	**+4.0**
IRAZ	**Razeghan**	**10.66**	**325**	*e*Pn	**Pn**	**03 35 44.2**	**-0.9**
IKOM	**Komasi**	**11.24**	**313**	*e*Pn	**Pn**	**03 35 51.1**	**-1.9**
IKOM	**Komasi**	**11.24**	**313**	Pn	**Pn**	**03 35 51.0**	**-2.0**
IVIS	**Veys**	**11.89**	**312**	*e*Pn	**Pn**	**03 36 00.5**	**-1.4**
IVIS	**Veys**	**11.89**	**312**	Pn	**Pn**	**03 36 00.4**	**-1.5**
DRP	**Derazinda**	**12.11**	**63**	⇑P	**Pn**	**03 36 05.8**	**+0.9**
SBDP	**Sheikh Budin**	**12.78**	**62**	P	**Pn**	**03 36 14.2**	**+0.1**
THW	**Thamme Wali**	**13.70**	**61**	⇓P	**Pn**	**03 36 25.0**	**-1.6**
CEP	**Cherat**	**14.24**	**58**	⇑P	**Pn**	**03 36 34.5**	**+0.5**
GNI	**Garni**	**16.93**	**325**	Pn	**Pn**	**03 37 10.8**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=37,slow=5.2,SNR=7.4						
GNI				LR	LR	03 44 52.3	
	comp=Z,92nm,18.5s,baz=339,slow=42						
GNI	**Garni**	**16.93**	**325**	P	**Pn**	**03 37 10.8**	**+1.5**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,92nm,18.5s						
GNI	**Garni**	**16.93**	**325**	*e*Pn	**Pn**	**03 37 08.2**	**-1.1**
GNI	**Garni**	**16.93**	**325**	*e*Pn	**Pn**	**03 37 08.2**	**-1.1**
GNI	**Garni**	**16.93**	**325**	P	**Pn**	**03 37 10.8**	**+1.5**
	comp=Z,92nm,18.5s						
ASF	**Jabal al Asfar**	**18.66**	**291**	P	**Pn**	**03 37 28.8**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=328,slow=12,SNR=12						
ASF				S	**Sn**	**03 40 46.4**	**-13**
	comp=Z,0.3nm,0.3s,baz=138,slow=15,SNR=4.3						
ASF				LR	LR	03 46 10.1	
	comp=Z,41nm,21.6s,baz=148,slow=42						
ASF	**Jabal al Asfar**	**18.66**	**291**	P	**Pn**	**03 37 28.8**	**-1.9**
ASF				S	**Sn**	**03 40 46.4**	**-13**
ZEI	**Tsey**	**19.33**	**329**	*e*P	**Pn**	**03 37 34.9**	**-3.8**
EIL	**Elat**	**20.03**	**283**	*e*P	**P**	**03 37 44.6**	**-0.8**
	comp=Z,128nm,0.7s						
EIL	**Elat**	**20.03**	**283**	*e*P	**P**	**03 37 44.6**	**-0.7**
	comp=Z,128nm,0.7s						
MMAI	**Mount Meron Ar**	**20.06**	**293**	P	**P**	**03 37 47.0**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=80,slow=12,SNR=5.9						
KIV	**Kislovodsk**	**20.80**	**329**	*e*P	**P**	**03 37 56.8**	**+3.0**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV	**Kislovodsk**	**20.80**	**329**	*e*P	**P**	**03 37 53.3**	**-0.4**
	comp=Z,18nm,1.0s						
KIV	**Kislovodsk**	**20.80**	**329**	*e*P	**P**	**03 37 56.8**	**+3.0**
	comp=Z,11nm,1.0s						
AAK	**Ala-Archa**	**20.96**	**37**	⇑*e*P	**P**	**03 37 56.6**	**+1.1**
AAK				pmax	pmax		
	comp=Z,50nm,0.7s						
AAK				MLR	MLR		
	comp=Z,100nm,24.0s,MS3.1						
AAK	**Ala-Archa**	**20.96**	**37**	*e*P	**P**	**03 37 55.0**	**-0.5**
	comp=Z,5.7nm,0.6s						
AAK	**Ala-Archa**	**20.96**	**37**	*e*P	**P**	**03 37 56.6**	**+1.1**
	comp=Z,100nm,24.0s						
AKTK	**Aktyubinsk**	**23.51**	**1**	P	**P**	**03 38 21.9**	**-0.7**
AKTK				LR	LR	03 49 08.7	
AKTK	**Aktyubinsk**	**23.51**	**1**	P	**P**	**03 38 21.9**	**-0.7**
AKTO	**Aktyubinsk**	**23.51**	**1**	P	**P**	**03 38 21.9**	**-0.8**
	comp=Z,24nm,0.6s,mb4.8,baz=169,slow=9.9,SNR=103						
AKTO				LR	LR	03 49 08.7	
	comp=Z,67nm,18.8s,MS3.1,baz=170,slow=41						
BR131	**Keskin Array S**	**23.59**	**309**	*e*P	**P**	**03 38 22.3**	**-1.2**
	comp=Z,1.6nm,0.4s,mb3.8						
BRTR	**Keskin Array B**	**23.59**	**309**	P	**P**	**03 38 23.9**	**+0.4**
	comp=Z,3.2nm,0.8s,mb3.8,baz=128,slow=11,SNR=23						
ORR	**Orenburg**	**24.78**	**356**	P	**P**	**03 38 33.8**	**-0.4**
ORR				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8						
ORR	**Orenburg**	**24.78**	**356**	P	**P**	**03 38 33.8**	**-0.4**
	comp=Z,30nm,0.9s,mb4.8						
ISP	**Isparta**	**25.18**	**302**	*e*P	**P**	**03 38 38.5**	**+0.6**
SIM	**Simferopol'**	**25.98**	**320**	*de*P	**P**	**03 38 46.0**	**+0.9**
SIM				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
SIM	**Simferopol'**	**25.98**	**320**	*e*P	**P**	**03 38 46.0**	**+0.9**
	comp=Z,16nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**27.82**	**17**	P	**P**	**03 39 01.0**	**-0.8**
	comp=Z,2.1nm,0.8s,mb3.8,baz=198,slow=9.3,SNR=12						
BVAR				PcP	PcP	03 42 16.9	-0.8
	comp=Z,0.7nm,0.3s,baz=224,slow=2.3,SNR=5.6						
BVAR				LR	LR	03 51 57.4	
	comp=Z,133nm,18.6s,MS3.5,baz=139,slow=41						
BVAR	**Borovoye Array**	**27.82**	**17**	P	**P**	**03 39 01.0**	**-0.8**
BVAR						03 42 17.0	
BVAR	**Borovoye Array**	**27.82**	**17**	PcP	PcP	03 42 17.0	-0.8
MK31	**Makanchi Array**	**27.89**	**38**	*e*P	**P**	**03 39 01.1**	**-1.2**
MKAR	**Makanchi Array**	**27.89**	**38**	P	**P**	**03 39 01.4**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.5,baz=228,slow=7.4,SNR=11						
MKAR				PcP	PcP	03 42 17.0	-0.9
	comp=Z,0.5nm,0.6s,baz=264,slow=1.8,SNR=4.0						
MKAR				LR	LR	03 51 56.8	
	comp=Z,44nm,19.4s,MS3.1,baz=334,slow=40						
MKAR	**Makanchi Array**	**27.89**	**38**	⇑*e*P	**P**	**03 39 01.5**	**-0.8**
MKAR	**Makanchi Array**	**27.89**	**38**	PcP	PcP	03 42 17.0	-0.9
AKASG	**Malin Array Be**	**32.06**	**325**	P	**P**	**03 39 38.2**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.0,baz=131,slow=7.9,SNR=9.8						
AKASG	**Malin Array Be**	**32.06**	**325**	P	**P**	**03 39 38.2**	**-1.1**
AKBB	**Malin Array Si**	**32.06**	**325**	*e*P	**P**	**03 39 37.7**	**-1.6**
NVS	**Novosibirsk**	**33.66**	**27**	*e*P	**P**	**03 39 51.6**	**-1.7**
ZAL	**Zalesovo**	**33.69**	**29**	P	**P**	**03 39 52.6**	**-0.9**
	comp=Z,5.0nm,0.5s,mb4.7,baz=227,slow=6.9,SNR=16						
ZAL	**Zalesovo**	**33.69**	**29**	*e*P	**P**	**03 39 53.0**	**-0.6**
KMBO	**Kilima Mbogo**	**34.00**	**218**	P	**P**	**03 39 58.0**	**+1.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=43,slow=9.8,SNR=2.2						
KMBO				LR	LR	03 56 06.2	
	comp=Z,44nm,19.8s,MS3.2,baz=162,slow=40						
KMBO	**Kilima Mbogo**	**34.00**	**218**	P	**P**	**03 39 58.1**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMBO				MLR	MLR		
	comp=Z,44nm,19.8s						
KMBO	**Kilima Mbogo**	**34.00**	**218**	*e*P	**P**	**03 39 59.0**	**+2.8**
	comp=Z,4.4nm,1.4s,mb4.2						
JOF	**Joensuu**	**39.92**	**342**	*e*p	**P**	**03 40 43.5**	**-3.1**
	comp=Z,2.3nm,0.4s,mb4.3						
JOF	**Joensuu**	**39.92**	**342**	*e*P	**P**	**03 40 43.5**	**-3.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
PRU	**Pruhonice**	**40.03**	**317**	*e*P	**P**	**03 40 44.6**	**-2.9**
GERES	**GERESS Array B**	**40.20**	**315**	P	**P**	**03 40 48.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=108,slow=9.3,SNR=11						
GERES				PcP	PcP	03 42 51.6	-1.3
	comp=Z,0.5nm,0.7s,baz=116,slow=2.3,SNR=4.2						
GERES				LR	LR	04 00 34.7	
	comp=Z,29nm,18.1s,MS3.2,baz=87,slow=41						
GERES	**GERESS Array B**	**40.20**	**315**	P	**P**	**03 40 48.6**	**-0.3**
GERES						03 42 51.6	
GERES	**GERESS Array B**	**40.20**	**315**	PcP	PcP	03 42 51.6	-1.3
KHC	**Kasperske Hory**	**40.37**	**315**	*e*P	**P**	**03 40 49.7**	**-0.6**
KHC				*ep*P	pP	03 41 00.7	+7.3
KHC	**Kasperske Hory**	**40.37**	**315**	*i* P	**P**	**03 40 50.3**	**0.0**
FINES	**FINESS Array B**	**40.46**	**337**	P	**P**	**03 40 50.2**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.2,baz=129,slow=9.6,SNR=19						
KAF	**Kangasniemi**	**40.85**	**338**	*ep*	**P**	**03 40 53.2**	**-1.1**
	comp=Z,2.2nm,0.5s,mb4.0						
KAF	**Kangasniemi**	**40.85**	**338**	*e*P	**P**	**03 40 53.2**	**-1.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
KEST	**Kesra**	**41.71**	**294**	P	**P**	**03 41 02.7**	**+1.4**
	comp=Z,0.7nm,0.5s,mb3.5,baz=157,slow=10,SNR=6.1						
PGF	**Pioggiola**	**42.22**	**305**	*e*P	**P**	**03 41 03.0**	**-2.5**
	comp=Z,68nm,1.4s,mb4.8						
PGF	**Pioggiola**	**42.22**	**305**	*e*P	**P**	**03 41 03.0**	**-2.5**
PGF				pmax	pmax		
	comp=Z,34nm,1.4s,mb4.8						
PGF	**Pioggiola**	**42.22**	**305**	*e*P	**P**	**03 41 03.0**	**-2.5**
	comp=Z,34nm,1.4s,mb4.8						
SONM	**Songino Array**	**43.29**	**48**	P	**P**	**03 41 14.4**	**+0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=253,slow=9.0,SNR=13						
SBF	**Sospel**	**43.49**	**306**	*e*P	**P**	**03 41 14.0**	**-1.8**
	comp=Z,22nm,0.7s,mb4.7						
SBF	**Sospel**	**43.49**	**306**	*e*P	**P**	**03 41 14.0**	**-1.8**
SBF				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
SBF	**Sospel**	**43.49**	**306**	*e*P	**P**	**03 41 14.0**	**-1.8**
	comp=Z,21nm,0.7s,mb5.0						
ULN	**Ulaanbaatar**	**43.73**	**48**	*e*P	**P**	**03 41 17.7**	**0.0**
MBDF	**Montbardon**	**44.05**	**307**	*e*P	**P**	**03 41 19.5**	**-0.8**
	comp=Z,9.7nm,0.8s,mb4.3						
MBDF	**Montbardon**	**44.05**	**307**	*e*P	**P**	**03 41 19.5**	**-0.8**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
MBDF	**Montbardon**	**44.05**	**307**	*e*P	**P**	**03 41 19.5**	**-0.8**
	comp=Z,9.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**44.17**	**309**	*e*P	**P**	**03 41 20.5**	**-0.8**
SMRF	**Simiane la Rot**	**44.84**	**306**	*e*P	**P**	**03 41 23.8**	**-2.8**
NOA	**NORSAR Array B**	**46.09**	**331**	P	**P**	**03 41 35.1**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=114,slow=7.8,SNR=4.9						
SMF	**Signal de Mont**	**46.30**	**310**	*e*P	**P**	**03 41 36.8**	**-1.4**
	comp=Z,7.1nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**46.30**	**310**	*e*P	**P**	**03 41 36.8**	**-1.4**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**46.30**	**310**	*e*P	**P**	**03 41 36.8**	**-1.4**
	comp=Z,7.0nm,0.7s,mb4.7						
LOR	**Lormes**	**46.35**	**311**	*e*P	**P**	**03 41 34.6**	**-4.0**
ARCES	**ARCESS Array B**	**46.56**	**345**	P	**P**	**03 41 39.2**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.4,baz=127,slow=7.9,SNR=13						
SSF	**Saint Saulge**	**46.57**	**310**	*e*P	**P**	**03 41 35.9**	**-4.4**
	comp=Z,6.3nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**46.57**	**310**	*e*P	**P**	**03 41 35.9**	**-4.4**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**46.57**	**310**	*e*P	**P**	**03 41 35.9**	**-4.4**
	comp=Z,3.2nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**46.65**	**310**	*e*P	**P**	**03 41 39.7**	**-1.2**
	comp=Z,34nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**46.65**	**310**	*e*P	**P**	**03 41 39.7**	**-1.2**
AVF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**46.65**	**310**	*e*P	**P**	**03 41 39.7**	**-1.2**
	comp=Z,34nm,1.3s,mb5.1						
BGF	**Bois d'Agland**

SNAA				*e*		03 49 11.6	
SNAA	**Sanae**	**48.93**	**164**	*e*P	**P**	**03 46 06.8**	**-1.0**
	1.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**56.70**	**261**	P	**P**	**03 47 05.6**	**+0.3**
	2.0nm,0.9s,mb4.2,baz=150,slow=14,SNR=3.6						
STKA				LR	LR	04 06 28.4	
	comp=Z,154nm,20.9s,MS4.1,baz=204,slow=31						
CPUP	**Villa Florida**	**65.62**	**101**	LR	LR	04 12 48.6	
	comp=Z,110nm,18.0s,MS4.1,baz=27,slow=32						
ASAR	**Alice Springs**	**67.34**	**261**	P	**P**	**03 48 16.7**	**-0.1**
	2.7nm,1.1s,mb4.2,baz=141,slow=6.2,SNR=8.6						
LPAZ	**La Paz**	**67.72**	**86**	P	**P**	**03 48 19.7**	**+0.5**
	0.4nm,0.4s,mb3.8,baz=207,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**70.09**	**264**	P	**P**	**03 48 33.6**	**-0.4**
	1.9nm,1.1s,mb3.9,baz=145,slow=5.7,SNR=4.7						
BOSA	**Boshof**	**94.50**	**169**	LR	LR	04 31 44.6	
	comp=Z,61nm,19.1s,MS4.1,baz=167,slow=34						
ESDC	**Sonseca Array**	**147.96**	**104**	PKPbc	PKPbc	03 57 06.8	-0.4
	0.8nm,0.6s,baz=247,slow=2.8,SNR=4.2						
MKAR	**Makanchi Array**	**151.28**	**269**	PKPbc	PKPbc	03 57 13.8	-1.6
	1.9nm,0.9s,baz=106,slow=4.3,SNR=9.0						
MKAR				PKPab	PKPab	03 57 22.4	-1.0
	1.8nm,0.8s,baz=117,slow=4.3,SNR=10						
MKAR	**Makanchi Array**	**151.28**	**269**	PKPbc	PKPbc	03 57 13.8	-1.6
MKAR				PKPab	PKPab	03 57 22.4	-1.0

IGQ 26 03:44:36.7, 147N×7869W, h8km±2km, Mb4.0, Ms3.8, 11C-1D, Error ellipse: s-maj=3.3km s-min=3.0km az=169.8, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**1.18**	**163**	⇑P	Pb	03 45 00.9	+1.5
COTA				S	Sg	03 45 16.8	+2.1
CAYA	**Cayambe**	**1.56**	**153**	⇑P	Pn	03 45 06.4	+1.7
CAYA				S	Sn	03 45 26.6	+1.6
YANA	**Yana**	**1.58**	**176**	⇑P	Pn	03 45 07.0	+2.0
YANA				S	Sn	03 45 26.8	+1.1
CAYR	**Refugio Cayamb**	**1.60**	**155**	⇑P	Pn	03 45 07.4	+2.1
CAYR				S	Sn	03 45 28.1	+2.0
PINO	**Pino**	**1.62**	**177**	⇑P	Pn	03 45 07.7	+2.2
GGP	**Refugio Guagua**	**1.64**	**177**	⇑P	Pn	03 45 07.8	+2.1
TERV	**Terraza Guagua**	**1.64**	**177**	⇑P	Pn	03 45 07.9	+2.1
JUA2	**San Juan 2**	**1.68**	**177**	⇑P	Pn	03 45 08.3	+2.0
JUA2				S	Sn	03 45 29.1	+1.1
CONE	**Cono NE Rev Vo**	**1.85**	**146**	⇑P	Pn	03 45 11.6	+2.8
CONE				S	Sn	03 45 34.2	+1.8
LAV3	**Lava3-Reventad**	**1.88**	**146**	⇑P	Pn	03 45 12.0	+2.9
LAV3				S	Sn	03 45 36.2	+3.1
ANTI	**Antisana**	**1.98**	**164**	⇑P	Pn	03 45 13.3	+2.8
ANTI				S	Sn	03 45 41.1	+5.7
NAS1	**Nasa**	**2.10**	**174**	P	Pn	03 45 16.3	+4.2
VC1	**Cotopaxi 1**	**2.12**	**172**	P	Pn	03 45 15.7	+3.3
VC1				S	Sn	03 45 43.5	+4.7
CAMI	**Rancho Maria**	**2.14**	**175**	P	Pn	03 45 16.3	+3.6
CAMI				S	Sn	03 45 47.0	+7.6
TAMB	**Tambo**	**2.17**	**171**	⇓P	Pn	03 45 16.8	+3.6
TAMB				S	Sn	03 45 45.6	+5.4

*IDC **26** 03:45:08.0±1.6, 1007N×12559E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, MS2.8/1, Ms1 2.8/1, ms1mx2.0/29, Error ellipse: s-maj=148.0km s-min=19.2km az=74.0*
*ISCJB **26** 03:45:18.4±2.7, 98N±02×125.1E±0.8, h95km±34km, mb3.8/7, Error ellipse: s-maj=132.8km s-min=19.8km az=151.8*

ISC 26 03:45:20.1±1.1, 100N±03×1254E±09, h98km±8km, n9, σ0°87/9, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.20**	**167**	*e*P	**Pn**	**03 45 28.8**	**-5.3**
SCPH				*e*S	**Sn**	**03 45 44.4**	**0.0**
JOW	**Kunigami**	**16.98**	**9**	LR	LR	03 54 22.4	
	comp=Z,31nm,19.2s,baz=92,slow=33						
FITZ	**Fitzroy Crossi**	**27.90**	**180**	P	**P**	**03 51 00.1**	**-0.6**
	0.7nm,0.5s,mb3.5,baz=15,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**34.44**	**166**	P	**P**	**03 51 58.9**	**+0.7**
	0.2nm,0.5s,mb3.2,baz=353,slow=7.0,SNR=3.2						
SONM	**Songino Array**	**41.01**	**340**	P	**P**	**03 52 54.0**	**+0.5**
	0.8nm,0.7s,mb3.7,baz=159,slow=9.7,SNR=5.8						
MKAR	**Makanchi Array**	**51.77**	**323**	P	**P**	**03 54 19.0**	**+1.4**
	0.3nm,0.6s,mb3.5,baz=122,slow=7.6,SNR=4.7						
ZAL	**Zalesovo**	**54.50**	**332**	P	**P**	**03 54 35.9**	**-1.7**
	2.1nm,0.3s,mb4.7,baz=214,slow=1.5,SNR=2.4						
ARCES	**ARCESS Array B**	**84.18**	**340**	P	**P**	**03 57 40.0**	**-0.3**
	3.7nm,0.9s,mb4.2,baz=75,slow=5.9,SNR=9.9						
FINES	**FINESS Array B**	**85.76**	**332**	P	**P**	**03 57 48.3**	**0.0**
	1.1nm,0.5s,mb4.0,baz=77,slow=6.1,SNR=6.9						

*ISCJB **26** 03:46:30.7±0.7, 5143N±004×16.18E±004, h0km, Error ellipse: s-maj=5.3km s-min=3.1km az=33.8*
*NEIC **26** 03:46:32.1±0.9, 5152N×1619E, h5km, MG2.5(WAR), Error ellipse: s-maj=9.6km s-min=6.3km az=50.0*
*CSEM **26** 03:46:33.2±0.3, 5144N×1619E, h2km, ML2.5/3, Error ellipse: s-maj=4.4km s-min=1.9km az=23.0, Suspected Mining induced.*
*WAR **26** 03:46:33.6, 5145N×1618E, ML2.5, Mining Induced*
*VIE **26** 03:46:34.8±0.4, 5127N×1622E, h0km, mb1.9/2, ML2.5/3, Error ellipse: s-maj=2.3km s-min=1.9km az=179.0 58 km WNW of Breslau Suspected Mining induced.*
*PRU **26** 03:46:34.0, 5138N×1618E, h0km*

ISC 26 03:46:32.1±0.7, 5145N±004×1620E±004, h0km, n19, σ0°97/38, 3C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**174**	⇑*i*Pg	**Pg**	**03 46 44.8**	**+1.0**
KSP				*e*Sg	**Sg**	**03 46 53.1**	**+1.3**
UPC	**Upice**	**0.95**	**187**	*e*PG	**Pg**	**03 46 51.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.11**	**176**	*e*PG	**Pg**	**03 46 53.7**	**+0.4**
DPC				*e*SG	**Sg**	**03 47 08.1**	**+0.4**
PVCC	**Panska Ves**	**1.38**	**229**	*e*PG	**Pg**	**03 46 59.0**	**+0.4**
PVCC				*e*SG	**Sg**	**03 47 17.2**	**+0.7**
	84nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**249**	PG	**Pg**	**03 47 01.5**	**0.0**
BRG				SG	**Sg**	**03 47 21.8**	**+0.5**
	19nm,0.6s						
PRU	**Pruhonice**	**1.81**	**216**	*e*PG	**Pg**	**03 47 06.0**	**-0.7**
PRU				*e*SG	**Sg**	**03 47 29.1**	**-1.0**
	27nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	**Pn**	**03 47 06.0**	**+0.4**
MORC				*e*Sg	**Sg**	**03 47 32.0**	**-0.7**
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	**Pn**	**03 47 05.9**	**+0.4**
MORC				*e*Sg	**Sg**	**03 47 32.0**	**-0.7**
CLL	**Collm**	**2.01**	**267**	*i* Pg	**Pg**	**03 47 09.6**	**-0.9**
CLL				*i* Sg	**Sg**	**03 47 36.8**	**+0.3**
	comp=Z,13nm,0.6s						
OKC	**Ostrava-Krasne**	**2.04**	**142**	*e*PG	**Pg**	**03 47 11.0**	**-0.2**
OKC				*e*SG	**Sg**	**03 47 36.4**	**-1.2**
	comp=Z,19nm,0.6s						
VRAC	**Vranov**	**2.16**	**173**	*e*Pn	**Pn**	**03 47 10.8**	**+1.5**
VRAC				*e*Sg	**Sg**	**03 47 40.3**	**-1.3**
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**03 47 22.0**	**+0.2**
OJC				*e*Sg	**Sg**	**03 47 56.4**	**+0.9**
NKC	**Novy Kostel**	**2.67**	**244**	*e*PN	**Pn**	**03 47 16.8**	**+0.5**
NKC				*e*SG	**Sg**	**03 47 57.7**	**-0.2**
	comp=Z,22nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**217**	*e*PN	**Pn**	**03 47 19.5**	**+0.5**
KHC				*e*PG	**Pg**	**03 47 25.2**	**-1.8**
KHC				*e*SG	**Sg**	**03 48 02.4**	**-1.8**
	comp=Z,6.2nm,0.5s						
MOX	**Moxa**	**3.00**	**256**	*e*Pg	**Pg**	**03 47 29.9**	**+0.3**
MOX				*e*Sg	**Sg**	**03 48 10.2**	**+1.7**
GEC2	**GERESS Array S**	**3.06**	**213**	*e*Pg	**Pg**	**03 47 28.3**	**-2.5**
GEC2				*e*Sg	**Sg**	**03 48 04.1**	**-6.4**
BSD	**Bornholm Skovb**	**3.75**	**349**	*i* P	**Pn**	**03 47 29.5**	**-1.6**
BSD				*i* S	**Sn**	**03 48 10.6**	**-5.3**
MOA	**Molln**	**3.82**	**200**	⇑*i*Pn	**Pn**	**03 47 32.8**	**+0.7**
MOA				⇑*i*Sg	**Sg**	**03 48 35.3**	**+0.6**
	comp=Z,7.8nm,0.6s						
MOA	**Molln**	**3.82**	**200**	Pn	**Pn**	**03 47 32.8**	**+0.7**
MOA				Sg	**Sg**	**03 48 35.3**	**+0.5**

*ISCJB **26** 04:33:31.4±0.6, 149S±02×1740W±01, h10km, mb4.3/10, MS3.9/10, Error ellipse: s-maj=23.9km s-min=13.7km az=119.3*

*IDC **26** 04:33:31.7±0.8, 1485S×17399W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.1/12, mbtmp4.0/6, MS3.8/12, Ms1 3.8/12, ms1mx3.7/19, Error ellipse: s-maj=44.3km s-min=20.4km az=144.0*
*NEIC **26** 04:33:33.1±0.4, 1489S×17401W, h10km, mb4.6/4, Error ellipse: s-maj=18.8km s-min=9.4km az=143.0*

ISC 26 04:33:33.1±0.6, 150S±02×1739W±01, h10km, n49, σ0°60/20, mb4.3/10, MS3.9/10, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**64**	Pn	**Pn**	**04 34 04.0**	**-7.4**
	112nm,0.3s,baz=218,slow=0.9,SNR=61						
AFI				Sn	**Sn**	**04 34 25.5**	**-15**
	176nm,0.3s,baz=22,slow=22,SNR=13						
AFI				LR	LR	04 34 34.1	
	comp=Z,386nm,21.8s,baz=213,slow=27						
DZM	**Mont Dzumac**	**19.90**	**246**	LR	LR	04 44 22.4	
	comp=Z,374nm,19.2s,baz=194,slow=33						
PPT	**Papeete**	**23.53**	**100**	*e*LQ		04 43 29.1	
	442nm,24.8s						
PPT				*e*LR	LR	04 44 20.9	
	151nm,26.5s						
PPT	**Papeete**	**23.53**	**100**	LR	LR	04 46 32.0	
	comp=Z,62nm,18.8s,MS3.1,baz=286,slow=33						
TBI	**Tubuai**	**24.56**	**114**	*e*LQ		04 43 43.4	
	260nm,26.5s						
TBI				*e*LR	LR	04 44 56.0	
	199nm,30.0s						
HNR	**Honiara**	**26.10**	**279**	LR	LR	04 46 21.6	
	comp=Z,70nm,21.6s,MS3.2,baz=360,slow=30						
RPZ	**Rata Peaks**	**31.41**	**201**	LR	LR	04 51 13.9	
	comp=Z,188nm,20.6s,MS3.8,baz=20,slow=34						
TAOE	**Nuku Hiva Isla**	**33.58**	**83**	*e*LR	LR	04 48 54.3	
	456nm,26.9s						
RKT	**Rikitea**	**37.63**	**109**	*e*LR	LR	04 51 00.6	
	75nm,24.5s						
PMG	**Port Moresby**	**38.39**	**274**	LR	LR	04 53 22.6	
	comp=Z,85nm,21.9s,MS3.5,baz=128,slow=31						
STKA	**Stephens Creek**	**43.82**	**239**	P	**P**	**04 41 39.5**	**+0.3**
	1.8nm,0.6s,mb4.0,baz=62,slow=7.3,SNR=4.7						
STKA	**Stephens Creek**	**43.82**	**239**	*e*P	**P**	**04 41 39.6**	**+0.4**
WB2	**Warramunga Arr**	**49.44**	**256**	*e*P	**P**	**04 42 23.3**	**+0.1**
WRAB	**Tennant Creek**	**49.44**	**256**	*e*P	**P**	**04 42 22.3**	**-0.9**
	23nm,1.4s,mb5.0						
WRA	**Warramunga Arr**	**49.45**	**256**	P	**P**	**04 42 23.0**	**-0.3**
	3.4nm,0.6s,mb4.5,baz=91,slow=7.1,SNR=46						
AS31	**Alice Springs**	**49.76**	**252**	*e*P	**P**	**04 42 26.0**	**+0.3**
ASAR	**Alice Springs**	**49.76**	**252**	P	**P**	**04 42 25.9**	**+0.2**
	21nm,0.7s,mb5.3,baz=86,slow=7.9,SNR=329						
ASAR				LR	LR	05 02 10.8	
	comp=Z,125nm,21.0s,MS3.9,baz=124,slow=35						
ASPA	**Alice Springs**	**49.77**	**252**	*e*P	**P**	**04 42 26.0**	**+0.3**
VNDA	**Vanda**	**63.77**	**186**	P	**P**	**04 44 06.0**	**+0.8**
	1.1nm,0.8s,mb3.9,baz=7.8,slow=7.3,SNR=6.6						
VNDA	**Vanda**	**63.77**	**186**	*e*P	**P**	**04 44 05.8**	**+0.6**
	2.4nm,1.1s,mb4.1						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	**P**	**04 45 10.8**	**0.0**
	0.4nm,0.5s,mb3.6,baz=225,slow=10.0,SNR=3.2						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	**P**	**04 45 10.8**	**0.0**
QSPA	**South Pole Qui**	**75.10**	**180**	*e*P	**P**	**04 45 15.2**	**0.0**
	5.4nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	**80.79**	**56**	P	**P**	**04 45 47.7**	**+0.9**
	1.1nm,0.9s,mb3.8,baz=224,slow=7.0,SNR=6.7						
TXAR				LR	LR	05 16 12.2	
	comp=Z,85nm,20.3s,MS4.1,baz=190,slow=32						
COLA	**College**	**82.01**	**11**	*e*P	**P**	**04 45 53.2**	**-0.1**
	3.5nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**04 45 54.4**	**-0.3**
	0.7nm,0.8s,mb3.6,baz=204,slow=3.3,SNR=5.0						
PDAR				LR	LR	05 18 04.5	
	comp=Z,124nm,18.7s,MS4.3,baz=271,slow=32						
MAW	**Mawson**	**88.06**	**199**	LR	LR	05 22 57.7	
	comp=Z,127nm,19.0s,MS4.3,baz=251,slow=34						
YKA	**Yellowknife Ar**	**89.89**	**24**	LR	LR	05 19 05.5	
	comp=Z,88nm,19.6s,MS4.2,baz=265,slow=30						
VNA3	**Neumayer Olymp**	**93.35**	**175**	*e*	**P**	**04 46 46.6**	**-1.7**
VNA3				*e*	pP	04 46 51.5	-0.2
VNA3				*e*		04 46 53.3	
VNA2	**Neumayer--Watz**	**93.84**	**176**	*e*	**P**	**04 46 50.8**	**+0.2**
	baz=192,slow=3.6						
VNA2				*e*	pP	04 46 54.3	+0.4
VNA2				*e*		04 46 56.7	
ULM	**Lac du Bonnet**	**93.91**	**39**	LR	LR	05 28 08.0	
	comp=Z,141nm,18.2s,MS4.5,baz=321,slow=35						
KECS	**Kecovo**	**144.51**	**343**	*e*PKP	PKPdf	04 53 09.2	-0.5
KECS	**Kecovo**	**144.51**	**343**	*e*	PKPdf	04 53 09.2	-0.5
VYHS	**Vyhne**	**144.93**	**345**	*e*PKP	PKPdf	04 53 10.6	+0.2
BAIF	**Baives**	**144.95**	**2**	*e*PKP1	PKPdf	04 53 11.1	+0.7
PSZ	**Piszkesteto**	**145.18**	**344**	*e*PKPdf	PKPdf	04 53 10.8	0.0
BR131	**Keskin Array S**	**145.48**	**321**	*e*PKPbc	PKPbc	04 53 12.6	+1.2
BRTR	**Keskin Array B**	**145.48**	**321**	PKPbc	PKPbc	04 53 12.5	+1.1
	3.6nm,0.7s,baz=94,slow=2.3,SNR=22						
GERES	**GERESS Array B**	**145.62**	**351**	PKPbc	PKPbc	04 53 12.1	+0.3
	0.5nm,0.5s,baz=36,slow=2.5,SNR=5.9						
CDF	**Champ du Feu**	**146.61**	**359**	*e*PKP1	PKPbc	04 53 14.7	-0.1
LOR	**Lormes**	**147.72**	**3**	*e*PKP1	PKPbc	04 53 18.4	+0.5
SSF	**Saint Saulge**	**147.91**	**3**	*e*PKP1	PKPbc	04 53 19.1	+0.7
	13nm,0.9s						
AVF	**Avril sur Loir**	**148.17**	**4**	*e*PKP1	PKPbc	04 53 19.4	+0.3
BGF	**Bois d'Agland**	**148.37**	**4**	*e*PKP1	PKPbc	04 53 20.2	+0.5
CABF	**La Chapelle**	**148.43**	**360**	*e*PKP1	PKPbc	04 53 21.0	+1.2
	9.6nm,0.8s						
LPL	**La Plagne**	**149.52**	**359**	*e*PKP1	PKPbc	04 53 24.2	+1.6
LPG	**La Plagne**	**149.54**	**359**	*e*PKP1	PKPbc	04 53 24.4	+1.8
	9.0nm,0.8s						
VIVF	**Saint-Julien-l**	**150.16**	**2**	*e*PKP1	PKPbc	04 53 25.2	+1.1
FRF	**La Foret Royal**	**151.48**	**359**	*e*PKP1	PKPbc	04 53 26.8	-0.4
	26nm,1.0s						

*CSEM **26** 04:36:35.9±0.2, 3516N×381W, h10km, MD3.2, Error ellipse: s-maj=6.2km s-min=4.3km az=118.0*
*CNRM **26** 04:36:39.0, 3505N×379W, h2km, MD3.2*

MDD 26 04:36:37.4±0.4, 3511N×386W, h0km, mb3.2/7, mbLg2.2/4, Error ellipse: s-maj=4.1km s-min=3.6km az=81.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.13**	**331**	*i* P	Pg	04 36 42.0	+2.0
TOU	**Touzarine**	**0.17**	**149**	P	Pg	04 36 40.5	-0.2
TOU				S	Sg	04 36 42.5	-0.5
TOU	**Touzarine**	**0.17**	**149**	*i* P	Pg	04 36 40.5	-0.2
EMEL	**Melilla**	**0.77**	**75**	P	Pg	04 36 51.5	-0.7
	128nm,0.2s,SNR=16						
EMEL				S	Sg	04 37 03.0	+1.0
	638nm,0.2s,SNR=16						
EMLI	**Melilla**	**0.77**	**75**	P	Pg	04 36 51.5	-0.7
	128nm,0.2s,SNR=16						
EMLI				S	Sg	04 37 03.0	+0.8
	638nm,0.2s,SNR=16						
ZAI	**Zaio**	**0.93**	**98**	*i* P	Pg	04 36 54.5	-0.7
ZAI				*i* S	Sg	04 37 07.0	-0.2
EALB	**Alboran**	**1.07**	**39**	P	Pg	04 36 55.6	-2.3
	7.1nm,0.2s,SNR=7.9						
EALB				S	Sg	04 37 11.5	-0.3
	18nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.07**	**39**	P	Pg	04 36 55.6	-2.3
	7.1nm,0.2s,SNR=7.9						
EALB				S	Sg	04 37 11.5	-0.3
	18nm,0.1s,SNR=7.9						
TGT	**Taghat**	**1.43**	**224**	*i* P	Pn	04 37 04.0	-0.6
TGT				*i* S	Sg	04 37 23.0	-0.4
EMIJ	**Mijas**	**1.63**	**333**	P	Pn	04 37 04.9	-2.5
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	Sn	04 37 25.5	-3.5
	3.3nm,0.4s,SNR=6.3						
EBER	**Berja**	**1.95**	**24**	S	Sn	04 37 31.7	-5.2
	2.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.95**	**24**	S	Sn	04 37 31.7	-5.3
	2.4nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**2.04**	**214**	*i* P	Pn	04 37 13.0	0.0
MIF				*i* S	Sn	04 37 37.0	-2.1
EQUE	**Quentar**	**2.12**	**9**	P	Pn	04 37 13.8	-0.3
	0.5nm,0.2s,SNR=7.9						
EQUE				S	Sn	04 37 35.4	-5.7
	0.4nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.29**	**206**	*i* P	Pn	04 37 16.0	-0.5
CZD				*i* S	Sn	04 37 43.0	-2.4
EQES	**Quesada**	**2.76**	**13**	P	Pn	04 37 23.4	+0.5
	9.3nm,1.1s,SNR=6.4						
EQES				S	Sn	04 37 57.2	+0.2
	1.0nm,0.2s,SNR=5.8						
ZFT	**Errachidia**	**3.09**	**188**	P	Pn	04 37 27.0	-0.5
ZFT				S	Sn	04 38 02.0	-3.2
ZFT	**Errachidia**	**3.09**	**188**	*e*P	Pn	04 37 27.0	-0.5
EADA	**Adamuz**	**3.10**	**350**	S	Sn	04 38 04.1	-1.4
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.10**	**350**	S	Sn	04 38 04.1	-1.4
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**320**	P	Pn	04 37 31.4	-1.5
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	04 38 10.1	-4.8
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**320**	P	Pn	04 37 31.4	-1.5
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.79**	**311**	P	Pn	04 37 35.5	-1.7
	0.2nm,0.2s,SNR=4.0						
EGRO				S	Sn	04 38 19.1	-3.4
	0.5nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**4.43**	**326**	P	Pn	04 37 44.1	-1.7
	0.3nm,0.1s,SNR=4.0						
EBAD				S	Sn	04 38 35.5	-2.6
	1.7nm,0.2s,SNR=7.9						

*NEIC **26** 04:58:27.8, 37.12N×946W, h0km, MN2.9(MDD), After MDD.*
*IGIL **26** 04:58:27.6, 3698N×967W, h14km, ML2.9*
*CNRM **26** 04:58:27.4, 3702N×961W, h30km, MD3.7*
*MDD **26** 04:58:27.9±0.9, 3698N×970W, h30km, mbLg2.9/24, Error ellipse: s-maj=8.7km s-min=5.5km az=79.0, PRXIMO PROFUNDIDAD FIJA*
*CSEM **26** 04:58:28.0±0.3, 3681N×941W, h30km, ML3.9/4, Error ellipse: s-maj=6.3km s-min=3.8km az=86.0*
*LDG **26** 04:58:29.1±0.2, 3704N×962W, h20km, Ml3.4/4, Error ellipse: s-maj=4.2km s-min=2.1km az=49.0*

INMG 26 04:58:29.2±0.9, 3704N×962W, h20km±3km, ML2.9, 2C, Error ellipse: s-maj=3.8km s-min=1.8km az=56.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.82**	**71**	*i* P	Pb	04 58 44.0	-0.7
MORF				*e*S	Sb	04 58 55.4	+0.1
MORF							
	186nm,0.2s						
PTEO	**Sao Teotonio**	**0.88**	**54**	*i* P	Pb	04 58 44.9	-0.8
PTEO				*e*S	Sb	04 58 57.1	+0.2
PTEO							
	62nm,0.1s						
PLML	**Palmela**	**1.62**	**20**	*e*Pn	Pn	04 58 55.3	-1.2
PLML				*e*Sn	Sn	04 59 15.1	-1.7
PBEJ	**Beja**	**1.71**	**54**	*i* Pn	Pn	04 58 55.9	-1.9
PBEJ				*e*Sn	Sn	04 59 16.3	-2.7
PBEJ							
	43nm,0.1s						
EGRO	**El Granado**	**1.77**	**73**	P	Pn	04 58 56.9	-1.8
	5.0nm,0.3s,SNR=71						
EGRO				S	Sn	04 59 18.1	-2.5
	38nm,0.3s,SNR=16						
EGRO	**El Granado**	**1.77**	**73**	P	Pn	04 58 56.9	-1.8
	5.0nm,0.3s,SNR=71						
EGRO				S	Sn	04 59 18.1	-2.5
	38nm,0.3s,SNR=16						
MOE	**Montemor**	**1.79**	**34**	*e*Pn	Pn	04 58 57.7	-1.2
MOE				*e*Sn	Sn	04 59 18.9	-2.2
PMAFR	**Mafra**	**1.93**	**8**	*e*Pn	Pn	04 58 59.1	-1.8
PMAFR				*e*Sn	Sn	04 59 21.6	-3.0
EVO	**Evora**	**1.96**	**40**	*e*Pn	Pn	04 58 58.6	-2.7
EVO	**Evora**	**1.96**	**40**	*e*Pg	Pn	04 59 04.6	+3.3
EVO				*e*Sn	Sn	04 59 21.3	-3.9
	117nm,0.3s						
ALMR	**Almeirim**	**2.27**	**21**	*e*P	Pn	04 59 04.0	-1.5
ALMR				*e*S	Sn	04 59 30.5	-2.4
ALMR				*e*S	Sn	04 59 30.5	-2.4
ALMR				AML	AML	04 59 32.2	
	comp=E,70nm,0.2s						
ALMR	**Almeirim**	**2.27**	**21**	P	Pn	04 59 04.0	-1.5
ALMR				S	Sn	04 59 30.5	-2.4
ALMR	**Almeirim**	**2.27**	**21**	*e*P	Pn	04 59 04.0	-1.5
ALMR				*e*S	Sn	04 59 30.5	-2.3
PESTR	**Estremoz**	**2.43**	**41**	*i* Pn	Pn	04 59 05.7	-2.0
PESTR				*e*Sn	Sn	04 59 33.8	-3.0
PESTR							
	comp=E,19nm,0.2s						
EMIN	**Mina Concepcio**	**2.46**	**72**	P	Pn	04 59 06.1	-2.0
	comp=E,13nm,0.4s,SNR=162						
EMIN				S	Sn	04 59 34.6	-2.9
	comp=E,42nm,0.3s,SNR=22						
EMIN	**Mina Concepcio**	**2.46**	**72**	P	Pn	04 59 06.1	-2.0
	comp=E,13nm,0.4s,SNR=162						
EMIN				S	Sn	04 59 34.6	-2.9
	comp=E,42nm,0.3s,SNR=22						
EBAD	**Badajoz**	**2.68**	**49**	⇑P	Pn	04 59 09.0	-2.1
	comp=E,16nm,0.2s,SNR=18						
EBAD				S	Sn	04 59 39.3	-3.7
	comp=E,18nm,0.3s,SNR=9.5						
EBAD	**Badajoz**

MIF *i* S Sn 05 00 36.0 -6.7
ESDC Sonseca Array 5.17 58 P Pn 04 59 42.9 -2.4
comp=E,1.2nm,0.2s,baz=244,slow=13,SNR=148
ESDC S Sn 05 00 39.2 -5.1
comp=E,0.2nm,0.3s,baz=243,slow=23,SNR=13
ESDC Sonseca Array 5.17 58 P Pn 04 59 43.0 -2.3
ESLA Sonseca Array 5.17 58 *e*Pn Pn 04 59 43.3 -2.0
comp=E,1.6nm,0.3s
ESLA Sonseca Array 5.17 58 *e*Pn Pn 04 59 43.3 -2.0
comp=E,1.6nm,0.3s
PBRG Braganca 5.26 24 *e*Pn Pn 04 59 44.6 -2.0
PBRG *e*Sn Sn 05 00 40.5 -6.0
PBRG
comp=E,12nm,0.2s
EQES Quesada 5.27 80 P Pn 04 59 45.0 -1.7
comp=E,2.8nm,0.5s,SNR=18
EQES S Sn 05 00 41.5 -5.3
comp=E,5.9nm,0.5s
EQES Quesada 5.27 80 P Pn 04 59 45.0 -1.7
comp=E,2.8nm,0.5s,SNR=18
EQES S Sn 05 00 41.5 -5.3
comp=E,5.9nm,0.5s
KIB El Ksiba 5.34 145 *i* P Pn 04 59 44.5 -3.1
KIB *i* S Sn 05 00 41.0 -7.5
ECAL Calabor 5.38 24 P Pn 04 59 46.5 -1.8
comp=E,6.4nm,0.3s,SNR=10
ECAL S Sn 05 00 44.2 -5.4
comp=E,15nm,0.8s
ECAL Calabor 5.38 24 P Pn 04 59 46.5 -1.8
comp=E,6.4nm,0.3s,SNR=10
EBER Berja 5.39 89 S Sn 05 00 44.9 -4.9
comp=E,4.9nm,0.3s,SNR=7.0
EBER Berja 5.39 89 S Sn 05 00 44.9 -4.9
comp=E,4.9nm,0.3s,SNR=7.0
CZD Col de Zad 5.48 135 *i* P Pn 04 59 47.0 -2.6
CZD *i* S Sn 05 00 45.0 -7.1
CIA Chichaoua 5.50 172 P Pn 04 59 47.0 -3.0
CIA S Sn 05 00 45.0 -7.6
CIA Chichaoua 5.50 172 *i* P Pn 04 59 47.0 -3.0
GUD Guadarrama 5.58 48 P Pn 04 59 48.2 -2.8
comp=E,1.5nm,0.2s,SNR=7.9
GUD S Sn 05 00 49.0 -5.6
comp=E,3.2nm,0.2s,SNR=7.9
EHUE Huescar 5.64 80 P Pn 04 59 49.6 -2.3
comp=E,0.6nm,0.2s,SNR=7.9
EHUE S Sn 05 00 49.8 -6.3
comp=E,2.8nm,0.2s,SNR=7.9
EVIA Vianos 5.85 72 P Pn 04 59 51.5 -3.2
comp=E,3.7nm,0.2s,SNR=15
EVIA S Sn 05 00 53.3 -8.0
comp=E,12nm,0.8s
EMAZ Mazaricos 5.92 5 S Sn 05 00 54.7 -8.3
comp=E,5.7nm,0.3s,SNR=7.0
EPON Pontenova 6.56 16 P Pn 05 00 02.3 -2.1
comp=E,0.6nm,0.1s,SNR=7.9
EPON S Sn 05 01 12.8 -5.9
comp=E,3.9nm,0.2s,SNR=7.9
EPON Pontenova 6.56 16 P Pn 05 00 02.3 -2.2
comp=E,0.6nm,0.1s,SNR=7.9
ETOB Tobarra 6.58 73 P Pn 05 00 02.3 -2.5
comp=E,5.1nm,0.8s,SNR=24
ETOB S Sn 05 01 11.3 -7.9
comp=E,52nm,1.4s
ETOB Tobarra 6.58 73 P Pn 05 00 02.3 -2.5
comp=E,5.1nm,0.8s,SNR=24
ZFT Errachidia 6.62 137 P Pn 05 00 02.0 -3.2
ZFT S Sn 05 01 12.0 -8.0
ZFT Errachidia 6.62 137 *i* P Pn 05 00 02.0 -3.2
EARI Arriondas 7.11 27 P Pn 05 00 09.8 -2.2
comp=E,8.9nm,1.1s,SNR=10
EARI S Sn 05 01 24.7 -7.4
SNR=7.9
EARI Arriondas 7.11 27 P Pn 05 00 09.8 -2.2
comp=E,8.9nm,1.1s,SNR=10
EBEN Beniarda 7.61 75 P Pn 05 00 16.3 -2.6
comp=E,0.3nm,0.1s,SNR=7.9
EBEN S Sn 05 01 37.8 -6.8
comp=E,0.3nm,0.1s,SNR=7.9
EBEN Beniarda 7.61 75 P Pn 05 00 16.3 -2.6
comp=E,0.3nm,0.1s,SNR=7.9
ELAN Lanestosa 7.79 36 P Pn 05 00 19.2 -2.1
comp=E,9.2nm,1.1s,SNR=5.8
ELAN S Sn 05 01 41.7 -7.2
SNR=7.9
ELAN Lanestosa 7.79 36 P Pn 05 00 19.2 -2.2
comp=E,9.2nm,1.1s,SNR=5.8
EMOS Mosqueruela 7.88 62 P Pn 05 00 21.4 -1.2
comp=E,3.0nm,0.6s,SNR=13
EMOS S Sn 05 01 43.6 -7.6
comp=E,1.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.88 62 P Pn 05 00 21.4 -1.2
comp=E,3.0nm,0.6s,SNR=13
ESAC San Caprasio 8.49 54 P Pn 05 00 28.9 -2.0
comp=E,4.1nm,0.2s,SNR=7.9
ESAC S Sn 05 01 59.7 -6.4
comp=E,4.7nm,0.2s,SNR=7.9
ESAC San Caprasio 8.49 54 P Pn 05 00 28.9 -2.0
comp=E,4.1nm,0.2s,SNR=7.9
ELIZ Elizondo 8.71 43 P Pn 05 00 31.0 -2.9
comp=E,0.9nm,0.2s,SNR=7.9
SJPF Ste Jean 8.84 44 *e*Pn Pn 05 00 33.8 -2.0
SJPF *e*Sn Sn 05 02 05.5 -9.3
comp=E,1.2nm,0.3s
SJPF Ste Jean 8.84 44 Pn Pn 05 00 33.8 -2.0
SJPF Sn Sn 05 02 05.5 -9.3
comp=E,0.6nm,0.3s
ETSF Etsaut 9.09 47 *e*Pn Pn 05 00 37.0 -2.1
ETSF *e*Sn Sn 05 02 12.5 -8.3
comp=E,1.5nm,0.3s
ETSF Etsaut 9.09 47 Pn Pn 05 00 37.0 -2.1
ETSF Sn Sn 05 02 12.5 -8.3
comp=E,0.8nm,0.3s
EPOB Poblet 9.35 59 P Pn 05 00 39.7 -3.1
comp=E,1.5nm,0.2s,SNR=7.9
EPOB Poblet 9.35 59 P Pn 05 00 39.7 -3.1
comp=E,1.5nm,0.2s,SNR=7.9
EBIE Bielsa 9.38 50 P Pn 05 00 41.2 -2.1
comp=E,3.1nm,0.6s,SNR=8.7
EBIE S Sn 05 02 19.6 -8.5
comp=E,0.7nm,0.2s,SNR=7.9
EBIE Bielsa 9.38 50 P Pn 05 00 41.2 -2.0
EPF Esparros 9.70 49 *e*Pn Pn 05 00 45.2 -2.3
EPF *e*Sn Sn 05 02 27.2 -8.6
comp=E,2.0nm,0.3s
EPF Esparros 9.70 49 Pn Pn 05 00 45.2 -2.3
EPF Sn Sn 05 02 27.2 -8.6
comp=E,1.0nm,0.3s
MTLF Montolieu 11.02 52 *e*Pn Pn 05 01 03.1 -2.5
PGF Pioggiola 15.32 63 *e*P Pn 05 02 05.6 +1.4

*CSEM **26** 04:58:34.2, 37.15N×2078E, h10km, MD3.5/3, After ATH*
ATH 26 04:58:34.2, 3715N×2078E, h10km, MD3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.92**	**88**	*e*PB	Pb	04 58 51.5	-0.7
VLS	**Valsamata**	**1.04**	**352**	*e*PB	Pb	04 58 53.9	-0.3
RLS	**Riolos of Patr**	**1.06**	**31**	*e*PB	Pb	04 58 54.1	-0.5

IGQ 26 05:25:45.7, 052N×8011W, h16km±7km, Mb4.1, Ms3.9, 7C-2D, Error ellipse: s-maj=9.1km s-min=5.7km az=94.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**1.65**	**114**	⇑P	Pn	05 26 15.7	+1.8
PINO				S	Sn	05 26 38.8	+4.0
TERV	**Terraza Guagua**	**1.66**	**115**	⇑P	Pn	05 26 15.9	+1.8
YANA	**Yana**	**1.66**	**112**	P	Pn	05 26 15.8	+1.6
YANA				S	Sn	05 26 40.4	+5.2
GGP	**Refugio Guagua**	**1.67**	**114**	⇑P	Pn	05 26 15.9	+1.8
JUA2	**San Juan 2**	**1.67**	**116**	⇑P	Pn	05 26 16.2	+1.9
COTA	**Cotacachi**	**1.78**	**96**	P	Pn	05 26 18.0	+2.2
COTA				S	Sn	05 26 43.1	+5.0
NAS1	**Nasa**	**1.99**	**125**	⇓P	Pn	05 26 22.5	+3.8
CAMI	**Rancho Maria**	**2.00**	**127**	P	Pn	05 26 22.1	+3.4
CAMI				S	Sn	05 26 51.3	+7.8
VC1	**Cotopaxi 1**	**2.06**	**124**	⇑P	Pn	05 26 23.2	+3.5
TAMB	**Tambo**	**2.12**	**125**	⇑P	Pn	05 26 24.2	+3.8
CAYR	**Refugio Cayamb**	**2.16**	**103**	⇓P	Pn	05 26 25.0	+4.0
CAYR				S	Sn	05 26 55.4	+7.9
CAYA	**Cayambe**	**2.17**	**102**	⇑P	Pn	05 26 25.1	+4.0
ANTI	**Antisana**	**2.17**	**116**	P	Pn	05 26 24.9	+3.7
CONE	**Cono NE Rev Vo**	**2.54**	**103**	P	Pn	05 26 31.6	+5.4
LAV3	**Lava3-Reventad**	**2.55**	**104**	P	Pn	05 26 32.0	+5.6
LAV3				S	Sn	05 27 00.9	+3.7

IDC 26 05:37:06.0±82.0, 1852S×16621E, h0km, mb4.4/3, mb1 4.5/3, mb1mx4.0/13, mbtmp4.4/3, Error ellipse: s-maj=1362.0km s-min=109.8km az=72.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.54**	**176**	*e*P	Pn	05 38 16.4	+14
DZM				*e*S	Sn	05 39 14.0	+29
STKA	**Stephens Creek**	**25.86**	**234**	P	P	05 42 39.6	+0.4
1.3nm,0.5s,baz=51,slow=11,SNR=4.4							
WB2	**Warramunga Arr**	**30.09**	**262**	*e*P	P	05 43 17.2	+0.2
WRA	**Warramunga Arr**	**30.10**	**262**	P	P	05 43 17.1	0.0
1.3nm,0.3s,baz=93,slow=8.8,SNR=51							
ASAR	**Alice Springs**	**30.53**	**255**	P	P	05 43 21.6	+0.6
10nm,0.4s,baz=84,slow=8.7,SNR=184							
ASPA	**Alice Springs**	**30.53**	**255**	*e*P	P	05 43 21.6	+0.7
FITZ	**Fitzroy Crossi**	**38.46**	**264**	*e*P	P	05 44 28.7	-0.8
7.2nm,0.7s							

*ISCJB **26** 05:43:53.2±0.4, 1855N×007×4659W×006, h10km, mb4.5/37, MS3.9/18, Error ellipse: s-maj=10.5km s-min=8.4km az=45.4*
*IDC **26** 05:43:53.0±0.6, 1854N×4660W, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/24, mbtmp4.1/16, ML4.0/1, MS3.8/17, Ms1 3.8/17, ms1mx3.7/23, Error ellipse: s-maj=18.6km s-min=14.8km az=144.0*
*NEIC **26** 05:43:54.8±0.3, 1849N×4656W, h10km, mb4.8/27, Error ellipse: s-maj=8.0km s-min=6.3km az=198.0*
*BJI **26** 05:43:54.7, 1850N×4660W, h10km, mB5.5, Ms5.6, Msz4.8*
ISC 26 05:43:55.3±0.4, 1850N±007×4658W±006, h10km, n69, σ0s87/57, mb4.5/37, MS3.9/18, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**18.02**	**272**	*e*P	**Pn**	**05 48 05.2**	**-0.7**
PCRV	**Puerto La Cruz**	**19.34**	**247**	P	**Pn**	**05 48 20.0**	**-1.9**
0.4nm,0.3s,baz=62,slow=14,SNR=2.9							
SDV	**Santo Domingo**	**25.22**	**251**	P	**P**	**05 49 22.0**	**+0.8**
18nm,0.8s,mb4.7,baz=80,slow=5.8,SNR=25							
SDV	**Santo Domingo**	**25.22**	**251**	*e*P	**P**	**05 49 21.5**	**+0.3**
17nm,0.8s,mb4.6							
ROSC	**El Rosal**	**30.31**	**247**	LR	LR	06 01 12.7	
comp=Z,67nm,19.9s,MS3.3,baz=27,slow=34							
OTAV	**Otavalo**	**36.18**	**243**	*e*P	**P**	**05 50 58.5**	**+0.6**
7.0nm,0.9s,mb4.6							
SIV	**San Ignacio**	**37.13**	**204**	P	**P**	**05 51 06.3**	**+0.3**
1.3nm,0.9s,mb3.8,baz=19,slow=7.2,SNR=4.7							
SCHQ	**Schefferville**	**39.43**	**342**	LR	LR	06 05 02.9	
comp=Z,339nm,19.8s,MS4.2,baz=104,slow=32							
PLAL	**Pickwick Lake**	**40.21**	**303**	*e*P	**P**	**05 51 34.3**	**+2.4**
16nm,1.0s,mb4.7							
LPAZ	**La Paz**	**40.56**	**213**	P	**P**	**05 51 34.9**	**+0.1**
2.0nm,1.0s,mb3.7,baz=26,slow=5.1,SNR=7.7							
LPAZ				LR	LR	06 06 55.6	
comp=Z,70nm,21.1s,MS3.5,baz=65,slow=34							
LPAZ	**La Paz**	**40.56**	**213**	*e*P	**P**	**05 51 35.5**	**+0.7**
3.8nm,0.8s,mb4.1							
JFWS	**Jewell Farm**	**44.09**	**313**	*e*P	**P**	**05 52 03.7**	**+0.1**
13nm,0.6s,mb4.8							
CPUP	**Villa Florida**	**45.77**	**194**	P	**P**	**05 52 15.9**	**-1.0**
2.6nm,0.7s,mb4.3,baz=4.6,slow=7.2,SNR=7.5							
CPUP				LR	LR	06 11 48.4	
comp=Z,103nm,21.8s,MS3.7,baz=112,slow=37							
CPUP	**Villa Florida**	**45.77**	**194**	*e*P	**P**	**05 52 16.6**	**-0.3**
23nm,0.8s,mb5.2							
TORD	**Torodi Ar. Bea**	**46.64**	**89**	P	**P**	**05 52 23.0**	**-0.8**
4.7nm,1.3s,mb4.3,baz=277,slow=5.6,SNR=8.4							
TORD				LR	LR	06 09 16.3	
comp=Z,152nm,19.1s,MS4.0,baz=305,slow=33							
KSU1	**Kansas State U**	**47.74**	**306**	*e*P	**P**	**05 52 30.7**	**-1.6**
14nm,0.7s,mb5.1							
WMOK	**Wichita Mounta**	**48.86**	**300**	*e*P	**P**	**05 52 40.4**	**-0.6**
JCT	**Junction City**	**49.48**	**295**	*e*P	**P**	**05 52 45.3**	**-0.5**
5.5nm,0.7s,mb4.7							
ULM	**Lac du Bonnet**	**50.27**	**321**	P	**P**	**05 52 50.1**	**-1.7**
6.2nm,0.8s,mb4.7,baz=115,slow=7.3,SNR=9.5							
ULM				LR	LR	06 11 13.0	
comp=Z,228nm,18.3s,MS4.2,baz=126,slow=33							
ULM	**Lac du Bonnet**	**50.27**	**321**	*e*P	**P**	**05 52 50.6**	**-1.1**
11nm,0.8s,mb4.9							
KEST	**Kesra**	**51.98**	**59**	LR	LR	06 10 60.0	
comp=Z,24nm,18.6s,MS3.3,baz=251,slow=31							
TXAR	**Lajitas Array**	**52.85**	**293**	P	**P**	**05 53 10.7**	**-0.3**
1.0nm,0.8s,mb3.8,baz=96,slow=6.8,SNR=11							
TXAR				LR	LR	06 16 01.1	
comp=Z,100nm,20.3s,MS3.9,baz=0.0,slow=36							
MNTX	**Cornudas Mount**	**54.27**	**296**	*e*P	**P**	**05 53 21.1**	**-0.4**
ISCO	**Idaho Springs**	**54.74**	**306**	*e*P	**P**	**05 53 26.0**	**+1.1**
DGMT	**Dagmar**	**54.99**	**317**	*e*P	**P**	**05 53 26.8**	**+0.1**
17nm,0.7s,mb5.2							
LAO	**LASA Array**	**56.02**	**314**	*e*P	**P**	**05 53 34.1**	**0.0**
19nm,0.8s,mb5.2							
GERES	**GERESS Array B**	**56.80**	**43**	P	**P**	**05 53 40.1**	**+0.5**
1.0nm,0.9s,mb3.9,baz=266,slow=3.9,SNR=4.1							
GERES				LR	LR	06 15 53.2	
comp=Z,62nm,18.1s,MS3.8,baz=82,slow=34							
GERES	**GERESS Array B**	**56.80**	**43**	P	**P**	**05 53 40.1**	**+0.5**
GERES				LR	LR	06 15 53.2	
BW06	**Boulder Array**	**57.94**	**309**	*e*P	**P**	**05 53 46.8**	**-0.9**
6.6nm,1.1s,mb4.6							
PDAR	**Pinedale Array**	**57.94**	**309**	P	**P**	**05 53 46.9**	**-0.8**
4.4nm,1.1s,mb4.4,baz=106,slow=7.3,SNR=12							
PDAR				LR	LR	06 15 03.1	
comp=Z,277nm,20.1s,MS4.4,baz=112,slow=32							
NOA	**NORSAR Array B**	**58.55**	**29**	LR	LR	06 13 04.7	
comp=Z,51nm,20.5s,MS3.6,baz=250,slow=30							
EGMT	**Eagleton**	**58.58**	**315**	*e*P	**P**	**05 53 52.0**	**-0.2**
11nm,0.8s,mb4.9							
LOHW	**Long Hollow**	**58.76**	**310**	*e*P	**P**	**05 53 53.0**	**-0.4**
3.4nm,0.7s,mb4.5							
TUC	**Tucson**	**58.84**	**297**	*e*P	**P**	**05 53 54.4**	**+0.4**
SNOW	**Snow King Moun**	**58.86**	**310**	*e*P	**P**	**05 53 54.7**	**+0.6**
5.8nm,0.7s,mb4.7							
FLWY	**Flagg Ranch**	**58.86**	**311**	*e*P	**P**	**05 53 55.1**	**+1.0**
12nm,0.9s,mb4.9							
REDW	**Red Top Meadow**	**58.92**	**310**	*e*P	**P**	**05 53 56.6**	**+2.0**
TPAW	**Teton Pass**	**59.00**	**310**	*e*P	**P**	**05 53 56.4**	**+1.3**
9.8nm,1.1s,mb4.8							
IMW	**Indian Meadow**	**59.02**	**311**	*e*P	**P**	**05 53 55.2**	**0.0**
8.6nm,0.8s,mb4.8							
DCID1	**Drake Creek**	**59.18**	**310**	*e*P	**P**	**05 53 56.8**	**+0.5**
WUAZ	**Wupatki**	**59.20**	**301**	*e*P	**P**	**05 53 57.8**	**+1.4**
7.5nm,0.8s,mb4.8							
HWUT	**Hardware Ranch**	**59.37**	**308**	*e*P	**P**	**05 53 57.2**	**-0.5**
5.9nm,0.8s,mb4.7							
BOZ	**Bozeman (W)**	**59.63**	**313**	*e*P	**P**	**05 54 00.4**	**+1.0**
4.5nm,0.9s,mb4.5							
MSU	**Marysvale**	**59.79**	**304**	*e*P	**P**	**05 54 01.1**	**+0.5**
HRY	**Holter Researc**	**59.85**	**314**	*e*P	**P**	**05 54 00.8**	**-0.1**
DUG	**Dugway**	**60.28**	**306**	*e*P	**P**	**05 54 04.2**	**+0.2**
1.8nm,0.7s,mb4.2							
DLMT	**Dillon**	**60.29**	**312**	*e*P	**P**	**05 54 04.5**	**+0.5**
18nm,1.5s,mb4.9							
CHMT	**Chamberlain Mo**	**60.84**	**314**	*e*P	**P**	**05 54 07.6**	**-0.1**
EDM	**Edmonton**	**61.51**	**321**	*e*P	**P**	**05 54 11.9**	**-0.4**
HLID	**Hailey**	**61.52**	**310**	*e*P	**P**	**05 54 12.4**	**+0.1**
NEW	**Newport**	**63.52**	**315**	*e*P	**P**	**05 54 25.0**	**-0.7**
15nm,0.8s,mb5.1							
YKA	**Yellowknife Ar**	**63.63**	**331**	P	**P**	**05 54 24.5**	**-1.9**
0.4nm,0.5s,mb3.7,baz=109,slow=6.8,SNR=3.9							
YKA				LR	LR	06 19 46.0	
comp=Z,149nm,19.8s,MS4.2,baz=145,slow=34							
FINES	**FINESS Array B**	**65.63**	**30**	LR	LR	06 17 41.4	
comp=Z,62nm,21.0s,MS3.8,baz=341,slow=31							
ARCES	**ARCESS Array B**	**66.55**	**21**	P	**P**	**05 54 45.4**	**0.0**
1.9nm,0.7s,mb4.2,baz=55,slow=4.6,SNR=3.9							
ARCES				LR	LR	06 16 18.7	
comp=Z,36nm,20.1s,MS3.6,baz=17,slow=29							
AKASG	**Malin Array Be**	**66.95**	**42**	P	**P**	**05 54 47.5**	**-0.5**
0.2nm,0.3s,mb3.6,baz=273,slow=5.7,SNR=4.2							
BRTR	**Keskin Array B**	**71.02**	**53**	P	**P**	**05 55 11.9**	**-1.4**
1.2nm,0.9s,mb3.8,baz=289,slow=3.8,SNR=5.3							
LSZ	**Lusaka**	**80.91**	**109**	*e*P	**P**	**05 56 10.4**	**+0.7**
2.7nm,0.7s,mb4.3							
LBTB	**Lobatse**	**82.48**	**119**	*e*P	**P**	**05 56 18.3**	**+0.4**
6.8nm,1.0s,mb4.5							
BOSA	**Boshof**	**83.69**	**123**	P	**P**	**05 56 23.9**	**-0.4**
4.0nm,0.9s,mb4.5,baz=305,slow=6.9,SNR=4.3							
BOSA				LR	LR	06 25 55.0	
comp=Z,112nm,18.1s,MS4.3,baz=350,slow=30							
KMBO	**Kilima Mbogo**	**84.50**	**93**	P	**P**	**05 56 30.7**	**+2.3**
1.4nm,0.6s,mb4.2,baz=45,slow=21,SNR=3.9							
KMBO				LR	LR	06 30 36.4	
comp=Z,101nm,19.8s,MS4.2,baz=93,slow=33							
KMBO	**Kilima Mbogo**	**84.50**	**93**	*e*P	**P**	**05 56 29.1**	**+0.7**
2.8nm,0.8s,mb4.4							
VNA2	**Neumayer--Watz**	**93.22**	**168**	*e*P	**P**	**05 57 09.8**	**-0.1**
VNA2				*e*	pP	05 57 13.0	-0.2
ZAL	**Zalesovo**	**96.69**	**27**	LR	LR	06 37 57.2	
comp=Z,42nm,19.0s,MS3.9,baz=270,slow=34							
HHC	**Hu-ho-hao-te**	**117.55**	**19**	*e*PKP	PKPdf	06 02 43.0	+1.6
HHC				PP	PP	06 03 59.3	+5.9
HHC				PP	PP		
comp=Z,97nm,4.3s							
HHC				LR	LR		
comp=N,126nm,4.4s							
HHC				LR	LR		
comp=E,206nm,4.5s							
HHC				LR	LR		
comp=Z,74nm,12.5s,MS4.5							
CN2	**Changchun**	**117.57**	**7**	*e*PKP	PKPdf	06 02 42.8	+1.4
CD2	**Chengdu**	**123.19**	**31**	*e*PKP	PKPdf	06 02 50.8	-1.4
CD2				PP	PP	06 04 34.3	+2.2
CD2				PKS		06 06 26.3	
CD2				SKS	SKSdf	06 10 01.5	-2.7
CD2				SKKS	SKKSac	06 11 26.3	-5.0
CD2				PP	PP		
comp=Z,90nm,9.8s							
KMI	**Kunming**	**127.34**	**36**	PKP	PKPdf	06 03 01.0	+0.8
KMI	**Kunming**	**127.34**	**36**	P	PKPdf	06 03 00.9	+0.7
NJ2	**Nanjing**	**127.83**	**16**	*e*PKP	PKPdf	06 02 58.0	-3.1

*NEIC **26** 06:05:20.2, 3644S×7379W, h41km, MD3.9(GUC), After GUC.*
GUC 26 06:05:20.2±0.6, 3644S×7379W, h41km±2km, MD3.9, ML2.9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.86**	**70**	*e*P	Pn	06 05 36.0	+0.1
COCH				*i* S	Sn	06 05 48.4	+1.1
COCH				AML	AML	06 05 49.7	
comp=N,712nm,0.3s							
COCH	**Cobquecura**	**0.86**	**70**	*e*P	Pn	06 05 36.0	+0.1
COCH				*i* S	Sn	06 05 48.4	+1.1
CNCO	**Chanco**	**1.23**	**56**	⇑*i*P	Pn	06 05 41.6	+0.7
CNCO				*i* S	Sn	06 05 58.5	+2.1
CNCO				AML	AML	06 06 11.2	
comp=N,365nm,0.6s							
CNCO	**Chanco**	**1.23**	**56**	⇑*i*P	Pn	06 05 41.6	+0.7
CNCO				*i* S	Sn	06 05 58.5	+2.1
CCHI	**Chillan**	**1.39**	**97**	*e*P	Pn	06 05 44.0	+0.9
CCHI				*i* S	Sn	06 06 02.2	+2.0
CCHI				AML	AML	06 06 09.2	
comp=N,424nm,0.7s							
CCHI	**Chillan**	**1.39**	**97**	*e*P	Pn	06 05 44.0	+0.9
CCHI				*i* S	Sn	06 06 02.2	+2.0
TALC	**Talca**	**2.03**	**60**	*e*P	Pn	06 05 54.3	+2.4
TALC				*i* S	Sn	06 06 17.7	+1.6
NICH	**Los Niches**	**2.53**	**56**	*e*P	Pn	06 06 00.1	+1.4
NICH				*i* S	Sn	06 06 29.4	+1.2
CICH	**Cipreses**	**3.47**	**54**	*e*P	Pn	06 06 13.0	+1.3
CACH	**El Canelo**	**3.49**	**49**	*e*P	Pn	06 06 13.1	+1.2
CHCH	**Chadas Angostu**	**3.58**	**47**	*e*P	Pn	06 06 14.1	+0.9
RCDM	**Rinconada Maip**	**3.83**	**41**	*e*P	Pn	06 06 17.7	+1.2

*IDC **26** 06:33:42.2±1.8, 525N×12645E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=104.2km s-min=23.9km az=68.0*
*ISCJB **26** 06:33:43.8±0.8, 56N±0.1×127.1E±0.3, h33km, mb3.8/7, Error ellipse: s-maj=39.2km s-min=14.5km az=143.9*
*NEIC **26** 06:33:45.3±0.8, 553N×12707E, h30km, mb3.9/2, Error ellipse: s-maj=39.6km s-min=14.8km az=72.0*
ISC 26 06:33:46.4±0.8, 56N±01×1271E±0.3, h35km, n9, σ0s68/9, mb3.8/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.58**	**184**	P	**P**	**06 38 50.7**	**-3.2**
2.5nm,0.8s,mb3.7,baz=353,slow=6.6,SNR=5.5							
WRAB	**Tennant Creek**	**26.33**	**165**	*e*P	**P**	**06 39 18.9**	**+0.1**
1.4nm,0.3s,mb4.0							
WRA	**Warramunga Arr**	**26.33**	**165**	P	**P**	**06 39 19.2**	**+0.3**
1.3nm,0.5s,mb3.8,baz=343,slow=10,SNR=13							
WB2	**Warramunga Arr**	**26.34**	**165**	*e*P	**P**	**06 39 19.4**	**+0.5**
ASAR	**Alice Springs**	**29.81**	**167**	P	**P**	**06 39 50.2**	**+0.3**
0.3nm,0.5s,mb3.3,baz=348,slow=7.7,SNR=5.0							
STKA	**Stephens Creek**	**39.72**	**161**	P	**P**	**06 41 15.3**	**0.0**
1.2nm,0.4s,mb4.0,baz=336,slow=10,SNR=4.2							
ULN	**Ulaanbaatar**	**45.50**	**341**	*e*P	**P**	**06 42 02.1**	**-0.2**
0.7nm,0.4s,mb3.9							
FUNA	**Funafuti**	**53.77**	**105**	*e*P	**P**	**06 43 04.9**	**-0.3**
36nm,0.4s							
FUNA				*e*PP	PP	06 45 02.8	-3.6
MKAR	**Makanchi Array**	**56.29**	**324**	P	**P**	**06 43 23.7**	**+0.3**
0.6nm,0.6s,mb3.8,baz=122,slow=8.9,SNR=6.4							

*ISCJB **26** 06:34:29.8±0.3, 4605N±002×1342E±002, h9km, Error ellipse: s-maj=2.7km s-min=2.0km az=0.1*
*ROM **26** 06:34:29.7±0.2, 4609N×1349E, h9km±1km, Md2.6/4, Ml2.3/4, Error ellipse: s-maj=3.5km s-min=2.5km az=107.0*
*LJU **26** 06:34:29.9, 4607N×1344E, h14km, ML1.9*
*CSEM **26** 06:34:29.7±0.1, 4607N×1342E, h15km, MD2.6, Error ellipse: s-maj=1.3km s-min=0.9km az=5.0*
*NEIC **26** 06:34:29.7, 4609N×1349E, h9km, MD2.6(ROM), After ROM.*
ISC 26 06:34:30.1±0.4, 4605N±002×1344E±002, h13km±3km, n50, σ0s77/87, 14C-20D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLI	**Coloredo**	**0.09**	**330**	⇓*i*Pg	**Pg**	**06 34 32.5**	**-0.5**
COLI				*i* Sg	**Sg**	**06 34 34.6**	**-0.6**
COLI	**Coloredo**	**0.09**	**330**		**Pg**	**06 34 32.2**	**-0.9**
COLI	**Coloredo**	**0.09**	**330**	*e*P	**Pg**	**06 34 32.2**	**-0.9**
DRE	**Drenchia**	**0.18**	**49**	⇓*i*Pg	**Pg**	**06 34 34.3**	**0.0**
DRE				*i* Sg	**Sg**	**06 34 37.7**	**+0.5**
DRE	**Drenchia**	**0.18**	**49**		**Pg**	**06 34 34.0**	**-0.3**
DRE	**Drenchia**	**0.18**	**49**	*e*P	**Pg**	**06 34 34.0**	**-0.3**
BAD	**Bernadia**	**0.23**	**323**	⇓*

GORS	**Gorjuse**	**0.47**	**55**⇑	*i*Pg	**Pg**	**06 34 39.0**	**-0.3**
GORS				*i* Sg	**Sg**	**06 34 46.3**	**+0.8**
GORS							
	comp=Z,33nm,0.2s						
GORS	**Gorjuse**	**0.47**	**55**⇑	*i*Pg	**Pg**	**06 34 39.0**	**-0.3**
GORS				*i* Sg	**Sg**	**06 34 46.3**	**+0.7**
	comp=Z,33nm,0.2s						
PLRO	**Paularo**	**0.54**	**338**⇑	*e*Pg	**Pg**	**06 34 40.0**	**-0.7**
PLRO				*e*Sg	**Sg**	**06 34 48.0**	**+0.2**
PLRO	**Paularo**	**0.54**	**338**	*e*Pg	**Pg**	**06 34 40.0**	**-0.7**
PLRO	**Paularo**	**0.54**	**338**	*e*Pg	**Pg**	**06 34 40.0**	**-0.7**
PLRO				*e*Sg	**Sg**	**06 34 48.0**	**+0.1**
MLNI	**Malnisio**	**0.59**	**280**⇓	*e*Pg	**Pg**	**06 34 42.1**	**+0.5**
MLNI				*e*Sg	**Sg**	**06 34 50.6**	**+1.2**
ZOU	**Zoufplan**	**0.60**	**327**⇑	*i*Pg	**Pg**	**06 34 41.0**	**-0.9**
ZOU				*i* Sg	**Sg**	**06 34 50.1**	**+0.3**
CAE	**Caneva**	**0.70**	**267**	*e*Pg	**Pg**	**06 34 44.1**	**+0.3**
CAE				*e*Sg	**Sg**	**06 34 54.5**	**+1.4**
FVI	**Forni Avoltri**	**0.71**	**320**	Pg	**Pg**	**06 34 43.5**	**-0.5**
FVI				Sg	**Sg**	**06 34 54.2**	**+0.8**
	comp=Z,30nm,0.2s						
CSMI	**Casera Mimoias**	**0.72**	**310**⇑	*i*Pg	**Pg**	**06 34 45.0**	**+0.9**
CSMI				*i* Sg	**Sg**	**06 34 54.5**	**+1.0**
OBKA	**Obir**	**0.89**	**59**⇑	*i*Pg	**Pg**	**06 34 46.7**	**-0.7**
OBKA				⇓*i*Sg	**Sg**	**06 34 56.7**	**-2.3**
	comp=Z,24nm,0.3s						
KBA	**Koelnbreinsper**	**1.03**	**356**⇓	*i*Pn	**Pn**	**06 34 50.4**	**+0.2**
KBA				⇓*i*Sg	**Sg**	**06 35 03.6**	**+0.2**
	comp=Z,23nm,0.3s						
KBA	**Koelnbreinsper**	**1.03**	**356**⇓	*i*Pg	**Pg**	**06 34 50.4**	**+0.4**
KBA				*i* Sg	**Sg**	**06 35 03.6**	**+0.2**
KBA				*i*		06 35 04.9	
SEST	**Monte Rota**	**1.10**	**310**	Pg	**Pg**	**06 34 51.3**	**0.0**
	comp=Z,51nm,0.3s						
CGRP	**Cima Grappa**	**1.16**	**262**⇑	*i*Pg	**Pg**	**06 34 52.5**	**0.0**
CGRP				*i* Sg	**Sg**	**06 35 08.7**	**+1.1**
CTI	**Castel Tesino**	**1.25**	**270**	Pg	**Pg**	**06 34 53.9**	**-0.3**
CTI				Sg	**Sg**	**06 35 11.2**	**+0.7**
	comp=Z,94nm,0.3s						
TEOL	**Teolo**	**1.42**	**242**⇓	*i*Pg	**Pg**	**06 34 55.9**	**-1.6**
TEOL				*i* Sg	**Sg**	**06 35 15.2**	**-0.8**
SCE	**Schlegeis**	**1.55**	**310**⇓	*i*Pg	**Pg**	**06 34 59.5**	**-0.4**
SCE				*i* Sg	**Sg**	**06 35 20.6**	**+0.5**
APPI	**Appiano**	**1.59**	**286**	Pg	**Pg**	**06 34 59.3**	**-1.5**
APPI				Sg	**Sg**	**06 35 21.6**	**+0.1**
	comp=Z,38nm,0.3s						
WTTA	**Wattenberg**	**1.74**	**315**⇑	*i*Sn	**Sg**	**06 35 26.3**	**+0.2**
WTTA	**Wattenberg**	**1.74**	**315**⇑	*i*Pg	**Pg**	**06 35 02.6**	**-0.9**
WTTA				⇑*i*Sg	**Sg**	**06 35 26.3**	**+0.2**
MOA	**Molln**	**1.88**	**17**⇓	*i*Pn	**Pn**	**06 35 03.0**	**+1.1**
MOA				⇑*i*Sn	**Sn**	**06 35 26.2**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**06 35 29.5**	**-1.2**
	comp=Z,7.8nm,0.5s						
MOA	**Molln**	**1.88**	**17**⇓	*i*Pn	**Pn**	**06 35 03.0**	**+1.1**
MOA				*i* Sn	**Sn**	**06 35 26.2**	**+0.6**
MOA				*i* Sg	**Sg**	**06 35 29.5**	**-1.2**
SQTA	**Sankt Quirin**	**1.93**	**308**⇓	*i*Pg	**Pg**	**06 35 06.2**	**-1.1**
SQTA				⇓*i*Sn	**Sg**	**06 35 31.0**	**-1.3**

SKO ***26*** *07:10:53.6, 4046N×1961E, h0km*
CSEM ***26*** *07:10:55.7±0.1, 4063N×1978E, h12km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.4km az=77.0*
THE ***26*** *07:10:55.5, 4064N×1965E, h3km, ML3.5*
TIR ***26*** *07:10:55.0, 4063N×1979E, h11km, Ml3.5*
ISCJB ***26*** *07:10:55.2±0.5, 4062N±002×1968E±004, h3km, Error ellipse: s-maj=4.1km s-min=2.8km az=19.5*
ATH ***26*** *07:11:07.8, 3976N×2000E, h34km, MD3.5/4*
NEIC ***26*** *07:11:07.8, 3976N×2000E, h34km, MD3.5(ATH), After ATH.*

ISC 26 07:10:55.8±0.6, 4062N±002×1967E±004, h3km±4km, n34, σ1§34/55, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.20**	**222**	*i* Pg	**Pg**	**07 11 00.3**	**+0.6**
VLO				*i* Sg	**Sg**	**07 11 05.3**	**+3.0**
TPE	**Tepelena**	**0.41**	**141**	*i* Pg	**Pg**	**07 11 02.4**	**-1.3**
TPE				*i* Sg	**Sg**	**07 11 07.6**	**-1.5**
TIR	**Tirane**	**0.74**	**11**	*i* Pg	**Pg**	**07 11 09.6**	**-0.4**
TIR				*i* Sg	**Sg**	**07 11 21.2**	**+1.5**
SRN	**Sarande**	**0.78**	**161**	*i* Pg	**Pg**	**07 11 12.6**	**+1.9**
SRN				*i* Sg	**Sg**	**07 11 23.7**	**+2.9**
KBN	**Korca**	**0.85**	**89**	*i* Pg	**Pg**	**07 11 10.2**	**-1.9**
KBN				*i* Sg	**Sg**	**07 11 23.0**	**-0.1**
LSK	**Leskovik**	**0.85**	**123**	*i* Pg	**Pg**	**07 11 10.7**	**-1.4**
LSK				*i* Sg	**Sg**	**07 11 23.2**	**+0.1**
KEK	**Kerkira**	**0.91**	**174**	*e*PB	**Pb**	**07 11 14.4**	**+0.2**
OHR	**Ohrid**	**0.99**	**60**	*e*Pg	**Pg**	**07 11 13.4**	**-1.3**
OHR				*e*Sg	**Sg**	**07 11 28.7**	**+1.2**
OHR	**Ohrid**	**0.99**	**60**	*e*Pg	**Pg**	**07 11 12.3**	**-2.4**
OHR				*e*Sg	**Sg**	**07 11 29.2**	**+1.7**
OHR	**Ohrid**	**0.99**	**60**	*e*Pg	**Pg**	**07 11 12.2**	**-2.5**
OHR				*e*Sg	**Sg**	**07 11 28.7**	**+1.2**
IGT	**Igoumenitsa**	**1.20**	**155**	*e*Pg	**Pg**	**07 11 19.1**	**+0.4**
IGT				*e*Sg	**Sg**	**07 11 35.8**	**+1.6**
PHP	**Peshkopia**	**1.21**	**28**	*i* Pn	**Pn**	**07 11 18.5**	**-1.2**
PHP				*i* Sn	**Sn**	**07 11 38.5**	**+1.9**
FNA	**Florina**	**1.31**	**82**	*e*Pg	**Pg**	**07 11 18.4**	**-2.5**
FNA				*e*Sg	**Sg**	**07 11 38.8**	**+1.1**
BIA	**Bitola**	**1.32**	**72**	*e*Pg	**Pg**	**07 11 19.2**	**-1.8**
BIA				*e*Sg	**Sg**	**07 11 39.4**	**+1.4**
BIA	**Bitola**	**1.32**	**72**	*i* Pn	**Pn**	**07 11 18.4**	**-2.7**
BIA				*i* Sn	**Sn**	**07 11 39.9**	**+0.8**
BIA	**Bitola**	**1.32**	**72**	*i* Pn	**Pn**	**07 11 18.3**	**-2.8**
BIA	**Bitola**	**1.32**	**72**	*e*Pg	**Pg**	**07 11 19.2**	**-1.8**
BIA				*e*Sg	**Sg**	**07 11 39.4**	**+1.3**
BIA				*i* Sn	**Sn**	**07 11 39.9**	**+0.8**
JAN	**Janina**	**1.32**	**136**	*e*PN	**Pn**	**07 11 21.4**	**+0.3**
KRUS	**Krusevo**	**1.41**	**57**	*i* Pn	**Pn**	**07 11 21.6**	**-0.8**
KRUS				*i* Sn	**Sn**	**07 11 42.4**	**+0.9**
KRUS	**Krusevo**	**1.41**	**57**	*i* Pn	**Pn**	**07 11 21.5**	**-0.9**
KRUS				*i* Sn	**Sn**	**07 11 42.3**	**+0.9**
BCI	**Bajram Curri**	**1.77**	**10**	*i* Pn	**Pn**	**07 11 27.4**	**0.0**
BCI				*i* Sn	**Sg**	**07 11 53.9**	**+1.2**
SKO	**Skopje**	**1.90**	**44**	*e*Pb	**Pb**	**07 11 29.1**	**-2.0**
SKO	**Skopje**	**1.90**	**44**	*i* Pn	**Pn**	**07 11 29.8**	**+0.7**
SKO				*i* Sn	**Sn**	**07 11 54.7**	**+1.2**
LKD	**Levkas**	**2.05**	**158**	*e*Pn	**Pn**	**07 11 30.9**	**-0.3**
GRG	**Griva**	**2.10**	**80**	*e*Pn	**Pn**	**07 11 31.7**	**-0.1**
STIP	**Stip**	**2.18**	**60**	*e*Pn	**Pn**	**07 11 32.1**	**-0.8**
STIP	**Stip**	**2.18**	**60**	*i* Pn	**Pn**	**07 11 35.0**	**+2.0**
VAY	**Valandovo**	**2.30**	**71**	*e*Pn	**Pn**	**07 11 33.9**	**-0.7**
VAY	**Valandovo**	**2.30**	**71**	*e*Pn	**Pn**	**07 11 36.1**	**+1.4**
EVR	**Evrytania**	**2.37**	**135**	*e*PN	**Pn**	**07 11 36.1**	**+0.6**
KNT	**Kendrikon**	**2.50**	**76**	*e*Pn	**Pn**	**07 11 36.9**	**-0.5**
VLS	**Valsamata**	**2.54**	**163**	*e*PN	**Pn**	**07 11 36.7**	**-1.2**
TIP	**Timpagrande**	**2.66**	**238**	*e*Pn	**Pg**	**07 11 47.0**	**+0.2**
STON	**Ston**	**2.69**	**327**	*i* Pn	**Pn**	**07 11 37.2**	**-2.8**
STON				*i* Sn	**Sn**	**07 12 09.2**	**-3.9**

NEIC ***26*** *07:30:42.4, 3806S×17606E, h261km, MG4.4(WEL), After WEL.*

WEL 26 07:30:42.2±0.4, 3796S×17601E, h257km±4km, ML4.3/19, 1C, Error ellipse: s-maj=7.4km s-min=7.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.92**	**109**	P	Pn	07 31 17.4	-0.2
URZ	**Urewera**	**0.92**	**109**	PN	Pn	07 31 17.4	-0.1
URZ				SN	S	07 31 45.0	-0.5
TWVZ	**Taurewa**	**1.20**	**202**	P	Pn	07 31 19.4	+0.3
TWVZ	**Taurewa**	**1.20**	**202**	PN	Pn	07 31 19.4	+0.2
WTVZ	**West Tongariro**	**1.20**	**196**	P	Pn	07 31 19.3	+0.2
WTVZ				S	S	07 31 48.6	+0.3
WTVZ	**West Tongariro**	**1.20**	**196**	PN	Pn	07 31 19.3	+0.1
WTVZ				SN	S	07 31 48.6	+0.3
OTVZ	**Oturere**	**1.23**	**192**	PN	Pn	07 31 19.8	+0.4
NGZ	**Ngauruhoe**	**1.25**	**195**	P	Pn	07 31 19.7	+0.2
NGZ	**Ngauruhoe**	**1.25**	**195**	PN	Pn	07 31 19.7	+0.2
MWZ	**Matawai**	**1.26**	**108**	P	Pn	07 31 20.3	+0.8
MWZ	**Matawai**	**1.26**	**108**	PN	Pn	07 31 20.3	+0.8
MWZ				SN	S	07 31 48.7	-0.2
BKZ	**Black Stump Fm**	**1.26**	**163**	P	Pn	07 31 19.8	+0.3
BKZ				S	S	07 31 48.0	-1.0
BKZ	**Black Stump Fm**	**1.26**	**163**	⇑PN	Pn	07 31 19.8	+0.3
BKZ				SN	S	07 31 48.0	-1.0
WPVZ	**Whakapapa**	**1.29**	**196**	P	Pn	07 31 19.9	+0.1
WPVZ	**Whakapapa**	**1.29**	**196**	PN	Pn	07 31 19.9	+0.2
TUVZ	**Tukino**	**1.33**	**192**	P	Pn	07 31 20.3	+0.3
TUVZ	**Tukino**	**1.33**	**192**	PN	Pn	07 31 20.3	+0.2
FWVZ	**Far West T-bar**	**1.34**	**195**	P	Pn	07 31 20.3	+0.2
FWVZ	**Far West T-bar**	**1.34**	**195**	PN	Pn	07 31 20.3	+0.3
WNVZ	**Wahianoa**	**1.40**	**193**	P	Pn	07 31 20.7	+0.2
WNVZ	**Wahianoa**	**1.40**	**193**	PN	Pn	07 31 20.7	+0.2
PKVZ	**Pokaka**	**1.43**	**201**	PN	Pn	07 31 20.5	-0.1
MOVZ	**Moawhango**	**1.46**	**188**	P	Pn	07 31 20.6	-0.3
MOVZ	**Moawhango**	**1.46**	**188**	PN	Pn	07 31 20.6	-0.3
KNZ	**Kokohu**	**1.68**	**130**	*e*P	Pn	07 31 23.2	+0.6
PUZ	**Puketiti**	**1.78**	**94**	P	Pn	07 31 23.7	+0.3
PUZ	**Puketiti**	**1.78**	**94**	PN	Pn	07 31 23.7	+0.3
MXZ	**Matakaoa Point**	**1.86**	**78**	P	Pn	07 31 24.2	+0.1
MXZ	**Matakaoa Point**	**1.86**	**78**	PN	Pn	07 31 24.2	+0.1
WAZ	**Wanganui**	**1.96**	**204**	P	Pn	07 31 24.6	-0.3
WAZ				S	S	07 31 58.5	-0.2
WAZ	**Wanganui**	**1.96**	**204**	PN	Pn	07 31 24.5	-0.4
WAZ				SN	S	07 31 57.9	-0.8
TSZ	**Takapari Road**	**2.10**	**181**	P	Pn	07 31 25.7	-0.4
TSZ	**Takapari Road**	**2.10**	**181**	PN	Pn	07 31 25.7	-0.5
WPHZ	**Waipukurau**	**2.13**	**171**	PN	Pn	07 31 26.2	-0.2
MRZ	**Mangatainoka R**	**2.72**	**187**	PN	Pn	07 31 30.7	-1.5
BFZ	**Birch Farm**	**2.72**	**176**	P	Pn	07 31 31.3	-0.9
BFZ	**Birch Farm**	**2.72**	**176**	PN	Pn	07 31 31.3	-0.9
KIW	**Kapiti Island**	**3.02**	**196**	P	Pn	07 31 33.6	-1.7
KIW	**Kapiti Island**	**3.02**	**196**	PN	Pn	07 31 33.6	-1.8
MTW	**Mount Morrison**	**3.22**	**187**	P	Pn	07 31 35.4	-2.1
MTW	**Mount Morrison**	**3.22**	**187**	PN	Pn	07 31 35.4	-2.1
CAW	**Cannon Point**	**3.23**	**193**	PN	Pn	07 31 35.6	-2.0
DUWZ	**D'Urville Isla**	**3.27**	**209**	PN	Pn	07 31 35.7	-2.3
TRWZ	**Traveller**	**3.44**	**184**	PN	Pn	07 31 38.1	-1.8
WEL	**Wellington**	**3.46**	**196**	P	Pn	07 31 38.1	-2.0
WEL	**Wellington**	**3.46**	**196**	PN	Pn	07 31 38.1	-2.0
SNZO	**South Karori**	**3.49**	**196**	P	Pn	07 31 38.3	-2.2
SNZO	**South Karori**	**3.49**	**196**	PN	Pn	07 31 38.3	-2.2
MSWZ	**Moikau Station**	**3.50**	**189**	PN	Pn	07 31 38.3	-2.3
TCW	**Tory Channel**	**3.51**	**202**	PN	Pn	07 31 38.5	-2.2
NNZ	**Nelson**	**3.83**	**211**	P	Pn	07 31 41.2	-3.2
NNZ	**Nelson**	**3.83**	**211**	PN	Pn	07 31 41.2	-3.2
BSWZ	**Blackbirch Sta**	**4.09**	**203**	P	Pn	07 31 45.0	-2.4
BSWZ	**Blackbirch Sta**	**4.09**	**203**	PN	Pn	07 31 45.0	-2.4
THZ	**Tophouse**	**4.49**	**211**	P	Pn	07 31 48.5	-3.5
THZ	**Tophouse**	**4.49**	**211**	PN	Pn	07 31 48.5	-3.5
KHZ	**Kahutara**	**4.84**	**202**	P	Pn	07 31 53.2	-3.0
KHZ	**Kahutara**	**4.84**	**202**	PN	Pn	07 31 53.2	-3.0
DSZ	**Denniston Nort**	**4.98**	**219**	*e*P	Pn	07 31 53.3	-4.6
DSZ	**Denniston Nort**	**4.98**	**219**	PN	Pn	07 31 53.3	-4.6
LTZ	**Lake Taylor**	**5.60**	**209**	PN	Pn	07 32 01.3	-4.2
MQZ	**McQueen's Vall**	**6.28**	**203**	*e*P	Pn	07 32 09.2	-4.7
MQZ	**McQueen's Vall**	**6.28**	**203**	PN	Pn	07 32 09.2	-4.7
RPZ	**Rata Peaks**	**6.87**	**212**	*e*P	Pn	07 32 16.4	-4.8
FOZ	**Fox Glacier**	**7.37**	**219**	*e*P	Pn	07 32 20.4	-7.2
LBZ	**Lake Benmore**	**7.78**	**213**	*e*P	Pn	07 32 27.7	-5.0
LBZ	**Lake Benmore**	**7.78**	**213**	PN	Pn	07 32 27.7	-5.0
ODZ	**Otahua Downs**	**8.14**	**208**	*e*P	Pn	07 32 33.1	-4.1
ODZ	**Otahua Downs**	**8.14**	**208**	PN	Pn	07 32 33.1	-4.2
JCZ	**Jackson Bay**	**8.20**	**220**	*e*P	Pn	07 32 31.5	-6.5
JCZ	**Jackson Bay**	**8.20**	**220**	PN	Pn	07 32 31.5	-6.5

ISCJB ***26*** *07:42:21.8±6.5, 13S±0.1×1232E±0.1, h2km±42km, mb4.0/9, MS3.3/1, Error ellipse: s-maj=24.1km s-min=12.1km az=104.5*
IDC ***26*** *07:42:22.8±1.7, 063S×12433E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/10, Error ellipse: s-maj=187.6km s-min=25.4km az=63.0*
NEIC ***26*** *07:42:26.9±2.9, 127S×12322E, h24km±21km, mb4.3/6, Error ellipse: s-maj=13.2km s-min=6.5km az=53.0*

ISC 26 07:42:27.4±4.8, 13S±01×1233E±01, h26km±35km, h25km±1.5km: pP-P, n16, σ0§52/15, mb4.0/9, MS3.3/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.09**	**316**	*e*Pn	**Pn**	**07 44 50.2**	**-0.3**
WRA	**Warramunga Arr**	**21.51**	**150**	P	**P**	**07 47 14.7**	**+0.4**
	0.5nm,0.5s,mb3.2,baz=332,slow=10.0,SNR=11						
WB2	**Warramunga Arr**	**21.52**	**150**	*e*P	**P**	**07 47 14.5**	**+0.2**
KULM	**Kulim**	**23.49**	**286**	P	**P**	**07 47 35.6**	**+0.5**
ASAR	**Alice Springs**	**24.56**	**156**	P	**P**	**07 47 45.3**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=335,slow=8.8,SNR=6.3						
PMG	**Port Moresby**	**25.13**	**110**	*e*P	**P**	**07 47 50.1**	**0.0**
	8.3nm,0.7s,mb4.4						
PMG				*e*pP	pP	07 47 58.4	+0.6
NWAO	**Narrogin (SRO)**	**32.01**	**190**	*e*P	**P**	**07 48 50.4**	**-1.1**
NWAO				*e*	pP	07 48 56.6	-2.7
DGAR	**Diego Garcia**	**50.99**	**262**	P	**P**	**07 51 27.2**	**+0.4**
DGAR				*e*	pP	07 51 33.6	-1.3
MKAR	**Makanchi Array**	**59.80**	**329**	P	**P**	**07 52 30.2**	**0.0**
	0.4nm,0.5s,mb3.7,baz=118,slow=9.2,SNR=7.5						
MKAR				LR	LR	08 18 08.0	
	comp=Z,22nm,19.6s,MS3.3,baz=9.1,slow=36						
CASY	**Casey**	**65.52**	**186**	*e*P	**P**	**07 53 07.6**	**-0.8**
	4.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**69.75**	**329**	*e*P	**P**	**07 53 35.0**	**-0.1**
	1.3nm,0.7s,mb4.0						
MCK	**McKinley**	**90.14**	**26**	*e*P	**P**	**07 55 25.6**	**+0.5**
	1.4nm,0.9s,mb4.3						
COLA	**College**	**90.65**	**25**	*e*P	**P**	**07 55 26.8**	**-0.7**
	0.8nm,0.8s,mb4.1						
COLA				*e*	pP	07 55 33.6	-2.5
BOSA	**Boshof**	**96.42**	**241**	P	**P**	**07 55 54.7**	**+0.7**
	4.8nm,1.0s,mb4.9						
BOSA				*e*	pP	07 56 03.0	+0.3
SANT	**Santorini**	**97.02**	**306**	*e*P	**P**	**07 55 56.6**	**-0.2**
	7.2nm,0.3s						
ESLA	**Sonseca Array**	**118.71**	**316**	*e*PKPdf	PKPdf	08 01 13.7	+0.7
ESLA				*ep*PKPdf	pPKPdf	08 01 19.9	-2.0

ISCJB ***26*** *07:48:43.2±1.2, 04S±0.1×1249E±0.3, h10km, mb3.8/6, MS3.6/1, Error ellipse: s-maj=37.2km s-min=17.9km az=162.0*
IDC ***26*** *07:48:43.8±1.8, 046S×12490E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/22, Error ellipse: s-maj=277.7km s-min=23.2km az=63.0*
NEIC ***26*** *07:48:45.2±0.9, 041S×12502E, h10km, mb3.8/1, Error ellipse: s-maj=29.4km s-min=13.3km az=79.0*

ISC 26 07:48:45.5±1.2, 04S±01×1250E±03, h10km, n7, σ0§13/6, mb3.8/6, MS3.6/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.45**	**155**	*e*P	**P**	**07 53 33.8**	**-0.1**
	1.0nm,0.4s,mb3.5						
WRA	**Warramunga Arr**	**21.45**	**155**	P	**P**	**07 53 33.8**	**-0.1**
	1.3nm,0.9s,mb3.3,baz=334,slow=9.8,SNR=13						
GUMO	**Guam**	**24.10**	**54**	*e*P	**P**	**07 54 01.2**	**0.0**
	98nm,1.0s,mb5.2						
ASAR	**Alice Springs**	**24.68**	**160**	P	**P**	**07 54 06.6**	**+0.2**
	0.8nm,0.8s,mb3.3,baz=337,slow=8.9,SNR=8.0						
STKA	**Stephens Creek**	**35.01**	**155**	P	**P**	**07 55 38.1**	**0.0**
	1.5nm,0.8s,mb4.0,baz=345,slow=13,SNR=3.3						
SONM	**Songino Array**	**50.71**	**344**	LR	LR	08 19 01.6	
	comp=Z,55nm,19.7s,MS3.6,baz=102,slow=36						
MKAR	**Makanchi Array**	**60.02**	**327**	P	**P**	**07 58 52.4**	**0.0**
	0.5nm,0.5s,mb3.8,baz=124,slow=7.6,SNR=9.5						

IDC 26 08:11:39.0±3.7, 356S×15181E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/13, mbtmp3.3/2, Error ellipse: s-maj=157.8km s-min=47.0km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.57**	**225**	*e*P	P	08 16 52.0	+0.7
WRA	**Warramunga Arr**	**23.57**	**225**	P	P	08 16 51.8	+0.3
	0.4nm,0.3s,baz=50,slow=9.9,SNR=21						
ASAR	**Alice Springs**	**26.44**	**219**	P	P	08 17 18.2	+0.7
	0.2nm,0.5s,baz=52,slow=9.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.97**	**290**	PKPbc	PKPbc	08 31 29.1	+0.2
	0.2nm,0.3s,baz=73,slow=2.1,SNR=6.2						

CSEM ***26*** *08:13:42.8, 4093N×2277E, h10km, MD3.5/3, After ATH*

ATH 26 08:13:42.8, 4093N×2277E, h10km, MD3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.76**	**137**	*e*PB	Pb	08 13 56.8	-1.3
KZN	**Kozani**	**0.98**	**231**	*e*PB	Pb	08 14 01.6	-0.3
RDO	**Rodhopi**	**2.10**	**83**	*e*PN	Pn	08 14 20.4	+2.3

IDC ***26*** *08:33:37.7±1.9, 1444N×9307W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/23, mbtmp4.1/11, ML3.6/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/26, Error ellipse: s-maj=66.8km s-min=16.9km az=45.0*
ISCJB ***26*** *08:33:50.3±1.7, 152N±0.1×9346W±005, h60km±10km, mb4.0/9, MS3.7/2, Error ellipse: s-maj=20.7km s-min=7.5km az=12.4*
NEIC ***26*** *08:33:52.7, 15.15N×9343W, h64km, MD4.5(MEX), After MEX.*
MEX ***26*** *08:33:52.3±0.4, 1523N×9340W, h94km±14km, MD4.5*

ISC 26 08:33:48.6±2.4, 149N±02×9336W±006, h47km±13km, n33, σ1§52/43, mb4.0/9, MS3.8/2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.80**	**41**	*i* P	**Pn**	**08 34 18.7**	**+1.6**
CCIG				*i* S	**Sn**	**08 34 38.8**	**0.0**
CCIG	**Comitan**	**1.80**	**41**	*e*P	**Pn**	**08 34 18.7**	**+1.6**
CCIG				*i* S	**Sn**	**08 34 38.8**	**0.0**
CMIG	**Matias Romero**	**2.61**	**326**	Pn	**Pn**	**08 34 28.4**	**+0.1**
	5.0nm,0.3s,baz=146,slow=11,SNR=65						
CMIG				Sn	**Sn**	**08 35 10.1**	**+11**
	20nm,0.3s,baz=108,slow=17,SNR=8.9						
CMIG	**Matias Romero**	**2.61**	**326**	*e*P	**Pn**	**08 34 27.7**	**-0.6**
CMIG				*i* S	**Sn**	**08 34 56.0**	**-2.7**
CMIG	**Matias Romero**	**2.61**	**326**	Pn	**Pn**	**08 34 28.4**	**+0.1**
CMIG				*i* S	**Sn**	**08 34 56.0**	**-2.7**
CMIG				Sn	**Sn**	**08 35 10.1**	**+11**
TUIG	**Tuzandepetl**	**3.27**	**342**	*e*P	**Pn**	**08 34 36.5**	**-0.7**
TUIG				*i* S	**Sn**	**08 35 11.2**	**-3.6**
TUIG	**Tuzandepetl**	**3.27**	**342**	*e*P	**Pn**	**08 34 37.5**	**+0.3**
TUIG				*i* S	**Sn**	**08 35 11.2**	**-3.6**
VHO	**Vista Hermosa**	**3.89**	**304**	*i* P	**Pn**	**08 34 46.2**	**+0.4**
VHO				*i* S	**Sn**	**08 35 29.0**	**-1.1**
UTMO	**Huajuapan**	**5.16**	**305**	*i* S	**Sn**	**08 35 59.3**	**-2.1**
TPIG	**Tehuac#an**	**5.18**	**313**	*e*P	**Pn**	**08 35 02.2**	**-1.3**
TPIG				*i* S	**Sn**	**08 36 00.4**	**-1.6**
PPM	**Popocatepetl**	**6.51**	**310**	*i* S	**Sn**	**08 36 32.8**	**-1.9**
IIO	**Organos**	**6.92**	**313**	*i* P	**Pn**	**08 35 28.7**	**+1.3**
TEIG	**Tepich**	**7.17**	**42**	*e*P	**Pn**	**08 35 29.4**	**-1.4**
TEIG				*i* S	**Sn**	**08 36 45.5**	**-5.4**
TEIG	**Tepich**	**7.17**	**42**	*e*P	**Pn**	**08 35 29.4**	**-1.4**
	26nm,0.5s						
TEIG				*i* S	**Sn**	**08 36 45.4**	**-5.5**
TXAR	**Lajitas Array**	**17.22**	**328**	P	**Pn**	**08 37 48.1**	**+2.5**
	0.1nm,0.3s,baz=153,slow=34,SNR=17						
TKL	**Tuckaleechee C**	**22.38**	**21**	LR	LR	08 49 31.5	
	comp=Z,139nm,20.2s,MS3.4,baz=52,slow=42						
LPM	**Los Pinos Moun**	**22.73**	**331**	*e*P	**P**	**08 38 46.4**	**0.0**
LENM	**Lemitar**	**22.77**	**330**	*e*P	**P**	**08 38 48.9**	**+2.0**
SDV	**Santo Domingo**	**23.02**	**103**	P	**P**	**08 38 42.2**	**-7.3**
	7.0nm,0.7s,mb4.2,baz=324,slow=4.9,SNR=11						
LAZ	**Ladron**	**23.05**	**330**	*e*P	**P**	**08 38 51.3**	**+1.6**
ANMO	**Albuquerque**	**23.17**	**332**	P	**P**	**08 38 51.2**	**+0.2**

ellipse: s-maj=191.7km s-min=15.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.71**	**161**	P	Pn	09 14 55.9	-1.8
	0.2nm,0.3s,baz=343,slow=13,SNR=11						
WRA				S	S	09 18 34.6	+1.3
	0.0nm,0.3s,baz=352,slow=26,SNR=3.1						
WB2	**Warramunga Arr**	**19.71**	**161**	*e*P	Pn	09 14 55.8	-1.9
ASPA	**Alice Springs**	**23.10**	**165**	*e*P	P	09 15 33.5	+2.0
ASAR	**Alice Springs**	**23.10**	**165**	P	P	09 15 31.8	+0.2
	1.0nm,0.5s,baz=342,slow=9.3,SNR=19						
MKAR	**Makanchi Array**	**62.13**	**326**	P	P	09 20 45.4	+0.2
	1.5nm,0.6s,baz=120,slow=8.8,SNR=13						

IDC 26 09:23:25.0±2.2,679N×12684E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=130.4km s-min=24.6km az=69.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.76**	**183**	P	P	09 28 48.8	+0.6
	1.7nm,0.8s,baz=342,slow=3.2,SNR=3.2						
WRA	**Warramunga Arr**	**27.57**	**165**	P	P	09 29 14.7	+1.1
	0.3nm,0.6s,baz=345,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**31.05**	**167**	P	P	09 29 43.9	-0.6
	0.3nm,0.4s,baz=336,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**55.14**	**324**	P	P	09 32 59.1	+0.1
	1.1nm,0.6s,baz=121,slow=7.9,SNR=7.7						

*IDC **26** 09:34:29.3±0.4, 1578S×17279W, h0km, mb5.0/21, mb1 5.1/22, mb1mx5.1/25, mbtmp5.0/22, ML3.5/1, MS4.5/22, Ms1 4.5/22, ms1mx4.3/26, Error ellipse: s-maj=19.8km s-min=11.4km az=140.0*

*SZGRF **26** 09:34:35.6, 1584S×17372W, h33km, Tonga Islands*

*ISCJB **26** 09:34:37.6±0.1, 1592S±004×17279W±004, h72km, mb5.0/80, Error ellipse: s-maj=7.4km s-min=3.3km az=89.0*

*BJI **26** 09:34:38.4, 1565S×17249W, h73km, mB5.4, mb5.1, Ms5.3, Msz4.7*

*NEIC **26** 09:34:39.3±0.1, 1593S×17279W, mb5.1/57, Error ellipse: s-maj=8.3km s-min=4.0km az=133.0*

*GCMT **26** 09:34:39.3±0.2, 1581S×17230W, h52km±1km, MW5.2/80, Moment Tensor Solution. s75,c119; s80,c136; Duration: 1s0 Moment tensor: Scale 1017Nm; Mrr=0.36±.02; Mθθ0.57±.02; Mφφ-0.20±.02; Mrθ-0.00±.01; Mrφ-0.28±.01; Mθφ0.74±.02; Best double couple: M0=0.89300×1017 NP1:φs=259.00000°, δ41.00000°, λ-155.00000°. NP2:φs=150.00000°, δ74.00000°, λ-51.00000°. Principal axes: T 0.7400, Plg19.0000°, Azm212.0000°; N 0.3050, Plg37.0000°, Azm317.0000°; P -1.0450, Plg47.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **26** 09:34:40.1±1.5, 1582S×17283W, h83km, mb5.0/24, MS4.7/7 Error ellipse: s-maj=39.2km s-min=30.0km az=4.1*

ISC 26 09:34:39.7±0.1,1593S±004×17278W±004,h74km, h74km±.5km:pP-P,n559,σ0968/432,mb5.0/80,102C-75D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**26**	Pn	**Pn**	**09 35 06.3**	**-8.1**
	989nm,0.3s,baz=359,slow=1.5,SNR=710						
AFI				Sn	**Sn**	**09 35 28.8**	**-12**
	2μm,0.3s,baz=60,slow=20,SNR=16						
AFI				LR	LR	09 35 49.1	
	comp=Z,5μm,19.1s,baz=216,slow=38						
AFI	**Afiamalu**	**2.23**	**26**	⇑*i*Pn	**Pn**	**09 35 06.3**	**-8.2**
AFI				*e*Sn	**Sn**	**09 35 28.4**	**-13**
RAR	**Rarotonga**	**13.41**	**115**	Pn	**Pn**	**09 37 37.0**	**-10**
	8.9nm,0.3s,baz=245,slow=7.9,SNR=13						
RAR				Sn	**Sn**	**09 39 56.0**	**-18**
	5.8nm,0.3s,baz=135,slow=15,SNR=5.3						
RAR				LR	LR	09 41 34.5	
	comp=Z,2μm,19.8s,baz=286,slow=32						
RAR	**Rarotonga**	**13.41**	**115**	Pn	**Pn**	**09 37 37.0**	**-10**
RAR				Sn	**Sn**	**09 39 56.0**	**-18**
RAR				LR	LR	09 41 34.5	
DZM	**Mont Dzumac**	**20.56**	**250**	*e*P	**P**	**09 39 11.7**	**-0.6**
DZM	**Mont Dzumac**	**20.56**	**250**	P	**P**	**09 39 10.5**	**-1.8**
	19nm,0.9s,baz=76,slow=18,SNR=7.3						
DZM				LR	LR	09 44 49.9	
	comp=Z,352nm,20.5s,baz=53,slow=30						
PPT	**Papeete**	**22.28**	**98**	*e*LQ		09 43 47.9	
	1μm,27.8s						
PPT	**Papeete**	**22.28**	**98**	*e*P	**P**	**09 39 28.5**	**-2.2**
	696nm,28.0s						
PPT				*e*LR	LR	09 44 31.4	
	5μm,27.0s,baz=266						
PPT	**Papeete**	**22.28**	**98**	LR	LR	09 45 37.5	
	comp=Z,1μm,19.7s,baz=276,slow=30						
PPT	**Papeete**	**22.28**	**98**	*e*P	**P**	**09 39 28.5**	**-2.2**
PPT				*e*LQ		09 43 47.9	
MXZ	**Matakaoa Point**	**22.95**	**198**	P	**P**	**09 39 39.5**	**+1.8**
MXZ	**Matakaoa Point**	**22.95**	**198**	PN	**P**	**09 39 39.5**	**+1.8**
WCZ	**Waipu Caves**	**23.01**	**208**	*e*PN	**P**	**09 39 37.8**	**-0.5**
KUZ	**Kuaotunu**	**23.12**	**204**	*e*P	**P**	**09 39 39.9**	**+0.5**
KUZ	**Kuaotunu**	**23.12**	**204**	*e*PN	**P**	**09 39 39.9**	**+0.5**
TBI	**Tubuai**	**23.15**	**112**	*e*P	**P**	**09 39 34.0**	**-5.7**
	456nm,28.2s						
TBI				*e*LR	LR	09 44 49.0	
	5μm,28.2s,baz=289						
MWZ	**Matawai**	**23.90**	**199**	*e*P	**P**	**09 39 46.9**	**+0.4**
MWZ	**Matawai**	**23.90**	**199**	*e*PN	**P**	**09 39 46.9**	**+0.4**
URZ	**Urewera**	**23.96**	**200**	P	**P**	**09 39 47.0**	**-0.1**
	79nm,0.5s,mb5.3,baz=339,slow=1.5,SNR=80						
URZ				S	**S**	**09 44 00.6**	**+2.1**
	6.8nm,0.6s,baz=146,slow=23,SNR=3.9						
URZ	**Urewera**	**23.96**	**200**	P	**P**	**09 39 45.1**	**-2.0**
URZ	**Urewera**	**23.96**	**200**	PN	**P**	**09 39 45.1**	**-2.0**
BKZ	**Black Stump Fm**	**24.99**	**200**	*e*P	**P**	**09 39 56.2**	**-0.2**
BKZ	**Black Stump Fm**	**24.99**	**200**	*e*PN	**P**	**09 39 56.2**	**-0.2**
BFZ	**Birch Farm**	**26.44**	**199**	*e*P	**P**	**09 40 08.7**	**-0.9**
BFZ	**Birch Farm**	**26.44**	**199**	*e*PN	**P**	**09 40 08.7**	**-0.9**
HNR	**Honiara**	**27.36**	**280**	LR	LR	09 49 58.6	
	comp=Z,2μm,19.3s,baz=178,slow=34						
SNZO	**South Karori**	**27.51**	**201**	*e*P	**P**	**09 40 19.1**	**0.0**
	56nm,0.8s,mb5.2						
QRZ	**Quartz Range**	**27.89**	**204**	*e*P	**P**	**09 40 23.7**	**+1.1**
QRZ	**Quartz Range**	**27.89**	**204**	*e*PN	**P**	**09 40 23.7**	**+1.1**
NNZ	**Nelson**	**27.90**	**203**	*e*P	**P**	**09 40 24.2**	**+1.5**
NNZ	**Nelson**	**27.90**	**203**	*e*PN	**P**	**09 40 24.2**	**+1.5**
THZ	**Tophouse**	**28.55**	**203**	P	**P**	**09 40 27.3**	**-1.1**
THZ	**Tophouse**	**28.55**	**203**	PN	**P**	**09 40 27.3**	**-1.1**
KHZ	**Kahutara**	**28.90**	**201**	PN	**P**	**09 40 34.3**	**+2.8**
DSZ	**Denniston Nort**	**28.96**	**204**	*e*P	**P**	**09 40 33.0**	**+0.9**
DSZ	**Denniston Nort**	**28.96**	**204**	*e*PN	**P**	**09 40 33.0**	**+0.9**
LTZ	**Lake Taylor**	**29.67**	**203**	*e*P	**P**	**09 40 39.8**	**+1.4**
LTZ	**Lake Taylor**	**29.67**	**203**	*e*PN	**P**	**09 40 39.8**	**+1.5**
WVZ	**Waitaha Valley**	**30.51**	**204**	*e*PN	**P**	**09 40 45.1**	**-0.7**
RPZ	**Rata Peaks**	**30.93**	**203**	P	**P**	**09 40 50.2**	**+0.7**
	6.2nm,0.5s,mb4.6,baz=55,slow=16,SNR=9.4						
RPZ	**Rata Peaks**	**30.93**	**203**	*e*P	**P**	**09 40 49.9**	**+0.5**
RPZ	**Rata Peaks**	**30.93**	**203**	*e*PN	**P**	**09 40 49.9**	**+0.4**
TAOE	**Nuku Hiva Isla**	**32.61**	**81**	*e*LR	LR	09 49 14.2	
	6μm,29.0s,baz=258						
ARMA	**Armidale**	**35.59**	**240**	*e*P	**P**	**09 41 29.5**	**-0.5**
RKT	**Rikitea**	**36.27**	**107**	*e*P	**P**	**09 41 33.8**	**-2.0**
	114nm,30.0s						
RKT				*e*S	**S**	**09 47 05.5**	**-5.5**
	104nm,34.0s						
RKT				*e*LR	LR	09 51 03.1	
	3μm,28.0s,baz=276						
RKT	**Rikitea**	**36.27**	**107**	*e*P	**P**	**09 41 33.8**	**-2.0**
RKT				*e*S	**S**	**09 47 05.5**	**-5.5**
CNB	**Canberra Magne**	**38.91**	**233**	*e*P	**P**	**09 41 57.7**	**-0.4**
	26nm,0.9s,mb5.0						
CTA	**Charters Tower**	**39.11**	**258**	*e*P	**P**	**09 41 57.8**	**-1.9**
	6.0nm,0.7s,mb4.5						
CTA	**Charters Tower**	**39.11**	**258**	P	**P**	**09 41 57.7**	**-2.0**
	6.8nm,0.8s,mb4.5,baz=92,slow=12,SNR=6.4						
CTA				LR	LR	09 56 11.1	
	comp=Z,766nm,20.2s,baz=82,slow=33						
CTA	**Charters Tower**	**39.11**	**258**	*e*P	**P**	**09 41 57.8**	**-1.9**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CTAO	**Charters Tower**	**39.11**	**258**	*e*P	**P**	**09 41 60.0**	**+0.3**
	comp=Z,7.9nm,0.9s,mb4.5						
PMG	**Port Moresby**	**39.56**	**274**	P	**P**	**09 42 00.9**	**-2.7**
	comp=Z,10nm,0.9s,mb4.7,baz=270,slow=14,SNR=2.9						
PMG				LR	LR	09 55 46.7	
	comp=Z,492nm,21.9s,baz=272,slow=32						
PMG	**Port Moresby**	**39.56**	**274**	*e*P	**P**	**09 42 02.9**	**-0.7**
PMG				pmax	pmax		
	comp=Z,22nm,1.0s						
PMG	**Port Moresby**	**39.56**	**274**	*e*P	**P**	**09 42 02.9**	**-0.7**
	comp=Z,22nm,1.0s,mb4.9						
TOO	**Toolangi**	**42.60**	**231**	*e*P	**P**	**09 42 27.3**	**-1.1**
	comp=Z,19nm,1.0s,mb4.8						
TOO	**Toolangi**	**42.60**	**231**	*e*P	**P**	**09 42 27.3**	**-1.1**
TOO				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**44.29**	**241**	⇑*i*P	**P**	**09 42 41.3**	**-0.8**
	comp=Z,48nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**44.29**	**241**	P	**P**	**09 42 41.1**	**-1.0**
	comp=Z,53nm,0.9s,mb5.3,baz=79,slow=7.9,SNR=89						
STKA				LR	LR	09 59 08.0	
	comp=Z,378nm,18.1s,baz=52,slow=33						
WB2	**Warramunga Arr**	**50.29**	**257**	*e*P	**P**	**09 43 27.5**	**-1.2**
WRAB	**Tennant Creek**	**50.29**	**257**	P	**P**	**09 43 28.0**	**-0.7**
	comp=Z,256nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**50.29**	**257**	*e*P	**P**	**09 43 27.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**50.29**	**257**	*e*P	**P**	**09 43 27.9**	**-0.8**
	comp=Z,30nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**50.30**	**257**	P	**P**	**09 43 27.8**	**-1.0**
	comp=Z,27nm,0.7s,mb5.3,baz=93,slow=7.6,SNR=230						
WRA				LR	LR	10 03 23.1	
	comp=Z,468nm,21.1s,baz=90,slow=34						
AS31	**Alice Springs**	**50.51**	**252**	*e*P	**P**	**09 43 29.2**	**-1.1**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**09 43 29.3**	**-1.0**
	comp=Z,58nm,0.8s,mb5.7,baz=86,slow=8.0,SNR=379						
ASAR				S	**S**	**09 50 37.5**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=89,slow=17,SNR=3.6						
ASAR				LR	LR	10 03 30.3	
	comp=Z,1μm,20.1s,baz=97,slow=34						
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**09 43 29.3**	**-1.0**
ASAR				S	**S**	**09 50 37.6**	**-1.3**
ASPA	**Alice Springs**	**50.52**	**252**	*e*P	**P**	**09 43 29.2**	**-1.2**
GUMO	**Guam**	**51.12**	**303**	LR	LR	10 01 51.6	
	comp=Z,133nm,20.2s,baz=128,slow=32						
KAKA	**Kakadu**	**53.05**	**266**	*e*P	**P**	**09 43 48.9**	**-0.3**
	comp=Z,14nm,0.5s,mb5.2						
FORT	**Forrest**	**55.71**	**243**	*e*P	**P**	**09 44 07.5**	**-1.0**
	comp=Z,54nm,0.6s,mb5.8						
FITZ	**Fitzroy Crossi**	**58.68**	**258**	*e*P	**P**	**09 44 29.8**	**+0.3**
	comp=Z,32nm,1.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**58.68**	**258**	P	**P**	**09 44 30.0**	**+0.5**
	comp=Z,5.3nm,0.6s,mb4.8,baz=137,slow=8.4,SNR=18						
FITZ				LR	LR	10 08 29.3	
	comp=Z,673nm,18.9s,baz=19,slow=35						
SBA	**Scott Base**	**62.78**	**185**	*e*P	**P**	**09 44 58.4**	**+1.1**
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**62.78**	**185**	*e*P	**P**	**09 44 58.4**	**+1.1**
	comp=Z,9.6nm,0.9s,mb4.7						
VNDA	**Vanda**	**62.92**	**186**	P	**P**	**09 44 58.6**	**+0.4**
	comp=Z,6.7nm,0.9s,mb4.6,baz=2.9,slow=6.8,SNR=21						
VNDA	**Vanda**	**62.92**	**186**	*e*P	**P**	**09 44 59.2**	**+1.0**
VNDA				*e*PP	pP	09 45 17.2	-0.1
VNDA				*e*		09 45 36.5	
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	**Vanda**	**62.92**	**186**	*e*P	**P**	**09 44 59.2**	**+1.0**
	comp=Z,10.0nm,1.0s,mb4.7						
VNDA				*e*pP	pP	09 45 17.2	-0.1
VNDA				*e*PcP	PcP	09 45 36.5	+0.8
MBWA	**Marble Bar**	**63.79**	**254**	*e*P	**P**	**09 45 02.1**	**-1.8**
	comp=Z,19nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**64.52**	**242**	⇑*i*P	**P**	**09 45 08.6**	**-0.1**
	comp=Z,59nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**64.88**	**241**	LR	LR	10 11 04.3	
	comp=Z,304nm,19.5s,baz=288,slow=34						
NWAO	**Narrogin (SRO)**	**64.88**	**241**	*e*P	**P**	**09 45 11.3**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	**64.88**	**241**	*e*P	**P**	**09 45 11.3**	**+0.3**
	comp=Z,11nm,0.9s,mb4.7						
MUN	**Mundaring**	**65.81**	**242**	*e*P	pP	09 45 32.3	-4.0
MJAR	**Matsushiro Arr**	**69.72**	**320**	P	**P**	**09 45 41.4**	**-0.3**
	comp=Z,14nm,0.9s,mb4.8,baz=154,slow=5.7,SNR=32						
MJAR				LR	LR	10 10 37.7	
	comp=Z,298nm,21.4s,baz=130,slow=31						
MAJO	**Matsushiro**	**69.72**	**320**	*e*P	**P**	**09 45 42.2**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**69.72**	**320**	*e*P	**P**	**09 45 42.2**	**+0.6**
	comp=Z,17nm,0.8s,mb4.9						
MAT	**Matsushiro**	**69.72**	**320**	P	**P**	**09 45 41.8**	**+0.1**
MAT				*e*S	S	09 54 46.0	+1.2
HAST	**UC Hastings Re**	**71.03**	**42**	⇓P	**P**	**09 45 49.9**	**+0.3**
	baz=71						
CIS	**Catalina Islan**	**71.38**	**46**	⇓P	**P**	**09 45 51.7**	**0.0**
	baz=72						
LRV	**Little Rabbit**	**71.39**	**42**	*e*P	**P**	**09 45 51.5**	**-0.3**
SMMC	**Simmler**	**71.40**	**43**	⇑P	**P**	**09 45 52.4**	**+0.5**
	baz=72						
PKD	**Parkfield**	**71.42**	**43**	⇓P	**P**	**09 45 52.2**	**+0.2**
	baz=72						
PACP	**Pacheco Peak**	**71.58**	**41**	⇑P	**P**	**09 45 53.4**	**+0.5**
	baz=72,SNR=6.0						
NSHM	**Saint Helena R**	**71.69**	**39**	*e*P	**P**	**09 45 52.5**	**-1.1**
V05C	**Boulder Hill,**	**71.79**	**43**	⇓P	**P**	**09 45 54.3**	**+0.1**
	baz=72						
BDM	**Black Diamond**	**71.79**	**40**	⇓P	**P**	**09 45 54.5**	**+0.2**
	baz=72						
P01C	**Double 8 Ranch**	**71.85**	**38**	⇓P	**P**	**09 45 54.7**	**+0.1**
	baz=72						
S04C	**Ingram Canyon,**	**71.85**	**41**	⇑P	**P**	**09 45 54.7**	**+0.1**
	baz=72,SNR=7.2						
MNRC	**McLaughlin Nat**	**72.01**	**39**	⇓P	**P**	**09 45 56.1**	**+0.5**
	baz=72,SNR=5.5						
ARVC	**Arvin**	**72.07**	**44**	⇓P	**P**	**09 45 55.8**	**-0.1**
	baz=72						
MWC	**Mount Wilson**	**72.08**	**45**	*e*P	**P**	**09 45 56.1**	**+0.2**
Q03C	**Winters**	**72.12**	**40**	⇑P	**P**	**09 45 57.0**	**+0.8**
	baz=72						
VES	**Vestal, Richgr**	**72.31**	**43**	P	**P**	**09 45 57.2**	**-0.2**
	baz=72,SNR=9.5						
MURC	**Murrieta**	**72.32**	**46**	⇑P	**P**	**09 45 57.2**	**-0.2**
	baz=72						
GASB	**Alder Springs**	**72.33**	**38**	⇑P	**P**	**09 45 58.4**	**+1.0**
	baz=72,SNR=5.9						
BFSC	**Mount Baldy St**	**72.36**	**45**	⇑P	**P**	**09 45 57.1**	**-0.6**
	baz=72						
MONP	**Monument Peak**	**72.48**	**47**	⇓P	**P**	**09 45 58.4**	**0.0**
	baz=73,SNR=5.4						
RCTC	**Rector, Farmer**	**72.48**	**43**	⇑P	**P**	**09 45 58.1**	**-0.2**
	baz=73						
EDW2	**Edwards Air Fo**	**72.49**	**45**	P	**P**	**09 45 58.2**	**-0.2**
	baz=73,SNR=14						
DVTC	**Desert V Tower**	**72.58**	**48**	⇑P	**P**	**09 45 59.3**	**+0.3**
	baz=73						
T06C	**Millerton Lake**	**72.59**	**42**	P	**P**	**09 45 58.9**	**0.0**
	baz=73,SNR=8.1						
ISA	**Isabella**	**72.61**	**44**	*e*P	**P**	**09 45 59.1**	**0.0**
ISA				*e*PP	pP	09 46 18.5	-0.2
ISA	**Isabella**	**72.61**	**44**	⇑P	**P**	**09 45 59.2**	**+0.1**
	baz=73,SNR=13						
O02C	**Red Bluff**	**72.62**	**38**	⇓P	**P**	**09 46 00.1**	**+0.9**
	baz=73,SNR=6.7						
SUTB	**Sutter Butte**	**72.63**	**39**	⇑P	**P**	**09 45 58.5**	**-0.7**
	baz=73						
Q04C	**Lincoln**	**72.64**	**40**	⇑P	**P**	**09 45 58.9**	**-0.4**
	baz=73						
N02C	**Big Bar**	**72.73**	**37**	⇑P	**P**	**09 46 00.0**	**+0.2**
	baz=73						
CMB	**Columbia Colle**	**72.77**	**41**	*e*P	**P**	**09 46 00.1**	**+0.1**
CMB				*e*PP	pP	09 46 19.3	-0.3
CMB				*e*SP	sP	09 46 27.0	-0.6
CMB				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
CMB	**Columbia Colle**	**72.77**	**41**	*e*P	**P**	**09 46 00.1**	**0.0**
	comp=Z,13nm,0.9s,mb4.8						
CMB				*e*pP	pP	09 46 19.3	-0.3
CMB				*e*sP	sP	09 46 27.0	-0.6
CMB	**Columbia Colle**	**72.77**	**41**	⇑P	**P**	**09 46 00.0**	**0.0**
	baz=73,SNR=11						
LPIG	**La Paz**	**72.81**	**58**	P	**P**	**09 46 00.4**	**+0.1**
	comp=Z,10nm,0.5s,mb4.9,baz=58,slow=10.0,SNR=4.1						
HELL	**Mitchell Peak,**	**72.84**	**43**	⇑P	**P**	**09 46 00.1**	**-0.4**
	baz=73,SNR=7.1						
PFO	**Pinyon Flat Ob**	**72.85**	**47**	*e*P	**P**	**09 46 00.2**	**-0.3**
PFO	**Pinyon Flat Ob**	**72.85**	**47**	⇓P	**P**	**09 46 00.3**	**-0.2**
	baz=73,SNR=5.7						
PET	**Petropavlovsk**	**72.95**	**342**	*e*P	pP	09 46 12.9	-7.8
PET				*e*		09 48 42.9	
PET				*e*		09 55 59.9	
O03C	**Acorn Hollow,**	**72.96**	**38**	⇓P	**P**	**09 46 01.4**	**+0.3**
	baz=73						
LAVA	**Lava Cap Winer**	**72.98**	**40**	⇑P	**P**	**09 46 01.0**	**-0.3**
	baz=73						
ORV	**Orroville**	**73.00**	**39**	⇑P	**P**	**09 46 01.0**	**-0.5**
	baz=73,SNR=6.4						
S06C	**San Francisco**	**73.02**	**41**	⇓P	**P**	**09 46 01.1**	**-0.4**
	baz=73,SNR=7.0						
KCC	**Kaiser Creek**	**73.02**	**42**	P	**P**	**09 46 02.0**	**+0.5**
	baz=73,SNR=6.2						
WDC	**Whiskeytown Da**	**73.02**	**38**	*e*P	**P**	**09 46 01.6**	**0.0**
WDC				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.0						
WDC	**Whiskeytown Da**	**73.02**	**38**	*e*P	**P**	**09 46 01.6**	**0.0**
	comp=Z,36nm,1.4s,mb5.0						
WDC	**Whiskeytown Da**	**73.02**	**38**	P	**P**	**09 46 01.7**	**+0.2**
	baz=73,SNR=5.9						
LRMC	**Laurel Mountai**	**73.03**	**44**	⇑P	**P**	**09 46 01.4**	**-0.3**
	baz=73,SNR=12						
CWC	**Cottonwood Cre**	**73.32**	**43**	⇑P	**P**	**09 46 03.3**	**0.0**
	baz=74						
M02C	**Callahan**	**73.36**	**37**	⇑P	**P**	**09 46 04.1**	**+0.5**
	baz=74,SNR=5.2						
R05C	**Kirkwood Meado**	**73.36**	**41**	P	**P**	**09 46 03.5**	**-0.1**
	baz=74,SNR=10						
BELC	**Belle Mtn.**	**73.38**	**46**	⇑P	**P**	**09 46 03.5**	**-0.1**
	baz=74,SNR=5.6						
L02A	**Cave Junction**	**73.42**	**36**	⇑P	**P**	**09 46 04.3**	**+0.4**
	baz=74						
MPMC	**Manual Prospec**	**73.50**	**44**	⇓P	**P**	**09 46 04.4**	**+0.1**
	baz=74,SNR=19						
MLAC	**Mammoth Lakes**	**73.51**	**42**	⇑P	**P**	**09 46 04.7**	**+0.3**
	baz=74						
MTUM	**Tungsten Hills**	**73.53**	**42**	*e*P	**P**	**09 46 04.9**	**+0.3**
MTUM				*e*pP	pP	09 46 24.4	+0.3
GSC	**Goldstone**	**73.53**	**45**	*e*P	**P**	**09 46 04.6**	**0.0**
GSC	**Goldstone**	**73.53**	**45**	⇑P	**P**	**09 46 04.4**	**-0.2**
	baz=74,SNR=7.4						
DAC	**Darwin (Calif)**	**73.55**	**44**	*e*P	**P**	**09 46 05.2**	**+0.5**
BC3	**Big Chuckw Mtn**	**73.57**	**47**	P	**P**	**09 46 05.0**	**+0.2**
	baz=74,SNR=6.0						
HEC	**Hector,Ludlow**	**73.60**	**46**	⇑P	**P**	**09 46 04.8**	**-0.2**
	baz=74						
O05C	**Quincy**	**73.61**	**39**	⇓P	**P**	**09 46 05.2**	**+0.2**
	baz=74						
R06C	**Coleville**	**73.65**	**41**	⇑P	**P**	**09 46 05.6**	**+0.3**
	baz=74,SNR=13						
R07C	**Lee Vining**	**73.65**	**42**	⇓P	**P**	**09 46 05.4**	**+0.2**
	baz=74						
YBH	**Yreka Blue Hor**	**73.66**	**37**	*e*P	**P**	**09 46 05.7**	**+0.4**
YBH				*e*PP	pP	09 46 24.1	-0.8
YBH				pmax	pmax		
	comp=Z,23nm,1.0s						
YBH	**Yreka Blue Hor**	**73.66**	**37**	*e*P	**P**	**09 46 05.7**	**+0.4**
	comp=Z,23nm,1.0s,mb4.9						
YBH				*e*pP	pP	09 46 24.1	-0.8
YBH	**Yreka Blue Hor**	**73.66**	**37**	P	**P**	**09 46 05.8**	**+0.5**
	baz=74,SNR=12						
M03C	**McCloud**	**73.71**	**37**	⇑P	**P**	**09 46 05.5**	**-0.1**
	baz=74,SNR=7.1						
O04C	**Chester**	**73.73**	**39**	⇑P	**P**	**09 46 05.7**	**0.0**
	baz=74,SNR=5.3						
HATC	**Hat Creek Radi**	**73.81**	**38**	⇑P	**P**	**09 46 06.3**	**+0.1**
	baz=74						
S08C	**White Mtn Res**	**73.87**	**42**	P	**P**	**09 46 07.1**	**+0.6**
	baz=74,SNR=13						
K02A	**Glendale**	**73.88**	**36**	P	**P**	**09 46 07.0**	**+0.4**
	baz=74,SNR=6.4						
LBCM	**Butte Creek Ri**	**73.89**	**38**	P	**P**	**09 46 06.7**	**0.0**
BEKR	**Beckwourth**	**73.89**	**39**	P	**P**	**09 46 06.8**	**+0.1**
	baz=74,SNR=16						
WCN	**Washoe City**	**73.92**	**40**	P	**P**	**09 46 07.0**	**+0.2**
	baz=74,SNR=11						
IRM	**Iron Mountain**	**74.06**	**47**	P	**P**	**09 46 07.6**	**0.0**
	baz=74,SNR=16						
P06A	**Stead Airport,**	**74.06**	**40**	⇓P	**P**	**09 46 07.7**	**0.0**
	baz=74						
HUMO	**Hull Mountain**	**74.08**	**36**	*e*P	**P**	**09 46 08.1**	**+0.3**
	comp=Z,39nm,1.3s,mb5.0						
HUMO				*e*pP	pP	09 46 27.9	+0.5
HUMO	**Hull Mountain**	**74.08**	**36**	⇓P	**P**	**09 46 08.0**	**+0.2**
	baz=74,SNR=10						
GRAC	**Grapevine Rang**

MOD esP sP 09 46 40.6 -1.1
MOD Modoc 75.17 38 ⇓P P 09 46 14.7 +0.7
baz=75,SNR=21
P08A Dixie Valley 75.20 41 ⇑P P 09 46 14.6 +0.4
baz=75
Z14A Wintersburg 75.21 48 ⇑P P 09 46 14.3 0.0
baz=75,SNR=6.1
X13A Yucca 75.21 47 ⇓P P 09 46 14.2 -0.1
baz=75,SNR=10
HBO Huckleberry Mo 75.23 35 P P 09 46 14.8 +0.4
H03A Soap Creek Ran 75.24 34 ⇑P P 09 46 14.7 +0.2
baz=75
Q09A Carvers 75.27 42 ⇓P P 09 46 14.9 +0.3
baz=75
N07B Gerlach 75.29 39 P P 09 46 14.7 -0.1
baz=76,SNR=13
SHPR Sheep Range 75.31 45 eP **P 09 46 15.0 +0.2**
K05A Summer Lake 75.33 37 ⇓P P 09 46 15.4 +0.4
baz=76,SNR=24
115A Sonoran Desert 75.39 49 ⇑P P 09 46 15.2 -0.1
baz=76
W13A Hualapai Mount 75.44 47 ⇓P P 09 46 15.8 +0.2
baz=76
Y14A Wickenburg 75.46 48 P P 09 46 15.8 +0.1
baz=76,SNR=12
J05A Fort Rock 75.48 36 ⇑P P 09 46 16.3 +0.4
baz=76,SNR=27
O08A Rochester Mine 75.50 40 ⇑P P 09 46 16.5 +0.6
baz=76
M07A Soldier Meadow 75.53 39 ⇑P P 09 46 16.3 +0.1
baz=76,SNR=16
R10A Warm Springs 75.53 43 P P 09 46 16.6 +0.5
baz=76,SNR=20
G03A Yamhill 75.66 34 ⇓P P 09 46 17.0 +0.2
baz=76,SNR=6.1
U12A Valley of Fire 75.69 45 ⇓P P 09 46 17.3 +0.2
baz=76,SNR=7.5
116A Eloy 75.71 50 ⇑P P 09 46 17.0 -0.1
baz=76
P09A Austin 75.71 41 ⇓P P 09 46 16.8 -0.3
baz=76,SNR=7.6
K06A Valley Falls 75.75 37 ⇑P P 09 46 17.4 +0.1
baz=76,SNR=16
N08A GE Springer Mi 75.80 40 ⇓P P 09 46 17.7 0.0
baz=76,SNR=12
L07A Adell 75.81 38 ⇓P P 09 46 17.9 +0.2
baz=76,SNR=21
X14A Yava 75.81 47 P P 09 46 18.1 +0.4
baz=76,SNR=8.1
H04A Detroit Lake 75.84 35 P P 09 46 17.6 -0.3
baz=76,SNR=14
F03A Seaside 75.92 33 ⇑P P 09 46 18.8 +0.4
baz=76
G04A Mulino 76.02 34 ⇓P P 09 46 19.5 +0.6
baz=76
O09A Fish Creek Ran 76.03 41 ⇓P P 09 46 18.8 -0.2
baz=76,SNR=9.7
M08A Happy Creek Ra 76.04 39 ⇑P P 09 46 19.5 +0.4
baz=76,SNR=12
W14A Seligman 76.06 47 P P 09 46 19.8 +0.7
baz=76,SNR=14
J06A Christmas Vall 76.08 37 ⇑P P 09 46 18.9 -0.4
baz=76,SNR=18
P10A Eureka 76.18 41 ⇑P P 09 46 19.5 -0.3
baz=76,SNR=6.1
N09A Rock Creek Ran 76.22 40 P P 09 46 20.3 +0.3
baz=76,SNR=9.6
TUC Tucson 76.26 50 eP **P 09 46 20.5 +0.2**
TUC e*PP pP 09 46 40.2 +0.2
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
TUC Tucson 76.26 50 eP **P 09 46 20.5 +0.2**
comp=Z,9.8nm,1.0s,mb4.5
TUC epP pP 09 46 40.2 +0.2
Q11A Duckwater 76.27 42 ⇑P P 09 46 20.2 -0.1
baz=76,SNR=24
K07A Rock Creek Ran 76.27 38 ⇑P P 09 46 20.4 +0.1
baz=76,SNR=21
X15A Humboldt 76.28 48 ⇑P P 09 46 20.6 +0.1
baz=76,SNR=15
E03A Lebam 76.33 33 ⇓P P 09 46 20.6 0.0
baz=76,SNR=6.5
H05A Madras 76.35 35 ⇑P P 09 46 20.6 -0.2
baz=76,SNR=7.7
ON2 Olympics--Nort 76.44 32 P P 09 46 22.0 +0.7
VLMM Larch Mountain 76.47 34 P P 09 46 21.8 +0.3
WVOR Wild Horse Val 76.47 38 eP **P 09 46 21.4 -0.1**
WVOR pmax pmax
comp=Z,44nm,1.4s,mb5.0
WVOR Wild Horse Val 76.47 38 eP **P 09 46 21.4 -0.1**
comp=Z,44nm,1.4s,mb5.0
I06A Prineville 76.48 36 ⇓P P 09 46 21.8 +0.2
baz=77,SNR=19
L08A Fields 76.50 38 P P 09 46 21.9 +0.2
baz=77,SNR=22
F04A Amboy 76.52 34 ⇑P P 09 46 21.4 -0.4
baz=77,SNR=9.2
O10A Cortez Mining, 76.53 41 ⇓P P 09 46 21.9 +0.1
baz=77,SNR=5.0
HOOD Mount Hood Mea 76.54 34 eP **P 09 46 22.1 +0.3**
P11A Circle Ranch, 76.59 42 ⇑P P 09 46 22.1 0.0
baz=77
M09A Marrel Ranch, 76.59 39 ⇑P P 09 46 22.1 0.0
baz=77,SNR=6.4
D03A Wishkah Elem. 76.60 32 ⇑P P 09 46 22.8 +0.6
baz=77
W15A Williams 76.61 47 ⇓P P 09 46 23.0 +0.8
baz=77
J07A Hines 76.64 37 P P 09 46 22.7 +0.3
baz=77,SNR=8.4
G05A Wamic 76.67 35 ⇓P P 09 46 22.5 -0.1
baz=77,SNR=5.3
NLWA Neilton Lookou 76.73 32 ⇓P P 09 46 22.9 0.0
baz=77,SNR=5.3
K08A Mann Creek Ran 76.74 38 P P 09 46 23.2 +0.2
baz=77,SNR=24
N10A Dunphy 76.77 40 ⇑P P 09 46 23.3 +0.1
baz=77
E04A Onalaska 76.79 33 ⇓P P 09 46 24.0 +0.7
baz=77,SNR=5.7
H06A Lindquist Farm 76.90 35 P P 09 46 23.8 -0.1
baz=77,SNR=28
Q12A Willow Creek R 76.91 43 P P 09 46 24.1 +0.2
baz=77,SNR=12
I07A Izee 76.97 36 P P 09 46 24.4 +0.1
baz=77,SNR=27
O11A Cowboy Ranch, 76.98 41 ⇓P P 09 46 24.4 +0.1
baz=77,SNR=17
F05A White Salmon 77.01 34 P P 09 46 24.4 0.0
baz=77,SNR=8.6
G06A Carlson Farm, 77.05 35 P P 09 46 24.4 -0.3
baz=77,SNR=8.8
CCUT Cedar City 77.08 45 eP **P 09 46 25.5 +0.6**
CCUT epP pP 09 46 44.8 +0.2
CCUT esP sP 09 46 55.8 +3.1
P12A McGill 77.09 42 P P 09 46 25.2 +0.2
baz=77,SNR=8.1
J08A Circle Bar Ran 77.12 37 P P 09 46 25.2 +0.1
baz=77,SNR=26
ARUT Antelope Range 77.16 44 eP **P 09 46 25.6 +0.3**
ARUT e*PP pP 09 46 44.8 -0.2
K09A Rome 77.17 38 P P 09 46 25.4 0.0
baz=77,SNR=30
M10A LL. Ranch, Tu 77.21 40 ⇓P P 09 46 25.9 +0.2
baz=77,SNR=14
H07A Lands Inn, Kim 77.24 36 P P 09 46 25.7 -0.1
baz=77,SNR=27
E05A Randle 77.28 33 P P 09 46 25.9 -0.2
baz=78,SNR=22
F06A Goldendale 77.30 34 P P 09 46 26.1 0.0
baz=78,SNR=7.9
N11A Elko Archery C 77.31 41 ⇓P P 09 46 26.3 +0.1
baz=78,SNR=11
B04A Port Angeles 77.36 31 ⇑P P 09 46 26.6 +0.1
baz=78
LON Longmire 77.37 33 eP **P 09 46 26.1 -0.4**
GNW Green Mountain 77.38 32 eP **P 09 46 26.9 +0.3**
I08A Drewsey 77.40 37 P P 09 46 26.6 -0.1
baz=78,SNR=15
C04A Brinnon 77.40 32 ⇑P P 09 46 26.8 +0.1
baz=78,SNR=8.9
WUAZ Wupatki 77.42 47 ⇓P P 09 46 27.1 +0.3
baz=78,SNR=8.7
J09A Fry Pan Ranch, 77.54 38 ⇑P P 09 46 27.4 -0.1
baz=78,SNR=28
D05A Enumclaw 77.56 33 ⇑P P 09 46 27.7 +0.1
baz=78,SNR=15

G07A Ruggs Ranch, H 77.60 35 P P 09 46 27.5 -0.3
baz=78,SNR=13
M11A Holland Ranch, 77.62 40 ⇑P P 09 46 28.0 +0.1
baz=78,SNR=8.2
O12A Currie 77.64 42 P P 09 46 28.1 +0.1
baz=78,SNR=18
H08A Prairie City 77.71 36 P P 09 46 28.1 -0.3
baz=78,SNR=8.4
N12A Clover Valley, 77.77 41 ⇑P P 09 46 28.7 0.0
baz=78,SNR=18
PGC Sidney 77.78 31 eP **P 09 46 29.0 +0.2**
comp=Z,70nm,0.9s,mb5.4
PGC epP pP 09 46 47.4 -1.1
KSM Kuching 77.83 275 eP **P 09 46 30.3 +1.3**
INCN Inchon 77.84 315 eP **P 09 46 31.9 +2.8**
comp=Z,127nm,1.5s,mb5.4
F07A Phinny Hill Vi 77.84 35 ⇓P P 09 46 29.2 0.0
baz=78
I09A Lost Marbles R 77.92 37 P P 09 46 29.1 -0.4
baz=78,SNR=9.5
G08A Pilot Rock 78.01 36 P P 09 46 29.7 -0.4
baz=78,SNR=34
C05A Tolt Reservoir 78.04 33 ⇓P P 09 46 29.9 -0.3
baz=78,SNR=18
M12A Wells 78.16 41 P P 09 46 31.1 +0.2
baz=78,SNR=21
D06A Cle Elum 78.17 33 ⇓P P 09 46 30.7 -0.3
baz=78,SNR=10
PRW Prosser 78.17 35 P P 09 46 31.3 +0.3
B05A Bryant 78.20 32 P P 09 46 31.1 -0.1
baz=78,SNR=12
TBM Table Mountain 78.28 33 P P 09 46 31.9 +0.3
E07A Sunnyside 78.30 34 ⇑P P 09 46 31.7 0.0
baz=78,SNR=16
N13A Wendover, West 78.30 41 ⇑P P 09 46 31.7 0.0
baz=78,SNR=18
HAWA Hanford 78.37 34 eP **P 09 46 31.9 -0.2**
comp=Z,80nm,1.4s,mb5.3
H09A Durkee 78.37 37 ⇑P P 09 46 31.7 -0.4
baz=78
MSU Marysvale 78.38 44 eP **P 09 46 32.9 +0.8**
MSU e 09 46 42.9
MSU e*PP pP 09 46 51.7 -0.2
F08A Pendleton 78.42 35 ⇑P P 09 46 32.0 -0.4
baz=79,SNR=12
M13A Montello 78.60 41 ⇑P P 09 46 33.1 -0.3
baz=79
D07A Quincy 78.63 34 P P 09 46 33.2 -0.3
baz=79,SNR=9.8
B06A Marblemount 78.68 32 ⇑P P 09 46 33.0 -0.8
baz=79
A05A Maple Falls 78.69 31 ⇓P P 09 46 33.6 -0.2
baz=79
BMO Blue Mountains 78.69 37 eP **P 09 46 33.3 -0.6**
comp=Z,36nm,1.3s,mb5.0
BMO epP pP 09 46 52.7 -0.9
DUG Dugway 78.84 43 eP **P 09 46 34.8 +0.1**
DUG e*PP pP 09 46 54.1 -0.3
DUG e*SP sP 09 47 01.6 -0.9
DUG pmax pmax
comp=Z,33nm,1.3s,mb5.0
DUG Dugway 78.84 43 eP **P 09 46 34.8 +0.1**
comp=Z,33nm,1.3s,mb5.0
DUG epP pP 09 46 54.1 -0.4
DUG esP sP 09 47 01.6 -0.9
DUG Dugway 78.84 43 P P 09 46 35.0 +0.3
baz=79,SNR=17
F09A S2 Ranch, Elgi 78.85 36 ⇑P P 09 46 34.5 -0.3
baz=79,SNR=11
C07A Waterville 78.89 33 ⇓P P 09 46 34.2 -0.7
baz=79,SNR=12
EPH Ephrata 78.93 34 P P 09 46 35.0 -0.2
WTV Waterville 78.95 33 P P 09 46 34.7 -0.5
BGU Big Grassy Mou 79.09 42 eP **P 09 46 36.1 +0.1**
BGU epP pP 09 46 56.6 +0.9
D08A Wollman Farm, 79.11 34 P P 09 46 36.0 -0.2
baz=79,SNR=24
NLU North Lily Min 79.20 43 eP **P 09 46 37.3 +0.7**
E09A Wood Farm, Sta 79.20 35 ⇓P P 09 46 36.0 -0.6
baz=79
B07A Winthrop 79.34 33 ⇑P P 09 46 36.9 -0.5
baz=80,SNR=19
F10A Beach Ranch, E 79.39 36 P P 09 46 37.0 -0.7
baz=80,SNR=22
OD2 Odessa Site #2 79.43 34 P P 09 46 37.7 -0.2
TMUT Trail Mountain 79.43 44 eP **P 09 46 38.4 +0.5**
TMUT epP pP 09 46 57.5 -0.2
TMUT esP sP 09 47 05.4 -0.3
D09A Jones Farm, Ri 79.44 34 P P 09 46 37.7 -0.2
baz=80,SNR=20
C08A Higginbotham F 79.49 34 ⇓P P 09 46 37.8 -0.4
baz=80,SNR=18
PMR Palmer 79.52 11 eP **P 09 46 37.0 -1.3**
PMR pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
PMR Palmer 79.52 11 eP **P 09 46 37.0 -1.3**
comp=Z,5.5nm,0.6s,mb4.6
MPU Maple Canyon 79.52 43 eP **P 09 46 38.8 +0.4**
HLID Hailey 79.66 39 eP **P 09 46 39.3 +0.2**
comp=Z,27nm,1.0s,mb5.0
HLID ePcP PcP 09 46 48.6 +1.9
HLID epP pP 09 46 58.5 -0.4
HLID Hailey 79.66 39 P P 09 46 39.4 +0.3
baz=80,SNR=38
HVU Hansel Valley 79.70 41 eP **P 09 46 39.2 -0.2**
HVU e*PP pP 09 46 58.1 -1.1
HVU pmax pmax
comp=Z,11nm,0.9s,mb4.7
HVU Hansel Valley 79.70 41 eP **P 09 46 39.2 -0.2**
comp=Z,11nm,0.9s,mb4.7
HVU epP pP 09 46 58.1 -1.1
SRU San Rafael 79.80 44 eP **P 09 46 39.9 0.0**
SRU e*PP pP 09 47 00.0 +0.3
SRU pmax pmax
comp=Z,34nm,1.1s,mb5.1
SRU San Rafael 79.80 44 eP **P 09 46 39.9 0.0**
comp=Z,34nm,1.1s,mb5.1
SRU epP pP 09 47 00.0 +0.3
MDJ Mudanjiang 79.80 322 P P 09 46 40.3 +0.4
MDJ AP pP 09 46 59.0 -0.7
MDJ XP sP 09 47 07.0 -0.7
MDJ SS SS 10 01 50.0 +2.7
MDJ AMB AMB
comp=Z,15nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,81nm,4.4s
MDJ LR LR
comp=N,218nm,21.2s
MDJ LR LR
comp=E,229nm,23.5s
MDJ LR LR
comp=Z,382nm,21.9s
LAZ Ladron 79.94 50 eP **P 09 46 41.2 +0.6**
LAZ epP pP 09 47 01.6 +1.2
Y22C IRIS PASSCAL I 79.95 50 ⇓P P 09 46 41.3 +0.6
baz=80
TCUT Toone Canyon 80.23 42 eP **P 09 46 42.6 +0.4**
TCUT epP pP 09 47 02.0 0.0
TCUT esP sP 09 47 09.4 -0.6
MVCO Mesa Verde 80.27 47 ⇓P P 09 46 42.4 0.0
baz=80
LPM Los Pinos Moun 80.27 50 eP **P 09 46 42.8 +0.4**
LPM epP pP 09 47 03.1 +0.8
B09A Rice 80.35 33 P P 09 46 42.1 -0.7
baz=80,SNR=14
TXAR Lajitas Array 80.41 56 P P 09 46 43.2 +0.1
comp=Z,13nm,1.1s,mb4.7,baz=217,slow=6.0,SNR=64
TXAR LR LR 10 15 43.8
comp=Z,312nm,18.6s,baz=75,slow=31
C10A Spilker Farm, 80.44 34 ⇑P P 09 46 42.6 -0.8
baz=81
PV10 Paradox Valley 80.45 46 eP **P 09 46 43.3 -0.1**
PV10 epP pP 09 47 03.5 +0.3
A09A Danville 80.46 33 ⇓P P 09 46 42.9 -0.5
baz=81,SNR=18
PV01 Paradox Valley 80.66 46 eP **P 09 46 44.5 0.0**
PV01 epP pP 09 47 02.5 -1.8
ANMO Albuquerque 80.68 50 P P 09 46 44.4 -0.3
comp=Z,17nm,1.1s,mb4.8,baz=225,slow=6.8,SNR=34
ANMO Albuquerque 80.68 50 eP **P 09 46 44.8 +0.2**
ANMO e*PP pP 09 47 04.5 0.0
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO Albuquerque 80.68 50 eP **P 09 46 44.8 +0.2**
comp=Z,25nm,1.2s,mb4.9
ANMO epP pP 09 47 04.5 0.0

B10A Chitwood Farm, 80.77 34 ⇑P P 09 46 44.1 -1.0
baz=81
NJ2 Nanjing 80.95 307 eP **P 09 46 47.0 +0.9**
NJ2 AP pP 09 47 07.3 +1.4
NJ2 XP sP 09 47 15.8 +1.9
NJ2 PP PP 09 49 54.0 +2.5
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,462nm,6.2s
NJ2 LR LR
comp=N,8μm,21.0s
NJ2 LR LR
comp=E,5μm,18.8s
A10A Northport 81.00 33 P P 09 46 45.9 -0.5
baz=81,SNR=15
B11A Sandpoint 81.31 34 ⇑P P 09 46 47.3 -0.7
baz=82,SNR=22
C12A Trout Creek 81.38 35 P P 09 46 47.8 -0.6
baz=82,SNR=14
RRI2 Red Ridge 81.44 40 eP **P 09 46 48.5 -0.1**
comp=E,29nm,1.0s,mb5.1
RRI2 epP pP 09 47 08.7 +0.2
D13A Huson 81.60 36 ⇑P P 09 46 48.1 -1.4
baz=82,SNR=23
MSO Missoula 81.75 36 eP **P 09 46 49.2 -1.1**
comp=E,19nm,1.2s,mb4.8
MSO epP pP 09 47 09.2 -0.9
TPAW Teton Pass 81.75 40 eP **P 09 46 50.3 0.0**
comp=E,33nm,1.1s,mb5.1
TPAW epP pP 09 47 09.6 -0.5
B12A Libby 81.76 34 ⇑P P 09 46 49.9 -0.4
baz=82
E14A Clinton 81.78 37 ⇑P P 09 46 50.1 -0.3
baz=82
MENT Mentasta 81.83 13 eP **P 09 46 50.3 -0.4**
C13A Hot Springs 81.86 35 ⇑P P 09 46 49.9 -1.0
baz=82,SNR=10.0
CN2 Changchun 81.87 320 eP **P 09 46 52.0 +1.1**
CN2 eAP pP 09 47 12.5 +1.7
CN2 eS S 09 56 57.5 -1.0
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,200nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
IMW Indian Meadow 81.96 40 eP **P 09 46 51.5 +0.1**
comp=Z,64nm,1.4s,mb5.3
IMW epP pP 09 47 11.3 0.0
A12A Yaak River Ran 81.99 34 ⇑P P 09 46 51.1 -0.4
baz=82,SNR=6.4
SNY Shenyang 82.06 317 ⇑P P 09 46 53.3 +1.4
SNY AMB AMB
comp=Z,21nm,1.3s,mb4.8
SNY LR LR
comp=E,166nm,22.8s
SNY LR LR
comp=Z,162nm,28.2s
D14A Greenough 82.13 36 P P 09 46 51.0 -1.2
baz=82,SNR=14
CHMT Chamberlain Mo 82.19 37 eP **P 09 46 51.6 -1.0**
CHMT epP pP 09 47 11.5 -1.0
FLWY Flagg Ranch 82.21 40 eP **P 09 46 52.9 +0.2**
comp=Z,44nm,1.0s,mb5.2
FLWY epP pP 09 47 12.5 -0.1
FLWY esP sP 09 47 19.7 -0.9
SMCO Snowmass 82.25 46 eP **P 09 46 53.4 +0.5**
comp=Z,26nm,0.9s,mb5.0
SMCO epP pP 09 47 13.1 +0.3
PDAR Pinedale Array 82.26 42 P P 09 46 52.4 -0.6
comp=Z,13nm,0.9s,mb4.8,baz=215,slow=3.3,SNR=82
PDAR LR LR 10 17 47.9
comp=Z,388nm,20.4s,baz=235,slow=32
E15A Deer Lodge 82.28 37 ⇑P P 09 46 52.6 -0.4
baz=82
B13A Whitefish 82.31 35 P P 09 46 52.2 -1.0
baz=82,SNR=8.2
YMR Madison River 82.35 39 eP **P 09 46 53.9 +0.5**
comp=Z,112nm,1.5s,mb5.5
YMR epP pP 09 47 12.6 -0.7
C14A Swan Lake 82.38 36 ⇓P P 09 46 52.5 -1.0
baz=82
YNR Norris Junctio 82.55 39 eP **P 09 46 56.0 +1.5**
YNR epP pP 09 47 15.9 +1.6
SDCO Great Sand Dun 82.63 48 eP **P 09 46 54.8 -0.1**
comp=Z,20nm,1.0s,mb4.9
SDCO epP pP 09 47 14.8 0.0
SDCO esP sP 09 47 22.7 -0.1
A13A Flathead Natio 82.66 34 ⇓P P 09 46 54.4 -0.7
baz=83,SNR=11
COLA College 82.77 10 eP **P 09 46 54.1 -1.5**
COLA pmax pmax
comp=Z,35nm,1.0s,mb5.1
COLA College 82.77 10 eP **P 09 46 54.1 -1.5**
comp=Z,35nm,1.0s,mb5.1
IMA2 Indian Mountai 83.00 8 eP **P 09 46 55.6 -1.2**
WALA Waterton Lakes 83.00 35 eP **P 09 46 56.5 -0.3**
comp=Z,6.1nm,0.8s,mb4.5
WALA epP pP 09 47 15.7 -1.1
WALA esP sP 09 47 23.5 -1.2
SEY Seymchan 83.18 345 eP **P 09 46 56.2 -1.5**
RWWY Rawlins 83.26 43 eP **P 09 46 57.8 -0.3**
comp=Z,75nm,1.1s,mb5.4
RWWY epP pP 09 47 17.5 -0.6
RWWY esP sP 09 47 25.7 -0.4
QIZ Qiongzhong 83.65 292 P P 09 46 59.5 -0.6
QIZ S S 09 57 17.0 +0.4
QIZ AMB AMB
comp=Z,27nm,1.9s,mb4.8
QIZ LR LR
comp=Z,455nm,25.1s
WHN Wuhan 83.88 304 eP **P 09 47 03.5 +2.2**
EGAK Eagle 83.99 13 eP **P 09 47 01.1 -0.8**
comp=Z,16nm,1.2s,mb4.7
EGMT Eagleton 84.79 37 eP **P 09 47 05.5 -0.4**
comp=Z,71nm,1.6s,mb5.3
EGMT epP pP 09 47 24.7 -1.2
EGMT Eagleton 84.79 37 ⇑P P 09 47 05.1 -0.8
baz=85,SNR=9.6
BILL Bilibino 85.10 352⇑ eP **P 09 47 06.5 -1.0**
BILL e 09 50 22.2
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
EDM Edmonton 85.62 31 eP **P 09 47 08.9 -1.2**
EDM e*PP pP 09 47 28.9 -1.2
BJI Beijing 86.26 313 P P 09 47 15.0 +1.8
BJI XP sP 09 47 42.5 +1.3
BJI S S 09 57 50.0 +7.5
BJI AMB AMB
comp=Z,35nm,1.2s,mb5.2
BJI LR LR
comp=Z,208nm,25.5s
BJI Beijing 86.26 313 P P 09 47 15.0 +1.8
BJI *SP sP 09 47 42.4 +1.2
BJI 09 57 36.8
BJI *SS sS 09 58 56.4 +40
BJI pmax pmax
comp=Z,35nm,1.2s,mb5.2
BJI MLR MLR
comp=Z,210nm,25.5s
BJI Beijing 86.26 313 P P 09 47 15.0 +1.8
comp=Z,35nm,1.2s,mb5.2
BJI sP sP 09 47 42.4 +1.2
BJI PP PP 09 51 04.1 +29
BJI SKS 09 57 36.8
BJI S S 09 57 49.9 +7.4
BJI sS sS 09 58 56.4 +40
BJI SS SS 10 03 47.3 +24
BJI LR LR
comp=Z,210nm,25.5s
MAW Mawson 87.49 198 eP **P 09 47 19.7 +0.5**
comp=Z,7.6nm,1.1s,mb4.5
MAW Mawson 87.49 198 P P 09 47 19.4 +0.2
comp=Z,5.6nm,0.7s,mb4.6,baz=150,slow=2.1,SNR=13
MAW LR LR 10 24 06.2
comp=Z,218nm,20.9s,baz=84,slow=34
MAW Mawson 87.49 198 eP **P 09 47 19.7 +0.5**
MAW pmax pmax
comp=Z,8.0nm,1.1s
GYA Guiyang 88.81 298⇑ iP **P 09 47 27.5 +2.1**

GYA			AP	pP	09 47 48.0	+2.4
GYA			XP	sP	09 47 55.3	+1.8
GYA			PP	PP	09 50 59.8	+4.5
GYA			PPP		09 52 59.0	
GYA			SKS		09 57 48.5	
GYA			S	S	09 58 07.3	+0.4
GYA			XS	sS	09 58 40.8	-0.4
GYA			PS	PS	09 59 22.5	+2.4
GYA			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1					
GYA			AMB	AMB		
	comp=Z,120nm,5.0s					
GYA			LR	LR		
	comp=N,540nm,18.9s					
GYA			LR	LR		
	comp=E,480nm,18.6s					
GYA			LR	LR		
	comp=Z,470nm,19.0s					
PSI	**Prapat**	**89.12 273**	P	**P**	**09 47 27.9**	**+1.0**
	comp=Z,24nm,1.0s,mb5.2,baz=188,slow=6.6,SNR=22					
XAN	**Xi'an**	**89.42 306**	P	**P**	**09 47 30.0**	**+1.7**
XAN			AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0					
HHC	**Hu-ho-hao-te**	**89.82 313**	*e*P	**P**	**09 47 32.3**	**+2.2**
HHC			AP	pP	09 47 52.5	+2.2
HHC			XP	sP	09 48 01.8	+3.6
HHC			PP	PP	09 51 08.5	+5.2
HHC			SKS		09 57 52.5	
HHC			S	S	09 58 15.8	-0.4
HHC			XS	sS	09 58 47.3	-3.3
HHC			PS	PS	09 59 32.5	+1.3
HHC			SS	SS	10 04 16.0	+1.3
HHC			AMB	AMB		
	comp=Z,29nm,0.4s,mb5.8					
HHC			AMB	AMB		
	comp=Z,81nm,3.1s					
HHC			LR	LR		
	comp=N,104nm,4.7s					
HHC			LR	LR		
	comp=E,153nm,5.7s					
HHC			LR	LR		
	comp=Z,130nm,15.1s					
YAK	**Yakutsk**	**89.83 337**	*e*P	**P**	**09 47 29.2**	**-1.0**
YAK			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0					
YKA	**Yellowknife Ar**	**90.34 23**	P	**P**	**09 47 30.5**	**-2.1**
	comp=Z,3.0nm,0.8s,mb4.5,baz=231,slow=4.4,SNR=12					
YKA			LR	LR	10 20 09.4	
	comp=Z,246nm,20.2s,baz=205,slow=30					
KMI	**Kunming**	**91.79 295**	P	**P**	**09 47 42.3**	**+3.0**
KMI			AP	pP	09 48 03.8	+4.3
KMI			XP	sP	09 48 10.3	+2.9
KMI			PP	PP	09 51 24.3	+5.4
KMI			PPP		09 53 27.3	
KMI			SKS		09 58 08.0	
KMI			S	S	09 58 35.5	+1.3
KMI			XS	sS	09 59 09.5	+0.8
KMI			PS	PS	09 59 57.5	+4.4
KMI			SS	SS	10 04 48.5	+5.3
KMI			SSS		10 08 26.0	
KMI			AMB	AMB		
	comp=Z,13nm,1.0s,mb5.1					
KMI			AMB	AMB		
	comp=Z,113nm,3.7s					
KMI			LR	LR		
	comp=N,182nm,18.9s					
KMI			LR	LR		
	comp=E,180nm,18.3s					
KMI			LR	LR		
	comp=Z,247nm,30.6s					
KMI	**Kunming**	**91.79 295**	P	**P**	**09 47 42.2**	**+2.9**
KMI			*PP	pP	09 48 03.8	+4.3
KMI			*SP	sP	09 48 10.3	+2.9
KMI					09 51 24.3	
KMI			PPP		09 53 27.2	
KMI					09 58 08.0	
KMI			S	S	09 58 35.4	+1.2
KMI			PS	PS	09 59 57.6	+4.5
KMI			SS	SS	10 04 48.5	+5.3
KMI			SSS		10 08 26.1	
KMI			pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1					
KMI			MLR	MLR		
	comp=Z,250nm,30.6s					
KMI	**Kunming**	**91.79 295**	P	**P**	**09 47 42.2**	**+2.9**
	comp=Z,13nm,1.0s,mb5.1					
KMI			pP	pP	09 48 03.8	+4.3
KMI			sP	sP	09 48 10.3	+2.9
KMI			PP	PP	09 51 24.3	+5.4
KMI			PPP		09 53 27.2	
KMI			SKS		09 58 08.0	
KMI			S	S	09 58 35.4	+1.2
KMI			sS	sS	09 59 09.5	+0.8
KMI			PS	PS	09 59 57.6	+4.5
KMI			SS	SS	10 04 48.5	+5.3
KMI			SSS		10 08 26.1	
KMI			LR	LR		
	comp=Z,250nm,30.6s					
SYO	**Syowa Base**	**92.20 191**	‖*e*P	**P**	**09 47 39.0**	**-2.2**
SYO	**Syowa Base**	**92.20 191**	‖*e*PcP	PcP	09 47 40.4	-1.6
VNA3	**Neumayer Olymp**	**92.28 175**	*e*P	**P**	**09 47 41.5**	**-0.1**
VNA3			*e*		09 47 42.4	
SNAA	**Sanae**	**92.35 177**	*e*P	**P**	**09 47 41.8**	**-0.1**
SNAA			*e*		09 47 42.4	
SNAA	**Sanae**	**92.35 177**	*e*P	**P**	**09 47 41.6**	**-0.3**
CD2	**Chengdu**	**92.59 301**	*e*P	**P**	**09 47 42.5**	**-0.5**
CD2			AP	pP	09 48 03.3	+0.1
CD2			PP	PP	09 51 27.0	+1.8
CD2			S	S	09 58 37.8	-3.6
CD2			XS	sS	09 59 13.5	-2.4
CD2			SS	SS	10 04 55.0	+0.3
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2					
CD2			AMB	AMB		
	comp=Z,30nm,9.2s					
CD2			LR	LR		
	comp=N,370nm,19.2s					
CD2			LR	LR		
	comp=Z,250nm,19.2s					
CIT	**Chita**	**92.70 324**	*e*P	**P**	**09 47 44.8**	**+1.3**
VNA2	**Neumayer--Watz**	**92.78 175**	*e*P	**P**	**09 47 44.2**	**+0.3**
	baz=179,slow=3.5					
VNA2			*e*		09 47 45.1	
VNA1	**Neumayer--Stat**	**92.98 175**	*e*P	**P**	**09 47 45.0**	**+0.2**
VNA1			*e*		09 47 45.8	
CHTO	**Chiang Mai**	**93.44 288**	*e*P	**P**	**09 47 47.7**	**+0.8**
CHTO			pmax	pmax		
	comp=Z,16nm,1.3s,mb5.2					
CHTO	**Chiang Mai**	**93.44 288**	*e*P	**P**	**09 47 47.6**	**+0.7**
	comp=Z,16nm,1.3s,mb5.2					
ULM	**Lac du Bonnet**	**93.97 39**	P	**P**	**09 47 47.0**	**-2.4**
	comp=Z,5.9nm,1.0s,mb4.9,baz=243,slow=7.8,SNR=5.3					
ULM			LR	LR	10 23 05.4	
	comp=Z,461nm,18.7s,baz=265,slow=31					
ULM	**Lac du Bonnet**	**93.97 39**	*e*P	**P**	**09 47 47.4**	**-2.0**
	comp=Z,35nm,1.9s,mb5.4					
LZH	**Lanzhou**	**94.01 306**	*e*P	**P**	**09 47 51.0**	**+1.4**
LZH			AP	pP	09 48 09.0	-0.7
LZH			XP	sP	09 48 17.5	-0.2
LZH			PP	PP	09 51 42.3	+5.9
LZH			SKS		09 58 19.0	
LZH			*e*S	S	09 58 53.0	-0.9
LZH			XS	sS	09 59 27.3	-1.2
LZH			SS	SS	10 05 19.0	+4.0
LZH			AMB	AMB		
	comp=Z,31nm,1.5s,mb5.4					
LZH			AMB	AMB		
	comp=Z,74nm,4.5s					
LZH			LR	LR		
	comp=N,1μm,17.0s					
LZH			LR	LR		
	comp=Z,1μm,19.0s					
LZH	**Lanzhou**	**94.01 306**	*e*P	**P**	**09 47 51.0**	**+1.4**
LZH			*SP	sP	09 48 17.5	-0.2
LZH					09 51 42.2	
LZH					09 58 19.0	
LZH			*e*S	S	09 58 53.0	-0.9
LZH			SS	SS	10 05 19.1	+4.1
LZH			pmax	pmax		
	comp=Z,31nm,1.5s,mb5.4					
LZH			MLR	MLR		
	comp=Z,1μm,19.0s					
LZH	**Lanzhou**	**94.01 306**	*e*P	**P**	**09 47 51.0**	**+1.4**
	comp=Z,31nm,1.5s,mb5.4					

LZH			pP	pP	09 48 09.0	-0.7
LZH			sP	sP	09 48 17.5	-0.2
LZH			PP	PP	09 51 42.2	+5.8
LZH			SKS		09 58 19.0	
LZH			*e*S	S	09 58 53.0	-0.9
LZH			sS	sS	09 59 27.2	-1.3
LZH			SS	SS	10 05 19.1	+4.1
LZH			LR	LR		
	comp=Z,1μm,19.0s					
ULN	**Ulaanbaatar**	**95.22 318**	*e*P	**P**	**09 47 53.7**	**-1.4**
SONM	**Songino Array**	**95.63 318**	P	**P**	**09 47 56.2**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.3,baz=92,slow=4.9,SNR=5.8					
SONM			LR	LR	10 25 32.4	
	comp=Z,200nm,21.7s,baz=128,slow=32					
GTA	**Gaotai**	**97.97 309**	*e*P	**P**	**09 48 09.0**	**+1.5**
GTA			AP	pP	09 48 29.8	+2.0
GTA			XP	sP	09 48 38.3	+2.6
GTA			PP	PP	09 52 14.0	+7.0
GTA			SKS		09 58 40.0	
GTA			S	S	09 59 29.8	+1.8
GTA			XS	sS	10 00 05.0	+2.2
GTA			AMB	AMB		
	comp=Z,5.0nm,1.0s,mb5.0					
GTA			AMB	AMB		
	comp=Z,53nm,4.2s					
GTA			LR	LR		
	comp=N,125nm,18.2s					
GTA			LR	LR		
	comp=E,180nm,20.9s					
GTA			LR	LR		
	comp=Z,213nm,22.8s					
LPAZ	**La Paz**	**99.08 110**	LR	LR	10 23 12.4	
	comp=Z,152nm,18.9s,baz=274,slow=30					
ROSC	**El Rosal**	**99.43 88**	LR	LR	10 23 32.4	
	comp=Z,147nm,20.4s,baz=168,slow=30					
RES	**Resolute Bay**	**102.08 15**	*e*P	Pdif	09 48 24.7	-1.1
WMQ	**Urumqi**	**107.66 311**	PDIF	Pdif	09 48 50.0	-0.6
WMQ			PP	PP	09 53 22.0	+2.5
WMQ			PP	PP		
	comp=Z,98nm,3.9s					
WMQ			LR	LR		
	comp=N,307nm,28.2s					
WMQ			LR	LR		
	comp=E,260nm,24.0s					
WMQ			LR	LR		
	comp=Z,294nm,22.0s					
BVAR	**Borovoye Array**	**118.66 322**	PKP	PKPdf	09 53 18.0	-1.1
	comp=Z,0.7nm,0.4s,baz=207,slow=0.7,SNR=5.4					
ARCES	**ARCESS Array B**	**125.21 352**	PKP	PKPdf	09 53 30.4	-1.4
	comp=Z,4.3nm,0.8s,baz=16,slow=1.8,SNR=9.4					
BOSA	**Boshof**	**132.41 202**	PKP	PKPdf	09 53 46.3	+0.9
	comp=Z,4.7nm,1.0s,baz=162,slow=8.4,SNR=3.0					
FINES	**FINESS Array B**	**132.58 348**	PKP	PKPdf	09 53 43.1	-2.6
	comp=Z,1.9nm,0.8s,baz=3.8,slow=5.7,SNR=3.9					
AKASG	**Malin Array Be**	**141.05 338**	PKhKP		09 53 55.5	
	comp=Z,1.7nm,0.7s,baz=42,slow=4.0,SNR=5.8					
LSZ	**Lusaka**	**142.72 215**	*e*PKIKP	PKPdf	09 54 03.4	-1.0
LVV	**L'vov**	**143.54 342**	*e*PKIKP	PKPdf	09 54 02.8	-3.0
KWP	**Kalwaria**	**144.10 343**	*e*PKP	PKPdf	09 54 05.1	-1.7
OJC	**Ojcow**	**144.31 346**	*e*PKP	PKPdf	09 54 05.2	-2.0
CLL	**Collm**	**144.40 354**	*i* PKP	PKPdf	09 54 08.5	+1.2
CLL			*i*		09 54 14.4	
CLL	**Collm**	**144.40 354**	*i* PKPpre		09 54 06.0	
	comp=Z,8.0nm,0.8s					
CLL			*i* PKPdf	PKPdf	09 54 08.5	+1.2
	comp=Z,22nm,1.4s					
CLL			*i* PKiKP	PKiKP	09 54 14.4	+3.4
STHS	**Stebnicka Huta**	**144.69 344**	*e*PKP	PKPdf	09 54 07.2	-0.7
STHS			*e*		09 54 20.4	
STHS			*e*		09 54 30.9	
UPC	**Upice**	**144.78 350**	*e*PKP	PKPdf	09 54 06.9	-1.1
KOLS	**Kolonicke sedl**	**144.85 343**	*e*PKP	PKPdf	09 54 07.1	-1.0
DPC	**Dobruska-Polom**	**144.88 350**	*e*PKP	PKPdf	09 54 07.2	-1.0
NIE	**Niedzica**	**144.93 345**	*e*PKP	PKPdf	09 54 08.3	0.0
PVCC	**Panska Ves**	**144.98 352**	*e*PKP	PKPdf	09 54 08.2	-0.1
OKC	**Ostrava-Krasne**	**145.03 348**	*e*PKP	PKPdf	09 54 08.1	-0.3
BURAR	**Bucovina Array**	**145.07 339**	⇑*i*P	PKPbc	09 54 08.4	+0.3
BURAR	**Bucovina Array**	**145.07 339**	⇑P	PKPbc	09 54 08.4	+0.3
CRVS	**Cervenica-Dubn**	**145.11 344**	*e*PKP	PKPdf	09 54 08.4	-0.2
UZH	**Uzhgorod**	**145.12 342**	⇑*i*PKP2	PKPab	09 54 06.8	-1.5
UZH			pmax	pmax		
	comp=Z,44nm,1.0s					
MOX	**Moxa**	**145.19 355**	*e*PKPbc	PKPbc	09 54 07.9	-0.6
MORC	**Moravsky Berou**	**145.21 348**	PKIKP	PKPdf	09 54 09.3	+0.6
WERD	**Werda**	**145.32 354**	*e*PKPbc	PKPbc	09 54 08.4	-0.5
TANN	**Tannenbergstha**	**145.34 354**	*e*PKPbc	PKPbc	09 54 08.5	-0.4
GUNZ	**Gunzen**	**145.40 354**	*e*PKPbc	PKPbc	09 54 08.9	-0.2
WERN	**Wernitzgruen**	**145.47 354**	*e*PKPbc	PKPbc	09 54 09.2	-0.2
PRU	**Pruhonice**	**145.51 352**	*e*PKP	PKPdf	09 54 09.2	-0.1
PRU			AMS	AMS	10 57 10.0	
	comp=Z,200nm,19.5s					
NKC	**Novy Kostel**	**145.52 354**	*e*PKP	PKPdf	09 54 09.1	-0.2
KECS	**Kecovo**	**145.75 344**	*e*PKP	PKPdf	09 54 09.5	-0.2
KECS			*e*		09 54 17.5	
KECS			*e*		09 54 25.4	
MANZ	**Manzenberg**	**145.80 354**	*e*PKPbc	PKPbc	09 54 10.1	-0.3
KMBO	**Kilima Mbogo**	**145.84 243**	PKPbc	PKPbc	09 54 12.2	+1.7
	comp=Z,9.4nm,0.9s,baz=48,slow=4.2,SNR=24					
KMBO	**Kilima Mbogo**	**145.84 243**	*e*PKPdf	PKPdf	09 54 12.2	+2.4
KMBO			*e*PKPab	PKPab	09 54 13.6	+2.6
GIVF	**Givet**	**145.86 3**	*e*PKP1	PKPbc	09 54 09.7	-0.8
BAIF	**Baives**	**145.87 3**	*e*PKP1	PKPbc	09 54 09.9	-0.7
	comp=Z,17nm,0.6s					
VRI	**Vrincioaia**	**145.97 335**	⇑*i*P	PKPdf	09 54 11.4	+1.4
VRI	**Vrincioaia**	**145.97 335**	⇑P	PKPdf	09 54 11.4	+1.4
ROTZ	**Rotzenmuhle**	**146.00 354**	*e*PKPbc	PKPbc	09 54 11.1	+0.1
TREC	**Trest**	**146.04 350**	*e*PKP	PKPdf	09 54 05.4	-4.8
VYHS	**Vyhne**	**146.15 346**	*e*PKP	PKPdf	09 54 10.6	+0.3
VYHS			*e*		09 54 20.6	
VYHS			*e*		09 54 32.5	
GRF	**Grafenberg Arr**	**146.16 355**	*e*PKPbc	PKPbc	09 54 11.8	+0.3
GRFO	**Grafenberg**	**146.17 355**	*e*PKPbc	PKPbc	09 54 11.9	+0.4
KHC	**Kasperske Hory**	**146.48 352**	*e*PKP	PKPdf	09 54 12.5	+1.6
ROSF	**Rostrenen**	**146.55 13**	*e*PKP1	PKPbc	09 54 11.4	-1.2
WET	**Wettzell**	**146.55 353**	*e*PKPbc	PKPbc	09 54 12.5	-0.1
MLR	**Muntele Rosu**	**146.59 336**	PKPbc	PKPbc	09 54 12.0	-0.7
	comp=Z,7.7nm,0.8s,baz=68,slow=5.8,SNR=9.5					
MLR	**Muntele Rosu**	**146.59 336**	⇑*i*P	PKPdf	09 54 13.3	+2.2
MLR	**Muntele Rosu**	**146.59 336**	P	PKPdf	09 54 13.5	+2.4
DRGR		**146.63 341**	‖*i*P	PKPdf	09 54 13.0	+1.8
DRGR		**146.63 341**	PKP2	PKPab	09 54 13.1	-1.0
DRGR		**146.63 341**	P	PKPdf	09 54 13.1	+1.9
FLN	**La Foliniere**	**146.65 9**	*e*PKP1	PKPbc	09 54 11.8	-1.1
	comp=Z,38nm,1.0s					
FLN			*e*MLR	MLR		
	comp=Z,235nm,20.0s					
FLN	**La Foliniere**	**146.65 9**	*e*PKP	PKPdf	09 54 11.8	+0.6
FLN			LR	LR		
	comp=Z,230nm,20.0s					
GEC2	**GERESS Array S**	**146.74 352**	*e*PKPbc	PKPbc	09 54 13.2	0.0
GERES	**GERESS Array B**	**146.74 352**	PKPbc	PKPbc	09 54 12.0	-1.1
	comp=Z,2.8nm,0.8s,baz=46,slow=3.9,SNR=8.8					
SGMF	**Saint Gilles**	**146.77 12**	*e*PKP1	PKPbc	09 54 12.2	-1.0
	comp=Z,95nm,1.3s					
ZST	**Bratislava**	**146.81 348**	*e*PKP	PKPbc	09 54 13.7	+0.4
ZST			*e*		09 54 24.8	
LDF	**La Druitiere**	**146.87 9**	*e*PKP1	PKPbc	09 54 12.4	-1.1
BR131	**Keskin Array S**	**146.94 321**	*e*PKPbc	PKPbc	09 54 14.7	+1.0
BRTR	**Keskin Array B**	**146.94 321**	PKPbc	PKPbc	09 54 14.5	+0.8
	comp=Z,24nm,1.0s,baz=127,slow=1.9,SNR=64					
GRR	**Gorron**	**146.95 10**	*e*PKP1	PKPbc	09 54 12.8	-1.0
	comp=Z,51nm,1.0s					
QUIF	**Quistinic**	**146.97 13**	*e*PKP1	PKPbc	09 54 12.9	-0.9
	comp=Z,31nm,1.0s					
VOIR		**146.98 337**	‖*i*P	PKPbc	09 54 14.8	+1.0
VOIR		**146.98 337**	‖P	PKPbc	09 54 14.8	+1.0
CONA	**Conrad Observa**	**147.30 349**	‖*i*PKPab	PKPab	09 54 15.2	-1.4
	comp=Z,16nm,1.0s					
ANTO	**Ankara**	**147.35 322**	⇑*i*P	PKPbc	09 54 16.3	+1.4
ANTO	**Ankara**	**147.35 322**	PKP2	PKPab	09 54 16.5	-0.4
ANTO	**Ankara**	**147.35 322**	*e*PKPdf	PKPdf	09 54 13.2	+0.9
ANTO			*e*PKPbc	PKPbc	09 54 15.6	+0.7
MEZF	**Maizieres J'vi**	**147.47 3**	*e*PKP1	PKPbc	09 54 14.6	-0.6
CDF	**Champ du Feu**	**147.60 360**	*e*PKP1	PKPbc	09 54 15.0	-0.6
	comp=Z,45nm,1.2s					
MOA	**Molln**	**147.64 351**	‖*i*P	PKPbc	09 54 15.9	+0.2
	comp=Z,25nm,1.4s					
BFO	**Black Forest**	**147.67 359**	*e*PKPbc	PKPbc	09 54 15.9	+0.1
BFO			*e*PKPab	PKPab	09 54 17.9	-0.3
HAU	**Haudompre**	**148.00 1**	*e*PKP1	PKPbc	09 54 16.2	-0.4
	comp=Z,32nm,0.9s					
HAU			*e*MLR	MLR		
	comp=Z,189nm,22.5s					

HAU	**Haudompre**	**148.00 1**	*e*PKP	PKPbc	09 54 16.2	-0.4
HAU			LR	LR		
	comp=Z,190nm,22.5s					
BZS	**Buzias**	**148.03 341**	‖*i*P	PKPbc	09 54 16.7	0.0
BZS	**Buzias**	**148.03 341**	P	PKPbc	09 54 16.8	+0.1
PKSM	**Moragy**	**148.33 345**	⇑*i*P	PKPbc	09 54 17.4	-0.1
PKSM	**Moragy**	**148.33 345**	P	PKPbc	09 54 17.9	+0.5
WTTA	**Wattenberg**	**148.54 354**	‖*i*P	PKPbc	09 54 18.2	+0.2
ASF	**Jabal al Asfar**	**148.58 306**	PKPbc	PKPbc	09 54 18.9	+0.7
	comp=Z,7.6nm,0.9s,baz=27,slow=0.7,SNR=13					
LOR	**Lormes**	**148.62 4**	*e*PKP1	PKPbc	09 54 17.8	-0.4
	comp=Z,21nm,0.9s					
LOR			*e*MLR	MLR		
	comp=Z,254nm,19.8s					
LOR	**Lormes**	**148.62 4**	*e*PKP	PKPbc	09 54 17.8	-0.4
LOR			LR	LR		
	comp=Z,250nm,19.8s					
DAVA	**Damuels**	**148.65 357**	⇑*i*P	PKPbc	09 54 18.7	+0.4
	comp=Z,24nm,1.3s					
PERS	**Pernice**	**148.68 350**	*i* PKPbc	PKPbc	09 54 17.8	-0.6
PERS			*i* PKPab	PKPab	09 54 26.4	+4.2
SSF	**Saint Saulge**	**148.80 5**	*e*PKP1	PKPbc	09 54 18.4	-0.3
	comp=Z,62nm,1.3s					
MFF	**Saint Martin d**	**148.80 10**	*e*PKP1	PKPbc	09 54 17.9	-0.8
	comp=Z,43nm,1.2s					
AVF	**Avril sur Loir**	**149.06 5**	*e*PKP1	PKPbc	09 54 18.7	-0.6
	comp=Z,14nm,0.9s					
BGF	**Bois d'Agland**	**149.24 6**	*e*PKP1	PKPbc	09 54 19.4	-0.4
	comp=Z,38nm,1.0s					
SMF	**Signal de Mont**	**149.24 5**	*e*PKP1	PKPbc	09 54 19.1	-0.7
	comp=Z,70nm,1.4s					
LJU	**Ljubljana**	**149.35 350**	*i* PKPbc	PKPbc	09 54 19.8	-0.3
LJU			*i* PKPab	PKPab	09 54 28.5	+3.6
MMAI	**Mount Meron Ar**	**149.36 309**	PKPbc	PKPbc	09 54 21.5	+1.4
	comp=Z,21nm,0.9s,baz=57,slow=5.3,SNR=13					
TCF	**Toulx Ste Croi**	**149.44 7**	*e*PKP1	PKPbc	09 54 19.7	-0.6
BOJS	**Bojanci**	**149.75 349**	*i* PKPbc	PKPbc	09 54 21.2	+0.1
BOJS			*e*PKPab	PKPab	09 54 30.1	+3.5
BOJS			*e*pPKPbc	pPKPbc	09 54 48.3	+6.4
GRUS	**Gruza**	**149.86 340**	*i* P	PKPbc	09 54 21.5	+0.2
DIVS	**Divcibare**	**149.90 341**	*i* P	PKPbc	09 54 22.0	+0.6
VTS	**Vitosha**	**150.09 336**	⇑*i*P	PKPbc	09 54 22.2	+0.3
VTS	**Vitosha**	**150.09 336**	PKP2	PKPbc	09 54 22.7	+0.8
BBLS	**Bajina Basta -**	**150.28 342**	*i* P	PKPbc	09 54 23.5	+1.2
RJF	**Les Rejaudoux**	**150.32 8**	*e*PKP1	PKPbc	09 54 21.9	-0.5
	comp=Z,90nm,1.5s					
RJF			*e*MLR	MLR		
	comp=Z,366nm,22.8s					
RJF	**Les Rejaudoux**	**150.32 8**	*e*PKP	PKPbc	09 54 21.9	-0.5
RJF			LR	LR		
	comp=Z,370nm,22.8s					
LPL	**La Plagne**	**150.50 1**	*e*PKP1	PKPbc	09 54 23.5	+0.7
	comp=Z,27nm,1.1s					
LPG	**La Plagne**	**150.52 1**	*e*PKP1	PKPbc	09 54 23.7	+0.8
	comp=Z,33nm,0.9s					
LFF	**La Frestale**	**150.56 9**	*e*PKP1	PKPbc	09 54 22.5	-0.5
BNI	**Bardonecchia**	**150.96 1**	*e*PKPdf	PKPdf	09 54 18.7	+0.5
BNI			*e*PKPbc	PKPbc	09 54 24.4	+0.4
ORIF	**Oris-en-Rattie**	**151.08 2**	*e*PKP1	PKPbc	09 54 24.4	+0.2
	comp=Z,22nm,1.0s					
ORIF			*e*MLR	MLR		
	comp=Z,308nm,21.0s					
VIVF	**Saint-Julien-l**	**151.08 4**	*e*PKP1	PKPbc	09 54 24.4	+0.2
EIL	**Elat**	**151.09 303**	*e*PKPdf	PKPdf	09 54 19.4	+1.1
EIL			*e*PKPbc	PKPbc	09 54 25.7	+1.5
EIL			*e*PKPab	PKPab	09 54 33.8	+1.7
STIP	**Stip**	**151.26 336**	*e*P	PKPbc	09 54 23.5	-1.1
MBDF	**Montbardon**	**151.29 1**	*e*PKP1	PKPbc	09 54 24.9	+0.2
	comp=Z,8.5nm,0.7s					
SKO	**Skopje**	**151.30 338**	*e*P	PKPbc	09 54 25.6	+0.9
VAY	**Valandovo**	**151.42 335**	*e*P	PKPbc	09 54 23.8	-1.2
LASF	**Ste Croix**	**151.80 5**	*e*PKP1	PKPbc	09 54 26.0	+0.1
	comp=Z,23nm,0.8s					
KRUS	**Krusevo**	**151.89 337**	*e*P	PKPbc	09 54 25.5	-0.6
SMRF	**Simiane la Rot**	**152.01 3**	*e*PKP1	PKPbc	09 54 26.8	+0.5
	comp=Z,22nm,0.8s					
SBF	**Sospel**	**152.15 360**	*e*PKP1	PKPbc	09 54 26.6	-0.1
OHR	**Ohrid**	**152.28 338**	*e*P	PKPbc	09 54 26.6	-0.4
FRF	**La Foret Royal**	**152.45 1**	*e*PKP1	PKPbc	09 54 26.9	-0.4
LMR	**La Mourre**	**152.68 1**	*e*PKP1	PKPbc	09 54 27.3	-0.5
	comp=Z,99nm,1.3s					
SANT	**Santorini**	**153.96 325**	*e*PKPbc	PKPbc	09 54 30.2	-0.4
TOA0	**Torodi Ar. Sit**	**173.98 117**	*e*PKPdf	PKPdf	09 54 40.0	-0.6
TORD	**Torodi Ar. Bea**	**173.98 117**	PKP	PKPdf	09 54 39.5	-1.1
	comp=Z,4.0nm,1.0s,baz=333,slow=1.2,SNR=15					
TORD			PKPab	PKPab	09 56 10.8	-1.1
	comp=Z,8.5nm,1.0s,baz=259,slow=4.5,SNR=18					
TORD	**Torodi Ar. Bea**	**173.98 117**	PKP	PKPdf	09 54 39.5	-1.1
TORD			PKPab	PKPab	09 56 10.8	-1.1

*IDC **26** 09:36:48.6±3.2, 1353N×8846W, h148km±32km, mb3.7/6, mb1 3.9/8, mb1mx3.6/21, mbtmp4.1/8, Error ellipse: s-maj=34.2km s-min=17.1km az=52.0*

*NEIC **26** 09:36:48.9±1.4, 1335N×8861W, h156km±11km, mb4.4/1, Error ellipse: s-maj=26.4km s-min=12.7km az=212.0*

*ISCJB **26** 09:36:49.4±0.7, 1351N±0.10×886W±0.1, h158km±7km, mb4.0/7, Error ellipse: s-maj=22.1km s-min=7.9km az=96.6*

*CASC **26** 09:36:52.1±2.6, 1255N×8897W, h20km±18km, MD4.0, ML3.7, mb4.4(NEIC)*

ISC 26 09:36:50.3±0.6, 1353N±010×886W±01, h151km±7km, n51, σ0§87/45, mb4.0/7, 11C-13D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.28**	**287⇑**	*e*P	x	09 37 31.7	
SNVI				*e*S	x	09 37 47.2	
VSM	**San Miguel**	**0.30**	**110‖**	*e*P	x	09 37 32.3	
VSM				*e*S	x	09 37 48.4	
BLLM	**Bellamira**	**0.33**	**105‖**	*e*P	x	09 37

comp=N,3.3nm,0.3s,baz=117,slow=7.5,SNR=75
CMIG S Sn 09 39 43.2 -6.6
comp=N,2.0nm,0.3s,baz=50,slow=18,SNR=5.8
CMIG Matias Romero 7.05 301 P Pn 09 38 29.9 -1.1
CMIG S Sn 09 39 43.2 -6.6
CTCR Cotoan 7.32 128 *e*P Pn 09 38 35.0 +0.4
SDV Santo Domingo 18.18 103 P P 09 40 50.8 -0.5
comp=N,0.6nm,0.3s,baz=289,slow=6.5,SNR=9.3
TXAR Lajitas Array 21.05 321 P P 09 41 22.8 +0.5
comp=N,3.5nm,0.7s,mb3.8,baz=138,slow=9.7,SNR=48
JSC Jenkinsville 21.70 17 *e*P P 09 41 30.1 +1.0
TKL Tuckaleechee C 22.45 10 P P 09 41 36.5 -0.3
comp=N,9.8nm,0.7s,mb4.3,baz=186,slow=12,SNR=15
PDAR Pinedale Array 34.31 332 P P 09 43 22.4 +0.2
comp=N,0.7nm,0.8s,mb3.5,baz=120,slow=9.0,SNR=6.0
REDW Red Top Meadow 35.37 331 *e*P P 09 43 31.7 +0.4
comp=N,4.7nm,0.5s,mb4.4
ULM Lac du Bonnet 37.10 352 P P 09 43 42.9 -3.0
comp=N,4.3nm,0.5s,mb4.3,baz=169,slow=8.5,SNR=15
MCMT McKenzie Canyo 37.42 331 *e*P P 09 43 50.2 +1.6
SIV San Ignacio 39.99 136 P P 09 44 07.4 -2.7
comp=N,0.5nm,0.4s,mb3.5,baz=280,slow=9.6,SNR=4.6
YKA Yellowknife Ar 52.29 345 P P 09 45 44.3 -1.8
comp=N,1.4nm,0.6s,mb3.8,baz=153,slow=7.4,SNR=12
YKA Yellowknife Ar 52.29 345 P P 09 45 44.3 -1.8
STKA Stephens Creek 130.71 240 PKP PKPdf 09 55 44.1 +0.8
comp=N,0.4nm,0.3s,baz=98,slow=7.1,SNR=3.2
WB2 Warramunga Arr 138.50 255 *e*P PKPdf 09 55 58.7 +0.9
WRA Warramunga Arr 138.51 255 PKP PKPdf 09 55 57.8 0.0
comp=N,1.8nm,0.6s,baz=88,slow=2.1,SNR=33
ASAR Alice Springs 138.64 250 PKP PKPdf 09 55 58.1 0.0
comp=N,0.7nm,0.6s,baz=93,slow=1.9,SNR=13

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*ATH **26** 09:49:27.8, 3859N×2709E, h39km, MD3.3/3*
*NEIC **26** 09:49:27.8, 3859N×2709E, h39km, MD3.3(ATH), After ATH.*
*CSEM **26** 09:49:29.7±0.1, 3856N×2685E, h20km, MD3.1, Error ellipse: s-maj=3.6km s-min=1.8km az=65.0*
*ISCJB **26** 09:49:30.3±0.5, 3854N±003×2681E±005, h23km±5km, Error ellipse: s-maj=7.5km s-min=4.0km az=132.7*
*ISK **26** 09:49:30.4, 3856N×2690E, h27km, MD3.1*
ISC 26 09:49:29.9±0.5, 3853N±003×2676E±004, h16km±3km, n23, σ0°97/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**218**	*i* P		**Pg**		**09 49 34.5**	**-0.3**
URLA				*i* S		**Sg**		**09 49 36.8**	**-1.4**
IZM	**Izmir**	**0.41**	**108**	*i* PG		**Pg**		**09 49 38.4**	**+0.1**
IZM				*i* SG		**Sg**		**09 49 44.5**	**+0.5**
KDAG	**Bornova**	**0.41**	**107**	*i* P		**Pg**		**09 49 38.3**	**-0.1**
KDAG				*i* S		**Sg**		**09 49 43.6**	**-0.5**
AYVA	**Ayvalik**	**0.78**	**356**	*i* P		**Pg**		**09 49 45.4**	**+0.2**
AYVA				*i* S		**Sg**		**09 49 57.1**	**+1.6**
PRK	**Paraskevi**	**0.81**	**332**	*e*PN		**Pb**		**09 49 45.5**	**-0.2**
PRK				*e*SN		**Sg**		**09 49 58.5**	**+2.0**
SMG	**Samos**	**0.82**	**176**	*e*PN		**Pg**		**09 49 45.3**	**-0.6**
AYDN	**Tasoluk**	**1.23**	**134**	*i* P		**Pn**		**09 49 52.6**	**+0.1**
AYDN				*i* S		**Sb**		**09 50 09.8**	**+1.2**
EZN	**Ezine**	**1.34**	**345**	PN		**Pn**		**09 49 54.1**	**+0.1**
EZN				SN		**Sn**		**09 50 11.0**	**-0.5**
BOZC	**Bozcaada**	**1.42**	**337**	*i* P		**Pn**		**09 49 55.2**	**+0.1**
BOZC				*i* S		**Sn**		**09 50 15.6**	**+2.1**
MLSB	**Milas**	**1.47**	**147**	*e*PN		**Pn**		**09 49 55.9**	**+0.2**
CANB	**Canakkale**	**1.51**	**9**	PN		**Pn**		**09 49 55.2**	**-1.1**
CANB				SN		**Sn**		**09 50 14.1**	**-1.5**
BODT	**Bodrum**	**1.52**	**163**	*e*PN		**Pn**		**09 49 56.4**	**-0.1**
BDRM	**Kayabasi**	**1.56**	**159**	*i* P		**Pn**		**09 49 58.9**	**+2.0**
BDRM				*i* S		**Sn**		**09 50 20.8**	**+4.0**
APE	**Apeiranthos**	**1.75**	**214**	*e*PN		**Pn**		**09 50 00.4**	**+0.8**
DAT	**Datca**	**1.91**	**160**	*e*PN		**Pn**		**09 50 01.8**	**0.0**
EDC	**Edincik**	**2.01**	**25**	*e*PN		**Pn**		**09 50 03.0**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.18**	**8**	*e*PN		**Pn**		**09 50 04.4**	**-1.2**
MFT	**Murefte**	**2.29**	**10**	*e*PN		**Pn**		**09 50 06.9**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.30**	**139**	*e*PN		**Pn**		**09 50 07.5**	**+0.3**
GEMT	**Gemlik**	**2.68**	**44**	*e*PN		**Pn**		**09 50 11.6**	**-0.8**
YLV	**Yalova**	**2.87**	**44**	*e*PN		**Pn**		**09 50 13.7**	**-1.3**
EDRB	**Edirne**	**3.32**	**360**	*e*PN		**Pn**		**09 50 21.4**	**+0.2**
GEC2	**GERESS Array S**	**13.97**	**322**	*e*Pn		**Pn**		**09 52 44.0**	**-3.2**

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*ISCJB **26** 10:00:56.2±1.4, 97S±04×1077E±04, h33km, mb4.5/11, Error ellipse: s-maj=80.4km s-min=12.5km az=98.2*
*IDC **26** 10:00:57.0±3.2, 899S×10803E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=136.9km s-min=20.8km az=50.0*
*NEIC **26** 10:00:56.2±2.3, 940S×10750E, h10km, mb4.6/3, Error ellipse: s-maj=115.0km s-min=14.9km az=46.0*
ISC 26 10:00:58.2±1.4, 98S±04×1075E±04, h35km, n17, σ1°00/17, mb4.5/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**16.26**	**135**	*e*Pn		**Pn**		**10 04 42.9**	**-0.9**
MBWA				*e*Sn		**Sn**		**10 07 29.2**	**-14**
FITZ	**Fitzroy Crossi**	**19.38**	**117**	P		**Pn**		**10 05 26.0**	**+3.7**
0.1nm,0.3s,baz=296,slow=10,SNR=6.8									
WRA	**Warramunga Arr**	**27.74**	**114**	P		**P**		**10 06 44.9**	**+1.6**
0.5nm,0.9s,mb3.1,baz=289,slow=11,SNR=3.8									
ASAR	**Alice Springs**	**28.68**	**122**	P		**P**		**10 06 57.4**	**+5.6**
0.2nm,0.5s,baz=305,slow=10,SNR=4.5									
QIZ	**Qiongzhong**	**28.76**	**5**	*e*P		**P**		**10 06 44.6**	**-7.9**
16nm,0.3s,mb5.2									
JIRN	**Jiri**	**42.62**	**332**	*e*P		**P**		**10 08 51.7**	**+0.7**
11nm,0.6s,mb4.8									
GUN	**Gumba**	**42.98**	**331**	*e*P		**P**		**10 08 54.8**	**+0.9**
15nm,0.7s,mb4.9									
DMN	**Daman**	**43.10**	**330**	*e*P		**P**		**10 08 55.3**	**+0.4**
16nm,0.7s,mb4.9									
GKN	**Gorkha**	**43.65**	**330**	*e*P		**P**		**10 09 00.0**	**+0.6**
10nm,0.5s,mb4.8									
KOLN	**Koldanda**	**43.98**	**329**	*e*P		**P**		**10 09 02.7**	**+0.7**
15nm,0.7s,mb4.9									
SONM	**Songino Array**	**57.41**	**359**	P		**P**		**10 10 42.1**	**-1.1**
1.0nm,0.7s,mb4.0,baz=178,slow=7.7,SNR=8.8									
MK31	**Makanchi Array**	**60.71**	**340**	*e*P		**P**		**10 11 05.7**	**-0.4**
MKAR	**Makanchi Array**	**60.71**	**340**	P		**P**		**10 11 05.8**	**-0.3**
1.9nm,0.5s,mb4.5,baz=142,slow=7.8,SNR=14									
MKAR	**Makanchi Array**	**60.71**	**340**	P		**P**		**10 11 05.8**	**-0.3**
CHKZ	**Chkalovo**	**70.58**	**338**	*e*P		**P**		**10 12 07.6**	**-2.2**
2.5nm,0.6s,mb4.3									
ZRNK	**Zerenda**	**70.64**	**336**	*e*P		**P**		**10 12 09.6**	**-0.5**
1.1nm,0.5s,mb4.0									
TXAR	**Lajitas Array**	**144.95**	**52**	PKP		PKPdf		10 20 33.5	+2.0
1.0nm,0.8s,baz=283,slow=1.4,SNR=10									

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*KNET **26** 10:04:36.9±0.3, 4302N×7488E, h14km±2km, ml1.8, Error ellipse: s-maj=2.4km s-min=1.7km az=45.0*
*ISCJB **26** 10:04:37.2±0.6, 4307N±003×7492E±004, h10km, Error ellipse: s-maj=5.0km s-min=4.0km az=17.0*
*NNC **26** 10:04:40.3±1.4, 4313N×75.17E, h0km, mpv2.3, Error ellipse: s-maj=15.9km s-min=9.0km az=46.0*
ISC 26 10:04:37.6±0.6, 4305N±003×7490E±004, h10km, n13, σ0°69/24, 16C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**244**	⇑P		**Pg**		**10 04 40.0**	**-0.5**
73nm,0.1s,SNR=255									
CHMS				⇓S		**Sg**		**10 04 42.1**	**-0.5**
528nm,0.4s									
USP	**Ospenovka**	**0.36**	**306**	P		**Pg**		**10 04 44.9**	**+0.1**
30nm,0.1s,SNR=56									
USP				⇓S		**Sg**		**10 04 50.4**	**+0.7**
117nm,0.2s									
KBK	**Karagaybulak**	**0.40**	**175**	⇑P		**Pg**		**10 04 45.5**	**0.0**
174nm,0.2s,SNR=79									
KBK				⇓S		**Sg**		**10 04 51.6**	**+0.9**
342nm,0.4s									
AAK	**Ala-Archa**	**0.52**	**216**	⇑P		**Pg**		**10 04 47.5**	**-0.2**
9.4nm,0.1s,SNR=21									
AAK				⇑S		**Sg**		**10 04 54.7**	**+0.2**
89nm,0.3s									
TKM2	**Tokmak 2**	**0.53**	**104**	⇑P		**Pg**		**10 04 47.3**	**-0.6**
14nm,0.1s,SNR=88									
TKM2				⇓S		**Sg**		**10 04 54.9**	**+0.1**
73nm,0.2s									
TKM2	**Tokmak 2**	**0.53**	**104**	⇓P		**Pg**		**10 04 47.1**	**-0.7**
1.4nm,0.5s									
TKM2				⇑S		**Sg**		**10 04 54.1**	**-0.7**
0.7nm,0.2s									

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.87**	**199**	⇑P		**Pg**		**10 04 54.0**	**-0.5**
2.9nm,0.1s,SNR=31									
UCH				⇑S		**Sg**		**10 05 05.8**	**-0.1**
10nm,0.2s									
EKS2	**Erkin-Say**	**0.92**	**245**	⇑P		**Pg**		**10 04 55.1**	**-0.2**
11nm,0.2s,SNR=30									
EKS2				⇓S		**Sg**		**10 05 08.0**	**+0.8**
14nm,0.2s									
KZA	**Kyzart**	**1.01**	**165**	⇑P		**Pg**		**10 04 56.6**	**-0.4**
11nm,0.3s,SNR=12									
KZA				⇓S		**Sg**		**10 05 11.0**	**+0.8**
12nm,0.2s									
ULHL	**Ulahol**	**1.27**	**129**	⇑P		**Pn**		**10 05 00.9**	**-0.6**
6.2nm,0.2s,SNR=25									
AML	**Almayashu**	**1.28**	**225**	⇑P		**Pn**		**10 05 01.6**	**0.0**
6.6nm,0.3s,SNR=13									
AML				⇑S		**Sb**		**10 05 18.5**	**+0.1**
17nm,0.2s									
KK31	**Karatay Array**	**3.22**	**272**	⇑Pn		**Pg**		**10 05 35.5**	**-3.8**
0.3nm,0.2s,baz=92,slow=17,SNR=28									
KK31				Sn		**Sg**		**10 06 17.3**	**-3.7**
1.3nm,0.3s,baz=89,slow=28,SNR=7.1									
MK31	**Makanchi Array**	**6.44**	**52**	⇑Pn		**Pn**		**10 06 13.9**	**+1.5**
0.7nm,0.5s,baz=234,slow=13,SNR=10									
MK31				⇑Lg				10 07 57.2	
1.2nm,0.7s									

IDC 26 10:28:01.6±2.1, 103N×9636E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=57.1km s-min=24.2km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.11**	**56**	Pn		Pn		10 28 52.5	+0.7
1.8nm,0.3s,baz=212,slow=9.2,SNR=2.7									
WRA	**Warramunga Arr**	**42.66**	**121**	P		P		10 35 59.6	-0.3
0.1nm,0.5s,baz=308,slow=9.0,SNR=3.2									
ASAR	**Alice Springs**	**43.97**	**126**	P		P		10 36 11.4	+1.0
0.2nm,0.8s,baz=306,slow=7.9,SNR=3.2									
MKAR	**Makanchi Array**	**47.20**	**347**	P		P		10 36 37.2	+1.1
0.8nm,0.5s,baz=148,slow=7.1,SNR=6.9									
SONM	**Songino Array**	**47.42**	**9**	P		P		10 36 36.4	-1.4
0.7nm,0.7s,baz=186,slow=7.6,SNR=7.1									

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*ISCJB **26** 10:51:14.5±0.5, 4108N±003×1986E±003, h10km, Error ellipse: s-maj=4.6km s-min=2.3km az=88.2*
*NEIC **26** 10:51:14.8, 4115N×1984E, h8km, MD2.6(PDG), After PDG.*
*SKO **26** 10:51:14.1, 4106N×1973E, h4km, M2.3, ML2.4*
*CSEM **26** 10:51:14.8±0.2, 4115N×1994E, h0km±1km, ML3.0, Error ellipse: s-maj=4.4km s-min=2.9km az=55.0*
*PDG **26** 10:51:14.8±0.3, 4115N×1984E, h8km*
*THE **26** 10:51:15.4, 4110N×1990E, h10km, ML3.0*
*TIR **26** 10:51:23.3, 4167N×1966E, h4km, Ml3.0*
ISC 26 10:51:15.3±0.5, 4109N±003×1986E±003, h10km, n39, σ1°26/67, 4C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**1**	*e*Pg		**Pg**		**10 51 19.5**	**-1.1**
TIR				*e*Sg		**Sg**		**10 51 24.4**	**+0.3**
TIR	**Tirane**	**0.26**	**1**	*i* pg?		**Pg**		**10 51 19.5**	**-1.1**
TIR				*i* Sg		**Sg**		**10 51 24.8**	**+0.7**
TIR	**Tirane**	**0.26**	**1**	*i* Pg		**Pg**		**10 51 19.5**	**-1.1**
TIR				*e*Sg		**Sg**		**10 51 24.4**	**+0.3**
OHR	**Ohrid**	**0.71**	**88**	*e*Pg		**Pg**		**10 51 28.2**	**-0.8**
OHR				*e*Sg		**Sg**		**10 51 38.8**	**+0.4**
OHR	**Ohrid**	**0.71**	**88**	*i* Pg		**Pg**		**10 51 27.9**	**-1.2**
OHR				*i* Sg		**Sg**		**10 51 38.9**	**+0.5**
OHR				*e*Lg				10 51 39.3	
comp=N,109nm,0.6s									
OHR				*e*Lg				10 51 39.5	
comp=E,101nm,0.5s									
OHR	**Ohrid**	**0.71**	**88**	*i* Pg		**Pg**		**10 51 27.8**	**-1.3**
OHR				*i* Sg		**Sg**		**10 51 38.8**	**+0.4**
PHP	**Peshkopia**	**0.74**	**36**	*i* pg?		**Pg**		**10 51 27.2**	**-2.4**
PHP				*i* Sg		**Sg**		**10 51 38.3**	**-1.0**
KBN	**Korca**	**0.84**	**123**	*i* pg?		**Sg**		**10 51 45.1**	**+2.6**
PUK	**Puka**	**0.96**	**2**	*i* Pn		**Pn**		**10 51 31.6**	**-3.2**
PUK				*i* Sn		**Sn**		**10 51 48.6**	**+0.2**
ULC	**Ulcinj**	**0.99**	**333**	⇓*i*Pg		**Pg**		**10 51 31.6**	**-2.7**
ULC				*e*Sg		**Sg**		**10 51 46.4**	**-0.8**
ULC	**Ulcinj**	**0.99**	**333**	⇓*i*Pg		**Pg**		**10 51 31.6**	**-2.7**
ULC				*e*Sg		**Sg**		**10 51 46.3**	**-0.9**
KRUS	**Krusevo**	**1.09**	**74**	*i* Pg		**Pg**		**10 51 35.1**	**-1.1**
KRUS				*i* Sg		**Sg**		**10 51 51.4**	**+1.0**
KRUS	**Krusevo**	**1.09**	**74**	*i* Pg		**Pg**		**10 51 35.0**	**-1.2**
KRUS				*i* Sg		**Sg**		**10 51 51.3**	**+1.0**
BIA	**Bitola**	**1.11**	**93**	*e*Pg		**Pg**		**10 51 35.1**	**-1.5**
BIA				*e*Sg		**Sg**		**10 51 51.0**	**0.0**
BIA	**Bitola**	**1.11**	**93**	*e*Pg		**Pg**		**10 51 35.0**	**-1.7**
BIA	**Bitola**	**1.11**	**93**	*e*Pg		**Pg**		**10 51 35.1**	**-1.6**
BIA				*e*Sg		**Sg**		**10 51 51.0**	**-0.1**
FNA	**Florina**	**1.19**	**104**	*e*Pg		**Pg**		**10 51 37.3**	**-0.9**
FNA				*e*Sg		**Sg**		**10 51 54.6**	**+1.0**
BCI	**Bajram Curri**	**1.29**	**7**	*i* Pn		**Pn**		**10 51 38.7**	**-0.6**
BCI				*i* Sn		**Sn**		**10 52 00.1**	**+3.5**
BUM	**Brajici-Budva**	**1.41**	**330**	⇓*i*Pg		**Pg**		**10 51 39.6**	**-2.7**
BUM				*e*Sg		**Sg**		**10 52 00.5**	**-0.1**
TTG	**Podgorica**	**1.42**	**342**	⇑*i*Pg		**Pg**		**10 51 39.9**	**-2.6**
TTG				*e*Sg		**Sg**		**10 52 00.3**	**-0.5**
SKO	**Skopje**	**1.48**	**53**	*e*Pg		**Pg**		**10 51 42.9**	**-0.8**
SKO	**Skopje**	**1.48**	**53**	*e*Pn		**Pn**		**10 51 43.3**	**+1.3**
PVY	**Plav**	**1.51**	**3**	⇑*i*Pg		**Pn**		**10 51 41.5**	**-0.9**
PVY				*e*Sg		**Sg**		**10 52 04.0**	**+0.2**
IGT	**Igoumenitsa**	**1.59**	**167**	*e*Pg		**Pg**		**10 51 45.0**	**-0.9**
HCY	**Herceg Novi**	**1.70**	**324**	⇑*i*Pn		**Pn**		**10 51 44.7**	**-0.3**
HCY				*e*Sn		**Sn**		**10 52 08.8**	**+2.0**
IVA	**Berane**	**1.78**	**1**	⇑*i*Pn		**Pn**		**10 51 46.4**	**+0.3**
IVA				*e*Sn		**Sn**		**10 52 10.6**	**+1.7**
NKY	**Niksic**	**1.84**	**340**	⇓*i*Pn		**Pn**		**10 51 47.0**	**+0.1**
NKY				*e*Sn		**Sn**		**10 52 12.0**	**+1.7**
GRG	**Griva**	**1.93**	**93**	*e*Pb		**Pn**		**10 51 48.8**	**+0.7**
TREB	**Trebinje**	**1.98**	**326**	P		**Pn**		**10 51 47.9**	**-0.9**
TREB				S		**Sn**		**10 52 15.2**	**+1.5**
BRY	**Bratogost**	**2.06**	**332**	⇓*i*Pn		**Pn**		**10 51 50.1**	**+0.2**
BRY				*e*Sn		**Sn**		**10 52 17.6**	**+1.9**
UPM	**Unac-Piva**	**2.23**	**342**	⇓*i*Pn		**Pn**		**10 51 52.6**	**+0.3**
UPM				*e*Sn		**Sn**		**10 52 21.5**	**+1.6**
PLE	**Pljevlja**	**2.27**	**351**	⇓*i*Pn		**Pn**		**10 51 52.8**	**0.0**
PLE				*e*Sn		**Sn**		**10 52 22.2**	**+1.4**
KNT	**Kendrikon**	**2.30**	**87**	*e*Pn		**Pn**		**10 51 54.0**	**+0.7**
LKD	**Levkas**	**2.45**	**165**	*e*Pn		**Pn**		**10 51 55.6**	**+0.3**
BBLS	**Bajina Basta -**	**2.80**	**353**	*i* Pn		**Pn**		**10 52 00.9**	**+0.8**
BBLS				Sg		**Sg**		**10 52 48.0**	**+2.7**
AGG	**Agios Georgios**	**2.80**	**137**	*e*Pn		**Pn**		**10 52 00.9**	**+0.7**
DIVS	**Divcibare**	**3.01**	**2**	*i* Pn		**Pn**		**10 52 01.9**	**-1.1**
DIVS				Sg		**Sg**		**10 52 49.6**	**-2.4**
XOR	**Xorichti**	**3.08**	**123**	*e*Pn		**Pn**		**10 52 04.7**	**+0.8**
SGG	**Gregorio Mates**	**4.14**	**276**	Pn		**Pn**		**10 52 18.0**	**-0.6**

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*CSEM **26** 10:59:14.0, 3738N×2102E, h27km, MD3.7/4, After ATH*
ATH 26 10:59:14.0, 3738N×2102E, h27km, MD3.7/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.75**	**105**	*e*PN		Pn		10 59 28.8	0.0
RLS	**Riolos of Patr**	**0.76**	**27**	*e*PN		Pn		10 59 29.1	+0.1
VLS	**Valsamata**	**0.87**	**337**	*e*PN		Pn		10 59 31.1	+0.7
KYTH	**Kithira**	**1.96**	**124**	*e*PN		Pn		10 59 47.5	+2.1

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*NEIC **26** 11:16:43.4, 1675N×9972W, h4km, MD3.6(MEX), After MEX.*
MEX 26 11:16:43.8±0.5, 1676N×9973W, h5km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**300**	*i* P		Pg		11 16 47.7	-0.2
ACX				*i* S		Sg		11 16 50.5	-0.1
CAIG	**El Cayaco**	**0.59**	**299**	*e*P		Pg		11 16 54.2	-0.8
CAIG				*i* S		Sg		11 17 03.3	+0.6
CAIG	**El Cayaco**	**0.59**	**299**	*e*P		Pg		11 16 54.2	-0.8
CAIG				*i* S		Sg		11 17 03.5	+0.8
MEIG	**Mezcala**	**1.16**	**5**	*i* P		Pg		11 17 02.8	-3.3
MEIG				*i* S		Sg		11 17 17.7	-3.4

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**1.63**	**8**	*i* P		Pn		11 17 10.3	-2.9
PLIG				*i* S		Sn		11 17 29.1	-5.5
PLIG	**Platanillo**	**1.63**	**8**	*i* P		Pn		11 17 10.9	-2.3
PLIG				*i* S		Sn		11 17 31.2	-3.3
UTMO	**Huajuapan**	**2.12**	**60**	*i* P		Pn		11 17 17.8	-2.1
UTMO				*i* S		Sn		11 17 42.8	-3.8
PPM	**Popocatepetl**	**2.52**	**24**	*i* P		Pn		11 17 23.6	-1.7
PPM				*i* S		Sn		11 17 51.9	-4.5
PPM	**Popocatepetl**	**2.52**	**24**	*i* P		Pn		11 17 25.7	+0.4
PPM				*i* S		Sn		11 17 55.7	-0.7
IIO	**Organos**	**2.97**	**19**	*i* P		Pn		11 17 34.0	+2.5

IDC 26 11:34:00.4±1.6, 501N×12553E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=121.1km s-min=19.7km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.96**	**180**	P		P		11 39 06.3	0.0
0.8nm,0.5s,baz=15,slow=12,SNR=4.1									
WRA	**Warramunga Arr**	**26.26**	**161**	P		P		11 39 37.3	+0.1
1.5nm,0.5s,baz=340,slow=10,SNR=13									
ASAR	**Alice Springs**	**29.65**	**164**	P		P		11 40 08.3	+0.8
0.3nm,0.5s,baz=341,slow=6.9,SNR=7.9									
MKAR	**Makanchi Array**	**55.83**	**325**	P		P		11 43 39.8	+0.3
0.9nm,0.5s,baz=127,slow=7.5,SNR=8.4									
BVAR	**Borovoye Array**	**65.60**	**327**	P		P		11 44 45.8	-0.3
0.8nm,0.8s,baz=103,slow=6.5,SNR=4.3									

IDC 26 11:34:05.5±4.0, 4944S×12495E, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/10, mbtmp3.7/2, MS3.6/7, Ms1 3.6/7, ms1mx3.4/17, Error ellipse: s-maj=140.8km s-min=72.4km az=112.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.47**	**338**	LR		LR		11 43 11.1	
comp=Z,214nm,19.4s,baz=329,slow=31									
STKA	**Stephens Creek**	**21.53**	**42**	P		P		11 38 56.1	-0.1
1.3nm,0.7s,baz=180,slow=10,SNR=3.1									
STKA				LR		LR		11 45 25.2	
comp=Z,140nm,18.4s,baz=206,slow=32									
ASAR	**Alice Springs**	**26.67**	**19**	P		P		11 39 46.2	+0.1
1.5nm,0.8s,baz=191,slow=9.3,SNR=13									
ASAR				LR		LR		11 48 44.8	
comp=Z,99nm,21.6s,baz=72,slow=33									
WRA	**Warramunga Arr**	**30.38**	**18**	LR		LR		11 51 52.0	
comp=Z,85nm,20.8s,baz=225,slow=35									
FITZ	**Fitzroy Crossi**	**31.27**	**1**	LR		LR		11 53 19.0	
comp=Z,84nm,20.3s,baz=322,slow=37									
VNDA	**Vanda**	**31.46**	**166**	LR		LR		11 51 38.6	
comp=Z,176nm,19.1s,baz=334,slow=34									
PMG	**Port Moresby**	**44.00**	**32**	LR		LR		11 58 12.6	
comp=Z,66nm,19.9s,baz=210,slow=33									
YKA	**Yellowknife Ar**	**145.54**	**45**	PKPbc		PKPbc		11 53 43.6	-2.2
1.2nm,0.7s,baz=267,slow=3.5,SNR=5.4									

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*NIED **26** 11:36:00, 2950N×14120E, h5km, Mw4.2 Best double couple: M0=2.63000×10^15 NP1:φs=305.00000°, δ=79.00000°, λ=-89.00000°. NP2:φs=120.00000°, δ=11.00000°, λ=-95.00000°.*
*IDC **26** 11:36:34.4±1.2, 2939N×14027E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/20, mbtmp4.0/5, ML4.3/1, Error ellipse: s-maj=72.2km s-min=21.7km az=75.0*
*ISCJB **26** 11:36:41.6±1.1, 2932N±009×1408E±03, h78km±18km, mb4.3/7, Error ellipse: s-maj=39.6km s-min=8.2km az=141.3*
ISC 26 11:36:43.4±0.9, 2932N±009×1409E±03, h80km±16km, n13, σ0°83/15, mb4.3/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**153**	Pn		**Pn**		**11 37 20.8**	**-1.2**
52nm,0.3s,baz=307,slow=22,SNR=14									
CBIJ				Sn		**Sn**		**11 37 51.4**	**-0.1**
74nm,0.3s,baz=271,slow=24,SNR=9.4									
**M

*ISCJB **26** 13:00:55.1±0.5, 37.11N∧005×1376E±0.1, h265km±4km, mb3.4/7, Error ellipse: s-maj=15.7km s-min=8.5km az=177.9*
*IDC **26** 13:00:56.1±0.6, 37.13N×13775E, h261km±6km, mb3.2/7, mb1 3.4/9, mb1mx3.2/25, mbtmp3.9/9, Error ellipse: s-maj=26.5km s-min=10.2km az=80.0*
*JMA **26** 13:00:56.9±0.2, 3706N×13734E, h251km±2km, M3.1*
ISC 26 13:00:56.1±0.5, 3707N±006×1375E±01, h257km±4km, n18, σ0§67/25, mb3.4/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.39**	**347**	P	**Pn**	**13 01 29.4**	**-0.2**
JSZ				*e*S	**S**	**13 01 54.6**	**-1.3**
JTT	**Ttatey**	**0.47**	**194**	P	**Pn**	**13 01 29.0**	**-0.8**
MAT	**Matsushiro**	**0.78**	**132**	P	**Pn**	**13 01 31.2**	**+0.3**
MAT				S	**S**	**13 01 58.2**	**0.0**
MJAR	**Matsushiro Arr**	**0.79**	**132**	P	**Pn**	**13 01 31.4**	**+0.6**
	22nm,0.3s,baz=292,slow=3.5,SNR=182						
MJAR				S	**S**	**13 01 59.5**	**+1.3**
	baz=304,slow=12,SNR=5.2						
JNG	**Nsakai**	**0.83**	**143**	P	**Pn**	**13 01 31.6**	**+0.5**
JHG	**Hegura jima**	**0.90**	**331**	P	**Pn**	**13 01 31.7**	**+0.3**
JSD	**Sado**	**1.15**	**32**	P	**Pn**	**13 01 33.5**	**+0.7**
JSD				*e*S	**S**	**13 02 01.6**	**-0.1**
JHK	**Hiroka**	**1.24**	**81**	P	**Pn**	**13 01 34.0**	**+0.7**
JHK				*e*S	**S**	**13 02 02.9**	**+0.2**
JGM	**Miyama**	**1.50**	**204**	P	**Pn**	**13 01 34.9**	**-0.2**
JHJ	**Hachijo jima 2**	**4.37**	**154**	P	**Pn**	**13 02 03.4**	**-1.1**
	8.9nm,0.3s,baz=85,slow=20,SNR=2.3						
JHJ				S	**S**	**13 02 58.1**	**-0.9**
	17nm,0.3s,baz=261,slow=23,SNR=4.3						
ASAJ	**Asahikawa**	**8.05**	**27**	P	**Pn**	**13 02 49.0**	**-0.9**
	3.3nm,0.3s,baz=243,slow=12,SNR=24						
ASAJ				S	**S**	**13 04 16.0**	**-5.8**
	0.6nm,0.3s,baz=331,slow=19,SNR=3.1						
SONM	**Songino Array**	**25.17**	**305**	P	**P**	**13 05 59.0**	**+0.8**
	0.6nm,0.6s,mb3.2,baz=103,slow=9.7,SNR=5.8						
MKAR	**Makanchi Array**	**41.43**	**302**	P	**P**	**13 08 17.2**	**-0.5**
	0.5nm,0.4s,mb3.1,baz=88,slow=9.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	**55.99**	**194**	P	**P**	**13 10 08.7**	**+0.6**
	1.3nm,0.8s,mb3.4,baz=0.0,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**56.78**	**184**	P	**P**	**13 10 13.8**	**+0.2**
	0.6nm,0.4s,mb3.4,baz=358,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**60.50**	**184**	P	**P**	**13 10 39.6**	**+0.5**
	0.3nm,0.3s,mb3.3,baz=359,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**62.84**	**338**	P	**P**	**13 10 54.7**	**0.0**
	2.7nm,0.8s,mb3.9,baz=66,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**67.29**	**331**	P	**P**	**13 11 22.6**	**-0.7**
	1.7nm,0.9s,mb3.8,baz=66,slow=4.8,SNR=4.6						

*IDC **26** 13:03:55.8±7.5, 3462S×17942W, h46km±70km, mb3.9/3, mb1 4.0/4, mb1mx3.7/14, mbtmp4.1/4, ML3.9/1, MS4.1/1, Ms1 4.1/1, ms1mx2.9/25, Error ellipse: s-maj=61.6km s-min=55.1km az=118.0*
*NEIC **26** 13:03:58.3±5.4, 3495S×17939W, h80km±49km, mb4.1/1, Error ellipse: s-maj=63.7km s-min=36.3km az=202.0*
ISC 26 13:03:55.6±1.8, 352S±02×1786W±03, h105km±21km, n25, σ1§07/37, mb4.0/4, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.40**	**226**	P	**Pn**	**13 04 47.0**	**+0.2**
MXZ				S	**Sn**	**13 05 25.6**	**-0.8**
MXZ	**Matakaoa Point**	**3.40**	**226**	PN	**Pn**	**13 04 47.0**	**+0.1**
MXZ				*e*SN	**Sn**	**13 05 23.2**	**-3.2**
PUZ	**Puketiti**	**3.79**	**220**	*e*P	**Pn**	**13 04 53.2**	**+1.2**
PUZ				S	**Sn**	**13 05 37.0**	**+1.3**
PUZ	**Puketiti**	**3.79**	**220**	*e*PN	**Pn**	**13 04 53.0**	**+0.9**
PUZ				*e*SN	**Sn**	**13 05 36.3**	**+0.5**
MWZ	**Matawai**	**4.38**	**224**	*e*P	**Pn**	**13 04 59.7**	**-0.3**
MWZ				S	**Sn**	**13 05 51.5**	**+1.6**
MWZ	**Matawai**	**4.38**	**224**	*e*PN	**Pn**	**13 04 59.7**	**-0.2**
MWZ				SN	**Sn**	**13 05 50.6**	**+0.7**
URZ	**Urewera**	**4.57**	**227**	P	**Pn**	**13 05 02.5**	**0.0**
	5.9nm,0.3s,baz=36,slow=4.0,SNR=66						
URZ				S	**Sn**	**13 05 55.1**	**+0.5**
	1.6nm,0.3s,baz=109,slow=19,SNR=9.6						
URZ	**Urewera**	**4.57**	**227**	P	**Pn**	**13 05 01.7**	**-0.9**
URZ	**Urewera**	**4.57**	**227**	PN	**Pn**	**13 05 01.4**	**-1.1**
URZ				SN	**Sn**	**13 05 54.3**	**-0.3**
KNZ	**Kokohu**	**4.81**	**217**	PN	**Pn**	**13 05 07.1**	**+1.4**
KNZ				SN	**Sn**	**13 06 03.5**	**+3.2**
BKZ	**Black Stump Fm**	**5.54**	**223**	*e*P	**Pn**	**13 05 15.5**	**-0.1**
BKZ	**Black Stump Fm**	**5.54**	**223**	PN	**Pn**	**13 05 15.4**	**-0.2**
BKZ				SN	**Sn**	**13 06 18.2**	**+0.2**
BFZ	**Birch Farm**	**6.79**	**215**	*e*P	**Pn**	**13 05 32.2**	**-0.4**
BFZ	**Birch Farm**	**6.79**	**215**	PN	**Pn**	**13 05 32.1**	**-0.5**
BFZ				SN	**Sn**	**13 06 48.9**	**+0.5**
MRZ	**Mangatainoka R**	**7.10**	**218**	PN	**Pn**	**13 05 35.1**	**-1.7**
MRZ				SN	**Sn**	**13 06 53.7**	**-2.3**
TCW	**Tory Channel**	**8.18**	**221**	SN	**Sn**	**13 07 18.2**	**-4.0**
NNZ	**Nelson**	**8.68**	**224**	SN	**Sn**	**13 07 27.6**	**-6.7**
THZ	**Tophouse**	**9.31**	**223**	PN	**Pn**	**13 06 02.0**	**-4.8**
THZ				*e*SN	**Sn**	**13 07 43.4**	**-6.3**
LTZ	**Lake Taylor**	**10.35**	**220**	SN	**Sn**	**13 08 07.2**	**-7.7**
MQZ	**McQueen's Vall**	**10.82**	**216**	SN	**Sn**	**13 08 17.6**	**-8.8**
PMG	**Port Moresby**	**40.41**	**301**	P	**P**	**13 11 22.6**	**-0.8**
	6.2nm,0.7s,mb4.6,baz=173,slow=8.1,SNR=3.4						
PMG				LR	LR	13 24 03.0	
	comp=Z,298nm,22.0s,baz=208,slow=30						
ASAR	**Alice Springs**	**42.55**	**272**	P	**P**	**13 11 41.5**	**+0.7**
	0.6nm,0.4s,mb3.6,baz=112,slow=8.2,SNR=12						
WRAB	**Tennant Creek**	**43.97**	**278**	*e*P	**P**	**13 11 52.3**	**+0.1**
	1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**43.97**	**277**	P	**P**	**13 11 52.7**	**+0.5**
	0.9nm,0.4s,mb3.9,baz=117,slow=7.8,SNR=24						
FINES	**FINESS Array B**	**149.42**	**337**	PKPbc	PKPbc	13 23 36.1	+3.9
	1.8nm,0.9s,baz=61,slow=4.0,SNR=4.6						

IDC 26 13:28:46.2±9.3, 686S×15185E, h76km±67km, mb3.2/3, mb1 3.4/4, mb1mx3.2/13, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=112.9km s-min=62.5km az=162.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**241**	P	Pn	13 30 02.9	+0.3
	3.0nm,0.3s,baz=36,slow=8.7,SNR=10						
PMG				S	Sn	13 31 02.8	+0.6
	2.1nm,0.3s,baz=108,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**21.40**	**231**	P	P	13 33 29.2	+1.5
	0.7nm,0.4s,baz=53,slow=9.9,SNR=7.5						
ASAR	**Alice Springs**	**24.01**	**224**	P	P	13 33 54.5	+0.7
	0.3nm,0.5s,baz=56,slow=8.8,SNR=6.9						
STKA	**Stephens Creek**	**26.67**	**200**	P	P	13 34 16.8	-1.2
	1.2nm,0.6s,baz=30,slow=14,SNR=3.2						

*ISCJB **26** 13:33:04.9±0.8, 4351N∧003×4562E±004, h4km±5km, Error ellipse: s-maj=5.6km s-min=5.1km az=161.3*
*MOS **26** 13:33:08.5±0.6, 4342N×4539E, h16km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=7.3km az=171.5*
MOS Felt (II-III) at Groznyi.
*CSEM **26** 13:33:08.1, 4342N×4539E, h16km, mb4.0, After OBN*
ISC 26 13:33:06.6±0.7, 4349N±003×4558E±004, h10km±4km, n28, σ1§12/50, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.66**	**291**	*i* P*g*	**Pg**	**13 33 21.0**	**+1.6**
TRKR				*e*S*g*	**Sg**	**13 33 32.4**	**+4.4**
SNJR	**Sundja**	**0.70**	**234**	*i* P*g*	**Pg**	**13 33 19.6**	**-0.6**
SNJR				*i* S*g*	**Sg**	**13 33 29.9**	**+0.6**
BTKR	**Batakoyurt**	**0.76**	**262**	*i* P*g*	**Pg**	**13 33 21.7**	**+0.3**
BTKR				*i* S*g*	**Sg**	**13 33 33.7**	**+2.3**
VLKR	**Vladikavkaz**	**0.79**	**237**	*i* P*g*	**Pg**	**13 33 21.1**	**-0.8**
VLKR				*i* S*g*	**Sg**	**13 33 32.8**	**+0.5**
KMSR	**Komsomolskaya**	**0.94**	**263**	*i* P*g*	**Pg**	**13 33 24.7**	**-0.1**
KMSR				*i* S*g*	**Sg**	**13 33 39.0**	**+1.9**
PRTR	**Priterechnaya**	**0.98**	**286**	*e*P*g*	**Pg**	**13 33 26.0**	**+0.5**
PRTR				*i* S*g*	**Sg**	**13 33 41.2**	**+3.0**
ARNR	**Ardon**	**0.99**	**253**	*i* P*g*	**Pg**	**13 33 25.2**	**-0.6**
ARNR				*i* S*g*	**Sg**	**13 33 39.6**	**+0.9**
LACR	**Lac**	**1.15**	**235**	*i* P*g*	**Pg**	**13 33 27.0**	**-1.7**
LACR				*i* S*g*	**Sg**	**13 33 42.8**	**-0.8**
KORR	**Kora**	**1.17**	**251**	*i* P*g*	**Pg**	**13 33 27.9**	**-1.3**
KORR				*e*S*g*	**Sg**	**13 33 44.5**	**0.0**
ZEI	**Tsey**	**1.42**	**240**	*e*P*G*	**Pn**	**13 33 31.2**	**-1.3**
ZEI				*e*		13 33 50.1	
ZEI				pmax	pmax		
	comp=Z,111nm,0.2s						
ZEI				smax			
	comp=N,336nm,0.3s						
ZEI	**Tsey**	**1.42**	**240**	*e*P*g*	**Pn**	**13 33 31.2**	**-1.3**
	comp=N,111nm,0.2s						
ZEI				*e*S*g*	**Sg**	**13 33 50.1**	**-2.4**
	comp=N,336nm,0.3s						
MAK	**Makhachkala**	**1.50**	**110**	*e*P*G*	**Pg**	**13 33 36.3**	**+0.8**
MAK				pmax	pmax		
	comp=Z,132nm,0.3s						
MAK	**Makhachkala**	**1.50**	**110**	*e*P*g*	**Pg**	**13 33 36.3**	**+0.8**
	comp=Z,132nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.57**	**249**	*i* P*g*	**Pn**	**13 33 33.4**	**-1.2**
DIGR				*e*S*g*	**Sn**	**13 33 53.9**	**-1.2**
KUBR	**Kubataba**	**1.61**	**282**	*i* P*g*	**Pg**	**13 33 36.7**	**-0.8**
KUBR				*e*S*g*	**Sg**	**13 33 59.6**	**+1.3**
TBLG	**Delisi**	**1.86**	**200**	P	**Pn**	**13 33 38.9**	**+0.4**
TBLG				S	**Sn**	**13 34 02.9**	**+0.8**
MTA	**Mtatsminda**	**1.88**	**198**	P	**Pn**	**13 33 38.7**	**-0.2**
MTA				S	**Sn**	**13 34 03.2**	**+0.5**
PYA	**Pyatigorsk**	**1.91**	**288**	*e*PN	**Pn**	**13 33 38.9**	**-0.3**
PYA				*e*S	**Sb**	**13 34 06.5**	**+1.1**
DGRG	**David-gareji**	**2.04**	**184**	P	**Pn**	**13 33 41.6**	**+0.6**
DGRG				S	**Sn**	**13 34 09.7**	**+3.1**
BEYR	**Belyy Ugol+**	**2.07**	**286**	*e*Pn	**Pn**	**13 33 41.2**	**-0.2**
BEYR				*e*S*g*	**Sg**	**13 34 11.2**	**-2.0**
SHAR	**Shatzhatmas**	**2.13**	**278**	‖*e*PN	**Pn**	**13 33 41.9**	**-0.3**
SHAR				*e*S	**Sg**	**13 34 14.0**	**-1.1**
KIV	**Kislovodsk**	**2.15**	**284**	*e*PN	**Pn**	**13 33 42.9**	**+0.4**
KIV				*e*S	**Sg**	**13 34 14.5**	**-1.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KIV				smax			
	comp=Z,46nm,0.4s						
KIV	**Kislovodsk**	**2.15**	**284**	*e*Pn	**Pn**	**13 33 42.9**	**+0.4**
	comp=Z,4.0nm,0.2s						
KIV				*e*S*g*	**Sg**	**13 34 14.5**	**-1.2**
	comp=Z,46nm,0.4s						
GNI	**Garni**	**3.39**	**191**	*e*Pn	**Pn**	**13 34 04.3**	**+4.7**
ANN	**Anapa**	**6.01**	**285**	*e*P	**Pb**	**13 34 52.9**	**+1.5**
ANN				pmax	pmax		
	comp=Z,25nm,0.8s						
ANN	**Anapa**	**6.01**	**285**	*e*P	**Pb**	**13 34 52.9**	**+1.5**
	comp=Z,25nm,0.8s						
AKTO	**Aktyubinsk**	**10.97**	**46**	⇑Pn	**Pn**	**13 35 42.8**	**-0.8**
	comp=Z,0.1nm,1.4s						
AKTO				⇑Sn	**Sn**	**13 37 38.5**	**-7.8**
	comp=Z,0.6nm,2.1s						
AB31	**Akbulak array**	**11.47**	**55**	Pn	**Pn**	**13 35 50.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=246,slow=12,SNR=10						
AB31				⇑Sn	**Sn**	**13 37 51.7**	**-6.9**
	comp=Z,1.4nm,0.7s,baz=238,slow=28,SNR=9.0						

*CSEM **26** 13:42:21.0, 3703N×2059E, h4km, MD3.7/4, After ATH*
ATH 26 13:42:21.0, 3703N×2059E, h4km, MD3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.08**	**82**	*e*PG	Pg	13 42 41.2	-0.5
VLS	**Valsamata**	**1.15**	**360**	*e*PB	Pb	13 42 42.7	-0.6
RLS	**Riolos of Patr**	**1.24**	**34**	*e*PB	Pb	13 42 44.7	-0.3
VLI	**Veliai**	**1.91**	**99**	*e*PG	Pg	13 42 56.5	-1.1

IDC 26 13:48:54.5±2.0, 509N×12563E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=124.8km s-min=24.2km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.05**	**180**	P	P	13 54 01.1	-0.2
	1.6nm,0.6s,baz=355,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**26.31**	**161**	P	P	13 54 33.2	+1.4
	0.8nm,0.4s,baz=341,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**29.70**	**165**	P	P	13 55 01.6	-0.4
	0.2nm,0.5s,baz=345,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**55.82**	**325**	P	P	13 58 33.5	+0.1
	0.6nm,0.6s,baz=119,slow=7.2,SNR=7.1						

*ISCJB **26** 13:57:13.7±0.7, 1820N±009×7670W±005, h27km±11km, Error ellipse: s-maj=15.5km s-min=7.3km az=142.9*
*JSN **26** 13:57:15.1±0.6, 1810N×7668W, h22km±2km, MD2.9*
*SSNC **26** 13:57:18.2, 1836N×7652W, h5km, MD3.0, ML2.8*
ISC 26 13:57:14.0±0.6, 1818N±008×7670W±005, h25km±9km, n8, σ0§91/13, 3C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.14**	**226**	‖*i* P	**Pb**	**13 57 19.0**	**-0.1**
STH				*i* S	**Sb**	**13 57 22.2**	**-0.3**
CMJ	**Castle Mountai**	**0.32**	**97**	⇑*i* P	**Pb**	**13 57 21.6**	**+0.3**
CMJ				*i* S	**Sb**	**13 57 26.8**	**+0.5**
YHJ	**Yallahs**	**0.34**	**145**	⇑*i* P	**Pb**	**13 57 20.8**	**-1.0**
PCJ	**Portland Cotta**	**0.61**	**225**	‖*i* P	**Pb**	**13 57 25.7**	**-0.4**
PCJ				*i* S	**Sb**	**13 57 34.3**	**-0.1**
CVJ	**Coleyville**	**0.79**	**274**	⇑*i* P	**Pb**	**13 57 29.7**	**+0.5**
LMGC	**Las Mercedes**	**1.90**	**351**	*e*P	**Pn**	**13 57 46.3**	**+1.5**
	baz=156						
LMGC				*e*S	**Sn**	**13 58 06.1**	**-1.8**
	comp=N,621nm,0.0s						
LMGC				*e*			
	comp=E,608nm,0.0s						
RCC	**Rio Carpintero**	**2.04**	**28**	*e*P	**Pn**	**13 57 47.8**	**+1.0**
	baz=190						
RCC				*e*S	**Sn**	**13 58 10.1**	**-1.4**
	comp=N,14nm,0.2s						
RCC				*e*			
	comp=E,15nm,0.2s						
CCCC	**Cccc**	**3.17**	**342**	*e*P	**Pn**	**13 58 03.3**	**+1.0**

*CSEM **26** 13:58:59.5, 3705N×2072E, h10km, MD3.6/3, After ATH*
ATH 26 13:58:59.5, 3705N×2072E, h10km, MD3.7/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.97**	**82**	*e*PB	Pb	13 59 17.9	-0.5
VLS	**Valsamata**	**1.13**	**355**	*e*PB	Pb	13 59 21.0	-0.1
RLS	**Riolos of Patr**	**1.17**	**30**	*e*PB	Pb	13 59 21.6	-0.2

*NIED **26** 13:59:00, 2480N×12530E, h41km, Mw4.3 Best double couple: M∘3.23000×10^15 NP1:ϕs45.00000°, δ72.00000°, λ99.00000°. NP2:ϕs198.00000°, δ20.00000°, λ64.00000°.*
*JMA **26** 13:59:34.8±0.1, 2481N×12541E, h50km±1km, M4.5*
JMA Felt III J1.
*ISCJB **26** 13:59:34.5±0.3, 2484N∧004×12539E±003, h53km±2km, mb4.4/36, MS3.4/9, Error ellipse: s-maj=8.1km s-min=3.7km az=119.8*
*MOS **26** 13:59:34.1±0.9, 2475N×12505E, h46km, mb4.9/5, Error ellipse: s-maj=17.3km s-min=9.4km az=112.0*
*BJI **26** 13:59:35.3, 2504N×12533E, h45km, mB4.4, mb4.3, Ms4.2, Msz3.9*
*IDC **26** 13:59:35.5±0.7, 2482N×12530E, h45km±8km, mb4.0/18, mb1 4.1/19, mb1mx4.0/26, mbtmp4.2/19, ML3.6/1, MS3.2/7, Ms1 3.2/7, ms1mx2.9/34, Error ellipse: s-maj=16.2km s-min=11.0km az=119.0*
*NEIC **26** 13:59:37.1±0.8, 2478N×12527E, h60km±7km, mb4.5/14, MW4.3(NIED), Error ellipse: s-maj=7.8km s-min=7.5km az=109.0*
NEIC Recorded [3 JMA] on Miyako-jima and [1 JMA] on Tarama-shima.
ISC 26 13:59:35.7±0.3, 2485N±004×12537E±003, h45km±3km, h49km±3.7km: pP-P, n103, σ0§89/108, mb4.4/36, MS3.4/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.07**	**241**	P	**Pn**	**13 59 42.6**	**-0.3**
JMJ				S	**Sn**	**13 59 48.0**	**+0.1**
JOGS	**Gusukube**	**0.10**	**158**	P	**Pn**	**13 59 42.4**	**-0.6**
JOGS				S	**Sn**	**13 59 48.1**	**+0.1**
JTJ	**Tarama**	**0.64**	**251**	P	**Pn**	**13 59 48.2**	**-0.3**
JTJ				S	**Sn**	**13 59 57.7**	**+0.1**
JIJ	**Ishigaki jima**	**1.21**	**247**	P	**Pn**	**13 59 55.8**	**-0.4**
JIJ				*e*S	**Sn**	**14 00 11.3**	**-0.1**
JKRS	**Kuro-shima**	**1.38**	**244**	P	**Pn**	**13 59 58.6**	**+0.1**
JKRS				*e*S	**Sn**	**14 00 16.5**	**+1.0**
IRIF	**Iriomote-Funau**	**1.57**	**251**	P	**Pn**	**14 00 00.5**	**-0.7**
IRIF				*e*S	**Sn**	**14 00 20.3**	**0.0**
HATJ	**Hateruma jima**	**1.63**	**241**	P	**Pn**	**14 00 02.4**	**+0.5**
JKE	**Kume jima 2**	**1.95**	**41**	P	**Pn**	**14 00 06.6**	**+0.3**
YOJ	**Yonaguni jima**	**2.18**	**260**	P	**Pn**	**14 00 08.9**	**-0.5**
JAGN	**Aguni-jima**	**2.42**	**44**	P	**Pn**	**14 00 13.1**	**+0.3**
JAGN				*e*S	**Sn**	**14 00 41.5**	**+0.3**
JJT2	**Tamagusuku 2**	**2.51**	**59**	P	**Pn**	**14 00 14.6**	**+0.7**
JIH	**Iheya**	**3.20**	**47**	P	**Pn**	**14 00 23.7**	**+0.3**
JOW	**Kunigami**	**3.28**	**52**	P	**Pn**	**14 00 24.8**	**+0.2**
	11nm,0.3s,baz=200,slow=12,SNR=38						
JOW				S	**Sn**	**14 01 04.6**	**+2.3**
	28nm,0.3s,baz=106,slow=28,SNR=4.9						
JOW				LR	LR	14 01 56.7	
	comp=Z,290nm,21.4s,baz=154,slow=42						
JOW	**Kunigami**	**3.28**	**52**	P	**Pn**	**14 00 24.6**	**0.0**
JOW	**Kunigami**	**3.28**	**52**	P	**Pn**	**14 00 24.8**	**+0.2**
JOW				S	**Sn**	**14 01 04.6**	**+2.3**
JOW				LR	LR	14 01 56.7	
NACB	**Ninganchiao**	**3.50**	**260**	*e*Pn	**Pn**	**14 00 27.3**	**-0.3**
TATO	**Taipei**	**3.52**	**273**	*e*Pn	**Pn**	**14 00 29.7**	**+1.8**
YHNB	**Yeheng**	**3.63**	**268**	*e*Pn	**Pn**	**14 00 30.9**	**+1.5**
JTK	**Tokunoshima**	**4.35**	**47**	P	**Pn**	**14 00 37.2**	**-2.0**
JAM	**Amami Oshima**	**5.19**	**46**	P	**Pn**	**14 00 49.5**	**-1.3**
JZK	**Kikaishima**	**5.38**	**49**	P	**Pn**	**14 00 53.3**	**0.0**
JMZ	**Minamidaito 2**	**5.38**	**78**	P	**Pn**	**14 00 49.8**	**-3.7**
JMZ				*e*S	**Sn**	**14 01 46.7**	**-7.4**
NJ2	**Nanjing**	**9.18**	**323**	*e*P	**Pn**	**14 01 43.3**	**-2.2**
NJ2				XP		14 02 01.5	
NJ2				S	**Sn**	**14 03 17.0**	**-10**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,370nm,12.4s						
NJ2				LR	LR		
	comp=E,410nm,13.7s						
NJ2				LR	LR		
	comp=Z,7μm,12.9s						
JHJ	**Hachijo jima 2**	**15.06**	**54**	LR	LR	14 08 52.2	
	comp=Z,14nm,21.8s,baz=63,slow=37						
QIZ	**Qiongzhong**	**15.52**	**251**	P	**Pn**	**14 03 15.8**	**+4.4**
QIZ				S	**S**	**14 06 04.0**	**-12**
QIZ				LR	LR		
	comp=Z,109nm,21.0s						
MAJO	**Matsushiro**	**16.04**	**40**	*e*P	**Pn**	**14 03 21.9**	**+3.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**16.04**	**40**	*e*P	**Pn**	**14 03 21.9**	**+3.9**
	comp=Z,5.9nm,0.7s						
MAT	**Matsushiro**	**16.04**	**40**	P	**Pn**	**14 03 21.4**	**+3.4**
MJAR	**Matsushiro Arr**	**16.04**	**40**	P	**Pn**	**14 03 21.6**	**+3.5**
	comp=Z,0.7nm,0.3s,baz=229,slow=9.6,SNR=9.9						
GYA	**Guiyang**	**16.94**	**279**	P	**Pn**	**14 03 29.8**	**+0.4**
GYA				AP	pP	14 03 40.3	-1.2
GYA				PP		14 03 44.0	
GYA				XP	sP	14 03 49.5	+2.3
GYA				PPP		14 03 52.3	
GYA				S	**S**	**14 06 28.5**	**-17**
GYA				XS	sS	14 06 45.5	-17
GYA				SS		14 06 50.0	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,70nm,4.0s						
GYA				LR	LR		
	comp=N,430nm,12.9s						
GYA				LR	LR		
	comp=E,410nm,13.8s						
GYA				LR	LR		
	comp=Z,450nm,14.0s						
CN2	**Changchun**	**18.91**	**0**	*e*P	**Pn**	**14 03 52.0**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**19.68**	**327**	*e*P	**Pn**	**14 03 57.5**	**-5.2**
HHC				AP	pP	14 04 09.0	-2.7
HHC				PP		14 04 14.3	
HHC				XP	sP	14 04 17.5	+0.1
HHC				PCP	PcP	14 08 23.5	+5.0
HHC				PCS	PcS	14 12 00.5	+4.7
HHC				AMB	AMB		
	comp=Z,12nm,0.4s						
HHC				AMB	AMB		
	comp=Z,80nm,4.5s						
HHC				LR	LR		
	comp=N,167nm,10.0s						
HHC				LR	LR		
	comp=E,149nm,4.9s						
HHC				LR	LR		
	comp=Z,171nm,13.6s						
MDJ	**Mudanjiang**	**20.02**	**9**	P	**P**	**14 04 04.8**	**+0.2**
MDJ				AP		14 04 16.0	
MDJ				XP	sP	14 04 22.5	+1.4
MDJ				S	**S**	**14 07 40.5**	**-6.6**
MDJ				XS	sS	14 07 59.0	-5.5
MDJ				SCS	ScS	14 15 37.5	+3.3
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,84nm,4.5s						
MDJ				LR	LR		
	comp=Z,65nm,24.4s,MS2.9						
CD2	**Chengdu**	**20.02**	**292**	*e*P	**P**	**14 04 04.3**	**-0.3**
CD2				AP		14 04 16.0	
CD2				PP		14 04 22.0	
CD2				XP	sP	14 04 24.5	+3.4
CD2				S	**S**	**14 07 34.5**	**-13**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,200nm,14.4s,MS3.8						
CD2				LR	LR		
	comp=E,220nm,14.4s,MS3.8						
CD2				LR	LR		
	comp=Z,170nm,12.0

comp=Z,147nm,19.4s,MS3.8
DMN Daman 36.11 283 *e*P **P 14 06 34.0 +0.8**
GKN Gorkha 36.49 284 *e*P **P 14 06 37.0 +0.5**
KOLN Koldanda 37.43 284 *e*P **P 14 06 44.6 +0.2**
comp=Z,19nm,1.2s,mb4.8
KAKA Kakadu 37.97 169 *e*P **P 14 06 40.8 -8.2**
comp=Z,31nm,2.0s,mb4.7
KAKA Kakadu 37.97 169 *e*P **P 14 06 56.4 +7.4**
comp=Z,7.0nm,0.2s,mb5.0
MK31 Makanchi Array 40.57 314 *e*P **P 14 07 09.8 -0.9**
MKAR Makanchi Array 40.57 314 P **P 14 07 10.1 -0.6**
comp=Z,3.5nm,0.5s,mb4.2,baz=101,slow=10,SNR=43
MKAR LR LR 14 25 26.4
comp=Z,50nm,18.7s,MS3.4,baz=75,slow=38
ZAL Zalesovo 41.83 325 P **P 14 07 20.2 -0.9**
comp=Z,1.8nm,0.5s,mb4.0,baz=2.7,slow=10,SNR=8.0
FITZ Fitzroy Crossi 42.69 180 *e*P **P 14 07 26.3 -1.8**
comp=Z,3.3nm,0.9s,mb4.1
FITZ Fitzroy Crossi 42.69 180 *e*P pP 14 07 40.2 -0.2
comp=Z,6.0nm,1.3s
FITZ Fitzroy Crossi 42.69 180 P **P 14 07 26.6 -1.5**
comp=Z,2.0nm,0.9s,mb3.8,baz=18,slow=9.6,SNR=2.2
FITZ pP pP 14 07 40.2 -0.2
comp=Z,2.5nm,0.9s,baz=0.0,slow=9.1,SNR=5.7
WRAB Tennant Creek 45.36 168 *e*P **P 14 07 50.1 +0.6**
WRAB *e**PP pP 14 08 02.7 +0.8
WRAB pmax pmax
comp=Z,15nm,0.8s,mb4.9
WRAB Tennant Creek 45.36 168 *e*P **P 14 07 50.1 +0.6**
comp=Z,15nm,0.8s,mb4.9
WRAB *e*pP pP 14 08 02.7 +0.8
WRA Warramunga Arr 45.37 168 P **P 14 07 48.8 -0.7**
comp=Z,1.7nm,0.8s,mb3.9,baz=349,slow=8.7,SNR=10
WRA pP pP 14 08 01.9 -0.1
comp=Z,14nm,0.9s,baz=350,slow=8.3,SNR=35
WB2 Warramunga Arr 45.37 168 *e*P **P 14 07 49.0 -0.5**
WB2 Warramunga Arr 45.37 168 *e*P pP 14 08 02.4 +0.4
HNR Honiara 47.94 131 LR LR 14 25 14.7
comp=Z,57nm,20.2s,MS3.5,baz=358,slow=32
AS31 Alice Springs 48.93 170 *e*P **P 14 08 16.7 -0.6**
ASAR Alice Springs 48.93 170 P **P 14 08 17.3 0.0**
comp=Z,0.3nm,0.5s,mb3.6,baz=358,slow=7.4,SNR=17
ASAR pP pP 14 08 29.9 0.0
comp=Z,2.7nm,0.5s,baz=357,slow=7.7,SNR=30
ASPA Alice Springs 48.93 170 *e*P **P 14 08 16.7 -0.6**
ASPA Alice Springs 48.93 170 *e*P pP 14 08 30.5 +0.6
BVAR Borovoye Array 49.61 319 P **P 14 08 23.0 +0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=102,slow=7.5,SNR=4.9
ZRNK Zerenda 50.41 319 *e*P **P 14 08 27.8 -0.7**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 50.41 319 *e*P **P 14 08 27.8 -0.7**
comp=Z,2.3nm,0.6s,mb4.4
AB31 Akbulak array 55.72 314 *i*P **P 14 09 07.3 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
ARU Arti 56.89 322 *e*P **P 14 09 14.7 -1.2**
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ARU Arti 56.89 322 *e*P **P 14 09 14.7 -1.2**
comp=Z,4.9nm,0.9s,mb4.5
STKA Stephens Creek 58.50 164 *e*P **P 14 09 27.3 +0.1**
comp=Z,2.9nm,1.5s,mb4.1
STKA Stephens Creek 58.50 164 *e*P pP 14 09 40.7 +0.6
comp=Z,2.8nm,0.6s
STKA Stephens Creek 58.50 164 pP pP 14 09 40.4 +0.3
comp=Z,3.3nm,0.8s,baz=334,slow=5.3,SNR=12
KIV Kislovodsk 68.12 309 *e*P **P 14 10 31.5 +0.6**
KIV pmax pmax
comp=Z,15nm,0.6s,mb5.2
KIV Kislovodsk 68.12 309 *e*P **P 14 10 31.3 +0.4**
comp=Z,14nm,0.6s,mb5.2
EGAK Eagle 69.27 27 *e*P **P 14 10 39.8 +1.8**
comp=Z,2.7nm,0.6s,mb4.3
JOF Joensuu 69.99 331 *e*p **P 14 10 37.1 -5.4**
comp=Z,11nm,1.2s,mb4.7
ARCES ARCESS Array B 70.34 338 P **P 14 10 44.5 -0.1**
comp=Z,3.3nm,0.9s,mb4.2,baz=58,slow=6.7,SNR=3.0
INK Inuvik 71.17 23 P **P 14 10 50.9 +1.2**
comp=Z,7.6nm,0.9s,mb4.6,baz=296,slow=5.9,SNR=11
INK Inuvik 71.17 23 *e*P **P 14 10 50.7 +1.1**
comp=Z,277nm,1.0s
FINES FINESS Array B 72.78 330 P **P 14 10 58.6 -0.7**
comp=Z,1.5nm,0.5s,mb4.2,baz=79,slow=7.4,SNR=11
AKASG Malin Array Be 74.89 319 P **P 14 11 10.7 -0.9**
comp=Z,2.0nm,0.4s,mb4.4,baz=64,slow=5.9,SNR=7.5
BR131 Keskin Array S 75.82 307 *e*P **P 14 11 17.5 +0.5**
comp=Z,9.3nm,1.0s,mb4.7
BRTR Keskin Array B 75.82 307 P **P 14 11 17.5 +0.5**
comp=Z,6.7nm,0.9s,mb4.6,baz=84,slow=6.6,SNR=25
ASF Jabal al Asfar 75.99 299 P **P 14 11 18.7 +0.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=167,slow=7.4,SNR=3.8
MLR Muntele Rosu 78.90 315 P **P 14 11 34.5 +0.3**
comp=Z,1.3nm,0.5s,mb4.1,baz=160,slow=6.1,SNR=3.5
KWP Kalwaria 79.16 320 *e*P **P 14 11 35.9 +0.3**
KWP pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KWP Kalwaria 79.16 320 *e*P **P 14 11 35.9 +0.2**
comp=Z,7.0nm,0.6s,mb4.8
NB2 NORSAR Subarra 79.39 333 P **P 14 11 36.0 -0.9**
comp=Z,1.3nm,0.6s,mb4.0,baz=57,slow=5.3
NB2 NORSAR Subarra 79.39 333 P **P 14 11 36.0 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 79.39 333 P **P 14 11 36.0 -0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=56,slow=4.8,SNR=6.0
YKA Yellowknife Ar 80.85 24 P **P 14 11 44.8 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=301,slow=6.0,SNR=4.5
YKA Yellowknife Ar 80.85 24 P **P 14 11 44.8 0.0**
SUMG Summit 82.20 355 *e*P **P 14 11 52.3 +0.4**
comp=Z,8.5nm,0.6s,mb4.8
GERES GERESS Array B 84.71 322 P **P 14 12 04.6 -0.2**
comp=Z,1.0nm,0.5s,mb4.2,baz=51,slow=5.3,SNR=8.5
HLID Hailey 92.60 39 *e*P **P 14 12 44.1 +1.7**
comp=Z,2.0nm,0.7s,mb4.7
VNA2 Neumayer--Watz 126.69 198 *e* PKPdf 14 18 33.3 -0.8
VNA2 *e* 14 18 48.1
VNA2 *e* 14 18 58.3
VNA3 Neumayer Olymp 127.11 197 *e* PKPdf 14 18 34.2 -0.7
VNA3 *e* 14 18 48.7
VNA3 *e* 14 18 59.1
LPAZ La Paz 164.77 59 *e*PKIKP PKPdf 14 19 41.8 +7.3

IDC 26 14:09:50.7±1.7, 504N×12535E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=120.2km s-min=22.5km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.99**	**179**	P	P	14 14 57.4	+0.4
2.4nm,0.7s,baz=359,slow=11,SNR=3.7							
WRA	**Warramunga Arr**	**26.35**	**161**	P	P	14 15 28.9	+0.5
1.6nm,0.6s,baz=340,slow=10,SNR=8.8							
ASAR	**Alice Srings**	**29.72**	**164**	P	P	14 15 58.4	-0.2
0.4nm,0.6s,baz=344,slow=7.1,SNR=6.7							
STKA	**Stephens Creek**	**39.84**	**158**	P	P	14 17 26.1	+0.4
1.0nm,0.7s,baz=350,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**55.70**	**325**	P	P	14 19 28.9	+0.1
0.6nm,0.5s,baz=120,slow=7.9,SNR=11							

NAO ***26*** *14:28:13.3, 3779N×1151E, h33km, mb4.8*
SZGRF ***26*** *14:28:27.9, 3831N×1543E, h200km, Sicily, Italy*
BGS ***26*** *14:28:32.2, 3871N×1614E, h215km, mb5.6*
BJI ***26*** *14:28:35.4, 3906N×1527E, h210km, mB5.7, mb5.6*
PDG ***26*** *14:28:36.0±0.7, 3868N×1554E, h226km±2km*
ISCJB ***26*** *14:28:37.0±0.1, 38695N±0008×15412E±0008, h217km, mb5.7/234, Error ellipse: s-maj=1.2km s-min=0.9km az=27.2*
ROM ***26*** *14:28:36.5±0.2, 3866N×1550E, h221km±2km, MI5.7/83, Error ellipse: s-maj=2.1km s-min=1.5km az=39.0*
MOS ***26*** *14:28:36.8±0.9, 3865N×1539E, h230km, mb6.0/82, Error ellipse: s-maj=2.9km s-min=1.9km az=96.1*
CSEM ***26*** *14:28:36.8±0.0, 3867N×1543E, h218km, mb5.7/99, ML6.0/23, Mw5.8, Error ellipse: s-maj=0.9km s-min=0.8km az=28.0*
NIC ***26*** *14:28:36.6±1.0, 3865N×1542E, h226km, Earthquake Sicily Italy 41 km W Tropea.*
NEIC ***26*** *14:28:37.3±0.1, 3865N×1539E, h212km, mb5.8/250, ME5.1, MW5.7, MD5.4(PDG), Error ellipse: s-maj=1.9km s-min=1.4km az=13.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^17Nm; Mrr=3.72; Mθθ=0.26; Mφφ=3.46; Mrθ=4.31; Mrφ=0.30; Mθφ=-1.02; Best double couple: M=5.30000×10^17 NP1:φs=49.00000°, δ=70.00000°, λ=-65.00000°. NP2:φs=175.00000°, δ=31.00000°, λ=-139.00000°. Principal axes: T 4.1000, Plg21.0000°, Azm121.0000°; N 2.4300, Plg23.0000°, Azm220.0000°; P -6.5300, Plg57.0000°, Azm352.0000°; Broadband fault plane solution: P waves. NP1:φs=260.00000°, δ=10.00000°, λ=-90.00000°. NP2:φs=80.00000°, δ=80.00000°, λ=-90.00000°. Principal axes: T Plg35.0000°, Azm170.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm350.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Catanzaro, Cosenza, Crotone, Messina and Reggio di Calabria; [IV] at Brindisi, Catania, Lecce, Matera, Siracusa and Taranto; [III] at Bari, Naples and Palermo. Felt in much of southern Italy as far north as Rome. Felt throughout Sicily. Also felt at Millieha, Malta and Tirana, Albania.
GCMT ***26*** *14:28:37.5±0.1, 3865N×1541E, h217km, MW5.8/114, Moment Tensor Solution. s103, c206; s114, c321; Duration: 1§9 Moment tensor: Scale 10^17Nm; Mrr=2.82±.05; Mθθ=2.07±.06; Mφφ=0.74±.06; Mrθ=-5.51±.04; Mrφ=0.46±.06; Mθφ=-1.02±.04; Best double couple: M=6.14100×10^17 NP1:φs=251.00000°, δ=12.00000°, λ=-98.00000°. NP2:φs=79.00000°, δ=78.00000°, λ=-88.00000°. Principal axes: T 5.8280, Plg33.0000°, Azm167.0000°; N 0.6230, Plg2.0000°, Azm258.0000°; P -6.4550, Plg57.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
LDG ***26*** *14:28:37.0±0.2, 3880N×1547E, h218km, Mb6.0/48, Ms4.7/8 Error ellipse: s-maj=8.6km s-min=4.1km az=34.0*
IPEC ***26*** *14:28:38.4±0.1, 3870N×1550E, h234km±2km, Error ellipse: s-maj=1.6km s-min=0.8km az=32.0*
IDC ***26*** *14:28:38.8±0.7, 3885N×1523E, h224km±6km, mb5.3/22, mb1 5.4/32, mb1mx5.4/32, mbtmp5.8/32, Error ellipse: s-maj=7.2km s-min=6.3km az=127.0*
IGIL ***26*** *14:28:38.0, 3870N×1540E, h224km, mb5.1*
THE ***26*** *14:28:39.8, 3880N×1625E, h274km, ML5.3*
ZUR ***26*** *14:29:12.9, 41.10N×1370E, h257km±1km, mb6.1/4*

ISC 26 14:28:38.4±0.1, 38761N±0009×15396E±0008, h219km, h219km±1.2km; pP-P, n2056, σ1§13/2247, mb5.7/234, 335C-570D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.41**	**112**	⇓*i*Pg	Pn	14 29 05.7	-1.7
JOPP				Sg	S	14 29 26.1	-4.0
176μm,1.0s							
LLI	**Lipari**	**0.47**	**228**	⇓*i*Pg	Pn	14 29 06.6	-1.0
483μm,1.2s							
SLNA	**Salina**	**0.48**	**246**	⇓*i*Pg	Pn	14 29 06.7	-0.9
SLNA	**Salina**	**0.48**	**246**	P	Pn	14 29 06.6	-1.0
VPL	**Vulcano Piano**	**0.50**	**220**	⇓*i*Pg	Pn	14 29 06.1	-1.6
VPL				Sg	S	14 29 28.3	-2.2
123μm,0.8s							
MSRU	**Castanea**	**0.51**	**170**	⇓*i*Pg	Pn	14 29 05.6	-2.1
MSRU				Sg	S	14 29 26.8	-3.8
282μm,0.8s							
SCLL	**Scilla**	**0.56**	**154**	⇓*i*Pg	Pn	14 29 05.8	-2.1
MSI	**Messina ING**	**0.57**	**167**	⇓*i*Pg	Pn	14 29 05.7	-2.3
MTTG	**Motta San Giov**	**0.79**	**163**	⇓*i*Pg	Pn	14 29 07.5	-1.5
GRI	**Girifalco**	**0.80**	**85**	⇓*e*Pg	Pn	14 29 08.1	-0.9
GRI				Sg	S	14 29 30.0	-2.9
462μm,1.6s							
GRI	**Girifalco**	**0.80**	**85**	P	Pn	14 29 08.0	-1.0
GRI				Sg	S	14 29 30.0	-2.9
CARO	**Carolei**	**0.81**	**52**	⇑*i*Pg	Pn	14 29 07.8	-1.2
CARO				Sg	S	14 29 29.5	-3.4
235μm,0.6s							
MMME	**Mongiuffi-Meli**	**0.83**	**188**	⇓*i*Pg	Pn	14 29 07.9	-1.3
MMME				Sg	S	14 29 31.4	-1.8
110μm,0.7s							
SOI	**Samo**	**0.86**	**143**	⇓*i*Pg	Pn	14 29 07.7	-1.6
SOI				Sg	S	14 29 29.8	-3.6
138μm,0.9s							
SOI	**Samo**	**0.86**	**143**	P	Pn	14 29 07.5	-1.8
SOI				⇓*i*Pg	Pn	14 29 07.7	-1.6
SOI				Sg	S	14 29 29.8	-3.6
PLAC	**Placanica**	**0.87**	**111**	⇓*i*Pg	Pn	14 29 08.0	-1.4
PLAC				Sg	S	14 29 30.0	-3.6
77μm,0.5s							
MPAZ	**Palizzi**	**0.94**	**149**	⇓*i*Pg	Pn	14 29 08.1	-1.7
MPAZ				Sg	S	14 29 30.1	-4.1
90μm,0.4s							
SERS	**Sersale**	**1.05**	**74**	⇓*i*Pg	Pn	14 29 09.9	-0.5
SERS				Sg	S	14 29 32.9	-2.5
106μm,0.4s							
ESLN	**Serra La Nave**	**1.12**	**197**	⇓*i*Pg	Pn	14 29 09.7	-1.2
251μm,1.3s							
TIP	**Timpagrande**	**1.14**	**68**	⇑*e*Pg	Pn	14 29 10.5	-0.6
TIP				Sg	S	14 29 34.1	-2.5
115μm,0.7s							
TIP	**Timpagrande**	**1.14**	**68**	*e*Pn	Pn	14 29 09.9	-1.2
TIP				⇑*e*Pg	Pn	14 29 10.5	-0.6
TIP				*e*S	S	14 29 26.9	-10
TIP				Sg	S	14 29 34.1	-2.5
TIP	**Timpagrande**	**1.14**	**68**	⇑*e*Pg	Pn	14 29 10.5	-0.6
CUC	**Castrocucco**	**1.27**	**15**	⇑*i*Pg	Pn	14 29 11.5	-0.5
CUC				Sg	S	14 29 36.8	-1.4
27μm,0.6s							
CUC	**Castrocucco**	**1.27**	**15**	P	Pn	14 29 11.4	-0.6
CUC				Sg	S	14 29 36.8	-1.4
BULG	**Bulgheria - Ca**	**1.31**	**359**	⇑*i*Pg	Pn	14 29 12.7	+0.4
BULG				Sg	S	14 29 38.2	-0.6
97μm,1.6s							
GIB	**Gibilmanna**	**1.32**	**235**	⇓*i*Pg	Pn	14 29 11.1	-1.3
GIB	**Gibilmanna**	**1.32**	**235**	P	Pn	14 29 11.0	-1.4
SIRI	**Monte Sirino -**	**1.47**	**14**	⇑*i*Pg	Pn	14 29 13.3	-0.2
SIRI				Sg	S	14 29 39.8	-1.1
45μm,1.1s							
HAGA	**Augusta**	**1.49**	**187**	⇓*i*Pg	Pn	14 29 11.5	-2.2
HAGA				Sg	S	14 29 37.8	-3.5
65μm,1.0s							
AGST	**Augusta-Monte**	**1.51**	**185**	⇓*i*Pg	Pn	14 29 11.5	-2.4
AGST				Sg	S	14 29 37.9	-3.7
104μm,1.3s							
AGST	**Augusta-Monte**	**1.51**	**185**	P	Pn	14 29 11.4	-2.5
AGST				Sg	S	14 29 37.9	-3.7
MTSN	**Montesano sull**	**1.53**	**10**	⇑*i*Pg	Pn	14 29 13.9	-0.1
MTSN				Sg	S	14 29 41.2	-0.7
69μm,1.6s							
SCHR	**S. Chirico Rap**	**1.53**	**20**	⇑*i*Pg	Pn	14 29 14.2	+0.2
SCHR				Sg	S	14 29 43.6	+1.7
21μm,0.6s							
ORI	**Oriolo Calabro**	**1.54**	**32**	⇑*i*Pg	Pn	14 29 14.1	0.0
ORI				Sg	S	14 29 42.9	+0.9
191μm,0.4s							
ORI	**Oriolo Calabro**	**1.54**	**32**	P	Pn	14 29 14.0	-0.1
ORI				Sg	S	14 29 42.9	+0.9
CMPR	**Campora**	**1.56**	**357**	⇑*i*Pg	Pn	14 29 14.6	+0.3
CMPR				Sg	S	14 29 42.3	0.0
17μm,0.6s							
MCEL	**Monticello**	**1.59**	**11**	⇑*i*Pg	Pn	14 29 14.6	0.0
MCEL				Sg	S	14 29 43.1	+0.2
65μm,1.6s							
SSY	**Sortino**	**1.62**	**189**	⇓*i*Pg	Pn	14 29 13.1	-1.8
SSY				Sg	S	14 29 40.6	-2.8
101μm,0.9s							
SSY	**Sortino**	**1.62**	**189**	P	Pn	14 29 13.0	-1.9
SSY				Sg	S	14 29 40.6	-2.8
SLCN	**Sala Consilina**	**1.64**	**6**	⇑*i*Pg	Pn	14 29 15.1	+0.1
SLCN				Sg	S	14 29 44.4	+0.8
44μm,0.9s							
SLCN	**Sala Consilina**	**1.64**	**6**	P	Pn	14 29 15.0	0.0
SLCN				Sg	S	14 29 44.4	+0.8
HVZN	**Vizzini**	**1.67**	**199**	⇓*i*Pg	Pn	14 29 14.1	-1.2
HVZN				Sg	S	14 29 42.3	-1.8
275μm,1.0s							
HVZN	**Vizzini**	**1.67**	**199**	P	Pn	14 29 14.0	-1.3
HVZN				Sg	S	14 29 42.3	-1.8
MPG	**Monte Pellegri**	**1.71**	**250**	⇑*i*Pg	Pn	14 29 14.9	-0.7
MPG	**Monte Pellegri**	**1.71**	**250**	P	Pn	14 29 14.8	-0.8
CDRU	**Civita di Ruta**	**1.73**	**358**	⇑*i*Pg	Pn	14 29 16.3	+0.5
14μm,1.0s							
USI	**Ustica**	**1.73**	**269**	⇓*i*Pg	Pn	14 29 15.6	-0.2
USI	**Ustica**	**1.73**	**269**	P	Pn	14 29 12.7	-3.1
USI				⇓*i*Pg	Pn	14 29 15.6	-0.2
USI	**Ustica**	**1.73**	**269**	⇓*i*Pg	Pn	14 29 15.6	-0.2
PZI	**Palazzolo**	**1.74**	**192**	⇓*i*Pg	Pn	14 29 14.5	-1.4
RAFF	**Raffo Rosso**	**1.74**	**208**	⇓*i*Pg	Pn	14 29 15.3	-0.6
RAFF				Sg	S	14 29 44.6	-0.6
154μm,1.1s							
RAFF	**Raffo Rosso**	**1.74**	**208**	P	Pn	14 29 15.2	-0.7
RAFF				Sg	S	14 29 44.6	-0.6
MCT	**Mte Cammarata**	**1.79**	**231**	⇑*i*Pg	Pn	14 29 16.8	+0.5
MCT	**Mte Cammarata**	**1.79**	**231**	P	Pn	14 29 16.7	+0.4
CRAC	**Craco**	**1.79**	**26**	⇑*i*Pg	Pn	14 29 16.4	0.0
CRAC				Sg	S	14 29 46.4	+0.3
207μm,0.9s							
HAVL	**Avola**	**1.81**	**187**	⇓*i*Pg	Pn	14 29 14.9	-1.6
HAVL				Sg	S	14 29 43.7	-2.7
98μm,0.9s							
HAVL	**Avola**	**1.81**	**187**	P	Pn	14 29 14.8	-1.7
HAVL				Sg	S	14 29 43.7	-2.7
CORL	**Corleone**	**1.86**	**243**	⇓*i*Pg	Pn	14 29 16.3	-0.7
111μm,1.2s							
HMDC	**Modica**	**1.86**	**195**	P	Pn	14 29 15.7	-1.3
MRLC	**Muro Lucano**	**1.99**	**2**	⇑*i*Pg	Pn	14 29 19.2	+0.9
87μm,2.4s							
MRLC	**Muro Lucano**	**1.99**	**2**	P	Pn	14 29 19.1	+0.8
MIGL	**Miglionico**	**2.01**	**23**	⇑*i*Pg	Pn	14 29 17.4	-1.0
MIGL				Sg	S	14 29 48.4	-1.4
488μm,2.6s							
FAVR	**Favara**	**2.02**	**223**	⇓*i*Pg	Pn	14 29 18.6	0.0
FAVR	**Favara**	**2.02**	**223**	P	Pn	14 29 18.5	-0.1
MCRV	**Calabrutti - M**	**2.03**	**355**	⇑*i*Pg	Pn	14 29 19.5	+0.9
MCRV				Sg	S	14 29 51.4	+1.3
12μm,0.5s							
CLTB	**Caltabellotta**	**2.08**	**236**	⇓*i*Pg	Pn	14 29 18.4	-0.8
CSSN	**Cassano Irpino**	**2.12**	**352**	⇑*i*Pg	Pn	14 29 20.6	+1.1
SNAL	**S. Angelo Dei**	**2.17**	**356**	⇑*i*Pg	Pn	14 29 21.0	+1.0
122μm,2.4s							
VULT	**Monte Vulture**	**2.20**	**4**	⇑*i*Pg	Pn	14 29 20.7	+0.4
44μm,1.7s							
PALZ	**Palazzo San Ge**	**2.22**	**11**	⇑*i*Pg	Pn	14 29 20.4	-0.2
PALZ				Sg	S	14 29 53.6	0.0
65μm,1.0s							
CAFE	**Carife**	**2.27**	**357**	⇑*i*Pg	Pn	14 29 22.2	+1.2
137μm,2.9s							
ERC	**Erice**	**2.32**	**253**	⇓*i*Pg	Pn	14 29 20.3	-1.3
AMUR	**Altamura**	**2.34**	**23**	⇑*i*Pg	Pn	14 29 20.6	-1.1
AMUR				Sg	S	14 29 53.4	-2.3
23μm,0.4s							
FG4	**Candela**	**2.37**	**2**	⇓*i*Pg	Pn	14 29 22.8	+0.7
FG4	**Candela**	**2.37**	**2**	P	Pn	14 29 22.3	+0.2
FG4				⇓*i*Pg	Pn	14 29 22.8	+0.7
FG4	**Candela**	**2.37**	**2**	⇓*i*Pg	Pn	14 29 22.8	+0.7
SGTA	**Sant Agata di**	**2.37**	**359**	Pg	Pn	14 29 23.2	+1.1
NOCI	**Noci**	**2.40**	**32**	⇑*i*Pg	Pn	14 29 20.7	-1.7
NOCI				Sg	S	14 29 53.8	-3.1
56μm,0.5s							
CDT	**Castel del Mon**	**2.41**	**16**	*e*Pn	Pn	14 29 21.9	-0.7
PSB1	**Pescosannita**	**2.50**	**350**	⇑*i*Pg	Pn	14 29 24.6	+1.1
12μm,0.8s							
FG5	**Orsara di Pugl**	**2.52**	**358**	⇑*i*Pg	Pn	14 29 24.9	+1.2
LVI	**Isola Levanzo**	**2.52**	**253**	Pg	Pn	14 29 22.8	-0.9
VENT	**Ventotene**	**2.54**	**324**	⇑*i*Pg	Pn	14 29 24.5	+0.6
24μm,1.3s							
VENT	**Ventotene**	**2.54**	**324**	P	Pn	14 29 24.4	+0.5
PE1	**Pezze di Greco**	**2.57**	**37**	*e*Pn	Pn	14 29 22.2	-2.0
BAI	**Bari**	**2.61**	**25**	*e*Pn	Pn	14 29 23.5	-1.1
LCI	**Lecce**	**2.62**	**52**	⇑*i*Pg	Pn	14 29 23.5	-1.3
SACR	**S. Croce Del S**	**2.69**	**349**	⇑*i*Pg	Pn	14 29 26.7	+1.2
52μm,2.7s							
SCTE	**Santa Cesarea**	**2.72**	**60**	⇑*i*Pg	Pn	14 29 24.7	-1.1
SCTE				Sg	S	14 29 58.6	-4.5
50μm,0.6s							
SGG	**Gregorio Mates**	**2.74**	**344**	⇑*i*Pg	Pn	14 29 27.2	+1.1
8μm,0.6s							
RFI	**Roccamonfina**	**2.76**	**337**	⇓*i*Pg	Pn	14 29 27.8	+1.5
RFI	**Roccamonfina**	**2.76**	**337**	P	Pn	14 29 27.1	+0.8
RFI				⇓*i*Pg	Pn	14 29 27.8	+1.5
MOCO	**Biccari - m.te**	**2.77**	**340**	⇑*i*Pg	Pn	14 29 26.0	-0.5
70μm,2.8s							
VAGA	**Valle Agricola**	**2.80**	**342**	⇑*i*Pg	Pn	14 29 27.8	+1.1
VAGA				Sg	S	14 30 07.0	+2.3
6μm,0.6s							
BSSO	**Busso**	**2.85**	**348**	⇑*i*Pg	Pn	14 29 28.9	+1.6
42μm,2.2s							
RGNG	**Rignano Grg**	**2.91**	**3**	⇑*i*Pg	Pn	14 29 28.1	+0.1
CIGN	**Sant'Elia a Pi**	**2.91**	**353**	⇑*i*Pg	Pn	14 29 29.4	+1.3
93μm,3.3s							
CIGN	**Sant'Elia a Pi**	**2.91**	**353**	P	Pn	14 29 29.3	+1.2
MS1	**Monte Sant'Ang**	**2.97**	**8**	*e*Pn	Pn	14 29 28.8	+0.1
WDD	**Wield Dalam**	**2.97**	**194**	⇓*i*Pg	Pn	14 29 28.0	-0.7
WDD				Sg	S	14 30 06.4	-1.9
WDD	**Wield Dalam**	**2.97**	**194**	P	Pn	14 29 26.6	-2.1
WDD	**Wield Dalam**	**2.97**	**194**	⇓*i*Pg	Pn	14 29 28.0	-0.7
WDD				Sg	S	14 30 06.4	-1.9
FGMS	**Monte Sant'Ang**	**2.97**	**8**	⇓*i*Pg	Pn	14 29 28.9	+0.2
FGMS	**Monte Sant'Ang**	**2.97**	**8**	P	Pn	14 29 28.8	+0.1
MSAG	**Monte S. Angel**	**2.97**	**7**	⇑*i*Pg	Pn	14 29 28.8	+0.1
MSAG				Sg	S	14 30 08.4	+0.1
10μm,1.0s							
SGRT	**San Giovanni R**	**3.00**	**5**	⇑*i*Pg	Pn	14 29 29.1	0.0
SGRT				Sg	S	14 30 07.9	-1.0
8μm,1.2s							
SGRT	**San Giovanni R**	**3.00**	**5**	P	Pn	14 29 29.0	-0.1
MIDA	**Miranda**	**3.01**	**343**	⇑*i*Pg	Pn	14 29 30.5	+1.4
34μm,2.3s							
CERA	**Filignano**	**3.02**	**340**	⇑*i*Pg	Pn	14 29 30.5	+1.2
9μm,0.8s							
FG2	**Serracapriola**	**3.04**	**357**	⇑*i*Pg	Pn	14 29 30.2	+0.7
TRIV	**Trivento**	**3.07**	**348**	⇑*i*Pg	Pn	14 29 31.7	+1.9
16μm,1.2s							
RNI2	**Rionero Sannit**	**3.09**	**342**	⇑*i*Pg	Pn	14 29 32.1	+2.1
13μm,0.9s							
RNI2	**Rionero Sannit**	**3.09**	**342**	P	Pn	14 29 32.0	+2.0
SDI	**San Donato**	**3.19**	**338**	⇑*i*Pg	Pn	14 29 32.4	+1.2
SDI	**San Donato**	**3.19**	**338**	P	Pn	14 29 32

10µm,1.3s
FIAM Fiamignano 3.91 334⇑iPg Pn 14 29 42.1 +2.3
7µm,0.9s
FIAM Fiamignano 3.91 334 P Pn 14 29 42.0 +2.2
IGT Igoumenitsa 3.92 77 ePn Pn 14 29 39.2 -0.6
IGT eSn S 14 30 25.0 -3.3
TERO Teramo 4.09 341⇑iPg Pn 14 29 44.0 +2.0
60µm,4.2s
LKD Levkas 4.11 89 ePn Pn 14 29 41.4 -0.8
LKD eSn S 14 30 28.6 -4.0
VLS Valsamata 4.12 97 eP Pn 14 29 41.0 -1.3
VLS Valsamata 4.12 97 P Pn 14 29 41.6 -0.7
MNS Montasola 4.17 331⇑iPg Pn 14 29 44.6 +1.7
3µm,0.9s
MNS Montasola 4.17 331 P Pn 14 29 44.3 +1.4
MNS ⇑iPg Pn 14 29 44.6 +1.7
TOLF Tolfa 4.20 323⇑iPg Pn 14 29 44.5 +1.3
6µm,1.6s
LNSS Leonessa 4.24 336⇑iPg Pn 14 29 46.0 +2.3
10µm,0.9s
TIR Tirane 4.29 52⇑iPg Pn 14 29 44.1 -0.4
14µm,1.2s
TIR Tirane 4.29 52 iPn Pn 14 29 44.1 -0.4
TIR iSn S 14 30 34.8 -1.9
TIR Tirane 4.29 52 ePn Pn 14 29 44.1 -0.4
TIR eSn S 14 30 34.1 -2.6
JAN Janina 4.33 76 eP Pn 14 29 44.0 -0.9
JAN Janina 4.33 76 P Pn 14 29 45.3 +0.4
ULC Ulcinj 4.35 41⇑iPn Pn 14 29 44.1 -1.0
ULC eSn S 14 30 35.3 -2.5
OFFI Offida 4.37 343⇑iPg Pn 14 29 47.9 +2.5
8µm,0.7s
HCY Herceg Novi 4.37 32⇑iPn Pn 14 29 44.6 -0.9
HCY eSn S 14 30 36.3 -2.1
BUM Brajici-Budva 4.43 36⇑iPn Pn 14 29 45.6 -0.6
BUM eSn S 14 30 37.6 -2.0
STON Ston 4.46 22 iP Pn 14 29 46.4 -0.1
STON iS S 14 30 39.0 -1.4
TREB Trebinje 4.54 29 P Pn 14 29 47.1 -0.5
KBN Korca 4.56 64 iPn Pn 14 29 48.1 +0.4
KBN iSn S 14 30 34.8 -7.7
KBN Korca 4.56 64 ePn Pn 14 29 48.1 +0.4
KBN iSn S 14 30 37.3 -5.2
TTG Podgorica 4.70 38⇑iPn Pn 14 29 49.0 -0.5
TTG eSn S 14 30 43.4 -2.3
LATE Laterza 4.72 326⇑iPg Pn 14 29 51.7 +2.0
932nm,1.1s
LATE Laterza 4.72 326 P Pn 14 29 51.6 +1.9
VSL Villasalto 4.74 281⇑iPg Pn 14 29 50.5 +0.5
VSL Sg S 14 30 47.7 +1.1
12µm,2.1s
VSL Villasalto 4.74 281⇑iPn Pn 14 29 50.1 +0.2
VSL ⇑iPg Pn 14 29 50.5 +0.5
VSL eS S 14 30 45.6 -0.9
VSL Sg S 14 30 47.7 +1.1
VSL Villasalto 4.74 281⇑iPn Pn 14 29 50.1 +0.1
VSL Villasalto 4.74 281⇑iPg Pn 14 29 50.5 +0.5
VSL Sg S 14 30 47.7 +1.1
12µm,2.1s
DGI Dorgali Grotta 4.74 291⇑iPg Pn 14 29 50.3 +0.3
DGI Sg S 14 30 47.5 +0.9
7µm,2.7s
DGI Dorgali Grotta 4.74 291 P Pn 14 29 50.2 +0.2
DGI Sg S 14 30 47.5 +0.9
PUK Puka 4.75 45 iPn Pn 14 29 49.9 -0.2
PUK iSn S 14 30 40.3 -6.5
PUK Puka 4.75 45 ePn Pn 14 29 49.9 -0.2
OHR Ohrid 4.77 59 ePn Pn 14 29 49.8 -0.6
OHR eSn S 14 30 46.1 -1.2
OHR Ohrid 4.77 59⇑iPn Pn 14 29 49.7 -0.6
OHR Ohrid 4.77 59⇑iPn Pn 14 29 49.7 -0.7
OHR eSn S 14 30 46.1 -1.2
ASS Assisi 4.77 335⇑iPg Pn 14 29 52.3 +1.9
181nm,1.0s
ASS Assisi 4.77 335 P Pn 14 29 52.2 +1.8
BRY Bratogost 4.78 29⇑iPn Pn 14 29 50.2 -0.3
BRY eSn S 14 30 45.3 -2.1
RLS Riolos of Patr 4.82 96 eP Pn 14 29 50.0 -1.0
RLS Riolos of Patr 4.82 96 P Pn 14 29 51.4 +0.4
PHP Peshkopia 4.84 51 iPn Pn 14 29 51.0 -0.3
PHP iSn S 14 30 44.2 -4.7
PHP Peshkopia 4.84 51 ePn Pn 14 29 51.0 -0.3
PHP iSn S 14 30 44.2 -4.7
SACS San Casciano d 4.87 328⇑iPg Pn 14 29 53.8 +2.2
3µm,0.8s
NKY Niksic 4.88 33⇑iPn Pn 14 29 51.6 -0.2
NKY eSn S 14 30 48.0 -2.0
MAON Monte Argentar 4.89 320⇑iPg Pn 14 29 53.4 +1.5
MAON Sg S 14 30 51.9 +1.8
4µm,1.7s
CING Cingoli 4.90 341⇑iPg Pn 14 29 53.3 +1.3
17µm,2.9s
CING Cingoli 4.90 341 P Pn 14 29 53.2 +1.2
AOI Ancona 4.97 345⇑iPg Pn 14 29 53.6 +0.7
AOI Sg S 14 30 53.5 +1.6
2µm,1.0s
AOI Ancona 4.97 345 P Pn 14 29 53.5 +0.6
AOI Sg S 14 30 53.5 +1.6
MURB Monte Urbino 4.99 335⇑iPg Pn 14 29 55.1 +1.9
4µm,1.0s
MURB Monte Urbino 4.99 335 P Pn 14 29 55.0 +1.8
EVR Evrytania 5.01 86 eP Pn 14 29 53.0 -0.4
EVR Evrytania 5.01 86 P Pn 14 29 55.0 +1.6
FNA Florina 5.03 64 ePn Pn 14 29 53.7 0.0
ARCI Arcidosso 5.05 325⇑iPg Pn 14 29 56.3 +2.4
5µm,1.6s
BCI Bajram Curri 5.06 43 iPn Pn 14 29 54.5 +0.5
BCI iSn S 14 30 53.1 -0.9
BCI Bajram Curri 5.06 43 ePn Pn 14 29 54.5 +0.5
BCI iSn S 14 30 53.1 -0.9
BIA Bitola 5.09 62 ePn Pn 14 29 53.6 -0.7
BIA Bitola 5.09 62⇑iPn Pn 14 29 53.6 -0.7
BIA iSn S 14 30 42.6 -12
KZN Kozani 5.17 71 eP Pn 14 29 55.0 -0.3
KZN Kozani 5.17 71 P Pn 14 29 57.2 +1.9
UPM Unac-Piva 5.17 30⇑iPn Pn 14 29 55.6 +0.2
UPM eSn S 14 30 54.6 -1.9
PVY Plav 5.17 41⇑iPn Pn 14 29 55.4 0.0
PVY eSn S 14 30 54.4 -2.1
KRUS Krusevo 5.19 58⇑iPn Pn 14 29 55.8 +0.2
THL Klokotos Trika 5.21 79 eP Pn 14 29 56.0 +0.2
CDCA Citt' di Caste 5.26 334⇑ePg Pn 14 29 58.4 +1.8
5µm,1.3s
CDCA Citt' di Caste 5.26 334 P Pn 14 29 58.5 +1.9
BADI Badiali 5.31 334⇑iPg Pn 14 29 59.0 +1.9
31µm,3.9s
BADI Badiali 5.31 334 P Pn 14 29 58.9 +1.8
FSSB Fossombrone 5.31 339⇑iPg Pn 14 29 58.8 +1.7
319nm,0.6s
IVA Berane 5.34 38⇑iPn Pn 14 29 57.9 +0.4
IVA eSn S 14 30 58.0 -2.3
ITM Ithomi 5.40 105 eP Pn 14 29 57.0 -1.2
ITM Ithomi 5.40 105 P Pn 14 29 56.5 -1.7
AGG Agios Georgios 5.42 85 ePn Pn 14 29 59.0 +0.5
PLE Pljevlja 5.47 32⇑iPn Pn 14 29 59.8 +0.6
PLE eSn S 14 31 01.6 -1.8
CRE Caprese Michel 5.50 333⇑iPg Pn 14 30 01.2 +1.6
8µm,2.7s
GRFL Gerfalco 5.51 324⇑iPg Pn 14 30 01.7 +2.0
2µm,2.6s
PESA Pesaro 5.52 340⇑ePg Pn 14 30 01.2 +1.4
2µm,1.3s
RSM Repubblica di 5.62 338⇑iPg Pn 14 30 03.4 +2.3
54µm,3.7s
RSM Repubblica di 5.62 338 P Pn 14 30 02.1 +1.0
RSM ⇑iPg Pn 14 30 03.4 +2.3
SKO Skopje 5.62 53 ePn Pn 14 30 01.2 +0.1
SKO eSn S 14 31 05.9 -0.9
SKO Skopje 5.62 53⇑iPn Pn 14 30 01.1 +0.1
CSNT Castellina Chi 5.63 328⇑iPg Pn 14 30 03.4 +2.1
390nm,0.8s
LIT Litokhoron 5.65 74 ePn Pn 14 30 01.1 -0.4
LIT eSn S 14 31 03.7 -3.8
KEST Kesra 5.69 240 P Pn 14 30 03.4 +1.3
14nm,0.3s,baz=8.3,slow=11,SNR=393
KEST S S 14 31 09.8 +1.3
baz=129,slow=16,SNR=3.6
SFI Santa Sofia 5.79 334⇑ePg Pn 14 30 05.0 +1.8
21µm,3.8s
SFI Santa Sofia 5.79 334 P Pn 14 30 04.9 +1.7
NVLJ Novalja 5.81 356⇑iPn Pn 14 30 03.8 +0.3
NVLJ iSn S 14 31 09.5 -1.6

GRG Griva 5.82 66 ePn Pn 14 30 02.9 -0.7
CORF Corte 5.92 309 P Pn 14 30 05.9 +1.0
VMG Vicchio 5.95 332⇓ePg Pn 14 30 07.3 +2.0
457nm,1.0s
VMG Vicchio 5.95 332 P Pn 14 30 07.4 +2.1
LKR Lokris 5.95 89 eP Pn 14 30 04.0 -1.3
LKR Lokris 5.95 89 P Pn 14 30 05.6 +0.3
STIP Stip 5.96 58 ePn Pn 14 30 04.5 -1.0
STIP Stip 5.96 58⇑iPn Pn 14 30 04.5 -0.9
CRMI Carmignano 6.03 328⇑iPg Pn 14 30 08.7 +2.4
6µm,4.4s
BRSN Barisano 6.05 337 P Pn 14 30 09.7 +3.1
VAY Valandovo 6.07 63 ePn Pn 14 30 05.7 -1.1
VAY Valandovo 6.07 63⇑iPn Pn 14 30 05.6 -1.2
SEI Scarperia 6.10 331 Pg Pn 14 30 09.3 +2.1
742nm,0.8s
SEI Scarperia 6.10 331 P Pn 14 30 09.2 +2.0
XOR Xorichti 6.10 82 ePn Pn 14 30 06.9 -0.2
NEO Neokhori 6.12 82 eP Pn 14 30 07.0 -0.4
NEO Neokhori 6.12 82 P Pn 14 30 07.7 +0.3
THE Thessaloniki 6.13 70 ePn Pn 14 30 06.3 -1.2
THE eSn S 14 31 13.7 -4.8
PGF Pioggiola 6.16 310 eP Pn 14 30 08.4 +0.4
1µm,0.9s
PII Pisa 6.17 325⇑iPg Pn 14 30 10.3 +2.3
396nm,1.2s
PII Pisa 6.17 325 P Pn 14 30 10.2 +2.2
HORT Hortiatis 6.22 70 ePn Pn 14 30 07.7 -1.0
HORT eSn S 14 31 17.1 -3.5
KNT Kendrikon 6.24 65 ePn Pn 14 30 08.4 -0.6
GROG Isola di Gorgo 6.24 320⇑iPg Pn 14 30 10.9 +1.9
GROG Sg S 14 31 23.8 +2.7
6µm,3.3s
FNVD Fontana Vidola 6.28 331⇑ePg Pn 14 30 11.5 +2.0
4µm,1.7s
FNVD Fontana Vidola 6.28 331 P Pn 14 30 11.6 +2.1
VLI Veliai 6.32 107 eP Pn 14 30 10.0 +0.1
VLI Veliai 6.32 107 P Pn 14 30 10.7 +0.8
MAIM 6.33 326 P Pn 14 30 12.3 +2.1
BARS Barje 6.34 48 iPn Pn 14 30 09.1 -1.2
BARS Barje 6.34 48 P Pn 14 30 10.1 -0.2
DIVS Divcibare 6.35 31 iPn Pn 14 30 10.5 +0.1
PZZT Monte Pizzetto 6.35 329⇑iPg Pn 14 30 12.5 +2.1
554nm,0.4s
BDI Bagni Di Lucca 6.41 327⇑iPg Pn 14 30 13.3 +2.2
BDI Sg S 14 31 27.5 +2.6
743nm,0.7s
PLG Polygyros 6.42 73 ePn Pn 14 30 10.3 -1.1
PLG eSn S 14 31 20.4 -5.0
PLG Polygyros 6.42 73 eP Pn 14 30 10.0 -1.3
SOH Sokhos 6.46 69 ePn Pn 14 30 11.4 -0.4
SOH eSn S 14 31 21.9 -4.3
ZCCA Zocca 6.49 331⇑iPg Pn 14 30 16.1 +3.9
16µm,2.8s
ZCCA Zocca 6.49 331 P Pn 14 30 15.5 +3.3
ZCCA ⇑iPg Pn 14 30 16.1 +3.9
GRUS Gruza 6.50 36 iPn Pn 14 30 11.9 -0.4
PAIG Paliouri 6.53 77 ePn Pn 14 30 11.4 -1.2
FIU Minerbio Fiu 6.56 335 Pg Pn 14 30 15.7 +2.6
FIU Minerbio Fiu 6.56 335 P Pn 14 30 15.1 +2.0
FIU Pg Pn 14 30 15.7 +2.6
VLC Villacollemand 6.58 327⇑iPg Pn 14 30 15.4 +2.1
VLC Villacollemand 6.58 327⇑iPn Pn 14 30 15.2 +1.9
1µm,1.0s
VLC ⇑iPg Pn 14 30 15.4 +2.1
ATH Athens Observa 6.59 94 eP Pn 14 30 11.0 -2.4
ATH Athens Observa 6.59 94 P Pn 14 30 13.4 0.0
AOS Alonnisos 6.62 84 ePn Pn 14 30 13.2 -0.7
KKB Krupnik 6.64 60 iP Pn 14 30 13.5 -0.6
KKB iS S 14 31 25.0 -5.4
GSCL Gusciola 6.65 329⇑iPg Pn 14 30 16.9 +2.7
3µm,2.4s
GSCL Gusciola 6.65 329 P Pn 14 30 16.8 +2.6
VINC Vinca 6.66 325 P Pn 14 30 16.2 +1.8
CMAH Djebel Manchou 6.67 254 P Pn 14 30 15.5 +1.0
SRS Serrai 6.72 67 ePn Pn 14 30 14.4 -0.8
BOJS Bojanci 6.74 359 iP Pn 14 30 16.1 +0.7
BOJS iPn Pn 14 30 16.6 +1.2
BOJS iS S 14 31 28.7 -4.0
SISC Sisak 6.74 6⇓iPn Pn 14 30 16.1 +0.6
ABSA Djebel Ababsia 6.76 251 P Pn 14 30 18.0 +2.3
ERBM Eremo 6.77 328 Pg Pn 14 30 19.1 +3.3
48µm,5.5s
ERBM Eremo 6.77 328 P Pn 14 30 18.7 +2.9
ERBM Pg Pn 14 30 19.1 +3.3
VALM 6.79 327 P Pn 14 30 18.0 +2.0
RAVA Ravarino 6.79 333 Pg Pn 14 30 18.8 +2.8
45µm,3.8s
RAVA Ravarino 6.79 333 P Pn 14 30 18.7 +2.7
BACM 6.81 326 P Pn 14 30 18.2 +2.0
NOVE Novellara 6.97 331 Pg Pn 14 30 20.6 +2.2
2µm,0.9s
MMB Musomiste 6.98 63 ePn Pn 14 30 18.2 -0.2
MMB Musomiste 6.98 63 iP Pn 14 30 17.6 -0.8
GRAM 6.98 327 P Pn 14 30 21.1 +2.7
NVR Nevrokopi 6.99 66 eP Pn 14 30 18.0 -0.6
NVR Nevrokopi 6.99 66 P Pn 14 30 18.9 +0.3
CODM 6.99 325 P Pn 14 30 20.5 +1.9
CEY Cerknica 7.01 354 ePn Pn 14 30 19.4 +0.5
CEY eSn S 14 31 37.3 -1.7
SVIS Svilajnac 7.05 36 iPn Pn 14 30 22.1 +2.7
SVIS Svilajnac 7.05 36 P Pn 14 30 19.4 +0.1
TRI Trieste 7.05 351⇑ePg Pn 14 30 19.5 +0.2
TRI Trieste 7.05 351 P Pn 14 30 19.1 -0.2
TRI ⇑ePg Pn 14 30 19.5 +0.2
CAEH 'Ain El Ouahch 7.05 256 P Pn 14 30 23.0 +3.6
VTS Vitosha 7.06 55 ePn Pn 14 30 19.7 +0.1
VTS Vitosha 7.06 55 iP Pn 14 30 18.5 -1.0
VTS iS S 14 31 26.0 -14
VTS Vitosha 7.06 55⇑iP Pn 14 30 19.6 +0.1
BOLS Boljevac 7.07 42⇓iPn Pn 14 30 18.5 -1.2
SBPO S.Benedetto Po 7.12 333 Pg Pn 14 30 21.9 +1.7
647nm,0.5s
BEO Belgrade 7.14 30 iPn Pn 14 30 19.8 -0.7
BEO Belgrade 7.14 30 P Pn 14 30 18.6 -1.9
SC2M Scurtabr 7.15 324 P Pn 14 30 22.6 +2.0
CKFL Kef-Lekhel 7.28 254 P Pn 14 30 22.0 -0.3
LJU Ljubljana 7.31 355 iP Pn 14 30 23.7 +1.0
LJU iPn Pn 14 30 24.1 +1.4
LJU iS S 14 31 42.8 -3.2
VOY Vojsko 7.35 352 eP Pn 14 30 23.5 +0.3
TLI Talmassons 7.35 347⇑iP Pn 14 30 23.0 -0.3
GENL Genova Univers 7.41 322 P Pn 14 30 25.6 +1.5
RHK3 Tenkes 7.43 16⇓iP Pn 14 30 23.9 -0.3
BOB Bobbio (Coli) 7.47 325 P Pn 14 30 27.3 +2.6
CASM Ain Smara 7.50 253 P Pn 14 30 21.0 -4.2
COLI Coloredo 7.52 349⇓eP Pn 14 30 25.0 -0.4
DRE Drenchia 7.52 351⇑iP Pn 14 30 26.0 +0.6
LOS Limnos 7.60 78 ePn Pn 14 30 25.7 -0.7
ROBS Robic 7.61 350 iP Pn 14 30 26.6 +0.1
ROBS iS S 14 31 45.7 -7.3
BAD Bernadia 7.64 349⇓eP Pn 14 30 26.0 -0.9
CTEI Djebel Teioual 7.64 252 P Pn 14 30 22.5 -4.5
FIN Finale Ligure 7.66 318 P Pn 14 30 28.1 +0.9
FIN Finale Ligure 7.66 318 P Pn 14 30 27.7 +0.5
PGB Panagyurishte 7.67 58 iP Pn 14 30 26.8 -0.5
LIA Limnos Island 7.67 78 eP Pn 14 30 25.0 -2.4
LIA Limnos Island 7.67 78 P Pn 14 30 27.3 -0.1
RORO 7.67 317 P Pn 14 30 28.7 +1.3
GMNA Gemona 7.68 349 P Pn 14 30 27.7 +0.3
MPRI Monte Prat 7.68 347⇓eP Pn 14 30 28.0 +0.5
NEGI Negi 7.70 314 P Pn 14 30 27.8 0.0
RZN Rozhen 7.71 65 iP Pn 14 30 27.4 -0.4
KOGS Kog 7.71 4 P Pn 14 30 27.6 -0.2
PCP Pian Castagno 7.72 321 P Pn 14 30 29.5 +1.5
OBKA Obir 7.77 356 iP Pn 14 30 29.4 +0.8
comp=Z,2µm,1.8s,SNR=293
PTCC Patocco-Chiusa 7.79 350 P Pn 14 30 28.8 0.0
CTI Castel Tesino 7.79 340 P Pn 14 30 28.9 0.0
VAM Vamos 7.79 113 eP Pn 14 30 28.0 -0.9
MONE Monesi 7.82 315 P Pn 14 30 29.9 +0.6
PKSM Moragy 7.82 17⇓iP Pn 14 30 29.1 -0.2
PKSM Moragy 7.82 17⇓eP Pn 14 30 29.2 -0.1
REVF Revere 7.83 312 P Pn 14 30 30.9 +1.5
LSR Lussari 7.83 350⇑eP Pn 14 30 30.0 +0.6
PLD Plovdiv 7.84 62 ePn Pn 14 30 29.6 0.0
PLD eSn S 14 31 56.6 -2.0
PLD Plovdiv 7.84 62 iP Pn 14 30 29.0 -0.6
SBF Sospel 7.86 313 eP Pn 14 30 29.8 0.0
3µm,0.6s
DFRA Djebel Bou Aff 7.87 257 P Pn 14 30 32.0 +2.1

SAOF Saorge 7.87 314 P Pn 14 30 31.9 +2.0
PERS Pernice 7.87 359 iP Pn 14 30 30.5 +0.6
PERS iS S 14 31 50.2 -9.0
ROB Roburent 7.90 317 P Pn 14 30 31.7 +1.4
LUCF Luceram 7.93 313 P Pn 14 30 32.9 +2.2
AUTN L'Aution 7.95 314 P Pn 14 30 33.0 +2.0
PLRO Paularo 7.96 349⇑iP Pn 14 30 31.0 -0.1
GVD Gavdhos 7.99 117⇑iPn Pn 14 30 30.3 -1.2
215nm,0.5s
GVD eS S 14 31 58.5 -3.6
CSMI Casera Mimoias 8.01 346⇑iP Pn 14 30 32.0 +0.3
MVIF Mont Vial 8.05 312 P Pn 14 30 34.4 +2.2
TOUF Mont Tournerai 8.06 313 P Pn 14 30 34.7 +2.3
ENR Entracque 8.10 315 P Pn 14 30 34.2 +1.3
PKS9 Tamasi 8.10 14⇓iP Pn 14 30 33.1 +0.2
LMR La Mourre 8.12 307⇓iP Pn 14 30 32.6 -0.5
845nm,0.6s
MABI Malga Bissina 8.13 335 P Pn 14 30 33.3 0.0
RDO Rodhopi 8.15 70 eP Pn 14 30 32.0 -1.5
FRF La Foret Royal 8.15 309 eP Pn 14 30 33.6 0.0
2µm,0.9s
STV Sta Anna Valdi 8.16 315 P Pn 14 30 35.3 +1.6
STV Sta Anna Valdi 8.16 315 P Pn 14 30 34.9 +1.2
APE Apeiranthos 8.19 99 ePn Pn 14 30 32.6 -1.4
APE eSn S 14 32 01.8 -4.8
APE Apeiranthos 8.19 99 eP Pn 14 30 33.0 -1.0
APE Apeiranthos 8.19 99c iP Pn 14 30 33.1 -0.9
APE Apeiranthos 8.19 99⇑iP Pn 14 30 32.6 -1.4
KDZ Kurdzhali 8.19 66 iP Pn 14 30 31.8 -2.3
CMER Merouana 8.20 250 P Pn 14 30 37.0 +2.8
BZS Buzias 8.26 32⇓iP Pn 14 30 35.3 +0.4
BZS Buzias 8.26 32 P Pn 14 30 35.2 +0.3
APPI Appiano 8.30 340 P Pn 14 30 35.2 -0.3
SEST Monte Rota 8.32 345 P Pn 14 30 36.7 +1.0
CKHR Kef el Ahmar 8.33 254 P Pn 14 30 38.0 +2.2
BOZC Bozcaada 8.33 79 iP Pn 14 30 34.4 -1.5
SANT Santorini 8.34 104 ePn Pn 14 30 35.0 -1.0
IDI Anoyia 8.35 112 P Pn 14 30 33.5 -2.6
DOI San Damiano 8.37 316 P Pn 14 30 37.7 +1.3
CRAR CRAIOVA 8.40 46 P Pn 14 30 37.4 +0.6
DIM Dimitrovgrad 8.40 64 iP Pn 14 30 35.7 -1.1
PKS6 Bocsa 8.41 20⇑eP Pn 14 30 37.6 +0.7
KBA Koelnbreinsper 8.45 350 iP Pn 14 30 38.3 +0.9
comp=Z,2µm,3.0s,SNR=166
PZZ Prazzo 8.45 315 P Pn 14 30 38.9 +1.5
ALN Alexandroupoli 8.47 72 eSn S 14 32 09.6 -3.6
PRK Paraskevi 8.48 83 eP Pn 14 30 37.0 -0.8
ARSA Arzberg 8.49 1 iP Pn 14 30 38.1 +0.2
comp=Z,944nm,1.9s,SNR=456
EZN Ezine 8.54 79 P Pn 14 30 37.8 -0.8
TAVF Tavernes 8.55 308 P Pn 14 30 39.1 +0.4
BRMO Bormio 8.55 336 P Pn 14 30 39.6 +0.9
MUGIO Muggio 8.56 329⇓iP Pn 14 30 37.9 -0.9
2µm,0.5s
SURF Saint Ours 8.60 314 P Pn 14 30 42.3 +3.0
GZR Gura Zlata 8.60 37⇑iP Pn 14 30 39.4 +0.1
GZR Gura Zlata 8.60 37 P Pn 14 30 39.2 -0.2
BERNI Berninapass 8.61 334⇓iP Pn 14 30 40.5 +1.0
517nm,0.5s
FUORN Ofenpass-Fuorn 8.71 336⇓iP Pn 14 30 42.0 +1.2
1µm,0.7s
PVL Pavlikeni 8.73 56 iP Pn 14 30 40.5 -0.5
OG22 Abries 8.74 317 P Pn 14 30 46.1 +4.9
PKSN Nyarlorinc 8.77 21⇑eP Pn 14 30 42.7 +1.2
MBDF Montbardon 8.78 316⇓iP Pn 14 30 43.4 +1.8
6µm,0.6s
URLA Izmir 8.78 89 iP Pn 14 30 41.8 +0.1
ORO Oropa 8.79 324 P Pn 14 30 41.2 -0.6
ORX Oropa 8.79 324 P Pn 14 30 41.3 -0.5
RSP Reno Superiore 8.80 319 P Pn 14 30 42.3 +0.4
RSP Reno Superiore 8.80 319 P Pn 14 30 41.7 -0.2
AYVA Ayvalik 8.81 83 iP Pn 14 30 42.1 +0.1
GELF Grande-Etoile 8.83 305 P Pn 14 30 43.8 +1.5
STOF St-Etienne Org 8.84 309 P Pn 14 30 46.2 +3.8
VDL Val di Lei 8.87 332⇓iP Pn 14 30 43.1 +0.3
1µm,0.9s
NPS Neapolis 8.89 110 eP Pn 14 30 41.0 -2.0
RRL Cesana Torines 8.89 317 P Pn 14 30 45.0 +1.9
PKSG 8.90 13⇓iP Pn 14 30 43.5 +0.3
TUE Stuetta 8.90 332 P Pn 14 30 42.4 -0.8
WTTA Wattenberg 8.93 343⇓iP Pn 14 30 44.6 +1.0
comp=Z,3µm,2.8s,SNR=228
OG25 Le Caire 8.95 312 P Pn 14 30 46.5 +2.6
SOP Sopron 8.96 5⇓e Pn 14 30 44.3 +0.4
ZIMR 8.96 54 P Pn 14 30 45.4 +1.4
DAVOX Davos/Dischmat 8.98 335⇓eP Pn 14 30 44.6 +0.4
1µm,0.6s
DAVOX Davos/Dischmat 8.98 335 P Pn 14 30 45.6 +1.4
baz=148,slow=15,SNR=73
DAVOX S S 14 32 23.4 -1.9
baz=99,slow=19,SNR=1.0
SQTA Sankt Quirin 8.99 341⇓iP Pn 14 30 46.1 +1.7
comp=Z,579nm,0.6s,SNR=1935
SQTA Sankt Quirin 8.99 341⇓iP Pn 14 30 46.1 +1.7
SQTA pmax pmax
comp=Z,579nm,0.6s
WATA Walderalm 9.01 343⇑iP Pn 14 30 45.7 +1.1
comp=Z,696nm,0.9s,SNR=796
WATA Walderalm 9.01 343⇑iP Pn 14 30 45.7 +1.1
WATA pmax pmax
comp=Z,696nm,0.9s
SMRF Simiane la Rot 9.03 308⇓iP Pn 14 30 45.5 +0.6
comp=Z,928nm,0.6s
BNI Bardonecchia 9.04 317 ePn Pn 14 30 46.8 +1.8
comp=Z,1µm,0.8s
SMG Samos 9.06 93 eP Pn 14 30 45.0 -0.3
LSD Ceresole Reale 9.07 320 P Pn 14 30 45.2 -0.1
BUD Budapest 9.11 16⇓ePP 14 30 46.0
CANB Canakkale 9.12 78 P Pn 14 30 45.0 -1.0
MOA Molln 9.12 355⇓iP Pn 14 30 47.0 +1.0
comp=Z,3µm,1.4s,SNR=958
MOTA Moosalm 9.13 341 iP Pn 14 30 47.6 +1.4
comp=Z,698nm,1.0s,SNR=657
MOTA Moosalm 9.13 341 iP Pn 14 30 47.6 +1.4
MOTA pmax pmax
comp=Z,698nm,1.0s
FUSIO Fusio 9.15 329⇓iP Pn 14 30 44.8 -1.6
comp=Z,3µm,1.4s
CONA Conrad Observa 9.17 2 iPn Pn 14 30 47.3 +0.6
comp=Z,788nm,0.9s,SNR=757
PRAF Pradon 9.20 306 P Pn 14 30 49.1 +2.1
EDRB Edirne 9.20 67 P Pn 14 30 45.9 -1.1
LPG La Plagne 9.30 319⇓iP Pn 14 30 50.0 +1.7
comp=Z,3µm,0.8s
IZM Izmir 9.30 89 P Pn 14 30 48.9 +0.6
KDAG Bornova 9.30 88 iP Pn 14 30 48.4 0.0
LPL La Plagne 9.32 319⇓iP Pn 14 30 50.4 +1.8
comp=Z,2µm,0.6s
LLS Linth-Limmern 9.34 332⇓iP Pn 14 30 45.8 -3.1
comp=Z,3µm,1.1s
PLONS Plons/SG 9.38 334⇓iP Pn 14 30 49.3 -0.1
comp=Z,4µm,1.2s
ORIF Oris-en-Rattie 9.39 314⇓iP Pn 14 30 51.2 +1.7
comp=Z,4µm,0.8s
ORIF eMLR MLR
comp=Z,11µm,20.3s
DIX Grande Dixence 9.39 324⇓iP Pn 14 30 50.6 +1.0
comp=Z,425nm,0.6s
DAVA Damuels 9.43 336⇓iP Pn 14 30 51.1 +1.1
comp=Z,2µm,1.9s,SNR=323
GDM Grand'Maison 9.44 316 P Pn 14 30 51.9 +1.8
RSL Roselend 9.49 320 P Pn 14 30 53.0 +2.2
ZST Bratislava 9.51 7 ePN Pn 14 30 51.2 +0.1
ZST eSN S 14 32 38.6 +0.7
VKA Vienna 9.52 4 iPn Pn 14 30 53.0 +1.8
BODT Bodrum 9.57 97 P Pn 14 30 52.1 +0.3
MUO Muotathal 9.58 331⇓eP Pn 14 30 51.5 -0.4
comp=Z,5µm,1.9s
BNALP Bannalp 9.58 330⇓iP Pn 14 30 52.4 +0.4
comp=Z,950nm,0.4s
HASLI Hasliberg/Brie 9.60 329⇓eP Pn 14 30 52.8 +0.6
comp=Z,2µm,1.2s
EMV Vieux Emosson 9.62 322⇓iP Pn 14 30 54.0 +1.5
comp=Z,1µm,0.7s
SALAN Lac Salanfe 9.65 323⇓eP Pn 14 30 53.5 +0.7
comp=Z,3µm,1.6s
DRGR 9.66 31⇓iP Pn 14 30 53.3 +0.4
DRGR 9.66 31 P Pn 14 30 54.2 +1.3
SENIN Lac Senin/Sane 9.66 324⇓iP Pn 14 30 53.4 +0.5
comp=Z,390nm,0.4s
GRN Grenoble 9.67 315 P Pn 14 30 54.6 +1.6
UBR Ueberruh 9.71 338 P Pn 14 30 55.0 +1.4
PSZ Piszkesteto 9.72 18⇓e Pn 14 30 53.8 +0.1

PSZ	**Piszkesteto**	**9.72**	**18**	P		**Pn**	**14 30 54.1**	**+0.4**
PSZ	**Piszkesteto**	**9.72**	**18**	⇓*i*P		**Pn**	**14 30 53.7**	**0.0**
BUC1	**Bucharest**	**9.73**	**52**	P		**Pn**	**14 30 54.7**	**+0.9**
WIMIS	**Wimmis**	**9.75**	**327**	⇓*i*P		**Pn**	**14 30 53.7**	**-0.4**
	comp=Z,2μm,2.0s							
VOIR		**9.79**	**44**	⇓*i*P		**Pn**	**14 30 55.5**	**+0.9**
VOIR		**9.79**	**44**	⇓P		**Pn**	**14 30 55.5**	**+0.8**
AIGLE	**Aigle**	**9.80**	**323**	⇓*i*P		**Pn**	**14 30 53.9**	**-0.9**
	comp=Z,2μm,1.4s							
ETOS	**Mallorca**	**9.81**	**280**	P		**Pn**	**14 30 53.6**	**-1.3**
SMOL	**Smolenice**	**9.86**	**8**	⇓*e*PN		**Pn**	**14 30 55.7**	**+0.2**
SMOL	**Smolenice**	**9.86**	**8**	⇓*e*Pn		**Pn**	**14 30 55.7**	**+0.2**
DAT	**Datca**	**9.86**	**98**	P		**Pn**	**14 30 55.5**	**0.0**
WILA	**Wila**	**9.86**	**333**	⇓*i*P		**Pn**	**14 30 54.3**	**-1.2**
	comp=Z,2μm,0.6s							
FUR	**Furstenfeldbru**	**9.86**	**344**	*e*Pn		**Pn**	**14 30 56.5**	**+0.9**
FUR				*e*Sn		**S**	**14 32 47.4**	**+1.2**
MLSB	**Milas**	**9.88**	**95**	P		**Pn**	**14 30 56.4**	**+0.7**
OG01	**Vacheresse**	**9.92**	**322**	P		**Pn**	**14 30 56.7**	**+0.4**
ZUR	**Degenried**	**9.94**	**332**	⇓*i*P		**Pn**	**14 30 55.8**	**-0.7**
	comp=Z,2μm,0.8s							
ABA	**Alger-Bouzarea**	**9.98**	**263**	P		**Pn**	**14 30 56.5**	**-0.5**
VYHS	**Vyhne**	**10.04**	**13**	*i* PN		**Pn**	**14 30 57.8**	**0.0**
VYHS				*e*			14 31 05.4	
VYHS	**Vyhne**	**10.04**	**13**	*e*SN		**S**	**14 32 46.0**	**-4.4**
VYHS	**Vyhne**	**10.04**	**13**	⇑*i*Pn		**Pn**	**14 30 57.8**	**0.0**
VYHS				*e*			14 31 05.4	
VYHS				*e*Sn		**S**	**14 32 46.0**	**-4.4**
VIVF	**Saint-Julien-l**	**10.05**	**311**	⇓*i*P		**Pn**	**14 30 58.7**	**+0.7**
	comp=Z,2μm,0.7s							
VIVF	**Saint-Julien-l**	**10.05**	**311**	⇓*i*P		**Pn**	**14 30 58.7**	**+0.7**
VIVF				pmax		pmax		
	comp=Z,895nm,0.7s							
VIVF	**Saint-Julien-l**	**10.05**	**311**	⇓*i*P		**Pn**	**14 30 58.7**	**+0.7**
	comp=Z,896nm,0.7s							
SISB	**Singen-Schiene**	**10.08**	**334**	P		**Pn**	**14 30 59.1**	**+0.8**
STEIN	**Stein am Rhein**	**10.09**	**334**	⇓*i*P		**Pn**	**14 30 56.7**	**-1.8**
	comp=Z,6μm,0.8s							
PRD	**Provadia**	**10.10**	**60**	*i* P		**Pn**	**14 31 02.0**	**+3.4**
TORNY	**Torny/Romont**	**10.12**	**325**	⇓*i*P		**Pn**	**14 30 58.5**	**-0.4**
	comp=Z,677nm,0.5s							
GEC2	**GERESS Array S**	**10.15**	**354**	*e*Pn		**Pn**	**14 30 59.6**	**+0.3**
GEC2	**GERESS Array S**	**10.15**	**354**	⇓*i*P		**Pn**	**14 30 59.2**	**-0.1**
GERES	**GERESS Array B**	**10.15**	**354**	P		**Pn**	**14 31 00.1**	**+0.9**
	comp=Z,97nm,0.3s,baz=167,slow=13,SNR=823							
GERES				S		**S**	**14 32 52.0**	**-1.1**
	baz=178,slow=25,SNR=1.5							
LASF	**Ste Croix**	**10.16**	**305**	*e*P		**Pn**	**14 30 59.1**	**-0.2**
	comp=Z,1μm,0.7s							
EJON	**La Jonquera**	**10.20**	**295**	P		**Pn**	**14 30 58.8**	**-1.0**
EMHD	**Djebel Mahouad**	**10.21**	**259**	P		**Pn**	**14 31 05.0**	**+5.0**
JAVC	**Velka Javorina**	**10.23**	**8**	P		**Pn**	**14 30 59.9**	**-0.3**
SULZ	**Cheisacher**	**10.24**	**331**	⇓*i*P		**Pn**	**14 30 58.7**	**-1.7**
	comp=Z,4μm,1.0s							
BALST	**Balsthal**	**10.25**	**329**	⇓*i*P		**Pn**	**14 30 58.8**	**-1.7**
	comp=Z,4μm,0.7s							
GIMEL	**St. Georges /**	**10.27**	**322**	⇓*i*P		**Pn**	**14 31 00.4**	**-0.3**
	comp=Z,1μm,0.7s							
CTT	**Catalca**	**10.29**	**72**	P		**Pn**	**14 31 00.7**	**-0.3**
CTT	**Catalca**	**10.29**	**72**	*e*P		**Pn**	**14 31 00.6**	**-0.4**
ELBA	**Catalca**	**10.29**	**72**	*i* P		**Pn**	**14 31 00.2**	**-0.8**
SLE	**Schleitheim**	**10.31**	**333**	⇓*i*P		**Pn**	**14 31 00.7**	**-0.5**
	comp=Z,3μm,0.8s							
MLR	**Muntele Rosu**	**10.32**	**46**	P		**Pn**	**14 31 02.5**	**+1.1**
	comp=Z,26nm,0.3s,baz=270,slow=8.1,SNR=203							
MLR				ScP		ScP	14 39 57.2	-0.9
	comp=Z,0.4nm,0.3s,baz=301,slow=0.7,SNR=5.1							
MLR	**Muntele Rosu**	**10.32**	**46**	P		**Pn**	**14 31 02.6**	**+1.3**
MLR	**Muntele Rosu**	**10.32**	**46**	⇓*i*P		**Pn**	**14 31 02.4**	**+1.0**
KRUC	**Moravsky**	**10.32**	**4**	P		**Pn**	**14 31 00.6**	**-0.8**
OG05	**Jujurieux**	**10.33**	**318**	P		**Pn**	**14 31 01.9**	**+0.3**
GUT	**Gutenstein**	**10.36**	**336**	P		**Pn**	**14 31 02.5**	**+0.6**
KECS	**Kecovo**	**10.39**	**19**	*e*PN		**Pn**	**14 31 02.5**	**+0.2**
KECS				*e*			14 31 05.9	
KECS				*e*			14 31 10.2	
CABF	**La Chapelle**	**10.41**	**322**	⇓*i*P		**Pn**	**14 31 03.1**	**+0.6**
	comp=Z,3μm,0.6s							
CABF	**La Chapelle**	**10.41**	**322**	⇓*i*P		**Pn**	**14 31 03.1**	**+0.6**
CABF				pmax		pmax		
	comp=Z,1μm,0.6s							
CABF	**La Chapelle**	**10.41**	**322**	⇓*i*P		**Pn**	**14 31 03.1**	**+0.6**
	comp=Z,1μm,0.6s							
BBS	**Basel-Blauen**	**10.43**	**329**	P		**Pn**	**14 31 03.7**	**+0.9**
ARG	**Arkhangelos**	**10.43**	**100**	*e*P		**Pn**	**14 31 01.0**	**-1.8**
ARG	**Arkhangelos**	**10.43**	**100**	P		**Pn**	**14 31 01.2**	**-1.6**
ISR	**Istrita**	**10.45**	**49**	⇓*i*P		**Pn**	**14 31 04.2**	**+1.2**
KHC	**Kasperske Hory**	**10.45**	**353**	*e*P		**Pn**	**14 31 03.2**	**+0.2**
KHC				*e*S		**S**	**14 32 56.7**	**-3.4**
KHC				*e*SCS		ScS	14 43 30.7	-2.6
KHC	**Kasperske Hory**	**10.45**	**353**	*e*P		**Pn**	**14 31 03.2**	**+0.2**
KHC				*e*S		**S**	**14 32 56.7**	**-3.4**
FILF	**Fillols**	**10.46**	**295**	P		**Pn**	**14 31 04.7**	**+1.5**
BOURR	**Bourrignon**	**10.49**	**328**	⇓*i*P		**Pn**	**14 31 00.9**	**-2.6**
	comp=Z,4μm,0.8s							
SPAK	**Spaichingen-Ko**	**10.50**	**335**	P		**Pn**	**14 31 04.5**	**+0.9**
HDH	**Heidenheim-Cha**	**10.51**	**341**	P		**Pn**	**14 31 04.1**	**+0.3**
WET	**Wettzell**	**10.54**	**351**	*e*Pn		**Pn**	**14 31 04.4**	**+0.2**
WET				*e*Sn		**S**	**14 32 58.8**	**-3.3**
FELD	**Feldberg im Sc**	**10.58**	**332**	⇓*e*P		**Pn**	**14 31 04.5**	**-0.2**
FELD	**Feldberg im Sc**	**10.58**	**332**	P		**Pn**	**14 31 04.9**	**+0.2**
VRAC	**Vranov**	**10.58**	**4**	P		**Pn**	**14 31 05.1**	**+0.4**
	comp=Z,32nm,0.3s,baz=188,slow=12,SNR=142							
VRAC	**Vranov**	**10.58**	**4**	⇓*i*P		**Pn**	**14 31 05.1**	**+0.4**
LRDF	**Laroque-de-Fa**	**10.59**	**297**	P		**Pn**	**14 31 06.9**	**+2.0**
LOMF	**Lomont**	**10.62**	**327**	P		**Pn**	**14 31 05.1**	**-0.2**
BUCH	**Bad Urach**	**10.62**	**338**	P		**Pn**	**14 31 05.4**	**+0.1**
LIKS	**Likavka**	**10.63**	**13**	*e*PN		**Pn**	**14 31 07.2**	**+1.9**
DALT	**Dalyan (Mudla)**	**10.67**	**97**	P		**Pn**	**14 31 06.5**	**+0.6**
KIZ	**Kirchzarten**	**10.68**	**332**	P		**Pn**	**14 31 05.9**	**0.0**
ULDT	**Uludag**	**10.72**	**78**	*i* P		**Pn**	**14 31 07.5**	**+1.0**
FBB	**Freiburg im Br**	**10.74**	**332**	P		**Pn**	**14 31 07.8**	**+1.1**
ISK	**Istanbul-Kandi**	**10.75**	**73**	P		**Pn**	**14 31 06.4**	**-0.4**
KLYT	**Kilyos**	**10.76**	**72**	P		**Pn**	**14 31 08.8**	**+1.8**
DENT	**Denizli**	**10.77**	**91**	P		**Pn**	**14 31 07.4**	**+0.2**
GEMT	**Gemlik**	**10.78**	**77**	P		**Pn**	**14 31 07.9**	**+0.7**
DNZL	**Cakiroluk**	**10.79**	**91**	*i* P		**Pn**	**14 31 15.5**	**+8.0**
VALF	**Valcebollere**	**10.80**	**294**	P		**Pn**	**14 31 09.6**	**+2.0**
CARF	**Carcanieres**	**10.83**	**296**	P		**Pn**	**14 31 07.6**	**-0.3**
BFO	**Black Forest**	**10.85**	**334**	Pn		**Pn**	**14 31 08.6**	**+0.5**
	comp=Z,6μm,0.8s							
BFO	**Black Forest**	**10.85**	**334**	*e*Pn		**Pn**	**14 31 07.9**	**-0.2**
BFO				*e*Sn		**S**	**14 33 08.3**	**-1.2**
MOF	**Molkenrain**	**10.89**	**329**	P		**Pn**	**14 31 08.6**	**-0.1**
YLV	**Yalova**	**10.93**	**76**	P		**Pn**	**14 31 08.8**	**-0.3**
MTLF	**Montolieu**	**10.95**	**299**	⇓*i*P		**Pn**	**14 31 09.3**	**-0.1**
	comp=Z,520nm,0.8s							
MTLF	**Montolieu**	**10.95**	**299**	⇓*i*P		**Pn**	**14 31 09.3**	**-0.1**
MTLF				pmax		pmax		
	comp=Z,260nm,0.8s							
MTLF	**Montolieu**	**10.95**	**299**	⇓*i*P		**Pn**	**14 31 09.3**	**-0.1**
	comp=Z,260nm,0.8s							
LIBD	**Limburg**	**10.96**	**331**	P		**Pn**	**14 31 09.9**	**+0.4**
EIBI	**Ibiza**	**10.96**	**276**	P		**Pn**	**14 31 10.0**	**+0.5**
	comp=Z,2μm,2.2s							
STU	**Stuttgart**	**10.96**	**338**	*e*Pn		**Pn**	**14 31 09.6**	**+0.1**
STU				*e*Sn		**S**	**14 33 08.7**	**-3.4**
HINF	**Hinteralfeld**	**10.98**	**328**	⇓*i*P		**Pn**	**14 31 09.0**	**-0.8**
	comp=Z,1μm,0.7s							
HINF	**Hinteralfeld**	**10.98**	**328**	⇓*i*P		**Pn**	**14 31 09.0**	**-0.8**
HINF				pmax		pmax		
	comp=Z,656nm,0.7s							
HINF	**Hinteralfeld**	**10.98**	**328**	⇓*i*P		**Pn**	**14 31 09.0**	**-0.8**
	comp=Z,656nm,0.7s							
GDZ	**Gediz**	**10.98**	**84**	*i* P		**Pn**	**14 31 10.7**	**+0.9**
VRI	**Vrincioaia**	**10.98**	**46**	⇓*i*P		**Pn**	**14 31 10.6**	**+0.8**
VRI	**Vrincioaia**	**10.98**	**46**	P		**Pn**	**14 31 10.9**	**+1.0**
LBG	**Lerchenberg**	**10.98**	**336**	P		**Pn**	**14 31 10.2**	**+0.3**
COLF	**Collangettes**	**11.00**	**312**	P		**Pn**	**14 31 10.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**11.04**	**21**	*e*PN		**Pn**	**14 31 11.0**	**+0.5**
CRVS				*e*			14 31 17.5	
CRVS	**Cervenica-Dubn**	**11.04**	**21**	*e*SN		**S**	**14 33 12.2**	**-1.8**
CRVS	**Cervenica-Dubn**	**11.04**	**21**	*e*Pn		**Pn**	**14 31 11.0**	**+0.5**
CRVS				*e*			14 31 17.5	
CRVS				*e*Sn		**S**	**14 33 12.3**	**-1.7**
EMIR	**Miracle**	**11.05**	**291**	P		**Pn**	**14 31 09.5**	**-1.1**
	comp=Z,2μm,2.0s							
UZH	**Uzhgorod**	**11.05**	**25**	⇑*i*P		**Pn**	**14 31 09.6**	**-1.1**
UZH				*i* S		**S**	**14 33 11.4**	**-2.9**
UZH				pmax		pmax		
	comp=Z,255nm,1.0s							
HARR	**Harsova**	**11.08**	**54**	⇑*i*P		**Pn**	**14 31 11.3**	**+0.3**
HARR	**Harsova**	**11.08**	**54**	P		**Pn**	**14 31 11.5**	**+0.5**
LBL	**Lubilhac**	**11.11**	**309**	P		**Pn**	**14 31 12.9**	**+1.5**
MORC	**Moravsky Berou**	**11.12**	**7**	⇓*i*P		**Pn**	**14 31 11.7**	**+0.1**
MORC	**Moravsky Berou**	**11.12**	**7**	P		**Pn**	**14 31 12.2**	**+0.6**
MORC	**Moravsky Berou**	**11.12**	**7**	⇓*i*Pn		**Pn**	**14 31 11.5**	**-0.1**
	comp=Z,231nm,0.6s							
MORC				*e*S		**S**	**14 33 17.1**	**+1.2**
HRT	**Hereke**	**11.18**	**75**	P		**Pn**	**14 31 11.7**	**-0.6**
ECH	**Echery**	**11.18**	**330**	P		**Pn**	**14 31 12.1**	**-0.2**
ADVT	**Abdulvahap**	**11.19**	**77**	P		**Pn**	**14 31 13.7**	**+1.1**
NIE	**Niedzica**	**11.22**	**17**	*i* P		**Pn**	**14 31 14.3**	**+1.4**
ROTZ	**Rotzenmuhle**	**11.24**	**349**	*e*Pn		**Pn**	**14 31 12.8**	**-0.2**
ROTZ				*e*Sn		**S**	**14 33 16.0**	**-2.7**
PRU	**Pruhonice**	**11.24**	**357**	*e*P		**Pn**	**14 31 13.1**	**0.0**
PRU				*e*S		**S**	**14 33 15.1**	**-3.7**
OKC	**Ostrava-Krasne**	**11.25**	**9**	*e*P		**Pn**	**14 31 13.5**	**+0.3**
OKC				*e*S		**S**	**14 33 15.7**	**-3.2**
STR	**Strasbourg**	**11.26**	**333**	P		**Pn**	**14 31 14.0**	**+0.7**
WLS	**Welschbruch**	**11.27**	**332**	P		**Pn**	**14 31 13.6**	**+0.2**
EPOB	**Poblet**	**11.28**	**288**	P		**Pn**	**14 31 12.7**	**-0.8**
	comp=Z,2μm,1.9s							
TIRR	**Tirgusor**	**11.28**	**56**	⇓*i*P		**Pn**	**14 31 13.5**	**-0.1**
TIRR	**Tirgusor**	**11.28**	**56**	⇓*e*P		**Pn**	**14 31 13.3**	**-0.3**
TIRR				*e*S		**S**	**14 33 19.3**	**-0.4**
TIRR				pmax		pmax		
	comp=Z,250nm,1.0s							
TIRR	**Tirgusor**	**11.28**	**56**	⇓*e*Pn		**Pn**	**14 31 13.3**	**-0.3**
	comp=Z,250nm,1.0s							
TIRR				*e*P			14 31 18.6	
TIRR				*e*S		**S**	**14 33 19.3**	**-0.4**
GOLH	**Golhisar**	**11.28**	**93**	*i* P		**Pn**	**14 31 14.7**	**+1.0**
EBNR	**Beni Rached**	**11.28**	**262**	P		**Pn**	**14 31 15.0**	**+1.3**
CDF	**Champ du Feu**	**11.29**	**331**	⇓*i*P		**Pn**	**14 31 13.7**	**-0.1**
	comp=Z,2μm,0.9s							
CDF	**Champ du Feu**	**11.29**	**331**	⇓*i*P		**Pn**	**14 31 13.7**	**-0.1**
CDF				pmax		pmax		
	comp=Z,950nm,0.9s							
CDF	**Champ du Feu**	**11.29**	**331**	⇓*i*P		**Pn**	**14 31 13.7**	**-0.1**
	comp=Z,950nm,0.9s							
PLDF	**La Plantade**	**11.29**	**313**	P		**Pn**	**14 31 14.6**	**+0.8**
KOLS	**Kolonicke sedl**	**11.31**	**24**	*e*PN		**Pn**	**14 31 14.9**	**+0.9**
KOLS				*e*			14 31 20.7	
KOLS	**Kolonicke sedl**	**11.31**	**24**	*e*SN		**S**	**14 33 17.2**	**-3.2**
KOLS	**Kolonicke sedl**	**11.31**	**24**	*e*Pn		**Pn**	**14 31 14.9**	**+0.9**
KOLS				*e*			14 31 20.7	
KOLS				*e*Sn		**S**	**14 33 17.2**	**-3.2**
GRA1	**Grafenberg Arr**	**11.33**	**346**	*e*Pn		**Pn**	**14 31 14.3**	**+0.1**
GRA1				*e*Sn		**S**	**14 33 19.1**	**-1.7**
GRF	**Grafenberg Arr**	**11.33**	**346**	*e*Pn		**Pn**	**14 31 14.3**	**+0.1**
GRF				*e*Sn		**S**	**14 33 19.1**	**-1.7**
PRA	**Prague**	**11.33**	**357**	P		**Pn**	**14 31 14.0**	**-0.2**
PRA				*e*x		x	14 31 20.0	
HAU	**Haudompre**	**11.34**	**328**	⇓*i*P		**Pn**	**14 31 13.5**	**-0.8**
	comp=Z,773nm,0.6s							
HAU				*e*MLR		MLR		
	comp=Z,6μm,18.2s							
HAU	**Haudompre**	**11.34**	**328**	⇓*i*P		**Pn**	**14 31 13.5**	**-0.8**
HAU				pmax		pmax		
	comp=Z,386nm,0.6s							
HAU	**Haudompre**	**11.34**	**328**	⇓*i*P		**Pn**	**14 31 13.5**	**-0.8**
	comp=Z,386nm,0.6s							
SIND	**Sindeldorf**	**11.37**	**340**	P		**Pn**	**14 31 14.8**	**+0.1**
BURAR	**Bucovina Array**	**11.38**	**36**	⇓*i*P		**Pn**	**14 31 16.3**	**+1.4**
BURAR	**Bucovina Array**	**11.38**	**36**	P		**Pn**	**14 31 16.9**	**+2.1**
CFR	**Carcaliu**	**11.44**	**52**	⇓*i*P		**Pn**	**14 31 15.7**	**+0.1**
CFR	**Carcaliu**	**11.44**	**52**	P		**Pn**	**14 31 16.2**	**+0.5**
STHS	**Stebnicka Huta**	**11.45**	**20**	*e*Pn		**Pn**	**14 31 17.2**	**+1.5**
STHS				*e*Sn		**S**	**14 33 31.8**	**+8.2**
ECHA	**Ech Chlef**	**11.45**	**261**	P		**Pn**	**14 31 17.0**	**+1.2**
MANZ	**Manzenberg**	**11.46**	**349**	*e*Pn		**Pn**	**14 31 15.9**	**0.0**
MANZ				*e*Sn		**S**	**14 33 21.0**	**-3.0**
SALF	**Salau**	**11.49**	**295**	P		**Pn**	**14 31 18.0**	**+1.8**
RAC	**Raciborz**	**11.49**	**9**	*e*P		**Pn**	**14 31 17.1**	**+0.8**
RAC				*e*S		**S**	**14 33 24.1**	**-0.6**
RAC				MLR		MLR		
	comp=Z,5μm,16.8s							
RAC	**Raciborz**	**11.49**	**9**	*e*P		**Pn**	**14 31 17.1**	**+0.8**
RAC				*e*S		**S**	**14 33 24.1**	**-0.6**
PYM	**Petit Puy Mans**	**11.53**	**311**	P		**Pn**	**14 31 17.6**	**+0.9**
AKAS	**Kas**	**11.57**	**98**	*i* P		**Pn**	**14 31 15.1**	**-2.2**
SMF	**Signal de Mont**	**11.58**	**317**	⇓*i*P		**Pn**	**14 31 16.6**	**-0.8**
	comp=Z,1μm,0.7s							
SMF	**Signal de Mont**	**11.58**	**317**	⇓*i*P		**Pn**	**14 31 16.6**	**-0.8**
SMF				pmax		pmax		
	comp=Z,542nm,0.7s							
SMF	**Signal de Mont**	**11.58**	**317**	⇓*i*P		**Pn**	**14 31 16.6**	**-0.8**
	comp=Z,542nm,0.7s							
LANF	**Langenberg**	**11.58**	**334**	P		**Pn**	**14 31 17.9**	**+0.5**
DPC	**Dobruska-Polom**	**11.61**	**3**	*e*P		**Pn**	**14 31 17.9**	**+0.2**
DPC				*e*S		**S**	**14 33 25.9**	**-1.5**
DPC				*e*SCS		ScS	14 43 35.4	-0.2
DPC	**Dobruska-Polom**	**11.61**	**3**	*e*P		**Pn**	**14 31 17.9**	**+0.2**
DPC				*e*S		**S**	**14 33 25.9**	**-1.5**
DPC	**Dobruska-Polom**	**11.61**	**3**	*e*P		**Pn**	**14 31 17.9**	**+0.2**
DPC				*e*S		**S**	**14 33 25.9**	**-1.5**
DPC				*e*ScS		ScS	14 43 35.4	-0.2
GPA	**Golpazari**	**11.62**	**78**	P		**Pn**	**14 31 24.9**	**+7.0**
AGO	**Saint Agoulin**	**11.62**	**313**	P		**Pn**	**14 31 18.1**	**+0.2**
NKC	**Novy Kostel**	**11.66**	**351**	*e*P		**Pn**	**14 31 18.2**	**-0.2**
NKC				*e*S		**S**	**14 33 26.0**	**-2.6**
THEF	**They Montfort**	**11.66**	**327**	P		**Pn**	**14 31 18.1**	**-0.3**
ELL	**Elmali**	**11.66**	**95**	P		**Pn**	**14 31 18.2**	**-0.2**
CAF	**Calviac**	**11.69**	**306**	⇓*i*P		**Pn**	**14 31 19.6**	**+0.8**
	comp=Z,1μm,1.1s							
CAF	**Calviac**	**11.69**	**306**	⇓*i*P		**Pn**	**14 31 19.6**	**+0.8**
CAF				pmax		pmax		
	comp=Z,735nm,1.1s							
CAF	**Calviac**	**11.69**	**306**	⇓*i*P		**Pn**	**14 31 19.6**	**+0.8**
	comp=Z,736nm,1.1s							
EANR	**'Ain N'Sour**	**11.72**	**261**	P		**Pn**	**14 31 20.0**	**+0.9**
BORA	**Eskisehir**	**11.72**	**80**	*i* P		**Pn**	**14 31 20.2**	**+1.1**
BORA	**Eskisehir**	**11.72**	**80**	*i* P		**Pn**	**14 31 20.2**	**+1.0**
WERN	**Wernitzgruen**	**11.72**	**350**	*e*Pn		**Pn**	**14 31 19.5**	**+0.3**
WERN				*e*Sn		**S**	**14 33 28.5**	**-1.6**
TKTP	**Tekketepe**	**11.74**	**89**	*i* P		**Pn**	**14 31 20.4**	**+1.1**
SWS	**Schriesheim-Wi**	**11.74**	**338**	P		**Pn**	**14 31 20.1**	**+0.6**
ETRT	**Tiaret**	**11.75**	**258**	P		**Pn**	**14 31 21.0**	**+1.5**
UPC	**Upice**	**11.75**	**2**	*e*P		**Pn**	**14 31 20.2**	**+0.6**
PVCC	**Panska Ves**	**11.78**	**357**	*e*P		**Pn**	**14 31 20.2**	**+0.3**
PVCC				*e*S		**S**	**14 33 29.5**	**-2.0**
ERTA	**Horta de San J**	**11.78**	**285**	P		**Pn**	**14 31 19.1**	**-0.9**
	comp=Z,1μm,1.9s							
KTD	**Kalmit**	**11.79**	**336**	P		**Pn**	**14 31 21.1**	**+1.1**
GUNZ	**Gunzen**	**11.80**	**350**	*e*Pn		**Pn**	**14 31 20.7**	**+0.5**
GUNZ				*e*Sn		**S**	**14 33 31.9**	**-0.1**
TOD	**Tromm**	**11.82**	**339**	P		**Pn**	**14 31 21.1**	**+0.6**
MELF	**Melles**	**11.82**	**295**	P		**Pn**	**14 31 23.3**	**+2.8**
VERF	**Verneugheol**	**11.84**	**310**	P		**Pn**	**14 31 21.8**	**+1.2**
TANN	**Tannenbergstha**	**11.84**	**351**	*e*Pn		**Pn**	**14 31 20.9**	**+0.3**
OJC	**Ojcow**	**11.88**	**14**	*i* P		**Pn**	**14 31 21.8**	**+0.7**
OJC				*e*			14 31 26.0	
OJC				*i* S		**S**	**14 33 34.8**	**+1.1**
OJC				L			14 37 08.3	
	comp=Z,22nm,16.5s							
OJC	**Ojcow**	**11.88**	**14**	⇓*i*P		**Pn**	**14 31 21.8**	**+0.7**
OJC				*e*			14 31 26.0	
OJC				*i* S		**S**	**14 33 34.8**	**+1.1**
WERD	**Werda**	**11.89**	**350**	*e*Pn		**Pn**	**14 31 21.2**	**-0.1**
ISP	**Isparta**	**11.91**	**90**	P		**Pn**	**14 31 23.2**	**+1.6**
ISP				pmax		pmax		
	comp=Z,160nm,0.8s							
ISP	**Isparta**	**11.91**	**90**	⇑*i*Pn		**Pn**	**14 31 22.1**	**+0.5**
	comp=Z,159nm,0.8s							
ISP				*e*S		**S**	**14 33 35.9**	**+1.3**
AVF	**Avril sur Loir**	**11.94**	**316**	⇓*i*P		**Pn**	**14 31 21.1**	**-0.8**
	comp=Z,498nm,0.6s							
AVF	**Avril sur Loir**	**11.94**	**316**	⇓*i*P		**Pn**	**14 31 21.1**	**-0.8**
AVF				pmax		pmax		
	comp=Z,249nm,0.6s							
AVF	**Avril sur Loir**	**11.94**	**316**	⇓*i*P		**Pn**	**14 31 21.1**	**-0.8**
	comp=Z,249nm,0.6s							
LOR	**Lormes**	**11.97**	**319**	⇓*i*P		**Pn**	**14 31 21.1**	**-1.2**
	comp=Z,921nm,0.7s,baz=131							
LOR	**Lormes**	**11.97**	**319**	⇓*i*P		**Pn**	**14 31 21.1**	**-1.2**
LOR				pmax		pmax		
	comp=Z,460nm,0.7s							
LOR	**Lormes**	**11.97**	**319**	⇓*i*P		**Pn**	**14 31 21.1**	**-1.2**
	comp=Z,460nm,0.7s							
SSF	**Saint Saulge**	**12.02**	**317**	⇓*i*P		**Pn**	**14 31 22.0**	**-1.0**
	comp=Z,1μm,0.8s							
SSF	**Saint Saulge**	**12.02**	**317**	⇓*i*P		**Pn**	**14 31 22.0**	**-1.0**
SSF				pmax		pmax		
	comp=Z,686nm,0.8s							
SSF	**Saint Saulge**	**12.02**	**317**	⇓*i*P		**Pn**	**14 31 22.0**	**-1.0**
	comp=Z,686nm,0.8s							
ESKT	**Eskisehir**	**12.03**	**82**	P		**Pn**	**14 31 24.5**	**+1.5**
ESKT	**Eskisehir**	**12.03**	**82**	*i* P		**Pn**	**14 31 24.1**	**+1.1**
SEYT	**Eskypehyr**	**12.03**	**82**	*i* P		**Pn**	**14 31 24.1**	**+1.1**
BCK	**Bucak**	**12.04**	**91**	P		**Pn**	**14 31 24.5**	**+1.3**
OKGL	**Djebel Kef Gue**	**12.04**	**262**	P		**Pn**	**14 31 33.0**	**+10**
SFTF	**Sexfontaines**	**12.06**	**325**	*e*P		**Pn**	**14 31 23.0**	**-0.4**
	comp=Z,843nm,0.7s,baz=141							
SFTF	**Sexfontaines**	**12.06**	**325**	*e*P		**Pn**	**14 31 23.0**	**-0.4**
	comp=Z,843nm,0.7s							
KWP	**Kalwaria**	**12.06**	**23**	*i* P		**Pn**	**14 31 25.7**	**+2.3**
KWP				*e*			14 31 29.5	
KWP				*e*			14 31 39.2	
KWP				*e*S		**S**	**14 33 42.6**	**+4.6**
BGF	**Bois d'Agland**	**12.07**	**314**	⇓*i*P		**Pn**	**14 31 23.5**	**-0.1**
	comp=Z,3μm,0.7s							
BGF	**Bois d'Agland**	**12.07**	**314**	⇓*i*P		**Pn**	**14 31 23.5**	**-0.1**
BGF				pmax		pmax		
	comp=Z,1μm,0.7s							
BGF	**Bois d'Agland**	**12.07**	**314**	⇓*i*P		**Pn**	**14 31 23.5**	**-0.1**
	comp=Z,1μm,0.7s							
KSP	**Ksiaz**	**12.10**	**3**	*i* P		**Pn**	**14 31 24.7**	**+0.8**
KSP				*e*			14 31 28.5	
KSP				*e*S		**S**	**14 33 38.1**	**-0.8**
KSP	**Ksiaz**	**12.10**	**3**	⇓*i*P		**Pn**	**14 31 24.5**

KIS **Kishinev** 12.82 46⇓*i*P Pn 14 31 30.0 -2.9
comp=Z,2μm,4.0s
KIS **Kishinev** 12.82 46 *i* PP 14 31 34.0
KIS *i* pP 14 32 19.0
KIS *i* S S 14 33 44.0 -12
KIS LRM 14 38 20.0
comp=Z,5μm,10.0s
ODJA **Bouhanifia** 12.88 259 P Pn 14 31 42.0 +8.3
ATE **Arette** 12.91 295 P Pn 14 31 34.4 +0.3
CART **Cartagena** 12.96 270⇓*i*Pn Pn 14 31 33.7 -0.9
comp=Z,1μm,1.4s
CART *e*S S 14 34 00.9 +2.0
CART *e*PcP PcP 14 36 49.5 -0.2
SGKT **Sivrigoynuk** 12.97 77 *i* P Pn 14 31 36.2 +1.4
KDHN **Kadinhani** 13.08 86 *i* P Pn 14 31 36.4 +0.2
LARF **Larrau** 13.11 294 P Pn 14 31 36.4 -0.1
ORDF **Ordiarp** 13.11 295 P Pn 14 31 35.8 -0.8
ETOB **Tobarra** 13.24 275 P Pn 14 31 37.8 -0.4
comp=Z,996nm,1.9s
SJPF **Ste Jean** 13.29 294⇓*i*P Pn 14 31 38.5 -0.3
comp=Z,2μm,0.8s
SJPF **Ste Jean** 13.29 294⇓*i*P Pn 14 31 38.5 -0.3
SJPF pmax pmax
comp=Z,813nm,0.8s
SJPF **Ste Jean** 13.29 294⇓*i*P Pn 14 31 38.5 -0.3
comp=Z,813nm,0.8s
GTTG **Gvttingen** 13.34 345 *e*Pn Pn 14 31 42.5 +3.1
KONT **Konya--Tatoy** 13.34 88 P Pn 14 31 41.4 +1.9
OSSF **Osses** 13.35 295 P Pn 14 31 37.6 -2.0
SAFT **Safranbolu** 13.49 74 P Pn 14 31 44.5 +3.3
EALK **Alkurruntz** 13.52 295 P Pn 14 31 42.6 +1.0
comp=Z,3μm,1.8s
ANTO **Ankara** 13.52 80 P Pn 14 31 43.6 +1.9
SNR=28
ANTO **Ankara** 13.52 80⇓*i*P Pn 14 31 41.3 -0.3
ANTO **Ankara** 13.52 80 P Pn 14 31 43.3 +1.7
ANTO pmax pmax
comp=Z,150nm,0.8s
ANTO **Ankara** 13.52 80 *e*P Pn 14 31 42.3 +0.6
comp=Z,153nm,0.8s
ANTO *e*S S 14 34 16.1 +4.1
ANTO *e*ScP ScP 14 40 02.0 -0.8
ELIZ **Elizondo** 13.52 294 P Pn 14 31 40.7 -1.0
ELIZ pmax pmax
comp=Z,1μm,1.0s
ELIZ **Elizondo** 13.52 294 P Pn 14 31 40.7 -0.9
comp=Z,1μm,1.0s
CLZ **Clausthal** 13.54 347 *e*Pn Pn 14 31 42.5 +0.6
MATF **Mathat** 13.58 306 P Pn 14 31 42.9 +0.6
MEM **Membach** 13.58 334 P Pn 14 31 43.1 +0.7
GIVF **Givet** 13.61 330⇓*i*P Pn 14 31 42.4 -0.3
comp=Z,3μm,0.9s
GIVF **Givet** 13.61 330⇓*i*P Pn 14 31 42.4 -0.3
GIVF pmax pmax
comp=Z,1μm,0.9s
GIVF **Givet** 13.61 330⇓*i*P Pn 14 31 42.4 -0.3
comp=Z,1μm,0.9s
BCLA **Clavier** 13.68 332 P Pn 14 31 43.4 -0.2
DOU **Dourbes** 13.69 329 P Pn 14 31 43.4 -0.4
ODZI **Dziouia** 13.73 261 P Pn 14 31 48.0 +3.8
HGN **Heimansgroeve** 13.74 334 *e*P Pn 14 31 45.0 +0.7
comp=Z,442nm,0.5s
HGN *e*S S 14 34 17.4 +0.3
RUE **Ruedersdorf** 13.77 356 *e*Pn Pn 14 31 45.3 +0.6
BAIF **Baives** 13.82 328⇓*i*P Pn 14 31 44.8 -0.5
comp=Z,528nm,0.7s
BAIF **Baives** 13.82 328⇓*i*P Pn 14 31 44.8 -0.5
BAIF pmax pmax
comp=Z,264nm,0.7s
BAIF **Baives** 13.82 328⇓*i*P Pn 14 31 44.8 -0.5
comp=Z,264nm,0.7s
MFF **Saint Martin d** 13.84 309⇓*i*P Pn 14 31 46.0 +0.4
comp=Z,869nm,0.8s
MFF **Saint Martin d** 13.84 309⇓*i*P Pn 14 31 46.0 +0.4
MFF pmax pmax
comp=Z,434nm,0.8s
MFF **Saint Martin d** 13.84 309⇓*i*P Pn 14 31 46.0 +0.4
comp=Z,434nm,0.8s
BEBN **Eben Emael** 13.86 333 P Pn 14 31 46.4 +0.6
OLHC **Oulhaca** 13.89 261 P Pn 14 31 47.0 +0.8
BUG **Bochum--Univer** 13.90 338 *e*Pn Pn 14 31 47.9 +1.5
EVIA **Vianos** 13.98 275 P Pn 14 31 46.5 -0.8
EVIA pmax pmax
comp=Z,618nm,1.3s
EVIA **Vianos** 13.98 275 P Pn 14 31 46.5 -0.9
comp=Z,618nm,1.3s
ELDT **Eldivan** 14.01 77 *i* P Pn 14 31 49.1 +1.5
ENIJ **Nijar** 14.02 268 P Pn 14 31 45.8 -2.0
ENIJ pmax pmax
comp=Z,578nm,1.2s
ENIJ **Nijar** 14.02 268 P Pn 14 31 45.8 -2.0
comp=Z,578nm,1.2s
WAR **Warsaw** 14.04 14 *e*P Pn 14 31 49.8 +1.8
WAR *e* 14 31 51.9
WAR *e*S S 14 34 33.8 +10
AKMC **Akamas** 14.05 100 P Pn 14 31 44.8 -3.4
PPCY **Paphos** 14.12 101 P Pn 14 31 45.7 -3.3
ECRI **Cripan** 14.12 291 P Pn 14 31 47.7 -1.3
ECRI pmax pmax
comp=Z,407nm,0.8s
ECRI **Cripan** 14.12 291 P Pn 14 31 47.7 -1.3
comp=Z,407nm,0.8s
SNF **Seneffe** 14.14 330 P Pn 14 31 48.3 -1.0
CANT **Cankiri** 14.16 77 P Pn 14 31 50.1 +0.6
EHUE **Huescar** 14.16 272 P Pn 14 31 49.1 -0.5
EHUE pmax pmax
comp=Z,1μm,1.8s
EHUE **Huescar** 14.16 272 P Pn 14 31 49.1 -0.5
comp=Z,1μm,1.8s
BR131 **Keskin Array S** 14.18 80⇓*e*P Pn 14 31 50.7 +1.0
comp=Z,89nm,0.8s
BR131 *e*S S 14 34 30.6 +3.5
BR131 *e*ScP ScP 14 40 02.9 -1.1
BRTR **Keskin Array B** 14.18 80 P Pn 14 31 51.1 +1.5
comp=Z,3.2nm,0.3s,baz=268,slow=12,SNR=192
BRTR PcP PcP 14 36 50.6 -0.7
comp=Z,0.2nm,0.3s,baz=166,slow=2.5,SNR=5.2
BRTR ScP ScP 14 40 02.9 -1.1
comp=Z,0.1nm,0.3s,baz=197,slow=1.3,SNR=7.5
BRTR **Keskin Array B** 14.18 80 *i* P Pn 14 31 51.2 +1.5
BRTR pmax pmax
comp=Z,55nm,0.8s
ALFC **Alevga** 14.22 99 P Pn 14 31 47.1 -3.1
comp=Z,11nm,0.6s
NRDL **Niedersach Rie** 14.22 347 *e*Pn Pn 14 31 50.5 +0.3
NRDL *e*Sn S 14 34 29.6 +1.6
LCHF **La Chataignera** 14.24 309 P Pn 14 31 50.8 +0.4
KAMT **Kaman** 14.25 82 P Pn 14 31 51.7 +1.1
OLEF **Ile d'Oleron** 14.30 306 P Pn 14 31 51.0 -0.2
UCC **Uccle** 14.34 331 P Pn 14 31 51.1 -0.6
TOS **Tosya** 14.48 75 P Pn 14 31 55.1 +1.7
WTSB **Winterswijk** 14.51 338⇓*e*P Pn 14 31 54.8 +1.1
comp=Z,1μm,1.1s
EQES **Quesada** 14.54 272 P Pn 14 31 54.0 -0.2
comp=Z,2μm,2.7s
BZK **Bozkurt** 14.54 71 P Pn 14 31 55.6 +1.5
IBBN **Ibbenburen** 14.55 341 *e*Pn Pn 14 31 55.7 +1.4
GKP **Gorka Klasztor** 14.57 4 *e*P Pn 14 31 55.9 +1.4
GKP *e* 14 31 57.7
GKP *e*S S 14 34 39.1 +3.1
EBER **Berja** 14.57 268 P Pn 14 31 52.7 -1.8
comp=Z,543nm,1.3s
SZAC **Souni-Zanaja** 14.58 101 P Pn 14 31 51.8 -2.8
LRYF **La Roche-sur-Y** 14.69 308 P Pn 14 31 55.5 -0.5
MAMC **Mammari** 14.69 99 P Pn 14 31 54.9 -1.1
CDAG **Cicekdag** 14.74 81 *i* P Pn 14 31 57.8 +1.1
CSS **Prodhromos** 14.85 99 P Pn 14 31 55.7 -2.2
comp=Z,8.5nm,0.8s
LDF **La Druitiere** 14.89 316⇓*i*P Pn 14 31 57.9 -0.6
comp=Z,3μm,0.8s
LDF **La Druitiere** 14.89 316⇓*i*P Pn 14 31 57.9 -0.6
LDF pmax pmax
comp=Z,1μm,0.8s
LDF **La Druitiere** 14.89 316⇓*i*P Pn 14 31 57.9 -0.6
comp=Z,1μm,0.8s
ELAN **Lanestosa** 14.90 293 P Pn 14 31 58.2 -0.3
comp=Z,3μm,1.5s
CORM **Corum** 14.93 78 P Pn 14 32 00.9 +2.1
EALB **Alboran** 14.93 265 P Pn 14 31 57.6 -1.3
comp=Z,1μm,1.5s
ZAI **Zaio** 15.01 261 *i* P Pn 14 32 00.0 +0.2
ECOG **Cogollos-Vega** 15.02 270 P Pn 14 31 59.0 -1.0
ECOG pmax pmax
comp=Z,610nm,1.1s
ECOG **Cogollos-Vega** 15.02 270 P Pn 14 31 59.0 -1.0
comp=Z,610nm,1.1s
ESDC **Sonseca Array** 15.04 280 P Pn 14 32 00.0 -0.1
comp=Z,8.9nm,0.3s,baz=78,slow=12,SNR=175
ESDC PcP PcP 14 36 52.5 0.0
comp=Z,1.1nm,0.3s,baz=45,slow=1.9,SNR=6.1
ESDC ScP ScP 14 40 04.4 -1.1
comp=Z,0.6nm,0.3s,baz=20,slow=2.2,SNR=5.0
ESDC **Sonseca Array** 15.04 280 P Pn 14 31 58.7 -1.4
comp=Z,170nm,0.8s
ESLA **Sonseca Array** 15.04 280⇓*i*P Pn 14 31 60.0 -0.2
comp=Z,125nm,1.2s
ESLA *e*S S 14 34 45.8 -0.9
EBAN **Banos Encina** 15.04 274 P Pn 14 31 59.3 -1.0
EBAN pmax pmax
comp=Z,228nm,0.8s
EBAN **Banos Encina** 15.04 274 P Pn 14 31 59.3 -0.9
comp=Z,228nm,0.8s
CTKT **Corum** 15.05 77 *i* P Pn 14 32 01.5 +1.2
BYBT **Boyabat** 15.07 74 P Pn 14 32 02.6 +2.1
BOYT **Boyabat** 15.17 74 *i* P Pn 14 32 03.9 +2.1
GUD **Guadarrama** 15.17 283 P Pn 14 32 00.3 -1.5
GUD pmax pmax
comp=Z,203nm,0.7s
GUD **Guadarrama** 15.17 283 P Pn 14 32 00.3 -1.5
comp=Z,203nm,0.7s
GRR **Gorron** 15.18 315⇓*i*P Pn 14 32 01.1 -0.8
comp=Z,2μm,0.7s
GRR **Gorron** 15.18 315⇓*i*P Pn 14 32 01.1 -0.8
GRR pmax pmax
comp=Z,786nm,0.7s
GRR **Gorron** 15.18 315⇓*i*P Pn 14 32 01.1 -0.8
comp=Z,786nm,0.7s
FLN **La Foliniere** 15.19 316⇓*i*P Pn 14 32 01.0 -1.0
comp=Z,2μm,0.9s,baz=129
FLN *e*MLR MLR
comp=Z,10μm,22.5s
FLN **La Foliniere** 15.19 316⇓*i*P Pn 14 32 01.0 -1.0
FLN pmax pmax
comp=Z,1μm,0.9s
FLN **La Foliniere** 15.19 316⇓*i*P Pn 14 32 01.0 -1.0
comp=Z,1μm,0.9s
SIM **Simferopol'** 15.24 60*de*P Pn 14 32 03.1 +0.4
SIM S S 14 34 40.9 -10
SIM pmax pmax
comp=Z,750nm,10.0s
SIM MLR MLR
comp=Z,2μm,18.0s
ERON **Agron** 15.26 269 P Pn 14 32 02.0 -0.9
comp=Z,117nm,0.8s
KIEV **Kiev** 15.42 35 P Pn 14 32 03.6 -1.2
KIEV S S 14 34 49.8 -5.5
KIEV PcP PcP 14 36 52.4 -0.6
KIEV ScP ScP 14 40 04.4 -1.8
KIEV ScS ScS 14 43 39.8 -4.8
AKASG **Malin Array Be** 15.43 35 P Pn 14 32 03.6 -1.3
comp=Z,99nm,0.3s,baz=225,slow=10,SNR=164
AKASG S S 14 34 52.8 -2.8
baz=223,slow=20,SNR=14
AKASG PcP PcP 14 36 52.2 -0.9
comp=Z,10nm,0.3s,baz=252,slow=1.9,SNR=7.8
AKASG ScP ScP 14 40 04.3 -1.9
baz=245,slow=2.5,SNR=13
AKASG **Malin Array Be** 15.43 35 *i* P Pn 14 32 01.7 -3.2
AKASG pmax pmax
comp=Z,70nm,0.4s
AKBB **Malin Array Si** 15.43 35⇓*i*P Pn 14 32 03.5 -1.5
AKBB *e*S S 14 34 50.3 -5.3
AKBB *e*PcP PcP 14 36 51.6 -1.5
AKBB *e*ScP ScP 14 40 03.7 -2.5
DIKM **Dikmen** 15.45 73 P Pn 14 32 06.2 +1.1
YOZ **Yozgat** 15.47 80 P Pn 14 32 06.7 +1.2
ELOJ **Sierra Loja** 15.51 270 P Pn 14 32 04.9 -1.0
ELOJ pmax pmax
comp=Z,160nm,1.0s
ELOJ **Sierra Loja** 15.51 270 P Pn 14 32 04.9 -1.0
comp=Z,160nm,1.0s
ELUQ **Luque** 15.52 272 P Pn 14 32 04.3 -1.7
ELUQ pmax pmax
comp=Z,107nm,0.2s
ELUQ **Luque** 15.52 272 P Pn 14 32 04.3 -1.7
comp=Z,107nm,0.2s
BSEG **Bad Segeberg** 15.57 349 *e*Pn Pn 14 32 05.3 -1.3
KARA **Karaisali** 15.57 89 P Pn 14 32 07.8 +1.2
EADA **Adamuz** 15.66 274 P Pn 14 32 06.8 -0.8
comp=Z,5μm,2.6s
TOU **Touzarine** 15.79 262 *i* P Pn 14 32 10.0 +0.8
MPAL **Palemas** 15.85 263 *i* P Pn 14 32 09.5 -0.4
RGN **Rugen** 15.86 356 *e*Pn Pn 14 32 08.8 -1.2
BNN **Bunyan** 15.95 83 P Pn 14 32 13.1 +2.0
KRTS **Karatas** 15.97 92 P Pn 14 32 10.9 -0.5
KVT **Kavak** 16.01 75 P P 14 32 13.1 +2.0
SGMF **Saint Gilles** 16.08 312⇓*i*P P 14 32 10.8 -1.1
comp=Z,854nm,0.6s
SGMF **Saint Gilles** 16.08 312⇓*i*P P 14 32 10.8 -1.1
SGMF pmax pmax
comp=Z,427nm,0.6s
SGMF **Saint Gilles** 16.08 312⇓*i*P P 14 32 10.8 -1.1
comp=Z,427nm,0.6s
EMIJ **Mijas** 16.12 268 P P 14 32 11.0 -1.4
comp=Z,1μm,1.9s
KOZT **Kozan** 16.13 88 P P 14 32 12.9 +0.4
SUW **Suwalki** 16.16 17 *e*P P 14 32 12.1 -0.6
SUW *e* 14 32 14.2
SUW *e* 14 32 18.4
SUW *e*S S 14 35 07.1 -3.7
CEYT **Ceyhan** 16.16 90 P P 14 32 11.3 -1.5
EARI **Arriondas** 16.19 293 P P 14 32 13.3 +0.2
comp=Z,7μm,2.6s
QUIF **Quistinic** 16.28 310⇓*i*P P 14 32 13.4 -0.7
comp=Z,793nm,0.8s
QUIF **Quistinic** 16.28 310⇓*i*P P 14 32 13.4 -0.7
QUIF pmax pmax
comp=Z,397nm,0.8s
QUIF **Quistinic** 16.28 310⇓*i*P P 14 32 13.4 -0.7
comp=Z,397nm,0.8s
JRS **Jersey** 16.31 315⇑*e*P P 14 32 12.8 -1.5
JSA **Saint Aubin** 16.35 315 *e*P P 14 32 14.1 -0.7
BSD **Bornholm Skovb** 16.36 359⇓*i*P P 14 32 13.6 -1.4
comp=Z,918nm,0.8s
BSD *i* 14 35 12.1
BSD **Bornholm Skovb** 16.36 359⇓*i*P P 14 32 13.6 -1.4
BSD *i* 14 35 12.1
BSD pmax pmax
comp=Z,920nm,0.8s
JVM **Valle D.L. Mar** 16.38 315⇑*e*P P 14 32 14.4 -0.8
TOKT **Tokat** 16.39 78 P P 14 32 17.1 +1.8
ROSF **Rostrenen** 16.54 311⇓*i*P P 14 32 15.9 -1.0
comp=Z,628nm,0.6s
ROSF **Rostrenen** 16.54 311⇓*i*P P 14 32 15.9 -1.0
ROSF pmax pmax
comp=Z,314nm,0.6s
ROSF **Rostrenen** 16.54 311⇓*i*P P 14 32 15.9 -1.0
comp=Z,314nm,0.6s
ARNB **Al Arnab** 16.62 94⇑*i*P P 14 32 18.7 +0.9
ARNB **Al Arnab** 16.62 94⇑P P 14 32 18.7 +0.9
COBT **Iskenderun** 16.67 91 *i* P P 14 32 18.8 +0.4
HTY **Hatay** 16.68 93 P P 14 32 19.4 +0.9
EJIF **Jimena Fronter** 16.69 269 P P 14 32 16.7 -1.9
EJIF pmax pmax
comp=Z,866nm,1.2s
EJIF **Jimena Fronter** 16.69 269 P P 14 32 16.7 -1.9
comp=Z,866nm,1.2s
SVSK **Karacayir** 16.75 79 P P 14 32 21.2 +1.9
MDAL **Dalia** 16.85 267 *i* P P 14 32 21.0 +0.7
SLNF **Slenfeh** 16.89 94⇑*i*P P 14 32 21.6 +0.8
SLNF **Slenfeh** 16.89 94⇑P P 14 32 21.6 +0.8
ESPR **Espera** 16.90 270 P P 14 32 19.4 -1.5
comp=Z,2μm,1.2s
BTCH **Batrach** 16.95 93⇑*i*P P 14 32 22.2 +0.7
BTCH **Batrach** 16.95 93⇑P P 14 32 22.2 +0.8
KMRS **Kahramanmaras** 16.97 88 P P 14 32 23.1 +1.5
DRWC **Darouich** 16.97 91⇑*i*P P 14 32 23.5 +1.9
DRWC **Darouich** 16.97 91⇑P P 14 32 23.5 +1.8
AEU **East Anglia Un** 16.98 329 *e*P P 14 32 19.9 -1.8
HNTI **Hanita** 16.98 103⇑P P 14 32 22.7 +0.9
OFRI **'Ofer** 17.04 105⇑P P 14 32 22.7 +0.3
COP **Copenhagen** 17.05 354⇓*i*P P 14 32 22.0 -0.5
comp=Z,542nm,0.8s
COP *i* 14 33 24.1
COP *e* 14 35 21.7
COP **Copenhagen** 17.05 354⇓*i*P P 14 32 22.0 -0.5
COP *e* 14 35 21.7
COP pmax pmax
comp=Z,540nm,0.8s
PBRG **Braganca** 17.16 287 *e*P P 14 32 24.1 +0.4
comp=Z,1μm,1.8s
PBRG **Braganca** 17.16 287 *e*P P 14 32 24.0 +0.3
ECAL **Calabor** 17.16 288 P P 14 32 23.7 0.0
comp=Z,3μm,1.6s
MMAI **Mount Meron Ar** 17.19 103 P P 14 32 25.5 +1.5
comp=Z,13nm,0.3s,baz=301,slow=11,SNR=99
SKP1 **Kophill** 17.21 324⇑*e*P P 14 32 22.7 -1.6
ABA1 **Baconsthorpe** 17.22 330 *e*P P 14 32 22.6 -1.7
SLTI **Sal'it** 17.25 106 ⇑P P 14 32 25.7 +0.9
SFS **San Fernando** 17.27 269 P P 14 32 24.5 -0.4
SFS pmax pmax
comp=Z,1μm,1.0s
SFS **San Fernando** 17.27 269⇓*i*P P 14 32 23.9 -1.0
comp=Z,1μm,0.9s
MDT **Midelt** 17.27 256 P P 14 32 25.0 0.0
comp=Z,4.1nm,0.3s,baz=76,slow=12,SNR=88
MDT S S 14 35 31.0 -2.2
comp=Z,0.3nm,0.3s,baz=119,slow=19,SNR=2.0
GAZ **Gaziantep** 17.27 88 P P 14 32 26.5 +1.5
KSDI **Kefar Szold** 17.31 103 P P 14 32 26.9 +1.6
HRI **Mount Hermon** 17.33 102 ⇑P P 14 32 27.4 +1.8
EMIN **Mina Concepcio** 17.36 274 P P 14 32 25.5 -0.4
comp=Z,4μm,1.5s
KZIT **Kziot** 17.44 111 ⇑P P 14 32 27.2 +0.5
BRBR **Barbar** 17.44 102⇑*i*P P 14 32 28.3 +1.5
BRBR **Barbar** 17.44 102 ⇑P P 14 32 28.3 +1.5
MMLI **Mount Malkishu** 17.45 105 ⇑P P 14 32 28.3 +1.4
EBAD **Badajoz** 17.48 277 P P 14 32 26.6 -0.6
comp=Z,2μm,1.3s
ANN **Anapa** 17.48 63⇓*i*P P 14 32 26.8 -0.5
ANN *i* S S 14 35 34.8 -2.7
ANN pmax pmax
comp=Z,2μm,0.9s
ERUA **La Rua** 17.49 289 P P 14 32 26.6 -0.7
ERUA pmax pmax
comp=Z,504nm,0.8s
ERUA **La Rua** 17.49 289 P P 14 32 26.6 -0.7
comp=Z,504nm,0.8s
GLH **Golan-Tel Qazi** 17.50 104 P P 14 32 29.4 +1.9
KSHT **Keshet** 17.51 103 ⇑P P 14 32 29.4 +1.9
GZT **Gaziantep** 17.51 88 *i* P P 14 32 29.2 +1.6
SWN1 **Swindon** 17.54 322⇑*e*P P 14 32 26.3 -1.6
SWN1 ⇑*e*P 14 32 26.3
RTMI **Retamim** 17.58 110 P P 14 32 28.7 +0.5
SVTA **Shivta** 17.59 111 ⇑P P 14 32 29.0 +0.6
EPON **Pontenova** 17.59 292 P P 14 32 28.1 -0.4
comp=Z,4μm,1.7s
MARH **Ras Al Marh** 17.61 99⇑*i*P P 14 32 31.6 +2.9
MARH **Ras Al Marh** 17.61 99 ⇑P P 14 32 31.6 +2.9
HMDT **Nahal Hemdat** 17.61 105 ⇑P P 14 32 30.0 +1.3
QASN **Qassioun** 17.64 101⇑*i*P P 14 32 31.1 +2.1
QASN **Qassioun** 17.64 101 ⇑P P 14 32 31.1 +2.1
MASH **Mash'abbe Sade** 17.68 110 ⇑P P 14 32 29.6 +0.3
GRSN **GIRESUNGRSN** 17.69 76 *i* P P 14 32 30.4 +0.8
PCBR **Castelo Branco** 17.73 281 *e*P P 14 32 30.0 0.0
comp=Z,690nm,1.3s
PCBR *e*S S 14 35 41.2 -1.2
YTIR **Yattir** 17.73 109 P P 14 32 30.5 +0.5
DRGI **Dragot** 17.82 108 P P 14 32 31.7 +0.7
DSI **Dead Sea** 17.83 108 P P 14 32 31.6 +0.6
TOTH **TOTAH** 17.83 101⇑*i*P P 14 32 32.8 +1.8
TOTH **TOTAH** 17.83 101 ⇑P P 14 32 32.8 +1.9
SSW **Stow on the Wo** 17.86 323⇑*e*P P 14 32 29.6 -1.7
MNK **Minsk** 17.87 24⇓*i*P P 14 32 26.0 -5.4
MNK *e*S S 14 35 34.0 -11
MNK pmax pmax
comp=N,4μm,1.0s
MNK pmax pmax
comp=E,2μm,1.0s
MNK pmax pmax
comp=Z,2μm,1.0s
RMNI **Mount Ramon** 17.87 111 P P 14 32 32.1 +0.7
PVRL **Vila Real** 17.87 285 *e*P P 14 32 31.4 -0.1
comp=Z,839nm,1.8s
PVRL *e*S S 14 35 45.4 +0.2
MZDA **Masada** 17.94 108 ⇑P P 14 32 32.6 +0.4
DYA **Yadsworthy** 17.98 317⇑*e*P P 14 32 31.5 -1.2
PVIS **Viseu** 18.01 284 *e*P P 14 32 33.3 +0.3
comp=Z,1μm,1.3s
PVIS *e*S S 14 35 48.2 +0.2
PVIS **Viseu** 18.01 284 *e*P P 14 32 33.2 +0.2
MYA **Malataya** 18.02 84 P P 14 32 34.2 +1.1
EGRO **El Granado** 18.03 273 P P 14 32 31.8 -1.5
comp=Z,2μm,1.5s
SLMH **Al Salmeh** 18.06 91⇑*i*P P 14 32 35.6 +2.1
SLMH **Al Salmeh** 18.06 91 ⇑P P 14 32 35.6 +2.2
ATAB **Bozova** 18.06 87 *i* P P 14 32 34.9 +1.4
HGH **Gray Hill** 18.11 321⇑*e*P P 14 32 31.9 -2.2
HGH AMb AMB 14 32 39.7
comp=Z,625nm,0.7s
KMTI **Karmit** 18.11 113 ⇑P P 14 32 34.8 +0.8
PCAB **Cabril** 18.11 287 *e*P P 14 32 34.2 +0.1
comp=Z,1μm,1.2s
PCAB *e*S S 14 35 50.7 +0.7
IIGN **Ignalina** 18.12 20 *e*P P 14 32 33.2 -1.0
IIGN AMb AMB 14 32 34.4
comp=Z,22μm,0.5s
IIGN **Ignalina** 18.12 20 *e*P P 14 32 33.2 -1.0
comp=Z,22μm,0.5s,SNR=40
PRNI **Paran** 18.18 112 ⇑P P 14 32 35.6 +0.8
MUD **Monsted U'grnd** 18.18 349⇓*i*P P 14 32 33.5 -1.3
comp=Z,422nm,0.9s
MUD *i* 14 33 35.6
MUD *e* 14 35 51.0
MUD *i* 14 40 46.0
MUD **Monsted U'grnd** 18.18 349⇓*i*P P 14 32 33.5 -1.3
MUD *e* 14 35 51.0
MUD pmax pmax
comp=Z,420nm,0.9s
ROOS **tl_alroos** 18.18 98⇓*i*P P 14 32 37.1 +2.2
ROOS **tl_alroos** 18.18 98 ⇓P P 14 32 37.1 +2.2
ZFRI **Zfri** 18.19 111 ⇑P P 14 32 35.5 +0.5
IDID **Didziasalis** 18.23 21 *e*P P 14 32 34.2 -1.2
IDID AMb AMB 14 32 35.1
comp=Z,21μm,0.4s
IDID **Didziasalis** 18.23 21 *e*P P 14 32 34.2 -1.2
comp=Z,21μm,0.4s,SNR=40
PBEJ **Beja** 18.25 275 *e*P P 14 32 35.1 -0.4
comp=Z,2μm,1.2s
PBEJ *e*S S 14 35 49.3 -3.3
HEX **Exmoor** 18.27 319⇑*e*P P 14 32 34.8 -1.0
EVO **Evora** 18.28 277⇓*i*P P 14 32 36.1 +0.2
comp=Z,921nm,0.8s
EVO *e*pP 14 33 11.5
SALA **Sala** 18.33 103⇑*i*P P 14 32 38.3 +1.9
HRFI **Mount Harif** 18.37 112 P P 14 32 37.7 +0.8
MBH **Mount Berech** 18.42 113 ⇑P P 14 32 38.3 +0.9
MCH1 **Michaelchurch** 18.43 322 *e*P P 14 32 36.0 -1.5
MCH1 ⇑*e*P 14 32 36.0
ELZG **Elazig** 18.43 83 *i* P P 14 32 39.2 +1.8
CMA1 **Manaccan** 18.45 314⇑*e*P P 14 32 36.2 -1.6
CGH1 **Goonhilly** 18.46 314⇑*e*P P 14 32 36.8 +1.0
CSA1 **St Austell** 18.46 315⇑*e*P P 14 32 36.8 -1.0
KELT **Kelkit** 18.47 78 *i* P P 14 32 39.1 +1.1
URFA **Urfa** 18.48 87 P P 14 32 38.8 +0.7
IZAR **Zarasai** 18.48 20 *e*P P 14 32 37.3 -0.8
IZAR AMb AMB 14 32 38.2
comp=Z,66μm,0.5s
IZAR **Zarasai** 18.48 20 *e*P P 14 32 37.3 -0.8
comp=Z,66μm,0.5s,SNR=35
EIL **Elat** 18.51 113⇑*i*P P 14 32 38.8 +0.4
comp=Z,8μm,0.9s
EIL *e*S S 14 36 01.3 +3.4
CRQ2 **Rosemanowes 2** 18.52 315⇑*e*P P 14 32 37.1 -1.4
PTO **Porto** 18.54 285 *e*P P 14 32 39.0 +0.3
MOE **Montemor** 18.55 277 *e*P P 14 32 38.4 -0.4
CCA1 **Carnmenellis** 18.56 315⇑*e*P P 14 32 38.2 -0.7
KWE **Weaver Farm** 18.56 326⇑*e*P P 14 32 36.6 -2.3
STS **Santiago** 18.57 290 P P 14 32 38.0 -1.0
STS pmax pmax
comp=Z,348nm,0.8s
STS **Santiago** 18.57 290 P P 14 32 38.0 -1.0
comp=Z,348nm,0.8s
HTL **Hartland** 18.59 318 P P 14 32 38.7 -0.5
HTL **Hartland** 18.59 318⇑*e*P P 14 32 38.0 -1.2
HTL ⇑*e*P 14 32 38.7
KBI1 **Birley Grange** 18.59 327⇑*e*P P 14 32 37.3 -1.9
JHLN **Al Jahlan** 18.60 92⇑*i*P P 14 32 41.2 +1.8
JHLN **Al Jahlan** 18.60 92 ⇑P P 14 32 41.2 +1.8
HTR **Trewern Hill** 18.61 322⇑*e*P P 14 32 38.4 -1.0
EZAM **Zamans** 18.63 288 P P 14 32 39.2 -0.4

ALMR Almeirim 18.64 279 *eP* **P 14 32 39.2 -0.6**
ASF Jabal al Asfar 18.69 104 P **P 14 32 41.9 +1.6**
comp=Z,5.1nm,0.3s,baz=163,slow=12,SNR=326
ASF S **S 14 36 04.5 +3.2**
comp=Z,0.2nm,0.3s,baz=229,slow=20,SNR=1.8
ASF ScP ScP 14 40 13.3 +0.4
comp=Z,0.1nm,0.3s,baz=259,slow=3.0,SNR=4.8
ASF Jabal al Asfar 18.69 104 P **P 14 32 41.9 +1.6**
ASF S **S 14 36 04.5 +3.2**
PTK Pertek 18.69 82 P **P 14 32 41.5 +1.1**
ZALF Zalf 18.70 101⇑ *iP* **P 14 32 42.6 +2.2**
ZALF Zalf 18.70 101⇑ P **P 14 32 42.6 +2.2**
HLM1 Long Mynd 18.70 323⇑ *eP* **P 14 32 38.7 -1.7**
KTUT Trabzon 18.82 75 P **P 14 32 41.7 -0.1**
MACK Trabzon 18.83 76 *i* P **P 14 32 42.6 +0.8**
EMAZ Mazaricos 18.88 291 P **P 14 32 41.6 -0.8**
comp=Z,3μm,1.7s
SOC Sochi 18.91 67 *d iP* **P 14 32 43.4 +0.7**
SOC *i* 14 36 05.8
SOC pmax pmax
comp=Z,1μm,0.9s
SOC MLR MLR
comp=Z,601nm,9.0s
EZC Erzincan 18.93 79 P **P 14 32 40.2 -2.7**
LHO Holmfirth 18.93 327⇑ *eP* **P 14 32 40.8 -2.2**
PLML Palmela 18.97 277 *eP* **P 14 32 44.0 +0.7**
MORF Marmelete 18.99 273 *eP* **P 14 32 42.6 -1.0**
comp=Z,542nm,1.7s
MORF *eS* **S 14 36 04.7 -2.6**
PTEO Sao Teotonio 19.00 274 *eP* **P 14 32 42.8 -0.9**
comp=Z,1μm,1.5s
PTEO *eS* **S 14 36 05.1 -2.4**
LWH Whinny Nab 19.02 330 *eP* **P 14 32 42.2 -1.7**
PLOU Loures 19.12 278 *eP* **P 14 32 44.5 -0.4**
comp=Z,1μm,1.8s
PLOU *eS* **S 14 36 10.2 +0.4**
SBD1 Bryn Du 19.13 324⇑ *eP* **P 14 32 43.5 -1.5**
SBD1 AMb AMB 14 32 46.2
comp=Z,2μm,1.9s
LIS Lisbon 19.14 278 *eP* **P 14 32 44.9 -0.3**
LIS *eS* **S 14 36 10.0 -0.2**
LIS *eS* **S 14 36 10.0 -0.1**
LIS AMb AMB 14 36 19.8
comp=N,592nm,1.7s
LIS Lisbon 19.14 278 *eP* **P 14 32 44.9 -0.2**
LIS *eS* **S 14 36 10.0 -0.2**
PMAFR Mafra 19.21 278 *eP* **P 14 32 45.5 -0.4**
PMAFR *eS* **S 14 36 09.2 -2.4**
DRBT Darb Altahta 19.38 88 ⇑P **P 14 32 39.0 -8.7**
DIY Diyarbakir 19.49 85 P **P 14 32 49.6 +0.7**
BINT Bingol 19.54 82 P **P 14 32 51.0 +1.5**
WPM1 Penmaenmawr 19.65 324⇑ *eP* **P 14 32 49.0 -1.6**
WPM1 AMb AMB 14 32 51.6
comp=Z,2μm,2.0s
YRE Yr Eifl 19.72 323⇑ *eP* **P 14 32 49.2 -2.1**
WLF1 Llynfaes 19.90 323⇑ *eP* **P 14 32 51.2 -2.1**
WLF1 AMb AMB 14 32 54.5
comp=Z,1μm,1.3s
YRC Rhoscolyn 19.96 323⇑ *eP* **P 14 32 52.4 -1.5**
YRC AMb AMB 14 32 55.2
comp=Z,2μm,1.0s
WCB1 Church Bay 20.03 323⇑ *eP* **P 14 32 52.6 -2.0**
WCB1 AMb AMB 14 32 55.8
comp=Z,2μm,1.6s
MARD Mardin 20.03 86 *i* P **P 14 32 55.0 +0.3**
BNGL BINGOL 20.04 81 *i* P **P 14 32 56.3 +1.5**
CDU1 Dunnerdale 20.05 327⇑ *eP* **P 14 32 52.6 -2.4**
EZM Erzurum 20.10 79 P **P 14 32 57.1 +1.6**
ERZM Erzurum 20.10 79 *i* P **P 14 32 56.7 +1.3**
TIO Tiouine 20.14 254 P **P 14 32 56.5 +0.7**
CKE Keswick 20.19 328⇑ *eP* **P 14 32 54.1 -2.3**
BCA Borcka 20.22 74 P **P 14 32 56.2 -0.4**
BDL Dobcross Hall 20.27 328⇑ *eP* **P 14 32 55.7 -1.5**
MZRK Al-Mazaregh 20.29 90⇑ *iP* **P 14 32 57.0 -0.4**
MZRK Al-Mazaregh 20.29 90⇑ P **P 14 32 57.0 -0.5**
XDE Dent Fell 20.30 327⇑ *eP* **P 14 32 54.8 -2.7**
XDE AMb AMB 14 32 59.1
comp=Z,2μm,1.7s
SNART Snartemo 20.30 347 *eP* **P 14 32 57.2 -0.3**
SNART AMb AMB 14 33 04.9
comp=Z,184nm,1.8s
BBO1 Bothel 20.35 328 P **P 14 32 55.9 -2.3**
BBO1 Bothel 20.35 328 *eP* **P 14 32 55.8 -2.3**
BBO1 *eP* 14 32 55.9
BTMT Batman 20.42 83 P **P 14 32 60.0 +1.1**
OUK Oukaimeden 20.46 255 *i* P **P 14 33 00.0 +0.7**
XSO Sourhope Farm 20.50 330 *eP* **P 14 32 56.9 -2.8**
BBH Bruntsheil 20.50 329⇑ *eP* **P 14 32 57.5 -2.2**
WIM Isle of Man 20.58 325⇑ *eP* **P 14 32 58.1 -2.4**
WIM AMb AMB 14 33 01.2
comp=Z,527nm,0.8s
GIM North Isle of 20.58 325⇑ *eP* **P 14 32 58.2 -2.3**
BHH Howats Hill 20.59 329 *eP* **P 14 32 57.6 -3.1**
ECK Cauldkaine Hil 20.62 329 *eP* **P 14 32 57.9 -3.0**
ECK AMb AMB 14 33 01.4
comp=Z,565nm,0.6s
GCD Castle Douglas 20.73 327⇑ *eP* **P 14 32 59.0 -3.1**
EKA Eskdalemuir Ar 20.74 329 P **P 14 32 59.6 -2.5**
comp=Z,374nm,0.6s,baz=135,slow=9.2,SNR=620
EKA PcP PcP 14 37 01.6 -0.4
comp=Z,9.1nm,0.6s,baz=141,slow=2.9,SNR=4.9
EKA ScP ScP 14 40 15.8 -1.8
comp=Z,6.4nm,0.8s,baz=115,slow=2.6,SNR=6.7
EKA Eskdalemuir Ar 20.74 329 P **P 14 32 59.7 -2.5**
EKA 14 37 01.7
ESK Eskdalemuir 20.75 329 P **P 14 32 59.3 -3.0**
comp=Z,7μm,0.6s
ESK Eskdalemuir 20.75 329 P **P 14 32 59.3 -3.0**
comp=Z,7μm,0.6s
ESK Eskdalemuir 20.75 329⇓ *eP* **P 14 32 59.7 -2.6**
ESK pmax pmax
comp=Z,646nm,0.6s
ESK Eskdalemuir 20.75 329⇓ *eP* **P 14 32 59.7 -2.6**
comp=Z,646nm,0.6s
ESK *e* 14 33 19.0
ESK *e* 14 33 51.6
VORD Divnogorie 20.77 46 *eP* **P 14 33 01.3 -1.2**
VORD pmax pmax
comp=E,230nm,0.9s
VORD pmax pmax
comp=Z,80nm,0.9s
VORD pmax pmax
comp=N,140nm,1.4s
DSB Dublin 20.82 321⇓ *iP* **P 14 33 01.2 -1.8**
comp=N,335nm,0.7s
VRSR Storozhevoye 20.82 46 *d iP* **P 14 33 01.5 -1.6**
VRSR *eS* **S 14 36 41.2 -1.2**
VRSR pmax pmax
comp=N,640nm,0.9s
VRSR pmax pmax
comp=E,1μm,0.9s
VRSR pmax pmax
comp=Z,630nm,0.9s
VRSR smax
comp=N,1μm,2.9s
VRSR smax
comp=Z,2μm,3.5s
VRSR smax
comp=E,4μm,3.6s
BWH Wardlaw 20.83 328⇑ *eP* **P 14 33 01.0 -2.2**
DLF Lyons Farm 20.93 321⇓ *iP* **P 14 33 02.0 -2.2**
ESY Stoneypath 20.95 331⇑ *eP* **P 14 33 02.1 -2.3**
CIA Chichaoua 20.98 257 *i* P **P 14 33 04.0 -0.7**
EBL Broad Law 21.01 330⇑ *eP* **P 14 33 02.3 -2.8**
VSU Vasula 21.04 17 *d iP* **P 14 33 03.5 -1.8**
VSU Vasula 21.04 17 *i* P **P 14 33 03.5 -1.8**
GAL1 Galloway 21.06 326⇑ *eP* **P 14 33 02.8 -2.8**
GAL1 *eP* 14 33 02.8
VOR Voronezh 21.07 44⇓ *iP* **P 14 33 03.7 -2.0**
VOR *eS* **S 14 36 44.0 -2.4**
VOR pmax pmax
comp=N,370nm,2.0s
VOR pmax pmax
comp=E,1μm,2.0s
VOR pmax pmax
comp=Z,2μm,2.0s,mb6.2
VOR smax
comp=N,550nm,2.0s
VOR smax
comp=E,900nm,2.0s
VOR smax
comp=Z,900nm,2.5s
KIV Kislovodsk 21.08 67 P **P 14 33 05.1 -0.7**
comp=Z,3μm,0.7s,SNR=46
KIV Kislovodsk 21.08 67 P **P 14 33 05.9 +0.1**
SNR=9.8
KIV Kislovodsk 21.08 67⇓ *iP* **P 14 33 05.7 -0.1**
KIV *eS* **S 14 36 47.8 +1.2**
KIV pmax pmax
comp=Z,278nm,0.6s,mb6.0
KIV Kislovodsk 21.08 67⇓ *iP* **P 14 33 05.5 -0.4**
comp=Z,339nm,0.8s,mb5.9
KIV *i* S **S 14 36 49.5 +2.9**
KIV *e*ScP ScP 14 40 18.6 +0.1
STAV Stavanger 21.13 346 *eP* **P 14 33 04.7 -1.6**
EDI Edinburgh 21.17 330 *eP* **P 14 33 04.1 -2.7**
GMM Mts of Mourne 21.22 324⇑ *eP* **P 14 33 05.2 -2.0**
EAU Auchinoon 21.22 330⇓ *eP* **P 14 33 04.3 -3.0**
KONO Kongsberg 21.23 352⇓ *iP* **P 14 33 04.4 -3.0**
KONO *e*pP 14 33 40.3
KONO *e*sP sP 14 34 10.5 -1.0
KONO *e*S **S 14 36 50.6 +1.6**
KONO Kongsberg 21.23 352 *i* P **P 14 33 04.5 -2.9**
KONO Kongsberg 21.23 352⇓ *iP* **P 14 33 04.2 -3.2**
comp=Z,578nm,1.4s,mb5.9
KONO ⇓*iP* 14 33 04.4
KONO *e*pP 14 33 44.0
SIRT Sirnak 21.29 85 P **P 14 33 07.8 -0.2**
DCN Croghan 21.32 321⇓ *iP* **P 14 33 06.0 -2.3**
KARS Kars 21.36 76 P **P 14 33 08.9 +0.2**
AGRT Agri 21.38 79 P **P 14 33 09.4 +0.5**
OSL Oslo 21.40 354 *eP* **P 14 33 06.5 -2.7**
OSL AMb AMB 14 33 10.2
comp=Z,373nm,0.8s,mb6.0
OSL Oslo 21.40 354 *eP* **P 14 33 06.5 -2.7**
comp=Z,373nm,0.8s,mb6.0
HFS Hagfors 21.42 358 P **P 14 33 06.3 -3.0**
comp=Z,426nm,0.6s,mb6.1,baz=181,slow=8.9,SNR=510
HFS S **S 14 36 49.3 -2.8**
comp=Z,22nm,0.7s,baz=110,slow=22,SNR=3.7
HFS Hagfors 21.42 358 P **P 14 33 06.3 -3.0**
HFS S **S 14 36 49.3 -2.8**
HFA0 Hagfors New Ar 21.43 358 P **P 14 33 05.8 -3.7**
PGBU Glenifferbraes 21.61 329⇑ *eP* **P 14 33 08.8 -2.5**
OBN Obninsk 21.69 34 P **P 14 33 09.0 -3.0**
comp=Z,5μm,0.6s,SNR=57
OBN Obninsk 21.69 34⇓ *iP* **P 14 33 09.7 -2.3**
OBN *i* S **S 14 36 51.5 -5.0**
OBN pmax pmax
comp=Z,2μm,2.3s,mb6.2
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 21.69 34⇓ *iP* **P 14 33 09.6 -2.4**
comp=Z,378nm,0.4s,mb6.3
OBN *e*S **S 14 36 55.0 -1.5**
OBN *e*ScP ScP 14 40 17.6 -2.3
GMK Mull of Kintyr 21.76 327⇑ *eP* **P 14 33 09.8 -2.9**
EAB Aberfoyle 21.82 329⇑ *eP* **P 14 33 10.7 -2.5**
GCL Cushendall 21.82 325⇑ *eP* **P 14 33 10.5 -2.7**
VANB Van 21.83 82 P **P 14 33 13.3 +0.1**
TVAN Van 21.85 82 *i* P **P 14 33 13.6 +0.1**
ODD1 Odda 21.89 348 *eP* **P 14 33 11.3 -2.6**
ODD1 AMb AMB 14 33 14.6
comp=Z,550nm,1.7s,mb5.8
ODD1 Odda 21.89 348 *eP* **P 14 33 11.3 -2.6**
comp=Z,550nm,1.7s,mb5.8
ZEI Tsey 21.91 70 *eP* **P 14 33 14.5 +0.5**
ZEI *e*S **S 14 37 03.1 +3.1**
ZEI pmax pmax
comp=Z,244nm,1.1s,mb5.7
ZEI smax
comp=E,698nm,2.7s
MSL Mosul 22.07 88 *ex* x 14 33 17.0
MSL *i* x x 14 33 53.5
MSL *ex* x x 14 34 20.5
MSL *ex* x x 14 37 05.5
MSL *ex* x x 14 38 04.0
MSL *ex* x x 14 44 06.0
CLDR Caldiran 22.15 80 P **P 14 33 15.3 -1.0**
VRHR Novokhopersk 22.16 48 *eP* **P 14 33 16.0 -0.3**
VRHR *e*S **S 14 37 03.1 -1.0**
VRHR pmax pmax
comp=Z,60nm,0.3s,mb5.6
VRHR pmax pmax
comp=E,60nm,0.7s
VRHR smax
comp=E,1μm,3.0s
VRHR smax
comp=Z,480nm,2.7s
VRHR smax
comp=N,840nm,2.5s
VAL Valentia 22.18 315⇓ *iP* **P 14 33 14.4 -2.1**
CUKT Cukurca 22.25 85 P **P 14 33 17.4 +0.2**
HAKT HAKKARI 22.26 84 *i* P **P 14 33 18.1 +0.9**
HKR Hakkari 22.28 84 P **P 14 33 16.5 -1.0**
NAO01 NORSAR Array S 22.29 354⇓ *eP* **P 14 33 15.1 -2.4**
comp=N,127nm,0.6s,mb5.6
MCD Coleburn Disti 22.43 333⇑ *eP* **P 14 33 15.7 -3.1**
NB2 NORSAR Subarra 22.45 355 P **P 14 33 16.8 -2.2**
comp=Z,28nm,0.7s,mb4.9,baz=177,slow=10
NB2 NORSAR Subarra 22.45 355 P **P 14 33 16.8 -2.2**
NB2 pmax pmax
comp=Z,28nm,0.7s,mb4.9
NOA NORSAR Array B 22.45 355 P **P 14 33 17.3 -1.7**
comp=Z,155nm,0.7s,mb5.6,baz=170,slow=10,SNR=316
NOA PcP PcP 14 37 04.7 -0.7
comp=Z,11nm,0.7s,baz=142,slow=2.1,SNR=2.9
NOA NORSAR Array B 22.45 355 PcP PcP 14 37 04.7 -0.7
EGD Espegrend 22.47 347 *eP* **P 14 33 16.9 -2.2**
TBLG Delisi 22.54 73 P **P 14 33 21.9 +2.0**
TBLG S **S 14 37 15.1 +4.8**
BER Bergen 22.55 347 *eP* **P 14 33 18.0 -2.0**
BER *e*P 14 33 19.4
BER *e*pP 14 33 57.2
BER *e*sP sP 14 34 26.0 +0.1
BER *e*S **S 14 37 12.0 +1.5**
MOS Moscow 22.55 34κ *iP* **P 14 33 18.5 -1.4**
MOS *e**PP 14 34 02.2
MOS *e**SP sP 14 34 31.6 +5.8
MOS *e* 14 37 01.2
MOS *e*S **S 14 37 08.8 -1.7**
MOS *e* 14 44 03.4
MOS pmax pmax
comp=Z,802nm,0.7s,mb6.4
MOS pmax pmax
comp=N,150nm,0.6s
MOS pmax pmax
comp=E,154nm,0.6s
MOS pmax pmax
comp=Z,4μm,2.0s,mb6.6
MOS smax
comp=N,7μm,6.0s
MOS smax
comp=E,4μm,6.0s
RUND Rundenannen 22.58 347⇑ *iP* **P 14 33 18.8 -1.4**
RUND AMb AMB 14 33 19.9
comp=Z,247nm,1.4s,mb5.5
RUND *e*pP 14 33 58.0
RUND Rundenannen 22.58 347⇑ *iP* **P 14 33 18.8 -1.4**
comp=Z,247nm,1.4s,mb5.5
MTA Mtatsminda 22.59 73 P **P 14 33 20.5 +0.3**
MTA S **S 14 37 14.6 +3.6**
GNI Garni 22.66 77 P **P 14 33 21.9 +1.0**
GNI S **S 14 37 15.3 +3.1**
GNI ScP ScP 14 40 23.5 +1.1
GNI ScS ScS 14 44 09.8 +1.6
GNI Garni 22.66 77 P **P 14 33 21.9 +1.0**
comp=Z,115nm,0.7s,mb5.5,baz=323,slow=4.1,SNR=118
GNI Garni 22.66 77 P **P 14 33 22.3 +1.4**
SNR=87
GNI Garni 22.66 77 *d iP* **P 14 33 21.8 +0.9**
GNI pmax pmax
comp=Z,794nm,1.8s
GNI Garni 22.66 77⇓ *iP* **P 14 33 21.8 +0.9**
comp=Z,1μm,1.6s,mb6.2
GNI *e*sP sP 14 34 25.8 -1.1
GNI *e*ScP ScP 14 40 19.7 -2.8
GNI *e* 14 44 10.7
ASK Askoy 22.67 347 *eP* **P 14 33 20.3 -0.7**
KAR1 Arisaig 22.92 329⇑ *eP* **P 14 33 20.2 -3.0**
SEMD Semdili 22.94 84 P **P 14 33 24.1 +0.7**
KSB Sheil Bridge 22.96 330⇑ *eP* **P 14 33 20.3 -3.3**
MVH1 Achvaich 23.02 333 *eP* **P 14 33 21.1 -3.1**
DGRG David-gareji 23.03 74 P **P 14 33 25.8 +1.5**
DGRG S **S 14 37 19.8 +1.5**
PUL Pulkovo 23.06 19 *d iP* **P 14 33 23.4 -1.1**
PUL *e*S **S 14 37 11.4 -7.3**
PUL *e* 14 44 02.6
PUL pmax pmax
comp=Z,2μm,0.8s,mb6.7
PUL pmax pmax
comp=N,3μm,1.1s
PUL pmax pmax
comp=E,2μm,1.1s
PUL Pulkovo 23.06 19 *i* P **P 14 33 23.7 -0.8**
KAC Achnashellach 23.12 331⇑ *eP* **P 14 33 21.5 -3.6**
KPL Plockton 23.14 330⇑ *eP* **P 14 33 21.9 -3.4**
SUE Sulen 23.29 347⇑ *iP* **P 14 33 25.8 -0.8**
ORE Reay 23.34 334 *eP* **P 14 33 24.4 -2.7**
DOMB Dombas 23.63 353 *eP* **P 14 33 28.6 -1.2**
DOMB AMb AMB 14 33 33.4
comp=Z,362nm,1.5s,mb5.8
DOMB *e*pP 14 34 09.8
DOMB Dombas 23.63 353 *eP* **P 14 33 28.6 -1.2**
comp=Z,362nm,1.5s,mb5.8
FINES FINESS Array B 23.66 13 P **P 14 33 28.8 -1.1**
comp=Z,833nm,0.6s,mb6.6,baz=185,slow=8.4,SNR=3013
FINES PcP PcP 14 37 06.9 -1.0
comp=Z,30nm,0.6s,baz=122,slow=2.5,SNR=5.1
FINES ScP ScP 14 40 22.1 -3.0
comp=Z,7.7nm,0.7s,baz=151,slow=8.3,SNR=4.0
FINES PKiKP PKiKP 14 44 49.3 -1.7
comp=Z,1.8nm,0.9s,baz=129,slow=5.2,SNR=3.4
FINES FINESS Array B 23.66 13 P **P 14 33 28.8 -1.1**
FINES 14 37 06.9
FINES FINESS Array B 23.66 13 P **P 14 33 28.8 -1.1**
FINES PcP PcP 14 37 06.9 -1.0
FINES ScP ScP 14 40 22.1 -3.0
FINES FINESS Array B 23.66 13 PcP PcP 14 37 06.9 -1.0
FIA1 FINESS Array S 23.66 13⇓ *iP* **P 14 33 28.8 -1.2**
FIA1 *e*sP sP 14 34 32.3 -5.3
FIA1 *e*PcP PcP 14 37 07.0 -1.0
FIA1 *e*S **S 14 37 32.6 +4.4**
FOO Floro 23.75 348 *eP* **P 14 33 27.5 -3.3**
FOO AMb AMB 14 33 32.8
comp=Z,126nm,1.1s,mb5.5
FOO Floro 23.75 348 *eP* **P 14 33 27.5 -3.3**
comp=Z,126nm,1.1s,mb5.5
LRW Lerwick 23.82 339 *eP* **P 14 33 27.9 -3.5**
LRW AMb AMB 14 33 32.6
comp=Z,606nm,1.0s,mb6.2
BHD Baghdad 24.02 94 *ex* x 14 33 32.0
BHD *ex* x 14 37 30.0
WAL1 Walls 24.04 339⇑ *eP* **P 14 33 30.2 -3.2**
MOL Molde 24.32 351 *eP* **P 14 33 34.5 -1.5**
MOL AMb AMB 14 33 39.9
comp=Z,143nm,1.3s,mb5.4
MOL *e*pP 14 34 17.9
MOL Molde 24.32 351 *eP* **P 14 33 34.5 -1.5**
comp=Z,143nm,1.3s,mb5.4
KAF Kangasniemi 24.32 12 *ep* **P 14 33 32.7 -3.3**
comp=Z,484nm,0.7s,mb6.2,baz=199,slow=9.1
KAF Kangasniemi 24.32 12 *eP* **P 14 33 32.7 -3.3**
KAF pmax pmax
comp=Z,484nm,0.7s,mb6.2
MAK Makhachkala 24.56 70 *d iP* **P 14 33 38.8 +0.7**
MAK *i* *PP 14 34 19.4
MAK *i* S **S 14 37 43.6 +1.1**
MAK *i* *SS sS 14 39 00.2 +0.9
MAK *i* 14 44 16.2
MAK pmax pmax
comp=Z,581nm,0.6s,mb6.4
MAK MLR MLR
comp=Z,1μm,14.0s
EFAM Famara 25.76 257 P **P 14 33 49.5 +0.6**
comp=Z,1μm,1.8s,mb6.3
PECR Pechory 25.86 38⇑ *iP* **P 14 33 49.2 -0.6**
PECR *e*S **S 14 38 01.4 -1.5**
PECR *e* 14 39 17.2
PECR pmax pmax
comp=N,900nm,6.0s
PECR pmax pmax
comp=E,1μm,6.0s
PECR pmax pmax
comp=Z,2μm,6.0s
PECR smax
comp=N,2μm,6.4s
PECR smax
comp=E,3μm,6.4s
PECR MLR MLR
comp=Z,2μm,12.0s
PECR MLR MLR
comp=N,2μm,13.0s
PECR MLR MLR
comp=E,2μm,10.0s
NSS Namsos 25.89 357 *eP* **P 14 33 46.9 -3.2**
NSS *e*pP pP 14 34 31.4 -2.1
NSS *e*S **S 14 38 04.4 +0.9**
JOF Joensuu 26.04 17 *ep* **P 14 33 48.2 -3.3**
comp=E,83nm,0.6s,mb5.5
JOF Joensuu 26.04 17 *eP* **P 14 33 48.2 -3.3**
JOF pmax pmax
comp=Z,83nm,0.6s,mb5.5
CFTV Fuerteventura 26.54 256 P **P 14 33 55.4 -0.5**
comp=Z,81nm,1.0s,mb5.3
MOR8 Moi Rana 27.46 359 *eP* **P 14 34 02.8 -1.3**
STOK2 Flostrand 27.65 358 *eP* **P 14 34 04.0 -1.8**
MIB Mutribah 27.75 99 *eP* **P 14 34 08.2 +1.4**
MIB AMb AMB 14 34 08.7
comp=Z,164nm,0.6s,mb5.8
STOK1 Konsvik 27.82 358 *eP* **P 14 34 05.8 -1.5**
STOK1 AMb AMB 14 34 10.5
comp=Z,91nm,1.5s,mb5.2
EOSO Osorio 27.82 257 P **P 14 34 07.7 +0.3**
comp=Z,493nm,1.4s,mb6.0
NAY Al-Naaiem 27.94 100 *eP* **P 14 34 09.4 +1.1**
NAY AMb AMB 14 34 11.4
comp=Z,33nm,0.8s,mb5.0
UMR Umm Al-Rimmam 28.16 99 *eP* **P 14 34 11.5 +1.2**
UMR AMb AMB 14 34 12.2
comp=Z,70nm,0.6s,mb5.4
TOA0 Torodi Ar. Sit 28.26 209⇑ *iP* **P 14 34 10.7 -0.5**
TOA0 *e* 14 34 37.6
TOA0 *e*pP pP 14 34 53.0 -2.1
TOA0 *e*PcP PcP 14 37 18.1 -0.5
TOA0 *e*S **S 14 38 37.5 -3.3**
TORD Torodi Ar. Bea 28.26 209 P **P 14 34 10.8 -0.3**
comp=Z,83nm,0.7s,mb5.5,baz=14,slow=9.2,SNR=475
TORD PcP PcP 14 37 18.9 +0.4
comp=Z,16nm,0.7s,baz=10,slow=2.6,SNR=4.1
TORD S **S 14 38 37.2 -3.5**
comp=Z,25nm,1.2s,baz=20,slow=17,SNR=4.2
TORD ScP ScP 14 40 37.3 -1.3
comp=Z,20nm,1.1s,baz=9.7,slow=3.3,SNR=8.8
TORD P3KPbc 15 06 26.9
comp=Z,0.7nm,0.5s,baz=203,slow=4.6,SNR=5.0
TORD Torodi Ar. Bea 28.26 209 P **P 14 34 10.8 -0.4**
TORD PcP PcP 14 37 18.9 +0.4
TORD S **S 14 38 37.2 -3.5**
TORD ScP ScP 14 40 37.3 -1.3
TORD *e* 15 06 26.9
KBD Kabd 28.32 100 *eP* **P 14 34 13.3 +1.5**
KBD AMb AMB 14 34 15.0
comp=Z,301nm,0.9s,mb5.9
RDF Al-Radifah 28.33 101 *eP* **P 14 34 13.1 +1.3**
RDF AMb AMB 14 34 15.1
comp=Z,85nm,1.0s,mb5.3
CCAN Las Canadas 28.55 258 P **P 14 34 12.8 -1.0**
comp=Z,69nm,0.9s,mb5.3
QRN Al-Qurain 28.70 101 *eP* **P 14 34 16.7 +1.7**
QRN AMb AMB 14 34 17.5
comp=Z,39nm,0.5s,mb5.2
TMCR Tamitsa 28.76 21 *i* P **P 14 34 14.2 -1.4**
TMCR pmax pmax
comp=Z,327nm,0.6s,mb6.1
KRF Krasnovodsk 28.96 75⇓ *iP* **P 14 34 15.9 -1.5**
KRF *i* S **S 14 38 46.9 -4.8**
LOF Lofoten 29.44 359 *eP* **P 14 34 21.3 -0.4**
LOF AMb AMB 14 34 24.8
comp=Z,284nm,1.4s,mb5.7
LOF Lofoten 29.44 359 *eP* **P 14 34 21.3 -0.4**
comp=Z,284nm,1.4s,mb5.7
ORR Orenburg 30.19 52 P **P 14 34 27.9 -0.3**
ORR pmax pmax
comp=Z,540nm,0.9s,mb6.2
APA Apatity 30.56 13⇑ *iP* **P 14 34 29.6 -1.9**
APA *i* 14 35 41.6
APA *i* S **S 14 39 15.0 -1.8**
APA *e**SS sS 14 40 36.0 +0.2
APA *e* 14 44 44.0
APA pmax pmax
comp=Z,200nm,1.3s,mb5.6

APA					MLR	MLR		
	comp=Z,3μm,11.0s							
KTK1	**Kautokeino**	**30.61**	**6**	*e*P		**P**	**14 34 31.0**	**-0.9**
KTK1					AMb	AMB	14 34 34.4	
	comp=Z,357nm,1.9s,mb5.7							
KTK1	**Kautokeino**	**30.61**	**6**	*e*P		**P**	**14 34 31.0**	**-0.9**
	comp=Z,357nm,1.8s,mb5.7							
TRO	**Tromso**	**30.99**	**2**	⇓*i*P		**P**	**14 34 32.4**	**-2.9**
TRO					AMb	AMB	14 34 36.6	
	comp=Z,307nm,2.6s,mb5.5							
TRO					*e*S	**S**	**14 39 19.9**	**-3.6**
TRO	**Tromso**	**30.99**	**2**	⇓*i*P		**P**	**14 34 32.4**	**-2.9**
TRO					pmax	pmax		
	comp=Z,307nm,2.6s,mb5.5							
TRO	**Tromso**	**30.99**	**2**	⇓*i*P		**P**	**14 34 32.4**	**-2.9**
	comp=Z,307nm,2.6s,mb5.5							
LVZ	**Lovozero**	**31.08**	**14**	P		**P**	**14 34 35.5**	**-0.5**
	comp=Z,2μm,0.7s,SNR=34							
LVZ	**Lovozero**	**31.08**	**14**	*d*P		**P**	**14 34 34.9**	**-1.1**
LVZ					*e*S	**S**	**14 39 19.5**	**-5.4**
LVZ					*e*		14 40 44.4	
LVZ					*e*		14 44 37.2	
LVZ					pmax	pmax		
	comp=Z,215nm,0.8s,mb5.8							
LVZ					pmax	pmax		
	comp=N,87nm,0.9s							
LVZ					pmax	pmax		
	comp=E,52nm,0.9s							
LVZ					smax			
	comp=N,291nm,1.8s							
LVZ	**Lovozero**	**31.08**	**14**	*i* P		**P**	**14 34 34.9**	**-1.1**
ARCES	**ARCESS Array B**	**31.31**	**7**	P		**P**	**14 34 35.9**	**-2.1**
	comp=N,249nm,0.7s,mb6.0,baz=188,slow=8.8,SNR=1070							
ARCES					PP	PP	14 35 52.6	-0.8
	comp=N,32nm,0.7s,baz=200,slow=10,SNR=4.5							
ARCES					PcP	PcP	14 37 25.0	-1.5
	comp=N,22nm,0.5s,baz=165,slow=5.0,SNR=6.0							
ARCES	**ARCESS Array B**	**31.31**	**7**	P		**P**	**14 34 35.9**	**-2.1**
ARCES					PP	PP	14 35 52.6	-0.8
ARCES					PcP	PcP	14 37 25.0	-1.5
ARE0	**ARCESS Array S**	**31.31**	**7**	⇓*i*P		**P**	**14 34 35.9**	**-2.2**
ARE0					*e*PcP	PcP	14 37 25.0	-1.5
KEV	**Kevo**	**31.67**	**8**	*e*p		**P**	**14 34 38.5**	**-2.7**
	comp=N,61nm,0.5s,mb5.4							
KEV	**Kevo**	**31.67**	**8**	P		**P**	**14 34 39.4**	**-1.8**
KEV					pmax	pmax		
	comp=Z,69nm,0.6s,mb5.4							
AB31	**Akbulak array**	**33.27**	**57**	*e*P		**P**	**14 34 55.2**	**+0.1**
AB31					pmax	pmax		
	comp=Z,96nm,0.5s,mb5.6							
AB31	**Akbulak array**	**33.27**	**57**	*i* P		**P**	**14 34 55.3**	**+0.2**
VAN	**Vannovskaya**	**33.28**	**78**	⇓*i*P		**P**	**14 34 56.2**	**+1.0**
VAN					S	**S**	**14 40 00.6**	**+1.6**
ABKT	**Ailbek**	**33.30**	**78**	P		**P**	**14 34 56.4**	**+1.1**
	comp=Z,922nm,0.7s,mb6.4,SNR=83							
ARU	**Arti**	**33.36**	**44**	P		**P**	**14 34 55.7**	**-0.2**
	comp=Z,2μm,0.7s,SNR=93							
ARU	**Arti**	**33.36**	**44**	⇓*i*P		**P**	**14 34 55.4**	**-0.5**
ARU					*e*	pP	14 35 38.2	-2.3
ARU					*e*PPP		14 36 21.0	
ARU					*e*		14 37 30.8	
ARU					*e*S	**S**	**14 40 00.7**	**+0.5**
ARU					*e*		14 44 52.7	
ARU					pmax	pmax		
	comp=Z,282nm,0.9s,mb5.8							
ARU	**Arti**	**33.36**	**44**	⇓*i*P		**P**	**14 34 55.1**	**-0.7**
	comp=Z,240nm,0.8s,mb5.8							
ARU					*e*sP	sP	14 36 03.3	-2.4
ARU					*e*PP	PP	14 36 14.9	-1.2
ARU					*e*PcP	PcP	14 37 31.0	-1.2
ARU					*e*S	**S**	**14 39 58.4**	**-1.8**
ARU					*e*ScP	ScP	14 40 51.4	-4.2
JMIC	**Jan Mayen**	**34.58**	**346**	*e*P		**P**	**14 35 06.9**	**+0.5**
JMIC					*e*sP	sP	14 36 15.8	-0.6
JMIC					*e*SS	SS	14 43 00.4	+2.5
DHBB	**Dhamar BB**	**35.12**	**125**	⇑*e*P		**P**	**14 35 13.5**	**+2.5**
DHBB					AMb	AMB	14 35 15.2	
	comp=Z,2μm,1.2s,mb6.6							
BJO1	**Bjornoya**	**35.87**	**2**	*e*P		**P**	**14 35 17.4**	**+0.1**
BJO	**Bjornoya**	**35.88**	**2**	*e*P		**P**	**14 35 15.9**	**-1.5**
BJO					*e*pP	pP	14 35 59.9	-2.6
BJO					*e*SS	SS	14 43 26.0	+1.0
TRBA	**At Turbah**	**35.96**	**127**	⇑*e*P		**P**	**14 35 20.3**	**+2.2**
LBOS		**36.19**	**125**	⇑*e*P		**P**	**14 35 21.9**	**+1.9**
LBOS					AMb	AMB	14 35 23.7	
	comp=Z,2μm,1.3s,mb6.4							
FURI	**Furi**	**36.35**	**139**	*e*P		**P**	**14 35 24.8**	**+3.4**
FURI					S	**S**	**14 40 53.1**	**+7.3**
HATD	**Hatta, Dubai**	**37.00**	**100**	⇓P		**P**	**14 35 27.5**	**+0.6**
	SNR=7.9							
ASHO	**Ashiyiah**	**37.02**	**100**	P		**P**	**14 35 27.6**	**+0.6**
	SNR=42							
ARQ	**Araqi**	**38.10**	**102**	P		**P**	**14 35 37.2**	**+1.1**
	SNR=40							
MUKL	**Al Mukalla**	**38.24**	**120**	⇓*e*P		**P**	**14 35 38.2**	**+0.9**
HOQ	**Hoqain**	**38.58**	**101**	⇓P		**P**	**14 35 39.9**	**-0.1**
	SNR=11							
BSY	**Bisya**	**38.95**	**102**	P		**P**	**14 35 43.8**	**+0.7**
	SNR=38							
ZRNK	**Zerenda**	**39.01**	**51**	*i* P		**P**	**14 35 44.0**	**+0.4**
ZRNK					pmax	pmax		
	comp=Z,379nm,0.9s,mb5.9							
ZRNK	**Zerenda**	**39.01**	**51**	⇓*i*P		**P**	**14 35 44.0**	**+0.4**
	comp=Z,440nm,0.8s,mb6.0							
ZRNK					*e*pP	pP	14 36 31.0	+1.7
ZRNK					*e*PP	PP	14 37 15.8	-2.1
ZRNK					*e*ScP	ScP	14 41 14.0	-2.4
ZRNK					*e*S	**S**	**14 41 26.1**	**+0.3**
ZRNK	**Zerenda**	**39.01**	**51**	*e*pP		pP	14 36 31.0	+1.7
BIDO	**Bidbid**	**39.24**	**100**	P		**P**	**14 35 46.3**	**+0.8**
	SNR=15							
WHFO	**Wadi Hawf**	**39.27**	**111**	⇑P		**P**	**14 35 46.0**	**+0.2**
	SNR=44							
ABTO	**Aybut**	**39.28**	**112**	P		**P**	**14 35 46.8**	**+0.8**
	SNR=82							
SMDO	**Samad**	**39.43**	**101**	P		**P**	**14 35 47.7**	**+0.6**
	SNR=94							
SPB4	**Spitsbergen Ar**	**39.53**	**0**	⇓*i*P		**P**	**14 35 47.0**	**-1.0**
BRVK	**Borovoye**	**39.78**	**51**	P		**P**	**14 35 50.5**	**+0.5**
	comp=Z,8μm,0.6s							
BVA0	**Borovoye Array**	**39.84**	**51**	P		**P**	**14 35 50.9**	**+0.4**
BVA0					pmax	pmax		
	comp=Z,460nm,0.8s,mb6.0							
RBK	**Rabkut**	**39.85**	**111**	⇓P		**P**	**14 35 51.2**	**+0.6**
	SNR=52							
JMDO	**Jabal Madar**	**39.85**	**102**	P		**P**	**14 35 51.1**	**+0.5**
	SNR=6.8							
CHKZ	**Chkalovo**	**39.96**	**50**	⇓*i*P		**P**	**14 35 51.5**	**0.0**
CHKZ					*e**PP	pP	14 36 38.5	+1.2
CHKZ					*e**PP	PP	14 37 26.6	-1.6
CHKZ					*e*		14 37 51.6	
CHKZ					*e*S	**S**	**14 41 40.0**	**0.0**
CHKZ					pmax	pmax		
	comp=Z,363nm,0.6s,mb6.0							
CHKZ	**Chkalovo**	**39.96**	**50**	⇓*i*P		**P**	**14 35 51.5**	**0.0**
	comp=Z,363nm,0.6s,mb6.0							
CHKZ					*e*pP	pP	14 36 38.5	+1.1
CHKZ					*e*pP	PP	14 37 26.6	-1.6
CHKZ					*e*PcP	PcP	14 37 51.6	-0.6
CHKZ					*e*ScP	ScP	14 41 18.0	-2.1
CHKZ					*e*S	**S**	**14 41 40.0**	**0.0**
VOSK	**Vostochnaya**	**40.21**	**51**	P		**P**	**14 35 53.5**	**0.0**
VOSK					pmax	pmax		
	comp=Z,118nm,0.7s,mb5.4							
KBS	**Kingsbay**	**40.30**	**359**	⇓*i*P		**P**	**14 35 53.6**	**-0.8**
KBS					AMb	AMB	14 35 57.3	
	comp=Z,129nm,1.2s,mb5.2							
KBS					*e*pP	pP	14 36 39.5	-0.7
KBS					*e*SS	SS	14 44 56.0	+2.8
KBS	**Kingsbay**	**40.30**	**359**	*e*P		**P**	**14 35 53.1**	**-1.2**
KBS					*e*		14 37 52.3	
KBS					pmax	pmax		
	comp=Z,126nm,1.1s,mb5.3							
KBS	**Kingsbay**	**40.30**	**359**	⇓*i*P		**P**	**14 35 53.6**	**-0.8**
	comp=Z,126nm,1.1s,mb5.3							
KBS					*e*PcP	PcP	14 37 52.3	-1.0
WBK	**Wadi Bani Khal**	**40.38**	**101**	P		**P**	**14 35 56.1**	**+1.2**
	SNR=43							
KK31	**Karatay Array**	**41.23**	**66**	*i* P		**P**	**14 36 02.3**	**+0.4**
KK31					pmax	pmax		
	comp=Z,125nm,0.4s,mb5.7							
KKAR	**Karatay Array**	**41.23**	**66**	*i* P		**P**	**14 36 02.3**	**+0.4**
KKAR					pmax	pmax		
	comp=Z,50nm,0.4s,mb5.3							
SUMG	**Summit**	**42.82**	**339**	*e*P		**P**	**14 36 14.1**	**-0.6**
	comp=Z,447nm,1.8s,mb5.6							
SUMG					*e*PcP	PcP	14 37 59.6	-2.0
SUMG					*e*ScP	ScP	14 41 28.5	-3.0
SUMG	**Summit**	**42.82**	**339**	*e*P		**P**	**14 36 14.1**	**-0.6**
	comp=Z,447nm,1.8s,mb5.6							
EKS2	**Erkin-Say**	**43.67**	**65**	P		**P**	**14 36 22.6**	**+1.1**
	SNR=228							
AML	**Almayashu**	**43.75**	**66**	P		**P**	**14 36 23.6**	**+1.4**
	SNR=13							
USP	**Ospenovka**	**44.02**	**64**	P		**P**	**14 36 24.2**	**-0.1**
	SNR=111							
AAK	**Ala-Archa**	**44.19**	**65**	P		**P**	**14 36 26.6**	**+1.0**
	SNR=15							
AAK	**Ala-Archa**	**44.19**	**65**	P		**P**	**14 36 25.7**	**+0.1**
	comp=Z,899nm,0.6s,mb6.3							
AAK	**Ala-Archa**	**44.19**	**65**	P		**P**	**14 36 25.7**	**+0.1**
	SNR=173							
AAK	**Ala-Archa**	**44.19**	**65**	⇓*i*P		**P**	**14 36 25.2**	**-0.4**
AAK					*e**PP	pP	14 37 13.0	+0.7
AAK					*e*		14 38 05.7	
AAK					pmax	pmax		
	comp=Z,76nm,0.6s,mb5.2							
AAK	**Ala-Archa**	**44.19**	**65**	⇓*i*P		**P**	**14 36 25.2**	**-0.4**
	comp=Z,76nm,0.6s,mb5.2							
AAK					*e*pP	pP	14 37 12.9	+0.7
AAK					*e*PcP	PcP	14 38 05.7	-0.5
AAK					*e*ScP	ScP	14 41 36.6	-0.4
AAK	**Ala-Archa**	**44.19**	**65**	P		**P**	**14 36 25.7**	**+0.1**
	SNR=173							
AAK					*e*pP	pP	14 37 12.9	+0.6
FRU	**Bishkek**	**44.22**	**65**	κ *i*P		**P**	**14 36 26.5**	**+0.7**
FRU					*e*	pP	14 37 14.0	+1.4
FRU					*i* S	**S**	**14 42 44.5**	**+2.1**
FRU					*e*		14 46 01.0	
FRU					pmax	pmax		
	comp=Z,950nm,2.1s,mb5.8							
FRU	**Bishkek**	**44.22**	**65**	*i* P		**P**	**14 36 26.5**	**+0.7**
	comp=Z,950nm,2.1s,mb5.8							
CHMS	**Chumysh**	**44.27**	**65**	P		**P**	**14 36 26.7**	**+0.4**
	SNR=48							
UCH	**Uchtor**	**44.31**	**66**	P		**P**	**14 36 28.2**	**+1.6**
	SNR=11							
KMBO	**Kilima Mbogo**	**44.50**	**148**	P		**P**	**14 36 29.8**	**+1.8**
KMBO					pP	pP	14 37 15.0	+0.2
KMBO					PP	PP	14 38 19.0	+2.4
KMBO					ScP	ScP	14 41 39.5	+1.2
KMBO					S	**S**	**14 42 51.2**	**+4.9**
KMBO	**Kilima Mbogo**	**44.50**	**148**	P		**P**	**14 36 29.8**	**+1.8**
	comp=Z,168nm,1.0s,mb5.3,baz=345,slow=8.5,SNR=295							
KMBO					PP	PP	14 38 19.7	+3.2
	comp=Z,40nm,1.1s,baz=320,slow=10.0,SNR=5.7							
KMBO					ScP	ScP	14 41 39.8	+1.5
	comp=Z,5.3nm,0.9s,baz=23,slow=7.9,SNR=3.8							
KMBO	**Kilima Mbogo**	**44.50**	**148**	*i* P		**P**	**14 36 29.7**	**+1.7**
KMBO					pmax	pmax		
	comp=Z,168nm,1.0s							
KMBO	**Kilima Mbogo**	**44.50**	**148**	⇑*i*P		**P**	**14 36 29.8**	**+1.7**
	comp=Z,255nm,1.1s,mb5.5							
KMBO				⇑*i*	pP	pP	14 37 14.8	0.0
KMBO					*e*PP	PP	14 38 17.3	+0.8
KMBO					*e*ScP	ScP	14 41 39.3	+0.9
KMBO	**Kilima Mbogo**	**44.50**	**148**	P		**P**	**14 36 29.7**	**+1.7**
	SNR=136							
KBK	**Karagaybulak**	**44.50**	**65**	P		**P**	**14 36 29.1**	**+1.1**
	SNR=87							
KZA	**Kyzart**	**44.88**	**66**	P		**P**	**14 36 32.8**	**+1.8**
	SNR=37							
TKM2	**Tokmak 2**	**44.89**	**65**	P		**P**	**14 36 31.6**	**+0.5**
	SNR=58							
KURK	**Kurchatov**	**45.15**	**53**	P		**P**	**14 36 33.3**	**+0.1**
	comp=Z,4μm,0.7s,SNR=48							
ULHL	**Ulahol**	**45.54**	**65**	P		**P**	**14 36 37.3**	**+1.1**
	SNR=18							
SFJD	**Kangerlussuaq**	**45.72**	**330**	⇓*i*P		**P**	**14 36 36.2**	**-1.4**
SFJD					*i*		14 43 59.7	
SFJD					*e*		14 47 36.1	
KSH	**Kashi**	**46.19**	**69**	P		**P**	**14 36 42.8**	**+1.5**
KSH					*e*AP	pP	14 37 28.0	-0.4
KSH					*e*XP	sP	14 37 49.5	-3.5
KSH					*e*PCP	PcP	14 38 14.0	+0.8
KSH					*e*PP	PP	14 38 34.0	+1.1
KSH					*e*PPP		14 39 27.8	
KSH					*e*SCP	ScP	14 41 44.5	-0.9
KSH					*e*PCS	PcS	14 42 08.3	+0.2
KSH					*e*S	**S**	**14 43 10.0**	**-0.6**
KSH					*e*PS		14 43 18.3	
KSH					*e*SCS	ScS	14 46 11.5	-1.5
KSH					*e*SS	SS	14 46 36.3	-2.5
KSH					AMB	AMB		
	comp=Z,3μm,6.5s							
KSH					LR	LR		
	comp=N,3μm,5.5s							
KSH					LR	LR		
	comp=E,2μm,6.4s							
KSH					LR	LR		
	comp=Z,3μm,12.6s							
NIL	**Nilore**	**46.30**	**78**	P		**P**	**14 36 43.8**	**+1.6**
	comp=Z,441nm,0.8s,mb5.8,SNR=20							
NVS	**Novosibirsk**	**47.22**	**47**	⇓*i*P		**P**	**14 36 49.6**	**+0.3**
NVS					*e**PP	pP	14 37 40.7	+4.1
NVS					*e*		14 38 15.8	
NVS					*e*		14 38 37.0	
NVS					*e*S	**S**	**14 43 21.4**	**-3.8**
NVS					*e*		14 46 17.2	
NVS					pmax	pmax		
	comp=N,17nm,0.7s							
NVS					pmax	pmax		
	comp=E,157nm,0.7s							
NVS					pmax	pmax		
	comp=Z,418nm,0.7s,mb5.9							
NVS					pmax	pmax		
	comp=Z,115nm,1.3s,mb5.0							
NVS					pmax	pmax		
	comp=N,25nm,1.2s							
NVS					pmax	pmax		
	comp=E,97nm,1.4s							
NVS					smax			
	comp=N,109nm,1.9s							
NVS					smax			
	comp=E,128nm,2.0s							
ZAL	**Zalesovo**	**48.28**	**48**	P		**P**	**14 36 57.8**	**+0.4**
	comp=E,307nm,0.5s,mb5.9,baz=183,slow=6.5,SNR=988							
ZAL					PP	PP	14 38 52.1	+0.1
	comp=E,21nm,0.7s,baz=185,slow=5.2,SNR=4.0							
ZAL					S	**S**	**14 43 40.8**	**+0.7**
	comp=E,5.3nm,0.9s,baz=352,slow=22,SNR=9.9							
ZAL	**Zalesovo**	**48.28**	**48**	PP		PP	14 38 52.1	+0.1
MK31	**Makanchi Array**	**48.41**	**58**	⇓*i*P		**P**	**14 36 58.3**	**-0.1**
MK31					*e*		14 38 20.5	
MK31	**Makanchi Array**	**48.41**	**58**	⇓*i*P		**P**	**14 36 58.3**	**-0.1**
MK31					*e*PcP	PcP	14 38 20.5	-0.6
MK31					*e*ScP	ScP	14 41 52.1	-2.6
MK31	**Makanchi Array**	**48.41**	**58**	⇓*i*P		**P**	**14 36 58.3**	**-0.1**
MK31	**Makanchi Array**	**48.41**	**58**	*e*PcP		PcP	14 38 20.5	-0.7
MKAR	**Makanchi Array**	**48.41**	**58**	P		**P**	**14 36 58.8**	**+0.4**
	comp=E,271nm,0.5s,mb5.8,baz=281,slow=6.8,SNR=3503							
MKAR					ScP	ScP	14 41 54.0	-0.7
	comp=E,7.6nm,0.7s,baz=308,slow=3.7,SNR=5.1							
MKAR					S	**S**	**14 43 41.3**	**-0.5**
	comp=E,4.0nm,0.9s,baz=280,slow=13,SNR=4.0							
MKAR					PKPPKP		15 07 54.2	
	comp=E,0.6nm,1.0s,baz=150,slow=2.7,SNR=3.9							
MKAR	**Makanchi Array**	**48.41**	**58**	P		**P**	**14 36 58.8**	**+0.4**
MKAR					S	**S**	**14 43 41.3**	**-0.6**
MKAR	**Makanchi Array**	**48.41**	**58**	P		**P**	**14 36 58.8**	**+0.4**
MKAR					ScP	ScP	14 41 54.0	-0.7
MKAR					S	**S**	**14 43 41.3**	**-0.5**
MKAR					P'P'		15 07 54.2	
THN	**Thein Dam**	**48.69**	**78**	*e*P		**P**	**14 37 00.0**	**-0.5**
THN					*ex*	x	14 41 55.1	
SDNR	**Sundarnagar**	**50.05**	**78**	*e*P		**P**	**14 37 10.6**	**-0.2**
ALE	**Alert**	**50.22**	**350**	P		**P**	**14 37 10.0**	**-2.0**
	comp=E,264nm,1.0s,mb5.5,SNR=28							
AJM	**Ajmer**	**50.59**	**85**	*e*P		**P**	**14 37 14.9**	**+0.1**
AJM					AMb	AMB	14 37 18.3	
	comp=Z,196nm,1.4s,mb5.3							
NDI	**New Delhi**	**51.53**	**82**	*e*P		**P**	**14 37 21.8**	**0.0**
NDI					AMb	AMB	14 37 23.9	
	comp=Z,269nm,1.9s,mb5.3							
NDI					*ex*	x	14 44 21.5	
WMQ	**Urumqi**	**52.97**	**60**	⇓*i*P		**P**	**14 37 31.0**	**-1.4**
WMQ					AP	pP	14 38 21.0	+0.2
WMQ					PCP	PcP	14 38 37.0	-1.1
WMQ					XP	sP	14 38 46.0	+1.0
WMQ					PP	PP	14 39 35.0	+0.6
WMQ					PPP		14 40 49.0	
WMQ					PCS	PcS	14 42 34.0	-3.1
WMQ					S	**S**	**14 44 42.5**	**-2.0**
WMQ					XS	sS	14 46 08.0	-1.5
WMQ					SCS	ScS	14 46 55.0	-4.1
WMQ					SS	SS	14 48 24.0	-2.6
WMQ					AMB	AMB		
	comp=Z,183nm,0.7s,mb5.6							
WMQ					AMB	AMB		
	comp=Z,848nm,3.6s							
WMQ					LR	LR		
	comp=N,2μm,19.6s							
WMQ					LR	LR		
	comp=E,2μm,22.0s							
WMQ					LR	LR		
	comp=Z,2μm,21.2s							
LGTI	**Lohaghat**	**53.50**	**79**	*i* P		**P**	**14 37 35.0**	**-1.3**
POO	**Poona**	**54.19**	**94**	⇓*i*P		**P**	**14 37 38.5**	**-2.8**
	comp=Z,160nm,1.0s,mb5.5							
BHPL	**Bhopal**	**54.41**	**87**	*e*P		**P**	**14 37 42.5**	**-0.4**
LSZ	**Lusaka**	**55.07**	**165**	P		**P**	**14 37 48.5**	**+0.9**
	SNR=51							
LSZ	**Lusaka**	**55.07**	**165**	⇑*i*P		**P**	**14 37 48.0**	**+0.4**
LSZ					*e*S	**S**	**14 45 12.8**	**+0.1**
LSZ					pmax	pmax		
	comp=Z,232nm,0.9s,mb5.7							
LSZ	**Lusaka**	**55.07**	**165**	⇑*i*P		**P**	**14 37 48.0**	**+0.5**
	comp=Z,232nm,0.9s,mb5.7							
LSZ					*e*S	**S**	**14 45 12.8**	**+0.1**
LSZ	**Lusaka**	**55.07**	**165**	⇑*i*P		**P**	**14 37 48.0**	**+0.4**
	comp=Z,232nm,0.9s,mb5.7							
LSZ					*e*S	**S**	**14 45 12.8**	**+0.1**
KAD	**Karad**	**55.15**	**95**	*e*P		**P**	**14 37 48.5**	**+0.4**
SCHQ	**Schefferville**	**55.27**	**316**	P		**P**	**14 37 47.0**	**-2.0**
	comp=Z,104nm,0.7s,mb5.5,baz=67,slow=7.4,SNR=107							
SCHQ	**Schefferville**	**55.27**	**316**	*e*P		**P**	**14 37 47.0**	**-1.9**
	comp=Z,134nm,0.7s,mb5.6							
SCHQ					*e*PcP	PcP	14 38 45.2	-1.7
SCHQ	**Schefferville**	**55.27**	**316**	*e*P		**P**	**14 37 47.0**	**-2.0**
	comp=Z,134nm,0.7s,mb5.6							
SCHQ	**Schefferville**	**55.27**	**316**	*e*PcP		PcP	14 38 45.2	-1.7
AKL	**Akola**	**55.46**	**90**	*e*P		**P**	**14 37 50.1**	**-0.2**
	comp=Z,159nm,0.6s,mb5.7							
AKL					*i* x	x	14 38 33.2	
GOA	**Goa**	**55.94**	**97**	*e*P		**P**	**14 37 55.0**	**+1.3**
ALBI	**Allahabad**	**56.75**	**83**	*e*P		**P**	**14 37 58.5**	**-1.0**
KOLN	**Koldanda**	**56.89**	**79**	*e*P		**P**	**14 38 00.3**	**-0.1**
	comp=Z,314nm,1.2s,mb5.8							
MSEY	**Mahe Island**	**56.92**	**130**	P		**P**	**14 38 01.8**	**+1.1**
	comp=Z,365nm,0.8s,mb6.1,SNR=13							
MSEY	**Mahe Island**	**56.92**	**130**	P		**P**	**14 38 01.9**	**+1.3**
	SNR=11							
MSEY	**Mahe Island**	**56.92**	**130**	⇑*i*P		**P**	**14 38 00.8**	**+0.2**
	comp=Z,133nm,1.3s,mb5.4							
MSEY					*e*pP	pP	14 38 48.8	-1.0
MSEY	**Mahe Island**	**56.92**	**130**	⇑*i*P		**P**	**14 38 00.8**	**+0.1**
	comp=Z,133nm,1.3s,mb5.4							
MSEY					*e*pP	pP	14 38 48.8	-1.0
GKN	**Gorkha**	**57.57**	**78**	*e*P		**P**	**14 38 05.0**	**-0.2**
	comp=Z,752nm,1.0s,mb6.3							
TSUM	**Tsumeb**	**57.69**	**178**	⇓*i*P		**P**	**14 38 05.7**	**-0.3**
	comp=Z,138nm,1.2s,mb5.5							
TSUM					*e*pP	pP	14 38 54.3	-1.0
RES	**Resolute Bay**	**58.06**	**343**	P		**P**	**14 38 07.9**	**-0.7**
RES					pmax	pmax		
	comp=Z,460nm,2.0s,mb5.8							
RES	**Resolute Bay**	**58.06**	**343**	*e*P		**P**	**14 38 07.4**	**-1.2**
	comp=Z,15μm,2.0s							
RES	**Resolute Bay**	**58.06**	**343**	*e*P		**P**	**14 38 07.4**	**-1.2**
	comp=Z,10μm,2.0s							
DMN	**Daman**	**58.13**	**79**	*e*P		**P**	**14 38 09.4**	**+0.3**
	comp=Z,835nm,0.9s,mb6.3							
KKN	**Kakani**	**58.17**	**78**	*e*P		**P**	**14 38 09.4**	**+0.1**
	comp=Z,378nm,0.6s,mb6.2							
MNGI	**Mangalore**	**58.23**	**99**	*i* P		**P**	**14 38 09.9**	**+0.1**
MNGI					*i* S	**S**	**14 45 56.1**	**+1.9**
MOY	**Mondy**	**58.32**	**47**	*e*P		**P**	**14 38 10.8**	**+0.4**
MOY					pmax	pmax		
	comp=Z,246nm,2.6s,mb5.4							
PKI	**Pulchoki**	**58.38**	**78**	*e*P		**P**	**14 38 10.7**	**-0.1**
	comp=Z,988nm,1.2s,mb6.3							
HYB	**Hyderabad**	**58.50**	**92**	*i* P		**P**	**14 38 10.5**	**-1.1**
HYB					*e*PcP	PcP	14 39 00.0	+0.4
HYB					*e*S	**S**	**14 45 58.0**	**+0.5**
HYB	**Hyderabad**	**58.50**	**92**	*e*P		**P**	**14 38 10.5**	**-1.1**
HYB					*e*	pP	14 39 00.0	-1.0
HYB					*e*S	**S**	**14 45 54.0**	**-3.5**
GUN	**Gumba**	**58.57**	**78**	*e*P		**P**	**14 38 12.6**	**+0.5**
	comp=Z,2μm,1.0s,mb6.6							
JIRN	**Jiri**	**58.93**	**78**	*e*P		**P**	**14 38 15.1**	**+0.5**
	comp=Z,774nm,0.9s,mb6.3							
TLY	**Talaya**	**59.81**	**46**	P		**P**	**14 38 21.1**	**+0.5**
	comp=Z,879nm,0.7s,mb6.5,SNR=29							
TLY	**Talaya**

comp=Z,633nm,5.7s
GTA LR LR
comp=N,454nm,19.8s
GTA LR LR
comp=E,470nm,21.3s
GTA LR LR
comp=Z,638nm,21.7s
WES Weston 63.13 304 *eP* **P 14 38 41.2 -1.6**
WES *e**PP pP 14 39 35.0 +2.1
WES pmax pmax
comp=Z,99nm,0.8s,mb5.5
WES Weston 63.13 304 *eP* **P 14 38 41.2 -1.6**
comp=Z,101nm,0.8s,mb5.5
WES *e*pP pP 14 39 35.0 +2.0
WES Weston 63.13 304 *eP* **P 14 38 41.2 -1.6**
comp=Z,99nm,0.8s,mb5.5
WES *e*pP pP 14 39 35.0 +2.1
SONM Songino Array 63.16 49 P **P 14 38 42.9 0.0**
comp=Z,132nm,0.6s,mb5.7,baz=288,slow=7.6,SNR=1326
SONM PcP PcP 14 39 19.4 +1.0
comp=Z,17nm,0.6s,baz=282,slow=3.8,SNR=5.6
SONM PKP2bc 15 07 43.3
comp=Z,10nm,1.3s,baz=130,slow=1.6,SNR=16
SONM Songino Array 63.16 49 P **P 14 38 42.9 0.0**
SONM 14 39 19.4
SONM Songino Array 63.16 49 P **P 14 38 42.9 0.0**
SONM PcP PcP 14 39 19.4 +1.0
SONM ⇑*e* 15 07 43.3
FRNY Flat Rock 63.39 307 *eP* **P 14 38 43.0 -1.5**
comp=Z,36nm,0.7s,mb5.1
FRNY *e*PcP PcP 14 39 18.6 -0.7
FRNY Flat Rock 63.39 307 *eP* **P 14 38 43.0 -1.4**
FRNY Flat Rock 63.39 307 *e*PcP PcP 14 39 18.6 -0.7
ULN Ulaanbaatar 63.53 49 P **P 14 38 45.7 +0.3**
SNR=49
ULN Ulaanbaatar 63.53 49⇓*iP* **P 14 38 45.1 -0.3**
ULN *e* 14 39 20.3
ULN *e**PP pP 14 39 35.4 -0.2
ULN *e* 14 41 02.3
ULN pmax pmax
comp=Z,36nm,0.6s,mb5.2
ULN Ulaanbaatar 63.53 49⇓*iP* **P 14 38 45.1 -0.3**
comp=Z,36nm,0.6s,mb5.2
ULN *e*PcP PcP 14 39 20.3 +0.4
ULN *e*pP pP 14 39 35.4 -0.2
ULN *e*PP PP 14 41 02.3 -5.6
ULN Ulaanbaatar 63.53 49⇓*iP* **P 14 38 45.1 -0.3**
comp=Z,36nm,0.6s,mb5.2
ULN Ulaanbaatar 63.53 49 *e*PcP PcP 14 39 20.3 +0.4
MSNY Massena 64.09 308 *eP* **P 14 38 47.7 -1.4**
MSNY Massena 64.09 308 *eP* **P 14 38 47.7 -1.4**
ACCN Adirondack Com 64.15 306⇓*eP* **P 14 38 48.7 -0.7**
comp=Z,55nm,0.8s,mb5.2
ACCN *e*pP pP 14 39 40.5 +0.8
ACCN Adirondack Com 64.15 306⇓*eP* **P 14 38 48.7 -0.7**
ACCN *e*pP pP 14 39 40.5 +0.8
LBTB Lobatse 64.16 170 P **P 14 38 50.0 +0.5**
LBTB S **S 14 47 09.1 +0.4**
LBTB ScS ScS 14 48 26.7 +5.0
LBTB Lobatse 64.16 170⇑*iP* **P 14 38 49.5 0.0**
LBTB *e**PP pP 14 39 40.8 +1.0
LBTB *e* 14 41 07.0
LBTB pmax pmax
comp=Z,231nm,1.0s,mb5.8
LBTB Lobatse 64.16 170⇑*iP* **P 14 38 49.5 0.0**
comp=Z,231nm,1.0s,mb5.8
LBTB *e*pP pP 14 39 40.8 +1.0
LBTB *e*PP PP 14 41 07.0 -6.4
LBTB Lobatse 64.16 170⇑*iP* **P 14 38 49.5 0.0**
comp=Z,231nm,1.0s,mb5.8
LBTB *e*pP pP 14 39 40.8 +1.0
SHL Shillong 64.37 77 *ex* x 14 36 46.0
SHL AMb AMB 14 36 59.9
comp=Z,628nm,0.9s,mb6.2
AGT Agartala 64.79 79 *eP* **P 14 38 54.0 +0.4**
CIT Chita 65.06 42 *eP* **P 14 38 49.1 -6.2**
CIT *e* 14 39 25.9
CIT *e* pP 14 39 39.1 -6.6
CIT *e* 14 41 18.8
CIT pmax pmax
comp=Z,287nm,1.6s,mb5.7
PAL Palisades 65.50 304 *eP* **P 14 38 56.5 -1.6**
PAL *e* 14 39 25.5
PAL pmax pmax
comp=Z,153nm,1.2s,mb5.5
PAL Palisades 65.50 304 *eP* **P 14 38 56.5 -1.7**
comp=Z,180nm,1.2s,mb5.6
PAL *e*PcP PcP 14 39 25.5 -2.6
PAL Palisades 65.50 304 *eP* **P 14 38 56.5 -1.6**
comp=Z,153nm,1.2s,mb5.5
PAL Palisades 65.50 304 *e*PcP PcP 14 39 25.5 -2.6
CPNY Central Park 65.64 304⇑*iP* **P 14 38 58.9 -0.1**
comp=Z,711nm,1.8s,mb6.0
CPNY Central Park 65.64 304⇑*iP* **P 14 38 58.9 -0.1**
BINY Binghamton 66.22 306 *eP* **P 14 39 02.1 -0.6**
comp=Z,108nm,0.6s,mb5.7
PALK Pallekele 66.27 100 P **P 14 39 03.6 +0.6**
SNR=15
PALK P 14 39 03.7
SNR=10
PALK Pallekele 66.27 100⇓*iP* **P 14 39 03.2 +0.1**
comp=Z,96nm,1.0s,mb5.4
PALK *e*pP pP 14 39 52.2 -1.5
PALK Pallekele 66.27 100⇓*iP* **P 14 39 03.2 +0.2**
comp=Z,96nm,1.0s,mb5.4
PALK *e*pP pP 14 39 52.2 -1.5
YAK Yakutsk 66.53 28⇓*iP* **P 14 39 03.3 -1.4**
YAK *e* 14 39 29.2
YAK *e**PP pP 14 39 55.0 -0.3
YAK *e* 14 41 31.1
YAK pmax pmax
comp=Z,212nm,1.4s,mb5.6
YAK Yakutsk 66.53 28⇓*iP* **P 14 39 02.9 -1.8**
comp=Z,159nm,0.8s,mb5.7
YAK *e*PcP PcP 14 39 29.2 -3.2
YAK *e*pP pP 14 39 55.0 -0.3
YAK *e*PP PP 14 41 31.1 -3.0
YAK Yakutsk 66.53 28⇓*iP* **P 14 39 02.9 -1.8**
comp=Z,159nm,0.8s,mb5.7
YAK Yakutsk 66.53 28 *e*PcP PcP 14 39 29.2 -3.2
FCC Fort Churchill 66.66 328 P **P 14 39 05.1 -0.4**
FCC pmax pmax
comp=Z,310nm,1.5s,mb5.7
FCC Fort Churchill 66.66 328 *eP* **P 14 39 04.0 -1.4**
comp=Z,309nm,1.5s,mb5.7
FCC Fort Churchill 66.66 328 *eP* **P 14 39 04.1 -1.4**
comp=Z,309nm,1.5s,mb5.7
LZH Lanzhou 67.49 61 ⇓P **P 14 39 11.0 +0.3**
LZH PCP PcP 14 39 39.3 +2.9
LZH AP pP 14 40 02.5 +1.0
LZH XP sP 14 40 27.5 +2.4
LZH PP PP 14 41 45.0 +2.6
LZH SCP 14 43 18.5
LZH *e*S S 14 47 48.5 -0.5
LZH SCS ScS 14 48 43.0 -4.6
LZH XS sS 14 49 14.0 -3.9
LZH SS SS 14 52 12.0 -1.8
LZH AMB AMB
comp=Z,299nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,954nm,4.8s
LZH Lanzhou 67.49 61 ⇓P **P 14 39 11.0 +0.3**
LZH 14 39 39.3
LZH *PP pP 14 40 02.5 +1.0
LZH *SP sP 14 40 27.5 +2.4
LZH 14 41 45.0
LZH 14 43 18.4
LZH *e*S S 14 47 48.5 -0.5
LZH 14 48 43.1
LZH SS SS 14 52 12.0 -1.8
LZH pmax pmax
comp=Z,299nm,1.5s,mb5.7
LZH Lanzhou 67.49 61 ⇓P **P 14 39 11.0 +0.3**
comp=Z,299nm,1.5s,mb5.7
LZH PcP PcP 14 39 39.3 +2.9
LZH pP pP 14 40 02.5 +1.0
LZH sP sP 14 40 27.5 +2.4
LZH PP PP 14 41 45.0 +2.6
LZH ScP 14 43 18.4
LZH *e*S S 14 47 48.5 -0.5
LZH ScS ScS 14 48 43.1 -4.5
LZH sS sS 14 49 14.1 -3.8
LZH SS SS 14 52 12.0 -1.8
MVL Millersville 67.61 304⇓*eP* **P 14 39 10.9 -0.6**
comp=Z,234nm,1.6s,mb5.6
MVL *e*PcP PcP 14 39 35.2 -1.6
BOSA Boshof 67.66 171 P **P 14 39 11.9 +0.1**
comp=Z,137nm,0.9s,mb5.6,baz=354,slow=6.6,SNR=95
BOSA Boshof 67.66 171 P **P 14 39 11.9 +0.2**
BOSA pmax pmax
comp=Z,137nm,0.9s,mb5.6
BOSA Boshof 67.66 171⇑*iP* **P 14 39 11.7 -0.1**
comp=Z,191nm,1.0s,mb5.7
BOSA *e*pP pP 14 40 01.2 -1.4
BOSA *e*PP PP 14 41 40.5 -3.4
BOSA Boshof 67.66 171⇑*iP* **P 14 39 11.7 0.0**
comp=Z,191nm,1.0s,mb5.7
BOSA *e*pP pP 14 40 01.2 -1.4
CLNS Chul'man 67.82 34 *eP* **P 14 39 12.6 -0.2**
CLNS *e* 14 39 37.4
CLNS *e* 14 41 42.4
CLNS *e*S S 14 47 52.0 -0.9
CLNS *e* 14 48 44.3
CLNS *e*SS SS 14 52 22.5 +3.6
CLNS pmax pmax
comp=Z,143nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,42nm,1.1s
CLNS pmax pmax
comp=E,37nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=Z,39nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS smax
comp=N,154nm,13.5s
CLNS smax
comp=Z,43nm,13.8s
CLNS smax
comp=E,309nm,12.7s
SSPA Standing Stone 68.26 305⇓*iP* **P 14 39 14.8 -0.7**
comp=E,413nm,1.6s,mb5.8
SSPA Standing Stone 68.26 305⇓*iP* **P 14 39 14.8 -0.7**
comp=E,413nm,1.6s,mb5.8
BTO Baotou 69.13 54 *eP* **P 14 39 19.5 -1.4**
CBN Corbin 69.25 303 *eP* **P 14 39 20.9 -0.7**
comp=E,98nm,0.6s,mb5.6
HIA Hailar 69.87 43⇓*iP* **P 14 39 25.4 0.0**
HIA *e* 14 42 02.0
HIA pmax pmax
comp=Z,149nm,0.6s
HIA Hailar 69.87 43⇓*iP* **P 14 39 25.4 +0.1**
comp=Z,149nm,0.6s,mb5.8
HIA *e*pP pP 14 40 14.5 -2.1
HIA *e*PP PP 14 42 02.0 -0.9
HIA Hailar 69.87 43⇓*iP* **P 14 39 25.4 0.0**
comp=Z,149nm,0.6s,mb5.8
HIA *e*pP pP 14 40 14.5 -2.0
HHC Hu-ho-hao-te 69.97 53 *eP* **P 14 39 26.0 0.0**
HHC AP pP 14 40 14.5 -2.7
HHC XP sP 14 40 36.8 -3.9
HHC PP PP 14 42 05.0 +1.2
HHC S S 14 48 17.8 -0.3
HHC SCS ScS 14 49 06.0 -1.0
HHC XS sS 14 49 41.0 -6.6
HHC SS SS 14 52 53.8 +1.9
HHC AMB AMB
comp=Z,125nm,0.7s,mb5.7
HHC AMB AMB
comp=Z,1μm,6.3s
HHC LR LR
comp=N,853nm,21.2s
HHC LR LR
comp=E,503nm,18.6s
HHC LR LR
comp=Z,534nm,17.5s
LZG Guadaloupe-1 70.18 275 *eP* **P 14 39 26.2 -1.1**
BBGH Gun Hill 70.21 271 P **P 14 39 23.7 -3.7**
comp=Z,558nm,1.4s,mb6.0
BBGH *e*PcP PcP 14 39 46.2 -1.7
BBGH *e*pP pP 14 40 17.7 -0.9
BBGH Gun Hill 70.21 271 P **P 14 39 23.7 -3.8**
comp=Z,558nm,1.4s,mb6.0
BBGH Gun Hill 70.21 271 *e*PcP PcP 14 39 46.2 -1.6
CD2 Chengdu 70.25 66 P **P 14 39 28.0 +0.3**
CD2 XP sP 14 40 44.0 +1.6
CD2 PP PP 14 42 08.8 +2.6
CD2 S S 14 48 20.0 -1.4
CD2 SKS 14 49 03.0
CD2 XS sS 14 49 50.8 -0.1
CD2 SS SS 14 52 55.8 -0.4
CD2 AMB AMB
comp=Z,130nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,980nm,5.0s
CD2 LR LR
comp=N,580nm,10.8s
CD2 LR LR
comp=Z,490nm,19.2s
BBL Barber's Block 70.30 274 *eP* **P 14 39 24.3 -3.7**
INK Inuvik 70.74 348⇓*iP* **P 14 39 29.1 -1.5**
comp=Z,1μm,0.7s,mb6.6
INK Inuvik 70.74 348⇓*iP* **P 14 39 29.1 -1.6**
comp=Z,1μm,0.7s,mb6.6
AAM Ann Arbor 70.92 309 *eP* **P 14 39 30.1 -1.7**
AAM *e**PP pP 14 40 24.2 +1.1
AAM pmax pmax
comp=Z,135nm,1.1s,mb5.5
AAM Ann Arbor 70.92 309 *eP* **P 14 39 30.1 -1.7**
comp=Z,136nm,1.1s,mb5.5
AAM *e*pP pP 14 40 24.2 +1.2
AAM Ann Arbor 70.92 309 *eP* **P 14 39 30.1 -1.7**
comp=Z,136nm,1.1s,mb5.5
AAM *e*pP pP 14 40 24.2 +1.1
SUR Sutherland 70.96 175 P **P 14 39 32.3 +0.3**
comp=Z,522nm,1.6s,mb5.9,SNR=8.2
SUR Sutherland 70.96 175 P **P 14 39 32.8 +0.8**
SNR=12
SUR Sutherland 70.96 175⇑*iP* **P 14 39 32.6 +0.6**
comp=Z,145nm,1.4s,mb5.4
SUR *e*pP pP 14 40 22.3 -1.0
SUR *e*PP PP 14 42 11.1 -1.2
SUR Sutherland 70.96 175⇑*iP* **P 14 39 32.6 +0.6**
comp=Z,145nm,1.4s,mb5.4
SUR *e*pP pP 14 40 22.3 -1.0
CNNC Cliffs of the 71.25 300 *eP* **P 14 39 33.1 -0.7**
comp=Z,67nm,0.9s,mb5.3
CNNC Cliffs of the 71.25 300 *eP* **P 14 39 33.1 -0.6**
comp=Z,67nm,0.9s,mb5.3
BILL Bilibino 71.29 11⇓*eP* **P 14 39 32.8 -1.2**
BILL *e**PP pP 14 40 28.1 +2.8
BILL *i* 14 42 12.0
BILL *e*S S 14 48 31.4 -1.9
BILL pmax pmax
comp=Z,112nm,1.4s,mb5.3
BILL MLR MLR
comp=Z,300nm,17.0s
BILL Bilibino 71.29 11⇓*iP* **P 14 39 32.5 -1.4**
comp=Z,81nm,0.8s,mb5.4
BILL Bilibino 71.29 11⇓*iP* **P 14 39 32.5 -1.5**
comp=Z,81nm,0.8s,mb5.4
YKA Yellowknife Ar 71.41 338 P **P 14 39 33.7 -0.9**
comp=Z,65nm,0.6s,mb5.4,baz=40,slow=5.6,SNR=306
YKA Yellowknife Ar 71.41 338 *iP* **P 14 39 33.7 -1.0**
YKA pmax pmax
comp=Z,65nm,0.6s
YKA Yellowknife Ar 71.41 338 P **P 14 39 33.7 -0.9**
YKA Yellowknife Ar 71.41 338 P **P 14 39 33.7 -1.0**
BLA Blacksburg 71.81 303⇓*iP* **P 14 39 35.7 -1.4**
BLA *e**PP pP 14 40 29.6 +1.1
BLA pmax pmax
comp=Z,44nm,1.1s,mb5.0
BLA Blacksburg 71.81 303⇓*iP* **P 14 39 35.7 -1.4**
comp=Z,44nm,1.1s,mb5.0
BLA *e*pP pP 14 40 29.6 +1.1
BLA Blacksburg 71.81 303⇓*iP* **P 14 39 35.7 -1.4**
comp=Z,44nm,1.1s,mb5.0
BLA *e*pP pP 14 40 29.6 +1.1
FWV Forest Hill 71.85 304 *eP* **P 14 39 36.4 -0.9**
FWV *e*pP pP 14 40 28.9 +0.2
FWV *e*PP PP 14 42 16.0 -3.9
FWV Forest Hill 71.85 304 *eP* **P 14 39 36.4 -0.9**
FWV *e*pP pP 14 40 28.9 +0.2
MTP Monte Pirata 71.97 279⇓*iP* **P 14 39 37.3 -0.7**
MTP *e*PcP PcP 14 39 52.1 -3.2
MTP *e*pP pP 14 40 28.4 -1.0
MTP Monte Pirata 71.97 279⇓*iP* **P 14 39 37.3 -0.7**
MTP Monte Pirata 71.97 279 *e*PcP PcP 14 39 52.1 -3.2
EYMN Ely 72.01 317⇓*eP* **P 14 39 37.0 -1.2**
comp=Z,220nm,1.3s,mb5.6
EYMN *e*PcP PcP 14 39 53.4 -2.1
EYMN *e*pP pP 14 40 31.1 +1.3
EYMN Ely 72.01 317⇓*eP* **P 14 39 37.0 -1.3**
comp=Z,220nm,1.3s,mb5.6
EYMN Ely 72.01 317 *e*PcP PcP 14 39 53.4 -2.1
ELN Prospectdale 72.01 303 *eP* **P 14 39 37.2 -1.1**
ELN Prospectdale 72.01 303 *eP* **P 14 39 37.2 -1.1**
XAN Xi'an 72.09 61 P **P 14 39 38.8 +0.1**
XAN S S 14 48 36.5 -6.0
XAN AMB AMB
comp=Z,190nm,1.7s,mb5.5
XAN AMB AMB
comp=Z,720nm,13.0s
XAN LR LR
comp=N,164nm,18.1s
XAN LR LR
comp=E,268nm,14.4s
XAN LR LR
comp=Z,364nm,17.1s
CPD Cerro la Pandu 72.29 279 *eP* **P 14 39 39.4 -0.5**
comp=Z,154nm,1.1s,mb5.5
CPD *e*PcP PcP 14 39 54.3 -2.4
CPD Cerro la Pandu 72.29 279 *eP* **P 14 39 39.4 -0.5**
CPD Cerro la Pandu 72.29 279 *e*PcP PcP 14 39 54.3 -2.4
FFC Flin Flon 72.58 327 P **P 14 39 41.0 -0.6**
comp=Z,627nm,0.9s,mb6.2,SNR=21
FFC Flin Flon 72.58 327 P **P 14 39 41.1 -0.5**
FFC pmax pmax
comp=Z,150nm,1.1s,mb5.5
FFC Flin Flon 72.58 327 *eP* **P 14 39 40.6 -1.1**
comp=Z,149nm,1.1s,mb5.5
FFC Flin Flon 72.58 327 *eP* **P 14 39 40.6 -1.0**
comp=Z,149nm,1.1s,mb5.5
KMI Kunming 72.78 71 ⇓P **P 14 39 43.0 +0.2**
KMI PCP PcP 14 39 59.5 +0.7
KMI AP pP 14 40 32.0 -2.3
KMI XP sP 14 40 58.5 +0.7
KMI PP PP 14 42 30.0 +2.2
KMI PPP 14 44 14.5
KMI S S 14 48 46.8 -3.5
KMI SKS 14 49 20.0
KMI SCS ScS 14 49 24.5 -4.9
KMI PS 14 49 54.3
KMI XS sS 14 50 17.0 -3.4
KMI SS SS 14 53 35.5 +0.7
KMI SSS 14 56 45.8
KMI AMB AMB
comp=Z,90nm,1.6s,mb5.2
KMI AMB AMB
comp=Z,647nm,3.1s
KMI LR LR
comp=N,363nm,15.4s
KMI LR LR
comp=E,322nm,21.4s
KMI LR LR
comp=Z,333nm,19.0s
KMI Kunming 72.78 71 ⇓P **P 14 39 42.9 +0.1**
KMI 14 39 59.4
KMI *SP sP 14 40 58.5 +0.7
KMI 14 42 30.0
KMI PPP 14 44 14.4
KMI S S 14 48 46.8 -3.5
KMI 14 49 20.0
KMI 14 49 24.6
KMI PS 14 49 54.3
KMI SS SS 14 53 35.6 +0.8
KMI SSS 14 56 45.8
KMI pmax pmax
comp=Z,90nm,1.6s,mb5.2
KMI Kunming 72.78 71 ⇓P **P 14 39 42.9 +0.1**
comp=Z,90nm,1.6s,mb5.2
KMI PcP PcP 14 39 59.4 +0.6
KMI pP pP 14 40 32.0 -2.3
KMI sP sP 14 40 58.5 +0.7
KMI PP PP 14 42 30.0 +2.2
KMI PPP 14 44 14.4
KMI S S 14 48 46.8 -3.5
KMI SKS 14 49 20.0
KMI ScS ScS 14 49 24.6 -4.8
KMI PS 14 49 54.3
KMI sS sS 14 50 17.1 -3.3
KMI SS SS 14 53 35.6 +0.8
KMI SSS 14 56 45.8
KMI LR LR
comp=Z,330nm,19.0s
ULM Lac du Bonnet 72.78 321 P **P 14 39 41.7 -1.1**
comp=Z,90nm,0.7s,mb5.5,baz=51,slow=6.1,SNR=145
ULM Lac du Bonnet 72.78 321⇓*iP* **P 14 39 41.3 -1.5**
comp=Z,249nm,1.1s,mb5.8
ULM *e*PcP PcP 14 39 56.6 -2.2
ULM *e*pP pP 14 40 29.5 -4.9
ULM Lac du Bonnet 72.78 321⇓*iP* **P 14 39 41.3 -1.5**
comp=Z,299nm,1.1s,mb5.8
ULM Lac du Bonnet 72.78 321 *e*PcP PcP 14 39 56.6 -2.2
SEY Seymchan 72.97 19*diP* **P 14 39 43.8 -0.1**
SEY Seymchan 72.97 19 *iP* **P 14 39 43.8 -0.1**
BJI Beijing 73.31 52 P **P 14 39 46.0 +0.1**
BJI AP pP 14 40 38.0 +0.5
BJI XP sP 14 40 59.8 -1.1
BJI S S 14 48 53.8 -2.4
BJI XS sS 14 50 21.3 -5.2
BJI AMB AMB
comp=Z,160nm,0.8s,mb5.7
BJI AMB AMB
comp=Z,1μm,5.3s
BJI Beijing 73.31 52 P **P 14 39 45.9 0.0**
BJI *PP pP 14 40 38.1 +0.6
BJI *SP sP 14 40 59.7 -1.2
BJI S S 14 48 53.7 -2.5
BJI 14 49 35.3
BJI pmax pmax
comp=Z,160nm,0.8s,mb5.7
BJI Beijing 73.31 52 P **P 14 39 45.9 0.0**
comp=Z,160nm,0.8s,mb5.7
BJI pP pP 14 40 38.1 +0.6
BJI sP sP 14 40 59.7 -1.2
BJI S S 14 48 53.7 -2.5
BJI SKS 14 49 35.3
BJI sS sS 14 50 21.2 -5.3
BJI SS SS 14 54 05.9 +23
BJT Baijiatuau 73.31 52⇓*iP* **P 14 39 45.3 -0.6**
BJT *e* 14 42 31.6
BJT pmax pmax
comp=Z,407nm,1.4s
BJT Baijiatuau 73.31 52⇓*iP* **P 14 39 45.3 -0.6**
comp=Z,407nm,1.4s,mb5.9
BJT *e*PP PP 14 42 31.6 -0.8
BJT Baijiatuau 73.31 52⇓*iP* **P 14 39 45.3 -0.6**
comp=Z,407nm,1.4s,mb5.9
CHG Chiang Mai 73.56 79 ⇓P **P 14 39 47.5 +0.2**
comp=Z,128nm,1.0s,mb5.5
CHTO Chiang Mai 73.56 79 P **P 14 39 47.7 +0.4**
SNR=82
CHTO Chiang Mai 73.56 79⇓*iP* **P 14 39 47.3 0.0**
CHTO *e* 14 42 35.7
CHTO pmax pmax
comp=Z,142nm,1.1s,mb5.5
CHTO Chiang Mai 73.56 79⇓*iP* **P 14 39 47.3 0.0**
comp=Z,142nm,1.1s,mb5.5
CHTO *e*pP pP 14 40 35.0 -4.0
CHTO *e*PP PP 14 42 35.6 +1.3
CHTO Chiang Mai 73.56 79⇓*iP* **P 14 39 47.3 0.0**
comp=Z,142nm,1.1s,mb5.5
LHS Liberty Hill 73.65 301 *eP* **P 14 39 47.5 -0.4**
LHS *e*pP pP 14 40 37.6 -2.0
LHS Liberty Hill 73.65 301 *eP* **P 14 39 47.5 -0.4**
CM31 Chiang Mai Arr 73.76 79⇓*iP* **P 14 39 48.6 +0.1**
comp=Z,63nm,0.9s,mb5.2
CM31 *e*pP pP 14 40 38.8 -1.4
CM31 Chiang Mai Arr 73.76 79⇓*iP* **P 14 39 48.7 +0.2**
comp=Z,63nm,0.9s,mb5.2
AGMN Agassiz Refuge 74.05 320⇓*eP* **P 14 39 48.8 -1.4**
comp=Z,50nm,0.7s,mb5.2
JSC Jenkinsville 74.06 301 P **P 14 39 50.2 -0.1**
JSC Jenkinsville 74.06 301 *eP* **P 14 39 50.0 -0.3**
JSC Jenkinsville 74.06 301 *eP* **P 14 39 50.0 -0.3**
JFWS Jewell Farm 74.45 313 *eP* **P 14 39 50.7 -1.8**
JFWS *e* 14 40 06.6
JFWS *e**PP pP 14 40 45.3 +1.0
JFWS pmax pmax

comp=Z,94nm,0.9s,mb5.4
JFWS Jewell Farm 74.45 313 *e*P **P 14 39 50.7 -1.8**
comp=Z,94nm,0.9s,mb5.4
JFWS *e*PcP PcP 14 40 06.6 +0.7
JFWS *e*pP pP 14 40 45.3 +1.0
JFWS Jewell Farm 74.45 313 *e*P **P 14 39 50.7 -1.8**
comp=Z,94nm,0.9s,mb5.4
JFWS Jewell Farm 74.45 313 *e*PcP PcP 14 40 06.6 +0.7
BDT Bhumibol Dam 74.52 80 P **P 14 39 53.5 +0.6**
GYA Guiyang 74.88 68⇓*i*P **P 14 39 54.8 -0.2**
GYA PCP PcP 14 40 09.3 +1.5
GYA AP pP 14 40 47.5 +0.7
GYA XP sP 14 41 10.8 +0.6
GYA PP PP 14 42 47.5 +1.9
GYA PPP 14 44 34.5
GYA SCS ScS 14 49 43.8 -2.5
GYA PS 14 50 20.8
GYA XS sS 14 50 43.0 -1.4
GYA SS SS 14 54 07.5 +0.8
GYA AMB AMB
comp=Z,100nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,570nm,5.7s
GYA LR LR
comp=N,540nm,19.4s
GYA LR LR
comp=E,760nm,19.6s
GYA LR LR
comp=Z,840nm,19.8s
WCI Wyandotte Cave 74.96 307 P **P 14 39 54.4 -1.0**
WCI pmax pmax
comp=Z,80nm,0.8s,mb5.4
WCI Wyandotte Cave 74.96 307 *e*P **P 14 39 54.4 -1.0**
comp=Z,80nm,0.8s,mb5.4
WCI Wyandotte Cave 74.96 307 *e*P **P 14 39 54.4 -1.0**
comp=Z,80nm,0.8s,mb5.4
IMA2 Indian Mountai 75.16 355 *e*P **P 14 39 56.9 +0.3**
EGAK Eagle 75.17 350⇑*e*P **P 14 39 55.8 -0.8**
comp=Z,132nm,1.3s,mb5.4
EGAK Eagle 75.17 350⇑*e*P **P 14 39 55.8 -0.8**
comp=Z,132nm,1.3s,mb5.4
MA2 Magadan 75.31 22⇓*i*P **P 14 39 57.4 0.0**
MA2 *e**PP pP 14 40 49.5 +0.1
MA2 pmax pmax
comp=Z,281nm,0.8s,mb6.0
MA2 Magadan 75.31 22⇓*i*P **P 14 39 57.3 -0.1**
comp=Z,425nm,0.8s,mb6.1
MA2 *e*pP pP 14 40 49.5 +0.2
MA2 Magadan 75.31 22⇓*i*P **P 14 39 57.3 -0.1**
comp=Z,425nm,0.8s,mb6.1
MA2 *e*pP pP 14 40 49.5 +0.1
DAWY Dawson 75.58 349⇓*i*P **P 14 39 58.9 -0.1**
DAWY Dawson 75.58 349⇓*i*P **P 14 39 58.9 -0.1**
COLA College 75.87 353*d i*P **P 14 40 00.0 -0.6**
COLA College 75.87 353⇓*e*P **P 14 39 59.8 -0.7**
comp=Z,60nm,0.8s,mb5.3
COLA College 75.87 353⇓*e*P **P 14 39 59.8 -0.8**
comp=Z,60nm,0.8s,mb5.3
KLR Kul'dur 75.92 37*c i*P **P 14 39 57.2 -3.7**
KLR *e* pP 14 40 47.2 -5.7
KLR *e* 14 42 52.5
KLR *e*S S 14 49 20.5 -4.6
KLR *e*SS SS 14 54 18.0 -4.4
KLR pmax pmax
comp=E,130nm,1.8s
KLR pmax pmax
comp=Z,340nm,1.8s,mb5.7
KLR smax
comp=N,1µm,7.5s
KLR smax
comp=E,700nm,7.5s
TNA Tin City 75.98 1⇓*e*P **P 14 40 00.6 -0.6**
comp=E,57nm,0.7s,mb5.3
TNA Tin City 75.98 1⇓*e*P **P 14 40 00.6 -0.6**
comp=E,38nm,0.7s,mb5.1
NST Nakhon Sawan 76.32 81 ⇑P **P 14 40 03.5 +0.4**
comp=E,142nm,0.8s,mb5.7
CN2 Changchun 76.35 44 *e*P **P 14 40 03.0 -0.3**
CN2 PCP PcP 14 40 14.5 +0.3
CN2 *e*AP pP 14 40 56.5 +1.1
CN2 *e*XP sP 14 41 19.8 +1.1
CN2 PP PP 14 42 58.3 +0.4
CN2 *e*S S 14 49 27.8 -2.1
CN2 SS SS 14 54 29.0 +0.1
CN2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
SNY Shenyang 76.59 47 ⇓P **P 14 40 04.3 -0.3**
SNY XP sP 14 41 12.3 -7.7
SNY S S 14 49 31.0 -1.4
SNY AMB AMB
comp=Z,79nm,1.0s,mb5.3
SNY AMB AMB
comp=Z,800nm,5.4s
SNY LR LR
comp=N,257nm,11.4s
SNY LR LR
comp=E,309nm,16.2s
SNY LR LR
comp=Z,171nm,15.3s
SCIA State Center 76.78 313⇓*i*P **P 14 40 04.2 -1.6**
comp=Z,107nm,0.8s,mb5.5
SCIA *e*pP pP 14 40 57.8 0.0
SCIA State Center 76.78 313⇓*i*P **P 14 40 04.2 -1.5**
comp=Z,107nm,0.8s,mb5.5
SCIA *e*pP pP 14 40 57.8 0.0
MCK McKinley 77.09 353⇓*i*P **P 14 40 06.3 -1.1**
MCK *e**PP pP 14 40 59.5 -0.1
MCK pmax pmax
comp=Z,62nm,1.0s,mb5.2
MCK McKinley 77.09 353⇓*i*P **P 14 40 06.3 -1.1**
comp=Z,126nm,1.0s,mb5.5
MCK *e*pP pP 14 40 59.5 0.0
MCK McKinley 77.09 353⇓*i*P **P 14 40 06.3 -1.1**
comp=Z,62nm,1.0s,mb5.2
MCK *e*pP pP 14 40 59.5 -0.1
WVT Waverly 77.22 306⇓*i*P **P 14 40 06.2 -2.0**
WVT *e**PP pP 14 40 57.5 -2.8
WVT pmax pmax
comp=Z,39nm,0.6s,mb5.2
WVT Waverly 77.22 306⇓*i*P **P 14 40 06.2 -1.9**
comp=Z,39nm,0.6s,mb5.2
WVT *e*pP pP 14 40 57.5 -2.8
WVT Waverly 77.22 306⇓*i*P **P 14 40 06.2 -2.0**
comp=Z,39nm,0.6s,mb5.2
WVT *e*pP pP 14 40 57.5 -2.8
DL2 Dalian 77.32 50 *i* P **P 14 40 08.5 -0.2**
DL2 XP sP 14 41 23.8 -0.4
DL2 PP PP 14 43 06.0 0.0
DL2 S S 14 49 37.8 -2.5
DL2 XS sS 14 51 10.0 -1.6
DL2 SS SS 14 54 39.3 -4.2
DL2 AMB AMB
comp=Z,80nm,0.6s,mb5.5
DL2 AMB AMB
comp=Z,460nm,5.0s
ECSD EROS,Sioux Fal 77.46 316⇓*i*P **P 14 40 08.7 -0.8**
comp=Z,93nm,0.5s,mb5.7
ECSD *e*PcP PcP 14 40 23.1 +4.2
ECSD *e*pP pP 14 41 02.3 +0.6
ECSD EROS,Sioux Fal 77.46 316⇓*i*P **P 14 40 08.7 -0.8**
comp=Z,93nm,0.5s,mb5.7
ECSD EROS,Sioux Fal 77.46 316 *e*PcP PcP 14 40 23.1 +4.1
NNT Nongplab 77.86 84 P **P 14 40 12.3 +0.6**
WHN Wuhan 77.86 61 *e*P **P 14 40 11.8 +0.1**
WHN S S 14 49 43.0 -3.1
WHN AMB AMB
comp=Z,565nm,2.0s,mb5.8
DGMT Dagmar 77.97 324⇓*i*P **P 14 40 11.8 -0.4**
comp=Z,722nm,1.8s,mb6.0
DGMT *e*pP pP 14 41 02.5 -2.1
DGMT Dagmar 77.97 324⇓*i*P **P 14 40 11.9 -0.4**
comp=Z,722nm,1.8s,mb6.0
DGMT *e*pP pP 14 41 02.5 -2.0
KKTK Khon Kaen 78.00 79 ⇓P **P 14 40 13.2 +0.8**
comp=Z,1µm,0.6s
MDJ Mudanjiang 78.02 42 P **P 14 40 11.8 -0.8**
MDJ AP pP 14 41 01.5 -3.3
MDJ XP sP 14 41 24.3 -3.8
MDJ PP PP 14 43 09.8 -2.1
MDJ S S 14 49 46.0 -1.8
MDJ SCS ScS 14 50 10.5 -1.1
MDJ XS sS 14 51 14.5 -4.7
MDJ SS SS 14 54 51.3 -2.7
MDJ AMB AMB
comp=Z,59nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,674nm,7.0s
MDJ LR LR
comp=N,411nm,19.4s
MDJ LR LR
comp=E,548nm,19.4s
MDJ LR LR
comp=Z,693nm,18.4s
MDJ Mudanjiang 78.02 42⇓*i*P **P 14 40 11.5 -1.1**
comp=Z,33nm,0.6s,mb5.1
MDJ Mudanjiang 78.02 42⇓*i*P **P 14 40 11.5 -1.1**
comp=Z,33nm,0.6s,mb5.1
PLAL Pickwick Lake 78.09 305⇓*e*P **P 14 40 11.2 -1.8**
comp=Z,526nm,1.8s,mb5.9
PLAL *e*pP pP 14 41 02.4 -2.8
PLAL Pickwick Lake 78.09 305⇓*e*P **P 14 40 11.2 -1.8**
comp=Z,526nm,1.8s,mb5.9
PLAL *e*pP pP 14 41 02.4 -2.9
CCM Cathedral Cave 78.11 309 P **P 14 40 09.4 -3.7**
CCM pmax pmax
comp=Z,92nm,0.7s,mb5.5
CCM Cathedral Cave 78.11 309⇓*i*P **P 14 40 09.2 -3.9**
comp=Z,92nm,0.6s,mb5.6
CCM *e*pP pP 14 41 01.6 -3.7
CCM Cathedral Cave 78.11 309⇓*i*P **P 14 40 09.1 -4.0**
comp=Z,92nm,0.6s,mb5.6
CCM *e*pP pP 14 41 01.6 -3.7
EDM Edmonton 78.23 331⇓*i*P **P 14 40 13.2 -0.5**
HLGC Holguin 78.32 287 *e*P **P 14 40 16.1 +1.9**
RCC Rio Carpintero 78.58 286 *e*P **P 14 40 15.5 -0.2**
DLBC Dease Lake 78.95 342⇓*e*P **P 14 40 18.1 +0.4**
DLBC Dease Lake 78.95 342⇓*e*P **P 14 40 18.1 +0.5**
CAM3 Guarapari 79.01 232⇑*e*P **P 14 40 18.3 +0.3**
CAM3 *i* 14 40 46.5
CAM3 *i* pP 14 41 10.9 +0.6
SKAG Skagway 79.17 345 *e*P **P 14 40 18.2 -0.7**
comp=Z,270nm,1.6s,mb5.6
SKAG LR LR
comp=Z,700nm,22.0s
PMR Palmer 79.21 353 *e*P **P 14 40 18.4 -0.6**
PMR pmax pmax
comp=Z,105nm,1.0s,mb5.4
PMR MLR MLR
comp=Z,300nm,20.0s
PMR Palmer 79.21 353 *e*P **P 14 40 18.4 -0.6**
comp=Z,105nm,1.0s,mb5.4
PMR LR LR
comp=Z,300nm,20.0s
PMR Palmer 79.21 353 *e*P **P 14 40 18.4 -0.6**
comp=Z,105nm,1.0s,mb5.4
OXF Oxford 79.24 306 P **P 14 40 17.4 -1.8**
OXF pmax pmax
comp=Z,760nm,1.5s,mb6.1
OXF Oxford 79.24 306⇓*i*P **P 14 40 17.1 -2.1**
comp=Z,760nm,1.6s,mb6.1
OXF *e*pP pP 14 41 11.9 +0.3
OXF Oxford 79.24 306⇓*i*P **P 14 40 17.1 -2.1**
comp=Z,760nm,1.6s,mb6.1
OXF *e*pP pP 14 41 11.9 +0.3
CCCC Cccc 79.40 289 *e*P **P 14 40 17.7 -2.4**
EYAK Cordova Ski Ar 79.84 351 *e*P **P 14 40 21.3 -1.2**
comp=Z,97nm,1.0s,mb5.4
EYAK Cordova Ski Ar 79.84 351 *e*P **P 14 40 21.3 -1.1**
NJ2 Nanjing 79.94 57 *e*P **P 14 40 23.0 0.0**
NJ2 AP pP 14 41 16.0 +0.5
NJ2 XP sP 14 41 40.0 +1.4
NJ2 PP PP 14 43 28.0 +0.3
NJ2 S S 14 50 07.0 -1.0
NJ2 SKS 14 50 14.0
NJ2 AMB AMB
comp=Z,370nm,0.8s,mb6.1
NJ2 AMB AMB
comp=Z,2µm,7.4s
SVW2 Sparrevohn 80.22 356 *e*P **P 14 40 24.7 +0.2**
VLA Vladivostok 80.26 42*c i*P **P 14 40 23.6 -1.1**
VLA *e**PP pP 14 41 15.5 -1.7
VLA *e**SP sP 14 41 38.8 -1.6
VLA *e*S S 14 50 09.4 -2.0
VLA pmax pmax
comp=Z,334nm,1.5s,mb5.8
VLA Vladivostok 80.26 42⇑*i*P **P 14 40 23.9 -0.8**
SLKM Skilak Lake 80.38 353 *e*P **P 14 40 24.2 -1.1**
KSU1 Kansas State U 80.58 313⇓*i*P **P 14 40 25.6 -0.8**
comp=Z,257nm,0.9s,mb5.9
KSU1 Kansas State U 80.58 313⇓*i*P **P 14 40 25.6 -0.8**
comp=Z,257nm,0.9s,mb5.9
EGMT Eagleton 80.80 326⇓*i*P **P 14 40 27.6 +0.1**
comp=Z,530nm,1.2s,mb6.0
EGMT *e*pP pP 14 41 18.6 -1.6
EGMT Eagleton 80.80 326 P **P 14 40 27.9 +0.3**
baz=80,SNR=91
EGMT Eagleton 80.80 326⇓*i*P **P 14 40 27.6 +0.1**
comp=Z,530nm,1.2s,mb6.0
EGMT *e*pP pP 14 41 18.5 -1.6
RSSD Black Hills 81.03 321 P **P 14 40 28.6 -0.2**
RSSD pmax pmax
comp=Z,240nm,1.6s,mb5.6
RSSD Black Hills 81.03 321⇓*i*P **P 14 40 28.6 -0.2**
comp=Z,213nm,1.6s,mb5.5
RSSD *e*pP pP 14 41 22.7 +1.3
RSSD Black Hills 81.03 321⇓*i*P **P 14 40 28.6 -0.2**
comp=Z,213nm,1.6s,mb5.5
RSSD *e*pP pP 14 41 22.7 +1.3
INCN Inchon 81.23 49 P **P 14 40 30.3 +0.5**
SNR=8.0
INCN Inchon 81.23 49⇓*i*P **P 14 40 29.8 0.0**
comp=Z,168nm,1.3s,mb5.5
WRAK Wrangell Islan 81.32 343⇓*e*P **P 14 40 30.6 +0.3**
comp=Z,232nm,1.3s,mb5.7
WRAK Wrangell Islan 81.32 343⇓*e*P **P 14 40 30.6 +0.3**
comp=Z,232nm,1.3s,mb5.7
SDV Santo Domingo 81.42 274⇓*i*P **P 14 40 30.3 -0.5**
comp=Z,198nm,1.1s,mb5.7
SDV ⇑*e*pP pP 14 41 22.7 -0.8
SDV Santo Domingo 81.42 274⇓*i*P **P 14 40 30.3 -0.5**
comp=Z,198nm,1.1s,mb5.7
SDV ⇑*e*pP pP 14 41 22.7 -0.8
CAM4 Nova Friburgo 81.48 233⇑*e*P **P 14 40 31.8 +0.6**
CAM4 *i* 14 40 36.4
CAM4 *i* pP 14 41 25.1 +1.2
QIZ Qiongzhong 81.68 72 P **P 14 40 32.5 +0.3**
QIZ AP pP 14 41 25.8 +0.9
QIZ XP sP 14 41 49.0 +1.0
QIZ S S 14 50 26.5 +0.5
QIZ PS 14 51 47.8
QIZ XS sS 14 52 00.0 +1.7
QIZ SS SS 14 55 54.0 +5.4
QIZ AMB AMB
comp=Z,85nm,1.8s,mb5.1
QIZ AMB AMB
comp=Z,875nm,5.7s
QIZ Qiongzhong 81.68 72⇓*i*P **P 14 40 32.4 +0.2**
comp=Z,294nm,1.7s,mb5.6
QIZ Qiongzhong 81.68 72⇓*i*P **P 14 40 32.4 +0.2**
comp=Z,294nm,1.7s,mb5.6
WALA Waterton Lakes 81.73 329⇓*i*P **P 14 40 31.8 -0.6**
comp=Z,255nm,1.4s,mb5.7
WALA *e*pP pP 14 41 21.6 -3.6
WALA Waterton Lakes 81.73 329⇓*i*P **P 14 40 31.8 -0.6**
comp=Z,255nm,1.4s,mb5.7
WALA *e*pP pP 14 41 21.6 -3.6
GZH Guangzhou 81.75 67 P **P 14 40 33.0 +0.5**
GZH S S 14 50 25.8 -0.9
GZH LR LR
comp=N,397nm,16.5s
GZH LR LR
comp=E,409nm,19.0s
SNG Songkhla 81.84 87 P **P 14 40 33.0 0.0**
A13A Flathead Natio 82.03 329 P **P 14 40 33.7 -0.3**
baz=82,SNR=9.4
SSE Sheshan 82.07 56 P **P 14 40 34.0 -0.2**
SSE AP pP 14 41 25.0 -2.0
SSE XP sP 14 41 50.3 +0.2
SSE PP PP 14 43 42.8 -2.5
SSE S S 14 50 28.0 -2.1
SSE XS sS 14 52 02.0 -0.4
SSE SS SS 14 55 55.5 +1.1
SSE AMB AMB
comp=Z,132nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,622nm,4.9s
SSE LR LR
comp=N,553nm,17.7s
SSE LR LR
comp=E,311nm,17.9s
SSE LR LR
comp=Z,912nm,17.5s
SSE Sheshan 82.07 56 P **P 14 40 33.9 -0.3**
comp=Z,132nm,0.8s,mb5.6
SSE pP pP 14 41 24.9 -2.1
SSE sP sP 14 41 50.2 +0.1
SSE PP PP 14 43 42.8 -2.5
SSE S S 14 50 27.9 -2.2
SSE sS sS 14 52 01.9 -0.5
SSE SS SS 14 55 55.6 +1.2
SSE LR LR
comp=Z,910nm,17.5s
SSE Sheshan 82.07 56 P **P 14 40 33.9 -0.3**
comp=Z,132nm,0.8s,mb5.6
SSE pP pP 14 41 24.9 -2.1
SSE S S 14 50 27.9 -2.2
CRAG Craig 82.36 343 *e*P **P 14 40 35.6 -0.2**
comp=Z,357nm,1.5s,mb5.8
CRAG Craig 82.36 343 *e*P **P 14 40 35.6 -0.1**
comp=Z,357nm,1.5s,mb5.8
GCMT Greycliff 82.46 325 *e*P **P 14 40 34.9 -1.4**
GCMT Greycliff 82.46 325 *e*P **P 14 40 34.9 -1.3**
B13A Whitefish 82.50 329 ⇓P **P 14 40 36.5 +0.1**
baz=82,SNR=50
A12A Yaak River Ran 82.52 330 ⇑P **P 14 40 36.3 -0.2**
baz=82,SNR=28
CBKS Cedar Bluff 82.54 314⇓*i*P **P 14 40 36.3 -0.4**
CBKS *e**PP pP 14 41 27.6 -1.9
CBKS pmax pmax
comp=Z,181nm,0.9s,mb5.8
CBKS Cedar Bluff 82.54 314⇓*i*P **P 14 40 36.3 -0.4**
comp=Z,181nm,0.9s,mb5.8
CBKS *e*pP pP 14 41 27.6 -1.8
CBKS Cedar Bluff 82.54 314⇓*i*P **P 14 40 36.3 -0.4**
comp=Z,181nm,0.9s,mb5.8
CBKS *e*pP pP 14 41 27.6 -1.9
YSS Yuzh-Sakhalins 82.58 33⇑*i*P **P 14 40 37.0 +0.2**
YSS *e* pP 14 41 29.0 -0.7
YSS *e* 14 43 50.0
YSS *e**SS sS 14 52 04.0 -3.6
YSS pmax pmax
comp=Z,380nm,0.9s,mb6.1
YSS pmax pmax
comp=N,70nm,0.8s
YSS pmax pmax
comp=E,120nm,0.8s
YSS pmax pmax
comp=Z,2µm,2.0s,mb6.4
YSS MLR MLR
comp=Z,800nm,16.0s
YSS MLR MLR
comp=N,900nm,20.0s
YSS Yuzh-Sakhalins 82.58 33⇓*i*P **P 14 40 36.6 -0.2**
comp=N,536nm,0.8s,mb6.3
YSS *e*pP pP 14 41 27.8 -1.9
C14A Swan Lake 82.69 328 P **P 14 40 37.2 -0.2**
baz=82,SNR=93
HRY Holter Researc 82.71 326 *e*P **P 14 40 37.3 -0.2**
HRY Holter Researc 82.71 326 *e*P **P 14 40 37.3 -0.2**
B12A Libby 82.87 330 P **P 14 40 38.3 -0.1**
baz=82,SNR=31
KULM Kulim 83.02 89⇓*i*P **P 14 40 39.1 0.0**
KULM *e*pP pP 14 41 24.9 -7.1
KULM Kulim 83.02 89⇓*i*P **P 14 40 39.1 0.0**
KULM *e*pP pP 14 41 24.9 -7.1
C13A Hot Springs 83.09 329 P **P 14 40 39.8 +0.3**
baz=83,SNR=73
D14A Greenough 83.13 328 ⇑P **P 14 40 39.2 -0.5**
baz=83,SNR=36
CHMT Chamberlain Mo 83.15 327 *e*P **P 14 40 39.1 -0.7**
CHMT *e*pP pP 14 41 33.1 +0.4
CHMT Chamberlain Mo 83.15 327 *e*P **P 14 40 39.1 -0.7**
CHMT *e*pP pP 14 41 33.1 +0.4
PET Petropavlovsk 83.20 21 *e*P **P 14 40 38.5 -1.5**
PET *e**SP sP 14 41 54.9 -1.1
PET *e* 14 43 55.7
PET *e*S S 14 50 36.9 -4.5
PET *e**SS sS 14 52 11.9 -2.1
PET pmax pmax
comp=Z,110nm,1.2s,mb5.5
PET smax
comp=N,300nm,14.3s
PET MLR MLR
comp=Z,700nm,21.0s
B11A Sandpoint 83.20 330 P **P 14 40 39.8 -0.2**
baz=83,SNR=14
A10A Northport 83.22 331 P **P 14 40 40.1 0.0**
baz=83,SNR=23
E15A Deer Lodge 83.28 327 ⇑P **P 14 40 40.7 +0.2**
baz=83
KDAK Kodiak Island 83.29 354 P **P 14 40 40.0 -0.5**
comp=Z,1µm,0.6s,SNR=48
KDAK Kodiak Island 83.29 354⇓*e*P **P 14 40 40.4 -0.1**
comp=Z,111nm,0.6s,mb5.8
KDAK Kodiak Island 83.29 354⇓*e*P **P 14 40 40.4 -0.1**
comp=Z,109nm,0.6s,mb5.8
C12A Trout Creek 83.44 329 P **P 14 40 41.4 +0.1**
baz=83,SNR=111
BOZ Bozeman (W) 83.45 326⇓*i*P **P 14 40 41.8 +0.5**
BOZ *e**PP pP 14 41 34.3 +0.1
BOZ pmax pmax
comp=Z,713nm,2.0s,mb6.0
BOZ Bozeman (W) 83.45 326⇓*i*P **P 14 40 41.8 +0.5**
comp=Z,713nm,2.0s,mb6.0
BOZ *e*pP pP 14 41 34.3 +0.1
BOZ Bozeman (W) 83.45 326⇓*i*P **P 14 40 41.8 +0.5**
comp=Z,713nm,2.0s,mb6.0
BOZ *e*pP pP 14 41 34.3 +0.1
MSO Missoula 83.51 328⇓*i*P **P 14 40 40.9 -0.7**
comp=Z,134nm,1.5s,mb5.5
MSO Missoula 83.51 328⇓*i*P **P 14 40 40.9 -0.7**
comp=Z,134nm,1.5s,mb5.5
D13A Huson 83.52 328 P **P 14 40 41.5 -0.1**
baz=83,SNR=96
A09A Danville 83.61 332 P **P 14 40 42.4 +0.3**
baz=83,SNR=25
NEW Newport 83.64 330⇓*i*P **P 14 40 41.9 -0.4**
NEW pmax pmax
comp=Z,283nm,1.3s
NEW Newport 83.64 330⇓*i*P **P 14 40 41.9 -0.3**
comp=Z,283nm,1.3s,mb5.8
NEW Newport 83.64 330⇓*i*P **P 14 40 41.9 -0.4**
comp=Z,283nm,1.3s,mb5.8
B10A Chitwood Farm, 83.65 330 P **P 14 40 42.6 +0.3**
baz=83,SNR=8.5
E14A Clinton 83.65 327 ⇓P **P 14 40 42.3 0.0**
baz=83
LKWY Lake 83.73 324⇓*i*P **P 14 40 44.4 +1.7**
LKWY pmax pmax
comp=Z,76nm,0.8s,mb5.5
LKWY Lake 83.73 324⇓*i*P **P 14 40 44.4 +1.7**
comp=Z,76nm,0.8s,mb5.5
LKWY Lake 83.73 324⇓*i*P **P 14 40 44.4 +1.7**
comp=Z,76nm,0.8s,mb5.5
YNR Norris Junctio 83.74 325⇓*e*P **P 14 40 43.7 +0.9**
YNR Norris Junctio 83.74 325⇓*e*P **P 14 40 43.7 +0.9**
PHWY Pilot Hill 83.81 319⇓*i*P **P 14 40 43.6 +0.5**
PHWY *e*pP pP 14 41 35.8 -0.3
PHWY Pilot Hill 83.81 319⇓*i*P **P 14 40 43.7 +0.6**
PHWY *e*pP pP 14 41 35.8 -0.3
IPM Ipoh 83.81 89 P **P 14 40 43.3 +0.2**
B09A Rice 83.90 331 P **P 14 40 43.9 +0.3**
baz=84,SNR=68
YMR Madison River 83.91 325⇓*i*P **P 14 40 44.6 +0.9**
comp=Z,479nm,1.4s,mb6.0
YMR Madison River 83.91 325⇓*i*P **P 14 40 44.6 +1.0**
comp=Z,479nm,1.4s,mb6.0
QLMT Earthquake Lak 83.99 325 *e*P **P 14 40 44.8 +0.7**
QLMT Earthquake Lak 83.99 325 *e*P **P 14 40 44.8 +0.7**
YFT Old Faithful 84.02 324⇓*i*P **P 14 40 46.4 +2.2**
YFT Old Faithful 84.02 324⇓*i*P **P 14 40 46.4 +2.2**
C10A Spilker Farm, 84.07 330 ⇑P **P 14 40 44.2 -0.2**
baz=84,SNR=13
DLMT Dillon 84.09 326⇓*i*P **P 14 40 44.8 +0.2**
comp=Z,192nm,1.3s,mb5.7
DLMT Dillon 84.09 326⇓*i*P **P 14 40 44.8 +0.2**
comp=Z,192nm,1.3s,mb5.7
FLWY Flagg Ranch 84.24 324⇓*i*P **P 14 40 46.2 +0.9**
comp=Z,1µm,1.8s,mb6.3
FLWY Flagg Ranch 84.24 324⇓*i*P **P 14 40 46.2 +0.9**
comp=Z,1µm,1.8s,mb6.3
QZH Quanzhou 84.29 63⇑*i*P **P 14 40 44.0 -1.6**

QZH AMB AMB
comp=Z,240nm,0.6s,mb6.1
NATX Nacogdoches 84.36 306⇓eP P 14 40 45.7 -0.3
comp=Z,42nm,0.9s,mb5.2
NATX Nacogdoches 84.36 306⇓eP P 14 40 45.7 -0.2
comp=Z,42nm,0.9s,mb5.2
RWWY Rawlins 84.40 321⇓iP P 14 40 46.1 0.0
comp=Z,2µm,1.9s,mb6.4
RWWY Rawlins 84.40 321⇓iP P 14 40 46.1 0.0
comp=Z,2µm,1.9s,mb6.4
IMW Indian Meadow 84.50 324 eP P 14 40 47.3 +0.7
comp=Z,524nm,1.8s,mb6.0
MOOW Moose Ponds 84.52 324⇓iP P 14 40 47.0 +0.3
comp=Z,413nm,1.9s,mb5.8
MOOW epP pP 14 41 41.3 +1.5
MOOW Moose Ponds 84.52 324⇓iP P 14 40 47.0 +0.3
comp=Z,413nm,1.9s,mb5.8
MOOW epP pP 14 41 41.3 +1.5
B07A Winthrop 84.61 332 P P 14 40 47.0 -0.1
baz=84,SNR=27
MCMT McKenzie Canyo 84.62 326 eP P 14 40 47.5 +0.3
MCMT McKenzie Canyo 84.62 326 eP P 14 40 47.5 +0.3
BW06 Boulder Array 84.72 323⇓iP P 14 40 47.0 -0.7
comp=Z,246nm,1.4s,mb5.8
BW06 epP pP 14 41 40.1 -0.8
BW06 Boulder Array 84.72 323⇓iP P 14 40 47.0 -0.7
comp=Z,246nm,1.4s,mb5.8
BW06 epP pP 14 41 40.1 -0.7
PDAR Pinedale Array 84.72 323 P P 14 40 47.0 -0.7
comp=Z,28nm,0.8s,mb5.1,baz=49,slow=4.5,SNR=101
PDAR Pinedale Array 84.72 323 P P 14 40 47.0 -0.7
SNOW Snow King Moun 84.75 324⇓iP P 14 40 48.2 +0.3
comp=Z,196nm,1.4s,mb5.7
SNOW Snow King Moun 84.75 324⇓iP P 14 40 48.2 +0.4
comp=Z,196nm,1.4s,mb5.7
C08A Higginbotham F 84.77 331 P P 14 40 48.4 +0.4
baz=84,SNR=105
TPAW Teton Pass 84.82 324⇓iP P 14 40 48.8 +0.6
comp=Z,66nm,0.7s,mb5.5
WMOK Wichita Mounta 84.84 311⇓iP P 14 40 48.2 -0.1
WMOK e*PP pP 14 41 40.6 -0.8
WMOK e 14 44 01.7
WMOK pmax pmax
comp=Z,153nm,1.1s,mb5.6
WMOK Wichita Mounta 84.84 311⇓iP P 14 40 48.2 -0.1
comp=Z,153nm,1.1s,mb5.6
WMOK epP pP 14 41 40.5 -0.9
WMOK ePP PP 14 44 01.7 -6.1
WMOK Wichita Mounta 84.84 311⇓iP P 14 40 48.2 -0.1
comp=Z,153nm,1.1s,mb5.6
WMOK epP pP 14 41 40.5 -0.9
DCID1 Drake Creek 84.84 324⇓iP P 14 40 49.2 +0.9
DCID1 Drake Creek 84.84 324⇓iP P 14 40 49.2 +0.9
A05A Maple Falls 84.86 333 P P 14 40 46.9 -1.5
baz=84,SNR=6.8
REDW Red Top Meadow 84.87 324⇓eP P 14 40 48.5 0.0
comp=Z,366nm,1.6s,mb5.9
REDW Red Top Meadow 84.87 324⇓eP P 14 40 48.5 +0.1
comp=Z,366nm,1.6s,mb5.9
OD2 Odessa Site #2 84.97 331 P P 14 40 48.7 -0.2
OD2 Odessa Site #2 84.97 331 P P 14 40 48.7 -0.2
ISCO Idaho Springs 85.00 318⇓iP P 14 40 49.2 +0.1
ISCO e*PP pP 14 41 41.3 -0.9
ISCO pmax pmax
comp=Z,355nm,1.4s,mb5.9
ISCO Idaho Springs 85.00 318⇓iP P 14 40 49.2 +0.2
comp=Z,355nm,1.4s,mb5.9
ISCO epP pP 14 41 41.3 -0.9
ISCO Idaho Springs 85.00 318⇓iP P 14 40 49.2 +0.1
comp=Z,355nm,1.4s,mb5.9
ISCO epP pP 14 41 41.3 -0.9
NLW Nelson Butte 85.00 332 P P 14 40 49.1 0.0
NLW Nelson Butte 85.00 332 P P 14 40 49.1 0.0
B06A Marblemount 85.05 333 ⇑P P 14 40 48.2 -1.1
baz=85,SNR=13
D09A Jones Farm, Ri 85.08 330 ⇑P P 14 40 49.1 -0.4
baz=85,SNR=90
RRI2 Red Ridge 85.10 324⇓iP P 14 40 50.0 +0.4
comp=Z,796nm,2.0s,mb6.1
RRI2 epP pP 14 41 44.5 +1.8
CHGN Chignik 85.16 357 eP P 14 40 48.8 -1.1
WTV Waterville 85.18 332 P P 14 40 50.1 +0.1
C07A Waterville 85.23 332 P P 14 40 50.3 +0.1
baz=85,SNR=78
A04A Legoe Bay, Lum 85.31 334 ⇑P P 14 40 49.7 -0.9
baz=85
D08A Wollman Farm, 85.32 331 P P 14 40 50.6 0.0
baz=85,SNR=47
EPH Ephrata 85.33 331 P P 14 40 51.0 +0.2
EPH Ephrata 85.33 331 P P 14 40 51.0 +0.3
AHID Auburn Hatcher 85.45 324 eP P 14 40 50.4 -0.9
comp=Z,26nm,0.8s,mb5.0
E09A Wood Farm, Sta 85.47 330 P P 14 40 51.0 -0.4
baz=85,SNR=79
B05A Bryant 85.48 333 P P 14 40 50.5 -1.0
baz=85,SNR=15
F10A Beach Ranch, E 85.55 329 P P 14 40 51.1 -0.7
baz=85,SNR=52
D07A Quincy 85.61 331 P P 14 40 52.3 +0.2
baz=85,SNR=34
PGC Sidney 85.62 334⇓iP P 14 40 51.8 -0.3
comp=Z,286nm,0.7s,mb6.1
PGC Sidney 85.62 334⇓iP P 14 40 51.8 -0.4
comp=Z,286nm,0.7s,mb6.1
C05A Tolt Reservoir 85.82 333 ⇑P P 14 40 52.3 -0.8
baz=86,SNR=40
TBM Table Mountain 85.86 332 P P 14 40 53.1 -0.2
TBM Table Mountain 85.86 332 P P 14 40 53.1 -0.2
D06A Cle Elum 85.93 332 ⇑P P 14 40 53.1 -0.6
baz=86,SNR=9.9
F09A S2 Ranch, Elgi 86.04 329 P P 14 40 53.5 -0.7
baz=86,SNR=35
E07A Sunnyside 86.09 331 P P 14 40 55.0 +0.5
baz=86,SNR=42
HAWA Hanford 86.11 331⇓iP P 14 40 54.4 -0.2
comp=Z,386nm,1.5s,mb5.9
HAWA Hanford 86.11 331⇓iP P 14 40 54.4 -0.2
comp=Z,386nm,1.5s,mb5.9
B04A Port Angeles 86.15 334 ⇑P P 14 40 55.2 +0.5
baz=86,SNR=8.4
SMCO Snowmass 86.16 319⇓eP P 14 40 54.8 0.0
comp=Z,181nm,1.4s,mb5.6
SMCO Snowmass 86.16 319⇓eP P 14 40 54.8 0.0
comp=Z,181nm,1.4s,mb5.6
SDPT Sand Point 86.19 358⇓iP P 14 40 53.8 -1.2
comp=Z,226nm,0.6s,mb6.1
SDPT Sand Point 86.19 358⇓iP P 14 40 53.8 -1.2
comp=Z,226nm,0.6s,mb6.1
C04A Brinnon 86.26 333 ⇓P P 14 40 55.9 +0.7
baz=86,SNR=37
F08A Pendleton 86.31 330 ⇓P P 14 40 54.9 -0.6
baz=86,SNR=18
HLID Hailey 86.31 326 eP P 14 40 55.0 -0.6
comp=Z,68nm,1.8s,mb5.1
HLID Hailey 86.31 326 ⇑P P 14 40 55.5 0.0
baz=86,SNR=12
HLID Hailey 86.31 326 eP P 14 40 55.0 -0.6
comp=Z,68nm,1.8s,mb5.1
HKT Hockley 86.33 306⇓iP P 14 40 55.6 0.0
HKT e*PP pP 14 41 49.8 +0.9
HKT pmax pmax
comp=Z,152nm,1.3s,mb5.6
HKT Hockley 86.33 306⇓iP P 14 40 55.6 -0.1
comp=Z,152nm,1.3s,mb5.6
HKT epP pP 14 41 49.8 +0.9
HKT Hockley 86.33 306⇓iP P 14 40 55.6 0.0
comp=Z,152nm,1.3s,mb5.6
HKT epP pP 14 41 49.8 +0.9
D05A Enumclaw 86.36 332 ⇓P P 14 40 55.6 -0.2
baz=86,SNR=9.3
OBC Olympics--Boni 86.37 334 P P 14 40 56.9 +1.1
OBC Olympics--Boni 86.37 334 P P 14 40 56.9 +1.1
SDCO Great Sand Dun 86.45 317⇓eP P 14 40 55.9 -0.4
comp=Z,316nm,1.7s,mb5.8
SDCO epP pP 14 41 49.2 -0.3
SDCO ePP PP 14 44 17.0 -3.9
SDCO Great Sand Dun 86.45 317⇓eP P 14 40 55.9 -0.3
comp=Z,316nm,1.7s,mb5.8
SDCO epP pP 14 41 49.2 -0.3
HWUT Hardware Ranch 86.56 323⇓iP P 14 40 56.0 -0.7
comp=Z,98nm,0.7s,mb5.7
HWUT Hardware Ranch 86.56 323⇓iP P 14 40 56.0 -0.8
comp=Z,98nm,0.7s,mb5.7
C03A Quillayute Air 86.61 334 ⇑P P 14 40 58.0 +1.1
baz=86
WPW White Pass 86.61 332 P P 14 40 57.1 +0.1

WPW White Pass 86.61 332 P P 14 40 57.1 +0.1
ERM Erimo 86.62 36 P P 14 40 57.1 +0.1
comp=Z,387nm,0.6s,mb6.3,SNR=10
F07A Phinny Hill Vi 86.68 331 P P 14 40 57.8 +0.5
baz=86,SNR=14
D04A Dobbs Creek Ra 86.72 333 ⇓P P 14 40 58.1 +0.6
baz=86
SAML Samuel 86.75 256 P P 14 40 57.3 -0.4
SAML pP pP 14 41 55.9 +4.9
SAML SKSac SKSac 14 51 01.4 -2.0
SAML S S 14 51 16.0 -0.3
ROSC El Rosal 86.78 274 P P 14 40 58.2 +0.4
comp=Z,28nm,0.6s,mb5.2,baz=98,slow=12,SNR=31
ROSC El Rosal 86.78 274⇓iP P 14 40 57.8 0.0
ROSC El Rosal 86.78 274⇓iP P 14 40 57.8 0.0
H09A Durkee 86.80 329 ⇑P P 14 40 56.9 -1.0
baz=86
G08A Pilot Rock 86.80 330 P P 14 40 57.0 -0.9
baz=86,SNR=20
E05A Randle 86.81 332 ⇓P P 14 40 57.6 -0.4
baz=86,SNR=24
TCUT Toone Canyon 86.87 323⇓eP P 14 40 57.5 -0.7
TCUT Toone Canyon 86.87 323⇓eP P 14 40 57.5 -0.8
HVU Hansel Valley 86.99 324⇓iP P 14 40 58.3 -0.5
HVU pmax pmax
comp=Z,28nm,0.7s,mb5.1
HVU Hansel Valley 86.99 324⇓iP P 14 40 58.3 -0.5
comp=Z,28nm,0.7s,mb5.1
HVU Hansel Valley 86.99 324⇓iP P 14 40 58.3 -0.5
comp=Z,28nm,0.7s,mb5.1
D03A Wishkah Elem. 87.05 333 ⇑P P 14 41 00.0 +0.9
baz=87
G07A Ruggs Ranch, H 87.10 330 P P 14 40 59.2 -0.1
baz=87,SNR=21
F06A Goldendale 87.11 331 ⇓P P 14 40 59.8 +0.4
baz=87
E04A Onalaska 87.13 333 ⇓P P 14 40 59.7 +0.2
baz=87
KGM Kluang 87.13 90 P P 14 41 00.4 +0.9
SPUT South Promonto 87.21 323 eP P 14 40 57.0 -2.9
SPUT South Promonto 87.21 323 eP P 14 40 57.0 -2.9
F05A White Salmon 87.27 331 P P 14 41 00.3 +0.1
baz=87,SNR=17
H08A Prairie City 87.32 329 ⇓P P 14 41 00.5 +0.1
baz=87
DAU Daniels Canyon 87.35 322 eP P 14 41 00.6 +0.1
I09A Lost Marbles R 87.39 328 ⇓P P 14 40 59.7 -1.1
baz=87,SNR=29
E03A Lebam 87.47 333 ⇑P P 14 41 01.7 +0.6
baz=87,SNR=10
G06A Carlson Farm, 87.50 331 P P 14 41 01.8 +0.5
baz=87,SNR=60
F04A Amboy 87.58 332 ⇑P P 14 41 01.2 -0.4
baz=87
H07A Lands Inn, Kim 87.62 330 ⇓P P 14 41 02.1 +0.3
baz=87,SNR=74
G05A Wamic 87.75 331 ⇓P P 14 41 02.8 +0.3
baz=87,SNR=8.8
PV01 Paradox Valley 87.77 319 eP P 14 41 02.1 -0.4
PV01 Paradox Valley 87.77 319 eP P 14 41 02.1 -0.4
BGU Big Grassy Mou 87.78 324⇓iP P 14 41 02.3 -0.3
BGU Big Grassy Mou 87.78 324⇓iP P 14 41 02.3 -0.3
H06A Lindquist Farm 87.80 330 P P 14 41 02.9 +0.2
baz=88,SNR=54
PV10 Paradox Valley 87.82 320 eP P 14 41 03.2 +0.4
PV10 Paradox Valley 87.82 320 eP P 14 41 03.2 +0.4
MPU Maple Canyon 87.84 322⇓eP P 14 41 02.3 -0.5
comp=Z,84nm,1.4s,mb5.4
MPU Maple Canyon 87.84 322⇓eP P 14 41 02.3 -0.5
comp=Z,84nm,1.4s,mb5.4
J09A Fry Pan Ranch, 87.92 328 P P 14 41 03.4 +0.2
baz=88,SNR=119
M13A Montello 87.96 324 P P 14 41 03.8 +0.4
baz=88,SNR=12
F03A Seaside 88.00 333 ⇓P P 14 41 04.2 +0.6
baz=88,SNR=6.1
SRU San Rafael 88.00 321⇓iP P 14 41 02.9 -0.7
SRU pmax pmax
comp=Z,92nm,0.6s,mb5.8
SRU San Rafael 88.00 321⇓iP P 14 41 02.9 -0.7
comp=Z,92nm,0.6s,mb5.8
SRU San Rafael 88.00 321⇓iP P 14 41 02.9 -0.7
comp=Z,92nm,0.6s,mb5.8
I07A Izee 88.02 329 P P 14 41 04.0 +0.2
baz=88,SNR=46
NLU North Lily Min 88.10 322⇓eP P 14 41 03.7 -0.4
TMUT Trail Mountain 88.19 321⇓iP P 14 41 04.0 -0.6
TMUT Trail Mountain 88.19 321⇓iP P 14 41 04.0 -0.5
J08A Circle Bar Ran 88.20 328 P P 14 41 04.2 -0.4
baz=88,SNR=34
G04A Mulino 88.22 332 ⇓P P 14 41 04.5 -0.1
baz=88
H05A Madras 88.22 331 ⇓P P 14 41 05.1 +0.4
baz=88,SNR=7.7
M12A Wells 88.25 325 ⇓P P 14 41 05.6 +0.8
baz=88,SNR=40
DUG Dugway 88.26 323⇓iP P 14 41 04.5 -0.3
DUG pmax pmax
comp=Z,59nm,0.8s,mb5.5
DUG Dugway 88.26 323⇓iP P 14 41 04.5 -0.3
comp=Z,59nm,0.8s,mb5.5
DUG Dugway 88.26 323 P P 14 41 04.8 0.0
baz=88,SNR=53
DUG Dugway 88.26 323⇓iP P 14 41 04.5 -0.3
comp=Z,59nm,0.8s,mb5.5
MAJO Matsushiro 88.37 43⇓iP P 14 41 04.2 -1.1
MAJO pmax pmax
comp=Z,123nm,1.4s,mb5.5
MAJO Matsushiro 88.37 43⇓iP P 14 41 04.2 -1.1
comp=Z,123nm,1.4s,mb5.5
MAJO Matsushiro 88.37 43⇓iP P 14 41 04.2 -1.1
comp=Z,123nm,1.4s,mb5.5
MAT Matsushiro 88.37 43 P P 14 41 04.1 -1.2
MAT S S 14 51 26.0 -5.7
MJAR Matsushiro Arr 88.37 43 P P 14 41 04.7 -0.7
comp=Z,19nm,0.8s,mb5.0,baz=330,slow=4.4,SNR=55
N13A Wendover, West 88.38 324 ⇑P P 14 41 05.7 +0.3
baz=88,SNR=6.9
I06A Prineville 88.42 330 ⇓P P 14 41 06.7 +1.1
baz=88,SNR=29
G03A Yamhill 88.42 332 ⇓P P 14 41 06.3 +0.7
baz=88,SNR=12
MVCO Mesa Verde 88.43 318⇓iP P 14 41 05.4 -0.3
comp=Z,86nm,1.1s,mb5.5
MVCO Mesa Verde 88.43 318 ⇓P P 14 41 05.8 +0.1
baz=88,SNR=20
MVCO Mesa Verde 88.43 318⇓iP P 14 41 05.4 -0.2
comp=Z,86nm,1.1s,mb5.5
JCT Junction City 88.43 309⇓iP P 14 41 05.7 +0.1
JCT pmax pmax
comp=Z,65nm,0.7s,mb5.6
JCT Junction City 88.43 309⇓iP P 14 41 05.7 +0.1
comp=Z,65nm,0.7s,mb5.6
JCT Junction City 88.43 309⇓iP P 14 41 05.7 +0.1
comp=Z,65nm,0.7s,mb5.6
K09A Rome 88.43 327 P P 14 41 06.0 +0.4
baz=88,SNR=97
J07A Hines 88.53 329 ⇑P P 14 41 06.1 0.0
baz=88,SNR=19
H04A Detroit Lake 88.56 331 P P 14 41 06.0 -0.2
baz=88,SNR=19
M11A Holland Ranch, 88.63 326 ⇑P P 14 41 07.2 +0.6
baz=88,SNR=10
K08A Mann Creek Ran 88.73 328 ⇓P P 14 41 07.0 0.0
baz=88,SNR=11
N12A Clover Valley, 88.76 325 P P 14 41 07.8 +0.6
baz=88,SNR=40
M10A I.L. Ranch, Tu 88.89 326 ⇑P P 14 41 08.2 +0.4
baz=89,SNR=30
L09A Wilkinson Ranc 88.97 327 P P 14 41 08.9 +0.8
baz=89,SNR=40
H03A Soap Creek Ran 88.97 332 P P 14 41 09.1 +0.9
baz=89,SNR=8.7
J06A Christmas Vall 88.97 329 P P 14 41 08.8 +0.7
baz=89,SNR=88
BROR Big Rock Looko 89.01 331 P P 14 41 08.3 -0.1
BROR Big Rock Looko 89.01 331 P P 14 41 08.3 0.0
WVOR Wild Horse Val 89.03 328⇓iP P 14 41 08.4 -0.1
WVOR pmax pmax
comp=Z,27nm,0.6s,mb5.2
WVOR Wild Horse Val 89.03 328⇓iP P 14 41 08.3 -0.1
comp=Z,27nm,0.6s,mb5.2
WVOR Wild Horse Val 89.03 328⇓iP P 14 41 08.4 -0.1
comp=Z,27nm,0.6s,mb5.2
ANMO Albuquerque 89.05 316 P P 14 41 09.0 +0.5
ANMO Albuquerque 89.05 316diP P 14 41 09.0 +0.5

ANMO Albuquerque 89.05 316 eP P 14 41 08.7 +0.2
comp=Z,29nm,0.9s,mb5.1
ANMO Albuquerque 89.05 316 eP P 14 41 08.7 +0.2
comp=Z,29nm,0.9s,mb5.1
COR Corvallis 89.06 332 eP P 14 41 09.5 +0.9
COR pmax pmax
comp=Z,510nm,1.9s,mb6.0
COR Corvallis 89.06 332 eP P 14 41 09.5 +0.9
comp=Z,510nm,1.9s,mb6.0
COR Corvallis 89.06 332 eP P 14 41 09.5 +0.9
comp=Z,510nm,1.9s,mb6.0
K07A Rock Creek Ran 89.07 328 P P 14 41 09.0 +0.3
baz=89,SNR=74
O12A Currie 89.10 324 P P 14 41 09.2 +0.5
baz=89,SNR=16
N11A Elko Archery C 89.10 325 ⇑P P 14 41 09.2 +0.5
baz=89,SNR=6.3
L08A Fields 89.11 328 P P 14 41 09.3 +0.5
baz=89,SNR=52
H02A Toledo 89.23 332 ⇓P P 14 41 10.2 +0.8
baz=89
MSU Marysvale 89.28 322 eP P 14 41 09.7 +0.1
M09A Marrel Ranch, 89.36 327 ⇑P P 14 41 10.6 +0.6
baz=89,SNR=10
J05A Fort Rock 89.38 330 P P 14 41 11.2 +1.1
baz=89,SNR=68
K06A Valley Falls 89.39 329 ⇓P P 14 41 10.7 +0.6
baz=89,SNR=38
N10A Dunphy 89.53 326 ⇑P P 14 41 11.2 +0.4
baz=89
I03A Eugene 89.57 332 P P 14 41 11.3 +0.4
baz=89,SNR=9.8
LPM Los Pinos Moun 89.62 315 eP P 14 41 11.3 +0.1
LPM Los Pinos Moun 89.62 315 eP P 14 41 11.3 +0.1
O11A Cowboy Ranch, 89.62 325 P P 14 41 11.5 +0.3
baz=89,SNR=25
L07A Adell 89.67 328 P P 14 41 12.5 +1.1
baz=89,SNR=85
K05A Summer Lake 89.71 329 ⇓P P 14 41 12.5 +0.9
baz=89,SNR=45
BNM Barren Site 89.74 315 eP P 14 41 11.5 -0.3
BNM Barren Site 89.74 315 eP P 14 41 11.5 -0.2
M08A Happy Creek Ra 89.74 327 P P 14 41 12.6 +0.8
baz=89,SNR=47
I02A Mapleton 89.75 332 ⇑P P 14 41 12.3 +0.6
baz=89,SNR=6.9
P12A McGill 89.81 324 P P 14 41 12.7 +0.6
baz=90,SNR=42
LAZ Ladron 89.83 316 eP P 14 41 12.4 +0.3
LAZ Ladron 89.83 316 eP P 14 41 12.4 +0.2
N09A Rock Creek Ran 89.86 326 P P 14 41 12.8 +0.5
baz=90,SNR=51
O10A Cortez Mining, 89.87 325 ⇑P P 14 41 12.8 +0.4
baz=90,SNR=7.9
LENM Lemitar 89.92 316 eP P 14 41 12.7 +0.1
Y22C IRIS PASSCAL I 89.95 315 ⇑P P 14 41 13.2 +0.5
baz=90
J03A Ideyld Park 89.97 331 P P 14 41 12.7 -0.1
baz=90,SNR=23
Q12A Willow Creek R 90.12 324 P P 14 41 14.2 +0.6
baz=90,SNR=40
M07A Soldier Meadow 90.12 328 P P 14 41 14.3 +0.8
baz=90,SNR=32
P11A Circle Ranch, 90.13 324 ⇓P P 14 41 13.9 +0.4
baz=90
K04A Chilquin 90.14 330 ⇑P P 14 41 14.1 +0.5
baz=90
MOD Modoc 90.16 329 eP P 14 41 14.0 +0.3
comp=Z,200nm,1.4s,mb5.8
MOD Modoc 90.16 329 ⇓P P 14 41 14.2 +0.5
baz=90,SNR=27
N08A GE Springer Mi 90.18 327 P P 14 41 14.3 +0.5
baz=90,SNR=70
J02A Umpqua 90.20 331 ⇑P P 14 41 14.2 +0.3
baz=90,SNR=7.1
L05A Lakeview 90.26 329 P P 14 41 15.4 +1.2
baz=90,SNR=57
O09A Fish Creek Ran 90.27 326 P P 14 41 14.6 +0.4
baz=90,SNR=34
P10A Eureka 90.40 325 ⇓P P 14 41 15.4 +0.6
baz=90,SNR=7.6
ARUT Antelope Range 90.46 322 eP P 14 41 15.2 +0.1
ARUT e*PP pP 14 42 08.5 -0.3
N07B Gerlach 90.54 327 ⇑P P 14 41 16.2 +0.7
baz=90,SNR=5.9
L04A Klamath Falls 90.57 330 ⇑P P 14 41 15.9 +0.3
baz=90,SNR=10
O08A Rochester Mine 90.60 326 ⇑P P 14 41 16.1 +0.3
baz=90
CCUT Cedar City 90.61 322⇓eP P 14 41 16.0 +0.2
HUMO Hull Mountain 90.62 331 eP P 14 41 15.3 -0.5
comp=Z,258nm,1.6s,mb5.9
HUMO Hull Mountain 90.62 331 P P 14 41 15.8 -0.1
baz=90,SNR=23
Q11A Duckwater 90.66 324 P P 14 41 16.3 +0.3
baz=90,SNR=27
K02A Glendale 90.68 331 P P 14 41 16.6 +0.4
baz=90,SNR=24
P09A Austin 90.76 325 ⇓P P 14 41 16.2 -0.3
baz=90
M06C Likely Place G 90.82 328 P P 14 41 17.4 +0.7
baz=90,SNR=28
MNTX Cornudas Mount 90.86 313⇓iP P 14 41 16.6 -0.3
comp=Z,172nm,1.4s,mb5.8
MNTX ePP PP 14 44 53.0 -3.0
M04C Macdoel 90.88 329 P P 14 41 17.4 +0.4
baz=90,SNR=25
TGUH Tegucigalpa,Un 90.91 289⇓eP P 14 41 17.3 +0.1
comp=Z,35nm,0.4s,mb5.6
N06A Buffalo Meadow 90.93 328 P P 14 41 17.7 +0.4
baz=91,SNR=36
M05C Lookout 90.96 329 ⇓P P 14 41 17.8 +0.4
baz=91
K01A Sixes 91.01 332 ⇑P P 14 41 18.0 +0.4
baz=91
O07A Toulon 91.02 327 P P 14 41 18.2 +0.5
baz=91,SNR=44
P08A Dixie Valley 91.06 326 ⇓P P 14 41 18.4 +0.5
baz=91,SNR=5.2
WUAZ Wupatki 91.21 319⇓eP P 14 41 18.9 +0.3
comp=Z,257nm,1.5s,mb5.9
WUAZ Wupatki 91.21 319 P P 14 41 19.2 +0.6
baz=91,SNR=48
L02A Cave Junction 91.25 331 ⇓P P 14 41 19.1 +0.3
baz=91,SNR=9.6
YBH Yreka Blue Hor 91.27 330 P P 14 41 18.2 -0.6
YBH pmax pmax
comp=Z,98nm,1.4s
YBH Yreka Blue Hor 91.27 330⇓eP P 14 41 17.4 -1.4
comp=Z,99nm,1.4s,mb5.5
YBH Yreka Blue Hor 91.27 330 ⇑P P 14 41 18.1 -0.8
baz=91,SNR=19
Q09A Carvers 91.36 325 ⇑P P 14 41 19.0 -0.3
baz=91
R10A Warm Springs 91.41 324 ⇓P P 14 41 19.9 +0.4
baz=91,SNR=15
M03C McCloud 91.42 329 ⇓P P 14 41 19.6 0.0
baz=91,SNR=6.1
LBCM Butte Creek Ri 91.48 329 P P 14 41 20.1 +0.2
P07A Fallon 91.53 326 ⇑P P 14 41 20.7 +0.6
baz=91
HATC Hat Creek Radi 91.55 329 P P 14 41 20.5 +0.4
baz=91,SNR=9.2
TXAR Lajitas Array 91.59 310 P P 14 41 20.9 +0.6
comp=Z,70nm,1.1s,mb5.5,baz=64,slow=2.9,SNR=164
TXAR PKKPbc PKKPbc 14 58 39.1 +0.3
comp=Z,1.2nm,0.9s,baz=211,slow=4.4,SNR=7.2
TXAR SKKPbc 15 01 55.7
comp=Z,0.1nm,0.3s,baz=242,slow=2.7,SNR=3.6
TXAR Lajitas Array 91.59 310 P P 14 41 20.9 +0.6
TXAR PKKPbc PKKPbc 14 58 39.1 +0.3
TXAR SKKPbc 15 01 55.7
PAHR Pah Rah Range 91.61 327⇓iP P 14 41 20.4 0.0
comp=Z,218nm,1.6s,mb5.8
M02C Callahan 91.61 330 P P 14 41 20.3 -0.1
baz=91,SNR=13
M01C Crescent City 91.71 331 ⇑P P 14 41 21.5 +0.6
baz=91
R09A Tonopah 91.80 324 P P 14 41 20.8 -0.5
baz=92,SNR=12
O04C Chester 91.81 328 ⇑P P 14 41 21.5 +0.1
baz=92,SNR=9.7
P06A Stead Airport, 91.85 327 ⇑P P 14 41 21.5 -0.1
baz=92
BEKR Beckwourth 91.89 327 P P 14 41 21.6 -0.1
baz=92,SNR=22
KRMB Red Mountain 91.91 331⇓eP P 14 41 22.2 +0.4

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W15A Williams          91.93 320  P          P          14 41 22.8 +0.9
     baz=92,SNR=20
O05C Quincy            92.04 328 ⇓P          P          14 41 22.4  0.0
     baz=92
U12A Valley of Fire    92.07 322 ⇓P          P          14 41 22.7 +0.2
     baz=92
WCN  Washoe City       92.11 327 ⇓P          P          14 41 23.0 +0.3
     baz=92,SNR=18
R08A Mina              92.17 325 ⇑P          P          14 41 22.7 -0.4
     baz=92
WDC  Whiskeytown Da    92.18 329⇑eP          P          14 41 22.6 -0.5
WDC                                pmax       pmax
     comp=Z,265nm,2.2s,mb5.8
WDC  Whiskeytown Da    92.18 329⇑eP          P          14 41 22.6 -0.5
     comp=Z,265nm,2.2s,mb5.8
WDC  Whiskeytown Da    92.18 329  P          P          14 41 22.1 -1.0
     baz=92,SNR=6.3
NVAR Mina Array Bea    92.19 325  P          P          14 41 22.9 -0.2
     comp=Z,6.3nm,0.6s,mb4.7,baz=37,slow=5.0,SNR=44
NVAR                               PKKPbc     PKKPbc     14 58 37.8 +0.6
     comp=Z,1.8nm,0.8s,baz=186,slow=4.2,SNR=8.4
N02C Big Bar           92.28 330 ⇓P          P          14 41 23.9 +0.4
     baz=92,SNR=21
S09A Goldfield         92.29 324 ⇓P          P          14 41 23.2 -0.3
     baz=92,SNR=16
W14A Seligman          92.32 320 ⇑P          P          14 41 24.7 +1.0
     baz=92,SNR=53
X15A Humboldt          92.46 319 ⇑P          P          14 41 25.1 +0.8
     baz=92,SNR=26
O03C Acorn Hollow,     92.47 329 ⇓P          P          14 41 23.9 -0.5
     baz=92,SNR=6.0
U11A Corn Creek        92.48 322 ⇓P          P          14 41 25.5 +1.1
     baz=92
JCC  Jacoby Creek      92.56 330 ⇓P          P          14 41 25.3 +0.4
     baz=92
R06C Coleville         92.62 326 ⇑P          P          14 41 25.6 +0.5
     baz=92,SNR=27
O02C Red Bluff         92.62 329 ⇑P          P          14 41 24.8 -0.3
     baz=92,SNR=7.6
ORV  Oroville          92.63 328  P          P          14 41 24.5 -0.6
     baz=92,SNR=16
R05C Kirkwood Meado    92.74 327  P          P          14 41 26.0 +0.4
     baz=92,SNR=22
V12A Nelson            92.78 322 ⇑P          P          14 41 26.3 +0.5
     baz=92,SNR=18
R07C Lee Vining        92.81 326  P          P          14 41 27.1 +1.1
     baz=92,SNR=8.8
OHCM Honcut            92.81 328 eP          P          14 41 24.7 -1.2
X14A Yava              92.81 320  P          P          14 41 26.5 +0.6
     baz=92,SNR=19
W13A Hualapai Mount    92.81 321  P          P          14 41 26.6 +0.7
     baz=92,SNR=23
OTAV Otavalo           92.86 273⇓iP          P          14 41 27.0 +0.8
     comp=Z,167nm,1.5s,mb5.8
OTAV                               epP        pP         14 42 20.9 +1.0
S08C White Mtn Res     92.90 325  P          P          14 41 27.2 +0.9
     baz=93,SNR=26
KSM  Kuching           92.92  86⇓iP          P          14 41 26.7 +0.2
U10A Ash Meadows, A    92.93 323 ⇑P          P          14 41 27.3 +0.8
     baz=93,SNR=15
GRAC Grapevine Rang    92.94 324 ⇓P          P          14 41 26.9 +0.3
     baz=93,SNR=5.9
LAVA Lava Cap Winer    92.98 327 ⇓P          P          14 41 26.3 -0.5
     baz=93
SUTB Sutter Butte      93.02 328 ⇑P          P          14 41 26.1 -0.8
     baz=93
GASB Alder Springs     93.05 329 ⇓P          P          14 41 27.3 +0.3
     baz=93,SNR=8.6
O01C Eel River Cons    93.06 330 ⇓P          P          14 41 28.1 +0.9
     baz=93,SNR=8.1
MLAC Mammoth Lakes     93.09 325 ⇓P          P          14 41 28.3 +1.1
     baz=93
W12A Cal Nev Ari       93.13 321 ⇓P          P          14 41 27.7 +0.3
     baz=93
FURC Furnace Creek,    93.14 323 ⇑P          P          14 41 27.9 +0.4
     baz=93,SNR=6.5
Q04C Lincoln           93.18 328 ⇓P          P          14 41 28.0 +0.3
     baz=93
X13A Yucca             93.18 320  P          P          14 41 28.2 +0.6
     baz=93,SNR=31
KIPM Iron Peak         93.21 330 eP          P          14 41 27.8  0.0
Y14A Wickenburg        93.28 319  P          P          14 41 28.4 +0.2
     baz=93,SNR=20
TIN  Tinemaha          93.29 325 ⇓P          P          14 41 28.9 +0.7
     baz=93
S06C San Francisco     93.33 326  P          P          14 41 28.9 +0.6
     baz=93,SNR=23
SHOC Shoshone          93.33 323 ⇑P          P          14 41 28.7 +0.4
     baz=93
TUC  Tucson            93.39 317  P          P          14 41 28.9 +0.3
TUC                                pmax       pmax
     comp=Z,120nm,1.3s,mb5.8
TUC  Tucson            93.39 317⇓eP          P          14 41 28.9 +0.3
     comp=Z,123nm,1.4s,mb5.8
TUC                                epP        pP         14 42 23.5 +1.2
CMB  Columbia Colle    93.43 327  P          P          14 41 29.2 +0.4
CMB                                pmax       pmax
     comp=Z,120nm,2.0s,mb5.6
CMB  Columbia Colle    93.43 327⇓eP          P          14 41 28.3 -0.5
     comp=Z,121nm,2.0s,mb5.6
CMB  Columbia Colle    93.43 327 ⇑P          P          14 41 28.4 -0.5
     baz=93,SNR=6.9
P01C Double 8 Ranch    93.45 329 ⇑P          P          14 41 29.3 +0.4
     baz=93
R04C Big Horse Ranc    93.48 327 ⇑P          P          14 41 29.2 +0.2
     baz=93
TUQ  Turquoise Mtn.    93.53 322 ⇑P          P          14 41 29.8 +0.5
     baz=93,SNR=8.6
KCC  Kaiser Creek      93.56 325 ⇑P          P          14 41 29.7 +0.3
     baz=93,SNR=7.7
PDMCI Parker Dam,Lak   93.57 320 ⇓P          P          14 41 29.6 +0.2
     baz=93,SNR=9.4
MNRC McLaughlin Nat    93.59 328 ⇓P          P          14 41 30.2 +0.6
     baz=93,SNR=6.7
Q03C Winters           93.62 328 ⇑P          P          14 41 31.0 +1.3
     baz=93
116A Eloy              93.69 318 ⇑P          P          14 41 29.9 -0.1
     baz=93
Z14A Wintersburg       93.70 319 ⇓P          P          14 41 30.4 +0.3
     baz=93,SNR=15
CWC  Cottonwood Cre    93.73 324  P          P          14 41 30.6 +0.4
     baz=93,SNR=7.0
HOPS Hopland           93.75 329 ⇓P          P          14 41 31.0 +0.8
     baz=93,SNR=6.5
MPMC Manual Prospec    93.77 323  P          P          14 41 30.8 +0.5
     baz=93,SNR=13
Y13A Salome            93.80 320 ⇓P          P          14 41 30.6 +0.1
     baz=94
CPUP Villa Florida     93.83 239  P          P          14 41 30.6  0.0
     comp=Z,15nm,1.0s,mb5.0,baz=39,slow=4.6,SNR=16
CPUP Villa Florida     93.83 239  P          P          14 41 30.9 +0.3
CPUP                               pmax       pmax
     comp=Z,85nm,1.1s
CPUP Villa Florida     93.83 239⇓eP          P          14 41 30.2 -0.5
     comp=Z,84nm,1.1s,mb5.7
115A Sonoran Desert    93.85 318  P          P          14 41 31.6 +0.8
     baz=94,SNR=20
HELL Mitchell Peak,    93.96 325  P          P          14 41 31.1 -0.1
     baz=94,SNR=20
S05C Merced            93.98 326 ⇑P          P          14 41 31.5 +0.2
     baz=94
T06C Milerton Lake     94.00 326 ⇓P          P          14 41 31.2 -0.2
     baz=94,SNR=6.8
CVS  Carmenet Viney    94.05 328 ⇑P          P          14 41 31.8 +0.1
     baz=94
GSC  Goldstone         94.06 323  P          P          14 41 32.2 +0.5
     baz=94,SNR=11
BDM  Black Diamond     94.13 327 ⇓P          P          14 41 32.4 +0.4
     baz=94
IRM  Iron Mountain     94.18 321  P          P          14 41 32.8 +0.6
     baz=94,SNR=25
Y12C Blythe            94.20 320 ⇑P          P          14 41 32.6 +0.3
     baz=94,SNR=7.5
HEC  Hector,Ludlow     94.22 322 ⇑P          P          14 41 32.8 +0.3
     baz=94,SNR=8.7
S04C Ingram Canyon,    94.28 327 ⇓P          P          14 41 33.0 +0.3
     baz=94
LRMC Laurel Mountai    94.34 323  P          P          14 41 33.4 +0.4
     baz=94,SNR=17
WENL Wente Brothers    94.37 327 ⇓P          P          14 41 33.7 +0.6
     baz=94
ISA  Isabella          94.55 324  P          P          14 41 34.2 +0.3
ISA  Isabella          94.55 324⇓eP          P          14 41 33.9  -0.1
     comp=Z,29nm,0.8s,mb5.5
ISA  Isabella          94.55 324  P          P          14 41 34.3 +0.3
     baz=94,SNR=25
KKM  Kota Kinabalu     94.63  79  P          P          14 41 34.3  0.0
VES  Vestal, Richgr    94.68 324 ⇓P          P          14 41 35.2 +0.7
     baz=94
PACP Pacheco Peak      94.68 327 ⇓P          P          14 41 34.8 +0.2
     baz=94
BELC Belle Mtn.        94.73 321  P          P          14 41 35.5 +0.8
     baz=94,SNR=14
BC3  Big Chuckw Mtn    94.74 321  P          P          14 41 35.4 +0.6
     baz=94,SNR=6.6
JRSC Jasper Ridge      94.75 327 ⇑P          P          14 41 34.9 +0.1
     baz=94
GLA  Glamis            94.91 320 ⇓P          P          14 41 35.8 +0.2
     baz=95
BNLO Ben Lomond (Sa    94.96 327 ⇑P          P          14 41 35.7  -0.1
     baz=95
BBRC Big Bear Sol-O    94.96 322 ⇑P          P          14 41 36.5 +0.6
     baz=95
EDW2 Edwards Air Fo    94.97 323  P          P          14 41 36.4 +0.5
     baz=95,SNR=13
V05C Boulder Hill,     95.03 325 ⇑P          P          14 41 36.0  -0.1
     baz=95
LRV  Little Rabbit     95.06 326 eP          P          14 41 34.7  -1.6
LPAZ La Paz            95.11 253  P          P          14 41 35.7  -0.8
     comp=Z,11nm,0.9s,mb5.0,baz=39,slow=5.8,SNR=45
LPAZ                               PP         PP         14 45 27.6  -1.6
     comp=Z,7.8nm,1.1s,baz=38,slow=10,SNR=8.3
LPAZ La Paz            95.11 253  P          P          14 41 35.7  -0.8
LPAZ                                                    14 45 27.6
LPAZ                               pmax       pmax
     comp=Z,11nm,0.9s
LPAZ                               pmax       pmax
     comp=Z,8.0nm,1.1s
LPAZ La Paz            95.11 253 eP          P          14 41 35.2  -1.3
     comp=Z,18nm,1.0s,mb5.2
LPAZ                               ePP        PP         14 45 25.2  -3.9
PKD  Parkfield         95.25 325 ⇑P          P          14 41 37.3 +0.2
     baz=95
PFO  Pinyon Flat Ob    95.27 321  P          P          14 41 37.8 +0.6
     comp=Z,258nm,1.8s,mb6.1,SNR=7.8
PFO  Pinyon Flat Ob    95.27 321 eP          P          14 41 37.5 +0.3
PFO                                pmax       pmax
     comp=Z,140nm,1.5s,mb5.9
PFO  Pinyon Flat Ob    95.27 321⇓eP          P          14 41 37.0  -0.2
     comp=Z,133nm,1.5s,mb5.8
PFO  Pinyon Flat Ob    95.27 321 ⇓P          P          14 41 37.6 +0.4
     baz=95,SNR=14
HAST UC Hastings Re    95.32 326 ⇓P          P          14 41 37.6 +0.1
     baz=95
BFSC Mount Baldy St    95.33 323 ⇓P          P          14 41 36.9  -0.6
     baz=95,SNR=7.3
SWSC Sam W. Stewart    95.48 321 ⇑P          P          14 41 38.2   0.0
     baz=95
V03C Hunter Liggett    95.49 326 ⇓P          P          14 41 38.4 +0.1
     baz=95
OSI  Osito Adit        95.53 323 ⇑P          P          14 41 38.7 +0.3
     baz=95
SMMC Simmler           95.54 325 ⇓P          P          14 41 38.6 +0.1
     baz=95
MURC Murrieta          95.64 322 ⇑P          P          14 41 39.0 +0.1
     baz=95
DECC Green Verdugo     95.64 323 ⇓P          P          14 41 38.5  -0.5
     baz=95
V04C Ramage Ranch,     95.65 326 ⇓P          P          14 41 39.4 +0.4
     baz=95
PKM  Peak Mountain     95.80 324 ⇑P          P          14 41 40.6 +1.0
     baz=96,SNR=9.0
MONP Monument Peak     95.83 321  P          P          14 41 40.7 +0.9
     baz=96,SNR=8.0
DVTC Desert V Tower    95.86 321 ⇑P          P          14 41 40.4 +0.5
     baz=96
109C Camp Elliot, M    96.17 321 ⇓P          P          14 41 41.4 +0.1
     baz=96
CIS  Catalina Islan    96.37 323 ⇓P          P          14 41 42.3 +0.1
     baz=96
TSM  Tawau             97.01  79  P          P          14 41 44.4  -0.7
CFAA Coronel Fontan    104.55 241 PKKPbc     PKKPbc     14 58 03.3 +0.3
     comp=Z,0.4nm,0.6s,baz=240,slow=4.0,SNR=7.6
SYO  Syowa Base        108.94 171⇑ePP        PP         14 47 10.4  -2.1
SNAA Sanae             110.89 186 PKiKP      PKiKP      14 46 43.9  -1.4
     comp=Z,1.1nm,1.0s,baz=360,slow=4.3,SNR=4.4
SNAA                               PKKPbc     PKKPbc     14 57 41.4  -1.8
     comp=Z,0.7nm,0.6s,baz=228,slow=6.3,SNR=12
MAW  Mawson            111.93 162 PKiKP      PKiKP      14 46 47.1  -0.2
     comp=Z,1.7nm,0.7s,baz=276,slow=18,SNR=3.6
FITZ Fitzroy Crossi    116.73  92 ePKP       PKPdf      14 46 56.1  -0.4
     comp=Z,7.0nm,0.3s
FITZ Fitzroy Crossi    116.73  92 PKP        PKPdf      14 46 56.3  -0.2
     comp=Z,4.3nm,0.4s,baz=328,slow=3.3,SNR=20
FITZ                               PKKPbc     PKKPbc     14 57 24.3 +0.7
     comp=Z,6.3nm,0.9s,baz=151,slow=5.7,SNR=6.7
MUN  Mundaring         116.95 111 ePKP       PKPdf      14 47 11.0  +14
KLBR Kellerberrin      117.89 109 ePKP       PKPdf      14 46 57.6  -1.1
     comp=Z,7.6nm,0.4s
NWAO Narrogin (SRO)    118.18 111 PKP        PKPdf      14 46 58.3  -1.0
     comp=Z,6.0nm,0.7s,baz=205,slow=2.2,SNR=6.3
KAKA Kakadu            118.89  83 ePKP       PKPdf      14 47 00.1  -0.5
     comp=Z,17nm,0.6s
WRA  Warramunga Arr    124.56  89 PKhKP                 14 46 57.8
     comp=Z,0.4nm,0.5s,baz=317,slow=3.0,SNR=3.9
WRA                                PKP        PKPdf      14 47 10.9  -0.7
     comp=Z,15nm,0.8s,baz=319,slow=1.8,SNR=61
WRA                                PP         PP         14 48 58.8  -2.2
     comp=Z,3.9nm,0.8s,baz=310,slow=7.2,SNR=4.8
WRA                                SKPbc                 14 50 02.2
     comp=Z,1.5nm,0.6s,baz=320,slow=3.2,SNR=4.8
WRA                                PKKPbc     PKKPbc     14 56 53.9  -0.5
     comp=Z,2.7nm,1.1s,baz=126,slow=3.7,SNR=6.2
WRA  Warramunga Arr    124.56  89 PKIKP                 14 46 57.8
WRA                                PP         PP         14 48 58.8  -2.2
WRAB Tennant Creek     124.57  89⇓iPKIKP     PKPdf      14 47 10.5  -1.0
WRAB                               e                    14 48 03.9
WB2  Warramunga Arr    124.58  89 ePKP       PKPdf      14 47 10.8  -0.7
FORT Forrest           125.22 104 ePKP       PKPdf      14 47 12.6  -0.2
     comp=Z,36nm,0.5s
ASPA Alice Springs     126.23  93 ePKP       PKPdf      14 47 14.7   0.0
AS31 Alice Springs     126.23  93 ePKP       PKPdf      14 47 14.7   0.0
ASAR Alice Springs     126.23  93 PKhKP                 14 47 01.0
     comp=Z,0.4nm,0.4s,baz=340,slow=1.8,SNR=7.2
ASAR                               PKP        PKPdf      14 47 14.4  -0.3
     comp=Z,12nm,0.5s,baz=306,slow=1.5,SNR=81
ASAR                               SKPbc                 14 50 10.9
     comp=Z,3.6nm,0.8s,baz=310,slow=3.6,SNR=4.3
ASAR                               PKKPbc                14 56 48.4
     comp=Z,0.8nm,0.7s,baz=124,slow=3.7,SNR=11
ASAR                               SKKPbc                15 00 16.9
     comp=Z,0.8nm,0.7s,baz=118,slow=3.3,SNR=5.6
ASAR Alice Springs     126.23  93 PKHKP                 14 47 01.0
ASAR                                                    14 47 14.5
CASY Casey             126.77 150 ePKPdf     PKPdf      14 47 14.6  -1.2
QSPA South Pole Qui    128.62 180⇑iP         PKPdf      14 47 18.4  -0.9
CTA  Charters Tower    133.92  81 ePKP       PKPdf      14 47 29.6 +0.3
     comp=Z,18nm,0.6s
CTA                                eSKP                  14 50 37.4
CTA  Charters Tower    133.92  81 PKhKP                 14 47 20.6
     comp=Z,5.4nm,0.5s,baz=318,slow=5.7,SNR=12
CTA                                PKP        PKPdf      14 47 29.4 +0.1
     comp=Z,21nm,0.6s,baz=322,slow=2.7,SNR=26
CTA                                SKPbc      SKPbc      14 50 37.6 +0.1
     comp=Z,7.5nm,0.6s,baz=299,slow=3.6,SNR=9.9
CTA  Charters Tower    133.92  81 PKP                   14 47 20.6
CTA                                PKP        PKPdf      14 47 29.4 +0.1
CTA                                ePKP       PKPdf      14 47 29.6 +0.3
CTA                                eSKP                  14 50 37.4
CTA                                SKPbc      SKPbc      14 50 37.6 +0.1
CTAO Charters Tower    133.92  81 ePKPpre               14 47 19.6
CTAO                               ⇑ePKPdf    PKPdf      14 47 28.5  -0.8
CTAO                               eSKP                  14 50 37.3
STKA Stephens Creek    136.10  98 eP         PKPdf      14 47 33.0  -0.3
     comp=Z,20nm,1.1s
STKA                               eSKP                  14 50 44.1
STKA Stephens Creek    136.10  98 PKhKP                 14 47 18.1
     comp=Z,2.4nm,0.5s,baz=315,slow=3.6,SNR=7.6
STKA                               PKP        PKPdf      14 47 33.3   0.0
     comp=Z,24nm,1.0s,baz=326,slow=2.3,SNR=16
STKA                               SKPbc      SKPbc      14 50 44.2  -0.2
     comp=Z,5.2nm,0.5s,baz=304,slow=4.6,SNR=10
STKA Stephens Creek    136.10  98 ePKPpre               14 47 18.9
STKA                               ePKPdf     PKPdf      14 47 31.3  -2.1
STKA                               eP                    14 47 33.0
STKA                               PKP        PKPdf      14 47 33.3   0.0
STKA                               epPKPdf    pPKPdf     14 48 26.7  -3.0
STKA                               eSKP                  14 50 43.6
STKA                               eSKP                  14 50 44.1
STKA                               SKPbc      SKPbc      14 50 44.2  -0.2
DRV  Dumont d'Urvil    138.49 150 PP         SKPbc      14 50 54.0  +2.6
VNDA Vanda             138.62 170 PKhKP                 14 47 26.8
     comp=Z,1.0nm,0.9s,baz=208,slow=4.1,SNR=2.8
VNDA                               PKP        PKPdf      14 47 36.6  -1.4
     comp=Z,5.2nm,1.0s,baz=270,slow=2.0,SNR=9.9
VNDA                               SKPbc      SKPbc      14 50 50.0  -1.7
     comp=Z,3.3nm,0.9s,baz=248,slow=4.2,SNR=4.9
VNDA Vanda             138.62 170 PKHKP                 14 47 26.8
VNDA                                                    14 47 36.6
SBA  Scott Base        139.00 171 ePKIKP     PKPdf      14 47 34.0  -4.7
SBA                                e                    14 50 29.4
SBA  Scott Base        139.00 171 ePKPpre               14 47 34.0
SBA                                ePP        PP         14 50 29.4  -4.1
SBA                                eSKP                  14 50 51.7
TOO  Toolangi          141.14 104 ePKP       PKPdf      14 47 45.4 +2.8
     comp=Z,10nm,1.0s
TOO                                eSKP                  14 50 59.4
TAOE Nuku Hiva Isla    143.00 317 ePKIKP     PKPdf      14 47 43.9  -2.0
     comp=Z,443nm,0.9s
TAOE Nuku Hiva Isla    143.00 317 eLR        LR         15 35 21.7
     comp=Z,1μm,24.4s
ARMA Armidale          143.31  90 eP         PKPdf      14 47 43.1  -3.3
CNB  Canberra Magne    143.39  99 ePKP       PKPdf      14 47 43.1  -3.5
     comp=Z,35nm,1.3s
DZM  Mont Dzumac       150.17  65 eP         PKPbc      14 48 03.0  -0.1
DZM  Mont Dzumac       150.17  65 PKP        PKPdf      14 47 57.7  -0.2
     comp=Z,13nm,1.0s,baz=329,slow=3.6,SNR=4.0
DZM                                PKPbc      PKPbc      14 48 04.7 +1.5
     comp=Z,106nm,0.7s,baz=72,slow=1.3,SNR=66
RKT  Rikitea           150.35 293 ePKIKP     PKPdf      14 47 58.6 +0.4
     comp=Z,232nm,1.3s
RKT  Rikitea           150.35 293 eSS        SS         15 10 41.5 +0.5
     comp=Z,171nm,27.5s
RKT                                eLR        LR         15 38 15.6
     comp=Z,255nm,35.0s
RKT  Rikitea           150.35 293 ePKPdf     PKPdf      14 47 58.6 +0.4
RKT                                eSS        SS         15 10 41.5 +0.5
PMOR Pomariorio Ree    152.13 324 ePKIKP     PKPdf      14 48 00.2  -0.7
     comp=Z,223nm,1.5s
AFI  Afiamalu          154.45  16 PKP        PKPdf      14 48 05.3 +1.1
     comp=Z,59nm,1.2s,baz=6.8,slow=2.8,SNR=3.7
AFI                                PKPbc      PKPbc      14 48 13.9 +1.2
     comp=Z,36nm,0.8s,baz=28,slow=2.4,SNR=3.5
AFI                                PKPab      PKPab      14 48 28.7 +0.7
     comp=Z,69nm,0.6s,baz=218,slow=4.3,SNR=9.6
PPT  Papeete           155.14 324 ePP        PP         14 52 00.2  -7.7
     comp=Z,386nm,26.0s
PPT  Papeete           155.14 324 eSS        SS         15 11 17.5  -16
     comp=Z,577nm,29.2s
PPT                                eLR        LR         15 40 23.5
     comp=Z,392nm,22.5s
TBI  Tubuai            159.94 316 ePP        PP         14 52 19.0  -15
     comp=Z,256nm,25.8s
TBI  Tubuai            159.94 316 eSS        SS         15 12 09.7  -15
     comp=Z,402nm,32.0s
TBI                                eLR        LR         15 42 54.5
     comp=Z,380nm,30.2s
URZ  Urewera           165.67  94 PKPab      PKPab      14 49 15.1  -1.9
     comp=Z,11nm,0.7s,baz=290,slow=4.1,SNR=7.6
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*ISCJB **26** 14:43:31.4±0.4, 5554S×008×266W±0.1, h10km, mb4.7/19, MS4.8/12, Error ellipse: s-maj=11.2km s-min=8.4km az=43.2*

*IDC **26** 14:43:31.7±0.6, 5551S×2653W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.5/18, mbtmp4.5/13, ML3.6/1, MS4.8/11, Ms1 4.8/11, ms1mx4.6/24, Error ellipse: s-maj=19.3km s-min=15.9km az=28.0*

*BJI **26** 14:43:32.2, 5554S×2597W, h10km, mB5.1, Ms5.3, Msz4.9*

*NEIC **26** 14:43:33.0±0.3, 5553S×2658W, h10km, mb4.8/15, Error ellipse: s-maj=10.1km s-min=7.6km az=199.0*

*GCMT **26** 14:43:33.0±0.3, 5553S×2644W, h12km, MW5.2/48, Moment Tensor Solution. s27,c39; s48,c68; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr6.61±.24; M_θθ-1.01±.23; M_φφ-5.60±.26; M_rθ-3.17±.71; M_φθ2.35±.18; M_φr-0.01±.70; Best double couple: M_o7.26000×10^16 NP1:φ_s176.00000°, δ43.00000°, λ120.00000°. NP2: φ_s317.00000°, δ54.00000°, λ65.00000°. Principal axes: T 7.8070, Plg69.0000°, Azm170.0000°; N -1.0940, Plg20.0000°, Azm333.0000°; P -6.7130, Plg6.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 14:43:33.0±0.4, 5558S±007×266W±01, h10km, n58, σ0 95/37, mb4.7/19, MS4.8/12, 1C-1D, South Sandwich Islands region

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Code  Station Name      Δ°   AZ°   Phase ID          Time      Res
                                  Op    ISC         h m s     ISC
HOPE  Hope Point        5.85 279  ePn   Pn          14 44 58.2 -1.5
      251nm,1.0s
HOPE                              eSn   Sn          14 45 59.6 -7.3
EFI   East Falkland    18.98 269  ePn   Pn          14 47 55.1  0.0
SNAA  Sanae            19.04 157  P     Pn          14 47 54.7 -1.2
      0.2nm,0.3s,baz=327,slow=8.8,SNR=11
SNAA  Sanae            19.04 157  ePn   Pn          14 47 54.1 -1.8
      26nm,1.1s
PMSA  Palmer Station   20.47 228  P     P           14 48 11.6 +0.9
      35nm,0.6s,baz=47,slow=7.6,SNR=7.0
PMSA                              LR    LR          14 55 00.4
      comp=Z,3μm,18.4s,MS4.7,baz=74,slow=34
PMSA  Palmer Station   20.47 228  eP    P           14 48 11.5 +0.8
      58nm,0.8s
MAIT  Maitri           22.45 147  eP    P           14 48 31.8 -0.2
USHA  Ushuaia          23.63 254  LR    LR          14 55 41.9
      comp=Z,2μm,21.4s,MS4.5,baz=78,slow=31
TRQA  Tornquist        29.46 292  eP    P           14 49 36.3 -0.6
      13nm,1.0s,mb4.6
SYO   Syowa Base       31.74 141⇓eX     P           14 49 50.0 -7.1
SYO   Syowa Base       31.74 141⇑ePP    PP          14 51 05.6 -3.1
CPUP  Villa Florida    36.76 310  P     P           14 50 40.4 -0.2
      4.5nm,0.6s,mb4.5,baz=137,slow=7.7,SNR=12
CPUP  Villa Florida    36.76 310  eP    P           14 50 39.8 -0.7
      20nm,0.6s,mb5.1
CFAA  Coronel Fontan   37.69 292  P     P           14 50 47.7 -0.8
      2.1nm,0.8s,mb3.9,baz=153,slow=8.5,SNR=15
CFAA  Coronel Fontan   37.69 292  P     P           14 50 47.7 -0.8
SUR   Sutherland       40.19  75  LR    LR          15 04 16.5
      comp=Z,2μm,19.5s,MS4.9,baz=324,slow=31
SUR   Sutherland       40.19  75  eP    P           14 51 08.2 -1.2
      17nm,1.1s,mb4.7
MAW   Mawson           40.33 144  P     P           14 51 10.9 +0.3
      3.7nm,0.7s,mb4.2,baz=246,slow=12,SNR=8.6
MAW   Mawson           40.33 144  eP    P           14 51 12.1 +1.5
      22nm,1.3s,mb4.7
BOSA  Boshof           45.53  76  P     P           14 51 51.9 -0.8
      3.9nm,0.7s,mb4.5,baz=225,slow=4.7,SNR=9.6
BOSA                              LR    LR          15 07 38.3
      comp=Z,2μm,19.1s,MS5.1,baz=312,slow=32
BOSA  Boshof           45.53  76  eP    P           14 51 52.5 -0.2
      5.5nm,0.7s,mb4.6
SBA   Scott Base       46.58 184  eP    P           14 52 01.6 +0.6
      11nm,0.8s,mb4.8
VNDA  Vanda            47.06 183  P     P           14 52 04.8 +0.1
      9.6nm,0.7s,mb4.9,baz=179,slow=6.1,SNR=12
VNDA  Vanda            47.06 183  eP    P           14 52 04.2 -0.5
      12nm,0.8s,mb4.9
LBTB  Lobatse          48.55  73  P     P           14 52 16.5 +0.2
      4.3nm,0.8s,mb4.5,baz=241,slow=9.7,SNR=4.6
LBTB  Lobatse          48.55  73  eP    P           14 52 16.1 -0.2
      5.1nm,0.8s,mb4.6
TSUM  Tsumeb           49.16  61  P     P           14 52 23.9 +3.0
      5.0nm,1.0s,mb4.5
LPAZ  La Paz           50.38 304  P     P           14 52 31.8 +1.4
      10nm,0.8s,mb4.9,baz=158,slow=6.4,SNR=40
LPAZ                              LR    LR          15 13 34.8
      comp=Z,291nm,19.2s,MS4.3,baz=287,slow=36
LPAZ  La Paz           50.38 304  eP    P           14 52 31.4 +1.1
      13nm,0.8s,mb5.0
MATP  Matopo           53.82  72  P     P           14 52 55.5 -0.3
      4.4nm,1.1s,mb4.3,baz=232,slow=3.7,SNR=5.0
MATP                              LR    LR          15 13 37.5
      comp=Z,793nm,19.8s,MS4.8,baz=318,slow=34
CASY  Casey            54.24 160  eP    P           14 52 59.0 +0.1
      14nm,1.1s,mb4.8
LSZ   Lusaka           57.89  69  LR    LR          15 16 29.0
      comp=Z,1μm,18.1s,MS5.0,baz=57,slow=34
RPN   Rapa Nui         64.07 259  P     P           14 54 10.7 +3.6
      28nm,0.6s,mb5.5,baz=142,slow=4.6,SNR=7.3
RPN                               LR    LR          15 16 24.8
      comp=Z,414nm,18.1s,MS4.7,baz=243,slow=31
OTAV  Otavalo          69.68 303  P     P           14 54 44.8 +2.0
      12nm,1.1s,mb4.7
TOA0  Torodi Ar. Sit   72.48  29  eP    P           14 54 59.8  0.0
TORD  Torodi Ar. Bea   72.48  29  P     P           14 54 59.8  0.0
      8.1nm,0.6s,mb4.8,baz=198,slow=6.2,SNR=34
TORD                              LR    LR          15 22 44.8
      comp=Z,410nm,18.2s,MS4.7,baz=210,slow=32
SDV   Santo Domingo    73.92 314  eP    P           14 55 07.9 -0.4
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7.9nm,0.8s,mb4.7
KMBO Kilima Mbogo 74.55 69 LR LR 15 27 59.2
comp=Z,688nm,18.2s,MS5.0,baz=277,slow=36
STKA Stephens Creek 92.31 170 P **P 14 56 44.0 +0.5**
1.6nm,0.8s,mb4.4,baz=172,slow=13,SNR=3.8
STKA Stephens Creek 92.31 170 *e*P **P 14 56 44.0 +0.5**
ESDC Sonseca Array 96.83 17 LR LR 15 37 11.9
comp=Z,219nm,18.9s,MS4.7,baz=150,slow=33
ASAR Alice Springs 99.34 162 P **P 14 57 15.3 0.0**
0.9nm,0.8s,mb4.3,baz=185,slow=4.2,SNR=6.0
PDAR Pinedale Array 120.38 302 PKP PKPdf 15 02 23.0 -1.5
0.4nm,0.7s,baz=118,slow=5.2,SNR=2.9
ARCES ARCESS Array B 130.38 21 PKP PKPdf 15 02 42.9 -0.8
4.9nm,0.9s,baz=205,slow=2.6,SNR=4.2
KMI Kunming 132.36 108 PKP PKPdf 15 02 45.5 -1.9
KMI Kunming 132.36 108 P PKPdf 15 02 45.6 -1.8
YKA Yellowknife Ar 136.04 318 PKP PKPdf 15 02 52.9 -1.4
1.4nm,0.7s,baz=129,slow=1.9,SNR=3.8
YKA Yellowknife Ar 136.04 318 PKP PKPdf 15 02 52.9 -1.4
MKAR Makanchi Array 136.41 71 PKP PKPdf 15 02 55.3 +0.3
0.2nm,0.5s,baz=254,slow=1.9,SNR=2.5
CD2 Chengdu 137.45 104 *e*PKP PKPdf 15 02 57.0 +0.1
WMQ Urumqi 137.47 77 *e*PKP PKPdf 15 02 56.0 -0.9
WMQ *e*PP PP 15 05 46.0 +3.5
WMQ PKS 15 06 30.0
WMQ SKS SKSdf 15 10 02.0 -5.8
WMQ SKKS SKKSac 15 12 32.0 -5.3
WMQ PP PP
comp=Z,122nm,6.2s
WMQ LR LR
comp=N,218nm,18.9s,MS5.0
WMQ LR LR
comp=E,176nm,17.6s,MS5.0
WMQ LR LR
comp=Z,202nm,20.4s,MS4.8
INK Inuvik 145.65 321 *e*PKPdf PKPdf 15 03 10.4 -1.2
NJ2 Nanjing 146.29 120 *e*PKP PKPdf 15 03 09.0 -3.6
DAWY Dawson 146.72 312 *e*PKPdf PKPdf 15 03 13.2 -0.2
SONM Songino Array 150.36 85 PKP PKPdf 15 03 19.0 -0.3
comp=Z,0.6nm,0.6s,baz=196,slow=0.7,SNR=4.3
SONM PKPbc PKPbc 15 03 23.6 -0.9
comp=Z,0.8nm,0.4s,baz=215,slow=3.2,SNR=9.5
SONM PKPab PKPab 15 03 28.6 -2.3
comp=Z,2.4nm,0.8s,baz=227,slow=2.8,SNR=6.6
MCK McKinley 150.73 310 *e*PKPbc PKPbc 15 03 23.5 -1.9
ULN Ulaanbaatar 150.74 86 *e*PKPdf PKPdf 15 03 21.6 +1.7
ULN *e*PKPbc PKPbc 15 03 26.0 +0.6
ULN *e*PKPab PKPab 15 03 33.8 +1.4
MDJ Mudanjiang 161.29 116 PKP PKPdf 15 03 33.0 -0.8
MDJ PP PP
comp=Z,87nm,5.7s

MAN 26 14:53:08.2, 1838N×12054E, h32km, mb3.4, ML4.6, MS2.4, Luzon

ISCJB ***26*** *14:54:04.4±0.8, 554S±0.1×267W±0.3, h10km, mb4.2/5, Error ellipse: s-maj=24.7km s-min=15.7km az=170.5*
IDC ***26*** *14:54:04.8±1.1, 5535S×2655W, h0km, mb4.1/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=43.9km s-min=25.1km az=80.0*
NEIC ***26*** *14:54:06.1±0.7, 5532S×2682W, h10km, mb4.3/5, Error ellipse: s-maj=22.4km s-min=14.6km az=88.0*
ISC 26 14:54:06.1±0.8, 554S±01×267W±03, h10km, n10, σ0§77/10, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.20**	**157**	P	**Pn**	**14 58 31.6**	**+0.7**
	0.1nm,0.3s,baz=304,slow=12,SNR=3.4						
PMSA	**Palmer Station**	**20.54**	**228**	P	**P**	**14 58 44.2**	**-0.4**
	37nm,0.9s						
SBA	**Scott Base**	**46.73**	**184**	P	**P**	**15 02 35.2**	**-0.1**
	2.7nm,1.0s,mb4.1						
VNDA	**Vanda**	**47.22**	**183**	P	**P**	**15 02 38.6**	**-0.4**
	1.7nm,0.6s,mb4.2,baz=179,slow=6.2,SNR=16						
LPAZ	**La Paz**	**50.27**	**304**	P	**P**	**15 03 03.8**	**+1.3**
	1.4nm,0.6s,mb4.2,baz=149,slow=7.0,SNR=8.7						
LPAZ	**La Paz**	**50.27**	**304**	*e*P	**P**	**15 03 01.0**	**-1.5**
	1.4nm,0.6s,mb4.2						
TOA0	**Torodi Ar. Sit**	**72.36**	**29**	*e*P	**P**	**15 05 31.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**72.36**	**29**	P	**P**	**15 05 31.7**	**-0.4**
	1.1nm,0.5s,mb4.0,baz=197,slow=6.3,SNR=13						
TORD	**Torodi Ar. Bea**	**72.36**	**29**	P	**P**	**15 05 31.7**	**-0.4**
SDV	**Santo Domingo**	**73.78**	**314**	*e*P	**P**	**15 05 41.8**	**+1.3**
	5.6nm,0.9s,mb4.5						

ISCJB ***26*** *14:55:45.7±0.7, 2637S±003×2747E±003, h8km±4km, mb3.9/2, Error ellipse: s-maj=6.3km s-min=4.3km az=113.8*
NEIC ***26*** *14:55:45.5±0.7, 2639S×2776E, h5km, mb4.0/2, Error ellipse: s-maj=14.3km s-min=9.7km az=116.0*
PRE ***26*** *14:55:46.1±1.3, 2639S×2748E, h2km, ML2.9*
ISC 26 14:55:46.5±0.6, 2637S±003×2748E±003, h5km±4km, n16, σ1§18/28, mb3.9/2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**79**	*e*P	**Pg**	**14 55 49.3**	**+0.4**
KLOF				*e*S	**Sg**	**14 55 50.5**	**0.0**
KLOF				AML	AML	14 55 50.7	
	comp=Z,11μm,0.2s						
PRYS	**Parys**	**0.56**	**191**	*e*P	**Pg**	**14 55 57.0**	**-0.3**
PRYS				*e*S	**Sg**	**14 56 03.4**	**-1.3**
PRYS				AML	AML	14 56 09.1	
	comp=Z,308nm,0.5s						
ERPM	**east rand prop**	**0.69**	**79**	*e*P	**Pg**	**14 55 59.0**	**-0.8**
ERPM				*e*S	**Sg**	**14 56 08.9**	**+0.1**
ERPM				AML	AML	14 56 15.0	
	comp=Z,183nm,0.6s						
KSR	**Koster**	**0.74**	**314**	*e*P	**Pg**	**14 56 00.6**	**-0.2**
KSR				*e*S	**Sg**	**14 56 10.5**	**+0.1**
KSR				AML	AML	14 56 17.3	
	comp=Z,195nm,0.2s						
SLR	**Silverton**	**0.96**	**49**	*e*P	**Pg**	**14 56 04.7**	**-0.2**
SLR				*e*S	**Sg**	**14 56 18.0**	**+0.7**
SLR				AML	AML	14 56 22.7	
	comp=Z,298nm,0.2s						
SWZ	**Schweizer**	**2.09**	**247**	*e*P	**Pn**	**14 56 23.1**	**+0.9**
SWZ				*e*S	**Sn**	**14 56 48.9**	**+0.4**
SWZ				AML	AML	14 56 54.4	
	comp=Z,243nm,0.6s						
LBTB	**Lobatse**	**2.17**	**308**	*e*Pn	**Pn**	**14 56 26.4**	**+3.1**
LBTB				*e*Sn	**Sn**	**14 56 56.7**	**+6.1**
BOSA	**Boshof**	**2.98**	**221**	*e*Pn	**Pn**	**14 56 34.9**	**+0.4**
BOSA				*e*Sn	**Sn**	**14 57 09.4**	**-1.2**
POGA	**Pongola**	**3.82**	**106**	*e*P	**Pn**	**14 56 47.7**	**+1.8**
POGA				*e*S	**Sn**	**14 57 33.0**	**+1.8**
POGA				AML	AML	14 57 47.2	
	comp=Z,78nm,0.7s						
MSNA	**Messina**	**4.63**	**31**	*e*P	**Pn**	**14 56 56.8**	**-0.3**
MSNA				*e*S	**Sn**	**14 57 48.7**	**-2.5**
MSNA				AML	AML	14 58 02.9	
	comp=Z,18nm,0.3s						
SUR	**Sutherland**	**8.35**	**223**	*e*Pn	**Pn**	**14 57 49.6**	**+1.4**
SUR				*e*Sn	**Sn**	**14 59 19.3**	**-3.5**
SUR				*e*Lg		15 00 01.0	
LSZ	**Lusaka**	**11.06**	**4**	*e*Pn	**Pn**	**14 58 24.9**	**-0.4**
LSZ				*e*Sn	**Sn**	**15 00 17.2**	**-12**
TSUM	**Tsumeb**	**11.59**	**306**	*e*Pn	**Pn**	**14 58 34.1**	**+1.5**
KMBO	**Kilima Mbogo**	**26.80**	**22**	P	**P**	**15 01 25.9**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.5						
MSEY	**Mahe Island**	**34.38**	**56**	P	**P**	**15 02 31.8**	**-2.7**
QSPA	**South Pole Qui**	**63.81**	**180**	*e*P	**P**	**15 06 19.7**	**0.0**
	comp=Z,3.5nm,1.4s,mb4.2						

BJI ***26*** *15:01:36.1, 2268S×17735W, h280km, mB4.7, mb4.5*
ISCJB ***26*** *15:01:41.2±1.7, 2228S±007×1782W±0.1, h291km±20km, mb4.2/17, Error ellipse: s-maj=18.0km s-min=10.2km az=35.3*
NEIC ***26*** *15:01:41.5±1.3, 2216S×17820W, h280km±15km, mb4.2/7, Error ellipse: s-maj=13.0km s-min=8.8km az=125.0*
IDC ***26*** *15:01:44.1±2.8, 2232S×17824W, h300km±29km, mb3.9/9, mb1 4.0/11, mb1mx3.8/18, mbtmp4.6/11, Error ellipse: s-maj=22.5km s-min=15.4km az=134.0*
ISC 26 15:01:43.2±1.8, 2223S±009×1782W±01, h296km±21km, n40, σ0§80/34, mb4.2/17, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.27**	**37**	P	**Pn**	**15 04 06.4**	**+1.8**
	6.2nm,0.3s,baz=178,slow=14,SNR=11						
AFI				S	**S**	**15 05 54.6**	**-5.6**
	3.1nm,0.3s,baz=192,slow=20,SNR=5.0						
AFI	**Afiamalu**	**10.27**	**37**	*e*Pn	**Pn**	**15 04 02.5**	**-2.2**
AFI				*e*Sn	**S**	**15 05 52.3**	**-7.9**
DZM	**Mont Dzumac**	**14.25**	**268**	P	**Pn**	**15 04 59.6**	**+6.8**
	0.8nm,0.3s,baz=72,slow=19,SNR=8.7						
URZ	**Urewera**	**16.48**	**193**	P	**P**	**15 05 16.7**	**+0.1**
	2.0nm,0.3s,baz=76,slow=19,SNR=14						
URZ				S	**S**	**15 08 07.8**	**-6.1**
	2.3nm,0.3s,baz=256,slow=20,SNR=16						
SNZO	**South Karori**	**19.95**	**196**	P	**P**	**15 05 54.0**	**+0.3**
RPZ	**Rata Peaks**	**23.21**	**200**	P	**P**	**15 06 24.6**	**+0.1**
	3.5nm,0.5s,mb3.9,baz=26,slow=2.6,SNR=5.7						
CTA	**Charters Tower**	**33.19**	**267**	*e*P	**P**	**15 07 53.7**	**+1.1**
	9.0nm,0.7s,mb4.4						
CTA	**Charters Tower**	**33.19**	**267**	P	**P**	**15 07 53.5**	**+0.9**
	12nm,0.6s,mb4.6,baz=100,slow=9.9,SNR=23						
CTAO	**Charters Tower**	**33.19**	**267**	*e*P	**P**	**15 07 53.6**	**+1.0**
	11nm,0.7s,mb4.5						
PMG	**Port Moresby**	**35.60**	**285**	P	**P**	**15 08 14.5**	**+1.4**
	30nm,0.8s,mb4.9,baz=70,slow=5.1,SNR=7.7						
PMG	**Port Moresby**	**35.60**	**285**	*e*P	**P**	**15 08 14.6**	**+1.4**
	32nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**36.91**	**246**	⇑*i*P	**P**	**15 08 24.6**	**+0.4**
	2.2nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**36.91**	**246**	P	**P**	**15 08 24.6**	**+0.4**
	3.4nm,0.6s,mb3.9,baz=88,slow=8.8,SNR=11						
AS31	**Alice Springs**	**43.98**	**258**	*e*P	**P**	**15 09 21.3**	**-0.4**
ASAR	**Alice Springs**	**43.98**	**258**	P	**P**	**15 09 21.5**	**-0.3**
	6.1nm,0.7s,mb3.9,baz=96,slow=7.6,SNR=83						
ASPA	**Alice Springs**	**43.98**	**258**	*e*P	**P**	**15 09 21.4**	**-0.4**
WB2	**Warramunga Arr**	**44.21**	**264**	*e*P	**P**	**15 09 22.9**	**-0.6**
WB2	**Warramunga Arr**	**44.21**	**264**	*e*P	**P**	**15 09 22.7**	**-0.9**
WRAB	**Tennant Creek**	**44.21**	**264**	*e*P	**P**	**15 09 22.7**	**-0.9**
	5.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.22**	**264**	P	**P**	**15 09 23.2**	**-0.5**
	3.5nm,0.5s,mb3.8,baz=95,slow=8.1,SNR=21						
FITZ	**Fitzroy Crossi**	**52.65**	**264**	*e*P	**P**	**15 10 27.5**	**0.0**
	7.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.65**	**264**	P	**P**	**15 10 27.7**	**+0.1**
	3.7nm,0.5s,mb4.0,baz=102,slow=7.5,SNR=19						
MBWA	**Marble Bar**	**57.33**	**258**	*e*P	**P**	**15 10 59.7**	**-1.1**
	3.9nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**67.85**	**180**	*e*P	**P**	**15 12 10.0**	**+0.1**
	3.6nm,1.1s,mb4.0						
MJAR	**Matsushiro Arr**	**71.50**	**324**	P	**P**	**15 12 32.5**	**+0.4**
	2.5nm,0.7s,mb4.0,baz=159,slow=6.7,SNR=7.2						
MAJO	**Matsushiro**	**71.50**	**324**	P	**P**	**15 12 31.5**	**-0.5**
	4.9nm,0.8s,mb4.2						
NJ2	**Nanjing**	**80.85**	**310**	*e*P	**P**	**15 13 25.3**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
MDJ	**Mudanjiang**	**81.83**	**325**	P	**P**	**15 13 30.0**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
GYA	**Guiyang**	**87.35**	**300**	P	**P**	**15 13 57.8**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,60nm,4.9s						
MCK	**McKinley**	**88.69**	**13**	P	**P**	**15 14 01.6**	**-1.7**
	comp=Z,4.8nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**90.33**	**43**	P	**P**	**15 14 11.7**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.5,baz=232,slow=1.7,SNR=3.9						
JIRN	**Jiri**	**104.73**	**294**	*e*P	PP	15 19 39.2	-0.1
	comp=Z,20nm,0.7s						
GUN	**Gumba**	**105.07**	**294**	*e*P	PP	15 19 42.1	+0.4
	comp=Z,28nm,0.7s						
PKI	**Pulchoki**	**105.36**	**294**	*e*P	PP	15 19 41.1	-2.8
KKN	**Kakani**	**105.54**	**294**	*e*P	PP	15 19 42.8	-2.4
	comp=Z,15nm,0.8s						
DMN	**Daman**	**105.63**	**294**	*e*P	PP	15 19 41.9	-4.0
	comp=Z,14nm,0.9s						
GKN	**Gorkha**	**106.14**	**294**	*e*P	PP	15 19 46.2	-3.4
	comp=Z,15nm,0.8s						
KOLN	**Koldanda**	**106.96**	**294**	*e*P	PP	15 19 48.8	-6.8
	comp=Z,8.6nm,0.7s						
ARCES	**ARCESS Array B**	**130.58**	**349**	PKP	PKPdf	15 20 18.8	-0.1
	comp=Z,6.9nm,1.1s,baz=70,slow=1.4,SNR=7.0						
GERES	**GERESS Array B**	**151.81**	**343**	PKP	PKPdf	15 20 56.7	+0.5
	comp=Z,0.2nm,0.4s,baz=55,slow=3.7,SNR=1.9						
GERES				PKPbc	PKPbc	15 21 04.1	+1.1
	comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=5.1						

MOS ***26*** *15:08:21.6±1.0, 202S×10022E, h41km, mb5.3/39, MS4.5/7, Error ellipse: s-maj=11.3km s-min=5.4km az=106.3*
ISCJB ***26*** *15:08:21.9±0.2, 208S±003×10020E±004, h45km, mb5.0/93, MS4.6/31, Error ellipse: s-maj=5.7km s-min=3.8km az=107.1*
BJI ***26*** *15:08:21.1, 221S×10032E, h49km, mB5.2, mb4.9, Ms4.9, Msz4.6*
NEIC ***26*** *15:08:23.3±0.2, 208S×10020E, mb5.0/44, Error ellipse: s-maj=6.7km s-min=4.6km az=62.0*
NEIC Felt [III] at Padang and Painan, Sumatra.
IDC ***26*** *15:08:23.4±0.3, 207S×10028E, h41km±2km, mb4.5/27, mb1 4.5/28, mb1mx4.5/29, mbtmp4.7/28, ML4.0/1, MS4.4/12, Ms1 4.4/12, ms1mx4.0/39, Error ellipse: s-maj=12.4km s-min=7.3km az=47.0*
SZGRF ***26*** *15:08:49.5, 030N×9926E, h33km, mb5.2, Northern Sumatera, Indonesia*
ISC 26 15:08:24.1±0.2, 210S±003×10020E±004, h47km, h47km±1.1km: pP-P, n263, σ1§08/246, mb5.0/93, MS4.6/31, 17C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.64**	**7**	P	**Pn**	**15 08 49.7**	**-0.8**
	0.0nm,0.0s						
PSI	**Prapat**	**5.03**	**345**	P	**Pn**	**15 09 34.4**	**-2.6**
	6.5nm,0.3s,baz=150,slow=11,SNR=20						
PSI				LR	LR	15 12 01.7	
	comp=Z,6μm,18.6s,baz=156,slow=44						
KGM	**Kluang**	**5.14**	**37**	P	**Pn**	**15 09 40.7**	**+2.2**
KLI	**Kotabumi**	**5.40**	**121**	P	**Pn**	**15 09 45.0**	**+3.0**
	0.0nm,0.0s						
IPM	**Ipoh**	**6.58**	**7**	P	**Pn**	**15 10 01.4**	**+3.1**
KULM	**Kulim**	**7.35**	**4**	*e*Pn	**Pn**	**15 10 08.9**	**+0.1**
CBJI	**Citeko**	**7.90**	**123**	P	**Pn**	**15 10 20.6**	**+4.3**
	0.0nm,0.0s						
LEM	**Lembang**	**8.76**	**123**	P	**Pn**	**15 10 31.2**	**+3.1**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**8.99**	**327**	P	**Pn**	**15 10 29.6**	**-1.7**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**9.15**	**119**	P	**Pn**	**15 10 39.1**	**+5.6**
	0.0nm,0.0s						
COCO	**West Island**	**10.57**	**198**	*e*Pn	**Pn**	**15 10 48.2**	**-4.6**
KSM	**Kuching**	**10.71**	**71**	*e*Pn	**Pn**	**15 10 57.0**	**+2.2**
KSM				*e*Sn	Sn	15 13 14.2	+21
BJII	**Banjamegara**	**10.81**	**119**	P	**Pn**	**15 11 01.6**	**+5.5**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**17.92**	**63**	P	**Pn**	**15 12 31.8**	**+2.0**
KKM	**Kota Kinabalu**	**17.92**	**63**	*e*Pn	**Pn**	**15 12 31.1**	**+1.3**
TSM	**Tawau**	**18.77**	**70**	P	**Pn**	**15 12 42.4**	**+2.3**
PCI	**Palu**	**19.66**	**87**	P	**Pn**	**15 12 50.6**	**-0.2**
	187nm,1.5s						
KAPI	**Kappang**	**19.73**	**99**	P	**Pn**	**15 12 49.8**	**-1.7**
	412nm,1.4s,SNR=6.0						
CM31	**Chiang Mai Arr**	**20.46**	**357**	*e*P	**P**	**15 12 56.5**	**-1.2**
	53nm,1.1s						
CHTO	**Chiang Mai**	**20.82**	**357**	P	**P**	**15 13 00.7**	**-0.9**
	SNR=6.6						
CHTO	**Chiang Mai**	**20.82**	**357**	*e*P	**P**	**15 12 59.0**	**-2.5**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s						
CHTO	**Chiang Mai**	**20.82**	**357**	*e*Pn	**P**	**15 12 59.0**	**-2.5**
	comp=Z,13nm,1.0s						
QIZ	**Qiongzhong**	**23.04**	**24**	P	**P**	**15 13 25.3**	**+0.1**
QIZ				S	**S**	**15 17 34.8**	**+2.4**
QIZ				AMB	AMB		
	comp=Z,52nm,1.9s,mb4.6						
QIZ				LR	LR		
	comp=N,988nm,16.9s						
QIZ				LR	LR		
	comp=Z,1μm,19.2s,MS4.3						
QIZ	**Qiongzhong**	**23.04**	**24**	*e*Pn	**P**	**15 13 23.9**	**-1.3**
	comp=Z,55nm,1.1s,mb4.9						
MBWA	**Marble Bar**	**26.86**	**136**	*e*P	**P**	**15 13 59.7**	**-0.5**
	comp=Z,29nm,1.2s,mb4.7						

KMI	**Kunming**	**27.17**	**5**	P	**P**	**15 14 03.5 +0.4**
KMI				AP	pP	15 14 17.5 +2.2
KMI				XP	sP	15 14 26.3 +5.4
KMI				PP		15 14 55.3
KMI				PPP		15 15 08.0
KMI				PCP	PcP	15 17 22.3 -0.2
KMI				S	**S**	**15 18 38.5 +0.1**
KMI				XS	sS	15 19 02.0 +3.0
KMI				SS		15 19 57.3
KMI				SSS		15 20 16.0
KMI				AMB	AMB	
	comp=Z,17nm,1.0s,mb4.5					
KMI				AMB	AMB	
	comp=Z,194nm,5.6s					
KMI				LR	LR	
	comp=N,716nm,16.9s,MS4.5					
KMI				LR	LR	
	comp=E,874nm,13.6s,MS4.5					
KMI				LR	LR	
	comp=Z,932nm,16.7s,MS4.4					
KMI	**Kunming**	**27.17**	**5**	P	**P**	**15 14 03.4 +0.3**
KMI				*PP	pP	15 14 17.6 +2.3
KMI						15 14 55.3
KMI				PPP		15 15 08.1
KMI						15 17 22.2
KMI				S	**S**	**15 18 38.6 +0.2**
KMI				*SS	sS	15 19 02.0 +3.0
KMI				SS		15 19 57.2
KMI				SSS		15 20 16.1
KMI				pmax	pmax	
	comp=Z,17nm,1.0s,mb4.5					
KMI				MLR	MLR	
	comp=Z,930nm,16.7s,MS4.4					
KMI	**Kunming**	**27.17**	**5**	P	**P**	**15 14 03.4 +0.3**
	comp=Z,17nm,1.0s,mb4.5					
KMI				pP	pP	15 14 17.6 +2.3
KMI				sP	sP	15 14 26.3 +5.4
KMI				PP		15 14 55.3
KMI				PPP		15 15 08.1
KMI				PcP	PcP	15 17 22.2 -0.3
KMI				S	**S**	**15 18 38.6 +0.2**
KMI				sS	sS	15 19 02.0 +3.0
KMI				SS		15 19 57.2
KMI				SSS		15 20 16.1
KMI				LR	LR	
	comp=Z,930nm,16.7s,MS4.4					
AGT	**Agartala**	**27.25**	**342**	*e*P	**P**	**15 14 07.0 +3.2**
DGAR	**Diego Garcia**	**28.14**	**258**	P	**P**	**15 14 10.2 -1.5**
DGAR				pmax	pmax	
	comp=Z,192nm,1.3s,mb5.6					
DGAR	**Diego Garcia**	**28.14**	**258**	P	**P**	**15 14 10.2 -1.6**
	comp=Z,192nm,1.3s,mb5.6					
GYA	**Guiyang**	**29.07**	**12**	P	**P**	**15 14 23.5 +3.5**
GYA				AP	pP	15 14 34.8 +2.6
GYA				XP	sP	15 14 40.0 +2.2
GYA				PP	PP	15 15 18.5 -7.6
GYA				PPP		15 15 33.0
GYA				PCP	PcP	15 17 29.5 +2.3
GYA				S	**S**	**15 19 10.5 +2.2**
GYA				SCP	ScP	15 21 04.5 -0.3
GYA				PCS	PcS	15 21 11.0 +1.0
GYA				SCS	ScS	15 24 57.5 -1.3
GYA				AMB	AMB	
	comp=Z,20nm,0.8s,mb4.9					
GYA				AMB	AMB	
	comp=Z,130nm,4.6s					
GYA				LR	LR	
	comp=N,640nm,14.9s,MS4.5					
GYA				LR	LR	
	comp=E,540nm,15.2s,MS4.5					
GYA				LR	LR	
	comp=Z,610nm,15.0s,MS4.3					
FITZ	**Fitzroy Crossi**	**29.59**	**124**	*e*P	**P**	**15 14 24.4 -0.2**
	comp=Z,24nm,0.8s,mb5.0					
FITZ	**Fitzroy Crossi**	**29.59**	**124**	P	**P**	**15 14 24.6 0.0**
	comp=Z,14nm,0.8s,mb4.7,baz=299,slow=5.1,SNR=18					
FITZ				LR	LR	15 28 19.9
	comp=Z,460nm,19.4s,MS4.1,baz=311,slow=40					
SWI	**Sorong**	**31.07**	**88**	P	**P**	**15 14 37.3 -0.4**
	comp=Z,103nm,1.1s,mb5.6					
JIRN	**Jiri**	**32.51**	**336**	*e*P	**P**	**15 14 51.6 +1.2**
	comp=Z,95nm,0.9s,mb5.7					
PKI	**Pulchoki**	**32.75**	**335**	*e*P	**P**	**15 14 53.0 +0.5**
	comp=Z,31nm,0.9s,mb5.2					
LSA	**Lhasa**	**32.78**	**345**	P	**P**	**15 14 54.3 +1.6**
LSA	**Lhasa**	**32.78**	**345**	*e*P	**P**	**15 14 54.0 +1.3**
LSA				*e*PP	pP	15 15 06.1 +1.1
LSA				pmax	pmax	
	comp=Z,45nm,1.0s,mb5.3					
LSA	**Lhasa**	**32.78**	**345**	*e*P	**P**	**15 14 54.0 +1.3**
	comp=Z,45nm,1.0s,mb5.4					
LSA				*e*pP	pP	15 15 06.1 +1.1
GUN	**Gumba**	**32.86**	**336**	*e*P	**P**	**15 14 54.6 +1.2**
	comp=Z,45nm,0.4s,mb5.7					
DMN	**Daman**	**32.91**	**335**	*e*P	**P**	**15 14 54.1 +0.2**
	comp=Z,52nm,0.9s,mb5.4					
CD2	**Chengdu**	**33.00**	**6**	*e*P	**P**	**15 14 53.8 -0.8**
CD2				AP	pP	15 15 05.3 -1.6
CD2				XP	sP	15 15 12.5 0.0
CD2				PP	PP	15 16 10.0 +0.2
CD2				S	**S**	**15 20 04.8 -4.9**
CD2				XS	sS	15 20 26.5 -4.0
CD2				AMB	AMB	
	comp=Z,20nm,0.7s,mb5.2					
CD2				AMB	AMB	
	comp=Z,60nm,5.2s					
CD2				LR	LR	
	comp=N,1μm,15.6s,MS4.8					
CD2				LR	LR	
	comp=E,900nm,12.8s,MS4.8					
CD2				LR	LR	
	comp=Z,1μm,15.0s,MS4.7					
KKN	**Kakani**	**33.00**	**335**	*e*P	**P**	**15 14 55.2 +0.6**
	comp=Z,49nm,0.9s,mb5.4					
POO	**Poona**	**33.05**	**309**	*e*P	**P**	**15 14 53.0 -2.1**
GKN	**Gorkha**	**33.46**	**335**	*e*P	**P**	**15 14 59.2 +0.6**
KOLN	**Koldanda**	**33.72**	**333**	*e*P	**P**	**15 15 01.5 +0.6**
	comp=Z,33nm,0.8s,mb5.3					
NWAO	**Narrogin (SRO)**	**34.59**	**154**	P	**P**	**15 15 09.4 +1.0**
	comp=Z,18nm,0.7s,mb5.1,baz=325,slow=8.7,SNR=8.9					
NWAO	**Narrogin (SRO)**	**34.59**	**154**	*e*P	**P**	**15 15 09.4 +1.0**
NWAO				pmax	pmax	
	comp=Z,22nm,0.8s					
NWAO	**Narrogin (SRO)**	**34.59**	**154**	*e*P	**P**	**15 15 09.4 +1.0**
	comp=Z,22nm,0.8s,mb5.1					
LGTI	**Lohaghat**	**36.72**	**330**	*e*x	x	15 15 27.5
XAN	**Xi'an**	**36.87**	**12**	P	**P**	**15 15 26.8 -1.1**
XAN				AMB	AMB	
	comp=Z,25nm,1.3s,mb4.9					
XAN				LR	LR	
	comp=N,212nm,17.6s,MS4.5					
XAN				LR	LR	
	comp=E,583nm,15.8s,MS4.5					
XAN				LR	LR	
	comp=Z,1μm,17.4s,MS4.8	

LZH XS sS 15 21 54.0 +4.5
LZH SS SS 15 24 12.0 -5.3
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,113nm,5.8s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,1μm,16.9s,MS4.8
LZH Lanzhou 38.14 5 *e*P **P 15 15 39.0 +0.3**
LZH *PP pP 15 15 54.5 +3.3
LZH 15 17 12.1
LZH 15 17 50.3
LZH *e*S **S 15 21 31.1 +2.6**
LZH *SS sS 15 21 54.0 +4.5
LZH SS SS 15 24 12.0 -5.3
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,1μm,16.9s,MS4.8
LZH Lanzhou 38.14 5 *e*P **P 15 15 39.0 +0.3**
comp=Z,25nm,1.0s,mb4.9
LZH pP pP 15 15 54.5 +3.3
LZH sP sP 15 16 02.0 +5.3
LZH PP PP 15 17 12.1 +5.6
LZH PcP PcP 15 17 50.3 -2.5
LZH *e*S **S 15 21 31.1 +2.6**
LZH sS sS 15 21 54.0 +4.5
LZH SS SS 15 24 12.0 -5.3
LZH LR LR
comp=Z,1μm,16.9s,MS4.8
NJ2 Nanjing 38.29 26 *e*P **P 15 15 40.0 0.0**
NJ2 AP pP 15 15 52.5 0.0
NJ2 XP sP 15 15 57.3 -0.7
NJ2 PP PP 15 17 11.3 +3.1
NJ2 S **S 15 21 30.0 -0.9**
NJ2 XS sS 15 21 50.0 -1.8
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,520nm,5.7s
NJ2 LR LR
comp=N,1μm,12.0s,MS4.9
NJ2 LR LR
comp=E,400nm,12.3s,MS4.9
NJ2 LR LR
comp=Z,1μm,13.6s,MS4.9
ASPA Alice Springs 39.03 126⇑ *i*P **P 15 15 46.3 +0.1**
ASPA *e*S **S 15 21 40.5 -1.5**
AS31 Alice Springs 39.03 126⇑ *i*P **P 15 15 46.3 +0.1**
AS31 *e*S **S 15 21 40.5 -1.5**
ASAR Alice Springs 39.03 126 P **P 15 15 46.4 +0.2**
comp=Z,12nm,0.8s,mb4.7,baz=304,slow=7.9,SNR=82
ASAR pP pP 15 15 57.6 -1.1
comp=Z,16nm,0.7s,baz=303,slow=7.7,SNR=11
ASAR pPcP 15 18 09.9
comp=Z,6.1nm,0.7s,baz=306,slow=2.2,SNR=7.8
ASAR S **S 15 21 40.6 -1.4**
comp=Z,4.1nm,0.8s,baz=298,slow=17,SNR=16
ASAR LR LR 15 33 41.7
comp=Z,519nm,21.9s,MS4.3,baz=302,slow=39
ASAR Alice Springs 39.03 126 P **P 15 15 46.4 +0.2**
ASAR *PP pP 15 15 57.6 -1.1
ASAR S **S 15 21 40.6 -1.4**
JOW Kunigami 39.50 41 P **P 15 15 50.4 +0.2**
comp=Z,9.3nm,0.5s,mb4.8,baz=209,slow=2.6,SNR=4.7
GTA Gaotai 41.30 360 *e*P **P 15 16 04.5 -0.5**
GTA AP pP 15 16 20.3 +2.7
GTA XP sP 15 16 26.8 +3.7
GTA PCP PcP 15 18 03.5 +0.7
GTA S **S 15 22 12.0 -3.9**
GTA XS sS 15 22 38.0 +0.9
GTA SS SS 15 25 12.0 -8.7
GTA AMB AMB
comp=Z,8.0nm,1.6s,mb4.1
GTA AMB AMB
comp=Z,179nm,6.8s
GTA LR LR
comp=N,297nm,17.5s,MS4.6
GTA LR LR
comp=E,574nm,16.0s,MS4.6
GTA LR LR
comp=Z,458nm,19.5s,MS4.3
HHC Hu-ho-hao-te 43.98 12 *e*P **P 15 16 28.0 +1.3**
HHC AP pP 15 16 40.3 +0.9
HHC XP sP 15 16 45.3 +0.4
HHC PP PP 15 18 10.5 +0.8
HHC S **S 15 23 01.0 +5.7**
HHC XS sS 15 23 20.5 +4.0
HHC SS SS 15 26 07.3 -6.0
HHC AMB AMB
comp=Z,25nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,277nm,5.9s
HHC LR LR
comp=N,676nm,17.7s,MS4.7
HHC LR LR
comp=E,438nm,15.3s,MS4.7
HHC LR LR
comp=Z,758nm,16.6s,MS4.7
BJT Baijiatuau 44.39 18 *e*P **P 15 16 29.9 -0.1**
BJT pmax pmax
comp=Z,40nm,1.3s
BJT Baijiatuau 44.39 18 *e*P **P 15 16 29.9 -0.1**
comp=Z,40nm,1.3s,mb5.0
BJI Beijing 44.41 18 P **P 15 16 30.3 +0.1**
BJI AMB AMB
comp=Z,28nm,1.2s,mb4.9
BJI LR LR
comp=N,1μm,15.5s,MS4.9
BJI LR LR
comp=E,359nm,15.0s,MS4.9
BJI LR LR
comp=Z,724nm,17.1s,MS4.7
BJI Beijing 44.41 18 P **P 15 16 30.3 +0.1**
comp=Z,28nm,1.2s,mb4.9
BJI LR LR
comp=Z,720nm,17.1s,MS4.7
KSH Kashi 47.01 334 *e*P **P 15 16 51.0 +0.4**
KSH *e*AP pP 15 17 06.8 +3.4
KSH *e*XP sP 15 17 12.8 +3.9
KSH *e*PCP PcP 15 18 21.0 -1.3
KSH *e*PP PP 15 18 40.8 -0.8
KSH *e*SCP ScP 15 22 10.0 -2.2
KSH *e*PCS PcS 15 22 19.8 +2.4
KSH *e*S **S 15 23 35.0 -3.9**
KSH *e*PS 15 23 48.3
KSH *e*XS sS 15 24 03.0 +2.7
KSH *e*SCS ScS 15 26 37.3 -3.6
KSH *e*SS SS 15 26 57.3 -8.8
KSH LR LR
comp=N,938nm,5.0s
KSH LR LR
comp=E,970nm,5.1s
KSH LR LR
comp=Z,4μm,11.6s,MS5.6
WMQ Urumqi 47.07 348⇑ *i*P **P 15 16 52.3 +1.2**
WMQ AP pP 15 17 04.5 +0.6
WMQ XP sP 15 17 10.0 +0.6
WMQ PCP PcP 15 18 24.0 +1.5
WMQ PPP 15 19 30.0
WMQ S **S 15 23 40.0 +0.2**
WMQ XS sS 15 24 00.0 -1.2
WMQ SCS ScS 15 26 40.0 -1.3
WMQ AMB AMB
comp=Z,68nm,0.9s,mb5.6
WMQ AMB AMB
comp=Z,279nm,5.4s
WMQ LR LR
comp=N,924nm,22.4s,MS4.8
WMQ LR LR
comp=E,832nm,23.7s,MS4.8
WMQ LR LR
comp=Z,672nm,25.8s,MS4.5
WSAR Wadi Sarin 47.66 304 pP pP 15 17 07.4 -1.2
comp=Z,4.9nm,1.0s,baz=126,slow=10,SNR=3.1
CTA Charters Tower 48.38 115⇓ *i*P **P 15 17 01.4 +0.2**
comp=Z,15nm,0.8s,mb5.1
CTA *e*pP pP 15 17 14.1 0.0
CTA Charters Tower 48.38 115⇓ *i*P **P 15 17 01.4 +0.2**
CTA *e**PP pP 15 17 14.1 0.0
CTA pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 48.38 115 *e*P **P 15 17 00.9 -0.3**
CTAO *e**PP pP 15 17 13.3 -0.8
CTAO pmax pmax
comp=Z,54nm,1.1s,mb5.5
CTAO Charters Tower 48.38 115 *e*P **P 15 17 00.9 -0.3**
comp=Z,54nm,1.1s,mb5.5
CTAO *e*pP pP 15 17 13.2 -0.8
STKA Stephens Creek 48.94 132⇑ *i*P **P 15 17 06.2 +0.7**
comp=Z,18nm,0.8s,mb5.2
STKA Stephens Creek 48.94 132 P **P 15 17 06.6 +1.1**
comp=Z,16nm,0.7s,mb5.2,baz=312,slow=7.7,SNR=27
STKA pP pP 15 17 18.8 +0.3
comp=Z,19nm,0.7s,baz=317,slow=6.5,SNR=9.2
STKA LR LR 15 39 21.9
comp=Z,1μm,18.9s,MS5.0,baz=251,slow=38
KZA Kyzart 49.44 336 P **P 15 17 10.7 +1.3**
SNR=8.1
UCH Uchtor 49.87 335 P **P 15 17 14.0 +1.4**
SNR=19
TKM2 Tokmak 2 50.00 336 P **P 15 17 14.7 +1.1**
SNR=48
SONM Songino Array 50.02 5 P **P 15 17 14.3 +0.5**
comp=Z,13nm,0.7s,mb5.1,baz=188,slow=9.4,SNR=54
SONM pP pP 15 17 25.7 -1.0
comp=Z,16nm,0.9s,baz=190,slow=9.2,SNR=11
SONM LR LR 15 41 40.6
comp=Z,618nm,18.7s,MS4.6,baz=92,slow=40
SONM Songino Array 50.02 5 P **P 15 17 14.3 +0.5**
SONM *PP pP 15 17 25.7 -1.0
KBK Karagaybulak 50.04 336 P **P 15 17 15.2 +1.3**
SNR=20
ULN Ulaanbaatar 50.12 6 P **P 15 17 15.5 +0.9**
SNR=10.0
ULN Ulaanbaatar 50.12 6 *e*P **P 15 17 14.3 -0.2**
ULN *e**PP pP 15 17 26.4 -1.0
ULN pmax pmax
comp=Z,14nm,1.0s,mb5.0
ULN Ulaanbaatar 50.12 6 *e*P **P 15 17 14.2 -0.3**
comp=Z,14nm,1.0s,mb5.0
ULN *e*pP pP 15 17 26.4 -1.0
AML Almayashu 50.14 334 P **P 15 17 16.0 +1.3**
SNR=13
AAK Ala-Archa 50.21 335 P **P 15 17 16.5 +1.2**
SNR=9.9
AAK Ala-Archa 50.21 335 P **P 15 17 15.3 +0.1**
comp=Z,52nm,1.1s,mb5.5,SNR=7.7
AAK Ala-Archa 50.21 335 P **P 15 17 15.5 +0.2**
SNR=7.6
AAK Ala-Archa 50.21 335*c* *i*P **P 15 17 15.3 +0.1**
AAK pmax pmax
comp=Z,25nm,2.2s,mb4.9
AAK Ala-Archa 50.21 335 *e*P **P 15 17 15.2 0.0**
comp=Z,12nm,1.0s,mb4.9
FRU Bishkek 50.33 336 *e*P **P 15 17 16.9 +0.8**
FRU *e* 15 17 37.5
FRU pmax pmax
comp=Z,80nm,2.1s,mb5.4
CHMS Chumysh 50.41 336 P **P 15 17 17.2 +0.5**
SNR=11
EKS2 Erkin-Say 50.53 335 P **P 15 17 18.9 +1.2**
SNR=46
USP Ospenovka 50.73 336 P **P 15 17 19.7 +0.6**
SNR=30
CN2 Changchun 50.99 23 *e*P **P 15 17 20.5 -0.7**
CN2 *e*AP pP 15 17 35.8 +1.7
CN2 *e*S **S 15 24 32.8 -2.1**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.8
CN2 LR LR
comp=E,400nm,16.0s,MS4.8
CN2 LR LR
comp=Z,700nm,19.0s,MS4.7
MK31 Makanchi Array 51.17 344 *e*P **P 15 17 22.5 0.0**
MK31 *e*ScP ScP 15 22 18.4 -12
MK31 *e*S **S 15 24 38.2 +0.9**
MKAR Makanchi Array 51.17 344 P **P 15 17 22.7 +0.2**
comp=Z,15nm,0.7s,mb5.1,baz=152,slow=8.1,SNR=197
MKAR LR LR 15 43 00.9
comp=Z,122nm,21.0s,MS3.9,baz=152,slow=41
MKAR Makanchi Array 51.17 344 *i* P **P 15 17 22.5 0.0**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MAT Matsushiro 52.22 39 P **P 15 17 28.9 -1.4**
MAT *e*S **S 15 25 05.6 +14**
MAJO Matsushiro 52.22 39 *e*P **P 15 17 28.6 -1.7**
MAJO *e**PP pP 15 17 41.5 -1.8
MAJO pmax pmax
comp=Z,16nm,1.3s,mb4.8
MAJO Matsushiro 52.22 39 *e*P **P 15 17 28.6 -1.8**
comp=Z,16nm,1.3s,mb4.8
MAJO *e*pP pP 15 17 41.5 -1.8
MJAR Matsushiro Arr 52.22 39 P **P 15 17 30.2 -0.1**
comp=Z,10.0nm,1.1s,mb4.7,baz=222,slow=7.6,SNR=18
MJAR pP pP 15 17 42.0 -1.3
comp=Z,13nm,1.0s,baz=222,slow=7.1,SNR=11
MJAR LR LR 15 41 16.0
comp=Z,261nm,18.5s,MS4.3,baz=310,slow=38
MJAR Matsushiro Arr 52.22 39 P **P 15 17 30.2 -0.1**
MJAR *PP pP 15 17 42.1 -1.2
KK31 Karatay Array 52.33 333 *i* P **P 15 17 30.7 -0.4**
KKAR Karatay Array 52.33 333 *i* P **P 15 17 30.6 -0.5**
ZAK Zakamensk 52.34 2⇑ *i*P **P 15 17 31.3 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VLA Vladivostok 53.28 29 *e*P **P 15 17 32.0 -6.2**
VLA pmax pmax
comp=Z,57nm,1.8s,mb5.2
VLA MLR MLR
comp=Z,200nm,15.8s,MS4.3
MDJ Mudanjiang 53.39 26 P **P 15 17 39.3 +0.4**
MDJ AP pP 15 17 50.5 -1.4
MDJ XP sP 15 17 55.3 -2.0
MDJ PCP PcP 15 18 45.5 -0.2
MDJ PP PP 15 19 39.8 +0.3
MDJ S **S 15 25 06.0 -1.6**
MDJ XS sS 15 25 30.0 +0.7
MDJ SCS ScS 15 27 23.0 -1.4
MDJ SS SS 15 28 49.3 +1.3
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,330nm,13.8s
MDJ LR LR
comp=N,387nm,18.6s,MS4.7
MDJ LR LR
comp=E,544nm,17.3s,MS4.7
MDJ LR LR
comp=Z,646nm,22.3s,MS4.6
MDJ Mudanjiang 53.39 26 P **P 15 17 38.5 -0.4**
TLY Talaya 53.66 3 P **P 15 17 41.9 +1.0**
SNR=5.1
TLY Talaya 53.66 3 *e*P **P 15 17 41.5 +0.6**
TLY pmax pmax
comp=Z,23nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,628nm,17.0s,MS4.7
TLY Talaya 53.66 3 *e*P **P 15 17 41.4 +0.5**
comp=Z,23nm,1.0s,mb5.1
HIA Hailar 53.88 16 *e*P **P 15 17 42.2 -0.3**
HIA Hailar 53.88 16 *e*P **P 15 17 41.4 -1.1**
comp=Z,5.2nm,0.9s,mb4.5
IRK Irkutsk 54.25 3 *e*P **P 15 17 45.2 0.0**
IRK *e* 15 28 59.0
IRK pmax pmax
comp=Z,46nm,2.0s,mb5.1
OPO Ambohidratompo 54.42 249 P **P 15 17 47.7 +1.2**
comp=Z,2.7nm,1.0s,mb4.1,baz=68,slow=6.5,SNR=7.4
OPO pP pP 15 17 59.8 +0.3
comp=Z,9.4nm,1.0s,baz=25,slow=5.4,SNR=6.4
CIT Chita 55.09 10 *e*P **P 15 17 51.6 +0.3**
KURK Kurchatov 55.76 344 P **P 15 17 56.9 +0.8**
comp=Z,197nm,0.9s,SNR=27
ZAL Zalesovo 57.29 349 P **P 15 18 07.3 +0.3**
comp=Z,15nm,0.9s,mb5.0,baz=300,slow=5.7,SNR=60
ZAL pP pP 15 18 19.7 -0.5
comp=Z,11nm,0.3s,baz=322,slow=5.5,SNR=7.5
ZAL Zalesovo 57.29 349 P **P 15 18 07.3 +0.3**
ZAL pP pP 15 18 19.7 -0.5
KLR Kul'dur 57.94 24 *e*P **P 15 18 08.3 -3.3**
KLR pmax pmax
comp=Z,80nm,1.8s,mb5.5
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.4
NVS Novosibirsk 58.45 349⇑ *i*P **P 15 18 13.6 -1.5**
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,26nm,1.6s,mb5.0
ASAJ Asahikawa 59.58 34 P **P 15 18 23.2 +0.3**
comp=Z,14nm,0.9s,mb5.0,baz=262,slow=11,SNR=8.9
ASAJ LR LR 15 45 01.0
comp=Z,206nm,18.6s,MS4.3,baz=83,slow=37
VOSK Vostochnaya 59.89 340 P **P 15 18 24.0 -1.1**
VOSK pmax pmax
comp=Z,43nm,1.9s,mb5.2
BVA0 Borovoye Array 60.34 340 *i* P **P 15 18 27.3 -0.9**
BVA0 pmax pmax
comp=Z,50nm,1.4s,mb5.3
BVAR Borovoye Array 60.34 340 P **P 15 18 27.3 -0.9**
comp=Z,7.9nm,0.8s,mb4.8,baz=142,slow=8.7,SNR=45
BVAR pP pP 15 18 40.8 -0.6
comp=Z,4.3nm,0.5s,baz=128,slow=8.8,SNR=6.9
BRVK Borovoye 60.41 340 P **P 15 18 27.8 -0.8**
comp=Z,86nm,1.0s,mb5.7,SNR=8.9
BOD Bodaibo 60.75 8 *e*P **P 15 18 30.6 -0.3**
BOD pmax pmax
comp=Z,44nm,1.0s,mb5.5
ZRNK Zerenda 60.77 339 *i* P **P 15 18 30.0 -1.1**
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ZRNK Zerenda 60.77 339 *e*P **P 15 18 29.8 -1.3**
comp=Z,13nm,1.0s,mb5.0
CHKZ Chkalovo 60.80 340 *e*P **P 15 18 30.4 -0.9**
CHKZ pmax pmax
comp=Z,24nm,0.9s,mb5.3
CHKZ Chkalovo 60.80 340 *e*P **P 15 18 30.4 -1.0**
comp=Z,24nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 61.46 32⇓ *i*P **P 15 18 36.0 +0.2**
YSS *e* pP 15 18 49.0 0.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 61.46 32 *e*P **P 15 18 35.4 -0.3**
comp=Z,57nm,0.9s,mb5.7
YSS *e*pP pP 15 18 48.3 -0.7
AB31 Akbulak array 61.82 331 *i* P **P 15 18 37.2 -1.0**
AB31 pmax pmax
comp=Z,51nm,1.0s,mb5.6
AB31 Akbulak array 61.82 331 *i* P **P 15 18 37.3 -0.9**
CLNS Chul'man 62.05 15 *e*P **P 15 18 39.9 +0.1**
CLNS pmax pmax
comp=Z,48nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.9s
KMBO Kilima Mbogo 62.93 270 P **P 15 18 47.6 +2.1**
comp=E,2.5nm,0.9s,mb4.3,baz=54,slow=9.9,SNR=8.3
KMBO pP pP 15 18 59.3 +0.5
comp=E,7.3nm,0.9s,baz=46,slow=9.9,SNR=11
KMBO LR LR 15 40 19.5
comp=E,427nm,20.2s,MS4.6,baz=96,slow=30
KMBO Kilima Mbogo 62.93 270 *e*P **P 15 18 47.5 +1.9**
KMBO *e**PP pP 15 19 00.7 +1.8
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 62.93 270 *e*P **P 15 18 47.5 +1.9**
comp=Z,14nm,1.0s,mb5.0
KMBO *e*pP pP 15 19 00.7 +1.8
AKTK Aktyubinsk 63.54 331 P **P 15 18 48.7 -1.0**
AKTK pP pP 15 19 01.7 -1.3
AKTO Aktyubinsk 63.54 331 P **P 15 18 48.7 -1.0**
comp=Z,5.0nm,0.9s,mb4.5,baz=139,slow=6.7,SNR=16
AKTO pP pP 15 19 01.7 -1.3
comp=Z,12nm,0.9s,baz=156,slow=1.8,SNR=10
CASY Casey 64.47 175 *e*P **P 15 18 55.5 -0.2**
comp=Z,9.6nm,1.0s,mb4.8
GNI Garni 65.73 316 P **P 15 19 04.6 +0.7**
comp=Z,2.2nm,0.4s,mb4.5,baz=101,slow=5.6,SNR=2.5
GNI Garni 65.73 316 *e*P **P 15 19 04.5 +0.5**
GNI pmax pmax
comp=Z,32nm,1.3s
GNI Garni 65.73 316 *e*P **P 15 19 04.0 +0.1**
comp=Z,27nm,1.3s,mb5.1
ORR Orenburg 65.88 331 P **P 15 19 04.5 -0.4**
ORR pmax pmax
comp=Z,20nm,1.4s,mb5.0
ARU Arti 67.38 336⇑ *i*P **P 15 19 13.4 -1.0**
ARU *e* 15 19 38.3
ARU *e* 15 21 41.1
ARU *e*PPP 15 23 14.9
ARU *e*S S 15 28 06.4 -0.2
ARU *e*SS SS 15 32 26.1 -1.0
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
ARU Arti 67.38 336 *e*P **P 15 19 13.3 -1.1**
comp=Z,20nm,1.1s,mb5.1
ZEI Tsey 67.44 318 *e*P **P 15 19 15.0 +0.2**
ZEI *e**PP pP 15 19 30.0 +1.8
ZEI pmax pmax
comp=Z,14nm,0.8s,mb5.0
YAK Yakutsk 67.78 15*c* *i*P **P 15 19 15.1 -1.9**
YAK *i* 15 19 36.3
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=Z,129nm,1.2s,mb5.8
YAK pmax pmax
comp=N,49nm,1.3s
YAK Yakutsk 67.78 15 *e*P **P 15 19 15.5 -1.5**
comp=N,106nm,1.0s,mb5.8
YAK *e*pP pP 15 19 28.2 -2.2
KIV Kislovodsk 68.75 319 *e*P **P 15 19 23.2 +0.2**
KIV *e**PP pP 15 19 36.4 -0.1
KIV pmax pmax
comp=Z,183nm,1.1s,mb5.9
KIV Kislovodsk 68.75 319 *e*P **P 15 19 22.4 -0.7**
comp=Z,62nm,1.2s,mb5.4
KIV *e*pP pP 15 19 36.4 -0.1
EIL Elat 69.74 303 *e*P **P 15 19 29.7 +0.5**
comp=Z,114nm,0.8s,mb5.9
MAW Mawson 70.24 194 *e*P **P 15 19 32.4 +0.1**
comp=Z,3.2nm,0.7s,mb4.4
MAW Mawson 70.24 194 P **P 15 19 32.6 +0.3**
comp=Z,6.1nm,1.0s,mb4.5,baz=42,slow=8.4,SNR=8.8
MAW LR LR 15 43 42.1
comp=Z,398nm,21.5s,MS4.6,baz=46,slow=30
MAW Mawson 70.24 194 *e*P **P 15 19 32.4 +0.1**
MAW pmax pmax
comp=Z,30nm,0.7s
MATP Matopo 72.13 249 P **P 15 19 44.8 +1.1**
comp=Z,10nm,0.7s,mb4.8,baz=99,slow=11,SNR=3.3
MA2 Magadan 73.04 24 *e*P **P 15 19 49.2 +0.1**
MA2 *e*S S 15 29 09.8 -2.9
MA2 pmax pmax
comp=Z,100nm,0.8s,mb5.8
MA2 MLR MLR
comp=Z,500nm,20.3s,MS4.8
MA2 Magadan 73.04 24 *e*P **P 15 19 47.0 -2.1**
BRTR Keskin Array B 73.53 312 P **P 15 19 51.4 -0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=133,slow=7.8,SNR=32
BRTR pP pP 15 20 04.5 -1.0
comp=Z,5.0nm,0.8s,baz=145,slow=6.4,SNR=9.3
BR131 Keskin Array S 73.53 312 *e*P **P 15 19 50.6 -1.4**
comp=Z,5.2nm,0.8s,mb4.5
BR131 *e*pP pP 15 20 05.2 -0.4
VOR Voronezh 74.17 326 P pP 15 20 08.0 -1.2
VOR pmax pmax
comp=E,130nm,1.5s
VOR pmax pmax
comp=Z,150nm,1.5s,mb5.7
RPZ Rata Peaks 74.77 135 P **P 15 20 00.0 +0.8**
comp=Z,18nm,1.0s,mb5.0,baz=196,slow=20,SNR=8.0
RPZ pP pP 15 20 11.7 -1.1
comp=Z,23nm,0.8s,baz=110,slow=2.0,SNR=4.3
SEY Seymchan 75.64 22 *e*P **P 15 20 04.0 -0.2**
BOSA Boshof 75.79 241 LR LR 15 48 58.5
comp=Z,398nm,18.0s,MS4.8,baz=267,slow=32
TIXI Tiksi 75.92 9⇑ *i*P **P 15 20 04.3 -1.5**
MOS Moscow 76.68 329 *e*P pP 15 20 21.6 -2.1
MOS *e* 15 23 02.1
MOS *e* 15 34 47.3
OBN Obninsk 76.98 328⇓ *e*P **P 15 20 11.6 -0.2**
OBN *e*S S 15 29 56.7 +0.1
OBN pmax pmax
comp=Z,22nm,0.9s,mb5.1
OBN MLR MLR

comp=Z,200nm,19.0s,MS4.5
OBN Obninsk 76.98 328 *e*P **P 15 20 10.8 -1.0**
comp=Z,170nm,1.8s,mb5.7
OBN *e*pP pP 15 20 24.2 -1.2
SYO Syowa Base 77.84 199⇑ *e*P **P 15 20 16.6 0.0**
URZ Urewera 78.43 128 pP pP 15 20 32.1 -1.4
comp=Z,9.7nm,0.8s,baz=291,slow=8.2,SNR=2.3
TIRR Tirgusor 78.56 316⇓ *i*P **P 15 20 20.3 -0.3**
AKASG Malin Array Be 79.68 322 P **P 15 20 26.0 -0.8**
comp=Z,1.2nm,0.6s,mb4.0,baz=82,slow=5.3,SNR=7.7
AKASG pP pP 15 20 38.5 -2.0
comp=Z,0.5nm,0.3s,baz=84,slow=4.4,SNR=4.6
VRI Vrincioaia 80.06 317⇑ *i*P **P 15 20 29.4 +0.6**
MLR Muntele Rosu 80.51 317⇑ *i*P **P 15 20 30.2 -1.0**
BURAR Bucovina Array 81.46 319⇑ *i*P **P 15 20 37.2 +0.9**
VNDA Vanda 82.03 169 *e*P **P 15 20 39.0 -0.2**
comp=Z,0.9nm,0.9s,baz=309,slow=5.4,SNR=4.5
VNDA Vanda 82.03 169 *e*P **P 15 20 38.9 -0.3**
VNDA *e**PP pP 15 20 50.4 -2.6
VNDA pmax pmax
comp=Z,7.0nm,1.5s
VNDA Vanda 82.03 169 *e*P **P 15 20 38.9 -0.3**
comp=Z,6.9nm,1.5s,mb4.4
VNDA *e*pP pP 15 20 50.4 -2.6
JOF Joensuu 82.39 344 *e*p **P 15 20 40.8 -0.3**
comp=Z,11nm,0.9s,mb4.8
LVV L'vov 82.70 321 *e*P pP 15 20 53.6 -2.9
DRGR 82.97 317⇑ *i*P **P 15 20 44.8 +0.6**
SBA Scott Base 83.12 169 *e*P **P 15 20 45.9 +1.0**
SBA *e**PP pP 15 20 57.9 -0.8
SBA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SBA Scott Base 83.12 169 *e*P **P 15 20 45.9 +1.0**
comp=Z,8.5nm,0.8s,mb4.8
SBA *e*pP pP 15 20 57.9 -0.8
APA Apatity 83.25 339⇓ *e*P **P 15 20 44.0 -1.6**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,19.0s,MS5.2
BZS Buzias 83.52 316⇓ *i*P **P 15 20 46.9 -0.1**
UZH Uzhgorod 83.59 319 *e*P **P 15 20 45.0 -2.3**
UZH *e* 15 20 52.2
KOLS Kolonicke sedl 83.66 320 *e*P **P 15 20 48.5 +0.8**
SUW Suwalki 84.08 325 *e*P **P 15 20 49.3 -0.5**
SUW *e**PP pP 15 21 02.4 -1.2
SUW pmax pmax
comp=Z,53nm,1.0s,mb5.6
SUW Suwalki 84.08 325 *e*P **P 15 20 49.2 -0.6**
comp=Z,53nm,1.0s,mb5.6
SUW *e*pP pP 15 21 02.4 -1.2
CRVS Cervenica-Dubn 84.18 319 *e*P **P 15 20 51.0 +0.7**
FINES FINESS Array B 84.29 332 P **P 15 20 51.0 0.0**
comp=Z,4.8nm,0.8s,mb4.7,baz=95,slow=5.1,SNR=11
FINES pP pP 15 21 02.4 -2.3
comp=Z,5.4nm,0.9s,baz=108,slow=5.6,SNR=3.9
FINES FINESS Array B 84.29 332 P **P 15 20 51.0 0.0**
FINES pP pP 15 21 02.4 -2.3
KAF Kangasniemi 84.36 333 *e*p **P 15 20 49.8 -1.5**
comp=Z,5.7nm,0.5s,mb5.0
KAF Kangasniemi 84.36 333 *e*P **P 15 20 49.8 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
STHS Stebnicka Huta 84.41 320 *e*P **P 15 20 52.8 +1.3**
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
STHS Stebnicka Huta 84.41 320 *e*P **P 15 20 52.8 +1.3**
comp=Z,7.9nm,1.0s,mb4.8
KECS Kecovo 84.75 319 *e*P **P 15 20 53.2 0.0**
KECS *e* pP 15 21 05.4 -1.6
KECS pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
KECS Kecovo 84.75 319 *e*P **P 15 20 53.2 0.0**
comp=Z,6.7nm,1.1s,mb4.7
KECS *e* pP 15 21 05.4 -1.6
NIE Niedzica 85.00 320 *e*P **P 15 20 56.0 +1.5**
PSZ Piszkesteto 85.05 318⇑ *i*P **P 15 20 55.5 +0.8**
OJC Ojcow 85.46 321 *e*P **P 15 20 57.4 +0.6**
PKSM Moragy 85.66 316⇓ *i*P **P 15 20 58.0 +0.2**
VYHS Vyhne 85.83 319 *e*P **P 15 20 58.4 -0.2**
VYHS *e* pP 15 21 12.2 -0.2
VYHS pmax pmax
comp=Z,8.0nm,1.6s,mb4.7
VYHS Vyhne 85.83 319 *e*P **P 15 20 58.4 -0.2**
comp=Z,7.5nm,1.6s,mb4.7
VYHS *e* pP 15 21 12.2 -0.2
TIP Timpagrande 86.22 309 *e*P **P 15 20 59.2 -1.4**
TIP *e*pP pP 15 21 15.5 +1.1
ARCES ARCESS Array B 86.63 340 P **P 15 21 02.5 -0.1**
comp=Z,11nm,0.8s,mb5.1,baz=110,slow=3.7,SNR=26
ARCES pP pP 15 21 13.8 -2.6
comp=Z,7.1nm,0.8s,baz=113,slow=4.9,SNR=5.3
MORC Moravsky Berou 86.84 320⇓ *i*P **P 15 21 04.3 +0.7**
MAIT Maitri 87.53 199 *e*P **P 15 21 08.1 +1.2**
QSPA South Pole Qui 87.87 180 *e*P **P 15 21 05.6 -2.9**
comp=Z,3.9nm,0.8s,mb4.7
QSPA *e*pP pP 15 21 20.2 -2.2
AQU L'Aquila 89.03 312 *e*P **P 15 21 13.0 -1.0**
AQU pmax pmax
comp=Z,22nm,0.9s,mb5.5
AQU L'Aquila 89.03 312 *e*P **P 15 21 13.0 -1.0**
comp=Z,22nm,0.9s,mb5.5
BRG Berggiesshubel 89.24 321 *e*P pP 15 21 29.1 +0.2
comp=Z,25nm,1.5s
BRG Berggiesshubel 89.24 321 *e* pP 15 21 29.0 +0.1
comp=Z,15nm,1.4s
BRG
comp=N,176nm,21.0s
BRG
comp=E,110nm,19.1s
BRG
comp=Z,238nm,19.8s
GEC2 GERESS Array S 89.25 319 *e*P pP 15 21 29.1 +0.2
comp=Z,26nm,1.5s
GEC2 GERESS Array S 89.25 319 *e*P **P 15 21 15.1 0.0**
GERES GERESS Array B 89.25 319 P **P 15 21 15.6 +0.5**
comp=Z,1.9nm,0.8s,mb4.5,baz=92,slow=4.0,SNR=8.4
GERES pP pP 15 21 27.1 -1.9
comp=Z,2.3nm,0.7s,baz=94,slow=4.1,SNR=6.0
RUE Ruedersdorf 89.46 322 *e*P pP 15 21 30.2 +0.3
comp=Z,83nm,1.4s
FBE Freiberg 89.62 321 *e*P pP 15 21 30.6 -0.1
comp=Z,29nm,1.4s
WET Wettzell 89.81 319 *e*P pP 15 21 32.1 +0.5
comp=Z,22nm,1.4s
CLL Collm 89.86 321 *e*P pP 15 21 31.8 0.0
comp=Z,32nm,1.8s
CLL Collm 89.86 321 *e*pP pP 15 21 32.0 +0.2
comp=Z,23nm,1.5s
WERN Wernitzgruen 90.20 320 *e*P pP 15 21 33.6 +0.2
comp=Z,56nm,2.1s
GUNZ Gunzen 90.23 320 *e*P pP 15 21 34.0 +0.5
comp=Z,22nm,1.5s
WERD Werda 90.26 320 *e*P pP 15 21 34.2 +0.6
comp=Z,11nm,1.2s
ROTZ Rotzenmuhle 90.28 320 *e*P pP 15 21 34.0 +0.2
comp=Z,12nm,1.5s
MANZ Manzenberg 90.36 320 *e*P pP 15 21 34.8 +0.7
comp=Z,23nm,1.4s
MOX Moxa 90.70 320 *e*P pP 15 21 36.1 +0.4
comp=Z,19nm,1.6s
GRF Grafenberg Arr 90.92 320 *e*P pP 15 21 39.0 +2.3
comp=Z,8.0nm,0.6s
NB2 NORSAR Subarra 91.33 331 P **P 15 21 21.7 -3.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=95,slow=4.6
NB2 NORSAR Subarra 91.33 331 P **P 15 21 21.7 -3.0**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.2
NOA NORSAR Array B 91.33 331 P **P 15 21 24.5 -0.2**
comp=Z,1.5nm,0.8s,mb4.4,baz=92,slow=4.8,SNR=4.0
NOA pP pP 15 21 36.9 -1.7
comp=Z,2.2nm,0.9s,baz=94,slow=4.7,SNR=4.4
CLZ Clausthal 91.53 322 *e*P pP 15 21 40.0 +0.5
comp=Z,50nm,1.6s
KEST Kesra 91.91 306 P **P 15 21 29.8 +2.3**
comp=Z,3.2nm,0.9s,mb4.7,baz=350,slow=5.4,SNR=7.0
KEST pP pP 15 21 40.6 -0.7
comp=Z,2.0nm,0.8s,baz=276,slow=6.5,SNR=2.8
TNS Taunus Mts 92.72 320 *e*P pP 15 21 45.4 +0.3
comp=Z,39nm,1.8s
BFO Black Forest 92.80 318 *e*P pP 15 21 46.0 +0.6
comp=Z,6.0nm,1.0s
VNA2 Neumayer--Watz 93.73 198 *e*P **P 15 21 36.1 +0.3**
VNA2 *e* pP 15 21 49.9 +0.2
TORD Torodi Ar. Bea 98.75 283 pP pP 15 22 12.1 -0.4
comp=Z,1.6nm,1.1s,baz=109,slow=3.9,SNR=3.4
TORD LR LR 16 06 42.0
comp=Z,155nm,18.6s,MS4.5,baz=95,slow=35
NVAR Mina Array Bea 129.55 39 PKP PKPdf 15 27 29.1 +1.4
comp=Z,0.5nm,0.6s,baz=256,slow=3.2,SNR=5.2
ULM Lac du Bonnet 130.12 13 PKP PKPdf 15 27 29.5 +0.7
comp=Z,1.9nm,0.7s,baz=8.6,slow=11,SNR=2.9
ULM pPKP pPKPdf 15 27 41.2 -1.9
comp=Z,4.1nm,0.8s,baz=82,slow=1.4,SNR=4.4
ULM Lac du Bonnet 130.12 13 PKP PKPdf 15 27 29.5 +0.7
ULM pPKP pPKPdf 15 27 41.2 -1.9
PDAR Pinedale Array 131.56 29 PKP PKPdf 15 27 32.4 +0.8
comp=Z,0.4nm,0.7s,baz=72,slow=4.8,SNR=4.1
MNTX Cornudas Mount 141.94 37 *e*PKPdf PKPdf 15 27 49.2 -1.5
CPUP Villa Florida 144.36 216 *e*PKP PKPdf 15 27 54.7 -0.3
comp=Z,7.3nm,0.6s,baz=128,slow=3.1,SNR=24
CPUP pPKP pPKPdf 15 28 07.5 -1.8
comp=Z,22nm,0.8s,baz=101,slow=2.9,SNR=17
CPUP Villa Florida 144.36 216 *e*PKPdf PKPdf 15 27 54.7 -0.3
CPUP *ep*PKPdf pPKPdf 15 28 06.5 -2.9
TXAR Lajitas Array 144.66 38 PKP PKPdf 15 27 56.0 +0.4
comp=Z,13nm,0.8s,baz=273,slow=1.5,SNR=95
TXAR pPKP pPKPdf 15 28 08.5 -1.4
comp=Z,8.8nm,0.6s,baz=232,slow=1.0,SNR=14
ELN Prospectdale 145.03 1 *e*PKPdf PKPdf 15 27 54.5 -1.6
WVT Waverly 145.33 11 *e*PKIKP PKPdf 15 27 56.4 -0.3
WVT *e* 15 28 10.2
JCT Junction City 146.00 32 *e*PKPdf PKPdf 15 27 59.4 +1.6
JCT *ep*PKPdf pPKPdf 15 28 13.1 +0.9
PLAL Pickwick Lake 146.39 12 *e*P PKPdf 15 27 58.3 -0.2
PLAL *ep*PKPdf pPKPdf 15 28 13.1 +0.2
OXF Oxford 146.53 14 *e*PKPdf PKPdf 15 27 59.7 +1.0
OXF *ep*PKPdf pPKPdf 15 28 14.4 +1.3
LHS Liberty Hill 147.77 2 *e*PKPbc PKPbc 15 28 03.4 -0.3
LHS *ep*PKPdf pPKPdf 15 28 16.6 +1.4
JSC Jenkinsville 147.95 2 *e*PKPdf PKPdf 15 28 03.7 +2.7
JSC *ep*PKPdf pPKPdf 15 28 17.7 +2.2
CMIG Matias Romero 158.98 44 PKPab PKPab 15 28 53.7 +0.4
comp=Z,1.3nm,0.5s,baz=265,slow=4.9,SNR=3.8

PRE 26 15:13:06.6±1.1, 2150S×3321E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.07**	**254**	*e*P	Pn	15 13 56.4	+0.6
MSNA				*e*S	Sn	15 14 33.8	+0.9
MSNA				AML	AML	15 14 53.7	
	comp=Z,122nm,0.2s						
POGA	**Pongola**	**6.02**	**194**	*e*P	Pn	15 14 36.4	+0.1
POGA				*e*S	Sn	15 15 42.5	-3.1
POGA				AML	AML	15 16 02.0	
	comp=Z,17nm,0.5s						
PRYS	**Parys**	**7.59**	**224**	*e*P	Pn	15 14 59.6	+1.8
PRYS				*e*S	Sn	15 16 20.6	-3.6
PRYS				AML	AML	15 17 17.9	
	comp=Z,27nm,0.5s						

NEIC ***26*** *15:15:26.3, 3345S×7303W, h24km, ML3.1(GUC), After GUC.*
GUC 26 15:15:26.3±0.7, 3345S×7303W, h24km±3km, MD3.6, ML3.1, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.44**	**111**⇑	*i*P	Pn	15 15 51.0	+0.1
LNV				*i* S	Sn	15 16 09.7	+0.5
PACH	**Papudo**	**1.62**	**56**	*i* S	Sn	15 16 14.3	+0.8
RCDM	**Rinconada Maip**	**1.86**	**92**⇓	*i*P	Pn	15 15 57.5	+0.8
RCDM				*i* S	Sn	15 16 21.2	+1.7
RCDM				AML	AML	15 16 23.8	
	comp=N,245nm,0.1s						
RCDM	**Rinconada Maip**	**1.86**	**92**⇓	*i*P	Pn	15 15 57.5	+0.8
RCDM				*i* S	Sn	15 16 21.2	+1.7
PEL	**Peldehue**	**1.99**	**82**	*e*P	Pn	15 16 00.2	+1.7
PEL				*i* S	Sn	15 16 25.6	+2.9
PEL				AML	AML	15 16 29.8	
	comp=E,255nm,0.4s						
PEL	**Peldehue**	**1.99**	**82**	*e*P	Pn	15 16 00.2	+1.7
PEL				*i* S	Sn	15 16 25.6	+2.9
CHCH	**Chadas Angostu**	**2.04**	**104**	*e*P	Pn	15 16 00.7	+1.5
CHCH				*i* S	Sn	15 16 26.4	+2.5
CACH	**El Canelo**	**2.13**	**109**⇑	*i*P	Pn	15 16 02.3	+1.8
FCH	**Farellones**	**2.30**	**88**⇑	*i*P	Pn	15 16 04.9	+2.2
FCH				*i* S	Sn	15 16 34.2	+3.9
FCH				AML	AML	15 16 36.1	
	comp=E,142nm,0.2s						
CICH	**Cipreses**	**2.34**	**112**⇑	*i*P	Pn	15 16 04.6	+1.3
CICH				*i* S	Sn	15 16 33.8	+2.5
LMEL	**Las Melosas**	**2.39**	**100**⇑	*i*P	Pn	15 16 05.4	+1.4
LMEL				*i* S	Sn	15 16 35.3	+2.7
LMEL				AML	AML	15 16 39.5	
	comp=N,178nm,0.1s						
LMEL	**Las Melosas**	**2.39**	**100**⇑	*i*P	Pn	15 16 05.4	+1.4
LMEL				*i* S	Sn	15 16 35.3	+2.7

ISCJB ***26*** *15:41:51.6±0.7, 12S±01×695E±0.1, h10km, mb4.3/16, MS4.2/1, Error ellipse: s-maj=19.4km s-min=13.3km az=76.7*
IDC ***26*** *15:41:52.4±1.6, 123S×6968E, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.8/22, mbtmp4.1/7, MS4.2/1, Ms1 4.2/1, ms1mx3.1/29, Error ellipse: s-maj=58.0km s-min=28.9km az=56.0*
NEIC ***26*** *15:41:53.7±0.6, 1.19S×6944E, h10km, mb4.4/10, Error ellipse: s-maj=16.9km s-min=11.3km az=130.0*
ISC 26 15:41:53.7±0.7, 12S±01×695E±01, h10km, n23, σ0°88/22, mb4.3/16, MS4.2/1, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**14.01**	**53**	*e*Pn	**Pn**	**15 45 12.2**	**+0.1**
PALK				*e*Sn	Sn	15 47 24.4	-23
KULM	**Kulim**	**31.81**	**78**	*e*P	**P**	**15 48 28.7**	**+10**
LSA	**Lhasa**	**37.04**	**32**	*e*P	**P**	**15 49 05.3**	**+1.7**
	13nm,1.6s,mb4.5						
LSZ	**Lusaka**	**43.07**	**249**	*e*P	**P**	**15 49 54.1**	**+0.4**
	3.2nm,0.9s,mb4.0						
LSZ				*e*		15 50 02.5	
AAK	**Ala-Archa**	**43.85**	**5**	*e*P	**P**	**15 50 00.8**	**+0.8**
	8.1nm,1.5s,mb4.2						
GNI	**Garni**	**46.93**	**334**	P	**P**	**15 50 27.1**	**+2.7**
	2.3nm,0.4s,mb4.5,baz=218,slow=12,SNR=3.4						
GNI	**Garni**	**46.93**	**334**	*e*P	**P**	**15 50 23.1**	**-1.3**
	12nm,1.1s,mb4.8						
MK31	**Makanchi Array**	**49.09**	**12**	*e*P	**P**	**15 50 39.4**	**-1.7**
MKAR	**Makanchi Array**	**49.09**	**12**	P	**P**	**15 50 41.0**	**-0.1**
	1.1nm,0.8s,mb4.0,baz=188,slow=7.2,SNR=13						
AKTK	**Aktyubinsk**	**52.35**	**351**	P	**P**	**15 51 05.9**	**+0.2**
AKTO	**Aktyubinsk**	**52.35**	**351**	P	**P**	**15 51 05.9**	**+0.2**
	2.2nm,0.8s,mb4.2,baz=174,slow=7.6,SNR=10						
TSUM	**Tsumeb**	**53.84**	**247**	*e*P	**P**	**15 51 17.1**	**+0.4**
	7.5nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**53.94**	**360**	*e*P	**P**	**15 51 17.3**	**-0.2**
	5.5nm,1.2s,mb4.4						
CHKZ	**Chkalovo**	**54.68**	**1**	*e*P	**P**	**15 51 21.0**	**-1.8**
	1.1nm,0.5s,mb4.1						
ZAL	**Zalesovo**	**56.39**	**11**	P	**P**	**15 51 35.5**	**+0.3**
	1.5nm,0.5s,mb4.2,baz=244,slow=6.9,SNR=5.1						
ZAL	**Zalesovo**	**56.39**	**11**	P	**P**	**15 51 35.5**	**+0.3**
ARU	**Arti**	**58.11**	**353**	P	**P**	**15 51 46.9**	**-0.4**
	2.5nm,0.6s,mb4.4						
SONM	**Songino Array**	**58.45**	**28**	P	**P**	**15 51 50.5**	**+0.8**
	1.0nm,0.9s,mb3.8,baz=227,slow=6.3,SNR=6.9						
SONM		LR	LR			16 19 47.2	
	comp=Z,189nm,18.0s,MS4.2,baz=138,slow=39						
WRAB	**Tennant Creek**	**66.03**	**111**	P	**P**	**15 52 35.0**	**-5.5**
	8.9nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**66.19**	**115**	P	**P**	**15 52 41.1**	**-0.4**
	0.5nm,0.8s,mb3.6,baz=288,slow=6.2,SNR=6.3						
ARCES	**ARCESS Array B**	**76.47**	**345**	P	**P**	**15 53 43.6**	**-0.1**
	5.1nm,1.0s,mb4.4,baz=148,slow=7.1,SNR=5.3						
QSPA	**South Pole Qui**	**88.81**	**180**	*e*P	**P**	**15 54 47.5**	**-0.4**
	2.3nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**151.25**	**347**	PKPbc	PKPbc	16 01 48.9	+1.5
	1.9nm,0.7s,baz=75,slow=1.4,SNR=17						
TXAR				PKPab	PKPab	16 01 56.9	+1.6
	2.2nm,0.8s,baz=25,slow=2.0,SNR=9.4						

IDC ***26*** *15:54:35.0±1.6, 251N×9579E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=46.3km s-min=19.3km az=48.0*
ISCJB ***26*** *15:54:38.0±1.0, 25N±01×9577E±007, h33km, mb4.0/9, Error ellipse: s-maj=20.6km s-min=8.3km az=40.8*
NEIC ***26*** *15:54:39.5±0.7, 254N×9585E, h30km, mb4.6/1, Error ellipse: s-maj=17.7km s-min=9.5km az=214.0*
ISC 26 15:54:40.4±1.0, 25N±01×9579E±008, h35km, n16, σ0°71/17, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.14**	**84**	Pn	**Pn**	**15 55 26.1**	**-1.3**
	2.2nm,0.3s,baz=287,slow=6.3,SNR=9.0						
PSI				Sn	**Sn**	**15 56 05.1**	**+1.5**
	1.4nm,0.3s,baz=299,slow=18,SNR=4.7						
KULM	**Kulim**	**5.58**	**60**	*e*Pn	**Pn**	**15 55 59.7**	**-1.2**
JIRN	**Jiri**	**26.66**	**341**	*e*P	**P**	**16 00 16.6**	**+0.8**
	12nm,0.7s,mb4.5						
DMN	**Daman**	**26.99**	**339**	*e*P	**P**	**16 00 19.0**	**+0.2**
GUN	**Gumba**	**26.99**	**340**	*e*P	**P**	**16 00 19.3**	**+0.4**
KKN	**Kakani**	**27.09**	**339**	*e*P	**P**	**16 00 20.2**	**+0.5**
GKN	**Gorkha**	**27.52**	**338**	*e*P	**P**	**16 00 24.2**	**+0.6**
KOLN	**Koldanda**	**27.71**	**336**	*e*P	**P**	**16 00 25.7**	**+0.4**
	5.6nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**43.91**	**122**	P	**P**	**16 02 43.4**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=301,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**45.29**	**127**	P	**P**	**16 02 55.2**	**+0.6**
	0.2nm,0.6s,mb3.1,baz=301,slow=8.0,SNR=11						
MK31	**Makanchi Array**	**45.67**	**347**	*e*P	**P**	**16 02 57.0**	**-0.6**
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**16 02 57.3**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=161,slow=8.7,SNR=28						
SONM	**Songino Array**	**46.09**	**10**	P	**P**	**16 03 00.4**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=191,slow=9.2,SNR=8.6						
ZAL	**Zalesovo**	**52.07**	**352**	P	**P**	**16 03 46.9**	**+0.1**
	1.1nm,0.4s,mb4.1,baz=286,slow=3.1,SNR=4.9						
ARU	**Arti**	**61.46**	**338**	P	**P**	**16 04 52.8**	**-0.5**
	2.8nm,0.5s,mb4.7						
ARCES	**ARCESS Array B**	**80.85**	**340**	P	**P**	**16 06 50.2**	**-0.5**
	4.0nm,1.0s,mb4.3,baz=102,slow=8.4,SNR=3.6						

CSEM ***26*** *15:59:18.9±0.1, 4108N×44.10E, h2km, mb3.7, Error ellipse: s-maj=5.0km s-min=1.1km az=134.0*
ISCJB ***26*** *15:59:19.0±0.8, 4121N±007×4404E±007, h3km±9km, Error ellipse: s-maj=13.2km s-min=5.1km az=112.3*
MOS ***26*** *15:59:20.5±0.6, 41.12N×4409E, h31km, mb3.7/1, Error ellipse: s-maj=64.6km s-min=12.0km az=86.6*
ISC 26 15:59:19.8±0.7, 4119N±010×441E±01, h9km±12km, n11, σ0°35/15, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBLG	**Delisi**	**0.74**	**43**	P	**Pg**	**15 59 34.1**	**0.0**
TBLG				S	**Sg**	**15 59 44.4**	**+0.6**
MTA	**Mtatsminda**	**0.74**	**48**	P	**Pg**	**15 59 33.5**	**-0.6**
MTA				S	**Sg**	**15 59 43.7**	**-0.2**
KARS	**Kars**	**0.93**	**232**	*i* PG	**Pg**	**15 59 37.3**	**-0.5**
KARS				*i* SG	**Sg**	**15 59 50.2**	**+0.3**
DGRG	**David-gareji**	**1.02**	**75**	P	**Pg**	**15 59 39.4**	**-0.1**
DGRG				S	**Sg**	**15 59 53.1**	**+0.3**
ZEI	**Tsey**	**1.58**	**356**	*i* Pn	**Pn**	**15 59 48.2**	**+0.3**
LACR	**Lac**	**1.64**	**6**	*i* Pn	**Pn**	**15 59 48.6**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.74**	**348**	*i* Pn	**Pn**	**15 59 50.1**	**0.0**
BCA	**Borcka**	**1.85**	**279**	*i* PN	**Pn**	**15 59 52.2**	**+0.6**
KORR	**Kora**	**1.89**	**0**	*i* Pn	**Pn**	**15 59 52.1**	**-0.1**
SNJR	**Sundja**	**1.96**	**16**	*i* Pn	**Pn**	**15 59 52.8**	**-0.3**
ARNR	**Ardon**	**2.00**	**5**	*i* Pn	**Pn**	**15 59 53.5**	**-0.2**

ATH ***26*** *16:07:33.2, 3974N×2120E, h23km, MD3.0/4*
ISCJB ***26*** *16:07:35.5±0.6, 3966N±006×21.12E±005, h19km±12km, Error ellipse: s-maj=9.6km s-min=6.0km az=8.7*
CSEM ***26*** *16:07:35.1±0.2, 3962N×21.11E, h25km, MD3.0, Error ellipse: s-maj=7.9km s-min=5.3km az=179.0*
THE ***26*** *16:07:35.3, 3964N×21.17E, h5km*
ISC 26 16:07:34.9±0.6, 3966N±004×2116E±004, h10km±11km, n14, σ0°97/21, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.23**	**270**	*e*PB	**Pg**	**16 07 39.7**	**-0.1**
IGT	**Igoumenitsa**	**0.65**	**259**	*e*Pg	**Pg**	**16 07 47.0**	**-0.4**
IGT				*e*Sg	**Sg**	**16 07 57.3**	**+1.3**
IGT	**Igoumenitsa**	**0.65**	**259**	*e*Pg	**Pg**	**16 07 47.0**	**-0.5**
IGT				*e*Sg	**Sg**	**16 07 57.3**	**+1.3**
THL	**Klokotos Trika**	**0.67**	**98**	*e*PN	**Pg**	**16 07 46.2**	**-1.7**
EVR	**Evrytania**	**0.90**	**145**	*e*PN	**Pg**	**16 07 51.5**	**-0.7**
LKD	**Levkas**	**1.03**	**203**	*e*Pg	**Pg**	**16 07 53.5**	**-1.1**
LKD				*e*Sg	**Sg**	**16 08 09.7**	**+1.7**
LKD	**Levkas**	**1.03**	**203**	*e*Pg	**Pg**	**16 07 53.5**	**-1.2**
LKD				*e*Sg	**Sg**	**16 08 09.7**	**+1.7**
KEK	**Kerkira**	**1.05**	**273**	*e*PN	**Pg**	**16 07 53.9**	**-1.2**
AGG	**Agios Georgios**	**1.11**	**124**	*e*Pg	**Pg**	**16 07 56.0**	**-0.3**
AGG				*e*Sg	**Sg**	**16 08 11.4**	**+0.7**
LIT	**Litokhoron**	**1.12**	**66**	*e*Pg	**Pg**	**16 07 56.0**	**-0.4**
LIT				*e*Sg	**Sg**	**16 08 12.6**	**+1.7**
LIT	**Litokhoron**	**1.12**	**66**	*e*Pg	**Pg**	**16 07 56.0**	**-0.4**
LIT				*e*Sg	**Sg**	**16 08 12.6**	**+1.6**
FNA	**Florina**	**1.14**	**8**	*e*Pg	**Pg**	**16 07 57.1**	**+0.3**
XOR	**Xorichti**	**1.60**	**100**	*e*Pg	**Pn**	**16 08 03.1**	**-0.1**
GRG	**Griva**	**1.61**	**36**	*e*Pb	**Pn**	**16 08 03.8**	**+0.5**

ISCJB ***26*** *16:21:26.2±2.0, 4301N±009×0.10W±006, h12km±19km, Error ellipse: s-maj=15.6km s-min=6.8km az=146.4*
CSEM ***26*** *16:21:26.8±0.1, 4301N×0.10W, h8km±1km, ML2.2, Error ellipse: s-maj=1.8km s-min=0.8km az=162.0*
LDG ***26*** *16:21:26.6±0.0, 4301N×0.10W, h8km, Md1.4/2, Error ellipse: s-maj=1.1km s-min=0.5km az=167.0*
STR ***26*** *16:21:26.9±0.1, 4301N×0.11W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 16:21:26.6±1.7, 4301N±009×010W±006, h11km±17km, n6, σ0°06/12, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.13**	**73**	Pg	**Pg**	**16 21 29.8**	**0.0**
LABF				Sg	**Sg**	**16 21 32.0**	**0.0**
VIEF	**Viey**	**0.16**	**144**	Pg	**Pg**	**16 21 30.2**	**+0.1**
VIEF				Sg	**Sg**	**16 21 32.5**	**0.0**
EPF	**Esparros**	**0.33**	**86**	*e*Pg	**Pg**	**16 21 33.1**	**0.0**
EPF				*e*Sg	**Sg**	**16 21 37.4**	**-0.1**
	1.9nm,0.2s						
EPF	**Esparros**	**0.33**	**86**	*e*Pg	**Pg**	**16 21 33.1**	**0.0**
EPF				*e*Sg	**Sg**	**16 21 37.4**	**-0.1**
	0.9nm,0.2s						
ETSF	**Etsaut**	**0.35**	**252**	*e*Pg	**Pg**	**16 21 33.7**	**+0.1**
ETSF				*e*Sg	**Sg**	**16 21 38.3**	**-0.1**
	1.7nm,0.2s						
ETSF	**Etsaut**	**0.35**	**252**	*e*Pg	**Pg**	**16 21 33.7**	**+0.1**
ETSF				*e*Sg	**Sg**	**16 21 38.3**	**-0.1**
	0.9nm,0.2s						

ISCJB ***26*** *16:42:20.4±0.6, 7654N±004×220E±02, h10km, Error ellipse: s-maj=6.8km s-min=5.0km az=139.5*
CSEM ***26*** *16:42:24.7±0.6, 7657N×2186E, h20km, ML3.3

BJO			AML	AML	16 43 40.2	
	comp=Z,184nm,0.7s					
BJO	**Bjornoya**	**2.20 201**	*e*P	**Pg**	**16 43 02.6**	**-1.4**
	SNR=55					
BJO			*e*Sg	**Sg**	**16 43 33.8**	**+1.3**
	SNR=91					
KBS	**Kingsbay**	**3.22 322**	Lg		16 44 02.8	
KBS	**Kingsbay**	**3.22 322**	*e*P	**Pn**	**16 43 12.4**	**+0.6**
KBS			*e*Sg	**Sg**	**16 44 03.2**	**-1.9**
KBS			AML	AML	16 44 08.0	
	comp=Z,117nm,0.5s					
KBS	**Kingsbay**	**3.22 322**	*e*P	**Pn**	**16 43 12.4**	**+0.6**
	SNR=55					
KBS			*e*Sg	**Sg**	**16 44 03.2**	**-1.9**
	SNR=91					
TRO	**Tromso**	**7.03 189**	*e*Pn	**Pn**	**16 44 04.3**	**+0.1**
ARA0	**ARCESS Array S**	**7.13 171**	Pn	**Pn**	**16 44 05.7**	**+0.1**
	baz=354,slow=12					
ARA0			Sn	**Sn**	**16 45 19.4**	**-7.1**
	baz=4.0,slow=22					
KTK1	**Kautokeino**	**7.60 177**	*e*Pn	**Pn**	**16 44 15.0**	**+2.9**
KTK1			*e*Sn	**Sn**	**16 45 35.3**	**-2.7**

IDC 26 17:00:19.3±1.9, 509N×12573E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=119.9km s-min=24.1km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.05**	**180**	P	P	17 05 26.0	-0.2
	2.8nm,0.9s,baz=337,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**26.28**	**161**	P	P	17 05 57.8	+1.5
	0.7nm,0.5s,baz=342,slow=10,SNR=16						
ASAR	**Alice Springs**	**29.68**	**165**	P	P	17 06 26.1	-0.6
	0.2nm,0.5s,baz=344,slow=7.3,SNR=8.4						
MKAR	**Makanchi Array**	**55.87**	**325**	P	P	17 09 58.8	+0.1
	0.2nm,0.5s,baz=114,slow=7.3,SNR=6.8						

*NEIC **26** 17:20:57.6, 3435N×474W, h0km, MN2.5(MDD), After MDD.*
*CSEM **26** 17:20:57.2±0.2, 3436N×483W, h20km, MD3.3, Error ellipse: s-maj=6.2km s-min=3.1km az=108.0*
*ISCJB **26** 17:20:58.3±0.5, 3438N±002×482W±004, h27km±5km, Error ellipse: s-maj=5.4km s-min=3.2km az=43.8*
*MDD **26** 17:20:59.4±0.5, 3434N×474W, h14km±5km, mb3.7/12, Error ellipse: s-maj=6.3km s-min=3.5km az=119.0, PRXIMO*
*CNRM **26** 17:20:59.5, 3422N×463W, h0km, MD3.3*
ISC 26 17:20:58.8±0.6, 3436N±002×478W±004, h22km±6km, n37, σ1§17/70, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.36**	**219**	*i* P	**Pb**	**17 21 06.0**	**-0.6**
TGT				*i* S	**Sb**	**17 21 13.0**	**+1.1**
IFR	**Ifrane**	**0.89**	**199**	P	**Pb**	**17 21 14.0**	**-1.5**
IFR				S	**Sb**	**17 21 25.5**	**-1.3**
RSA	**Sarsar**	**1.01**	**301**	P	**Pb**	**17 21 20.0**	**+2.5**
RSA				S	**Sb**	**17 21 37.0**	**+6.6**
MIF	**Mishlifen**	**1.02**	**202**	*i* P	**Pb**	**17 21 16.0**	**-1.7**
MIF				*i* S	**Sb**	**17 21 29.0**	**-1.6**
TOU	**Touzarine**	**1.04**	**54**	*i* P	**Pb**	**17 21 18.5**	**+0.4**
TOU				*i* S	**Sb**	**17 21 33.0**	**+1.7**
CZD	**Col de Zad**	**1.34**	**189**	*i* P	**Pn**	**17 21 22.0**	**-0.2**
CZD				*i* S	**Sn**	**17 21 39.0**	**-0.3**
EMEL	**Melilla**	**1.77**	**57**	P	**Pn**	**17 21 27.9**	**-0.2**
	21nm,0.3s,SNR=4.0						
EMEL				S	**Sn**	**17 21 48.7**	**-1.3**
	32nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.78**	**57**	P	**Pn**	**17 21 27.9**	**-0.3**
	21nm,0.3s,SNR=4.0						
EMLI				S	**Sn**	**17 21 48.7**	**-1.4**
	32nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**1.79**	**69**	*i* P	**Pn**	**17 21 30.0**	**+1.7**
ZAI				*i* S	**Sn**	**17 21 51.5**	**+1.1**
KIB	**El Ksiba**	**2.06**	**211**	P	**Pn**	**17 21 34.0**	**+1.8**
KIB				S	**Sn**	**17 21 59.0**	**+1.8**
EALB	**Alboran**	**2.13**	**42**	P	**Pn**	**17 21 32.2**	**-0.9**
	7.2nm,0.3s,SNR=6.4						
EALB				S	**Sn**	**17 21 59.1**	**+0.2**
	7.1nm,0.2s						
EALB	**Alboran**	**2.13**	**42**	P	**Pn**	**17 21 32.2**	**-0.9**
EALB				S	**Sn**	**17 21 59.1**	**+0.2**
EALB	**Alboran**	**2.13**	**42**	P	**Pn**	**17 21 32.2**	**-0.9**
	7.2nm,0.3s,SNR=6.4						
EALB				S	**Sn**	**17 21 59.1**	**+0.2**
	7.1nm,0.2s						
EJIF	**Jimena Fronter**	**2.16**	**345**	P	**Pn**	**17 21 33.9**	**+0.3**
	1.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.20**	**0**	P	**Pn**	**17 21 33.2**	**-0.9**
	3.0nm,0.3s,SNR=6.8						
EMIJ				S	**Sn**	**17 22 00.7**	**0.0**
	5.5nm,0.2s						
ZFT	**Errachidia**	**2.34**	**171**	*e*P	**Pn**	**17 21 37.5**	**+1.5**
ZFT				*i* S	**Sn**	**17 22 03.0**	**-1.1**
TZC	**Tazercounte**	**2.63**	**213**	*e*P	**Pn**	**17 21 40.0**	**+0.1**
TZC				*i* S	**Sn**	**17 22 13.0**	**+1.9**
ESPR	**Espera**	**2.66**	**341**	S	**Sn**	**17 22 12.8**	**+1.0**
	5.3nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.66**	**341**	S	**Sn**	**17 22 12.8**	**+1.0**
	5.3nm,0.3s,SNR=4.0						
EBER	**Berja**	**2.97**	**31**	P	**Pn**	**17 21 43.4**	**-1.2**
	1.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 22 20.0**	**+0.5**
	14nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.97**	**31**	P	**Pn**	**17 21 43.4**	**-1.2**
	1.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 22 20.0**	**+0.5**
	14nm,0.5s,SNR=7.9						
EQUE	**Quentar**	**3.04**	**21**	P	**Pn**	**17 21 46.2**	**+0.5**
	2.4nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**17 22 20.6**	**-0.8**
	SNR=7.9						
ELUQ	**Luque**	**3.23**	**7**	P	**Pn**	**17 21 49.6**	**+1.5**
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.71**	**21**	P	**Pn**	**17 21 54.3**	**-0.5**
	2.1nm,0.2s,SNR=5.8						
EQES				S	**Sn**	**17 22 41.2**	**+3.4**
	SNR=7.9						
EQES	**Quesada**	**3.71**	**21**	P	**Pn**	**17 21 54.3**	**-0.5**
EQES				P		17 21 57.5	
EQES				S	**Sn**	**17 22 39.8**	**+2.0**
EQES				S	**Sn**	**17 22 41.2**	**+3.4**
EQES	**Quesada**	**3.71**	**21**	P	**Pn**	**17 21 54.3**	**-0.5**
	2.1nm,0.2s,SNR=5.8						
EQES				S	**Sn**	**17 22 41.2**	**+3.4**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.73**	**336**	P	**Pn**	**17 21 55.6**	**+0.5**
	1.7nm,0.3s,SNR=6.6						
EMIN				S	**Sn**	**17 22 37.0**	**-1.4**
	1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.73**	**336**	P	**Pn**	**17 21 55.6**	**+0.5**
	1.7nm,0.3s,SNR=6.6						
EMIN				S	**Sn**	**17 22 37.0**	**-1.4**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.81**	**2**	P	**Pn**	**17 21 57.1**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 22 40.8**	**+0.6**
	2.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.81**	**2**	P	**Pn**	**17 21 57.1**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 22 40.8**	**+0.6**
	2.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**326**	P	**Pn**	**17 21 56.5**	**-0.2**
	2.1nm,0.1s,SNR=10.0						
EGRO				S	**Sn**	**17 22 39.8**	**-1.7**
	2.0nm,0.2s						
EGRO	**El Granado**	**3.85**	**326**	P	**Pn**	**17 21 56.5**	**-0.3**
	2.1nm,0.1s,SNR=10.0						
EGRO				S	**Sn**	**17 22 39.8**	**-1.6**
	2.0nm,0.2s						
EHUE	**Huescar**	**3.88**	**27**	P	**Pn**	**17 21 58.5**	**+1.4**
	SNR=4.0						
EBAD	**Badajoz**	**4.74**	**338**	P	**Pn**	**17 22 09.1**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**17 23 01.5**	**-1.8**
	4.0nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.74**	**338**	P	**Pn**	**17 22 09.1**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**17 23 01.5**	**-1.8**
	4.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.01**	**30**	P	**Pn**	**17 22 11.7**	**-1.0**
	1.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**17 23 08.4**	**-1.5**
	SNR=7.9						
ETOB	**Tobarra**	**5.01**	**30**	P	**Pn**	**17 22 11.7**	**-1.0**
	1.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**17 23 08.4**	**-1.5**

*IDC **26** 17:36:13.5±1.3, 3487N×2736E, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML3.4/4, Error ellipse: s-maj=25.8km s-min=20.7km az=2.0*
*CSEM **26** 17:36:16.8±0.1, 3471N×2761E, h60km, Mw3.0, Error ellipse: s-maj=2.4km s-min=1.6km az=39.0*
*HLW **26** 17:36:17.0, 3481N×2759E, h33km, Mb3.6*
*ISCJB **26** 17:36:17.1±0.4, 3469N±004×2759E±003, h65km±9km, mb3.7/7, Error ellipse: s-maj=6.2km s-min=4.2km az=57.1*
*NEIC **26** 17:36:18.3±0.9, 3480N×2754E, h47km±12km, mb4.3/3, MD3.8(ATH), Error ellipse: s-maj=16.2km s-min=8.9km az=186.0*
*ATH **26** 17:36:22.8, 35.11N×2722E, h36km, MD3.8/4*
*GII **26** 17:36:25.1±0.0, 3432N×2833E, h0km, mb4.0/1, ML3.6/2, Mw3.6/3*
ISC 26 17:36:18.3±0.3, 3475N±004×2753E±003, h53km±9km, n62, σ1§06/75, mb3.8/7, 6D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.55**	**18**	*e*PN	**Pn**	**17 36 46.8**	**+3.3**
NPS	**Neapolis**	**1.65**	**289**	*e*PN	**Pn**	**17 36 46.3**	**+1.4**
SANT	**Santorini**	**2.34**	**314**	*e*Pn	**Pn**	**17 36 54.4**	**+0.1**
SANT	**Santorini**	**2.34**	**314**	*e*Pn	**Pn**	**17 36 54.4**	**+0.1**
VAM	**Vamos**	**2.81**	**285**	*e*PN	**Pn**	**17 37 02.9**	**+2.2**
APE	**Apeiranthos**	**2.83**	**326**	*e*PN	**Pn**	**17 37 01.6**	**+0.6**
GVD	**Gavdhos**	**2.83**	**273**	*e*Pn	**Pn**	**17 37 01.9**	**+0.8**
GVD				*e*Sn	**Sn**	**17 37 33.3**	**-0.6**
GVD	**Gavdhos**	**2.83**	**273**	*e*Pn	**Pn**	**17 37 01.9**	**+0.9**
GVD				*e*Sn	**Sn**	**17 37 33.3**	**-0.6**
HMAT	**Matruh**	**3.66**	**186**	P	**Pn**	**17 37 13.1**	**+0.7**
ISP	**Isparta**	**3.92**	**37**	*e*Pn	**Pn**	**17 37 25.3**	**+9.3**
ISP				*e*Sn	**Sn**	**17 38 03.9**	**+3.2**
CSS	**Prodhromos**	**4.78**	**86**	*e*Pn	**Pn**	**17 37 26.7**	**-1.1**
CSS	**Prodhromos**	**4.78**	**86**	*e*Pn	**Pn**	**17 37 26.7**	**-1.0**
SWA1		**5.68**	**196**	||P	**Pn**	**17 37 40.2**	**+0.1**
SWA2		**5.76**	**198**	||P	**Pn**	**17 37 41.4**	**+0.2**
FYM	**Al Fayyum**	**5.85**	**148**	P	**Pn**	**17 37 42.2**	**-0.3**
KOT	**Kottamia**	**6.03**	**142**	P	**Pn**	**17 37 45.1**	**+0.3**
HHAG	**Hagoal**	**6.15**	**140**	P	**Pn**	**17 37 46.1**	**-0.5**
GLL	**Jalalah**	**6.25**	**144**	P	**Pn**	**17 37 47.7**	**-0.3**
AMAG	**Maghara**	**6.30**	**129**	P	**Pn**	**17 37 47.6**	**-1.0**
AWBH		**6.51**	**169**	||P	**Pn**	**17 37 51.3**	**-0.2**
SUZ		**6.64**	**136**	||P	**Pn**	**17 37 53.0**	**-0.3**
SLTI	**Sal'it**	**6.76**	**110**	Pn	**Pn**	**17 37 54.1**	**-0.7**
SLTI				Sn	**Sn**	**17 39 05.7**	**-4.8**
MMA0	**Mount Meron ar**	**6.78**	**103**	Pn	**Pn**	**17 37 55.4**	**+0.3**
MMAI	**Mount Meron Ar**	**6.78**	**103**	Pn	**Pn**	**17 37 55.7**	**+0.5**
	2.8nm,0.3s,baz=298,slow=12,SNR=17						
MMAI				Sn	**Sn**	**17 39 12.0**	**+1.1**
	5.9nm,0.3s,baz=290,slow=21,SNR=8.6						
MMA1	**Mount Meron ar**	**6.78**	**103**	Pn	**Pn**	**17 37 56.3**	**+1.2**
KZIT	**Kziot**	**6.94**	**122**	Sn	**Sn**	**17 39 09.4**	**-5.4**
KZIT	**Kziot**	**6.94**	**122**	Sn	**Sn**	**17 39 09.4**	**-5.4**
BRTR	**Keskin Array B**	**6.96**	**43**	Pn	**Pn**	**17 37 58.4**	**+0.7**
	0.1nm,0.3s,baz=17,slow=14,SNR=3.7						
BRTR				Sn	**Sn**	**17 39 15.1**	**-0.3**
	0.4nm,0.3s,baz=217,slow=26,SNR=8.7						
BR131	**Keskin Array S**	**6.96**	**43**	*e*Pn	**Pn**	**17 38 07.4**	**+10**
BR131				*e*Sn	**Sn**	**17 39 13.6**	**-1.9**
RTMI	**Retamim**	**7.06**	**119**	Pn	**Pn**	**17 37 58.7**	**-0.4**
SVTA	**Shivta**	**7.08**	**121**	Pn	**Pn**	**17 37 58.8**	**-0.5**
HMDT	**Nahal Hemdat**	**7.13**	**108**	Pn	**Pn**	**17 38 00.3**	**+0.4**
HMDT				Sn	**Sn**	**17 39 14.6**	**-5.0**
DRGI	**Dragot**	**7.31**	**113**	Pn	**Pn**	**17 38 02.1**	**-0.3**
DSI	**Dead Sea**	**7.31**	**113**	Pn	**Pn**	**17 38 02.6**	**+0.2**
HFRF	**Wahat Farafira**	**7.60**	**175**	||P	**Pn**	**17 38 06.0**	**-0.5**
KMTI	**Karmit**	**7.64**	**125**	Pn	**Pn**	**17 38 06.4**	**-0.6**
PRNI	**Paran**	**7.68**	**123**	Pn	**Pn**	**17 38 07.3**	**-0.2**
PRNI				Sn	**Sn**	**17 39 27.6**	**-5.6**
HRFI	**Mount Harif**	**7.90**	**124**	Pn	**Pn**	**17 38 10.9**	**+0.4**
HRFI				Sn	**Sn**	**17 39 34.0**	**-4.5**
MBH	**Mount Berech**	**7.97**	**126**	Pn	**Pn**	**17 38 11.6**	**+0.1**
MBH				Sn	**Sn**	**17 39 33.5**	**-6.7**
EIL	**Elat**	**8.07**	**127**	Pn	**Pn**	**17 38 13.3**	**+0.4**
ASF	**Jabal al Asfar**	**8.24**	**106**	Pn	**Pn**	**17 38 15.1**	**-0.1**
	0.2nm,0.3s,baz=220,slow=22,SNR=4.2						
ASF				Sn	**Sn**	**17 39 45.9**	**-0.9**
	0.4nm,0.3s,baz=225,slow=19,SNR=3.0						
HDK1	**Dakhla**	**9.31**	**169**	||P	**Pn**	**17 38 30.5**	**+0.6**
TIP	**Timpagrande**	**9.68**	**300**	*e*Pn	**Pn**	**17 38 32.6**	**-2.4**
TIP				*e*Sn	**Sn**	**17 40 03.4**	**-19**
TIP	**Timpagrande**	**9.68**	**300**	*e*Pn	**Pn**	**17 38 32.6**	**-2.3**
HAVL	**Avola**	**10.30**	**286**	Pn	**Pn**	**17 38 41.2**	**-2.2**
	98nm,1.5s						
CUC	**Castrocucco**	**10.69**	**303**	Pn	**Pn**	**17 38 46.1**	**-2.5**
	12nm,0.4s						
SLCN	**Sala Consilina**	**10.99**	**304**	Pn	**Pn**	**17 38 50.7**	**-2.1**
	26nm,0.4s						
AKASG	**Malin Array Be**	**15.99**	**4**	Pn	**Pn**	**17 40 03.3**	**+3.6**
	1.8nm,0.3s,baz=193,slow=12,SNR=6.4						
VLC	**Villacollemand**	**16.21**	**311**	Pn	**Pn**	**17 40 03.8**	**+1.3**
	16nm,1.1s						
VLC	**Villacollemand**	**16.21**	**311**	Pn	**Pn**	**17 40 03.8**	**+1.3**
	16nm,1.1s						
GERES	**GERESS Array B**	**17.41**	**328**	P	**Pn**	**17 40 17.3**	**-0.2**
	0.1nm,0.3s,baz=144,slow=12,SNR=6.4						
SUW	**Suwalki**	**19.50**	**352**	P	**Pn**	**17 40 41.8**	**-1.0**
	33nm,1.0s						
SUW	**Suwalki**	**19.50**	**352**	P	**Pn**	**17 40 41.8**	**-0.9**
	33nm,1.0s						
ESDC	**Sonseca Array**	**25.48**	**290**	P	**P**	**17 41 42.2**	**+0.7**
	0.6nm,0.4s,mb3.5,baz=83,slow=8.8,SNR=4.5						
FINES	**FINESS Array B**	**26.73**	**358**	P	**P**	**17 41 53.3**	**+0.5**
	1.2nm,0.3s,mb3.9,baz=162,slow=11,SNR=20						
HFS	**Hagfors**	**26.95**	**345**	P	**P**	**17 41 53.8**	**-0.9**
	2.4nm,0.8s,mb3.8,baz=134,slow=10,SNR=5.4						
KAF	**Kangasniemi**	**27.40**	**359**	*ep*	**P**	**17 41 57.6**	**-1.2**
	5.7nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**31.76**	**234**	P	**P**	**17 42 39.4**	**+2.0**
	0.6nm,0.7s,mb3.5,baz=33,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**31.76**	**234**	P	**P**	**17 42 39.4**	**+2.0**
ARCES	**ARCESS Array B**	**34.86**	**359**	P	**P**	**17 43 04.1**	**-0.3**
	4.3nm,1.0s,mb4.3,baz=169,slow=8.5,SNR=25						
MK31	**Makanchi Array**	**42.38**	**56**	*e*P	**P**	**17 44 11.7**	**+4.3**
MKAR	**Makanchi Array**	**42.38**	**56**	P	**P**	**17 44 10.9**	**+3.5**
	0.4nm,0.7s,mb3.2,baz=274,slow=7.3,SNR=6.8						

*NEIC **26** 17:37:52.5, 3500N×3222E, h20km, ML2.8(NIC), After NIC.*
*CSEM **26** 17:37:52.5, 3500N×3222E, h20km, Mw2.6, After NIC*
NIC 26 17:37:52.5±0.4, 3500N×3222E, h20km, ML2.8, MW2.6, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.09**	**74**	P	Pb	17 37 57.2	+0.8
PPCY	**Paphos**	**0.15**	**139**	P	Pb	17 37 57.3	+0.3
PPCY				S	Sb	17 38 02.7	+2.6
ALFC	**Alevga**	**0.35**	**63**	P	Pb	17 38 01.2	+1.2
	6.9nm,0.3s						
ALFC				S	Sb	17 38 06.5	+1.5
SZAC	**Souni-Zanaja**	**0.60**	**114**	P	Pb	17 38 05.9	+1.7
SZAC				S	Sb	17 38 13.8	+1.6
MAMC	**Mammari**	**0.83**	**78**	P	Pb	17 38 08.8	+0.5
CSS	**Prodhromos**	**0.91**	**92**	P	Pb	17 38 09.4	-0.2
	1.9nm,0.3s						
CSS				S	Sb	17 38 22.1	+0.8

*ISCJB **26** 17:41:01.6±0.7, 4347N±004×4562E±004, h7km±4km, Error ellipse: s-maj=6.5km s-min=4.4km az=29.2*
*MOS **26** 17:41:03.2±0.5, 4340N×4543E, h14km, mb4.1/1, Error ellipse: s-maj=11.5km s-min=7.2km az=175.4*
MOS Felt (III) at Groznyi.
*CSEM **26** 17:41:03.0, 4340N×4543E, h14km, mb4.1, After OBN*
ISC 26 17:41:02.2±0.7, 4350N±004×4558E±004, h10km±4km, n25, σ1§38/44, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.66**	**291**	*i* Pg	**Pg**	**17 41 16.0**	**+1.1**
TRKR				*i* Sg	**Sg**	**17 41 28.5**	**+5.0**
SNJR	**Sundja**	**0.70**	**233**	*i* Pg	**Pg**	**17 41 14.6**	**-1.3**
SNJR				*i* Sg	**Sg**	**17 41 26.1**	**+1.0**
BTKR	**Batakoyurt**	**0.77**	**261**	*i* Pg	**Pg**	**17 41 17.0**	**0.0**
BTKR				*i* Sg	**Sg**	**17 41 30.2**	**+3.2**
VLKR	**Vladikavkaz**	**0.80**	**236**	*i* Pg	**Pg**	**17 41 16.3**	**-1.3**
VLKR				*i* Sg	**Sg**	**17 41 29.0**	**+1.0**
KMSR	**Komsomolskaya**	**0.95**	**263**	*i* Pg	**Pg**	**17 41 20.0**	**-0.4**
KMSR				*i* Sg	**Sg**	**17 41 35.4**	**+2.6**
PRTR	**Priterechnaya**	**0.98**	**286**	*i* Pg	**Pg**	**17 41 21.2**	**+0.2**
PRTR				*i* Sg	**Sg**	**17 41 37.5**	**+3.8**
ARNR	**Ardon**	**1.00**	**253**	*i* Pg	**Pg**	**17 41 20.4**	**-1.0**
ARNR				*i* Sg	**Sg**	**17 41 36.1**	**+1.7**
LACR	**Lac**	**1.15**	**235**	*i* Pg	**Pg**	**17 41 22.0**	**-2.4**
LACR				*i* Sg	**Sg**	**17 41 38.8**	**-0.6**
KORR	**Kora**	**1.18**	**250**	*i* Pg	**Pb**	**17 41 23.0**	**-1.7**
KORR				*i* Sg	**Sg**	**17 41 40.0**	**+0.3**
ZEI	**Tsey**	**1.43**	**240**	||*i*PG	**Pn**	**17 41 26.9**	**-1.3**
ZEI				*e*		17 41 45.4	
ZEI				pmax	pmax		
	comp=Z,252nm,0.2s						
ZEI				smax			
	comp=N,401nm,0.2s						
ZEI	**Tsey**	**1.43**	**240**	*i* Pg	**Pn**	**17 41 26.9**	**-1.3**
	comp=N,252nm,0.2s						
ZEI				*e*Sg	**Sn**	**17 41 45.4**	**-1.6**
	comp=N,401nm,0.2s						
MAK	**Makhachkala**	**1.50**	**110**	*e*PG	**Pg**	**17 41 31.2**	**+0.1**
MAK				*i*		17 41 52.9	
MAK				pmax	pmax		
	comp=Z,56nm,0.2s						
MAK				smax			
	comp=E,245nm,0.3s						
MAK				smax			
	comp=N,397nm,0.6s						
MAK	**Makhachkala**	**1.50**	**110**	*e*Pg	**Pg**	**17 41 31.2**	**+0.1**
	comp=N,56nm,0.2s						
MAK				*i* Sg	**Sg**	**17 41 52.9**	**+2.3**
	comp=N,397nm,0.6s						
DIGR	**Digorskoe uzhe**	**1.58**	**249**	*i* Pg	**Pn**	**17 41 28.4**	**-1.9**
DIGR				*i* Sg	**Sn**	**17 41 49.8**	**-0.9**
KUBR	**Kubataba**	**1.60**	**282**	*e*Pg	**Pg**	**17 41 31.1**	**-1.9**
TBLG	**Delisi**	**1.87**	**200**	P	**Pn**	**17 41 34.4**	**+0.1**
TBLG				S	**Sn**	**17 41 58.5**	**+0.6**
MTA	**Mtatsminda**	**1.89**	**198**	P	**Pn**	**17 41 33.8**	**-0.8**
MTA				S	**Sn**	**17 41 58.8**	**+0.4**
PYA	**Pyatigorsk**	**1.90**	**287**	*e*PN	**Pn**	**17 41 34.6**	**-0.2**
PYA				*e*S	**Sn**	**17 42 02.3**	**+3.5**
DGRG	**David-gareji**	**2.05**	**184**	P	**Pn**	**17 41 37.1**	**+0.3**
DGRG				S	**Sn**	**17 42 05.1**	**+2.7**
BEYR	**Belyy Ugol+**	**2.07**	**285**	*i* Pn	**Pn**	**17 41 37.4**	**+0.4**
BEYR				*e*Sg	**Sg**	**17 42 06.7**	**-2.0**
SHAR	**Shatzhatmas**	**2.13**	**278**	*e*PN	**Pn**	**17 41 37.7**	**-0.1**
KIV	**Kislovodsk**	**2.15**	**283**	*e*PN	**Pn**	**17 41 37.5**	**-0.6**
KIV				*i* S	**Sb**	**17 42 09.7**	**+1.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				smax			
	comp=Z,40nm,1.2s						
KIV	**Kislovodsk**	**2.15**	**283**	*e*Pn	**Pn**	**17 41 37.5**	**-0.6**
	comp=Z,5.0nm,0.9s						
KIV				*i* Sb	**Sb**	**17 42 09.7**	**+1.8**
	comp=Z,40nm,1.2s						
ANN	**Anapa**	**6.00**	**285**	*e*P	**Pb**	**17 42 49.0**	**+2.0**
ANN				pmax	pmax		
	comp=Z,50nm,1.6s						
ANN	**Anapa**	**6.00**	**285**	*e*P	**Pb**	**17 42 49.0**	**+2.0**
	comp=Z,50nm,1.6s						

*IDC **26** 18:00:36.3±3.5, 1985S×17580W, h167km±52km, mb3.7/4, mb1 3.9/6, mb1mx3.6/16, mbtmp4.4/6, Error ellipse: s-maj=50.4km s-min=25.3km az=92.0*
*ISCJB **26** 18:00:39.4±2.5, 197S±02×175.1W±03, h271km±47km, mb3.8/5, Error ellipse: s-maj=40.1km s-min=21.6km az=140.4*
*NEIC **26** 18:00:40.5±1.9, 1979S×175.12W, h261km±37km, mb4.1/1, Error ellipse: s-maj=35.4km s-min=21.4km az=83.0*
ISC 26 18:00:39.8±2.0, 200S±01×1748W±03, h270km±40km, n12, σ1§05/14, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.69**	**26**	P	**Pn**	**18 02 17.3**	**+0.4**
	8.5nm,0.3s,baz=246,slow=17,SNR=11						
AFI				S	**S**	**18 03 30.6**	**-4.4**
	36nm,0.3s,baz=53,slow=23,SNR=12						
DZM	**Mont Dzumac**	**17.62**	**260**	P	**P**	**18 04 26.8**	**-0.3**
	0.7nm,0.3s,baz=87,slow=18,SNR=7.3						
URZ	**Urewera**	**19.52**	**199**	P	**P**	**18 04 48.1**	**+0.6**
	5.2nm,0.3s,baz=2.8,slow=3.8,SNR=29						
URZ				S	**S**	**18 08 11.4**	**-1.7**
	1.1nm,0.3s,baz=96,slow=22,SNR=5.7						
RPZ	**Rata Peaks**	**26.46**	**203**	P	**P**	**18 05 56.2**	**+3.8**
	9.3nm,0.6s,mb4.4,baz=348,slow=18,SNR=7.0						
CTA	**Charters Tower**	**36.52**	**263**	*e*P	**P**	**18 07 19.4**	**-0.4**
	3.7nm,0.6s,mb4.0						
CTAO	**Charters Tower**	**36.52**	**263**	*e*P	**P**	**18 07 18.1**

0.2nm,0.3s,baz=100,slow=8.5,SNR=5.7
FITZ Fitzroy Crossi 43.21 267 P P 19 10 46.5 +0.7
1.4nm,1.0s,baz=111,slow=8.6,SNR=4.7
VNDA Vanda 55.12 183 P P 19 12 15.7 -0.7
0.4nm,0.3s,baz=52,slow=9.0,SNR=7.4

MEX 26 19:26:33.9±0.3, 1717N×9997W, h50km±5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.31**	**170**	*i* P	Pn	19 26 41.8	-1.3
ACX				*i* S	Sn	19 26 47.8	-1.8
CAIG	**El Cayaco**	**0.31**	**247**	*i* P	Pn	19 26 41.7	-1.3
CAIG				*i* S	Sn	19 26 47.9	-1.7
MEIG	**Mezcala**	**0.82**	**24**	*i* P	Pn	19 26 47.9	-1.3
MEIG				*i* S	Sn	19 26 58.7	-1.8
PPM	**Popocatepetl**	**2.28**	**34**	*i* P	Pn	19 27 10.8	+1.8
PPM				*i* S	Sn	19 27 35.6	-0.3

*GUC **26** 19:48:46.6±0.7, 2811S×7099W, h0km±3km, MD4.0, ML4.2*
*ISCJB **26** 19:48:47.3±1.3, 28.12S±003×705W±0.1, h6km±9km, mb3.9/1, Error ellipse: s-maj=15.4km s-min=5.1km az=6.6*
*IDC **26** 19:48:51.7±3.8, 2831S×7080W, h98km±29km, mb3.7/1, mb1 3.3/4, mb1mx3.2/17, mbtmp3.6/4, Error ellipse: s-maj=51.0km s-min=20.8km az=84.0*
ISC 26 19:48:47.8±1.0, 2811S±004×706W±01, h2km±10km, n14, σ1º21/15, mb3.9/1, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.50**	**202**	⇓*i*P	**Pg**	**19 48 57.1**	**-0.4**
VACH				*i* S	**Sg**	**19 49 04.7**	**+0.7**
VACH				AML	AML	19 49 04.9	
comp=E,43μm,0.3s							
CPCH	**Copiapo**	**0.77**	**13**	⇑*i*P	**Pg**	**19 49 05.3**	**+2.8**
CPCH				*i* S	**Sg**	**19 49 18.9**	**+6.5**
CPCH				AML	AML	19 49 20.4	
comp=E,10μm,0.2s							
CDCH	**Caldera**	**1.06**	**346**	*e*P	**Pg**	**19 49 06.2**	**-1.9**
CDCH				*i* S	**Sg**	**19 49 21.3**	**-0.5**
OVCH	**Ovalle**	**2.56**	**193**	⇑*i*P	**Pn**	**19 49 29.4**	**-0.8**
OVCH				*i* S	**Sn**	**19 50 02.1**	**+0.3**
OVCH				AML	AML	19 50 07.4	
comp=N,788nm,0.5s							
CMCH	**Combarbala**	**3.08**	**187**	*e*P	**Pn**	**19 49 37.7**	**+0.3**
CMCH				*i* S	**Sn**	**19 50 15.9**	**+1.1**
CMCH				AML	AML	19 50 21.2	
comp=E,2μm,0.7s							
CPN1	**Cerro Paranal**	**3.47**	**2**	AML	AML	19 50 43.9	
comp=E,230nm,0.5s							
CFAA	**Coronel Fontan**	**4.02**	**151**	P	**Pn**	**19 49 49.0**	**-1.4**
comp=E,1.1nm,0.3s,baz=329,slow=8.8,SNR=34							
CFAA				S	**Sn**	**19 50 37.0**	**-1.1**
comp=E,1.7nm,0.3s,baz=237,slow=20,SNR=13							
LPAZ	**La Paz**	**11.97**	**11**	P	**Pn**	**19 51 43.5**	**+4.1**
comp=E,0.1nm,0.3s,baz=198,slow=9.5,SNR=4.7							
SIV	**San Ignacio**	**14.91**	**38**	P	**Pn**	**19 52 20.9**	**+1.5**
comp=E,0.1nm,0.3s,baz=222,slow=16,SNR=3.9							
TORD	**Torodi Ar. Bea**	**81.00**	**70**	P	**P**	**20 00 57.0**	**-7.0**
comp=E,1.0nm,0.7s,mb3.9,baz=272,slow=4.8,SNR=19							
ASAR	**Alice Springs**	**123.39**	**207**	PKP	PKPdf	20 07 36.5	-10
comp=E,0.2nm,0.5s,baz=126,slow=1.8,SNR=4.9							
WRA	**Warramunga Arr**	**126.51**	**210**	PKP	PKPdf	20 07 43.3	-9.1
comp=E,0.6nm,0.8s,baz=164,slow=1.7,SNR=6.8							
ZAL	**Zalesovo**	**148.50**	**28**	PKPbc	PKPbc	20 08 28.0	-8.0
comp=E,1.2nm,0.5s,baz=111,slow=0.9,SNR=6.0							
MKAR	**Makanchi Array**	**151.71**	**41**	PKPbc	PKPbc	20 08 34.9	-8.9
comp=E,0.6nm,0.6s,baz=320,slow=0.8,SNR=8.1							

IDC 26 19:49:25.3±1.9, 2866N×14017E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/21, mbtmp3.2/4, ML3.5/2, Error ellipse: s-maj=46.5km s-min=27.9km az=57.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.37**	**131**	Pn	Pn	19 50 04.7	-0.7
20nm,0.3s,baz=333,slow=6.7,SNR=16							
CBIJ				Sn	Sn	19 50 37.1	+2.0
45nm,0.3s,baz=279,slow=23,SNR=13							
MJAR	**Matsushiro Arr**	**8.03**	**349**	Pn	Pn	19 51 23.1	-0.1
0.2nm,0.3s,baz=159,slow=14,SNR=5.0							
WRA	**Warramunga Arr**	**48.65**	**187**	P	P	19 58 10.7	-0.2
0.4nm,0.9s,baz=3.7,slow=7.5,SNR=4.6							
ASAR	**Alice Springs**	**52.37**	**187**	P	P	19 58 39.6	+0.5
0.2nm,0.8s,baz=0.6,slow=8.7,SNR=2.9							

*MOS **26** 19:55:28.7±0.9, 5501N×16244E, h21km, mb4.4/1, Error ellipse: s-maj=29.7km s-min=12.8km az=76.8*
KRSC 26 19:55:28, 5504N×16238E, h23km, ML4.3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.61**	**218**	*i* P	Pb	19 55 41.7	+1.6
MKZ				*i* S	Sb	19 55 50.6	+2.3
KBTR	**Krutoberegovo**	**1.20**	**12**	*i* P	Pn	19 55 51.0	+1.7
KBTR				*i* S	Sn	19 56 06.9	+2.1
TUMR	**Tumrok**	**1.30**	**282**	*e*P	Pn	19 55 53.1	+2.3
TUMR				*i* S	Sn	19 56 10.8	+3.3
ZLN	**Zelenaya**	**1.33**	**318**	*e*P	Pn	19 55 53.2	+2.1
ZLN				*i* S	Sn	19 56 10.5	+2.4
KMNR	**Kamenistaya**	**1.42**	**301**	*i* P	Pn	19 55 54.6	+2.3
KMNR				*i* S	Sn	19 56 13.5	+3.2
KPT	**Kopyto**	**1.54**	**308**	*e*P	Pn	19 55 56.5	+2.5
KPT				*e*S	Sn	19 56 15.9	+2.6
KRSR	**Krestovskiy**	**1.57**	**320**	*e*P	Pn	19 55 56.2	+1.8
KRSR				*i* S	Sn	19 56 15.3	+1.4
KLY	**Klyuchi**	**1.61**	**323**	*e*P	Pn	19 55 55.3	+0.3
KLY				*i* S	Sn	19 56 14.3	-0.7
BDR	**Baidarnaya**	**1.67**	**337**	*i* P	Pn	19 55 58.0	+2.2
BDR				*i* S	Sn	19 56 18.9	+2.4
KOZR	**Kozyr**	**1.75**	**307**	PN	Pn	19 55 59.6	+2.7
KOZR				S	Sn	19 56 22.6	+4.2
KOZ	**Kozyrevsk**	**1.75**	**307**	*e*P	Pn	19 55 59.6	+2.7
KOZ				*i* S	Sn	19 56 22.6	+4.1
SRKR	**Sorokina**	**1.76**	**338**	*e*P	Pn	19 55 59.0	+2.0
SRKR				*i* S	Sn	19 56 21.8	+3.2
SRDR	**Sredinnyy**	**1.98**	**311**	*e*P	Pn	19 56 02.3	+2.2
SRDR				*i* S	Sn	19 56 26.7	+2.6
SPN	**Mys Shipunski**	**2.39**	**216**	*e*P	Pn	19 56 06.4	+0.7
SPN				*i* S	Sn	19 56 33.5	-0.8
NLC	**Nalytchevo**	**2.59**	**225**	*e*P	Pn	19 56 11.3	+2.9
NLC				*i* S	Sn	19 56 42.2	+3.0
AVH	**Avacha**	**2.78**	**232**	*i* P	Pn	19 56 14.8	+3.7
AVH				*i* S	Sn	19 56 49.0	+5.0
GNL	**Ganaly**	**2.92**	**244**	*e*P	Pn	19 56 16.6	+3.5
GNL				*e*S	Sn	19 56 51.9	+4.4
PET	**Petropavlovsk**	**2.98**	**229**	*e*P	Pn	19 56 17.1	+3.2
PET				*i* S	Sn	19 56 51.7	+2.7
RUS	**Russkaya**	**3.48**	**223**	*e*P	Pn	19 56 23.0	+2.3
RUS				*i* S	Sn	19 57 03.0	+1.9
GRL	**Gorelyy**	**3.57**	**227**	*e*P	Pn	19 56 25.8	+3.9
GRL				*i* S	Sn	19 57 06.9	+3.5

*IDC **26** 20:07:53.9±1.3, 5747N×12094E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/24, mbtmp3.7/9, ML2.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=37.4km s-min=21.9km az=54.0*
*ISCJB **26** 20:07:54.3±0.4, 5734N±005×12021E±004, h10km, mb3.6/9, MS3.4/1, Error ellipse: s-maj=6.7km s-min=2.9km az=172.8*
*MOS **26** 20:07:55.0±0.8, 5744N×12049E, h10km, mb4.3/3, Error ellipse: s-maj=12.9km s-min=10.0km az=84.6*
*NEIC **26** 20:07:55.9±0.6, 5745N×12080E, h10km, mb3.8/2, Error ellipse: s-maj=13.9km s-min=10.5km az=137.0*
*BYKL **26** 20:07:55.1±0.4, 5735N×12067E, h1km±15km*
ISC 26 20:07:55.9±0.3, 5739N±004×12029E±003, h10km, n53, σ1º53/83, mb3.6/9, MS3.4/1, 3C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.50**	**200**	⇑*i*Pg	**Pg**	**20 08 05.4**	**-0.2**
KHNR				*e*Sg	**Sg**	**20 08 12.5**	**+0.3**
CRS	**Chara**	**1.20**	**247**	⇑*i*Pg	**Pg**	**20 08 20.4**	**+1.4**
CRS				Pmax		20 08 22.0	
526nm,1.4s							
CRS				*e*Sg	**Sg**	**20 08 37.5**	**+2.8**
CRS				Smax		20 08 40.2	
1μm,1.3s							
CRS	**Chara**	**1.20**	**247**	*e*P	**Pn**	**20 08 20.5**	**+1.7**
CRS				*e*		20 08 38.0	
CRS				pmax	pmax		
comp=Z,526nm,0.6s							
CRS				smax			
comp=E,720nm,0.8s							
NRGR	**Nerungri**	**2.54**	**105**	*e*P	**Pn**	**20 08 37.1**	**0.0**
NRGR				S	**Sn**	**20 09 06.5**	**-1.5**
NRGR				smax			
comp=E,57nm,0.2s							
CLNS	**Chul'man**	**2.57**	**100**	*e*Pg	**Pn**	**20 08 37.5**	**-0.1**
CLNS				*e*		20 08 39.1	
CLNS				*e*Sg	**Sn**	**20 09 07.7**	**-1.3**
CLNS	**Chul'man**	**2.57**	**100**	*e*P	**Pn**	**20 08 37.7**	**+0.1**
CLNS				*e*S	**Sn**	**20 09 08.1**	**-0.9**
CLNS				pmax	pmax		
comp=N,6.0nm,0.2s							
CLNS				pmax	pmax		
comp=E,10.0nm,0.2s							
CLNS				pmax	pmax		
comp=Z,20nm,0.2s							
CLNS				smax			
comp=N,132nm,0.3s							
CLNS				smax			
comp=E,95nm,0.3s							
CLNS				smax			
comp=Z,27nm,0.2s							
CLNS				MLR	MLR		
comp=Z,100nm,11.0s							
NLYR	**Nelyaty**	**2.67**	**252**	*e*Pn	**Pn**	**20 08 41.9**	**+3.0**
NLYR				*e*Pg	**Pg**	**20 08 46.1**	**-0.9**
NLYR				*e*Sg	**Sg**	**20 09 21.5**	**-0.1**
IENR	**Iengra**	**2.77**	**113**	*e*Pg	**Pn**	**20 08 42.5**	**+2.1**
IENR				*e*Sg	**Sn**	**20 09 16.0**	**+2.1**
TUP	**Tupik**	**2.98**	**184**	*e*Pn	**Pn**	**20 08 43.0**	**-0.2**
TUP				*e*Pg	**Pg**	**20 08 47.7**	**-5.3**
TUP				Pmax		20 08 49.5	
comp=Z,312nm,1.4s							
TUP				*e*Sg	**Sg**	**20 09 26.3**	**-5.3**
TUP				Smax		20 09 37.0	
comp=Z,999nm,1.8s							
TUP				*e*		20 09 53.8	
TUP	**Tupik**	**2.98**	**184**	*e*P	**Pn**	**20 08 42.9**	**-0.3**
TUP				*e*		20 09 26.4	
TUP				pmax	pmax		
comp=Z,221nm,0.7s							
TUP				smax			
comp=E,867nm,1.0s							
ALDR	**Aldan**	**2.99**	**64**	*e*	**Pn**	**20 08 42.0**	**-1.4**
ALDR				*e*Pg	**Pg**	**20 08 44.7**	**-8.5**
ALDR				*e*Sg	**Sg**	**20 09 21.6**	**-10**
TNDR	**Tynda**	**3.34**	**130**	*e*	**Pn**	**20 08 46.7**	**-1.5**
TNDR				*e*Sn	**Sn**	**20 09 24.0**	**-3.9**
TNDR				*e*Sg	**Sg**	**20 09 33.0**	**-10**
BOD	**Bodaibo**	**3.41**	**280**	*e*Pn	**Pn**	**20 08 51.7**	**+2.6**
BOD				*e*Pg	**Pg**	**20 08 59.3**	**-1.9**
BOD				Pmax		20 09 02.2	
comp=E,55nm,0.6s							
BOD				*e*Sg	**Sg**	**20 09 44.4**	**-1.0**
BOD				Smax		20 09 52.5	
comp=E,694nm,1.3s							
BOD	**Bodaibo**	**3.41**	**280**	*e*P	**Pn**	**20 08 51.8**	**+2.7**
BOD				pmax	pmax		
comp=Z,56nm,0.9s							
SVKR	**Severomuysk**	**3.92**	**254**	*e*	**Pb**	**20 09 03.4**	**-1.6**
SVKR				*e*Pg	**Pg**	**20 09 09.6**	**-1.3**
SVKR				Pmax		20 09 14.6	
comp=Z,65nm,0.3s							
SVKR				*e*Sn	**Sn**	**20 09 45.9**	**+3.8**
SVKR				*e*Sg	**Sg**	**20 10 02.8**	**+1.1**
SVKR				Smax		20 10 16.7	
comp=Z,781nm,1.2s							
UKT	**Uakit**	**4.16**	**246**	*e*Pn	**Pn**	**20 09 03.6**	**+4.2**
UKT				*e*Pg	**Pg**	**20 09 13.4**	**-2.2**
UKT				Pmax		20 09 18.1	
comp=Z,65nm,1.6s							
UKT				*e*Sg	**Sg**	**20 10 07.5**	**-1.9**
UKT				Smax		20 10 22.7	
comp=Z,243nm,1.3s							
UKT	**Uakit**	**4.16**	**246**	*e*P	**Pg**	**20 09 13.9**	**-1.7**
UKT				pmax	pmax		
comp=Z,55nm,0.5s							
YOA	**Uoyan**	**4.88**	**259**	*e*Pg	**Pg**	**20 09 27.2**	**-2.1**
YOA				Pmax		20 09 34.6	
comp=Z,253nm,1.0s							
YOA				*e*Sg	**Sg**	**20 10 32.9**	**+0.4**
YOA				Smax		20 10 41.9	
comp=Z,2μm,1.0s							
YOA	**Uoyan**	**4.88**	**259**	⇑*i*P	**Pg**	**20 09 28.1**	**-1.2**
YOA				pmax	pmax		
comp=Z,64nm,0.4s							
KMO	**Kumora**	**5.24**	**257**	*e*Pn	**Pn**	**20 09 17.7**	**+3.5**
KMO				*e*Pg	**Pg**	**20 09 32.9**	**-3.3**
KMO				Pmax		20 09 34.4	
comp=Z,23nm,0.7s							
KMO				*e*Sg	**Sg**	**20 10 41.5**	**-2.5**
KMO				Smax		20 10 56.8	
comp=Z,429nm,1.4s							
KMO	**Kumora**	**5.24**	**257**	*e*P	**Pn**	**20 09 16.9**	**+2.7**
KMO				*e*S	**Sn**	**20 10 16.7**	**+2.1**
YLYR	**Ulyunkhan**	**5.69**	**248**	*e*Pn	**Pn**	**20 09 24.3**	**+3.8**
YLYR				*e*Pg	**Pg**	**20 09 41.0**	**-3.9**
YLYR				Pmax		20 09 57.2	
comp=Z,7.0nm,0.4s							
YLYR				*e*Sg	**Sg**	**20 10 55.5**	**-3.1**
YLYR				Smax		20 11 08.9	
comp=Z,258nm,0.2s							
YLYR	**Ulyunkhan**	**5.69**	**248**	*e*P	**Pg**	**20 09 41.0**	**-3.9**
YLYR				pmax	pmax		
comp=Z,8.0nm,0.4s							
NIZ	**Nizh Angarsk**	**6.15**	**259**	*e*	**Pb**	**20 09 44.2**	**+1.0**
NIZ				max		20 09 58.7	
comp=Z,9.0nm,0.9s							
NIZ				*e*Sg	**Sg**	**20 11 12.5**	**-1.0**
NIZ				Smax		20 11 27.3	
comp=Z,144nm,1.4s							
CIT	**Chita**	**6.64**	**219**	*e*	**Pn**	**20 09 41.8**	**+8.2**
CIT				*e*Pg	**Pg**	**20 09 56.6**	**-6.5**
CIT				Pmax		20 09 58.7	
comp=Z,32nm,0.9s							
CIT				*e*Sg	**Sg**	**20 11 23.6**	**-5.5**
CIT				Smax		20 11 32.3	
comp=Z,419nm,1.8s							
YAK	**Yakutsk**	**6.65**	**42**	*e*P	**Pn**	**20 09 34.3**	**+0.6**
YAK				*e*		20 10 44.4	
YAK				pmax	pmax		
comp=Z,3.0nm,0.7s							
YAK				pmax	pmax		
comp=N,3.0nm,1.1s							
YAK				pmax	pmax		
comp=E,3.0nm,1.1s							
YAK				smax			
comp=E,18nm,0.7s							
YAK				smax			
comp=Z,14nm,0.9s							
YAK				smax			
comp=N,22nm,1.1s							
YAK				MLR	MLR		
comp=Z,97nm,9.0s							
YAK	**Yakutsk**	**6.65**	**42**	Pn	**Pn**	**20 09 31.0**	**-2.7**
YAK				*e*Pg	**Pb**	**20 09 51.9**	**+0.3**
SYVR	**Suvo**	**6.93**	**242**	*e*Pg	**Pg**	**20 10 03.2**	**-5.4**
SYVR				Pmax		20 10 05.7	
comp=Z,13nm,0.7s							
SYVR				*e*		20 11 04.8	
SYVR				*e*Sg	**Sg**	**20 11 35.1**	**-3.3**
SYVR				Smax		20 11 44.9	
comp=Z,270nm,1.4s							
HIA	**Hailar**	**8.14**	**183**	*i* P	**Pn**	**20 09 57.8**	**+3.6**
TRTB	**Turuntaevo**	**8.94**	**240**	*e*	rx	20 11 50.1	
TRTB				*e*Sg	Sx	20 12 37.3	
TRTB				Smax		20 12 49.8	
comp=Z,221nm,1.3s							
KPC	**Khapcheranga**	**9.02**	**215**	*e*Pn	**Pn**	**20 10 07.9**	**+1.8**
KPC				*e*Pg	Pn	20 10 38.9	+33
KPC				Pmax		20 10 48.3	
comp=Z,2.0nm,0.8s							
KPC				*e*		20 11 49.0	
KPC				*e*Sg	Sn	20 12 35.8	+48
KPC				Smax		20 12 46.5	
comp=Z,110nm,1.4s							
TRG	**Tyrgan**	**9.24**	**246**	*e*	rx	20 11 26.0	
TRG				*e*Sg	Sx	20 12 47.0	
TRG				Smax		20 13 00.1	
comp=Z,47nm,0.2s							
KLR	**Kul'dur**	**10.66**	**135**	*e*P	**Pn**	**20 10 29.8**	**+1.2**
KLR				*e*		20 12 40.0	
ULN	**Ulaanbaatar**	**12.45**	**226**	*e*P	**Pn**	**20 11 01.8**	**+8.7**
SONM	**Songino Array**	**12.73**	**227**	Pn	**Pn**	**20 11 00.8**	**+3.9**
comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=3.2							
SONM				LR	LR	20 16 37.7	
comp=Z,52nm,20.2s,baz=86,slow=40							
SEY	**Seymchan**	**16.78**	**57**	*e*P	**Pn**	**20 11 49.1**	**-1.9**
ZAL	**Zalesovo**	**20.16**	**275**	P	**P**	**20 12 34.9**	**+4.5**
comp=Z,1.1nm,0.3s,baz=33,slow=6.6,SNR=6.9							
MKAR	**Makanchi Array**	**25.30**	**262**	P	**P**	**20 13 24.4**	**+1.8**
comp=Z,0.6nm,0.7s,mb3.2,baz=59,slow=7.8,SNR=8.2							
MKAR	**Makanchi Array**	**25.30**	**262**	*e*P	**P**	**20 13 25.6**	**+3.0**
MKAR	**Makanchi Array**	**25.30**	**262**	P	**P**	**20 13 24.4**	**+1.8**
CHKZ	**Chkalovo**	**27.84**	**284**	P	**P**	**20 13 46.3**	**+0.8**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.6							
CHKZ	**Chkalovo**	**27.84**	**284**	P	**P**	**20 13 46.3**	**+0.8**
comp=Z,0.7nm,0.6s,mb3.5							
BVAR	**Borovoye Array**	**28.27**	**283**	P	**P**	**20 13 51.0**	**+1.6**
comp=Z,0.3nm,0.5s,mb3.2,baz=24,slow=5.2,SNR=3.2							
BVAR				LR	LR	20 25 51.0	
comp=Z,87nm,18.2s,MS3.4,baz=128,slow=38							
ARCES	**ARCESS Array B**	**39.55**	**327**	P	**P**	**20 15 26.7**	**-0.3**
comp=Z,1.1nm,0.6s,mb3.8,baz=53,slow=9.0,SNR=5.9							
FINES	**FINESS Array B**	**44.09**	**316**	P	**P**	**20 16 04.9**	**+0.7**
comp=Z,1.6nm,0.6s,mb3.9,baz=51,slow=10.0,SNR=9.0							
FINES	**FINESS Array B**	**44.09**	**316**	*e*P	**P**	**20 16 04.9**	**+0.7**
NB2	**NORSAR Subarra**	**49.59**	**323**	P	**P**	**20 16 47.6**	**+0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=30,slow=6.9							
NB2	**NORSAR Subarra**	**49.59**	**323**	P	**P**	**20 16 47.6**	**+0.4**
NB2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
GERES	**GERESS Array B**	**58.06**	**312**	P	**P**	**20 17 49.9**	**+0.7**
comp=Z,0.1nm,0.3s,mb3.3,baz=64,slow=4.6,SNR=3.5							
WRA	**Warramunga Arr**	**77.93**	**166**	P	**P**	**20 19 53.0**	**-1.1**
comp=Z,0.7nm,0.9s,mb3.6,baz=351,slow=6.7,SNR=6.3							
WRA	**Warramunga Arr**	**77.93**	**166**	*i* P	**P**	**20 19 54.2**	**+0.1**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**81.55**	**167**	P	**P**	**20 20 13.7**	**0.0**
comp=Z,0.3nm,0.6s,mb3.4,baz=357,slow=4.6,SNR=6.3							
ASAR	**Alice Springs**	**81.55**	**167**	*e*P	**P**	**20 20 13.7**	**0.0**

*CSEM **26** 20:08:43.4±0.1, 3589N×3635E, h5km, Mc2.4, Error ellipse: s-maj=2.1km s-min=1.7km az=17.0*
*ISCJB **26** 20:08:44.1±0.5, 3589N±002×3635E±004, h9km±4km, Error ellipse: s-maj=5.6km s-min=3.6km az=31.3*
*NSSC **26** 20:08:44, 3588N×3632E, h15km±2km*
*ISK **26** 20:08:44.1, 3589N×3627E, h16km, MD3.1*
*GRAL **26** 20:08:46.6±4.2, 3613N×3646E, h15km, MD3.4*
ISC 26 20:08:44.2±0.5, 3589N±002×3639E±004, h5km±5km, n26, σ0º99/42, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.16**	**20**	⇑*i*P	**Pg**	**20 08 48.8**	**+1.4**
BTCH	**Batrach**	**0.16**	**20**	⇑P	**Pg**	**20 08 48.0**	**+0.6**
BTCH				⇑S	**Sg**	**20 08 52.0**	**+2.4**
HTY	**Hatay**	**0.31**	**319**	*i* PG	**Pg**	**20 08 49.9**	**-0.3**
HTY				*i* SG	**Sg**	**20 08 54.3**	**0.0**
SLNF	**Slenfeh**	**0.32**	**205**	⇑*i*P	**Pg**	**20 08 50.6**	**+0.2**
SLNF	**Slenfeh**	**0.32**	**205**	⇑P	**Pg**	**20 08 50.0**	**-0.4**
SLNF				⇑S	**Sg**	**20 08 55.0**	**+0.4**
ARNB	**Al Arnab**	**0.34**	**266**	⇑*i*P	**Pg**	**20 08 50.3**	**-0.5**
ARNB	**Al Arnab**	**0.34**	**266**	⇑P	**Pg**	**20 08 50.0**	**-0.8**
ARNB				⇑S	**Sg**	**20 08 55.0**	**-0.2**
COBT	**Iskenderun**	**0.64**	**350**	*i* P	**Pg**	**20 08 56.8**	**+0.3**
COBT				*i* S	**Sg**	**20 09 05.0**	**0.0**
COBT	**Iskenderun**	**0.64**	**350**	*i* P	**Pg**	**20 08 56.8**	**+0.2**
COBT				*i* S	**Sg**	**20 09 04.9**	**0.0**
KRTS	**Karatas**	**1.07**	**310**	PG	**Pg**	**20 09 03.8**	**-0.9**
KRTS				SG	**Sg**	**20 09 18.6**	**0.0**
SLMH	**Al Salmeh**	**1.29**	**75**	⇑*i*P	**Pg**	**20 09 08.8**	**-0.1**
SLMH				⇑*i*S	**Sg**	**20 09 24.8**	**-0.9**
SLMH	**Al Salmeh**	**1.29**	**75**	⇑P	**Pg**	**20 09 08.0**	**-0.9**
SLMH				⇑S	**Sg**	**20 09 24.0**	**-1.7**
GAZ	**Gaziantep**	**1.45**	**27**	PN	**Pn**	**20 09 11.0**	**-0.1**
GAZ				SN	**Sn**	**20 09 30.7**	**+0.3**
HWQ	**Hawqa**	**1.64**	**193**	*e*P	**Pn**	**20 09 15.5**	**+1.8**
HWQ				*e*S	**Sn**	**20 09 37.1**	**+1.8**
KOZT	**Kozan**	**1.66**	**344**	PN	**Pn**	**20 09 12.3**	**-1.6**
KMRS	**Kahramanmaras**	**1.67**	**14**	*e*PN	**Pn**	**20 09 13.8**	**-0.3**
JHLN	**Al Jahlan**	**1.68**	**97**	⇑*i*P	**Pn**	**20 09 14.4**	**+0.1**
JHLN				⇑*i*S	**Sn**	**20 09 34.9**	**-1.4**
JHLN	**Al Jahlan**	**1.68**	**97**	⇑P	**Pn**	**20 09 14.0**	**-0.3**
JHLN				⇑S	**Sn**	**20 09 34.0**	**-2.3**
KARA	**Karaisali**	**1.74**	**322**	PN	**Pn**	**20 09 13.8**	**-1.4**
GZT	**Gaziantep**	**1.75**	**32**	*i* P	**Pn**	**20 09 15.3**	**+0.1**
GZT				*i* S	**Sn**	**20 09 37.7**	**-0.2**
ROOS	**tl_alroos**	**1.86**	**156**	⇑*i*P	**Pn**	**20 09 15.1**	**-1.7**
ROOS	**tl_alroos**	**1.86**	**156**	⇑P	**Pn**	**20 09 15.0**	**-1.8**
BHL	**Bhannes**	**2.07**	**197**	*e*P	**Pb**	**20 09 23.2**	**+1.0**
BHL				*e*S	**Sg**	**20 09 50.2**	**-0.4**
URFA	**Urfa**	**2.50**	**51**	*e*PN	**Pn**	**20 09 26.7**	**+1.2**
ELZG	**Elazig**	**3.33**	**38**	*i* P	**Pn**	**20 09 37.9**	**+0.9**
ELZG				*i* S	**Sb**	**20 10 25.7**	**+1.1**
ELZG	**Elazig**	**3.33**	**38**	*i* P	**Pn**	**20 09 37.8**	**+0.8**

IDC 26 20:12:46.8±70.0, 1768S×17658E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/12, mbtmp3.9/3, Error ellipse: s-maj=1225.0km s-min=143.1km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.60**	**239**	P	P	20 19 37.5	+0.2
0.4nm,0.3s,baz=82,slow=12,SNR=5.5							
**WR

BHL	**Bhannes**	**2.09**	**195**	*eP*	**Pn**	**20 43 53.5**	**+0.4**
BHL				*eS*	**Sn**	**20 44 21.8**	**+2.5**
URFA	**Urfa**	**2.52**	**52**	*e*PN	**Pn**	**20 44 01.6**	**+2.6**

IDC 26 21:09:53.5±8.7, 401S×14266E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.4/12, mbtmp3.4/3, ML3.8/1, MS3.4/1, Ms1 3.3/1, ms1mx2.4/9, Error ellipse: s-maj=310.5km s-min=33.8km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.79**	**206**	P	Pn	21 14 03.5	+1.0
	0.3nm,0.3s,baz=25,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.29**	**203**	P	P	21 14 41.5	-0.1
	0.3nm,0.5s,baz=34,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**27.73**	**182**	LR	LR	21 27 27.5	
	comp=Z,69nm,19.1s,baz=25,slow=38						
MKAR	**Makanchi Array**	**73.24**	**321**	P	P	21 21 26.7	+0.2
	0.3nm,0.7s,baz=113,slow=6.6,SNR=3.9						

*CSEM **26** 21:26:16.1, 3793N×2138E, h7km, MD3.6/5, After ATH*
*NEIC **26** 21:26:16.1, 3793N×2138E, h7km, MD3.6(ATH), After ATH.*
ATH 26 21:26:16.1, 3793N×2138E, h7km±5km, MD3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.14**	**28**	*e*PG	Pg	21 26 19.4	+0.3
VLS	**Valsamata**	**0.67**	**292**	*e*PG	Pg	21 26 28.5	-0.5
VLS				*e*SB	Sb	21 26 39.0	-0.6
ITM	**Ithomi**	**0.87**	**150**	*e*PB	Pb	21 26 32.1	-0.9
EVR	**Evrytania**	**1.04**	**19**	*e*PG	Pg	21 26 35.5	-0.6
VLI	**Veliai**	**1.73**	**134**	*e*PN	Pn	21 26 48.9	+2.3

*CSEM **26** 21:43:26.9±0.4, 3865N×2884W, h1km±1km, ML1.4, Error ellipse: s-maj=3.4km s-min=1.6km az=74.0, After PDA*
*PDA **26** 21:43:26.9±0.4, 3865N×2884W, h1km±1km, MD3.0, ML1.4, Error ellipse: s-maj=3.4km s-min=1.6km az=74.0*
SVSA 26 21:43:26.9±0.4, 3865N×2884W, h1km±1km, MD3.0, ML1.4, Error ellipse: s-maj=3.4km s-min=1.6km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.11**	**104**	*e*P	Pg	21 43 29.1	+0.1
PCED				*e*S	Sg	21 43 30.7	+0.3
PCED							
	51nm,0.2s						
PCED	**Cedros**	**0.11**	**104**	*e*P	Pg	21 43 29.1	+0.1
PCED				*e*S	Sg	21 43 30.7	+0.3
CALA	**Caldeira**	**0.13**	**125**	*e*S	Sg	21 43 31.4	+0.4
HOR	**Horta**	**0.20**	**128**	*e*S	Sg	21 43 33.7	+0.2
PCND	**Candelaria**	**0.35**	**122**	*e*S	Sg	21 43 38.1	+0.1
PCND							
	18nm,0.3s						
PICO	**Pico**	**0.36**	**115**	*e*P	Pg	21 43 33.4	-0.3
PICO				*e*S	Sg	21 43 38.5	+0.2
ROSA	**Rosais**	**0.47**	**82**	*e*P	Pg	21 43 35.4	-0.5
ROSA				*e*S	Sg	21 43 41.6	-0.4

*NIED **26** 21:44:00, 2970N×14180E, h11km, Mw4.9 Best double couple: M0:2.30000×10^16 NP1:ϕs=126.00000°, δ74.00000°, λ45.00000°. NP2:ϕs=20.00000°, δ47.00000°, λ158.00000°.*
*BJI **26** 21:44:12.4, 2944N×14097E, h24km, mB4.7, mb4.4, Ms4.3, Msz3.8*
*IDC **26** 21:44:13.0±0.6, 2932N×14020E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/23, mbtmp4.1/18, ML4.2/2, MS4.0/10, Ms1 4.0/10, ms1mx3.7/41, Error ellipse: s-maj=24.5km s-min=15.4km az=69.0*
*NEIC **26** 21:44:14.7±0.6, 2930N×14035E, h10km, mb4.7/4, MW4.8(NIED), Error ellipse: s-maj=17.1km s-min=11.9km az=79.0*
*GCMT **26** 21:44:14.7±0.4, 2936N×14026E, h13km±1km, MW4.8/57, Moment Tensor Solution. s11,c13; s57,c78; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.75±.18; Mθθ1.05±.10; Mϕϕ0.69±.10; Mrθ-0.28±.24; Mrϕ-0.78±.06; Mθϕ0.53±.31; Best double couple: M0:1.81500×10^16 NP1:ϕs302.00000°, δ36.00000°, λ-101.00000°. NP2: ϕs136.00000°, δ54.00000°, λ-82.00000°. Principal axes: T 1.7630, Plg9.0000°, Azm220.0000°; N 0.1000, Plg7.0000°, Azm311.0000°; P -1.8670, Plg79.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **26** 21:44:16.2±1.5, 2927N×14035E, h33km, mb4.7/2 Error ellipse: s-maj=17.7km s-min=9.0km az=107.5*
*ISCJB **26** 21:44:17.7±0.7, 2927N±004×14051E±009, h48km±8km, mb4.3/27, MS4.0/6, Error ellipse: s-maj=13.9km s-min=5.2km az=132.5*
*JMA **26** 21:44:17.8±0.1, 2966N×14177E, h67km, M4.5*
ISC 26 21:44:19.6±0.5, 2936N±004×14076E±010, h60km±7km, n70, σ1§18/67, mb4.3/27, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.58**	**151**	Pn	**Pn**	**21 44 58.1**	**-0.9**
	100nm,0.3s,baz=354,slow=7.5,SNR=77						
CBIJ				Sn	**Sn**	**21 45 29.4**	**+0.2**
	316nm,0.3s,baz=275,slow=23,SNR=23						
CBIJ	**Chichi jima**	**2.58**	**151**	P	**Pn**	**21 44 58.1**	**-0.9**
CBIJ				*e*S	**Sn**	**21 45 29.2**	**-0.1**
JHHJ	**Haha-jima-NKT**	**3.00**	**155**	P	**Pn**	**21 45 04.2**	**-0.5**
JHHJ				*e*S	**Sn**	**21 45 39.2**	**-0.2**
JHJ2	**Mitsune**	**3.82**	**348**	P	**Pn**	**21 45 15.6**	**-0.4**
JHJ	**Hachijo jima 2**	**3.84**	**348**	Pn	**Pn**	**21 45 15.6**	**-0.6**
	14nm,0.3s,baz=238,slow=21,SNR=11						
JHJ				Sn	**Sn**	**21 45 55.5**	**-4.5**
	23nm,0.3s,baz=73,slow=19,SNR=3.2						
JHJ				LR	LR	21 46 40.1	
	comp=Z,2μm,19.1s,baz=57,slow=39						
JNY	**Yasuok**	**6.46**	**338**	P	**Pn**	**21 45 53.8**	**+1.7**
JAO	**Obara**	**6.59**	**334**	P	**Pn**	**21 45 56.7**	**+2.8**
JRY	**Ryogami san**	**6.82**	**347**	P	**Pn**	**21 45 57.9**	**+0.9**
JHO	**Hitachi**	**7.23**	**359**	P	**Pn**	**21 46 00.1**	**-2.5**
MJAR	**Matsushiro Arr**	**7.47**	**344**	**Pn**	**Pn**	**21 46 07.8**	**+1.9**
	1.1nm,0.3s,baz=157,slow=13,SNR=16						
MJAR				LR	LR	21 48 57.2	
	comp=Z,2μm,18.0s,baz=185,slow=38						
MAJO	**Matsushiro**	**7.47**	**344**	*e*P	**Pn**	**21 46 05.7**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,41nm,0.9s						
MAJO	**Matsushiro**	**7.47**	**344**	*e*P	**Pn**	**21 46 05.7**	**-0.3**
	comp=Z,41nm,0.9s						
MAT	**Matsushiro**	**7.47**	**344**	P	**Pn**	**21 46 08.7**	**+2.7**
MAT				S	**Sn**	**21 47 22.9**	**-6.4**
JOW	**Kunigami**	**11.31**	**260**	LR	LR	21 50 32.2	
	comp=Z,683nm,20.7s,baz=254,slow=35						
INCN	**Inchon**	**14.30**	**308**	P	**Pn**	**21 47 36.9**	**-1.9**
	comp=Z,54nm,1.1s						
ASAJ	**Asahikawa**	**14.80**	**5**	Pn	**Pn**	**21 47 43.5**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=135,slow=10.0,SNR=4.5						
ASAJ				LR	LR	21 54 29.4	
	comp=Z,776nm,19.3s,baz=180,slow=41						
ASAJ	**Asahikawa**	**14.80**	**5**	P	**Pn**	**21 47 43.5**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,776nm,19.3s						
GUMO	**Guam**	**16.15**	**166**	LR	LR	21 53 18.5	
	comp=Z,254nm,20.5s,baz=261,slow=34						
YSS	**Yuzh-Sakhalins**	**17.63**	**5**	*e*P	**Pn**	**21 48 25.0**	**+3.9**
YSS				MLR	MLR		
	comp=N,600nm,18.0s						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s						
YSS				MLR	MLR		
	comp=E,900nm,16.0s						
CN2	**Changchun**	**18.90**	**324**	*e*P	**Pn**	**21 48 39.0**	**+2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
NJ2	**Nanjing**	**19.02**	**284**	*e*P	**Pn**	**21 48 38.8**	**+0.9**
NJ2				PP		21 48 53.8	
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,520nm,5.4s						
NJ2				LR	LR		
	comp=N,480nm,14.4s						
NJ2				LR	LR		
	comp=E,630nm,13.3s						
BJT	**Baijiatuau**	**22.78**	**304**	*e*P	**P**	**21 49 14.9**	**-2.0**
WHN	**Wuhan**	**22.90**	**280**	*e*P	**P**	**21 49 19.0**	**+0.8**
XAN	**Xi'an**	**27.43**	**288**	P	**P**	**21 49 58.0**	**-1.6**
XAN				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.4						
LZH	**Lanzhou**	**31.64**	**292**	*e*P	**P**	**21 50 37.0**	**+0.1**
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
LZH	**Lanzhou**	**31.64**	**292**	*e*P	**P**	**21 50 37.0**	**+0.1**
	comp=Z,16nm,1.0s,mb4.8						
LZH				pP	pP	21 50 43.5	-8.3
LZH				sP	sP	21 50 46.5	-12
CD2	**Chengdu**	**31.95**	**282**	*e*P	**P**	**21 50 39.8**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SONM	**Songino Array**	**32.23**	**315**	P	**P**	**21 50 41.8**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.5,baz=116,slow=6.6,SNR=2.9						
KMI	**Kunming**	**33.97**	**272**	P	**P**	**21 51 03.0**	**+5.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=Z,118nm,25.4s						
GTA	**Gaotai**	**34.99**	**298**	*e*P	**P**	**21 51 05.3**	**-0.8**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
CHTO	**Chiang Mai**	**39.41**	**264**	*e*P	**P**	**21 51 43.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**39.41**	**264**	*e*P	**P**	**21 51 43.3**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.2						
LSA	**Lhasa**	**42.90**	**283**	P	**P**	**21 52 13.5**	**+1.4**
LSA	**Lhasa**	**42.90**	**283**	*e*P	**P**	**21 52 12.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**42.90**	**283**	*e*P	**P**	**21 52 12.9**	**+0.8**
	comp=Z,7.3nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**46.98**	**318**	P	**P**	**21 52 44.9**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=218,slow=12,SNR=2.4						
ZAL				PcP	PcP	21 54 17.5	+1.4
	comp=Z,1.0nm,0.8s,baz=352,slow=6.0,SNR=5.3						
ZAL				LR	LR	22 14 07.2	
	comp=Z,137nm,18.3s,baz=266,slow=38						
ZAL	**Zalesovo**	**46.98**	**318**	P	**P**	**21 52 44.9**	**+0.3**
ZAL						21 54 17.5	
JIRN	**Jiri**	**47.62**	**282**	*e*P	**P**	**21 52 50.2**	**+0.7**
	comp=Z,62nm,0.7s						
PSI	**Prapat**	**47.68**	**244**	P	**P**	**21 52 48.3**	**-1.7**
	comp=Z,2.7nm,0.9s,mb4.3,baz=14,slow=16,SNR=2.6						
GUN	**Gumba**	**47.81**	**282**	*e*P	**P**	**21 52 51.4**	**+0.3**
	comp=Z,57nm,0.8s						
MKAR	**Makanchi Array**	**48.08**	**308**	P	**P**	**21 52 51.7**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.7,baz=86,slow=11,SNR=5.7						
MKAR				PcP	PcP	21 54 20.9	+0.8
	comp=Z,0.3nm,0.5s,baz=70,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**48.08**	**308**	P	**P**	**21 52 51.7**	**-1.5**
MKAR				PcP	PcP	21 54 20.9	+0.8
PKI	**Pulchoki**	**48.31**	**282**	*e*P	**P**	**21 52 55.2**	**+0.3**
KKN	**Kakani**	**48.36**	**282**	*e*P	**P**	**21 52 55.7**	**+0.5**
	comp=Z,37nm,1.0s,mb5.3						
DMN	**Daman**	**48.55**	**282**	*e*P	**P**	**21 52 56.5**	**-0.3**
	comp=Z,22nm,0.8s,mb5.2						
GKN	**Gorkha**	**48.85**	**283**	*e*P	**P**	**21 52 58.0**	**-1.0**
	comp=Z,46nm,1.1s,mb5.4						
FITZ	**Fitzroy Crossi**	**49.39**	**199**	*e*P	**P**	**21 53 04.8**	**+1.6**
	comp=Z,18nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**49.39**	**199**	LR	LR	22 13 14.5	
	comp=Z,108nm,20.3s,baz=51,slow=35						
WB2	**Warramunga Arr**	**49.41**	**188**	*e*P	**P**	**21 53 03.7**	**+0.4**
WRA	**Warramunga Arr**	**49.41**	**188**	P	**P**	**21 53 04.0**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.5,baz=4.4,slow=7.7,SNR=33						
CTA	**Charters Tower**	**49.45**	**173**	LR	LR	22 11 17.0	
	comp=Z,118nm,21.7s,baz=40,slow=33						
KOLN	**Koldanda**	**49.79**	**283**	*e*P	**P**	**21 53 06.4**	**+0.2**
	comp=Z,61nm,1.0s						
ASAR	**Alice Springs**	**53.13**	**188**	P	**P**	**21 53 32.5**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=360,slow=4.2,SNR=11						
ASAR				PcP	PcP	21 54 40.5	+1.8
	comp=Z,1.3nm,0.9s,baz=7.6,slow=2.5,SNR=4.3						
BVAR	**Borovoye Array**	**55.54**	**316**	P	**P**	**21 53 47.4**	**-1.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=87,slow=8.8,SNR=7.9						
BVAR				PcP	PcP	21 54 46.7	-1.2
	comp=Z,1.3nm,0.8s,baz=60,slow=6.0,SNR=3.6						
BBB	**Bella Bella**	**68.05**	**42**	LR	LR	22 25 23.9	
	comp=Z,208nm,18.6s,baz=226,slow=36						
ARCES	**ARCESS Array B**	**71.00**	**340**	P	**P**	**21 55 31.9**	**+1.1**
	comp=Z,7.7nm,0.9s,mb4.6,baz=46,slow=3.5,SNR=7.0						
JOF	**Joensuu**	**72.50**	**333**	*e*p	**P**	**21 55 38.8**	**-1.1**
KAF	**Kangasniemi**	**74.89**	**334**	*e*p	**P**	**21 55 53.7**	**-0.2**
FINES	**FINESS Array B**	**75.37**	**333**	P	**P**	**21 55 57.0**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=13						
NEW	**Newport**	**76.08**	**42**	LR	LR	22 28 20.0	
	comp=Z,246nm,18.1s,baz=123,slow=35						
AKASG	**Malin Array Be**	**80.06**	**323**	P	**P**	**21 56 22.1**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=48,slow=5.8,SNR=9.8						
NVAR	**Mina Array Bea**	**80.10**	**52**	P	**P**	**21 56 27.9**	**+4.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=286,slow=7.4,SNR=3.5						
NOA	**NORSAR Array B**	**81.05**	**338**	P	**P**	**21 56 28.8**	**+0.7**
	comp=Z,4.7nm,1.0s,mb4.4,baz=43,slow=5.3,SNR=4.8						
NOA	**NORSAR Array B**	**81.05**	**338**	P	**P**	**21 56 28.8**	**+0.7**
PDAR	**Pinedale Array**	**83.48**	**44**	P	**P**	**21 56 45.5**	**+4.7**
	comp=Z,0.9nm,0.9s,mb3.8,baz=302,slow=3.3,SNR=4.7						
BRTR	**Keskin Array B**	**83.55**	**312**	P	**P**	**21 56 39.7**	**-1.4**
	comp=Z,2.8nm,1.0s,mb4.3,baz=113,slow=2.0,SNR=7.4						
GERES	**GERESS Array B**	**88.93**	**328**	P	**P**	**21 57 09.2**	**+1.7**
	comp=Z,0.9nm,1.0s,mb4.1,baz=15,slow=4.1,SNR=3.5						
TXAR	**Lajitas Array**	**95.24**	**52**	P	**P**	**21 57 41.4**	**+4.7**
	comp=Z,1.0nm,0.9s,mb4.2,baz=270,slow=2.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**122.15**	**311**	PKP	PKPdf	22 03 07.7	+0.2
	comp=Z,0.5nm,0.6s,baz=346,slow=1.8,SNR=4.7						
LPAZ	**La Paz**	**150.46**	**70**	PKPbc	PKPbc	22 04 09.2	+4.8
	comp=Z,3.6nm,0.9s,baz=352,slow=3.4,SNR=13						

GUC 26 22:07:10.6±1.0, 3027S×7159W, h31km±4km, MD4.0, ML3.4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.47**	**135**	⇑*i*P	Pb	22 07 20.7	0.0
OVCH				*i* S	Sb	22 07 27.6	+0.1
OVCH				AML	AML	22 07 28.5	
	comp=N,3μm,0.2s						
TLL	**Tololo Astrono**	**0.69**	**82**	⇓*i*P	Pb	22 07 24.7	+0.6
TLL				*i* S	Sb	22 07 34.2	+1.0
CMCH	**Combarbala**	**1.03**	**151**	⇓*i*P	Pn	22 07 28.9	-0.1
CMCH				*i* S	Sn	22 07 42.8	+0.5
CMCH				AML	AML	22 07 44.5	
	comp=E,1μm,0.4s						
CHNG	**Los Chungos**	**1.61**	**177**	*e*P	Pn	22 07 37.7	+0.8
CHNG				*i* S	Sn	22 07 59.1	+2.6
VACH	**Vallenar**	**1.84**	**23**	*i* P	Pn	22 07 41.5	+1.5
VACH				*i* S	Sn	22 08 04.7	+2.6
VACH				AML	AML	22 08 11.0	
	comp=E,1μm,0.1s						
PTCH	**Petorca**	**2.07**	**164**	⇑*i*P	Pn	22 07 44.5	+1.3
PTCH				*i* S	Sn	22 08 10.3	+2.5
PTCH				AML	AML	22 08 15.5	
	comp=E,413nm,0.3s						
FCH	**Farellones**	**3.24**	**160**	*e*P	Pn	22 08 02.5	+3.2
FCH				*e*S	Sn	22 08 41.8	+4.9
FCH				AML	AML	22 08 51.9	
	comp=E,62nm,0.5s						

*IDC **26** 22:09:24.7±1.0, 055S×13294E, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.3/19, mbtmp4.4/9, ML4.2/2, Error ellipse: s-maj=42.7km s-min=16.7km az=65.0*
*ISCJB **26** 22:09:27.7±0.6, 058S±008×1329E±01, h33km, mb4.3/11, Error ellipse: s-maj=17.8km s-min=9.0km az=120.8*
*NEIC **26** 22:09:29.6±0.5, 057S×13293E, h35km, mb4.3/6, Error ellipse: s-maj=13.3km s-min=6.8km az=59.0*
ISC 26 22:09:26.4±6.3, 054S±010×1330E±01, h13km±40km, n23, σ0§77/26, mb4.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.10**	**182**	*e*P	**Pn**	**22 12 17.7**	**-0.8**
	26nm,0.6s						
PMG	**Port Moresby**	**16.66**	**122**	*e*Pn	**Pn**	**22 13 20.1**	**+0.5**
	11nm,0.9s						
KKM	**Kota Kinabalu**	**17.94**	**292**	P	**Pn**	**22 13 35.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.87**	**202**	*e*P	**Pn**	**22 13 46.7**	**-0.2**
	8.0nm,0.5s						
FITZ				*e*S	**Sn**	**22 17 05.5**	**-12**
FITZ	**Fitzroy Crossi**	**18.87**	**202**	P	**Pn**	**22 13 46.6**	**-0.3**
	0.5nm,0.3s,baz=31,slow=12,SNR=18						
WRA	**Warramunga Arr**	**19.33**	**176**	P	**Pn**	**22 13 52.2**	**-0.3**
	0.9nm,0.3s,baz=354,slow=12,SNR=39						
WB2	**Warramunga Arr**	**19.33**	**176**	*e*P	**Pn**	**22 13 51.8**	**-0.7**
WB2				*e*S	**Sn**	**22 17 17.8**	**-11**
AS31	**Alice Springs**	**23.00**	**178**	*e*P	**P**	**22 14 31.5**	**+0.5**
AS31				*e*S	**S**	**22 18 46.9**	**+5.7**
ASAR	**Alice Springs**	**23.00**	**178**	P	**P**	**22 14 31.5**	**+0.5**
	27nm,1.0s,mb4.6,baz=3.7,slow=10,SNR=76						
ASPA	**Alice Springs**	**23.00**	**178**	*e*P	**P**	**22 14 31.5**	**+0.5**
ASPA				*e*S	**S**	**22 18 46.9**	**+5.7**
CTA	**Charters Tower**	**23.38**	**147**	P	**P**	**22 14 35.7**	**+0.7**
	7.8nm,0.8s,mb4.2,baz=343,slow=9.1,SNR=9.5						
CTAO	**Charters Tower**	**23.38**	**147**	*e*P	**P**	**22 14 35.4**	**+0.4**
	7.3nm,0.7s,mb4.2						
MBWA	**Marble Bar**	**24.21**	**211**	*e*P	**P**	**22 14 44.6**	**+1.8**
	5.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**32.22**	**166**	P	**P**	**22 15 54.0**	**-0.4**
	8.4nm,0.8s,mb4.6,baz=331,slow=6.7,SNR=11						
PSI	**Prapat**	**34.18**	**276**	P	**P**	**22 16 12.0**	**+0.6**
	3.1nm,0.7s,mb4.3,baz=79,slow=9.2,SNR=7.6						
MKAR	**Makanchi Array**	**64.62**	**324**	P	**P**	**22 20 04.5**	**+0.8**
	1.8nm,0.7s,mb4.2,baz=116,slow=7.6,SNR=7.8						
BVAR	**Borovoye Array**	**74.29**	**326**	P	**P**	**22 21 03.7**	**+0.3**
	3.8nm,0.7s,mb4.4,baz=114,slow=7.3,SNR=8.7						
CHKZ	**Chkalovo**	**74.42**	**327**	*e*P	**P**	**22 21 03.2**	**-1.0**
	1.9nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**75.03**	**326**	*e*P	**P**	**22 21 07.5**	**-0.3**
	3.3nm,0.7s,mb4.4						
VNDA	**Vanda**	**78.48**	**174**	P	**P**	**22 21 27.0**	**-0.3**
	2.5nm,0.8s,mb4.2,baz=327,slow=5.3,SNR=14						
SBA	**Scott Base**	**79.33**	**173**	*e*P	**P**	**22 21 29.8**	**-2.1**
	1.5nm,0.3s,mb4.4						
QSPA	**South Pole Qui**	**89.39**	**180**	P	**P**	**22 22 23.1**	**+0.3**
CPUP	**Villa Florida**	**151.50**	**160**	PKPbc	PKPbc	22 29 21.5	+1.3
	3.2nm,0.7s,baz=198,slow=5.0,SNR=8.3						

*NIED **26** 22:09:00, 2960N×14170E, h14km, Mw4.8 Best double couple: M0:1.57000×10^16 NP1:ϕs=249.00000°, δ73.00000°, λ-121.00000°. NP2:ϕs134.00000°, δ34.00000°, λ-30.00000°.*
*IDC **26** 22:09:25.4±0.6, 2939N×14033E, h0km, mb4.3/18, mb1 4.5/20, mb1mx4.4/25, mbtmp4.3/20, ML4.3/2, MS4.0/12, Ms1 4.0/12, ms1mx3.7/38, Error ellipse: s-maj=21.0km s-min=15.9km az=73.0*
*NEIC **26** 22:09:27.1±0.3, 2938N×14036E, h10km, mb4.5/14, MW4.7(NIED), Error ellipse: s-maj=7.6km s-min=6.8km az=121.0*
*GCMT **26** 22:09:27.1±0.4, 2943N×14032E, h14km±1km, MW4.8/63, Moment Tensor Solution. s17,c19; s63,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.99±.19; Mθθ1.42±.12; Mϕϕ0.57±.10; Mrθ-0.04±.22; Mϕθ-0.88±.06; Mϕr0.41±.26; Best double couple: M0:2.02500×10^16 NP1:ϕs293.00000°, δ42.00000°, λ-103.00000°. NP2: ϕs131.00000°, δ49.00000°, λ-78.00000°. Principal axes: T 1.9920, Plg4.0000°, Azm213.0000°; N 0.0710, Plg9.0000°, Azm303.0000°; P -2.0580, Plg80.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **26** 22:09:27.1, 2940N×14040E, h10km, mB4.8, mb4.4, Ms4.2, Msz3.9*
*MOS **26** 22:09:28.7±1.3, 2944N×14037E, h33km, mb4.9/10, Error ellipse: s-maj=12.3km s-min=7.2km az=108.0*
*ISCJB **26** 22:09:29.5±0.6, 2935N±003×14054E±006, h46km±5km, mb4.6/43, MS4.0/11, Error ellipse: s-maj=8.5km s-min=4.4km az=143.8*
*JMA **26** 22:09:30.4, 2957N×14169E, h111km, M4.2*
ISC 26 22:09:31.6±0.5, 2936N±003×14061E±006, h50km±5km, h38km±8.3km: pP-P, n127, σ1§30/129, mb4.6/43, MS4.0/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.65**	**148**	Pn	**Pn**	**22 10 10.6**	**-1.2**
	129nm,0.3s,baz=264,slow=18,SNR=24						
CBIJ				Sn	**Sn**	**22 10 42.4**	**-0.3**
	290nm,0.3s,baz=288,slow=23,SNR=14						
CBIJ	**Chichi jima**	**2.65**	**148**	P	**Pn**	**22 10 10.5**	**-1.3**
CBIJ				*e*S	**Sn**	**22 10 40.8**	**-1.8**
JHHJ	**Haha-jima-NKT**	**3.05**	**153**	P	**Pn**	**22 10 16.2**	**-1.1**
JHHJ				*e*S	**Sn**	**22 10 52.6**	**0.0**
JHJ2	**Mitsune**	**3.80**	**350**	P	**Pn**	**22 10 29.1**	**+1.5**
JHJ	**Hachijo jima 2**	**3.81**	**350**	Pn	**Pn**	**22 10 28.2**	**+0.4**
	29nm,0.3s,baz=67,slow=22,SNR=9.5						
JHJ				Sn	**Sn**	**22 11 10.8**	**-0.5**
	126nm,0.3s,baz=220,slow=23,SNR=5.6						
JHJ				LR	LR	22 11 52.2	
	comp=Z,2μm,19.8s,baz=169,slow=39						
BSO1	**Boso 1**	**5.29**	**3**	P	**Pn**	**22 10 45.7**	**-2.3**
HMMJ	**Hamamatsu 2**	**6.00**	**337**	P	**Pn**	**22 11 01.6**	**+3.8**
JOD2	**Odawara 2**	**6.03**	**348**	P	**Pn**	**22 10 59.4**	**+1.3**
JNY	**Yasuok**	**6.42**	**339**	P	**Pn**	**22 11 07.3**	**+3.8**
JHU	**Hanno**	**6.57**	**351**	P	**Pn**	**22 11 05.5**	**0.0**
JRY	**Ryogami

comp=N,400nm,11.0s
CN2 LR LR
comp=E,300nm,11.0s
CN2 LR LR
comp=Z,400nm,13.0s
NJ2 Nanjing 18.90 284 *eP* **Pn 22 13 50.0 +1.1**
NJ2 AP pP 22 13 53.8 -5.5
NJ2 XP sP 22 13 57.0 -8.7
NJ2 PP 22 14 07.8
NJ2 S **S 22 17 23.0 +3.1**
NJ2 AMB AMB
comp=Z,542nm,5.4s
NJ2 LR LR
comp=N,370nm,11.5s
NJ2 LR LR
comp=E,620nm,11.2s
TIA Tai'an 20.87 295 P **P 22 14 10.0 +0.7**
KLR Kul'dur 20.97 344 *eP* **P 22 14 02.8 -7.5**
KLR MLR MLR
comp=N,700nm,13.0s,MS4.5
KLR MLR MLR
comp=Z,3μm,13.0s,MS4.8
KLR MLR MLR
comp=E,1μm,17.0s,MS4.5
BJT Baijiatuau 22.67 304 *eP* **P 22 14 27.4 -1.1**
BJI Beijing 22.67 305 *eP* **P 22 14 26.8 -1.7**
BJI S **S 22 18 38.5 +5.1**
BJI AMB AMB
comp=Z,9.0nm,1.6s,mb4.0
BJI LR LR
comp=N,299nm,13.0s,MS4.0
BJI LR LR
comp=E,315nm,16.9s,MS4.0
BJI LR LR
comp=Z,197nm,18.5s,MS3.6
BJI Beijing 22.67 305 *eP* **P 22 14 26.8 -1.7**
comp=Z,9.0nm,1.6s,mb4.0
BJI S **S 22 18 38.4 +5.0**
BJI LR LR
comp=Z,200nm,18.5s,MS3.6
WHN Wuhan 22.77 280 P **P 22 14 30.5 +0.9**
WHN AMB AMB
comp=Z,31nm,1.1s,mb4.7
HIA Hailar 25.46 327 *eP* **P 22 14 54.1 -0.7**
XAN Xi'an 27.30 288 P **P 22 15 11.5 +0.1**
XAN AMB AMB
comp=Z,46nm,1.5s,mb4.8
CLNS Chul'man 29.62 342 *eP* **P 22 15 29.2 -2.8**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,1.1s
MA2 Magadan 31.00 10 P **P 22 15 45.9 +1.8**
LZH Lanzhou 31.52 292 *eP* **P 22 15 48.5 -0.2**
LZH AP pP 22 15 56.0 -5.7
LZH XP sP 22 16 00.0 -7.7
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,89nm,5.4s
LZH Lanzhou 31.52 292 *eP* **P 22 15 48.5 -0.2**
comp=Z,56nm,1.5s,mb5.2
LZH pP pP 22 15 56.0 -5.7
LZH sP sP 22 16 00.0 -7.7
ULN Ulaanbaatar 31.74 315 *eP* **P 22 15 48.7 -2.0**
CD2 Chengdu 31.82 282 *eP* **P 22 15 51.3 -0.1**
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
SONM Songino Array 32.13 315 P **P 22 15 53.5 -0.7**
comp=Z,0.6nm,0.7s,mb3.6,baz=98,slow=10,SNR=3.6
SONM PcP PcP 22 18 42.8 +0.5
comp=Z,1.0nm,0.8s,baz=129,slow=2.6,SNR=4.3
YAK Yakutsk 33.46 351 *eP* **P 22 16 04.6 -1.1**
KMI Kunming 33.84 272 P **P 22 16 10.0 +1.0**
KMI AMB AMB
comp=Z,6.0nm,1.8s,mb4.2
KMI LR LR
comp=Z,133nm,25.1s,MS3.6
KMI Kunming 33.84 272 P **P 22 16 09.9 +0.9**
KMI pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
KMI MLR MLR
comp=Z,130nm,25.1s,MS3.5
KMI Kunming 33.84 272 P **P 22 16 09.9 +0.9**
comp=Z,6.0nm,1.8s,mb4.2
KMI LR LR
comp=Z,130nm,25.1s,MS3.5
GTA Gaotai 34.87 298 *eP* **P 22 16 17.8 -0.2**
GTA AP pP 22 16 27.3 -3.8
GTA XP sP 22 16 31.5 -5.5
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb4.4
GTA AMB AMB
comp=Z,164nm,5.7s
GTA LR LR
comp=N,141nm,14.1s,MS4.2
GTA LR LR
comp=E,251nm,12.6s,MS4.2
GTA LR LR
comp=Z,287nm,13.8s,MS4.2
PMG Port Moresby 39.05 170 LR LR 22 29 49.1
comp=Z,167nm,21.1s,MS3.8,baz=244,slow=31
PMG Port Moresby 39.05 170 *eP* **P 22 16 55.0 +1.5**
PMG pmax pmax
comp=Z,16nm,0.8s
PMG Port Moresby 39.05 170 *eP* **P 22 16 55.0 +1.6**
comp=Z,16nm,0.8s,mb4.8
CHTO Chiang Mai 39.28 264 *eP* **P 22 16 55.8 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CHTO Chiang Mai 39.28 264 *eP* **P 22 16 55.8 +0.5**
comp=Z,9.7nm,1.0s,mb4.5
BILL Bilibino 41.59 14 P **P 22 17 15.2 +0.8**
BILL Bilibino 41.59 14 P **P 22 17 15.2 +0.8**
LSA Lhasa 42.77 283 P **P 22 17 27.0 +3.0**
LSA Lhasa 42.77 283 *eP* **P 22 17 25.9 +1.9**
LSA pmax pmax
comp=Z,24nm,1.3s,mb4.8
LSA Lhasa 42.77 283 *eP* **P 22 17 25.9 +1.9**
comp=Z,24nm,1.3s,mb4.8
ZAL Zalesovo 46.89 318 P **P 22 17 56.4 -0.4**
comp=Z,1.0nm,0.3s,mb4.2,baz=73,slow=2.0,SNR=3.5
ZAL PcP PcP 22 19 29.4 +0.5
comp=Z,1.7nm,0.7s,baz=16,slow=7.3,SNR=7.2
ZAL LR LR 22 39 00.2
comp=Z,170nm,18.8s,MS4.0,baz=255,slow=38
ZAL Zalesovo 46.89 318 P **P 22 17 56.4 -0.4**
ZAL 22 19 29.4
ZAL Zalesovo 46.89 318 P **P 22 17 56.4 -0.4**
ZAL PcP PcP 22 19 29.4 +0.5
ZAL LR LR 22 39 00.2
JIRN Jiri 47.49 282 *eP* **P 22 18 02.7 +1.2**
comp=Z,102nm,0.8s
PSI Prapat 47.56 244 P **P 22 18 03.2 +1.2**
comp=Z,5.2nm,0.8s,mb4.6,baz=333,slow=7.8,SNR=7.2
GUN Gumba 47.69 282 *eP* **P 22 18 04.1 +1.1**
comp=Z,93nm,0.8s
MK31 Makanchi Array 47.98 308 *eP* **P 22 18 03.9 -1.4**
MKAR Makanchi Array 47.98 308 P **P 22 18 04.5 -0.8**
comp=Z,1.2nm,1.1s,mb3.9,baz=96,slow=9.9,SNR=5.5
MKAR PcP PcP 22 19 32.9 +0.1
comp=Z,1.4nm,0.9s,baz=76,slow=5.1,SNR=5.1
MKAR Makanchi Array 47.98 308 P **P 22 18 04.5 -0.8**
MKAR PcP PcP 22 19 32.9 +0.1
PKI Pulchoki 48.18 282 *eP* **P 22 18 07.5 +0.7**
KKN Kakani 48.23 282 *eP* **P 22 18 07.9 +0.7**
comp=Z,63nm,1.0s,mb5.6
DMN Daman 48.43 282 *eP* **P 22 18 09.6 +0.9**
comp=Z,33nm,0.9s,mb5.4
GKN Gorkha 48.72 283 *eP* **P 22 18 11.5 +0.5**
WRA Warramunga Arr 49.39 188 P **P 22 18 16.7 +0.6**
comp=Z,5.7nm,1.0s,mb4.6,baz=3.5,slow=7.7,SNR=7.2
CTA Charters Tower 49.46 173 LR LR 22 35 22.9
comp=Z,75nm,21.2s,MS3.7,baz=38,slow=32
KOLN Koldanda 49.66 283 *eP* **P 22 18 19.0 +0.8**
comp=Z,88nm,0.9s
ASAR Alice Springs 53.11 188 P **P 22 18 44.6 +0.6**
comp=Z,1.7nm,0.9s,mb4.0,baz=22,slow=5.1,SNR=6.2
ASAR LR LR 22 38 22.2
comp=Z,79nm,20.6s,MS3.8,baz=356,slow=33
KDAK Kodiak Island 53.41 38 P **P 22 18 47.9 +1.7**
comp=Z,8.2nm,0.9s,mb4.7,baz=286,slow=10,SNR=3.5
KDAK LR LR 22 38 32.2
comp=Z,264nm,19.8s,MS4.3,baz=256,slow=33

IMA2 Indian Mountai 53.71 27 P **P 22 18 49.4 +1.0**
MBWA Marble Bar 54.11 204 *eP* **P 22 18 51.5 +0.2**
CHKZ Chkalovo 55.27 317 *eP* **P 22 18 58.2 -1.5**
CHKZ *e* 22 19 59.7
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CHKZ Chkalovo 55.27 317 *eP* **P 22 18 58.2 -1.5**
comp=Z,2.4nm,0.7s,mb4.3
CHKZ *e*PcP PcP 22 19 59.7 -0.3
PMR Palmer 55.29 33 P **P 22 19 00.6 +0.8**
BVAR Borovoye Array 55.45 316 P **P 22 19 00.1 -0.9**
comp=Z,1.3nm,0.6s,mb4.2,baz=90,slow=7.9,SNR=11
BVAR PcP PcP 22 20 00.0 -0.6
comp=Z,2.2nm,0.7s,baz=103,slow=3.3,SNR=6.8
MCK McKinley 55.47 31 *eP* **P 22 19 02.8 +1.6**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MCK McKinley 55.47 31 *eP* **P 22 19 02.8 +1.6**
comp=Z,2.6nm,1.0s,mb4.2
COLA College 56.01 29 P **P 22 19 07.9 +2.9**
ZRNK Zerenda 56.29 316 *eP* **P 22 19 05.6 -1.4**
ZRNK *e* 22 20 03.2
ZRNK pmax pmax
comp=Z,11nm,1.5s,mb4.7
ZRNK Zerenda 56.29 316 *eP* **P 22 19 05.6 -1.4**
comp=Z,11nm,1.5s,mb4.7
ZRNK *e*PcP PcP 22 20 03.2 -0.8
STKA Stephens Creek 60.91 179 LR LR 22 43 45.6
comp=Z,151nm,20.3s,MS4.1,baz=206,slow=34
STKA Stephens Creek 60.91 179 *eP* **P 22 19 39.3 +0.2**
INK Inuvik 61.56 25 *eP* **P 22 19 44.4 +0.8**
comp=Z,213nm,1.1s
ARU Arti 61.79 321 *eP* **P 22 19 43.7 -1.4**
ARU Arti 61.79 321 *eP* **P 22 19 43.4 -1.6**
comp=Z,6.7nm,0.8s,mb4.8
ARU *e*PcP PcP 22 20 26.6 +0.8
YKA Yellowknife Ar 70.82 28 P **P 22 20 44.0 +1.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=301,slow=5.7,SNR=4.9
YKA Yellowknife Ar 70.82 28 P **P 22 20 44.0 +1.2**
ARCES ARCESS Array B 70.95 340 P **P 22 20 43.9 +0.3**
comp=Z,11nm,0.9s,mb4.8,baz=66,slow=6.8,SNR=14
ARCES ARCESS Array B 70.95 340 P **P 22 20 43.9 +0.3**
JOF Joensuu 72.44 333 *ep* **P 22 20 49.4 -3.2**
comp=Z,12nm,0.8s,mb4.9
JOF Joensuu 72.44 333 *eP* **P 22 20 49.4 -3.2**
JOF pmax pmax
comp=Z,12nm,0.8s,mb4.9
OBN Obninsk 73.89 325 P **P 22 21 00.7 -0.4**
KAF Kangasniemi 74.84 334 *ep* **P 22 21 03.7 -3.0**
comp=Z,2.4nm,0.5s,mb4.4,baz=54,slow=5.5
KAF Kangasniemi 74.84 334 *eP* **P 22 21 03.7 -3.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 75.31 333 P **P 22 21 09.1 -0.2**
comp=Z,3.8nm,0.7s,mb4.4,baz=69,slow=6.1,SNR=15
KIV Kislovodsk 75.50 312 *eP* **P 22 21 10.8 +0.4**
KIV *e* pP 22 21 24.8 0.0
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV Kislovodsk 75.50 312 *eP* **P 22 21 10.8 +0.3**
comp=Z,6.2nm,0.9s,mb4.5
KIV *e*PcP PcP 22 21 24.8 +1.5
AKASG Malin Array Be 79.98 323 P **P 22 21 34.5 -0.9**
comp=Z,1.4nm,0.6s,mb4.1,baz=49,slow=5.7,SNR=11
NB2 NORSAR Subarra 81.00 338 P **P 22 21 40.6 -0.3**
comp=Z,0.4nm,0.8s,baz=52,slow=5.6
NOA NORSAR Array B 81.00 338 P **P 22 21 40.9 0.0**
comp=Z,5.0nm,0.9s,mb4.5,baz=43,slow=5.2,SNR=8.5
NOA LR LR 22 57 44.7
comp=Z,102nm,20.0s,MS4.2,baz=250,slow=36
BR131 Keskin Array S 83.46 312 *eP* **P 22 21 53.1 -0.6**
comp=Z,1.5nm,0.6s,mb4.2
BRTR Keskin Array B 83.46 312 P **P 22 21 54.0 +0.3**
comp=Z,2.6nm,0.9s,mb4.3,baz=110,slow=4.1,SNR=9.4
PDAR Pinedale Array 83.57 44 P **P 22 21 57.1 +2.8**
comp=Z,1.6nm,1.0s,mb4.1,baz=245,slow=3.1,SNR=8.2
FRB Frobisher Bay 84.39 13 P **P 22 21 60.0 +1.5**
comp=Z,6.9nm,0.7s,mb4.9,baz=350,slow=3.2,SNR=3.4
FRB Frobisher Bay 84.39 13 P **P 22 21 60.0 +1.5**
GERES GERESS Array B 88.86 328 P **P 22 22 19.7 -0.5**
comp=Z,0.6nm,0.6s,mb4.1,baz=64,slow=3.1,SNR=6.1
CDF Champ du Feu 92.03 331 *eP* **P 22 22 34.3 -0.7**
LPL La Plagne 94.51 329 *eP* **P 22 22 45.9 -0.5**
comp=Z,16nm,1.2s,mb5.0
LPG La Plagne 94.51 329 *eP* **P 22 22 45.9 -0.6**
SSF Saint Saulge 94.66 332 *eP* **P 22 22 46.3 -0.8**
comp=Z,24nm,1.3s,mb5.2
LDF La Druitiere 94.81 335 *eP* **P 22 22 46.9 -0.9**
comp=Z,7.7nm,0.8s,mb4.9
AVF Avril sur Loir 94.94 332 *eP* **P 22 22 47.7 -0.7**
comp=Z,13nm,1.1s,mb5.0
TXAR Lajitas Array 95.34 52 P **P 22 22 53.3 +3.0**
comp=Z,1.1nm,0.9s,mb4.3,baz=270,slow=1.3,SNR=5.2
ORIF Oris-en-Rattie 95.35 330 *eP* **P 22 22 48.8 -1.5**
PGF Pioggiola 95.73 326 *eP* **P 22 22 50.4 -1.6**
comp=Z,29nm,1.0s,mb5.4
FRF La Foret Royal 96.06 328 *eP* **P 22 22 51.8 -1.7**
comp=Z,98nm,1.4s
TORD Torodi Ar. Bea 122.06 311 PKP PKPdf 22 28 21.1 +0.7
comp=Z,1.1nm,0.8s,baz=353,slow=2.9,SNR=8.9
VNA2 Neumayer--Watz 134.75 194 *e* PKPdf 22 28 44.6 0.0
VNA2 *e* 22 28 53.3
VNA2 *e* 22 28 58.0
VNA3 Neumayer Olymp 134.98 193 *e* PKPdf 22 28 45.7 +0.7
VNA3 *e* 22 28 53.8
VNA3 *e* 22 28 58.1
LPAZ La Paz 150.58 70 PKP PKPdf 22 29 16.6 +4.2
comp=Z,1.6nm,0.9s,baz=337,slow=2.6,SNR=4.7
LPAZ PKPbc PKPbc 22 29 21.2 +3.5
comp=Z,3.7nm,0.8s,baz=314,slow=1.3,SNR=17

CSEM ***26*** *22:10:20.7±0.1, 3823N×2666E, h2km, MD2.8, Error ellipse: s-maj=3.5km s-min=1.4km az=137.0*
ISK ***26*** *22:10:20.1, 3851N×2660E, h30km, MD2.8*
ISCJB ***26*** *22:10:21.3±0.8, 3827N±005×2657E±006, h8km±7km, Error ellipse: s-maj=9.4km s-min=7.6km az=49.5*
ATH ***26*** *22:10:21.6, 38.19N×2648E, h10km, MD3.0/3*
ISC 26 22:10:21.5±0.9, 3821N±004×2656E±007, h2km±9km, n12, σ0§66/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.15**	**10**	*i* P	**Pg**	**22 10 24.0**	**-0.4**
URLA				*i* S	**Sg**	**22 10 26.4**	**+0.1**
SMG	**Samos**	**0.55**	**157**	*e*PB	**Pg**	**22 10 32.5**	**+0.5**
IZM	**Izmir**	**0.58**	**71**	*i* PG	**Pg**	**22 10 31.7**	**-0.9**
IZM				*i* SG	**Sg**	**22 10 40.3**	**+0.2**
KDAG	**Bornova**	**0.58**	**71**	*i* P	**Pg**	**22 10 31.7**	**-1.0**
KDAG				*i* S	**Sg**	**22 10 40.1**	**-0.1**
PRK	**Paraskevi**	**1.06**	**348**	*e*PB	**Pg**	**22 10 41.7**	**0.0**
AYVA	**Ayvalik**	**1.10**	**5**	*i* P	**Pg**	**22 10 37.7**	**-4.8**
AYVA				*i* S	**Sg**	**22 10 58.5**	**+1.7**
AYDN	**Tasoluk**	**1.18**	**118**	*i* P	**Pg**	**22 10 43.7**	**-0.3**
AYDN				*i* S	**Sg**	**22 10 59.5**	**+0.2**
BODT	**Bodrum**	**1.29**	**152**	*e*PN	**Pn**	**22 10 46.3**	**-0.3**
BODT				*e*SN	**Sn**	**22 11 05.2**	**+0.8**
MLSB	**Milas**	**1.33**	**133**	*e*PN	**Pn**	**22 10 46.6**	**-0.4**
BDRM	**Kayabasi**	**1.34**	**148**	*i* P	**Pn**	**22 10 47.5**	**+0.3**
BDRM				*i* S	**Sg**	**22 11 05.4**	**+0.8**
APE	**Apeiranthos**	**1.41**	**216**	*e*PB	**Pn**	**22 10 47.2**	**-0.9**
DNZL	**Cakiroluk**	**2.03**	**104**	*i* P	**Pg**	**22 11 06.9**	**+6.5**
DNZL				*i* S	**Sg**	**22 11 36.8**	**+10**

KNET ***26*** *22:16:41.5±0.5, 4173N×7318E, h16km±1km, ml2.2, Error ellipse: s-maj=3.0km s-min=2.6km az=96.0*
ISCJB ***26*** *22:16:42.0±1.2, 4169N±007×7310E±008, h10km, Error ellipse: s-maj=11.1km s-min=7.8km az=134.6*
ISC 26 22:16:42.9±1.1, 4173N±007×7312E±008, h10km, n11, σ1§26/19, 8C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.58**	**47**	⇑P	**Pg**	**22 16 52.5**	**-1.7**
AML	28nm,0.1s,SNR=75			⇑S	**Sg**	**22 17 01.8**	**-0.1**
EKS2	108nm,0.1s **Erkin-Say**	**1.05**	**27**	⇓P	**Pg**	**22 17 00.9**	**-2.2**
EKS2	3.4nm,0.1s,SNR=19			⇓S	**Sg**	**22 17 15.9**	**-0.8**
UCH	18nm,0.1s **Uchtor**	**1.15**	**64**	⇑P	**Pb**	**22 17 02.5**	**-2.3**
UCH	30nm,0.2s,SNR=175			⇑S	**Sb**	**22 17 19.2**	**-0.6**
AAK	22nm,0.1s **Ala-Archa**	**1.36**	**48**	⇓P	**Pn**	**22 17 06.5**	**-1.4**
AAK	13nm,0.2s,SNR=27			⇓S	**Sb**	**22 17 25.6**	**-0.2**
KZA	16nm,0.2s **Kyzart**	**1.62**	**77**	P	**Pn**	**22 17 10.7**	**-0.8**
KZA	43nm,0.2s,SNR=97			⇓S	**Sn**	**22 17 33.3**	**+0.8**
KBK	22nm,0.2s **Karagaybulak**	**1.64**	**55**	⇑P	**Pn**	**22 17 11.6**	**-0.2**
KBK	13nm,0.1s,SNR=20			⇓S	**Sn**	**22 17 34.6**	**+1.7**
CHMS	27nm,0.2s **Chumysh**	**1.75**	**43**	⇑P	**Pn**	**22 17 13.6**	**+0.4**
CHMS	15nm,0.2s,SNR=9.2			⇓S	**Sn**	**22 17 37.9**	**+2.3**
USP	21nm,0.2s **Ospenovka**	**1.84**	**33**	⇑P	**Pn**	**22 17 14.9**	**+0.4**
USP	11nm,0.2s,SNR=22			⇓S	**Sn**	**22 17 40.5**	**+2.6**
TKM2	42nm,0.2s **Tokmak 2**	**2.19**	**56**	⇑P	**Pn**	**22 17 20.4**	**+1.2**
KK31	11nm,0.1s,SNR=13 **Karatay Array**	**2.37**	**306**	⇓Pn	**Pn**	**22 17 22.5**	**+0.7**
KK31	1.1nm,0.2s,baz=122,slow=17			⇓Lg		22 17 54.6	
ULHL	3.8nm,0.3s,baz=122,slow=30 **Ulahol**	**2.38**	**76**	⇓P	**Pn**	**22 17 22.8**	**+0.8**
	5.3nm,0.2s,SNR=32						

ISCJB ***26*** *22:37:36.3±0.6, 3167N±008×5103E±009, h10km, Error ellipse: s-maj=15.3km s-min=4.0km az=93.4*
CSEM ***26*** *22:37:36.0, 3164N×5088E, h18km, ML3.4, After THR*
THR ***26*** *22:37:36.0±0.8, 3164N×5088E, h18km±7km, ML3.4*
KISR ***26*** *22:37:37.0±1.0, 3164N×5105E, h34km, ML3.0*
ISC 26 22:37:38.1±0.6, 3178N±005×5093E±006, h10km, n11, σ0§75/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.84**	**281**	*e*Pg	**Pn**	**22 38 09.5**	**-0.2**
SHGR				AML	AML	22 38 48.4	
SHGR	comp=E,371nm,0.5s comp=N,379nm,0.5s			AML	AML	22 38 48.8	
NASN	**Na'in**	**1.89**	**57**	*e*Pg	**Pg**	**22 38 12.2**	**-2.1**
NASN				*e*Sg	**Sg**	**22 38 39.7**	**+0.8**
ASAO	**Ashtian**	**2.87**	**345**	*e*Pn	**Pn**	**22 38 24.8**	**+1.0**
ASAO				*e*Sg	**Sg**	**22 39 09.3**	**-0.9**
ASAO	comp=N,92nm,0.7s			AML	AML	22 39 16.3	
ASAO	**Ashtian**	**2.87**	**345**	*e*Pn	**Pn**	**22 38 24.8**	**+1.0**
ASAO	SNR=52 comp=N,92nm,0.7s,SNR=91			*e*Sg	**Sg**	**22 39 09.3**	**-0.9**
UMR	**Umm Al-Rimmam**	**3.55**	**232**	*e*P	**Pn**	**22 38 33.2**	**0.0**
UMR				*e*S	**Sn**	**22 39 15.8**	**+0.7**
UMR	comp=Z,14nm,0.4s			AML	AML	22 39 19.3	
MIB	**Mutribah**	**3.66**	**238**	*e*P	**Pn**	**22 38 34.4**	**-0.4**
MIB				*e*S	**Sn**	**22 39 18.8**	**+0.7**
MIB	comp=Z,30nm,0.5s			AML	AML	22 39 39.9	
KBD	**Kabd**	**3.81**	**228**	*e*P	**Pn**	**22 38 36.5**	**-0.4**
KBD				*e*S	**Sn**	**22 39 21.2**	**-0.4**
KBD	comp=Z,30nm,0.2s			AML	AML	22 39 27.7	
DAMV	**Damavand**	**3.94**	**12**	*e*Pn	**Pn**	**22 38 39.7**	**+1.1**
QRN	**Al-Qurain**	**3.99**	**222**	*e*P	**Pn**	**22 38 39.3**	**+0.1**
QRN				*e*S	**Sn**	**22 39 25.4**	**-0.7**
QRN	comp=Z,30nm,0.3s			AML	AML	22 39 28.7	
NAY	**Al-Naaiem**	**4.06**	**233**	*e*P	**Pn**	**22 38 40.6**	**+0.4**
NAY				*e*S	**Sn**	**22 39 28.0**	**+0.2**
NAY	comp=Z,7.1nm,0.5s			AML	AML	22 39 30.9	
RDF	**Al-Radifah**	**4.07**	**227**	*e*P	**Pn**	**22 38 40.8**	**+0.4**
RDF				*e*S	**Sn**	**22 39 27.6**	**-0.6**
RDF	comp=Z,27nm,0.4s			AML	AML	22 39 28.1	

IDC ***26*** *22:54:27.6±0.4, 1335S×7669W, h0km, mb5.3/24, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, ML4.1/2, MS5.6/17, Ms1 5.6/17, ms1mx5.6/21, Error ellipse: s-maj=18.1km s-min=7.8km az=76.0*
ISCJB ***26*** *22:54:30.7±0.1, 1336S±003×7670W±003, h28km, mb5.4/139, MS5.5/116, Error ellipse: s-maj=4.8km s-min=3.0km az=97.4*
MOS ***26*** *22:54:31.4±1.1, 1328S×7667W, h33km, mb5.6/63, MS5.4/41, Error ellipse: s-maj=19.3km s-min=6.6km az=111.9*
CRAAG ***26*** *22:54:31.1, 1332S×7673W, Mw5.9*
IGIL ***26*** *22:54:32.0, 1337S×7654W, h26km, MS6.1*
NEIC ***26*** *22:54:32.3±0.1, 1337S×7662W, mb5.4/109, MS5.5/76, MW5.9, ML5.8(LIM), Error ellipse: s-maj=5.1km s-min=3.2km az=55.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}4.69; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-5.20; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.21; $M_{\phi r}$-6.56; Best double couple: $M_0$8.20000×10^{17} NP1:ϕ_s177.00000°, δ72.00000°, λ86.00000°. NP2:ϕ_s8.00000°, δ19.00000°, λ101.00000°. Principal axes: T 8.0000, Plg63.0000°, Azm81.0000°; N 0.4700, Plg3.0000°, Azm178.0000°; P -8.4700, Plg27.0000°, Azm270.0000°;*
NEIC Felt [IV] at Canete, Chincha Alta, Lima and Pisco. Also felt at Nuevo Imperial and Pachacamac.
GCMT ***26*** *22:54:32.3±0.1, 1336S×7694W, h24km, MW6.0/96, Moment Tensor Solution. s96,c198; s94,c262; Duration: ≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.42±.01; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.46±.01; $M_{r\theta}$0.09±.01; $M_{\theta\phi}$0.16±.00; $M_{\phi r}$-1.05±.03; Best double couple: $M_0$1.15400×10^{18} NP1:ϕ_s329.00000°, δ13.00000°, λ65.00000°. NP2:ϕ_s174.00000°, δ78.00000°, λ95.00000°. Principal axes: T 1.1200, Plg56.0000°, Azm91.0000°; N 0.0670, Plg5.0000°, Azm353.0000°; P -1.1870, Plg33.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***26*** *22:54:32.3, 1340S×7660W, h28km, mB5.7, Ms5.9, Msz5.7*
ISC 26 22:54:33.1±0.1, 1335S±003×7659W±003, h30km, h30km±.8km: pP-P, n820, σ0§85/656, mb5.4/139, MS5.5/116, 103C-88D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.37**	**350**	Pn	**Pn**	**22 54 55.0**	**-1.2**
NNA	142μm,0.8s **Nana**	**1.37**	**350**	Pn	**Pn**	**22 54 55.1**	**-1.1**
NNA	1μm,0.3s,baz=178,slow=12,SNR=1258			Sn	**Sn**	**22 55 13.4**	**+0.1**
NNA	20μm,0.3s,baz=218,slow=11,SNR=49			LR	LR	22 55 15.7	
NNA	comp=Z,38μm,19.6s,baz=146,slow=35 **Nana**	**1.37**	**350**	*e*Pn	**Pn**	**22 54 55.0**	**-1.2**
ATAH	26nm,0.3s,baz=156,slow=5.9,SNR=43 **Atahualpa**	**6.55**	**344**	Pn	**Pn**	**22 56 07.0**	**-0.4**
ATAH	206nm,0.3s,baz=278,slow=22,SNR=4.8			Sn	**Sn**	**22 57 32.4**	**+11**
LPAZ	**La Paz**	**8.69**	**111**	Pn	**Pn**	**22 56 41.6**	**+4.9**
LPAZ	4.9nm,0.3s,baz=295,slow=13,SNR=100			Sn	**Sn**	**22 58 30.8**	**+17**
LPAZ	6.8nm,0.3s,baz=235,slow=25,SNR=6.7			LR	LR	23 00 42.6	
LPAZ	comp=Z,63μm,20.9s,baz=292,slow=43 **La Paz**	**8.69**	**111**	*e*Pn	**Pn**	**22 56 41.6**	**+4.8**
CEN1	**Los Morros**	**11.68**	**150**	*e*P	**Pn**	**22 57 17.0**	**-0.7**
OTAV	**Otavalo**	**13.62**	**352**	*e*Pn	**Pn**	**22 57 48.2**	**+4.0**
SIV	**San Ignacio**	**15.24**	**102**	Pn	**Pn**	**22 58 05.4**	**-0.7**
TLL	0.5nm,0.3s,baz=274,slow=12,SNR=32 **Tololo Astrono**	**17.57**	**163**	*e*P	**Pn**	**22 58 36.3**	**+0.6**
ROSC	**El Rosal**	**18.22**	**7**	P	**Pn**	**22 58 45.8**	**+2.1**
ROSC	2.0nm,0.3s,baz=203,slow=2.1,SNR=20			S	**Sn**	**23 02 18.4**	**+12**
ROSC	1.6nm,0.3s,baz=74,slow=23,SNR=2.0			LR	LR	23 06 44.0	
ROSC	comp=Z,35μm,20.7s,baz=193,slow=40 **El Rosal**	**18.22**	**7**	*e*Pn	**Pn**	**22 58 46.0**	**+2.3**
ROSC				*e*Sn	**Sn**	**23 02 07.9**	**+1.7**

PAYG Puerto Ayora 18.51 312 *e*Pn **Pn 22 58 48.2 +1.1**
ZON Zonda 19.52 159 ⇓*i*P **Pn 22 58 58.8 -0.5**
CFAA Coronel Fontan 19.73 158 P **Pn 22 59 00.8 -1.1**
0.5nm,0.3s,baz=335,slow=9.8,SNR=57
CFAA S **Sn 23 02 43.4 +0.8**
0.1nm,0.3s,baz=199,slow=15,SNR=1.7
CFAA LR LR 23 05 59.6
comp=Z,953nm,19.0s,baz=350,slow=35
CFAA Coronel Fontan 19.73 158 P **Pn 22 59 00.8 -1.1**
CFAA S **Sn 23 02 43.4 +0.8**
CFAA LR LR 23 05 59.6
PEL Peldehue 20.43 166 ⇓*i*P **P 22 59 09.0 +1.2**
MDZ Mendoza 20.69 161 *e*P **P 22 59 12.1 +1.4**
FCH Farellones 20.70 165 *e*P **P 22 59 12.2 +1.4**
CLCH Cerro Calan 20.71 166 ⇑*i*P **P 22 59 12.0 +1.1**
CPUP Villa Florida 22.21 128 P **P 22 59 26.9 -0.1**
134nm,1.1s,mb5.3,baz=288,slow=10,SNR=42
CPUP LR LR 23 10 16.6
comp=Z,25µm,18.2s,MS5.7,baz=294,slow=43
CPUP Villa Florida 22.21 128 *e*P **P 22 59 27.3 +0.3**
CPUP LR LR
comp=Z,3µm,19.0s,MS4.8
SDV Santo Domingo 22.87 15 P **P 22 59 34.3 +0.4**
comp=Z,298nm,0.9s,mb5.7,baz=235,slow=5.9,SNR=188
SDV S **S 23 03 40.3 -1.4**
comp=Z,27nm,0.8s,baz=261,slow=21,SNR=1.9
SDV Santo Domingo 22.87 15 *e*P **P 22 59 33.8 -0.2**
SDV LR LR
comp=Z,12µm,19.0s,MS5.3
PCRV Puerto La Cruz 26.21 28 P **P 23 00 05.3 +0.1**
comp=Z,88nm,0.8s,mb5.3,baz=178,slow=3.0,SNR=17
PCRV S **S 23 04 48.0 +13**
comp=Z,16nm,1.0s,baz=157,slow=19,SNR=1.6
PCRV LR LR 23 11 24.2
comp=Z,50µm,18.3s,MS6.1,baz=80,slow=39
TRQA Tornquist 27.83 155 *e*P **P 23 00 17.3 -2.5**
TRQA LR LR
comp=Z,8µm,22.0s,MS5.2
TRN Trinidad (W) 28.20 33 *e*P **P 23 00 30.0 +6.9**
TPR Prospect 28.99 33 *e*P **P 23 00 32.1 +2.1**
TGUH Tegucigalpa,Un 29.21 338 *e*P **P 23 00 32.3 +0.3**
comp=Z,96nm,0.8s,mb5.6
GRW Mount Saint Ca 29.35 31 *e*P **P 23 00 34.0 +0.8**
FCV Fort Charlotte 30.41 31 *e*P **P 23 00 46.0 +3.4**
SVB Belmont 30.50 30 *e*P **P 23 00 42.4 -1.1**
SSV Crater Summit 30.58 31 *e*P **P 23 00 42.7 -1.4**
BBGH Gun Hill 31.27 33 *e*P **P 23 00 53.5 +3.3**
comp=Z,619nm,0.9s,mb6.4
BIM Bigot 31.66 30 *e*P **P 23 00 52.0 -1.7**
MVM Montagne Vaucl 31.78 30 *e*P **P 23 00 52.4 -2.3**
FDF Fort de France 31.81 29 *e*P **P 23 00 53.4 -1.6**
MPR Mayaguez 32.71 17 *e*P **P 23 01 03.1 +0.2**
CPD Cerro la Pandu 32.91 19 *e*P **P 23 01 04.2 -0.5**
HUMP Col San Antoni 33.03 19 *e*P **P 23 01 05.1 -0.6**
MTP Monte Pirata 33.09 19 *e*P **P 23 01 05.6 -0.6**
CBYP Canovanas 33.15 19 *e*P **P 23 01 06.0 -0.8**
LMGC Las Mercedes 33.20 359 *e*P **P 23 01 00.0 -7.2**
BPA Boggy Peak 33.52 26 *e*P **P 23 01 08.3 -1.6**
RPN Rapa Nui 33.52 241 LR LR 23 10 54.2
comp=Z,11µm,21.5s,MS5.5,baz=86,slow=30
RPN Rapa Nui 33.52 241 PFAKE 23 01 20.0 +10
RPN LR LR
comp=Z,2µm,19.0s,MS4.9
MOAC Moa 33.83 3 *e*P **P 23 01 11.2 -1.4**
HLGC Holguin 34.02 1 *e*P **P 23 01 16.1 +1.8**
CPB Codrington 34.06 26 *e*P **P 23 01 09.6 -5.1**
CAM3 Guarapari 35.20 107⇑*e*P **P 23 01 23.9 -0.6**
CAM3 *i* 23 01 26.2
CAM3 *i* 23 01 30.1
CAM3 *i* 23 01 38.5
CAM3 *i* 23 01 39.2
CAM3 *i* 23 01 46.6
CMIG Matias Romero 35.23 329 P **P 23 01 24.9 +0.2**
comp=Z,18nm,0.8s,mb5.1,baz=120,slow=4.9,SNR=41
CMIG LR LR 23 14 34.1
comp=Z,7µm,19.0s,MS5.4,baz=134,slow=34
TEIG Tepich 35.29 341 *e*P **P 23 01 25.3 +0.1**
comp=Z,130nm,1.2s,mb5.7
TEIG LR LR
comp=Z,7µm,21.0s,MS5.4
MGV Manicaragua 35.39 355 *e*P **P 23 01 28.0 +1.9**
VHO Vista Hermosa 36.18 326 *i*S **P 23 01 33.9 +1.0**
PLIG Platanillo 38.79 324 *i*P **P 23 01 55.5 +0.5**
PPM Popocatepetl 38.84 326 *i*P **P 23 01 57.0 +1.6**
EFI East Falkland 41.05 162 *e*P **P 23 02 11.6 -2.2**
EFI pmax pmax
comp=Z,152nm,1.3s,mb5.5
EFI MLR MLR
comp=Z,1µm,21.0s,MS4.8
EFI East Falkland 41.05 162 *e*P **P 23 02 11.6 -2.1**
comp=Z,152nm,1.3s,mb5.5
EFI LR LR
comp=Z,1µm,21.0s,MS4.8
DWPF Disney 41.48 354 P **P 23 02 18.1 +0.8**
DWPF LR LR
comp=Z,1µm,19.0s,MS4.8
USHA Ushuaia 41.88 173 P **P 23 02 20.0 -0.5**
comp=Z,60nm,0.9s,mb5.2,baz=320,slow=4.9,SNR=19
SFJM Santa Fe 42.50 322 *i*P **P 23 02 26.2 +0.5**
COW Cow Castle Cre 46.63 355 *e*P **P 23 02 58.0 -0.6**
BBSR BB Station 46.86 14 *e*P **P 23 02 59.9 -0.5**
BBSR LR LR
comp=Z,3µm,20.0s,MS5.3
HKT Hockley 46.87 337 P **P 23 03 03.7 +3.2**
NATX Nacogdoches 48.08 339 *e*P **P 23 03 10.7 +0.8**
NATX *e*pP pP 23 03 18.5 -0.3
NATX LR LR
comp=Z,4µm,20.0s,MS5.4
CNNC Cliffs of the 48.33 359 *e*P **P 23 03 12.1 +0.3**
comp=Z,26nm,0.4s,mb5.6
CNNC *e* pP 23 03 21.5 +0.7
JCT Junction City 48.97 333 *e*P **P 23 03 17.0 +0.3**
JCT pmax pmax
comp=Z,23nm,0.8s,mb5.3
JCT MLR MLR
comp=Z,2µm,22.0s,MS5.0
JCT Junction City 48.97 333 *e*P **P 23 03 17.0 +0.3**
comp=Z,23nm,0.8s,mb5.2
JCT LR LR
comp=Z,2µm,22.0s,MS5.0
SWET Sewanee 49.10 350 *e*P **P 23 03 16.5 -1.2**
CPCT Cooper Cave 49.11 351 *e*P **P 23 03 17.2 -0.5**
OXF Oxford 49.13 346 *e*P **P 23 03 17.4 -0.5**
OXF pmax pmax
comp=Z,43nm,0.9s,mb5.5
OXF MLR MLR
comp=Z,3µm,21.0s,MS5.3
OXF Oxford 49.13 346 *e*P **P 23 03 17.4 -0.6**
comp=Z,43nm,0.9s,mb5.5
OXF LR LR
comp=Z,3µm,21.0s,MS5.3
TKL Tuckaleechee C 49.21 352 P **P 23 03 17.9 -0.6**
comp=Z,8.4nm,0.8s,mb4.8,baz=166,slow=11,SNR=10
PLAL Pickwick Lake 49.28 348 *e*P **P 23 03 18.2 -0.9**
comp=Z,27nm,0.9s,mb5.3
PLAL LR LR
comp=Z,4µm,20.0s,MS5.4
LPIG La Paz 49.70 318 LR LR 23 20 00.6
comp=Z,3µm,19.9s,MS5.3,baz=180,slow=31
TXAR Lajitas Array 49.84 329 P **P 23 03 22.5 -0.8**
comp=Z,9.9nm,0.8s,mb4.9,baz=147,slow=8.3,SNR=58
TXAR LR LR 23 23 21.3
comp=Z,6µm,18.6s,MS5.7,baz=70,slow=35
TXAR Lajitas Array 49.84 329 P **P 23 03 22.5 -0.8**
TXAR LR LR 23 23 21.3
TZTN Tazewell 50.05 353 *e*P **P 23 03 23.6 -1.4**
UALR University of 50.14 343 *e*P **P 23 03 24.8 -0.8**
comp=Z,69nm,1.1s,mb5.6
WVT Waverly 50.34 348 *e*P **P 23 03 29.7 +2.6**
WVT MLR MLR
comp=Z,3µm,22.0s,MS5.3
BLA Blacksburg 50.41 356 *e*P **P 23 03 27.4 -0.3**
BLA *e* pP 23 03 37.9 +1.2
BLA pmax pmax
comp=Z,35nm,0.8s,mb5.4
BLA MLR MLR
comp=Z,8µm,21.0s,MS5.7
BLA Blacksburg 50.41 356 *e*P **P 23 03 27.4 -0.3**
comp=Z,36nm,0.8s,mb5.5
BLA *e* pP 23 03 37.9 +1.2
BLA LR LR
comp=Z,8µm,21.0s,MS5.7
CBN Corbin 51.28 359 *e*P **P 23 03 34.4 +0.2**
CBN LR LR
comp=Z,6µm,19.0s,MS5.6

HOPE Hope Point 51.51 151 *e*P **P 23 03 36.4 +0.4**
HOPE LR LR
comp=Z,1µm,19.0s,MS5.0
USIN University of 52.09 349 *e*P **P 23 03 38.8 -1.4**
comp=Z,69nm,0.8s,mb5.6
PMSA Palmer Station 52.09 173 P **P 23 03 39.2 -1.1**
comp=Z,68nm,0.9s,mb5.5,baz=331,slow=8.1,SNR=6.1
WCI Wyandotte Cave 52.10 350 *e*P **P 23 03 37.5 -2.9**
WCI *e**PP pP 23 03 48.3 -1.1
WCI pmax pmax
comp=Z,39nm,0.6s,mb5.5
WCI MLR MLR
comp=Z,818nm,19.0s,MS4.8
WCI Wyandotte Cave 52.10 350 *e*P **P 23 03 37.5 -2.9**
comp=Z,39nm,0.6s,mb5.5
WCI *e*pP pP 23 03 48.3 -1.1
WCI LR LR
comp=Z,818nm,19.0s,MS4.8
SIUC Southern Illin 52.16 347 *e*P **P 23 03 39.1 -1.7**
WMOK Wichita Mounta 52.26 337 *e*P **P 23 03 40.9 -0.6**
WMOK MLR MLR
comp=Z,2µm,22.0s,MS5.0
GDL2 Guadalupe Moun 52.52 330 *e*pP pP 23 03 52.0 -0.5
MNTX Cornudas Mount 52.61 329 *e*P **P 23 03 43.1 -1.0**
comp=Z,53nm,1.3s,mb5.3
MNTX LR LR
comp=Z,4µm,21.0s,MS5.4
MCWV Mont Chateau 52.81 357 *e*P **P 23 03 44.6 -1.0**
comp=Z,60nm,0.8s,mb5.6
MCWV *e*pP pP 23 03 53.3 -1.4
BLO Bloomington 53.06 350 *e*P **P 23 03 45.3 -2.2**
BLO pmax pmax
comp=Z,51nm,0.7s,mb5.6
BLO Bloomington 53.06 350 *e*P **P 23 03 45.3 -2.1**
comp=Z,51nm,0.7s,mb5.6
MVL Millersville 53.07 0 *e*P **P 23 03 47.5 0.0**
SLM Saint Louis 53.26 347 *e*P **P 23 03 47.9 -1.0**
SLM *e**PP pP 23 03 56.7 -1.3
SLM *e* 23 04 55.7
SLM pmax pmax
comp=Z,31nm,0.6s,mb5.4
SLM Saint Louis 53.26 347 *e*P **P 23 03 47.9 -1.1**
comp=Z,31nm,0.6s,mb5.4
SLM *e*pP pP 23 03 56.7 -1.3
SLM *e*PcP PcP 23 04 55.7 -0.8
AMTX Amarillo 53.55 334 *e*P **P 23 03 49.0 -2.1**
AMTX LR LR
comp=Z,4µm,22.5s,MS5.4
SSPA Standing Stone 53.72 359 *e*P **P 23 03 51.6 -0.6**
comp=Z,28nm,0.8s,mb5.2
SSPA LR LR
comp=Z,1µm,20.0s,MS5.0
BRNJ Basking Ridge 53.78 2 *e*P **P 23 03 53.9 +1.1**
CPNY Central Park 53.91 2 *e*P **P 23 03 54.2 +0.4**
PAL Palisades 54.13 3 *e*P **P 23 03 54.9 -0.4**
PAL pmax pmax
comp=Z,46nm,0.9s,mb5.4
PAL Palisades 54.13 3 *e*P **P 23 03 54.9 -0.4**
comp=Z,46nm,0.9s,mb5.4
HDIL Hopedale 54.91 348 *e*P **P 23 04 02.5 +1.5**
HDIL LR LR
comp=Z,2µm,19.7s,MS5.2
BNM Barren Site 55.20 330 *e*P **P 23 04 03.8 +0.7**
BINY Binghamton 55.27 1 *e*P **P 23 04 03.1 -0.5**
BINY LR LR
comp=Z,5µm,22.0s,MS5.6
LPM Los Pinos Moun 55.34 330 *e*P **P 23 04 05.5 +1.5**
LENM Lemitar 55.39 329 *e*P **P 23 04 06.5 +2.1**
KSU1 Kansas State U 55.42 341 *e*P **P 23 04 02.8 -1.8**
comp=Z,41nm,0.8s,mb5.5
KSU1 *e*pP pP 23 04 13.3 -0.5
QUA2 Belchertown 55.48 4 *e*P **P 23 04 04.6 -0.5**
comp=Z,62nm,0.9s,mb5.6
QUA2 *e* pP 23 04 14.8 +0.6
LAZ Ladron 55.66 329 *e*P **P 23 04 06.5 +0.1**
LAZ *e*pP pP 23 04 15.0 -0.4
WES Weston 55.66 5 *e*P **P 23 04 06.2 -0.2**
WES pmax pmax
comp=Z,64nm,1.0s,mb5.6
WES MLR MLR
comp=Z,4µm,20.0s,MS5.5
WES Weston 55.66 5 *e*P **P 23 04 06.2 -0.2**
comp=Z,64nm,1.0s,mb5.6
WES LR LR
comp=Z,4µm,20.0s,MS5.5
AAM Ann Arbor 55.75 354 *e*P **P 23 04 05.2 -1.8**
AAM pmax pmax
comp=Z,54nm,0.9s,mb5.6
AAM MLR MLR
comp=Z,7µm,22.0s,MS5.7
AAM Ann Arbor 55.75 354 *e*P **P 23 04 05.2 -1.8**
comp=Z,54nm,0.9s,mb5.6
AAM LR LR
comp=Z,7µm,22.0s,MS5.7
HRV Harvard--Oak R 55.77 5 *e*P **P 23 04 07.7 +0.6**
HRV MLR MLR
comp=Z,6µm,20.0s,MS5.7
ANMO Albuquerque 55.77 330 P **P 23 04 06.9 -0.3**
comp=Z,15nm,0.8s,mb5.0,baz=168,slow=8.2,SNR=36
ANMO Albuquerque 55.77 330 *e*P **P 23 04 06.7 -0.4**
ANMO Albuquerque 55.77 330 *e*P **P 23 04 06.6 -0.5**
comp=Z,38nm,1.0s,mb5.4
ANMO LR LR
comp=Z,3µm,21.0s,MS5.4
TUC Tucson 55.96 325 *e*P **P 23 04 08.0 -0.5**
TUC MLR MLR
comp=Z,5µm,21.0s,MS5.6
RKT Rikitea 55.99 251 *e*S **S 23 12 03.3 +8.3**
comp=Z,9µm,26.2s
RKT *e*SS SS 23 15 52.2 +11
comp=Z,2µm,27.2s
RKT *e*LQ 23 18 25.8
comp=Z,2µm,28.0s
RKT *e*LR LR 23 20 36.0
comp=Z,10µm,25.5s
CBKS Cedar Bluff 56.22 338 *e*P **P 23 04 16.8 +6.4**
CBKS MLR MLR
comp=Z,2µm,22.0s,MS5.1
CBKS Cedar Bluff 56.22 338 *e*pP pP 23 04 16.8 -2.7
CBKS LR LR
comp=Z,2µm,22.0s,MS5.1
ACCN Adirondack Com 56.52 3 *e*P **P 23 04 12.7 +0.2**
116A Eloy 56.67 324 ⇑P **P 23 04 14.0 +0.4**
baz=57
FFD Franklin Falls 56.72 4 *e*P **P 23 04 14.2 +0.2**
comp=Z,44nm,0.7s,mb5.6
FFD *e*pP pP 23 04 22.6 -0.4
HNH Hanover 56.91 4 *e*P **P 23 04 15.7 +0.5**
115A Sonoran Desert 57.07 324 ⇓P **P 23 04 16.7 +0.3**
baz=57
SCIA State Center 57.07 345 *e*P **P 23 04 14.4 -2.0**
comp=Z,64nm,1.0s,mb5.6
NCB Newcomb 57.08 2 *e*P **P 23 04 15.7 -0.7**
comp=Z,45nm,1.0s,mb5.5
NCB LR LR
comp=Z,3µm,21.0s,MS5.4
JFWS Jewell Farm 57.37 348 *e*P **P 23 04 16.8 -1.7**
JFWS MLR MLR
comp=Z,4µm,21.0s,MS5.5
LBNH Lisbon 57.46 4 *e*P **P 23 04 19.5 +0.3**
LBNH MLR MLR
comp=Z,5µm,21.0s,MS5.6
SDCO Great Sand Dun 57.61 333 *e*P **P 23 04 19.3 -0.9**
comp=Z,35nm,0.8s,mb5.5
SDCO *e*pP pP 23 04 28.3 -1.1
SDCO LR LR
comp=Z,4µm,19.0s,MS5.5
LONY Lake Ozonia 57.72 2 *e*P **P 23 04 20.2 -0.8**
Z14A Wintersburg 57.96 324 ⇑P **P 23 04 22.7 0.0**
baz=58
FRNY Flat Rock 57.97 3 *e*P **P 23 04 22.2 -0.5**
MSNY Massena 58.09 1 *e*P **P 23 04 23.4 -0.2**
X15A Humboldt 58.39 326 P **P 23 04 25.8 +0.1**
baz=59,SNR=8.4
Y14A Wickenburg 58.41 325 ⇓P **P 23 04 26.4 +0.5**
baz=59,SNR=8.0
MVCO Mesa Verde 58.56 330 *e*P **P 23 04 26.5 -0.4**
comp=Z,33nm,1.0s,mb5.3
MVCO *e*pP pP 23 04 34.5 -1.5
WUAZ Wupatki 58.70 327 *e*P **P 23 04 28.3 +0.4**
comp=Z,46nm,1.0s,mb5.5
WUAZ LR LR
comp=Z,6µm,19.0s,MS5.7
PKME Peaks-Kenny Pk 58.70 6 *e*P **P 23 04 27.9 0.0**
comp=Z,66nm,0.9s,mb5.7
X14A Yava 58.74 325 P **P 23 04 28.2 +0.1**

baz=59,SNR=20
Y13A Salome 58.79 324 ⇑P **P 23 04 29.0 +0.5**
baz=59,SNR=6.3
GLA Glamis 58.83 323 *e*P pP 23 04 38.3 +0.4
GLA Glamis 58.83 323 *e*pP pP 23 04 38.3 +0.4
GLA Glamis 58.83 323 ⇓P **P 23 04 29.1 +0.4**
baz=59
W15A Williams 58.92 326 ⇓P **P 23 04 29.9 +0.4**
baz=59
Y12C Blythe 59.15 323 ⇓P **P 23 04 31.4 +0.5**
baz=59
PDMCI Parker Dam,Lak 59.32 324 ⇑P **P 23 04 32.4 +0.2**
baz=60
PV01 Paradox Valley 59.33 331 *e*P **P 23 04 32.0 -0.2**
PV01 *e*pP pP 23 04 40.2 -1.2
X13A Yucca 59.36 325 ⇑P **P 23 04 32.5 +0.1**
baz=60,SNR=7.7
W14A Seligman 59.40 326 P **P 23 04 33.3 +0.6**
baz=60,SNR=10
SMCO Snowmass 59.45 333 *e*P **P 23 04 33.1 +0.1**
comp=Z,51nm,1.1s,mb5.5
BC3 Big Chuckw Mtn 59.62 323 ⇓P **P 23 04 34.5 +0.3**
baz=60
MONP Monument Peak 59.67 321 ⇑P **P 23 04 35.0 +0.4**
baz=60
ECSD EROS,Sioux Fal 59.67 343 *e*P **P 23 04 32.7 -1.9**
comp=Z,39nm,0.9s,mb5.4
ECSD *e*pP pP 23 04 42.8 -1.0
PV10 Paradox Valley 59.75 331 *e*P **P 23 04 34.1 -1.0**
PV10 *e*pP pP 23 04 42.4 -1.8
PV10 *e*sP sP 23 04 46.1 -1.6
W13A Hualapai Mount 59.76 325 P **P 23 04 35.8 +0.6**
baz=60,SNR=12
IRM Iron Mountain 59.80 323 ⇑P **P 23 04 35.8 +0.3**
baz=60,SNR=14
PFO Pinyon Flat Ob 60.19 322 *e*P **P 23 04 39.3 +1.2**
PFO pmax pmax
comp=Z,26nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,1µm,19.0s,MS5.0
PFO Pinyon Flat Ob 60.19 322 *e*P **P 23 04 39.3 +1.2**
comp=Z,26nm,1.1s,mb5.2
PFO LR LR
comp=Z,1µm,19.0s,MS5.0
PFO Pinyon Flat Ob 60.19 322 ⇑P **P 23 04 38.5 +0.4**
baz=60
BELC Belle Mtn. 60.19 323 ⇓P **P 23 04 38.5 +0.3**
baz=60
W12A Cal Nev Ari 60.46 324 ⇑P **P 23 04 40.4 +0.4**
baz=61
GMRC Granite Mounta 60.54 323 P **P 23 04 41.0 +0.5**
baz=61,SNR=16
PHWY Pilot Hill 60.56 335 P **P 23 04 41.2 +0.5**
PHWY *e*S **S 23 13 02.7 +8.0**
MURC Murrieta 60.63 321 ⇓P **P 23 04 41.5 +0.3**
baz=61
V12A Nelson 60.76 325 ⇓P **P 23 04 42.1 +0.1**
baz=61
HEC Hector,Ludlow 60.97 323 ⇓P **P 23 04 44.1 +0.7**
baz=61
SRU San Rafael 61.04 330 *e*P **P 23 04 43.7 -0.2**
SCI San Clemente I 61.04 320 ⇓P **P 23 04 44.3 +0.4**
baz=61
U12A Valley of Fire 61.09 325 ⇑P **P 23 04 44.7 +0.4**
baz=61
TUQ Turquoise Mtn. 61.16 324 ⇑P **P 23 04 45.1 +0.4**
baz=61
CIS Catalina Islan 61.24 320 ⇑P **P 23 04 45.4 +0.1**
baz=61
ASCN Ascension 61.27 92 *e*P **P 23 04 44.2 -1.3**
ASCN *e*PP PP 23 07 04.7 +4.2
ASCN *e*S S 23 13 31.4 +28
ASCN LR LR
comp=Z,3µm,20.0s,MS5.4
CCUT Cedar City 61.28 327 *e*P **P 23 04 45.6 +0.1**
CCUT *e*pP pP 23 04 53.4 -1.4
CCUT *e*PcP PcP 23 05 28.0 +0.1
BFSC Mount Baldy St 61.35 322 P **P 23 04 46.3 +0.3**
baz=62,SNR=6.3
MSU Marysvale 61.40 329 *e*P **P 23 04 46.8 +0.5**
SHPR Sheep Range 61.49 325 *e*P **P 23 04 47.6 +0.7**
ARUT Antelope Range 61.50 327 P **P 23 04 48.2 +1.2**
ARUT Antelope Range 61.50 327 *e*P **P 23 04 47.2 +0.2**
TMUT Trail Mountain 61.52 330 *e*P **P 23 04 42.4 -4.8**
GSC Goldstone 61.57 323 *e*P **P 23 04 47.9 +0.4**
GSC Goldstone 61.57 323 ⇑P **P 23 04 47.8 +0.3**
baz=62
MWC Mount Wilson 61.58 321 *e*P **P 23 04 48.4 +0.8**
TRIS Tristan da Cun 61.60 125 *e*P **P 23 04 49.1 +1.4**
TRIS *e*PP PP 23 07 15.0 +12
TRIS *e*S **S 23 13 24.8 +17**
TRIS LR LR
comp=Z,6µm,20.0s,MS5.7
RWWY Rawlins 61.61 334 *e*P **P 23 04 47.4 -0.4**
comp=Z,111nm,1.5s,mb5.8
RWWY *e*pP pP 23 04 55.6 -1.4
SHOC Shoshone 61.69 324 ⇓P **P 23 04 48.9 +0.6**
baz=62
DECC Green Verdugo 61.76 321 ⇑P **P 23 04 49.1 +0.3**
baz=62
SNCC San Nicolas Is 61.83 320 *e*P **P 23 04 51.0 +1.7**
SNCC *e*S **S 23 13 15.3 +4.5**
SNCC LR LR
comp=Z,3µm,18.4s,MS5.5
EDW2 Edwards Air Fo 61.98 322 P **P 23 04 50.3 0.0**
baz=62,SNR=8.9
LRMC Laurel Mountai 62.22 323 ⇑P **P 23 04 52.0 +0.1**
baz=62
MPU Maple Canyon 62.28 330 *e*P **P 23 04 52.6 +0.3**
MPU LR LR
comp=Z,3µm,21.0s,MS5.5
TAOE Nuku Hiva Isla 62.39 267 *e*S **S 23 13 24.7 +6.9**
comp=Z,20µm,25.3s
TAOE *e*LR LR 23 23 32.1
comp=Z,43µm,25.3s
DAU Daniels Canyon 62.41 331 *e*P **P 23 04 53.8 +0.7**
RSSD Black Hills 62.42 338 P **P 23 04 55.2 +2.0**
RSSD MLR MLR
comp=Z,710nm,19.0s,MS4.8
FURC Furnace Creek, 62.42 324 ⇓P **P 23 04 53.4 +0.2**
baz=63
EYMN Ely 62.45 349 *e*P **P 23 04 51.6 -1.8**
EYMN LR LR
comp=Z,4µm,20.0s,MS5.6
NLU North Lily Min 62.45 330 *e*P **P 23 04 54.5 +1.1**
MPMC Manual Prospec 62.50 323 P **P 23 04 53.6 -0.1**
baz=63,SNR=9.2
DAC Darwin (Calif) 62.71 323 *e*P **P 23 04 55.1 -0.1**
DAC MLR MLR
comp=Z,4µm,22.0s,MS5.6
ISA Isabella 62.81 322 *e*P **P 23 04 56.4 +0.6**
ISA MLR MLR
comp=Z,498nm,20.0s,MS4.7
ISA Isabella 62.81 322 P **P 23 04 56.5 +0.7**
baz=63,SNR=11
DUG Dugway 63.00 329 *e*P **P 23 04 56.9 -0.2**
DUG pmax pmax
comp=Z,40nm,1.0s,mb5.5
DUG MLR MLR
comp=Z,7µm,19.0s,MS5.8
DUG Dugway 63.00 329 *e*P **P 23 04 56.9 -0.1**
comp=Z,40nm,1.0s,mb5.5
DUG LR LR
comp=Z,7µm,19.0s,MS5.8
TCUT Toone Canyon 63.03 331 *e*P **P 23 04 57.7 +0.4**
TRCR Troy Canyon 63.06 326 *e*P **P 23 04 57.5 0.0**
TRCR *e*pP pP 23 05 05.5 -1.2
GRAC Grapevine Rang 63.09 324 ⇑P **P 23 04 58.2 +0.5**
baz=63
PKM Peak Mountain 63.10 321 P **P 23 04 58.1 +0.3**
baz=63,SNR=8.1
CWC Cottonwood Cre 63.11 323 P **P 23 04 58.1 +0.3**
baz=63,SNR=7.9
Q12A Willow Creek R 63.16 327 P **P 23 04 58.4 +0.3**
baz=63,SNR=7.4
VES Vestal, Richgr 63.29 322 ⇑P **P 23 04 59.4 +0.4**
baz=64
R10A Warm Springs 63.40 326 ⇓P **P 23 05 00.4 +0.7**
baz=64
Q11A Duckwater 63.45 327 ⇓P **P 23 05 00.5 +0.4**
baz=64
HWUT Hardware Ranch 63.49 331 *e*P **P 23 04 59.7 -0.6**
comp=Z,40nm,0.8s,mb5.6
HWUT LR LR
comp=Z,5µm,20.0s,MS5.7
SMMC Simmler 63.49 321 ⇓P **P 23 05 00.8 +0.5**

baz=64
PDAR Pinedale Array 63.50 333 P P 23 04 59.1 -1.3
comp=Z,6.6nm,0.8s,mb4.7,baz=152,slow=6.7,SNR=16
PDAR LR LR 23 32 32.4
comp=Z,4µm,21.0s,MS5.6,baz=144,slow=36
BW06 Boulder Array 63.50 333 P P 23 05 04.3 +3.9
BW06 S S 23 13 33.6 +1.9
BW06 LR LR
comp=Z,4µm,16.7s,MS5.7
S09A Goldfield 63.51 325 ⇑P P 23 05 00.9 +0.4
baz=64
P12A McGill 63.52 328 P P 23 05 00.7 +0.1
baz=64,SNR=32
BGU Big Grassy Mou 63.66 330 *e*P **P 23 05 00.8 -0.7**
BGU *e*pP pP 23 05 08.5 -2.2
BGU *e*PP PP 23 07 20.5 -1.1
SPUT South Promonto 63.67 331 *e*P **P 23 04 59.3 -2.2**
AGMN Agassiz Refuge 63.72 346 *e*P **P 23 05 00.3 -1.5**
comp=Z,92nm,0.9s,mb5.8
AGMN *e*pP pP 23 05 10.3 -0.8
AGMN *e*PcP PcP 23 05 36.9 -0.9
TPH Tonopah 63.76 325 *e*P **P 23 05 03.3 +1.2**
comp=Z,32nm,1.0s
TPH LR LR
comp=Z,41527µm,21.0s
R09A Tonopah 63.79 325 ⇓P P 23 05 02.9 +0.6
baz=64
HELL Mitchell Peak, 63.82 323 P P 23 05 02.4 -0.2
baz=64,SNR=9.3
S08C White Mtn Res 63.89 324 ⇓P P 23 05 03.3 +0.3
baz=64,SNR=8.0
MTUM Tungsten Hills 64.02 324 *e*P **P 23 05 03.8 0.0**
O12A Currie 64.02 328 P P 23 05 03.8 0.0
baz=64,SNR=15
AHID Auburn Hatcher 64.18 332 *e*P **P 23 05 04.1 -0.8**
comp=Z,22nm,0.9s,mb5.2
AHID LR LR
comp=Z,6µm,19.0s,MS5.8
N13A Wendover, West 64.19 329 ⇓P P 23 05 05.2 +0.3
baz=64
HVU Hansel Valley 64.19 331 *e*P **P 23 05 04.5 -0.5**
V04C Ramage Ranch, 64.24 321 ⇑P P 23 05 04.7 -0.5
baz=64
PKD Parkfield 64.24 321 ⇑P P 23 05 05.2 -0.1
baz=64
MLAC Mammoth Lakes 64.36 324 ⇑P P 23 05 06.2 +0.1
baz=65
O11A Cowboy Ranch, 64.39 328 ⇑P P 23 05 06.2 -0.1
baz=65
KCC Kaiser Creek 64.44 323 ⇑P P 23 05 06.4 -0.1
baz=65
R08A Mina 64.45 325 ⇓P P 23 05 06.2 -0.4
baz=65
P10A Eureka 64.45 327 ⇑P P 23 05 06.4 -0.2
baz=65
T06C Millerton Lake 64.45 323 ⇑P P 23 05 06.5 -0.1
baz=65
REDW Red Top Meadow 64.55 333 *e*P **P 23 05 07.6 +0.3**
M13A Montello 64.55 329 ⇓P P 23 05 06.8 -0.5
baz=65
SNOW Snow King Moun 64.58 333 *e*P **P 23 05 09.1 +1.5**
comp=Z,29nm,1.0s,mb5.3
N12A Clover Valley, 64.61 329 ⇓P P 23 05 07.2 -0.4
baz=65
NVAR Mina Array Bea 64.61 325 P P 23 05 08.4 +0.7
comp=Z,3.2nm,0.4s,mb4.7,baz=156,slow=5.0,SNR=18
NVAR PKP2bc 23 33 59.6
comp=Z,0.8nm,0.8s,baz=340,slow=1.3,SNR=5.5
NVAR Mina Array Bea 64.61 325 P P 23 05 08.4 +0.7
NVAR ⇑*e* 23 33 59.6
LOHW Long Hollow 64.64 333 *e*P **P 23 05 07.8 -0.1**
TPAW Teton Pass 64.69 333 *e*P **P 23 05 08.2 0.0**
comp=Z,48nm,1.2s,mb5.4
V03C Hunter Liggett 64.72 321 ⇓P P 23 05 07.9 -0.5
baz=65
RRI2 Red Ridge 64.74 333 *e*P **P 23 05 08.0 -0.5**
R07C Lee Vining 64.80 324 ⇓P P 23 05 09.2 +0.3
baz=65,SNR=10
MOOW Moose Ponds 64.81 333 *e*P **P 23 05 09.1 +0.1**
DCID1 Drake Creek 64.88 333 *e*P **P 23 05 10.1 +0.7**
O10A Cortez Mining, 64.95 327 ⇑P P 23 05 09.9 0.0
baz=65
M12A Wells 64.96 329 ⇑P P 23 05 09.7 -0.2
baz=65,SNR=8.9
IMW Indian Meadow 65.01 333 *e*P **P 23 05 09.9 -0.4**
comp=Z,33nm,0.9s,mb5.4
S05C Merced 65.04 323 ⇓P P 23 05 10.4 -0.1
baz=65
FLWY Flagg Ranch 65.05 334 *e*P **P 23 05 10.5 0.0**
S06C San Francisco 65.12 323 P P 23 05 11.2 +0.2
baz=65,SNR=11
HAST UC Hastings Re 65.15 321 ⇓P P 23 05 11.1 -0.1
baz=65
O09A Fish Creek Ran 65.23 327 ⇑P P 23 05 11.7 0.0
baz=66
RLMT Red Lodge 65.29 335 *e*P **P 23 05 14.9 +2.8**
RLMT *e*S S 23 13 59.3 +5.5
RLMT LR LR
comp=Z,3µm,19.5s,MS5.4
WAKR Walker 65.31 324 *e*P **P 23 05 08.2 -4.0**
R06C Coleville 65.33 324 ⇓P P 23 05 12.8 +0.4
baz=66
SAO San Andreas Ge 65.33 321 *e*P **P 23 05 18.8 +6.4**
SAO *e*S S 23 13 57.0 +2.7
SAO MLR MLR
comp=Z,2µm,24.3s,MS5.3
P08A Dixie Valley 65.38 326 ⇓P P 23 05 13.1 +0.5
baz=66
PACP Pacheco Peak 65.39 322 ⇓P P 23 05 13.1 +0.4
baz=66
YFT Old Faithful 65.41 334 *e*P **P 23 05 16.2 +3.4**
LAO LASA Array 65.41 338 *e*P **P 23 05 06.3 -6.6**
LAO *e*S S 23 14 02.1 +6.8
LAO LR LR
comp=Z,3µm,21.0s,MS5.5
M11A Holland Ranch, 65.42 328 ⇓P P 23 05 13.1 +0.2
baz=66
CMB Columbia Colle 65.54 323 *e*P **P 23 05 14.3 +0.6**
CMB pmax pmax
comp=Z,24nm,1.1s,mb5.1
CMB MLR MLR
comp=Z,2µm,19.0s,MS5.4
CMB Columbia Colle 65.54 323 *e*P **P 23 05 14.3 +0.6**
comp=Z,24nm,1.1s,mb5.1
CMB LR LR
comp=Z,2µm,19.0s,MS5.4
CMB Columbia Colle 65.54 323 ⇓P P 23 05 14.1 +0.4
baz=66
ULM Lac du Bonnet 65.55 347 P P 23 05 12.0 -1.8
comp=Z,100nm,0.8s,mb5.9,baz=160,slow=6.2,SNR=111
YNR Norris Junctio 65.55 334 *e*P **P 23 05 15.4 +1.6**
YMR Madison River 65.64 334 *e*P **P 23 05 14.5 +0.1**
comp=Z,15nm,0.7s,mb5.1
YMR *e*pP pP 23 05 22.8 -0.8
YMR LR LR
comp=Z,3µm,19.0s,MS5.4
R05C Kirkwood Meado 65.81 324 ⇓P P 23 05 15.7 +0.2
baz=66
M10A I.L. Ranch, Tu 65.87 328 ⇑P P 23 05 16.1 +0.2
baz=66
N09A Rock Creek Ran 65.90 327 ⇓P P 23 05 16.3 +0.2
baz=66
QLMT Earthquake Lak 65.96 334 *e*P **P 23 05 17.0 +0.5**
R04C Big Horse Ranc 66.01 323 ⇓P P 23 05 17.1 +0.3
baz=66
WCN Washoe City 66.04 324 ⇑P P 23 05 17.3 +0.3
baz=66
PAHR Pah Rah Range 66.11 325 *e*P **P 23 05 17.5 +0.2**
O07A Toulon 66.14 326 P P 23 05 17.5 -0.1
baz=66,SNR=21
N08A GE Springer Mi 66.17 327 ⇑P P 23 05 17.6 -0.2
baz=66
LAVA Lava Cap Winer 66.23 323 ⇑P P 23 05 17.9 -0.3
baz=66
DGMT Dagmar 66.24 340 *e*P **P 23 05 18.4 +0.2**
DGMT LR LR
comp=Z,2µm,19.0s,MS5.3
M09A Marrel Ranch, 66.27 327 ⇑P P 23 05 18.0 -0.4
baz=66
HLID Hailey 66.33 331 *e*P **P 23 05 18.9 +0.1**
HLID LR LR
comp=Z,3µm,22.0s,MS5.5
BDM Black Diamond 66.36 322 ⇑P P 23 05 19.2 +0.2
baz=67
MCMT McKenzie Canyo 66.59 333 *e*P **P 23 05 20.2 -0.2**
MCMT *e*pP pP 23 05 28.0 -1.7

N07B Gerlach 66.62 326 ⇓P P 23 05 20.7 0.0
baz=67,SNR=11
BOZ Bozeman (W) 66.70 334 *e*P **P 23 05 20.5 -0.7**
BOZ MLR MLR
comp=Z,3µm,20.0s,MS5.5
BEKR Beckwourth 66.76 325 P P 23 05 21.5 0.0
baz=67,SNR=11
L09A Wilkinson Ranc 66.81 328 ⇓P P 23 05 21.9 0.0
baz=67
DLMT Dillon 66.89 333 *e*P **P 23 05 22.1 -0.2**
comp=Z,34nm,1.1s,mb5.3
Q03C Winters 66.89 323 ⇓P P 23 05 22.7 +0.3
baz=67
CVS Carmenet Viney 66.97 322 ⇓P P 23 05 23.1 +0.2
baz=67
OHCM Honcut 67.05 324 *e*P **P 23 05 24.1 +0.8**
N06A Buffalo Meadow 67.07 326 P P 23 05 23.4 -0.2
baz=67,SNR=24
MCCM Marconi Confer 67.09 322 *e*P **P 23 05 21.1 -2.6**
MCCM *e*S S 23 13 57.2 -19
MCCM LR LR
comp=Z,2µm,22.4s,MS5.3
O05C Quincy 67.14 324 ⇓P P 23 05 24.3 +0.3
baz=67
SUTB Sutter Butte 67.15 323 ⇓P P 23 05 24.3 +0.3
baz=67
M07A Soldier Meadow 67.16 326 ⇓P P 23 05 23.7 -0.3
baz=67
LRM Limekiln Ridge 67.19 334 *e*P **P 23 05 24.2 -0.1**
ORV Oroville 67.20 324 ⇑P P 23 05 24.7 +0.3
baz=67
L08A Fields 67.28 328 ⇓P P 23 05 24.6 -0.3
baz=68
K09A Rome 67.33 328 ⇑P P 23 05 25.0 -0.1
baz=68,SNR=36
O04C Chester 67.48 325 ⇓P P 23 05 26.1 0.0
baz=68
ELFS Eagle Lake Fie 67.48 325 ⇑P P 23 05 26.4 +0.2
baz=68
F14A Wisdom 67.58 333 ⇓P P 23 05 27.3 +0.5
baz=68
WVOR Wild Horse Val 67.61 328 *e*P **P 23 05 36.6 +10**
WVOR *e*S S 23 14 09.6 -12
WVOR MLR MLR
comp=Z,3µm,18.4s,MS5.6
L07A Adell 67.69 327 ⇑P P 23 05 27.9 +0.5
baz=68
M06C Likely Place G 67.74 326 ⇑P P 23 05 28.0 +0.2
baz=68
K08A Mann Creek Ran 67.74 328 ⇓P P 23 05 27.7 -0.1
baz=68
E15A Deer Lodge 67.74 334 ⇑P P 23 05 27.5 -0.3
baz=68
HOPS Hopland 67.75 322 *e*P **P 23 05 27.7 -0.2**
HOPS *e*S S 23 14 26.1 +2.4
HOPS LR LR
comp=Z,3µm,18.9s,MS5.5
J09A Fry Pan Ranch, 67.81 329 ⇓P P 23 05 27.9 -0.3
baz=68
EGMT Eagleton 67.85 337 *e*P **P 23 05 29.2 +0.7**
comp=Z,44nm,1.0s,mb5.4
EGMT LR LR
comp=Z,4µm,19.0s,MS5.6
GASB Alder Springs 67.97 323 ⇓P P 23 05 29.2 -0.1
baz=68
F13A Darby 67.99 332 ⇓P P 23 05 29.2 -0.2
baz=68
HATC Hat Creek Radi 68.02 325 ⇓P P 23 05 29.5 0.0
baz=68
E14A Clinton 68.11 333 ⇓P P 23 05 30.2 +0.1
baz=68
K07A Rock Creek Ran 68.11 327 ⇑P P 23 05 30.2 +0.1
baz=68
MOD Modoc 68.12 326 *e*P **P 23 05 29.9 -0.2**
comp=Z,23nm,1.1s,mb5.1
MOD LR LR
comp=Z,2µm,19.0s,MS5.3
MOD Modoc 68.12 326 ⇓P P 23 05 30.3 +0.1
baz=68
J08A Circle Bar Ran 68.18 328 ⇓P P 23 05 30.5 -0.1
baz=68
P01C Double 8 Ranch 68.22 323 ⇓P P 23 05 30.7 -0.1
baz=68
I09A Lost Marbles R 68.25 329 ⇑P P 23 05 30.9 -0.1
baz=68
SHEL Horse Pasture 68.29 102 *e*P **P 23 05 33.1 +1.8**
SHEL *e*S sS 23 14 46.0 +0.6
SHEL LR LR
comp=Z,1µm,17.5s,MS5.2
O02C Red Bluff 68.36 323 ⇑P P 23 05 31.1 -0.5
baz=69
CHMT Chamberlain Mo 68.39 334 *e*P **P 23 05 32.1 +0.2**
SCHQ Schefferville 68.41 6 P P 23 05 31.1 -0.9
comp=Z,82nm,0.8s,mb5.8,baz=198,slow=4.3,SNR=46
SCHQ LR LR 23 35 43.9
comp=Z,2µm,19.3s,MS5.4,baz=194,slow=36
SCHQ Schefferville 68.41 6 *e*P **P 23 05 31.1 -0.9**
comp=Z,81nm,0.7s,mb5.9
SCHQ *e*pP pP 23 05 39.7 -1.6
SCHQ LR LR
comp=Z,8µm,22.0s,MS5.9
E13A Victor 68.43 333 P P 23 05 32.2 +0.1
baz=69,SNR=10
WDC Whiskeytown Da 68.48 324 *e*P **P 23 05 31.3 -1.1**
WDC pmax pmax
comp=Z,27nm,1.3s,mb5.1
WDC MLR MLR
comp=Z,2µm,22.0s,MS5.2
WDC Whiskeytown Da 68.48 324 *e*P **P 23 05 31.3 -1.1**
comp=Z,27nm,1.3s,mb5.1
WDC LR LR
comp=Z,2µm,22.0s,MS5.2
WDC Whiskeytown Da 68.48 324 ⇑P P 23 05 31.8 -0.6
baz=69
L05A Lakeview 68.51 326 ⇑P P 23 05 32.8 +0.2
baz=69
MSO Missoula 68.62 333 *e*P **P 23 05 32.9 -0.4**
MSO LR LR
comp=Z,2µm,22.0s,MS5.2
J07A Hines 68.62 328 ⇓P P 23 05 33.8 +0.5
baz=69
I08A Drewsey 68.62 329 ⇑P P 23 05 33.9 +0.6
baz=69
D14A Greenough 68.63 334 ⇑P P 23 05 33.5 +0.2
baz=69
BMO Blue Mountains 68.68 330 *e*P **P 23 05 36.1 +2.5**
BMO LR LR
comp=Z,5µm,20.0s,MS5.7
M03C McCloud 68.70 325 ⇓P P 23 05 33.7 0.0
baz=69
K06A Valley Falls 68.71 327 ⇑P P 23 05 33.9 0.0
baz=69
H09A Durkee 68.72 330 P P 23 05 33.6 -0.3
baz=69,SNR=6.5
M04C Macdoel 68.88 325 ⇑P P 23 05 34.7 -0.2
baz=69
J06A Christmas Vall 68.98 327 ⇑P P 23 05 35.7 +0.2
baz=69
K05A Summer Lake 69.01 327 ⇑P P 23 05 36.1 +0.4
baz=69
D13A Huson 69.05 333 ⇓P P 23 05 35.9 -0.1
baz=69
N02C Big Bar 69.08 324 ⇓P P 23 05 36.2 +0.1
baz=69
H08A Prairie City 69.11 329 ⇓P P 23 05 36.5 +0.2
baz=69
L04A Klamath Falls 69.17 326 ⇑P P 23 05 36.5 -0.2
baz=69
I07A Izee 69.22 328 ⇑P P 23 05 37.2 +0.2
baz=69
C14A Swan Lake 69.27 334 ⇑P P 23 05 37.3 0.0
baz=70
TBI Tubuai 69.27 250 *e*S S 23 14 49.0 +7.3
comp=Z,1µm,29.0s
TBI *e*LR LR 23 26 44.5
comp=Z,9µm,26.0s
YBH Yreka Blue Hor 69.33 325 *e*P **P 23 05 36.2 -1.5**
YBH MLR MLR
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 69.33 325 ⇑P P 23 05 37.2 -0.5
baz=70
KHMM Horse Mountain 69.36 324 *e*pP pP 23 05 45.2 -2.0
K04A Chilquin 69.38 326 ⇑P P 23 05 37.9 -0.1
baz=70
F10A Beach Ranch, E 69.47 331 ⇑P P 23 05 38.7 +0.1
baz=70
I06A Prineville 69.49 328 ⇓P P 23 05 38.8 +0.2

baz=70
C13A Hot Springs 69.55 334 ⇑P P 23 05 39.2 +0.2
baz=70
J05A Fort Rock 69.57 327 ⇑P P 23 05 39.3 +0.1
baz=70
F09A S2 Ranch, Elgi 69.60 330 P P 23 05 39.7 +0.4
baz=70,SNR=34
H07A Lands Inn, Kim 69.61 329 ⇑P P 23 05 39.2 -0.3
baz=70
BSMT Bassoo Peak 69.78 334 *e*P **P 23 05 40.2 -0.2**
G08A Pilot Rock 69.81 330 P P 23 05 40.3 -0.3
baz=70,SNR=43
C12A Trout Creek 69.97 333 ⇓P P 23 05 41.5 -0.1
baz=70
B13A Whitefish 70.04 334 ⇑P P 23 05 42.1 0.0
baz=70
HUMO Hull Mountain 70.05 325 *e*P **P 23 05 32.8 -9.4**
HUMO *e*S S 23 14 43.1 -7.8
HUMO LR LR
comp=Z,2µm,18.4s,MS5.4
F08A Pendleton 70.08 330 ⇓P P 23 05 42.0 -0.3
baz=70
PPT Papeete 70.09 256 *e*P **P 23 05 47.6 +5.2**
comp=Z,592nm,26.0s
PPT Papeete 70.09 256 *e*S S 23 14 58.4 +7.1
comp=Z,10µm,28.8s
PPT *e*LR LR 23 27 02.1
comp=Z,7µm,28.0s
PPT Papeete 70.09 256 LR LR 23 30 49.5
comp=Z,2µm,18.8s,MS5.4,baz=80,slow=31
PPT Papeete 70.09 256 *e*P **P 23 05 47.6 +5.2**
PPT *e*S S 23 14 58.4 +7.1
VNA3 Neumayer Olymp 70.10 162 ⇑*i*P **P 23 05 41.7 -0.7**
VNA3 *e* 23 05 43.8
VNA3 *e* 23 05 44.9
VNA3 *e* pP 23 05 49.0 -2.7
VNA3 *e* 23 05 52.7
VNA3 *e* 23 06 03.0
VNA3 *e* 23 08 15.8
H06A Lindquist Farm 70.10 328 ⇓P P 23 05 42.5 0.0
baz=70
L02A Cave Junction 70.11 325 ⇓P P 23 05 42.2 -0.3
baz=70
G07A Ruggs Ranch, H 70.14 329 ⇑P P 23 05 43.0 +0.3
baz=70
E09A Wood Farm, Sta 70.30 331 ⇑P P 23 05 43.4 -0.2
baz=70
WALA Waterton Lakes 70.34 335 *e*P **P 23 05 43.6 -0.3**
comp=Z,27nm,1.0s,mb5.1
VNA1 Neumayer--Stat 70.36 161 ⇑*i*P **P 23 05 43.8 -0.2**
VNA1 *e* 23 05 46.6
VNA1 *e* pP 23 05 51.8 -1.6
VNA1 *e* 23 05 54.7
VNA1 *e* 23 06 04.6
VNA1 *e* 23 08 20.2
A13A Flathead Natio 70.45 335 P P 23 05 44.8 +0.2
baz=71,SNR=5.5
K02A Glendale 70.45 325 ⇑P P 23 05 44.2 -0.4
baz=71
J03A Ideyld Park 70.56 326 ⇑P P 23 05 45.4 +0.1
baz=71
B12A Libby 70.59 334 ⇑P P 23 05 45.8 +0.3
baz=71
IRO Indian Ridge 70.60 327 P P 23 05 45.5 0.0
G06A Carlson Farm, 70.61 329 ⇑P P 23 05 45.7 +0.2
baz=71
F07A Phinny Hill Vi 70.72 329 ⇑P P 23 05 46.5 +0.3
baz=71
VNA2 Neumayer--Watz 70.72 161 ⇑*i*P **P 23 05 45.4 -0.8**
baz=294,slow=6.2
VNA2 *e* 23 05 48.6
VNA2 *e* pP 23 05 54.4 -1.1
VNA2 *e* 23 05 56.9
VNA2 *e* 23 08 14.3
VNA2 *e* 23 08 26.4
D09A Jones Farm, Ri 70.77 331 ⇓P P 23 05 46.6 0.0
baz=71
C10A Spilker Farm, 70.87 332 ⇑P P 23 05 47.3 +0.2
baz=71
HAWA Hanford 70.87 330 *e*P **P 23 05 47.1 -0.1**
BROR Big Rock Looko 70.89 327 P P 23 05 46.5 -0.8
J02A Umpqua 70.89 326 P P 23 05 47.4 +0.2
baz=71,SNR=6.7
B11A Sandpoint 70.91 333 ⇓P P 23 05 47.7 +0.3
baz=71
G05A Wamic 70.96 328 ⇓P P 23 05 48.3 +0.6
baz=71
A12A Yaak River Ran 70.98 334 P P 23 05 48.1 +0.3
baz=71,SNR=8.7
GBL Gable Mountain 70.99 330 P P 23 05 47.8 0.0
H04A Detroit Lake 71.03 327 ⇓P P 23 05 47.9 -0.2
baz=71
F06A Goldendale 71.05 329 ⇑P P 23 05 48.5 +0.2
baz=71,SNR=8.3
D08A Wollman Farm, 71.06 331 ⇓P P 23 05 48.5 +0.3
baz=71
NEW Newport 71.11 333 P P 23 05 47.9 -0.7
comp=Z,16nm,0.8s,mb5.0,baz=142,slow=6.5,SNR=23
NEW Newport 71.11 333 *e*P **P 23 05 48.0 -0.6**
NEW pmax pmax
comp=Z,23nm,0.9s
NEW MLR MLR
comp=Z,4µm,20.0s
NEW Newport 71.11 333 *e*P **P 23 05 48.0 -0.6**
comp=Z,23nm,0.9s,mb5.1
NEW LR LR
comp=Z,4µm,20.0s,MS5.6
I03A Eugene 71.13 326 ⇑P P 23 05 48.8 +0.1
baz=71
FFC Flin Flon 71.14 345 *e*P **P 23 05 47.2 -1.6**
FFC pmax pmax
comp=Z,35nm,0.9s,mb5.3
FFC MLR MLR
comp=Z,1µm,19.0s,MS5.2
FFC Flin Flon 71.14 345 *e*P **P 23 05 47.2 -1.6**
comp=Z,35nm,0.9s,mb5.3
FFC LR LR
comp=Z,1µm,19.0s,MS5.2
E07A Sunnyside 71.15 330 ⇓P P 23 05 48.9 0.0
baz=71
HOOD Mount Hood Mea 71.19 328 *e*P **P 23 05 50.2 +1.2**
OD2 Odessa Site #2 71.20 331 P P 23 05 49.0 -0.1
A11A Hall Mountain, 71.30 334 ⇑P P 23 05 50.0 +0.2
baz=72
F05A White Salmon 71.47 329 ⇓P P 23 05 50.9 +0.1
baz=72,SNR=6.5
G04A Mulino 71.53 328 ⇑P P 23 05 51.0 -0.1
baz=72
COR Corvallis 71.55 327 *e*P **P 23 05 52.9 +1.6**
COR *e*S S 23 15 14.9 +6.6
COR MLR MLR
comp=Z,715nm,15.1s,MS5.0
EPH Ephrata 71.59 331 P P 23 05 52.2 +0.7
H03A Soap Creek Ran 71.61 327 ⇓P P 23 05 51.6 0.0
baz=72
C08A Higginbotham F 71.64 331 ⇓P P 23 05 51.8 0.0
baz=72
D07A Quincy 71.66 330 ⇑P P 23 05 51.8 -0.1
baz=72
B09A Rice 71.69 332 ⇑P P 23 05 52.0 -0.1
baz=72,SNR=11
F04A Amboy 72.00 328 ⇓P P 23 05 54.0 +0.1
baz=72
WTV Waterville 72.01 331 P P 23 05 54.4 +0.4
G03A Yamhill 72.03 327 ⇓P P 23 05 54.1 0.0
baz=72
C07A Waterville 72.05 331 ⇑P P 23 05 54.3 +0.1
baz=72
D06A Cle Elum 72.08 330 ⇑P P 23 05 54.4 0.0
baz=72
LON Longmire 72.25 329 *e*P **P 23 05 54.8 -0.6**
A09A Danville 72.30 332 ⇑P P 23 05 55.7 0.0
baz=72,SNR=8.6
SNAA Sanae 72.32 161 ⇑*i*P **P 23 05 54.9 -1.0**
SNAA *e* 23 05 56.8
SNAA *e* pP 23 06 02.8 -2.4
SNAA *e* 23 06 12.5
SNAA *e* 23 06 12.7
SNAA *e* 23 08 34.8
F03A Seaside 72.58 328 ⇓P P 23 05 57.3 -0.2
baz=73
B07A Winthrop 72.63 331 ⇓P P 23 05 57.5 -0.2
baz=73
D05A Enumclaw 72.64 329 ⇑P P 23 05 57.5 -0.2
baz=73
C05A Tolt Reservoir 72.84 330 ⇑P P 23 05 58.3 -0.7

baz=73
E03A Lebam 73.00 328 ⇑P **P 23 06 00.1 +0.2**
baz=73
A07A Ashnola River, 73.17 332 ⇓P **P 23 06 01.0 +0.1**
baz=73,SNR=20
FCC Fort Churchill 73.26 351 *e*P **P 23 06 00.3 -1.1**
GNW Green Mountain 73.31 329 *e*P **P 23 06 01.9 +0.2**
GNW *e*pP pP 23 06 09.7 -1.4
B06A Marblemount 73.31 331 ⇓P **P 23 06 01.2 -0.6**
baz=74
EDM Edmonton 73.40 338 *e*P **P 23 06 01.0 -1.3**
B05A Bryant 73.43 330 ⇓P **P 23 06 02.0 -0.5**
baz=74
C04A Brinnon 73.48 329 ⇓P **P 23 06 02.4 -0.3**
baz=74
A06A Chilliwack 73.72 331 P **P 23 06 03.7 -0.4**
baz=74,SNR=10
A05A Maple Falls 73.93 331 P **P 23 06 04.9 -0.5**
baz=74,SNR=8.6
PGC Sidney 74.35 330 *e*P **P 23 06 09.2 +1.3**
QSPA South Pole Qui 76.80 180 *e*P **P 23 06 21.2 -0.6**
NVL N'lazarevskaya 76.98 160 *c i*P **P 23 06 21.9 -1.0**
NVL *e* 23 09 14.1
NVL *i*S S 23 16 09.8 +0.6
NVL *i* 23 16 37.8
NVL pmax pmax
comp=Z,52nm,1.1s,mb5.4
FRB Frobisher Bay 77.10 4 P **P 23 06 22.6 -1.0**
comp=Z,87nm,0.8s,mb5.7,baz=190,slow=6.4,SNR=25
BBB Bella Bella 78.92 331 P **P 23 06 32.2 -1.5**
comp=Z,18nm,0.8s,mb5.0,baz=68,slow=2.8,SNR=4.1
BBB Bella Bella 78.92 331 P **P 23 06 32.2 -1.5**
MORF Marmelete 81.20 48 *e*P **P 23 06 48.2 +2.3**
comp=Z,111nm,1.0s,mb5.7
MORF Marmelete 81.20 48 *e*SKS 23 17 08.4
MORF Marmelete 81.20 48 *i*LR LR 23 35 05.8
comp=Z,3μm,16.7s
YKA Yellowknife Ar 81.20 343 P **P 23 06 44.1 -1.9**
comp=Z,35nm,0.8s,mb5.3,baz=140,slow=4.6,SNR=24
YKA LR LR 23 47 15.7
comp=Z,3μm,20.2s,MS5.6,baz=150,slow=39
PTEO Sao Teotonio 81.24 48 *e*P **P 23 06 48.0 +1.8**
comp=Z,72nm,1.0s,mb5.6
YKW3 Yellowknife Ar 81.26 343 *e*P **P 23 06 44.8 -1.5**
LIS Lisbon 81.42 47 *e*P **P 23 06 46.0 -1.1**
LIS *e*S S 23 16 55.4 -1.0
LIS *e*S S 23 16 55.7 -0.7
LIS AMS AMS 23 41 38.3
comp=Z,5μm,13.4s,MS6.1
PMAFR Mafra 81.42 47 *e*P **P 23 06 48.4 +1.2**
PMAFR Mafra 81.42 47 *e*SKS 23 17 06.6
PMAFR Mafra 81.42 47 *i*LR LR 23 31 49.3
comp=Z,4μm,18.2s
MOE Montemor 81.91 47 *e*P **P 23 06 52.1 +2.4**
TOA0 Torodi Ar. Sit 81.92 74 *e*P **P 23 06 50.7 +1.0**
TORD Torodi Ar. Bea 81.92 74 P **P 23 06 50.7 +0.9**
comp=Z,259nm,0.8s,mb6.2,baz=265,slow=4.2,SNR=633
TORD LR LR 23 43 09.0
comp=Z,6μm,18.3s,MS6.0,baz=230,slow=36
TORD Torodi Ar. Bea 81.92 74 P **P 23 06 50.7 +0.9**
TORD LR LR 23 43 09.0
ALMR Almeirim 82.01 47 *e*P **P 23 06 51.9 +1.7**
PBEJ Beja 82.06 48 *e*P **P 23 06 52.2 +1.7**
comp=Z,54nm,1.0s,mb5.4
EGRO El Granado 82.14 49 P **P 23 06 52.3 +1.3**
comp=Z,2μm,3.7s
EVO Evora 82.15 47 ⇓*i*P **P 23 06 52.4 +1.4**
comp=Z,216nm,1.0s,mb5.7
EVO *e*MLR MLR
comp=Z,5μm,20.5s
SFJD Kangerlussuaq 82.36 10 ⇓*i*P **P 23 06 50.5 -1.6**
SFJD *i*S S 23 16 53.8 -12
SBA Scott Base 82.43 191 *e*P **P 23 06 49.8 -2.7**
SBA pmax pmax
comp=Z,25nm,0.9s,mb5.1
SBA Scott Base 82.43 191 *e*P **P 23 06 49.8 -2.7**
comp=Z,25nm,0.9s,mb5.1
EMIN Mina Concepcio 82.82 49 P **P 23 06 55.3 +0.8**
comp=Z,1μm,3.7s
EBAD Badajoz 82.96 48 P **P 23 06 56.2 +1.0**
comp=Z,657nm,3.4s
PCBR Castelo Branco 83.06 46 *e*P **P 23 06 55.6 -0.1**
comp=Z,61nm,1.3s,mb5.5
ESPR Espera 83.08 50 P **P 23 06 57.6 +1.7**
comp=Z,2μm,4.6s
PVIS Viseu 83.12 46 *e*P **P 23 06 56.5 +0.5**
comp=Z,56nm,1.1s,mb5.5
EZAM Zamans 83.17 44 P **P 23 06 57.4 +1.1**
EZAM pmax pmax
comp=Z,52nm,1.3s,mb5.4
EZAM Zamans 83.17 44 P **P 23 06 57.4 +1.1**
comp=Z,52nm,1.3s,mb5.4
EJIF Jimena Fronter 83.21 50 P **P 23 06 58.2 +1.7**
EJIF pmax pmax
comp=Z,111nm,1.0s,mb5.8
EJIF Jimena Fronter 83.21 50 P **P 23 06 58.1 +1.7**
comp=Z,111nm,1.0s,mb5.8
CRAG Craig 83.27 331 *e*P **P 23 06 51.1 -5.8**
CRAG *e*S S 23 17 19.8 +4.4
EMAZ Mazaricos 83.31 43 P **P 23 06 58.0 +0.9**
comp=Z,1μm,3.1s
PCAB Cabril 83.44 45 *e*P **P 23 06 58.7 +1.0**
comp=Z,36nm,0.9s,mb5.4
WRAK Wrangell Islan 83.47 332 PFAKE 23 07 10.0 +12
WRAK LR LR
comp=Z,3μm,16.0s,MS5.7
PVRL Vila Real 83.47 45 *e*P **P 23 06 58.4 +0.6**
comp=Z,33nm,1.2s,mb5.2
VNDA Vanda 83.51 191 P **P 23 06 57.8 -0.2**
VNDA Vanda 83.51 191 P **P 23 06 57.8 -0.2**
comp=Z,13nm,0.8s,mb5.1,baz=124,slow=4.8,SNR=78
VNDA LR LR 23 41 21.6
comp=Z,1μm,18.1s,MS5.4,baz=120,slow=34
VNDA Vanda 83.51 191 *e*P **P 23 06 57.9 -0.1**
VNDA pmax pmax
comp=Z,20nm,0.9s
VNDA Vanda 83.51 191 *e*P **P 23 06 57.9 -0.2**
comp=Z,20nm,0.9s,mb5.2
STS Santiago 83.57 43 P **P 23 06 58.4 +0.1**
STS pmax pmax
comp=Z,26nm,1.0s,mb5.3
STS Santiago 83.57 43 P **P 23 06 58.4 +0.1**
comp=Z,26nm,1.0s,mb5.3
DLBC Dease Lake 83.69 335 *e*P **P 23 06 58.8 -0.2**
EMIJ Mijas 83.77 50 P **P 23 07 00.1 +0.7**
comp=Z,650nm,3.2s
PBRG Braganca 84.36 45 *e*P **P 23 07 02.8 +0.4**
comp=Z,55nm,1.5s,mb5.5
ECAL Calabor 84.41 45 P **P 23 07 04.7 +2.1**
comp=Z,554nm,3.3s
ELOJ Sierra Loja 84.45 50 P **P 23 07 03.8 +1.0**
ELOJ pmax pmax
comp=Z,41nm,0.9s,mb5.6
ELOJ Sierra Loja 84.45 50 P **P 23 07 03.8 +0.9**
comp=Z,41nm,0.9s,mb5.6
EADA Adamuz 84.51 49 P **P 23 07 04.6 +1.5**
comp=Z,372nm,3.8s
ELUQ Luque 84.51 50 P **P 23 07 04.3 +1.1**
ELUQ pmax pmax
comp=Z,59nm,1.2s,mb5.6
ELUQ Luque 84.51 50 P **P 23 07 04.3 +1.2**
comp=Z,59nm,1.2s,mb5.6
ERON Agron 84.66 50 P **P 23 07 04.5 +0.6**
comp=Z,6.5nm,0.6s,mb4.9
EPON Pontenova 84.69 43 P **P 23 07 05.1 +1.0**
comp=Z,691nm,2.5s,mb6.3
ECOG Cogollos-Vega 84.93 50 P **P 23 07 05.5 +0.2**
ECOG pmax pmax
comp=Z,16nm,0.8s,mb5.2
ECOG Cogollos-Vega 84.93 50 P **P 23 07 05.5 +0.3**
comp=Z,16nm,0.8s,mb5.2
EBAN Banos Encina 85.09 49 P **P 23 07 06.8 +0.8**
EBAN pmax pmax
comp=Z,17nm,0.7s,mb5.3
EBAN Banos Encina 85.09 49 P **P 23 07 06.8 +0.7**
comp=Z,17nm,0.7s,mb5.3
SIT Sitka 85.19 332 P **P 23 07 05.0 -1.5**
SIT *e*S S 23 17 31.7 -2.8
SIT MLR MLR
comp=Z,2μm,16.0s,MS5.7
EBER Berja 85.31 51 P **P 23 07 07.8 +0.7**
comp=Z,163nm,0.9s,mb6.2
EQES Quesada 85.49 50 P **P 23 07 07.7 -0.3**
comp=Z,1μm,4.1s
ESDC Sonseca Array 85.50 48 P **P 23 07 09.5 +1.4**
comp=Z,13nm,0.8s,mb5.2,baz=256,slow=5.4,SNR=39
ESDC LR LR 23 44 18.1
comp=Z,3μm,18.7s,MS5.8,baz=255,slow=35
ESDC Sonseca Array 85.50 48 P **P 23 07 08.8 +0.7**
comp=Z,14nm,1.0s,mb5.2
ESLA Sonseca Array 85.50 48 *e*P **P 23 07 04.2 -3.9**
ESLA *e*S S 23 17 37.6 0.0
GUD Guadarrama 85.72 47 P **P 23 07 08.1 -1.1**
comp=Z,1.1nm,0.6s,mb4.3
ENIJ Nijar 85.84 51 P **P 23 07 08.4 -1.4**
ENIJ pmax pmax
comp=Z,49nm,1.1s,mb5.7
ENIJ Nijar 85.84 51 P **P 23 07 08.4 -1.4**
comp=Z,49nm,1.1s,mb5.7
EHUE Huescar 85.84 50 P **P 23 07 09.4 -0.4**
EHUE pmax pmax
comp=Z,20nm,0.9s,mb5.3
EHUE Huescar 85.84 50 P **P 23 07 09.4 -0.4**
comp=Z,20nm,0.9s,mb5.3
EARI Arriondas 85.98 44 P **P 23 07 10.2 -0.2**
comp=Z,736nm,4.4s
EVIA Vianos 86.20 49 P **P 23 07 12.0 +0.5**
EVIA pmax pmax
comp=Z,46nm,0.8s,mb5.8
EVIA Vianos 86.20 49 P **P 23 07 12.0 +0.5**
comp=Z,46nm,0.8s,mb5.8
SKAG Skagway 86.52 334 *e*S S 23 17 44.2 -3.3
SYO Syowa Base 86.61 161 ⇓*e*P **P 23 07 11.6 -2.0**
ETOB Tobarra 86.90 49 P **P 23 07 15.5 +0.5**
comp=Z,617nm,3.0s
KIP Kipapa 87.02 293 P **P 23 07 17.7 +2.1**
KIP *e*S S 23 17 51.0 -1.4
KIP MLR MLR
comp=Z,5μm,20.0s,MS6.0
ELAN Lanestosa 87.16 44 P **P 23 07 15.9 -0.3**
comp=Z,504nm,4.0s
ECRI Cripan 87.57 45 P **P 23 07 18.1 -0.2**
ECRI pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
ECRI Cripan 87.57 45 P **P 23 07 18.1 -0.1**
comp=Z,8.0nm,0.6s,mb5.1
EBEN Beniarda 87.90 50 P **P 23 07 18.7 -1.1**
comp=Z,391nm,3.0s
ETRT Tiaret 88.02 53 P **P 23 07 22.9 +2.5**
EANR 'Ain N'Sour 88.03 52 P **P 23 07 20.6 +0.1**
BORG Borgarnes 88.24 21 P **P 23 07 15.9 -5.5**
comp=Z,40nm,0.8s,mb5.7,baz=231,slow=3.7,SNR=7.5
BORG Borgarnes 88.24 21 P **P 23 07 15.9 -5.5**
EMOS Mosqueruela 88.25 48 P **P 23 07 22.1 +0.6**
comp=Z,1μm,4.8s
ECHA Ech Chlef 88.30 52 P **P 23 07 23.0 +1.3**
EBNR Beni Rached 88.47 52 P **P 23 07 24.3 +1.8**
RES Resolute Bay 88.60 355 *e*P **P 23 07 21.9 -1.2**
SJPF Ste Jean 88.63 45 *e*P **P 23 07 23.6 +0.3**
ETSF Etsaut 89.02 45 *e*P **P 23 07 25.5 +0.4**
comp=Z,31nm,1.2s,mb5.2
ETSF Etsaut 89.02 45 *e*P **P 23 07 25.5 +0.4**
ETSF pmax pmax
comp=Z,15nm,1.2s,mb5.2
ETSF Etsaut 89.02 45 *e*P **P 23 07 25.5 +0.4**
comp=Z,15nm,1.2s,mb5.2
ERTA Horta de San J 89.03 48 P **P 23 07 25.2 +0.1**
comp=Z,63nm,1.2s,mb5.8
SUR Sutherland 89.08 123 P **P 23 07 23.9 -1.5**
SUR LR LR
comp=Z,2μm,20.0s,MS5.5
ROSF Rostrenen 89.11 40 *e*P **P 23 07 24.1 -1.4**
comp=Z,35nm,1.2s,mb5.3
ROSF Rostrenen 89.11 40 *e*P **P 23 07 24.1 -1.4**
ROSF pmax pmax
comp=Z,18nm,1.2s,mb5.3
ROSF Rostrenen 89.11 40 *e*P **P 23 07 24.1 -1.4**
comp=Z,18nm,1.2s,mb5.3
EBIE Bielsa 89.44 46 P **P 23 07 27.1 +0.1**
comp=Z,198nm,2.3s,mb6.0
SGMF Saint Gilles 89.52 40 *e*P **P 23 07 26.7 -0.8**
comp=Z,24nm,1.2s,mb5.1
SGMF Saint Gilles 89.52 40 *e*P **P 23 07 26.7 -0.8**
SGMF pmax pmax
comp=Z,12nm,1.2s,mb5.1
SGMF Saint Gilles 89.52 40 *e*P **P 23 07 26.7 -0.8**
comp=Z,12nm,1.2s,mb5.1
TSUM Tsumeb 89.54 110 *e*P **P 23 07 28.1 +0.5**
comp=Z,20nm,1.0s,mb5.4
EMHD Djebel Mahouad 89.54 53 P **P 23 07 28.6 +1.0**
EPF Esparros 89.69 46 *e*P **P 23 07 28.4 +0.2**
MFF Saint Martin d 90.51 42 *e*P **P 23 07 31.6 -0.5**
comp=Z,23nm,0.8s,mb5.2
MFF Saint Martin d 90.51 42 *e*P **P 23 07 31.6 -0.5**
MFF pmax pmax
comp=Z,12nm,0.8s,mb5.3
MFF Saint Martin d 90.51 42 *e*P **P 23 07 31.6 -0.5**
comp=Z,12nm,0.8s,mb5.3
LFF La Frestale 90.56 44 *e*P **P 23 07 32.0 -0.3**
comp=Z,48nm,1.0s,mb5.5
LFF La Frestale 90.56 44 *e*P **P 23 07 32.0 -0.3**
LFF pmax pmax
comp=Z,24nm,1.0s,mb5.5
LFF La Frestale 90.56 44 *e*P **P 23 07 32.0 -0.3**
comp=Z,24nm,1.0s,mb5.5
DAWY Dawson 90.59 337 *e*P **P 23 07 31.0 -1.4**
INK Inuvik 90.89 342 P **P 23 07 32.6 -1.2**
comp=Z,40nm,0.9s,mb5.8,baz=116,slow=5.2,SNR=35
INK Inuvik 90.89 342 *e*P **P 23 07 33.7 -0.2**
FLN La Foliniere 91.00 40 *e*P **P 23 07 33.8 -0.5**
comp=Z,48nm,1.1s,mb5.4
FLN *e*MLR MLR
comp=Z,2μm,22.2s
FLN La Foliniere 91.00 40 *e*P **P 23 07 33.8 -0.5**
FLN pmax pmax
comp=Z,24nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,2μm,22.3s,MS5.5
FLN La Foliniere 91.00 40 *e*P **P 23 07 33.8 -0.5**
comp=Z,24nm,1.1s,mb5.4
FLN LR LR
comp=Z,2μm,22.3s,MS5.5
MTLF Montolieu 91.09 46 *e*P **P 23 07 34.4 -0.4**
comp=Z,20nm,0.8s,mb5.2
MTLF Montolieu 91.09 46 *e*P **P 23 07 34.4 -0.4**
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
MTLF Montolieu 91.09 46 *e*P **P 23 07 34.4 -0.4**
comp=Z,9.8nm,0.8s,mb5.2
LDF La Druitiere 91.17 40 *e*P **P 23 07 34.5 -0.6**
comp=Z,31nm,1.0s,mb5.3
LDF La Druitiere 91.17 40 *e*P **P 23 07 34.5 -0.6**
LDF pmax pmax
comp=Z,16nm,1.0s,mb5.3
LDF La Druitiere 91.17 40 *e*P **P 23 07 34.5 -0.6**
comp=Z,16nm,1.0s,mb5.3
RJF Les Rejaudoux 91.20 44 *e*P **P 23 07 34.8 -0.5**
comp=Z,24nm,0.9s,mb5.2
RJF *e*MLR MLR
comp=Z,3μm,20.8s
RJF Les Rejaudoux 91.20 44 *e*P **P 23 07 34.8 -0.5**
RJF pmax pmax
comp=Z,12nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,3μm,20.8s,MS5.7
RJF Les Rejaudoux 91.20 44 *e*P **P 23 07 34.8 -0.5**
comp=Z,12nm,0.9s,mb5.2
RJF LR LR
comp=Z,3μm,20.8s,MS5.7
CAF Calviac 91.46 44 *e*P **P 23 07 36.2 -0.3**
comp=Z,42nm,1.1s,mb5.4
CAF Calviac 91.46 44 *e*P **P 23 07 36.2 -0.3**
CAF pmax pmax
comp=Z,21nm,1.1s,mb5.4
CAF Calviac 91.46 44 *e*P **P 23 07 36.2 -0.3**
comp=Z,21nm,1.1s,mb5.4
EGAK Eagle 91.61 337 *e*P **P 23 07 35.7 -1.5**
comp=Z,47nm,1.2s,mb5.7
EGAK *e*pP pP 23 07 44.6 -2.2
EYAK Cordova Ski Ar 91.62 332 P **P 23 07 27.7 -9.5**
EYAK *e*S S 23 19 02.5 +27
ESK Eskdalemuir 91.67 33 P **P 23 07 36.9 -0.6**
TCF Toulx Ste Croi 91.96 43 *e*P **P 23 07 38.1 -0.7**
comp=Z,25nm,1.0s,mb5.2
TCF Toulx Ste Croi 91.96 43 *e*P **P 23 07 38.1 -0.7**
TCF pmax pmax
comp=Z,12nm,1.0s,mb5.2
TCF Toulx Ste Croi 91.96 43 *e*P **P 23 07 38.1 -0.7**
comp=Z,12nm,1.0s,mb5.2
LASF Ste Croix 92.44 45 *e*P **P 23 07 41.2 +0.2**
comp=Z,37nm,1.1s,mb5.3
BGF Bois d'Agland 92.46 43 *e*P **P 23 07 40.6 -0.5**
comp=Z,39nm,0.9s,mb5.5
BGF Bois d'Agland 92.46 43 *e*P **P 23 07 40.6 -0.5**
BGF pmax pmax
comp=Z,20nm,0.9s,mb5.5
BGF Bois d'Agland 92.46 43 *e*P **P 23 07 40.6 -0.5**
comp=Z,20nm,0.9s,mb5.4
HYF Humbligny 92.53 42 *e*P **P 23 07 41.0 -0.4**
AVF Avril sur Loir 92.86 43 *e*P **P 23 07 42.8 -0.1**
comp=Z,20nm,1.0s,mb5.2
AVF Avril sur Loir 92.86 43 *e*P **P 23 07 42.8 -0.1**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
AVF Avril sur Loir 92.86 43 *e*P **P 23 07 42.8 -0.1**
comp=Z,10nm,1.0s,mb5.2
SSF Saint Saulge 93.04 42 *e*P **P 23 07 42.9 -0.9**
comp=Z,18nm,1.2s,mb5.1
SSF Saint Saulge 93.04 42 *e*P **P 23 07 42.9 -0.9**
SSF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
SSF Saint Saulge 93.04 42 *e*P **P 23 07 42.9 -0.9**
comp=Z,9.1nm,1.2s,mb5.1
SMF Signal de Mont 93.14 43 *e*P **P 23 07 43.7 -0.6**
comp=Z,40nm,1.1s,mb5.5
SMF Signal de Mont 93.14 43 *e*P **P 23 07 43.7 -0.6**
SMF pmax pmax
comp=Z,20nm,1.1s,mb5.5
SMF Signal de Mont 93.14 43 *e*P **P 23 07 43.7 -0.6**
comp=Z,20nm,1.1s,mb5.5
VIVF Saint-Julien-I 93.22 45 *e*P **P 23 07 44.8 +0.2**
comp=Z,26nm,0.9s,mb5.3
VIVF Saint-Julien-I 93.22 45 *e*P **P 23 07 44.8 +0.2**
VIVF pmax pmax
comp=Z,13nm,0.9s,mb5.4
VIVF Saint-Julien-I 93.22 45 *e*P **P 23 07 44.8 +0.2**
comp=Z,13nm,0.9s,mb5.4
LOR Lormes 93.32 42 *e*P **P 23 07 44.2 -0.9**
comp=Z,20nm,1.1s,mb5.2
LOR *e*MLR MLR
comp=Z,2μm,19.2s
LOR Lormes 93.32 42 *e*P **P 23 07 44.2 -0.9**
LOR pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,2μm,19.3s,MS5.6
LOR Lormes 93.32 42 *e*P **P 23 07 44.2 -0.9**
comp=Z,9.8nm,1.1s,mb5.2
LOR LR LR
comp=Z,2μm,19.3s,MS5.6
PMR Palmer 93.54 333 *e*P **P 23 07 43.0 -3.1**
PMR *e*S S 23 19 23.2 +31
SMRF Simiane la Rot 93.61 46 *e*P **P 23 07 45.7 -0.7**
comp=Z,83nm,1.4s,mb5.7
SMRF Simiane la Rot 93.61 46 *e*P **P 23 07 45.7 -0.7**
comp=Z,83nm,1.4s,mb6.0
BOSA Boshof 93.81 120 P **P 23 07 47.5 +0.1**
comp=Z,9.0nm,0.8s,mb5.2,baz=245,slow=5.0,SNR=9.0
BOSA LR LR 23 48 03.3
comp=Z,7μm,19.8s,MS6.1,baz=259,slow=34
BOSA Boshof 93.81 120 P **P 23 07 47.5 +0.1**
BOSA LR LR 23 48 03.3
KDAK Kodiak Island 93.87 329 P **P 23 07 45.9 -1.7**
comp=Z,8.2nm,0.8s,mb5.2,baz=113,slow=20,SNR=4.9
ORIF Oris-en-Rattie 94.06 45 *e*P **P 23 07 49.0 +0.5**
comp=Z,43nm,1.1s,mb5.5
ORIF *e*MLR MLR
comp=Z,4μm,19.5s
ORIF Oris-en-Rattie 94.06 45 *e*P **P 23 07 49.0 +0.5**
ORIF pmax pmax
comp=Z,22nm,1.1s,mb5.5
ORIF Oris-en-Rattie 94.06 45 *e*P **P 23 07 49.0 +0.5**
comp=Z,22nm,1.1s,mb5.5
MAW Mawson 94.11 166 P **P 23 07 46.9 -1.8**
comp=Z,7.7nm,0.9s,mb5.1,baz=219,slow=5.1,SNR=13
MAW LR LR 23 46 58.7
comp=Z,3μm,21.5s,MS5.7,baz=227,slow=34
MAW Mawson 94.11 166 *e*P **P 23 07 47.8 -0.9**
MAW LR LR 23 46 58.7
COLA College 94.24 336 P **P 23 07 47.5 -1.8**
COLA pmax pmax
comp=Z,26nm,0.9s,mb5.7
COLA College 94.24 336 *e*P **P 23 07 47.4 -1.9**
MCK McKinley 94.25 335 *e*P **P 23 07 47.8 -1.5**
FRF La Foret Royal 94.25 46 *e*P **P 23 07 49.4 0.0**
comp=Z,49nm,1.1s,mb5.6
FRF La Foret Royal 94.25 46 *e*P **P 23 07 49.4 0.0**
FRF pmax pmax
comp=Z,25nm,1.1s,mb5.6
FRF La Foret Royal 94.25 46 *e*P **P 23 07 49.4 0.0**
comp=Z,24nm,1.1s,mb5.5
KEST Kesra 94.43 54 P **P 23 07 51.2 +1.0**
comp=Z,4.8nm,0.9s,mb4.9,baz=282,slow=2.6,SNR=13
CABF La Chapelle 94.63 43 *e*P **P 23 07 50.9 -0.2**
comp=Z,36nm,1.3s,mb5.3
CABF La Chapelle 94.63 43 *e*P **P 23 07 50.9 -0.2**
CABF pmax pmax
comp=Z,18nm,1.3s,mb5.3
CABF La Chapelle 94.63 43 *e*P **P 23 07 50.9 -0.2**
comp=Z,18nm,1.3s,mb5.3
MBDF Montbardon 94.63 45 *e*P **P 23 07 50.6 -0.5**
comp=Z,14nm,1.1s,mb5.0
MBDF Montbardon 94.63 45 *e*P **P 23 07 50.6 -0.5**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
MBDF Montbardon 94.63 45 *e*P **P 23 07 50.6 -0.5**
comp=Z,6.8nm,1.0s,mb5.0
GIVF Givet 94.70 40 *e*P **P 23 07 51.0 -0.4**
LPL La Plagne 94.79 44 *e*P **P 23 07 52.5 +0.7**
comp=Z,31nm,1.1s,mb5.4
LPL La Plagne 94.79 44 *e*P **P 23 07 52.5 +0.7**
LPL pmax pmax
comp=Z,16nm,1.1s,mb5.4
LPL La Plagne 94.79 44 *e*P **P 23 07 52.5 +0.7**
comp=Z,16nm,1.1s,mb5.3
LPG La Plagne 94.80 45 *e*P **P 23 07 52.8 +0.9**
comp=Z,25nm,0.9s,mb5.3
LPG La Plagne 94.80 45 *e*P **P 23 07 52.8 +0.9**
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.3
LPG La Plagne 94.80 45 *e*P **P 23 07 52.8 +0.9**
comp=Z,12nm,0.9s,mb5.3
SNZO South Karori 94.83 226 *e*P **P 23 08 00.4 +8.4**
SNZO *e*S SP 23 20 21.5 +1.7
LBTB Lobatse 95.16 117 *e*P **P 23 07 53.4 -0.1**
LBTB pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
LBTB Lobatse 95.16 117 *e*P **P 23 07 53.4 -0.1**
comp=Z,5.3nm,0.8s,mb5.0
PGF Pioggiola 95.70 48 *e*P **P 23 07 56.1 +0.1**
DRV Dumont d'Urvil 95.79 194 P **P 23 07 58.0 +1.6**
DRV Dumont d'Urvil 95.79 194 PP PP 23 11 46.0 -2.3
DRV S S 23 19 13.0 +0.9
DRV SP SP 23 20 32.0 +1.7
CDF Champ du Feu 95.84 42 *e*P **P 23 07 56.1 -0.5**
comp=Z,17nm,1.0s,mb5.1
CDF Champ du Feu 95.84 42 *e*P **P 23 07 56.1 -0.5**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
CDF Champ du Feu 95.84 42 *e*P **P 23 07 56.1 -0.5**
comp=Z,8.7nm,1.0s,mb5.1
DAG Danmarks Havn 95.98 11 ⇓*i*P **P 23 07 56.0 -1.3**
comp=Z,11nm,0.6s,mb5.5
DAG
comp=Z,4μm,22.0s
DAG Danmarks Havn 95.98 11 ⇓*i*P **P 23 07 56.0 -1.3**
DAG pmax pmax
comp=Z,11nm,0.6s,mb5.5
DAG MLR MLR
comp=Z,4μm,22.0s,MS5.9
BFO Black Forest 96.51 42 *e*P **P 23 08 07.7 +8.1**
IMA2 Indian Mountai 96.94 336 *e*P **P 23 08 00.1 -1.5**
DAVA Damuels 97.31 43 ⇓*i*P **P 23 08 03.6 +0.3**
comp=Z,13nm,1.0s,mb5.3
MOTA Moosalm 98.14 43 ⇑*i*P **P 23 08 06.9 -0.1**
comp=Z,13nm,0.9s,mb5.5,SNR=19
MOTA Moosalm 98.14 43 ⇑*i*PcP PcP 23 08 06.9 -0.1
comp=Z,13nm,0.9s,SNR=19
MOTA Moosalm 98.14 43 ⇑*i*P **P 23 08 06.9 -0.1**
MOTA pmax pmax
comp=Z,13nm,0.9s,mb5.5
SQTA Sankt Quirin 98.19 43 ⇑*i*P **P 23 08 07.2 0.0**
comp=Z,14nm,1.0s,mb5.5,SNR=15
SQTA Sankt Quirin 98.19 43 ⇑*i*P **P 23 08 07.2 0.0**
SQTA pmax pmax
comp=Z,14nm,1.0s,mb5.5
WATA Walderalm 98.45 43 ⇑*i*P **P 23 08 08.6 +0.1**
comp=Z,11nm,1.0s,mb5.3

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WATA Walderalm          98.45 43⇑iP      P          23 08 08.6 +0.2
WATA                          pmax       pmax
     comp=Z,11nm,1.0s,mb5.3
WTTA Wattenberg         98.48 43⇑iP      P          23 08 08.7 +0.2
     comp=Z,29nm,0.9s,mb5.8,SNR=13
WTTA Wattenberg         98.48 43⇑iP      P          23 08 08.7 +0.2
WTTA                          pmax       pmax
     comp=Z,29nm,0.9s,mb5.8
GRA1 Grafenberg Arr     98.64 41 ePdif   P          23 08 09.6 +0.3
GRA1                          ePP        PP         23 12 08.7 -1.5
GRA1                          eSKSac     SKSac      23 19 05.8 +21
GRA1                          eS         S          23 19 44.1 +7.5
GRA1                          LR         LR
     comp=Z,2µm,19.1s,MS5.6
GRF  Grafenberg Arr     98.64 41 ePdiff  P          23 08 09.6 +0.3
GRF                          ePP        PP         23 12 08.7 -1.5
GRF                          eSKSac     SKSac      23 19 05.8 +21
GRF                          eS         S          23 19 44.1 +7.5
GRF                          eL                    23 52 21.6
     comp=Z,2µm,19.1s
GRF  Grafenberg Arr     98.64 41 eP      P          23 08 09.6 +0.3
GRF                          e                     23 12 08.7
GRF                          MLR        MLR
     comp=Z,2µm,19.1s,MS5.6
GRF  Grafenberg Arr     98.64 41 eP      P          23 08 09.6 +0.3
GRF                          e                     23 12 08.7
GRF                          MLR        MLR
     comp=Z,2µm,19.1s,MS5.6
KBA  Koelnbreinsper     99.60 44⇑iP      Pdif       23 08 13.5  0.0
     comp=Z,8.1nm,0.8s
KBA  Koelnbreinsper     99.60 44⇑iP      Pdif       23 08 13.5  0.0
KBA                          pmax       pmax
     comp=Z,8.0nm,0.8s,mb5.2
CLL  Collm              100.03 40 eP     Pdif       23 08 17.0 +1.5
CLL                          e                     23 12 21.0
CLL                          e                     23 18 55.0
CLL                          MLR        MLR
     comp=Z,3µm,25.5s,MS5.7
CLL  Collm              100.03 40 ePdif  Pdif       23 08 17.0 +1.5
CLL                          ePP        PP         23 12 21.0 +0.2
CLL                          eSKSac     SKSac      23 18 55.0 +2.9
CLL                          ePS        PS         23 21 30.0 +10
CLL                          ePPS                  23 22 08.0
CLL                          eSS        SS         23 27 06.0 +24
KHC  Kasperske Hory     100.07 42 ePDIF  Pdif       23 08 16.7 +1.1
KHC                          AMS        AMS        23 55 30.0
     comp=Z,2µm,14.9s
KHC  Kasperske Hory     100.07 42 eP     Pdif       23 08 11.9 -3.7
KHC                          ePdif      Pdif       23 08 16.7 +1.1
KHC                          LR         LR
     comp=Z,2µm,14.9s,MS5.8
GEC2 GERESS Array S     100.11 42 ePdif  Pdif       23 08 29.6 +14
GEC2                         ePP        PP         23 12 36.0 +15
GERES GERESS Array B    100.11 42 P      Pdif       23 08 16.3 +0.5
     comp=Z,2.5nm,0.9s,baz=250,slow=3.8,SNR=18
GERES                        PKKPbc     PKKPbc     23 24 33.9 +0.3
     comp=Z,0.3nm,0.6s,baz=207,slow=1.5,SNR=4.2
MOA  Molln              100.33 43 iP     Pdif       23 08 17.1 +0.3
     comp=Z,10nm,0.9s,SNR=8.2
LSZ  Lusaka             100.35 108 eP    Pdif       23 08 19.6 +2.7
BRG  Berggiesshubel     100.56 40 eP     Pdif       23 08 12.3 -5.5
     comp=Z,9.2nm,1.7s
BRG                          e                     23 09 05.6
     comp=Z,3.2nm,1.2s
BRG                          e                     23 09 14.4
     comp=Z,11nm,1.5s
BRG                          PP         PP         23 12 19.0 -5.8
BRG                          SKS                   23 19 10.0
BRG                          S          Sdif       23 19 55.0 +2.4
BRG                          SP         SP         23 21 30.0 +8.1
BRG                          SS         SS         23 26 47.0 -1.9
BRG
     comp=N,710nm,16.3s
BRG
     comp=E,1µm,23.2s
BRG
     comp=Z,2µm,26.0s
BRG  Berggiesshubel     100.56 40 eP     Pdif       23 08 12.3 -5.5
BRG                          S          Sdif       23 19 55.0 +2.4
BRG                          SP         SP         23 21 30.0 +8.1
BRG                          SS         SS         23 26 47.0 -1.9
BRG                          pmax       pmax
     comp=Z,9.0nm,1.7s
BRG                          MLR        MLR
     comp=Z,2µm,26.0s,MS5.4
BRG  Berggiesshubel     100.56 40 eP     Pdif       23 08 12.3 -5.5
     comp=Z,9.2nm,1.7s
BRG                          e                     23 09 05.6
BRG                          e                     23 09 14.4
BRG                          PP         PP         23 12 19.0 -5.8
BRG                          SKS                   23 19 10.0
BRG                          S          Sdif       23 19 55.0 +2.4
BRG                          SP         SP         23 21 30.0 +8.1
BRG                          SS         SS         23 26 47.0 -1.9
BRG                          LR         LR
     comp=Z,2µm,26.0s,MS5.4
PRU  Pruhonice          100.81 41 AMS    AMS        23 53 00.0
     comp=Z,2µm,23.4s
PVCC Panska Ves         100.90 41 AMS    AMS        23 55 10.0
     comp=Z,2µm,16.6s
DPC  Dobruska-Polom     102.00 41 ePDIF  Pdif       23 08 23.9 -0.3
DPC                          AMS        AMS        23 51 50.0
     comp=Z,3µm,24.8s
TNA  Tin City           102.59 335 ePP   PP         23 12 45.0 +4.8
OKC  Ostrava-Krasne     103.11 41 AMS    AMS        23 54 30.0
     comp=Z,2µm,15.8s
VYHS Vyhne              103.44 43 PDIF   Pdif       23 08 22.8 -7.8
VYHS Vyhne              103.44 43 eP     Pdif       23 08 22.8 -7.8
KECS Kecovo             104.54 43 PDIF   Pdif       23 08 32.5 -3.0
KECS Kecovo             104.54 43 eP     Pdif       23 08 32.5 -3.0
KECS                         pmax       pmax
     comp=Z,2.0nm,1.2s
KECS Kecovo             104.54 43 eP     Pdif       23 08 32.5 -3.0
     comp=Z,2.2nm,1.2s
MIDW Midway             105.58 296 PFAKE            23 13 10.0 +17
MIDW                         LR         LR
     comp=Z,4µm,19.0s,MS6.0
FINES FINESS Array B    107.68 29 PKKPbc PKKPbc     23 24 11.0  0.0
     comp=Z,6.0nm,1.1s,baz=182,slow=5.2,SNR=3.5
FIA1 FINESS Array S     107.68 29 ePKiKP PP         23 13 11.7 -6.1
KIS  Kishinev           110.14 45 e      PP         23 13 40.0 +4.3
KIS                          LRM                   23 57 45.0
     comp=Z,2µm,19.0s
AKASG Malin Array Be    110.23 41 PKiKP  PKiKP      23 13 00.2 -1.8
     comp=Z,0.3nm,0.3s,baz=274,slow=2.6,SNR=5.9
AKASG                        PP         PP         23 13 36.6 +0.3
     comp=Z,0.2nm,0.3s,baz=280,slow=4.3,SNR=4.3
AKASG Malin Array Be    110.23 41 PKPdf  PKiKP      23 13 00.2 -1.8
AKASG                        PP         PP         23 13 36.6 +0.3
AKBB Malin Array Si     110.23 41 eP     Pdif       23 09 03.9 +3.1
AKBB                         e                     23 13 36.2
KMBO Kilima Mbogo       112.89 97 P      Pdif       23 09 24.5 +12
KMBO                         e                     23 13 57.9
KMBO Kilima Mbogo       112.89 97 Pdif   Pdif       23 09 24.4 +12
KMBO                         ePP        PP         23 13 57.9 +2.4
KMBO                         ePKKP      PKKPbc     23 23 38.4 -16
ANTO Ankara             113.27 52 ePP    PP         23 13 57.9 -0.2
ANTO                         ePKKP      PKKPbc     23 23 45.9 -6.9
BRTR Keskin Array B     113.93 52 PKP    PKiKP      23 13 09.0  0.0
     comp=Z,1.6nm,0.8s,baz=139,slow=1.0,SNR=6.9
OBN  Obninsk            114.06 35 ePP    PP         23 13 55.2 -8.6
OBN                          ePKKP      PKKPbc     23 23 46.8 -3.3
MMAI Mount Meron Ar     115.51 60 PKP    PKPdf      23 13 11.5 -0.5
     comp=Z,3.2nm,0.9s,baz=269,slow=6.9,SNR=6.3
ANN  Anapa              116.31 47 iPKIKP            23 13 03.3
ANN                          pmax       pmax
     comp=Z,52nm,1.5s
ANN                          MLR        MLR
     comp=Z,2µm,22.0s,MS5.6
ASF  Jabal al Asfar     116.78 61 PKP    PKPdf      23 13 14.3 -0.2
     comp=Z,3.3nm,0.9s,baz=299,slow=2.0,SNR=7.8
TIXI Tiksi              119.73 351 PFAKE            23 13 30.0 +10
TIXI                         LR         LR
     comp=Z,5µm,22.0s,MS6.1
SEY  Seymchan           119.75 337 ePKIKP PKPdf     23 13 18.1 -2.1
KIV  Kislovodsk         120.16 47 P      Pdif       23 09 41.0 -4.0
KIV                          e                     23 14 45.1
KIV  Kislovodsk         120.16 47 Pdif   Pdif       23 09 41.0 -4.0
KIV                          ePP        PP         23 14 45.1 -1.2
PET  Petropavlovsk      121.20 325 ePKIKP PKPdf     23 13 18.5 -4.5
PET                          e                     23 14 51.7
PET                          ePS        PS         23 24 39.0 -6.7
PET                          eSS        SS         23 31 18.8 -5.8
PET                          pmax       pmax
     comp=Z,400nm,4.3s
PET                          pmax       pmax
     comp=Z,600nm,4.7s
ZEI  Tsey               121.25 48 ePKIKP PKPdf      23 13 23.1  0.0
ZEI                          e                     23 14 49.8
STKA Stephens Creek     122.03 218 eP    PKPdf      23 13 23.7 -0.9
     comp=Z,4.2nm,0.8s
STKA Stephens Creek     122.03 218 PKP   PKPdf      23 13 23.8 -0.8
     comp=Z,7.7nm,0.8s,baz=66,slow=3.4,SNR=9.2
GNI  Garni              122.36 51 ePKIKP PKPdf      23 13 26.1 +0.9
ARU  Arti               125.04 29 iPKIKP PKPdf      23 13 27.6 -2.8
ARU                          e                     23 15 18.6
ARU                          e                     23 20 27.3
ARU                          MLR        MLR
     comp=Z,2µm,21.0s,MS5.7
ARU                          MLR        MLR
     comp=N,800nm,20.5s,MS5.6
ARU                          MLR        MLR
     comp=E,900nm,20.0s,MS5.6
ARU  Arti               125.04 29 ePKPdf PKPdf      23 13 29.7 -0.6
ORR  Orenburg           125.47 35 PKIKP  PKPdf      23 13 31.1 -0.1
ORR                          pmax       pmax
     comp=Z,10.0nm,0.7s
CTA  Charters Tower     126.33 233 eP    PKPdf      23 13 32.2 -0.6
     comp=Z,6.8nm,0.8s
CTAO Charters Tower     126.33 233 ePKIKP PKPdf     23 13 32.3 -0.5
AKTK Aktyubinsk         127.84 35 PKP    PKPdf      23 13 36.0 +0.3
AKTO Aktyubinsk         127.84 35 PKP    PKPdf      23 13 36.0 +0.3
     comp=Z,12nm,0.8s,baz=312,slow=2.3,SNR=42
YAK  Yakutsk            127.86 345 ePKIKP PKPdf     23 13 34.6 -1.2
YAK                          pmax       pmax
     comp=Z,25nm,0.9s
YAK                          pmax       pmax
     comp=N,12nm,1.7s
YAK                          pmax       pmax
     comp=E,5.0nm,1.2s
YAK  Yakutsk            127.86 345 ePKP  PKPdf      23 13 34.4 -1.4
MSEY Mahe Island        129.16 107 ePKPdf PKPdf     23 13 39.4 +1.2
FORT Forrest            130.13 208 eP    PKPdf      23 13 39.2 -0.9
     comp=E,15nm,0.9s
PMG  Port Moresby       131.03 245 ePKIKP PKPdf     23 13 44.3 +2.5
PMG                          e                     23 15 58.7
PMG                          MLR        MLR
     comp=Z,2µm,19.0s
ZRNK Zerenda            131.96 27 ePKIKP PKPdf      23 13 43.3 -0.2
NWAO Narrogin (SRO)     132.13 196 PFAKE            23 14 00.0 +16
NWAO                         LR         LR
     comp=Z,766nm,16.1s,MS5.5
CHKZ Chkalovo           132.16 26 ePKIKP PKPdf      23 13 43.3 -0.6
AS31 Alice Springs      132.64 219 ePKPdf PKPdf     23 13 43.9 -1.0
ASAR Alice Springs      132.64 219 PKhKP            23 13 34.4
     comp=Z,0.9nm,0.8s,baz=134,slow=2.0,SNR=7.8
ASAR                         PKP        PKPdf      23 13 44.4 -0.4
     comp=Z,5.6nm,0.8s,baz=124,slow=1.8,SNR=20
ASAR                         SKPbc      SKPbc      23 17 11.5 +1.7
     comp=Z,0.8nm,0.8s,baz=128,slow=8.1,SNR=4.6
ASAR Alice Springs      132.64 219 PKHKP            23 13 34.4
ASAR                                                23 13 44.4
ASPA Alice Springs      132.65 219 eP    PKPdf      23 13 44.0 -0.8
ASPA                         eS         SKPbc      23 17 11.3 +1.5
YSS  Yuzh-Sakhalins     133.06 324 ePKIKP PKPdf     23 13 44.0 -1.6
YSS                          MLR        MLR
     comp=Z,1µm,21.0s,MS5.5
YSS                          MLR        MLR
     comp=N,600nm,20.0s
YSS  Yuzh-Sakhalins     133.06 324 ePKPdf PKPdf     23 13 41.0 -4.7
KLBR Kellerberrin       133.25 197 eP    PKPdf      23 13 45.0 -1.0
     comp=N,23nm,0.8s
WB2  Warramunga Arr     135.04 223 eP    PKPdf      23 13 49.2 -0.1
WB2                          eS         SKPbc      23 17 18.8 +1.0
WB2  Warramunga Arr     135.04 223 ePKPdf PKPdf     23 13 49.2 -0.1
WRAB Tennant Creek      135.05 223 iPKIKP PKPdf     23 13 48.9 -0.4
WRAB Tennant Creek      135.05 223 ePKPdf PKPdf     23 13 48.8 -0.6
WRA  Warramunga Arr     135.05 223 PKP   PKPdf      23 13 49.4 +0.1
     comp=N,31nm,0.8s,baz=135,slow=1.5,SNR=64
ERM  Erimo              135.29 317 PKP   PKPdf      23 13 41.7 -8.1
ERM                          eSKP       PKPdf      23 17 15.7
NVS  Novosibirsk        135.69 17 ePKIKP PKPdf      23 13 48.4 -2.1
NVS                          pmax       pmax
     comp=N,17nm,1.8s
NVS                          pmax       pmax
     comp=Z,32nm,1.8s
NVS                          pmax       pmax
     comp=E,10.0nm,1.3s
WSAR Wadi Sarin         136.51 70 PKP    PKPdf      23 13 52.6 +0.5
     comp=E,9.6nm,0.9s,baz=296,slow=3.7,SNR=9.6
WSAR                         PP         PP         23 16 33.5 -0.1
     comp=E,4.1nm,0.8s,baz=22,slow=2.6,SNR=3.6
ZAL  Zalesovo           136.92 16 PKhKP             23 13 47.3
     comp=E,2.4nm,0.5s,baz=224,slow=2.5,SNR=6.4
ZAL                          PKP        PKPdf      23 13 53.2 +0.4
     comp=E,16nm,0.8s,baz=214,slow=3.7,SNR=43
KLR  Kul'dur            137.29 333 ePKHKP           23 13 39.0
GUMO Guam               139.71 275 ePKIKP PKPdf     23 13 57.3 -0.7
GUMO                         e                     23 16 57.9
GUMO                         MLR        MLR
     comp=Z,2µm,20.0s,MS5.8
MJAR Matsushiro Arr     141.23 313 PKhKP            23 13 53.1
     comp=Z,7.0nm,0.9s,baz=52,slow=1.4,SNR=24
MAJO Matsushiro         141.23 313 ePKHKP           23 13 53.1
MAT  Matsushiro         141.23 313 PKP   PKPdf      23 13 52.9 -7.8
VLA  Vladivostok        141.50 326 ePKHKP           23 13 49.0
VLA                          e                     23 17 05.0
AAK  Ala-Archa          141.59 35⇑ePKIKP PKPdf      23 14 00.6 -0.7
MDJ  Mudanjiang         141.66 329 PKP   PKPdf      23 14 01.3 -0.2
MDJ                          PP         PP         23 17 06.5 +1.1
MDJ                          SS         SS         23 35 36.0 +1.4
MDJ                          PP         PP
     comp=Z,389nm,10.3s
MDJ                          LR         LR
     comp=N,778nm,22.6s,MS5.6
MDJ                          LR         LR
     comp=E,835nm,20.7s,MS5.6
MDJ                          LR         LR
     comp=Z,1µm,20.7s,MS5.6
MDJ  Mudanjiang         141.66 329 ePKPdf           23 13 53.7
MDJ                          ePP        PP         23 17 13.7 +8.3
MDJ                          LR         LR
     comp=Z,1µm,18.7s,MS5.7
HIA  Hailar             141.74 343 ePKPdf           23 13 50.4
HIA                          ePP        PP         23 16 59.3 -6.5
TLY  Talaya             141.77 360 ePKPdf           23 13 53.5
TLY                          ePP        PP         23 16 57.9 -8.2
FITZ Fitzroy Crossi     141.82 216 eP    PKPdf      23 13 56.7 -5.1
     comp=Z,18nm,0.8s
MBWA Marble Bar         142.15 205 ePKPdf PKPdf     23 13 60.0 -2.4
MK31 Makanchi Array     142.23 24 ePKIKP            23 13 58.8
MK31                         e                     23 14 10.9
MKAR Makanchi Array     142.23 24 PKhKP             23 13 57.0
     comp=Z,7.1nm,0.7s,baz=349,slow=2.5,SNR=21
MKAR Makanchi Array     142.23 24 PKP    PKPdf      23 13 57.0
DGAR Diego Garcia       142.98 122 ePKIKP PKPdf     23 14 02.7 -1.1
DGAR                         e                     23 17 18.3
ZAK  Zakamensk          143.07 0 ePKIKP PKPdf       23 13 59.8 -4.2
ZAK                          pmax       pmax
     comp=Z,5.0nm,1.1s
CN2  Changchun          144.24 332 ePKP  PKPdf      23 14 01.8 -4.2
CN2                          eAPKP      PKPdf      23 14 12.8
CN2                          XPKP       PKPdf      23 14 16.5
CN2                          PP         PP         23 17 29.0 +8.1
CN2                          SS         SS         23 36 03.3 -1.0
CN2                          PP         PP
     comp=Z,200nm,5.0s
CN2                          LR         LR
     comp=N,1µm,19.0s,MS5.8
CN2                          LR         LR
     comp=E,900nm,19.0s,MS5.8
CN2                          LR         LR
     comp=Z,2µm,21.0s,MS5.7
KSH  Kashi              144.45 38 ePKP   PKPdf      23 14 06.8 +0.4
KSH                          eAPKP      PKPdf      23 14 17.0
KSH                          eXPKP      PKPdf      23 14 21.3
KSH                          ePKS       PKPdf      23 17 42.0
KSH                          ePPP       PKPdf      23 20 27.8
KSH                          eSKS       SKSdf      23 21 12.0 -1.6
KSH                          LR         LR
     comp=Z,9µm,26.6s,MS6.4
ULN  Ulaanbaatar        145.45 356c iPKIKP PKPdf    23 14 08.2 +0.1
ULN  Ulaanbaatar        145.45 356 ePKPdf PKPdf     23 14 08.0 -0.2
SONM Songino Array      145.53 356 PKPbc PKPbc      23 14 08.1 -0.3
     comp=Z,94nm,0.9s,baz=339,slow=2.3,SNR=317
SNY  Shenyang           146.64 332 PKP   PKPdf      23 14 10.0 -0.1
JASL Jaisalmer          146.74 61 eP     PKPdf      23 14 10.8 +0.4
WMQ  Urumqi             146.77 21 PKP    PKPdf      23 14 11.0 +0.6
WMQ                          PKP2       PKPab      23 14 16.0 +2.6
WMQ                          APKP                  23 14 21.5
WMQ                          XPKP                  23 14 25.5
WMQ                          ePP        PP         23 17 41.0 +5.0
WMQ                          PPP                   23 20 58.0
WMQ                          SKS        SKSdf      23 21 14.5 -2.5
WMQ                          SKKS       SKKSac     23 24 25.0 -0.9
WMQ                          SS         SS         23 36 34.8 +1.6
WMQ                          PP         PP
     comp=Z,301nm,6.6s
WMQ                          LR         LR
     comp=N,1µm,24.6s,MS5.8
WMQ                          LR         LR
     comp=E,1µm,22.8s,MS5.8
WMQ                          LR         LR
     comp=Z,1µm,24.5s,MS5.6
KS15 Wonju Array Si     147.56 322 ePKPdf PKPdf     23 14 12.1 +0.4
INCN Inchon             148.27 323 ePKPdf PKPdf     23 14 15.5 +2.7
THN  Thein Dam          148.35 48 eP     PKPdf      23 14 12.6 -0.4
DL2  Dalian             149.86 331 PKPR             23 14 20.5
DL2                          APKP                  23 14 27.3
DL2                          PP         PP         23 17 52.3 -1.7
DL2                          SS         SS         23 37 07.5 -0.4
DL2                          PP         PP
     comp=Z,390nm,9.7s
DL2                          LR         LR
     comp=N,420nm,17.7s,MS5.4
DL2                          LR         LR
     comp=E,190nm,14.4s,MS5.4
DL2                          LR         LR
     comp=Z,560nm,19.3s,MS5.4
AJM  Ajmer              150.05 60 eP     PKPdf      23 14 16.2 +0.5
AJM                          i x        x          23 17 55.9
KKR  Kurukshetra        150.38 52 eP     PKPdf      23 14 13.2 -3.0
KHET Khetri             150.41 56 eP     PKPdf      23 14 14.5 -1.8
KHET                         AMb        AMB        23 14 20.7
     comp=Z,62nm,1.0s
BHGR Bahadurgarh        151.05 54 eP     PKPdf      23 14 17.8 +0.5
BJI  Beijing            151.13 339 PKP   PKPdf      23 14 22.3 +4.9
BJI                          PP         PP         23 18 05.0 +3.7
BJI                          SKKS       SKKSac     23 24 53.0 +2.9
BJI                          PP         PP
     comp=Z,512nm,8.3s
BJI                          LR         LR
     comp=N,777nm,20.5s,MS5.6
BJI                          LR         LR
     comp=E,752nm,20.5s,MS5.6
BJI                          LR         LR
     comp=Z,1µm,23.8s,MS5.7
BJI  Beijing            151.13 339 PKIKP PKPdf      23 14 22.2 +4.8
BJI                                                 23 18 05.1
BJI                                                 23 21 33.7
BJI                          SS         SS         23 37 14.8 -7.3
BJI                          MLR        MLR
     comp=Z,1µm,23.8s,MS5.7
BJI  Beijing            151.13 339 PKP   PKPbc      23 14 22.2 -1.1
BJI                          PP         PP         23 18 05.1 +3.8
BJI                          SKS        SKSdf      23 21 33.7 +11
BJI                          SKKS       SKKSac     23 24 53.0 +2.9
BJI                          SS         SS         23 37 14.8 -7.3
BJI                          LR         LR
     comp=Z,1µm,23.8s,MS5.7
POO  Poona              151.14 76⇑iP     PKPdf      23 14 16.0 -1.4
     comp=Z,50nm,1.0s
POO                          AMS        AMS        23 43 00.7
     comp=Z,192nm,15.4s,MS5.0
BJT  Baijiatuau         151.16 339 ePKPdf PKPdf     23 14 17.8 +0.4
BJT                          ePKPbc     PKPbc      23 14 22.0 -1.3
NDI  New Delhi          151.27 54 eP     PKPdf      23 14 16.6 -1.0
NDI                          AMS        AMS        23 41 37.5
     comp=Z,291nm,16.4s,MS5.2
GOA  Goa                151.28 82 ex     x          23 14 26.0
AYAN Aya Nagar          151.29 54 eP     PKPdf      23 14 17.0 -0.7
AYAN                         AMb        AMB        23 14 33.6
     comp=Z,33nm,1.1s
SONA Sohna              151.36 55 eP     PKPdf      23 14 18.3 +0.6
SONA                         AMb        AMB        23 14 28.7
     comp=Z,19nm,0.3s
KAD  Karad              151.56 78 eP     PKPdf      23 14 18.1 +0.1
KAD                          i PP       PP         23 18 04.8 +1.1
KAD                          AMS        AMS        23 42 04.5
     comp=Z,174nm,16.1s,MS5.0
HHC  Hu-ho-hao-te       151.69 347 ePKP  PKPdf      23 14 17.8 -0.4
HHC                          APKP                  23 14 28.8
HHC                          XPKP                  23 14 32.8
HHC                          PKS                   23 17 51.0
HHC                          PP         PP         23 18 03.3 -1.2
HHC                          SKS        SKSdf      23 21 20.5 -3.0
HHC                          SKKS       SKKSac     23 24 56.0 +2.9
HHC                          SS         SS         23 37 26.8 -1.3
HHC                          PP         PP
     comp=Z,462nm,7.5s
HHC                          LR         LR
     comp=N,418nm,31.4s
HHC                          LR         LR
     comp=E,693nm,20.6s
HHC                          LR         LR
     comp=Z,1µm,24.1s
MNGI Mangalore          152.17 88 eP     PKPdf      23 14 19.5 +0.6
MNGI                         AMS        AMS        23 39 10.2
     comp=Z,242nm,18.9s,MS5.0
BTO  Baotou             152.23 349 ePKP  PKPbc      23 14 24.3 -1.5
AGRA Agra               152.48 56 eP     PKPdf      23 14 18.2 -1.2
LGTI Lohaghat           153.22 50 ex     x          23 14 28.7
BHPL Bhopal             153.48 64 eP     PKPdf      23 14 20.3 -0.6
BHPL                         i PP       PP         23 18 15.2 +0.5
BHPL                         AMS        AMS        23 41 42.8
     comp=Z,316nm,23.0s,MS5.1
TRD  Trivandrum         153.60 98 eP     PKPdf      23 14 20.0 -1.0
LATR Latur              153.70 75 ex     x          23 14 43.4
AKL  Akola              153.75 70 ex     x          23 14 43.4
AKL                          i x        x          23 18 18.1
GTA  Gaotai             153.84 6 PKP     PKPdf      23 14 22.5 +1.1
GTA                          APKP                  23 14 33.3
GTA                          XPKP                  23 14 37.5
GTA                          PKS                   23 17 55.0
GTA                          SKS        SKSdf      23 21 23.0 -3.1
GTA                          SKKS       SKKSac     23 25 05.5 +0.7
GTA                          SS         SS         23 37 53.5 +1.7
GTA                          PP         PP
     comp=Z,315nm,9.6s
GTA                          LR         LR
     comp=N,490nm,27.0s,MS5.4
GTA                          LR         LR
     comp=E,689nm,27.0s,MS5.4
GTA                          LR         LR
     comp=Z,991nm,28.5s,MS5.5
TIA  Tai'an             154.11 334 ePKP  PKPdf      23 14 22.0 +0.2
SSE  Sheshan            155.92 320 PKP   PKPdf      23 14 23.8 -0.4
SSE                          PP         PP         23 18 26.8 -1.5
SSE                          SKKS       SKKSac     23 25 18.5 +2.5
SSE                          SS         SS         23 38 17.8 +3.5
SSE                          PP         PP
     comp=Z,240nm,4.5s
SSE                          LR         LR
     comp=N,319nm,31.6s,MS5.0
SSE                          LR         LR
     comp=E,232nm,32.1s,MS5.0
SSE                          LR         LR
     comp=Z,252nm,24.8s
KOLN Koldanda           156.60 49 eP     PKPab      23 14 54.3 +0.1
     comp=Z,49nm,1.0s
NJ2  Nanjing            156.61 325 ePKP  PKPdf      23 14 23.8 -1.3
NJ2                          APKP                  23 14 33.5
NJ2                          XPKP                  23 14 40.0
NJ2                          PKS                   23 17 54.0
NJ2                          PP         PP         23 18 33.0 +0.8
NJ2                          SKS        SKSdf      23 21 22.0 -7.1
NJ2                          PP         PP
     comp=Z,1µm,11.0s
NJ2                          LR         LR
     comp=N,400nm,23.7s,MS5.5
NJ2                          LR         LR
     comp=E,570nm,19.8s,MS5.5
NJ2                          LR         LR
     comp=Z,3µm,17.7s,MS6.2
PALK Pallekele          156.87 103 ePKP  pPKPdf     23 14 35.5 +0.2
PALK                         ePP        PP         23 18 35.9 +2.3
GKN  Gorkha             157.22 47 eP     PKPab      23 14 57.7 +0.8
     comp=Z,102nm,1.0s
DAV  Davao City (W)     157.32 256 ePKP  PKPdf      23 14 31.4 +5.3
DAV                          ePP        PP         23 18 52.5 +16
LZH  Lanzhou            157.35 359 ePKP  PKPdf      23 14 22.0 -4.1
LZH                          APKP                  23 14 31.0
```

LZH				XPKP			23 14 35.0	
LZH				PKS			23 17 56.0	
LZH				PP	PP		23 18 35.0	-1.3
LZH				SKS	SKSdf		23 21 22.0	-7.9
LZH				SKKS	SKKSac		23 25 27.0	+3.4
LZH				PP	PP			
	comp=Z,569nm,5.9s							
LZH				LR	LR			
	comp=N,2μm,19.9s							
LZH				LR	LR			
	comp=Z,2μm,20.5s,MS5.9							
DMN	**Daman**	**157.79**	**47**	*e*P	PKPab		23 14 59.9	+0.6
	comp=Z,166nm,1.0s							
KKN	**Kakani**	**157.81**	**47**	*e*P	PKPab		23 15 00.4	+1.0
	comp=Z,59nm,0.9s							
PKI	**Pulchoki**	**158.03**	**47**	*e*P	PKPab		23 15 00.7	+0.3
GUN	**Gumba**	**158.15**	**46**	*e*P	PKPab		23 15 02.2	+1.3
	comp=Z,182nm,0.9s							
JIRN	**Jiri**	**158.53**	**46**	*e*P	PKPab		23 15 03.5	+1.0
TATO	**Taipei**	**159.40**	**307**	*e*PKPdf	PKPdf		23 14 33.4	+4.8
TATO				*e*PP	PP		23 18 55.7	+8.2
LSA	**Lhasa**	**160.16**	**33**	PKP	PKPdf		23 14 31.3	+1.9
LSA	**Lhasa**	**160.16**	**33**	*e*PKPdf	PKPdf		23 14 30.5	+1.1
VIS	**Vishakhapatnam**	**160.18**	**75**	*i* PP	PP		23 18 53.1	+1.4
BOK	**Bokaro**	**160.43**	**55**	*e*P	PKPdf		23 14 28.5	-1.2
BOK				*i* PP	PP		23 18 53.5	+0.4
BOK				AMS	AMS		23 42 15.6	
	comp=Z,326nm,18.7s							
CD2	**Chengdu**	**162.52**	**359**	*e*PKP	PKPdf		23 14 32.0	+0.1
CD2				APKP			23 14 42.8	
CD2				XPKP			23 14 46.5	
CD2				PKP2	PKPab		23 15 22.5	+2.6
CD2				PP	PP		23 19 08.0	+3.8
CD2				SKS	SKSdf		23 21 31.5	-3.0
CD2				SKKS	SKKSac		23 25 50.8	+0.4
CD2				PP	PP			
	comp=Z,130nm,10.2s							
CD2				LR	LR			
	comp=E,1μm,16.8s							
CD2				LR	LR			
	comp=Z,500nm,18.6s							
SHL	**Shillong**	**163.71**	**40**	*e*P	PKPdf		23 14 31.9	-1.2
SHL				AMS	AMS		23 41 03.3	
	comp=Z,2μm,17.8s							
GYA	**Guiyang**	**166.60**	**347**	PKP	PKPdf		23 14 34.5	-1.0
GYA				APKP			23 14 43.5	
GYA				XPKP			23 14 47.0	
GYA				PKP2	PKPab		23 15 39.0	+1.1
GYA				PKS			23 18 06.0	
GYA				PP	PP		23 19 27.5	+1.9
GYA				SKS	SKSdf		23 21 34.3	-3.0
GYA				SKKS	SKKSac		23 26 11.0	0.0
GYA				SS	SS		23 40 05.5	-0.6
GYA				PP	PP			
	comp=Z,970nm,8.6s							
GYA				LR	LR			
	comp=N,870nm,22.8s							
GYA				LR	LR			
	comp=E,1μm,20.4s							
GYA				LR	LR			
	comp=Z,1μm,19.8s							
KMI	**Kunming**	**168.27**	**3**	PKIKP	PKPdf		23 14 38.1	+1.4
KMI							23 14 46.8	
KMI							23 14 48.7	
PSI	**Prapat**	**168.62**	**157**	PKP	PKPdf		23 14 36.7	-0.2
	comp=Z,6.5nm,0.8s,baz=193,slow=6.0,SNR=8.8							
PSI	**Prapat**	**168.62**	**157**	PKP	PKPdf		23 14 36.7	-0.2
QIZ	**Qiongzhong**	**171.63**	**313**	PKP	PKPdf		23 14 40.5	+1.9
QIZ				XPKP			23 14 50.8	
QIZ				PP	PP		23 19 51.0	0.0
QIZ				PPP			23 23 54.8	
QIZ				SS	SS		23 40 52.0	-4.2
QIZ				PP	PP			
	comp=Z,603nm,5.7s							
QIZ				LR	LR			
	comp=N,579nm,23.2s							
QIZ				LR	LR			
	comp=E,1μm,19.7s							
QIZ				LR	LR			
	comp=Z,2μm,25.0s							
CHTO	**Chiang Mai**	**173.07**	**38**	*e*PKIKP	PKPdf		23 14 39.1	-0.2

*NEIC **26** 23:09:12.8, 1702N×10031W, h34km, MD3.5(MEX), After MEX.*

MEX 26 23:09:13.4±0.4, 1704N×10027W, h32km±3km, MD3.6, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.00**	**356**	*i* P	Pb	23 09 17.2	-1.5
CAIG				*i* S	Sb	23 09 20.8	-1.5
ACX	**Acapulco**	**0.38**	**118**	*i* P	Pb	23 09 20.8	-1.3
ACX				*i* S	Sb	23 09 26.0	-2.0
ACX	**Acapulco**	**0.38**	**118**	*i* P	Pb	23 09 20.8	-1.3
ACX				*i* S	Sb	23 09 26.3	-1.7
MEIG	**Mezcala**	**1.07**	**35**	⇑*i*P	Pn	23 09 30.2	-2.0
MEIG				*i* S	Sn	23 09 43.4	-2.6
PLIG	**Platanillo**	**1.53**	**28**	*i* P	Pn	23 09 36.9	-1.6
PLIG				*i* S	Sn	23 09 54.9	-2.2
PLIG	**Platanillo**	**1.53**	**28**	*i* P	Pn	23 09 36.9	-1.6
PLIG				*i* S	Sn	23 09 56.2	-1.0
UTMO	**Huajuapan**	**2.48**	**71**	*i* P	Pn	23 09 49.9	-1.6
UTMO				*i* S	Sn	23 10 18.7	-2.0
IIO	**Organos**	**2.93**	**30**	*i* P	Pn	23 10 03.5	+5.7
IIO				*i* S	Sn	23 10 38.2	+6.4

*IDC **26** 23:09:13.5±1.3, 3479N×7392E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/22, mbtmp3.9/6, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/34, Error ellipse: s-maj=34.5km s-min=28.5km az=59.0*
*BJI **26** 23:09:15.7, 3490N×7390E, h35km, mb3.6, ML3.7*
*ISCJB **26** 23:09:18.3±0.7, 3483N±004×7424E±005, h69km±11km, mb3.8/5, Error ellipse: s-maj=8.7km s-min=5.0km az=91.8*
*NEIC **26** 23:09:18.7±0.8, 3487N×7386E, h35km, mb3.9/3, Error ellipse: s-maj=15.9km s-min=11.4km az=126.0*
*NDI **26** 23:09:19.4±4.2, 3498N×7372E, h33km, ML3.7, mb3.9(NEIC)*

ISC 26 23:09:19.4±0.5, 3489N±003×7419E±005, h54km±9km, n34, σ1§17/40, mb3.9/5, 3C-2D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.44**	**212**	⇑P	**Pn**	**23 09 42.3**	**-0.9**
CEP	**Cherat**	**2.16**	**241**	⇓P	**Pn**	**23 09 53.1**	**+0.1**
JMU	**Jammu**	**2.25**	**164**	*e*P	**Pn**	**23 10 00.0**	**+5.9**
JMU				*ex*	x	23 10 31.5	
THN	**Thein Dam**	**2.76**	**152**	*e*P	**Pn**	**23 10 04.6**	**+3.4**
THN				*ex*	x	23 10 48.1	
DLH	**Dalhousie**	**2.77**	**147**	*e*P	**Pn**	**23 10 02.0**	**+0.7**
DLH				*e*S	**Sn**	**23 10 37.0**	**+3.4**
THW	**Thamme Wali**	**2.91**	**225**	⇓P	**Pn**	**23 10 04.1**	**+0.8**
SBDP	**Sheikh Budin**	**3.82**	**228**	P	**Pn**	**23 10 16.5**	**+0.8**
BHK	**Bhakra**	**3.93**	**151**	*ex*	x	23 10 32.8	
BHK				*ex*	x	23 11 29.8	
SDNR	**Sundarnagar**	**4.11**	**145**	*e*P	**Pn**	**23 10 22.5**	**+2.9**
SDNR				*ex*	x	23 11 28.0	
DRP	**Derazinda**	**4.58**	**228**	P	**Pn**	**23 10 26.6**	**+0.5**
KHET	**Khetri**	**6.93**	**168**	*ex*	x	23 10 56.9	
KHET				*e*S	**Sn**	**23 12 13.6**	**-2.2**
SONA	**Sohna**	**7.06**	**159**	*e*P	**Pn**	**23 11 02.5**	**+2.3**
SONA				*e*S	**Sn**	**23 12 18.5**	**-0.5**
SONA				AML	AML	23 13 10.1	
	comp=N,33nm,0.6s						
SONA				AML	AML	23 13 14.2	
	comp=E,55nm,0.5s						
AAK	**Ala-Archa**	**7.74**	**2**	*e*Pn	**Pn**	**23 11 10.5**	**+1.0**
	comp=E,4.3nm,0.3s						
AGRA	**Agra**	**8.28**	**156**	*e*P	**Pn**	**23 11 21.4**	**+4.6**
AGRA				*e*S	**Sn**	**23 12 47.5**	**-1.5**
AGRA				AML	AML	23 13 52.3	
	comp=E,80nm,0.2s						
AGRA				AML	AML	23 13 54.1	
	comp=N,64nm,0.2s						
KK31	**Karatay Array**	**8.69**	**342**	⇑Pn	**Pn**	**23 11 20.9**	**-1.5**
	comp=N,1.9nm,0.2s,baz=150,slow=11						
KK31				⇑Sn	**Sn**	**23 12 57.9**	**-1.0**
	comp=N,2.6nm,0.3s,baz=142,slow=22						
KOLN	**Koldanda**	**10.72**	**129**	*e*P	**Pn**	**23 11 49.9**	**-0.4**
	comp=N,15nm,0.5s						
KOLN				*e*S	**Sn**	**23 13 48.1**	**-0.7**
GKN	**Gorkha**	**11.25**	**125**	*e*P	**Pn**	**23 11 57.7**	**+0.2**
	comp=N,28nm,0.3s						
GKN				*e*S	**Sn**	**23 14 02.2**	**+0.5**
DMN	**Daman**	**11.82**	**125**	*e*P	**Pn**	**23 12 04.0**	**-1.3**
	comp=N,37nm,0.6s						
KKN	**Kakani**	**11.83**	**124**	*e*P	**Pn**	**23 12 04.6**	**-0.7**
	comp=N,27nm,0.5s						
KKN				*e*S	**Sn**	**23 14 15.8**	**+0.1**
PKI	**Pulchoki**	**12.05**	**124**	*e*P	**Pn**	**23 12 07.8**	**-0.6**
	comp=N,19nm,0.5s						
GUN	**Gumba**	**12.17**	**122**	*e*P	**Pn**	**23 12 09.3**	**-0.6**
JIRN	**Jiri**	**12.54**	**122**	*e*P	**Pn**	**23 12 14.5**	**-0.5**
	comp=N,50nm,0.4s						
MK31	**Makanchi Array**	**13.37**	**25**	*e*P	**Pn**	**23 12 27.1**	**+0.7**
MKAR	**Makanchi Array**	**13.37**	**25**	Pn	**Pn**	**23 12 28.0**	**+1.6**
	comp=N,0.1nm,0.3s,baz=205,slow=14,SNR=4.5						
MKAR				LR	LR	23 17 37.7	
	comp=N,273nm,19.3s,baz=228,slow=37						
BVAR	**Borovoye Array**	**18.33**	**353**	P	**Pn**	**23 13 29.5**	**-0.2**
	comp=N,1.18nm,0.3s,baz=156,slow=9.5,SNR=44						
ZRNK	**Zerenda**	**18.43**	**350**	*e*P	**Pn**	**23 13 30.3**	**-0.6**
	comp=N,2.7nm,0.5s						
CHKZ	**Chkalovo**	**18.95**	**353**	*e*P	**Pn**	**23 13 35.9**	**-1.4**
	comp=N,8.5nm,0.9s						
GTA	**Gaotai**	**20.90**	**70**	*e*P	**P**	**23 14 00.8**	**+3.6**
GTA				AP		23 14 05.3	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s						
KIV	**Kislovodsk**	**25.84**	**300**	*e*P	**P**	**23 14 44.2**	**-1.5**
	comp=Z,3.6nm,0.7s,mb4.0						
JOF	**Joensuu**	**38.56**	**330**	*e*p	**P**	**23 16 36.4**	**-0.4**
FINES	**FINESS Array B**	**40.26**	**326**	P	**P**	**23 16 51.5**	**+0.4**
	comp=Z,2.3nm,0.8s,mb4.0,baz=123,slow=10,SNR=8.4						
NOA	**NORSAR Array B**	**47.22**	**324**	P	**P**	**23 17 47.8**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=94,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**68.31**	**271**	P	**P**	**23 20 15.2**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=48,slow=5.7,SNR=32						
WRA	**Warramunga Arr**	**78.94**	**124**	P	**P**	**23 21 20.1**	**+2.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=323,slow=5.1,SNR=5.6						

*CSEM **26** 23:20:01.1, 6785N×2020E, h0km, ML3.1, Mining explosion. After UPP*
*UPP **26** 23:20:01.1, 6785N×2020E, h0km, ML3.1, Mining explosion.*

HEL 26 23:20:01.7±0.0, 6786N×2019E, h0km, ML1.4, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**29**	*i* P	Pg	23 20 03.5	-0.3
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	23 20 09.6	-0.5
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	23 20 14.4	-0.8
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	23 20 14.9	-1.2
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	23 20 16.1	-0.9
SALU	**Saltoluokta**	**0.80**	**234**	*i* P	Pg	23 20 16.1	-1.0
SALU	**Saltoluokta**	**0.80**	**234**	P	Pg	23 20 16.1	-1.0
	baz=73						
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PB	Pb	23 20 23.8	-1.1
KIF				*e*S	Sg	23 20 38.9	-0.6
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	23 20 26.6	-1.9
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	23 20 29.7	-0.5
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	23 20 29.7	-0.5
	baz=302						
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	23 20 32.4	-0.6
SJUU	**Sjulsmark**	**2.43**	**166**	*e*P	Pn	23 20 43.0	+0.4
SGF	**Sodankyl**	**2.46**	**97**	*e*PB	Pb	23 20 44.3	-2.4
SGF				*e*SG	Sg	23 21 17.3	-3.4
LILU	**Lilltraesk**	**2.59**	**183**	*e*P	Pn	23 20 46.0	+1.2
KEV	**Kevo**	**3.12**	**49**	*e*SG	Sg	23 21 36.4	-5.7

ISC 26 23:35:10.8±0.6, 5025N±005×1887E±004, h0km, n14, σ1§22/21, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**92**	*e*Pg	**Pg**	**23 35 21.6**	**-0.6**
OJC				*e*Sg	**Sg**	**23 35 29.2**	**-0.7**
OKC	**Ostrava-Krasne**	**0.62**	**229**	*e*PG	**Pg**	**23 35 24.2**	**+1.5**
OKC				*e*SG	**Sg**	**23 35 33.2**	**+2.4**
	17nm,0.4s						
NIE	**Niedzica**	**1.25**	**131**	*e*Pg	**Pg**	**23 35 34.6**	**-0.1**
NIE				*e*Sg	**Sg**	**23 35 50.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*PG	**Pg**	**23 35 40.8**	**-1.4**
DPC				*e*SG	**Sg**	**23 36 02.2**	**-1.3**
STHS	**Stebnicka Huta**	**1.75**	**117**	*e*PN	**Pn**	**23 35 43.2**	**+0.9**
STHS				*e*SN	**Sn**	**23 36 06.4**	**+1.1**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**23 35 46.1**	**+1.7**
KSP				*e*Sg	**Sg**	**23 36 08.3**	**+1.2**
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	**Pn**	**23 35 42.4**	**0.0**
VYHS				*e*SN	**Sn**	**23 36 04.7**	**-0.8**
UPC	**Upice**	**1.85**	**279**	*e*SG	**Sg**	**23 36 09.4**	**-0.8**
KECS	**Kecovo**	**2.06**	**149**	*e*SN	**Sn**	**23 36 10.3**	**-2.6**
KECS	**Kecovo**	**2.06**	**149**	*e*Sn	**Sn**	**23 36 10.3**	**-2.6**
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*SN	**Sn**	**23 36 17.1**	**+1.7**
PRU	**Pruhonice**	**2.80**	**266**	*e*SG	**Sg**	**23 36 40.1**	**-0.7**
KHC	**Kasperske Hory**	**3.61**	**254**	*e*SG	**Sg**	**23 37 06.2**	**-0.7**
KHC	**Kasperske Hory**	**3.61**	**254**	*e*Sg	**Sg**	**23 37 06.2**	**-0.7**

*ISCJB **26** 23:37:59.9±1.5, 2332S±008×688W±0.1, h88km±18km, mb3.7/3, Error ellipse: s-maj=21.3km s-min=12.5km az=144.3*
*NEIC **26** 23:38:01.3±1.0, 2332S×6878W, h89km±11km, mb3.7/2, Error ellipse: s-maj=16.4km s-min=9.6km az=73.0*
*IDC **26** 23:38:02.1±2.6, 2331S×6872W, h92km±21km, mb3.7/2, mb1 3.7/6, mb1mx3.5/19, mbtmp4.0/6, Error ellipse: s-maj=42.8km s-min=21.6km az=97.0*

ISC 26 23:38:01.6±1.2, 2329S±008×688W±01, h82km±15km, n14, σ1§12/12, mb3.7/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.99**	**5**	P	**Pn**	**23 39 44.2**	**+2.9**
	0.6nm,0.3s,baz=201,slow=5.4,SNR=12						
LPAZ	**La Paz**	**6.99**	**5**	*e*Pn	**Pn**	**23 39 43.6**	**+2.3**
CFAA	**Coronel Fontan**	**8.30**	**177**	P	**Pn**	**23 39 58.4**	**-0.8**
	0.4nm,0.3s,baz=356,slow=14,SNR=18						
SIV	**San Ignacio**	**10.27**	**46**	P	**Pn**	**23 40 25.0**	**-1.0**
	12nm,0.3s,baz=250,slow=10,SNR=220						
CPUP	**Villa Florida**	**10.84**	**109**	P	**Pn**	**23 40 33.6**	**-0.2**
	0.3nm,0.3s,baz=282,slow=11,SNR=5.8						
CPUP	**Villa Florida**	**10.84**	**109**	*e*Pn	**Pn**	**23 40 33.3**	**-0.5**
NNA	**Nana**	**13.60**	**324**	*e*Pn	**Pn**	**23 41 10.0**	**-1.0**
TRQA	**Tornquist**	**15.84**	**160**	*e*Pn	**Pn**	**23 41 42.0**	**+2.4**
	6.4nm,0.8s						
OTAV	**Otavalo**	**25.20**	**337**	*e*P	**P**	**23 43 19.2**	**-0.3**
	1.0nm,0.4s,mb3.6						
SDV	**Santo Domingo**	**32.02**	**357**	P	**P**	**23 44 20.9**	**+0.7**
SNAA	**Sanae**	**60.56**	**161**	P	**P**	**23 48 03.1**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=350,slow=24,SNR=4.7						
TORD	**Torodi Ar. Bea**	**77.85**	**70**	P	**P**	**23 49 49.8**	**-0.4**
	1.6nm,0.4s,mb4.1,baz=255,slow=5.3,SNR=88						
WRA	**Warramunga Arr**	**131.47**	**210**	PKP	PKPdf	23 57 03.9	-0.7
	0.2nm,0.4s,baz=152,slow=1.6,SNR=7.8						
MKAR	**Makanchi Array**	**146.99**	**38**	PKPbc	PKPbc	23 57 33.0	-1.8
	0.4nm,0.5s,baz=29,slow=3.0,SNR=5.6						

*NEIC **27** 00:47:13.6, 3143S×7174W, h22km, ML3.0(GUC), After GUC.*

GUC 27 00:47:13.6±0.8, 3143S×7174W, h22km±4km, MD3.8, ML3.0, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**155**	⇓*i*P	Pb	00 47 23.2	-0.4
CHNG				*i* S	Sb	00 47 30.6	+0.2
CHNG				AML	AML	00 47 30.9	
	comp=E,608nm,0.2s						
CMCH	**Combarbala**	**0.69**	**68**	⇑*i*P	Pb	00 47 26.4	-0.4
CMCH				*i* S	Sb	00 47 36.2	+0.3
CMCH				AML	AML	00 47 41.5	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**0.69**	**68**	⇑*i*P	Pb	00 47 26.4	-0.4
CMCH				*i* S	Sb	00 47 36.2	+0.3
PTCH	**Petorca**	**1.08**	**140**	⇓*i*P	Pn	00 47 32.6	-0.7
PTCH				*i* S	Sb	00 47 47.0	-0.2
PTCH				AML	AML	00 47 49.9	
	comp=E,2μm,0.1s						
PTCH	**Petorca**	**1.08**	**140**	⇓*i*P	Pn	00 47 32.6	-0.7
PTCH				*i* S	Sb	00 47 47.0	-0.2
PACH	**Papudo**	**1.13**	**167**	*e*P	Pn	00 47 33.3	-0.7
PACH				*i* S	Sb	00 47 48.5	-0.2
JACH	**Jahuel**	**1.58**	**142**	⇑*i*P	Pn	00 47 41.1	+0.9
JACH				*i* S	Sn	00 48 01.9	+1.9
ROCH	**El Roble**	**1.65**	**158**	*e*P	Pn	00 47 41.7	+0.5
ROCH				*i* S	Sn	00 48 03.4	+1.6
PEL	**Peldehue**	**1.93**	**153**	⇓*i*P	Pn	00 47 45.5	+0.5
PEL				*i* S	Sn	00 48 10.6	+2.2
PEL				AML	AML	00 48 16.6	
	comp=E,396nm,0.2s						
PEL	**Peldehue**	**1.93**	**153**	⇓*i*P	Pn	00 47 45.5	+0.5
PEL				*i* S	Sn	00 48 10.6	+2.2
CLCH	**Cerro Calan**	**2.21**	**153**	⇑*i*P	Pn	00 47 50.8	+2.0
CLCH				*i* S	Sn	00 48 17.7	+2.3
CLCH				AML	AML	00 48 21.8	
	comp=E,144nm,0.6s						
FCH	**Farellones**	**2.25**	**147**	⇓*i*P	Pn	00 47 51.1	+1.6
FCH				*i* S	Sn	00 48 19.8	+3.2
FCH				AML	AML	00 48 26.0	
	comp=E,104nm,0.2s						
TACH	**Talagante**	**2.31**	**163**	⇓*i*P	Pn	00 47 52.1	+1.8
TACH				*i* S	Sn	00 48 20.9	+2.8

*IDC **27** 01:07:26.9±1.2, 2970N×8058E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=33.4km s-min=24.7km az=59.0*
*ISCJB **27** 01:07:30.6±0.9, 2994N±004×8047E±005, h25km±8km, mb3.8/9, Error ellipse: s-maj=8.6km s-min=5.8km az=86.3*
*NDI **27** 01:07:31.6±5.4, 2988N×8052E, h15km±15km, ML3.2, mb4.1(NEIC)*
*NEIC **27** 01:07:33.0±1.2, 2985N×8055E, h39km±12km, mb4.1/1, Error ellipse: s-maj=14.5km s-min=8.9km az=92.0*

ISC 27 01:07:31.1±0.8, 2988N±004×8055E±005, h19km±6km, n34, σ1§08/43, mb3.8/9, 1C, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.44**	**221**	*e*P	**Pg**	**01 07 38.9**	**-1.2**
PTH				*e*S	**Sg**	**01 07 45.5**	**-0.6**
DDI	**Dehra Dun**	**2.20**	**282**	*e*P	**Pn**	**01 08 10.0**	**+3.4**
DDI				*e*S	**Sn**	**01 08 32.0**	**-1.4**
NDI	**New Delhi**	**3.15**	**248**	*e*P	**Pn**	**01 08 20.8**	**+1.2**
NDI				*e*S	**Sn**	**01 08 56.2**	**-0.4**
NDI				AML	AML	01 09 09.2	
	comp=N,70nm,0.2s						
NDI				AML	AML	01 09 09.7	
	comp=E,99nm,0.5s						
AYAN	**Aya Nagar**	**3.30**	**246**	*e*P	**Pn**	**01 08 23.1**	**+1.4**
AYAN				*i* x	x	01 08 34.1	
SONA	**Sohna**	**3.44**	**243**	*e*P	**Pn**	**01 08 24.4**	**+0.7**
SONA				*i* x	x	01 08 37.3	
SONA				*e*S	**Sn**	**01 09 04.5**	**+0.6**
SONA				AML	AML	01 09 09.6	
	comp=E,74nm,0.5s						
SONA				AML	AML	01 09 24.1	
	comp=N,59nm,0.2s						
SDNR	**Sundarnagar**	**3.48**	**299**	*e*P	**Pn**	**01 08 26.0**	**+1.8**
SDNR				*ex*	x	01 09 21.6	
AGRA	**Agra**	**3.50**	**222**	*e*P	**Pn**	**01 08 25.3**	**+0.9**
AGRA				*e*S	**Sn**	**01 09 06.0**	**+0.7**
AGRA				AML	AML	01 09 25.6	
	comp=E,145nm,0.2s						
AGRA				AML	AML	01 09 26.1	
	comp=N,216nm,0.4s						
KHET	**Khetri**	**4.53**	**248**	*e*P	**Pn**	**01 08 39.4**	**+0.8**
KHET				*e*S	**Sn**	**01 09 28.5**	**-2.2**
ALBI	**Allahabad**	**4.69**	**166**	*e*P	**Pg**	**01 09 00.0**	**-0.9**
ALBI				*e*S	**Sg**	**01 09 55.0**	**-6.7**
THN	**Thein Dam**	**4.86**	**303**	*ex*	x	01 08 27.1	
THN				*ex*	x	01 10 04.9	
CHCP	**Chirah Chowk**	**7.25**	**303**	P	**Pn**	**01 09 17.5**	**+1.5**
THW	**Thamme Wali**	**8.07**	**293**	⇑P	**Pn**	**01 09 27.1**	**-0.2**
THW				S	**Sn**	**01 10 56.0**	**-2.0**
CEP	**Cherat**	**8.33**	**300**	P	**Pn**	**01 09 31.1**	**+0.3**
CEP				S	**Sn**	**01 11 03.0**	**-1.4**
SBDP	**Sheikh Budin**	**8.69**	**289**	P	**Pn**	**01 09 37.9**	**+2.1**
NGP	**Nagpur**	**8.80**	**189**	*e*S	**Sn**	**01 11 08.0**	**-7.9**
NGP				*ex*	x	01 11 58.8	
DRP	**Derazinda**	**9.09**	**284**	P	**Pn**	**01 09 41.2**	**0.0**
DRP				S	**Sn**	**01 11 24.0**	**+1.0**
HYB	**Hyderabad**	**12.54**	**189**	*i* P	**Pn**	**01 10 29.0**	**+0.5**
HYB	**Hyderabad**	**12.54**	**189**	*e*P	**Pn**	**01 10 29.0**	**+0.5**
AAK	**Ala-Archa**	**13.62**	**341**	Pn	**Pn**	**01 10 44.2**	**+1.0**
MK31	**Makanchi Array**	**16.94**	**4**	*e*Pn	**Pn**	**01 11 27.6**	**+0.6**
MKAR	**Makanchi Array**	**16.94**	**4**	P	**Pn**	**01 11 25.6**	**-1.4**
	comp=N,0.4nm,0.3s,baz=193,slow=12,SNR=23						
ZAL	**Zalesovo**	**24.23**	**6**	P	**P**	**01 12 46.7**	**0.0**
	comp=N,1.5nm,0.3s,mb3.8,baz=245,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**24.30**	**345**	P	**P**	**01 12 47.4**	**+0.1**
	comp=N,1.0nm,0.6s,mb3.4,baz=151,slow=11,SNR=8.2						
CHKZ	**Chkalovo**	**24.85**	**346**	*e*P	**P**	**01 12 52.1**	**-0.2**
	comp=N,2.5nm,0.4s,mb4.1						
SONM	**Songino Array**	**26.76**	**41**	P	**P**	**01 13 10.5**	**+0.9**
	comp=N,0.4nm,0.4s,mb3.3,baz=225,slow=9.6,SNR=4.6						
GNI	**Garni**	**30.88**	**299**	P	**P**	**01 13 45.9**	**-0.3**
KIV	**Kislovodsk**	**33.06**	**306**	P	**P**	**01 14 04.6**	**-0.8**
BR131	**Keskin Array S**	**39.36**	**297**	P	**P**	**01 14 59.0**	**-0.3**
JOF	**Joensuu**	**45.55**	**331**	*ep*	**P**	**01 15 47.8**	**-1.8**
	comp=N,0.8nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**47.37**	**328**	P	**P**	**01 16 03.7**	**-0.2**
	comp=N,1.0nm,0.4s,mb4.1,baz=113,slow=8.4,SNR=18						
ARCES	**ARCESS Array B**

FDF	Fort de France	2.97 183⇓	eP	Pn	01 26 47.6	-0.9
FDF			eS	Sn	01 27 21.6	-1.3
MVM	Montagne Vaucl	3.15 178	eP	Pn	01 26 49.8	-1.1
BIM	Bigot	3.18 181⇑	eP	Pn	01 26 51.3	-0.1
TBVI	Tortola	3.50 282⇑	eP	Pn	01 26 54.7	-1.1
CDVI	St. Croix	3.58 271⇑	eP	Pn	01 26 57.2	+0.3
STVI	Saint Thomas	3.80 280⇓	eP	Pn	01 26 59.0	-1.0
MTP	Monte Pirata	4.34 276⇑	eP	Pn	01 27 06.9	-0.4
MTP			eS	Sn	01 27 57.7	+1.1
SSV	Crater Summit	4.37 182	eP	Pn	01 27 08.7	+0.9
SSV			eS	Sn	01 27 57.8	+0.4
SSV	Crater Summit	4.37 182	eP	Pn	01 27 06.8	-0.9
SSV			eS	Sn	01 27 57.6	+0.3
SVB	Belmont	4.42 183	eP	Pn	01 27 09.0	+0.5
SVB			eS	Sn	01 27 57.4	-1.3
SVB	Belmont	4.42 183	eP	Pn	01 27 09.0	+0.5
SVB			eS	Sn	01 28 01.6	+2.8
FCV	Fort Charlotte	4.54 183	eP	Pn	01 27 10.0	-0.1
FCV			eS	Sn	01 27 59.5	-2.1
FCV	Fort Charlotte	4.54 183	eP	Pn	01 27 11.9	+1.8
FCV			eS	Sn	01 28 00.8	-0.8
HUMP	Col San Antoni	4.62 276⇑	eP	Pn	01 27 09.8	-1.4
CBYP	Canovanas	4.64 278⇑	eP	Pn	01 27 09.3	-2.2
CPD	Cerro la Pandu	4.68 275⇑	eP	Pn	01 27 12.4	+0.4
SJG	San Juan	4.91 275⇓	eP	Pn	01 27 15.1	-0.1
ICM	Isla Caja Muer	5.25 273⇑	eP	Pn	01 27 19.5	-0.4
CELP	Cerrillos	5.31 275	i P	Pn	01 27 20.8	0.0
GRSS	Sisters	5.42 186	eP	Pn	01 27 25.8	+3.6
AOPR	Arecibo Observ	5.50 277⇑	eP	Pn	01 27 23.5	+0.3
GRW	Mount Saint Ca	5.56 187	eP	Pn	01 27 25.6	+1.5
GRW	Mount Saint Ca	5.56 187	eP	Pn	01 27 27.9	+3.8
GRW			eS	Sn	01 28 22.6	-4.1
LRS	Lares	5.58 277⇓	eP	Pn	01 27 23.8	-0.6
GBPR	Guanica, Bosqu	5.59 274⇑	eP	Pn	01 27 26.5	+1.9
LSP	Las Mesas	5.80 275⇑	eP	Pn	01 27 27.3	-0.1
CRPR	Cabo Rojo, PR	5.81 274⇑	eP	Pn	01 27 27.2	-0.4
TPR	Prospect	6.50 178	eP	Pn	01 27 39.1	+2.1
TPR	Prospect	6.50 178	eP	Pn	01 27 40.7	+3.8
TCE	Chacachacare	7.01 186	eP	Pn	01 27 46.9	+2.8
TCE	Chacachacare	7.01 186	eP	Pn	01 27 49.6	+5.5
TRN	Trinidad (W)	7.04 183	eP	Pn	01 27 46.3	+1.9
TRN	Trinidad (W)	7.04 183	eP	Pn	01 27 48.4	+4.0
TBH	Brigand Hill	7.19 180	eP	Pn	01 27 49.7	+3.2
TBH	Brigand Hill	7.19 180	eP	Pn	01 27 50.3	+3.8
PCRV	Puerto La Cruz	8.28 206	Pn	Pn	01 28 05.5	+4.1
	0.5nm,0.3s,baz=2.2,slow=11,SNR=4.0					
PCRV		LR		LR	01 31 38.0	
	comp=Z,859nm,18.1s,baz=338,slow=40					
SDV	Santo Domingo	12.83 228	Pn	Pn	01 29 04.4	+0.7
	0.2nm,0.3s,baz=74,slow=6.9,SNR=8.2					
SDV		LR		LR	01 34 34.8	
	comp=Z,284nm,18.9s,baz=309,slow=40					
ROSC	El Rosal	18.25 227	P	Pn	01 30 15.4	+1.0
	1.1nm,0.3s,baz=56,slow=5.7,SNR=21					
ROSC		LR		LR	01 38 12.4	
	comp=Z,192nm,19.6s,baz=178,slow=40					
OTAV	Otavalo	24.41 226	eP	P	01 31 19.6	+0.6
	3.0nm,0.5s,mb4.0					
BRNJ	Basking Ridge	25.70 336	P	P	01 31 29.7	-1.0
SAML	Samuel	26.58 185	eP	P	01 31 38.1	-0.6
	6.2nm,0.8s,mb4.2					
NNA	Nana	33.40 209	P	P	01 32 38.7	-0.3
SIV	San Ignacio	33.49 180	P	P	01 32 40.5	+0.7
	18nm,0.8s,mb5.0,baz=16,slow=9.8,SNR=87					
LPAZ	La Paz	34.51 192	P	P	01 32 48.4	-0.3
	2.2nm,0.9s,mb4.1,baz=337,slow=10,SNR=6.3					
WMOK	Wichita Mounta	37.62 304	P	P	01 33 18.2	+2.9
TXAR	Lajitas Array	40.58 295	P	P	01 33 40.1	+0.2
	1.2nm,0.8s,mb3.6,baz=117,slow=11,SNR=8.8					
TXAR		PcP		PcP	01 35 43.4	+1.6
	0.5nm,0.8s,baz=136,slow=5.9,SNR=4.1					
MNTX	Cornudas Mount	42.36 298	eP	P	01 33 54.9	+0.3
	4.6nm,1.1s,mb4.0					
ULM	Lac du Bonnet	42.78 327	P	P	01 33 57.4	-0.6
	3.7nm,1.0s,mb4.1,baz=126,slow=17,SNR=3.6					
BNM	Barren Site	43.79 301	eP	P	01 34 07.6	+1.4
ANMO	Albuquerque	43.80 302	eP	P	01 34 07.6	+1.3
CPUP	Villa Florida	43.93 175	P	P	01 34 06.2	-1.1
	0.4nm,0.3s,mb3.6,baz=317,slow=7.1,SNR=3.2					
PV01	Paradox Valley	46.11 306	eP	P	01 34 26.3	+1.7
TUC	Tucson	46.99 298	eP	P	01 34 33.3	+1.8
	10nm,1.4s,mb4.6					
PDAR	Pinedale Array	47.99 312	P	P	01 34 40.2	+0.9
	3.6nm,0.8s,mb4.4,baz=111,slow=8.2,SNR=22					
MPU	Maple Canyon	48.84 308	eP	P	01 34 46.9	+1.1
	6.2nm,1.1s,mb4.5					
AHID	Auburn Hatcher	49.08 312	P	P	01 34 47.9	+0.2
	2.5nm,0.4s,mb4.6					
DUG	Dugway	49.77 308	eP	P	01 34 54.4	+1.5
	8.7nm,1.1s,mb4.7					
QLMT	Earthquake Lak	49.86 314	eP	P	01 34 54.3	+0.7
WALA	Waterton Lakes	52.70 319	P	P	01 35 13.9	-0.9
NVAR	Mina Array Bea	53.72 305	P	P	01 35 23.3	+0.9
	0.9nm,0.8s,mb3.8,baz=111,slow=2.6,SNR=9.4					
NEW	Newport	54.54 317	eP	P	01 35 28.6	+0.3
	7.4nm,1.0s,mb4.7					
RES	Resolute Bay	59.88 350	P	P	01 36 03.8	-2.3
TORD	Torodi Ar. Bea	60.39 85	P	P	01 36 08.4	-1.2
	1.8nm,0.8s,mb4.2,baz=294,slow=6.2,SNR=12					
TORD		LR		LR	01 57 18.7	
	comp=Z,151nm,18.3s,MS4.2,baz=245,slow=31					
INK	Inuvik	67.21 337	eP	P	01 36 52.0	-2.5
	213nm,0.9s					
FINES	FINESS Array B	73.23 30	P	P	01 37 28.2	-3.1
	2.3nm,0.9s,mb4.1,baz=262,slow=5.8,SNR=4.2					
FINES		LR		LR	02 06 39.8	
	comp=Z,95nm,18.4s,MS4.1,baz=344,slow=33					
BRTR	Keskin Array B	82.36 51	P	P	01 38 20.9	-1.3
	0.8nm,0.9s,mb3.6,baz=316,slow=6.9,SNR=3.6					
BVAR	Borovoye Array	98.03 27	LR	LR	02 19 49.1	
	comp=Z,68nm,18.7s,MS4.2,baz=139,slow=33					
ASAR	Alice Springs	164.84 245	PKP	PKPdf	01 46 03.6	-0.4
	0.1nm,0.3s,baz=90,slow=1.3,SNR=4.7					
WRA	Warramunga Arr	165.30 259	PKP	PKPdf	01 46 04.2	-0.2
	1.9nm,1.0s,baz=66,slow=1.6,SNR=8.8					

*ISCJB **27** 02:24:21.3±0.4, 3181S±003×6923W±004, h128km±4km, mb3.5/4, Error ellipse: s-maj=6.2km s-min=4.8km az=2.8*
*GUC **27** 02:24:21.9±0.9, 3183S×6948W, h152km±10km, MD3.7, ML3.8*
*IDC **27** 02:24:22.0±1.5, 3179S×6911W, h119km±10km, mb3.2/3, mb1 3.3/5, mb1mx3.2/16, mbtmp3.5/5, Error ellipse: s-maj=36.9km s-min=20.0km az=70.0*
*NEIC **27** 02:24:22.0±0.3, 3184S×6921W, h122km±4km, mb3.7/1, MD3.7(GUC), Error ellipse: s-maj=6.8km s-min=5.2km az=93.0*

ISC 27 02:24:22.3±0.4, 3181S±003×6923W±004, h122km±4km, n47, σ0§94/71, mb3.5/4, 8C-14D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.87	77	P	Pn	02 24 42.8	-0.4
	5.1nm,0.3s,baz=273,slow=6.9,SNR=605						
CFAA				S	Sn	02 24 57.7	-1.2
	30nm,0.3s,baz=133,slow=19,SNR=121						
CFAA	Coronel Fontan	0.87	77	P	Pn	02 24 42.8	-0.4
CFAA				S	Sn	02 24 57.7	-1.2
MDZ	Mendoza	1.12	164	eP	Pn	02 24 45.5	-0.1
MDZ				e		02 24 52.5	
MDZ				i S	Sn	02 25 04.1	+0.8
JACH	Jahuel	1.45	233	⇓ i P	Pn	02 24 49.8	+0.5
JACH				i S	Sn	02 25 11.2	+1.4
PTCH	Petorca	1.52	252	⇓ i P	Pn	02 24 49.9	-0.1
PTCH				i S	Sn	02 25 11.2	+0.1
PTCH				AML	AML	02 25 11.9	
	comp=N,6μm,0.3s						
CMCH	Combarbala	1.64	292	⇓ i P	Pn	02 24 51.6	+0.2
CMCH				i S	Sn	02 25 14.4	+0.7
CMCH				AML	AML	02 25 16.9	
	comp=E,3μm,0.6s						
CMCH	Combarbala	1.64	292	⇓ i P	Pn	02 24 51.6	+0.2
CMCH				i S	Sn	02 25 14.4	+0.7
FCH	Farellones	1.76	210	⇓ i P	Pn	02 24 53.8	+0.9
FCH				i S	Sn	02 25 18.1	+1.8
FCH				AML	AML	02 25 20.1	
	comp=N,311nm,0.3s						
PEL	Peldehue	1.82	222	⇓ i P	Pn	02 24 53.6	+0.1
PEL				i S	Sn	02 25 17.5	+0.1
PEL				AML	AML	02 25 23.3	
	comp=E,611nm,0.4s						
PEL	Peldehue	1.82	222	⇓ i P	Pn	02 24 53.6	+0.1
PEL				i S	Sn	02 25 17.5	+0.1
ROCH	El Roble	1.91	232	⇓ i P	Pn	02 24 54.6	0.0
ROCH				i S	Sn	02 25 19.2	-0.1
CLCH	Cerro Calan	1.93	215	⇓ i P	Pn	02 24 55.3	+0.4
CLCH				i S	Sn	02 25 21.2	+1.3
CLCH				AML	AML	02 25 22.2	
	comp=E,1μm,0.4s						
CLCH				AML	AML	02 25 22.8	
	comp=E,1μm,0.6s						
CHNG	Los Chungos	1.94	267	⇑ i P	Pn	02 24 54.5	-0.5
CHNG				i S	Sn	02 25 18.7	-1.3
CHNG				AML	AML	02 25 25.1	
	comp=N,377nm,0.5s						
PACH	Papudo	2.01	248	⇑ i P	Pn	02 24 55.0	-0.9
PACH				i S	Sn	02 25 20.0	-1.7
OVCH	Ovalle	2.07	305	⇓ i P	Pn	02 24 56.8	+0.2
OVCH				i S	Sn	02 25 22.7	-0.3
OVCH				AML	AML	02 25 27.3	
	comp=E,404nm,0.4s						
OVCH	Ovalle	2.07	305	⇓ i P	Pn	02 24 56.8	+0.2
OVCH				i S	Sn	02 25 22.7	-0.3
PCH	Pirque	2.11	211	⇓ i P	Pn	02 24 57.6	+0.4
PCH				i S	Sn	02 25 25.0	+1.2
ANTU	Antumapu	2.12	214	i P	Pn	02 24 58.0	+0.7
ANTU				i S	Sn	02 25 24.9	+0.8
ANTU				AML	AML	02 25 27.4	
	comp=E,450nm,0.4s						
ANTU	Antumapu	2.12	214	i P	Pn	02 24 58.0	+0.7
ANTU				i S	Sn	02 25 24.9	+0.8
TLL	Tololo Astrono	2.12	320	⇑ i P	Pn	02 24 58.1	+0.8
TLL				i S	Sn	02 25 25.6	+1.4
TLL				AML	AML	02 25 30.3	
	comp=N,463nm,0.6s						
TLL	Tololo Astrono	2.12	320	⇑ i P	Pn	02 24 58.1	+0.8
TLL				i S	Sn	02 25 25.6	+1.4
RCDM	Rinconada Maip	2.14	218	⇓ i P	Pn	02 24 57.6	0.0
RCDM				i S	Sn	02 25 24.7	+0.1
RCDM				AML	AML	02 25 26.0	
	comp=E,835nm,0.1s						
RCDM	Rinconada Maip	2.14	218	⇓ i P	Pn	02 24 57.6	0.0
RCDM				i S	Sn	02 25 24.7	+0.1
TACH	Talagante	2.34	218	⇑ i P	Pn	02 24 59.6	-0.4
TACH				i S	Sn	02 25 28.6	-0.5
IHA	Instituto Hidr	2.38	239	eP	Pn	02 24 58.4	-2.2
IHA				eS	Sn	02 25 27.3	-2.6
CHCH	Chadas Angostu	2.44	209	⇑ i P	Pn	02 25 01.5	+0.2
CHCH				i S	Sn	02 25 32.1	+0.8
CACH	El Canelo	2.58	206	⇑ i P	Pn	02 25 03.2	+0.1
LCCH	Las Cruces	2.58	229	⇑ i P	Pn	02 25 02.5	-0.7
CICH	Cipreses	2.70	201	eP	Pn	02 25 05.1	+0.5
LNV	Longovilo	2.82	220	i P	Pn	02 25 04.6	-1.7
LNV				i S	Sn	02 25 37.8	-2.4
SFDO	San Fernando	3.18	208	eP	Pn	02 25 10.5	-0.4
TRQA	Tornquist	8.62	138	ePn	Pn	02 26 22.5	-1.6
	comp=E,17nm,0.6s						
LPAZ	La Paz	15.48	4	P	Pn	02 27 55.1	+1.2
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=3.2						
SIV	San Ignacio	17.41	27	P	Pn	02 28 16.5	-1.0
	comp=E,0.2nm,0.3s,baz=189,slow=13,SNR=6.4						
NNA	Nana	20.94	339	P	P	02 28 54.6	-0.7
	comp=E,18nm,0.3s,baz=223,slow=12,SNR=9.6						
NNA	Nana	20.94	339	eP	P	02 28 54.8	-0.5
	comp=E,33nm,0.8s						
SAML	Samuel	23.43	15	eP	P	02 29 21.3	+0.9
	comp=E,2.4nm,0.7s,mb3.6						
VNA3	Neumayer Olymp	50.52	159	e	P	02 33 08.5	+0.5
VNA3				e		02 33 13.2	
VNA2	Neumayer--Watz	51.14	158	e	P	02 33 13.1	+0.5
	baz=284,slow=8.6						
VNA2				e		02 33 18.2	
SNAA	Sanae	52.74	159	P	P	02 33 23.8	-0.7
	comp=E,0.3nm,1.0s,mb3.3,baz=309,slow=14,SNR=3.8						
TXAR	Lajitas Array	69.05	328	P	P	02 35 16.0	+1.2
	comp=E,0.2nm,0.5s,mb3.2,baz=152,slow=8.9,SNR=3.8						
TXAR	Lajitas Array	69.05	328	P	P	02 35 16.0	+1.2
TORD	Torodi Ar. Bea	81.22	69	P	P	02 36 24.5	-0.1
	comp=E,0.9nm,0.6s,mb3.8,baz=281,slow=6.1,SNR=10						
TORD	Torodi Ar. Bea	81.22	69	P	P	02 36 24.5	-0.1
WRA	Warramunga Arr	123.81	207	PKP	PKPdf	02 43 06.0	+0.2
	comp=E,0.3nm,0.4s,baz=159,slow=1.8,SNR=8.7						
MKAR	Makanchi Array	153.54	47	PKPab	PKPab	02 44 19.1	-0.3
	comp=E,0.2nm,0.3s,baz=302,slow=2.7,SNR=3.6						
SONM	Songino Array	163.65	11	PKPab	PKPab	02 45 02.0	-1.1
	comp=E,0.4nm,0.6s,baz=7.6,slow=4.4,SNR=4.0						

*IDC **27** 02:27:54.3±2.7, 949N×12701E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=151.6km s-min=26.7km az=69.0*
*ISCJB **27** 02:27:58.9±1.8, 9.11N±004×126.11E±008, h10km±10km, mb3.4/4, Error ellipse: s-maj=13.6km s-min=6.5km az=149.2*
*MAN **27** 02:28:00.2, 9.12N×12601E, h8km, mb3.1, ML4.4, MS1.4*

ISC 27 02:27:59.2±1.5, 911N±005×12610E±008, h10km±8km, n12, σ1§10/16, mb3.4/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.50	254	eP	Pg	02 28 08.9	+0.1
SCPH	Surigao	0.90	318	i P	Pg	02 28 16.0	-0.6
SCPH				i S	Sg	02 28 28.5	+0.2
CGP	Cagayan de Oro	1.54	245	⇑ i P	Pn	02 28 25.9	-0.9
CGP				i S	Sn	02 28 46.1	-0.6
MSLP	Maasin	1.59	310	eP	Pn	02 28 28.3	+0.8
BUKP	Musuan	1.60	220	eP	Pn	02 28 28.4	+0.9
MATI	Mati	2.16	176	eP	Pn	02 28 36.9	+1.6
MATI				eS	Sn	02 29 03.0	+0.9
PLP	Palo	2.32	332	eP	Pn	02 28 37.1	-0.4
PLP				eS	Sn	02 29 07.4	+1.3
BESP	Borongan	2.56	345	eP	Pn	02 28 44.7	+3.9
FITZ	Fitzroy Crossi	27.04	181	P	P	02 33 42.4	+0.7
	1.3nm,0.8s,mb3.5,baz=357,slow=14,SNR=3.2						
WRA	Warramunga Arr	29.99	164	P	P	02 34 05.5	-2.4
	0.3nm,0.5s,mb3.2,baz=346,slow=9.6,SNR=5.1						
ASAR	Alice Springs	33.46	167	P	P	02 34 37.2	-1.2
	0.2nm,0.4s,mb3.4,baz=351,slow=7.2,SNR=4.0						
MKAR	Makanchi Array	52.85	323	P	P	02 37 13.5	-1.6
	0.4nm,0.7s,mb3.4,baz=122,slow=8.1,SNR=4.6						

IDC 27 02:31:22.5±6.4, 739S×13053E, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=85.5km s-min=52.3km az=145.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.66	204	Pn	Pn	02 34 10.4	+0.2
	0.1nm,0.3s,baz=24,slow=12,SNR=8.4						
FITZ				Sn	Sn	02 36 22.6	+1.5
	0.1nm,0.3s,baz=292,slow=19,SNR=4.0						
WRA	Warramunga Arr	13.01	164	Pn	Pn	02 34 29.4	+0.8
	0.2nm,0.3s,baz=348,slow=13,SNR=11						
WRA				Sn	Sn	02 36 55.4	+1.4
	0.1nm,0.3s,baz=342,slow=20,SNR=5.2						
ASAR	Alice Springs	16.50	169	Pn	Pn	02 35 15.0	-0.3
	0.1nm,0.3s,baz=346,slow=9.2,SNR=4.6						
STKA	Stephens Creek	26.46	159	P	P	02 37 01.3	+0.2
	3.9nm,1.0s,baz=333,slow=9.0,SNR=2.9						

IDC 27 02:48:37.5±2.9, 1527S×17504W, h205km±71km, mb3.7/2, mb1 3.9/3, mb1mx3.3/14, mbtmp4.3/3, Error ellipse: s-maj=249.7km s-min=32.7km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.44	67	P	Pn	02 49 34.1	+1.6
	18nm,0.3s,baz=255,slow=16,SNR=9.1						
AFI				S	Sn	02 50 15.4	-0.3
	11nm,0.3s,baz=212,slow=23,SNR=4.0						
WRA	Warramunga Arr	48.33	257	P	P	02 56 58.7	+0.5
	1.1nm,0.5s,baz=90,slow=7.3,SNR=52						
ASAR	Alice Springs	48.65	252	P	P	02 57 00.6	-0.1
	2.7nm,0.4s,baz=88,slow=8.0,SNR=90						
BRTR	Keskin Array B	145.04	320	PKPbc	PKPbc	03 07 50.2	+0.1
	0.9nm,0.8s,baz=59,slow=3.7,SNR=4.8						

IDC 27 03:10:12.5±1.8, 314N×12715E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=95.0km s-min=25.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.16	184	P	P	03 15 00.2	+1.0
	0.6nm,0.8s,baz=344,slow=7.4,SNR=3.0						
WRA	Warramunga Arr	24.00	163	P	P	03 15 28.2	-0.7
	4.6nm,0.8s,baz=342,slow=10,SNR=21						
WB2	Warramunga Arr	24.01	163	eP	P	03 15 27.3	-1.6
ASAR	Alice Springs	27.45	166	P	P	03 16 01.4	+1.3
	0.4nm,0.7s,baz=352,slow=15,SNR=4.8						
STKA	Stephens Creek	37.44	160	P	P	03 17 27.0	-0.4
	1.3nm,0.7s,baz=325,slow=14,SNR=3.6						
MKAR	Makanchi Array	58.27	325	P	P	03 20 09.1	+0.2
	0.2nm,0.4s,baz=129,slow=7.9,SNR=3.6						

*BJI **27** 03:19:28.0, 5244N×17956E, h179km, mB4.9, mb4.6*
*ISCJB **27** 03:19:29.6±0.6, 5230N±005×17949E±004, h180km±5km, mb4.3/76, Error ellipse: s-maj=8.3km s-min=3.5km az=5.9*
*MOS **27** 03:19:29.9±0.9, 5227N×17956E, h186km, mb4.5/34, Error ellipse: s-maj=11.7km s-min=7.9km az=73.1*
*NEIC **27** 03:19:30.5±0.5, 5225N×17955E, h178km±5km, mb4.4/55, Error ellipse: s-maj=6.5km s-min=3.8km az=173.0*
*IDC **27** 03:19:32.6±0.8, 5233N×17952E, h198km±7km, mb4.0/22, mb1 4.1/23, mb1mx4.1/29, mbtmp4.5/23, Error ellipse: s-maj=13.9km s-min=8.1km az=158.0*

ISC 27 03:19:30.7±0.5, 5236N±005×17947E±004, h178km±5km, h195km±2.2km; pP-P, n372, σ0§66/376, mb4.3/76, 62C-70D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.98	186	P	Pn	03 19 56.3	-1.7
SMY	Shemya	3.30	279	ePn	Pn	03 20 23.6	+0.7
SMY				eSn	Sn	03 21 03.6	+0.1
CHGN	Chignik	13.48	64	eP	Pn	03 22 32.1	-2.7
SVW2	Sparrevohn	16.15	47	eP	Pn	03 23 09.4	+1.6
KDAK	Kodiak Island	16.83	60	P	Pn	03 23 13.5	-2.4
	7.3nm,0.3s,baz=283,slow=7.9,SNR=50						
KDAK	Kodiak Island	16.83	60	eP	Pn	03 23 12.9	-3.0
	38nm,0.7s						
BILL	Bilibino	16.98	343	eP	Pn	03 23 20.0	+2.3
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL	Bilibino	16.98	343	eP	Pn	03 23 20.0	+2.3
	comp=Z,19nm,0.9s						
SLKM	Skilak Lake	18.49	52	eP	P	03 23 33.8	+0.6
IMA2	Indian Mountai	19.20	34	eP	P	03 23 42.4	+1.5
PMR	Palmer	19.26	49	eP	P	03 23 40.4	-1.2
PMR				pmax	pmax		
	comp=Z,13nm,0.6s						
PMR	Palmer	19.26	49	eP	P	03 23 40.4	-1.1
	comp=Z,13nm,0.6s						
MCK	McKinley	19.98	43	eP	P	03 23 50.6	+1.3
MCK				pmax	pmax		
	comp=Z,22nm,0.9s						
MCK	McKinley	19.98	43	eP	P	03 23 50.6	+1.3
	comp=Z,22nm,0.9s						
EYAK	Cordova Ski Ar	20.68	53	eP	P	03 23 56.4	-0.3
COLA	College	20.83	40	eP	P	03 23 58.8	+0.5
COLA				pmax	pmax		
	comp=Z,23nm,0.8s						
COLA	College	20.83	40	eP	P	03 23 58.8	+0.5
	comp=Z,23nm,0.8s						
MENT	Mentasta	22.03	47	eP	P	03 24 12.1	+1.1
EGAK	Eagle	23.54	43	eP	P	03 24 24.7	0.0
	comp=Z,96nm,0.9s,mb5.3						
DAWY	Dawson	24.15	45	eP	P	03 24 30.6	+0.3
ASAJ	Asahikawa	25.67	266	P	P	03 24 43.5	-0.5
	comp=Z,7.0nm,0.7s,mb4.4,baz=104,slow=13,SNR=4.5						
ASAJ	Asahikawa	25.67	266	P	P	03 24 43.6	-0.4
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	Inuvik	27.29	36	P	P	03 24 59.1	+0.6
	comp=Z,5.4nm,0.5s,mb4.4,baz=252,slow=8.2,SNR=12						
INK				pP	pP	03 25 36.8	+1.8
	comp=Z,5.3nm,0.9s,baz=256,slow=4.2,SNR=2.2						
INK	Inuvik	27.29	36	P	P	03 24 59.2	+0.7
INK				*PP	pP	03 25 36.8	+1.8
INK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
INK	Inuvik	27.29	36	eP	P	03 24 58.8	+0.2
	comp=Z,218nm,0.6s,mb6.0						
INK				pP	pP	03 25 36.8	+1.8
KLR	Kul'dur	29.90	283	eP	P	03 25 18.8	-2.8
MAJO	Matsushiro	32.91	258	eP	P	03 25 48.5	+0.5
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
MAJO	Matsushiro	32.91	258	eP	P	03 25 48.5	+0.5
	comp=Z,11nm,0.9s,mb4.6						
MAT	Matsushiro	32.91	258	P	P	03 25 48.5	+0.5
MJAR	Matsushiro Arr	32.91	258	P	P	03 25 48.6	+0.6
	comp=Z,3.6nm,0.6s,mb4.3,baz=44,slow=7.3,SNR=14						
MDJ	Mudanjiang	33.37	277	P	P	03 25 51.0	-1.0
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,44nm,4.5s						
YKA	Yellowknife Ar	35.34	47	P	P	03 26 09.0	+0.1
	comp=Z,6.8nm,0.7s,mb4.4,baz=282,slow=8.7,SNR=20						
YKA				pP	pP	03 26 51.1	+4.8
	comp=Z,2.0nm,0.5s,baz=286,slow=8.4,SNR=2.9						
YKA	Yellowknife Ar	35.34	47	P	P	03 26 09.0	+0.1
YKA				pP	pP	03 26 51.1	+4.8
A05A	Maple Falls	36.32	71	⇑P	P	03 26 17.2	0.0
	baz=36						
CN2	Changchun	36.33	278	eP	P	03 26 16.5	-0.8
CN2				eS	S	03 31 44.3	-0.6
C04A

F07A	Phinny Hill Vi	39.15	75	⇓P	P	03 26 40.5	-0.4
	baz=39						
EDM	Edmonton	39.27	61	eP	P	03 26 40.8	-1.2
B10A	Chitwood Farm,	39.47	70	⇑P	P	03 26 43.6	0.0
	baz=39						
D09A	Jones Farm, Ri	39.48	72	⇑P	P	03 26 42.5	-1.2
	baz=39						
H06A	Lindquist Farm	39.53	76	⇓P	P	03 26 43.8	-0.3
	baz=39						
NEW	Newport	39.55	70	eP	P	03 26 43.5	-0.8
NEW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NEW	Newport	39.55	70	eP	P	03 26 43.5	-0.7
	comp=Z,10nm,0.8s,mb4.5						
A11A	Hall Mountain,	39.63	68	P	P	03 26 45.0	0.0
	baz=40,SNR=12						
G07A	Ruggs Ranch, H	39.64	75	⇓P	P	03 26 44.3	-0.6
	baz=40						
C10A	Spilker Farm,	39.67	70	⇓P	P	03 26 44.3	-0.9
	baz=40						
KHMM	Horse Mountain	39.69	84	eP	P	03 26 46.6	+1.3
J05A	Fort Rock	39.80	79	P	P	03 26 47.1	+0.8
	baz=40,SNR=7.4						
YBH	Yreka Blue Hor	39.80	82	eP	P	03 26 47.4	+1.1
YBH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YBH	Yreka Blue Hor	39.80	82	eP	P	03 26 47.4	+1.0
	comp=Z,10nm,0.8s,mb4.5						
YBH	Yreka Blue Hor	39.80	82	⇑P	P	03 26 47.0	+0.6
	baz=40,SNR=8.3						
E09A	Wood Farm, Sta	39.86	73	⇓P	P	03 26 45.8	-1.0
	baz=40						
F08A	Pendleton	39.88	74	⇑P	P	03 26 46.7	-0.2
	baz=40						
B11A	Sandpoint	39.90	69	⇑P	P	03 26 46.9	-0.2
	baz=40						
N02C	Big Bar	39.98	83	⇓P	P	03 26 48.5	+0.7
	baz=40,SNR=7.3						
L04A	Klamath Falls	40.04	81	⇑P	P	03 26 49.0	+0.7
	baz=40						
G08A	Pilot Rock	40.04	75	⇑P	P	03 26 47.9	-0.5
	baz=40						
I06A	Prineville	40.04	77	⇑P	P	03 26 48.3	0.0
	baz=40						
A12A	Yaak River Ran	40.05	68	⇑P	P	03 26 47.9	-0.5
	baz=40						
H07A	Lands Inn, Kim	40.07	76	⇑P	P	03 26 48.2	-0.3
	baz=40						
M04C	Macdoel	40.30	81	P	P	03 26 51.2	+0.8
	baz=40,SNR=11						
B12A	Libby	40.32	69	⇓P	P	03 26 51.0	+0.3
	baz=40						
K05A	Summer Lake	40.32	79	P	P	03 26 51.6	+1.0
	baz=40,SNR=5.1						
I07A	Izee	40.39	77	P	P	03 26 51.2	+0.1
	baz=40,SNR=8.0						
M03C	McCloud	40.43	82	⇓P	P	03 26 52.3	+0.8
	baz=40						
F09A	S2 Ranch, Elgi	40.44	74	P	P	03 26 51.5	0.0
	baz=40,SNR=8.6						
J06A	Christmas Vall	40.47	78	P	P	03 26 52.0	+0.2
	baz=40,SNR=6.9						
WDC	Whiskeytown Da	40.59	83	eP	P	03 26 53.3	+0.5
WDC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WDC	Whiskeytown Da	40.59	83	eP	P	03 26 53.3	+0.6
	comp=Z,4.6nm,0.8s,mb4.2						
WDC	Whiskeytown Da	40.59	83	P	P	03 26 53.2	+0.5
	baz=40,SNR=5.4						
H08A	Prairie City	40.64	76	⇓P	P	03 26 52.7	-0.5
	baz=40						
K06A	Valley Falls	40.67	79	P	P	03 26 53.7	+0.3
	baz=40,SNR=6.2						
O02C	Red Bluff	40.68	84	⇓P	P	03 26 54.3	+0.7
	baz=40						
F10A	Beach Ranch, E	40.69	73	⇓P	P	03 26 52.9	-0.7
	baz=41						
L05A	Lakeview	40.75	80	⇑P	P	03 26 54.1	0.0
	baz=41						
A13A	Flathead Natio	40.76	67	⇑P	P	03 26 53.5	-0.7
	baz=41						
P01C	Double 8 Ranch	40.77	85	⇑P	P	03 26 54.5	+0.1
	baz=41						
C12A	Trout Creek	40.78	70	P	P	03 26 53.7	-0.7
	baz=41,SNR=9.8						
J07A	Hines	40.90	77	⇓P	P	03 26 55.5	+0.1
	baz=41						
M05C	Lookout	40.97	81	⇑P	P	03 26 56.0	+0.1
	baz=41						
B13A	Whitefish	41.01	68	⇑P	P	03 26 55.4	-0.9
	baz=41						
GASB	Alder Springs	41.04	84	⇓P	P	03 26 57.5	+1.0
	baz=41						
I08A	Drewsey	41.04	76	⇑P	P	03 26 56.3	-0.2
	baz=41						
HATC	Hat Creek Radi	41.10	82	⇓P	P	03 26 57.8	+0.8
	baz=41,SNR=7.3						
H09A	Durkee	41.16	75	P	P	03 26 57.3	-0.1
	baz=41,SNR=6.0						
HOPS	Hopland	41.23	85	eP	P	03 26 58.5	+0.5
	comp=Z,11nm,0.7s,mb4.6						
O03C	Acorn Hollow,	41.25	83	⇓P	P	03 26 57.9	-0.3
	baz=41						
C13A	Hot Springs	41.32	69	P	P	03 26 58.9	+0.1
	baz=41,SNR=5.3						
K07A	Rock Creek Ran	41.34	78	P	P	03 26 59.5	+0.6
	baz=41,SNR=9.9						
J08A	Circle Bar Ran	41.41	77	⇓P	P	03 26 59.6	+0.1
	baz=41						
M06C	Likely Place G	41.47	81	⇑P	P	03 27 00.8	+0.8
	baz=41						
I09A	Lost Marbles R	41.50	76	⇑P	P	03 26 59.7	-0.5
	baz=41						
O04C	Chester	41.63	82	P	P	03 27 02.5	+1.2
	baz=42,SNR=5.1						
ELFS	Eagle Lake Fie	41.67	82	⇑P	P	03 27 02.4	+0.8
	baz=42						
L07A	Adell	41.67	79	P	P	03 27 02.2	+0.6
	baz=42,SNR=8.1						
MNRC	McLaughlin Nat	41.69	85	⇓P	P	03 27 02.2	+0.5
	baz=42						
D13A	Huson	41.70	70	⇑P	P	03 27 00.9	-1.0
	baz=42						
C14A	Swan Lake	41.74	69	⇑P	P	03 27 01.6	-0.6
	baz=42						
K08A	Mann Creek Ran	41.77	78	⇓P	P	03 27 02.0	-0.4
	baz=42						
ORV	Oroville	41.84	84	P	P	03 27 02.9	-0.1
	baz=42,SNR=6.5						
J09A	Fry Pan Ranch,	41.85	76	P	P	03 27 03.1	+0.1
	baz=42,SNR=7.0						
WVOR	Wild Horse Val	41.85	78	eP	P	03 27 02.8	-0.3
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
WVOR	Wild Horse Val	41.85	78	eP	P	03 27 02.8	-0.3
	comp=Z,3.6nm,0.5s,mb4.3						
SUTB	Sutter Butte	41.87	84	⇓P	P	03 27 02.7	-0.5
	baz=42						
O05C	Quincy	41.95	83	⇓P	P	03 27 04.5	+0.6
	baz=42						
CVS	Carmenet Viney	42.01	86	⇓P	P	03 27 04.7	+0.3
	baz=42						
Q03C	Winters	42.10	85	⇓P	P	03 27 06.6	+1.5
	baz=42						
N06A	Buffalo Meadow	42.13	81	P	P	03 27 05.8	+0.5
	baz=42,SNR=16						
MSO	Missoula	42.14	70	eP	P	03 27 04.2	-1.2
	comp=Z,3.8nm,0.6s,mb4.2						
M07A	Soldier Meadow	42.15	80	P	P	03 27 06.2	+0.7
	baz=42,SNR=18						
L08A	Fields	42.17	78	P	P	03 27 05.9	+0.3
	baz=42,SNR=5.7						
K09A	Rome	42.24	77	⇓P	P	03 27 05.7	-0.6
	baz=42						
D14A	Greenough	42.25	69	P	P	03 27 05.6	-0.7
	baz=42,SNR=12						
BEKR	Beckwourth	42.35	82	P	P	03 27 07.4	+0.3
	baz=42,SNR=11						
Q04C	Lincoln	42.36	84	⇑P	P	03 27 07.4	+0.2
	baz=42						
F13A	Darby	42.48	71	⇓P	P	03 27 07.7	-0.5
	baz=42						
O06A	Flanigan	42.49	82	⇓P	P	03 27 08.7	+0.4
	baz=42						
P05C	Yuba Gap, Truc	42.54	83	⇓P	P	03 27 09.2	+0.6
	baz=42						
M08A	Happy Creek Ra	42.59	79	P	P	03 27 09.5	+0.5
	baz=42,SNR=6.6						
E14A	Clinton	42.62	70	P	P	03 27 08.8	-0.5
	baz=42,SNR=6.6						
N07B	Gerlach	42.63	80	P	P	03 27 09.9	+0.5
	baz=42,SNR=9.0						
L09A	Wilkinson Ranc	42.68	78	P	P	03 27 10.0	+0.2
	baz=42,SNR=5.9						
P06A	Stead Airport,	42.74	82	⇑P	P	03 27 10.5	+0.2
	baz=43						
LAVA	Lava Cap Winer	42.80	84	P	P	03 27 11.0	+0.2
	baz=43,SNR=7.2						
D15A	Lincoln	42.84	69	P	P	03 27 10.4	-0.6
	baz=43,SNR=6.2						
WENL	Wente Brothers	42.90	86	⇓P	P	03 27 11.1	-0.4
	baz=43						
R04C	Big Horse Ranc	43.00	85	⇓P	P	03 27 11.9	-0.4
	baz=43						
F14A	Wisdom	43.03	71	⇓P	P	03 27 11.9	-0.7
	baz=43						
PAHR	Pah Rah Range	43.04	82	eP	P	03 27 12.8	+0.2
	comp=Z,9.1nm,0.8s,mb4.5						
WCN	Washoe City	43.06	83	P	P	03 27 13.5	+0.6
	baz=43,SNR=7.4						
O07A	Toulon	43.07	81	P	P	03 27 13.5	+0.6
	baz=43,SNR=14						
E15A	Deer Lodge	43.11	70	P	P	03 27 12.2	-1.0
	baz=43,SNR=9.1						
N08A	GE Springer Mi	43.14	80	⇑P	P	03 27 13.2	-0.3
	baz=43,SNR=7.7						
M09A	Marrel Ranch,	43.16	79	⇓P	P	03 27 13.7	0.0
	baz=43						
R05C	Kirkwood Meado	43.24	84	⇑P	P	03 27 14.6	+0.4
	baz=43,SNR=7.5						
P07A	Fallon	43.44	82	⇑P	P	03 27 16.4	+0.5
	baz=43						
N09A	Rock Creek Ran	43.46	79	P	P	03 27 16.3	+0.2
	baz=43,SNR=11						
CMB	Columbia Colle	43.47	85	eP	P	03 27 16.3	+0.2
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
CMB	Columbia Colle	43.47	85	eP	P	03 27 16.3	+0.1
	comp=Z,8.3nm,1.0s,mb4.3						
CMB	Columbia Colle	43.47	85	⇓P	P	03 27 16.3	+0.2
	baz=43,SNR=7.8						
PACP	Pacheco Peak	43.58	86	⇓P	P	03 27 17.1	+0.1
	baz=43						
M10A	L L. Ranch, Tu	43.65	78	P	P	03 27 17.9	+0.4
	baz=44,SNR=6.6						
HLID	Hailey	43.71	74	eP	P	03 27 17.2	-0.8
	comp=Z,8.9nm,1.0s,mb4.3						
R06C	Coleville	43.73	83	P	P	03 27 19.1	+0.9
	baz=44,SNR=10						
HAST	UC Hastings Re	43.81	87	⇓P	P	03 27 19.1	+0.2
	baz=44						
P08A	Dixie Valley	43.84	81	⇑P	P	03 27 19.8	+0.8
	baz=44						
MCMT	McKenzie Canyo	43.89	72	eP	P	03 27 18.4	-1.1
S06C	San Francisco	43.90	84	P	P	03 27 19.9	+0.3
	baz=44,SNR=22						
S05C	Merced	43.95	85	P	P	03 27 20.1	+0.2
	baz=44,SNR=7.4						
O09A	Fish Creek Ran	44.08	80	P	P	03 27 21.5	+0.5
	baz=44,SNR=7.6						
BJI	Beijing	44.13	280	eP	P	03 27 22.5	+1.1
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.4						
BJI	Beijing	44.13	280	eP	P	03 27 22.6	+1.2
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
BJI	Beijing	44.13	280	eP	P	03 27 22.6	+1.2
	comp=Z,7.0nm,0.7s,mb4.4						
M11A	Holland Ranch,	44.15	77	⇑P	P	03 27 22.0	+0.4
	baz=44						
N10A	Dunphy	44.16	79	⇑P	P	03 27 21.9	+0.4
	baz=44						
O10A	Cez Mining,	44.42	79	⇑P	P	03 27 24.2	+0.5
	baz=44						
FFC	Flin Flon	44.44	54	eP	P	03 27 23.0	-0.8
FFC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
FFC	Flin Flon	44.44	54	eP	P	03 27 23.0	-0.9
	comp=Z,6.5nm,0.9s,mb4.3						
Q08A	Gabbs	44.45	82	⇓P	P	03 27 24.3	+0.4
	baz=44						
NVAR	Mina Array Bea	44.49	83	P	P	03 27 24.7	+0.5
	comp=Z,6.6nm,0.6s,mb4.4,baz=296,slow=8.0,SNR=61						
P09A	Austin	44.49	81	⇑P	P	03 27 24.9	+0.6
	baz=44						
T06C	Millerton Lake	44.54	85	P	P	03 27 24.6	-0.1
	baz=44,SNR=19						
N11A	Elko Archery C	44.56	78	⇑P	P	03 27 25.1	+0.3
	baz=44						
KCC	Kaiser Creek	44.58	85	P	P	03 27 25.5	+0.6
	baz=44,SNR=9.1						
R08A	Mina	44.66	83	P	P	03 27 26.5	+0.9
	baz=44,SNR=6.3						
M12A	Wells	44.69	77	⇓P	P	03 27 26.0	+0.3
	baz=44,SNR=5.6						
QLMT	Earthquake Lak	44.71	71	eP	P	03 27 25.7	-0.3
PKD	Parkfield	44.72	87	⇑P	P	03 27 26.5	+0.4
	baz=44,SNR=5.9						
P10A	Eureka	44.86	80	⇑P	P	03 27 27.4	+0.2
	baz=45,SNR=5.0						
ULN	Ulaanbaatar	44.87	295	eP	P	03 27 28.3	+1.1
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	44.87	295	eP	P	03 27 28.3	+1.0
	comp=Z,3.7nm,0.8s,mb4.1						
Q09A	Carvers	44.92	81	⇑P	P	03 27 28.0	+0.4
	baz=45						
N12A	Clover Valley,	44.96	78	P	P	03 27 28.2	+0.3
	baz=45,SNR=6.8						
MTUM	Tungsten Hills	45.02	84	eP	P	03 27 29.1	+0.7
O11A	Cowboy Ranch,	45.03	79	P	P	03 27 28.8	+0.3
	baz=45,SNR=5.5						
YMR	Madison River	45.08	71	eP	P	03 27 28.2	-0.7
	comp=Z,4.2nm,0.5s,mb4.3						
S08C	White Mtn Res	45.16	83	P	P	03 27 30.6	+1.0
	baz=45,SNR=11						
M13A	Montello	45.17	77	⇑P	P	03 27 29.7	+0.1
	baz=45						
HELL	Mitchell Peak,	45.17	85	P	P	03 27 29.7	+0.1
	baz=45,SNR=19						
SONM	Songino Array	45.26	295	P	P	03 27 31.1	+0.9
	comp=Z,2.7nm,0.7s,mb4.0,baz=58,slow=8.7,SNR=20						
SONM				pP	pP	03 28 13.8	+4.6
	comp=Z,0.6nm,0.5s,baz=56,slow=7.4,SNR=2.8						
SONM				ScP	ScP	03 32 40.2	-2.6
	comp=Z,1.0nm,0.8s,baz=52,slow=3.4,SNR=6.5						
SONM	Songino Array	45.26	295	P	P	03 27 31.1	+0.8
SONM				*PP	pP	03 28 13.8	+4.6
RCTC	Rector, Farmer	45.28	86	⇑P	P	03 27 30.6	+0.1
	baz=45						
P11A	Circle Ranch,	45.33	80	⇓P	P	03 27 31.4	+0.6
	baz=45						
R09A	Tonopah	45.36	82	P	P	03 27 31.4	+0.3
	baz=45,SNR=33						
TIN	Tinemaha	45.42	84	⇓P	P	03 27 31.6	+0.1
	baz=45						
N13A	Wendover, West	45.45	77	⇓P	P	03 27 32.1	+0.3
	baz=45						
O12A	Currie	45.49	78	P	P	03 27 32.2	+0.1
	baz=45,SNR=9.1						
S09A	Goldfield	45.60	83	⇓P	P	03 27 33.1	+0.1
	baz=45						
VES	Vestal, Richgr	45.69	86	P	P	03 27 33.5	-0.1
	baz=46,SNR=9.6						
MOOW	Moose Ponds	45.75	72	eP	P	03 27 33.7	-0.4
	comp=Z,1.7nm,0.8s,mb3.7						
TPAW	Teton Pass	45.78	72	eP	P	03 27 34.2	-0.2
	comp=Z,4.4nm,0.9s,mb4.1						
Q11A	Duckwater	45.84	80	P	P	03 27 34.9	+0.1
	baz=46,SNR=20						
PKM	Peak Mountain	45.86	87	⇓P	P	03 27 35.6	+0.6
	baz=46						
P12A	McGill	45.89	79	P	P	03 27 35.4	+0.1
	baz=46,SNR=9.6						
CWC	Cottonwood Cre	45.91	85	⇓P	P	03 27 35.0	-0.4
	baz=46						
LOHW	Long Hollow	45.91	72	eP	P	03 27 35.1	-0.3
	comp=Z,2.3nm,0.8s,mb3.9						
GRAC	Grapevine Rang	45.97	83	⇓P	P	03 27 36.0	+0.2
	baz=46,SNR=6.9						
ISA	Isabella	46.17	86	P	P	03 27 37.1	-0.4
	baz=46,SNR=6.6						
Q12A	Willow Creek R	46.21	79	P	P	03 27 38.0	+0.2
	baz=46,SNR=7.2						
MPMC	Manual Prospec	46.51	85	P	P	03 27 40.4	+0.3
	baz=46,SNR=13						
HWUT	Hardware Ranch	46.56	75	eP	P	03 27 39.7	-0.8
	comp=Z,5.5nm,1.1s,mb4.1						
FURC	Furnace Creek,	46.63	84	P	P	03 27 41.4	+0.4
	baz=46,SNR=5.9						
DUG	Dugway	46.70	77	eP	P	03 27 41.2	-0.3
DUG				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.5						
DUG	Dugway	46.70	77	eP	P	03 27 41.2	-0.3
	comp=Z,17nm,1.3s,mb4.5						
OSI	Osito Adit	46.72	87	⇑P	P	03 27 41.9	+0.2
	baz=46						
LRMC	Laurel Mountai	46.78	85	P	P	03 27 42.0	-0.1
	baz=47,SNR=14						
EDW2	Edwards Air Fo	46.99	86	⇑P	P	03 27 43.7	-0.1
	baz=47						
BW06	Boulder Array	47.03	72	eP	P	03 27 43.1	-1.0
	comp=Z,10nm,0.9s,mb4.5						
PDAR	Pinedale Array	47.03	72	P	P	03 27 43.4	-0.8
	comp=Z,7.3nm,0.8s,mb4.4,baz=309,slow=3.9,SNR=60						
PDAR				ScP	ScP	03 32 46.1	-4.0
	comp=Z,0.4nm,0.5s,baz=202,slow=1.0,SNR=3.8						
SHOC	Shoshone	47.36	84	P	P	03 27 47.0	+0.3
	baz=47,SNR=6.3						
GSC	Goldstone	47.43	85	eP	P	03 27 47.1	-0.1
GSC	Goldstone	47.43	85	P	P	03 27 47.4	+0.2
	baz=47,SNR=27						
BFSC	Mount Baldy St	47.62	86	⇓P	P	03 27 48.5	-0.1
	baz=47						
CIS	Catalina Islan	47.73	88	⇓P	P	03 27 49.1	-0.4
	baz=48						
NJ2	Nanjing	47.73	270	eP	P	03 27 53.3	+3.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
TUQ	Turquoise Mtn.	47.88	84	P	P	03 27 50.8	+0.1
	baz=48,SNR=5.8						
HEC	Hector,Ludlow	48.04	85	P	P	03 27 52.0	+0.1
	baz=48,SNR=6.3						
U12A	Valley of Fire	48.07	82	⇓P	P	03 27 52.4	+0.3
	baz=48						
MSU	Marysvale	48.14	78	eP	P	03 27 52.5	-0.2
MURC	Murrieta	48.33	87	⇓P	P	03 27 54.2	+0.1
	baz=48						
V12A	Nelson	48.34	83	P	P	03 27 54.4	+0.2
	baz=48,SNR=6.5						
GMRC	Granite Mounta	48.48	84	P	P	03 27 55.3	+0.1
	baz=48,SNR=14						
W12A	Cal Nev Ari	48.61	83	⇑P	P	03 27 56.4	+0.1
	baz=48						
SRU	San Rafael	48.75	77	eP	P	03 27 57.1	-0.2
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
SRU	San Rafael	48.75	77	eP	P	03 27 57.1	-0.2
	comp=Z,8.3nm,0.9s,mb4.4						
PFO	Pinyon Flat Ob	48.78	86	⇑P	P	03 27 57.5	-0.1
	baz=49						
BELC	Belle Mtn.	48.80	85	P	P	03 27 57.3	-0.3
	baz=49,SNR=5.6						
109C	Camp Elliot, M	48.87	87	⇑P	P	03 27 58.5	+0.3
	baz=49						
IRM	Iron Mountain	49.21	85	P	P	03 28 00.7	-0.1
	baz=49,SNR=7.7						
MONP	Monument Peak	49.29	87	⇓P	P	03 28 01.3	-0.2
	baz=49						
SPB4	Spitsbergen Ar	49.32	355	eP	P	03 28 01.4	-0.3
W13A	Hualapai Mount	49.35	83	P	P	03 28 01.9	0.0
	baz=49,SNR=7.4						
BC3	Big Chuckw Mtn	49.36	85	⇓P	P	03 28 01.5	-0.4
	baz=49						
X13A	Yucca	49.72	83	⇓P	P	03 28 04.6	-0.1
	baz=50						
PDMCI	Parker Dam,Lak	49.73	84	⇑P	P	03 28 04.7	-0.1
	baz=50						
W14A	Seligman	49.76	82	P	P	03 28 05.2	+0.2
	baz=50,SNR=6.1						
Y12C	Blythe	49.87	85	⇑P	P	03 28 05.9	+0.1
	baz=50						
ULM	Lac du Bonnet	50.04	57	P	P	03 28 06.1	-1.0
	comp=Z,2.7nm,0.4s,mb4.2,baz=304,slow=9.1,SNR=6.6						
ULM	Lac du Bonnet	50.04	57	eP	P	03 28 05.8	-1.3
	comp=Z,7.3nm,0.8s,mb4.4						
GLA	Glamis	50.16	86	⇓P	P	03 28 08.0	0.0
	baz=50						
Y13A	Salome	50.25	84	⇑P	P	03 28 08.4	-0.2
	baz=50						
W15A	Williams	50.28	82	⇓P	P	03 28 09.3	+0.5
	baz=50						
X14A	Yava	50.38	83	P	P	03 28 09.9	+0.3
	baz=50,SNR=7.0						
PV01	Paradox Valley	50.55	76	eP	P	03 28 10.1	-0.8
WUAZ	Wupatki	50.59	81	eP	P	03 28 11.2	0.0
	comp=Z,5.1nm,0.7s,mb4.3						
Y14A	Wickenburg	50.67	83	P	P	03 28 11.6	-0.2
	baz=50,SNR=6.6						
X15A	Humboldt	50.76	82	P	P	03 28 12.9	+0.4
	baz=51,SNR=6.5						
SMCO	Snowmass	50.81	74	eP	P	03 28 12.3	-0.6
	comp=Z,2.2nm,0.5s,mb4.0						
SMCO				ePcP	PcP	03 29 27.1	+0.1
115A	Sonoran Desert	51.99	84	⇓P	P	03 28 21.6	+0.1
	baz=52						
116A	Eloy	52.40	84	⇑P	P	03 28 24.9	+0.3
	baz=52						
SUMG	Summit	52.60	13	eP	P	03 28 26.7	+0.6
	comp=Z,18nm,1.0s,mb4.8						
TUC	Tucson	53.14	83	eP	P	03 28 29.7	-0.3
TUC				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.2						
TUC	Tucson	53.14	83	eP	P	03 28 29.7	-0.3
	comp=Z,7.0nm,1.4s,mb4.2						
LAZ	Ladron	53.90	79	eP	P	03 28 35.3	-0.3
ANMO	Albuquerque	53.94	78	eP	P	03 28 35.6	-0.2
	comp=Z,1.1nm,0.7s,mb3.7						
LZH	Lanzhou	54.09	284	⇓P	P	03 28 37.5	+0.5
LZH				PP	PP	03 30 43.0	+2.7
LZH				PPP		03 31 59.3	
LZH				eS	S	03 35 57.5	-2.0
LZH				SS	SS	03 39 41.5	-2.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,154nm,7.5s						
LZH				LR	LR		
	comp=E,439nm,14.7s						
LZH				LR	LR		
	comp=Z,587nm,17.8s						
LZH	Lanzhou	54.09	284	⇓P	P	03 28 37.5	+0.5
LZH				*PP	pP	03 29 20.6	+3.4
LZH				*SP	sP	03 29 41.7	+4.9
LZH						03 30 43.1	
LZH				PPP		03 31 59.3	
LZH				eS	S	03 35 57.5	-2.0
LZH				*SS	sS	03 37 12.3	+2.7
LZH				SS	SS	03 39 41.6	-1.9
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
LZH				MLR	MLR		
	comp=Z,590nm,17.8s						
LZH	Lanzhou	54.09	284	⇓P	P	03 28 37.5	+0.5
	comp=Z,27nm,1.3s,mb4.8						
LZH				pP	pP	03 29 20.6	+3.4
LZH				sP	sP	03 29 41.7	+4.9
LZH				PP	PP

MNTX Cornudas Mount 56.84 80 *eP* **P 03 28 56.0 -0.6**
comp=Z,7.9nm,0.9s,mb4.5
ARCES ARCESS Array B 56.94 349 P **P 03 28 56.8 -0.4**
comp=Z,3.2nm,0.5s,mb4.4,baz=26,slow=8.3,SNR=22
WMQ Urumqi 57.91 301 *eP* **P 03 29 06.3 +2.2**
WMQ *eS* **S 03 36 51.0 +1.1**
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,87nm,5.4s
WMQ LR LR
comp=N,197nm,17.2s
WMQ LR LR
comp=E,208nm,19.5s
WMQ LR LR
comp=Z,180nm,19.0s
MKAR Makanchi Array 58.59 307 P **P 03 29 07.7 -1.0**
comp=Z,0.3nm,0.3s,mb3.7,baz=44,slow=6.2,SNR=4.6
MKAR pP pP 03 29 52.2 +2.6
comp=Z,0.5nm,0.4s,baz=49,slow=7.4,SNR=2.8
WMOK Wichita Mounta 58.63 73 *eP* **P 03 29 07.7 -1.4**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
WMOK Wichita Mounta 58.63 73 *eP* **P 03 29 07.7 -1.3**
comp=Z,3.4nm,0.8s,mb4.2
GYA Guiyang 59.17 274 P **P 03 29 13.0 +0.3**
GYA PCP PcP 03 29 59.0 -0.3
GYA PP PP 03 31 28.0 +2.6
GYA PPP 03 32 55.3
GYA SCP ScP 03 33 40.3 -2.6
GYA PCS PcS 03 33 59.3 -2.1
GYA S **S 03 37 03.8 -2.3**
GYA SCS ScS 03 38 40.0 -5.0
GYA SS SS 03 41 02.8 -0.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=N,540nm,19.4s
GYA LR LR
comp=E,471nm,18.6s
GYA LR LR
comp=Z,430nm,19.0s
TXAR Lajitas Array 59.56 81 P **P 03 29 15.1 -0.3**
comp=Z,5.9nm,0.5s,mb4.7,baz=306,slow=4.9,SNR=216
TXAR PcP PcP 03 29 58.8 -2.0
comp=Z,1.0nm,0.7s,baz=256,slow=1.9,SNR=3.7
TXAR ScP ScP 03 33 41.8 -2.9
comp=Z,0.2nm,0.7s,baz=316,slow=5.1,SNR=2.7
TXAR Lajitas Array 59.56 81 P **P 03 29 15.1 -0.3**
TXAR pP 03 29 58.8 +2.4
TXAR Lajitas Array 59.56 81 P **P 03 29 15.1 -0.3**
TXAR PcP PcP 03 29 58.8 -2.0
TXAR ScP ScP 03 33 41.8 -2.9
SCHQ Schefferville 59.89 38 P **P 03 29 16.9 -0.8**
comp=Z,3.3nm,0.5s,mb4.4,baz=312,slow=3.8,SNR=12
JOF Joensuu 62.37 344 *ep* **P 03 29 32.9 -1.4**
comp=Z,6.4nm,0.5s,mb4.7
JOF Joensuu 62.37 344 *eP* **P 03 29 32.9 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
KMI Kunming 62.54 276 P **P 03 29 37.3 +1.8**
KMI *PP pP 03 30 22.4 +5.5
KMI pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KMI Kunming 62.54 276 P **P 03 29 37.3 +1.8**
comp=Z,7.0nm,0.9s,mb4.5
KMI pP pP 03 30 22.4 +5.5
WCI Wyandotte Cave 63.19 62 *eP* **P 03 29 38.3 -1.5**
WCI pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
WCI Wyandotte Cave 63.19 62 *eP* **P 03 29 38.3 -1.4**
comp=Z,5.2nm,0.6s,mb4.5
HKT Hockley 63.80 74 *eP* **P 03 29 43.7 0.0**
HKT pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
HKT Hockley 63.80 74 *eP* **P 03 29 43.7 0.0**
comp=Z,4.2nm,0.8s,mb4.3
KAF Kangasniemi 63.91 346 *ep* **P 03 29 43.0 -1.5**
comp=Z,5.9nm,0.4s,mb4.8,baz=15,slow=6.0
KAF Kangasniemi 63.91 346 *eP* **P 03 29 43.0 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
FINES FINESS Array B 64.59 346 P **P 03 29 48.1 -0.8**
comp=Z,4.7nm,0.6s,mb4.5,baz=18,slow=7.5,SNR=26
NB2 NORSAR Subarra 66.56 354 P **P 03 30 01.2 -0.3**
comp=Z,3.8nm,0.6s,mb4.4,baz=6.7,slow=6.2
NB2 NORSAR Subarra 66.56 354 P **P 03 30 01.2 -0.3**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
NOA NORSAR Array B 66.56 354 P **P 03 30 01.2 -0.3**
comp=Z,5.9nm,0.7s,mb4.5,baz=7.7,slow=6.2,SNR=15
AKASG Malin Array Be 74.28 341 P **P 03 30 47.5 -0.8**
comp=Z,0.8nm,0.3s,mb3.9,baz=20,slow=5.9,SNR=5.8
AKASG Malin Array Be 74.28 341 P **P 03 30 47.5 -0.8**
KAKA Kakadu 76.39 227 *eP* **P 03 30 59.5 -0.8**
comp=Z,8.0nm,0.6s,mb4.5
BURAR Bucovina Array 78.00 343 ⇓ *iP* **P 03 31 09.7 +0.4**
GERES GERESS Array B 78.45 350 P **P 03 31 11.6 -0.1**
comp=Z,0.9nm,0.5s,mb3.6,baz=21,slow=6.0,SNR=9.6
DRGR 79.24 344 ⇓ *iP* **P 03 31 16.2 +0.1**
FLN La Foliniere 79.26 360 *eP* **P 03 31 16.0 -0.1**
LDF La Druitiere 79.43 360 *eP* **P 03 31 16.6 -0.5**
comp=Z,7.6nm,0.6s,mb4.2
LDF La Druitiere 79.43 360 *eP* **P 03 31 16.6 -0.5**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
LDF La Druitiere 79.43 360 *eP* **P 03 31 16.6 -0.5**
comp=Z,3.8nm,0.6s,mb4.2
GRR Gorron 79.63 0 *eP* **P 03 31 18.1 -0.1**
ROSF Rostrenen 79.66 2 *eP* **P 03 31 18.3 0.0**
SGMF Saint Gilles 79.75 1 *eP* **P 03 31 18.8 0.0**
comp=Z,12nm,0.7s,mb4.3
SGMF Saint Gilles 79.75 1 *eP* **P 03 31 18.8 0.0**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
SGMF Saint Gilles 79.75 1 *eP* **P 03 31 18.8 0.0**
comp=Z,5.8nm,0.7s,mb4.3
WTTA Wattenberg 80.22 352 ⇑ *iP* **P 03 31 21.7 +0.5**
comp=Z,7.8nm,0.6s,mb4.5
WTTA Wattenberg 80.22 352 ⇑ *iP* **P 03 31 21.8 +0.5**
WTTA pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
KBA Koelnbreinsper 80.23 350 ⇑ *iP* **P 03 31 22.2 +0.8**
comp=Z,10nm,0.5s,mb4.7
KBA Koelnbreinsper 80.23 350 ⇑ *iP* **P 03 31 22.2 +0.8**
KBA pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
GZR Gura Zlata 80.59 344 ⇑ *iP* **P 03 31 23.6 +0.3**
OBKA Obir 80.67 350 ⇓ *iP* **P 03 31 24.4 +0.7**
comp=Z,4.3nm,0.5s,mb4.3
LOR Lormes 80.68 357 *eP* **P 03 31 23.7 -0.1**
SSF Saint Saulge 80.90 357 *eP* **P 03 31 24.8 -0.1**
comp=Z,3.1nm,0.5s,mb3.9
SSF Saint Saulge 80.90 357 *eP* **P 03 31 24.8 -0.1**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
SSF Saint Saulge 80.90 357 *eP* **P 03 31 24.8 -0.1**
comp=Z,1.5nm,0.5s,mb3.9
AVF Avril sur Loir 81.18 357 *eP* **P 03 31 26.1 -0.3**
SMF Signal de Mont 81.31 357 *eP* **P 03 31 26.9 -0.2**
comp=Z,8.8nm,0.7s,mb4.2
SMF Signal de Mont 81.31 357 *eP* **P 03 31 26.9 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
SMF Signal de Mont 81.31 357 *eP* **P 03 31 26.9 -0.2**
comp=Z,4.4nm,0.7s,mb4.2
MFF Saint Martin d 81.42 360 *eP* **P 03 31 27.6 -0.1**
BGF Bois d'Agland 81.42 358 *eP* **P 03 31 28.5 +0.8**
TCF Toulx Ste Croi 81.71 358 *eP* **P 03 31 29.1 -0.1**
WB2 Warramunga Arr 81.99 222 ⇓ *iP* **P 03 31 29.6 -1.1**
WRA Warramunga Arr 81.99 222 P **P 03 31 29.8 -0.8**
comp=Z,3.3nm,0.6s,mb4.1,baz=33,slow=6.1,SNR=32
PSI Prapat 82.01 264 P **P 03 31 30.5 -0.2**
comp=Z,5.7nm,0.7s,mb4.3,baz=211,slow=3.2,SNR=6.8
PSI Prapat 82.01 264 P **P 03 31 30.5 -0.2**
MBDF Montbardon 83.09 355 *eP* **P 03 31 36.5 +0.1**
comp=Z,5.4nm,0.7s,mb4.1
MBDF Montbardon 83.09 355 *eP* **P 03 31 36.5 +0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MBDF Montbardon 83.09 355 *eP* **P 03 31 36.5 +0.1**
comp=Z,2.7nm,0.7s,mb4.1
FITZ Fitzroy Crossi 84.24 231 *eP* **P 03 31 41.5 -0.7**
comp=Z,10nm,1.8s,mb4.3
FITZ Fitzroy Crossi 84.24 231 P **P 03 31 41.9 -0.3**
comp=Z,1.7nm,0.7s,mb3.9,baz=84,slow=2.2,SNR=6.4
MTLF Montolieu 84.65 358 *eP* **P 03 31 44.6 +0.3**
SJPF Ste Jean 84.91 1 *eP* **P 03 31 45.6 +0.1**
comp=Z,6.0nm,0.8s,mb4.1
SJPF Ste Jean 84.91 1 *eP* **P 03 31 45.6 +0.1**
SJPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SJPF Ste Jean 84.91 1 *eP* **P 03 31 45.6 +0.1**
comp=Z,3.0nm,0.8s,mb4.1
PGF Pioggiola 85.11 353 *eP* **P 03 31 46.6 0.0**
comp=Z,20nm,0.9s,mb4.5
PGF Pioggiola 85.11 353 *eP* **P 03 31 46.6 0.0**
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
PGF Pioggiola 85.11 353 *eP* **P 03 31 46.6 0.0**
comp=Z,10nm,0.9s,mb4.5
ETSF Etsaut 85.12 0 *eP* **P 03 31 47.1 +0.5**
comp=Z,5.6nm,0.8s,mb4.1
ETSF Etsaut 85.12 0 *eP* **P 03 31 47.1 +0.5**
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ETSF Etsaut 85.12 0 *eP* **P 03 31 47.1 +0.5**
comp=Z,2.8nm,0.8s,mb4.0
ASAR Alice Springs 85.50 221 P **P 03 31 48.4 -0.1**
comp=Z,1.2nm,0.7s,mb3.7,baz=25,slow=5.6,SNR=11
STKA Stephens Creek 90.18 211 P **P 03 32 10.2 -0.6**
comp=Z,1.8nm,0.7s,mb4.1,baz=317,slow=16,SNR=3.3
TORD Torodi Ar. Bea 114.74 358 PKP PKiKP 03 37 48.0 -1.8
comp=Z,0.2nm,0.3s,baz=349,slow=2.4,SNR=11
QSPA South Pole Qui 142.11 180 *e*PKPdf PKPdf 03 38 35.7 -5.8
MAW Mawson 146.59 218 PKPbc PKPbc 03 38 49.5 -1.6
comp=Z,1.6nm,0.5s,baz=66,slow=3.6,SNR=6.0
BOSA Boshof 149.52 311 PKPbc PKPbc 03 38 58.0 -0.8
comp=Z,4.4nm,1.1s,baz=312,slow=12,SNR=3.7

MAN 27 03:24:26.1, 1012N×12229E, h17km, mb2.1, ML3.8, MS4.4, Panay

IDC 27 03:31:05.3±86.0, 1777S×17757W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.1/3, Error ellipse: s-maj=1583.0km s-min=175.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.39**	**241**	P	P	P	03 38 37.2	+0.5
	0.7nm,0.3s,baz=74,slow=7.4,SNR=4.2							
WB2	**Warramunga Arr**	**45.43**	**259**	*eP*	P	P	03 39 25.9	+0.1
WRA	**Warramunga Arr**	**45.44**	**259**	P	P	P	03 39 26.1	+0.2
	0.7nm,0.4s,baz=96,slow=8.2,SNR=26							
ASAR	**Alice Springs**	**45.59**	**254**	P	P	P	03 39 27.4	+0.3
	2.5nm,0.6s,baz=89,slow=8.6,SNR=36							

ISCJB ***27*** *03:53:16.0±2.6, 580N±006×9225E±005, h8km±17km, mb4.6/41, MS3.9/9, Error ellipse: s-maj=10.3km s-min=6.6km az=61.8*
MOS ***27*** *03:53:20.0±1.1, 591N×9231E, h33km, mb4.9/14, Error ellipse: s-maj=12.7km s-min=7.6km az=108.9*
IDC ***27*** *03:53:22.0±0.7, 593N×9233E, h33km±4km, mb4.1/16, mb1 4.2/17, mb1mx4.0/25, mbtmp4.3/17, ML4.0/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/37, Error ellipse: s-maj=24.2km s-min=11.5km az=50.0*
NEIC ***27*** *03:53:21.6±0.3, 586N×9229E, mb4.6/8, Error ellipse: s-maj=8.6km s-min=5.7km az=216.0*
BJI ***27*** *03:53:21.6, 590N×9230E, h33km, mB4.8, mb4.7, Ms4.1, Msz3.7*
ISC 27 03:53:20.3±2.1, 586N±006×9226E±005, h21km±15km, h35km±1.5km: pP-P, n97, σ1§10/96, mb4.6/41, MS3.9/9, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.31**	**114**	Pn	**Pn**	**Pn**	**03 55 05.6**	**-0.2**
	2.2nm,0.3s,baz=311,slow=16,SNR=11							
PSI				Sn	**Sn**	**Sn**	**03 56 22.8**	**-5.4**
	2.5nm,0.3s,baz=277,slow=4.0,SNR=5.3							
PSI				LR	LR	LR	03 57 19.7	
	comp=Z,215nm,20.3s,baz=80,slow=32							
PSI	**Prapat**	**7.31**	**114**	P	**Pn**	**Pn**	**03 55 05.6**	**-0.2**
PSI							03 56 22.8	
KULM	**Kulim**	**8.37**	**93**	*e*Pn	**Pn**	**Pn**	**03 55 19.4**	**-1.0**
KULM				*e*Sn	**Sn**	**Sn**	**03 56 48.4**	**-5.8**
PALK	**Pallekele**	**11.57**	**278**	*e*Pn	**Pn**	**Pn**	**03 56 04.3**	**+0.1**
	45nm,0.5s							
PALK				*e*Sn	**Sn**	**Sn**	**03 58 01.0**	**-12**
CHTO	**Chiang Mai**	**14.43**	**26**	*eP*	**Pn**	**Pn**	**03 56 43.4**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,14nm,0.9s							
CHTO	**Chiang Mai**	**14.43**	**26**	*e*Pn	**Pn**	**Pn**	**03 56 43.4**	**+0.1**
	comp=Z,14nm,0.9s							
VIS	**Vishakhapatnam**	**14.67**	**324**	*eP*	**Pn**	**Pn**	**03 56 44.7**	**-1.8**
VIS				*ex*	x	x	03 59 16.3	
SALM	**Salem**	**15.04**	**293**	*eP*	**Pn**	**Pn**	**03 56 52.0**	**+0.5**
SALM				*ex*	x	x	03 59 22.0	
TRD	**Trivandrum**	**15.41**	**281**	*eP*	**Pn**	**Pn**	**03 56 54.0**	**-2.4**
TRD				AMb	AMB	AMB	03 56 56.6	
TRD				*ex*	x	x	03 59 34.3	
HYB	**Hyderabad**	**17.65**	**312**	*i P*	**Pn**	**Pn**	**03 57 26.0**	**+1.2**
HYB				*eS*	**Sn**	**Sn**	**04 00 40.0**	**-0.9**
HYB	**Hyderabad**	**17.65**	**312**	*eP*	**Pn**	**Pn**	**03 57 26.0**	**+1.2**
HYB				*eS*	**Sn**	**Sn**	**04 00 26.0**	**-15**
MNGI	**Mangalore**	**18.58**	**294**	*eP*	**Pn**	**Pn**	**03 57 32.6**	**-3.7**
MNGI				AMb	AMB	AMB	03 57 50.9	
	comp=Z,70nm,2.4s							
BOK	**Bokaro**	**18.86**	**342**	*eP*	**Pn**	**Pn**	**03 57 39.3**	**-0.3**
BOK				AMb	AMB	AMB	03 57 42.4	
	comp=Z,44nm,0.7s							
SHL	**Shillong**	**19.60**	**359**	*eP*	**Pn**	**Pn**	**03 57 44.8**	**-3.7**
KAD	**Karad**	**21.02**	**304**	*eP*	**P**	**Pn**	**03 58 01.5**	**-1.1**
KAD				AMb	AMB	AMB	03 58 10.6	
	comp=Z,22nm,1.5s,mb4.3							
QIZ	**Qiongzhong**	**21.56**	**51**	P	**P**	**P**	**03 58 06.5**	**-1.8**
QIZ				AMB	AMB	AMB		
	comp=Z,238nm,5.5s							
QIZ				LR	LR	LR		
	comp=N,868nm,14.5s,MS4.3							
QIZ				LR	LR	LR		
	comp=E,457nm,14.5s,MS4.3							
QIZ				LR	LR	LR		
	comp=Z,380nm,11.4s,MS4.0							
KMI	**Kunming**	**21.63**	**27**	P	**P**	**P**	**03 58 10.8**	**+1.7**
KMI				AMB	AMB	AMB		
	comp=Z,17nm,1.0s,mb4.4							
KMI				LR	LR	LR		
	comp=N,236nm,12.8s,MS3.9							
KMI				LR	LR	LR		
	comp=E,197nm,14.6s,MS3.9							
KMI				LR	LR	LR		
	comp=Z,208nm,14.6s,MS3.7							
KMI	**Kunming**	**21.63**	**27**	P	**P**	**P**	**03 58 10.7**	**+1.6**
KMI				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.4							
KMI				MLR	MLR	MLR		
	comp=Z,210nm,14.6s,MS3.7							
KMI	**Kunming**	**21.63**	**27**	P	**P**	**P**	**03 58 10.7**	**+1.6**
	comp=Z,17nm,1.0s,mb4.4							
KMI				LR	LR	LR		
	comp=Z,210nm,14.6s,MS3.7							
POO	**Poona**	**21.93**	**307**	*eP*	**P**	**P**	**03 58 09.0**	**-3.3**
POO				*e*PP			03 58 33.0	
POO				*i* x	x	x	04 02 07.0	
BHPL	**Bhopal**	**22.43**	**322**	*eP*	**P**	**P**	**03 58 17.8**	**+0.2**
BHPL				AMb	AMB	AMB	03 58 22.0	
	comp=Z,27nm,1.0s,mb4.6							
JIRN	**Jiri**	**22.43**	**346**	*eP*	**P**	**P**	**03 58 19.0**	**+1.3**
	comp=Z,158nm,1.0s,mb5.4							
PKI	**Pulchoki**	**22.55**	**344**	*eP*	**P**	**P**	**03 58 20.0**	**+1.0**
DMN	**Daman**	**22.67**	**343**	*eP*	**P**	**P**	**03 58 22.0**	**+1.8**
GUN	**Gumba**	**22.75**	**345**	*eP*	**P**	**P**	**03 58 21.4**	**+0.3**
	comp=Z,162nm,1.0s,mb5.4							
KKN	**Kakani**	**22.80**	**344**	*eP*	**P**	**P**	**03 58 22.1**	**+0.6**
	comp=Z,151nm,1.2s,mb5.3							
GKN	**Gorkha**	**23.18**	**343**	*eP*	**P**	**P**	**03 58 25.7**	**+0.1**
KOLN	**Koldanda**	**23.29**	**340**	*eP*	**P**	**P**	**03 58 27.4**	**+0.6**
	comp=Z,65nm,0.9s,mb5.1							
LSA	**Lhasa**	**23.73**	**358**	P	**P**	**P**	**03 58 33.0**	**+1.9**
LSA	**Lhasa**	**23.73**	**358**	*eP*	**P**	**P**	**03 58 32.1**	**+1.0**
LSA				pmax	pmax			
	comp=Z,25nm,1.0s,mb4.6							
LSA	**Lhasa**	**23.73**	**358**	*eP*	**P**	**P**	**03 58 32.1**	**+1.1**
	comp=Z,25nm,1.0s,mb4.6							
GYA	**Guiyang**	**24.67**	**32**	⇑ *iP*	**P**	**P**	**03 58 40.8**	**+1.2**
GYA				AMB	AMB			
	comp=Z,20nm,0.7s,mb4.8							
NDI	**New Delhi**	**26.80**	**330**	*eP*	**P**	**P**	**03 58 58.3**	**-0.6**
NDI				AMb	AMB	AMB	03 59 04.4	
	comp=Z,21nm,1.9s,mb4.3							
LZH	**Lanzhou**	**31.91**	**18**	*eP*	**P**	**P**	**03 59 44.3**	**0.0**
LZH				AP	pP	pP	03 59 52.8	+2.2
LZH				XP	sP	sP	03 59 57.5	+4.4
LZH				AMB	AMB			
	comp=Z,16nm,1.2s,mb4.7							
LZH	**Lanzhou**	**31.91**	**18**	*eP*	**P**	**P**	**03 59 44.3**	**0.0**
LZH				*PP	pP	pP	03 59 52.8	+2.2
LZH				*SP	sP	sP	03 59 57.6	+4.5
LZH				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.7							
LZH	**Lanzhou**	**31.91**	**18**	*eP*	**P**	**P**	**03 59 44.3**	**0.0**
	comp=Z,16nm,1.2s,mb4.7							
LZH				pP	pP	pP	03 59 52.8	+2.2
LZH				sP	sP	sP	03 59 57.6	+4.5
GTA	**Gaotai**	**34.09**	**10**	*eP*	**P**	**P**	**04 00 04.0**	**+0.7**
GTA				AMB	AMB			
	comp=Z,13nm,1.1s,mb4.8							
KZA	**Kyzart**	**39.11**	**340**	P	**P**	**P**	**04 00 47.8**	**+1.7**
	SNR=6.4							
UCH	**Uchtor**	**39.50**	**339**	P	**P**	**P**	**04 00 50.5**	**+1.2**
	SNR=15							
AML	**Almayashu**	**39.71**	**338**	P	**P**	**P**	**04 00 52.6**	**+1.5**
	SNR=21							
TKM2	**Tokmak 2**	**39.74**	**341**	P	**P**	**P**	**04 00 52.2**	**+0.9**
	SNR=6.0							
AAK	**Ala-Archa**	**39.86**	**339**	P	**P**	**P**	**04 00 54.0**	**+1.6**
	SNR=8.2							
AAK	**Ala-Archa**	**39.86**	**339**	*eP*	**P**	**P**	**04 00 52.7**	**+0.3**
AAK				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.6							
AAK	**Ala-Archa**	**39.86**	**339**	*eP*	**P**	**P**	**04 00 52.7**	**+0.3**
	comp=Z,12nm,1.0s,mb4.6							
JOW	**Kunigami**	**40.13**	**55**	LR	LR	LR	04 19 16.6	
	comp=Z,68nm,19.0s,MS3.5,baz=100,slow=39							
EKS2	**Erkin-Say**	**40.14**	**339**	P	**P**	**P**	**04 00 56.1**	**+1.4**
	SNR=5.9							
USP	**Ospenovka**	**40.42**	**340**	P	**P**	**P**	**04 00 57.5**	**+0.6**
	SNR=16							
FITZ	**Fitzroy Crossi**	**40.64**	**127**	P	**P**	**P**	**04 00 57.9**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.7,baz=315,slow=7.1,SNR=4.4							
MK31	**Makanchi Array**	**41.68**	**350**	*eP*	**P**	**P**	**04 01 06.8**	**-0.6**
MKAR	**Makanchi Array**	**41.68**	**350**	P	**P**	**P**	**04 01 07.1**	**-0.2**
	comp=Z,5.0nm,0.5s,mb4.4,baz=168,slow=8.8,SNR=54							
MKAR				pP	pP	pP	04 01 16.5	+2.7
	comp=Z,2.2nm,0.6s,baz=168,slow=7.9,SNR=5.4							
MKAR				LR	LR	LR	04 20 02.9	
	comp=Z,84nm,18.8s,MS3.6,baz=80,slow=38							
MKAR	**Makanchi Array**	**41.68**	**350**	P	**P**	**P**	**04 01 07.1**	**-0.3**
MKAR				*PP	pP	pP	04 01 16.5	+2.7
SONM	**Songino Array**	**43.54**	**14**	P	**P**	**P**	**04 01 22.4**	**-0.1**
	comp=Z,4.4nm,0.7s,mb4.3,baz=194,slow=8.6,SNR=10							
SONM				PcP	PcP	PcP	04 03 10.3	+0.3
	comp=Z,1.4nm,0.6s,baz=225,slow=1.8,SNR=3.3							
SONM				LR	LR	LR	04 21 25.5	
	comp=Z,116nm,18.4s,MS3.8,baz=86,slow=39							
SONM	**Songino Array**	**43.54**	**14**	P	**P**	**P**	**04 01 22.4**	**-0.1**
SONM							04 03 10.3	
ULN	**Ulaanbaatar**	**43.72**	**14**	*eP*	**P**	**P**	**04 01 25.1**	**+1.1**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.4							
ULN	**Ulaanbaatar**	**43.72**	**14**	*eP*	**P**	**P**	**04 01 25.1**	**+1.2**
	comp=Z,4.9nm,0.6s,mb4.4							
ZAL	**Zalesovo**	**48.31**	**354**	P	**P**	**P**	**04 02 00.7**	**+0.6**
	comp=Z,6.4nm,0.5s,mb4.9,baz=310,slow=5.8,SNR=28							
WRA	**Warramunga Arr**	**48.68**	**123**	P	**P**	**P**	**04 02 03.7**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.3,baz=302,slow=8.3,SNR=14							
WRA				pP	pP	pP	04 02 13.4	+4.0
	comp=Z,6.6nm,0.9s,baz=301,slow=9.0,SNR=17							
WRAB	**Tennant Creek**	**48.69**	**123**	*eP*	**P**	**P**	**04 02 04.3**	**+1.3**
WB2	**Warramunga Arr**	**48.69**	**123**	*eP*	**P**	**P**	**04 02 03.4**	**+0.4**
NVS	**Novosibirsk**	**49.38**	**353**	*eP*	**P**	**P**	**04 02 06.3**	**-2.0**
NVS				pmax	pmax			
	comp=N,11nm,1.1s							
NVS				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
NVS				pmax	pmax			
	comp=E,4.0nm,0.9s							
AS31	**Alice Springs**	**50.12**	**127**	*eP*	**P**	**P**	**04 02 14.0**	**+0.1**
ASAR	**Alice Springs**	**50.12**	**127**	P	**P**	**P**	**04 02 14.8**	**+0.8**
	comp=E,1.5nm,0.7s,mb4.1,baz=298,slow=7.6,SNR=12							
ASAR				pP	pP	pP	04 02 24.0	+3.5
	comp=E,3.2nm,0.7s,baz=303,slow=7.3,SNR=16							
BVAR	**Borovoye Array**	**50.32**	**343**	P	**P**	**P**	**04 02 14.3**	**-1.1**
	comp=E,5.5nm,0.8s,mb4.6,baz=142,slow=7.5,SNR=16							
BVAR				pP	pP	pP	04 02 24.6	+2.6
	comp=E,2.2nm,0.8s,baz=115,slow=7.0,SNR=2.9							
ZRNK	**Zerenda**	**50.67**	**342**	*eP*	**P**	**P**	**04 02 17.4**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**50.67**	**342**	*eP*	**P**	**P**	**04 02 17.4**	**-0.7**
	comp=Z,4.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.83**	**344**	*eP*	**P**	**P**	**04 02 18.4**	**-0.9**
CHKZ				*e*PP	pP	pP	04 02 28.9	+3.1
CHKZ				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
CHKZ	**Chkalovo**	**50.83**	**344**	*eP*	**P**	**P**	**04 02 18.4**	**-0.9**
	comp=Z,18nm,0.9s,mb5.0							
CHKZ				*e*pP	pP	pP	04 02 28.9	+3.0
AKTK	**Aktyubinsk**	**52.85**	**333**	P	**P**	**P**	**04 02 33.2**	**-1.2**
AKTO	**Aktyubinsk**	**52.85**	**333**	P	**P**	**P**	**04 02 33.2**	**-1.2**
	comp=Z,2.8nm,1.0s,mb4.2,baz=127,slow=8.2,SNR=6.4							
WNDE	**Wendo Genet**	**53.27**	**274**	*eP*	**P**	**P**	**04 02 37.5**	**0.0**
BOD	**Bodaibo**	**54.53**	**14**	*eP*	**P**	**P**	**04 02 46.3**	**-0.4**
BOD				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
GNI	**Garni**	**54.54**	**316**	P	**P**	**P**	**04 02 47.6**	**+0.9**
	comp=Z,2.2nm,0.3s,mb4.6,baz=124,slow=18,SNR=3.3							
KMBO	**Kilima Mbogo**	**55.36**	**265**	P	**P**	**P**	**04 02 54.6**	**+1.9**
	comp=Z,0.5nm,0.4s,mb3.9,baz=41,slow=9.3,SNR=3.8							
KMBO				LR	LR	LR	04 22 00.4	
	comp=Z,114nm,21.5s,MS3.9,baz=275,slow=31							
ZEI	**Tsey**	**56.26**	**319**	*eP*	**P**	**P**	**04 02 59.8**	**+0.6**
ZEI				*e*PP	pP	pP	04 03 11.8	+6.0
ZEI				*e*			04 03 56.2	
ZEI				*e*			04 05 06.7	
KIV	**Kislovodsk**	**57.58**	**319**	*eP*	**P**	**P**	**04 03 09.3**	**+0.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
BRTR	**Keskin Array B**	**62.35**	**312**	P	**P**	**P**	**04 03 41.1**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.3,baz=131,slow=7.7,SNR=9.6							
BRTR				pP	pP	pP	04 03 52.4	+4.5
	comp=Z,1.0nm,0.8s,baz=134,slow=6.7,SNR=3.7							
YAK	**Yakutsk**	**62.49**	**19**	*eP*	**P**	**P**	**04 03 41.3**	**-0.9**
YAK				pmax	pmax			
	comp=Z,26nm,0.8s,mb5.4							
OBN	**Obninsk**	**66.10**	**329**	*eP*	**P**	**P**	**04

comp=Z,8.0nm,1.1s,mb4.7
LPG La Plagne 82.71 315 *e*P **P 04 05 42.7 +0.2**
comp=Z,8.3nm,1.1s,mb4.7
TORD Torodi Ar. Bea 89.23 283 LR LR 04 42 29.6
comp=Z,88nm,18.1s,MS4.2,baz=345,slow=33
ESDC Sonseca Array 91.07 310 P **P 04 06 23.2 -0.1**
comp=Z,0.4nm,0.6s,mb4.0,baz=75,slow=5.0,SNR=4.7
PDAR Pinedale Array 127.70 20 pPKP pPKPdf 04 12 36.5 +5.4
comp=Z,0.3nm,0.8s,baz=20,slow=2.9,SNR=2.0
TXAR Lajitas Array 141.80 23 pPKP pPKPdf 04 13 03.2 +5.8
comp=Z,0.4nm,0.9s,baz=202,slow=1.0,SNR=2.5
CPUP Villa Florida 144.56 232 PKP PKPdf 04 12 55.6 +0.5
comp=Z,1.5nm,0.7s,baz=163,slow=13,SNR=2.9

BJI ***27*** *04:19:06.5,201S×12787E,h10km,mB5.2,mb5.0,Ms4.7, Msz4.4*
IDC ***27*** *04:19:13.7±0.5,1.15S×12734E,h0km,mb4.9/13, mb1 4.8/15,mb1mx4.7/20,mbtmp4.8/15,ML4.5/2,MS4.1/14, Ms1 4.1/14,ms1mx3.9/31,Error ellipse: s-maj=24.8km s-min=12.2km az=65.0*
ISCJB ***27*** *04:19:15.0±1.4,123S±003×12736E±005,h20km±9km, mb5.1/65,MS4.2/20,Error ellipse: s-maj=8.2km s-min=4.7km az=128.3*
NEIC ***27*** *04:19:15.5±0.3,121S×12731E,h10km,mb5.0/22,Error ellipse: s-maj=10.3km s-min=5.5km az=66.0*
NEIC Felt [III] at Labuha.
GCMT ***27*** *04:19:15.5±0.3,1.10S×12744E,h15km±1km,MW5.0/57, Moment Tensor Solution. s24,c30; s57,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.65±.20; Mθθ-0.31±.12; Mφφ1.96±.18; Mrθ-0.04±.29; Mθφ3.31±.13; Mφr0.56±.31; Best double couple: M0 3.57300×10¹⁶ NP1:φs80.00000°,δ74.00000°,λ-10.00000°. NP2: φs172.00000°,δ80.00000°,λ-164.00000°. Principal axes: T 4.3560, Plg4.0000°, Azm305.0000°; N -1.5640, Plg72.0000°, Azm203.0000°; P -2.7900, Plg18.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***27*** *04:19:17.3±1.2,1.11S×12732E,h33km,mb5.2/21 Error ellipse: s-maj=16.3km s-min=7.3km az=116.6*
ISC 27 04:19:20.0±0.7,129S±003×12749E±005,h49km±7km, h38km±5.9km:pP-P,n164,σ1⇑10/160,mb5.1/65,MS4.2/20, 3C-6D,Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.48**	**163**	P	**Pn**	**04 19 59.0**	**+1.1**
	1μm,0.8s						
SWI	**Sorong**	**3.80**	**84**	P	**Pn**	**04 20 16.4**	**+0.4**
	902nm,1.1s						
PCI	**Palu**	**7.66**	**273**	P	**Pn**	**04 21 05.2**	**-3.7**
	472nm,1.0s						
KAPI	**Kappang**	**8.56**	**244**	Pn	**Pn**	**04 21 20.1**	**-1.2**
	754nm,0.6s,SNR=20						
KAKA	**Kakadu**	**12.36**	**157⇑**	*i*P	**Pn**	**04 22 13.0**	**-0.3**
	39nm,0.4s						
KAKA				*e*S	**Sn**	**04 24 28.6**	**-0.9**
KKM	**Kota Kinabalu**	**13.41**	**303**	P	**Pn**	**04 22 24.8**	**-2.8**
KKM	**Kota Kinabalu**	**13.41**	**303**	*e*Pn	**Pn**	**04 22 23.4**	**-4.2**
FITZ	**Fitzroy Crossi**	**16.80**	**186**	*e*P	**Pn**	**04 23 13.1**	**+1.3**
	30nm,1.4s						
FITZ	**Fitzroy Crossi**	**16.80**	**186**	Pn	**Pn**	**04 23 12.6**	**+0.8**
	0.9nm,0.3s,baz=14,slow=9.8,SNR=8.8						
FITZ				LR	LR	04 29 56.5	
	comp=Z,468nm,20.9s,baz=8.5,slow=38						
KSM	**Kuching**	**17.40**	**279**	*e*P	**Pn**	**04 23 15.2**	**-3.9**
BJII	**Banjamegara**	**18.71**	**251**	P	**Pn**	**04 23 37.7**	**+2.6**
	191nm,2.1s						
WRAB	**Tennant Creek**	**19.70**	**161**	P	**Pn**	**04 23 44.0**	**-3.0**
	242nm,0.9s,SNR=15						
WRAB	**Tennant Creek**	**19.70**	**161**	*e*P	**Pn**	**04 23 44.3**	**-2.7**
WRA	**Warramunga Arr**	**19.71**	**161**	P	**Pn**	**04 23 45.0**	**-2.1**
	1.8nm,0.3s,baz=343,slow=12,SNR=56						
WRA				S	**S**	**04 27 25.8**	**+1.0**
	0.3nm,0.3s,baz=340,slow=20,SNR=4.2						
WRA				LR	LR	04 32 19.7	
	comp=Z,502nm,18.9s,baz=325,slow=40						
WRA	**Warramunga Arr**	**19.71**	**161**	P	**Pn**	**04 23 45.0**	**-2.1**
WRA				S	**S**	**04 27 25.8**	**+1.0**
WB2	**Warramunga Arr**	**19.71**	**161⇑**	*i*P	**Pn**	**04 23 44.8**	**-2.3**
WB2				*e*S	**S**	**04 27 19.5**	**-5.4**
JCJI	**Jatiwangi**	**19.85**	**254**	P	**Pn**	**04 23 54.1**	**+5.4**
	178nm,1.7s						
LEM	**Lembang**	**20.56**	**254**	P	**P**	**04 23 58.4**	**+3.9**
	102nm,1.4s						
MBWA	**Marble Bar**	**21.14**	**200**	*e*P	**P**	**04 24 01.0**	**+0.2**
	82nm,1.4s,mb4.9						
PMG	**Port Moresby**	**21.16**	**113**	P	**P**	**04 24 03.4**	**+2.4**
	17nm,0.9s,mb4.4,baz=284,slow=14,SNR=3.1						
CBJI	**Citeko**	**21.20**	**256**	P	**P**	**04 24 06.7**	**+5.3**
	312nm,0.8s,mb5.7						
AS31	**Alice Springs**	**23.09**	**165**	*e*P	**P**	**04 24 21.3**	**-0.2**
AS31				*e*S	**S**	**04 28 27.8**	**-1.1**
ASAR	**Alice Springs**	**23.09**	**165**	P	**P**	**04 24 21.2**	**-0.3**
	20nm,0.7s,mb4.6,baz=344,slow=9.8,SNR=70						
ASAR				S	**S**	**04 28 27.3**	**-1.6**
	10nm,1.1s,baz=346,slow=22,SNR=10						
ASPA	**Alice Springs**	**23.09**	**165**	*e*P	**P**	**04 24 21.3**	**-0.2**
ASPA				*e*S	**S**	**04 28 27.8**	**-1.1**
KGM	**Kluang**	**24.39**	**278**	P	**P**	**04 24 34.3**	**+0.7**
CTA	**Charters Tower**	**26.19**	**137**	*e*P	**P**	**04 24 54.1**	**+4.2**
	20nm,0.9s,mb4.7						
CTA	**Charters Tower**	**26.19**	**137**	P	**P**	**04 24 53.5**	**+3.7**
	26nm,0.9s,mb4.8,baz=320,slow=11,SNR=21						
CTA	**Charters Tower**	**26.19**	**137**	*e*P	**P**	**04 24 54.1**	**+4.2**
CTA				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**26.19**	**137**	*e*P	**P**	**04 24 54.5**	**+4.6**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**26.19**	**137**	*e*P	**P**	**04 24 54.5**	**+4.6**
	comp=Z,33nm,1.0s,mb4.8						
QIZ	**Qiongzhong**	**26.62**	**320**	P	**P**	**04 24 53.5**	**-0.3**
QIZ				S	**S**	**04 29 23.3**	**-1.9**
QIZ				AMB	AMB		
	comp=Z,42nm,1.8s,mb4.7						
QIZ				LR	LR		
	comp=Z,473nm,24.4s,MS4.0						
IPM	**Ipoh**	**27.05**	**282**	P	**P**	**04 24 57.8**	**+0.1**
PPI	**Padang Panjang**	**27.10**	**272**	P	**P**	**04 24 58.4**	**+0.3**
	comp=Z,88nm,1.2s,mb5.2						
KULM	**Kulim**	**27.59**	**284**	*e*P	**P**	**04 25 02.2**	**-0.3**
GZH	**Guangzhou**	**27.87**	**331**	P	**P**	**04 25 06.3**	**+1.3**
GZH				S	**S**	**04 29 50.8**	**+5.8**
JOW	**Kunigami**	**27.97**	**2**	P	**P**	**04 25 05.6**	**-0.3**
	comp=Z,30nm,0.9s,mb4.9,baz=181,slow=12,SNR=4.7						
PSI	**Prapat**	**28.84**	**278**	P	**P**	**04 25 12.5**	**-1.2**
	comp=Z,25nm,0.9s,mb4.9,baz=178,slow=23,SNR=13						
PSI				LR	LR	04 37 46.6	
	comp=Z,337nm,20.0s,MS4.0,baz=102,slow=39						
FORT	**Forrest**	**29.33**	**179**	*e*P	**P**	**04 25 19.1**	**+1.1**
	comp=Z,25nm,0.6s,mb5.1						
CBIJ	**Chichi jima**	**31.58**	**26**	LR	LR	04 36 15.9	
	comp=Z,188nm,18.3s,MS3.8,baz=120,slow=32						
BSI	**Banda Aceh**	**32.85**	**282**	P	**P**	**04 25 52.3**	**+3.3**
	comp=Z,23nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**33.21**	**158⇓**	*i*P	**P**	**04 25 54.0**	**+1.9**
	comp=Z,18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**33.21**	**158**	P	**P**	**04 25 54.1**	**+2.0**
	comp=Z,12nm,0.7s,mb4.9,baz=336,slow=8.3,SNR=15						
STKA				LR	LR	04 40 13.2	
	comp=Z,459nm,18.4s,MS4.2,baz=338,slow=38						
WHN	**Wuhan**	**34.04**	**339**	P	**P**	**04 26 00.5**	**+1.1**
WHN				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.6						
GYA	**Guiyang**	**34.13**	**325**	P	**P**	**04 26 00.3**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
CHTO	**Chiang Mai**	**34.44**	**307**	P	**P**	**04 26 03.2**	**+0.4**
	SNR=9.9						
CHTO	**Chiang Mai**	**34.44**	**307**	*e*P	**P**	**04 26 02.6**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**34.44**	**307**	*e*P	**P**	**04 26 02.6**	**-0.2**
	comp=Z,22nm,1.0s,mb5.0						
KMI	**Kunming**	**35.55**	**319**	P	**P**	**04 26 13.5**	**+1.1**
KMI				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
KMI				LR	LR		
	comp=N,199nm,18.6s,MS4.1						
KMI				LR	LR		
	comp=E,205nm,16.4s,MS4.1						
KMI				LR	LR		
	comp=Z,304nm,18.6s,MS4.1						
KMI	**Kunming**	**35.55**	**319**	P	**P**	**04 26 13.4**	**+1.0**
KMI				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
KMI				MLR	MLR		
	comp=Z,300nm,18.6s,MS4.1						
KMI	**Kunming**	**35.55**	**319**	P	**P**	**04 26 13.4**	**+1.0**
	comp=Z,19nm,1.1s,mb4.9						
KMI				LR	LR		
	comp=Z,300nm,18.6s,MS4.1						
KS15	**Wonju Array Si**	**38.54**	**1**	*e*P	**P**	**04 26 38.4**	**+0.6**
MJAR	**Matsushiro Arr**	**38.94**	**14**	P	**P**	**04 26 39.5**	**-1.6**
	comp=Z,16nm,0.9s,mb4.8,baz=185,slow=9.3,SNR=13						
MJAR				ScP	ScP	04 32 40.8	+5.8
	comp=Z,0.5nm,0.3s,baz=200,slow=5.3,SNR=4.1						
MJAR				LR	LR	04 40 18.2	
	comp=Z,246nm,21.4s,MS4.0,baz=200,slow=33						
MJAR	**Matsushiro Arr**	**38.94**	**14**	P	**P**	**04 26 39.5**	**-1.6**
MJAR						04 32 40.8	
CD2	**Chengdu**	**39.18**	**327**	P	**P**	**04 26 43.0**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
XAN	**Xi'an**	**39.24**	**335**	P	**P**	**04 26 43.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.1						
BJT	**Baijiatuau**	**42.40**	**347**	*e*P	**P**	**04 27 08.5**	**-1.1**
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	**Baijiatuau**	**42.40**	**347**	*e*P	**P**	**04 27 08.5**	**-1.0**
	comp=Z,13nm,0.8s,mb4.6						
BJI	**Beijing**	**42.42**	**347**	*e*P	**P**	**04 27 09.8**	**+0.1**
BJI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
BJI				LR	LR		
	comp=N,255nm,16.4s,MS4.3						
BJI				LR	LR		
	comp=E,186nm,16.4s,MS4.3						
BJI				LR	LR		
	comp=Z,190nm,22.6s						
BJI	**Beijing**	**42.42**	**347**	*e*P	**P**	**04 27 09.7**	**0.0**
BJI				S	**S**	**04 33 25.3**	**-2.5**
BJI				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
BJI				MLR	MLR		
	comp=Z,190nm,22.6s,MS3.9						
BJI	**Beijing**	**42.42**	**347**	*e*P	**P**	**04 27 09.7**	**0.0**
	comp=Z,18nm,1.2s,mb4.6						
BJI				S	**S**	**04 33 25.3**	**-2.5**
BJI				LR	LR		
	comp=Z,190nm,22.6s,MS3.9						
LZH	**Lanzhou**	**43.22**	**332**	⇓P	**P**	**04 27 17.0**	**+0.7**
LZH				AP	pP	04 27 26.3	-3.2
LZH				XP	sP	04 27 30.0	-5.2
LZH				PP	PP	04 29 00.3	+2.9
LZH				PCP	PcP	04 29 06.8	+2.0
LZH				S	**S**	**04 33 41.5**	**+1.8**
LZH				XS	sS	04 33 57.5	-4.3
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,202nm,5.3s						
LZH				LR	LR		
	comp=E,638nm,13.8s						
LZH				LR	LR		
	comp=Z,985nm,17.7s,MS4.8						
LZH	**Lanzhou**	**43.22**	**332**	⇓P	**P**	**04 27 17.0**	**+0.7**
LZH				*PP	pP	04 27 26.3	-3.2
LZH				*SP	sP	04 27 30.1	-5.1
LZH						04 29 00.3	
LZH						04 29 06.8	
LZH				S	**S**	**04 33 41.5**	**+1.8**
LZH				*SS	sS	04 33 57.4	-4.4
LZH				SS	SS	04 36 48.2	-5.9
LZH				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.9						
LZH				MLR	MLR		
	comp=Z,990nm,17.7s,MS4.8						
LZH	**Lanzhou**	**43.22**	**332**	⇓P	**P**	**04 27 17.0**	**+0.7**
	comp=Z,28nm,1.2s,mb4.9						
LZH				pP	pP	04 27 26.3	-3.2
LZH				sP	sP	04 27 30.1	-5.1
LZH				PP	PP	04 29 00.3	+2.9
LZH				PcP	PcP	04 29 06.8	+2.0
LZH				S	**S**	**04 33 41.5**	**+1.8**
LZH				sS	sS	04 33 57.4	-4.4
LZH				SS	SS	04 36 48.2	-5.9
LZH				LR	LR		
	comp=Z,990nm,17.7s,MS4.8						
SHL	**Shillong**	**43.57**	**310**	*e*P	**P**	**04 27 19.2**	**+0.2**
HHC	**Hu-ho-hao-te**	**44.38**	**343**	*e*P	**P**	**04 27 28.5**	**+2.9**
HHC				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,114nm,6.3s						
HHC				LR	LR		
	comp=N,239nm,5.3s						
HHC				LR	LR		
	comp=E,218nm,5.5s						
HHC				LR	LR		
	comp=Z,227nm,11.0s,MS4.3						
MDJ	**Mudanjiang**	**45.75**	**2**	P	**P**	**04 27 36.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,57nm,3.6s						
MDJ				LR	LR		
	comp=N,187nm,17.6s,MS4.3						
MDJ				LR	LR		
	comp=E,177nm,13.3s,MS4.3						
MDJ				LR	LR		
	comp=Z,249nm,16.6s,MS4.2						
MDJ	**Mudanjiang**	**45.75**	**2**	*e*P	**P**	**04 27 35.8**	**-0.6**
	comp=Z,31nm,1.0s,mb5.2						
LSA	**Lhasa**	**46.40**	**315**	P	**P**	**04 27 43.5**	**+2.0**
LSA	**Lhasa**	**46.40**	**315**	*e*P	**P**	**04 27 43.1**	**+1.6**
LSA				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
LSA	**Lhasa**	**46.40**	**315**	*e*P	**P**	**04 27 43.1**	**+1.6**
	comp=Z,37nm,0.9s,mb5.3						
VIS	**Vishakhapatnam**	**47.40**	**296**	*e*P	**P**	**04 27 48.9**	**-0.5**
VIS				AMb	AMB	04 27 53.4	
	comp=Z,52nm,1.2s,mb5.3						
BOK	**Bokaro**	**47.48**	**304**	*e*P	**P**	**04 27 50.0**	**0.0**
BOK				AMb	AMB	04 27 52.5	
	comp=Z,17nm,1.2s,mb4.8						
GTA	**Gaotai**	**47.80**	**331**	P	**P**	**04 27 53.0**	**+0.6**
GTA				AP	pP	04 28 02.3	-3.5
GTA				XP	sP	04 28 06.0	-5.5
GTA				AMB	AMB		
	comp=Z,55nm,1.1s,mb5.5						
MDRS	**Chennai**	**48.98**	**289**	*e*x	x	04 27 41.7	
JIRN	**Jiri**	**49.01**	**309**	*e*P	**P**	**04 28 02.4**	**+0.6**
	comp=Z,92nm,0.8s,mb5.8						
GUN	**Gumba**	**49.38**	**309**	*e*P	**P**	**04 28 05.1**	**+0.5**
	comp=Z,141nm,0.8s,mb6.1						
PKI	**Pulchoki**	**49.58**	**309**	*e*P	**P**	**04 28 06.2**	**+0.1**
KKN	**Kakani**	**49.78**	**309**	*e*P	**P**	**04 28 07.8**	**+0.1**
	comp=Z,116nm,1.1s,mb5.8						
DMN	**Daman**	**49.83**	**308**	*e*P	**P**	**04 28 08.3**	**+0.2**
	comp=Z,143nm,1.1s,mb5.9						
YSS	**Yuzh-Sakhalins**	**49.88**	**14**	*e*P	**P**	**04 28 09.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
GKN	**Gorkha**	**50.38**	**309**	*e*P	**P**	**04 28 12.1**	**-0.1**
	comp=Z,130nm,1.1s,mb5.9						
KLR	**Kul'dur**	**50.46**	**4**	*e*P	**P**	**04 28 09.0**	**-3.8**
KLR				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2						
HIA	**Hailar**	**50.80**	**353**	*e*P	**P**	**04 28 15.5**	**+0.1**
KOLN	**Koldanda**	**51.09**	**308**	*e*P	**P**	**04 28 18.2**	**+0.7**
	comp=Z,216nm,0.9s,mb6.1						
TRD	**Trivandrum**	**51.29**	**282**	*e*P	**P**	**04 28 18.4**	**-0.6**
TRD				AMb	AMB	04 28 23.3	
	comp=Z,82nm,1.4s,mb5.5						
HYB	**Hyderabad**	**51.66**	**293**	*i* P	**P**	**04 28 23.0**	**+1.2**
HYB	**Hyderabad**	**51.66**	**293**	*e*P	**P**	**04 28 23.0**	**+1.2**
ULN	**Ulaanbaatar**	**52.10**	**343**	P	**P**	**04 28 25.7**	**+0.6**
	SNR=12						
ULN	**Ulaanbaatar**	**52.10**	**343**	*e*P	**P**	**04 28 24.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**52.10**	**343**	*e*P	**P**	**04 28 24.4**	**-0.7**
	comp=Z,29nm,0.8s,mb5.2						
SONM	**Songino Array**	**52.27**	**342**	P	**P**	**04 28 25.7**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0,baz=152,slow=7.3,SNR=54						
SONM				ScP	ScP	04 33 34.5	+4.4
	comp=Z,1.0nm,0.9s,baz=132,slow=2.1,SNR=3.4						
BHPL	**Bhopal**	**54.44**	**300**	*e*P	**P**	**04 28 41.8**	**-0.5**
BHPL				AMb	AMB	04 28 45.9	
	comp=Z,48nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**55.49**	**341**	*e*P	**P**	**04 28 48.7**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KAD	**Karad**	**55.66**	**292**	*e*P	**P**	**04 28 48.9**	**-2.2**
KAD				AMb	AMB	04 29 08.2	
	comp=Z,21nm,1.7s,mb4.9						
POO	**Poona**	**56.27**	**293**	*e*x	x	04 28 52.0	
TLY	**Talaya**	**56.51**	**342**	*e*P	**P**	**04 28 56.5**	**-0.6**
TLY	**Talaya**	**56.51**	**342**	*e*P	**P**	**04 28 56.9**	**-0.2**
NDI	**New Delhi**	**56.58**	**306**	*e*P	**P**	**04 28 55.9**	**-1.7**
NDI				AMb	AMB	04 29 02.6	
	comp=Z,17nm,0.9s,mb5.1						
WMQ	**Urumqi**	**57.28**	**327**	P	**P**	**04 29 03.0**	**+0.4**
WMQ				AP	pP	04 29 13.0	-3.2
WMQ				XP	sP	04 29 17.0	-4.9
WMQ				PCP	PcP	04 29 57.0	+0.6
WMQ				PP	PP	04 31 11.0	+1.0
WMQ				*e*S	**S**	**04 36 55.0**	**0.0**
WMQ				XS	sS	04 37 11.0	-6.9
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,213nm,5.2s						
WMQ				LR	LR		
	comp=N,866nm,29.0s						
WMQ				LR	LR		
	comp=E,469nm,23.2s						
WMQ				LR	LR		
	comp=Z,435nm,24.0s,MS4.5						
AJM	**Ajmer**	**57.91**	**303**	*e*P	**P**	**04 29 06.5**	**-0.5**
AJM				AMb	AMB	04 29 16.5	
	comp=Z,12nm,0.6s,mb5.1						
BOD	**Bodaibo**	**59.91**	**352**	*e*P	**P**	**04 29 18.9**	**-2.0**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MK31	**Makanchi Array**	**62.11**	**327**	*e*P	**P**	**04 29 35.1**	**-0.7**
MKAR	**Makanchi Array**	**62.11**	**327**	P	**P**	**04 29 35.2**	**-0.6**
	comp=Z,8.9nm,0.3s,mb5.3,baz=119,slow=8.1,SNR=91						
MKAR				ScP	ScP	04 34 18.7	+5.3
	comp=Z,2.6nm,0.8s,baz=127,slow=5.0,SNR=7.2						
MKAR	**Makanchi Array**	**62.11**	**327**	P	**P**	**04 29 35.2**	**-0.6**
MKAR				ScP	ScP	04 34 18.7	+5.2
YAK	**Yakutsk**	**63.18**	**1**	*e*P	**P**	**04 29 42.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.9						
YAK	**Yakutsk**	**63.18**	**1**	*e*P	**P**	**04 29 42.7**	**-0.2**
	comp=Z,96nm,0.9s,mb5.9						
MA2	**Magadan**	**63.38**	**13**	*e*P	**P**	**04 29 45.9**	**+1.7**
MA2				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.7						
MA2	**Magadan**	**63.38**	**13**	*e*P	**P**	**04 29 45.6**	**+1.4**
	comp=Z,58nm,1.0s,mb5.7						
TKM2	**Tokmak 2**	**64.02**	**320**	P	**P**	**04 29 48.8**	**+0.4**
	SNR=15						
UCH	**Uchtor**	**64.40**	**319**	P	**P**	**04 29 52.3**	**+1.4**
	SNR=19						
AAK	**Ala-Archa**	**64.60**	**319**	P	**P**	**04 29 52.2**	**0.0**
	comp=Z,72nm,0.8s,mb5.8,SNR=6.7						
AAK	**Ala-Archa**	**64.60**	**319**	P	**P**	**04 29 52.7**	**+0.5**
	SNR=9.8						
AAK	**Ala-Archa**	**64.60**	**319**	*e*P	**P**	**04 29 51.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**64.60**	**319**	*e*P	**P**	**04 29 51.7**	**-0.6**
	comp=Z,14nm,1.0s,mb4.9						
USP	**Ospenovka**	**64.89**	**320**	P	**P**	**04 29 54.2**	**+0.1**
	SNR=14						
AML	**Almayashu**	**64.89**	**318**	P	**P**	**04 29 55.4**	**+1.2**
	SNR=19						
EKS2	**Erkin-Say**	**65.08**	**319**	P	**P**	**04 29 56.2**	**+0.8**
	SNR=16						
ZAL	**Zalesovo**	**65.39**	**334**	P	**P**	**04 29 56.7**	**-0.7**
	comp=Z,9.7nm,0.9s,mb4.8,baz=355,slow=6.5,SNR=45						
ZAL	**Zalesovo**	**65.39**	**334**	P	**P**	**04 29 56.7**	**-0.7**
KURK	**Kurchatov**	**66.37**	**328**	P	**P**	**04 30 02.1**	**-1.6**
	comp=Z,468nm,0.8s,SNR=46						
NVS	**Novosibirsk**	**66.67**	**334⇓**	*i*P	**P**	**04 30 03.6**	**-2.0**
NVS				*e*S	S	04 38 51.9	-1.7
NVS				pmax	pmax		
	comp=N,17nm,1.0s						
NVS				pmax	pmax		
	comp=E,21nm,1.0s						
NVS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
NVS				smax			
	comp=N,21nm,1.8s						
NVS				smax			
	comp=E,16nm,1.8s						
SEY	**Seymchan**	**66.74**	**12**	*e*P	**P**	**04 30 07.3**	**+1.3**
WSAR	**Wadi Sarin**	**71.16**	**295**	P	**P**	**04 30 35.0**	**+1.5**
	comp=E,5.6nm,0.6s,mb4.7,baz=116,slow=8.3,SNR=9.7						
WSAR				LR	LR	05 00 06.1	
	comp=E,65nm,21.9s,MS3.9,baz=106,slow=35						
BRVK	**Borovoye**	**72.00**	**328**	P	**P**	**04 30 37.2**	**-1.4**
	comp=E,177nm,1.1s,mb5.9,SNR=14						
CHKZ	**Chkalovo**	**72.12**	**328**	*e*P	**P**	**04 30 38.3**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**72.12**	**328**	*e*P	**P**	**04 30 38.3**	**-1.0**
	comp=Z,20nm,0.9s,mb5.0						
BSY	**Bisya**	**72.38**	**294**	P	**P**	**04 30 41.7**	**+0.9**
	SNR=6.3						
ZRNK	**Zerenda**	**72.64**	**327**	*e*P	**P**	**04 30 41.1**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
ZRNK	**Zerenda**	**72.64**	**327**	*e*P	**P**	**04 30 41.1**	**-1.2**
	comp=Z,35nm,1.0s,mb5.2						
TIXI	**Tiksi**	**72.82**	**0**	*e*P	**P**	**04 30 42.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
ARQ	**Araqi**	**73.09**	**295**	P	**P**	**04 30 45.8**	**+0.7**
	SNR=6.8						
BILL	**Bilibino**	**74.19**	**14**	*e*P	**P**	**04 30 52.6**	**+1.1**
BILL				*e*	pP	04 31 08.3	+2.7
BILL				*e*S	S	04 40 24.1	+2.9
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.3

comp=Z,8.0nm,1.6s,mb4.8
MMAI Mount Meron Ar 92.45 303 LR LR 05 19 44.0
comp=Z,47nm,18.3s,MS4.0,baz=140,slow=39
DAWY Dawson 92.53 26 *e*P **P 04 32 26.1 +0.2**
ARCES ARCESS Array B 95.39 340 P **P 04 32 36.9 -2.1**
comp=Z,2.7nm,0.8s,mb4.8,baz=88,slow=3.9,SNR=4.9
ARCES LR LR 05 24 09.6
comp=Z,146nm,18.4s,MS4.5,baz=72,slow=41
ARCES ARCESS Array B 95.39 340 P **P 04 32 36.9 -2.1**
ARCES LR LR 05 24 09.6
AKASG Malin Array Be 96.24 321 LR LR 05 18 47.9
comp=Z,72nm,18.9s,MS4.2,baz=325,slow=37
RKT Rikitea 96.43 113 *e*LR LR 05 04 07.2
comp=Z,93nm,27.5s
FINES FINESS Array B 96.59 332 LR LR 05 17 15.3
comp=Z,177nm,18.4s,MS4.6,baz=164,slow=36
PDAR Pinedale Array 114.56 43 PKP PKiKP 04 37 57.5 +2.9
comp=Z,0.6nm,0.8s,baz=90,slow=1.5,SNR=4.2
ANMO Albuquerque 119.74 50 *i* PKIKP PKPdf 04 38 05.6 +1.0
MNTX Cornudas Mount 121.74 53 *e*PKPdf PKPdf 04 38 12.4 +4.0
TXAR Lajitas Array 123.95 55 PKP PKPdf 04 38 15.4 +2.8
comp=Z,0.5nm,0.8s,baz=278,slow=3.1,SNR=6.1
TORD Torodi Ar. Bea 125.07 285 PKP PKPdf 04 38 17.3 +2.5
comp=Z,1.4nm,0.8s,baz=71,slow=1.9,SNR=8.9
JCT Junction City 126.64 52 *e*PKIKP PKPdf 04 38 21.9 +4.1
CPUP Villa Florida 152.15 171 PKPbc PKPbc 04 39 13.0 +3.0
comp=Z,0.9nm,0.5s,baz=56,slow=3.2,SNR=3.2
CPUP Villa Florida 152.15 171 PKPbc PKPbc 04 39 13.0 +3.0

*ISCJB **27** 04:28:24.9±2.9, 496S±0.10×1496E±0.1, h74km±25km, mb4.5/18, Error ellipse: s-maj=18.9km s-min=15.4km az=129.3*
*IDC **27** 04:28:26.9±4.6, 499S×1497.0E, h81km±39km, mb4.0/9, mb1 4.2/10, mb1mx4.1/16, mbtmp4.4/10, MS4.1/4, Ms1 4.1/4, ms1mx3.6/19, Error ellipse: s-maj=29.5km s-min=21.2km az=53.0*
*NEIC **27** 04:28:26.6±2.1, 498S×1496E, h80km±18km, mb4.3/7, Error ellipse: s-maj=13.9km s-min=12.2km az=56.0*
ISC 27 04:28:26.4±2.6, 500S±010×1498E±01, h75km±22km, n35, σ0§82/31, mb4.5/18, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**210**	P	**Pn**	**04 29 39.8**	**-0.1**
	7.6nm,0.3s,baz=359,slow=7.0,SNR=11						
PMG				S	**Sn**	**04 30 38.6**	**+1.4**
	8.4nm,0.3s,baz=13,slow=16,SNR=7.9						
CTA	**Charters Tower**	**15.38**	**192**	LR	LR	04 36 57.5	
	comp=Z,849nm,21.9s,baz=355,slow=33						
CTAO	**Charters Tower**	**15.38**	**192**	*e*P	**Pn**	**04 31 55.3**	**-3.7**
	15nm,1.3s						
KAKA	**Kakadu**	**18.73**	**245**	⇑*i*P	**Pn**	**04 32 37.7**	**-2.6**
	31nm,1.1s						
GUMO	**Guam**	**19.10**	**345**	LR	LR	04 37 57.4	
	comp=Z,353nm,19.1s,baz=288,slow=30						
WB2	**Warramunga Arr**	**21.10**	**224**	*e*P	**P**	**04 33 04.3**	**-0.5**
WRA	**Warramunga Arr**	**21.11**	**224**	P	**P**	**04 33 04.5**	**-0.4**
	27nm,0.8s,mb4.7,baz=47,slow=10,SNR=79						
DZM	**Mont Dzumac**	**23.43**	**138**	P	**P**	**04 33 29.1**	**+0.3**
	6.7nm,0.6s,mb4.2,baz=7.4,slow=17,SNR=13						
AS31	**Alice Springs**	**24.03**	**218**	*e*P	**P**	**04 33 34.4**	**0.0**
ASAR	**Alice Springs**	**24.03**	**218**	P	**P**	**04 33 35.1**	**+0.8**
	6.9nm,0.7s,mb4.1,baz=49,slow=9.4,SNR=48						
ASPA	**Alice Springs**	**24.04**	**218**	*e*P	**P**	**04 33 34.4**	**0.0**
FITZ	**Fitzroy Crossi**	**26.92**	**239**	*e*P	**P**	**04 33 59.5**	**-1.0**
	47nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**26.92**	**239**	P	**P**	**04 33 59.8**	**-0.8**
	42nm,1.0s,mb4.9,baz=75,slow=8.8,SNR=42						
STKA	**Stephens Creek**	**27.81**	**195**	P	**P**	**04 34 08.0**	**-0.4**
	2.0nm,0.8s,mb3.7,baz=94,slow=22,SNR=3.1						
STKA	**Stephens Creek**	**27.81**	**195**	P	**P**	**04 34 08.0**	**-0.4**
KSM	**Kuching**	**39.92**	**278**	*e*P	**P**	**04 35 53.1**	**-0.1**
KULM	**Kulim**	**50.09**	**281**	*e*P	**P**	**04 37 13.1**	**-0.6**
PSI	**Prapat**	**51.37**	**278**	P	**P**	**04 37 23.0**	**-0.3**
	5.9nm,0.8s,mb4.7,baz=145,slow=5.8,SNR=5.4						
SONM	**Songino Array**	**64.91**	**329**	P	**P**	**04 38 58.3**	**+0.4**
	3.4nm,0.9s,mb4.2,baz=142,slow=4.0,SNR=5.7						
JIRN	**Jiri**	**69.30**	**302**	*e*P	**P**	**04 39 26.6**	**+0.9**
	12nm,0.7s,mb4.8						
GUN	**Gumba**	**69.64**	**302**	*e*P	**P**	**04 39 29.0**	**+1.2**
	31nm,0.8s,mb5.2						
KKN	**Kakani**	**70.11**	**302**	*e*P	**P**	**04 39 31.1**	**+0.4**
	27nm,0.8s,mb5.1						
DMN	**Daman**	**70.21**	**302**	*e*P	**P**	**04 39 32.5**	**+1.2**
	34nm,0.8s,mb5.3						
GKN	**Gorkha**	**70.72**	**302**	*e*P	**P**	**04 39 34.8**	**+0.4**
	26nm,0.8s,mb5.1						
KOLN	**Koldanda**	**71.53**	**301**	*e*P	**P**	**04 39 39.6**	**+0.3**
	28nm,0.9s,mb5.1						
VNDA	**Vanda**	**72.75**	**177**	P	**P**	**04 39 46.9**	**+0.3**
	1.1nm,0.8s,mb3.8,baz=325,slow=5.7,SNR=7.6						
VNDA				LR	LR	05 09 55.7	
	comp=Z,207nm,19.1s,baz=333,slow=34						
VNDA	**Vanda**	**72.75**	**177**	*e*P	**P**	**04 39 47.1**	**+0.5**
	1.9nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**78.50**	**320**	P	**P**	**04 40 19.6**	**+0.2**
	0.3nm,0.2s,mb3.6,baz=102,slow=5.6,SNR=4.9						
MCK	**McKinley**	**82.23**	**23**	*e*P	**P**	**04 40 38.8**	**-0.6**
	5.6nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**84.96**	**180**	*e*P	**P**	**04 40 53.1**	**-0.3**
	3.3nm,1.1s,mb4.2						
DAWY	**Dawson**	**86.22**	**25**	*e*P	**P**	**04 40 59.5**	**-0.1**
CHKZ	**Chkalovo**	**87.59**	**324**	*e*P	**P**	**04 41 04.8**	**-1.5**
	3.2nm,1.1s,mb4.3						
YKA	**Yellowknife Ar**	**97.02**	**28**	LR	LR	05 25 02.5	
	comp=Z,81nm,18.7s,baz=230,slow=35						
TORD	**Torodi Ar. Bea**	**147.47**	**287**	PKPbc	PKPbc	04 48 00.5	-1.3
	2.1nm,0.9s,baz=40,slow=2.3,SNR=16						
TORD	**Torodi Ar. Bea**	**147.47**	**287**	PKPbc	PKPbc	04 48 00.5	-1.3

*ISCJB **27** 04:59:14.8±1.0, 3602N×005×2090E±009, h10km, Error ellipse: s-maj=10.7km s-min=6.7km az=179.8*
*ATH **27** 04:59:16.5, 3614N×2102E, h6km, MD3.6/4*
*HLW **27** 04:59:22.3, 3604N×2119E, h29km, Mb3.2*
*SKO **27** 05:00:24.4, 4076N×2178E, h4km*
ISC 27 04:59:16.6±1.0, 3613N±005×2096E±009, h10km, n9, σ0§75/12, 1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.31**	**36**	*e*PB	**Pb**	**04 59 40.3**	**-0.9**
ITM				*e*SB	**Sb**	**04 59 57.8**	**-0.2**
KYTH	**Kithira**	**1.69**	**84**	*e*PB	**Pb**	**04 59 47.2**	**-0.5**
VLI	**Veliai**	**1.70**	**69**	⇓*i*PB	**Pb**	**04 59 47.6**	**-0.3**
VLI				*e*SB	**Sb**	**05 00 10.2**	**+0.9**
VLS	**Valsamata**	**2.07**	**352**	*e*PN	**Pb**	**04 59 54.0**	**-0.2**
KRUS	**Krusevo**	**5.24**	**2**	*e*Pg	**Pn**	**05 00 37.7**	**+2.8**
KRUS				*e*Sg	**Pb**	**05 00 47.9**	**-0.3**
HMAT	**Matruh**	**7.17**	**133**	P	**Pn**	**05 01 01.5**	**+0.1**
SWA2		**7.84**	**150**	P	**Pn**	**05 01 11.1**	**+0.5**
SWA1		**7.93**	**148**	P	**Pn**	**05 01 11.9**	**0.0**
HFRF	**Wahat Farafira**	**10.92**	**143**	P	**Pn**	**05 01 52.3**	**-0.6**

*ISCJB **27** 05:00:55.4±0.5, 5028N±004×1877E±003, h0km, Error ellipse: s-maj=5.3km s-min=2.5km az=34.3*
*NEIC **27** 05:00:56.3±0.5, 5035N×1884E, h5km, ML2.6(BRA), ML3.3(BUC), Error ellipse: s-maj=7.5km s-min=4.3km az=18.0*
*PRU **27** 05:00:57.7, 5028N×1877E, h0km*
*WAR **27** 05:00:57.2, 5027N×1887E, ML2.9, Mining Induced*
*CSEM **27** 05:00:57.5±0.1, 5032N×1885E, h1km, ML3.5/3, Error ellipse: s-maj=3.0km s-min=1.4km az=21.0*
*IPEC **27** 05:00:57.0±0.2, 5028N×1885E, h6km±2km, ML2.4/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*IDC **27** 05:00:59.3±1.2, 5031N×1861E, h0km, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, ML2.6/3, Error ellipse: s-maj=26.7km s-min=10.4km az=144.0*
*VIE **27** 05:00:59.0±0.6, 4979N×1893E, h0km, mb2.4/2, ML2.7/4, Error ellipse: s-maj=4.0km s-min=3.8km az=176.0 49 km E of Ostrava Suspected Mining induced.*
ISC 27 05:00:56.7±0.4, 5026N±003×1878E±003, h0km, n46, σ1§13/74, 4C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.42**	**246**	*e*Pg	**Pg**	**05 01 06.8**	**+2.1**
RAC				*e*Sg	**Sg**	**05 01 13.2**	**+3.1**
OKC	**Ostrava-Krasne**	**0.59**	**225**	*e*PG	**Pg**	**05 01 09.4**	**+1.5**
OKC				*e*SG	**Sg**	**05 01 19.3**	**+3.8**
	72nm,0.5s						
OJC	**Ojcow**	**0.65**	**93**	*e*Pg	**Pg**	**05 01 09.0**	**-0.2**
OJC				*e*Sg	**Sg**	**05 01 17.4**	**-0.2**
OJC	**Ojcow**	**0.65**	**93**	*e*Pg	**Pg**	**05 01 08.9**	**-0.3**
OJC				*e*Sg	**Sg**	**05 01 17.4**	**-0.2**
MORC	**Moravsky Berou**	**0.93**	**240**	⇓*i*P	**Pg**	**05 01 15.4**	**+0.8**
MORC	**Moravsky Berou**	**0.93**	**240**	*e*Pg	**Pg**	**05 01 15.1**	**+0.5**
MORC				⇓P		05 01 15.4	
MORC				*e*Sg	**Sg**	**05 01 28.2**	**+1.5**
MORC	**Moravsky Berou**	**0.93**	**240**	*e*Pg	**Pg**	**05 01 15.1**	**+0.5**
MORC				*e*Sg	**Sg**	**05 01 28.8**	**+2.1**
	40nm,0.2s						
LIKS	**Likavka**	**1.23**	**170**	*e*PN	**Pn**	**05 01 20.9**	**-0.1**
LIKS				*e*SN	**Sn**	**05 01 38.3**	**0.0**
NIE	**Niedzica**	**1.30**	**130**	*e*Pg	**Pg**	**05 01 21.3**	**-0.2**
NIE				*e*Sg	**Sg**	**05 01 38.4**	**0.0**
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*PG	**Pg**	**05 01 26.1**	**-0.9**
DPC				*e*SG	**Sg**	**05 01 47.6**	**+0.1**
	85nm,0.6s						
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*Pn	**Pn**	**05 01 26.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*Pg	**Pg**	**05 01 26.1**	**-0.9**
DPC				*e*Sg	**Sg**	**05 01 47.9**	**+0.4**
KSP	**Ksiaz**	**1.69**	**291**	Pn	**Pn**	**05 01 27.8**	**+0.3**
KSP				*i* Pg	**Pg**	**05 01 29.6**	**+0.5**
KSP				*e*Sg	**Sg**	**05 01 52.4**	**+1.3**
KSP	**Ksiaz**	**1.69**	**291**	*e*Pn	**Pn**	**05 01 27.8**	**+0.3**
KSP				*i* Pg	**Pg**	**05 01 29.6**	**+0.5**
KSP				*e*Sg	**Sg**	**05 01 52.4**	**+1.3**
VRAC	**Vranov**	**1.71**	**237**	Pn	**Pn**	**05 01 29.0**	**+1.3**
	12nm,0.3s,baz=56,slow=14,SNR=20						
VRAC				Lg		05 01 51.7	
	14nm,0.3s,baz=161,slow=17,SNR=12						
VRAC	**Vranov**	**1.71**	**237**	⇓*i*P	**Pg**	**05 01 28.9**	**-0.5**
VRAC	**Vranov**	**1.71**	**237**	*e*Pg	**Pg**	**05 01 28.9**	**-0.5**
VRAC				*e*Sg	**Sg**	**05 01 52.0**	**+0.5**
	34nm,0.3s						
VYHS	**Vyhne**	**1.76**	**179**	*e*PN	**Pn**	**05 01 28.1**	**-0.3**
VYHS				*e*SN	**Sn**	**05 01 51.4**	**-0.2**
VYHS	**Vyhne**	**1.76**	**179**	*e*Pn	**Pn**	**05 01 28.1**	**-0.3**
VYHS				*e*Sn	**Sn**	**05 01 51.5**	**-0.1**
UPC	**Upice**	**1.79**	**279**	*e*SG	**Sg**	**05 01 54.2**	**-0.1**
STHS	**Stebnicka Huta**	**1.80**	**117**	*e*PN	**Pn**	**05 01 30.1**	**+1.1**
STHS				*e*SN	**Sn**	**05 01 55.9**	**+3.4**
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn	**Pn**	**05 01 31.3**	**+0.2**
KRUC				*e*Sg	**Sg**	**05 01 59.6**	**0.0**
	22nm,0.2s						
KECS	**Kecovo**	**2.10**	**147**	*e*Pg	**Pg**	**05 01 36.5**	**-0.3**
KECS				*e*Sg	**Sg**	**05 02 02.4**	**-1.6**
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*PN	**Pn**	**05 01 37.8**	**+3.3**
CRVS				*e*SN	**Sn**	**05 02 06.9**	**+4.4**
PSZ	**Piszkesteto**	**2.45**	**162**	⇓*i*P	**Pn**	**05 01 42.9**	**+5.0**
PSZ	**Piszkesteto**	**2.45**	**162**	*e*Pg	**Pg**	**05 01 44.0**	**+0.4**
PSZ	**Piszkesteto**	**2.45**	**162**	*e*Pg	**Pg**	**05 01 44.0**	**+0.3**
PRU	**Pruhonice**	**2.74**	**266**	*e*PG	**Pg**	**05 01 46.2**	**-3.1**
PRU				*e*SG	**Sg**	**05 02 22.5**	**-2.3**
CONA	**Conrad Observa**	**3.02**	**221**	⇓*i*Pn	**Pn**	**05 01 44.4**	**-1.3**
CONA				⇑⇑*i*Sg	**Sg**	**05 02 30.4**	**-3.3**
	5.7nm,0.3s						
BRG	**Berggiesshubel**	**3.15**	**283**	Pg	**Pg**	**05 01 54.9**	**-2.1**
BRG				Sg	**Sg**	**05 02 37.8**	**0.0**
KHC	**Kasperske Hory**	**3.56**	**254**	*e*PG	**Pg**	**05 02 01.5**	**-3.4**
KHC				*e*SG	**Sg**	**05 02 49.9**	**-1.2**
	18nm,0.5s						
GERES	**GERESS Array B**	**3.60**	**249**	Pn	**Pn**	**05 01 54.6**	**+0.9**
	0.4nm,0.3s,baz=65,slow=13,SNR=5.0						
GERES				Pg	**Pg**	**05 02 03.6**	**-2.0**
	1.1nm,0.3s,baz=65,slow=17,SNR=13						
GERES	**GERESS Array B**	**3.60**	**249**	Pg	**Pg**	**05 02 03.6**	**-2.0**
CLL	**Collm**	**3.82**	**288**	*e*Pg	**Pg**	**05 02 10.0**	**+0.2**
CLL				*e*Sg	**Sg**	**05 02 59.0**	**-0.3**
MOA	**Molln**	**3.83**	**233**	⇑*i*Pn	**Pn**	**05 01 56.8**	**0.0**
MOA				⇓*i*Sg	**Sg**	**05 02 58.7**	**-0.8**
	comp=Z,12nm,0.7s						
PKSM	**Moragy**	**4.05**	**181**	⇓*i*P	**Pn**	**05 01 59.9**	**0.0**
PKSM	**Moragy**	**4.05**	**181**	⇓P	**Pn**	**05 01 59.9**	**+0.1**
DRGR		**4.34**	**142**	⇓*i*P	**Pn**	**05 02 03.3**	**-0.6**
DRGR		**4.34**	**142**	⇓P	**Pn**	**05 02 03.3**	**-0.6**
BURAR	**Bucovina Array**	**5.00**	**119**	⇓*i*P	**Pn**	**05 02 13.1**	**+0.2**
BURAR	**Bucovina Array**	**5.00**	**119**	⇓P	**Pn**	**05 02 13.1**	**+0.3**
GZR	**Gura Zlata**	**5.56**	**150**	⇑*i*P	**Pn**	**05 02 20.4**	**-0.2**
GZR	**Gura Zlata**	**5.56**	**150**	⇑P	**Pn**	**05 02 20.4**	**-0.2**
AKASG	**Malin Array Be**	**6.68**	**82**	Pg	**Pg**	**05 02 58.1**	**-6.5**
	0.8nm,0.3s,baz=272,slow=14,SNR=6.7						
AKASG				Lg		05 04 34.0	
	0.8nm,0.3s,baz=274,slow=28,SNR=5.2						
DAVOX	**Davos/Dischmat**	**6.86**	**243**	Pn	**Pn**	**05 02 40.1**	**+1.6**
	baz=197,slow=21,SNR=2.9						
FINES	**FINESS Array B**	**11.93**	**17**	Pn	**Pn**	**05 03 44.2**	**-3.7**
	0.1nm,0.3s,baz=188,slow=12,SNR=4.7						

*NEIC **27** 05:08:22.4, 1951N×6334W, h67km, MD3.6(RSPR), After RSPR.*
RSPR 27 05:08:22.4, 1951N×6334W, h67km±15km, MD3.6/5, MD3.6/5, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.63**	**228**	⇑*e*P	Pn	05 08 48.0	-0.9
TBVI				*e*S	Sn	05 09 08.6	-0.4
STVI	**Saint Thomas**	**1.92**	**233**	⇑*e*P	Pn	05 08 51.9	-0.9
STVI				*e*S	Sn	05 09 15.0	-0.9
MTP	**Monte Pirata**	**2.52**	**237**	⇑*e*P	Pn	05 09 00.6	-0.4
MTP				*e*S	Sn	05 09 30.8	+0.1
CBYP	**Canovanas**	**2.69**	**243**	⇑*e*P	Pn	05 09 02.8	-0.5
CBYP				*e*S	Sn	05 09 34.0	-0.6
HUMP	**Col San Antoni**	**2.74**	**241**	⇑*e*P	Pn	05 09 04.0	0.0
HUMP				*e*S	Sn	05 09 35.9	-0.1
CPD	**Cerro la Pandu**	**2.85**	**240**	⇑*e*P	Pn	05 09 05.5	0.0
CPD				*e*S	Sn	05 09 38.3	-0.3
CELP	**Cerrillos**	**3.39**	**246**	⇑*e*P	Pn	05 09 12.4	-0.4
CRPR	**Cabo Rojo, PR**	**3.88**	**248**	⇑*e*P	Pn	05 09 19.1	-0.3
CRPR				*e*S	Sn	05 10 03.9	+0.2

*ISCJB **27** 05:13:35.9±2.4, 366N±0.1×703E±02, h202km±40km, Error ellipse: s-maj=29.4km s-min=7.9km az=106.0*
*NNC **27** 05:13:40.6±14.0, 3691N×7009E, h206km±183km, mb2.2, mpv3.1, Error ellipse: s-maj=133.0km s-min=77.1km az=22.0*
ISC 27 05:13:39.0±2.3, 368N±01×705E±02, h242km±36km, n11, σ1§20/14, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.31**	**0**	⇓P	**Pn**	**05 15 11.6**	**+0.8**
	1.9nm,0.3s,baz=186,slow=13,SNR=55						
KK31				⇓S	**S**	**05 16 23.3**	**-0.8**
	7.9nm,0.8s,baz=191,slow=21,SNR=5.8						
TKM2	**Tokmak 2**	**7.29**	**31**	⇑⇑P	**Pn**	**05 15 24.4**	**+1.2**
	0.3nm,0.6s						
TKM2				⇓S	**S**	**05 16 46.7**	**-0.1**
	1.3nm,1.0s						
KOLN	**Koldanda**	**14.29**	**125**	*e*P	**Pn**	**05 16 47.1**	**-3.8**
	3.6nm,0.3s						
AB31	**Akbulak array**	**14.62**	**332**	⇑P	**Pn**	**05 16 55.3**	**+0.4**
	0.4nm,0.5s,baz=146,slow=11,SNR=9.3						
AB31				⇑S	**S**	**05 19 34.9**	**-1.6**
	1.4nm,0.8s,baz=145,slow=12,SNR=7.3						
GKN	**Gorkha**	**14.83**	**122**	*e*P	**Pn**	**05 16 54.9**	**-2.5**
	5.5nm,0.3s						
DMN	**Daman**	**15.40**	**122**	*e*P	**Pn**	**05 17 03.8**	**-0.5**
	12nm,0.5s						
KKN	**Kakani**	**15.40**	**121**	*e*P	**Pn**	**05 17 04.1**	**-0.2**
PKI	**Pulchoki**	**15.63**	**122**	*e*P	**Pn**	**05 17 06.7**	**-0.3**
GUN	**Gumba**	**15.74**	**120**	*e*P	**Pn**	**05 17 09.0**	**+0.6**
JIRN	**Jiri**	**16.11**	**120**	*e*P	**P**	**05 17 14.5**	**+3.0**
	18nm,0.4s						
AKTO	**Aktyubinsk**	**16.31**	**331**	⇓P	**P**	**05 17 14.9**	**+1.2**
	1.3nm,2.6s						

*NEIC **27** 05:44:43.8, 1683N×9976W, h28km, MD3.8(MEX), After MEX.*
MEX 27 05:44:44.1±0.8, 1686N×9976W, h26km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.15**	**271**	*i* P	Pb	05 44 48.3	-1.0
ACX				*i* S	Sb	05 44 51.3	-1.5
CAIG	**El Cayaco**	**0.52**	**291**	*i* P	Pb	05 44 52.8	-1.9
CAIG				*i* S	Sb	05 45 00.1	-1.7
MEIG	**Mezcala**	**1.06**	**7**	*i* P	Pn	05 45 00.2	-3.1
MEIG				*i* S	Sn	05 45 13.6	-3.7
PLIG	**Platanillo**	**1.54**	**9**	*i* P	Pn	05 45 08.4	-1.5
PLIG				*i* S	Sn	05 45 26.4	-2.6
PLIG	**Platanillo**	**1.54**	**9**	*i* P	Pn	05 45 08.4	-1.5
PLIG				*i* S	Sn	05 45 27.3	-1.7
TPIG	**Tehuac#an**	**2.76**	**56**	*i* S	Sn	05 45 57.0	-2.1
IIO	**Organos**	**2.89**	**20**	*i* P	Pn	05 45 30.0	+1.6

*NEIC **27** 06:37:35.5, 2750S×6920W, h104km, MG3.9(GUC), After GUC.*
GUC 27 06:37:35.5±0.6, 2750S×6920W, h104km±17km, ML3.9, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.03**	**277**	⇓*i*P	Pn	06 37 56.6	0.0
CPCH				*i* S	Sn	06 38 13.2	+0.6
CPCH				AML	AML	06 38 15.2	
	comp=E,10μm,0.1s						
CPCH	**Copiapo**	**1.03**	**277**	⇓*i*P	Pn	06 37 56.6	0.0
CPCH				*i* S	Sn	06 38 13.2	+0.6
CDCH	**Caldera**	**1.51**	**286**	⇑*i*P	Pn	06 38 02.5	+0.4
CDCH				*i* S	Sn	06 38 22.5	+0.2
CDCH				AML	AML	06 38 22.9	
	comp=E,725nm,0.2s						
VACH	**Vallenar**	**1.75**	**232**	⇑*i*P	Pn	06 38 05.6	+0.5
VACH				*i* S	Sn	06 38 28.1	+0.6
VACH				AML	AML	06 38 30.4	
	comp=N,2μm,0.1s						
VACH	**Vallenar**	**1.75**	**232**	⇑*i*P	Pn	06 38 05.6	+0.5
VACH				*i* S	Sn	06 38 28.1	+0.6
TLL	**Tololo Astrono**	**3.01**	**208**	*e*P	Pn	06 38 22.4	+0.9

*IDC **27** 06:42:36.9±3.2, 262S×140.44E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.6/4, ML4.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/7, Error ellipse: s-maj=101.7km s-min=26.8km az=92.0*
*ISCJB **27** 06:42:41.7±2.0, 28S±0.1×1400E±04, h33km, mb3.5/2, MS3.1/1, Error ellipse: s-maj=53.6km s-min=20.0km az=2.5*
*NEIC **27** 06:42:43.3±1.8, 275S×140.16E, h35km, mb3.7/1, Error ellipse: s-maj=46.9km s-min=17.2km az=92.0*
ISC 27 06:42:43.4±2.1, 28S±01×1402E±04, h35km, n11, σ0§54/9, mb3.5/2, MS3.1/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.51**	**217**	*e*P	**Pn**	**06 45 38.2**	**-0.7**
	7.5nm,0.4s						
GUMO	**Guam**	**16.89**	**16**	LR	LR	06 52 36.8	
	comp=Z,38nm,19.9s,baz=105,slow=36						
WB2	**Warramunga Arr**	**18.01**	**198**	*e*P	**Pn**	**06 46 50.1**	**-0.8**
WRA	**Warramunga Arr**	**18.01**	**198**	P	**Pn**	**06 46 51.0**	**+0.1**
	0.5nm,0.3s,baz=21,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**20.87**	**222**	*e*P	**P**	**06 47 23.5**	**+1.1**
	2.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.87**	**222**	P	**P**	**06 47 23.2**	**+0.9**
	0.5nm,0.3s,baz=64,slow=12,SNR=7.3						
AS31	**Alice Springs**	**21.66**	**196**	*e*P	**P**	**06 47 31.0**	**+0.2**
ASAR	**Alice Springs**	**21.66**	**196**	P	**P**	**06 47 31.3**	**+0.5**
	1.1nm,0.7s,mb3.4,baz=29,slow=10.0,SNR=18						
ASPA	**Alice Springs**	**21.66**	**196**	*e*P	**P**	**06 47 30.8**	**-0.1**
CBIJ	**Chichi jima**	**29.73**	**4**	LR	LR	06 58 33.1	
	comp=Z,49nm,21.5s,MS3.1,baz=86,slow=32						
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**	**06 53 55.5**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=118,slow=7.0,SNR=9.2						

MAN 27 06:52:58.6, 1346N×12160E, h4km, mb2.0, ML3.7, MS0.9, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.23**	**91**	*e*P	Pg	06 53 03.8	+0.7
BOAC				*e*S	Sg	06 53 08.6	+2.4
PGP	**Puerto Galera**	**0.63**	**273**	*e*P	Pg	06 53 11.5	+0.7
TGY	**Tagaytay City**	**0.91**	**314**	⇓*e*P	Pg	06 53 15.9	-0.1
TGY				*e*S	Sg	06 53 27.2	-0.5
AUQP	**San Andres**	**1.05**	**98**	*e*P	Pg	06 53 20.1	+1.3
OTRP	**Odiongan**	**1.17**	**160**	*e*P	Pg	06 53 20.9	-0.1
OTRP				*e*S	Sg	06 53 37.8	+1.7
POLP	**Polilio Island**	**1.30**	**14**	*e*P	Pg	06 53 22.6	-0.8
LUBP	**Lubang**	**1.35**	**282**	*e*P	Pn	06 53 23.2	-0.9
BUSP	**Coron**	**2.00**	**224**	*e*P	Pn	06 53 33.4	+0.4
RCP	**Roxas**	**2.20**	**149**	⇑*e*P	Pn	06 53 40.3	+4.4

*STR **27** 07:34:36.0±0.1, 4298N×024E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **27** 07:34:36.6±0.1, 4296N×022E, h5km, ML2.5/6, Error ellipse: s-

EALK	**Alkurruntz**	**1.29**	**282**	Pg	Pg	07 35 00.9	-0.6
	1.5nm,0.4s,SNR=6.0						
EALK				Lg		07 35 17.8	
	6.9nm,0.5s,SNR=7.8						
ELIZ	**Elizondo**	**1.30**	**279**	Pg	Pg	07 35 01.5	-0.1
	1.7nm,0.2s,SNR=7.2						
ELIZ				Lg		07 35 17.8	
	5.4nm,0.2s,SNR=11						
IUSE	**Utxeti**	**1.30**	**269**	Pg	Pg	07 35 00.7	-1.0
	3.7nm,0.3s,SNR=5.4						
IUSE				Lg		07 35 19.5	
	2.8nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.30**	**269**	Pg	Pg	07 35 00.7	-0.9
	3.7nm,0.3s,SNR=5.4						
ESAC	**San Caprasio**	**1.35**	**203**	Pg	Pg	07 35 02.8	+0.2
	5.0nm,0.1s,SNR=9.5						
ESAC				Lg		07 35 19.9	
	9.4nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**1.35**	**203**	Pg	Pg	07 35 02.8	+0.2
	5.0nm,0.1s,SNR=9.5						
EMIR	**Miracle**	**1.43**	**137**	Pg	Pg	07 35 04.0	-0.1
	1.2nm,0.1s,SNR=7.9						
EMIR				Lg		07 35 23.0	
	2.0nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.43**	**137**	Pg	Pg	07 35 04.0	-0.1
	1.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.50**	**75**	*e*Pn	Pn	07 35 02.4	-1.4
MTLF	**Montolieu**	**1.50**	**75**	*e*Pg	Pg	07 35 04.1	-1.4
MTLF				*e*Sg	Sg	07 35 23.8	-1.2
	3.6nm,0.2s						
MTLF	**Montolieu**	**1.50**	**75**	Pn	Pn	07 35 02.4	-1.4
MTLF				Pg	Pg	07 35 04.1	-1.4
MTLF				Lg		07 35 23.8	
	1.8nm,0.2s						
MTLF	**Montolieu**	**1.50**	**75**	*e*Pg	Pg	07 35 04.1	-1.4
MTLF				*e*Sg	Sg	07 35 23.8	-1.2
	1.8nm,0.2s						
EPOB	**Poblet**	**1.74**	**158**	Pg	Pg	07 35 08.8	-1.2
	1.0nm,0.2s,SNR=7.9						
EPOB				Lg		07 35 31.4	
	0.8nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.74**	**158**	Pg	Pg	07 35 08.8	-1.2
	1.0nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**11**	*e*Pn	Pn	07 35 09.7	-0.9
LFF	**La Frestale**	**2.00**	**11**	*e*Pg	Pg	07 35 14.3	-0.7
LFF				*e*Sg	Sg	07 35 40.8	-0.2
	9.2nm,0.3s						
LFF	**La Frestale**	**2.00**	**11**	Pn	Pn	07 35 09.7	-0.9
LFF				Pg	Pg	07 35 14.3	-0.7
LFF				Lg		07 35 40.8	
	4.6nm,0.3s						
LFF	**La Frestale**	**2.00**	**11**	*e*Pg	Pg	07 35 14.3	-0.7
LFF				*e*Sg	Sg	07 35 40.8	-0.2
	4.6nm,0.3s						
CAF	**Calviac**	**2.36**	**34**	*e*Pn	Pn	07 35 14.4	-1.2
CAF				*e*Sg	Sg	07 35 51.9	-0.7
	2.9nm,0.2s						
CAF	**Calviac**	**2.36**	**34**	*e*Pn	Pn	07 35 14.4	-1.2
CAF				*e*Sg	Sg	07 35 51.9	-0.7
	1.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.51**	**21**	*e*Pn	Pn	07 35 16.4	-1.2
RJF				*e*Sg	Sg	07 35 56.3	-1.0
	3.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.51**	**21**	*e*Pn	Pn	07 35 16.4	-1.2
RJF				*e*Sg	Sg	07 35 56.3	-1.0
	1.6nm,0.2s						
LASF	**Ste Croix**	**2.86**	**66**	*e*Pn	Pn	07 35 21.0	-1.4
LASF	**Ste Croix**	**2.86**	**66**	*e*Pg	Pg	07 35 29.3	-2.2
LASF				*e*Sg	Sg	07 36 06.4	-2.2
	2.0nm,0.3s						
LASF	**Ste Croix**	**2.86**	**66**	Pn	Pn	07 35 21.0	-1.4
LASF				Pg	Pg	07 35 29.3	-2.2
LASF				Lg		07 36 06.4	
	1.0nm,0.3s						
LASF	**Ste Croix**	**2.86**	**66**	*e*Pg	Pg	07 35 29.3	-2.2
LASF				*e*Sg	Sg	07 36 06.4	-2.2
	1.0nm,0.3s						
MFF	**Saint Martin d**	**3.64**	**356**	*e*Pn	Pn	07 35 32.3	-0.8

*ISCJB **27** 07:39:44.0±1.2, 4063N±008×7870E±009, h10km, Error ellipse: s-maj=14.4km s-min=6.6km az=105.9*
*BJI **27** 07:39:45.0, 4085N×7828E, h12km, ML3.2*
*NNC **27** 07:39:48.7±3.7, 4113N×7844E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=33.5km s-min=16.9km az=163.0*

ISC 27 07:39:46.0±1.2, 4062N±009×7861E±010, h10km, n16, σ1§39/18, 3C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.31**	**242**	*e*P	**Pn**	**07 40 23.3**	**-0.7**
KSH				S	**Sn**	**07 40 53.0**	**+0.6**
KSH				Smax			
	comp=N,285nm,0.2s						
KSH				Smax			
	comp=E,346nm,0.6s						
ULHL	**Ulahol**	**2.41**	**313**	P	**Pn**	**07 40 20.9**	**-4.5**
	SNR=41						
KNDC	**Almaty**	**2.87**	**335**	⇓Pn	**Pn**	**07 40 31.1**	**-0.7**
	comp=E,33nm,0.3s						
KNDC				⇓Lg		07 41 06.6	
	comp=E,168nm,0.5s						
KZA	**Kyzart**	**2.92**	**301**	P	**Pn**	**07 40 30.8**	**-1.7**
	SNR=26						
TKM2	**Tokmak 2**	**3.22**	**317**	P	**Pn**	**07 40 34.6**	**-2.0**
	SNR=6.9						
TKM2	**Tokmak 2**	**3.22**	**317**	⇑Pn	**Pn**	**07 40 33.8**	**-2.8**
	comp=E,0.6nm,0.5s						
TKM2				⇓Lg		07 41 12.6	
	comp=E,4.7nm,0.6s						
KBK	**Karagaybulak**	**3.42**	**308**	P	**Pn**	**07 40 39.3**	**0.0**
	SNR=11						
UCH	**Uchtor**	**3.48**	**299**	P	**Pn**	**07 40 36.7**	**-3.4**
	SNR=13						
AAK	**Ala-Archa**	**3.68**	**304**	P	**Pn**	**07 40 43.9**	**+1.0**
	SNR=13						
CHMS	**Chumysh**	**3.74**	**311**	P	**Pn**	**07 40 45.4**	**+1.7**
	SNR=10						
AML	**Almayashu**	**4.00**	**294**	P	**Pn**	**07 40 50.1**	**+2.9**
	SNR=6.6						
USP	**Ospenovka**	**4.05**	**312**	P	**Pn**	**07 40 49.2**	**+1.3**
	SNR=18						
EKS2	**Erkin-Say**	**4.16**	**301**	P	**Pn**	**07 40 50.4**	**+0.9**
	SNR=12						
KK31	**Karatay Array**	**6.54**	**295**	⇓Pg	**Pb**	**07 41 36.7**	**-3.0**
	comp=E,2.8nm,0.7s,baz=103,slow=16,SNR=20						
KK31				⇑Lg		07 43 05.1	
	comp=E,2.8nm,0.6s,baz=102,slow=27,SNR=4.7						
MK31	**Makanchi Array**	**6.72**	**22**	⇓Pn	**Pn**	**07 41 25.8**	**+1.1**
	comp=E,0.4nm,0.3s,baz=207,slow=14,SNR=3.9						
MK31				⇓Sn	**Sn**	**07 42 41.3**	**0.0**
	comp=E,2.2nm,0.7s,baz=200,slow=22,SNR=5.8						
MK31				⇑Lg		07 43 12.2	
	comp=E,2.4nm,0.6s,baz=205,slow=30,SNR=4.5						
WMQ	**Urumqi**	**7.46**	**62**	*e*P	**Pn**	**07 41 34.3**	**-0.6**

*LDG **27** 07:54:59.9±0.2, 2995N×8022E, h10km, Mb4.5/12, Error ellipse: s-maj=16.0km s-min=6.5km az=25.0*
*BJI **27** 07:54:59.9, 3004N×8004E, h10km, mB4.8, mb4.4, ML3.8*
*ISCJB **27** 07:55:00.5±0.2, 2987N±003×8014E±002, h10km, mb4.3/24, Error ellipse: s-maj=4.1km s-min=2.7km az=47.4*
*IDC **27** 07:55:00.3±0.7, 2985N×8012E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/25, mbtmp4.2/16, ML4.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/38, Error ellipse: s-maj=20.5km s-min=14.9km az=53.0*
*NEIC **27** 07:55:02.0±0.5, 2988N×8004E, h10km, mb4.2/3, Error ellipse: s-maj=11.2km s-min=9.7km az=77.0*
*DMN **27** 07:55:03.8±0.7, 2994N×8058E, h10km, Ml4.7/7, Error ellipse: s-maj=28.5km s-min=11.8km az=33.0*
*NDI **27** 07:55:04.2±5.3, 2990N×8006E, h10km±14km, ML4.1, mb4.2(NEIC)*

ISC 27 07:55:02.6±0.2, 2989N±002×8015E±002, h10km, n76, σ1§30/96, mb4.3/24, 4C-2D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.35**	**170**	*e*P	**Pg**	**07 55 09.8**	**+0.3**
LGTI	**Lohaghat**	**0.45**	**169**	*e*P	**Pg**	**07 55 13.3**	**+1.8**
LGTI				*e*S	**Sg**	**07 55 21.3**	**+3.9**
DDI	**Dehra Dun**	**1.86**	**284**	*e*P	**Pn**	**07 55 35.0**	**+0.4**
DDI				*e*S	**Sn**	**07 56 00.0**	**+1.9**
KLP	**Kalpa**	**2.31**	**315**	*e*P	**Pn**	**07 55 43.3**	**+2.5**
KLP				*e*S	**Sn**	**07 56 11.2**	**+2.0**
KLP				AML	AML	07 56 25.3	
	comp=N,3μm,0.5s						
NDI	**New Delhi**	**2.83**	**245**	*e*P	**Pn**	**07 55 50.2**	**+2.3**
NDI				*e*S	**Sn**	**07 56 22.9**	**+0.9**
NDI				AML	AML	07 56 46.7	
	comp=N,1μm,0.4s						
NDI				AML	AML	07 56 46.9	
	comp=E,2μm,0.5s						
AYAN	**Aya Nagar**	**2.99**	**243**	*e*P	**Pn**	**07 55 52.0**	**+1.8**
SONA	**Sohna**	**3.14**	**239**	*e*P	**Pn**	**07 55 53.9**	**+1.7**
SONA				*e*S	**Sn**	**07 56 27.7**	**-2.1**
SDNR	**Sundarnagar**	**3.17**	**301**	*e*P	**Pn**	**07 55 56.5**	**+3.9**
SDNR				*e*S	**Sn**	**07 56 26.0**	**-4.4**
AGRA	**Agra**	**3.29**	**217**	*e*S	**Sn**	**07 56 31.9**	**-1.4**
AGRA				AML	AML	07 56 41.3	
	comp=E,459nm,0.4s						
AGRA				AML	AML	07 56 55.3	
	comp=N,850nm,0.9s						
BHK	**Bhakra**	**3.56**	**296**	*ex*	x	07 56 09.0	
BHK				*ex*	x	07 57 01.0	
KOLN	**Koldanda**	**3.69**	**124**	*e*Pn	**Pn**	**07 56 01.5**	**+1.7**
KOLN	**Koldanda**	**3.69**	**124**	*e*Pg	**Pg**	**07 56 12.5**	**-0.9**
KOLN				*e*Sn	**Sn**	**07 56 45.2**	**+1.8**
	comp=N,705nm,0.8s						
KHET	**Khetri**	**4.21**	**246**	*e*P	**Pn**	**07 56 07.0**	**+0.1**
KHET				*e*S	**Sn**	**07 56 53.3**	**-2.8**
GKN	**Gorkha**	**4.36**	**114**	*e*Pn	**Pn**	**07 56 10.2**	**+1.3**
GKN				*e*Sn	**Sn**	**07 57 00.1**	**+0.3**
	comp=N,756nm,0.5s						
DLH	**Dalhousie**	**4.45**	**307**	*ex*	x	07 56 07.0	
DLH				*e*S	**Sn**	**07 56 59.0**	**-3.0**
THN	**Thein Dam**	**4.56**	**305**	*e*P	**Pn**	**07 56 12.7**	**+1.0**
THN				*ex*	x	07 57 23.2	
ALBI	**Allahabad**	**4.80**	**162**	*ex*	x	07 55 13.5	
ALBI				*ex*	x	07 55 31.0	
DMN	**Daman**	**4.91**	**116**	*e*Pn	**Pn**	**07 56 17.6**	**+1.1**
DMN				*e*Sn	**Sn**	**07 57 13.1**	**-0.3**
	comp=N,414nm,0.8s						
KKN	**Kakani**	**4.97**	**114**	*e*Pn	**Pn**	**07 56 18.4**	**+1.1**
KKN				*e*Sn	**Sn**	**07 57 13.8**	**-0.9**
	comp=N,315nm,0.5s						
PKI	**Pulchoki**	**5.17**	**115**	*e*Pn	**Pn**	**07 56 20.9**	**+0.9**
PKI				*e*Sn	**Sn**	**07 57 19.1**	**-0.6**
	comp=N,267nm,0.4s						
GUN	**Gumba**	**5.40**	**110**	*e*Pn	**Pn**	**07 56 24.6**	**+1.4**
GUN				*e*Sn	**Sn**	**07 57 23.8**	**-1.6**
	comp=N,836nm,0.9s						
JIRN	**Jiri**	**5.75**	**111**	*e*Pn	**Pn**	**07 56 29.4**	**+1.4**
JIRN				*e*Sn	**Sn**	**07 57 32.7**	**-1.4**
	comp=N,364nm,0.4s						
AJM	**Ajmer**	**5.93**	**236**	*e*P	**Pn**	**07 56 32.4**	**+1.9**
AJM				*e*S	**Sn**	**07 57 34.2**	**-4.3**
AJM				AML	AML	07 57 42.7	
	comp=N,225nm,0.2s						
AJM				AML	AML	07 57 43.2	
	comp=E,201nm,0.3s						
JBP	**Jabalpur**	**6.70**	**181**	⇓*i*P	**Pn**	**07 56 44.3**	**+3.2**
JBP				*ex*	x	07 56 45.4	
	comp=Z,652nm,0.5s						
JBP				*e*S	**Sn**	**07 57 55.3**	**-2.2**
CHCP	**Chirah Chowk**	**6.96**	**304**	P	**Pn**	**07 56 46.1**	**+1.5**
BHPL	**Bhopal**	**7.06**	**201**	*e*P	**Pn**	**07 56 46.4**	**+0.4**
BHPL				*e*S	**Sn**	**07 58 01.3**	**-5.0**
BHPL				AML	AML	07 58 07.5	
	comp=N,83nm,0.2s						
THW	**Thamme Wali**	**7.75**	**294**	⇓P	**Pn**	**07 56 56.6**	**+1.2**
THW				S	**Sn**	**07 58 22.0**	**-1.2**
BOK	**Bokaro**	**7.95**	**139**	*e*P	**Pn**	**07 56 58.1**	**-0.1**
BOK				*e*S	**Sn**	**07 58 25.1**	**-3.1**
CEP	**Cherat**	**8.03**	**301**	⇑P	**Pn**	**07 57 00.7**	**+1.4**
SBDP	**Sheikh Budin**	**8.36**	**289**	⇑P	**Pn**	**07 57 05.2**	**+1.3**
NGP	**Nagpur**	**8.76**	**187**	*e*P	**Pn**	**07 57 09.7**	**+0.3**
NGP				*ex*	x	07 57 09.7	
	comp=Z,69nm,0.3s						
NGP				*e*S	**Sn**	**07 58 43.4**	**-4.9**
LSA	**Lhasa**	**9.56**	**88**	P	**Pn**	**07 57 22.5**	**+2.2**
LSA	**Lhasa**	**9.56**	**88**	*e*P	**Pn**	**07 57 22.3**	**+2.0**
	comp=Z,23nm,0.5s						
AKL	**Akola**	**9.58**	**198**	*e*P	**Pn**	**07 57 21.0**	**+0.4**
AKL				*ex*	x	07 59 05.6	
LATR	**Latur**	**11.88**	**197**	*e*P	**Pn**	**07 57 49.3**	**-2.9**
LATR				*ex*	x	07 59 48.5	
HYB	**Hyderabad**	**12.51**	**187**	*i*P	**Pn**	**07 57 58.0**	**-2.6**
HYB				*e*PP		07 58 06.0	
HYB				*e*S	**Sn**	**08 00 18.5**	**-1.5**
HYB	**Hyderabad**	**12.51**	**187**	*e*P	**Pn**	**07 57 58.0**	**-2.6**
HYB				*e*S	**Sn**	**08 00 27.0**	**+7.0**
POO	**Poona**	**12.69**	**208**	⇑*i*x	x	07 57 58.0	
POO				*ex*	x	07 58 08.0	
AAK	**Ala-Archa**	**13.50**	**342**	*e*Pn	**Pn**	**07 58 11.5**	**-2.8**
	comp=Z,5.0nm,0.8s						
AAK				*e*Sn	**Sn**	**08 00 39.1**	**-5.2**
KAD	**Karad**	**13.66**	**205**	*ex*	x	07 58 13.5	
MK31	**Makanchi Array**	**16.96**	**5**	*e*P	**Pn**	**07 59 01.1**	**+1.2**
MKAR	**Makanchi Array**	**16.96**	**5**	Pn	**Pn**	**07 58 57.4**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=181,slow=12,SNR=29						
MKAR				Sn	**Sn**	**08 02 01.3**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=25,SNR=3.1						
MKAR				LR	LR	08 06 17.6	
	comp=Z,63nm,21.6s,baz=262,slow=40						
GTA	**Gaotai**	**18.73**	**54**	*e*P	**Pn**	**07 59 22.5**	**+0.7**
GTA				AP	pP	07 59 26.5	+2.3
GTA				XP	sP	07 59 30.0	+4.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s						
WSAR	**Wadi Sarin**	**20.34**	**256**	P	**P**	**07 59 38.4**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=73,slow=7.3,SNR=2.6						
BVAR	**Borovoye Array**	**24.20**	**346**	P	**P**	**08 00 17.4**	**-1.8**
	comp=Z,0.7nm,0.4s,mb3.4,baz=154,slow=11,SNR=6.2						
ZAL	**Zalesovo**	**24.26**	**7**	P	**P**	**08 00 18.0**	**-1.9**
	comp=Z,6.2nm,0.6s,mb4.2,baz=281,slow=7.3,SNR=19						
CHKZ	**Chkalovo**	**24.76**	**346**	*e*P	**P**	**08 00 23.5**	**-0.9**
	comp=Z,6.3nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**26.41**	**327**	P	**P**	**08 00 38.9**	**-0.5**
AKTO	**Aktyubinsk**	**26.41**	**327**	P	**P**	**08 00 38.9**	**-0.5**
	comp=Z,2.8nm,0.7s,mb3.9,baz=122,slow=10,SNR=12						
SONM	**Songino Array**	**26.98**	**41**	P	**P**	**08 00 45.0**	**+0.6**
	comp=Z,3.4nm,0.6s,mb4.1,baz=233,slow=9.0,SNR=14						
ULN	**Ulaanbaatar**	**27.37**	**42**	*e*P	**P**	**08 00 48.7**	**+0.7**
	comp=Z,3.5nm,0.8s,mb3.9						
AKASG	**Malin Array Be**	**43.05**	**314**	P	**P**	**08 03 01.6**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.1,baz=81,slow=6.9,SNR=13						
JOF	**Joensuu**	**45.37**	**331**	*ep*	**P**	**08 03 20.4**	**-0.7**
FINES	**FINESS Array B**	**47.18**	**328**	P	**P**	**08 03 34.9**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.5,baz=116,slow=9.3,SNR=22						
KAF	**Kangasniemi**	**47.27**	**329**	*ep*	**P**	**08 03 35.4**	**-0.6**
	baz=106,slow=7.7						
KEV	**Kevo**	**49.74**	**339**	*ep*	**P**	**08 03 54.5**	**-0.6**
ARCES	**ARCESS Array B**	**50.14**	**338**	P	**P**	**08 03 57.9**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.6,baz=99,slow=8.3,SNR=14						
GERES	**GERESS Array B**	**53.02**	**311**	P	**P**	**08 04 19.0**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=76,slow=5.6,SNR=4.9						
NB2	**NORSAR Subarra**	**54.19**	**326**	P	**P**	**08 04 27.4**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=96,slow=6.9						
NOA	**NORSAR Array B**	**54.19**	**326**	P	**P**	**08 04 27.0**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=92,slow=7.2,SNR=4.1						
NOA	**NORSAR Array B**	**54.19**	**326**	P	**P**	**08 04 27.0**	**-1.2**
HAU	**Haudompre**	**57.99**	**310**	*e*P	**P**	**08 04 54.9**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
LPG	**La Plagne**	**58.20**	**308**	*e*P	**P**	**08 04 57.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7						
LPL	**La Plagne**	**58.20**	**308**	⇑*i*P	**P**	**08 04 57.4**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8						
SMF	**Signal de Mont**	**59.93**	**309**	*e*P	**P**	**08 05 08.4**	**-0.5**
	comp=Z,9.9nm,0.6s,mb4.7						
SSF	**Saint Saulge**	**60.06**	**310**	*e*P	**P**	**08 05 08.8**	**-1.0**
	comp=Z,5.9nm,0.6s,mb4.5						
AVF	**Avril sur Loir**	**60.23**	**310**	*e*P	**P**	**08 05 10.2**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**61.11**	**309**	*e*P	**P**	**08 05 16.9**	**-0.1**
	comp=Z,8.9nm,0.8s,mb4.7						
LDF	**La Druitiere**	**62.08**	**312**	*e*P	**P**	**08 05 22.7**	**-0.8**
ETSF	**Etsaut**	**63.94**	**306**	*e*P	**P**	**08 05 36.1**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**71.95**	**127**	P	**P**	**08 06 25.5**	**-0.8**
	comp=Z,3.2nm,1.0s,mb4.2,baz=320,slow=5.9,SNR=13						
WB2	**Warramunga Arr**	**71.96**	**127**	*e*P	**P**	**08 06 26.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.66**	**276**	P	**P**	**08 06 36.5**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=52,slow=5.0,SNR=19						
ASAR	**Alice Springs**	**74.17**	**130**	P	**P**	**08 06 39.8**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=314,slow=6.2,SNR=14						
BOSA	**Boshof**	**78.30**	**227**	P	**P**	**08 07 01.2**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.3,baz=304,slow=3.7,SNR=3.6						
CTA	**Charters Tower**	**80.72**	**119**	P	**P**	**08 07 15.1**	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.3,baz=308,slow=8.6,SNR=4.2						

MOS 27 08:03:38.4±0.6, 4248N×4336E, h10km, mb3.5/1, 1C-1D, Error ellipse: s-maj=64.2km s-min=13.7km az=56.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.45**	**21**	⇓*i*PG	Pg	08 03 48.0	+0.8
DIGR				*i* S	Sg	08 03 53.4	+0.3
ZEI	**Tsey**	**0.49**	**54**	⇑*i*PG	Pg	08 03 48.8	+0.8
ZEI				*i* S	Sg	08 03 54.6	+0.1
LACR	**Lac**	**0.77**	**63**	*e*PG	Pg	08 03 53.8	+0.5
LACR				*e*S	Sg	08 04 03.3	-0.1
KORR	**Kora**	**0.80**	**41**	*e*PG	Pg	08 03 54.3	+0.5
KORR				*e*S	Sg	08 04 04.2	0.0
ARNR	**Ardon**	**0.98**	**43**	*e*PG	Pg	08 03 57.6	+0.4
ARNR				*e*S	Sg	08 04 09.9	-0.1
KMSR	**Komsomolskaya**	**1.12**	**37**	*e*PG	Pg	08 04 00.4	+0.4
KMSR				*e*S	Sb	08 04 14.6	+0.1

*LDG **27** 08:15:03.1±0.2, 4368N×774E, h25km, Md2.2/1, Ml2.2/4, Error ellipse: s-maj=4.0km s-min=3.1km az=57.0*

STR 27 08:15:03.9±0.3, 4375N×786E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.32**	**317**	Pg	Pg	08 15 10.4	+0.2
SAOF				Sg	Sg	08 15 15.2	+0.8
SBF	**Sospel**	**0.33**	**290**	*e*Pg	Pg	08 15 10.2	0.0
SBF				*e*Sg	Sg	08 15 14.7	+0.2
	116nm,0.3s						
REVF	**Revere**	**0.36**	**269**	Pg	Pg	08 15 10.7	-0.1
REVF				Sg	Sg	08 15 16.3	+0.8
AUTN	**L'Aution**	**0.40**	**308**	Pg	Pg	08 15 11.7	+0.1
AUTN				Sg	Sg	08 15 17.1	+0.3
LUCF	**Luceram**	**0.40**	**291**	Pg	Pg	08 15 11.6	0.0
LUCF				Sg	Sg	08 15 17.6	+0.8
TOUF	**Mont Tournerai**	**0.52**	**301**	Pg	Pg	08 15 13.9	+0.1
MVIF	**Mont Vial**	**0.53**	**286**	Pg	Pg	08 15 14.3	+0.2
FRF	**La Foret Royal**	**0.90**	**258**	*e*Pg	Pg	08 15 18.9	-2.3
FRF				*e*Sg	Sg	08 15 29.5	-3.4
	16nm,0.2s						
LMR	**La Mourre**	**1.07**	**248**	*e*Pg	Pg	08 15 20.9	-3.5
LMR				*e*Sg	Sg	08 15 33.2	-5.0
	7.1nm,0.2s						
MBDF	**Montbardon**	**1.25**	**322**	*e*Pg	Pg	08 15 27.2	-0.7
MBDF				*e*Sg	Sg	08 15 43.3	-0.8
	16nm,0.3s						
PGF	**Pioggiola**	**1.46**	**145**	*e*Pn	Pn	08 15 26.4	-4.5
PGF				*e*Sn	Sn	08 15 43.3	-7.2
	0.9nm,0.2s						
SMRF	**Simiane la Rot**	**1.67**	**279**	*e*Pg	Pg	08 15 33.1	-2.8
SMRF				*e*Sg	Sg	08 15 54.0	-3.5
	1.7nm,0.2s						

ECX 27 08:19:42.2±0.6, 3028N×11411W, h9km, MD3.9, ML4.2, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**1.96**	**331**	*e*PN	Pn	08 20 15.7	+0.1
EMX				*e*S	Sn	08 20 40.7	+0.4
EMX				⇓*e*		08 20 43.1	
	comp=N,1μm,0.7s						
RDX	**Rancho Dowling**	**2.28**	**317**	*e*PN	Pn	08 20 20.1	+0.1
RDX				*e*S	Sn	08 20 49.2	+1.0
ECNX	**Esteban Cantu**	**2.54**	**303**	*e*PN	Pn	08 20 23.6	0.0
ECNX				*e*S	Sn	08 20 55.2	+0.6
ENX	**Ensenada**	**2.71**	**307**	*e*PN	Pn	08 20 26.2	+0.3
CBX	**Cerro Bola**	**2.98**	**314**	*e*PN	Pn	08 20 29.8	+0.2
CBX				*e*S	Sn	08 21 07.6	+2.1

*MOS **27** 08:37:48.7±0.6, 3513N×14041E, h55km, mb4.7/3, Error ellipse: s-maj=28.9km s-min=12.7km az=118.8*
*ISCJB **27** 08:37:50.5±0.4, 3505N±003×14019E±004, h66km±3km, mb4.0/8, Error ellipse: s-maj=6.5km s-min=4.9km az=111.0*
*IDC **27** 08:37:50.2±2.3, 3506N×14033E, h45km±18km, mb3.7/7, mb1 3.9/9, mb1mx3.7/24, mbtmp4.0/9, ML3.8/2, Error ellipse: s-maj=32.5km s-min=6.3km az=74.0*
*JMA **27** 08:37:51.1±0.2, 3508N×14021E, h61km±2km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s=71.00000°, δ=40.00000°, λ=164.00000°. NP2: ϕ_s=174.00000°, δ=80.00000°, λ=51.00000°. Principal axes: T Plg=42.0000°, Azm=47.0000°; N Plg=38.0000°, Azm=182.0000°; P Plg=25.0000°, Azm=293.0000°;*
JMA Felt II J1.
*NEIC **27** 08:37:51.1, 3508N×14021E, h61km, MG4.1(JMA), After JMA.*
*NEIC Recorded [2 JMA] in Chiba, Kanagawa,

comp=Z,0.9nm,0.5s,mb3.9,baz=111,slow=10,SNR=4.2
WB2 Warramunga Arr 54.98 187 *e*P **P 08 47 16.9 +0.4**
WRA Warramunga Arr 54.98 187 P **P 08 47 17.0 +0.5**
comp=Z,1.3nm,0.6s,mb4.1,baz=4.1,slow=7.7,SNR=19
ASAR Alice Springs 58.70 187 P **P 08 47 44.4 +1.5**
comp=Z,0.3nm,0.6s,mb3.5,baz=4.2,slow=8.1,SNR=7.1
ARCES ARCESS Array B 65.49 339 P **P 08 48 28.0 -0.4**
comp=Z,3.4nm,0.9s,mb4.4,baz=46,slow=6.9,SNR=4.1
ARCES ARCESS Array B 65.49 339 P **P 08 48 28.0 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 67.24 332 *e*p **P 08 48 38.8 -0.8**
comp=Z,2.3nm,0.4s,mb4.6
JOF Joensuu 67.24 332 *e*P **P 08 48 38.8 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FINES FINESS Array B 70.10 332 P **P 08 48 56.9 -0.5**
comp=Z,3.9nm,0.9s,mb4.4,baz=70,slow=6.3,SNR=7.4
FINES FINESS Array B 70.10 332 P **P 08 48 56.9 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.9s

GUC 27 08:58:51.1±0.6, 2579S×7118W, h15km±10km, MD3.8, ML3.6, 1C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.32**	**166**	⇑	*i*P	Pn	08 59 12.5	-2.5
CDCH					*i* S	Sb	08 59 28.4	-3.9
CDCH					AML	AML	08 59 31.5	
	comp=N,400nm,0.2s							
CPN1	**Cerro Paranal**	**1.35**	**31**	⇓	*i*P	Pn	08 59 13.7	-1.7
CPN1					*i* S	Sn	08 59 30.7	-2.4
CPN1					AML	AML	08 59 33.7	
	comp=E,700nm,0.3s							
CPCH	**Copiapo**	**1.73**	**155**	⇓	*i*P	Pn	08 59 19.2	-1.4
CPCH					*i* S	Sn	08 59 40.1	-2.3
CPCH					AML	AML	08 59 42.5	
	comp=E,5μm,0.1s							
VACH	**Vallenar**	**2.80**	**172**		*e*P	Pn	08 59 34.3	-1.0
VACH					AML	AML	09 00 22.0	
	comp=E,427nm,0.2s							

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*NEIC **27** 08:59:04.0, 1541N×6089W, h152km, MD4.0(TRN), After TRN.*

TRN 27 08:59:05.6, 1530N×6121W, h150km, MD3.3, M2.9(FDF), 2C-9D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	**0.18**	**275**	⇓	*i*P	Pn	08 59 26.9	+1.0
MDN					*e*S	Sn	08 59 41.8	+0.5
DSHT	**Scott's Head**	**0.18**	**241**		*e*P	Pn	08 59 26.8	+0.9
DSHT					*e*S	Sn	08 59 40.8	-0.5
DWS	**Wesley**	**0.28**	**340**		*e*P	Pn	08 59 27.9	+1.8
DWS					*e*S	Sn	08 59 43.2	+1.4
BBL	**Barber's Block**	**0.34**	**312**	⇓	*e*P	Pn	08 59 27.4	+1.1
BBL					*e*S	Sn	08 59 38.6	-3.4
FDF	**Fort de France**	**0.57**	**174**	⇓	*e*P	Pn	08 59 28.4	+1.1
FDF					*e*S	Sn	08 59 44.8	+0.9
MGQ	**Marie-Galante**	**0.62**	**351**	⇓	*e*P	Pn	08 59 28.6	+0.9
TBG	**Guadaloupe-3**	**0.69**	**323**	⇓	*i*P	Pn	08 59 28.9	+0.9
BIM	**Bigot**	**0.79**	**170**	⇓	*e*P	Pn	08 59 29.8	+1.0
BIM					*e*S	Sn	08 59 48.1	+1.7
MVM	**Montagne Vaucl**	**0.80**	**158**	⇓	*e*P	Pn	08 59 29.6	+0.8
SCG	**Saint Claude**	**0.85**	**328**	⇓	*e*P	Pn	08 59 30.5	+1.3
SFG	**Saint Francois**	**0.95**	**1**		*e*P	Pn	08 59 31.3	+1.3
LZG	**Guadaloupe-1**	**1.00**	**327**		*e*P	Pn	08 59 31.7	+1.3
DEG	**La Desirade**	**1.02**	**8**	⇑	*e*P	Pn	08 59 31.4	+0.9
SSV	**Crater Summit**	**1.96**	**179**	⇑	*e*P	Pn	08 59 42.0	+1.7
SSV					*e*S	Sn	09 00 10.2	+3.2
SVB	**Belmont**	**2.02**	**181**	⇓	*e*P	Pn	08 59 42.9	+1.9
SVB					*e*S	Sn	09 00 09.4	+1.3
FCV	**Fort Charlotte**	**2.13**	**181**		*e*P	Pn	08 59 42.8	+0.5
FCV					*e*S	Sn	09 00 11.3	+0.8
GRSS	**Sisters**	**3.01**	**187**		*e*P	Pn	08 59 54.3	+1.2
GRSS					*e*S	Sn	09 00 33.4	+3.6
GRIC	**Isle de Caille**	**3.02**	**187**		*e*P	Pn	08 59 53.3	+0.1
GRIC					*e*S	Sn	09 00 33.4	+3.4
GRHS	**Sauteurs**	**3.09**	**188**		*e*P	Pn	08 59 55.3	+1.2
GRHS					*e*S	Sn	09 00 33.5	+1.9
GRW	**Mount Saint Ca**	**3.15**	**188**		*e*P	Pn	08 59 56.5	+1.6
GRW					*e*S	Sn	09 00 40.5	+7.4
TPR	**Prospect**	**4.11**	**174**		*e*P	Pn	09 00 08.1	+0.8
TRN	**Trinidad (W)**	**4.63**	**182**		*e*P	Pn	09 00 15.3	+1.2
TRN					*e*S	Sn	09 01 04.7	-2.8

IDC 27 09:50:10.6±5.0, 2646N×5403E, h53km±64km, mb3.7/4, mb1 3.9/5, mb1mx3.4/22, mbtmp4.0/5, ML3.2/1, MS3.9/3, Ms1 3.9/3, ms1mx2.9/40, Error ellipse: s-maj=36.2km s-min=29.9km az=10.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**5.27**	**127**		P	Pn	09 51 27.4	+0.7
	0.8nm,0.3s,baz=330,slow=11,SNR=16							
WSAR					S	Sn	09 52 26.5	+0.5
	0.7nm,0.3s,baz=3.2,slow=22,SNR=5.8							
BRTR	**Keskin Array B**	**21.55**	**313**		P	P	09 54 55.5	+0.1
	1.0nm,0.6s,baz=131,slow=13,SNR=5.4							
MKAR	**Makanchi Array**	**30.17**	**40**		LR	LR	10 08 41.6	
	comp=Z,109nm,19.4s,baz=331,slow=37							
ZAL	**Zalesovo**	**35.63**	**31**		P	P	09 57 03.3	0.0
	1.5nm,0.4s,baz=292,slow=5.5,SNR=4.4							
FINES	**FINESS Array B**	**39.72**	**339**		P	P	09 57 37.2	-0.6
	15nm,1.3s,baz=157,slow=7.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**50.67**	**265**		P	P	09 59 05.1	+0.5
	0.8nm,0.8s,baz=64,slow=7.2,SNR=4.9							
ASAJ	**Asahikawa**	**71.12**	**50**		LR	LR	10 34 02.5	
	comp=Z,46nm,19.8s,baz=187,slow=37							
KDAK	**Kodiak Island**	**93.16**	**14**		LR	LR	10 52 24.6	
	comp=Z,130nm,18.2s,baz=261,slow=40							

IDC 27 09:55:19.7±1.9, 220N×9624E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/21, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=44.4km s-min=27.9km az=43.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.75**	**77**		Pn	Pn	09 56 06.1	+1.1
	1.6nm,0.3s,baz=304,slow=14,SNR=12							
PSI					Sn	Sn	09 56 38.0	-0.9
	3.6nm,0.3s,baz=138,slow=5.1,SNR=5.6							
WRA	**Warramunga Arr**	**43.38**	**122**		P	P	10 03 24.4	+0.6
	0.8nm,0.7s,baz=302,slow=9.1,SNR=6.9							
ASAR	**Alice Springs**	**44.76**	**127**		P	P	10 03 34.8	0.0
	0.2nm,0.7s,baz=294,slow=9.0,SNR=3.7							
MKAR	**Makanchi Array**	**46.05**	**347**		P	P	10 03 45.0	-0.1
	0.4nm,0.5s,baz=153,slow=9.1,SNR=5.4							

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*NEIC **27** 10:01:19.0±3.3, 3870N×7075E, h20km±24km, mb4.2/3, Error ellipse: s-maj=12.0km s-min=8.9km az=189.0*
*NNC **27** 10:01:18.1±3.2, 3892N×7052E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=27.6km s-min=19.3km az=40.0*
*MOS **27** 10:01:19.3±1.5, 3880N×7079E, h33km, mb4.6/9, Error ellipse: s-maj=10.5km s-min=6.7km az=91.3*
*IDC **27** 10:01:20.7±3.8, 3857N×7087E, h33km±29km, mb3.9/13, mb1 4.0/18, mb1mx3.9/28, mbtmp4.1/18, ML3.8/5, MS3.3/4, Ms1 3.3/4, ms1mx2.8/41, Error ellipse: s-maj=17.6km s-min=14.5km az=10.0*
*ISCJB **27** 10:01:22.1±0.5, 3882N±003×7065E±005, h60km±7km, mb4.3/26, MS3.2/3, Error ellipse: s-maj=6.3km s-min=4.2km az=169.3*
*BJI **27** 10:01:23.5, 3861N×7145E, h20km, mB4.9, mb4.7, ML4.2, Ms4.0, Msz3.9*

ISC 27 10:01:23.4±0.4, 3885N±003×7062E±004, h52km±6km, n92, σ1§28/110, mb4.3/26, MS3.4/2, 13C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.03**	**35**		P	**Pn**	**10 02 23.5**	**+0.9**
	SNR=237							
KSH	**Kashi**	**4.21**	**79**		*e*PG	**Pn**	**10 02 26.0**	**+0.9**
KSH					SG	**Sn**	**10 03 17.8**	**+4.8**
KSH					Smax			
	comp=N,1μm,0.8s							
KSH					Smax			
	comp=E,4μm,1.2s							
KK31	**Karatay Array**	**4.25**	**359**		Pn	**Pn**	**10 02 27.3**	**+1.7**
	comp=E,18nm,0.3s,baz=185,slow=14,SNR=758							
KK31				⇑	Sn	**Sn**	**10 03 18.0**	**+4.0**
	comp=E,34nm,0.5s,baz=182,slow=31,SNR=7.2							
KK31				⇓	Lg		10 03 33.8	
	comp=E,236nm,0.8s,baz=182,slow=31,SNR=7.2							
UCH	**Uchtor**	**4.50**	**40**		P	**Pn**	**10 02 29.9**	**+1.0**
	SNR=215							
EKS2	**Erkin-Say**	**4.50**	**31**		P	**Pn**	**10 02 31.9**	**+2.9**
	SNR=13							
KZA	**Kyzart**	**4.79**	**46**		P	**Pn**	**10 02 36.2**	**+3.3**
	SNR=9.1							
AAK	**Ala-Archa**	**4.79**	**37**		P	**Pn**	**10 02 34.4**	**+1.4**
	SNR=138							
AAK	**Ala-Archa**	**4.79**	**37**	*d*	*i*PN	**Pn**	**10 02 33.1**	**+0.1**
FRU	**Bishkek**	**5.00**	**36**		*e*PN	**Pn**	**10 02 37.4**	**+1.5**
FRU					*e*S	**Sn**	**10 03 39.5**	**+7.1**
FRU					pmax	pmax		
	comp=Z,250nm,2.0s							
FRU					smax			
	comp=E,480nm,2.2s							
KBK	**Karagaybulak**	**5.03**	**39**		P	**Pn**	**10 02 38.0**	**+1.7**
	SNR=155							
CEP	**Cherat**	**5.12**	**168**		P	**Pn**	**10 02 38.3**	**+0.8**
CHMS	**Chumysh**	**5.20**	**36**		P	**Pn**	**10 02 39.7**	**+1.2**
	SNR=8.7							
USP	**Ospenovka**	**5.30**	**32**		P	**Pn**	**10 02 41.8**	**+1.8**
	SNR=31							
ULHL	**Ulahol**	**5.46**	**50**		P	**Pn**	**10 02 42.2**	**0.0**
	SNR=32							
TKM2	**Tokmak 2**	**5.55**	**41**		P	**Pn**	**10 02 43.6**	**+0.2**
	SNR=128							
TKM2	**Tokmak 2**	**5.55**	**41**	⇑	Pn	**Pn**	**10 02 43.7**	**+0.3**
	comp=E,9.8nm,0.8s							
TKM2				⇓	Sn	**Sn**	**10 03 50.5**	**+4.7**
	comp=E,18nm,0.9s							
TKM2				⇑	Lg		10 04 17.5	
	comp=E,8.1nm,0.7s							
CHCP	**Chirah Chowk**	**5.60**	**157**		P	**Pn**	**10 02 44.3**	**+0.2**
THW	**Thamme Wali**	**6.11**	**171**		P	**Pn**	**10 02 50.2**	**-0.8**
DRP	**Derazinda**	**7.09**	**183**		P	**Pn**	**10 03 05.0**	**+0.5**
DRP					S	**Sn**	**10 04 27.0**	**+3.2**
THN	**Thein Dam**	**7.62**	**146**		*e*P	**Pn**	**10 03 09.0**	**-2.8**
THN					*e*x	x	10 04 37.1	
DLH	**Dalhousie**	**7.65**	**144**		*e*x	x	10 03 07.0	
DLH					*e*S	**Sn**	**10 04 30.0**	**-7.3**
SDNR	**Sundarnagar**	**8.98**	**143**		*e*P	**Pn**	**10 03 31.1**	**+0.7**
SDNR					*e*S	**Sn**	**10 05 03.1**	**-7.0**
KLP	**Kalpa**	**9.60**	**137**		*e*P	**Pn**	**10 03 37.7**	**-1.1**
KLP					*e*S	**Sn**	**10 05 15.1**	**-10**
KLP					AML	AML	10 05 27.9	
	comp=E,304nm,0.7s							
KLP					AML	AML	10 05 29.7	
	comp=N,300nm,0.7s							
KHET	**Khetri**	**11.58**	**157**		*e*P	**Pn**	**10 03 56.9**	**-9.0**
KHET					*e*S	**Sn**	**10 05 55.1**	**-19**
KHET					AML	AML	10 06 21.7	
	comp=E,10.0nm,0.4s							
KHET					AML	AML	10 06 23.6	
	comp=N,11nm,0.2s							
MK31	**Makanchi Array**	**11.68**	**43**	⇑	Pn	**Pn**	**10 04 06.5**	**-0.7**
	comp=N,12nm,0.8s,baz=231,slow=12,SNR=98							
MK31				⇓	Lg		10 07 22.9	
	comp=N,9.3nm,0.8s							
MK31	**Makanchi Array**	**11.68**	**43**		*e*P	**Pn**	**10 04 06.3**	**-1.0**
MKAR	**Makanchi Array**	**11.68**	**43**		Pn	**Pn**	**10 04 06.2**	**-1.0**
	comp=N,0.5nm,0.3s,baz=230,slow=12,SNR=71							
MKAR					Lg		10 07 23.5	
	comp=N,0.2nm,0.3s,baz=240,slow=22,SNR=3.1							
SONA	**Sohna**	**11.86**	**151**		*e*P	**Pn**	**10 04 07.5**	**-2.2**
SONA					*e*S	**Sn**	**10 06 08.4**	**-12**
SONA					AML	AML	10 06 20.4	
	comp=N,17nm,0.2s							
SONA					AML	AML	10 06 23.3	
	comp=E,22nm,0.8s							
AB31	**Akbulak array**	**12.92**	**327**		Pn	**Pn**	**10 04 21.9**	**-2.3**
	comp=E,6.9nm,0.5s,baz=144,slow=11,SNR=75							
AB31				⇑	Sn	**Sn**	**10 06 45.5**	**-0.8**
	comp=E,24nm,0.8s,baz=11,slow=35,SNR=4.0							
VOSK	**Vostochnaya**	**13.88**	**1**	⇑	Pn	**Pn**	**10 04 35.6**	**-1.7**
	comp=E,5.2nm,0.9s							
VOSK				⇑	Sn	**Sn**	**10 07 07.0**	**-2.8**
	comp=E,10nm,0.8s							
ZRNK	**Zerenda**	**14.15**	**356**	⇓	Pn	**Pn**	**10 04 40.6**	**-0.3**
	comp=E,12nm,1.2s							
ZRNK				⇓	Sn	**Sn**	**10 07 21.6**	**+5.3**
	comp=E,5.4nm,0.8s							
ZRNK	**Zerenda**	**14.15**	**356**		*e*P	**Pn**	**10 04 39.5**	**-1.4**
ZRNK					pmax	pmax		
	comp=Z,6.0nm,0.6s							
ZRNK	**Zerenda**	**14.15**	**356**		*e*P	**Pn**	**10 04 39.5**	**-1.4**
	comp=Z,6.3nm,0.6s							
BVA0	**Borovoye Array**	**14.18**	**359**	⇓	Pn	**Pn**	**10 04 40.1**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=181,slow=13,SNR=21							
BVAR	**Borovoye Array**	**14.18**	**359**		Pn	**Pn**	**10 04 40.4**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=161,slow=12,SNR=16							
BVAR					Sn	**Sn**	**10 07 11.0**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=172,slow=23,SNR=2.2							
BVAR					Lg		10 08 49.9	
	comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=3.6							
BVAR					LR	LR	10 10 18.9	
	comp=Z,138nm,18.2s,baz=137,slow=37							
BVAR	**Borovoye Array**	**14.18**	**359**		P	**Pn**	**10 04 40.4**	**-0.9**
BVAR							10 07 11.0	
AKTK	**Aktyubinsk**	**14.63**	**326**		Pn	**Pn**	**10 04 47.3**	**+0.1**
AKTK					Sn	**Sn**	**10 07 27.3**	**-0.7**
AKTK					Lg		10 09 18.9	
AKTO	**Aktyubinsk**	**14.63**	**326**		Pn	**Pn**	**10 04 47.3**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=139,slow=15,SNR=12							
AKTO					Sn	**Sn**	**10 07 27.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=6.5,slow=19,SNR=6.1							
AKTO					Lg		10 09 18.9	
	baz=30,slow=20,SNR=2.2							
AKTO	**Aktyubinsk**	**14.63**	**326**		P	**Pn**	**10 04 47.3**	**+0.1**
AKTO							10 07 27.3	
CHKZ	**Chkalovo**	**14.83**	**360**	⇓	Pn	**Pn**	**10 04 49.1**	**-0.8**
	comp=Z,5.1nm,0.9s							
CHKZ				⇑	Sn	**Sn**	**10 07 31.2**	**-1.7**
	comp=Z,6.4nm,1.4s							
CHKZ	**Chkalovo**	**14.83**	**360**		*e*P	**Pn**	**10 04 49.1**	**-0.8**
CHKZ					pmax	pmax		
	comp=Z,5.0nm,0.6s							
CHKZ	**Chkalovo**	**14.83**	**360**		*e*P	**Pn**	**10 04 49.1**	**-0.8**
	comp=Z,4.5nm,0.6s							
KOLN	**Koldanda**	**15.47**	**132**		*e*P	**Pn**	**10 04 52.2**	**-5.9**
	comp=Z,17nm,0.4s							
KOLN					*e*S	S	10 07 34.0	-28
GKN	**Gorkha**	**15.91**	**129**		*e*P	**Pn**	**10 04 57.6**	**-6.2**
	comp=Z,54nm,0.5s							
KKN	**Kakani**	**16.46**	**128**		*e*P	**Pn**	**10 05 03.8**	**-6.9**
DMN	**Daman**	**16.48**	**129**		*e*P	**Pn**	**10 05 04.2**	**-6.8**
PKI	**Pulchoki**	**16.70**	**128**		*e*P	**Pn**	**10 05 07.4**	**-6.3**
GUN	**Gumba**	**16.75**	**126**		*e*P	**Pn**	**10 05 07.3**	**-7.0**
	comp=Z,20nm,0.4s							
ORR	**Orenburg**	**16.92**	**324**		*e*P	**Pn**	**10 05 17.2**	**+0.7**
ORR					S	**S**	**10 08 21.8**	**-10**
ORR					pmax	pmax		
	comp=Z,8.0nm,0.5s							
JIRN	**Jiri**	**17.12**	**126**		*e*P	**Pn**	**10 05 11.9**	**-7.1**
	comp=Z,42nm,0.4s							
ZAL	**Zalesovo**	**17.93**	**28**		P	**Pn**	**10 05 27.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=252,slow=12,SNR=9.6							
ZAL					LR	LR	10 13 34.0	
	comp=Z,89nm,21.3s,baz=272,slow=41							
NVS	**Novosibirsk**	**18.13**	**24**		*e*P	**Pn**	**10 05 26.8**	**-4.5**
WSAR	**Wadi Sarin**	**18.61**	**217**		P	**Pn**	**10 05 35.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=46,slow=9.2,SNR=3.6							
LSA	**Lhasa**	**19.23**	**112**		P	**Pn**	**10 05 39.0**	**-5.6**
ARU	**Arti**	**19.33**	**339**		*e*P	**Pn**	**10 05 42.3**	**-3.4**
ARU					*e*S	**S**	**10 09 13.7**	**-6.4**
ARU	**Arti**	**19.33**	**339**		*e*P	**Pn**	**10 05 43.3**	**-2.5**
	comp=Z,8.8nm,0.6s							
GNI	**Garni**	**20.00**	**282**		P	**P**	**10 05 55.0**	**+3.4**
	comp=Z,4.1nm,0.3s,baz=349,slow=14,SNR=4.0							
GNI					LR	LR	10 15 02.5	
	comp=Z,45nm,19.8s,baz=91,slow=41							
ZEI	**Tsey**	**20.57**	**290**		*e*P	**P**	**10 06 00.9**	**+3.2**
UMR	**Umm Al-Rimmam**	**21.05**	**251**		*e*P	**P**	**10 06 03.7**	**+0.8**
UMR					AMb	AMB	10 06 04.5	
	comp=Z,50nm,0.6s,mb5.0							
KBD	**Kabd**	**21.26**	**250**		*e*P	**P**	**10 06 05.3**	**+0.1**
KBD					AMb	AMB	10 06 08.8	
	comp=Z,133nm,1.0s,mb5.2							
RDF	**Al-Radifah**	**21.50**	**250**		*e*P	**P**	**10 06 07.7**	**-0.1**
RDF					AMb	AMB	10 06 10.3	
	comp=Z,51nm,0.9s,mb4.9							
KIV	**Kislovodsk**	**21.51**	**293**		*e*P	**P**	**10 06 10.8**	**+2.9**
KIV					*e*		10 06 19.4	
KIV					*e*S	**S**	**10 10 03.3**	**-0.1**
KIV					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3							
KIV					MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3							
KIV	**Kislovodsk**	**21.51**	**293**		P	**P**	**10 06 06.2**	**-1.7**
NAY	**Al-Naaiem**	**21.56**	**251**		*e*P	**P**	**10 06 08.9**	**+0.5**
NAY					AMb	AMB	10 06 10.9	
	comp=Z,39nm,1.1s,mb4.8							
GTA	**Gaotai**	**22.62**	**79**		*e*P	**P**	**10 06 19.0**	**-0.6**
GTA					AP		10 06 23.0	
GTA					XP	sP	10 06 26.3	-12
GTA					AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.1							
ZAK	**Zakamensk**	**25.74**	**53**		*e*P	**P**	**10 06 49.2**	**+0.2**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9							
TLY	**Talaya**	**26.30**	**50**	⇑	*e*P	**P**	**10 06 54.8**	**+0.8**
TLY					pmax	pmax		
	comp=Z,30nm,2.5s,mb4.4							
SONM	**Songino Array**	**27.32**	**59**		P	**P**	**10 07 02.6**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.4,baz=261,slow=9.9,SNR=6.6							
ULN	**Ulaanbaatar**	**27.77**	**59**	⇑	*e*P	**P**	**10 07 06.6**	**-0.6**
ULN	**Ulaanbaatar**	**27.77**	**59**		*e*P	**P**	**10 07 04.9**	**-2.2**
	comp=Z,4.2nm,0.9s,mb4.1							
OBN	**Obninsk**	**27.99**	**317**	⇑	*e*P	**P**	**10 07 07.6**	**-1.6**
OBN					*e*		10 07 58.9	
OBN					pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.7							
BRTR	**Keskin Array B**	**28.51**	**284**		P	**P**	**10 07 14.9**	**+1.1**
	comp=Z,3.1nm,1.1s,mb3.9,baz=91,slow=6.2,SNR=6.0							
AKASG	**Malin Array Be**	**31.28**	**306**		P	**P**	**10 07 40.0**	**+1.7**
	comp=Z,1.2nm,0.6s,mb3.9,baz=113,slow=8.2,SNR=4.7							
AKASG	**Malin Array Be**	**31.28**	**306**		*i* P	**P**	**10 07 40.0**	**+1.7**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**35.39**	**324**		P	**P**	**10 08 15.4**	**+1.3**
	comp=Z,8.9nm,1.1s,mb4.6,baz=116,slow=9.4,SNR=3.2							
ARCES	**ARCESS Array B**	**38.87**	**337**		P	**P**	**10 08 44.4**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.0,baz=100,slow=6.7,SNR=6.3							
ARCES					LR	LR	10 25 42.5	
	comp=Z,75nm,20.4s,MS3.5,baz=240,slow=37							
NJ2	**Nanjing**	**39.50**	**85**		*e*P	**P**	**10 08 49.8**	**+0.9**
NJ2					AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3							
HFS	**Hagfors**	**41.05**	**320**		P	**P**	**10 09 02.8**	**+1.1**
	comp=Z,4.9nm,0.6s,mb4.3,baz=96,slow=11,SNR=10							
GERES	**GERESS Array B**	**41.36**	**303**		P	**P**	**10 09 06.7**	**+2.4**
	comp=Z,0.5nm,0.6s,mb3.3,baz=61,slow=10,SNR=2.9							
YAK	**Yakutsk**	**42.26**	**37**	⇓	*e*P	**P**	**10 09 09.9**	**-1.6**
YAK					pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6							
NB2	**NORSAR Subarra**	**42.34**	**322**		P	**P**	**10 09 10.8**	**-1.4**
	comp=Z,5.8nm,0.9s,mb4.2,baz=93,slow=8.6							
NB2	**NORSAR Subarra**	**42.34**	**322**		P	**P**	**10 09 10.8**	**-1.4**
NB2					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2							
NOA	**NORSAR Array B**	**42.34**	**322**		P	**P**	**10 09 12.4**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.7,baz=94,slow=8.2,SNR=4.0							
TIXI	**Tiksi**	**43.73**	**23**	⇑	*e*P	**P**	**10 09 23.1**	**-0.3**
TIXI					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2							
EKA	**Eskdalemuir Ar**	**50.41**	**315**		P	**P**	**10 10 16.2**	**+0.7**
	comp=Z,3.2nm,1.0s,mb4.3,baz=83,slow=6.8,SNR=4.0							
BILL	**Bilibino**	**56.64**	**27**		*e*P	**P**	**10 11 00.2**	**-0.9**
BILL					pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9							
TORD	**Torodi Ar. Bea**	**65.50**	**267**		P	**P**	**10 12 01.5**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=52,slow=6.0,SNR=20							
IMA2	**Indian Mountai**	**69.98**	**18**		*e*P	**P**	**10 12 29.0**	**-0.3**
PSMN	**Pico do Norte,**	**71.80**	**303**		*e*S	S	10 21 56.2	-0.6
YKA	**Yellowknife Ar**	**78.92**	**2**		P	**P**	**10 13 21.8**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=353,slow=5.9,SNR=4.2							
YKA	**Yellowknife Ar**	**78.92**	**2**		*i* P	**P**	**10 13 21.7**	**+0.5**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**85.84**	**125**		P	**P**	**10 13 57.1**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.9,baz=313,slow=5.0,SNR=6.3							

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*ISCJB **27** 10:09:05.9±1.3, 235N±006×1286E±0.1, h237km±12km, mb4.3/22, Error ellipse: s-maj=22.3km s-min=6.9km az=139.6*
*NEIC **27** 10:09:07.2±1.0, 234N×12849E, h235km±10km, mb4.5/8, Error ellipse: s-maj=16.5km s-min=5.3km az=75.0*
*IDC **27** 10:09:08.0±1.7, 231N×12857E, h242km±15km, mb4.0/14, mb1 4.1/14

AKTK	**Aktyubinsk**	**75.94**	**322**	P	**P**	**10 20 28.0**	**-0.1**
AKTO	**Aktyubinsk**	**75.94**	**322**	P	**P**	**10 20 28.0**	**-0.1**
	2.3nm,0.7s,mb3.9,baz=114,slow=7.2,SNR=4.3						
VNDA	**Vanda**	**81.83**	**173**	P	**P**	**10 21 00.2**	**+0.2**
	0.5nm,0.3s,mb3.6,baz=316,slow=6.8,SNR=8.4						
IMA2	**Indian Mountai**	**82.85**	**24**	*e*P	**P**	**10 21 06.9**	**+1.6**
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**10 21 49.9**	**-1.2**
	1.6nm,0.5s,mb4.2,baz=85,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**93.95**	**332**	P	**P**	**10 21 57.0**	**-1.3**
	3.4nm,1.0s,mb4.3,baz=68,slow=1.0,SNR=4.9						
HFS	**Hagfors**	**100.13**	**333**	P	Pdif	10 22 24.3	-1.8
	2.7nm,0.8s,baz=68,slow=9.4,SNR=4.1						
TXAR	**Lajitas Array**	**120.88**	**54**	PKP	PKPdf	10 27 33.6	+2.2
	0.4nm,0.7s,baz=204,slow=2.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**125.19**	**288**	PKP	PKPdf	10 27 40.8	+1.2
	0.6nm,0.3s,baz=76,slow=1.6,SNR=12						

ISCJB ***27*** *10:32:31.4±0.7, 2687N±005×14255E±007, h16km, mb4.1/7, Error ellipse: s-maj=9.1km s-min=7.2km az=25.5*
JMA ***27*** *10:32:35.9, 2683N×14230E, h16km±1km, M4.4*
JMA Felt I J1.
IDC ***27*** *10:32:35.4±3.0, 2694N×14222E, h26km±35km, mb4.0/6, mb1 4.1/7, mb1mx3.7/20, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=271.5km s-min=9.4km az=84.0*
NEIC ***27*** *10:32:36.9±4.8, 2688N×14225E, h39km±22km, mb4.3/1, Error ellipse: s-maj=202.0km s-min=12.3km az=85.0*
NEIC Recorded [1 JMA] in Chichijima-retto.

ISC 27 10:32:33.3±0.7, 2682N±005×14249E±008, h16km, n19, σ0°68/22, mb4.1/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.34**	**236**	P	**Pg**	**10 32 40.9**	**+0.6**
JHHJ				S	**Sg**	**10 32 44.4**	**-0.6**
CBIJ	**Chichi jima**	**0.38**	**316**	Pn	**Pg**	**10 32 42.0**	**+0.9**
	1μm,0.3s,baz=213,slow=5.3,SNR=2220						
CBIJ				Sn	**Sg**	**10 32 46.2**	**-0.2**
	6μm,0.3s,baz=331,slow=23,SNR=478						
CBIJ	**Chichi jima**	**0.38**	**316**	P	**Pg**	**10 32 42.1**	**+0.9**
CBIJ				S	**Sg**	**10 32 46.4**	**-0.1**
JOD2	**Odawara 2**	**8.90**	**342**	P	**Pn**	**10 34 41.6**	**+0.3**
JHU	**Hanno**	**9.41**	**344**	P	**Pn**	**10 34 49.2**	**+1.0**
JHO	**Hitachi**	**9.90**	**351**	P	**Pn**	**10 34 54.9**	**0.0**
MJAR	**Matsushiro Arr**	**10.35**	**340**	Pn	**Pn**	**10 35 01.2**	**+0.1**
	0.3nm,0.3s,baz=59,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**47.15**	**190**	P	**P**	**10 41 05.8**	**+0.9**
	1.9nm,0.6s,mb4.2,baz=11,slow=8.6,SNR=29						
ASAR	**Alice Springs**	**50.87**	**190**	P	**P**	**10 41 34.2**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=18,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**50.87**	**190**	P	**P**	**10 41 34.1**	**+0.8**
JOF	**Joensuu**	**75.45**	**334**	*e*p	**P**	**10 44 15.4**	**-1.1**
	3.6nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**77.84**	**334**	*e*p	**P**	**10 44 28.9**	**-1.1**
	baz=55,slow=5.2						
FINES	**FINESS Array B**	**78.31**	**334**	P	**P**	**10 44 32.6**	**-0.1**
	3.4nm,0.5s,mb4.6,baz=75,slow=5.8,SNR=30						
AKASG	**Malin Array Be**	**83.00**	**324**	P	**P**	**10 44 57.2**	**-0.6**
	0.3nm,0.4s,mb3.7,baz=49,slow=5.4,SNR=6.0						
AKASG	**Malin Array Be**	**83.00**	**324**	P	**P**	**10 44 57.2**	**-0.6**
NB2	**NORSAR Subarra**	**83.97**	**338**	P	**P**	**10 45 02.2**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.3,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**83.97**	**338**	P	**P**	**10 45 02.2**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.4,baz=46,slow=4.9,SNR=4.4						
NOA	**NORSAR Array B**	**83.97**	**338**	P	**P**	**10 45 02.2**	**-0.5**
GERES	**GERESS Array B**	**91.89**	**329**	P	**P**	**10 45 40.2**	**-0.6**
	comp=Z,0.7nm,0.6s,mb4.2,baz=50,slow=4.2,SNR=4.7						

IDC ***27*** *10:36:25.9±1.1, 977N×12673E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.4/5, Error ellipse: s-maj=65.8km s-min=20.1km az=77.0*
ISCJB ***27*** *10:36:29.8±2.4, 986N±010×1268E±02, h41km±24km, mb3.6/6, Error ellipse: s-maj=28.5km s-min=13.7km az=141.3*

ISC 27 10:36:31.0±4.1, 986N±009×12676E±008, h33km±31km, n11, σ0°94/13, mb3.6/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.25**	**266**	*e*P	**Pn**	**10 36 51.4**	**-0.8**
SCPH				*e*S	**Sn**	**10 37 09.0**	**+1.1**
BUTP	**Butuan**	**1.43**	**232**	*e*P	**Pn**	**10 36 54.4**	**-0.3**
MSLP	**Maasin**	**1.89**	**278**	*e*P	**Pn**	**10 37 01.9**	**+0.9**
PLP	**Palo**	**2.18**	**307**	*e*P	**Pn**	**10 37 04.8**	**-0.1**
PLP				*e*S	**Sn**	**10 37 28.5**	**-2.1**
BUKP	**Musuan**	**2.59**	**221**	*e*P	**Pn**	**10 37 14.1**	**+3.5**
MJAR	**Matsushiro Arr**	**28.52**	**20**	P	**P**	**10 42 23.9**	**+0.6**
	0.8nm,0.8s,mb3.5,baz=230,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**30.54**	**166**	P	**P**	**10 42 40.7**	**-0.7**
	0.4nm,0.7s,mb3.3,baz=348,slow=9.5,SNR=2.4						
ASAR	**Alice Springs**	**34.05**	**168**	P	**P**	**10 43 11.1**	**-0.9**
	0.3nm,0.8s,mb3.3,baz=353,slow=7.3,SNR=3.0						
SONM	**Songino Array**	**41.57**	**339**	P	**P**	**10 44 16.1**	**+0.6**
	0.6nm,0.6s,mb3.4,baz=160,slow=9.4,SNR=4.9						
MKAR	**Makanchi Array**	**52.64**	**323**	P	**P**	**10 45 41.8**	**0.0**
	0.2nm,0.6s,mb3.2,baz=101,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**86.47**	**332**	P	**P**	**10 49 11.0**	**+0.6**
	5.0nm,1.0s,mb4.7,baz=60,slow=6.6,SNR=4.0						

ISCJB ***27*** *10:52:03.8±0.3, 3144N±003×11309E±003, h10km, mb4.5/22, MS3.5/5, Error ellipse: s-maj=4.9km s-min=3.9km az=72.9*
IDC ***27*** *10:52:04.4±0.6, 3156N×11320E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/27, mbtmp4.2/17, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=26.3km s-min=12.7km az=56.0*
BJI ***27*** *10:52:04.3, 3146N×11305E, h14km, mB4.6, mb4.3, ML4.4, Ms4.2, Msz3.6*
NEIC ***27*** *10:52:05.7±0.3, 3156N×11321E, h10km, mb4.5/7, Error ellipse: s-maj=10.4km s-min=6.6km az=67.0*
NEIC At least 4,318 houses slightly damaged in the Suizhou area. Felt at Yichang.
MOS ***27*** *10:52:06.6±1.5, 3144N×11304E, h33km, mb4.9/3, Error ellipse: s-maj=13.0km s-min=8.5km az=107.8*

ISC 27 10:52:05.8±0.3, 3147N±003×11309E±003, h10km, n73, σ1°18/83, mb4.5/22, MS3.5/5, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.42**	**130**	∥PG	**Pg**	**10 52 30.8**	**-2.2**
WHN				SG	**Sg**	**10 52 50.3**	**-1.1**
WHN				Smax			
	comp=N,1μm,0.5s						
WHN				Smax			
	comp=E,2μm,0.7s						
XAN	**Xi'an**	**4.35**	**307**	P	**Pn**	**10 53 11.3**	**-0.6**
XAN				PG	**Pg**	**10 53 23.3**	**-5.8**
XAN				SG	**Sg**	**10 54 17.3**	**-8.2**
NJ2	**Nanjing**	**4.94**	**82**	*e*P	**Pn**	**10 53 21.0**	**+0.9**
NJ2				S	**Sn**	**10 54 20.5**	**+3.2**
NJ2				Smax			
	comp=N,1μm,0.8s						
NJ2				Smax			
	comp=E,460nm,0.8s						
TIA	**Tai'an**	**5.80**	**34**	P	**Pn**	**10 53 32.8**	**+0.9**
TIA				SG	**Sg**	**10 55 04.0**	**-8.0**
TIA				Smax			
	comp=N,104nm,1.0s						
TIA				Smax			
	comp=E,137nm,1.0s						
GYA	**Guiyang**	**7.52**	**230**	P	**Pn**	**10 53 58.0**	**+2.5**
GYA				S	**Sn**	**10 55 22.0**	**+1.2**
GYA				LR	LR		
	comp=N,1μm,9.9s						
GYA				LR	LR		
	comp=E,950nm,9.9s						
GYA				LR	LR		
	comp=Z,750nm,8.9s						
CD2	**Chengdu**	**8.02**	**268**	P	**Pn**	**10 54 01.3**	**-1.0**
CD2				AP		10 54 07.0	
CD2				XP		10 54 12.8	
CD2				S	**Sn**	**10 55 30.8**	**-2.2**
CD2				XS		10 55 41.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,80nm,4.9s						
CD2				LR	LR		
	comp=N,2μm,5.7s						
CD2				LR	LR		
	comp=Z,1μm,10.8s						
QZH	**Quanzhou**	**8.11**	**142**	*e*P	**Pn**	**10 54 01.5**	**-2.0**
QZH				S	**Sn**	**10 55 28.3**	**-6.9**
QZH				Smax			
	comp=N,300nm,0.7s						
QZH				Smax			
	comp=E,440nm,0.8s						
BJT	**Baijiatuan**	**8.89**	**15**	P	**Pn**	**10 54 09.8**	**-4.5**
BJI	**Beijing**	**8.91**	**15**	*e*P	**Pn**	**10 54 14.3**	**-0.3**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s						
BJI				LR	LR		
	comp=N,290nm,8.6s						
BJI				LR	LR		
	comp=E,288nm,11.4s						
BJI				LR	LR		
	comp=Z,88nm,16.7s						
BJI	**Beijing**	**8.91**	**15**	*e*P	**Pn**	**10 54 14.3**	**-0.3**
	comp=Z,14nm,0.6s						
BJI				Lg		10 56 42.8	
LZH	**Lanzhou**	**8.97**	**303**	*e*P	**Pn**	**10 54 23.9**	**+8.5**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH	**Lanzhou**	**8.97**	**303**	*e*P	**Pn**	**10 54 23.9**	**+8.5**
	comp=Z,23nm,1.0s						
LZH				pP		10 54 30.9	
LZH				PP		10 54 32.7	
LZH				sP		10 54 35.8	
KMI	**Kunming**	**11.09**	**238**	P	**Pn**	**10 54 42.3**	**-2.1**
KMI				S	**Sn**	**10 56 42.5**	**-6.0**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s						
KMI				LR	LR		
	comp=N,472nm,5.8s						
KMI				LR	LR		
	comp=E,345nm,7.0s						
KMI				LR	LR		
	comp=Z,215nm,7.7s						
KMI	**Kunming**	**11.09**	**238**	P	**Pn**	**10 54 42.2**	**-2.2**
KMI				S	**Sn**	**10 56 42.5**	**-6.0**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
KMI	**Kunming**	**11.09**	**238**	P	**Pn**	**10 54 42.2**	**-2.2**
	comp=Z,12nm,0.7s						
KMI				S	**Sn**	**10 56 42.5**	**-6.0**
QIZ	**Qiongzhong**	**12.73**	**194**	P	**Pn**	**10 55 05.5**	**-1.3**
QIZ				S	**Sn**	**10 57 28.0**	**-0.5**
QIZ				LR	LR		
	comp=E,552nm,13.3s						
QIZ				LR	LR		
	comp=Z,426nm,7.4s						
GTA	**Gaotai**	**13.41**	**310**	*e*P	**Pn**	**10 55 14.5**	**-1.6**
GTA				AP		10 55 19.3	
GTA				XP		10 55 22.0	
GTA				S	**Sn**	**10 57 44.8**	**-0.3**
GTA				XS		10 57 50.0	
GTA				SS		10 58 00.0	
GTA				LG2		10 58 56.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,107nm,4.6s						
GTA				LR	LR		
	comp=N,367nm,12.9s						
GTA				LR	LR		
	comp=E,252nm,12.2s						
GTA				LR	LR		
	comp=Z,281nm,13.7s						
JOW	**Kunigami**	**14.04**	**105**	LR	LR	11 01 16.2	
	comp=Z,131nm,19.4s,baz=277,slow=39						
ULN	**Ulaanbaatar**	**17.02**	**346**	*e*P	**Pn**	**10 56 03.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,17nm,1.4s						
ULN	**Ulaanbaatar**	**17.02**	**346**	*e*P	**Pn**	**10 56 03.7**	**-0.1**
	comp=Z,17nm,1.4s						
SONM	**Songino Array**	**17.13**	**345**	P	**Pn**	**10 56 02.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=10,SNR=11						
VLA	**Vladivostok**	**18.90**	**47**	*e*P	**Pn**	**10 56 29.4**	**+2.4**
VLA				pmax	pmax		
	comp=Z,40nm,1.3s						
VLA				MLR	MLR		
	comp=Z,200nm,14.8s						
LSA	**Lhasa**	**18.97**	**270**	P	**Pn**	**10 56 28.3**	**+0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**18.97**	**270**	P	**Pn**	**10 56 28.3**	**+0.4**
	comp=Z,7.4nm,0.6s						
SHL	**Shillong**	**19.53**	**258**	*e*P	**Pn**	**10 56 34.0**	**-0.6**
SHL				*e*S	**Sn**	**11 00 13.0**	**-0.8**
MJAR	**Matsushiro Arr**	**21.40**	**70**	P	**P**	**10 56 54.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=88,slow=35,SNR=3.6						
MJAR				LR	LR	11 05 19.9	
	comp=Z,130nm,19.1s,MS3.3,baz=270,slow=37						
JHJ	**Hachijo jima 2**	**22.61**	**79**	LR	LR	11 06 41.2	
	comp=Z,95nm,18.6s,MS3.3,baz=19,slow=39						
WMQ	**Urumqi**	**23.49**	**309**	*e*P	**P**	**10 57 14.0**	**-1.8**
WMQ				AP		10 57 23.0	
WMQ				XP	sP	10 57 27.0	+7.0
WMQ				PP		10 57 45.0	
WMQ				*e*S	**S**	**11 01 22.0**	**-7.1**
WMQ				XS	sS	11 01 37.0	+2.9
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,108nm,5.4s						
WMQ				LR	LR		
	comp=N,608nm,12.2s,MS4.5						
WMQ				LR	LR		
	comp=E,711nm,10.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,388nm,14.6s,MS4.0						
JIRN	**Jiri**	**23.68**	**268**	*e*P	**P**	**10 57 18.2**	**+0.5**
	comp=Z,14nm,0.6s,mb4.6						
GUN	**Gumba**	**23.88**	**268**	*e*P	**P**	**10 57 20.4**	**+0.9**
PKI	**Pulchoki**	**24.37**	**268**	*e*P	**P**	**10 57 24.3**	**+0.3**
KKN	**Kakani**	**24.43**	**269**	*e*P	**P**	**10 57 26.0**	**+1.5**
DMN	**Daman**	**24.62**	**268**	*e*P	**P**	**10 57 27.3**	**+1.1**
GKN	**Gorkha**	**24.92**	**269**	*e*P	**P**	**10 57 30.4**	**+1.4**
KOLN	**Koldanda**	**25.87**	**269**	*e*P	**P**	**10 57 38.6**	**+1.1**
	comp=Z,12nm,0.7s,mb4.5						
ASAJ	**Asahikawa**	**26.36**	**53**	LR	LR	11 08 15.7	
	comp=Z,50nm,18.1s,MS3.1,baz=137,slow=37						
MK31	**Makanchi Array**	**28.15**	**312**	*e*P	**P**	**10 57 58.6**	**+0.5**
MKAR	**Makanchi Array**	**28.15**	**312**	P	**P**	**10 57 58.8**	**+0.6**
	comp=Z,1.6nm,0.5s,mb3.9,baz=105,slow=11,SNR=22						
ZAL	**Zalesovo**	**30.25**	**326**	P	**P**	**10 58 17.4**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.4,baz=358,slow=8.5,SNR=23						
GUMO	**Guam**	**34.15**	**114**	LR	LR	11 11 14.4	
	comp=Z,59nm,18.1s,MS3.4,baz=241,slow=34						
BVAR	**Borovoye Array**	**37.51**	**318**	P	**P**	**10 59 19.5**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=111,slow=7.1,SNR=8.4						
BRVK	**Borovoye**	**37.58**	**318**	*e*P	**P**	**10 59 20.5**	**+0.2**
CHKZ	**Chkalovo**	**37.58**	**319**	*e*P	**P**	**10 59 19.4**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**37.58**	**319**	*e*P	**P**	**10 59 19.4**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**38.28**	**317**	*e*P	**P**	**10 59 26.3**	**0.0**
AKTK	**Aktyubinsk**	**44.59**	**312**	P	**P**	**11 00 20.0**	**+2.0**
AKTO	**Aktyubinsk**	**44.59**	**312**	P	**P**	**11 00 20.0**	**+2.0**
	comp=Z,0.9nm,0.6s,mb3.8,baz=104,slow=18,SNR=3.9						
WSAR	**Wadi Sarin**	**48.65**	**274**	P	**P**	**11 00 51.6**	**+1.7**
	comp=Z,2.0nm,0.5s,mb4.4,baz=132,slow=7.6,SNR=6.9						
FITZ	**Fitzroy Crossi**	**50.73**	**165**	*e*P	**P**	**11 01 06.1**	**+0.3**
	comp=Z,5.7nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.73**	**165**	P	**P**	**11 01 06.0**	**+0.3**
	comp=Z,3.2nm,0.5s,mb4.5,baz=339,slow=7.1,SNR=19						
MBWA	**Marble Bar**	**52.71**	**172**	P	**P**	**11 01 21.0**	**+0.5**
WRAB	**Tennant Creek**	**55.03**	**155**	*e*P	**P**	**11 01 38.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**55.03**	**155**	*e*P	**P**	**11 01 38.1**	**+0.6**
	comp=Z,11nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**55.03**	**155**	P	**P**	**11 01 38.3**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.6,baz=348,slow=8.0,SNR=32						
WB2	**Warramunga Arr**	**55.03**	**155**	*e*P	**P**	**11 01 38.1**	**+0.6**
AS31	**Alice Springs**	**58.33**	**157**	*e*P	**P**	**11 02 01.9**	**+1.0**
ASPA	**Alice Springs**	**58.33**	**157**	*e*P	**P**	**11 02 01.9**	**+1.0**
ASAR	**Alice Springs**	**58.33**	**157**	P	**P**	**11 02 01.8**	**+0.9**
	comp=Z,11nm,0.6s,mb5.1,baz=344,slow=7.2,SNR=181						
ARCES	**ARCESS Array B**	**60.07**	**336**	P	**P**	**11 02 12.6**	**-0.5**
	comp=Z,5.3nm,1.1s,mb4.5,baz=60,slow=8.5,SNR=3.9						
CTAO	**Charters Tower**	**60.33**	**144**	P	**P**	**11 02 13.2**	**-1.6**
FINES	**FINESS Array B**	**61.52**	**327**	P	**P**	**11 02 22.3**	**-0.6**
	comp=Z,5.3nm,1.1s,mb4.6,baz=53,slow=7.4,SNR=3.7						
FINES	**FINESS Array B**	**61.52**	**327**	P	**P**	**11 02 22.3**	**-0.6**
IMA2	**Indian Mountai**	**62.96**	**27**	*e*P	**P**	**11 02 32.3**	**-0.2**
BRTR	**Keskin Array B**	**63.17**	**302**	P	**P**	**11 02 34.8**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.1,baz=103,slow=5.3,SNR=4.6						
COLA	**College**	**65.65**	**28**	*e*P	**P**	**11 02 48.8**	**-1.4**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
COLA	**College**	**65.65**	**28**	*e*P	**P**	**11 02 48.8**	**-1.4**
	comp=Z,5.1nm,0.8s,mb4.6						
KDAK	**Kodiak Island**	**66.17**	**36**	P	**P**	**11 02 53.0**	**-0.5**
	comp=Z,8.5nm,0.9s,mb4.8,baz=289,slow=12,SNR=4.3						
HFS	**Hagfors**	**67.67**	**328**	P	**P**	**11 03 02.1**	**-1.0**
	comp=Z,3.8nm,1.0s,mb4.4,baz=86,slow=7.9,SNR=5.4						
NOA	**NORSAR Array B**	**68.40**	**329**	P	**P**	**11 03 05.8**	**-1.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=63,slow=6.0,SNR=3.2						
STKA	**Stephens Creek**	**68.54**	**154**	*e*P	**P**	**11 03 08.6**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**68.54**	**154**	P	**P**	**11 03 08.9**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.4,baz=352,slow=8.8,SNR=7.0						
INK	**Inuvik**	**69.14**	**21**	*e*P	**P**	**11 03 10.9**	**-1.3**
	comp=Z,142nm,0.8s,mb6.0						
QSPA	**South Pole Qui**	**121.23**	**180**	*e*PKPdf	PKPdf	11 10 56.5	-2.4

ISCJB ***27*** *11:00:38.5±0.6, 2435S±004×7021W±0.1, h56km±14km, Error ellipse: s-maj=22.1km s-min=6.5km az=11.5*
GUC ***27*** *11:00:38.5±1.1, 2434S×7027W, h54km±46km, ML4.2*
IDC ***27*** *11:00:39.8±0.9, 2437S×7019W, h53km±6km, mb4.5/1, mb1 4.0/5, mb1mx3.6/18, mbtmp4.1/5, MS2.8/1, Ms1 2.9/1, ms1mx2.3/22, Error ellipse: s-maj=34.2km s-min=21.9km az=121.0*
NEIC ***27*** *11:00:40.1±0.8, 2439S×7027W, h61km±8km, mb4.0/1, Error ellipse: s-maj=16.5km s-min=8.3km az=90.0*

ISC 27 11:00:40.1±0.7, 2435S±004×702W±01, h54km±11km, n17, σ1°03/17, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.33**	**215**	↓↓*i*P	**Pn**	**11 00 49.3**	**-0.5**
CPN1				*i* S	**Sn**	**11 00 56.5**	**-0.4**
CPN1				AML	AML	11 00 57.2	
	comp=N,30μm,0.3s						
ANCH	**Antofagasta**	**0.70**	**344**	↓*i*P	**Pn**	**11 00 54.3**	**+0.4**
ANCH				*i* S	**Sn**	**11 01 04.0**	**-0.1**
CEN1	**Los Morros**	**0.96**	**360**	↑*i*P	**Pn**	**11 00 53.5**	**-3.8**
CEN1				*i* S	**Sn**	**11 01 04.5**	**-5.5**
CEN1				AML	AML	11 01 05.9	
	comp=E,16μm,0.3s						
CPCH	**Copiapo**	**3.00**	**183**	*e*P	**Pn**	**11 01 24.8**	**-0.3**
CPCH				*i* S	**Sn**	**11 02 00.1**	**+0.4**
CFAA	**Coronel Fontan**	**7.43**	**167**	P	**Pn**	**11 02 26.7**	**+0.9**
	comp=E,0.2nm,0.3s,baz=359,slow=15,SNR=15						
CFAA				S	**Sn**	**11 03 55.1**	**+6.5**
	comp=E,0.5nm,0.3s,baz=110,slow=20,SNR=4.0						
LPAZ	**La Paz**	**8.26**	**14**	P	**Pn**	**11 02 38.4**	**+1.2**
	comp=E,0.4nm,0.3s,baz=209,slow=6.6,SNR=8.8						
LPAZ				LR	LR	11 06 19.0	
	comp=E,69nm,21.0s,baz=38,slow=41						
CPUP	**Villa Florida**	**11.80**	**102**	P	**Pn**	**11 03 27.3**	**+1.6**
	comp=E,0.6nm,0.3s,baz=249,slow=10,SNR=4.3						
CPUP	**Villa Florida**	**11.80**	**102**	P	**Pn**	**11 03 27.3**	**+1.6**
SIV	**San Ignacio**	**11.94**	**48**	P	**Pn**	**11 03 28.1**	**+0.7**
	comp=E,4.0nm,0.3s,baz=243,slow=10,SNR=84						
SIV				S	**Sn**	**11 05 37.4**	**-1.6**
	comp=E,0.3nm,0.3s,baz=168,slow=17,SNR=3.7						
TRQA	**Tornquist**	**15.35**	**155**	*e*P	**Pn**	**11 04 11.2**	**-2.0**
	comp=E,11nm,1.0s						
TORD	**Torodi Ar. Bea**	**79.43**	**70**	P	**P**	**11 12 40.2**	**-0.3**
	comp=E,4.6nm,0.5s,baz=259,slow=5.1,SNR=67						
TORD				pP	pP	11 12 55.1	-0.7
	comp=E,1.2nm,0.7s,baz=264,slow=5.5,SNR=5.0						
ASAR	**Alice Springs**	**126.85**	**208**	PKP	PKPdf	11 19 37.2	-0.4
	comp=E,0.2nm,0.7s,baz=134,slow=2.0,SNR=5.4						
ASAR				pPKP	pPKPdf	11 19 53.5	-0.3
	comp=E,0.7nm,0.7s,baz=138,slow=2.0,SNR=6.2						
WRA	**Warramunga Arr**	**129.91**	**211**	PKP	PKPdf	11 19 43.3	-0.2
	comp=E,0.4nm,0.8s,baz=156,slow=1.7,SNR=4.1						
WRA				pPKP	pPKPdf	11 19 59.4	-0.3
	comp=E,0.7nm,0.8s,baz=152,slow=1.9,SNR=4.3						
ZAL	**Zalesovo**	**145.03**	**26**	PKPbc	PKPbc	11 20 10.9	+0.2
	comp=E,2.2nm,0.6s,baz=160,slow=2.9,SNR=11						
ZAL				pPKPbc		11 20 25.9	
	comp=E,1.4nm,0.4s,baz=296,slow=22,SNR=3.3						
ZAL	**Zalesovo**	**145.03**	**26**	PKPbc	PKPbc	11 20 10.9	+0.2
ZAL				pPKPbc		11 20 25.9	
MKAR	**Makanchi Array**	**148.62**	**38**	PKPbc	PKPbc	11 20 20.6	-0.4
	comp=E,1.0nm,0.6s,baz=311,slow=2.6,SNR=12						
MKAR				pPKPbc	pPKPbc	11 20 36.2	-0.8
	comp=E,0.9nm,0.7s,baz=330,slow=2.0,SNR=5.8						
MKAR	**Makanchi Array**	**148.62**	**38**	PKPbc	PKPbc	11 20 20.6	-0.4
MKAR				pPKPbc	pPKPbc	11 20 36.2	-0.8

CSEM ***27*** *11:00:50.6, 3704N×5599E, h25km, ML3.5, After TEH*

TEH 27 11:01:20.2, 3704N×5599E, h25km, Mn3.5, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	**Esferayen**	**1.61**	**89**	*e*Pn	Pn	11 01 45.3	-1.7
ISFR	**Esferayen**	**1.61**	**89**	*e*Pn	Pn	11 01 45.4	-1.6
ISFR	**Esferayen**	**1.61**	**89**	*e*Pn	Pn	11 01 46.8	-0.2
ISFR				*e*Sn	Sn	11 02 07.3	+0.4
ISFR				*e*Sn	Sn	11 02 07.6	+0.7
IKIA	**Kiasar**	**2.04**	**246**	*e*Pn	Pn	11 01 51.7	-1.2
IKIA	**Kiasar**	**2.04**	**246**	*e*Pn	Pn	11 01 52.2	-0.7
IKIA	**Kias

*LDG **27** 11:25:08.8±0.4,3544N×153E,h10km,Ml3.0/4,Error ellipse: s-maj=8.8km s-min=4.3km az=149.0*
*ISCJB **27** 11:25:08.2±0.5,3571N±003×135E±004,h10km,Error ellipse: s-maj=5.1km s-min=4.1km az=137.2*
*MDD **27** 11:25:10.0±0.6,3561N×144E,h8km±5km,mb3.8/13,Error ellipse: s-maj=7.3km s-min=5.1km az=113.0,PRXIMO*

ISC 27 11:25:09.7±0.5,3568N±003×137E±004,h10km,n60, σ1°33/89,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRT	**Tiaret**	**0.29**	**192**	P	**Pg**	**11 25 14.6**	**-1.0**
EANR	**'Ain N'Sour**	**0.35**	**321**	P	**Pg**	**11 25 18.0**	**+1.4**
ECHA	**Ech Chlef**	**0.47**	**359**	P	**Pg**	**11 25 20.3**	**+1.4**
ECHF	**Ech Chlef**	**0.48**	**357**	P	**Pg**	**11 25 20.3**	**+1.3**
OJGS	**Djebel Guires**	**0.54**	**251**	P	**Pg**	**11 25 17.0**	**-3.2**
EBNR	**Beni Rached**	**0.62**	**12**	P	**Pg**	**11 25 23.7**	**+1.9**
OKGL	**Djebel Kef Gue**	**0.69**	**301**	P	**Pg**	**11 25 18.0**	**-5.1**
OJBR	**Djebel Berber**	**0.84**	**264**	P	**Pg**	**11 25 27.0**	**+1.0**
ODJA	**Bouhanifia**	**1.29**	**255**	P	**Pn**	**11 25 35.0**	**+1.2**
EMHD	**Djebel Mahouad**	**1.38**	**67**	P	**Pn**	**11 25 34.0**	**-1.1**
USTO	**Oran**	**1.56**	**273**	P	**Pg**	**11 25 47.0**	**+7.2**
ABA	**Alger-Bouzarea**	**1.75**	**50**	P	**Pn**	**11 25 40.0**	**-0.1**
CART	**Cartagena**	**2.70**	**316**	*e*P	**Pn**	**11 25 49.9**	**-3.2**
CART	**Cartagena**	**2.70**	**316**	*e*P	**Pn**	**11 25 49.9**	**-3.2**
ENIJ	**Nijar**	**3.17**	**295**	Pn	**Pn**	**11 25 59.3**	**-0.3**
	2.1nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**11 26 34.5**	**-2.8**
	6.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.28**	**338**	Pn	**Pn**	**11 26 01.7**	**+0.6**
	1.0nm,0.1s,SNR=7.1						
EBEN				Sn	**Sn**	**11 26 40.0**	**-0.2**
	4.9nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.28**	**338**	Pn	**Pn**	**11 26 01.7**	**+0.6**
	1.0nm,0.1s,SNR=7.1						
EBEN				Sn	**Sn**	**11 26 40.0**	**-0.2**
	4.9nm,0.3s,SNR=7.9						
SET	**Setif**	**3.31**	**80**	P	**Pg**	**11 26 13.0**	**-0.1**
EIBI	**Ibiza**	**3.34**	**360**	Pn	**Pn**	**11 26 02.3**	**+0.3**
	0.6nm,0.1s,SNR=17						
EIBI				Sn	**Sn**	**11 26 38.5**	**-3.3**
	12nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.34**	**360**	Pn	**Pn**	**11 26 02.3**	**+0.3**
	0.6nm,0.1s,SNR=17						
EIBI				Sn	**Sn**	**11 26 38.5**	**-3.2**
	12nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.65**	**291**	Pn	**Pn**	**11 26 06.2**	**-0.1**
	0.4nm,0.1s,SNR=15						
EBER				Sn	**Sn**	**11 26 48.1**	**-1.3**
	3.5nm,0.2s,SNR=5.6						
ETOB	**Tobarra**	**3.77**	**323**	Pn	**Pn**	**11 26 09.0**	**+1.2**
	1.0nm,0.1s,SNR=56						
ETOB				Sn	**Sn**	**11 26 54.2**	**+1.9**
	21nm,0.5s,SNR=6.3						
ETOB	**Tobarra**	**3.77**	**323**	Pn	**Pn**	**11 26 09.0**	**+1.1**
	1.0nm,0.1s,SNR=56						
ETOB				Sn	**Sn**	**11 26 54.2**	**+1.9**
	21nm,0.5s,SNR=6.3						
EQES	**Quesada**	**4.15**	**302**	Pn	**Pn**	**11 26 14.8**	**+1.6**
	1.7nm,0.1s,SNR=33						
EQES				Sn	**Sn**	**11 27 04.4**	**+2.7**
	8.9nm,0.2s,SNR=6.5						
EQES	**Quesada**	**4.15**	**302**	Pn	**Pn**	**11 26 14.8**	**+1.7**
	1.7nm,0.1s,SNR=33						
EGUA	**Guajares**	**4.15**	**288**	Pn	**Pn**	**11 26 11.3**	**-1.8**
	0.1nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**11 27 00.5**	**-1.3**
	7.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**4.17**	**293**	Pn	**Pn**	**11 26 14.0**	**+0.7**
	1.5nm,0.2s,SNR=33						
EQUE				Sn	**Sn**	**11 27 02.0**	**-0.1**
	1.6nm,0.2s,SNR=34						
EQUE	**Quentar**	**4.17**	**293**	Pn	**Pn**	**11 26 14.0**	**+0.6**
	1.5nm,0.2s,SNR=33						
EQUE				Sn	**Sn**	**11 27 02.0**	**-0.1**
	1.6nm,0.2s,SNR=34						
ETOS	**Mallorca**	**4.24**	**15**	Pn	**Pn**	**11 26 14.4**	**+0.1**
	2.9nm,0.4s,SNR=7.1						
ETOS				Sn	**Sn**	**11 27 01.3**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.24**	**15**	Pn	**Pn**	**11 26 14.4**	**+0.1**
	2.9nm,0.4s,SNR=7.1						
ETOS				Sn	**Sn**	**11 27 01.3**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.28**	**315**	Pn	**Pn**	**11 26 15.9**	**+1.0**
	0.5nm,0.1s,SNR=6.4						
EVIA				Sn	**Sn**	**11 27 07.0**	**+2.2**
	7.9nm,0.2s,SNR=6.7						
ERON	**Agron**	**4.39**	**289**	Pn	**Pn**	**11 26 17.4**	**+1.0**
	8.1nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**4.82**	**302**	Pn	**Pn**	**11 26 23.8**	**+1.5**
	1.3nm,0.2s,SNR=8.7						
EBAN				Sn	**Sn**	**11 27 19.1**	**+0.9**
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**343**	Pn	**Pn**	**11 26 24.9**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**11 27 18.3**	**-1.8**
	2.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**343**	Pn	**Pn**	**11 26 24.9**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**11 27 18.3**	**-1.8**
	2.4nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**5.05**	**282**	Pn	**Pn**	**11 26 24.1**	**-1.4**
	0.4nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**11 27 20.1**	**-3.8**
	18nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.33**	**352**	Pn	**Pn**	**11 26 30.0**	**+0.6**
	0.0nm,0.1s,SNR=5.6						
ERTA	**Horta de San J**	**5.33**	**352**	Pn	**Pn**	**11 26 30.0**	**+0.6**
	SNR=5.6						
EADA	**Adamuz**	**5.37**	**299**	Pn	**Pn**	**11 26 30.1**	**+0.2**
	0.5nm,0.1s,SNR=5.7						
EADA	**Adamuz**	**5.37**	**299**	Pn	**Pn**	**11 26 30.1**	**+0.2**
EPOB	**Poblet**	**5.67**	**358**	Pn	**Pn**	**11 26 33.5**	**-0.5**
	0.7nm,0.3s,SNR=7.9						
EPOB				Sn	**Sn**	**11 27 34.5**	**-4.6**
	4.0nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**5.67**	**358**	Pn	**Pn**	**11 26 33.5**	**-0.5**
ESLA	**Sonseca Array**	**5.81**	**315**	*e*P	**Pn**	**11 26 37.2**	**+1.2**
ESLA				*e*S	**Sb**	**11 27 55.6**	**-5.3**
ESLA	**Sonseca Array**	**5.81**	**315**	*e*P	**Pn**	**11 26 37.2**	**+1.2**
ZFT	**Errachidia**	**5.99**	**234**	P	**Pn**	**11 26 38.0**	**-0.4**
EMIR	**Miracle**	**6.23**	**1**	Pn	**Pn**	**11 26 42.4**	**+0.8**
	1.9nm,0.1s,SNR=7.9						
EMIR				Sn	**Sn**	**11 27 46.0**	**-6.9**
	2.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**6.23**	**1**	Pn	**Pn**	**11 26 42.4**	**+0.7**
GUD	**Guadarrama**	**6.60**	**320**	Pn	**Pn**	**11 26 46.6**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.79**	**290**	Pn	**Pn**	**11 26 48.0**	**-1.4**
	0.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**6.79**	**290**	Pn	**Pn**	**11 26 48.0**	**-1.4**
EGRO	**El Granado**	**7.36**	**287**	Pn	**Pn**	**11 26 57.1**	**-0.1**
	1.0nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**7.36**	**287**	Pn	**Pn**	**11 26 57.1**	**-0.1**
ETSF	**Etsaut**	**7.36**	**349**	*e*Pn	**Pn**	**11 26 57.4**	**+0.1**
ETSF				*e*Sn	**Sn**	**11 28 18.8**	**-2.1**
	0.9nm,0.3s						
ETSF	**Etsaut**	**7.36**	**349**	*e*Pn	**Pn**	**11 26 57.4**	**+0.1**
ETSF				*e*Sn	**Sn**	**11 28 18.8**	**-2.1**
	0.4nm,0.3s						
EPF	**Esparros**	**7.38**	**354**	*e*Pn	**Pn**	**11 26 57.9**	**+0.3**
EPF				*e*Sn	**Sn**	**11 28 18.9**	**-2.5**
	1.7nm,0.3s						
EPF	**Esparros**	**7.38**	**354**	Pn	**Pn**	**11 26 57.9**	**+0.3**
EPF				Sn	**Sn**	**11 28 18.9**	**-2.5**
	0.9nm,0.3s						
SJPF	**Ste Jean**	**7.69**	**346**	*e*Pn	**Pn**	**11 27 02.1**	**+0.3**
SJPF				*e*Sn	**Sn**	**11 28 26.6**	**-2.3**
	0.7nm,0.2s						
SJPF	**Ste Jean**	**7.69**	**346**	*e*Pn	**Pn**	**11 27 02.1**	**+0.3**
SJPF				*e*Sn	**Sn**	**11 28 26.6**	**-2.3**
	0.3nm,0.2s						
EVO	**Evora**	**8.02**	**294**	*e*Pn	**Pn**	**11 27 06.7**	**+0.4**
EVO				*e*Sn	**Sn**	**11 28 34.5**	**-2.5**
	3.8nm,0.6s						
CAF	**Calviac**	**9.25**	**3**	*e*Pn	**Pn**	**11 27 23.0**	**-0.2**

*ISCJB **27** 11:30:41.0±0.5,3898N±002×2333E±003,h10km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=14.1*
*ATH **27** 11:30:41.3,3898N×2330E,h26km,MD3.4/12,ML3.2*
*CSEM **27** 11:30:42.7±0.5,3905N×2331E,h15km,ML3.3,Error ellipse: s-maj=10.1km s-min=6.6km az=174.0*
*THE **27** 11:30:42.1,3900N×2334E,h5km,ML3.3*

ISC 27 11:30:41.6±0.5,3897N±002×2336E±003,h13km±3km,n30, σ0°85/44,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**343**	*e*PB	**Pg**	**11 30 49.0**	**+0.4**
XOR	**Xorichti**	**0.41**	**342**	*e*Pg	**Pg**	**11 30 50.1**	**+0.3**
XOR				*e*Sg	**Sg**	**11 30 55.3**	**0.0**
LKR	**Lokris**	**0.42**	**221**	*e*PB	**Pg**	**11 30 50.1**	**+0.1**
LKR				*e*SB	**Sg**	**11 30 56.4**	**+0.7**
AOS	**Alonnisos**	**0.45**	**64**	*e*Pg	**Pg**	**11 30 50.6**	**+0.1**
AOS				*e*Sg	**Sg**	**11 30 57.1**	**+0.5**
AGG	**Agios Georgios**	**0.80**	**274**	*e*Pg	**Pg**	**11 30 56.6**	**-0.5**
AGG				*e*Sg	**Sg**	**11 31 08.5**	**+0.9**
MGER	**Gerania Oros**	**0.99**	**184**	*e*PN	**Pn**	**11 31 00.2**	**-0.9**
PAIG	**Paliouri**	**0.99**	**15**	*e*Pg	**Pg**	**11 31 00.4**	**-0.2**
PAIG				*e*Sg	**Sg**	**11 31 14.3**	**+0.8**
PTL	**Penteli**	**1.00**	**156**	*e*PN	**Pn**	**11 31 00.9**	**-0.5**
ATH	**Athens Observa**	**1.04**	**164**	*e*PN	**Pn**	**11 31 01.2**	**-0.6**
KVR	**Kavouri**	**1.19**	**164**	*e*PN	**Pn**	**11 31 04.2**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**300**	*e*PN	**Pn**	**11 31 03.7**	**-0.4**
THL				*e*SN	**Sn**	**11 31 19.4**	**-0.8**
EVR	**Evrytania**	**1.21**	**268**	*e*PN	**Pn**	**11 31 03.5**	**-0.7**
NAIG	**Nisos Aigina**	**1.22**	**175**	*e*PN	**Pn**	**11 31 04.5**	**+0.2**
LIT	**Litokhoron**	**1.31**	**330**	*e*Pg	**Pg**	**11 31 05.3**	**-1.5**
LIT				*e*Sg	**Sg**	**11 31 25.0**	**+1.2**
PLG	**Polygyros**	**1.40**	**3**	*e*Pg	**Pg**	**11 31 06.5**	**-2.0**
OUR	**Ouranopolis**	**1.44**	**19**	*e*Pg	**Pg**	**11 31 07.4**	**-1.9**
HORT	**Hortiatis**	**1.64**	**353**	*e*Pg	**Pn**	**11 31 10.5**	**+0.4**
HORT				*e*Sg	**Sn**	**11 31 31.4**	**+0.4**
LOS	**Limnos**	**1.65**	**54**	*e*Pb	**Pb**	**11 31 11.5**	**-0.3**
LOS				*e*Sb	**Sb**	**11 31 33.9**	**+1.4**
LOS	**Limnos**	**1.65**	**54**	*e*Pb	**Pb**	**11 31 11.5**	**-0.3**
LOS				*e*Sb	**Sb**	**11 31 33.8**	**+1.4**
SOH	**Sokhos**	**1.85**	**360**	*e*Pb	**Pb**	**11 31 13.4**	**-1.8**
SOH	**Sokhos**	**1.85**	**360**	*e*Pb	**Pb**	**11 31 13.4**	**-1.8**
GRG	**Griva**	**2.11**	**340**	*e*Pn	**Pn**	**11 31 16.3**	**-0.3**
ITM	**Ithomi**	**2.12**	**213**	*e*PB	**Pn**	**11 31 17.4**	**+0.7**
KNT	**Kendrikon**	**2.22**	**351**	*e*Pn	**Pn**	**11 31 18.9**	**+0.8**
VLI	**Veliai**	**2.27**	**189**	*e*PN	**Pn**	**11 31 19.2**	**+0.3**
FNA	**Florina**	**2.37**	**321**	*e*Pn	**Pn**	**11 31 21.2**	**+1.1**
VAY	**Valandovo**	**2.42**	**346**	*e*Pn	**Pn**	**11 31 20.8**	**-0.1**
VAY				*e*Sn	**Sn**	**11 31 50.5**	**+0.1**
VAY	**Valandovo**	**2.42**	**346**	*e*Pn	**Pn**	**11 31 20.8**	**-0.1**
VAY				*e*Sn	**Sn**	**11 31 50.5**	**+0.1**
KRUS	**Krusevo**	**2.89**	**327**	*e*Pn	**Pn**	**11 31 28.9**	**+1.6**
KRUS				*e*Sn	**Sn**	**11 32 01.6**	**-0.3**
KRUS	**Krusevo**	**2.89**	**327**	*e*Pn	**Pn**	**11 31 28.9**	**+1.6**
KRUS				*e*Sn	**Sn**	**11 32 01.5**	**-0.4**

*ISCJB **27** 11:36:52.4±0.5,3897N±002×2334E±004,h4km±6km, Error ellipse: s-maj=4.7km s-min=3.7km az=167.8*
*CSEM **27** 11:36:53.3,3897N×2333E,h7km,ML2.9,After THE*
*ATH **27** 11:36:53.6,3897N×2332E,h9km±1km,MD3.1/13,ML3.2*
*THE **27** 11:36:53.3,3897N×2333E,h7km,ML2.9*

ISC 27 11:36:53.1±0.4,3898N±002×2335E±004,h11km±5km,n25, σ0°92/33,**2C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**343**	⇑*i*PB	**Pg**	**11 37 00.4**	**+0.4**
NEO				*e*SB	**Sg**	**11 37 05.2**	**+0.6**
XOR	**Xorichti**	**0.41**	**342**	*e*Pg	**Pg**	**11 37 01.5**	**+0.3**
XOR				*e*Sg	**Sg**	**11 37 06.8**	**+0.2**
LKR	**Lokris**	**0.43**	**221**	⇑*i*PB	**Pg**	**11 37 01.5**	**0.0**
LKR				*e*SB	**Sg**	**11 37 07.6**	**+0.5**
AOS	**Alonnisos**	**0.45**	**64**	*e*Pg	**Pg**	**11 37 02.1**	**+0.2**
AOS				*e*Sg	**Sg**	**11 37 08.9**	**+0.9**
AGG	**Agios Georgios**	**0.80**	**274**	*e*Pg	**Pg**	**11 37 08.3**	**-0.2**
AGG				*e*Sg	**Sg**	**11 37 18.9**	**0.0**
PAIG	**Paliouri**	**0.98**	**15**	*e*Pg	**Pg**	**11 37 12.0**	**0.0**
PAIG				*e*Sg	**Sg**	**11 37 26.7**	**+1.9**
MGER	**Gerania Oros**	**0.99**	**184**	*e*PG	**Pg**	**11 37 12.0**	**-0.1**
PTL	**Penteli**	**1.01**	**156**	*e*PB	**Pb**	**11 37 12.3**	**-0.2**
ATH	**Athens Observa**	**1.04**	**164**	*e*PG	**Pg**	**11 37 13.1**	**0.0**
KVR	**Kavouri**	**1.19**	**164**	*e*PG	**Pg**	**11 37 16.0**	**0.0**
THL	**Klokotos Trika**	**1.20**	**300**	*e*PB	**Pb**	**11 37 15.9**	**+0.2**
THL				*e*SB	**Sb**	**11 37 31.5**	**+0.4**
EVR	**Evrytania**	**1.21**	**268**	*e*PB	**Pb**	**11 37 16.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.22**	**175**	*e*PB	**Pb**	**11 37 16.5**	**+0.4**
LIT	**Litokhoron**	**1.31**	**330**	*e*Pg	**Pg**	**11 37 17.2**	**-1.0**
LIT				*e*Sg	**Sg**	**11 37 35.0**	**-0.2**
PLG	**Polygyros**	**1.40**	**3**	*e*Pg	**Pg**	**11 37 18.1**	**-1.8**
PLG	**Polygyros**	**1.40**	**3**	*e*PN	**Pn**	**11 37 18.3**	**-0.2**
PLG	**Polygyros**	**1.40**	**3**	*e*Pg	**Pg**	**11 37 18.1**	**-1.8**
OUR	**Ouranopolis**	**1.44**	**19**	*e*Pg	**Pg**	**11 37 18.9**	**-1.9**
HORT	**Hortiatis**	**1.63**	**353**	*e*Pb	**Pb**	**11 37 21.8**	**-1.4**
LOS	**Limnos**	**1.65**	**54**	*e*Pb	**Pb**	**11 37 22.4**	**-1.0**
LIA	**Limnos Island**	**1.69**	**56**	*e*PN	**Pn**	**11 37 25.8**	**+3.3**
GRG	**Griva**	**2.11**	**340**	*e*Pn	**Pn**	**11 37 28.9**	**+0.7**
ITM	**Ithomi**	**2.12**	**213**	*e*PN	**Pn**	**11 37 31.0**	**+2.6**
VLI	**Veliai**	**2.28**	**188**	*e*PB	**Pb**	**11 37 32.3**	**-1.9**
APE	**Apeiranthos**	**2.56**	**137**	*e*Pn	**Pn**	**11 37 34.7**	**+0.2**

*ISCJB **27** 11:40:16.9±1.5,428N±0.1×759E±0.1,h10km,Error ellipse: s-maj=20.6km s-min=7.6km az=90.2*
*KNET **27** 11:40:16.5±0.4,4282N×7586E,h19km±2km,ml1.2,Error ellipse: s-maj=6.2km s-min=1.3km az=33.0*

ISC 27 11:40:17.2±1.4,4275N±010×758E±01,h10km,n8, σ0°69/11,**9C-3D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.25**	**314**	⇑P	**Pg**	**11 40 22.4**	**+0.1**
	48nm,0.2s,SNR=103						
TKM2				⇓S	**Sg**	**11 40 26.4**	**+0.7**
	94nm,0.2s						
TKM2	**Tokmak 2**	**0.25**	**314**	⇑P	**Pg**	**11 40 22.3**	**0.0**
	0.2nm,0.2s						
TKM2				⇑S	**Sg**	**11 40 26.7**	**+1.0**
	1.1nm,0.2s						
ULHL	**Ulahol**	**0.58**	**149**	⇑P	**Pg**	**11 40 29.0**	**+0.5**
	5.4nm,0.1s,SNR=39						
KBK	**Karagaybulak**	**0.66**	**262**	⇑P	**Pg**	**11 40 30.3**	**+0.3**
	15nm,0.1s,SNR=13						
CHMS	**Chumysh**	**0.84**	**288**	⇓P	**Pg**	**11 40 32.7**	**-0.6**
	2.9nm,0.1s						
CHMS				⇑S	**Sg**	**11 40 44.7**	**+0.4**
	6.3nm,0.2s						
AAK	**Ala-Archa**	**1.00**	**264**	⇑P	**Pg**	**11 40 36.1**	**-0.3**
	5.1nm,0.2s,SNR=10.0						
USP	**Ospenovka**	**1.11**	**298**	⇓P	**Pb**	**11 40 36.9**	**-1.6**
	4.3nm,0.2s,SNR=12						
KK31	**Karatay Array**	**3.93**	**277**	⇑Pg	**Pb**	**11 41 26.8**	**+0.3**
	0.2nm,0.2s,baz=98,slow=16,SNR=23						
KK31				⇑Lg		11 42 19.4	
	0.7nm,0.5s,baz=91,slow=28,SNR=3.6						

*SZGRF **27** 11:50:28.4,2150S×17450W,h33km,Tonga Islands*
*ISCJB **27** 11:51:27.5±1.0,2009S±009×17779W±009,h520km±14km, mb4.3/13,Error ellipse: s-maj=15.7km s-min=10.7km az=86.9*
*IDC **27** 11:51:29.1±1.5,2016S×17776W,h532km±17km,mb3.7/9, mb1 4.0/11,mb1mx3.8/16,mbtmp4.7/11,Error ellipse: s-maj=19.7km s-min=10.9km az=144.0*
*NEIC **27** 11:51:29.5±1.0,2010S×17771W,h539km±12km,mb4.3/6, Error ellipse: s-maj=14.1km s-min=9.8km az=139.0*

ISC 27 11:51:28.2±1.0,2012S±009×**17768W**±009,**h518**km±14km, **n58,**σ0°95/30,**mb4.2**/13,**2D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.37**	**43**	P	**P**	**11 53 30.3**	**+1.5**
	10nm,0.3s,baz=348,slow=23,SNR=12						
AFI				S	**S**	**11 55 06.2**	**-1.5**
	21nm,0.3s,baz=51,slow=20,SNR=11						
DZM	**Mont Dzumac**	**14.94**	**260**	P	**P**	**11 54 41.9**	**+4.4**
	1.7nm,0.3s,baz=77,slow=16,SNR=20						
URZ	**Urewera**	**18.64**	**193**	P	**P**	**11 55 12.0**	**-1.4**
	10nm,0.3s,baz=320,slow=3.3,SNR=71						
RPZ	**Rata Peaks**	**25.35**	**199**	P	**P**	**11 56 12.9**	**-0.8**
	12nm,0.6s,mb4.7,baz=322,slow=16,SNR=7.9						
CTA	**Charters Tower**	**33.82**	**264**	⇓*i*P	**P**	**11 57 28.0**	**+1.0**
	15nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**33.82**	**264**	*e*P	**P**	**11 57 27.5**	**+0.5**
	30nm,0.8s,mb4.9						
PMG	**Port Moresby**	**35.55**	**282**	P	**P**	**11 57 42.4**	**+1.0**
	31nm,0.8s,mb4.9,baz=118,slow=4.2,SNR=7.7						
STKA	**Stephens Creek**	**38.22**	**244**	*e*P	**P**	**11 58 04.3**	**+0.9**
	3.7nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**38.22**	**244**	P	**P**	**11 58 03.5**	**+0.2**
	2.6nm,0.4s,mb4.1,baz=85,slow=10,SNR=4.3						
AS31	**Alice Springs**	**44.90**	**256**	*e*P	**P**	**11 58 56.6**	**+0.4**
ASAR	**Alice Springs**	**44.90**	**256**	P	**P**	**11 58 56.6**	**+0.4**
	16nm,0.6s,mb4.7,baz=94,slow=7.3,SNR=305						
ASAR				PcP	PcP	12 00 26.5	-0.2
	2.3nm,0.6s,baz=98,slow=4.7,SNR=6.5						
ASAR				S	**S**	**12 04 52.0**	**-4.0**
	2.7nm,0.6s,baz=89,slow=16,SNR=9.9						
ASPA	**Alice Springs**	**44.90**	**256**	*e*P	**P**	**11 58 56.6**	**+0.4**
WB2	**Warramunga Arr**	**44.94**	**262**	*e*P	**P**	**11 58 56.4**	**-0.1**
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**	**11 58 56.4**	**-0.2**
	10.0nm,0.3s,mb4.9,baz=97,slow=7.0,SNR=632						
MBWA	**Marble Bar**	**58.23**	**257**	*e*P	**P**	**12 00 31.8**	**-0.8**
SBA	**Scott Base**	**58.27**	**184**	*e*P	**P**	**12 00 34.3**	**+1.4**
QSPA	**South Pole Qui**	**69.95**	**180**	*e*P	**P**	**12 01 47.4**	**+0.2**
	6.3nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**70.08**	**323**	P	**P**	**12 01 47.1**	**-0.8**
	6.8nm,0.6s,mb4.4,baz=160,slow=5.8,SNR=20						
MAJO	**Matsushiro**	**70.08**	**323**	*e*P	**P**	**12 01 47.1**	**-0.8**
	7.9nm,0.8s,mb4.3						
MAT	**Matsushiro**	**70.08**	**323**	P	**P**	**12 01 47.7**	**-0.2**
MDJ	**Mudanjiang**	**80.38**	**325**	P	**P**	**12 02 45.7**	**+0.3**
	7.5nm,1.0s,mb4.0						
NVAR	**Mina Array Bea**	**80.54**	**43**	P	**P**	**12 02 47.3**	**+1.1**
	1.0nm,0.8s,mb3.3,baz=223,slow=7.0,SNR=6.0						
BJT	**Baijiatuau**	**85.82**	**315**	P	**P**	**12 03 10.7**	**-1.9**
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**	**12 03 18.0**	**+1.7**
	1.0nm,0.8s,mb3.5,baz=217,slow=6.5,SNR=11						
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**	**12 03 18.0**	**+1.7**
PDAR	**Pinedale Array**	**88.48**	**43**	P	**P**	**12 03 25.3**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=223,slow=2.9,SNR=8.1						
VNA3	**Neumayer Olymp**	**88.50**	**176**	*e*	**P**	**12 03 24.5**	**-0.8**
VNA2	**Neumayer--Watz**	**88.95**	**177**	*e*	**P**	**12 03 26.8**	**-0.5**
	baz=203,slow=4.8						
MKAR	**Makanchi Array**	**111.15**	**313**	PKiKP	PKiKP	12 09 00.9	-1.8
	0.9nm,0.7s,baz=210,slow=0.7,SNR=9.6						
CHKZ	**Chkalovo**	**118.78**	**321**	*e*PKPdf	PKPdf	12 09 14.8	-2.5
BRVK	**Borovoye**	**119.04**	**320**	*e*PKPdf	PKPdf	12 09 16.2	-1.6
ZRNK	**Zerenda**	**119.82**	**320**	*e*PKPdf	PKPdf	12 09 17.4	-2.0
ARCES	**ARCESS Array B**	**128.60**	**350**	PKP	PKPdf	12 09 34.9	-1.3
	1.9nm,0.7s,baz=327,slow=2.0,SNR=6.2						
JOF	**Joensuu**	**132.86**	**342**	*e*pkp	PKPdf	12 09 41.1	-3.1
KAF	**Kangasniemi**	**134.87**	**344**	*e*pkp	PKPdf	12 09 44.6	-3.4
AKASG	**Malin Array Be**	**142.82**	**332**	PKP	PKPdf	12 09 58.2	-4.2
	3.9nm,0.3s,baz=41,slow=4.3,SNR=37						
EKA	**Eskdalemuir Ar**	**144.60**	**5**	PKP	PKPdf	12 10 04.7	-0.9
	2.6nm,0.7s,baz=344,slow=2.9,SNR=6.4						
BR131	**Keskin Array S**	**146.80**	**313**	*e*PKPbc	PKPbc	12 10 11.7	-0.3
BRTR	**Keskin Array B**	**146.80**	**313**	PKPbc	PKPbc	12 10 11.3	-0.6
	3.1nm,0.6s,baz=141,slow=5.0,SNR=14						
STHS	**Stebnicka Huta**	**147.08**	**337**	*e*PKP	PKPbc	12 10 16.2	+3.5
KOLS	**Kolonicke sedl**	**147.09**	**336**	*e*PKP	PKPbc	12 10 12.8	+0.1
CRVS	**Cervenica-Dubn**	**147.43**	**336**	*e*PKP	PKPbc	12 10 13.5	-0.1
CLL	**Collm**	**147.76**	**347**	*e*PKPbc	PKP

ZAI	**Zaio**	**1.84**	**69**	*eP*	**Pn**	**12 18 23.0**	**-0.3**
ZAI				*i* S	**Sn**	**12 18 44.0**	**-1.6**
KIB	**El Ksiba**	**2.02**	**210**	*i* P	**Pn**	**12 18 26.0**	**+0.3**
KIB				*i* S	**Sn**	**12 18 50.0**	**+0.1**
EJIF	**Jimena Fronter**	**2.18**	**347**	P	**Pn**	**12 18 28.3**	**+0.3**
5.1nm,0.4s,SNR=7.9							
EJIF				S	**Sn**	**12 18 53.6**	**-0.4**
5.2nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**2.23**	**1**	P	**Pn**	**12 18 27.1**	**-1.5**
2.7nm,0.2s,SNR=6.1							
EMIJ				S	**Sn**	**12 18 54.6**	**-0.7**
6.9nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**2.23**	**1**	P	**Pn**	**12 18 27.1**	**-1.6**
2.7nm,0.2s,SNR=6.1							
EMIJ				S	**Sn**	**12 18 54.6**	**-0.7**
6.9nm,0.4s,SNR=7.9							
ZFT	**Errachidia**	**2.33**	**170**	P	**Pn**	**12 18 32.5**	**+2.5**
ZFT				S	**Sn**	**12 18 57.0**	**-0.6**
TZC	**Tazercounte**	**2.58**	**213**	P	**Pn**	**12 18 34.0**	**+0.5**
TZC				S	**Sn**	**12 19 04.0**	**+0.2**
TZC	**Tazercounte**	**2.58**	**213**	*i* P	**Pn**	**12 18 34.0**	**+0.5**
EBER	**Berja**	**3.02**	**31**	P	**Pn**	**12 18 39.4**	**0.0**
2.9nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**12 19 14.4**	**-0.2**
5.9nm,0.4s,SNR=7.9							
EBER	**Berja**	**3.02**	**31**	P	**Pn**	**12 18 39.4**	**-0.1**
2.9nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**12 19 14.4**	**-0.2**
5.9nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**3.09**	**21**	P	**Pn**	**12 18 40.5**	**0.0**
1.2nm,0.3s,SNR=7.9							
EQUE				S	**Sn**	**12 19 16.1**	**-0.3**
1.5nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.74**	**337**	P	**Pn**	**12 18 49.9**	**+0.4**
0.9nm,0.3s,SNR=7.9							
EMIN				S	**Sn**	**12 19 32.4**	**-0.1**
0.7nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.74**	**337**	P	**Pn**	**12 18 49.9**	**+0.5**
0.9nm,0.3s,SNR=7.9							
EMIN				S	**Sn**	**12 19 32.4**	**-0.1**
0.7nm,0.3s,SNR=7.9							
EQES	**Quesada**	**3.75**	**22**	P	**Pn**	**12 18 51.1**	**+1.5**
1.7nm,0.3s,SNR=7.9							
EQES				S	**Sn**	**12 19 35.3**	**+2.5**
1.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.75**	**22**	P	**Pn**	**12 18 51.1**	**+1.5**
1.7nm,0.3s,SNR=7.9							
EQES				S	**Sn**	**12 19 35.3**	**+2.5**
1.8nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.84**	**3**	P	**Pn**	**12 18 50.8**	**+0.1**
0.9nm,0.3s,SNR=7.9							
EADA				S	**Sn**	**12 19 34.8**	**-0.1**
1.4nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.84**	**3**	P	**Pn**	**12 18 50.8**	**0.0**
0.9nm,0.3s,SNR=7.9							
EADA				S	**Sn**	**12 19 34.8**	**-0.1**
1.4nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**3.85**	**327**	P	**Pn**	**12 18 50.6**	**-0.3**
1.5nm,0.1s,SNR=8.0							
EGRO				S	**Sn**	**12 19 34.2**	**-1.0**
2.2nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.85**	**327**	P	**Pn**	**12 18 50.6**	**-0.4**
1.5nm,0.1s,SNR=8.0							
EGRO				S	**Sn**	**12 19 34.2**	**-1.0**
2.2nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.75**	**339**	P	**Pn**	**12 19 03.6**	**+0.2**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**12 19 55.5**	**-1.9**
2.3nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.75**	**339**	P	**Pn**	**12 19 03.6**	**+0.3**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**12 19 55.5**	**-1.9**
2.3nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.06**	**31**	P	**Pn**	**12 19 09.0**	**+1.5**
2.2nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.06**	**31**	P	**Pn**	**12 19 09.0**	**+1.5**

*ISCJB **27** 12:22:16.3±2.6, 62S±02×15620E±009, h60km±25km, mb3.8/7, Error ellipse: s-maj=27.1km s-min=14.7km az=22.9*
*IDC **27** 12:22:17.4±3.7, 608S×15620E, h51km±38km, mb3.6/5, mb1 3.7/7, mb1mx3.6/15, mbtmp3.9/7, ML3.2/2, Error ellipse: s-maj=27.6km s-min=22.1km az=6.0*
*NEIC **27** 12:22:18.3±1.9, 620S×15629E, h67km±18km, mb4.1/2, Error ellipse: s-maj=22.9km s-min=15.9km az=179.0*
ISC 27 12:22:18.6±2.1,**61S**±02×**15622E**±009,**h65**km±20km,**n11**, σ1§**00**/12,**mb3.8**/7,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.94**	**132**	P	**Pn**	**12 23 28.3**	**-2.0**
4.1nm,0.3s,baz=275,slow=2.9,SNR=5.5							
HNR				S	**Sn**	**12 24 27.2**	**+1.1**
9.1nm,0.3s,baz=90,slow=23,SNR=5.6							
PMG	**Port Moresby**	**9.55**	**250**	P	**Pn**	**12 24 34.2**	**+1.0**
0.5nm,0.3s,baz=67,slow=13,SNR=2.1							
KAKA	**Kakadu**	**24.34**	**253**	*eP*	**P**	**12 27 29.6**	**-0.7**
5.1nm,0.8s,mb4.0							
KAKA				*e*		12 27 38.7	
WB2	**Warramunga Arr**	**25.30**	**235**	*eP*	**P**	**12 27 39.8**	**+0.8**
WB2				*e*		12 27 48.8	
WRA	**Warramunga Arr**	**25.30**	**235**	P	**P**	**12 27 39.6**	**+0.5**
0.7nm,0.3s,mb3.6,baz=57,slow=10,SNR=25							
AS31	**Alice Springs**	**27.65**	**229**	*eP*	**P**	**12 27 58.9**	**-1.3**
ASAR	**Alice Springs**	**27.65**	**229**	P	**P**	**12 27 59.7**	**-0.5**
0.3nm,0.4s,mb3.2,baz=60,slow=9.6,SNR=9.0							
STKA	**Stephens Creek**	**29.04**	**206**	P	**P**	**12 28 13.5**	**+1.0**
2.4nm,0.9s,mb3.9,baz=272,slow=22,SNR=2.0							
FITZ	**Fitzroy Crossi**	**32.12**	**246**	*eP*	**P**	**12 28 38.5**	**-1.2**
2.6nm,0.6s,mb4.2							
FITZ				*e*		12 28 47.9	
SONM	**Songino Array**	**69.28**	**327**	P	**P**	**12 33 19.2**	**+0.4**
0.8nm,0.6s,mb3.8,baz=148,slow=5.7,SNR=7.5							
MKAR	**Makanchi Array**	**83.57**	**318**	P	**P**	**12 34 40.4**	**+0.7**
0.9nm,0.8s,mb4.0,baz=98,slow=7.5,SNR=9.5							

*HLW **27** 12:24:04.6, 2965N×3673E, h11km, Mb3.2*
*ISCJB **27** 12:24:06.2±1.3, 2986N±006×3624E±010, h0km, Error ellipse: s-maj=12.5km s-min=9.0km az=176.1*
*CSEM **27** 12:24:07.5±0.3, 2983N×3609E, h1km, ML1.8, Error ellipse: s-maj=6.5km s-min=4.5km az=98.0, Mining explosion.*
*GII **27** 12:24:07.2±1.0, 2990N×3616E, h0km±3km, ML1.8/3*
ISC 27 12:24:06.2±1.3,**2986N**±007×**3629E**±010,**h0**km,**n19**, σ0§**91**/21,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.08**	**263**	Pg	**Pg**	**12 24 26.9**	**0.0**
HRFI	**Mount Harif**	**1.10**	**279**	**Pg**	**Pg**	**12 24 26.4**	**-0.8**
EIL	**Elat**	**1.18**	**261**	Pg	**Pg**	**12 24 28.6**	**-0.1**
MBH	**Mount Berech**	**1.19**	**267**	**Pg**	**Pg**	**12 24 28.6**	**-0.4**
PRNI	**Paran**	**1.22**	**294**	Pg	**Pg**	**12 24 28.5**	**-0.9**
PRNI				Sg	**Sg**	**12 24 46.0**	**+0.9**
PRNI	**Paran**	**1.22**	**294**	Pg	**Pg**	**12 24 28.5**	**-0.9**
PRNI				Sg	**Sg**	**12 24 46.0**	**+0.8**
KMTI	**Karmit**	**1.38**	**281**	Pg	**Pg**	**12 24 31.6**	**-0.9**
HBST	**Basata**	**1.50**	**245**	P	**Pn**	**12 24 34.9**	**+0.6**
HBST	**Basata**	**1.50**	**245**	P	**Pn**	**12 24 34.8**	**+0.5**
MZDA	**Masada**	**1.65**	**331**	Pn	**Pn**	**12 24 36.1**	**-0.3**
MASH	**Mash'abbe Sade**	**1.72**	**311**	Pn	**Pn**	**12 24 35.9**	**-1.5**
SVTA	**Shivta**	**1.79**	**307**	Pn	**Pn**	**12 24 38.0**	**-0.3**
HDHB	**Dhahab**	**1.85**	**233**	P	**Pn**	**12 24 38.9**	**-0.2**
DSI	**Dead Sea**	**1.88**	**336**	Pn	**Pn**	**12 24 40.0**	**+0.5**
KZIT	**Kziot**	**1.94**	**303**	Pn	**Pn**	**12 24 41.4**	**+1.0**
HNKL	**Nakhl**	**2.00**	**273**	P	**Pn**	**12 24 43.0**	**+1.8**
HKAT	**Jabal Katrina**	**2.41**	**237**	P	**Pn**	**12 24 46.5**	**-0.3**
TR2		**2.68**	**237**	P	**Pn**	**12 24 50.1**	**-0.5**
SUZ		**3.00**	**270**	P	**Pn**	**12 24 57.3**	**+2.3**

*ISCJB **27** 12:36:11.1±4.1, 64S±02×1478E±03, h57km±33km, mb3.8/4, MS2.7/1, Error ellipse: s-maj=56.6km s-min=36.6km az=27.2*
*IDC **27** 12:36:11.9±5.9, 641S×14805E, h54km±49km, mb3.6/4, mb1 3.8/6, mb1mx3.6/14, mbtmp3.8/6, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=58.0km s-min=36.5km az=94.0*
*NEIC **27** 12:36:12.2±2.9, 634S×14788E, h54km±25km, mb4.1/1, Error ellipse: s-maj=36.3km s-min=23.1km az=110.0*
ISC 27 12:36:11.6±4.3,**63S**±02×**1478E**±03,**h44**km±36km,**n12**, σ0§**69**/10,**mb3.8**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**192**	P	**Pn**	**12 36 59.2**	**+0.4**
10nm,0.3s,baz=347,slow=5.2,SNR=38							
WB2	**Warramunga Arr**	**18.84**	**223**	*eP*	**Pn**	**12 40 27.9**	**-0.8**
WRA	**Warramunga Arr**	**18.85**	**223**	P	**Pn**	**12 40 27.6**	**-1.2**
0.2nm,0.3s,baz=52,slow=10,SNR=18							
GUMO	**Guam**	**19.96**	**352**	LR	LR	12 46 16.8	
comp=Z,33nm,20.1s,baz=117,slow=30							
AS31	**Alice Springs**	**21.85**	**216**	*eP*	**P**	**12 41 01.0**	**+0.7**
ASAR	**Alice Springs**	**21.85**	**216**	P	**P**	**12 41 00.8**	**+0.5**
2.9nm,0.5s,mb4.0,baz=52,slow=8.9,SNR=45							
ASPA	**Alice Springs**	**21.85**	**216**	*eP*	**P**	**12 41 01.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.61**	**240**	*eP*	**P**	**12 41 28.2**	**+0.5**
6.8nm,1.0s,mb4.1							
FITZ	**Fitzroy Crossi**	**24.61**	**240**	P	**P**	**12 41 28.5**	**+0.9**
1.8nm,0.4s,mb4.0,baz=42,slow=11,SNR=20							
STKA	**Stephens Creek**	**26.11**	**192**	P	**P**	**12 41 40.5**	**-0.8**
1.8nm,0.4s,mb3.9,baz=26,slow=10,SNR=7.4							
MKAR	**Makanchi Array**	**78.23**	**320**	P	**P**	**12 48 06.5**	**-0.1**
0.1nm,0.5s,mb3.0,baz=86,slow=4.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**145.94**	**284**	PKPbc	PKPbc	12 55 48.0	+1.7
1.5nm,0.7s,baz=80,slow=5.0,SNR=9.5							

IDC 27 13:55:41.7±2.3,**523N**×**12612E**,**h0**km,**mb3.6**/3,**mb1 3.8**/3, **mb1mx3.5**/17,**mbtmp3.6**/3,**Error ellipse: s-maj=199.3km s-min=24.4km az=65.0**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.28**	**162**	P	P	14 01 20.3	+1.5
1.0nm,0.4s,baz=342,slow=10,SNR=12							
ASAR	**Alice Springs**	**29.70**	**165**	P	P	14 01 48.4	-1.0
0.1nm,0.4s,baz=342,slow=7.1,SNR=6.9							
MKAR	**Makanchi Array**	**55.99**	**325**	P	P	14 05 22.0	+0.1
0.5nm,0.4s,baz=117,slow=7.6,SNR=13							

*IDC **27** 14:22:20.9±1.2, 363S×12504E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/36, Error ellipse: s-maj=127.0km s-min=20.2km az=68.0*
*ISCJB **27** 14:22:21.4±0.7, 39S±01×1247E±02, h10km, mb4.1/7, Error ellipse: s-maj=37.8km s-min=10.5km az=128.7*
*NEIC **27** 14:22:23.6±0.6, 395S×12469E, h10km, mb4.3/3, Error ellipse: s-maj=37.0km s-min=10.1km az=65.0*
ISC 27 14:22:23.7±0.7,**39S**±01×**1247E**±02,**h10**km,**n12**,σ1§**12**/12, **mb4.1**/7,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.12**	**176**	Pn	**Pn**	**14 25 44.0**	**+0.3**
0.1nm,0.3s,baz=354,slow=10,SNR=3.8							
WRA	**Warramunga Arr**	**18.47**	**150**	P	**Pn**	**14 26 38.6**	**-1.1**
0.1nm,0.3s,baz=323,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**21.54**	**157**	P	**P**	**14 27 14.5**	**+1.6**
4.0nm,0.9s,mb3.9,baz=335,slow=11,SNR=26							
KULM	**Kulim**	**25.74**	**291**	P	**P**	**14 27 53.7**	**-0.6**
STKA	**Stephens Creek**	**32.00**	**152**	P	**P**	**14 28 49.4**	**-0.7**
ULN	**Ulaanbaatar**	**53.85**	**345**	P	**P**	**14 31 48.3**	**+1.5**
3.6nm,1.3s,mb4.1							
SONM	**Songino Array**	**53.99**	**345**	P	**P**	**14 31 44.2**	**-3.6**
0.8nm,0.8s,mb3.7,baz=172,slow=5.2,SNR=6.0							
MK31	**Makanchi Array**	**62.84**	**329**	*eP*	**P**	**14 32 50.6**	**+1.0**
MKAR	**Makanchi Array**	**62.84**	**329**	P	**P**	**14 32 48.3**	**-1.3**
2.1nm,0.6s,mb4.4,baz=129,slow=7.8,SNR=30							
AAK	**Ala-Archa**	**64.84**	**321**	*eP*	**P**	**14 33 03.7**	**+0.9**
2.5nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**66.58**	**336**	P	**P**	**14 33 12.7**	**-1.3**
1.3nm,0.3s,mb4.5,baz=255,slow=3.3,SNR=3.8							
ZRNK	**Zerenda**	**73.39**	**329**	*eP*	**P**	**14 33 56.2**	**+0.4**
1.3nm,0.6s,mb4.0							

IDC 27 14:31:08.1±6.5,**1984S**×**16512E**,**h0**km,**mb4.1**/4, **mb1 4.3**/4,**mb1mx3.9**/12,**mbtmp4.1**/4,**ML2.4**/1,**Error ellipse: s-maj=140.8km s-min=30.4km az=37.0**,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.54**	**151**	Pn	Pn	14 31 50.8	+0.2
0.7nm,0.3s,baz=66,slow=20,SNR=35							
DZM				Sn	Sn	14 32 35.9	+14
2.0nm,0.3s,baz=301,slow=21,SNR=9.6							
STKA	**Stephens Creek**	**24.27**	**236**	P	P	14 36 27.3	+0.5
1.4nm,0.6s,baz=56,slow=11,SNR=4.6							
WRA	**Warramunga Arr**	**26.92**	**264**	P	P	14 37 08.8	0.0
0.7nm,0.5s,baz=97,slow=8.3,SNR=8.6							
ASAR	**Alice Springs**	**29.21**	**257**	P	P	14 37 12.5	+1.2
5.8nm,0.5s,baz=84,slow=8.8,SNR=94							
FITZ	**Fitzroy Crossi**	**37.32**	**266**	P	P	14 38 21.5	-0.5
1.5nm,0.7s,baz=76,slow=4.2,SNR=4.8							

*IDC **27** 14:39:15.3±7.5, 580S×146.13E, h77km±55km, mb4.0/3, mb1 4.4/6, mb1mx3.9/15, mbtmp4.6/6, ML4.0/2, Error ellipse: s-maj=69.4km s-min=50.5km az=5.0*
*NEIC **27** 14:39:18.0±2.4, 586S×146.11E, h103km±18km, mb4.3/8, Error ellipse: s-maj=24.7km s-min=12.6km az=165.0*
*ISCJB **27** 14:39:19.4±1.8, 62S±01×146.18E±009, h112km±14km, mb4.1/8, Error ellipse: s-maj=17.1km s-min=14.4km az=178.1*
ISC 27 14:39:21.3±1.8,**63S**±01×**14620E**±009,**h113**km±14km,**n25**, σ0§**83**/28,**mb4.1**/8,**3D**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**163**	P	**Pn**	**14 40 10.1**	**-0.6**
34nm,0.3s,baz=41,slow=4.6,SNR=123							
PMG				S	**Sn**	**14 40 48.5**	**-0.3**
71nm,0.3s,baz=154,slow=21,SNR=22							
CTA	**Charters Tower**	**13.73**	**180**	*eP*	**Pn**	**14 42 35.9**	**+4.7**
53nm,0.4s							
CTA	**Charters Tower**	**13.73**	**180**	P	**Pn**	**14 42 34.6**	**+3.4**
17nm,0.3s,baz=359,slow=14,SNR=220							
CTAO	**Charters Tower**	**13.73**	**180**	*e*Pn	**Pn**	**14 42 35.9**	**+4.8**
65nm,0.5s							
CTAO				*e*Sn	**Sn**	**14 45 02.1**	**-0.4**
HNR	**Honiara**	**13.97**	**104**	P	**Pn**	**14 42 35.7**	**+1.4**
11nm,0.3s,baz=261,slow=3.5,SNR=6.0							
KAKA	**Kakadu**	**15.00**	**244**	*eP*	**Pn**	**14 42 47.7**	**+0.4**
39nm,0.6s							
WB2	**Warramunga Arr**	**17.81**	**219**	*i* P	**Pn**	**14 43 21.2**	**-0.6**
WB2	**Warramunga Arr**	**17.81**	**219**	*e*Pn	**Pn**	**14 43 20.9**	**-0.9**
WB2				*e*Sn	**Sn**	**14 46 29.7**	**-11**
WRA	**Warramunga Arr**	**17.82**	**219**	P	**Pn**	**14 43 21.3**	**-0.7**
1.1nm,0.3s,baz=40,slow=11,SNR=53							
AS31	**Alice Springs**	**20.95**	**213**	*eP*	**P**	**14 43 56.2**	**+1.1**
AS31				*e*S	**S**	**14 47 43.1**	**+0.9**
ASAR	**Alice Springs**	**20.95**	**213**	P	**P**	**14 43 55.7**	**+0.6**
5.8nm,0.6s,baz=45,slow=7.8,SNR=76							
ASPA	**Alice Springs**	**20.95**	**213**	*i* P	**P**	**14 43 56.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.25**	**238**	*i* P	**P**	**14 44 18.3**	**-0.3**
17nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**23.25**	**238**	P	**P**	**14 44 18.2**	**-0.4**
6.7nm,0.5s,mb4.2,baz=65,slow=11,SNR=33							
STKA	**Stephens Creek**	**25.83**	**189**	*eP*	**P**	**14 44 41.9**	**-0.1**
2.8nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**25.83**	**189**	P	**P**	**14 44 43.5**	**+1.4**
3.3nm,0.6s,mb4.0,baz=16,slow=10.0,SNR=12							
STKA	**Stephens Creek**	**25.83**	**189**	*eP*	**P**	**14 44 42.7**	**+0.7**
MBWA	**Marble Bar**	**29.59**	**237**	*eP*	**P**	**14 45 15.4**	**-0.2**
3.3nm,0.6s,mb4.1							
CASY	**Casey**	**64.78**	**195**	*eP*	**P**	**14 49 47.4**	**-0.4**
4.8nm,0.8s,mb4.4							
VNDA	**Vanda**	**71.69**	**176**	*eP*	**P**	**14 50 30.4**	**-0.4**
1.1nm,0.7s,mb3.8							
SBA	**Scott Base**	**72.34**	**176**	P	**P**	**14 50 35.2**	**+0.4**
0.8nm,0.8s,mb3.6							
MAW	**Mawson**	**81.69**	**203**	*eP*	**P**	**14 51 26.3**	**-0.8**
6.9nm,1.3s,mb4.3							
QSPA	**South Pole Qui**	**83.69**	**180**	*eP*	**P**	**14 51 36.6**	**-0.9**
2.3nm,0.5s,mb4.3							
NSHM	**Saint Helena R**	**94.79**	**52**	*eP*	**P**	**14 52 26.6**	**-3.5**
TORD	**Torodi Ar. Bea**	**144.39**	**284**	PKP	PKPdf	14 58 42.9	-1.2
1.1nm,0.7s,baz=69,slow=3.3,SNR=7.3							

*NIED **27** 15:07:00, 4200N×14260E, h53km, Mw4.0 Best double couple: M0=9.51000×10^14 NP1:φs=36.00000°, δ65.00000°, λ97.00000°. NP2:φ=200.00000°, δ26.00000°, λ75.00000°.*
JMA 27 15:07:12.0±0.1,**4203N**×**14259E**,**h64**km±2km,**M3.5**,**3C-8D Broadband fault plane solution: P waves. NP1:** φs173.00000°,δ13.00000°,λ67.00000°. **NP2:**φs16.00000°, δ78.00000°,λ95.00000°. **Principal axes:** T Plg57.0000°, Azm293.0000°; N Plg5.0000°, Azm195.0000°; P Plg33.0000°, Azm102.0000°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.28**	**26**	⇑P	Pn	15 07 22.1	-0.3
JNBK				*e*S	Sn	15 07 29.9	0.0
JEM	**Erimo**	**0.42**	**92**	⇑P	Pn	15 07 23.8	+0.3
JEM				*e*S	Sn	15 07 32.1	+0.2
JBT2	**Biratori 2**	**0.77**	**347**	⇓P	Pn	15 07 27.0	-0.3
JBT2				S	Sn	15 07 38.4	-0.1
JCH	**Churui**	**0.82**	**44**	⇑P	Pn	15 07 28.0	+0.1
JCH				*e*S	Sn	15 07 39.9	+0.3
JFR	**Furan**	**1.13**	**0**	⇓P	Pn	15 07 31.8	-0.1
JEW	**Eniwo**	**1.17**	**314**	⇓P	Pn	15 07 32.3	-0.1
JEW				*e*S	Sn	15 07 47.4	-0.2
JKB	**Kayabe**	**1.17**	**264**	⇓P	Pn	15 07 32.0	-0.4
JKB				*e*S	Sn	15 07 46.8	-0.8
JNB	**Noboribetsu**	**1.23**	**291**	⇓P	Pn	15 07 32.3	-0.9
JNB				*e*S	Sn	15 07 47.8	-1.3
JOB	**Onbets**	**1.27**	**46**	P	Pn	15 07 34.9	+1.2
JOB				*e*S	Sn	15 07 51.7	+1.8
JOT	**Ohata**	**1.32**	**241**	⇓P	Pn	15 07 34.1	-0.3
JOT				*e*S	Sn	15 07 50.4	-0.8
JAB	**Ashibetsu**	**1.50**	**350**	⇓P	Pn	15 07 37.1	+0.4
JAB				*e*S	Sn	15 07 56.8	+1.4
JAR	**Ashorobuto**	**1.54**	**34**	P	Pn	15 07 37.5	+0.3
JAR				*e*S	Sn	15 07 56.8	+0.5
JYM2	**Yakumo 2**	**1.66**	**274**	⇓P	Pn	15 07 38.5	-0.3
JYM2				*e*S	Sn	15 07 58.6	-0.5
JTM	**Tenmabayashi**	**1.69**	**223**	P	Pn	15 07 39.8	+0.5
JTM				*e*S	Sn	15 08 00.6	+0.6

IDC 27 15:18:05.0±18.0,**673S**×**12951E**,**h127**km±187km,**mb3.0**/1, **mb1 3.3**/4,**mb1mx3.1**/14,**mbtmp3.5**/4,**ML3.5**/3 **Error ellipse: s-maj=149.3km s-min=59.9km az=42.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.92**	**198**	P	Pn	15 20 51.2	+0.4
0.1nm,0.3s,baz=44,slow=10,SNR=7.9							
FITZ				S	Sn	15 22 55.9	-6.1
0.1nm,0.3s,baz=61,slow=18,SNR=3.2							
WRA	**Warramunga Arr**	**13.95**	**161**	P	Pn	15 21 16.4	-0.7
0.3nm,0.3s,baz=334,slow=12,SNR=14							
WRA				S	Sn	15 23 42.3	-8.7
0.2nm,0.3s,baz=333,slow=23,SNR=5.1							
ASAR	**Alice Springs**	**17.36**	**166**	P	Pn	15 21 59.4	0.0
0.2nm,0.3s,baz=344,slow=9.6,SNR=38							
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	15 28 48.9	+0.2
0.2nm,0.4s,baz=118,slow=8.2,SNR=5.8							

IDC 27 15:34:39.0±50.0,**1646S**×**16791W**,**h0**km,**mb4.1**/3, **mb1 4.2**/3,**mb1mx3.9**/13,**mbtmp4.1**/3,**Error ellipse: s-maj=1012.0km s-min=199.0km az=81.0**,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**48.14**	**242**	P	P	15 43 21.7	+0.9
1.5nm,0.6s,baz=92,slow=10,SNR=3.5							
WRA	**Warramunga Arr**	**54.75**	**257**	P	P	15 44 10.4	+0.1
0.8nm,0.5s,baz=98,slow=6.7,SNR=32							
ASAR	**Alice Springs**	**54.82**	**252**	P	P	15 44 11.2	+0.5
2.0nm,0.6s,baz=89,slow=8.7,SNR=51							

*CSEM **27** 15:35:14.3±0.1, 6714N×2086E, h1km, ML2.8, Error ellipse: s-maj=3.3km s-min=2.5km az=64.0, Mining explosion.*
*UPP **27** 15:35:16.5, 6699N×2040E, h0km, ML2.8, Mining explosion.*
HEL 27 15:35:16.4±0.1,**6708N**×**2090E**,**h0**km,**ML1.7**,**ML2.8**(UPP), **Suspected explosion**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**289**	*i* P	Pg	15 35 18.8	-0.2
MASU	**Masugnsbyn**	**0.57**	**48**	*i* P	Sg	15 35 35.7	+0.9
ERTU	**Ertsjaerv**	**0.73**	**135**	*i* P	Pg	15 35 30.3	-0.2
PAJU	**Pajala**	**0.87**	**93**	*eP*	Pg	15 35 31.6	-1.5
KUA	**Kurravaara**	**0.91**	**346**	*eP*	Pg	15 35 32.6	-1.2
HARU	**Harads**	**0.92**	**178**	*i* P	Pg	15 35 32.7	-1.3
SALU	**Saltoluokta**	**0.98**	**289**	*i* P	Pg	15 35 34.2	-1.0
LANU	**Lannavaara**	**1.06**	**23**	*eP*	Pg	15 35 35.2	-1.6
NIKU	**Nikkaluokta**	**1.07**	**319**	*eP*	Pg	15 35 35.7	-1.2
SJUU	**Sjulsmark**	**1.60**	**169**	*eP*	Pn	15 35 44.8

1.9nm,0.8s,mb3.4,baz=9.0,slow=8.0,SNR=44
FITZ Fitzroy Crossi 43.45 205 P **P 15 58 42.7 -0.2**
0.7nm,0.4s,mb3.3,baz=32,slow=13,SNR=6.0
KULM Kulim 44.50 255 *eP* **P 15 58 50.8 -0.4**
ASAR Alice Springs 46.29 192 P **P 15 59 05.1 -0.1**
0.3nm,0.6s,mb2.8,baz=17,slow=12,SNR=11
LSA Lhasa 47.29 291 P **P 15 59 13.8 +0.9**
3.1nm,0.7s,mb3.8
JIRN Jiri 51.81 289 *eP* **P 15 59 47.3 +0.4**
14nm,0.4s,mb4.6
GUN Gumba 52.06 289 *eP* **P 15 59 49.0 +0.3**
8.8nm,0.3s,mb4.5
PKI Pulchoki 52.51 289 *eP* **P 15 59 51.7 -0.3**
KKN Kakani 52.60 289 *eP* **P 15 59 52.8 +0.1**
DMN Daman 52.77 289 *eP* **P 15 59 53.9 0.0**
GKN Gorkha 53.14 289 *eP* **P 15 59 56.3 -0.3**
KOLN Koldanda 54.08 289 *eP* **P 16 00 03.0 -0.4**
3.3nm,0.2s,mb4.2
ZAL Zalesovo 54.10 321 P **P 16 00 04.7 +1.1**
1.2nm,0.3s,mb3.7,baz=47,slow=3.6,SNR=5.4
MKAR Makanchi Array 54.63 312 P **P 16 00 07.3 0.0**
0.7nm,0.5s,mb3.4,baz=86,slow=8.9,SNR=12
ZRNK Zerenda 63.40 319 *eP* **P 16 01 06.2 -1.1**
1.6nm,0.8s,mb3.7
ARCES ARCESS Array B 78.71 342 P **P 16 02 40.2 +1.4**
4.2nm,1.0s,mb4.1,baz=76,slow=10,SNR=4.0
JOF Joensuu 80.13 334 *ep* **P 16 02 45.1 -1.4**
FINES FINESS Array B 83.00 335 P **P 16 03 01.2 -0.2**
2.3nm,0.8s,mb4.0,baz=71,slow=4.8,SNR=8.9
FINES FINESS Array B 83.00 335 P **P 16 03 01.2 -0.2**

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*ISCJB **27** 15:55:23.6±0.8, 1767N±005×6556W±002, h18km±6km, Error ellipse: s-maj=8.7km s-min=3.6km az=173.0*
*NEIC **27** 15:55:25.2, 1777N×6557W, h5km, MD3.5(RSPR), After RSPR.*
*RSPR **27** 15:55:25.2, 1777N×6557W, h5km±31km, MD3.5/16, MD3.5/16*

ISC 27 15:55:23.8±0.9, 1768N±005×6557W±002, h16km±4km, n20, σ0°77/34, 12C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.41**	**3**	⇑*iP*	**Pg**	**15 55 31.8**	**-0.4**
MTP				*eS*	**Sg**	**15 55 38.0**	**+0.2**
CPD	**Cerro la Pandu**	**0.48**	**317**	⇑*iP*	**Pg**	**15 55 32.9**	**-0.5**
CPD				*eS*	**Sg**	**15 55 40.6**	**+0.8**
HUMP	**Col San Antoni**	**0.53**	**330**	⇑*iP*	**Pg**	**15 55 33.6**	**-0.6**
HUMP				*eS*	**Sg**	**15 55 41.8**	**+0.5**
CBYP	**Canovanas**	**0.64**	**335**	⇑*eP*	**Pg**	**15 55 35.6**	**-0.8**
CBYP				*eS*	**Sg**	**15 55 45.2**	**+0.2**
SJG	**San Juan**	**0.69**	**308**	⇓*eP*	**Pg**	**15 55 36.8**	**-0.6**
CDVI	**St. Croix**	**0.77**	**85**	⇓*iP*	**Pb**	**15 55 38.8**	**0.0**
CDVI				*eS*	**Sg**	**15 55 51.3**	**+2.2**
STVI	**Saint Thomas**	**0.89**	**42**	⇑*iP*	**Pb**	**15 55 40.1**	**-0.7**
STVI				*eS*	**Sb**	**15 55 52.4**	**+0.1**
ICM	**Isla Caja Muer**	**0.93**	**283**	⇓*iP*	**Pb**	**15 55 41.6**	**+0.2**
ICM				*eS*	**Sb**	**15 55 53.1**	**-0.3**
CELP	**Cerrillos**	**1.03**	**292**	⇓*eP*	**Pb**	**15 55 42.8**	**-0.4**
CELP				*eS*	**Sb**	**15 55 57.0**	**+0.4**
OBIP	**Obispado Ponce**	**1.05**	**290**	⇑*iP*	**Pb**	**15 55 43.2**	**-0.3**
OBIP				*eS*	**Sb**	**15 55 57.6**	**+0.8**
TBVI	**Tortola**	**1.17**	**51**	⇑*iP*	**Pn**	**15 55 45.4**	**0.0**
TBVI				*eS*	**Sb**	**15 55 58.7**	**-1.7**
GBPR	**Guanica, Bosqu**	**1.28**	**283**	⇑*eP*	**Pn**	**15 55 46.5**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.28**	**283**	*eS*	**Sb**	**15 56 03.4**	**-0.2**
AOPR	**Arecibo Observ**	**1.30**	**301**	⇑*eP*	**Pn**	**15 55 47.2**	**0.0**
AOPR				*eS*	**Sb**	**15 56 03.1**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.50**	**283**	⇓*eP*	**Pn**	**15 55 49.2**	**-0.7**
CRPR				*eS*	**Sn**	**15 56 09.3**	**+0.2**
LSP	**Las Mesas**	**1.52**	**289**	⇑*eP*	**Pn**	**15 55 50.4**	**+0.1**
LSP				*eS*	**Sn**	**15 56 09.2**	**-0.5**
ABV	**Anegada**	**1.57**	**48**	⇑*eP*	**Pn**	**15 55 52.1**	**+1.1**
ABV	**Anegada**	**1.57**	**48**	*eS*	**Sn**	**15 56 11.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.66**	**298**	⇑*eP*	**Pn**	**15 55 53.7**	**+1.6**
AGPR				*eS*	**Sn**	**15 56 14.8**	**+1.7**
LZG	**Guadaloupe-1**	**3.95**	**112**	*eP*	**Pn**	**15 56 22.9**	**-0.7**

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*ISCJB **27** 16:17:14.3±0.5, 1072N±003×6230W±003, h80km±6km, Error ellipse: s-maj=5.8km s-min=4.3km az=108.1*
*FUNV **27** 16:17:14.5, 1079N×6217W, h78km, MW3.0*
*TRN **27** 16:17:16.6, 1077N×6225W, h63km, MD3.2*
*NEIC **27** 16:17:18.5, 1092N×6216W, h51km, MD3.2(TRN), After TRN.*

ISC 27 16:17:15.3±0.6, 1073N±003×6229W±003, h75km±7km, n28, σ0°93/53, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.11**	**142**	⇑*iP*	**Pn**	**16 17 26.3**	**+0.1**
GUIV				*eS*	**Sn**	**16 17 33.8**	**-0.3**
TCE	**Chacachacare**	**0.53**	**94**	*eP*	**Pn**	**16 17 29.2**	**+0.4**
TCE				*eS*	**Sn**	**16 17 38.0**	**-0.7**
TCE	**Chacachacare**	**0.53**	**94**	*eP*	**Pn**	**16 17 29.2**	**+0.4**
TCE				*eS*	**Sn**	**16 17 38.0**	**-0.7**
TRN	**Trinidad (W)**	**0.88**	**95**	⇑*eP*	**Pn**	**16 17 32.7**	**+0.1**
TRN				*eS*	**Sn**	**16 17 43.8**	**-1.6**
TPP	**Pointe-a-Pierr**	**0.92**	**116**	*eP*	**Pn**	**16 17 35.3**	**+2.2**
TPP	**Pointe-a-Pierr**	**0.92**	**116**	*eP*	**Pn**	**16 17 38.0**	**+5.0**
TPP				*eS*	**Sn**	**16 17 48.7**	**+2.4**
CRUV	**Carupano**	**0.93**	**267**	*eP*	**Pn**	**16 17 33.8**	**+0.6**
CRUV				*eS*	**Sn**	**16 17 47.3**	**+0.8**
ITEV	**Isla Los Testi**	**1.03**	**307**	*eP*	**Pn**	**16 17 33.8**	**-0.6**
ITEV				*eS*	**Sn**	**16 17 48.1**	**-0.6**
TBH	**Brigand Hill**	**1.23**	**101**	*eP*	**Pn**	**16 17 37.4**	**+0.5**
TBH				*eS*	**Sn**	**16 17 53.7**	**+0.6**
TBH	**Brigand Hill**	**1.23**	**101**	*eP*	**Pn**	**16 17 37.1**	**+0.3**
TBH				*eS*	**Sn**	**16 17 53.7**	**+0.6**
GRW	**Mount Saint Ca**	**1.55**	**23**	*eP*	**Pn**	**16 17 41.2**	**+0.2**
GRW				*eS*	**Sn**	**16 17 59.6**	**-0.8**
GRW	**Mount Saint Ca**	**1.55**	**23**	*eP*	**Pn**	**16 17 41.2**	**+0.2**
GRW				*eS*	**Sn**	**16 17 57.9**	**-2.6**
TPR	**Prospect**	**1.55**	**73**	*eP*	**Pn**	**16 17 42.5**	**+1.5**
TPR				*eS*	**Sn**	**16 17 59.6**	**-1.0**
TPR	**Prospect**	**1.55**	**73**	*eP*	**Pn**	**16 17 45.7**	**+4.7**
TPR				*eS*	**Sn**	**16 17 59.6**	**-1.0**
GRHS	**Sauteurs**	**1.61**	**23**	*eP*	**Pn**	**16 17 42.4**	**+0.5**
GRHS				*eS*	**Sn**	**16 18 02.2**	**+0.2**
GRHS	**Sauteurs**	**1.61**	**23**	*eP*	**Pn**	**16 17 42.4**	**+0.5**
GRHS				*eS*	**Sn**	**16 17 58.2**	**-3.8**
GRIC	**Isle de Caille**	**1.69**	**24**	⇑*eP*	**Pn**	**16 17 43.6**	**+0.7**
GRIC				*eS*	**Sn**	**16 18 03.5**	**-0.4**
GRSS	**Sisters**	**1.69**	**23**	*eP*	**Pn**	**16 17 43.5**	**+0.6**
GRSS				*eS*	**Sn**	**16 18 03.7**	**-0.2**
GRSS	**Sisters**	**1.69**	**23**	*eP*	**Pn**	**16 17 43.5**	**+0.6**
GRSS				*eS*	**Sn**	**16 17 59.1**	**-4.7**
GRCU	**Cariacou**	**1.91**	**25**	*eP*	**Pn**	**16 17 46.3**	**+0.5**
GRCU				*eS*	**Sn**	**16 18 08.6**	**-0.5**
GRCU	**Cariacou**	**1.91**	**25**	*eP*	**Pn**	**16 17 46.3**	**+0.5**
GRCU				*eS*	**Sn**	**16 18 09.2**	**+0.1**
ORIV	**Oritupano**	**1.98**	**214**	*eP*	**Pn**	**16 17 47.5**	**+0.7**
ORIV				*eS*	**Sn**	**16 18 11.5**	**+0.7**
PCRV	**Puerto La Cruz**	**2.37**	**257**	*eP*	**Pn**	**16 17 52.4**	**+0.4**
GURV	**El Guri**	**3.06**	**195**	*eP*	**Pn**	**16 18 00.8**	**-0.5**
GURV				*eS*	**Sn**	**16 18 34.5**	**-2.2**
CUPV	**Cœpira**	**3.51**	**259**	*eP*	**Pn**	**16 18 08.3**	**+0.9**
CUPV				*eS*	**Sn**	**16 18 47.1**	**-0.6**
MERV	**Las Mercedes**	**4.21**	**250**	*eP*	**Pn**	**16 18 17.0**	**0.0**
LUEV	**Luepa**	**4.93**	**170**	*eP*	**Pn**	**16 18 24.9**	**-1.8**
LUEV				*eS*	**Sn**	**16 19 17.5**	**-4.9**
BAUV	**El Baul**	**5.94**	**253**	*eP*	**Pn**	**16 18 39.9**	**-0.7**
BAUV				*eS*	**Sn**	**16 19 42.8**	**-4.4**

MEX 27 16:25:29.3±1.0, 1657N×9899W, h16km±22km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.94**	**288**	*eP*	Pb	16 25 44.0	-3.2
ACX				*i* S	Sb	16 25 54.5	-4.8
MEIG	**Mezcala**	**1.48**	**336**	*i* P	Pn	16 25 52.9	-2.4
MEIG				*i* S	Sn	16 26 09.2	-5.0
UTMO	**Huajuapan**	**1.69**	**42**	*i* P	Pn	16 25 54.0	-4.1
UTMO				*i* S	Sn	16 26 13.9	-5.5
VHO	**Vista Hermosa**	**2.22**	**77**	*i* P	Pn	16 26 03.4	-2.0
VHO				*i* S	Sn	16 26 27.7	-4.7

CASC 27 16:32:02.7±1.6, 1088N×8518W, h216km±5km, MD3.5, ML3.5, 10C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZC	**La Cruz**	**0.41**	**281**	⇑*eP*	Pn	16 32 31.7	+0.4
CRZC				*eS*	S	16 32 55.8	+2.1
MADN	**Villa Maderas**	**0.63**	**327**	⇑*eP*	Pn	16 32 32.9	+0.7
FORC	**Fortuna**	**0.65**	**128**	⇑*iP*	Pn	16 32 33.1	+0.9
FORC				*i* S	S	16 32 56.2	+1.1
CONN	**Concepcion**	**0.81**	**328**	⇑*iP*	Pn	16 32 33.8	+0.8
VCR	**Vista de Mar**	**0.86**	**211**	⇑*eP*	Pn	16 32 33.9	+0.6
JCR	**Jicaral**	**1.02**	**176**	⇑*eP*	Pn	16 32 34.8	+0.5
JCR				*eS*	S	16 32 59.6	+0.8
EPA	**Esparza**	**1.05**	**147**	*eP*	Pn	16 32 34.9	+0.4
EPA				*eS*	S	16 32 59.7	+0.6
CGA2	**Cerro Gallo 2**	**1.11**	**140**	⇑*eP*	Pn	16 32 35.3	+0.5
CGA2				*eS*	S	16 32 59.6	-0.2
POA2	**Poas 2**	**1.15**	**127**	⇑*eP*	Pn	16 32 36.0	+0.9
CAO	**Cobano**	**1.17**	**176**	⇓*eP*	Pn	16 32 35.8	+0.6
CAO				*eS*	S	16 33 00.7	+0.1
PRS1	**Puriscal**	**1.23**	**136**	⇑*eP*	Pn	16 32 36.5	+0.8
SJS	**Escuela Geolog**	**1.45**	**130**	*eP*	Pn	16 32 38.0	+0.6
LAJ	**Bijagual**	**1.45**	**134**	*eP*	Pn	16 32 37.2	-0.2
TICN	**Ticuantepe**	**1.54**	**318**	*eS*	S	16 33 06.2	+0.4
TICN				*i*		16 33 13.6	
	comp=Z,355nm,0.3s						
OCM	**Ochomogo**	**1.55**	**129**	*eP*	Pn	16 32 38.5	+0.2
IRZ2	**Volcan Irazu 2**	**1.55**	**125**	⇑*eP*	Pn	16 32 38.9	+0.6
MGAN	**Managua**	**1.64**	**321**	*eS*	S	16 33 08.2	+0.8
APYN	**Apoyeque**	**1.77**	**320**	*eP*	Pn	16 32 42.2	+2.0
APYN				*eS*	S	16 33 11.4	+1.9
APYN				*i*		16 33 16.8	
	comp=Z,372nm,0.2s						
COPN	**Copaltepe**	**1.89**	**313**	*eP*	Pn	16 32 41.4	0.0
COPN				*eS*	S	16 33 12.7	+1.1
MOMJ	**Momotombo**	**2.02**	**319**	*eP*	Pn	16 32 44.3	+1.7
MOMJ				*eS*	S	16 33 14.8	+1.0
MIRN	**Miramar**	**2.16**	**316**	⇓*eP*	Pn	16 32 45.5	+1.5
MIRN				*eS*	S	16 33 17.1	+0.8
MIRN				*i*		16 33 22.8	
	comp=Z,166nm,0.2s						
LEON	**Leon**	**2.27**	**313**	*eP*	Pn	16 32 45.1	0.0
LEON				*eS*	S	16 33 18.9	+0.6
CRIN	**San Cristobal**	**2.57**	**315**	*eP*	Pn	16 32 50.5	+2.1
CRIN				*eS*	S	16 33 24.3	+0.1
CTCR	**Cotoan**	**3.09**	**129**	⇓*eP*	Pn	16 32 55.0	+0.8

MAN 27 17:02:45.1, 1527N×11966E, h29km, mb2.5, ML4.0, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.56**	**26**	*eP*	Pb	17 02 57.0	+0.6
BCPH	**Baguio City Da**	**1.41**	**39**	⇑*iP*	Pn	17 03 09.2	+0.3
BCPH				*i* S	Sn	17 03 27.9	+1.4
BALP	**Baler**	**1.91**	**76**	*eP*	Pn	17 03 16.5	+0.9
ABRA	**Dolores**	**2.57**	**23**	*eP*	Pn	17 03 26.5	+1.8
CAUP	**Cauayan**	**2.66**	**51**	*eP*	Pn	17 03 28.7	+2.7
BUSP	**Coron**	**3.29**	**171**	*eP*	Pn	17 03 36.3	+1.6
ENPP	**El Nido**	**4.05**	**183**	*eP*	Pn	17 03 46.1	+1.0

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*NEIC **27** 17:14:42.8±2.5, 2205S×17980W, h602km±24km, mb3.9/3, Error ellipse: s-maj=24.1km s-min=20.3km az=93.0*
*IDC **27** 17:14:43.6±6.2, 2208S×17981W, h608km±65km, mb3.0/5, mb1 3.2/6, mb1mx3.1/13, mbtmp4.0/6, Error ellipse: s-maj=46.9km s-min=24.6km az=67.0*
*ISCJB **27** 17:14:44.5±4.4, 2222S±02×1800W±04, h635km±43km, mb3.7/8, Error ellipse: s-maj=53.4km s-min=32.4km az=134.3*

ISC 27 17:14:42.7±4.1, 2222S±02×1798W±03, h595km±35km, n27, σ0°43/15, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.76**	**268**	P	**P**	**17 17 28.8**	**-0.2**
	0.5nm,0.3s,baz=87,slow=18,SNR=5.9						
CTAO	**Charters Tower**	**31.71**	**267**	*eP*	**P**	**17 20 19.8**	**+0.7**
	2.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**35.58**	**246**	P	**P**	**17 20 52.1**	**+0.5**
	1.9nm,0.9s,mb3.6,baz=90,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**35.58**	**246**	*eP*	**P**	**17 20 52.0**	**+0.5**
AS31	**Alice Springs**	**42.54**	**259**	*eP*	**P**	**17 21 46.8**	**-0.5**
ASAR	**Alice Springs**	**42.54**	**259**	P	**P**	**17 21 47.6**	**+0.3**
	1.5nm,0.5s,mb3.8,baz=96,slow=8.3,SNR=39						
ASAR				PcP	PcP	17 23 26.0	+0.3
	0.6nm,0.5s,baz=106,slow=3.6,SNR=6.1						
ASPA	**Alice Springs**	**42.54**	**259**	*eP*	**P**	**17 21 47.0**	**-0.3**
WB2	**Warramunga Arr**	**42.74**	**264**	*eP*	**P**	**17 21 48.3**	**-0.5**
WRA	**Warramunga Arr**	**42.75**	**264**	P	**P**	**17 21 48.9**	**0.0**
	1.2nm,0.3s,mb3.9,baz=94,slow=8.0,SNR=64						
FITZ	**Fitzroy Crossi**	**51.18**	**264**	*eP*	**P**	**17 22 52.8**	**+0.7**
	3.0nm,0.8s,mb3.8						
MBWA	**Marble Bar**	**55.88**	**259**	*eP*	**P**	**17 23 24.8**	**-0.4**
	4.1nm,0.5s,mb3.9						
VNDA	**Vanda**	**56.13**	**185**	P	**P**	**17 23 26.9**	**0.0**
	1.0nm,0.7s,mb3.1,baz=238,slow=11,SNR=7.5						
VNDA	**Vanda**	**56.13**	**185**	P	**P**	**17 23 26.9**	**0.0**
MJAR	**Matsushiro Arr**	**70.57**	**325**	P	**P**	**17 24 59.1**	**+0.2**
	0.7nm,0.6s,mb3.4,baz=148,slow=5.0,SNR=5.4						
KSM	**Kuching**	**72.01**	**279**	*eP*	**P**	**17 25 06.9**	**-0.4**
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	PKiKP	17 32 08.0	-1.5
	0.2nm,0.5s,baz=132,slow=1.7,SNR=4.4						
MKAR	**Makanchi Array**	**111.11**	**313**	PKPdf	PKiKP	17 32 08.0	-1.5
BVAR	**Borovoye Array**	**119.25**	**319**	PKP	PKPdf	17 32 23.5	-1.6
	0.9nm,0.3s,baz=121,slow=1.6,SNR=10						
ARCES	**ARCESS Array B**	**130.22**	**349**	PKP	PKPdf	17 32 44.4	-1.7
	5.2nm,1.0s,baz=339,slow=6.5,SNR=3.6						
FINES	**FINESS Array B**	**136.85**	**342**	PKP	PKPdf	17 32 58.6	+0.1
	2.5nm,0.8s,baz=96,slow=3.8,SNR=4.8						
HFS	**Hagfors**	**140.87**	**349**	PKhKP		17 32 58.9	
	2.1nm,0.4s,baz=42,slow=5.0,SNR=15						
AKASG	**Malin Array Be**	**143.60**	**329**	PKP	PKPdf	17 33 08.2	-2.4
	1.7nm,0.3s,baz=43,slow=4.0,SNR=17						
BRTR	**Keskin Array B**	**146.65**	**309**	PKPbc	PKPbc	17 33 18.2	-0.3
	1.2nm,0.6s,baz=135,slow=4.7,SNR=7.2						
EKA	**Eskdalemuir Ar**	**146.77**	**4**	PKPbc	PKPbc	17 33 17.1	-1.7
	0.8nm,0.5s,baz=350,slow=2.1,SNR=5.3						
CLL	**Collm**	**149.24**	**344**	*i* PKPbc	PKPbc	17 33 23.7	-1.3
	comp=Z,9.0nm,0.8s						
CLL				*e*PKPab	PKPab	17 33 28.0	-4.1
BRG	**Berggiesshubel**	**149.38**	**343**	*i* P	PKPdf	17 33 25.0	+4.8
	comp=Z,4.1nm,0.7s						
GERES	**GERESS Array B**	**151.28**	**341**	PKPbc	PKPbc	17 33 29.1	-0.6
	comp=Z,0.5nm,0.4s,baz=52,slow=2.2,SNR=5.6						

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*IPEC **27** 17:26:10.2±0.2, 5036N×1890E, h6km±1km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.1km az=172.0*
*CSEM **27** 17:26:10.4±0.2, 5038N×1891E, h2km, ML3.2/5, Error ellipse: s-maj=5.2km s-min=2.5km az=10.0*
*NEIC **27** 17:26:10.2±0.7, 5039N×1884E, h5km, ML2.7(CLL), Error ellipse: s-maj=12.6km s-min=5.2km az=197.0*
*PRU **27** 17:26:11.2, 5037N×1879E, h0km*

WAR 27 17:26:10.2, 5037N×1891E, ML2.7, 1C-4D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.54**	**239**	*ePg*	Pg	17 26 21.3	+0.7
RAC				*eSg*	Sg	17 26 29.4	+1.8
OJC	**Ojcow**	**0.59**	**104**	*ePg*	Pg	17 26 21.7	+0.3
OJC				*eSg*	Sg	17 26 29.8	+0.8
OJC	**Ojcow**	**0.59**	**104**	*ePg*	Pg	17 26 21.6	+0.2
OJC				*eSg*	Sg	17 26 29.8	+0.8
OKC	**Ostrava-Krasne**	**0.72**	**223**	*ePG*	Pg	17 26 24.0	-0.1
OKC				*eSG*	Sg	17 26 33.1	-0.4
	35nm,0.3s						
MORC	**Moravsky Berou**	**1.06**	**237**	⇓*iP*	Pg	17 26 29.8	-0.8
MORC	**Moravsky Berou**	**1.06**	**237**	*ePg*	Pg	17 26 29.7	-0.9
MORC				*eSg*	Sg	17 26 43.9	-0.4
	37nm,0.2s						
NIE	**Niedzica**	**1.31**	**136**	*ePg*	Pg	17 26 35.4	+0.1
NIE				*eSg*	Sg	17 26 51.8	-0.5
DPC	**Dobruska-Polom**	**1.66**	**270**	*ePG*	Pg	17 26 39.4	-2.6
DPC				*eSG*	Sg	17 27 01.8	-1.8
	26nm,0.6s						
DPC	**Dobruska-Polom**	**1.66**	**270**	*ePg*	Pg	17 26 39.4	-2.6
DPC				*eSg*	Sg	17 27 02.3	-1.3
JAVC	**Velka Javorina**	**1.71**	**209**	*ePn*	Pn	17 26 41.2	-0.1
KSP	**Ksiaz**	**1.74**	**287**	Pn	Pn	17 26 40.6	-1.0
KSP				*ePg*	Pg	17 26 42.4	-1.1
KSP				*eSg*	Sg	17 27 05.7	-0.3
KSP	**Ksiaz**	**1.74**	**287**	*ePn*	Pn	17 26 40.6	-1.0
KSP				*ePg*	Pg	17 26 42.4	-1.1
KSP				*eSg*	Sg	17 27 05.7	-0.3
STHS	**Stebnicka Huta**	**1.78**	**121**	*ePN*	Pn	17 26 44.0	+1.8
STHS				*eSN*	Sn	17 27 10.6	+5.0
VRAC	**Vranov**	**1.84**	**236**	⇑*iP*	Pn	17 26 42.0	-1.0
VRAC	**Vranov**	**1.84**	**236**	*ePn*	Pn	17 26 42.0	-1.0
VRAC				*eSg*	Sg	17 27 07.6	-1.7
	18nm,0.2s						
UPC	**Upice**	**1.86**	**275**	*ePG*	Pg	17 26 43.8	-2.1
UPC				*eSG*	Sg	17 27 09.4	-0.6
VYHS	**Vyhne**	**1.88**	**182**	*ePN*	Pn	17 26 42.6	-0.9
VYHS				*eSN*	Sn	17 27 06.2	-1.7
KRUC	**Moravsky**	**2.09**	**232**	*ePn*	Pn	17 26 45.6	-0.9
KRUC				*eSg*	Sg	17 27 14.8	-2.6
	11nm,0.2s						
KECS	**Kecovo**	**2.15**	**151**	*ePN*	Pn	17 26 47.1	-0.1
KECS				*eSN*	Sn	17 27 18.4	+3.8
CRVS	**Cervenica-Dubn**	**2.21**	**131**	*ePN*	Pn	17 26 51.9	+3.8
CRVS				*eSN*	Sn	17 27 21.3	+5.1
PSZ	**Piszkesteto**	**2.53**	**165**	⇓*iP*	Pn	17 26 57.3	+4.7
KOLS	**Kolonicke sedl**	**2.61**	**122**	*ePG*	Pg	17 27 01.6	+1.3
KOLS	**Kolonicke sedl**	**2.61**	**122**	*eP*	Pn	17 26 53.9	+0.3
KOLS				*ePg*	Pg	17 27 01.6	+1.3
KOLS	**Kolonicke sedl**	**2.61**	**122**	*ePg*	Pg	17 27 01.6	+1.3
PVCC	**Panska Ves**	**2.78**	**275**	*ePG*	Pg	17 27 00.7	-2.8
PRU	**Pruhonice**	**2.84**	**264**	*ePN*	Pn	17 26 54.7	-2.0
PRU				*ePG*	Pg	17 26 59.9	-4.7
PRU				*eSG*	Sg	17 27 38.0	-3.3
	8.7nm,0.6s						
BRG	**Berggiesshubel**	**3.21**	**281**	PG	Pg	17 27 08.8	-2.9
BRG				SG	Sg	17 27 52.3	-0.9
	3.8nm,0.6s						
KHC	**Kasperske Hory**	**3.67**	**252**	*ePN*	Pn	17 27 06.9	-1.4
KHC				*ePG*	Pg	17 27 14.7	-5.9
KHC				*eSG*	Sg	17 28 04.2	-4.1
	9.4nm,0.4s						
GEC2	**GERESS Array S**	**3.72**	**248**	*ePn*	Pn	17 27 06.3	-2.5
GEC2				*eSg*	Sg	17 28 05.7	-3.9
GEC2	**GERESS Array S**	**3.72**	**248**	*ePn*	Pn	17 27 06.3	-2.5
CLL	**Collm**	**3.86**	**286**	*ePg*	Pg	17 27 24.0	-0.3
CLL				*eSg*	Sg	17 28 13.0	-1.4
	comp=Z,12nm,0.9s						
NKC	**Novy Kostel**	**4.15**	**271**	*eSG*	Sg	17 28 21.4	-2.1
BURAR	**Bucovina Array**	**4.98**	**121**	⇓*iP*	Pn	17 27 26.9	+0.7
GZR	**Gura Zlata**	**5.61**	**151**	⇓*iP*	Pn	17 27 36.2	+1.3

IDC 27 17:51:46.8±1.9, 027S×12527E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/17, Error ellipse: s-maj=172.9km s-min=26.3km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**156**	P	P	17 56 36.3	-0.6
	0.5nm,0.4s,baz=334,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**24.72**	**161**	P	P	17 57 10.6	+0.9
	0.5nm,0.4s,baz=344,slow=7.6,SNR=31						
JHJ	**Hachijo jima 2**	**35.91**	**21**	LR	LR	18 09 58.3	
	comp=Z,24nm,22.0s,baz=256,slow=30						
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	18 01 55.5	+0.1
	0.2nm,0.4s,baz=120,slow=7.2,SNR=4.8						

IGQ 27 18:07:15.3, 001N×7796W, h7km±4km, Mb4.2, Ms4.0, 10C-8D, Error ellipse: s-maj=1.9km s-min=1.4km az=108.8, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYR	**Refugio Cayamb**	**0.05**	**276**	⇓P	Pg	18 07 17.1	+0.3
ANGU	**Angureal**	**0.06**	**307**	⇓P	Pg	18 07 17.1	+0.1
CAYA	**Cayambe**	**0.07**	**334**	⇑P	Pg	18 07 17.1	0.0
CONE	**Cono NE Rev Vo**	**0.33**	**104**	⇓P	Pg	18 07 22.4	+0.7
LAV3	**Lava3-Reventad**	**0.34**	**108**	⇓P	Pg	18 07 22.6	+0.5
COTA	**Cotacachi**	**0.50**	**311**	⇓P	Pg	18 07 26.0	+1.1
ANTI

HNR Honiara 23.93 299 P **P 18 12 11.1 +0.8**
115nm,0.6s,mb5.5,baz=30,slow=0.6,SNR=17
MLZ Mavora Lakes 25.27 202 *eP* **P 18 12 22.0 -0.3**
TBI Tubuai 27.21 98 *eS* **S 18 16 47.3 -0.3**
ARMA Armidale 27.48 247 ⇑*iP* **P 18 12 44.0 +2.1**
PAE Paea 27.99 86 *eP* **P 18 12 46.4 +0.1**
97nm,1.2s,mb5.0
PAE Paea 27.99 86 *eP* **P 18 12 46.4 +0.1**
PAE pmax pmax
comp=Z,97nm,1.2s,mb5.0
PPT Papeete 28.02 86 *eS* **S 18 16 59.6 -0.6**
comp=Z,273nm,26.8s
PPT Papeete 28.02 86 *eP* **P 18 12 46.9 +0.3**
PPT *eS* **S 18 16 59.6 -0.6**
PPT pmax pmax
comp=Z,83nm,1.3s
PPT Papeete 28.02 86 *eP* **P 18 12 46.9 +0.3**
comp=Z,83nm,1.3s,mb4.9
PPT *eS* **S 18 16 59.6 -0.6**
TVO Taravao 28.26 86 *eP* **P 18 12 49.0 +0.3**
comp=Z,180nm,1.3s,mb5.2
TVO Taravao 28.26 86 *eP* **P 18 12 49.0 +0.3**
TVO pmax pmax
comp=Z,181nm,1.3s,mb5.2
PMOR Pomariorio Ree 30.29 82 *eP* **P 18 13 06.6 +0.1**
comp=Z,68nm,1.0s,mb5.0
VAH Vaihoa 30.47 82 *eP* **P 18 13 07.8 -0.2**
comp=Z,103nm,1.1s,mb5.1
CNB Canberra Magne 30.48 238 *eP* **P 18 13 09.9 +1.8**
comp=Z,48nm,0.8s,mb4.9
CTA Charters Tower 32.45 267 *eP* **P 18 13 26.0 +0.9**
comp=Z,52nm,0.5s,mb5.1
CTA *eS* **S 18 18 10.3 +1.4**
CTA *e*SCP ScP 18 19 06.6 +2.3
CTA Charters Tower 32.45 267 P **P 18 13 26.3 +1.2**
comp=Z,55nm,0.4s,mb5.2,baz=93,slow=10,SNR=214
CTA ScP ScP 18 19 06.4 +2.1
comp=Z,12nm,1.0s,baz=60,slow=3.7,SNR=6.1
CTA Charters Tower 32.45 267 *eP* **P 18 13 26.0 +0.9**
CTA *eS* **S 18 18 10.3 +1.4**
CTA pmax pmax
comp=Z,52nm,0.5s
CTAO Charters Tower 32.45 267 *eP* **P 18 13 25.6 +0.5**
CTAO pmax pmax
comp=Z,54nm,0.5s,mb5.1
CTAO Charters Tower 32.45 267 *eP* **P 18 13 25.6 +0.5**
comp=Z,54nm,0.5s,mb5.1
TOO Toolangi 34.11 235 *eP* **P 18 13 39.7 +0.4**
comp=Z,16nm,0.5s,mb4.6
TOO Toolangi 34.11 235 *eP* **P 18 13 39.7 +0.4**
TOO pmax pmax
comp=Z,16nm,0.5s,mb4.6
PMG Port Moresby 34.91 286 P **P 18 13 47.3 +1.3**
comp=Z,92nm,0.8s,mb5.2,baz=96,slow=5.7,SNR=32
STKA Stephens Creek 36.20 246 ⇑*iP* **P 18 13 57.4 +0.5**
comp=Z,24nm,0.6s,mb4.7
STKA *eS* **S 18 19 04.9 -1.0**
STKA *e*SCP ScP 18 19 19.9 +2.1
STKA Stephens Creek 36.20 246 P **P 18 13 57.9 +1.0**
comp=Z,22nm,0.6s,mb4.7,baz=88,slow=10,SNR=77
STKA ScP ScP 18 19 19.3 +1.5
comp=Z,10nm,0.9s,baz=24,slow=2.2,SNR=6.5
RKT Rikitea 40.49 100 *eS* **S 18 20 09.7 +0.2**
comp=Z,146nm,26.0s
AS31 Alice Springs 43.24 259 *eP* **P 18 14 53.9 -0.1**
AS31 *e*ScP ScP 18 19 47.7 +2.4
AS31 *eS* **S 18 20 47.0 -2.4**
ASAR Alice Springs 43.24 259 P **P 18 14 54.2 +0.3**
comp=Z,45nm,0.7s,mb4.9,baz=92,slow=8.0,SNR=274
ASAR PcP PcP 18 16 33.3 -1.1
comp=Z,5.5nm,0.8s,baz=102,slow=5.0,SNR=5.3
ASAR ScP ScP 18 19 47.6 +2.4
comp=Z,8.7nm,1.0s,baz=116,slow=3.9,SNR=9.9
ASAR S **S 18 20 47.2 -2.2**
comp=Z,5.1nm,0.9s,baz=93,slow=16,SNR=15
ASAR Alice Springs 43.24 259 P **P 18 14 54.3 +0.3**
ASAR 18 16 33.3
ASAR S **S 18 20 47.3 -2.1**
ASPA Alice Springs 43.24 259 *eP* **P 18 14 53.9 -0.1**
ASPA *e*SCP ScP 18 19 47.7 +2.4
ASPA *eS* **S 18 20 47.0 -2.4**
WB2 Warramunga Arr 43.46 264 *eP* **P 18 14 55.2 -0.5**
WB2 *e*PCP PcP 18 16 33.5 -1.6
WB2 *e*SCP ScP 18 19 47.7 +1.5
WB2 *eS* **S 18 20 49.3 -3.3**
WRAB Tennant Creek 43.47 264 *iP* **P 18 14 55.4 -0.3**
WRA Warramunga Arr 43.48 264 P **P 18 14 55.6 -0.2**
comp=Z,19nm,0.8s,mb4.5,baz=99,slow=5.3,SNR=176
WRA PcP PcP 18 16 37.7 +2.5
comp=Z,9.7nm,1.0s,baz=98,slow=4.3,SNR=8.1
WRA ScP ScP 18 19 48.5 +2.3
comp=Z,16nm,1.1s,baz=99,slow=4.3,SNR=13
WRA S **S 18 20 51.5 -1.3**
comp=Z,2.3nm,0.9s,baz=104,slow=14,SNR=4.2
WRA PKiKP PKiKP 18 23 35.3 -0.7
comp=Z,1.2nm,0.8s,baz=174,slow=2.0,SNR=7.3
WRA Warramunga Arr 43.48 264 P **P 18 14 55.6 -0.2**
WRA 18 16 37.7
WRA S **S 18 20 51.5 -1.3**
WRA Warramunga Arr 43.48 264 P **P 18 14 55.6 -0.2**
WRA PcP PcP 18 16 37.7 +2.5
WRA ScP ScP 18 19 48.5 +2.3
WRA S **S 18 20 51.5 -1.3**
KAKA Kakadu 47.13 273 *eP* **P 18 15 23.6 -0.5**
comp=Z,18nm,0.4s,mb4.8
FORT Forrest 47.76 248 *eP* **P 18 15 28.0 -0.8**
comp=Z,110nm,0.7s,mb5.3
FORT *e*SCP ScP 18 20 05.5 +1.4
FORT *eS* **S 18 21 52.2 -1.0**
FITZ Fitzroy Crossi 51.91 264 *eP* **P 18 15 59.8 +0.2**
comp=Z,10.0nm,0.4s,mb4.4
SBA Scott Base 56.02 184 *eP* **P 18 16 31.1 +2.2**
SBA pmax pmax
comp=Z,210nm,1.1s,mb5.4
SBA Scott Base 56.02 184 *eP* **P 18 16 31.1 +2.3**
comp=Z,21nm,1.1s,mb4.4
VNDA Vanda 56.04 185 P **P 18 16 30.6 +1.6**
comp=Z,4.6nm,0.7s,mb3.9,baz=359,slow=7.2,SNR=49
KLBR Kellerberrin 56.48 246 *eP* **P 18 16 31.9 -0.2**
comp=Z,26nm,0.7s,mb4.7
MBWA Marble Bar 56.59 259 *eP* **P 18 16 32.1 -0.7**
comp=Z,21nm,0.7s,mb4.6
CASY Casey 61.95 206 *eP* **P 18 17 08.9 -0.1**
QSPA South Pole Qui 67.77 180 *eP* **P 18 17 47.1 +1.1**
comp=Z,10nm,0.8s,mb4.5
MIR Mirnyy 68.97 205 *eP* **P 18 17 56.0 +2.6**
MIR pmax pmax
comp=Z,200nm,1.0s,mb5.7
MJAR Matsushiro Arr 71.13 325 P **P 18 18 05.8 -0.6**
comp=Z,4.7nm,0.7s,mb4.1,baz=157,slow=5.4,SNR=17
MJAR pP pP 18 19 45.1 +8.4
comp=Z,3.7nm,1.0s,baz=157,slow=5.6,SNR=4.1
MAT Matsushiro 71.13 325 P **P 18 18 05.7 -0.7**
KSM Kuching 72.77 279 *eP* **P 18 18 16.4 +0.4**
ASAJ Asahikawa 74.88 332 P **P 18 18 29.9 +1.8**
comp=Z,33nm,0.8s,mb5.0,baz=210,slow=9.1,SNR=19
UNV Unalaska Valle 76.60 8 *eP* **P 18 18 35.5 -2.2**
comp=Z,351nm,0.8s
AKUT Akutan 76.97 8 *eP* **P 18 18 37.4 -2.3**
comp=Z,98nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 77.11 334 *diP* **P 18 18 41.9 +1.5**
YSS *i* *PP pP 18 20 12.1 -0.4
YSS pmax pmax
comp=Z,17nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 77.11 334 *eP* **P 18 18 40.7 +0.3**
comp=Z,16nm,0.8s,mb4.7
SDPT Sand Point 78.94 11 *eP* **P 18 18 48.0 -2.4**
comp=Z,241nm,1.9s,mb5.5
MAW Mawson 79.56 200 *eP* **P 18 18 52.4 -1.3**
comp=Z,6.1nm,0.6s,mb4.4
MAW Mawson 79.56 200 P **P 18 18 53.1 -0.6**
comp=Z,10nm,0.8s,mb4.5,baz=122,slow=6.1,SNR=27
MAW Mawson 79.56 200 *eP* **P 18 18 52.4 -1.3**
MAW pmax pmax
comp=Z,6.0nm,0.6s
CHGN Chignik 80.21 11 *eP* **P 18 18 56.6 -0.5**
HOPS Hopland 80.33 41 *eP* **P 18 18 59.9 +2.2**
comp=Z,17nm,0.8s,mb4.7
NJ2 Nanjing 80.34 310 *eP* **P 18 18 58.0 +0.2**
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
KIPM Iron Peak 80.60 40 *eP* **P 18 19 00.4 +1.3**
QIZ Qiongzhong 80.77 295 P **P 18 19 01.0 +0.9**
QIZ S S 18 28 36.5 +3.7
QIZ AMB AMB
comp=Z,313nm,3.0s
ISA Isabella 81.25 46 *eP* **P 18 19 03.5 +1.0**
CMB Columbia Colle 81.40 43 *eP* **P 18 19 03.4 +0.1**
CMB pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
CMB Columbia Colle 81.40 43 *eP* **P 18 19 03.4 0.0**
comp=Z,9.4nm,1.1s,mb4.4
MDJ Mudanjiang 81.48 326 P **P 18 19 03.8 +0.1**
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,168nm,6.2s
MDJ Mudanjiang 81.48 326 *eP* **P 18 19 04.0 +0.3**
comp=Z,18nm,1.0s,mb4.8
WDC Whiskeytown Da 81.64 40 *eP* **P 18 19 04.2 -0.4**
WDC pmax pmax
comp=Z,18nm,0.9s,mb4.8
WDC Whiskeytown Da 81.64 40 *eP* **P 18 19 04.2 -0.4**
comp=Z,18nm,0.9s,mb4.8
MTUM Tungsten Hills 82.17 44 *eP* **P 18 19 07.6 +0.4**
YBH Yreka Blue Hor 82.26 39 *eP* **P 18 19 08.6 +0.8**
YBH pmax pmax
comp=Z,21nm,0.8s
YBH Yreka Blue Hor 82.26 39 *eP* **P 18 19 08.6 +0.8**
comp=Z,21nm,0.8s,mb4.9
HUMO Hull Mountain 82.67 38 *eP* **P 18 19 10.3 +0.4**
comp=Z,31nm,1.1s,mb4.9
KDAK Kodiak Island 82.78 14 P **P 18 19 10.1 -0.3**
comp=Z,29nm,0.8s,mb5.0,baz=164,slow=3.5,SNR=20
PAHR Pah Rah Range 83.03 42 *eP* **P 18 19 11.7 0.0**
comp=Z,13nm,0.8s,mb4.7
CN2 Changchun 83.18 323 *eP* **P 18 19 13.0 +0.6**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
KLR Kul'dur 83.62 330 *eP* **P 18 19 12.0 -2.6**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.0
PSI Prapat 83.75 276 P **P 18 19 15.4 +0.1**
comp=Z,9.3nm,0.9s,mb4.5,baz=206,slow=7.0,SNR=9.0
MOD Modoc 83.78 40 *eP* **P 18 19 15.4 0.0**
comp=Z,6.7nm,0.8s,mb4.4
HBO Huckleberry Mo 83.81 37 P **P 18 19 16.0 +0.4**
IRO Indian Ridge 83.95 37 P **P 18 19 16.1 -0.2**
SSOR Sweet Springs 84.37 37 P **P 18 19 18.5 +0.1**
BMN Battle Mountai 84.80 42 *eP* **P 18 19 21.6 +1.1**
BMN pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BMN Battle Mountai 84.80 42 *eP* **P 18 19 21.6 +1.1**
comp=Z,5.2nm,0.7s,mb4.4
TUC Tucson 84.81 52 *eP* **P 18 19 21.6 +1.1**
TUC pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
TUC Tucson 84.81 52 *eP* **P 18 19 21.6 +1.1**
comp=Z,6.8nm,0.8s,mb4.4
VIPM Ingram Point 85.19 38 P **P 18 19 22.7 +0.3**
SVW2 Sparrevohn 85.24 11 *eP* **P 18 19 21.4 -1.2**
MA2 Magadan 85.28 345 *eP* **P 18 19 22.7 -0.1**
MA2 *e* 18 29 06.1
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.9
CCUT Cedar City 85.71 47 *eP* **P 18 19 25.2 +0.2**
SLKM Skilak Lake 85.77 14 *eP* **P 18 19 24.8 -0.4**
SNAA Sanae 86.23 179 *eP* **P 18 19 26.5 -1.0**
SNAA *e* 18 19 31.4
VNA3 Neumayer Olymp 86.40 177 *eP* **P 18 19 27.7 -0.6**
VNA3 *e* 18 19 32.9
VNA3 *e* 18 19 39.1
VNA3 *e* 18 19 48.5
BJT Baijiatuau 86.53 316 *eP* **P 18 19 28.7 -0.2**
BJT pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuau 86.53 316 *eP* **P 18 19 28.7 -0.2**
comp=Z,11nm,0.8s,mb4.7
BJI Beijing 86.54 316 *eP* **P 18 19 29.8 +0.9**
BJI AMB AMB
comp=Z,15nm,0.9s,mb4.7
BJI AMB AMB
comp=Z,306nm,3.1s
BJI Beijing 86.54 316 *eP* **P 18 19 29.8 +0.9**
comp=Z,15nm,0.9s,mb4.7
BJI S S 18 29 39.7 +10
GYA Guiyang 86.75 300 P **P 18 19 31.5 +1.6**
GYA AMB AMB
comp=Z,10.0nm,1.5s,mb4.3
VNA2 Neumayer--Watz 86.83 177 *eP* **P 18 19 29.8 -0.5**
baz=196,slow=4.8
VNA2 *e* 18 19 34.6
VNA2 *e* 18 19 41.8
HAWA Hanford 86.94 37 *eP* **P 18 19 29.5 -1.3**
comp=Z,31nm,1.0s,mb5.0
PMR Palmer 86.98 14 *eP* **P 18 19 30.0 -1.0**
PMR pmax pmax
comp=Z,83nm,1.1s,mb5.4
PMR Palmer 86.98 14 *eP* **P 18 19 30.0 -1.0**
comp=Z,83nm,1.1s,mb5.4
MSU Marysvale 87.01 46 *eP* **P 18 19 33.2 +2.0**
GBL Gable Mountain 87.10 37 P **P 18 19 31.8 +0.2**
WTV Waterville 87.50 35 P **P 18 19 33.3 -0.2**
WRAK Wrangell Islan 87.73 24 *eP* **P 18 19 34.7 +0.2**
comp=Z,131nm,1.3s,mb5.5
SEY Seymchan 87.92 347 ⇑*iP* **P 18 19 35.3 -0.1**
TMUT Trail Mountain 88.06 46 *eP* **P 18 19 37.0 +0.9**
HLID Hailey 88.28 41 *eP* **P 18 19 37.4 +0.2**
comp=Z,6.3nm,0.8s,mb4.4
SRU San Rafael 88.43 46 *eP* **P 18 19 37.9 +0.1**
SRU pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SRU San Rafael 88.43 46 *eP* **P 18 19 37.9 +0.1**
comp=Z,6.9nm,0.8s,mb4.4
XAN Xi'an 88.50 308 P **P 18 19 39.3 +1.1**
XAN AMB AMB
comp=Z,21nm,0.9s,mb4.9
BNM Barren Site 88.74 52 *eP* **P 18 19 39.7 +0.5**
TXAR Lajitas Array 88.79 58 P **P 18 19 40.5 +0.9**
comp=Z,6.9nm,0.8s,mb4.4,baz=221,slow=5.4,SNR=46
TXAR pP pP 18 21 23.7 +9.1
comp=Z,3.2nm,1.0s,baz=217,slow=6.0,SNR=7.4
MCK McKinley 88.93 13 *eP* **P 18 19 38.4 -1.7**
MCK pmax pmax
comp=Z,50nm,0.9s,mb5.2
MCK McKinley 88.93 13 *eP* **P 18 19 38.4 -1.7**
comp=Z,50nm,0.9s,mb5.2
SKAG Skagway 88.99 21 *eP* **P 18 19 40.8 +0.4**
comp=Z,31nm,1.0s,mb5.0
ANMO Albuquerque 89.24 52 ⇑*eP* **P 18 19 40.4 -1.2**
KMI Kunming 89.36 297 P **P 18 19 42.8 +0.7**
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.3
KMI Kunming 89.36 297 P **P 18 19 42.7 +0.6**
KMI pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
KMI Kunming 89.36 297 P **P 18 19 42.7 +0.6**
comp=Z,8.0nm,1.2s,mb4.3
MENT Mentasta 89.41 15 *eP* **P 18 19 42.1 -0.3**
HIA Hailar 89.63 325 *eP* **P 18 19 42.9 -0.5**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 89.63 325 *eP* **P 18 19 42.9 -0.5**
comp=Z,6.4nm,0.9s,mb4.5
CM31 Chiang Mai Arr 89.86 290 *eP* **P 18 19 47.0 +2.5**
comp=Z,11nm,0.6s,mb4.9
MCMT McKenzie Canyo 89.92 41 *eP* **P 18 19 45.0 +0.2**
AHID Auburn Hatcher 89.92 43 *eP* **P 18 19 46.6 +1.9**
comp=Z,7.5nm,0.4s,mb4.9
CHTO Chiang Mai 90.00 290 *eP* **P 18 19 46.3 +1.2**
CHTO pmax pmax
comp=Z,20nm,0.8s,mb5.0
CHTO Chiang Mai 90.00 290 *eP* **P 18 19 46.3 +1.2**
comp=Z,20nm,0.8s,mb5.0
RRI2 Red Ridge 90.08 42 *eP* **P 18 19 45.7 +0.2**
comp=Z,21nm,0.8s,mb5.0
COLA College 90.16 13 *eP* **P 18 19 44.4 -1.5**
COLA pmax pmax
comp=Z,71nm,0.9s,mb5.5
COLA College 90.16 13 *eP* **P 18 19 44.4 -1.5**
comp=Z,71nm,0.9s,mb5.5
IMA2 Indian Mountai 90.17 10 *eP* **P 18 19 44.8 -1.1**
IMW Indian Meadow 90.60 42 *eP* **P 18 19 48.2 +0.3**
comp=Z,8.7nm,0.8s,mb4.6
BILL Bilibino 90.73 355 ⇑*iP* **P 18 19 48.2 -0.3**
BILL *e* 18 29 39.4
BILL pmax pmax
comp=Z,36nm,0.8s,mb5.2
BILL Bilibino 90.73 355 *eP* **P 18 19 45.5 -3.0**
comp=Z,40nm,0.9s,mb5.2
QLMT Earthquake Lak 90.78 41 *eP* **P 18 19 49.3 +0.6**
PDAR Pinedale Array 90.90 44 P **P 18 19 48.8 -0.5**
comp=Z,6.2nm,0.9s,mb4.5,baz=209,slow=2.7,SNR=34
PDAR PKKPbc PKKPbc 18 37 12.2 +0.8
comp=Z,0.8nm,0.8s,baz=89,slow=4.7,SNR=5.6
CMIG Matias Romero 91.10 72 P **P 18 19 50.0 -0.2**
comp=Z,1.7nm,0.9s,mb3.9,baz=224,slow=9.2,SNR=4.2
CMIG Matias Romero 91.10 72 P **P 18 19 50.0 -0.2**
DAWY Dawson 91.44 16 *eP* **P 18 19 50.7 -1.1**
EGAK Eagle 91.58 15 *eP* **P 18 19 50.9 -1.6**
comp=Z,27nm,0.8s,mb5.2
YAK Yakutsk 93.44 338 *eP* **P 18 19 59.5 -1.5**
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.1
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.7s
YAK Yakutsk 93.44 338 *eP* **P 18 19 58.7 -2.3**
comp=E,32nm,0.8s,mb5.3
ULN Ulaanbaatar 96.13 319 ⇓*iP* **P 18 20 13.5 +0.3**
ULN Ulaanbaatar 96.13 319 *eP* **P 18 20 12.7 -0.5**
comp=E,2.8nm,0.8s,mb4.4
SONM Songino Array 96.51 319 P **P 18 20 15.2 +0.2**
comp=E,1.2nm,0.9s,mb4.0,baz=136,slow=3.9,SNR=8.1
SONM PP PP 18 24 13.5 -1.9
comp=E,1.0nm,0.9s,baz=135,slow=3.7,SNR=4.7
SONM PKKPbc PKKPbc 18 36 57.7 +0.8
comp=E,0.6nm,0.7s,baz=97,slow=36,SNR=4.7
SONM Songino Array 96.51 319 P **P 18 20 15.2 +0.3**
SONM 18 24 13.5
GTA Gaotai 97.41 309 *eP* **P 18 20 20.3 +1.4**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.5
TIXI Tiksi 100.25 345 ⇑*eP* Pdif 18 20 33.4 +1.8
JIRN Jiri 104.09 294 *eP* PKiKP 18 25 03.6 +0.3
comp=Z,14nm,0.7s
GUN Gumba 104.43 294 *eP* PKiKP 18 25 04.2 +0.3
comp=Z,9.8nm,0.7s
PKI Pulchoki 104.72 294 *eP* PKiKP 18 25 04.5 0.0
KKN Kakani 104.90 294 *eP* PKiKP 18 25 05.0 +0.2
comp=Z,11nm,0.8s
KOLN Koldanda 106.31 294 *eP* PKiKP 18 25 08.1 +0.7
ZAL Zalesovo 111.33 321 PKiKP PKiKP 18 25 15.4 -1.4
comp=Z,2.3nm,0.6s,baz=19,slow=5.1,SNR=12
MK31 Makanchi Array 111.76 313 *e*PKiKP PKiKP 18 25 15.8 -1.9
MKAR Makanchi Array 111.76 313 PKiKP PKiKP 18 25 16.1 -1.6
comp=Z,2.5nm,0.6s,baz=188,slow=0.9,SNR=28
NVS Novosibirsk 112.36 322 *e*PKiKP PKiKP 18 25 14.5 -4.3
TKM2 Tokmak 2 115.91 308 P PKPdf 18 25 24.8 -0.8
SNR=9.8
KBK Karagaybulak 116.35 308 P PKPdf 18 25 26.9 +0.4
SNR=7.3
CHMS Chumysh 116.54 308 P PKPdf 18 25 26.5 -0.3
SNR=5.7
UCH Uchtor 116.62 307 P PKPdf 18 25 27.3 +0.3
SNR=18
AAK Ala-Archa 116.68 308 P PKPdf 18 25 26.9 -0.3
SNR=7.7
AAK Ala-Archa 116.68 308 ⇑*i*PKiKP PKPdf 18 25 25.9 -1.2
AAK Ala-Archa 116.68 308 *eP* PKPdf 18 25 25.0 -2.1
USP Ospenovka 116.75 308 P PKPdf 18 25 26.6 -0.6
SNR=9.1
EKS2 Erkin-Say 117.21 308 P PKPdf 18 25 27.6 -0.5
SNR=12
AML Almayashu 117.22 307 P PKPdf 18 25 28.8 +0.7
SNR=8.1
CHKZ Chkalovo 119.70 320 *e*PKiKP PKPdf 18 25 30.9 -2.0
BRVK Borovoye 119.92 319 *e*PKiKP PKPdf 18 25 31.9 -1.4
ZRNK Zerenda 120.70 319 *e*PKiKP PKPdf 18 25 32.9 -1.9
BOSA Boshof 124.24 206 PKP PKPdf 18 25 41.9 +0.2
comp=Z,4.3nm,0.7s,baz=245,slow=1.6,SNR=7.7
SFJD Kangerlussuaq 124.95 22 *iP* PKPdf 18 25 41.8 -1.2
SFJD *e* 18 38 30.3
SFJD Kangerlussuaq 124.95 22 *eP* PKPdf 18 25 41.8 -1.2
SFJD *e* 18 38 30.3
ARU Arti 126.15 325 *i* PKiKP PKPdf 18 25 43.9 -1.4
KEV Kevo 130.06 349 *e*pkp PKPdf 18 25 49.2 -3.5
ARCES ARCESS Array B 130.52 349 PKP PKPdf 18 25 51.5 -2.1
comp=Z,16nm,0.7s,baz=28,slow=1.4,SNR=40
ARCES SKPbc SKPbc 18 28 35.9 -1.8
comp=Z,20nm,0.9s,baz=46,slow=3.5,SNR=13
LSZ Lusaka 134.13 218 *e*PKiKP PKPdf 18 26 02.0 +1.6
JOF Joensuu 134.55 341 *e*pkp PKPdf 18 25 58.7 -2.5
KAF Kangasniemi 136.62 343 *e*pkp PKPdf 18 26 02.5 -2.5
FIA1 FINESS Array S 137.23 343 P 18 25 55.2
FINES FINESS Array B 137.23 343 PKhKP 18 25 52.9
comp=Z,4.1nm,0.8s,baz=57,slow=3.4,SNR=11
FINES PKP PKPdf 18 26 05.8 -0.4
comp=Z,5.2nm,0.5s,baz=71,slow=2.0,SNR=16
FINES SKPbc SKPbc 18 28 57.5 -2.0
comp=Z,2.7nm,0.7s,baz=54,slow=2.9,SNR=6.1
FINES FINESS Array B 137.23 343 PKP 18 25 52.9
FINES PKP PKPdf 18 26 05.8 -0.4
FINES SKPbc SKPbc 18 28 57.5 -2.0
VRHR Novokhopersk 137.41 323 *e*PKiKP PKPdf 18 26 06.7 +0.2
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,3.0nm,1.1s
VRHR pmax pmax
comp=E,40nm,0.8s
KMBO Kilima Mbogo 137.69 241 PKP PKPdf 18 26 10.3 +3.3
comp=E,5.4nm,0.9s,baz=43,slow=5.1,SNR=5.0
KMBO PP PP 18 29 04.2 +5.2
comp=E,3.8nm,0.9s,baz=36,slow=2.0,SNR=8.2
KMBO Kilima Mbogo 137.69 241 ⇑*i*PKiKP PKPdf 18 26 08.3 +1.3
OBN Obninsk 137.88 330 ⇓*i*PKiKP PKPdf 18 26 09.6 +2.3
OBN *e* 18 29 00.2
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
VRSR Storozhevoye 138.70 324 *e*PKiKP PKPdf 18 26 10.3 +1.5
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
ZEI Tsey 139.03 310 *e*PKiKP PKPdf 18 26 10.5 +1.1
ZEI *e* 18 29 04.3
GNI Garni 139.06 306 *e*PKiKP PKPdf 18 26 09.6 +0.1
KIV Kislovodsk 139.52 312 ⇑*i*PKiKP PKPdf 18 26 12.3 +2.0
KIV *e* 18 29 05.2
KIV *e*SS SS 18 47 02.2 +6.9
KIV pmax pmax
comp=Z,8.0nm,0.9s
SEMD Semdilli 139.75 302 *eP* 18 26 04.0
NB2 NORSAR Subarra 140.65 352 PKP 18 26 04.4
comp=Z,8.1nm,0.9s,baz=16,slow=3.2
NOA NORSAR Array B 140.65 352 PKhKP 18 26 04.7
comp=Z,16nm,0.8s,baz=16,slow=4.6,SNR=29
NOA SKPbc SKPbc 18 29 07.3 -1.6
comp=Z,3.9nm,0.7s,baz=14,slow=4.4,SNR=7.3
NAO01 NORSAR Array S 140.88 352 *e*PKPpre 18 26 06.9
ERZM Erzurum 141.63 307 *i P* PKPdf 18 26 09.6 -4.5
EZM Erzurum 141.64 307 *eP* PKPdf 18 26 10.3 -3.8
ANN Anapa 142.71 316 *i* PKiKP PKPdf 18 26 15.4 -0.6
ANN pmax pmax
comp=Z,60nm,1.4s
EZC Erzincan 142.82 307 *eP* PKPdf 18 26 15.6 -0.7
KELT Kelkit 143.12 308 *i P* PKPdf 18 26 15.6 -1.1
PTK Pertek 143.38 306 *eP* PKPdf 18 26 16.2 -1.0
GRSN GIRESUNGRSN 143.59 309 *i P* PKPdf 18 26 14.0 -3.6
ORE Reay 143.63 4 *eP* PKPdf 18 26 14.5 -3.2
ELZG Elazig 143.79 305 *i P* PKPdf 18 26 17.8 -0.1
AKASG Malin Array Be 144.12 329 PKP PKPdf 18 26 16.1 -2.4
comp=Z,17nm,0.4s,baz=40,slow=3.9,SNR=120
AKASG SKPbc SKPbc 18 29 15.5 -1.9
comp=Z,11nm,0.8s,baz=41,slow=2.6,SNR=14
AKASG Malin Array Be 144.12 329 PKP PKPdf 18 26 16.1 -2.4
AKASG SKPbc SKPbc 18 29 15.5 -1.9
AKBB Malin Array Si 144.12 329 *e*PKHKP 18 26 15.6
SUW Suwalki 144.18 338 *e*PKP PKPdf 18 26 17.3 -1.3
URFA Urfa 144.18 304 *eP* PKPdf 18 26 18.4 -0.2
MYA Malataya 144.26 305 *eP* PKPdf 18 26 20.3 +1.5
KAC Achnashellach 144.55 6 *eP* PKPdf 18 26 17.7 -1.6
MCD Coleburn Disti 144.63 4 *eP* PKPdf 18 26 17.3 -2.1
KPL Plockton 144.67 6 *eP* PKPdf 18 26 17.3 -2.1
KPL AMb AMB 18 26 21.6
comp=Z,140nm,1.6s
SIM Simferopol' 144.75 318 *i* PKiKP PKPdf 18 26 20.4 +0.8
KSB Sheil Bridge 144.82 6 *eP* PKPdf 18 26 18.6 -1.2
SVSK Karacayir 144.84 308 *eP* PKPdf 18 26 20.6 +0.8

KAR1 Arisaig 145.07 7 eP PKPdf 18 26 19.0 -1.1
GZT Gaziantep 145.17 304 i P PKPdf 18 26 21.9 +1.6
MUD Monsted U'grnd 145.37 352 i P PKPdf 18 26 20.0 -0.7
comp=Z,37nm,0.5s
MUD e 18 26 38.3
GAZ Gaziantep 145.49 304 eP PKPdf 18 26 21.9 +1.1
COP Copenhagen 145.60 349 i P PKPdf 18 26 21.4 +0.3
comp=Z,71nm,0.9s
BSD Bornholm Skovb 145.63 346 i P PKPdf 18 26 21.6 +0.5
KMRS Kahramanmaras 145.64 304 eP PKPdf 18 26 23.0 +1.9
EAB Aberfoyle 145.93 5 eP PKPdf 18 26 21.5 -0.1
EDI Edinburgh 146.28 4 eP PKPdf 18 26 20.1 -2.1
EDI AMb AMB 18 26 21.7
comp=Z,154nm,1.3s
PGBU Glenifferbraes 146.29 6 eP PKPdf 18 26 22.1 -0.1
PGBU AMb AMB 18 26 27.8
comp=Z,90nm,1.5s
ESY Stoneypath 146.33 4 eP PKPdf 18 26 23.2 +1.0
EAU Auchinoon 146.34 5 eP PKPdf 18 26 23.1 +0.8
WAR Warsaw 146.38 338 ePKP PKPbc 18 26 25.7 +1.3
COBT Iskenderun 146.40 303 i P PKPdf 18 26 24.3 +1.9
EBL Broad Law 146.44 4 eP PKPdf 18 26 23.2 +0.7
KOZT Kozan 146.47 305 eP PKPdf 18 26 25.4 +2.9
HTY Hatay 146.59 302 eP PKPdf 18 26 25.7 +3.0
GMK Mull of Kintyr 146.64 7 eP PKPdf 18 26 24.3 +1.5
GKP Gorka Klasztor 146.70 342 ePKP PKPdf 18 26 25.2 +2.3
XSO Sourhope Farm 146.77 3 eP PKPdf 18 26 24.1 +1.1
ESK Eskdalemuir 146.89 4 eP PKPdf 18 26 24.9 +1.7
ESK AMb AMB 18 26 26.2
comp=Z,64nm,0.8s
ESK Eskdalemuir 146.89 4 ePKPbc PKPbc 18 26 25.0 -0.8
BWH Wardlaw 146.99 5 eP PKPdf 18 26 24.2 +0.8
ECK Cauldkaine Hil 147.03 4 eP PKPdf 18 26 25.0 +1.6
LVV L'vov 147.10 332 ePKIKP PKPdf 18 26 24.6 +1.0
BHH Howats Hill 147.11 4 eP PKPdf 18 26 24.9 +1.4
ELDT Eldivan 147.18 311 i P PKPdf 18 26 25.9 +2.2
GAL1 Galloway 147.20 6 eP PKPdf 18 26 25.3 +1.6
GAL1 eP 18 26 25.3
GAL1 AMb AMB 18 26 27.6
comp=Z,148nm,1.2s
BR131 Keskin Array S 147.33 310 ePKPdf PKPdf 18 26 24.4 +0.4
BRTR Keskin Array B 147.33 310 PKPbc PKPbc 18 26 27.4 +0.3
comp=Z,19nm,0.8s,baz=132,slow=4.2,SNR=49
XAL Allendale 147.40 3 eP PKPdf 18 26 25.9 +1.8
BDL Dobcross Hall 147.41 4 eP PKPdf 18 26 26.3 +2.2
BHL Bhannes 147.49 298 eP PKPbc 18 26 28.6 +1.1
CKE Keswick 147.62 4 eP PKPdf 18 26 27.0 +2.6
XDE Dent Fell 147.67 5 eP PKPdf 18 26 26.3 +1.8
KWP Kalwaria 147.81 333 ePKP PKPbc 18 26 28.3 +0.1
ANTO Ankara 147.87 310 ePKPdf PKPdf 18 26 25.0 +0.2
ANTO ePKPbc PKPbc 18 26 29.1 +0.6
WIM Isle of Man 147.92 6 eP PKPdf 18 26 27.8 +2.9
SGKT Sivrigoynuk 148.09 312 i P PKPbc 18 26 28.9 -0.1
BURAR Bucovina Array 148.15 328⇑i P PKPbc 18 26 29.2 +0.1
BURAR Bucovina Array 148.15 328 ⇑P PKPbc 18 26 29.2 +0.1
RUE Ruedersdorf 148.32 345 ePKPbc PKPbc 18 26 29.7 +0.1
RUE Ruedersdorf 148.32 345 ePKPbc PKPbc 18 26 29.6 0.0
DCN Croghan 148.37 9⇑i P PKPdf 18 26 28.4 +2.7
TIRR Tirgusor 148.45 321 ⇓i P PKPdf 18 26 26.0 +0.2
OJC Ojcow 148.48 337 ePKP PKPdf 18 26 29.3 +3.5
KOLS Kolonicke sedl 148.52 333 ePKP PKPbc 18 26 30.0 -0.1
DLF Lyons Farm 148.53 9⇑i P PKPdf 18 26 28.6 +2.7
VRI Vrincioaia 148.54 324⇓i P PKPbc 18 26 29.9 -0.2
VRI Vrincioaia 148.54 324 P PKPbc 18 26 30.0 -0.1
STHS Stebnicka Huta 148.57 334 ePKP PKPbc 18 26 30.4 +0.2
PLOR Plostina 148.59 325⇓i P PKPbc 18 26 30.0 -0.2
DSB Dublin 148.60 9 ePKPbc PKPbc 18 26 29.0 -1.3
WCB1 Church Bay 148.69 6 eP PKPdf 18 26 28.8 +2.6
EIL Elat 148.71 291 ePKPdf PKPdf 18 26 27.3 +1.1
UZH Uzhgorod 148.75 332⇑i PKHKP PKPbc 18 26 30.0 -0.6
UZH pmax pmax
comp=Z,408nm,1.0s
HENT Hendek 148.77 313 i P 18 26 18.8
WLF1 Llynfaes 148.79 6 eP PKPdf 18 26 29.2 +2.9
KDHN Kadinhani 148.88 308 i P PKPbc 18 26 32.0 +1.1
CRVS Cervenica-Dubn 148.89 334 ePKP PKPbc 18 26 30.6 -0.4
NIE Niedzica 148.94 335 ePKP PKPbc 18 26 31.3 +0.2
PSN Preselentsi 149.03 320 eP PKPbc 18 26 33.0 +1.7
KBI1 Birley Grange 149.04 3 eP PKPdf 18 26 29.8 +3.0
NRDL Niedersach Rie 149.06 349 ePKPbc PKPbc 18 26 31.1 -0.3
CSS Prodhromos 149.10 301 P PKPbc 18 26 32.0 +0.5
comp=Z,0.9nm,1.0s
KSP Ksiaz 149.12 341 ePKP PKPbc 18 26 31.4 -0.1
KSP Ksiaz 149.12 341 ePKP PKPbc 18 26 31.3 -0.2
KSP epPKP PKPab 18 26 37.9 +0.5
MAMC Mammari 149.14 302 P PKPbc 18 26 31.8 +0.2
VAL Valentia 149.16 14⇑i P PKPbc 18 26 30.9 -0.7
MLR Muntele Rosu 149.20 325⇑i P PKPdf 18 26 27.8 +0.8
MLR Muntele Rosu 149.20 325 PKP2 PKPbc 18 26 33.3 +1.6
MLR Muntele Rosu 149.20 325 ⇑P PKPdf 18 26 27.8 +0.8
KWE Weaver Farm 149.26 3 eP PKPbc 18 26 30.7 -1.2
SBD1 Bryn Du 149.28 5 eP PKPbc 18 26 30.4 -1.5
ESKT Eskisehir 149.38 311 i P PKPbc 18 26 31.5 -0.7
OKC Ostrava-Krasne 149.39 338⇑ePKP PKPbc 18 26 32.4 +0.2
OKC ePKPAB PKPab 18 26 39.4 +0.9
UPC Upice 149.50 341⇑ePKP PKPbc 18 26 32.2 -0.3
SZAC Souni-Zanaja 149.51 301 P PKPbc 18 26 32.7 +0.2
DPC Dobruska-Polom 149.54 341⇑ePKP PKPbc 18 26 32.5 -0.1
CLL Collm 149.59 345 ePKPbc PKPbc 18 26 32.1 -0.6
CLL Collm 149.59 345 ePKPdf PKPdf 18 26 28.0 +0.4
CLL i x x 18 26 32.3
CLL i PKPbc PKPbc 18 26 33.0 +0.3
comp=Z,115nm,0.8s
CLL i PKPab PKPab 18 26 39.5 +0.1
comp=Z,52nm,1.0s
IBBN Ibbenburen 149.60 352 ePKPbc PKPbc 18 26 32.5 -0.2
KECS Kecovo 149.62 334 i PKP PKPbc 18 26 33.6 +0.9
ALFC Alevga 149.63 302 P PKPbc 18 26 32.3 -0.5
comp=Z,1.6nm,0.6s
CLZ Clausthal 149.64 348 ePKPbc PKPbc 18 26 32.5 -0.3
MORC Moravsky Berou 149.65 339⇑i P PKPdf 18 26 29.3 +1.6
MORC Moravsky Berou 149.65 339 ⇑P PKPdf 18 26 29.3 +1.6
HLM1 Long Mynd 149.69 5 eP PKPbc 18 26 31.6 -1.3
LIKS Likavka 149.70 336 ePKP PKPbc 18 26 34.2 +1.3
VOIR 149.71 325⇓i P PKPbc 18 26 33.5 +0.5
BRG Berggiesshubel 149.75 344 ePKPbc PKPbc 18 26 32.7 -0.4
BRG ePKPab PKPab 18 26 40.0 -0.1
BRG Berggiesshubel 149.75 344 i PKP PKPdf 18 26 28.7 +0.8
comp=Z,8.4nm,1.3s
BRG i 18 26 32.6
comp=Z,65nm,0.8s
BRG i 18 26 40.1
comp=Z,29nm,0.9s
FBE Freiberg 149.86 344 ePKPbc PKPbc 18 26 33.0 -0.3
PVCC Panska Ves 149.90 343⇑ePKP PKPbc 18 26 33.3 -0.1
PPCY Paphos 149.91 302 P PKPbc 18 26 32.8 -0.6
DRGR 149.93 330⇓i P PKPbc 18 26 32.7 -0.8
DRGR 149.93 330 P PKPbc 18 26 33.5 0.0
GTTG Gvttingen 150.00 349 ePKPbc PKPbc 18 26 34.1 +0.4
WTSB Winterswijk 150.06 353 ePKP PKPbc 18 26 33.1 -0.7
comp=Z,204nm,0.7s
MCH1 Michaelchurch 150.20 5 eP PKPbc 18 26 32.6 -1.5
MCH1 eP 18 26 32.6
MCH1 AMb AMB 18 26 34.6
comp=Z,51nm,0.9s
VYHS Vyhne 150.26 336 ePKP PKPbc 18 26 33.5 -0.8
ULDT Uludag 150.28 313 i P PKPbc 18 26 34.1 -0.2
PSZ Piszkesteto 150.31 334⇓ePKP PKPbc 18 26 34.4 0.0
PSZ Piszkesteto 150.31 334⇑i P PKPbc 18 26 33.6 -0.8
ISP Isparta 150.31 308 ePKIKP PKPbc 18 26 33.0 -1.4
SSW Stow on the Wo 150.31 4 eP PKPbc 18 26 33.4 -0.9
PRA Prague 150.35 342 ⇑PKP PKPbc 18 26 35.0 +0.5
PRA PKPAB PKPab 18 26 43.0 +0.5
VRAC Vranov 150.36 339⇓i P PKPbc 18 26 34.0 -0.5
VRAC Vranov 150.36 339 P PKPbc 18 26 34.4 -0.1
TKTP Tekketepe 150.37 309 i P PKPbc 18 26 34.2 -0.3
PRU Pruhonice 150.39 342⇑ePKP PKPbc 18 26 34.1 -0.5
PRU ePKPAB PKPab 18 26 43.7 +1.0
BUG Bochum--Univer 150.52 352 ePKPbc PKPbc 18 26 34.0 -0.9
MOX Moxa 150.52 346 ePKPdf PKPdf 18 26 29.1 0.0
MOX ePKPbc PKPbc 18 26 34.3 -0.6
MOX Moxa 150.52 346 eP PKPbc 18 26 34.2 -0.7
comp=Z,92nm,1.3s
MOX e 18 26 42.5
MOX Moxa 150.52 346 ePKPdf PKPdf 18 26 29.1 0.0
MOX ePKP PKPbc 18 26 34.2 -0.7
MOX ePKPab PKPab 18 26 42.5 -0.8
TANN Tannenbergstha 150.54 345 ePKPbc PKPbc 18 26 34.4 -0.5
WERD Werda 150.55 345 ePKPbc PKPbc 18 26 34.4 -0.5
HGH Gray Hill 150.57 5 eP PKPbc 18 26 33.8 -1.2
SKP1 Kophill 150.60 2 eP PKPbc 18 26 33.5 -1.6

WERN Wernitzgruen 150.68 345 ePKPdf PKPdf 18 26 30.2 +0.9
WERN ePKPbc PKPbc 18 26 35.3 0.0
WERN ePKPab PKPab 18 26 44.4 +0.5
ZIMR 150.69 322 PKIKP PKPbc 18 26 35.6 +0.3
UBBA Unterbreizbach 150.69 348 ePKPbc PKPbc 18 26 34.2 -1.1
NKC Novy Kostel 150.72 345⇑ePKP PKPbc 18 26 34.9 -0.4
NKC ePKPAB PKPab 18 26 43.6 -0.5
SMOL Smolenice 150.76 337 ePKP PKPbc 18 26 36.0 +0.6
SMOL Smolenice 150.76 337 ePKP PKPbc 18 26 36.1 +0.7
SWN1 Swindon 150.77 4 eP PKPbc 18 26 34.9 -0.6
GZR Gura Zlata 150.91 328⇓i P PKPbc 18 26 35.3 -0.5
GZR Gura Zlata 150.91 328 P PKPbc 18 26 35.1 -0.7
PVL Pavlikeni 150.98 322 eP PKPbc 18 26 35.5 -0.4
BUD Budapest 151.01 334⇓ePKP PKPbc 18 26 36.6 +0.6
MANZ Manzenberg 151.03 345 ePKPdf PKPdf 18 26 30.1 +0.3
MANZ ePKPbc PKPbc 18 26 35.8 -0.2
HTL Hartland 151.05 7 eP PKPbc 18 26 35.1 -1.0
HTL AMb AMB 18 26 37.3
comp=Z,48nm,1.1s
HEX Exmoor 151.05 6 eP PKPbc 18 26 34.7 -1.4
TSA1 Sevenoaks 151.11 1 eP PKPbc 18 26 35.1 -1.1
CRAR CRAIOVA 151.12 325 PKIKP PKPbc 18 26 37.0 +0.8
ZST Bratislava 151.14 337 ePKP PKPbc 18 26 36.3 0.0
ROTZ Rotzenmuhle 151.21 345 ePKPbc PKPbc 18 26 36.6 +0.1
TFO1 Folkestone 151.25 360 eP PKPbc 18 26 35.7 -0.8
BZS Buzias 151.31 329⇓i P PKPbc 18 26 36.3 -0.4
BZS Buzias 151.31 329 P PKPbc 18 26 36.7 0.0
BEBN Eben Emael 151.33 354 PKPbc PKPbc 18 26 36.8 +0.1
BEBN PKPab PKPab 18 26 46.3 -0.4
HGN Heimansgroeve 151.34 353 ePKP PKPbc 18 26 36.4 -0.4
comp=Z,62nm,1.0s
HGN ex x 18 26 46.2
DNZL Cakiroluk 151.43 309 i P PKPbc 18 26 43.8 +6.8
KHC Kasperske Hory 151.44 343 ePKPDF PKPdf 18 26 30.5 +0.1
KHC ⇑ePKP PKPbc 18 26 36.5 -0.5
KHC ePKPAB PKPab 18 26 47.9 +0.8
UCC Uccle 151.44 356 PKPbc PKPbc 18 26 36.2 -0.7
UCC PKPab PKPab 18 26 46.2 -1.0
MEM Membach 151.48 353 PKP PKPdf 18 26 30.6 +0.1
MEM PKPbc PKPbc 18 26 36.2 -0.9
MEM PKPab PKPab 18 26 47.3 0.0
GRA1 Grafenberg Arr 151.51 346 ePKPbc PKPbc 18 26 37.1 0.0
GRF Grafenberg Arr 151.51 346 ePKPbc PKPbc 18 26 37.1 0.0
TNS Taunus Mts 151.53 350 ePKPbc PKPbc 18 26 37.0 -0.2
WET Wettzell 151.61 344 ePKPbc PKPbc 18 26 36.6 -0.8
DYA Yadsworthy 151.66 7 P PKPbc 18 26 35.9 -1.6
DYA Yadsworthy 151.66 7 eP PKPbc 18 26 35.2 -2.3
DYA eP 18 26 35.9
GEC2 GERESS Array S 151.66 342 ePKPdf PKPdf 18 26 30.9 +0.1
GEC2 ePKPbc PKPbc 18 26 37.3 -0.2
GEC2 ePKPab PKPab 18 26 48.6 +0.5
GERES GERESS Array B 151.66 342 PKP PKPdf 18 26 31.1 +0.3
comp=Z,2.9nm,1.0s,baz=42,slow=2.2,SNR=14
GERES PKPbc PKPbc 18 26 36.9 -0.6
comp=Z,28nm,0.8s,baz=51,slow=1.4,SNR=85
SNF Seneffe 151.74 356 PKPbc PKPbc 18 26 37.3 -0.4
SNF PKPab PKPab 18 26 47.4 -1.0
BCLA Clavier 151.74 354 PKPbc PKPbc 18 26 37.7 +0.1
BCLA PKPab PKPab 18 26 48.1 -0.3
BCLA E 18 26 58.9
SOP Sopron 151.77 337⇓ePKP PKPbc 18 26 37.8 +0.1
CONA Conrad Observa 151.80 339⇑i PKPdf PKPdf 18 26 31.5 +0.5
comp=Z,4.0nm,0.8s,SNR=18
CONA ⇑i PKiKP PKiKP 18 26 37.5 -0.6
comp=Z,31nm,0.8s
ABH Alteburg 152.00 351 PKP PKPdf 18 29.8 -1.5
TOD Tromm 152.07 349 PKIKP PKPdf 18 26 30.0 -1.4
GIVF Givet 152.10 355 ePKIKP PKPdf 18 26 30.7 -0.7
DOU Dourbes 152.12 355 PKP PKPdf 18 26 33.0 +1.5
DOU PKPbc PKPbc 18 26 37.7 -0.8
DOU PKPab PKPab 18 26 49.7 -0.3
PKSM Moragy 152.18 333⇑i P PKPdf 18 26 31.2 -0.4
PKSM Moragy 152.18 333 P PKPdf 18 26 32.4 +0.9
BAIF Baives 152.19 356 ePKIKP PKPdf 18 26 30.8 -0.8
MOA Molln 152.39 341⇑i P PKPdf 18 26 32.3 +0.4
comp=Z,2.4nm,0.9s,SNR=7.0
MOA ⇑i P 18 26 32.3
comp=Z,2.4nm,0.9s,SNR=7.0
MOA ⇓i 18 26 38.1
comp=Z,12nm,1.0s
MOA Molln 152.39 341⇑i P PKPdf 18 26 32.3 +0.4
WLF Walferdange 152.40 353 ePKPbc PKPbc 18 26 39.4 +0.3
WLF Walferdange 152.40 353 PKP PKPdf 18 26 33.8 +2.0
WLF PKPbc PKPbc 18 26 39.2 0.0
WLF PKPab PKPab 18 26 51.1 -0.1
WLF Walferdange 152.40 353 ePKPbc PKPbc 18 26 38.9 -0.2
VTS Vitosha 152.58 323 i P PKPbc 18 26 38.0 -1.5
VTS Vitosha 152.58 323⇑i P PKPdf 18 26 32.8 +0.7
VTS Vitosha 152.58 323 ⇑P PKPdf 18 26 32.8 +0.6
STU Stuttgart 152.80 348 ePKPdf PKPdf 18 26 32.4 -0.1
STU ePKPbc PKPbc 18 26 39.7 -0.3
STU ePKPab PKPab 18 26 52.9 0.0
STU Stuttgart 152.80 348 ePKPdf PKPdf 18 26 31.3 -1.2
STU ePKPbc PKPbc 18 26 39.8 -0.2
LANF Langenberg 152.84 350 PKP PKPdf 18 26 33.7 +1.2
KKB Krupnik 153.12 322 eP PKPbc 18 26 40.0 -0.7
DIVS Divcibare 153.21 329 i P PKPbc 18 26 41.0 +0.1
BFO Black Forest 153.38 349 ePKPbc PKPbc 18 26 40.8 -0.5
BFO ePKPab PKPab 18 26 55.0 -0.4
WLS Welschbruch 153.46 351 PKP PKPdf 18 26 34.1 +0.7
CDF Champ du Feu 153.48 351 ePKIKP PKPdf 18 26 32.8 -0.6
FLN La Foliniere 153.57 2 ePKIKP PKPdf 18 26 32.7 -0.9
comp=Z,23nm,1.0s
MEZF Maizieres J'vi 153.66 354 ePKIKP PKPdf 18 26 33.5 -0.2
comp=Z,7.3nm,0.7s
WTTA Wattenberg 153.67 344⇑i PKPbc 18 26 41.0 -0.8
comp=Z,43nm,1.2s
WTTA Wattenberg 153.67 344⇑i PKPdf PKPdf 18 26 31.7 -2.0
comp=Z,11nm,0.9s
WTTA ⇑i PKPbc PKPbc 18 26 41.0 -0.8
comp=Z,43nm,1.2s
LDF La Druitiere 153.75 2 ePKIKP PKPdf 18 26 32.9 -0.9
comp=Z,16nm,0.9s
ROSF Rostrenen 153.80 6 ePKIKP PKPdf 18 26 32.7 -1.2
THEF They Montfort 153.83 352 PKP PKPdf 18 26 35.2 +1.3
FELD Feldberg im Sc 153.88 349 PKP PKPdf 18 26 33.9 -0.1
LJU Ljubljana 153.89 338 i PKPbc PKPbc 18 26 42.8 +0.4
GRR Gorron 153.93 3 ePKIKP PKPdf 18 26 33.4 -0.7
SGMF Saint Gilles 153.95 5 ePKIKP PKPdf 18 26 32.9 -1.2
HAU Haudompre 154.00 352 ePKIKP PKPdf 18 26 33.6 -0.6
comp=Z,12nm,0.9s
ROBS Robic 154.05 340 i PKPdf PKPdf 18 26 34.5 +0.2
ROBS i PKPbc PKPbc 18 26 42.0 -0.6
ROBS i PKPab PKPab 18 26 58.1 -0.1
BOJS Bojanci 154.10 337 i PKPdf PKPdf 18 26 34.5 +0.2
BOJS i PKPbc PKPbc 18 26 42.7 -0.1
BOJS i PKPab PKPab 18 26 57.3 -1.1
VOJS Vojsko 154.12 339 i PKPdf PKPdf 18 26 34.8 +0.5
VOJS ePKPbc PKPbc 18 26 42.8 0.0
VOJS i PKPab PKPab 18 26 58.5 0.0
HINF Hinteralfeld 154.12 351 ePKIKP PKPdf 18 26 33.5 -0.8
comp=Z,19nm,1.1s
QUIF Quistinic 154.23 6 ePKIKP PKPdf 18 26 32.7 -1.8
comp=Z,21nm,1.1s
KRUS Krusevo 154.49 323 ePKP PKPab 18 27 01.1 +1.0
LOR Lormes 154.99 355 ePKIKP PKPdf 18 26 35.0 -0.5
comp=Z,11nm,0.9s
HYF Humbligny 155.06 357 ePKIKP PKPdf 18 26 35.5 -0.1
SSF Saint Saulge 155.22 356 ePKIKP PKPdf 18 26 35.3 -0.5
comp=Z,18nm,0.9s
CABF La Chapelle 155.41 352 ePKIKP PKPdf 18 26 36.2 +0.1
comp=Z,47nm,1.3s
AVF Avril sur Loir 155.50 356 ePKIKP PKPdf 18 26 35.3 -0.9
comp=Z,12nm,1.0s
SMF Signal de Mont 155.61 355 ePKIKP PKPdf 18 26 35.7 -0.7
comp=Z,62nm,1.6s
MFF Saint Martin d 155.75 2⇑i PKIKP PKPdf 18 26 35.9 -0.6
comp=Z,12nm,0.8s
BGF Bois d'Agland 155.76 357 ePKIKP PKPdf 18 26 36.1 -0.4
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 156.06 358 ePKIKP PKPdf 18 26 36.4 -0.5
comp=Z,35nm,1.1s
AGO Saint Agoulin 156.25 356 PKP PKPdf 18 26 37.4 +0.2
PLDF La Plantade 156.30 355 PKP PKPdf 18 26 37.7 +0.5
LPL La Plagne 156.38 350 ePKIKP PKPdf 18 26 37.6 +0.2
comp=Z,16nm,1.1s
LPG La Plagne 156.40 350 ePKIKP PKPdf 18 26 37.6 +0.2
PYM Petit Puy Mans 156.56 356 PKP PKPdf 18 26 38.2 +0.6
RJF Les Rejaudoux 157.06 359 ePKIKP PKPdf 18 26 37.8 -0.4
comp=Z,28nm,1.2s
LBL Lubilhac 157.06 356 PKP PKPdf 18 26 39.1 +0.9
ORIF Oris-en-Rattie 157.10 351 ePKIKP PKPdf 18 26 38.0 -0.3

comp=Z,23nm,1.1s
MBDF Montbardon 157.14 349 ePKIKP PKPdf 18 26 38.1 -0.2
comp=Z,17nm,1.0s
VIVF Saint-Julien-l 157.31 353 ePKIKP PKPdf 18 26 38.3 -0.2
CAF Calviac 157.42 358 ePKIKP PKPdf 18 26 38.5 -0.2
comp=Z,11nm,1.0s
LFF La Frestale 157.43 1 ePKIKP PKPdf 18 26 38.5 -0.2
SBF Sospel 157.86 348 ePKIKP PKPdf 18 26 39.2 0.0
comp=Z,50nm,1.3s
SMRF Simiane la Rot 158.06 351 ePKIKP PKPdf 18 26 39.5 +0.1
comp=Z,32nm,1.3s
LASF Ste Croix 158.16 354 ePKIKP PKPdf 18 26 39.5 -0.1
comp=Z,21nm,1.0s
FRF La Foret Royal 158.30 349 ePKIKP PKPdf 18 26 39.7 0.0
comp=Z,33nm,1.4s
LMR La Mourre 158.54 349 ePKIKP PKPdf 18 26 40.1 +0.1
PGF Pioggiola 158.74 344 ePKIKP PKPdf 18 26 40.4 +0.1
comp=Z,6.5nm,0.9s
MTLF Montolieu 159.00 358 ePKIKP PKPdf 18 26 40.2 -0.4
comp=Z,14nm,1.0s
SJPF Ste Jean 159.17 5 ePKIKP PKPdf 18 26 40.9 +0.1
EPF Esparros 159.33 1 ePKIKP PKPdf 18 26 40.9 0.0
comp=Z,14nm,1.0s
ETSF Etsaut 159.42 3 ePKIKP PKPdf 18 26 41.2 +0.2
comp=Z,11nm,0.9s
PBRG Braganca 159.50 17 ePKPab PKPab 18 27 21.3 -0.5
PVIS Viseu 160.16 20 ePKPab PKPab 18 27 23.9 -0.8
PCBR Castelo Branco 161.09 21 ePKPdf PKPdf 18 26 43.7 +0.8
PCBR Castelo Branco 161.09 21 i PKPab PKPab 18 27 28.2 -0.5
EVO Evora 162.07 24 ePKIKP PKPdf 18 26 43.9 0.0
comp=Z,24nm,0.9s
ESDC Sonseca Array 162.18 13 PKP PKPdf 18 26 44.0 0.0
comp=Z,1.0nm,0.8s,baz=320,slow=2.1,SNR=5.8
ESDC PKPab PKPab 18 27 32.7 -0.8
comp=Z,11nm,0.9s,baz=345,slow=4.2,SNR=24
ESDC PP PP 18 31 17.3 -1.5
comp=Z,0.2nm,0.3s,baz=343,slow=4.6,SNR=4.0
PBEJ Beja 162.57 24 ePKPdf PKPdf 18 26 45.9 +1.5
MORF Marmelete 162.88 27 ePKPdf PKPdf 18 26 46.7 +2.0
KEST Kesra 164.78 333 PKP PKPdf 18 26 48.4 +2.0
comp=Z,1.4nm,0.8s,baz=359,slow=6.2,SNR=5.1
KEST PKPab PKPab 18 27 45.7 +0.7
comp=Z,5.8nm,0.8s,baz=262,slow=2.1,SNR=12
TOA0 Torodi Ar. Sit 170.87 184 ePKPdf PKPdf 18 26 49.4 -1.1
TORD Torodi Ar. Bea 170.87 184 PKP PKPdf 18 26 49.8 -0.8
comp=Z,8.4nm,0.8s,baz=328,slow=0.8,SNR=45
TORD PKPab PKPab 18 28 12.9 +1.0
comp=Z,2.0nm,0.7s,baz=174,slow=4.5,SNR=8.1
TORD pPKPab pPKPab 18 29 51.5 +3.7
comp=Z,1.0nm,0.7s,baz=175,slow=5.0,SNR=3.6
TORD Torodi Ar. Bea 170.87 184 PKP PKPdf 18 26 49.8 -0.8
TORD PKPab PKPab 18 28 12.9 +1.0
TORD pPKPab pPKPab 18 29 51.5 +3.6

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*IDC **27** 18:10:08.7±1.9, 33.11N×141.69E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/22, mbtmp3.9/6, ML3.8/3, Error ellipse: s-maj=41.8km s-min=20.5km az=69.0*
*JMA **27** 18:10:10.7±0.4, 33.11N×141.73E, h82km, M3.3*
*ISCJB **27** 18:10:11.1±0.8, 33.11N±005×1417E±01, h33km, mb3.6/3, Error ellipse: s-maj=13.6km s-min=5.8km az=143.3*
*NEIC **27** 18:10:12.2±0.9, 32.87N×141.11E, h10km, MG3.3(JMA), Error ellipse: s-maj=25.5km s-min=14.3km az=64.0*
ISC 27 18:10:13.1±0.8, 3311N±005×1417E±01, h35km, n24, σ0=81/32, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.54	271	P	Pn	18 10 37.7	-0.3
JHJ	Hachijo jima 2	1.56	271	Pn	Pn	18 10 37.8	-0.6
40nm,0.3s,baz=133,slow=9.1,SNR=40							
BSO1	Boso 1	1.64	340	P	Pn	18 10 38.7	-0.7
BSO1				eS	Sn	18 10 59.9	+0.7
BSO2	Boso 2	1.80	336	S	Sn	18 11 04.9	+1.7
BSO3	Boso 3	1.94	331	P	Pn	18 10 42.7	-0.8
BSO4	Boso 4	2.17	330	P	Pn	18 10 46.8	+0.1
KTR	Katsuura	2.32	332	S	Sn	18 11 16.1	+0.2
JIM2	Oshima 3	2.44	312	P	Pn	18 10 49.5	-1.0
JIZS	Izushimoda	2.81	306	P	Pn	18 10 55.4	0.0
JOD2	Odawara 2	3.02	316	P	Pn	18 10 57.7	-0.7
JOD2				S	Sn	18 11 32.0	-1.3
JYN	Shimob	3.50	314	P	Pn	18 11 05.4	+0.4
JRY	Ryogami san	3.68	323	P	Pn	18 11 07.8	+0.3
JRY				S	Sn	18 11 50.1	+0.5
JAG	Ashikaga	3.77	332	P	Pn	18 11 08.6	-0.1
JAG				S	Sn	18 11 52.4	+0.6
MJAR	Matsushiro Arr	4.44	321	Pn	Pn	18 11 18.6	+0.7
4.5nm,0.3s,baz=156,slow=12,SNR=35							
MJAR				Sn	Sn	18 12 08.0	-0.4
1.6nm,0.3s,baz=243,slow=29,SNR=5.3							
MAJO	Matsushiro	4.45	321	eP	Pn	18 11 18.6	+0.6
MAT	Matsushiro	4.45	321	P	Pn	18 11 18.5	+0.6
MAT				S	Sn	18 12 07.7	-0.7
MAT	Matsushiro	4.45	321	P	Pn	18 11 18.8	+0.9
JMM	Marumori	4.80	352	P	Pn	18 11 21.2	-1.6
JMM				S	Sn	18 12 12.5	-4.7
CBIJ	Chichi jima	6.01	175	Pn	Pn	18 11 39.3	-0.1
7.1nm,0.3s,baz=263,slow=19,SNR=12							
CBIJ				Sn	Sn	18 12 40.5	-6.4
1.7nm,0.3s,baz=294,slow=17,SNR=1.9							
ASAJ	Asahikawa	11.02	4	Pn	Pn	18 12 46.9	-1.2
0.7nm,0.3s,baz=78,slow=25,SNR=5.4							
SONM	Songino Array	30.29	310	P	P	18 16 22.6	+1.8
0.3nm,0.5s,mb3.3,baz=104,slow=9.1,SNR=4.2							
MKAR	Makanchi Array	46.46	305	P	P	18 18 37.1	+0.6
0.4nm,0.5s,mb3.6,baz=84,slow=11,SNR=2.4							
KDAK	Kodiak Island	49.94	40	eP	P	18 19 09.6	+6.2
35nm,0.8s							
WRA	Warramunga Arr	53.21	189	P	P	18 19 28.5	+0.7
0.9nm,0.4s,mb4.0,baz=4.6,slow=7.5,SNR=5.7							

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*ISCJB **27** 18:30:13.5±0.4, 683N±005×7293W±005, h169km±4km, mb3.8/9, Error ellipse: s-maj=10.2km s-min=5.4km az=79.4*
*IDC **27** 18:30:14.3±0.6, 674N×7290W, h163km±6km, mb3.7/8, mb1 3.9/11, mb1mx3.6/22, mbtmp4.2/11, Error ellipse: s-maj=18.6km s-min=7.0km az=134.0*
*NEIC **27** 18:30:14.6±0.6, 675N×7298W, h166km±6km, mb3.6/2, Error ellipse: s-maj=9.9km s-min=7.1km az=122.0*
*FUNV **27** 18:30:14.8, 676N×7306W, h158km, MW4.2*
ISC 27 18:30:14.5±0.4, 683N±005×7293W±005, h163km±4km, n44, σ0=96/48, mb3.8/9, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.20	31	⇓i P	Pn	18 30 42.6	+0.4
CAPV				eS	Sn	18 31 03.3	-0.1
ROSC	El Rosal	2.41	216	P	Pn	18 30 54.7	-0.4
140nm,0.3s,baz=334,slow=2.5,SNR=129							
ROSC				S	Sn	18 31 26.4	-0.2
133nm,0.3s,baz=99,slow=20,SNR=15							
SOCV	Socops	2.51	55	eP	Pn	18 30 57.5	+1.1
SOCV				eS	Sn	18 31 28.9	+0.1
VIGV	El Vigia	2.53	38	⇓i P	Pn	18 30 57.2	+0.6
VIGV				eS	Sn	18 31 28.9	-0.3
SDV	Santo Domingo	3.06	48	P	Pn	18 31 04.4	+1.3
SDV				S	Sn	18 31 41.9	+1.1
139nm,0.3s,baz=267,slow=23,SNR=50							
ELOV	Elorza	3.42	87	eP	Pn	18 31 09.0	+1.3
QARV	Quebrada Arrib	4.11	35	eP	Pn	18 31 17.3	+0.7
QARV				eS	Sn	18 32 03.7	-1.2
SANV	Sanarito	4.28	51	eP	Pn	18 31 18.7	0.0
SANV				eS	Sn	18 32 06.5	-2.2
CURV	Curarigua	4.32	43	eP	Pn	18 31 19.5	+0.4
CURV				eS	Sn	18 32 07.2	-2.4
DABV	Dabajuro	4.65	29	eP	Pn	18 31 24.1	+0.5
TEPV	Terepaima	4.83	50	eP	Pn	18 31 26.5	+0.6
TEPV				eS	Sn	18 32

2.4nm,0.3s,baz=336,slow=17,SNR=16
PCRV S **Sn** 18 33 60.0 +2.4
1.1nm,0.3s,baz=349,slow=21,SNR=4.1
PCRV Puerto La Cruz 8.85 67 *e*P **Pn** 18 32 19.7 +0.7
SAML Samuel 18.44 148 *e*P **P** 18 34 17.9 +0.4
3.2nm,0.6s
LPAZ La Paz 23.45 168 *e*P **P** 18 35 09.5 +0.4
0.8nm,0.6s,mb3.3
TXAR Lajitas Array 36.60 312 P **P** 18 37 05.3 +0.5
0.4nm,0.6s,mb3.3,baz=133,slow=7.9,SNR=6.7
ULM Lac du Bonnet 47.34 340 P **P** 18 38 31.5 -0.3
2.1nm,0.4s,mb4.2,baz=135,slow=3.6,SNR=5.7
SCHQ Schefferville 48.12 5 P **P** 18 38 38.9 +1.1
6.2nm,1.0s,mb4.2,baz=191,slow=6.0,SNR=14
PDAR Pinedale Array 48.18 324 P **P** 18 38 39.7 +1.4
0.3nm,0.5s,mb3.2,baz=106,slow=9.5,SNR=2.9
FRB Frobisher Bay 56.90 2 P **P** 18 39 41.8 -0.6
2.6nm,0.4s,mb4.4,baz=174,slow=9.2,SNR=3.9
YKA Yellowknife Ar 63.32 340 P **P** 18 40 26.1 +0.1
2.1nm,0.5s,mb4.2,baz=135,slow=6.4,SNR=8.9
YKA Yellowknife Ar 63.32 340 P **P** 18 40 26.1 +0.1
TORD Torodi Ar. Bea 73.55 78 P **P** 18 41 29.6 +0.1
0.3nm,0.3s,mb3.5,baz=284,slow=6.4,SNR=12
ARCES ARCESS Array B 86.60 20 P **P** 18 42 39.0 -0.4
2.4nm,0.8s,mb4.1,baz=328,slow=4.4,SNR=6.1
VNA3 Neumayer Olymp 88.12 163 *e* **P** 18 42 44.9 -1.7
VNA2 Neumayer--Watz 88.64 163 *e* **P** 18 42 48.0 -1.1
baz=295,slow=5.4
MKAR Makanchi Array 122.25 20 PKP PKPdf 18 48 50.1 +0.2
0.5nm,0.4s,baz=298,slow=2.5,SNR=9.4
SONM Songino Array 125.57 1 PKP PKPdf 18 48 57.5 +1.3
0.4nm,0.4s,baz=343,slow=0.9,SNR=9.5
AS31 Alice Springs 149.27 234 *e*P PKPbc 18 49 44.0 +0.2
ASAR Alice Springs 149.27 234 PKPbc PKPbc 18 49 44.0 +0.3
1.2nm,0.5s,baz=120,slow=3.0,SNR=29
ASPA Alice Springs 149.27 234 *e*P PKPbc 18 49 44.0 +0.2
WB2 Warramunga Arr 150.50 241 *e*P PKPbc 18 49 47.1 +0.3
WRA Warramunga Arr 150.51 241 PKPbc PKPbc 18 49 47.3 +0.5
1.2nm,0.4s,baz=107,slow=2.6,SNR=57

*MDD **27** 18:38:26.9±1.7, 4522N×1383W, h0km, mb4.6/14, Error ellipse: s-maj=16.8km s-min=10.7km az=103.0, PRXIMO*
*NEIC **27** 18:38:29.5, 4495N×1381W, h0km, MG4.6(MDD), After MDD.*
*INMG **27** 18:38:31.5±1.4, 4508N×1423W, h10km, ML2.8, Error ellipse: s-maj=7.6km s-min=4.2km az=88.0*
*LDG **27** 18:38:31.2±0.5, 4525N×1380W, h25km, Ml4.0/26, Error ellipse: s-maj=9.1km s-min=5.3km az=106.0*
*CSEM **27** 18:38:32.1±0.4, 4488N×1327W, h10km, ML4.0/14, Error ellipse: s-maj=7.3km s-min=4.1km az=99.0*
*ISCJB **27** 18:38:33.0±0.7, 4525N±003×1278W±006, h10km, Error ellipse: s-maj=6.1km s-min=4.0km az=11.2*
ISC 27 18:38:33.7±0.7, 4521N±003×1301W±006, h10km, n100,
σ1§44/185, 2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.68**	**127**	⇓P	**Pn**	**18 39 31.4**	**+0.7**
	75nm,0.1s,SNR=18						
EMAZ				S	**Sn**	**18 40 16.4**	**+2.4**
	19nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**3.68**	**127**	P	**Pn**	**18 39 31.4**	**+0.8**
	75nm,0.1s,SNR=18						
EMAZ				S	**Sn**	**18 40 16.4**	**+2.3**
	19nm,0.1s,SNR=5.0						
STS	**Santiago**	**3.97**	**124**	⇓P	**Pn**	**18 39 35.6**	**+1.1**
	56nm,0.1s,SNR=18						
STS				S	**Sn**	**18 40 21.5**	**+0.4**
	7.4nm,0.1s						
EZAM	**Zamans**	**4.38**	**133**	P	**Pn**	**18 39 39.6**	**-0.6**
	8.1nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**18 40 31.8**	**+0.5**
	3.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.61**	**112**	P	**Pn**	**18 39 45.2**	**+1.8**
	1.0nm,0.1s,SNR=9.2						
EPON				S	**Sn**	**18 40 40.3**	**+3.3**
	14nm,0.2s,SNR=4.7						
EPON	**Pontenova**	**4.61**	**112**	P	**Pn**	**18 39 45.2**	**+1.8**
	1.0nm,0.1s,SNR=9.2						
EPON				S	**Sn**	**18 40 40.3**	**+3.3**
	14nm,0.2s,SNR=4.7						
PCAB	**Cabril**	**5.04**	**132**	*e*Pn	**Pn**	**18 39 48.8**	**-0.5**
PCAB				*e*Sn	**Sn**	**18 40 47.1**	**-0.5**
PCAB							
	19nm,0.2s						
PCAB	**Cabril**	**5.04**	**132**	*e*Pn	**Pn**	**18 39 48.8**	**-0.5**
PCAB				*e*Sn	**Sn**	**18 40 47.1**	**-0.5**
	19nm,0.2s						
PTO	**Porto**	**5.19**	**140**	*e*Pn	**Pn**	**18 39 50.1**	**-1.3**
PTO				*e*Sn	**Sn**	**18 40 48.8**	**-2.5**
PVRL	**Vila Real**	**5.51**	**134**	*e*Pn	**Pn**	**18 39 55.3**	**-0.5**
PVRL				*e*Sn	**Sn**	**18 40 57.6**	**-1.7**
PVRL							
	12nm,0.1s						
ECAL	**Calabor**	**5.61**	**123**	P	**Pn**	**18 39 57.9**	**+0.9**
	7.9nm,0.1s,SNR=40						
ECAL				S	**Sn**	**18 41 03.3**	**+1.7**
	18nm,0.3s						
ECAL	**Calabor**	**5.61**	**123**	P	**Pn**	**18 39 58.0**	**+0.9**
ECAL				S	**Sn**	**18 41 03.3**	**+1.8**
	18nm,0.3s						
PBRG	**Braganca**	**5.69**	**125**	*e*Pn	**Pn**	**18 39 59.0**	**+0.8**
PBRG				*e*Sn	**Sn**	**18 41 04.6**	**+1.0**
PBRG							
	8.1nm,0.2s						
PVIS	**Viseu**	**5.85**	**138**	*e*Pn	**Pn**	**18 39 59.3**	**-1.2**
PVIS				*e*Sn	**Sn**	**18 41 04.5**	**-3.1**
PVIS							
	5.6nm,0.1s						
PVIS	**Viseu**	**5.85**	**138**	*e*Pn	**Pn**	**18 39 59.3**	**-1.2**
PVIS				*e*Sn	**Sn**	**18 41 04.5**	**-3.1**
	5.6nm,0.1s						
EARI	**Arriondas**	**5.92**	**106**	P	**Pn**	**18 40 04.1**	**+2.7**
	1.0nm,0.1s,SNR=20						
EARI				S	**Sn**	**18 41 13.2**	**+4.0**
	1.4nm,0.2s						
EARI	**Arriondas**	**5.92**	**106**	P	**Pn**	**18 40 04.1**	**+2.7**
	1.0nm,0.1s,SNR=20						
EARI				S	**Sn**	**18 41 13.2**	**+4.0**
	1.4nm,0.2s						
PCBR	**Castelo Branco**	**6.74**	**141**	*e*Pn	**Pn**	**18 40 10.7**	**-2.0**
PCBR				*e*Sn	**Sn**	**18 41 25.0**	**-4.6**
PCBR							
	2.2nm,0.2s						
PMAFR	**Mafra**	**6.84**	**155**	*e*Sn	**Sn**	**18 41 23.3**	**-8.6**
PLOU	**Loures**	**6.94**	**154**	*e*Sn	**Sn**	**18 41 26.1**	**-8.3**
ELAN	**Lanestosa**	**7.16**	**103**	P	**Pn**	**18 40 20.8**	**+2.4**
	0.9nm,0.2s,SNR=6.5						
ELAN				S	**Sn**	**18 41 42.0**	**+2.2**
	1.4nm,0.2s						
ELAN	**Lanestosa**	**7.16**	**103**	P	**Pn**	**18 40 20.8**	**+2.4**
	0.9nm,0.2s,SNR=6.5						
ELAN				S	**Sn**	**18 41 42.0**	**+2.2**
	1.4nm,0.2s						
QUIF	**Quistinic**	**7.30**	**65**	*e*Pn	**Pn**	**18 40 20.4**	**0.0**
QUIF				*e*Sn	**Sn**	**18 41 41.0**	**-2.3**
	14nm,0.2s						
QUIF	**Quistinic**	**7.30**	**65**	*e*Pn	**Pn**	**18 40 20.4**	**0.0**
QUIF				*e*Sn	**Sn**	**18 41 41.0**	**-2.3**
	7.2nm,0.2s						
ROSF	**Rostrenen**	**7.38**	**61**	*e*Pn	**Pn**	**18 40 21.6**	**+0.2**
ROSF				*e*Sn	**Sn**	**18 41 43.0**	**-2.2**
	12nm,0.2s						
ROSF	**Rostrenen**	**7.38**	**61**	*e*Pn	**Pn**	**18 40 21.6**	**+0.2**
ROSF				*e*Sn	**Sn**	**18 41 43.0**	**-2.2**
	5.8nm,0.2s						
MOE	**Montemor**	**7.53**	**151**	*e*Pn	**Pn**	**18 40 19.9**	**-3.6**
MOE				*e*Sn	**Sn**	**18 41 40.7**	**-8.3**
EVO	**Evora**	**7.64**	**149**	*e*Pn	**Pn**	**18 40 20.8**	**-4.3**
EVO				*e*Sn	**Sn**	**18 41 42.4**	**-9.3**
	4.8nm,0.3s						
SGMF	**Saint Gilles**	**7.80**	**63**	*e*Pn	**Pn**	**18 40 27.2**	**0.0**
SGMF				*e*Sn	**Sn**	**18 41 52.4**	**-3.1**
	5.2nm,0.2s						
SGMF	**Saint Gilles**	**7.80**	**63**	*e*Pn	**Pn**	**18 40 27.2**	**0.0**
SGMF				*e*Sn	**Sn**	**18 41 52.4**	**-3.1**
	2.6nm,0.2s						
EBAD	**Badajoz**	**7.84**	**143**	P	**Pn**	**18 40 25.7**	**-2.1**
	1.0nm,0.1s,SNR=6.7						
EBAD				S	**Sn**	**18 41 50.8**	**-5.8**
	2.6nm,0.3s						
EBAD	**Badajoz**	**7.84**	**143**	P	**Pn**	**18 40 25.7**	**-2.1**
	1.0nm,0.1s,SNR=6.7						
GUD	**Guadarrama**	**7.94**	**122**	P	**Pn**	**18 40 30.2**	**+1.1**
	4.0nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**18 41 59.8**	**+0.8**
	0.6nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**8.01**	**105**	P	**Pn**	**18 40 33.0**	**+2.8**
	1.5nm,0.2s,SNR=7.9						
ECRI				S	**Sn**	**18 42 03.0**	**+2.2**
	1.3nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**8.14**	**150**	*e*Pn	**Pn**	**18 40 28.5**	**-3.4**
PBEJ				*e*Sn	**Sn**	**18 41 55.5**	**-8.6**
PTEO	**Sao Teotonio**	**8.31**	**156**	*e*Sn	**Sn**	**18 41 56.2**	**-12**
EALK	**Alkurruntz**	**8.50**	**99**	P	**Pn**	**18 40 40.1**	**+3.3**
	1.1nm,0.4s,SNR=7.9						
EALK				S	**Sn**	**18 42 16.1**	**+3.3**
	3.4nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**8.50**	**100**	P	**Pn**	**18 40 39.2**	**+2.4**
	0.3nm,0.2s,SNR=7.9						
ELIZ				S	**Sn**	**18 42 14.4**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**8.55**	**156**	*e*Sn	**Sn**	**18 42 03.2**	**-11**
MORF							
	4.0nm,0.1s						
MORF	**Marmelete**	**8.55**	**156**	Sn	**Sn**	**18 42 03.2**	**-11**
	4.0nm,0.1s						
ESDC	**Sonseca Array**	**8.68**	**126**	P	**Pn**	**18 40 39.5**	**+0.3**
	1.0nm,0.1s,baz=309,slow=13,SNR=5.4						
ESDC				S	**Sn**	**18 42 16.0**	**-1.1**
	0.4nm,0.2s,baz=308,slow=24,SNR=13						
ESDC	**Sonseca Array**	**8.68**	**126**	P	**Pn**	**18 40 39.5**	**+0.3**
	1.0nm,0.1s,SNR=5.4						
ESDC				S	**Sn**	**18 42 16.0**	**-1.1**
	0.4nm,0.2s,SNR=13						
EGRO	**El Granado**	**8.72**	**150**	P	**Pn**	**18 40 35.7**	**-4.1**
	0.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**18 42 09.4**	**-8.8**
	2.2nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**8.73**	**100**	*e*Pn	**Pn**	**18 40 41.1**	**+1.2**
SJPF				*e*Sn	**Sn**	**18 42 19.4**	**+1.0**
	3.2nm,0.2s						
SJPF	**Ste Jean**	**8.73**	**100**	*e*Pn	**Pn**	**18 40 41.1**	**+1.2**
SJPF				*e*Sn	**Sn**	**18 42 19.4**	**+1.0**
	1.6nm,0.2s						
EMIN	**Mina Concepcio**	**8.82**	**145**	P	**Pn**	**18 40 38.7**	**-2.5**
	0.8nm,0.2s,SNR=8.4						
EMIN				S	**Sn**	**18 42 13.3**	**-7.4**
	1.6nm,0.3s						
EMIN	**Mina Concepcio**	**8.82**	**145**	P	**Pn**	**18 40 38.7**	**-2.6**
	0.8nm,0.2s,SNR=8.4						
GRR	**Gorron**	**8.92**	**65**	*e*Pn	**Pn**	**18 40 42.9**	**+0.3**
GRR				*e*Sn	**Sn**	**18 42 16.9**	**-6.2**
	10nm,0.3s						
GRR	**Gorron**	**8.92**	**65**	Pn	**Pn**	**18 40 42.9**	**+0.3**
GRR				Sn	**Sn**	**18 42 16.9**	**-6.2**
	5.2nm,0.3s						
MFF	**Saint Martin d**	**9.08**	**77**	*e*Pn	**Pn**	**18 40 44.7**	**0.0**
MFF				*e*Sn	**Sn**	**18 42 24.3**	**-2.7**
	4.6nm,0.2s						
MFF	**Saint Martin d**	**9.08**	**77**	*e*Pn	**Pn**	**18 40 44.7**	**0.0**
MFF				*e*Sn	**Sn**	**18 42 24.3**	**-2.7**
	2.3nm,0.2s						
ETOR	**Torete**	**9.14**	**115**	P	**Pn**	**18 40 48.0**	**+2.3**
	1.4nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**18 42 27.4**	**-1.2**
	0.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**9.14**	**115**	P	**Pn**	**18 40 48.0**	**+2.4**
ETOR				S	**Sn**	**18 42 27.4**	**-1.2**
	0.9nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**18 42 27.4**	**-1.2**
ETSF	**Etsaut**	**9.26**	**100**	*e*Pn	**Pn**	**18 40 47.8**	**+0.6**
ETSF				*e*Sn	**Sn**	**18 42 32.4**	**+1.0**
	2.8nm,0.2s						
ETSF	**Etsaut**	**9.26**	**100**	*e*Pn	**Pn**	**18 40 47.8**	**+0.6**
ETSF				*e*Sn	**Sn**	**18 42 32.4**	**+1.0**
	1.4nm,0.2s						
FLN	**La Foliniere**	**9.27**	**63**	*e*Pn	**Pn**	**18 40 47.4**	**+0.1**
	baz=248						
FLN				*e*Sn	**Sn**	**18 42 30.3**	**-1.3**
	8.2nm,0.3s						
FLN	**La Foliniere**	**9.27**	**63**	*e*Pn	**Pn**	**18 40 47.4**	**+0.1**
FLN				*e*Sn	**Sn**	**18 42 30.3**	**-1.3**
	4.1nm,0.3s						
EADA	**Adamuz**	**9.45**	**135**	P	**Pn**	**18 40 49.3**	**-0.5**
	0.7nm,0.1s,SNR=7.0						
EADA	**Adamuz**	**9.45**	**135**	P	**Pn**	**18 40 49.3**	**-0.5**
	0.7nm,0.1s,SNR=7.0						
LDF	**La Druitiere**	**9.45**	**64**	*e*Pn	**Pn**	**18 40 50.1**	**+0.3**
LDF				*e*Sn	**Sn**	**18 42 32.5**	**-3.5**
	6.4nm,0.2s						
LDF	**La Druitiere**	**9.45**	**64**	*e*Pn	**Pn**	**18 40 50.1**	**+0.3**
LDF				*e*Sn	**Sn**	**18 42 32.5**	**-3.5**
	3.2nm,0.2s						
LFF	**La Frestale**	**9.73**	**87**	*e*Pn	**Pn**	**18 40 54.3**	**+0.6**
LFF				*e*Sn	**Sn**	**18 42 42.9**	**-0.2**
	4.7nm,0.2s						
LFF	**La Frestale**	**9.73**	**87**	Pn	**Pn**	**18 40 54.3**	**+0.6**
LFF				Sn	**Sn**	**18 42 42.9**	**-0.2**
	2.3nm,0.2s						
EBIE	**Bielsa**	**9.82**	**100**	S	**Sn**	**18 42 47.4**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**9.82**	**100**	S	**Sn**	**18 42 47.4**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**9.85**	**98**	*e*Pn	**Pn**	**18 40 56.5**	**+1.2**
EPF				*e*Sn	**Sn**	**18 42 45.6**	**-0.2**
	2.2nm,0.3s						
EPF	**Esparros**	**9.85**	**98**	*e*Pn	**Pn**	**18 40 56.5**	**+1.2**
EPF				*e*Sn	**Sn**	**18 42 45.6**	**-0.2**
	1.1nm,0.3s						
RJF	**Les Rejaudoux**	**10.24**	**84**	*e*Pn	**Pn**	**18 41 01.5**	**+0.8**
RJF				*e*Sn	**Sn**	**18 42 53.6**	**-2.0**
	5.7nm,0.3s						
RJF	**Les Rejaudoux**	**10.24**	**84**	*e*Pn	**Pn**	**18 41 01.5**	**+0.8**
RJF				*e*Sn	**Sn**	**18 42 53.6**	**-2.0**
	2.8nm,0.3s						
EMOS	**Mosqueruela**	**10.41**	**113**	S	**Sn**	**18 42 59.6**	**0.0**
	2.1nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**10.41**	**113**	P	**Pn**	**18 41 04.0**	**+1.0**
	0.7nm,0.3s						
EMOS				S	**Sn**	**18 42 59.6**	**0.0**
EMOS	**Mosqueruela**	**10.41**	**113**	P	**Pn**	**18 41 04.0**	**+1.1**
	0.7nm,0.3s						
EMOS				S	**Sn**	**18 42 59.7**	**+0.1**
CAF	**Calviac**	**10.67**	**86**	*e*Pn	**Pn**	**18 41 08.1**	**+1.6**
CAF				*e*Sn	**Sn**	**18 43 04.7**	**-1.3**
	3.5nm,0.2s						
CAF	**Calviac**	**10.67**	**86**	Pn	**Pn**	**18 41 08.1**	**+1.6**
CAF				Sn	**Sn**	**18 43 04.7**	**-1.3**
	1.8nm,0.2s						
TCF	**Toulx Ste Croi**	**10.69**	**79**	*e*Pn	**Pn**	**18 41 07.6**	**+0.7**
TCF				*e*Sn	**Sn**	**18 43 01.9**	**-4.7**
	6.2nm,0.2s						
TCF	**Toulx Ste Croi**	**10.69**	**79**	*e*Pn	**Pn**	**18 41 07.6**	**+0.7**
TCF				*e*Sn	**Sn**	**18 43 01.9**	**-4.7**
	3.1nm,0.2s						
HYF	**Humbligny**	**11.03**	**74**	*e*Pn	**Pn**	**18 41 11.8**	**+0.3**
HYF				*e*Sn	**Sn**	**18 43 11.8**	**-3.2**
MTLF	**Montolieu**	**11.08**	**94**	*e*Pn	**Pn**	**18 41 13.4**	**+1.3**
MTLF				*e*Sn	**Sn**	**18 43 16.3**	**+0.2**
	2.4nm,0.3s						
MTLF	**Montolieu**	**11.08**	**94**	Pn	**Pn**	**18 41 13.4**	**+1.3**
MTLF				Sn	**Sn**	**18 43 16.3**	**+0.2**
	1.2nm,0.3s						
BGF	**Bois d'Agland**	**11.14**	**77**	*e*Pn	**Pn**	**18 41 13.1**	**+0.2**
BGF				*e*Sn	**Sn**	**18 43 11.2**	**-6.3**
	15nm,0.3s						
BGF	**Bois d'Agland**	**11.14**	**77**	*e*Pn	**Pn**	**18 41 13.1**	**+0.2**
BGF				*e*Sn	**Sn**	**18 43 11.2**	**-6.3**
	7.7nm,0.3s						
AVF	**Avril sur Loir**	**11.49**	**76**	*e*Pn	**Pn**	**18 41 17.3**	**-0.5**
AVF				*e*Sn	**Sn**	**18 43 20.0**	**-6.2**
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**11.49**	**76**	*e*Pn	**Pn**	**18 41 17.3**	**-0.5**
AVF				*e*Sn	**Sn**	**18 43 20.0**	**-6.2**
	0.7nm,0.2s						
SSF	**Saint Saulge**	**11.61**	**75**	*e*P	**Pn**	**18 41 26.1**	**+6.7**
SSF				*e*Sn	**Sn**	**18 43 22.5**	**-6.6**
	1.7nm,0.3s						
SSF	**Saint Saulge**	**11.61**	**75**	*e*Pn	**Pn**	**18 41 20.1**	**+0.7**
SSF				*e*P		18 41 26.1	
SSF				*e*Sn	**Sn**	**18 43 22.5**	**-6.6**
SSF	**Saint Saulge**	**11.61**	**75**	*e*Pn	**Pn**	**18 41 20.1**	**+0.7**
SSF				*e*Sn	**Sn**	**18 43 22.5**	**-6.6**
	0.9nm,0.3s						
SMF	**Signal de Mont**	**11.82**	**77**	*e*Sn	**Sn**	**18 43 28.8**	**-5.5**
	1.6nm,0.2s						
SMF	**Signal de Mont**	**11.82**	**77**	*e*Sn	**Sn**	**18 43 28.8**	**-5.5**
	0.8nm,0.2s						
LOR	**Lormes**	**11.86**	**74**	*e*Pn	**Pn**	**18 41 22.9**	**0.0**
	baz=251						
LOR				*e*Sn	**Sn**	**18 43 31.6**	**-3.7**
	2.1nm,0.3s						
LOR	**Lormes**	**11.86**	**74**	*e*Pn	**Pn**	**18 41 22.9**	**0.0**
LOR				*e*Sn	**Sn**	**18 43 31.6**	**-3.7**
	1.0nm,0.3s						
LASF	**Ste Croix**	**12.07**	**89**	*e*Pn	**Pn**	**18 41 26.6**	**+0.9**
LASF				*e*Sn	**Sn**	**18 43 38.9**	**-1.5**
	2.4nm,0.3s						
LASF	**Ste Croix**	**12.07**	**89**	Pn	**Pn**	**18 41 26.6**	**+0.9**
LASF				Sn	**Sn**	**18 43 38.9**	**-1.5**
	1.2nm,0.3s						
VIVF	**Saint-Julien-l**	**12.52**	**85**	*e*Pn	**Pn**	**18 41 32.0**	**+0.2**
VIVF				*e*Sn	**Sn**	**18 43 48.8**	**-2.5**
	3.1nm,0.4s						
VIVF	**Saint-Julien-l**	**12.52**	**85**	Pn	**Pn**	**18 41 32.0**	**+0.2**
VIVF				Sn	**Sn**	**18 43 48.8**	**-2.5**
	1.6nm,0.4s						
BAIF	**Baives**	**12.58**	**61**	*e*Pn	**Pn**	**18 41 32.4**	**-0.2**
BAIF				*e*Sn	**Sn**	**18 43 45.6**	**-7.1**
	1.8nm,0.3s						
BAIF	**Baives**	**12.58**	**61**	*e*Pn	**Pn**	**18 41 32.4**	**-0.2**
BAIF				*e*Sn	**Sn**	**18 43 45.6**	**-7.1**
	0.9nm,0.3s						
SFTF	**Sexfontaines**	**12.74**	**70**	*e*Pn	**Pn**	**18 41 34.7**	**-0.2**
	baz=250						
SFTF				*e*Sn	**Sn**	**18 43 53.1**	**-3.7**
	3.9nm,0.3s						
SFTF	**Sexfontaines**	**12.74**	**70**	*e*Pn	**Pn**	**18 41 34.7**	**-0.2**
SFTF				*e*Sn	**Sn**	**18 43 53.1**	**-3.7**
	2.0nm,0.3s						
MEZF	**Maizieres J'vi**	**12.79**	**69**	*e*Pn	**Pn**	**18 41 35.1**	**-0.4**
RFYF	**Reffroy**	**13.09**	**68**	*e*Pn	**Pn**	**18 41 39.3**	**-0.3**
	baz=248						

*ISCJB **27** 18:39:14.3±0.4, 4938N±002×685E±003, h0km, Error ellipse: s-maj=3.4km s-min=3.2km az=150.0*
*LDG **27** 18:39:16.2±0.1, 4939N×688E, h1km, Md2.4/1, Ml2.5/9, Error ellipse: s-maj=1.6km s-min=1.3km az=25.0, Suspected Mining induced.*
*NEIC **27** 18:39:16.2, 4939N×688E, h1km, ML1.9(SZGRF), ML2.1(STR), ML2.5(LDG), After LDG.*
*CSEM **27** 18:39:16.1±0.1, 4939N×689E, h2km, ML2.4/8, Error ellipse: s-maj=1.1km s-min=0.9km az=30.0*
*BGR **27** 18:39:16.8±0.6, 4939N×694E, h1km, ML2.0/2, Error ellipse: s-maj=8.9km s-min=6.7km az=67.0*
ISC 27 18:39:15.4±0.4, 4938N±002×686E±003, h0km, n35,
σ0§82/65, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**302**	*e*Pg	**Pg**	**18 39 27.5**	**+1.7**
	SNR=1.5						
LANF	**Langenberg**	**0.74**	**122**	Pg	**Pg**	**18 39 29.8**	**+0.3**
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pn	**Pn**	**18 39 35.8**	**-1.0**
CDF				*e*Sg	**Sg**	**18 39 47.7**	**0.0**
CDF				*e*Sn	**Sn**	**18 39 50.0**	**-1.6**
	12nm,0.3s						
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pg	**Pg**	**18 39 35.3**	**+0.6**
CDF				*e*Pn	**Pn**	**18 39 35.8**	**-1.0**
CDF				*e*Sg	**Sg**	**18 39 47.7**	**0.0**
CDF				*e*Sn	**Sn**	**18 39 50.0**	**-1.6**
CDF	**Champ du Feu**	**1.01**	**164**	*e*Pn	**Pn**	**18 39 35.8**	**-1.0**
CDF				*e*Sg	**Sg**	**18 39 47.7**	**0.0**
CDF				*e*Sn	**Sn**	**18 39 50.0**	**-1.6**
	5.9nm,0.3s						
WLS	**Welschbruch**	**1.02**	**161**	Pg	**Pg**	**18 39 35.9**	**+0.9**
ECH	**Echery**	**1.18**	**170**	Pg	**Pg**	**18 39 39.0**	**+1.0**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**18 39 39.6**	**+1.5**
RFYF				*e*Sg	**Sg**	**18 39 54.1**	**+0.7**
	17nm,0.3s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**18 39 39.6**	**+1.5**
RFYF				*e*Sg	**Sg**	**18 39 54.1**	**+0.7**
	8.7nm,0.3s						
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**18 39 40.1**	**0.0**
THEF	**They Montfort**	**1.29**	**207**	Pg	**Pg**	**18 39 40.3**	**+0.1**
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	**18 39 40.3**	**-0.6**
	SNR=2.3						
TNS				*e*Sg	**Sg**	**18 39 57.4**	**-0.8**
	SNR=2.5						
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	**18 39 40.4**	**-0.5**
TNS				*e*Sg	**Sg**	**18 39 59.1**	**+1.0**
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	**Pg**	**18 39 40.4**	**-0.5**
TNS				Sg	**Sg**	**18 39 57.4**	**-0.7**
	SNR=2.5						
HAU	**Haudompre**	**1.42**	**194**	*e*Pg	**Pg**	**18 39 42.6**	**0.0**
HAU				*e*Sg	**Sg**	**18 40 01.3**	**+0.4**
	8.6nm,0.2s						
HAU	**Haudompre**	**1.42**	**194**	*e*Pg	**Pg**	**18 39 42.6**	**0.0**
HAU				*e*Sg	**Sg**	**18 40 01.3**	**+0.4**
	4.3nm,0.2s						
BFO	**Black Forest**	**1.43**	**137**	*e*Pg	**Pg**	**18 39 43.1**	**+0.3**
	SNR=3.5						
BFO				*e*Sg	**Sg**	**18 40 00.5**	**-0.8**
	SNR=4.1						
BFO	**Black Forest**	**1.43**	**137**	*e*Pg	**Pg**	**18 39 43.1**	**+0.3**
BFO				*e*Sg	**Sg**	**18 40 01.7**	**+0.4**
BFO	**Black Forest**	**1.43**	**137**	Pg	**Pg**	**18 39 43.1**	**+0.3**
	SNR=3.5						
BFO				*e*Sg	**Sg**	**18 40 01.7**	**+0.4**
**M

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.83**	**217**	P	**Pn**	**18 42 43.1**	**-3.0**
CEP	**Cherat**	**1.69**	**253**	P	**Pn**	**18 42 57.7**	**-0.2**
CEP				S	**Sn**	**18 43 19.0**	**+0.7**
JMU	**Jammu**	**1.83**	**151**	*eP*	**Pn**	**18 43 03.0**	**+3.2**
JMU				*eS*	**Sn**	**18 43 27.5**	**+5.8**
THW	**Thamme Wali**	**2.33**	**230**	⇑P	**Pn**	**18 43 07.3**	**+0.5**
THN	**Thein Dam**	**2.45**	**140**	*eP*	**Pn**	**18 43 11.5**	**+3.1**
THN				*ex*	x	18 43 46.7	
DLH	**Dalhousie**	**2.51**	**135**	*ex*	x	18 43 06.0	
DLH				*eS*	**Sn**	**18 43 40.0**	**+1.5**
SBDP	**Sheikh Budin**	**3.25**	**232**	⇓P	**Pn**	**18 43 19.4**	**0.0**
BHK	**Bhakra**	**3.61**	**143**	*ex*	x	18 43 40.2	
SDNR	**Sundarnagar**	**3.85**	**136**	*eP*	**Pn**	**18 43 29.5**	**+1.9**
SDNR				*eS*	**Sn**	**18 44 14.5**	**+2.9**
DRP	**Derazinda**	**4.00**	**231**	⇑P	**Pn**	**18 43 30.3**	**+0.6**
DRP				S	**Sn**	**18 44 20.0**	**+4.6**
KLP	**Kalpa**	**4.63**	**126**	*eP*	**Pn**	**18 43 41.5**	**+3.2**
KLP				*eS*	**Sn**	**18 44 31.5**	**+0.8**
KLP				AML	AML	18 45 02.6	
	comp=E,183nm,0.6s						
KLP				AML	AML	18 45 03.2	
	comp=N,164nm,0.4s						
KHET	**Khetri**	**6.45**	**164**	*eP*	**Pn**	**18 43 59.8**	**-3.6**
KHET				*eS*	**Sn**	**18 45 08.8**	**-6.8**
KUDL	**Kundal**	**6.56**	**159**	*eP*	**Pn**	**18 44 05.2**	**+0.3**
KUDL				*eS*	**Sn**	**18 45 16.3**	**-2.1**
SONA	**Sohna**	**6.66**	**155**	*eP*	**Pn**	**18 44 06.1**	**-0.1**
SONA				*eS*	**Sn**	**18 45 18.3**	**-2.4**
AAK	**Ala-Archa**	**8.31**	**3**	*eP*	**Pn**	**18 44 30.5**	**+1.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**8.31**	**3**	*eP*	**Pn**	**18 44 30.5**	**+1.6**
	comp=Z,2.5nm,0.6s						
TKM2	**Tokmak 2**	**8.69**	**9**	⇓Pn	**Pn**	**18 44 37.1**	**+3.0**
	comp=Z,0.1nm,0.5s						
TKM2				⇑Sn	**Sn**	**18 46 15.5**	**+4.8**
	comp=Z,0.4nm,0.6s						
KK31	**Karatay Array**	**9.14**	**344**	⇑Pn	**Pn**	**18 44 41.1**	**+0.8**
	comp=Z,3.3nm,0.4s,baz=158,slow=11,SNR=116						
KK31				⇓Sn	**Sn**	**18 46 20.0**	**-1.9**
	comp=Z,0.8nm,0.2s,baz=168,slow=24,SNR=7.8						
KOLN	**Koldanda**	**10.61**	**125**	*eP*	**Pn**	**18 44 59.6**	**-0.7**
KOLN				*eS*	**Sn**	**18 46 54.8**	**-2.9**
GKN	**Gorkha**	**11.18**	**121**	*eP*	**Pn**	**18 45 07.1**	**-1.0**
GKN				*eS*	**Sn**	**18 47 07.8**	**-3.9**
DMN	**Daman**	**11.74**	**122**	*eP*	**Pn**	**18 45 14.6**	**-1.3**
KKN	**Kakani**	**11.76**	**121**	*eP*	**Pn**	**18 45 15.1**	**-1.0**
KKN				*eS*	**Sn**	**18 47 21.4**	**-4.6**
PKI	**Pulchoki**	**11.98**	**121**	*eP*	**Pn**	**18 45 18.5**	**-0.6**
GUN	**Gumba**	**12.12**	**119**	*eP*	**Pn**	**18 45 19.0**	**-2.0**
MK31	**Makanchi Array**	**14.00**	**25**	⇓P	**Pn**	**18 45 53.3**	**+6.7**
	comp=Z,0.4nm,0.5s,baz=208,slow=12,SNR=8.2						
MK31	**Makanchi Array**	**14.00**	**25**	*eP*	**Pn**	**18 45 53.1**	**+6.5**
MKAR	**Makanchi Array**	**14.00**	**25**	P	**Pn**	**18 45 53.2**	**+6.5**
	comp=Z,0.2nm,0.3s,baz=200,slow=8.7,SNR=8.1						
LSA	**Lhasa**	**15.38**	**103**	P	**Pn**	**18 46 11.5**	**+6.5**
LSA	**Lhasa**	**15.38**	**103**	*eP*	**Pn**	**18 46 09.7**	**+4.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**15.38**	**103**	*eP*	**Pn**	**18 46 09.7**	**+4.6**
	comp=Z,6.0nm,0.6s						
WSAR	**Wadi Sarin**	**17.30**	**234**	P	**Pn**	**18 46 32.5**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=87,slow=10.0,SNR=5.2						
AB31	**Akbulak array**	**18.12**	**330**	⇑P	**Pn**	**18 46 38.6**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=348,slow=8.9,SNR=3.6						
VOSK	**Vostochnaya**	**18.51**	**354**	⇑P	**Pn**	**18 46 43.8**	**-0.4**
	comp=Z,1.7nm,0.7s						
BVA0	**Borovoye Array**	**18.86**	**354**	⇓P	**Pn**	**18 46 48.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=228,slow=37,SNR=20						
BVAR	**Borovoye Array**	**18.86**	**354**	P	**Pn**	**18 46 48.7**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=163,slow=10,SNR=26						
BRVK	**Borovoye**	**18.90**	**353**	*eP*	**Pn**	**18 46 48.3**	**-0.6**
ZRNK	**Zerenda**	**18.94**	**351**	⇑P	**Pn**	**18 46 48.9**	**-0.5**
	comp=Z,5.9nm,1.3s						
ZRNK	**Zerenda**	**18.94**	**351**	*eP*	**Pn**	**18 46 48.3**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	**Zerenda**	**18.94**	**351**	*eP*	**Pn**	**18 46 48.3**	**-1.1**
	comp=Z,3.3nm,0.6s						
CHKZ	**Chkalovo**	**19.48**	**354**	⇑P	**Pn**	**18 46 54.6**	**-1.3**
	comp=Z,2.8nm,1.2s						
CHKZ	**Chkalovo**	**19.48**	**354**	*eP*	**Pn**	**18 46 54.2**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**19.48**	**354**	*eP*	**Pn**	**18 46 54.2**	**-1.7**
	comp=Z,1.1nm,0.4s						
AKTK	**Aktyubinsk**	**19.83**	**329**	P	**Pn**	**18 46 58.7**	**-1.4**
AKTO	**Aktyubinsk**	**19.83**	**329**	P	**Pn**	**18 46 58.7**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=130,slow=11,SNR=31						
ZAL	**Zalesovo**	**21.07**	**18**	P	**P**	**18 47 13.0**	**+1.3**
	comp=Z,2.5nm,0.4s,mb3.9,baz=265,slow=6.5,SNR=9.7						
ZAL	**Zalesovo**	**21.07**	**18**	P	**P**	**18 47 13.0**	**+1.3**
SONM	**Songino Array**	**27.77**	**51**	P	**P**	**18 48 18.6**	**+2.6**
	comp=Z,0.7nm,0.8s,mb3.4,baz=254,slow=10,SNR=7.7						
BRTR	**Keskin Array B**	**32.36**	**292**	P	**P**	**18 48 58.7**	**+2.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=90,slow=8.7,SNR=2.3						
FINES	**FINESS Array B**	**40.58**	**327**	P	**P**	**18 50 06.5**	**0.0**
	comp=Z,7.1nm,1.0s,mb4.2,baz=126,slow=9.7,SNR=4.8						
ARCES	**ARCESS Array B**	**44.04**	**338**	P	**P**	**18 50 34.7**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.1,baz=116,slow=8.2,SNR=11						
HFS	**Hagfors**	**46.21**	**323**	P	**P**	**18 50 51.6**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.5,baz=95,slow=9.5,SNR=14						
NB2	**NORSAR Subarra**	**47.51**	**324**	P	**P**	**18 51 01.2**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=93,slow=7.9						
NB2	**NORSAR Subarra**	**47.51**	**324**	P	**P**	**18 51 01.2**	**-0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**47.51**	**324**	P	**P**	**18 51 01.5**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=96,slow=7.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**68.05**	**271**	P	**P**	**18 53 25.6**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.8,baz=51,slow=5.7,SNR=11						
WRA	**Warramunga Arr**	**78.86**	**123**	P	**P**	**18 54 31.1**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=326,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**81.09**	**126**	P	**P**	**18 54 43.4**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=306,slow=5.2,SNR=21						

*NEIC **27** 19:32:34.8, 1496N×9473W, h13^{km}, MD4.2(MEX), After MEX.*

MEX 27 19:32:34.9±0.6, 1496N×9473W, h13^{km}±12^{km}, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.55**	**301**	*i P*	Pn	19 32 58.8	-3.4
HUIG				*i* S	Sn	19 33 17.1	-5.0
CMIG	**Matias Romero**	**2.12**	**356**	*i P*	Pn	19 33 06.3	-3.7
CMIG				*i* S	Sn	19 33 32.1	-4.0
CCIG	**Comitan**	**2.82**	**62**	*i P*	Pn	19 33 17.1	-2.5
CCIG				*i* S	Sn	19 33 49.9	-3.6
OXX	**Oaxaca**	**2.85**	**318**	*eP*	Pn	19 33 20.0	0.0
TUIG	**Tuzandepetl**	**3.07**	**6**	*i P*	Pn	19 33 21.2	-1.8
TUIG				*i* S	Sn	19 33 59.0	-0.6
TUIG	**Tuzandepetl**	**3.07**	**6**	*i P*	Pn	19 33 21.2	-1.8
TUIG				*i* S	Sn	19 33 49.9	-10

IDC 27 19:35:31.2±53.0, 1485S×17120W, h0^{km}, mb4.2/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.2/3, Error ellipse: s-maj=1035.0km s-min=181.7km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.15**	**240**	*eP*	P	19 43 57.3	-0.1
	9.4nm,2.0s						
STKA	**Stephens Creek**	**46.15**	**240**	P	P	19 43 57.3	-0.1
	0.5nm,0.4s,baz=82,slow=15,SNR=6.5						
WB2	**Warramunga Arr**	**52.03**	**256**	*eP*	P	19 44 42.1	-0.4
WRA	**Warramunga Arr**	**52.04**	**256**	P	P	19 44 43.2	+0.7
	0.5nm,0.5s,baz=92,slow=6.9,SNR=24						
ASAR	**Alice Springs**	**52.30**	**251**	P	P	19 44 45.0	+0.5
	5.9nm,0.5s,baz=89,slow=7.8,SNR=204						
ASPA	**Alice Springs**	**52.30**	**251**	*eP*	P	19 44 44.9	+0.4

CASC 27 20:00:17.5±3.1, 1336N×8760W, h8^{km}±10^{km}, MD4.0, ML3.8, 12C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.24**	**250**	⇑*iP*	x	20 00 36.3	+14
CNCH				*eS*	x	20 00 40.6	+15
BLLM	**Bellamira**	**0.62**	**278**	⇑*eP*	x	20 00 43.9	+14
BLLM				*eS*	x	20 00 53.0	+15
VSM	**San Miguel**	**0.66**	**276**	⇑*iP*	x	20 00 44.7	+15
VSM				*eS*	x	20 00 54.6	+16
CRIN	**San Cristobal**	**0.85**	**140**	⇑*eP*	Pg	20 00 34.1	+0.3
CRIN				*eS*	Sg	20 00 47.5	+2.7
TELN	**Telica**	**1.06**	**135**	⇓*eP*	Pg	20 00 36.9	-1.0
LEON	**Leon**	**1.16**	**143**	⇑*eP*	Pb	20 00 38.1	-1.7
LEON				*i*		20 00 56.2	
	comp=Z,1μm,0.4s						
CNGN	**Cerro Negro**	**1.23**	**134**	⇑*iP*	Pb	20 00 38.1	-2.8
CNGN				⇑*eP*		20 00 39.5	
CNGN				*eS*	Sb	20 00 55.4	-1.4
SNVI	**San Vicente**	**1.23**	**282**	*eP*	x	20 00 54.6	+14
SNVI				*eS*	x	20 01 12.0	+15
MIRN	**Miramar**	**1.26**	**136**	⇓*eP*	Pn	20 00 40.0	-1.3
LCBS	**La Ceiba**	**1.37**	**283**	⇑*eP*	x	20 00 56.6	+14
LCBS				*eS*	x	20 01 16.0	+15
MOMJ	**Momotombo**	**1.40**	**132**	⇓*eP*	Pn	20 00 42.3	-1.0
LFRS	**El Faro**	**1.44**	**281**	⇑*eP*	x	20 00 57.5	+14
LFRS				*eS*	x	20 01 16.0	+13
LBRS	**Las Brisas**	**1.45**	**285**	⇓*eP*	x	20 00 57.7	+14
LBRS				*eS*	x	20 01 19.2	+16
COPN	**Copaltepe**	**1.53**	**140**	⇑*eP*	Pn	20 00 44.2	-0.9
APYN	**Apoyeque**	**1.66**	**132**	*eP*	Pn	20 00 46.5	-0.4
BOQS	**Boqueron**	**1.67**	**283**	*eP*	x	20 01 01.7	+15
BOQS				*eS*	x	20 01 22.9	+14
TISN	**Laguna Tiscapa**	**1.77**	**133**	*eP*	Pn	20 00 47.5	-0.9
TICN	**Ticuantepe**	**1.88**	**134**	*eP*	Pn	20 00 49.7	-0.2
MTO2	**Montecristo 2**	**2.00**	**301**	⇑*eP*	x	20 01 07.8	+16
MTO2				*eS*	x	20 01 35.3	+19
SBLS	**San Blas**	**2.02**	**284**	*eP*	x	20 01 06.6	+15
SBLS				*eS*	x	20 01 31.8	+15
APON	**Apoyo**	**2.07**	**134**	*eP*	Pn	20 00 52.0	-0.6
RBDL	**Robledal**	**2.16**	**291**	⇑*eP*	x	20 01 10.0	+16
RBDL				*eS*	x	20 01 40.7	+20

IDC 27 20:09:21.7±67.0, 2135S×17954E, h0^{km}, mb4.1/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.1/3, MS3.5/1, Ms1 3.4/1, ms1mx2.7/26, 1D, Error ellipse: s-maj=1198.0km s-min=161.2km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.35**	**245**	P	P	20 16 17.1	-1.7
	2.9nm,0.8s,baz=96,slow=10,SNR=3.2						
STKA				LR	LR	20 28 09.3	
	comp=Z,72nm,18.9s,baz=31,slow=32						
ASAR	**Alice Springs**	**42.09**	**258**	P	P	20 17 15.6	+0.2
	1.1nm,0.5s,baz=96,slow=7.3,SNR=26						
ASPA	**Alice Springs**	**42.10**	**258**	*eP*	P	20 17 15.8	+0.4
WB2	**Warramunga Arr**	**42.20**	**263**	⇓*iP*	P	20 17 17.5	+1.2
WRA	**Warramunga Arr**	**42.22**	**263**	P	P	20 17 17.9	+1.5
	1.1nm,0.3s,baz=92,slow=8.5,SNR=51						

*NNC **27** 20:11:31.2±3.4, 4205N×8122E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=33.8km s-min=12.1km az=145.0*

BJI 27 20:11:33.6, 4210N×8069E, h14^{km}, ML3.3, 7C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.96**	**293**	⇑Pn	Pn	20 12 22.9	+2.7
	46nm,0.6s						
KNDC				⇑Sn	Sb	20 13 05.4	+3.2
	175nm,0.8s						
TKM2	**Tokmak 2**	**3.85**	**284**	⇑Pn	Pn	20 12 37.3	+4.8
	0.4nm,0.5s						
TKM2				⇓Sn	Sb	20 13 31.2	+3.3
	3.4nm,0.6s						
KSH	**Kashi**	**4.41**	**236**	*e*PG	Pb	20 12 49.5	-1.4
KSH				SG	Sg	20 13 49.5	-5.8
KSH				Smax			
	comp=N,71nm,0.6s						
KSH				Smax			
	comp=E,116nm,0.8s						
MK31	**Makanchi Array**	**4.83**	**13**	⇓Pn	Pn	20 12 47.8	+2.0
	comp=E,2.1nm,0.4s,baz=191,slow=12,SNR=111						
MK31				⇑Sn	Sn	20 13 47.7	+6.1
	comp=E,15nm,0.9s,baz=188,slow=22,SNR=13						
MK31				⇑Lg		20 14 02.7	
	comp=E,15nm,0.6s,baz=193,slow=27,SNR=6.9						
WMQ	**Urumqi**	**5.42**	**69**	*eP*	Pn	20 12 56.5	+2.5
WMQ				S	Sn	20 13 59.5	+3.4
WMQ				Smax			
	comp=N,41nm,0.8s						
WMQ				Smax			
	comp=E,53nm,1.0s						
KK31	**Karatay Array**	**7.58**	**281**	⇑Pn	Pn	20 13 31.4	+7.8
	comp=E,0.3nm,0.3s,baz=84,slow=17,SNR=6.1						
KK31				⇑Lg		20 15 39.9	
	comp=E,3.9nm,0.6s,baz=95,slow=27,SNR=7.3						

CASC 27 20:18:52.2±2.6, 1324N×8762W, h19^{km}±12^{km}, MD3.9, ML3.5, 5C-7D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.21**	**281**	⇑*iP*	x	20 19 10.4	
CNCH				*eS*	x	20 19 16.1	
BLLM	**Bellamira**	**0.64**	**289**	⇑*eP*	x	20 19 18.0	
BLLM				*eS*	x	20 19 27.4	
VSM	**San Miguel**	**0.66**	**287**	⇑*eP*	x	20 19 18.7	
VSM				*eS*	x	20 19 29.4	
CRIN	**San Cristobal**	**0.77**	**134**	*eP*	Pb	20 19 07.2	+0.3
TELN	**Telica**	**0.99**	**129**	*eP*	Pb	20 19 09.4	-1.3
TELN				*eS*	Sb	20 19 23.4	-0.1
LEON	**Leon**	**1.08**	**139**	*eP*	Pb	20 19 11.0	-1.2
CNGN	**Cerro Negro**	**1.16**	**129**	⇓*iP*	Pn	20 19 11.6	-1.8
CNGN				*eP*		20 19 12.4	
CNGN				*eS*	Sb	20 19 29.3	+1.0
MIRN	**Miramar**	**1.19**	**132**	⇓*eP*	Pn	20 19 12.9	-0.9
MIRN				*eS*	Sb	20 19 30.1	+1.1
MIRN				*i*		20 19 37.6	
	comp=Z,628nm,0.5s						
SNVI	**San Vicente**	**1.24**	**288**	*eP*	x	20 19 28.9	
SNVI				*eS*	x	20 19 45.4	
MOMJ	**Momotombo**	**1.34**	**128**	*eP*	Pn	20 19 15.0	-0.9
LCBS	**La Ceiba**	**1.39**	**288**	⇓*eP*	x	20 19 31.0	
LCBS				*eS*	x	20 19 50.0	
COPN	**Copaltepe**	**1.45**	**136**	⇑*eP*	Pn	20 19 16.7	-0.7
COPN				*i*		20 19 40.7	
	comp=Z,290nm,0.6s						
LFRS	**El Faro**	**1.45**	**286**	⇓*eP*	x	20 19 32.0	
LFRS				*eS*	x	20 19 51.6	
LBRS	**Las Brisas**	**1.47**	**290**	⇓*eP*	x	20 19 32.5	
LBRS				*eS*	x	20 19 54.0	
APYN	**Apoyeque**	**1.59**	**129**	⇓*eP*	Pn	20 19 19.6	+0.3
BOQS	**Boqueron**	**1.69**	**287**	⇑*eP*	x	20 19 36.3	
BOQS				*eS*	x	20 19 58.8	
TICN	**Ticuantepe**	**1.81**	**131**	*eP*	Pn	20 19 22.9	+0.6
SBLS	**San Blas**	**2.04**	**287**	⇓*eP*	x	20 19 42.2	
SBLS				*eS*	x	20 20 07.6	
RBDL	**Robledal**	**2.19**	**294**	*eP*	x	20 19 47.0	
RBDL				*eS*	x	20 20 15.2	

MEX 27 20:28:35.9±0.4, 1798N×9495W, h44^{km}±83^{km}, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.89**	**176**	*i P*	Pn	20 28 50.3	-1.7
CMIG				*i* S	Sn	20 29 01.8	-2.0
OXX	**Oaxaca**	**1.91**	**242**	*i P*	Pn	20 29 05.0	-1.0
OXX				*i* S	Sn	20 29 27.0	-1.8
VHO	**Vista Hermosa**	**1.93**	**242**	*i P*	Pn	20 29 04.8	-1.4
VHO				*i* S	Sn	20 29 27.3	-1.8
UTMO	**Huajuapan**	**2.72**	**267**	*eP*	Pn	20 29 16.3	-0.8
UTMO				*i* S	Sn	20 29 46.9	-1.7

TRN 27 20:31:36.9, 1747N×6049W, h35^{km}, M3.7(FDF), 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.28**	**206**	*eP*	Pn	20 31 59.1	+0.9
DEG				*eS*	Sn	20 32 16.1	+2.0
BPA	**Boggy Peak**	**1.38**	**252**	*eP*	Pn	20 32 08.9	+9.3
BPA				*eS*	Sn	20 32 19.3	+2.7
MGG	**Marie-Galante**	**1.74**	**207**	*eP*	Pn	20 32 06.2	+1.7
TBG	**Guadaloupe-3**	**1.96**	**215**	*eP*	Pn	20 32 09.8	+2.2
FDF	**Fort de France**	**2.80**	**193**	*eP*	Pn	20 32 20.6	+1.4
FDF				*eS*	Sn	20 32 54.0	+2.3
MVM	**Montagne Vaucl**	**2.93**	**188**	⇓*iP*	Pn	20 32 23.2	+2.3
MVM				*eS*	Sn	20 32 59.2	+4.3
BIM	**Bigot**	**2.99**	**191**	*eP*	Pn	20 32 24.1	+2.2
BIM				*eS*	Sn	20 33 00.6	+4.1

*CSEM **27** 20:47:08.9, 4268N×4759E, h11^{km}, mb3.5, Error ellipse: s-maj=44.3km s-min=18.7km az=209.0, After OBN*

MOS 27 20:47:08.9±1.2, 4268N×4759E, h11^{km}, mb3.5/1, 1D, Error ellipse: s-maj=44.3km s-min=18.7km az=110.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.29**	**347**	⇓*iPG*	Pg	20 47 16.2	+1.5
MAK				*i*		20 47 22.6	
MAK				pmax	pmax		
	comp=Z,12nm,0.1s						
MAK				smax			
	comp=N,239nm,0.4s						
MAK				smax			
	comp=E,290nm,0.5s						
MAK	**Makhachkala**	**0.29**	**347**	*i* Pg	Pg	20 47 16.2	+1.5
	comp=E,12nm,0.1s						
MAK				*i* Sg	Sg	20 47 22.6	+3.9
	comp=E,239nm,0.4s						
URKR	**Urkarakh**	**0.52**	**177**	*i* Pg	Pg	20 47 19.0	0.0
URKR				*e*Sg	Sg	20 47 28.5	+2.7
KRNR	**Karanay**	**0.53**	**286**	*e*PG	Pg	20 47 21.0	+1.8
KRNR				*e*S	Sg	20 47 32.8	+6.7
DBC	**Dubki**	**0.66**	**301**	*i* PG	Pg	20 47 22.0	+0.4
DBC				*e*S	Sg	20 47 33.0	+2.8
KSMR	**Kasumkent**	**1.15**	**160**	*e*Pg	Pg	20 47 31.5	+0.5
KSMR				*e*Sg	Sg	20 47 50.5	+4.6

MAN 27 21:29:43.5, 1550N×12167E, h5^{km}, mb2.5, ML4.0, MS0.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.26**	**340**	*eP*	Pg	21 29 49.1	+0.6
PCPH	**Palayan**	**0.56**	**277**	⇑*eP*	Pg	21 29 54.6	+0.4
PCPH				*i* S	Sg	21 30 03.6	+2.2
BCPH	**Baguio City Da**	**1.37**	**310**	⇓*iP*	Pn	21 30 08.4	-0.8
BCPH				*i* S	Sb	21 30 28.1	+0.9
CAUP	**Cauayan**	**1.45**	**6**	*eP*	Pn	21 30 08.9	-1.4

*NIED **27** 21:43:00, 2960N×14170E, h17^{km}, Mw4.0 Best double couple: M$_0$9.77000×10^{14} NP1:ϕ_s=294.00000°, δ70.00000°, λ-67.00000°. NP2:ϕ_s63.00000°, δ30.00000°, λ-136.00000°.*

*ISCJB **27** 21:43:50.9±1.5, 293N±0.1×1406E±03, h48^{km}±26^{km}, mb3.9/6, Error ellipse: s-maj=50.5km s-min=8.6km az=132.7*

*IDC **27** 21:43:51.6±2.6, 2965N×14200E, h72^{km}±19^{km}, mb3.5/6, mb1 3.7/8, mb1mx3.6/20, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=79.9km s-min=13.8km az=78.0*

*NEIC **27** 21:43:53.7±3.2, 2964N×14191E, h89^{km}±25^{km}, MG4.0(JMA), Error ellipse: s-maj=92.3km s-min=23.4km az=77.0*

ISC 27 21:43:53.2±1.0, 293N±01×1408E±03, h58^{km}±22^{km}, n15, σ0^{s}98/16, mb3.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.50**	**149**	P	**Pn**	**21 44 30.4**	**-1.0**
	48nm,0.3s,baz=336,slow=6.1,SNR=45						
CBIJ				S	**Sn**	**21 45 01.1**	**+0.3**
	84nm,0.3s,baz=288,slow=21,SNR=18						
MJAR	**Matsushiro Arr**	**7.56**	**344**	P	**Pn**	**21 45 40.0**	**-0.8**
	0.4nm,0.3s,baz=158,slow=12,SNR=9.2						
MJAR				LR	LR	21 48 35.3	
	comp=Z,107nm,19.1s,baz=190,slow=38						
MAJO	**Matsushiro**	**7.57**	**344**	*eP*	**Pn**	**21 45 42.1**	**+1.2**
	23nm,1.0s						
MAT	**Matsushiro**	**7.57**	**344**	P	**Pn**	**21 45 41.0**	**+0.2**
MAT				S	Sn	21 47 35.8	+31
SONM	**Songino Array**	**32.29**	**315**	P	**P**	**21 50 19.5**	**+3.0**
	0.5nm,0.9s,mb3.4,baz=104,slow=6.5,SNR=3.7						
JIRN	**Jiri**	**47.63**	**282**	*eP*	**P**	**21 52 23.7**	**+0.2**
	26nm,1.0s						
GUN	**Gumba**	**47.83**	**282**	*eP*	**P**	**21 52 25.3**	**+0.3**
MKAR	**Makanchi Array**	**48.14**	**308**	P	**P**	**21 52 27.5**	**+0.1**
	0.2nm,0.6s,mb3.4,baz=84,slow=8.4,SNR=2.5						
KKN	**Kakani**	**48.38**	**282**	*eP*	**P**	**21 52 28.9**	**-0.3**
	15nm,0.9s						
GKN	**Gorkha**	**48.87**	**283**	*eP*	**P**	**21 52 32.1**	**-0.9**
WRA	**Warramunga Arr**	**49.31**	**188**	P	**P**	**21 52 36.5**	**+0.1**
	3.9nm,1.2s,mb4.3,baz=4.6,slow=7.7,SNR=9.4						
KOLN	**Koldanda**	**49.81**	**283**	*eP*	**P**	**21 52 39.5**	**-0.7**
	18nm,1.1s						
ASAR	**Alice

AKUT Akutan 2.69 52 *e*Pn **Pn 21 48 34.0 +0.5**
KDAK Kodiak Island 10.94 55 Pn **Pn 21 50 24.5 -1.9**
0.6nm,0.3s,baz=217,slow=13,SNR=6.0
DAWY Dawson 19.31 42 *e*P **Pn 21 52 11.5 -3.0**
PDAR Pinedale Array 40.39 79 P **P 21 55 25.2 +0.2**
1.5nm,0.8s,mb3.8,baz=310,slow=5.2,SNR=11
SRU San Rafael 42.00 84 *e*P **P 21 55 40.5 +2.2**
1.9nm,0.7s,mb3.8
ULM Lac du Bonnet 44.08 62 P **P 21 55 53.2 -1.9**
1.9nm,0.6s,mb4.0,baz=292,slow=5.4,SNR=2.7
ULM Lac du Bonnet 44.08 62 P **P 21 55 53.2 -1.9**
SONM Songino Array 51.20 301 P **P 21 56 50.9 +0.7**
0.7nm,0.5s,mb3.8,baz=47,slow=6.0,SNR=15
SONM PcP PcP 21 58 05.3 +0.4
0.4nm,0.6s,baz=45,slow=2.5,SNR=4.0
TXAR Lajitas Array 52.76 89 P **P 21 57 02.7 +0.8**
1.1nm,0.7s,mb3.9,baz=289,slow=4.8,SNR=12
ARCES ARCESS Array B 57.74 354 P **P 21 57 38.1 +0.4**
2.4nm,0.8s,mb4.3,baz=44,slow=8.8,SNR=4.4
ARCES PcP PcP 21 58 29.6 -0.4
1.7nm,0.7s,baz=9.5,slow=1.5,SNR=4.5
BVAR Borovoye Array 63.55 324 P **P 21 58 17.8 +0.6**
2.6nm,0.6s,mb4.5,baz=56,slow=7.3,SNR=17
BVAR PcP PcP 21 58 52.6 -0.7
1.1nm,0.5s,baz=56,slow=2.3,SNR=4.8
MKAR Makanchi Array 63.67 313 P **P 21 58 17.5 -0.5**
0.6nm,0.7s,mb3.7,baz=33,slow=5.6,SNR=6.2
ZRNK Zerenda 64.10 325 *e*P **P 21 58 21.1 +0.2**
2.3nm,0.6s,mb4.4
FINES FINESS Array B 65.69 352 P **P 21 58 31.0 -0.2**
1.9nm,0.6s,mb4.3,baz=22,slow=8.3,SNR=10
NOA NORSAR Array B 66.77 360 P **P 21 58 38.3 +0.2**
1.4nm,1.1s,mb3.9,baz=3.3,slow=7.0,SNR=2.6
AKTK Aktyubinsk 69.85 330 P **P 21 58 57.5 +0.2**
AKTO Aktyubinsk 69.85 330 P **P 21 58 57.5 +0.2**
1.5nm,0.5s,mb4.2,baz=62,slow=11,SNR=7.8
AKASG Malin Array Be 75.93 348 P **P 21 59 32.8 -0.6**
1.3nm,0.5s,mb4.1,baz=16,slow=6.0,SNR=7.1
GERES GERESS Array B 78.95 358 P **P 21 59 50.3 +0.1**
0.8nm,0.9s,mb3.7,baz=3.9,slow=5.9,SNR=4.8
MEZF Maizieres J'vi 79.22 4 *e*P **P 21 59 46.5 -5.2**
8.5nm,0.8s,mb4.4
LOR Lormes 80.40 5 *e*P **P 21 59 53.1 -4.9**
SSF Saint Saulge 80.59 5 *e*P **P 21 59 53.6 -5.4**
7.7nm,0.8s,mb4.4
SJPF Ste Jean 84.17 9 *e*P **P 22 00 12.7 -5.1**
ETSF Etsaut 84.45 8 *e*P **P 22 00 15.0 -4.1**
8.0nm,0.9s,mb4.6
PGF Pioggiola 85.28 1 *e*P **P 22 00 18.2 -5.1**
7.6nm,0.8s,mb4.5
WRA Warramunga Arr 87.10 232 P **P 22 00 31.4 -0.9**
0.3nm,0.5s,mb3.8,baz=34,slow=5.7,SNR=4.3
ESDC Sonseca Array 87.29 11 P **P 22 00 34.3 +1.1**
1.0nm,0.6s,mb4.2,baz=343,slow=4.8,SNR=7.0
PSI Prapat 88.82 273 P **P 22 00 40.2 -0.2**
3.6nm,0.7s,mb4.8,baz=282,slow=3.0,SNR=4.9
PSI Prapat 88.82 273 P **P 22 00 40.2 -0.2**
ASAR Alice Springs 90.49 230 P **P 22 00 47.7 -0.6**
0.8nm,0.8s,mb4.1,baz=24,slow=4.5,SNR=7.4
MATP Matopo 145.06 330 PKPbc PKPbc 22 07 23.9 +0.8
2.8nm,0.9s,baz=158,slow=2.7,SNR=4.7
MAW Mawson 151.00 219 PKPbc PKPbc 22 07 38.2 -0.9
1.3nm,0.8s,baz=182,slow=1.0,SNR=4.6

IDC 27 22:13:40.9±73.0,1756S×17764E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/12,mbtmp4.0/3,Error ellipse: s-maj=1296.0km s-min=151.4km az=77.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.53**	**239**	P	P	22 20 40.0	+0.5
	3.1nm,0.9s,baz=92,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**40.99**	**260**	P	P	22 21 26.1	+0.5
	0.1nm,0.4s,baz=94,slow=7.8,SNR=6.3						
ASAR	**Alice Springs**	**41.27**	**254**	P	P	22 21 27.8	0.0
	3.0nm,0.5s,baz=89,slow=8.1,SNR=40						

NIED ***27*** *22:20:00,2460N×12550E,h8km,Mw3.6 Best double couple: M0=2.80000×10^14 NP1:φs=122.00000°,δ=84.00000°, λ=-145.00000°. NP2:φs=28.00000°,δ=55.00000°,λ=-7.00000°.*
ISCJB ***27*** *22:20:26.7±1.5,2457N±007×12550E±005,h5km±9km, mb3.5/3,Error ellipse: s-maj=12.9km s-min=6.2km az=147.2*
IDC ***27*** *22:20:26.6±1.4,2461N×12524E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/20,mbtmp3.5/4,ML3.2/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/23,Error ellipse: s-maj=41.4km s-min=26.2km az=73.0*
JMA ***27*** *22:20:27.7,2461N×12547E,h6km±1km,M3.8*
JMA Felt II J1.
ISC 27 22:20:27.6±1.3,2459N±006×12547E±005,h3km±7km,n13, σ0§67/19,mb3.5/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.18**	**342**	P	**Pg**	**22 20 31.2**	**+0.1**
JOGS				S	**Sg**	**22 20 33.6**	**0.0**
JMJ	**Miyako jima 2**	**0.28**	**325**	P	**Pg**	**22 20 33.0**	**+0.1**
JMJ				S	**Sg**	**22 20 36.8**	**+0.2**
JTJ	**Tarama**	**0.70**	**275**	P	**Pg**	**22 20 41.2**	**+0.2**
JTJ				S	**Sg**	**22 20 50.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.23**	**260**	P	**Pg**	**22 20 50.4**	**-0.7**
JIJ				S	**Sg**	**22 21 06.4**	**-0.6**
JKRS	**Kuro-shima**	**1.37**	**256**	P	**Pn**	**22 20 53.6**	**0.0**
JKRS				S	**Sg**	**22 21 12.2**	**+0.5**
IRIF	**Iriomote-Funau**	**1.60**	**261**	P	**Pn**	**22 20 56.6**	**-0.1**
IRIF				*e*S	**Sn**	**22 21 18.2**	**+0.3**
JKE	**Kume jima 2**	**2.10**	**34**	P	**Pn**	**22 21 02.6**	**-1.0**
YOJ	**Yonaguni jima**	**2.24**	**267**	P	**Pn**	**22 21 06.0**	**+0.5**
YOJ				*e*S	**Sn**	**22 21 34.1**	**+0.4**
JOW	**Kunigami**	**3.38**	**48**	Pn	**Pn**	**22 21 22.7**	**+1.5**
	4.4nm,0.3s,baz=229,slow=12,SNR=8.2						
JHJ	**Hachijo jima 2**	**15.14**	**53**	LR	LR	22 28 56.6	
	comp=Z,35nm,18.4s,baz=87,slow=33						
MKAR	**Makanchi Array**	**40.82**	**314**	P	**P**	**22 28 08.3**	**-1.9**
	0.3nm,0.6s,mb3.1,baz=96,slow=9.4,SNR=7.3						
WRA	**Warramunga Arr**	**45.09**	**168**	P	**P**	**22 28 45.3**	**+0.4**
	1.1nm,0.7s,mb3.8,baz=350,slow=8.5,SNR=7.1						
ASAR	**Alice Springs**	**48.66**	**170**	P	**P**	**22 29 12.7**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=349,slow=6.5,SNR=8.0						

ISCJB ***27*** *22:27:02.7±1.4,2821N±004×5704E±009,h7km±10km, mb3.7/7,Error ellipse: s-maj=12.7km s-min=6.0km az=175.5*
CSEM ***27*** *22:27:03.7±0.1,2820N×5702E,h15km,ML3.3,Error ellipse: s-maj=4.7km s-min=2.8km az=99.0*
NEIC ***27*** *22:27:06.2,2828N×5679E,h15km,ML3.3(THR),After THR.*
THR ***27*** *22:27:06.2±0.5,2828N×5679E,h16km±4km,ML3.3*
IDC ***27*** *22:27:09.0±3.9,2801N×5689E,h60km±50km,mb3.5/7, mb1 3.7/8,mb1mx3.4/24,mbtmp3.8/8,ML4.0/1,Error ellipse: s-maj=27.0km s-min=20.1km az=123.0*
ISC 27 22:27:04.7±1.3,2821N±003×5699E±009,h10km±9km,n28, σ0§96/31,mb3.7/7,2C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.08**	**222**	*e*Pg	**Pg**	**22 27 25.4**	**-0.2**
BNDS				*e*Sg	**Sg**	**22 27 39.8**	**+0.2**
BNDS				AML	AML	22 27 45.5	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.08**	**222**	*e*Pg	**Pg**	**22 27 25.4**	**-0.1**
	SNR=91						
BNDS				*e*Sg	**Sg**	**22 27 39.8**	**+0.2**
	SNR=91						
KRBR	**Kerman**	**1.78**	**353**	*e*Pg	**Pg**	**22 27 37.5**	**-1.4**
KRBR				AML	AML	22 28 07.6	
	comp=N,342nm,0.4s						
KRBR				AML	AML	22 28 12.6	
	comp=E,303nm,0.5s						
HATD	**Hatta, Dubai**	**3.45**	**193**	⇓P	**Pn**	**22 27 59.4**	**+0.9**
GHIR	**Ghir-Karzin**	**3.54**	**272**	*e*Pn	**Pn**	**22 28 00.1**	**+0.5**
GHIR				AML	AML	22 29 04.0	
	comp=N,40nm,0.4s						
GHIR				AML	AML	22 29 04.5	
	comp=E,46nm,0.8s						
ZHSF	**Zahedan**	**3.60**	**66**	*e*Pn	**Pn**	**22 28 05.6**	**+5.1**
ASHO	**Ashiyiah**	**3.60**	**194**	P	**Pn**	**22 28 00.8**	**+0.2**
	SNR=23						
HOQ	**Hoqain**	**4.61**	**176**	P	**Pn**	**22 28 14.5**	**+0.1**
	SNR=12						

BIDO Bidbid 4.77 167 ⇑P **Pn 22 28 15.7 -0.9**
ARQ Araqi 4.87 185 P **Pn 22 28 18.6 +0.7**
SNR=7.1
WSAR Wadi Sarin 5.16 163 P **Pn 22 28 22.1 +0.1**
comp=E,5.5nm,0.3s,baz=359,slow=7.5,SNR=142
WSAR S **Sn 22 29 18.4 -3.1**
comp=E,5.7nm,0.3s,baz=242,slow=23,SNR=21
SMDO Samad 5.21 169 ⇑P **Pn 22 28 22.4 -0.2**
SNR=11
BSY Bisya 5.44 178 ⇓P **Pn 22 28 26.5 +0.7**
BSYO Bisya 5.46 178 P **Pn 22 28 26.5 +0.5**
NASN Na'in 5.83 323 *e*Pn **Pn 22 28 32.2 +1.0**
WBK Wadi Bani Khal 5.85 162 ⇓P **Pn 22 28 31.5 +0.1**
AKTK Aktyubinsk 22.21 2 P **P 22 32 02.6 +1.4**
AKTK Aktyubinsk 22.21 2 P **P 22 32 02.6 +1.4**
AKTO Aktyubinsk 22.21 2 P **P 22 32 02.6 +1.4**
comp=E,0.7nm,0.4s,mb3.4,baz=173,slow=9.4,SNR=4.1
BRTR Keskin Array B 22.45 307 P **P 22 32 03.5 -0.2**
comp=E,1.2nm,0.8s,mb3.4,baz=119,slow=12,SNR=6.7
BRTR Keskin Array B 22.45 307 P **P 22 32 03.5 -0.3**
BVAR Borovoye Array 26.71 18 P **P 22 32 44.2 +0.2**
comp=E,1.2nm,0.6s,mb3.6,baz=198,slow=9.0,SNR=8.5
MKAR Makanchi Array 27.14 40 P **P 22 32 48.6 +0.6**
comp=E,0.5nm,0.8s,mb3.1,baz=224,slow=8.8,SNR=4.3
ZAL Zalesovo 32.78 31 P **P 22 33 38.0 +0.2**
comp=E,0.8nm,0.3s,mb4.1,baz=238,slow=11,SNR=4.2
ZAL Zalesovo 32.78 31 P **P 22 33 38.0 +0.1**
JOF Joensuu 38.55 341 *e*p **P 22 34 25.7 -1.7**
FINES FINESS Array B 39.09 337 P **P 22 34 30.8 -1.1**
comp=E,5.2nm,0.8s,mb4.3,baz=133,slow=8.6,SNR=16
TORD Torodi Ar. Bea 53.44 266 P **P 22 36 22.5 -2.3**
comp=E,0.9nm,0.5s,mb4.0,baz=61,slow=7.3,SNR=22

ISCJB ***27*** *22:33:23.7±0.6,2781N±007×12761E±009,h141km±7km, mb3.5/4,Error ellipse: s-maj=15.9km s-min=5.8km az=78.4.*
IDC ***27*** *22:33:24.0±1.2,2785N×12756E,h132km±20km,mb3.3/4, mb1 3.5/4,mb1mx3.3/21,mbtmp3.7/4,Error ellipse: s-maj=152.7km s-min=17.7km az=64.0*
NEIC ***27*** *22:33:25.1,2788N×12758E,h125km,MG3.8(JMA),After JMA.*
JMA ***27*** *22:33:25.1±0.2,2788N×12758E,h125km±4km,M3.8*
ISC 27 22:33:24.7±0.6,2783N±007×12759E±009,h134km±7km, n16,σ0§67/26,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.86**	**157**	P	**Pn**	**22 33 47.1**	**+0.3**
JIH				*e*S	**Sn**	**22 34 03.7**	**+0.2**
JOW	**Kunigami**	**1.17**	**148**	P	**Pn**	**22 33 49.9**	**+0.3**
	236nm,0.3s,baz=0.0,slow=8.1,SNR=660						
JOW				S	**Sn**	**22 34 08.1**	**-0.4**
	133nm,0.3s,baz=121,slow=26,SNR=14						
JOW	**Kunigami**	**1.17**	**148**	P	**Pn**	**22 33 49.8**	**+0.2**
JOW				S	**Sn**	**22 34 08.2**	**-0.3**
JTK	**Tokunoshima**	**1.20**	**92**	P	**Pn**	**22 33 49.8**	**-0.2**
JTK				S	**Sn**	**22 34 08.2**	**-1.0**
JAGN	**Aguni-jima**	**1.28**	**194**	P	**Pn**	**22 33 50.9**	**+0.2**
JAGN				S	**Sn**	**22 34 10.2**	**-0.3**
NAH1	**Naha**	**1.62**	**177**	P	**Pn**	**22 33 55.2**	**+0.7**
NAH1				S	**Sn**	**22 34 16.8**	**-0.4**
JKE	**Kume jima 2**	**1.66**	**206**	P	**Pn**	**22 33 55.0**	**+0.1**
JKE				S	**Sn**	**22 34 17.3**	**-0.7**
JJT2	**Tamagusuku 2**	**1.69**	**175**	P	**Pn**	**22 33 56.1**	**+0.8**
JJT2				*e*S	**Sn**	**22 34 19.2**	**+0.6**
JAM	**Amami Oshima**	**1.87**	**72**	P	**Pn**	**22 33 57.0**	**-0.3**
JAM				S	**Sn**	**22 34 21.2**	**-1.1**
JZK	**Kikaishima**	**2.16**	**77**	P	**Pn**	**22 34 01.5**	**+0.7**
JZK				S	**Sn**	**22 34 28.9**	**+0.4**
JNN	**Nakanoshima**	**2.83**	**44**	P	**Pn**	**22 34 09.8**	**+0.5**
JNN				*e*S	**Sn**	**22 34 44.2**	**+0.5**
SONM	**Songino Array**	**25.91**	**326**	P	**P**	**22 38 44.9**	**+0.7**
	1.1nm,0.6s,mb3.7,baz=143,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**40.06**	**311**	P	**P**	**22 40 45.0**	**-1.7**
	0.5nm,0.6s,mb3.3,baz=96,slow=9.5,SNR=5.8						
MKAR				PcP	PcP	22 42 46.6	-2.3
	0.2nm,0.5s,baz=101,slow=1.8,SNR=5.0						
WRA	**Warramunga Arr**	**47.94**	**171**	P	**P**	**22 41 48.5**	**-1.0**
	0.8nm,0.5s,mb3.6,baz=353,slow=8.1,SNR=7.9						
ASAR	**Alice Springs**	**51.56**	**173**	P	**P**	**22 42 17.6**	**+0.8**
	0.7nm,0.5s,mb3.6,baz=0.9,slow=14,SNR=14						
CLL	**Collm**	**82.52**	**325**	*i* P	pP	22 46 05.6	-0.6
	comp=Z,4.0nm,0.6s						

NEIC ***27*** *22:37:32.6,3518N×14194E,h59km,MG3.4(JMA),After JMA.*
JMA ***27*** *22:37:32.6±0.2,3518N×14194E,h59km±3km,M3.4*
ISCJB ***27*** *22:37:33.8±1.0,3516N±003×14185E±008,h43km±11km, mb3.4/3,Error ellipse: s-maj=11.1km s-min=5.5km az=5.3*
IDC ***27*** *22:37:39.2±5.4,3513N×14139E,h49km±39km,mb3.2/3, mb1 3.4/5,mb1mx3.2/23,mbtmp3.4/5,ML3.4/2,MS2.9/2, Ms1 2.9/2,ms1mx2.6/12,Error ellipse: s-maj=61.8km s-min=17.7km az=83.0*
ISC 27 22:37:34.3±1.9,3515N±003×14183E±008,h30km±18km, n22,σ0§99/33,mb3.4/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**235**	P	**Pn**	**22 37 50.0**	**-0.4**
BSO1				*e*S	**Sn**	**22 38 03.7**	**+1.7**
CHOJ	**Chosi**	**0.97**	**305**	P	**Pn**	**22 37 51.1**	**-0.8**
CHOJ				*e*S	**Sn**	**22 38 04.4**	**-0.2**
BSO3	**Boso 3**	**1.14**	**253**	P	**Pn**	**22 37 54.2**	**-0.1**
BSO4	**Boso 4**	**1.24**	**263**	P	**Pn**	**22 37 55.8**	**+0.2**
BSO4				*e*S	**Sn**	**22 38 12.9**	**+1.6**
JCN	**Nagara**	**1.36**	**282**	P	**Pn**	**22 37 58.6**	**+1.3**
JIM2	**Oshima 3**	**2.02**	**258**	P	**Pn**	**22 38 05.6**	**-0.8**
JIM2				*e*S	**Sn**	**22 38 27.9**	**-2.7**
JOD2	**Odawara 2**	**2.25**	**274**	P	**Pn**	**22 38 08.8**	**-0.7**
JOD2				*e*S	**Sn**	**22 38 35.3**	**-1.0**
JAG	**Ashikaga**	**2.31**	**304**	P	**Pn**	**22 38 10.3**	**-0.1**
JAG				*e*S	**Sn**	**22 38 37.7**	**-0.2**
JFK	**Kawauchi**	**2.34**	**341**	P	**Pn**	**22 38 09.7**	**-1.1**
JFK				*e*S	**Sn**	**22 38 37.0**	**-1.5**
JRY	**Ryogami san**	**2.54**	**291**	P	**Pn**	**22 38 13.9**	**+0.4**
JHJ2	**Mitsune**	**2.63**	**220**	P	**Pn**	**22 38 14.3**	**-0.5**
JHJ2				S	**Sn**	**22 38 44.6**	**-1.1**
JKT	**Katashina**	**2.64**	**308**	P	**Pn**	**22 38 15.3**	**+0.4**
JKT				*e*S	**Sn**	**22 38 46.3**	**+0.3**
JHJ	**Hachijo jima 2**	**2.65**	**221**	P	**Pn**	**22 38 15.3**	**+0.4**
	26nm,0.3s,baz=63,slow=21,SNR=19						
JHJ				S	**Sn**	**22 38 44.5**	**-1.6**
	96nm,0.3s,baz=94,slow=21,SNR=10						
JFT	**Otama**	**2.65**	**333**	P	**Pn**	**22 38 15.1**	**0.0**
JFT				S	**Sn**	**22 38 45.8**	**-0.4**
MJAR	**Matsushiro Arr**	**3.25**	**296**	P	**Pn**	**22 38 23.9**	**+0.6**
	5.2nm,0.3s,baz=103,slow=13,SNR=39						
MJAR				LR	LR	22 39 46.1	
	comp=Z,236nm,19.8s,baz=60,slow=44						
MJAR	**Matsushiro Arr**	**3.25**	**296**	P	**Pn**	**22 38 23.9**	**+0.6**
MJAR				LR	LR	22 39 46.0	
MAJO	**Matsushiro**	**3.25**	**296**	*e*Pn	**Pn**	**22 38 23.9**	**+0.5**
MAT	**Matsushiro**	**3.25**	**296**	P	**Pn**	**22 38 24.2**	**+0.8**
MAT				S	**Sn**	**22 39 02.9**	**+1.8**
ASAJ	**Asahikawa**	**8.97**	**4**	LR	LR	22 43 43.9	
	comp=Z,66nm,18.3s,baz=155,slow=40						
SONM	**Songino Array**	**29.15**	**307**	P	**P**	**22 43 32.9**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=109,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**45.42**	**304**	P	**P**	**22 45 50.6**	**+0.3**
	0.3nm,0.7s,mb3.2,baz=82,slow=9.7,SNR=5.1						
WRA	**Warramunga Arr**	**55.25**	**189**	P	**P**	**22 47 07.0**	**+2.3**
	0.4nm,0.3s,mb3.9,baz=4.0,slow=7.7,SNR=7.1						

NNC ***27*** *22:49:26.7±6.0,3757N×7776E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=56.5km s-min=36.7km az=9.0*
BJI ***27*** *22:49:46.8,3890N×7748E,h21km,ML3.1*
ISCJB ***27*** *22:49:49.1±1.4,3930N±007×7746E±009,h10km,Error ellipse: s-maj=10.6km s-min=9.8km az=54.9*
ISC 27 22:49:48.6±1.7,3912N±008×775E±01,h10km,n6, σ1§22/10,3C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.24**	**289**	⇑*i*PG	**Pn**	**22 50 11.0**	**-1.0**
KSH				SG	**Sb**	**22 50 29.0**	**+0.9**
KSH				Smax			
	comp=N,1μm,0.2s						
KSH				Smax			
	comp=E,967nm,0.3s						
TKM2	**Tokmak 2**	**4.06**	**340**	⇓Pn	**Pb**	**22 50 56.3**	**-3.9**
	comp=E,0.2nm,0.5s						
TKM2				⇑Sn	**Sg**	**22 51 58.5**	**-0.3**
	comp=E,1.2nm,0.8s						
KNDC	**Almaty**	**4.11**	**355**	⇑Pn	**Pn**	**22 50 53.5**	**+2.0**
	comp=E,11nm,0.5s						
KNDC				⇓Sn	**Sg**	**22 52 00.6**	**0.0**
	comp=E,70nm,0.9s						
KK31	**Karatay Array**	**6.60**	**309**	Pn	**Pn**	**22 51 25.0**	**-0.7**
	comp=E,0.2nm,0.5s,baz=126,slow=12,SNR=8.1						
KK31				⇓Sn	**Sb**	**22 52 55.5**	**-6.9**
	comp=E,0.4nm,0.4s,baz=132,slow=17,SNR=7.7						
MK31	**Makanchi Array**	**8.44**	**23**	⇓Pn	**Pn**	**22 51 49.8**	**-1.1**
	comp=E,1.0nm,0.8s,baz=195,slow=12,SNR=4.8						
WMQ	**Urumqi**	**8.98**	**55**	*e*P	**Pn**	**22 52 02.5**	**+4.1**

IDC ***27*** *23:26:03.0±0.8,2891S×6177E,h0km,mb3.9/8,mb1 4.1/9, mb1mx3.8/21,mbtmp3.9/9,ML4.0/1,MS3.4/4,Ms1 3.3/4, ms1mx3.0/27,Error ellipse: s-maj=28.8km s-min=20.8km az=22.0*
NEIC 27 23:26:04.5±0.6,2892S×6172E,h10km,Error ellipse: s-maj=20.5km s-min=12.5km az=203.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.81**	**305**	Pn	Pn	23 29 60.0	+0.1
	0.5nm,0.3s,baz=115,slow=13,SNR=10						
OPO				Sn	Sn	23 32 50.7	-16
	0.2nm,0.3s,baz=321,slow=18,SNR=2.4						
BOSA	**Boshof**	**31.89**	**262**	P	P	23 32 29.6	-0.3
	4.7nm,1.1s,baz=100,slow=8.8,SNR=3.4						
BOSA				LR	LR	23 43 59.8	
	comp=Z,44nm,20.7s,baz=180,slow=34						
KMBO	**Kilima Mbogo**	**36.17**	**315**	LR	LR	23 45 21.3	
	comp=Z,42nm,19.2s,baz=289,slow=32						
MAW	**Mawson**	**38.72**	**179**	LR	LR	23 45 28.4	
	comp=Z,48nm,20.0s,baz=243,slow=30						
ASAR	**Alice Springs**	**64.03**	**104**	P	P	23 36 37.9	-0.4
	1.1nm,0.9s,baz=243,slow=6.2,SNR=10						
VNDA	**Vanda**	**64.15**	**166**	P	P	23 36 39.5	+0.4
	1.3nm,0.7s,baz=275,slow=7.2,SNR=9.3						
WRA	**Warramunga Arr**	**65.83**	**100**	P	P	23 36 50.2	+0.2
	1.0nm,0.8s,baz=248,slow=5.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**71.46**	**297**	P	P	23 37 26.5	+1.3
	0.3nm,0.8s,baz=130,slow=7.5,SNR=3.1						
TORD				LR	LR	00 07 23.8	
	comp=Z,54nm,18.4s,baz=345,slow=35						
MKAR	**Makanchi Array**	**77.62**	**14**	P	P	23 38 00.8	-0.2
	0.4nm,0.8s,baz=208,slow=8.2,SNR=5.1						
ZAL	**Zalesovo**	**84.90**	**13**	P	P	23 38 39.6	+0.1
	1.5nm,0.8s,baz=248,slow=5.4						
SONM	**Songino Array**	**86.30**	**28**	P	P	23 38 46.6	+0.1
	0.5nm,0.8s,baz=200,slow=3.9,SNR=5.5						

ISCJB ***27*** *23:49:52.6±0.8,1311N±005×1438E±01,h134km±11km, mb4.5/37,Error ellipse: s-maj=21.1km s-min=7.2km az=150.7*
BJI ***27*** *23:49:52.5,1326N×14380E,h121km,mB5.0,mb4.6*
IDC ***27*** *23:49:53.4±1.0,1312N×14379E,h123km±12km,mb4.1/11, mb1 4.2/12,mb1mx4.1/22,mbtmp4.6/12,MS3.3/2, Ms1 3.3/2,ms1mx2.8/29,Error ellipse: s-maj=22.0km s-min=11.1km az=71.0*
NEIC ***27*** *23:49:53.7±0.8,1312N×14383E,h130km±10km,mb4.5/16, Error ellipse: s-maj=15.0km s-min=5.0km az=75.0*
ISC 27 23:49:54.2±0.7,1313N±005×1440E±01,h135km±10km, n61,σ0§75/58,mb4.5/37,2C-6D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.01**	**63**	P	**Pn**	**23 50 17.8**	**+0.2**
	70nm,0.3s,baz=188,slow=4.7,SNR=17						
GUMO				S	**Sn**	**23 50 35.0**	**+7.5**
	371nm,0.3s,baz=15,slow=20,SNR=57						
GUMO	**Guam**	**1.01**	**63**	⇓*e*Pn	**Pn**	**23 50 17.7**	**+0.1**
GUMO				*e*Sn	**Sn**	**23 50 35.6**	**+8.0**
JOW	**Kunigami**	**20.04**	**315**	P	**P**	**23 54 16.6**	**0.0**
	5.2nm,0.3s,baz=152,slow=10,SNR=11						
PMG	**Port Moresby**	**22.61**	**172**	P	**P**	**23 54 42.8**	**-0.8**
	7.6nm,0.5s,mb4.4,baz=323,slow=6.2,SNR=3.9						
MJAR	**Matsushiro Arr**	**23.88**	**349**	P	**P**	**23 54 54.3**	**-0.9**
	3.9nm,0.6s,mb4.1,baz=168,slow=8.6,SNR=15						
MJAR				LR	LR	00 03 52.5	
	comp=Z,47nm,18.5s,baz=255,slow=35						
MAJO	**Matsushiro**	**23.88**	**349**	*e*P	**P**	**23 54 54.0**	**-1.2**
	12nm,0.9s,mb4.4						
MAT	**Matsushiro**	**23.88**	**349**	P	**P**	**23 54 54.0**	**-1.2**
YHNB	**Yeheng**	**24.20**	**302**	*e*P	**P**	**23 54 57.6**	**-0.6**
NJ2	**Nanjing**	**29.73**	**313**	*e*P	**P**	**23 55 48.5**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
CTA	**Charters Tower**	**33.08**	**176**	*e*P	**P**	**23 56 16.8**	**-0.2**
	comp=Z,5.3nm,0.7s,mb4.4						
CTAO	**Charters Tower**	**33.08**	**176**	*e*P	**P**	**23 56 17.0**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.6						
MDJ	**Mudanjiang**	**33.70**	**341**	P	**P**	**23 56 23.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,53nm,4.0s						
WB2	**Warramunga Arr**	**34.19**	**196**	⇓*i*P	**P**	**23 56 26.5**	**-0.1**
WB2	**Warramunga Arr**	**34.19**	**196**	*e*P	**P**	**23 56 26.6**	**+0.1**
WRA	**Warramunga Arr**	**34.19**	**196**	P	**P**	**23 56 26.7**	**+0.1**
	comp=Z,23nm,0.8s,mb5.0,baz=17,slow=9.4,SNR=13						
CN2	**Changchun**	**34.45**	**336**	*e*P	**P**	**23 56 30.5**	**+1.6**
FITZ	**Fitzroy Crossi**	**35.90**	**211**	⇓*i*P	**P**	**23 56 40.6**	**-0.7**
	comp=Z,11nm,0.6s,mb4.7						
BJT	**Baijiatuao**	**36.25**	**323**	*e*P	**P**	**23 56 44.3**	**+0.1**
	comp=Z,10nm,0.6s,mb4.6						
GYA	**Guiyang**	**37.36**	**297**	P	**P**	**23 56 54.5**	**+0.9

comp=Z,357nm,17.8s
LZH Lanzhou 42.62 310 ⇑P P 23 57 36.5 -0.5
comp=Z,16nm,1.2s,mb4.5
LZH pP pP 23 58 08.2 +1.0
LZH sP sP 23 58 24.1 +1.6
LZH PP PP 23 59 20.3 +1.8
LZH LR LR
comp=Z,360nm,17.8s
STKA Stephens Creek 44.80 183 ⇓iP P 23 57 53.8 -0.7
comp=Z,3.2nm,0.4s,mb4.3
STKA Stephens Creek 44.80 183 P P 23 57 54.2 -0.3
comp=Z,4.0nm,0.5s,mb4.3,baz=334,slow=8.3,SNR=14
STKA Stephens Creek 44.80 183 eP P 23 57 54.0 -0.4
PSI Prapat 45.67 261 P P 23 58 01.2 -0.2
comp=Z,5.0nm,0.5s,mb4.4,baz=59,slow=6.8
PSI Prapat 45.67 261 P P 23 58 01.2 -0.2
FORT Forrest 46.25 199 ⇓iP P 23 58 06.1 +0.3
comp=Z,27nm,0.9s,mb4.9
ULN Ulaanbaatar 46.26 326 eP P 23 58 06.1 +0.2
comp=Z,7.4nm,1.1s,mb4.2
SONM Songino Array 46.60 326 P P 23 58 09.3 +0.7
comp=Z,3.8nm,0.6s,mb4.2,baz=145,slow=8.1,SNR=42
GTA Gaotai 46.81 312 eP P 23 58 11.0 +0.8
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.5
TOO Toolangi 50.45 178 eP P 23 58 39.8 +1.8
comp=Z,14nm,0.7s,mb4.7
KLBR Kellerberrin 51.07 209 ⇓iP P 23 58 41.9 -0.8
comp=Z,18nm,0.6s,mb4.9
LSA Lhasa 51.41 298 eP P 23 58 45.9 +0.7
comp=Z,5.9nm,0.9s,mb4.2
JIRN Jiri 55.58 295 eP P 23 59 15.5 -0.1
comp=Z,12nm,0.9s,mb4.7
GUN Gumba 55.87 295 eP P 23 59 18.0 +0.3
comp=Z,8.3nm,0.4s,mb4.9
KKN Kakani 56.39 295 eP P 23 59 21.1 -0.3
WMQ Urumqi 56.81 314 eP P 23 59 26.0 +1.7
WMQ AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
GKN Gorkha 56.97 295 eP P 23 59 24.9 -0.6
comp=Z,10.0nm,0.7s,mb4.7
KOLN Koldanda 57.88 295 eP P 23 59 31.5 -0.4
comp=Z,10nm,0.8s,mb4.7
MK31 Makanchi Array 61.20 316 eP P 23 59 54.7 +0.1
MKAR Makanchi Array 61.20 316 P P 23 59 54.4 -0.2
comp=Z,2.9nm,0.7s,mb4.2,baz=91,slow=8.3,SNR=34
ZAL Zalesovo 61.49 325 P P 23 59 56.1 -0.4
comp=Z,0.9nm,0.5s,mb3.8,baz=347,slow=4.8,SNR=8.1
CHKZ Chkalovo 69.66 323 eP P 00 00 47.9 -1.1
comp=Z,1.5nm,1.0s,mb3.7
BRVK Borovoye 69.80 322 eP P 00 00 49.5 -0.4
comp=Z,3.4nm,0.7s,mb4.2
ZRNK Zerenda 70.56 322 eP P 00 00 53.7 -0.8
comp=Z,2.4nm,0.7s,mb4.0
VNDA Vanda 91.06 176 P P 00 02 42.8 -0.5
comp=Z,1.3nm,0.9s,mb4.0,baz=328,slow=5.7,SNR=8.8
VNA2 Neumayer--Watz 119.61 190 e PKPdf 00 08 27.4 -0.6
baz=246,slow=0.6
VNA3 Neumayer Olymp 119.72 190 e PKPdf 00 08 27.9 -0.3
VNA1 Neumayer--Stat 120.00 190 e PKPdf 00 08 30.5 +1.8
TORD Torodi Ar. Bea 134.38 303 PKP PKPdf 00 08 56.8 +0.7
comp=Z,0.3nm,0.7s,baz=62,slow=2.2,SNR=7.5
LPAZ La Paz 148.83 100 PKPbc PKPbc 00 09 28.4 +2.6
comp=Z,2.8nm,0.7s,baz=296,slow=2.8,SNR=14

*NEIC **27** 23:55:18.4±2.0,2191N×14440E,h35km,Error ellipse: s-maj=91.6km s-min=19.7km az=81.0*
*ISCJB **27** 23:55:46.7±2.1,216N±02×1432E±06,h294km±22km, mb3.4/6,Error ellipse: s-maj=97.8km s-min=21.5km az=164.3*
*IDC **27** 23:55:47.6±2.7,2162N×14331E,h292km±25km,mb3.2/6, mb1 3.3/7,mb1mx3.2/19,mbtmp3.9/7,Error ellipse: s-maj=72.7km s-min=15.5km az=83.0*

ISC 27 23:55:47.7±2.2,217N±02×1434E±07,h296km±21km,n8, σ0§63/8,mb3.4/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.53**	**349**	P	**Pn**	**23 57 11.2**	**0.0**
	13nm,0.3s,baz=299,slow=20,SNR=8.1						
SONM	**Songino Array**	**39.51**	**320**	P	**P**	**00 02 50.2**	**+0.1**
	0.6nm,0.6s,mb3.1,baz=117,slow=5.4,SNR=5.6						
WRA	**Warramunga Arr**	**42.29**	**193**	P	**P**	**00 03 13.3**	**+0.6**
	0.5nm,0.3s,mb3.2,baz=15,slow=9.3,SNR=7.9						
ASAR	**Alice Springs**	**45.99**	**192**	P	**P**	**00 03 41.3**	**-0.6**
	0.4nm,0.7s,mb2.9,baz=17,slow=9.7,SNR=6.8						
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**00 04 48.0**	**0.0**
	0.3nm,0.5s,mb3.0,baz=88,slow=9.1,SNR=5.7						
MKAR				PcP	PcP	00 05 45.9	-0.1
	0.2nm,0.5s,baz=72,slow=4.2,SNR=4.2						
MKAR	**Makanchi Array**	**54.88**	**313**	P	**P**	**00 04 48.0**	**0.0**
MKAR				PcP	PcP	00 05 45.9	-0.1
ARCES	**ARCESS Array B**	**79.03**	**342**	P	**P**	**00 07 19.7**	**+0.6**
	1.7nm,0.5s,mb4.0,baz=71,slow=8.9,SNR=11						
FINES	**FINESS Array B**	**83.31**	**335**	P	**P**	**00 07 41.0**	**-0.6**
	2.3nm,0.8s,mb4.1,baz=69,slow=4.7,SNR=9.8						

GUC 28 00:01:42.5±0.4,2775S×7157W,h45km±2km,ML4.0, 2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.94**	**44**	⇑iP	Pn	00 01 59.9	+0.6
CDCH				i S	Sn	00 02 13.0	+1.4
CDCH				AML	AML	00 02 15.2	
	comp=N,3μm,0.3s						
CPCH	**Copiapo**	**1.15**	**70**	⇑iP	Pn	00 02 02.9	+0.8
CPCH				i S	Sn	00 02 18.1	+1.5
CPCH				AML	AML	00 02 21.2	
	comp=E,29μm,0.1s						
CPN1	**Cerro Paranal**	**3.28**	**19**	⇓iP	Pn	00 02 32.8	+1.4
CPN1				i S	Sn	00 03 11.2	+2.0
CPN1				AML	AML	00 03 13.7	
	comp=N,148nm,0.2s						
CEN1	**Los Morros**	**4.52**	**16**	eP	Pn	00 02 46.0	-2.4
CEN1				i S	Sn	00 03 34.5	-5.1

*ISCJB **28** 00:07:15.9±0.3,3722N±002×556W±001,h2km±2km,Error ellipse: s-maj=2.9km s-min=2.0km az=12.8*
*IGIL **28** 00:07:17.0,3698N×535W,h10km,ML3.4*
*NEIC **28** 00:07:18.7,3707N×557W,h11km,MN3.0(MDD),After MDD.*
NEIC Felt [III] at Montellano and [II] at Coripe. Also felt at El Coronil.
*SFS **28** 00:07:18.0,3700N×550W,h0km,ML3.0*
*MDD **28** 00:07:18.6±0.2,3707N×555W,h11km,mbLg2.9/39,Error ellipse: s-maj=2.1km s-min=1.6km az=160.0,PRXIMO II CORIPE I EL CORONIL*
MDD EMS: III MONTELLANO.
*CSEM **28** 00:07:18.0±0.1,3707N×556W,h5km,ML3.3/20,Error ellipse: s-maj=1.5km s-min=0.9km az=1.0*
*INMG **28** 00:07:18.6±1.2,3709N×557W,h9km±2km,ML2.8,Error ellipse: s-maj=1.4km s-min=1.1km az=26.0*
*LDG **28** 00:07:18.0±0.1,3705N×555W,h2km,Ml3.1/3,Error ellipse: s-maj=2.2km s-min=1.4km az=13.0*

ISC 28 00:07:17.5±0.3,3716N±002×555W±001,h9km±2km,n130, σ1§08/234,8C-6D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.28**	**155**	⇑P	**Pg**	**00 07 20.5**	**-2.4**
ESPR	**Espera**	**0.38**	**221**	⇑Pg	**Pg**	**00 07 24.6**	**-0.3**
	232nm,0.3s,SNR=144						
ESPR				Lg		00 07 28.9	
	925nm,0.2s,SNR=5.0						
ESPR	**Espera**	**0.38**	**221**	Pg	**Pg**	**00 07 24.6**	**-0.3**
	232nm,0.3s,SNR=144						
GIBL	**Gibalbin**	**0.47**	**226**	P	**Pg**	**00 07 26.2**	**-0.4**
GIBL				S	**Sg**	**00 07 33.7**	**+1.0**
GIBL	**Gibalbin**	**0.47**	**226**	eP	**Pg**	**00 07 26.2**	**-0.4**
EJIF	**Jimena Fronter**	**0.71**	**175**	⇓Pg	**Pg**	**00 07 29.2**	**-1.9**
	50nm,0.1s,SNR=18						
EJIF				Lg		00 07 39.2	
	108nm,0.2s,SNR=9.5						
SCRT	**Cerro San Cris**	**0.72**	**224**	P	**Pg**	**00 07 31.4**	**0.0**
SCRT				S	**Sg**	**00 07 41.1**	**+0.3**
SCRT	**Cerro San Cris**	**0.72**	**224**	eP	**Pg**	**00 07 31.4**	**0.0**
REAL	**Reales**	**0.72**	**158**	P	**Pg**	**00 07 31.9**	**+0.4**
REAL				S	**Sg**	**00 07 43.1**	**+2.2**
REAL	**Reales**	**0.72**	**158**	i P	**Pg**	**00 07 31.9**	**+0.4**
REAL				eS	**Sg**	**00 07 43.1**	**+2.2**
MOMI	**Momias**	**0.83**	**189**	P	**Pg**	**00 07 33.1**	**-0.5**
MOMI	**Momias**	**0.83**	**189**	eP	**Pg**	**00 07 33.1**	**-0.5**
EMIJ	**Mijas**	**0.86**	**133**	⇑Pg	**Pg**	**00 07 32.5**	**-1.6**
	53nm,0.2s,SNR=18						
EMIJ				Lg		00 07 44.8	
	142nm,0.3s,SNR=5.0						
SFS	**San Fernando**	**0.87**	**218**	P	**Pg**	**00 07 35.2**	**+1.0**
SFS	**San Fernando**	**0.87**	**218**	eP	**Pg**	**00 07 35.2**	**+1.0**
CNIL	**Conil**	**0.88**	**207**	P	**Pg**	**00 07 35.0**	**+0.5**
CNIL	**Conil**	**0.88**	**207**	eP	**Pg**	**00 07 35.0**	**+0.5**
MAL	**Malaga**	**1.01**	**115**	eP	**Pg**	**00 07 35.8**	**-1.1**
EMIN	**Mina Concepcio**	**1.08**	**305**	⇓Pn	**Pn**	**00 07 38.7**	**-0.1**
	12nm,0.1s,SNR=18						
EMIN				Pg	**Pg**	**00 07 39.3**	**+1.0**
	96nm,0.1s,SNR=1153						
EMIN				Lg		00 07 54.5	
	122nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.08**	**305**	Pn	**Pn**	**00 07 38.7**	**-0.1**
	12nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.08**	**305**	Pg	**Pg**	**00 07 39.3**	**+1.0**
	96nm,0.1s,SNR=1000						
ELUQ	**Luque**	**1.10**	**68**	⇑Pg	**Pg**	**00 07 39.5**	**+0.8**
	34nm,0.1s,SNR=18						
ELUQ				Lg		00 07 55.0	
	94nm,0.2s,SNR=16						
ELOJ	**Sierra Loja**	**1.12**	**90**	⇑Pg	**Pg**	**00 07 39.7**	**+0.7**
	64nm,0.3s,SNR=18						
ELOJ				Lg		00 07 56.0	
	41nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**37**	⇓Pn	**Pn**	**00 07 42.1**	**+0.6**
	2.3nm,0.2s,SNR=18						
EADA				Pg	**Pg**	**00 07 43.6**	**+1.7**
	22nm,0.1s,SNR=11						
EADA				Sn	**Sn**	**00 07 59.4**	**+0.8**
	19nm,0.1s,SNR=4.0						
EADA				Lg		00 08 02.0	
	147nm,0.4s,SNR=5.0						
EADA	**Adamuz**	**1.27**	**37**	Pn	**Pn**	**00 07 42.1**	**+0.6**
	2.3nm,0.2s,SNR=18						
EADA	**Adamuz**	**1.27**	**37**	Pg	**Pg**	**00 07 43.6**	**+1.7**
	22nm,0.1s,SNR=11						
EADA				Sn	**Sn**	**00 07 59.4**	**+0.7**
	19nm,0.1s,SNR=4.0						
ERIP	**Rio Piedras**	**1.38**	**280**	Pn	**Pn**	**00 07 42.7**	**-0.2**
	SNR=7.9						
ERIP				⇑Pg	**Pg**	**00 07 43.4**	**-0.5**
	66nm,0.1s,SNR=18						
ERIP				Sn	**Sn**	**00 08 00.2**	**-1.0**
	15nm,0.1s,SNR=7.9						
ERIP				Lg		00 08 02.7	
	277nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**1.38**	**280**	Pn	**Pn**	**00 07 42.7**	**-0.2**
ERIP				⇑Pg	**Pg**	**00 07 43.4**	**-0.5**
ERIP				Sn	**Sn**	**00 08 00.2**	**-1.0**
ERIP				Lg		00 08 02.8	
ERIP	**Rio Piedras**	**1.38**	**280**	Pn	**Pn**	**00 07 42.7**	**-0.2**
	SNR=7.9						
ERIP	**Rio Piedras**	**1.38**	**280**	Pg	**Pg**	**00 07 43.4**	**-0.5**
	66nm,0.1s,SNR=18						
ERIP				Sn	**Sn**	**00 08 00.2**	**-1.1**
	15nm,0.1s,SNR=7.9						
ERON	**Agron**	**1.40**	**95**	Pg	**Pg**	**00 07 43.8**	**-0.6**
	14nm,0.2s,SNR=9.2						
ERON				Lg		00 08 03.9	
	24nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**1.59**	**284**	⇓Pn	**Pn**	**00 07 45.2**	**-0.5**
	2.8nm,0.1s,SNR=18						
EGRO				Pg	**Pg**	**00 07 46.9**	**-1.0**
	19nm,0.1s,SNR=7.9						
EGRO				Lg		00 08 08.0	
	123nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**1.59**	**284**	Pn	**Pn**	**00 07 45.2**	**-0.6**
	2.8nm,0.1s,SNR=18						
EGRO	**El Granado**	**1.59**	**284**	Pg	**Pg**	**00 07 46.9**	**-1.0**
	19nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.59**	**85**	Pn	**Pn**	**00 07 46.0**	**+0.2**
	3.5nm,0.2s,SNR=7.9						
ECOG				Pg	**Pg**	**00 07 48.3**	**+0.3**
	27nm,0.2s,SNR=4.0						
ECOG				Lg		00 08 10.7	
	32nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.62**	**101**	Pn	**Pn**	**00 07 46.5**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EGUA				Pg	**Pg**	**00 07 47.4**	**-1.2**
	7.4nm,0.1s,SNR=7.9						
EGUA				Lg		00 08 10.3	
	16nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.69**	**88**	Pn	**Pn**	**00 07 47.4**	**+0.2**
	4.1nm,0.2s,SNR=43						
EQUE				Pg	**Pg**	**00 07 49.5**	**-0.3**
	25nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**00 08 08.5**	**-0.4**
	6.4nm,0.1s,SNR=4.7						
EQUE				Lg		00 08 13.0	
	63nm,0.3s,SNR=8.3						
EQUE	**Quentar**	**1.69**	**88**	Pg	**Pg**	**00 07 49.5**	**-0.3**
	25nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**00 08 08.5**	**-0.4**
	6.4nm,0.1s,SNR=4.7						
EBAN	**Banos Encina**	**1.73**	**54**	⇓Pn	**Pn**	**00 07 48.0**	**+0.3**
	2.8nm,0.1s,SNR=18						
EBAN				Pg	**Pg**	**00 07 50.6**	**0.0**
	20nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**00 08 10.0**	**+0.2**
	13nm,0.1s,SNR=13						
EBAN				Lg		00 08 14.4	
	137nm,0.2s,SNR=24						
EBAN	**Banos Encina**	**1.73**	**54**	Pg	**Pg**	**00 07 50.6**	**0.0**
	20nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**00 08 10.0**	**+0.2**
	13nm,0.1s,SNR=13						
EBAD	**Badajoz**	**1.97**	**325**	⇓Pn	**Pn**	**00 07 51.3**	**+0.2**
	3.5nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**00 07 54.2**	**-1.1**
	6.9nm,0.1s,SNR=4.7						
EBAD				Sn	**Sn**	**00 08 16.8**	**+0.9**
	22nm,0.1s,SNR=6.6						
EBAD				Lg		00 08 23.2	
	74nm,0.1s,SNR=11						
EBAD	**Badajoz**	**1.97**	**325**	Pn	**Pn**	**00 07 51.3**	**+0.2**
	3.5nm,0.1s,SNR=18						
EBAD	**Badajoz**	**1.97**	**325**	Pg	**Pg**	**00 07 54.2**	**-1.1**
	6.9nm,0.1s,SNR=4.7						
EBAD				Sn	**Sn**	**00 08 16.8**	**+0.9**
	22nm,0.1s,SNR=6.6						
PBEJ	**Beja**	**2.03**	**296**	ePn	**Pn**	**00 07 51.7**	**-0.2**
PBEJ				eSg	**Sg**	**00 08 22.8**	**-0.1**
PBEJ							
	52nm,0.3s						
PBEJ	**Beja**	**2.03**	**296**	ePn	**Pn**	**00 07 51.7**	**-0.2**
PBEJ				eSg	**Sg**	**00 08 22.8**	**-0.1**
	52nm,0.3s						
EQES	**Quesada**	**2.08**	**71**	Pn	**Pn**	**00 07 52.6**	**+0.1**
	1.5nm,0.1s,SNR=31						
EQES				Pg	**Pg**	**00 07 56.9**	**-0.4**
	11nm,0.2s,SNR=11						
EQES				Sn	**Sn**	**00 08 18.7**	**+0.2**
	14nm,0.2s,SNR=5.3						
EQES				Lg		00 08 25.5	
	65nm,0.2s,SNR=24						
EQES	**Quesada**	**2.08**	**71**	Pn	**Pn**	**00 07 52.6**	**+0.1**
	1.5nm,0.1s,SNR=31						
EQES	**Quesada**	**2.08**	**71**	Pg	**Pg**	**00 07 56.9**	**-0.4**
	11nm,0.2s,SNR=11						
EQES				Sn	**Sn**	**00 08 18.7**	**+0.2**
	14nm,0.2s,SNR=5.3						
EBER	**Berja**	**2.15**	**96**	Pn	**Pn**	**00 07 54.6**	**+1.1**
	1.4nm,0.2s,SNR=4.0						
EBER				Pg	**Pg**	**00 07 58.2**	**-0.4**
	9.1nm,0.2s,SNR=8.9						
EBER				Lg		00 08 27.0	
	48nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.15**	**96**	Pn	**Pn**	**00 07 54.6**	**+1.1**
	1.4nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.15**	**96**	Pg	**Pg**	**00 07 58.2**	**-0.4**
	9.1nm,0.2s,SNR=8.9						
EVO	**Evora**	**2.38**	**306**	ePn	**Pn**	**00 07 57.8**	**+1.0**
EVO	**Evora**	**2.38**	**306**	ePg	**Pg**	**00 08 03.9**	**+0.7**
EVO				eSg	**Sg**	**00 08 34.7**	**+0.6**
	103nm,0.3s						
EHUE	**Huescar**	**2.44**	**73**	⇑Pn	**Pn**	**00 07 57.5**	**0.0**
	3.7nm,0.2s,SNR=18						
EHUE				Pg	**Pg**	**00 08 03.0**	**-1.4**
	5.8nm,0.2s,SNR=7.9						
EHUE				Lg		00 08 35.6	
	21nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.44**	**73**	Pg	**Pg**	**00 08 03.0**	**-1.3**
	5.8nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**2.48**	**274**	ePn	**Pn**	**00 07 57.6**	**-0.5**
MORF	**Marmelete**	**2.48**	**274**	ePg	**Pg**	**00 08 03.3**	**-1.7**
MORF				eSn	**Sn**	**00 08 27.3**	**-1.1**
MORF				eSg	**Sg**	**00 08 36.2**	**-0.9**
MORF							
	37nm,0.2s						
MORF	**Marmelete**	**2.48**	**274**	Pn	**Pn**	**00 07 57.6**	**-0.5**
MORF				Pg	**Pg**	**00 08 03.3**	**-1.7**
MORF				Sn	**Sn**	**00 08 27.3**	**-1.1**
MORF				Lg		00 08 36.2	
	37nm,0.2s						
MORF	**Marmelete**	**2.48**	**274**	ePg	**Pg**	**00 08 03.3**	**-1.7**
MORF				eSn	**Sn**	**00 08 27.3**	**-1.1**
MORF				eSg	**Sg**	**00 08 36.2**	**-0.9**
	37nm,0.2s						
PTEO	**Sao Teotonio**	**2.56**	**280**	ePn	**Pn**	**00 07 58.7**	**-0.5**
PTEO				eSn	**Sn**	**00 08 29.8**	**-0.6**
PTEO				eSg	**Sg**	**00 08 39.7**	**0.0**
PTEO							
	39nm,0.4s						
PTEO	**Sao Teotonio**	**2.56**	**280**	ePn	**Pn**	**00 07 58.7**	**-0.5**
PTEO				eSn	**Sn**	**00 08 29.8**	**-0.6**
PTEO				eSg	**Sg**	**00 08 39.7**	**0.0**
	39nm,0.4s						
MOE	**Montemor**	**2.60**	**302**	ePn	**Pn**	**00 08 00.1**	**+0.3**
MOE	**Montemor**	**2.60**	**302**	ePg	**Pg**	**00 08 05.7**	**-1.7**
MOE				eSn	**Sn**	**00 08 33.0**	**+1.5**
MOE				eSg	**Sg**	**00 08 39.8**	**-1.3**
MOE	**Montemor**	**2.60**	**302**	Pn	**Pn**	**00 08 00.1**	**+0.3**
MOE				Pg	**Pg**	**00 08 05.7**	**-1.7**
MOE				Sn	**Sn**	**00 08 33.0**	**+1.5**
MOE				Lg		00 08 39.8	
MOE	**Montemor**	**2.60**	**302**	ePg	**Pg**	**00 08 05.7**	**-1.7**
MOE				eSn	**Sn**	**00 08 33.0**	**+1.5**
MOE				eSg	**Sg**	**00 08 39.8**	**-1.3**
ENIJ	**Nijar**	**2.68**	**93**	Pn	**Pn**	**00 08 01.3**	**+0.4**
	1.1nm,0.1s,SNR=4.0						
ENIJ				Pg	**Pg**	**00 08 07.4**	**-1.5**
	5.0nm,0.3s,SNR=7.9						
ENIJ				Lg		00 08 43.4	
	5.2nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**2.81**	**26**	Pn	**Pn**	**00 08 03.9**	**+1.4**
	2.8nm,0.2s,baz=205,slow=12,SNR=27						
ESDC				Pg	**Pg**	**00 08 11.0**	**-0.3**
	7.3nm,0.3s,baz=216,slow=17,SNR=64						
ESDC				Lg		00 08 48.1	
	18nm,0.3s,baz=206,slow=30,SNR=7.1						
ESDC	**Sonseca Array**	**2.81**	**26**	Pn	**Pn**	**00 08 03.9**	**+1.3**
	2.8nm,0.2s,SNR=27						
ESDC	**Sonseca Array**	**2.81**	**26**	Pg	**Pg**	**00 08 11.0**	**-0.3**
	7.3nm,0.3s,SNR=64						
EVIA	**Vianos**	**2.83**	**58**	Pn	**Pn**	**00 08 03.5**	**+0.6**
	4.9nm,0.1s,SNR=16						
EVIA				Pg	**Pg**	**00 08 10.1**	**-1.6**
	8.9nm,0.3s,SNR=6.8						
EVIA				Sn	**Sn**	**00 08 37.5**	**+0.4**
	4.2nm,0.1s,SNR=5.4						
EVIA				Lg		00 08 48.8	
	22nm,0.3s,SNR=7.2						
EVIA	**Vianos**	**2.83**	**58**	Pg	**Pg**	**00 08 10.1**	**-1.6**
	8.9nm,0.3s,SNR=6.8						
EVIA				Sn	**Sn**	**00 08 37.5**	**+0.4**
	4.2nm,0.1s,SNR=5.4						
PCBR	**Castelo Branco**	**3.08**	**331**	ePn	**Pn**	**00 08 06.6**	**+0.3**
PCBR				eSn	**Sn**	**00 08 43.2**	**0.0**
PCBR				eSg	**Sg**	**00 08 58.0**	**+1.6**
PCBR							
	18nm,0.3s						
PCBR	**Castelo Branco**	**3.08**	**331**	ePn	**Pn**	**00 08 06.6**	**+0.3**
PCBR				eSn	**Sn**	**00 08 43.2**	**0.0**
PCBR				eSg	**Sg**	**00 08 58.0**	**+1.6**
	18nm,0.3s						
ALMR	**Almeirim**	**3.11**	**311**	eP	**Pn**	**00 08 07.6**	**+0.9**
ALMR				eS	**Sn**	**00 08 44.7**	**+0.6**
ALMR				eS	**Sn**	**00 08 44.9**	**+0.9**
ALMR				AML	AML	00 09 02.5	
	comp=N,177nm,1.2s						
ALMR	**Almeirim**	**3.11**	**311**	P	**Pn**	**00 08 07.6**	**+0.9**
ALMR				S	**Sn**	**00 08 44.7**	**+0.6**
ALMR	**Almeirim**	**3.11**	**311**	eP	**Pn**	**00 08 07.6**	**+0.9**
ALMR				eS	**Sn**	**00 08 44.7**	**+0.7**
LIS	**Lisbon**	**3.24**	**300**	eP	**Pn**	**00 08 09.5**	**+0.9**
LIS				eS	**Sn**	**00 08 47.8**	**+0.4**
LIS				eS	**Sn**	**00 08 47.8**	**+0.5**
LIS				AML	AML	00 08 49.6	
	comp=N,74nm,0.2s						
LIS	**Lisbon**	**3.24**	**300**	P	**Pn**	**00 08 09.5**	**+0.9**
LIS				S	**Sn**	**00 08 47.8**	**+0.4**
LIS	**Lisbon**	**3.24**	**300**	eP	**Pn**	**00 08 09.5**	**+0.9**
LIS				eS	**Sn**	**00 08 47.8**	**+0.5**
PLOU	**Loures**	**3.33**	**302**	ePn	**Pn**	**00 08 10.1**	**+0.4**
PLOU				eSn	**Sn**	**00 08 48.3**	**-1.1**
PLOU							
	comp=N,32nm,0.3s						
PLOU	**Loures**	**3.33**	**302**	ePn	**Pn**	**00 08 10.1**	**+0.4**
PLOU				eSn	**Sn**	**00 08 48.3**	**-1.1**
	comp=N,32nm,0.3s						
PMAFR	**Mafra**	**3.45**	**303**	ePn	**Pn**	**00 08 11.8**	**+0.4**
PMAFR				eSn	**Sn**	**00 08 51.9**	**-0.5**
ETOB	**Tobarra**	**3.50**	**64**	Pn	**Pn**	**00 08 11.9**	**-0.2**
	comp=N,0.7nm,0.1s,SNR=18						
ETOB				Pg	**Pg**	**00 08 23.0**	**-1.5**
	comp=N,1.9nm,0.1s,SNR=6.5						
ETOB				Sn	**Sn**	**00 08 53.0**	**-0.6**
	comp=N,2.0nm,0.1s,SNR=5.9						
ETOB				Lg		00 09 08.8	
	comp=N,19nm,0.3s,SNR=5.0						
ETOB	**Tobarra**	**3.50**	**64**	Pn	**Pn**	**00 08 11.9**	**-0.2**
	comp=N,0.7nm,0.1s,SNR=18						
ETOB	**Tobarra**	**3.50**	**64**	Pg	**Pg**	**00 08 23.0**	**-1.5**
	comp=N,1.9nm,0.1s,SNR=6.5						
ETOB				Sn	**Sn**	**00 08 53.0**	**-0.6**
	comp=N,2.0nm,0.1s,SNR=5.9						
GUD	**Guadarrama**	**3.65**	**17**	Pn	**Pn**	**00 08 15.4**	**+1.2**
	comp=N,0.8nm,0.1s,SNR=7.9						
GUD				Pg	**Pg**	**00 08 27.4**	**0.0**
	comp=N,3.4nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**00 08 54.6**	**-2.7**
	comp=N,7.0nm,0.4s,SNR=7.9						
GUD				Sb	**Sb**	**00 09 07.8**	**+1.3**
	SNR=7.9						
GUD				Lg		00 09 15.7	
	comp=N,14nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.00**	**334**	ePn	**Pn**	**00 08 19.8**	**+0.9**
PVIS				eSn	**Sn**	**00 09 05.6**	**-0.3**

comp=N,3.8nm,0.4s
ECAL Calabor 4.87 350 Pn **Pn 00 08 31.9 +1.0**
comp=N,0.8nm,0.1s,SNR=7.9
ECAL Sn **Sn 00 09 26.1 -1.2**
comp=N,2.2nm,0.2s,SNR=7.9
ECAL Lg 00 09 53.8
comp=N,23nm,0.4s,SNR=4.9
ECAL Calabor 4.87 350 Pn **Pn 00 08 31.9 +1.0**
comp=N,0.8nm,0.1s,SNR=7.9
ECAL Sn **Sn 00 09 26.1 -1.3**
comp=N,2.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 5.10 50 Pn **Pn 00 08 35.8 +1.7**
comp=N,0.2nm,0.1s,SNR=7.9
EMOS Sn **Sn 00 09 30.9 -2.2**
comp=N,0.2nm,0.1s,SNR=7.9
EMOS Lg 00 10 00.1
comp=N,5.0nm,0.5s,SNR=7.9
EMOS Mosqueruela 5.10 50 Pn **Pn 00 08 35.8 +1.7**
comp=N,0.2nm,0.1s,SNR=7.9
EMOS Sn **Sn 00 09 30.9 -2.2**
comp=N,0.2nm,0.1s,SNR=7.9
ECRI Cripan 5.93 22 Pn **Pn 00 08 46.0 +0.6**
comp=N,1.0nm,0.2s,SNR=7.9
ECRI Lg 00 10 28.5
comp=N,2.0nm,0.3s,SNR=7.9
ERTA Horta de San J 5.95 49 Pn **Pn 00 08 46.4 +0.7**
comp=N,0.4nm,0.1s,SNR=4.0
ERTA Lg 00 10 26.0
comp=N,2.5nm,0.3s,SNR=7.9
ERTA Horta de San J 5.95 49 Pn **Pn 00 08 46.4 +0.7**
comp=N,0.4nm,0.1s,SNR=4.0
ESAC San Caprasio 6.02 39 Pn **Pn 00 08 49.5 +2.7**
comp=N,1.2nm,0.1s,SNR=4.0
ESAC Lg 00 10 29.6
comp=N,21nm,0.3s,SNR=7.9
ESAC San Caprasio 6.02 39 Pn **Pn 00 08 49.5 +2.8**
comp=N,1.2nm,0.1s,SNR=4.0
EARI Arriondas 6.14 2 Pn **Pn 00 08 49.9 +1.4**
SNR=7.9
EARI Sn **Sn 00 09 55.4 -3.4**
comp=N,0.7nm,0.2s,SNR=7.9
EARI Lg 00 10 34.8
comp=N,2.9nm,0.6s,SNR=7.9
EARI Arriondas 6.14 2 Pn **Pn 00 08 49.8 +1.4**
SNR=7.9
ELAN Lanestosa 6.28 14 Pn **Pn 00 08 51.7 +1.4**
comp=N,0.4nm,0.2s,SNR=6.0
ELAN Sn **Sn 00 10 00.1 -2.2**
comp=N,1.1nm,0.2s,SNR=7.9
ELAN Lg 00 10 37.6
comp=N,3.6nm,0.4s,SNR=7.9
ELAN Lanestosa 6.28 14 Pn **Pn 00 08 51.7 +1.4**
comp=N,0.4nm,0.2s,SNR=6.0
ELAN Sn **Sn 00 10 00.1 -2.1**
comp=N,1.1nm,0.2s,SNR=7.9
EPON Pontenova 6.28 349 Pn **Pn 00 08 51.5 +1.2**
comp=N,0.1nm,0.1s,SNR=4.0
EPON Sn **Sn 00 09 60.0 -2.3**
comp=N,0.6nm,0.2s,SNR=7.9
EPON Lg 00 10 39.0
comp=N,3.5nm,0.4s,SNR=7.9
EPON Pontenova 6.28 349 Pn **Pn 00 08 51.5 +1.1**
comp=N,0.1nm,0.1s,SNR=4.0
EPON Sn **Sn 00 10 00.0 -2.3**
comp=N,0.6nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.36 337 Pn **Pn 00 08 51.3 -0.1**
comp=N,1.4nm,0.2s,SNR=7.9
EMAZ Sn **Sn 00 10 01.2 -2.8**
comp=N,0.5nm,0.2s,SNR=7.9
EMAZ Lg 00 10 39.8
comp=N,1.9nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.36 337 Pn **Pn 00 08 51.3 0.0**
comp=N,1.4nm,0.2s,SNR=7.9
EMAZ Sn **Sn 00 10 01.2 -2.8**
comp=N,0.5nm,0.2s,SNR=7.9
EPOB Poblet 6.63 49 Pn **Pn 00 08 54.9 -0.3**
comp=N,0.1nm,0.1s,SNR=7.9
EPOB Lg 00 10 48.1
comp=N,1.1nm,0.4s,SNR=4.0
ELIZ Elizondo 6.75 26 Pn **Pn 00 08 59.2 +2.5**
comp=N,0.6nm,0.2s,SNR=4.0
ELIZ Sn **Sn 00 10 11.1 -2.5**
comp=N,0.2nm,0.2s,SNR=4.0
SJPF Ste Jean 6.81 28 *e*Pn **Pn 00 08 58.9 +1.3**
SJPF *e*Sn **Sn 00 10 12.2 -3.0**
comp=N,0.8nm,0.2s
SJPF Ste Jean 6.81 28 Pn **Pn 00 08 58.9 +1.3**
SJPF Sn **Sn 00 10 12.2 -3.0**
comp=N,0.4nm,0.2s
ETSF Etsaut 6.90 32 *e*Pn **Pn 00 08 59.8 +1.0**
ETSF *e*Sn **Sn 00 10 14.6 -2.8**
comp=N,1.1nm,0.3s
ETSF Etsaut 6.90 32 Pn **Pn 00 08 59.8 +1.0**
ETSF Sn **Sn 00 10 14.6 -2.8**
comp=N,0.6nm,0.3s
EBIE Bielsa 7.04 37 Pn **Pn 00 09 02.8 +2.0**
comp=N,2.0nm,0.3s,SNR=10.0
EBIE Sn **Sn 00 10 18.8 -2.3**
comp=N,0.3nm,0.2s,SNR=4.0
EBIE Bielsa 7.04 37 Pn **Pn 00 09 02.8 +2.0**
comp=N,2.0nm,0.3s,SNR=10.0
EBIE Sn **Sn 00 10 18.8 -2.2**
EMIR Miracle 7.24 47 Pn **Pn 00 09 03.5 0.0**
comp=N,1.0nm,0.2s,SNR=4.0
EMIR Miracle 7.24 47 Pn **Pn 00 09 03.5 0.0**
EPF Esparros 7.40 36 *e*Pn **Pn 00 09 07.0 +1.3**
MTLF Montolieu 8.57 41 *e*Pn **Pn 00 09 22.8 +1.1**
LFF La Frestale 9.11 29 *e*Pn **Pn 00 09 28.9 -0.2**
RJF Les Rejaudoux 9.72 31 *e*Pn **Pn 00 09 37.7 +0.2**
QUIF Quistinic 10.90 9 *e*Pn **Pn 00 09 53.9 +0.3**
ROSF Rostrenen 11.30 8 *e*Pn **Pn 00 09 59.7 +0.6**
SGMF Saint Gilles 11.31 10 *e*Pn **Pn 00 09 59.2 0.0**

CASC 28 00:19:25.5±2.6, 1329N×8761W, h11km±7km, MD3.7, ML3.6, 9C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.21**	**266**	⇑*i*P	x	00 19 46.1	
CNCH				*e*S	x	00 19 49.0	
BLLM	**Bellamira**	**0.63**	**284**	⇑*i*P	x	00 19 53.6	
BLLM				*e*S	x	00 20 02.8	
VSM	**San Miguel**	**0.66**	**282**	⇑*e*P	x	00 19 54.4	
VSM				*e*S	x	00 20 05.1	
TELN	**Telica**	**1.02**	**132**	⇓*e*P	Pb	00 19 43.8	-1.4
TELN				*e*S	Sg	00 19 59.9	+1.4
LEON	**Leon**	**1.12**	**141**	⇑*e*P	Pb	00 19 44.9	-1.9
LEON				*e*S	Sb	00 19 59.8	-1.6
CNGN	**Cerro Negro**	**1.19**	**131**	⇑*i*P	Pn	00 19 45.8	-2.2
CNGN				*e*P		00 19 46.7	
CNGN				*e*S	Sb	00 20 03.3	-0.1
MIRN	**Miramar**	**1.22**	**134**	⇓*e*P	Pn	00 19 46.9	-1.6
MIRN				*e*S	Sb	00 20 03.7	-0.6
SNVI	**San Vicente**	**1.23**	**285**	*e*P	x	00 20 04.9	
SNVI				*e*S	x	00 20 22.1	
MOMJ	**Momotombo**	**1.37**	**130**	*e*P	Pn	00 19 49.7	-0.7
LCBS	**La Ceiba**	**1.38**	**285**	⇑*e*P	x	00 20 06.4	
LCBS				*e*S	x	00 20 26.1	
LFRS	**El Faro**	**1.45**	**283**	*e*P	x	00 20 07.5	
LFRS				*e*S	x	00 20 27.8	
LBRS	**Las Brisas**	**1.46**	**288**	⇓*e*P	x	00 20 08.4	
LBRS				*e*S	x	00 20 28.0	
COPN	**Copaltepe**	**1.49**	**138**	*e*P	Pn	00 19 51.1	-1.0
BOQS	**Boqueron**	**1.68**	**285**	⇑*e*P	x	00 20 12.1	
BOQS				*e*S	x	00 20 36.8	
MGAN	**Managua**	**1.75**	**130**	*i*	Pn	00 20 22.7	+27
	comp=N,249nm,0.3s						
MTO2	**Montecristo 2**	**2.02**	**303**	⇑*e*P	x	00 20 17.6	
MTO2				*e*S	x	00 20 45.5	
RBDL	**Robledal**	**2.17**	**292**	⇑*e*P	x	00 20 19.7	
RBDL				*e*S	x	00 20 46.7	

MOS 28 00:22:53.8±0.2, 4341N×4552E, h11km, mb3.6/1, 4C-4D, Error ellipse: s-maj=30.4km s-min=12.5km az=157.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.66**	**299**	⇓*i*PG	Pg	00 23 07.3	+0.8
TRKR				*i* S	Sg	00 23 17.9	+2.8
BTKR	**Batakoyurt**	**0.72**	**267**	⇓*i*PG	Pg	00 23 08.3	+0.6
BTKR				*i* S	Sg	00 23 19.5	+2.4
VLKR	**Vladikavkaz**	**0.72**	**240**	⇑*i*PG	Pg	00 23 08.1	+0.4
VLKR				*i* S	Sg	00 23 19.2	+2.1
ARNR	**Ardon**	**0.94**	**257**	⇓*i*PG	Pg	00 23 11.9	+0.1
ARNR				*i* S	Sg	00 23 25.9	+1.9
LACR	**Lac**	**1.07**	**237**	⇓*i*PG	Pg	00 23 14.1	-0.3
LACR				*i* S	Sb	00 23 29.7	+1.3
KORR	**Kora**	**1.11**	**254**	⇑*i*PG	Pg	00 23 15.0	-0.2
KORR				*e*S	Sb	00 23 31.1	+1.6
ZEI	**Tsey**	**1.35**	**242**	⇑*i*PG	Pg	00 23 18.6	-1.2
ZEI				*i* S	Sb	00 23 37.5	+1.1
DIGR	**Digorskoe uzhe**	**1.51**	**251**	⇑*i*PG	Pg	00 23 21.0	-1.8
DIGR				*i* S	Sn	00 23 41.6	+1.1

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*MDD **28** 00:29:26.4±2.8, 3596N×10.14W, h0km, mbLg2.4/5, Error ellipse: s-maj=25.1km s-min=20.1km az=99.0, PRXIMO*
INMG 28 00:29:26.2±0.8, 3584N×1021W, h10km, ML1.6, Error ellipse: s-maj=7.4km s-min=5.0km az=71.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.93**	**40**	*e*Pn	Pn	00 29 57.6	-1.5
MORF				*e*Sn	Sn	00 30 20.5	-2.9
MORF							
	6.1nm,0.1s						
PTEO	**Sao Teotonio**	**2.08**	**35**	*e*Sn	Sn	00 30 24.1	-3.0
PTEO							
	2.9nm,0.1s						
PTEO	**Sao Teotonio**	**2.08**	**35**	Sn	Sn	00 30 24.1	-3.0
	1.4nm,0.1s						
EGRO	**El Granado**	**2.77**	**52**	P	Pn	00 30 09.8	-0.8
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	00 30 40.9	-3.2
	3.7nm,0.1s,SNR=11						
PBEJ	**Beja**	**2.88**	**40**	*e*Pn	Pn	00 30 09.9	-2.3
PBEJ				*e*Sn	Sn	00 30 43.0	-3.9
PBEJ							
	1.5nm,0.1s						
MOE	**Montemor**	**3.06**	**28**	*e*Sn	Sn	00 30 47.6	-3.8
PLOU	**Loures**	**3.16**	**15**	*e*Sn	Sn	00 30 50.0	-3.6
PMAFR	**Mafra**	**3.20**	**13**	*e*Sn	Sn	00 30 51.0	-3.7
EMIN	**Mina Concepcio**	**3.43**	**55**	P	Pn	00 30 17.6	-2.1
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	00 30 56.4	-4.1
	1.2nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.67**	**72**	S	Sn	00 31 02.9	-3.2
	4.1nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**3.87**	**40**	P	Pn	00 30 23.7	-2.0
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 31 06.8	-4.5
	1.7nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.54**	**28**	*e*Sn	Sn	00 31 22.7	-5.2
EADA	**Adamuz**	**5.08**	**61**	P	Pn	00 30 41.3	-1.0
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	00 31 35.9	-5.0
	1.1nm,0.1s,SNR=8.0						

IDC 28 00:42:51.2±1.5, 052S×12160E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=345.6km s-min=24.1km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**148**	P	P	00 47 57.8	+0.5
	2.7nm,0.6s,baz=323,slow=10,SNR=37						
WB2	**Warramunga Arr**	**22.99**	**148**	*e*P	P	00 47 58.3	+0.9
ASAR	**Alice Springs**	**25.92**	**153**	P	P	00 48 25.2	+0.2
	1.4nm,0.6s,baz=344,slow=16,SNR=15						
MKAR	**Makanchi Array**	**58.33**	**329**	P	P	00 52 48.1	+0.1
	0.3nm,0.6s,baz=135,slow=7.6,SNR=3.4						

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*SFS **28** 00:44:34.1, 37.10N×556W, h0km, ML2.2*
*INMG **28** 00:44:34.0±1.2, 3707N×558W, h6km±2km, ML2.2, Error ellipse: s-maj=1.7km s-min=1.2km az=17.0*
*CSEM **28** 00:44:34.1±0.1, 3704N×556W, h10km, ML2.8/11, Error ellipse: s-maj=2.0km s-min=1.2km az=170.0*
MDD 28 00:44:34.2±0.2, 3707N×555W, h6km±3km, mbLg2.3/23, 2C, Error ellipse: s-maj=2.8km s-min=1.7km az=173.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.20**	**145**	⇑P	Pg	00 44 36.8	-1.5
LIJA				S	Sg	00 44 40.4	-0.6
LIJA	**Lijar**	**0.20**	**145**	*i* P	Pg	00 44 36.8	-1.5
ESPR	**Espera**	**0.32**	**230**	Pg	Pg	00 44 40.2	-0.2
	5.9nm,0.1s,SNR=46						
ESPR				Lg		00 44 45.2	
	264nm,0.3s,SNR=5.0						
ESPR	**Espera**	**0.32**	**230**	Pg	Pg	00 44 40.2	-0.2
	5.9nm,0.1s,SNR=46						
GIBL	**Gibalbin**	**0.41**	**234**	P	Pg	00 44 43.2	+1.0
GIBL				S	Sg	00 44 50.6	+3.0
GIBL	**Gibalbin**	**0.41**	**234**	*e*P	Pg	00 44 43.2	+1.0
EJIF	**Jimena Fronter**	**0.62**	**174**	Pg	Pg	00 44 44.9	-1.3
	12nm,0.1s,SNR=21						
EJIF				Lg		00 44 53.6	
	29nm,0.4s,SNR=4.0						
REAL	**Reales**	**0.65**	**155**	P	Pg	00 44 48.2	+1.5
REAL				S	Sg	00 44 58.9	+3.7
REAL	**Reales**	**0.65**	**155**	*e*P	Pg	00 44 48.2	+1.5
REAL				*e*S	Sg	00 44 58.9	+3.7
SCRT	**Cerro San Cris**	**0.67**	**229**	P	Pg	00 44 48.4	+1.4
SCRT				S	Sg	00 44 57.9	+2.2
SCRT	**Cerro San Cris**	**0.67**	**229**	*e*P	Pg	00 44 48.4	+1.4
SCRT				*e*S	Sg	00 44 57.9	+2.3
EMIJ	**Mijas**	**0.81**	**129**	Pg	Pg	00 44 48.2	-1.5
	13nm,0.2s,SNR=40						
EMIJ				Lg		00 45 00.5	
	32nm,0.3s,SNR=7.6						
ELOJ	**Sierra Loja**	**1.12**	**86**	Pg	Pg	00 44 54.8	-0.9
	6.3nm,0.2s,SNR=4.0						
ELOJ				Lg		00 45 10.3	
	8.5nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.13**	**308**	Pg	Pg	00 44 54.5	-1.4
	18nm,0.1s,SNR=264						
EMIN				Lg		00 45 10.1	
	28nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.13**	**308**	Pg	Pg	00 44 54.5	-1.4
	18nm,0.1s,SNR=264						
ELUQ	**Luque**	**1.13**	**64**	Pg	Pg	00 44 55.3	-0.6
	10nm,0.2s,SNR=33						
ELUQ				Lg		00 45 12.1	
	14nm,0.1s,SNR=13						
ELUQ	**Luque**	**1.13**	**64**	Pg	Pg	00 44 55.3	-0.6
	10nm,0.2s,SNR=33						
EADA	**Adamuz**	**1.34**	**35**	Pn	Pn	00 44 57.9	-1.4
	0.3nm,0.1s,SNR=7.9						
EADA				Pg	Pg	00 44 59.3	-0.6
	2.7nm,0.1s,SNR=47						
EADA				Lg		00 45 17.4	
	13nm,0.1s,SNR=20						
EADA	**Adamuz**	**1.34**	**35**	Pn	Pn	00 44 57.9	-1.4
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.34**	**35**	Pg	Pg	00 44 59.3	-0.5
	2.7nm,0.1s,SNR=47						
ERIP	**Rio Piedras**	**1.39**	**283**	⇑Pg	Pg	00 44 59.1	-1.8
	14nm,0.1s,SNR=18						
ERIP				Lg		00 45 18.0	
	68nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.40**	**92**	Pg	Pg	00 45 00.0	-1.0
	2.1nm,0.1s,SNR=4.0						
ERON				Lg		00 45 20.1	
	4.2nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.60**	**82**	Pg	Pg	00 45 02.2	-2.6
	0.9nm,0.1s,SNR=7.9						
ECOG				Lg		00 45 25.0	
	2.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.61**	**287**	Pn	Pn	00 45 01.0	-2.1
	0.3nm,0.0s,SNR=36						
EGRO				Pg	Pg	00 45 02.7	-2.3
	3.2nm,0.1s,SNR=7.9						
EGRO				Lg		00 45 23.8	
	13nm,0.1s,SNR=11						
EGRO	**El Granado**	**1.61**	**287**	Pn	Pn	00 45 01.0	-2.0
	0.3nm,0.0s,SNR=36						
EGRO	**El Granado**	**1.61**	**287**	Pg	Pg	00 45 02.7	-2.3
	3.2nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**1.61**	**98**	Pn	Pn	00 45 02.4	-0.6
	0.8nm,0.1s,SNR=7.9						
EGUA				Lg		00 45 26.2	
	2.1nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.61**	**98**	Pn	Pn	00 45 02.4	-0.7
	0.8nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.69**	**85**	Pn	Pn	00 45 03.4	-0.8
	0.4nm,0.1s,SNR=37						
EQUE				Pg	Pg	00 45 05.2	-1.4
	5.0nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	00 45 24.2	-1.9
	1.0nm,0.1s,SNR=7.9						
EQUE				Lg		00 45 28.9	
	7.5nm,0.2s,SNR=4.8						
EQUE	**Quentar**	**1.69**	**85**	Pg	Pg	00 45 05.2	-1.4
	5.0nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	00 45 24.2	-1.9
	1.0nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**1.77**	**52**	Pn	Pn	00 45 03.8	-1.5
	0.7nm,0.1s,SNR=9.1						
EBAN				Pg	Pg	00 45 06.6	-1.6
	4.6nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	00 45 25.3	-2.9
	3.2nm,0.2s,SNR=4.0						
EBAN				Lg		00 45 30.6	
	23nm,0.2s,SNR=17						
EBAN	**Banos Encina**	**1.77**	**52**	Pg	Pg	00 45 06.6	-1.6
	4.6nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	00 45 25.3	-2.9
	3.2nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.04**	**326**	Pn	Pn	00 45 07.1	-1.9
	0.7nm,0.1s,SNR=12						
EBAD				Pg	Pg	00 45 10.9	-2.3
	1.1nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 45 33.2	-1.5
	12nm,0.2s,SNR=4.8						
EBAD				Lg		00 45 38.7	
	13nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**2.04**	**326**	Pn	Pn	00 45 07.1	-1.9
	0.7nm,0.1s,SNR=12						
EBAD	**Badajoz**	**2.04**	**326**	Pg	Pg	00 45 10.9	-2.4
	1.1nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 45 33.2	-1.5
	12nm,0.2s,SNR=4.8						
PBEJ	**Beja**	**2.07**	**298**	*e*Pn	Pn	00 45 07.6	-1.8
PBEJ				*e*Sn	Sn	00 45 34.2	-1.3
PBEJ				*e*Sg	Sg	00 45 38.5	-2.2
PBEJ							
	12nm,0.3s						
PBEJ	**Beja**	**2.07**	**298**	*e*Pn	Pn	00 45 07.6	-1.8
PBEJ				*e*Sn	Sn	00 45 34.2	-1.3
PBEJ				*e*Sg	Sg	00 45 38.5	-2.2
	12nm,0.3s						
EQES	**Quesada**	**2.10**	**69**	Pn	Pn	00 45 08.9	-0.9
	0.4nm,0.1s,SNR=7.9						
EQES				Pg	Pg	00 45 12.7	-1.8
	2.3nm,0.1s,SNR=17						
EQES				Sn	Sn	00 45 35.6	-0.7
	1.4nm,0.1s,SNR=7.9						
EQES				Lg		00 45 41.8	
	12nm,0.2s,SNR=10.0						
EQES	**Quesada**	**2.10**	**69**	Pn	Pn	00 45 08.9	-1.0
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.10**	**69**	Pg	Pg	00 45 12.7	-1.8
	2.3nm,0.1s,SNR=17						
EQES				Sn	Sn	00 45 35.6	-0.7
	1.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.14**	**94**	Pg	Pg	00 45 13.6	-1.6
	SNR=4.0						
EBER				Lg		00 45 44.5	
	2.5nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.14**	**94**	Pg	Pg	00 45 13.6	-1.6
	SNR=4.0						
MORF	**Marmelete**	**2.49**	**276**	*e*Pn	Pn	00 45 12.8	-2.3
MORF	**Marmelete**	**2.49**	**276**	*e*Pg	Pg	00 45 19.1	-2.7
MORF				*e*Sn	Sn	00 45 43.5	-2.2
MORF	**Marmelete**	**2.49**	**276**	Pn	Pn	00 45 12.8	-2.3
MORF				Pg	Pg	00 45 19.1	-2.7
MORF				Sn	Sn	00 45 43.5	-2.2
MORF	**Marmelete**	**2.49**	**276**	*e*Pg	Pg	00 45 19.1	-2.7
MORF				*e*Sn	Sn	00 45 43.5	-2.2
PTEO	**Sao Teotonio**	**2.57**	**281**	*e*Pn	Pn	00 45 14.6	-1.7
PTEO				*e*Sn	Sn	00 45 45.4	-2.5
PTEO				*e*Sg	Sg	00 45 55.3	-1.6
PTEO							
	12nm,0.3s						
PTEO	**Sao Teotonio**	**2.57**	**281**	*e*Pn	Pn	00 45 14.6	-1.7
PTEO				*e*Sn	Sn	00 45 45.4	-2.5
PTEO				*e*Sg	Sg	00 45 55.3	-1.6
	12nm,0.3s						
MOE	**Montemor**	**2.65**	**304**	*e*Pn	Pn	00 45 15.5	-1.8
MOE				*e*Sn	Sn	00 45 48.0	-1.7
EVIA	**Vianos**	**2.87**	**56**	Pn	Pn	00 45 18.9	-1.6
	1.2nm,0.1s,SNR=7.9						
EVIA				Pg	Pg	00 45 27.1	-2.2
	0.7nm,0.2s,SNR=7.9						
EVIA				Lg		00 46 02.6	
	1.9nm,0.2s,SNR=5.3						
ESDC	**Sonseca Array**	**2.88**	**25**	Pn	Pn	00 45 19.6	-1.0
	0.6nm,0.1s,baz=208,slow=12,SNR=7.6						
ESDC				Pg	Pg	00 45 28.1	-1.3
	0.8nm,0.1s,baz=209,slow=16,SNR=9.8						
ESDC				Sn	Sn	00 45 54.8	-0.6
	0.9nm,0.2s,baz=207,slow=23,SNR=5.1						
ESDC				Lg		00 46 05.0	
	2.1nm,0.2s,baz=207,slow=29,SNR=14						
ESDC	**Sonseca Array**	**2.88**	**25**	Pn	Pn	00 45 19.6	-0.9
	0.6nm,0.1s,SNR=7.6						
ESDC	**Sonseca Array**	**2.88**	**25**	Pg	Pg	00 45 28.1	-1.3
	0.8nm,0.1s,SNR=9.8						
ESDC				Sn	Sn	00 45 54.8	-0.7
	0.9nm,0.2s,SNR=5.1						
PCBR	**Castelo Branco**	**3.15**	**332**	*e*Pn	Pn	00 45 23.1	-1.1
PCBR				*e*Sn	Sn	00 45 58.4	-3.7
PCBR							
	4.1nm,0.4s						
PCBR	**Castelo Branco**	**3.15**	**332**	*e*Pn	Pn	00 45 23.1	-1.1
PCBR				*e*Sn	Sn	00 45 58.4	-3.7
	4.1nm,0.4s						
PLOU	**Loures**	**3.37**	**304**	*e*Pn	Pn	00 45 25.8	-1.5
PLOU				*e*Sn	Sn	00 46 05.8	-1.8
PMAFR	**Mafra**	**3.49**	**304**	*e*Pn	Pn	00 45 27.5	-1.5
PMAFR				*e*Sn	Sn	00 46 08.2	-2.4
PMAFR							
	16nm,0.6s						
ETOB	**Tobarra**	**3.54**	**62**	Pn	Pn	00 45 28.1	-1.5
	0.1nm,0.1s,SNR=7.9						
ETOB				Pg	Pg	00 45 40.3	-1.7
	0.7nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	00 46 09.7	-1.9
	0.7nm,0.1s,SNR=7.9						
ETOB				Lg		00 46 26.1	
	4.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.54**	**62**	Pn	Pn	00 45 28.1	-1.4
	0.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.54**	**62**	Pg	Pg	00 45 40.3	-1.6
	0.7nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	00 46 09.7	-1.9
	0.7nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**3.73**	**17**	Lg		00 46 32.2	
	2.7nm,0.3s,SNR=4.0						
PVRL	**Vila Real**	**4.52**	**339**	*e*Sn	Sn	00 46 32.8	-3.1
ETOR	**Torete**	**4.63**	**35**	Pn	Pn	00 45 43.2	-1.4
	1.5nm,0.2s,SNR=8.6						
ETOR				Sn	Sn	00 46 36.3	-2.3
	0.9nm,0.2s,SNR=7.9						
ETOR				Lg		00 47 02.6	
	3.7nm,0.2s,SNR=5.0						
ETOR	**Torete**	**4.63**	**35**	Pn	Pn	00 45 43.2	-1.4
	1.5nm,0.2s,SNR=8.6						
ETOR				Sn	Sn	00 46 36.3	-2.3
	0.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**4.95**	**350**	S

Moment Tensor Solution. s65,c102; s89,c153; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.56±.02; $M_{\theta\theta}$-0.52±.01; $M_{\phi\phi}$1.08±.02; $M_{r\theta}$-0.25±.04; $M_{\theta\phi}$-0.60±.01; $M_{r\phi}$0.21±.04; Best double couple: $M_0$1.08100×10^{17} NP1:ϕ_s23.00000°,δ60.00000°, λ-20.00000°; NP2:ϕ_s124.00000°,δ73.00000°, λ-148.00000°. Principal axes: T 1.3220, Plg8.0000°, Azm251.0000°; N -0.4810, Plg54.0000°, Azm149.0000°; P -0.8390, Plg35.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISCJB ***28*** *00:53:38.8±0.2, 1326N±003×8753W±003, h12km, mb5.3/204, MS5.0/40 Error ellipse: s-maj=5.3km s-min=2.4km az=90.3*

CASC ***28*** *00:53:39.1±2.2, 1317N×8767W, h2km±5km, ML5.3, mb5.9(NEIC)*

MOS ***28*** *00:53:40.6±1.4, 1309N×8741W, h33km, mb5.6/81, MS5.2/16, Error ellipse: s-maj=6.6km s-min=4.4km az=79.1*

IDC ***28*** *00:53:40.5±0.6, 1373N×8720W, h0km, mb4.9/17, mb1 5.1/18, mb1mx5.1/20, mbtmp5.0/18, ML4.0/1, MS4.8/22, Ms1 4.8/22, ms1mx4.6/29, Error ellipse: s-maj=19.1km s-min=9.1km az=46.0*

SZGRF ***28*** *00:53:47.9, 1390N×8591W, h14km, mb5.5, MS5.3, Nicaragua*

ISC 28 00:53:40.4±0.2, 1322N±003×8746W±003, h13km, h13km±.5km:pP-P,n597,σ1°17/560, mb5.3/204, MS5.0/40, 44C-52D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.37**	**279**	↑	*iP*	x	00 54 00.4
CRIN	**San Cristobal**	**0.65**	**142**	↑	*iP*	**Pg**	**00 53 54.6 +1.4**
CRIN					*eS*	**Sg**	**00 54 06.9 +5.2**
BLLM	**Bellamira**	**0.79**	**287**		*eP*	x	00 54 08.1
VSM	**San Miguel**	**0.82**	**285**	↑	*iP*	x	00 54 09.0
TELN	**Telica**	**0.87**	**135**	↑	*iP*	**Pg**	**00 53 57.9 +0.7**
TELN					*eS*	**Sg**	**00 54 14.3 +5.8**
TEL3	**Telica 3**	**0.88**	**137**	↓	*eP*	**Pg**	**00 53 58.3 +0.9**
LEON	**Leon**	**0.97**	**145**	↑	*iP*	**Pb**	**00 53 59.0 -0.1**
CNGN	**Cerro Negro**	**1.03**	**134**	↑	*iP*	**Pb**	**00 54 00.6 +0.5**
CNGN					*eS*	**Sb**	**00 54 17.2 +3.6**
MIRN	**Miramar**	**1.06**	**136**	↓	*iP*	**Pb**	**00 54 01.0 +0.3**
MOMJ	**Momotombo**	**1.21**	**132**	↑	*eP*	**Pn**	**00 54 03.3 +0.3**
COPN	**Copaltepe**	**1.34**	**140**	↓	*iP*	**Pn**	**00 54 05.1 +0.3**
SNVI	**San Vicente**	**1.40**	**287**		*eP*	x	00 54 18.9
XAVN	**Gruta Xavier**	**1.54**	**134**	↓	*iP*	**Pn**	**00 54 08.3 +0.8**
LCBS	**La Ceiba**	**1.54**	**287**	↑	*iP*	x	00 54 21.0
TISN	**Laguna Tiscapa**	**1.58**	**132**	↓	*eP*	**Pn**	**00 54 08.5 +0.4**
MGAN	**Managua**	**1.59**	**132**		*eP*	**Pn**	**00 54 08.9 +0.6**
MGAN					*eS*	**Sn**	**00 54 33.5 +4.7**
MGAN					*i*		00 54 42.3
	comp=N,21μm,0.5s						
LFRS	**El Faro**	**1.61**	**285**	↑	*eP*	x	00 54 21.9
LBRS	**Las Brisas**	**1.62**	**289**	↑	*iP*	x	00 54 22.6
TICN	**Ticuantepe**	**1.68**	**134**	↑	*eP*	**Pn**	**00 54 10.3 +0.7**
MASN	**Masaya**	**1.77**	**134**	↓	*eP*	**Pn**	**00 54 12.6 +1.8**
MASN					*eS*	**Sn**	**00 54 39.2 +6.0**
MASN					*i*		00 54 54.0
	comp=N,45μm,0.7s						
SNET	**Serv Nac Est T**	**1.78**	**285**	↑	*eP*	x	00 54 08.4
SNET					*e*		00 54 13.5
	comp=Z,59μm,1.3s						
SNET					*eS*	x	00 54 31.3
BOQS	**Boqueron**	**1.84**	**286**	↑	*eP*	x	00 54 25.8
MTO2	**Montecristo 2**	**2.19**	**303**	↓	*eP*	x	00 54 30.4
RBDL	**Robledal**	**2.34**	**293**	↓	*eP*	x	00 54 32.1
CONN	**Concepcion**	**2.43**	**132**	↓	*iP*	**Pn**	**00 54 21.0 +1.2**
SSNN	**San Juan del S**	**2.48**	**140**	↓	*iP*	**Pn**	**00 54 22.1 +1.5**
MADN	**Villa Maderas**	**2.60**	**133**	↓	*eP*	**Pn**	**00 54 23.3 +1.0**
JCR	**Jicaral**	**4.06**	**145**		*eP*	**Pn**	**00 54 44.7 +2.4**
CGA2	**Cerro Gallo 2**	**4.33**	**137**		*eP*	**Pn**	**00 54 47.3 +1.4**
PRS1	**Puriscal**	**4.46**	**136**		*eP*	**Pn**	**00 54 51.1 +3.4**
LAJ	**Bijagual**	**4.67**	**135**		*eP*	**Pn**	**00 54 49.5 -1.2**
LIO	**Limon**	**5.38**	**126**		*eP*	**Pn**	**00 55 02.2 +1.7**
TEIG	**Tepich**	**7.01**	**354**		*ePn*	**Pn**	**00 55 23.2 +0.3**
	comp=Z,250nm,0.9s						
CMIG	**Matias Romero**	**8.13**	**299**		Pn	**Pn**	**00 55 38.4 +0.2**
	comp=Z,2.1nm,0.3s,baz=97,slow=9.6,SNR=62						
CMIG					Sn	**Sn**	**00 57 17.1 +7.1**
	comp=Z,3.8nm,0.3s,baz=7.2,slow=9.4,SNR=2.5						
CMIG					Lg		00 57 54.9
	comp=Z,3.8nm,0.3s,baz=221,slow=13,SNR=4.5						
SOR	**Soroa**	**10.42**	**23**		*eP*	**Pn**	**00 56 21.7 +12**
	baz=257						
SOR					*eS*	**Sn**	**00 58 13.5 +7.3**
	comp=N,8.3nm,2.4s						
SOR					*e*		
	comp=E,8.2nm,2.4s						
CVJ	**Coleyville**	**10.78**	**61**	↓	*eP*	**Pn**	**00 56 20.0 +5.6**
PCJ	**Portland Cotta**	**10.90**	**64**	↓	*iP*	**Pn**	**00 56 22.9 +6.7**
BBJ	**Bamboo Saint A**	**11.07**	**61**	↓	*eP*	**Pn**	**00 56 22.8 +4.3**
BNJ	**Bonny Gate**	**11.32**	**62**	↓	*eP*	**Pn**	**00 56 27.4 +5.5**
STH	**Stony Hill**	**11.34**	**63**	↓	*eP*	**Pn**	**00 56 27.5 +5.3**
YHJ	**Yallahs**	**11.55**	**65**	↓	*eP*	**Pn**	**00 56 29.9 +5.0**
CMJ	**Castle Mountai**	**11.74**	**64**	↓	*eP*	**Pn**	**00 56 32.4 +4.7**
CCCC	**Cccc**	**12.20**	**48**		*eP*	**Pn**	**00 56 43.3 +9.4**
HLGC	**Holguin**	**13.30**	**53**		*eP*	**Pn**	**00 56 53.3 +4.3**
ROSC	**El Rosal**	**15.39**	**121**		Pn	**Pn**	**00 57 23.9 +6.6**
	comp=E,1.0nm,0.3s,baz=119,slow=4.0,SNR=14						
ROSC					LR	LR	01 04 36.8
	comp=E,2μm,18.4s,baz=344,slow=42						
ROSC	**El Rosal**	**15.39**	**121**		P	**Pn**	**00 57 23.4 +6.1**
OTAV	**Otavalo**	**15.69**	**145**		*eP*	**Pn**	**00 57 24.8 +3.7**
OTAV	**Otavalo**	**15.69**	**145**		*ePn*	**Pn**	**00 57 23.3 +2.2**
	comp=E,40nm,1.1s						
SDV	**Santo Domingo**	**17.07**	**103**		Pn	**Pn**	**00 57 41.8 +3.1**
	comp=E,0.5nm,0.3s,baz=298,slow=8.7,SNR=20						
SDV	**Santo Domingo**	**17.07**	**103**		*eP*	**Pn**	**00 57 40.2 +1.4**
SDV					*eS*	**Sn**	**01 01 01.6 +13**
SDV	**Santo Domingo**	**17.07**	**103**		*eP*	**Pn**	**00 57 40.4 +1.6**
	comp=E,144nm,1.0s						
NATX	**Nacogdoches**	**19.61**	**341**		*eP*	**Pn**	**00 58 09.9 +0.1**
	comp=E,277nm,0.9s						
JCT	**Junction City**	**20.62**	**328**	↓	*iP*	**P**	**00 58 19.2 -0.2**
JCT					pmax	pmax	
	comp=Z,226nm,1.4s						
JCT	**Junction City**	**20.62**	**328**	↓	*iP*	**P**	**00 58 19.2 -0.2**
	comp=Z,226nm,1.4s						
COW	**Cow Castle Cre**	**21.00**	**16**		*eP*	**P**	**00 58 26.1 +2.5**
OXF	**Oxford**	**21.27**	**356**		P	**P**	**00 58 28.5 +2.0**
OXF					pmax	pmax	
	comp=Z,470nm,1.1s,mb5.7						
OXF	**Oxford**	**21.27**	**356**	↓	*eP*	**P**	**00 58 28.0 +1.5**
	comp=Z,475nm,1.1s,mb5.7						
CPD	**Cerro la Pandu**	**21.29**	**74**		*eP*	**P**	**00 58 31.0 +4.3**
MTP	**Monte Pirata**	**21.64**	**74**		*eP*	**P**	**00 58 32.9 +2.4**
PLAL	**Pickwick Lake**	**21.68**	**359**	↓	*iP*	**P**	**00 58 32.1 +1.2**
	comp=Z,155nm,1.4s,mb5.2						
JSC	**Jenkinsville**	**21.71**	**14**		P	**P**	**00 58 33.7 +2.4**
JSC	**Jenkinsville**	**21.71**	**14**		*eP*	**P**	**00 58 33.3 +2.1**
UALR	**University of**	**21.91**	**349**	↓	*iP*	**P**	**00 58 34.5 +1.0**
	comp=Z,150nm,1.1s,mb5.3						
TXAR	**Lajitas Array**	**21.98**	**319**		P	**P**	**00 58 34.3 +0.1**
	comp=Z,94nm,0.9s,mb5.2,baz=141,slow=9.2,SNR=383						
TXAR					S	**S**	**01 02 40.3 +3.8**
	comp=Z,2.2nm,1.0s,baz=47,slow=24,SNR=3.5						
TXAR					LR	LR	01 10 05.8
	comp=Z,1μm,18.1s,MS4.3,baz=345,slow=45						
TXAR	**Lajitas Array**	**21.98**	**319**		P	**P**	**00 58 34.3 +0.2**
TXAR					S	**S**	**01 02 40.3 +3.8**
LHS	**Liberty Hill**	**22.01**	**15**		*eP*	**P**	**00 58 36.0 +1.6**
ATAH	**Atahualpa**	**22.01**	**155**		P	**P**	**00 58 39.8 +5.4**
	comp=Z,139nm,1.1s,mb5.3,baz=332,slow=8.1,SNR=15						
ATAH					S	**S**	**01 02 53.1 +16**
	comp=Z,2.9nm,0.6s,baz=41,slow=11,SNR=2.4						
ATAH					LR	LR	01 06 34.9
	comp=Z,4μm,20.5s,MS4.8,baz=340,slow=34						
CPCT	**Cooper Cave**	**22.30**	**6**	↓	*iP*	**P**	**00 58 39.3 +1.8**
PCRV	**Puerto La Cruz**	**22.55**	**95**		P	**P**	**00 58 44.2 +4.0**
	comp=Z,65nm,0.8s,mb5.1,baz=282,slow=5.1,SNR=12						
PCRV					S	**S**	**01 02 53.7 +6.2**
	comp=Z,8.5nm,0.9s,baz=332,slow=22,SNR=1.6						
TKL	**Tuckaleechee C**	**22.59**	**8**		P	**P**	**00 58 42.1 +1.5**
	comp=Z,253nm,1.1s,mb5.6,baz=179,slow=10,SNR=56						
HALT	**Halls**	**22.66**	**356**		*eP*	**P**	**00 58 41.3 0.0**
GLAT	**Glass**	**23.01**	**356**		*eP*	**P**	**00 58 45.5 +0.4**
TZTN	**Tazewell**	**23.49**	**8**	↓	*eP*	**P**	**00 58 51.0 +0.9**
	comp=Z,578nm,1.6s,mb5.8						
CNNC	**Cliffs of the**	**23.57**	**20**	↓	*eP*	**P**	**00 58 52.4 +1.5**
	comp=Z,48nm,0.4s,mb5.3						
WMOK	**Wichita Mounta**	**23.75**	**336**		P	**P**	**00 58 51.7 -0.9**
WMOK					pmax	pmax	
	comp=Z,1μm,2.0s,mb6.0						
WMOK	**Wichita Mounta**	**23.75**	**336**	↓	*eP*	**P**	**00 58 51.6 -0.9**
	comp=Z,35nm,1.3s,mb4.6						
LPIG	**La Paz**	**24.16**	**300**		P	**P**	**00 58 58.1 +1.8**
	comp=Z,20nm,0.3s,mb5.0,baz=84,slow=1.4,SNR=3.2						
LPIG					S	**S**	**01 03 15.5 +1.4**
	comp=Z,14nm,0.3s,baz=351,slow=0.3,SNR=1.8						
LPIG					LR	LR	01 08 15.8
	comp=Z,7μm,20.4s,MS5.1,baz=119,slow=36						
LPIG	**La Paz**	**24.16**	**300**		P	**P**	**00 58 58.1 +1.8**
LPIG					S	**S**	**01 03 15.5 +1.4**
LPIG					LR	LR	01 08 15.8
SIUC	**Southern Illin**	**24.45**	**357**		*eP*	**P**	**00 58 59.5 +0.6**
	comp=Z,217nm,1.1s,mb5.5						
USIN	**University of**	**24.65**	**360**		*eP*	**P**	**00 59 01.2 +0.5**
	comp=Z,362nm,1.3s,mb5.7						
ELN	**Prospectdale**	**24.65**	**13**		*eP*	**P**	**00 59 03.2 +2.4**
MNTX	**Cornudas Mount**	**24.68**	**321**	↓	*iP*	**P**	**00 58 59.7 -1.4**
	comp=Z,498nm,1.5s,mb5.8						
BLA	**Blacksburg**	**24.71**	**14**		P	**P**	**00 59 04.0 +2.7**
BLA	**Blacksburg**	**24.71**	**14**		*eP*	**P**	**00 59 03.5 +2.2**
	comp=Z,96nm,1.2s,mb5.2						
WCI	**Wyandotte Cave**	**24.93**	**2**		P	**P**	**00 59 03.6 +0.3**
WCI					pmax	pmax	
	comp=Z,120nm,0.8s,mb5.5						
WCI	**Wyandotte Cave**	**24.93**	**2**		*eP*	**P**	**00 59 03.5 +0.1**
	comp=Z,121nm,0.8s,mb5.5						
FWV	**Forest Hill**	**24.98**	**13**		*eP*	**P**	**00 59 05.8 +2.0**
AMTX	**Amarillo**	**25.12**	**332**		*eP*	**P**	**00 59 04.9 -0.1**
	comp=Z,170nm,1.1s,mb5.5						
SLM	**Saint Louis**	**25.44**	**355**		P	**P**	**00 59 08.5 +0.6**
SLM					pmax	pmax	
	comp=Z,140nm,1.2s,mb5.4						
SLM	**Saint Louis**	**25.44**	**355**		*eP*	**P**	**00 59 08.3 +0.4**
	comp=Z,138nm,1.2s,mb5.4						
BLO	**Bloomington**	**25.87**	**2**		*eP*	**P**	**00 59 12.3 +0.5**
BLO					pmax	pmax	
	comp=Z,191nm,1.4s,mb5.4						
BLO	**Bloomington**	**25.87**	**2**		*eP*	**P**	**00 59 12.3 +0.5**
	comp=Z,191nm,1.4s,mb5.4						
CBN	**Corbin**	**26.46**	**18**		*eP*	**P**	**00 59 19.6 +2.5**
	comp=Z,144nm,1.1s,mb5.4						
KSU1	**Kansas State U**	**27.02**	**344**		*eP*	**P**	**00 59 21.9 -0.3**
	comp=Z,249nm,1.3s,mb5.6						
BNM	**Barren Site**	**27.15**	**323**		*eP*	**P**	**00 59 24.1 +0.7**
NNA	**Nana**	**27.17**	**157**		P	**P**	**00 59 28.8 +5.3**
	comp=Z,24nm,1.0s,mb4.7,baz=345,slow=7.5,SNR=5.6						
NNA					S	**S**	**01 04 16.1 +14**
	comp=Z,1.7nm,0.3s,baz=261,slow=22,SNR=1.3						
NNA					LR	LR	01 09 59.1
	comp=Z,574nm,19.4s,MS4.2,baz=98,slow=36						
MCWV	**Mont Chateau**	**27.18**	**13**		*eP*	**P**	**00 59 25.1 +1.5**
	comp=Z,262nm,1.7s,mb5.5						
LPM	**Los Pinos Moun**	**27.27**	**324**		*eP*	**P**	**00 59 24.8 +0.3**
LENM	**Lemitar**	**27.36**	**323**		*eP*	**P**	**00 59 26.0 +0.7**
LAZ	**Ladron**	**27.63**	**323**		*eP*	**P**	**00 59 28.7 +1.0**
ANMO	**Albuquerque**	**27.63**	**325**		P	**P**	**00 59 28.3 +0.6**
	comp=Z,50nm,1.2s,mb5.0,baz=148,slow=11,SNR=74						
ANMO					S	**S**	**01 04 11.0 +1.9**
	comp=Z,0.5nm,0.3s,baz=34,slow=22,SNR=1.9						
ANMO	**Albuquerque**	**27.63**	**325**		P	**P**	**00 59 28.3 +0.6**
ANMO					S	**S**	**01 04 11.0 +1.9**
CBKS	**Cedar Bluff**	**27.72**	**339**		P	**P**	**00 59 29.2 +0.7**
CBKS					pmax	pmax	
	comp=Z,300nm,1.5s,mb5.7						
CBKS	**Cedar Bluff**	**27.72**	**339**		*eP*	**P**	**00 59 28.9 +0.4**
	comp=Z,296nm,1.5s,mb5.7						
MVL	**Millersville**	**28.42**	**18**		*eP*	**P**	**00 59 36.4 +1.7**
TUC	**Tucson**	**28.58**	**316**		*eP*	**P**	**00 59 37.0 +0.8**
TUC					pmax	pmax	
	comp=Z,92nm,1.5s,mb5.3						
TUC	**Tucson**	**28.58**	**316**		*eP*	**P**	**00 59 37.0 +0.7**
	comp=Z,92nm,1.5s,mb5.3						
SCIA	**State Center**	**29.02**	**351**		*eP*	**P**	**00 59 39.5 -0.6**
	comp=Z,179nm,1.5s,mb5.6						
ALLY	**Alegheny Colle**	**29.04**	**11**	↓	*eP*	**P**	**00 59 41.4 +1.2**
AAM	**Ann Arbor**	**29.17**	**6**		*eP*	**P**	**00 59 41.7 +0.3**
AAM					pmax	pmax	
	comp=Z,296nm,1.5s,mb5.8						
AAM	**Ann Arbor**	**29.17**	**6**		*eP*	**P**	**00 59 41.7 +0.3**
	comp=Z,296nm,1.5s,mb5.8						
SDCO	**Great Sand Dun**	**29.25**	**330**	↓	*eP*	**P**	**00 59 43.2 +1.1**
	comp=Z,122nm,1.3s,mb5.5						
JFWS	**Jewell Farm**	**29.69**	**356**		*eP*	**P**	**00 59 45.4 -0.6**
JFWS					pmax	pmax	
	comp=Z,145nm,1.8s,mb5.4						
JFWS	**Jewell Farm**	**29.69**	**356**		*eP*	**P**	**00 59 45.4 -0.6**
	comp=Z,145nm,1.8s,mb5.4						
MVCO	**Mesa Verde**	**30.40**	**326**		*eP*	**P**	**00 59 52.8 +0.5**
	comp=Z,123nm,1.3s,mb5.5						
BINY	**Binghamton**	**30.55**	**17**		*eP*	**P**	**00 59 55.4 +1.7**
	comp=Z,160nm,1.4s,mb5.7						
WUAZ	**Wupatki**	**30.95**	**320**		*eP*	**P**	**00 59 57.9 +0.7**
	comp=Z,71nm,1.3s,mb5.3						
SMCO	**Snowmass**	**31.08**	**330**		*eP*	**P**	**00 59 59.1 +0.8**
	comp=Z,111nm,1.4s,mb5.5						
PV01	**Paradox Valley**	**31.11**	**327**		*eP*	**P**	**00 59 59.4 +0.8**
PV10	**Paradox Valley**	**31.54**	**326**		*eP*	**P**	**01 00 02.6 +0.2**
GLA	**Glamis**	**31.82**	**313**		P	**P**	**01 00 06.5 +1.7**
GLA	**Glamis**	**31.82**	**313**		*eP*	**P**	**01 00 05.4 +0.6**
PHWY	**Pilot Hill**	**32.09**	**334**	↓	*eP*	**P**	**01 00 07.9 +0.7**
ACCN	**Adirondack Com**	**32.33**	**19**		*eP*	**P**	**01 00 10.5 +1.2**
NCB	**Newcomb**	**32.69**	**18**		*eP*	**P**	**01 00 13.5 +1.1**
	comp=Z,63nm,1.5s,mb5.3						
SRU	**San Rafael**	**32.88**	**326**		P	**P**	**01 00 14.6 +0.5**
SRU					pmax	pmax	
	comp=Z,160nm,1.4s,mb5.8						
SRU	**San Rafael**	**32.88**	**326**		*eP*	**P**	**01 00 14.5 +0.4**
	comp=Z,155nm,1.4s,mb5.7						
FFD	**Franklin Falls**	**33.08**	**21**		*eP*	**P**	**01 00 18.0 +2.2**
	comp=Z,199nm,1.4s,mb5.8						
RWWY	**Rawlins**	**33.17**	**332**		*eP*	**P**	**01 00 16.5 -0.2**
	comp=Z,249nm,1.7s,mb5.9						
LONY	**Lake Ozonia**	**33.18**	**17**		*eP*	**P**	**01 00 17.6 +0.9**
	comp=Z,186nm,1.4s,mb5.8						
PFO	**Pinyon Flat Ob**	**33.28**	**313**		P	**P**	**01 00 19.3 +1.7**
PFO					pmax	pmax	
	comp=Z,17nm,1.2s,mb4.8						
PFO	**Pinyon Flat Ob**	**33.28**	**313**		*eP*	**P**	**01 00 18.5 +0.9**
	comp=Z,17nm,1.2s,mb4.8						
TMUT	**Trail Mountain**	**33.38**	**325**		*eP*	**P**	**01 00 19.1 +0.6**
MSU	**Marysvale**	**33.40**	**323**		P	**P**	**01 00 20.0 +1.4**
MSU	**Marysvale**	**33.40**	**323**		*eP*	**P**	**01 00 19.3 +0.7**
MSNY	**Massena**	**33.45**	**16**		*eP*	**P**	**01 00 19.9 +0.9**
CCUT	**Cedar City**	**33.47**	**321**		*eP*	**P**	**01 00 20.3 +1.0**
LBNH	**Lisbon**	**33.66**	**20**		P	**P**	**01 00 22.8 +1.9**
LBNH					pmax	pmax	
	comp=Z,310nm,2.0s,mb5.9						
LBNH	**Lisbon**	**33.66**	**20**		*eP*	**P**	**01 00 22.0 +1.1**
	comp=Z,314nm,2.1s,mb5.9						
FRNY	**Flat Rock**	**33.66**	**18**		*eP*	**P**	**01 00 21.9 +0.9**
ARUT	**Antelope Range**	**33.67**	**321**		P	**P**	**01 00 22.5 +1.5**
ARUT	**Antelope Range**	**33.67**	**321**		*eP*	**P**	**01 00 22.2 +1.2**
RSSD	**Black Hills**	**33.92**	**338**		P	**P**	**01 00 24.2 +1.0**
RSSD					pmax	pmax	
	comp=Z,17nm,0.8s,mb5.0						
RSSD	**Black Hills**	**33.92**	**338**		*eP*	**P**	**01 00 24.0 +0.8**
	comp=Z,15nm,0.8s,mb5.0						
MPU	**Maple Canyon**	**34.12**	**326**	↓	*eP*	**P**	**01 00 25.4 +0.5**
	comp=Z,204nm,1.4s,mb5.9						
DAU	**Daniels Canyon**	**34.20**	**327**		P	**P**	**01 00 26.6 +1.0**
DAU	**Daniels Canyon**	**34.20**	**327**		*eP*	**P**	**01 00 26.5 +0.9**
NLU	**North Lily Min**	**34.32**	**325**		*eP*	**P**	**01 00 27.3 +0.6**
GSC	**Goldstone**	**34.41**	**315**		P	**P**	**01 00 28.4 +1.0**
GSC	**Goldstone**	**34.41**	**315**		*eP*	**P**	**01 00 27.9 +0.5**
CTU	**Camp Tracy**	**34.66**	**327**		*eP*	**P**	**01 00 30.2 +0.6**
	comp=Z,154nm,1.6s,mb5.7						
EYMN	**Ely**	**34.79**	**355**		*eP*	**P**	**01 00 28.5 -2.2**
	comp=Z,156nm,1.6s,mb5.7						
TCUT	**Toone Canyon**	**34.79**	**327**		*eP*	**P**	**01 00 31.2 +0.5**
DUG	**Dugway**	**34.90**	**325**		*eP*	**P**	**01 00 32.3 +0.6**
DUG					*e*		01 01 50.9
DUG					pmax	pmax	
	comp=Z,84nm,1.5s,mb5.5						
DUG	**Dugway**	**34.90**	**325**		*eP*	**P**	**01 00 32.3 +0.6**
	comp=Z,84nm,1.5s,mb5.5						
DUG					*ePP*	PP	01 01 50.9 +0.2
LPAZ	**La Paz**	**34.99**	**146**		P	**P**	**01 00 33.3 +0.8**
	comp=Z,3.0nm,0.8s,mb4.3,baz=340,slow=10,SNR=7.5						
LPAZ					LR	LR	01 15 43.5
	comp=Z,2μm,20.8s,MS4.8,baz=321,slow=38						
PDAR	**Pinedale Array**	**35.10**	**331**		P	**P**	**01 00 33.2 -0.2**
	comp=Z,4.0nm,0.8s,mb4.4,baz=144,slow=8.5,SNR=30						
PDAR					LR	LR	01 19 08.1
	comp=Z,2μm,18.6s,MS4.8,baz=141,slow=44						
HWUT	**Hardware Ranch**	**35.22**	**328**		*eP*	**P**	**01 00 35.2 +0.8**
	comp=Z,160nm,1.4s,mb5.8						
TRCR	**Troy Canyon**	**35.34**	**320**		*eP*	**P**	**01 00 36.6 +1.1**
SPUT	**South Promonto**	**35.47**	**327**		*eP*	**P**	**01 00 34.7 -1.9**
PKME	**Peaks-Kenny Pk**	**35.48**	**22**		*eP*	**P**	**01 00 38.4 +1.7**
	comp=Z,137nm,1.3s,mb5.7						
BGU	**Big Grassy Mou**	**35.52**	**326**	↓	*iP*	**P**	**01 00 37.4 +0.4**
AGMN	**Agassiz Refuge**	**35.67**	**350**		*eP*	**P**	**01 00 37.2 -1.0**
	comp=Z,92nm,1.3s,mb5.5						
AHID	**Auburn Hatcher**	**35.84**	**330**		*eP*	**P**	**01 00 40.2 +0.5**
	comp=Z,152nm,1.1s,mb5.8						
HVU	**Hansel Valley**	**35.98**	**327**		P	**P**	**01 00 41.7 +0.8**
HVU					pmax	pmax	
	comp=Z,370nm,2.0s,mb6.0						
HVU	**Hansel Valley**	**35.98**	**327**		*eP*	**P**	**01 00 41.2 +0.3**
	comp=Z,374nm,2.1s,mb6.0						
REDW	**Red Top Meadow**	**36.16**	**331**	↓	*iP*	**P**	**01 00 43.1 +0.6**
	comp=Z,355nm,1.4s,mb6.1						
SNOW	**Snow King Moun**	**36.19**	**331**	↓	*eP*	**P**	**01 00 43.6 +0.8**
	comp=Z,178nm,1.2s,mb5.9						
TPH	**Tonopah**	**36.22**	**318**		P	**P**	**01 00 44.9 +1.9**
TPH					pmax	pmax	
	comp=Z,59nm,1.2s,mb5.4						
TPH	**Tonopah**	**36.22**	**318**		*eP*	**P**	**01 00 44.0 +0.9**
	comp=Z,59nm,1.2s,mb5.4						
LOHW	**Long Hollow**	**36.24**	**331**		*eP*	**P**	**01 00 43.3 +0.2**
	comp=Z,108nm,1.4s,mb5.6						
TPAW	**Teton Pass**	**36.31**	**331**	↓	*eP*	**P**	**01 00 44.1 +0.3**
	comp=Z,171nm,1.4s,mb5.8						
RRI2	**Red Ridge**	**36.38**	**330**		*eP*	**P**	**01 00 44.7 +0.3**
	comp=Z,274nm,1.6s,mb5.9						
MOOW	**Moose Ponds**	**36.41**	**331**		*eP*	**P**	**01 00 44.7 +0.1**
	comp=Z,124nm,1.7s,mb5.6						
DCID1	**Drake Creek**	**36.50**	**331**		*eP*	**P**	**01 00 46.6 +1.2**
IMW	**Indian Meadow**	**36.61**	**331**		*eP*	**P**	**01 00 46.6 +0.2**
	comp=Z,51nm,1.4s,mb5.2						
FLWY	**Flagg Ranch**	**36.64**	**332**		*eP*	**P**	**01 00 46.9 +0.3**
	comp=Z,162nm,1.5s,mb5.6						
MTUM	**Tungsten Hills**	**36.70**	**316**		*eP*	**P**	**01 00 48.4 +1.3**
RLMT	**Red Lodge**	**36.81**	**334**		*eP*	**P**	**01 00 48.0 0.0**
	comp=Z,25nm,1.1s,mb5.0						
LKWY	**Lake**	**36.88**	**332**		P	**P**	**01 00 51.5 +2.9**
LKWY					pmax	pmax	
	comp=Z,75nm,1.5s,mb5.3						
LKWY	**Lake**	**36.88**	**332**		*eP*	**P**	**01 00 48.7 +0.1**
	comp=Z,56nm,1.5s,mb5.2						
LAO	**LASA Array**	**36.91**	**338**		*eP*	**P**	**01 00 48.9 -0.1**
	comp=Z,210nm,1.7s,mb5.7						
YFT	**Old Faithful**	**36.99**	**332**		*eP*	**P**	**01 00 50.5 +0.9**
YNR	**Norris Junctio**	**37.12**	**332**		*eP*	**P**	**01 00 51.6 +1.0**
NVAR	**Mina Array Bea**	**37.12**	**318**		P	**P**	**01 00 51.1 +0.4**
	comp=Z,42nm,1.2s,mb5.2,baz=141,slow=7.5,SNR=87						

comp=Z,547nm,21.7s,MS4.7,baz=122,slow=35
COLA College 65.74 336⇑ eP P 01 04 23.6 -1.3
MCK McKinley 65.77 335 P P 01 04 24.3 -0.8
MCK pmax pmax
comp=Z,16nm,1.0s,mb5.0
MCK McKinley 65.77 335 eP P 01 04 23.9 -1.2
comp=Z,16nm,1.0s,mb5.0
SVW2 Sparrevohn 67.98 331 eP P 01 04 37.3 -1.9
BORG Borgarnes 68.02 25 LR LR 01 34 00.5
comp=Z,551nm,18.4s,MS4.8,baz=68,slow=36
PPT Papeete 68.51 245 eS S 01 13 43.3 -1.0
comp=Z,1μm,28.0s
PPT eSS SS 01 18 07.3 -0.8
comp=Z,162nm,26.5s
PPT eLR LR 01 25 21.6
comp=Z,3μm,28.2s,baz=60
PPT Papeete 68.51 245 LR LR 01 27 47.4
comp=Z,934nm,18.4s,MS5.0,baz=72,slow=30
TBI Tubuai 70.69 239 eS S 01 14 08.7 -1.3
comp=Z,638nm,26.0s
TBI eLR LR 01 26 24.3
comp=Z,2μm,29.5s,baz=63
DAG Danmarks Havn 72.41 13⇑ iP P 01 05 02.9 -3.5
comp=Z,93nm,1.6s,mb5.5
DAG Danmarks Havn 72.41 13⇑ iP P 01 05 02.9 -3.5
DAG pmax pmax
comp=Z,93nm,1.6s,mb5.5
PMAFR Mafra 72.68 53 i LR LR 01 25 56.2
EMAZ Mazaricos 72.73 49 P P 01 05 08.4 +0.1
comp=Z,227nm,2.2s,mb5.7
EZAM Zamans 72.97 50 P P 01 05 10.5 +0.8
EZAM pmax pmax
comp=Z,47nm,1.5s,mb5.2
EZAM Zamans 72.97 50 P P 01 05 10.5 +0.8
comp=Z,47nm,1.5s,mb5.2
STS Santiago 73.04 49 ⇑P P 01 05 10.6 +0.5
STS pmax pmax
comp=Z,53nm,1.1s,mb5.4
STS Santiago 73.04 49 ⇑P P 01 05 10.6 +0.5
comp=Z,53nm,1.1s,mb5.4
PTEO Sao Teotonio 73.20 55 eP P 01 05 13.1 +2.0
comp=Z,78nm,1.7s,mb5.4
MORF Marmelete 73.28 55 eP P 01 05 12.1 +0.6
comp=Z,88nm,1.7s,mb5.4
MORF Marmelete 73.28 55 i LR LR 01 27 51.0
comp=Z,1μm,20.0s
PVIS Viseu 73.64 51 eP P 01 05 14.6 +0.9
comp=Z,70nm,1.4s,mb5.4
EVO Evora 73.69 53 eP P 01 05 11.2 -2.8
EVO eMLR MLR
comp=Z,52nm,0.8s,mb5.2
comp=Z,1μm,19.8s
PBEJ Beja 73.84 54 eP P 01 05 15.8 +1.0
comp=Z,54nm,2.3s,mb5.1
PCBR Castelo Branco 74.02 52 eP P 01 05 16.4 +0.5
comp=Z,74nm,1.4s,mb5.4
EPON Pontenova 74.04 48 ⇑P P 01 05 16.6 +0.6
comp=Z,425nm,3.1s
EGRO El Granado 74.19 54 ⇑P P 01 05 17.9 +1.1
comp=Z,419nm,3.7s
ECAL Calabor 74.43 50 P P 01 05 19.0 +0.7
comp=Z,99nm,2.1s,mb5.4
PBRG Braganca 74.44 50 eP P 01 05 19.3 +1.0
comp=Z,61nm,1.6s,mb5.3
EBAD Badajoz 74.46 53 P P 01 05 18.5 +0.1
comp=Z,185nm,2.5s,mb5.6
EMIN Mina Concepcio 74.81 54 P P 01 05 20.0 -0.4
comp=Z,417nm,4.7s
EARI Arriondas 75.46 48 P P 01 05 24.2 0.0
comp=Z,135nm,1.8s,mb5.6
ESPR Espera 75.54 55 P P 01 05 25.9 +1.3
comp=Z,36nm,1.0s,mb5.2
EKA Eskdalemuir Ar 76.02 36 P P 01 05 25.9 -1.5
comp=Z,19nm,1.0s,mb5.0,baz=278,slow=5.8,SNR=15
ROSF Rostrenen 76.41 43 eP P 01 05 26.9 -2.7
comp=Z,82nm,1.1s,mb5.3
ROSF Rostrenen 76.41 43 eP P 01 05 26.9 -2.7
ROSF pmax pmax
comp=Z,41nm,1.1s,mb5.3
ROSF Rostrenen 76.41 43 eP P 01 05 26.9 -2.7
comp=Z,41nm,1.1s,mb5.3
EADA Adamuz 76.42 54 ⇓P P 01 05 29.9 +0.2
comp=Z,183nm,2.3s,mb5.6
GUD Guadarrama 76.48 51 ⇓P P 01 05 30.9 +0.9
GUD pmax pmax
comp=Z,75nm,1.4s,mb5.4
GUD Guadarrama 76.48 51 ⇓P P 01 05 30.9 +0.8
comp=Z,75nm,1.4s,mb5.4
QUIF Quistinic 76.52 43 eP P 01 05 27.5 -2.7
comp=Z,90nm,1.1s,mb5.3
QUIF Quistinic 76.52 43 eP P 01 05 27.5 -2.7
QUIF pmax pmax
comp=Z,45nm,1.1s,mb5.3
QUIF Quistinic 76.52 43 eP P 01 05 27.5 -2.7
comp=Z,45nm,1.1s,mb5.3
ELUQ Luque 76.73 54 ⇑P P 01 05 32.2 +0.8
ELUQ pmax pmax
comp=Z,39nm,1.5s,mb5.1
ELUQ Luque 76.73 54 ⇑P P 01 05 32.1 +0.7
comp=Z,39nm,1.5s,mb5.1
ESDC Sonseca Array 76.73 52 P P 01 05 30.9 -0.5
comp=Z,27nm,0.9s,mb5.2,baz=284,slow=5.8,SNR=44
ESDC LR LR 01 34 12.6
comp=Z,572nm,20.2s,MS4.9,baz=300,slow=32
ESDC Sonseca Array 76.73 52 ⇓P P 01 05 31.8 +0.4
comp=Z,38nm,1.1s,mb5.2
ESLA Sonseca Array 76.73 52 eP P 01 05 32.0 +0.5
comp=Z,12nm,1.0s,mb4.8
ELAN Lanestosa 76.76 48 ⇑P P 01 05 32.2 +0.6
comp=Z,262nm,2.9s,mb5.7
ELOJ Sierra Loja 76.86 55 P P 01 05 33.2 +1.0
SGMF Saint Gilles 76.89 43 eP P 01 05 29.3 -3.1
comp=Z,56nm,1.1s,mb5.1
SGMF Saint Gilles 76.89 43 eP P 01 05 29.3 -3.1
SGMF pmax pmax
comp=Z,28nm,1.1s,mb5.1
SGMF Saint Gilles 76.89 43 eP P 01 05 29.3 -3.1
comp=Z,28nm,1.1s,mb5.1
EBAN Banos Encina 77.04 54 ⇑P P 01 05 33.9 +0.7
EBAN pmax pmax
comp=Z,30nm,1.1s,mb5.1
EBAN Banos Encina 77.04 54 ⇑P P 01 05 33.9 +0.7
comp=Z,30nm,1.1s,mb5.1
ERON Agron 77.16 55 P P 01 05 35.2 +1.4
ECOG Cogollos-Vega 77.31 54 ⇑P P 01 05 35.8 +1.1
ECOG pmax pmax
comp=Z,38nm,1.1s,mb5.2
ECOG Cogollos-Vega 77.31 54 ⇑P P 01 05 35.8 +1.1
comp=Z,38nm,1.1s,mb5.2
ECRI Cripan 77.50 49 ⇑P P 01 05 36.8 +1.0
ECRI pmax pmax
comp=Z,70nm,1.6s,mb5.3
ECRI Cripan 77.50 49 ⇑P P 01 05 36.8 +1.0
comp=Z,70nm,1.6s,mb5.3
EQES Quesada 77.64 54 P P 01 05 37.3 +0.7
comp=Z,113nm,1.7s,mb5.5
OLEF Ile d'Oleron 77.95 45 eP P 01 05 38.3 0.0
EVIA Vianos 77.98 53 ⇑P P 01 05 39.5 +1.1
EVIA pmax pmax
comp=Z,17nm,1.0s,mb4.9
EVIA Vianos 77.98 53 ⇑P P 01 05 39.5 +1.1
comp=Z,17nm,1.0s,mb4.9
GRR Gorron 78.01 43 eP P 01 05 35.7 -2.9
comp=Z,70nm,0.8s,mb5.3
GRR Gorron 78.01 43 eP P 01 05 35.7 -2.9
GRR pmax pmax
comp=Z,35nm,0.8s,mb5.3
GRR Gorron 78.01 43 eP P 01 05 35.7 -2.9
comp=Z,35nm,0.8s,mb5.3
EHUE Huescar 78.02 54 P P 01 05 39.6 +1.0
ETOR Torete 78.05 51 ⇑P P 01 05 40.0 +1.2
ETOR pmax pmax
comp=Z,24nm,1.5s,mb4.9
ETOR Torete 78.05 51 ⇑P P 01 05 40.0 +1.1
comp=Z,24nm,1.5s,mb4.9
ELIZ Elizondo 78.15 48 ⇑P P 01 05 39.5 +0.1
ELIZ pmax pmax
comp=Z,17nm,1.1s,mb4.9
ELIZ Elizondo 78.15 48 ⇑P P 01 05 39.5 +0.1
comp=Z,17nm,1.1s,mb4.9
EALK Alkurruntz 78.16 48 ⇑P P 01 05 39.9 +0.4
FLN La Foliniere 78.21 42 eP P 01 05 37.0 -2.7
comp=Z,69nm,1.0s,mb5.2
FLN eMLR MLR
comp=Z,2μm,20.2s
FLN La Foliniere 78.21 42 eP P 01 05 37.0 -2.7
FLN pmax pmax
comp=Z,34nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,2μm,20.3s,MS5.4
FLN La Foliniere 78.21 42 eP P 01 05 37.0 -2.7
comp=Z,34nm,1.0s,mb5.2
FLN LR LR
comp=Z,2μm,20.3s,MS5.4
LCHF La Chataignera 78.28 45 eP P 01 05 39.9 -0.2
OSSF Osses 78.33 48 eP P 01 05 39.5 -0.9
SJPF Ste Jean 78.38 48 eP P 01 05 38.7 -1.9
comp=Z,121nm,1.1s,mb5.4
SJPF Ste Jean 78.38 48 eP P 01 05 38.7 -1.9
SJPF pmax pmax
comp=Z,61nm,1.1s,mb5.4
SJPF Ste Jean 78.38 48 eP P 01 05 38.7 -1.9
comp=Z,60nm,1.1s,mb5.4
LDF La Druitiere 78.47 43 eP P 01 05 38.1 -3.1
comp=Z,72nm,0.9s,mb5.3
LDF La Druitiere 78.47 43 eP P 01 05 38.1 -3.1
LDF pmax pmax
comp=Z,36nm,0.9s,mb5.3
LDF La Druitiere 78.47 43 eP P 01 05 38.1 -3.1
comp=Z,36nm,0.9s,mb5.3
LARF Larrau 78.56 48 eP P 01 05 41.4 -0.2
MFF Saint Martin d 78.70 45 eP P 01 05 39.6 -2.8
comp=Z,75nm,1.1s,mb5.2
MFF Saint Martin d 78.70 45 eP P 01 05 39.6 -2.8
MFF pmax pmax
comp=Z,38nm,1.1s,mb5.2
MFF Saint Martin d 78.70 45 eP P 01 05 39.6 -2.8
comp=Z,38nm,1.1s,mb5.2
ETOB Tobarra 78.72 53 P P 01 05 43.5 +1.0
RAR Rarotonga 78.79 245 LR LR 01 32 40.5
comp=Z,745nm,18.3s,MS5.1,baz=103,slow=30
ETSF Etsaut 78.89 48 eP P 01 05 41.5 -2.0
comp=Z,84nm,1.3s,mb5.2
ETSF Etsaut 78.89 48 eP P 01 05 41.5 -2.0
ETSF pmax pmax
comp=Z,42nm,1.3s,mb5.2
ETSF Etsaut 78.89 48 eP P 01 05 41.5 -2.0
comp=Z,42nm,1.3s,mb5.2
KBS Kingsbay 78.92 11⇓ eP P 01 05 44.5 +0.8
REYF Montagne du Re 78.99 48 eP P 01 05 43.4 -0.6
ESAC San Caprasio 79.11 50 P P 01 05 45.4 +0.7
comp=Z,42nm,1.1s,mb5.3
EMOS Mosqueruela 79.30 51 P P 01 05 47.0 +1.2
VIEF Viey 79.31 48 eP P 01 05 45.9 +0.1
EBIE Bielsa 79.43 49 P P 01 05 47.1 +0.7
comp=Z,7.5nm,0.7s,mb4.7
EPF Esparros 79.52 48 eP P 01 05 44.6 -2.3
comp=Z,112nm,1.3s,mb5.3
EPF Esparros 79.52 48 eP P 01 05 44.6 -2.3
EPF pmax pmax
comp=Z,56nm,1.3s,mb5.3
EPF Esparros 79.52 48 eP P 01 05 44.6 -2.3
comp=Z,56nm,1.3s,mb5.3
LFF La Frestale 79.54 46 eP P 01 05 44.4 -2.6
comp=Z,135nm,1.1s,mb5.5
LFF La Frestale 79.54 46 eP P 01 05 44.4 -2.6
LFF pmax pmax
comp=Z,68nm,1.1s,mb5.5
LFF La Frestale 79.54 46 eP P 01 05 44.4 -2.6
comp=Z,68nm,1.1s,mb5.5
RESF Ens 79.55 48 eP P 01 05 47.0 -0.1
RJF Les Rejaudoux 80.03 46 eP P 01 05 46.8 -2.9
comp=Z,150nm,1.5s,mb5.4
RJF eMLR MLR
comp=Z,1μm,19.0s
RJF Les Rejaudoux 80.03 46 eP P 01 05 46.8 -2.9
RJF pmax pmax
comp=Z,75nm,1.5s,mb5.4
RJF MLR MLR
comp=Z,1μm,19.0s,MS5.3
RJF Les Rejaudoux 80.03 46 eP P 01 05 46.8 -2.9
comp=Z,75nm,1.5s,mb5.4
RJF LR LR
comp=Z,1μm,19.0s,MS5.3
SALF Salau 80.18 48 eP P 01 05 50.7 +0.2
TCF Toulx Ste Croi 80.36 45 eP P 01 05 48.3 -3.1
comp=Z,65nm,1.2s,mb5.1
TCF Toulx Ste Croi 80.36 45 eP P 01 05 48.3 -3.1
TCF pmax pmax
comp=Z,33nm,1.2s,mb5.1
TCF Toulx Ste Croi 80.36 45 eP P 01 05 48.3 -3.1
comp=Z,33nm,1.2s,mb5.1
CAF Calviac 80.47 46 eP P 01 05 49.2 -2.8
comp=Z,98nm,1.3s,mb5.3
CAF Calviac 80.47 46 eP P 01 05 49.2 -2.8
CAF pmax pmax
comp=Z,49nm,1.3s,mb5.3
CAF Calviac 80.47 46 eP P 01 05 49.2 -2.8
comp=Z,49nm,1.3s,mb5.3
HYF Humbligny 80.49 44 eP P 01 05 49.4 -2.8
BGF Bois d'Agland 80.75 44 eP P 01 05 50.3 -3.2
comp=Z,56nm,1.1s,mb5.1
BGF Bois d'Agland 80.75 44 eP P 01 05 50.3 -3.2
BGF pmax pmax
comp=Z,28nm,1.1s,mb5.1
BGF Bois d'Agland 80.75 44 eP P 01 05 50.3 -3.2
comp=Z,28nm,1.1s,mb5.1
MTLF Montolieu 80.83 48 eP P 01 05 51.3 -2.7
comp=Z,70nm,1.2s,mb5.2
MTLF Montolieu 80.83 48 eP P 01 05 51.3 -2.7
MTLF pmax pmax
comp=Z,35nm,1.2s,mb5.2
MTLF Montolieu 80.83 48 eP P 01 05 51.3 -2.7
comp=Z,35nm,1.2s,mb5.2
PYM Petit Puy Mans 80.99 45 eP P 01 05 54.4 -0.4
AGO Saint Agoulin 81.03 45 eP P 01 05 57.7 +2.7
UCC Uccle 81.03 40 P P 01 05 54.3 -0.7
SNF Seneffe 81.03 40 P P 01 05 54.1 -0.9
AVF Avril sur Loir 81.05 44 eP P 01 05 51.6 -3.6
comp=Z,32nm,1.1s,mb4.8
AVF Avril sur Loir 81.05 44 eP P 01 05 51.6 -3.6
AVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
AVF Avril sur Loir 81.05 44 eP P 01 05 51.6 -3.6
comp=Z,16nm,1.1s,mb4.9
BAIF Baives 81.06 41 eP P 01 05 52.0 -3.2
comp=Z,129nm,1.8s,mb5.2
BAIF Baives 81.06 41 eP P 01 05 52.0 -3.2
BAIF pmax pmax
comp=Z,65nm,1.8s,mb5.3
BAIF Baives 81.06 41 eP P 01 05 52.0 -3.2
comp=Z,64nm,1.8s,mb5.2
SSF Saint Saulge 81.11 44 eP P 01 05 51.9 -3.6
comp=Z,76nm,1.5s,mb5.1
SSF Saint Saulge 81.11 44 eP P 01 05 51.9 -3.6
SSF pmax pmax
comp=Z,38nm,1.5s,mb5.1
SSF Saint Saulge 81.11 44 eP P 01 05 51.9 -3.6
comp=Z,38nm,1.5s,mb5.1
LBL Lubilhac 81.24 46 eP P 01 05 56.2 0.0
DOU Dourbes 81.30 41 P P 01 05 55.7 -0.8
LOR Lormes 81.31 44 eP P 01 05 53.4 -3.2
comp=Z,72nm,1.1s,mb5.2
LOR eMLR MLR
comp=Z,1μm,19.2s
LOR Lormes 81.31 44 eP P 01 05 53.4 -3.2
LOR pmax pmax
comp=Z,36nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,1μm,19.3s,MS5.3
LOR Lormes 81.31 44 eP P 01 05 53.4 -3.2
comp=Z,36nm,1.1s,mb5.2
LOR LR LR
comp=Z,1μm,19.3s,MS5.3
PLDF La Plantade 81.38 45 eP P 01 06 00.4 +3.5
SMF Signal de Mont 81.41 44 eP P 01 05 53.5 -3.6
comp=Z,33nm,1.1s,mb4.9
SMF Signal de Mont 81.41 44 eP P 01 05 53.5 -3.6
SMF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 81.41 44 eP P 01 05 53.5 -3.6
comp=Z,16nm,1.1s,mb4.9
GIVF Givet 81.44 41 eP P 01 05 54.2 -3.0
comp=Z,118nm,1.6s,mb5.3
GIVF Givet 81.44 41 eP P 01 05 54.2 -3.0
GIVF pmax pmax
comp=Z,59nm,1.6s,mb5.3
GIVF Givet 81.44 41 eP P 01 05 54.2 -3.0
comp=Z,59nm,1.6s,mb5.3
SJAF Saint Jean de 81.46 48 eP P 01 05 56.5 -0.8
BCLA Clavier 81.69 40 P P 01 05 57.9 -0.6
LASF Ste Croix 81.88 47 eP P 01 05 57.1 -2.4
comp=Z,93nm,1.5s,mb5.2
MEZF Maizieres J'vi 81.88 42 eP P 01 05 56.5 -3.1
comp=Z,80nm,1.1s,mb5.3
MEZF Maizieres J'vi 81.88 42 eP P 01 05 56.5 -3.1
comp=Z,80nm,1.1s,mb5.6
HGN Heimansgroeve 82.02 40⇑ eP P 01 05 59.7 -0.6
MEM Membach 82.09 40 P P 01 06 00.2 -0.5
VIVF Saint-Julien-I 82.31 46 eP P 01 05 59.5 -2.3
comp=Z,90nm,1.2s,mb5.3
VIVF Saint-Julien-I 82.31 46 eP P 01 05 59.5 -2.3
VIVF pmax pmax
comp=Z,45nm,1.2s,mb5.3
VIVF Saint-Julien-I 82.31 46 eP P 01 05 59.5 -2.3
comp=Z,45nm,1.2s,mb5.3
WTSB Winterswijk 82.32 39⇑ eP P 01 06 01.4 -0.5
comp=Z,56nm,1.3s,mb5.3
WLF Walferdange 82.37 41 eP P 01 06 01.6 -0.5
comp=Z,71nm,1.5s,mb5.4
WLF Walferdange 82.37 41 P P 01 06 02.5 +0.4
WLF Walferdange 82.37 41 P P 01 06 02.0 -0.1
WLF pmax pmax
comp=Z,18nm,1.0s,mb5.0
WLF Walferdange 82.37 41 eP P 01 06 01.5 -0.6
comp=Z,18nm,0.9s,mb5.0
THEF They Montfort 82.55 42 eP P 01 06 02.5 -0.5
NB2 NORSAR Subarra 82.71 29 P P 01 06 03.5 -0.4
comp=Z,1.0nm,0.8s,mb3.9,baz=289,slow=5.3
NOA NORSAR Array B 82.71 29 P P 01 06 02.6 -1.3
comp=Z,12nm,1.1s,mb4.8,baz=285,slow=5.1,SNR=8.3
NOA LR LR 01 39 12.8
comp=Z,452nm,19.5s,MS4.8,baz=290,slow=33
BUG Bochum--Univer 82.71 39 eP P 01 06 03.0 -0.9
comp=Z,57nm,1.4s,mb5.4
IBBN Ibbenburen 82.82 38 eP P 01 06 03.7 -0.8
comp=Z,53nm,1.4s,mb5.4
HAU Haudompre 82.83 42 eP P 01 06 01.2 -3.3
comp=Z,48nm,1.0s,mb5.2
HAU eMLR MLR
comp=Z,1μm,19.5s
HAU Haudompre 82.83 42 eP P 01 06 01.2 -3.3
HAU pmax pmax
comp=Z,24nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,1μm,19.5s,MS5.3
HAU Haudompre 82.83 42 eP P 01 06 01.2 -3.3
comp=Z,24nm,1.0s,mb5.2
HAU LR LR
comp=Z,1μm,19.5s,MS5.3
CABF La Chapelle 82.94 44 eP P 01 06 02.2 -2.9
comp=Z,111nm,1.4s,mb5.4
CABF La Chapelle 82.94 44 eP P 01 06 02.2 -2.9
CABF pmax pmax
comp=Z,56nm,1.4s,mb5.4
CABF La Chapelle 82.94 44 eP P 01 06 02.2 -2.9
comp=Z,56nm,1.4s,mb5.4
SMRF Simiane la Rot 83.11 47 eP P 01 06 03.8 -2.2
comp=Z,87nm,1.6s,mb5.2
SMRF Simiane la Rot 83.11 47 eP P 01 06 03.8 -2.2
comp=Z,87nm,1.6s,mb5.5
ORIF Oris-en-Rattie 83.14 46 eP P 01 06 03.7 -2.4
comp=Z,30nm,1.1s,mb5.0
ORIF eMLR MLR
comp=Z,905nm,20.5s
ORIF Oris-en-Rattie 83.14 46 eP P 01 06 03.7 -2.4
ORIF pmax pmax
comp=Z,15nm,1.1s,mb4.9
ORIF Oris-en-Rattie 83.14 46 eP P 01 06 03.7 -2.4
comp=Z,15nm,1.1s,mb4.9
HINF Hinteralfeld 83.20 43 eP P 01 06 03.1 -3.3
comp=Z,57nm,1.2s,mb5.2
HINF Hinteralfeld 83.20 43 eP P 01 06 03.1 -3.3
HINF pmax pmax
comp=Z,28nm,1.2s,mb5.2
HINF Hinteralfeld 83.20 43 eP P 01 06 03.1 -3.3
comp=Z,28nm,1.2s,mb5.2
LOMF Lomont 83.28 43 eP P 01 06 06.1 -0.7
ECH Echery 83.31 42 eP P 01 06 06.1 -0.9
CDF Champ du Feu 83.35 42 eP P 01 06 04.1 -3.1
comp=Z,82nm,1.4s,mb5.3
CDF Champ du Feu 83.35 42 eP P 01 06 04.1 -3.1
CDF pmax pmax
comp=Z,41nm,1.4s,mb5.3
CDF Champ du Feu 83.35 42 eP P 01 06 04.1 -3.1
comp=Z,41nm,1.4s,mb5.3
MOF Molkenrain 83.38 43 eP P 01 06 06.3 -1.0
WLS Welschbruch 83.40 42 eP P 01 06 06.6 -0.9
LANF Langenberg 83.57 41 eP P 01 06 07.9 -0.4
LPL La Plagne 83.60 45 eP P 01 06 06.3 -2.2
comp=Z,30nm,1.0s,mb5.0
LPL La Plagne 83.60 45 eP P 01 06 06.3 -2.2
LPL pmax pmax
comp=Z,15nm,1.0s,mb5.1
LPL La Plagne 83.60 45 eP P 01 06 06.3 -2.2
comp=Z,15nm,1.0s,mb5.1
LPG La Plagne 83.62 45 eP P 01 06 06.6 -2.0
comp=Z,59nm,1.3s,mb5.2
LPG La Plagne 83.62 45 eP P 01 06 06.6 -2.0
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.2
LPG La Plagne 83.62 45 eP P 01 06 06.6 -2.0
comp=Z,29nm,1.3s,mb5.2
BNI Bardonecchia 83.66 45 P P 01 06 09.2 +0.4
BNI pmax pmax
comp=Z,17nm,1.2s,mb5.0
BNI Bardonecchia 83.66 45 eP P 01 06 08.7 -0.1
comp=Z,17nm,1.2s,mb5.1
TNS Taunus Mts 83.70 40 eP P 01 06 08.4 -0.6
comp=Z,61nm,1.5s,mb5.5
TNS Taunus Mts 83.70 40 eP P 01 06 08.4 -0.6
TNS pmax pmax
comp=Z,61nm,1.5s,mb5.5
MBDF Montbardon 83.80 46 eP P 01 06 07.0 -2.5
comp=Z,12nm,1.0s,mb4.7
MBDF Montbardon 83.80 46 eP P 01 06 07.0 -2.5
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MBDF Montbardon 83.80 46 eP P 01 06 07.0 -2.5
comp=Z,6.2nm,1.0s,mb4.7
BILL Bilibino 83.81 339⇓ eP P 01 06 09.1 -0.5
LMR La Mourre 83.91 47 eP P 01 06 07.2 -2.9
comp=Z,70nm,1.6s,mb5.2
LMR La Mourre 83.91 47 eP P 01 06 07.2 -2.9
LMR pmax pmax
comp=Z,35nm,1.6s,mb5.2
LMR La Mourre 83.91 47 eP P 01 06 07.2 -2.9
comp=Z,35nm,1.6s,mb5.2
FELD Feldberg im Sc 83.94 42 eP P 01 06 09.6 -0.7
BSEG Bad Segeberg 83.96 36 eP P 01 06 10.0 -0.3
comp=Z,49nm,1.5s,mb5.4
FRF La Foret Royal 83.96 47 eP P 01 06 07.5 -2.8
comp=Z,121nm,1.9s,mb5.4
FRF La Foret Royal 83.96 47 eP P 01 06 07.5 -2.8
FRF pmax pmax
comp=Z,61nm,1.9s,mb5.4
FRF La Foret Royal 83.96 47 eP P 01 06 07.5 -2.8
comp=Z,60nm,1.9s,mb5.4
RSP Reno Superiore 84.04 45 P P 01 06 11.3 +0.5
RSP pmax pmax
comp=Z,1μm,6.0s
RSP Reno Superiore 84.04 45 P P 01 06 11.3 +0.5
comp=Z,1μm,6.0s
BFO Black Forest 84.05 42 eP P 01 06 09.7 -1.1
comp=Z,29nm,1.4s,mb5.2
BFO Black Forest 84.05 42 P P 01 06 10.1 -0.7
TOD Tromm 84.07 41 eP P 01 06 10.0 -0.9
HFS Hagfors 84.12 30 P P 01 06 10.0 -1.2
comp=Z,7.0nm,0.8s,mb4.8,baz=234,slow=4.8,SNR=7.2
DOI San Damiano 84.18 46 P P 01 06 11.5 +0.1
DOI pmax pmax
comp=Z,50nm,1.4s,mb5.5
DOI San Damiano 84.18 46 P P 01 06 11.5 +0.1
comp=Z,50nm,1.4s,mb5.5
NRDL Niedersach Rie 84.19 38 eP P 01 06 11.1 -0.4
comp=Z,61nm,1.5s,mb5.5
MVIF Mont Vial 84.24 46 eP P 01 06 11.7 -0.1
TOUF Mont Tournerai 84.28 46 eP P 01 06 12.0 0.0
LUCF Luceram 84.38 46 eP P 01 06 08.6 -3.9
SPAK Spaichingen-Ko 84.40 42 eP P 01 06 12.0 -0.6
AUTN L'Aution 84.42 46 eP P 01 06 12.5 -0.2
REVF Revere 84.43 47 eP P 01 06 12.3 -0.4
ORO Oropa 84.43 45 P P 01 06 12.6 -0.1
ORO pmax pmax
comp=Z,38nm,1.3s,mb5.4
ORO Oropa 84.43 45 P P 01 06 12.6 -0.1
comp=Z,38nm,1.3s,mb5.4
SBF Sospel 84.45 46 eP P 01 06 09.9 -2.9
comp=Z,63nm,1.1s,mb5.4

SBF Sospel 84.45 46 *eP* **P 01 06 09.9 -2.9**
SBF pmax pmax
comp=Z,32nm,1.1s,mb5.4
SBF Sospel 84.45 46 *eP* **P 01 06 09.9 -2.9**
comp=Z,32nm,1.1s,mb5.4
CLZ Clausthal 84.50 38 *eP* **P 01 06 12.8 -0.3**
comp=Z,70nm,1.6s,mb5.5
CLZ Clausthal 84.50 38 *eP* **P 01 06 12.8 -0.3**
CLZ pmax pmax
comp=Z,70nm,1.6s,mb5.5
SAOF Saorge 84.51 46 *eP* **P 01 06 12.5 -0.6**
STU Stuttgart 84.51 41 *eP* **P 01 06 12.3 -0.8**
comp=Z,23nm,1.2s,mb5.2
STU Stuttgart 84.51 41 P **P 01 06 14.8 +1.7**
STU pmax pmax
comp=Z,17nm,0.8s,mb5.2
STU Stuttgart 84.51 41 P **P 01 06 12.1 -1.1**
comp=Z,17nm,0.8s,mb5.2
UBBA Unterbreizbach 84.53 39 *eP* **P 01 06 12.6 -0.6**
comp=Z,56nm,1.9s,mb5.4
DAVA Damuels 85.32 43⇑*iP* **P 01 06 15.7 -1.4**
comp=Z,41nm,1.1s,mb5.5,SNR=15
ARCES ARCESS Array B 85.47 19 P **P 01 06 16.9 -1.0**
comp=Z,7.6nm,0.9s,mb4.8,baz=280,slow=4.3,SNR=13
ARCES LR LR 01 48 05.6
comp=Z,326nm,18.6s,MS4.8,baz=103,slow=38
ARCES ARCESS Array B 85.47 19 P **P 01 06 16.9 -1.0**
ARCES LR LR 01 48 05.5
MOX Moxa 85.56 39 *eP* **P 01 06 17.9 -0.5**
comp=Z,47nm,1.6s,mb5.5
MOX Moxa 85.56 39 *eP* **P 01 06 18.3 -0.1**
MOX pmax pmax
comp=Z,67nm,2.0s,mb5.5
MOX MLR MLR
comp=Z,800nm,19.0s,MS5.1
MOX Moxa 85.56 39 *eP* **P 01 06 18.3 -0.1**
comp=Z,67nm,2.0s,mb5.5
MOX *e*SS SS 01 22 51.0 +25
MOX LR LR
comp=Z,800nm,19.0s,MS5.1
GRA1 Grafenberg Arr 85.57 40 *eP* **P 01 06 18.2 -0.2**
comp=Z,57nm,1.4s,mb5.6
GRA1 *e*pP pP 01 06 22.2 -0.5
GRA1 LR LR
comp=Z,1μm,20.8s,MS5.3
GRF Grafenberg Arr 85.57 40 *eP* **P 01 06 18.2 -0.2**
comp=Z,57nm,1.4s,mb5.6
GRF *e*pP pP 01 06 22.2 -0.5
GRF *e*L 01 40 08.6
comp=Z,1μm,20.8s
GRF Grafenberg Arr 85.57 40 *eP* **P 01 06 18.2 -0.2**
GRF pmax pmax
comp=Z,57nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,1μm,20.8s,MS5.3
GRF Grafenberg Arr 85.57 40 *eP* **P 01 06 18.2 -0.2**
GRF pmax pmax
comp=Z,57nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,1μm,20.8s,MS5.3
BOB Bobbio (Coli) 85.64 45 P **P 01 06 18.6 -0.2**
BRMO Bormio 85.85 43 P **P 01 06 16.0 -3.8**
PGF Pioggiola 85.87 47 *eP* **P 01 06 16.7 -3.2**
comp=Z,37nm,1.0s,mb5.3
PGF Pioggiola 85.87 47 *eP* **P 01 06 16.7 -3.2**
PGF pmax pmax
comp=Z,19nm,1.0s,mb5.3
PGF Pioggiola 85.87 47 *eP* **P 01 06 16.7 -3.2**
comp=Z,19nm,1.0s,mb5.3
FUR Furstenfeldbru 86.00 42 *eP* **P 01 06 20.0 -0.6**
WERD Werda 86.04 39 *eP* **P 01 06 20.5 -0.3**
comp=Z,50nm,1.5s,mb5.5
MANZ Manzenberg 86.05 40 *eP* **P 01 06 20.6 -0.2**
comp=Z,37nm,1.5s,mb5.4
GUNZ Gunzen 86.08 39 *eP* **P 01 06 20.9 -0.1**
comp=Z,44nm,1.4s,mb5.5
WERN Wernitzgruen 86.13 39 *eP* **P 01 06 21.2 0.0**
comp=Z,59nm,1.4s,mb5.6
TANN Tannenbergstha 86.15 39 *eP* **P 01 06 21.0 -0.3**
comp=Z,59nm,1.5s,mb5.6
ROTZ Rotzenmuhle 86.17 40 *eP* **P 01 06 21.3 -0.1**
comp=Z,45nm,1.5s,mb5.5
NKC Novy Kostel 86.19 39 *eP* **P 01 06 21.7 +0.2**
NKC *e*pP pP 01 06 25.0 -0.7
CLL Collm 86.23 38 *eP* **P 01 06 21.0 -0.7**
comp=Z,48nm,1.5s,mb5.5
CLL Collm 86.23 38⇓*iP* **P 01 06 21.1 -0.6**
CLL pmax pmax
comp=Z,49nm,1.5s,mb5.5
CLL MLR MLR
comp=Z,700nm,15.1s,MS5.2
CLL Collm 86.23 38⇓*iP* **P 01 06 21.1 -0.6**
comp=Z,49nm,1.5s,mb5.5
CLL *i* pP 01 06 25.4 -0.5
CLL LR LR
comp=Z,700nm,15.1s,MS5.2
CLL Collm 86.23 38⇓*iP* **P 01 06 21.1 -0.6**
comp=Z,49nm,1.5s,mb5.5
CLL *i* pP pP 01 06 25.4 -0.5
CLL *i* (sP) sP 01 06 27.8 +0.4
TORD Torodi Ar. Bea 86.26 77 P **P 01 06 20.1 -1.8**
comp=Z,1.7nm,0.8s,mb4.3,baz=296,slow=4.9,SNR=24
TORD PP PP 01 09 42.9 +0.3
comp=Z,1.4nm,1.0s,baz=282,slow=7.4,SNR=3.8
TORD LR LR 01 43 34.4
comp=Z,964nm,19.1s,MS5.2,baz=285,slow=35
TORD Torodi Ar. Bea 86.26 77 P **P 01 06 20.1 -1.8**
TORD PP PP 01 09 42.9 +0.3
TORD LR LR 01 43 34.4
RUE Ruedersdorf 86.35 37 *eP* **P 01 06 22.0 -0.3**
comp=Z,55nm,1.5s,mb5.6
FBE Freiberg 86.55 39 *eP* **P 01 06 23.2 -0.1**
comp=Z,61nm,1.5s,mb5.6
WET Wettzell 86.76 40 *eP* **P 01 06 24.1 -0.2**
comp=Z,57nm,1.4s,mb5.6
WET Wettzell 86.76 40 *eP* **P 01 06 24.1 -0.2**
WET pmax pmax
comp=Z,57nm,1.4s,mb5.6
ZCCA Zocca 86.81 45 P **P 01 06 21.6 -2.9**
comp=Z,23nm,0.8s,mb5.5
CTI Castel Tesino 86.81 44 P **P 01 06 24.0 -0.6**
BRG Berggiesshubel 86.92 38 *eP* **P 01 06 24.7 -0.4**
comp=Z,56nm,1.7s,mb5.5
BRG Berggiesshubel 86.92 38 *eP* **P 01 06 24.8 -0.3**
comp=Z,34nm,1.7s,mb5.3
BRG
comp=Z,617nm,20.3s
BRG
comp=N,264nm,19.1s
BRG
comp=E,454nm,19.1s
KHC Kasperske Hory 87.20 40 *eP* **P 01 06 26.1 -0.4**
KHC *e*pP pP 01 06 30.0 -0.7
KHC AMS AMS 01 42 00.0
comp=E,1μm,18.9s
GEC2 GERESS Array S 87.36 40 *eP* **P 01 06 26.8 -0.5**
comp=Z,42nm,1.7s,mb5.4
GEC2 GERESS Array S 87.36 40 P **P 01 06 27.1 -0.2**
GERES GERESS Array B 87.36 40 P **P 01 06 25.9 -1.4**
comp=Z,5.4nm,0.9s,mb4.8,baz=262,slow=2.7,SNR=22
GERES LR LR 01 42 29.1
comp=Z,852nm,18.9s,MS5.2,baz=292,slow=34
PVCC Panska Ves 87.40 39 *eP* **P 01 06 27.1 -0.3**
PRU Pruhonice 87.55 39 *eP* **P 01 06 27.4 -0.8**
PRU *e*pP pP 01 06 31.9 -0.5
PRU AMS AMS 01 46 00.0
comp=Z,1μm,16.7s
AFI Afiamalu 87.74 255 *eP* **P 01 06 27.8 -1.3**
KEST Kesra 87.81 54 P **P 01 06 29.9 +0.4**
comp=Z,2.4nm,1.0s,mb4.4,baz=309,slow=2.9,SNR=7.9
KEST LR LR 01 40 14.3
comp=Z,132nm,21.1s,MS4.3,baz=203,slow=32
ROBS Robic 88.00 43 *iP* **P 01 06 30.0 -0.3**
MOA Molln 88.02 41⇑*iP* **P 01 06 29.7 -0.7**
comp=Z,8.2nm,1.3s,mb4.8
UPC Upice 88.28 38 *eP* **P 01 06 31.2 -0.5**
KSP Ksiaz 88.35 38 *eP* **P 01 06 31.7 -0.2**
KSP MLR MLR
comp=Z,2μm,18.3s,MS5.4
TREC Trest 88.35 40 *e*pP pP 01 06 30.0 -6.2
TREC AMS AMS 01 45 00.0
comp=Z,1μm,20.5s
DPC Dobruska-Polom 88.52 38 *eP* **P 01 06 32.2 -0.6**
DPC *e*pP pP 01 06 35.8 -1.2
DPC AMS AMS 01 46 50.0
comp=Z,800nm,16.9s

LJU Ljubljana 88.73 43 *iP* **P 01 06 37.2 +3.5**
CEY Cerknica 88.76 43 *eP* **P 01 06 34.0 +0.1**
PERS Pernice 88.94 42 *eP* **P 01 06 36.7 +1.9**
VRAC Vranov 89.03 39 P **P 01 06 34.1 -1.1**
comp=Z,1.3nm,0.4s,mb4.6,baz=106,slow=19,SNR=6.2
PDKS Podkum 89.04 43 *eP* **P 01 06 34.5 -0.7**
LEGS Legarje 89.29 43 *eP* **P 01 06 33.8 -2.6**
FINES FINESS Array B 89.29 26 P **P 01 06 38.3 +1.9**
comp=Z,2.1nm,0.7s,mb4.6,baz=225,slow=1.9,SNR=4.2
FINES LR LR 01 44 01.3
comp=Z,547nm,21.1s,MS5.0,baz=174,slow=34
BOJS Bojanci 89.38 43 *iP* **P 01 06 36.9 0.0**
ZST Bratislava 89.72 40 *eP* **P 01 06 38.4 0.0**
ZST pmax pmax
comp=Z,11nm,1.0s,mb5.1
ZST Bratislava 89.72 40 *eP* **P 01 06 38.4 0.0**
comp=Z,11nm,1.0s,mb5.1
OKC Ostrava-Krasne 89.80 39 AMS AMS 01 45 50.0
comp=Z,900nm,16.6s
OJC Ojcow 90.66 38 *eP* **P 01 06 42.1 -0.7**
VYHS Vyhne 90.70 40 *eP* **P 01 06 42.9 -0.1**
VYHS *e*PP PP 01 10 05.7 -12
VAE Valguarnera 91.25 51 LR LR 01 43 09.3
comp=Z,890nm,20.4s,MS5.2,baz=281,slow=33
PKSM Moragy 91.38 42⇑*iP* **P 01 06 45.5 -0.6**
PSZ Piszkesteto 91.57 40⇑*iP* **P 01 06 48.2 +1.2**
PSZ Piszkesteto 91.57 40 *eP* **P 01 06 47.2 +0.2**
PSZ pmax pmax
comp=Z,13nm,1.1s,mb5.2
PSZ Piszkesteto 91.57 40 P **P 01 06 47.6 +0.6**
PSZ pmax pmax
comp=Z,13nm,1.1s,mb5.2
PSZ Piszkesteto 91.57 40 *eP* **P 01 06 47.2 +0.2**
comp=Z,13nm,1.1s,mb5.2
KECS Kecovo 91.72 39 *eP* **P 01 06 40.2 -7.5**
KECS *e* 01 06 48.0
KECS Kecovo 91.72 39 *eP* **P 01 06 40.2 -7.5**
KECS *e* 01 06 48.1
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
STHS Stebnicka Huta 91.83 38 *eP* **P 01 06 44.4 -3.8**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
STHS Stebnicka Huta 91.83 38 *eP* **P 01 06 44.4 -3.8**
comp=Z,3.2nm,1.1s,mb4.6
TIXI Tiksi 91.89 349⇓*eP* **P 01 06 46.4 -2.1**
CRVS Cervenica-Dubn 92.16 39 *eP* **P 01 06 47.8 -1.9**
KOLS Kolonicke sedl 92.64 38 *eP* **P 01 06 52.8 +0.8**
UZH Uzhgorod 92.77 39 *eP* **P 01 06 51.0 -1.6**
UZH pmax pmax
comp=Z,36nm,1.2s,mb5.7
BZS Buzias 93.53 42⇑*iP* **P 01 06 55.8 -0.3**
DRGR 93.77 40⇓*iP* **P 01 06 56.9 -0.3**
BURAR Bucovina Array 94.98 39⇓*iP* **P 01 07 06.8 +4.1**
AKASG Malin Array Be 95.90 35 LR LR 01 48 08.9
comp=Z,628nm,19.6s,MS5.1,baz=285,slow=34
OBN Obninsk 97.31 29⇑*eP* **P 01 07 11.5 -1.8**
OBN pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.9
KIS Kishinev 97.44 38 *eP* pP 01 07 25.0 +6.9
KIS LRM 01 51 48.0
comp=Z,1μm,18.0s
VNA3 Neumayer Olymp 98.53 161 *eP* **P 01 07 17.5 -1.3**
VNA3 *e* pP 01 07 21.4 -1.6
VNA3 *e* 01 07 30.6
VNA3 *e* 01 07 33.9
VNA2 Neumayer--Watz 99.17 161 *eP* **P 01 07 20.5 -1.1**
VNA2 *e* pP 01 07 23.5 -2.4
VNA2 *e* 01 07 38.3
BVAR Borovoye Array 111.33 14 PP PP 01 12 55.8 +1.6
comp=Z,0.8nm,0.8s,baz=357,slow=2.9,SNR=4.7
MDJ Mudanjiang 113.33 332 PDIF Pdif 01 08 22.5 -2.1
MDJ S Sdif 01 20 46.5 -4.5
MDJ PP PP
comp=Z,114nm,4.5s
MDJ LR LR
comp=N,251nm,24.1s,MS5.0
MDJ LR LR
comp=E,336nm,24.1s,MS5.0
MDJ LR LR
comp=Z,242nm,25.3s,MS4.7
CN2 Changchun 115.80 334 *e*PDIF Pdif 01 08 36.0 +0.4
CN2 *e*PP PP 01 13 30.3 +4.4
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,23.0s,MS5.3
CN2 LR LR
comp=E,500nm,23.0s,MS5.3
CN2 LR LR
comp=Z,300nm,21.0s,MS4.9
SONM Songino Array 117.98 349 PP PP 01 13 36.9 -4.2
comp=Z,5.0nm,1.2s,baz=15,slow=6.2,SNR=16
SONM PKKPbc PKKPbc 01 22 44.8 -1.7
comp=Z,1.3nm,0.8s,baz=204,slow=2.3,SNR=10.0
MKAR Makanchi Array 119.56 8 PP PP 01 13 42.8 -9.3
comp=Z,0.6nm,0.8s,baz=7.1,slow=5.8,SNR=3.1
MKAR PKKPbc PKKPbc 01 22 41.0 +0.2
comp=Z,0.5nm,0.8s,baz=167,slow=5.7,SNR=4.8
WMQ Urumqi 123.07 4 *e*PKP PKPdf 01 12 36.0 -0.7
WMQ *e*PP PP 01 14 21.0 +5.0
WMQ PKS 01 16 11.0
WMQ PPP 01 16 58.0
WMQ SKS SKSdf 01 19 43.0 -5.4
WMQ SKKS SKKSac 01 21 10.0 -4.9
WMQ PP PP
comp=Z,145nm,5.0s
WMQ LR LR
comp=N,867nm,19.3s,MS5.5
WMQ LR LR
comp=E,866nm,21.2s,MS5.5
WMQ LR LR
comp=Z,814nm,25.0s,MS5.3
HHC Hu-ho-hao-te 123.39 343 *e*PKP PKPdf 01 12 36.0 -1.3
HHC PP PP 01 14 18.0 -0.2
HHC SS SS 01 31 07.3 +3.1
HHC PP PP
comp=Z,161nm,5.5s
HHC LR LR
comp=N,324nm,21.4s,MS5.1
HHC LR LR
comp=E,241nm,20.2s,MS5.1
HHC LR LR
comp=Z,520nm,24.1s,MS5.1
GTA Gaotai 127.21 353 PKP PKPdf 01 12 46.5 +1.9
GTA PP PP 01 14 48.5 +4.9
GTA PKS 01 16 22.8
GTA SKS SKSdf 01 19 51.0 -5.1
GTA SS SS 01 31 52.0 -0.1
GTA PP PP
comp=Z,95nm,5.3s
GTA LR LR
comp=N,200nm,21.3s,MS5.1
GTA LR LR
comp=E,364nm,23.6s,MS5.1
GTA LR LR
comp=Z,424nm,22.1s,MS5.1
NJ2 Nanjing 128.41 331 *e*PKP PKPdf 01 12 47.3 +0.4
LZH Lanzhou 129.81 348 *e*PKP PKPdf 01 12 48.5 -1.1
LZH PP PP 01 15 05.3 +4.6
LZH PKS 01 16 24.5
LZH SKS SKSdf 01 19 54.5 -6.4
LZH SKKS SKKSac 01 21 50.5 -7.0
LZH PP PP
comp=Z,236nm,8.3s
LZH LR LR
comp=E,435nm,18.2s
LZH LR LR
comp=Z,598nm,20.3s,MS5.3
LZH Lanzhou 129.81 348 *e*PKIKP PKPdf 01 12 48.5 -1.1
LZH 01 13 01.3
LZH 01 15 05.2
LZH 01 19 54.6
LZH *e*SS SS 01 32 21.7 -2.7
LZH MLR MLR
comp=Z,600nm,20.3s,MS5.3
LZH Lanzhou 129.81 348 *e*PKP PKPdf 01 12 48.5 -1.1
LZH pPKP pPKPdf 01 13 01.3 +7.4
LZH sPKP 01 13 05.9
LZH PP PP 01 15 05.2 +4.5
LZH PKS 01 16 24.5
LZH SKS SKSdf 01 19 54.6 -6.3
LZH SKKS SKKSac 01 21 50.4 -7.1
LZH *e*SS SS 01 32 21.7 -2.7
LZH LR LR
comp=Z,600nm,20.3s,MS5.3
STKA Stephens Creek 131.48 239 *eP* PKPdf 01 12 52.3 -0.4
comp=Z,10nm,2.0s
STKA Stephens Creek 131.48 239 PKhKP 01 12 52.5
comp=Z,2.3nm,0.6s,baz=232,slow=2.4,SNR=6.3
CD2 Chengdu 134.82 346 *e*PKP PKPdf 01 12 56.3 -2.7
CD2 PP PP 01 15 33.5 +0.6
CD2 PKS 01 16 31.3
CD2 SKS SKSdf 01 20 02.0 -7.9
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,360nm,18.0s,MS5.3
CD2 LR LR
comp=E,450nm,19.2s,MS5.3
CD2 LR LR
comp=Z,470nm,19.2s,MS5.2
GYA Guiyang 138.24 341 *e*PKP PKPdf 01 13 04.5 -0.9
GYA PP PP 01 15 57.0 +2.7
GYA PKS 01 16 39.3
GYA PPP 01 18 59.5
GYA SKS SKSdf 01 20 09.0 -6.7
GYA PP PP
comp=Z,140nm,7.9s
GYA LR LR
comp=N,400nm,19.8s,MS5.3
GYA LR LR
comp=E,410nm,20.4s,MS5.3
GYA LR LR
comp=Z,430nm,20.6s,MS5.2
WB2 Warramunga Arr 139.45 255 *eP* PKPdf 01 13 01.7 -5.9
WRAB Tennant Creek 139.45 255⇓*i*PKIKP PKPdf 01 13 10.1 +2.5
WRA Warramunga Arr 139.46 255 PKhKP 01 12 59.2
comp=Z,2.5nm,0.8s,baz=96,slow=2.7,SNR=17
AS31 Alice Springs 139.53 249 *eP* PKPdf 01 13 02.1 -5.6
ASAR Alice Springs 139.53 249 PKhKP 01 13 00.1
comp=Z,2.1nm,0.8s,baz=105,slow=3.5,SNR=16
ASPA Alice Springs 139.54 249 *eP* PKPdf 01 13 02.1 -5.6
KMI Kunming 140.62 345 PKP PKPdf 01 13 10.1 +0.4
KMI sPKP 01 13 27.8
KMI PP PP 01 16 13.8 +4.8
KMI SS SS 01 34 34.0 0.0
KMI SSS 01 39 43.3
KMI LR LR
comp=Z,380nm,24.8s,MS5.0
FORT Forrest 142.93 236 *eP* PKPdf 01 13 09.4 -4.4
comp=Z,13nm,0.7s
QIZ Qiongzhong 143.70 332 PKP PKPdf 01 13 16.3 +1.1
QIZ PP PP 01 16 32.3 +4.6
QIZ SS SS 01 35 07.3 -2.5
QIZ LR LR
comp=Z,432nm,32.3s,MS5.0
FITZ Fitzroy Crossi 147.79 257 *eP* PKPdf 01 13 24.6 +2.4
comp=Z,24nm,1.2s
NWAO Narrogin (SRO) 150.11 225 *e*PKIKP PKPbc 01 13 30.1 -0.8
KLBR Kellerberrin 150.49 228 *eP* PKPbc 01 13 30.9 -0.9
comp=Z,17nm,0.9s
MUN Mundaring 151.37 225 *eP* PKPab 01 13 48.9 +6.8
MBWA Marble Bar 152.88 249 *e*PKPbc PKPbc 01 13 36.2 -1.1

IDC 28 01:01:28.8±23.0, 2484S×6797E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=780.0km s-min=41.7km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.7nm,0.6s,baz=249,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**59.58**	**104**	P	P	01 11 34.5	+0.4
	0.6nm,0.9s,baz=256,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**61.04**	**100**	P	P	01 11 44.8	+0.6
	0.5nm,0.7s,baz=193,slow=4.9,SNR=5.3						
MKAR	**Makanchi Array**	**72.46**	**10**	P	P	01 12 57.0	-0.1

IDC 28 01:12:22.8±4.7, 2991S×17813W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/11, mbtmp3.7/3, Error ellipse: s-maj=217.2km s-min=68.3km az=160.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.4nm,0.8s,baz=108,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**34.49**	**256**	P	P	01 19 12.5	+0.1
	0.2nm,0.4s,baz=104,slow=7.7,SNR=4.0						
ASAR	**Alice Springs**	**43.03**	**266**	P	P	01 20 24.2	+0.2
	0.6nm,0.5s,baz=110,slow=8.1,SNR=9.4						
WRA	**Warramunga Arr**	**43.97**	**272**	P	P	01 20 31.9	+0.2
	3.9nm,0.8s,baz=29,slow=4.4,SNR=5.9						
FINES	**FINESS Array B**	**144.65**	**340**	PKP	PKPdf	01 32 00.1	-1.3

CASC 28 01:13:41.0±2.3, 1324N×8760W, h2km±9km, MD3.8, ML3.6, 9C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.23**	**279**⇑	*eP*	x	01 14 02.9	
CNCH				*eS*	x	01 14 07.5	
BLLM	**Bellamira**	**0.65**	**288**⇑	*eP*	x	01 14 10.2	
BLLM				*eS*	x	01 14 20.0	
VSM	**San Miguel**	**0.68**	**286**⇓	*eP*	x	01 14 11.2	
VSM				*eS*	x	01 14 21.7	
TELN	**Telica**	**0.98**	**130**⇑	*eP*	Pg	01 14 00.1	+0.2
LEON	**Leon**	**1.07**	**140**⇓	*eP*	Pg	01 14 00.7	-0.9
LEON				*eS*	Sg	01 14 16.3	+0.8
CNGN	**Cerro Negro**	**1.15**	**130**	*eP*	Pg	01 14 01.9	-1.2
CNGN				*eP*		01 14 02.4	
CNGN				*eS*	Sg	01 14 18.6	+0.7
CNGN				*eS*	Sg	01 14 18.7	+0.7
MIRN	**Miramar**	**1.18**	**132**⇓	*eP*	Pg	01 14 02.8	-0.9
SNVI	**San Vicente**	**1.26**	**287**⇓	*eP*	x	01 14 20.9	
SNVI				*eS*	x	01 14 39.7	
MOMJ	**Momotombo**	**1.33**	**128**⇑	*eP*	Pg	01 14 05.3	-1.2
LCBS	**La Ceiba**	**1.40**	**287**⇑	*eP*	x	01 14 23.1	
LCBS				*eS*	x	01 14 43.8	
COPN	**Copaltepe**	**1.45**	**137**	*eP*	Pn	01 14 06.5	-1.7
LFRS	**El Faro**	**1.47**	**285**⇑	*eP*	x	01 14 24.1	
LFRS				*eS*	x	01 14 45.5	
LBRS	**Las Brisas**	**1.48**	**290**⇑	*eP*	x	01 14 25.7	
LBRS				*eS*	x	01 14 44.9	
TISN	**Laguna Tiscapa**	**1.70**	**130**	*eP*	Pn	01 14 12.4	+0.7
BOQS	**Boqueron**	**1.70**	**287**⇑	*eP*	x	01 14 28.5	
BOQS				*eS*	x	01 14 54.0	
MGAN	**Managua**	**1.71**	**129**	*eP*	Pn	01 14 12.3	+0.4
MGAN				*i*		01 14 37.9	
	comp=E,456nm,0.4s						
TICN	**Ticuantepe**	**1.80**	**132**	*eP*	Pn	01 14 12.9	-0.2
MTO2	**Montecristo 2**	**2.06**	**304**⇑	*eP*	x	01 14 34.4	
MTO2				*eS*	x	01 15 02.2	

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*ISCJB **28** 01:21:42.9±0.4, 3978N±002×2943E±002, h1km±4km, mb3.2/2, Error ellipse: s-maj=3.2km s-min=3.0km az=44.3*
*CSEM **28** 01:21:42.7±0.1, 3977N×2946E, h8km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.3km az=75.0*
*IDC **28** 01:21:43.3±1.7, 3998N×2926E, h0km, mb3.3/2, mb1 3.1/3, mb1mx3.0/18, mbtmp3.1/3, ML2.3/1, Error ellipse: s-maj=60.7km s-min=18.9km az=167.0*
*ISK **28** 01:21:43.0, 3977N×2946E, h10km, MD3.2*
*NEIC **28** 01:21:44.0, 3979N×2957E, h23km, MD3.1(ISK), After ISK,*

ISC 28 01:21:43.9±0.4, 3979N±002×2942E±002, h4km±3km, n49, σ0=92/72, mb3.3/2, 3C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.41**	**329**	*iP*	**Pg**	**01 21 51.8**	**-0.2**
ULDT				*iS*	**Sg**	**01 21 57.6**	**+0.3**
ULDT	**Uludag**	**0.41**	**329**	*iP*	**Pg**	**01 21 51.8**	**-0.1**
ULDT				*iS*	**Sg**	**01 22 06.6**	**+9.3**
GEMT	**Gemlik**	**0.67**	**345**	*i*PG	**Pg**	**01 21 56.9**	**+0.1**
ADVT	**Abdulvahap**	**0.69**	**21**	*i*PG	**Pg**	**01 21 56.9**	**-0.3**
GDZ	**Gediz**	**0.70**	**176**	*iP*	**Pg**	**01 21 56.9**	**-0.4**
GDZ				*iS*	**Sg**	**01 22 06.6**	**+0.1**
YLV	**Yalova**	**0.78**	**357**	*i*PG	**Pg**	**01 21 58.0**	**-0.9**
BORA	**Eskisehir**	**0.80**	**83**	*iP*	**Pg**	**01 21 58.5**	**-0.8**
BORA				*iS*	**Sg**	**01 22 11.8**	**+2.1**
GPA	**Golpazari**	**0.85**	**54**	*i*PG	**Pg**	**01 21 59.7**	**-0.5**

EYL	**Eskiyayla**	**0.96**	**36**	PG	**Pg**	**01 22 01.2**	**-1.2**
HRT	**Hereke**	**1.05**	**10**	PG	**Pg**	**01 22 03.4**	**-0.7**
HRT				SG	**Sg**	**01 22 19.2**	**+1.5**
BTOK	**Tokmak**	**1.07**	**269**	*i* P	**Pg**	**01 22 03.2**	**-1.2**
BTOK				*i* S	**Sg**	**01 22 19.2**	**+1.0**
BADT	**Buyukada**	**1.09**	**348**	PN	**Pn**	**01 22 04.8**	**-1.1**
BADT				SN	**Sn**	**01 22 20.9**	**-0.5**
ESKT	**Eskisehir**	**1.14**	**103**	PN	**Pn**	**01 22 04.9**	**-1.7**
ESKT	**Eskisehir**	**1.14**	**103**	*i* P	**Pg**	**01 22 04.7**	**-1.1**
ESKT				*i* S	**Sg**	**01 22 14.2**	**-6.3**
SEYT	**Eskypehyr**	**1.14**	**103**	*i* P	**Pg**	**01 22 04.7**	**-1.0**
ISK	**Istanbul-Kandi**	**1.31**	**348**	PN	**Pn**	**01 22 08.0**	**-0.9**
EDC	**Edincik**	**1.32**	**296**	PN	**Pn**	**01 22 08.3**	**-0.7**
MANT	**Manisa**	**1.46**	**208**	*i* P	**Pn**	**01 22 10.2**	**-0.8**
MANT				*i* S	**Sb**	**01 22 30.2**	**-0.3**
KLYT	**Kilyos**	**1.49**	**349**	PN	**Pn**	**01 22 11.2**	**-0.2**
KLYT				SN	**Sn**	**01 22 31.4**	**+0.1**
HENT	**Hendek**	**1.53**	**47**	*i* P	**Pn**	**01 22 11.5**	**-0.5**
HENT				*i* S	**Sn**	**01 22 33.6**	**+1.2**
CTT	**Catalca**	**1.55**	**331**	PN	**Pn**	**01 22 12.4**	**+0.1**
ELBA	**Catalca**	**1.55**	**331**	*i* P	**Pn**	**01 22 12.6**	**+0.3**
ELBA				*i* S	**Sn**	**01 22 32.9**	**0.0**
MRMT	**Marmara Adasi**	**1.62**	**301**	PN	**Pn**	**01 22 12.5**	**-0.7**
CANB	**Canakkale**	**1.83**	**278**	PN	**Pn**	**01 22 16.0**	**0.0**
TKTP	**Tekketepe**	**1.88**	**158**	*i* P	**Pn**	**01 22 16.7**	**-0.1**
TKTP				*i* S	**Sg**	**01 22 51.4**	**+7.0**
MFT	**Murefte**	**1.92**	**302**	PN	**Pn**	**01 22 16.8**	**-0.5**
SART	**Tekirdag**	**1.94**	**298**	*i* P	**Pn**	**01 22 17.8**	**+0.3**
SART				*i* S	**Sn**	**01 22 45.5**	**+3.2**
RKY	**Sarkoy-Tekirda**	**1.94**	**298**	*e*PN	**Pn**	**01 22 17.3**	**-0.3**
DENT	**Denizli**	**2.05**	**189**	*e*PN	**Pn**	**01 22 18.7**	**-0.5**
DNZL	**Cakiroluk**	**2.12**	**188**	*i* P	**Pg**	**01 22 27.1**	**+2.7**
DNZL				*i* S	**Sg**	**01 22 57.7**	**+5.8**
ISP	**Isparta**	**2.12**	**156**	*e*Pn	**Pn**	**01 22 19.3**	**-0.8**
ISP				*e*Sn	**Sg**	**01 22 53.2**	**+1.1**
AYVA	**Ayvalik**	**2.16**	**258**	*i* P	**Pg**	**01 22 27.6**	**+2.2**
AYVA				*i* S	**Sg**	**01 22 53.5**	**+0.1**
SGKT	**Sivrigoynuk**	**2.17**	**68**	*i* P	**Pn**	**01 22 21.4**	**+0.7**
SGKT				*i* S	**Sg**	**01 23 00.1**	**+6.5**
KDAG	**Bornova**	**2.17**	**231**	*i* P	**Pg**	**01 22 25.6**	**0.0**
KDAG				*i* S	**Sg**	**01 22 53.9**	**+0.2**
IZM	**Izmir**	**2.18**	**231**	*e*PN	**Pn**	**01 22 20.5**	**-0.4**
EZN	**Ezine**	**2.38**	**272**	*e*PN	**Pn**	**01 22 24.4**	**+0.7**
BCK	**Bucak**	**2.50**	**158**	*e*PN	**Pn**	**01 22 24.7**	**-0.6**
BOZC	**Bozcaada**	**2.59**	**272**	*i* P	**Pn**	**01 22 27.3**	**+0.7**
BOZC				*i* S	**Sg**	**01 23 05.2**	**-2.0**
SAFT	**Safranbolu**	**2.88**	**59**	*e*PN	**Pn**	**01 22 29.8**	**-0.8**
EDRB	**Edirne**	**2.89**	**316**	*e*PN	**Pn**	**01 22 31.3**	**+0.6**
BR131	**Keskin Array S**	**3.25**	**90**	*e*Pn	**Pn**	**01 22 37.5**	**+1.8**
BR131				*e*Sn	**Sg**	**01 23 28.9**	**+0.4**
BR131	**Keskin Array S**	**3.25**	**90**	*e*Pn	**Pn**	**01 22 37.5**	**+1.8**
BRTR	**Keskin Array B**	**3.25**	**90**	Pn	**Pn**	**01 22 35.7**	**0.0**
	0.3nm,0.3s,baz=265,slow=8.3,SNR=17						
BRTR				Sn	**Sn**	**01 23 14.5**	**-0.4**
	1.0nm,0.3s,baz=287,slow=29,SNR=4.7						
BRTR				Lg		01 23 32.1	
	1.9nm,0.3s,baz=268,slow=26,SNR=16						
BRTR	**Keskin Array B**	**3.25**	**90**	Pn	**Pn**	**01 22 35.7**	**0.0**
BRTR				Sn	**Sn**	**01 23 14.5**	**-0.3**
TIRR	**Tirgusor**	**4.73**	**351** ⇑	*i* P	**Pn**	**01 22 56.3**	**+0.4**
VRI	**Vrincioaia**	**6.39**	**343** ⇑	*i* P	**Pn**	**01 23 20.0**	**+1.2**
PLOR	**Plostina**	**6.39**	**342** ⇑	*i* P	**Pn**	**01 23 21.6**	**+2.8**
TORD	**Torodi Ar. Bea**	**36.05**	**230**	P	**P**	**01 28 46.9**	**+0.5**
	0.7nm,0.9s,mb3.6,baz=34,slow=8.0,SNR=9.6						
MKAR	**Makanchi Array**	**38.49**	**62**	P	**P**	**01 29 07.4**	**+0.3**
	0.2nm,0.7s,mb3.0,baz=267,slow=10,SNR=3.0						

CASC 28 01:24:02.8±2.5, 1340N×8766W, h20km±22km, MD3.3, ML3.5, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.21**	**233**	*e*P	x	01 24 03.8	
CNCH				*e*S	x	01 24 06.7	
BLLM	**Bellamira**	**0.56**	**274**	*e*P	x	01 24 11.1	
CRIN	**San Cristobal**	**0.92**	**139**	*e*P	Pb	01 24 20.9	+0.8
CRIN				*e*S	Sb	01 24 33.0	+1.1
LEON	**Leon**	**1.24**	**142**	*e*P	Pn	01 24 23.4	-1.5
MIRN	**Miramar**	**1.33**	**136**	*e*P	Pn	01 24 25.8	-0.5
COPN	**Copaltepe**	**1.60**	**139**	*e*P	Pn	01 24 29.6	-0.4

*NEIC **28** 01:28:44.6, 3232S×7181W, h11km, ML3.1(GUC), After GUC.*

GUC 28 01:28:44.6±0.9, 3232S×7181W, h11km±3km, MD3.6, ML3.1, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.38**	**125** ⇓	*i* P	Pg	01 28 52.9	+0.8
PACH				*i* S	Sg	01 28 58.6	+1.4
CHNG	**Los Chungos**	**0.51**	**31** ⇓	*i* P	Pg	01 28 55.1	+0.5
CHNG				*i* S	Sg	01 29 03.0	+1.7
CHNG				AML	AML	01 29 03.8	
	comp=E,936nm,0.4s						
IHA	**Instituto Hidr**	**0.72**	**169**	*i* P	Pg	01 28 58.4	-0.1
PTCH	**Petorca**	**0.75**	**86** ⇓	*i* P	Pg	01 28 59.1	+0.1
PTCH				*i* S	Sg	01 29 09.8	+1.0
PTCH				AML	AML	01 29 10.1	
	comp=N,3μm,0.3s						
PTCH	**Petorca**	**0.75**	**86** ⇓	*i* P	Pg	01 28 59.1	+0.1
PTCH				*i* S	Sg	01 29 09.8	+1.0
PEL	**Peldehue**	**1.25**	**131** ⇑	*i* P	Pn	01 29 06.8	-1.2
PEL				*i* S	Sb	01 29 23.5	-0.8
PEL				AML	AML	01 29 26.1	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.25**	**131** ⇑	*i* P	Pn	01 29 06.8	-1.2
PEL				*i* S	Sb	01 29 23.5	-0.8
CMCH	**Combarbala**	**1.33**	**31** ⇑	*i* P	Pn	01 29 07.7	-1.5
CMCH				*i* S	Sb	01 29 25.6	-1.0
CMCH				AML	AML	01 29 30.9	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**1.33**	**31** ⇑	*i* P	Pn	01 29 07.7	-1.5
CMCH				*i* S	Sb	01 29 25.6	-1.0
RCDM	**Rinconada Maip**	**1.44**	**144**	*e*P	Pn	01 29 09.5	-1.1
RCDM				AML	AML	01 29 31.3	
	comp=E,310nm,0.1s						
CLCH	**Cerro Calan**	**1.52**	**135**	*e*P	Pn	01 29 10.9	-0.7
CLCH				*i* S	Sn	01 29 31.0	-0.3
CLCH				AML	AML	01 29 39.3	
	comp=N,343nm,0.7s						
FCH	**Farellones**	**1.62**	**129**	*e*P	Pn	01 29 12.5	-0.6
FCH				*i* S	Sn	01 29 34.4	+0.4
FCH				AML	AML	01 29 37.6	
	comp=E,197nm,0.3s						
LNV	**Longovilo**	**1.66**	**169**	*e*P	Pn	01 29 13.2	-0.4
CHCH	**Chadas Angostu**	**1.88**	**149** ⇑	*i* P	Pn	01 29 17.1	+0.5
CHCH				*i* S	Sn	01 29 41.4	+1.1
TLL	**Tololo Astrono**	**2.31**	**22**	*e*P	Pn	01 29 24.5	+1.9
TLL				AML	AML	01 30 01.4	
	comp=N,264nm,0.4s						

*NEIC **28** 01:36:55.2, 1569N×9550W, h20km, MD4.0(MEX), After MEX.*

MEX 28 01:36:55.0±0.5, 1571N×9551W, h14km±8km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.58**	**276**	*i* P	Pg	01 37 04.7	-1.7
HUIG				*i* S	Sg	01 37 12.6	-1.5
CMIG	**Matias Romero**	**1.50**	**24**	*i* P	Pn	01 37 18.1	-3.3
CMIG				*i* S	Sn	01 37 35.7	-5.1
VHO	**Vista Hermosa**	**1.79**	**319**	*i* P	Pn	01 37 22.5	-3.1
VHO				*i* S	Sn	01 37 43.8	-4.3
VHO	**Vista Hermosa**	**1.79**	**319**	*i* P	Pn	01 37 24.4	-1.1
VHO				*i* S	Sn	01 37 43.8	-4.3
OXX	**Oaxaca**	**1.79**	**320**	*e*P	Pn	01 37 24.0	-1.5
OXX				*i* S	Sn	01 37 47.5	-0.6
UTMO	**Huajuapan**	**3.04**	**314**	*e*P	Pn	01 37 41.0	-1.8
UTMO				*i* S	Sn	01 38 16.8	-2.2
TPIG	**Tehuac#an**	**3.22**	**327**	*i* S	Sn	01 38 18.3	-5.1
CCIG	**Comitan**	**3.29**	**80**	*i* P	Pn	01 37 43.7	-2.4
CCIG				*e*S	Sn	01 38 22.3	-2.8
PPM	**Popocatepetl**	**4.47**	**319**	*i* S	Sn	01 38 52.5	-1.7
IIO	**Organos**	**4.93**	**322**	*i* P	Pb	01 38 19.9	-1.1

*LDG **28** 01:51:18.2±0.2, 4354N×807E, h20km, Ml1.6/4, Error ellipse: s-maj=6.9km s-min=2.8km az=30.0*

STR 28 01:51:18.6±0.6, 4393N×828E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.53**	**276**	Pg	Pg	01 51 29.2	+0.5
SAOF				Sg	Sg	01 51 36.0	+0.4
SBF	**Sospel**	**0.61**	**264**	*e*Pg	Pg	01 51 29.2	-1.2
SBF				*e*Sg	Sg	01 51 38.0	-0.4
	27nm,0.4s						
AUTN	**L'Aution**	**0.62**	**276**	Pg	Pg	01 51 29.7	-0.8
AUTN				Sg	Sg	01 51 39.0	+0.5
LUCF	**Luceram**	**0.68**	**267**	Pg	Pg	01 51 31.1	-0.5
LUCF				Sg	Sg	01 51 41.0	+0.6
TOUF	**Mont Tournerai**	**0.75**	**277**	Pg	Pg	01 51 33.1	+0.1
TOUF				Sg	Sg	01 51 43.1	+0.4
FRF	**La Foret Royal**	**1.24**	**253**	*e*Pg	Pg	01 51 38.0	-4.4
FRF				*e*Sg	Sg	01 51 51.7	-6.8
	1.4nm,0.3s						
LMR	**La Mourre**	**1.42**	**246**	*e*Pg	Pg	01 51 39.6	-6.2
LMR				*e*Sg	Sg	01 51 55.3	-8.8
	0.5nm,0.2s						
PGF	**Pioggiola**	**1.48**	**159**	*e*Pn	Pn	01 51 38.4	-7.4
PGF				*e*Sn	Sn	01 51 53.8	-12
	0.7nm,0.3s						
SMRF	**Simiane la Rot**	**1.95**	**272**	*e*Pn	Pn	01 51 47.3	-5.1
SMRF				*e*Sg	Sg	01 52 17.5	-3.9
	2.1nm,0.3s						

*ISCJB **28** 02:32:42.6±0.7, 2612N±005×7183E±004, h10km, Error ellipse: s-maj=6.9km s-min=4.8km az=152.0*
*NDI **28** 02:32:47.2±4.1, 2605N×7174E, h10km, ML3.6*

ISC 28 02:32:43.9±0.6, 2615N±005×7174E±004, h10km, n16, σ1°75/28, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**1.08**	**316**	*e*P	**Pb**	**02 33 03.3**	**-1.3**
JASL				*e*S	**Sg**	**02 33 18.3**	**-0.3**
JASL				AML	AML	02 33 21.1	
	comp=Z,695nm,0.2s						
AJM	**Ajmer**	**2.63**	**82**	*e*P	**Pn**	**02 33 30.0**	**+3.6**
AJM				*e*S	**Sn**	**02 34 00.9**	**+2.7**
AJM				AML	AML	02 34 08.7	
	comp=N,431nm,0.4s						
BHJ	**Bhuj**	**3.45**	**214**	*e*P	**Pn**	**02 33 40.6**	**+3.0**
BHJ				*e*S	**Sn**	**02 34 19.7**	**+1.1**
KHET	**Khetri**	**4.10**	**61**	*e*P	**Pn**	**02 33 47.5**	**+0.9**
KHET				*e*S	**Sn**	**02 34 34.0**	**-0.7**
KHET				AML	AML	02 34 53.1	
	comp=E,113nm,0.8s						
KHET				AML	AML	02 34 54.8	
	comp=N,92nm,1.2s						
SONA	**Sohna**	**5.20**	**65**	*e*P	**Pn**	**02 34 03.9**	**+2.2**
SONA				*e*S	**Sn**	**02 35 03.2**	**+1.5**
SONA				AML	AML	02 35 34.6	
	comp=N,159nm,0.7s						
SONA				AML	AML	02 35 35.7	
	comp=E,179nm,0.9s						
AYAN	**Aya Nagar**	**5.33**	**63**	*e*P	**Pn**	**02 34 04.8**	**+1.4**
AYAN				*e*S	**Sn**	**02 35 05.5**	**+0.7**
AYAN				AML	AML	02 35 35.6	
	comp=Z,66nm,0.6s						
NDI	**New Delhi**	**5.48**	**61**	*e*P	**Pn**	**02 34 09.6**	**+4.0**
NDI				*e*S	**Sn**	**02 35 09.7**	**+1.0**
NDI				AML	AML	02 35 10.6	
	comp=N,72nm,0.5s						
NDI				AML	AML	02 35 13.0	
	comp=E,49nm,0.3s						
AGRA	**Agra**	**5.65**	**78**	*e*P	**Pn**	**02 34 12.0**	**+4.1**
AGRA				*e*S	**Sn**	**02 35 12.4**	**-0.5**
AGRA				AML	AML	02 35 48.1	
	comp=N,77nm,0.4s						
AGRA				AML	AML	02 35 50.7	
	comp=E,83nm,0.3s						
BHPL	**Bhopal**	**5.92**	**118**	*e*P	**Pn**	**02 34 14.7**	**+3.1**
BHPL				*e*S	**Sn**	**02 35 16.8**	**-2.8**
BHPL				AML	AML	02 35 51.1	
	comp=E,50nm,0.5s						
BHPL				AML	AML	02 35 51.3	
	comp=N,62nm,0.7s						
POO	**Poona**	**7.83**	**165**	*ex*	x	02 34 57.4	
POO				*ex*	x	02 37 09.3	
KLP	**Kalpa**	**7.83**	**45**	*e*P	**Pn**	**02 34 42.4**	**+4.5**
KLP				*e*S	**Sn**	**02 36 07.2**	**+0.6**
KLP				AML	AML	02 37 04.2	
	comp=N,111nm,0.6s						
KLP				AML	AML	02 37 08.8	
	comp=E,129nm,1.0s						
KOLN	**Koldanda**	**10.70**	**79**	*e*P	**Pn**	**02 35 15.5**	**-1.7**
	comp=E,20nm,0.3s						
KOLN				*e*S	**Sn**	**02 37 09.3**	**-7.8**
GKN	**Gorkha**	**11.64**	**78**	*e*P	**Pn**	**02 35 27.7**	**-2.3**
GKN				*e*S	**Sn**	**02 37 31.5**	**-8.6**
PKI	**Pulchoki**	**12.29**	**80**	*e*P	**Pn**	**02 35 36.1**	**-2.8**
	comp=E,11nm,0.7s						
GUN	**Gumba**	**12.73**	**79**	*e*P	**Pn**	**02 35 42.0**	**-2.9**
	comp=E,16nm,0.4s						
JIRN	**Jiri**	**12.98**	**80**	*e*P	**Pn**	**02 35 45.2**	**-3.2**
	comp=E,14nm,0.4s						
JIRN				*e*S	**Sn**	**02 38 03.0**	**-10**

*IDC **28** 02:35:52.3±0.9, 005N×12465E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/28, Error ellipse: s-maj=56.3km s-min=17.2km az=72.0*
*ISCJB **28** 02:35:55.6±0.6, 0.11N±009×1248E±02, h33km, mb4.0/9, MS3.5/2, Error ellipse: s-maj=33.2km s-min=9.3km az=147.2*
*NEIC **28** 02:35:57.6±0.4, 0.11N×12486E, h35km, mb4.1/4, Error ellipse: s-maj=24.5km s-min=7.3km az=75.0*

ISC 28 02:35:57.8±0.6, 011N±009×1248E±02, h35km, n17, σ0°55/15, mb4.0/9, MS3.5/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.11**	**177**	*e*P	**Pn**	**02 40 07.2**	**+0.6**
	5.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.11**	**177**	P	**Pn**	**02 40 06.0**	**-0.6**
	0.1nm,0.3s,baz=15,slow=9.0,SNR=8.9						
MBWA	**Marble Bar**	**21.71**	**193**	*e*P	**P**	**02 40 46.2**	**+0.4**
	6.8nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**22.01**	**155**	P	**P**	**02 40 47.9**	**-1.1**
	1.6nm,0.7s,mb3.5,baz=333,slow=10.0,SNR=15						
WB2	**Warramunga Arr**	**22.02**	**155**	*e*P	**P**	**02 40 48.4**	**-0.7**
AS31	**Alice Springs**	**25.23**	**160**	*e*P	**P**	**02 41 21.2**	**+0.8**
ASAR	**Alice Springs**	**25.23**	**160**	P	**P**	**02 41 20.3**	**-0.1**
	2.7nm,0.9s,mb3.8,baz=326,slow=7.1,SNR=23						
ASPA	**Alice Springs**	**25.23**	**160**	*e*P	**P**	**02 41 21.2**	**+0.8**
JOW	**Kunigami**	**26.78**	**7**	LR	LR	02 52 14.8	
	comp=Z,71nm,18.2s,MS3.3,baz=50,slow=37						
CTA	**Charters Tower**	**29.06**	**135**	LR	LR	02 54 14.7	
	comp=Z,172nm,20.1s,MS3.7,baz=234,slow=38						
MJAR	**Matsushiro Arr**	**38.33**	**18**	P	**P**	**02 43 15.8**	**+0.6**
	1.2nm,0.8s,mb3.7,baz=187,slow=8.5,SNR=4.0						
SONM	**Songino Array**	**50.16**	**344**	P	**P**	**02 44 49.6**	**-0.2**
	1.6nm,0.8s,mb4.1,baz=156,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**59.48**	**327**	P	**P**	**02 45 57.1**	**-0.1**
	1.9nm,0.7s,mb4.2,baz=120,slow=7.8,SNR=13						
CHKZ	**Chkalovo**	**69.53**	**329**	*e*P	**P**	**02 47 03.1**	**+0.1**
	1.6nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**70.02**	**328**	*e*P	**P**	**02 47 06.0**	**+0.1**
	2.6nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**75.31**	**323**	P	**P**	**02 47 37.0**	**-0.3**
AKTO	**Aktyubinsk**	**75.31**	**323**	P	**P**	**02 47 37.0**	**-0.3**
	1.9nm,0.5s,mb4.2,baz=109,slow=7.6,SNR=12						

TRN 28 02:50:21.6, 1241N×6018W, h35km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSV	**Crater Summit**	**1.34**	**313**	*e*P	Pn	02 50 45.1	+1.3
SSV				*e*S	Sn	02 51 02.3	+2.0
GRIC	**Isle de Caille**	**1.38**	**265**	*e*P	Pn	02 50 45.4	+1.1
GRIC				*e*S	Sn	02 51 03.3	+2.1
GRSS	**Sisters**	**1.40**	**265**	*e*P	Pn	02 50 46.3	+1.7
GRSS				*e*S	Sn	02 51 04.2	+2.4
GRW	**Mount Saint Ca**	**1.47**	**260**	*e*P	Pn	02 50 46.9	+1.4
GRW				*e*S	Sn	02 51 05.0	+1.6
TBG	**Guadaloupe-3**	**3.70**	**338**	*e*P		02 49 48.2	
TBG				*e*S		02 49 50.1	

CASC 28 02:54:21.3±1.9, 1327N×8764W, h4km±5km, MD3.9, ML3.5, 12C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.19**	**272** ⇑	*i* P	x	02 54 43.2	
CNCH				*e*S	x	02 54 47.0	
BLLM	**Bellamira**	**0.61**	**286** ⇑	*e*P	x	02 54 50.8	
BLLM				*e*S	x	02 55 00.1	
VSM	**San Miguel**	**0.64**	**284** ⇑	*e*P	x	02 54 51.5	
VSM				*e*S	x	02 55 01.9	
CRIN	**San Cristobal**	**0.80**	**135** ⇓	*e*P	Pg	02 54 37.9	+1.2
TELN	**Telica**	**1.02**	**130** ⇑	*e*P	Pg	02 54 40.1	-0.9
TELN				*e*S	Sg	02 54 55.0	+0.8
LEON	**Leon**	**1.11**	**139** ⇑	*e*P	Pg	02 54 41.1	-1.5
LEON				*e*S	Sg	02 54 56.4	-0.8
CNGN	**Cerro Negro**	**1.19**	**130**	*e*P	Pg	02 54 42.0	-2.2
CNGN				⇑ *e*P		02 54 42.8	
CNGN				*e*P		02 54 43.3	
CNGN				*e*S	Sg	02 55 00.5	+1.0
SNVI	**San Vicente**	**1.22**	**286** ⇓	*e*P	x	02 55 01.6	
SNVI				*e*S	x	02 55 19.2	
MIRN	**Miramar**	**1.22**	**132** ⇑	*e*P	Pg	02 54 43.5	-1.3
LCBS	**La Ceiba**	**1.36**	**287** ⇑	*e*P	x	02 55 03.8	
LCBS				*e*S	x	02 55 22.9	
MOMJ	**Momotombo**	**1.37**	**129** ⇑	*e*P	Pn	02 54 46.3	-0.8
LFRS	**El Faro**	**1.43**	**284** ⇑	*e*P	x	02 55 04.8	
LFRS				*e*S	x	02 55 25.9	
LBRS	**Las Brisas**	**1.45**	**289**	*e*P	x	02 55 05.3	
LBRS				*e*S	x	02 55 25.4	
COPN	**Copaltepe**	**1.49**	**137** ⇑	*e*P	Pn	02 54 47.6	-1.1
BOQS	**Boqueron**	**1.67**	**286** ⇑	*e*P	x	02 55 09.3	
BOQS				*e*S	x	02 55 33.1	
XAVN	**Gruta Xavier**	**1.69**	**131** ⇓	*e*P	Pn	02 54 51.1	-0.5
MGAN	**Managua**	**1.75**	**129**	*e*P	Pn	02 54 51.8	-0.6
MGAN				*i*		02 55 17.8	
	comp=N,218nm,0.4s						
RBDL	**Robledal**	**2.16**	**293** ⇓	*e*P	x	02 55 04.8	
RBDL				*e*S	x	02 55 32.9	

*IDC **28** 03:08:15.6±0.6, 1400N×9159W, h0km, mb4.6/20, mb1 4.8/22, mb1mx4.8/24, mbtmp4.6/22, ML4.7/2, MS4.3/19, Ms1 4.3/19, ms1mx4.2/27, Error ellipse: s-maj=24.1km s-min=11.9km az=54.0*
*MOS **28** 03:08:18.4±0.8, 1392N×9160W, h33km, mb5.0/54, MS4.5/4, Error ellipse: s-maj=8.5km s-min=4.9km az=99.0*
*MEX **28** 03:08:19.1±3.7, 1355N×9226W, h24km±322km, MD5.1*
*BJI **28** 03:08:19.9, 1380N×9160W, h37km, mB5.3, Ms5.2, Msz5.0*
*SZGRF **28** 03:08:19.1, 1349N×9171W, h33km, mb5.0, Near coast of Guatemala*
*NEIC **28** 03:08:19.9±0.8, 1379N×9164W, h37km±6km, mb4.9/109, MD5.1(MEX), Error ellipse: s-maj=6.3km s-min=4.1km az=196.0*
*GCMT **28** 03:08:19.9±0.3, 1374N×9207W, h18km±1km, MW5.0/65, Moment Tensor Solution. s43,c60; s65,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.19; $M_{\theta\theta}$-3.18±.14; $M_{\phi\phi}$-0.20±.15; $M_{r\theta}$2.44±.26; $M_{\theta\phi}$1.30±.09; $M_{\phi r}$-1.38±.35; Best double couple: $M_0$4.50400×10^{16} NP1:ϕ_s284.00000°, δ26.00000°, λ79.00000°. NP2: ϕ_s116.00000°, δ64.00000°, λ95.00000°. Principal axes: T 4.3790, Plg70.0000°, Azm38.0000°; N 0.2500, Plg5.0000°, Azm294.0000°; P -4.6290, Plg19.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s.*
*ISCJB **28** 03:08:23.4±0.5, 1397N±004×9170W±003, h75km±3km, mb4.8/123 Error ellipse: s-maj=7.6km s-min=3.1km az=74.6*
*CASC **28** 03:08:25.0±1.8, 1385N×9170W, h44km±52km, MD4.5, ML4.4, mb4.9(NEIC)*
*BGS **28** 03:08:30.0, 1494N×8968W, h33km, mb5.1*

ISC 28 03:08:25.3±0.4, 1399N±004×9166W±003, h75km±3km, n421, σ0°95/392, mb4.8/123, 15C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.32**	**4** ⇑	*i* P	**Pn**	**03 08 35.4**	**-1.8**
FUG	**Fuego 3**	**0.91**	**60** ⇑	*i* P	**Pn**	**03 08 43.7**	**+0.8**
TER	**Terranova**	**0.99**	**72** ⇓	*e*P	**Pn**	**03 08 44.2**	**+0.2**
PCG	**Pacaya**	**1.09**	**69**	*e*P	**Pn**	**03 08 47.1**	**+1.9**
RTR	**El Retiro**	**1.96**	**93** ⇑	*e*P	x	03 09 14.3	
RTR				*e*S	x	03 09 39.0	
CCIG	**Comitan**	**2.32**	**349**	*i* P	**Pn**	**03 09 00.6**	**-0.8**
CCIG				*i* S	**Sn**	**03 09 29.8**	**+0.9**
SNET	**Serv Nac Est T**	**2.38**	**97** ⇑	*e*P	x	03 09 02.1	
SNET				*e*S	x	03 09 30.7	
CMIG	**Matias Romero**	**4.38**	**315**	Pn	**Pn**	**03 09 22.4**	**-6.9**
	10nm,0.3s,baz=140,slow=11,SNR=27						
CMIG				Sn	**Sn**	**03 10 12.4**	**-6.5**
	112nm,0.3s,baz=66,slow=14,SNR=5.5						
CMIG	**Matias Romero**	**4.38**	**315**	*i* P	**Pn**	**03 09 22.0**	**-7.3**
CMIG				*i* S	**Sn**	**03 10 10.4**	**-8.6**
CMIG	**Matias Romero**	**4.38**	**315**	Pn	**Pn**	**03 09 22.4**	**-6.9**
CMIG				*i* S	**Sn**	**03 10 10.4**	**-8.6**
CMIG				Sn	**Sn**	**03 10 12.4**	**-6.5**
TUIG	**Tuzandepetl**	**4.82**	**327**	*i* P	**Pn**	**03 09 29.3

LNIG *i* S **Sn** **03 13 49.3 -2.8**
ZAIG Zacatecas 13.54 312 *i* P **Pn** **03 11 30.8 -3.2**
MGV Manicaragua 13.72 52 *e*P **Pn** **03 11 40.7 +4.3**
ANIG Ahuacatlan 14.13 302 *i* P **Pn** **03 11 38.5 -3.2**
CCCC Cccc 15.05 60 *e*P **Pn** **03 12 04.7 +11**
HKT Hockley 16.34 347 *e*P **Pn** **03 12 08.6 -1.3**
HKT pmax pmax
comp=Z,93nm,1.4s
HKT Hockley 16.34 347 *e*Pn **Pn** **03 12 08.6 -1.4**
comp=Z,93nm,1.4s
DWPF Disney 16.97 33 *e*Pn **Pn** **03 12 17.8 +0.2**
comp=Z,117nm,1.0s
NATX Nacogdoches 17.90 352 *e*Pn **Pn** **03 12 29.9 +0.8**
JCT Junction City 18.04 337 *e*Pn **Pn** **03 12 29.4 -1.4**
JCT *e*Sn **Sn** **03 15 43.7 -7.9**
TXAR Lajitas Array 18.89 326 P **Pn** **03 12 39.2 -1.7**
comp=Z,1.5nm,0.3s,baz=156,slow=8.9,SNR=157
TXAR S **S** **03 16 23.1 +13**
comp=Z,0.2nm,0.3s,baz=120,slow=3.2,SNR=4.2
TXAR LR LR 03 21 03.5
comp=Z,300nm,18.4s,baz=335,slow=41
TXAR Lajitas Array 18.89 326 P **Pn** **03 12 39.2 -1.7**
TXAR S **S** **03 16 23.1 +13**
TXAR LR LR 03 21 03.5
OTAV Otavalo 18.91 135 *e*P **Pn** **03 12 41.7 +0.5**
comp=Z,11nm,1.1s
ROSC El Rosal 19.34 116 P **Pn** **03 12 47.8 +1.5**
comp=Z,0.7nm,0.3s,baz=96,slow=22,SNR=28
LPIG La Paz 20.27 302 LR LR 03 20 49.6
comp=Z,624nm,20.0s,baz=117,slow=37
OXF Oxford 20.53 5 *e*P **P** **03 12 58.8 +1.4**
OXF pmax pmax
comp=Z,95nm,0.9s
OXF Oxford 20.53 5 *e*P **P** **03 12 58.8 +1.4**
comp=Z,95nm,0.9s
UALR University of 20.70 358 *e*P **P** **03 12 59.2 -0.1**
comp=Z,48nm,0.9s
PLAL Pickwick Lake 21.15 8 *e*P **P** **03 13 03.9 -0.2**
comp=Z,20nm,0.6s,mb4.6
SDV Santo Domingo 21.22 102 P **P** **03 13 03.8 -1.0**
comp=Z,11nm,0.6s,mb4.3,baz=293,slow=5.6,SNR=10
SDV PcP PcP 03 17 10.5 +3.3
comp=Z,5.3nm,0.7s,baz=284,slow=9.6,SNR=4.2
SDV Santo Domingo 21.22 102 *e*P **P** **03 13 04.5 -0.3**
comp=Z,27nm,0.8s,mb4.6
SDV *e*S **S** **03 17 09.1 +13**
HBAR Harrisburg 21.49 2 *e*P **P** **03 13 08.6 +0.8**
GDL2 Guadalupe Moun 21.53 329 *e*P **P** **03 13 08.1 -0.1**
WMOK Wichita Mounta 21.64 344 *e*P **P** **03 13 07.6 -1.7**
WMOK *e*S **S** **03 17 07.6 +3.1**
WMOK pmax pmax
comp=Z,46nm,1.0s,mb4.8
WMOK Wichita Mounta 21.64 344 *e*P **P** **03 13 07.6 -1.7**
comp=Z,46nm,1.0s,mb4.8
WMOK *e*S **S** **03 17 07.6 +3.1**
MNTX Cornudas Mount 21.65 327 *e*P **P** **03 13 08.4 -1.1**
comp=Z,69nm,0.8s,mb5.0
COW Cow Castle Cre 21.72 25 *e*P **P** **03 13 10.4 +0.2**
JSC Jenkinsville 22.29 23 *e*P **P** **03 13 17.7 +1.5**
AMTX Amarillo 22.68 338 *e*P **P** **03 13 19.2 -1.2**
comp=Z,159nm,0.6s,mb5.5
TKL Tuckaleechee C 22.71 17 P **P** **03 13 20.1 -0.5**
comp=Z,22nm,0.7s,mb4.6,baz=187,slow=10,SNR=27
TKL LR LR 03 23 39.9
comp=Z,1μm,18.9s,baz=202,slow=41
TZTN Tazewell 23.60 16 *e*P **P** **03 13 30.1 +0.9**
comp=Z,29nm,0.6s,mb4.8
SIUC Southern Illin 23.73 5 *e*P **P** **03 13 29.8 -0.5**
comp=Z,255nm,1.0s,mb5.5
USIN University of 24.14 8 *e*P **P** **03 13 33.5 -0.6**
comp=Z,60nm,0.6s,mb5.1
BNM Barren Site 24.22 329 *e*P **P** **03 13 35.9 +1.0**
LPM Los Pinos Moun 24.35 329 *e*P **P** **03 13 37.0 +0.9**
LENM Lemitar 24.41 328 *e*P **P** **03 13 37.6 +1.0**
SLM Saint Louis 24.58 3 *e*P **P** **03 13 37.9 -0.2**
SLM pmax pmax
comp=Z,52nm,0.8s,mb5.0
SLM Saint Louis 24.58 3 *e*P **P** **03 13 37.9 -0.2**
comp=Z,52nm,0.8s,mb5.0
WCI Wyandotte Cave 24.60 10 *e*P **P** **03 13 37.4 -1.0**
WCI pmax pmax
comp=Z,74nm,0.7s,mb5.2
WCI Wyandotte Cave 24.60 10 *e*P **P** **03 13 37.4 -0.9**
comp=Z,74nm,0.7s,mb5.2
ATAH Atahualpa 24.66 147 P **P** **03 13 40.9 +2.0**
comp=Z,6.7nm,0.8s,mb4.1,baz=339,slow=8.9,SNR=2.9
ATAH LR LR 03 21 59.2
comp=Z,699nm,18.4s,baz=130,slow=33
LAZ Ladron 24.68 328 *e*P **P** **03 13 40.0 +1.0**
ANMO Albuquerque 24.78 330 P **P** **03 13 40.7 +0.8**
comp=Z,20nm,0.6s,mb4.8,baz=146,slow=11,SNR=84
ANMO Albuquerque 24.78 330 *c i*P **P** **03 13 40.5 +0.6**
ANMO Albuquerque 24.78 330 *e*P **P** **03 13 40.6 +0.6**
comp=Z,20nm,0.6s,mb4.7
ELN Prospectdale 25.10 21 *e*P **P** **03 13 43.9 +1.0**
BLA Blacksburg 25.20 21 *e*P **P** **03 13 44.4 +0.6**
BLA pmax pmax
comp=Z,22nm,0.9s,mb4.6
BLA Blacksburg 25.20 21 *e*P **P** **03 13 44.4 +0.6**
comp=Z,22nm,0.9s,mb4.6
TUC Tucson 25.25 319 *e*P **P** **03 13 44.3 0.0**
KSU1 Kansas State U 25.39 351 *e*P **P** **03 13 44.7 -0.8**
comp=Z,38nm,0.6s,mb5.0
FWV Forest Hill 25.40 20 *e*P **P** **03 13 46.0 +0.4**
BLO Bloomington 25.49 9 *e*P **P** **03 13 46.2 -0.2**
BLO pmax pmax
comp=Z,36nm,0.6s,mb5.0
BLO Bloomington 25.49 9 *e*P **P** **03 13 46.2 -0.2**
comp=Z,36nm,0.6s,mb5.0
CBKS Cedar Bluff 25.73 345 *e*P **P** **03 13 47.1 -1.5**
CBKS pmax pmax
comp=Z,18nm,0.6s,mb4.7
CBKS Cedar Bluff 25.73 345 *e*P **P** **03 13 47.1 -1.6**
comp=Z,18nm,0.6s,mb4.7
SDCO Great Sand Dun 26.67 335 *e*P **P** **03 13 57.5 +0.5**
comp=Z,18nm,1.0s,mb4.5
SDCO *e*PcP PcP 03 17 20.9 +1.9
CBN Corbin 27.24 25 *e*P **P** **03 14 03.8 +1.7**
comp=Z,48nm,0.7s,mb5.1
MVCO Mesa Verde 27.57 330 *e*P **P** **03 14 05.8 +0.6**
comp=Z,73nm,1.0s,mb5.2
WUAZ Wupatki 27.82 324 *e*P **P** **03 14 07.9 +0.6**
comp=Z,27nm,1.0s,mb4.7
PV01 Paradox Valley 28.34 331 *e*P **P** **03 14 13.1 +1.1**
GLA Glamis 28.37 316 *e*P **P** **03 14 12.7 +0.5**
SMCO Snowmass 28.49 335 *e*P **P** **03 14 14.6 +1.3**
PV10 Paradox Valley 28.76 331 *e*P **P** **03 14 15.9 +0.2**
JFWS Jewell Farm 28.84 2 *e*P **P** **03 14 17.6 +1.1**
JFWS pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
JFWS Jewell Farm 28.84 2 *e*P **P** **03 14 17.6 +1.1**
comp=Z,9.1nm,0.6s,mb4.6
SSPA Standing Stone 29.15 22 *e*P **P** **03 14 19.3 +0.2**
comp=Z,8.1nm,0.6s,mb4.5
MVL Millersville 29.18 25 *e*P **P** **03 14 20.7 +1.2**
ALLY Alegheny Colle 29.32 18 *e*P **P** **03 14 20.5 -0.2**
NNA Nana 29.70 150 LR LR 03 23 52.3
comp=Z,360nm,21.1s,baz=326,slow=32
PHWY Pilot Hill 29.75 339 *e*P **P** **03 14 25.1 +0.6**
SRU San Rafael 30.05 330 *e*P **P** **03 14 27.8 +0.7**
SRU pmax pmax
comp=Z,23nm,1.0s,mb4.8
SRU San Rafael 30.05 330 *e*P **P** **03 14 27.8 +0.7**
comp=Z,23nm,1.0s,mb4.8
CCUT Cedar City 30.39 324 *e*P **P** **03 14 31.6 +1.5**
MSU Marysvale 30.43 327 *e*P **P** **03 14 31.8 +1.3**
TMUT Trail Mountain 30.53 329 *e*P **P** **03 14 32.3 +1.0**
ARUT Antelope Range 30.60 325 *e*P **P** **03 14 33.2 +1.2**
SHPR Sheep Range 30.73 321 *e*P **P** **03 14 33.9 +0.7**
GSC Goldstone 31.02 318 *e*P **P** **03 14 36.5 +0.8**
PAL Palisades 31.05 27 *e*P **P** **03 14 36.2 +0.3**
PAL pmax pmax
comp=Z,21nm,0.7s,mb5.0
PAL Palisades 31.05 27 *e*P **P** **03 14 36.2 +0.3**
comp=Z,21nm,0.7s,mb5.0
BINY Binghamton 31.21 23 *e*P **P** **03 14 37.7 +0.4**
MWC Mount Wilson 31.25 315 *e*P **P** **03 14 38.3 +0.6**
MPU Maple Canyon 31.29 330 *e*P **P** **03 14 39.4 +1.3**
DAU Daniels Canyon 31.42 331 *e*P **P** **03 14 40.6 +1.4**
NLU North Lily Min 31.46 329 *e*P **P** **03 14 41.2 +1.6**
RSSD Black Hills 31.84 343 *e*P **P** **03 14 42.9 0.0**
RSSD *e* 03 17 34.4
RSSD pmax pmax
comp=Z,13nm,0.6s,mb4.8
RSSD Black Hills 31.84 343 *e*P **P** **03 14 42.9 +0.1**
comp=Z,13nm,0.6s,mb4.8
RSSD *e*PcP PcP 03 17 34.4 +2.3
CTU Camp Tracy 31.87 330 *e*P **P** **03 14 44.0 +0.9**
comp=Z,27nm,0.8s,mb5.0
DUG Dugway 32.02 329 *e*P **P** **03 14 45.4 +1.0**
DUG *e* 03 17 34.1
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
DUG Dugway 32.02 329 *e*P **P** **03 14 45.4 +1.0**
comp=Z,7.9nm,0.8s,mb4.5
DUG *e*PcP PcP 03 17 34.0 +1.5
TCUT Toone Canyon 32.04 331 *e*P **P** **03 14 45.8 +1.1**
DAC Darwin (Calif) 32.12 318 *e*P **P** **03 14 46.1 +0.8**
TRCR Troy Canyon 32.21 323 *e*P **P** **03 14 47.2 +1.1**
ISA Isabella 32.34 317 *e*P **P** **03 14 53.6 +6.4**
HWUT Hardware Ranch 32.50 332 *e*P **P** **03 14 48.9 +0.3**
comp=Z,52nm,1.1s,mb5.2
HWUT *e*PcP PcP 03 17 35.2 +1.2
PDAR Pinedale Array 32.56 335 P **P** **03 14 49.4 +0.2**
comp=Z,2.5nm,0.5s,mb4.3,baz=134,slow=10,SNR=20
PDAR PcP PcP 03 17 36.6 +2.5
comp=Z,2.9nm,0.6s,baz=151,slow=3.4,SNR=10
BGU Big Grassy Mou 32.67 329 *e*P **P** **03 14 51.0 +0.8**
BGU *e*PcP PcP 03 17 34.6 +0.2
SPUT South Promonto 32.68 330 *e*P **P** **03 14 51.6 +1.3**
ACCN Adirondack Com 33.12 24 *e*P **P** **03 14 53.8 -0.2**
HVU Hansel Valley 33.20 331 ⇑ *i*P **P** **03 14 55.6 +0.8**
HVU *e* 03 17 39.3
HVU pmax pmax
comp=Z,50nm,1.1s,mb5.3
HVU Hansel Valley 33.20 331 ⇑ *i*P **P** **03 14 55.6 +0.8**
comp=Z,50nm,1.1s,mb5.3
HVU *e*PcP PcP 03 17 39.3 +3.4
NCB Newcomb 33.39 23 *e*P **P** **03 14 56.4 0.0**
comp=Z,29nm,0.8s,mb5.2
REDW Red Top Meadow 33.59 334 *e*P **P** **03 14 58.7 +0.5**
comp=Z,67nm,0.8s,mb5.5
SNOW Snow King Moun 33.63 335 *e*P **P** **03 14 59.3 +0.8**
comp=Z,65nm,0.6s,mb5.6
LOHW Long Hollow 33.69 335 *e*P **P** **03 14 59.6 +0.5**
comp=Z,18nm,0.7s,mb5.0
LOHW *e*PcP PcP 03 17 38.3 +1.0
TPAW Teton Pass 33.74 334 *e*P **P** **03 15 00.1 +0.6**
comp=Z,48nm,1.1s,mb5.2
TPAW *e*PcP PcP 03 17 39.8 +2.4
RRI2 Red Ridge 33.78 334 *e*P **P** **03 15 00.6 +0.8**
comp=Z,40nm,1.1s,mb5.2
RRI2 *e*PcP PcP 03 17 40.4 +2.9
LONY Lake Ozonia 33.81 22 *e*P **P** **03 14 59.9 -0.2**
comp=Z,38nm,0.9s,mb5.2
MOOW Moose Ponds 33.86 335 *e*P **P** **03 15 01.1 +0.5**
comp=Z,26nm,1.3s,mb4.9
NVAR Mina Array Bea 33.88 321 P **P** **03 15 02.1 +1.4**
comp=Z,17nm,0.8s,mb4.9,baz=151,slow=7.5,SNR=139
NVAR PcP PcP 03 17 39.3 +1.5
comp=Z,4.8nm,0.7s,baz=129,slow=3.7,SNR=9.4
DCID1 Drake Creek 33.92 334 *e*P **P** **03 15 02.0 +1.0**
MSNY Massena 34.04 21 *e*P **P** **03 15 01.6 -0.4**
IMW Indian Meadow 34.07 335 *e*P **P** **03 15 02.6 +0.3**
comp=Z,13nm,0.7s,mb4.9
FLWY Flagg Ranch 34.12 335 *e*P **P** **03 15 03.0 +0.2**
comp=Z,8.5nm,0.6s,mb4.8
FLWY *e*PcP PcP 03 17 41.5 +3.0
FRNY Flat Rock 34.37 23 *e*P **P** **03 15 04.7 -0.2**
FRNY *e*PcP PcP 03 17 40.6 +1.4
RLMT Red Lodge 34.44 338 *e*P **P** **03 15 05.7 +0.2**
comp=Z,5.2nm,0.5s,mb4.6
RLMT *e*PcP PcP 03 17 40.9 +1.5
LBNH Lisbon 34.53 25 *e*P **P** **03 15 07.0 +0.7**
LBNH pmax pmax
comp=Z,20nm,1.0s,mb4.9
LBNH Lisbon 34.53 25 *e*P **P** **03 15 07.0 +0.6**
comp=Z,20nm,1.0s,mb4.9
BMN Battle Mountai 34.55 324 *e*P **P** **03 15 06.7 +0.2**
BMN pmax pmax
comp=Z,16nm,0.8s,mb4.9
BMN Battle Mountai 34.55 324 *e*P **P** **03 15 06.7 +0.2**
comp=Z,16nm,0.8s,mb4.9
WAKR Walker 34.63 320 *e*P **P** **03 15 08.5 +1.3**
YMR Madison River 34.71 336 *e*P **P** **03 15 08.9 +1.1**
comp=Z,11nm,0.8s,mb4.7
YMR *e*PcP PcP 03 17 42.5 +2.3
LAO LASA Array 34.81 342 *e*P **P** **03 15 08.9 +0.2**
comp=Z,20nm,0.9s,mb5.0
LAO *e*PcP PcP 03 17 41.6 +1.1
CMB Columbia Colle 34.96 319 *e*P **P** **03 15 09.3 -0.7**
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
CMB Columbia Colle 34.96 319 *e*P **P** **03 15 09.3 -0.6**
comp=Z,4.9nm,1.0s,mb4.3
QLMT Earthquake Lak 35.03 335 *e*P **P** **03 15 12.5 +1.9**
PAHR Pah Rah Range 35.34 322 *e*P **P** **03 15 14.1 +0.9**
comp=Z,10nm,0.8s,mb4.7
PAHR *e*PcP PcP 03 17 46.7 +4.7
HLID Hailey 35.34 331 *e*P **P** **03 15 14.0 +0.7**
comp=Z,32nm,1.0s,mb5.1
HLID *e*PcP PcP 03 17 44.0 +2.0
MCMT McKenzie Canyo 35.62 334 *e*P **P** **03 15 17.1 +1.4**
DGMT Dagmar 35.91 346 *e*P **P** **03 15 17.6 -0.5**
comp=Z,26nm,0.6s,mb5.3
DGMT *e*PcP PcP 03 17 44.7 +1.0
DLMT Dillon 35.95 335 *e*P **P** **03 15 19.4 +1.0**
comp=Z,81nm,1.4s,mb5.5
DLMT *e*PcP PcP 03 17 47.6 +3.8
SAML Samuel 36.30 127 *e*P **P** **03 15 20.4 -1.1**
comp=Z,12nm,1.1s,mb4.8
SAML *e*PcP PcP 03 17 46.1 +1.2
ULM Lac du Bonnet 36.32 355 P **P** **03 15 20.4 -1.3**
comp=Z,4.5nm,0.7s,mb4.5,baz=171,slow=12,SNR=11
ULM PcP PcP 03 17 45.4 +0.5
comp=Z,3.7nm,0.7s,baz=189,slow=4.8,SNR=5.0
ULM LR LR 03 34 52.8
comp=Z,337nm,18.5s,baz=234,slow=44
OHCM Honcut 36.41 319 *e*P **P** **03 15 22.4 0.0**
OHCM *e*PcP PcP 03 17 46.6 +1.4
PKME Peaks-Kenny Pk 36.48 27 *e*P **P** **03 15 23.5 +0.5**
comp=Z,62nm,1.1s,mb5.5
WVOR Wild Horse Val 36.68 326 *e*P **P** **03 15 25.0 +0.3**
WVOR *e* 03 17 47.6
WVOR pmax pmax
comp=Z,30nm,1.0s,mb5.2
WVOR Wild Horse Val 36.68 326 *e*P **P** **03 15 25.0 +0.3**
comp=Z,30nm,1.0s,mb5.2
WVOR *e*PcP PcP 03 17 47.6 +1.6
EGMT Eagleton 37.11 340 *e*P **P** **03 15 28.2 -0.2**
comp=Z,26nm,0.5s,mb5.4
MOD Modoc 37.27 324 *e*P **P** **03 15 29.5 -0.2**
comp=Z,14nm,1.1s,mb4.8
MOD *e*PcP PcP 03 17 52.1 +4.3
LPAZ La Paz 38.02 142 P **P** **03 15 37.0 +0.9**
comp=Z,2.1nm,0.7s,mb4.1,baz=337,slow=9.4,SNR=14
LPAZ LR LR 03 30 08.7
comp=Z,216nm,21.7s,baz=166,slow=35
LPAZ La Paz 38.02 142 *e*P **P** **03 15 36.5 +0.4**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 38.02 142 *e*P **P** **03 15 36.5 +0.5**
comp=Z,3.3nm,0.8s,mb4.2
KHMM Horse Mountain 38.70 320 *e*P **P** **03 15 41.9 +0.1**
HBO Huckleberry Mo 39.65 325 P **P** **03 15 50.1 +0.5**
HAWA Hanford 39.88 330 *e*P **P** **03 15 50.6 -1.0**
comp=Z,6.9nm,0.7s,mb4.6
VFP Flag Point 40.13 327 P **P** **03 15 55.0 +1.3**
NEW Newport 40.15 334 P **P** **03 15 53.9 0.0**
comp=Z,8.6nm,0.8s,mb4.6,baz=140,slow=8.7,SNR=13
NEW PcP PcP 03 17 57.5 +0.6
comp=Z,3.2nm,0.5s,baz=116,slow=5.7,SNR=3.8
NEW LR LR 03 34 57.0
comp=Z,569nm,19.3s,baz=237,slow=40
NEW Newport 40.15 334 P **P** **03 15 53.9 +0.1**
NEW 03 17 57.5
OD2 Odessa Site #2 40.21 331 P **P** **03 15 54.7 +0.4**
EPH Ephrata 40.60 331 P **P** **03 15 58.0 +0.5**
EBG Ellensburg 40.76 329 P **P** **03 15 59.8 +1.0**
FFC Flin Flon 41.44 351 *e*P **P** **03 16 04.5 +0.1**
FFC pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
FFC Flin Flon 41.44 351 *e*P **P** **03 16 04.5 +0.1**
comp=Z,4.3nm,0.5s,mb4.5
EDM Edmonton 42.75 341 *e*P **P** **03 16 14.1 -1.0**
EDM *e* 03 18 05.4
OSD Olympics--Snow 42.94 328 P **P** **03 16 17.6 +1.0**
STW Striped Peak 43.14 329 P **P** **03 16 19.2 +1.0**
PGC Sidney 43.37 329 *e*P **P** **03 16 19.9 -0.2**
comp=Z,65nm,0.8s,mb5.4
RPN Rapa Nui 44.33 203 LR LR 03 31 11.7
comp=Z,244nm,18.9s,baz=288,slow=31
SCHQ Schefferville 45.11 20 P **P** **03 16 33.5 -0.5**
comp=Z,42nm,0.9s,mb5.2,baz=214,slow=6.3,SNR=24
SCHQ PcP PcP 03 18 13.4 0.0
comp=Z,8.9nm,0.6s,baz=209,slow=3.3,SNR=9.2
SCHQ LR LR 03 36 37.6
comp=Z,1μm,19.6s,baz=222,slow=38
SCHQ Schefferville 45.11 20 *e*P **P** **03 16 33.4 -0.6**
comp=Z,48nm,0.9s,mb5.2
SCHQ *e*PcP PcP 03 18 14.1 +0.7
YKA Yellowknife Ar 51.11 347 P **P** **03 17 19.9 -0.3**
comp=Z,5.8nm,0.5s,mb4.9,baz=133,slow=8.6,SNR=16
YKA PcP PcP 03 18 35.3 +0.4
comp=Z,9.2nm,0.7s,baz=150,slow=3.4,SNR=9.5
CPUP Villa Florida 52.16 140 P **P** **03 17 27.1 -1.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=305,slow=9.3,SNR=7.1
CPUP LR LR 03 41 07.1
comp=Z,291nm,19.5s,baz=318,slow=38
DLBC Dease Lake 52.80 336 *e*P **P** **03 17 34.2 +1.5**
RKT Rikitea 56.19 229 *e*S **S** **03 25 41.6 +0.5**
comp=Z,288nm,27.5s
RKT *e*LR LR 03 34 21.2
comp=Z,376nm,26.5s,baz=48
RCBR Riachuelo 58.72 106 *e*P **P** **03 18 16.6 +1.5**
comp=Z,35nm,0.9s,mb5.4
DAWY Dawson 59.81 338 *e*P **P** **03 18 22.2 -0.4**
DAWY *e*PcP PcP 03 19 09.3 +0.8
RES Resolute Bay 60.71 359 *e*P **P** **03 18 27.6 -1.2**
comp=Z,568nm,0.6s
EGAK Eagle 60.84 338 *e*P **P** **03 18 29.5 -0.2**
comp=Z,38nm,1.2s,mb5.3
EGAK *e*PcP PcP 03 19 13.6 +0.9
SML Sawmill 62.31 333 *e*P **P** **03 18 39.8 +0.3**
PMR Palmer 62.57 333 *e*P **P** **03 18 41.1 -0.2**
PMR pmax pmax
comp=Z,12nm,0.8s,mb4.9
PMR Palmer 62.57 333 *e*P **P** **03 18 41.1 -0.2**
comp=Z,12nm,0.8s,mb4.9
SLKM Skilak Lake 62.66 332 *e*P **P** **03 18 41.5 -0.4**
KDAK Kodiak Island 62.90 328 P **P** **03 18 43.0 -0.4**
comp=Z,16nm,0.7s,mb5.1,baz=132,slow=2.4,SNR=12
MCK McKinley 63.34 335 *e*P **P** **03 18 46.4 0.0**
MCK pmax pmax
comp=Z,27nm,1.6s,mb4.9
MCK McKinley 63.34 335 *e*P **P** **03 18 46.4 0.0**
comp=Z,27nm,1.6s,mb4.9
COLA College 63.39 337 *e*P **P** **03 18 46.5 -0.2**
COLA *e* 03 19 23.3
COLA pmax pmax
comp=Z,13nm,0.9s,mb4.9
COLA College 63.39 337 *e*P **P** **03 18 46.5 -0.3**
comp=Z,13nm,0.9s,mb4.9
COLA *e*PcP PcP 03 19 23.3 +0.3
PPT Papeete 65.18 243 *e*S S 03 27 36.6 +1.0
comp=Z,368nm,31.5s
PPT *e*LR LR 03 38 17.1
comp=Z,297nm,25.5s,baz=65
PPT Papeete 65.18 243 LR LR 03 39 57.1
comp=Z,325nm,18.1s,baz=60,slow=29
SVW2 Sparrevohn 65.33 331 *e*P **P** **03 18 58.3 -1.1**
TBI Tubuai 67.62 237 *e*LR LR 03 39 38.1
comp=Z,289nm,26.8s
DAG Danmarks Havn 72.59 13 ⇓ *i*P **P** **03 19 43.3 -1.1**
comp=Z,18nm,0.5s,mb5.2
DAG Danmarks Havn 72.59 13 ⇓ *i*P **P** **03 19 43.3 -1.1**
DAG pmax pmax
comp=Z,18nm,0.5s,mb5.2
KPL Plockton 76.20 34 *e*P **P** **03 20 04.5 -0.8**
KSB Sheil Bridge 76.33 34 *e*P **P** **03 20 05.3 -0.8**
KAC Achnashellach 76.38 34 *e*P **P** **03 20 05.5 -0.8**
PGBU Glenifferbraes 76.98 35 *e*P **P** **03 20 08.9 -0.8**
PGBU AMb AMB 03 20 10.7
comp=Z,48nm,1.9s,mb4.9
EAB Aberfoyle 77.02 35 *e*P **P** **03 20 09.2 -0.8**
MCD Coleburn Disti 77.47 33 *e*P **P** **03 20 12.1 -0.3**
HTL Hartland 77.50 40 *e*P **P** **03 20 11.3 -1.3**
HTL AMb AMB 03 20 12.1
comp=Z,34nm,1.7s,mb4.8
EAU Auchinoon 77.56 35 *e*P **P** **03 20 12.1 -0.9**
MME1 Meikle Cairn 77.65 34 *e*P **P** **03 20 12.6 -0.8**
EDI Edinburgh 77.69 35 *e*P **P** **03 20 12.8 -0.9**
EDI AMb AMB 03 20 19.1
comp=Z,60nm,1.7s,mb5.0
ESK Eskdalemuir 77.75 36 *e*P **P** **03 20 13.3 -0.8**
ESK AMb AMB 03 20 14.0
comp=Z,53nm,0.8s,mb5.3
ESK Eskdalemuir 77.75 36 *e*P **P** **03 20 13.3 -0.7**
comp=Z,34nm,0.7s,mb5.2
EBL Broad Law 77.79 35 *e*P **P** **03 20 13.5 -0.8**
ECK Cauldkaine Hil 77.81 36 *e*P **P** **03 20 13.6 -0.8**
ESY Stoneypath 78.01 35 *e*P **P** **03 20 14.7 -0.8**
XAL Allendale 78.38 36 *e*P **P** **03 20 17.0 -0.5**
ROSF Rostrenen 78.63 43 *e*P **P** **03 20 17.8 -1.1**
comp=Z,50nm,1.5s,mb4.8
ROSF Rostrenen 78.63 43 *e*P **P** **03 20 17.8 -1.1**
ROSF pmax pmax
comp=Z,25nm,1.5s,mb4.8
ROSF Rostrenen 78.63 43 *e*P **P** **03 20 17.8 -1.1**
comp=Z,25nm,1.5s,mb4.8
QUIF Quistinic 78.76 43 *e*P **P** **03 20 18.6 -1.0**
comp=Z,60nm,1.3s,mb5.0
QUIF Quistinic 78.76 43 *e*P **P** **03 20 18.6 -1.0**
QUIF pmax pmax
comp=Z,30nm,1.3s,mb5.0
QUIF Quistinic 78.76 43 *e*P **P** **03 20 18.6 -1.0**
comp=Z,30nm,1.3s,mb5.0
LHO Holmfirth 78.77 37 *e*P **P** **03 20 19.0 -0.6**
KBS Kingsbay 78.95 11 ⇑ *e*P **P** **03 20 19.6 -1.1**
SGMF Saint Gilles 79.11 43 *e*P **P** **03 20 20.2 -1.3**
comp=Z,15nm,0.9s,mb4.5
SGMF Saint Gilles 79.11 43 *e*P **P** **03 20 20.2 -1.3**
SGMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
SGMF Saint Gilles 79.11 43 *e*P **P** **03 20 20.2 -1.3**
comp=Z,7.4nm,0.9s,mb4.5
ESDC Sonseca Array 79.46 52 P **P** **03 20 23.4 0.0**
comp=Z,3.6nm,0.7s,mb4.3,baz=291,slow=5.4,SNR=18
ESDC LR LR 03 54 33.5
comp=Z,103nm,18.3s,baz=180,slow=35
ESLA Sonseca Array 79.46 52 *e*P **P** **03 20 22.8 -0.6**
comp=Z,1.5nm,0.9s,mb3.8
SPB4 Spitsbergen Ar 80.02 11 *e*P **P** **03 20 26.5 +0.1**
GRR Gorron 80.21 43 *e*P **P** **03 20 26.7 -0.8**
comp=Z,37nm,0.8s,mb4.9
GRR Gorron 80.21 43 *e*P **P** **03 20 26.7 -0.8**
GRR pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRR Gorron 80.21 43 *e*P **P** **03 20 26.7 -0.8**
comp=Z,18nm,0.8s,mb5.0
FLN La Foliniere 80.39 42 *e*P **P** **03 20 27.7 -0.7**
comp=Z,24nm,0.8s,mb4.8
FLN *e*MLR MLR
comp=Z,323nm,21.5s
FLN La Foliniere 80.39 42 *e*P **P** **03 20 27.7 -0.7**
FLN pmax pmax
comp=Z,12nm,0.8s,mb4.8
FLN MLR MLR
comp=Z,320nm,21.5s
FLN La Foliniere 80.39 42 *e*P **P** **03 20 27.7 -0.7**
comp=Z,12nm,0.8s,mb4.8
FLN LR LR
comp=Z,320nm,21.5s
LDF La Druitiere 80.65 42 *e*P **P** **03 20 29.1 -0.8**
comp=Z,14nm,0.7s,mb4.6
LDF La Druitiere 80.65 42 *e*P **P** **03 20 29.1 -0.8**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LDF La Druitiere 80.65 42 *e*P **P** **03 20 29.1 -0.8**
comp=Z,6.9nm,0.7s,mb4.6
SJPF Ste Jean 80.89 48 *e*P **P** **03 20 30.7 -0.4**
comp=Z,7.8nm,0.9s,mb4.2
SJPF Ste Jean 80.89 48 *e*P **P** **03 20 30.7 -0.4**
SJPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SJPF Ste Jean 80.89 48 *e*P **P** **03 20 30.7 -0.4**
comp=Z,3.9nm,0.9s,mb4.2
MFF Saint Martin d 81.00 44 *e*P **P** **03 20 30.6 -1.1**
comp=Z,49nm,1.7s,mb4.8
MFF Saint Martin d 81.00 44 *e*P **P** **03 20 30.6 -1.1**
MFF pmax pmax
comp=Z,25nm,1.7s,mb4.8
MFF Saint Martin d 81.00 44 *e*P **P** **03 20 30.6 -1.1**
comp=Z,25nm,1.7s,mb4.8
ETSF Etsaut 81.42 48 *e*P **P** **03 20 33.6 -0.3**
comp=Z,6.5nm,0.8s,mb4.2

ETSF	Etsaut	81.42	48	eP	P	03 20 33.6	-0.3
ETSF				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.2							
ETSF	Etsaut	81.42	48	eP	P	03 20 33.6	-0.3
comp=Z,3.3nm,0.8s,mb4.2							
BILL	Bilibino	81.59	338⇑	eP	P	03 20 35.5	+0.7
BILL				pmax	pmax		
comp=Z,71nm,1.2s,mb5.4							
BILL	Bilibino	81.59	338	eP	P	03 20 34.7	-0.1
comp=Z,25nm,0.6s,mb5.2							
LFF	La Frestale	81.94	46	eP	P	03 20 35.9	-0.7
comp=Z,21nm,1.0s,mb4.6							
LFF	La Frestale	81.94	46	eP	P	03 20 35.9	-0.7
LFF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.6							
LFF	La Frestale	81.94	46	eP	P	03 20 35.9	-0.7
comp=Z,10nm,1.0s,mb4.6							
EPF	Esparros	82.04	48	eP	P	03 20 36.7	-0.5
comp=Z,6.5nm,0.9s,mb4.2							
EPF	Esparros	82.04	48	eP	P	03 20 36.7	-0.5
EPF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.1							
EPF	Esparros	82.04	48	eP	P	03 20 36.7	-0.5
comp=Z,3.3nm,0.9s,mb4.2							
CART	Cartagena	82.12	53	eP	P	03 20 36.9	-0.7
comp=Z,46nm,0.9s,mb5.3							
RJF	Les Rejaudoux	82.40	45	eP	P	03 20 38.2	-0.9
RJF				eMLR	MLR		
comp=Z,267nm,21.0s							
RJF	Les Rejaudoux	82.40	45	eP	P	03 20 38.2	-0.9
RJF				LR	LR		
comp=Z,270nm,21.0s							
TCF	Toulx Ste Croi	82.66	44	eP	P	03 20 39.4	-1.0
HYF	Humbligny	82.74	43	eP	P	03 20 40.2	-0.6
CAF	Calviac	82.86	46	eP	P	03 20 40.6	-0.8
BGF	Bois d'Agland	83.03	44	eP	P	03 20 41.4	-0.9
comp=Z,18nm,0.9s,mb4.6							
BGF	Bois d'Agland	83.03	44	eP	P	03 20 41.4	-0.9
BGF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.6							
BGF	Bois d'Agland	83.03	44	eP	P	03 20 41.4	-0.9
comp=Z,8.9nm,0.9s,mb4.6							
BAIF	Baives	83.12	40	eP	P	03 20 41.3	-1.5
MTLF	Montolieu	83.31	47	eP	P	03 20 43.0	-0.8
comp=Z,16nm,1.1s,mb4.5							
MTLF	Montolieu	83.31	47	eP	P	03 20 43.0	-0.8
MTLF				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.5							
MTLF	Montolieu	83.31	47	eP	P	03 20 43.0	-0.8
comp=Z,7.8nm,1.1s,mb4.5							
AVF	Avril sur Loir	83.32	44	eP	P	03 20 42.5	-1.3
comp=Z,9.5nm,0.9s,mb4.3							
AVF	Avril sur Loir	83.32	44	eP	P	03 20 42.5	-1.3
AVF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
AVF	Avril sur Loir	83.32	44	eP	P	03 20 42.5	-1.3
comp=Z,4.8nm,0.9s,mb4.3							
DOU	Dourbes	83.36	40	P	P	03 20 43.9	-0.1
SSF	Saint Saulge	83.36	43	eP	P	03 20 42.9	-1.1
comp=Z,10nm,0.9s,mb4.4							
SSF	Saint Saulge	83.36	43	eP	P	03 20 42.9	-1.1
SSF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
SSF	Saint Saulge	83.36	43	eP	P	03 20 42.9	-1.1
comp=Z,5.2nm,0.9s,mb4.4							
GIVF	Givet	83.50	40	eP	P	03 20 44.0	-0.7
LOR	Lormes	83.55	43	eP	P	03 20 44.2	-0.8
comp=Z,17nm,0.9s,mb4.6							
LOR				eMLR	MLR		
comp=Z,198nm,22.8s							
LOR	Lormes	83.55	43	eP	P	03 20 44.2	-0.8
LOR				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.6							
LOR				MLR	MLR		
comp=Z,200nm,22.8s							
LOR	Lormes	83.55	43	eP	P	03 20 44.2	-0.8
comp=Z,8.5nm,0.9s,mb4.6							
LOR				LR	LR		
comp=Z,200nm,22.8s							
SMF	Signal de Mont	83.68	44	eP	P	03 20 44.5	-1.2
comp=Z,12nm,0.9s,mb4.4							
SMF	Signal de Mont	83.68	44	eP	P	03 20 44.5	-1.2
SMF				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.4							
SMF	Signal de Mont	83.68	44	eP	P	03 20 44.5	-1.2
comp=Z,5.8nm,0.9s,mb4.4							
BCLA	Clavier	83.72	40	P	P	03 20 45.9	0.0
BCLA				XP	sP	03 21 17.3	+2.9
NAO01	NORSAR Array S	83.90	29	eP	P	03 20 47.7	+0.9
comp=Z,7.2nm,0.7s,mb4.6							
NB2	NORSAR Subarra	83.99	28	P	P	03 20 47.9	+0.6
comp=Z,3.2nm,0.7s,mb4.3,baz=289,slow=5.3							
NB2	NORSAR Subarra	83.99	28	P	P	03 20 47.9	+0.6
NB2				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.2							
NOA	NORSAR Array B	83.99	28	P	P	03 20 47.4	+0.1
comp=Z,1.6nm,0.7s,mb3.9,baz=293,slow=5.7,SNR=15							
NOA				LR	LR	03 55 42.7	
comp=Z,141nm,20.0s,baz=285,slow=34							
MEZF	Maizieres J'vi	84.03	42	eP	P	03 20 46.9	-0.6
comp=Z,17nm,0.7s,mb4.7							
MEZF	Maizieres J'vi	84.03	42	eP	P	03 20 46.9	-0.6
comp=Z,17nm,0.7s,mb5.0							
MEM	Membach	84.11	39	P	P	03 20 48.3	+0.4
LASF	Ste Croix	84.30	46	eP	P	03 20 47.9	-0.9
comp=Z,4.4nm,0.8s,mb4.1							
WLF	Walferdange	84.44	40	P	P	03 20 49.9	+0.3
WLF	Walferdange	84.44	40	eP	P	03 20 49.5	0.0
WLF				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
WLF	Walferdange	84.44	40	eP	P	03 20 49.5	0.0
comp=Z,7.6nm,0.9s,mb4.5							
VIVF	Saint-Julien-l	84.68	45	eP	P	03 20 50.9	+0.2
comp=Z,7.5nm,0.9s,mb4.3							
VIVF	Saint-Julien-l	84.68	45	eP	P	03 20 50.9	+0.2
VIVF				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
VIVF	Saint-Julien-l	84.68	45	eP	P	03 20 50.9	+0.2
comp=Z,3.8nm,0.9s,mb4.3							
HAU	Haudompre	85.00	42	eP	P	03 20 51.8	-0.5
comp=Z,15nm,0.6s,mb4.8							
HAU				eMLR	MLR		
comp=Z,232nm,20.8s							
HAU	Haudompre	85.00	42	eP	P	03 20 51.8	-0.5
HAU				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.8							
HAU				MLR	MLR		
comp=Z,230nm,20.8s							
HAU	Haudompre	85.00	42	eP	P	03 20 51.8	-0.5
comp=Z,7.3nm,0.6s,mb4.8							
HAU				LR	LR		
comp=Z,230nm,20.8s							
CABF	La Chapelle	85.19	43	eP	P	03 20 52.9	-0.4
HINF	Hinteralfeld	85.37	42	eP	P	03 20 53.6	-0.6
comp=Z,7.5nm,0.7s,mb4.4							
HINF	Hinteralfeld	85.37	42	eP	P	03 20 53.6	-0.6
HINF				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
HINF	Hinteralfeld	85.37	42	eP	P	03 20 53.6	-0.6
comp=Z,3.8nm,0.7s,mb4.4							
CDF	Champ du Feu	85.48	41	eP	P	03 20 54.3	-0.5
comp=Z,4.6nm,0.6s,mb4.3							
CDF	Champ du Feu	85.48	41	eP	P	03 20 54.3	-0.5
CDF				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
CDF	Champ du Feu	85.48	41	eP	P	03 20 54.3	-0.5
comp=Z,2.3nm,0.6s,mb4.3							
ORIF	Oris-en-Rattie	85.49	45	eP	P	03 20 54.9	+0.1
comp=Z,11nm,0.9s,mb4.5							
ORIF				eMLR	MLR		
comp=Z,233nm,21.2s							
ORIF	Oris-en-Rattie	85.49	45	eP	P	03 20 54.9	+0.1
ORIF				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
ORIF	Oris-en-Rattie	85.49	45	eP	P	03 20 54.9	+0.1
comp=Z,5.6nm,0.9s,mb4.5							
SMRF	Simiane la Rot	85.53	46	eP	P	03 20 55.2	+0.2
comp=Z,9.9nm,0.9s,mb4.4							
SMRF	Simiane la Rot	85.53	46	eP	P	03 20 55.2	+0.2
comp=Z,9.9nm,0.9s,mb4.7							
LPL	La Plagne	85.91	44	eP	P	03 20 56.5	-0.4
comp=Z,3.6nm,0.7s,mb4.1							
LPL	La Plagne	85.91	44	eP	P	03 20 56.5	-0.4
LPL				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
LPL	La Plagne	85.91	44	eP	P	03 20 56.5	-0.4
comp=Z,1.8nm,0.7s,mb4.1							
LPG	La Plagne	85.93	44	eP	P	03 20 56.6	-0.4
BNI	Bardonecchia	86.00	45	eP	P	03 20 57.6	+0.3
BNI				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
BNI	Bardonecchia	86.00	45	eP	P	03 20 57.6	+0.2
comp=Z,5.3nm,0.9s,mb4.5							
ARCES	ARCESS Array B	86.04	18	P	P	03 20 57.3	-0.2
comp=Z,2.1nm,0.5s,mb4.3,baz=287,slow=4.4,SNR=25							
ARCES				LR	LR	03 59 07.4	
comp=Z,281nm,19.0s,baz=8.6,slow=36							
MBDF	Montbardon	86.15	45	eP	P	03 20 58.2	+0.1
comp=Z,6.3nm,0.7s,mb4.4							
MBDF	Montbardon	86.15	45	eP	P	03 20 58.2	+0.1
MBDF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
MBDF	Montbardon	86.15	45	eP	P	03 20 58.2	+0.1
comp=Z,3.2nm,0.7s,mb4.4							
LMR	La Mourre	86.35	46	eP	P	03 20 58.7	-0.3
comp=Z,7.3nm,0.8s,mb4.4							
LMR	La Mourre	86.35	46	eP	P	03 20 58.7	-0.3
LMR				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
LMR	La Mourre	86.35	46	eP	P	03 20 58.7	-0.3
comp=Z,3.7nm,0.8s,mb4.4							
FRF	La Foret Royal	86.38	46	eP	P	03 20 58.9	-0.3
comp=Z,13nm,0.8s,mb4.6							
FRF	La Foret Royal	86.38	46	eP	P	03 20 58.9	-0.3
FRF				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
FRF	La Foret Royal	86.38	46	eP	P	03 20 58.9	-0.3
comp=Z,6.4nm,0.8s,mb4.6							
SBF	Sospel	86.85	46	eP	P	03 21 01.2	-0.3
comp=Z,20nm,1.1s,mb4.7							
SBF	Sospel	86.85	46	eP	P	03 21 01.2	-0.3
SBF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.7							
SBF	Sospel	86.85	46	eP	P	03 21 01.2	-0.3
comp=Z,10nm,1.1s,mb4.7							
GRA1	Grafenberg Arr	87.58	39	eP	P	03 21 05.6	+0.6
comp=Z,7.0nm,0.9s,mb4.7							
GRF	Grafenberg Arr	87.58	39	eP	P	03 21 05.6	+0.6
comp=Z,7.0nm,0.9s,mb4.7							
GRF	Grafenberg Arr	87.58	39	eP	P	03 21 05.6	+0.6
GRF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7							
GRF	Grafenberg Arr	87.58	39	eP	P	03 21 05.6	+0.6
GRF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7							
CLL	Collm	88.12	37	eP	P	03 21 08.0	+0.4
SEY	Seymchan	88.90	336⇑	eP	P	03 21 11.5	+0.3
GERES	GERESS Array B	89.40	40	P	P	03 21 13.1	-0.5
comp=Z,1.1nm,0.7s,mb4.0,baz=316,slow=3.7,SNR=13							
GERES				LR	LR	03 58 49.3	
comp=Z,184nm,18.1s,baz=300,slow=34							
TORD	Torodi Ar. Bea	90.06	77	P	P	03 21 16.1	-0.5
comp=Z,0.6nm,0.6s,mb3.9,baz=289,slow=5.2,SNR=22							
TORD				LR	LR	03 59 09.9	
comp=Z,136nm,18.9s,baz=285,slow=34							
TIXI	Tiksi	90.33	348	c iP	P	03 21 17.2	-0.7
TIXI				pmax	pmax		
comp=Z,58nm,1.3s,mb5.5							
FINES	FINESS Array B	90.36	25	P	P	03 21 17.9	-0.2
comp=Z,2.0nm,0.7s,mb4.4,baz=308,slow=9.4,SNR=6.1							
FINES				LR	LR	04 02 16.5	
comp=Z,120nm,20.7s,baz=353,slow=36							
KEST	Kesra	90.63	53	P	P	03 21 21.6	+2.3
comp=Z,1.6nm,0.9s,mb4.1,baz=256,slow=6.4,SNR=5.5							
MORC	Moravsky Berou	91.38	38	eP	P	03 21 23.6	+0.8
MORC				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.4							
MORC	Moravsky Berou	91.38	38	eP	P	03 21 23.6	+0.8
comp=Z,2.6nm,0.9s,mb4.4							
AKASG	Malin Array Be	97.55	33	LR	LR	04 06 23.2	
comp=Z,116nm,19.3s,baz=275,slow=36							
AKBB	Malin Array Si	97.55	33	eP	P	03 21 50.3	-0.7
CHKZ	Chkalovo	110.91	11	ePKP	PKiKP	03 26 51.4	+1.7
ZRNK	Zerenda	111.28	12	ePKP	PKiKP	03 26 51.3	+0.9
BRVK	Borovoye	111.44	12	ePKP	PKiKP	03 26 52.0	+1.3
SONM	Songino Array	116.38	347	PKP	PKPdf	03 27 00.3	+0.2
comp=Z,1.7nm,0.7s,baz=51,slow=0.5,SNR=16							
SYO	Syowa Base	117.05	162⇑	eX		03 23 22.5	
MKAR	Makanchi Array	119.25	5	i PKIKP	PKPdf	03 27 05.8	+0.1
comp=Z,1.7nm,0.7s,baz=342,slow=2.2,SNR=14							
MKAR	Makanchi Array	119.25	5	i PKIKP	PKPdf	03 27 06.0	+0.3
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
BOSA	Boshof	120.05	115	PKP	PKPdf	03 27 10.8	+3.6
comp=Z,3.4nm,0.6s,baz=97,slow=12,SNR=9.1							
BOSA	Boshof	120.05	115	ePKPdf	PKPdf	03 27 09.5	+2.3
BOSA				PKP	PKPdf	03 27 10.8	+3.6
LBTB	Lobatse	120.29	111	ePKPdf	PKPdf	03 27 11.9	+4.2
LSZ	Lusaka	121.95	99	ePKPdf	PKPdf	03 27 15.3	+4.5
AAK	Ala-Archa	122.23	12	⇓iPKIKP	PKPdf	03 27 12.7	+1.3
AAK	Ala-Archa	122.23	12	ePKPdf	PKPdf	03 27 12.3	+0.9
WMQ	Urumqi	122.47	1	ePKPdf	PKPdf	03 27 14.0	+2.2
WMQ				PKS		03 30 50.0	
WMQ				PP	PP		
comp=Z,117nm,4.5s							
WMQ				LR	LR		
comp=N,372nm,19.9s							
WMQ				LR	LR		
comp=E,348nm,19.5s							
WMQ				LR	LR		
comp=Z,364nm,20.0s							
GTA	Gaotai	125.81	349	PKP	PKPdf	03 27 20.0	+1.8
GTA				PKS		03 30 55.8	
GTA				PP	PP		
comp=Z,163nm,7.2s							
GTA				LR	LR		
comp=N,68nm,8.4s							
GTA				LR	LR		
comp=E,80nm,5.7s							
GTA				LR	LR		
comp=Z,115nm,8.0s							
LZH	Lanzhou	128.08	344	ePKP	PKPdf	03 27 21.5	-1.1
LZH				PP	PP		
comp=Z,93nm,8.5s							
LZH				LR	LR		
comp=E,145nm,18.1s							
LZH				LR	LR		
comp=Z,349nm,20.2s							
LZH	Lanzhou	128.08	344	ePKP	PKPdf	03 27 21.6	-1.0
LZH				pPKP	pPKPdf	03 27 45.2	+1.2
LZH				sPKP		03 27 55.4	
LZH				ePP	PP	03 29 28.8	+2.3
LZH				SKS	SKSdf	03 34 22.5	-5.1
LZH				SKKS	SKKSac	03 36 11.2	-5.8
LZH				eSS	SS	03 46 31.4	-3.2
LZH				LR	LR		
comp=Z,350nm,20.2s							
STKA	Stephens Creek	128.34	240	PKP	PKPdf	03 27 22.9	-0.2
comp=Z,4.0nm,0.8s,baz=107,slow=3.3,SNR=5.9							
STKA	Stephens Creek	128.34	240	PKP	PKPdf	03 27 22.9	-0.2
STKA				ePKPdf	PKPdf	03 27 23.3	+0.2
XAN	Xi'an	128.37	338	PKP	PKPdf	03 27 27.0	+3.9
CD2	Chengdu	132.96	342	ePKP	PKPdf	03 27 27.5	-4.3
CD2				PKS		03 31 02.5	
CD2				PP	PP		
comp=Z,90nm,8.2s							
CD2				LR	LR		
comp=E,100nm,16.8s							
CD2				LR	LR		
comp=Z,90nm,19.2s							
WB2	Warramunga Arr	135.70	256	eP	PKPdf	03 27 37.1	+0.1
WRA	Warramunga Arr	135.71	256	PKP	PKPdf	03 27 37.3	+0.3
comp=Z,1.1nm,0.7s,baz=88,slow=2.8,SNR=12							
WRA	Warramunga Arr	135.71	256	i PKIKP	PKPdf	03 27 37.2	+0.2
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
ASAR	Alice Springs	135.98	250	PKhKP		03 27 35.4	
comp=Z,0.9nm,0.8s,baz=116,slow=3.4,SNR=13							
GYA	Guiyang	136.02	336	PKP	PKPdf	03 27 39.5	+1.9
GYA				PKS		03 31 12.5	
GYA				PP	PP		
comp=Z,120nm,8.2s							
GYA				LR	LR		
comp=N,210nm,20.8s							
GYA				LR	LR		
comp=E,240nm,21.0s							
GYA				LR	LR		
comp=Z,280nm,20.6s							
GKN	Gorkha	138.10	5	eP	PKPdf	03 27 44.5	+3.1
KOLN	Koldanda	138.23	6	eP	PKPdf	03 27 43.8	+2.1
comp=Z,7.4nm,0.7s							
GUN	Gumba	138.28	3	eP	PKPdf	03 27 44.0	+2.3
comp=Z,17nm,0.7s							
KKN	Kakani	138.36	4	eP	PKPdf	03 27 44.8	+2.9
DMN	Daman	138.53	4	eP	PKPdf	03 27 44.5	+2.3
comp=Z,19nm,0.7s							
PKI	Pulchoki	138.59	4	eP	PKPdf	03 27 43.8	+1.5
comp=Z,14nm,0.6s							
KMI	Kunming	138.66	340	PKP	PKPdf	03 27 42.5	+0.1
KMI	Kunming	138.66	340	PKP	PKPdf	03 27 42.6	+0.2
KMI				pPKP	pPKPdf	03 28 08.5	+4.6
KMI				sPKP		03 28 17.1	
KMI				PP	PP	03 30 40.2	+6.2
KMI				PPP		03 33 39.4	
KMI				SS	SS	03 48 42.2	-0.3
KMI				SSS		03 53 51.5	
KMI				LR	LR		
comp=Z,150nm,22.4s							
FITZ	Fitzroy Crossi	143.97	258	eP	PKPdf	03 27 49.5	-2.5
comp=Z,6.1nm,0.7s							
CHG	Chiang Mai	145.77	342	⇑P	PKPdf	03 27 56.6	+1.5
comp=Z,26nm,1.0s							
CHTO	Chiang Mai	145.77	342	ePKPbc	PKPbc	03 27 56.1	+0.5
CM31	Chiang Mai Arr	146.10	342	ePKPbc	PKPbc	03 27 58.8	+2.1
BDT	Bhumibol Dam	147.23	341	P	PKPdf	03 28 00.0	+2.5
comp=Z,24nm,0.9s							
HYB	Hyderabad	147.33	18	i PKP	PKPdf	03 28 01.5	+3.8
HYB	Hyderabad	147.33	18	eP	PKPdf	03 28 01.5	+3.8
NST	Nakhon Sawan	148.30	338	P	PKPdf	03 28 04.0	+4.7
comp=Z,72nm,0.6s							
MBWA	Marble Bar	149.28	252	ePKPbc	PKPbc	03 28 04.5	-0.7
PSI	Prapat	160.29	327	PKPab	PKPab	03 28 57.5	+0.6
comp=Z,12nm,0.8s,baz=336,slow=3.8,SNR=13							
PSI	Prapat	160.29	327	PKPab	PKPab	03 28 57.5	+0.6

ISCJB ***28*** *03:37:56.8±0.5,3650N±003×6965E±007,h186km±8km, mb3.7/8, Error ellipse: s-maj=9.6km s-min=4.6km az=152.2*
MOS ***28*** *03:37:57.3±1.8,3649N×6958E,h189km,mb4.0/1,Error ellipse: s-maj=20.5km s-min=10.1km az=91.5*
NEIC ***28*** *03:37:58.2±3.1,3644N×6971E,h191km±30km,mb3.6/3, Error ellipse: s-maj=24.8km s-min=16.1km az=193.0*
IDC ***28*** *03:38:01.3±5.3,3642N×6964E,h223km±51km,mb3.3/8, mb1 3.4/12,mb1mx3.2/23,mbtmp3.9/12,Error ellipse: s-maj=28.5km s-min=17.6km az=3.0*
NNC ***28*** *03:38:20.0±6.7,3868N×6994E,h0km,mb4.0,mpv3.3, Error ellipse: s-maj=66.9km s-min=38.9km az=13.0*

ISC 28 03:37:57.7±0.5,3650N±003×6964E±007,h179km±7km, n61,σ1§07/72,mb3.7/8,3C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.25	145	⇓P	Pn	03 38 51.1	+1.8
CEP				S	Sn	03 39 28.0	-1.6
THW	Thamme Wali	4.08	154	⇑P	Pn	03 39 00.4	+0.7
CHCP	Chirah Chowk	4.10	133	P	Pn	03 39 01.8	+1.8
SBDP	Sheikh Budin	4.30	167	P	Pn	03 39 02.1	-0.4
DRP	Derazinda	4.77	174	⇓P	Pn	03 39 09.5	+1.0
AML	Almayashu	6.44	28	P	Pn	03 39 30.7	+0.3
SNR=37							
THN	Thein Dam	6.45	127	eP	Pn	03 39 30.7	+0.2
THN				eS	Sn	03 40 40.3	-3.4
DLH	Dalhousie	6.54	125	ex	Pn	03 39 26.0	-5.7
DLH				eS	Sn	03 40 38.0	-7.9
KK31	Karatay Array	6.63	6	Pn	Pn	03 39 31.8	-1.1
6.7nm,0.5s,baz=183,slow=13,SNR=70							
KK31				⇓Lg		03 40 38.8	
12nm,0.6s,baz=189,slow=20,SNR=5.0							
UCH	Uchtor	6.85	32	P	Pn	03 39 36.6	+0.8
SNR=112							
EKS2	Erkin-Say	6.93	26	P	Pn	03 39 37.3	+0.5
SNR=5.4							
AAK	Ala-Archa	7.18	30	P	Pn	03 39 40.7	+0.6
SNR=32							
AAK	Ala-Archa	7.18	30	ePN	Pn	03 39 39.5	-0.6
AAK				pmax	pmax		
comp=Z,28nm,0.6s							
AAK	Ala-Archa	7.18	30	ePn	Pn	03 39 39.5	-0.6
comp=Z,28nm,0.6s							
AAK				eSn	Sn	03 40 59.3	-1.7
KBK	Karagaybulak	7.39	32	P	Pn	03 39 43.7	+0.9
SNR=11							
CHMS	Chumysh	7.59	30	P	Pn	03 39 45.6	+0.2
SNR=23							
ULHL	Ulahol	7.68	40	P	Pn	03 39 47.4	+0.8
SNR=12							
USP	Ospenovka	7.72	27	P	Pn	03 39 46.9	-0.3
SNR=17							
SDNR	Sundarnagar	7.86	127	eP	Pn	03 39 48.5	-0.6
SDNR				eS	Sn	03 41 11.9	-5.4
TKM2	Tokmak 2	7.88	34	P	Pn	03 39 49.8	+0.5
SNR=23							
TKM2	Tokmak 2	7.88	34	⇑Pn	Pn	03 39 49.3	-0.1
comp=Z,0.7nm,0.5s							
TKM2				⇓Lg		03 41 30.8	
comp=Z,3.2nm,0.9s							
KHET	Khetri	9.88	146	ex	Pn	03 40 10.7	-4.9
KHET				eS	Sn	03 41 55.9	-10
NDI	New Delhi	10.07	139	eP	Pn	03 40 18.7	+0.6
NDI				eS	Sn	03 42 03.0	-7.1
NDI				AML	AML	03 42 05.2	
comp=E,61nm,0.6s							
NDI				AML	AML	03 42 07.0	
comp=N,36nm,0.3s							
KUDL	Kundal	10.14	143	eP	Pn	03 40 17.7	-1.2
KUDL				eS	Sn	03 42 02.6	-9.2
KUDL				AML	AML	03 42 08.3	
comp=E,45nm,0.3s							
KUDL				AML	AML	03 42 09.9	
comp=N,25nm,0.3s							
AYAN	Aya Nagar	10.19	140	eS	Sn	03 42 04.9	-7.9
AYAN				AML	AML	03 42 34.5	
comp=Z,15nm,0.4s							
SONA	Sohna	10.35	141	eP	Pn	03 40 20.6	-1.1
SONA				eS	Sn	03 42 08.1	-8.7
AJM	Ajmer	10.86	156	eP	Pn	03 40 27.1	-1.2
AJM				eS	Sn	03 42 20.3	-8.7
MKAR	Makanchi Array	13.95	39	P	Pn	03 41 10.1	+2.4
comp=Z,0.1nm,0.3s,baz=220,slow=13,SNR=5.7							
AB31	Akbulak array	14.58	334	Pn	Pn	03 41 14.4	-1.2
comp=Z,5.5nm,0.6s,baz=144,slow=13,SNR=43							
AB31				⇑Sn	Sn	03 43 46.2	-12
comp=Z,1.7nm,0.7s							
KOLN	Koldanda	14.67	122	eP	P

GNI	**Garni**	**19.86 288**	P	**P**	**03 42 16.4**	**+1.5**	
	comp=Z,1.4nm,0.3s,baz=283,slow=1.2,SNR=10						
GNI	**Garni**	**19.86 288**	*e*P	**P**	**03 42 17.6**	**+2.8**	
GNI			pmax	pmax			
	comp=Z,16nm,0.6s						
GNI	**Garni**	**19.86 288**	*e*P	**P**	**03 42 17.6**	**+2.7**	
	comp=Z,16nm,0.6s						
NVS	**Novosibirsk**	**20.59 23**	*e*P	**P**	**03 42 25.6**	**+2.9**	
BRTR	**Keskin Array B**	**28.39 288**	P	**P**	**03 43 36.4**	**+1.2**	
	comp=Z,1.1nm,0.7s,mb3.7,baz=93,slow=10,SNR=7.1						
AKASG	**Malin Array Be**	**32.10 309**	P	**P**	**03 44 07.1**	**-0.7**	
	comp=Z,0.8nm,0.4s,mb3.8,baz=83,slow=7.2,SNR=5.6						
AKASG	**Malin Array Be**	**32.10 309**	P	**P**	**03 44 07.1**	**-0.7**	
ARCES	**ARCESS Array B**	**40.73 338**	P	**P**	**03 45 21.0**	**+0.2**	
	comp=Z,3.1nm,0.7s,mb4.0,baz=113,slow=8.0,SNR=11						
NB2	**NORSAR Subarra**	**43.73 323**	P	**P**	**03 45 44.5**	**-0.5**	
	comp=Z,1.2nm,0.4s,mb3.9,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**43.73 323**	P	**P**	**03 45 44.8**	**-0.2**	
	comp=Z,1.3nm,0.5s,mb3.9,baz=97,slow=7.9,SNR=6.3						
KEST	**Kesra**	**48.00 288**	P	**P**	**03 46 19.4**	**+1.0**	
	comp=Z,0.6nm,0.8s,mb3.3,baz=200,slow=4.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**64.63 268**	P	**P**	**03 48 13.9**	**-2.1**	
	comp=Z,1.2nm,0.7s,mb3.8,baz=50,slow=5.8,SNR=23						
WRA	**Warramunga Arr**	**82.92 121**	P	**P**	**03 50 01.4**	**-0.9**	
	comp=Z,0.4nm,0.4s,mb3.5,baz=326,slow=4.7,SNR=5.4						
ASAR	**Alice Springs**	**85.15 124**	P	**P**	**03 50 12.9**	**-0.6**	
	comp=Z,0.4nm,0.7s,mb3.3,baz=312,slow=5.0,SNR=8.2						

CASC 28 03:51:42.6±1.3, 1125N×8562W, h186km±5km, MD3.5, ML2.9, 8C-7D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MADN	**Villa Maderas**	**0.18**	**28**	⇑*e*P		Pn	03 52 07.9	+0.7
SSNN	**San Juan del S**	**0.23**	**281**	⇑*e*P		Pn	03 52 07.6	+0.4
SSNN				*e*S		Sn	03 52 25.1	-0.6
CONN	**Concepcion**	**0.32**	**359**	⇑*e*P		Pn	03 52 07.8	+0.4
LIM1	**Limonal**	**0.65**	**146**	⇑*i*P		Pn	03 52 08.8	+0.1
LIM1				*i*S		Sn	03 52 29.4	+0.5
TICN	**Ticuantepe**	**0.98**	**323**	⇓*e*P		Pn	03 52 11.8	+1.0
MGAN	**Managua**	**1.08**	**326**	⇓*e*P		Pn	03 52 11.9	+0.5
MGAN				*e*S		Sn	03 52 35.6	+1.8
MGAN				*i*			03 52 41.9	
	comp=N,100nm,0.1s							
VCR	**Vista de Mar**	**1.11**	**181**	⇑*e*P		Pn	03 52 12.1	+0.3
XAVN	**Gruta Xavier**	**1.13**	**322**	⇓*e*P		Pn	03 52 12.3	+0.5
VACR	**Volcan Arenal**	**1.20**	**130**	⇓*i*P		Pn	03 52 13.4	+1.0
FORC	**Fortuna**	**1.21**	**129**	*i*P		Pn	03 52 12.6	+0.1
COPN	**Copaltepe**	**1.33**	**314**	⇑*e*P		Pn	03 52 13.4	-0.1
MOMJ	**Momotombo**	**1.46**	**322**	⇓*e*P		Pn	03 52 15.1	+0.4
JCR	**Jicaral**	**1.48**	**160**	⇑*e*P		Pn	03 52 15.2	+0.5
JCR				*e*S		Sn	03 52 41.9	+2.2
MIRN	**Miramar**	**1.60**	**318**	⇑*e*P		Pn	03 52 15.9	0.0
EPA	**Esparza**	**1.61**	**141**	⇓*e*P		Pn	03 52 16.9	+0.9
EPA				*e*S		Sn	03 52 43.1	+1.2
CAO	**Cobano**	**1.62**	**162**	⇓*e*P		Pn	03 52 16.4	+0.2
CAO				*e*S		Sn	03 52 42.8	+0.7
CGA2	**Cerro Gallo 2**	**1.67**	**137**	*e*P		Pn	03 52 17.6	+0.9
CGA2				*e*S		Sn	03 52 44.1	+1.1
LEON	**Leon**	**1.70**	**313**	*e*P		Pn	03 52 16.8	-0.2
PRS1	**Puriscal**	**1.80**	**134**	*e*P		Pn	03 52 19.3	+1.4
LAJ	**Bijagual**	**2.02**	**133**	*e*P		Pn	03 52 19.6	-0.6

CASC 28 03:59:32.4±2.3, 1329N×8760W, h8km±8km, MD4.1, ML4.0, 8C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.23**	**267**	⇑*i*P		x	03 59 54.5	
BLLM	**Bellamira**	**0.64**	**284**	*e*P		x	04 00 01.9	
BLLM				*e*S		x	04 00 11.2	
CRIN	**San Cristobal**	**0.79**	**138**	⇑*e*P		Pg	03 59 48.6	+0.9
TELN	**Telica**	**1.01**	**132**	⇓*e*P		Pg	03 59 51.2	-0.6
LEON	**Leon**	**1.11**	**142**	⇑*e*P		Pg	03 59 52.3	-1.3
LEON				*e*S		Sg	04 00 08.2	+0.1
CNGN	**Cerro Negro**	**1.18**	**132**	⇑*i*P		Pb	03 59 51.9	-3.1
CNGN				⇓*e*P			03 59 54.1	
CNGN				*e*S		Sg	04 00 09.2	-1.1
MIRN	**Miramar**	**1.21**	**134**	⇓*e*P		Pb	03 59 54.3	-1.2
SNVI	**San Vicente**	**1.25**	**285**	*e*P		x	04 00 12.7	
SNVI				*e*S		x	04 00 30.0	
MOMJ	**Momotombo**	**1.35**	**130**	⇑*e*P		Pn	03 59 57.4	-0.2
LCBS	**La Ceiba**	**1.39**	**285**	*e*P		x	04 00 14.6	
LCBS				*e*S		x	04 00 34.6	
LFRS	**El Faro**	**1.46**	**283**	*e*P		x	04 00 15.5	
LFRS				*e*S		x	04 00 36.9	
LBRS	**Las Brisas**	**1.48**	**288**	*e*P		x	04 00 15.9	
COPN	**Copaltepe**	**1.48**	**138**	⇑*e*P		Pn	03 59 58.5	-0.7
COPN				*e*S		Sn	04 00 18.1	-0.6
SNET	**Serv Nac Est T**	**1.64**	**284**	⇑*e*P		x	04 00 01.0	
SNET				*e*S		x	04 00 23.0	
BOQS	**Boqueron**	**1.69**	**285**	*e*P		x	04 00 20.1	
BOQS				*e*S		x	04 00 44.4	
MGAN	**Managua**	**1.74**	**131**	⇑*e*P		Pn	04 00 01.2	-1.6
MGAN				*e*S		Sn	04 00 25.2	0.0

MAN 28 04:05:35.7, 721N×12669E, h28km, mb3.2, ML4.5, MS3.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**239**	*e*P		Pb	04 05 46.8	+0.7
MATI				*e*S		Sb	04 05 56.1	+2.9
KCP	**Kidapawan**	**1.60**	**263**	⇑*e*P		Pn	04 06 03.2	+1.1
KCP				*i*S		Sn	04 06 50.8	+29
BUKP	**Musuan**	**1.75**	**292**	*e*P		Pn	04 06 04.1	0.0
BUKP				*e*S		Sn	04 06 24.1	-1.4
CGP	**Cagayan de Oro**	**2.33**	**302**	⇓*e*P		Pn	04 06 12.5	+0.4
CGP				*i*S		Sn	04 06 41.1	+1.3

GUC 28 04:13:12.0±0.6, 3231S×7165W, h9km±46km, MD4.0, ML3.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.26**	**26**	⇑*i*P		Pn	04 13 34.8	-1.0
CMCH				*i*S		Sb	04 13 53.1	+0.8
STL	**Santa Lucia**	**1.40**	**143**	⇑*i*P		Pn	04 13 37.8	0.0
STL				*i*S		Sb	04 13 56.8	+0.4
STL				AML		AML	04 14 06.2	
	comp=N,141nm,0.8s							
DSCH	**Colegio Aleman**	**1.41**	**140**	*i*P		Pn	04 13 37.9	0.0
DSCH				*i*S		Sn	04 13 57.4	+0.9
DSCH				AML		AML	04 14 04.6	
	comp=E,254nm,0.4s							
CLCH	**Cerro Calan**	**1.43**	**139**	⇓*i*P		Pn	04 13 38.4	+0.3
CLCH				*i*S		Sn	04 13 57.9	+0.9
CLCH				AML		AML	04 14 07.7	
	comp=N,1μm,0.7s							
CLCH				AML		AML	04 14 08.1	
	comp=N,948nm,0.7s							
ANTU	**Antumapu**	**1.51**	**146**	*e*P		Pn	04 13 39.7	+0.4
ANTU				*i*S		Sn	04 14 00.7	+1.6

IGQ 28 04:26:22.8, 266S×7747W, h33km±5km, Mb4.3, Ms4.1, 2C-16D, Error ellipse: s-maj=5.5km s-min=2.1km az=112.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.50**	**320**	⇓P		Pn	04 26 50.2	+2.8
PATA				S		Sn	04 27 09.3	+3.5
ARRY	**Arrayan**	**1.51**	**319**	⇓P		Pn	04 26 50.0	+2.5
ARRY				S		Sn	04 27 07.6	+1.5
ULBA	**Ulba**	**1.52**	**322**	⇓P		Pn	04 26 50.3	+2.6
RETU	**Refugio**	**1.55**	**321**	⇓P		Pn	04 26 50.7	+2.7
RUN5	**Runtun**	**1.56**	**322**	⇓P		Pn	04 26 50.6	+2.3
JUIV	**Juive**	**1.58**	**321**	⇓P		Pn	04 26 50.8	+2.3
JUIV				S		Sn	04 27 09.5	+1.7
BILB	**Tungurahua vol**	**1.59**	**320**	⇓P		Pn	04 26 51.1	+2.5
BILB				S		Sn	04 27 10.7	+2.7
IGUA	**Igualata**	**1.65**	**315**	P		Pn	04 26 52.6	+3.2
PISA	**Pisayambo**	**1.83**	**330**	⇓P		Pn	04 26 54.3	+2.3
PISA				S		Sn	04 27 16.7	+2.6
TAMB	**Tambo**	**2.15**	**335**	⇓P		Pn	04 26 59.0	+2.6
VC1	**Cotopaxi 1**	**2.21**	**335**	⇓P		Pn	04 26 59.5	+2.3
CAMI	**Rancho Maria**	**2.23**	**332**	P		Pn	04 26 59.7	+2.4
NAS1	**Nasa**	**2.25**	**333**	P		Pn	04 27 00.2	+2.5
ANTI	**Antisana**	**2.30**	**343**	⇓P		Pn	04 27 00.5	+2.1
LAV3	**Lava3-Reventad**	**2.55**	**356**	⇓P		Pn	04 27 03.9	+2.0
LAV3				S		Sn	04 27 34.2	+2.5
CONE	**Cono NE Rev Vo**	**2.58**	**356**	⇓P		Pn	04 27 04.3	+2.1
JUA2	**San Juan 2**	**2.68**	**335**	⇑P		Pn	04 27 05.2	+1.6
CAYR	**Refugio Cayamb**	**2.71**	**349**	P		Pn	04 27 06.6	+2.6
GGP	**Refugio Guagua**	**2.71**	**336**	⇓P		Pn	04 27 05.5	+1.4
TERV	**Terraza Guagua**	**2.72**	**335**	⇓P		Pn	04 27 05.6	+1.5
PINO	**Pino**	**2.73**	**335**	⇓P		Pn	04 27 05.8	+1.5
YANA	**Yana**	**2.75**	**336**	⇑P		Pn	04 27 06.1	+1.5
CAYA	**Cayambe**	**2.76**	**349**	P		Pn	04 27 07.3	+2.5
COTA	**Cotacachi**	**3.10**	**344**	P		Pn	04 27 12.0	+2.6
MAG1	**Magdalena**	**3.45**	**318**	P		Pn	04 27 13.1	-1.2

CASC 28 04:30:02.4±1.4, 1320N×8758W, h16km±8km, MD3.5, ML2.7, 2C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.25**	**286**	⇑*i*P		x	04 30 22.8	
CNCH				*e*S		x	04 30 26.8	
BLLM	**Bellamira**	**0.68**	**290**	*e*P		x	04 30 30.4	
BLLM				*e*S		x	04 30 40.3	
VSM	**San Miguel**	**0.71**	**288**	*e*P		x	04 30 30.3	
TELN	**Telica**	**0.94**	**129**	⇑*e*P		Pb	04 30 19.9	-0.5
LEON	**Leon**	**1.03**	**139**	*e*P		Pb	04 30 20.4	-1.5
LEON				*e*S		Sb	04 30 34.8	-0.5
CNGN	**Cerro Negro**	**1.11**	**129**	*e*P		Pb	04 30 22.4	-0.8
MIRN	**Miramar**	**1.14**	**132**	⇓*e*P		Pn	04 30 22.7	-1.0
MIRN				*e*S		Sb	04 30 38.0	-0.4
SNVI	**San Vicente**	**1.29**	**289**	*e*P		x	04 30 41.7	
SNVI				*e*S		x	04 30 59.2	
MOMJ	**Momotombo**	**1.29**	**128**	*e*P		Pn	04 30 24.6	-1.2
COPN	**Copaltepe**	**1.40**	**136**	*e*P		Pn	04 30 26.5	-0.9
LCBS	**La Ceiba**	**1.43**	**288**	⇓*e*P		x	04 30 43.4	
LFRS	**El Faro**	**1.50**	**286**	*e*P		x	04 30 44.3	
LFRS				*e*S		x	04 31 05.6	
LBRS	**Las Brisas**	**1.52**	**291**	*e*P		x	04 30 45.5	
MGAN	**Managua**	**1.67**	**129**	*e*		Pn	04 30 52.2	+21
	comp=Z,79nm,0.1s							
MGAN				*e*			04 31 04.1	
	comp=N,103nm,0.4s							

CASC 28 04:55:08.1±2.3, 1328N×8763W, h19km±13km, MD3.5, ML2.7, 4C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.20**	**269**	⇑*e*P		x	04 55 30.6	
CNCH				*e*S		x	04 55 34.4	
BLLM	**Bellamira**	**0.61**	**285**	*e*P		x	04 55 40.3	
BLLM				*e*S		x	04 55 47.8	
TELN	**Telica**	**1.03**	**131**	⇑*e*P		Pb	04 55 27.0	-0.3
LEON	**Leon**	**1.12**	**140**	⇓*e*P		Pn	04 55 27.5	-1.3
LEON				*e*S		Sb	04 55 42.2	-0.8
CNGN	**Cerro Negro**	**1.19**	**130**	*e*P		Pn	04 55 28.6	-1.2
CNGN				⇑*e*P			04 55 29.2	
CNGN				*e*S		Sb	04 55 45.9	+0.7
MIRN	**Miramar**	**1.22**	**133**	⇓*e*P		Pn	04 55 29.6	-0.6
MOMJ	**Momotombo**	**1.37**	**129**	⇓*e*P		Pn	04 55 32.4	+0.2
LFRS	**El Faro**	**1.44**	**284**	⇓*e*P		x	04 55 52.2	
LFRS				*e*S		x	04 56 13.1	
COPN	**Copaltepe**	**1.49**	**137**	⇑*e*P		Pn	04 55 33.5	-0.4
COPN				*e*S		Sn	04 55 53.5	+0.8
MGAN	**Managua**	**1.76**	**130**	*e*		Pn	04 56 03.5	+26
	comp=E,72nm,0.1s							

*ISCJB **28** 05:00:01.5±0.4, 3154N×005×11315E±004, h10km, mb4.1/14, MS2.7/2, Error ellipse: s-maj=7.5km s-min=4.1km az=56.2*
*IDC **28** 05:00:01.6±1.0, 3164N×11342E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/22, mbtmp4.0/11, ML3.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/32, Error ellipse: s-maj=81.3km s-min=15.0km az=61.0*
*NEIC **28** 05:00:03.2±0.5, 3160N×11333E, h10km, mb4.0/3, Error ellipse: s-maj=12.2km s-min=7.1km az=71.0*
*BJI **28** 05:00:03.4, 3148N×11302E, h16km, mB4.5, mb4.5, ML4.1, Ms3.9, Msz3.6*

ISC 28 05:00:03.8±0.4, 3153N±005×11311E±004, h10km, n30, σ1§09/35, mb4.1/14, MS2.7/2, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.45**	**132**	⇓PG		**Pg**	**05 00 28.0**	**-3.6**
WHN				SG		**Sg**	**05 00 50.0**	**-0.4**
WHN				Smax				
	comp=E,2μm,0.5s							
XAN	**Xi'an**	**4.33**	**307**	P		**Pn**	**05 01 09.0**	**-0.7**
XAN				PG		**Pg**	**05 01 20.8**	**-5.9**
XAN				S		**Sn**	**05 01 59.0**	**-1.1**
XAN				SG		**Sg**	**05 02 17.0**	**-5.8**
XAN				Smax				
	comp=N,519nm,0.7s							
XAN				Smax				
	comp=E,333nm,0.9s							
NJ2	**Nanjing**	**4.92**	**82**	*e*P		**Pn**	**05 01 18.0**	**+0.2**
NJ2				SG		**Sg**	**05 02 42.8**	**+1.0**
NJ2				Smax				
	comp=N,490nm,0.7s							
NJ2				Smax				
	comp=E,340nm,0.8s							
TIA	**Tai'an**	**5.75**	**34**	P		**Pn**	**05 01 30.0**	**+0.9**
TIA				SG		**Sg**	**05 03 00.0**	**-8.2**
TIA				Smax				
	comp=N,58nm,0.6s							
TIA				Smax				
	comp=E,57nm,0.6s							
CD2	**Chengdu**	**8.03**	**268**	*e*P		**Pn**	**05 02 00.5**	**0.0**
CD2				AP			05 02 08.5	
CD2				XP			05 02 14.5	
CD2				S		**Sn**	**05 03 30.0**	**-1.4**
CD2				XS			05 03 42.5	
CD2				AMB		AMB		
	comp=Z,20nm,0.6s							
CD2				AMB		AMB		
	comp=Z,140nm,5.2s							
CD2				LR		LR		
	comp=N,410nm,4.0s							
CD2				LR		LR		
	comp=Z,350nm,11.4s							
LZH	**Lanzhou**	**8.95**	**303**	*e*P		**Pn**	**05 02 14.3**	**+1.2**
LZH				AP			05 02 21.3	
LZH				PP			05 02 23.3	
LZH				XP			05 02 26.0	
LZH				*e*S		**Sn**	**05 03 55.5**	**+1.5**
LZH				XS			05 04 06.5	
LZH				SS			05 04 08.8	
LZH				AMB		AMB		
	comp=Z,18nm,1.0s							
LZH				AMB		AMB		
	comp=Z,79nm,4.1s							
LZH				LR		LR		
	comp=E,412nm,7.5s							
LZH				LR		LR		
	comp=Z,827nm,10.7s							
LZH	**Lanzhou**	**8.95**	**303**	*e*P		**Pn**	**05 02 14.2**	**+1.1**
	comp=Z,18nm,1.0s							
LZH				pP			05 02 21.3	
LZH				PP			05 02 23.2	
LZH				sP			05 02 26.1	
KMI	**Kunming**	**11.14**	**238**	P		**Pn**	**05 02 46.0**	**+2.9**
KMI	**Kunming**	**11.14**	**238**	P		**Pn**	**05 02 46.1**	**+3.0**
	comp=Z,17nm,0.5s							
JOW	**Kunigami**	**14.05**	**106**	LR		LR	05 09 12.9	
	comp=Z,59nm,19.3s,baz=109,slow=40							
CN2	**Changchun**	**15.65**	**35**	*e*P		**Pn**	**05 03 50.8**	**+6.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
SONM	**Songino Array**	**17.08**	**344**	P		**Pn**	**05 04 03.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=141,slow=5.7,SNR=3.7							
CHTO	**Chiang Mai**	**17.99**	**229**	P		**Pn**	**05 04 15.5**	**+1.6**
	comp=Z,2.6nm,0.6s							
MJAR	**Matsushiro Arr**	**21.37**	**70**	LR		LR	05 14 10.7	
	comp=Z,38nm,18.7s,MS2.8,baz=350,slow=40							
JHJ	**Hachijo jima 2**	**22.58**	**79**	LR		LR	05 12 37.9	
	comp=Z,28nm,21.9s,MS2.6,baz=166,slow=34							
WMQ	**Urumqi**	**23.46**	**309**	*e*P		**P**	**05 05 14.0**	**+0.4**
WMQ				AMB		AMB		
	comp=Z,6.0nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**28.12**	**312**	P		**P**	**05 05 56.5**	**+0.6**
	comp=Z,0.5nm,0.3s,mb3.5,baz=103,slow=10,SNR=12							
ZAL	**Zalesovo**	**30.21**	**326**	P		**P**	**05 06 15.1**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.0,baz=349,slow=8.7,SNR=5.7							
BVAR	**Borovoye Array**	**37.47**	**318**	P		**P**	**05 07 17.2**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=113,slow=14,SNR=4.4							
BRVK	**Borovoye**	**37.54**	**318**	*e*P		**P**	**05 07 17.4**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.1							
CHKZ	**Chkalovo**	**37.55**	**319**	*e*P		**P**	**05 07 18.4**	**+0.2**
	comp=Z,2.5nm,0.4s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.79**	**165**	P		**P**	**05 09 03.7**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=351,slow=5.0,SNR=6.2							
WRA	**Warramunga Arr**	**55.08**	**155**	P		**P**	**05 09 35.0**	**-0.8**
	comp=Z,1.4nm,0.9s,mb4.0,baz=348,slow=8.0,SNR=4.0							
AS31	**Alice Springs**	**58.38**	**158**	*e*P		**P**	**05 09 59.6**	**+0.3**
ASAR	**Alice Springs**	**58.38**	**158**	P		**P**	**05 09 59.5**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.5,baz=344,slow=7.1,SNR=27							
JOF	**Joensuu**	**58.78**	**328**	*ep*		**P**	**05 10 00.2**	**-1.9**
	comp=Z,0.9nm,0.3s,mb4.3							
ARCES	**ARCESS Array B**	**60.02**	**336**	P		**P**	**05 10 09.6**	**-1.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=80,slow=8.6,SNR=8.0							
FINES	**FINESS Array B**	**61.47**	**327**	P		**P**	**05 10 19.9**	**-0.7**
	comp=Z,8.8nm,1.1s,mb4.8,baz=90,slow=5.7,SNR=5.2							
BRTR	**Keskin Array B**	**63.16**	**302**	P		**P**	**05 10 32.6**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.9,baz=89,slow=5.2,SNR=3.6							
NOA	**NORSAR Array B**	**68.36**	**329**	P		**P**	**05 11 03.7**	**-1.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=65,slow=6.4,SNR=3.2							

IDC 28 05:00:21.5±4.4, 2189S×14828E, h0km, mb1 3.2/4, mb1mx3.2/11, mbtmp3.0/4, ML2.9/4, Error ellipse: s-maj=43.3km s-min=22.9km az=73.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.61**	**313**	Pn		Pn	05 01 04.3	-0.5
	0.6nm,0.3s,baz=123,slow=16,SNR=3.2							
CTA				Pg		Pg	05 01 11.1	-0.4
	6.6nm,0.3s,baz=126,slow=18,SNR=25							
CTA				Sn		Sn	05 01 38.8	+1.6
	5.4nm,0.3s,baz=250,slow=17,SNR=9.5							
CTA				Lg			05 01 44.0	
	12nm,0.3s,baz=50,slow=19,SNR=11							
STKA	**Stephens Creek**	**11.59**	**210**	Pn		Pn	05 03 08.4	+0.2
	0.1nm,0.3s,baz=27,slow=16,SNR=3.2							
WRA	**Warramunga Arr**	**13.17**	**276**	Pn		Pn	05 03 28.8	-0.9
	0.0nm,0.3s,baz=98,slow=12,SNR=4.2							
WRA				Lg			05 07 20.9	
	0.1nm,0.3s,baz=98,slow=28,SNR=4.3							
ASAR	**Alice Springs**	**13.37**	**260**	Pn		Pn	05 03 31.9	-0.6
	0.1nm,0.3s,baz=83,slow=14,SNR=5.1							
ASAR				Sn		Sn	05 06 01.1	-0.9
	0.0nm,0.3s,baz=76,slow=22,SNR=3.1							
ASAR				Lg			05 07 26.7	
	0.1nm,0.3s,baz=88,slow=27,SNR=3.0							

*MOS **28** 05:36:46.2±2.3, 4970N×15544E, h5km, mb4.2/6, Error ellipse: s-maj=35.5km s-min=9.1km az=71.1*
MOS Felt (II) at Severo-Kuril'sk.
*IDC **28** 05:36:47.3±0.9, 4996N×15577E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, MS3.4/2, Ms1 3.4/2, ms1mx2.6/33, Error ellipse: s-maj=35.0km s-min=24.1km az=95.0*
*NEIC **28** 05:36:49.0±0.6, 4998N×15577E, h10km, mb4.3/2, Error ellipse: s-maj=18.1km s-min=11.9km az=124.0*
NEIC Felt [II] at Severo-Kuril'sk.
*ISCJB **28** 05:36:56.1±1.1, 5000N±009×1560E±02, h84km±7km, mb3.8/9, Error ellipse: s-maj=20.8km s-min=9.6km az=83.4.*
*KRSC **28** 05:36:57, 4994N×15700E, h5km, ML4.7*

ISC 28 05:36:57.3±1.1, 4999N±010×1560E±02, h79km±8km, n33, σ1§15/40, mb3.8/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.70**	**8**	⇑*i*PN		**Pn**	**05 37 12.0**	**-0.8**
SKR				*i*S		**Sn**	**05 37 23.5**	**-0.8**
SKR				pmax	pmax			
	comp=N,1μm,0.3s							
SKR				pmax	pmax			
	comp=Z,2μm,0.3s							
SKR				pmax	pmax			
	comp=E,590nm,0.2s							
SKR				smax				
	comp=N,15μm,0.2s							
SKR				smax				
	comp=E,17μm,0.2s							
SKR				smax				
	comp=N,13μm,0.4s							
SKR				smax				
	comp=E,13μm,0.4s							
GRL	**Gorelyy**	**2.89**	**27**	*e*P		**Pn**	**05 37 42.5**	**+1.5**
GRL				*i*S		**Sn**	**05 38 15.2**	**+0.5**
RUS	**Russkaya**	**2.92**	**32**	*e*P		**Pn**	**05 37 41.1**	**-0.4**
RUS				*i*S		**Sn**	**05 38 13.2**	**-2.4**
PET	**Petropavlovsk**	**3.47**	**28**	*e*PN		**Pn**	**05 37 50.1**	**+1.2**
PET				pmax	pmax			
	comp=Z,37nm,0.4s							
PET				MLR	MLR			
	comp=Z,800nm,7.0s							
PET	**Petropavlovsk**	**3.47**	**28**	*e*Pn		**Pn**	**05 37 43.8**	**-5.2**
PET	**Petropavlovsk**	**3.47**	**28**	*e*P		**Pn**	**05 37 50.0**	**+1.1**
PET				*i*S		**Sn**	**05 38 29.2**	**+0.3**
SDLR	**Sedlovina**	**3.76**	**28**	*e*P		**Pn**	**05 37 54.0**	**+1.1**
SDLR				*i*S		**Sn**	**05 38 36.2**	**+0.2**
NLC	**Nalytchevo**	**3.82**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**7.16**	**198**	Pn	Pn	05 43 21.9	+2.5
	1.0nm,0.4s,baz=28,slow=13,SNR=18						
MK31				⇑Sn	Sn	05 44 49.4	+7.9
	2.7nm,0.6s,baz=33,slow=30,SNR=5.4						
MK31				⇓Lg		05 45 38.4	
	10nm,0.9s,baz=27,slow=26,SNR=5.0						
VOSK	**Vostochnaya**	**8.81**	**270**	⇑Pn	Pn	05 43 42.0	0.0
	1.5nm,0.5s						
VOSK				⇓Sn	Sn	05 45 23.1	+1.1
	9.7nm,0.8s						
CHKZ	**Chkalovo**	**8.88**	**276**	⇓Pn	Pn	05 43 42.0	-0.9
	7.1nm,1.8s						
CHKZ				⇓Sn	Sn	05 45 23.6	-0.1
	3.9nm,0.8s						
BVA0	**Borovoye Array**	**9.10**	**272**	Pn	Pn	05 43 46.5	+0.5
	0.7nm,1.6s,baz=227,slow=37,SNR=10						
BVA0				⇓Sn	Sn	05 45 30.2	+1.0
	0.9nm,0.8s,baz=75,slow=24,SNR=4.3						
ZRNK	**Zerenda**	**9.94**	**273**	⇑Pn	Pn	05 43 57.0	-0.5
	1.0nm,0.4s						

KRSC 28 05:58:18, 52.82N×166.47E, h22km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**316**	*i* P	Pb	05 58 28.1	+1.9
SPN				*i* S	Sb	05 58 34.0	+2.2
NLC	**Nalytchevo**	**0.77**	**298**	*i* P	Pb	05 58 33.8	+1.2
NLC				*i* S	Sb	05 58 44.1	+1.5
PET	**Petropavlovsk**	**1.12**	**281**	*eP*	Pn	05 58 39.4	+1.1
PET				*i* S	Sb	05 58 54.3	+1.5
AVH	**Avacha**	**1.14**	**294**	*eP*	Pn	05 58 40.0	+1.4
AVH				*i* S	Sb	05 58 55.7	+2.4
RUS	**Russkaya**	**1.25**	**253**	*eP*	Pn	05 58 40.9	+0.7
RUS				*i* S	Sn	05 58 56.9	+0.5
KII	**Karymskiy**	**1.36**	**334**	P	Pn	05 58 43.8	+2.1
KII				*i* S	Sn	05 59 02.2	+3.1
GRL	**Gorelyy**	**1.48**	**261**	*i* P	Pn	05 58 45.1	+1.8
GRL				*i* S	Sn	05 59 04.0	+2.0
GNL	**Ganaly**	**1.75**	**301**	*eP*	Pn	05 58 50.0	+2.9
GNL				*eS*	Sn	05 59 13.5	+4.8
MKZ	**Mys Kozlova**	**1.89**	**23**	*eP*	Pn	05 58 49.0	0.0
MKZ				*i* S	Sn	05 59 10.9	-1.3
TUMR	**Tumrok**	**2.48**	**356**	P	Pn	05 58 59.9	+2.9
TUMR				*i* S	Sn	05 59 30.0	+3.5
ZLN	**Zelenaya**	**3.21**	**3**	P	Pn	05 59 09.6	+2.5
ZLN				*i* S	Sn	05 59 47.1	+2.5
SRDR	**Sredinnyy**	**3.53**	**353**	P	Pn	05 59 15.8	+4.3
KBTR	**Krutoberegovo**	**3.66**	**21**	P	Pn	05 59 16.4	+3.1
SRKR	**Sorokina**	**3.86**	**6**	P	Pn	05 59 19.7	+3.6

*NEIC **28** 05:59:20.4, 15.22N×96.17W, h10km, MD3.8(MEX), After MEX.*

MEX 28 05:59:22.2±1.2, 15.38N×96.20W, h11km±105km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.40**	**13**	*i* P	Pg	05 59 29.3	-0.8
HUIG				*i* S	Sg	05 59 36.1	+0.6
HUIG	**Huatulco**	**0.40**	**13**	*i* P	Pg	05 59 29.3	-0.8
HUIG				*i* S	Sg	05 59 37.0	+1.6
VHO	**Vista Hermosa**	**1.76**	**343**	*i* P	Pn	05 59 50.4	-2.2
VHO				*i* S	Sn	06 00 09.2	-5.9
VHO	**Vista Hermosa**	**1.76**	**343**	*i* P	Pn	05 59 51.4	-1.2
VHO				*i* S	Sn	06 00 14.1	-0.9
OXX	**Oaxaca**	**1.77**	**344**	*eP*	Pn	05 59 51.0	-1.7
CMIG	**Matias Romero**	**2.12**	**36**	*i* P	Pn	05 59 54.1	-3.5
CMIG				*i* S	Sn	06 00 20.5	-3.5
CMIG	**Matias Romero**	**2.12**	**36**	*i* P	Pn	05 59 54.9	-2.7
CMIG				*i* S	Sn	06 00 22.2	-1.8
UTMO	**Huajuapan**	**2.88**	**328**	*eP*	Pn	06 00 06.1	-2.0
UTMO				*i* S	Sn	06 00 39.9	-2.8

CASC 28 06:04:12.5±1.4, 23.33N×87.59W, h20km±13km, MD3.5, ML2.6, 3C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.24**	**280**	⇑*iP*	x	06 04 34.1	+16
CNCH				*eS*	x	06 04 37.8	+16
TELN	**Telica**	**0.97**	**130**	⇑*eP*	Pb	06 04 30.5	-0.1
LEON	**Leon**	**1.06**	**140**	⇑*eP*	Pb	06 04 31.1	-1.1
LEON				*eS*	Sb	06 04 45.6	0.0
CNGN	**Cerro Negro**	**1.14**	**130**	*eP*	Pn	06 04 32.8	-0.5
CNGN				*eS*	Sb	06 04 48.9	+1.1
MIRN	**Miramar**	**1.17**	**132**	⇓*eP*	Pn	06 04 33.2	-0.5
MIRN				*eS*	Sb	06 04 49.1	+0.5
SNVI	**San Vicente**	**1.27**	**287**	*eP*	x	06 04 52.0	+17
SNVI				*eS*	x	06 05 10.3	+19
COPN	**Copaltepe**	**1.43**	**137**	*eP*	Pn	06 04 36.9	-0.4
LFRS	**El Faro**	**1.48**	**285**	*eP*	x	06 04 55.7	+18
LFRS				*eS*	x	06 05 15.9	+19
MGAN	**Managua**	**1.70**	**129**	*e*	Pn	06 05 13.4	+32
	comp=E,58nm,0.2s						
MGAN				*e*		06 05 13.6	
	comp=N,65nm,0.6s						

*KNET **28** 06:36:44.8±0.5, 42.12N×75.42E, h11km±3km, ml2.3, Error ellipse: s-maj=4.0km s-min=2.5km az=171.0*
*ISCJB **28** 06:36:45.4±0.8, 42.11N±005×75.44E±004, h3km±6km, Error ellipse: s-maj=8.0km s-min=4.8km az=143.8*

ISC 28 06:36:45.6±0.8, 42.09N±004×75.44E±004, h6km±6km, n12, σ0.55/23, 13C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.14**	**266**	⇑P	**Pg**	**06 36 48.7**	**+0.1**
	666nm,0.1s,SNR=612						
KZA				⇓S	**Sg**	**06 36 50.8**	**+0.4**
	1μm,0.1s						
ULHL	**Ulahol**	**0.62**	**75**	P	**Pg**	**06 36 57.4**	**-0.1**
	49nm,0.1s,SNR=546						
ULHL				⇑S	**Sg**	**06 37 06.0**	**+0.4**
	80nm,0.2s						
KBK	**Karagaybulak**	**0.67**	**328**	P	**Pg**	**06 36 58.8**	**+0.3**
	505nm,0.1s,SNR=226						
KBK				⇑S	**Sg**	**06 37 08.0**	**+0.7**
	144nm,0.1s						
UCH	**Uchtor**	**0.70**	**282**	⇑P	**Pg**	**06 36 58.6**	**-0.5**
	11nm,0.1s,SNR=86						
UCH				⇑S	**Sg**	**06 37 07.9**	**-0.4**
	47nm,0.2s						
TKM2	**Tokmak 2**	**0.84**	**8**	⇓P	**Pg**	**06 37 01.6**	**-0.1**
	42nm,0.2s,SNR=30						
TKM2				⇑S	**Sg**	**06 37 12.0**	**-0.7**
	130nm,0.1s						
TKM2	**Tokmak 2**	**0.84**	**8**	⇓P	**Pg**	**06 37 01.4**	**-0.3**
	0.3nm,0.2s						
TKM2				⇑S	**Sg**	**06 37 12.8**	**+0.2**
	3.2nm,0.3s						
AAK	**Ala-Archa**	**0.89**	**308**	⇓P	**Pg**	**06 37 02.1**	**-0.5**
	29nm,0.1s,SNR=33						
AAK				⇑S	**Sg**	**06 37 13.9**	**-0.3**
	86nm,0.3s						
CHMS	**Chumysh**	**1.04**	**331**	⇓P	**Pg**	**06 37 05.1**	**-0.5**
	22nm,0.1s,SNR=34						
CHMS				⇑S	**Sg**	**06 37 19.2**	**0.0**
	47nm,0.2s						
AML	**Almayashu**	**1.30**	**272**	⇑P	**Pn**	**06 37 09.6**	**-0.7**
	25nm,0.1s,SNR=84						
AML				⇑S	**Sb**	**06 37 26.8**	**-0.5**
	69nm,0.3s						
EKS2	**Erkin-Say**	**1.36**	**296**	⇑P	**Pn**	**06 37 11.2**	**+0.1**
	9.6nm,0.2s,SNR=34						
EKS2				⇓S	**Sb**	**06 37 30.0**	**+1.0**
	20nm,0.2s						
USP	**Ospenovka**	**1.37**	**330**	⇓P	**Pn**	**06 37 10.8**	**-0.4**
	17nm,0.2s,SNR=56						
USP				⇑S	**Sb**	**06 37 29.2**	**-0.1**
	24nm,0.1s						
KK31	**Karatay Array**	**3.78**	**287**	Pn	**Pb**	**06 37 54.3**	**+1.6**
	0.2nm,0.3s,baz=102,slow=16,SNR=23						
KK31				Lg		06 38 44.2	
	5.0nm,0.6s,baz=101,slow=27,SNR=9.4						

*NIED **28** 06:47:00, 40.90N×142.10E, h62km, Mw3.9 Best double couple: M0=7.35000×10^14 NP1:φ=28.00000°, δ75.00000°, λ92.00000°. NP2:φ=200.00000°, δ15.00000°, λ83.00000°.*
*IDC **28** 06:47:15.5±4.2, 41.29N×142.26E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.6/22, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=87.7km s-min=40.7km az=106.0*
*ISCJB **28** 06:47:21.1±0.5, 40.92N±004×142.02E±006, h68km±5km, mb3.6/3, Error ellipse: s-maj=8.8km s-min=5.1km az=58.9*
*JMA **28** 06:47:21.3±0.1, 40.91N×142.13E, h50km±3km, M3.7*
JMA Felt I J1.
*NEIC **28** 06:47:21.4, 40.91N×142.13E, h50km, MG3.7(JMA), After JMA.*

ISC 28 06:47:21.8±0.5, 40.91N±004×142.02E±006, h62km±6km, n19, σ0.73/28, mb3.7/3, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.66**	**216**	⇓P	**Pn**	**06 47 35.3**	**-0.4**
JANG				S	**Sn**	**06 47 45.0**	**-0.9**
JTM	**Tenmabayashi**	**0.73**	**261**	⇓P	**Pn**	**06 47 36.6**	**0.0**
JTM				S	**Sn**	**06 47 47.5**	**0.0**
JOT	**Ohata**	**0.87**	**303**	⇓P	**Pn**	**06 47 38.1**	**-0.2**
JOT				S	**Sn**	**06 47 50.5**	**0.0**
JKB	**Kayabe**	**1.23**	**323**	⇓P	**Pn**	**06 47 42.8**	**-0.1**
JKB				*eS*	**Sn**	**06 47 58.2**	**-0.5**
JAH	**Hinai**	**1.28**	**236**	⇓P	**Pn**	**06 47 43.7**	**+0.1**
JAH				S	**Sn**	**06 48 00.9**	**+1.0**
JSR	**Shiriuchi**	**1.36**	**298**	P	**Pn**	**06 47 44.9**	**+0.2**
ERM	**Erimo**	**1.40**	**37**	*e*Pg	**Pn**	**06 47 45.4**	**+0.2**
ERM				*e*Sg	**Sn**	**06 48 03.4**	**+0.7**
JEM	**Erimo**	**1.40**	**37**	P	**Pn**	**06 47 44.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.47**	**22**	P	**Pn**	**06 47 47.1**	**+0.9**
JOM	**Ohasama**	**1.54**	**202**	⇑P	**Pn**	**06 47 47.2**	**+0.1**
JOM				S	**Sn**	**06 48 05.7**	**-0.4**
JIW	**Iwasaki**	**1.56**	**259**	P	**Pn**	**06 47 48.0**	**+0.6**
JNB	**Noboribetsu**	**1.72**	**335**	P	**Pn**	**06 47 49.2**	**-0.3**
JNB				*eS*	**Sn**	**06 48 10.3**	**-0.2**
JCH	**Churui**	**1.98**	**30**	⇑P	**Pn**	**06 47 53.2**	**+0.2**
JCH				*eS*	**Sn**	**06 48 16.8**	**+0.1**
MJAR	**Matsushiro Arr**	**5.28**	**216**	Pn	**Pn**	**06 48 41.6**	**+3.5**
	0.6nm,0.3s,baz=38,slow=12,SNR=4.8						
SONM	**Songino Array**	**26.22**	**297**	P	**P**	**06 52 52.1**	**+1.4**
	0.2nm,0.3s,mb3.1,baz=78,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**42.57**	**299**	P	**P**	**06 55 12.2**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=84,slow=9.8,SNR=4.1						
JOF	**Joensuu**	**62.78**	**331**	*ep*	**P**	**06 57 39.2**	**-1.5**
KAF	**Kangasniemi**	**65.10**	**332**	*ep*	**P**	**06 57 54.3**	**-1.6**
	baz=48,slow=6.2						
FINES	**FINESS Array B**	**65.62**	**332**	P	**P**	**06 57 59.4**	**+0.1**
	4.4nm,1.0s,mb4.5,baz=48,slow=8.5,SNR=9.1						

*ISCJB **28** 06:52:22.2±2.6, 6.06S±007×1.475E±0.1, h21km±19km, mb3.8/7, MS3.1/2, Error ellipse: s-maj=23.4km s-min=12.0km az=8.5*
*IDC **28** 06:52:28.9±2.3, 6.18S×1.4739E, h57km±19km, mb3.5/6, mb1 3.8/9, mb1mx3.7/15, mbtmp3.8/9, ML3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.5/22, Error ellipse: s-maj=31.7km s-min=14.0km az=100.0*
*NEIC **28** 06:52:29.9±2.2, 6.19S×1.4741E, h69km±17km, mb4.2/3, Error ellipse: s-maj=19.3km s-min=15.3km az=62.0*

ISC 28 06:52:29.7±1.6, 6.20S±009×1.474E±01, h65km±14km, n19, σ0.90/22, mb3.7/7, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**185**	P	**Pn**	**06 53 18.4**	**+0.8**
	7.8nm,0.3s,baz=22,slow=5.6,SNR=22						
PMG				S	**Sn**	**06 53 54.3**	**-0.3**
	91nm,0.3s,baz=216,slow=21,SNR=16						
CTA	**Charters Tower**	**13.86**	**185**	P	**Pn**	**06 55 42.7**	**-0.3**
	0.3nm,0.3s,baz=353,slow=14,SNR=3.9						
CTA	**Charters Tower**	**13.86**	**185**	P	**Pn**	**06 55 42.7**	**-0.3**
KAKA	**Kakadu**	**16.14**	**245**	*eP*	**Pn**	**06 56 12.5**	**+0.1**
	8.3nm,0.5s						
WB2	**Warramunga Arr**	**18.66**	**222**	*eP*	**Pn**	**06 56 41.4**	**-2.0**
WB2	**Warramunga Arr**	**18.66**	**222**	*eP*	**Pn**	**06 56 41.9**	**-1.5**
WRA	**Warramunga Arr**	**18.67**	**222**	P	**Pn**	**06 56 42.2**	**-1.2**
	0.3nm,0.3s,baz=51,slow=11,SNR=20						
WRA				LR	LR	07 04 02.2	
	comp=Z,51nm,20.9s,baz=335,slow=37						
AS31	**Alice Springs**	**21.70**	**215**	*eP*	**P**	**06 57 16.8**	**+1.5**
AS31				*eS*	**S**	**07 01 11.1**	**-0.6**
ASAR	**Alice Springs**	**21.70**	**215**	P	**P**	**06 57 15.5**	**+0.2**
	1.4nm,0.4s,mb3.7,baz=52,slow=8.5,SNR=26						
ASAR				S	**S**	**07 01 13.1**	**+1.4**
	2.5nm,0.9s,baz=33,slow=19,SNR=10						
ASAR				ScP	ScP	07 04 47.2	+1.9
	1.0nm,0.9s,baz=42,slow=3.5,SNR=6.0						
ASAR				LR	LR	07 06 31.9	
	comp=Z,92nm,19.7s,baz=30,slow=39						
ASPA	**Alice Springs**	**21.71**	**215**	*eP*	**P**	**06 57 16.8**	**+1.5**
ASPA				*eS*	**S**	**07 01 11.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**24.34**	**239**	⇓*iP*	**P**	**06 57 41.7**	**+0.4**
	9.9nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.34**	**239**	P	**P**	**06 57 42.1**	**+0.8**
	6.3nm,0.9s,mb4.0,baz=75,slow=8.5,SNR=21						
STKA	**Stephens Creek**	**26.13**	**191**	P	**P**	**06 57 56.2**	**-1.3**
	1.2nm,0.6s,mb3.5,baz=166,slow=18,SNR=3.2						
STKA				LR	LR	07 07 10.2	
	comp=Z,59nm,21.1s,baz=23,slow=34						
STKA	**Stephens Creek**	**26.13**	**191**	P	**P**	**06 57 56.2**	**-1.3**
STKA				LR	LR	07 07 10.2	
SONM	**Songino Array**	**64.78**	**331**	P	**P**	**07 03 01.5**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=116,slow=6.8,SNR=3.8						
VNDA	**Vanda**	**71.69**	**177**	P	**P**	**07 03 45.0**	**+0.4**
	0.8nm,0.5s,mb3.8,baz=330,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**77.92**	**320**	P	**P**	**07 04 20.1**	**-0.5**
	0.4nm,0.7s,mb3.2,baz=98,slow=6.0,SNR=3.6						
QSPA	**South Pole Qui**	**83.77**	**180**	*eP*	**P**	**07 04 51.7**	**-0.1**
	1.4nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**145.56**	**284**	PKPbc	PKPbc	07 12 01.4	+0.7
	1.9nm,0.7s,baz=74,slow=3.1,SNR=18						

*IDC **28** 06:54:53.4±1.2, 5.17N×125.43E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/17, mbtmp4.0/4, Error ellipse: s-maj=61.9km s-min=22.7km az=74.0*
*ISCJB **28** 06:55:03.1±1.7, 52.2N±02×125.6E±04, h102km±19km, mb4.0/4, Error ellipse: s-maj=71.3km s-min=22.6km az=152.7*

ISC 28 06:55:03.9±1.8, 52.2N±02×125.6E±04, h87km±21km, n6, σ1.42/7, mb4.0/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.91**	**344**	*eP*	**Pn**	**06 55 33.5**	**-1.4**
KCP				*i* S	**Sn**	**06 56 00.6**	**+2.2**
BUKP	**Musuan**	**2.76**	**348**	*eP*	**Pn**	**06 55 45.3**	**-0.8**
WRA	**Warramunga Arr**	**26.37**	**161**	P	**P**	**07 00 32.5**	**+0.6**
	1.1nm,0.3s,mb3.8,baz=338,slow=10,SNR=5.7						
MJAR	**Matsushiro Arr**	**33.30**	**19**	P	**P**	**07 01 33.0**	**-0.1**
	1.8nm,0.8s,mb4.0,baz=197,slow=9.7,SNR=6.3						
STKA	**Stephens Creek**	**39.85**	**159**	P	**P**	**07 02 29.1**	**+0.3**
	1.3nm,0.4s,mb4.1,baz=330,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**55.76**	**325**	P	**P**	**07 04 31.3**	**-0.3**
	1.1nm,0.5s,mb4.2,baz=120,slow=8.4,SNR=15						

*IDC **28** 07:07:07.6±2.2, 3.580N×141.21E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.5/22, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=55.4km s-min=20.7km az=57.0*
*ISCJB **28** 07:07:13.9±0.8, 3.570N±004×140.89E±008, h55km±5km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=5.7km az=139.4*
*JMA **28** 07:07:14.8±0.1, 3.570N×140.76E, h48km±1km, M3.1*
JMA Felt I J1.
*NEIC **28** 07:07:14.9, 3.571N×140.76E, h48km, MG3.1(JMA), After JMA.*

ISC 28 07:07:15.0±0.7, 3.570N±004×140.87E±008, h47km±5km, n20, σ0.91/29, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.01**	**263**	P	**Pn**	**07 07 22.3**	**+0.1**
CHOJ				S	**Sn**	**07 07 27.9**	**+0.6**
JCN	**Nagara**	**0.61**	**242**	P	**Pn**	**07 07 26.9**	**-0.5**
JCN				S	**Sn**	**07 07 36.2**	**-0.2**
JYT	**Yasato**	**0.76**	**314**	P	**Pn**	**07 07 28.5**	**-0.8**
JYT				S	**Sn**	**07 07 38.8**	**-0.9**
BSO4	**Boso 4**	**0.83**	**211**	P	**Pn**	**07 07 30.1**	**-0.2**
JHO	**Hitachi**	**0.94**	**345**	P	**Pn**	**07 07 32.1**	**+0.4**
BSO3	**Boso 3**	**0.95**	**198**	P	**Pn**	**07 07 31.8**	**-0.1**
BSO3				S	**Sn**	**07 07 47.0**	**+2.7**
BSO2	**Boso 2**	**0.95**	**186**	*eS*	**Sn**	**07 07 45.2**	**+0.7**
BSO1	**Boso 1**	**1.05**	**175**	P	**Pn**	**07 07 33.2**	**-0.1**
JAG	**Ashikaga**	**1.35**	**303**	P	**Pn**	**07 07 36.6**	**-0.8**
JOD2	**Odawara 2**	**1.52**	**254**	P	**Pn**	**07 07 38.5**	**-1.1**
JIM2	**Oshima 3**	**1.53**	**230**	P	**Pn**	**07 07 38.0**	**-1.8**
MJAR	**Matsushiro Arr**	**2.31**	**292**	Pn	**Pn**	**07 07 50.7**	**+0.3**
	13nm,0.3s,baz=94,slow=14,SNR=86						
MJAR				Sn	**Sn**	**07 08 21.3**	**+3.6**
	7.7nm,0.3s,baz=18,slow=25,SNR=8.6						
MJAR	**Matsushiro Arr**	**2.31**	**292**	Pn	**Pn**	**07 07 50.7**	**+0.3**
MJAR				Sn	**Sn**	**07 08 21.3**	**+3.6**
MAJO	**Matsushiro**	**2.31**	**292**	*e*Pn	**Pn**	**07 07 51.0**	**+0.5**
MAJO				*e*Sn	**Sn**	**07 08 20.4**	**+2.7**
MAT	**Matsushiro**	**2.31**	**292**	P	**Pn**	**07 07 50.6**	**+0.1**
MAT				S	**Sn**	**07 08 17.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.73**	**199**	Pn	**Pn**	**07 07 55.8**	**-0.4**
	13nm,0.3s,baz=99,slow=19,SNR=5.6						
JHJ				Sn	**Sn**	**07 08 27.3**	**-0.7**
	37nm,0.3s,baz=233,slow=22,SNR=7.3						
SONM	**Songino Array**	**28.19**	**306**	P	**P**	**07 13 03.3**	**+0.3**
	0.4nm,0.6s,mb3.2,baz=104,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**44.46**	**303**	P	**P**	**07 15 21.6**	**+0.3**
	0.8nm,0.5s,mb3.7,baz=84,slow=9.8,SNR=8.4						
WRA	**Warramunga Arr**	**55.68**	**187**	P	**P**	**07 16 45.7**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=1.3,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**59.41**	**187**	P	**P**	**07 17 13.7**	**+1.1**
	0.2nm,0.6s,mb3.3,baz=19,slow=12,SNR=4.9						

*ISCJB **28** 07:13:14.5±0.3, 35.1N±003×122.93E±004, h528km±3km, mb4.6/66, Error ellipse: s-maj=5.9km s-min=4.4km az=176.6*
*MOS **28** 07:13:14.6±0.9, 35.0N×122.92E, h532km, mb4.6/18, Error ellipse: s-maj=16.1km s-min=7.2km az=101.1*
*BJI **28** 07:13:14.7, 33.2N×123.14E, h559km, mB4.9, mb4.9*
*IDC **28** 07:13:15.5±0.9, 35.0N×123.03E, h528km±9km, mb3.9/21, mb1 3.9/21, mb1mx3.8/27, mbtmp4.7/21, Error ellipse: s-maj=11.7km s-min=6.4km az=78.0*
*NEIC **28** 07:13:15.7±0.5, 34.9N×122.88E, h530km±6km, mb4.7/18, Error ellipse: s-maj=7.9km s-min=4.8km az=82.0*

ISC 28 07:13:15.5±0.3, 35.0N±003×122.94E±004, h526km±3km, h528km±4.3km; pP-P, n172, σ0.98/175, mb4.6/66, 16C-8D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.09**	**31**	⇑*eP*	**P**	**07 14 39.1**	**+2.8**
PAGZ	**Pagadian**	**4.34**	**6**	*eP*	**P**	**07 14 38.4**	**0.0**
DAV	**Davao City (W)**	**4.42**	**36**	*eP*	**P**	**07 14 40.6**	**+1.7**
MATI	**Mati**	**4.76**	**44**	*eP*	**P**	**07 14 39.6**	**-2.2**
BUKP	**Musuan**	**4.84**	**26**	*eP*	**P**	**07 14 42.9**	**+0.4**
TSM	**Tawau**	**5.12**	**279**	P	**P**	**07 14 44.2**	**-0.7**
CGP	**Cagayan de Oro**	**5.22**	**19**	⇓*iP*	**P**	**07 14 45.9**	**+0.1**
TARAI	**Tarakan**	**5.36**	**268**	P	**P**	**07 14 46.8**	**-0.3**
	790nm,0.9s						
PCI	**Palu**	**5.36**	**215**	P	**P**	**07 14 44.6**	**-2.5**
	2μm,1.1s						
SNPH	**Sibulan**	**5.81**	**3**	*eP*	**P**	**07 14 50.5**	**-0.7**
GUIM	**Jordan**	**7.09**	**357**	*eP*	**P**	**07 15 02.7**	**-0.7**
KKM	**Kota Kinabalu**	**7.16**	**291**	P	**P**	**07 15 03.4**	**-0.7**
KKM	**Kota Kinabalu**	**7.16**	**291**	*eP*	**P**	**07 15 03.0**	**-1.1**
KKM				*eS*	**S**	**07 16 28.4**	**-4.8**
CUYO	**Cuyo Island**	**7.55**	**345**	*eP*	**P**	**07 15 08.3**	**+0.4**
PLP	**Palo**	**7.88**	**15**	*eP*	**P**	**07 15 10.4**	**-0.9**
ENPP	**El Nido**	**8.41**	**336**	*eP*	**P**	**07 15 16.9**	**+0.2**
OTRP	**Odiongan**	**8.85**	**354**	*eP*	**P**	**07 15 21.5**	**+0.3**
AAI	**Ambon**	**8.86**	**144**	P	**P**	**07 15 21.9**	**+0.6**
	216nm,0.9s						
BUSP	**Coron**	**8.87**	**342**	*eP*	**P**	**07 15 21.6**	**+0.2**
SWI	**Sorong**	**9.38**	**117**	P	**P**	**07 15 27.3**	**+0.7**
	68nm,0.6s						
AUQP	**San Andres**	**9.76**	**358**	*eP*	**P**	**07 15 26.5**	**-4.1**
BOAC	**Boac**	**9.96**	**354**	*eP*	**P**	**07 15 31.9**	**-0.7**
PVCP	**Virac**	**10.10**	**7**	*eP*	**P**	**07 15 34.0**	**-0.1**
PGP	**Puerto Galera**	**10.13**	**349**	⇓*iP*	**P**	**07 15 35.4**	**+1.0**
LUBP	**Lubang**	**10.51**	**346**	*eP*	**P**	**07 15 38.7**	**+0.3**
TGY	**Tagaytay City**	**10.72**	**349**	P	**P**	**07 15 40.5**	**-0.1**
	132nm,0.3s,baz=219,slow=3.6,SNR=13						
BALP	**Baler**	**12.24**	**354**	*eP*	**P**	**07 15 54.8**	**-1.6**
KSM	**Kuching**	**12.78**	**261**	*eP*	**P**	**07 16 02.0**	**-0.1**
KSM				*eS*	**S**	**07 18 18.8**	**-0.5**
BOLP	**Bolinao**	**13.14**	**347**	*eP*	**P**	**07 16 03.7**	**-2.2**
KMMI	**Kalianget**	**13.78**	**221**	P	**P**	**07 16 12.2**	**-0.4**
	151nm,0.8s						
KRKI	**Karangkates**	**15.61**	**222**	P	**P**	**07 16 32.6**	**+1.1**
	675nm,0.8s						
BJII	**Banjamegara**	**17.03**	**231**	P	**P**	**07 16 45.6**	**0.0**
	212nm,0.8s						
JCJI	**Jatiwangi**	**17.69**	**236**	P	**P**	**07 16 53.3**	**+1.7**
	401nm,1.2s						
LEM	**Lembang**	**18.41**	**236**	P	**P**	**07 16 58.9**	**+0.6**
	299nm,1.0s						
KAKA	**Kakadu**	**18.67**	**150**	*eP*	**P**	**07 17 00.7**	**+0.2**
	24nm,0

CD2 Chengdu 32.72 329 *e*P **P 07 19 04.0 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
CD2 AMB AMB
comp=Z,30nm,5.2s
CTA Charters Tower 32.77 137 ScP ScP 07 24 30.0 +1.5
comp=Z,1.0nm,0.3s,baz=252,slow=3.2,SNR=4.6
XAN Xi'an 33.07 338 P **P 07 19 07.5 0.0**
XAN AMB AMB
comp=Z,28nm,0.9s,mb4.8
KS15 Wonju Array Si 34.08 7 *e*P **P 07 19 17.1 +1.1**
FORT Forrest 34.43 172⇑*i*P **P 07 19 19.4 +0.5**
comp=Z,45nm,0.6s,mb5.2
KLBR Kellerberrin 35.24 188⇓*i*P **P 07 19 25.3 -0.4**
comp=Z,9.8nm,0.3s,mb4.8
DL2 Dalian 35.26 358 P **P 07 19 26.3 +0.5**
DL2 AMB AMB
comp=Z,30nm,0.5s,mb5.1
MAJO Matsushiro 35.77 21 *e*P **P 07 19 29.3 -0.7**
MAJO pmax pmax
comp=Z,51nm,0.6s,mb5.2
MAJO Matsushiro 35.77 21 *e*P **P 07 19 29.3 -0.7**
comp=Z,51nm,0.6s,mb5.2
MAT Matsushiro 35.77 21 P **P 07 19 29.2 -0.8**
MJAR Matsushiro Arr 35.77 21 P **P 07 19 29.5 -0.6**
comp=Z,56nm,0.7s,mb5.2,baz=195,slow=8.7,SNR=177
MJAR ScP ScP 07 24 41.0 +1.7
comp=Z,7.7nm,0.9s,baz=204,slow=4.4,SNR=17
MUN Mundaring 35.86 190⇓*i*P **P 07 19 45.6 +15**
NWAO Narrogin (SRO) 36.63 188 P **P 07 19 37.5 +0.4**
comp=Z,28nm,0.6s,mb4.9,baz=12,slow=7.3,SNR=23
BJI Beijing 36.89 351 *e*P **P 07 19 39.3 0.0**
BJI AMB AMB
comp=Z,35nm,0.9s,mb4.9
BJI Beijing 36.89 351 *e*P **P 07 19 39.2 -0.1**
BJI pmax pmax
comp=Z,35nm,0.9s,mb4.9
BJI Beijing 36.89 351 *e*P **P 07 19 39.2 -0.1**
comp=Z,35nm,0.9s,mb4.9
LZH Lanzhou 36.91 334⇑P **P 07 19 41.3 +1.9**
LZH AP pP 07 21 14.3 +3.3
LZH PP PP 07 21 23.5 +3.3
LZH XP sP 07 22 15.5 +4.4
LZH AMB AMB
comp=Z,36nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,47nm,5.2s
LZH Lanzhou 36.91 334⇑P **P 07 19 41.2 +1.8**
LZH *PP pP 07 21 14.3 +3.3
LZH 07 21 23.5
LZH *SP sP 07 22 15.4 +4.3
LZH pmax pmax
comp=Z,36nm,1.3s,mb4.7
LZH Lanzhou 36.91 334⇑P **P 07 19 41.2 +1.8**
comp=Z,36nm,1.3s,mb4.7
LZH pP pP 07 21 14.3 +3.3
LZH PP PP 07 21 23.5 +3.3
LZH sP sP 07 22 15.4 +4.3
HHC Hu-ho-hao-te 38.57 346 *e*P **P 07 19 53.8 +0.8**
HHC AMB AMB
comp=Z,25nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,108nm,4.9s
STKA Stephens Creek 39.40 155 *e*P **P 07 20 00.8 +1.1**
comp=Z,5.6nm,0.7s,mb4.2
STKA Stephens Creek 39.40 155 P **P 07 20 01.1 +1.4**
comp=Z,9.2nm,0.7s,mb4.4,baz=324,slow=9.6,SNR=18
STKA ScP ScP 07 24 53.0 -0.2
comp=Z,1.8nm,0.6s,baz=334,slow=9.3,SNR=3.0
CN2 Changchun 40.19 3⇑P **P 07 20 05.5 -0.6**
CN2 *e*AP pP 07 21 41.5 +1.9
CN2 *e*S **S 07 25 36.0 +1.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
BOK Bokaro 41.06 303 *e*P **P 07 20 11.6 -1.4**
VIS Vishakhapatnam 41.30 293 *e*P **P 07 20 14.8 -0.1**
MDJ Mudanjiang 41.37 7 P **P 07 20 15.8 +0.4**
MDJ AP pP 07 21 50.0 +0.3
MDJ AMB AMB
comp=Z,111nm,0.7s,mb5.5
MDJ AMB AMB
comp=Z,93nm,3.9s
GTA Gaotai 41.45 333 P **P 07 20 17.5 +1.4**
GTA AP pP 07 21 55.0 +4.6
GTA XP sP 07 22 53.5 +3.8
GTA S **S 07 25 51.8 -1.4**
GTA PCS PcS 07 25 55.0 +1.2
GTA SCS ScS 07 29 19.0 -0.9
GTA AMB AMB
comp=Z,38nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,148nm,5.0s
JIRN Jiri 42.49 308 *e*P **P 07 20 25.3 +1.0**
comp=Z,17nm,0.4s,mb4.9
GUN Gumba 42.85 308 *e*P **P 07 20 28.1 +1.0**
comp=Z,30nm,0.4s,mb5.2
PKI Pulchoki 43.06 308 *e*P **P 07 20 29.0 +0.2**
KKN Kakani 43.26 308 *e*P **P 07 20 30.4 +0.1**
comp=Z,11nm,0.4s,mb4.8
DMN Daman 43.32 307 *e*P **P 07 20 31.8 +1.0**
GKN Gorkha 43.87 308 *e*P **P 07 20 35.9 +0.9**
comp=Z,11nm,0.4s,mb4.7
KOLN Koldanda 44.59 307 *e*P **P 07 20 41.5 +0.9**
comp=Z,52nm,0.8s,mb5.1
HYB Hyderabad 45.65 291 *i*P **P 07 20 49.0 +0.3**
TRD Trivandrum 45.97 278 *e*P **P 07 20 51.0 -0.2**
TRD AMb AMB 07 20 53.0
comp=Z,86nm,0.9s,mb5.3
KLR Kul'dur 46.18 8 *e*P **P 07 20 49.8 -3.0**
KLR *e* 07 22 52.0
SONM Songino Array 46.41 345 P **P 07 20 55.1 +0.6**
comp=Z,14nm,0.8s,mb4.5,baz=158,slow=9.0,SNR=89
SONM PcP PcP 07 22 18.2 -0.4
comp=Z,1.6nm,0.6s,baz=174,slow=4.2,SNR=4.3
SONM ScP ScP 07 25 22.4 +0.7
comp=Z,1.3nm,0.6s,baz=166,slow=4.3,SNR=5.4
SONM Songino Array 46.41 345 P **P 07 20 55.1 +0.6**
SONM 07 22 18.2
YSS Yuzh-Sakhalins 46.57 19 *e*P **P 07 20 56.0 +0.3**
YSS pmax pmax
comp=Z,19nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 46.57 19 *e*P **P 07 20 56.0 +0.3**
comp=Z,19nm,0.7s,mb4.7
YSS *e* 07 21 47.1
BHPL Bhopal 48.15 298 *e*P **P 07 21 08.0 +0.4**
BHPL AMb AMB 07 21 08.5
comp=Z,39nm,0.9s,mb4.9
MNGI Mangalore 48.46 284 *e*P **P 07 21 08.8 -1.1**
MNGI AMb AMB 07 22 33.8
comp=Z,82nm,1.2s,mb5.1
CIT Chita 48.99 352 *e*P **P 07 21 16.4 +2.6**
ZAK Zakamensk 49.58 344⇑*i*P **P 07 21 18.6 +0.4**
NDI New Delhi 50.12 305 *e*P **P 07 21 20.4 -1.7**
POO Poona 50.26 291 *e*x x 07 21 29.5
TLY Talaya 50.65 345 *e*P **P 07 21 26.5 +0.4**
TLY pmax pmax
comp=Z,16nm,1.0s,mb4.3
WMQ Urumqi 50.81 327⇓*i*P **P 07 21 28.8 +1.6**
WMQ PCP PcP 07 22 37.0 +2.2
WMQ AP pP 07 23 09.0 +2.0
WMQ PP PP 07 23 34.0 +3.5
WMQ AMB AMB
comp=Z,18nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,167nm,4.4s
AJM Ajmer 51.53 301 *e*P **P 07 21 31.9 -0.5**
AJM AMb AMB 07 21 42.6
comp=Z,38nm,0.4s,mb5.0
CLNS Chul'man 53.21 1 *e*P **P 07 21 44.1 -0.3**
CLNS pmax pmax
comp=Z,31nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
BOD Bodaibo 54.62 354⇓*i*P **P 07 21 54.4 -0.1**
BOD pmax pmax
comp=Z,33nm,0.8s,mb4.6
MK31 Makanchi Array 55.64 327 *e*P **P 07 22 02.3 +0.8**
MK31 *e* 07 22 53.4
MKAR Makanchi Array 55.64 327 P **P 07 22 02.3 +0.8**
comp=Z,5.1nm,0.4s,mb4.1,baz=123,slow=8.5,SNR=45
MKAR PcP PcP 07 22 51.5 -1.8
comp=Z,3.0nm,0.6s,baz=120,slow=4.7,SNR=7.5
MKAR ScP ScP 07 26 02.0 +0.5
comp=Z,7.4nm,0.6s,baz=121,slow=4.7,SNR=19
MKAR Makanchi Array 55.64 327 P **P 07 22 02.3 +0.8**
MKAR 07 22 51.6
PET Petropavlovsk 57.46 25⇑*e*P **P 07 22 15.5 +1.4**
PET pmax pmax
comp=Z,35nm,1.1s,mb4.5
PET Petropavlovsk 57.46 25 *e*P **P 07 22 15.0 +1.0**
comp=Z,44nm,1.0s,mb4.6
AAK Ala-Archa 58.02 319 *e*P **P 07 22 17.3 -0.6**
YAK Yakutsk 58.61 4*c i*P **P 07 22 21.6 -0.3**
YAK pmax pmax
comp=Z,131nm,0.8s,mb5.2
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=E,7.0nm,0.7s
YAK Yakutsk 58.61 4 *e*P **P 07 22 21.9 +0.1**
comp=E,164nm,0.7s,mb5.4
MA2 Magadan 59.90 16*c i*P **P 07 22 31.6 +1.1**
MA2 *e* 07 37 00.1
MA2 pmax pmax
comp=N,40nm,0.7s
MA2 pmax pmax
comp=Z,100nm,0.7s,mb5.2
NVS Novosibirsk 60.42 335 *e*P **P 07 22 32.8 -1.1**
NVS *i* S **S 07 30 06.5 -1.8**
NVS *i* *SS ScS 07 31 24.7 -6.9
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
NVS pmax pmax
comp=E,14nm,1.3s
NVS smax
comp=N,16nm,1.6s
NVS smax
comp=E,21nm,1.6s
SEY Seymchan 63.16 15⇑*e*P **P 07 22 53.5 +1.7**
BVAR Borovoye Array 65.48 328 P **P 07 23 05.7 -0.8**
comp=E,2.5nm,0.6s,mb3.9,baz=134,slow=8.5,SNR=16
BRVK Borovoye 65.56 328 *e*P **P 07 23 06.8 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
BRVK Borovoye 65.56 328 *e*P **P 07 23 06.8 -0.2**
comp=Z,5.7nm,0.8s,mb4.2
CHKZ Chkalovo 65.69 329 *e*P **P 07 23 07.4 -0.4**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
CHKZ Chkalovo 65.69 329 *e*P **P 07 23 07.4 -0.4**
comp=Z,6.1nm,0.8s,mb4.2
ZRNK Zerenda 66.18 328 *e*P **P 07 23 10.7 -0.2**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
ZRNK Zerenda 66.18 328 *e*P **P 07 23 10.7 -0.2**
comp=Z,6.7nm,0.5s,mb4.4
TIXI Tiksi 68.16 2⇑*e*P **P 07 23 22.1 -0.9**
TIXI pmax pmax
comp=Z,48nm,0.9s,mb5.0
TIXI Tiksi 68.16 2 *e*P **P 07 23 22.0 -1.1**
CASY Casey 70.19 185 *e*P **P 07 23 34.7 -0.5**
BILL Bilibino 70.78 16 *e*P **P 07 23 37.4 -1.3**
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
AKTK Aktyubinsk 71.51 322 P **P 07 23 43.1 +0.1**
AKTO Aktyubinsk 71.51 322 P **P 07 23 43.1 +0.1**
comp=Z,3.0nm,0.4s,mb4.0,baz=109,slow=7.6,SNR=20
OPO Ambohidratompo 77.65 250 P **P 07 24 18.2 +0.7**
comp=Z,5.6nm,0.6s,mb4.1,baz=65,slow=3.4,SNR=16
SDPT Sand Point 79.51 34 *e*P **P 07 24 27.6 +0.1**
SVW2 Sparrevohn 82.83 29 *e*P **P 07 24 45.6 +1.0**
VNDA Vanda 83.70 172 P **P 07 24 48.2 -0.6**
comp=Z,1.7nm,0.7s,mb3.7,baz=314,slow=5.4,SNR=19
VNDA Vanda 83.70 172 *e*P **P 07 24 48.4 -0.5**
comp=Z,1.3nm,0.7s,mb3.6
IMA2 Indian Mountai 84.13 24 *e*P **P 07 24 51.8 +0.8**
ASF Jabal al Asfar 84.80 302 P **P 07 24 55.9 +1.6**
comp=Z,4.0nm,0.8s,mb4.0,baz=51,slow=5.9,SNR=5.4
OBN Obninsk 85.07 325 *e*P **P 07 24 55.2 -0.4**
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
SLKM Skilak Lake 85.42 30 *e*P **P 07 24 55.3 -2.0**
KMBO Kiima Mbogo 85.76 269 P **P 07 25 00.7 +1.7**
comp=Z,8.3nm,0.8s,mb4.4,baz=50,slow=6.7,SNR=19
KMBO Kilima Mbogo 85.76 269⇑*e*P **P 07 25 01.1 +2.1**
PMR Palmer 85.96 29 *e*P **P 07 24 59.1 -0.8**
PMR pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
PMR Palmer 85.96 29 *e*P **P 07 24 59.1 -0.8**
comp=Z,3.2nm,0.4s,mb4.3
MMAI Mount Meron Ar 86.05 303 P **P 07 25 00.9 +0.6**
comp=Z,1.0nm,0.5s,mb3.7,baz=97,slow=4.6,SNR=4.6
MCK McKinley 86.05 26 *e*P **P 07 25 00.1 -0.2**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MCK McKinley 86.05 26 *e*P **P 07 25 00.1 -0.3**
comp=Z,7.4nm,0.8s,mb4.4
SML Sawmill 86.34 28 *e*P **P 07 25 01.7 0.0**
COLA College 86.52 25 *e*P **P 07 25 01.8 -0.7**
JOF Joensuu 87.65 333 *e*p **P 07 25 06.3 -1.6**
comp=Z,4.6nm,0.4s,mb4.6
ARCES ARCESS Array B 89.35 340 P **P 07 25 14.3 -1.5**
comp=Z,2.7nm,0.7s,mb4.2,baz=85,slow=5.8,SNR=15
KAF Kangasniemi 90.04 332 *e*p **P 07 25 16.6 -2.4**
comp=Z,7.3nm,0.5s,mb4.8
KAF Kangasniemi 90.04 332 *e*P **P 07 25 16.6 -2.4**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
DAWY Dawson 90.24 26 *e*P **P 07 25 20.3 +0.4**
FINES FINESS Array B 90.24 332 P **P 07 25 18.4 -1.4**
comp=Z,3.2nm,0.8s,mb4.2,baz=59,slow=5.0,SNR=11
FINES FINESS Array B 90.24 332 *i*P **P 07 25 18.3 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 90.24 332 P **P 07 25 18.4 -1.4**
SYO Syowa Base 90.85 201⇑*e*P **P 07 25 21.6 -1.1**
SYO Syowa Base 90.85 201⇑*e*pP pP 07 27 17.0 -2.0
HFS Hagfors 96.44 332 P **P 07 25 46.2 -2.0**
comp=Z,1.5nm,0.8s,mb4.3,baz=48,slow=2.1,SNR=3.7
NOA NORSAR Array B 97.29 333 P **P 07 25 50.7 -1.2**
comp=Z,1.4nm,0.9s,mb4.2,baz=47,slow=6.5,SNR=3.2
VNA2 Neumayer--Watz 105.64 195 *e*Pdiff Pdif 07 26 38.2 +9.1
VNA2 *e* 07 26 50.6
VNA2 *e* 07 26 57.2
VNA2 *e* 07 27 13.4
ULM Lac du Bonnet 116.92 27 PKP PKPdf 07 30 59.8 -0.5
comp=Z,1.3nm,0.5s,baz=156,slow=21,SNR=3.2
TORD Torodi Ar. Bea 119.38 287 PKP PKPdf 07 31 05.7 +0.6
comp=Z,1.2nm,0.7s,baz=63,slow=1.7,SNR=8.0
TORD SKP 07 33 51.0
comp=Z,1.2nm,0.9s,baz=61,slow=2.4,SNR=4.6
SCHQ Schefferville 121.31 7 PKP PKPdf 07 31 08.9 +0.2
comp=Z,1.7nm,0.4s,baz=178,slow=10,SNR=6.0
TXAR Lajitas Array 124.70 51 PKP PKPdf 07 31 17.2 +2.0
comp=Z,0.7nm,0.7s,baz=264,slow=1.0,SNR=9.5
TXAR SKPbc 07 33 41.8
comp=Z,0.5nm,0.7s,baz=269,slow=2.9,SNR=5.7

IDC ***28*** *07:26:11.8±1.8, 4689N×153.12E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/27, Error ellipse: s-maj=56.9km s-min=20.5km az=1.0*
MOS ***28*** *07:26:13.7±1.3, 4653N×15291E, h33km, mb4.3/10, Error ellipse: s-maj=18.4km s-min=14.4km az=100.3*
ISCJB ***28*** *07:26:14.9±1.6, 465N±02×1530E±01, h46km±13km, mb4.0/16, Error ellipse: s-maj=30.8km s-min=10.6km az=127.0*
NEIC ***28*** *07:26:15.0±1.3, 4702N×15302E, h15km, mb4.1/4, Error ellipse: s-maj=41.5km s-min=14.2km az=178.0*
ISC 28 07:26:17.8±1.5,**466N**±02×**1529E**±01,**h53**km±12km**, n34,**
σ0**91**/35,**mb4.0**/16,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**251**	*e*PN	**Pn**	**07 27 10.0**	**-3.4**
KUR				*e*S	**Sn**	**07 27 56.0**	**-0.5**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,170nm,0.5s						
KUR				smax			
	comp=N,160nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.62**	**26**	*e*PN	**Pn**	**07 27 25.0**	**0.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**7.67**	**255**	Pn	**Pn**	**07 28 08.3**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=321,slow=12,SNR=5.6						
ASAJ				LR	LR	07 30 56.4	
	comp=Z,56nm,18.8s,baz=246,slow=36						
ASAJ	**Asahikawa**	**7.67**	**255**	PN	**Pn**	**07 28 08.3**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,56nm,18.8s						
MDJ	**Mudanjiang**	**16.43**	**272**	*e*Pn	**Pn**	**07 30 05.2**	**+0.5**
	comp=Z,3.2nm,0.4s						
MKAR	**Makanchi Array**	**46.89**	**297**	P	**P**	**07 34 42.5**	**-0.2**
	comp=Z,2.2nm,1.0s,mb4.1,baz=69,slow=7.9,SNR=7.5						
MKAR	**Makanchi Array**	**46.89**	**297**	*e*P	**P**	**07 34 42.6**	**-0.2**
CHKZ	**Chkalovo**	**50.43**	**310**	*e*P	**P**	**07 35 09.3**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**50.43**	**310**	*e*P	**P**	**07 35 09.3**	**-0.6**
	comp=Z,4.3nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**07 35 12.7**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=54,slow=8.3,SNR=4.0						
BVAR	**Borovoye Array**	**50.85**	**309**	P	**P**	**07 35 12.7**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**51.62**	**310**	*e*P	**P**	**07 35 18.5**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8						
AAK	**Ala-Archa**	**53.78**	**296**	*e*P	**P**	**07 35 33.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AKTK	**Aktyubinsk**	**58.73**	**312**	P	**P**	**07 36 10.4**	**+0.3**
AKTO	**Aktyubinsk**	**58.73**	**312**	P	**P**	**07 36 10.4**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=76,slow=13,SNR=3.2						
AKTO	**Aktyubinsk**	**58.73**	**312**	P	**P**	**07 36 10.4**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**62.63**	**62**	P	**P**	**07 36 37.0**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=284,slow=7.3,SNR=4.1						
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**	**07 36 45.9**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.3,baz=35,slow=7.0,SNR=8.4						
FINES	**FINESS Array B**	**64.13**	**335**	*e*P	**P**	**07 36 46.6**	**+0.1**
PDAR	**Pinedale Array**	**64.95**	**54**	P	**P**	**07 36 51.6**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=254,slow=1.1,SNR=4.3						
NB2	**NORSAR Subarra**	**68.34**	**341**	P	**P**	**07 37 13.5**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=30,slow=6.5						
NB2	**NORSAR Subarra**	**68.34**	**341**	P	**P**	**07 37 13.5**	**0.0**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**	**07 37 13.4**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=4.9						
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**	**07 37 13.4**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.56**	**339**	P	**P**	**07 37 15.2**	**+0.3**
	comp=Z,2.4nm,0.9s,mb4.2,baz=51,slow=7.8,SNR=10						
HFS	**Hagfors**	**68.56**	**339**	P	**P**	**07 37 15.2**	**+0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**07 37 33.4**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.4,baz=35,slow=6.2,SNR=10						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**07 37 33.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**07 38 08.1**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=295,slow=3.9,SNR=7.7						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**07 38 08.1**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.41**	**317**	P	**P**	**07 38 14.6**	**+1.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=80,slow=7.7,SNR=5.3						
BRTR	**Keskin Array B**	**78.41**	**317**	*e*P	**P**	**07 38 14.8**	**+2.0**
GERES	**GERESS Array B**	**78.54**	**334**	P	**P**	**07 38 12.1**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=19,slow=8.5,SNR=3.5						
MMAI	**Mount Meron Ar**	**82.82**	**311**	P	**P**	**07 38 38.6**	**+2.3**
	comp=Z,2.8nm,0.9s,mb4.3,baz=57,slow=5.3,SNR=2.5						

IDC ***28*** *07:27:08.9±1.5, 348N×12304E, h536km±17km, mb3.2/11, mb1 3.2/11, mb1mx3.1/22, mbtmp4.1/11, Error ellipse: s-maj=20.8km s-min=8.3km az=85.0*
NEIC ***28*** *07:27:08.8±3.2, 353N×12292E, h536km±47km, mb4.2/1, Error ellipse: s-maj=32.3km s-min=9.2km az=89.0*
ISCJB ***28*** *07:27:09.3±2.5, 352N±007×1231E±02, h562km±38km, mb3.9/12, Error ellipse: s-maj=29.9km s-min=10.3km az=175.4*
ISC 28 07:27:10.7±2.5,**353N**±007×**1231E**±02,**h562**km±36km**, n18,**
σ0**58**/18,**mb3.9**/12,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64**	**173**	P	**P**	**07 31 20.3**	**-0.6**
	0.6nm,0.4s,mb3.5,baz=350,slow=17,SNR=6.8						
JOW	**Kunigami**	**23.70**	**12**	P	**P**	**07 31 39.9**	**+0.7**
	13nm,0.5s,mb4.8,baz=231,slow=9.0,SNR=5.3						
WRA	**Warramunga Arr**	**25.81**	**155**	P	**P**	**07 31 57.5**	**-0.4**
	0.4nm,0.3s,mb3.6,baz=337,slow=9.6,SNR=17						
WRA				S	**S**	**07 35 47.0**	**-1.3**
	0.5nm,0.7s,baz=334,slow=16,SNR=3.6						
WRA				ScP	ScP	07 37 59.8	+5.2
	0.4nm,0.4s,baz=333,slow=2.6,SNR=10.0						
ASAR	**Alice Springs**	**29.01**	**159**	P	**P**	**07 32 26.1**	**+0.3**
	0.4nm,0.3s,mb3.5,baz=331,slow=7.5,SNR=13						
ASAR				S	**S**	**07 36 38.8**	**+0.7**
	1.4nm,0.8s,baz=347,slow=19,SNR=10						
ASAR				ScP	ScP	07 38 09.8	+5.2
	0.4nm,0.5s,baz=339,slow=3.2,SNR=7.2						
CBIJ	**Chichi jima**	**29.71**	**36**	P	**P**	**07 32 31.6**	**-0.3**
	56nm,0.5s,baz=254,slow=22,SNR=13						
MAJO	**Matsushiro**	**35.69**	**21**	*e*P	**P**	**07 33 22.0**	**-0.3**
	5.0nm,0.7s,mb4.2						
MAT	**Matsushiro**	**35.69**	**21**	P	**P**	**07 33 21.7**	**-0.6**
MJAR	**Matsushiro Arr**	**35.69**	**21**	P	**P**	**07 33 22.1**	**-0.2**
	7.6nm,0.7s,mb4.3,baz=196,slow=8.9,SNR=24						
NWAO	**Narrogin (SRO)**	**36.68**	**188**	P	**P**	**07 33 30.3**	**-0.2**
	4.9nm,0.6s,mb4.2,baz=46,slow=9.5,SNR=4.9						
STKA	**Stephens Creek**	**39.37**	**155**	P	**P**	**07 33 53.7**	**+1.4**
	1.6nm,0.8s,mb3.6,baz=313,slow=8.6,SNR=5.7						
STKA	**Stephens Creek**	**39.37**	**155**	P	**P**	**07 33 53.7**	**+1.4**
ASAJ	**Asahikawa**	**43.94**	**20**	P	**P**	**07 34 29.0**	**+0.6**
	11nm,0.6s,mb4.5,baz=247,slow=7.5,SNR=6.7						
SONM	**Songino Array**	**46.42**	**345**	P	**P**	**07 34 47.2**	**-0.1**
	1.0nm,0.6s,mb3.5,baz=160,slow=9.0,SNR=7.3						
OPO	**Ambohidratompo**	**77.80**	**250**	P	**P**	**07 38 10.3**	**-0.1**
	1.9nm,0.7s,mb3.5,baz=45,slow=8.6,SNR=3.5						
VNDA	**Vanda**	**83.71**	**172**	P	**P**	**07 38 41.0**	**+0.1**
	0.3nm,0.6s,mb3.0,baz=332,slow=8.2,SNR=5.5						
VNDA	**Vanda**	**83.71**	**172**	P	**P**	**07 38 41.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**119.51**	**287**	PKP	PKPdf	07 44 58.4	+1.5
	0.5nm,0.6s,baz=40,slow=0.6,SNR=5.0						
CFAA	**Coronel Fontan**	**150.11**	**160**	PKPbc	PKPbc	07 45 59.8	+1.4
	0.3nm,0.7s,baz=238,slow=1.6,SNR=7.5						

ATH ***28*** *07:34:36.8, 4004N×2077E, h3km±3km, MD3.0/4*
THE ***28*** *07:34:39.4, 3998N×2069E, h10km, ML2.3*
ISC 28 07:34:39.4±0.7,**3998N**±003×**2069E**±004,**h3**km±7km**, n11,**
σ1**19**/19,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.34**	**158**	*e*PG	**Pg**	**07 34 44.1**	**-1.9**
JAN				*e*SG	**Sg**	**07 34 49.8**	**-0.6**
MEV	**Metsovon**	**0.46**	**114**	*e*Pg	**Pg**	**07 34 46.7**	**-1.5**
MEV				*e*Sg	**Sg**	**07 34 54.9**	**+0.7**
IGT	**Igoumenitsa**	**0.52**	**212**	*e*Pg	**Pg**	**07 34 49.2**	**-0.2**
IGT				*e*Sg	**Sg**	**07 34 57.6**	**+1.5**
KEK	**Kerkira**	**0.73**	**249**	*e*PB	**Pg**	**07 34 52.4**	**-1.0**
KEK				*e*SG	**Sg**	**07 35 03.6**	**+0.7**
FNA	**Florina**	**0.96**	**33**	*e*Pg	**Pg**	**07 34 56.9**	**-0.9**
FNA				*e*Sg	**Sg**	**07 35 12.0**	**+1.6**
LKD	**Levkas**	**1.27**	**181**	*e*Pg	**Pg**	**07 35 02.8**	**-0.8**
LKD				*e*Sg	**Sg**	**07 35 22.4**	**+2.3**
EVR	**Evrytania**	**1.37**	**140**	*e*PB	**Pn**	**07 35 02.7**	**-2.6**
LIT	**Litokhoron**	**1.39**	**84**	*e*Pg	**Pn**	**07 35 05.2**	**-0.5**
LIT				*e*Sg	**Sg**	**07 35 25.3**	**+1.3**
AGG	**Agios Georgios**	**1.59**	**126**	*e*Pg	**Pn**	**07 35 07.9**	**-0.5**
AGG				*e*Sg	**Sn**	**07 35 30.4**	**+1.0**
GRG	**Griva**	**1.64**	**53**	*e*Pb	**Pn**	**07 35 09.1**	**+0.1**
VLS	**Valsamata**	**1.80**	**182**	*e*PB	**Pn**	**07 35 12.0**	**+0.8**

*ISCJB **28** 07:56:29.6±6.7, 245S±02×1798E±02, h433km±78km, mb3.5/4, Error ellipse: s-maj=36.7km s-min=20.7km az=127.4*
*IDC **28** 07:56:33.1±9.9, 2458S×17979E, h466km±118km, mb3.1/3, mb1 3.4/4, mb1mx3.1/11, mbtmp4.0/4, Error ellipse: s-maj=82.9km s-min=28.0km az=8.0*
ISC 28 07:56:34.3±5.0, 247S±02×1798E±02, h475km±63km, n7, σ0°56/7, mb3.6/4, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.69**	**189**	P	**P**	**07 59 30.8**	**-0.2**
	1.7nm,0.3s,baz=17,slow=1.6,SNR=13						
URZ				S	**S**	**08 01 57.0**	**+0.1**
	0.5nm,0.3s,baz=37,slow=20,SNR=5.5						
CTA	**Charters Tower**	**31.29**	**272**	*e*P	**P**	**08 02 15.0**	**+0.8**
	1.6nm,0.3s,mb3.9						
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**08 03 40.5**	**0.0**
	0.4nm,0.4s,mb3.2,baz=93,slow=7.0,SNR=12						
WB2	**Warramunga Arr**	**42.15**	**267**	⇓*i*P	**P**	**08 03 43.3**	**-0.6**
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**08 03 43.8**	**-0.2**
	0.9nm,0.3s,mb3.7,baz=100,slow=6.7,SNR=61						
TXAR	**Lajitas Array**	**91.03**	**58**	P	**P**	**08 08 47.1**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=217,slow=7.7,SNR=8.0						
AKASG	**Malin Array Be**	**145.54**	**326**	PKPbc	PKPbc	08 15 16.5	-2.3
	0.3nm,0.3s,baz=45,slow=4.3,SNR=5.5						

*ISCJB **28** 08:41:44.9±1.9, 60S±02×1276E±02, h375km±20km, mb3.5/1, Error ellipse: s-maj=38.1km s-min=19.0km az=127.3*
*NEIC **28** 08:41:48.5±2.4, 6.10S×12767E, h403km±31km, mb4.2/3, Error ellipse: s-maj=27.5km s-min=23.1km az=91.0*
*IDC **28** 08:41:50.2±3.2, 6.24S×127.44E, h422km±35km, mb3.0/1, mb1 2.9/4, mb1mx2.8/14, mbtmp3.7/4, Error ellipse: s-maj=82.2km s-min=15.3km az=67.0*
ISC 28 08:41:48.9±2.0, 61S±02×1277E±02, h407km±22km, n8, σ0°34/9, mb3.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.06**	**145**	*e*P	**P**	**08 43 44.3**	**-0.3**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.09**	**189**	*e*P	**P**	**08 44 29.1**	**-0.1**
	2.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.09**	**189**	P	**P**	**08 44 29.1**	**-0.2**
	0.2nm,0.3s,baz=17,slow=8.5,SNR=6.4						
WRA	**Warramunga Arr**	**15.19**	**155**	P	**P**	**08 45 03.3**	**+0.2**
	0.8nm,0.3s,baz=332,slow=11,SNR=81						
WB2	**Warramunga Arr**	**15.20**	**155**	*e*P	**P**	**08 45 02.8**	**-0.3**
MBWA	**Marble Bar**	**16.84**	**207**	*e*P	**P**	**08 45 20.6**	**-0.1**
	15nm,1.2s						
ASAR	**Alice Springs**	**18.45**	**162**	P	**P**	**08 45 38.5**	**+0.8**
	0.1nm,0.3s,baz=345,slow=12,SNR=9.2						
ASAR				S	**S**	**08 48 46.5**	**-0.1**
	baz=335,slow=18,SNR=8.4						
MKAR	**Makanchi Array**	**66.24**	**328**	P	**P**	**08 51 54.8**	**0.0**
	0.5nm,0.5s,mb3.5,baz=117,slow=8.1,SNR=6.3						

IDC 28 08:41:54.9±1.5, 298S×12968E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=74.1km s-min=23.5km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.54**	**194**	Pn	Pn	08 45 35.1	-0.3
	0.2nm,0.3s,baz=18,slow=9.6,SNR=4.0						
WRA	**Warramunga Arr**	**17.46**	**165**	P	Pn	08 45 58.5	-1.3
	0.7nm,0.3s,baz=354,slow=12,SNR=11						
WB2	**Warramunga Arr**	**17.47**	**165**	*e*P	Pn	08 45 58.6	-1.2
ASAR	**Alice Springs**	**20.97**	**169**	P	P	08 46 40.3	+0.8
	5.8nm,0.4s,baz=346,slow=10,SNR=66						
ASPA	**Alice Springs**	**20.97**	**169**	*e*P	P	08 46 40.2	+0.7
CTA	**Charters Tower**	**23.47**	**138**	P	P	08 47 06.7	+0.6
	2.3nm,0.8s,baz=307,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**64.72**	**326**	P	P	08 52 35.0	+0.1
	0.2nm,0.4s,baz=108,slow=9.3,SNR=3.5						

MAN 28 08:46:15.5, 1149N×12525E, h37km, mb2.2, ML3.8, MS5.1, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.21**	**60**	*e*P	Pn	08 46 23.8	+1.2
PLP	**Palo**	**0.42**	**219**	*i* P	Pn	08 46 27.0	+1.9
PLP				*e*S	Sn	08 46 34.1	+2.3
OCLP	**Ormoc**	**0.77**	**235**	*e*P	Pn	08 46 31.6	+1.8
GUIM	**Jordan**	**2.75**	**252**	*e*P	Pn	08 46 57.8	+0.7

*CSEM **28** 08:50:28.8±1.1, 3730N×1228W, h10km, ML2.8/6, Error ellipse: s-maj=22.1km s-min=19.6km az=43.0*
MDD 28 08:50:27.3±3.7, 3717N×1229W, h0km, mb3.6/4, Error ellipse: s-maj=31.5km s-min=30.7km az=1.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.86**	**81**	*e*Pn	Pn	08 51 12.9	-1.4
PTEO				*e*Sn	Sn	08 51 46.3	-3.1
PTEO							
	7.2nm,0.4s						
PTEO	**Sao Teotonio**	**2.86**	**81**	*e*Pn	Pn	08 51 12.9	-1.4
PTEO				*e*Sn	Sn	08 51 46.3	-3.1
	7.2nm,0.4s						
PMAFR	**Mafra**	**2.97**	**52**	*e*Sn	Sn	08 51 53.2	+1.2
EGRO	**El Granado**	**3.85**	**83**	Pn	Pn	08 51 27.0	-0.7
	0.3nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	08 52 10.8	-2.9
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**83**	Pn	Pn	08 51 27.0	-0.7
	0.3nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	08 52 10.8	-2.8
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**68**	Pn	Pn	08 51 35.8	-0.4
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	08 52 24.3	-4.5
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**68**	Pn	Pn	08 51 35.8	-0.4
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	08 52 24.3	-4.5
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.51**	**81**	Pn	Pn	08 51 35.1	-1.8
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 52 24.9	-5.0
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.51**	**81**	Pn	Pn	08 51 35.1	-1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 52 24.9	-5.0
	0.3nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.62**	**53**	*e*Sn	Sn	08 52 30.0	-2.7
EADA	**Adamuz**	**6.20**	**78**	Pn	Pn	08 51 58.4	-1.7
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	08 53 07.0	-4.6
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.20**	**78**	Pn	Pn	08 51 58.4	-1.7
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	08 53 07.0	-4.6
	0.1nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.31**	**23**	Sn	Sn	08 53 07.5	-6.8
	1.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.31**	**23**	Sn	Sn	08 53 07.5	-6.8
	1.6nm,0.1s,SNR=7.9						

CASC 28 08:52:39.3±1.8, 1344N×8758W, h31km±12km, MD3.9, ML3.1, 7C-4D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.30**	**238**	⇑*i*P	x	08 53 03.9	
CNCH				*e*S	x	08 53 10.8	
BLLM	**Bellamira**	**0.65**	**271**	⇑*e*P	x	08 53 11.4	
BLLM				*e*S	x	08 53 21.0	
CRIN	**San Cristobal**	**0.89**	**145**	⇑*e*P	Pn	08 52 55.5	-0.2
CRIN				*e*S	Sn	08 53 09.1	+1.6
TELN	**Telica**	**1.10**	**139**	⇓*e*P	Pn	08 52 58.1	-0.4
TELN				*e*S	Sn	08 53 14.0	+1.3
LEON	**Leon**	**1.21**	**147**	⇓*e*P	Pn	08 52 58.9	-1.2
LEON				*e*S	Sn	08 53 14.7	-0.7
LEON				*i*		08 53 16.5	
	comp=Z,373nm,0.4s						
SNVI	**San Vicente**	**1.24**	**278**	*e*P	x	08 53 22.7	
SNVI				*e*S	x	08 53 40.2	
CNGN	**Cerro Negro**	**1.26**	**137**	⇓*i*P	Pn	08 53 00.3	-0.5
CNGN				*e*P		08 53 00.7	
CNGN				*e*S	Sn	08 53 17.1	+0.5
MIRN	**Miramar**	**1.30**	**140**	⇑*e*P	Pn	08 53 00.8	-0.5
MOMJ	**Momotombo**	**1.44**	**135**	*e*P	Pn	08 53 03.8	+0.6
LFRS	**El Faro**	**1.46**	**277**	⇑*e*P	x	08 53 25.2	
LFRS				*e*S	x	08 53 44.0	
COPN	**Copaltepe**	**1.57**	**142**	⇑*e*P	Pn	08 53 04.9	-0.2
XAVN	**Gruta Xavier**	**1.77**	**136**	⇑*e*P	Pn	08 53 08.0	+0.3
MGAN	**Managua**	**1.82**	**135**	⇓*e*P	Pn	08 53 08.8	+0.4
MGAN				*i*		08 53 44.7	
	comp=N,224nm,0.5s						

*ATH **28** 09:25:26.3, 3897N×2107E, h36km±2km, MD3.0/6*
*ISCJB **28** 09:25:28.9±0.5, 3887N±004×2117E±004, h24km±8km, Error ellipse: s-maj=6.3km s-min=4.8km az=117.7*
*THE **28** 09:25:28.9, 3891N×2118E, h5km, ML2.4*
ISC 28 09:25:28.9±0.6, 3887N±004×2117E±004, h19km±6km, n15, σ0°99/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.44**	**248**	*e*Pg	**Pg**	**09 25 37.3**	**-0.6**
LKD				*e*Sg	**Sg**	**09 25 44.8**	**+0.8**
EVR	**Evrytania**	**0.50**	**85**	*e*PN	**Pg**	**09 25 38.3**	**-0.8**
EVR				*e*SN	**Sg**	**09 25 47.3**	**+1.4**
JAN	**Janina**	**0.82**	**343**	*e*PN	**Pb**	**09 25 40.4**	**-4.1**
VLS	**Valsamata**	**0.83**	**213**	*e*PN	**Pb**	**09 25 43.7**	**-1.0**
VLS				*e*SN	**Sb**	**09 25 56.2**	**+0.7**
RLS	**Riolos of Patr**	**0.85**	**164**	*e*PN	**Pn**	**09 25 44.9**	**-0.9**
MEV	**Metsovon**	**0.91**	**3**	*e*Pg	**Pb**	**09 25 44.8**	**-1.3**
MEV				*e*Sg	**Sb**	**09 25 58.5**	**+0.7**
AGG	**Agios Georgios**	**0.92**	**80**	*e*Pg	**Pb**	**09 25 46.0**	**-0.2**
AGG				*e*Sg	**Sb**	**09 25 59.1**	**+1.0**
IGT	**Igoumenitsa**	**0.92**	**316**	*e*Pg	**Pb**	**09 25 45.9**	**-0.4**
IGT				*e*Sg	**Sb**	**09 25 59.1**	**+0.9**
THL	**Klokotos Trika**	**0.95**	**43**	*e*PN	**Pb**	**09 25 44.5**	**-2.3**
THL				*e*SN	**Sb**	**09 25 57.9**	**-1.2**
KEK	**Kerkira**	**1.35**	**309**	*e*PN	**Pn**	**09 25 48.7**	**-4.1**
LIT	**Litokhoron**	**1.60**	**39**	*e*Pg	**Pn**	**09 25 56.0**	**-0.1**
XOR	**Xorichti**	**1.65**	**72**	*e*Pb	**Pn**	**09 25 58.0**	**+1.2**
FNA	**Florina**	**1.92**	**5**	*e*Pb	**Pn**	**09 26 01.5**	**+1.0**
AOS	**Alonnisos**	**2.13**	**81**	*e*Pn	**Pn**	**09 26 03.7**	**+0.2**
GRG	**Griva**	**2.29**	**24**	*e*Pn	**Pn**	**09 26 06.2**	**+0.6**

MOS 28 09:29:19.6±0.4, 4288N×4770E, h20km, mb3.6/1, 1D, Error ellipse: s-maj=26.0km s-min=20.7km az=147.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSR	**Manas**	**0.18**	**175**	*e*PG	Pb	09 29 26.0	+1.6
MNSR				*i* S	Sb	09 29 29.5	+1.8
BUJR	**Buynaksk**	**0.44**	**263**	*e*PG	Pb	09 29 30.0	+1.4
BUJR				*e*S	Sb	09 29 37.0	+2.2
KRNR	**Karanay**	**0.58**	**265**	⇓*i*PG	Pb	09 29 32.5	+1.4
KRNR				*i* S	Sb	09 29 42.5	+3.5
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
DBC	**Dubki**	**0.65**	**283**	*e*PG	Pb	09 29 33.0	+0.7
DBC				*i* S	Sb	09 29 43.0	+2.0
UNCR	**Uncukul**	**0.69**	**256**	*e*PG	Pb	09 29 33.0	+0.1
UNCR				*e*S	Sb	09 29 44.0	+2.1
UNCR				pmax	pmax		
	comp=Z,21nm,0.2s						
KMKR	**Kumukh**	**0.87**	**211**	*i* PG	Pb	09 29 36.5	+0.5
KMKR				*i* S	Sb	09 29 51.0	+3.8
KMKR				pmax	pmax		
	comp=Z,25nm,0.2s						

*MDD **28** 09:29:53.3±1.2, 3718N×845W, h0km, mbLg1.2/2, Error ellipse: s-maj=10.2km s-min=3.7km az=10.0, PRXIMO*
INMG 28 09:29:52.6±0.7, 3715N×853W, h18km±4km, ML0.9, Error ellipse: s-maj=9.2km s-min=3.8km az=54.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.18**	**329**	*e*Pg	Pg	09 29 56.8	-0.4
MORF				*e*Sg	Sg	09 30 00.5	+0.1
MORF							
	17nm,0.1s						
PTEO	**Sao Teotonio**	**0.42**	**339**	*i* Pg	Pg	09 30 00.7	-0.6
PTEO				*e*Sg	Sg	09 30 06.8	-0.3
EGRO	**El Granado**	**0.92**	**65**	Pg	Pg	09 30 09.2	-1.3
	SNR=7.9						
EGRO				Lg		09 30 21.0	
	0.6nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.02**	**31**	*e*P	Pb	09 30 11.0	-0.8
PBEJ				*e*S	Sb	09 30 24.1	-0.8
EMIN	**Mina Concepcio**	**1.60**	**67**	Lg		09 30 42.1	
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.00**	**36**	Lg		09 30 55.1	
	0.1nm,0.1s,SNR=7.9						

*MOS **28** 10:33:18.7±1.4, 1785S×17854W, h590km, mb4.4/24, Error ellipse: s-maj=12.9km s-min=9.0km az=139.4*
*BJI **28** 10:33:18.5, 1798S×17779W, h630km, mB4.8, mb4.5*
*SZGRF **28** 10:33:18.2, 1864S×17835W, h600km, Fiji Islands region*
*IDC **28** 10:33:19.1±1.4, 1801S×17850W, h592km±16km, mb3.9/13, mb1 4.0/15, mb1mx4.0/18, mbtmp4.8/15, Error ellipse: s-maj=13.6km s-min=10.2km az=138.0*
*NEIC **28** 10:33:19.6±0.8, 1796S×17853W, h602km±9km, mb4.4/39, Error ellipse: s-maj=10.0km s-min=5.1km az=150.0*
*ISCJB **28** 10:33:20.7±1.1, 1800S±006×17859W±004, h628km±14km, mb4.5/66, Error ellipse: s-maj=10.6km s-min=4.6km az=128.1*
ISC 28 10:33:22.3±1.3, 1804S±006×17853W±004, h630km±15km, n479, σ0°54/354, mb4.5/66, 107C-106D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68**	**59**	P	**P**	**10 35 13.4**	**-6.2**
	7.6nm,0.3s,baz=232,slow=19,SNR=7.9						
DZM	**Mont Dzumac**	**14.67**	**252**	*e*P	**P**	**10 36 25.1**	**-1.0**
DZM	**Mont Dzumac**	**14.67**	**252**	P	**P**	**10 36 25.2**	**-0.9**
	2.5nm,0.3s,baz=69,slow=14,SNR=32						
URZ	**Urewera**	**20.51**	**190**	P	**P**	**10 37 15.8**	**-3.3**
	6.9nm,0.3s,baz=23,slow=6.2,SNR=14						
URZ				S	**S**	**10 40 25.2**	**-4.7**
	12nm,1.0s,baz=240,slow=18,SNR=4.2						
HNR	**Honiara**	**22.57**	**289**	*e*P	**P**	**10 37 37.6**	**+0.2**
HNR				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.1						
HNR	**Honiara**	**22.57**	**289**	*e*P	**P**	**10 37 37.6**	**+0.2**
	comp=Z,33nm,0.7s,mb5.1						
ARMA	**Armidale**	**29.77**	**240**	*e*P	**P**	**10 38 40.8**	**+0.4**
CTA	**Charters Tower**	**33.31**	**261**	*e*P	**P**	**10 39 09.4**	**-0.9**
	comp=Z,15nm,0.9s,mb4.6						
CTA	**Charters Tower**	**33.31**	**261**	P	**P**	**10 39 10.0**	**-0.3**
	baz=86,slow=12						
CTA				PcP	PcP	10 41 34.0	+1.2
	comp=Z,1.4nm,0.3s,baz=64,slow=2.0,SNR=3.8						
CTA	**Charters Tower**	**33.31**	**261**	*e*P	**P**	**10 39 09.4**	**-0.9**
CTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**33.31**	**261**	*e*P	**P**	**10 39 10.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**33.31**	**261**	*e*P	**P**	**10 39 10.1**	**-0.1**
	comp=Z,13nm,0.6s,mb4.7						
PMG	**Port Moresby**	**34.36**	**280**	*d i* P	**P**	**10 39 19.6**	**+0.6**
PMG	**Port Moresby**	**34.36**	**280**	*e*P	**P**	**10 39 19.8**	**+0.8**
	comp=Z,109nm,0.8s,mb5.5						
TOO	**Toolangi**	**37.00**	**231**	*e*P	**P**	**10 39 41.3**	**+0.7**
	comp=Z,4.3nm,0.5s,mb4.2						
TOO	**Toolangi**	**37.00**	**231**	*e*P	**P**	**10 39 41.3**	**+0.7**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
TAU	**Tasmania Unive**	**38.06**	**222**	P	**P**	**10 39 51.0**	**+1.7**
TAU				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.0						
TAU	**Tasmania Unive**	**38.06**	**222**	P	**P**	**10 39 51.0**	**+1.8**
	comp=Z,57nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**38.47**	**241**	*e*P	**P**	**10 39 53.0**	**+0.5**
	comp=Z,18nm,0.9s,mb4.6						
STKA				*e*PCP	PcP	10 41 49.8	+1.3
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**10 39 53.1**	**+0.7**
	comp=Z,14nm,0.5s,mb4.8,baz=78,slow=8.1,SNR=40						
STKA				PcP	PcP	10 41 49.8	+1.3
	comp=Z,4.8nm,0.8s,baz=111,slow=1.5,SNR=3.6						
WB2	**Warramunga Arr**	**44.48**	**260**	*e*P	**P**	**10 40 38.8**	**-0.8**
WB2				*e*PCP	PcP	10 42 09.3	+0.6
WB2				*e*S	**S**	**10 46 29.4**	**-1.2**
WRAB	**Tennant Creek**	**44.48**	**260**	*e*P	**P**	**10 40 39.3**	**-0.3**
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**10 40 38.9**	**-0.8**
	comp=Z,18nm,0.5s,mb4.9,baz=257,slow=7.6,SNR=324						
WRA				PcP	PcP	10 42 09.8	+1.1
	comp=Z,3.6nm,0.4s,baz=90,slow=3.5,SNR=9.6						
WRA				S	**S**	**10 46 29.3**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=98,slow=12,SNR=8.0						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**10 40 38.9**	**-0.8**
WRA				PcP	PcP	10 42 09.8	+1.1
WRA				S	**S**	**10 46 29.3**	**-1.4**
AS31	**Alice Springs**	**44.64**	**254**	*e*P	**P**	**10 40 40.8**	**0.0**
AS31				*e*PcP	PcP	10 42 09.9	+0.7
AS31				*e*S	**S**	**10 46 33.3**	**+0.4**
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**10 40 40.9**	**0.0**
	comp=Z,77nm,0.6s,mb5.4,baz=86,slow=8.7,SNR=982						
ASAR				PcP	PcP	10 42 09.9	+0.6
	comp=Z,7.0nm,0.5s,baz=101,slow=3.5,SNR=11						
ASAR				S	**S**	**10 46 33.6**	**+0.7**
	comp=Z,9.0nm,1.0s,baz=89,slow=15,SNR=38						
ASPA	**Alice Springs**	**44.65**	**254**	*e*P	**P**	**10 40 40.8**	**0.0**
ASPA				*e*PCP	PcP	10 42 09.9	+0.6
ASPA				*e*S	**S**	**10 46 33.3**	**+0.4**
KAKA	**Kakadu**	**47.46**	**269**	*e*P	**P**	**10 41 01.6**	**-0.5**
	comp=Z,38nm,0.4s,mb5.3						
KAKA				*e*S	**S**	**10 47 12.5**	**+0.6**
FORT	**Forrest**	**49.85**	**245**	*e*P	**P**	**10 41 18.8**	**-0.8**
	comp=Z,36nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.89**	**261**	*e*P	**P**	**10 41 41.9**	**+0.5**
	comp=Z,8.8nm,0.4s,mb4.4						
FITZ				*e*S	**S**	**10 48 24.6**	**-0.2**
MBWA	**Marble Bar**	**57.93**	**256**	*e*P	**P**	**10 42 15.8**	**-0.3**
	comp=Z,19nm,0.6s,mb4.4						
KLBR	**Kellerberrin**	**58.67**	**244**	*e*P	**P**	**10 42 20.9**	**-0.2**
	comp=Z,28nm,0.7s,mb4.5						
NWAO	**Narrogin (SRO)**	**59.05**	**242**	*e*P	**P**	**10 42 23.7**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.05**	**242**	*e*P	**P**	**10 42 23.7**	**+0.1**
	comp=Z,7.0nm,0.7s,mb3.9						
MUN	**Mundaring**	**59.96**	**243**	*e*P	**P**	**10 42 45.6**	**+16**
SBA	**Scott Base**	**60.28**	**184**	*e*P	**P**	**10 42 32.4**	**+0.6**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.8						
SBA	**Scott Base**	**60.28**	**184**	*e*P	**P**	**10 42 32.4**	**+0.7**
	comp=Z,4.8nm,0.8s,mb3.8						
VNDA	**Vanda**	**60.31**	**185**	P	**P**	**10 42 32.5**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=2,8,slow=8.3,SNR=15						
JHJ	**Hachijo jima 2**	**64.60**	**322**	P	**P**	**10 42 59.0**	**-0.4**
	comp=Z,68nm,0.4s,mb5.4,baz=82,slow=18,SNR=6.3						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**10 43 19.2**	**-0.7**
	comp=Z,10nm,0.5s,mb4.5,baz=154,slow=5.7,SNR=53						
MAJO	**Matsushiro**	**67.94**	**323**	*e*P	**P**	**10 43 19.2**	**-0.8**
JOW	**Kunigami**	**68.21**	**310**	P	**P**	**10 43 22.8**	**+1.1**
	comp=Z,8.2nm,0.4s,mb4.5,baz=83,slow=29,SNR=4.9						
KKM	**Kota Kinabalu**	**68.66**	**284**	*e*P	**P**	**10 43 23.8**	**-0.5**
ASAJ	**Asahikawa**	**71.33**	**332**	P	**P**	**10 43 40.9**	**+0.8**
	comp=Z,9.4nm,0.8s,mb4.4,baz=243,slow=24,SNR=6.9						
QSPA	**South Pole Qui**	**72.02**	**180**	*e*P	**P**	**10 43 44.3**	**+0.3**
	comp=Z,18nm,1.0s,mb4.5						
TATO	**Taipei**	**72.37**	**304**	*e*P	**P**	**10 43 44.9**	**-1.2**
	comp=Z,96nm,1.3s,mb5.2						
KSM	**Kuching**	**72.58**	**277**	*e*P	**P**	**10 43 48.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**73.48**	**333**	*e*P	**P**	**10 43 53.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**73.48**	**333**	*e*P	**P**	**10 43 51.4**	**-0.9**
	comp=Z,16nm,0.7s,mb4.7						
YSS				*e*pP	pP	10 46 09.1	+9.1
HAST	**UC Hastings Re**	**76.31**	**44**	⇑P	**P**	**10 44 08.4**	**+0.3**
	baz=76,SNR=6.8						
V03C	**Hunter Liggett**	**76.32**	**45**	⇑P	**P**	**10 44 08.4**	**+0.3**
	baz=76						
V04C	**Ramage Ranch,**	**76.34**	**45**	⇑P	**P**	**10 44 08.6**	**+0.3**
	baz=77						
JRSC	**Jasper Ridge**	**76.45**	**43**	⇑P	**P**	**10 44 09.1**	**+0.3**
	baz=77						
SBC	**Santa Barbara**	**76.47**	**47**	⇓P	**P**	**10 44 09.3**	**+0.3**
	baz=77						
SCI	**San Clemente I**	**76.51**	**48**	⇓P	**P**	**10 44 09.5**	**+0.3**
	baz=77						
SAO	**San Andreas Ge**	**76.60**	**44**	*e*P	**P**	**10 44 09.6**	**-0.1**
SAO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
SAO	**San Andreas Ge**	**76.60**	**44**	*e*P	**P**	**10 44 09.6**	**-0.1**
	comp=Z,14nm,0.9s,mb4.4						
PKM	**Peak Mountain**	**76.65**	**46**	⇓P	**P**	**10 44 10.0**	**+0.1**
	baz=77						
PKD	**Parkfield**	**76.74**	**45**	⇓P	**P**	**10 44 10.4**	**0.0**
	baz=77						
SMMC	**Simmler**	**76.75**	**46**	⇓P	**P**	**10 44 10.7**	**+0.2**
	baz=77						
PTRM	**Twissleman Ran**	**76.80**	**45**	*e*P	**P**	**10 44 10.5**	**-0.2**
U04C	**Hernandez Rese**	**76.81**	**45**	⇓P	**P**	**10 44 11.2**	**+0.4**
	baz=77,SNR=6.4						
PACP	**Pacheco Peak**	**76.84**	**44**	⇑P	**P**	**10 44 11.5**	**+0.5**
	baz=77						
O01C	**Eel River Cons**	**77.07**	**40**	⇓P	**P**	**10 44 12.7**	**+0.4**
	baz

MDJ				AP	pP	10 46 33.3	+5.0
MDJ				S	S	10 53 23.0	-0.2
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,3.9s						
MDJ	**Mudanjiang**	**78.22**	**325**	*eP*	**P**	**10 44 18.3**	**-0.1**
	comp=Z,14nm,0.8s,mb4.4						
S06C	**San Francisco**	**78.28**	**44**	P	**P**	**10 44 18.6**	**-0.1**
	baz=78,SNR=6.7						
KCC	**Kaiser Creek**	**78.32**	**44**	⇑P	**P**	**10 44 19.0**	**0.0**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.33**	**49**	⇓P	**P**	**10 44 18.9**	**-0.1**
	baz=78						
M02C	**Callahan**	**78.41**	**39**	⇑P	**P**	**10 44 19.6**	**+0.2**
	baz=79						
LRMC	**Laurel Mountai**	**78.43**	**47**	⇑P	**P**	**10 44 19.7**	**+0.2**
	baz=79						
SWSC	**Sam W. Stewart**	**78.47**	**50**	⇑P	**P**	**10 44 19.8**	**+0.1**
	baz=79						
P05C	**Yuba Gap, Truc**	**78.59**	**42**	⇓P	**P**	**10 44 20.3**	**0.0**
	baz=79						
R05C	**Kirkwood Meado**	**78.59**	**43**	⇓P	**P**	**10 44 20.4**	**0.0**
	baz=79,SNR=9.5						
CWC	**Cottonwood Cre**	**78.67**	**46**	⇓P	**P**	**10 44 20.8**	**0.0**
	baz=79						
YBH	**Yreka Blue Hor**	**78.70**	**39**	*eP*	**P**	**10 44 21.4**	**+0.5**
YBH				pmax	pmax		
	comp=Z,11nm,1.0s						
YBH	**Yreka Blue Hor**	**78.70**	**39**	*eP*	**P**	**10 44 21.4**	**+0.5**
	comp=Z,11nm,1.0s,mb4.2						
YBH	**Yreka Blue Hor**	**78.70**	**39**	⇓P	**P**	**10 44 21.0**	**+0.1**
	baz=79,SNR=7.7						
O05C	**Quincy**	**78.77**	**41**	⇑P	**P**	**10 44 21.4**	**+0.1**
	baz=79						
M03C	**McCloud**	**78.78**	**40**	⇓P	**P**	**10 44 21.3**	**-0.1**
	baz=79,SNR=5.9						
MLAC	**Mammoth Lakes**	**78.81**	**44**	⇓P	**P**	**10 44 21.7**	**+0.2**
	baz=79						
MTUM	**Tungsten Hills**	**78.84**	**45**	*eP*	**P**	**10 44 22.3**	**+0.6**
BELC	**Belle Mtn.**	**78.86**	**49**	⇓P	**P**	**10 44 21.8**	**+0.1**
	baz=79,SNR=6.6						
O04C	**Chester**	**78.87**	**41**	⇓P	**P**	**10 44 21.8**	**-0.1**
	baz=79,SNR=8.5						
MPMC	**Manual Prospec**	**78.88**	**46**	⇑P	**P**	**10 44 22.0**	**+0.1**
	baz=79,SNR=9.6						
WAKR	**Walker**	**78.89**	**43**	*eP*	**P**	**10 44 22.2**	**+0.2**
R06C	**Coleville**	**78.90**	**43**	P	**P**	**10 44 22.2**	**+0.3**
	baz=79,SNR=10						
TIN	**Tinemaha**	**78.91**	**45**	⇓P	**P**	**10 44 22.3**	**+0.3**
	baz=79						
HATC	**Hat Creek Radi**	**78.92**	**40**	⇓P	**P**	**10 44 22.3**	**+0.2**
	baz=79						
R07C	**Lee Vining**	**78.92**	**44**	⇑P	**P**	**10 44 22.5**	**+0.4**
	baz=79						
GSC	**Goldstone**	**78.95**	**47**	*eP*	**P**	**10 44 22.3**	**0.0**
GSC	**Goldstone**	**78.95**	**47**	⇑P	**P**	**10 44 22.5**	**+0.3**
	baz=79						
BC3	**Big Chuckw Mtn**	**79.07**	**49**	⇓P	**P**	**10 44 23.0**	**+0.1**
	baz=79						
HUMO	**Hull Mountain**	**79.08**	**38**	⇓P	**P**	**10 44 23.1**	**+0.2**
	baz=79						
WCN	**Washoe City**	**79.13**	**43**	P	**P**	**10 44 23.6**	**+0.4**
	baz=79,SNR=9.2						
S08C	**White Mtn Res**	**79.18**	**45**	⇓P	**P**	**10 44 23.9**	**+0.4**
	baz=79,SNR=13						
GLA	**Glamis**	**79.23**	**50**	⇓P	**P**	**10 44 24.3**	**+0.6**
	baz=79						
P06A	**Stead Airport,**	**79.25**	**42**	⇑P	**P**	**10 44 24.0**	**+0.2**
	baz=80						
M04C	**Macdoel**	**79.25**	**40**	⇑P	**P**	**10 44 24.0**	**+0.1**
	baz=80,SNR=5.1						
ELFS	**Eagle Lake Fie**	**79.26**	**41**	⇓P	**P**	**10 44 24.0**	**+0.1**
	baz=80						
I02A	**Mapleton**	**79.42**	**37**	⇑P	**P**	**10 44 24.7**	**0.0**
	baz=80						
M05C	**Lookout**	**79.43**	**40**	P	**P**	**10 44 25.1**	**+0.3**
	baz=80,SNR=7.9						
L04A	**Klamath Falls**	**79.45**	**39**	⇑P	**P**	**10 44 25.1**	**+0.2**
	baz=80						
GRAC	**Grapevine Rang**	**79.46**	**46**	⇑P	**P**	**10 44 25.1**	**+0.2**
	baz=80						
FURC	**Furnace Creek,**	**79.53**	**46**	⇑P	**P**	**10 44 25.2**	**-0.1**
	baz=80						
IRM	**Iron Mountain**	**79.54**	**49**	P	**P**	**10 44 25.7**	**+0.3**
	baz=80,SNR=6.1						
O06A	**Flanigan**	**79.57**	**42**	⇑P	**P**	**10 44 25.7**	**+0.2**
	baz=80						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**10 44 26.1**	**+0.4**
	comp=Z,3.2nm,0.7s,mb3.8,baz=229,slow=8.7,SNR=31						
SHOC	**Shoshone**	**79.63**	**47**	⇑P	**P**	**10 44 26.1**	**+0.3**
	baz=80						
TUQ	**Turquoise Mtn.**	**79.64**	**47**	⇓P	**P**	**10 44 25.9**	**+0.1**
	baz=80						
R08A	**Mina**	**79.68**	**44**	⇓P	**P**	**10 44 26.2**	**+0.1**
	baz=80,SNR=6.0						
M06C	**Likely Place G**	**79.75**	**41**	⇓P	**P**	**10 44 26.6**	**+0.1**
	baz=80,SNR=7.4						
Y12C	**Blythe**	**79.79**	**50**	⇓P	**P**	**10 44 26.7**	**0.0**
	baz=80						
U10A	**Ash Meadows, A**	**79.86**	**46**	⇓P	**P**	**10 44 27.2**	**+0.2**
	baz=80						
N06A	**Buffalo Meadow**	**79.89**	**41**	⇓P	**P**	**10 44 27.2**	**0.0**
	baz=80,SNR=5.9						
S09A	**Goldfield**	**79.94**	**45**	⇓P	**P**	**10 44 27.3**	**-0.1**
	baz=80						
L05A	**Lakeview**	**80.02**	**40**	⇓P	**P**	**10 44 28.0**	**+0.2**
	baz=80,SNR=6.5						
CN2	**Changchun**	**80.05**	**322**	*eP*	**P**	**10 44 28.5**	**+0.5**
CN2				*eS*	S	10 53 40.0	-2.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
Q08A	**Gabbs**	**80.08**	**44**	⇑P	**P**	**10 44 28.0**	**-0.1**
	baz=80						
TPH	**Tonopah**	**80.12**	**45**	*eP*	**P**	**10 44 29.0**	**+0.6**
TPH				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
TPH	**Tonopah**	**80.12**	**45**	*eP*	**P**	**10 44 29.0**	**+0.6**
	comp=Z,8.1nm,0.9s,mb4.0						
H03A	**Soap Creek Ran**	**80.13**	**37**	⇓P	**P**	**10 44 28.5**	**+0.1**
	baz=80						
O07A	**Toulon**	**80.17**	**42**	⇓P	**P**	**10 44 28.5**	**-0.1**
	baz=80,SNR=11						
MOD	**Modoc**	**80.26**	**40**	*eP*	**P**	**10 44 29.3**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.0						
MOD	**Modoc**	**80.26**	**40**	⇓P	**P**	**10 44 29.3**	**+0.2**
	baz=80						
R09A	**Tonopah**	**80.31**	**45**	⇑P	**P**	**10 44 29.4**	**0.0**
	baz=80						
W12A	**Cal Nev Ari**	**80.31**	**48**	⇑P	**P**	**10 44 29.5**	**+0.1**
	baz=80						
Y13A	**Salome**	**80.33**	**50**	⇓P	**P**	**10 44 29.8**	**+0.4**
	baz=80,SNR=6.5						
PDMCI	**Parker Dam,Lak**	**80.34**	**49**	⇓P	**P**	**10 44 29.6**	**+0.1**
	baz=81						
K05A	**Summer Lake**	**80.37**	**39**	⇓P	**P**	**10 44 30.0**	**+0.3**
	baz=81,SNR=7.2						
P08A	**Dixie Valley**	**80.43**	**43**	⇑P	**P**	**10 44 30.3**	**+0.3**
	baz=81						
N07B	**Gerlach**	**80.45**	**42**	⇓P	**P**	**10 44 30.1**	**0.0**
	baz=81,SNR=8.5						
J05A	**Fort Rock**	**80.49**	**39**	P	**P**	**10 44 30.6**	**+0.3**
	baz=81,SNR=17						
U11A	**Corn Creek**	**80.52**	**47**	⇓P	**P**	**10 44 30.6**	**+0.2**
	baz=81						
V12A	**Nelson**	**80.54**	**48**	⇓P	**P**	**10 44 30.7**	**+0.2**
	baz=81						
Q09A	**Carvers**	**80.56**	**44**	⇓P	**P**	**10 44 30.7**	**+0.1**
	baz=81						
M07A	**Soldier Meadow**	**80.67**	**41**	P	**P**	**10 44 31.4**	**+0.2**
	baz=81,SNR=10.0						
X13A	**Yucca**	**80.71**	**49**	⇓P	**P**	**10 44 31.6**	**+0.2**
	baz=81						
SHPR	**Sheep Range**	**80.72**	**47**	*eP*	**P**	**10 44 32.2**	**+0.7**
Z14A	**Wintersburg**	**80.75**	**51**	⇑P	**P**	**10 44 32.1**	**+0.4**
	baz=81						
H04A	**Detroit Lake**	**80.77**	**37**	⇓P	**P**	**10 44 31.1**	**-0.6**
	baz=81,SNR=5.1						
K06A	**Valley Falls**	**80.80**	**39**	⇑P	**P**	**10 44 31.9**	**0.0**
	baz=81,SNR=8.8						
R10A	**Warm Springs**	**80.85**	**45**	⇑P	**P**	**10 44 32.4**	**+0.3**
	baz=81,SNR=12						
G04A	**Mulino**	**80.91**	**36**	⇑P	**P**	**10 44 32.0**	**-0.5**
	baz=81						
W13A	**Hualapai Mount**	**80.91**	**49**	⇓P	**P**	**10 44 32.6**	**+0.1**
	baz=81						
L07A	**Adell**	**80.92**	**40**	⇓P	**P**	**10 44 32.7**	**+0.3**
	baz=81,SNR=10						
P09A	**Austin**	**80.97**	**43**	⇑P	**P**	**10 44 32.9**	**+0.2**
	baz=81						
N08A	**GE Springer Mi**	**80.99**	**42**	⇓P	**P**	**10 44 32.9**	**0.0**
	baz=81,SNR=10						
Y14A	**Wickenburg**	**80.99**	**50**	⇓P	**P**	**10 44 33.0**	**+0.1**
	baz=81						
U12A	**Valley of Fire**	**81.11**	**47**	⇑P	**P**	**10 44 33.8**	**+0.3**
	baz=81						
J06A	**Christmas Vall**	**81.12**	**39**	P	**P**	**10 44 33.5**	**0.0**
	baz=81,SNR=9.1						
E03A	**Lebam**	**81.12**	**35**	⇓P	**P**	**10 44 33.4**	**-0.2**
	baz=81						
M08A	**Happy Creek Ra**	**81.20**	**41**	⇑P	**P**	**10 44 34.1**	**+0.2**
	baz=81,SNR=5.8						
O09A	**Fish Creek Ran**	**81.26**	**43**	⇓P	**P**	**10 44 34.4**	**+0.2**
	baz=82,SNR=6.7						
COCO	**West Island**	**81.28**	**260**	*eP*	**P**	**10 44 33.8**	**-0.6**
	comp=Z,36nm,0.6s,mb5.0						
COCO				*eP*cP	PcP	10 44 37.4	-1.0
MA2	**Magadan**	**81.29**	**345**	*eP*	**P**	**10 44 32.8**	**-1.6**
MA2				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.6						
MA2	**Magadan**	**81.29**	**345**	*eP*	**P**	**10 44 32.8**	**-1.6**
	comp=Z,27nm,1.1s,mb4.6						
H05A	**Madras**	**81.30**	**37**	⇑P	**P**	**10 44 34.1**	**-0.4**
	baz=82						
116A	**Eloy**	**81.30**	**52**	⇑P	**P**	**10 44 34.8**	**+0.4**
	baz=82						
X14A	**Yava**	**81.32**	**50**	⇑P	**P**	**10 44 34.9**	**+0.3**
	baz=82,SNR=5.7						
K07A	**Rock Creek Ran**	**81.35**	**40**	P	**P**	**10 44 34.9**	**+0.2**
	baz=82,SNR=9.3						
BMN	**Battle Mountai**	**81.38**	**43**	*eP*	**P**	**10 44 35.2**	**+0.4**
BMN				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
BMN	**Battle Mountai**	**81.38**	**43**	*eP*	**P**	**10 44 35.2**	**+0.3**
	comp=Z,13nm,1.1s,mb4.3						
F04A	**Amboy**	**81.38**	**36**	⇓P	**P**	**10 44 34.8**	**0.0**
	baz=82						
N09A	**Rock Creek Ran**	**81.41**	**42**	⇓P	**P**	**10 44 35.1**	**+0.1**
	baz=82						
P10A	**Eureka**	**81.44**	**44**	⇑P	**P**	**10 44 35.1**	**-0.1**
	baz=82						
HOOD	**Mount Hood Mea**	**81.45**	**37**	*eP*	**P**	**10 44 35.1**	**-0.1**
I06A	**Prineville**	**81.48**	**38**	⇓P	**P**	**10 44 35.7**	**+0.3**
	baz=82,SNR=15						
NLWA	**Neilton Lookou**	**81.48**	**34**	⇑P	**P**	**10 44 35.2**	**-0.2**
	baz=82						
W14A	**Seligman**	**81.54**	**49**	P	**P**	**10 44 36.3**	**+0.7**
	baz=82,SNR=8.6						
SLKM	**Skilak Lake**	**81.54**	**14**	*eP*	**P**	**10 44 34.0**	**-1.7**
Q11A	**Duckwater**	**81.58**	**45**	⇑P	**P**	**10 44 35.9**	**+0.1**
	baz=82,SNR=13						
WVOR	**Wild Horse Val**	**81.58**	**40**	*eP*	**P**	**10 44 35.7**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**81.58**	**40**	*eP*	**P**	**10 44 35.7**	**-0.2**
	comp=Z,12nm,1.0s,mb4.4						
G05A	**Wamic**	**81.59**	**37**	⇑P	**P**	**10 44 36.0**	**+0.1**
	baz=82						
L08A	**Fields**	**81.63**	**41**	⇑P	**P**	**10 44 36.1**	**0.0**
	baz=82,SNR=16						
J07A	**Hines**	**81.70**	**39**	⇓P	**P**	**10 44 36.5**	**0.0**
	baz=82,SNR=6.2						
M09A	**Marrel Ranch,**	**81.77**	**42**	⇓P	**P**	**10 44 36.9**	**+0.1**
	baz=82,SNR=5.2						
O10A	**Cortez Mining,**	**81.77**	**43**	⇓P	**P**	**10 44 36.8**	**0.0**
	baz=82						
X15A	**Humboldt**	**81.81**	**50**	⇓P	**P**	**10 44 37.3**	**+0.3**
	baz=82,SNR=8.5						
K08A	**Mann Creek Ran**	**81.84**	**40**	⇑P	**P**	**10 44 37.2**	**0.0**
	baz=82,SNR=20						
H06A	**Lindquist Farm**	**81.86**	**38**	P	**P**	**10 44 37.0**	**-0.3**
	baz=82,SNR=13						
TUC	**Tucson**	**81.87**	**52**	*eP*	**P**	**10 44 37.9**	**+0.6**
P11A	**Circle Ranch,**	**81.88**	**44**	⇑P	**P**	**10 44 37.3**	**0.0**
	baz=82						
F05A	**White Salmon**	**81.89**	**36**	⇓P	**P**	**10 44 37.4**	**0.0**
	baz=82						
L09A	**Wilkinson Ranc**	**81.96**	**41**	P	**P**	**10 44 38.0**	**+0.2**
	baz=82,SNR=6.6						
I07A	**Izee**	**81.98**	**39**	⇓P	**P**	**10 44 37.8**	**0.0**
	baz=82,SNR=11						
G06A	**Carlson Farm,**	**81.98**	**37**	⇓P	**P**	**10 44 37.6**	**-0.3**
	baz=82						
N10A	**Dunphy**	**82.00**	**43**	⇓P	**P**	**10 44 37.9**	**0.0**
	baz=82						
W15A	**Williams**	**82.11**	**49**	⇓P	**P**	**10 44 39.3**	**+0.7**
	baz=82						
E05A	**Randle**	**82.12**	**36**	P	**P**	**10 44 37.9**	**-0.7**
	baz=82,SNR=5.7						
GNW	**Green Mountain**	**82.15**	**34**	*eP*	**P**	**10 44 38.6**	**-0.1**
C04A	**Brinnon**	**82.16**	**34**	⇓P	**P**	**10 44 38.7**	**-0.1**
	baz=82						
J08A	**Circle Bar Ran**	**82.19**	**40**	P	**P**	**10 44 38.9**	**-0.1**
	baz=82,SNR=11						
F06A	**Goldendale**	**82.21**	**37**	⇑P	**P**	**10 44 38.5**	**-0.5**
	baz=82						
Q12A	**Willow Creek R**	**82.23**	**45**	⇓P	**P**	**10 44 39.1**	**0.0**
	baz=82						
H07A	**Lands Inn, Kim**	**82.23**	**38**	P	**P**	**10 44 38.8**	**-0.4**
	baz=82,SNR=12						
O11A	**Cowboy Ranch,**	**82.24**	**44**	⇑P	**P**	**10 44 39.3**	**+0.1**
	baz=82,SNR=8.3						
K09A	**Rome**	**82.29**	**40**	P	**P**	**10 44 39.4**	**0.0**
	baz=82,SNR=15						
D05A	**Enumclaw**	**82.37**	**35**	⇑P	**P**	**10 44 39.8**	**-0.1**
	baz=83,SNR=5.8						
P12A	**McGill**	**82.40**	**44**	⇑P	**P**	**10 44 40.2**	**+0.2**
	baz=83						
M10A	**I.L. Ranch, Tu**	**82.40**	**42**	P	**P**	**10 44 40.4**	**+0.4**
	baz=83,SNR=8.7						
I08A	**Drewsey**	**82.44**	**39**	P	**P**	**10 44 40.0**	**-0.2**
	baz=83,SNR=9.8						
N11A	**Elko Archery C**	**82.55**	**43**	⇓P	**P**	**10 44 40.7**	**0.0**
	baz=83						
ARUT	**Antelope Range**	**82.55**	**46**	*eP*	**P**	**10 44 41.0**	**+0.3**
G07A	**Ruggs Ranch, H**	**82.56**	**38**	⇓P	**P**	**10 44 40.4**	**-0.4**
	baz=83,SNR=8.1						
J09A	**Fry Pan Ranch,**	**82.62**	**40**	⇑P	**P**	**10 44 41.1**	**-0.1**
	baz=83,SNR=12						
H08A	**Prairie City**	**82.72**	**39**	⇑P	**P**	**10 44 41.3**	**-0.3**
	baz=83						
PMR	**Palmer**	**82.75**	**14**	*eP*	**P**	**10 44 39.8**	**-2.0**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
PMR	**Palmer**	**82.75**	**14**	*eP*	**P**	**10 44 39.8**	**-1.9**
	comp=Z,3.1nm,0.5s,mb4.1						
F07A	**Phinny Hill Vi**	**82.77**	**37**	⇑P	**P**	**10 44 41.5**	**-0.3**
	baz=83						
M11A	**Holland Ranch,**	**82.83**	**42**	⇓P	**P**	**10 44 42.4**	**+0.2**
	baz=83						
C05A	**Tolt Reservoir**	**82.84**	**35**	⇓P	**P**	**10 44 41.5**	**-0.7**
	baz=83						
O12A	**Currie**	**82.91**	**44**	⇑P	**P**	**10 44 42.3**	**-0.3**
	baz=83,SNR=5.6						
A04A	**Legoe Bay, Lum**	**82.92**	**34**	⇓P	**P**	**10 44 42.2**	**-0.3**
	baz=83						
WUAZ	**Wupatki**	**82.92**	**49**	*eP*	**P**	**10 44 43.4**	**+0.9**
	comp=Z,9.3nm,1.0s,mb4.3						
WUAZ	**Wupatki**	**82.92**	**49**	⇑P	**P**	**10 44 42.8**	**+0.2**
	baz=83						
B05A	**Bryant**	**82.96**	**34**	⇓P	**P**	**10 44 42.5**	**-0.3**
	baz=83						
I09A	**Lost Marbles R**	**82.98**	**39**	⇑P	**P**	**10 44 42.8**	**-0.1**
	baz=83						
G08A	**Pilot Rock**	**82.98**	**38**	P	**P**	**10 44 42.6**	**-0.3**
	baz=83,SNR=8.5						
D06A	**Cle Elum**	**83.01**	**36**	⇑P	**P**	**10 44 42.9**	**-0.1**
	baz=83						
N12A	**Clover Valley,**	**83.02**	**43**	⇑P	**P**	**10 44 43.0**	**-0.1**
	baz=83,SNR=6.9						
SML	**Sawmill**	**83.13**	**14**	*eP*	**P**	**10 44 41.7**	**-1.9**
E07A	**Sunnyside**	**83.19**	**36**	⇓P	**P**	**10 44 43.8**	**-0.1**
	baz=83						
HAWA	**Hanford**	**83.28**	**37**	*eP*	**P**	**10 44 44.3**	**0.0**
F08A	**Pendleton**	**83.37**	**37**	⇓P	**P**	**10 44 44.7**	**-0.1**
	baz=84						
M12A	**Wells**	**83.39**	**43**	⇓P	**P**	**10 44 45.0**	**+0.1**
	baz=84						
H09A	**Durkee**	**83.40**	**39**	⇓P	**P**	**10 44 44.7**	**-0.2**
	baz=84						
D07A	**Quincy**	**83.49**	**36**	⇓P	**P**	**10 44 45.0**	**-0.4**
	baz=84						
N13A	**Wendover, West**	**83.56**	**43**	⇑P	**P**	**10 44 45.8**	**+0.1**
	baz=84						
MAW	**Mawson**	**83.70**	**200**	*eP*	**P**	**10 44 46.0**	**-0.4**
	comp=Z,3.4nm,0.5s,mb4.1						
MAW	**Mawson**	**83.70**	**200**	P	**P**	**10 44 46.4**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.3,baz=120,slow=5.6,SNR=38						
MAW	**Mawson**	**83.70**	**200**	*eP*	**P**	**10 44 46.0**	**-0.4**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
C07A	**Waterville**	**83.73**	**35**	P	**P**	**10 44 46.0**	**-0.6**
	baz=84,SNR=5.2						
A06A	**Chilliwack**	**83.79**	**34**	⇓P	**P**	**10 44 46.2**	**-0.6**
	baz=84						
F09A	**S2 Ranch, Elgi**	**83.83**	**38**	⇓P	**P**	**10 44 46.7**	**-0.4**
	baz=84						
D08A	**Wollman Farm,**	**84.00**	**36**	⇑P	**P**	**10 44 47.5**	**-0.4**
	baz=84						
B07A	**Winthrop**	**84.14**	**35**	⇓P	**P**	**10 44 48.1**	**-0.5**
	baz=84						
DUG	**Dugway**	**84.15**	**45**	⇑P	**P**	**10 44 48.5**	**-0.2**
	baz=84						
A07A	**Ashnola River,**	**84.34**	**34**	⇑P	**P**	**10 44 49.2**	**-0.4**
	baz=84						
C08A	**Higginbotham F**	**84.34**	**36**	⇑P	**P**	**10 44 49.2**	**-0.4**
	baz=84						
D09A	**Jones Farm, Ri**	**84.35**	**37**	⇑P	**P**	**10 44 49.3**	**-0.3**
	baz=84						
F10A	**Beach Ranch, E**	**84.37**	**38**	⇓P	**P**	**10 44 49.7**	**0.0**
	baz=85						
MCK	**McKinley**	**84.69**	**13**	*eP*	**P**	**10 44 49.5**	**-1.8**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
MCK	**McKinley**	**84.69**	**13**	*eP*	**P**	**10 44 49.5**	**-1.8**
	comp=Z,2.3nm,0.7s,mb3.9						
HLID	**Hailey**	**84.80**	**41**	*eP*	**P**	**10 44 51.8**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.1						
HLID	**Hailey**	**84.80**	**41**	⇓P	**P**	**10 44 52.0**	**+0.1**
	baz=85						
GYA	**Guiyang**	**85.00**	**300**	⇓*i*P	**P**	**10 44 53.5**	**+0.7**
GYA				PP	PP	10 48 24.8	+3.0
GYA				S	S	10 54 25.8	-4.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
GYA				AMB	AMB		
	comp=Z,70nm,6.0s						
SRU	**San Rafael**	**85.19**	**46**	*eP*	**P**	**10 44 53.9**	**+0.2**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
SRU	**San Rafael**	**85.19**	**46**	*eP*	**P**	**10 44 53.9**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.0						
B09A	**Rice**	**85.20**	**36**	⇑P	**P**	**10 44 52.9**	**-0.8**
	baz=85,SNR=7.0						
A09A	**Danville**	**85.27**	**35**	⇑P	**P**	**10 44 53.5**	**-0.6**
	baz=86						
C10A	**Spilker Farm,**	**85.34**	**36**	⇓P	**P**	**10 44 54.0**	**-0.4**
	baz=86						
HWUT	**Hardware Ranch**	**85.67**	**44**	*eP*	**P**	**10 44 56.2**	**+0.3**
	comp=Z,1.3nm,0.5s,mb3.8						
NEW	**Newport**	**85.68**	**36**	*eP*	**P**	**10 44 55.0**	**-1.0**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**85.68**	**36**	*eP*	**P**	**10 44 55.0**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.0						
A10A	**Northport**	**85.83**	**35**	⇓P	**P**	**10 44 56.1**	**-0.6**
	baz=86						
PV10	**Paradox Valley**	**85.89**	**48**	*eP*	**P**	**10 44 56.9**	**0.0**
COLA	**College**	**85.92**	**13**	*eP*	**P**	**10 44 55.2**	**-2.0**
COLA	**College**	**85.92**	**13**	*eP*	**P**	**10 44 54.6**	**-2.6**
	comp=Z,3.4nm,0.6s,mb4.2						
F13A	**Darby**	**85.99**	**39**	⇑P	**P**	**10 44 56.9**	**-0.6**
	baz=86						
PV01	**Paradox Valley**	**86.11**	**48**	*eP*	**P**	**10 44 57.6**	**-0.5**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**10 44 59.4**	**+1.1**
	comp=Z,4.1nm,0.8s,mb4.1,baz=222,slow=6.6,SNR=45						
B11A	**Sandpoint**	**86.20**	**36**	⇓P	**P**	**10 44 58.2**	**-0.3**
	baz=86						
XAN	**Xi'an**	**86.24**	**307**	P	**P**	**10 45 00.0**	**+1.3**
XAN				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.7						
ANMO	**Albuquerque**	**86.27**	**52**	⇑*e*P	**P**	**10 44 59.2**	**+0.4**
ANMO	**Albuquerque**	**86.27**	**52**	*eP*	**P**	**10 44 59.1**	**+0.3**
	comp=Z,2.4nm,0.9s,mb3.8						
C12A	**Trout Creek**	**86.31**	**37**	⇑P	**P**	**10 44 58.6**	**-0.4**
	baz=86						
MCMT	**McKenzie Canyo**	**86.41**	**41**	*eP*	**P**	**10 44 59.5**	**0.0**
E13A	**Victor**	**86.41**	**39**	⇓P	**P**	**10 44 58.8**	**-0.6**
	baz=87						
A11A	**Hall Mountain,**	**86.48**	**36**	⇓P	**P**	**10 44 59.6**	**-0.2**
	baz=87						
F14A	**Wisdom**	**86.58**	**39**	⇓P	**P**	**10 44 59.9**	**-0.4**
	baz=87						
D13A	**Huson**	**86.59**	**38**	⇑P	**P**	**10 45 00.0**	**-0.3**
	baz=87						
RRI2	**Red Ridge**	**86.66**	**42**	*eP*	**P**	**10 45 00.8**	**+0.1**
B12A	**Libby**	**86.66**	**36**	⇓P	**P**	**10 45 00.2**	**-0.4**
	baz=87						
BSMT	**Bassoo Peak**	**86.79**	**37**	*eP*	**P**	**10 45 01.1**	**-0.2**
E14A	**Clinton**	**86.81**	**39**	⇓P	**P**	**10 45 00.6**	**-0.7**
	baz=87			

VNA3				e		10 45 34.4	
LZH	**Lanzhou**	**90.88**	**308**	⇑P	**P**	**10 45 21.3**	**+1.1**
LZH				PP	PP	10 49 13.5	+5.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,47nm,9.3s						
VNA2	**Neumayer--Watz**	**91.06**	**177**	eP	**P**	**10 45 20.5**	**-0.5**
VNA2				e		10 45 21.4	
VNA2				e		10 45 27.9	
VNA2				e		10 45 37.7	
VNA1	**Neumayer--Stat**	**91.29**	**177**	eP	**P**	**10 45 21.9**	**-0.2**
VNA1				e		10 45 22.6	
VNA1				e		10 45 29.3	
VNA1				e		10 45 38.3	
RSSD	**Black Hills**	**91.74**	**44**	eP	**P**	**10 45 23.6**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
RSSD	**Black Hills**	**91.74**	**44**	eP	**P**	**10 45 23.6**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**93.17**	**319**	eP	**P**	**10 45 31.3**	**+0.6**
SONM	**Songino Array**	**93.57**	**319**	P	**P**	**10 45 32.6**	**0.0**
	comp=Z,0.8nm,0.6s,mb4.0,baz=136,slow=3.2,SNR=9.1						
GTA	**Gaotai**	**95.03**	**310**	eP	**P**	**10 45 39.5**	**+0.4**
GTA				PP	PP	10 49 40.3	+0.6
GTA				SKS		10 55 11.0	
GTA				S	S	10 55 51.5	-9.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,68nm,7.2s						
ELN	**Prospectdale**	**106.75**	**56**	ePKP	PKiKP	10 50 36.8	-0.5
CPUP	**Villa Florida**	**107.86**	**126**	ePKP	PKiKP	10 50 40.0	+0.5
ZAL	**Zalesovo**	**108.27**	**322**	PKiKP	PKiKP	10 50 39.2	-1.0
	comp=Z,1.2nm,0.5s,baz=113,slow=3.4,SNR=3.9						
MK31	**Makanchi Array**	**109.14**	**314**	ePKP	PKiKP	10 50 40.8	-1.0
MKAR	**Makanchi Array**	**109.14**	**314**	PKiKP	PKiKP	10 50 40.7	-1.2
	comp=Z,1.7nm,0.5s,baz=194,slow=0.7,SNR=23						
MIV	**Mineville/With**	**113.00**	**49**	ePKP	PKiKP	10 50 47.6	-1.6
BVAR	**Borovoye Array**	**116.87**	**321**	PKP	PKPdf	10 50 55.5	-1.1
	comp=Z,3.8nm,0.4s,baz=141,slow=1.4,SNR=25						
ZRNK	**Zerenda**	**117.71**	**321**	ePKIKP	PKPdf	10 50 57.0	-1.2
ARU	**Arti**	**122.89**	**326**	i PKIKP	PKPdf	10 51 07.4	-0.8
ARU				e		10 53 00.2	
ARU	**Arti**	**122.89**	**326**	ePKPdf	PKPdf	10 51 06.4	-1.8
AKTO	**Aktyubinsk**	**124.89**	**319**	PKP	PKPdf	10 51 11.6	-0.5
	comp=Z,2.9nm,0.7s,baz=108,slow=4.1,SNR=13						
ARCES	**ARCESS Array B**	**126.42**	**350**	PKP	PKPdf	10 51 13.3	-1.6
	comp=Z,2.4nm,0.6s,baz=145,slow=0.7,SNR=10						
JOF	**Joensuu**	**130.64**	**343**	epkp	PKPdf	10 51 20.9	-2.1
KAF	**Kangasniemi**	**132.66**	**344**	epkp	PKPdf	10 51 24.2	-2.5
FINES	**FINESS Array B**	**133.28**	**344**	PKhKP		10 51 20.5	
	comp=Z,6.6nm,1.0s,baz=90,slow=3.8,SNR=4.6						
FINES				PKP	PKPdf	10 51 27.0	-0.9
	comp=Z,2.0nm,0.5s,baz=79,slow=1.9,SNR=11						
NB2	**NORSAR Subarra**	**136.49**	**353**	PKP	PKPdf	10 51 26.2	-7.7
	comp=Z,1.8nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**136.49**	**353**	PKP	PKPdf	10 51 33.3	-0.6
	comp=Z,1.0nm,0.6s,baz=13,slow=4.1,SNR=3.9						
AKASG	**Malin Array Be**	**140.62**	**332**	PKhKP		10 51 34.6	
	comp=Z,1.0nm,0.4s,baz=42,slow=3.9,SNR=11						
AKASG				PKP	PKPdf	10 51 43.2	+1.8
	comp=Z,2.4nm,0.4s,baz=42,slow=3.3,SNR=7.1						
LVV	**L'vov**	**143.47**	**335**	ePKIKP	PKPdf	10 51 44.9	-1.6
BSEG	**Bad Segeberg**	**143.52**	**351**	ePKPbc	PKPdf	10 51 44.8	-1.7
BURAR	**Bucovina Array**	**144.67**	**332**	⇓i P	PKPdf	10 51 50.7	+2.2
OJC	**Ojcow**	**144.69**	**340**	ePKP	PKPdf	10 51 48.9	+0.3
BR131	**Keskin Array S**	**144.79**	**315**	ePKPab	PKPdf	10 51 50.0	+1.2
BRTR	**Keskin Array B**	**144.79**	**315**	PKP	PKPdf	10 51 49.7	+1.0
	comp=Z,9.0nm,0.7s,baz=132,slow=3.7,SNR=35						
STHS	**Stebnicka Huta**	**144.87**	**337**	ePKP	PKPdf	10 51 49.9	+1.0
KOLS	**Kolonicke sedl**	**144.87**	**336**	ePKP	PKPdf	10 51 49.6	+0.7
CFR	**Carcaliu**	**144.98**	**326**	⇑i P	PKPdf	10 51 50.0	+0.9
UZH	**Uzhgorod**	**145.11**	**336**	⇑i PKIKP	PKPdf	10 51 49.4	+0.1
UZH				pmax	pmax		
	comp=Z,68nm,1.0s						
ASF	**Jabal al Asfar**	**145.14**	**301**	PKPbc	PKPbc	10 51 51.4	+0.9
	comp=Z,7.3nm,0.8s,baz=268,slow=1.8,SNR=11						
NIE	**Niedzica**	**145.20**	**338**	ePKP	PKPdf	10 51 51.2	+1.8
KSP	**Ksiaz**	**145.20**	**343**	ePKIKP	PKPdf	10 51 50.7	+1.3
CRVS	**Cervenica-Dubn**	**145.21**	**337**	ePKP	PKPdf	10 51 50.3	+0.9
VRI	**Vrincioaia**	**145.23**	**328**	⇑i P	PKPdf	10 51 51.0	+1.5
ANTO	**Ankara**	**145.29**	**315**	ePKIKP	PKPdf	10 51 51.0	+1.4
TIRR	**Tirgusor**	**145.31**	**325**	⇑i P	PKPdf	10 51 51.3	+1.7
TIRR	**Tirgusor**	**145.31**	**325**	ePKPab	PKPab	10 51 51.1	-1.3
HARR	**Harsova**	**145.41**	**326**	⇑i P	PKPdf	10 51 51.9	+2.1
HARR	**Harsova**	**145.41**	**326**	PKP2	PKPab	10 51 52.1	-0.8
IBBN	**Ibbenburen**	**145.45**	**353**	ePKPbc	PKPbc	10 51 50.9	-0.5
CLZ	**Clausthal**	**145.54**	**350**	ePKPbc	PKPbc	10 51 51.5	-0.2
OKC	**Ostrava-Krasne**	**145.56**	**341**	ePKPbc	PKPbc	10 51 51.6	-0.1
OKC				ePKPab	PKPab	10 51 54.2	+0.7
CLL	**Collm**	**145.56**	**347**	ePKPbc	PKPbc	10 51 51.4	-0.3
CLL	**Collm**	**145.56**	**347**	⇓i PKIKP	PKPdf	10 51 51.5	+1.5
CLL				pmax	pmax		
	comp=Z,49nm,0.8s						
CLL	**Collm**	**145.56**	**347**	⇓i PKPbc	PKPbc	10 51 51.5	-0.2
	comp=Z,26nm,0.8s						
CLL				eSKPdf	SKPdf	10 54 27.0	+1.5
UPC	**Upice**	**145.58**	**344**	ePKPbc	PKPbc	10 51 51.8	0.0
DPC	**Dobruska-Polom**	**145.64**	**343**	ePKPbc	PKPbc	10 51 52.2	+0.3
DPC				ePKPab	PKPab	10 51 54.3	+0.5
BRG	**Berggiesshubel**	**145.76**	**346**	ePKPbc	PKPbc	10 51 52.1	-0.2
BRG	**Berggiesshubel**	**145.76**	**346**	i PKIKP	PKPdf	10 51 52.0	+1.6
BRG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MORC	**Moravsky Berou**	**145.80**	**341**	⇑i P	PKPdf	10 51 52.8	+2.4
MORC	**Moravsky Berou**	**145.80**	**341**	⇑PKP2	PKPab	10 51 52.9	-1.5
MORC	**Moravsky Berou**	**145.80**	**341**	ePKPab	PKPab	10 51 52.3	-2.1
MLR	**Muntele Rosu**	**145.88**	**329**	PKPbc	PKPbc	10 51 52.6	0.0
	comp=Z,8.4nm,0.6s,baz=330,slow=10,SNR=13						
MLR	**Muntele Rosu**	**145.88**	**329**	⇑i P	PKPdf	10 51 52.8	+2.2
GTTG	**Gottingen**	**145.90**	**351**	ePKPbc	PKPbc	10 51 53.6	+1.0
KECS	**Kecovo**	**145.92**	**337**	ePKP	PKPdf	10 51 52.6	+2.0
PVCC	**Panska Ves**	**145.93**	**345**	ePKPbc	PKPbc	10 51 52.9	+0.2
MMAI	**Mount Meron Ar**	**146.11**	**303**	PKPbc	PKPbc	10 51 54.2	+0.9
	comp=Z,13nm,0.5s,baz=64,slow=5.0,SNR=45						
VOIR		**146.36**	**329**	⇑i P	PKPbc	10 51 54.8	+0.9
VOIR		**146.36**	**329**	⇑PKP2	PKPbc	10 51 54.9	+1.0
DRGR		**146.40**	**333**	⇑i P	PKPbc	10 51 54.3	+0.3
DRGR		**146.40**	**333**	⇑PKP2	PKPbc	10 51 54.4	+0.4
PRU	**Pruhonice**	**146.44**	**345**	ePKPbc	PKPbc	10 51 54.0	-0.1
PRU				ePKPab	PKPab	10 51 56.9	-0.1
MOX	**Moxa**	**146.47**	**348**	ePKPbc	PKPbc	10 51 53.7	-0.5
VRAC	**Vranov**	**146.50**	**342**	⇑i P	PKPbc	10 51 54.8	+0.5
VYHS	**Vyhne**	**146.50**	**339**	i PKP	PKPbc	10 51 54.0	-0.3
TANN	**Tannenbergstha**	**146.52**	**347**	ePKPbc	PKPbc	10 51 54.1	-0.2
WERD	**Werda**	**146.52**	**347**	ePKPbc	PKPbc	10 51 54.3	-0.1
GUNZ	**Gunzen**	**146.60**	**347**	ePKPbc	PKPbc	10 51 54.6	0.0
PSZ	**Piszkesteto**	**146.61**	**337**	⇑i P	PKPbc	10 51 55.0	+0.4
PSZ	**Piszkesteto**	**146.61**	**337**	ePKPbc	PKPbc	10 51 53.1	-1.4
PSZ				ePKPab	PKPab	10 51 54.6	-3.1
WERN	**Wernitzgruen**	**146.66**	**347**	ePKPbc	PKPbc	10 51 54.6	-0.1
NKC	**Novy Kostel**	**146.69**	**347**	ePKPbc	PKPbc	10 51 54.7	-0.1
MANZ	**Manzenberg**	**147.00**	**347**	ePKPbc	PKPbc	10 51 55.6	0.0
ROTZ	**Rotzenmuhle**	**147.19**	**347**	ePKPbc	PKPbc	10 51 56.2	+0.1
MEM	**Membach**	**147.30**	**355**	PKPbc	PKPbc	10 51 56.4	0.0
EIL	**Elat**	**147.38**	**297**	ePKPdf	PKPdf	10 51 51.7	-1.4
EIL				ePKPbc	PKPbc	10 51 54.9	-1.6
EIL				ePKPab	PKPab	10 51 57.6	-3.2
TNS	**Taunus Mts**	**147.41**	**352**	ePKPbc	PKPbc	10 51 56.6	-0.1
GZR	**Gura Zlata**	**147.46**	**332**	⇑i P	PKPbc	10 51 56.3	-0.5
GRF	**Grafenberg Arr**	**147.46**	**348**	ePKP	PKPbc	10 51 56.8	0.0
KHC	**Kasperske Hory**	**147.47**	**345**	ePKPbc	PKPbc	10 51 56.5	-0.3
KHC				ePKPab	PKPab	10 52 00.1	-1.1
KHC	**Kasperske Hory**	**147.47**	**345**	⇑i PKIKP	PKPdf	10 51 53.2	0.0
WET	**Wettzell**	**147.62**	**346**	ePKPbc	PKPbc	10 51 56.8	-0.4
GEC2	**GERESS Array S**	**147.71**	**345**	ePKPbc	PKPbc	10 51 57.3	-0.1
GERES	**GERESS Array B**	**147.71**	**345**	PKPbc	PKPbc	10 51 57.5	0.0
	comp=Z,8.9nm,0.6s,baz=14,slow=2.8,SNR=44						
BZS	**Buzias**	**147.79**	**333**	⇑i P	PKPbc	10 51 57.9	+0.2
GIVF	**Givet**	**147.90**	**356**	ePKP1	PKPbc	10 51 57.5	-0.4
	comp=Z,31nm,0.8s						
DOU	**Dourbes**	**147.92**	**356**	PKPbc	PKPbc	10 51 57.7	-0.2
CONA	**Conrad Observa**	**147.95**	**342**	⇑i PKIKP	PKiKP	10 51 58.2	-1.1
	comp=Z,5.0nm,0.6s						
BAIF	**Baives**	**147.98**	**357**	ePKP1	PKPbc	10 51 57.9	-0.2
	comp=Z,13nm,0.6s						
WLF	**Walferdange**	**148.22**	**354**	ePKPbc	PKPbc	10 51 58.9	+0.2
WLF	**Walferdange**	**148.22**	**354**	PKPbc	PKPbc	10 51 59.2	+0.5
PKSM	**Moragy**	**148.51**	**337**	⇑i P	PKPbc	10 51 59.4	0.0
BFO	**Black Forest**	**149.27**	**351**	ePKPbc	PKPbc	10 52 01.1	-0.2
FLN	**La Foliniere**	**149.31**	**3**	ePKP1	PKPbc	10 52 00.7	-0.7
	comp=Z,16nm,0.5s						
PERS	**Pernice**	**149.33**	**341**	i PKPbc	PKPbc	10 52 00.9	-0.5
VTS	**Vitosha**	**149.34**	**328**	⇑i P	PKPbc	10 52 02.1	+0.7
VTS	**Vitosha**	**149.34**	**328**	PKHKP	PKPbc	10 52 01.8	+0.4
CDF	**Champ du Feu**	**149.34**	**352**	ePKP1	PKPbc	10 52 01.2	-0.2
	comp=Z,18nm,0.8s						
MEZF	**Maizieres J'vi**	**149.47**	**355**	ePKP1	PKPbc	10 52 01.2	-0.6
	comp=Z,9.9nm,0.5s						
LDF	**La Druitiere**	**149.50**	**2**	ePKP1	PKPbc	10 52 01.0	-0.8
	comp=Z,7.3nm,0.4s						
ROSF	**Rostrenen**	**149.53**	**6**	ePKP1	PKPbc	10 52 00.9	-1.0
	comp=Z,5.2nm,0.7s						
WATA	**Walderalm**	**149.62**	**346**	⇓i P	PKPbc	10 52 02.1	0.0
	comp=Z,6.2nm,0.9s						
DOBS	**Dobrina**	**149.66**	**341**	ePKPbc	PKPbc	10 52 01.9	-0.3
GRR	**Gorron**	**149.67**	**3**	ePKP1	PKPbc	10 52 01.7	-0.5
	comp=Z,12nm,0.5s						
WTTA	**Wattenberg**	**149.68**	**346**	⇑i P	PKPbc	10 52 02.1	-0.2
	comp=Z,20nm,0.6s						
SGMF	**Saint Gilles**	**149.68**	**5**	ePKP1	PKPbc	10 52 01.4	-0.8
	comp=Z,14nm,0.8s						
MOTA	**Moosalm**	**149.72**	**347**	⇑i P	PKPbc	10 52 01.9	-0.4
	comp=Z,8.3nm,0.9s						
SQTA	**Sankt Quirin**	**149.81**	**347**	⇑i P	PKPbc	10 52 02.4	-0.1
	comp=Z,8.5nm,0.9s						
HAU	**Haudompre**	**149.84**	**353**	ePKP1	PKPbc	10 52 02.2	-0.4
	comp=Z,10.0nm,0.5s						
GCIS	**Gornji Cirnik**	**149.86**	**340**	ePKPbc	PKPbc	10 52 02.7	+0.1
LEGS	**Legarje**	**149.88**	**341**	i PKPbc	PKPbc	10 52 02.0	-0.7
PDKS	**Podkum**	**149.88**	**341**	ePKPbc	PKPbc	10 52 02.4	-0.3
HINF	**Hinterafeld**	**149.97**	**353**	ePKP1	PKPbc	10 52 02.4	-0.5
	comp=Z,9.7nm,0.7s						
LJU	**Ljubljana**	**150.04**	**342**	i PKPbc	PKPbc	10 52 02.9	-0.2
ROBS	**Robic**	**150.15**	**343**	i PKPbc	PKPbc	10 52 02.7	-0.7
VOY	**Vojsko**	**150.24**	**342**	ePKPbc	PKPbc	10 52 02.8	-0.7
BOJS	**Bojanci**	**150.30**	**340**	i PKPbc	PKPbc	10 52 03.9	+0.2
CEY	**Cerknica**	**150.35**	**341**	ePKPbc	PKPbc	10 52 03.6	-0.1
LOR	**Lormes**	**150.78**	**357**	ePKP1	PKPbc	10 52 04.6	-0.2
	comp=Z,16nm,0.6s						
HYF	**Humbligny**	**150.83**	**358**	ePKP1	PKPbc	10 52 05.0	+0.1
SSF	**Saint Saulge**	**151.01**	**357**	ePKP1	PKPbc	10 52 05.1	-0.2
	comp=Z,12nm,0.6s						
CABF	**La Chapelle**	**151.25**	**353**	ePKP1	PKPbc	10 52 06.1	+0.3
	comp=Z,20nm,0.9s						
AVF	**Avril sur Loir**	**151.28**	**357**	ePKP1	PKPbc	10 52 05.3	-0.6
	comp=Z,3.2nm,0.6s						
SMF	**Signal de Mont**	**151.40**	**357**	ePKP1	PKPbc	10 52 05.9	-0.3
MFF	**Saint Martin d**	**151.48**	**2**	ePKP1	PKPbc	10 52 05.8	-0.6
	comp=Z,17nm,0.8s						
BGF	**Bois d'Agland**	**151.54**	**358**	ePKP1	PKPbc	10 52 06.2	-0.3
	comp=Z,12nm,0.5s						
TCF	**Toulx Ste Croi**	**151.82**	**359**	ePKP1	PKPbc	10 52 06.6	-0.5
	comp=Z,8.2nm,0.8s						
LPL	**La Plagne**	**152.25**	**352**	ePKP1	PKPbc	10 52 08.7	+0.6
LPG	**La Plagne**	**152.27**	**352**	ePKP1	PKPbc	10 52 08.7	+0.6
	comp=Z,18nm,1.2s						
RJF	**Les Rejaudoux**	**152.81**	**360**	ePKP1	PKPbc	10 52 08.9	-0.4
ORIF	**Oris-en-Rattie**	**152.94**	**353**	ePKP1	PKPbc	10 52 09.7	+0.1
	comp=Z,6.8nm,0.7s						
MBDF	**Montbardon**	**153.02**	**352**	ePKP1	PKPbc	10 52 09.7	0.0
	comp=Z,8.7nm,0.7s						
CAF	**Calviac**	**153.19**	**359**	ePKP1	PKPbc	10 52 09.9	-0.2
	comp=Z,3.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.13**	**183**	PKP	PKPdf	10 52 21.1	+0.1
	comp=Z,1.7nm,1.0s,baz=322,slow=1.3,SNR=8.0						
TORD				PKPab	PKPab	10 54 02.2	+0.5
	comp=Z,0.3nm,0.5s,baz=190,slow=4.8,SNR=5.7						

*IDC **28** 10:58:08.1±1.0,31.13N×8803E,h0km,mb3.6/8,mb1 3.8/8, mb1mx3.7/20,mbtmp3.6/8,Error ellipse: s-maj=36.5km s-min=21.2km az=49.0*
*ISCJB **28** 10:58:13.4±2.0,312N±0.1×879E±0.2,h53km±21km, mb3.6/9,Error ellipse: s-maj=26.9km s-min=12.9km az=110.8*
*NEIC **28** 10:58:15.0±2.2,31.15N×8798E,h64km±31km,mb3.5/1, Error ellipse: s-maj=30.8km s-min=21.1km az=54.0*
ISC 28 10:58:15.0±1.8,312N±01×879E±02,h48km±19km,n13, σ1°00/14,mb3.6/9,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.17**	**118**		e Pn	**Pn**	**10 59 01.9**	**-0.5**
LSA					e Sn	**Sn**	**10 59 40.7**	**+1.7**
SHL	**Shillong**	**6.63**	**147**		e P	**Pn**	**10 59 49.0**	**-0.8**
MKAR	**Makanchi Array**	**16.14**	**346**		Pn	**Pn**	**11 01 58.9**	**+0.4**
	0.0nm,0.3s,baz=160,slow=12,SNR=5.9							
MKAR	**Makanchi Array**	**16.14**	**346**		Pn	**Pn**	**11 01 58.9**	**+0.4**
SONM	**Songino Array**	**21.77**	**35**		P	**P**	**11 03 01.9**	**-0.7**
	0.5nm,0.7s,mb3.0,baz=221,slow=9.0,SNR=4.5							
ZAL	**Zalesovo**	**22.81**	**355**		P	**P**	**11 03 12.9**	**-0.7**
	0.8nm,0.5s,mb3.5,baz=259,slow=7.0,SNR=3.7							
CHKZ	**Chkalovo**	**25.68**	**336**		e P	**P**	**11 03 40.2**	**-0.2**
	1.2nm,0.7s,mb3.5							
AKASG	**Malin Array Be**	**47.06**	**312**		P	**P**	**11 06 40.6**	**-1.3**
	0.4nm,0.3s,mb3.8,baz=79,slow=7.0,SNR=4.4							
NOA	**NORSAR Array B**	**56.87**	**326**		P	**P**	**11 07 55.9**	**+1.1**
	0.9nm,0.7s,mb3.9,baz=84,slow=7.5,SNR=3.2							
GERES	**GERESS Array B**	**57.24**	**311**		P	**P**	**11 07 59.6**	**+2.1**
	1.0nm,0.5s,mb4.1,baz=79,slow=6.9,SNR=7.5							
WRA	**Warramunga Arr**	**67.62**	**133**		P	**P**	**11 09 06.0**	**-0.8**
	0.5nm,0.7s,mb3.7,baz=326,slow=6.2,SNR=4.8							
ASAR	**Alice Springs**	**70.13**	**135**		P	**P**	**11 09 21.9**	**-0.5**
	0.6nm,0.8s,mb3.6,baz=319,slow=6.4,SNR=5.8							
TORD	**Torodi Ar. Bea**	**80.13**	**279**		P	**P**	**11 10 20.6**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=50,slow=5.3,SNR=3.3							

*IDC **28** 11:05:39.5±0.8,5468N×16129E,h0km,mb3.8/10, mb1 4.1/10,mb1mx3.9/21,mbtmp3.8/10,Error ellipse: s-maj=26.2km s-min=20.2km az=112.0*
*MOS **28** 11:05:42.7±2.0,5452N×16199E,h33km,mb4.4/7,Error ellipse: s-maj=17.8km s-min=8.6km az=76.9*
*ISCJB **28** 11:05:45.3±0.6,5448N±003×16165E±009,h59km±6km, mb3.9/12,Error ellipse: s-maj=8.8km s-min=3.3km az=37.8*
*KRSC **28** 11:05:45,5449N×16153E,h41km,ML4.3*
*NEIC **28** 11:05:46.8±3.9,5476N×16063E,h35km,Error ellipse: s-maj=103.0km s-min=18.5km az=103.0*
ISC 28 11:05:46.5±0.6,5450N±003×16160E±010,h59km±6km, n47,σ1°06/71,mb3.9/12,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**53**		i P	**Pn**	**11 05 51.7**	**-3.8**
TUMR	**Tumrok**	**1.15**	**314**		i P	**Pn**	**11 06 06.1**	**-0.4**
TUMR					e S	**Sn**	**11 06 21.0**	**-0.3**
KII	**Karymskiy**	**1.34**	**251**		P	**Pn**	**11 06 07.8**	**-1.2**
KMNR	**Kamenistaya**	**1.48**	**329**		i P	**Pn**	**11 06 11.4**	**+0.4**
KMNR					e S	**Sn**	**11 06 29.9**	**+0.6**
ZLN	**Zelenaya**	**1.59**	**344**		i P	**Pn**	**11 06 12.8**	**+0.4**
ZLN					e S	**Sn**	**11 06 32.3**	**+0.4**
KPT	**Kopyto**	**1.67**	**332**		e P	**Pn**	**11 06 13.9**	**+0.4**
KPT					e S	**Sn**	**11 06 34.3**	**+0.5**
SPN	**Mys Shipunski**	**1.68**	**214**		i P	**Pn**	**11 06 11.7**	**-2.0**
SPN					i S	**Sn**	**11 06 30.5**	**-3.7**
KRSR	**Krestovskiy**	**1.82**	**342**		i P	**Pn**	**11 06 14.2**	**-1.3**
KRSR					e S	**Sn**	**11 06 34.8**	**-2.7**
KOZ	**Kozyrevsk**	**1.85**	**328**		i P	**Pn**	**11 06 16.6**	**+0.7**
KOZ					e S	**Sn**	**11 06 39.0**	**+0.8**
KOZR	**Kozyr**	**1.85**	**329**		PN	**Pn**	**11 06 16.6**	**+0.7**
KOZR					S	**Sn**	**11 06 39.0**	**+0.8**
KBTR	**Krutoberegovo**	**1.85**	**22**		e P	**Pn**	**11 06 15.9**	**0.0**
KBTR					i S	**Sn**	**11 06 38.3**	**0.0**
NLC	**Nalytchevo**	**1.88**	**226**		i P	**Pn**	**11 06 15.6**	**-0.8**
NLC					i S	**Sn**	**11 06 37.6**	**-1.4**
KLY	**Klyuchi**	**1.90**	**344**		i P	**Pn**	**11 06 16.2**	**-0.4**
KLY					i S	**Sn**	**11 06 38.7**	**-0.7**
SDLR	**Sedlovina**	**2.02**	**234**		i P	**Pn**	**11 06 19.0**	**+0.8**
SDLR					i S	**Sn**	**11 06 42.8**	**+0.5**
BDR	**Baidarnaya**	**2.09**	**354**		i P	**Pn**	**11 06 19.5**	**+0.4**
BDR					i S	**Sn**	**11 06 44.3**	**+0.3**
AVH	**Avacha**	**2.09**	**235**		i P	**Pn**	**11 06 20.3**	**+1.1**
AVH					i S	**Sn**	**11 06 45.2**	**+1.0**
SRDR	**Sredinnyy**	**2.12**	**330**		i P	**Pn**	**11 06 19.7**	**+0.2**
SRDR					e S	**Sn**	**11 06 44.5**	**-0.2**
SRKR	**Sorokina**	**2.17**	**354**		e P	**Pn**	**11 06 20.7**	**+0.4**
SRKR					i S	**Sn**	**11 06 46.3**	**+0.1**
PET	**Petropavlovsk**	**2.29**	**231**	⇑i PN		**Pn**	**11 06 22.2**	**+0.3**
PET					i S	**Sn**	**11 06 49.4**	**+0.5**
PET				pmax	pmax			
	comp=Z,166nm,0.4s							
PET				smax				
	comp=N,919nm,0.4s							
PET				smax				
	comp=E,780nm,0.4s							
PET	**Petropavlovsk**	**2.29**	**231**		e Pn	**Pn**	**11 06 18.8**	**-3.1**
PET					e Sn	**Sn**	**11 06 46.5**	**-2.4**
PET					e Sb	**Sn**	**11 06 49.5**	**+0.7**
PET					e Sg	**Sn**	**11 06 52.6**	**+3.7**
PET	**Petropavlovsk**	**2.29**	**231**		i P	**Pn**	**11 06 22.3**	**+0.4**
PET					i S	**Sn**	**11 06 48.7**	**-0.2**
GNL	**Ganaly**	**2.30**	**251**		eP	**Pn**	**11 06 23.0**	**+1.0**
GNL					i S	**Sn**	**11 06 49.6**	**+0.5**
RUS	**Russkaya**	**2.77**	**223**		eP	**Pn**	**11 06 28.5**	**0.0**
RUS					i S	**Sn**	**11 06 59.8**	**-0.9**
GRL	**Gorelyy**	**2.87**	**229**		eP	**Pn**	**11 06 30.7**	**+0.9**
GRL					i S	**Sn**	**11 07 03.3**	**+0.2**
SKR	**Severo-Kuril's**	**5.07**	**223**		ePN	**Pn**	**11 07 04.6**	**+4.6**
SKR				pmax	pmax			
	comp=Z,60nm,0.6s							
MAT	**Matsushiro**	**24.12**	**231**		P	**P**	**11 10 57.5**	**+0.8**
MJAR	**Matsushiro Arr**	**24.12**	**231**		P	**P**	**11 10 57.6**	**+0.9**
	comp=Z,1.9nm,0.8s,mb3.6,baz=17,slow=11,SNR=8.1							
MJAR	**Matsushiro Arr**	**24.12**	**231**		P	**P**	**11 10 57.6**	**+0.9**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**48.35**	**295**		P	**P**	**11 14 19.7**	**-2.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=57,slow=7.1,SNR=3.7							
ARCES	**ARCESS Array B**	**52.23**	**342**		P	**P**	**11 14 50.3**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=23,slow=9.8,SNR=7.9							
ARCES	**ARCESS Array B**	**52.23**	**342**		P	**P**	**11 14 50.3**	**-1.2**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**56.07**	**63**		P	**P**	**11 15 20.8**	**+1.4**
	comp=Z,0.2nm,0.6s,mb3.3,baz=316,slow=6.3,SNR=3.5							
JOF	**Joensuu**	**56.66**	**335**		ep	**P**	**11 15 21.1**	**-2.6**
	comp=Z,1.9nm,0.4s,mb4.5							
JOF	**Joensuu**	**56.66**	**335**		eP	**P**	**11 15 21.1**	**-2.6**
JOF				pmax	pmax	

AVH	**Avacha**	**0.30**	**352**	*i* P	**Pn**	**11 31 32.7**	**+0.4**
AVH				*i* S	**Sn**	**11 31 45.8**	**+2.0**
NLC	**Nalytchevo**	**0.38**	**58**	*i* P	**Pn**	**11 31 32.4**	**-0.3**
NLC				*i* S	**Sn**	**11 31 45.8**	**-0.5**
RUS	**Russkaya**	**0.56**	**198**	*i* P	**Pn**	**11 31 33.4**	**-0.3**
RUS				*i* S	**Sn**	**11 31 47.8**	**-0.2**
GRL	**Gorelyy**	**0.61**	**227**	*i* P	**Pn**	**11 31 34.7**	**+0.7**
GRL				*i* S	**Sn**	**11 31 49.9**	**+1.3**
SPN	**Mys Shipunski**	**0.75**	**80**	*i* P	**Pn**	**11 31 35.0**	**0.0**
SPN				*i* S	**Sn**	**11 31 50.3**	**-0.1**
GNL	**Ganaly**	**0.89**	**325**	*i* P	**Pn**	**11 31 35.6**	**-0.6**
GNL				*i* S	**Sn**	**11 31 51.3**	**-1.3**
KII	**Karymskiy**	**1.14**	**20**	*i* P	**Pn**	**11 31 38.8**	**+0.3**
KII				*e*S	**Sn**	**11 31 56.8**	**+0.1**
MKZ	**Mys Kozlova**	**2.35**	**46**	*i* P	**Pn**	**11 31 52.7**	**-0.1**
MKZ				*i* S	**Sn**	**11 32 20.1**	**-2.0**
TUMR	**Tumrok**	**2.45**	**18**	P	**Pn**	**11 31 54.9**	**+0.9**
SKR	**Severo-Kuril's**	**2.83**	**217**	*e*PN	**Pn**	**11 32 05.5**	**+6.6**
KMNR	**Kamenistaya**	**2.92**	**16**	P	**Pn**	**11 32 01.1**	**+1.1**
ZLN	**Zelenaya**	**3.27**	**20**	P	**Pn**	**11 32 05.5**	**+0.8**
SRDR	**Sredinnyy**	**3.40**	**9**	P	**Pn**	**11 32 07.3**	**+1.0**
SRKR	**Sorokina**	**3.94**	**19**	P	**Pn**	**11 32 14.7**	**+1.2**
TIXI	**Tiksi**	**22.87**	**336**	*e*P	**P**	**11 36 02.8**	**-4.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**47.51**	**295**	*i* P	**P**	**11 39 34.5**	**-2.5**

*IDC **28** 12:27:03.1±0.9, 1241N×12397E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, ML4.5/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/29, Error ellipse: s-maj=39.9km s-min=16.2km az=65.0*
*ISCJB **28** 12:27:04.3±0.9, 1238N±002×12376E±004, h13km±6km, mb4.2/14, MS3.5/7, Error ellipse: s-maj=6.2km s-min=3.6km az=137.6*
*MAN **28** 12:27:04.5, 1239N×12368E, h11km, mb3.7, ML4.8, MS2.4*
MAN F MASBATE MASBATE - INTENSITY III.
*NEIC **28** 12:27:07.1±5.1, 1241N×12390E, h26km±36km, mb4.6/4, Error ellipse: s-maj=21.8km s-min=7.3km az=65.0*
*BJI **28** 12:27:07.0, 1240N×12390E, h25km, mb4.2*
ISC 28 12:27:04.0±0.8, 1238N±002×12377E±004, h2km±5km, n56, σ0.97/61, mb4.2/14, MS3.5/7, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.14**	**260**	⇓*i*P	**Pg**	**12 27 07.5**	**+0.8**
PVCP	**Virac**	**1.26**	**17**	⇑*e*P	**Pg**	**12 27 28.2**	**0.0**
PVCP	**Virac**	**1.26**	**17**	*e*P	**Pg**	**12 27 28.0**	**-0.2**
PVCP				*e*S	**Sg**	**12 27 43.5**	**-1.1**
RCP	**Roxas**	**1.29**	**231**	⇑*e*P	**Pn**	**12 27 27.7**	**-1.4**
RCP				*e*S	**Sg**	**12 27 45.4**	**-0.1**
AUQP	**San Andres**	**1.42**	**311**	*e*P	**Pn**	**12 27 31.4**	**+0.6**
AUQP				*e*S	**Sb**	**12 27 48.9**	**-0.8**
OCLP	**Ormoc**	**1.56**	**148**	*e*P	**Pn**	**12 27 33.4**	**+0.7**
OCLP				*e*S	**Sn**	**12 27 51.7**	**-1.7**
PLP	**Palo**	**1.69**	**135**	*e*P	**Pn**	**12 27 34.6**	**0.0**
PLP				*e*S	**Sn**	**12 27 57.1**	**+0.3**
OTRP	**Odiongan**	**1.71**	**270**	*e*P	**Pn**	**12 27 33.0**	**-1.8**
GQP	**Guinayangan**	**1.99**	**320**	⇓*e*P	**Pn**	**12 27 37.9**	**-0.8**
GQP				*e*S	**Sn**	**12 28 04.1**	**0.0**
LLP	**Lapu-Lapu**	**2.06**	**175**	⇑*e*P	**Pn**	**12 27 39.7**	**0.0**
LLP				*i* S	**Sn**	**12 28 06.1**	**+0.2**
GUIM	**Jordan**	**2.09**	**214**	*e*P	**Pn**	**12 27 40.4**	**+0.3**
BOAC	**Boac**	**2.16**	**300**	*e*P	**Pn**	**12 27 38.9**	**-2.1**
MSLP	**Maasin**	**2.48**	**154**	*e*P	**Pn**	**12 27 45.8**	**+0.5**
TBP	**Tagbilaran**	**2.68**	**178**	*e*P	**Pn**	**12 27 48.4**	**+0.3**
TBP				*e*S	**Sn**	**12 28 10.8**	**-10**
POLP	**Polillo Island**	**2.93**	**323**	*e*P	**Pn**	**12 27 53.0**	**+1.4**
SNPH	**Sibulan**	**3.06**	**190**	*e*P	**Pn**	**12 27 55.0**	**+1.6**
SCPH	**Surigao**	**3.09**	**147**	*e*P	**Pn**	**12 28 00.1**	**+6.4**
SCPH				*e*S	**Sn**	**12 28 40.2**	**+9.0**
CUYO	**Cuyo Island**	**3.10**	**241**	*e*P	**Pn**	**12 27 53.1**	**-0.8**
TGY	**Tagaytay City**	**3.25**	**302**	Pn	**Pn**	**12 27 57.3**	**+1.4**
	42nm,0.3s,baz=168,slow=4.9,SNR=4.1						
BUSP	**Coron**	**3.51**	**264**	*e*P	**Pn**	**12 27 58.4**	**-1.1**
DCPH	**Dipolog City**	**3.80**	**186**	⇑*i*P	**Pn**	**12 28 04.1**	**+0.6**
DCPH				*i* S	**Sn**	**12 28 47.7**	**-1.1**
BALP	**Baler**	**3.96**	**328**	*e*P	**Pn**	**12 28 05.7**	**0.0**
ENPP	**El Nido**	**4.41**	**255**	*e*P	**Pn**	**12 28 10.9**	**-1.1**
PAGZ	**Pagadian**	**4.52**	**185**	*e*P	**Pn**	**12 28 15.1**	**+1.6**
BUKP	**Musuan**	**4.65**	**164**	*e*P	**Pn**	**12 28 13.5**	**-1.8**
CAUP	**Cauayan**	**4.91**	**338**	*e*P	**Pn**	**12 28 18.8**	**0.0**
JOW	**Kunigami**	**14.98**	**16**	LR	LR	12 36 14.0	
	comp=Z,175nm,18.5s,baz=338,slow=37						
PSI	**Prapat**	**26.38**	**251**	P	**P**	**12 32 43.4**	**+1.8**
	2.1nm,0.7s,mb3.8,baz=45,slow=8.6,SNR=3.8						
PSI				LR	LR	12 43 59.9	
	comp=Z,95nm,18.9s,MS3.4,baz=179,slow=38						
LZH	**Lanzhou**	**29.66**	**326**	*e*P	**P**	**12 33 12.5**	**+1.5**
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.8						
LZH	**Lanzhou**	**29.66**	**326**	*e*P	**P**	**12 33 12.5**	**+1.5**
	comp=Z,21nm,1.1s,mb4.8						
LZH				pP		12 33 18.5	
LZH				sP	sP	12 33 21.6	+10
WRA	**Warramunga Arr**	**33.76**	**162**	P	**P**	**12 33 45.8**	**-1.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=342,slow=9.9,SNR=6.3						
WB2	**Warramunga Arr**	**33.77**	**162**	*e*P	**P**	**12 33 46.1**	**-1.0**
GTA	**Gaotai**	**34.27**	**326**	*e*P	**P**	**12 33 52.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
AS31	**Alice Springs**	**37.17**	**165**	*e*P	**P**	**12 34 17.4**	**+1.1**
ASPA	**Alice Springs**	**37.17**	**165**	*e*P	**P**	**12 34 17.4**	**+1.0**
ASAR	**Alice Springs**	**37.17**	**165**	P	**P**	**12 34 16.2**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.3,baz=341,slow=6.3,SNR=12						
SONM	**Songino Array**	**38.22**	**341**	P	**P**	**12 34 25.5**	**+0.3**
	comp=Z,1.6nm,1.1s,mb3.6,baz=159,slow=10,SNR=7.5						
SONM				LR	LR	12 51 59.0	
	comp=Z,95nm,18.7s,MS3.6,baz=309,slow=39						
JIRN	**Jiri**	**38.26**	**299**	*e*P	**P**	**12 34 25.0**	**-0.6**
GUN	**Gumba**	**38.59**	**299**	*e*P	**P**	**12 34 28.2**	**-0.2**
	comp=Z,14nm,0.8s,mb4.8						
PKI	**Pulchoki**	**38.91**	**299**	*e*P	**P**	**12 34 31.3**	**+0.3**
GKN	**Gorkha**	**39.68**	**299**	*e*P	**P**	**12 34 38.3**	**+0.9**
KOLN	**Koldanda**	**40.51**	**298**	*e*P	**P**	**12 34 46.1**	**+1.8**
	comp=Z,7.8nm,0.9s,mb4.3						
HNR	**Honiara**	**41.97**	**119**	LR	LR	12 49 05.5	
	comp=Z,56nm,19.9s,MS3.4,baz=359,slow=32						
NWAO	**Narrogin (SRO)**	**45.48**	**188**	P	**P**	**12 35 25.1**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.5,baz=0.0,slow=5.1,SNR=5.3						
STKA	**Stephens Creek**	**47.21**	**159**	*e*P	**P**	**12 35 38.2**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**47.21**	**159**	P	**P**	**12 35 37.4**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.4,baz=335,slow=6.6,SNR=3.7						
STKA				LR	LR	12 56 12.1	
	comp=Z,64nm,20.8s,MS3.6,baz=197,slow=37						
MK31	**Makanchi Array**	**48.87**	**323**	*e*P	**P**	**12 35 51.4**	**+0.3**
MKAR	**Makanchi Array**	**48.87**	**323**	P	**P**	**12 35 51.6**	**+0.6**
	comp=Z,1.5nm,0.9s,mb4.0,baz=116,slow=8.2,SNR=13						
MKAR				PcP	PcP	12 37 15.3	-0.3
	comp=Z,1.3nm,0.8s,baz=110,slow=5.3,SNR=8.5						
MKAR				LR	LR	12 57 14.4	
	comp=Z,36nm,19.4s,MS3.4,baz=251,slow=37						
MKAR	**Makanchi Array**	**48.87**	**323**	P	**P**	**12 35 51.6**	**+0.6**
MKAR				PcP	PcP	12 37 15.3	-0.3
MKAR				LR	LR	12 57 14.4	
ZAL	**Zalesovo**	**51.61**	**332**	LR	LR	13 01 04.0	
	comp=Z,50nm,19.3s,MS3.6,baz=94,slow=40						
ZRNK	**Zerenda**	**59.29**	**325**	P	**P**	**12 37 06.2**	**-0.9**
KIV	**Kislovodsk**	**75.12**	**312**	P	**P**	**12 38 47.4**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.7						
MCK	**McKinley**	**77.80**	**27**	P	**P**	**12 39 01.5**	**-1.3**
	comp=Z,5.5nm,1.2s,mb4.4						
BRTR	**Keskin Array B**	**82.31**	**309**	P	**P**	**12 39 27.3**	**+0.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=108,slow=4.0,SNR=3.9						
NOA	**NORSAR Array B**	**89.79**	**333**	LR	LR	13 22 57.0	
	comp=Z,43nm,18.2s,MS3.9,baz=320,slow=37						
TXAR	**Lajitas Array**	**118.24**	**47**	PKP	PKPdf	12 45 51.9	-0.9
	comp=Z,0.3nm,0.8s,baz=343,slow=2.2,SNR=3.7						

IDC 28 12:43:19.1±5.8, 2233S×17728W, h386km±152km, mb3.1/4, mb1 3.3/6, mb1mx3.1/15, mbtmp4.1/6, Error ellipse: s-maj=120.8km s-min=30.7km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.87**	**33**	P	Pn	12 45 35.4	-0.1
	1.6nm,0.3s,baz=311,slow=22,SNR=4.3						
URZ	**Urewera**	**16.59**	**196**	P	P	12 46 49.3	+0.1
	0.4nm,0.3s,baz=136,slow=16,SNR=3.3						
URZ				S	S	12 49 41.4	-1.8
	0.6nm,0.3s,baz=235,slow=16,SNR=4.8						
CTA	**Charters Tower**	**34.02**	**267**	P	P	12 49 28.7	+0.4
	1.9nm,0.6s,baz=76,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**37.63**	**246**	P	P	12 49 59.5	+0.8
	0.9nm,0.5s,baz=90,slow=7.1,SNR=3.7						
ASAR	**Alice Springs**	**44.78**	**258**	P	P	12 50 56.5	+0.5
	1.1nm,0.7s,baz=94,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**45.04**	**264**	P	P	12 50 57.3	-0.7
	0.5nm,0.5s,baz=99,slow=8.8,SNR=5.7						

*NIED **28** 12:47:00, 3710N×14320E, h5km, Mw3.7 Best double couple: M◦4.71000×10^14 NP1:φ◦s33.00000°, δ49.00000°, λ98.00000°. NP2:φ◦d201.00000°, δ42.00000°, λ81.00000°.*
*IDC **28** 12:47:47.9±1.4, 3710N×14355E, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.9/3, Error ellipse: s-maj=40.2km s-min=18.5km az=77.0*
*JMA **28** 12:47:48.2±0.2, 3710N×14325E, h11km, M3.8*
*MOS **28** 12:47:50.3±1.2, 3714N×14342E, h33km, mb4.2/10, Error ellipse: s-maj=17.2km s-min=11.8km az=121.1*
*ISCJB **28** 12:47:50.7±0.6, 3713N±004×14332E±006, h33km, mb4.0/11, Error ellipse: s-maj=7.1km s-min=5.0km az=22.7*
*NEIC **28** 12:47:53.1±0.8, 3706N×14336E, h35km, mb4.4/4, Error ellipse: s-maj=15.8km s-min=14.0km az=133.0*
ISC 28 12:47:49.7±1.9, 3716N±004×14328E±007, h10km±13km, n43, σ0.98/51, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.93**	**277**	P	**Pn**	**12 48 21.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.98**	**269**	P	**Pn**	**12 48 22.1**	**-1.2**
ONAJ				*e*S	**Sn**	**12 48 47.2**	**-0.9**
JIO	**Ouri**	**2.00**	**311**	P	**Pn**	**12 48 22.7**	**-0.8**
JIO				*e*S	**Sn**	**12 48 48.7**	**+0.2**
JMM	**Marumori**	**2.10**	**290**	P	**Pn**	**12 48 23.9**	**-0.9**
JMK	**Ichinoseki**	**2.41**	**318**	P	**Pn**	**12 48 29.0**	**-0.2**
JMK				*e*S	**Sn**	**12 48 59.3**	**+0.5**
JOM	**Ohasama**	**2.79**	**327**	P	**Pn**	**12 48 34.0**	**-0.3**
JOM				*e*S	**Sn**	**12 49 07.7**	**-0.2**
JYK	**Kaneyama**	**2.90**	**308**	P	**Pn**	**12 48 35.7**	**-0.1**
BSO1	**Boso 1**	**3.12**	**217**	P	**Pn**	**12 48 38.4**	**-0.5**
BSO1				*e*S	**Sn**	**12 49 15.7**	**-0.6**
JAG	**Ashikaga**	**3.16**	**258**	P	**Pn**	**12 48 39.1**	**-0.3**
JANG	**Nango**	**3.49**	**337**	P	**Pn**	**12 48 45.4**	**+1.4**
JRY	**Ryogami san**	**3.70**	**253**	P	**Pn**	**12 48 46.5**	**-0.4**
JOD2	**Odawara 2**	**3.88**	**242**	P	**Pn**	**12 48 48.8**	**-0.6**
MJAR	**Matsushiro Arr**	**4.11**	**263**	Pn	**Pn**	**12 48 53.2**	**+0.7**
	4.9nm,0.3s,baz=83,slow=15,SNR=53						
MJAR	**Matsushiro Arr**	**4.11**	**263**	P	**Pn**	**12 48 53.2**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAJO	**Matsushiro**	**4.11**	**263**	*e*P	**Pn**	**12 48 53.2**	**+0.6**
MAT	**Matsushiro**	**4.11**	**263**	P	**Pn**	**12 48 53.5**	**+0.9**
MAT				*e*S	**Sn**	**12 49 41.1**	**+0.4**
JHJ	**Hachijo jima 2**	**4.95**	**216**	Pn	**Pn**	**12 49 05.0**	**+1.0**
	comp=Z,29nm,0.3s,baz=218,slow=7.4,SNR=8.9						
JHJ				Sn	**Sn**	**12 49 56.4**	**-4.9**
	comp=Z,11nm,0.3s,baz=84,slow=23,SNR=4.2						
ASAJ	**Asahikawa**	**6.97**	**356**	Pn	**Pn**	**12 49 31.7**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=176,slow=6.4,SNR=20						
ASAJ				Sn	**Sn**	**12 50 49.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=272,slow=23,SNR=3.5						
ASAJ	**Asahikawa**	**6.97**	**356**	P	**Pn**	**12 49 31.7**	**-0.1**
ASAJ						12 50 49.6	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CIT	**Chita**	**25.63**	**315**	*e*P	**P**	**12 53 17.1**	**-2.2**
YAK	**Yakutsk**	**26.29**	**346**	*e*P	**P**	**12 53 26.0**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
YAK	**Yakutsk**	**26.29**	**346**	*e*P	**P**	**12 53 26.0**	**+0.7**
	comp=Z,13nm,0.7s,mb4.6						
BOD	**Bodaibo**	**28.23**	**326**	*e*P	**P**	**12 53 41.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb3.7						
ULN	**Ulaanbaatar**	**28.52**	**304**	P	**P**	**12 53 46.8**	**+1.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**28.52**	**304**	P	**P**	**12 53 46.8**	**+1.5**
	comp=Z,4.6nm,1.0s,mb4.2						
SONM	**Songino Array**	**28.95**	**303**	P	**P**	**12 53 51.1**	**+1.9**
	comp=Z,1.4nm,0.8s,mb3.7,baz=93,slow=8.2,SNR=9.4						
SONM	**Songino Array**	**28.95**	**303**	P	**P**	**12 53 51.1**	**+2.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	**Zakamensk**	**31.36**	**308**	*e*	**P**	**12 54 11.5**	**+1.0**
ZAL	**Zalesovo**	**42.94**	**312**	P	**P**	**12 55 50.5**	**+1.9**
	comp=Z,1.5nm,0.6s,mb3.9,baz=33,slow=8.2,SNR=8.1						
ZAL	**Zalesovo**	**42.94**	**312**	P	**P**	**12 55 50.6**	**+1.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**45.31**	**302**	*e*P	**P**	**12 56 08.2**	**+0.5**
MKAR	**Makanchi Array**	**45.31**	**302**	P	**P**	**12 56 08.7**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=87,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**45.31**	**302**	P	**P**	**12 56 08.7**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
COLA	**College**	**48.17**	**32**	P	**P**	**12 56 28.3**	**-1.8**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
COLA	**College**	**48.17**	**32**	P	**P**	**12 56 28.3**	**-1.8**
	comp=Z,4.8nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**52.42**	**313**	*e*P	**P**	**12 57 03.1**	**+0.9**
ZRNK				*e*		12 57 11.8	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**52.42**	**313**	*e*P	**P**	**12 57 03.1**	**+0.9**
	comp=Z,4.1nm,1.0s,mb4.3						
ZRNK				*e*		12 57 11.8	
WRA	**Warramunga Arr**	**57.42**	**190**	P	**P**	**12 57 37.0**	**-1.4**
	comp=Z,2.1nm,0.7s,mb4.3,baz=9.2,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**57.42**	**190**	P	**P**	**12 57 37.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**61.14**	**190**	P	**P**	**12 58 04.8**	**+0.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=9.2,slow=9.3,SNR=20						
ASAR	**Alice Springs**	**61.14**	**190**	P	**P**	**12 58 04.9**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**74.64**	**338**	P	**P**	**12 59 29.1**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=38,slow=5.8,SNR=3.7						
NOA	**NORSAR Array B**	**74.64**	**338**	P	**P**	**12 59 29.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*NIED **28** 13:15:00, 3750N×14150E, h56km, Mw3.6 Best double couple: M◦3.15000×10^14 NP1:φ◦s28.00000°, δ65.00000°, λ73.00000°. NP2:φ◦s244.00000°, δ31.00000°, λ122.00000°.*
JMA 28 13:15:15.6±0.1, 3752N×14146E, h48km±1km, M3.6, 9D Broadband fault plane solution: P waves. NP1: φ◦s207.00000°, δ18.00000°, λ109.00000°. NP2: φ◦s7.00000°, δ73.00000°, λ84.00000°. Principal axes: T Plg61.0000°, Azm269.0000°; N Plg6.0000°, Azm9.0000°; P Plg28.0000°, Azm102.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.49**	**252**	⇓P	Pn	13 15 26.5	-0.1
JFK				S	Sn	13 15 34.1	-0.4
JMM	**Marumori**	**0.63**	**303**	⇓P	Pn	13 15 28.5	+0.1
JMM				S	Sn	13 15 37.6	0.0
ONAJ	**Iwakimizuishiy**	**0.67**	**232**	⇓P	Pn	13 15 28.7	-0.2
ONAJ				S	Sn	13 15 37.9	-0.6
JFT	**Otama**	**0.89**	**270**	⇓P	Pn	13 15 32.5	+0.7
JFT				*e*S	Sn	13 15 44.2	+0.5
JIO	**Ouri**	**0.94**	**355**	⇓P	Pn	13 15 32.5	+0.1
JIO				S	Sn	13 15 44.1	-0.6
JOU	**Okura**	**1.05**	**324**	⇓P	Pn	13 15 34.0	0.0
JOU				*e*S	Sn	13 15 48.2	+0.7
JYS	**Shirataka**	**1.31**	**303**	⇓P	Pn	13 15 37.9	+0.5
JYS				S	Sn	13 15 54.0	+0.3
JFY	**Yanaizu**	**1.40**	**266**	⇓P	Pn	13 15 39.1	+0.4
JFY				*e*S	Sn	13 15 56.4	+0.4
JMK	**Ichinoseki**	**1.44**	**353**	P	Pn	13 15 39.5	+0.2
JMK				*e*S	Sn	13 15 57.2	+0.2
JYK	**Kaneyama**	**1.64**	**328**	⇓P	Pn	13 15 42.6	+0.6
MAT	**Matsushiro**	**2.78**	**250**	P	Pn	13 15 58.5	+0.9
MAT				*e*S	Sn	13 16 33.3	+3.4

*IDC **28** 13:27:26.5±0.8, 5103N×17826E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/24, mbtmp4.1/14, ML4.3/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/34 Error ellipse: s-maj=23.8km s-min=16.8km az=168.0*
*BJI **28** 13:27:28.7, 5195N×17782E, h4km, mB4.8, mb4.6, Ms4.6, Ms2.4.2*
*NEIC **28** 13:27:29.3, 5101N×17833E, h4km, mb4.6/16, ML4.0(AEIC), After AEIC.*
*MOS **28** 13:27:30.1±1.0, 5116N×17840E, h33km, mb4.7/24, Error ellipse: s-maj=13.5km s-min=9.1km az=117.3*
*ISCJB **28** 13:27:31.5±0.8, 5120N±009×17835E±005, h43km±6km, mb4.5/43, MS3.8/13, Error ellipse: s-maj=15.4km s-min=5.5km az=167.7*
ISC 28 13:27:33.1±0.8, 5122N±010×17836E±006, h43km±6km, h34km±2.6km: pP-P, n104, σ0.91/104, mb4.5/43, MS3.8/13, 5C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.61**	**75**	P	**Pn**	**13 27 43.7**	**-1.7**
AMKA				S	**Sn**	**13 27 54.5**	**+0.2**
SMY	**Shemya**	**3.04**	**302**	P	**Pn**	**13 28 19.6**	**+1.0**
FX1	**Attu Island--F**	**3.61**	**299**	P	**Pn**	**13 28 27.5**	**+1.0**
PET	**Petropavlovsk**	**12.24**	**286**	⇑*e*P	**Pn**	**13 30 25.8**	**+1.0**
PET	**Petropavlovsk**	**12.24**	**286**	*e*Pn	**Pn**	**13 30 23.5**	**-1.3**
	36nm,1.2s						
BILL	**Bilibino**	**17.88**	**345**	*e*P	**Pn**	**13 31 33.0**	**-5.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s						
KDAK	**Kodiak Island**	**18.01**	**57**	P	**Pn**	**13 31 39.4**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=280,slow=15,SNR=12						
KDAK				S	**S**	**13 34 55.8**	**-8.7**
	comp=Z,0.1nm,0.3s,baz=286,slow=12,SNR=2.4						
KDAK	**Kodiak Island**	**18.01**	**57**	*e*Pn	**Pn**	**13 31 39.5**	**-0.6**
	comp=Z,15nm,1.0s						
IMA2	**Indian Mountai**	**20.53**	**33**	*e*P	**P**	**13 32 08.4**	**+0.6**
PMR	**Palmer**	**20.54**	**47**	*e*P	**P**	**13 32 07.4**	**-0.4**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMR	**Palmer**	**20.54**	**47**	*e*P	**P**	**13 32 07.4**	**-0.5**
	comp=Z,5.8nm,0.9s						
SML	**Sawmill**	**20.96**	**47**	*e*P	**P**	**13 32 11.8**	**-0.6**
COLA	**College**	**22.15**	**39**	*e*P	**P**	**13 32 24.6**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.1						
MENT	**Mentasta**	**23.32**	**45**	*e*P	**P**	**13 32 38.8**	**+1.3**
YSS	**Yuzh-Sakhalins**	**23.55**	**274**	⇑*e*P	**P**	**13 32 42.9**	**+3.3**
YSS				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
ASAJ	**Asahikawa**	**24.92**	**268**	LR	LR	13 41 21.1	
	comp=Z,69nm,18.9s,MS3.2,baz=3.5,slow=34						
YAK	**Yakutsk**	**28.18**	**311**	*e*P	**P**	**13 33 21.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK	**Yakutsk**	**28.18**	**311**	P	**P**	**13 33 19.0**	**-2.5**
	comp=E,25nm,1.0s,mb4.8						
KLR	**Kul'dur**	**29.50**	**285**	*e*P	**P**	**13 33 29.1**	**-4.1**
MDJ	**Mudanjiang**	**32.83**	**278**	P	**P**	**13 34 01.0**	**-1.5**
MDJ				AP	pP	13 34 09.3	-4.8
MDJ				XP	sP	13 34 13.8	-5.4
MDJ				S	**S**	**13 39 17.8**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,35nm,3.1s						
MDJ				LR	LR		
	comp=Z,59nm,22.8s,MS3.2						
CN2	**Changchun**	**35.82**	**279**	*e*P	**P**	**13 34 28.3**	**-0.1**
YKA	**Yellowknife Ar**	**36.63**	**46**	P	**P**	**13 34 35.7**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.7,baz=284,slow=8.4,SNR=2.9						
YKA				LR	LR	13 51 24.8	
	comp=Z,121nm,18.9s,MS3.7,baz=220,slow=39						
YKA	**Yellowknife Ar**	**36.63**	**46**	P	**P**	**13 34 35

LZH Lanzhou 53.70 284 *e*P **P** **13 36 50.2 -0.5**
LZH *PP pP 13 37 00.3 -2.5
LZH *SP sP 13 37 04.2 -3.5
LZH 13 38 52.5
LZH pmax pmax
comp=Z,18nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,400nm,17.2s,MS4.5
LZH Lanzhou 53.70 284 *e*P **P** **13 36 50.2 -0.5**
comp=Z,18nm,1.5s,mb4.8
LZH pP pP 13 37 00.3 -2.5
LZH sP sP 13 37 04.2 -3.5
LZH PP PP 13 38 52.5 +0.7
LZH LR LR
comp=Z,400nm,17.2s,MS4.5
GTA Gaotai 53.96 290 *e*P **P** **13 36 52.5 0.0**
GTA AP pP 13 37 03.0 -1.6
GTA PP PP 13 38 55.0 +1.0
GTA SCP ScP 13 41 51.0 -0.9
GTA S **S** **13 44 24.5 -0.6**
GTA SS SS 13 48 06.3 -0.4
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,96nm,7.2s
GTA LR LR
comp=N,78nm,8.7s
GTA LR LR
comp=E,99nm,8.7s
GTA LR LR
comp=Z,88nm,6.5s
ANMO Albuquerque 54.87 76⇑ *e*P **P** **13 37 00.6 +1.5**
CD2 Chengdu 57.25 280 *e*P **P** **13 37 15.3 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.2s
WMQ Urumqi 57.91 301 *e*P **P** **13 37 21.3 +0.5**
WMQ AP pP 13 37 31.0 -2.1
WMQ PCP PcP 13 38 13.0 +0.3
WMQ PP PP 13 39 32.0 +2.6
WMQ *e*S **S** **13 45 18.0 +0.3**
WMQ AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,152nm,5.0s
WMQ LR LR
comp=N,148nm,27.8s,MS4.2
WMQ LR LR
comp=E,173nm,25.6s,MS4.2
WMQ LR LR
comp=Z,133nm,18.8s
ARCES ARCESS Array B 57.93 349 P **P** **13 37 20.8 -0.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=17,slow=7.5,SNR=8.6
ARCES ARCESS Array B 57.93 349 P **P** **13 37 20.8 -0.1**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
GYA Guiyang 58.56 274 P **P** **13 37 26.5 +1.2**
GYA AP pP 13 37 35.8 -1.8
GYA XP sP 13 37 39.5 -3.0
GYA PCP PcP 13 38 16.5 +1.2
GYA PP PP 13 39 38.0 +2.9
GYA PPP 13 40 57.5
GYA SCP ScP 13 42 13.0 +0.8
GYA PCS PcS 13 42 16.5 -0.4
GYA S **S** **13 45 25.5 -0.6**
GYA XS sS 13 45 41.3 -5.2
GYA PS 13 45 43.0
GYA SCS ScS 13 47 10.0 -1.6
GYA SS SS 13 49 19.5 +0.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,70nm,4.9s
GYA LR LR
comp=N,210nm,18.4s,MS4.5
GYA LR LR
comp=E,240nm,19.0s,MS4.5
GYA LR LR
comp=Z,200nm,18.9s,MS4.3
MK31 Makanchi Array 58.72 307 *e*P **P** **13 37 25.4 -1.0**
MKAR Makanchi Array 58.72 307 P **P** **13 37 25.8 -0.6**
comp=Z,1.8nm,0.8s,mb4.2,baz=56,slow=7.1,SNR=22
MKAR Makanchi Array 58.72 307 P **P** **13 37 25.8 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 58.72 307 P **P** **13 37 25.8 -0.7**
CHKZ Chkalovo 59.28 319 *e*P **P** **13 37 29.6 -0.7**
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CHKZ Chkalovo 59.28 319 *e*P **P** **13 37 29.6 -0.7**
comp=Z,3.3nm,1.0s,mb4.3
BRVK Borovoye 59.86 318 *e*P **P** **13 37 34.2 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 59.86 318 *e*P **P** **13 37 34.2 -0.1**
comp=Z,5.2nm,0.8s,mb4.6
ZRNK Zerenda 60.47 319 *e*P **P** **13 37 37.5 -1.0**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ZRNK Zerenda 60.47 319 *e*P **P** **13 37 37.5 -1.0**
comp=Z,6.3nm,1.0s,mb4.6
ARU Arti 61.78 327⇑ *i*P **P** **13 37 48.5 +1.1**
ARU *e* 13 39 59.3
ARU *e*S **S** **13 46 06.3 -1.1**
ARU *e*SSS 13 52 54.5
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
KMI Kunming 61.97 276 P **P** **13 37 51.5 +2.8**
KMI AP pP 13 38 00.0 -1.0
KMI XP sP 13 38 03.3 -2.6
KMI AMB AMB
comp=Z,3.0nm,0.8s,mb4.5
KMI LR LR
comp=Z,31nm,33.4s,MS3.2
KMI Kunming 61.97 276 P **P** **13 37 51.6 +2.9**
KMI *SP sP 13 38 03.2 -2.7
KMI pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
KMI MLR MLR
comp=Z,30nm,33.4s,MS3.2
KMI Kunming 61.97 276 P **P** **13 37 51.6 +2.9**
comp=Z,3.0nm,0.8s,mb4.5
KMI pP pP 13 38 00.0 -1.0
KMI sP sP 13 38 03.2 -2.7
KMI LR LR
comp=Z,30nm,33.4s,MS3.2
FINES FINESS Array B 65.52 346 P **P** **13 38 11.5 -0.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=46,slow=5.5,SNR=6.1
FINES LR LR 14 13 50.2
comp=Z,31nm,18.9s,MS3.5,baz=172,slow=42
FINES FINESS Array B 65.52 346 P **P** **13 38 11.5 -0.5**
FINES LR LR 14 13 50.2
AAK Ala-Archa 65.58 308 *e*P **P** **13 38 11.6 -0.8**
AAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
AAK Ala-Archa 65.58 308 *e*P **P** **13 38 11.6 -0.8**
comp=Z,9.1nm,1.4s,mb4.6
NB2 NORSAR Subarra 67.62 353 P **P** **13 38 22.0 -3.4**
comp=Z,9.6nm,1.4s,mb4.6,baz=9.8,slow=6.5
NB2 NORSAR Subarra 67.62 353 P **P** **13 38 22.0 -3.4**
NB2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
NOA NORSAR Array B 67.62 353 P **P** **13 38 26.3 +0.9**
comp=Z,2.3nm,0.8s,mb4.2,baz=11,slow=6.5,SNR=4.6
NOA NORSAR Array B 67.62 353 P **P** **13 38 26.3 +0.9**
NOA pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 69.36 338⇑ *e*P **P** **13 38 35.6 -0.7**
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.7
OBN Obninsk 69.36 338 P **P** **13 38 36.3 0.0**
comp=Z,38nm,1.5s,mb5.1
GUN Gumba 70.25 290 *e*P **P** **13 38 42.4 +0.7**
JIRN Jiri 70.25 290 *e*P **P** **13 38 42.4 +0.7**
KKN Kakani 70.69 290 *e*P **P** **13 38 44.8 +0.4**
comp=Z,4.9nm,0.3s,mb5.0
PKI Pulchoki 70.78 290 *e*P **P** **13 38 45.4 +0.4**
GKN Gorkha 70.91 291 *e*P **P** **13 38 45.9 +0.1**
comp=Z,18nm,1.1s,mb4.9
DMN Daman 70.93 290 *e*P **P** **13 38 46.7 +0.8**
KOLN Koldanda 71.69 292 *e*P **P** **13 38 50.5 0.0**
comp=Z,8.0nm,0.9s,mb4.7
AKASG Malin Array Be 75.12 340 P **P** **13 39 10.9 +0.2**
comp=Z,1.0nm,0.3s,mb4.2,baz=23,slow=5.8,SNR=13
AKASG Malin Array Be 75.12 340 P **P** **13 39 10.9 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
GOF Gofitskoye 76.61 329 *e*P **P** **13 39 19.9 +0.7**
KIV Kislovodsk 77.71 329 *e*P **P** **13 39 25.9 +0.6**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZEI Tsey 78.36 328 *e*P **P** **13 39 29.5 +0.5**
ZEI *e*PP pP 13 39 42.4 +0.7
ZEI pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GNI Garni 80.40 326 LR LR 14 19 11.0
comp=Z,40nm,20.2s,MS3.8,baz=160,slow=39
WRA Warramunga Arr 80.68 221 P **P** **13 39 39.9 -1.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=32,slow=5.8,SNR=7.8
WRA Warramunga Arr 80.68 221 P **P** **13 39 39.9 -1.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.19 220 P **P** **13 39 58.5 -1.4**
comp=Z,0.4nm,0.8s,mb3.6,baz=20,slow=5.8,SNR=7.1
BRTR Keskin Array B 84.32 333 P **P** **13 40 01.2 +0.7**
comp=Z,1.6nm,0.8s,mb4.2,baz=74,slow=1.8,SNR=7.9
BRTR Keskin Array B 84.32 333 P **P** **13 40 01.2 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
TSUM Tsumeb 144.62 327 PKP PKPdf 13 47 04.3 -0.6
comp=Z,5.7nm,1.0s,baz=358,slow=5.5,SNR=6.3
TSUM Tsumeb 144.62 327 *e*PKPdf PKPdf 13 47 03.8 -1.1
MAW Mawson 145.27 217 PKPbc PKPbc 13 47 03.2 -2.7
comp=Z,1.0nm,0.6s,baz=48,slow=3.3,SNR=5.1
MAW Mawson 145.27 217 PKIKP PKPdf 13 47 03.2 -2.9
MAW pmax pmax
comp=Z,1.0nm,0.6s
MAW Mawson 145.27 217 *e*PKPdf PKPdf 13 47 02.8 -3.3

NEIC ***28*** *13:31:54.1, 1142N×6960W, h15km, MD4.0(CAR), After CAR.*
FUNV 28 13:31:54.1, 1142N×6960W, h15km, MW4.1, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**0.80**	**195**	*e*S	Sg	13 32 20.0	-0.1
JACV	**Jacura**	**0.82**	**114**	*e*P	Sg	13 32 21.1	+0.3
DABV	**Dabajuro**	**1.14**	**244**	*e*P	Pb	13 32 14.6	-0.8
TEPV	**Terepaima**	**1.50**	**165**	*e*P	Pn	13 32 19.7	-0.8
TEPV				*e*S	Sn	13 32 40.4	+0.6
QARV	**Quebrada Arrib**	**1.51**	**217**	*e*P	Pn	13 32 20.3	-0.4
QARV				*e*S	Sn	13 32 40.1	0.0
IMOV	**Isla Los Monje**	**1.58**	**306**	*e*P	Pn	13 32 21.9	+0.4
IMOV				*e*S	Sn	13 32 41.7	-0.1
SANV	**Sanarito**	**1.91**	**178**	*e*P	Pn	13 32 26.3	+0.2
SANV				*e*S	Sn	13 32 49.3	-0.6
TURV	**Turiamo**	**1.98**	**119**	*e*P	Pn	13 32 26.0	-1.1
TURV				*e*S	Sn	13 32 50.8	-0.7
SDV	**Santo Domingo**	**2.72**	**202**	*e*Pn	Pn	13 32 36.7	-0.6
SDV				*e*Sn	Sn	13 33 06.7	-3.2
VIGV	**El Vigia**	**3.10**	**214**	*e*P	Pn	13 32 41.0	-1.5
VIGV				*e*S	Sn	13 33 16.2	-3.1
ORCV	**Isla La Orchil**	**3.35**	**83**	*e*P	Pn	13 32 44.8	-1.2
ORCV				*e*S	Sn	13 33 22.2	-3.3
SOCV	**Socops**	**3.36**	**202**	*e*P	Pn	13 32 45.1	-0.9
ROSC	**El Rosal**	**8.03**	**216**	Pn	Pn	13 33 54.6	+4.4

IDC ***28*** *13:42:57.9±1.2, 3413N×14171E, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.7/25, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=29.6km s-min=16.7km az=79.0*
ISCJB ***28*** *13:42:58.8±1.3, 3413N±004×14181E±007, h24km±9km, mb3.8/6, Error ellipse: s-maj=10.7km s-min=6.7km az=136.0*
JMA ***28*** *13:42:58.3±0.5, 3407N×14181E, h28km±4km, M3.5*
ISC 28 13:42:59.6±1.3, 3413N±004×14172E±007, h14km±7km, n20, σ0.9 65/27, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.80**	**311**	P	**Pg**	**13 43 14.8**	**-0.4**
BSO1				*e*S	**Sg**	**13 43 26.9**	**+1.2**
BSO3	**Boso 3**	**1.20**	**304**	P	**Pn**	**13 43 21.2**	**-0.8**
BSO4	**Boso 4**	**1.42**	**307**	P	**Pn**	**13 43 25.0**	**0.0**
BSO4				*e*S	**Sn**	**13 43 44.7**	**+1.1**
CHOJ	**Chosi**	**1.72**	**336**	P	**Pn**	**13 43 28.5**	**-0.6**
CHOJ				*e*S	**Sn**	**13 43 50.3**	**-0.5**
TATJ	**Tateyama 2**	**1.75**	**301**	P	**Pn**	**13 43 29.6**	**0.0**
JHJ2	**Mitsune**	**1.89**	**238**	P	**Pn**	**13 43 31.5**	**+0.1**
JHJ	**Hachijo jima 2**	**1.91**	**238**	Pn	**Pn**	**13 43 31.6**	**0.0**
	116nm,0.3s,baz=215,slow=22,SNR=32						
JHJ				Sn	**Sn**	**13 43 55.5**	**0.0**
	166nm,0.3s,baz=59,slow=24,SNR=12						
JIM2	**Oshima 3**	**1.98**	**288**	P	**Pn**	**13 43 31.3**	**-1.4**
JIZS	**Izushimoda**	**2.42**	**285**	P	**Pn**	**13 43 37.6**	**-1.1**
JOD2	**Odawara 2**	**2.44**	**298**	P	**Pn**	**13 43 37.9**	**-1.2**
JOD2				*e*S	**Sn**	**13 44 08.8**	**+0.1**
MJAR	**Matsushiro Arr**	**3.74**	**311**	Pn	**Pn**	**13 43 57.2**	**+0.3**
	4.5nm,0.3s,baz=120,slow=8.2,SNR=74						
MJAR				Sn	**Sn**	**13 44 41.0**	**+0.2**
	3.5nm,0.3s,baz=102,slow=15,SNR=5.1						
MAT	**Matsushiro**	**3.74**	**311**	P	**Pn**	**13 43 57.4**	**+0.5**
MAT				S	**Sn**	**13 44 40.7**	**-0.1**
CBIJ	**Chichi jima**	**7.03**	**177**	Pn	**Pn**	**13 44 42.4**	**+0.4**
	8.2nm,0.3s,baz=111,slow=22,SNR=11						
ASAJ	**Asahikawa**	**9.99**	**4**	Pn	**Pn**	**13 45 22.9**	**+0.2**
	0.6nm,0.3s,baz=26,slow=14,SNR=7.0						
SONM	**Songino Array**	**29.69**	**308**	P	**P**	**13 49 05.7**	**+0.7**
	0.9nm,0.6s,mb3.7,baz=104,slow=9.2,SNR=8.6						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**13 51 21.9**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=92,slow=9.3,SNR=7.1						
WRA	**Warramunga Arr**	**54.23**	**189**	P	**P**	**13 52 24.6**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=4.9,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**57.96**	**188**	P	**P**	**13 52 52.7**	**+1.2**
	0.5nm,0.8s,mb3.6,baz=0.8,slow=5.7,SNR=6.5						
AKTO	**Aktyubinsk**	**60.82**	**313**	P	**P**	**13 53 10.9**	**-0.3**
	0.9nm,0.6s,mb4.1,baz=75,slow=12,SNR=4.0						
NOA	**NORSAR Array B**	**76.96**	**338**	P	**P**	**13 54 52.3**	**+0.6**
	0.6nm,0.7s,mb3.6,baz=142,slow=9.4,SNR=3.4						

ISCJB ***28*** *13:44:28.0±0.4, 4971S±008×1168W±01, h10km, mb4.3/18, MS4.3/16, Error ellipse: s-maj=13.0km s-min=11.2km az=6.5*
IDC ***28*** *13:44:27.4±0.7, 4970S×11694W, h0km, mb3.8/9, mb1 4.1/9, mb1mx4.0/15, mbtmp3.8/9, MS4.3/16, Ms1 4.2/16, ms1mx4.2/19, Error ellipse: s-maj=27.4km s-min=21.8km az=135.0*
NEIC ***28*** *13:44:29.2±0.4, 4974S×11675W, h10km, mb4.6/12, Error ellipse: s-maj=14.2km s-min=11.6km az=138.0*
BJI ***28*** *13:44:29.2, 4970S×11670W, h10km, Ms5.0, Msz4.7*
ISC 28 13:44:29.2±0.4, 4969S±008×1168W±01, h10km, n50, σ1.9 05/31, mb4.3/18, MS4.3/16, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**29.58**	**119**	LR	LR	13 59 05.6	
	comp=Z,1μm,21.2s,MS4.5,baz=80,slow=30						
RKT	**Rikitea**	**30.11**	**325**	*e*S	**S**	**13 55 34.9**	**-2.5**
	127nm,29.7s						
RKT				*e*LR	LR	13 58 23.2	
	2μm,27.0s,baz=157						
PMSA	**Palmer Station**	**31.20**	**139**	LR	LR	13 59 59.2	
	comp=Z,1μm,18.3s,MS4.6,baz=269,slow=30						
EFI	**East Falkland**	**36.42**	**116**	P	**P**	**13 51 32.8**	**-1.1**
	249nm,1.5s						
TBI	**Tubuai**	**36.64**	**304**	*e*S	**S**	**13 57 14.1**	**-4.7**
	121nm,29.2s						
TBI				*e*LR	LR	14 01 19.1	
	2μm,25.8s,baz=152						
SBA	**Scott Base**	**39.16**	**199**	P	**P**	**13 51 56.7**	**-0.3**
	4.0nm,1.1s,mb4.1						
VNDA	**Vanda**	**40.23**	**199**	P	**P**	**13 52 04.2**	**-1.7**
	0.8nm,0.8s,mb3.5,baz=210,slow=3.0,SNR=3.9						
VNDA				LR	LR	14 05 47.2	
	comp=Z,407nm,18.3s,MS4.3,baz=97,slow=32						
VNDA	**Vanda**	**40.23**	**199**	*e*P	**P**	**13 52 04.2**	**-1.7**
	6.2nm,1.1s,mb4.2						
CFAA	**Coronel Fontan**	**40.27**	**82**	P	**P**	**13 52 06.2**	**-0.1**
	0.8nm,1.1s,mb3.4,baz=231,slow=13,SNR=4.3						
TRQA	**Tornquist**	**40.37**	**95**	P	**P**	**13 52 07.0**	**-0.1**
	9.2nm,1.2s,mb4.4						
QSPA	**South Pole Qui**	**40.52**	**180**	*e*P	**P**	**13 52 10.2**	**+1.9**
	101nm,1.1s,mb5.4						
PPT	**Papeete**	**41.47**	**309**	*e*S	**S**	**13 58 26.3**	**-5.2**
	142nm,25.2s						
PPT				*e*LR	LR	14 03 30.9	
	2μm,26.8s,baz=148						
PPT	**Papeete**	**41.47**	**309**	LR	LR	14 04 23.7	
	comp=Z,940nm,19.5s,MS4.7,baz=160,slow=29						
RAR	**Rarotonga**	**44.18**	**294**	T		14 39 43.1	
	22nm,0.3s,baz=144,slow=9.6,SNR=8.8						
TAOE	**Nuku Hiva Isla**	**45.11**	**326**	*e*LR	LR	14 05 21.2	
	3μm,26.5s						
VNA3	**Neumayer Olymp**	**48.90**	**156**	*e*	**P**	**13 53 14.8**	**-0.4**
VNA3				*e*		13 53 20.7	
VNA3				*e*		13 53 24.2	
VNA1	**Neumayer--Stat**	**49.62**	**155**	*e*	**P**	**13 53 21.4**	**+0.7**
VNA1				*e*		13 53 28.0	
VNA1				*e*		13 53 31.6	
VNA2	**Neumayer--Watz**	**49.68**	**156**	*e*	**P**	**13 53 21.2**	**0.0**
VNA2				*e*		13 53 26.8	
VNA2				*e*		13 53 30.5	
SNAA	**Sanae**	**50.38**	**158**	P	**P**	**13 53 26.2**	**-0.3**
	0.6nm,0.9s,mb3.6,baz=241,slow=3.3,SNR=5.1						
SNAA	**Sanae**	**50.38**	**158**	*e*P	**P**	**13 53 25.4**	**-1.0**
	2.1nm,0.8s,mb4.2						
CPUP	**Villa Florida**	**50.86**	**86**	P	**P**	**13 53 29.1**	**-1.0**
	0.5nm,0.4s,mb3.8,baz=264,slow=9.3,SNR=3.1						
CPUP				LR	LR	14 11 06.5	
	comp=Z,178nm,18.5s,MS4.1,baz=213,slow=31						
CPUP	**Villa Florida**	**50.86**	**86**	P	**P**	**13 53 27.6**	**-2.5**
LPAZ	**La Paz**	**51.42**	**67**	LR	LR	14 10 01.6	
	comp=Z,151nm,21.8s,MS4.0,baz=91,slow=30						
LPAZ	**La Paz**	**51.42**	**67**	*e*P	**P**	**13 53 36.0**	**+1.7**
	5.4nm,1.2s,mb4.3						
SYO	**Syowa Base**	**60.35**	**170⇑**	*e*pP	**P**	**13 54 39.6**	**+1.3**
MAW	**Mawson**	**63.04**	**180**	P	**P**	**13 54 56.9**	**+0.5**
	6.0nm,0.8s,mb4.8,baz=206,slow=9.4,SNR=6.8						
MAW				LR	LR	14 20 01.5	
	comp=Z,286nm,18.4s,MS4.5,baz=359,slow=34						
MAW	**Mawson**	**63.04**	**180**	*e*P	**P**	**13 54 55.0**	**-1.5**
	6.5nm,0.8s,mb4.8						
ROSC	**El Rosal**	**65.59**	**48**	LR	LR	14 18 33.5	
	comp=Z,144nm,19.5s,MS4.2,baz=200,slow=31						
STKA	**Stephens Creek**	**73.22**	**241**	LR	LR	14 24 01.3	
	comp=Z,179nm,18.4s,MS4.4,baz=205,slow=32						
LPIG	**La Paz**	**73.68**	**6**	LR	LR	14 21 10.5	
	comp=Z,75nm,20.2s,MS4.0,slow=30						
HNR	**Honiara**	**78.50**	**269**	P	**P**	**13 56 31.6**	**+1.1**
	38nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**79.27**	**252**	P	**P**	**13 56 36.8**	**+2.0**
	9.0nm,1.4s,mb4.5						
TXAR	**Lajitas Array**	**79.53**	**12**	P	**P**	**13 56 37.0**	**+0.8**
	1.2nm,0.9s,mb3.8,baz=186,slow=10,SNR=6.0						
TXAR				LR	LR	14 24 53.9	
	comp=Z,59nm,18.1s,MS4.0,baz=10.0,slow=30						
RCBR	**Riachuelo**	**79.72**	**87**	P	**P**	**13 56 37.3**	**+0.1**
	20nm,1.3s,mb4.9						
ASAR	**Alice Springs**	**83.86**	**241**	P	**P**	**13 56 57.9**	**-1.1**
	1.5nm,0.7s,mb4.2,baz=144,slow=4.3,SNR=8.0						
ASAR				LR	LR	14 28 05.6	
	comp=Z,137nm,19.8s,MS4.3,baz=161,slow=31						
ISA	**Isabella**	**84.99**	**359**	P	**P**	**13 57 04.8**	**+0.1**
WRA	**Warramunga Arr**	**86.53**	**243**	P	**P**	**13 57 11.6**	**-0.8**
	0.8nm,0.7s,mb4.1,baz=140,slow=4.6,SNR=7.1						
TKL	**Tuckaleechee C**	**89.88**	**26**	LR	LR	14 31 19.8	
	comp=Z,68nm,18.3s,MS4.1,baz=177,slow=31						
PDAR	**Pinedale Array**	**92.29**	**5**	P	**P**	**13 57 39.5**	**-0.1**
	0.7nm,0.8s,mb4.1,baz=174,slow=3.0,SNR=5.8						
PDAR				LR	LR	14 31 10.8	
	comp=Z,76nm,18.8s,MS4.2,baz=54,slow=30						
HLID	**Hailey**	**92.89**	**2**	P	**P**	**13 57 42.5**	**+0.2**
	2.3nm,1.0s,mb4.6						
RSSD	**Black Hills**	**94.09**	**9**	P	**P**	**13 57 47.7**	**-0.1**
	3.5nm,1.0s,mb4.7						
BOSA	**Boshof**	**95.07**	**147**	LR	LR	14 32 09.6	
	comp=Z,279nm,20.6s,MS4.7,baz=180,slow=30						
NEW	**Newport**	**97.57**	**360**	LR	LR	14 33 60.0	
	comp=Z,119nm,18.7s,MS4.4,baz=176,slow=30						
CD2	**Chengdu**	**144.35**	**254**	*e*PKP	PKPdf	14 04 04.5	-1.0
LZH	**Lanzhou**	**147.66**	**261**	*e*PKP	PKPdf	14 04 14.0	+2.9
GERES	**GERESS Array B**	**148.18**	**72**	PKPbc	PKPbc	14 04 14.9	-0.4
	1.4nm,0.8s,baz=264,slow=1.3,SNR=8.8						
SONM	**Songino Array**	**151.73**	**283**	PKPbc	PKPbc	14 04 21.8	-2.1
	0.6nm,0.6s,baz=113,slow=2.0,SNR=7.8						
BRTR	**Keskin Array B**	**156.91**	**104**	PKPab	PKPab	14 04 53.6	-1.1
	2.6nm,0.9s,baz=205,slow=6.4,SNR=5.3						
WMQ	**Urumqi**	**162.24**	**260**	*e*PKP	PKPdf	14 04 33.0	+2.0
MKAR	**Makanchi Array**	**166.93**	**265**	PKPab	PKPab	14 05 38.1	-0.4
	0.3nm,0.8s,baz=106,slow=4.7,SNR=2.9						

CASC 28 13:46:05.0±5.0, 1315N×8961W, h32km±17km, MD4.2, ML3.7, 6C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.65**	**35**	*i*P	x	13 46 17.3	
SNET				*e*S	x	13 46 27.1	
SNET				*e*		13 46 29.0	
	comp=Z,7μm,0.3s						
BOQS	**Boqueron**	**0.66**	**29⇑**	*e*P	x	13 46 39.4	
BOQS				*e*S	x	13 46 49.6	
SBLS	**San Blas**	**0.68**	**359⇓**	*e*P	x	13 46 39.5	
SBLS				*e*S	x	13 46 57.2	
LFRS	**El Faro**	**0.71**	**49**	*i*P	x	13 46 40.1	
LFRS				*e*S	x	13 46 50.4	
LCBS	**La Ceiba**	**0.79**	**51**	*i*P	x	13 46 41.2	
LCBS				*e*S	x	13 46 52.8	
LBRS	**Las Brisas**	**0.80**	**43**	*i*P	x	13 46 41.5	
LBRS				*e*S	x	13 46 53.4	
SNVI	**San Vicente**	**0.88**	**58⇑**	*e*P	x	13 46 42.5	
SNVI				*e*S	x	13 46 54.7	
VSM	**San Miguel**	**1.33**	**78⇑**	*e*P	x	13 46 49.4	
VSM				*e*S	x	13 47 07.1	
BLLM	**Bellamira**	**1.37**	**78⇑**	*e*P	x	13 46 49.6	
BLLM				*e*S	x	13 47 07.5	
TER	**Terranova**	**1.55**	**318⇑**	*e*P	Pn	13 46 30.3	0.0
TER				*e*S	Sn	13 46 48.7	-0.6
CNCH	**Conchagua**	**1.73**	**86**	*e*P	x	13 46 54.4	
CNCH				*e*S	x	13 47 17.4	
FUG	**Fuego 3**	**1.76**	**317⇑**	*e*P	Pn	13 46 33.8	+0.5
JAT	**Jato**	**2.29**	**301⇓**	*e*P	Pn	13 46 41.6	+1.1
LEON	**Leon**	**2.75**	**105**	*e*P	Pn	13 46 47.5	+0.7
CNGN	**Cerro Negro**	**2.91**	**103**	*e*P	Pn	13 46 50.4	+1.3
CNGN				*e*S	Sn	13 47 22.9	-0.1
MIRN	**Miramar**	**2.91**	**104⇓**	*e*P	Pn	13 46 50.9	+1.8
MOMJ	**Momotombo**	**3.08**	**104**	*e*P	Pn	13 46 52.0	+0.5
COPN	**Copaltepe**	**3.10**	**108⇓**	*e*P	Pn	13 46 52.7	+1.0
COPN				*e*S	Sn	13 47 26.4	-1.2
MGAN	**Managua**	**3.43**	**107**	*e*	Sn	13 47 40.8	+5.0
	comp=N,189nm,0.3s						
MGAN				*e*		13 47 49.2	
	comp=E,345nm,0.4s						
TICN	**Ticuantepe**	**3.48**	**108**	*e*P	Pn	13 46 58.8	+1.9
TICN				*e*S	Sn	13 47 36.3	-0.7

MOS ***28*** *13:55:28.7±0.6, 4575N×1563E, h10km, mb4.0/3, Error ellipse: s-maj=4.7km s-min=3.7km az=103.2*
IDC ***28*** *13:55:29.6±1.1, 4575N×1567E, h0km, mb3.5/3, mb1 3.8/9, mb1mx3.7/23, mbtmp3.6/9, ML3.9/6, MS3.1/8, Ms1 3.1/8, ms1mx2.8/28, Error ellipse: s-maj=16.6km s-min=11.6km az=39.0*
CSEM ***28*** *13:55:29.4±0.1, 4569N×1566E, h5km, mb4.8/1, ML3.9/17, Error ellipse: s-maj=1.2km s-min=1.1km az=176.0*
IPEC ***28*** *13:55:29.3±0.1, 4571N×1577E, h0km, ML3.4/1, Error ellipse: s-maj=1.1km s-min=0.9km az=165.0*
PDG ***28*** *13:55:29.9±0.8, 4578N×1576E, h11km±2km*
ISCJB ***28*** *13:55:29.1±0.2, 4577N±001×1566E±001, h12km±1km, mb3.5/3, MS2.9/2, Error ellipse: s-maj=1.8km s-min=1.5km az=49.0*
LJU ***28*** *13:55:29.5, 4573N×1564E, h16km, ML3.5*
LDG ***28*** *13:55:29.0±0.1, 4577N×1590E, h10km, Ml3.8/18, Error ellipse: s-maj=3.7km s-min=2.9km az=96.0*
NEIC ***28*** *13:55:30.3±0.2, 4576N×1565E, h10km, mb3.5/1, MD3.9(PDG), ML3.5(LJU), ML4.2(SZGRF), Error ellipse: s-maj=2.6km s-min=2.0km az=185.0*
NEIC Felt [IV] in Brezice and Krsko, Slovenia.
PRU ***28*** *13:55:30.8, 4571N×1568E, h14km, M3.5*
SZGRF ***28*** *13:55:31.3, 4586N×1589E, h10km, mb4.2, Northwestern Balkan Peninsula*
*

ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 28 13:55:30.3±0.2,45763N±0010×1566E±001,h8km±1km, n295,σ1§12/464,mb3.5/3,MS2.9/2,52C-47D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.11**	**347**	⇓*i*Pg	**Pg**		**13 55 33.0**	**+0.2**
GCIS				*i* Sg	**Sg**		**13 55 35.5**	**+1.0**
GCIS								
	comp=Z,12μm,0.3s							
GCIS	**Gornji Cirnik**	**0.11**	**347**	⇓*i*Pg	**Pg**		**13 55 33.0**	**+0.2**
GCIS				*i* Sg	**Sg**		**13 55 35.5**	**+1.0**
	comp=Z,12μm,0.3s							
CRES	**Cresnjev**	**0.16**	**294**	⇑*i*Pg	**Pg**		**13 55 33.7**	**+0.1**
CRES				*e*Sg	**Sg**		**13 55 36.5**	**+0.7**
CRES								
	comp=Z,13μm,0.2s							
CRES	**Cresnjev**	**0.16**	**294**	⇑*i*Pg	**Pg**		**13 55 33.7**	**+0.1**
CRES				*e*Sg	**Sg**		**13 55 36.5**	**+0.7**
CRES	**Cresnjev**	**0.16**	**294**	*e*Pg	**Pg**		**13 55 33.7**	**+0.1**
CRES				*e*Sg	**Sg**		**13 55 36.5**	**+0.7**
GOLS	**Golise**	**0.25**	**354**	⇓*i*Pg	**Pg**		**13 55 35.5**	**+0.3**
GOLS	**Golise**	**0.25**	**354**	⇓*i*Pg	**Pg**		**13 55 35.5**	**+0.2**
CESS	**Cesta pri Krsk**	**0.25**	**327**	⇓*i*Pg	**Pg**		**13 55 35.7**	**+0.4**
CESS				*i* Sg	**Sg**		**13 55 40.3**	**+1.6**
CESS								
	comp=Z,3μm,0.1s							
CESS	**Cesta pri Krsk**	**0.25**	**327**	⇓*i*Pg	**Pg**		**13 55 35.7**	**+0.4**
CESS				*i* Sg	**Sg**		**13 55 40.3**	**+1.6**
CESS	**Cesta pri Krsk**	**0.25**	**327**	⇓*i*Pg	**Pg**		**13 55 35.7**	**+0.4**
CESS				*i* Sg	**Sg**		**13 55 40.3**	**+1.6**
LEGS	**Legarje**	**0.30**	**308**	⇑*i*Pg	**Pg**		**13 55 36.5**	**+0.2**
LEGS				*i* Sg	**Sg**		**13 55 41.8**	**+1.4**
BOJS	**Bojanci**	**0.39**	**228**	⇑*i*Pg	**Pg**		**13 55 37.0**	**-0.9**
BOJS				*i* Sg	**Sg**		**13 55 42.5**	**-0.4**
BOJS								
	comp=Z,3μm,0.3s							
BOJS	**Bojanci**	**0.39**	**228**	⇑*i*Pg	**Pg**		**13 55 37.0**	**-0.8**
BOJS				*i* Sg	**Sg**		**13 55 42.5**	**-0.4**
	comp=Z,3μm,0.3s							
DOBS	**Dobrina**	**0.41**	**341**	⇓*i*Pg	**Pg**		**13 55 38.8**	**+0.5**
PDKS	**Podkum**	**0.55**	**303**	⇑*i*Pg	**Pg**		**13 55 41.3**	**+0.3**
PDKS				*i* Sg	**Sg**		**13 55 49.2**	**+1.0**
PDKS								
	comp=Z,3μm,0.2s							
PDKS	**Podkum**	**0.55**	**303**	⇑*i*Pg	**Pg**		**13 55 41.3**	**+0.3**
PDKS				*i* Sg	**Sg**		**13 55 49.2**	**+1.0**
VISS	**Visnje**	**0.58**	**274**	*i* Pg	**Pg**		**13 55 40.9**	**-0.5**
VISS				*e*Sg	**Sg**		**13 55 49.3**	**+0.3**
VISS								
	comp=Z,3μm,0.3s							
VISS	**Visnje**	**0.58**	**274**	*i* Pg	**Pg**		**13 55 40.9**	**-0.5**
VISS				*e*Sg	**Sg**		**13 55 49.3**	**+0.3**
	comp=Z,3μm,0.3s							
SISC	**Sisak**	**0.58**	**120**	⇑*i*Pg	**Pg**		**13 55 40.9**	**-0.5**
SISC				*i* Sg	**Sg**		**13 55 49.5**	**+0.4**
GROS	**Grobnik**	**0.71**	**351**	⇓*i*Pg	**Pg**		**13 55 44.3**	**+0.4**
GROS								
	comp=Z,715nm,0.2s							
KOGS	**Kog**	**0.80**	**31**	⇓*i*Pg	**Pg**		**13 55 45.9**	**+0.2**
KOGS				*i* Sg	**Sg**		**13 55 57.8**	**+1.8**
LJU	**Ljubljana**	**0.84**	**290**	⇑*i*Pg	**Pg**		**13 55 46.6**	**+0.1**
LJU				*i* Sg	**Sg**		**13 55 57.6**	**+0.2**
LJU								
	comp=Z,2μm,0.4s							
LJU	**Ljubljana**	**0.84**	**290**	*e*Pg	**Pg**		**13 55 46.6**	**+0.1**
CEY	**Cerknica**	**0.86**	**269**	⇑*i*Pg	**Pg**		**13 55 46.6**	**-0.3**
CEY				*e*Sg	**Sg**		**13 55 59.5**	**+1.4**
CEY								
	comp=Z,1μm,0.3s							
CEY	**Cerknica**	**0.86**	**269**	⇑*i*Pg	**Pg**		**13 55 46.6**	**-0.3**
CEY				*e*Sg	**Sg**		**13 55 59.5**	**+1.4**
CEY	**Cerknica**	**0.86**	**269**	*e*Pg	**Pg**		**13 55 46.6**	**-0.3**
CEY				*e*Sg	**Sg**		**13 55 59.5**	**+1.3**
KNDS	**Knezji Dol**	**0.93**	**256**	⇑*i*Pg	**Pg**		**13 55 47.5**	**-0.7**
PERS	**Pernice**	**0.95**	**337**	⇓*i*Pg	**Pg**		**13 55 48.8**	**+0.2**
PERS				*e*Sg	**Sg**		**13 56 01.6**	**+0.7**
PERS								
	comp=Z,1μm,0.3s							
PERS	**Pernice**	**0.95**	**337**	⇓*i*Pg	**Pg**		**13 55 48.8**	**+0.2**
PERS				*e*Sg	**Sg**		**13 56 01.6**	**+0.7**
PERS	**Pernice**	**0.95**	**337**	⇓*i*Pg	**Pg**		**13 55 48.8**	**+0.2**
PERS				*e*Sg	**Sg**		**13 56 01.6**	**+0.6**
BISS	**Bistriski jare**	**0.96**	**337**	⇓*i*Pg	**Pg**		**13 55 48.9**	**+0.2**
OBKA	**Obir**	**1.07**	**314**	⇓*i*Sg	**Sn**		**13 56 07.1**	**+0.3**
	comp=Z,3μm,0.3s							
OBKA	**Obir**	**1.07**	**314**	*e*Pn	**Pn**		**13 55 51.2**	**-0.5**
	SNR=1004							
OBKA				⇓*i*Sn	**Sn**		**13 56 07.1**	**+0.3**
	comp=Z,3μm,0.3s							
OBKA	**Obir**	**1.07**	**314**	*e*Pg	**Pg**		**13 55 51.1**	**+0.1**
OBKA				*e*Sg	**Sg**		**13 56 06.1**	**+1.2**
JAVS	**Javornik**	**1.12**	**277**	*i* Pg	**Pg**		**13 55 51.1**	**-0.8**
JAVS				*e*Sg	**Sg**		**13 56 07.2**	**+0.7**
JAVS								
	comp=Z,1μm,0.3s							
JAVS	**Javornik**	**1.12**	**277**	*i* Pg	**Pg**		**13 55 51.1**	**-0.8**
JAVS				*e*Sg	**Sg**		**13 56 07.2**	**+0.7**
	comp=Z,1μm,0.3s							
VOJS	**Vojsko**	**1.27**	**283**	*i* Pg	**Pg**		**13 55 53.7**	**-0.9**
VOJS				*e*Sg	**Sg**		**13 56 10.9**	**-0.2**
VOJS	**Vojsko**	**1.27**	**283**	*i* Pg	**Pg**		**13 55 53.7**	**-1.0**
VOJS				*e*Sg	**Sg**		**13 56 10.9**	**-0.3**
GORS	**Gorjuse**	**1.29**	**296**	*e*Pg	**Pg**		**13 55 54.5**	**-0.4**
GORS				*i* Sg	**Sg**		**13 56 13.0**	**+1.3**
GORS								
	comp=Z,2μm,0.7s							
GORS	**Gorjuse**	**1.29**	**296**	*e*Pg	**Pg**		**13 55 54.5**	**-0.5**
GORS				*i* Sg	**Sg**		**13 56 13.0**	**+1.3**
	comp=Z,2μm,0.7s							
NVLJ	**Novalja**	**1.32**	**205**	*i* Pg	**Pg**		**13 55 53.6**	**-2.1**
NVLJ				*i* Sg	**Sg**		**13 56 11.8**	**-1.1**
NVLJ	**Novalja**	**1.32**	**205**	*i* Pg	**Pg**		**13 55 53.6**	**-2.1**
NVLJ				*i* Sg	**Sg**		**13 56 11.7**	**-1.2**
TRI	**Trieste**	**1.33**	**268**	Pg	**Pg**		**13 55 54.6**	**-1.2**
TRI				Sg	**Sg**		**13 56 13.1**	**0.0**
TRI	**Trieste**	**1.33**	**268**	Pg	**Pg**		**13 55 54.6**	**-1.2**
TRI				*e*Sg	**Sg**		**13 56 13.3**	**+0.2**
CADS	**Cadrg**	**1.42**	**290**	*i* Pn	**Pn**		**13 55 56.2**	**-0.2**
CADS				*e*Sn	**Sn**		**13 56 15.9**	**+0.6**
CADS								
	comp=Z,2μm,0.3s							
CADS	**Cadrg**	**1.42**	**290**	*i* Pn	**Pn**		**13 55 56.2**	**-0.2**
CADS				*e*Sn	**Sn**		**13 56 15.9**	**+0.6**
	comp=Z,2μm,0.3s							
DRE	**Drenchia**	**1.47**	**287**	⇓*i*Pg	**Pg**		**13 55 57.0**	**-1.5**
DRE				*i* Sg	**Sg**		**13 56 17.4**	**0.0**
BLY	**Banja Luka**	**1.48**	**133**	P	**Pn**		**13 55 58.0**	**+0.8**
ARSA	**Arzberg**	**1.49**	**356**	⇓*e*Pn	**Pn**		**13 55 57.4**	**0.0**
ARSA	SNR=174							
ARSA				⇑*i*Sn	**Sn**		**13 56 18.2**	**+1.1**
ARSA				⇓*i*Sg	**Sg**		**13 56 20.6**	**+2.3**
	comp=Z,228nm,0.4s							
ROBS	**Robic**	**1.57**	**289**	*e*Pg	**Pg**		**13 55 58.4**	**-2.1**
ROBS				*e*Sg	**Sg**		**13 56 20.0**	**-1.0**
ROBS								
	comp=Z,893nm,0.4s							
ROBS	**Robic**	**1.57**	**289**	*e*Pg	**Pg**		**13 55 58.4**	**-2.1**
ROBS				*e*Sg	**Sg**		**13 56 20.0**	**-1.0**
ROBS	**Robic**	**1.57**	**289**	*e*Pg	**Pg**		**13 55 58.4**	**-2.1**
ROBS				*e*Sg	**Sg**		**13 56 20.0**	**-1.0**
COLI	**Coloredo**	**1.64**	**284**	⇑*e*Pg	**Pg**		**13 55 59.5**	**-2.2**
COLI				*e*Sg	**Sg**		**13 56 23.4**	**+0.5**
LSR	**Lussari**	**1.65**	**296**	⇑*i*Pg	**Pg**		**13 56 00.7**	**-1.2**
LSR				*i* Sg	**Sg**		**13 56 23.7**	**+0.5**
PTCC	**Patocco-Chiusa**	**1.73**	**293**	Pg	**Pg**		**13 56 00.8**	**-2.7**
BAD	**Bernadia**	**1.75**	**287**	⇑*i*Pg	**Pg**		**13 56 01.4**	**-2.4**
BAD				*i* Sg	**Sg**		**13 56 26.7**	**+0.2**
GMNA	**Gemona**	**1.77**	**288**	Pg	**Pg**		**13 56 03.2**	**-1.0**
TLI	**Talmassons**	**1.80**	**276**	*e*Pg	**Pg**		**13 56 02.6**	**-2.2**
RHK3	**Tenkes**	**1.82**	**85**	⇑*i*P	**Pn**		**13 55 59.8**	**-2.1**
RHK3				Pg	**Pg**		**13 56 04.0**	**-1.1**
RHK3				*e*S	**Sn**		**13 56 27.2**	**+2.1**
RHK3	**Tenkes**	**1.82**	**85**	Pg	**Pg**		**13 56 04.0**	**-1.1**
RHK3				*e*S	**Sn**		**13 56 27.2**	**+2.1**
	comp=Z,23nm,0.3s							
BUA	**Buia**	**1.83**	**285**	⇓*e*Pg	**Pg**		**13 56 03.3**	**-2.0**
BUA				*e*Sg	**Sg**		**13 56 29.0**	**0.0**
BOO	**Bordano**	**1.87**	**288**	⇓*e*Pn	**Pn**		**13 56 03.7**	**+1.1**
PLRO	**Paularo**	**1.92**	**295**	⇓*i*Pn	**Pn**		**13 56 04.5**	**+1.3**
PLRO				*i* Sn	**Sn**		**13 56 31.4**	**+3.8**
MPRI	**Monte Prat**	**1.92**	**285**	⇓*i*Pn	**Pn**		**13 56 04.6**	**+1.2**
MPRI				*i* Sn	**Sn**		**13 56 30.5**	**+2.7**
PKS9	**Tamasi**	**2.00**	**65**	⇓*i*P	**Pn**		**13 56 02.5**	**-1.9**
SOP	**Sopron**	**2.02**	**17**	⇑*e*Pn	**Pn**		**13 56 04.4**	**-0.2**
SOP				*e*Sn	**Sn**		**13 56 28.6**	**-1.5**
ZOU	**Zoufplan**	**2.03**	**294**	⇑*e*Pn	**Pn**		**13 56 06.2**	**+1.3**
ZOU				*e*Sn	**Sg**		**13 56 34.9**	**-0.6**
KBA	**Koelnbreinsper**	**2.07**	**310**	⇑*e*Pn	**Pn**		**13 56 05.7**	**+0.3**
	SNR=99							
KBA				⇑*i*Pg	**Pg**		**13 56 09.9**	**-0.1**
KBA				⇓*i*Sg	**Sg**		**13 56 37.7**	**+0.8**
	comp=Z,431nm,0.6s							
KBA	**Koelnbreinsper**	**2.07**	**310**	*e*Pn	**Pn**		**13 56 06.4**	**+1.0**
KBA	**Koelnbreinsper**	**2.07**	**310**	*e*Pg	**Pg**		**13 56 09.8**	**-0.3**
KBA				*e*Sg	**Sg**		**13 56 36.0**	**-0.9**
PKSM	**Moragy**	**2.13**	**77**	⇑*i*P	**Pn**		**13 56 04.0**	**-2.1**
PKSM	**Moragy**	**2.13**	**77**	⇑*e*Pn	**Pn**		**13 56 03.9**	**-2.2**
PKSM				*e*Sn	**Sg**		**13 56 39.5**	**+0.9**
MLNI	**Malnisio**	**2.16**	**281**	⇑*i*Pn	**Pn**		**13 56 07.0**	**+0.4**
CONA	**Conrad Observa**	**2.17**	**4**	⇑*e*Pn	**Pn**		**13 56 07.0**	**+0.3**
	SNR=127							
CONA				⇑*i*Sn	**Sn**		**13 56 34.4**	**+0.6**
CONA				⇑*i*Sg	**Sg**		**13 56 42.7**	**+2.6**
	comp=Z,95nm,0.4s							
IESO	**Jesolo**	**2.20**	**265**	⇓*e*Pn	**Pn**		**13 56 07.7**	**+0.6**
CSMI	**Casera Mimoias**	**2.22**	**291**	⇑*i*Pn	**Pn**		**13 56 08.6**	**+1.1**
CSMI				*i* Sn	**Sn**		**13 56 38.4**	**+3.3**
CAE	**Caneva**	**2.27**	**277**	⇑*i*Pn	**Pn**		**13 56 08.4**	**+0.3**
CAE				*i* Sn	**Sn**		**13 56 37.4**	**+1.3**
MOA	**Molln**	**2.30**	**336**	⇑*e*Pn	**Pn**		**13 56 09.2**	**+0.8**
	SNR=104							
MOA				⇑*i*Sn	**Sn**		**13 56 37.9**	**+0.9**
MOA	**Molln**	**2.30**	**336**	*e*Pn	**Pn**		**13 56 09.5**	**+1.0**
MOA				*i* Sn	**Sn**		**13 56 37.8**	**+0.9**
CSO	**Casso**	**2.38**	**284**	⇑*i*Pn	**Pn**		**13 56 09.8**	**+0.1**
CSO				*i* Sn	**Sn**		**13 56 42.0**	**+3.0**
PKSG		**2.49**	**48**	*e*P	**Pn**		**13 56 12.2**	**+1.1**
AFL	**Alpe Faloria**	**2.54**	**289**	⇓*i*Pn	**Pn**		**13 56 13.2**	**+1.4**
VKA	**Vienna**	**2.54**	**10**	*i* Pn	**Pn**		**13 56 13.7**	**+1.8**
ZST	**Bratislava**	**2.63**	**22**	*i* PN	**Pn**		**13 56 12.8**	**-0.2**
ZST				*e*PG	**Pg**		**13 56 21.0**	**+0.3**
ZST				*e*SB	**Sb**		**13 56 54.6**	**+4.6**
ZST	**Bratislava**	**2.63**	**22**	*i* Pn	**Pn**		**13 56 12.8**	**-0.2**
ZST				*e*Pg	**Pg**		**13 56 21.0**	**+0.3**
ZST				*e*			13 56 54.7	
CGRP	**Cima Grappa**	**2.70**	**274**	⇓*e*Pn	**Pn**		**13 56 14.1**	**+0.1**
CTI	**Castel Tesino**	**2.81**	**277**	P	**Pn**		**13 56 15.9**	**+0.3**
TEOL	**Teolo**	**2.83**	**263**	⇑*e*Pn	**Pn**		**13 56 15.7**	**-0.2**
BUD	**Budapest**	**2.89**	**52**	⇑*e*Pg	**Pg**		**13 56 24.5**	**-1.1**
BUD				*e*Sg	**Sg**		**13 57 04.4**	**+1.3**
FSSB	**Fossombrone**	**2.92**	**226**	Pg	**Pn**		**13 56 17.7**	**+0.7**
SMOL	**Smolenice**	**3.00**	**23**	*i* PN	**Pn**		**13 56 17.6**	**-0.6**
SMOL				*e*PG	**Pg**		**13 56 27.8**	**-0.1**
SCE	**Schlegeis**	**3.02**	**296**	⇓*i*Pn	**Pn**		**13 56 20.4**	**+2.0**
WTTA	**Wattenberg**	**3.16**	**300**	⇓*i*Pn	**Pn**		**13 56 20.1**	**-0.3**
	SNR=37							
WTTA				⇑*i*Sn	**Sn**		**13 56 59.3**	**+1.1**
WTTA	**Wattenberg**	**3.16**	**300**	*e*Pn	**Pn**		**13 56 23.0**	**+2.7**
WTTA				Sn	**Sn**		**13 56 59.3**	**+1.1**
PENC	**Penc**	**3.21**	**50**	⇓*e*P	**Pn**		**13 56 20.2**	**-0.8**
WATA	**Walderalm**	**3.23**	**301**	⇓*i*Pn	**Pn**		**13 56 21.0**	**-0.3**
	SNR=7.0							
WATA				⇑*i*Sn	**Sn**		**13 57 00.9**	**+1.0**
STON	**Ston**	**3.24**	**152**	*i* Pn	**Pn**		**13 56 21.9**	**+0.4**
STON				*i* Sn	**Sn**		**13 57 03.5**	**+3.2**
STON	**Ston**	**3.24**	**152**	*i* Pn	**Pn**		**13 56 21.8**	**+0.4**
SFI	**Santa Sofia**	**3.29**	**237**	P	**Pn**		**13 56 21.7**	**-0.4**
KRUC	**Moravsky**	**3.34**	**8**	*e*Pn	**Pn**		**13 56 22.6**	**-0.2**
KRUC				*e*Sn	**Sn**		**13 57 00.0**	**-2.6**
KRUC				*e*Sg	**Sg**		**13 57 16.8**	**-0.7**
	comp=Z,125nm,1.3s							
GEC2	**GERESS Array S**	**3.36**	**337**	*e*Pn	**Pn**		**13 56 23.8**	**+0.7**
GEC2				*e*Sn	**Sn**		**13 57 02.7**	**-0.5**
GERES	**GERESS Array B**	**3.36**	**337**	Pn	**Pn**		**13 56 23.7**	**+0.6**
	comp=Z,37nm,0.3s,baz=158,slow=14,SNR=876							
GERES				Lg			13 57 17.9	
	comp=Z,13nm,0.3s,baz=152,slow=32,SNR=7.3							
GERES				LR	LR		13 58 01.6	
	comp=Z,286nm,18.2s,baz=133,slow=45							
JAVC	**Velka Javorina**	**3.39**	**23**	*e*Pn	**Pn**		**13 56 23.6**	**+0.1**
SQTA	**Sankt Quirin**	**3.40**	**297**	⇑*i*Pn	**Pn**		**13 56 23.1**	**-0.6**
	SNR=19							
SQTA				⇓*i*Sn	**Sn**		**13 57 05.5**	**+1.3**
SQTA	**Sankt Quirin**	**3.40**	**297**	Pn	**Pn**		**13 56 23.1**	**-0.6**
	comp=Z,19nm,4.0s							
SQTA				Sn	**Sn**		**13 57 05.5**	**+1.3**
VMG	**Vicchio**	**3.44**	**240**	Pg	**Pn**		**13 56 24.5**	**+0.3**
UPM	**Unac-Piva**	**3.46**	**137**	⇑*i*Pn	**Pn**		**13 56 24.8**	**+0.3**
UPM				*e*Sn	**Sn**		**13 57 06.3**	**+0.7**
VYHS	**Vyhne**	**3.49**	**37**	*i* PN	**Pn**		**13 56 23.5**	**-1.4**
VYHS				*e*SN	**Sn**		**13 57 04.6**	**-1.7**
VYHS	**Vyhne**	**3.49**	**37**	*i* P	**Pn**		**13 56 23.5**	**-1.4**
VYHS				*e*			13 57 04.6	
VYHS				smax				
	comp=N,33nm,0.7s							
VYHS	**Vyhne**	**3.49**	**37**	*i* Pn	**Pn**		**13 56 23.5**	**-1.4**
VYHS				*e*Sn	**Sn**		**13 57 04.6**	**-1.7**
DIVS	**Divcibare**	**3.50**	**117**	*i* Pn	**Pn**		**13 56 29.7**	**+4.8**
SEI	**Scarperia**	**3.50**	**242**	Pg	**Pn**		**13 56 25.7**	**+0.6**
MOTA	**Moosalm**	**3.52**	**298**	⇓*i*Pn	**Pn**		**13 56 25.1**	**-0.2**
	SNR=20							
MOTA				⇑*i*Sn	**Sn**		**13 57 08.8**	**+1.7**
MOTA	**Moosalm**	**3.52**	**298**	⇓*i*Pn	**Pn**		**13 56 25.0**	**-0.3**
MOTA				*i* S	**Sn**		**13 57 08.8**	**+1.7**
BRY	**Bratogost**	**3.53**	**143**	⇓*i*Pn	**Pn**		**13 56 26.1**	**+0.7**
BRY				*e*Sn	**Sn**		**13 57 08.4**	**+1.0**
FNVD	**Fontana Vidola**	**3.59**	**245**	Pg	**Pn**		**13 56 27.3**	**+1.0**
VRAC	**Vranov**	**3.60**	**10**	Pn	**Pn**		**13 56 26.4**	**0.0**
	comp=N,9.3nm,0.3s,baz=199,slow=14,SNR=31							
VRAC	**Vranov**	**3.60**	**10**	⇑*i*P	**Pn**		**13 56 26.4**	**0.0**
VRAC	**Vranov**	**3.60**	**10**	P	**Pn**		**13 56 26.4**	**0.0**
VRAC				pmax	pmax			
	comp=Z,9.0nm,0.3s							
VRAC	**Vranov**	**3.60**	**10**	P	**Pn**		**13 56 26.3**	**-0.2**
VRAC	**Vranov**	**3.60**	**10**	*e*Pn	**Pn**		**13 56 26.3**	**-0.1**
TREB	**Trebinje**	**3.61**	**147**	P	**Pn**		**13 56 27.7**	**+1.2**
TREB				S	**Sn**		**13 57 11.9**	**+2.7**
PLE	**Pljevlja**	**3.61**	**131**	⇑*i*Pn	**Pn**		**13 56 26.6**	**+0.1**
PLE				*e*Sn	**Sn**		**13 57 10.4**	**+1.0**
PSZ	**Piszkesteto**	**3.62**	**52**	⇑*e*Pn	**Pn**		**13 56 25.4**	**-1.3**
PSZ	**Piszkesteto**	**3.62**	**52**	⇑*i*P	**Pn**		**13 56 24.5**	**-2.2**
KHC	**Kasperske Hory**	**3.65**	**338**	*e*PN	**Pn**		**13 56 27.7**	**+0.6**
KHC				*e*SN	**Sn**		**13 57 09.5**	**-0.9**
KHC				*e*SG	**Sg**		**13 57 28.5**	**+0.8**
	comp=Z,112nm,0.7s							
KHC	**Kasperske Hory**	**3.65**	**338**	*d*iP	**Pn**		**13 56 27.7**	**+0.6**
NKY	**Niksic**	**3.80**	**140**	⇓*i*Pn	**Pn**		**13 56 29.3**	**+0.1**
NKY				*e*Sn	**Sn**		**13 57 14.9**	**+0.8**
WET	**Wettzell**	**3.87**	**332**	*e*Pn	**Pn**		**13 56 30.4**	**+0.2**
WET				*e*Sn	**Sn**		**13 57 14.2**	**-1.7**
HCY	**Herceg Novi**	**3.89**	**147**	⇑*i*Pn	**Pn**		**13 56 31.0**	**+0.6**
HCY				*e*Sn	**Sn**		**13 57 17.5**	**+1.1**
FIAM	**Fiamignano**	**3.95**	**209**	Pg	**Pn**		**13 56 32.1**	**+0.9**
GRUS	**Gruza**	**4.05**	**116**	*i* Pn	**Pn**		**13 56 31.6**	**-1.1**
VLC	**Villacollemand**	**4.07**	**249**	*e*Pn	**Pn**		**13 56 33.4**	**+0.5**
VLC	**Villacollemand**	**4.07**	**249**	*e*Pn	**Pn**		**13 56 33.4**	**+0.5**
RGNG	**Rignano Grg**	**4.09**	**181**	Pg	**Pn**		**13 56 32.1**	**-1.0**
DAVOX	**Davos/Dischmat**	**4.14**	**286**	Pn	**Pn**		**13 56 35.8**	**+2.0**
	baz=312,slow=22,SNR=45							
DAVOX				Sn	**Sn**		**13 57 24.1**	**+1.8**
	baz=141,slow=19,SNR=4.8							
DAVOX				Lg			13 57 41.4	
	baz=347,slow=22,SNR=8.0							
DAVOX				LR	LR		13 58 29.4	
	comp=Z,315nm,19.8s,baz=90,slow=43							
DAVOX	**Davos/Dischmat**	**4.14**	**286**	Pn	**Pn**		**13 56 35.8**	**+2.0**
DAVOX				Sn	**Sn**		**13 57 24.1**	**+1.8**
VVLD	**Villa Vallelon**	**4.16**	**201**	Pg	**Pn**		**13 56 33.2**	**-0.9**
BUM	**Brajici-Budva**	**4.17**	**145**	⇓*i*Pn	**Pn**		**13 56 34.9**	**+0.6**
BUM				*e*Sn	**Sn**		**13 57 24.1**	**+0.8**
BZS	**Buzias**	**4.18**	**90**	⇑*i*P	**Pn**		**13 56 32.7**	**-1.6**
BZS	**Buzias**	**4.18**	**90**	P	**Pn**		**13 56 32.8**	**-1.5**
BZS	**Buzias**	**4.18**	**90**	P	**Pn**		**13 56 32.8**	**-1.5**
IVA	**Berane**	**4.20**	**132**	⇓*i*Pn	**Pn**		**13 56 34.7**	**+0.1**
IVA				*e*Sn	**Sn**		**13 57 24.0**	**+0.2**
MORC	**Moravsky Berou**	**4.21**	**17**	⇓*i*P	**Pn**		**13 56 34.9**	**+0.1**
MORC	**Moravsky Berou**	**4.21**	**17**	P	**Pn**		**13 56 35.0**	**+0.2**
MORC	**Moravsky Berou**	**4.21**	**17**	*e*Pn	**Pn**		**13 56 34.9**	**+0.1**
MORC	**Moravsky Berou**	**4.21**	**17**	*e*Pn	**Pn**		**13 56 34.9**	**+0.1**
TTG	**Podgorica**	**4.22**	**141**	⇑*i*Pn	**Pn**		**13 56 35.4**	**+0.4**
TTG				*e*Sn	**Sn**		**13 57 24.9**	**+0.5**
SDI	**San Donato**	**4.27**	**199**	P	**Pn**		**13 56 34.6**	**-1.0**
DAVA	**Damuels**	**4.27**	**293**	⇓*i*Pn	**Pn**		**13 56 35.0**	**-0.6**
	SNR=9.1							
DAVA				⇑*i*Sn	**Sn**		**13 57 26.2**	**+0.6**
DAVA	**Damuels**	**4.27**	**293**	*e*Pn	**Pn**		**13 56 37.8**	**+2.2**
DAVA				Sn	**Sn**		**13 57 26.2**	**+0.5**
KECS	**Kecovo**	**4.27**	**49**	*i* PN	**Pn**		**13 56 34.5**	**-1.1**
KECS				*e*SN	**Sn**		**13 57 22.9**	**-2.8**
KECS	**Kecovo**	**4.27**	**49**	*i* P	**Pn**		**13 56 34.5**	**-1.1**
KECS				*e*			13 57 22.9	
KECS				smax				
	comp=N,13nm,0.6s							
KECS	**Kecovo**	**4.27**	**49**	*i* Pn	**Pn**		**13 56 34.5**	**-1.1**
KECS				*e*Sn	**Sn**		**13 57 22.9**	**-2.8**
CERT	**Cerreto**	**4.28**	**208**	Pg	**Pn**		**13 56 36.3**	**+0.6**
PRU	**Pruhonice**	**4.29**	**350**	*e*PN	**Pn**		**13 56 36.4**	**+0.4**
PRU				*e*SN	**Sn**		**13 57 25.4**	**-0.8**
PRU				*e*SG	**Sg**		**13 57 49.4**	**+1.2**
	comp=N,102nm,0.7s							
PRA	**Prague**	**4.39**	**350**	PN	**Pn**		**13 56 38.0**	**+0.8**
PRA				*ex*	x		13 56 55.0	
PRA				SG	**Sg**		**13 57 53.0**	**+1.7**
OKC	**Ostrava-Krasne**	**4.41**	**21**	*e*PN	**Pn**		**13 56 37.6**	**+0.1**
PVY	**Plav**	**4.43**	**134**	⇑*i*Pn	**Pn**		**13 56 37.9**	**+0.1**
PVY				*e*Sn	**Sn**		**13 57 29.8**	**+0.2**
SGG	**Gregorio Mates**	**4.47**	**192**	Pg	**Pn**		**13 56 38.9**	**+0.5**
ULC	**Ulcinj**	**4.60**	**144**	⇑*i*Pn	**Pn**		**13 56 40.3**	**+0.2**
ULC				*e*Sn	**Sn**		**13 57 33.6**	**-0.2**
DPC	**Dobruska-Polom**	**4.61**	**5**	*e*PN	**Pn**		**13 56 40.9**	**+0.6**
ROTZ	**Rotzenmuhle**	**4.63**	**331**	*e*Pn	**Pn**		**13 56 40.5**	**-0.1**
UPC	**Upice**	**4.75**	**3**	*e*PN	**Pn**		**13 56 42.9**	**+0.6**
NIE	**Niedzica**	**4.83**	**39**

SBF *e*Sg **Sg** **13 58 44.4 -3.4**
comp=Z,66nm,0.7s
SBF Sospel 6.15 255 *e*Pn **Pn** **13 57 03.7 +2.2**
SBF *e*Sn **Sn** **13 58 08.7 -3.3**
LUCF Luceram 6.20 255 P **Pn** **13 57 03.0 +0.8**
MOF Molkenrain 6.21 293 P **Pn** **13 57 02.5 +0.2**
TOUF Mont Tournerai 6.23 257 P **Pn** **13 57 02.3 -0.2**
TOUF S **Sn** **13 58 11.7 -2.2**
LPG La Plagne 6.25 271 *e*Pn **Pn** **13 57 01.9 -1.0**
SNR=1.0
LPG *e*Sn **Sn** **13 58 10.8 -3.7**
comp=Z,59nm,0.9s
LPG La Plagne 6.25 271 *e*Pn **Pn** **13 57 01.9 -1.0**
SNR=1.0
LPG *e*Sn **Sn** **13 58 10.8 -3.7**
comp=Z,29nm,0.9s
WLS Welschbruch 6.26 298 P **Pn** **13 57 02.4 -0.6**
LPL La Plagne 6.27 271 *e*Pn **Pn** **13 57 02.4 -0.6**
SNR=1.0
LPL *e*Sn **Sn** **13 58 09.8 -5.0**
comp=Z,37nm,0.7s
LPL La Plagne 6.27 271 *e*Pn **Pn** **13 57 02.4 -0.6**
SNR=1.0
LPL *e*Sn **Sn** **13 58 09.8 -5.0**
comp=Z,18nm,0.7s
VTS Vitosha 6.28 118 ⇓*i*P **Pn** **13 57 08.8 +5.5**
VTS Vitosha 6.28 118 ⇓P **Pn** **13 57 08.8 +5.5**
LOMF Lomont 6.29 288 P **Pn** **13 57 03.6 +0.2**
CDF Champ du Feu 6.31 298 *e*Pn **Pn** **13 57 03.3 -0.3**
SNR=1.0
CDF *e*Sg **Sg** **13 58 51.7 -1.1**
comp=Z,56nm,0.8s,SNR=1.0
ECH Echery 6.31 296 P **Pn** **13 57 04.0 +0.3**
MBDF Montbardon 6.36 264 *e*Pn **Pn** **13 57 03.5 -0.8**
SNR=1.0
MBDF *e*Sn **Sn** **13 58 12.6 -4.6**
comp=Z,30nm,0.5s
MBDF Montbardon 6.36 264 *e*Pn **Pn** **13 57 03.5 -0.8**
SNR=1.0
MBDF *e*Sn **Sn** **13 58 12.6 -4.6**
comp=Z,15nm,0.5s
BNI Bardonecchia 6.36 267 *e*P **Pn** **13 57 06.1 +1.7**
BNI pmax pmax
comp=Z,21nm,1.1s
BNI Bardonecchia 6.36 267 *e*Pn **Pn** **13 57 06.0 +1.7**
comp=Z,21nm,1.1s
BNI Bardonecchia 6.36 267 *e*Pn **Pn** **13 57 06.1 +1.7**
comp=Z,21nm,1.1s
HINF Hinteralfeld 6.39 292 *e*Pn **Pn** **13 57 04.3 -0.4**
SNR=1.0
HINF *e*Sn **Sn** **13 58 13.8 -4.0**
comp=Z,31nm,0.5s,SNR=1.0
HINF Hinteralfeld 6.39 292 *e*Pn **Pn** **13 57 04.3 -0.4**
SNR=1.0
HINF *e*Sn **Sn** **13 58 13.8 -4.0**
comp=Z,15nm,0.5s,SNR=1.0
VOIR 6.60 89 ⇑*i*P **Pn** **13 57 08.4 +0.8**
VOIR 6.60 89 ⇑P **Pn** **13 57 08.4 +0.8**
TIP Timpagrande 6.63 173 *e*Pn **Pn** **13 57 08.0 0.0**
TIP Timpagrande 6.63 173 *e*Pn **Pn** **13 57 08.0 0.0**
CABF La Chapelle 6.70 281 *e*Pn **Pn** **13 57 09.3 +0.3**
SNR=1.0
CABF *e*Sg **Sg** **13 59 04.2 -1.2**
comp=Z,143nm,1.3s
HAU Haudompre 6.76 293 *e*Pn **Pn** **13 57 09.2 -0.7**
SNR=1.0
HAU *e*Sn **Sn** **13 58 22.9 -4.2**
comp=Z,32nm,0.6s,SNR=1.0
HAU Haudompre 6.76 293 *e*Pn **Pn** **13 57 09.2 -0.7**
SNR=1.0
HAU *e*Sn **Sn** **13 58 22.9 -4.2**
comp=Z,16nm,0.6s,SNR=1.0
KEK Kerkira 6.77 152 *e*Pn **Pn** **13 57 08.5 -1.4**
FRF La Foret Royal 6.79 254 *e*Pn **Pn** **13 57 08.7 -1.6**
SNR=1.0
FRF *e*Sn **Sn** **13 58 23.0 -4.8**
comp=Z,14nm,0.5s
FRF La Foret Royal 6.79 254 *e*Pn **Pn** **13 57 08.7 -1.6**
SNR=1.0
FRF *e*Sn **Sn** **13 58 23.0 -4.8**
comp=Z,7.1nm,0.5s
ORIF Oris-en-Rattie 6.95 267 *e*Pn **Pn** **13 57 12.0 -0.4**
ORIF *e*Sn **Sn** **13 58 27.7 -3.9**
comp=Z,27nm,0.5s
ORIF Oris-en-Rattie 6.95 267 *e*Pn **Pn** **13 57 12.0 -0.4**
ORIF *e*Sn **Sn** **13 58 27.7 -3.9**
comp=Z,14nm,0.5s
LVV L'vov 6.95 51 *e*P **Pn** **13 57 15.3 +2.9**
LVV *e*S **Sn** **13 58 38.5 +6.9**
LMR La Mourre 6.97 253 *e*Pn **Pn** **13 57 12.4 -0.4**
SNR=1.0
LMR *e*Sn **Sn** **13 58 27.1 -5.2**
comp=Z,8.4nm,0.3s,SNR=1.0
LMR La Mourre 6.97 253 *e*Pn **Pn** **13 57 12.4 -0.4**
SNR=1.0
LMR *e*Sn **Sn** **13 58 27.1 -5.2**
comp=Z,4.2nm,0.3s,SNR=1.0
MLR Muntele Rosu 7.22 88 Pn **Pn** **13 57 18.4 +2.3**
comp=Z,0.5nm,0.3s,baz=252,slow=9.1,SNR=4.8
MLR LR LR 14 00 11.9
comp=Z,236nm,18.3s,baz=162,slow=39
MLR Muntele Rosu 7.22 88 ⇓*i*P **Pn** **13 57 15.4 -0.7**
MLR Muntele Rosu 7.22 88 P **Pn** **13 57 18.4 +2.3**
MLR pmax pmax
comp=Z,10.0nm,0.3s
MLR MLR MLR
comp=Z,236nm,18.3s
MLR Muntele Rosu 7.22 88 ⇓P **Pn** **13 57 15.4 -0.7**
MLR Pn **Pn** **13 57 18.4 +2.3**
MLR LR LR 14 00 11.9
SMRF Simiane la Rot 7.39 260 *e*Pn **Pn** **13 57 17.8 -0.6**
SNR=1.0
SMRF *e*Sn **Sn** **13 58 38.1 -4.3**
comp=Z,8.3nm,0.6s,SNR=1.0
VIVF Saint-Julien-l 7.80 267 *e*Pn **Pn** **13 57 23.4 -0.7**
VIVF *e*Sn **Sn** **13 58 47.2 -5.4**
comp=Z,18nm,0.8s
VIVF Saint-Julien-l 7.80 267 *e*Pn **Pn** **13 57 23.4 -0.7**
VIVF *e*Sn **Sn** **13 58 47.2 -5.4**
comp=Z,8.9nm,0.8s
MEM Membach 8.07 310 P **Pn** **13 57 29.4 +1.6**
SMF Signal de Mont 8.25 280 *e*Pn **Pn** **13 57 28.9 -1.4**
SNR=1.0
SMF *e*Sn **Sn** **13 58 58.7 -4.9**
SMF *e*Sg Sn 13 59 52.9 +49
comp=Z,8.7nm,0.7s,SNR=1.0
SMF Signal de Mont 8.25 280 *e*Pn **Pn** **13 57 28.9 -1.4**
SNR=1.0
SMF *e*Sn **Sn** **13 58 58.7 -4.9**
LOR Lormes 8.28 285 *e*Pn **Pn** **13 57 29.8 -0.9**
baz=102,SNR=1.0
LOR *e*Sn **Sn** **13 58 58.9 -5.5**
comp=Z,4.1nm,0.3s
LOR Lormes 8.28 285 *e*Pn **Pn** **13 57 29.8 -0.9**
SNR=1.0
LOR *e*Sn **Sn** **13 58 58.9 -5.5**
comp=Z,2.0nm,0.3s
VAE Valguarnera 8.33 187 LR LR 14 01 12.6
comp=Z,124nm,19.1s,baz=92,slow=41
BCLA Clavier 8.35 308 P **Pn** **13 57 34.1 +2.5**
BCLA Clavier 8.35 308 P **Pn** **13 57 34.1 +2.4**
PLDF La Plantade 8.41 276 P **Pn** **13 57 32.3 -0.1**
GIVF Givet 8.47 305 *e*Pn **Pn** **13 57 30.7 -2.6**
GIVF *e*P 13 57 35.9
SSF Saint Saulge 8.50 283 *e*Pn **Pn** **13 57 32.8 -0.9**
SSF *e*Pg Pn 13 58 09.5 +36
LASF Ste Croix 8.55 263 *e*Pn **Pn** **13 57 32.9 -1.4**
SNR=1.0
LASF *e*Sn **Sn** **13 59 04.4 -6.5**
comp=Z,15nm,0.8s
LASF Ste Croix 8.55 263 *e*Pn **Pn** **13 57 32.9 -1.4**
SNR=1.0
LASF *e*Sn **Sn** **13 59 04.4 -6.5**
comp=Z,7.7nm,0.8s
AVF Avril sur Loir 8.59 281 *e*Pn **Pn** **13 57 34.4 -0.5**
SNR=1.0
AGO Saint Agoulin 8.74 276 P **Pn** **13 57 36.7 -0.4**
BAIF Baives 8.81 303 *e*P **Pn** **13 57 41.6 +3.6**
BAIF *e*Sg Sn 14 00 15.0 +58
comp=Z,8.2nm,0.7s,SNR=1.0
BAIF Baives 8.81 303 *e*Pn **Pn** **13 57 35.9 -2.1**
BAIF *e*P 13 57 41.6
BAIF *e*Sg Sn 14 00 15.0 +58
BGF Bois d'Agland 8.93 280 *e*Pn **Pn** **13 57 39.3 -0.3**
SNR=1.0
TCF Toulx Ste Croi 9.38 278 *e*Pn **Pn** **13 57 44.4 -1.3**

RJF Les Rejaudoux 9.94 272 *e*Pn **Pn** **13 57 51.5 -1.9**
HFS Hagfors 14.44 356 Pn **Pn** **13 58 60.0 +5.0**
comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=2.3
HFS LR LR 14 04 07.6
comp=Z,41nm,20.5s,baz=70,slow=36
NB2 NORSAR Subarra 15.53 352 P **Pn** **13 59 08.8 -0.7**
comp=Z,2.2nm,0.8s,baz=168,slow=11
NOA NORSAR Array B 15.53 352 Pn **Pn** **13 59 08.7 -0.9**
comp=Z,0.1nm,0.3s,baz=166,slow=11,SNR=2.3
ESDC Sonseca Array 15.64 254 LR LR 14 05 35.0
comp=Z,39nm,21.4s,baz=350,slow=39
FINES FINESS Array B 16.84 17 Pn **Pn** **13 59 26.6 +0.1**
comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=6.0
MMAI Mount Meron Ar 19.81 123 P **Pn** **14 00 02.2 -0.5**
comp=Z,0.4nm,0.3s,baz=302,slow=11,SNR=2.7
MDT Midelt 20.26 237 LR LR 14 06 47.2
comp=Z,40nm,18.1s,MS2.8,baz=21,slow=33
ARCES ARCESS Array B 24.35 8 P **P** **14 00 49.1 +0.5**
comp=Z,5.2nm,1.0s,mb3.9,baz=184,slow=11,SNR=4.0
ARCES LR LR 14 10 39.5
comp=Z,56nm,20.3s,MS3.0,baz=256,slow=37
ARCES ARCESS Array B 24.35 8 P **P** **14 00 49.1 +0.5**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES MLR MLR
comp=Z,560nm,20.3s
TORD Torodi Ar. Bea 34.60 204 P **P** **14 02 18.9 -0.8**
comp=Z,0.4nm,0.6s,mb3.6,baz=11,slow=10,SNR=4.7
MKAR Makanchi Array 44.79 64 P **P** **14 03 43.7 -0.8**
comp=Z,0.2nm,0.5s,mb3.2,baz=291,slow=6.3,SNR=3.9

JMA 28 14:02:36.0±0.3, 4400N×14809E, h1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**250**	P	Pn	14 03 08.9	+0.5
NEM2				*e*S	Sn	14 03 32.6	+0.5
JRA	**Rausu**	**2.14**	**269**	P	Pn	14 03 13.4	+0.5
JNK	**Nakash**	**2.48**	**262**	P	Pn	14 03 18.3	+0.8
JNK				*e*S	Sn	14 03 49.2	+0.9
JAK	**Akkeshi**	**2.67**	**249**	P	Pn	14 03 21.2	+1.1
JAK				*e*S	Sn	14 03 54.1	+1.1
JAR	**Ashorobuto**	**3.21**	**259**	P	Pn	14 03 29.5	+1.9
JAR				*e*S	Sn	14 04 08.9	+2.4
JCH	**Churui**	**3.72**	**250**	P	Pn	14 03 36.2	+1.7
JCH				*e*S	Sn	14 04 20.3	+1.3
JNBK	**Urakawa-nobuka**	**4.27**	**248**	P	Pn	14 03 44.0	+1.9
JNBK				*e*S	Sn	14 04 34.0	+1.5
JKB	**Kayabe**	**5.59**	**250**	P	Pn	14 04 02.0	+1.7
JKB				*e*S	Sn	14 05 06.0	+0.8
JOT	**Ohata**	**5.81**	**246**	P	Pn	14 04 04.6	+1.3
JOT				*e*S	Sn	14 05 10.7	+0.1

*GRAL **28** 14:26:30.7±0.8, 3442N×3690E, h0km±999km, MD3.1*
*CSEM **28** 14:26:32.0±0.1, 3449N×3695E, h1km, Mc1.5, Error ellipse: s-maj=2.8km s-min=1.7km az=91.0, Suspected Mining explosion.*
*GII **28** 14:26:32.8±0.0, 3452N×3666E, h0km, ML2.3/2*
*ISCJB **28** 14:26:33.2±0.4, 3443N±002×3670E±003, h0km, Error ellipse: s-maj=3.8km s-min=3.2km az=71.7*
*NSSC **28** 14:26:33, 3440N×3669E, h3km±2km*
ISC 28 14:26:33.5±0.4, 3443N±002×**3670E**±003, **h0**km, **n27,** σ1§**20**/47, **6D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABH	**Abou Rabah**	**0.42**	**90**	⇑*i*S	Sg	14 26 48.5	+1.6
RABH	**Abou Rabah**	**0.42**	**90**	⇑P	Pg	14 26 42.0	+0.5
RABH				⇑S	Sg	14 26 48.0	+1.1
MARH	**Ras Al Marh**	**0.45**	**204**	⇑P	Pg	14 26 40.0	-2.1
MARH				⇑S	Sg	14 26 47.0	-0.9
ROOS	**tl_alroos**	**0.55**	**118**	⇓*i*P	Pg	14 26 44.1	0.0
ROOS				⇓*i*S	Sg	14 26 52.9	+1.6
ROOS	**tl_alroos**	**0.55**	**118**	⇓P	Pg	14 26 44.0	-0.1
ROOS				⇓S	Sg	14 26 52.0	+0.7
HWQ	**Hawqa**	**0.64**	**256**	*e*Pg	Pg	14 26 45.4	-0.5
HWQ				*e*Sg	Sg	14 26 55.4	+1.2
QASN	**Qassioun**	**0.97**	**202**	⇑P	Pg	14 26 51.0	-1.1
QASN				⇑S	Sg	14 27 04.0	-0.6
BHL	**Bhannes**	**1.02**	**239**	*e*Pg	Pg	14 26 51.7	-1.4
BHL				*e*Sg	Sg	14 27 07.2	+0.9
TOTH	**TOTAH**	**1.09**	**192**	⇑P	Pg	14 26 53.0	-1.5
BRBR	**Barbar**	**1.20**	**212**	⇑P	Pn	14 26 55.0	-2.5
BRBR				⇑S	Sg	14 27 11.0	-1.0
RCY	**Rachaya**	**1.20**	**218**	*e*Pg	Pn	14 26 53.6	-3.9
SLNF	**Slenfeh**	**1.22**	**341**	⇑*i*P	Pg	14 26 57.1	+0.1
SLNF				⇑*i*S	Sg	14 27 14.4	+1.5
SLNF	**Slenfeh**	**1.22**	**341**	⇑P	Pg	14 26 57.0	0.0
SLNF				⇑S	Sg	14 27 14.0	+1.1
KSDI	**Kefar Szold**	**1.51**	**215**	Pn	Pn	14 27 01.1	-0.8
KSDI				Sn	Sn	14 27 23.6	+1.3
ARNB	**Al Arnab**	**1.54**	**337**	⇓P	Pn	14 27 01.0	-1.3
ARNB				⇓S	Sn	14 27 22.0	-1.0
KSHT	**Keshet**	**1.63**	**207**	Pn	Pn	14 27 02.7	-0.8
KSHT				Sn	Sn	14 27 26.3	+1.2
SALA	**Sala**	**1.72**	**179**	⇑*i*P	Pn	14 27 03.2	-1.5
SALA				⇑*i*S	Sn	14 27 25.3	-2.0
SALA	**Sala**	**1.72**	**179**	⇑P	Pn	14 27 03.0	-1.7
SALA				⇑S	Sn	14 27 25.0	-2.3
MMC7	**Mount Meron ar**	**1.78**	**218**	Pn	Pn	14 27 05.7	+0.1
MMA2	**Mount Meron ar**	**1.78**	**218**	Pn	Pn	14 27 05.6	0.0
MMA2				Sn	Sn	14 27 30.8	+1.8
MMC6	**Mount Meron ar**	**1.79**	**218**	Pn	Pn	14 27 05.7	0.0
HNTI	**Hanita**	**1.85**	**224**	Pn	Pn	14 27 06.2	-0.4
HNTI				Sn	Sn	14 27 31.8	+1.1
GLH	**Golan-Tel Qazi**	**1.93**	**207**	Pn	Pn	14 27 07.7	+0.2
GLH				Sn	Sn	14 27 34.3	+1.8
MMLI	**Mount Malkishu**	**2.26**	**209**	Pn	Pn	14 27 12.4	+0.3
MMLI				Sn	Sn	14 27 42.6	+1.8
MMLI	**Mount Malkishu**	**2.26**	**209**	Pn	Pn	14 27 12.5	+0.3
OFRI	**'Ofer**	**2.31**	**219**	Pn	Pn	14 27 13.4	+0.6
HMDT	**Nahal Hemdat**	**2.39**	**205**	Pn	Pn	14 27 14.4	+0.5
HMDT				Sn	Sn	14 27 46.4	+2.6

*NIED **28** 14:36:00, 2270N×12130E, h74km, Mw4.1 Best double couple: M0=1.37000×10^15 NP1:φs=136.00000°, δ65.00000°, λ60.00000°. NP2:φs=10.00000°, δ39.00000°, λ137.00000°.*
*BJI **28** 14:36:45.7, 2253N×12139E, h15km, mb4.3*
*IDC **28** 14:36:45.7±0.9, 2246N×121.11E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=42.9km s-min=16.2km az=71.0*
*NEIC **28** 14:36:51.5±1.6, 2247N×12121E, h44km±16km, mb4.5/4, Error ellipse: s-maj=23.0km s-min=8.2km az=67.0*
*ISCJB **28** 14:36:51.5±1.1, 2255N±006×121.17E±005, h63km±11km, mb4.0/10, Error ellipse: s-maj=10.5km s-min=7.3km az=31.3*
*JMA **28** 14:36:54.7±0.3, 2266N×12135E, h113km, M3.6*
ISC 28 14:36:52.8±1.0, 2256N±006×**12116E**±005, **h55**km±11km, **n30,** σ0§**98**/37, **mb4.0**/10, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.66**	**14**	*e*P	Pn	14 37 18.3	-1.2
NACB				*e*Sn	Sn	14 37 37.9	-1.7
YHNB	**Yeheng**	**2.11**	**5**	*e*Pn	Pn	14 37 26.2	+0.6
YHNB				*e*Sn	Sn	14 37 49.3	-1.5
TATO	**Taipei**	**2.42**	**7**	*e*Pn	Pn	14 37 29.7	-0.3
YOJ	**Yonaguni jima**	**2.54**	**42**	P	Pn	14 37 33.0	+1.4
YOJ				S	Sn	14 38 01.6	+0.2
HATJ	**Hateruma jima**	**2.85**	**58**	P	Pn	14 37 36.8	+1.0
HATJ				S	Sn	14 38 08.5	-0.5
IRIF	**Iriomote-Funau**	**2.95**	**53**	P	Pn	14 37 38.1	+0.9
IRIF				S	Sn	14 38 11.6	+0.3
JKRS	**Kuro-shima**	**3.10**	**57**	P	Pn	14 37 40.5	+1.2
JKRS				*e*S	Sn	14 38 15.7	+0.5
JIJ	**Ishigaki jima**	**3.27**	**56**	P	Pn	14 37 42.1	+0.5
JIJ				*e*S	Sn	14 38 18.3	-1.1
QZH	**Quanzhou**	**3.34**	**316**	P	Pn	14 37 40.8	-1.7
QZH				S	Sn	14 38 15.8	-5.1
JTJ	**Tarama**	**3.85**	**57**	*e*S	Sn	14 38 33.3	-0.3
NJ2	**Nanjing**	**9.67**	**348**	*e*P	Pn	14 39 10.3	+1.0
GYA	**Guiyang**	**13.75**	**289**	*e*P	Pn	14 40 06.0	+1.0
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s
MJAR Matsushiro Arr 20.30 43 P **P** **14 41 24.9 +0.8**
comp=Z,1.9nm,0.8s,baz=228,slow=7.8,SNR=9.0
MJAR Matsushiro Arr 20.30 43 P **P** **14 41 24.9 +0.8**
ULN Ulaanbaatar 27.66 339 P **P** **14 42 35.0 -0.5**
SONM Songino Array 27.86 338 P **P** **14 42 37.3 +0.1**
comp=Z,1.6nm,0.8s,mb3.7,baz=149,slow=9.7,SNR=12
MKAR Makanchi Array 39.50 317 P **P** **14 44 18.7 +0.7**
comp=Z,0.5nm,0.6s,mb3.4,baz=115,slow=9.5,SNR=6.2
FITZ Fitzroy Crossi 40.65 173 *e*P **P** **14 44 26.9 -0.6**
comp=Z,4.1nm,0.7s,mb4.2
FITZ Fitzroy Crossi 40.65 173 P **P** **14 44 27.0 -0.5**
comp=Z,2.2nm,0.7s,mb3.9,baz=323,slow=6.3,SNR=7.1
ZAL Zalesovo 41.60 328 P **P** **14 44 35.7 +0.3**
comp=Z,1.1nm,0.5s,mb3.7,baz=216,slow=6.6,SNR=3.2
WRA Warramunga Arr 44.16 162 P **P** **14 44 55.0 -1.1**
comp=Z,1.0nm,0.6s,mb3.7,baz=344,slow=8.6,SNR=14
WB2 Warramunga Arr 44.16 162 *e*P **P** **14 44 54.6 -1.5**
AS31 Alice Springs 47.59 164 *e*P **P** **14 45 23.1 0.0**
ASPA Alice Springs 47.59 164 *e*P **P** **14 45 24.3 +1.2**
ASAR Alice Springs 47.59 164 P **P** **14 45 23.2 +0.2**
comp=Z,0.5nm,0.4s,mb3.9,baz=344,slow=8.1,SNR=30
CTAO Charters Tower 48.96 148 P **P** **14 45 31.7 -1.9**
comp=Z,6.1nm,1.0s,mb4.6
BRVK Borovoye 48.99 322 *e*P **P** **14 45 36.0 +2.2**
comp=Z,2.7nm,0.7s,mb4.4
ARU Arti 56.39 324 *e*P **P** **14 46 28.5 -0.1**
comp=Z,5.3nm,0.6s,mb4.8
STKA Stephens Creek 57.56 159 P **P** **14 46 36.2 -0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=338,slow=11,SNR=3.8
SDV Santo Domingo 146.68 22 *e*PKPdf PKPdf 14 56 27.9 +1.2

*IDC **28** 14:47:58.5±1.6, 1305N×14325E, h183km±20km, mb3.6/9, mb1 3.7/9, mb1mx3.6/20, mbtmp4.1/9, Error ellipse: s-maj=35.4km s-min=11.8km az=78.0*
*ISCJB **28** 14:47:59.1±1.1, 1308N±008×1438E±04, h224km±19km, mb3.8/11, Error ellipse: s-maj=56.2km s-min=12.6km az=176.8*
*NEIC **28** 14:47:59.5±1.2, 1308N×14341E, h202km±15km, mb4.2/3, Error ellipse: s-maj=30.7km s-min=9.8km az=84.0*
ISC 28 14:48:00.5±0.9, 1310N±008×**1439E**±04, **h222**km±17km, **n17,** σ0§**31**/18, **mb3.8**/11, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.09**	**63**	P	Pn	14 48 33.3	+0.2
GUMO				S	Sn	14 48 58.5	-0.1

129nm,0.3s,baz=196,slow=4.2,SNR=165
160nm,0.3s,baz=153,slow=22,SNR=18
MJAR Matsushiro Arr 23.89 349 P **P** **14 52 54.0 +0.2**
1.0nm,0.8s,mb3.5,baz=172,slow=9.6,SNR=5.0
WB2 Warramunga Arr 34.15 196 *e*P **P** **14 54 24.1 -0.3**
WB2 Warramunga Arr 34.15 196 *e*P **P** **14 54 24.1 -0.3**
WRA Warramunga Arr 34.15 196 P **P** **14 54 24.3 -0.1**
3.6nm,0.7s,mb4.0,baz=17,slow=9.3,SNR=36
AS31 Alice Springs 37.82 195 *e*P **P** **14 54 55.4 -0.1**
ASAR Alice Springs 37.82 195 P **P** **14 54 55.6 +0.1**
1.9nm,0.5s,mb3.9,baz=18,slow=13,SNR=65
ASPA Alice Springs 37.82 195 *e*P **P** **14 54 55.8 +0.3**
DZM Mont Dzumac 41.38 147 P **P** **14 55 29.9 +5.1**
2.5nm,0.4s,mb4.0,baz=300,slow=16,SNR=16
STKA Stephens Creek 44.77 183 *e*P **P** **14 55 51.8 -0.2**
2.0nm,0.4s,mb3.8
STKA Stephens Creek 44.77 183 P **P** **14 55 52.5 +0.6**
2.5nm,0.4s,mb3.9,baz=242,slow=16,SNR=9.6
ULN Ulaanbaatar 46.23 326 *e*P **P** **14 56 02.8 -0.6**
4.0nm,0.5s,mb4.0
SONM Songino Array 46.57 326 P **P** **14 56 06.0 0.0**
0.2nm,0.5s,mb2.7,baz=134,slow=5.9,SNR=5.3
BILL Bilibino 56.80 10 P **P** **14 57 21.6 0.0**
6.6nm,0.4s,mb4.6
MKAR Makanchi Array 61.16 316 P **P** **14 57 51.9 +0.4**
0.3nm,0.6s,mb3.1,baz=93,slow=7.7,SNR=5.7
BVAR Borovoye Array 69.70 322 P **P** **14 58 46.6 +0.4**
1.1nm,0.5s,mb3.8,baz=100,slow=7.8,SNR=9.1
FINES FINESS Array B 91.19 335 P **P** **15 00 39.8 -0.4**
1.1nm,0.7s,mb3.9,baz=81,slow=8.6,SNR=3.7

*ISCJB **28** 15:26:36.3±0.4, 4009N±002×2767E±003, h3km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=117.4*
*CSEM **28** 15:26:36.2±0.1, 4010N×2767E, h12km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.7km az=135.0*
*ISK **28** 15:26:36.4, 4011N×2767E, h10km, MD3.1*
*ATH **28** 15:26:38.3, 4022N×2737E, h6km±3km, MD3.5/5*
ISC 28 15:26:37.0±0.4, 4010N±002×**2767E**±003, **h9**km±3km, **n28,** σ0§**57**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.29**	**30**	*i*PG	Pg	15 26 43.0	+0.2
EDC				*i*SG	Sg	15 26 46.5	-0.3
BTOK	**Tokmak**	**0.43**	**140**	*i*P	Pg	15 26 45.4	-0.1
BTOK				*i*S	Sg	15 26 51.3	+0.1
BTOK	**Tokmak**	**0.43**	**140**	*i*P	Pg	15 26 45.3	-0.2
CANB	**Canakkale**	**0.47**	**261**	*i*PG	Pg	15 26 46.1	-0.1
CANB				*i*SG	Sg	15 26 52.8	+0.3
MRMT	**Marmara Adasi**	**0.51**	**354**	*i*PG	Pg	15 26 46.3	-0.6
MRMT				*i*SG	Sg	15 26 54.2	+0.5
KCT	**Karacabey**	**0.55**	**72**	*i*PG	Pg	15 26 47.6	-0.1
RKY	**Sarkoy-Tekirda**	**0.70**	**328**	*i*PG	Pg	15 26 50.7	+0.2
SART	**Tekirdag**	**0.70**	**328**	*i*P	Pg	15 26 50.6	+0.1
SART				*i*S	Sg	15 27 00.6	+0.9
MFT	**Murefte**	**0.75**	**337**	PG	Pg	15 26 51.0	-0.5
EZN	**Ezine**	**1.07**	**256**	PG	Pg	15 26 57.5	0.0
AYVA	**Ayvalik**	**1.09**	**224**	*i*P	Pg	15 26 57.1	-0.9
AYVA				*i*S	Sg	15 27 12.8	+0.7
ULDT	**Uludag**	**1.13**	**87**	*i*P	Pb	15 26 58.1	-0.5
ULDT				*i*S	Sg	15 27 14.0	+0.7
CTT	**Catalca**	**1.20**	**29**	PN	Pn	15 26 59.1	-0.8
ELBA	**Catalca**	**1.20**	**29**	*i*P	Pn	15 26 58.9	-1.0
ELBA				*i*S	Sb	15 27 15.9	+0.5
BOZC	**Bozcaada**	**1.27**	**259**	*i*P	Pn	15 27 00.8	-0.1
BOZC				*i*S	Sb	15 27 17.1	-0.3
PRK	**Paraskevi**	**1.37**	**232**	*e*PG	Pn	15 27 02.3	0.0
PRK				*e*SB	Sb	15 27 20.6	+0.2
YLV	**Yalova**	**1.39**	**70**	*e*PN	Pn	15 27 02.7	+0.3
ISK	**Istanbul-Kandi**	**1.44**	**47**	*e*PN	Pn	15 27 03.4	+0.3
KLYT	**Kilyos**	**1.56**	**42**	*e*PN	Pn	15 27 04.8	0.0
KDAG	**Bornova**	**1.72**	**191**	*i*P	Pn	15 27 06.2	-0.9
KDAG				*i*S	Sn	15 27 29.5	+0.4
GDZ	**Gediz**	**1.72**	**125**	*i*P	Pn	15 27 07.5	+0.4
GDZ				*i*S	Sn	15 27 32.5	+3.3
EDRB	**Edirne**	**1.89**	**338**	*e*PN	Pn	15 27 09.6	+0.3
LIA	**Limnos Island**	**1.92**	**265**	*e*PN	Pn	15 27 10.3	+0.5
LIA				*e*SN	Sn	15 27 33.5	-0.5
URLA	**Izmir**	**1.92**	**206**	*i*P	Pg	15 27 12.6	-1.3
URLA				*i*S	Sg	15 27 39.5	+0.7
RDO	**Rodhopi**	**1.93**	**304**	*e*PB	Pn	15 27 10.0	0.0
BORA	**Eskisehir**	**2.15**	**95**	*i*P	Pn	15 27 12.7	-0.2
BORA				*i*S	Sg	15 27 45.9	-0.2
SMG	**Samos**	**2.47**	**196**	*e*PN	Pn	15 27 22.4	+5.0
NVR	**Nevrokopi**	**3.15**	**295**	*e*PN	Pn	15 27 27.3	+0.5

*ISCJB **28** 15:28:26.2±0.4, 4069N±002×29.18E±002, h3km±3km, mb3.3/1, Error ellipse: s-maj=3.3km s-min=2.6km az=61.5*
*SOF **28** 15:28:26.8, 4068N×2895E, h1km, MD3.2*
*CSEM **28** 15:28:26.3±0.1, 4065N×2922E, h5km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.2km az=24.0*
*ISK **28** 15:28:26.5, 4064N×2923E, h9km, MD3.4, ML3.5*
*NEIC **28** 15:28:26.0, 4064N×2923E, h6km, MD3.2(SOF), ML3.3(ISK), After ISK.*
*IDC **28** 15:28:29.4±1.5, 4093N×2875E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=24.2km s-min=17.8km az=54.0*
*MOS **28** 15:28:33.3±1.5, 4122N×2910E, h34km, mb4.0/1, Error ellipse: s-maj=10.3km s-min=9.4km az=112.2*
ISC 28 15:28:27.1±0.3, 4067N±002×**2918E**

ULDT	**Uludag**	**0.53**	**184**	*i* P	**Pg**	**15 28 37.4**	**+0.1**
ULDT				*i* S	**Sg**	**15 28 44.2**	**+0.1**
ULDT	**Uludag**	**0.53**	**184**	*i* P	**Pg**	**15 28 37.3**	**+0.1**
KLYT	**Kilyos**	**0.59**	**350**	*i* PG	**Pg**	**15 28 39.3**	**+0.9**
ELBA	**Catalca**	**0.74**	**310**	*i* P	**Pg**	**15 28 42.0**	**+0.7**
ELBA				*i* S	**Sg**	**15 28 52.1**	**+1.2**
CTT	**Catalca**	**0.74**	**310**	PG	**Pg**	**15 28 41.9**	**+0.6**
KCT	**Karacabey**	**0.75**	**238**	*i* PG	**Pg**	**15 28 41.6**	**+0.2**
EYL	**Eskiyayla**	**0.75**	**98**	PG	**Pg**	**15 28 40.1**	**-1.4**
GPA	**Golpazari**	**0.94**	**113**	PG	**Pg**	**15 28 44.8**	**-0.3**
EDC	**Edincik**	**1.05**	**253**	PN	**Pn**	**15 28 46.8**	**-1.9**
BORA	**Eskisehir**	**1.25**	**129**	*i* P	**Pg**	**15 28 50.4**	**-0.7**
BORA				*i* S	**Sg**	**15 29 08.1**	**+0.8**
BTOK	**Tokmak**	**1.26**	**224**	*i* P	**Pg**	**15 28 50.7**	**-0.6**
BTOK				*i* S	**Sg**	**15 29 08.0**	**+0.3**
HENT	**Hendek**	**1.32**	**83**	*i* P	**Pn**	**15 28 50.9**	**-1.3**
HENT				*i* S	**Sg**	**15 29 09.5**	**+0.1**
MFT	**Murefte**	**1.45**	**275**	PN	**Pn**	**15 28 53.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.52**	**271**	PN	**Pn**	**15 28 54.8**	**-0.3**
GDZ	**Gediz**	**1.60**	**172**	*i* P	**Pn**	**15 28 55.5**	**-0.6**
GDZ				*i* S	**Sn**	**15 29 18.7**	**+1.5**
ESKT	**Eskisehir**	**1.72**	**131**	PN	**Pn**	**15 28 57.3**	**-0.6**
ESKT	**Eskisehir**	**1.72**	**131**	*i* P	**Pn**	**15 28 57.0**	**-0.8**
ESKT				*i* S	**Sn**	**15 29 20.8**	**+0.5**
SEYT	**Eskypehyr**	**1.72**	**131**	*i* P	**Pn**	**15 28 57.0**	**-0.9**
SEYT				*i* S	**Sn**	**15 29 20.8**	**+0.5**
CANB	**Canakkale**	**1.74**	**249**	PN	**Pn**	**15 28 58.4**	**+0.2**
KDZE	**Karadeniz Ereo**	**1.83**	**69**	PN	**Pn**	**15 28 58.9**	**-0.5**
EDRB	**Edirne**	**2.18**	**303**	PN	**Pn**	**15 29 04.3**	**+0.1**
SGKT	**Sivrigoynuk**	**2.19**	**92**	*i* P	**Pn**	**15 29 05.3**	**+0.9**
SGKT				*i* S	**Sg**	**15 29 39.1**	**+1.6**
EZN	**Ezine**	**2.34**	**250**	*e*PN	**Pn**	**15 29 07.5**	**+1.1**
AYVA	**Ayvalik**	**2.35**	**235**	*i* P	**Pb**	**15 29 10.4**	**+0.5**
AYVA				*i* S	**Sg**	**15 29 42.4**	**0.0**
JMB	**Yambol**	**2.65**	**314**	*i* P	**Pn**	**15 29 11.1**	**+0.5**
JMB				*i* Pg	**Pg**	**15 29 17.9**	**+0.1**
JMB				*i* S	**Sg**	**15 29 52.5**	**+0.3**
JMB	**Yambol**	**2.65**	**314**	*i* P	**Pn**	**15 29 11.1**	**+0.5**
JMB				*i* Pg	**Pg**	**15 29 17.9**	**+0.1**
SAFT	**Safranbolu**	**2.72**	**77**	*e*PN	**Pn**	**15 29 11.7**	**+0.1**
TKTP	**Tekketepe**	**2.77**	**161**	*i* P	**Pn**	**15 29 12.3**	**0.0**
TKTP				*i* S	**Pg**	**15 29 20.1**	**-0.1**
PRD	**Provadia**	**2.86**	**333**	*i* P	**Pn**	**15 29 18.6**	**+5.1**
PRD				*i* S	**Sn**	**15 29 51.1**	**+2.8**
PRD				*i* Sg	**Sg**	**15 29 57.7**	**-1.1**
ELDT	**Eldivan**	**3.24**	**92**	*i* P	**Pn**	**15 29 18.7**	**0.0**
BALT	**Daday**	**3.29**	**73**	*i* P	**Pn**	**15 29 21.4**	**+1.9**
RZN	**Rozhen**	**3.52**	**288**	*i* P	**Pn**	**15 29 23.0**	**+0.4**
RZN				*i* S	**Sg**	**15 30 17.2**	**-2.9**
BRTR	**Keskin Array B**	**3.54**	**104**	Pn	**Pb**	**15 29 32.4**	**+2.0**
	1.0nm,0.3s,baz=281,slow=15,SNR=10						
BRTR				Lg		15 30 34.0	
	0.7nm,0.3s,baz=293,slow=22,SNR=4.3						
SZH	**Strazhica**	**3.55**	**318**	*i* P	**Pn**	**15 29 21.9**	**-1.1**
SZH				*i* S	**Sg**	**15 30 19.1**	**-2.0**
PVL	**Pavlikeni**	**3.83**	**313**	*i* P	**Pn**	**15 29 27.9**	**+1.0**
MMB	**Musomiste**	**4.22**	**284**	*i* P	**Pn**	**15 29 31.0**	**-1.2**
MMB				*i* S	**Sg**	**15 30 37.3**	**-5.3**
MMB				*i* Sg	**Sg**	**15 30 38.6**	**-4.0**
KKB	**Krupnik**	**4.75**	**287**	*e*P	**Pn**	**15 29 41.4**	**+1.9**
KKB				*i* S	**Sg**	**15 30 56.1**	**-3.4**
VTS	**Vitosha**	**4.87**	**295**	*i* P	**Pn**	**15 29 41.6**	**+0.5**
VTS				*i* S	**Sn**	**15 30 36.8**	**-1.2**
SEV	**Sevastopol'**	**5.10**	**39**	*e*P	**Pn**	**15 29 42.8**	**-1.5**
SEV				*i* S	**Sn**	**15 30 38.3**	**-5.3**
SEV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SEV				smax			
	comp=N,1.0nm,0.2s						
SEV				smax			
	comp=E,9.0nm,0.3s						
SEV	**Sevastopol'**	**5.10**	**39**	*e*P	**Pn**	**15 29 42.8**	**-1.5**
	comp=E,4.0nm,0.3s						
YAL	**Yalta**	**5.30**	**42⇓**	*e*P	**Pn**	**15 29 47.4**	**+0.4**
YAL				*e*S	**Sn**	**15 30 43.6**	**-4.9**
YAL				smax			
	comp=N,45μm,0.2s						
YAL				smax			
	comp=E,38μm,0.4s						
MLR	**Muntele Rosu**	**5.37**	**335**	Pn	**Pn**	**15 29 47.4**	**-0.6**
	comp=E,0.7nm,0.3s,baz=165,slow=16,SNR=3.6						
MLR				Lg		15 31 21.2	
	comp=E,0.5nm,0.3s,baz=53,slow=22,SNR=2.1						
ALU	**Alushta**	**5.56**	**42⇓**	*i* P	**Pn**	**15 29 50.8**	**+0.2**
ALU				*e*S	**Sn**	**15 30 50.9**	**-4.1**
ALU				pmax	pmax		
	comp=Z,20nm,0.5s						
ALU				smax			
	comp=N,50nm,0.5s						
ALU				smax			
	comp=E,80nm,0.5s						
ALU	**Alushta**	**5.56**	**42**	*i* P	**Pn**	**15 29 50.8**	**+0.2**
	comp=E,20nm,0.5s						
SIM	**Simferopol'**	**5.61**	**39**	*e*P	**Pn**	**15 29 51.4**	**+0.1**
SIM				*e*S	**Sn**	**15 30 52.3**	**-3.9**
SIM				pmax	pmax		
	comp=Z,39μm,0.9s						
SIM				smax			
	comp=N,153μm,0.8s						
SIM				smax			
	comp=E,238μm,0.8s						
SIM	**Simferopol'**	**5.61**	**39**	*e*P	**Pn**	**15 29 51.4**	**+0.1**
	comp=E,39μm,0.9s						
SUDU	**Sudak**	**6.01**	**44**	*e*P	**Pn**	**15 29 55.5**	**-1.3**
SUDU				*e*S	**Sn**	**15 31 00.0**	**-6.1**
SUDU				smax			
	comp=E,40nm,0.4s						
AKASG	**Malin Array Be**	**10.03**	**0**	Pn	**Pn**	**15 30 49.1**	**-2.9**
	comp=E,0.8nm,0.3s,baz=178,slow=12,SNR=3.8						
AKASG				Sn	**Sn**	**15 32 54.2**	**+9.2**
	comp=E,2.9nm,0.3s,baz=174,slow=27,SNR=8.8						
FINES	**FINESS Array B**	**20.89**	**356**	P	**P**	**15 33 09.3**	**-1.0**
	comp=E,3.6nm,0.9s,baz=170,slow=13,SNR=6.2						
FINES	**FINESS Array B**	**20.89**	**356**	P	**P**	**15 33 09.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**36.48**	**229**	P	**P**	**15 35 35.1**	**+1.8**
	comp=Z,0.3nm,0.8s,mb3.3,baz=30,slow=10,SNR=4.0						

*JMA **28** 15:36:55.8±0.1,29.18N×130.05E,h64km±4km,M3.4*
*ISCJB **28** 15:36:56.2±0.6,29.18N±004×130.14E±0.10,h56km±5km, mb3.8/9,Error ellipse: s-maj=15.0km s-min=4.7km az=32.3*
*IDC **28** 15:36:56.7±6.1,29.30N×130.04E,h32km±49km,mb3.4/6, mb1 3.5/8,mb1mx3.4/24,mbtmp3.6/8,ML3.1/2,MS2.9/1, Ms1 2.9/1,ms1mx2.0/29,Error ellipse: s-maj=34.6km s-min=18.2km az=83.0*
*NEIC **28** 15:36:56.8±4.2,29.29N×130.02E,h33km±33km,mb4.2/3, Error ellipse: s-maj=19.8km s-min=12.0km az=101.0*
ISC 28 15:36:57.2±0.6,2919N±004×13012E±010,h46km±7km, n23,σ0°86/28,mb3.8/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.69**	**342**	P	**Pn**	**15 37 10.0**	**-0.7**
JNN				*e*S	**Sn**	**15 37 21.0**	**+0.7**
JZK	**Kikaishima**	**0.88**	**188**	P	**Pn**	**15 37 12.3**	**-0.9**
JZK				S	**Sn**	**15 37 25.9**	**+1.1**
JAM	**Amami Oshima**	**0.89**	**210**	P	**Pn**	**15 37 12.1**	**-1.3**
JAM				S	**Sn**	**15 37 24.5**	**-0.7**
JKC	**Kuchinoerabu**	**1.27**	**3**	P	**Pn**	**15 37 18.1**	**-0.5**
JKC				*e*S	**Sn**	**15 37 35.9**	**+1.4**
JTN	**Tanegashima 3**	**1.64**	**27**	P	**Pn**	**15 37 23.5**	**-0.2**
JTK	**Tokunoshima**	**1.73**	**217**	P	**Pn**	**15 37 25.0**	**+0.1**
JTK				*e*S	**Sn**	**15 37 46.5**	**+0.8**
JTSR	**Tashiro 2**	**2.09**	**19**	P	**Pn**	**15 37 29.9**	**+0.1**
JSU	**Suzuyama**	**2.33**	**7**	P	**Pn**	**15 37 33.0**	**-0.1**
JOW	**Kunigami**	**2.85**	**215**	Pn	**Pn**	**15 37 40.2**	**0.0**
	3.7nm,0.3s,baz=107,slow=23,SNR=22						
JOW				Sn	**Sn**	**15 38 13.8**	**+0.4**
	12nm,0.3s,baz=130,slow=26,SNR=7.0						
JOW	**Kunigami**	**2.85**	**215**	P	**Pn**	**15 37 39.7**	**-0.6**
JAGN	**Aguni-jima**	**3.63**	**225**	P	**Pn**	**15 37 50.9**	**0.0**
MJAR	**Matsushiro Arr**	**10.00**	**41**	Pn	**Pn**	**15 39 18.0**	**-0.2**
	0.2nm,0.3s,baz=253,slow=14,SNR=5.3						
MJAR	**Matsushiro Arr**	**10.00**	**41**	Pn	**Pn**	**15 39 18.0**	**-0.2**
CBIJ	**Chichi jima**	**10.85**	**98**	LR	LR	15 43 02.5	
	comp=Z,60nm,18.7s,baz=19,slow=34						
ULN	**Ulaanbaatar**	**25.79**	**323**	P	**P**	**15 42 20.6**	**-3.2**
	2.8nm,1.3s,mb3.6						
SONM	**Songino Array**	**26.12**	**322**	P	**P**	**15 42 26.1**	**-0.7**
	0.6nm,0.5s,mb3.4,baz=140,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**40.90**	**309**	P	**P**	**15 44 36.1**	**+1.2**
	0.3nm,0.8s,mb3.0,baz=111,slow=9.2,SNR=3.7						
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**15 45 42.8**	**+3.5**
	0.3nm,0.7s,mb3.4,baz=354,slow=8.4,SNR=4.3						
BVAR	**Borovoye Array**	**49.24**	**316**	P	**P**	**15 45 41.4**	**+0.3**
	2.0nm,0.6s,mb4.3,baz=92,slow=11,SNR=13						
BRVK	**Borovoye**	**49.31**	**317**	*e*P	**P**	**15 45 41.7**	**+0.1**
	4.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**50.07**	**316**	*e*P	**P**	**15 45 47.4**	**0.0**
	2.8nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**52.67**	**176**	P	**P**	**15 46 07.8**	**+1.0**
	0.2nm,0.6s,mb3.2,baz=9.6,slow=13,SNR=4.7						
FINES	**FINESS Array B**	**71.12**	**330**	P	**P**	**15 48 09.5**	**-1.4**
	2.9nm,1.0s,mb4.2,baz=46,slow=6.0,SNR=5.3						

CASC 28 15:58:54.6±1.9,802N×8253W,h23km±8km,MD4.0, MW4.1,5C-7D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.42**	**11**	*i* P	Pb	15 59 03.9	+0.4
BRU	**Baru**	**0.78**	**358**	*e*P	Pb	15 59 09.2	-0.3
BRU2	**Volcan**	**0.79**	**348⇑**	*i* P	Pb	15 59 09.3	-0.3
ACR	**Cerro Adams**	**0.89**	**315⇓**	*e*P	Pb	15 59 10.4	-1.0
ACR				*e*S	Sb	15 59 23.4	+0.5
CTCR	**Cotoan**	**0.90**	**345⇑**	*i* P	Pb	15 59 10.7	-0.8
CNI	**Changuinola**	**1.39**	**1**	*e*P	Pn	15 59 18.2	-0.3
LIO	**Limon**	**2.04**	**346**	*e*P	Pn	15 59 27.4	0.0
AZU	**Azuero**	**2.25**	**96**	*e*P	Pn	15 59 29.0	-1.3
OCM	**Ochomogo**	**2.34**	**323**	*i* P	Pn	15 59 32.3	+0.7
IRZ2	**Volcan Irazu 2**	**2.36**	**325⇓**	*e*P	Pn	15 59 32.9	+0.9
LAJ	**Bijagual**	**2.42**	**320**	*e*P	Pn	15 59 34.3	+1.6
SJS	**Escuela Geolog**	**2.43**	**322**	*e*P	Pn	15 59 33.6	+0.7
PRS1	**Puriscal**	**2.63**	**318⇑**	*e*P	Pn	15 59 35.0	-0.6
ACH	**Altos**	**2.65**	**76**	*e*P	Pn	15 59 37.6	+1.7
PINA	**Piqa, Costa Ab**	**2.73**	**63**	*e*P	Pn	15 59 37.0	0.0
POA2	**Poas 2**	**2.74**	**322⇓**	*e*P	Pn	15 59 38.2	+1.2
CGA2	**Cerro Gallo 2**	**2.76**	**316⇓**	*e*P	Pn	15 59 38.1	+0.8
ZANG	**Zanguenga, Cho**	**2.79**	**70**	*e*P	Pn	15 59 39.3	+1.4
EPA	**Esparza**	**2.83**	**314⇑**	*e*P	Pn	15 59 39.3	+0.9
ACLA	**Agua Clara, Si**	**3.10**	**64**	*e*P	Pn	15 59 41.2	-0.8
UPA	**Univ. de Panam**	**3.11**	**72**	*e*P	Pn	15 59 41.7	-0.5
UPA				*e*S	Sn	16 00 20.7	+2.0
JCR	**Jicaral**	**3.13**	**306**	*e*P	Pn	15 59 42.9	+0.4
VCR	**Vista de Mar**	**3.71**	**305**	*e*P	Pn	15 59 49.8	-0.7
CRZC	**La Cruz**	**4.20**	**314⇓**	*e*P	Pn	15 59 57.9	+0.7
PTP	**Ponta Puerca**	**19.33**	**57⇑**	*i* P		15 59 03.6	

*ATH **28** 15:59:26.3,3839N×2196E,h25km±1km,MD3.2/7*
*ISCJB **28** 15:59:27.3±0.7,3835N±004×2200E±006,h20km±8km, Error ellipse: s-maj=8.6km s-min=4.9km az=74.3*
*CSEM **28** 15:59:27.4±0.1,3831N×2222E,h2km,ML2.3,Error ellipse: s-maj=2.6km s-min=1.9km az=117.0*
*NEIC **28** 15:59:28.0,3843N×2195E,h10km,ML3.0(ATH),After ATH.*
*THE **28** 15:59:29.3,3842N×2221E,h5km,ML2.3*
ISC 28 15:59:26.4±0.6,3834N±003×2212E±004,h6km±6km,n23, σ1°17/32,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.59**	**242**	*e*PN	**Pg**	**15 59 36.9**	**-0.8**
RLS				*e*SN	**Sg**	**15 59 44.9**	**-0.4**
RLS	**Riolos of Patr**	**0.59**	**242**	P	**Pg**	**15 59 38.0**	**+0.3**
EVR	**Evrytania**	**0.63**	**337**	*e*PN	**Pg**	**15 59 37.2**	**-1.2**
EVR				*e*SN	**Sg**	**15 59 45.6**	**-1.0**
EVR	**Evrytania**	**0.63**	**337**	P	**Pg**	**15 59 37.5**	**-0.9**
AGG	**Agios Georgios**	**0.70**	**13**	*e*Pg	**Pg**	**15 59 40.7**	**+0.9**
AGG				*e*Sg	**Sg**	**15 59 50.0**	**+1.0**
LKR	**Lokris**	**0.76**	**65**	*e*PN	**Pn**	**15 59 42.8**	**-0.8**
LKR				*e*SN	**Sg**	**15 59 55.3**	**+4.6**
ITM	**Ithomi**	**1.17**	**188**	*e*PN	**Pn**	**15 59 49.0**	**-0.2**
ITM	**Ithomi**	**1.17**	**188**	P	**Pg**	**15 59 50.5**	**+1.7**
VLS	**Valsamata**	**1.22**	**263**	*e*PN	**Pn**	**15 59 47.3**	**-2.6**
THL	**Klokotos Trika**	**1.23**	**356**	*e*PN	**Pn**	**15 59 48.9**	**-1.2**
NEO	**Neokhori**	**1.29**	**41**	P	**Pn**	**15 59 50.0**	**-1.0**
XOR	**Xorichti**	**1.32**	**39**	*e*Pg	**Pg**	**15 59 52.3**	**+0.6**
XOR				*e*Sg	**Sg**	**16 00 10.0**	**+1.1**
MEV	**Metsovon**	**1.60**	**335**	*e*Pg	**Pg**	**15 59 56.7**	**-0.4**
MEV				*e*Sg	**Sg**	**16 00 18.3**	**+0.4**
AOS	**Alonnisos**	**1.61**	**58**	*e*Pg	**Pg**	**15 59 56.5**	**-0.7**
AOS				*e*Sg	**Sg**	**16 00 17.2**	**-0.8**
VLI	**Veliai**	**1.74**	**158**	*e*PN	**Pn**	**15 59 58.8**	**+1.6**
VLI	**Veliai**	**1.74**	**158**	P	**Pn**	**16 00 01.2**	**+4.0**
LIT	**Litokhoron**	**1.78**	**9**	*e*Pb	**Pb**	**15 59 58.0**	**-1.4**
LIT				*e*Sb	**Sb**	**16 00 21.7**	**-0.4**
IGT	**Igoumenitsa**	**1.83**	**311**	*e*Pb	**Pb**	**16 00 00.4**	**+0.1**
IGT				*e*Sb	**Sb**	**16 00 26.1**	**+2.6**
PAIG	**Paliouri**	**2.00**	**37**	*e*Pb	**Pb**	**16 00 00.9**	**-2.1**
PLG	**Polygyros**	**2.28**	**26**	*e*Pn	**Pn**	**16 00 05.6**	**+1.1**
FNA	**Florina**	**2.51**	**347**	*e*Pn	**Pn**	**16 00 09.3**	**+1.7**
GRG	**Griva**	**2.62**	**5**	*e*Pn	**Pn**	**16 00 10.6**	**+1.3**
KNT	**Kendrikon**	**2.88**	**12**	*e*Pn	**Pn**	**16 00 14.0**	**+1.1**

*NAO **28** 16:00:40.1±2.3,7650N×2142E,h19km±17km,ML2.3*
BER 28 16:00:39.9±3.0,7654N×2237E,h16km±31km,MD2.9, ML2.3,ML2.3(NAO),Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**0.62**	**92**	*e*P	Pg	16 00 50.9	-1.2
HOPEN				*e*S	Sg	16 00 58.9	-1.5
HOPEN				AML	AML	16 01 00.9	
	comp=N,231nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.11**	**324**	Pn	Pn	16 01 12.8	-1.7
	baz=147,slow=10						
SPA0				Pg	Pg	16 01 16.9	-3.4
	baz=137,slow=14						
SPA0				Lg		16 01 43.9	
	baz=143,slow=37						
KBS	**Kingsbay**	**3.27**	**322**	Sn	Sn	16 02 04.4	-4.5
KBS				Lg		16 02 18.9	
KBS	**Kingsbay**	**3.27**	**322**	*e*P	Pn	16 01 28.9	-1.5
KBS				AML	AML	16 02 28.9	
	comp=Z,18nm,0.3s						
ARA0	**ARCESS Array S**	**7.10**	**171**	Pn	Pn	16 02 23.0	-0.1
	baz=1.5,slow=10						
ARA0				Sn	Sn	16 03 36.1	-7.4
	baz=2.8,slow=22						

*ATH **28** 16:02:15.2,3838N×2199E,h19km,MD3.4/18,ML3.3*
*IDC **28** 16:02:15.2±1.5,3838N×2200E,h0km,mb3.5/3,mb1 3.5/5, mb1mx3.4/20,mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=40.3km s-min=21.6km az=124.0*
*ISCJB **28** 16:02:15.2±0.6,3837N±002×2203E±003,h3km±4km, mb3.5/4,Error ellipse: s-maj=4.3km s-min=3.6km az=158.2*
*CSEM **28** 16:02:15.8±0.1,3832N×2212E,h2km,ML3.0,Error ellipse: s-maj=3.2km s-min=2.6km az=96.0*
*THE **28** 16:02:17.0,3838N×2219E,h3km,ML3.3*
*NEIC **28** 16:02:17.0,3840N×2192E,h10km,ML3.0(ATH),After ATH.*
ISC 28 16:02:15.7±0.5,3835N±002×2205E±003,h3km±4km,n52, σ1°13/70,mb3.5/4,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**238**	*e*PN	**Pg**	**16 02 25.6**	**-0.5**
RLS				*e*SN	**Sg**	**16 02 33.4**	**+0.3**
RLS	**Riolos of Patr**	**0.54**	**238**	P	**Pg**	**16 02 26.3**	**+0.2**
EVR	**Evrytania**	**0.60**	**342**	*e*PN	**Pg**	**16 02 25.9**	**-1.3**
EVR				*e*SN	**Sg**	**16 02 34.3**	**-0.6**
EVR	**Evrytania**	**0.60**	**342**	P	**Pg**	**16 02 26.2**	**-1.0**
AGG	**Agios Georgios**	**0.71**	**18**	*e*Pg	**Pg**	**16 02 28.1**	**-1.2**
AGG				*e*Sg	**Sg**	**16 02 39.1**	**+0.6**
LKR	**Lokris**	**0.81**	**68**	*e*PB	**Pg**	**16 02 30.7**	**-0.5**
LKR				*e*SN	**Sg**	**16 02 43.0**	**+1.3**
LKR	**Lokris**	**0.81**	**68**	P	**Pg**	**16 02 31.8**	**+0.6**
VLS	**Valsamata**	**1.16**	**262**	*e*PN	**Pn**	**16 02 36.4**	**-2.5**
VLS	**Valsamata**	**1.16**	**262**	P	**Pn**	**16 02 36.6**	**-2.3**
ITM	**Ithomi**	**1.17**	**185**	*e*PN	**Pn**	**16 02 37.6**	**-1.5**
ITM				*e*SN	**Sn**	**16 02 54.5**	**-1.1**
ITM	**Ithomi**	**1.17**	**185**	P	**Pg**	**16 02 39.1**	**+0.9**
THL	**Klokotos Trika**	**1.21**	**359**	*e*PN	**Pn**	**16 02 37.3**	**-2.4**
THL				*e*SN	**Sn**	**16 02 54.3**	**-2.3**
NAIG	**Nisos Aigina**	**1.28**	**117**	*e*PN	**Pn**	**16 02 40.7**	**+0.1**
NEO	**Neokhori**	**1.33**	**44**	*e*PN	**Pn**	**16 02 40.5**	**-0.7**
NEO				*e*SN	**Sn**	**16 02 58.9**	**-0.5**
NEO	**Neokhori**	**1.33**	**44**	P	**Pg**	**16 02 41.5**	**+0.3**
XOR	**Xorichti**	**1.35**	**41**	*e*Pg	**Pg**	**16 02 40.9**	**-0.8**
XOR				*e*Sg	**Sg**	**16 02 58.9**	**-0.4**
ATH	**Athens Observa**	**1.37**	**105**	*e*PN	**Pn**	**16 02 42.2**	**+0.4**
ATH				*e*SN	**Sn**	**16 03 01.6**	**+1.1**
ATH	**Athens Observa**	**1.37**	**105**	P	**Pn**	**16 02 42.9**	**+1.1**
KVR	**Kavouri**	**1.46**	**110**	*e*PN	**Pn**	**16 02 43.2**	**+0.2**
PTL	**Penteli**	**1.46**	**101**	*e*PN	**Pn**	**16 02 43.0**	**-0.1**
MEV	**Metsovon**	**1.57**	**336**	*e*Pg	**Pg**	**16 02 44.8**	**-1.0**
MEV				*e*Sg	**Sg**	**16 03 07.9**	**+1.8**
JAN	**Janina**	**1.60**	**325**	*e*PN	**Pn**	**16 02 44.1**	**-0.9**
AOS	**Alonnisos**	**1.65**	**60**	*e*Pg	**Pn**	**16 02 45.4**	**-0.3**
AOS				*e*Sg	**Sn**	**16 03 05.9**	**-1.5**
VLI	**Veliai**	**1.78**	**156**	*e*PN	**Pn**	**16 02 47.9**	**+0.5**
VLI	**Veliai**	**1.78**	**156**	P	**Pn**	**16 02 49.1**	**+1.7**
IGT	**Igoumenitsa**	**1.78**	**312**	*e*Pb	**Pb**	**16 02 48.7**	**-0.4**
IGT				*e*Sb	**Sb**	**16 03 13.7**	**+1.8**
LIT	**Litokhoron**	**1.78**	**11**	*e*Pb	**Pn**	**16 02 47.0**	**-0.5**
LIT				*e*Sb	**Sn**	**16 03 10.3**	**-0.4**
KZN	**Kozani**	**1.97**	**354**	*e*PN	**Pn**	**16 02 49.4**	**-0.6**
PAIG	**Paliouri**	**2.02**	**38**	*e*Pb	**Pn**	**16 02 50.5**	**-0.3**
KYTH	**Kithira**	**2.21**	**159**	*e*PN	**Pn**	**16 02 54.1**	**+0.7**
KEK	**Kerkira**	**2.22**	**309**	*e*PN	**Pn**	**16 02 52.6**	**-0.9**
PLG	**Polygyros**	**2.29**	**28**	*e*Pn	**Pn**	**16 02 53.8**	**-0.7**
PLG	**Polygyros**	**2.29**	**28**	*e*PN	**Pn**	**16 02 53.6**	**-0.9**
FNA	**Florina**	**2.49**	**348**	*e*Pn	**Pn**	**16 02 57.3**	**+0.2**
GRG	**Griva**	**2.62**	**6**	*e*Pn	**Pn**	**16 02 59.2**	**+0.2**
BIA	**Bitola**	**2.72**	**348**	*e*Pn	**Pn**	**16 03 03.2**	**+2.7**
BIA				*e*Sn	**Sn**	**16 03 35.3**	**+1.4**
BIA	**Bitola**	**2.72**	**348**	*e*Pn	**Pn**	**16 03 03.1**	**+2.7**
BIA				*e*Sn	**Sn**	**16 03 35.3**	**+1.4**
KNT	**Kendrikon**	**2.88**	**13**	*e*Pn	**Pn**	**16 03 02.4**	**-0.2**
OHR	**Ohrid**	**2.92**	**341**	*e*Pn	**Pn**	**16 03 05.3**	**+2.1**
OHR				*e*Sn	**Sn**	**16 03 41.6**	**+2.8**
OHR	**Ohrid**	**2.92**	**341**	*e*Pn	**Pn**	**16 03 05.2**	**+2.1**
OHR				*e*Sn	**Sn**	**16 03 41.5**	**+2.7**
SRS	**Serrai**	**3.01**	**23**	*e*Pn	**Pn**	**16 03 03.8**	**-0.6**
NVR	**Nevrokopi**	**3.31**	**24**	*e*PN	**Pn**	**16 03 08.6**	**+0.2**
DIVS	**Divcibare**	**5.95**	**346**	*i* Pn	**Pn**	**16 03 47.6**	**+2.8**
DIVS				Sn	**Sn**	**16 04 53.6**	**+0.2**
MLR	**Muntele Rosu**	**7.71**	**21**	Pn	**Pn**	**16 04 09.6**	**+0.8**
	0.2nm,0.3s,baz=304,slow=19,SNR=2.8						
BRTR	**Keskin Array B**	**9.13**	**78**	Pn	**Pn**	**16 04 30.6**	**+2.2**
	0.1nm,0.3s,baz=259,slow=12,SNR=3.7						
BRTR	**Keskin Array B**	**9.13**	**78**	Pn	**Pn**	**16 04 30.5**	**+2.1**
NOA	**NORSAR Array B**	**23.71**	**347**	P	**P**	**16 07 28.8**	**-0.2**
	1.3nm,1.0s,mb3.3,baz=161,slow=10,SNR=3.5						
EKA	**Eskdalemuir Ar**	**24.00**	**323**	P	**P**	**16 07 34.9**	**+3.2**
	3.9nm,1.0s,mb3.8,baz=118,slow=9.0,SNR=4.2						
EKA	**Eskdalemuir Ar**	**24.00**	**323**	P	**P**	**16 07 34.9**	**+3.2**
EKA	**Eskdalemuir Ar**	**24.00**	**323**	P	**P**	**16 07 34.8**	**+3.2**
TORD	**Torodi Ar. Bea**	**30.93**	**221**	P	**P**	**16 08 33.9**	**0.0**
	0.4nm,0.5s,mb3.5,baz=30,slow=8.9,SNR=6.0						
MKAR	**Makanchi Array**	**44.19**	**59**	P	**P**	**16 10 25.1**	**-0.8**
	0.5nm,0.5s,mb3.5,baz=270,slow=8.5,SNR=5.9						

*ISCJB **28** 16:15:52.8±0.5,4290N±004×031E±003,h10km,Error

OHR			*e*Lg		16 46 59.3	
	comp=N,178nm,0.3s					
OHR			*e*Lg		16 46 59.6	
	comp=E,100nm,0.4s					
OHR	**Ohrid**	**0.43 129**	*i* Pg	Pg	16 46 51.7	-0.2
OHR			*e*Sg	Sg	16 46 58.8	+1.1
BIA	**Bitola**	**0.82 116**	*e*Pg	Pg	16 46 58.6	-0.5
BIA			*e*Sg	Sg	16 47 10.6	+0.8
BIA			*e*Lg		16 47 12.1	
	comp=E,21nm,0.3s					
BIA			*e*Lg		16 47 12.1	
	comp=N,19nm,0.3s					
BIA	**Bitola**	**0.82 116**	*e*Pg	Pg	16 46 58.8	-0.3
BIA			*e*Sg	Sg	16 47 11.9	+2.1
FNA	**Florina**	**0.98 128**	*e*Pg	Pg	16 47 02.1	0.0
FNA			*e*Sg	Sg	16 47 16.8	+1.8
SKO	**Skopje**	**1.00 54**	*e*Pg	Pg	16 47 04.4	+1.8
SKO			*e*Sg	Sg	16 47 17.5	+1.9
SKO	**Skopje**	**1.00 54**	*e*Pg	Pg	16 47 03.8	+1.2
SKO			*e*Sg	Sg	16 47 17.7	+2.1
SKO			*e*Lg		16 47 19.5	
	comp=N,96nm,0.3s					
SKO			*e*Lg		16 47 19.6	
	comp=E,51nm,0.4s					
SKO	**Skopje**	**1.00 54**	*e*Pg	Pg	16 47 03.7	+1.2
SKO			*e*Sg	Sg	16 47 17.7	+2.1
GRG	**Griva**	**1.60 105**	*e*Pg	Pg	16 47 13.0	-1.0

*ISCJB **28** 17:09:50.3±0.5, 4046N±002×2131E±003, h2km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=80.0*
*CSEM **28** 17:09:50.9±0.1, 4049N×2123E, h5km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.6km az=32.0*
*SOF **28** 17:09:51.0, 4127N×2060E, h10km, MD2.9*
*THE **28** 17:09:51.4, 4048N×2126E, h6km, ML3.0*
*ATH **28** 17:09:52.8, 4035N×2141E, h27km±1km, MD3.2/5*

ISC 28 17:09:51.0±0.4, 4045N±002×2130E±003, h6km±5km, n32, σ1°14/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.34**	**10**	*e*Pg	**Pg**	**17 09 57.9**	**+0.4**
FNA				*e*Sg	**Sg**	**17 10 02.7**	**+0.8**
KZN	**Kozani**	**0.39**	**112**	*e*PB	**Pg**	**17 09 59.9**	**+1.3**
KBN	**Korca**	**0.42**	**294**	*i* Pg	**Pg**	**17 09 58.0**	**-1.2**
KBN				*i* Sg	**Sg**	**17 10 04.4**	**-0.3**
BIA	**Bitola**	**0.56**	**2**	*e*Pg	**Pg**	**17 10 01.1**	**-0.7**
BIA				*e*Sg	**Sg**	**17 10 10.2**	**+1.0**
BIA	**Bitola**	**0.56**	**2**	*e*Pg	**Pg**	**17 10 01.0**	**-0.9**
BIA				*e*Sg	**Sg**	**17 10 10.2**	**+0.9**
BIA	**Bitola**	**0.56**	**2**	*e*Pg	**Pg**	**17 10 01.1**	**-0.8**
BIA				*e*Sg	**Sg**	**17 10 10.2**	**+1.0**
OHR	**Ohrid**	**0.76**	**330**	*e*Pg	**Pg**	**17 10 04.3**	**-1.2**
OHR				*e*Sg	**Sg**	**17 10 15.5**	**+0.1**
OHR	**Ohrid**	**0.76**	**330**	*e*Pg	**Pg**	**17 10 04.1**	**-1.5**
OHR				*e*Sg	**Sg**	**17 10 15.4**	**0.0**
JAN	**Janina**	**0.87**	**203**	*e*PN	**Pn**	**17 10 09.0**	**-0.7**
GRG	**Griva**	**0.98**	**59**	*e*Pg	**Pg**	**17 10 10.2**	**+0.4**
LIT	**Litokhoron**	**0.98**	**111**	*e*Pg	**Pg**	**17 10 10.1**	**+0.3**
THL	**Klokotos Trika**	**1.04**	**148**	*e*PN	**Pn**	**17 10 10.6**	**-1.6**
THL				*e*SN	**Sn**	**17 10 23.5**	**-3.6**
SRN	**Sarande**	**1.15**	**240**	*i* Pg	**Pg**	**17 10 14.6**	**+1.6**
IGT	**Igoumenitsa**	**1.18**	**219**	*e*Pg	**Pg**	**17 10 12.7**	**-1.0**
IGT				*e*Sg	**Sg**	**17 10 31.5**	**+2.5**
THE	**Thessaloniki**	**1.28**	**81**	*e*Pg	**Pg**	**17 10 15.8**	**+0.2**
KEK	**Kerkira**	**1.37**	**238**	*e*PB	**Pb**	**17 10 17.4**	**+0.4**
KEK				*e*SN	**Sn**	**17 10 37.1**	**+2.1**
HORT	**Hortiatis**	**1.38**	**83**	*e*Pg	**Pg**	**17 10 16.2**	**-1.3**
TIR	**Tirane**	**1.41**	**310**	*e*Pg	**Pg**	**17 10 16.6**	**-1.4**
TIR	**Tirane**	**1.41**	**310**	*e*Pg	**Pg**	**17 10 16.5**	**-1.4**
KNT	**Kendrikon**	**1.41**	**59**	*e*Pg	**Pg**	**17 10 16.5**	**-1.5**
EVR	**Evrytania**	**1.58**	**165**	*e*PN	**Pn**	**17 10 19.6**	**0.0**
SOH	**Sokhos**	**1.61**	**76**	*e*Pb	**Pb**	**17 10 20.1**	**-1.0**
AGG	**Agios Georgios**	**1.64**	**151**	*e*Pb	**Pb**	**17 10 20.8**	**-0.8**
AGG				*e*Sb	**Sb**	**17 10 42.9**	**+0.5**
PLG	**Polygyros**	**1.64**	**92**	*e*PN	**Pn**	**17 10 20.5**	**+0.1**
XOR	**Xorichti**	**1.82**	**126**	*e*Pb	**Pn**	**17 10 22.9**	**+0.1**
PAIG	**Paliouri**	**1.90**	**105**	*e*Pb	**Pn**	**17 10 23.7**	**-0.2**
KKB	**Krupnik**	**1.95**	**43**	*i* P	**Pn**	**17 10 26.7**	**+2.0**
KKB				*i* Sg	**Sg**	**17 10 56.6**	**+2.9**
OUR	**Ouranopolis**	**2.05**	**92**	*e*Pn	**Pn**	**17 10 25.8**	**-0.3**
MMB	**Musomiste**	**2.16**	**58**	*i* S	**Sn**	**17 10 55.2**	**+0.6**
MMB				*i* P		17 10 31.8	
VTS	**Vitosha**	**2.57**	**33**	*i* P	**Pn**	**17 10 31.8**	**-1.4**
VTS				*i* S	**Sn**	**17 11 04.6**	**-0.2**
RZN	**Rozhen**	**2.86**	**63**	*e*P	**Pb**	**17 10 42.1**	**-0.4**
PVL	**Pavlikeni**	**4.09**	**46**	*e*P	**Pb**	**17 11 06.0**	**+2.6**

*ISCJB **28** 17:35:23.0±0.4, 3836N±003×2199E±004, h8km, Error ellipse: s-maj=4.3km s-min=3.7km az=85.6*
*CSEM **28** 17:35:23.9, 3838N×2205E, h10km, ML3.0, After THE*
*ATH **28** 17:35:23.3, 3837N×2197E, h8km±2km, MD3.1/11, ML3.1*
*THE **28** 17:35:23.9, 3838N×2205E, h10km, ML3.0*

ISC 28 17:35:23.2±0.6, 3837N±003×2203E±004, h2km±7km, n24, σ0°93/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**235**	*e*PB	**Pg**	**17 35 33.4**	**-0.2**
RLS				*e*SB	**Sg**	**17 35 40.6**	**0.0**
EVR	**Evrytania**	**0.58**	**343**	*e*PG	**Pg**	**17 35 33.8**	**-0.5**
EVR				*e*SB	**Sg**	**17 35 42.2**	**+0.5**
AGG	**Agios Georgios**	**0.70**	**20**	*e*Pg	**Pg**	**17 35 36.2**	**-0.4**
AGG				*e*Sg	**Sg**	**17 35 46.9**	**+1.3**
LKR	**Lokris**	**0.81**	**69**	*e*PG	**Pg**	**17 35 39.4**	**+0.6**
LKR				*e*SB	**Sb**	**17 35 51.6**	**+0.1**
LKD	**Levkas**	**1.13**	**288**	*e*Pg	**Pg**	**17 35 44.1**	**-0.8**
LKD				*e*Sg	**Sg**	**17 36 02.4**	**+2.7**
VLS	**Valsamata**	**1.15**	**261**	*e*PG	**Pg**	**17 35 44.0**	**-1.2**
ITM	**Ithomi**	**1.19**	**184**	*e*PN	**Pn**	**17 35 45.4**	**-1.5**
THL	**Klokotos Trika**	**1.20**	**359**	*e*PB	**Pb**	**17 35 45.7**	**-0.9**
THL				*e*SB	**Sb**	**17 36 02.0**	**-0.6**
NAIG	**Nisos Aigina**	**1.30**	**117**	*e*PB	**Pb**	**17 35 48.9**	**+0.5**
NEO	**Neokhori**	**1.32**	**44**	*e*PB	**Pb**	**17 35 48.7**	**-0.1**
XOR	**Xorichti**	**1.35**	**42**	*e*Pg	**Pg**	**17 35 49.4**	**+0.3**
ATH	**Athens Observa**	**1.39**	**106**	*e*PB	**Pb**	**17 35 50.4**	**+0.5**
KVR	**Kavouri**	**1.47**	**111**	*e*PG	**Pg**	**17 35 51.3**	**-0.2**
MEV	**Metsovon**	**1.55**	**337**	*e*Pg	**Pg**	**17 35 52.7**	**-0.2**
AOS	**Alonnisos**	**1.66**	**60**	*e*Pb	**Pb**	**17 35 53.0**	**-1.5**
IGT	**Igoumenitsa**	**1.76**	**312**	*e*Pb	**Pb**	**17 35 57.3**	**+1.0**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**17 35 54.4**	**-2.0**
LIT				*e*Sb	**Sb**	**17 36 18.4**	**-0.6**
VLI	**Veliai**	**1.80**	**156**	*e*PN	**Pn**	**17 35 57.1**	**+1.9**
PAIG	**Paliouri**	**2.02**	**39**	*e*Pn	**Pn**	**17 35 57.8**	**-0.5**
PLG	**Polygyros**	**2.29**	**28**	*e*Pn	**Pn**	**17 36 02.5**	**+0.6**
PLG	**Polygyros**	**2.29**	**28**	*e*Pn	**Pn**	**17 36 02.5**	**+0.5**
FNA	**Florina**	**2.47**	**348**	*e*Pn	**Pn**	**17 36 05.6**	**+1.1**
GRG	**Griva**	**2.60**	**6**	*e*Pn	**Pn**	**17 36 07.2**	**+0.9**
SOH	**Sokhos**	**2.66**	**22**	*e*Pn	**Pn**	**17 36 07.3**	**+0.2**

IDC 28 17:37:09.7±26.0, 3022S×17786W, h166km±196km, mb3.7/3, mb1 3.8/4, mb1mx3.5/12, mbtmp4.1/4, ML3.3/1, Error ellipse: s-maj=175.1km s-min=49.5km az=124.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.04**	**206**	S	Sn	17 40 41.0	-16
	0.3nm,0.3s,baz=104,slow=22,SNR=2.8						
DZM	**Mont Dzumac**	**16.25**	**296**	P	Pn	17 40 49.9	+1.3
	0.1nm,0.3s,baz=77,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**34.64**	**257**	*e*P	P	17 43 44.2	+1.2
	3.8nm,1.1s						
STKA	**Stephens Creek**	**34.64**	**257**	P	P	17 43 44.0	+1.0
	1.4nm,0.5s,baz=112,slow=8.8,SNR=8.2						
ASAR	**Alice Springs**	**43.24**	**267**	P	P	17 44 53.9	-0.6
	0.7nm,0.4s,baz=103,slow=6.9,SNR=20						
WB2	**Warramunga Arr**	**44.20**	**272**	*e*P	P	17 45 03.0	+0.9
WRA	**Warramunga Arr**	**44.21**	**272**	P	P	17 45 02.3	+0.1
	1.7nm,0.3s,baz=110,slow=8.1,SNR=35						
VNA3	**Neumayer Olymp**	**78.48**	**176**	*e*	P	17 49 00.8	+8.6
VNA3				*e*		17 49 03.8	
VNA3				*e*		17 49 15.2	
VNA2	**Neumayer--Watz**	**78.92**	**177**	*e*	P	17 49 00.5	+5.9
	baz=158,slow=3.4						
VNA2				*e*		17 49 03.5	
VNA2				*e*		17 49 14.1	
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc	PKPbc	17 56 25.9	-0.9
	1.9nm,0.5s,baz=51,slow=4.5,SNR=17						
AKASG	**Malin Array Be**	**151.23**	**323**	PKPab	PKPab	17 56 50.3	-1.5
	0.7nm,0.5s,baz=49,slow=3.2,SNR=6.2						

IDC 28 17:59:19.9±10.0, 936N×8485W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.6/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=319.9km s-min=35.5km az=19.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**17.48**	**158**	LR	LR	18 08 15.0	
	comp=Z,51nm,19.4s,baz=177,slow=30						
TKL	**Tuckaleechee C**	**26.20**	**2**	LR	LR	18 14 27.1	
	comp=Z,73nm,20.1s,baz=30,slow=35						
TXAR	**Lajitas Array**	**26.57**	**321**	P	P	18 05 00.0	+0.4
	0.8nm,0.8s,baz=150,slow=9.3,SNR=7.4						
PDAR	**Pinedale Array**	**39.69**	**331**	P	P	18 06 53.8	0.0
	0.3nm,0.6s,baz=106,slow=9.5,SNR=2.9						
NVAR	**Mina Array Bea**	**41.70**	**319**	P	P	18 07 10.9	+0.6
	0.6nm,0.7s,baz=138,slow=6.8,SNR=6.7						
SCHQ	**Schefferville**	**47.57**	**14**	LR	LR	18 29 12.1	
	comp=Z,53nm,18.0s,baz=93,slow=38						
ESDC	**Sonseca Array**	**77.09**	**51**	P	P	18 11 15.6	+0.5
	0.7nm,0.6s,baz=272,slow=5.3,SNR=3.3						

IDC 28 18:07:08.0±10.0, 3042S×17993W, h376km±102km, mb3.1/2, mb1 3.6/3, mb1mx3.2/12, mbtmp4.2/3, Error ellipse: s-maj=132.9km s-min=36.7km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.19**	**197**	P	Pn	18 09 04.6	-0.1
	19nm,0.3s,baz=333,slow=2.5,SNR=78						
URZ				S	S	18 10 31.0	-9.2
	4.3nm,0.3s,baz=253,slow=23,SNR=12						
ASAR	**Alice Springs**	**41.45**	**268**	P	P	18 14 19.6	+0.1
	0.5nm,0.5s,baz=105,slow=7.1,SNR=17						
ASAR				PcP	PcP	18 16 07.8	-1.4
	0.4nm,0.9s,baz=113,slow=5.0,SNR=4.2						
WRA	**Warramunga Arr**	**42.44**	**273**	P	P	18 14 27.9	+0.4
	1.0nm,0.3s,baz=111,slow=7.9,SNR=22						
VNA3	**Neumayer Olymp**	**78.39**	**177**	*e*	P	18 18 25.7	-2.2
VNA2	**Neumayer--Watz**	**78.80**	**178**	*e*	P	18 18 28.2	-2.0
	baz=176,slow=4.9						
VNA2				*e*		18 18 31.9	
FINES	**FINESS Array B**	**144.58**	**339**	PKP	PKPdf	18 25 59.8	-0.5
	0.9nm,0.5s,baz=54,slow=4.6,SNR=15						
AKASG	**Malin Array Be**	**150.29**	**321**	PKPbc	PKPbc	18 26 14.8	-0.5
	0.2nm,0.4s,baz=37,slow=2.2,SNR=4.0						

KRSC 28 18:09:19, 5351N×16089E, h41km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.66**	**232**	*i* P	Pn	18 09 32.5	+0.5
SPN				*e*S	Sn	18 09 41.9	+0.7
NLC	**Nalytchevo**	**0.99**	**250**	*i* P	Pn	18 09 37.6	+1.2
NLC				*i* S	Sn	18 09 51.3	+2.2
KII	**Karymskiy**	**1.00**	**302**	*e*P	Pn	18 09 37.7	+1.1
KII				*e*S	Sn	18 09 50.8	+1.3
MKZ	**Mys Kozlova**	**1.16**	**25**	*e*P	Pn	18 09 38.2	-0.5
MKZ				*e*S	Sn	18 09 50.7	-2.7
AVH	**Avacha**	**1.31**	**260**	*i* P	Pn	18 09 43.0	+2.2
AVH				*e*S	Sn	18 10 00.0	+2.9
PET	**Petropavlovsk**	**1.43**	**251**	*e*P	Pn	18 09 44.1	+1.7
PET				*e*S	Sn	18 10 02.2	+2.2
GNL	**Ganaly**	**1.77**	**277**	*i* P	Pn	18 09 50.1	+3.0
GNL				*e*S	Sn	18 10 12.4	+4.1
RUS	**Russkaya**	**1.80**	**234**	*e*P	Pn	18 09 48.6	+1.1
RUS				*e*S	Sn	18 10 09.7	+0.6
TUMR	**Tumrok**	**1.83**	**347**	*e*P	Pn	18 09 49.9	+2.0
TUMR				*e*S	Sn	18 10 12.3	+2.5
GRL	**Gorelyy**	**1.95**	**242**	*e*P	Pn	18 09 51.9	+2.3
GRL				*e*S	Sn	18 10 15.6	+2.7
KMNR	**Kamenistaya**	**2.28**	**351**	*e*P	Pn	18 09 57.1	+3.0
KMNR				*e*S	Sn	18 10 24.9	+3.9
KPT	**Kopyto**	**2.49**	**351**	P	Pn	18 10 00.3	+3.3
KPT				S	Sn	18 10 29.6	+3.4
ZLN	**Zelenaya**	**2.51**	**359**	*e*P	Pn	18 09 59.9	+2.6
ZLN				*e*S	Sn	18 10 29.5	+2.8
KOZ	**Kozyrevsk**	**2.62**	**347**	P	Pn	18 10 01.3	+2.5
KOZ				S	Sn	18 10 31.9	+2.5
KRSR	**Krestovskiy**	**2.72**	**356**	P	Pn	18 10 03.1	+2.9
KRSR				S	Sn	18 10 33.9	+2.1
KLY	**Klyuchi**	**2.81**	**357**	S	Sn	18 10 37.2	+3.1
SRDR	**Sredinnyy**	**2.89**	**347**	*e*P	Pn	18 10 04.2	+1.7
SRDR				S	Sn	18 10 37.4	+1.3
KBTR	**Krutoberegovo**	**2.92**	**22**	P	Pn	18 10 05.2	+2.2
KBTR				S	Sn	18 10 38.2	+1.3
SRKR	**Sorokina**	**3.15**	**3**	*e*P	Pn	18 10 08.4	+2.3
SRKR				*e*S	Sn	18 10 44.3	+1.8

*IDC **28** 18:15:29.9±16.0, 3636N×7004E, h155km±144km, mb3.1/3, mb1 3.2/4, mb1mx2.9/21, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=130.5km s-min=34.0km az=165.0*
*ISCJB **28** 18:15:33.1±2.1, 3653N±010×700E±02, h201km±20km, mb3.1/2, Error ellipse: s-maj=30.3km s-min=10.7km az=131.4*
*NNC **28** 18:15:51.2±3.3, 3854N×7009E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=36.1km s-min=20.4km az=23.0*

ISC 28 18:15:34.3±2.0, 3655N±010×701E±02, h193km±20km, n22, σ0°41/22, mb3.1/2, 1C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.24**	**26**	P	**Pn**	**18 17 04.8**	**+0.3**
	SNR=63						
KK31	**Karatay Array**	**6.56**	**3**	Pn	**Pn**	**18 17 03.3**	**-5.4**
	0.5nm,0.3s,baz=242,slow=30,SNR=5.2						
KK31				Lg		18 18 15.7	
	1.6nm,0.3s,baz=190,slow=27,SNR=5.8						
UCH	**Uchtor**	**6.63**	**30**	P	**Pn**	**18 17 09.9**	**+0.3**
	SNR=80						
EKS2	**Erkin-Say**	**6.74**	**24**	P	**Pn**	**18 17 11.3**	**+0.3**
	SNR=22						
AAK	**Ala-Archa**	**6.97**	**28**	P	**Pn**	**18 17 14.3**	**+0.3**
	SNR=18						
KBK	**Karagaybulak**	**7.17**	**30**	P	**Pn**	**18 17 17.0**	**+0.4**
	SNR=18						
CHMS	**Chumysh**	**7.38**	**28**	P	**Pn**	**18 17 18.9**	**-0.4**
	SNR=11						
USP	**Ospenovka**	**7.52**	**25**	P	**Pn**	**18 17 20.8**	**-0.5**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.66**	**32**	P	**Pn**	**18 17 22.7**	**-0.3**
	SNR=29						
TKM2	**Tokmak 2**	**7.66**	**32**	⇑P	**Pn**	**18 17 22.4**	**-0.5**
	2.4nm,0.6s						
MK31	**Makanchi Array**	**13.70**	**38**	P	**Pn**	**18 18 45.0**	**+4.4**
	3.5nm,1.2s,baz=222,slow=16,SNR=18						
MKAR	**Makanchi Array**	**13.70**	**38**	P	**Pn**	**18 18 39.9**	**-0.8**
	0.1nm,0.3s,baz=223,slow=10,SNR=15						
KOLN	**Koldanda**	**14.40**	**124**	*e*P	**Pn**	**18 18 49.6**	**+0.3**
AB31	**Akbulak array**	**14.70**	**333**	P	**Pn**	**18 18 57.6**	**+4.7**
	0.5nm,0.3s,baz=148,slow=12,SNR=22						
GKN	**Gorkha**	**14.96**	**121**	*e*P	**Pn**	**18 18 56.1**	**-0.1**
KKN	**Kakani**	**15.54**	**120**	*e*P	**Pn**	**18 19 03.2**	**0.0**
PKI	**Pulchoki**	**15.76**	**120**	*e*P	**Pn**	**18 19 06.2**	**+0.2**
GUN	**Gumba**	**15.89**	**118**	*e*P	**Pn**	**18 19 06.8**	**-0.7**
JIRN	**Jiri**	**16.26**	**118**	*e*P	**Pn**	**18 19 12.2**	**+0.3**
ZAL	**Zalesovo**	**20.17**	**26**	P	**P**	**18 19 54.1**	**+0.2**
	1.7nm,0.4s,baz=261,slow=6.6,SNR=7.9						
SONM	**Songino Array**	**28.92**	**56**	P	**P**	**18 21 15.6**	**+0.4**
	0.4nm,0.7s,mb3.1,baz=278,slow=10.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**64.98**	**268**	P	**P**	**18 25 53.2**	**-0.1**
	0.3nm,0.5s,mb3.1,baz=50,slow=5.7,SNR=6.3						

PGC 28 18:17:19.7±20.0, 5671N×13700W, h10km, ML3.5/5, 109km southwest of Sitka, Ak Off Coast Of Southeastern Alaska, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**3.60**	**138**	Trac			
NDB	**Naden**	**3.60**	**138**	Pn	Pn	18 18 15.2	-0.4
NDB				Sn	Sn	18 18 56.0	-2.2
WHY	**Whitehorse**	**4.12**	**15**	Pg	Pg	18 18 33.8	-4.7
WHY				Sg	Sg	18 19 26.9	-4.9
HYT	**Haines Junctio**	**4.14**	**357**	Trac			
HYT	**Haines Junctio**	**4.14**	**357**	Pg	Pg	18 18 32.1	-6.9
HYT				Sg	Sg	18 19 27.9	-4.6
DIB	**Dawson Inlet,**	**4.38**	**142**	Trac			
DIB	**Dawson Inlet,**	**4.38**	**142**	Pn	Pn	18 18 25.1	-1.1
MOBC	**Moresby Island**	**4.59**	**138**	Trac			
MOBC	**Moresby Island**	**4.59**	**138**	Pn	Pn	18 18 29.0	-0.1
MOBC				Sn	Sn	18 19 19.1	-3.3
BNB	**Barry Inlet**	**5.14**	**141**	Trac			
BNB	**Barry Inlet**	**5.14**	**141**	Pn	Pn	18 18 35.5	-1.2
BNB				Sn	Sn	18 19 33.0	-3.1

IDC 28 18:18:06.4±20.0, 2250S×17950E, h552km±135km, mb2.8/4, mb1 3.1/5, mb1mx2.9/14, mbtmp4.0/5, Error ellipse: s-maj=283.5km s-min=22.9km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.84**	**187**	P	P	18 21 22.3	-2.0
	1.8nm,0.3s,baz=135,slow=0.8,SNR=11						
CTA	**Charters Tower**	**31.04**	**268**	P	P	18 23 41.7	+2.2
	1.4nm,0.3s,baz=108,slow=9.6,SNR=8.5						
ASAR	**Alice Springs**	**41.83**	**259**	P	P	18 25 07.2	-1.0
	0.3nm,0.6s,baz=93,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**42.06**	**265**	P	P	18 25 09.9	-0.1
	0.6nm,0.3s,baz=98,slow=8.2,SNR=19						
VNDA	**Vanda**	**55.73**	**185**	P	P	18 26 50.8	-0.3
	0.5nm,0.3s,baz=54,slow=7.0,SNR=9.5						

*MOS **28** 18:25:21.1±1.2, 5533N×16324E, h10km, mb4.2/1, Error ellipse: s-maj=25.4km s-min=13.8km az=76.5*

KRSC 28 18:25:20, 5532N×16315E, h5km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.91**	**348**	*e*P	Pg	18 25 39.1	+1.6
KBTR				*i* S	Sg	18 25 51.7	+2.4
MKZ	**Mys Kozlova**	**1.12**	**228**	*e*P	Pg	18 25 42.3	+0.8
MKZ				*e*S	Sg	18 25 57.5	+1.4
ZLN	**Zelenaya**	**1.50**	**299**	*e*P	Pn	18 25 49.9	+2.3
ZLN				*e*S	Sn	18 26 11.2	+3.7
KMNR	**Kamenistaya**	**1.71**	**286**	*e*P	Pn	18 25 52.0	+1.5
KMNR				*i* S	Sn	18 26 14.5	+1.8
KRSR	**Krestovskiy**	**1.71**	**303**	*e*P	Pn	18 25 52.1	+1.6
KRSR				*i* S	Sn	18 26 14.4	+1.6
TUMR	**Tumrok**	**1.72**	**270**	*e*P	Pn	18 25 52.3	+1.8
TUMR				*i* S	Sn	18 26 15.3	+2.4
KLY	**Klyuchi**	**1.73**	**306**	*e*P	Pn	18 25 49.8	-0.9
KLY				*i* S	Sn	18 26 11.3	-1.8
SRKR	**Sorokina**	**1.74**	**321**	*e*P	Pn	18 25 52.6	+1.7
SRKR				*i* S	Sn	18 26 15.3	+1.9
KPT	**Kopyto**	**1.78**	**293**	*e*P	Pn	18 25 54.2	+2.8
KPT				*i* S	Sn	18 26 18.0	+3.6
KOZR	**Kozyr**	**1.99**	**293**	PN	Pn	18 25 57.6	+3.3
KOZR				S	Sn	18 26 24.5	+5.0
KOZ	**Kozyrevsk**	**2.00**	**293**	*e*P	Pn	18 25 57.6	+3.2
KOZ				*i* S	Sn	18 26 24.5	+4.7
SRDR	**Sredinnyy**	**2.18**	**299**	*e*P	Pn	18 25 59.1	+2.2
SRDR				*i* S	Sn	18 26 27.6	+3.3
SPN	**Mys Shipunski**	**2.89**	**221**	P	Pn	18 26 08.3	+1.7
SPN				*i* S	Sn	18 26 42.6	+0.9
NLC	**Nalytchevo**	**3.10**	**228**	P	Pn	18 26 13.5	+3.9
NLC				*i* S	Sn	18 26 51.1	+4.1
AVH	**Avacha**	**3.31**	**233**	*e*P	Pn	18 26 15.3	+2.9
AVH				*e*S	Sn	18 26 54.5	+2.5
GNL	**Ganaly**	**3.44**	**244**	*e*P	Pn	18 26 17.2	+2.9
PET	**Petropavlovsk**	**3.50**	**231**	*e*PN	Pn	18 26 18.9	+3.8
PET				*e*S	Sn	18 27 03.8	+6.9
PET				pmax	pmax		
	comp=Z,31nm,0.6s						
PET				smax			
	comp=E,37nm,0.7s						
PET				smax			
	comp=N,64nm,0.6s						
PET	**Petropavlovsk**	**3.50**	**231**	P	Pn	18 26 18.0	+2.9
PET				*i* S	Sn	18 26 59.0	+2.1
RUS	**Russkaya**	**3.99**	**225**	P	Pn	18 26 23.5	+1.8
RUS				*i* S	Sn	18 27 09.9	+1.1
GRL	**Gorelyy**	**4.08**	**229**	P	Pn	18 26 26.9	+3.8

*ISCJB **28** 18:30:24.0±3.0, 2102S±009×716W±02, h56km±27km, mb4.3/12, MS3.6/2, Error ellipse: s-maj=31.1km s-min=11.0km az=135.3*
*IDC **28** 18:30:27.0±4.4, 2094S×7159W, h69km±37km, mb3.9/5, mb1 4.0/7, mb1mx3.8/16, mbtmp4.1/7, ML4.3/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=37.3km s-min=20.1km az=47.0*
*NEIC **28** 18:30:27.2±2.0, 2094S×7154W, h72km±17km, mb4.4/10, Error ellipse: s-maj=21.9km s-min=9.3km az=67.0*
*B

2.4nm,0.6s,mb4.5
ESDC Sonseca Array 87.37 46 pP pP 18 43 28.6 +7.5
0.9nm,0.6s,baz=254,slow=5.5,SNR=5.4
AFI Afiamalu 94.21 253 LR LR 19 17 15.3
comp=Z,51nm,21.7s,MS4.0,baz=134,slow=30
ASAR Alice Springs 129.02 211 PKP PKPdf 18 49 27.6 +0.2
0.7nm,0.8s,baz=149,slow=2.7,SNR=6.9
WRA Warramunga Arr 131.94 214 PKP PKPdf 18 49 33.1 +0.1
0.7nm,0.6s,baz=151,slow=1.8,SNR=14
ZAL Zalesovo 142.62 23 PKP PKPdf 18 49 49.5 -3.1
1.4nm,0.6s,baz=56,slow=3.1,SNR=4.4
MK31 Makanchi Array 146.76 33 *e*P PKPdf 18 49 59.6 -0.2
MKAR Makanchi Array 146.76 33 PKPbc PKPbc 18 49 60.0 -1.7
2.5nm,0.6s,baz=323,slow=3.1,SNR=31
MJAR Matsushiro Arr 149.75 307 PKPbc PKPbc 18 50 09.3 -0.2
1.6nm,0.8s,baz=84,slow=2.2,SNR=7.2
WMQ Urumqi 151.56 32 *e*PKP PKPdf 18 50 06.0 -1.5
SONM Songino Array 153.25 3 PKPbc PKPbc 18 50 16.7 -0.8
0.4nm,0.6s,baz=315,slow=0.5,SNR=3.8
SONM PKPab PKPab 18 50 28.7 -0.8
0.8nm,0.8s,baz=339,slow=3.0,SNR=6.3

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*ISCJB **28** 18:31:32.2±0.3,4775N±002×12190W±002,h14km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=87.9*
*NEIC **28** 18:31:32.9,4776N×12187W,h7km,MD2.8(SEA),After SEA.*
*PGC **28** 18:31:32.1±0.5,4765N×12199W,h16km,ML2.4/17,26km northeast of Seattle, Wa Washington*
*PNSN **28** 18:31:32.9,4776N×12187W,h7km,MD2.8,Fault plane solution: NP1:φs110.00000°,δ70.00000°, NP2: φs207.00000°,δ71.00000°, Principal axes: T Plg28.0000°, Azm69.0000°; P Plg1.0000°, Azm338.0000°;*
ISC 28 18:31:32.1±0.2,4775N±002×12188W±003,h12km±2km, n82,σ0s89/93,10C-22D,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTW	**Haystack Looko**	**0.09**	**55**	⇓P	**Pg**	**18 31 34.9**	**0.0**
EARN	**East Ridge Ele**	**0.11**	**265**	⇑P	**Pg**	**18 31 35.9**	**+0.8**
BLH	**Bald Hill**	**0.13**	**311**	⇓P	**Pg**	**18 31 35.7**	**+0.3**
BLH				S	**Sg**	**18 31 38.1**	**+0.3**
C05A	**Tolt Reservoir**	**0.14**	**113**	⇑P	**Pg**	**18 31 35.6**	**0.0**
	baz=0.1,SNR=221						
C05A				⇓S	**Sg**	**18 31 37.9**	**-0.1**
	baz=0.1						
MBPA	**Monroe Substat**	**0.15**	**359**	P	**Pg**	**18 31 35.8**	**+0.1**
LEOT	**Leota Junior H**	**0.16**	**277**	P	**Pg**	**18 31 36.8**	**+1.0**
PNLK	**Pine Lake Midd**	**0.20**	**210**	P	**Pg**	**18 31 37.5**	**+1.1**
ELW	**Echo Lake**	**0.26**	**178**	⇓P	**Pg**	**18 31 38.0**	**+0.5**
RHAZ	**Hazelwood Elem**	**0.29**	**224**	P	**Pg**	**18 31 39.7**	**+1.5**
RMW	**Rattlesnake Mo**	**0.29**	**170**	⇓P	**Pg**	**18 31 38.5**	**+0.4**
BEVT	**Boeing Everett**	**0.31**	**303**	P	**Pg**	**18 31 39.7**	**+1.2**
JCW	**Jim Creek**	**0.45**	**356**	⇓P	**Pg**	**18 31 40.8**	**-0.1**
ATES	**Arlington Traf**	**0.50**	**346**	⇓P	**Pg**	**18 31 41.9**	**-0.1**
B05A	**Bryant**	**0.53**	**345**	P	**Pg**	**18 31 42.3**	**-0.3**
	baz=0.5,SNR=261						
B05A				⇑S	**Sg**	**18 31 49.5**	**-0.2**
	baz=0.5						
GSM	**Grass Mountain**	**0.55**	**174**	⇑P	**Pg**	**18 31 42.9**	**0.0**
D05A	**Enumclaw**	**0.57**	**187**	P	**Pg**	**18 31 43.6**	**+0.4**
	baz=0.6,SNR=26						
D05A				⇓S	**Sg**	**18 31 51.6**	**+0.9**
	baz=0.6						
WRW	**Wenatchee Ridg**	**0.68**	**81**	P	**Pg**	**18 31 44.8**	**-0.6**
CMW	**Cultus Mountai**	**0.69**	**347**	⇓P	**Pg**	**18 31 45.5**	**-0.1**
C04A	**Brinnon**	**0.73**	**268**	P	**Pg**	**18 31 45.5**	**-0.9**
	baz=0.7,SNR=16						
C04A				⇓S	**Sg**	**18 31 55.8**	**-0.2**
	baz=0.7						
RPW	**Rockport**	**0.74**	**19**	⇓P	**Pg**	**18 31 46.2**	**-0.3**
BLN	**Blyn Mountain**	**0.78**	**290**	⇓P	**Pg**	**18 31 46.4**	**-0.8**
HDW	**Hoodsport**	**0.80**	**263**	P	**Pg**	**18 31 46.6**	**-0.9**
B06A	**Marblemount**	**0.81**	**19**	P	**Pg**	**18 31 47.4**	**-0.5**
	baz=0.8,SNR=46						
B06A				⇓S	**Sg**	**18 31 58.1**	**-0.4**
	baz=0.8						
FMW	**Mount Fremont**	**0.83**	**170**	⇓P	**Pg**	**18 31 47.5**	**-0.7**
SQM	**Sequim**	**0.85**	**293**	P	**Pg**	**18 31 48.0**	**-0.5**
D06A	**Cle Elum**	**0.90**	**128**	⇑P	**Pg**	**18 31 49.2**	**-0.3**
	baz=0.9,SNR=40						
D06A				⇑S	**Sg**	**18 32 01.4**	**+0.2**
	baz=0.9						
TWW	**Teanaway**	**0.92**	**131**	⇓P	**Pg**	**18 31 50.0**	**+0.1**
LTY	**Liberty**	**0.96**	**120**	P	**Pg**	**18 31 49.9**	**-0.7**
LON	**Longmire**	**1.00**	**177**	P	**Pb**	**18 31 50.2**	**-1.2**
MBW	**Mount Baker**	**1.03**	**359**	⇓P	**Pb**	**18 31 51.4**	**-0.5**
TBM	**Table Mountain**	**1.05**	**123**	⇓P	**Pb**	**18 31 51.9**	**-0.3**
WPW	**White Pass**	**1.08**	**168**	P	**Pb**	**18 31 51.7**	**-1.0**
NLW	**Nelson Butte**	**1.09**	**72**	⇑P	**Pb**	**18 31 52.1**	**-0.8**
MCW	**Mount Constitu**	**1.13**	**326**	P	**Pb**	**18 31 52.8**	**-0.7**
B04A	**Port Angeles**	**1.13**	**286**	⇓P	**Pb**	**18 31 52.0**	**-1.6**
	baz=1.1,SNR=27						
B04A				⇓S	**Sb**	**18 32 07.3**	**-1.0**
	baz=1.1						
VGZ	**Gonzales**	**1.17**	**305**	Trac			
VGZ	**Gonzales**	**1.17**	**305**	P	**Pb**	**18 31 52.6**	**-1.7**
VGZ				S	**Sb**	**18 32 07.3**	**-2.1**
VGZ	**Gonzales**	**1.17**	**305**	P	**Pb**	**18 31 52.7**	**-1.6**
EBG	**Ellensburg**	**1.23**	**133**	⇓P	**Pn**	**18 31 55.4**	**+0.3**
C07A	**Waterville**	**1.23**	**92**	⇓P	**Pn**	**18 31 54.5**	**-0.6**
	baz=1.2						
C07A				⇓S	**Sb**	**18 32 10.1**	**-1.0**
	baz=1.2						
CBSW	**Chelan Butte S**	**1.24**	**87**	P	**Pn**	**18 31 54.6**	**-0.6**
NAC	**Naches**	**1.25**	**144**	P	**Pn**	**18 31 55.5**	**+0.2**
A05A	**Maple Falls**	**1.26**	**354**	⇑S	**Sb**	**18 32 11.1**	**-0.7**
	baz=1.2						
VDB	**Vedder Mountai**	**1.29**	**354**	Trac			
VDB	**Vedder Mountai**	**1.29**	**354**	P	**Pn**	**18 31 55.8**	**-0.1**
VDB				S	**Sb**	**18 32 12.9**	**+0.2**
SNB	**Saturna Island**	**1.34**	**320**	Trac			
SNB	**Saturna Island**	**1.34**	**320**	P	**Pn**	**18 31 56.3**	**-0.3**
SNB				S	**Sb**	**18 32 13.7**	**-0.5**
SNB	**Saturna Island**	**1.34**	**320**	P	**Pn**	**18 31 56.3**	**-0.3**
A06A	**Chilliwack**	**1.38**	**11**	⇑S	**Sn**	**18 32 14.5**	**-0.7**
	baz=1.4						
B07A	**Winthrop**	**1.38**	**58**	⇑S	**Sn**	**18 32 15.3**	**0.0**
	baz=1.4						
PGC	**Sidney**	**1.38**	**311**	Trac			
PGC	**Sidney**	**1.38**	**311**	P	**Pn**	**18 31 56.2**	**-1.0**
PGC				S	**Sn**	**18 32 13.9**	**-1.5**
PGC	**Sidney**	**1.38**	**311**	*e*Pn	**Pn**	**18 31 56.1**	**-1.1**
PGC				*e*Sn	**Sn**	**18 32 13.3**	**-2.1**
DHW2	**Dyer Hill 2**	**1.44**	**80**	P	**Pn**	**18 31 58.5**	**+0.5**
LZB	**Mount Lazard**	**1.56**	**304**	Trac			
LZB	**Mount Lazard**	**1.56**	**304**	P	**Pn**	**18 31 58.4**	**-1.2**
LZB				S	**Sn**	**18 32 18.2**	**-1.5**
HNB	**Haney**	**1.59**	**343**	Trac			
HNB	**Haney**	**1.59**	**343**	P	**Pn**	**18 32 00.0**	**-0.1**
HNB				S	**Sn**	**18 32 20.4**	**-0.2**
GOBB	**Galiano Island**	**1.62**	**318**	Trac			
GOBB	**Galiano Island**	**1.62**	**318**	P	**Pn**	**18 32 00.3**	**-0.1**
GOBB				S	**Sn**	**18 32 20.8**	**-0.4**
HOPB	**Hope**	**1.67**	**10**	Trac			
HOPB	**Hope**	**1.67**	**10**	P	**Pn**	**18 32 02.5**	**+1.4**
HOPB				S	**Sn**	**18 32 23.2**	**+0.8**
PFB	**Port Renfrew**	**1.90**	**297**	Trac			
PFB	**Port Renfrew**	**1.90**	**297**	P	**Pn**	**18 32 03.7**	**-0.6**
PFB				S	**Sn**	**18 32 28.0**	**-0.1**
BIB	**Bowen Island**	**1.91**	**331**	Trac			
BIB	**Bowen Island**	**1.91**	**331**	P	**Pn**	**18 32 04.9**	**+0.5**
BIB				S	**Sn**	**18 32 29.7**	**+1.4**
NLLB	**Nanaimo Lost L**	**2.04**	**317**	Trac			
NLLB	**Nanaimo Lost L**	**2.04**	**317**	P	**Pn**	**18 32 06.4**	**+0.2**
NLLB				S	**Sn**	**18 32 32.1**	**+0.6**
WPB	**Watts Point**	**2.10**	**336**	Trac			
WPB	**Watts Point**	**2.10**	**336**	P	**Pn**	**18 32 07.7**	**+0.6**
WPB				S	**Sn**	**18 32 33.5**	**+0.4**
HAWA	**Hanford**	**2.10**	**129**	*e*Pn	**Pn**	**18 32 08.7**	**+1.5**
HAWA				*e*Sn	**Sn**	**18 32 33.0**	**-0.2**
PNT	**Penticton**	**2.17**	**43**	Trac			
PNT	**Penticton**	**2.17**	**43**	P	**Pn**	**18 32 11.1**	**+3.0**
PNT				S	**Sn**	**18 32 39.3**	**+4.4**
MGB	**Mount Grey**	**2.25**	**305**	P	**Pn**	**18 32 09.4**	**+0.3**
SHB	**Sechelt**	**2.27**	**325**	Trac			
SHB	**Sechelt**	**2.27**	**325**	P	**Pn**	**18 32 10.4**	**+1.0**
SHB				S	**Sn**	**18 32 38.8**	**+1.5**
WSLR	**Whistler**	**2.48**	**344**	Trac			
WSLR	**Whistler**	**2.48**	**344**	P	**Pn**	**18 32 14.0**	**+1.8**
WSLR				S	**Sn**	**18 32 45.1**	**+2.8**
ALB	**Alberni**	**2.48**	**309**	Trac			
ALB	**Alberni**	**2.48**	**309**	P	**Pn**	**18 32 13.2**	**+0.9**
ALB				S	**Sn**	**18 32 44.5**	**+2.1**
TXB	**Texada**	**2.58**	**320**	Trac			
TXB	**Texada**	**2.58**	**320**	P	**Pn**	**18 32 14.9**	**+1.3**
TXB				S	**Sn**	**18 32 46.2**	**+1.3**

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*ATH **28** 18:32:12.9,3839N×2197E,h17km±1km,MD3.3/16,ML3.2*
*CSEM **28** 18:32:13.6,3837N×2201E,h10km,ML3.0,After THE THE 28 18:32:13.6,3837N×2201E,h10km,ML3.0*
*ISCJB **28** 18:32:14.1±0.7,3837N±003×2201E±004,h16km±8km, Error ellipse: s-maj=5.6km s-min=4.9km az=51.4*
ISC 28 18:32:13.2±0.6,3837N±003×2202E±004,h7km±5km,n28, σ0s97/37,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.54**	**234**	*e*PN	**Pg**	**18 32 23.3**	**-0.3**
RLS				*e*SN	**Sg**	**18 32 30.8**	**+0.2**
EVR	**Evrytania**	**0.57**	**343**	*e*PN	**Pg**	**18 32 23.5**	**-0.7**
EVR				*e*SN	**Sg**	**18 32 31.4**	**-0.2**
AGG	**Agios Georgios**	**0.69**	**21**	*e*Pg	**Pg**	**18 32 25.8**	**-0.8**
AGG				*e*Sg	**Sg**	**18 32 36.9**	**+1.3**
LKR	**Lokris**	**0.82**	**70**	*e*PB	**Pb**	**18 32 28.7**	**-1.1**
LKR				*e*SN	**Sn**	**18 32 41.2**	**-2.4**
LKD	**Levkas**	**1.12**	**288**	*e*Pg	**Pg**	**18 32 33.9**	**-0.9**
LKD				*e*Sg	**Sg**	**18 32 50.4**	**+1.1**
VLS	**Valsamata**	**1.14**	**261**	*e*PB	**Pb**	**18 32 32.8**	**-2.5**
THL	**Klokotos Trika**	**1.19**	**360**	*e*PN	**Pn**	**18 32 35.0**	**-1.3**
THL				*e*SN	**Sn**	**18 32 51.8**	**-0.9**
ITM	**Ithomi**	**1.19**	**183**	*e*PN	**Pn**	**18 32 35.4**	**-0.9**
ITM				*e*SN	**Sn**	**18 32 52.3**	**-0.5**
NAIG	**Nisos Aigina**	**1.31**	**117**	*e*PN	**Pn**	**18 32 38.5**	**+0.5**
NEO	**Neokhori**	**1.33**	**45**	*e*PN	**Pn**	**18 32 38.3**	**+0.1**
XOR	**Xorichti**	**1.35**	**42**	*e*Pg	**Pg**	**18 32 38.3**	**-0.8**
XOR				*e*Sg	**Sg**	**18 32 58.2**	**+1.5**
ATH	**Athens Observa**	**1.40**	**106**	*e*PN	**Pn**	**18 32 39.6**	**+0.4**
KVR	**Kavouri**	**1.48**	**111**	*e*PN	**Pn**	**18 32 41.5**	**+1.1**
MEV	**Metsovon**	**1.54**	**337**	*e*Pg	**Pg**	**18 32 41.9**	**-0.8**
JAN	**Janina**	**1.57**	**325**	*e*PN	**Pn**	**18 32 41.7**	**+0.1**
AOS	**Alonnisos**	**1.66**	**61**	*e*Pb	**Pb**	**18 32 42.8**	**-1.3**
IGT	**Igoumenitsa**	**1.75**	**312**	*e*Pb	**Pb**	**18 32 46.8**	**+1.1**
LIT	**Litokhoron**	**1.77**	**12**	*e*Pb	**Pb**	**18 32 45.2**	**-0.7**
LIT				*e*Sb	**Sb**	**18 33 08.1**	**-0.2**
VLI	**Veliai**	**1.81**	**156**	*e*PN	**Pn**	**18 32 45.7**	**+0.9**
KZN	**Kozani**	**1.94**	**354**	*e*PN	**Pn**	**18 32 47.5**	**+0.9**
KEK	**Kerkira**	**2.19**	**308**	*e*PN	**Pn**	**18 32 50.5**	**+0.5**
KYTH	**Kithira**	**2.24**	**158**	*e*PN	**Pn**	**18 32 52.0**	**+1.3**
PLG	**Polygyros**	**2.29**	**29**	*e*Pn	**Pn**	**18 32 52.1**	**+0.7**
PLG	**Polygyros**	**2.29**	**29**	*e*PN	**Pn**	**18 32 51.5**	**+0.1**
FNA	**Florina**	**2.46**	**349**	*e*Pn	**Pn**	**18 32 54.8**	**+1.0**
GRG	**Griva**	**2.60**	**6**	*e*Pn	**Pn**	**18 32 56.7**	**+1.1**
SOH	**Sokhos**	**2.66**	**22**	*e*Pn	**Pn**	**18 32 57.2**	**+0.8**
KNT	**Kendrikon**	**2.87**	**13**	*e*Pn	**Pn**	**18 32 59.9**	**+0.6**

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*BJI **28** 18:34:09.2,2164N×14272E,h10km,mB4.8,mb4.4,Ms4.4, Msz4.0*
*ISCJB **28** 18:34:10.4±0.5,2171N±006×14271E±0.10,h16km, mb4.4/34,MS3.7/23,Error ellipse: s-maj=13.7km s-min=7.8km az=145.9*
*NEIC **28** 18:34:10.1±0.7,2180N×14300E,h10km,mb4.6/14,Error ellipse: s-maj=28.8km s-min=8.4km az=75.0*
*IDC **28** 18:34:13.3±7.6,2180N×14305E,h33km±57km,mb3.8/9, mb1 4.0/10,mb1mx3.9/22,mbtmp4.1/10,ML3.9/1,MS3.6/20, Ms1 3.6/20,ms1mx3.5/34,Error ellipse: s-maj=35.2km s-min=15.7km az=79.0*
*MOS **28** 18:34:14.4±1.5,2158N×14206E,h33km,mb4.7/18,Error ellipse: s-maj=20.4km s-min=8.3km az=108.0*
ISC 28 18:34:14.0±0.5,2166N±006×14242E±009,h21km, h21km±1.9km:pP-P,n80,σ1s29/71,mb4.4/34,MS3.7/23,6C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.41**	**358**	Pn	**Pn**	**18 35 30.6**	**-2.8**
	8.3nm,0.3s,baz=260,slow=23,SNR=13						
CBIJ				Sn	**Sn**	**18 36 28.9**	**-6.1**
	4.3nm,0.3s,baz=282,slow=23,SNR=2.8						
GUMO	**Guam**	**8.36**	**163**	LR	LR	18 39 22.6	
	comp=Z,66nm,19.6s,baz=180,slow=37						
JOW	**Kunigami**	**13.89**	**295**	LR	LR	18 42 05.0	
	comp=Z,398nm,19.4s,baz=48,slow=33						
MJAR	**Matsushiro Arr**	**15.27**	**347**	Pn	**Pn**	**18 37 43.0**	**-5.3**
	0.1nm,0.3s,baz=156,slow=11,SNR=4.9						
MJAR				LR	LR	18 43 17.7	
	comp=Z,261nm,19.4s,baz=170,slow=36						
MJAR	**Matsushiro Arr**	**15.27**	**347**	Pn	**Pn**	**18 37 43.0**	**-5.3**
MJAR				LR	LR	18 43 17.7	
MAJO	**Matsushiro**	**15.28**	**347**	P	**Pn**	**18 37 46.8**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAJO	**Matsushiro**	**15.28**	**347**	Pn	**Pn**	**18 37 46.8**	**-1.5**
	comp=Z,7.1nm,0.9s						
MAT	**Matsushiro**	**15.28**	**347**	P	**Pn**	**18 37 48.2**	**-0.1**
SSE	**Sheshan**	**21.19**	**301**	*e*P	**P**	**18 38 58.0**	**0.0**
SSE				S	**S**	**18 42 52.5**	**-0.1**
SSE				XS	sS	18 43 00.5	-1.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.5						
SSE				AMB	AMB		
	comp=Z,63nm,5.2s						
SSE				LR	LR		
	comp=Z,127nm,25.5s,MS3.2						
SSE	**Sheshan**	**21.19**	**301**	*e*P	**P**	**18 38 58.0**	**0.0**
	comp=Z,18nm,0.7s,mb4.5						
SSE				pP		18 39 01.1	
SSE				S	**S**	**18 42 52.6**	**0.0**
SSE				sS	sS	18 43 00.6	-1.5
SSE				LR	LR		
	comp=Z,130nm,25.5s,MS3.2						
ASAJ	**Asahikawa**	**22.39**	**0**	LR	LR	18 47 09.7	
	comp=Z,74nm,20.6s,MS3.1,baz=51,slow=35						
YSS	**Yuzh-Sakhalins**	**25.23**	**1⇑**	*e*P	**P**	**18 39 43.6**	**+5.3**
YSS				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.1						
KLR	**Kul'dur**	**28.79**	**345**	*e*P	**P**	**18 40 06.0**	**-4.3**
QIZ	**Qiongzhong**	**30.63**	**271**	P	**P**	**18 40 25.0**	**-1.6**
QIZ				S	**S**	**18 45 26.3**	**-1.4**
QIZ				LR	LR		
	comp=Z,237nm,21.2s,MS3.8						
PMG	**Port Moresby**	**31.22**	**171**	LR	LR	18 50 44.7	
	comp=Z,49nm,19.7s,MS3.2,baz=210,slow=32						
PMG	**Port Moresby**	**31.22**	**171**	P	**P**	**18 40 35.4**	**+3.6**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PMG	**Port Moresby**	**31.22**	**171**	P	**P**	**18 40 35.4**	**+3.5**
	comp=Z,8.8nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**32.34**	**313**	*e*P	**P**	**18 40 45.3**	**+3.6**
HHC				AP	pP	18 40 51.0	+2.9
HHC				S	**S**	**18 45 56.5**	**+2.1**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,61nm,5.9s						
HHC				LR	LR		
	comp=N,90nm,9.4s						
HHC				LR	LR		
	comp=E,144nm,6.3s						
HHC				LR	LR		
	comp=Z,84nm,6.1s						
HNR	**Honiara**	**35.37**	**149**	LR	LR	18 52 47.4	
	comp=Z,49nm,20.6s,MS3.2,baz=359,slow=32						
CD2	**Chengdu**	**35.72**	**293**	*e*P	**P**	**18 41 12.3**	**+1.3**
CD2				AP	pP	18 41 16.5	-0.9
CD2				XP	sP	18 41 19.3	-0.8
CD2				PP	PP	18 42 32.0	-0.2
CD2				S	**S**	**18 46 47.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,540nm,19.2s						
CD2				LR	LR		
	comp=Z,180nm,16.8s,MS3.9						
KMI	**Kunming**	**36.49**	**283**	P	**P**	**18 41 21.5**	**+3.9**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
KMI				LR	LR		
	comp=Z,72nm,37.4s,MS3.2						
KMI	**Kunming**	**36.49**	**283**	P	**P**	**18 41 21.6**	**+4.0**
	comp=Z,4.0nm,0.8s,mb4.4						
KMI				LR	LR		
	comp=Z,70nm,37.4s,MS3.2						
ULN	**Ulaanbaatar**	**38.55**	**321**	*e*P	**P**	**18 41 35.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
ULN	**Ulaanbaatar**	**38.55**	**321**	*e*P	**P**	**18 41 35.1**	**+0.1**
	comp=Z,8.3nm,1.4s,mb4.3						
SONM	**Songino Array**	**38.92**	**321**	P	**P**	**18 41 38.4**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.0,baz=130,slow=7.4,SNR=30						
SONM				LR	LR	18 57 49.3	
	comp=Z,114nm,18.1s,MS3.7,baz=344,slow=36						
GTA	**Gaotai**	**40.32**	**306**	*e*P	**P**	**18 41 51.8**	**+2.0**
GTA				AP	pP	18 41 56.5	+0.2
GTA				XP	sP	18 41 59.5	+0.6
GTA				PP	PP	18 43 28.0	+5.3
GTA				S	**S**	**18 47 56.5**	**+0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,102nm,4.2s						
GTA				LR	LR		
	comp=N,77nm,6.9s						
GTA				LR	LR		
	comp=E,108nm,6.9s						
GTA				LR	LR		
	comp=Z,110nm,11.8s,MS3.9						
YAK	**Yakutsk**	**41.29**	**351⇑**	*e*P	**P**	**18 42 00.8**	**+3.0**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
YAK	**Yakutsk**	**41.29**	**351**	*e*P	**P**	**18 42 01.1**	**+3.4**
	comp=Z,17nm,0.8s,mb4.7						
CTA	**Charters Tower**	**41.66**	**175**	P	**P**	**18 41 59.6**	**-1.3**
	comp=Z,4.0nm,1.0s,mb4.0,baz=346,slow=8.4,SNR=3.1						
CTAO	**Charters Tower**	**41.66**	**175**	*e*P	**P**	**18 41 59.4**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.5						
CTAO	**Charters Tower**	**41.66**	**175**	*e*P	**P**	**18 41 59.4**	**-1.5**
	comp=Z,18nm,1.4s,mb4.5						
ZAK	**Zakamensk**	**41.94**	**323**	*e*P	**P**	**18 42 03.0**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
WRAB	**Tennant Creek**	**42.09**	**191**	*e*P	**P**	**18 42 05.3**	**+1.0**
WB2	**Warramunga Arr**	**42.09**	**191**	*e*P	**P**	**18 42 03.6**	**-0.8**
WRA	**Warramunga Arr**	**42.10**	**191**	P	**P**	**18 42 04.2**	**-0.2**
	comp=Z,3.9nm,1.1s,mb4.0,baz=15,slow=9.1,SNR=11						
TLY	**Talaya**	**42.38**	**325**	P	**P**	**18 42 07.3**	**+0.6**
TLY				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.5						
TLY	**Talaya**	**42.38**	**325**	P	**P**	**18 42 07.3**	**+0.6**
	comp=Z,16nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**42.80**	**204**	LR	LR	18 58 50.4	
	comp=Z,46nm,19.2s,MS3.4,baz=26,slow=34						
ASAR	**Alice Springs**	**45.81**	**191**	P	**P**	**18 42 34.0**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=10,SNR=20						
ASAR				LR	LR	19 00 05.4	
	comp=Z,114nm,21.6s,MS3.8,baz=2.7,slow=34						
PSI	**Prapat**	**46.23**	**252**	LR	LR	19 01 12.0	
	comp=Z,104nm,18.6s,MS3.8,baz=83,slow=34						
LSA	**Lhasa**	**46.59**	**291**	*e*P	**P**	**18 42 44.2**	**+3.9**
LSA				*e*	pP	18 42 51.7	+4.8
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**46.59**	**291**	*e*P	**P**	**18 42 44.2**	**+3.9**
	comp=Z,3.7nm,0.8s,mb4.4						
LSA				*e*	pP	18 42 51.7	+4.8
BILL	**Bilibino**	**48.70**	**12**	*e*P	**P**	**18 43 01.0**	**+4.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
WMQ	**Urumqi**	**50.05**	**310**	P	**P**	**18 43 09.5**	**+2.4**
WMQ				AP	pP	18 43 14.0	+0.3
WMQ				XP	sP	18 43 16.5	+0.2
WMQ				PCP	PcP	18 44 29.0	+2.3
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,91nm,4.4s						
WMQ				LR	LR		
	comp=N,162nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=E,186nm,23.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,204nm,24.0s,MS4.0						
TIXI	**Tiksi**	**50.61**	**354⇑**	*e*P	**P**	**18 43 14.9**	**+3.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**53.24**	**181**	LR	LR	19 04 14.0	
	comp=Z,85nm,18.5s,MS3.8,baz=26,slow=34						
STKA	**Stephens Creek**	**53.24**	**181**	*e*P	**P**	**18 43 35.8**	**+4.9**
ZAL	**Zalesovo**	**53.81**	**322**	P	**P**	**18 43 34.1**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=20,slow=8.1,SNR=8.4						
ZAL				LR	LR	19 07 58.0	
	comp=Z,60nm,18.7s,MS3.7,baz=234,slow=38						
MK31	**Makanchi Array**	**54.20**	**313**	*e*P	**P**	**18 43 38.7**	**+0.8**
MK31				*e*	pP	18 43 45.8	+1.2
MKAR	**Makanchi Array**	**54.20**	**313**	P	**P**	**18 43 39.0**	**+1.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=92,slow=8.8,SNR=19						
MKAR				LR	LR	19 06 03.2	
	comp=Z,31nm,21.2s,MS3.4,baz=223,slow=35						
NVS	**Novosibirsk**	**54.90**	**323**	*i* P	**P**	**18 43 49.3**	**+6.3**
NVS				pmax	pmax		
	comp=E

FRB	**Frobisher Bay**	**91.49**	**13**	LR	LR	19 31 02.8
	comp=Z,97nm,19.4s,MS4.3,baz=211,slow=37					
GERES	**GERESS Array B**	**96.25**	**329**	LR	LR	19 33 54.9
	comp=Z,44nm,20.3s,MS3.9,baz=269,slow=37					
TXAR	**Lajitas Array**	**98.65**	**54**	LR	LR	19 31 14.3
	comp=Z,54nm,18.9s,MS4.1,baz=180,slow=35					
LPAZ	**La Paz**	**150.65**	**85**	PKPbc	PKPbc	18 54 02.1 -2.2
	comp=Z,0.5nm,0.5s,baz=11,slow=5.5,SNR=2.7					

*IDC **28** 18:37:19.1±1.1,2206N×12043E,h0km,mb3.7/6,*
mb1 3.9/6,mb1mx3.7/20,mbtmp3.7/6,Error ellipse:
s-maj=44.8km s-min=20.3km az=69.0
*NEIC **28** 18:37:19.9±4.7,2213N×12054E,h7km±31km,mb4.1/5,*
Error ellipse: s-maj=13.7km s-min=10.1km az=115.0
*ISCJB **28** 18:37:21.8±1.2,2213N±007×12057E±006,h35km±12km,*
mb3.9/9,Error ellipse: s-maj=12.6km s-min=8.8km
az=131.2
*JMA **28** 18:37:25.2±0.3,2206N×12088E,h122km,M3.4*
ISC 28 18:37:23.8±2.4,2216N±007×12054E±005,h34km±19km,
n21,σ0§87/27,mb3.9/9,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.22**	**26**	*e*Pn	**Pn**	**18 37 57.1**	**-1.2**
NACB				*e*Sn	**Sn**	**18 38 24.5**	**0.0**
YHNB	**Yeheng**	**2.61**	**17**	*e*Pn	**Pn**	**18 38 03.5**	**0.0**
TATO	**Taipei**	**2.93**	**17**	*e*Pn	**Pn**	**18 38 05.9**	**-2.1**
YOJ	**Yonaguni jima**	**3.22**	**44**	P	**Pn**	**18 38 13.4**	**+1.4**
YOJ				S	**Sn**	**18 38 50.1**	**+1.0**
HATJ	**Hateruma jima**	**3.54**	**57**	S	**Sn**	**18 38 56.1**	**-1.0**
IRIF	**Iriomote-Funau**	**3.64**	**53**	P	**Pn**	**18 38 18.4**	**+0.7**
IRIF				S	**Sn**	**18 39 00.2**	**+0.7**
JKRS	**Kuro-shima**	**3.80**	**56**	P	**Pn**	**18 38 20.4**	**+0.5**
JKRS				S	**Sn**	**18 39 03.1**	**-0.2**
JIJ	**Ishigaki jima**	**3.97**	**56**	P	**Pn**	**18 38 22.3**	**+0.1**
JIJ				S	**Sn**	**18 39 06.3**	**-1.2**
JTJ	**Tarama**	**4.55**	**56**	P	**Pn**	**18 38 30.4**	**+0.2**
JTJ				S	**Sn**	**18 39 21.1**	**-0.7**
QIZ	**Qiongzhong**	**10.49**	**255**	*e*Pn	**Pn**	**18 39 50.8**	**-1.0**
BJT	**Baijiatuan**	**18.19**	**349**	P	**Pn**	**18 41 34.2**	**+0.7**
	7.5nm,0.9s						
MJAR	**Matsushiro Arr**	**20.98**	**43**	P	**P**	**18 42 05.8**	**+1.8**
	0.4nm,0.5s,baz=232,slow=9.3,SNR=5.7						
HIA	**Hailar**	**27.06**	**359**	*e*P	**P**	**18 43 03.1**	**+0.2**
	11nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**27.84**	**340**	*e*P	**P**	**18 43 09.5**	**-0.5**
	1.8nm,0.8s,mb3.8						
SONM	**Songino Array**	**28.02**	**339**	P	**P**	**18 43 12.2**	**+0.6**
	1.0nm,0.7s,mb3.5,baz=159,slow=9.7,SNR=4.2						
MKAR	**Makanchi Array**	**39.41**	**318**	P	**P**	**18 44 50.4**	**+0.1**
	1.0nm,0.8s,mb3.6,baz=107,slow=7.7,SNR=3.8						
YAK	**Yakutsk**	**40.34**	**7**	*e*P	**P**	**18 44 56.7**	**-1.3**
	5.9nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**41.64**	**329**	P	**P**	**18 45 09.5**	**+0.7**
	1.3nm,0.3s,mb4.0,baz=340,slow=8.9,SNR=5.2						
WRA	**Warramunga Arr**	**43.96**	**161**	P	**P**	**18 45 26.9**	**-0.6**
	0.9nm,0.9s,mb3.5,baz=345,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**47.37**	**163**	P	**P**	**18 45 55.0**	**+0.5**
	0.2nm,0.3s,mb3.5,baz=346,slow=6.7,SNR=4.4						
ZRNK	**Zerenda**	**49.65**	**322**	P	**P**	**18 46 12.2**	**+0.2**
	1.2nm,0.7s,mb4.0						

*ISCJB **28** 18:48:24.3±0.4,5027N±003×1875E±003,h0km,Error*
ellipse: s-maj=4.6km s-min=2.3km az=34.9
*NEIC **28** 18:48:25.7±0.4,5029N×1884E,h5km,ML2.9(CLL),Error*
ellipse: s-maj=7.5km s-min=3.7km az=198.0
*IPEC **28** 18:48:25.8±0.2,5025N×1884E,h3km±1km,ML2.6/2,Error*
ellipse: s-maj=2.2km s-min=0.8km az=170.0
*WAR **28** 18:48:26.0,5024N×1889E,ML2.9,Mining Induced*
*PRU **28** 18:48:26.9,5028N×1876E,h0km*
*CSEM **28** 18:48:26.2±0.1,5031N×1888E,h1km,ML2.9,Error*
ellipse: s-maj=3.6km s-min=1.6km az=19.0
*VIE **28** 18:48:29.8±0.9,4980N×1877E,h0km,mb2.1/3,ML3.0/4,*
Error ellipse: s-maj=5.5km s-min=5.4km az=23.0 37 km E
of Ostrava Suspected Mining induced.
ISC 28 18:48:25.8±0.4,5024N±003×1877E±003,h0km,n40,
σ1§14/68,5C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.40**	**248**	*e*Pg	**Pg**	**18 48 35.8**	**+2.3**
RAC				*e*Sg	**Sg**	**18 48 42.9**	**+4.2**
OKC	**Ostrava-Krasne**	**0.57**	**225**	*e*PG	**Pg**	**18 48 37.9**	**+1.3**
OKC				*e*SG	**Sg**	**18 48 47.1**	**+3.1**
	192nm,1.0s						
OJC	**Ojcow**	**0.66**	**91**	*e*Pg	**Pg**	**18 48 37.3**	**-1.1**
OJC				*e*Sg	**Sg**	**18 48 45.5**	**-1.5**
MORC	**Moravsky Berou**	**0.92**	**240**	*e*Pg	**Pg**	**18 48 44.0**	**+0.7**
MORC				*e*Sg	**Sg**	**18 48 57.1**	**+1.9**
LIKS	**Likavka**	**1.21**	**169**	*e*SN	**Sn**	**18 49 06.3**	**-0.7**
NIE	**Niedzica**	**1.29**	**129**	*e*Pg	**Pg**	**18 48 49.4**	**-1.1**
NIE				*e*Sg	**Sg**	**18 49 07.3**	**0.0**
JAVC	**Velka Javorina**	**1.55**	**208**	*e*Pn	**Pn**	**18 48 55.8**	**+1.1**
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*PG	**Pg**	**18 48 54.9**	**-1.0**
DPC				*e*SG	**Sg**	**18 49 16.5**	**+0.1**
	73nm,0.8s						
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*Pn	**Pn**	**18 48 54.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*Pg	**Pg**	**18 48 54.9**	**-1.0**
DPC				*e*Sg	**Sg**	**18 49 16.6**	**+0.2**
VRAC	**Vranov**	**1.69**	**237**	⇓*i*P	**Sg**	**18 49 20.7**	**+0.6**
VRAC	**Vranov**	**1.69**	**237**	*e*Pn	**Pn**	**18 48 57.3**	**+0.8**
VRAC				*e*Sg	**Sg**	**18 49 19.1**	**-1.0**
KSP	**Ksiaz**	**1.69**	**292**	Pn	**Pn**	**18 48 56.6**	**0.0**
KSP				*i* Pg	**Pg**	**18 48 58.5**	**+0.3**
KSP				*e*Sg	**Sg**	**18 49 21.4**	**+1.2**
KSP	**Ksiaz**	**1.69**	**292**	*e*Pn	**Pn**	**18 48 56.6**	**0.0**
KSP				*i* Pg	**Pg**	**18 48 58.5**	**+0.3**
KSP				*e*Sg	**Sg**	**18 49 21.4**	**+1.2**
VYHS	**Vyhne**	**1.75**	**179**	*e*PN	**Pn**	**18 48 56.7**	**-0.6**
VYHS				*e*SN	**Sn**	**18 49 19.1**	**-1.1**
UPC	**Upice**	**1.79**	**280**	*e*PG	**Pg**	**18 48 58.4**	**-1.6**
UPC				*e*SG	**Sg**	**18 49 23.7**	**+0.5**
STHS	**Stebnicka Huta**	**1.80**	**116**	*e*PN	**Pn**	**18 48 58.8**	**+0.8**
STHS				*e*SN	**Sn**	**18 49 23.4**	**+1.8**
KRUC	**Moravsky**	**1.94**	**234**	*e*Pn	**Pn**	**18 48 59.9**	**-0.1**
KRUC				*e*Sg	**Sg**	**18 49 27.2**	**-0.9**
	32nm,0.6s						
KECS	**Kecovo**	**2.08**	**147**	*e*PN	**Pn**	**18 49 02.5**	**+0.6**
KECS				*e*		18 49 25.7	
CRVS	**Cervenica-Dubn**	**2.20**	**126**	*e*PN	**Pn**	**18 49 05.9**	**+2.3**
CRVS				*e*SN	**Sn**	**18 49 33.9**	**+2.4**
ZST	**Bratislava**	**2.32**	**209**	*e*	**Sn**	**18 49 33.2**	**-1.1**
PSZ	**Piszkesteto**	**2.44**	**162**	⇓*e*Pg	**Pg**	**18 49 13.7**	**+1.2**
PSZ	**Piszkesteto**	**2.44**	**162**	⇑*i*P	**Pg**	**18 49 12.7**	**+0.2**
KOLS	**Kolonicke sedl**	**2.63**	**118**	*e*PG	**Pg**	**18 49 16.0**	**-0.1**
PVCC	**Panska Ves**	**2.71**	**278**	*e*PG	**Pg**	**18 49 17.9**	**+0.3**
PRU	**Pruhonice**	**2.73**	**266**	*e*PN	**Pn**	**18 49 11.2**	**+0.3**
PRU				*e*PG	**Pg**	**18 49 15.6**	**-2.6**
PRU				*e*SG	**Sg**	**18 49 51.2**	**-2.4**
	24nm,0.8s						
CONA	**Conrad Observa**	**3.00**	**221**	⇑*i*Pn	**Pn**	**18 49 14.4**	**-0.1**
CONA				⇓*i*Sg	**Sg**	**18 49 58.6**	**-3.5**
	12nm,0.6s						
CONA	**Conrad Observa**	**3.00**	**221**	Pn	**Pn**	**18 49 14.4**	**-0.1**
CONA				Sg	**Sg**	**18 49 58.6**	**-3.5**
	12nm,0.6s						
BRG	**Berggiesshubel**	**3.14**	**284**	Pg	**Pg**	**18 49 26.5**	**+0.5**
BRG				Sg	**Sg**	**18 50 06.7**	**-0.1**
KHC	**Kasperske Hory**	**3.55**	**254**	*e*PN	**Pn**	**18 49 22.0**	**-0.1**
KHC				*e*PG	**Pg**	**18 49 29.2**	**-4.6**
KHC				*e*SG	**Sg**	**18 50 19.4**	**-0.4**
	19nm,0.6s						
GEC2	**GERESS Array S**	**3.58**	**249**	*e*Pn	**Pn**	**18 49 21.6**	**-1.0**
GEC2	**GERESS Array S**	**3.58**	**249**	*e*Pn	**Pn**	**18 49 21.6**	**-1.0**
MOA	**Molln**	**3.81**	**233**	⇓*i*Pn	**Pn**	**18 49 25.7**	**+0.1**
MOA				⇓*i*Sg	**Sg**	**18 50 26.2**	**-1.8**
	comp=Z,18nm,0.7s						
MOA	**Molln**	**3.81**	**233**	Pn	**Pn**	**18 49 25.7**	**+0.1**
MOA				Sg	**Sg**	**18 50 26.2**	**-1.9**
	18nm,0.7s						
CLL	**Collm**	**3.81**	**289**	*e*Pg	**Pg**	**18 49 39.0**	**+0.1**
CLL				*e*Sg	**Sg**	**18 50 30.0**	**+1.7**
	comp=Z,15nm,0.9s						
MOX	**Moxa**	**4.59**	**278**	*e*(P)	**Sg**	**18 50 53.2**	**-0.1**
BURAR	**Bucovina Array**	**4.99**	**119**	⇑*i*P	**Pn**	**18 49 41.1**	**-0.9**
BSD	**Bornholm Skovb**	**5.42**	**336**	*i* P	**Pn**	**18 49 46.4**	**-1.4**
BSD				*i* S	**Sn**	**18 50 45.9**	**-5.0**
GZR	**Gura Zlata**	**5.55**	**149**	⇑*i*P	**Pn**	**18 49 49.5**	**0.0**
GZR	**Gura Zlata**	**5.55**	**149**	⇑P	**Pn**	**18 49 49.5**	**0.0**

*NEIC **28** 19:06:42.4±1.3,2163N×14350E,h282km±16km,mb4.0/2,*
Error ellipse: s-maj=48.5km s-min=8.3km az=78.0
*ISCJB **28** 19:06:43.7±1.0,216N±01×1434E±04,h309km±13km,*
mb3.7/12,Error ellipse: s-maj=68.3km s-min=10.5km
az=155.4
*IDC **28** 19:06:45.5±1.7,2163N×14334E,h309km±19km,mb3.4/9,*
mb1 3.5/11,mb1mx3.3/23,mbtmp4.1/11,Error ellipse:
s-maj=57.4km s-min=10.8km az=77.0
ISC 28 19:06:45.4±1.3,217N±01×1436E±04,h314km±14km,n18,
σ0§75/19,mb3.7/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.53**	**347**	P	**Pn**	**19 08 10.4**	**+0.9**
	11nm,0.3s,baz=114,slow=23,SNR=17						
CBIJ				S	**S**	**19 09 17.0**	**-0.3**
	baz=100,slow=22,SNR=3.4						
GUMO	**Guam**	**8.15**	**171**	Pn	**Pn**	**19 08 36.6**	**-4.2**
MJAR	**Matsushiro Arr**	**15.52**	**344**	P	**P**	**19 10 08.2**	**+1.0**
	0.4nm,0.3s,baz=164,slow=9.2,SNR=8.5						
MAJO	**Matsushiro**	**15.52**	**344**	*e*P	**P**	**19 10 05.5**	**-1.8**
SONM	**Songino Array**	**39.57**	**320**	P	**P**	**19 13 47.2**	**+0.5**
	0.6nm,0.6s,mb3.1,baz=132,slow=7.0,SNR=7.5						
CTA	**Charters Tower**	**41.60**	**176**	P	**P**	**19 14 04.1**	**+0.8**
	0.7nm,0.4s,mb3.2,baz=342,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**42.34**	**193**	P	**P**	**19 14 09.1**	**-0.1**
	2.0nm,0.3s,mb3.9,baz=16,slow=9.5,SNR=48						
ASAR	**Alice Springs**	**46.05**	**192**	P	**P**	**19 14 38.2**	**-0.1**
	0.5nm,0.6s,mb3.0,baz=14,slow=9.2,SNR=10						
STKA	**Stephens Creek**	**53.29**	**182**	P	**P**	**19 15 32.7**	**+0.2**
	1.2nm,0.4s,mb3.5,baz=337,slow=7.0,SNR=7.0						
STKA	**Stephens Creek**	**53.29**	**182**	*e*P	**P**	**19 15 31.7**	**-0.9**
ZAL	**Zalesovo**	**54.44**	**322**	P	**P**	**19 15 40.1**	**-0.7**
	2.1nm,0.3s,mb4.0,baz=166,slow=3.6,SNR=3.4						
MK31	**Makanchi Array**	**54.96**	**313**	*e*P	**P**	**19 15 44.8**	**+0.3**
MKAR	**Makanchi Array**	**54.96**	**313**	P	**P**	**19 15 44.6**	**+0.1**
	1.0nm,0.5s,mb3.5,baz=90,slow=8.3,SNR=16						
BRVK	**Borovoye**	**62.97**	**320**	*e*P	**P**	**19 16 39.4**	**+0.3**
	2.5nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**63.74**	**319**	*e*P	**P**	**19 16 44.0**	**-0.1**
	1.7nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**79.04**	**342**	P	**P**	**19 18 15.8**	**+0.8**
	1.9nm,0.5s,mb4.1,baz=74,slow=8.0,SNR=9.1						
JOF	**Joensuu**	**80.47**	**335**	*e*p	**P**	**19 18 22.3**	**-0.3**
	2.8nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**83.34**	**335**	P	**P**	**19 18 37.0**	**-0.5**
	2.2nm,0.8s,mb4.0,baz=85,slow=4.0,SNR=9.3						

*IDC **28** 19:37:57.4±2.2,251N×9438E,h0km,mb3.7/5,mb1 3.8/6,*
mb1mx3.5/21,mbtmp3.7/6,ML3.2/1,Error ellipse:
s-maj=69.9km s-min=21.5km az=54.0
*ISCJB **28** 19:38:01.0±1.3,26N±02×945E±01,h33km,mb3.8/6,Error*
ellipse: s-maj=27.1km s-min=13.5km az=75.0
*NEIC **28** 19:38:02.1±1.1,254N×9442E,h30km,mb4.2/1,Error*
ellipse: s-maj=24.8km s-min=12.1km az=217.0
ISC 28 19:38:03.3±1.3,26N±02×945E±01,h35km,n12,σ0§89/12,
mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.46**	**87**	Pn	**Pn**	**19 39 08.3**	**0.0**
	1.1nm,0.3s,baz=272,slow=5.9,SNR=9.4						
KULM	**Kulim**	**6.73**	**66**	*e*Pn	**Pn**	**19 39 38.5**	**-1.1**
KKM	**Kota Kinabalu**	**21.96**	**80**	P	**P**	**19 42 56.4**	**+2.5**
LSA	**Lhasa**	**27.15**	**354**	*e*P	**P**	**19 43 44.4**	**+1.2**
	3.8nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**45.08**	**122**	P	**P**	**19 46 15.6**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=301,slow=8.6,SNR=4.6						
MK31	**Makanchi Array**	**45.29**	**348**	*e*P	**P**	**19 46 16.9**	**-0.7**
MKAR	**Makanchi Array**	**45.29**	**348**	P	**P**	**19 46 17.3**	**-0.3**
	1.6nm,0.6s,mb4.0,baz=166,slow=7.9,SNR=23						
MKAR	**Makanchi Array**	**45.29**	**348**	P	**P**	**19 46 17.3**	**-0.3**
SONM	**Songino Array**	**46.24**	**11**	P	**P**	**19 46 24.6**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=198,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**46.41**	**126**	P	**P**	**19 46 26.2**	**-0.2**
	0.2nm,0.5s,mb3.3,baz=302,slow=7.6,SNR=8.6						
ZAL	**Zalesovo**	**51.80**	**353**	P	**P**	**19 47 07.7**	**+0.1**
	1.4nm,0.4s,mb4.2,baz=284,slow=4.9,SNR=7.1						
ZAL	**Zalesovo**	**51.80**	**353**	P	**P**	**19 47 07.7**	**+0.1**

*ISCJB **28** 20:13:05.7±0.4,3918N±003×2171E±003,h10km,Error*
ellipse: s-maj=3.8km s-min=3.6km az=101.8
*ATH **28** 20:13:05.9,3918N×2170E,h19km±2km,MD3.0/8*
*CSEM **28** 20:13:07.1,3918N×2170E,h10km,ML2.5,After THE*
*THE **28** 20:13:07.1,3918N×2170E,h10km,ML2.5*
ISC 28 20:13:06.4±0.4,3919N±003×2171E±003,h10km,n18,
σ1§20/26,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.28**	**165**	*e*PB	**Pg**	**20 13 12.1**	**+0.1**
EVR				*e*SB	**Sg**	**20 13 16.8**	**+1.0**
THL	**Klokotos Trika**	**0.44**	**32**	*e*PB	**Pg**	**20 13 14.9**	**-0.2**
THL				*e*SB	**Sg**	**20 13 22.0**	**+1.0**
AGG	**Agios Georgios**	**0.51**	**109**	*e*Pg	**Pg**	**20 13 16.6**	**+0.3**
AGG				*e*Sg	**Sg**	**20 13 25.0**	**+2.0**
AGG	**Agios Georgios**	**0.51**	**109**	*e*Pg	**Pg**	**20 13 16.5**	**+0.2**
AGG				*e*Sg	**Sg**	**20 13 25.0**	**+2.0**
MEV	**Metsovon**	**0.71**	**328**	*e*PG	**Pg**	**20 13 20.1**	**+0.1**
MEV				*e*SG	**Sg**	**20 13 31.0**	**+1.7**
JAN	**Janina**	**0.82**	**305**	*e*PN	**Pn**	**20 13 21.5**	**-2.5**
LKD	**Levkas**	**0.96**	**240**	*e*Pg	**Pg**	**20 13 24.5**	**-0.4**
LKD				*e*Sg	**Sg**	**20 13 39.1**	**+1.8**
LIT	**Litokhoron**	**1.09**	**33**	*e*Pg	**Pg**	**20 13 27.8**	**+0.4**
LIT				*e*Sg	**Sg**	**20 13 43.6**	**+2.0**
KZN	**Kozani**	**1.12**	**2**	*e*PN	**Pn**	**20 13 27.3**	**-0.8**
IGT	**Igoumenitsa**	**1.12**	**288**	*e*Pg	**Pg**	**20 13 27.3**	**-0.7**
IGT				*e*Sg	**Sg**	**20 13 44.6**	**+1.9**
LKR	**Lokris**	**1.14**	**118**	*e*PN	**Pn**	**20 13 28.0**	**-0.4**
RLS	**Riolos of Patr**	**1.14**	**190**	*e*PN	**Pg**	**20 13 27.9**	**-0.5**
XOR	**Xorichti**	**1.16**	**81**	*e*Pg	**Pg**	**20 13 28.0**	**-0.7**
NEO	**Neokhori**	**1.18**	**84**	*e*PN	**Pn**	**20 13 28.4**	**-0.5**
VLS	**Valsamata**	**1.34**	**221**	*e*PN	**Pg**	**20 13 31.0**	**-1.1**
FNA	**Florina**	**1.62**	**351**	*e*Pb	**Pb**	**20 13 35.2**	**-1.1**
PLG	**Polygyros**	**1.79**	**48**	*e*Pb	**Pb**	**20 13 37.9**	**-1.3**
GRG	**Griva**	**1.84**	**16**	*e*Pb	**Pb**	**20 13 38.1**	**-2.1**

*ISCJB **28** 20:55:35.0±0.3,581S±004×15405E±006,h29km,*
mb4.9/35,MS4.3/19,Error ellipse: s-maj=8.0km
s-min=6.0km az=34.7
*BJI **28** 20:55:35.5,548S×15430E,h31km,mB5.2,mb5.1,Ms4.6,*
Msz4.4
*NEIC **28** 20:55:37.9±0.4,582S×15397E,h35km,mb5.0/12,*
MS4.2/1,Error ellipse: s-maj=10.1km s-min=7.7km
az=74.0
*GCMT **28** 20:55:37.9±0.2,604S×15404E,h34km,MW5.2/74,*
Moment Tensor Solution. s74,c116; s70,c108;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.78±.17;
$M_{\theta\theta}$-3.92±.12; $M_{\phi\phi}$-2.86±.12; $M_{r\theta}$1.18±.15; $M_{\theta\phi}$3.75±.10;
$M_{\phi r}$-1.33±.15; Best double couple: $M_0$7.20200×10^{16}
NP1:ϕ_s309.00000°,δ38.00000°,λ87.00000°. NP2:
ϕ_s133.00000°,δ52.00000°,λ92.00000°. Principal axes: T
7.0070, Plg83.0000°, Azm57.0000°; N 0.3890, Plg2.0000°,
Azm311.0000°; P -7.3970, Plg7.0000°, Azm221.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s.
*IDC **28** 20:55:40.7±1.7,582S×15393E,h64km±15km,mb4.3/15,*
mb1 4.3/18,mb1mx4.3/22,mbtmp4.6/18,MS4.3/16,
Ms1 4.3/16,ms1mx4.3/18 Error ellipse: s-maj=12.4km
s-min=11.1km az=99.0
ISC 28 20:55:37.1±0.4,586S±004×15409E±007,h30km,
h30km±.6km:pP-P,n91,σ0§99/86,mb4.9/35,MS4.3/19,3C,
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.81**	**122**	P	**Pn**	**20 57 19.4**	**+4.6**
	11nm,0.3s,baz=250,slow=6.6,SNR=4.4						
HNR				S	**Sn**	**20 58 43.1**	**+12**
	21nm,0.3s,baz=266,slow=20,SNR=7.2						
HNR				LR	LR	20 59 51.4	
	comp=Z,4μm,19.9s,baz=351,slow=36						
PMG	**Port Moresby**	**7.72**	**242**	P	**Pn**	**20 57 28.7**	**+1.4**
	35nm,0.3s,baz=61,slow=6.9,SNR=90						
PMG				S	**Sn**	**20 58 56.4**	**+2.8**
	20nm,0.3s,baz=355,slow=22,SNR=18						
PMG				LR	LR	21 00 23.4	
	comp=Z,3μm,21.9s,baz=39,slow=37						
CTA	**Charters Tower**	**16.06**	**208**	*e*P	**Pn**	**20 59 20.5**	**-0.2**
	9.5nm,0.8s						
CTA				*e*S	**Sn**	**21 02 31.8**	**+14**
CTA	**Charters Tower**	**16.06**	**208**	P	**Pn**	**20 59 20.3**	**-0.4**
	0.4nm,0.3s,baz=35,slow=14,SNR=11						
CTA				S	**Sn**	**21 02 25.7**	**+7.9**
	baz=34,slow=8.6,SNR=1.4						
CTA				LR	LR	21 04 48.4	
	comp=Z,2μm,21.4s,baz=22,slow=34						
CTAO	**Charters Tower**	**16.06**	**208**	*e*Pn	**Pn**	**20 59 20.6**	**-0.1**
	77nm,1.5s						
DZM	**Mont Dzumac**	**20.06**	**145**	*e*P	**P**	**21 00 09.2**	**+1.4**
DZM	**Mont Dzumac**	**20.06**	**145**	P	**P**	**21 00 09.2**	**+1.4**
	22nm,0.5s,baz=299,slow=9.7,SNR=93						
DZM				LR	LR	21 05 39.8	
	comp=Z,537nm,20.8s,MS3.9,baz=244,slow=30						
GUMO	**Guam**	**21.38**	**335**	LR	LR	21 08 01.8	
	comp=Z,180nm,18.4s,MS3.5,baz=147,slow=35						
KAKA	**Kakadu**	**22.41**	**251**	*e*P	**P**	**21 00 32.7**	**-0.4**
	28nm,0.4s,mb5.0						
WB2	**Warramunga Arr**	**23.75**	**232**	*e*P	**P**	**21 00 47.3**	**+0.6**
WB2				*e*PCP	PcP	21 04 30.0	+0.1
WB2				*e*S	**S**	**21 04 53.9**	**-6.0**
WRA	**Warramunga Arr**	**23.76**	**232**	P	**P**	**21 00 47.5**	**+0.7**
	6.2nm,0.5s,mb4.3,baz=58,slow=9.8,SNR=65						
WRA				PcP	PcP	21 04 30.1	+0.1
	7.1nm,0.5s,baz=58,slow=2.3,SNR=24						
WRA				S	**S**	**21 04 57.4**	**-2.7**
	1.4nm,1.1s,baz=57,slow=17,SNR=3.1						
WRA				LR	LR	21 10 12.0	
	comp=Z,1μm,19.5s,MS4.4,baz=60,slow=37						
AS31	**Alice Springs**	**26.28**	**226**	*e*P	**P**	**21 01 09.9**	**+0.1**
AS31				*e*PcP	PcP	21 04 35.7	+0.1
AS31				*e*S	**S**	**21 05 38.8**	**-1.6**
ASAR	**Alice Springs**	**26.28**	**226**	P	**P**	**21 01 09.7**	**-0.1**
	2.5nm,0.5s,mb4.0,baz=54,slow=8.7,SNR=59						
ASAR				PcP	PcP	21 04 35.8	+0.2
	10nm,0.5s,baz=62,slow=2.6,SNR=33						
ASAR				ScP	ScP	21 08 11.5	-1.6
	0.5nm,0.6s,baz=56,slow=2.7,SNR=4.2						
ASPA	**Alice Springs**	**26.28**	**226**	*e*P	**P**	**21 01 09.9**	**+0.1**
ASPA				*e*PCP	PcP	21 04 35.7	+0.1
ASPA				*e*S	**S**	**21 05 38.8**	**-1.6**
STKA	**Stephens Creek**	**28.40**	**203**	*e*P	**P**	**21 01 27.9**	**-0.9**
	3.8nm,0.6s,mb4.2						
STKA				*e*PCP	PcP	21 04 41.0	+0.4
STKA				*e*S	**S**	**21 06 17.0**	**+3.2**
STKA	**Stephens Creek**	**28.40**	**203**	P	**P**	**21 01 27.4**	**-1.4**
	2.1nm,0.5s,mb4.0,baz=41,slow=13,SNR=12						
STKA				PcP	PcP	21 04 40.6	0.0
	3.8nm,0.7s,baz=55,slow=5.3,SNR=3.7						
STKA				LR	LR	21 13 08.4	
	comp=Z,892nm,19.0s,MS4.4,baz=82,slow=37						
FITZ	**Fitzroy Crossi**	**30.31**	**244**	⇑*i*P	**P**	**21 01 44.9**	**-0.8**
	18nm,0.6s,mb5.0						
FITZ				*e*PCP	PcP	21 04 45.9	+0.4
FITZ				*e*S	**S**	**21 06 47.0**	**+3.2**
URZ	**Urewera**	**38.43**	**150**	P	**P**	**21 02 55.9**	**0.0**
	14nm,0.5s,mb4.9,baz=72,slow=3.1,SNR=9.7						
RPZ	**Rata Peaks**	**40.55**	**161**	P	**P**	**21 03 14.0**	**+0.3**
	13nm,0.5s,mb4.8,baz=28,slow=5.9,SNR=9.9						
RPZ	**Rata Peaks**	**40.55**	**161**	P	**P**	**21 03 13.9**	**+0.3**
KLBR	**Kellerberrin**	**42.54**	**228**	*e*P	**P**	**21 03 26.2**	**-3.7**
	17nm,0.8s,mb4.8						
MUN	**Mundaring**	**43.88**	**229**	*e*P	sP	21 03 55.0	+1.5
KSM	**Kuching**	**44.32**	**278**	*e*P	**P**	**21 03 42.7**	**-1.5**
MJAR	**Matsushiro Arr**	**44.72**	**342**	P	**P**	**21 03 45.2**	**-2.3**
	1.2nm,0.5s,mb4.0,baz=168,slow=7.6,SNR=9.0						
MJAR				LR	LR	21 21 35.4	

LZH XP sP 21 06 15.5 +2.3
LZH AMB AMB
comp=Z,31nm,1.4s,mb5.2
LZH Lanzhou 62.88 316 *e*P **P 21 06 01.4 +1.2**
comp=Z,31nm,1.4s,mb5.2
LZH pP pP 21 06 10.5 +0.9
LZH sP sP 21 06 15.6 +2.4
TAOE Nuku Hiva Isla 65.22 97 *e*LR LR 21 25 59.3
comp=Z,824nm,25.1s
GTA Gaotai 67.30 317 P **P 21 06 29.5 +0.6**
GTA AP pP 21 06 38.5 +0.1
GTA XP sP 21 06 43.3 +1.3
GTA AMB AMB
comp=Z,30nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,174nm,5.7s
GTA LR LR
comp=N,121nm,16.4s,MS4.4
GTA LR LR
comp=E,149nm,13.8s,MS4.4
GTA LR LR
comp=Z,230nm,16.0s,MS4.5
CASY Casey 67.39 198 *e*P **P 21 06 28.2 -1.3**
CASY Casey 67.39 198 *e*P **P 21 06 28.7 -0.8**
CASY Casey 67.39 198 *e*P **P 21 06 28.7 -0.8**
ULN Ulaanbaatar 67.57 328 *e*P **P 21 06 30.3 -0.3**
comp=Z,2.7nm,0.6s,mb4.5
SONM Songino Array 67.90 327 P **P 21 06 32.4 -0.3**
comp=Z,2.7nm,0.5s,mb4.6,baz=139,slow=5.0,SNR=33
SONM LR LR 21 37 46.7
comp=Z,115nm,19.2s,MS4.1,baz=107,slow=37
LSA Lhasa 69.89 304 P **P 21 06 46.8 +1.7**
LSA Lhasa 69.89 304 *e*P **P 21 06 45.6 +0.6**
comp=Z,9.1nm,0.6s,mb4.9
RKT Rikitea 70.20 112 *e*LR LR 21 28 09.6
comp=Z,371nm,30.8s,baz=283
VNDA Vanda 71.73 178 P **P 21 06 55.5 -0.7**
comp=Z,2.0nm,0.7s,mb4.2,baz=348,slow=6.3,SNR=18
JIRN Jiri 73.43 301 *e*P **P 21 07 06.8 +0.4**
comp=Z,47nm,1.1s,mb5.3
GUN Gumba 73.76 301 *e*P **P 21 07 08.9 +0.6**
PKI Pulchoki 74.07 301 *e*P **P 21 07 10.5 +0.3**
comp=Z,148nm,1.6s,mb5.7
KKN Kakani 74.24 301 *e*P **P 21 07 11.4 +0.3**
DMN Daman 74.34 301 *e*P **P 21 07 12.3 +0.6**
GKN Gorkha 74.84 301 *e*P **P 21 07 14.6 0.0**
comp=Z,149nm,1.3s,mb5.8
KOLN Koldanda 75.67 300 *e*P **P 21 07 19.5 +0.1**
comp=Z,30nm,0.6s,mb5.4
KDAK Kodiak Island 76.55 26 P **P 21 07 25.0 +0.6**
comp=Z,2.7nm,0.5s,mb4.4,baz=336,slow=7.8,SNR=6.6
WMQ Urumqi 77.38 317 *e*P **P 21 07 27.5 -1.6**
WMQ AP pP 21 07 37.0 -1.7
WMQ XP sP 21 07 41.0 -1.3
WMQ AMB AMB
comp=Z,16nm,1.4s,mb4.8
WMQ AMB AMB
comp=Z,137nm,5.2s
WMQ LR LR
comp=N,492nm,25.5s,MS4.8
WMQ LR LR
comp=E,376nm,22.6s,MS4.8
WMQ LR LR
comp=Z,514nm,21.2s,MS4.8
HYB Hyderabad 78.05 289 *i*P **P 21 07 33.0 +0.2**
HYB Hyderabad 78.05 289 *e*P **P 21 07 33.0 +0.2**
TRD Trivandrum 78.21 280⇑ *e*P **P 21 07 29.1 -4.6**
MKAR Makanchi Array 81.96 319 P **P 21 07 53.1 -0.8**
comp=Z,2.5nm,0.6s,mb4.3,baz=96,slow=7.4,SNR=52
MKAR LR LR 21 43 53.3
comp=Z,133nm,19.6s,MS4.3,baz=263,slow=35
ZAL Zalesovo 82.75 326 P **P 21 07 56.7 -1.3**
comp=Z,1.6nm,0.4s,mb4.4,baz=8.6,slow=4.4,SNR=10
ZAL LR LR 21 45 45.5
comp=Z,124nm,19.5s,MS4.3,baz=346,slow=36
ZAL Zalesovo 82.75 326 P **P 21 07 56.7 -1.3**
ZAL LR LR 21 45 45.5
AJM Ajmer 83.20 297 *i*P **P 21 08 00.0 -0.4**
QSPA South Pole Qui 84.11 180 *e*P **P 21 08 04.5 -0.5**
KSH Kashi 84.59 311 ⇑P **P 21 08 09.5 +2.0**
KSH *e*AP pP 21 08 17.5 +0.3
KSH *e*XP sP 21 08 25.5 +4.8
KSH AMB AMB
comp=Z,1μm,3.1s
ULHL Ulahol 84.97 313 P **P 21 08 10.3 +0.9**
SNR=5.6
MAW Mawson 85.09 203⇑ *i*P **P 21 08 09.1 -0.9**
comp=Z,3.9nm,0.5s,mb4.8
MAW Mawson 85.09 203 P **P 21 08 09.2 -0.8**
comp=Z,4.4nm,0.5s,mb4.9,baz=102,slow=6.4,SNR=30
MAW LR LR 21 41 35.0
comp=Z,223nm,18.8s,MS4.6,baz=317,slow=32
TKM2 Tokmak 2 85.58 314 P **P 21 08 12.8 +0.4**
SNR=6.0
KBK Karagaybulak 86.00 313 P **P 21 08 14.7 +0.2**
SNR=5.2
UCH Uchtor 86.23 313 P **P 21 08 17.0 +1.3**
SNR=7.8
AAK Ala-Archa 86.32 313 P **P 21 08 15.9 -0.2**
SNR=6.2
USP Ospenovka 86.44 314 P **P 21 08 16.8 +0.1**
SNR=12
BVAR Borovoye Array 90.85 323 LR LR 21 48 41.3
comp=Z,170nm,20.4s,MS4.5,baz=324,slow=35
YKA Yellowknife Ar 95.76 28 LR LR 21 50 01.2
comp=Z,184nm,19.2s,MS4.6,baz=225,slow=34
PDAR Pinedale Array 98.61 48 LR LR 21 46 04.6
comp=Z,389nm,21.4s,MS4.9,baz=266,slow=31
VNA3 Neumayer Olymp 102.30 185 *e* Pdif 21 09 31.0 +1.5
VNA3 *e* 21 09 40.0
VNA2 Neumayer--Watz 102.38 186 *e* Pdif 21 09 32.6 +2.8
baz=175,slow=4.1
VNA2 *e* 21 09 41.6
TXAR Lajitas Array 103.52 61 PKKPbc PKKPbc 21 25 28.6 +0.9
comp=Z,0.4nm,0.8s,baz=95,slow=4.1,SNR=4.3
BRTR Keskin Array B 116.96 312 PP PP 21 15 27.0 -1.1
comp=Z,1.1nm,1.0s,baz=90,slow=4.9,SNR=6.8
BOSA Boshof 120.01 232 PKP PKPdf 21 14 24.6 0.0
comp=Z,2.4nm,0.7s,baz=210,slow=4.6,SNR=12
GERES GERESS Array B 125.62 329 PKP PKPdf 21 14 34.0 -1.4
comp=Z,0.8nm,0.5s,baz=270,slow=1.3,SNR=5.5
LPAZ La Paz 132.79 118 PKP PKPdf 21 14 50.3 +1.3
comp=Z,0.9nm,0.7s,baz=325,slow=9.3,SNR=4.4
TORD Torodi Ar. Bea 151.85 287 PKPbc PKPbc 21 15 28.2 -0.6
comp=Z,10nm,0.6s,baz=121,slow=3.6,SNR=112
TORD PKPab PKPab 21 15 37.7 -0.3
comp=Z,9.6nm,0.6s,baz=101,slow=2.3,SNR=24

*LDG **28** 21:45:09.7±1.0, 43.32N×100W, h15km, Md1.8/2, Error ellipse: s-maj=26.1km s-min=7.7km az=4.0*

MDD 28 21:45:09.6±0.4, 4279N×125W, h0km, mbLg0.7/6, Error ellipse: s-maj=3.2km s-min=1.9km az=155.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.08**	**283**	Pg	Pg	21 45 10.8	-0.3
	19nm,0.3s,SNR=73						
IPRE				Lg		21 45 12.2	
	29nm,0.1s,SNR=5.3						
EARA	**Aranguren**	**0.24**	**267**	Pg	Pg	21 45 14.4	+0.1
	2.2nm,0.4s,SNR=6.9						
EARA				Lg		21 45 18.3	
	5.2nm,0.1s,SNR=12						
IUSE	**Utxeti**	**0.27**	**306**	Lg		21 45 20.0	
	1.4nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**3**	*e*Pg	Pg	21 45 15.6	-0.3
SJPF				*e*Sg	Sg	21 45 18.9	-1.2
	5.1nm,0.2s						
SJPF	**Ste Jean**	**0.33**	**3**	Pg	Pg	21 45 15.6	-0.3
SJPF				Lg		21 45 18.9	
	2.5nm,0.2s						
ELIZ	**Elizondo**	**0.43**	**332**	Pg	Pg	21 45 17.6	-0.2
	0.8nm,0.2s,SNR=7.9						
ELIZ				Lg		21 45 23.8	
	1.3nm,0.3s,SNR=6.2						
EALK	**Alkurruntz**	**0.47**	**337**	Pg	Pg	21 45 18.0	-0.7
	SNR=7.9						
EALK				Lg		21 45 25.2	
	2.5nm,0.2s,SNR=9.4						
ETSF	**Etsaut**	**0.52**	**78**	*e*Pg	Pg	21 45 19.9	+0.3
ETSF				*e*Sg	Sg	21 45 27.5	+1.1
	1.7nm,0.3s						
ETSF	**Etsaut**	**0.52**	**78**	Pg	Pg	21 45 19.9	+0.3
ETSF				Lg		21 45 27.5	
	0.9nm,0.3s						
ECRI	**Cripan**	**0.94**	**260**	Lg		21 45 41.5	
	0.9nm,0.3s,SNR=7.9						

CASC 28 22:02:00.9±2.2, 1329N×8768W, h15km±12km, MD3.5, ML3.1, 4C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.15**	**266⇑**	*i*P	x	22 02 02.8	
CNCH				*e*S	x	22 02 05.6	
TELN	**Telica**	**1.07**	**129⇑**	*e*P	Pb	22 02 20.5	-0.5
TELN				*e*S	Sb	22 02 36.0	+1.3
LEON	**Leon**	**1.16**	**139⇑**	*e*P	Pn	22 02 21.1	-1.3
LEON				*e*S	Sb	22 02 36.9	-0.4
LEON				*i*		22 02 37.5	
	comp=Z,191nm,0.3s						
CNGN	**Cerro Negro**	**1.23**	**129⇓**	*i*P	Pn	22 02 21.1	-2.5
CNGN				*e*P		22 02 22.4	
CNGN				*e*S	Sb	22 02 39.6	+0.1
CNGN				*e*S	Sb	22 02 41.3	+1.7
MIRN	**Miramar**	**1.26**	**132**	*e*P	Pn	22 02 23.2	-0.7
MIRN				*e*S	Sb	22 02 40.0	-0.4
MIRN				*i*		22 02 40.2	
	comp=Z,212nm,0.2s						
LFRS	**El Faro**	**1.39**	**284**	*e*P	x	22 02 24.3	
LFRS				*e*S	x	22 02 42.8	
MOMJ	**Momotombo**	**1.41**	**128**	*e*P	Pn	22 02 25.7	-0.3
COPN	**Copaltepe**	**1.53**	**136⇑**	*e*P	Pn	22 02 27.0	-0.5
COPN				*e*S	Sn	22 02 46.6	-0.5
APYN	**Apoyeque**	**1.66**	**129**	*e*P	Pn	22 02 30.2	+0.8

*IDC **28** 22:15:35.7±3.0, 1760S×17876W, h546km±33km, mb3.7/8, mb1 4.0/8, mb1mx3.8/13, mbtmp4.5/8, Error ellipse: s-maj=36.0km s-min=15.8km az=146.0*
*ISCJB **28** 22:15:38.8±0.5, 177S±0.1×17888W±0.10, h600km, mb4.4/20, Error ellipse: s-maj=17.6km s-min=9.8km az=124.7*
*NEIC **28** 22:15:40.8±2.6, 1770S×17886W, h610km±31km, mb4.5/13, Error ellipse: s-maj=15.6km s-min=11.7km az=121.0*

ISC 28 22:15:40.0±0.5, 178S±01×17876W±010, h600km, n33, σ0 54/31, mb4.4/20, 1C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**29.71**	**239**	*e*P	**P**	**22 20 59.7**	**+0.6**
CTA	**Charters Tower**	**33.13**	**260⇓**	*i*P	**P**	**22 21 28.0**	**-0.2**
	6.8nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**33.13**	**260**	*e*P	**P**	**22 21 27.6**	**-0.6**
	6.9nm,0.6s,mb4.5						
CNB	**Canberra Magne**	**33.23**	**232**	*e*P	**P**	**22 21 29.2**	**+0.2**
	24nm,0.6s,mb5.0						
PMG	**Port Moresby**	**34.11**	**280**	*e*P	**P**	**22 21 36.9**	**+0.5**
	30nm,0.8s,mb5.0						
TOO	**Toolangi**	**36.98**	**231⇑**	*i*P	**P**	**22 22 00.6**	**+0.6**
	17nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**38.39**	**241⇓**	*i*P	**P**	**22 22 12.1**	**+0.7**
	13nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**22 22 11.8**	**+0.4**
	14nm,0.5s,mb4.8,baz=90,slow=9.7,SNR=70						
STKA	**Stephens Creek**	**38.39**	**241**	*e*P	**P**	**22 22 12.0**	**+0.5**
STKA				⇓*i*P		22 22 12.1	
WB2	**Warramunga Arr**	**44.31**	**259⇓**	*i*P	**P**	**22 22 57.3**	**-0.7**
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**22 22 57.5**	**-0.6**
	6.6nm,0.5s,mb4.4,baz=93,slow=7.3,SNR=52						
AS31	**Alice Springs**	**44.50**	**254⇓**	*i*P	**P**	**22 22 59.6**	**+0.2**
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**22 22 59.7**	**+0.3**
	77nm,0.6s,mb5.5,baz=88,slow=8.2,SNR=1482						
ASAR				ScP	ScP	22 27 31.3	+6.4
	0.6nm,0.7s,baz=100,slow=5.2,SNR=5.9						
ASPA	**Alice Springs**	**44.50**	**254⇓**	*i*P	**P**	**22 22 59.6**	**+0.2**
KAKA	**Kakadu**	**47.25**	**269⇓**	*i*P	**P**	**22 23 20.2**	**0.0**
	12nm,0.3s,mb4.9						
FORT	**Forrest**	**49.75**	**245⇓**	*i*P	**P**	**22 23 38.3**	**-0.4**
	21nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.72**	**261⇓**	*i*P	**P**	**22 24 00.5**	**+0.5**
	5.1nm,0.4s,mb4.2						
KLBR	**Kellerberrin**	**58.58**	**243**	*e*P	**P**	**22 24 40.2**	**-0.2**
	6.8nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**67.61**	**324**	P	**P**	**22 25 37.2**	**-1.0**
	1.9nm,0.7s,mb3.7,baz=155,slow=5.8,SNR=6.9						
MJAR	**Matsushiro Arr**	**67.61**	**324**	P	**P**	**22 25 37.2**	**-1.0**
QSPA	**South Pole Qui**	**72.26**	**180**	*e*P	**P**	**22 26 05.7**	**+0.1**
	6.5nm,1.1s,mb4.1						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**22 26 45.9**	**+0.1**
	2.5nm,0.7s,mb3.7,baz=231,slow=6.9,SNR=16						
MAW	**Mawson**	**83.85**	**200**	P	**P**	**22 27 07.3**	**-0.3**
	1.0nm,0.4s,mb3.7,baz=112,slow=8.3,SNR=4.5						
NEW	**Newport**	**85.61**	**36**	P	**P**	**22 27 15.4**	**-0.7**
	1.7nm,0.6s,mb3.9,baz=246,slow=7.4,SNR=4.0						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**22 27 20.5**	**+1.6**
	2.5nm,0.6s,mb4.0,baz=202,slow=6.8,SNR=9.2						
RRI2	**Red Ridge**	**86.62**	**42**	*e*P	**P**	**22 27 20.9**	**+0.1**
	6.9nm,0.8s,mb4.4						
IMW	**Indian Meadow**	**87.13**	**42**	*e*P	**P**	**22 27 23.7**	**+0.5**
	5.7nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**87.50**	**44**	P	**P**	**22 27 24.9**	**-0.1**
	2.1nm,0.5s,mb4.1,baz=213,slow=3.2,SNR=15						
SNAA	**Sanae**	**90.72**	**179**	*e*	**P**	**22 27 39.0**	**-0.9**
VNA3	**Neumayer Olymp**	**90.87**	**176**	*e*	**P**	**22 27 40.3**	**-0.3**
VNA3				*e*		22 27 42.3	
VNA2	**Neumayer--Watz**	**91.31**	**177**	*e*	**P**	**22 27 42.3**	**-0.3**
VNA2				*e*		22 27 44.1	
BRTR	**Keskin Array B**	**144.46**	**315**	PKP	PKPdf	22 34 09.8	+0.9
	1.3nm,0.8s,baz=98,slow=1.7,SNR=8.3						
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	PKPbc	22 34 17.0	-0.3
	0.7nm,0.5s,baz=45,slow=2.1,SNR=5.1						

*PGC **28** 22:18:01.7±5.6, 6320N×14449W, h5km, ML4.4/3, Mw4.2, 240km southeast of Fairbanks, Ak Central Alaska*
*ISCJB **28** 22:18:01.4±0.2, 6318N±003×144.12W±005, h1km, mb4.5/42, MS3.1/3, Error ellipse: s-maj=3.7km s-min=3.1km az=9.2*
*BJI **28** 22:18:02.2, 6320N×14420W, h11km, mB4.8, mb4.8, Ms4.8, Msz4.4*
*NEIC **28** 22:18:02.2, 6317N×144.19W, h1km, mb4.7/22, ML4.1(AEIC), ML4.5(PMR), MW4.2(PGC), After AEIC.*
NEIC Felt [III] at Delta Junction. Felt at Paxson and Tok.
*MOS **28** 22:18:03.6±0.8, 6322N×14445W, h14km, mb4.6/21, Error ellipse: s-maj=18.5km s-min=6.1km az=87.4*
*IDC **28** 22:18:03.1±0.6, 6328N×14424W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.2/24, mbtmp4.0/18, ML3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/29, Error ellipse: s-maj=15.5km s-min=13.7km az=35.0*

ISC 28 22:18:02.7±0.2, 6317N±002×14413W±004, h1km, n155, σ0 92/162, mb4.5/42, MS3.1/3, 21C-10D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.29**	**141**	P	**Pg**	**22 18 08.1**	**-0.3**
MENT				S	**Sg**	**22 18 12.0**	**-0.2**
BCA3	**Beaver Creek A**	**1.07**	**94**	P	**Pg**	**22 18 22.7**	**-0.6**
IL1	**Eielson Array**	**2.02**	**324**	P	**Pn**	**22 18 37.0**	**-0.9**
EGAK	**Eagle**	**2.08**	**38**	P	**Pn**	**22 18 38.8**	**0.0**
MCK	**McKinley**	**2.23**	**287**	*e*Pn	**Pn**	**22 18 41.2**	**+0.4**
MCK				*e*Sn	**Sn**	**22 19 11.7**	**+2.6**
DAWY	**Dawson**	**2.30**	**65**	Trac			
DAWY	**Dawson**	**2.30**	**65**	Pn	**Pn**	**22 18 41.7**	**-0.1**
DAWY				Pg	**Pg**	**22 18 45.9**	**-0.9**
DAWY				Sg	**Sg**	**22 19 16.6**	**0.0**
DAWY	**Dawson**	**2.30**	**65**	P	**Pn**	**22 18 41.6**	**-0.2**
COLA	**College**	**2.37**	**318**	P	**Pn**	**22 18 41.5**	**-1.2**
COLA	**College**	**2.37**	**318**	P	**Pn**	**22 18 41.6**	**-1.2**
SML	**Sawmill**	**2.38**	**237**	*e*Pn	**Pn**	**22 18 42.5**	**-0.3**
SML				*e*Sn	**Sn**	**22 19 12.6**	**0.0**
GHO	**Glory Hole Cre**	**2.63**	**240**	P	**Pn**	**22 18 46.7**	**+0.4**
EYAK	**Cordova Ski Ar**	**2.74**	**197**	*e*Pn	**Pn**	**22 18 47.4**	**-0.3**
TRF	**Thorofare Moun**	**2.79**	**279**	P	**Pn**	**22 18 49.2**	**+0.7**
RAGM	**Ragged Mountai**	**2.80**	**186**	P	**Pn**	**22 18 49.3**	**+0.6**
PMR	**Palmer**	**2.81**	**238**	P	**Pn**	**22 18 49.1**	**+0.3**
KTH	**Kantishna Hill**	**3.09**	**280**	P	**Pn**	**22 18 53.2**	**+0.6**
RC01	**Rabbit Creek A**	**3.36**	**234**	P	**Pn**	**22 18 56.6**	**+0.3**
HYT	**Haines Junctio**	**3.91**	**124**	Trac			
HYT	**Haines Junctio**	**3.91**	**124**	Pn	**Pn**	**22 19 02.6**	**-1.2**
HYT				Pg	**Pg**	**22 19 13.8**	**-3.9**
HYT				Sg	**Sg**	**22 20 06.9**	**-1.4**
SLKM	**Skilak Lake**	**3.93**	**230**	P	**Pn**	**22 19 04.3**	**+0.1**
SEW	**Seward**	**3.98**	**222**	P	**Pn**	**22 19 05.5**	**+0.6**
BM3	**Burnt Mountain**	**4.28**	**358**	P	**Pn**	**22 19 09.8**	**+0.9**
COLD	**Coldfoot**	**4.81**	**331**	P	**Pn**	**22 19 16.6**	**+0.3**
IMA2	**Indian Mountai**	**5.04**	**310**	P	**Pn**	**22 19 18.9**	**-0.6**
WHY	**Whitehorse**	**5.04**	**116**	Trac			
WHY	**Whitehorse**	**5.04**	**116**	Pn	**Pn**	**22 19 19.0**	**-0.4**
WHY				Sg	**Sg**	**22 20 43.2**	**-1.5**
WHY	**Whitehorse**	**5.04**	**116**	P	**Pn**	**22 19 19.1**	**-0.4**
TT01	**Tatalina**	**5.42**	**273**	P	**Pn**	**22 19 24.4**	**-0.3**
SKAG	**Skagway**	**5.64**	**127**	*e*Pn	**Pn**	**22 19 29.4**	**+1.8**
	41nm,0.8s						
SKAG				*e*Sg	**Sg**	**22 21 04.2**	**+0.4**
SVW2	**Sparrevohn**	**5.76**	**254**	P	**Pn**	**22 19 29.4**	**+0.1**
KDAK	**Kodiak Island**	**6.82**	**222**	Pn	**Pn**	**22 19 42.4**	**-1.5**
	2.9nm,0.3s,baz=32,slow=12,SNR=32						
KDAK	**Kodiak Island**	**6.82**	**222**	P	**Pn**	**22 19 42.6**	**-1.4**
DLBC	**Dease Lake**	**8.36**	**118**	Pn	**Pn**	**22 20 04.8**	**-0.2**
DLBC				Sg	**Sg**	**22 22 27.0**	**-4.1**
DLBC	**Dease Lake**	**8.36**	**118**	*e*Pn	**Pn**	**22 20 05.6**	**+0.6**
DLBC				*e*Sn	**Sn**	**22 21 42.3**	**+2.3**
DLBC				*e*Sg	**Sg**	**22 22 29.7**	**-1.4**
YKA	**Yellowknife Ar**	**13.45**	**80**	Pn	**Pn**	**22 21 14.1**	**-0.6**
	0.3nm,0.3s,baz=282,slow=13,SNR=4.2						
YKA				LR	LR	22 26 58.7	
	comp=Z,78nm,19.3s,baz=220,slow=40						
YKA	**Yellowknife Ar**	**13.45**	**80**	*e*P	**Pn**	**22 21 14.1**	**-0.6**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RES	**Resolute Bay**	**20.31**	**35**	*e*P	**P**	**22 22 38.1**	**-2.0**
RES				pmax	pmax		
	comp=Z,17nm,0.6s						
RES	**Resolute Bay**	**20.31**	**35**	*e*P	**P**	**22 22 38.1**	**-2.0**
	comp=Z,172nm,0.6s						
BILL	**Bilibino**	**20.56**	**305**	*e*P	**P**	**22 22 41.4**	**-1.4**
BILL				pmax	pmax		
	comp=Z,19nm,1.2s						
BILL	**Bilibino**	**20.56**	**305**	*e*P	**P**	**22 22 42.4**	**-0.4**
	comp=Z,13nm,0.8s						
NEW	**Newport**	**21.07**	**122**	P	**P**	**22 22 49.0**	**+0.7**
	comp=Z,6.2nm,0.8s,mb4.0,baz=326,slow=9.1,SNR=2.9						
NEW				LR	LR	22 30 27.5	
	comp=Z,41nm,19.7s,MS2.8,baz=138,slow=35						
IMW	**Indian Meadow**	**27.10**	**120**	*e*P	**P**	**22 23 49.0**	**+2.0**
	comp=Z,4.0nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**28.59**	**119**	P	**P**	**22 24 00.9**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.7,baz=330,slow=8.6,SNR=7.4						
ULM	**Lac du Bonnet**	**28.69**	**94**	LR	LR	22 35 41.2	
	comp=Z,79nm,18.8s,MS3.3,baz=268,slow=37						
NVAR	**Mina Array Bea**	**29.26**	**136**	P	**P**	**22 24 06.5**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=308,slow=7.4,SNR=4.4						
SCHQ	**Schefferville**	**38.32**	**66**	P	**P**	**22 25 25.6**	**+0.6**
	comp=Z,2.3nm,0.5s,mb4.1,baz=303,slow=9.8,SNR=5.3						
TXAR	**Lajitas Array**	**42.62**	**123**	P	**P**	**22 26 02.3**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.6,baz=337,slow=7.5,SNR=7.6						
BOD	**Bodaibo**	**45.35**	**313**	*e*P	**P**	**22 26 20.1**	**-2.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**47.38**	**5**	P	**P**	**22 26 38.1**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.5,baz=10,slow=7.6,SNR=6.0						
MDJ	**Mudanjiang**	**49.85**	**291**	P	**P**	**22 26 54.8**	**-2.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,66nm,3.4s						
HIA	**Hailar**	**50.09**	**302**	*d i*P	**P**	**22 26 58.8**	**-0.5**
HIA	**Hailar**	**50.09**	**302**	*e*P	**P**	**22 26 58.2**	**-1.0**
	comp=Z,11nm,0.6s,mb5.0						
MJAR	**Matsushiro Arr**	**52.67**	**278**	P	**P**	**22 27 18.4**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=356,slow=10,SNR=4.2						
NB2	**NORSAR Subarra**	**54.71**	**14**	P	**P**	**22 27 33.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=348,slow=7.4						
NB2	**NORSAR Subarra**	**54.71**	**14**	P	**P**	**22 27 33.5**	**-0.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NOA	**NORSAR Array B**	**54.71**	**14**	P	**P**	**22 27 33.1**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.6,baz=348,slow=7.3,SNR=14						
NOA				LR	LR	22 50 23.1	
	comp=Z,17nm,18.0s,MS3.1,baz=5.0,slow=36						
ZAK	**Zakamensk**	**55.05**	**314**	*e*P	**P**	**22 27 35.6**	**-0.4**
FINES	**FINESS Array B**	**55.49**	**6**	P	**P**	**22 27 38.2**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.2,baz=5.5,slow=9.1,SNR=8.5						
FINES	**FINESS Array B**	**55.49**	**6**	*i*P	**P**	**22 27 38.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**55.49**	**6**	P	**P**	**22 27 38.2**	**-1.0**
ULN	**Ulaanbaatar**	**55.93**	**310**	*e*P	**P**	**22 27 41.1**	**-1.2**
SONM	**Songino Array**	**56.19**	**310**	P	**P**	**22 27 43.4**	**-0.7**
	comp=Z,1.8nm,1.0s,mb4.1,baz=8.8,slow=5.1,SNR=10						
ZAL	**Zalesovo**	**57.16**	**328**	P	**P**	**22 27 50.5**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=135,slow=4.3,SNR=4.0						
CHKZ	**Chkalovo**	**60.37**	**337**	*e*P	**P**	**22 28 11.5**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**60.37**	**337**	*e*P	**P**	**22 28 11.5**	**-2.0**
	comp=Z,1.4nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**61.35**	**338**	*e*P	**P**	**22 28 18.9**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**61.35**	**338**	*e*P	**P**	**22 28 18.9**	**-1.2**
	comp=Z,3.2nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**64.38**	**326**	P	**P**	**22 28 37.9**	**-2.4**
	comp=Z,1.2nm,0.6s,mb4.3,baz=46,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**64.38**	**326⇑**	*e*P	**P**	**22 28 38.2**	**-2.1**
BAIF	**Baives**	**64.39**	**22**	*e*P	**P**	**22 28 40.9**	**+0.6**
	comp=Z,8.4nm,0.8s,mb4.7						
BAIF	**Baives**	**64.39**	**22**	*e*P	**P**	**22 28 40.9**	**+0.6**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
BAIF	**Baives**	**64.39**	**22**	*e*P	**P**	**22 28 40.9**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.7						
GIVF	**Givet**	**64.45**	**22**	*e*P	**P**	**22 28 41.2**	**+0.5**
	comp=Z,17nm,1.0s,mb4.9						
GIVF	**Givet**	**64.45**	**22**	*e*P	**P**	**22 28 41.2**	**+0.5**
GIVF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
GIVF	**Givet**	**64.45**	**22**	*e*P	**P**	**22 28 41.2**	**+0.5**
	comp=Z,8.4nm,1

OKC	Ostrava-Krasne	66.47	12	*e*P	P	22 28 53.7	-0.2
CDF	Champ du Feu	66.48	20	*e*P	P	22 28 54.5	+0.6
KHC	Kasperske Hory	66.67	16	*e*P	P	22 28 55.0	-0.1
HAU	Haudompre	66.73	21	*e*P	P	22 28 56.0	+0.5
VRAC	Vranov	66.84	14⇓	*i*P	P	22 28 57.2	+1.0
VRAC	Vranov	66.84	14 ⇓	P	P	22 28 57.2	+1.0
GERES	GERESS Array B	66.96	16	P	P	22 28 57.2	+0.2
	comp=Z,0.3nm,0.6s,mb3.7,baz=343,slow=4.2,SNR=3.6						
HINF	Hinteralfeld	67.00	21	*e*P	P	22 28 57.4	+0.2
LOR	Lormes	67.02	23⇑	*i*P	P	22 28 57.7	+0.4
	comp=Z,8.6nm,0.8s,mb4.7						
LOR	Lormes	67.02	23⇑	*i*P	P	22 28 57.7	+0.4
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LOR	Lormes	67.02	23⇑	*i*P	P	22 28 57.7	+0.4
	comp=Z,4.3nm,0.8s,mb4.7						
SSF	Saint Saulge	67.16	23⇑	*i*P	P	22 28 58.7	+0.5
	comp=Z,11nm,1.0s,mb4.8						
SSF	Saint Saulge	67.16	23⇑	*i*P	P	22 28 58.7	+0.5
SSF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
SSF	Saint Saulge	67.16	23⇑	*i*P	P	22 28 58.7	+0.5
	comp=Z,5.3nm,1.0s,mb4.7						
STHS	Stebnicka Huta	67.17	10	*e*P	P	22 28 59.2	+0.9
STHS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						
STHS	Stebnicka Huta	67.17	10	*e*P	P	22 28 59.2	+0.9
	comp=Z,4.0nm,0.7s,mb4.8						
LZH	Lanzhou	67.38	306	*e*P	P	22 28 59.0	-0.6
LZH				AP		22 29 04.3	
LZH				XP	sP	22 29 07.0	+7.0
LZH				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.2						
LZH	Lanzhou	67.38	306	*e*P	P	22 28 59.1	-0.5
LZH				*PP		22 29 04.2	
LZH				*SP	sP	22 29 07.1	+7.1
LZH				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.2						
LZH	Lanzhou	67.38	306	*e*P	P	22 28 59.1	-0.5
	comp=Z,18nm,1.1s,mb5.2						
LZH				pP		22 29 04.2	
LZH				sP	sP	22 29 07.1	+7.1
AVF	Avril sur Loir	67.39	24⇑	*i*P	P	22 28 59.8	+0.1
	comp=Z,2.9nm,0.6s,mb4.4						
AVF	Avril sur Loir	67.39	24⇑	*i*P	P	22 28 59.8	+0.1
AVF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.2						
AVF	Avril sur Loir	67.39	24⇑	*i*P	P	22 28 59.8	+0.1
	comp=Z,1.5nm,0.6s,mb4.4						
BGF	Bois d'Agland	67.52	24	*e*P	P	22 29 00.6	+0.1
SMF	Signal de Mont	67.62	23	*e*P	P	22 29 01.3	+0.2
TCF	Toulx Ste Croi	67.66	25⇑	*i*P	P	22 29 01.8	+0.4
	comp=Z,31nm,1.5s,mb5.0						
TCF	Toulx Ste Croi	67.66	25⇑	*i*P	P	22 29 01.8	+0.4
TCF				pmax	pmax		
	comp=Z,16nm,1.5s,mb5.0						
TCF	Toulx Ste Croi	67.66	25⇑	*i*P	P	22 29 01.8	+0.4
	comp=Z,16nm,1.5s,mb5.0						
KOLS	Kolonicke sedl	67.73	10	*e*P	P	22 29 05.8	+4.0
VYHS	Vyhne	67.87	12	*e*P	P	22 29 03.3	+0.6
KECS	Kecovo	68.03	11	*e*P	P	22 29 03.8	+0.1
KECS	Kecovo	68.03	11	*e*P	P	22 29 03.9	+0.2
KECS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
KECS	Kecovo	68.03	11	*e*P	P	22 29 03.9	+0.2
	comp=Z,2.9nm,0.8s,mb4.6						
CABF	La Chapelle	68.04	22	*e*P	P	22 29 04.5	+0.7
	comp=Z,7.6nm,0.9s,mb4.6						
CABF	La Chapelle	68.04	22	*e*P	P	22 29 04.5	+0.7
CABF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
CABF	La Chapelle	68.04	22	*e*P	P	22 29 04.5	+0.7
	comp=Z,3.8nm,0.9s,mb4.6						
LFF	La Frestale	68.67	26	*e*P	P	22 29 08.3	+0.5
	comp=Z,8.5nm,0.7s,mb4.8						
LFF	La Frestale	68.67	26	*e*P	P	22 29 08.3	+0.5
LFF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						
LFF	La Frestale	68.67	26	*e*P	P	22 29 08.3	+0.5
	comp=Z,4.3nm,0.7s,mb4.8						
CAF	Calviac	68.95	25	*e*P	P	22 29 09.8	+0.4
LPL	La Plagne	69.21	21	*e*P	P	22 29 11.7	+0.6
LPG	La Plagne	69.23	21	*e*P	P	22 29 11.7	+0.5
BURAR	Bucovina Array	69.24	8⇓	*i*P	P	22 29 12.0	+0.7
BURAR	Bucovina Array	69.24	8 ⇓	P	P	22 29 12.0	+0.7
VIVF	Saint-Julien-l	69.50	23	*e*P	P	22 29 13.3	+0.4
	comp=Z,7.9nm,1.1s,mb4.5						
VIVF	Saint-Julien-l	69.50	23	*e*P	P	22 29 13.3	+0.4
VIVF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
VIVF	Saint-Julien-l	69.50	23	*e*P	P	22 29 13.3	+0.4
	comp=Z,4.0nm,1.1s,mb4.6						
ORIF	Oris-en-Rattie	69.65	22	*e*P	P	22 29 14.3	+0.5
PKSM	Moragy	70.11	13⇑	*i*P	P	22 29 17.3	+0.6
PKSM	Moragy	70.11	13 ⇑	P	P	22 29 17.3	+0.7
AAK	Ala-Archa	70.14	331⇑	*e*P	P	22 29 14.8	-2.0
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
ETSF	Etsaut	70.36	28	*e*P	P	22 29 19.3	+1.1
MTLF	Montolieu	70.50	25	*e*P	P	22 29 19.4	+0.4
BZS	Buzias	70.97	11⇑	*i*P	P	22 29 22.5	+0.6
BZS	Buzias	70.97	11 ⇑	P	P	22 29 22.6	+0.6
GZR	Gura Zlata	71.29	10⇑	*i*P	P	22 29 24.7	+0.9
GZR	Gura Zlata	71.29	10 ⇑	P	P	22 29 24.7	+0.9
ESDC	Sonseca Array	72.68	31	P	P	22 29 32.3	+0.1
	comp=Z,0.9nm,0.8s,mb4.0,baz=342,slow=4.6,SNR=6.4						
KIV	Kislovodsk	73.09	355⇑	*e*P	P	22 29 33.7	-0.9
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
GYA	Guiyang	74.87	299	P	P	22 29 44.0	-1.0
GYA				AP		22 29 47.0	
GYA				PCP	PcP	22 29 59.0	0.0
GYA				PP	PP	22 32 32.5	+0.2
GYA				S	S	22 39 19.3	-3.8
GYA				SKS		22 39 48.0	
GYA				SCS	ScS	22 39 53.0	-5.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,60nm,6.2s						
BRTR	Keskin Array B	77.44	2	P	P	22 29 59.3	-0.3
	comp=Z,1.5nm,1.0s,mb4.1,baz=0.0,slow=2.7,SNR=7.7						
BOSA	Boshof	144.76	16	PKP	PKPdf	22 37 39.5	-1.8
	comp=Z,5.0nm,0.7s,baz=5.7,slow=3.7,SNR=14						

*IDC **28** 23:01:23.3±1.7, 806S×1252±4E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=106.1km s-min=26.1km az=67.0*
*NEIC **28** 23:01:28.2±1.4, 806S×1254±4E, h35km, Error ellipse: s-maj=45.8km s-min=17.5km az=60.0*
*ISCJB **28** 23:01:31.9±2.1, 848S±009×1252E±0.1, h99km±25km, mb3.5/1, Error ellipse: s-maj=23.0km s-min=13.3km az=130.9*

ISC 28 23:01:36.6±2.2, 86S±01×1254E±01, h134km±25km, n11, σ0§86/17, mb3.5/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	8.06	121	*e*P	Pn	23 03 31.3	+0.4
	6.4nm,0.5s						
FITZ	Fitzroy Crossi	9.44	178	*e*P	Pn	23 03 48.5	-0.9
	2.0nm,0.3s						
FITZ				*e*S	Sn	23 05 33.9	+0.1
FITZ	Fitzroy Crossi	9.44	178	Pn	Pn	23 03 49.0	-0.4
	0.5nm,0.3s,baz=11,slow=11,SNR=15						
FITZ				Sn	Sn	23 05 34.3	+0.6
	1.0nm,0.3s,baz=268,slow=23,SNR=7.9						
WRAB	Tennant Creek	14.23	143	*e*Pn	Pn	23 04 52.8	+0.8
	2.7nm,0.5s						
WRA	Warramunga Arr	14.23	143	Pn	Pn	23 04 51.4	-0.6
	0.4nm,0.3s,baz=316,slow=12,SNR=9.0						
WRA				Sn	Sn	23 07 29.1	-0.2
	0.3nm,0.3s,baz=309,slow=24,SNR=6.1						
WB2	Warramunga Arr	14.24	143	*e*P	Pn	23 04 52.0	-0.1
WB2				*e*S	Sn	23 07 27.8	-1.7
WB2	Warramunga Arr	14.24	143	*e*Pn	Pn	23 04 51.9	-0.2
WB2				*e*Sn	Sn	23 07 33.2	+3.7
ASPA	Alice Springs	17.06	152	*e*P	Pn	23 05 32.1	+5.1
AS31	Alice Springs	17.06	152	*e*P	Pn	23 05 32.1	+5.1
ASAR	Alice Springs	17.06	152	P	Pn	23 05 30.4	+3.4
	0.3nm,0.3s,baz=319,slow=10,SNR=27						
ASAR				S	S	23 08 37.0	0.0
	0.2nm,0.3s,baz=312,slow=20,SNR=7.4						

MKAR	Makanchi Array	67.15	329	P	P	23 12 15.7	-0.3
	0.6nm,0.8s,mb3.5,baz=124,slow=7.1,SNR=9.1						

*CSEM **28** 23:23:29.2, 6783N×2020E, h0km, ML3.0, Mining explosion. After UPP*
*UPP **28** 23:23:29.2, 6783N×2020E, h0km, ML3.0, Mining explosion.*

HEL 28 23:23:29.8±0.0, 6783N×2020E, h0km, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	24	*i* P	Pg	23 23 32.1	-0.2
NIKU	Nikkaluokta	0.44	275	*i* P	Pg	23 23 37.7	-0.6
LANU	Lannavaara	0.71	71	*i* P	Pg	23 23 42.6	-0.8
LANU	Lannavaara	0.71	71	P	Pg	23 23 42.6	-0.8
	baz=306						
DUNU	Dundret	0.73	168	*i* P	Pg	23 23 42.8	-0.9
DUNU	Dundret	0.73	168	P	Pg	23 23 42.8	-1.0
	baz=73						
MASU	Masugnsbyn	0.79	118	*i* P	Pg	23 23 44.0	-0.9
SALU	Saltoluokta	0.79	236	*i* P	Pg	23 23 44.1	-0.9
KIF	Kilpisjarvi	1.20	10	*e*P	Pg	23 23 52.1	-0.7
KIF				*e*S	Sg	23 24 07.8	-0.5
PAJU	Pajala	1.39	124	*e*P	Pn	23 23 54.6	-1.8
ERTU	Ertsjaerv	1.50	148	*e*P	Pn	23 23 57.5	-0.4
ERTU	Ertsjaerv	1.50	148	P	Pn	23 23 57.5	-0.5
	baz=340						
HARU	Harads	1.71	169	*e*P	Pn	23 23 59.9	-0.8
SJUU	Sjulsmark	2.40	166	*e*P	Pn	23 24 10.9	+0.6
SJUU	Sjulsmark	2.40	166	P	Pn	23 24 10.9	+0.5
SGF	Sodankyl	2.45	96	*e*P	Pn	23 24 11.5	+0.5

MOS 28 23:27:21.6±1.6, 4228N×4887E, h10km, mb3.6/1, 1D, Error ellipse: s-maj=56.4km s-min=16.8km az=14.8, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	Urkarakh	0.93	263	*i*PG	Pg	23 27 38.5	-0.9
URKR				pmax	pmax		
	comp=Z,33nm,0.2s						
KMKR	Kumukh	1.33	264	*e*PG	Pg	23 27 45.5	-1.6
KMKR				pmax	pmax		
	comp=Z,29nm,0.3s						
KRNR	Karanay	1.55	291	*e*PG	Pg	23 27 48.0	-3.4
UNCR	Uncukul	1.60	287	*e*PG	Pg	23 27 51.3	-0.9
DBC	Dubki	1.68	297	*e*PN	Pn	23 27 51.8	+0.8
BTLR	Botlikh	2.00	282	*e*PN	Pn	23 27 59.0	+3.6

*ISCJB **28** 23:48:01.5±0.8, 7648N±003×224E±0.1, h13km±5km, mb4.0/21, MS3.0/3, Error ellipse: s-maj=5.8km s-min=4.2km az=160.2*
*CSEM **28** 23:48:01.0±0.1, 7649N×2281E, h10km, mb4.3/9, Ms2.9, Error ellipse: s-maj=4.6km s-min=1.4km az=63.0*
*IDC **28** 23:48:01.5±0.8, 7660N×2223E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.9/22, mbtmp3.8/14, ML4.1/5, MS2.9/6, Ms1 3.0/6, ms1mx2.6/28, Error ellipse: s-maj=17.2km s-min=11.8km az=81.0*
*MOS **28** 23:48:01.9±1.6, 7641N×2223E, h10km, mb4.4/10, Error ellipse: s-maj=49.9km s-min=5.6km az=90.5*
*NAO **28** 23:48:03.5±1.8, 7654N×2235E, h18km±12km, ML4.2*
*NEIC **28** 23:48:03.1±0.4, 7657N×2236E, h10km, mb4.3/9, Error ellipse: s-maj=9.4km s-min=5.3km az=75.0*
*BER **28** 23:48:04.8, 7662N×2251E, h6km, MD3.4, ML3.8, ML4.2(NAO)*
*HEL **28** 23:48:08.5±0.4, 7625N×2357E, h10km, ML4.3, mb4.3(NEIC), ML3.8(BER)*

ISC 28 23:48:02.5±0.6, 7657N±002×224E±01, h9km±4km, n134, σ1§08/171, mb4.0/21, MS3.0/3, 18C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	0.62	94	*e*P	Pg	23 48 15.6	+1.1
HOPEN				*e*Sg	Sg	23 48 23.4	+0.8
HOPEN				AML	AML	23 48 24.1	
	comp=N,34μm,0.2s						
HOPEN	Hopen	0.62	94	*i* P	Pg	23 48 15.6	+1.1
HOPEN				*i* S	Sg	23 48 23.4	+0.8
HOPEN				AML	AML	23 48 24.1	
	comp=N,4μm,0.2s						
SPA0	Spitsbergen Ar	2.09	324	Pn	Pn	23 48 37.5	-0.1
	baz=152,slow=16						
SPA0				Pg	Pg	23 48 42.1	-0.4
	baz=137,slow=22						
SPA0				Sn	Sn	23 49 02.4	-1.3
	baz=132,slow=22						
SPA0				Lg		23 49 10.0	
	baz=140,slow=37						
SPA0	Spitsbergen Ar	2.09	324	*e*	Pn	23 48 37.5	-0.1
SPA0				*e*		23 48 42.1	
SPA0				*e*		23 49 02.4	
SPA0				*e*		23 49 10.0	
SPA0	Spitsbergen Ar	2.09	324	Pg	Pg	23 48 42.1	-0.4
	SNR=7.1						
SPA0				Sn	Sn	23 49 02.4	-1.2
	SNR=3.7						
SPB4	Spitsbergen Ar	2.09	324	*e*Pn	Pn	23 48 37.6	0.0
SPB4				*e*Sn	Sn	23 49 06.0	+2.2
SPB4	Spitsbergen Ar	2.09	324	*e*Pn	Pn	23 48 37.6	0.0
BJO	Bjornoya	2.23	203	*e*Pg	Pg	23 48 45.5	+0.4
BJO				*e*Sg	Sg	23 49 15.3	+1.3
BJO				AML	AML	23 49 20.6	
	comp=Z,3μm,0.6s						
BJO	Bjornoya	2.23	203	*e*Pg	Pg	23 48 45.5	+0.4
	SNR=91						
BJO1	Bjornoya	2.25	204	*e*PG	Pg	23 48 45.5	0.0
BJO1				*e*SG	Sg	23 49 15.3	+0.7
BJO1				AML	AML	23 49 20.6	
	comp=Z,3μm,0.6s						
BJO1	Bjornoya	2.25	204	*e*P	Pn	23 48 43.4	+3.6
BJO1				*e*S	Sn	23 49 14.6	+7.0
KBS	Kingsbay	3.25	322	Pn	Pn	23 48 52.9	-0.6
KBS				Pg	Pg	23 49 03.0	-1.6
KBS				Sn	Sn	23 49 29.7	-2.5
KBS				Lg		23 49 46.8	
KBS	Kingsbay	3.25	322	*e*P	Pn	23 48 53.0	-0.5
KBS				*e*S	Sn	23 49 29.1	-3.1
KBS				*e*Sg	Sg	23 49 46.4	-0.4
KBS				AML	AML	23 49 54.2	
	comp=Z,1μm,0.7s						
KBS	Kingsbay	3.25	322	*e*P	Pn	23 48 52.0	-1.5
KBS				*e*S	Sn	23 49 29.1	-3.1
KBS	Kingsbay	3.25	322	*e*Pn	Pn	23 48 52.0	-1.5
KBS				*e*P		23 48 53.0	
KBS				*e*S	Sn	23 49 29.1	-3.1
KBS				*e*Sn	Sn	23 49 30.7	-1.5
KBS				*e*Sg	Sg	23 49 46.5	-0.2
KBS	Kingsbay	3.25	322	*e*P	Pn	23 48 53.0	-0.5
	SNR=50						
KBS	Kingsbay	3.25	322	Pg	Pg	23 49 03.0	-1.7
KBS				Sn	Sn	23 49 29.7	-2.5
KBS				*e*Sg	Sg	23 49 46.3	-0.4
	SNR=91						
KEV	Kevo	6.98	167	*e*P	Pn	23 49 45.0	+0.3
KEV				*e*S	Sn	23 50 57.4	-6.9
KEV				MSN		23 51 03.6	
	comp=Z,89nm,0.3s						
KEV	Kevo	6.98	167	*e*P	Pn	23 49 45.1	+0.3
KEV				*e*		23 51 00.8	
KEV				pmax	pmax		
	comp=Z,52nm,0.6s						
KEV	Kevo	6.98	167	*e*Pn	Pn	23 49 45.1	+0.3
	comp=Z,52nm,0.6s						
KEV				*e*Sn	Sn	23 51 00.8	-3.5
KEV	Kevo	6.98	167	P	Pn	23 49 45.0	+0.2
TRO	Tromso	7.04	190	*e*P	Pn	23 49 44.8	-0.9
TRO				*e*S	Sn	23 50 58.9	-7.0
TRO				AML	AML	23 51 14.8	
	comp=Z,29nm,0.2s						
TRO	Tromso	7.04	190	*e*P	Pn	23 49 44.8	-0.9
TRO				*e*S	Sn	23 50 58.9	-7.0
ARA0	ARCESS Array S	7.13	171	Pn	Pn	23 49 45.5	-1.4
	baz=354,slow=12						
ARA0				Sn	Sn	23 51 00.7	-7.3
	baz=2.1,slow=22						
ARA0	ARCESS Array S	7.13	171	*e*P	Pn	23 49 45.5	-1.4
ARA0				*e*S	Sn	23 51 00.7	-7.3
ARCES	ARCESS Array B	7.13	171	Pn	Pn	23 49 47.0	+0.1
	comp=Z,6.4nm,0.3s,baz=353,slow=10,SNR=147						
ARCES				Sn	Sn	23 51 00.7	-7.3
	comp=Z,47nm,0.3s,baz=2.4,slow=20,SNR=12						
ARCES				LR	LR	23 52 32.6	
	comp=Z,143nm,19.4s,baz=130,slow=38						
ARCES	ARCESS Array B	7.13	171	P	Pn	23 49 47.0	+0.1
ARCES						23 51 00.7	
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ARCES				smax			
	comp=N,47nm,0.3s						
ARE0	ARCESS Array S	7.13	171	*e*Pn	Pn	23 49 48.2	+1.3
ARE0				*e*Sn	Sn	23 51 01.8	-6.2
KTK1	Kautokeino	7.60	178	*e*P	Pn	23 49 53.3	-0.1
KTK1				*e*S	Sn	23 51 15.2	-4.5
KTK1				AML	AML	23 52 12.6	
	comp=Z,79nm,0.7s						
KTK1	Kautokeino	7.60	178	*e*P	Pn	23 49 53.3	-0.1
KTK1				*e*S	Sn	23 51 15.2	-4.5
KIF	Kilpisjarvi	7.62	184	*e*P	Pn	23 49 53.5	-0.1
KIF				*e*S	Sn	23 51 13.5	-6.5
KIF				MSN		23 51 21.1	
	comp=Z,64nm,0.3s						
KIF	Kilpisjarvi	7.62	184	P	Pn	23 49 53.4	-0.2
LANU	Lannavaara	8.57	181	P	Pn	23 50 07.1	+0.5
NIKU	Nikkaluokta	8.81	188	P	Pn	23 50 10.1	+0.2
LOF	Lofoten	8.88	202	*e*P	Pn	23 50 12.0	+1.1
LOF				*e*S	Sn	23 51 45.7	-5.3
MASU	Masugnsbyn	9.16	181	P	Pn	23 50 15.1	+0.3
SGF	Sodankyl	9.26	170	*e*P	Pn	23 50 14.5	-1.6
SGF				*e*S	Sn	23 51 50.5	-10
SGF				MSN		23 51 55.7	
	comp=Z,133nm,0.3s						
SGF	Sodankyl	9.26	170	P	Pn	23 50 14.4	-1.7
SALU	Saltoluokta	9.31	189	P	Pn	23 50 17.8	+1.0
DUNU	Dundret	9.52	184	P	Pn	23 50 21.6	+2.0
APA0	Apatity Array	9.56	155	Pn	Pn	23 50 18.9	-1.2
	baz=338,slow=11						
APA0				Sn	Sn	23 51 58.0	-10
	baz=350,slow=22						
APA0	Apatity Array	9.56	155	*e*P	Pn	23 50 18.9	-1.2
APA0				*e*S	Sn	23 51 58.0	-10
PAJU	Pajala	9.60	178	P	Pn	23 50 20.8	+0.1
APA	Apatity	9.63	154⇑	*i*P	Pn	23 50 21.0	-0.2
APA				*e*		23 52 00.0	
APA				pmax	pmax		
	comp=Z,170nm,1.7s						
APA	Apatity	9.63	154	*i* P	Pn	23 50 21.0	-0.2
	comp=Z,170nm,1.7s						
ERTU	Ertsjaerv	10.07	180	P	Pn	23 50 28.1	+0.9
JMIC	Jan Mayen	10.15	253	Pn	Pn	23 50 27.8	-0.5
	comp=Z,16nm,0.3s,baz=41,slow=3.8,SNR=6.0						
HARU	Harads	10.47	183	P	Pn	23 50 32.9	+0.2
KU4	Liikasenvaara	10.50	164	*e*P	Pn	23 50 31.8	-1.3
KU4				*e*S	Sn	23 52 20.5	-10
KU4				MSN		23 52 21.9	
	comp=Z,42nm,0.4s						
KU4	Liikasenvaara	10.50	164	P	Pn	23 50 31.7	-1.3
MOR8	Moi Rana	10.74	198	*e*Pn	Pn	23 50 36.7	+0.3
MOR8				AML	AML	23 52 53.0	
	comp=Z,14nm,0.7s						
KU6	Riekki	10.85	164	*e*P	Pn	23 50 36.0	-1.9
KU6				*e*S	Sn	23 52 28.6	-11
MSF	Maaselka	10.91	165	*e*P	Pn	23 50 37.0	-1.7
MSF				*e*S	Sn	23 52 29.8	-11
MSF				MSN		23 52 35.5	
	comp=Z,96nm,0.5s						
SJUU	Sjulsmark	11.12	182	P	Pn	23 50 40.6	-1.0
LILU	Liiltraesk	11.37	185	P	Pn	23 50 45.0	0.0
OUL	Oulu	11.60	173	*e*P	Pn	23 50 46.0	-2.1
OUL				*e*S	Sn	23 52 44.6	-13
OUL				MSN		23 52 50.2	
	comp=Z,47nm,0.3s						
BURU	Burvik	12.05	182	P	Pn	23 50 53.4	-0.9
SVAU	Svanoeiden	12.17	186	P	Pn	23 50 55.2	-0.8
NSS	Namsos	12.55	201	*e*Pn	Pn	23 51 02.0	+0.9
KJN	Kajaani	12.66	169	*e*P	Pn	23 51 00.1	-2.6
KJN				*e*S	Sn	23 53 10.7	-13
KJN				MSN		23 53 17.4	
	comp=Z,42nm,0.3s						
UMAU	Umeaa	12.76	183	P	Pn	23 51 02.5	-1.5
BREU	Bredtraesk	12.80	188	P	Pn	23 51 03.8	-0.8
SOLU	Sollefteaa	13.49	190	P	Pn	23 51 14.0	0.0
JOF	Joensuu	14.03	163	*e*p	Pn	23 51 15.7	-5.6
	comp=Z,3.6nm,0.5s						
JOF	Joensuu	14.03	163	*e*P	Pn	23 51 15.7	-5.6
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAF	Kangasniemi	14.59	173	*e*p	Pn	23 51 25.2	-3.7
	comp=Z,2.7nm,0.4s						
KAF	Kangasniemi	14.59	173	*e*P	Pn	23 51 25.2	-3.7
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FIA0	FINESS Array S	15.25	173	Pn	Pn	23 51 33.9	-4.0
	baz=1.0,slow=12						
FIA0				Sn	Sn	23 54 15.0	-12
	baz=8.1,slow=22						
FIA0	FINESS Array S	15.25	173	*e*P	Pn	23 51 33.9	-4.0
FIA0				*e*S	Sn	23 54 15.0	-12
FINES	FINESS Array B	15.25	173	Pn	Pn	23 51 34.1	-3.7
	comp=Z,0.5nm,0.3s,baz=9.2,slow=10,SNR=23						
FINES				Sn	Sn	23 54 14.5	-12
	comp=Z,2.9nm,0.3s,baz=2.6,slow=21,SNR=9.6						
FINES				LR	LR	23 57 24.7	
	comp=Z,51nm,19.1s,baz=350,slow=37						
NB2	NORSAR Subarra	16.06	200	P	Pn	23 51 48.4	0.0
	baz=14,slow=14						
NB2	NORSAR Subarra	16.06	200	*e*P	Pn	23 51 48.4	0.0
NOA	NORSAR Array B	16.06	200	Pn	Pn	23 51 46.9	-1.5
	comp=Z,0.9nm,0.3s,baz=14,slow=13,SNR=7.6						
NOA				LR	LR	23 58 15.5	
	comp=Z,36nm,20.6s,baz=340,slow=38						
NOA	NORSAR Array B	16.06	200	Pn	Pn	23 51 46.9	-1.5
NOA				LR	LR	23 58 15.6	
HFS	Hagfors	16.78	195	Pn	Pn	23 51 55.0	-2.6
	comp=Z,0.3nm,0.3s,baz=42,slow=18,SNR=7.4						
HFS				Sn	Sn	23 54 54.4	-10
	comp=Z,0.8nm,0.3s,baz=16

CABF	La Chapelle	30.80	202	eP	P	23 54 19.0 +0.7
	comp=Z,9.9nm,1.0s,mb4.3					
CABF	La Chapelle	30.80	202	eP	P	23 54 19.0 +0.7
CABF				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.3					
CABF	La Chapelle	30.80	202	eP	P	23 54 19.0 +0.7
	comp=Z,4.9nm,1.0s,mb4.3					
AVF	Avril sur Loir	30.88	206	⇑iP	P	23 54 19.7 +0.6
	comp=Z,8.6nm,1.0s,mb4.2					
AVF	Avril sur Loir	30.88	206	⇑iP	P	23 54 19.7 +0.6
AVF				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.2					
AVF	Avril sur Loir	30.88	206	⇑iP	P	23 54 19.7 +0.6
	comp=Z,4.3nm,1.0s,mb4.2					
BGF	Bois d'Agland	31.16	206	eP	P	23 54 22.6 +1.0
MFF	Saint Martin d	31.45	210	⇑iP	P	23 54 25.3 +1.2
TCF	Toulx Ste Croi	31.49	207	⇑iP	P	23 54 25.6 +1.1
	comp=Z,11nm,1.1s,mb4.3					
TCF	Toulx Ste Croi	31.49	207	⇑iP	P	23 54 25.6 +1.1
TCF				pmax	pmax	
	comp=Z,6.0nm,1.1s,mb4.3					
TCF	Toulx Ste Croi	31.49	207	⇑iP	P	23 54 25.6 +1.1
	comp=Z,5.5nm,1.1s,mb4.3					
EPF	Esparros	34.92	209	⇑iP	P	23 54 55.6 +1.2
	comp=Z,13nm,0.7s,mb4.6					
EPF	Esparros	34.92	209	⇑iP	P	23 54 55.6 +1.2
EPF				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.7					
EPF	Esparros	34.92	209	⇑iP	P	23 54 55.6 +1.2
	comp=Z,6.5nm,0.7s,mb4.6					
ETSF	Etsaut	35.15	210	⇑iP	P	23 54 58.0 +1.6
	comp=Z,6.6nm,0.8s,mb4.3					
ETSF	Etsaut	35.15	210	⇑iP	P	23 54 58.0 +1.6
ETSF				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.3					
ETSF	Etsaut	35.15	210	⇑iP	P	23 54 58.0 +1.6
	comp=Z,3.3nm,0.8s,mb4.3					
BRTR	Keskin Array B	37.28	166	P	P	23 55 14.1 -0.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=0.6,slow=6.7,SNR=14					
BRTR	Keskin Array B	37.28	166	P	P	23 55 14.1 -0.5
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
MK31	Makanchi Array	38.10	106	eP	P	23 55 22.2 +0.7
MKAR	Makanchi Array	38.10	106	P	P	23 55 21.7 +0.2
	comp=Z,1.2nm,0.7s,mb3.7,baz=340,slow=7.0,SNR=11					
MKAR	Makanchi Array	38.10	106	P	P	23 55 21.7 +0.2
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
ESDC	Sonseca Array	38.75	213	P	P	23 55 26.4 -0.6
	comp=Z,1.2nm,0.7s,mb3.8,baz=8.5,slow=8.2,SNR=13					
SONM	Songino Array	42.70	81	P	P	23 56 00.7 +1.1
	comp=Z,0.7nm,0.7s,mb3.5,baz=339,slow=6.5,SNR=6.7					
ULM	Lac du Bonnet	47.59	310	P	P	23 56 39.2 +0.8
	comp=Z,2.2nm,0.6s,mb4.4,baz=46,slow=8.3,SNR=5.8					
ULM	Lac du Bonnet	47.59	310	P	P	23 56 39.2 +0.8
MSO	Missoula	53.79	324	eP	P	23 57 25.3 +0.1
	comp=Z,4.6nm,0.9s,mb4.4					
MSO	Missoula	53.79	324	eP	P	23 57 25.3 +0.1
	comp=Z,4.6nm,0.9s,mb4.4					
PDAR	Pinedale Array	57.13	319	P	P	23 57 49.2 -0.1
	comp=Z,1.1nm,1.0s,mb3.8,baz=32,slow=5.3,SNR=4.7					
SMCO	Snowmass	60.23	316	eP	P	23 58 11.7 +0.8
	comp=Z,0.7nm,0.7s,mb3.8					
SMCO	Snowmass	60.23	316	eP	P	23 58 11.7 +0.8
	comp=Z,0.7nm,0.7s,mb3.8					
PV01	Paradox Valley	61.51	317	eP	P	23 58 20.3 +0.8
PV01	Paradox Valley	61.51	317	eP	P	23 58 20.3 +0.8
MSU	Marysvale	61.69	321	eP	P	23 58 22.2 +1.4
TORD	Torodi Ar. Bea	64.36	202	P	P	23 58 37.3 -1.2
	comp=Z,1.6nm,1.0s,mb4.0,baz=354,slow=7.6,SNR=15					
TXAR	Lajitas Array	69.28	311	P	P	23 59 09.3 -0.6
	comp=Z,0.2nm,0.5s,mb3.3,baz=61,slow=4.4,SNR=3.5					
TXAR	Lajitas Array	69.28	311	P	P	23 59 09.3 -0.6
MAW	Mawson	146.09	154	PKPbc	PKPbc	00 07 41.5 -1.3
	comp=Z,1.6nm,0.8s,baz=314,slow=5.3,SNR=6.2					
MAW	Mawson	146.09	154	ePKPdf	PKPdf	00 07 41.0 -0.9
MAW				PKPbc	PKPbc	00 07 41.5 -1.3
VNA2	Neumayer--Watz	148.38	198	e	PKPdf	00 07 47.4 +1.7
VNA2				e		00 07 54.5
VNA3	Neumayer Olymp	148.86	199	e	PKPdf	00 07 45.6 -0.9
VNA3				e		00 07 52.4

*CASC **28** 23:55:31.4±2.1, 1270N×9036W, h15km±17km, MD4.2, ML4.2, mb4.5(NEIC)*
*ISCJB **28** 23:55:38.0±1.1, 1307N±008×8990W±006, h37km±9km, mb4.3/26, MS3.8/9, Error ellipse: s-maj=15.7km s-min=7.1km az=60.7*
*NEIC **28** 23:55:39.3±0.7, 1292N×9012W, h35km, mb4.5/12, Error ellipse: s-maj=16.1km s-min=7.8km az=206.0*
*BJI **28** 23:55:39.2, 1290N×9010W, h35km, Ms4.9, Msz4.8*
*IDC **28** 23:55:44.6±4.2, 1327N×8974W, h87km±40km, mb3.9/15, mb1 4.0/17, mb1mx3.9/26, mbtmp4.2/17, MS3.7/8, Ms1 3.6/8, ms1mx3.2/29, Error ellipse: s-maj=29.1km s-min=12.8km az=50.0*
ISC 28 23:55:40.7±0.9, 1322N±008×8978W±006, h40km±8km, n243, σ0.8 80/223, mb4.3/26, MS3.8/9, 83C-64D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.63	14	↓eP	x	23 55 55.4	
RTR	El Retiro	0.68	11	↑eP	x	23 55 55.9	
BOQS	Boqueron	0.70	44	↓eP	x	23 55 56.8	
BOQS				eS	x	23 56 18.3	
SNET	Serv Nac Est T	0.71	49	eP	x	23 55 58.5	
SNET				eS	x	23 56 18.6	
SNET				e		23 56 42.4	
	comp=Z,4μm,1.1s						
LFRS	El Faro	0.81	60	↑eP	x	23 55 57.7	
LBRS	Las Brisas	0.88	54	↑eP	x	23 55 59.4	
LBRS				eS	x	23 56 20.8	
RBDL	Robledal	0.89	6	↑eP	x	23 55 58.6	
LCBS	La Ceiba	0.89	61	↑eP	x	23 55 58.9	
SNVI	San Vicente	1.00	67	eP	x	23 56 00.4	
MTO2	Montecristo 2	1.24	19	↑eP	x	23 56 04.1	
VSM	San Miguel	1.48	82	↓eP	x	23 56 07.1	
BLLM	Bellamira	1.52	82	eP	x	23 56 06.9	
BLLM				eS	x	23 56 33.6	
CNCH	Conchagua	1.90	88	↓eP	x	23 56 11.4	
TGUH	Tegucigalpa,Un	2.58	71	ePn	Pn	23 56 25.0	+5.1
CCIG	Comitan	3.80	323	iP	Pn	23 56 36.4	-0.3
CCIG				iS	Sn	23 57 14.4	-5.7
CAO	Cobano	5.77	127	↑eP	Pn	23 57 03.3	-0.4
CMIG	Matias Romero	6.25	309	P	Pn	23 57 08.4	-2.0
	comp=Z,1.4nm,0.3s,baz=174,slow=11,SNR=13						
CMIG	Matias Romero	6.25	309	iP	Pn	23 57 06.7	-3.7
CMIG				iS	Sn	23 58 09.9	-11
HUIG	Huatulco	6.63	293	iS	Sn	23 58 15.8	-14
TEIG	Tepich	7.11	11	ePn	Pn	23 57 32.0	+10
OXX	Oaxaca	7.72	301	eP	Pn	23 57 30.0	-0.6
VHO	Vista Hermosa	7.73	301	iP	Pn	23 57 27.7	-2.9
VHO				iS	Sn	23 58 51.3	-5.5
PPM	Popocatepetl	10.29	306	iP	Pn	23 58 03.1	-2.7
CAIG	El Cayaco	10.81	292	iP	Pn	23 58 06.7	-6.3
ROSC	El Rosal	17.36	117	P	Pn	23 59 41.5	+1.5
	comp=Z,1.0nm,0.3s,baz=106,slow=23,SNR=8.7						
NATX	Nacogdoches	18.99	347	eP	Pn	00 00 00.1	+0.3
SDV	Santo Domingo	19.28	101	P	Pn	00 00 04.0	+0.7
	comp=Z,0.4nm,0.3s,baz=298,slow=4.8,SNR=4.1						
JCT	Junction City	19.51	333	ePn	Pn	00 00 07.6	+1.6
TXAR	Lajitas Array	20.57	323	P	P	00 00 16.5	+0.5
	comp=Z,5.1nm,0.7s,baz=145,slow=10,SNR=48						
OXF	Oxford	21.20	1	eP	P	00 00 26.6	+3.8
UALR	University of	21.58	354	eP	P	00 00 29.7	+2.7
	comp=Z,18nm,0.8s,mb4.5						
PLAL	Pickwick Lake	21.72	4	eP	P	00 00 30.6	+2.3
	comp=Z,9.7nm,0.8s,mb4.3						
LPIG	La Paz	22.22	302	LR	LR	00 10 32.8	
	comp=Z,168nm,18.0s,MS3.5,slow=40						
WMOK	Wichita Mounta	22.92	341	eP	P	00 00 39.4	-1.8
TKL	Tuckaleechee C	22.99	13	P	P	00 00 42.9	+1.1
	comp=Z,10nm,0.8s,mb4.3,baz=200,slow=7.0,SNR=6.1						
TKL				LR	LR	00 10 22.0	
	comp=Z,267nm,19.2s,MS3.7,baz=355,slow=38						
TKL	Tuckaleechee C	22.99	13	P	P	00 00 42.9	+1.1
TKL				LR	LR	00 10 22.0	
ATAH	Atahualpa	23.06	150	P	P	00 00 45.1	+2.5
	comp=Z,10nm,0.9s,mb4.2,baz=48,slow=3.9,SNR=4.4						
GDL2	Guadalupe Moun	23.14	327	eP	P	00 00 44.2	+0.8
MNTX	Cornudas Mount	23.31	325	eP	P	00 00 43.9	-1.4
	comp=Z,22nm,1.1s,mb4.5						
AMTX	Amarillo	24.11	335	eP	P	00 00 51.5	-1.1
SIUC	Southern Illin	24.40	1	eP	P	00 00 56.4	+1.1
	comp=Z,24nm,0.8s,mb4.7						
USIN	University of	24.71	4	eP	P	00 01 00.8	+2.7
PCRV	Puerto La Cruz	24.80	94	LR	LR	00 11 12.4	
	comp=Z,71nm,18.1s,MS3.2,baz=119,slow=37						
BNM	Barren Site	25.85	327	eP	P	00 01 09.7	+1.3
ANMO	Albuquerque	26.37	328	P	P	00 01 13.8	+0.7
	comp=Z,1.3nm,0.8s,mb3.5,baz=155,slow=9.9,SNR=4.3						
TUC	Tucson	27.03	318	eP	P	00 01 19.9	+0.8
116A	Eloy	27.80	317	↓P	P	00 01 26.2	+0.3
	baz=28						
SDCO	Great Sand Dun	28.16	333	eP	P	00 01 32.4	+3.2
	comp=Z,9.8nm,1.5s,mb4.2						
115A	Sonoran Desert	28.23	317	↓P	P	00 01 30.4	+0.6
	baz=28						
MVCO	Mesa Verde	29.16	328	↑P	P	00 01 38.3	+0.2
	baz=29						
X15A	Humboldt	29.36	320	↑P	P	00 01 40.1	+0.3
	baz=30						
Y14A	Wickenburg	29.50	318	↑P	P	00 01 41.2	+0.1
	baz=30						
WUAZ	Wupatki	29.52	322	eP	P	00 01 42.2	+0.9
	comp=Z,8.6nm,0.9s,mb4.5						
WUAZ	Wupatki	29.52	322	↓P	P	00 01 41.7	+0.4
	baz=30						
X14A	Yava	29.77	319	↓P	P	00 01 43.5	+0.1
	baz=30						
W15A	Williams	29.84	321	↑P	P	00 01 44.5	+0.4
	baz=30						
SMCO	Snowmass	29.99	333	eP	P	00 01 46.2	+0.8
	comp=Z,28nm,1.6s,mb4.7						
GLA	Glamis	30.19	315	eP	P	00 01 43.6	-3.6
GLA	Glamis	30.19	315	↓P	P	00 01 46.9	-0.3
	baz=30						
PV10	Paradox Valley	30.33	329	eP	P	00 01 48.1	-0.4
W14A	Seligman	30.36	320	↓P	P	00 01 48.9	+0.1
	baz=30						
Y12C	Blythe	30.39	316	↓P	P	00 01 49.2	+0.2
	baz=30						
X13A	Yucca	30.45	318	↑P	P	00 01 49.6	+0.2
	baz=30						
W13A	Hualapai Mount	30.80	319	↑P	P	00 01 52.9	+0.4
	baz=31						
BC3	Big Chuckw Mtn	30.97	315	P	P	00 01 54.4	+0.4
	baz=31,SNR=8.1						
IRM	Iron Mountain	31.05	316	↓P	P	00 01 54.9	+0.1
	baz=31						
MONP	Monument Peak	31.22	313	↑P	P	00 01 56.4	+0.1
	baz=31						
BELC	Belle Mtn.	31.54	315	↓P	P	00 01 59.1	+0.1
	baz=32						
PFO	Pinyon Flat Ob	31.63	314	↑P	P	00 01 59.9	0.0
	baz=32						
SRU	San Rafael	31.64	328	eP	P	00 02 00.6	+0.6
109C	Camp Elliot, M	31.70	313	↑P	P	00 01 60.0	-0.6
	baz=32						
V12A	Nelson	31.80	319	↓P	P	00 02 02.0	+0.6
	baz=32,SNR=6.0						
U12A	Valley of Fire	32.05	320	↑P	P	00 02 04.0	+0.4
	baz=32						
MSU	Marysvale	32.08	326	eP	P	00 02 04.5	+0.7
MURC	Murrieta	32.15	314	↑P	P	00 02 04.8	+0.4
	baz=32						
HEC	Hector,Ludlow	32.23	316	↑P	P	00 02 05.6	+0.4
	baz=32						
BFSC	Mount Baldy St	32.81	314	↓P	P	00 02 10.5	+0.3
	baz=33						
GSC	Goldstone	32.83	317	↓P	P	00 02 11.0	+0.6
	baz=33						
MPU	Maple Canyon	32.89	328	eP	P	00 02 11.2	+0.3
DAU	Daniels Canyon	32.99	329	eP	P	00 02 12.4	+0.5
EDW2	Edwards Air Fo	33.39	315	↑P	P	00 02 14.9	-0.4
	baz=34						
CTU	Camp Tracy	33.45	329	eP	P	00 02 16.5	+0.7
LRMC	Laurel Mountai	33.52	316	↑P	P	00 02 16.7	+0.3
	baz=34						
FURC	Furnace Creek,	33.55	318	↓P	P	00 02 17.3	+0.6
	baz=34						
TCUT	Toone Canyon	33.60	330	eP	P	00 02 17.4	+0.2
DUG	Dugway	33.63	327	eP	P	00 02 17.7	+0.3
DUG	Dugway	33.63	327	↓P	P	00 02 17.8	+0.4
	baz=34						
MPMC	Manual Prospec	33.72	317	↓P	P	00 02 18.3	+0.1
	baz=34						
OSI	Osito Adit	33.76	314	↓P	P	00 02 18.7	+0.2
	baz=34						
DAC	Darwin (Calif)	33.91	317	eP	P	00 02 21.4	+1.6
Q12A	Willow Creek R	33.94	324	↑P	P	00 02 20.6	+0.5
	baz=34						
PDAR	Pinedale Array	34.05	334	P	P	00 02 19.9	-1.1
	comp=Z,0.7nm,0.8s,mb3.6,baz=143,slow=7.0,SNR=6.0						
HWUT	Hardware Ranch	34.05	330	eP	P	00 02 20.8	-0.2
	comp=Z,16nm,1.4s,mb4.8						
ARVC	Arvin	34.10	315	↓P	P	00 02 21.4	-0.1
	baz=34						
ISA	Isabella	34.15	316	↓P	P	00 02 22.4	+0.5
	baz=34						
SPUT	South Promonto	34.27	329	eP	P	00 02 21.4	-1.6
P12A	McGill	34.27	324	P	P	00 02 23.9	+1.0
	baz=34,SNR=11						
Q11A	Duckwater	34.29	323	↓P	P	00 02 23.5	+0.3
	baz=34						
R10A	Warm Springs	34.32	321	↑P	P	00 02 23.6	+0.3
	baz=34						
CWC	Cottonwood Cre	34.33	317	↑P	P	00 02 23.7	+0.3
	baz=34						
S09A	Goldfield	34.53	320	↓P	P	00 02 25.5	+0.3
	baz=35,SNR=5.2						
VES	Vestal, Richgr	34.66	316	↑P	P	00 02 26.5	+0.2
	baz=35						
PKM	Peak Mountain	34.67	314	↑P	P	00 02 26.4	0.0
	baz=35						
O12A	Currie	34.73	325	↑P	P	00 02 27.3	+0.4
	baz=35						
R09A	Tonopah	34.76	321	↑P	P	00 02 27.7	+0.6
	baz=35,SNR=6.1						
P11A	Circle Ranch,	34.81	324	↑P	P	00 02 28.2	+0.6
	baz=35						
N13A	Wendover, West	34.85	327	↑P	P	00 02 28.3	+0.4
	baz=35						
S08C	White Mtn Res	35.00	319	↑P	P	00 02 29.6	+0.3
	baz=35,SNR=9.2						
RCTC	Rector, Farmer	35.03	316	↑P	P	00 02 30.0	+0.6
	baz=35						
HELL	Mitchell Peak,	35.09	317	P	P	00 02 30.4	+0.4
	baz=35,SNR=11						
REDW	Red Top Meadow	35.09	333	eP	P	00 02 29.9	-0.2
SNOW	Snow King Moun	35.13	333	eP	P	00 02 30.4	0.0
O11A	Cowboy Ranch,	35.15	324	↓P	P	00 02 31.2	+0.7
	baz=35						
LOHW	Long Hollow	35.18	333	eP	P	00 02 30.6	-0.2
	comp=Z,4.1nm,0.8s,mb4.4						
M13A	Montello	35.19	327	↓P	P	00 02 31.4	+0.6
	baz=35						
Q09A	Carvers	35.20	321	↑P	P	00 02 31.7	+0.8
	baz=35						
TPAW	Teton Pass	35.23	333	eP	P	00 02 31.6	+0.3
	comp=Z,17nm,1.2s,mb4.9						
P10A	Eureka	35.27	323	↑P	P	00 02 31.9	+0.3
	baz=35						
RRI2	Red Ridge	35.29	332	eP	P	00 02 31.6	-0.1
N12A	Clover Valley,	35.29	326	↑P	P	00 02 32.3	+0.5
	baz=35						
MOOW	Moose Ponds	35.35	333	eP	P	00 02 31.8	-0.5
R08A	Mina	35.47	320	↓P	P	00 02 33.8	+0.6
	baz=36						
IMW	Indian Meadow	35.55	333	eP	P	00 02 34.1	+0.1
	comp=Z,3.7nm,0.7s,mb4.4						
M12A	Wells	35.62	327	↑P	P	00 02 34.8	+0.2
	baz=36						
NVAR	Mina Array Bea	35.64	320	P	P	00 02 35.1	+0.3
	comp=Z,5.9nm,0.7s,mb4.6,baz=127,slow=9.2,SNR=46						
NVAR				PcP	PcP	00 05 01.6	-1.0
	comp=Z,0.9nm,0.7s,baz=150,slow=2.9,SNR=4.0						
KCC	Kaiser Creek	35.65	318	↓P	P	00 02 34.7	-0.1
	baz=36						
N11A	Elko Archery C	35.65	325	↑P	P	00 02 35.1	+0.3
	baz=36						
PKD	Parkfield	35.72	315	↑P	P	00 02 34.9	-0.5
	baz=36						
T06C	Millerton Lake	35.73	317	↑P	P	00 02 35.7	+0.2
	baz=36						
O10A	Cortez Mining,	35.73	324	↓P	P	00 02 36.1	+0.5
	baz=36						
V04C	Ramage Ranch,	35.79	314	↓P	P	00 02 36.2	+0.2
	baz=36						
R07C	Lee Vining	35.91	319	↑P	P	00 02 37.7	+0.6
	baz=36						
N10A	Dunphy	36.02	324	⇑P	P	00 02 38.3	+0.3
	baz=36						
O09A	Fish Creek Ran	36.05	323	↓P	P	00 02 38.6	+0.4
	baz=36						
M11A	Holland Ranch,	36.10	326	⇑P	P	00 02 39.4	+0.7
	baz=36						
U04C	Hernandez Rese	36.10	315	⇑P	P	00 02 38.6	-0.1
	baz=36						
S06C	San Francisco	36.31	318	↓P	P	00 02 40.8	+0.3
	baz=36,SNR=6.7						
S05C	Merced	36.33	317	⇑P	P	00 02 41.3	+0.7
	baz=36						
WAKR	Walker	36.40	319	eP	P	00 02 43.1	+1.9
R06C	Coleville	36.42	319	↓P	P	00 02 42.4	+1.0
	baz=36						
QLMT	Earthquake Lak	36.51	334	eP	P	00 02 42.4	+0.2
M10A	I.L. Ranch, Tu	36.58	325	P	P	00 02 43.2	+0.5
	baz=37,SNR=9.8						
HAST	UC Hastings Re	36.65	315	↓P	P	00 02 43.3	0.0
	baz=37						
N09A	Rock Creek Ran	36.69	324	P	P	00 02 44.4	+0.7
	baz=37,SNR=9.2						
CMB	Columbia Colle	36.74	318	eP	P	00 02 45.2	+1.0
CMB	Columbia Colle	36.74	318	↑P	P	00 02 44.4	+0.2
	baz=37						
PACP	Pacheco Peak	36.79	316	↑P	P	00 02 45.2	+0.6
	baz=37						
HLID	Hailey	36.91	330	eP	P	00 02 49.7	+4.1
HLID	Hailey	36.91	330	↑P	P	00 02 46.1	+0.5
	baz=37						
R05C	Kirkwood Meado	36.92	319	↑P	P	00 02 46.3	+0.6
	baz=37						
N08A	GE Springer Mi	37.00	323	↓P	P	00 02 46.4	+0.1
	baz=37						
M09A	Marrel Ranch,	37.02	325	↑P	P	00 02 46.9	+0.4
	baz=37						
O07A	Toulon	37.05	322	↑P	P	00 02 47.0	+0.3
	baz=37						
WCN	Washoe City	37.07	320	↓P	P	00 02 47.2	+0.3
	baz=37						
PAHR	Pah Rah Range	37.08	321	eP	P	00 02 48.2	+1.2
	comp=Z,6.1nm,1.1s,mb4.3						
S04C	Ingram Canyon,	37.08	316	↑P	P	00 02 46.9	-0.1
	baz=37						
R04C	Big Horse Ranc	37.23	318	↓P	P	00 02 48.6	+0.3
	baz=37						
ULM	Lac du Bonnet	37.26	354	P	P	00 02 46.3	-2.3
	comp=Z,7.3nm,0.8s,mb4.6,baz=172,slow=10,SNR=8.9						
ULM				LR	LR	00 18 06.5	
	comp=Z,64nm,21.0s,MS3.4,baz=226,slow=36						
LAVA	Lava Cap Winer	37.38	319	↓P	P	00 02 49.8	+0.2
	baz=38						
L09A	Wilkinson Ranc	37.54	325	↓P	P	00 02 51.3	+0.4
	baz=38						
P05C	Yuba Gap, Truc	37.61	319	↑P	P	00 02 52.0	+0.5
	baz=38						
LRM	Limekiln Ridge	37.73	334	eP	P	00 02 53.4	+0.8
BEKR	Beckwourth	37.78	320	↑P	P	00 02 53.3	+0.4
	baz=38						
N06A	Buffalo Meadow	37.98	322	↓P	P	00 02 54.9	+0.2
	baz=38						
M07A	Soldier Meadow	37.99	323	↑P	P	00 02 54.6	-0.1
	baz=38						
K09A	Rome	38.02	326	P	P	00 02 55.4	+0.3
	baz=38,SNR=17						
L08A	Fields	38.03	325	P	P	00 02 54.9	-0.1
	baz=38,SNR=12						
ORV	Oroville	38.32	319	↓P	P	00 02 57.4	0.0
	baz=38						
SUTB	Sutter Butte	38.32	318	↑P	P	00 02 57.5	0.0
	baz=38						
K08A	Mann Creek Ran	38.46	325	P	P	00 02 58.8	0.0
	baz=39,SNR=12						
J09A	Fry Pan Ranch,	38.48	327	↓P	P	00 02 59.0	+0.2
	baz=39						
L07A	Adell	38.48	324	P	P	00 02 58.6	-0.3
	baz=39,SNR=13						
F13A	Darby	38.54	332	↑P	P	00 02 59.1	-0.3
	baz=39						
MNRC	McLaughlin Nat	38.56	317	↑P	P	00 02 59.9	+0.4
	baz=39						
M06C	Likely Place G	38.65	322	↑P	P	00 02 59.8	-0.5
	baz=39						
E14A	Clinton	38.65	334	↑P	P	00 03 00.2	-0.1
	baz=39						
D15A	Lincoln	38.73	335	↑P	P	00 03 00.8	-0.2
	baz=39						
K07A	Rock Creek Ran	38.86	325	P	P	00 03 02.1	0.0
	baz=39,SNR=14						
J08A	Circle Bar Ran	38.87	326	P	P	00 03 02.1	-0.1
	baz=39,SNR=6.8						
I09A	Lost Marbles R	38.90	327	P	P	00 03 01.9	-0.5
	baz=39,SNR=6.0						
MOD	Modoc	38.97	323	↓P	P	00 03 02.0	-1.0
	baz=39						
E13A	Victor	38.98	333	↓P	P	00 03 02.8	-0.3
	baz=39						
M05C	Lookout	39.14	322	↓P	P	00 03 03.8	-0.6
	baz=39						
GASB	Alder Springs	39.15	318	↑P	P	00 03 04.2	-0.3
	baz=39						
D14A	Greenough	39.18	334	↑P	P	00 03 03.5	-1.2
	baz=39						
L05A	Lakeview	39.37	323	↑P	P	00 03 06.2	-0.2
	baz=40						
P01C	Double 8 Ranch	39.46	318	↓P	P	00 03 06.5	-0.6
	baz=40						
O02C	Red Bluff	39.49	319	↓P	P	00 03 06.7	-0.5
	baz=40						
K06A	Valley Falls	39.50	324	↓P	P	00 03 07.2	-0.2
	baz=40						
WDC	Whiskeytown Da	39.55	320	↓P	P	00 03 08.0	+0.1
	baz=40						
D13A	Huson	39.60	333	↑P	P	00 03 07.5	-0.7
	baz=40						
M03C	McCloud	39.69	321	↓P	P	00 03 08.5	-0.5
	baz=40						
J06A	Christmas Vall	39.73	325	↑P	P	00 03 08.4	-1.0
	baz=40						
H08A	Prairie City	39.76	327	↓P	P	00 03 08.9	-0.6
	baz=40						
M04C	Macdoel	39.81	322

baz=42,SNR=6.6
J02A Umppqua 41.78 322 ⇓P **P 00 03 25.8 -0.4**
baz=42
A11A Hall Mountain, 41.84 334 ⇓P **P 00 03 26.3 -0.4**
baz=42
I03A Eugene 41.96 323 ⇑P **P 00 03 27.3 -0.4**
baz=42
F05A White Salmon 42.14 327 ⇓P **P 00 03 28.7 -0.4**
baz=42
C08A Higginbotham F 42.20 331 ⇑P **P 00 03 29.0 -0.7**
baz=42
B09A Rice 42.24 332 ⇑P **P 00 03 28.8 -1.1**
baz=42
D07A Quincy 42.25 329 ⇓P **P 00 03 29.1 -0.9**
baz=42
C07A Waterville 42.63 330 ⇑P **P 00 03 32.5 -0.6**
baz=43
A09A Danville 42.84 332 ⇓P **P 00 03 33.9 -1.0**
baz=43
A07A Ashnola River, 43.73 331 ⇑P **P 00 03 41.6 -0.4**
baz=44
A05A Maple Falls 44.51 330 ⇑P **P 00 03 47.6 -0.6**
baz=45
SCHQ Schefferville 45.23 19 P **P 00 03 52.1 -1.9**
comp=Z,7.2nm,0.5s,mb4.8,baz=222,slow=5.0,SNR=22
SCHQ LR LR 00 22 23.0
comp=Z,98nm,19.7s,MS3.7,baz=282,slow=35
YKA Yellowknife Ar 52.29 346 LR LR 00 30 54.7
comp=Z,44nm,18.6s,MS3.5,baz=175,slow=40
EKA Eskdalemuir Ar 77.33 36 P **P 00 07 28.6 -2.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=265,slow=5.0,SNR=5.9
ESDC Sonseca Array 78.50 52 P **P 00 07 36.4 -1.3**
comp=Z,0.4nm,0.7s,mb3.5,baz=292,slow=4.7,SNR=4.8
NOA NORSAR Array B 83.79 29 P **P 00 08 05.1 -0.7**
comp=Z,1.5nm,0.8s,mb4.2,baz=287,slow=5.0,SNR=4.1
HFS Hagfors 85.23 29 P **P 00 08 11.4 -1.7**
comp=Z,1.4nm,0.6s,mb4.3,baz=343,slow=4.6,SNR=4.6
HFS LR LR 00 44 25.7
comp=Z,51nm,18.6s,MS3.9,baz=246,slow=34
TORD Torodi Ar. Bea 88.46 77 P **P 00 08 28.2 -0.6**
comp=Z,0.4nm,0.7s,mb3.8,baz=286,slow=4.3,SNR=6.3
GERES GERESS Array B 88.82 40 LR LR 00 48 09.6
comp=Z,42nm,18.4s,MS3.9,baz=304,slow=35
SONM Songino Array 117.53 348 PKP PKPdf 00 14 20.8 -1.4
comp=Z,0.6nm,0.9s,baz=329,slow=1.7,SNR=3.4
WMQ Urumqi 123.19 2 *e*PKP PKPdf 00 14 32.0 -1.1
LZH Lanzhou 129.30 346 *e*PKP PKPdf 00 14 42.8 -1.9
LZH LR LR
comp=E,129nm,18.3s
LZH LR LR
comp=Z,207nm,20.2s,MS4.8
CD2 Chengdu 134.23 344 *e*PKP PKPdf 00 14 51.3 -2.8
KMI Kunming 139.98 342 PKP PKPdf 00 15 04.5 -0.2
HYB Hyderabad 147.45 21 *e*P PKPdf 00 15 20.0 +2.3

*ISCJB **28** 23:55:44.8±0.5, 4020N±003×2500E±004, h8km±6km, Error ellipse: s-maj=5.4km s-min=4.4km az=101.4*
*ATH **28** 23:55:45.6, 40.18N×2508E, h24km, MD3.0/5*
*THE **28** 23:55:46.7, 40.17N×2508E, h14km, ML2.4*
ISC 28 23:55:45.6±0.5, 4020N±003×2501E±004, h14km±5km, n15, σ0§80/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.27**	**168**	*e*Pg	**Pg**	**23 55 51.5**	**+0.1**
LOS				*e*Sg	**Sg**	**23 55 54.5**	**-0.7**
LIA	**Limnos Island**	**0.33**	**156**	⇑*i*PB	**Pg**	**23 55 52.8**	**+0.4**
LIA				*e*SB	**Sg**	**23 55 57.3**	**+0.4**
OUR	**Ouranopolis**	**0.80**	**280**	*e*Pg	**Pg**	**23 56 03.0**	**+2.0**
RDO	**Rodhopi**	**1.03**	**23**	*e*PN	**Pn**	**23 56 05.2**	**-0.4**
ALN	**Alexandroupoli**	**1.06**	**48**	*e*Pg	**Pg**	**23 56 05.5**	**-0.5**
ALN				*e*Sg	**Sg**	**23 56 20.2**	**+0.5**
PLG	**Polygyros**	**1.21**	**279**	*e*Pg	**Pg**	**23 56 09.3**	**+0.4**
PLG				*e*Sg	**Sg**	**23 56 25.9**	**+1.3**
AOS	**Alonnisos**	**1.34**	**221**	*e*Pg	**Pg**	**23 56 10.5**	**-0.9**
AOS				*e*Sg	**Sg**	**23 56 29.2**	**+0.2**
PRK	**Paraskevi**	**1.36**	**134**	*e*PN	**Pn**	**23 56 10.3**	**+0.2**
PRK				*e*SN	**Sn**	**23 56 28.3**	**+0.4**
SOH	**Sokhos**	**1.41**	**297**	*e*Pg	**Pg**	**23 56 12.4**	**-0.3**
SOH				*e*Sg	**Sg**	**23 56 30.8**	**-0.1**
SRS	**Serrai**	**1.42**	**311**	*e*Pg	**Pg**	**23 56 12.2**	**-0.6**
NVR	**Nevrokopi**	**1.44**	**323**	*e*PN	**Pn**	**23 56 12.7**	**+1.5**
HORT	**Hortiatis**	**1.51**	**286**	*e*Pg	**Pg**	**23 56 13.1**	**-1.5**
XOR	**Xorichti**	**1.63**	**240**	*e*Pb	**Pb**	**23 56 14.3**	**-1.0**
MMB	**Musomiste**	**1.69**	**326**	*e*Pb	**Pb**	**23 56 15.7**	**-0.9**
KNT	**Kendrikon**	**1.87**	**302**	*e*Pb	**Pb**	**23 56 19.2**	**-0.3**

*ISCJB **29** 00:34:43.1±1.0, 2681N±005×101.10E±009, h10km, mb3.5/4, MS3.2/2, Error ellipse: s-maj=11.7km s-min=6.3km az=138.4*
*IDC **29** 00:34:43.7±1.6, 2702N×10153E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/18, Error ellipse: s-maj=82.8km s-min=24.6km az=65.0*
*BJI **29** 00:34:46.6, 2689N×10129E, h10km, mB4.5, mb4.1, ML3.6, Ms3.9, Msz3.2*
ISC 29 00:34:45.4±1.0, 2680N±005×10107E±009, h10km, n11, σ1§20/16, mb3.5/4, MS3.2/2, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.25**	**138**	PG	**Pg**	**00 35 28.0**	**-0.5**
KMI				SG	**Sg**	**00 35 57.8**	**+0.1**
KMI				Smax			
comp=N,407nm,0.9s
KMI Smax
comp=E,406nm,0.7s
KMI LR LR
comp=N,1μm,6.0s
KMI LR LR
comp=E,2μm,7.6s
KMI LR LR
comp=Z,329nm,7.2s
CD2 Chengdu 4.72 29 P **Pn 00 35 58.0 +1.4**
CD2 PG **Pg 00 36 07.5 -8.3**
CD2 S **Sn 00 36 50.8 -0.6**
CD2 Smax
comp=N,290nm,1.1s
CD2 Smax
comp=E,290nm,0.8s
CD2 LR LR
comp=N,2μm,6.6s
CD2 LR LR
comp=Z,1μm,7.0s
GYA Guiyang 5.02 93 P **Pn 00 36 02.8 +2.1**
GYA PG **Pg 00 36 14.3 -7.2**
GYA S **Sn 00 36 58.0 -0.7**
GYA SG **Sg 00 37 14.3 -12**
GYA Smax
comp=N,50nm,1.0s
GYA Smax
comp=E,50nm,1.0s
XAN Xi'an 9.89 41 P **Pn 00 37 06.5 -1.1**
XAN S **Sn 00 39 05.3 +6.6**
XAN LR LR
comp=N,167nm,17.0s
XAN LR LR
comp=Z,209nm,17.0s
BJI Beijing 18.22 40 P **Pn 00 39 00.3 +2.0**
BJI AMB AMB
comp=Z,8.0nm,0.9s
BJI LR LR
comp=Z,72nm,14.8s
SONM Songino Array 21.41 10 P **P 00 39 30.2 -3.1**
comp=Z,1.2nm,0.7s,mb3.3,baz=190,slow=12,SNR=4.5
JOW Kunigami 24.26 84 LR LR 00 49 13.5
comp=Z,93nm,18.6s,MS3.3,baz=350,slow=36
MKAR Makanchi Array 24.87 328 P **P 00 40 08.2 +0.1**
comp=Z,0.9nm,0.7s,mb3.4,baz=125,slow=10,SNR=7.8
MJAR Matsushiro Arr 32.89 64 LR LR 00 54 27.6
comp=Z,41nm,18.3s,MS3.2,baz=245,slow=36
WRA Warramunga Arr 56.57 142 P **P 00 44 27.4 -0.8**
comp=Z,0.5nm,0.3s,mb4.0,baz=328,slow=8.2,SNR=3.7
ASAR Alice Springs 59.37 145 P **P 00 44 47.9 +0.2**
comp=Z,0.3nm,0.7s,mb3.4,baz=319,slow=6.6,SNR=3.5

IDC 29 00:47:25.9±3.6, 1023S×10846E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, Error ellipse: s-maj=147.6km s-min=25.9km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.75**	**114**	P	P	00 53 07.1	0.0
comp=Z,0.4nm,0.3s,baz=285,slow=11,SNR=3.7
ASAR Alice Springs 27.70 122 P P 00 53 16.4 +0.7
comp=Z,0.8nm,1.0s,baz=300,slow=9.9,SNR=6.1
SONM Songino Array 57.84 358 P P 00 57 19.9 +0.8
comp=Z,0.2nm,0.5s,baz=173,slow=8.4,SNR=3.8
MKAR Makanchi Array 61.40 340 P P 00 57 43.2 -0.5
comp=Z,0.2nm,0.5s,baz=157,slow=8.3,SNR=4.1

*BJI **29** 01:07:53.7, 458N×12767E, h173km, mB5.0, mb4.6*
*MOS **29** 01:07:57.6±1.0, 535N×12739E, h157km, mb4.5/15, Error ellipse: s-maj=20.9km s-min=7.6km az=109.9*
*ISCJB **29** 01:07:59.7±0.8, 535N±004×12744E±008, h175km±7km, mb4.5/49, Error ellipse: s-maj=12.9km s-min=6.4km az=146.7*
*IDC **29** 01:07:59.5±2.2, 538N×12740E, h157km±20km, mb4.0/21, mb1 4.1/21, mb1mx4.0/25, mbtmp4.4/21, Error ellipse: s-maj=20.0km s-min=9.3km az=79.0*
*NEIC **29** 01:08:01.1±1.1, 537N×12742E, h174km±10km, mb4.5/17, Error ellipse: s-maj=15.0km s-min=6.0km az=74.0*
ISC 29 01:08:01.0±0.8, 536N±004×12745E±008, h169km±7km, n93, σ0§93/94, mb4.5/49, 7C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.52**	**313**	P	**Pn**	**01 08 41.9**	**-1.3**
DAV				*e*S	**Sn**	**01 09 16.6**	**+4.6**
KCP	**Kidapawan**	**2.86**	**305**	*e*P	**Pn**	**01 08 42.7**	**-4.6**
KCP				*i* S	**Sn**	**01 09 37.0**	**+17**
SCPH	**Surigao**	**4.80**	**336**	⇑*e*P	**Pn**	**01 09 11.8**	**-0.3**
KSM	**Kuching**	**17.54**	**258**	*e*P	**Pn**	**01 11 53.7**	**-1.5**
KAKA	**Kakadu**	**18.63**	**165**	*e*P	**P**	**01 12 06.6**	**+1.0**
9.4nm,0.6s
YHNB Yeheng 20.07 344 *e*P **P 01 12 23.5 +2.4**
QIZ Qiongzhong 21.89 310 *e*P **P 01 12 39.6 -0.9**
8.1nm,0.5s,mb4.4
FITZ Fitzroy Crossi 23.38 184 *e*P **P 01 12 55.4 +1.0**
4.8nm,0.6s,mb4.1
FITZ Fitzroy Crossi 23.38 184 P **P 01 12 54.9 +0.6**
1.3nm,0.6s,mb3.5,baz=4.2,slow=11,SNR=5.8
CBIJ Chichi jima 25.78 31 P **P 01 13 14.9 -1.2**
48nm,0.6s,mb5.3,baz=297,slow=23,SNR=6.9
WRA Warramunga Arr 26.04 165 P **P 01 13 17.7 -0.7**
2.1nm,0.4s,mb4.1,baz=344,slow=10,SNR=7.2
WRA PcP PcP 01 16 42.6 +0.8
0.6nm,0.5s,baz=328,slow=2.2,SNR=4.3
WRA ScP ScP 01 20 07.3 +1.8
1.0nm,0.6s,baz=340,slow=3.2,SNR=8.3
WRA Warramunga Arr 26.04 165 P **P 01 13 17.7 -0.8**
WRA 01 16 42.6
WB2 Warramunga Arr 26.05 165 *e*P **P 01 13 18.2 -0.3**
NJ2 Nanjing 27.75 344 *e*P **P 01 13 39.5 +5.8**
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
AS31 Alice Springs 29.53 168 *e*P **P 01 13 49.4 0.0**
ASPA Alice Springs 29.53 168 *e*P **P 01 13 49.6 +0.1**
ASAR Alice Springs 29.53 168 P **P 01 13 49.5 0.0**
comp=Z,0.7nm,0.4s,mb3.7,baz=350,slow=7.7,SNR=22
ASAR PcP PcP 01 16 50.8 +0.5
comp=Z,1.6nm,0.5s,baz=346,slow=2.3,SNR=12
ASAR ScP ScP 01 20 18.1 +1.8
comp=Z,0.7nm,0.6s,baz=341,slow=2.8,SNR=9.1
CHTO Chiang Mai 30.84 298 *e*P **P 01 14 00.5 -0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CHTO Chiang Mai 30.84 298 *e*P **P 01 14 00.5 -0.6**
comp=Z,2.3nm,0.6s,mb4.1
MJAR Matsushiro Arr 32.56 16 P **P 01 14 14.5 -1.6**
comp=Z,9.8nm,1.4s,mb4.3,baz=186,slow=8.9,SNR=5.0
MJAR Matsushiro Arr 32.56 16 P **P 01 14 14.5 -1.6**
XAN Xi'an 33.31 331 P **P 01 14 22.5 -0.1**
XAN AMB AMB
comp=Z,26nm,0.6s,mb5.1
FORT Forrest 35.94 179 *e*P **P 01 14 45.8 +0.7**
comp=Z,5.6nm,0.4s,mb4.5
BJT Baijiatuau 35.97 345 *e*P **P 01 14 45.8 +0.4**
BJT pmax pmax
comp=Z,14nm,0.7s
BJT Baijiatuau 35.97 345 *e*P **P 01 14 45.8 +0.4**
comp=Z,14nm,0.7s,mb4.7
BJI Beijing 35.99 345 P **P 01 14 44.5 -1.0**
BJI AMB AMB
comp=Z,22nm,0.8s,mb4.8
BJI LR LR
comp=Z,39nm,22.3s
BJI Beijing 35.99 345 P **P 01 14 44.4 -1.1**
comp=Z,22nm,0.8s,mb4.8
BJI LR LR
comp=Z,40nm,22.3s
LZH Lanzhou 37.49 328 *e*P **P 01 14 59.5 +1.3**
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.6
LZH Lanzhou 37.49 328 *e*P **P 01 14 59.5 +1.3**
comp=Z,19nm,1.2s,mb4.6
LZH pP pP 01 15 04.6 -30
LZH sP sP 01 15 08.2 -45
KLBR Kellerberrin 37.89 194 *e*P **P 01 15 01.9 +0.3**
comp=Z,37nm,1.6s,mb4.8
NWAO Narrogin (SRO) 39.29 194 P **P 01 15 13.7 +0.4**
comp=Z,3.2nm,0.3s,mb4.4,baz=18,slow=7.0,SNR=7.0
STKA Stephens Creek 39.41 161 P **P 01 15 14.9 +0.7**
comp=Z,4.8nm,0.6s,mb4.3,baz=330,slow=8.8,SNR=12
STKA Stephens Creek 39.41 161 *e*P **P 01 15 14.2 0.0**
STKA *e* pP 01 15 47.1 -3.5
ASAJ Asahikawa 40.83 17 P **P 01 15 26.6 +0.7**
comp=Z,12nm,1.0s,mb4.5,baz=208,slow=15,SNR=6.1
YUK Yuzh-Kuril'sk 41.78 20 *e*P **P 01 15 30.1 -3.6**
GTA Gaotai 42.09 328 *e*P **P 01 15 37.3 +1.1**
GTA AMB AMB
comp=Z,11nm,0.8s,mb4.5
KUR Kuril'sk 43.53 21 *e*P **P 01 15 48.3 +0.6**
HIA Hailar 44.24 353 *e*P **P 01 15 54.7 +1.3**
GUN Gumba 45.38 304 *e*P **P 01 16 02.6 +0.2**
comp=Z,28nm,0.7s,mb5.0
PKI Pulchoki 45.64 304 *e*P **P 01 16 04.3 -0.1**
ULN Ulaanbaatar 45.81 341 *e*P **P 01 16 06.4 +0.6**
ULN pmax pmax
comp=Z,12nm,0.8s,mb4.6
ULN Ulaanbaatar 45.81 341 *e*P **P 01 16 06.3 +0.6**
comp=Z,12nm,0.8s,mb4.6
ULN *e* 01 17 19.8
KKN Kakani 45.83 304 *e*P **P 01 16 05.6 -0.3**
DMN Daman 45.90 304 *e*P **P 01 16 06.6 +0.1**
SONM Songino Array 46.00 340 P **P 01 16 07.7 +0.4**
comp=Z,3.0nm,0.5s,mb4.2,baz=153,slow=8.4,SNR=32
SONM PcP PcP 01 17 41.1 +0.1
comp=Z,1.0nm,0.8s,baz=178,slow=4.5,SNR=4.2
GKN Gorkha 46.43 304 *e*P **P 01 16 10.3 -0.3**
comp=Z,8.1nm,0.5s,mb4.6
KOLN Koldanda 47.21 303 *e*P **P 01 16 16.9 +0.2**
comp=Z,20nm,0.4s,mb5.1
ZAK Zakamensk 49.24 340 *e*P **P 01 16 32.9 +0.7**
TLY Talaya 50.22 341 *e*P **P 01 16 40.6 +1.0**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
TLY Talaya 50.22 341 *e*P **P 01 16 40.6 +0.9**
comp=Z,5.3nm,0.8s,mb4.2
BOD Bodaibo 53.37 351 ⇑*i*P **P 01 17 02.8 -0.1**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
YAK Yakutsk 56.57 1 *e*P **P 01 17 25.8 -0.1**
YAK pmax pmax
comp=Z,16nm,0.6s,mb5.0
YAK Yakutsk 56.57 1 *e*P **P 01 17 25.8 0.0**
comp=Z,16nm,0.6s,mb5.0
MK31 Makanchi Array 56.65 324 ⇑*i*P **P 01 17 26.8 +0.4**
MKAR Makanchi Array 56.65 324 P **P 01 17 26.9 +0.5**
comp=Z,11nm,0.4s,mb5.0,baz=114,slow=7.7,SNR=220
MKAR PcP PcP 01 18 20.5 -0.1
comp=Z,2.2nm,0.7s,baz=111,slow=6.6,SNR=5.3
MKAR Makanchi Array 56.65 324 P **P 01 17 26.9 +0.5**
MKAR PcP PcP 01 18 20.5 -0.1
TKM2 Tokmak 2 59.02 318 P **P 01 17 43.8 +0.9**
SNR=9.9
KBK Karagaybulak 59.35 317 P **P 01 17 46.4 +1.2**
SNR=6.4
UCH Uchtor 59.48 317 P **P 01 17 47.8 +1.8**
SNR=15
AAK Ala-Archa 59.65 317 P **P 01 17 48.2 +1.0**
SNR=5.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**59.65**	**317**	*e*P	**P**	**01 17 47.0**	**-0.2**
AAK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.3
AAK Ala-Archa 59.65 317 *e*P **P 01 17 47.0 -0.2**
comp=Z,3.0nm,0.6s,mb4.3
USP Ospenovka 59.89 318 P **P 01 17 49.5 +0.5**
SNR=18
AML Almayashu 60.01 316 P **P 01 17 51.2 +1.5**
SNR=7.7
EKS2 Erkin-Say 60.15 317 P **P 01 17 51.5 +0.8**
SNR=16
NVS Novosibirsk 60.76 332 *i* P **P 01 17 52.9 -1.9**
NVS pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
NVS pmax pmax
comp=N,7.0nm,1.8s
NVS pmax pmax
comp=E,4.0nm,1.6s
BVAR Borovoye Array 66.36 326 P **P 01 18 31.4 0.0**
comp=E,8.8nm,0.7s,mb4.7,baz=126,slow=8.5,SNR=48
BRVK Borovoye 66.43 326 *e*P **P 01 18 31.4 -0.5**
BRVK pmax pmax
comp=Z,15nm,0.9s,mb4.8
BRVK Borovoye 66.43 326 *e*P **P 01 18 31.4 -0.5**
comp=Z,15nm,0.9s,mb4.8
CHKZ Chkalovo 66.50 327 ⇑*e*P **P 01 18 31.8 -0.6**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CHKZ Chkalovo 66.50 327 ⇑*e*P **P 01 18 31.8 -0.6**
comp=Z,3.4nm,0.6s,mb4.3
ZRNK Zerenda 67.10 326 ⇑*i*P **P 01 18 35.9 -0.2**
ZRNK pmax pmax
comp=Z,18nm,0.6s,mb5.1
ZRNK Zerenda 67.10 326 ⇑*i*P **P 01 18 35.9 -0.3**
comp=Z,18nm,0.6s,mb5.1
BILL Bilibino 67.80 15 *e*P **P 01 18 41.0 +0.4**
BILL *e* 01 19 01.4
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
WSAR Wadi Sarin 68.45 293 P **P 01 18 44.3 -0.3**
comp=Z,1.1nm,0.4s,mb3.9,baz=162,slow=6.4,SNR=6.1
AKTK Aktyubinsk 72.84 321 P **P 01 19 11.0 -0.1**
AKTO Aktyubinsk 72.84 321 P **P 01 19 11.0 -0.1**
comp=Z,5.0nm,0.5s,mb4.5,baz=99,slow=7.7,SNR=34
ARU Arti 73.95 327 ⇓*i*P **P 01 19 16.8 -0.9**
ARU *e* 01 22 01.3
ARU *e*PPP 01 23 49.1
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KDAK Kodiak Island 80.14 32 P **P 01 19 53.1 +1.0**
comp=Z,19nm,0.5s,mb5.0,baz=261,slow=3.2,SNR=45
SLKM Skilak Lake 81.58 30 *e*P **P 01 19 59.6 -0.2**
VNDA Vanda 84.94 173 P **P 01 20 16.4 -0.7**
comp=Z,0.9nm,0.6s,mb3.6,baz=310,slow=4.3,SNR=4.6
OBN Obninsk 86.15 325 P **P 01 20 21.7 -1.3**
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ASF Jabal al Asfar 87.65 302 P **P 01 20 30.9 +0.8**
comp=Z,2.4nm,0.8s,mb4.0,baz=150,slow=8.1,SNR=3.8
JOF Joensuu 88.06 333 *e*p **P 01 20 28.9 -3.2**
comp=Z,3.1nm,0.5s,mb4.4
MMAI Mount Meron Ar 88.83 303 P **P 01 20 36.7 +1.0**
comp=Z,1.9nm,0.7s,mb4.1,baz=71,slow=9.9,SNR=3.4
ARCES ARCESS Array B 89.17 340 P **P 01 20 35.9 -1.5**
comp=Z,3.2nm,0.7s,mb4.4,baz=79,slow=6.3,SNR=9.2
BRTR Keskin Array B 89.54 310 P **P 01 20 38.3 -0.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=102,slow=4.0,SNR=7.6
KAF Kangasniemi 90.49 333 *e*p **P 01 20 39.1 -4.4**
comp=Z,1.5nm,0.5s,mb4.2
KAF Kangasniemi 90.49 333 *e*P **P 01 20 39.1 -4.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 90.74 332 P **P 01 20 43.0 -1.6**
comp=Z,1.1nm,0.5s,mb4.2,baz=70,slow=6.0,SNR=11
AKASG Malin Array Be 91.09 321 P **P 01 20 44.7 -1.6**
comp=Z,1.7nm,0.4s,mb4.4,baz=67,slow=5.0,SNR=8.1
NOA NORSAR Array B 97.65 334 P **P 01 21 14.2 -2.1**
comp=Z,0.9nm,0.7s,mb4.3,baz=66,slow=4.8,SNR=4.0
TORD Torodi Ar. Bea 123.08 289 PKP PKPdf 01 26 37.9 +0.7
comp=Z,1.6nm,0.7s,baz=46,slow=1.4,SNR=30

*NIED **29** 01:15:00, 4360N×14730E, h50km, Mw3.7 Best double couple: M0 4.70000×10^14 NP1:φs 100.00000°, δ62.00000°, λ-60.00000°. NP2:φs 229.00000°, δ40.00000°, λ-133.00000°.*
*IDC **29** 01:15:07.9±2.8, 4434N×14808E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/21, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=97.2km s-min=31.2km az=179.0*
*ISCJB **29** 01:15:08.3±1.5, 4372N±009×14753E±007, h33km±10km, mb3.8/3, Error ellipse: s-maj=16.1km s-min=7.7km az=155.5*
*JMA **29** 01:15:09.4±0.3, 4359N×14734E, h15km±4km, M4.0*
*SKHL **29** 01:15:09.8±2.4, 4394N×14756E, h33km, mb4.8/2*
*MOS **29** 01:15:11.3±3.0, 4413N×14764E, h49km, mb4.3/2, Error ellipse: s-maj=40.4km s-min=36.8km az=53.6*
ISC 29 01:15:09.5±1.6, 4375N±010×14748E±007, h29km±11km, n21, σ1§16/30, mb3.8/3, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.20**	**284**	⇓*i*P	**Pn**	**01 15 29.9**	**-0.4**
YUK				*i* S	**Sn**	**01 15 45.0**	**-0.7**
YUK				A		01 15 46.0	
10μm,1.0s
YUK A 01 15 46.0
8μm,1.0s
YUK A 01 15 46.1
11μm,0.2s
YUK A 01 15 46.1
2μm,0.2s
YUK Yuzh-Kuril'sk 1.20 284 ⇓*i*PN **Pn 01 15 29.9 -0.4**
YUK *i* S **Sn 01 15 45.0 -0.7**
YUK pmax pmax
comp=Z,960nm,0.3s
YUK smax
comp=N,10μm,0.8s
YUK smax
comp=E,8μm,0.6s
YUK smax
comp=N,11μm,0.3s
YUK smax
comp=E,2μm,0.3s
NEM2 Nemuro 2 1.32 254 P **Pn 01 15 31.2 -0.7**
NEM2 *e*S **Sn 01 15 46.5 -2.0**
KUR Kuril'sk 1.51 11 *e*P **Pn 01 15 30.5 -4.1**
KUR AMB AMB 01 15 31.5
comp=E,150nm,0.5s
KUR A 01 15 51.0
comp=E,460nm,0.5s
KUR A 01 15 51.0
comp=E,380nm,0.5s
KUR Kuril'sk 1.51 11 *e*PN **Pn 01 15 30.5 -4.1**
KUR pmax pmax
comp=Z,150nm,0.5s
KUR smax
comp=N,460nm,0.5s
KUR smax
comp=E,590nm,0.5s
JRA Rausu 1.71 277 P **Pn 01 15 37.9 +0.5**
JRA *e*S **Sn 01 15 59.1 +0.8**
JNK Nakash 2.01 266 P **Pn 01 15 41.6 +0.2**
JNK *e*S **Sn 01 16 05.4 -0.1**
JAK Akkeshi 2.16 251 P **Pn 01 15 43.5 0.0**
JAK *e*S **Sn 01 16 08.8 -0.5**
JTKR Abashiri--Toko 2.59 276 P **Pn 01 15 51.8 +2.4**
JTKR *e*S **Sn 01 16 23.1 +3.2**
JAR Ashorobuto 2.73 262 P **Pn 01 15 52.5 +1.1**
JOB Onbets 2.79 254 P **Pn 01 15 52.8 +0.7**
JCH Churui 3.21 251 P **Pn 01 15 58.3 +0.3**
JCH *e*S **Sn 01 16 33.8 -1.5**
ASAJ Asahikawa 3.54 278 Pn **Pb 01 16 09.9 -1.6**
comp=E,2.6nm,0.3s,baz=112,slow=14,SNR=9.3
ASAJ Sn **Sb 01 16 53.6 -0.4**
comp=E,1.3nm,0.3s,baz=191,slow=31,SNR=3.4
ASAJ Asahikawa 3.54 278 PN **Pb 01 16 09.9 -1.6**
ASAJ 01 16 53.6
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ smax
comp=N,1.0nm,0.3s
JFR Furan 3.60 262 P **Pn 01 16 05.5 +2.2**
JNBK Urakawa-nobuka 3.76 249 P **Pn 01 16 06.9 +1.4**
FINES FINESS Array B 64.99 333 P **P 01 25 46.9 +0.2**

comp=N,2.3nm,0.9s,mb4.2,baz=63,slow=6.4,SNR=6.8
FINES FINESS Array B 64.99 333 P P 01 25 46.9 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.9s
NVAR Mina Array Bea 67.38 58 P P 01 26 01.5 -0.6
comp=Z,0.5nm,0.6s,mb3.7,baz=292,slow=7.3,SNR=4.7
TXAR Lajitas Array 82.46 56 P P 01 27 28.2 -0.9
comp=Z,0.5nm,0.7s,mb3.6,baz=306,slow=4.3,SNR=7.3
TXAR Lajitas Array 82.46 56 P P 01 27 28.2 -0.9
TXAR pmax pmax
comp=Z,1.0nm,0.7s

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*ISCJB **29** 01:15:53.4±0.8, 130N±02×919E±02, h23km, mb3.8/9, MS3.5/2, Error ellipse: s-maj=37.9km s-min=8.6km az=114.7*
*IDC **29** 01:15:55.7±1.2, 1288N×9195E, h23km±5km, mb3.5/7, mb1 3.6/7, mb1mx3.4/20, mbtmp3.6/7, MS3.5/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=45.8km s-min=15.1km az=59.0*
*NEIC **29** 01:15:55.6±0.6, 1289N×9192E, mb4.2/4, Error ellipse: s-maj=26.8km s-min=8.2km az=60.0*

ISC 29 01:15:56.1±0.8, 130N±02×920E±02, h25km, h25km±.7km: pP-P, n24, σ0§84/21, mb3.8/9, MS3.5/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.58	151	eP	x	01 16 13.8	
PBA				eS	x	01 16 35.0	
PBA				ex	x	01 16 38.3	
	comp=N,6μm,0.7s						
PBA				ex	x	01 16 38.7	
	comp=E,7μm,0.5s						
JIRN	Jiri	15.51	341	eP	Pn	01 19 32.1	-1.0
PKI	Pulchoki	15.70	338	eP	Pn	01 19 35.5	-0.1
DMN	Daman	15.85	337	eP	Pn	01 19 37.2	-0.3
GUN	Gumba	15.85	340	eP	Pn	01 19 36.5	-1.0
KKN	Kakani	15.94	338	eP	Pn	01 19 38.6	-0.1
GKN	Gorkha	16.38	336	eP	Pn	01 19 43.0	-1.3
LSA	Lhasa	16.60	358	P	Pn	01 19 50.3	+3.2
	comp=E,17nm,0.9s						
KOLN	Koldanda	16.60	333	eP	Pn	01 19 46.0	-1.2
MK31	Makanchi Array	34.62	348	eP	P	01 22 43.4	+0.2
MK31				epP	pP	01 22 49.9	-0.7
MKAR	Makanchi Array	34.62	348	P	P	01 22 44.3	+1.2
	comp=E,1.0nm,0.7s,mb3.8,baz=162,slow=9.2,SNR=11						
SONM	Songino Array	36.73	16	P	P	01 23 01.8	+0.6
	comp=E,1.0nm,0.9s,mb3.6,baz=219,slow=7.2,SNR=3.6						
SONM				pP	pP	01 23 09.6	+0.8
	comp=E,1.0nm,0.6s,baz=199,slow=8.5,SNR=9.0						
ZRNK	Zerenda	43.82	340	eP	P	01 24 00.3	+0.3
	comp=E,0.8nm,0.4s,mb3.8						
CHKZ	Chkalovo	43.92	342	eP	P	01 24 01.3	+0.5
	comp=E,3.0nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	45.41	132	eP	P	01 24 12.3	-0.4
	comp=E,2.3nm,0.7s,mb4.1						
FITZ				e	pP	01 24 19.1	-1.2
FITZ	Fitzroy Crossi	45.41	132	P	P	01 24 12.1	-0.6
	comp=E,0.5nm,0.5s,mb3.6,baz=339,slow=9.6,SNR=4.1						
AKTK	Aktyubinsk	46.41	330	P	P	01 24 21.4	+0.8
AKTO	Aktyubinsk	46.41	330	P	P	01 24 21.4	+0.8
	comp=E,0.6nm,0.5s,mb3.8,baz=113,slow=15,SNR=2.3						
WRA	Warramunga Arr	53.05	127	P	P	01 25 10.4	-0.7
	comp=E,0.5nm,0.4s,mb3.8,baz=302,slow=9.9,SNR=3.9						
WRA				pP	pP	01 25 17.6	-1.2
	comp=E,2.0nm,0.7s,baz=306,slow=8.5,SNR=7.8						
WB2	Warramunga Arr	53.06	127	eP	P	01 25 11.1	-0.1
ASAR	Alice Springs	54.90	131	P	P	01 25 24.4	-0.2
	comp=E,0.5nm,0.5s,mb3.8,baz=309,slow=6.9,SNR=8.8						
ASAR				pP	pP	01 25 31.4	-0.9
	comp=E,1.1nm,0.4s,baz=310,slow=6.9,SNR=12						
ASAR				LR	LR	01 53 49.0	
	comp=E,43nm,20.0s,MS3.5,baz=351,slow=42						
BRTR	Keskin Array B	57.48	309	P	P	01 25 44.0	+1.0
	comp=E,0.2nm,0.4s,mb3.5,baz=120,slow=5.2,SNR=2.6						
STKA	Stephens Creek	65.22	134	pP	pP	01 26 42.8	-0.5
	comp=E,1.6nm,0.8s,baz=308,slow=11,SNR=2.3						
ARCES	ARCESS Array B	69.71	340	LR	LR	02 00 38.2	
	comp=E,36nm,21.0s,MS3.6,baz=187,slow=38						

IDC 29 01:30:38.8±4.4, 4639N×15301E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.5/31, Error ellipse: s-maj=152.8km s-min=39.7km az=7.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	47.05	298	P	P	01 39 11.7	-0.3
	0.8nm,0.8s,baz=64,slow=6.9,SNR=7.6						
MKAR				LR	LR	02 00 14.8	
	comp=Z,23nm,18.1s,baz=348,slow=38						
FINES	FINESS Array B	64.34	335	P	P	01 41 15.7	-0.5
	1.3nm,0.8s,baz=45,slow=8.1,SNR=6.3						
TXAR	Lajitas Array	77.73	60	P	P	01 42 37.7	+0.2
	0.2nm,0.7s,baz=308,slow=6.2,SNR=4.2						
ATD	Arta Tunnel	95.19	293	LR	LR	02 34 31.1	
	comp=Z,22nm,18.8s,baz=64,slow=40						

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*MOS **29** 01:55:50.7±1.5, 4725N×14684E, h282km, mb4.0/13, Error ellipse: s-maj=20.6km s-min=12.8km az=78.9*
*ISCJB **29** 01:55:53.0±0.6, 4673N±008×147.17E±0.10, h325km±6km, mb3.9/17, Error ellipse: s-maj=13.1km s-min=9.6km az=112.0*
*JMA **29** 01:55:53.8±0.6, 4633N×14740E, h352km, M4.0*
*NEIC **29** 01:55:54.8±1.1, 4693N×14695E, h324km±12km, mb4.2/8, Error ellipse: s-maj=16.2km s-min=12.6km az=136.0*
*BJI **29** 01:55:54.8, 4700N×14694E, h331km, mB4.5, mb4.5*
*IDC **29** 01:55:55.2±1.3, 4693N×14685E, h324km±14km, mb3.5/11, mb1 3.7/13, mb1mx3.5/22, mbtmp4.2/13, Error ellipse: s-maj=15.2km s-min=13.0km az=117.0*
*SKHL **29** 01:56:00.4±4.4, 4630N×14690E, h240km±40km, mb4.6/1, msha5.0/1*

ISC 29 01:55:53.7±0.6, 4677N±008×14715E±010, h320km±6km, n70, σ1§43/83, mb3.9/17, 2C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.61	162	iP	Pn	01 56 37.9	-1.6
KUR				AMB	AMB	01 56 38.5	
	270nm,0.8s						
KUR				eS	S	01 57 06.0	-10
KUR				A		01 57 11.5	
	250nm,1.0s						
KUR				A		01 57 11.5	
	230nm,1.0s						
YSS	Yuzh-Sakhalins	3.02	275	⇑iP	Pn	01 56 52.2	+1.2
YSS	Yuzh-Sakhalins	3.02	275	ePn	Pn	01 56 52.6	+1.6
NEM2	Nemuro 2	3.54	197	P	Pn	01 56 54.7	-1.4
NEM2				eS	S	01 57 42.3	-4.0
JTKR	Abashiri--Toko	3.61	220	P	Pn	01 56 57.8	+1.0
JTKR				eS	S	01 57 47.6	+0.1
JSE	Soyaes	3.67	242	P	Pn	01 56 58.9	+1.5
JWK2	Keihoku	3.93	250	P	Pn	01 57 02.5	+2.3
JAK	Akkeshi	4.15	206	P	Pn	01 57 01.5	-1.1
JAK				eS	S	01 57 53.3	-4.6
ASAJ	Asahikawa	4.16	232	P	Pn	01 57 04.5	+1.9
	11nm,0.3s,baz=67,slow=9.3,SNR=61						
ASAJ				S	S	01 57 59.1	+1.2
	0.4nm,0.3s,baz=165,slow=20,SNR=2.6						
ASAJ	Asahikawa	4.16	232	PN	Pn	01 57 04.5	+1.9
ASAJ				S	S	01 57 59.2	+1.2
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
JAR	Ashorobuto	4.21	216	P	Pn	01 57 03.7	+0.5
JKK2	Kamakawa 2	4.24	229	P	Pn	01 57 04.7	+1.2
JKK2				eS	S	01 58 01.2	+1.5
JFR	Furan	4.84	224	P	Pn	01 57 10.8	+0.7
JCH	Churui	4.95	214	P	Pn	01 57 10.2	-1.2
JCH				eS	S	01 58 08.3	-5.7
JNBK	Urakawa-nobuka	5.48	217	P	Pn	01 57 15.6	-1.8
JNBK				eS	S	01 58 18.7	-6.2
ERM	Erimo	5.54	212	ePN	Pn	01 57 17.7	-0.5
ERM				pmax	pmax		
	comp=Z,276nm,0.4s						
ERM	Erimo	5.54	212	ePn	Pn	01 57 17.7	-0.5
	comp=Z,276nm,0.4s						
JEW	Eniwo	5.64	228	P	Pn	01 57 19.7	+0.4
JEW				eS	S	01 58 26.6	-1.9
JKB	Kayabe	6.56	224	P	Pn	01 57 28.6	-1.5
JKB				eS	S	01 58 41.0	-7.1
JOT	Ohata	6.95	221	P	Pn	01 57 32.7	-2.0
JOT				eS	S	01 58 47.8	-8.8
SKR	Severo-Kuril's	7.11	53	erx	rx	01 58 32.8	
SKR				erx	rx	01 59 01.2	
JANG	Nango	7.58	215	P	Pn	01 57 40.1	-2.3
JANG				eS	S	01 59 01.6	-9.0
JMK	Ichinoseki	8.94	211	P	Pn	01 57 58.0	-0.7
JMK				eS	S	01 59 32.8	-7.9
MAJO	Matsushiro	12.20	216	ePN	Pn	01 58 40.2	+2.0
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	Matsushiro	12.20	216	ePn	Pn	01 58 40.2	+2.0
	comp=Z,6.3nm,0.4s						
MAT	Matsushiro	12.20	216	P	Pn	01 58 38.9	+0.7
MJAR	Matsushiro Arr	12.20	216	P	Pn	01 58 39.6	+1.4
	comp=Z,2.2nm,0.3s,baz=12,slow=13,SNR=39						
MJAR	Matsushiro Arr	12.20	216	PN	Pn	01 58 39.6	+1.4
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MDJ	Mudanjiang	12.46	266	P	Pn	01 58 40.5	-0.9
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,69nm,4.7s						
MDJ	Mudanjiang	12.46	266	ePn	Pn	01 58 40.4	-0.9
	comp=Z,12nm,0.8s						
CN2	Changchun	15.55	267	eP	P	01 59 14.0	-1.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SNY	Shenyang	17.55	262	⇑iP	P	01 59 38.0	+0.6
SNY				AMB	AMB		
	comp=Z,22nm,0.7s						
BJI	Beijing	23.38	265	P	P	02 00 37.0	+2.4
BJI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.2						
BJI	Beijing	23.38	265	P	P	02 00 36.9	+2.3
BJI				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.2						
BJI	Beijing	23.38	265	P	P	02 00 36.9	+2.3
	comp=Z,16nm,0.9s,mb4.2						
BJT	Baijiatuau	23.40	265	eP	P	02 00 36.2	+1.5
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	Baijiatuau	23.40	265	eP	P	02 00 36.2	+1.5
	comp=Z,10.0nm,0.6s,mb4.2						
SONM	Songino Array	27.44	287	P	P	02 01 10.4	-0.4
	comp=Z,1.1nm,0.5s,mb3.3,baz=84,slow=8.8,SNR=3.8						
SONM	Songino Array	27.44	287	P	P	02 01 10.4	-0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
IMA2	Indian Mountai	36.21	36	eP	P	02 02 25.9	-0.8
KDAK	Kodiak Island	37.26	50	P	P	02 02 36.7	+1.1
	comp=Z,4.8nm,0.4s,mb4.1,baz=277,slow=4.5,SNR=19						
KDAK	Kodiak Island	37.26	50	P	P	02 02 36.7	+1.1
COLA	College	38.67	38	eP	P	02 02 48.0	+0.8
COLA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb3.9						
COLA	College	38.67	38	eP	P	02 02 48.0	+0.8
	comp=Z,6.2nm,0.7s,mb4.0						
MKAR	Makanchi Array	43.25	295	P	P	02 03 23.3	-1.0
	comp=Z,1.7nm,0.6s,mb3.4,baz=69,slow=7.7,SNR=20						
MKAR	Makanchi Array	43.25	295	P	P	02 03 23.3	-1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	43.25	295	P	P	02 03 23.3	-1.0
LSA	Lhasa	46.17	269	P	P	02 03 46.3	-0.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.1						
LSA	Lhasa	46.17	269	P	P	02 03 46.3	-0.8
	comp=Z,6.6nm,0.4s,mb4.1						
ARCES	ARCESS Array B	56.43	339	P	P	02 05 01.9	-0.8
	comp=Z,1.8nm,0.9s,mb3.4,baz=34,slow=6.6,SNR=11						
ARCES	ARCESS Array B	56.43	339	P	P	02 05 01.9	-0.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JOF	Joensuu	59.43	331	ep	P	02 05 21.1	-2.2
	comp=Z,2.2nm,0.4s,mb3.9						
JOF	Joensuu	59.43	331	eP	P	02 05 21.1	-2.2
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
KAF	Kangasniemi	61.62	333	ep	P	02 05 35.2	-2.8
	comp=Z,1.8nm,0.4s,mb4.0,baz=41,slow=6.2						
KAF	Kangasniemi	61.62	333	eP	P	02 05 35.2	-2.8
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
FINES	FINESS Array B	62.20	332	P	P	02 05 40.5	-1.4
	comp=Z,3.2nm,0.5s,mb4.1,baz=44,slow=7.5,SNR=40						
FINES	FINESS Array B	62.20	332	P	P	02 05 40.5	-1.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	62.20	332	P	P	02 05 40.5	-1.4
NB2	NORSAR Subarra	66.79	338	P	P	02 06 10.0	-1.4
	comp=Z,1.5nm,0.6s,mb3.9,baz=29,slow=6.5						
NB2	NORSAR Subarra	66.79	338	P	P	02 06 10.0	-1.4
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	66.79	338	P	P	02 06 10.4	-1.0
	comp=Z,1.5nm,0.5s,mb3.9,baz=30,slow=6.5,SNR=6.1						
NOA	NORSAR Array B	66.79	338	P	P	02 06 10.4	-1.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	67.39	193	P	P	02 06 16.6	+1.4
	comp=Z,1.7nm,0.5s,mb4.0,baz=9.6,slow=6.6,SNR=9.5						
WRA	Warramunga Arr	67.39	193	P	P	02 06 16.6	+1.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	Pinedale Array	67.98	51	P	P	02 06 20.2	+1.5
	comp=Z,2.1nm,0.4s,mb4.2,baz=39,slow=0.7,SNR=24						
ULM	Lac du Bonnet	69.11	38	P	P	02 06 25.8	+0.2
	comp=Z,1.7nm,0.6s,mb4.0,baz=326,slow=7.3,SNR=3.2						
ASAR	Alice Springs	71.12	193	P	P	02 06 39.9	+2.1
	comp=Z,0.5nm,0.4s,mb3.6,baz=8.8,slow=6.0,SNR=19						
ASAR	Alice Springs	71.12	193	P	P	02 06 39.9	+2.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	80.98	57	P	P	02 07 35.4	+2.3
	comp=Z,1.4nm,0.6s,mb3.9,baz=290,slow=3.8,SNR=24						
TXAR	Lajitas Array	80.98	57	P	P	02 07 35.4	+2.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*ISCJB **29** 01:55:55.5±0.2, 1157N±002×6220W±003, h150km±2km, mb3.9/16, Error ellipse: s-maj=4.7km s-min=3.4km az=76.3*
*IDC **29** 01:55:56.6±0.6, 1171N×6230W, h153km±5km, mb3.6/13, mb1 3.8/16, mb1mx3.6/25, mbtmp4.1/16, MS3.2/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=12.6km s-min=6.3km az=126.0*
*TRN **29** 01:55:56.6, 1158N×6225W, h145km, MD4.0, M5.1(FDF), Md4.5(FDF)*
*FUNV **29** 01:55:56.9, 1159N×6201W, h128km, MW4.1*
*NEIC **29** 01:55:57.5, 1157N×6228W, h133km, mb4.2/7, MD4.0(TRN), After TRN.*
NEIC Felt [III] in northern Trinidad.

ISC 29 01:55:56.7±0.2, 1158N±002×6221W±003, h144km±2km, h157km±2.0km: pP-P, n75, σ0§96/96, mb3.9/16, 9C-10D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	Mount Saint Ca	0.79	43	⇑eP	Pn	01 56 19.4	+0.3
GRHS	Sauteurs	0.85	41	⇓iP	Pn	01 56 19.6	+0.1
GRHS				eS	Sn	01 56 36.3	-0.7
GUIV	Guiria	0.92	181	⇑eP	Pn	01 56 19.5	-0.7
GUIV				eS	Sn	01 56 35.0	-3.1
GRSS	Sisters	0.93	39	⇓iP	Pn	01 56 20.4	+0.2
GRSS				eS	Sn	01 56 31.0	-7.1
ITEV	Isla Los Testi	0.93	256	eP	Pn	01 56 19.3	-0.9
ITEV				eS	Sn	01 56 37.2	-1.0
GRIC	Isle de Caille	0.93	41	⇑iP	Pn	01 56 20.4	+0.2
GRIC				eS	Sn	01 56 30.8	-7.4
TCE	Chacachacare	0.98	153	⇓eP	Pn	01 56 20.9	+0.3
TCE				eS	Sn	01 56 37.7	-1.2
TRN	Trinidad (W)	1.22	139	eS	Sn	01 56 41.6	-1.2
TRN	Trinidad (W)	1.22	139	⇑eP	Pn	01 56 23.1	+0.3
TRN				eS	Sn	01 56 41.6	-1.2
CRUV	Carupano	1.35	228	eP	Pn	01 56 24.3	+0.1
CRUV				eS	Sn	01 56 44.6	-0.6
TPP	Pointe-a-Pierr	1.46	149	⇑iP	Pn	01 56 26.2	+0.9
TPP				eS	Sn	01 56 47.2	+0.1
TPR	Prospect	1.46	105	⇑iP	Pn	01 56 25.2	-0.1
TPR				eS	Sn	01 56 47.0	-0.2
ALNG	Atlantic LNG	1.48	160	eP	Pn	01 56 27.4	+1.9
ALNG				eS	Sn	01 56 47.7	+0.2
BUAY	Buenos Aires	1.55	161	⇑iP	Pn	01 56 28.6	+2.4
BUAY				eS	Sn	01 56 49.2	+0.4
TBH	Brigand Hill	1.56	134	⇑iP	Pn	01 56 26.8	+0.4
TBH				eS	Sn	01 56 49.2	+0.1
FCV	Fort Charlotte	1.83	31	eP	Pn	01 56 30.1	+0.6
FCV				eS	Sn	01 56 54.6	0.0
SVB	Belmont	1.93	29	eP	Pn	01 56 31.4	+0.8
SVB				eS	Sn	01 56 56.3	-0.2
SSV	Crater Summit	2.00	30	⇑eP	Pn	01 56 32.8	+1.4
SSV				eS	Sn	01 56 57.9	-0.2
IBAV	Isla La Blanqu	2.33	276	eP	Pn	01 56 36.2	+0.8
IBAV				eS	Sn	01 57 05.8	+0.6
ORIV	Oritupano	2.76	205	eP	Pn	01 56 40.7	0.0
ORIV				eS	Sn	01 57 12.7	-1.9
PCRV	Puerto La Cruz	2.76	240	P	Pn	01 56 41.7	+0.9
	15nm,0.3s,baz=21,slow=1.8,SNR=82						
PCRV				S	Sn	01 57 14.9	+0.2
	42nm,0.3s,baz=251,slow=15,SNR=14						
PCRV	Puerto La Cruz	2.76	240	eP	Pn	01 56 42.0	+1.2
BBGH	Gun Hill	3.02	59	ePn	Pn	01 56 44.0	-0.1
BBGH				eSn	Sn	01 57 23.9	+3.3
BIM	Bigot	3.13	21	eP	Pn	01 56 44.8	-0.6
MVM	Montagne Vaucl	3.23	23	eP	Pn	01 56 46.2	-0.5
MVM				eS	Sn	01 57 26.8	+1.4
FDF	Fort de France	3.30	18	⇓iP	Pn	01 56 47.3	-0.3
FDF				eS	Sn	01 57 25.3	-1.8
PRGV	PARIAGUAN	3.69	221	eP	Pn	01 56 52.5	-0.1
CUPV	Cepira	3.83	247	eP	Pn	01 56 55.6	+1.1
GURV	El Guri	3.89	193	⇓eP	Pn	01 56 54.4	-0.9
BIRV	Birongo	4.13	255	eP	Pn	01 56 59.4	+0.9
TBG	Guadaloupe-3	4.29	7	eP	Pn	01 57 06.3	+5.8
SCG	Saint Claude	4.46	7	eP	Pn	01 57 04.8	+2.1
SCG				eS	Sn	01 58 01.5	+7.4
LZG	Guadaloupe-1	4.56	5	eP	Pn	01 57 02.7	-1.4
MERV	Las Mercedes	4.64	240	⇓eP	Pn	01 57 05.3	+0.1
FUNV	FUNVISIS	4.65	257	eP	Pn	01 57 06.2	+0.9
TURV	Turiamo	5.64	259	eP	Pn	01 57 19.1	+0.6
LUEV	Luepa	5.74	173	⇓eP	Pn	01 57 17.4	-2.5
BAUV	El Baul	6.31	246	⇓eP	Pn	01 57 27.3	-0.1
TEPV	Terepaima	7.04	258	eP	Pn	01 57 37.9	+0.7
SANV	Sanarito	7.49	255	eP	Pn	01 57 43.7	+0.4
SIQV	Siquisique	7.51	264	eP	Pn	01 57 43.2	-0.4
CURV	Curaripa	7.77	259	eP	Pn	01 57 47.0	0.0
SDV	Santo Domingo	8.71	253	P	Pn	01 57 59.2	-0.3
	2.7nm,0.3s,baz=95,slow=8.4,SNR=27						
SOCV	Socops	9.12	250	eP	Pn	01 58 04.5	-0.6
VIGV	El Vigia	9.41	254	eP	Pn	01 58 09.3	+0.4
CAPV	Capacho	10.62	251	eP	Pn	01 58 24.2	-0.8
ROSC	El Rosal	13.72	242	P	Pn	01 59 05.0	-0.3
	0.3nm,0.3s,baz=107,slow=19,SNR=4.1						
ROSC				LR	LR	02 04 10.0	
	comp=Z,42nm,20.0s,baz=164,slow=36						
ROSC	El Rosal	13.72	242	ePn	Pn	01 59 07.9	+2.6
ROSC				eSn	Sn	02 01 37.7	+0.6
ROSC				LR	LR	02 04 09.9	
OTAV	Otavalo	19.67	236	eP	P	02 00 15.2	+0.7
SAML	Samuel	20.41	183	⇓eP	P	02 00 22.6	+0.2
	8.4nm,0.5s						
TEIG	Tepich	26.47	292	P	P	02 01 21.1	+0.7
	3.4nm,0.6s,mb4.2						
SIV	San Ignacio	27.41	178	P	P	02 01 29.7	+1.0
	5.6nm,0.5s,mb4.5,baz=6.3,slow=8.5,SNR=51						
NNA	Nana	27.55	212	P	P	02 01 29.7	-0.3
	8.7nm,0.7s,mb4.6,baz=349,slow=5.2,SNR=3.7						
NNA	Nana	27.55	212	P	P	02 01 30.0	0.0
	7.6nm,0.6s,mb4.6						
LPAZ	La Paz	28.30	192	P	P	02 01 38.1	+1.5
	1.1nm,0.6s,mb3.8,baz=8.0,slow=9.0,SNR=4.2						
LPAZ	La Paz	28.30	192	eP	P	02 01 38.2	+1.6
	1.2nm,0.7s,mb3.7						
RCBR	Riachuelo	31.37	122	P	P	02 02 05.0	+1.2
	2.9nm,0.8s,mb4.1						
CPUP	Villa Florida	37.98	173	P	P	02 02 60.0	-0.5
	1.2nm,0.3s,mb3.9,baz=348,slow=6.6,SNR=9.5						
CPUP	Villa Florida	37.98	173	eP	P	02 02 59.8	-0.6
	11nm,0.3s,mb5.0						
TXAR	Lajitas Array	42.40	301	P	P	02 03 35.8	-1.1
	0.6nm,0.5s,mb3.5,baz=122,slow=6.8,SNR=21						
CFAA	Coronel Fontan	43.32	188	P	P	02 03 43.7	-0.6
	0.3nm,0.6s,mb3.1,baz=352,slow=9.7,SNR=6.6						
CFAA	Coronel Fontan	43.32	188	P	P	02 03 43.7	-0.6
MNTX	Cornudas Mount	44.49	304	eP	P	02 03 52.0	-1.6
	2.1nm,0.7s,mb3.9						
ULM	Lac du Bonnet	47.43	331	P	P	02 04 13.8	-2.9
	1.2nm,0.5s,mb3.8,baz=145,slow=9.4,SNR=5.3						
ULM	Lac du Bonnet	47.43	331	P	P	02 04 13.8	-2.9
PDAR	Pinedale Array	51.41	316	P	P	02 04 44.7	-2.1
	1.2nm,0.6s,mb3.7,baz=115,slow=9.3,SNR=13						
PDAR				pP	pP	02 05 21.2	+1.4
	0.5nm,0.6s,baz=121,slow=12,SNR=2.9						
ESDC	Sonseca Array	58.35	50	P	P	02 05 37.1	+0.4
	0.1nm,0.4s,mb3.0,baz=269,slow=8.7,SNR=4.6						
ESDC				pP	pP	02 06 13.0	+2.5
	0.2nm,0.4s,baz=267,slow=8.1,SNR=3.8						
TORD	Torodi Ar. Bea	62.29	81	P	P	02 06 03.5	0.0
	2.5nm,0.3s,mb4.5,baz=286,slow=6.4,SNR=161						
TORD				pP	pP	02 06 40.0	+2.3
	0.8nm,0.5s,baz=285,slow=6.3,SNR=3.3						
TORD	Torodi Ar. Bea	62.29	81	P	P	02 06 03.5	0.0
TORD				pP	pP	02 06 40.0	+2.3
GERES	GERESS Array B	72.11	42	P	P	02 07 05.4	+0.1
	0.4nm,0.5s,mb3.4,baz=291,slow=8.3,SNR=2.3						
ARCES	ARCESS Array B	78.44	21	P	P	02 07 40.3	-1.3
	2.7nm,0.6s,mb4.1,baz=266,slow=6.4,SNR=15						
FINES	FINESS Array B	79.11	29	P	P	02 07 44.3	-0.9
	0

WB2	Warramunga Arr	18.79	221	eP	P	02 15 36.0	+0.3
WRA	Warramunga Arr	18.80	221	P	P	02 15 36.0	+0.3
	0.4nm,0.3s,baz=44,slow=10,SNR=7.0						
WRA				S	S	02 18 59.0	-0.4
	0.1nm,0.3s,baz=38,slow=22,SNR=6.2						
ASAR	Alice Springs	21.86	215	P	P	02 16 08.8	+0.4
	1.0nm,0.5s,mb3.5,baz=49,slow=8.3,SNR=17						
ASAR				S	S	02 20 01.9	+5.5
	1.7nm,0.8s,baz=32,slow=22,SNR=13						
ASPA	Alice Springs	21.87	215	eP	P	02 16 08.9	+0.4
FITZ	Fitzroy Crossi	24.36	238	eP	P	02 16 31.0	-0.2
	3.6nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	24.36	238	P	P	02 16 30.3	-0.8
	2.4nm,0.4s,mb4.1,baz=53,slow=10,SNR=16						
VNDA	Vanda	72.01	177	P	P	02 22 33.5	-0.2
	0.4nm,0.6s,mb3.3,baz=320,slow=6.0,SNR=3.3						
TORD	Torodi Ar. Bea	145.32	285	PKPbc	PKPbc	02 30 42.8	-3.2
	0.2nm,0.4s,baz=71,slow=4.2,SNR=9.4						

*CSEM **29** 02:15:04.6±0.1, 3934N×31.13E, h2km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.3km az=15.0*
*ISCJB **29** 02:15:06.0±0.3, 3934N±002×31.13E±002, h11km, Error ellipse: s-maj=3.4km s-min=2.7km az=28.4*
*ISK **29** 02:15:06.0, 3934N×31.10E, h11km, MD3.4, ML3.5*
*NEIC **29** 02:15:06.0, 3935N×3109E, h12km, ML3.3(ISK), After ISK.*

ISC 29 02:15:05.8±0.5, 3931N±002×3111E±002, h1km±4km, n52, σ0°78/69, 7C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKT	Eskisehir	0.29	316	i PG	Pg	02 15 11.2	-0.2
ESKT				i SG	Sg	02 15 15.9	+0.6
ESKT	Eskisehir	0.29	316	i P	Pg	02 15 11.0	-0.4
ESKT				i S	Sg	02 15 16.0	+0.8
SEYT	Eskypehyr	0.29	316	i P	Pg	02 15 11.0	-0.4
BORA	Eskisehir	0.77	318	i P	Pg	02 15 19.5	-1.0
BORA				i S	Sg	02 15 31.1	+0.7
BORA	Eskisehir	0.77	318	i P	Pg	02 15 19.5	-1.0
BORA				i S	Sg	02 15 31.1	+0.7
KDHN	Kadinhani	1.11	135	i P	Pg	02 15 25.4	-1.6
KDHN				i S	Sg	02 15 41.6	+0.2
GPA	Golpazari	1.16	328	i PN	Pn	02 15 28.7	-0.4
GPA				i SN	Sn	02 15 44.3	-1.2
GDZ	Gediz	1.29	261	i P	Pg	02 15 28.4	-2.1
GDZ				i S	Sg	02 15 48.1	+0.9
TKTP	Tekketepe	1.41	206	i P	Pn	02 15 31.7	-0.9
TKTP				i S	Sg	02 15 51.9	+0.8
ANTO	Ankara	1.41	66	⇓i P	Pn	02 15 32.5	-0.1
ANTO	Ankara	1.41	66	⇓P	Pn	02 15 32.5	-0.1
EYL	Eskiyayla	1.46	330	ePN	Pn	02 15 32.4	-0.8
HENT	Hendek	1.52	354	i P	Pn	02 15 33.5	-0.5
HENT				i S	Sn	02 15 57.5	+3.0
ISP	Isparta	1.54	198	ePn	Pn	02 15 33.1	-1.2
ISP				eSg	Sg	02 15 56.1	+0.9
ADVT	Abdulvahap	1.54	317	PN	Pn	02 15 33.8	-0.6
KONT	Konya--Tatoy	1.68	144	PN	Pn	02 15 37.2	+1.0
ULDT	Uludag	1.74	299	i P	Pn	02 15 36.6	-0.4
ULDT				i S	Sn	02 16 00.3	+0.4
YLV	Yalova	1.84	314	PN	Pn	02 15 38.0	-0.4
GEMT	Gemlik	1.86	308	PN	Pn	02 15 38.4	-0.3
HRT	Hereke	1.88	324	ePN	Pn	02 15 37.9	-1.0
BCK	Bucak	1.89	193	ePN	Pn	02 15 39.6	+0.5
BR131	Keskin Array S	2.00	77	ePn	Pn	02 15 40.2	-0.4
BR131				eSg	Sg	02 16 10.1	+0.1
BR131	Keskin Array S	2.00	77	ePn	Pn	02 15 40.2	-0.4
BR131				eSg	Sg	02 16 10.1	+0.1
KAMT	Kaman	2.02	87	PN	Pn	02 15 40.2	-0.7
ELDT	Eldivan	2.13	56	i P	Pn	02 15 42.5	0.0
ELDT				i S	Sg	02 16 15.3	+0.9
BADT	Buyukada	2.17	316	PN	Pn	02 15 43.0	0.0
SAFT	Safranbolu	2.27	31	PN	Pn	02 15 44.5	+0.1
CANT	Cankiri	2.32	55	PN	Pn	02 15 45.4	+0.3
ISK	Istanbul-Kandi	2.36	319	PN	Pn	02 15 45.8	+0.2
BTOK	Tokmak	2.43	282	i P	Pn	02 15 46.1	-0.4
BTOK				i S	Sn	02 16 16.5	-0.3
KLYT	Kilyos	2.51	321	PN	Pn	02 15 47.2	-0.4
CDAG	Cicekdag	2.54	82	i P	Pn	02 15 48.3	+0.2
CDAG				i S	Sn	02 16 19.6	-0.1
BALT	Daday	2.82	37	i P	Pn	02 15 51.4	-0.5
BALT				i S	Sg	02 16 35.7	-0.7
CORM	Corum	2.85	71	ePN	Pn	02 15 52.7	+0.4
BZK	Bozkurt	3.44	39	ePN	Pn	02 16 00.6	+0.1
BYBT	Boyabat	3.53	51	ePN	Pn	02 16 01.5	-0.1
BNN	Bunyan	3.71	96	ePN	Pn	02 16 05.2	+1.0
TIRR	Tirgusor	5.53	339	⇓i P	Pn	02 16 28.8	-0.3
TIRR	Tirgusor	5.53	339	⇓P	Pn	02 16 28.8	-0.3
VTS	Vitosha	6.82	301	⇓i P	Pn	02 16 47.3	+0.3
VTS	Vitosha	6.82	301	⇓P	Pn	02 16 47.3	+0.4
MLR	Muntele Rosu	7.26	330	⇑i P	Pn	02 16 54.4	+1.4
MLR	Muntele Rosu	7.26	330	⇑P	Pn	02 16 54.4	+1.4
PLOR	Plostina	7.32	335	⇑i P	Pn	02 16 54.7	+0.9
VOIR		7.59	326	⇓i P	Pn	02 16 57.8	+0.3
VOIR		7.59	326	⇓P	Pn	02 16 57.8	+0.3
GZR	Gura Zlata	8.66	317	⇓i P	Pn	02 17 13.5	+1.3
GZR	Gura Zlata	8.66	317	⇓P	Pn	02 17 13.5	+1.3
BURAR	Bucovina Array	9.34	335	⇑i P	Pn	02 17 22.5	+1.0
BURAR	Bucovina Array	9.34	335	⇑P	Pn	02 17 22.5	+1.0
BZS	Buzias	9.43	315	⇑i P	Pn	02 17 23.2	+0.5
BZS	Buzias	9.43	315	⇑P	Pn	02 17 23.2	+0.5

*IDC **29** 02:28:02.6±0.8, 0.92S×132.94E, h0km, mb4.1/7, mb1 4.2/10, mb1mx4.1/18, mbtmp4.1/10, ML4.0/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=44.0km s-min=12.7km az=75.0*
*ISCJB **29** 02:28:06.1±1.2, 0.88S±005×133.41E±008, h48km±11km, mb4.2/12, MS3.6/1, Error ellipse: s-maj=13.9km s-min=7.4km az=142.4*
*NEIC **29** 02:28:07.9±2.0, 0.90S×132.96E, h37km±19km, mb4.0/7, Error ellipse: s-maj=16.9km s-min=10.3km az=68.0*

ISC 29 02:28:07.7±2.7, 08S±01×1334E±02, h40km±23km, n35, σ0°86/38, mb4.2/12, MS3.6/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.10	269	P	Pn	02 28 40.4	+0.1
	0.0nm,0.0s						
BAKI	Biak	2.77	97	P	Pn	02 28 47.6	-1.9
	0.0nm,0.0s						
AAI	Ambon	5.88	241	P	Pn	02 29 34.4	+2.1
	0.0nm,0.0s						
KAKA	Kakadu	11.83	184	eP	Pn	02 30 52.8	-1.0
	22nm,0.4s						
KAKA				eS	Sn	02 32 57.8	-6.6
PMG	Port Moresby	16.16	122	Pn	Pn	02 31 57.4	+5.7
	0.5nm,0.3s,baz=317,slow=13,SNR=4.5						
GUMO	Guam	18.32	38	LR	LR	02 37 30.9	
	comp=Z,12nm,19.3s,baz=312,slow=30						
FITZ	Fitzroy Crossi	18.76	203	eP	Pn	02 32 22.1	-1.8
	9.4nm,0.8s						
FITZ	Fitzroy Crossi	18.76	203	P	Pn	02 32 22.1	-1.8
	0.5nm,0.3s,baz=41,slow=10,SNR=18						
FITZ				S	S	02 35 42.6	-11
	0.3nm,0.3s,baz=145,slow=16,SNR=4.9						
FITZ				LR	LR	02 40 31.2	
	comp=Z,43nm,19.8s,baz=153,slow=40						
WB2	Warramunga Arr	19.01	177	eP	Pn	02 32 26.6	-0.4
WB2				eS	S	02 35 50.6	-9.1
WRA	Warramunga Arr	19.01	177	P	Pn	02 32 26.9	-0.1
	1.1nm,0.3s,baz=358,slow=12,SNR=31						
WRA				S	S	02 35 51.2	-8.4
	0.2nm,0.3s,baz=355,slow=23,SNR=5.1						
AS31	Alice Springs	22.70	179	eP	P	02 33 06.1	+0.3
AS31				eS	S	02 37 17.1	+5.5
ASAR	Alice Springs	22.70	179	P	P	02 33 05.9	+0.1
	8.0nm,0.6s,mb4.3,baz=4.3,slow=11,SNR=60						
ASAR				S	S	02 37 14.8	+3.1
	2.3nm,1.0s,baz=2.9,slow=24,SNR=6.3						
ASPA	Alice Springs	22.70	179	eP	P	02 33 06.2	+0.4
ASPA				eS	S	02 37 17.1	+5.5
CTA	Charters Tower	22.91	147	eP	P	02 33 09.8	+1.7
	2.4nm,0.6s,mb3.8						
CTA	Charters Tower	22.91	147	P	P	02 33 09.4	+1.4
	2.9nm,0.8s,mb3.8,baz=328,slow=14,SNR=5.4						
CTAO	Charters Tower	22.91	147	eP	P	02 33 09.7	+1.6
	3.4nm,0.7s,mb3.9						
STKA	Stephens Creek	31.84	167	P	P	02 34 27.7	-1.0
	2.4nm,0.6s,mb4.2,baz=348,slow=11,SNR=9.1						
STKA				LR	LR	02 49 05.1	
	comp=Z,121nm,18.9s,MS3.6,baz=25,slow=40						
STKA	Stephens Creek	31.84	167	eP	P	02 34 28.8	+0.1
JIRN	Jiri	53.40	306	eP	P	02 37 23.5	+0.2
	4.6nm,0.6s,mb4.6						
GUN	Gumba	53.75	306	eP	P	02 37 26.4	+0.5
SONM	Songino Array	53.87	338	P	P	02 37 25.7	-1.1
	0.4nm,0.7s,mb3.5,baz=141,slow=9.3,SNR=4.0						
KKN	Kakani	54.19	306	eP	P	02 37 28.9	-0.2
GKN	Gorkha	54.80	306	eP	P	02 37 34.6	+1.1
KOLN	Koldanda	55.55	305	eP	P	02 37 39.3	+0.3
	9.0nm,0.7s,mb4.9						
MK31	Makanchi Array	65.09	324	eP	P	02 38 44.7	+0.5
MKAR	Makanchi Array	65.09	324	P	P	02 38 44.5	+0.4
	4.3nm,0.7s,mb4.6,baz=117,slow=8.0,SNR=36						
BVAR	Borovoye Array	74.76	326	P	P	02 39 43.3	-0.2
	1.4nm,0.6s,mb4.1,baz=116,slow=6.8,SNR=12						
BRVK	Borovoye	74.83	326	eP	P	02 39 43.4	-0.5
	1.2nm,0.6s,mb4.0						
CHKZ	Chkalovo	74.89	327	eP	P	02 39 43.6	-0.7
	2.0nm,1.0s,mb4.0						
ZRNK	Zerenda	75.51	326	eP	P	02 39 46.8	-1.0
	3.8nm,1.1s,mb4.2						
VNDA	Vanda	78.15	174	P	P	02 40 03.5	+0.7
	1.0nm,0.9s,mb3.7,baz=320,slow=3.7,SNR=5.8						
VNDA	Vanda	78.15	174	eP	P	02 40 03.1	+0.4
	1.3nm,0.9s,mb3.9						
TORD	Torodi Ar. Bea	130.60	287	PKP	PKPdf	02 47 14.8	+0.6
	0.3nm,0.7s,baz=30,slow=2.4,SNR=4.1						
TORD	Torodi Ar. Bea	130.60	287	PKP	PKPdf	02 47 14.8	+0.6
CPUP	Villa Florida	151.09	160	PKPbc	PKPbc	02 47 59.9	+3.5
	0.5nm,0.5s,baz=162,slow=3.2,SNR=2.4						

IDC 29 02:46:34.5±5.0, 6482S×17509E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.8/9, mbtmp3.7/3, ML3.1/1, MS3.4/6, Ms1 3.4/6, ms1mx3.3/13, Error ellipse: s-maj=176.1km s-min=38.7km az=74.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.39	192	Pn	Pn	02 49 45.5	-0.3
	0.1nm,0.3s,baz=38,slow=16,SNR=7.4						
VNDA				LR	LR	02 53 53.2	
	comp=Z,117nm,20.0s,baz=328,slow=33						
RPZ	Rata Peaks	21.27	352	LR	LR	02 57 53.2	
	comp=Z,171nm,20.9s,baz=111,slow=32						
URZ	Urewera	26.62	4	LR	LR	03 01 09.7	
	comp=Z,46nm,19.3s,baz=204,slow=33						
STKA	Stephens Creek	38.87	312	LR	LR	03 08 42.4	
	comp=Z,80nm,18.3s,baz=123,slow=34						
ASAR	Alice Springs	49.01	307	P	P	02 55 22.9	0.0
	1.6nm,0.9s,baz=155,slow=7.3,SNR=12						
ASAR				LR	LR	03 13 37.5	
	comp=Z,34nm,21.3s,baz=175,slow=33						
WRA	Warramunga Arr	52.31	309	P	P	02 55 46.9	-1.0
	1.3nm,0.8s,baz=163,slow=6.3,SNR=6.3						
WRA				LR	LR	03 14 52.7	
	comp=Z,70nm,19.3s,baz=40,slow=32						
AKTO	Aktyubinsk	145.02	277	PKPbc	PKPbc	03 06 11.8	-1.3
	0.7nm,0.3s,baz=86,slow=5.2,SNR=4.2						
BRTR	Keskin Array B	146.45	240	PKPbc	PKPbc	03 06 15.4	-2.1
	0.7nm,0.8s,baz=145,slow=5.3,SNR=5.0						

*CSEM **29** 03:16:14.3±0.1, 4306N×1354E, h12km, ML2.9/4, Error ellipse: s-maj=2.7km s-min=1.8km az=86.0*
*ISCJB **29** 03:16:15.2±0.4, 4306N±003×1349E±005, h31km±3km, Error ellipse: s-maj=5.6km s-min=4.3km az=19.8*
*NEIC **29** 03:16:15.2, 4306N×1352E, h23km, ML2.6(ROM), ML2.9(LDG), After ROM.*
*ROM **29** 03:16:15.2±0.2, 4306N×1352E, h23km±5km, Md2.8/15, Ml2.6/12, Error ellipse: s-maj=4.4km s-min=2.7km az=130.0*
*LDG **29** 03:16:17.4±0.3, 4309N×1345E, h10km, Ml2.9/4, Error ellipse: s-maj=9.4km s-min=4.7km az=71.0*

ISC 29 03:16:15.8±0.4, 4305N±003×1351E±004, h20km±5km, n38, σ1°00/56, 4C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	Offida	0.18	132	Pg	Pb	03 16 20.6	-0.1
OFFI				Sg	Sb	03 16 25.3	+1.4
	3μm,0.4s						
CING	Cingoli	0.39	325	Pg	Pb	03 16 23.2	-0.9
CING				Sg	Sb	03 16 30.2	+0.5
	340nm,0.1s						
TERO	Teramo	0.44	170	Pg	Pb	03 16 23.4	-1.4
TERO				Sg	Sb	03 16 31.4	+0.5
	230nm,0.6s						
AOI	Ancona	0.50	8	Pg	Pb	03 16 25.0	-0.9
AOI				Sg	Sb	03 16 33.6	+0.9
	223nm,0.3s						
LNSS	Leonessa	0.57	217	Pg	Pb	03 16 26.0	-1.0
LNSS				Sg	Sb	03 16 36.1	+1.5
	549nm,0.6s						
ASS	Assisi	0.63	271	Pg	Pb	03 16 27.3	-0.7
ASS				Sg	Sb	03 16 37.7	+1.4
	9.0nm,0.2s						
VCEL	Villa Celiera	0.70	159	Pg	Pb	03 16 29.5	+0.1
	138nm,0.4s						
MURB	Monte Urbino	0.75	287	Pg	Pb	03 16 29.5	-0.6
	490nm,0.2s						
FAGN	Fagnano	0.79	176	Pg	Pb	03 16 30.4	-0.4
	201nm,0.5s						
FSSB	Fossombrone	0.83	320	Pg	Pb	03 16 30.8	-0.7
	120nm,0.3s						
FIAM	Fiamignano	0.84	200	Pg	Pb	03 16 30.4	-1.2
	117nm,0.7s						
MNS	Montasola	0.90	223	Pg	Pb	03 16 31.6	-1.2
	99nm,0.5s						
MTCE	Montecelio	1.18	209	Pg	Pn	03 16 37.8	+0.7
	43nm,0.5s						
SACS	San Casciano d	1.19	261	Pg	Pn	03 16 37.9	+0.6
	77nm,1.0s						
CRE	Caprese Michel	1.27	297	Pg	Pn	03 16 39.1	+0.8
	18nm,0.4s						
NVLJ	Novalja	1.80	33	i Pn	Pn	03 16 44.8	-0.9
NVLJ				i Sn	Sn	03 17 06.9	-1.1
NVLJ	Novalja	1.80	33	i Pn	Pn	03 16 44.7	-1.0
NVLJ				i Sn	Sn	03 17 06.9	-1.1
BOJS	Bojanci	2.75	27	i Pn	Pn	03 16 59.4	+0.7
BOJS				i Sn	Sn	03 17 32.3	+0.9
PGF	Pioggiola	3.35	263	ePn	Pn	03 17 08.7	+1.7
SQTA	Sankt Quirin	4.47	339	⇑i Pn	Pn	03 17 24.2	+1.8
SQTA				⇓i		03 18 17.8	
SQTA	Sankt Quirin	4.47	339	⇑i Pn	Pn	03 17 24.2	+1.8
SQTA				⇑i Sn	Sn	03 18 15.6	+1.8
SQTA	Sankt Quirin	4.47	339	⇑i Pn	Pn	03 17 24.2	+1.8
SQTA				i		03 18 17.8	
SBF	Sospel	4.49	282	ePn	Pn	03 17 23.0	+0.3
FRF	La Foret Royal	5.03	278	ePn	Pn	03 17 31.3	+1.2
LMR	La Mourre	5.12	276	ePn	Pn	03 17 31.8	+0.5
LPL	La Plagne	5.45	299	ePn	Pn	03 17 35.1	-0.7
LPL				eSn	Sn	03 18 35.0	-2.9
	1.5nm,0.4s						
LPL	La Plagne	5.45	299	ePn	Pn	03 17 35.1	-0.7
LPL				eSn	Sn	03 18 35.0	-2.9
	0.8nm,0.4s						
SMRF	Simiane la Rot	5.84	282	ePn	Pn	03 17 41.4	+0.2
CABF	La Chapelle	6.36	307	ePn	Pn	03 17 48.5	+0.2
HINF	Hinteralfeld	6.67	318	ePn	Pn	03 17 51.7	-1.0
HINF				eSn	Sn	03 19 04.2	-3.9
	1.7nm,0.3s						
HINF	Hinteralfeld	6.67	318	ePn	Pn	03 17 51.7	-1.0
HINF				eSn	Sn	03 19 04.2	-3.9
	0.9nm,0.3s						
CDF	Champ du Feu	6.91	323	ePn	Pn	03 17 55.3	-0.5
HAU	Haudompre	7.05	317	ePn	Pn	03 17 57.7	-0.1
HAU				eSn	Sn	03 19 13.1	-4.3
	2.3nm,0.3s						
HAU	Haudompre	7.05	317	ePn	Pn	03 17 57.7	-0.1
HAU				eSn	Sn	03 19 13.1	-4.3
	1.1nm,0.3s						
SMF	Signal de Mont	7.75	301	ePn	Pn	03 18 06.9	-0.5
LOR	Lormes	8.01	305	ePn	Pn	03 18 10.3	-0.7
LOR				eSn	Sn	03 19 35.8	-5.2
	1.0nm,0.3s						
LOR	Lormes	8.01	305	ePn	Pn	03 18 10.3	-0.7
LOR				eSn	Sn	03 19 35.8	-5.2
	0.5nm,0.3s						
BGF	Bois d'Agland	8.35	298	ePn	Pn	03 18 15.1	-0.5

CASC 29 03:23:09.6±2.0, 1328N×8763W, h8km±8km, MD3.9, ML3.7, 9C-8D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.20	270	⇑i P	x	03 23 13.7	0.0
BLLM	Bellamira	0.62	286	⇑i P	x	03 23 21.1	-0.4
BLLM				eS	x	03 23 30.8	+1.3
VSM	San Miguel	0.65	284	⇑i P	x	03 23 21.9	-0.1
CRIN	San Cristobal	0.80	135	⇓i P	Pg	03 23 25.3	+0.2
TELN	Telica	1.02	131	⇑i P	Pg	03 23 29.3	+0.1
TELN				eS	Sg	03 23 44.3	+1.7
	comp=Z,465nm,0.6s						
LEON	Leon	1.12	140	⇑i P	Pg	03 23 29.8	-1.2
LEON				eS	Sg	03 23 46.1	+0.6
LEON				i		03 23 46.5	
	comp=Z,785nm,0.3s						
CNGN	Cerro Negro	1.19	130	⇓i P	Pb	03 23 30.1	-2.4
CNGN				eP		03 23 30.3	
CNGN				eS	Sg	03 23 46.0	-1.9
MIRN	Miramar	1.22	133	⇑i P	Pb	03 23 31.8	-1.2
MIRN				eS	Sg	03 23 49.0	+0.1
MIRN				i		03 23 53.5	
	comp=Z,2μm,0.3s						
SNVI	San Vicente	1.22	286	⇓i P	x	03 23 32.0	-1.0
SNVI				eS	x	03 23 50.5	+1.5
LCBS	La Ceiba	1.37	286	⇑i P	x	03 23 34.0	-1.0
LCBS				eS	x	03 23 52.5	-0.5
MOMJ	Momotombo	1.37	129	⇓i P	Pn	03 23 34.0	-1.0
LFRS	El Faro	1.44	284	⇓i P	x	03 23 35.3	-0.7
LFRS				eS	x	03 23 55.6	+0.5
LBRS	Las Brisas	1.45	289	⇓i P	x	03 23 36.1	0.0
COPN	Copaltepe	1.49	137	⇑i P	Pn	03 23 35.9	-0.8
APYN	Apoyeque	1.62	130	eP	Pn	03 23 38.2	-0.3
APYN				eS	Sn	03 23 59.9	+0.2
APYN				i		03 24 03.9	
	comp=Z,2μm,0.3s						
BOQS	Boqueron	1.67	286	⇑i P	x	03 23 39.4	+0.2
XAVN	Gruta Xavier	1.69	131	⇓i P	Pn	03 23 39.2	-0.3
MGAN	Managua	1.75	130	eS	Sn	03 24 02.4	-0.5
TICN	Ticuantepe	1.84	132	⇓i P	Pn	03 23 41.8	+0.3
TICN				eS	Sn	03 24 05.7	+0.7

*NEIC **29** 03:34:45.7, 3576S×17872E, h286km, MG3.9(WEL), After WEL.*

WEL 29 03:34:46.0±0.5, 3578S×17883E, h282km±6km, ML3.9/8, Error ellipse: s-maj=14.5km s-min=9.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.33	191	P	Pn	03 35 34.2	+0.1
PUZ				S	S	03 36 11.1	-1.2
PUZ	Puketiti	2.33	191	PN	Pn	03 35 34.2	+0.1
PUZ				SN	S	03 36 11.0	-1.4
MWZ	Matawai	2.76	202	eP	Pn	03 35 38.8	+0.7
MWZ	Matawai	2.76	202	PN	Pn	03 35 38.5	+0.4
URZ	Urewera	2.83	209	eP	Pn	03 35 38.1	-0.8
URZ	Urewera	2.83	209	ePN	Pn	03 35 38.1	-0.8
URZ				eSN	S	03 36 20.6	-0.3
KNZ	Kokohu	3.36	196	P	Pn	03 35 44.5	+0.2
KNZ	Kokohu	3.36	196	ePN	Pn	03 35 44.5	+0.2
TSZ	Takapari Road	4.84	207	P	Pn	03 36 00.3	-0.6
TSZ	Takapari Road	4.84	207	PN	Pn	03 36 00.2	-0.7
BFZ	Birch Farm	5.30	202	eP	Pn	03 36 06.5	+0.1
BFZ	Birch Farm	5.30	202	ePN	Pn	03 36 06.4	0.0
MRZ	Mangatainoka R	5.51	207	P	Pn	03 36 07.8	-1.1
MRZ	Mangatainoka R	5.51	207	ePN	Pn	03 36 07.8	-1.1
MRZ				SN	S	03 37 15.4	0.0
CAW	Cannon Point	6.08	208	P	Pn	03 36 14.7	-1.2
CAW	Cannon Point	6.08	208	PN	Pn	03 36 14.4	-1.4
TCW	Tory Channel	6.50	212	P	Pn	03 36 19.4	-1.5
TCW	Tory Channel	6.50	212	ePN	Pn	03 36 19.3	-1.6
THZ	Tophouse	7.56	216	ePN	Pn	03 36 32.0	-1.9
KHZ	Kahutara	7.80	210	eP	Pn	03 36 36.1	-0.8
KHZ	Kahutara	7.80	210	ePN	Pn	03 36 35.9	-1.0

*ISCJB **29** 03:49:54.9±0.4, 3756N±003×36.18E±003, h5km, Error ellipse: s-maj=3.6km s-min=3.1km az=179.5*
*CSEM **29** 03:49:54.2±0.4, 3755N×3620E, h5km±2km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.8km az=147.0*
*ISK **29** 03:49:54.0, 3756N×36.19E, h4km, MD3.3*
*NSSC **29** 03:49:59, 3741N×3641E, h15km±6km*

ISC 29 03:49:55.6±0.5, 3753N±003×3620E±003, h5km±4km, n28, σ1°04/48, 8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.30	261	i PG	Pg	03 50 00.1	-1.3
KOZT				i SG	Sg	03 50 05.5	+0.2
KMRS	Kahramanmaras	0.56	92	i PG	Pg	03 50 05.5	-0.8
KMRS				i SG	Sg	03 50 13.4	-0.1
CEYT	Ceyhan	0.63	215	PG	Pg	03 50 07.4	-0.3
GAZ	Gaziantep	0.88	114	PG	Pg	03 50 12.6	+0.1
KARA	Karaisali	0.95	254	PG	Pg	03 50 12.1	-1.7
KARA				SG	Sg	03 50 26.9	+0.8
DRWC	Darouich	0.98	157	⇑i P	Pg	03 50 14.9	+0.5
DRWC				⇓i S	Sg	03 50 27.8	+0.7
DRWC	Darouich	0.98	157	⇑P	Pg	03 50 14.0	-0.4
DRWC				⇓S	Sg	03 50 27.0	-0.1
COBT	Iskenderun	1.01	177	i P	Pg	03 50 15.1	+0.2
COBT				i S	Sg	03 50 31.2	+3.2
GZT	Gaziantep	1.10	99	i P	Pg	03 50 15.8	-0.8
GZT				i S	Sg	03 50 31.6	+0.7
BNN	Bunyan	1.35	348	PN	Pn	03 50 19.5	-1.6
HTY	Hatay	1.41	182	PN	Pn	03 50 21.3

LLP	Lapu-Lapu	2.60	301	⇑eP		Pn	03 53 10.8	+1.2
LLP				i S		Sn	03 53 41.0	+0.9
DCPH	Dipolog City	2.87	262	⇓iP		Pn	03 53 13.7	+0.4
DCPH				i S		Sn	03 53 45.1	-1.7
SNPH	Sibulan	2.98	277	eP		Pn	03 53 14.5	-0.3
JOW	Kunigami	17.86	6	LR		LR	04 01 55.5	
	comp=Z,108nm,19.8s,baz=66,slow=33							
GUMO	Guam	18.84	74	LR		LR	04 02 23.2	
	comp=Z,48nm,18.9s,baz=91,slow=33							
KAKA	Kakadu	22.41	164	eP		P	03 57 22.1	-0.5
	13nm,0.9s,mb4.3							
FITZ	Fitzroy Crossi	26.91	181	eP		P	03 58 04.7	+0.3
	8.5nm,1.3s,mb4.1							
FITZ	Fitzroy Crossi	26.91	181	P		P	03 58 04.5	+0.1
	6.5nm,1.1s,mb4.1,baz=360,slow=7.1,SNR=8.9							
PSI	Prapat	27.83	259	P		P	03 58 15.0	+2.4
	3.1nm,0.9s,mb3.8,baz=81,slow=13,SNR=4.6							
MJAR	Matsushiro Arr	29.52	20	LR		LR	04 08 09.4	
	comp=Z,34nm,19.5s,baz=230,slow=33							
WRA	Warramunga Arr	29.83	165	P		P	03 58 29.9	-0.4
	0.7nm,0.5s,mb3.5,baz=345,slow=8.0,SNR=7.9							
AS31	Alice Springs	33.30	167	eP		P	03 59 00.8	0.0
ASAR	Alice Springs	33.30	167	P		P	03 59 00.8	0.0
	0.8nm,0.3s,mb4.0,baz=347,slow=7.3,SNR=23							
ASPA	Alice Springs	33.30	167	eP		P	03 59 00.8	0.0
STKA	Stephens Creek	43.20	161	eP		P	04 00 24.4	+0.5
	2.9nm,1.2s,mb3.9							
STKA	Stephens Creek	43.20	161	P		P	04 00 23.7	-0.3
	1.0nm,0.3s,mb4.0,baz=336,slow=11,SNR=6.6							
STKA	Stephens Creek	43.20	161	eP		P	04 00 24.4	+0.5
MKAR	Makanchi Array	53.03	323	P		P	04 01 39.5	-0.2
	0.8nm,0.7s,mb3.9,baz=118,slow=7.3,SNR=11							
FINES	FINESS Array B	87.00	332	P		P	04 05 05.8	-1.8
	0.6nm,0.4s,mb3.9,baz=81,slow=3.7,SNR=7.8							
MLR	Muntele Rosu	90.79	316	LR		LR	04 52 05.6	
	comp=Z,47nm,18.4s,baz=302,slow=40							
NOA	NORSAR Array B	93.89	334	LR		LR	04 47 56.9	
	comp=Z,27nm,19.5s,baz=255,slow=36							
TORD	Torodi Ar. Bea	120.70	291	PKP		PKPdf	04 11 13.6	-0.1
	0.1nm,0.4s,baz=78,slow=1.7,SNR=6.7							

IDC 29 03:52:55.3±9.2, 456S×15244E, h146km±61km, mb3.2/2, mb1 3.4/3, mb1mx3.1/13, mbtmp3.7/3, 1C, Error ellipse: s-maj=140.0km s-min=55.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.12	227	P	Pn	03 54 37.6	+0.7
	1.6nm,0.3s,baz=66,slow=10.0,SNR=4.0						
PMG				S	Sn	03 55 56.1	-0.3
	2.6nm,0.3s,baz=332,slow=23,SNR=6.2						
WB2	Warramunga Arr	23.33	228	⇑iP	P	03 57 50.5	+0.2
WRA	Warramunga Arr	23.34	228	P	P	03 57 51.3	+0.9
	1.9nm,0.4s,baz=53,slow=9.8,SNR=29						
WRA				pP	pP	03 58 18.8	+0.3
	1.0nm,0.6s,baz=52,slow=9.9,SNR=3.3						
ASAR	Alice Springs	26.09	222	P	P	03 58 15.7	+0.4
	0.3nm,0.6s,baz=55,slow=8.9,SNR=4.8						
ASAR				pP	pP	03 58 45.6	-0.3
	3.0nm,0.8s,baz=59,slow=9.1,SNR=21						
TORD	Torodi Ar. Bea	149.89	288	PKPbc	PKPbc	04 12 28.6	+0.4
	0.2nm,0.4s,baz=78,slow=2.3,SNR=12						

WEL 29 03:52:55.1±0.6, 3621S×17712E, h449km±14km, ML3.8/2, Error ellipse: s-maj=45.6km s-min=31.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	2.04	180	PN	P	03 53 56.3	+0.6
URZ				eSN	S	03 54 43.2	-1.6
URZ				SN	S	03 54 44.3	-0.5
MWZ	Matawai	2.15	171	ePN	P	03 53 55.3	-1.0
MWZ				SN	S	03 54 45.4	-0.5
MWZ				eSN	S	03 54 45.5	-0.4
KNZ	Kokohu	2.84	171	ePN	P	03 54 01.4	+0.6

IDC 29 04:01:39.1±2.9, 3126S×17690W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/12, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=72.4km s-min=35.5km az=121.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.55	214	Pn	Pn	04 03 43.5	-0.5
	0.7nm,0.3s,baz=331,slow=20,SNR=9.9						
URZ				Sn	Sn	04 05 21.1	-0.1
	0.8nm,0.3s,baz=323,slow=20,SNR=4.9						
ASAR	Alice Springs	44.01	267	P	P	04 09 48.7	+0.5
	0.4nm,0.6s,baz=103,slow=7.3,SNR=11						
WB2	Warramunga Arr	45.06	272	eP	P	04 09 55.9	-0.8
WRA	Warramunga Arr	45.08	272	P	P	04 09 57.1	+0.3
	1.0nm,0.6s,baz=112,slow=7.8,SNR=15						
FINES	FINESS Array B	146.27	340	PKPbc	PKPbc	04 21 19.9	-1.7
	1.5nm,0.5s,baz=64,slow=4.4,SNR=17						

*ISCJB **29** 04:03:01.6±3.4, 196S±0.1×689W±02, h114km±32km, mb3.6/6, Error ellipse: s-maj=36.2km s-min=14.5km az=138.6*
*NEIC **29** 04:03:02.2±2.0, 1957S×6897W, h105km±18km, mb3.9/3, Error ellipse: s-maj=23.0km s-min=10.6km az=68.0*
*IDC **29** 04:03:03.1±1.0, 1950S×6894W, h111km±6km, mb3.4/4, mb1 3.9/6, mb1mx3.6/17, mbtmp4.0/6, Error ellipse: s-maj=41.7km s-min=21.4km az=17.0*

ISC 29 04:03:02.8±2.8, 196S±01×689W±02, h107km±27km, h114km±4.1km: pP-P, n19, σ0§57/14, mb3.6/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	8.29	66	P	Pn	04 05 00.2	0.0
	5.4nm,0.3s,baz=256,slow=12,SNR=303						
CPUP	Villa Florida	12.63	124	P	Pn	04 05 58.4	-0.1
	0.9nm,0.3s,baz=286,slow=11,SNR=14						
CPUP	Villa Florida	12.63	124	ePn	Pn	04 05 58.3	-0.2
	20nm,0.6s						
TRQA	Tornquist	19.39	163	eP	P	04 07 20.0	-0.3
	3.8nm,0.7s						
OTAV	Otavalo	21.78	334	eP	P	04 07 46.8	+0.8
	2.3nm,0.8s,mb3.6						
TXAR	Lajitas Array	59.04	325	P	P	04 12 50.1	-1.4
	0.6nm,1.0s,mb3.6,baz=156,slow=6.4,SNR=3.7						
VNA3	Neumayer Olymp	61.90	162	e	P	04 13 11.3	+0.4
VNA3				e		04 13 19.9	
VNA3				e		04 13 28.9	
VNA3				e	pP	04 13 37.8	+0.5
VNA3				e	pP	04 13 41.3	+4.0
VNA3				e		04 13 50.0	
VNA2	Neumayer--Watz	62.47	161	e	P	04 13 15.0	+0.3
	baz=288,slow=6.0						
VNA2				e		04 13 22.8	
VNA2				e		04 13 33.2	
VNA2				e	pP	04 13 40.5	-0.6
VNA2				e	pP	04 13 43.3	+2.2
VNA2				e		04 13 53.3	
SNAA	Sanae	64.10	161	e	P	04 13 25.8	+0.3
SNAA				e	pP	04 13 53.5	+1.5
SNAA				e		04 14 03.9	
SNAA				e		04 14 10.0	
SNAA	Sanae	64.10	161	eP	P	04 13 25.3	-0.2
	4.4nm,1.1s,mb4.2						
PDAR	Pinedale Array	72.44	330	P	P	04 14 16.9	-0.6
	0.3nm,0.8s,mb3.2,baz=163,slow=3.3,SNR=2.9						
NVAR	Mina Array Bea	73.97	322	P	P	04 14 27.1	+0.6
	0.6nm,0.9s,mb3.3,baz=182,slow=7.1,SNR=4.5						
TORD	Torodi Ar. Bea	76.74	71	P	P	04 14 42.4	+0.1
	1.7nm,0.4s,mb4.1,baz=252,slow=5.4,SNR=74						
TORD				pP	pP	04 15 11.3	+1.6
	5.1nm,0.9s,baz=255,slow=5.3,SNR=14						
TORD	Torodi Ar. Bea	76.74	71	P	P	04 14 42.4	+0.1
TORD				pP	pP	04 15 11.3	+1.6
ASAR	Alice Springs	131.60	208	PKP	PKPdf	04 22 02.8	-0.1
	0.2nm,0.6s,baz=145,slow=2.1,SNR=5.3						
WRA	Warramunga Arr	134.59	211	PKP	PKPdf	04 22 09.7	+1.2
	0.5nm,0.8s,baz=153,slow=1.8,SNR=5.1						
MKAR	Makanchi Array	144.08	34	PKP	PKPdf	04 22 26.7	+1.0
	0.3nm,0.6s,baz=294,slow=1.4,SNR=3.8						
MJAR	Matsushiro Arr	150.82	311	PKPbc	PKPbc	04 22 42.6	0.0
	1.2nm,0.8s,baz=64,slow=1.9,SNR=6.0						
MJAR				pPKPbc	pPKPbc	04 23 11.9	+0.2
	0.9nm,0.7s,baz=48,slow=1.9,SNR=3.1						
SONM	Songino Array	151.55	7	PKPbc	PKPbc	04 22 44.7	+0.3
	1.0nm,0.5s,baz=308,slow=1.3,SNR=10.0						
SONM				pPKPbc	pPKPbc	04 23 14.3	+0.8
	1.1nm,0.8s,baz=294,slow=1.3,SNR=3.7						

IDC 29 04:16:24.6±7.6, 3005S×17736W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/11, mbtmp3.5/2, Error ellipse: s-maj=317.5km s-min=58.0km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.69	266	P	P	04 24 31.3	+0.2
	0.2nm,0.4s,baz=102,slow=7.3,SNR=6.3						
WRA	Warramunga Arr	44.64	271	P	P	04 24 39.1	+0.3
	0.5nm,0.3s,baz=110,slow=8.1,SNR=18						
FINES	FINESS Array B	145.01	341	PKPbc	PKPbc	04 36 01.6	-1.5
	2.3nm,0.9s,baz=62,slow=3.7,SNR=5.5						

CASC 29 04:19:14.7±2.5, 1334N×8765W, h0km±6km, MD3.7, ML3.1, 5C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.19	252	⇑iP	x	04 19 21.6	+3.2
CNCH				eS	x	04 19 25.5	+4.6
BLLM	Bellamira	0.59	280	⇓eP	x	04 19 29.2	+3.3
BLLM				eS	x	04 19 39.2	+5.7
VSM	San Miguel	0.62	278	⇓eP	x	04 19 30.1	+3.5
TELN	Telica	1.08	132	⇑eP	Pg	04 19 36.0	+0.7
LEON	Leon	1.17	141	⇑eP	Pg	04 19 36.6	-0.6
CNGN	Cerro Negro	1.24	132	eP	Pg	04 19 37.8	-0.7
CNGN				⇑eP		04 19 37.9	
CNGN				eS	Sg	04 19 58.1	+3.5
MIRN	Miramar	1.27	134	⇓eP	Pg	04 19 38.8	-0.3
MIRN				eS	Sg	04 19 57.5	+1.8
MIRN				i		04 20 05.4	
	comp=Z,266nm,0.4s						
LCBS	La Ceiba	1.33	284	⇓eP	x	04 19 42.3	+2.0
LCBS				eS	x	04 20 01.5	+3.9
LBRS	Las Brisas	1.42	287	⇑eP	x	04 19 43.9	+2.2
COPN	Copaltepe	1.54	138	⇓eP	Pn	04 19 42.8	-0.7
COPN				eS	Sn	04 20 03.2	-1.0
COPN				i		04 20 06.1	
	comp=Z,150nm,0.4s						
APYN	Apoyeque	1.67	131	eP	Pn	04 19 44.9	-0.4
APYN				eS	Sn	04 20 08.1	+0.7
APYN				i		04 20 12.3	
	comp=Z,490nm,0.3s						

*NEIC **29** 04:20:14.0, 4039N×2423E, h10km, ML4.3(ATH), After ATH.*
*ISCJB **29** 04:21:12.4±0.6, 3418N±003×2542E±009, h10km, Error ellipse: s-maj=10.8km s-min=4.8km az=177.8*
*ATH **29** 04:21:13.3, 3424N×2541E, h28km±1km, MD3.4/4*
*HLW **29** 04:21:14.4, 3436N×2562E, h20km, Mb3.2*

ISC 29 04:21:13.4±0.6, 3424N±003×2536E±009, h10km, n16, σ0§66/18, 3C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.69	23	ePN	Pg	04 21 26.8	0.0
XRY				eSN	Sg	04 21 37.0	+1.2
SIVA	Sivas	0.90	330	P	Pg	04 21 31.0	+0.2
LAST	Lasithi	0.92	6	P	Pg	04 21 31.0	-0.2
NPS	Neapolis	1.04	11	ePN	Pn	04 21 32.8	-1.3
NPS				eSN	Sn	04 21 47.4	-1.3
NPS	Neapolis	1.04	11	P	Pg	04 21 33.6	+0.2
IDI	Anoyia	1.12	340	P	Pb	04 21 34.6	-0.2
ZKR	Zakros	1.12	39	P	Pb	04 21 35.6	+0.7
GVD	Gavdhos	1.21	300	ePN	Pn	04 21 36.8	+0.4
GVD	Gavdhos	1.21	300	ePn	Pn	04 21 36.6	+0.2
	103nm,0.6s						
VAM	Vamos	1.51	321	ePN	Pn	04 21 40.7	+0.2
HMAT	Matruh	3.46	155	⇑P	Pn	04 22 06.8	-0.6
SWA1		4.97	177	P	Pn	04 22 28.9	+0.8
SWA2		4.98	179	P	Pn	04 22 28.8	+0.5
AWBH		6.63	152	⇑P	Pn	04 22 50.3	-0.6
HFRF	Wahat Farafira	7.51	159	⇑P	Pn	04 23 02.9	-0.1
TIR	Tirane	8.32	330	P	Pn	04 23 07.7	-6.4

IDC 29 04:28:45.6±4.9, 534S×13191E, h0km, mb4.1/1, mb1 4.0/3, mb1mx3.7/11, mbtmp3.9/3, ML3.9/2, Error ellipse: s-maj=339.0km s-min=29.8km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.71	171	Pn	Pn	04 32 16.4	+1.6
	0.6nm,0.3s,baz=352,slow=13,SNR=14						
WRA				Sn	Sn	04 34 44.6	-14
	1.6nm,0.3s,baz=324,slow=24,SNR=15						
ASAR	Alice Springs	18.32	174	P	Pn	04 33 00.5	-0.7
	0.2nm,0.3s,baz=344,slow=9.9,SNR=23						
ASAR				S	Sn	04 36 06.0	-20
	0.2nm,0.3s,baz=356,slow=26,SNR=5.1						
MKAR	Makanchi Array	67.91	326	P	P	04 39 46.3	+0.2
	1.1nm,0.5s,baz=118,slow=8.2,SNR=18						

CASC 29 04:30:45.3±2.5, 1325N×8760W, h20km±11km, MD3.7, ML3.1, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.23	278	⇑iP	x	04 30 48.7	-2.2
CNCH				eS	x	04 30 51.9	-2.9
BLLM	Bellamira	0.65	288	eP	x	04 30 56.2	-1.8
BLLM				eS	x	04 31 05.8	-0.9
VSM	San Miguel	0.68	286	eP	x	04 30 57.0	-1.5
VSM				eS	x	04 31 08.1	+0.6
LEON	Leon	1.07	140	eP	Pn	04 31 03.8	-1.3
LEON				eS	Sb	04 31 20.0	+1.2
	comp=Z,142nm,0.4s						
CNGN	Cerro Negro	1.15	130	eP	Pn	04 31 05.0	-1.1
CNGN				eP		04 31 05.5	
CNGN				eS	Sb	04 31 21.8	+0.9
MIRN	Miramar	1.18	133	eP	Pn	04 31 05.9	-0.7
MIRN				eS	Sb	04 31 22.2	+0.4
MIRN				i		04 31 28.2	
	comp=Z,329nm,0.3s						
SNVI	San Vicente	1.26	287	eP	x	04 31 06.4	-1.3
SNVI				eS	x	04 31 25.5	+1.4
LCBS	La Ceiba	1.40	287	eP	x	04 31 09.2	-0.5
COPN	Copaltepe	1.44	137	eP	Pn	04 31 09.7	-0.6
COPN				eS	Sn	04 31 28.9	+0.3
LFRS	El Faro	1.47	285	eP	x	04 31 10.1	-0.5
LBRS	Las Brisas	1.49	289	eP	x	04 31 11.4	+0.6
LBRS				eS	x	04 31 32.4	+2.7
APYN	Apoyeque	1.58	129	eP	Pn	04 31 12.5	+0.4
APYN				eS	Sn	04 31 32.8	+0.9
XAVN	Gruta Xavier	1.65	131	eP	Pn	04 31 12.7	-0.4

*IDC **29** 04:52:37.8±1.2, 290S×12944E, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/16, mbtmp4.0/7, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=89.5km s-min=19.1km az=72.0*
*ISCJB **29** 04:52:40.4±0.7, 297S±006×1298E±01, h33km, mb3.9/7, MS3.3/2, Error ellipse: s-maj=21.8km s-min=6.5km az=148.2*
*NEIC **29** 04:52:43.0±0.6, 299S×12958E, h35km, mb4.1/5, Error ellipse: s-maj=31.9km s-min=8.6km az=68.0*

ISC 29 04:52:43.0±0.6, 296S±006×1297E±01, h35km, n19, σ0§94/24, mb3.9/7, MS3.3/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.07	164	eP	Pn	04 55 04.8	-0.3
	6.9nm,0.4s						
KAKA				eS	Sn	04 56 56.3	-0.6
FITZ	Fitzroy Crossi	15.56	194	eP	Pn	04 56 19.8	+0.2
	6.3nm,0.8s						
FITZ	Fitzroy Crossi	15.56	194	Pn	Pn	04 56 19.9	+0.3
	0.3nm,0.3s,baz=34,slow=13,SNR=11						
FITZ				Sn	Sn	04 59 11.3	+0.4
	0.2nm,0.3s,baz=61,slow=13,SNR=3.2						
FITZ				LR	LR	05 03 05.4	
	comp=Z,36nm,20.0s,baz=232,slow=40						
WRAB	Tennant Creek	17.48	165	eP	Pn	04 56 42.5	-1.4
	12nm,1.0s						
WRA	Warramunga Arr	17.49	165	P	Pn	04 56 43.1	-1.0
	1.0nm,0.3s,baz=350,slow=11,SNR=23						
WRA				S	S	04 59 53.0	-12
	0.4nm,0.3s,baz=254,slow=21,SNR=4.9						
WB2	Warramunga Arr	17.49	165	eP	Pn	04 56 42.5	-1.6
WB2				eS	S	04 59 51.4	-13
AS31	Alice Springs	20.99	169	eP	P	04 57 24.3	+1.0
AS31				eS	S	05 01 14.6	-0.5
ASAR	Alice Springs	20.99	169	P	P	04 57 24.4	+1.2
	13nm,0.5s,baz=343,slow=9.8,SNR=94						
ASAR				S	S	05 01 14.8	-0.4
	1.6nm,0.7s,baz=344,slow=18,SNR=9.4						
ASPA	Alice Springs	20.99	169	eP	P	04 57 24.3	+1.1
ASPA				eS	S	05 01 14.6	-0.5
CTAO	Charters Tower	23.50	138	P	P	04 57 51.4	+1.7
	12nm,1.0s,mb4.3						
STKA	Stephens Creek	30.88	160	P	P	04 58 57.4	+1.4
	0.7nm,0.2s,mb4.1,baz=18,slow=5.3,SNR=5.4						
STKA				LR	LR	05 12 02.5	
	comp=Z,57nm,20.9s,MS3.2,baz=207,slow=38						
CHTO	Chiang Mai	37.17	307	eP	P	04 59 51.2	+0.7
	1.8nm,0.5s,mb4.2						
MJAR	Matsushiro Arr	40.09	11	LR	LR	05 15 27.3	
	comp=Z,64nm,19.4s,MS3.5,baz=155,slow=34						
MK31	Makanchi Array	64.69	326	eP	P	05 03 17.1	-0.2
MKAR	Makanchi Array	64.69	326	P	P	05 03 17.1	-0.2
	1.1nm,0.8s,mb3.9,baz=119,slow=8.4,SNR=9.5						
BVAR	Borovoye Array	74.49	327	P	P	05 04 16.3	-1.5
	0.4nm,0.5s,mb3.6,baz=110,slow=8.3,SNR=4.4						
ZRNK	Zerenda	75.21	327	eP	P	05 04 21.6	-0.3
	0.7nm,0.5s,mb3.9						
VNDA	Vanda	76.48	173	P	P	05 04 29.4	+0.2
	0.2nm,0.3s,mb3.5,baz=317,slow=8.9,SNR=2.5						
CPUP	Villa Florida	150.11	167	PKPbc	PKPbc	05 12 32.1	+2.2
	1.1nm,0.6s,baz=164,slow=6.3,SNR=3.7						

*MOS **29** 05:03:21.8±0.8, 5405N×16648W, h55km, mb4.8/25, Error ellipse: s-maj=16.1km s-min=8.2km az=88.9*
*ISCJB **29** 05:03:25.6±0.3, 5400N±004×16637W±004, h87km±3km, mb4.3/81, Error ellipse: s-maj=6.4km s-min=3.7km az=9.2*
*NEIC **29** 05:03:27.3, 5367N×166.11W, h66km, mb4.4/38, ML4.2(AEIC), After AEIC.*
NEIC Felt at Dutch Harbor and Unalaska.
*IDC **29** 05:03:27.4±0.9, 5405N×16627W, h86km±5km, mb3.8/18, mb1 4.0/19, mb1mx4.0/24, mbtmp4.2/19, Error ellipse: s-maj=22.6km s-min=11.7km az=14.0*
*BJI **29** 05:03:27.3, 5370N×166.10W, h66km, mB4.9, mb4.7, Ms4.5, Msz4.2*

ISC 29 05:03:26.6±0.3, 5405N±004×16642W±004, h84km±3km, h85km±2.2km: pP-P, n279, σ0§86/274, mb4.3/81, 46C-44D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKLV	Akutan Long Va	0.30	67	P	Pn	05 03 38.7	-0.6
AKUT	Akutan	0.39	77	ePn	Pn	05 03 38.8	-1.1
AKUT				eSn	Sn	05 03 48.9	-0.8
OKCD	Okmok Cone D	1.18	239	P	Pn	05 03 47.7	-0.3
OKCD				S	Sn	05 04 04.2	+0.1
OKCE	Okmok Cone E	1.21	240	P	Pn	05 03 48.3	-0.1
OKCE				S	Sn	05 04 05.0	+0.3
SDPT	Sand Point	3.69	67	ePn	Pn	05 04 21.4	+0.1
SPIA	Saint Paul Isl	3.81	327	P	Pn	05 04 27.6	+4.6
ATKA	Atka Island	5.03	252	P	Pn	05 04 39.6	0.0
CHGN	Chignik	5.12	61	eP	Pn	05 04 41.7	+1.0
KDAK	Kodiak Island	8.62	59	P	Pn	05 05 26.4	-2.2
	6.3nm,0.3s,baz=245,slow=7.2,SNR=57						
KDAK				S	Sn	05 06 57.0	-7.1
	1.2nm,0.3s,baz=102,slow=23,SNR=6.1						
KDAK	Kodiak Island	8.62	59	ePn	Pn	05 05 26.5	-2.1
AMKA	Amchitka	9.07	259	ePn	Pn	05 05 35.4	+0.8
SVW2	Sparrevohn	9.15	35	ePn	Pn	05 05 37.9	+2.2
SLKM	Skilak Lake	10.88	47	ePn	Pn	05 05 59.4	+0.1
SLKM				eSn	Sn	05 08 01.4	+2.3
PMR	Palmer	11.89	44	eP	Pn	05 06 19.2	+6.1
PMR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PMR	Palmer	11.89	44	eP	Pn	05 06 19.2	+6.1
	comp=Z,4.5nm,0.5s						
EYAK	Cordova Ski Ar	12.90	51	ePn	Pn	05 06 23.6	-3.0
MCK	McKinley	13.21	36	eP	Pn	05 06 35.5	+4.8
IMA2	Indian Mountai	13.59	23	ePn	Pn	05 06 39.3	+3.6
COLA	College	14.31	33	eP	Pn	05 06 47.2	+2.1
COLA	College	14.31	33	ePn	Pn	05 06 45.0	0.0
	comp=Z,14nm,1.3s						
MENT	Mentasta	14.76	44	ePn	Pn	05 06 50.5	-0.3
EGAK	Eagle	16.62	40	ePn	Pn	05 07 15.1	+0.8
	comp=Z,3.9nm,0.4s						
DAWY	Dawson	17.00	43	ePn	Pn	05 07 19.1	+0.1
SKAG	Skagway	17.78	60	ePn	Pn	05 07 29.7	+1.2
BILL	Bilibino	19.02	328	eP	Pn	05 07 44.7	+1.3
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
DLBC	Dease Lake	20.52	63	eP	P	05 08 02.2	+4.1
YKA	Yellowknife Ar	27.80	51	P	P	05 09 08.0	+0.3
	comp=Z,2.7nm,0.3s,mb4.2,baz=275,slow=7.0,SNR=29						
A09A	Danville	29.74	80	⇓P	P	05 09 25.0	+0.1
	baz=29						
H04A	Detroit Lake	29.85	90	⇑P	P	05 09 26.3	+0.4
	baz=30						
C09A	Chrisman Ranch	30.49	82	⇑P	P	05 09 31.2	-0.4
	baz=30						
D08A	Wollman Farm,	30.49	84	⇓P	P	05 09 29.0	-2.5
	baz=30						
B10A	Chitwood Farm,	30.85	80	⇑P	P	05 09 35.5	+0.7
	baz=30						
H06A	Lindquist Farm	30.91	88	⇓P	P	05 09 35.0	-0.3
	baz=31						
NEW	Newport	30.93	80	eP	P	05 09 36.0	+0.6
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NEW	Newport	30.93	80	eP	P	05 09 36.0	+0.6
	comp=Z,6.0nm,0.8s,mb4.4						
A11A	Hall Mountain,	31.03	79	⇑P	P	05 09 35.7	-0.6
	baz=31						
J05A	Fort Rock	31.21	91	⇑P	P	05 09 39.3	+1.4
	baz=31						
E09A	Wood Farm, Sta	31.23	84	⇓P	P	05 09 37.9	-0.1
	baz=31						
F08A	Pendleton	31.24	85	⇑P	P	05 09 36.9	-1.2
	baz=31						
YBH	Yreka Blue Hor	31.28	95	⇑P	P	05 09 39.1	+0.6
	baz=31,SNR=5.8						
G08A	Pilot Rock	31.41	86	⇓P	P	05 09 39.1	-0.6
	baz=31						
I06A	Prineville	31.43	90	⇓P	P

baz=32
M05C Lookout 32.44 94 ⇑P P 05 09 47.5 -1.2
baz=32
BSMT Bassoo Peak 32.49 79 eP P 05 09 50.0 +0.8
H09A Durkee 32.52 86 ⇓P P 05 09 47.8 -1.6
baz=32
GASB Alder Springs 32.60 98 ⇓P P 05 09 50.3 +0.1
baz=32
C13A Hot Springs 32.70 80 ⇓P P 05 09 49.6 -1.4
baz=32,SNR=5.5
K07A Rock Creek Ran 32.74 91 ⇑P P 05 09 51.5 +0.2
baz=32
O03C Acorn Hollow, 32.78 97 ⇓P P 05 09 50.1 -1.6
baz=32
J08A Circle Bar Ran 32.80 89 ⇓P P 05 09 51.6 -0.2
baz=32
HOPS Hopland 32.83 99 ⇓P P 05 09 52.2 +0.1
baz=32
D13A Huson 33.08 80 ⇓P P 05 09 54.2 0.0
baz=33
O04C Chester 33.13 96 ⇓P P 05 09 54.9 +0.2
baz=33,SNR=5.7
C14A Swan Lake 33.14 79 ⇓P P 05 09 54.1 -0.7
baz=33
K08A Mann Creek Ran 33.16 90 ⇓P P 05 09 55.7 +0.7
baz=33
J09A Fry Pan Ranch, 33.23 89 ⇑P P 05 09 56.7 +1.1
baz=33
WVOR Wild Horse Val 33.25 91 eP P 05 09 56.5 +0.7
comp=Z,1.8nm,0.8s,mb4.0
O05C Quincy 33.46 96 ⇑P P 05 09 57.7 +0.2
baz=33,SNR=5.1
L08A Fields 33.57 91 ⇓P P 05 09 59.7 +1.2
baz=33
E13A Victor 33.58 81 ⇑P P 05 09 58.2 -0.4
baz=33
M07A Soldier Meadow 33.58 92 ⇓P P 05 09 58.9 +0.3
baz=33
K09A Rome 33.63 89 ⇓P P 05 09 58.4 -0.7
baz=33
D14A Greenough 33.63 80 ⇓P P 05 09 59.1 0.0
baz=33,SNR=6.2
BEKR Beckwourth 33.85 96 ⇑P P 05 10 00.8 -0.2
baz=34
F13A Darby 33.85 82 ⇑P P 05 09 59.5 -1.5
baz=34
E14A Clinton 34.00 81 ⇓P P 05 10 01.5 -0.8
baz=34
P05C Yuba Gap, Truc 34.07 97 ⇓P P 05 10 05.5 +2.6
baz=34
D15A Lincoln 34.23 79 ⇓P P 05 10 04.2 0.0
baz=34
LAVA Lava Cap Winer 34.35 97 ⇑P P 05 10 04.0 -1.3
baz=34,SNR=6.5
F14A Wisdom 34.40 82 ⇑P P 05 10 06.2 +0.5
baz=34
E15A Deer Lodge 34.49 80 P P 05 10 06.9 +0.4
baz=34,SNR=5.2
WCN Washoe City 34.57 96 ⇓P P 05 10 08.1 +0.9
baz=34
M09A Marrel Ranch, 34.57 91 ⇑P P 05 10 07.7 +0.5
baz=34
R05C Kirkwood Meado 34.77 97 ⇑P P 05 10 09.8 +0.9
baz=34
HRY Holter Researc 34.80 79 eP P 05 10 09.4 +0.2
CMB Columbia Colle 35.04 98 epP pP 05 10 30.4 -0.3
CMB Columbia Colle 35.04 98 ⇑P P 05 10 12.1 +0.8
baz=35
HLID Hailey 35.07 86 eP P 05 10 11.8 +0.3
comp=Z,2.0nm,0.8s,mb4.0
HLID Hailey 35.07 86 ⇑P P 05 10 11.6 +0.1
baz=35
MCMT McKenzie Canyo 35.26 83 eP P 05 10 13.3 +0.2
R06C Coleville 35.26 97 ⇓P P 05 10 12.6 -0.5
baz=35
WAKR Walker 35.28 97 eP P 05 10 13.7 +0.4
WAKR epP pP 05 10 33.0 +0.2
EGMT Eagleton 35.30 76 ⇑P P 05 10 13.9 +0.4
baz=35
S06C San Francisco 35.45 98 ⇓P P 05 10 15.3 +0.5
baz=35
HAST UC Hastings Re 35.49 101 ⇓P P 05 10 16.2 +1.1
baz=35
O09A Fish Creek Ran 35.52 92 ⇑P P 05 10 16.6 +1.3
baz=35
S05C Merced 35.54 99 ⇓P P 05 10 14.2 -1.3
baz=35
Q08A Gabbs 35.93 95 ⇑P P 05 10 20.1 +1.3
baz=36
NVAR Mina Array Bea 35.99 96 P P 05 10 20.2 +0.8
comp=Z,0.8nm,0.7s,mb3.7,baz=304,slow=8.8,SNR=7.9
NVAR pP pP 05 10 38.5 -0.5
comp=Z,0.9nm,0.6s,baz=307,slow=8.9,SNR=6.5
M12A Wells 36.07 89 ⇓P P 05 10 19.7 -0.3
baz=36
T06C Millerton Lake 36.13 99 ⇓P P 05 10 20.0 -0.6
baz=36
KCC Kaiser Creek 36.14 98 ⇑P P 05 10 21.2 +0.5
baz=36
N12A Clover Valley, 36.35 90 ⇓P P 05 10 23.8 +1.4
baz=36
YMR Madison River 36.45 82 eP P 05 10 23.9 +0.6
comp=Z,9.7nm,0.9s,mb4.7
YNR Norris Junctio 36.59 81 eP P 05 10 26.4 +1.9
S08C White Mtn Res 36.69 97 ⇓P P 05 10 25.9 +0.5
baz=36
HELL Mitchell Peak, 36.75 99 ⇓P P 05 10 26.0 +0.1
baz=36
R09A Tonopah 36.84 95 ⇑P P 05 10 26.9 +0.2
baz=36
O12A Currie 36.89 90 ⇑P P 05 10 27.4 +0.3
baz=36
IMW Indian Meadow 36.91 83 eP P 05 10 28.4 +1.2
comp=Z,6.3nm,1.0s,mb4.5
RRI2 Red Ridge 37.01 84 eP P 05 10 31.0 +2.9
S09A Goldfield 37.10 96 ⇑P P 05 10 29.0 +0.2
baz=37
MOOW Moose Ponds 37.11 83 eP P 05 10 30.7 +1.8
comp=Z,3.5nm,1.2s,mb4.2
SMMC Simmler 37.14 101 ⇑P P 05 10 30.0 +0.8
baz=37
TPAW Teton Pass 37.15 83 eP P 05 10 30.3 +1.1
comp=Z,2.0nm,0.7s,mb4.2
R10A Warm Springs 37.26 94 ⇓P P 05 10 30.8 +0.6
baz=37
LOHW Long Hollow 37.27 83 eP P 05 10 30.9 +0.6
comp=Z,2.4nm,0.9s,mb4.1
Q11A Duckwater 37.28 93 ⇑P P 05 10 30.9 +0.6
baz=37
VES Vestal, Richgr 37.30 100 ⇑P P 05 10 31.0 +0.5
baz=37
P12A McGill 37.31 91 ⇑P P 05 10 29.5 -1.1
baz=37
HWUT Hardware Ranch 37.93 86 eP P 05 10 36.2 +0.4
DUG Dugway 38.08 89 eP P 05 10 37.2 +0.1
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
DUG Dugway 38.08 89 eP P 05 10 37.2 +0.1
comp=Z,3.4nm,1.0s,mb4.1
DUG Dugway 38.08 89 ⇓P P 05 10 37.1 0.0
baz=38
FURC Furnace Creek, 38.16 97 ⇓P P 05 10 38.7 +0.9
baz=38
BW06 Boulder Array 38.39 83 eP P 05 10 39.8 +0.1
comp=Z,2.5nm,0.8s,mb4.1
PDAR Pinedale Array 38.40 83 P P 05 10 40.0 +0.3
comp=Z,2.5nm,0.8s,mb4.1,baz=304,slow=4.8,SNR=22
FCC Fort Churchill 38.51 53 eP P 05 10 40.9 +0.2
FCC pmax pmax
comp=Z,18nm,0.7s,mb5.0
FCC Fort Churchill 38.51 53 eP P 05 10 40.9 +0.2
comp=Z,18nm,0.7s,mb5.0
RSSD Black Hills 40.79 78 eP P 05 10 59.1 -0.5
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
RSSD Black Hills 40.79 78 eP P 05 10 59.1 -0.5
comp=Z,3.0nm,0.7s,mb4.2
W13A Hualapai Mount 40.85 96 ⇓P P 05 10 59.7 -0.4
baz=40
MDJ Mudanjiang 41.41 284 P P 05 11 07.8 +3.1
MDJ AP pP 05 11 27.3 +2.7
MDJ XP sP 05 11 36.8 +2.6
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.2
MDJ AMB AMB
comp=Z,99nm,4.8s
Y12C Blythe 41.43 98 ⇓P P 05 11 04.1 -0.8
baz=41

PV10 Paradox Valley 41.48 88 eP P 05 11 06.6 +1.3
ULM Lac du Bonnet 41.82 65 P P 05 11 07.2 -0.9
comp=Z,0.8nm,0.3s,mb3.9,baz=299,slow=8.2,SNR=4.2
PV01 Paradox Valley 41.92 88 eP P 05 11 08.8 -0.1
WUAZ Wupatki 42.04 93 ⇑P P 05 11 08.8 -1.1
baz=42
SMCO Snowmass 42.17 86 eP P 05 11 11.4 +0.5
comp=Z,14nm,1.6s,mb4.4
X15A Humboldt 42.25 95 ⇑P P 05 11 09.4 -2.1
baz=42
BOD Bodaibo 42.32 309 eP P 05 11 09.9 -2.2
MVCO Mesa Verde 42.58 89 ⇑P P 05 11 12.6 -1.7
baz=42
SDCO Great Sand Dun 43.99 86 eP P 05 11 25.9 +0.4
comp=Z,3.5nm,0.9s,mb4.1
HIA Hailar 44.13 295 eP P 05 11 30.0 +3.3
CN2 Changchun 44.27 286 eP P 05 11 33.8 +6.0
ANMO Albuquerque 45.33 90 eP P 05 11 35.6 -0.6
CBKS Cedar Bluff 46.65 81 eP P 05 11 46.5 -0.1
CBKS pmax pmax
comp=Z,13nm,0.9s,mb4.7
CBKS Cedar Bluff 46.65 81 eP P 05 11 46.5 -0.1
comp=Z,13nm,0.9s,mb4.7
MNTX Cornudas Mount 48.27 92 eP P 05 11 58.9 -0.3
comp=Z,1.8nm,0.8s,mb4.0
WMOK Wichita Mounta 50.00 84 eP P 05 12 11.7 -0.6
WMOK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WMOK Wichita Mounta 50.00 84 eP P 05 12 11.7 -0.7
comp=Z,4.8nm,0.8s,mb4.5
TXAR Lajitas Array 51.00 93 P P 05 12 19.6 -0.3
comp=Z,1.4nm,0.6s,mb4.2,baz=303,slow=5.5,SNR=28
TXAR pP pP 05 12 39.4 -1.1
comp=Z,2.0nm,0.7s,baz=303,slow=5.7,SNR=7.4
TXAR ScP ScP 05 17 23.6 0.0
comp=Z,0.5nm,0.9s,baz=316,slow=2.5,SNR=3.8
TXAR Lajitas Array 51.00 93 P P 05 12 19.6 -0.3
TXAR *PP pP 05 12 39.4 -1.1
ULN Ulaanbaatar 51.60 301 eP P 05 12 24.2 -0.1
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ULN Ulaanbaatar 51.60 301 eP P 05 12 24.2 -0.1
comp=Z,4.4nm,0.8s,mb4.5
SONM Songino Array 51.95 301 P P 05 12 27.9 +0.9
comp=Z,1.6nm,0.7s,mb4.1,baz=44,slow=8.5,SNR=12
SONM PcP PcP 05 13 39.2 +0.8
comp=Z,5.9nm,0.7s,baz=54,slow=2.1,SNR=31
SONM ScP ScP 05 17 28.3 +0.6
comp=Z,0.9nm,0.7s,baz=46,slow=3.9,SNR=6.9
SONM Songino Array 51.95 301 P P 05 12 27.9 +0.9
SONM 05 13 39.2
SCHQ Schefferville 53.00 46 P P 05 12 34.1 -0.6
comp=Z,8.2nm,0.8s,mb4.8,baz=322,slow=7.8,SNR=5.6
NJ2 Nanjing 56.05 279 eP P 05 13 04.5 +7.7
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
ARCES ARCESS Array B 56.42 355 PcP PcP 05 13 54.8 -0.7
comp=Z,2.8nm,0.8s,baz=350,slow=4.9,SNR=4.0
LZH Lanzhou 61.59 293 eP P 05 13 42.0 +6.9
LZH AP pP 05 14 02.8 +6.4
LZH XP sP 05 14 11.3 +5.7
LZH ePP PP 05 16 01.3 +10
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,45nm,7.3s
LZH LR LR
comp=N,213nm,14.8s
LZH LR LR
comp=Z,297nm,18.1s
LZH Lanzhou 61.59 293 eP P 05 13 42.1 +7.0
LZH *PP pP 05 14 02.7 +6.3
LZH *SP sP 05 14 11.3 +5.7
LZH e 05 16 01.2
LZH pmax pmax
comp=Z,20nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,300nm,18.1s
LZH Lanzhou 61.59 293 eP P 05 13 42.1 +7.0
comp=Z,20nm,1.4s,mb5.0
LZH pP pP 05 14 02.7 +6.3
LZH sP sP 05 14 11.3 +5.7
LZH ePP PP 05 16 01.2 +10
LZH LR LR
comp=Z,300nm,18.1s
JOF Joensuu 62.55 351 ep P 05 13 40.3 -1.3
comp=Z,4.1nm,0.8s,mb4.4
CHKZ Chkalovo 62.73 326 eP P 05 13 43.1 +0.3
CHKZ pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
CHKZ Chkalovo 62.73 326 eP P 05 13 43.1 +0.4
comp=Z,1.3nm,0.5s,mb4.1
BVAR Borovoye Array 63.34 326 P P 05 13 47.2 +0.4
comp=Z,2.1nm,0.6s,mb4.3,baz=48,slow=7.7,SNR=11
BVAR pP pP 05 14 10.4 +2.2
comp=Z,0.9nm,0.5s,baz=40,slow=7.7,SNR=3.1
BVAR PcP PcP 05 14 23.3 +0.1
comp=Z,2.1nm,0.5s,baz=54,slow=2.6,SNR=8.5
KAF Kangasniemi 63.75 353 ep P 05 13 48.1 -1.4
comp=Z,2.7nm,0.6s,mb4.2,baz=4.6,slow=6.2
KAF Kangasniemi 63.75 353 eP P 05 13 48.1 -1.4
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ZRNK Zerenda 63.86 326 eP P 05 13 50.5 +0.2
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ZRNK Zerenda 63.86 326 eP P 05 13 50.5 +0.2
comp=Z,1.6nm,0.6s,mb4.0
WMQ Urumqi 63.87 309 eP P 05 13 57.0 +6.7
WMQ AMB AMB
comp=Z,6.0nm,0.6s,mb4.6
WMQ AMB AMB
comp=Z,106nm,4.2s
WMQ LR LR
comp=Z,113nm,18.6s
ARU Arti 63.91 334 ⇓iP P 05 13 52.2 +1.6
ARU e 05 14 25.5
ARU e 05 16 12.4
ARU eS **S 05 22 24.4 +4.7**
ARU eSS SS 05 26 33.5 +4.1
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
ARU Arti 63.91 334 eP P 05 13 59.9 +9.3
comp=Z,8.6nm,0.6s,mb4.8
MK31 Makanchi Array 63.91 315 eP P 05 13 49.8 -0.8
MKAR Makanchi Array 63.91 315 P P 05 13 50.4 -0.2
comp=Z,1.4nm,0.5s,mb4.0,baz=41,slow=5.5,SNR=22
FINES FINESS Array B 64.43 353 P P 05 13 53.4 -0.5
comp=Z,1.2nm,0.6s,mb3.9,baz=27,slow=7.3,SNR=11
FINES FINESS Array B 64.43 353 P P 05 13 53.4 -0.6
NB2 NORSAR Subarra 65.25 1 P P 05 13 58.8 -0.5
comp=Z,0.2nm,0.6s,mb3.1,baz=3.3,slow=6.2
NOA NORSAR Array B 65.25 1 P P 05 13 59.0 -0.3
comp=Z,2.4nm,0.8s,mb4.1,baz=1.2,slow=6.4,SNR=5.4
CD2 Chengdu 65.52 289 eP P 05 14 08.5 +7.5
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.8s
GYA Guiyang 67.27 284 P P 05 14 17.8 +5.6
GYA AP pP 05 14 39.5 +5.8
GYA PCP PcP 05 14 44.5 +5.0
GYA XP sP 05 14 48.5 +5.5
GYA PP PP 05 16 49.3 +8.0
GYA SCP 05 18 39.3
GYA PCS 05 18 48.0
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,60nm,5.2s
GYA LR LR
comp=N,120nm,19.4s
GYA LR LR
comp=E,110nm,18.7s
GYA LR LR
comp=Z,130nm,18.6s
AKTK Aktyubinsk 69.41 331 P P 05 14 26.3 +0.7
AKTK pP pP 05 14 49.3 +2.1
AKTO Aktyubinsk 69.41 331 P P 05 14 26.3 +0.7
comp=Z,1.8nm,0.6s,mb4.1,baz=66,slow=7.4,SNR=5.4
AKTO pP pP 05 14 49.3 +2.1
comp=Z,3.3nm,0.8s,baz=15,slow=5.8,SNR=5.5
OBN Obninsk 69.57 346 eP P 05 14 27.3 +0.8
OBN e pP 05 14 49.7 +1.5
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2

AAK Ala-Archa 70.52 317 eP P 05 14 32.2 -0.2
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
AAK Ala-Archa 70.52 317 eP P 05 14 31.9 -0.5
comp=Z,3.5nm,0.9s,mb4.2
KMI Kunming 70.54 286 P P 05 14 41.5 +9.0
KMI AP pP 05 15 01.3 +7.1
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
KMI Kunming 70.54 286 P P 05 14 41.6 +9.1
KMI *PP pP 05 15 01.3 +7.1
KMI pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
KMI Kunming 70.54 286 P P 05 14 41.6 +9.1
comp=Z,8.0nm,0.8s,mb4.6
KMI pP pP 05 15 01.3 +7.1
AKASG Malin Array Be 74.80 350 P P 05 14 56.9 -0.9
comp=Z,1.8nm,0.5s,mb4.0,baz=12,slow=5.8,SNR=8.0
GIVF Givet 75.96 6 eP P 05 15 03.7 -0.7
BAIF Baives 75.97 6 eP P 05 15 03.9 -0.5
comp=Z,15nm,0.9s,mb4.4
BAIF Baives 75.97 6 eP P 05 15 03.9 -0.5
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BAIF Baives 75.97 6 eP P 05 15 03.9 -0.5
comp=Z,7.7nm,0.9s,mb4.4
FLN La Foliniere 76.88 9 eP P 05 15 08.5 -1.1
ROSF Rostrenen 77.00 11 eP P 05 15 09.2 -1.0
LDF La Druitiere 77.08 9 eP P 05 15 09.8 -0.9
SGMF Saint Gilles 77.16 11 eP P 05 15 10.4 -0.8
GRR Gorron 77.21 10 eP P 05 15 10.9 -0.5
comp=Z,16nm,1.1s,mb4.4
GRR Gorron 77.21 10 eP P 05 15 10.9 -0.5
GRR pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
GRR Gorron 77.21 10 eP P 05 15 10.9 -0.5
comp=Z,8.2nm,1.1s,mb4.4
QUIF Quistinic 77.43 11 eP P 05 15 11.7 -0.9
comp=Z,10nm,1.0s,mb4.2
QUIF Quistinic 77.43 11 eP P 05 15 11.7 -0.9
QUIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
QUIF Quistinic 77.43 11 eP P 05 15 11.7 -0.9
comp=Z,5.1nm,1.0s,mb4.2
GUN Gumba 77.44 300 eP P 05 15 13.3 +0.6
GERES GERESS Array B 77.48 360 P P 05 15 13.2 +0.3
comp=Z,0.3nm,0.3s,mb3.6,baz=326,slow=8.4,SNR=2.8
JIRN Jiri 77.49 300 eP P 05 15 13.8 +0.8
comp=Z,6.5nm,0.3s,mb4.8
CDF Champ du Feu 77.78 4 eP P 05 15 14.1 -0.5
KKN Kakani 77.85 301 eP P 05 15 15.4 +0.4
PKI Pulchoki 77.96 300 eP P 05 15 15.9 +0.3
comp=Z,3.6nm,0.3s,mb4.5
GKN Gorkha 78.00 301 eP P 05 15 15.9 +0.1
comp=Z,5.0nm,0.4s,mb4.6
HAU Haudompre 78.14 5 eP P 05 15 16.1 -0.5
HINF Hinteralfeld 78.35 5 eP P 05 15 17.2 -0.6
comp=Z,4.0nm,0.7s,mb4.0
HINF Hinteralfeld 78.35 5 eP P 05 15 17.2 -0.6
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
HINF Hinteralfeld 78.35 5 eP P 05 15 17.2 -0.6
comp=Z,2.0nm,0.7s,mb4.0
KOLN Koldanda 78.71 302 eP P 05 15 19.7 0.0
comp=Z,10nm,0.9s,mb4.7
LOR Lormes 78.72 7 eP P 05 15 19.3 -0.5
comp=Z,27nm,1.3s,mb4.6
LOR Lormes 78.72 7 eP P 05 15 19.3 -0.5
LOR pmax pmax
comp=Z,13nm,1.3s,mb4.6
LOR Lormes 78.72 7 eP P 05 15 19.3 -0.5
comp=Z,13nm,1.3s,mb4.6
SSF Saint Saulge 78.91 7 eP P 05 15 20.2 -0.6
comp=Z,11nm,0.8s,mb4.4
SSF Saint Saulge 78.91 7 eP P 05 15 20.2 -0.6
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SSF Saint Saulge 78.91 7 eP P 05 15 20.2 -0.6
comp=Z,5.3nm,0.8s,mb4.4
MFF Saint Martin d 79.05 10 eP P 05 15 21.2 -0.4
comp=Z,17nm,0.9s,mb4.6
MFF Saint Martin d 79.05 10 eP P 05 15 21.2 -0.4
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MFF Saint Martin d 79.05 10 eP P 05 15 21.2 -0.4
comp=Z,8.3nm,0.9s,mb4.6
AVF Avril sur Loir 79.16 7 eP P 05 15 21.5 -0.7
comp=Z,9.5nm,0.8s,mb4.4
AVF Avril sur Loir 79.16 7 eP P 05 15 21.5 -0.7
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
AVF Avril sur Loir 79.16 7 eP P 05 15 21.5 -0.7
comp=Z,4.8nm,0.8s,mb4.4
SMF Signal de Mont 79.34 7 eP P 05 15 22.6 -0.6
comp=Z,17nm,1.0s,mb4.5
SMF Signal de Mont 79.34 7 eP P 05 15 22.6 -0.6
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
SMF Signal de Mont 79.34 7 eP P 05 15 22.6 -0.6
comp=Z,8.4nm,1.0s,mb4.5
BGF Bois d'Agland 79.36 8 eP P 05 15 22.7 -0.6
comp=Z,12nm,0.9s,mb4.4
BGF Bois d'Agland 79.36 8 eP P 05 15 22.7 -0.6
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BGF Bois d'Agland 79.36 8 eP P 05 15 22.7 -0.6
comp=Z,6.3nm,0.9s,mb4.5
CABF La Chapelle 79.52 5 eP P 05 15 24.1 0.0
comp=Z,8.5nm,0.8s,mb4.3
CABF La Chapelle 79.52 5 eP P 05 15 24.1 0.0
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CABF La Chapelle 79.52 5 eP P 05 15 24.1 0.0
comp=Z,4.3nm,0.8s,mb4.3
TCF Toulx Ste Croi 79.57 8 eP P 05 15 23.7 -0.7
comp=Z,6.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 79.57 8 eP P 05 15 23.7 -0.7
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 79.57 8 eP P 05 15 23.7 -0.7
comp=Z,3.0nm,0.8s,mb4.2
RJF Les Rejaudoux 80.49 9 eP P 05 15 28.5 -0.9
comp=Z,12nm,1.2s,mb4.3
LFF La Frestale 80.78 9 eP P 05 15 30.5 -0.4
comp=Z,9.2nm,0.5s,mb4.5
CAF Calviac 80.92 8 eP P 05 15 31.3 -0.3
comp=Z,8.7nm,0.9s,mb4.3
VIVF Saint-Julien-l 81.18 6 eP P 05 15 32.9 -0.1
comp=Z,7.1nm,0.8s,mb4.2
ORIF Oris-en-Rattie 81.19 6 eP P 05 15 33.2 +0.1
comp=Z,3.4nm,0.6s,mb4.1
MBDF Montbardon 81.43 5 eP P 05 15 35.3 +0.9
comp=Z,13nm,0.8s,mb4.5
LASF Ste Croix 81.90 7 eP P 05 15 36.6 -0.2
SMRF Simiane la Rot 82.11 6 eP P 05 15 38.5 +0.5
comp=Z,5.3nm,0.7s,mb4.2
SBF Sospel 82.33 4 eP P 05 15 39.0 -0.1
comp=Z,15nm,0.8s,mb4.6
SJPF Ste Jean 82.39 11 eP P 05 15 40.1 +0.7
MTLF Montolieu 82.50 8 eP P 05 15 39.9 -0.1
comp=Z,7.6nm,0.7s,mb4.3
EPF Esparros 82.64 10 eP P 05 15 39.6 -1.1
comp=Z,5.3nm,0.9s,mb4.1
ETSF Etsaut 82.67 10 eP P 05 15 40.9 0.0
comp=Z,6.9nm,0.6s,mb4.3
PBRG Braganca 82.94 15 eP P 05 15 42.7 +0.4
comp=Z,7.0nm,1.5s,mb4.3
PTO Porto 83.29 17 eP P 05 15 44.8 +0.7
comp=Z,15nm,1.6s,mb4.6
PVRL Vila Real 83.31 16 eP P 05 15 45.0 +0.9
comp=Z,15nm,2.0s,mb4.5
PGF Pioggiola 83.70 3 eP P 05 15 46.2 0.0
comp=Z,27nm,1.1s,mb4.7
PVIS Viseu 83.82 16 eP P 05 15 47.8 +1.0
BRTR Keskin Array B 85.02 345 P P 05 15 53.5 +0.7
comp=Z,1.3nm,0.7s,mb4.0,baz=50,slow=1.7,SNR=10.0
ESDC Sonseca Array 85.44 13 P P 05 15 54.9 0.0
comp=Z,0.6nm,0.6s,mb3.7,baz=346,slow=4.7,SNR=7.8
WRA Warramunga Arr 89.43 234 P P 05 16 13.6 -0.5
comp=Z,0.4nm,0.6s,mb3.6,baz=36,slow=5.9,SNR=5.2
ASAR Alice Springs 92.83 232 P P 05 16 30.8 +0.9
comp=Z,0.3nm,0.5s,mb3.9,baz=28,slow=7.1,SNR=4.3
TORD Torodi Ar. Bea 112.31 13 PKiKP PKiKP 05 21 52.0 -0.6
comp=Z,0.2nm,0.4s,baz=329,slow=2.9,SNR=5.3
MATP Matopo 144.55 335 PKP PKPdf 05 22 52.6 -0.6
comp=Z,16nm,0.6s,baz=19,slow=3.3,SNR=53
MATP SKPbc SKPbc 05 26 24.8 -0.1

comp=Z,3.6nm,1.1s,baz=103,slow=4.8,SNR=3.7
TSUM Tsumeb 145.08 353 PKPbc PKPbc 05 22 53.7 -0.2
comp=Z,8.7nm,0.6s,baz=353,slow=6.1,SNR=20
BOSA Boshof 153.19 337 PKPbc PKPbc 05 23 14.7 0.0
comp=Z,1.6nm,0.5s,baz=53,slow=15,SNR=10
VNA3 Neumayer Olymp 159.96 158 *e*PKPdf PKPab 05 23 52.3 -3.5
VNA3 *e* 05 24 21.3
VNA2 Neumayer--Watz 160.69 159 *e*PKPdf PKPab 05 23 55.2 -3.8
VNA2 *e* 05 24 19.1
VNA2 *e* 05 24 25.1
VNA1 Neumayer--Stat 160.72 158 *e*PKPdf PKPab 05 23 55.7 -3.4
VNA1 *e* 05 24 27.5
SNAA Sanae 160.93 164 *e*PKPdf PKPab 05 23 55.4 -4.6

ISCJB ***29*** *05:10:32.6±0.6, 5333N×009×16801W±009, h90km±3km, mb3.9/18, Error ellipse: s-maj=15.9km s-min=7.7km az=140.2*
IDC ***29*** *05:10:32.5±0.8, 5340N×168.12W, h74km±7km, mb3.6/14, mb1 3.9/15, mb1mx3.7/24, mbtmp3.9/15, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=20.4km s-min=15.1km az=167.0*
NEIC ***29*** *05:10:33.4, 5298N×16779W, h62km, mb4.3/7, ML4.1(AEIC), After AEIC.*
BJI ***29*** *05:10:33.4, 5300N×16780W, h61km, mB4.7, mb4.6, Ms4.4, Msz4.1*
ISC 29 05:10:33.6±0.5, 5342N±010×16810W±010, h86km±4km, h77km±.2km:pP-P, n54, σ1§07/51, mb3.9/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCD	**Okmok Cone D**	**0.02**	**332**	P	**Pn**	**05 10 44.9**	**-0.7**
OKCD				S	**Sn**	**05 10 55.0**	**+0.4**
OKCE	**Okmok Cone E**	**0.04**	**286**	P	**Pn**	**05 10 45.0**	**-0.7**
AKLV	**Akutan Long Va**	**1.48**	**59**	P	**Pn**	**05 10 58.8**	**0.0**
AKUT	**Akutan**	**1.56**	**62**	*e*Pn	**Pn**	**05 10 59.7**	**-0.1**
AKUT				*e*Sn	**Sn**	**05 11 20.3**	**+0.5**
ATKA	**Atka Island**	**3.89**	**254**	P	**Pn**	**05 11 31.1**	**0.0**
SPIA	**Saint Paul Isl**	**3.96**	**343**	P	**Pn**	**05 11 36.0**	**+3.9**
CHGN	**Chignik**	**6.29**	**59**	*e*P	**Pn**	**05 12 03.6**	**-0.2**
KDAK	**Kodiak Island**	**9.80**	**57**	P	**Pn**	**05 12 48.8**	**-2.8**
	2.9nm,0.3s,baz=230,slow=7.2,SNR=12						
KDAK				S	**Sn**	**05 14 30.0**	**-10**
	baz=162,slow=20,SNR=3.1						
KDAK	**Kodiak Island**	**9.80**	**57**	*e*Pn	**Pn**	**05 12 48.3**	**-3.3**
PMR	**Palmer**	**13.04**	**44**	*e*Pn	**Pn**	**05 13 26.8**	**-8.5**
EYAK	**Cordova Ski Ar**	**14.07**	**51**	*e*Pn	**Pn**	**05 13 45.0**	**-3.9**
MCK	**McKinley**	**14.31**	**36**	*e*Pn	**Pn**	**05 13 54.1**	**+2.1**
	6.1nm,1.1s						
COLA	**College**	**15.39**	**34**	*e*P	**Pn**	**05 14 06.2**	**+0.4**
	8.7nm,1.0s						
MENT	**Mentasta**	**15.90**	**44**	*e*P	**Pn**	**05 14 12.3**	**0.0**
EGAK	**Eagle**	**17.74**	**40**	*e*P	**Pn**	**05 14 34.2**	**-0.7**
	8.9nm,0.7s						
DAWY	**Dawson**	**18.14**	**43**	*e*P	**Pn**	**05 14 38.7**	**-1.0**
SKAG	**Skagway**	**18.96**	**58**	*e*P	**Pn**	**05 14 50.0**	**+0.5**
	38nm,0.8s						
CRAG	**Craig**	**20.32**	**70**	*e*P	**P**	**05 15 03.5**	**+0.8**
	12nm,0.6s						
DLBC	**Dease Lake**	**21.70**	**61**	*e*P	**P**	**05 15 20.0**	**+2.5**
YKA	**Yellowknife Ar**	**28.98**	**50**	P	**P**	**05 16 24.6**	**-0.4**
	1.4nm,0.4s,mb3.9,baz=274,slow=9.0,SNR=14						
YKA				LR	LR	05 27 28.7	
	comp=Z,37nm,20.1s,baz=205,slow=35						
YKA	**Yellowknife Ar**	**28.98**	**50**	P	**P**	**05 16 24.6**	**-0.4**
YKA				LR	LR	05 27 28.7	
NEW	**Newport**	**32.02**	**78**	P	**P**	**05 16 52.0**	**+0.1**
	2.7nm,0.8s,mb4.0,baz=314,slow=2.7,SNR=6.4						
NEW	**Newport**	**32.02**	**78**	*e*P	**P**	**05 16 51.6**	**-0.3**
	2.8nm,0.8s,mb4.0						
EDM	**Edmonton**	**32.03**	**68**	*e*P	**P**	**05 16 51.6**	**-0.3**
NVAR	**Mina Array Bea**	**36.94**	**93**	P	**P**	**05 17 35.1**	**+0.9**
	0.4nm,0.8s,mb3.4,baz=275,slow=9.9,SNR=3.4						
PDAR	**Pinedale Array**	**39.47**	**81**	P	**P**	**05 17 55.2**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=299,slow=4.6,SNR=4.1						
MDJ	**Mudanjiang**	**40.59**	**284**	P	**P**	**05 18 08.0**	**+3.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,61nm,5.6s						
CN2	**Changchun**	**43.48**	**285**	*e*P	**P**	**05 18 31.0**	**+2.8**
SONM	**Songino Array**	**51.42**	**301**	PcP	PcP	05 20 43.9	+0.7
	comp=Z,0.6nm,0.5s,baz=90,slow=1.8,SNR=5.7						
SONM				ScP	ScP	05 24 33.3	+1.3
	comp=Z,0.6nm,0.6s,baz=48,slow=4.6,SNR=4.6						
TXAR	**Lajitas Array**	**51.98**	**91**	P	**P**	**05 19 33.9**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.7,baz=301,slow=6.5,SNR=9.5						
TXAR				pP	pP	05 19 52.7	-2.2
	comp=Z,0.7nm,0.6s,baz=302,slow=5.1,SNR=5.6						
TXAR	**Lajitas Array**	**51.98**	**91**	P	**P**	**05 19 33.9**	**0.0**
TXAR				pP	pP	05 19 52.7	-2.2
NJ2	**Nanjing**	**55.16**	**278**	*e*P	**P**	**05 20 04.5**	**+7.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
ARCES	**ARCESS Array B**	**56.96**	**354**	P	**P**	**05 20 09.0**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.3,baz=8.9,slow=6.8,SNR=6.8						
ARCES				PcP	PcP	05 21 03.8	-0.6
	comp=Z,3.0nm,0.6s,baz=26,slow=4.2,SNR=14						
ARCES	**ARCESS Array B**	**56.96**	**354**	P	**P**	**05 20 09.0**	**-1.0**
ARCES				PcP	PcP	05 21 03.8	-0.6
JOF	**Joensuu**	**63.01**	**350**	*e*p	**P**	**05 20 50.6**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.9						
BVAR	**Borovoye Array**	**63.30**	**325**	P	**P**	**05 20 54.2**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=49,slow=4.4,SNR=2.3						
BVAR	**Borovoye Array**	**63.30**	**325**	P	**P**	**05 20 54.2**	**+0.9**
WMQ	**Urumqi**	**63.49**	**308**	*e*P	**P**	**05 21 02.0**	**+7.4**
KAF	**Kangasniemi**	**64.25**	**353**	*e*p	**P**	**05 20 57.5**	**-2.1**
	comp=Z,1.6nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.94**	**353**	P	**P**	**05 21 03.4**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.8,baz=19,slow=5.6,SNR=13						
NOA	**NORSAR Array B**	**65.89**	**0**	P	**P**	**05 21 10.4**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.6,baz=355,slow=5.5,SNR=3.0						
GYA	**Guiyang**	**66.45**	**283**	P	**P**	**05 21 19.3**	**+5.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
KMI	**Kunming**	**69.75**	**285**	P	**P**	**05 21 40.0**	**+5.6**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
KMI	**Kunming**	**69.75**	**285**	P	**P**	**05 21 40.1**	**+5.7**
	comp=Z,8.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**75.24**	**349**	P	**P**	**05 22 05.7**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.6,baz=14,slow=5.9,SNR=5.1						
BRTR	**Keskin Array B**	**85.35**	**343**	P	**P**	**05 23 01.8**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=1.9,slow=4.2,SNR=4.0						
ESDC	**Sonseca Array**	**86.28**	**12**	P	**P**	**05 23 05.9**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=346,slow=5.0,SNR=8.1						
WRA	**Warramunga Arr**	**88.25**	**233**	P	**P**	**05 23 14.5**	**-0.9**
	comp=Z,1.6nm,1.0s,mb4.0,baz=38,slow=5.3,SNR=9.3						
WRA				pP	pP	05 23 35.2	-3.1
	comp=Z,0.4nm,0.6s,baz=31,slow=6.1,SNR=4.7						
ASAR	**Alice Springs**	**91.65**	**231**	P	**P**	**05 23 30.9**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.8,baz=25,slow=4.1,SNR=6.3						
ASAR				pP	pP	05 23 51.9	-2.3
	comp=Z,0.6nm,0.8s,baz=40,slow=5.2,SNR=4.4						
MATP	**Matopo**	**144.68**	**332**	PKP	PKPdf	05 29 59.6	-0.7
	comp=Z,2.8nm,0.5s,baz=15,slow=3.2,SNR=13						
TSUM	**Tsumeb**	**145.57**	**350**	PKPbc	PKPbc	05 30 02.9	+0.8
	comp=Z,1.1nm,0.5s,baz=356,slow=7.0,SNR=4.1						
TSUM	**Tsumeb**	**145.57**	**350**	PKPbc	PKPbc	05 30 02.9	+0.8
MAW	**Mawson**	**152.17**	**220**	PKPbc	PKPbc	05 30 17.7	-1.5
	comp=Z,0.6nm,0.5s,baz=106,slow=6.2,SNR=4.2						
MAW				PKPab	PKPab	05 30 27.0	-2.1
	comp=Z,2.2nm,0.9s,baz=106,slow=5.8,SNR=4.7						
VNA2	**Neumayer--Watz**	**160.44**	**161**	*e*PKPdf	PKPab	05 31 02.4	-2.2
VNA2				*e*		05 31 05.7	
VNA2				*e*		05 31 28.8	

INMG ***29*** *05:20:25.5±1.0, 3613N×1017W, h2km±34km, ML1.7, Error ellipse: s-maj=37.3km s-min=6.9km az=53.0*
MDD 29 05:20:24.7±2.9, 3610N×1021W, h8km±83km, mbLg2.2/2, Error ellipse: s-maj=108.0km s-min=21.8km az=49.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.87**	**39**	*e*Pn	Pn	05 20 56.2	-0.9
PTEO				*e*Sn	Sn	05 21 18.7	-2.2
EGRO	**El Granado**	**2.62**	**56**	P	Pn	05 21 06.3	-1.0
	0.3nm,0.1s,SNR=5.7						
EGRO				S	Sn	05 21 37.2	-2.1
	2.1nm,0.1s,SNR=6.7						
PBEJ	**Beja**	**2.69**	**44**	*e*Pn	Pn	05 21 06.9	-1.4
PBEJ				*e*Sn	Sn	05 21 38.0	-3.0
PBEJ				S	Sn	05 21 43.8	-2.6
	1.4nm,0.1s						
PLOU	**Loures**	**2.91**	**16**	*e*Sn	Sn	05 21 43.8	-2.6
EMIN	**Mina Concepcio**	**3.29**	**58**	P	Pn	05 21 15.7	-0.8
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	05 21 52.8	-3.0
	0.3nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.59**	**76**	P	Pn	05 21 19.4	-1.3
	1.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	05 21 59.9	-3.4
	2.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.68**	**43**	P	Pn	05 21 20.2	-1.7
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	05 22 02.0	-3.4
	0.7nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.32**	**29**	*e*Sn	Sn	05 22 17.9	-3.3
EADA	**Adamuz**	**4.95**	**64**	P	Pn	05 21 38.1	-1.3
	0.5nm,0.1s,SNR=7.1						
EADA				S	Sn	05 22 33.4	-3.4
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.09**	**52**	P	Pn	05 21 53.7	-1.4
	0.2nm,0.3s,baz=236,slow=13,SNR=7.9						

NEIC ***29*** *05:23:48.8, 1794N×9968W, h52km, MD3.7(MEX), After MEX.*
MEX 29 05:23:48.2±0.5, 1799N×9972W, h60km±4km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.12**	**121**	*i*P	Pn	05 23 55.9	-1.3
MEIG				*i*S	Sn	05 24 02.4	-1.3
PLIG	**Platanillo**	**0.46**	**28**	*i*P	Pn	05 23 58.6	-1.0
PLIG				*i*S	Sn	05 24 06.2	-1.7
CAIG	**El Cayaco**	**1.07**	**209**	*i*P	Pn	05 24 05.8	-1.3
CAIG				*i*S	Sn	05 24 18.9	-2.2
YAIG	**Yautepec**	**1.07**	**35**	*i*P	Pn	05 24 06.1	-1.0
YAIG				*i*S	Sn	05 24 19.7	-1.5
UTMO	**Huajuapan**	**1.83**	**95**	*e*P	Pn	05 24 16.5	-0.9
UTMO				*i*S	Sn	05 24 37.1	-2.5
IIO	**Organos**	**1.86**	**31**	*i*P	Pn	05 24 18.3	+0.6

ISCJB ***29*** *05:47:59.0±4.4, 234S±03×1799E±03, h578km±54km, mb3.6/7, Error ellipse: s-maj=58.0km s-min=30.1km az=115.4*
NEIC ***29*** *05:47:58.9±2.6, 2339S×17999E, h569km±27km, mb4.0/3, Error ellipse: s-maj=35.9km s-min=21.3km az=154.0*
IDC ***29*** *05:48:01.0±5.1, 2288S×17974E, h581km±55km, mb3.0/5, mb1 3.3/6, mb1mx3.1/13, mbtmp3.9/6, Error ellipse: s-maj=102.3km s-min=29.7km az=158.0*
ISC 29 05:47:57.4±4.0, 236S±03×1799W±03, h546km±45km, n16, σ0§51/11, mb3.6/7, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.68**	**274**	P	**P**	**05 50 42.7**	**-0.2**
	0.4nm,0.3s,baz=88,slow=15,SNR=8.2						
CTA	**Charters Tower**	**31.57**	**270**	*e*P	**P**	**05 53 35.8**	**+0.5**
	2.6nm,0.5s,mb4.0						
CTAO	**Charters Tower**	**31.57**	**270**	*e*P	**P**	**05 53 35.7**	**+0.4**
	3.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**05 54 04.6**	**+1.0**
	0.9nm,0.4s,mb3.7,baz=92,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**34.93**	**248**	*e*P	**P**	**05 54 04.5**	**+0.9**
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**05 55 02.6**	**+0.3**
	0.6nm,0.4s,mb3.4,baz=93,slow=7.3,SNR=15						
WB2	**Warramunga Arr**	**42.51**	**266**	‖*i*P	**P**	**05 55 04.2**	**-0.7**
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**05 55 04.5**	**-0.5**
	0.5nm,0.3s,mb3.5,baz=90,slow=5.9,SNR=45						
SNAA	**Sanae**	**84.99**	**179**	*e*P	**P**	**05 59 34.8**	**-0.5**
	0.8nm,0.6s,mb3.4						
TXAR	**Lajitas Array**	**90.18**	**58**	P	**P**	**06 00 00.1**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=209,slow=6.1,SNR=8.6						
PDAR	**Pinedale Array**	**92.39**	**44**	P	**P**	**06 00 09.6**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=211,slow=3.2,SNR=3.5						
ARCES	**ARCESS Array B**	**131.59**	**348**	PKP	PKPdf	06 06 06.5	-1.6
	4.5nm,1.0s,baz=72,slow=2.9,SNR=3.8						
FINES	**FINESS Array B**	**138.17**	**342**	PKP	PKPdf	06 06 19.5	-0.9
	1.2nm,0.9s,baz=35,slow=5.1,SNR=4.1						
AKASG	**Malin Array Be**	**144.75**	**328**	PKP	PKPdf	06 06 30.3	-1.8
	1.5nm,0.4s,baz=45,slow=4.2,SNR=15						
AKASG	**Malin Array Be**	**144.75**	**328**	PKP	PKPdf	06 06 30.3	-1.8
BRTR	**Keskin Array B**	**147.45**	**308**	PKPbc	PKPbc	06 06 37.4	-2.7
	0.5nm,0.4s,baz=137,slow=3.8,SNR=3.9						

IDC 29 06:35:01.2±32.0, 484N×12607E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=539.8km s-min=213.7km az=157.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.93**	**162**	P	P	06 40 35.6	+0.5
	0.3nm,0.6s,baz=341,slow=9.9,SNR=4.8						
ASAR	**Alice Springs**	**29.34**	**165**	P	P	06 41 06.3	+0.7
	0.3nm,0.5s,baz=340,slow=7.2,SNR=11						
STKA	**Stephens Creek**	**39.39**	**159**	P	P	06 42 32.2	-0.4
	0.8nm,0.5s,baz=336,slow=10.0,SNR=4.0						

IDC ***29*** *06:48:08.9±1.3, 1117N×8581W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/19, mbtmp4.1/8, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/32, Error ellipse: s-maj=47.5km s-min=25.5km az=39.0*
CASC ***29*** *06:48:09.0±2.1, 1062N×8651W, h0km±7km, MD3.9, ML3.4, mb4.3(NEIC)*
ISCJB ***29*** *06:48:12.1±0.8, 1067N±007×8648W±008, h46km±7km, mb4.2/24, MS4.0/3, Error ellipse: s-maj=15.9km s-min=5.1km az=100.2*
NEIC ***29*** *06:48:17.2±1.6, 1096N×8639W, h64km±13km, mb4.3/18, Error ellipse: s-maj=18.3km s-min=9.4km az=217.0*
BJI ***29*** *06:48:17.1, 1100N×8640W, h63km, mB5.1, Ms4.8, Msz4.6*
ISC 29 06:48:14.2±0.8, 1077N±007×8638W±008, h43km±7km, n79, σ0§98/67, mb4.2/24, MS4.0/3, 10C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.73**	**45**	‖*i*P	**Pn**	**06 48 28.1**	**0.0**
VCR	**Vista de Mar**	**0.97**	**131**	‖*e*P	**Pn**	**06 48 27.8**	**-3.6**
MADN	**Villa Maderas**	**1.04**	**53**	‖*i*P	**Pn**	**06 48 33.0**	**+0.6**
CONN	**Concepcion**	**1.08**	**43**	‖*i*P	**Pn**	**06 48 33.2**	**+0.3**
TICN	**Ticuantepe**	**1.26**	**6**	‖*e*P	**Pn**	**06 48 36.1**	**+0.8**
TISN	**Laguna Tiscapa**	**1.36**	**4**	‖*e*P	**Pn**	**06 48 37.0**	**+0.2**
XAVN	**Gruta Xavier**	**1.37**	**2**	‖*e*P	**Pn**	**06 48 36.9**	**0.0**
MGAN	**Managua**	**1.37**	**5**	‖*e*P	**Pn**	**06 48 37.1**	**+0.2**
COPN	**Copaltepe**	**1.41**	**351**	‖*e*P	**Pn**	**06 48 37.1**	**-0.4**
APYN	**Apoyeque**	**1.45**	**1**	‖*e*P	**Pn**	**06 48 38.2**	**+0.3**
JCR	**Jicaral**	**1.55**	**126**	*e*P	**Pn**	**06 48 36.4**	**-2.9**
CAO	**Cobano**	**1.65**	**130**	*e*P	**Pn**	**06 48 37.3**	**-3.3**
MIRN	**Miramar**	**1.69**	**349**	‖*e*P	**Pn**	**06 48 40.9**	**-0.3**
VACR	**Volcan Arenal**	**1.70**	**100**	‖*e*P	**Pn**	**06 48 41.6**	**+0.3**
FORC	**Fortuna**	**1.71**	**100**	*e*P	**Pn**	**06 48 41.2**	**-0.2**
LEON	**Leon**	**1.71**	**343**	‖*i*P	**Pn**	**06 48 40.8**	**-0.7**
CNGN	**Cerro Negro**	**1.75**	**350**	‖*e*P	**Pn**	**06 48 41.5**	**-0.5**
CNGN				*e*S	**Sn**	**06 49 10.1**	**+7.1**
TELN	**Telica**	**1.87**	**346**	‖*e*P	**Pn**	**06 48 43.5**	**-0.3**
EPA	**Esparza**	**1.92**	**114**	*e*P	**Pn**	**06 48 43.6**	**-0.8**
CGA2	**Cerro Gallo 2**	**2.03**	**112**	*e*P	**Pn**	**06 48 45.6**	**-0.2**
POA2	**Poas 2**	**2.17**	**106**	*e*P	**Pn**	**06 48 48.6**	**+0.8**
PRS1	**Puriscal**	**2.18**	**111**	*e*P	**Pn**	**06 48 48.1**	**+0.1**
LAJ	**Bijagual**	**2.40**	**112**	‖*e*P	**Pn**	**06 48 46.4**	**-4.6**
SJS	**Escuela Geolog**	**2.43**	**110**	*e*P	**Pn**	**06 48 51.4**	**0.0**
OCM	**Ochomogo**	**2.53**	**110**	*e*P	**Pn**	**06 48 53.9**	**+1.1**
IRZ2	**Volcan Irazu 2**	**2.57**	**108**	*e*P	**Pn**	**06 48 55.0**	**+1.7**
VTU	**Volcan Turrial**	**2.68**	**106**	*e*P	**Pn**	**06 48 56.9**	**+2.0**
LIO	**Limon**	**3.38**	**103**	*e*P	**Pn**	**06 49 02.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**3.38**	**345**	*e*Pn	**Pn**	**06 49 04.7**	**+0.3**
CTCR	**Cotoan**	**4.02**	**117**	*e*P	**Pn**	**06 49 13.2**	**-0.1**
CMIG	**Matias Romero**	**10.37**	**308**	Pn	**Pn**	**06 50 40.1**	**-0.3**
	1.0nm,0.3s,baz=124,slow=11,SNR=14						
ROSC	**El Rosal**	**13.30**	**115**	LR	LR	06 55 45.6	
	comp=Z,120nm,20.4s,baz=172,slow=35						
SDV	**Santo Domingo**	**15.63**	**96**	Pn	**Pn**	**06 51 55.5**	**+4.2**
	0.4nm,0.3s,baz=304,slow=5.5,SNR=16						
SDV	**Santo Domingo**	**15.63**	**96**	*e*P	**Pn**	**06 51 56.0**	**+4.6**
	9.5nm,0.8s						
ATAH	**Atahualpa**	**19.36**	**155**	LR	LR	06 59 15.5	
	comp=Z,208nm,20.2s,baz=188,slow=34						
HKT	**Hockley**	**21.02**	**337**	*e*P	**P**	**06 52 55.0**	**+0.9**
	19nm,1.4s,mb4.2						
PCRV	**Puerto La Cruz**	**21.39**	**90**	P	**P**	**06 52 58.7**	**+0.6**
	15nm,0.9s,mb4.3,baz=327,slow=14,SNR=4.5						
JCT	**Junction City**	**23.25**	**329**	*e*P	**P**	**06 53 17.4**	**-0.4**
	5.3nm,0.7s,mb4.1						
OXF	**Oxford**	**23.79**	**354**	*e*P	**P**	**06 53 21.0**	**-1.9**
	28nm,0.9s,mb4.7						
JSC	**Jenkinsville**	**23.86**	**11**	*e*P	**P**	**06 53 23.7**	**+0.2**
LHS	**Liberty Hill**	**24.14**	**11**	*e*P	**P**	**06 53 26.8**	**+0.7**
PLAL	**Pickwick Lake**	**24.15**	**357**	*e*P	**P**	**06 53 25.5**	**-0.7**
	11nm,0.8s,mb4.3						
UALR	**University of**	**24.50**	**348**	P	**P**	**06 53 28.3**	**-1.1**
	11nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**24.53**	**321**	P	**P**	**06 53 30.4**	**+0.7**
	3.6nm,0.7s,mb4.0,baz=136,slow=9.8,SNR=52						
TXAR				PcP	PcP	06 57 08.8	+1.8
	1.2nm,0.8s,baz=143,slow=5.2,SNR=10						
CPCT	**Cooper Cave**	**24.62**	**4**	*e*P	**P**	**06 53 30.1**	**-0.4**
TKL	**Tuckaleechee C**	**24.89**	**5**	P	**P**	**06 53 31.2**	**-1.6**
	7.0nm,0.9s,mb4.2,baz=178,slow=14,SNR=5.0						
LPIG	**La Paz**	**26.34**	**303**	LR	LR	07 05 28.1	
	comp=Z,119nm,19.2s,MS3.5,baz=236,slow=39						
WMOK	**Wichita Mounta**	**26.40**	**337**	*e*P	**P**	**06 53 47.1**	**+0.5**
	13nm,0.8s,mb4.5						
WMOK				*e*	pP	06 53 55.3	-2.8
SIUC	**Southern Illin**	**26.95**	**355**	*e*P	**P**	**06 53 50.8**	**-0.7**
	13nm,0.6s,mb4.6						
KSU1	**Kansas State U**	**29.65**	**344**	*e*P	**P**	**06 54 14.7**	**-0.9**
	7.7nm,0.8s,mb4.5						
ANMO	**Albuquerque**	**30.23**	**326**	P	**P**	**06 54 22.1**	**+1.3**
	1.9nm,0.8s,mb3.9,baz=144,slow=6.9,SNR=10.0						
ANMO				PcP	PcP	06 57 23.1	+2.4
	0.9nm,0.7s,baz=166,slow=4.2,SNR=3.5						
ANMO	**Albuquerque**	**30.23**	**326**	*e*P	**P**	**06 54 21.3**	**+0.5**
	1.5nm,0.7s,mb3.8						
SDCO	**Great Sand Dun**	**31.88**	**331**	*e*P	**P**	**06 54 35.8**	**+0.6**
	3.1nm,0.8s,mb4.2						
SRU	**San Rafael**	**35.49**	**327**	*e*P	**P**	**06 55 07.2**	**+0.6**
TMUT	**Trail Mountain**	**35.99**	**326**	*e*P	**P**	**06 55 11.1**	**+0.2**
TMUT				*e*PcP	PcP	06 57 40.4	+3.6
PDAR	**Pinedale Array**	**37.74**	**332**	P	**P**	**06 55 25.4**	**-0.4**
	1.0nm,0.7s,mb3.7,baz=125,slow=10,SNR=10						
PDAR				PcP	PcP	06 57 43.1	+1.0
	0.5nm,0.8s,baz=174,slow=3.0,SNR=3.5						
HWUT	**Hardware Ranch**	**37.84**	**329**	*e*P	**P**	**06 55 26.2**	**-0.5**
	3.5nm,0.7s,mb4.2						
HWUT				*e*PcP	PcP	06 57 44.2	+1.8
REDW	**Red Top Meadow**	**38.80**	**331**	*e*P	**P**	**06 55 34.2**	**-0.5**
	5.1nm,0.8s,mb4.3						
REDW				*e*pP	pP	06 55 47.0	+0.4
LOHW	**Long Hollow**	**38.88**	**332**	*e*P	**P**	**06 55 36.1**	**+0.7**
	1.6nm,0.6s,mb3.9						
TPAW	**Teton Pass**	**38.95**	**331**	*e*P	**P**	**06 55 37.0**	**+1.1**
	2.8nm,0.7s,mb4.1						
MOOW	**Moose Ponds**	**39.05**	**332**	*e*P	**P**	**06 55 37.4**	**+0.6**
	1.5nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	**39.65**	**319**	P	**P**	**06 55 44.0**	**+2.2**
	2.3nm,0.8s,mb4.0,baz=148,slow=5.9,SNR=21						
NVAR				PcP	PcP	06 57 51.5	+3.4
	3.0nm,0.7s,baz=125,slow=4.7,SNR=24						
ULM	**Lac du Bonnet**	**40.13**	**351**	P	**P**	**06 55 42.7**	**-3.1**
	1.4nm,0.7s,mb3.8,baz=169,slow=13,SNR=3.0						
ULM	**Lac du Bonnet**	**40.13**	**351**	P	**P**	**06 55 42.7**	**-3.1**
HLID	**Hailey**	**40.71**	**328**	*e*P	**P**	**06 55 50.2**	**-0.4**
	1.2nm,0.7s,mb3.6						
MCMT	**McKenzie Canyo**	**40.85**	**331**	*e*P	**P**	**06 55 52.5**	**+0.7**
HAWA	**Hanford**	**45.30**	**328**	*

MBWA Marble Bar 58.35 256 *eP* **P 07 05 05.0 -0.1**
4.7nm,0.7s,mb3.9
KLBR Kellerberrin 58.90 244 *eP* **P 07 05 08.1 -0.6**
13nm,0.5s,mb4.5
NWAO Narrogin (SRO) 59.25 242 P **P 07 05 11.1 0.0**
6.7nm,0.7s,mb4.1,baz=94,slow=9.7,SNR=6.9
SBA Scott Base 59.58 184 *eP* **P 07 05 14.5 +1.2**
12nm.1.1s,mb4.2
VNDA Vanda 59.62 185 P **P 07 05 14.1 +0.5**
1.8nm,0.6s,mb3.7,baz=353,slow=7.6,SNR=19
CASY Casey 65.55 205 *eP* **P 07 05 51.3 -1.0**
8.1nm,0.9s,mb4.3
MJAR Matsushiro Arr 68.91 323 P **P 07 06 13.0 -0.1**
4.5nm,0.8s,mb4.1,baz=160,slow=5.2,SNR=14
QSPA South Pole Qui 71.27 180 *eP* **P 07 06 27.2 0.0**
9.2nm,0.6s,mb4.5
NVAR Mina Array Bea 79.71 43 P **P 07 07 15.9 +1.4**
0.7nm,0.6s,mb3.5,baz=228,slow=6.8,SNR=11
MAW Mawson 83.21 200 P **P 07 07 31.9 -0.7**
0.9nm,0.6s,mb3.7,baz=172,slow=8.5,SNR=4.7
MAW Mawson 83.21 200 *eP* **P 07 07 31.6 -1.0**
0.8nm,0.6s,mb3.6
TXAR Lajitas Array 86.04 57 P **P 07 07 48.9 +2.3**
1.7nm,0.8s,mb3.8,baz=214,slow=5.3,SNR=18
PDAR Pinedale Array 87.64 43 P **P 07 07 54.7 +0.6**
0.3nm,0.6s,mb3.2,baz=222,slow=1.2,SNR=3.2
SNAA Sanae 89.71 178 *e* **P 07 08 03.1 -0.7**
SNAA Sanae 89.71 178 *eP* **P 07 08 01.9 -1.9**
1.4nm,0.6s,mb4.0
VNA3 Neumayer Olymp 89.83 176 *e* **P 07 08 03.0 -1.4**
VNA2 Neumayer--Watz 90.28 177 *e* **P 07 08 05.5 -0.9**
baz=192,slow=3.6
VNA2 *e* 07 08 15.6
VNA2 *e* 07 08 28.7
VNA1 Neumayer--Stat 90.50 177 *e* **P 07 08 07.1 -0.4**
VNA1 *e* 07 08 17.3
MKAR Makanchi Array 110.11 314 PKiKP PKiKP 07 13 34.0 -0.6
0.4nm,0.4s,baz=187,slow=0.5,SNR=11
ARCES ARCESS Array B 127.27 350 PKP PKPdf 07 14 06.5 -1.0
1.1nm,0.7s,baz=329,slow=2.7,SNR=12
FINES FINESS Array B 134.17 344 PKP PKPdf 07 14 20.1 -0.4
4.8nm,1.1s,baz=86,slow=6.3,SNR=4.1
AKASG Malin Array Be 141.57 332 PKhKP 07 14 28.3
0.6nm,0.3s,baz=39,slow=3.7,SNR=6.3
BRTR Keskin Array B 145.76 314 PKPbc PKPbc 07 14 40.1 -2.6
0.6nm,0.6s,baz=113,slow=3.4,SNR=4.9
CLL Collm 146.43 348 *i* PKPbc PKPbc 07 14 44.6 0.0
comp=Z,6.0nm,0.5s
GERES GERESS Array B 148.59 345 PKPbc PKPbc 07 14 49.7 -0.6
comp=Z,1.0nm,0.5s,baz=25,slow=3.8,SNR=9.5
TORD Torodi Ar. Bea 174.38 176 PKP PKPdf 07 15 11.2 -0.9
comp=Z,1.3nm,1.1s,baz=247,slow=1.3,SNR=5.3
TORD PKPab PKPab 07 16 48.0 +0.4
comp=Z,0.4nm,0.6s,baz=191,slow=4.7,SNR=3.5

*ISCJB **29** 07:00:54.2±2.4,403S±04×78.1E±04,h10km,mb3.9/6, MS3.6/4, Error ellipse: s-maj=73.1km s-min=15.2km az=103.5*
*IDC **29** 07:00:54.4±6.4,4025S×7807E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.8/14,mbtmp3.9/6,MS3.6/4,Ms1 3.5/4, ms1mx3.2/23,Error ellipse: s-maj=167.5km s-min=28.4km az=131.0*
ISC 29 07:00:56.0±2.4,403S±04×781E±04,h10km,n12,σ0§42/10, mb3.9/6,MS3.6/4,1D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.59**	**192**	P		**P**	**07 06 52.3**	**0.0**
	2.4nm,1.0s,mb3.9,baz=28,slow=11,SNR=4.3							
MAW				LR		LR	07 16 00.7	
	comp=Z,63nm,20.8s,MS3.2,baz=209,slow=32							
SYO	**Syowa Base**	**35.22**	**203**	⇓*eP*		**P**	**07 07 55.2**	**+4.7**
BOSA	**Boshof**	**44.48**	**268**	LR		LR	07 23 33.3	
	comp=Z,78nm,19.5s,MS3.6,baz=356,slow=30							
FITZ	**Fitzroy Crossi**	**46.40**	**76**	P		**P**	**07 09 22.8**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=236,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**49.39**	**88**	P		**P**	**07 09 46.4**	**+0.6**
	1.0nm,0.8s,mb3.9,baz=238,slow=6.2,SNR=11							
ASAR				LR		LR	07 29 04.1	
	comp=Z,58nm,19.2s,MS3.6,baz=67,slow=34							
SNAA	**Sanae**	**49.49**	**204**	*e*		**P**	**07 09 46.5**	**0.0**
VNDA	**Vanda**	**49.68**	**164**	P		**P**	**07 09 47.8**	**-0.2**
	0.6nm,0.7s,mb3.8,baz=274,slow=8.1,SNR=4.1							
STKA	**Stephens Creek**	**51.05**	**102**	P		**P**	**07 09 58.7**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=187,slow=4.0,SNR=3.9							
VNA2	**Neumayer--Watz**	**51.05**	**205**	*e*		**P**	**07 09 58.6**	**+0.2**
	baz=89,slow=6.0							
VNA2				*e*		pP	07 10 01.3	-0.3
VNA2				*e*			07 10 06.2	
VNA3	**Neumayer Olymp**	**51.71**	**204**	*e*		**P**	**07 10 03.3**	**-0.1**
VNA3				*e*		pP	07 10 06.2	-0.3
WRA	**Warramunga Arr**	**51.84**	**84**	P		**P**	**07 10 03.3**	**-1.0**
	1.3nm,0.8s,mb3.9,baz=233,slow=7.5,SNR=9.1							
AKTO	**Aktyubinsk**	**92.07**	**347**	LR		LR	07 50 18.7	
	comp=Z,38nm,21.0s,MS3.8,baz=212,slow=32							

*ISCJB **29** 07:12:24.2±2.5,1052N±005×8658W±006,h7km±18km, mb3.7/5,Error ellipse: s-maj=11.6km s-min=7.0km az=111.3*
*CASC **29** 07:12:26.9±2.5,1061N×8651W,h11km±16km,MD4.0, ML3.7,mb4.2(NEIC)*
*IDC **29** 07:12:27.9±2.4,1133N×8611W,h0km,mb3.5/3,mb1 4.0/4, mb1mx3.7/17,mbtmp3.6/4,ML3.7/1,MS3.1/3,Ms1 3.1/3, ms1mx2.4/23,Error ellipse: s-maj=141.4km s-min=47.0km az=47.0*
*NEIC **29** 07:12:34.7±4.3,1103N×8650W,h49km±25km,mb4.2/2, Error ellipse: s-maj=43.4km s-min=28.5km az=143.0*
ISC 29 07:12:26.0±1.5,1057N±006×8646W±007,h9km±10km,n35, σ0§80/34,mb3.7/5,9C-4D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.93**	**118**	*eP*		**Pg**	**07 12 44.2**	**+0.3**
SSNN	**San Juan del S**	**0.93**	**40**	⇑*eP*		**Pg**	**07 12 44.9**	**+0.9**
LIM1	**Limonal**	**1.19**	**84**	*i P*		**Pb**	**07 12 48.6**	**-0.3**
MADN	**Villa Maderas**	**1.23**	**48**	⇑*eP*		**Pn**	**07 12 49.7**	**+0.2**
CONN	**Concepcion**	**1.28**	**40**	⇑*eP*		**Pn**	**07 12 49.8**	**-0.3**
TICN	**Ticuantepe**	**1.47**	**9**	⇑*eP*		**Pn**	**07 12 52.7**	**0.0**
JCR	**Jicaral**	**1.51**	**118**	⇑*eP*		**Pn**	**07 12 53.5**	**+0.2**
TISN	**Laguna Tiscapa**	**1.57**	**7**	*eP*		**Pn**	**07 12 53.5**	**-0.6**
XAVN	**Gruta Xavier**	**1.57**	**5**	*eP*		**Pn**	**07 12 53.6**	**-0.5**
MGAN	**Managua**	**1.58**	**8**	⇑*eP*		**Pn**	**07 12 53.7**	**-0.5**
MGAN				⇓*eP*			07 12 53.8	
MGAN				*eP*			07 12 53.9	
MGAN				*eS*		**Sn**	**07 13 15.8**	**+1.0**
	comp=E,1μm,0.7s							
COPN	**Copaltepe**	**1.60**	**355**	⇓*eP*		**Pn**	**07 12 53.9**	**-0.7**
APYN	**Apoyeque**	**1.65**	**4**	⇓*eP*		**Pn**	**07 12 55.2**	**0.0**
VACR	**Volcan Arenal**	**1.76**	**93**	*eP*		**Pn**	**07 12 56.9**	**+0.2**
MOMJ	**Momotombo**	**1.82**	**358**	⇑*eP*		**Pn**	**07 12 57.2**	**-0.4**
MIRN	**Miramar**	**1.87**	**353**	*eP*		**Pn**	**07 12 57.5**	**-0.7**
LEON	**Leon**	**1.88**	**347**	⇑*eP*		**Pn**	**07 12 57.5**	**-0.8**
CNGN	**Cerro Negro**	**1.93**	**353**	⇑*eP*		**Pn**	**07 12 58.7**	**-0.3**
CNGN				*eS*		**Sn**	**07 13 24.3**	**+0.9**
CNGN				*i*			07 13 29.1	
	comp=E,792nm,0.3s							
CGA2	**Cerro Gallo 2**	**2.04**	**106**	*eP*		**Pn**	**07 13 00.1**	**-0.5**
TELN	**Telica**	**2.05**	**350**	*eP*		**Pn**	**07 12 59.8**	**-0.9**
PRS1	**Puriscal**	**2.20**	**105**	⇓*eP*		**Pn**	**07 13 01.8**	**-0.9**
POA2	**Poas 2**	**2.21**	**100**	*eP*		**Pn**	**07 13 04.8**	**+1.9**
LAJ	**Bijagual**	**2.41**	**107**	*eP*		**Pn**	**07 13 01.9**	**-3.7**
OCM	**Ochomogo**	**2.55**	**105**	*eP*		**Pn**	**07 13 11.7**	**+4.1**
TGUH	**Tegucigalpa,Un**	**3.55**	**347**	*e*Pn		**Pn**	**07 13 21.1**	**-0.2**
CMIG	**Matias Romero**	**10.43**	**309**	Pn		**Pn**	**07 14 57.5**	**+1.7**
	comp=E,0.6nm,0.3s,baz=126,slow=15,SNR=8.4							
ROSC	**El Rosal**	**13.29**	**114**	LR		LR	07 21 03.7	
	comp=E,67nm,19.1s,baz=6.3,slow=39							
ATAH	**Atahualpa**	**19.22**	**155**	LR		LR	07 22 45.9	
	comp=E,110nm,21.0s,baz=183,slow=31							
HKT	**Hockley**	**21.17**	**337**	*eP*		**P**	**07 17 11.6**	**0.0**
	comp=E,48nm,2.0s,mb4.5							
JSC	**Jenkinsville**	**24.07**	**11**	*eP*		**P**	**07 17 40.9**	**-0.8**
TXAR	**Lajitas Array**	**24.63**	**322**	P		**P**	**07 17 47.1**	**+0.3**
	comp=E,1.0nm,0.6s,mb3.5,baz=137,slow=9.7,SNR=16							
TXAR				PcP		PcP	07 21 27.4	+3.1
	comp=E,0.3nm,0.8s,baz=116,slow=6.1,SNR=3.7							
WMOK	**Wichita Mounta**	**26.55**	**337**	*eP*		**P**	**07 18 06.0**	**+1.8**
	comp=E,3.8nm,0.9s,mb3.9							
PDAR	**Pinedale Array**	**37.87**	**332**	P		**P**	**07 19 43.2**	**0.0**
	comp=E,0.4nm,0.7s,mb3.3,baz=128,slow=5.8,SNR=3.7							
NVAR	**Mina Array Bea**	**39.75**	**320**	P		**P**	**07 19 58.8**	**-0.2**
	comp=E,0.5nm,0.6s,mb3.4,baz=135,slow=6.8,SNR=6.4							
NVAR				PcP		PcP	07 22 08.3	+2.9
	comp=E,0.5nm,0.6s,baz=122,slow=3.3,SNR=6.8							
NVAR	**Mina Array Bea**	**39.75**	**320**	P		**P**	**07 19 58.8**	**-0.2**
NVAR				PcP		PcP	07 22 08.3	+2.9
WRA	**Warramunga Arr**	**139.64**	**252**	PKP		PKPdf	07 31 58.5	+4.3
	comp=E,0.4nm,0.6s,baz=90,slow=2.5,SNR=5.9							

CASC 29 07:19:39.4±2.0,1325N×8760W,h6km±9km,MD3.9,ML3.2, 8C-5D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.23**	**277**	⇑*eP*		x	07 19 44.0	+0.1
BLLM	**Bellamira**	**0.65**	**287**	⇓*eP*		x	07 19 51.9	-0.1
BLLM				*eS*		x	07 20 01.1	+0.7
CRIN	**San Cristobal**	**0.76**	**135**	⇑*eP*		Pg	07 19 55.1	+1.1
TELN	**Telica**	**0.98**	**130**	⇓*eP*		Pg	07 19 57.1	-1.2
LEON	**Leon**	**1.08**	**140**	⇑*eP*		Pg	07 19 58.3	-1.8
LEON				*i*			07 20 22.8	
	comp=Z,568nm,0.5s							
CNGN	**Cerro Negro**	**1.15**	**130**	⇑*eP*		Pg	07 19 59.8	-1.7
CNGN				*eS*		Sg	07 20 16.0	-0.4
MIRN	**Miramar**	**1.18**	**133**	⇑*eP*		Pg	07 20 00.4	-1.7
SNVI	**San Vicente**	**1.26**	**287**	⇓*eP*		x	07 20 02.8	-0.7
SNVI				*eS*		x	07 20 21.9	+2.1
MOMJ	**Momotombo**	**1.33**	**129**	⇑*eP*		Pn	07 20 03.4	-1.1
LCBS	**La Ceiba**	**1.40**	**287**	⇑*eP*		x	07 20 04.7	-0.7
LCBS				*eS*		x	07 20 23.8	-0.2
COPN	**Copaltepe**	**1.45**	**137**	⇑*eP*		Pn	07 20 04.6	-1.5
APYN	**Apoyeque**	**1.58**	**129**	*eP*		Pn	07 20 07.2	-0.7
XAVN	**Gruta Xavier**	**1.66**	**131**	*eP*		Pn	07 20 08.9	0.0
TISN	**Laguna Tiscapa**	**1.70**	**130**	⇓*eP*		Pn	07 20 10.2	+0.6
MGAN	**Managua**	**1.71**	**130**	⇓*eP*		Pn	07 20 10.7	+0.9

*SZGRF **29** 07:30:28.0,20.16S×17998E,h33km,South of Fiji Islands*
*ISCJB **29** 07:31:18.0±1.1,199S±0.1×17794W±009,h474km±11km, mb4.2/19,Error ellipse: s-maj=22.5km s-min=6.7km az=118.5*
*IDC **29** 07:31:20.4±1.8,2009S×17781W,h499km±19km,mb3.8/7, mb1 3.9/10,mb1mx3.7/16,mbtmp4.7/10,Error ellipse: s-maj=33.9km s-min=13.0km az=153.0*
*NEIC **29** 07:31:24.3±1.6,1748S×17901W,h462km±16km,mb4.3/11, Error ellipse: s-maj=71.0km s-min=12.0km az=156.0*
ISC 29 07:31:20.6±1.2,200S±01×17793W±009,h492km±13km, n276,σ0§49/226,mb4.2/19,88C-61D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.42**	**45**	P		**P**	**07 33 20.1**	**-1.0**
	4.0nm,0.3s,baz=32,slow=7.4,SNR=6.6							
AFI				S		**S**	**07 34 51.2**	**-8.9**
	1.4nm,0.3s,baz=47,slow=19,SNR=4.0							
AFI	**Afiamalu**	**8.42**	**45**	*e*Pn		**P**	**07 33 19.8**	**-1.4**
AFI				*e*Sn		**S**	**07 34 54.4**	**-5.7**
DZM	**Mont Dzumac**	**14.75**	**259**	*eP*		**P**	**07 34 29.5**	**+1.3**
DZM	**Mont Dzumac**	**14.75**	**259**	P		**P**	**07 34 29.3**	**+1.1**
	1.5nm,0.3s,baz=85,slow=18,SNR=26							
URZ	**Urewera**	**18.73**	**192**	P		**P**	**07 35 06.0**	**-2.1**
	0.9nm,0.3s,baz=342,slow=16,SNR=2.7							
CTA	**Charters Tower**	**33.62**	**264**	*eP*		**P**	**07 37 20.4**	**+1.1**
	9.1nm,0.3s,mb4.7							
CTAO	**Charters Tower**	**33.62**	**264**	*eP*		**P**	**07 37 20.0**	**+0.7**
	22nm,0.8s,mb4.6							
PMG	**Port Moresby**	**35.30**	**282**	P		**P**	**07 37 34.7**	**+1.3**
	14nm,0.7s,mb4.5,baz=67,slow=9.2,SNR=6.6							
STKA	**Stephens Creek**	**38.09**	**244**	*eP*		**P**	**07 37 56.7**	**+0.2**
	2.4nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**38.09**	**244**	P		**P**	**07 37 56.6**	**+0.1**
	3.7nm,0.7s,mb3.9,baz=77,slow=8.2,SNR=7.5							
AS31	**Alice Springs**	**44.71**	**256**	⇑*iP*		**P**	**07 38 49.3**	**+0.2**
ASAR	**Alice Springs**	**44.71**	**256**	P		**P**	**07 38 49.3**	**+0.2**
	12nm,0.6s,mb4.5,baz=87,slow=8.5,SNR=132							
ASAR				ScP		ScP	07 43 25.0	-1.1
	0.8nm,0.8s,baz=105,slow=4.1,SNR=6.4							
ASAR				S		**S**	**07 44 47.1**	**-2.1**
	0.5nm,0.6s,baz=96,slow=15,SNR=5.1							
ASPA	**Alice Springs**	**44.71**	**256**	⇑*iP*		**P**	**07 38 49.3**	**+0.2**
WB2	**Warramunga Arr**	**44.73**	**261**	⇑*iP*		**P**	**07 38 49.0**	**-0.3**
WRA	**Warramunga Arr**	**44.75**	**261**	P		**P**	**07 38 49.1**	**-0.3**
	4.7nm,0.3s,mb4.3,baz=96,slow=7.6,SNR=286							
KAKA	**Kakadu**	**48.03**	**271**	⇑*iP*		**P**	**07 39 14.5**	**+0.1**
	7.7nm,0.6s,mb4.2							
FORT	**Forrest**	**49.57**	**246**	*eP*		**P**	**07 39 25.2**	**-0.6**
	13nm,0.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**53.17**	**262**	⇓*iP*		**P**	**07 39 52.4**	**+0.5**
	6.4nm,0.6s,mb4.1							
KLBR	**Kellerberrin**	**58.35**	**245**	*eP*		**P**	**07 40 26.6**	**-1.3**
	33nm,1.7s,mb4.4							
MUN	**Mundaring**	**59.62**	**244**	*eP*		**P**	**07 40 53.2**	**+17**
HAST	**UC Hastings Re**	**77.30**	**44**	P		**P**	**07 42 24.0**	**+0.2**
	baz=76,SNR=5.9							
BLG	**Laguna Peak**	**77.64**	**47**	⇓*P*		**P**	**07 42 24.9**	**-0.7**
	baz=77							
SMMC	**Simmler**	**77.69**	**45**	⇑*P*		**P**	**07 42 26.3**	**+0.4**
	baz=77							
PKD	**Parkfield**	**77.70**	**44**	⇓*P*		**P**	**07 42 25.5**	**-0.5**
	baz=77							
U04C	**Hernandez Rese**	**77.78**	**44**	⇑*P*		**P**	**07 42 26.7**	**+0.3**
	baz=77							
PACP	**Pacheco Peak**	**77.84**	**43**	P		**P**	**07 42 27.4**	**+0.6**
	baz=77,SNR=5.4							
WENL	**Wente Brothers**	**77.91**	**42**	⇑*P*		**P**	**07 42 26.7**	**-0.4**
	baz=77							
S04C	**Ingram Canyon,**	**78.11**	**43**	⇑*P*		**P**	**07 42 27.7**	**-0.5**
	baz=77							
O01C	**Eel River Cons**	**78.18**	**39**	⇓*P*		**P**	**07 42 28.9**	**+0.3**
	baz=77							
DECC	**Green Verdugo**	**78.22**	**47**	⇑*P*		**P**	**07 42 28.1**	**-0.7**
	baz=78							
MNRC	**McLaughlin Nat**	**78.24**	**41**	⇑*P*		**P**	**07 42 28.7**	**-0.2**
	baz=77							
109C	**Camp Elliot, M**	**78.32**	**49**	⇓*P*		**P**	**07 42 29.0**	**-0.3**
	baz=78							
ARVC	**Arvin**	**78.37**	**46**	⇑*P*		**P**	**07 42 29.4**	**-0.2**
	baz=78							
GASB	**Alder Springs**	**78.54**	**40**	⇓*P*		**P**	**07 42 30.8**	**+0.3**
	baz=78							
VES	**Vestal, Richgr**	**78.61**	**45**	⇑*P*		**P**	**07 42 30.5**	**-0.4**
	baz=78							
MURC	**Murrieta**	**78.64**	**48**	⇑*P*		**P**	**07 42 30.8**	**-0.3**
	baz=78							
S05C	**Merced**	**78.66**	**43**	⇑*P*		**P**	**07 42 31.2**	**+0.1**
	baz=78							
BFSC	**Mount Baldy St**	**78.67**	**47**	⇑*P*		**P**	**07 42 30.9**	**-0.4**
	baz=78							
EDW2	**Edwards Air Fo**	**78.80**	**46**	P		**P**	**07 42 31.8**	**-0.1**
	baz=78,SNR=8.7							
MONP	**Monument Peak**	**78.81**	**49**	P		**P**	**07 42 32.4**	**+0.5**
	baz=78,SNR=8.7							
O02C	**Red Bluff**	**78.82**	**40**	⇑*P*		**P**	**07 42 32.3**	**+0.3**
	baz=78,SNR=6.2							
SUTB	**Sutter Butte**	**78.86**	**41**	⇑*P*		**P**	**07 42 32.0**	**-0.1**
	baz=78							
T06C	**Millerton Lake**	**78.86**	**44**	P		**P**	**07 42 32.2**	**0.0**
	baz=78,SNR=5.8							
Q04C	**Lincoln**	**78.88**	**42**	⇓*P*		**P**	**07 42 33.1**	**+0.8**
	baz=78							
DVTC	**Desert V Tower**	**78.91**	**49**	P		**P**	**07 42 32.9**	**+0.4**
	baz=78,SNR=5.5							
ISA	**Isabella**	**78.91**	**46**	*eP*		**P**	**07 42 32.4**	**-0.1**
ISA	**Isabella**	**78.91**	**46**	⇓*P*		**P**	**07 42 32.8**	**+0.3**
	baz=78							
CMB	**Columbia Colle**	**79.02**	**43**	*eP*		**P**	**07 42 32.2**	**-0.9**
	3.8nm,0.9s,mb3.9							
CMB	**Columbia Colle**	**79.02**	**43**	P		**P**	**07 42 33.0**	**-0.1**
	baz=78,SNR=7.5							
HELL	**Mitchell Peak,**	**79.12**	**45**	⇑*P*		**P**	**07 42 33.1**	**-0.5**
	baz=78							
PFO	**Pinyon Flat Ob**	**79.17**	**48**	⇑*P*		**P**	**07 42 33.3**	**-0.5**
	baz=78							
BBRC	**Big Bear Sol-O**	**79.20**	**48**	⇑*P*		**P**	**07 42 34.4**	**+0.4**
	baz=78							
WDC	**Whiskeytown Da**	**79.22**	**40**	⇑*P*		**P**	**07 42 34.1**	**0.0**
	baz=78							
LAVA	**Lava Cap Winer**	**79.22**	**42**	⇓*P*		**P**	**07 42 33.5**	**-0.7**
	baz=78							
ORV	**Oroville**	**79.23**	**41**	P		**P**	**07 42 33.9**	**-0.2**
	baz=78,SNR=6.0							
SWSC	**Sam W. Stewart**	**79.28**	**49**	⇑*P*		**P**	**07 42 34.7**	**+0.2**
	baz=79							
KCC	**Kaiser Creek**	**79.30**	**44**	⇓*P*		**P**	**07 42 34.6**	**+0.1**
	baz=78							
LRMC	**Laurel Mountai**	**79.34**	**46**	⇑*P*		**P**	**07 42 34.7**	**-0.1**
	baz=79							
M02C	**Callahan**	**79.53**	**39**	⇑*P*		**P**	**07 42 36.0**	**+0.2**
	baz=78							
R05C	**Kirkwood Meado**	**79.61**	**42**	P		**P**	**07 42 36.3**	**+0.1**
	baz=79,SNR=8.8							
P05C	**Yuba Gap, Truc**	**79.63**	**42**	P		**P**	**07 42 36.2**	**-0.1**
	baz=79,SNR=6.8							
BELC	**Belle Mtn.**	**79.70**	**48**	P		**P**	**07 42 37.0**	**+0.4**
	baz=79,SNR=6.5							
MLAC	**Mammoth Lakes**	**79.79**	**44**	⇑*P*		**P**	**07 42 36.5**	**-0.6**
	baz=79							
MPMC	**Manual Prospec**	**79.80**	**46**	⇑*P*		**P**	**07 42 37.2**	**0.0**
	baz=79							
YBH	**Yreka Blue Hor**	**79.83**	**39**	⇓*P*		**P**	**07 42 37.2**	**-0.1**
	baz=79,SNR=5.3							
O05C	**Quincy**	**79.83**	**41**	⇑*P*		**P**	**07 42 37.1**	**-0.3**
	baz=79							
GSC	**Goldstone**	**79.84**	**47**	⇓*P*		**P**	**07 42 36.9**	**-0.5**
	baz=79							
M03C	**McCloud**	**79.90**	**39**	⇑*P*		**P**	**07 42 37.4**	**-0.3**
	baz=79							
BC3	**Big Chuckw Mtn**	**79.90**	**49**	⇓*P*		**P**	**07 42 37.6**	**-0.1**
	baz=79							
R06C	**Coleville**	**79.91**	**43**	⇓*P*		**P**	**07 42 37.5**	**-0.2**
	baz=79,SNR=6.5							
HEC	**Hector,Ludlow**	**79.92**	**47**	⇓*P*		**P**	**07 42 37.8**	**0.0**
	baz=79							
R07C	**Lee Vining**	**79.92**	**43**	⇓*P*		**P**	**07 42 38.0**	**+0.2**
	baz=79							
O04C	**Chester**	**79.94**	**41**	P		**P**	**07 42 38.2**	**+0.2**
	baz=79,SNR=8.3							
HATC	**Hat Creek Radi**	**80.01**	**40**	⇑*P*		**P**	**07 42 38.5**	**+0.2**
	baz=79							
GLA	**Glamis**	**80.03**	**50**	P		**P**	**07 42 39.2**	**+0.8**
	baz=79,SNR=6.2							
BEKR	**Beckwourth**	**80.12**	**41**	P		**P**	**07 42 38.9**	**0.0**
	baz=79,SNR=8.7							
S08C	**White Mtn Res**	**80.15**	**44**	P		**P**	**07 42 39.6**	**+0.6**
	baz=79,SNR=9.7							
WCN	**Washoe City**	**80.17**	**42**	P		**P**	**07 42 39.3**	**+0.2**
	baz=79,SNR=7.0							
HUMO	**Hull Mountain**	**80.23**	**38**	⇑*P*		**P**	**07 42 39.8**	**+0.4**
	baz=79							
P06A	**Stead Airport,**	**80.30**	**42**	⇓*P*		**P**	**07 42 40.0**	**+0.2**
	baz=79							
ELFS	**Eagle Lake Fie**	**80.34**	**40**	⇓*P*		**P**	**07 42 40.1**	**+0.1**
	baz=79							
M04C	**Macdoel**	**80.38**	**39**	⇓*P*		**P**	**07 42 40.2**	**0.0**
	baz=79							
IRM	**Iron Mountain**	**80.38**	**48**	⇓*P*		**P**	**07 42 40.5**	**+0.2**
	baz=80							
GRAC	**Grapevine Rang**	**80.40**	**45**	⇓*P*		**P**	**07 42 40.8**	**+0.5**
	baz=80							
FURC	**Furnace Creek,**	**80.45**	**46**	⇑*P*		**P**	**07 42 40.1**	**-0.5**
	baz=80							
TUQ	**Turquoise Mtn.**	**80.52**	**47**	⇓*P*		**P**	**07 42 41.3**	**+0.3**
	baz=80							
SHOC	**Shoshone**	**80.53**	**46**	⇑*P*		**P**	**07 42 41.3**	**+0.3**
	baz=80							
M05C	**Lookout**	**80.53**	**40**	⇓*P*		**P**	**07 42 41.1**	**+0.1**
	baz=80							
L04A	**Klamath Falls**	**80.58**	**39**	⇑*P*		**P**	**07 42 40.8**	**-0.5**
	baz=80							
NVAR	**Mina Array Bea**	**80.59**	**43**	P		**P**	**07 42 41.5**	**+0.2**
	4.4nm,0.9s,mb4.0,baz=224,slow=8.3,SNR=22							
Y12C	**Blythe**	**80.61**	**49**	⇓*P*		**P**	**07 42 41.8**	**+0.4**
	baz=80							
O06A	**Flanigan**	**80.63**	**41**	⇑*P*		**P**	**07 42 41.4**	**-0.2**
	baz=80							
R08A	**Mina**	**80.67**	**44**	P		**P**	**07 42 42.1**	**+0.4**
	baz=80,SNR=5.9							
U10A	**Ash Meadows, A**	**80.78**	**46**	⇑*P*		**P**	**07 42 42.2**	**-0.1**
	baz=80							
M06C	**Likely Place G**	**80.84**	**40**	P		**P**	**07 42 42.9**	**+0.2**
	baz=80,SNR=6.5							
S09A	**Goldfield**	**80.90**	**44**	⇓*P*		**P**	**07 42 42.9**	**-0.1**
	baz=80							
K04A	**Chilquin**	**80.95**	**38**	⇓*P*		**P**	**07 42 43.1**	**0.0**
	baz=80							
N06A	**Buffalo Meadow**	**80.96**	**41**	P		**P**	**07 42 43.3**	**0.0**
	baz=80,SNR=6.0					

I06A	Prineville baz=82,SNR=17	82.63	38	P	P	07 42 52.2 +0.4
WVOR	Wild Horse Val 7.6nm,1.0s,mb4.2	82.68	40	eP	P	07 42 51.7 -0.4
L08A	Fields baz=82,SNR=12	82.71	40	P	P	07 42 52.0 -0.2
NLWA	Neilton Lookou baz=82	82.75	34	⇑P	P	07 42 52.3 -0.1
O10A	Cortez Mining, baz=82	82.79	43	⇓P	P	07 42 53.1 +0.5
J07A	Hines baz=82	82.82	39	⇓P	P	07 42 53.2 +0.5
M09A	Marrel Ranch, baz=82,SNR=5.7	82.83	41	P	P	07 42 53.4 +0.6
E04A	Onalaska baz=82	82.86	35	⇑P	P	07 42 53.5 +0.6
P11A	Circle Ranch, baz=82	82.86	44	⇑P	P	07 42 52.8 -0.2
K08A	Mann Creek Ran baz=82	82.94	40	⇓P	P	07 42 53.1 -0.2
N10A	Dunphy baz=82	83.02	42	⇑P	P	07 42 54.5 +0.7
L09A	Wilkinson Ranc baz=82	83.03	41	⇓P	P	07 42 53.8 0.0
H06A	Lindquist Farm baz=82,SNR=11	83.04	37	P	P	07 42 53.7 -0.1
F05A	White Salmon baz=82	83.10	36	⇑P	P	07 42 54.0 -0.1
I07A	Izee baz=82,SNR=9.8	83.13	38	P	P	07 42 54.5 +0.2
G06A	Carlson Farm, baz=82	83.17	37	⇓P	P	07 42 54.4 -0.1
Q12A	Willow Creek R baz=82	83.19	44	⇓P	P	07 42 54.8 +0.1
O11A	Cowboy Ranch, baz=82	83.24	43	⇓P	P	07 42 55.3 +0.5
J08A	Circle Bar Ran baz=82	83.31	39	⇑P	P	07 42 55.6 +0.4
E05A	Randle baz=82	83.35	35	⇓P	P	07 42 55.3 -0.1
P12A	McGill baz=82	83.37	44	⇑P	P	07 42 56.1 +0.6
K09A	Rome baz=82,SNR=8.9	83.38	40	P	P	07 42 55.5 -0.1
H07A	Lands Inn, Kim baz=82,SNR=8.3	83.39	38	P	P	07 42 55.5 -0.1
M10A	I.L. Ranch, Tu baz=82,SNR=7.3	83.45	42	P	P	07 42 56.5 +0.6
I08A	Drewsey baz=82	83.57	39	⇑P	P	07 42 56.8 +0.3
J09A	Fry Pan Ranch, baz=83,SNR=6.6	83.73	40	P	P	07 42 57.5 +0.2
WUAZ	Wupatki baz=83	83.74	49	⇑P	P	07 42 57.9 +0.5
M11A	Holland Ranch, baz=83	83.87	42	⇑P	P	07 42 58.3 +0.3
H08A	Prairie City baz=83	83.87	38	⇓P	P	07 42 57.7 -0.3
O12A	Currie baz=83	83.90	43	⇓P	P	07 42 58.2 0.0
N12A	Clover Valley, baz=83	84.03	43	⇓P	P	07 42 58.6 -0.2
C05A	Tolt Reservoir baz=83	84.09	34	⇓P	P	07 42 59.0 -0.1
I09A	Lost Marbles R baz=83	84.10	39	⇑P	P	07 42 58.8 -0.4
G08A	Pilot Rock baz=83,SNR=7.4	84.15	37	P	P	07 42 59.5 +0.2
B05A	Bryant baz=83	84.23	34	⇓P	P	07 42 59.9 +0.1
D06A	Cle Elum baz=83	84.24	35	⇑P	P	07 42 60.0 +0.1
E07A	Sunnyside baz=83	84.40	36	⇑P	P	07 43 00.8 +0.2
M12A	Wells baz=84	84.41	42	⇓P	P	07 43 00.4 -0.3
PMR	Palmer 3.9nm,0.4s,mb4.3	84.48	13	eP	P	07 42 59.0 -2.1
H09A	Durkee baz=83,SNR=5.4	84.54	38	P	P	07 43 01.3 0.0
F08A	Pendleton baz=83	84.55	37	⇓P	P	07 43 01.2 -0.1
N13A	Wendover, West baz=84	84.56	43	⇑P	P	07 43 01.3 -0.2
I10A	Payette baz=84	84.72	39	⇓P	P	07 43 02.1 0.0
M13A	Montello baz=84	84.86	43	⇓P	P	07 43 02.9 0.0
F09A	S2 Ranch, Elgi baz=84	85.00	38	⇑P	P	07 43 03.5 0.0
D08A	Wollman Farm, baz=84	85.21	36	⇑P	P	07 43 04.6 0.0
E09A	Wood Farm, Sta baz=84	85.33	37	⇓P	P	07 43 05.2 +0.1
B07A	Winthrop baz=84	85.39	34	⇑P	P	07 43 05.1 -0.4
H11A	Donnelly baz=84	85.53	39	⇓P	P	07 43 05.8 -0.3
F10A	Beach Ranch, E baz=84,SNR=11	85.54	38	P	P	07 43 05.5 -0.7
D09A	Jones Farm, Ri baz=84	85.55	36	⇓P	P	07 43 06.0 -0.3
A07A	Ashnola River, baz=84	85.61	34	⇑P	P	07 43 06.6 +0.1
HLID	Hailey baz=85	85.88	41	⇓P	P	07 43 07.2 -0.6
C09A	Chrisman Ranch baz=85	86.00	36	⇓P	P	07 43 07.8 -0.6
B09A	Rice baz=85	86.43	35	⇓P	P	07 43 09.6 -0.9
A09A	Danville baz=85	86.52	35	⇑P	P	07 43 10.2 -0.6
TXAR	Lajitas Array 2.4nm,0.7s,mb4.0,baz=217,slow=6.7,SNR=36	86.71	57	P	P	07 43 11.9 +0.2
ANMO	Albuquerque 1.7nm,0.7s,mb3.9	87.02	51	eP	P	07 43 12.9 -0.3
F13A	Darby baz=86	87.12	39	⇑P	P	07 43 13.4 -0.3
SYO	Syowa Base	87.26	193	⇑eP	P	07 43 15.6 +1.3
B11A	Sandpoint baz=86	87.41	36	⇓P	P	07 43 14.5 -0.6
C12A	Trout Creek baz=86	87.50	37	⇓P	P	07 43 15.4 -0.1
MCMT	McKenzie Canyo	87.50	40	eP	P	07 43 15.4 -0.1
E13A	Victor baz=86	87.56	38	⇓P	P	07 43 15.1 -0.6
COLA	College 6.6nm,0.6s,mb4.5	87.67	12	eP	P	07 43 14.1 -2.1
F14A	Wisdom baz=87	87.70	39	⇓P	P	07 43 16.3 -0.2
A11A	Hall Mountain, baz=86	87.71	35	⇑P	P	07 43 16.6 +0.1
D13A	Huson baz=87	87.75	38	⇑P	P	07 43 16.2 -0.4
B12A	Libby baz=87	87.86	36	⇑P	P	07 43 16.9 -0.2
E14A	Clinton baz=87	87.95	39	⇑P	P	07 43 17.2 -0.3
REDW	Red Top Meadow	87.99	42	eP	P	07 43 17.1 -0.6
C13A	Hot Springs baz=87	88.00	37	⇑P	P	07 43 16.6 -1.2
A12A	Yaak River Ran baz=87	88.08	36	⇑P	P	07 43 18.0 -0.2
SNOW	Snow King Moun	88.10	42	eP	P	07 43 18.4 +0.1
IMW	Indian Meadow	88.20	42	eP	P	07 43 18.2 -0.5
MOOW	Moose Ponds	88.25	42	eP	P	07 43 19.0 +0.1
D14A	Greenough baz=87	88.29	38	⇓P	P	07 43 18.3 -0.9
QLMT	Earthquake Lak	88.37	41	eP	P	07 43 19.9 +0.4
C14A	Swan Lake baz=87	88.52	37	⇑P	P	07 43 19.8 -0.4
PDAR	Pinedale Array 2.0nm,0.6s,mb4.1,baz=225,slow=2.7,SNR=18	88.53	43	P	P	07 43 19.6 -0.7
DAWY	Dawson	88.93	16	eP	P	07 43 20.8 -1.3
MKAR	Makanchi Array 0.5nm,0.6s,baz=229,slow=1.1,SNR=7.7	110.88	314	PKiKP	PKiKP	07 48 55.0 -2.4
MKAR	Makanchi Array	110.88	314	PKPdf	PKiKP	07 48 55.0 -2.4
ARCES	ARCESS Array B 3.4nm,0.8s,baz=320,slow=1.1,SNR=10	128.41	350	PKP	PKPdf	07 49 29.0 -1.9
JOF	Joensuu	132.65	342	epkp	PKPdf	07 49 34.0 -4.9
FINES	FINESS Array B 1.4nm,0.7s,baz=126,slow=4.0,SNR=6.4	135.28	344	PKP	PKPdf	07 49 40.1 -3.8
AKASG	Malin Array Be 1.6nm,0.3s,baz=43,slow=4.1,SNR=5.8	142.58	331	PKhKP		07 49 52.3
BRTR	Keskin Array B 1.6nm,0.6s,baz=141,slow=4.7,SNR=8.5	146.53	313	PKPbc	PKPbc	07 50 05.4 -0.9
BURAR	Bucovina Array	146.63	331	⇑iP	PKPdf	07 50 06.2 +2.1
STHS	Stebnicka Huta	146.85	337	ePKP	PKPdf	07 50 00.8 -3.7
KOLS	Kolonicke sedl	146.86	335	ePKP	PKPdf	07 50 06.5 +2.0
CRVS	Cervenica-Dubn	147.20	336	ePKP	PKPdf	07 50 06.9 +1.9
CLL	Collm	147.56	347	ePKPbc	PKPbc	07 50 07.5 -1.6
CLL	Collm comp=Z,13nm,0.6s	147.56	347	iPKPbc	PKPbc	07 50 08.0 -1.1
CLL				⇑iPKiKP	PKiKP	07 50 11.8 +1.1
	comp=Z,9.0nm,1.1s					
UPC	Upice	147.58	343	ePKP	PKPdf	07 50 08.1 +2.4
DPC	Dobruska-Polom	147.64	343	ePKP	PKPdf	07 50 08.7 +2.9
DPC				ex	x	07 50 12.9
BRG	Berggiesshubel	147.76	346	ePKPbc	PKPbc	07 50 08.1 -1.5
MLR	Muntele Rosu comp=Z,2.2nm,0.5s,baz=335,slow=9.7,SNR=7.0	147.81	328	PKPbc	PKPbc	07 50 08.7 -1.1
MLR	Muntele Rosu	147.81	328	⇑iP	PKPdf	07 50 09.5 +3.4
FBE	Freiberg	147.85	347	ePKPbc	PKPbc	07 50 08.3 -1.5
KECS	Kecovo	147.91	337	ePKP	PKPdf	07 50 08.1 +1.9
PVCC	Panska Ves	147.93	345	ePKP	PKPdf	07 50 09.1 +2.8
PRU	Pruhonice	148.44	345	ePKP	PKPdf	07 50 10.3 +3.2
MOX	Moxa	148.47	348	ePKPbc	PKPbc	07 50 10.0 -1.4
VYHS	Vyhne	148.49	338	ePKP	PKPdf	07 50 10.3 +3.1
TANN	Tannenbergstha	148.52	347	ePKPbc	PKPbc	07 50 10.5 -1.0
WERD	Werda	148.52	347	ePKPbc	PKPbc	07 50 10.4 -1.1
GUNZ	Gunzen	148.59	347	ePKPbc	PKPbc	07 50 10.3 -1.4
WERN	Wernitzgruen	148.66	347	ePKPbc	PKPbc	07 50 11.0 -0.8
MANZ	Manzenberg	149.00	347	ePKPbc	PKPbc	07 50 11.9 -0.8
ROTZ	Rotzenmuhle	149.18	347	ePKPbc	PKPbc	07 50 12.0 -1.1
GRA1	Grafenberg Arr	149.45	348	ePKPbc	PKPbc	07 50 12.9 -0.9
GRF	Grafenberg Arr	149.45	348	ePKPbc	PKPbc	07 50 12.9 -0.9
KHC	Kasperske Hory	149.47	345	ePKP	PKPdf	07 50 12.9 +4.2
KHC				ex	x	07 50 20.7
GEC2	GERESS Array S	149.71	345	ePKPbc	PKPbc	07 50 13.1 -1.3
GERES	GERESS Array B comp=Z,2.9nm,0.8s,baz=45,slow=2.1,SNR=16	149.71	345	PKPbc	PKPbc	07 50 13.2 -1.2
BZS	Buzias	149.76	332	⇑iP	PKPdf	07 50 10.9 +1.7
GIVF	Givet comp=Z,22nm,0.8s	149.85	356	ePKP1	PKPbc	07 50 13.0 -1.7
BAIF	Baives comp=Z,12nm,0.8s	149.93	357	ePKP1	PKPbc	07 50 13.3 -1.6
PKSM	Moragy	150.50	336	⇑iP	PKPdf	07 50 15.0 +4.7
FLN	La Foliniere comp=Z,6.4nm,0.4s	151.20	4	ePKP1	PKPbc	07 50 15.6 -2.2
CDF	Champ du Feu comp=Z,6.1nm,0.7s	151.31	353	ePKP1	PKPbc	07 50 16.3 -1.8
ROSF	Rostrenen	151.37	7	ePKP1	PKPbc	07 50 15.7 -2.5
LDF	La Druitiere comp=Z,4.2nm,0.3s	151.38	3	ePKP1	PKPbc	07 50 15.9 -2.4
MEZF	Maizieres J'vi	151.43	356	ePKP1	PKPbc	07 50 16.4 -2.0
SGMF	Saint Gilles comp=Z,10nm,0.7s	151.53	6	ePKP1	PKPbc	07 50 16.2 -2.4
GRR	Gorron comp=Z,5.9nm,0.4s	151.55	4	ePKP1	PKPbc	07 50 16.5 -2.1
QUIF	Quistinic	151.79	7	ePKP1	PKPbc	07 50 17.0 -2.2
PDKS	Podkum	151.88	341	iPKPbc	PKPbc	07 50 17.9 -1.5
VOJS	Vojsko	152.25	342	iPKPbc	PKPbc	07 50 18.4 -1.8
CEY	Cerknica	152.35	341	iPKPbc	PKPbc	07 50 18.9 -1.5
LOR	Lormes	152.73	357	ePKP1	PKPbc	07 50 19.4 -1.8
SSF	Saint Saulge comp=Z,4.3nm,0.8s	152.95	358	ePKP1	PKPbc	07 50 20.7 -1.0
MFF	Saint Martin d comp=Z,1.7nm,0.5s	153.37	3	ePKP1	PKPbc	07 50 20.4 -2.2

IDC ***29*** *07:44:19.5±0.8, 1086N×8557W, h0km, mb4.6/10, mb1 4.8/11, mb1mx4.6/18, mbtmp4.6/11, ML4.1/1, MS4.2/15, Ms1 4.2/15, ms1mx4.0/23, Error ellipse: s-maj=30.7km s-min=18.0km az=49.0*

CASC ***29*** *07:44:22.8±2.0, 1040N×8620W, h19km±7km, MD3.8, ML4.1, mb4.9(NEIC)*

NEIC ***29*** *07:44:27.8±0.7, 1074N×8588W, h60km±6km, mb4.9/58, Error ellipse: s-maj=8.7km s-min=5.1km az=210.0*

NEIC Felt at Coco and Liberia.

ISCJB ***29*** *07:44:27.4±0.4, 1081N±005×8577W±004, h70km±3km, mb4.8/65, Error ellipse: s-maj=9.6km s-min=3.8km az=80.7*

GCMT ***29*** *07:44:27.8±0.4, 1030N×8626W, h30km±1km, MW5.0/44, Moment Tensor Solution. s34,c48; s44,c60; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.87±.18; Mθθ-1.93±.12; Mφφ-0.94±.15; Mrθ1.57±.13; Mrφ1.42±.08; Mθφ-0.94±.20; Best double couple: M0 3.43300×10¹⁶ NP1:φ308.00000°, δ29.00000°, λ94.00000°. NP2: φ123.00000°, δ61.00000°, λ88.00000°. Principal axes: T 3.4000, Plg74.0000°, Azm27.0000°; N 0.0570, Plg2.0000°, Azm124.0000°; P -3.4660, Plg16.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***29*** *07:44:27.8, 1070N×8590W, h59km, mB5.1, Ms5.2, Msz4.8*

ISC 29 07:44:28.3±0.3, 1083N±005×8574W±004, h60km±3km, h21km±1.9km; pP-P, n454, σ0.93/412, mb4.8/65, 99C-77D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.46	347	⇓eP	Pn	07 44 40.2	+0.3
LIM1	Limonal	0.50	105	⇑iP	Pn	07 44 40.3	0.0
LIM1				iS	Sn	07 44 54.2	+5.2
MADN	Villa Maderas	0.61	20	⇑iP	Pn	07 44 44.8	+3.3
VCR	Vista de Mar	0.71	171	eP	Pn	07 44 34.7	-8.0
CONN	Concepcion	0.74	9	⇑iP	Pn	07 44 45.7	+2.7
VACR	Volcan Arenal	1.11	109	⇑eP	Pn	07 44 48.8	+1.0
FORC	Fortuna	1.11	109	⇑eP	Pn	07 44 48.7	+0.8
JCR	Jicaral	1.16	148	eP	Pn	07 44 43.1	-5.3
TICN	Ticuantepe	1.29	338	⇓eP	Pn	07 44 50.9	+0.7
CAO	Cobano	1.29	151	⇑eP	Pn	07 44 44.0	-6.1
MGAN	Managua	1.40	339	eP	Pn	07 44 51.2	-0.4
MGAN			⇑	eP		07 44 51.5	
MGAN			⇑	eP		07 44 52.0	
MGAN				eP		07 44 52.3	
EPA	Esparza	1.41	127	⇑eP	Pn	07 44 49.8	-1.9
XAVN	Gruta Xavier	1.43	336	⇑eP	Pn	07 44 52.1	+0.1
CGA2	Cerro Gallo 2	1.50	123	eP	Pn	07 44 52.0	-1.0
APYN	Apoyeque	1.52	337	⇑eP	Pn	07 44 53.5	+0.3
COPN	Copaltepe	1.58	328	⇓eP	Pn	07 44 52.9	-1.1
POA2	Poas 2	1.60	114	⇑eP	Pn	07 44 55.2	+0.8
PRS1	Puriscal	1.64	121	eP	Pn	07 44 53.6	-1.3
MOMJ	Momotombo	1.75	334	⇑eP	Pn	07 44 56.2	-0.1
MIRN	Miramar	1.86	329	⇑eP	Pn	07 44 57.4	-0.5
LAJ	Bijagual	1.86	121	eP	Pn	07 44 51.3	-6.6
SJS	Escuela Geolog	1.88	118	eP	Pn	07 44 58.4	+0.3
CNGN	Cerro Negro	1.90	331	⇑eP	Pn	07 44 57.5	-1.0
CNGN				eS	Sn	07 45 25.0	+3.6
LEON	Leon	1.94	324	⇑eP	Pn	07 44 57.2	-1.7
OCM	Ochomogo	1.98	118	⇑eP	Pn	07 44 59.3	-0.3
IRZ2	Volcan Irazu 2	2.01	115	⇑eP	Pn	07 45 00.4	+0.6
TELN	Telica	2.06	329	⇓eP	Pn	07 45 00.2	-0.3
VTU	Volcan Turrial	2.11	112	⇓eP	Pn	07 45 02.6	+1.3
CRIN	San Cristobal	2.25	326	eP	Pn	07 45 03.0	-0.2
CRIN				eS	Sn	07 45 30.6	+0.7
LIO	Limon	2.79	107	eP	Pn	07 45 12.5	+2.0
CNCH	Conchagua	3.18	320	eP	x	07 45 14.3	
CTCR	Cotoan	3.51	123	eP	Pn	07 45 19.9	-0.5
TGUH	Tegucigalpa,Un	3.54	335	ePn	Pn	07 45 20.5	-0.2
BLLM	Bellamira	3.56	317	eP	x	07 45 19.1	
BLLM				eS	x	07 46 00.4	
SNVI	San Vicente	4.10	313	eP	x	07 45 26.3	
LCBS	La Ceiba	4.23	312	eP	x	07 45 27.4	
LFRS	El Faro	4.27	311	eP	x	07 45 27.9	
LBRS	Las Brisas	4.33	312	eP	x	07 45 29.4	
RBDL	Robledal	5.05	311	eP	x	07 45 40.3	
RBDL				eS	x	07 46 34.1	
CCIG	Comitan	8.24	312	iP	Pn	07 46 24.3	-0.9
TEIG	Tepich	9.65	346	ePn	Pn	07 46 49.0	+4.5
CMIG	Matias Romero 1.3nm,0.3s,baz=106,slow=12,SNR=16	10.83	306	Pn	Pn	07 46 57.4	-3.2
OXX	Oaxaca	12.33	301	eP	Pn	07 47 20.0	-1.0
VHO	Vista Hermosa	12.34	301	iP	Pn	07 47 19.0	-2.0
MGV	Manicaragua	12.50	25	eP	Pn	07 47 20.7	-2.6
ROSC	El Rosal	12.77	117	Pn	Pn	07 47 32.7	+5.8
ROSC	0.1nm,0.3s,baz=263,slow=18,SNR=4.9			LR	LR	07 51 47.8	
ROSC	comp=Z,676nm,20.8s,baz=338,slow=36			PcP	PcP	07 53 00.8	+1.9
OTAV	Otavalo	12.78	145	Pn	Pn	07 47 26.8	-0.4
HLGC	Holguin	13.66	42	eP	Pn	07 47 46.6	+7.5
PPM	Popocatepetl	14.89	305	iP	Pn	07 47 53.7	-1.6
SDV	Santo Domingo 0.3nm,0.3s,baz=299,slow=7.4,SNR=7.0	15.01	96	Pn	Pn	07 48 01.0	+4.2
SDV				PcP	PcP	07 53 02.9	+1.0
	0.4nm,0.3s,baz=336,slow=2.7,SNR=6.6						
SDV	Santo Domingo 16nm,0.9s	15.01	96	eP	Pn	07 48 00.5	+3.7
IIO	Organos	15.25	306	iP	Pn	07 47 58.2	-1.7
PLIG	Platanillo	15.28	301	iP	Pn	07 47 58.7	-1.6
ATAH	Atahualpa comp=Z,2μm,19.5s,baz=162,slow=34	19.17	157	LR	LR	07 55 11.2	
SFJM	Santa Fe	19.20	302	eP	Pn	07 48 40.0	-8.7
ZAIG	Zacatecas	19.98	309	iP	Pn	07 48 56.5	-1.4
CPD	Cerro la Pandu	20.48	67	eP	P	07 49 03.5	+2.4
PCRV	Puerto La Cruz 38nm,0.7s,baz=201,slow=3.8,SNR=19	20.76	90	P	P	07 49 07.4	+3.2
NATX	Nacogdoches	22.40	340	eP	P	07 49 21.9	+0.3
COW	Cow Castle Cre	22.91	11	eP	P	07 49 30.4	+3.3
JCT	Junction City 32nm,0.8s,mb4.8	23.52	328	eP	P	07 49 31.6	-1.3
JSC	Jenkinsville	23.70	9	eP	P	07 49 37.0	+2.4
OXF	Oxford 163nm,0.9s,mb5.5	23.81	352	eP	P	07 49 35.3	-0.2
PLAL	Pickwick Lake	24.13	355	eP	P	07 49 38.8	+0.2
SWET	Sewanee	24.27	360	eP	P	07 49 41.1	+1.3
NNA	Nana comp=Z,336nm,19.5s,baz=240,slow=34	24.33	158	LR	LR	07 58 10.0	
CPCT	Cooper Cave	24.53	2	eP	P	07 49 43.5	+1.4
UALR	University of	24.58	347	eP	P	07 49 42.3	-0.3
TKL	Tuckaleechee C 20nm,0.9s,mb4.7,baz=183,slow=13,SNR=17	24.78	4	P	P	07 49 45.3	+0.9
TKL				LR	LR	08 00 00.1	
	comp=Z,493nm,18.1s,baz=270,slow=38						
TXAR	Lajitas Array 32nm,0.9s,mb4.9,baz=140,slow=8.4,SNR=238	24.88	320	P	P	07 49 45.4	0.0
TXAR				PcP	PcP	07 53 21.3	+1.5
	5.1nm,0.8s,baz=150,slow=4.3,SNR=13						
TXAR				ScP	ScP	07 57 02.5	+9.0
	0.4nm,0.7s,baz=134,slow=8.1,SNR=4.4						
TXAR				LR	LR	08 01 09.0	
	comp=Z,194nm,21.1s,baz=200,slow=40						
HBAR	Harrisburg	25.01	350	eP	P	07 49 46.6	+0.1
WMOK	Wichita Mounta	26.60	335	eP	P	07 50 01.4	+0.4
ELN	Prospectdale	26.66	9	eP	P	07 50 03.4	+1.9
BLA	Blacksburg 25nm,0.8s,mb4.8	26.70	9	eP	P	07 50 04.6	+2.8
LPIG	La Paz comp=Z,402nm,20.4s,baz=117,slow=38	26.83	303	LR	LR	08 01 26.4	
SIUC	Southern Illin	26.95	354	eP	P	07 50 04.3	+0.3
USIN	University of 25nm,0.5s,mb5.0	27.07	357	eP	P	07 50 05.4	+0.3
WCI	Wyandotte Cave 52nm,0.8s,mb5.1	27.28	359	eP	P	07 50 07.3	+0.3
GDL2	Guadalupe Moun	27.34	324	eP	P	07 50 08.2	+0.7
MNTX	Cornudas Mount 6.3nm,0.8s,mb4.3	27.59	322	eP	P	07 50 09.5	-0.3
AMTX	Amarillo 18nm,0.6s,mb4.9	28.00	331	eP	P	07 50 13.0	-0.4
BLO	Bloomington 42nm,0.8s,mb5.1	28.23	359	eP	P	07 50 15.9	+0.4
KSU1	Kansas State U 31nm,0.9s,mb5.0	29.77	343	eP	P	07 50 27.8	-1.4
BNM	Barren Site	30.06	324	eP	P	07 50 31.9	+0.2
LPM	Los Pinos Moun	30.17	324	eP	P	07 50 32.9	+0.2
LENM	Lemitar	30.27	323	eP	P	07 50 33.0	-0.5
SSPA	Standing Stone 18nm,0.8s,mb4.8	30.48	12	eP	P	07 50 37.6	+2.2
LAZ	Ladron	30.53	324	eP	P	07 50 36.3	+0.4
ANMO	Albuquerque 10nm,0.8s,mb4.7	30.54	325	eP	P	07 50 36.2	+0.3
ANMO				e		07 50 43.6	
TUC	Tucson 5.9nm,1.0s,mb4.4	31.46	317	eP	P	07 50 43.5	-0.5
TUC				e		07 53 37.2	
SCIA	State Center 13nm,0.4s,mb5.1	31.64	349	eP	P	07 50 44.3	-1.4
SDCO	Great Sand Dun 18nm,0.7s,mb5.0	32.14	330	eP	P	07 50 50.1	+0.1
JFWS	Jewell Farm 36nm,0.8s,mb5.3	32.20	354	eP	P	07 50 49.4	-1.1
116A	Eloy baz=32,SNR=8.4	32.23	316	⇓P	P	07 50 51.2	+0.4
115A	Sonoran Desert baz=33,SNR=5.5	32.67	316	⇑P	P	07 50 55.3	+0.6
MVCO	Mesa Verde 10nm,0.8s,mb4.8	33.31	326	eP	P	07 51 00.1	-0.2
MVCO				epP	pP	07 51 07.8	-7.4
MVCO	Mesa Verde baz=34,SNR=9.5	33.31	326	⇓P	P	07 50 59.9	-0.3
Z14A	Wintersburg baz=34,SNR=5.3	33.55	316	⇑P	P	07 51 02.9	+0.6
X15A	Humboldt baz=34,SNR=11	33.74	318	P	P	07 51 04.9	+0.9
WUAZ	Wupatki 17nm,1.2s,mb4.9	33.84	321	eP	P	07 51 05.8	+0.9
WUAZ	Wupatki baz=34,SNR=7.5	33.84	321	⇓P	P	07 51 05.7	+0.8
SMCO	Snowmass 5.6nm,0.8s,mb4.5	33.98	330	eP	P	07 51 05.7	-0.3
PV01	Paradox Valley	34.02	327	eP	P	07 51 07.4	+1.0
X14A	Yava baz=34,SNR=6.9	34.16	318	⇓P	P	07 51 08.5	+0.8
W15A	Williams baz=34	34.19	319	⇑P	P	07 51 09.4	+1.5
Y13A	Salome baz=34,SNR=14	34.41	316	⇓P	P	07 51 10.8	+1.1
PV10	Paradox Valley	34.45	327	eP	P	07 51 09.5	-0.6
GLA	Glamis	34.67	314	eP	P	07 51 13.2	+1.2
GLA	Glamis baz=35,SNR=11	34.67	314	⇑P	P	07 51 12.8	+0.7
W14A	Seligman baz=35,SNR=10	34.74	319	⇓P	P	07 51 13.5	+0.9
Y12C	Blythe baz=35,SNR=6.8	34.85	315	P	P	07 51 14.1	+0.5
X13A	Yucca baz=35,SNR=8.9	34.86	317	⇑P	P	07 51 14.4	+0.7
PHWY	Pilot Hill	34.96	334	eP	P	07 51 15.2	+0.6
PHWY				epP	pP	07 51 21.2	-8.3
W13A	Hualapai Mount baz=35,SNR=8.7	35.20	318	⇓P	P	07 51 17.8	+1.3
SWSC	Sam W. Stewart baz=35,SNR=6.2	35.30	313	⇓P	P	07 51 18.0	+0.5
DVTC	Desert V Tower baz=36,SNR=5.8	35.38	313	⇑P	P	07 51 18.7	+0.6
BC3	Big Chuckw Mtn baz=36,SNR=15	35.44	315	⇓P	P	07 51 19.5	+0.8
IRM	Iron Mountain baz=36,SNR=11	35.51	315	⇑P	P	07 51 19.9	+0.6
MONP	Monument Peak baz=36	35.73	313	⇑P	P	07 51 21.6	+0.5
SRU	San Rafael 10nm,0.6s,mb4.9	35.78	326	eP	P	07 51 21.5	-0.1
SRU				e		07 53 49.0	
W12A	Cal Nev Ari baz=36,SNR=19	35.97	317

baz=37,SNR=5.0
GSC Goldstone 37.27 316 eP P 07 51 35.4 +1.1
GSC e 07 53 54.2
GSC Goldstone 37.27 316 ⇓P P 07 51 34.2 -0.1
baz=37
BFSC Mount Baldy St 37.30 314 ⇑P P 07 51 34.5 -0.1
baz=37,SNR=7.5
EYMN Ely 37.31 354 eP P 07 51 32.7 -1.9
14nm,1.0s,mb4.7
CIS Catalina Islan 37.42 312 ⇓P P 07 51 36.1 +0.5
baz=38
CTU Camp Tracy 37.57 327 eP P 07 51 37.2 +0.4
9.8nm,0.8s,mb4.6
U10A Ash Meadows, A 37.58 318 ⇑P P 07 51 37.4 +0.5
baz=38,SNR=16
MWC Mount Wilson 37.58 313 eP P 07 51 38.1 +1.2
TCUT Toone Canyon 37.69 328 eP P 07 51 38.1 +0.3
TCUT e 07 53 55.4
DECC Green Verdugo 37.79 313 ⇓P P 07 51 39.2 +0.5
baz=38
DUG Dugway 37.80 325 eP P 07 51 39.4 +0.6
6.4nm,1.0s,mb4.3
DUG e 07 53 55.9
DUG Dugway 37.80 325 ⇑P P 07 51 38.4 -0.4
baz=38,SNR=6.6
EDW2 Edwards Air Fo 37.87 314 ⇓P P 07 51 39.3 0.0
baz=38,SNR=9.5
FURC Furnace Creek, 37.96 317 ⇓P P 07 51 40.5 +0.4
baz=38,SNR=21
LRMC Laurel Mountai 37.98 315 ⇓P P 07 51 40.7 +0.5
baz=38,SNR=7.8
BW06 Boulder Array 37.98 331 eP P 07 51 39.4 -0.9
BW06 ePcP PcP 07 53 55.6 +0.7
PDAR Pinedale Array 37.98 331 P P 07 51 39.4 -0.9
6.3nm,0.7s,mb4.5,baz=128,slow=9.2,SNR=58
PDAR PcP PcP 07 53 55.2 +0.4
3.6nm,0.8s,baz=138,slow=5.0,SNR=12
PDAR LR LR 08 10 15.9
comp=Z,332nm,19.7s,baz=135,slow=41
HWUT Hardware Ranch 38.12 328 eP P 07 51 41.4 0.0
15nm,0.4s,mb5.1
MPMC Manual Prospec 38.15 316 ⇑P P 07 51 42.1 +0.4
baz=38,SNR=16
Q12A Willow Creek R 38.21 322 ⇑P P 07 51 42.1 -0.2
baz=38
OSI Osito Adit 38.25 314 ⇓P P 07 51 42.9 +0.3
baz=38
AGMN Agassiz Refuge 38.30 349 eP P 07 51 41.2 -1.7
38nm,1.0s,mb5.1
DAC Darwin (Calif) 38.34 317 eP P 07 51 44.4 +1.1
12nm,1.2s,mb4.5
SPUT South Promonto 38.38 327 eP P 07 51 41.4 -2.2
SPUT e 07 53 55.3
BGU Big Grassy Mou 38.42 326 eP P 07 51 43.9 -0.1
P12A McGill 38.53 323 ⇑P P 07 51 45.2 +0.3
baz=39
ARVC Arvin 38.59 314 P P 07 51 46.6 +1.2
baz=39,SNR=9.5
Q11A Duckwater 38.59 321 ⇑P P 07 51 46.3 +0.9
baz=39,SNR=6.6
GRAC Grapevine Rang 38.59 318 ⇓P P 07 51 46.3 +0.8
baz=39,SNR=20
ISA Isabella 38.62 315 eP P 07 51 47.0 +1.4
ISA ePcP PcP 07 53 58.3 +1.4
ISA Isabella 38.62 315 ⇑P P 07 51 46.2 +0.6
baz=39,SNR=7.9
R10A Warm Springs 38.66 320 ⇑P P 07 51 46.3 +0.4
baz=39
CWC Cottonwood Cre 38.76 316 ⇓P P 07 51 47.7 +0.9
baz=39
HVU Hansel Valley 38.88 327 eP P 07 51 48.0 +0.2
S09A Goldfield 38.91 319 ⇑P P 07 51 48.5 +0.4
baz=39,SNR=11
O12A Currie 38.95 324 ⇓P P 07 51 48.5 +0.1
baz=39,SNR=15
N13A Wendover, West 39.03 325 P P 07 51 49.1 +0.1
baz=39,SNR=38
REDW Red Top Meadow 39.05 331 eP P 07 51 49.1 -0.2
39nm,0.8s,mb5.2
REDW epP pP 07 51 55.8 -8.7
SNOW Snow King Moun 39.08 331 eP P 07 51 49.5 0.0
40nm,1.0s,mb5.1
R09A Tonopah 39.11 320 ⇓P P 07 51 50.2 +0.4
baz=39,SNR=18
LOHW Long Hollow 39.12 331 eP P 07 51 49.5 -0.3
9.0nm,0.6s,mb4.7
VES Vestal, Richgr 39.13 315 ⇑P P 07 51 50.7 +0.8
baz=39,SNR=15
PKM Peak Mountain 39.18 313 ⇓P P 07 51 51.0 +0.7
baz=39,SNR=6.6
TIN Tinemaha 39.20 317 ⇑P P 07 51 50.7 +0.2
baz=39
TPAW Teton Pass 39.20 331 eP P 07 51 50.3 -0.2
31nm,1.0s,mb5.0
RRI2 Red Ridge 39.27 330 eP P 07 51 51.6 +0.5
MOOW Moose Ponds 39.29 331 eP P 07 51 50.8 -0.5
8.6nm,0.8s,mb4.5
M13A Montello 39.35 326 ⇑P P 07 51 51.2 -0.5
baz=40,SNR=12
DCID1 Drake Creek 39.39 331 eP P 07 51 51.6 -0.5
O11A Cowboy Ranch, 39.40 323 P P 07 51 52.7 +0.6
baz=40,SNR=8.1
S08C White Mtn Res 39.40 318 P P 07 51 53.5 +1.3
baz=40,SNR=34
RCTC Rector, Farmer 39.48 315 P P 07 51 54.1 +1.3
baz=40,SNR=8.1
IMW Indian Meadow 39.50 331 eP P 07 51 52.5 -0.5
10nm,0.7s,mb4.7
IMW e 07 54 01.0
N12A Clover Valley, 39.50 324 P P 07 51 53.4 +0.3
baz=40,SNR=22
SMMC Simmler 39.51 314 ⇑P P 07 51 54.2 +1.1
baz=40,SNR=8.5
FLWY Flagg Ranch 39.53 331 eP P 07 51 53.0 -0.2
21nm,0.9s,mb4.9
HELL Mitchell Peak, 39.53 316 P P 07 51 54.4 +1.2
baz=40,SNR=21
Q09A Carvers 39.53 320 ⇓P P 07 51 54.4 +1.2
baz=40,SNR=5.5
P10A Eureka 39.56 322 ⇑P P 07 51 54.3 +0.8
baz=40
MTUM Tungsten Hills 39.58 317 eP P 07 51 55.1 +1.4
V05C Boulder Hill, 39.72 314 ⇓P P 07 51 56.0 +1.2
baz=40
LAO LASA Array 39.74 338 eP P 07 51 54.1 -0.8
29nm,1.0s,mb5.0
LAO epP pP 07 52 00.8 -9.4
M12A Wells 39.80 325 ⇑P P 07 51 55.7 +0.1
baz=40,SNR=15
PTRM Twissleman Ran 39.83 314 eP P 07 51 56.2 +0.5
R08A Mina 39.84 319 ⇑P P 07 51 57.1 +1.3
baz=40,SNR=12
YFT Old Faithful 39.87 332 eP P 07 51 57.7 +1.7
YFT e 07 54 03.8
N11A Elko Archery C 39.88 324 P P 07 51 56.6 +0.4
baz=40,SNR=23
MLAC Mammoth Lakes 39.92 317 ⇑P P 07 51 58.1 +1.6
baz=40
P09A Austin 39.94 321 ⇑P P 07 51 57.6 +1.0
baz=40
YNR Norris Junctio 40.00 332 eP P 07 51 58.5 +1.3
O10A Cortez Mining, 40.00 323 ⇓P P 07 51 57.9 +0.7
baz=40,SNR=6.1
NVAR Mina Array Bea 40.01 319 P P 07 51 58.1 +0.9
18nm,0.8s,mb4.9,baz=134,slow=6.1,SNR=142
NVAR PcP PcP 07 54 02.1 +0.9
8.3nm,0.7s,baz=122,slow=4.4,SNR=23
Q08A Gabbs 40.02 320 ⇓P P 07 51 58.2 +0.9
baz=40
KCC Kaiser Creek 40.07 317 ⇑P P 07 51 58.7 +0.9
baz=40,SNR=9.9
YMR Madison River 40.09 332 eP P 07 51 58.2 +0.3
15nm,0.9s,mb4.7
U05C Westside ANR, 40.11 315 ⇑P P 07 51 58.3 +0.3
baz=40
T06C Millerton Lake 40.17 316 P P 07 51 58.4 -0.1
baz=40,SNR=6.6
ULM Lac du Bonnet 40.18 350 P P 07 51 56.4 -2.3
16nm,0.9s,mb4.8,baz=173,slow=9.3,SNR=18
ULM PcP PcP 07 54 01.9 +0.1
4.3nm,0.7s,baz=154,slow=16,SNR=3.5
ULM LR LR 08 10 18.5
comp=Z,216nm,19.1s,baz=137,slow=39
ULM Lac du Bonnet 40.18 350 eP P 07 51 56.2 -2.4
23nm,1.0s,mb4.9
PKD Parkfield 40.21 314 ⇑P P 07 51 59.3 +0.5
baz=40

N10A Dunphy 40.27 323 ⇓P P 07 51 59.2 -0.2
baz=40
V04C Ramage Ranch, 40.29 314 ⇑P P 07 52 00.8 +1.3
baz=40
R07C Lee Vining 40.31 318 P P 07 52 01.4 +1.8
baz=40,SNR=6.1
M11A Holland Ranch, 40.31 324 ⇓P P 07 51 59.5 -0.2
baz=40
O09A Fish Creek Ran 40.34 322 P P 07 52 00.6 +0.6
baz=40,SNR=16
GCMT Greycliff 40.38 334 eP P 07 51 59.8 -0.5
QLMT Earthquake Lak 40.43 332 eP P 07 52 02.1 +1.3
DGMT Dagmar 40.58 341 eP P 07 52 01.3 -0.5
56nm,0.9s,mb5.2
DGMT epP pP 07 52 07.9 -9.2
U04C Hernandez Rese 40.58 315 P P 07 52 02.9 +1.0
baz=41,SNR=8.1
P08A Dixie Valley 40.60 321 ⇑P P 07 52 02.9 +0.7
baz=41
Q07A Schurz 40.63 319 P P 07 52 04.0 +1.7
baz=41,SNR=7.7
V03C Hunter Liggett 40.73 314 ⇑P P 07 52 03.8 +0.6
baz=41
S05C Merced 40.77 316 ⇑P P 07 52 03.9 +0.4
baz=41
LRV Little Rabbit 40.78 315 eP P 07 52 03.9 +0.4
LRV epP pP 07 52 11.6 -7.2
WAKR Walker 40.79 318 eP P 07 52 05.2 +1.6
M10A I.L. Ranch, Tu 40.80 324 ⇑P P 07 52 04.3 +0.6
baz=41
R06C Coleville 40.81 318 P P 07 52 05.5 +1.7
baz=41,SNR=33
N09A Rock Creek Ran 40.96 322 P P 07 52 05.3 +0.3
baz=41,SNR=28
HLID Hailey 40.99 328 eP P 07 52 05.1 -0.2
6.9nm,0.6s,mb4.5
HLID Hailey 40.99 328 P P 07 52 05.9 +0.6
baz=41,SNR=22
P07A Fallon 41.02 320 ⇓P P 07 52 06.0 +0.5
baz=41
MCMT McKenzie Canyo 41.11 330 eP P 07 52 06.4 +0.1
HAST UC Hastings Re 41.13 314 P P 07 52 07.1 +0.6
baz=41,SNR=6.1
BOZ Bozeman (W) 41.14 332 eP P 07 52 06.1 -0.5
10nm,0.8s,mb4.5
CMB Columbia Colle 41.17 317 eP P 07 52 07.5 +0.7
10nm,1.1s,mb4.4
CMB Columbia Colle 41.17 317 P P 07 52 07.4 +0.6
baz=41,SNR=10.0
SAO San Andreas Ge 41.24 315 eP P 07 52 09.0 +1.6
PACP Pacheco Peak 41.26 315 ⇑P P 07 52 08.0 +0.5
baz=41
M09A Marrel Ranch, 41.27 323 ⇓P P 07 52 07.4 -0.1
baz=41
N08A GE Springer Mi 41.28 322 ⇓P P 07 52 07.6 -0.2
baz=41
R05C Kirkwood Meado 41.32 318 ⇑P P 07 52 08.8 +0.8
baz=41,SNR=22
O07A Toulon 41.37 321 P P 07 52 08.4 0.0
baz=42,SNR=14
DLMT Dillon 41.38 331 eP P 07 52 08.4 -0.1
32nm,1.2s,mb4.8
PAHR Pah Rah Range 41.43 320 eP P 07 52 09.6 +0.7
9.1nm,0.8s,mb4.5
PAHR e 07 54 07.4
WCN Washoe City 41.44 319 ⇑P P 07 52 09.7 +0.7
baz=42,SNR=12
S04C Ingram Canyon, 41.53 316 ⇓P P 07 52 10.2 +0.4
baz=42
LRM Limekiln Ridge 41.65 332 eP P 07 52 10.7 -0.1
R04C Big Horse Ranc 41.65 317 ⇑P P 07 52 11.5 +0.8
baz=42,SNR=14
P06A Stead Airport, 41.74 319 ⇓P P 07 52 11.9 +0.5
baz=42,SNR=10
L09A Wilkinson Ranc 41.77 324 ⇓P P 07 52 11.3 -0.3
baz=42,SNR=7.5
LAVA Lava Cap Winer 41.79 318 P P 07 52 12.8 +1.0
baz=42,SNR=12
N07B Gerlach 41.79 321 P P 07 52 12.2 +0.3
baz=42,SNR=6.3
M08A Happy Creek Ra 41.84 323 ⇑P P 07 52 11.7 -0.6
baz=42,SNR=6.1
WENL Wente Brothers 41.89 316 ⇓P P 07 52 14.2 +1.6
baz=42
O06A Flanigan 41.97 320 ⇓P P 07 52 13.7 +0.4
baz=42
P05C Yuba Gap, Truc 41.99 318 P P 07 52 14.3 +0.8
baz=42,SNR=17
HRY Holter Researc 42.04 333 eP P 07 52 13.1 -0.8
HRY epP pP 07 52 20.4 -8.9
F14A Wisdom 42.08 331 ⇓P P 07 52 13.7 -0.5
baz=42
BDM Black Diamond 42.13 316 ⇑P P 07 52 16.0 +1.4
baz=42
BEKR Beckwourth 42.14 319 P P 07 52 15.2 +0.4
baz=42,SNR=41
E15A Deer Lodge 42.19 332 P P 07 52 14.6 -0.5
baz=42,SNR=13
EGMT Eagleton 42.20 336 ⇑P P 07 52 13.8 -1.4
baz=42
K09A Rome 42.23 324 P P 07 52 15.5 +0.1
baz=42,SNR=79
Q04C Lincoln 42.25 317 ⇓P P 07 52 16.4 +0.8
baz=42,SNR=6.7
L08A Fields 42.27 323 P P 07 52 15.3 -0.5
baz=42,SNR=29
M07A Soldier Meadow 42.28 322 P P 07 52 15.1 -0.7
baz=42,SNR=13
N06A Buffalo Meadow 42.31 321 ⇓P P 07 52 16.1 0.0
baz=42,SNR=16
F13A Darby 42.52 330 ⇓P P 07 52 17.0 -0.9
baz=43
O05C Quincy 42.55 319 ⇓P P 07 52 18.8 +0.7
baz=43
Q03C Winters 42.57 317 ⇓P P 07 52 19.7 +1.5
baz=43
E14A Clinton 42.58 332 P P 07 52 17.7 -0.6
baz=43,SNR=10
OHCM Honcut 42.59 318 eP P 07 52 18.8 +0.4
OHCM epP pP 07 52 26.8 -6.9
OHCM e 07 54 11.1
WVOR Wild Horse Val 42.59 324 eP P 07 52 18.1 -0.2
25nm,0.8s,mb5.0
D15A Lincoln 42.60 333 ⇑P P 07 52 17.7 -0.7
baz=43,SNR=7.0
J09A Fry Pan Ranch, 42.66 325 P P 07 52 18.8 -0.1
baz=43,SNR=34
K08A Mann Creek Ran 42.69 324 ⇑P P 07 52 18.9 -0.2
baz=43
ORV Oroville 42.71 318 P P 07 52 20.6 +1.3
baz=43,SNR=33
SUTB Sutter Butte 42.73 318 P P 07 52 19.8 +0.3
baz=43,SNR=25
L07A Adell 42.75 323 P P 07 52 19.4 -0.3
baz=43,SNR=24
ELFS Eagle Lake Fie 42.80 320 ⇑P P 07 52 20.0 0.0
baz=43
CHMT Chamberlain Mo 42.84 332 eP P 07 52 19.7 -0.7
CHMT e 07 52 26.6
O04C Chester 42.86 319 ⇓P P 07 52 20.4 -0.2
baz=43,SNR=10
MCCM Marconi Confer 42.92 316 eP P 07 52 21.6 +0.6
24nm,0.7s,mb5.0
MCCM epP pP 07 52 28.9 -7.5
MCCM Marconi Confer 42.92 316 ⇑P P 07 52 21.4 +0.4
baz=43
NSHM Saint Helena R 42.92 316 eP P 07 52 22.4 +1.4
E13A Victor 42.93 331 ⇑P P 07 52 20.5 -0.6
baz=43
M06C Likely Place G 42.97 321 ⇓P P 07 52 21.0 -0.4
baz=43,SNR=6.0
MNRC McLaughlin Nat 42.99 317 ⇑P P 07 52 22.8 +1.2
baz=43,SNR=6.2
I09A Lost Marbles R 43.05 326 P P 07 52 21.4 -0.8
baz=43,SNR=23
J08A Circle Bar Ran 43.07 325 P P 07 52 21.4 -0.8
baz=43,SNR=24
D14A Greenough 43.08 332 ⇓P P 07 52 21.4 -1.0
baz=43
MSO Missoula 43.09 332 eP P 07 52 21.6 -0.9
6.6nm,0.9s,mb4.4
K07A Rock Creek Ran 43.10 323 P P 07 52 22.2 -0.3
baz=43,SNR=17
MOD Modoc 43.26 322 eP P 07 52 22.9 -0.9
MOD Modoc 43.26 322 P P 07 52 23.0 -0.8
baz=43,SNR=6.1
HATC Hat Creek Radi 43.37 320 ⇓P P 07 52 24.6 0.0

baz=44,SNR=7.3
H09A Durkee 43.46 327 ⇑P P 07 52 24.1 -1.3
baz=44,SNR=7.8
M05C Lookout 43.47 321 ⇑P P 07 52 24.8 -0.7
baz=44
I08A Drewsey 43.47 325 ⇑P P 07 52 25.0 -0.4
baz=44
D13A Huson 43.53 332 P P 07 52 25.1 -0.9
baz=44,SNR=9.3
GASB Alder Springs 43.56 318 ⇓P P 07 52 27.4 +1.1
baz=44,SNR=8.6
C14A Swan Lake 43.70 333 ⇑P P 07 52 27.0 -0.3
baz=44
K06A Valley Falls 43.76 323 ⇑P P 07 52 27.3 -0.5
baz=44,SNR=6.2
O02C Red Bluff 43.88 318 ⇑P P 07 52 27.7 -1.1
baz=44,SNR=10
P01C Double 8 Ranch 43.88 317 ⇑P P 07 52 29.4 +0.6
baz=44,SNR=5.6
H08A Prairie City 43.92 326 P P 07 52 27.9 -1.2
baz=44,SNR=7.8
WDC Whiskeytown Da 43.93 319 eP P 07 52 27.4 -1.8
WDC Whiskeytown Da 43.93 319 ⇓P P 07 52 27.8 -1.3
baz=44
J06A Christmas Vall 43.97 324 P P 07 52 28.2 -1.3
baz=44,SNR=7.6
C13A Hot Springs 44.01 332 ⇑P P 07 52 29.0 -0.8
baz=44
M03C McCloud 44.04 320 P P 07 52 29.9 -0.1
baz=44,SNR=8.0
K05A Summer Lake 44.10 322 ⇑P P 07 52 29.9 -0.6
baz=44
F10A Beach Ranch, E 44.10 328 P P 07 52 29.5 -1.1
baz=44,SNR=9.0
I07A Izee 44.11 325 P P 07 52 29.6 -1.0
baz=44,SNR=9.4
M04C Macdoel 44.14 321 P P 07 52 30.9 0.0
baz=44,SNR=9.5
KIPM Iron Peak 44.15 317 eP P 07 52 31.4 +0.5
KCPM Cahto Peak 44.16 317 eP P 07 52 31.6 +0.7
KCPM epP pP 07 52 38.7 -7.7
F09A S2 Ranch, Elgi 44.28 328 P P 07 52 31.1 -0.9
baz=44,SNR=8.7
L04A Klamath Falls 44.39 321 ⇑P P 07 52 32.2 -0.6
baz=44,SNR=9.9
I06A Prineville 44.42 324 ⇓P P 07 52 32.4 -0.8
baz=44,SNR=10
C12A Trout Creek 44.45 331 P P 07 52 32.6 -0.7
baz=45,SNR=8.3
H07A Lands Inn, Kim 44.46 325 P P 07 52 32.1 -1.3
baz=45,SNR=20
B13A Whitefish 44.47 333 ⇑P P 07 52 32.3 -1.2
baz=45,SNR=6.3
K04A Chilquin 44.54 322 P P 07 52 34.1 +0.1
baz=45,SNR=7.0
O01C Eel River Cons 44.54 318 ⇓P P 07 52 35.2 +1.2
baz=45
N02C Big Bar 44.55 319 ⇓P P 07 52 34.6 +0.4
baz=45,SNR=6.7
M02C Callahan 44.56 320 ⇓P P 07 52 33.3 -1.0
baz=45
G08A Pilot Rock 44.57 327 ⇓P P 07 52 33.6 -0.7
baz=45
J05A Fort Rock 44.63 323 ⇓P P 07 52 35.0 +0.3
baz=45
YBH Yreka Blue Hor 44.66 320 eP P 07 52 33.8 -1.2
11nm,1.1s,mb4.6
YBH Yreka Blue Hor 44.66 320 P P 07 52 33.8 -1.1
baz=45,SNR=7.4
WALA Waterton Lakes 44.74 334 eP P 07 52 35.1 -0.5
17nm,1.1s,mb4.8
F08A Pendleton 44.80 327 P P 07 52 35.5 -0.6
baz=45,SNR=5.9
KHMM Horse Mountain 44.86 319 eP P 07 52 36.2 -0.4
A13A Flathead Natio 44.86 333 ⇑P P 07 52 35.8 -0.8
baz=45,SNR=6.1
E09A Wood Farm, Sta 44.94 328 ⇑P P 07 52 36.5 -0.7
baz=45
H06A Lindquist Farm 44.98 325 ⇓P P 07 52 36.5 -1.0
baz=45
JCC Jacoby Creek 45.02 318 ⇑P P 07 52 38.8 +1.0
baz=45
B12A Libby 45.05 332 P P 07 52 37.8 -0.3
baz=45,SNR=6.5
HUMO Hull Mountain 45.29 321 ⇑P P 07 52 39.1 -0.9
baz=45
KRMB Red Mountain 45.31 319 eP P 07 52 40.8 +0.6
D09A Jones Farm, Ri 45.39 329 ⇑P P 07 52 39.4 -1.4
baz=46
B11A Sandpoint 45.39 332 P P 07 52 40.2 -0.5
baz=46,SNR=6.0
C10A Spilker Farm, 45.41 330 ⇓P P 07 52 40.0 -0.9
baz=46
A12A Yaak River Ran 45.42 333 ⇓P P 07 52 40.4 -0.6
baz=46
H05A Madras 45.43 324 ⇓P P 07 52 41.3 +0.2
baz=46
G06A Carlson Farm, 45.45 325 ⇓P P 07 52 41.0 -0.3
baz=46
F07A Phinny Hill Vi 45.48 327 ⇓P P 07 52 40.4 -1.1
baz=46
PRW Prosser 45.55 327 P P 07 52 41.1 -1.0
HAWA Hanford 45.58 327 eP P 07 52 41.1 -1.2
HAWA epP pP 07 52 47.6 -10
HBO Huckleberry Mo 45.60 323 P P 07 52 41.6 -0.8
NEW Newport 45.63 331 eP P 07 52 41.6 -1.1
2.8nm,0.7s,mb4.3
NEW e 07 54 20.1
D08A Wollman Farm, 45.70 328 P P 07 52 42.5 -0.8
baz=46,SNR=6.5
K02A Glendale 45.70 321 ⇑P P 07 52 43.3 0.0
baz=46
J03A Ideyld Park 45.72 322 ⇓P P 07 52 42.5 -0.9
baz=46
A11A Hall Mountain, 45.76 332 P P 07 52 43.5 -0.2
baz=46,SNR=8.7
GBB Gable Butte 45.77 328 P P 07 52 42.8 -1.0
G05A Wamic 45.84 325 ⇑P P 07 52 43.8 -0.6
baz=46,SNR=9.7
MDW Midway 45.84 327 P P 07 52 43.5 -0.9
E07A Sunnyside 45.86 327 P P 07 52 43.9 -0.6
baz=46,SNR=8.5
F06A Goldendale 45.86 326 ⇑P P 07 52 44.3 -0.2
baz=46,SNR=16
C09A Chrisman Ranch 45.87 330 ⇑P P 07 52 43.9 -0.7
baz=46
H04A Detroit Lake 46.00 324 ⇓P P 07 52 45.1 -0.5
baz=46,SNR=30
HOOD Mount Hood Mea 46.08 325 eP P 07 52 47.0 +0.8
J02A Umpqua 46.08 322 ⇑P P 07 52 45.5 -0.8
baz=46
CPUP Villa Florida 46.13 144 P P 07 52 44.5 -2.1
3.8nm,0.9s,mb4.3,baz=298,slow=6.9,SNR=6.4
CPUP LR LR 08 14 12.0
comp=Z,198nm,20.2s,baz=303,slow=39
CPUP Villa Florida 46.13 144 eP P 07 52 44.6 -2.0
17nm,0.9s,mb5.0
B09A Rice 46.23 330 P P 07 52 47.0 -0.4
baz=46,SNR=8.1
I03A Eugene 46.24 322 ⇑P P 07 52 46.6 -0.8
baz=46
SSOR Sweet Springs 46.26 324 P P 07 52 47.0 -0.6
KEBM Edson Butte 46.28 321 eP P 07 52 48.3 +0.5
F05A White Salmon 46.31 326 P P 07 52 48.2 +0.2
baz=46,SNR=11
A10A Northport 46.33 331 ⇓P P 07 52 46.9 -1.3
baz=46
SCHQ Schefferville 46.37 15 P P 07 52 47.7 -0.8
10.0nm,0.6s,mb4.9,baz=223,slow=7.5,SNR=20
SCHQ LR LR 08 12 49.5
comp=Z,315nm,18.2s,baz=282,slow=37
SCHQ Schefferville 46.37 15 eP P 07 52 48.0 -0.5
14nm,0.6s,mb5.1
G04A Mulino 46.48 324 P P 07 52 48.9 -0.4
baz=47,SNR=12
I02A Mapleton 46.59 322 ⇓P P 07 52 50.2 0.0
baz=47
COR Corvallis 46.60 323 eP P 07 52 49.5 -0.8
17nm,0.8s,mb5.0
H03A Soap Creek Ran 46.64 323 P P 07 52 50.1 -0.5
baz=47,SNR=5.3
WTV Waterville 46.65 329 P P 07 52 49.9 -0.8
D06A Cle Elum 46.79 327 ⇑P P 07 52 51.0 -0.8
baz=47
A09A Danville 46.82 331 P P 07 52 51.0 -1.0
baz=47,SNR=5.5
F04A Amboy 46.87 325 ⇑P P 07 52 51.5 -0.9
baz=47

E05A	**Randle**	**46.89 326**	⇑P		**P**	**07 52 51.8 -0.7**
	baz=47					
G03A	**Yamhill**	**47.00 324**	P		**P**	**07 52 53.5 0.0**
	baz=47,SNR=9.0					
LON	**Longmire**	**47.03 326**	*e*P		**P**	**07 52 53.2 -0.5**
D05A	**Enumclaw**	**47.40 327**	⇑P		**P**	**07 52 55.6 -0.9**
	baz=48					
F03A	**Seaside**	**47.52 325**	⇓P		**P**	**07 52 56.8 -0.6**
	baz=48,SNR=6.2					
C05A	**Tolt Reservoir**	**47.55 327**	⇓P		**P**	**07 52 56.6 -1.1**
	baz=48					
EDM	**Edmonton**	**47.73 338**	*e*P		**P**	**07 52 57.5 -1.6**
EDM			*e*PcP		PcP	07 54 27.1 -0.3
A07A	**Ashnola River,**	**47.75 330**	⇓P		**P**	**07 52 58.5 -0.8**
	baz=48,SNR=5.2					
B06A	**Marblemount**	**47.96 328**	⇑P		**P**	**07 52 59.5 -1.4**
	baz=48					
GNW	**Green Mountain**	**48.08 327**	*e*P		**P**	**07 53 00.2 -1.5**
B05A	**Bryant**	**48.12 328**	⇓P		**P**	**07 53 00.3 -1.8**
	baz=48					
FCC	**Fort Churchill**	**48.25 354**	*e*P		**P**	**07 53 01.5 -1.6**
	15nm,0.8s,mb5.1					
C04A	**Brinnon**	**48.25 327**	⇑P		**P**	**07 53 01.5 -1.6**
	baz=48					
FRB	**Frobisher Bay**	**54.22 9**	P		**P**	**07 53 45.5 -2.3**
	7.0nm,0.6s,mb4.8,baz=200,slow=9.5,SNR=7.9					
YKA	**Yellowknife Ar**	**55.61 344**	P		**P**	**07 53 55.8 -2.0**
	6.2nm,0.8s,mb4.7,baz=135,slow=7.4,SNR=7.3					
YKA			PcP		PcP	07 54 55.8 -1.0
	1.4nm,0.6s,baz=148,slow=3.9,SNR=4.9					
YKA			LR		LR	08 22 08.5
	comp=Z,209nm,18.8s,baz=135,slow=41					
DLBC	**Dease Lake**	**58.08 334**	*e*P		**P**	**07 54 14.2 -1.1**
DLBC			*e*			07 54 22.3
RKT	**Rikitea**	**58.82 235**	*e*S		**S**	**08 02 24.7 +3.3**
	119nm,28.8s					
RKT			*e*LR		LR	08 11 37.4
	122nm,24.2s					
DAWY	**Dawson**	**64.93 337**	*e*P		**P**	**07 54 59.7 -1.8**
DAWY			*e*			07 55 06.8
PMR	**Palmer**	**68.01 333**	*e*P		**P**	**07 55 19.6 -1.6**
	5.7nm,0.8s,mb4.7					
COLA	**College**	**68.59 336**	*e*P		**P**	**07 55 23.3 -1.5**
	29nm,1.8s,mb4.9					
MCK	**McKinley**	**68.63 335**	*e*P		**P**	**07 55 24.0 -1.0**
	8.9nm,1.0s,mb4.7					
PPT	**Papeete**	**69.07 246**	*e*LR		LR	08 16 16.4
	219nm,25.2s					
PPT	**Papeete**	**69.07 246**	LR		LR	08 19 30.6
	comp=Z,216nm,19.3s,baz=38,slow=30					
TBI	**Tubuai**	**70.96 241**	*e*S		S	08 04 53.4 +2.9
	112nm,28.2s					
TBI			*e*LR		LR	08 17 19.5
	214nm,29.2s					
ESDC	**Sonseca Array**	**76.87 52**	P		**P**	**07 56 13.8 -0.1**
	2.8nm,0.8s,mb4.2,baz=280,slow=5.9,SNR=19					
ESDC			LR		LR	08 25 49.3
	comp=Z,193nm,20.8s,baz=275,slow=32					
NOA	**NORSAR Array B**	**83.96 29**	LR		LR	08 31 02.3
	comp=Z,90nm,19.4s,baz=280,slow=33					
TORD	**Torodi Ar. Bea**	**85.12 78**	P		**P**	**07 56 57.5 -0.3**
	0.5nm,0.6s,mb3.8,baz=283,slow=5.8,SNR=5.6					
TORD			LR		LR	08 35 28.7
	comp=Z,137nm,19.1s,baz=290,slow=36					
TORD	**Torodi Ar. Bea**	**85.12 78**	P		**P**	**07 56 57.5 -0.3**
TORD			LR		LR	08 35 28.7
VNA3	**Neumayer Olymp**	**95.75 162**	*e*P		**P**	**07 57 45.8 -1.9**
VNA3			*e*			07 57 51.1
VNA3			*e*		pP	07 58 03.5 -1.3
VNA2	**Neumayer--Watz**	**96.38 161**	*e*P		**P**	**07 57 48.9 -1.7**
VNA2			*e*			07 57 53.6
VNA2			*e*		pP	07 58 09.8 +2.1
VNA2			*e*			07 58 35.0
BOSA	**Boshof**	**113.48 116**	PKiKP		PKiKP	08 03 00.1 +0.5
	4.4nm,1.1s,baz=233,slow=4.0,SNR=5.2					
ZAL	**Zalesovo**	**114.98 6**	PKP		PKiKP	08 03 01.9 -0.5
	0.8nm,0.4s,baz=142,slow=9.9,SNR=3.7					
SONM	**Songino Array**	**120.61 351**	PKP		PKPdf	08 03 13.3 +0.1
	2.1nm,0.7s,baz=319,slow=1.6,SNR=15					
MK31	**Makanchi Array**	**121.64 10**	*e*PKPdf		PKPdf	08 03 14.2 -1.0
MKAR	**Makanchi Array**	**121.64 10**	PKP		PKPdf	08 03 14.6 -0.6
	1.5nm,0.6s,baz=346,slow=2.5,SNR=19					
MKAR	**Makanchi Array**	**121.64 10**	PKP		PKPdf	08 03 14.6 -0.6
AAK	**Ala-Archa**	**123.80 17**	*e*PKPdf		PKPdf	08 03 19.3 0.0
WMQ	**Urumqi**	**125.28 6**	*e*PKP		PKPdf	08 03 21.0 -1.2
WMQ			*e*PP		PP	08 05 17.0 +4.3
WMQ			PKS			08 06 56.0
WMQ			PPP			08 07 57.0
WMQ			SKS		SKSdf	08 10 22.0 -6.8
WMQ			PP		PP	
	comp=Z,97nm,6.4s					
GTA	**Gaotai**	**129.75 354**	*e*PKP		PKPdf	08 03 31.5 +0.8
NJ2	**Nanjing**	**131.29 332**	*e*PKP		PKPdf	08 03 32.5 -1.1
STKA	**Stephens Creek**	**131.65 237**	PKP		PKPdf	08 03 34.6 +0.4
	comp=Z,0.6nm,0.4s,baz=129,slow=7.6,SNR=4.3					
LZH	**Lanzhou**	**132.47 349**	*e*PKP		PKPdf	08 03 36.5 +0.7
LZH			SKS		SKSdf	08 10 36.3 -5.7
LZH			PP		PP	
	comp=Z,81nm,8.3s					
LZH			LR		LR	
	comp=E,125nm,18.1s					
LZH			LR		LR	
	comp=Z,186nm,20.3s					
LZH	**Lanzhou**	**132.47 349**	*e*PKP		PKPdf	08 03 36.5 +0.7
LZH			pPKP		pPKPdf	08 04 02.7 +9.2
LZH			sPKP			08 04 13.2
LZH			*e*PP		PP	08 06 13.1 +13
LZH			SKS		SKSdf	08 10 36.2 -5.8
LZH			SKKS		SKKSac	08 12 34.3 -16
LZH			*e*SS		SS	08 23 31.5 -2.8
LZH			LR		LR	
	comp=Z,190nm,20.3s					
XAN	**Xi'an**	**133.25 343**	PKP		PKPdf	08 03 39.0 +1.7
CD2	**Chengdu**	**137.51 348**	*e*PKP		PKPdf	08 03 50.3 +5.1
CD2			SKS		SKSdf	08 10 48.8 -2.0
CD2			SKKS		SKKSac	08 13 24.5 +3.7
CD2			PP		PP	
	comp=Z,90nm,9.8s					
ASAR	**Alice Springs**	**140.19 246**	PKhKP			08 03 43.9
	comp=Z,0.6nm,0.5s,baz=117,slow=3.7,SNR=7.8					
ASAR			PKP		PKPdf	08 03 50.3 +0.2
	comp=Z,1.7nm,0.8s,baz=105,slow=1.9,SNR=19					
ASAR	**Alice Springs**	**140.19 246**	PKP		PKPdf	08 03 50.3 +0.2
KOLN	**Koldanda**	**140.26 15**	*e*P		PKPdf	08 03 48.9 -1.4
	comp=Z,10nm,0.9s					
GKN	**Gorkha**	**140.29 13**	*e*P		PKPdf	08 03 49.2 -1.1
	comp=Z,18nm,0.6s					
WB2	**Warramunga Arr**	**140.38 252**	*e*P			08 03 41.7
WRA	**Warramunga Arr**	**140.40 252**	PKhKP			08 03 39.7
	comp=Z,0.5nm,0.6s,baz=106,slow=2.9,SNR=11					
WRA			PKP		PKPdf	08 03 50.8 +0.3
	comp=Z,2.8nm,0.7s,baz=94,slow=2.2,SNR=32					
WRA	**Warramunga Arr**	**140.40 252**	PKP		PKPdf	08 03 50.8 +0.3
KKN	**Kakani**	**140.63 13**	*e*P		PKPdf	08 03 50.3 -0.7
GUN	**Gumba**	**140.64 12**	*e*P		PKPdf	08 03 49.7 -1.3
	comp=Z,21nm,0.6s					
DMN	**Daman**	**140.77 13**	*e*P		PKPdf	08 03 49.7 -1.5
	comp=Z,9.5nm,0.7s					
PKI	**Pulchoki**	**140.87 12**	*e*P		PKPdf	08 03 50.2 -1.2
	comp=Z,19nm,0.6s					
JIRN	**Jiri**	**140.95 11**	*e*P		PKPdf	08 03 49.6 -1.9
	comp=Z,10.0nm,0.7s					
GYA	**Guiyang**	**141.02 342**	PKP		PKPdf	08 03 49.5 -2.2
GYA			PP		PP	08 06 55.0 +1.8
GYA			PKS			08 07 24.0
GYA			PPP			08 10 02.8
GYA			SKS		SKSdf	08 10 48.0 -8.6
GYA			PP		PP	
	comp=Z,110nm,8.0s					
GYA			LR		LR	
	comp=N,210nm,20.9s					
GYA			LR		LR	
	comp=E,190nm,21.4s					
GYA			LR		LR	
	comp=Z,160nm,20.6s					
KMI	**Kunming**	**143.32 347**	PKP		PKPdf	08 03 53.5 -2.2
FITZ	**Fitzroy Crossi**	**148.80 253**	*e*P		PKPdf	08 04 08.8 +3.8
	comp=Z,9.4nm,0.8s					
CHTO	**Chiang Mai**	**150.18 351**	*e*PKPdf		PKPdf	08 04 08.2 +1.0
CHTO			*e*PKPbc		PKPbc	08 04 13.0 +0.6

IDC 29 08:13:55.0±2.1,111N×12637E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.5/15,mbtmp3.6/3,Error ellipse: s-maj=198.2km s-min=24.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.33**	**160**	P	P	08 18 53.6	-0.7
	0.8nm,0.5s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.69**	**164**	P	P	08 19 27.8	+1.1
	0.5nm,0.3s,baz=345,slow=12,SNR=20						
MKAR	**Makanchi Array**	**59.51**	**326**	P	P	08 24 00.1	+0.1
	0.3nm,0.3s,baz=124,slow=7.6,SNR=7.3						

CASC 29 08:19:39.5±1.5,1328N×8760W,h6km±8km,MD3.7,ML3.0, 5C-2D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.22**	**268**	⇑*e*P	x	08 19 44.2	+0.3
CNCH				*e*S	x	08 19 47.3	+0.4
BLLM	**Bellamira**	**0.64**	**284**	⇓*e*P	x	08 19 51.9	+0.2
BLLM				*e*S	x	08 20 01.0	+1.0
VSM	**San Miguel**	**0.67**	**282**	*e*P	x	08 19 52.5	+0.1
TELN	**Telica**	**1.01**	**132**	⇑*e*P	Pg	08 19 58.2	-0.7
LEON	**Leon**	**1.11**	**141**	⇑*e*P	Pg	08 19 59.2	-1.5
LEON				*e*S	Sg	08 20 16.0	+0.9
CNGN	**Cerro Negro**	**1.18**	**131**	⇑*e*P	Pg	08 19 59.7	-2.4
CNGN				*e*S	Sg	08 20 17.1	-0.2
MIRN	**Miramar**	**1.21**	**134**	⇑*e*P	Pg	08 20 01.4	-1.3
SNVI	**San Vicente**	**1.25**	**285**	*e*P	x	08 20 02.8	-0.6
LCBS	**La Ceiba**	**1.39**	**286**	*e*P	x	08 20 05.0	-0.3
LBRS	**Las Brisas**	**1.47**	**288**	*e*P	x	08 20 05.9	-0.6
COPN	**Copaltepe**	**1.48**	**138**	⇓*e*P	Pn	08 20 05.3	-1.3
COPN				*e*S	Sn	08 20 25.4	-0.8
APYN	**Apoyeque**	**1.61**	**130**	*e*P	Pn	08 20 08.2	-0.2
XAVN	**Gruta Xavier**	**1.68**	**132**	*e*P	Pn	08 20 09.2	-0.2
BOQS	**Boqueron**	**1.69**	**286**	*e*P	x	08 20 09.1	-0.5
MGAN	**Managua**	**1.74**	**130**	*e*P	Pn	08 20 09.9	-0.3
MGAN				*i*		08 20 43.7	
	comp=E,151nm,0.4s						

IDC 29 08:26:01.6±2.4,1683S×17822W,h0km,mb3.7/5, mb1 4.1/5,mb1mx3.9/13,mbtmp3.7/5,Error ellipse: s-maj=220.1km s-min=23.4km az=155.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.01**	**258**	P	P	08 34 18.8	0.0
	0.2nm,0.4s,baz=94,slow=7.6,SNR=9.4						
ASAR	**Alice Springs**	**45.27**	**253**	P	P	08 34 21.5	+0.7
	1.2nm,0.7s,baz=87,slow=8.9,SNR=28						
NVAR	**Mina Array Bea**	**78.52**	**44**	P	P	08 38 06.3	+1.6
	0.3nm,0.6s,baz=220,slow=7.0,SNR=4.6						
TXAR	**Lajitas Array**	**85.27**	**58**	P	P	08 38 40.6	+0.5
	0.7nm,0.7s,baz=220,slow=5.9,SNR=9.7						
PDAR	**Pinedale Array**	**86.45**	**43**	P	P	08 38 45.2	-0.8
	0.4nm,1.0s,baz=199,slow=2.0,SNR=4.0						

IGQ 29 08:28:05.3,020N×8045W,h69km±10km,Mb4.1,Ms3.9, 5C-3D,Error ellipse: s-maj=10.2km s-min=6.8km az=76.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**1.88**	**101**	⇑P	Pn	08 28 36.5	+1.3
TERV	**Terraza Guagua**	**1.88**	**101**	P	Pn	08 28 36.6	+1.3
JUA2	**San Juan 2**	**1.89**	**103**	⇑P	Pn	08 28 36.5	+1.1
JUA2				S	Sn	08 28 59.6	+1.2
GGP	**Refugio Guagua**	**1.89**	**101**	⇑P	Pn	08 28 36.5	+1.0
YANA	**Yana**	**1.91**	**100**	⇓P	Pn	08 28 36.9	+1.3
YANA				S	Sn	08 28 58.6	-0.1
CAMI	**Rancho Maria**	**2.13**	**114**	⇑P	Pn	08 28 40.2	+1.5
NAS1	**Nasa**	**2.14**	**113**	P	Pn	08 28 40.3	+1.5
VC1	**Cotopaxi 1**	**2.21**	**112**	⇑P	Pn	08 28 41.5	+1.7
TAMB	**Tambo**	**2.26**	**113**	P	Pn	08 28 42.3	+1.8
ANTI	**Antisana**	**2.38**	**106**	⇓P	Pn	08 28 44.7	+2.7
ANTI				S	Sn	08 29 12.9	+2.8
PISA	**Pisayambo**	**2.41**	**121**	P	Pn	08 28 44.1	+1.6
CAYR	**Refugio Cayambo**	**2.45**	**94**	P	Pn	08 28 47.2	+4.2
CAYA	**Cayambe**	**2.46**	**93**	⇓P	Pn	08 28 47.7	+4.5
RUN5	**Runtun**	**2.58**	**128**	P	Pn	08 28 47.4	+2.6
RUN5				S	Sn	08 29 14.2	-0.9
ARRY	**Arrayan**	**2.62**	**130**	P	Pn	08 28 47.0	+1.7
ARRY				S	Sn	08 29 13.1	-2.8

NIED ***29*** *08:31:00,2920N×14030E,h26km,Mw5.7 Best double couple: M0=4.01000×10^17 NP1:φs=46.00000°,δ78.00000°, λ152.00000°. NP2:φs=143.00000°,δ63.00000°,λ14.00000°.*

BJI ***29*** *08:31:37.7,2925N×141.17E,h10km,mB5.7,mb5.1,Ms5.5, Msz5.2*

BGS ***29*** *08:31:43.8,2937N×14020E,h10km,mb5.7*

GCMT ***29*** *08:31:44.6±0.1,2943N×14029E,h12km,MW5.6/105, Moment Tensor Solution. s81,c143; s105,c290; Duration: 1ŝ6 Moment tensor: Scale 10^17Nm; Mrr=3.34±.03; Mθθ=2.26±.03; Mφφ=1.08±.04; Mrθ=0.27±.09; Mθφ=-1.68±.03; Mφr=0.89±.10; Best double couple: M0=3.51900×10^17 NP1:φs=292.00000°,δ44.00000°, λ-111.00000°. NP2:φs=139.00000°,δ49.00000°, λ-71.00000°. Principal axes: T 3.4640, Plg3.0000°, Azm216.0000°; N 0.1110, Plg14.0000°, Azm307.0000°; P -3.5750, Plg76.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***29*** *08:31:44.6±0.1,2937N×14020E,h10km,mb5.5/159, MS5.3/150,MW5.6,MW5.7(NIED) Error ellipse: s-maj=4.2km s-min=3.7km az=162.0,Moment Tensor Solution. s38 Moment tensor: Scale 10^17Nm; Mrr=2.84; Mθθ=0.80; Mφφ=2.03; Mrθ=0.54; Mθφ=-1.56; Mφr=0.21; Best double couple: M0=3.00000×10^17 NP1:φs=134.00000°, δ47.00000°,λ-106.00000°. NP2:φs=337.00000°, δ45.00000°,λ-73.00000°. Principal axes: T 3.1000, Plg1.0000°, Azm236.0000°; N -0.1400, Plg12.0000°, Azm145.0000°; P -2.9600, Plg78.0000°, Azm332.0000°;*

JMA ***29*** *08:31:45.1±0.2,2922N×14028E,h34km,M5.5*

MOS ***29*** *08:31:46.4±1.6,2935N×14051E,h33km,mb5.6/105, MS5.2/69,Error ellipse: s-maj=12.5km s-min=6.4km az=99.7*

ISCJB ***29*** *08:31:47.2±0.1,2934N±002×14028E±002,h37km, mb5.5/233,MS5.3/198,Error ellipse: s-maj=3.0km s-min=2.8km az=169.2*

IDC ***29*** *08:31:47.9±2.5,2930N×14026E,h32km±17km,mb4.8/24, mb1 4.9/28,mb1mx4.9/30,mbtmp5.0/28,ML4.8/4,MS5.2/25, Ms1 5.2/25,ms1mx5.1/28,Error ellipse: s-maj=13.9km s-min=9.5km az=82.0*

SZGRF ***29*** *08:31:48.9,3008N×14153E,h33km,mb5.6,MS5.4, Southeast of Honshu, Japan*

ISC 29 08:31:49.3±0.1,2944N±002×14029E±002,h39km, h39km±2.2km:pP-P,n786,σ1ŝ18/729,mb5.5/233,MS5.3/198, 31C-43D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.87**	**144**	Pn	**Pn**	**08 32 28.4**	**-4.1**
	663nm,0.3s,baz=353,slow=5.9,SNR=579						
CBIJ				Sn	**Sn**	**08 32 59.5**	**-6.4**
	2μm,0.3s,baz=287,slow=19,SNR=20						
CBIJ				LR	LR	08 33 15.4	
	comp=Z,4μm,20.0s,baz=347,slow=32						
CBIJ	**Chichi jima**	**2.87**	**144**	⇓P	**Pn**	**08 32 27.5**	**-5.1**
CBIJ				S	**Sn**	**08 32 59.7**	**-6.2**
JHHJ	**Haha-jima-NKT**	**3.26**	**149**	⇓P	**Pn**	**08 32 33.7**	**-4.2**
JHHJ				S	**Sn**	**08 33 08.9**	**-6.5**
JHJ2	**Mitsune**	**3.69**	**354**	P	**Pn**	**08 32 44.7**	**+1.0**
JHJ	**Hachijo jima 2**	**3.69**	**353**	Pn	**Pn**	**08 32 45.8**	**+1.9**
	77nm,0.3s,baz=45,slow=18,SNR=30						
JHJ				LR	LR	08 34 12.0	
	comp=Z,44μm,20.0s,baz=175,slow=38						
JKO	**Kozu shima**	**4.83**	**349**	⇑P	**Pn**	**08 33 03.2**	**+3.7**
NJJJ	**Nii jima 2**	**5.02**	**350**	P	**Pn**	**08 33 05.1**	**+3.0**
BSO1	**Boso 1**	**5.23**	**6**	P	**Pn**	**08 33 02.1**	**-2.9**
JWZ	**Kozaga**	**5.65**	**317**	⇑P	**Pn**	**08 33 10.2**	**-0.5**
JWZ				*e*S	**Sn**	**08 34 13.8**	**-0.5**
JIE	**Ise**	**5.80**	**329**	P	**Pn**	**08 33 13.6**	**+0.8**
JAA	**Atsumi**	**5.83**	**334**	P	**Pn**	**08 33 19.8**	**+6.7**
JOD2	**Odawara 2**	**5.90**	**350**	P	**Pn**	**08 33 16.4**	**+2.3**
JRY	**Ryogami san**	**6.66**	**350**	P	**Pn**	**08 33 27.6**	**+3.0**
JTO	**Tosashimizu**	**7.26**	**300**	P	**Pn**	**08 33 33.0**	**+0.1**
JTO				*e*S	**Sn**	**08 34 55.8**	**+1.7**
MJAR	**Matsushiro Arr**	**7.30**	**347**	Pn	**Pn**	**08 33 37.0**	**+3.7**
	4.7nm,0.3s,baz=162,slow=13,SNR=41						
MJAR				LR	LR	08 36 29.3	
	comp=Z,38μm,18.4s,baz=175,slow=38						
MJAR	**Matsushiro Arr**	**7.30**	**347**	P	**Pn**	**08 33 37.0**	**+3.7**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,38μm,18.4s						
MAJO	**Matsushiro**	**7.30**	**347**	*e*P	**Pn**	**08 33 38.2**	**+4.9**
MAT	**Matsushiro**	**7.30**	**347**	P	**Pn**	**08 33 37.6**	**+4.3**
MAT				S	**Sn**	**08 34 54.6**	**-0.3**
JMK	**Ichinoseki**	**9.52**	**4**	P	**Pn**	**08 34 02.2**	**-1.6**
JMK				S	**Sn**	**08 35 44.2**	**-5.4**
JOW	**Kunigami**	**10.91**	**259**	Pn	**Pn**	**08 34 23.1**	**+0.1**
	comp=Z,4.7nm,0.3s,baz=107,slow=18,SNR=12						
JOW				LR	LR	08 38 04.1	
	comp=Z,18μm,20.7s,baz=125,slow=35						
JOT	**Ohata**	**11.93**	**3**	P	**Pn**	**08 34 36.2**	**-0.7**
ERM	**Erimo**	**12.76**	**10**	Pn	**Pn**	**08 34 47.9**	**-0.3**
	comp=Z,972nm,0.8s,SNR=5.2						
ERM	**Erimo**	**12.76**	**10**	*e*P	**Pn**	**08 34 47.1**	**-1.1**
ERM				*e*		08 37 03.8	
ERM				pmax	pmax		
	comp=Z,180nm,0.9s						
ERM	**Erimo**	**12.76**	**10**	*e*Pn	**Pn**	**08 34 47.1**	**-1.1**
	comp=Z,180nm,0.9s						
ERM				*e*Sn	**Sn**	**08 37 03.8**	**-5.2**
KS15	**Wonju Array Si**	**13.07**	**311**	*e*Pn	**Pn**	**08 35 00.4**	**+8.1**
INCN	**Inchon**	**13.93**	**309**	⇓P	**Pn**	**08 35 13.6**	**+10**
	SNR=38						
INCN	**Inchon**	**13.93**	**309**	*e*Pn	**Pn**	**08 35 13.1**	**+9.1**
ASAJ	**Asahikawa**	**14.77**	**7**	Pn	**Pn**	**08 35 12.2**	**-3.2**
	comp=Z,5.4nm,0.3s,baz=232,slow=15,SNR=19						
ASAJ				Sn	**Sn**	**08 37 50.5**	**-7.2**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=3.0						
ASAJ				LR	LR	08 42 01.2	
	comp=Z,20μm,19.5s,baz=198,slow=41						
ASAJ	**Asahikawa**	**14.77**	**7**	P	**Pn**	**08 35 12.3**	**-3.1**
ASAJ						08 37 50.6	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,20μm,19.5s						
VLA	**Vladivostok**	**15.23**	**336**	*e*P	**Pn**	**08 35 23.3**	**+1.8**
VLA				*e*		08 38 21.2	
VLA				pmax	pmax		
	comp=Z,172nm,2.2s						
VLA	**Vladivostok**	**15.23**	**336**	⇑*i*P	**Pn**	**08 35 23.5**	**+2.0**
GUMO	**Guam**	**16.33**	**164**	Pn	**Pn**	**08 35 33.4**	**-2.3**
	comp=Z,5.5nm,0.3s,baz=346,slow=12,SNR=8.2						
GUMO				LR	LR	08 40 50.4	
	comp=Z,6μm,18.7s,baz=190,slow=34						
GUMO	**Guam**	**16.33**	**164**	*e*P	**Pn**	**08 35 33.5**	**-2.2**
SSE	**Sheshan**	**16.59**	**280**	P	**Pn**	**08 35 40.5**	**+1.6**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s						
SSE				AMB	AMB		
	comp=Z,884nm,9.7s						
SSE				LR	LR		
	comp=N,9μm,12.5s						
SSE				LR	LR		
	comp=E,2μm,12.5s						
SSE				LR	LR		
	comp=Z,5μm,9.0s						
SSE	**Sheshan**	**16.59**	**280**	P	**Pn**	**08 35 40.6**	**+1.7**
	comp=Z,24nm,0.8s						
SSE				sP	sP	08 36 05.8	+10
SSE				S	**S**	**08 38 41.8**	**-10**
SSE				sS	sS	08 39 14.7	+7.1
KUR	**Kuril'sk**	**16.87**	**19**	*e*P	**Pn**	**08 35 40.0**	**-2.4**
KUR				*e*S	**S**	**08 38 42.0**	**-16**
KUR				pmax	pmax		
	comp=N,5μm,4.0s						
KUR				pmax	pmax		
	comp=N,38nm,1.0s						
KUR				MLR	MLR		
	comp=N,12μm,14.0s						
KUR				MLR	MLR		
	comp=Z,12μm,14.0s						
TATO	**Taipei**	**17.30**	**260**	*e*P	**Pn**	**08 35 50.0**	**+2.2**
	comp=Z,117nm,0.9s						
MDJ	**Mudanjiang**	**17.36**	**334**	P	**Pn**	**08 35 49.5**	**+0.9**
MDJ				S	**S**	**08 39 02.3**	**-5.9**
MDJ				PCP	PcP	08 40 29.0	0.0
MDJ				AMB	AMB		
	comp=Z,21nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,1μm,14.4s						
MDJ				LR	LR		
	comp=N,6μm,17.0s						
MDJ				LR	LR		
	comp=E,8μm,17.0s						
MDJ				LR	LR		
	comp=Z,7μm,18.4s						
MDJ	**Mudanjiang**	**17.36**	**334**	*e*P	**Pn**	**08 35 52.7**	**+4.0**
	comp=Z,154nm,1.4s						
NACB	**Ninganchiao**	**17.48**	**257**	*e*P	**Pn**	**08 35 52.5**	**+2.4**
NACB				*e*		08 36 06.2	
YHNB	**Yeheng**	**17.50**	**259**	*e*P	**Pn**	**08 35 50.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**17.59**	**6α**	*i*P	**Pn**	**08 35 53.4**	**+1.9**
YSS				*e*S	**S**	**08 39 06.0**	**-6.8**
YSS				pmax	pmax		
	comp=Z,400nm,1.6s						
YSS				MLR	MLR		
	comp=Z,16μm,17.0s						
YSS				MLR	MLR		
	comp=N,13μm,16.0s						
YSS				MLR	MLR		
	comp=E,17μm,15.0s						
YSS	**Yuzh-Sakhalins**	**17.59**	**6**	*e*P	**Pn**	**08 35 53.4**	**+2.0**
DL2	**Dalian**	**18.07**	**306**	*i*P	**Pn**	**08 36 00.8**	**+3.5**
DL2				AMB	AMB		
	comp=Z,140nm,1.2s						
DL2				AMB	AMB		
	comp=Z,2μm,7.8s						
DL2				LR	LR		
	comp=N,5μm,12.0s						
DL2				LR	LR		
	comp=E,2μm,12.1s						
DL2				LR	LR		
	comp=Z,5μm,13.8s						
SNY	**Shenyang**	**18.32**	**317**	⇑P	**Pn**	**08 36 02.0**	**+1.6**
SNY				PP		08 36 19.0	
SNY				S	**S**	**08 39 24.5**	**-3.1**
SNY				AMB	AMB		
	comp=

QZH LR LR
comp=N,10μm,11.6s
QZH LR LR
comp=E,9μm,12.0s
QZH LR LR
comp=Z,14μm,18.2s
TIA Tai'an 20.58 295 ⇓P **P 08 36 27.5 +2.7**
TIA AMB AMB
comp=Z,848nm,1.8s
TIA AMB AMB
comp=Z,471nm,3.0s
TIA LR LR
comp=N,3μm,13.0s,MS5.0
TIA LR LR
comp=E,3μm,13.0s,MS5.0
KLR Kul'dur 20.81 344 *e*P **P 08 36 21.7 -5.6**
KLR *e*S **S 08 40 15.5 -1.9**
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
KLR pmax pmax
comp=N,1μm,12.0s
KLR pmax pmax
comp=E,600nm,12.0s
KLR pmax pmax
comp=Z,3μm,12.0s
KLR smax
comp=N,3μm,12.0s
KLR smax
comp=E,4μm,12.0s
KLR MLR MLR
comp=Z,50μm,12.5s,MS6.1
BJT Baijiatuau 22.39 305 *e*P **P 08 36 44.7 +0.4**
BJT pmax pmax
comp=Z,487nm,1.6s
BJT MLR MLR
comp=Z,6μm,20.0s
BJT Baijiatuau 22.39 305 *e*P **P 08 36 44.7 +0.4**
comp=Z,487nm,1.6s,mb5.7
BJT LR LR
comp=Z,6μm,20.0s,MS5.0
BJI Beijing 22.39 305 P **P 08 36 45.0 +0.7**
BJI AMB AMB
comp=Z,85nm,2.2s,mb4.8
BJI AMB AMB
comp=Z,3μm,6.1s
BJI LR LR
comp=N,5μm,16.9s,MS5.1
BJI LR LR
comp=E,2μm,16.9s,MS5.1
BJI LR LR
comp=Z,4μm,17.9s,MS4.9
BJI Beijing 22.39 305 P **P 08 36 44.9 +0.6**
BJI *PP 08 37 01.5
BJI pmax pmax
comp=Z,85nm,2.2s,mb4.8
BJI MLR MLR
comp=Z,4μm,17.9s,MS4.9
BJI Beijing 22.39 305 P **P 08 36 44.9 +0.6**
comp=Z,85nm,2.2s,mb4.8
BJI pP 08 37 01.5
BJI S **S 08 40 59.3 +11**
BJI LR LR
comp=Z,4μm,17.9s,MS4.9
WHN Wuhan 22.48 279 P **P 08 36 47.8 +2.6**
WHN AMB AMB
comp=Z,7μm,5.8s
WHN LR LR
comp=Z,9μm,11.8s,MS5.4
TGY Tagaytay City 23.52 234 P **P 08 36 55.5 -0.5**
comp=Z,177nm,0.5s,baz=160,slow=5.1,SNR=6.8
TGY LR LR 08 44 17.0
comp=Z,30nm,20.0s,baz=357,slow=32
SKR Severo-Kuril's 24.34 25 *e*P **P 08 37 05.0 +1.6**
SKR *e* 08 37 15.5
SKR *e* 08 37 52.0
SKR *e* 08 40 42.0
SKR *e*S **S 08 41 20.0 -0.1**
SKR *e*SS 08 42 32.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.5
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,3μm,6.0s
SKR pmax pmax
comp=Z,3μm,6.0s
SKR smax
comp=N,6μm,14.0s
SKR smax
comp=E,5μm,14.0s
SKR MLR MLR
comp=N,6μm,18.0s,MS5.3
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.2
SKR MLR MLR
comp=E,6μm,14.0s,MS5.3
HKC Hong Kong 24.51 259 *e*P **P 08 37 08.0 +3.0**
HKC Hong Kong 24.51 259⇑*i*P **P 08 37 10.0 +5.0**
HKC S S 08 41 44.0 +21
HIA Hailar 25.24 327 *e*P **P 08 37 11.4 -0.2**
HIA pmax pmax
comp=Z,65nm,1.1s
HIA MLR MLR
comp=Z,4μm,21.0s
HIA Hailar 25.24 327 *e*P **P 08 37 11.4 -0.2**
comp=Z,65nm,1.1s,mb5.1
HIA LR LR
comp=Z,4μm,21.0s,MS4.9
CGP Cagayan de Oro 25.50 218⇑*i*P **P 08 37 15.0 +1.1**
SNPH Sibulan 25.59 222 *e*P **P 08 37 15.0 +0.2**
HHC Hu-ho-hao-te 25.99 304 *e*P **P 08 37 18.0 -0.4**
HHC PP 08 38 02.8
HHC PCP PcP 08 40 43.8 -2.1
HHC PCS PcS 08 44 23.5 -3.3
HHC AMB AMB
comp=Z,41nm,2.5s,mb4.5
HHC AMB AMB
comp=Z,1μm,6.1s
HHC LR LR
comp=N,3μm,15.3s,MS5.2
HHC LR LR
comp=E,4μm,13.5s,MS5.2
HHC LR LR
comp=Z,8μm,14.8s,MS5.4
DAV Davao City (W) 26.21 215 PFAKE 08 37 30.0 +10
DAV LR LR
comp=Z,9μm,19.0s,MS5.3
XAN Xi'an 27.01 288 P **P 08 37 28.8 +1.2**
XAN S **S 08 42 05.8 +3.3**
XAN AMB AMB
comp=Z,224nm,1.6s,mb5.5
XAN AMB AMB
comp=Z,1μm,10.5s
XAN LR LR
comp=N,3μm,13.9s,MS5.2
XAN LR LR
comp=E,3μm,15.6s,MS5.2
XAN LR LR
comp=Z,3μm,15.1s,MS5.0
BTO Baotou 27.05 302 *e*P **P 08 37 28.8 +0.9**
BTO AMB AMB
comp=Z,30nm,1.7s,mb4.5
BTO LR LR
comp=N,1μm,13.4s,MS4.8
BTO LR LR
comp=E,1μm,13.3s,MS4.8
PET Petropavlovsk 27.16 25 *e*P **P 08 37 30.6 +1.7**
PET *e**PP pP 08 37 47.9 +8.3
PET *e*S **S 08 42 02.9 -1.9**
PET pmax pmax
comp=Z,1μm,12.9s
PET pmax pmax
comp=Z,2μm,12.3s
PET pmax pmax
comp=Z,110nm,1.6s,mb5.1
PET MLR MLR
comp=Z,5μm,17.0s,MS5.2
PET Petropavlovsk 27.16 25 *e*P **P 08 37 27.6 -1.4**
comp=Z,142nm,1.4s,mb5.3
PET LR LR
comp=Z,6μm,19.0s,MS5.2
NRGR Nerungri 29.34 342 *i*P **P 08 37 49.9 +1.5**
NRGR S **S 08 42 31.1 -8.1**
NRGR smax
comp=N,12nm,0.3s
CLNS Chul'man 29.46 343 *e*P **P 08 37 42.7 -6.7**
CLNS *e**PP pP 08 37 56.2 -4.0
CLNS *e*S **S 08 42 36.5 -4.5**
CLNS pmax pmax
comp=Z,31nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=N,1μm,12.5s
CLNS smax
comp=Z,2μm,12.1s
CLNS smax
comp=E,519nm,13.0s
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.1
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.1
CLNS MLR MLR
comp=Z,6μm,14.0s,MS5.4
QIZ Qiongzhong 29.55 256 P **P 08 37 51.8 +1.6**
QIZ S **S 08 42 41.3 -1.2**
QIZ XS sS 08 42 57.0 -3.3
QIZ AMB AMB
comp=Z,56nm,2.0s,mb5.0
QIZ AMB AMB
comp=Z,777nm,12.9s
QIZ LR LR
comp=N,7μm,21.9s
QIZ LR LR
comp=Z,5μm,32.3s
QIZ Qiongzhong 29.55 256 PFAKE 08 38 00.0 +10
QIZ LR LR
comp=Z,4μm,20.0s,MS5.0
GYA Guiyang 29.79 272⇓*i*P **P 08 37 55.0 +2.6**
GYA PP PP 08 38 54.0 -6.0
GYA PPP 08 39 08.5
GYA S **S 08 42 44.8 -1.4**
GYA PCS PcS 08 44 39.3 +0.8
GYA SSS 08 44 46.0
GYA AMB AMB
comp=Z,50nm,1.5s,mb5.0
GYA AMB AMB
comp=Z,720nm,8.4s
GYA LR LR
comp=N,4μm,15.0s,MS5.1
GYA LR LR
comp=E,2μm,18.2s,MS5.1
GYA LR LR
comp=Z,5μm,17.0s,MS5.2
CIT Chita 30.02 326 *e*P **P 08 37 56.4 +2.0**
CIT *e* 08 38 53.4
CIT *e* 08 40 49.2
CIT pmax pmax
comp=Z,62nm,2.8s,mb4.8
MA2 Magadan 30.97 10 *e*P **P 08 38 02.8 0.0**
MA2 *e*S **S 08 43 03.4 -1.3**
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.3
MA2 MLR MLR
comp=Z,6μm,13.0s,MS5.4
MA2 Magadan 30.97 10 *e*P **P 08 38 03.2 +0.5**
comp=Z,105nm,1.0s,mb5.6
MA2 *e* pP 08 38 10.9 -2.6
MA2 LR LR
comp=Z,2μm,22.0s,MS4.8
LZH Lanzhou 31.22 292 ⇓P **P 08 38 06.5 +1.5**
LZH PP PP 08 39 11.3 -4.6
LZH PPP 08 39 26.5
LZH AMB AMB
comp=Z,125nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,582nm,7.3s
LZH LR LR
comp=N,5μm,13.5s
LZH LR LR
comp=Z,6μm,12.7s,MS5.5
LZH Lanzhou 31.22 292 ⇓P **P 08 38 06.5 +1.5**
LZH *PP pP 08 38 22.1 +6.3
LZH 08 39 11.2
LZH PPP 08 39 26.5
LZH S **S 08 43 07.1 -1.6**
LZH 08 48 31.7
LZH pmax pmax
comp=Z,125nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,6μm,12.7s,MS5.5
LZH Lanzhou 31.22 292 ⇓P **P 08 38 06.5 +1.5**
comp=Z,125nm,1.5s,mb5.5
LZH pP pP 08 38 22.1 +6.3
LZH sP sP 08 38 29.3 +8.9
LZH PP PP 08 39 11.2 -4.7
LZH PPP 08 39 26.5
LZH S **S 08 43 07.1 -1.6**
LZH sS sS 08 43 32.5 +5.9
LZH ScP ScP 08 44 36.7 -2.2
LZH ScS ScS 08 48 31.7 -4.5
LZH LR LR
comp=Z,6μm,12.7s,MS5.5
ULN Ulaanbaatar 31.48 315 P **P 08 38 08.5 +1.2**
SNR=10
ULN Ulaanbaatar 31.48 315⇑*e*P **P 08 38 07.4 +0.1**
ULN Ulaanbaatar 31.48 315 *e*P **P 08 38 08.6 +1.3**
comp=Z,66nm,1.6s,mb5.2
ULN LR LR
comp=Z,6μm,19.0s,MS5.3
CD2 Chengdu 31.53 282⇑*i*P **P 08 38 09.0 +1.3**
CD2 PP PP 08 39 15.3 -4.0
CD2 PCP PcP 08 41 01.3 +1.5
CD2 AMB AMB
comp=Z,140nm,0.9s,mb5.8
CD2 AMB AMB
comp=Z,560nm,5.7s
CD2 LR LR
comp=N,14μm,16.2s,MS5.8
CD2 LR LR
comp=E,8μm,13.8s,MS5.8
CD2 LR LR
comp=Z,8μm,13.2s,MS5.5
SONM Songino Array 31.88 315 P **P 08 38 06.9 -3.9**
comp=Z,1.4nm,0.3s,baz=29,slow=10,SNR=12
SONM P3KPbc 09 09 45.3
comp=Z,0.5nm,0.7s,baz=287,slow=5.2,SNR=4.4
SONM Songino Array 31.88 315 P **P 08 38 06.9 -3.9**
SONM *e* 09 09 45.3
KKM Kota Kinabalu 32.52 229 P **P 08 38 19.1 +2.7**
KKM Kota Kinabalu 32.52 229 *e*P **P 08 38 16.4 +0.1**
TSM Tawau 32.80 225 P **P 08 38 20.9 +2.0**
YAK Yakutsk 33.34 351 *d i*P **P 08 38 22.7 -0.9**
YAK *e* 08 39 48.6
YAK *e*S **S 08 43 38.9 -2.7**
YAK *e* 08 48 38.4
YAK pmax pmax
comp=Z,74nm,1.2s,mb5.5
YAK pmax pmax
comp=N,83nm,1.6s
YAK pmax pmax
comp=E,25nm,1.7s
YAK smax
comp=N,666nm,2.9s
YAK smax
comp=Z,387nm,2.6s
YAK smax
comp=E,362nm,3.3s
YAK MLR MLR
comp=N,5μm,17.0s,MS5.4
YAK MLR MLR
comp=Z,6μm,17.0s,MS5.4
YAK MLR MLR
comp=E,4μm,18.0s,MS5.4
YAK Yakutsk 33.34 351 *e*P **P 08 38 23.0 -0.6**
comp=E,87nm,0.9s,mb5.7
YAK LR LR
comp=Z,5μm,20.0s,MS5.2
KMI Kunming 33.55 272 P **P 08 38 27.0 +1.6**
KMI AP pP 08 38 37.3 +1.1
KMI PP PP 08 39 40.8 -0.9
KMI PPP 08 39 54.5
KMI S **S 08 43 43.8 -1.1**
KMI XS sS 08 43 59.5 -3.3
KMI SSS 08 46 13.0
KMI AMB AMB
comp=Z,37nm,1.2s,mb5.2
KMI AMB AMB
comp=Z,821nm,4.6s
KMI LR LR
comp=N,2μm,15.9s,MS5.1
KMI LR LR
comp=E,3μm,19.4s,MS5.1
KMI LR LR
comp=Z,3μm,22.1s,MS5.0
KMI Kunming 33.55 272 P **P 08 38 27.0 +1.6**
KMI *PP pP 08 38 37.3 +1.1
KMI *SP sP 08 38 41.7 +0.9
KMI 08 39 40.7
KMI PPP 08 39 54.4
KMI S **S 08 43 43.8 -1.1**
KMI *SS sS 08 43 59.6 -3.2
KMI SSS 08 46 13.1
KMI pmax pmax
comp=Z,37nm,1.2s,mb5.2
KMI MLR MLR
comp=Z,3μm,22.1s,MS5.0
KMI Kunming 33.55 272 P **P 08 38 27.0 +1.6**
comp=Z,37nm,1.2s,mb5.2
KMI pP pP 08 38 37.3 +1.1
KMI sP sP 08 38 41.7 +0.9
KMI PP PP 08 39 40.7 -1.0
KMI PPP 08 39 54.4
KMI S **S 08 43 43.8 -1.1**
KMI sS sS 08 43 59.6 -3.2
KMI SS SS 08 45 46.1 -25
KMI SSS 08 46 13.1
KMI LR LR
comp=Z,3μm,22.1s,MS5.0
BOD Bodaibo 33.73 335 *e*P **P 08 38 23.5 -3.5**
BOD pmax pmax
comp=Z,19nm,1.0s,mb5.0
SMY Shemya 34.01 37 PFAKE 08 38 40.0 +11
SMY LR LR
comp=Z,5μm,22.0s,MS5.2
SEY Seymchan 34.41 10⇑*e*P **P 08 38 32.7 -0.2**
SEY Seymchan 34.41 10⇑*e*P **P 08 38 32.8 -0.1**
GTA Gaotai 34.59 298 P **P 08 38 35.5 +1.1**
GTA S **S 08 44 08.3 +7.4**
GTA AMB AMB
comp=Z,45nm,1.8s,mb5.1
GTA AMB AMB
comp=Z,551nm,2.7s,mb6.0
GTA LR LR
comp=N,4μm,14.8s,MS5.3
GTA LR LR
comp=E,2μm,17.5s,MS5.3
GTA LR LR
comp=Z,4μm,15.2s,MS5.3
ZAK Zakamensk 34.76 317 *e*P **P 08 38 36.0 +0.2**
ZAK *e* 08 40 02.1
IRK Irkutsk 34.97 321 *e*P **P 08 38 37.1 -0.6**
IRK pmax pmax
comp=Z,72nm,2.2s,mb5.2
TLY Talaya 35.07 320 P **P 08 38 39.3 +0.7**
SNR=10.0
TLY Talaya 35.07 320 *e*P **P 08 38 38.6 0.0**
TLY *e* 08 40 05.0
TLY *e*S **S 08 44 12.7 +4.3**
TLY *e*SSS 08 47 00.1
TLY pmax pmax
comp=Z,28nm,1.8s,mb4.9
TLY MLR MLR
comp=Z,4μm,18.0s,MS5.2
TLY Talaya 35.07 320 *e*P **P 08 38 39.1 +0.5**
comp=Z,12nm,1.1s,mb4.7
TLY LR LR
comp=Z,1μm,19.0s,MS4.7
MIDW Midway 36.97 81 PFAKE 08 39 10.0 +15
MIDW LR LR
comp=Z,1μm,19.0s,MS4.8
CHG Chiang Mai 39.01 264 ⇓P **P 08 39 13.6 +1.6**
comp=Z,52nm,0.7s,mb5.4
CHTO Chiang Mai 39.01 264 P **P 08 39 14.0 +2.0**
SNR=23
CHTO Chiang Mai 39.01 264 *e*P **P 08 39 13.3 +1.3**
CHTO *e**PP pP 08 39 23.5 +0.6
CHTO pmax pmax
comp=Z,72nm,1.2s,mb5.3
CHTO MLR MLR
comp=Z,4μm,19.0s,MS5.3
CHTO Chiang Mai 39.01 264 *e*P **P 08 39 13.3 +1.3**
comp=Z,72nm,1.2s,mb5.3
CHTO *e*pP pP 08 39 23.5 +0.6
CHTO LR LR
comp=Z,4μm,19.0s,MS5.3
CM31 Chiang Mai Arr 39.15 263 *e*P **P 08 39 15.2 +2.1**
comp=Z,6.1nm,0.3s,mb4.8
CM31 LR LR
comp=Z,4μm,20.0s,MS5.3
PMG Port Moresby 39.18 169 P **P 08 39 07.5 -5.9**
comp=Z,10.0nm,0.8s,mb4.6,baz=19,slow=7.3,SNR=5.1
PMG Port Moresby 39.18 169 *e*P **P 08 39 11.0 -2.4**
PMG pmax pmax
comp=Z,78nm,1.7s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 39.18 169 *e*P **P 08 39 11.0 -2.4**
comp=Z,78nm,1.7s,mb5.2
PMG LR LR
comp=Z,2μm,20.0s,MS4.9
NST Nakhon Sawan 39.33 259 P **P 08 39 17.0 +2.3**
KAPI Kappang 39.52 213 P **P 08 39 12.3 -4.0**
comp=Z,290nm,1.6s,mb5.8,SNR=8.4
BDT Bhumibol Dam 39.60 262 P **P 08 39 19.0 +2.0**
KSM Kuching 39.84 231 *e*P **P 08 39 20.9 +2.0**
BILL Bilibino 41.58 14⇑*i*P **P 08 39 32.9 -0.4**
BILL pmax pmax
comp=Z,156nm,2.6s,mb5.2
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.2
BILL Bilibino 41.58 14 *e*P **P 08 39 33.5 +0.2**
comp=Z,70nm,1.0s,mb5.2
BILL LR LR
comp=Z,3μm,20.0s,MS5.1
LSA Lhasa 42.47 283 P **P 08 39 43.0 +2.4**
LSA AP pP 08 39 52.5 +0.9
LSA PP PP 08 41 24.5 +5.1
LSA S **S 08 46 06.3 +6.4**
LSA AMB AMB
comp=Z,60nm,2.1s,mb4.9
LSA LR LR
comp=N,920nm,20.2s
LSA LR LR
comp=E,1μm,14.2s
LSA LR LR
comp=Z,870nm,12.8s
LSA Lhasa 42.47 283 *e*P **P 08 39 43.9 +3.3**
LSA *e* 08 41 26.6
LSA pmax pmax
comp=Z,144nm,1.2s,mb5.5
LSA MLR MLR
comp=Z,2μm,20.0s,MS5.0
LSA Lhasa 42.47 283 *e*P **P 08 39 43.9 +3.3**
comp=Z,144nm,1.2s,mb5.5
LSA *e* 08 41 26.6
LSA LR LR
comp=Z,2μm,20.0s,MS5.0
KAKA Kakadu 42.58 191⇓*i*P **P 08 39 40.5 -0.9**
comp=Z,81nm,0.9s,mb5.5
TIXI Tiksi 42.73 355 PFAKE 08 39 50.0 +7.4
TIXI LR LR
comp=Z,17μm,22.0s,MS5.9
SHL Shillong 42.87 277 *e*P **P 08 39 43.2 -0.6**
SHL *e*S **S 08 46 10.0 +4.3**
HNR Honiara 43.04 151 PFAKE 08 40 00.0 +15
HNR LR LR
comp=Z,2μm,20.0s,MS5.0
SNG Songkhla 43.37 247 P **P 08 39 50.0 +2.2**
comp=Z,90nm,0.8s,mb5.5
WMQ Urumqi 43.87 304 P **P 08 39 52.5 +0.7**
WMQ PP PP 08 41 37.0 +2.6
WMQ PPP 08 42 16.0
WMQ PCS PcS 08 45 29.0 -1.6
WMQ S **S 08 46 19.0 -1.3**
WMQ AMB AMB
comp=Z,55nm,1.8s,mb5.0
WMQ AMB AMB
comp=Z,701nm,6.7s
WMQ LR LR
comp=N,4μm,13.7s,MS5.7
WMQ LR LR

comp=E,6μm,15.7s,MS5.7
WMQ LR LR
comp=Z,3μm,16.5s,MS5.3
AGT Agartala 43.92 275 *i* x x 08 39 58.0
AGT *i* x x 08 40 31.0
KULM Kulim 44.46 245 *e*P **P** **08 39 58.1 +1.5**
KGM Kluang 44.47 239 P **P** **08 39 59.6 +2.9**
IPM Ipoh 44.66 244 P **P** **08 40 00.4 +2.2**
ZAL Zalesovo 46.64 318 P **P** **08 40 13.2 -0.6**
comp=Z,2.0nm,0.6s,baz=357,slow=6.7,SNR=10
ZAL PcP PcP 08 41 47.0 -0.2
comp=Z,5.2nm,0.8s,baz=14,slow=4.4,SNR=6.0
ZAL LR LR 09 01 19.5
comp=Z,4μm,18.3s,baz=18,slow=38
ZAL Zalesovo 46.64 318 P **P** **08 40 13.2 -0.6**
ZAL 08 41 47.0
ZAL pmax pmax
comp=Z,20nm,0.6s
ZAL MLR MLR
comp=Z,4μm,18.3s
CAL Calcutta 46.89 274 *e*P **P** **08 40 13.8 -2.0**
CAL *e*x x 08 47 21.2
JIRN Jiri 47.19 282 *e*P **P** **08 40 20.7 +2.6**
comp=Z,488nm,0.9s,mb6.4
PSI Prapat 47.34 244 P **P** **08 40 20.3 +1.0**
comp=Z,24nm,0.8s,mb5.2,baz=33,slow=3.3,SNR=22
PSI LR LR 09 01 01.1
comp=Z,2μm,18.5s,MS5.1,baz=95,slow=37
PSI Prapat 47.34 244 P **P** **08 40 20.3 +1.0**
PSI pmax pmax
comp=Z,24nm,0.8s,mb5.2
PSI MLR MLR
comp=Z,2μm,18.5s,MS5.1
GUN Gumba 47.39 282 *e*P **P** **08 40 22.0 +2.3**
comp=Z,4μm,2.0s
NVS Novosibirsk 47.68 319 *i* P **P** **08 40 20.7 -1.2**
NVS *e*S **S** **08 47 16.2 +1.1**
NVS *i* SS SS 08 50 11.4 -32
NVS pmax pmax
comp=Z,80nm,2.0s,mb5.4
NVS pmax pmax
comp=N,22nm,1.8s
NVS pmax pmax
comp=E,64nm,1.8s
NVS pmax pmax
comp=Z,42nm,1.8s,mb5.2
NVS pmax pmax
comp=N,17nm,1.6s
NVS pmax pmax
comp=E,32nm,2.0s
NVS smax
comp=N,39nm,2.2s
NVS smax
comp=E,28nm,2.4s
MK31 Makanchi Array 47.71 308 P **P** **08 40 22.3 +0.2**
MK31 Makanchi Array 47.71 308 *e*P **P** **08 40 22.2 +0.1**
MKAR Makanchi Array 47.71 308 P **P** **08 40 21.9 -0.3**
comp=E,5.2nm,1.0s,mb4.5,baz=89,slow=8.6,SNR=17
MKAR PcP PcP 08 41 51.0 0.0
comp=E,4.5nm,0.8s,baz=81,slow=4.8,SNR=9.4
MKAR LR LR 09 03 13.7
comp=E,3μm,18.1s,MS5.3,baz=92,slow=40
MKAR Makanchi Array 47.71 308 *i* P **P** **08 40 21.8 -0.3**
MKAR pmax pmax
comp=Z,50nm,1.0s
PKI Pulchoki 47.88 282 *e*P **P** **08 40 25.2 +1.7**
comp=Z,108nm,0.9s,mb5.9
KKN Kakani 47.94 282 *e*P **P** **08 40 25.8 +1.9**
comp=Z,389nm,1.0s,mb6.4
TNA Tin City 48.00 26 PFAKE 08 40 40.0 +16
TNA LR LR
comp=Z,1μm,21.0s,MS4.8
DMN Daman 48.13 282 *e*P **P** **08 40 27.3 +1.9**
comp=Z,875nm,1.8s,mb6.5
GKN Gorkha 48.42 283 *e*P **P** **08 40 29.3 +1.6**
comp=Z,1μm,1.9s,mb6.6
DANN Dangsing 49.08 283 *e*P **P** **08 40 33.3 +0.6**
FITZ Fitzroy Crossi 49.33 198 ⇓*i*P **P** **08 40 34.6 0.0**
comp=Z,104nm,1.0s,mb5.8
FITZ *e*S **S** **08 47 36.2 -2.2**
KOLN Koldanda 49.37 283 *e*P **P** **08 40 36.7 +1.8**
comp=Z,629nm,1.2s,mb6.5
WRAB Tennant Creek 49.41 187 P **P** **08 40 33.8 -1.5**
comp=Z,465nm,1.1s,mb6.4,SNR=16
WRAB Tennant Creek 49.41 187 *d i*P **P** **08 40 33.7 -1.6**
WB2 Warramunga Arr 49.42 187 ⇓*i*P **P** **08 40 33.8 -1.5**
WB2 *e*S **S** **08 47 38.3 -1.4**
WRA Warramunga Arr 49.42 187 P **P** **08 40 32.2 -3.1**
comp=Z,43nm,1.0s,mb5.4,baz=4.0,slow=7.8,SNR=175
WRA S **S** **08 47 38.5 -1.2**
comp=Z,5.8nm,1.1s,baz=6.0,slow=14,SNR=6.8
WRA LR LR 09 02 00.8
comp=Z,1μm,18.8s,MS4.9,baz=5.0,slow=37
WRA Warramunga Arr 49.42 187 P **P** **08 40 32.2 -3.1**
WRA S **S** **08 47 38.5 -1.2**
WRA pmax pmax
comp=Z,43nm,1.0s
WRA smax
comp=N,6.0nm,1.1s
WRA MLR MLR
comp=Z,1μm,18.8s
CTA Charters Tower 49.57 173 *e*P **P** **08 40 34.8 -1.7**
comp=Z,19nm,1.0s,mb5.1
CTA Charters Tower 49.57 173 P **P** **08 40 34.5 -2.0**
comp=Z,20nm,1.1s,mb5.1,baz=348,slow=7.7,SNR=12
CTA Charters Tower 49.57 173 P **P** **08 40 34.5 -2.0**
CTA pmax pmax
comp=Z,20nm,1.1s
CTAO Charters Tower 49.57 173 *e*P **P** **08 40 35.1 -1.4**
CTAO *e**PP pP 08 40 46.1 -1.6
CTAO pmax pmax
comp=Z,63nm,1.4s,mb5.5
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.0
CTAO Charters Tower 49.57 173 *e*P **P** **08 40 35.1 -1.3**
comp=Z,63nm,1.4s,mb5.5
CTAO *e*pP pP 08 40 46.1 -1.5
CTAO LR LR
comp=Z,2μm,22.0s,MS5.0
KURK Kurchatov 50.16 313 P **P** **08 40 39.8 -1.1**
comp=Z,120nm,1.1s,mb5.8,SNR=12
ALBI Allahabad 51.63 280 *e*P **P** **08 40 51.5 -0.5**
AAA Alma-Ata 51.69 304 *d i*P **P** **08 40 52.9 +0.4**
AAA *e*S **S** **08 48 25.7 +14**
AAA pmax pmax
comp=Z,600nm,4.3s
AAA smax
comp=E,1μm,8.2s
AAA MLR MLR
comp=Z,2μm,12.5s,MS5.2
ULHL Ulahol 52.34 303 P **P** **08 40 57.6 +0.3**
SNR=6.1
TKM2 Tokmak 2 52.72 303 P **P** **08 41 01.1 +1.0**
SNR=6.5
KSH Kashi 52.96 299 *e*P **P** **08 41 06.8 +4.9**
KSH *e*PCP PcP 08 42 13.3 +3.0
KSH *e*PP PP 08 43 09.8 +8.1
KSH *e*PPP 08 44 18.0
KSH *e*SCP ScP 08 46 03.3 -1.4
KSH *e*S **S** **08 48 30.5 +1.9**
KSH *e*SCS ScS 08 50 44.5 -3.9
KSH *e*SS SS 08 52 13.0 +5.1
KSH AMB AMB
comp=Z,4μm,4.9s
KSH LR LR
comp=N,2μm,6.4s
KSH LR LR
comp=E,4μm,8.6s
KSH LR LR
comp=Z,2μm,25.6s,MS5.1
VIS Vishakhapatnam 53.04 271 *e*P **P** **08 41 03.4 +1.0**
VIS AMb AMB 08 41 08.1
comp=Z,207nm,1.4s,mb5.9
AS31 Alice Springs 53.15 187 *e*P **P** **08 41 01.7 -1.6**
ASAR Alice Springs 53.15 187 P **P** **08 41 01.8 -1.5**
comp=Z,12nm,1.0s,mb4.8,baz=357,slow=4.8,SNR=108
ASAR S **S** **08 48 30.1 -1.1**
comp=Z,0.3nm,0.9s,baz=5.9,slow=19,SNR=2.5
ASAR LR LR 09 05 11.7
comp=Z,1μm,19.1s,MS5.0,baz=0.0,slow=38
ASAR PKP2bc 09 11 43.9
comp=Z,0.7nm,0.9s,baz=166,slow=0.9,SNR=5.2
ASAR Alice Springs 53.15 187 P **P** **08 41 01.8 -1.5**
ASAR S **S** **08 48 30.1 -1.1**
ASAR LR LR 09 05 11.7
ASAR ⇑*e* 09 11 43.9

ASPA Alice Springs 53.15 187 *e*P **P** **08 41 01.7 -1.6**
FUNA Funafuti 53.18 129 PFAKE 08 41 20.0 +17
FUNA LR LR
comp=Z,11μm,21.0s,MS5.9
FRU Bishkek 53.44 303 *e*P **P** **08 41 05.0 -0.4**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.3
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.4
KDAK Kodiak Island 53.52 38 P **P** **08 41 05.6 -0.4**
comp=Z,529nm,1.0s,mb6.4,SNR=7.2
KDAK Kodiak Island 53.52 38 P **P** **08 41 05.5 -0.5**
comp=Z,32nm,0.8s,mb5.3,baz=290,slow=2.7,SNR=15
KDAK Kodiak Island 53.52 38 *e*P **P** **08 41 05.5 -0.5**
comp=Z,80nm,0.9s,mb5.7
KDAK LR LR
comp=Z,707nm,22.0s,MS4.7
AAK Ala-Archa 53.56 303 P **P** **08 41 06.5 +0.2**
SNR=6.4
AAK Ala-Archa 53.56 303 P **P** **08 41 07.0 +0.7**
SNR=8.1
AAK Ala-Archa 53.56 303⇑*e*P **P** **08 41 05.9 -0.4**
AAK pmax pmax
comp=Z,18nm,2.1s,mb4.6
AAK MLR MLR
comp=Z,2μm,17.0s,MS5.2
AAK Ala-Archa 53.56 303 *e*P **P** **08 41 05.5 -0.8**
comp=Z,4.2nm,0.6s,mb4.5
AAK LR LR
comp=Z,243nm,20.0s,MS4.2
UCH Uchtor 53.61 303 P **P** **08 41 07.9 +1.2**
SNR=12
IMA2 Indian Mountai 53.77 28 *e*P **P** **08 41 08.4 +0.6**
JBP Jabalpur 53.91 278 ⇓*i*P **P** **08 41 10.0 +1.1**
JBP *e*x x 08 41 18.3
comp=Z,133nm,1.8s
JBP *e*x x 08 48 29.2
MBWA Marble Bar 54.06 204 P **P** **08 41 10.0 +0.1**
SNR=6.5
MBWA Marble Bar 54.06 204 *e*P **P** **08 41 10.0 0.0**
comp=Z,30nm,0.8s,mb5.3
MBWA LR LR
comp=Z,2μm,21.0s,MS5.0
AML Almayashu 54.23 303 P **P** **08 41 12.4 +1.2**
SNR=12
NDI New Delhi 54.51 286 *e*P **P** **08 41 13.0 -0.2**
comp=Z,12nm,0.8s,mb5.0
NDI *e*P 08 41 13.7
NDI AMb AMB 08 41 20.3
comp=Z,236nm,2.4s,mb5.8
NDI *e*S **S** **08 48 52.0 +2.5**
CHKZ Chkalovo 55.02 317 *e*P **P** **08 41 15.8 -1.1**
CHKZ pmax pmax
comp=Z,40nm,1.3s,mb5.3
CHKZ Chkalovo 55.02 317 *e*P **P** **08 41 15.8 -1.1**
comp=Z,40nm,1.3s,mb5.3
BVAR Borovoye Array 55.20 316 P **P** **08 41 17.7 -0.4**
comp=Z,6.7nm,0.8s,mb4.7,baz=93,slow=8.9,SNR=20
BVAR PcP PcP 08 42 18.2 -0.7
comp=Z,10nm,0.8s,baz=86,slow=3.9,SNR=4.8
BVAR LR LR 09 06 05.7
comp=Z,2μm,19.1s,MS5.3,baz=319,slow=37
BVAR Borovoye Array 55.20 316 P **P** **08 41 17.7 -0.4**
BVAR 08 42 18.2
BVAR pmax pmax
comp=Z,70nm,0.8s
BVAR pmax pmax
comp=Z,10.0nm,0.8s
BVAR MLR MLR
comp=Z,2μm,19.1s
BRVK Borovoye 55.26 316 P **P** **08 41 18.2 -0.4**
comp=Z,153nm,1.5s,mb5.8,SNR=7.2
BRVK Borovoye 55.26 316 P **P** **08 41 18.3 -0.3**
SNR=21
BRVK Borovoye 55.26 316 *e*P **P** **08 41 18.2 -0.4**
BRVK LR LR
comp=Z,703nm,20.0s,MS4.7
PMR Palmer 55.38 33 *e*P **P** **08 41 19.2 -0.3**
PMR pmax pmax
comp=Z,45nm,1.0s,mb5.5
PMR Palmer 55.38 33 *e*P **P** **08 41 19.0 -0.5**
comp=Z,36nm,1.1s,mb5.3
PMR LR LR
comp=Z,2μm,22.0s,MS5.1
NGP Nagpur 55.44 277 *e*x x 08 38 33.2
comp=N,17nm,0.1s
NGP ⇓*i*P 08 41 20.4
NGP *e*x x 08 41 26.9
comp=Z,294nm,1.7s
NGP *e*S **S** **08 49 07.2 +5.2**
MCK McKinley 55.55 31 *e*P **P** **08 41 20.8 +0.1**
MCK pmax pmax
comp=Z,52nm,1.4s,mb5.4
MCK MLR MLR
comp=Z,846nm,20.0s,MS4.8
MCK McKinley 55.55 31 *e*P **P** **08 41 20.8 +0.1**
comp=Z,52nm,1.4s,mb5.4
MCK LR LR
comp=Z,846nm,20.0s,MS4.8
SML Sawmill 55.77 33 *e*P **P** **08 41 22.5 +0.2**
ZRNK Zerenda 56.03 316 *e*P **P** **08 41 23.4 -0.8**
ZRNK pmax pmax
comp=Z,55nm,1.4s,mb5.4
ZRNK Zerenda 56.03 316 *e*P **P** **08 41 23.4 -0.8**
comp=Z,55nm,1.4s,mb5.4
COLA College 56.08 29 ⇓*i*P **P** **08 41 24.7 +0.2**
COLA College 56.08 29 *e*P **P** **08 41 24.8 +0.4**
comp=Z,34nm,0.9s,mb5.4
COLA LR LR
comp=Z,1μm,21.0s,MS4.9
BHPL Bhopal 56.09 280 *e*P **P** **08 41 25.2 +0.7**
BHPL AMb AMB 08 41 31.2
comp=Z,109nm,1.2s,mb5.8
EYAK Cordova Ski Ar 57.03 34 *e*P **P** **08 41 31.2 0.0**
DZM Mont Dzumac 57.07 151 *e*P **P** **08 41 30.4 -1.1**
DZM Mont Dzumac 57.07 151 P **P** **08 41 31.5 0.0**
comp=Z,69nm,1.1s,mb5.6,baz=351,slow=7.0,SNR=25
HYB Hyderabad 57.33 273 *i* P **P** **08 41 35.0 +1.7**
HYB *e*S **S** **08 49 36.0 +9.0**
HYB Hyderabad 57.33 273 *e*P **P** **08 41 35.0 +1.7**
HYB *e*S **S** **08 49 36.0 +9.0**
AJM Ajmer 57.37 284 *e*P **P** **08 41 33.3 -0.4**
AJM *i* P 08 41 35.0
AJM AMb AMB 08 41 40.0
comp=Z,91nm,1.5s,mb5.6
AKL Akola 57.37 277 *i* P **P** **08 41 35.5 +1.8**
MENT Mentasta 57.90 32 *e*P **P** **08 41 38.5 +1.1**
POHA Pohakuloa 58.53 84 *e*P **P** **08 41 43.0 +1.2**
comp=Z,29nm,0.2s,mb6.0
COCO West Island 58.90 232 *e*P **P** **08 41 45.8 +1.4**
COCO LR LR
comp=Z,385nm,21.0s,MS4.5
EGAK Eagle 58.94 29 *e*P **P** **08 41 44.3 -0.3**
comp=Z,165nm,1.9s,mb5.7
EGAK LR LR
comp=Z,1μm,22.0s,MS5.0
DAWY Dawson 59.76 30 *e*P **P** **08 41 50.7 +0.4**
PALK Pallekele 60.02 261 P **P** **08 41 54.3 +2.2**
comp=Z,250nm,1.2s,mb6.1,SNR=7.0
PALK Pallekele 60.02 261 ⇓P **P** **08 41 54.1 +2.0**
SNR=6.3
PALK Pallekele 60.02 261 *e*P **P** **08 41 53.4 +1.3**
comp=Z,36nm,1.0s,mb5.3
PALK *e*pP pP 08 42 03.9 +0.3
PALK LR LR
comp=Z,286nm,22.0s,MS4.4
SVE Sverdlovsk 60.36 322⇓*e*P **P** **08 41 54.0 -0.4**
SVE *e* 08 42 33.0
SVE *e*S **S** **08 50 14.0 +7.7**
SVE pmax pmax
comp=Z,180nm,2.0s,mb5.8
SVE MLR MLR
comp=Z,2μm,14.0s,MS5.5
POO Poona 60.97 276⇑*i*P **P** **08 41 57.0 -1.5**
comp=Z,140nm,1.0s,mb6.0
STKA Stephens Creek 60.99 179 *e*P **P** **08 41 56.5 -2.2**
comp=Z,9.2nm,0.8s,mb5.0
STKA Stephens Creek 60.99 179 P **P** **08 41 56.2 -2.5**
comp=Z,5.5nm,0.8s,mb4.8,baz=355,slow=8.5,SNR=9.4
STKA LR LR 09 08 05.8
comp=Z,1μm,20.7s,MS5.0,baz=345,slow=36
FORT Forrest 61.00 192 *e*P **P** **08 41 58.0 -0.8**
comp=Z,29nm,0.6s,mb5.6
KAD Karad 61.17 274 *e*P **P** **08 42 01.4 +1.5**
KOD Kodaikanal 61.41 266 *e*P **P** **08 42 01.0 -0.5**
ARU Arti 61.55 321 P **P** **08 42 01.7 -0.8**

comp=Z,200nm,1.0s,mb6.2,SNR=5.6
ARU Arti 61.55 321 ⇓*i*P **P** **08 42 01.3 -1.2**
ARU *e* 08 42 18.6
ARU *e* 08 42 41.3
ARU *e* 08 44 16.5
ARU *e*PPP 08 45 44.3
ARU *e*S **S** **08 50 20.3 -1.3**
ARU *e*SS SS 08 54 22.9 -0.1
ARU pmax pmax
comp=Z,45nm,1.1s,mb5.5
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.4
ARU MLR MLR
comp=N,600nm,16.0s,MS5.3
ARU MLR MLR
comp=E,2μm,16.0s,MS5.3
ARU Arti 61.55 321 *e*P **P** **08 42 00.5 -2.0**
comp=E,93nm,1.3s,mb5.8
ARU LR LR
comp=Z,535nm,19.0s,MS4.7
SKAG Skagway 62.36 35 *e*P **P** **08 42 08.4 +0.5**
comp=Z,85nm,1.2s,mb5.8
MNGI Mangalore 62.48 270 *e*P **P** **08 42 10.6 +1.8**
MNGI AMb AMB 08 42 22.3
comp=Z,135nm,1.3s,mb5.9
TRD Trivandrum 62.66 264 *e*P **P** **08 42 10.4 +0.4**
TRD ⇓*e*x x 08 42 12.1
TRD AMb AMB 08 42 17.4
comp=Z,132nm,1.4s,mb5.9
SIT Sitka 62.86 38 PFAKE 08 42 20.0 +8.7
SIT LR LR
comp=Z,4μm,22.0s,MS5.6
AKTK Aktyubinsk 63.20 315 P **P** **08 42 12.7 -0.8**
AKTK LR LR 09 11 24.3
AKTO Aktyubinsk 63.20 315 P **P** **08 42 12.7 -0.8**
comp=Z,10nm,0.8s,mb5.0,baz=82,slow=5.6,SNR=12
AKTO LR LR 09 11 24.3
comp=Z,2μm,19.7s,MS5.4,baz=209,slow=38
AKTO Aktyubinsk 63.20 315 P **P** **08 42 12.7 -0.8**
AKTO pmax pmax
comp=Z,11nm,0.8s,mb5.0
AKTO MLR MLR
comp=Z,2μm,19.7s,MS5.4
AFI Afiamalu 63.21 126 PFAKE 08 42 30.0 +16
AFI LR LR
comp=Z,907nm,19.0s,MS5.0
KLBR Kellerberrin 64.36 201 *e*P **P** **08 42 19.4 -1.8**
comp=Z,59nm,1.2s,mb5.5
WRAK Wrangell Islan 64.61 38 *e*P **P** **08 42 24.1 +1.3**
comp=Z,14nm,0.8s,mb5.0
WRAK LR LR
comp=Z,2μm,22.0s,MS5.3
ORR Orenburg 64.87 317 P **P** **08 42 23.5 -1.0**
ORR pmax pmax
comp=Z,40nm,1.5s,mb5.2
ORR MLR MLR
comp=Z,2μm,15.0s,MS5.4
DLBC Dease Lake 65.27 35 *e*P **P** **08 42 28.6 +1.5**
NWAO Narrogin (SRO) 65.76 201 LR LR 09 08 12.7
comp=Z,799nm,22.0s,MS4.9,baz=25,slow=33
NWAO Narrogin (SRO) 65.76 201 *e*P **P** **08 42 29.2 -1.1**
NWAO pmax pmax
comp=Z,37nm,0.9s
NWAO MLR MLR
comp=Z,692nm,19.0s
NWAO Narrogin (SRO) 65.76 201 *e*P **P** **08 42 29.2 -1.0**
comp=Z,37nm,0.9s,mb5.4
NWAO LR LR
comp=Z,692nm,19.0s,MS4.9
TOO Toolangi 66.83 176 *e*P **P** **08 42 36.2 -0.9**
comp=Z,16nm,1.1s,mb5.0
TOO Toolangi 66.83 176 *e*P **P** **08 42 36.2 -0.9**
TOO pmax pmax
comp=Z,17nm,1.1s,mb5.0
ALE Alert 67.73 3 P **P** **08 42 43.3 +0.5**
comp=Z,160nm,1.7s,mb5.8,SNR=10
KBS Kingsbay 67.97 351 *e*P **P** **08 42 47.4 +3.1**
KBS *e*S S 08 51 44.7 +4.1
KBS AMS AMS 09 11 25.9
comp=Z,866nm,23.5s,MS4.9
LVZ Lovozero 68.68 337 *e*P **P** **08 42 46.0 -2.7**
LVZ S S 08 51 47.8 -1.2
LVZ pmax pmax
comp=Z,69nm,1.1s,mb5.5
LVZ pmax pmax
comp=N,18nm,1.4s
LVZ pmax pmax
comp=E,16nm,0.9s
TMCR Tamitsa 69.00 333 *e*P **P** **08 42 51.3 +0.6**
TMCR pmax pmax
comp=Z,178nm,1.4s,mb5.8
APA Apatity 69.25 337 ⇓*i*P **P** **08 42 52.0 -0.3**
APA *e* 08 43 00.0
APA *i* 08 43 13.0
APA *e*S S 08 51 55.0 -0.7
APA pmax pmax
comp=Z,65nm,1.0s,mb5.5
PECR Pechory 69.30 324 *i* P **P** **08 42 51.6 -1.0**
PECR *e* 08 43 13.0
PECR *e*S S 08 51 45.0 -11
PECR pmax pmax
comp=Z,190nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,500nm,7.0s
PECR MLR MLR
comp=N,2μm,18.0s,MS5.5
PECR MLR MLR
comp=Z,4μm,18.0s,MS5.6
PECR MLR MLR
comp=E,2μm,16.0s,MS5.5
BJO Bjornoya 69.52 346 *e*P **P** **08 42 55.4 +1.4**
BJO AMS AMS 09 16 58.3
comp=Z,3μm,17.8s,MS5.6
BJO1 Bjornoya 69.56 346 *e*P **P** **08 42 55.4 +1.2**
BJO1 LR LR
comp=Z,3μm,17.8s,MS5.6
RES Resolute Bay 70.18 13 *e*P **P** **08 42 57.8 -0.2**
comp=Z,882nm,0.9s
KEV Kevo 70.22 340 *e*P **P** **08 42 56.1 -2.2**
comp=Z,21nm,0.7s,mb5.2
KEV LR LR
comp=Z,4μm,21.0s,MS5.6
ARCES ARCESS Array B 70.78 340 P **P** **08 43 01.7 0.0**
comp=Z,32nm,0.8s,mb5.3,baz=68,slow=7.7,SNR=82
ARCES LR LR 09 17 50.0
comp=Z,3μm,20.6s,MS5.6,baz=68,slow=39
ARCES ARCESS Array B 70.78 340 P **P** **08 43 01.7 0.0**
ARCES pmax pmax
comp=Z,32nm,0.8s
ARCES MLR MLR
comp=Z,3μm,20.6s
ARCES ARCESS Array B 70.78 340 P **P** **08 43 01.7 0.0**
ARCES LR LR 09 17 50.0
ARE0 ARCESS Array S 70.78 340 *e*P **P** **08 43 01.4 -0.3**
YKA Yellowknife Ar 70.88 28 P **P** **08 43 01.8 -0.5**
comp=Z,12nm,0.7s,mb4.9,baz=293,slow=6.3,SNR=13
YKA LR LR 09 15 25.8
comp=Z,716nm,21.4s,MS4.9,baz=220,slow=37
YKA Yellowknife Ar 70.88 28 P **P** **08 43 01.8 -0.5**
YKA pmax pmax
comp=Z,12nm,0.7s
YKA MLR MLR
comp=Z,717nm,21.4s
YKA Yellowknife Ar 70.88 28 P **P** **08 43 01.8 -0.5**
YKA LR LR 09 15 25.8
KTK1 Kautokeino 71.75 340 *e*P **P** **08 43 07.2 -0.3**
KTK1 AMb AMB 08 43 14.8
comp=Z,159nm,1.4s,mb5.7
KTK1 Kautokeino 71.75 340 *e*P **P** **08 43 07.2 -0.3**
comp=Z,159nm,1.4s,mb5.8
WBK Wadi Bani Khal 72.02 286 P **P** **08 43 10.3 +1.1**
SNR=9.5
WSAR Wadi Sarin 72.04 287 P **P** **08 43 09.1 -0.2**
comp=Z,12nm,1.0s,mb4.8,baz=99,slow=5.4,SNR=5.1
JOF Joensuu 72.25 333 *e*p **P** **08 43 08.8 -1.7**
comp=Z,12nm,0.5s,mb5.1
JOF Joensuu 72.25 333 *e*P **P** **08 43 08.8 -1.7**
JOF pmax pmax
comp=Z,12nm,0.5s,mb5.1
TAU Tasmania Unive 72.28 175 PFAKE 08 43 20.0 +9.3
TAU LR LR
comp=Z,348nm,19.0s,MS4.7
PGC Sidney 72.37 44 *e*P **P** **08 43 11.7 +0.5**
comp=Z,251nm,1.1s,mb6.1
MAK Makhachkala 72.48 310 *i* P **P** **08 43 09.6 -2.3**
MAK *e* 08 45 55.5

MAK ePPP 08 47 38.9
MAK eS S 08 52 28.7 -4.6
MAK i *SS sS 08 52 59.4 +6.7
MAK e 08 53 09.6
MAK eSS SS 08 57 11.3 -1.1
MAK pmax pmax
comp=Z,317nm,1.7s,mb6.0
MAK MLR MLR
comp=Z,4μm,15.0s,MS5.8
TRO Tromso 72.60 342 eP **P 08 43 11.9 -0.7**
TRO eS S 08 52 37.8 +3.2
TRO eSS SS 08 57 16.9 +2.8
TRO AMS AMS 09 20 06.8
comp=Z,1μm,13.9s,MS5.3
NLWA Neilton Lookou 72.64 45 PFAKE 08 43 20.0 +7.2
NLWA LR LR
comp=Z,1μm,21.0s,MS5.2
MOS Moscow 72.83 325 eP **P 08 43 07.5 -6.5**
MOS e pP 08 43 20.9 -4.8
MOS pmax pmax
comp=Z,500nm,2.7s,mb6.0
MOS pmax pmax
comp=Z,118nm,1.4s,mb5.6
MOS MLR MLR
comp=Z,3μm,17.0s,MS5.7
JMDO Jabal Madar 72.85 286 P **P 08 43 15.0 +0.9**
SNR=5.4
HOQ Hoqain 73.00 288 P **P 08 43 16.0 +1.0**
SNR=11
GNW Green Mountain 73.21 45 eP **P 08 43 17.8 +1.6**
MBW Mount Baker 73.25 43 P **P 08 43 17.2 +0.8**
BSY Bisya 73.45 287 P **P 08 43 18.6 +1.0**
SNR=11
HATD Hatta, Dubai 73.45 289 P **P 08 43 18.6 +0.9**
SNR=11
ASHO Ashiyiah 73.57 289 P **P 08 43 19.1 +0.8**
SNR=8.9
OBN Obninsk 73.66 324⇑ iP **P 08 43 18.5 -0.4**
OBN e pP 08 43 28.2 -2.4
OBN eS S 08 52 43.2 -3.4
OBN pmax pmax
comp=Z,61nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,3μm,17.0s,MS5.7
OBN Obninsk 73.66 324 eP **P 08 43 18.7 -0.1**
comp=Z,152nm,1.4s,mb5.7
OBN LR LR
comp=Z,784nm,19.0s,MS5.0
ARQ Araqi 73.76 288 P **P 08 43 20.4 +1.0**
SNR=11
VRSR Storozhevoye 74.06 320 eP **P 08 43 20.7 -0.5**
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.2
LON Longmire 74.19 45 eP **P 08 43 22.8 +0.9**
COR Corvallis 74.19 48 eP **P 08 43 26.6 +4.6**
COR pmax pmax
comp=Z,259nm,1.6s,mb5.9
COR MLR MLR
comp=Z,1μm,22.0s,MS5.2
COR Corvallis 74.19 48 eP **P 08 43 26.6 +4.7**
comp=Z,259nm,1.6s,mb5.9
COR LR LR
comp=Z,1μm,22.0s,MS5.2
MTMW Mount Mitchell 74.25 46 P **P 08 43 23.8 +1.4**
GOF Gofitskoye 74.52 313 eP **P 08 43 32.0 +8.1**
SSOR Sweet Springs 74.61 47 P **P 08 43 25.4 +1.0**
KAF Kangasniemi 74.64 334 ep **P 08 43 23.0 -1.6**
comp=Z,19nm,0.6s,mb5.2
KAF Kangasniemi 74.64 334 eP **P 08 43 23.0 -1.6**
KAF pmax pmax
comp=Z,19nm,0.6s,mb5.2
DGAR Diego Garcia 74.71 252 PFAKE 08 43 40.0 +15
DGAR LR LR
comp=Z,334nm,20.0s,MS4.6
EBG Ellensburg 74.88 45 P **P 08 43 26.9 +1.0**
HOOD Mount Hood Mea 74.92 46 eP **P 08 43 27.6 +1.5**
ZEI Tsey 74.97 311 eP **P 08 43 25.8 -0.7**
ZEI e*PP pP 08 43 34.5 -3.7
ZEI pmax pmax
comp=Z,23nm,1.0s,mb5.1
LOF Lofoten 75.06 342 eP **P 08 43 28.4 +1.4**
LOF Lofoten 75.06 342 eP **P 08 43 29.0 +2.0**
FIA1 FINESS Array S 75.11 333 eP **P 08 43 26.6 -0.7**
FINES FINESS Array B 75.11 333 P **P 08 43 27.1 -0.2**
comp=Z,16nm,0.8s,mb5.0,baz=68,slow=5.7,SNR=64
FINES LR LR 09 20 31.2
comp=Z,1μm,19.6s,MS5.2,baz=216,slow=39
FINES FINESS Array B 75.11 333 P **P 08 43 27.1 -0.2**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES MLR MLR
comp=Z,1μm,19.6s
KIV Kislovodsk 75.23 312 P **P 08 43 28.1 +0.1**
comp=Z,165nm,1.5s,mb5.7,SNR=8.2
KIV Kislovodsk 75.23 312 P **P 08 43 29.0 +1.0**
SNR=16
KIV Kislovodsk 75.23 312 d iP **P 08 43 27.7 -0.3**
KIV pmax pmax
comp=Z,49nm,1.7s,mb5.2
KIV Kislovodsk 75.23 312 eP **P 08 43 28.8 +0.8**
comp=Z,154nm,1.7s,mb5.7
KIV LR LR
comp=Z,351nm,19.0s,MS4.7
EPH Ephrata 75.27 44 P **P 08 43 28.8 +0.6**
HUMO Hull Mountain 75.28 49 eP **P 08 43 29.3 +1.0**
comp=Z,53nm,1.5s,mb5.2
HUMO LR LR
comp=Z,3μm,22.0s,MS5.5
MDW Midway 75.51 45 P **P 08 43 30.7 +1.1**
KHMM Horse Mountain 75.53 51 eP **P 08 43 30.9 +1.2**
GNI Garni 75.56 308 P **P 08 43 31.7 +1.8**
SNR=11
GNI Garni 75.56 308 eP **P 08 43 31.0 +1.1**
GNI pmax pmax
comp=Z,69nm,1.4s
GNI MLR MLR
comp=Z,2μm,20.0s
GNI Garni 75.56 308 eP **P 08 43 31.0 +1.1**
comp=Z,69nm,1.4s,mb5.4
GNI LR LR
comp=Z,2μm,20.0s,MS5.3
URZ Urewera 75.63 151 P **P 08 43 28.7 -1.6**
comp=Z,21nm,0.9s,mb5.1,baz=310,slow=5.2,SNR=2.5
HAWA Hanford 75.75 45 eP **P 08 43 31.8 +0.8**
comp=Z,69nm,1.4s,mb5.4
HAWA epP pP 08 43 45.8 +3.1
HAWA LR LR
comp=Z,1μm,20.0s,MS5.2
YBH Yreka Blue Hor 75.84 50 eP **P 08 43 32.3 +0.8**
YBH pmax pmax
comp=Z,45nm,1.4s
YBH MLR MLR
comp=Z,2μm,22.0s
YBH Yreka Blue Hor 75.84 50 eP **P 08 43 32.3 +0.8**
comp=Z,45nm,1.4s,mb5.2
YBH LR LR
comp=Z,2μm,22.0s,MS5.5
VIPM Ingram Point 75.94 47 P **P 08 43 33.0 +0.9**
EDM Edmonton 75.94 36 eP **P 08 43 32.2 +0.1**
EDM pmax pmax
comp=Z,820nm,1.0s,mb6.6
EDM Edmonton 75.94 36 eP **P 08 43 32.2 +0.1**
comp=Z,820nm,1.0s,mb6.6
MOR8 Moi Rana 76.16 340 eP **P 08 43 31.9 -1.4**
MOR8 AMb AMB 08 43 37.5
comp=Z,106nm,2.0s,mb5.4
MOR8 Moi Rana 76.16 340 eP **P 08 43 31.9 -1.4**
comp=Z,106nm,2.0s,mb5.4
KCPM Cahto Peak 76.17 52 eP **P 08 43 34.4 +1.1**
KCPM epP pP 08 43 49.1 +4.0
KIPM Iron Peak 76.18 52 eP **P 08 43 34.6 +1.2**
NEW Newport 76.31 42 eP **P 08 43 34.6 +0.5**
NEW pmax pmax
comp=Z,71nm,1.3s
NEW MLR MLR
comp=Z,840nm,20.0s
NEW Newport 76.31 42 eP **P 08 43 34.6 +0.5**
comp=Z,71nm,1.3s,mb5.4
NEW LR LR
comp=Z,840nm,20.0s,MS5.0
WDC Whiskeytown Da 76.47 51 PFAKE 08 43 50.0 +15
WDC LR LR
comp=Z,2μm,22.0s,MS5.4
LASM Arnica Sink 76.66 50 P **P 08 43 37.2 +1.1**

HOPS Hopland 76.83 53 PFAKE 08 43 50.0 +13
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
LTIM Timbered Crate 76.91 50 P **P 08 43 38.5 +0.9**
LBCM Butte Creek Ri 77.16 50 P **P 08 43 39.8 +0.8**
SNZO South Karori 77.26 154 PFAKE 08 43 50.0 +10
SNZO LR LR
comp=Z,1μm,21.0s,MS5.2
SOC Sochi 77.31 313 eP **P 08 43 39.4 -0.4**
SOC e 08 43 47.1
SOC e*PP pP 08 43 54.9 +3.3
SOC eS S 08 53 23.6 -3.5
SOC e 08 53 38.3
SOC eSSS 09 01 45.5
SOC pmax pmax
comp=Z,23nm,1.1s,mb5.0
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.3
MOD Modoc 77.36 49 eP **P 08 43 40.5 +0.4**
comp=Z,199nm,2.5s,mb5.6
MOD ePP PP 08 46 37.7 +3.1
MOD LR LR
comp=Z,891nm,20.0s,MS5.1
WALA Waterton Lakes 77.76 40 eP **P 08 43 42.9 +0.5**
comp=Z,34nm,0.8s,mb5.3
OHCM Honcut 77.77 52 eP **P 08 43 42.9 +0.5**
BMO Blue Mountains 77.86 45 PFAKE 08 43 50.0 +7.2
BMO LR LR
comp=Z,1μm,22.0s,MS5.2
BSMT Bassoo Peak 77.87 42 eP **P 08 43 44.3 +1.4**
NSS Namsos 78.05 340 eP **P 08 43 42.4 -1.6**
NSS eP 08 43 44.0
NSS AMS AMS 09 20 10.0
comp=Z,2μm,22.0s,MS5.4
NSS Namsos 78.05 340 eP **P 08 43 44.0 +0.1**
NSS LR LR
comp=Z,2μm,22.0s,MS5.4
ANN Anapa 78.16 315 eP **P 08 43 43.8 -0.7**
ANN e 08 43 52.0
ANN i *PP pP 08 44 01.0 +4.7
ANN e 08 46 39.3
ANN eS S 08 53 33.6 -2.6
ANN eSS SS 08 58 36.4 -2.0
ANN pmax pmax
comp=Z,107nm,1.5s,mb5.5
WVOR Wild Horse Val 78.19 48 eP **P 08 43 45.1 +0.4**
WVOR pmax pmax
comp=Z,123nm,1.6s,mb5.6
WVOR MLR MLR
comp=Z,2μm,21.0s,MS5.3
WVOR Wild Horse Val 78.19 48 eP **P 08 43 45.1 +0.4**
comp=Z,123nm,1.6s,mb5.6
WVOR LR LR
comp=Z,2μm,21.0s,MS5.3
SUMG Summit 78.26 360 eP **P 08 43 45.9 +0.8**
comp=Z,308nm,1.9s,mb5.9
MNK Minsk 78.30 327 eP **P 08 43 42.0 -3.3**
WHFO Wadi Hawf 78.46 284 P **P 08 43 46.3 +0.1**
SNR=6.0
MSO Missoula 78.89 42 eP **P 08 43 48.7 +0.2**
comp=Z,42nm,1.6s,mb5.1
MSO LR LR
comp=Z,575nm,22.0s,MS4.9
SAO San Andreas Ge 79.01 54 PFAKE 08 44 00.0 +11
SAO LR LR
comp=Z,2μm,21.0s,MS5.5
PAHR Pah Rah Range 79.02 51 eP **P 08 43 49.7 +0.5**
comp=Z,65nm,1.4s,mb5.4
PAHR ePP PP 08 46 56.5 +7.9
CMB Columbia Colle 79.14 53 eP **P 08 43 50.2 +0.3**
CMB pmax pmax
comp=Z,136nm,1.7s,mb5.6
CMB MLR MLR
comp=Z,2μm,21.0s,MS5.3
CMB Columbia Colle 79.14 53 eP **P 08 43 50.2 +0.2**
comp=Z,136nm,1.7s,mb5.6
CMB LR LR
comp=Z,2μm,21.0s,MS5.3
LRV Little Rabbit 79.47 54 eP **P 08 43 52.0 +0.3**
AKASG Malin Array Be 79.75 323 P **P 08 43 52.4 -0.8**
comp=Z,12nm,0.8s,mb4.9,baz=49,slow=5.6,SNR=31
AKASG LR LR 09 22 17.0
comp=Z,2μm,18.9s,MS5.6,baz=40,slow=38
AKASG Malin Array Be 79.75 323 P **P 08 43 52.4 -0.8**
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG MLR MLR
comp=Z,2μm,18.9s
AKBB Malin Array Si 79.75 323 eP **P 08 43 51.8 -1.4**
AKBB Malin Array Si 79.75 323 P **P 08 43 52.5 -0.7**
BMN Battle Mountai 80.11 49 PFAKE 08 44 10.0 +15
BMN LR LR
comp=Z,2μm,19.0s,MS5.4
SIM Simferopol' 80.11 316 eP **P 08 43 57.0 +1.8**
SIM eS S 08 53 59.0 +2.1
SIM pmax pmax
comp=Z,17nm,0.7s,mb5.1
HRY Holter Researc 80.19 42 eP **P 08 43 56.0 +0.4**
HLID Hailey 80.30 45 eP **P 08 43 57.1 +0.9**
comp=Z,105nm,1.9s,mb5.4
HLID LR LR
comp=Z,1μm,22.0s,MS5.2
NVAR Mina Array Bea 80.38 51 P **P 08 43 57.4 +0.7**
comp=Z,4.7nm,0.7s,mb4.5,baz=287,slow=6.3,SNR=27
PTRM Twissleman Ran 80.42 55 eP **P 08 43 57.5 +0.6**
DLMT Dillon 80.46 43 eP **P 08 43 57.6 +0.5**
comp=Z,56nm,1.3s,mb5.3
LCCM Lewis and Clar 80.63 42 P **P 08 43 58.5 +0.5**
FFC Flin Flon 80.63 31 P **P 08 43 57.6 -0.4**
comp=Z,281nm,0.8s,mb6.2,SNR=7.3
FFC Flin Flon 80.63 31 eP **P 08 43 57.3 -0.7**
FFC pmax pmax
comp=Z,45nm,0.9s,mb5.4
FFC MLR MLR
comp=Z,349nm,22.0s,MS4.7
FFC Flin Flon 80.63 31 eP **P 08 43 57.3 -0.7**
comp=Z,45nm,0.9s,mb5.4
FFC LR LR
comp=Z,349nm,22.0s,MS4.7
EGMT Eagleton 80.65 40 PFAKE 08 44 10.0 +12
EGMT LR LR
comp=Z,1μm,22.0s,MS5.2
MTUM Tungsten Hills 80.74 52 eP **P 08 43 58.1 -0.4**
SUW Suwalki 80.78 328 eP **P 08 43 58.5 -0.3**
NB2 NORSAR Subarra 80.82 337 P **P 08 43 58.0 -1.0**
comp=Z,157nm,1.4s,mb5.8,baz=41,slow=5.3
NB2 NORSAR Subarra 80.82 337 P **P 08 43 58.0 -1.0**
NB2 pmax pmax
comp=Z,157nm,1.4s,mb5.8
NOA NORSAR Array B 80.82 337 P **P 08 43 58.4 -0.6**
comp=Z,16nm,0.9s,mb5.0,baz=43,slow=5.3,SNR=32
NOA LR LR 09 22 44.4
comp=Z,2μm,20.8s,MS5.5,baz=60,slow=38
NOA NORSAR Array B 80.82 337 P **P 08 43 58.4 -0.6**
NOA pmax pmax
comp=Z,16nm,0.9s
NOA MLR MLR
comp=Z,2μm,20.8s
NOA NORSAR Array B 80.82 337 P **P 08 43 58.4 -0.6**
NOA LR LR 09 22 44.4
MOL Molde 80.84 340 eP **P 08 43 59.0 -0.1**
BOZ Bozeman (W) 80.88 42 eP **P 08 43 59.5 +0.2**
BOZ pmax pmax
comp=Z,91nm,1.9s,mb5.4
BOZ MLR MLR
comp=Z,726nm,22.0s,MS5.0
BOZ Bozeman (W) 80.88 42 eP **P 08 43 59.5 +0.2**
comp=Z,91nm,1.9s,mb5.4
BOZ LR LR
comp=Z,726nm,22.0s,MS5.0
NAO01 NORSAR Array S 81.07 337 eP **P 08 43 59.0 -1.3**
comp=Z,59nm,1.3s,mb5.4
TPH Tonopah 81.29 51 P **P 08 43 56.3 -5.2**
ISA Isabella 81.64 54 eP **P 08 44 02.6 -0.8**
ISA MLR MLR
comp=Z,657nm,22.0s,MS5.0
YMR Madison River 81.81 43 eP **P 08 44 05.4 +1.2**
comp=Z,72nm,1.4s,mb5.4
YMR LR LR
comp=Z,817nm,22.0s,MS5.0
DAC Darwin (Calif) 81.95 53 eP **P 08 44 05.1 +0.1**
DAC pmax pmax
comp=Z,14nm,1.0s,mb4.8
DAC Darwin (Calif) 81.95 53 eP **P 08 44 05.1 +0.1**
comp=Z,14nm,1.0s,mb4.8

YNR Norris Junctio 81.95 43 eP **P 08 44 07.0 +2.0**
YFT Old Faithful 82.00 43 eP **P 08 44 08.2 +3.0**
KIS Kishinev 82.07 320 eP **P 08 44 04.0 -1.6**
KIS Kishinev 82.07 320 ePP PP 08 47 20.0 +6.2
SNCC San Nicolas Is 82.10 56 PFAKE 08 44 20.0 +14
SNCC LR LR
comp=Z,2μm,21.0s,MS5.5
PPT Papeete 82.18 115 eSS SS 08 59 45.8 +7.2
comp=Z,128nm,27.0s
PPT eLR LR 09 10 04.4
comp=Z,1μm,27.2s,baz=317
PPT Papeete 82.18 115 LR LR 09 19 29.4
comp=Z,743nm,18.6s,MS5.1,baz=56,slow=35
LKWY Lake 82.20 43 eP **P 08 44 09.1 +2.8**
LKWY pmax pmax
comp=Z,123nm,1.8s,mb5.5
LKWY MLR MLR
comp=Z,1μm,19.0s,MS5.2
LKWY Lake 82.20 43 eP **P 08 44 09.1 +2.8**
comp=Z,123nm,1.8s,mb5.5
LKWY LR LR
comp=Z,1μm,19.0s,MS5.2
IMW Indian Meadow 82.25 44 eP **P 08 44 07.8 +1.2**
comp=Z,58nm,1.4s,mb5.3
TRCR Troy Canyon 82.26 50 eP **P 08 44 07.3 +0.7**
TRCR epP pP 08 44 21.4 +2.9
DCID1 Drake Creek 82.27 44 eP **P 08 44 08.4 +1.8**
HVU Hansel Valley 82.27 46 eP **P 08 44 07.8 +1.1**
HVU pmax pmax
comp=Z,275nm,2.0s,mb5.8
HVU Hansel Valley 82.27 46 eP **P 08 44 07.8 +1.1**
comp=Z,275nm,2.0s,mb5.8
FLWY Flagg Ranch 82.29 43 eP **P 08 44 08.6 +1.9**
comp=Z,128nm,1.6s,mb5.6
RRI2 Red Ridge 82.32 44 eP **P 08 44 08.1 +1.1**
comp=Z,92nm,1.5s,mb5.5
KONO Kongsberg 82.39 337 eS S 08 54 23.2 +2.6
KONO eSS SS 08 59 43.3 +1.6
KONO Kongsberg 82.39 337 PFAKE 08 44 20.0 +13
KONO LR LR
comp=Z,3μm,20.0s,MS5.6
MOOW Moose Ponds 82.45 44 eP **P 08 44 08.6 +1.0**
comp=Z,125nm,2.0s,mb5.5
TPAW Teton Pass 82.47 44 eP **P 08 44 08.6 +1.0**
comp=Z,36nm,1.2s,mb5.2
BGU Big Grassy Mou 82.57 47 eP **P 08 44 08.8 +0.5**
REDW Red Top Meadow 82.60 44 eP **P 08 44 09.0 +0.6**
comp=Z,47nm,1.4s,mb5.3
SNOW Snow King Moun 82.60 44 eP **P 08 44 09.4 +1.0**
comp=Z,21nm,1.1s,mb5.1
LOHW Long Hollow 82.61 44 eP **P 08 44 09.6 +1.2**
comp=Z,26nm,1.3s,mb5.1
SPUT South Promonto 82.73 46 eP **P 08 44 07.8 -1.3**
AHID Auburn Hatcher 82.78 45 eP **P 08 44 09.3 0.0**
comp=Z,110nm,1.9s,mb5.6
AHID ePP PP 08 47 25.6 +6.0
AHID LR LR
comp=Z,846nm,20.0s,MS5.1
LVV L'vov 82.96 324 eP **P 08 44 09.6 -0.6**
LVV i 08 44 15.8
LVV e 08 47 28.0
LVV eS S 08 54 25.4 -1.0
LVV ePS 08 55 37.8
LVV MLR MLR
comp=N,1μm,18.0s,MS5.5
LVV MLR MLR
comp=E,2μm,18.0s,MS5.5
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.6
GSC Goldstone 83.00 53 eP **P 08 44 10.9 +0.5**
GSC e*PP pP 08 44 24.1 +1.8
GSC e 08 47 26.7
DUG Dugway 83.10 48 eP **P 08 44 11.3 +0.3**
DUG pmax pmax
comp=Z,48nm,1.3s,mb5.4
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.3
DUG Dugway 83.10 48 eP **P 08 44 11.3 +0.3**
comp=Z,48nm,1.3s,mb5.4
DUG LR LR
comp=Z,1μm,19.0s,MS5.3
HWUT Hardware Ranch 83.13 46 eP **P 08 44 11.9 +0.8**
comp=Z,96nm,1.4s,mb5.6
HWUT LR LR
comp=Z,1μm,22.0s,MS5.2
BR131 Keskin Array S 83.19 312 eP **P 08 44 11.2 -0.3**
comp=Z,22nm,1.0s,mb5.2
BR131 LR LR
comp=Z,600nm,20.0s,MS5.0
BRTR Keskin Array B 83.19 312 P **P 08 44 11.4 -0.1**
comp=Z,19nm,1.0s,mb5.1,baz=101,slow=3.9,SNR=36
BRTR PKKPbc PKKPbc 09 02 32.0 +0.2
comp=Z,0.6nm,0.5s,baz=217,slow=3.6,SNR=4.1
BRTR Keskin Array B 83.19 312 i P **P 08 44 11.3 -0.2**
BRTR pmax pmax
comp=Z,19nm,1.0s
BER Bergen 83.21 339 AMS AMS 09 27 32.3
comp=Z,1μm,17.2s,MS5.4
LAO LASA Array 83.38 39 eP **P 08 44 13.1 +0.7**
comp=Z,308nm,2.0s,mb6.0
LAO LR LR
comp=Z,1μm,20.0s,MS5.2
DGMT Dagmar 83.40 37 eP **P 08 44 12.1 -0.5**
comp=Z,37nm,1.1s,mb5.3
DGMT LR LR
comp=Z,1μm,21.0s,MS5.2
TCUT Toone Canyon 83.49 46 eP **P 08 44 14.0 +1.0**
CTU Camp Tracy 83.51 47 eP **P 08 44 13.9 +0.8**
comp=Z,237nm,2.0s,mb6.0
SFJD Kangerlussuaq 83.51 4 PFAKE 08 44 20.0 +6.9
SFJD LR LR
comp=Z,2μm,20.0s,MS5.6
ANTO Ankara 83.66 312 P **P 08 44 14.0 +0.1**
SNR=8.2
ANTO Ankara 83.66 312 ‖ iP **P 08 44 14.1 +0.2**
ANTO Ankara 83.66 312 eP **P 08 44 14.0 +0.1**
comp=Z,56nm,1.4s,mb5.5
ANTO LR LR
comp=Z,675nm,19.0s,MS5.0
NLU North Lily Min 83.71 47 eP **P 08 44 14.9 +0.8**
BW06 Boulder Array 83.72 44 eP **P 08 44 14.4 +0.2**
comp=Z,25nm,1.4s,mb5.2
BW06 LR LR
comp=Z,1μm,21.0s,MS5.2
PDAR Pinedale Array 83.72 44 P **P 08 44 14.6 +0.4**
comp=Z,5.9nm,1.0s,mb4.7,baz=285,slow=2.9,SNR=20
PDAR PKPPKP 09 10 34.9
comp=Z,0.5nm,0.9s,baz=126,slow=1.6,SNR=3.6
PDAR LR LR 09 15 05.3
comp=Z,912nm,21.5s,MS5.1,baz=321,slow=31
TIRR Tirgusor 83.77 318 ‖ iP **P 08 44 14.0 -0.4**
TIRR Tirgusor 83.77 318 eP **P 08 44 14.2 -0.2**
comp=Z,74nm,1.6s,mb5.6
VRI Vrincioaia 83.91 320 ‖ iP **P 08 44 15.1 0.0**
VRI Vrincioaia 83.91 320 ‖ P **P 08 44 15.2 +0.1**
VRI Vrincioaia 83.91 320 P **P 08 44 16.0 +0.9**
PLOR Plostina 83.96 320 ‖ iP **P 08 44 17.1 +1.7**
PLOR Plostina 83.96 320 ‖ P **P 08 44 13.5 -1.9**
MPU Maple Canyon 83.96 47 eP **P 08 44 16.1 +0.7**
comp=Z,98nm,1.5s,mb5.7
MPU LR LR
comp=Z,3μm,21.0s,MS5.6
DAU Daniels Canyon 83.98 47 eP **P 08 44 16.7 +1.2**
ARUT Antelope Range 83.99 50 eP **P 08 44 16.1 +0.5**
PFO Pinyon Flat Ob 84.12 55 P **P 08 44 16.2 0.0**
comp=Z,125nm,0.9s,mb6.0,SNR=9.7
PFO Pinyon Flat Ob 84.12 55 eP **P 08 44 16.3 +0.1**
PFO pmax pmax
comp=Z,142nm,1.8s,mb5.8
PFO MLR MLR
comp=Z,618nm,19.0s,MS5.0
PFO Pinyon Flat Ob 84.12 55 eP **P 08 44 16.3 +0.1**
comp=Z,142nm,1.8s,mb5.8
PFO LR LR
comp=Z,618nm,19.0s,MS5.0
CCUT Cedar City 84.17 50 eP **P 08 44 17.2 +0.8**
CCUT ePP PP 08 47 35.6 +4.6
KOLS Kolonicke sedl 84.41 324 eP **P 08 44 17.6 -0.1**
MVU Marysvale 84.42 49 PFAKE 08 44 30.0 +12
MVU LR LR
comp=Z,2μm,22.0s,MS5.4
MSU Marysvale 84.43 49 eP **P 08 44 19.2 +1.4**
MLR Muntele Rosu 84.57 320 ‖ iP **P 08 44 18.1 -0.4**
MLR Muntele Rosu 84.57 320 P **P 08 44 18.8 +0.3**
UZH Uzhgorod 84.59 324 eP **P 08 44 18.0 -0.6**
UZH e 08 44 25.4

UZH eS S 08 54 42.0 -0.8
UZH pmax pmax
comp=Z,45nm,1.2s,mb5.5
STHS Stebnicka Huta 84.62 325 ePKP pP 08 44 31.9 +1.3
STHS Stebnicka Huta 84.62 325 eP **P** **08 44 19.3 +0.6**
STHS e pP 08 44 31.9 +1.3
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
STHS Stebnicka Huta 84.62 325 eP **P** **08 44 19.3 +0.6**
comp=Z,9.2nm,1.0s,mb4.9
STHS e pP 08 44 31.9 +1.3
TMUT Trail Mountain 84.63 48 eP **P** **08 44 19.5 +0.7**
OJC Ojcow 84.81 326 eP **P** **08 44 19.1 -0.6**
CRVS Cervenica-Dubn 84.84 325 eP **P** **08 44 20.0 +0.1**
NIE Niedzica 85.08 325 eP **P** **08 44 21.3 +0.2**
VOIR 85.10 320⇑ iP **P** **08 44 21.4 +0.2**
VOIR 85.10 320⇑ P **P** **08 44 21.4 +0.2**
SRU San Rafael 85.17 48 P **P** **08 44 19.0 -2.5**
SRU pmax pmax
comp=Z,22nm,0.7s,mb5.4
SRU San Rafael 85.17 48 eP **P** **08 44 21.9 +0.4**
comp=Z,22nm,0.7s,mb5.4
TAOE Nuku Hiva Isla 85.33 103 eLR LR 09 10 43.2
comp=Z,3μm,27.0s
TBI Tubuai 85.52 120 eS S 08 54 52.4 +0.4
comp=Z,286nm,23.2s
TBI eLR LR 09 11 01.6
comp=Z,986nm,33.0s,baz=310
DRGR 85.54 322⇑ iP **P** **08 44 23.0 -0.3**
DRGR 85.54 322 P **P** **08 44 23.7 +0.4**
GLA Glamis 85.57 54 eP **P** **08 44 24.2 +0.7**
KECS Kecovo 85.61 325 ePKP pP 08 44 33.3 -2.3
KECS Kecovo 85.61 325 eP **P** **08 44 23.5 -0.2**
KECS e pP 08 44 33.3 -2.3
KECS pmax pmax
comp=Z,18nm,1.9s,mb5.0
KECS Kecovo 85.61 325 eP **P** **08 44 23.5 -0.2**
comp=Z,18nm,1.9s,mb5.0
KECS e pP 08 44 33.3 -2.3
RWWY Rawlins 85.76 44 eP **P** **08 44 25.2 +0.7**
comp=Z,38nm,1.1s,mb5.5
OKC Ostrava-Krasne 85.86 327 eP **P** **08 44 24.7 -0.2**
OKC ex x 08 44 33.8
OKC AMS AMS 09 27 10.0
comp=Z,2μm,16.9s
OKC Ostrava-Krasne 85.86 327 eP **P** **08 44 24.7 -0.2**
OKC e pP 08 44 33.8 -3.1
KSP Ksiaz 86.05 328 eP **P** **08 44 25.7 -0.2**
KSP Ksiaz 86.05 328 eP **P** **08 44 25.0 -0.9**
KSP ePcP PcP 08 44 28.4 -0.1
KSP LR LR
comp=Z,4μm,17.2s,MS5.8
RSSD Black Hills 86.16 41 eP **P** **08 44 26.5 +0.1**
RSSD pmax pmax
comp=Z,38nm,1.4s,mb5.4
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.3
RSSD Black Hills 86.16 41 eP **P** **08 44 26.5 +0.1**
comp=Z,38nm,1.4s,mb5.4
RSSD LR LR
comp=Z,1μm,20.0s,MS5.3
MORC Moravsky Berou 86.19 327⇓ iP **P** **08 44 25.6 -1.0**
MORC Moravsky Berou 86.19 327 eP **P** **08 44 24.9 -1.7**
MORC pmax pmax
comp=Z,103nm,2.1s,mb5.7
MORC Moravsky Berou 86.19 327 eP **P** **08 44 24.9 -1.7**
comp=Z,103nm,2.1s,mb5.7
PSZ Piszkesteto 86.28 324⇑ ePcP PcP 08 44 27.4 -2.1
PSZ Piszkesteto 86.28 324⇓ iP **P** **08 44 26.6 -0.4**
DPC Dobruska-Polom 86.37 328 eP **P** **08 44 26.9 -0.6**
DPC AMS AMS 09 27 10.0
comp=Z,2μm,15.7s
GZR Gura Zlata 86.39 321⇑ iP **P** **08 44 28.1 +0.6**
GZR Gura Zlata 86.39 321⇑ P **P** **08 44 28.1 +0.5**
ULM Lac du Bonnet 86.39 32 P **P** **08 44 29.1 +1.6**
comp=Z,5.9nm,0.9s,mb4.8,baz=292,slow=6.5,SNR=6.1
ULM LR LR 09 19 54.3
comp=Z,861nm,21.9s,MS5.1,baz=318,slow=33
BSEG Bad Segeberg 86.39 333 eP **P** **08 44 26.9 -0.6**
comp=Z,422nm,2.8s,mb6.2
BSEG Bad Segeberg 86.39 333 eP **P** **08 44 26.9 -0.6**
BSEG pmax pmax
comp=Z,422nm,2.8s,mb6.2
UPC Upice 86.41 328 eP **P** **08 44 27.4 -0.2**
VYHS Vyhne 86.43 325 eP **P** **08 44 27.3 -0.4**
VYHS pmax pmax
comp=Z,47nm,1.7s,mb5.4
VYHS Vyhne 86.43 325 eP **P** **08 44 27.3 -0.4**
comp=Z,47nm,1.7s,mb5.4
VYHS eS S 08 55 00.2 -0.7
PV10 Paradox Valley 86.55 47 eP **P** **08 44 29.7 +1.4**
WUAZ Wupatki 86.62 51 eP **P** **08 44 29.5 +0.8**
comp=Z,47nm,1.2s,mb5.6
WUAZ LR LR
comp=Z,1μm,20.0s,MS5.3
BZS Buzias 86.87 322⇑ iP **P** **08 44 28.8 -1.1**
BZS Buzias 86.87 322 P **P** **08 44 29.6 -0.3**
VRAC Vranov 86.96 327⇑ iP **P** **08 44 29.9 -0.5**
VRAC Vranov 86.96 327 P **P** **08 44 30.9 +0.5**
PV01 Paradox Valley 86.99 47 eP **P** **08 44 30.7 +0.3**
PV01 ePP PP 08 47 55.4 +1.5
PHWY Pilot Hill 87.05 43 eP **P** **08 44 31.3 +0.5**
PVCC Panska Ves 87.05 329 eP **P** **08 44 30.6 -0.2**
PVCC ex x 08 44 39.4
PVCC AMS AMS 09 27 20.0
comp=Z,3μm,16.0s
CLL Collm 87.19 330 eP **P** **08 44 30.1 -1.4**
comp=Z,60nm,1.6s,mb5.6
CLL Collm 87.19 330⇓ iP **P** **08 44 29.9 -1.6**
CLL pmax pmax
comp=Z,9.0nm,1.5s,mb4.8
CLL MLR MLR
comp=Z,3μm,14.1s,MS5.8
CLL Collm 87.19 330⇓ iP **P** **08 44 29.9 -1.6**
comp=Z,54nm,1.5s,mb5.6
CLL LR LR
comp=Z,3μm,14.1s,MS5.8
CLL Collm 87.19 330⇓ iP **P** **08 44 29.9 -1.6**
comp=Z,54nm,1.5s,mb5.6
CLL ePP PP 08 47 56.0 +0.5
FBE Freiberg 87.32 330 eP **P** **08 44 31.3 -0.8**
comp=Z,68nm,1.5s,mb5.7
FBE epP pP 08 44 40.8 -3.2
SMCO Snowmass 87.39 46 eP **P** **08 44 33.5 +1.1**
comp=Z,61nm,1.4s,mb5.6
PRU Pruhonice 87.45 328 eP **P** **08 44 31.9 -0.8**
PRU AMS AMS 09 27 10.0
comp=Z,2μm,18.0s
ZST Bratislava 87.48 326 eP **P** **08 44 32.7 -0.2**
comp=Z,94nm,2.1s,mb5.7
ZST eS S 08 55 16.1 +5.0
ZST LR LR
comp=Z,2μm,16.9s,MS5.5
TREC Trest 87.50 327 AMS AMS 09 27 40.0
comp=Z,3μm,16.5s
MVCO Mesa Verde 87.57 48 eP **P** **08 44 33.8 +0.6**
comp=Z,30nm,1.4s,mb5.3
MVCO LR LR
comp=Z,1μm,19.0s,MS5.3
AGMN Agassiz Refuge 87.74 34 eP **P** **08 44 33.4 -0.7**
comp=Z,19nm,1.1s,mb5.2
AGMN LR LR
comp=Z,941nm,22.0s,MS5.2
MSEY Mahe Island 87.76 263 PFAKE 08 44 50.0 +16
MSEY LR LR
comp=Z,249nm,21.0s,MS4.6
VTS Vitosha 87.91 319⇓ iP **P** **08 44 36.4 +1.5**
VTS Vitosha 87.91 319⇓ P **P** **08 44 36.4 +1.5**
CLZ Clausthal 87.92 332 eP **P** **08 44 34.8 -0.2**
comp=Z,81nm,2.0s,mb5.6
CLZ Clausthal 87.92 332 eP **P** **08 44 34.8 -0.2**
CLZ pmax pmax
comp=Z,81nm,2.0s,mb5.6
PKSM Moragy 88.05 324⇑ iP **P** **08 44 34.5 -1.1**
PKSM Moragy 88.05 324 P **P** **08 44 34.2 -1.4**
PKSM Moragy 88.05 324⇑ P **P** **08 44 34.5 -1.1**
TANN Tannenbergstha 88.08 330 eP **P** **08 44 37.2 +1.5**
comp=Z,63nm,2.1s,mb5.5
SOP Sopron 88.10 326⇓ ePcP PcP 08 44 35.6 -1.9
GUNZ Gunzen 88.17 330 eP **P** **08 44 35.5 -0.6**
comp=Z,36nm,1.4s,mb5.4
WERN Wernitzgruen 88.21 330 eP **P** **08 44 35.5 -0.8**
comp=Z,53nm,1.5s,mb5.5
MOX Moxa 88.28 330 eP **P** **08 44 36.3 -0.4**
comp=Z,32nm,1.6s,mb5.3
MOX Moxa 88.28 330 eP **P** **08 44 36.7 0.0**
comp=Z,46nm,1.9s,mb5.4
MOX
comp=Z,1μm,19.0s
KHC Kasperske Hory 88.50 328 eP **P** **08 44 36.8 -0.9**
KHC ex x 08 44 45.8
KHC AMS AMS 09 27 00.0
comp=Z,2μm,19.4s
KHC Kasperske Hory 88.50 328 iP **P** **08 44 36.5 -1.2**
MANZ Manzenberg 88.54 329 eP **P** **08 44 37.4 -0.5**
comp=Z,81nm,2.1s,mb5.7
GEC2 GERESS Array S 88.65 328 eP **P** **08 44 37.0 -1.4**
GERES GERESS Array B 88.65 328 P **P** **08 44 36.0 -2.4**
comp=Z,1.7nm,0.7s,mb4.5,baz=42,slow=4.2,SNR=7.1
GERES LR LR 09 27 26.5
comp=Z,2μm,19.1s,MS5.5,baz=31,slow=38
GERES GERESS Array B 88.65 328 P **P** **08 44 36.0 -2.4**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,2μm,19.1s
ROTZ Rotzenmuhle 88.66 329 eP **P** **08 44 38.4 -0.1**
ROTZ epP pP 08 44 47.1 -3.3
KAC Achnashellach 88.68 342 eP **P** **08 44 37.1 -1.4**
WET Wettzell 88.81 329 eP **P** **08 44 38.5 -0.7**
comp=Z,78nm,2.3s,mb5.6
WET Wettzell 88.81 329 eP **P** **08 44 38.5 -0.7**
WET pmax pmax
comp=Z,78nm,2.3s,mb5.6
TUC Tucson 88.83 53 eP **P** **08 44 40.2 +1.0**
TUC pmax pmax
comp=Z,42nm,1.8s,mb5.5
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.5
TUC Tucson 88.83 53 eP **P** **08 44 40.2 +1.0**
comp=Z,42nm,1.8s,mb5.5
TUC LR LR
comp=Z,2μm,19.0s,MS5.5
KPL Plockton 88.91 342 eP **P** **08 44 38.1 -1.5**
KPL AMb AMB 08 44 48.4
comp=Z,86nm,1.3s,mb5.9
MOA Molln 89.09 327⇑ iP **P** **08 44 40.0 -0.5**
comp=Z,32nm,1.8s,mb5.4
GRA1 Grafenberg Arr 89.15 330 eP **P** **08 44 40.0 -0.8**
comp=Z,29nm,0.9s,mb5.6
GRA1 epP pP 08 44 50.0 -2.7
GRA1 ePP PP 08 48 13.1 +1.9
GRA1 LR LR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 89.15 330 eP **P** **08 44 40.0 -0.8**
comp=Z,29nm,0.9s,mb5.6
GRF epP pP 08 44 50.0 -2.7
GRF ePP PP 08 48 13.1 +1.9
GRF eL 09 28 41.3
comp=Z,1μm,18.9s
GRF Grafenberg Arr 89.15 330 eP **P** **08 44 40.0 -0.8**
GRF e*PP pP 08 44 50.0 -2.7
GRF e 08 48 13.1
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 89.15 330 eP **P** **08 44 40.1 -0.7**
GRF e*PP pP 08 44 50.0 -2.7
GRF e 08 48 13.1
GRF pmax pmax
comp=Z,29nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,2μm,18.9s,MS5.4
GRF Grafenberg Arr 89.15 330 eP **P** **08 44 40.1 -0.7**
comp=Z,29nm,0.9s,mb5.6
GRF epP pP 08 44 50.0 -2.7
GRF ePP PP 08 48 13.1 +1.9
GRF LR LR
comp=Z,2μm,18.9s,MS5.4
SDCO Great Sand Dun 89.17 46 eP **P** **08 44 41.7 +0.8**
comp=Z,62nm,1.9s,mb5.6
SDCO LR LR
comp=Z,2μm,22.0s,MS5.4
ESY Stoneypath 89.29 340 eP **P** **08 44 40.3 -1.1**
BUG Bochum--Univer 89.49 333 eP **P** **08 44 41.2 -1.2**
comp=Z,136nm,2.0s,mb5.9
BUG epP pP 08 44 51.0 -3.3
PERS Pernice 89.53 326 eP **P** **08 44 41.5 -1.0**
EBL Broad Law 89.54 340 eP **P** **08 44 42.4 -0.2**
EAB Aberfoyle 89.56 341 eP **P** **08 44 41.6 -1.1**
EAU Auchinson 89.59 341 eP **P** **08 44 40.9 -2.0**
PGBU Glenifferbraes 89.92 341 eP **P** **08 44 43.2 -1.2**
PGBU AMb AMB 08 44 51.6
comp=Z,72nm,2.6s,mb5.5
CRES Cresnjev 89.93 325 eP **P** **08 44 43.2 -1.2**
ESK Eskdalemuir 89.98 340 eP **P** **08 44 43.4 -1.2**
ESK AMb AMB 08 44 49.2
comp=Z,99nm,1.8s,mb5.8
ESK Eskdalemuir 89.98 340 eP **P** **08 44 44.7 +0.1**
ESK pmax pmax
comp=Z,89nm,1.4s,mb5.9
ESK MLR MLR
comp=Z,385nm,19.0s,MS4.8
ESK Eskdalemuir 89.98 340 eP **P** **08 44 44.7 0.0**
comp=Z,89nm,1.4s,mb5.9
ESK LR LR
comp=Z,385nm,19.0s,MS4.8
PDKS Podkum 90.00 325 eP **P** **08 44 43.5 -1.2**
EYMN Ely 90.05 32 PFAKE 08 45 00.0 +15
EYMN LR LR
comp=Z,2μm,22.0s,MS5.5
ECK Cauldkaine Hil 90.07 340 eP **P** **08 44 44.8 -0.2**
LAZ Ladron 90.11 50 eP **P** **08 44 46.1 +0.9**
ANMO Albuquerque 90.23 49 eP **P** **08 44 44.6 -1.2**
ANMO Albuquerque 90.23 49 eP **P** **08 44 46.2 +0.3**
comp=Z,38nm,1.8s,mb5.4
ANMO LR LR
comp=Z,2μm,20.0s,MS5.6
FUR Furstenfeldbru 90.25 329 eP **P** **08 44 45.7 -0.2**
comp=Z,40nm,1.2s,mb5.6
FUR Furstenfeldbru 90.25 329 eP **P** **08 44 45.7 -0.2**
FUR pmax pmax
comp=Z,40nm,1.2s,mb5.6
BOJS Bojanci 90.26 325 eP **P** **08 44 44.8 -1.1**
TOD Tromm 90.26 331 eP **P** **08 44 45.6 -0.3**
BBO1 Bothel 90.49 340 eP **P** **08 44 45.1 -1.9**
LPM Los Pinos Moun 90.50 50 eP **P** **08 44 47.9 +0.8**
PTCC Patocco-Chiusa 90.56 326 P **P** **08 44 46.6 -0.7**
comp=Z,25nm,1.4s,mb5.3
VOJS Vojsko 90.57 326 eP **P** **08 44 45.5 -1.9**
CKE Keswick 90.57 340 eP **P** **08 44 46.3 -1.1**
ABH Alteburg 90.58 332 eP **P** **08 44 46.9 -0.5**
BNM Barren Site 90.60 50 eP **P** **08 44 47.8 +0.3**
FVI Forni Avoltri 90.69 327 P **P** **08 44 46.3 -1.7**
FVI pmax pmax
comp=Z,99nm,2.2s,mb5.8
FVI Forni Avoltri 90.69 327 P **P** **08 44 46.3 -1.7**
comp=Z,99nm,2.2s,mb5.8
STU Stuttgart 90.72 330 P **P** **08 44 47.3 -0.8**
STU pmax pmax
comp=Z,43nm,1.2s,mb5.7
STU Stuttgart 90.72 330 eP **P** **08 44 47.8 -0.3**
comp=Z,43nm,1.3s,mb5.6
WTTA Wattenberg 90.75 328⇑ iP **P** **08 44 47.7 -0.5**
comp=Z,34nm,1.5s,mb5.5
WTTA Wattenberg 90.75 328⇑ iP **P** **08 44 47.7 -0.5**
WTTA pmax pmax
comp=Z,34nm,1.5s,mb5.5
XDE Dent Fell 90.76 340 eP **P** **08 44 47.2 -1.0**
MOTA Moosalm 90.93 328⇓ iP **P** **08 44 48.0 -1.1**
comp=Z,31nm,1.6s,mb5.4,SNR=6.4
MOTA Moosalm 90.93 328⇓ iP **P** **08 44 48.0 -1.1**
MOTA pmax pmax
comp=Z,31nm,1.6s,mb5.4
SQTA Sankt Quirin 90.98 328⇓ iP **P** **08 44 48.4 -0.9**
comp=Z,35nm,1.7s,mb5.4
SQTA Sankt Quirin 90.98 328⇓ iP **P** **08 44 48.4 -0.9**
SQTA pmax pmax
comp=Z,35nm,1.7s,mb5.4
LHO Holmfirth 91.07 339 eP **P** **08 44 48.0 -1.7**
KBI1 Birley Grange 91.21 338 eP **P** **08 44 49.9 -0.5**
WLF Walferdange 91.32 332 eP **P** **08 44 50.6 -0.3**
comp=Z,82nm,1.6s,mb5.8
WLF Walferdange 91.32 332 eP **P** **08 44 51.5 +0.6**
WLF pmax pmax
comp=Z,56nm,1.4s,mb5.7
WLF Walferdange 91.32 332 eP **P** **08 44 51.5 +0.7**
comp=Z,56nm,1.4s,mb5.7
BFO Black Forest 91.43 330 P **P** **08 44 50.4 -1.0**
comp=Z,118nm,1.5s,mb6.0,SNR=8.7
BFO Black Forest 91.43 330 eP **P** **08 44 50.3 -1.1**
comp=Z,46nm,1.4s,mb5.6
BFO LR LR
comp=Z,386nm,19.0s,MS4.9
GIVF Givet 91.51 333 eP **P** **08 44 50.2 -1.5**
DAVA Damuels 91.53 329 iP **P** **08 44 51.5 -0.4**
comp=Z,44nm,1.4s,mb5.6,SNR=9.7
CTI Castel Tesino 91.63 327 P **P** **08 44 51.0 -1.3**
BAIF Baives 91.78 333 eP **P** **08 44 51.6 -1.4**
comp=Z,85nm,1.7s,mb5.5
BAIF Baives 91.78 333 eP **P** **08 44 51.6 -1.4**
BAIF pmax pmax
comp=Z,42nm,1.7s,mb5.5
BAIF Baives 91.78 333 eP **P** **08 44 51.6 -1.4**
comp=Z,42nm,1.7s,mb5.5
WLS Welschbruch 91.79 331 eP **P** **08 44 55.1 +2.1**
BRMO Bormio 91.91 328 P **P** **08 44 53.0 -0.6**
comp=Z,92nm,2.3s,mb5.7
FELD Feldberg im Sc 91.92 330 eP **P** **08 44 52.9 -0.8**
CBKS Cedar Bluff 92.02 43 PFAKE 08 45 10.0 +16
CBKS LR LR
comp=Z,755nm,20.0s,MS5.1
ECH Echery 92.03 331 eP **P** **08 44 53.4 -0.7**
SBD1 Bryn Du 92.06 339 eP **P** **08 44 53.2 -1.1**
MOF Molkenrain 92.32 331 eP **P** **08 44 55.0 -0.5**
TUE Stuetta 92.39 328 P **P** **08 44 55.1 -0.7**
BBS Basel-Blauen 92.45 330 eP **P** **08 44 55.5 -0.6**
HINF Hinteralfeld 92.46 331 eP **P** **08 44 54.2 -2.0**
comp=Z,66nm,1.5s,mb5.5
HINF Hinteralfeld 92.46 331 eP **P** **08 44 54.2 -2.0**
HINF pmax pmax
comp=Z,33nm,1.5s,mb5.4
HINF Hinteralfeld 92.46 331 eP **P** **08 44 54.2 -2.0**
comp=Z,33nm,1.5s,mb5.5
THEF They Montfort 92.51 331 eP **P** **08 44 55.9 -0.5**
HAU Haudompre 92.53 331 eP **P** **08 44 54.7 -1.8**
HAU eMLR MLR
comp=Z,2μm,18.2s
HAU Haudompre 92.53 331 eP **P** **08 44 54.7 -1.8**
HAU LR LR
comp=Z,2μm,18.3s,MS5.6
MEZF Maizieres J'vi 92.68 332 eP **P** **08 44 56.1 -1.1**
comp=Z,167nm,1.6s,mb5.9
MEZF Maizieres J'vi 92.68 332 eP **P** **08 44 56.1 -1.1**
comp=Z,167nm,1.6s,mb6.2
MCH1 Michaelchurch 92.75 338 eP **P** **08 44 56.6 -0.8**
MCH1 AMb AMB 08 45 02.6
comp=Z,63nm,1.8s,mb5.8
RSM Repubblica di 92.78 325 P **P** **08 44 58.9 +1.3**
RSM pmax pmax
comp=Z,894nm,4.6s
RSM Repubblica di 92.78 325 P **P** **08 44 58.9 +1.3**
comp=Z,894nm,4.6s
LOMF Lomont 92.83 330 eP **P** **08 44 57.5 -0.4**
SCHQ Schefferville 92.89 15 LR LR 09 30 16.7
comp=Z,539nm,19.2s,MS5.0,baz=151,slow=38
SCHQ Schefferville 92.89 15 PFAKE 08 45 10.0 +12
SCHQ LR LR
comp=Z,831nm,21.0s,MS5.2
MNTX Cornudas Mount 92.91 51 eP **P** **08 44 58.4 +0.2**
comp=Z,13nm,1.1s,mb5.3
MNTX LR LR
comp=Z,1μm,20.0s,MS5.3
HGH Gray Hill 93.00 338 eP **P** **08 44 58.1 -0.5**
SFI Santa Sofia 93.10 325 P **P** **08 44 59.3 +0.2**
SFI pmax pmax
comp=Z,155nm,2.1s,mb6.1
SFI Santa Sofia 93.10 325 P **P** **08 44 59.3 +0.2**
comp=Z,155nm,2.1s,mb6.1
AMTX Amarillo 93.36 47 eP **P** **08 45 01.0 +0.7**
comp=Z,19nm,0.8s,mb5.6
AMTX LR LR
comp=Z,1μm,19.0s,MS5.4
SCIA State Center 93.55 37 eP **P** **08 45 01.0 -0.2**
comp=Z,27nm,0.4s,mb6.0
SCIA LR LR
comp=Z,1μm,22.0s,MS5.3
KSU1 Kansas State U 93.65 41 eP **P** **08 45 01.4 -0.2**
comp=Z,29nm,0.8s,mb5.8
KSU1 LR LR
comp=Z,2μm,21.0s,MS5.5
CABF La Chapelle 93.73 330 eP **P** **08 45 00.5 -1.5**
comp=Z,85nm,1.4s,mb5.7
CABF La Chapelle 93.73 330 eP **P** **08 45 00.5 -1.5**
CABF pmax pmax
comp=Z,43nm,1.4s,mb5.7
CABF La Chapelle 93.73 330 eP **P** **08 45 00.5 -1.5**
comp=Z,43nm,1.4s,mb5.7
HEX Exmoor 93.81 338 eP **P** **08 45 00.8 -1.5**
LOR Lormes 94.15 332 eP **P** **08 45 02.3 -1.6**
comp=Z,167nm,1.8s,mb5.9
LOR eMLR MLR
comp=Z,2μm,19.8s
LOR Lormes 94.15 332 eP **P** **08 45 02.3 -1.6**
LOR pmax pmax
comp=Z,83nm,1.8s,mb5.9
LOR MLR MLR
comp=Z,2μm,19.8s,MS5.5
LOR Lormes 94.15 332 eP **P** **08 45 02.3 -1.6**
comp=Z,83nm,1.8s,mb5.9
LOR LR LR
comp=Z,2μm,19.8s,MS5.5
LPL La Plagne 94.30 329 eP **P** **08 45 03.3 -1.3**
comp=Z,29nm,1.1s,mb5.3
LPL La Plagne 94.30 329 eP **P** **08 45 03.3 -1.3**
LPL pmax pmax
comp=Z,15nm,1.1s,mb5.3
LPL La Plagne 94.30 329 eP **P** **08 45 03.3 -1.3**
comp=Z,15nm,1.1s,mb5.3
LPG La Plagne 94.30 329 eP **P** **08 45 03.4 -1.2**
comp=Z,23nm,0.9s,mb5.3
LPG La Plagne 94.30 329 eP **P** **08 45 03.4 -1.2**
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.3
LPG La Plagne 94.30 329 eP **P** **08 45 03.4 -1.2**
comp=Z,12nm,0.9s,mb5.3
JFWS Jewell Farm 94.34 35 PFAKE 08 45 20.0 +15
JFWS LR LR
comp=Z,1μm,20.0s,MS5.3
SSF Saint Saulge 94.46 332 eP **P** **08 45 03.8 -1.5**
comp=Z,26nm,1.0s,mb5.3
SSF Saint Saulge 94.46 332 eP **P** **08 45 03.8 -1.5**
SSF pmax pmax
comp=Z,13nm,1.0s,mb5.3
SSF Saint Saulge 94.46 332 eP **P** **08 45 03.8 -1.5**
comp=Z,13nm,1.0s,mb5.3
FLN La Foliniere 94.62 335 eP **P** **08 45 04.3 -1.8**
comp=Z,114nm,1.5s,mb5.8
FLN eMLR MLR
comp=Z,3μm,20.0s
FLN La Foliniere 94.62 335 eP **P** **08 45 04.3 -1.8**
FLN pmax pmax
comp=Z,57nm,1.5s,mb5.8
FLN MLR MLR
comp=Z,3μm,20.0s,MS5.8
FLN La Foliniere 94.62 335 eP **P** **08 45 04.3 -1.8**
comp=Z,57nm,1.5s,mb5.8
FLN LR LR
comp=Z,3μm,20.0s,MS5.8
LDF La Druitiere 94.62 335 eP **P** **08 45 04.6 -1.5**
comp=Z,155nm,1.7s,mb5.9
LDF La Druitiere 94.62 335 eP **P** **08 45 04.6 -1.5**
LDF pmax pmax
comp=Z,78nm,1.7s,mb5.9
LDF La Druitiere 94.62 335 eP **P** **08 45 04.6 -1.5**
comp=Z,78nm,1.7s,mb5.9
HYF Humbligny 94.64 333 eP **P** **08 45 05.2 -1.0**
SMF Signal de Mont 94.65 332 eP **P** **08 45 04.6 -1.6**
comp=Z,79nm,1.5s,mb5.6
SMF Signal de Mont 94.65 332 eP **P** **08 45 04.6 -1.6**
SMF pmax pmax
comp=Z,40nm,1.5s,mb5.6
SMF Signal de Mont 94.65 332 eP **P** **08 45 04.6 -1.6**
comp=Z,40nm,1.5s,mb5.6
BNI Bardonecchia 94.68 329 eP **P** **08 45 05.5 -0.9**
BNI pmax pmax
comp=Z,28nm,1.5s,mb5.5
BNI Bardonecchia 94.68 329 eP **P** **08 45 05.5 -0.9**
comp=Z,28nm,1.5s,mb5.5
AVF Avril sur Loir 94.74 332 eP **P** **08 45 05.2 -1.4**
comp=Z,107nm,1.5s,mb5.8
AVF Avril sur Loir 94.74 332 eP **P** **08 45 05.2 -1.4**
AVF pmax pmax
comp=Z,53nm,1.5s,mb5.8
AVF Avril sur Loir 94.74 332 eP **P** **08 45 05.2 -1.4**
comp=Z,53nm,1.5s,mb5.8

MBDF Montbardon 94.89 329 *eP* **P 08 45 05.1 -2.2**
comp=Z,30nm,1.2s,mb5.3
MBDF Montbardon 94.89 329 *eP* **P 08 45 05.1 -2.2**
MBDF pmax pmax
comp=Z,15nm,1.2s,mb5.3
MBDF Montbardon 94.89 329 *eP* **P 08 45 05.1 -2.2**
comp=Z,15nm,1.2s,mb5.3
CRQ2 Rosemanowes 2 95.03 339 *eP* **P 08 45 06.6 -1.4**
GRR Gorron 95.07 335 *eP* **P 08 45 06.8 -1.3**
comp=Z,155nm,1.5s,mb5.9
GRR Gorron 95.07 335 *eP* **P 08 45 06.8 -1.3**
GRR pmax pmax
comp=Z,77nm,1.5s,mb5.9
GRR Gorron 95.07 335 *eP* **P 08 45 06.8 -1.3**
comp=Z,77nm,1.5s,mb5.9
BGF Bois d'Agland 95.13 332 *eP* **P 08 45 07.0 -1.4**
comp=Z,71nm,1.6s,mb5.5
BGF Bois d'Agland 95.13 332 *eP* **P 08 45 07.0 -1.4**
BGF pmax pmax
comp=Z,35nm,1.6s,mb5.5
BGF Bois d'Agland 95.13 332 *eP* **P 08 45 07.0 -1.4**
comp=Z,36nm,1.6s,mb5.5
ORIF Oris-en-Rattie 95.14 329 *eP* **P 08 45 06.8 -1.7**
comp=Z,86nm,1.7s,mb5.6
ORIF *e*MLR MLR
comp=Z,4μm,17.8s
ORIF Oris-en-Rattie 95.14 329 *eP* **P 08 45 06.8 -1.7**
ORIF pmax pmax
comp=Z,43nm,1.7s,mb5.6
ORIF Oris-en-Rattie 95.14 329 *eP* **P 08 45 06.8 -1.7**
comp=Z,43nm,1.7s,mb5.6
WMOK Wichita Mounta 95.28 45 *eP* **P 08 45 08.7 -0.4**
WMOK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
WMOK MLR MLR
comp=Z,1μm,19.0s,MS5.4
WMOK Wichita Mounta 95.28 45 *eP* **P 08 45 08.7 -0.4**
comp=Z,9.4nm,1.1s,mb5.1
WMOK LR LR
comp=Z,1μm,19.0s,MS5.4
PLDF La Plantade 95.28 331 *eP* **P 08 45 08.6 -0.5**
AGO Saint Agoulin 95.42 332 *eP* **P 08 45 07.6 -2.2**
TXAR Lajitas Array 95.52 52 P **P 08 45 10.8 +0.6**
comp=Z,5.7nm,0.9s,mb5.0,baz=305,slow=2.5,SNR=40
TXAR PP PP 08 49 02.7 +1.4
comp=Z,1.1nm,1.1s,baz=300,slow=7.2,SNR=2.9
TXAR LR LR 09 30 22.9
comp=Z,2μm,18.8s,MS5.6,baz=350,slow=37
TXAR Lajitas Array 95.52 52 P **P 08 45 10.8 +0.6**
TXAR 08 49 02.7
TXAR pmax pmax
comp=Z,6.0nm,0.9s
TXAR MLR MLR
comp=Z,2μm,18.8s
TXAR Lajitas Array 95.52 52 P **P 08 45 10.8 +0.6**
TXAR PP PP 08 49 02.7 +1.4
TXAR LR LR 09 30 22.9
TCF Toulx Ste Croi 95.61 332 *eP* **P 08 45 09.3 -1.3**
comp=Z,142nm,1.9s,mb5.8
TCF Toulx Ste Croi 95.61 332 *eP* **P 08 45 09.3 -1.3**
TCF pmax pmax
comp=Z,71nm,1.9s,mb5.8
TCF Toulx Ste Croi 95.61 332 *eP* **P 08 45 09.3 -1.3**
comp=Z,71nm,1.9s,mb5.8
PYM Petit Puy Mans 95.72 331 *eP* **P 08 45 10.9 -0.2**
VIVF Saint-Julien-l 95.72 330 *eP* **P 08 45 09.4 -1.7**
comp=Z,62nm,1.5s,mb5.5
VIVF Saint-Julien-l 95.72 330 *eP* **P 08 45 09.4 -1.7**
VIVF pmax pmax
comp=Z,31nm,1.5s,mb5.5
VIVF Saint-Julien-l 95.72 330 *eP* **P 08 45 09.4 -1.7**
comp=Z,31nm,1.5s,mb5.5
SGMF Saint Gilles 95.79 336 *eP* **P 08 45 10.1 -1.3**
comp=Z,84nm,1.4s,mb5.7
SGMF Saint Gilles 95.79 336 *eP* **P 08 45 10.1 -1.3**
SGMF pmax pmax
comp=Z,42nm,1.4s,mb5.7
SGMF Saint Gilles 95.79 336 *eP* **P 08 45 10.1 -1.3**
comp=Z,42nm,1.4s,mb5.7
DRV Dumont d'Urvil 95.80 180 SP SP 08 57 43.0 -1.6
DRV SS SS 09 02 52.0 -4.4
ROSF Rostrenen 95.97 337 *eP* **P 08 45 11.1 -1.2**
comp=Z,203nm,1.9s,mb5.9
ROSF Rostrenen 95.97 337 *eP* **P 08 45 11.1 -1.2**
ROSF pmax pmax
comp=Z,102nm,1.9s,mb5.9
ROSF Rostrenen 95.97 337 *eP* **P 08 45 11.1 -1.2**
comp=Z,102nm,1.9s,mb5.9
SMRF Simiane la Rot 96.01 329 *eP* **P 08 45 10.7 -1.7**
comp=Z,49nm,1.4s,mb5.4
SMRF Simiane la Rot 96.01 329 *eP* **P 08 45 10.7 -1.7**
comp=Z,49nm,1.4s,mb5.7
LMR La Mourre 96.08 328 *eP* **P 08 45 10.7 -2.1**
MFF Saint Martin d 96.29 334 *eP* **P 08 45 12.6 -1.1**
comp=Z,92nm,1.5s,mb5.7
MFF Saint Martin d 96.29 334 *eP* **P 08 45 12.6 -1.1**
MFF pmax pmax
comp=Z,46nm,1.5s,mb5.7
MFF Saint Martin d 96.29 334 *eP* **P 08 45 12.6 -1.1**
comp=Z,46nm,1.5s,mb5.7
QUIF Quistinic 96.29 336 *eP* **P 08 45 12.4 -1.3**
comp=Z,172nm,1.9s,mb5.8
QUIF Quistinic 96.29 336 *eP* **P 08 45 12.4 -1.3**
QUIF pmax pmax
comp=Z,86nm,1.9s,mb5.9
QUIF Quistinic 96.29 336 *eP* **P 08 45 12.4 -1.3**
comp=Z,86nm,1.9s,mb5.9
LASF Ste Croix 96.69 330 *eP* **P 08 45 14.1 -1.4**
RJF Les Rejaudoux 96.69 332 *eP* **P 08 45 14.6 -0.9**
comp=Z,109nm,1.7s,mb5.7
RJF *e*MLR MLR
comp=Z,2μm,21.8s
RJF Les Rejaudoux 96.69 332 *eP* **P 08 45 14.6 -0.9**
RJF pmax pmax
comp=Z,55nm,1.7s,mb5.7
RJF MLR MLR
comp=Z,2μm,21.8s,MS5.6
RJF Les Rejaudoux 96.69 332 *eP* **P 08 45 14.6 -0.9**
comp=Z,54nm,1.7s,mb5.7
RJF LR LR
comp=Z,2μm,21.8s,MS5.6
RKT Rikitea 96.74 113 *e*SS SS 09 03 16.9 +7.2
comp=Z,180nm,29.5s
RKT *e*LR LR 09 15 54.2
comp=Z,542nm,33.5s,baz=312
CAF Calviac 96.78 332 *eP* **P 08 45 15.1 -0.8**
comp=Z,77nm,1.6s,mb5.6
CAF Calviac 96.78 332 *eP* **P 08 45 15.1 -0.8**
CAF pmax pmax
comp=Z,38nm,1.6s,mb5.6
CAF Calviac 96.78 332 *eP* **P 08 45 15.1 -0.8**
comp=Z,38nm,1.6s,mb5.6
LFF La Frestale 97.31 332 *eP* **P 08 45 17.3 -1.0**
comp=Z,66nm,1.4s,mb5.6
LFF La Frestale 97.31 332 *eP* **P 08 45 17.3 -1.0**
LFF pmax pmax
comp=Z,33nm,1.4s,mb5.6
LFF La Frestale 97.31 332 *eP* **P 08 45 17.3 -1.0**
comp=Z,33nm,1.4s,mb5.6
JCT Junction City 97.40 49 *eP* **P 08 45 18.5 -0.2**
JCT pmax pmax
comp=Z,11nm,1.1s,mb5.2
JCT Junction City 97.40 49 *eP* **P 08 45 19.0 +0.3**
comp=Z,11nm,1.2s,mb5.2
JCT *e*pP pP 08 45 32.7 +2.0
JCT LR LR
comp=Z,1μm,19.0s,MS5.5
AAM Ann Arbor 97.94 31 PFAKE 08 45 30.0 +8.9
AAM LR LR
comp=Z,1μm,22.0s,MS5.4
MTLF Montolieu 97.99 331 *eP* **P 08 45 20.0 -1.4**
CASY Casey 98.09 192 PFAKE 08 45 30.0 +8.2
CASY LR LR
comp=Z,472nm,20.0s,MS5.0
EPF Esparros 99.04 331 *eP* **P 08 45 24.5 -1.6**
ETSF Etsaut 99.52 332 *eP* **P 08 45 27.4 -0.8**
comp=Z,5.9nm,0.8s,mb4.8
ETSF Etsaut 99.52 332 *eP* **P 08 45 27.4 -0.8**
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
ETSF Etsaut 99.52 332 *eP* **P 08 45 27.4 -0.8**
comp=Z,3.0nm,0.8s,mb4.8
SJPF Ste Jean 99.61 332 *eP* Pdif 08 45 27.5 -1.1
LONY Lake Ozonia 99.72 24 PFAKE 08 45 40.0 +11
LONY LR LR
comp=Z,1μm,21.0s,MS5.4

NATX Nacogdoches 99.83 45 PFAKE 08 45 40.0 +10
NATX LR LR
comp=Z,1μm,22.0s,MS5.4
WCI Wyandotte Cave 99.84 35 PFAKE 08 45 40.0 +10
WCI LR LR
comp=Z,1μm,21.0s,MS5.3
HKT Hockley 100.32 47 PFAKE 08 45 40.0 +8.2
HKT LR LR
comp=Z,2μm,21.0s,MS5.6
NCB Newcomb 100.41 25 PFAKE 08 45 40.0 +7.8
NCB LR LR
comp=Z,1μm,21.0s,MS5.4
WVT Waverly 100.63 38 PFAKE 08 45 40.0 +6.8
WVT LR LR
comp=Z,850nm,22.0s,MS5.2
OXF Oxford 100.96 40 PFAKE 08 45 50.0 +15
OXF LR LR
comp=Z,913nm,20.0s,MS5.3
BINY Binghamton 101.27 27 PFAKE 08 45 50.0 +14
BINY LR LR
comp=Z,2μm,20.0s,MS5.6
PLAL Pickwick Lake 101.35 39 PFAKE 08 45 50.0 +14
PLAL LR LR
comp=Z,881nm,20.0s,MS5.3
MCWV Mont Chateau 101.77 31 PFAKE 08 45 50.0 +12
MCWV LR LR
comp=Z,2μm,19.0s,MS5.6
SSPA Standing Stone 101.81 29 PFAKE 08 45 50.0 +12
SSPA LR LR
comp=Z,1μm,20.0s,MS5.5
KMBO Kilima Mbogo 101.90 275 PFAKE 08 45 50.0 +11
KMBO LR LR
comp=Z,470nm,20.0s,MS5.0
HRV Harvard--Oak R 102.64 24 PFAKE 08 45 50.0 +7.9
HRV LR LR
comp=Z,2μm,21.0s,MS5.5
WES Weston 102.83 23 PFAKE 08 45 50.0 +7.1
WES LR LR
comp=Z,1μm,21.0s,MS5.4
BLA Blacksburg 103.50 32 PFAKE 08 46 00.0 +14
BLA LR LR
comp=Z,1μm,22.0s,MS5.5
ESDC Sonseca Array 103.62 332 PP PP 08 50 03.0 0.0
comp=Z,1.2nm,0.8s,baz=28,slow=7.8,SNR=6.7
ESLA Sonseca Array 103.62 332 PFAKE 08 46 00.0 +14
ESLA LR LR
comp=Z,9μm,20.0s,MS6.3
CBN Corbin 104.06 30 PFAKE 08 46 00.0 +12
CBN LR LR
comp=Z,1μm,20.0s,MS5.4
EVO Evora 106.19 335 *eP* Pdif 08 45 57.9 +0.1
comp=Z,55nm,1.7s
EVO *e*MLR MLR
comp=Z,1μm,22.8s
CNNC Cliffs of the 106.29 32 PFAKE 08 50 20.0 +10
CNNC LR LR
comp=Z,1μm,22.0s,MS5.5
VNDA Vanda 107.50 175 PKKPbc PKKPbc 09 01 34.3 +7.8
comp=Z,0.7nm,0.9s,baz=183,slow=4.0,SNR=3.7
VNDA Vanda 107.50 175 PFAKE 08 50 20.0 +8.1
VNDA LR LR
comp=Z,576nm,19.0s,MS5.2
SBA Scott Base 108.21 174 PFAKE 08 50 20.0 +6.8
SBA LR LR
comp=Z,502nm,20.0s,MS5.1
DWPF Disney 110.24 39 PFAKE 08 50 30.0 +13
DWPF LR LR
comp=Z,1μm,22.0s,MS5.5
TEIG Tepich 111.97 49 PFAKE 08 50 30.0 +10
TEIG LR LR
comp=Z,818nm,21.0s,MS5.3
MAW Mawson 112.26 204 PP PP 08 50 56.7 -9.3
comp=Z,2.5nm,1.1s,baz=69,slow=8.5,SNR=3.5
MAW Mawson 112.26 204 PFAKE 08 50 30.0 +9.2
MAW LR LR
comp=Z,1μm,20.0s,MS5.5
BBSR BB Station 114.11 23 PFAKE 08 50 40.0 +16
BBSR LR LR
comp=Z,936nm,21.0s,MS5.4
LSZ Lusaka 116.41 267 PFAKE 08 50 40.0 +11
LSZ LR LR
comp=Z,1μm,22.0s,MS5.4
TGUH Tegucigalpa,Un 116.95 53 PFAKE 08 50 40.0 +10
TGUH LR LR
comp=Z,957nm,20.0s,MS5.4
QSPA South Pole Qui 119.20 180 *eP* PKPdf 08 50 32.0 -2.1
QSPA LR LR
comp=Z,954nm,22.0s,MS5.4
SYO Syowa Base 120.96 204⇑ *e*PKPdf PKPdf 08 50 35.4 -2.1
TOA0 Torodi Ar. Sit 121.79 311 *e*PKPdf PKPdf 08 50 38.7 -0.5
TORD Torodi Ar. Bea 121.79 311 PKP PKPdf 08 50 38.7 -0.4
comp=Z,3.2nm,0.6s,baz=45,slow=1.0,SNR=47
TORD PP PP 08 52 11.8 -0.7
comp=Z,1.7nm,0.9s,baz=16,slow=5.4,SNR=3.8
TORD PKKPbc PKKPbc 09 00 38.4 +1.0
comp=Z,1.9nm,0.6s,baz=219,slow=3.3,SNR=15
TORD Torodi Ar. Bea 121.79 311 PKP PKPdf 08 50 38.7 -0.4
TORD PP PP 08 52 11.8 -0.7
TORD PKKPbc PKKPbc 09 00 38.4 +1.0
LBTB Lobatse 122.42 258 PFAKE 08 50 50.0 +10
LBTB LR LR
comp=Z,781nm,21.0s,MS5.3
BOSA Boshof 123.88 254 PKP PKPdf 08 50 41.3 -1.8
comp=Z,4.0nm,1.0s,baz=86,slow=0.9,SNR=4.8
BOSA Boshof 123.88 254 PKP PKPdf 08 50 41.3 -1.8
BOSA LR LR
comp=Z,576nm,20.0s,MS5.2
PAYG Puerto Ayora 124.03 69 PFAKE 08 51 00.0 +17
PAYG LR LR
comp=Z,2μm,20.0s,MS5.7
TSUM Tsumeb 127.25 267 PFAKE 08 51 00.0 +10
TSUM LR LR
comp=Z,693nm,20.0s,MS5.3
SUR Sutherland 128.59 250 PFAKE 08 51 00.0 +7.9
SUR LR LR
comp=Z,148nm,19.0s,MS4.7
SDV Santo Domingo 131.64 43 PKP PKPdf 08 50 58.6 +0.7
comp=Z,18nm,1.0s,baz=301,slow=1.0,SNR=14
SDV Santo Domingo 131.64 43 *e*PKPdf PKPdf 08 50 58.8 +0.9
SDV *e*SKPdf SKPdf 08 54 25.5 -4.6
SDV LR LR
comp=Z,319nm,21.0s,MS5.0
ROSC El Rosal 132.39 50 PKP PKPdf 08 51 01.3 +2.0
comp=Z,9.6nm,1.1s,baz=117,slow=1.0,SNR=10
ROSC El Rosal 132.39 50 *e*PKPdf PKPdf 08 51 01.2 +1.9
OTAV Otavalo 132.72 58 *e*PKPdf PKPdf 08 51 01.9 +2.0
OTAV LR LR
comp=Z,654nm,20.0s,MS5.3
SNAA Sanae 133.21 195 *e*PKIKP PKPdf 08 50 58.6 -2.3
BBGH Gun Hill 133.54 27 PFAKE 08 51 10.0 +8.5
BBGH LR LR
comp=Z,2μm,20.0s,MS5.9
ATAH Atahualpa 137.32 66 PKP PKPdf 08 51 11.2 +2.7
comp=Z,4.0nm,0.4s,baz=315,slow=7.1,SNR=3.6
NNA Nana 141.39 71 PFAKE 08 51 30.0 +14
NNA LR LR
comp=Z,224nm,20.0s,MS4.9
USHA Ushuaia 147.29 149 PKPbc PKPbc 08 51 28.3 -0.3
comp=Z,31nm,1.0s,baz=225,slow=3.1,SNR=7.8
SAML Samuel 150.01 52 PFAKE 08 51 40.0 +9.4
SAML LR LR
comp=Z,613nm,20.0s,MS5.4
EFI East Falkland 153.92 154 PFAKE 08 51 50.0 +14
EFI LR LR
comp=Z,288nm,22.0s,MS5.0
HOPE Hope Point 155.06 184 PFAKE 08 51 50.0 +12
HOPE LR LR
comp=Z,307nm,20.0s,MS5.1
RCBR Riachuelo 156.24 351 PFAKE 08 51 50.0 +10
RCBR LR LR
comp=Z,759nm,22.0s,MS5.5
TRQA Tornquist 159.62 121 PFAKE 08 51 50.0 +6.2
TRQA LR LR
comp=Z,985nm,20.0s,MS5.7
CPUP Villa Florida 164.12 83 PKP PKPdf 08 51 48.5 +0.1
comp=Z,1.8nm,0.6s,baz=111,slow=1.8,SNR=6.9
CPUP PKPab PKPab 08 52 41.8 -0.2
comp=Z,3.9nm,0.6s,baz=272,slow=3.5,SNR=8.2
CPUP Villa Florida 164.12 83 PKIKP PKPdf 08 51 48.5 +0.1
CPUP 08 52 41.8
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP Villa Florida 164.12 83 *e*PKPdf PKPdf 08 51 48.6 +0.2
CPUP *e*PKPab PKPab 08 52 41.6 -0.4

*GRAL **29** 08:33:37.9±0.8, 35.30N×3587E, h0km±6km, MD3.3*
*CSEM **29** 08:33:39.6±0.4, 35.16N×3582E, h8km, Mc1.7, Error ellipse: s-maj=13.8km s-min=4.6km az=100.0*
*ISCJB **29** 08:33:40.3±0.7, 35.10N±003×3591E±007, h0km, Error ellipse: s-maj=8.2km s-min=4.1km az=16.3*
*NSSC **29** 08:33:43, 3521N×3618E, h13km±6km*
ISC 29 08:33:40.7±0.8, 3509N±003×3592E±007, h0km±10km, n14, σ0§88/19, 9D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BIDA	**Albida**	**0.34**	**103**	⇑*i*P		**Pg**	**08 33 48.9**	**+1.7**
BIDA	**Albida**	**0.34**	**103**	⇑P		**Pg**	**08 33 48.0**	**+0.8**
BIDA				⇑S		**Sg**	**08 33 51.0**	**-0.6**
SLNF	**Slenfeh**	**0.56**	**26**	⇓*i*P		**Pg**	**08 33 52.2**	**+0.7**
SLNF	**Slenfeh**	**0.56**	**26**	⇓P		**Pg**	**08 33 52.0**	**+0.5**
WRDH	**Warideh**	**0.58**	**44**	⇓*i*P		**Pg**	**08 33 52.0**	**+0.2**
WRDH	**Warideh**	**0.58**	**44**	⇓P		**Pg**	**08 33 52.0**	**+0.2**
WRDH				⇓S		**Sg**	**08 33 55.0**	**-4.3**
ARNB	**Al Arnab**	**0.77**	**3**	⇑P		**Pg**	**08 33 55.0**	**-0.5**
ARNB				⇑S		**Sg**	**08 34 06.0**	**+0.6**
HWQ	**Hawqa**	**0.81**	**178**	*e*P		**Pg**	**08 33 55.7**	**-0.6**
BTCH	**Batrach**	**1.04**	**25**	⇓*i*P		**Pg**	**08 34 00.6**	**-0.1**
BTCH	**Batrach**	**1.04**	**25**	⇓P		**Pg**	**08 34 00.0**	**-0.7**
BHL	**Bhannes**	**1.21**	**191**	*e*P		**Pg**	**08 34 02.4**	**-1.5**
BHL				*e*S		**Sg**	**08 34 21.0**	**+1.5**
ROOS	**tl_alroos**	**1.46**	**129**	⇓*i*P		**Pn**	**08 34 08.5**	**+0.2**
ROOS	**tl_alroos**	**1.46**	**129**	⇓P		**Pn**	**08 34 08.0**	**-0.3**
RCY	**Rachaya**	**1.60**	**183**	*e*P		**Pn**	**08 34 09.2**	**-1.1**
RCY				*e*S		**Sn**	**08 34 32.5**	**+0.7**

IDC 29 08:40:34.1±2.5, 2934N×14111E, h72km±32km, mb3.7/3, mb1 3.7/5, mb1mx3.3/21, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=108.1km s-min=17.0km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.43**	**157**	P		Pn	08 41 10.7	-1.0
	44nm,0.3s,baz=297,slow=15,SNR=12							
CBIJ				S		Sn	08 41 41.0	+0.7
	154nm,0.3s,baz=299,slow=22,SNR=14							
MJAR	**Matsushiro Arr**	**7.58**	**342**	P		Pn	08 42 22.3	+0.4
	0.3nm,0.3s,baz=154,slow=12,SNR=3.9							
WRA	**Warramunga Arr**	**49.43**	**188**	P		P	08 49 17.0	+0.3
	0.5nm,0.6s,baz=5.8,slow=7.7,SNR=6.0							
ARCES	**ARCESS Array B**	**71.11**	**340**	P		P	08 51 44.7	-0.1
	2.6nm,0.7s,baz=66,slow=9.6,SNR=5.4							
FINES	**FINESS Array B**	**75.52**	**333**	P		P	08 52 10.1	-0.6
	4.7nm,1.1s,baz=38,slow=7.0,SNR=5.5							

*BJI **29** 08:41:49.1, 28.39N×14066E, h15km, mb4.6*
*NEIC **29** 08:41:52.9±0.7, 2921N×14075E, h10km, mb4.5/2, Error ellipse: s-maj=28.0km s-min=15.1km az=79.0*
*ISCJB **29** 08:41:57.2±0.6, 2929N±005×1405E±01, h55km±8km, mb4.2/15, Error ellipse: s-maj=16.1km s-min=5.1km az=135.1*
*IDC **29** 08:41:57.7±1.5, 2921N×14040E, h50km±15km, mb3.7/10, mb1 3.9/13, mb1mx3.8/20, mbtmp4.0/13, ML4.2/3, Error ellipse: s-maj=32.0km s-min=8.9km az=70.0*
ISC 29 08:41:59.2±0.6, 2930N±005×1406E±01, h58km±7km, n39, σ1§20/45, mb4.2/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.61**	**147**	P		**Pn**	**08 42 37.2**	**-1.7**
	181nm,0.3s,baz=36,slow=4.1,SNR=12							
CBIJ				S		**Sn**	**08 43 08.4**	**-1.0**
	113nm,0.3s,baz=272,slow=22,SNR=5.8							
CBIJ	**Chichi jima**	**2.61**	**147**	P		**Pn**	**08 42 37.2**	**-1.7**
CBIJ				S		**Sn**	**08 43 08.7**	**-0.7**
JHHJ	**Haha-jima-NKT**	**3.01**	**152**	P		**Pn**	**08 42 44.3**	**-0.1**
JHHJ				*e*S		**Sn**	**08 43 21.3**	**+2.1**
JHJ2	**Mitsune**	**3.85**	**350**	P		**Pn**	**08 42 54.6**	**-1.3**
JHJ	**Hachijo jima 2**	**3.87**	**350**	P		**Pn**	**08 42 54.8**	**-1.3**
	12nm,0.3s,baz=247,slow=23,SNR=5.2							
JHJ				S		**Sn**	**08 43 41.7**	**+1.5**
	12nm,0.3s,baz=72,slow=20,SNR=2.8							
JKO	**Kozu shima**	**5.02**	**346**	P		**Pn**	**08 43 13.0**	**+1.1**
JOD2	**Odawara 2**	**6.08**	**348**	P		**Pn**	**08 43 25.2**	**-1.2**
JNY	**Yasuok**	**6.46**	**340**	P		**Pn**	**08 43 35.0**	**+3.3**
JAO	**Obara**	**6.58**	**335**	P		**Pn**	**08 43 34.9**	**+1.6**
JHU	**Hanno**	**6.62**	**351**	P		**Pn**	**08 43 32.1**	**-1.8**
JHU				*e*S		**Sn**	**08 44 41.4**	**-6.5**
JRY	**Ryogami san**	**6.84**	**348**	P		**Pn**	**08 43 36.3**	**-0.6**
JHO	**Hitachi**	**7.29**	**360**	P		**Pn**	**08 43 39.2**	**-3.8**
MJAR	**Matsushiro Arr**	**7.49**	**345**	P		**Pn**	**08 43 45.7**	**0.0**
	0.9nm,0.3s,baz=160,slow=12,SNR=7.1							
MAJO	**Matsushiro**	**7.49**	**345**	*e*Pn		**Pn**	**08 43 46.8**	**+1.0**
MAT	**Matsushiro**	**7.49**	**345**	P		**Pn**	**08 43 46.3**	**+0.5**
MAT				S		**Sn**	**08 45 23.8**	**+15**
INCN	**Inchon**	**14.22**	**309**	*e*Pn		**Pn**	**08 45 18.6**	**+1.2**
XAN	**Xi'an**	**27.30**	**288**	P		**P**	**08 47 37.3**	**-0.9**
XAN				AMB		AMB		
	comp=Z,16nm,1.4s,mb4.4							
SONM	**Songino Array**	**32.16**	**315**	P		**P**	**08 48 25.4**	**+4.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=126,slow=6.7,SNR=3.7							
JIRN	**Jiri**	**47.48**	**282**	*e*P		**P**	**08 50 28.8**	**+0.6**
	comp=Z,52nm,0.8s							
GUN	**Gumba**	**47.68**	**282**	*e*P		**P**	**08 50 30.2**	**+0.5**
	comp=Z,38nm,0.8s							
PKI	**Pulchoki**	**48.17**	**282**	*e*P		**P**	**08 50 33.5**	**0.0**
KKN	**Kakani**	**48.22**	**282**	*e*P		**P**	**08 50 33.9**	**0.0**
	comp=Z,28nm,0.8s,mb5.4							
DMN	**Daman**	**48.42**	**282**	*e*P		**P**	**08 50 35.4**	**0.0**
GKN	**Gorkha**	**48.71**	**283**	*e*P		**P**	**08 50 37.5**	**-0.2**
	comp=Z,26nm,0.9s,mb5.3							
FITZ	**Fitzroy Crossi**	**49.29**	**199**	*e*P		**P**	**08 50 43.4**	**+1.3**
	comp=Z,6.0nm,0.9s,mb4.6							
WB2	**Warramunga Arr**	**49.33**	**188**	*e*P		**P**	**08 50 41.5**	**-0.9**
WRA	**Warramunga Arr**	**49.33**	**188**	P		**P**	**08 50 41.8**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=4.5,slow=7.8,SNR=22							
KOLN	**Koldanda**	**49.66**	**283**	*e*P		**P**	**08 50 45.3**	**+0.4**
	comp=Z,43nm,0.9s							
ASAR	**Alice Springs**	**53.05**	**188**	P		**P**	**08 51 09.9**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=0.5,slow=4.4,SNR=8.7							
STKA	**Stephens Creek**	**60.85**	**179**	P		**P**	**08 52 07.9**	**+2.5**
	comp=Z,1.2nm,0.6s,mb4.2,baz=22,slow=9.3,SNR=4.8							
ARCES	**ARCESS Array B**	**71.00**	**340**	P		**P**	**08 53 09.7**	**-1.0**
	comp=Z,6.3nm,1.0s,mb4.5,baz=54,slow=6.2,SNR=5.0							
FINES	**FINESS Array B**	**75.35**	**333**	P		**P**	**08 53 34.6**	**-1.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=43,slow=8.6,SNR=6.4							
AKASG	**Malin Array Be**	**80.01**	**323**	P		**P**	**08 54 00.3**	**-1.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=44,slow=5.6,SNR=5.6							
NVAR	**Mina Array Bea**	**80.26**	**51**	P		**P**	**08 54 05.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=297,slow=5.0,SNR=2.3							
NB2	**NORSAR Subarra**	**81.05**	**338**	P		**P**	**08 54 05.8**	**-2.0**
	comp=Z,4.2nm,1.1s,mb4.3,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**81.05**	**338**	P		**P**	**08 54 07.0**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=50,slow=4.8,SNR=3.1							
BRTR	**Keskin Array B**	**83.48**	**312**	P		**P**	**08 54 19.9**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=116,slow=5.6,SNR=4.4							
PDAR	**Pinedale Array**	**83.63**	**44**	P		**P**	**08 54 22.3**	**+1.0**
	comp=Z,0.3nm,0.8s,mb3.5,baz=316,slow=3.8,SNR=2.0							
TXAR	**Lajitas Array**	**95.39**	**52**	P		**P**	**08 55 19.1**	**+1.9**
	comp=Z,0.6nm,1.0s,mb4.0,baz=328,slow=3.2,SNR=3.0							

*NEIC **29** 08:45:52.7, 19.15N×6697W, h15km, MD3.5(RSPR), After RSPR.*
RSPR 29 08:45:52.7, 1915N×6697W, h15km±7km, MD3.5/15, MD3.5/15, 10C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.69**	**191**	⇓*i*P		Pg	08 46 04.9	-1.4
AGPR				*e*S		Sg	08 46 14.2	-1.3
AOPR	**Arecibo Observ**	**0.83**	**166**	⇓*e*P		Pg	08 46 06.5	-2.3
AOPR				*e*S		Sg	08 46 16.9	-2.7
MPR	**Mayaguez**	**0.95**	**190**	⇑*e*P		Pb	08 46 07.7	-3.1
MPR				*e*S		Sb	08 46 20.7	-2.5
LSP	**Las Mesas**	**0.98**	**187**	⇑*e*P		Pb	08 46 08.7	-2.6
LSP				*e*S		Sb	08 46 21.8	-2.3
CELP	**Cerrillos**	**1.13**	**161**	⇑*e*P		Pb	08 46 11.3	-2.7
CELP				*e*S		Sb	08 46 25.6	-2.9
CRPR	**Cabo Rojo, PR**	**1.15**	**187**	⇓*e*P		Pn	08 46 11.2	-3.1
CRPR				*e*S		Sb	08 46 26.2	-2.8
OBIP	**Obispado Ponce**	**1.16**	**163**	⇓*e*P		Pn	08 46 11.7	-2.6
OBIP				*e*S		Sb	08 46 25.6	-3.5
GBPR	**Guanica, Bosqu**	**1.17**	**176**	⇑*e*P		Pn	08 46 12.3	-2.3

GBPR	Guanica, Bosqu	1.17 176	eS	Sb	08 46 26.2	-3.5
SJG	San Juan	1.29 143⇓	eP	Pn	08 46 13.3	-2.9
SJG			eS	Sb	08 46 29.7	-3.4
ICM	Isla Caja Muer	1.32 161⇑	eP	Pn	08 46 14.3	-2.3
ICM			eS	Sb	08 46 30.8	-3.1
CBYP	Canovanas	1.37 130⇑	eP	Pn	08 46 14.1	-3.2
CBYP			eS	Sn	08 46 31.0	-4.2
HUMP	Col San Antoni	1.46 133⇑	eP	Pn	08 46 15.5	-3.1
HUMP			eS	Sn	08 46 33.4	-4.0
CPD	Cerro la Pandu	1.49 138⇓	eP	Pn	08 46 16.2	-2.8
CPD			eS	Sn	08 46 33.8	-4.4
MTP	Monte Pirata	1.70 128⇑	eP	Pn	08 46 18.8	-3.0
MTP			eS	Sn	08 46 40.3	-3.0
STVI	Saint Thomas	2.07 112⇓	eP	Pn	08 46 24.1	-2.8
STVI			eS	Sn	08 46 48.4	-4.0
TBVI	Tortola	2.34 108⇑	eP	Pn	08 46 28.5	-2.1
TBVI			eS	Sn	08 46 56.0	-3.1
CDVI	St. Croix	2.51 123⇑	eP	Pn	08 46 31.6	-1.4

*ISCJB **29** 08:47:17.8±5.6, 292N±01×1403E±02, h11km±39km, mb4.1/3, Error ellipse: s-maj=29.9km s-min=10.6km az=91.1*
*IDC **29** 08:47:18.0±1.5, 29.11N×14025E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/22, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=53.0km s-min=22.1km az=73.0*
ISC 29 08:47:18.7±7.1, 291N±01×1403E±02, h5km±48km, n10, σ0°75/11, mb4.1/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.63	140	Pn	Pn	08 48 01.7	-0.1
38nm,0.3s,baz=321,slow=6.5,SNR=4.1							
CBIJ				Sn	Sn	08 48 34.2	+0.1
70nm,0.3s,baz=270,slow=20,SNR=6.5							
JHJ	Hachijo jima 2	3.99	354	Pn	Pn	08 48 18.9	-1.6
6.8nm,0.3s,baz=274,slow=19,SNR=2.5							
MJAR	Matsushiro Arr	7.58	347	Pn	Pn	08 49 11.7	+1.8
0.7nm,0.3s,baz=148,slow=15,SNR=7.7							
GUN	Gumba	47.47	282	eP	P	08 55 55.1	+0.7
KKN	Kakani	48.01	282	eP	P	08 55 58.5	-0.2
DMN	Daman	48.21	282	eP	P	08 55 59.8	-0.4
GKN	Gorkha	48.51	283	eP	P	08 56 02.5	0.0
WRA	Warramunga Arr	49.14	187	P	P	08 56 07.4	+0.1
0.7nm,0.5s,mb4.0,baz=3.2,slow=7.8,SNR=14							
KOLN	Koldanda	49.45	283	eP	P	08 56 09.4	-0.3
32nm,1.2s,mb5.2							
ASAR	Alice Springs	52.87	187	P	P	08 56 35.2	-0.1
0.2nm,0.6s,mb3.2,baz=5.0,slow=6.7,SNR=4.7							

*NEIC **29** 08:51:37.9±0.5, 866N×9375E, h30km, mb4.3/1, Error ellipse: s-maj=21.7km s-min=10.6km az=45.0*
*ISCJB **29** 08:51:40.9±3.3, 87N±01×940E±02, h72km±30km, mb3.7/11, Error ellipse: s-maj=31.0km s-min=16.2km az=107.1*
*IDC **29** 08:51:42.5±4.2, 871N×9382E, h68km±39km, mb3.5/11, mb1 3.6/12, mb1mx3.5/21, mbtmp3.8/12, ML3.5/1, Error ellipse: s-maj=28.8km s-min=15.2km az=57.0*
ISC 29 08:51:43.4±2.5, 88N±01×940E±02, h75km±24km, n14, σ1°01/15, mb3.7/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.44	118	ePn	Pn	08 53 28.0	-1.1
KULM				eSn	Sn	08 54 51.4	-0.7
PSI	Prapat	7.70	140	P	Pn	08 53 35.2	+2.6
0.7nm,0.3s,baz=337,slow=14,SNR=7.8							
MKAR	Makanchi Array	39.16	347	P	P	08 59 03.0	-0.8
0.2nm,0.4s,mb3.3,baz=165,slow=9.8,SNR=4.2							
SONM	Songino Array	40.28	13	P	P	08 59 14.4	+1.3
0.4nm,0.9s,mb3.2,baz=156,slow=7.3,SNR=2.4							
SONM				PcP	PcP	09 01 17.0	+1.6
0.4nm,0.5s,baz=229,slow=3.4,SNR=3.4							
ZAL	Zalesovo	45.62	352	P	P	08 59 57.4	+1.3
0.8nm,0.5s,mb3.7,baz=301,slow=12,SNR=4.3							
WRA	Warramunga Arr	48.89	126	P	P	09 00 22.4	+0.9
0.7nm,0.6s,mb3.8,baz=305,slow=8.5,SNR=13							
ASAR	Alice Springs	50.60	130	P	P	09 00 34.9	+0.4
0.8nm,0.7s,mb3.9,baz=302,slow=7.1,SNR=18							
ASAR				PcP	PcP	09 01 53.2	+2.1
0.5nm,0.7s,baz=314,slow=4.0,SNR=5.6							
STKA	Stephens Creek	60.83	134	P	P	09 01 46.9	-0.8
1.0nm,0.9s,mb3.9,baz=315,slow=4.3,SNR=3.0							
BRTR	Keskin Array B	61.74	310	P	P	09 01 52.4	-1.5
0.5nm,0.4s,mb3.9,baz=140,slow=8.8,SNR=3.3							
BOSA	Boshof	75.99	238	P	P	09 03 22.3	+0.1
1.8nm,0.6s,mb4.0,baz=36,slow=8.7,SNR=6.7							
BOSA	Boshof	75.99	238	eP	P	09 03 22.4	+0.2
2.2nm,0.6s,mb4.1							
GERES	GERESS Array B	77.06	318	P	P	09 03 28.1	-0.2
0.4nm,0.6s,mb3.3,baz=70,slow=9.6,SNR=3.1							
NOA	NORSAR Array B	78.87	331	P	P	09 03 37.6	-0.7
0.9nm,0.7s,mb3.7,baz=91,slow=5.8,SNR=3.3							
TORD	Torodi Ar. Bea	90.28	283	P	P	09 04 36.0	+0.2
0.8nm,0.9s,mb3.8,baz=85,slow=5.1,SNR=3.4							

*ISCJB **29** 09:23:47.0±0.7, 739N±009×8961E±008, h10km, mb3.8/8, Error ellipse: s-maj=15.8km s-min=7.4km az=75.9*
*IDC **29** 09:23:48.0±1.2, 742N×8968E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/44, Error ellipse: s-maj=43.8km s-min=21.4km az=50.0*
*NEIC **29** 09:23:49.1±0.5, 744N×8962E, h10km, mb4.1/1, Error ellipse: s-maj=16.6km s-min=7.8km az=209.0*
ISC 29 09:23:49.7±0.7, 740N±009×8961E±008, h10km, n21, σ0°80/24, mb3.8/8, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	8.84	270	ePn	Pn	09 25 57.2	-0.2
33nm,0.7s							
PALK				eSn	Sn	09 27 26.7	-10
PSI	Prapat	10.34	116	Pn	Pn	09 26 18.9	+0.8
0.7nm,0.3s,baz=321,slow=18,SNR=3.0							
PSI				LR	LR	09 30 00.0	
comp=Z,140nm,21.6s,baz=234,slow=36							
KULM	Kulim	11.17	100	ePn	Pn	09 26 28.2	-1.2
VIS	Vishakhapatnam	11.95	330	i P	Pn	09 26 35.0	-4.9
VIS				i S	Sn	09 28 38.6	-15
HYB	Hyderabad	14.68	314	i P	Pn	09 27 15.0	-2.3
HYB				eS	Sn	09 30 00.0	0.0
JIRN	Jiri	20.41	351	eP	P	09 28 27.5	+0.7
11nm,0.4s							
PKI	Pulchoki	20.45	349	eP	P	09 28 27.3	+0.1
DMN	Daman	20.55	349	eP	P	09 28 28.9	+0.6
33nm,0.6s							
KKN	Kakani	20.69	349	eP	P	09 28 29.6	-0.2
GUN	Gumba	20.70	351	eP	P	09 28 30.8	+0.8
22nm,0.6s							
GKN	Gorkha	21.02	348	eP	P	09 28 34.2	+0.8
KOLN	Koldanda	21.04	345	eP	P	09 28 33.5	-0.2
16nm,0.5s,mb4.6							
MK31	Makanchi Array	39.75	352	P	P	09 31 21.6	-0.9
MKAR	Makanchi Array	39.75	352	P	P	09 31 22.3	-0.2
0.8nm,0.7s,mb3.5,baz=174,slow=8.6,SNR=11							
MKAR	Makanchi Array	39.75	352	P	P	09 31 22.3	-0.2
SONM	Songino Array	42.75	17	P	P	09 31 46.9	-0.2
1.2nm,0.6s,mb3.8,baz=195,slow=8.5,SNR=8.8							
CHKZ	Chkalovo	48.64	345	eP	P	09 32 33.3	-0.4
1.0nm,0.6s,mb4.0							
WRA	Warramunga Arr	51.72	123	P	P	09 32 56.3	-0.8
0.2nm,0.5s,mb3.3,baz=303,slow=8.0,SNR=5.6							
ASAR	Alice Springs	53.15	127	P	P	09 33 08.0	+0.3
0.3nm,0.8s,mb3.3,baz=296,slow=7.1,SNR=4.8							
GERES	GERESS Array B	75.19	318	P	P	09 35 32.6	+0.3
0.6nm,0.7s,mb3.6,baz=111,slow=7.4,SNR=3.7							
TORD	Torodi Ar. Bea	86.33	283	P	P	09 36 33.5	+1.6
0.5nm,0.7s,mb3.9,baz=77,slow=5.4,SNR=4.9							

IDC 29 09:32:07.8±4.1, 220N×10136W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/12, mbtmp3.6/4, Error ellipse: s-maj=192.2km s-min=29.8km az=58.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	27.07	356	P	P	09 37 52.5	+0.5
0.7nm,0.9s,baz=187,slow=6.4,SNR=5.0							
NVAR	Mina Array Bea	39.26	339	P	P	09 39 38.4	+0.4
0.9nm,0.9s,baz=153,slow=9.0,SNR=7.1							
PDAR	Pinedale Array	41.05	351	P	P	09 39 53.0	+0.2
1.1nm,0.8s,baz=146,slow=8.2,SNR=9.4							
CPUP	Villa Florida	51.10	127	P	P	09 41 12.4	+0.3
0.4nm,0.4s,baz=274,slow=13,SNR=2.9							

IGQ 29 09:32:57.8, 180N×7928W, h12km±6km, Mb4.0, Ms3.8, 3D, Error ellipse: s-maj=9.4km s-min=5.9km az=154.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANA	Yana	2.03	160	P	Pn	09 33 34.9	+3.1
YANA				S	Sn	09 34 00.0	+2.9
PINO	Pino	2.06	161	⇓P	Pn	09 33 35.4	+3.2
TERV	Terraza Guagua	2.07	161	P	Pn	09 33 36.0	+3.6
GGP	Refugio Guagua	2.08	161	⇓P	Pn	09 33 35.8	+3.3
GGP				S	Sn	09 34 03.6	+5.4
JUA2	San Juan 2	2.11	161	P	Pn	09 33 36.1	+3.2
CAYA	Cayambe	2.15	143	⇓P	Pn	09 33 36.3	+2.9
CAYR	Refugio Cayamb	2.18	144	P	Pn	09 33 36.8	+2.9
CAYR				S	Sn	09 34 05.9	+5.1
ANTI	Antisana	2.50	153	P	Pn	09 33 42.7	+4.5
NAS1	Nasa	2.55	162	P	Pn	09 33 45.0	+6.1
CAMI	Rancho Maria	2.58	163	P	Pn	09 33 44.5	+5.1
VC1	Cotopaxi 1	2.58	160	P	Pn	09 33 45.1	+5.8
VC1				S	Sn	09 34 18.8	+8.2

*ISCJB **29** 09:34:12.8±1.5, 293N±01×1406E±03, h52km±26km, mb4.3/5, Error ellipse: s-maj=52.3km s-min=9.3km az=130.7*
*IDC **29** 09:34:14.9±2.3, 29.34N×14086E, h60km±36km, mb3.5/3, mb1 3.7/6, mb1mx3.4/22, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=100.6km s-min=12.2km az=70.0*
ISC 29 09:34:14.6±1.2, 293N±01×1407E±03, h54km±24km, n12, σ0°68/13, mb4.3/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.57	148	P	Pn	09 34 53.1	-0.6
32nm,0.3s,baz=8.3,slow=3.7,SNR=25							
CBIJ				S	Sn	09 35 23.8	-0.1
108nm,0.3s,baz=297,slow=23,SNR=18							
JHJ	Hachijo jima 2	3.88	349	P	Pn	09 35 11.1	-0.7
5.6nm,0.3s,baz=108,slow=20,SNR=3.6							
MJAR	Matsushiro Arr	7.51	345	P	Pn	09 36 03.1	+1.6
0.3nm,0.3s,baz=155,slow=12,SNR=8.3							
JIRN	Jiri	47.56	282	eP	P	09 42 44.6	-0.1
15nm,0.7s							
GUN	Gumba	47.76	282	eP	P	09 42 46.1	-0.1
16nm,0.8s							
PKI	Pulchoki	48.25	282	eP	P	09 42 49.1	-0.9
7.9nm,0.6s,mb5.0							
KKN	Kakani	48.30	282	eP	P	09 42 50.2	-0.2
21nm,0.9s							
WB2	Warramunga Arr	49.34	188	eP	P	09 42 59.4	+1.0
WRA	Warramunga Arr	49.34	188	P	P	09 42 58.9	+0.5
1.2nm,0.5s,mb4.2,baz=4.4,slow=7.7,SNR=38							
KOLN	Koldanda	49.74	283	eP	P	09 43 01.5	+0.1
9.8nm,0.8s,mb4.9							
ASAR	Alice Springs	53.06	188	P	P	09 43 26.5	+0.2
0.3nm,0.5s,mb3.5,baz=1.8,slow=5.1,SNR=9.5							
FINES	FINESS Array B	75.39	333	P	P	09 45 51.8	-0.7
1.2nm,0.8s,mb3.9,baz=35,slow=5.1,SNR=3.9							

IDC 29 09:40:49.5±3.8, 183N×10204W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/12, mbtmp3.9/4, MS4.1/5, Ms1 4.1/5, ms1mx3.6/28, Error ellipse: s-maj=177.2km s-min=26.5km az=59.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	16.72	24	LR	LR	09 49 45.7	
comp=Z,817nm,18.9s,baz=344,slow=32							
TXAR	Lajitas Array	27.40	357	P	P	09 46 36.9	+0.3
0.8nm,0.9s,baz=186,slow=10,SNR=7.8							
ROSC	El Rosal	27.82	83	LR	LR	09 54 38.7	
comp=Z,151nm,19.2s,baz=3.5,slow=30							
RPN	Rapa Nui	29.63	193	LR	LR	09 55 48.8	
comp=Z,391nm,21.7s,baz=115,slow=30							
ANMO	Albuquerque	33.21	353	LR	LR	10 00 25.5	
comp=Z,346nm,18.4s,baz=277,slow=35							
NVAR	Mina Array Bea	39.36	340	P	P	09 48 21.2	+0.7
1.4nm,0.8s,baz=175,slow=8.1,SNR=11							
PDAR	Pinedale Array	41.31	352	P	P	09 48 36.8	0.0
1.7nm,0.8s,baz=158,slow=7.5,SNR=17							
PPT	Papeete	50.64	246	LR	LR	10 04 51.6	
comp=Z,249nm,20.8s,baz=311,slow=28							
CPUP	Villa Florida	51.43	126	P	P	09 49 56.6	+0.3
1.0nm,0.5s,baz=269,slow=7.5,SNR=6.2							

*IDC **29** 09:41:26.2±7.8, 1524S×17172W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=191.5km s-min=26.7km az=113.0*
*ISCJB **29** 09:41:30.0±5.0, 152S±02×1717W±08, h43km±48km, mb4.1/6, Error ellipse: s-maj=126.0km s-min=38.9km az=9.8*
ISC 29 09:41:29.9±6.9, 152S±02×1717W±07, h23km±54km, n9, σ0°74/10, mb4.1/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.26	355	Pn	Pn	09 41 52.2	+0.2
2.5nm,0.3s,baz=323,slow=20,SNR=4.6							
AFI				Sn	Sn	09 42 08.1	-0.2
12nm,0.3s,baz=34,slow=22,SNR=19							
DZM	Mont Dzumac	21.83	248	P	P	09 46 20.3	-0.2
4.6nm,1.1s,mb3.8,baz=89,slow=17,SNR=4.5							
STKA	Stephens Creek	45.59	240	P	P	09 49 47.4	-0.8
0.9nm,0.5s,mb4.0,baz=107,slow=12,SNR=3.9							
WB2	Warramunga Arr	51.51	256	eP	P	09 50 33.6	-0.1
WRA	Warramunga Arr	51.52	256	P	P	09 50 33.3	-0.5
0.8nm,0.5s,mb3.9,baz=91,slow=6.9,SNR=33							
ASAR	Alice Springs	51.76	252	P	P	09 50 35.8	+0.2
6.2nm,0.5s,mb4.8,baz=86,slow=8.4,SNR=76							
ASPA	Alice Springs	51.77	252	eP	P	09 50 35.7	+0.1
KAKA	Kakadu	54.18	265	eP	P	09 50 56.2	+2.8
1.8nm,0.4s,mb4.3							
FITZ	Fitzroy Crossi	59.89	258	P	P	09 51 33.7	-0.1
0.3nm,0.3s,mb3.8,baz=68,slow=5.4,SNR=2.6							

*IDC **29** 09:42:10.0±2.4, 4018N×5228E, h0km, mb3.9/5, mb1 4.0/10, mb1mx3.7/26, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=44.2km s-min=13.9km az=155.0*
*ISCJB **29** 09:42:10.5±3.0, 4040N±005×5237E±007, h12km±22km, mb4.1/13, Error ellipse: s-maj=11.0km s-min=6.4km az=85.7*
*NEIC **29** 09:42:12.3±0.8, 4043N×5238E, h10km, mb4.0/12, Error ellipse: s-maj=17.8km s-min=5.2km az=166.0*
*MOS **29** 09:42:14.0±0.7, 4057N×5237E, h33km, mb4.3/10, Error ellipse: s-maj=11.3km s-min=9.1km az=39.5*
*CSEM **29** 09:42:15.1±0.1, 4032N×5229E, h50km, mb4.3/8, Error ellipse: s-maj=2.6km s-min=1.8km az=151.0*
*THR **29** 09:42:24.9±0.5, 3941N×5147E, h16km, 9km, ML3.4*
ISC 29 09:42:13.2±3.4, 4039N±005×5238E±007, h20km±24km, n72, σ0°84/80, mb4.1/13, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	3.81	247	ePn	Pn	09 43 11.8	+1.0
GRMI				eSg	Sn	09 43 53.8	-1.2
GRMI				AML	AML	09 43 56.3	
comp=N,178nm,0.2s							
GRMI	Germi	3.81	247	ePn	Pn	09 43 11.8	+1.0
SNR=52							
GRMI				eSg	Sn	09 43 53.8	-1.2
SNR=90							
CHTH	Charan	4.58	193	ePn	Pn	09 43 21.2	-0.2
CHTH				AML	AML	09 44 12.5	
comp=N,58nm,0.1s							
THKV	Tehran--Karaj	4.62	195	ePn	Pn	09 43 21.4	-0.5
DAMV	Damavand	4.76	184	ePn	Pn	09 43 24.7	+0.8
DAMV				Sn	Sn	09 44 08.8	-10
DAMV				AML	AML	09 44 18.0	
comp=E,66nm,0.3s							
DAMV	Damavand	4.76	184	ePn	Pn	09 43 24.7	+0.8
SNR=52							
DAMV				Sn	Sn	09 44 08.8	-10
comp=E,66nm,0.3s,SNR=52							
GNI	Garni	5.85	270	Pn	Pn	09 43 40.4	+1.5
comp=E,1.0nm,0.3s,baz=8.1,slow=7.1,SNR=2.7							
GNI	Garni	5.85	270	P	Pn	09 43 40.4	+1.5
GNI				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAO	Ashtian	6.12	199	ePn	Pn	09 43 41.5	-1.1
AKTK	Aktyubinsk	10.79	20	Pn	Pn	09 44 46.7	0.0
AKTK				Sn	Sn	09 46 40.2	-6.7
AKTK	Aktyubinsk	10.79	20	Pn	Pn	09 44 46.7	0.0
AKTK				Sn	Sn	09 46 40.2	-6.7
AKTO	Aktyubinsk	10.79	20	Pn	Pn	09 44 46.7	0.0
comp=Z,1.6nm,0.3s,baz=204,slow=11,SNR=26							
AKTO				Sn	Sn	09 46 40.2	-6.7
comp=Z,1.1nm,0.3s,baz=50,slow=22,SNR=7.5							
AKTO	Aktyubinsk	10.79	20	P	Pn	09 44 46.7	0.0
AKTO						09 46 40.2	
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
AKTO				smax			
comp=N,1.0nm,0.3s							
AAK	Ala-Archa	16.71	75	eP	Pn	09 46 05.2	-1.0
AAK				pmax	pmax		
comp=Z,2.0nm,0.7s							
AAK	Ala-Archa	16.71	75	eP	Pn	09 46 05.2	-0.9
comp=Z,2.0nm,0.7s							
AAK	Ala-Archa	16.71	75	eP	Pn	09 46 05.2	-1.0
comp=Z,2.0nm,0.7s							
ZRNK	Zerenda	16.92	36	eP	Pn	09 46 07.8	-1.0
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZRNK	Zerenda	16.92	36	eP	Pn	09 46 07.8	-1.0
comp=Z,1.5nm,0.4s							
ZRNK	Zerenda	16.92	36	eP	Pn	09 46 07.8	-1.0
comp=Z,1.5nm,0.4s							
BRVK	Borovoye	17.58	38	eP	Pn	09 46 15.8	-1.2
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s							
BRVK	Borovoye	17.58	38	eP	Pn	09 46 15.8	-1.2
comp=Z,2.0nm,0.6s							
BRVK	Borovoye	17.58	38	eP	Pn	09 46 15.8	-1.2
comp=Z,2.0nm,0.6s							
BVAR	Borovoye Array	17.61	38	Pn	Pn	09 46 16.6	-0.7
comp=Z,0.9nm,0.3s,baz=233,slow=11,SNR=14							
BVAR				Sn	Sn	09 49 23.7	-9.2
comp=Z,0.3nm,0.3s,baz=217,slow=26,SNR=4.0							
BVAR	Borovoye Array	17.61	38	P	Pn	09 46 16.6	-0.8
BVAR						09 49 23.7	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CHKZ	Chkalovo	18.12	37	P	Pn	09 46 26.0	+2.3
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.5s							
CHKZ	Chkalovo	18.12	37	P	Pn	09 46 26.0	+2.3
comp=Z,1.2nm,0.5s							
CHKZ	Chkalovo	18.12	37	P	Pn	09 46 26.0	+2.3
comp=Z,1.2nm,0.5s							
AKASG	Malin Array Be	19.14	310	P	Pn	09 46 34.9	-1.3
comp=Z,3.4nm,0.3s,baz=97,slow=9.4,SNR=12							
AKASG	Malin Array Be	19.14	310	P	Pn	09 46 34.9	-1.2
AKASG				pmax	pmax		
comp=Z,3.0nm,0.3s							
AKBB	Malin Array Si	19.14	310	eP	Pn	09 46 34.8	-1.3
MLR	Muntele Rosu	19.98	294	P	Pn	09 46 45.8	-0.3
comp=Z,0.2nm,0.3s,baz=162,slow=5.5,SNR=3.9							
MK31	Makanchi Array	22.50	64	eP	P	09 47 12.5	+1.0
MKAR	Makanchi Array	22.50	64	P	P	09 47 12.2	+0.7
comp=Z,0.7nm,0.5s,mb3.3,baz=257,slow=11,SNR=11							
FINES	FINESS Array B	26.49	331	P	P	09 47 48.3	-0.9
comp=Z,0.7nm,0.3s,mb3.7,baz=125,slow=10,SNR=12							
FINES	FINESS Array B	26.49	331	P	P	09 47 48.3	-0.9
FINES				pmax	pmax		
comp=Z,1.0nm,0.3s							
HFS	Hagfors	31.00	323	P	P	09 48 29.6	+0.3
comp=Z,2.3nm,0.7s,mb4.1,baz=96,slow=10,SNR=4.4							
HFS	Hagfors	31.00	323	P	P	09 48 29.6	+0.2
HFS				pmax	pmax		
comp=Z,2.0nm,0.7s							
CDF	Champ du Feu	32.81	299	eP	P	09 48 45.0	-0.3
LPG	La Plagne	33.44	294	eP	P	09 48 51.7	+0.9
comp=Z,2.3nm,0.5s,mb4.1							
LPG	La Plagne	33.44	294	eP	P	09 48 51.7	+0.9
LPG				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
LPG	La Plagne	33.44	294	eP	P	09 48 51.7	+0.9
comp=Z,1.1nm,0.5s,mb4.0							
LPL	La Plagne	33.45	294	eP	P	09 48 51.2	+0.3
comp=Z,3.4nm,0.4s,mb4.3							
LPL	La Plagne	33.45	294	eP	P	09 48 51.2	+0.3
LPL				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.4							
LPL	La Plagne	33.45	294	eP	P	09 48 51.2	+0.3
comp=Z,1.7nm,0.4s,mb4.3							
HAU	Haudompre	33.45	299	eP	P	09 48 51.5	+0.6
MBDF	Montbardon	33.54	293	eP	P	09 48 52.0	+0.4
comp=Z,7.4nm,0.6s,mb4.5							
MBDF	Montbardon	33.54	293	eP	P	09 48 52.0	+0.4
MBDF				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
MBDF	Montbardon	33.54	293	eP	P	09 48 52.0	+0.4
comp=Z,3.7nm,0.6s,mb4.5							
CABF	La Chapelle	33.76	296	eP	P	09 48 53.9	+0.3
comp=Z,3.2nm,0.5s,mb4.2							
CABF	La Chapelle	33.76	296	eP	P	09 48 53.9	+0.3
CABF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
CABF	La Chapelle	33.76	296	eP	P	09 48 53.9	+0.3
comp=Z,1.6nm,0.5s,mb4.2							
FRF	La Foret Royal	33.83	291	eP	P	09 48 54.4	+0.3
comp=Z,5.7nm,0.6s,mb4.4							
FRF	La Foret Royal	33.83	291	eP	P	09 48 54.4	+0.3
FRF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
FRF	La Foret Royal	33.83	291	eP	P	09 48 54.4	+0.3
comp=Z,2.8nm,0.6s,mb4.4							
LMR	La Mourre	33.97	290	eP	P	09 48 56.6	+1.3
LOR	Lormes	35.20	298	eP	P	09 49 05.8	-0.2
comp=Z,2.7nm,0.6s,mb4.1							
LOR	Lormes	35.20	298	eP	P	09 49 05.8	-0.2
LOR				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
LOR	Lormes	35.20	298	eP	P	09 49 05.8	-0.2
comp=Z,1.4nm,0.6s,mb4.1							
SMF	Signal de Mont	35.29	297	eP	P	09 49 07.0	+0.2
SSF	Saint Saulge	35.47

OKCE	**Okmok Cone E**	7.42	59	P	Pn	09 54 34.3	+0.1
OKCD	**Okmok Cone D**	7.45	59	P	Pn	09 54 35.0	+0.4
KDAK	**Kodiak Island**	17.18	53	P	Pn	09 56 43.1	-2.7
	0.5nm,0.3s,baz=216,slow=15,SNR=12						
KDAK				S	Sn	09 59 56.1	-0.1
	0.3nm,0.3s,baz=127,slow=20,SNR=5.9						
PDAR	**Pinedale Array**	46.74	71	P	P	10 01 15.3	+0.7
	1.3nm,0.8s,mb3.9,baz=316,slow=4.1,SNR=11						
TXAR	**Lajitas Array**	58.89	80	P	P	10 02 44.4	0.0
	0.6nm,1.0s,mb3.6,baz=297,slow=5.5,SNR=3.7						
ARCES	**ARCESS Array B**	59.35	350	P	P	10 02 48.6	+1.1
	2.4nm,0.8s,mb4.3,baz=21,slow=6.4,SNR=5.0						
BVAR	**Borovoye Array**	61.85	320	P	P	10 03 06.0	+1.4
	0.3nm,0.3s,mb3.9,baz=57,slow=9.0,SNR=3.0						
AKTO	**Aktyubinsk**	68.71	325	P	P	10 03 52.3	+3.3
	0.7nm,0.5s,mb3.9,baz=68,slow=5.4,SNR=3.9						
WRA	**Warramunga Arr**	81.07	224	P	P	10 04 59.2	-1.3
	0.4nm,0.6s,mb3.6,baz=32,slow=5.8,SNR=4.9						
ASAR	**Alice Springs**	84.52	223	P	P	10 05 17.6	-0.9
	0.3nm,0.5s,mb3.7,baz=24,slow=5.8,SNR=6.1						

BJI ***29*** *10:04:14.0, 368N×12659E, h26km, mB5.2, mb5.1, Ms4.7, Msz4.6*
NEIC ***29*** *10:04:15.9±2.3, 392N×12644E, h12km±14km, mb5.3/52, Error ellipse: s-maj=6.7km s-min=3.7km az=70.0*
ISCJB ***29*** *10:04:15.0±0.2, 394N±002×12654E±004, h17km, mb5.3/122, MS4.6/42, Error ellipse: s-maj=5.3km s-min=2.9km az=136.7*
GCMT ***29*** *10:04:15.9±0.2, 400N×12679E, h19km±1km, MW5.2/70, Moment Tensor Solution. s40,c51; s70,c114; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.52±.26; Mθθ2.16±.15; Mφφ-6.68±.20; Mrθ1.13±.36; Mθφ-0.56±.12; Mφr4.98±.47; Best double couple: M0 7.61800×10^16 NP1:φs170.00000°, δ25.00000°, λ69.00000°. NP2: φs12.00000°, δ67.00000°, λ99.00000°. Principal axes: T 6.5830, Plg67.0000°, Azm300.0000°; N 2.0700, Plg9.0000°, Azm189.0000°; P -8.6530, Plg21.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***29*** *10:04:17.6±1.0, 400N×12652E, h33km, mb5.5/46, MS4.6/10 Error ellipse: s-maj=11.7km s-min=5.0km az=116.6*
IDC ***29*** *10:04:19.7±1.8, 395N×12642E, h37km±14km, mb4.9/30, mb1 4.9/30, mb1mx4.9/32, mbtmp5.1/30, MS4.5/17, Ms1 4.5/17, ms1mx4.3/32, Error ellipse: s-maj=17.7km s-min=7.4km az=70.0*

ISC 29 10:04:17.1±0.2, 397N±002×12658E±003, h18km, h18km±1.4km; pP-P, n378, σ1º10/354, mb5.3/122, MS4.6/42, 32C-21D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.24**	**342**	⇓*e*P	**Pn**	**10 05 12.0**	**+5.0**
DAV	**Davao City (W)**	**3.24**	**342**	*e*Pn	**Pn**	**10 05 05.8**	**-1.2**
DAV				*e*Pg	**Pg**	**10 05 18.5**	**-0.7**
DAV				*e*Sn	**Sn**	**10 05 40.5**	**-4.6**
KCP	**Kidapawan**	**3.37**	**334**	⇑*e*P	**Pn**	**10 05 13.4**	**+4.6**
KCP				*i* S	**Sg**	**10 06 05.0**	**-0.3**
CTBH	**Cotabato--PC H**	**3.98**	**324**	*e*P	**Pn**	**10 05 20.8**	**+3.6**
CTBH				*i* S	**Sn**	**10 06 03.9**	**+0.5**
CGP	**Cagayan de Oro**	**4.84**	**337**	*e*P	**Pn**	**10 05 33.0**	**+4.0**
CGP				*i* S	**Sb**	**10 06 37.3**	**-1.8**
DCPH	**Dipolog City**	**5.60**	**325**	*e*P	**Pn**	**10 05 49.4**	**+10**
SCPH	**Surigao**	**5.88**	**349**	⇑*e*P	**Pn**	**10 05 48.8**	**+5.5**
SNPH	**Sibulan**	**6.29**	**328**	*e*P	**Pn**	**10 05 57.0**	**+8.1**
TBP	**Tagbilaran**	**6.29**	**335**	*e*P	**Pn**	**10 05 53.1**	**+4.1**
TBP				*e*S	**Sn**	**10 07 18.7**	**+18**
SWI	**Sorong**	**6.70**	**136**	P	**Pn**	**10 05 54.2**	**-0.4**
	444nm,0.7s						
LLP	**Lapu-Lapu**	**6.82**	**338**	*e*P	**Pn**	**10 06 00.4**	**+4.2**
PLP	**Palo**	**7.33**	**348**	*e*P	**Pn**	**10 06 07.8**	**+4.6**
AAI	**Ambon**	**7.77**	**168**	P	**Pn**	**10 06 13.6**	**+4.3**
	96nm,1.2s						
PCI	**Palu**	**8.29**	**234**	P	**Pn**	**10 06 24.0**	**+7.6**
	251nm,0.9s						
RCP	**Roxas**	**8.45**	**334**	⇓*e*P	**Pn**	**10 06 23.1**	**+4.6**
TSM	**Tawau**	**8.69**	**272**	P	**Pn**	**10 06 26.7**	**+4.9**
TARAI	**Tarakan**	**9.01**	**266**	P	**Pn**	**10 06 37.6**	**+11**
	304nm,1.1s						
PPR	**Puerto Princes**	**9.69**	**307**	⇑*i*P	**Pn**	**10 06 38.7**	**+3.1**
KKM	**Kota Kinabalu**	**10.53**	**282**	P	**Pn**	**10 06 54.7**	**+7.7**
KKM	**Kota Kinabalu**	**10.53**	**282**	*e*Pn	**Pn**	**10 06 44.2**	**-2.8**
BAKI	**Biak**	**10.81**	**118**	P	**Pn**	**10 06 53.8**	**+2.8**
	474nm,1.0s						
KAPI	**Kappang**	**11.23**	**217**	Pn	**Pn**	**10 07 01.7**	**+5.1**
	249nm,0.7s,SNR=5.0						
TGY	**Tagaytay City**	**11.51**	**331**	Pn	**Pn**	**10 07 07.8**	**+7.3**
	12nm,0.3s,baz=202,slow=11,SNR=1.8						
TGY				LR	LR	10 12 00.2	
	comp=Z,24nm,18.3s,baz=252,slow=40						
JAY	**Jayapura**	**15.52**	**114**	P	**Pn**	**10 07 55.7**	**+0.8**
	241nm,0.9s						
KSM	**Kuching**	**16.43**	**262**	*e*Pn	**Pn**	**10 08 05.2**	**-1.6**
KMMI	**Kalianget**	**16.68**	**229**	P	**Pn**	**10 08 13.4**	**+3.6**
	162nm,0.9s						
KAKA	**Kakadu**	**17.56**	**161**	*e*P	**Pn**	**10 08 17.5**	**-3.4**
	128nm,0.6s						
KAKA				*e*S	**Sn**	**10 11 37.2**	**+1.2**
KRKI	**Karangkates**	**18.53**	**229**	P	**Pn**	**10 08 38.3**	**+5.5**
	322nm,0.8s						
BJII	**Banjamegara**	**20.23**	**236**	P	**P**	**10 08 51.9**	**+0.8**
	107nm,1.9s						
GUMO	**Guam**	**20.43**	**61**	LR	LR	10 15 33.6	
	comp=Z,781nm,21.0s,MS4.0,baz=238,slow=33						
NACB	**Ninganchiao**	**20.66**	**347**	*e*P	**P**	**10 08 55.3**	**-0.5**
JCJI	**Jatiwangi**	**21.02**	**240**	P	**P**	**10 09 06.2**	**+6.5**
	232nm,1.0s,mb5.5						
YHNB	**Yeheng**	**21.19**	**347**	*e*P	**P**	**10 09 01.7**	**+0.2**
YHNB				*e*S	**S**	**10 12 47.1**	**-9.3**
LEM	**Lembang**	**21.75**	**241**	P	**P**	**10 09 09.5**	**+1.9**
	176nm,1.1s,mb5.4						
FITZ	**Fitzroy Crossi**	**21.95**	**182**	*e*P	**P**	**10 09 08.8**	**-0.8**
	42nm,0.4s,mb5.2						
FITZ				*e*S	**S**	**10 13 04.9**	**-6.3**
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P	**P**	**10 09 08.9**	**-0.7**
	26nm,0.7s,mb4.8,baz=11,slow=11,SNR=35						
FITZ				S	**S**	**10 13 05.9**	**-5.3**
	16nm,1.1s,baz=180,slow=22,SNR=5.6						
QIZ	**Qiongzhong**	**22.17**	**314**	P	**P**	**10 09 14.0**	**+2.0**
QIZ				AP		10 09 17.5	
QIZ				XP	sP	10 09 21.0	+1.6
QIZ				PP		10 09 43.8	
QIZ				PPP		10 09 55.5	
QIZ				S	**S**	**10 13 14.5**	**-1.0**
QIZ				XS	sS	10 13 24.0	+0.3
QIZ				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,123nm,4.0s						
QIZ				LR	LR		
	comp=N,1μm,16.2s						
QIZ				LR	LR		
	comp=Z,2μm,24.3s						
QZH	**Quanzhou**	**22.23**	**341**	*e*P	**P**	**10 09 12.5**	**-0.2**
QZH				S	**S**	**10 13 13.5**	**-3.2**
QZH				LR	LR		
	comp=N,4μm,18.5s,MS5.0						
QZH				LR	LR		
	comp=E,4μm,22.1s,MS5.0						
QZH				LR	LR		
	comp=Z,4μm,20.7s,MS4.8						
CBJI	**Citeko**	**22.23**	**242**	P	**P**	**10 09 14.4**	**+1.7**
	comp=Z,376nm,0.9s,mb5.8						
JOW	**Kunigami**	**22.80**	**4**	P	**P**	**10 09 20.9**	**+2.2**
	comp=Z,41nm,0.8s,mb4.9,baz=215,slow=8.1,SNR=5.5						
GZH	**Guangzhou**	**22.92**	**327**	P	**P**	**10 09 22.5**	**+2.5**
GZH				S	**S**	**10 13 34.5**	**+5.3**
GZH				LR	LR		
	comp=N,1μm,16.8s,MS4.6						
GZH				LR	LR		
	comp=E,1μm,17.1s,MS4.6						
GZH				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
KGM	**Kluang**	**23.30**	**266**	P	**P**	**10 09 27.1**	**+3.1**
PMG	**Port Moresby**	**24.44**	**123**	P	**P**	**10 09 32.2**	**-2.5**
	comp=Z,21nm,0.9s,mb4.6,baz=353,slow=2.5,SNR=5.7						
PMG				LR	LR	10 20 16.3	
	comp=Z,898nm,19.9s,MS4.3,baz=72,slow=39						
PMG	**Port Moresby**	**24.44**	**123**	*e*P	**P**	**10 09 32.1**	**-2.6**
PMG				pmax	pmax		
	comp=Z,37nm,0.9s						
PMG	**Port Moresby**	**24.44**	**123**	*e*P	**P**	**10 09 32.1**	**-2.5**
	comp=Z,37nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**24.95**	**162**	P	**P**	**10 09 38.0**	**-1.3**
	comp=Z,779nm,1.4s,mb6.0,SNR=74						
WRAB	**Tennant Creek**	**24.95**	**162**	*d i*P	**P**	**10 09 38.5**	**-0.8**
WRA	**Warramunga Arr**	**24.95**	**162**	P	**P**	**10 09 39.5**	**+0.1**
	comp=Z,100nm,0.9s,mb5.3,baz=343,slow=10,SNR=217						
WRA				S	**S**	**10 14 01.4**	**-0.7**
	comp=Z,21nm,1.1s,baz=343,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**24.95**	**162**	*i* P	**P**	**10 09 38.2**	**-1.2**
WRA				pmax	pmax		
	comp=Z,100nm,0.9s						
WB2	**Warramunga Arr**	**24.96**	**162**	*e*P	**P**	**10 09 38.0**	**-1.4**
WB2				*e*S	**S**	**10 13 59.0**	**-3.2**
IPM	**Ipoh**	**25.49**	**272**	P	**P**	**10 09 46.2**	**+2.0**
MBWA	**Marble Bar**	**25.85**	**195**	⇓P	**P**	**10 09 48.3**	**+0.8**
	SNR=17						
MBWA	**Marble Bar**	**25.85**	**195**	*e*P	**P**	**10 09 47.9**	**+0.4**
	comp=Z,47nm,0.8s,mb5.1						
KULM	**Kulim**	**25.87**	**274**	*e*P	**P**	**10 09 47.0**	**-0.7**
SNG	**Songkhla**	**26.03**	**278**	P	**P**	**10 09 51.0**	**+1.9**
	comp=Z,64nm,0.7s,mb5.3						
KKTK	**Khon Kaen**	**26.37**	**299**	P	**P**	**10 09 53.0**	**+0.8**
	comp=Z,432nm,0.6s,mb6.2						
PPI	**Padang Panjang**	**26.53**	**261**	P	**P**	**10 09 57.5**	**+3.9**
	comp=Z,91nm,1.1s,mb5.2						
CBIJ	**Chichi jima**	**27.41**	**31**	P	**P**	**10 09 60.0**	**-1.7**
	comp=Z,46nm,0.6s,mb5.2,baz=290,slow=15,SNR=6.3						
CBIJ				LR	LR	10 20 28.6	
	comp=Z,778nm,18.3s,MS4.3,baz=200,slow=35						
SSE	**Sheshan**	**27.46**	**350**	P	**P**	**10 10 04.0**	**+2.0**
SSE				AP	pP	10 10 10.0	+2.5
SSE				S	**S**	**10 14 43.8**	**+2.0**
SSE				XS	sS	10 14 53.5	+2.7
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,86nm,3.3s						
SSE				LR	LR		
	comp=N,350nm,15.5s,MS4.2						
SSE				LR	LR		
	comp=E,435nm,15.5s,MS4.2						
SSE				LR	LR		
	comp=Z,558nm,15.1s,MS4.3						
SSE	**Sheshan**	**27.46**	**350**	P	**P**	**10 10 04.0**	**+2.0**
	comp=Z,29nm,0.8s,mb4.9						
SSE				pP	pP	10 10 10.0	+2.5
SSE				S	**S**	**10 14 43.7**	**+1.9**
SSE				sS	sS	10 14 53.5	+2.7
SSE				LR	LR		
	comp=Z,560nm,15.1s,MS4.3						
PSI	**Prapat**	**27.63**	**268**	P	**P**	**10 10 03.2**	**-0.3**
	comp=Z,52nm,1.2s,mb5.0,baz=136,slow=1.9,SNR=15						
PSI	**Prapat**	**27.63**	**268**	P	**P**	**10 10 03.2**	**-0.3**
AS31	**Alice Springs**	**28.38**	**166**	*e*P	**P**	**10 10 09.2**	**-1.0**
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**	**10 10 09.6**	**-0.7**
	comp=Z,6.4nm,0.6s,mb4.4,baz=343,slow=6.1,SNR=55						
ASAR				PcP	PcP	10 13 22.2	-0.3
	comp=Z,4.0nm,0.8s,baz=356,slow=1.2,SNR=3.7						
ASAR				S	**S**	**10 14 56.7**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=351,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**	**10 10 09.6**	**-0.7**
ASAR				PcP	PcP	10 13 22.2	-0.3
ASAR				S	**S**	**10 14 56.7**	**+0.5**
ASPA	**Alice Springs**	**28.38**	**166**	*e*P	**P**	**10 10 09.2**	**-1.0**
NST	**Nakhon Sawan**	**28.49**	**296**	P	**P**	**10 10 13.0**	**+1.8**
WHN	**Wuhan**	**28.85**	**338**	P	**P**	**10 10 15.3**	**+0.9**
WHN				LR	LR		
	comp=Z,4μm,21.8s,MS5.0						
NJ2	**Nanjing**	**28.86**	**346**	*e*P	**P**	**10 10 16.0**	**+1.4**
NJ2				AP	pP	10 10 21.0	+1.0
NJ2				XP	sP	10 10 23.8	+1.6
NJ2				S	**S**	**10 15 04.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,72nm,3.6s						
NJ2				LR	LR		
	comp=N,1μm,14.8s,MS4.8						
NJ2				LR	LR		
	comp=E,910nm,14.2s,MS4.8						
NJ2				LR	LR		
	comp=Z,9μm,14.2s,MS5.5						
GYA	**Guiyang**	**29.39**	**322**	P	**P**	**10 10 20.0**	**+0.8**
GYA				AP	pP	10 10 24.8	+0.1
GYA				PP	PP	10 11 16.5	-9.1
GYA				PPP		10 11 30.0	
GYA				PCP	PcP	10 13 27.3	+2.3
GYA				S	**S**	**10 15 13.5**	**+1.4**
GYA				SS	SS	10 16 45.0	-32
GYA				SSS		10 17 05.3	
GYA				PCS	PcS	10 17 09.0	+1.0
GYA				SCS	ScS	10 21 00.5	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,5.1s						
GYA				LR	LR		
	comp=N,1μm,18.3s,MS4.6						
GYA				LR	LR		
	comp=E,690nm,16.7s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,17.9s,MS4.6						
BDT	**Bhumibol Dam**	**30.08**	**298**	P	**P**	**10 10 27.0**	**+1.7**
CTA	**Charters Tower**	**30.74**	**142**	*e*P	**P**	**10 10 31.0**	**-0.2**
	comp=Z,30nm,0.9s,mb5.1						
CTA	**Charters Tower**	**30.74**	**142**	P	**P**	**10 10 31.1**	**0.0**
	comp=Z,31nm,0.9s,mb5.2,baz=321,slow=11,SNR=22						
CTA	**Charters Tower**	**30.74**	**142**	*e*P	**P**	**10 10 31.0**	**-0.2**
CTA				pmax	pmax		
	comp=Z,30nm,0.9s						
CTAO	**Charters Tower**	**30.74**	**142**	*e*P	**P**	**10 10 31.4**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**30.74**	**142**	*e*P	**P**	**10 10 31.4**	**+0.2**
	comp=Z,41nm,0.9s,mb5.3						
CHG	**Chiang Mai**	**30.77**	**301**	⇑P	**P**	**10 10 32.2**	**+0.8**
	comp=Z,70nm,0.9s,mb5.5						
CHTO	**Chiang Mai**	**30.77**	**301**	P	**P**	**10 10 32.6**	**+1.2**
	SNR=21						
CHTO	**Chiang Mai**	**30.77**	**301**	*e*P	**P**	**10 10 32.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.5						
CHTO	**Chiang Mai**	**30.77**	**301**	*e*P	**P**	**10 10 32.0**	**+0.6**
	comp=Z,59nm,0.8s,mb5.5						
KMI	**Kunming**	**31.11**	**315**	P	**P**	**10 10 35.8**	**+1.4**
KMI				AP	pP	10 10 40.3	+0.5
KMI				XP	sP	10 10 42.3	+0.2
KMI				PPP		10 11 52.5	
KMI				S	**S**	**10 15 41.3**	**+2.3**
KMI				SS	SS	10 17 25.5	-27
KMI				SSS		10 17 46.8	
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
KMI				AMB	AMB		
	comp=Z,114nm,3.7s						
KMI				LR	LR		
	comp=N,535nm,21.5s,MS4.5						
KMI				LR	LR		
	comp=E,828nm,19.4s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,26.0s						
KMI	**Kunming**	**31.11**	**315**	P	**P**	**10 10 35.7**	**+1.3**
KMI				*SP	sP	10 10 42.2	+0.1
KMI				PPP		10 11 52.6	
KMI				S	**S**	**10 15 41.3**	**+2.3**
KMI				SS	SS	10 17 25.6	-27
KMI				SSS		10 17 46.7	
KMI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
KMI				MLR	MLR		
	comp=Z,1μm,26.0s,MS4.5						
KMI	**Kunming**	**31.11**	**315**	P	**P**	**10 10 35.7**	**+1.3**
	comp=Z,11nm,0.7s,mb4.8						
KMI				pP	pP	10 10 40.3	+0.5
KMI				sP	sP	10 10 42.2	+0.1
KMI				PPP		10 11 52.6	
KMI				S	**S**	**10 15 41.3**	**+2.3**
KMI				sS	sS	10 15 47.5	-0.5
KMI				SS	SS	10 17 25.6	-27
KMI				SSS		10 17 46.7	
KMI				LR	LR		
	comp=Z,1μm,26.0s,MS4.5						
BSI	**Banda Aceh**	**31.21**	**274**	P	**P**	**10 10 36.7**	**+1.4**
	comp=Z,17nm,1.2s,mb4.8						
JHJ	**Hachijo jima 2**	**31.52**	**22**	LR	LR	10 23 09.2	
	comp=Z,999nm,19.0s,MS4.5,baz=190,slow=36						
TIA	**Tai'an**	**33.25**	**346**	⇓P	**P**	**10 10 54.0**	**+0.8**
KS15	**Wonju Array Si**	**33.34**	**2**	*e*P	**P**	**10 10 55.2**	**+1.2**
XAN	**Xi'an**	**34.14**	**333**	P	**P**	**10 11 00.0**	**-0.9**
XAN				PP	PP	10 12 15.5	-2.8
XAN				AMB	AMB		
	comp=Z,95nm,1.9s,mb5.4						
XAN				AMB	AMB		
	comp=Z,198nm,9.5s						
XAN				LR	LR		
	comp=N,529nm,17.2s,MS4.4						
XAN				LR	LR		
	comp=E,424nm,19.2s,MS4.4						
XAN				LR	LR		
	comp=Z,1μm,17.2s,MS4.6						
MJAR	**Matsushiro Arr**	**34.14**	**17**	P	**P**	**10 11 00.1**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.6,baz=190,slow=9.2,SNR=11						
MJAR				PcP	PcP	10 13 38.1	+0.2
	comp=Z,4.1nm,0.8s,baz=178,slow=2.6,SNR=6.5						
MJAR				LR	LR	10 22 58.0	
	comp=Z,500nm,21.2s,MS4.2,baz=185,slow=33						
MJAR	**Matsushiro Arr**	**34.14**	**17**	P	**P**	**10 11 00.1**	**-0.9**
MJAR						10 13 38.1	
MAJO	**Matsushiro**	**34.14**	**17**	*e*P	**P**	**10 11 03.0**	**+2.0**
	comp=Z,8.9nm,1.0s,mb4.7						
MAJO				*e*pP	pP	10 11 06.7	+0.2
MAT	**Matsushiro**	**34.14**	**17**	P	**P**	**10 11 01.2**	**+0.2**
MAT				S	**S**	**10 16 27.0**	**+0.7**
CD2	**Chengdu**	**34.36**	**324**	*e*P	**P**	**10 11 03.0**	**+0.1**
CD2				AP	pP	10 11 07.5	-0.9
CD2				XP	sP	10 11 10.0	-0.6
CD2				PP	PP	10 12 18.5	-2.3
CD2				PCP	PcP	10 13 38.5	0.0
CD2				S	**S**	**10 16 28.3**	**-1.4**
CD2				PCS	PcS	10 17 23.8	-1.0
CD2				SS	SS	10 18 38.0	-21
CD2				SCS	ScS	10 21 23.3	-2.0
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
CD2				AMB	AMB		
	comp=Z,160nm,5.0s						
CD2				LR	LR		
	comp=N,1μm,14.4s,MS4.9						
CD2				LR	LR		
	comp=E,1μm,15.0s,MS4.9						
CD2				LR	LR		
	comp=Z,1μm,19.8s,MS4.6						
FORT	**Forrest**	**34.58**	**178**	*e*P	**P**	**10 11 03.9**	**-0.8**
	comp=Z,72nm,0.7s,mb5.7						
DL2	**Dalian**	**35.07**	**353**	⇑P	**P**	**10 11 10.3**	**+1.3**
DL2				S	**S**	**10 16 41.0**	**+0.4**
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
DL2				AMB	AMB		
	comp=Z,150nm,4.2s						
DL2				LR	LR		
	comp=N,130nm,18.7s,MS4.3						
DL2				LR	LR		
	comp=E,470nm,18.0s,MS4.3						
DL2				LR	LR		
	comp=Z,370nm,18.5s,MS4.2						
KLBR	**Kellerberrin**	**36.34**	**193**	⇓*i*P	**P**	**10 11 19.6**	**-0.3**
	comp=Z,50nm,0.8s,mb5.5						
BJI	**Beijing**	**37.12**	**347**	P	**P**	**10 11 27.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.3						
BJI				AMB	AMB		
	comp=Z,214nm,4.2s						
BJI				LR	LR		
	comp=N,574nm,20.7s,MS4.4						
BJI				LR	LR		
	comp=E,329nm,20.7s,MS4.4						
BJI				LR	LR		
	comp=Z,597nm,22.4s,MS4.3						
BJI	**Beijing**	**37.12**	**347**	P	**P**	**10 11 26.9**	**+0.3**
BJI						10 12 46.7	
BJI				S	**S**	**10 17 00.9**	**-11**
BJI				SS	SS	10 19 39.0	-16
BJI				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.3						
BJI				MLR	MLR		
	comp=Z,600nm,22.4s,MS4.3						
BJI	**Beijing**	**37.12**	**347**	P	**P**	**10 11 26.9**	**+0.3**
	comp=Z,48nm,1.0s,mb5.3						
BJI				PP	PP	10 12 46.7	-4.5
BJI				S	**S**	**10 17 00.9**	**-11**
BJI				SS	SS	10 19 39.0	-16
BJI				LR	LR		
	comp=Z,600nm,22.4s,MS4.3						
NWAO	**Narrogin (SRO)**	**37.74**	**193**	P	**P**	**10 11 32.2**	**+0.4**
	comp=Z,36nm,0.8s,mb5.1,baz=25,slow=9.6,SNR=26						
NWAO	**Narrogin (SRO)**	**37.74**	**193**	*e*P	**P**	**10 11 32.7**	**+0.8**
SNY	**Shenyang**	**37.79**	**356**	⇑P	**P**	**10 11 33.0**	**+0.8**
SNY				AP	pP	10 11 36.5	-1.3
SNY				XP	sP	10 11 40.8	+0.8
SNY				S	**S**	**10 17 23.3**	**+1.1**
SNY				SS	SS	10 19 59.5	-8.8
SNY				AMB	AMB		
	comp=Z,63nm,0.6s,mb5.5						
SNY				AMB	AMB		
	comp=Z,403nm,4.7s						
SNY				LR	LR		
	comp=E,573nm,14.4s						
SNY				LR	LR		
	comp=Z,365nm,24.5s						
LZH	**Lanzhou**	**38.22**	**330**	⇑P	**P**	**10 11 36.5**	**+0.6**
LZH				AP	pP	10 11 41.3	-0.1
LZH				XP	sP	10 11 43.8	+0.2
LZH				PP	PP	10 13 07.5	+4.2
LZH				*e*S	**S**	**10 17 30.0**	**+1.3**
LZH				SS	SS	10 20 08.3	-8.6
LZH				AMB	AMB		
	comp=Z,73nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,295nm,4.5s						
LZH				LR	LR		
	comp=N,1μm,13.4s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
LZH	**Lanzhou**	**38.22**	**330**	⇑P	**P**	**10 11 36.5**	**+0.6**
LZH				*SP	sP	10 11 43.7	+0.1
LZH						10 13 07.5	
LZH				*e*S	**S**	**10 17 30.1**	**+1.4**
LZH				SS	SS	10 20 08.3	-8.6
LZH				pmax	pmax		
	comp=Z,73nm,1.2s,mb5.3						
LZH				MLR	MLR		
	comp=Z,2μm,17.2s,MS4.9						
LZH	**Lanzhou**	**38.22**	**330**	⇑P	**P**	**10 11 36.5**	**+0.6**
	comp=Z,73nm,1.2s,mb5.3						
LZH				pP	pP	10 11 41.2	-0.2
LZH				sP	sP	10 11 43.7	+0.1
LZH				PP	PP	10 13 07.5	+4.2
LZH				*e*S	**S**	**10 17 30.1**	**+1.4**
LZH				sS	sS	10 17 37.6

CN2	**Changchun**	**39.68 359**	*e*P		**P**	**10 11 49.0 +0.9**
CN2			*e*XP		sP	10 11 58.0 +2.2
CN2			*e*PCP		PcP	10 13 56.0 +1.4
CN2			*e*S		**S**	**10 17 52.0 +1.3**
CN2			AMB		AMB	
	comp=Z,10.0nm,1.0s,mb4.5					
CN2			LR		LR	
	comp=N,400nm,20.0s,MS4.6					
CN2			LR		LR	
	comp=E,700nm,20.0s,MS4.6					
CN2			LR		LR	
	comp=Z,400nm,21.0s,MS4.2					
ADE	**Adelaide**	**40.37 165**	*e*P		**P**	**10 11 55.0 +1.2**
MDJ	**Mudanjiang**	**40.57 3**	P		**P**	**10 11 56.5 +1.0**
MDJ			PCP		PcP	10 13 58.5 +1.0
MDJ			SCP		ScP	10 17 47.8 +1.8
MDJ			S		**S**	**10 18 04.3 +0.3**
MDJ			SS		SS	10 21 06.8 +2.8
MDJ			AMB		AMB	
	comp=Z,24nm,1.6s,mb4.6					
MDJ			AMB		AMB	
	comp=Z,286nm,10.6s					
MDJ			LR		LR	
	comp=N,90nm,25.2s					
MDJ			LR		LR	
	comp=E,341nm,31.1s					
MDJ			LR		LR	
	comp=Z,295nm,22.5s,MS4.1					
ARMA	**Armidale**	**41.74 147**	*e*P		**P**	**10 12 05.8 +0.7**
LSA	**Lhasa**	**42.17 311**	P		**P**	**10 12 10.5 +1.9**
ASAJ	**Asahikawa**	**42.41 17**	P		**P**	**10 12 12.2 +1.6**
	comp=Z,12nm,0.7s,mb4.6,baz=238,slow=17,SNR=6.4					
GTA	**Gaotai**	**42.82 329**	*e*P		**P**	**10 12 13.8 0.0**
GTA			AP		pP	10 12 18.0 -1.4
GTA			XP		sP	10 12 21.0 -0.6
GTA			PP		PP	10 13 55.8 +2.5
GTA			PCP		PcP	10 14 06.5 +1.6
GTA			SCP		ScP	10 17 56.0 +1.0
GTA			S		**S**	**10 18 35.8 -1.4**
GTA			SS		SS	10 21 40.0 -8.4
GTA			SCS		ScS	10 22 12.8 -1.3
GTA			AMB		AMB	
	comp=Z,20nm,1.8s,mb4.5					
GTA			AMB		AMB	
	comp=Z,260nm,10.6s					
GTA			LR		LR	
	comp=N,664nm,20.9s,MS4.8					
GTA			LR		LR	
	comp=E,916nm,18.3s,MS4.8					
GTA			LR		LR	
	comp=Z,1μm,20.5s,MS4.8					
BOK	**Bokaro**	**43.91 301**	*e*P		**P**	**10 12 21.8 -0.9**
VIS	**Vishakhapatnam**	**44.49 291**	*e*P		**P**	**10 12 27.8 +0.6**
VIS			AMb		AMB	10 12 37.9
	comp=Z,42nm,1.4s,mb5.0					
CNB	**Canberra Magne**	**44.55 153**	*e*P		**P**	**10 12 29.5 +1.7**
	comp=Z,78nm,1.5s,mb5.3					
TOO	**Toolangi**	**44.91 159**	*e*P		**P**	**10 12 32.3 +1.6**
	comp=Z,18nm,1.0s,mb4.9					
TOO	**Toolangi**	**44.91 159**	*e*P		**P**	**10 12 32.3 +1.6**
TOO			pmax		pmax	
	comp=Z,19nm,1.0s,mb4.9					
YSS	**Yuzh-Sakhalins**	**45.06 16**	*e*P		**P**	**10 12 32.2 +0.4**
YSS			*e*			10 14 14.9
YSS			pmax		pmax	
	comp=Z,30nm,1.0s,mb5.1					
YSS	**Yuzh-Sakhalins**	**45.06 16**	*e*P		**P**	**10 12 32.2 +0.4**
	comp=Z,30nm,1.0s,mb5.1					
YSS			*e*			10 14 14.9
JIRN	**Jiri**	**45.11 306**	*e*P		**P**	**10 12 32.7 +0.4**
KLR	**Kul'dur**	**45.32 5**	*e*P		**P**	**10 12 31.0 -2.9**
KLR			pmax		pmax	
	comp=Z,45nm,2.0s,mb5.0					
GUN	**Gumba**	**45.46 306**	*e*P		**P**	**10 12 35.3 +0.2**
	comp=Z,95nm,0.7s,mb5.7					
PKI	**Pulchoki**	**45.71 305**	*e*P		**P**	**10 12 36.9 -0.1**
	comp=Z,45nm,0.9s,mb5.4					
PALK	**Pallekele**	**45.76 276**	*e*P		**P**	**10 12 36.4 -1.0**
	comp=Z,20nm,1.0s,mb5.0					
KKN	**Kakani**	**45.90 305**	*e*P		**P**	**10 12 38.2 -0.3**
	comp=Z,59nm,1.1s,mb5.4					
DMN	**Daman**	**45.97 305**	*e*P		**P**	**10 12 39.0 -0.1**
	comp=Z,54nm,0.9s,mb5.5					
GKN	**Gorkha**	**46.51 305**	*e*P		**P**	**10 12 42.7 -0.6**
	comp=Z,34nm,0.8s,mb5.3					
DZM	**Mont Dzumac**	**46.80 125**	*e*P		**P**	**10 12 46.2 +0.6**
DZM	**Mont Dzumac**	**46.80 125**	P		**P**	**10 12 46.9 +1.4**
	comp=Z,47nm,0.8s,mb5.4,baz=302,slow=5.9,SNR=39					
ULN	**Ulaanbaatar**	**46.85 342**	P		**P**	**10 12 47.1 +1.2**
	SNR=10.0					
ULN	**Ulaanbaatar**	**46.85 342**	*e*P		**P**	**10 12 45.8 -0.2**
ULN			pmax		pmax	
	comp=Z,17nm,0.8s,mb5.0					
ULN	**Ulaanbaatar**	**46.85 342**	*e*P		**P**	**10 12 45.8 -0.2**
	comp=Z,17nm,0.8s,mb5.0					
SONM	**Songino Array**	**47.03 341**	P		**P**	**10 12 46.8 -0.6**
	comp=Z,9.1nm,0.7s,mb4.8,baz=154,slow=8.8,SNR=75					
SONM			PcP		PcP	10 14 19.4 0.0
	comp=Z,8.3nm,0.7s,baz=154,slow=3.8,SNR=5.7					
SONM			LR		LR	10 33 10.4
	comp=Z,751nm,21.8s,MS4.6,baz=154,slow=37					
SONM	**Songino Array**	**47.03 341**	P		**P**	**10 12 46.8 -0.6**
SONM						10 14 19.4
KOLN	**Koldanda**	**47.26 305**	*e*P		**P**	**10 12 49.3 +0.1**
	comp=Z,134nm,0.8s,mb5.9					
HYB	**Hyderabad**	**48.89 290**	*i* P		**P**	**10 13 02.5 +0.7**
HYB	**Hyderabad**	**48.89 290**	*e*P		**P**	**10 13 02.5 +0.7**
CIT	**Chita**	**49.11 349**	*e*P		**P**	**10 13 04.8 +1.3**
CIT			*e*			10 13 17.5
CIT			pmax		pmax	
	comp=Z,176nm,1.7s,mb5.8					
TRD	**Trivandrum**	**49.50 278**	*e*P		**P**	**10 13 03.7 -2.7**
TRD			AMb		AMB	10 13 10.2
	comp=Z,64nm,1.7s,mb5.4					
ZAK	**Zakamensk**	**50.25 341**	*e*		**P**	**10 13 11.9 -0.3**
ZAK			*e*			10 14 29.3
LATR	**Latur**	**50.94 290**	*e*P		**P**	**10 13 15.8 -1.5**
BHPL	**Bhopal**	**51.16 297**	*e*P		**P**	**10 13 19.2 +0.2**
BHPL			AMb		AMB	10 13 20.1
	comp=Z,32nm,1.3s,mb5.1					
TLY	**Talaya**	**51.26 342**	P		**P**	**10 13 20.9 +1.1**
	comp=Z,168nm,0.7s,mb6.1,SNR=8.3					
TLY	**Talaya**	**51.26 342**	P		**P**	**10 13 20.8 +1.0**
	SNR=8.4					
TLY	**Talaya**	**51.26 342**	*e*P		**P**	**10 13 20.2 +0.4**
TLY			pmax		pmax	
	comp=Z,20nm,0.8s,mb5.1					
TLY			MLR		MLR	
	comp=Z,701nm,28.0s,MS4.5					
TLY	**Talaya**	**51.26 342**	*e*P		**P**	**10 13 19.7 0.0**
	comp=Z,18nm,0.7s,mb5.1					
IRK	**Irkutsk**	**51.56 343**	*e*P		**P**	**10 13 21.8 -0.2**
IRK			pmax		pmax	
	comp=Z,57nm,2.0s,mb5.2					
MNGI	**Mangalore**	**51.87 283**	*e*x		x	10 13 13.5
MNGI			AMb		AMB	10 13 25.4
	comp=Z,59nm,2.3s,mb5.1					
MOY	**Mondy**	**52.11 340**	*e*P		**P**	**10 13 26.9 +0.8**
MOY			pmax		pmax	
	comp=Z,65nm,2.7s,mb5.1					
WMQ	**Urumqi**	**52.45 325** ⇓	*i* P		**P**	**10 13 29.0 +0.4**
WMQ			AP		pP	10 13 33.5 -0.8
WMQ			XP		sP	10 13 36.0 -0.4
WMQ			PCP		PcP	10 14 40.0 +0.8
WMQ			PP		PP	10 15 28.0 +0.6
WMQ			PPP			10 16 32.0
WMQ			SCP		ScP	10 18 36.0 +0.5
WMQ			S		**S**	**10 20 54.0 +0.1**
WMQ			XS		sS	10 21 05.0 +1.7
WMQ			SCS		ScS	10 23 15.0 -2.7
WMQ			AMB		AMB	
	comp=Z,25nm,1.0s,mb5.1					
WMQ			AMB		AMB	
	comp=Z,295nm,4.9s					
WMQ			LR		LR	
	comp=Z,3μm,21.6s,MS5.3					
CLNS	**Chul'man**	**52.74 359**	*e*P		**P**	**10 13 29.5 -1.3**
CLNS			*e**PP		pP	10 13 41.1 +4.7
CLNS			*e*			10 14 38.6
CLNS			*e*S		**S**	**10 20 45.4 -13**
CLNS			pmax		pmax	
	comp=N,32nm,0.9s					
CLNS			pmax		pmax	
	comp=E,9.0nm,0.9s					
CLNS			pmax		pmax	
	comp=Z,41nm,0.9s,mb5.4					
CLNS			smax			
	comp=N,106nm,12.0s					
CLNS			smax			
	comp=Z,106nm,9.9s					
CLNS			smax			
	comp=E,161nm,12.5s					
NDI	**New Delhi**	**52.86 303**	*e*P		**P**	**10 13 29.0 -2.7**
NDI			*e*P			10 13 29.0
NDI			*e*P			10 13 30.1
NDI			AMb		AMB	10 14 15.8
	comp=Z,22nm,0.8s,mb5.1					
KAD	**Karad**	**52.99 289**	*e*P		**P**	**10 13 32.3 -0.4**
POO	**Poona**	**53.49 290** ⇓	*i* P		**P**	**10 13 33.0 -3.3**
	comp=Z,67nm,0.6s,mb5.8					
POO			*e*x		x	10 14 08.1
AJM	**Ajmer**	**54.42 300**	*e*P		**P**	**10 13 43.0 -0.2**
BOD	**Bodaibo**	**54.61 352** ⇓	*i* P		**P**	**10 13 44.4 -0.1**
BOD			pmax		pmax	
	comp=Z,36nm,1.2s,mb5.3					
DLH	**Dalhousie**	**55.14 307**	*e*x		x	10 13 41.0
THN	**Thein Dam**	**55.31 307**	*e*P		**P**	**10 13 47.5 -2.0**
MK31	**Makanchi Array**	**57.28 325**	*e*P		**P**	**10 14 02.6 -1.0**
MK31			*e*			10 14 58.2
MK31	**Makanchi Array**	**57.28 325**	*e*P		**P**	**10 14 02.6 -1.0**
MK31			*e*PcP		PcP	10 14 58.1 +0.4
MK31			*e*ScP		ScP	10 18 58.5 +1.8
MKAR	**Makanchi Array**	**57.28 325**	P		**P**	**10 14 02.8 -0.8**
	comp=Z,21nm,0.6s,mb5.4,baz=121,slow=7.9,SNR=166					
MKAR			PcP		PcP	10 14 57.6 -0.1
	comp=Z,12nm,0.6s,baz=115,slow=5.1,SNR=4.1					
MKAR			ScP		ScP	10 18 55.6 -1.0
	comp=Z,5.0nm,0.7s,baz=129,slow=4.7,SNR=8.8					
MKAR			S		**S**	**10 21 56.6 -2.2**
	comp=Z,1.7nm,1.0s,baz=116,slow=16,SNR=4.0					
MKAR			LR		LR	10 40 50.5
	comp=Z,728nm,18.3s,MS4.8,baz=120,slow=38					
MKAR			PKPPKP			10 43 55.6
	comp=Z,0.5nm,0.8s,baz=333,slow=1.6,SNR=3.0					
MKAR	**Makanchi Array**	**57.28 325**	P		**P**	**10 14 02.8 -0.8**
MKAR						10 14 57.6
MKAR			S		**S**	**10 21 56.6 -2.2**
KSH	**Kashi**	**57.77 315**	*e*P		**P**	**10 14 08.5 +1.4**
KSH			*e*AP		pP	10 14 14.3 +1.5
KSH			*e*XP		sP	10 14 18.0 +3.1
KSH			*e*PCP		PcP	10 15 03.0 +3.3
KSH			*e*PP		PP	10 16 17.8 +2.7
KSH			*e*PPP			10 17 38.5
KSH			*e*SCP		ScP	10 19 00.0 +1.2
KSH			*e*S		**S**	**10 22 04.5 -0.8**
KSH			*e*PS			10 22 12.5
KSH			*e*XS		sS	10 22 22.0 +7.3
KSH			*e*SCS		ScS	10 23 54.3 -1.5
KSH			*e*SS		SS	10 25 55.8 0.0
KSH			LR		LR	
	comp=N,1μm,7.2s					
KSH			LR		LR	
	comp=E,2μm,15.8s					
KSH			LR		LR	
	comp=Z,2μm,16.6s,MS5.3					
YAK	**Yakutsk**	**57.98 2**	*c i* P		**P**	**10 14 08.3 -0.2**
YAK			*e*			10 16 14.9
YAK			*e*S		**S**	**10 22 04.2 -3.8**
YAK			*e*SS		SS	10 25 58.9 -0.2
YAK			pmax		pmax	
	comp=Z,117nm,0.9s,mb5.9					
YAK			pmax		pmax	
	comp=N,80nm,1.5s					
YAK			pmax		pmax	
	comp=E,26nm,1.5s					
YAK			pmax		pmax	
	comp=Z,273nm,3.5s					
YAK			pmax		pmax	
	comp=N,349nm,4.0s					
YAK			pmax		pmax	
	comp=E,233nm,3.8s					
YAK			smax			
	comp=N,209nm,3.1s					
YAK			smax			
	comp=Z,163nm,3.3s					
YAK			smax			
	comp=E,253nm,2.7s					
YAK	**Yakutsk**	**57.98 2**	*e*P		**P**	**10 14 08.4 -0.2**
	comp=E,91nm,0.8s,mb5.9					
ULHL	**Ulahol**	**58.74 318**	P		**P**	**10 14 12.7 -1.2**
	SNR=7.0					
TKM2	**Tokmak 2**	**59.47 319**	P		**P**	**10 14 18.8 -0.1**
	SNR=17					
UCH	**Uchtor**	**59.90 317**	P		**P**	**10 14 22.5 +0.7**
	SNR=41					
AAK	**Ala-Archa**	**60.08 318**	P		**P**	**10 14 23.4 +0.3**
	SNR=8.9					
AAK	**Ala-Archa**	**60.08 318**	P		**P**	**10 14 22.2 -0.9**
	comp=E,86nm,1.0s,mb5.7,SNR=6.0					
AAK	**Ala-Archa**	**60.08 318**	P		**P**	**10 14 23.1 0.0**
	SNR=12					
AAK	**Ala-Archa**	**60.08 318**	*e*P		**P**	**10 14 22.3 -0.8**
FRU	**Bishkek**	**60.08 318**	*e*P		**P**	**10 14 23.0 -0.1**
FRU			pmax		pmax	
	comp=Z,57nm,2.2s,mb5.2					
ZAL	**Zalesovo**	**60.31 333**	P		**P**	**10 14 23.9 -0.8**
	comp=Z,7.8nm,0.8s,mb4.8,baz=349,slow=6.2,SNR=25					
ZAL			S		**S**	**10 22 34.1 -4.2**
	comp=Z,1.5nm,0.3s,baz=59,slow=24,SNR=3.2					
ZAL			LR		LR	10 42 45.6
	comp=Z,547nm,18.2s,MS4.7,baz=340,slow=38					
ZAL	**Zalesovo**	**60.31 333**	P		**P**	**10 14 23.9 -0.8**
ZAL			S		**S**	**10 22 34.1 -4.1**
ZAL	**Zalesovo**	**60.31 333**	P		**P**	**10 14 23.9 -0.8**
ZAL			S		**S**	**10 22 34.1 -4.2**
ZAL			LR		LR	10 42 45.6
USP	**Ospenovka**	**60.34 318**	P		**P**	**10 14 24.6 -0.3**
	SNR=30					
AML	**Almayashu**	**60.41 317**	P		**P**	**10 14 26.4 +1.1**
	SNR=23					
EKS2	**Erkin-Say**	**60.57 318**	P		**P**	**10 14 27.2 +0.7**
	SNR=14					
KURK	**Kurchatov**	**61.46 327**	P		**P**	**10 14 31.1 -1.4**
	comp=Z,554nm,0.8s,SNR=64					
NVS	**Novosibirsk**	**61.59 333** ⇑	*i* P		**P**	**10 14 32.1 -1.3**
NVS			*e*			10 15 10.3
NVS			*i* S		**S**	**10 22 49.9 -4.7**
NVS			pmax		pmax	
	comp=Z,23nm,0.7s,mb5.4					
NVS			pmax		pmax	
	comp=N,15nm,0.8s					
NVS			pmax		pmax	
	comp=E,17nm,0.8s					
NVS			smax			
	comp=N,16nm,1.9s					
NVS			smax			
	comp=E,20nm,1.9s					
SEY	**Seymchan**	**61.84 13** ⇓	*i* P		**P**	**10 14 34.4 -0.6**
RPZ	**Rata Peaks**	**62.04 145**	LR		LR	10 41 18.0
	comp=E,349nm,20.0s,MS4.5,baz=168,slow=36					
BVAR	**Borovoye Array**	**67.04 327**	P		**P**	**10 15 07.8 -1.3**
	comp=E,31nm,0.9s,mb5.3,baz=125,slow=9.3,SNR=50					
BRVK	**Borovoye**	**67.11 327**	P		**P**	**10 15 08.4 -1.1**
	comp=E,297nm,0.9s,mb6.3,SNR=22					
BRVK	**Borovoye**	**67.11 327**	P		**P**	**10 15 09.5 0.0**
	SNR=16					
BRVK	**Borovoye**	**67.11 327**	*e*P		**P**	**10 15 08.9 -0.6**
BRVK			pmax		pmax	
	comp=Z,41nm,0.8s,mb5.5					
BRVK	**Borovoye**	**67.11 327**	*e*P		**P**	**10 15 08.9 -0.6**
	comp=Z,41nm,0.8s,mb5.5					
CHKZ	**Chkalovo**	**67.20 328**	*e*P		**P**	**10 15 09.2 -0.9**
CHKZ			pmax		pmax	
	comp=Z,18nm,0.7s,mb5.2					
CHKZ	**Chkalovo**	**67.20 328**	*e*P		**P**	**10 15 09.2 -0.9**
	comp=Z,18nm,0.7s,mb5.2					
TIXI	**Tiksi**	**67.61 1**	*e*P		**P**	**10 15 10.4 -2.3**
TIXI			*e*S		S	10 24 09.3 +0.5
TIXI			pmax		pmax	
	comp=Z,41nm,1.2s,mb5.3					
TIXI	**Tiksi**	**67.61 1**	*e*P		**P**	**10 15 12.2 -0.5**
ZRNK	**Zerenda**	**67.77 327**	*e*P		**P**	**10 15 12.8 -0.9**
ZRNK			pmax		pmax	
	comp=Z,37nm,0.8s,mb5.5					
ZRNK	**Zerenda**	**67.77 327**	*e*P		**P**	**10 15 12.8 -0.9**
	comp=Z,37nm,0.8s,mb5.5					
WSAR	**Wadi Sarin**	**68.19 293**	P		**P**	**10 15 15.5 -0.9**
	comp=Z,5.7nm,1.0s,mb4.6,baz=105,slow=12,SNR=3.5					
BILL	**Bilibino**	**69.37 15**	*i* P		**P**	**10 15 22.9 -0.8**
BILL			pmax		pmax	
	comp=Z,24nm,1.9s,mb4.8					
BILL			MLR		MLR	
	comp=Z,300nm,19.0s,MS4.5					
ABKT	**Ailbek**	**70.63 309**	P		**P**	**10 15 32.8 +1.4**
	comp=Z,177nm,0.9s,mb6.0,SNR=5.1					
CASY	**Casey**	**71.03 187**	*e*P		**P**	**10 15 34.2 +0.3**
WHFO	**Wadi Hawf**	**72.43 287**	P		**P**	**10 15 41.5 -0.8**
	SNR=5.7					
ABTO	**Aybut**	**72.87 287** ⇓	P		**P**	**10 15 44.2 -0.7**
AKTK	**Aktyubinsk**	**73.38 322**	P		**P**	**10 15 47.3 -0.6**
AKTO	**Aktyubinsk**	**73.38 322**	P		**P**	**10 15 47.3 -0.6**
	comp=Z,21nm,0.8s,mb5.2,baz=99,slow=9.2,SNR=59					
SVE	**Sverdlovsk**	**73.68 328**	*e*P		**P**	**10 15 49.0 -0.7**
MIR	**Mirnyy**	**74.35 193**	*d i* P		**P**	**10 15 56.0 +2.4**
MIR			pmax		pmax	
	comp=Z,300nm,1.0s,mb6.2					
ARU	**Arti**	**74.66 328**	P		**P**	**10 15 54.2 -1.2**
	comp=Z,304nm,0.6s,mb6.4,SNR=5.3					
ARU	**Arti**	**74.66 328** ⇑	*i* P		**P**	**10 15 55.3 -0.1**
ARU			*e*			10 16 11.8
ARU			*e*			10 18 40.0
ARU			*e*PPP			10 20 34.0
ARU			*e*S		S	10 25 30.9 +0.4
ARU			*e*SS		SS	10 30 18.7 +1.0
ARU			pmax		pmax	
	comp=Z,25nm,0.6s,mb5.3					
ARU			MLR		MLR	
	comp=Z,200nm,20.0s,MS4.4					
ARU			MLR		MLR	
	comp=N,90nm,17.0s,MS4.5					
ARU			MLR		MLR	
	comp=E,200nm,21.0s,MS4.5					
ARU	**Arti**	**74.66 328**	*e*P		**P**	**10 15 54.5 -0.9**
	comp=E,31nm,0.6s,mb5.4					
ORR	**Orenburg**	**75.66 322**	P		**P**	**10 16 00.9 -0.2**
ORR			pmax		pmax	
	comp=Z,50nm,0.9s,mb5.4					
ORR			MLR		MLR	
	comp=Z,530nm,21.0s,MS4.8					
SVW2	**Sparrevohn**	**80.67 29**	*e*P		**P**	**10 16 29.5 +0.6**
SVW2			*e*PcP		PcP	10 16 35.5 -0.1
GNI	**Garni**	**81.22 310**	P		**P**	**10 16 32.7 +0.9**
	comp=Z,2.8nm,0.4s,mb4.6,baz=12,slow=14,SNR=2.3					
GNI	**Garni**	**81.22 310**	*e*P		**P**	**10 16 32.0 +0.2**
GNI			pmax		pmax	
	comp=Z,8.0nm,0.6s					
GNI	**Garni**	**81.22 310**	*e*P		**P**	**10 16 32.0 +0.2**
	comp=Z,8.2nm,0.6s,mb4.8					
KDAK	**Kodiak Island**	**81.78 32**	P		**P**	**10 16 35.7 +0.9**
	comp=Z,14nm,0.7s,mb5.0,baz=97,slow=0.2,SNR=10					
KDAK	**Kodiak Island**	**81.78 32**	*e*P		**P**	**10 16 36.3 +1.5**
ZEI	**Tsey**	**81.95 312**	*e*P		**P**	**10 16 35.3 -0.4**
ZEI			*e**PP		pP	10 16 44.5 +2.9
ZEI			pmax		pmax	
	comp=Z,17nm,0.9s,mb5.0					
IMA2	**Indian Mountai**	**82.23 24**	*e*P		**P**	**10 16 38.0 +0.8**
KIV	**Kislovodsk**	**82.87 314**	*e*P		**P**	**10 16 39.5 -1.0**
SLKM	**Skilak Lake**	**83.22 30**	*e*P		**P**	**10 16 42.7 +0.4**
SLKM			*e*pP		pP	10 16 47.0 -1.2
VNDA	**Vanda**	**83.68 173**	P		**P**	**10 16 44.4 -0.3**
	comp=Z,10nm,0.9s,mb5.0,baz=316,slow=5.9,SNR=52					
VNDA	**Vanda**	**83.68 173**	*e*P		**P**	**10 16 44.6 -0.1**
VNDA			pmax		pmax	
	comp=Z,21nm,1.0s					
VNDA	**Vanda**	**83.68 173**	*e*P		**P**	**10 16 44.6 0.0**
	comp=Z,21nm,1.0s,mb5.2					
VRHR	**Novokhopersk**	**83.76 321**	*e*P		**P**	**10 16 45.1 0.0**
VRHR			pmax		pmax	
	comp=N,2.0nm,0.6s					
VRHR			pmax		pmax	
	comp=Z,30nm,0.6s,mb5.6					
VRHR			pmax		pmax	
	comp=E,10.0nm,0.7s					
MAW	**Mawson**	**83.92 200**	*e*P		**P**	**10 16 46.0 +0.1**
	comp=E,7.2nm,0.8s,mb4.8					
MAW	**Mawson**	**83.92 200**	P		**P**	**10 16 46.2 +0.3**
	comp=E,5.1nm,0.6s,mb4.8,baz=78,slow=7.1,SNR=24					
MAW	**Mawson**	**83.92 200**	*e*P		**P**	**10 16 46.0 +0.1**
MAW			pmax		pmax	
	comp=Z,7.0nm,0.8s					
MCK	**McKinley**	**84.02 26**	*e*P		**P**	**10 16 46.6 +0.2**
MCK			pmax		pmax	
	comp=Z,27nm,1.1s,mb5.3					
MCK	**McKinley**	**84.02 26**	*e*P		**P**	**10 16 46.6 +0.2**
	comp=Z,27nm,1.1s,mb5.3					
SML	**Sawmill**	**84.20 28**	*e*P		**P**	**10 16 48.0 +0.6**
COLA	**College**	**84.55 25**	*i* P		**P**	**10 16 48.7 -0.4**
COLA	**College**	**84.55 25**	*e*P		**P**	**10 16 49.1 0.0**
	comp=Z,12nm,1.0s,mb5.0					
SBA	**Scott Base**	**84.59 172**	*e*P		**P**	**10 16 49.1 -0.2**
SBA			pmax		pmax	
	comp=Z,7.0nm,0.7s,mb4.9					
SBA	**Scott Base**	**84.59 172**	*e*P		**P**	**10 16 49.1 -0.2**
	comp=Z,7.2nm,0.7s,mb4.9					
SOC	**Sochi**	**85.02 313**	*e*P		**P**	**10 16 48.9 -2.6**
SOC			*e*PPP			10 22 01.8
SOC			*e*S		S	10 27 10.7 -9.1
SOC			pmax		pmax	
	comp=Z,5.0nm,0.5s,mb4.9					
VORD	**Divnogorie**	**85.23 321**	*e*P		**P**	**10 16 52.0 -0.6**
VORD			pmax		pmax	
	comp=Z,10.0nm,0.6s,mb5.1					
VORD			pmax		pmax	
	comp=N,9.0nm,0.9s					
VORD			pmax		pmax	
	comp=E,30nm,0.9s					
VRSR	**Storozhevoye**	**85.30 321**	*e*P		**P**	**10 16 52.8 -0.1**
VRSR			pmax		pmax	
	comp=N,10.0nm,1.0s					
VRSR			pmax		pmax	
	comp=E,10.0nm,1.0s					
VRSR			pmax		pmax	
	comp=Z,20nm,1.0s,mb5.2					
PPT	**Papeete**	**85.33 108**	*e*S		S	10 27 24.6 +1.7
	comp=Z,145nm,25.5s					
PPT			*e*LR		LR	10 44 14.5
	comp=Z,363nm,26.8s					
PPT	**Papeete**	**85.33 108**	LR		LR	10 49 40.2
	comp=Z,137nm,20.6s,MS4.3,baz=126,slow=32					
TMCR	**Tamitsa**	**85.82 334**	*e*P		**P**	**10 16 55.5 0.0**
TBI	**Tubuai**	**86.02 114**	*e*S		S	10 27 30.1 +0.4
	comp=Z,343nm,26.8s					
TBI			*e*LR		LR	10 44 26.2
	comp=Z,373nm,28.5s					
MOS	**Moscow**	**86.16 325**	*e*P		**P**	**10 16 53.0 -4.2**
MOS			*e*			10 17 05.2
MOS			*e*			10 27 27.9
MOS			pmax		pmax	
	comp=Z,146nm,1.3s,mb6.0					
MOS			pmax		pmax	
	comp=Z,600nm,2.6s,mb6.4					
MENT	**Mentasta**	**86.36 27**	*e*P		**P**	**10 17 01.5 +3.3**
ANN	**Anapa**	**86.63 315**	*e*P		**P**	**10 16 57.2 -2.2**
ANN			*i **PP		pP	10 17 12.8 +7.4
ANN			*e*			10 20 17.6
ANN			*e*S		S	10 27 20.8 -15
ANN			pmax		pmax	
	comp=Z,62nm,0.9s,mb5.8					
OBN	**Obninsk**	**86.78 325**	*c i* P		**P**	**10 16 59.4 -0.8**
OBN			*e**PP		pP	10 17 10.0 +3.8
OBN			*e**SP		sP	10 17 18.2 +10
OBN			*e*S		S	10 27 21.6 -15
OBN			*e*SS		SS	10 33 18.3 -0.5
OBN			pmax		pmax	
	comp=Z,171nm,1.5s,mb6.1					
OBN			MLR		MLR	
	comp=Z,500nm,21.0s,MS4.9					
OBN	**Obninsk**	**86.78 325**	*e*P		**P**	**10 16 59.3 -0.9**
	comp=Z,46nm,0.6s,mb5.9					
APA	**Apatity**	**87.58 337**

comp=Z,11nm,0.9s,mb5.2,baz=54,slow=5.9,SNR=26
KMBO LR LR 10 53 44.4

KMBO Kilima Mbogo 89.40 269 *e*P **P 10 17 13.5 +0.8**
KMBO pmax pmax
comp=Z,21nm,1.1s

KMBO Kilima Mbogo 89.40 269 *e*P **P 10 17 13.5 +0.8**
comp=Z,21nm,1.1s,mb5.4

EIL Elat 89.47 300 *e*P **P 10 17 13.1 +0.1**
comp=Z,124nm,0.8s,mb6.3

BR131 Keskin Array S 89.75 310 *e*P **P 10 17 14.1 -0.3**
comp=Z,7.2nm,0.8s,mb5.0

BRTR Keskin Array B 89.75 310 P **P 10 17 13.1 -1.3**
comp=Z,7.0nm,0.9s,mb5.0,baz=114,slow=4.9,SNR=27

ARCES ARCESS Array B 90.18 340 P **P 10 17 15.3 -1.0**
comp=Z,5.8nm,0.6s,mb5.1,baz=75,slow=6.5,SNR=26
ARCES LR LR 11 00 16.5
comp=Z,223nm,21.6s,MS4.6,baz=240,slow=37

ARCES ARCESS Array B 90.18 340 P **P 10 17 15.3 -1.0**
ARCES LR LR 11 00 16.5

KAF Kangasniemi 91.32 332 *e*p **P 10 17 20.6 -1.0**
comp=Z,24nm,0.6s,mb5.7

KAF Kangasniemi 91.32 332 *e*P **P 10 17 20.6 -1.0**
KAF pmax pmax
comp=Z,24nm,0.6s,mb5.7

FIA1 FINESS Array S 91.55 332 *e*P **P 10 17 21.8 -1.0**

FINES FINESS Array B 91.55 332 P **P 10 17 22.5 -0.2**
comp=Z,12nm,0.7s,mb5.3,baz=56,slow=4.9,SNR=40
FINES LR LR 11 02 44.1
comp=Z,261nm,18.3s,MS4.7,baz=13,slow=38

AKASG Malin Array Be 91.61 321 P **P 10 17 21.8 -1.2**
comp=Z,12nm,0.7s,mb5.3,baz=70,slow=4.6,SNR=30
AKASG LR LR 11 01 08.0
comp=Z,180nm,20.8s,MS4.5,baz=45,slow=37

AKBB Malin Array Si 91.61 321 *e*P **P 10 17 21.9 -1.1**

SYO Syowa Base 92.59 201⇓*e*P **P 10 17 27.0 -0.5**

TIRR Tirgusor 93.07 315⇓*i*P **P 10 17 29.3 -0.4**

TIRR Tirgusor 93.07 315 ⇓P **P 10 17 29.3 -0.4**

CFR Carcaliu 93.15 316⇑*i*P **P 10 17 29.5 -0.6**

QSPA South Pole Qui 93.87 180 *e*P **P 10 17 33.7 +0.3**
comp=Z,13nm,1.1s,mb5.3

VRI Vrincioaia 94.02 316⇑*i*P **P 10 17 34.8 +0.7**

VRI Vrincioaia 94.02 316 P **P 10 17 34.1 0.0**

PLOR Plostina 94.08 316⇑*i*P **P 10 17 34.7 +0.3**

MLR Muntele Rosu 94.63 316 P **P 10 17 37.0 +0.2**
comp=Z,17nm,0.8s,mb5.5,baz=296,slow=2.0,SNR=31

MLR Muntele Rosu 94.63 316⇑*i*P **P 10 17 37.3 +0.4**

MLR Muntele Rosu 94.63 316 ⇑P **P 10 17 37.3 +0.4**

MLR Muntele Rosu 94.63 316 P **P 10 17 37.0 +0.1**

SUW Suwalki 94.64 325 *e*P **P 10 17 36.3 -0.7**
SUW pmax pmax
comp=Z,99nm,0.8s,mb6.3

SUW Suwalki 94.64 325 *e*P **P 10 17 36.3 -0.7**
comp=Z,99nm,0.8s,mb6.3

LVV L'vov 95.05 321 *e*P **P 10 17 37.6 -1.2**
LVV *e* 10 21 30.4

KWP Kalwaria 95.93 321 *e*P **P 10 17 42.7 -0.1**
KWP pmax pmax
comp=Z,20nm,0.8s,mb5.6

KWP Kalwaria 95.93 321 *e*P **P 10 17 42.7 -0.1**
comp=Z,20nm,0.8s,mb5.6

KOLS Kolonicke sedl 96.37 320 *e*P **P 10 17 44.8 0.0**

UZH Uzhgorod 96.42 320⇑*i*P **P 10 17 44.0 -1.1**
UZH *i* 10 17 52.2
UZH *i* 10 17 58.0
UZH pmax pmax
comp=Z,93nm,0.9s,mb6.2

DRGR 96.57 318⇑*i*P **P 10 17 45.7 0.0**

DRGR 96.57 318 P **P 10 17 45.3 -0.4**

GZR Gura Zlata 96.83 316⇑*i*P **P 10 17 47.1 +0.2**

GZR Gura Zlata 96.83 316 P **P 10 17 46.9 0.0**

CRVS Cervenica-Dubn 96.89 320 *e*P **P 10 17 47.5 +0.3**

STHS Stebnicka Huta 96.91 321 *e*P **P 10 17 47.5 +0.2**
STHS pmax pmax
comp=Z,9.0nm,0.7s,mb5.3

STHS Stebnicka Huta 96.91 321 *e*P **P 10 17 47.5 +0.2**
comp=Z,9.1nm,0.7s,mb5.3

VTS Vitosha 97.12 314⇓*i*P **P 10 17 47.5 -0.7**

VTS Vitosha 97.12 314 ⇓P **P 10 17 47.5 -0.7**

NIE Niedzica 97.50 321 *e*P **P 10 17 50.5 +0.6**

BZS Buzias 97.58 317⇓*i*P **P 10 17 49.7 -0.6**

BZS Buzias 97.58 317 P **P 10 17 49.9 -0.4**

OJC Ojcow 97.61 322 *e*P **P 10 17 50.1 -0.3**

KECS Kecovo 97.62 320 *i* P **P 10 17 50.3 -0.2**
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb5.3

KECS Kecovo 97.62 320 *i* P **P 10 17 50.3 -0.2**
comp=Z,7.6nm,0.8s,mb5.3

HFS Hagfors 97.74 332 P **P 10 17 50.1 -0.9**
comp=Z,5.2nm,0.8s,mb5.1,baz=78,slow=9.6,SNR=5.0

NB2 NORSAR Subarra 98.51 334 P **P 10 17 52.9 -1.6**
comp=Z,4.7nm,0.7s,mb5.1,baz=67,slow=4.4

NB2 NORSAR Subarra 98.51 334 P **P 10 17 52.9 -1.6**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb5.2

NOA NORSAR Array B 98.51 334 P **P 10 17 52.2 -2.2**
comp=Z,4.0nm,0.7s,mb5.1,baz=67,slow=4.6,SNR=18
NOA PP PP 10 21 48.8 -6.1
comp=Z,1.6nm,0.8s,baz=72,slow=8.1,SNR=3.6
NOA LR LR 11 07 00.7
comp=Z,283nm,19.3s,MS4.8,baz=75,slow=38

VYHS Vyhne 98.68 320 PDIF **P 10 17 54.7 -0.5**

VYHS Vyhne 98.68 320 *e*P **P 10 17 54.7 -0.5**

OKC Ostrava-Krasne 98.73 322 *e*P **P 10 17 55.4 -0.1**

LSZ Lusaka 99.12 255 *e*P **P 10 17 57.6 +0.4**
LSZ pmax pmax
comp=Z,6.0nm,0.7s,mb5.2

LSZ Lusaka 99.12 255 *e*P **P 10 17 57.6 +0.4**
comp=Z,6.0nm,0.7s,mb5.2

MORC Moravsky Berou 99.13 322⇓*i*P **P 10 17 57.6 +0.4**

MORC Moravsky Berou 99.13 322 *e*P **P 10 17 56.9 -0.3**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb5.2

MORC Moravsky Berou 99.13 322 *e*P **P 10 17 56.9 -0.3**
comp=Z,7.1nm,0.8s,mb5.2

RKT Rikitea 99.31 113 *e*LR LR 10 50 36.0
comp=Z,222nm,26.8s

YKA Yellowknife Ar 99.35 24 LR LR 11 06 05.0
comp=Z,139nm,20.5s,MS4.5,baz=240,slow=37

PKSM Moragy 99.43 318⇑*i*P **P 10 17 58.1 -0.5**

PKSM Moragy 99.43 318 P **P 10 17 58.2 -0.4**

DPC Dobruska-Polom 99.70 322 *e*P Pdif 10 18 00.4 +0.6

UPC Upice 99.84 323 *e*P Pdif 10 17 58.7 -1.7

VRAC Vranov 99.86 321 P Pdif 10 17 59.6 -0.9
comp=Z,6.1nm,0.8s,baz=65,slow=1.9,SNR=6.7

VRAC Vranov 99.86 321⇑*i*P Pdif 10 17 59.7 -0.8

VRAC Vranov 99.86 321 ⇑P Pdif 10 17 59.7 -0.8

TREC Trest 100.55 322 AMS AMS 11 09 30.0
comp=Z,300nm,22.2s

PVCC Panska Ves 100.70 323 *e*PDIF Pdif 10 18 04.4 +0.1

PRU Pruhonice 100.90 322 *e*PDIF Pdif 10 18 04.8 -0.3
PRU AMS AMS 11 06 30.0
comp=Z,400nm,19.6s

ARSA Arzberg 101.18 320⇓*i*P Pdif 10 18 06.4 0.0
comp=Z,3.9nm,1.2s

CLL Collm 101.36 324⇑*i*P Pdif 10 18 06.8 -0.4
CLL pmax pmax
comp=Z,9.0nm,0.9s

CLL Collm 101.36 324⇑*i*Pdif Pdif 10 18 06.8 -0.4
comp=Z,9.0nm,0.9s
CLL LmV 11 06 00.0
comp=Z,300nm,20.5s

PERS Pernice 101.64 319 *e*P Pdif 10 18 08.3 -0.1

CRES Cresnjev 101.67 318 *e*P Pdif 10 18 08.9 +0.3

KHC Kasperske Hory 101.78 322 *e*PDIF Pdif 10 18 09.3 +0.2

MOA Molln 101.79 320⇑*i*P Pdif 10 18 09.2 +0.1
comp=Z,7.8nm,0.8s

GEC2 GERESS Array S 101.81 322 *e*P Pdif 10 18 09.0 -0.2

GERES GERESS Array B 101.81 322 P Pdif 10 18 08.8 -0.4
comp=Z,3.6nm,0.9s,baz=70,slow=4.4,SNR=14

BOSA Boshof 101.82 242 *e*P Pdif 10 18 08.7 -0.5

BOJS Bojanci 101.91 318 *e*P Pdif 10 18 10.4 +0.8

MOX Moxa 102.42 324 *e*(P) Pdif 10 18 12.2 +0.3

GRA1 Grafenberg Arr 103.02 323 *e*Pdif Pdif 10 18 15.3 +0.8

GRF Grafenberg Arr 103.02 323 *e*Pdiff Pdif 10 18 15.3 +0.8

WTTA Wattenberg 103.66 321⇑*i*P Pdif 10 18 17.1 -0.4
comp=Z,10nm,1.2s

WTTA Wattenberg 103.66 321⇑*i*P Pdif 10 18 17.1 -0.3
WTTA pmax pmax
comp=Z,10.0nm,1.2s

SQTA Sankt Quirin 103.95 321⇑*i*P Pdif 10 18 18.2 -0.5
comp=Z,3.6nm,0.9s

SQTA Sankt Quirin 103.95 321⇑*i*P Pdif 10 18 18.2 -0.5
SQTA pmax pmax
comp=Z,4.0nm,0.9s

MOTA Moosalm 103.97 321⇑*i*P Pdif 10 18 18.2 -0.6
comp=Z,5.7nm,1.0s

MOTA Moosalm 103.97 321⇑*i*P Pdif 10 18 18.2 -0.6
MOTA pmax pmax
comp=Z,6.0nm,1.0s

DAVOX Davos/Dischmat 104.96 321 Pdiff Pdif 10 18 23.1 -0.1
comp=Z,2.9nm,0.9s,baz=164,slow=9.0,SNR=4.2

SNAA Sanae 105.40 195 Pdiff Pdif 10 18 27.2 +2.1
comp=Z,0.3nm,0.7s,baz=146,slow=3.8,SNR=7.4

SNAA Sanae 105.40 195 Pdif Pdif 10 18 27.2 +2.1
SNAA *e*PKP PKiKP 10 22 38.7 -0.1
SNAA *e*PP PP 10 22 45.7 -1.0

NVAR Mina Array Bea 106.87 48 Pdiff Pdif 10 18 35.9 +4.2
comp=Z,0.4nm,0.7s,baz=281,slow=4.4,SNR=4.3
NVAR PKKPbc PKKPbc 10 34 15.7 +16
comp=Z,0.8nm,0.7s,baz=102,slow=4.8,SNR=7.1

LPG La Plagne 107.47 320 *e*PKIKP PKiKP 10 22 40.3 -2.4
comp=Z,15nm,1.0s

LPL La Plagne 107.47 320 *e*PKIKP PKiKP 10 22 40.5 -2.2
comp=Z,18nm,1.2s

BOZ Bozeman (W) 108.65 39 *e*P Pdif 10 18 39.5 -0.1
BOZ pmax pmax
comp=Z,4.0nm,0.7s

BOZ Bozeman (W) 108.65 39 *e*Pdif Pdif 10 18 39.5 0.0
comp=Z,4.3nm,0.7s
BOZ *e*PKP PKiKP 10 22 50.4 +5.5

RLMT Red Lodge 110.37 39 *e*PKP PKiKP 10 22 46.7 -1.4

PDAR Pinedale Array 111.28 41 PKKPbc PKKPbc 10 33 55.5 +10
comp=Z,1.7nm,0.8s,baz=122,slow=5.9,SNR=14

PV10 Paradox Valley 113.60 45 *e*PKP PKiKP 10 22 54.3 0.0

PV01 Paradox Valley 114.04 45 *e*PKP PKiKP 10 22 56.5 +1.4

RSSD Black Hills 114.10 38 *e*PKIKP PKiKP 10 22 56.1 +0.9

ULM Lac du Bonnet 114.83 29 PKKPbc PKKPbc 10 33 46.4 +13
comp=Z,1.4nm,0.7s,baz=131,slow=9.3,SNR=2.7

ANMO Albuquerque 116.98 47 PKP PKPdf 10 23 03.0 +2.2
comp=Z,0.4nm,0.5s,baz=208,slow=4.8,SNR=3.7

SCHQ Schefferville 120.36 9 PKP PKPdf 10 23 07.8 +0.5
comp=Z,4.1nm,0.8s,baz=341,slow=9.3,SNR=2.9

KSU1 Kansas State U 121.53 39 *e*PKPdf PKPdf 10 23 10.5 +1.0

TXAR Lajitas Array 121.58 52 PKP PKPdf 10 23 10.9 +1.3
comp=Z,0.5nm,0.6s,baz=354,slow=0.9,SNR=9.1
TXAR PKKPbc PKKPbc 10 33 09.8 +0.8
comp=Z,0.2nm,0.5s,baz=119,slow=5.7,SNR=5.0

TOA0 Torodi Ar. Sit 122.70 288 *e*PKPdf PKPdf 10 23 12.3 +0.5

TORD Torodi Ar. Bea 122.70 288 PKP PKPdf 10 23 12.2 +0.4
comp=Z,3.1nm,0.7s,baz=54,slow=1.9,SNR=23
TORD PP PP 10 24 48.6 -0.6
comp=Z,2.2nm,1.0s,baz=65,slow=3.3,SNR=3.0
TORD PKKPbc PKKPbc 10 33 07.0 +2.3
comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=3.9

JCT Junction City 124.02 49 *e*PKIKP PKPdf 10 23 15.6 +1.3

WCI Wyandotte Cave 128.14 33 *e*PKIKP PKPdf 10 23 22.7 +0.6

PLAL Pickwick Lake 129.40 37 *e*PKPdf PKPdf 10 23 25.1 +0.5

TKL Tuckaleechee C 131.40 33 PKP PKPdf 10 23 29.2 +0.8
comp=Z,6.3nm,1.0s,baz=135,slow=4.3,SNR=3.0

TKL Tuckaleechee C 131.40 33 PKP PKPdf 10 23 29.2 +0.8

TRQA Tornquist 145.18 168 *e*PKPbc PKPbc 10 23 53.9 +0.8

LMGC Las Mercedes 146.73 43 *e*P PKPbc 10 24 01.7 +3.9

HLGC Holguin 146.79 41 *e*P PKPdf 10 23 54.0 -2.3

OTAV Otavalo 154.65 81 *e*PKPdf PKPdf 10 24 11.7 +3.3
OTAV *e*PKPbc PKPbc 10 24 19.7 +2.8
OTAV *e*PKPab PKPab 10 24 33.2 +1.6

CPD Cerro la Pandu 154.91 29 *e*PKPbc PKPbc 10 24 19.5 +2.1
CPD *e*PKPab PKPab 10 24 38.5 +5.7

CPUP Villa Florida 157.45 171 PKPab PKPab 10 24 45.0 +1.4
comp=Z,6.9nm,0.7s,baz=167,slow=3.7,SNR=2.9

CPUP Villa Florida 157.45 171 *e*PKPab PKPab 10 24 44.9 +1.3

SIV San Ignacio 165.88 148 PKP PKPdf 10 24 21.8 +1.0
comp=Z,1.8nm,1.0s,baz=270,slow=4.6,SNR=4.8
SIV PKPab PKPab 10 25 21.9 +1.4
comp=Z,2.3nm,0.9s,baz=235,slow=7.2,SNR=3.3

IDC 29 10:16:16.7±2.3, 430N×12726E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=165.6km s-min=27.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.08**	**164**	P	P	10 21 42.2	-0.5
	0.4nm,0.4s,baz=344,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**28.54**	**167**	P	P	10 22 15.1	+1.1
	0.2nm,0.9s,baz=348,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	10 26 07.0	+0.2
	0.3nm,0.5s,baz=120,slow=8.6,SNR=4.1						

IDC 29 10:22:45.5±1.1, 5542S×12531W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=97.5km s-min=29.1km az=156.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**33.05**	**344**	*e*LR	LR	10 38 21.1	
	326nm,27.2s						
RKT	**Rikitea**	**33.05**	**344**	*e*T		11 04 47.2	
	2.1nm,0.2s						
TBI	**Tubuai**	**36.69**	**321**	*e*LR	LR	10 39 52.6	
	259nm,26.2s						
TBI	**Tubuai**	**36.69**	**321**	*e*T		11 09 44.0	
	18nm,0.3s						
VAH	**Vaihoa**	**43.64**	**328**	*e*T		11 18 21.0	
	24nm,0.2s						
PMOR	**Pomariorio Ree**	**43.94**	**328**	*e*T		11 18 43.0	
	5.0nm,0.3s						
SIV	**San Ignacio**	**62.40**	**78**	P	P	10 33 10.2	0.0
	0.4nm,0.3s,baz=209,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**76.70**	**248**	P	P	10 34 38.8	+0.4
	1.0nm,0.8s,baz=146,slow=5.1,SNR=11						
WRA	**Warramunga Arr**	**79.50**	**250**	P	P	10 34 54.2	+0.2
	2.0nm,0.8s,baz=146,slow=4.9,SNR=19						
TXAR	**Lajitas Array**	**86.42**	**19**	P	P	10 35 29.7	-0.2
	0.4nm,0.9s,baz=181,slow=5.0,SNR=3.8						
SONM	**Songino Array**	**147.68**	**278**	PKPbc	PKPbc	10 42 30.2	-1.9
	0.3nm,0.5s,baz=119,slow=1.8,SNR=2.3						
MKAR	**Makanchi Array**	**160.75**	**255**	PKPab	PKPab	10 43 27.3	-2.1
	0.3nm,0.6s,baz=116,slow=6.6,SNR=4.2						

GUC 29 10:36:10.3±0.9, 3135S×7178W, h24km±4km, MD4.0, ML3.8, 3C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.69**	**75**	⇑*i*P	Pb	10 36 23.1	-0.6
CMCH				*i* S	Sb	10 36 32.5	-0.3
CMCH				AML	AML	10 36 32.9	
	comp=N,12μm,0.7s						
OVCH	**Ovalle**	**0.89**	**34**	⇑*i*P	Pb	10 36 26.8	-0.4
OVCH				*i* S	Sb	10 36 38.7	+0.1
OVCH				AML	AML	10 36 41.2	
	comp=E,3μm,0.3s						
PTCH	**Petorca**	**1.16**	**142**	⇓*i*P	Pn	10 36 30.9	-0.1
PTCH				*i* S	Sn	10 36 45.9	-0.1
PTCH				AML	AML	10 36 47.0	
	comp=E,8μm,0.1s						
PACH	**Papudo**	**1.21**	**166**	*e*P	Pn	10 36 31.8	+0.1
PACH				*i* S	Sn	10 36 48.2	+0.8
TLL	**Tololo Astrono**	**1.45**	**36**	⇓*i*P	Pn	10 36 35.9	+0.9
TLL				*i* S	Sn	10 36 55.2	+2.0
TLL				AML	AML	10 36 57.2	
	comp=N,2μm,0.8s						
JACH	**Jahuel**	**1.66**	**143**	⇓*i*P	Pn	10 36 39.3	+1.5
JACH				*i* S	Sn	10 37 00.5	+2.1
IHA	**Instituto Hidr**	**1.67**	**176**	⇑*i*P	Pn	10 36 38.1	+0.1
ROCH	**El Roble**	**1.74**	**158**	*e*	Pn	10 36 39.8	+0.9
ROCH				*e*P		10 36 39.8	
ROCH				*i* S	Sn	10 37 02.8	+2.4
PEL	**Peldehue**	**2.01**	**153**	⇓*i*P	Pn	10 36 43.7	+1.1
PEL				*i* S	Sn	10 37 10.4	+3.4
PEL				AML	AML	10 37 13.1	
	comp=E,2μm,0.3s						
DSCH	**Colegio Aleman**	**2.28**	**154**	*e*P	Pn	10 36 47.6	+1.3
DSCH				AML	AML	10 37 23.4	
	comp=E,200nm,0.5s						
RCDM	**Rinconada Maip**	**2.28**	**159**	⇓*i*P	Pn	10 36 47.5	+1.1
RCDM				AML	AML	10 37 25.2	
	comp=E,677nm,0.4s						
CLCH	**Cerro Calan**	**2.29**	**153**	⇓*i*P	Pn	10 36 48.4	+1.9
CLCH				*e*S	Sn	10 37 17.4	+3.5
CLCH				AML	AML	10 37 25.4	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**2.33**	**148**	⇓*i*P	Pn	10 36 48.8	+1.7
FCH				*i* S	Sn	10 37 18.5	+3.5
FCH				AML	AML	10 37 21.5	
	comp=E,688nm,0.1s						
TACH	**Talagante**	**2.40**	**163**	⇓*i*P	Pn	10 36 49.0	+1.0
ANTU	**Antumapu**	**2.41**	**157**	*i* S	Sn	10 37 19.5	+2.6
ANTU				AML	AML	10 37 27.9	
	comp=E,660nm,0.4s						
PCH	**Pirque**	**2.50**	**155**	⇓*i*P	Pn	10 36 50.9	+1.5
PCH				*i* S	Sn	10 37 22.1	+3.0
CHCH	**Chadas Angostu**	**2.74**	**160**	*e*P	Pn	10 36 54.0	+1.3
LMEL	**Las Melosas**	**2.82**	**152**	*i* P	Pn	10 36 55.6	+1.8
LMEL				AML	AML	10 37 38.5	
	comp=N,572nm,0.1s						
CACH	**El Canelo**	**2.93**	**161**	⇓*i*P	Pn	10 36 57.1	+1.8
CICH	**Cipreses**	**3.17**	**159**	⇓*i*P	Pn	10 37 00.5	+1.8

MOS 29 10:38:52.1±0.2, 4304N×4309E, h11km, mb3.5/1, 3C-2D, Error ellipse: s-maj=68.7km s-min=21.7km az=12.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.38**	**111**	⇑*i*PG	Pg	10 39 01.0	+1.3
DIGR				*i* S	Sg	10 39 07.0	+2.2
ZEI	**Tsey**	**0.65**	**114**	⇓*i*PG	Pg	10 39 05.5	+0.8
ZEI				*i* S	Sg	10 39 14.8	+1.6
KORR	**Kora**	**0.71**	**86**	⇑*i*PG	Pg	10 39 06.5	+0.6
KORR				*i* S	Sg	10 39 16.7	+1.4
ARNR	**Ardon**	**0.88**	**80**	⇓*i*PG	Pg	10 39 09.4	+0.3
ARNR				*i* S	Sg	10 39 21.5	+0.9
LACR	**Lac**	**0.91**	**103**	⇑*i*PG	Pg	10 39 09.9	+0.3
LACR				*i* S	Sg	10 39 22.6	+1.2

IDC 29 10:40:40.4±4.1, 191N×10203W, h0km, mb3.7/4, mb1 4.1/4, mb1mx4.0/12, mbtmp3.7/4, Ms1 3.6/1, Ms1mx3.1/21, Error ellipse: s-maj=188.4km s-min=29.0km az=59.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.32**	**357**	P	P	10 46 27.8	+1.0
	0.7nm,1.0s,baz=179,slow=11,SNR=4.9						
NNA	**Nana**	**28.58**	**119**	LR	LR	10 55 45.3	
	comp=Z,124nm,19.6s,baz=333,slow=32						
NVAR	**Mina Array Bea**	**39.29**	**340**	P	P	10 48 11.7	+0.8
	1.0nm,0.8s,baz=165,slow=7.5,SNR=7.2						
PDAR	**Pinedale Array**	**41.24**	**352**	P	P	10 48 26.4	-0.6
	0.9nm,0.7s,baz=152,slow=6.7,SNR=9.2						
CPUP	**Villa Florida**	**51.47**	**126**	P	P	10 49 47.9	+0.4
	0.8nm,0.6s,baz=267,slow=7.7,SNR=3.7						

IDC 29 10:50:56.6±2.4, 094S×12801E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=203.3km s-min=25.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**162**	P	Pn	10 55 29.9	-1.0
	0.1nm,0.3s,baz=344,slow=12,SNR=10						
ASAR	**Alice Springs**	**23.30**	**166**	P	P	10 56 06.2	0.0
	1.2nm,0.6s,baz=347,slow=9.0,SNR=26						
ASPA	**Alice Springs**	**23.38**	**166**	*e*P	P	10 56 08.9	+2.7
MKAR	**Makanchi Array**	**62.11**	**326**	P	P	11 01 19.5	+0.2
	0.7nm,0.6s,baz=113,slow=8.4,SNR=7.8						

GUC 29 10:51:12.4±0.9, 3411S×7206W, h38km±2km, MD3.8, ML3.2, 8C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**74**	⇓*i*P	Pn	10 51 24.2	+0.3
LNV				*i* S	Sn	10 51 32.6	+0.7
LCCH	**Las Cruces**	**0.76**	**33**	*e*P	Pn	10 51 27.0	+0.4
LCCH				*i* S	Sn	10 51 38.1	+1.4
SFDO	**San Fernando**	**1.00**	**120**	⇓*i*P	Pn	10 51 30.5	+0.6
SFDO				*i* S	Sn	10 51 44.4	+1.7
TACH	**Talagante**	**1.04**	**64**	⇓*i*P	Pn	10 51 31.0	+0.6
TACH				*i* S	Sn	10 51 44.7	+1.0
NICH	**Los Niches**	**1.12**	**143**	⇑*i*P	Pn	10 51 32.5	+1.0
NICH				*i* S	Sn	10 51 48.5	+2.7
IHA	**Instituto Hidr**	**1.14**	**18**	⇑*i*P	Pn	10 51 32.4	+0.6
CHCH	**Chadas Angostu**	**1.18**	**82**	⇑*i*P	Pn	10 51 33.6	+1.2
CHCH				*i* S	Sn	10 51 49.0	+1.8
CACH	**El Canelo**	**1.21**	**91**	⇓*i*P	Pn	10 51 34.6	+1.9
CACH				*i* S	Sn	10 51 51.3	+3.3
RCDM	**Rinconada Maip**	**1.21**	**60**	*e*P	Pn	10 51 33.6	+0.8
RCDM				*e*S	Sn	10 51 49.4	+1.3
RCDM				AML	AML	10 51 49.6	
	comp=E,561nm,0.1s						
ANTU	**Antumapu**	**1.30**	**66**	⇑*i*P	Pn	10 51 35.5	+1.4
ANTU				*i* S	Sn	10 51 52.3	+2.1
TALC	**Talca**	**1.33**	**165**	⇓*i*P	Pn	10 51 35.2	+0.8
TALC				*i* S	Sn	10 51 53.0	+2.1
TALC				AML	AML	10 51 54.8	
	comp=N,3μm,0.1s						
CICH	**Cipreses**	**1.37**	**99**	⇑*i*P	Pn	10 51 36.7	+1.6
CICH				*i* S	Sn	10 51 55.0	+3.1
PCH	**Pirque**	**1.38**	**70**	⇓*i*P	Pn	10 51 36.5	+1.5
PCH				*i* S	Sn	10 51 55.2	+3.1
DSCH	**Colegio Aleman**	**1.43**	**61**	⇓*i*P	Pn	10 51 36.9	+1.1
DSCH				*i* S	Sn	10 51 55.3	+1.9
DSCH				AML	AML	10 51 56.0	
	comp=E,125nm,0.3s						
CLCH	**Cerro Calan**	**1.46**	**61**	⇓*i*P	Pn	10 51 37.6	+1.4
CLCH				*i* S	Sn	10 51 56.5	+2.5
CLCH				AML	AML	10 51 57.9	
	comp=E,754nm,0.4s						
CLCH				AML	AML	10 51 58.4	
	comp=N,561nm,0.6s						
PEL	**Peldehue**	**1.50**	**50**	⇑*i*P	Pn	10 51 38.5	+1.7
PEL				*i* S	Sn	10 51 57.8	+2.7
PEL				AML	AML	10 52 07.7	
	comp=N,708nm,0.3s						
LMEL	**Las Melosas**	**1.56**	**81**	⇑*i*P	Pn	10 51 39.8	+2.1
LMEL				*i* S	Sn	10 52 00.4	+3.7
LMEL				AML	AML	10 52 01.3	
	comp=N,1μm,0.1s						
FCH	**Farellones**	**1.67**	**62**	⇑*i*P	Pn	10 51 40.7	+1.6
FCH				*i* S	Sn	10 52 02.8	+3.6
FCH				AML	AML	10 52 04.2	
	comp=N,396nm,0.3s						

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*ISCJB **29** 11:12:31.3±1.1, 562S±02×1239W±05, h10km, mb3.8/5, MS4.0/5, Error ellipse: s-maj=38.2km s-min=28.2km az=157.9*

*IDC **29** 11:12:31.1±1.0, 561.1S×1240.0W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/13, mbtmp3.8/5, MS4.0/5, Ms1 4.0/5, ms1mx3.7/14, Error ellipse: s-maj=36.5km s-min=33.5km az=85.0*

*NEIC **29** 11:12:32.5±0.7, 56.10S×123.90W, h10km, Error ellipse: s-maj=30.1km s-min=23.8km az=90.0*

ISC 29 11:12:32.4±1.1, 562S±02×1238W±05, h10km, n24, σ0.975/5, mb3.8/5, MS4.0/5, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**34.01**	**341**	*e*LR	LR	11 28 10.5	
	369nm,27.8s						
TBI	**Tubuai**	**37.81**	**319**	*e*LR	LR	11 29 48.6	
	238nm,28.8s						
TBI	**Tubuai**	**37.81**	**319**	*e*T		11 59 29.9	
	54nm,0.4s						
URZ	**Urewera**	**42.52**	**269**	LR	LR	11 34 46.8	
	comp=Z,112nm,18.6s,MS3.8,baz=37,slow=32						
PPT	**Papeete**	**43.18**	**323**	*e*LR	L

ASAR Alice Springs 77.23 247 P **P 11 24 26.6 0.0**
0.8nm,0.8s,mb3.7,baz=145,slow=4.6,SNR=8.0
ASAR LR LR 11 54 47.1
comp=Z,106nm,19.0s,MS4.2,baz=170,slow=33
WRA Warramunga Arr 80.08 249 P **P 11 24 42.0 -0.4**
2.0nm,0.8s,mb4.1,baz=143,slow=4.8,SNR=20
TXAR Lajitas Array 86.84 17 P **P 11 25 17.3 +0.2**
0.4nm,0.8s,mb3.7,baz=177,slow=8.4,SNR=4.8
BOSA Boshof 91.55 153 LR LR 12 04 30.9
comp=Z,92nm,21.0s,MS4.2,baz=173,slow=34
JIRN Jiri 144.38 229 *eP* PKPdf 11 32 07.3 -1.5
6.8nm,0.6s
PKI Pulchoki 144.63 228 *eP* PKPdf 11 32 08.3 -0.9
5.4nm,0.5s
GUN Gumba 144.73 229 *eP* PKPdf 11 32 08.3 -1.1
13nm,0.7s
DMN Daman 144.79 228 *eP* PKPdf 11 32 08.5 -1.0
19nm,0.9s
KKN Kakani 144.87 228 *eP* PKPdf 11 32 07.5 -2.1
25nm,1.0s
EKA Eskdalemuir Ar 147.44 66 PKPbc PKPbc 11 32 15.6 -0.9
1.3nm,0.9s,baz=240,slow=2.4,SNR=4.6
SONM Songino Array 148.65 276 PKPbc PKPbc 11 32 17.9 -1.8
0.5nm,0.8s,baz=165,slow=2.5,SNR=4.4
MKAR Makanchi Array 161.38 251 PKPab PKPab 11 33 15.7 -1.7
0.4nm,0.8s,baz=113,slow=3.3,SNR=2.5

IDC 29 11:16:41.9±1.7,399N×12457E,h0km,mb3.7/4,mb1 3.9/4,
mb1mx3.6/17,mbtmp3.8/4,Error ellipse:
s-maj=123.3km s-min=23.0km az=67.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**177**	*eP*	P	11 21 39.7	+2.4
	2.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.98**	**177**	P	P	11 21 39.5	+2.2
	1.4nm,0.5s,baz=357,slow=7.1,SNR=8.1						
WRA	**Warramunga Arr**	**25.64**	**158**	P	P	11 22 12.8	-0.3
	1.4nm,0.5s,baz=333,slow=10,SNR=29						
WB2	**Warramunga Arr**	**25.65**	**158**	*eP*	P	11 22 12.7	-0.5
ASAR	**Alice Springs**	**28.95**	**162**	P	P	11 22 42.6	-0.2
	0.3nm,0.3s,baz=341,slow=7.8,SNR=20						
ASPA	**Alice Springs**	**28.95**	**162**	*eP*	P	11 22 42.7	-0.2
MKAR	**Makanchi Array**	**56.13**	**326**	P	P	11 26 23.3	+0.2
	0.7nm,0.5s,baz=120,slow=8.6,SNR=8.8						

*PDG **29** 11:27:28.9±0.3,4405N×2009E,h11km*
*BEO **29** 11:27:28.4±0.7,4402N×2008E,h14km±3km*
*SOF **29** 11:27:28.2,4401N×2010E,h10km,MD2.6*
*ISCJB **29** 11:27:28.1±0.4,4409N±002×2009E±003,h1km±3km,*
Error ellipse: s-maj=3.4km s-min=2.5km az=70.3
*NEIC **29** 11:27:28.9,4405N×2009E,h11km,ML3.0(PDG),*
ML3.1(BUC),After PDG.
*CSEM **29** 11:27:29.0±0.1,44.14N×2002E,h10km,ML3.1,Error*
ellipse: s-maj=4.2km s-min=2.5km az=139.0
ISC 29 11:27:29.3±0.4,4408N±002×2007E±002,h2km±3km,n50,
σ1º07/84,22C-15D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.06**	**288**	*i* Pg	**Pg**	**11 27 31.0**	**+0.6**
DIVS				Sg	**Sg**	**11 27 32.5**	**+1.3**
BEO	**Belgrade**	**0.79**	**20**	*i* Pg	**Pg**	**11 27 45.4**	**+1.0**
BEO				Sg	**Sg**	**11 27 58.0**	**+3.3**
SJES	**Sjenica**	**0.82**	**186**	Pg	**Pg**	**11 27 43.0**	**-1.9**
SVIS	**Svilajnac**	**0.86**	**75**	*i* Pg	**Pg**	**11 27 46.8**	**+1.1**
SVIS				Sg	**Sg**	**11 27 58.7**	**+1.8**
PLE	**Pljevlja**	**0.90**	**213**	↑*i*Pg	**Pg**	**11 27 45.3**	**-1.2**
PLE				*e*Sg	**Sg**	**11 27 59.2**	**+1.2**
IVA	**Berane**	**1.22**	**186**	↑*i*Pg	**Pg**	**11 27 50.9**	**-1.7**
IVA				*e*Sg	**Sg**	**11 28 09.4**	**+1.1**
UPM	**Unac-Piva**	**1.22**	**224**	↑*i*Pg	**Pg**	**11 27 51.2**	**-1.4**
UPM				*e*Sg	**Sg**	**11 28 10.1**	**+1.7**
BOLS	**Boljevac**	**1.39**	**100**	↓*i*Pg	**Pg**	**11 27 53.9**	**-2.0**
BOLS				Sg	**Sg**	**11 28 13.9**	**0.0**
NKY	**Niksic**	**1.49**	**212**	↓*i*Pg	**Pg**	**11 27 55.8**	**-2.0**
NKY				*e*Sg	**Sg**	**11 28 18.1**	**+1.0**
PVY	**Plav**	**1.49**	**183**	↑*i*Pg	**Pg**	**11 27 56.0**	**-1.8**
PVY				*e*Sg	**Sg**	**11 28 17.8**	**+0.7**
BRY	**Bratogost**	**1.62**	**224**	↑*i*Pn	**Pn**	**11 27 58.1**	**-0.8**
BRY				*e*Sn	**Sn**	**11 28 21.4**	**+1.2**
TTG	**Podgorica**	**1.75**	**200**	↑*i*Pn	**Pn**	**11 27 59.9**	**-0.7**
TTG				*e*Sn	**Sn**	**11 28 24.8**	**+1.2**
TREB	**Trebinje**	**1.85**	**223**	P	**Pn**	**11 28 01.1**	**-0.9**
TREB				S	**Sn**	**11 28 26.4**	**+0.4**
BZS	**Buzias**	**1.89**	**35**	↓*i*P	**Pn**	**11 28 01.7**	**-0.9**
BZS	**Buzias**	**1.89**	**35**	↓P	**Pn**	**11 28 01.7**	**-0.9**
BZS				S	**Sn**	**11 28 28.2**	**+1.2**
BZS	**Buzias**	**1.89**	**35**	↓P	**Pn**	**11 28 01.7**	**-0.9**
BZS				S	**Sn**	**11 28 28.2**	**+1.2**
BUM	**Brajici-Budva**	**1.97**	**206**	↓*i*Pn	**Pn**	**11 28 03.3**	**-0.4**
BUM				*e*Sn	**Sn**	**11 28 30.0**	**+0.9**
HCY	**Herceg Novi**	**2.00**	**216**	↓*i*Pn	**Pn**	**11 28 03.7**	**-0.3**
HCY				*e*Sn	**Sn**	**11 28 30.2**	**+0.6**
STON	**Ston**	**2.10**	**236**	*i* Pn	**Pn**	**11 28 05.5**	**0.0**
STON				*i* Sn	**Sn**	**11 28 33.1**	**+0.9**
ULC	**Ulcinj**	**2.20**	**196**	↑*i*Pn	**Pn**	**11 28 06.4**	**-0.5**
ULC				*e*Sn	**Sn**	**11 28 35.0**	**+0.4**
GZR	**Gura Zlata**	**2.33**	**55**	↓*i*P	**Pn**	**11 28 08.2**	**-0.5**
GZR	**Gura Zlata**	**2.33**	**55**	↓P	**Pn**	**11 28 08.2**	**-0.5**
GZR				S	**Sn**	**11 28 39.2**	**+1.2**
GZR	**Gura Zlata**	**2.33**	**55**	↓P	**Pn**	**11 28 08.2**	**-0.5**
GZR				S	**Sn**	**11 28 39.2**	**+1.3**
PKSM	**Moragy**	**2.36**	**335**	↑*i*P	**Pn**	**11 28 09.0**	**0.0**
PKSM	**Moragy**	**2.36**	**335**	↑*e*Pn	**Pn**	**11 28 09.0**	**0.0**
PKSM				*e*Sn	**Sg**	**11 28 45.3**	**+0.2**
PKSM	**Moragy**	**2.36**	**335**	↑*e*Pn	**Pn**	**11 28 09.0**	**0.0**
PKSM				S	**Sn**	**11 28 40.0**	**+1.5**
VTS	**Vitosha**	**2.73**	**122**	*i* P	**Pn**	**11 28 13.0**	**-1.2**
VTS				S	**Sg**	**11 28 56.5**	**-0.6**
VTS	**Vitosha**	**2.73**	**122**	↑*i*P	**Pn**	**11 28 13.1**	**-1.1**
VTS	**Vitosha**	**2.73**	**122**	S	**Sn**	**11 28 47.8**	**0.0**
VTS	**Vitosha**	**2.73**	**122**	↑P	**Pn**	**11 28 13.1**	**-1.1**
VTS				S	**Sn**	**11 28 47.8**	**+0.1**
VTS	**Vitosha**	**2.73**	**122**	↑P	**Pn**	**11 28 13.1**	**-1.1**
VTS				S	**Sn**	**11 28 47.8**	**0.0**
DRGR		**3.29**	**34**	↑*i*P	**Pn**	**11 28 21.2**	**-0.6**
DRGR		**3.29**	**34**	↑P	**Pn**	**11 28 21.2**	**-0.6**
DRGR				S	**Sn**	**11 29 00.8**	**-0.7**
DRGR		**3.29**	**34**	↑P	**Pn**	**11 28 21.2**	**-0.6**
DRGR				S	**Sn**	**11 29 00.8**	**-0.7**
PKSG		**3.51**	**341**	↑*e*P	**Pn**	**11 28 25.3**	**+0.4**
MMB	**Musomiste**	**3.67**	**132**	*i* P	**Pn**	**11 28 26.5**	**-0.5**
MMB				S	**Sg**	**11 29 27.6**	**+0.5**
VOIR		**3.80**	**67**	↑*i*P	**Pn**	**11 28 30.0**	**+1.2**
VOIR		**3.80**	**67**	↑P	**Pn**	**11 28 30.0**	**+1.2**
VOIR				S	**Sn**	**11 29 14.8**	**+0.7**
VOIR		**3.80**	**67**	↑P	**Pn**	**11 28 30.0**	**+1.2**
VOIR				S	**Sn**	**11 29 14.8**	**+0.7**
PSZ	**Piszkesteto**	**3.84**	**358**	*e*Pn	**Pn**	**11 28 28.9**	**-0.5**
PSZ				*e*Sn	**Sn**	**11 29 08.0**	**-7.1**
PSZ	**Piszkesteto**	**3.84**	**358**	↑*i*P	**Pn**	**11 28 28.9**	**-0.5**
PVL	**Pavlikeni**	**3.92**	**101**	P	**Pn**	**11 28 29.0**	**-1.5**
RZN	**Rozhen**	**4.17**	**123**	P	**Pn**	**11 28 38.0**	**+4.1**
KECS	**Kecovo**	**4.41**	**4**	*e*PN	**Pn**	**11 28 37.9**	**+0.6**
MLR	**Muntele Rosu**	**4.42**	**69**	S	**Sn**	**11 29 30.0**	**+0.7**
ARSA	**Arzberg**	**4.49**	**316**	↓*i*Pn	**Pn**	**11 28 38.2**	**-0.2**
ARSA				↓*i*Sn	**Sn**	**11 28 29.9**	**-1.3**
VYHS	**Vyhne**	**4.50**	**349**	*e*PN	**Pn**	**11 28 38.7**	**+0.3**
VYHS				*e*SN	**Sn**	**11 29 29.3**	**-2.0**
CONA	**Conrad Observa**	**4.84**	**324**	↑*i*Pn	**Pn**	**11 28 42.9**	**-0.1**
CONA				↓*i*Sn	**Sn**	**11 29 37.5**	**-2.2**
BURAR	**Bucovina Array**	**5.04**	**44**	↓*i*P	**Pn**	**11 28 46.0**	**+0.1**
BURAR	**Bucovina Array**	**5.04**	**44**	↓P	**Pn**	**11 28 46.0**	**+0.1**

*NEIC **29** 11:32:00.7,3274S×7224W,h37km,MD4.3(GUC),After*
GUC.
GUC 29 11:32:00.7±0.8,3274S×7224W,h37km±2km,MD4.3,
ML3.7,3C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.58**	**120**	↑*i*P	Pn	11 32 12.2	-0.2
IHA				*i* S	Sn	11 32 21.4	+0.7
PACH	**Papudo**	**0.70**	**74**	↑*i*P	Pn	11 32 14.5	+0.3
PACH				*i* S	Sn	11 32 25.2	+1.4
LCCH	**Las Cruces**	**0.93**	**143**	*e*P	Pn	11 32 17.5	+0.3
LCCH				*i* S	Sn	11 32 30.7	+1.5
ROCH	**El Roble**	**1.06**	**103**	*e*P	Pn	11 32 20.3	+1.3
ROCH				*i* S	Sn	11 32 34.9	+2.4
PTCH	**Petorca**	**1.20**	**67**	*e*P	Pn	11 32 21.7	+0.7
PTCH				*i* S	Sn	11 32 38.0	+2.0
PTCH				AML	AML	11 32 40.9	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**1.20**	**67**	*e*P	Pn	11 32 21.7	+0.7
PTCH				*i* S	Sn	11 32 38.0	+2.0
PEL	**Peldehue**	**1.37**	**108**	↓*e*P	Pn	11 32 24.3	+1.0
PEL				*i* S	Sn	11 32 43.6	+3.4
PEL				AML	AML	11 32 44.9	
	comp=E,3μm,0.2s						
PEL	**Peldehue**	**1.37**	**108**	↓*e*P	Pn	11 32 24.3	+1.0
PEL				S	Sn	11 32 43.6	+3.4
JACH	**Jahuel**	**1.39**	**88**	*e*P	Pn	11 32 24.5	+0.9
JACH				*i* S	Sn	11 32 43.4	+2.8
LNV	**Longovilo**	**1.40**	**151**	*e*P	Pn	11 32 23.7	0.0
RCDM	**Rinconada Maip**	**1.42**	**122**	*e*P	Pn	11 32 24.8	+0.9
RCDM				*i* S	Sn	11 32 43.8	+2.4
RCDM				AML	AML	11 32 57.6	
	comp=N,440nm,0.6s						
RCDM	**Rinconada Maip**	**1.42**	**122**	*e*P	Pn	11 32 24.8	+0.9
RCDM				*i* S	Sn	11 32 43.8	+2.4
TACH	**Talagante**	**1.42**	**130**	*e*P	Pn	11 32 25.1	+1.1
TACH				*i* S	Sn	11 32 44.5	+3.0
CLCH	**Cerro Calan**	**1.57**	**115**	↓*e*P	Pn	11 32 27.7	+1.6
CLCH				*i* S	Sn	11 32 48.1	+2.9
CLCH				AML	AML	11 32 58.1	
	comp=N,2μm,0.9s						
PCH	**Pirque**	**1.69**	**122**	*e*P	Pn	11 32 29.6	+1.9
PCH				*i* S	Sn	11 32 50.7	+2.5
FCH	**Farellones**	**1.74**	**110**	↑*e*P	Pn	11 32 30.6	+2.3
FCH				*i* S	Sn	11 32 53.0	+3.7
FCH				AML	AML	11 33 00.4	
	comp=N,657nm,0.3s						
CHCH	**Chadas Angostu**	**1.78**	**132**	*e*P	Pn	11 32 30.6	+1.6
CHCH				*i* S	Sn	11 32 52.6	+2.2
CMCH	**Combarbala**	**1.88**	**34**	*e*P	Pn	11 32 31.5	+1.1
CMCH				*i* S	Sn	11 32 55.6	+2.8
CMCH				AML	AML	11 32 58.2	
	comp=N,4μm,0.7s						
CMCH	**Combarbala**	**1.88**	**34**	*e*P	Pn	11 32 31.5	+1.1
CMCH				*i* S	Sn	11 32 55.6	+2.8
CACH	**El Canelo**	**1.94**	**136**	*e*P	Pn	11 32 33.4	+2.3
SFDO	**San Fernando**	**2.13**	**152**	↓*e*P	Pn	11 32 35.3	+1.5
SFDO				*i* S	Sn	11 33 10.0	+11
CICH	**Cipreses**	**2.19**	**137**	*e*P	Pn	11 32 35.9	+1.3
TLL	**Tololo Astrono**	**2.84**	**26**	*e*P	Pn	11 32 45.5	+2.0
TLL				*i* S	Sn	11 33 19.6	+3.1
TLL				AML	AML	11 33 46.3	
	comp=E,382nm,0.5s						
TLL	**Tololo Astrono**	**2.84**	**26**	*e*P	Pn	11 32 45.5	+2.0
TLL				*i* S	Sn	11 33 19.6	+3.1

MOS 29 11:34:03.7±0.7,4308N×4270E,h13km,mb3.8/1,6C-5D,
Error ellipse: s-maj=12.7km s-min=10.1km az=175.1,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	**Shatzhatmas**	**0.66**	**358**	↑*i*Pg	Pg	11 34 17.6	+1.1
SHAR				*i* S	Sg	11 34 25.0	-0.2
DIGR	**Digorskoe uzhe**	**0.67**	**106**	↑*i*Pg	Pg	11 34 16.5	-0.2
DIGR				*i* S	Sg	11 34 23.1	-2.5
KIV	**Kislovodsk**	**0.87**	**359**	↑*i*Pg	Pg	11 34 20.8	+0.3
KIV				*e*S	Sg	11 34 31.1	-0.8
KUBR	**Kubataba**	**0.88**	**35**	*e*PG	Pg	11 34 19.6	-1.1
KUBR				*i* S	Sg	11 34 28.9	-3.4
ZEI	**Tsey**	**0.93**	**109**	↓*i*Pg	Pg	11 34 21.3	-0.4
ZEI				*i* S	Sg	11 34 31.4	-2.5
KORR	**Kora**	**1.00**	**89**	↑*i*Pg	Pg	11 34 22.3	-0.7
KORR				*i* S	Sb	11 34 33.3	-2.6
ARNR	**Ardon**	**1.16**	**84**	↓*i*Pg	Pg	11 34 25.3	-0.7
ARNR				*i* S	Sb	11 34 38.4	-2.1
KMSR	**Komsomolskaya**	**1.20**	**76**	↓*i*Pg	Pg	11 34 26.2	-0.5
KMSR				*i* S	Sb	11 34 39.8	-1.8
LACR	**Lac**	**1.20**	**102**	↓*i*Pg	Pg	11 34 26.1	-0.7
LACR				*i* S	Sb	11 34 39.7	-1.9
BTKR	**Batakoyurt**	**1.38**	**77**	↑*i*Pg	Pg	11 34 29.4	-0.7
BTKR				*i* S	Sn	11 34 45.5	-1.1
VLKR	**Vladikavkaz**	**1.45**	**91**	↓*i*Pg	Pg	11 34 30.4	-1.1
VLKR				*i* S	Sn	11 34 47.3	-1.1
SNJR	**Sundja**	**1.54**	**90**	↑*i*Pg	Pg	11 34 32.0	-1.4

*ISCJB **29** 12:04:01.2±1.5,16.1S±03×1749W±02,h272km±21km,*
mb3.8/6,Error ellipse: s-maj=49.9km s-min=23.3km
az=144.4
*IDC **29** 12:04:01.9±1.5,16.13S×17492W,h262km±20km,mb3.6/5,*
mb1 3.8/6,mb1mx3.6/14,mbtmp4.2/6,Error ellipse:
s-maj=37.6km s-min=19.7km az=153.0
*NEIC **29** 12:04:03.0±1.1,16.11S×17495W,h274km±14km,Error*
ellipse: s-maj=31.5km s-min=15.9km az=156.0
ISC 29 12:04:02.3±1.5,162S±03×1749W±02,h265km±21km,n13,
σ0º66/14,mb3.8/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.74**	**53**	P	**Pn**	**12 05 05.5**	**+1.8**
	21nm,0.3s,baz=165,slow=1.9,SNR=35						
AFI				S	**S**	**12 05 52.1**	**-0.6**
	24nm,0.3s,baz=209,slow=22,SNR=13						
AFI	**Afiamalu**	**3.74**	**53**	*e*Pn	**Pn**	**12 05 05.4**	**+1.6**
AFI				*e*S	**S**	**12 05 50.6**	**-2.0**
STKA	**Stephens Creek**	**42.43**	**240**	*e*P	**P**	**12 11 31.2**	**0.0**
	3.1nm,0.7s,mb3.6						
STKA	**Stephens Creek**	**42.43**	**240**	P	**P**	**12 11 31.1**	**0.0**
	4.2nm,0.9s,mb3.7,baz=100,slow=9.7,SNR=9.6						
WB2	**Warramunga Arr**	**48.28**	**258**	*e*P	**P**	**12 12 16.9**	**0.0**
WRA	**Warramunga Arr**	**48.29**	**258**	P	**P**	**12 12 16.9**	**-0.1**
	6.0nm,0.8s,mb4.0,baz=96,slow=6.5,SNR=87						
AS31	**Alice Springs**	**48.53**	**253**	*e*P	**P**	**12 12 18.7**	**-0.1**
ASAR	**Alice Springs**	**48.53**	**253**	P	**P**	**12 12 18.6**	**-0.2**
	12nm,0.7s,mb4.3,baz=86,slow=8.2,SNR=219						
ASPA	**Alice Springs**	**48.53**	**253**	*e*P	**P**	**12 12 18.7**	**-0.1**
KAKA	**Kakadu**	**51.03**	**267**	*e*P	**P**	**12 12 37.5**	**0.0**
	5.3nm,0.4s,mb4.2						
VNDA	**Vanda**	**62.47**	**186**	P	**P**	**12 13 57.4**	**-0.3**
	0.9nm,0.8s,mb3.5,baz=37,slow=9.6,SNR=5.2						
TXAR	**Lajitas Array**	**82.22**	**57**	P	**P**	**12 15 54.1**	**+0.3**
	0.1nm,0.3s,mb3.0,baz=231,slow=5.7,SNR=3.4						
BRTR	**Keskin Array B**	**145.83**	**319**	PKPbc	PKPbc	12 23 10.4	+0.1
	0.8nm,0.7s,baz=55,slow=4.6,SNR=4.0						

*ISCJB **29** 12:25:02.7±0.9,2987N±005×3627E±005,h0km,Error*
ellipse: s-maj=6.9km s-min=6.4km az=97.5
*HLW **29** 12:25:02.4,2993N×3663E,h21km,Mb3.2*
*CSEM **29** 12:25:04.9±0.2,2983N×3606E,h1km,ML2.2,Error*
ellipse: s-maj=3.3km s-min=2.2km az=84.0,Mining
explosion.
*GII **29** 12:25:05.0±0.6,2994N×3614E,h0km±7km,ML2.2/3*
ISC 29 12:25:02.7±0.9,2986N±005×3632E±006,h0km,n19,
σ0º55/27,4C-1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**279**	Pg	**Pg**	**12 25 23.7**	**-0.6**
HRFI				Sg	**Sg**	**12 25 39.5**	**+0.6**
ZFRI	**Zfri**	**1.20**	**305**	Pg	**Pg**	**12 25 25.3**	**-0.5**
ZFRI				Sg	**Sg**	**12 25 41.0**	**-0.4**
EIL	**Elat**	**1.21**	**261**	Pg	**Pg**	**12 25 25.7**	**-0.1**
EIL				Sg	**Sg**	**12 25 42.6**	**+1.1**
MBH	**Mount Berech**	**1.22**	**267**	Pg	**Pg**	**12 25 27.1**	**+1.0**
MBH				Sg	**Sg**	**12 25 42.5**	**+0.5**
PRNI	**Paran**	**1.24**	**293**	Pg	**Pg**	**12 25 26.0**	**-0.5**
PRNI				Sg	**Sg**	**12 25 42.0**	**-0.5**
KMTI	**Karmit**	**1.40**	**280**	Pg	**Pg**	**12 25 29.2**	**-0.4**
KMTI				Sg	**Sg**	**12 25 47.3**	**-0.5**
HBST	**Basata**	**1.53**	**245**	↑P	**Pn**	**12 25 30.7**	**-0.5**
MZDA	**Masada**	**1.66**	**330**	Pn	**Pn**	**12 25 33.7**	**+0.6**
YTIR	**Yattir**	**1.82**	**326**	Pn	**Pn**	**12 25 35.9**	**+0.6**
HDHB	**Dhahab**	**1.87**	**233**	↑P	**Pn**	**12 25 35.7**	**-0.3**
DSI	**Dead Sea**	**1.88**	**335**	Pn	**Pn**	**12 25 37.1**	**+0.9**
HNKL	**Nakhl**	**2.03**	**272**	↑P	**Pn**	**12 25 38.6**	**+0.4**
HKAT	**Jabal Katrina**	**2.43**	**237**	P	**Pn**	**12 25 43.6**	**-0.1**
HKAT				S	**Sn**	**12 26 13.9**	**-0.2**
HKAT	**Jabal Katrina**	**2.43**	**237**	P	**Pn**	**12 25 43.6**	**-0.1**
HKAT				S	**Sn**	**12 26 13.9**	**-0.3**
TR2		**2.71**	**238**	P	**Pn**	**12 25 47.2**	**-0.2**
TR2		**2.71**	**238**	P	**Pn**	**12 25 47.2**	**-0.3**
TR1		**2.78**	**229**	P	**Pn**	**12 25 48.5**	**0.0**
AMAG	**Maghara**	**2.80**	**287**	↓P	**Pn**	**12 25 48.1**	**-0.7**
SUZ		**3.03**	**270**	↑P	**Pn**	**12 25 51.9**	**0.0**

MOS 29 12:27:00.1±0.2,4328N×4419E,h9km,mb3.6/1,1C-5D,
Error ellipse: s-maj=33.5km s-min=13.5km az=77.2,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.11**	**142**	↓*i*PG	Pg	12 27 04.7	+2.0
ARNR				*i* S	Sg	12 27 08.1	+3.6
KMSR	**Komsomolskaya**	**0.12**	**38**	↓*i*PG	Pg	12 27 04.6	+1.7
KMSR				*i* S	Sg	12 27 07.8	+2.9
KORR	**Kora**	**0.21**	**205**	↓*i*PG	Pg	12 27 06.2	+1.8
KORR				*i* S	Sg	12 27 10.6	+3.3
LACR	**Lac**	**0.46**	**170**	↓*i*PG	Pg	12 27 10.0	+1.0
LACR				*i* S	Sg	12 27 17.1	+2.1
ZEI	**Tsey**	**0.55**	**203**	↓*i*PG	Pg	12 27 11.5	+0.8
ZEI				*i* S	Sg	12 27 19.8	+1.9
DIGR	**Digorskoe uzhe**	**0.58**	**230**	↑*i*PG	Pg	12 27 12.5	+1.1
DIGR				*i* S	Sg	12 27 21.5	+2.5

IDC 29 12:42:28.4±2.1,099S×12784E,h0km,mb3.3/2,mb1 3.4/3,
mb1mx3.3/15,mbtmp3.2/3,ML3.2/1,Error ellipse:
s-maj=155.2km s-min=26.4km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**162**	P	Pn	12 47 02.5	-0.2
	0.1nm,0.3s,baz=341,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**23.30**	**166**	P	P	12 47 37.5	-0.4
	0.4nm,0.7s,baz=345,slow=12,SNR=9.2						
MKAR	**Makanchi Array**	**62.05**	**326**	P	P	12 52 50.8	+0.1
	0.3nm,0.6s,baz=118,slow=7.9,SNR=5.4						

*SSNC **29** 12:55:59.8,2159N×7504W,h8km,MD3.5,ML3.3*
*IDC **29** 12:56:01.2±0.6,2105N×7516W,h0km,mb4.0/9,mb1 4.3/9,*
mb1mx4.0/19,mbtmp4.0/9,MS3.3/6,Ms1 3.4/6,
ms1mx3.1/22,Error ellipse: s-maj=25.4km s-min=20.9km
az=177.0
*ISCJB **29** 12:56:05.0±1.4,2121N±007×7513W±006,h31km±10km,*
mb3.9/9,MS3.5/3,Error ellipse: s-maj=12.2km
s-min=8.7km az=17.1
*NEIC **29** 12:56:07.2±0.6,2125N×7514W,h35km,Error ellipse:*
s-maj=22.2km s-min=16.3km az=78.0
ISC 29 12:56:06.4±1.5,2115N±007×7513W±006,h30km±10km,
n28,σ0º95/24,mb3.9/9,MS3.5/3,1C,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAC	**Moa**	**0.51**	**162**	*i* PG	**Pb**	**12 56 15.3**	**-1.7**
MOAC				*i* SG	**Sb**	**12 56 25.8**	**+1.6**
	comp=N,4μm,0.3s						
MOAC				*e*			
	comp=E,3μm,0.1s						
HLGC	**Holguin**	**0.90**	**254**	*e*P	**Pn**	**12 56 22.4**	**-0.7**
HLGC				*e*S	**Sb**	**12 56 38.7**	**+3.5**
	comp=N,326nm,0.2s						
HLGC				*e*			
	comp=E,332nm,0.2s						
MASC	**Masc**	**1.28**	**139**	*e*P	**Pn**	**12 56 27.4**	**-0.9**
MASC				*e*S	**Sn**	**12 56 44.7**	**+0.2**
	comp=N,22nm,0.4s						
MASC				*e*			
	comp=E,26nm,0.4s						
LMGC	**Las Mercedes**	**2.06**	**239**	↑*i*P	**Pn**	**12 56 38.0**	**-1.0**
LMGC				*i* S	**Sn**	**12 57 04.2**	**+0.6**
	comp=N,632nm,0.3s						
LMGC				*e*			
	comp=E,584nm,0.2s						
MGV	**Manicaragua**	**4.61**	**283**	*e*P	**Pn**	**12 57 06.2**	**-7.8**
DWPF	**Disney**	**8.99**	**322**	P	**Pn**	**12 58 25.6**	**+11**
TEIG	**Tepich**	**12.34**	**268**	Pn	**Pn**	**12 58 54.1**	**-5.9**
SDV	**Santo Domingo**	**12.94**	**160**	LR	LR	13 04 29.8	
	comp=E,79nm,20.1s,baz=348,slow=40						
PCRV	**Puerto La Cruz**	**14.86**	**136**	Pn	**Pn**	**12 59 39.4**	**+5.0**
	comp=E,0.6nm,0.3s,baz=327,slow=23,SNR=3.0						
ROSC	**El Rosal**	**16.21**	**177**	Pn	**Pn**	**12 59 57.3**	**+5.3**
	comp=E,0.9nm,0.3s,baz=97,slow=20,SNR=4.0						
ROSC				LR	LR	13 05 06.0	
	comp=E,49nm,19.1s,baz=58,slow=34						
ROSC	**El Rosal**	**16.21**	**177**	*e*P	**Pn**	**12 59 56.4**	**+4.4**
ROSC				LR	LR	13 05 06.0	
TKL	**Tuckaleechee C**	**16.32**	**334**	LR	LR	13 06 28.5	
	comp=E,196nm,18.8s,baz=250,slow=38						
TXAR	**Lajitas Array**	**27.02**	**293**	P	**P**	**13 01 46.3**	**+0.5**
	comp=E,1.1nm,0.9s,mb3.4,baz=110,slow=11,SNR=13						
TXAR				Pc

BVAR	**Borovoye Array**	**28.34**	**23**	P	**P**	**13 07 39.4**	**-0.4**
	0.6nm,0.5s,mb3.5,baz=222,slow=6.0,SNR=4.4						
BVAR				LR	LR	13 20 12.1	
	comp=Z,34nm,18.9s,MS3.0,baz=313,slow=39						
AKASG	**Malin Array Be**	**28.55**	**329**	P	**P**	**13 07 41.1**	**-0.6**
	0.8nm,0.6s,mb3.6,baz=135,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**30.05**	**43**	P	**P**	**13 07 54.0**	**-1.0**
	0.3nm,0.3s,mb3.5,baz=241,slow=7.9,SNR=6.0						
FINES	**FINESS Array B**	**37.68**	**340**	P	**P**	**13 09 00.2**	**-1.0**
	4.6nm,1.0s,mb4.2,baz=134,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**37.68**	**340**	P	**P**	**13 09 00.2**	**-1.0**
NOA	**NORSAR Array B**	**42.84**	**332**	P	**P**	**13 09 43.1**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=120,slow=8.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.25**	**263**	P	**P**	**13 10 35.7**	**+1.2**
	0.3nm,0.5s,mb3.6,baz=62,slow=7.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**49.25**	**263**	P	**P**	**13 10 35.7**	**+1.2**

*NEIC **29** 13:03:21.1±0.7, 545N×9427E, h30km, mb4.6/2, Error ellipse: s-maj=25.3km s-min=8.0km az=224.0*
*IDC **29** 13:03:25.5±5.3, 551N×9448E, h68km±45km, mb3.7/9, mb1 3.9/10, mb1mx3.6/22, mbtmp4.0/10, ML3.7/1, Error ellipse: s-maj=67.6km s-min=16.8km az=57.0*
*ISCJB **29** 13:03:26.5±2.4, 57N±01×947E±01, h90km±22km, mb4.1/16, Error ellipse: s-maj=28.4km s-min=12.1km az=95.8*

ISC 29 13:03:27.1±2.3, 57N±01×947E±01, h77km±21km, n22, σ0°42/22, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.12**	**124**	P	**Pn**	**13 04 41.5**	**+0.3**
	2.5nm,0.3s,baz=297,slow=14,SNR=13						
PSI	**Prapat**	**5.12**	**124**	P	**Pn**	**13 04 41.5**	**+0.3**
KULM	**Kulim**	**5.97**	**93**	*eP*	**Pn**	**13 04 52.6**	**-0.2**
KULM				*eS*	**Sn**	**13 05 59.5**	**-0.3**
JIRN	**Jiri**	**23.30**	**341**	*eP*	**P**	**13 08 28.3**	**+0.2**
	9.2nm,0.6s,mb4.3						
DMN	**Daman**	**23.63**	**338**	*eP*	**P**	**13 08 30.8**	**-0.3**
	2.4nm,0.2s,mb4.1						
GUN	**Gumba**	**23.64**	**340**	*eP*	**P**	**13 08 31.2**	**0.0**
	7.5nm,0.5s,mb4.3						
GKN	**Gorkha**	**24.16**	**338**	*eP*	**P**	**13 08 35.8**	**-0.2**
	7.0nm,0.4s,mb4.4						
KOLN	**Koldanda**	**24.36**	**336**	*eP*	**P**	**13 08 38.0**	**+0.2**
	5.1nm,0.4s,mb4.2						
MK31	**Makanchi Array**	**42.33**	**347**	*eP*	**P**	**13 11 13.6**	**+0.3**
MKAR	**Makanchi Array**	**42.33**	**347**	P	**P**	**13 11 13.8**	**+0.5**
	2.7nm,0.6s,mb4.2,baz=168,slow=7.6,SNR=30						
SONM	**Songino Array**	**43.19**	**12**	P	**P**	**13 11 21.0**	**+0.8**
	0.5nm,0.6s,mb3.4,baz=208,slow=5.2,SNR=8.3						
WRA	**Warramunga Arr**	**46.58**	**124**	P	**P**	**13 11 47.5**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=304,slow=9.2,SNR=19						
WB2	**Warramunga Arr**	**46.59**	**124**	*eP*	**P**	**13 11 47.4**	**+0.1**
ASAR	**Alice Springs**	**48.13**	**129**	P	**P**	**13 11 59.1**	**-0.1**
	0.6nm,0.5s,mb3.7,baz=300,slow=8.0,SNR=28						
ZAL	**Zalesovo**	**48.78**	**352**	P	**P**	**13 12 04.7**	**+0.5**
	2.1nm,0.3s,mb4.6,baz=313,slow=6.3,SNR=7.2						
BVAR	**Borovoye Array**	**51.23**	**341**	P	**P**	**13 12 22.6**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=146,slow=10.0,SNR=11						
BRVK	**Borovoye**	**51.29**	**341**	*eP*	**P**	**13 12 22.8**	**-0.4**
	2.6nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**51.71**	**342**	*eP*	**P**	**13 12 26.3**	**0.0**
	4.2nm,0.4s,mb4.8						
FINES	**FINESS Array B**	**74.89**	**332**	P	**P**	**13 14 58.2**	**-1.2**
	1.1nm,0.7s,mb3.7,baz=146,slow=21,SNR=3.4						
ARCES	**ARCESS Array B**	**77.50**	**340**	P	**P**	**13 15 13.6**	**-0.6**
	3.9nm,0.9s,mb4.1,baz=89,slow=7.4,SNR=4.4						
GERES	**GERESS Array B**	**79.81**	**318**	P	**P**	**13 15 27.1**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=101,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**140.99**	**26**	PKP	PKPdf	13 22 51.0	+2.8
	0.2nm,0.5s,baz=316,slow=0.7,SNR=7.0						

CASC 29 13:20:44.2±1.7, 1329N×8759W, h15km±6km, MD3.9, ML3.7, 8C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.24**	**266**	↑*eP*	x	13 20 51.8	+2.3
CNCH				*eS*	x	13 20 57.0	+3.9
BLLM	**Bellamira**	**0.65**	**283**	↑*eP*	x	13 20 59.4	+2.5
BLLM				*eS*	x	13 21 10.2	+4.6
CRIN	**San Cristobal**	**0.79**	**138**	*eP*	Pg	13 20 58.8	-0.7
TELN	**Telica**	**1.00**	**133**	↓*eP*	Pb	13 21 02.4	-0.9
TELN				*eS*	Sb	13 21 17.5	+1.2
TELN				*i*		13 21 19.6	
	comp=Z,830nm,0.7s						
LEON	**Leon**	**1.10**	**142**	↓*eP*	Pb	13 21 02.8	-2.2
LEON				*eS*	Sb	13 21 18.7	-0.5
CNGN	**Cerro Negro**	**1.17**	**132**	↓*iP*	Pn	13 21 04.7	-1.4
CNGN				*eS*	Sb	13 21 20.5	-0.6
MIRN	**Miramar**	**1.20**	**135**	↑*eP*	Pn	13 21 05.1	-1.4
MIRN				*eS*	Sb	13 21 22.1	+0.1
	comp=Z,2μm,0.4s						
MOMJ	**Momotombo**	**1.35**	**131**	*eP*	Pn	13 21 07.3	-1.2
LCBS	**La Ceiba**	**1.40**	**285**	↑*eP*	x	13 21 12.4	+3.2
LCBS				*eS*	x	13 21 31.0	+3.6
COPN	**Copaltepe**	**1.47**	**139**	↑*eP*	Pn	13 21 09.1	-1.1
COPN				*eS*	Sn	13 21 29.1	-0.1
COPN				*i*		13 21 31.2	
	comp=Z,932nm,0.3s						
LFRS	**El Faro**	**1.47**	**283**	↑*eP*	x	13 21 13.3	+3.1
LFRS				*eS*	x	13 21 34.0	+4.9
LBRS	**Las Brisas**	**1.48**	**288**	*eP*	x	13 21 14.2	+3.8
LBRS				*eS*	x	13 21 34.1	+4.6
APYN	**Apoyeque**	**1.60**	**131**	↓*eP*	Pn	13 21 12.1	+0.1
APYN				*eS*	Sn	13 21 33.7	+1.3
APYN				*i*		13 21 37.4	
	comp=Z,2μm,0.3s						
XAVN	**Gruta Xavier**	**1.68**	**133**	*eP*	Pn	13 21 12.2	-0.7
MGAN	**Managua**	**1.73**	**131**	*eP*	Pn	13 21 13.2	-0.6
MGAN				*eS*	Sn	13 21 36.6	+1.0
MGAN				*i*		13 21 46.3	
	comp=N,240nm,0.4s						
TICN	**Ticuantepe**	**1.82**	**133**	↑*eP*	Pn	13 21 15.4	+0.4
TICN				*eS*	Sn	13 21 38.5	+0.7
CONN	**Concepcion**	**2.57**	**132**	*eP*	Pn	13 21 25.6	+0.3
SSNN	**San Juan del S**	**2.62**	**139**	↑*eP*	Pn	13 21 25.8	-0.2
MADN	**Villa Maderas**	**2.74**	**133**	↓*eP*	Pn	13 21 26.8	-0.9

*NEIC **29** 13:54:27.3, 1824N×9754W, h65km, MD3.8(MEX), After MEX.*

MEX 29 13:54:27.8±1.1, 1826N×9756W, h60km±9km, MD3.8, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.24**	**50**	*iP*	Pn	13 54 36.0	-1.5
TPIG				*iS*	Sn	13 54 43.3	-1.2
UTMO	**Huajuapan**	**0.49**	**208**	*iP*	Pn	13 54 38.2	-1.4
UTMO				*iS*	Sn	13 54 47.2	-1.0
PPM	**Popocatepetl**	**1.29**	**308**	*iP*	Pn	13 54 49.2	-0.5
PPM				*iS*	Sn	13 55 05.0	-1.0
PPM	**Popocatepetl**	**1.29**	**308**	*iP*	Pn	13 54 50.2	+0.5
PPM				*iS*	Sn	13 55 07.2	+1.2
OXX	**Oaxaca**	**1.42**	**146**	*eP*	Pn	13 54 55.0	+3.6
VHO	**Vista Hermosa**	**1.42**	**146**	*iP*	Pn	13 54 50.3	-1.2
VHO				*iS*	Sn	13 55 08.0	-1.2
YAIG	**Yautepec**	**1.55**	**293**	*iP*	Pn	13 54 52.8	-0.4
YAIG				*iS*	Sn	13 55 11.0	-1.2
YAIG	**Yautepec**	**1.55**	**293**	*iP*	Pn	13 54 52.8	-0.4
YAIG				*iS*	Sn	13 55 12.2	0.0
IIO	**Organos**	**1.72**	**320**	*iP*	Pn	13 54 58.7	+3.3
IIO				*iS*	Sn	13 55 13.8	-2.6
PLIG	**Platanillo**	**1.85**	**274**	*iP*	Pn	13 54 56.0	-1.2
PLIG				*iS*	Sn	13 55 17.5	-2.0
MEIG	**Mezcala**	**1.99**	**261**	*iP*	Pn	13 54 57.3	-1.7
MEIG				*iS*	Sn	13 55 21.4	-1.5
CAIG	**El Cayaco**	**2.85**	**245**	*iP*	Pn	13 55 07.4	-3.4
CAIG				*iS*	Sn	13 55 46.6	+2.6

IDC 29 14:09:22.1±2.4, 664S×12978E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=89.0km s-min=30.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.08**	**199**	Pn	Pn	14 12 17.1	+1.6
	0.1nm,0.3s,baz=18,slow=7.1,SNR=36						
FITZ				Sn	Sn	14 14 16.3	-15
	0.5nm,0.3s,baz=231,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**13.94**	**162**	Pn	Pn	14 12 39.8	-1.0
	0.2nm,0.3s,baz=342,slow=13,SNR=19						
WRA				Sn	Sn	14 15 02.2	-14
	0.3nm,0.3s,baz=337,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**17.38**	**167**	P	Pn	14 13 25.9	-0.1
	0.1nm,0.3s,baz=342,slow=8.7,SNR=7.8						
ASAR				S	Sn	14 16 28.9	-11
	0.1nm,0.3s,baz=359,slow=25,SNR=5.5						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	14 20 21.9	+0.1
	0.1nm,0.4s,baz=114,slow=7.5,SNR=2.5						

*ISCJB **29** 14:35:24.6±0.5, 247N±006×9887E±007, h155km±4km, mb4.2/21, Error ellipse: s-maj=13.0km s-min=7.4km az=96.7*
*IDC **29** 14:35:25.4±0.3, 254N×9901E, h145km±2km, mb4.0/15, mb1 4.1/15, mb1mx3.9/23, mbtmp4.4/15, Error ellipse: s-maj=21.0km s-min=9.5km az=59.0*
*NEIC **29** 14:35:26.2±0.6, 252N×9905E, h154km±5km, mb4.3/5, Error ellipse: s-maj=12.2km s-min=6.7km az=59.0*

ISC 29 14:35:25.7±0.5, 245N±006×9883E±007, h149km±4km, n46, σ0°89/47, mb4.2/21, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.36**	**15**	P	**Pn**	**14 35 46.2**	**-0.1**
	484nm,0.3s,baz=202,slow=7.3,SNR=2088						
PSI				S	**Sn**	**14 36 01.4**	**-0.6**
	178nm,0.3s,baz=356,slow=22,SNR=59						
PSI	**Prapat**	**0.36**	**15**	P	**Pn**	**14 35 46.2**	**-0.1**
PSI				S	**Sn**	**14 36 01.4**	**-0.6**
IPM	**Ipoh**	**2.98**	**47**	P	**Pn**	**14 36 13.7**	**+1.0**
PPI	**Padang Panjang**	**3.28**	**151**	P	**Pn**	**14 36 16.7**	**+0.1**
	0.0nm,0.0s						
KULM	**Kulim**	**3.36**	**33**	*eP*	**Pn**	**14 36 17.2**	**-0.4**
KGM	**Kluang**	**4.50**	**95**	P	**Pn**	**14 36 32.9**	**+0.4**
BSI	**Banda Aceh**	**4.65**	**311**	P	**Pn**	**14 36 34.2**	**-0.2**
	0.0nm,0.0s						
CBJI	**Citeko**	**11.90**	**138**	P	**Pn**	**14 38 10.4**	**-0.3**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**17.70**	**78**	P	**Pn**	**14 39 23.7**	**+0.9**
PALK	**Pallekele**	**18.68**	**286**	*eP*	**P**	**14 39 36.0**	**+3.6**
	6.7nm,0.6s						
PALK				*e*		14 39 47.5	
TSM	**Tawau**	**19.10**	**84**	P	**P**	**14 39 38.4**	**+1.6**
PCI	**Palu**	**21.26**	**99**	P	**P**	**14 40 02.0**	**+1.9**
	29nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.38**	**129**	*eP*	**P**	**14 41 48.4**	**-1.4**
	12nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.38**	**129**	P	**P**	**14 41 49.3**	**-0.4**
	5.7nm,0.6s,mb4.5,baz=316,slow=5.8,SNR=23						
KAKA	**Kakadu**	**36.61**	**115**	*eP*	**P**	**14 42 16.0**	**-1.4**
	3.8nm,0.3s,mb4.5						
NWAO	**Narrogin (SRO)**	**39.25**	**155**	P	**P**	**14 42 41.0**	**+1.5**
	6.9nm,0.7s,mb4.4,baz=306,slow=5.4,SNR=7.8						
WRA	**Warramunga Arr**	**41.34**	**124**	P	**P**	**14 42 56.1**	**-0.7**
	11nm,0.3s,mb4.9,baz=306,slow=9.2,SNR=96						
WRA				ScP	ScP	14 48 27.5	-0.7
	0.5nm,0.8s,baz=312,slow=3.2,SNR=8.5						
WRA				S	**S**	**14 48 53.5**	**-6.6**
	1.2nm,1.0s,baz=293,slow=17,SNR=4.7						
WB2	**Warramunga Arr**	**41.35**	**124**	*eP*	**P**	**14 42 55.8**	**-1.1**
ASPA	**Alice Springs**	**42.88**	**129**	*eP*	**P**	**14 43 08.2**	**-1.0**
AS31	**Alice Springs**	**42.88**	**129**	*eP*	**P**	**14 43 08.2**	**-1.0**
ASAR	**Alice Springs**	**42.88**	**129**	P	**P**	**14 43 08.1**	**-1.1**
	2.9nm,0.3s,mb4.4,baz=298,slow=7.5,SNR=84						
ASAR				ScP	ScP	14 48 33.6	-0.7
	0.8nm,0.6s,baz=304,slow=4.1,SNR=14						
ASAR				S	**S**	**14 49 17.7**	**-4.8**
	0.8nm,1.1s,baz=294,slow=14,SNR=4.0						
SONM	**Songino Array**	**45.68**	**7**	P	**P**	**14 43 31.9**	**+0.4**
	0.3nm,0.3s,mb3.3,baz=191,slow=7.9,SNR=6.1						
MK31	**Makanchi Array**	**46.46**	**344**	*eP*	**P**	**14 43 37.5**	**-0.1**
MKAR	**Makanchi Array**	**46.46**	**344**	P	**P**	**14 43 37.8**	**+0.3**
	1.5nm,0.4s,mb3.9,baz=155,slow=8.7,SNR=36						
ZAL	**Zalesovo**	**52.60**	**350**	P	**P**	**14 44 24.8**	**+0.7**
	5.2nm,0.3s,mb4.7,baz=300,slow=3.6,SNR=26						
STKA	**Stephens Creek**	**53.00**	**134**	↑↑*iP*	**P**	**14 44 26.6**	**-0.4**
	1.6nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**53.00**	**134**	P	**P**	**14 44 26.7**	**-0.3**
	1.8nm,0.3s,mb4.3,baz=316,slow=6.7,SNR=14						
BVAR	**Borovoye Array**	**55.63**	**340**	P	**P**	**14 44 45.7**	**-0.3**
	2.0nm,0.5s,mb4.2,baz=139,slow=9.6,SNR=12						
ZRNK	**Zerenda**	**56.07**	**339**	*eP*	**P**	**14 44 48.3**	**-0.8**
	1.4nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**56.09**	**340**	*eP*	**P**	**14 44 49.3**	**+0.1**
	2.5nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**69.50**	**312**	P	**P**	**14 46 18.2**	**+0.2**
	0.5nm,0.4s,mb3.6,baz=123,slow=4.6,SNR=4.3						
MAW	**Mawson**	**74.29**	**194**	P	**P**	**14 46 48.0**	**+1.4**
	2.8nm,0.4s,mb4.3,baz=34,slow=5.8,SNR=26						
AKASG	**Malin Array Be**	**75.28**	**322**	P	**P**	**14 46 51.6**	**-0.6**
	0.7nm,0.3s,mb3.8,baz=84,slow=4.8,SNR=8.4						
BOSA	**Boshof**	**76.81**	**240**	P	**P**	**14 47 02.7**	**+1.8**
	1.8nm,0.3s,mb4.2,baz=115,slow=7.6,SNR=14						
BOSA	**Boshof**	**76.81**	**240**	P	**P**	**14 47 02.7**	**+1.8**
JOF	**Joensuu**	**77.73**	**344**	*ep*	**P**	**14 47 05.0**	**-1.0**
	1.0nm,0.3s,mb3.9						
FIA1	**FINESS Array S**	**79.66**	**332**	*eP*	**P**	**14 47 16.0**	**-0.5**
FINES	**FINESS Array B**	**79.66**	**332**	P	**P**	**14 47 16.3**	**-0.3**
	2.6nm,0.3s,mb4.3,baz=109,slow=5.4,SNR=60						
FINES	**FINESS Array B**	**79.66**	**332**	P	**P**	**14 47 16.3**	**-0.3**
KAF	**Kangasniemi**	**79.72**	**333**	*ep*	**P**	**14 47 16.6**	**-0.3**
	2.7nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**81.92**	**340**	P	**P**	**14 47 28.3**	**-0.2**
	1.2nm,0.4s,mb3.9,baz=104,slow=4.2,SNR=20						
VNDA	**Vanda**	**86.72**	**169**	*eP*	**P**	**14 47 52.8**	**+0.1**
QSPA	**South Pole Qui**	**92.38**	**180**	*eP*	**P**	**14 48 20.1**	**+0.8**
TXAR	**Lajitas Array**	**141.75**	**33**	SKPbc	SKPbc	14 58 04.4	+1.6
	0.3nm,0.6s,baz=223,slow=2.0,SNR=5.4						
CPUP	**Villa Florida**	**147.02**	**222**	PKPbc	PKPbc	14 54 52.2	+1.5
	0.6nm,0.4s,baz=80,slow=7.1,SNR=5.7						
CPUP	**Villa Florida**	**147.02**	**222**	*e*PKPbc	PKPbc	14 54 51.4	+0.6

*KNET **29** 14:46:23.0±0.6, 4165N×7330E, h14km±3km, ml1.9, Error ellipse: s-maj=3.9km s-min=3.3km az=78.0*
*ISCJB **29** 14:46:24.4±1.3, 4168N±009×7321E±008, h10km, Error ellipse: s-maj=12.8km s-min=8.1km az=156.9*

ISC 29 14:46:25.2±1.3, 4171N±009×7323E±008, h10km, n8, σ1°30/14, 12C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.54**	**39**	↑↑P	**Pg**	**14 46 34.2**	**-1.5**
	8.6nm,0.1s,SNR=11						
AML				↓↓S	**Sg**	**14 46 43.3**	**+0.4**
	92nm,0.5s						
UCH	**Uchtor**	**1.09**	**61**	P	**Pb**	**14 46 43.8**	**-2.2**
	7.8nm,0.1s,SNR=44						
UCH				↑S	**Sg**	**14 46 59.8**	**-0.4**
	7.5nm,0.2s						
AAK	**Ala-Archa**	**1.32**	**45**	↑P	**Pn**	**14 46 48.0**	**-1.6**
	5.0nm,0.2s,SNR=14						
AAK				↑S	**Sb**	**14 47 07.1**	**+0.2**
	7.6nm,0.2s						
KZA	**Kyzart**	**1.55**	**76**	↓P	**Pn**	**14 46 50.9**	**-2.0**
	5.1nm,0.2s,SNR=10						
KZA				↑S	**Sn**	**14 47 13.8**	**+0.8**
	12nm,0.3s						
USP	**Ospenovka**	**1.82**	**31**	↓P	**Pn**	**14 46 56.8**	**+0.3**
	6.2nm,0.2s,SNR=5.6						
USP				↑S	**Sn**	**14 47 23.1**	**+3.6**
	20nm,0.2s						
TKM2	**Tokmak 2**	**2.13**	**55**	↑Pn	**Pn**	**14 47 01.7**	**+0.9**
	0.5nm,0.6s						
TKM2				↑Lg		14 47 32.7	
	0.5nm,0.8s						
ULHL	**Ulahol**	**2.31**	**76**	↑P	**Pn**	**14 47 04.2**	**+1.0**
	1.5nm,0.2s,SNR=9.9						
ULHL				↑S	**Sn**	**14 47 33.8**	**+2.1**
	3.1nm,0.2s						
KK31	**Karatay Array**	**2.45**	**306**	↑Pn	**Pn**	**14 47 06.2**	**+1.0**
	0.8nm,0.3s,baz=127,slow=16,SNR=8.2						
KK31				↑Lg		14 47 38.2	
	3.6nm,0.5s,baz=126,slow=29,SNR=8.1						

*IDC **29** 14:47:24.2±4.5, 743S×12349E, h126km±43km, mb3.0/1, mb1 2.9/4, mb1mx2.9/16, mbtmp3.2/4, Error ellipse: s-maj=117.3km s-min=16.8km az=60.0*
*ISCJB **29** 14:47:27.6±3.3, 77S±02×1232E±02, h184km±34km, mb3.3/1, Error ellipse: s-maj=36.8km s-min=18.0km az=68.5*

ISC 29 14:47:25.3±2.3, 75S±02×1232E±02, h135km±22km, n6, σ0°45/11, mb3.3/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.44**	**120**	*eP*	**Pn**	**14 49 56.6**	**+5.4**
	2.7nm,0.3s						
KAKA				*eS*	**Sn**	**14 51 46.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.76**	**168**	*eP*	**Pn**	**14 49 56.6**	**+1.0**
	3.7nm,0.8s						
FITZ				*eS*	**Sn**	**14 51 45.1**	**-9.2**
FITZ	**Fitzroy Crossi**	**10.76**	**168**	P	**Pn**	**14 49 55.2**	**-0.4**
	0.2nm,0.3s,baz=4.9,slow=11,SNR=10.0						
FITZ				S	**Sn**	**14 51 46.0**	**-8.3**
	0.5nm,0.3s,baz=178,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**16.38**	**140**	P	**Pn**	**14 51 06.7**	**-0.6**
	0.1nm,0.3s,baz=315,slow=13,SNR=5.4						
WRA				S	**S**	**14 54 01.7**	**-8.1**
	0.2nm,0.3s,baz=318,slow=25,SNR=6.4						
ASAR	**Alice Springs**	**19.04**	**149**	P	**P**	**14 51 36.5**	**-0.3**
	0.1nm,0.3s,baz=328,slow=11,SNR=9.3						
ASAR				S	**S**	**14 55 05.8**	**+0.2**
	0.1nm,0.3s,baz=317,slow=22,SNR=4.3						
MKAR	**Makanchi Array**	**65.16**	**330**	P	**P**	**14 57 52.0**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=116,slow=6.6,SNR=3.6						

*IDC **29** 15:10:02.3±1.6, 524N×12582E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=103.6km s-min=21.9km az=67.0*
*NEIC **29** 15:10:05.4±0.9, 487N×12495E, h10km, mb4.2/1, Error ellipse: s-maj=45.8km s-min=13.4km az=86.0*
*ISCJB **29** 15:10:11.3±3.3, 51N±03×1255E±06, h87km±43km, mb3.7/5, Error ellipse: s-maj=114.1km s-min=21.9km az=138.5*

ISC 29 15:10:10.8±3.4, 50N±02×1252E±05, h57km±42km, n10, σ0°71/10, mb3.8/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.10**	**9**	*eP*	**Pn**	**15 10 43.5**	**0.0**
FITZ	**Fitzroy Crossi**	**22.95**	**179**	*eP*	**P**	**15 15 10.0**	**-0.1**
	5.0nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**22.95**	**179**	P	**P**	**15 15 10.2**	**+0.1**
	2.1nm,0.8s,mb3.6,baz=5.0,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**26.34**	**160**	P	**P**	**15 15 39.9**	**-1.4**
	2.5nm,0.7s,mb3.8,baz=342,slow=10,SNR=15						
WB2	**Warramunga Arr**	**26.34**	**160**	*eP*	**P**	**15 15 42.6**	**+1.2**
ASAR	**Alice Springs**	**29.71**	**164**	P	**P**	**15 16 11.5**	**+0.1**
	0.3nm,0.7s,mb3.2,baz=347,slow=8.5,SNR=7.2						
STKA	**Stephens Creek**	**39.83**	**158**	*eP*	**P**	**15 17 38.5**	**0.0**
	2.9nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**39.83**	**158**	P	**P**	**15 17 38.6**	**+0.1**
	2.1nm,0.7s,mb4.0,baz=332,slow=7.3,SNR=7.2						
MKAR	**Makanchi Array**	**55.68**	**325**	P	**P**	**15 19 41.2**	**0.0**
	0.6nm,0.5s,mb3.9,baz=122,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**55.68**	**325**	P	**P**	**15 19 41.2**	**0.0**

*NEIC **29** 15:23:26.4, 1535N×9629W, h5km, MD4.2(MEX), After MEX.*

MEX 29 15:23:26.6±0.6, 1536N×9630W, h9km±5km, MD4.3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.45**	**25**	*iP*	Pg	15 23 34.7	-0.6
HUIG				*iS*	Sg	15 23 41.7	+0.6
VHO	**Vista Hermosa**	**1.75**	**346**	*iP*	Pn	15 23 53.6	-3.5
VHO				*iS*	Sn	15 24 15.2	-4.4
OXX	**Oaxaca**	**1.76**	**347**	*iP*	Pn	15 23 54.0	-3.2
OXX				*iS*	Sn	15 24 16.5	-3.2
OXX	**Oaxaca**	**1.76**	**347**	*iP*	Pn	15 23 54.0	-3.2
OXX				*iS*	Sn	15 24 17.0	-2.7
PNIG	**Pinotepa**	**2.03**	**301**	*iP*	Pn	15 23 58.6	-2.4
PNIG				*iS*	Sn	15 24 21.1	-5.4
PNIG	**Pinotepa**	**2.03**	**301**	*iP*	Pn	15 23 59.6	-1.4
PNIG				*iS*	Sn	15 24 25.5	-1.0
CMIG	**Matias Romero**	**2.19**	**38**	*iP*	Pn	15 24 01.0	-2.3
CMIG				*iS*	Sn	15 24 24.5	-6.0
CMIG	**Matias Romero**	**2.19**	**38**	*iP*	Pn	15 24 01.0	-2.3
CMIG				*eS*	Sn	15 24 29.6	-0.9
UTMO	**Huajuapan**	**2.84**	**330**	*iP*	Pn	15 24 10.7	-1.5
UTMO				*iS*	Sn	15 24 41.7	-4.8
TPIG	**Tehuac#an**	**3.20**	**342**	*eP*	Pn	15 24 15.5	-1.6
TPIG				*iS*	Sn	15

GNL *i* S **Sn** **15 39 01.5 +1.2**
PET **Petropavlovsk** **3.03 229**⇑ *i*PN **Pn** **15 38 27.3 +0.4**
PET *e*S **Sn** **15 39 03.0 +1.1**
PET pmax pmax
comp=Z,200nm,0.4s
PET pmax pmax
comp=Z,250nm,0.6s
PET smax
comp=E,1μm,1.4s
PET smax
comp=N,1μm,0.6s
PET smax
comp=E,1μm,0.5s
PET MLR MLR
comp=Z,300nm,18.0s
PET **Petropavlovsk** **3.03 229**⇑ *e*Pn **Pn** **15 38 27.1 +0.2**
PET *e*Sn **Sn** **15 38 59.7 -2.2**
PET **Petropavlovsk** **3.03 229** *e*P **Pn** **15 38 27.4 +0.5**
PET *i* S **Sn** **15 39 02.6 +0.7**
RUS **Russkaya** **3.52 223** *e*P **Pn** **15 38 33.7 0.0**
RUS *i* S **Sn** **15 39 13.4 -0.6**
GRL **Gorelyy** **3.61 227** *e*P **Pn** **15 38 35.6 +0.7**
GRL *i* S **Sn** **15 39 17.6 +1.3**
SKR **Severo-Kuril's** **5.82 224** *e*PN **Pn** **15 39 05.9 +0.6**
ASAJ **Asahikawa** **16.83 238** LR LR 15 47 54.3
comp=Z,44nm,20.5s,baz=0.0,slow=37
TIXI **Tiksi** **21.91 332** *e*P **P** **15 42 28.8 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb4.0
KDAK **Kodiak Island** **24.68 65** P **P** **15 42 59.3 +1.4**
comp=Z,4.5nm,0.6s,mb4.2,baz=314,slow=16,SNR=7.6
MJAR **Matsushiro Arr** **24.86 232** P **P** **15 42 59.3 -0.2**
comp=Z,0.5nm,0.5s,mb3.3,baz=31,slow=8.3,SNR=4.6
MJAR **Matsushiro Arr** **24.86 232** P **P** **15 42 59.3 -0.2**
MJAR pmax pmax
comp=Z,1.0nm,0.5s
SONM **Songino Array** **34.81 282** P **P** **15 44 27.1 -0.6**
comp=Z,0.2nm,0.6s,mb3.2,baz=58,slow=7.5,SNR=2.6
SONM LR LR 15 59 57.2
comp=Z,28nm,18.1s,MS3.0,baz=226,slow=39
ZAL **Zalesovo** **42.89 302** LR LR 16 05 09.2
comp=Z,31nm,18.9s,MS3.2,baz=268,slow=39
MKAR **Makanchi Array** **48.54 295** P **P** **15 46 16.9 -3.0**
comp=Z,0.2nm,0.5s,mb3.4,baz=46,slow=6.9,SNR=4.0
MKAR LR LR 16 08 07.9
comp=Z,28nm,20.9s,MS3.2,baz=169,slow=38
BVAR **Borovoye Array** **50.24 308** P **P** **15 46 29.8 -3.1**
comp=Z,0.5nm,0.4s,mb3.9,baz=57,slow=9.7,SNR=4.8
BVAR **Borovoye Array** **50.24 308** P **P** **15 46 29.8 -3.1**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
ARCES **ARCESS Array B** **51.82 342** P **P** **15 46 44.4 -0.3**
comp=Z,4.9nm,1.1s,mb4.3,baz=4.8,slow=12,SNR=4.2
ARCES **ARCESS Array B** **51.82 342** P **P** **15 46 44.4 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,1.1s
ARCES **ARCESS Array B** **51.82 342** P **P** **15 46 44.4 -0.4**
NVAR **Mina Array Bea** **53.81 73** P **P** **15 47 02.4 +3.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=315,slow=7.1,SNR=7.3
BW06 **Boulder Array** **55.38 63** *e*P **P** **15 47 12.8 +2.0**
comp=Z,1.1nm,0.8s,mb3.9
PDAR **Pinedale Array** **55.38 63** P **P** **15 47 13.2 +2.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=336,slow=4.0,SNR=14
ULM **Lac du Bonnet** **56.47 49** P **P** **15 47 19.6 +0.9**
comp=Z,2.5nm,1.0s,mb4.2,baz=289,slow=12,SNR=5.9
AKTK **Aktyubinsk** **57.49 313** P **P** **15 47 24.7 -1.1**
AKTO **Aktyubinsk** **57.49 313** P **P** **15 47 24.7 -1.1**
comp=Z,0.5nm,0.4s,mb3.9,baz=32,slow=13,SNR=2.6
AKTO **Aktyubinsk** **57.49 313** P **P** **15 47 24.7 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES **FINESS Array B** **58.84 337** P **P** **15 47 33.8 -1.4**
comp=Z,0.9nm,0.4s,mb4.1,baz=48,slow=6.2,SNR=12
FINES **FINESS Array B** **58.84 337** P **P** **15 47 33.8 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
NB2 **NORSAR Subarra** **62.01 345** P **P** **15 47 53.6 -3.3**
comp=Z,3.5nm,1.1s,mb4.4,baz=19,slow=6.9
NOA **NORSAR Array B** **62.01 345** P **P** **15 47 54.9 -2.0**
comp=Z,1.3nm,0.9s,mb4.0,baz=18,slow=7.0,SNR=2.7
NOA **NORSAR Array B** **62.01 345** P **P** **15 47 54.9 -2.0**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA **NORSAR Array B** **62.01 345** P **P** **15 47 54.9 -2.0**
HNR **Honiara** **64.30 183** LR LR 16 17 21.8
comp=Z,72nm,18.2s,MS3.9,baz=0.0,slow=37
TXAR **Lajitas Array** **68.62 69** P **P** **15 48 41.7 +2.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=298,slow=4.8,SNR=24
TXAR **Lajitas Array** **68.62 69** P **P** **15 48 41.7 +2.0**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR **Alice Springs** **82.14 206** P **P** **15 49 58.4 +1.1**
comp=Z,0.7nm,0.5s,mb3.8,baz=16,slow=4.8,SNR=22
ASAR **Alice Springs** **82.14 206** P **P** **15 49 58.4 +1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ESDC **Sonseca Array** **84.91 349** P **P** **15 50 11.7 +0.2**
comp=Z,1.9nm,0.7s,mb4.3,baz=2.4,slow=4.6,SNR=11
QSPA **South Pole Qui** **144.82 180** *e*P PKPdf 15 57 10.9 -2.3

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*IDC **29** 15:43:55.8±1.8, 559N×12628E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=115.3km s-min=22.3km az=67.0*
*ISCJB **29** 15:43:57.0±7.3, 60N±02×1273E±02, h32km±54km, mb3.7/5, Error ellipse: s-maj=49.6km s-min=12.4km az=85.8*
ISC 29 15:43:56.6±7.4, 60N±02×1273E±02, h12km±49km, n7, σ1§52/8, mb3.7/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**		**2.37 295**⇑	*e*P	**Pn**	**15 44 35.2**	**+0.1**
KCP				*i* S	**Sn**	**15 45 04.2**	**+0.2**
FITZ	**Fitzroy Crossi**		**24.00 184**	P	**P**	**15 49 08.2**	**-2.8**
	2.5nm,0.7s,mb3.7,baz=20,slow=8.3,SNR=6.3						
WRA	**Warramunga Arr**		**26.71 165**	P	**P**	**15 49 35.1**	**-0.5**
	0.6nm,0.5s,mb3.4,baz=340,slow=10,SNR=6.1						
WB2	**Warramunga Arr**		**26.71 165**	*e*P	**P**	**15 49 36.9**	**+1.3**
ASAR	**Alice Springs**		**30.19 168**	P	**P**	**15 50 08.2**	**+1.5**
	1.4nm,0.8s,mb3.7,baz=338,slow=7.7,SNR=14						
STKA	**Stephens Creek**		**40.08 161**	P	**P**	**15 51 31.1**	**-0.6**
	1.9nm,1.0s,mb3.8,baz=337,slow=13,SNR=4.0						
MKAR	**Makanchi Array**		**56.01 324**	P	**P**	**15 53 34.6**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=120,slow=7.7,SNR=12						

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*NEIC **29** 16:02:07.7, 3161S×7158W, h31km, ML3.2(GUC), After GUC.*
GUC 29 16:02:07.7±0.7, 3161S×7158W, h31km±2km, MD4.0, ML3.2, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**		**0.28 166**⇑	*i*P	Pb	16 02 14.8	-0.2
CHNG				*i* S	Sb	16 02 20.1	+0.1
CHNG				AML	AML	16 02 20.5	
	comp=N,4μm,0.2s						
CMCH	**Combarbala**		**0.66 49**⇑	*i*P	Pb	16 02 20.3	-0.4
CMCH				*i* S	Sb	16 02 30.0	+0.5
CMCH				AML	AML	16 02 31.3	
	comp=E,4μm,0.7s						
CMCH	**Combarbala**		**0.66 49**⇑	*i*P	Pb	16 02 20.3	-0.4
CMCH				*i* S	Sb	16 02 30.0	+0.5
PTCH	**Petorca**		**0.86 140**⇓	*i*P	Pn	16 02 23.5	-0.1
PTCH				*i* S	Sn	16 02 35.2	+0.2
PTCH				AML	AML	16 02 39.5	
	comp=E,2μm,0.3s						
PTCH	**Petorca**		**0.86 140**⇓	*i*P	Pn	16 02 23.5	-0.1
PTCH				*i* S	Sn	16 02 35.2	+0.2
PACH	**Papudo**		**0.94 173**⇓	*i*P	Pn	16 02 24.6	-0.2
PACH				*i* S	Sn	16 02 37.5	+0.4
RCDM	**Rinconada Maip**		**1.99 161**⇑	*e*P	Pn	16 02 40.5	+1.4
RCDM				AML	AML	16 03 17.1	
	comp=E,217nm,0.7s						
CLCH	**Cerro Calan**		**1.99 154**	*e*P	Pn	16 02 40.6	+1.4
CLCH				*i* S	Sn	16 03 05.8	+2.7
CLCH				AML	AML	16 03 17.3	
	comp=N,362nm,0.6s						
FCH	**Farellones**		**2.03 148**	*e*P	Pn	16 02 42.3	+2.5
FCH				*i* S	Sn	16 03 07.6	+3.5
FCH				AML	AML	16 03 15.9	
	comp=E,147nm,0.4s						
LMEL	**Las Melosas**		**2.52 153**	*e*P	Pn	16 02 48.8	+2.3
LMEL				*i* S	Sn	16 03 19.0	+2.9
LMEL				AML	AML	16 03 28.3	
	comp=N,166nm,0.2s						
LMEL	**Las Melosas**		**2.52 153**	*e*P	Pn	16 02 48.8	+2.3
LMEL				*i* S	Sn	16 03 19.0	+2.9
CACH	**El Canelo**		**2.63 162**	*e*P	Pn	16 02 50.2	+2.1
CICH	**Cipreses**		**2.88 161**⇓	*i*P	Pn	16 02 53.0	+1.7
SFDO	**San Fernando**		**3.04 171**	*e*P	Pn	16 02 55.2	+1.6

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*FUNV **29** 16:03:00.7, 1076N×6135W, h24km, MW3.4*
*ISCJB **29** 16:03:01.2±0.7, 1067N±003×6146W±004, h66km±6km, Error ellipse: s-maj=7.3km s-min=4.8km az=71.8*
*NEIC **29** 16:03:04.3, 1081N×6141W, h37km, MD3.2(TRN), After TRN.*
*TRN **29** 16:03:04.3, 1081N×6141W, h37km, MD3.3*
ISC 29 16:03:02.5±0.7, 1070N±003×6146W±004, h57km±6km, n21, σ0§97/39, 3C-3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**		**0.08 129**⇑	*i*P	**Pn**	**16 03 11.1**	**0.0**
TRN				*e*S	**Sn**	**16 03 15.9**	**-1.4**
TCE	**Chacachacare**		**0.28 270**⇑	*i*P	**Pn**	**16 03 13.2**	**+1.1**
TCE				*e*S	**Sn**	**16 03 19.7**	**+0.5**
TPP	**Pointe-a-Pierr**		**0.38 178**	*e*P	**Pn**	**16 03 15.3**	**+2.3**
TPP				*e*S	**Sn**	**16 03 20.3**	**-0.3**
TBH	**Brigand Hill**		**0.44 118**⇑	*i*P	**Pn**	**16 03 15.0**	**+1.3**
TBH				*e*S	**Sn**	**16 03 21.1**	**-0.6**
GUIV	**Guiria**		**0.75 266**⇓	*i*P	**Pn**	**16 03 17.3**	**+0.1**
GUIV				*e*S	**Sn**	**16 03 28.2**	**+0.3**
TPR	**Prospect**		**0.83 54**⇓	*i*P	**Pn**	**16 03 18.8**	**+0.6**
TPR				*e*S	**Sn**	**16 03 29.0**	**-0.7**
GRW	**Mount Saint Ca**		**1.47 352**⇓	*e*P	**Pn**	**16 03 27.4**	**+0.7**
GRW				*e*S	**Sn**	**16 03 45.9**	**+1.1**
GRHS	**Sauteurs**		**1.53 353**	*e*P	**Pn**	**16 03 26.7**	**-0.8**
GRHS				*e*S	**Sn**	**16 03 44.5**	**-1.7**
GRIC	**Isle de Caille**		**1.58 356**	*e*P	**Pn**	**16 03 28.5**	**+0.2**
GRIC				*e*S	**Sn**	**16 03 45.0**	**-2.6**
GRSS	**Sisters**		**1.60 355**	*e*P	**Pn**	**16 03 28.9**	**+0.5**
GRSS				*e*S	**Sn**	**16 03 46.1**	**-1.9**
GRSS				*e*S	**Sn**	**16 03 47.1**	**-0.9**
CRUV	**Carupano**		**1.74 269**	*e*P	**Pn**	**16 03 30.4**	**0.0**
CRUV				*e*S	**Sn**	**16 03 52.0**	**+0.5**
GRCU	**Cariacou**		**1.76 0**	*e*P	**Pn**	**16 03 30.6**	**-0.1**
GRCU				*e*S	**Sn**	**16 03 51.5**	**-0.6**
ITEV	**Isla Los Testi**		**1.76 292**	*e*P	**Pn**	**16 03 29.8**	**-0.9**
ITEV				*e*S	**Sn**	**16 03 52.5**	**+0.5**
FCV	**Fort Charlotte**		**2.46 5**	*e*P	**Pn**	**16 03 40.2**	**+0.2**
FCV				*e*S	**Sn**	**16 04 09.4**	**+0.5**
SVB	**Belmont**		**2.57 5**	*e*P	**Pn**	**16 03 42.8**	**+1.2**
SVB				*e*S	**Sn**	**16 04 12.6**	**+0.9**
SSV	**Crater Summit**		**2.63 6**	*e*P	**Pn**	**16 03 45.9**	**+3.4**
SSV				*e*S	**Sn**	**16 04 13.8**	**+0.6**
PCRV	**Puerto La Cruz**		**3.16 261**	*e*P	**Pn**	**16 03 49.2**	**-0.6**
BIRV	**Birongo**		**4.73 268**	*e*P	**Pn**	**16 04 11.3**	**+0.1**
LUEV	**Luepa**		**4.82 180**	*e*P	**Pn**	**16 04 11.2**	**-1.3**
MERV	**Las Mercedes**		**4.97 254**	*e*P	**Pn**	**16 04 14.1**	**-0.4**
BAUV	**El Baul**		**6.71 256**	*e*P	**Pn**	**16 04 37.0**	**-1.4**
BAUV				*e*S	**Sn**	**16 05 48.8**	**-4.6**

IDC 29 16:13:20.2±3.7, 658S×15456E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/19, Error ellipse: s-maj=128.1km s-min=36.6km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**23.70 234**	P	P	16 18 33.7	-0.1
	1.4nm,0.7s,baz=57,slow=9.7,SNR=17						
ASAR	**Alice Springs**		**26.13 227**	P	P	16 18 56.5	+0.6
	0.6nm,0.6s,baz=61,slow=8.7,SNR=15						
ASAJ	**Asahikawa**		**51.61 349**	LR	LR	16 40 30.2	
	comp=Z,140nm,21.8s,baz=44,slow=32						
MKAR	**Makanchi Array**		**82.81 319**	P	P	16 25 47.4	+1.2
	0.4nm,0.7s,baz=120,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**		**152.50 286**	PKPbc	PKPbc	16 33 18.4	0.0
	0.4nm,0.7s,baz=75,slow=1.9,SNR=2.3						

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*ISCJB **29** 16:23:33.6±0.4, 3418N±006×13681E±006, h360km±2km, mb3.7/15, Error ellipse: s-maj=9.7km s-min=6.8km az=119.2*
*NEIC **29** 16:23:34.7±0.8, 3413N×13670E, h350km±11km, mb3.5/1, Error ellipse: s-maj=25.6km s-min=11.0km az=75.0*
*JMA **29** 16:23:34.8±0.2, 3425N×13674E, h357km±2km, M2.9*
*IDC **29** 16:23:35.7±0.8, 3432N×13701E, h368km±15km, mb3.3/8, mb1 3.4/11, mb1mx3.2/26, mbtmp4.0/11, Error ellipse: s-maj=38.6km s-min=10.1km az=70.0*
ISC 29 16:23:34.7±0.4, 3420N±006×13679E±006, h353km±2km, n41, σ0§75/57, mb3.7/15, 1C, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**		**0.20 339**	P	**Pn**	**16 24 19.8**	**+0.9**
JIE				S	**S**	**16 24 54.4**	**+0.2**
JKN2	**Miekihoku**		**0.43 275**	P	**Pn**	**16 24 19.9**	**+0.7**
JKN2				S	**S**	**16 24 54.3**	**-0.5**
JWY	**Kouya**		**1.00 271**	P	**Pn**	**16 24 21.5**	**+0.8**
JWY				S	**S**	**16 24 57.2**	**-0.5**
JWZ	**Kozaga**		**1.12 234**	P	**Pn**	**16 24 21.5**	**+0.2**
JWZ				S	**S**	**16 24 58.0**	**-0.6**
JGM	**Miyama**		**1.49 358**	P	**Pn**	**16 24 24.0**	**+0.9**
JGM				S	**S**	**16 25 02.0**	**+0.1**
JWT	**Wachi**		**1.57 314**	P	**Pn**	**16 24 23.9**	**+0.4**
JWT				S	**S**	**16 25 01.4**	**-1.3**
JYN	**Shimob**		**1.93 48**	P	**Pn**	**16 24 26.4**	**+0.6**
JAI	**Aioi**		**1.99 259**	P	**Pn**	**16 24 26.5**	**+0.3**
JAI				S	**S**	**16 25 07.2**	**-0.3**
JKG	**Kaga**		**2.10 350**	P	**Pn**	**16 24 27.3**	**+0.3**
JKG				S	**S**	**16 25 08.5**	**-0.5**
JOD2	**Odawara 2**		**2.17 60**	P	**Pn**	**16 24 28.1**	**+0.7**
JMN	**Monobe**		**2.47 260**	P	**Pn**	**16 24 30.2**	**+0.4**
JMN				*e*S	**S**	**16 25 13.5**	**-0.5**
JRY	**Ryogami san**		**2.50 43**	P	**Pn**	**16 24 30.8**	**+0.8**
JRY				S	**S**	**16 25 14.7**	**+0.2**
MAJO	**Matsushiro**		**2.60 26**	*e*P	**Pn**	**16 24 31.1**	**+0.3**
MAT	**Matsushiro**		**2.60 26**	P	**Pn**	**16 24 31.1**	**+0.2**
MAT				S	**S**	**16 25 15.5**	**-0.5**
MAT	**Matsushiro**		**2.60 26**	P	**Pn**	**16 24 31.2**	**+0.3**
MAT				S	**S**	**16 25 15.4**	**-0.6**
MJAR	**Matsushiro Arr**		**2.60 26**	P	**Pn**	**16 24 31.3**	**+0.5**
	4.1nm,0.3s,baz=198,slow=8.3,SNR=43						
MJAR				S	**S**	**16 25 15.9**	**-0.1**
	0.9nm,0.3s,baz=184,slow=16,SNR=12						
JHJ	**Hachijo jima 2**		**2.72 113**	P	**Pn**	**16 24 33.2**	**+1.5**
	14nm,0.3s,baz=217,slow=15,SNR=11						
JHJ				S	**S**	**16 25 23.2**	**+5.5**
	6.1nm,0.3s,baz=257,slow=18,SNR=3.0						
JHS	**Saijyo**		**3.14 286**	P	**Pn**	**16 24 36.0**	**+0.5**
BSO1	**Boso 1**		**3.49 81**	P	**Pn**	**16 24 37.2**	**-1.6**
BSO1				*e*S	**S**	**16 25 28.6**	**-1.8**
CBIJ	**Chichi jima**		**8.47 145**	P	**Pn**	**16 25 30.0**	**-4.4**
	4.6nm,0.3s,baz=268,slow=20,SNR=8.8						
CBIJ				S	**S**	**16 27 03.2**	**-8.9**
	8.9nm,0.3s,baz=301,slow=22,SNR=8.1						
ASAJ	**Asahikawa**		**10.87 23**	P	**Pn**	**16 26 00.3**	**-2.6**
	1.6nm,0.3s,baz=292,slow=5.1,SNR=15						
YSS	**Yuzh-Sakhalins**		**13.51 18**	P	**P**	**16 26 34.7**	**+1.9**
SONM	**Songino Array**		**26.48 310**	P	**P**	**16 28 42.0**	**+1.2**
	1.0nm,0.8s,mb3.1,baz=114,slow=8.3,SNR=8.1						
MKAR	**Makanchi Array**		**42.51 304**	P	**P**	**16 30 57.0**	**+0.4**
	1.2nm,0.7s,mb3.1,baz=90,slow=10,SNR=11						
MKAR	**Makanchi Array**		**42.51 304**	P	**P**	**16 30 57.0**	**+0.4**
JIRN	**Jiri**		**43.53 276**	*e*P	**P**	**16 31 04.8**	**+0.1**
	18nm,0.4s,mb4.6						
GUN	**Gumba**		**43.70 276**	*e*P	**P**	**16 31 06.1**	**+0.1**
	4.5nm,0.3s,mb4.1						
PKI	**Pulchoki**		**44.21 276**	*e*P	**P**	**16 31 09.5**	**-0.5**
	4.3nm,0.5s,mb3.9						
KKN	**Kakani**		**44.24 276**	*e*P	**P**	**16 31 09.7**	**-0.5**
	7.3nm,0.7s,mb3.9						
GKN	**Gorkha**		**44.69 277**	*e*P	**P**	**16 31 13.4**	**-0.4**
	4.8nm,0.4s,mb4.0						
KOLN	**Koldanda**		**45.63 277**	*e*P	**P**	**16 31 21.0**	**-0.1**
	7.4nm,0.8s,mb3.9						
CHKZ	**Chkalovo**		**49.54 314**	*e*P	**P**	**16 31 50.0**	**-0.8**
	1.6nm,0.6s,mb3.4						
BVAR	**Borovoye Array**		**49.74 313**	P	**P**	**16 31 52.4**	**+0.1**
	0.7nm,0.3s,mb3.4,baz=105,slow=10.0,SNR=7.7						
WB2	**Warramunga Arr**		**53.89 183**⇑	*i*P	**P**	**16 32 22.3**	**-0.4**
WRA	**Warramunga Arr**		**53.89 183**	P	**P**	**16 32 22.4**	**-0.3**
	1.8nm,0.3s,mb3.8,baz=359,slow=7.7,SNR=40						
AS31	**Alice Springs**		**57.61 183**	*e*P	**P**	**16 32 48.9**	**+0.1**
ASAR	**Alice Springs**		**57.61 183**	P	**P**	**16 32 48.8**	**0.0**
	0.3nm,0.3s,mb3.0,baz=358,slow=5.7,SNR=31						
ARCES	**ARCESS Array B**		**65.30 339**	P	**P**	**16 33 39.2**	**-0.5**
	6.7nm,1.0s,mb4.2,baz=55,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**		**69.52 331**	P	**P**	**16 34 05.5**	**-0.5**
	0.8nm,0.4s,mb3.8,baz=72,slow=6.2,SNR=10						
FINES	**FINESS Array B**		**69.52 331**	P	**P**	**16 34 05.5**	**-0.5**
AKASG	**Malin Array Be**		**74.17 321**	P	**P**	**16 34 33.1**	**-0.3**
	0.2nm,0.3s,mb3.3,baz=49,slow=5.7,SNR=4.4						

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*IDC **29** 16:38:21.9±0.8, 504N×12542E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.2/8, MS3.3/4, Ms1 3.3/4, ms1mx2.9/29, Error ellipse: s-maj=43.1km s-min=14.2km az=71.0*
*NEIC **29** 16:38:23.3±0.5, 492N×12531E, h10km, mb4.5/3, Error ellipse: s-maj=26.1km s-min=7.5km az=79.0*
*ISCJB **29** 16:38:29.5±1.1, 507N±008×1258E±02, h77km±13km, mb4.1/11, Error ellipse: s-maj=30.0km s-min=10.6km az=149.8*
ISC 29 16:38:30.7±1.1, 506N±008×1257E±02, h68km±12km, n28, σ1§28/26, mb4.1/11, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**		**2.00 356**	P	**Pn**	**16 39 01.0**	**-1.2**
DMPH	**Davao City--Mi**		**2.02 354**⇓	*e*P	**Pn**	**16 39 02.1**	**-0.3**
DMPH				*i* S	**Sn**	**16 39 36.7**	**+10**
KCP	**Kidapawan**		**2.03 342**⇓	*i*P	**Pn**	**16 39 00.3**	**-2.4**
KCP				*i* S	**Sn**	**16 39 27.6**	**+0.7**
CGP	**Cagayan de Oro**		**3.52 343**⇓	*i*P	**Pn**	**16 39 26.0**	**+3.1**
PCI	**Palu**		**8.34 225**	P	**Pn**	**16 40 37.0**	**+8.3**
	0.0nm,0.0s						
BAKI	**Biak**		**12.11 121**	P	**Pn**	**16 41 27.1**	**+6.9**
	0.0nm,0.0s						
KAKA	**Kakadu**		**18.88 159**	*e*P	**Pn**	**16 42 43.0**	**-3.7**
	10nm,0.8s						
BJII	**Banjamegara**		**20.16 232**	P	**P**	**16 43 06.0**	**+6.6**
	48nm,1.6s						
GUMO	**Guam**		**20.70 65**	LR	LR	16 50 46.9	
	comp=Z,44nm,18.6s,baz=248,slow=36						
LEM	**Lembang**		**21.57 237**	P	**P**	**16 43 19.0**	**+4.4**
	41nm,1.4s,mb4.6						
FITZ	**Fitzroy Crossi**		**23.02 180**	*e*P	**P**	**16 43 27.3**	**-2.5**
	15nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**		**23.02 180**	P	**P**	**16 43 28.3**	**-1.5**
	8.2nm,0.8s,mb4.1,baz=12,slow=9.7,SNR=18						
WRA	**Warramunga Arr**		**26.26 161**	P	**P**	**16 43 59.4**	**0.0**
	9.3nm,0.8s,mb4.3,baz=342,slow=10,SNR=42						
WB2	**Warramunga Arr**		**26.26 161**	*e*P	**P**	**16 43 59.3**	**-0.1**
PSI	**Prapat**		**26.81 266**	LR	LR	16 54 35.5	
	comp=Z,75nm,18.1s,baz=262,slow=37						
AS31	**Alice Springs**		**29.65 165**	*e*P	**P**	**16 44 29.3**	**-0.4**
ASPA	**Alice Springs**		**29.65 165**	*e*P	**P**	**16 44 29.3**	**-0.4**
ASAR	**Alice Springs**		**29.65 165**	P	**P**	**16 44 29.4**	**-0.2**
	1.7nm,0.6s,mb3.8,baz=346,slow=7.8,SNR=37						
MJAR	**Matsushiro Arr**		**33.37 18**	P	**P**	**16 45 02.8**	**+0.4**
	2.0nm,0.8s,mb4.0,baz=197,slow=8.9,SNR=7.9						
HNR	**Honiara**		**37.04 113**	LR	LR	17 00 17.6	
	comp=Z,54nm,19.0s,baz=180,slow=35						
STKA	**Stephens Creek**		**39.73 159**	*e*P	**P**	**16 45 57.3**	**+0.8**
	9.1nm,0.8s,mb4.7						
STKA	**Stephens Creek**		**39.73 159**	P	**P**	**16 45 57.9**	**+1.4**
	11nm,0.8s,mb4.8,baz=337,slow=7.6,SNR=25						
SONM	**Songino Array**		**45.72 342**	P	**P**	**16 46 45.2**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=166,slow=8.3,SNR=3.2						
DZM	**Mont Dzumac**		**48.13 126**	P	**P**	**16 47 05.4**	**+1.7**
	6.2nm,0.8s,mb4.5,baz=90,slow=5.8,SNR=7.0						
MKAR	**Makanchi Array**		**55.89 325**	P	**P**	**16 48 00.2**	**-1.1**
	1.5nm,0.7s,mb4.1,baz=120,slow=7.6,SNR=21						
YAK	**Yakutsk**		**56.92 2**	*e*P	**P**	**16 48 08.8**	**+0.2**
	8.4nm,0.8s,mb4.8						
BVAR	**Borovoye Array**		**65.65 327**	P	**P**	**16 49 06.6**	**-1.0**
	0.5nm,0.8s,mb3.4,baz=116,slow=6.6,SNR=2.7						
AKTO	**Aktyubinsk**		**71.99 322**	LR	LR	17 27 26.0	
	comp=Z,24nm,18.0s,baz=99,slow=41						

IDC 29 16:47:27.5±4.2, 1589S×17380W, h92km±34km, mb3.6/5, mb1 3.9/6, mb1mx3.7/13, mbtmp3.9/6, Error ellipse: s-maj=145.5km s-min=19.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**		**2.77 45**	P	Pn	16 48 10.2	+0.2
	30nm,0.3s,baz=50,slow=2.5,SNR=49						
AFI				S	Sn	16 48 39.3	-3.4
	50nm,0.3s,baz=56,slow=22,SNR=14						
STKA	**Stephens Creek**		**43.46 240**	*e*P	P	16 55 22.0	+0.6
	1.8nm,0.5s						
STKA	**Stephens Creek**		**43.46 240**	P	P	16 55 22.1	+0.6
	2.4nm,0.5s,baz=90,slow=10,SNR=7.3						
WB2	**Warramunga Arr**		**49.35 257**	*e*P	P	16 56 08.1	+0.6
WRA	**Warramunga Arr**		**49.36 257**	P	P	16 56 08.0	+0.4
	0.8nm,0.7s,baz=95,slow=6.9,SNR=12						
ASAR	**Alice Springs**		**49.59 252**	P	P	16 56 09.4	0.0
	2.4nm,0.5s,baz=88,slow=7.8,SNR=99						
ASPA	**Alice Springs**		**49.60 252**	*e*P	P	16 56 09.3	-0.1
TXAR	**Lajitas Array**		**81.20 56**	P	P	16 59 33.4	+0.3
	0.1nm,0.3s,baz=227,slow=4.8,SNR=4.8						
PDAR	**Pinedale Array**		**82.88 42**	P	P	16 59 42.8	+0.9
	0.3nm,0.3s,baz=260,slow=4.1,SNR

SUR				LR	LR	17 11 45.6		
MAW	**Mawson**	**30.91**	**139**	P	**P**	**17 04 53.5**	**0.0**	
	1.9nm,1.0s,mb3.9,baz=265,slow=12,SNR=4.9							
MAW				LR	LR	17 15 05.6		
	comp=Z,134nm,21.9s,MS3.6,baz=270,slow=32							
MAW	**Mawson**	**30.91**	**139**	*eP*	**P**	**17 04 48.6**	**-4.9**	
	1.7nm,0.7s,mb4.0							
MAW				LR	LR	17 15 05.6		
BOSA	**Boshof**	**31.47**	**44**	P	**P**	**17 04 58.7**	**+0.3**	
	6.5nm,0.8s,mb4.5,baz=232,slow=5.7,SNR=9.5							
BOSA	**Boshof**	**31.47**	**44**	P	**P**	**17 04 58.7**	**+0.3**	
LBTB	**Lobatse**	**34.83**	**41**	P	**P**	**17 05 27.7**	**0.0**	
	9.2nm,0.8s,mb4.8,baz=210,slow=9.6,SNR=16							
LBTB	**Lobatse**	**34.83**	**41**	P	**P**	**17 05 27.7**	**0.0**	
QSPA	**South Pole Qui**	**35.45**	**180**	*eP*	**P**	**17 05 32.7**	**-0.3**	
	8.5nm,0.8s,mb4.7							
TSUM	**Tsumeb**	**37.69**	**26**	LR	LR	17 17 58.3		
	comp=Z,164nm,19.8s,MS3.8,baz=194,slow=31							
TSUM	**Tsumeb**	**37.69**	**26**	*eP*	**P**	**17 05 52.7**	**+0.5**	
	13nm,1.1s,mb4.6							
LSZ	**Lusaka**	**44.68**	**39**	*eP*	**P**	**17 06 49.2**	**-0.4**	
	2.3nm,0.8s,mb4.1							
TRQA	**Tornquist**	**44.97**	**265**	*eP*	**P**	**17 06 52.0**	**+0.1**	
	8.7nm,0.9s,mb4.6							
SBA	**Scott Base**	**47.32**	**176**	*eP*	**P**	**17 07 10.7**	**+0.3**	
	8.5nm,1.1s,mb4.6							
VNDA	**Vanda**	**47.41**	**174**	P	**P**	**17 07 11.0**	**-0.1**	
	4.9nm,0.8s,mb4.5,baz=219,slow=7.2,SNR=37							
CPUP	**Villa Florida**	**50.81**	**279**	P	**P**	**17 07 36.5**	**-0.8**	
	2.2nm,0.8s,mb4.2,baz=140,slow=4.7,SNR=5.8							
CPUP				LR	LR	17 23 54.8		
	comp=Z,78nm,21.4s,MS3.7,baz=134,slow=30							
CPUP	**Villa Florida**	**50.81**	**279**	*eP*	**P**	**17 07 36.7**	**-0.6**	
CPUP				LR	LR	17 23 54.8		
CFAA	**Coronel Fontan**	**53.16**	**266**	P	**P**	**17 07 54.4**	**-0.3**	
	1.0nm,0.8s,mb3.8,baz=138,slow=5.0,SNR=16							
TORD	**Torodi Ar. Bea**	**67.68**	**1**	P	**P**	**17 09 33.9**	**-0.1**	
	0.6nm,0.6s,mb3.8,baz=178,slow=4.2,SNR=4.8							
TORD				LR	LR	17 34 09.2		
	comp=Z,120nm,18.4s,MS4.2,baz=180,slow=32							
RPZ	**Rata Peaks**	**81.49**	**173**	LR	LR	17 45 48.7		
	comp=Z,140nm,19.7s,MS4.3,baz=13,slow=35							
ROSC	**El Rosal**	**85.60**	**285**	LR	LR	17 47 54.3		
	comp=Z,120nm,18.0s,MS4.3,baz=186,slow=35							
ASAR	**Alice Springs**	**92.03**	**138**	P	**P**	**17 11 44.8**	**-1.0**	
	1.0nm,0.9s,mb4.2,baz=194,slow=4.0,SNR=8.5							
MJAR	**Matsushiro Arr**	**145.59**	**104**	PKPbc	PKPbc	17 18 18.4	+3.0	
	2.6nm,0.8s,baz=208,slow=3.9,SNR=8.2							

*IDC **29** 17:00:00.9±1.4,5376N×16386W,h0km,mb4.1/15, mb1 4.2/16,mb1mx4.1/26,mbtmp4.1/16,ML4.2/1,MS3.7/6, Ms1 3.7/6,ms1mx3.2/33,Error ellipse: s-maj=37.8km s-min=18.0km az=8.0*
*ISCJB **29** 17:00:03.5±1.9,5373N±010×16367W±006,h31km±13km, mb4.4/37,MS3.7/6,Error ellipse: s-maj=16.6km s-min=5.8km az=164.7*
*NEIC **29** 17:00:04.3±1.5,5365N×16382W,h28km±10km,mb4.5/14, ML3.8(AEIC),Error ellipse: s-maj=12.7km s-min=4.8km az=166.0*
*BJI **29** 17:00:04.2,5360N×16380W,h28km,mB5.1,mb4.7*
ISC 29 17:00:04.7±1.9,5370N±009×16374W±006,h31km±13km, n70,σ0°93/66,mb4.4/37,MS3.7/6,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.28**	**291**	P	**Pn**	**17 00 26.1**	**-0.3**
AKUT				S	**Sn**	**17 00 43.2**	**+0.7**
AKLV	**Akutan Long Va**	**1.39**	**291**	P	**Pn**	**17 00 27.5**	**-0.5**
AKLV				S	**Sn**	**17 00 46.0**	**+0.8**
SDPT	**Sand Point**	**2.52**	**48**	P	**Pn**	**17 00 45.3**	**+1.7**
OKCD	**Okmok Cone D**	**2.62**	**266**	P	**Pn**	**17 00 44.5**	**-0.4**
OKCE	**Okmok Cone E**	**2.65**	**266**	P	**Pn**	**17 00 44.8**	**-0.5**
KDAK	**Kodiak Island**	**7.51**	**52**	Pn	**Pn**	**17 01 51.6**	**-0.5**
	3.9nm,0.3s,baz=247,slow=6.5,SNR=22						
KDAK				Sn	**Sn**	**17 03 14.5**	**-1.7**
	1.4nm,0.3s,baz=162,slow=20,SNR=3.8						
SLKM	**Skilak Lake**	**10.02**	**42**	*eP*	**Pn**	**17 02 28.3**	**+1.8**
AMKA	**Amchitka**	**10.59**	**264**	*eP*	**Pn**	**17 02 32.1**	**-2.1**
MCK	**McKinley**	**12.63**	**31**	*eP*	**Pn**	**17 03 03.6**	**+1.5**
EGAK	**Eagle**	**15.91**	**37**	P	**Pn**	**17 03 45.0**	**-1.2**
	4.9nm,0.6s						
DAWY	**Dawson**	**16.20**	**41**	*eP*	**Pn**	**17 03 49.9**	**-0.1**
YKA	**Yellowknife Ar**	**26.79**	**51**	P	**P**	**17 05 43.4**	**+1.6**
	1.7nm,0.7s,mb3.7,baz=91,slow=6.4,SNR=5.1						
YKA				LR	LR	17 17 30.8	
	comp=Z,86nm,18.6s,MS3.3,baz=255,slow=39						
YKA	**Yellowknife Ar**	**26.79**	**51**	P	**P**	**17 05 43.4**	**+1.6**
YKA				LR	LR	17 17 30.8	
NEW	**Newport**	**29.42**	**81**	LR	LR	17 15 42.1	
	comp=Z,80nm,19.5s,MS3.4,baz=70,slow=32						
NVAR	**Mina Array Bea**	**34.38**	**98**	P	**P**	**17 06 50.4**	**+1.5**
	0.2nm,0.5s,mb3.3,baz=301,slow=10,SNR=2.6						
LOHW	**Long Hollow**	**35.74**	**84**	P	**P**	**17 06 59.0**	**-1.6**
	7.0nm,0.4s,mb4.9						
MDJ	**Mudanjiang**	**43.03**	**286**	P	**P**	**17 08 02.5**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,95nm,5.5s						
CN2	**Changchun**	**45.89**	**288**	*eP*	**P**	**17 08 26.0**	**+1.8**
TXAR	**Lajitas Array**	**49.39**	**95**	P	**P**	**17 08 51.9**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.4,baz=309,slow=9.1,SNR=5.0						
ULN	**Ulaanbaatar**	**53.13**	**303**	*eP*	**P**	**17 09 19.0**	**-0.5**
	comp=Z,7.9nm,0.9s,mb4.6						
SONM	**Songino Array**	**53.48**	**303**	P	**P**	**17 09 22.1**	**+0.1**
	comp=Z,3.1nm,0.7s,mb4.4,baz=39,slow=7.7,SNR=25						
ARCES	**ARCESS Array B**	**56.90**	**356**	P	**P**	**17 09 45.5**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.3,baz=15,slow=7.6,SNR=7.9						
ARCES				LR	LR	17 35 02.8	
	comp=Z,54nm,21.3s,MS3.6,baz=6.5,slow=37						
ZAL	**Zalesovo**	**58.68**	**320**	P	**P**	**17 09 59.4**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=94,slow=9.9,SNR=4.4						
ZAL				LR	LR	17 38 26.2	
	comp=Z,83nm,18.8s,MS3.9,baz=153,slow=39						
GTA	**Gaotai**	**62.83**	**300**	*eP*	**P**	**17 10 27.3**	**-0.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.8						
JOF	**Joensuu**	**63.13**	**352**	*ep*	**P**	**17 10 28.3**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**63.89**	**327**	*eP*	**P**	**17 10 33.9**	**-0.6**
	comp=Z,4.6nm,1.1s,mb4.4						
KAF	**Kangasniemi**	**64.26**	**355**	*ep*	**P**	**17 10 35.7**	**-1.2**
	comp=Z,3.7nm,0.4s,mb4.8,baz=3.2,slow=6.3						
BVAR	**Borovoye Array**	**64.52**	**327**	P	**P**	**17 10 38.3**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.7,baz=46,slow=7.1,SNR=14						
BRVK	**Borovoye**	**64.52**	**327**	*eP*	**P**	**17 10 38.5**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**64.94**	**355**	P	**P**	**17 10 40.9**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.4,baz=25,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**64.94**	**355**	P	**P**	**17 10 40.9**	**-0.4**
ZRNK	**Zerenda**	**65.02**	**328**	*eP*	**P**	**17 10 42.0**	**+0.2**
	comp=Z,10nm,1.0s,mb4.8						
MK31	**Makanchi Array**	**65.28**	**316**	*eP*	**P**	**17 10 42.7**	**-0.8**
MKAR	**Makanchi Array**	**65.28**	**316**	P	**P**	**17 10 42.5**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=44,slow=7.0,SNR=12						
MKAR				LR	LR	17 42 54.1	
	comp=Z,51nm,18.5s,MS3.8,baz=177,slow=40						
NB2	**NORSAR Subarra**	**65.54**	**3**	P	**P**	**17 10 44.2**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.4,baz=358,slow=6.5						
NOA	**NORSAR Array B**	**65.54**	**3**	P	**P**	**17 10 45.8**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=359,slow=6.8,SNR=3.9						
GYA	**Guiyang**	**68.89**	**286**	P	**P**	**17 11 10.5**	**+4.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
AKTK	**Aktyubinsk**	**70.46**	**333**	P	**P**	**17 11 16.9**	**+0.7**
AKTO	**Aktyubinsk**	**70.46**	**333**	P	**P**	**17 11 16.9**	**+0.7**
	comp=Z,9.2nm,0.9s,mb4.7,baz=21,slow=6.0,SNR=6.6						
AAK	**Ala-Archa**	**71.85**	**319**	*eP*	**P**	**17 11 24.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3						
LSA	**Lhasa**	**74.84**	**300**	P	**P**	**17 11 43.8**	**+1.6**
LSA	**Lhasa**	**74.84**	**300**	*eP*	**P**	**17 11 43.3**	**+1.2**
	comp=Z,3.1nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**75.41**	**352**	P	**P**	**17 11 44.8**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.3,baz=12,slow=5.8,SNR=9.3						
GERES	**GERESS Array B**	**77.81**	**2**	P	**P**	**17 11 59.8**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=347,slow=5.5,SNR=4.1						
CDF	**Champ du Feu**	**77.98**	**6**	*eP*	**P**	**17 11 59.3**	**-0.7**
LOR	**Lormes**	**78.86**	**9**	*eP*	**P**	**17 12 04.1**	**-0.7**
GUN	**Gumba**	**78.98**	**302**	*eP*	**P**	**17 12 06.1**	**+0.6**
	comp=Z,12nm,0.5s,mb5.1						
SSF	**Saint Saulge**	**79.03**	**9**	*eP*	**P**	**17 12 05.2**	**-0.6**
	comp=Z,6.0nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**79.03**	**9**	*eP*	**P**	**17 12 05.2**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.3						
MFF	**Saint Martin d**	**79.11**	**11**	*eP*	**P**	**17 12 05.7**	**-0.4**
	comp=Z,9.0nm,1.1s,mb4.3						
MFF	**Saint Martin d**	**79.11**	**11**	*eP*	**P**	**17 12 05.7**	**-0.4**
	comp=Z,4.5nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**79.29**	**9**	*eP*	**P**	**17 12 06.3**	**-0.8**
KKN	**Kakani**	**79.38**	**303**	*eP*	**P**	**17 12 07.8**	**+0.2**
	comp=Z,6.3nm,0.5s,mb4.8						
SMF	**Signal de Mont**	**79.48**	**9**	*eP*	**P**	**17 12 07.4**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.2						
SMF	**Signal de Mont**	**79.48**	**9**	*eP*	**P**	**17 12 07.4**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.2						
PKI	**Pulchoki**	**79.50**	**302**	*eP*	**P**	**17 12 08.5**	**+0.2**
	comp=Z,9.0nm,0.7s,mb4.8						
GKN	**Gorkha**	**79.53**	**303**	*eP*	**P**	**17 12 08.2**	**-0.2**
	comp=Z,20nm,1.0s,mb5.0						
DMN	**Daman**	**79.62**	**303**	*eP*	**P**	**17 12 09.0**	**+0.1**
	comp=Z,24nm,1.2s,mb5.0						
CABF	**La Chapelle**	**79.70**	**7**	*eP*	**P**	**17 12 09.1**	**-0.3**
KOLN	**Koldanda**	**80.23**	**304**	*eP*	**P**	**17 12 12.4**	**+0.1**
	comp=Z,9.6nm,0.9s,mb4.8						
MBDF	**Montbardon**	**81.62**	**7**	*eP*	**P**	**17 12 21.0**	**+1.3**
	comp=Z,12nm,0.9s,mb4.5						
MBDF	**Montbardon**	**81.62**	**7**	*eP*	**P**	**17 12 21.0**	**+1.3**
	comp=Z,5.8nm,0.9s,mb4.5						
ESDC	**Sonseca Array**	**85.38**	**16**	P	**P**	**17 12 40.2**	**+1.2**
	comp=Z,0.1nm,0.3s,mb3.4,baz=354,slow=3.8,SNR=3.5						
BRTR	**Keskin Array B**	**85.75**	**347**	P	**P**	**17 12 41.9**	**+1.1**
	comp=Z,2.4nm,0.9s,mb4.5,baz=42,slow=2.1,SNR=13						
PSI	**Prapat**	**92.11**	**278**	LR	LR	17 54 42.6	
	comp=Z,73nm,20.0s,MS4.1,baz=22,slow=36						
QSPA	**South Pole Qui**	**143.47**	**180**	*e*PKPpre		17 19 30.4	
MATP	**Matopo**	**145.48**	**339**	PKPbc	PKPbc	17 19 40.2	+0.5
	comp=Z,3.0nm,0.6s,baz=10,slow=6.0,SNR=9.1						
MATP	**Matopo**	**145.48**	**339**	PKPbc	PKPbc	17 19 40.2	+0.5
TSUM	**Tsumeb**	**145.56**	**358**	PKPbc	PKPbc	17 19 39.9	-0.1
	comp=Z,2.9nm,0.9s,baz=40,slow=6.5,SNR=4.2						
TSUM	**Tsumeb**	**145.56**	**358**	PKPbc	PKPbc	17 19 39.9	-0.1

*IDC **29** 17:00:03.4±1.8,3684N×14323E,h0km,mb3.4/4, mb1 3.7/8,mb1mx3.6/25,mbtmp3.8/8,ML3.5/4,Error ellipse: s-maj=44.4km s-min=20.6km az=75.0*
*ISCJB **29** 17:00:06.2±2.0,3692N±005×14296E±007,h33km±18km, mb3.4/4,Error ellipse: s-maj=9.8km s-min=7.6km az=48.9*
*JMA **29** 17:00:06.3±0.2,3697N×14294E,h43km,M3.3*
ISC 29 17:00:06.8±2.1,3694N±005×14292E±007,h22km±19km, n19,σ1°22/28,mb3.4/4,Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.69**	**285**	P	**Pn**	**17 00 34.4**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.71**	**276**	P	**Pn**	**17 00 34.9**	**-0.2**
JMM	**Marumori**	**1.93**	**299**	P	**Pn**	**17 00 37.6**	**-0.6**
JMM				*e*S	**Sn**	**17 01 00.6**	**-1.2**
JMK	**Ichinoseki**	**2.42**	**327**	P	**Pn**	**17 00 44.2**	**-0.8**
JMK				*e*S	**Sn**	**17 01 12.6**	**-1.3**
JYK	**Kaneyama**	**2.83**	**315**	P	**Pn**	**17 00 50.9**	**+0.3**
JAG	**Ashikaga**	**2.83**	**261**	P	**Pn**	**17 00 51.1**	**+0.5**
JAG				*e*S	**Sn**	**17 01 23.5**	**-0.6**
JOM	**Ohasama**	**2.84**	**334**	P	**Pn**	**17 00 50.7**	**0.0**
JRY	**Ryogami san**	**3.37**	**255**	P	**Pn**	**17 00 58.2**	**+0.2**
JRY				*e*S	**Sn**	**17 01 36.3**	**-0.9**
JOD2	**Odawara 2**	**3.52**	**243**	P	**Pn**	**17 01 00.4**	**+0.3**
JOD2				*e*S	**Sn**	**17 01 40.3**	**-0.8**
JANG	**Nango**	**3.60**	**343**	P	**Pn**	**17 01 01.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.80**	**265**	Pn	**Pn**	**17 01 05.7**	**+1.7**
	2.1nm,0.3s,baz=88,slow=15,SNR=21						
MJAR				Sn	**Sn**	**17 01 51.3**	**+3.3**
	1.1nm,0.3s,baz=84,slow=16,SNR=4.5						
MAT	**Matsushiro**	**3.81**	**265**	P	**Pn**	**17 01 06.0**	**+2.0**
MAT				S	**Sn**	**17 01 49.8**	**+1.7**
JHJ	**Hachijo jima 2**	**4.60**	**215**	Pn	**Pn**	**17 01 14.5**	**-0.4**
	8.8nm,0.3s,baz=14,slow=18,SNR=13						
JHJ				Sn	**Sn**	**17 02 04.5**	**-3.1**
	18nm,0.3s,baz=91,slow=23,SNR=9.1						
ASAJ	**Asahikawa**	**7.18**	**358**	Pn	**Pn**	**17 01 49.5**	**-0.9**
	0.9nm,0.3s,baz=294,slow=24,SNR=8.3						
CBIJ	**Chichi jima**	**9.83**	**184**	Pn	**Pn**	**17 02 23.1**	**-3.7**
	1.5nm,0.3s,baz=274,slow=19,SNR=4.3						
CBIJ				Sn	**Sn**	**17 04 07.2**	**-9.2**
	2.7nm,0.3s,baz=253,slow=19,SNR=4.3						
SONM	**Songino Array**	**28.84**	**304**	P	**P**	**17 06 05.9**	**+2.4**
	0.3nm,0.5s,mb3.3,baz=93,slow=8.5,SNR=4.9						
MKAR	**Makanchi Array**	**45.19**	**302**	P	**P**	**17 08 24.2**	**+2.3**
	0.2nm,0.6s,mb3.1,baz=94,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**57.15**	**190**	P	**P**	**17 09 51.8**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=9.3,slow=7.3,SNR=5.0						
ASAR	**Alice Springs**	**60.87**	**189**	P	**P**	**17 10 17.9**	**+0.3**
	0.3nm,0.8s,mb3.5,baz=2.5,slow=6.6,SNR=7.9						

*SKO **29** 17:06:04.6,4022N×2109E,h0km,M2.0,ML1.9*
*ATH **29** 17:06:05.0,4064N×2139E,h58km±2km,MD2.9/4*
*ISCJB **29** 17:06:07.9±1.2,4046N±007×213E±02,h53km±19km, Error ellipse: s-maj=23.8km s-min=6.7km az=129.9*
ISC 29 17:06:08.0±1.4,4048N±008×213E±02,h55km±20km,n7, σ1°08/12,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.39**	**115**	*e*P	**Pn**	**17 06 17.0**	**-1.4**
KZN				*e*S	**Sn**	**17 06 25.5**	**-0.4**
BIA	**Bitola**	**0.54**	**1**	*i* Pg	**Pn**	**17 06 18.8**	**-1.3**
BIA				*i* Sg	**Sn**	**17 06 30.2**	**+1.4**
BIA				*e*Lg		17 06 31.5	
	comp=N,22nm,0.2s						
BIA				*e*Lg		17 06 32.6	
	comp=E,40nm,0.2s						
OHR	**Ohrid**	**0.74**	**329**	*i* Pg	**Pn**	**17 06 20.9**	**-1.6**
OHR				*i* Sg	**Sn**	**17 06 33.5**	**+0.4**
OHR				*e*Lg		17 06 34.8	
	comp=E,47nm,0.4s						
OHR				*e*Lg		17 06 36.5	
	comp=N,28nm,0.4s						
JAN	**Janina**	**0.89**	**203**	*e*P	**Pn**	**17 06 24.6**	**+0.2**
KRUS	**Krusevo**	**0.89**	**357**	*i* Pg	**Pn**	**17 06 25.7**	**+1.3**
KRUS				*i* Sg	**Sn**	**17 06 41.5**	**+5.0**
KRUS				*e*Lg		17 06 42.3	
	comp=N,0.0nm,0.3s						
THL	**Klokotos Trika**	**1.06**	**149**	*e*P	**Pn**	**17 06 26.1**	**-0.5**
THL				*e*S	**Sn**	**17 06 41.9**	**+1.5**
EVR	**Evrytania**	**1.60**	**166**	*e*P	**Pn**	**17 06 34.4**	**+0.4**

*ISCJB **29** 17:06:27.6±3.3,3629N±007×142.1E±02,h16km±16km, mb3.5/2,Error ellipse: s-maj=33.6km s-min=10.6km az=14.7*
*IDC **29** 17:06:28.3±5.4,3626N×14200E,h0km,mb3.6/2, mb1 3.4/4,mb1mx3.3/23,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=92.7km s-min=40.8km az=91.0*
*JMA **29** 17:06:28.0±0.4,3633N×14222E,h55km,M2.7*
ISC 29 17:06:27.8±3.3,3628N±007×1420E±02,h4km±12km,n12, σ0°95/14,mb3.5/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.10**	**239**	P	**Pg**	**17 06 50.0**	**+1.0**
JHO	**Hitachi**	**1.22**	**286**	P	**Pg**	**17 06 51.0**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.28**	**310**	P	**Pg**	**17 06 51.3**	**-1.1**
JMM	**Marumori**	**1.86**	**329**	P	**Pn**	**17 06 58.9**	**-1.6**
BSO3	**Boso 3**	**1.92**	**220**	P	**Pn**	**17 07 00.6**	**-0.7**
BSO3				*e*S	**Sn**	**17 07 25.8**	**-0.1**
JAG	**Ashikaga**	**2.08**	**275**	P	**Pn**	**17 07 03.7**	**+0.3**
JFY	**Yanaizu**	**2.17**	**302**	P	**Pn**	**17 07 05.2**	**+0.5**
JRY	**Ryogami san**	**2.54**	**265**	P	**Pn**	**17 07 09.8**	**0.0**
MJAR	**Matsushiro Arr**	**3.08**	**276**	Pn	**Pn**	**17 07 17.9**	**+0.6**
	1.7nm,0.3s,baz=88,slow=16,SNR=17						
JHJ	**Hachijo jima 2**	**3.65**	**211**	Pn	**Pn**	**17 07 25.4**	**+0.3**
	11nm,0.3s,baz=217,slow=21,SNR=6.8						
JHJ				Sn	**Sn**	**17 08 05.5**	**-3.1**
	12nm,0.3s,baz=252,slow=20,SNR=3.8						
SONM	**Songino Array**	**28.61**	**305**	P	**P**	**17 12 25.5**	**+0.3**
	0.4nm,0.6s,mb3.4,baz=108,slow=9.4,SNR=3.5						
MKAR	**Makanchi Array**	**44.93**	**303**	P	**P**	**17 14 45.4**	**+1.6**
	0.7nm,0.7s,mb3.6,baz=92,slow=9.1,SNR=5.5						

*ISCJB **29** 17:17:32.8±0.8,1049N±007×6250W±004,h76km±10km, Error ellipse: s-maj=11.5km s-min=6.1km az=176.5*
*FUNV **29** 17:17:34.3,1067N×6241W,h73km,MW3.0*
*NEIC **29** 17:17:36.4,1108N×6225W,h59km,MD3.1(TRN),After TRN.*
*TRN **29** 17:17:36.4,1108N×6225W,h59km,MD3.1*
ISC 29 17:17:33.6±0.8,1056N±007×6251W±004,h73km±10km, n12,σ1°34/21,2C-3D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**72**	↑*i*P	**Pn**	**17 17 45.3**	**+0.2**
GUIV				*e*S	**Sn**	**17 17 52.9**	**-0.7**
CRUV	**Carupano**	**0.73**	**279**	↓*i*P	**Pn**	**17 17 50.3**	**+1.2**
CRUV				*e*S	**Sn**	**17 18 01.5**	**+1.1**
TCE	**Chacachacare**	**0.75**	**79**	↑*e*P	**Pn**	**17 17 49.4**	**0.0**
TCE				*e*S	**Sn**	**17 17 59.7**	**-1.4**
ITEV	**Isla Los Testi**	**1.00**	**322**	↓*i*P	**Pn**	**17 17 51.6**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.07**	**103**	*e*P	**Pn**	**17 17 56.2**	**+3.0**
TPP				*e*S	**Sn**	**17 18 09.8**	**+2.1**
TRN	**Trinidad (W)**	**1.09**	**85**	↓*i*P	**Pn**	**17 17 53.8**	**+0.4**
TRN				*e*S	**Sn**	**17 18 06.4**	**-1.7**
TBH	**Brigand Hill**	**1.42**	**93**	*e*P	**Pn**	**17 17 58.5**	**+0.9**
TBH				*e*S	**Sn**	**17 18 16.1**	**+0.4**
GRW	**Mount Saint Ca**	**1.80**	**27**	*e*P	**Pn**	**17 18 00.3**	**-2.3**
TPR	**Prospect**	**1.81**	**70**	*e*P	**Pn**	**17 18 03.1**	**+0.3**
LUEV	**Luepa**	**4.80**	**167**	*e*P	**Pn**	**17 18 44.1**	**+0.7**
LUEV				*e*S	**Sn**	**17 19 35.4**	**-2.2**
CAOV	**Caicara del Or**	**4.95**	**230**	*e*P	**Pn**	**17 18 46.5**	**+1.1**
CAOV				*e*S	**Sn**	**17 19 39.8**	**-1.6**
BAUV	**El Baul**	**5.69**	**254**	*e*P	**Pn**	**17 18 57.0**	**+1.5**
BAUV				*e*S	**Sn**	**17 19 56.9**	**-2.4**

IDC 29 17:21:31.9±26.0,2213S×17370W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/14,mbtmp4.2/4,1D,Error ellipse: s-maj=482.2km s-min=145.9km az=76.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.35**	**266**	P	P	17 28 46.8	+0.8
	3.8nm,0.5s,baz=101,slow=11,SNR=18						
STKA	**Stephens Creek**	**40.76**	**246**	P	P	17 29 15.2	+0.5
	1.1nm,0.4s,baz=66,slow=9.3,SNR=5.0						
ASAR	**Alice Springs**	**48.07**	**258**	P	P	17 30 13.2	0.0
	1.5nm,0.6s,baz=96,slow=7.3,SNR=61						
ASPA	**Alice Springs**	**48.07**	**258**	↓*i*P	P	17 30 13.0	-0.2
WB2	**Warramunga Arr**	**48.35**	**263**	*e*P	P	17 30 15.0	-0.3
WRA	**Warramunga Arr**	**48.36**	**263**	P	P	17 30 15.4	0.0
	0.9nm,0.3s,baz=102,slow=8.3,SNR=60						

*ISCJB **29** 17:58:37.7±1.2,535N±02×16373W±009,h33km,mb3.6/3, MS3.5/3,Error ellipse: s-maj=22.9km s-min=7.8km az=179.4*
*NEIC **29** 17:58:39.7±1.0,5362N×16383W,h35km,ML3.3(AEIC), Error ellipse: s-maj=23.6km s-min=7.3km az=171.0*
*IDC **29** 17:58:44.4±9.4,5408N×16352W,h69km±80km,mb3.3/3, mb1 3.5/4,mb1mx3.2/24,mbtmp3.6/4,ML3.4/1,MS3.5/3, Ms1 3.5/3,ms1mx3.0/16,Error ellipse: s-maj=79.6km s-min=28.5km az=17.0*
ISC 29 17:58:39.5±1.2,536N±02×16380W±009,h35km,n13, σ0°63/13,mb3.6/3,MS3.5/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.28**	**296**	P	**Pn**	**17 59 00.7**	**-0.2**
AKA				S	**Sn**	**17 59 17.2**	**+0.4**
AKUT	**Akutan**	**1.28**	**295**	P	**Pn**	**17 59 00.7**	**-0.2**
AKLV	**Akutan Long Va**	**1.39**	**295**	P	**Pn**	**17 59 02.0**	**-0.4**
OKCE	**Okmok Cone E**	**2.61**	**268**	P	**Pn**	**17 59 19.5

ISC 29 18:32:20.8±0.5, 4235N±003×1989E±003, h1km±6km, n18, σ1°24/32, 7C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.25	15	⇑iPg	Pg	18 32 25.1	-0.6
PVY				eSg	Sg	18 32 29.5	+0.5
TTG	Podgorica	0.47	280	⇓iPg	Pg	18 32 27.9	-2.0
TTG				eSg	Sg	18 32 35.6	-0.4
IVA	Berane	0.52	1	⇑iPg	Pg	18 32 29.9	-0.9
IVA				eSg	Sg	18 32 37.9	+0.3
BUM	Brajici-Budva	0.73	267	⇑iPg	Pg	18 32 33.5	-1.4
BUM				eSg	Sg	18 32 45.0	+0.6
NKY	Niksic	0.80	306	⇓iPg	Pg	18 32 34.5	-1.7
NKY				eSg	Sg	18 32 47.5	+0.8
HCY	Herceg Novi	1.03	276	⇑iPg	Pg	18 32 38.9	-1.7
HCY				eSg	Sg	18 32 55.2	+1.2
PLE	Pljevlja	1.04	340	⇓iPg	Pg	18 32 39.9	-1.0
PLE				eSg	Sg	18 32 56.2	+1.8
UPM	Unac-Piva	1.11	320	⇑iPg	Pg	18 32 40.8	-1.4
UPM				eSg	Sg	18 32 57.9	+1.3
BRY	Bratogost	1.13	300	⇑iPg	Pg	18 32 40.5	-2.0
BRY				eSg	Sg	18 32 59.0	+1.8
SKO	Skopje	1.22	108	iPg	Pg	18 32 43.9	-0.3
SKO				iSg	Sg	18 33 04.2	+4.3
KRUS	Krusevo	1.41	133	iPg	Pg	18 32 47.5	-0.4
KRUS				iSg	Sg	18 33 08.7	+2.4
OHR	Ohrid	1.41	151	eSg	Pg	18 32 49.6	+1.6
STON	Ston	1.70	289	iPn	Pn	18 32 50.4	-1.2
STON				iSn	Sg	18 33 17.1	+1.7
BIA	Bitola	1.71	141	iPg	Pg	18 32 53.9	+0.2
STIP	Stip	1.83	110	iPg	Pn	18 32 52.4	-1.1
STIP				iSg	Sg	18 33 20.5	+0.7
BZS	Buzias	3.50	20	⇓iP	Pn	18 33 15.4	-0.9
GZR	Gura Zlata	3.69	34	⇑iP	Pn	18 33 19.2	+0.2
NVLJ	Novalja	4.27	303	iPn	Pn	18 33 27.1	+0.2
NVLJ				iSn	Sn	18 34 19.2	+1.9

*ISCJB **29** 18:44:04.4±1.4, 172S±03×1792W±02, h494km±20km, mb3.8/10, Error ellipse: s-maj=50.9km s-min=13.1km az=131.5*
*IDC **29** 18:44:05.7±2.0, 1742S×17902W, h502km±25km, mb3.3/7, mb1 3.6/9, mb1mx3.4/15, mbtmp4.2/9, Error ellipse: s-maj=42.2km s-min=13.8km az=151.0*
*NEIC **29** 18:44:05.5±1.0, 1729S×179.10W, h501km±13km, mb4.0/1, Error ellipse: s-maj=44.2km s-min=10.2km az=158.0*

ISC 29 18:44:05.8±1.3, 173S±03×1791W±02, h497km±18km, n21, σ0°72/18, mb3.8/10, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.82	66	P	P	18 45 59.5	-0.7
7.1nm,0.3s,baz=167,slow=16,SNR=8.4							
AFI	Afiamalu	7.82	66	eP	P	18 45 59.8	-0.4
DZM	Mont Dzumac	14.41	248	P	P	18 47 10.9	+1.1
0.4nm,0.3s,baz=285,slow=20,SNR=6.9							
PMG	Port Moresby	33.69	279	P	P	18 50 03.5	-1.3
3.1nm,0.6s,mb3.9							
STKA	Stephens Creek	38.35	240	eP	P	18 50 43.2	-0.2
4.3nm,0.6s,mb4.1							
STKA	Stephens Creek	38.35	240	P	P	18 50 43.8	+0.3
4.8nm,0.4s,mb4.2,baz=87,slow=9.9,SNR=31							
WB2	Warramunga Arr	44.08	259	⇓iP	P	18 51 28.3	-0.7
WRA	Warramunga Arr	44.09	259	P	P	18 51 28.5	-0.5
0.6nm,0.5s,mb3.3,baz=92,slow=7.0,SNR=14							
AS31	Alice Springs	44.32	254	⇓iP	P	18 51 30.8	0.0
ASAR	Alice Springs	44.32	254	P	P	18 51 30.9	0.0
9.4nm,0.5s,mb4.5,baz=89,slow=8.0,SNR=401							
ASAR				S	S	18 57 24.9	-3.3
0.7nm,0.8s,baz=83,slow=16,SNR=7.0							
ASPA	Alice Springs	44.32	254	⇓iP	P	18 51 30.8	-0.1
KAKA	Kakadu	46.92	269	eP	P	18 51 51.2	+0.4
5.1nm,0.3s,mb4.4							
FITZ	Fitzroy Crossi	52.47	260	eP	P	18 52 32.3	+0.6
4.3nm,1.1s,mb3.7							
MJAR	Matsushiro Arr	67.00	324	P	P	18 54 09.7	+1.0
2.0nm,0.5s,mb4.0,baz=153,slow=6.0,SNR=9.7							
NVAR	Mina Array Bea	79.44	44	P	P	18 55 20.4	+0.4
0.5nm,0.7s,mb3.1,baz=229,slow=8.2,SNR=5.1							
TXAR	Lajitas Array	86.23	58	P	P	18 55 54.8	+0.6
0.4nm,0.7s,mb3.1,baz=222,slow=6.3,SNR=6.4							
PDAR	Pinedale Array	87.36	44	P	P	18 55 58.9	-0.6
0.5nm,0.5s,mb3.5,baz=186,slow=2.0,SNR=4.2							
BRTR	Keskin Array B	143.86	315	PKP	PKPdf	19 02 42.6	-1.4
0.6nm,0.6s,baz=92,slow=2.5,SNR=4.4							
CLL	Collm	144.70	347	iPKPdf	PKPdf	19 02 44.6	-0.9
GERES	GERESS Array B	146.83	344	PKPbc	PKPbc	19 02 50.9	-0.9
0.6nm,0.5s,baz=29,slow=3.0,SNR=7.9							
DAVOX	Davos/Dischmat	149.65	348	PKPbc	PKPbc	19 02 58.2	-0.7
1.6nm,0.3s,baz=350,slow=11,SNR=6.2							

*ISCJB **29** 18:56:40.6±1.5, 4130N±006×4398E±007, h10km, Error ellipse: s-maj=10.2km s-min=5.4km az=76.0*
*CSEM **29** 18:56:43.0, 4138N×4419E, h14km, mb3.5, After OBN*
*MOS **29** 18:56:43.1±0.1, 4138N×4419E, h14km, mb3.5/1, Error ellipse: s-maj=58.5km s-min=17.8km az=89.0*

ISC 29 18:56:40.1±1.6, 4123N±007×4400E±007, h10km, n9, σ0°96/18, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	Delisi	0.75	48	P	Pg	18 56 54.8	+0.2
TBLG				S	Sg	18 57 04.4	+0.1
TBLG	Delisi	0.75	48	Pg	Pg	18 56 54.8	+0.2
TBLG				Sg	Sg	18 57 04.4	+0.1
GOR	Gori	0.76	6	P	Pg	18 56 55.0	+0.2
GOR				S	Sg	18 57 05.5	+0.9
DGRG	David-gareji	1.06	78	P	Pg	18 56 59.9	-0.6
DGRG				S	Sg	18 57 14.9	+0.6
ONI	Oni	1.41	343	P	Pn	18 57 06.5	+0.7
ONI				S	Sn	18 57 25.7	+1.3
ZEI	Tsey	1.54	357	iPg	Pg	18 57 08.6	-1.0
ZEI				iSg	Sg	18 57 30.5	+0.9
LACR	Lac	1.61	8	iPg	Pg	18 57 09.0	-2.0
LACR				iSg	Sg	18 57 31.2	-0.6
DIGR	Digorskoe uzhe	1.69	350	iPg	Pg	18 57 11.2	-1.4
DIGR				iSg	Sg	18 57 35.0	+0.4
KORR	Kora	1.85	2	iPn	Pn	18 57 13.2	+1.3
KORR				iSg	Sg	18 57 38.5	-1.2

IDC 29 19:20:45.1±11.0, 1805S×17877W, h606km±113km, mb3.2/5, mb1 3.3/6, mb1mx3.0/16, mbtmp4.2/6, 1D, Error ellipse: s-maj=100.3km s-min=73.7km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.46	252	P	P	19 23 47.9	-0.1
0.4nm,0.3s,baz=22,slow=19,SNR=5.8							
CTA	Charters Tower	33.09	261	P	P	19 26 32.9	+0.3
2.3nm,0.3s,baz=74,slow=11,SNR=5.6							
STKA	Stephens Creek	38.26	241	eP	P	19 27 15.2	+0.1
2.1nm,0.6s							
STKA	Stephens Creek	38.26	241	P	P	19 27 15.5	+0.4
2.8nm,0.5s,baz=106,slow=11,SNR=12							
WB2	Warramunga Arr	44.26	260	eP	P	19 28 01.5	-0.8
WRA	Warramunga Arr	44.27	260	P	P	19 28 02.3	-0.1
1.1nm,0.5s,baz=98,slow=6.7,SNR=39							
ASAR	Alice Springs	44.42	254	P	P	19 28 03.9	+0.4
9.2nm,0.6s,baz=89,slow=8.2,SNR=207							
ASPA	Alice Springs	44.43	254	⇓iP	P	19 28 03.7	+0.1
KAKA	Kakadu	47.24	269	eP	P	19 28 24.8	0.0
3.4nm,0.6s							
FITZ	Fitzroy Crossi	52.67	261	P	P	19 29 04.9	+0.5
1.2nm,1.0s,baz=79,slow=5.2,SNR=3.6							
GERES	GERESS Array B	147.66	345	PKPbc	PKPbc	19 39 22.1	-0.4
0.5nm,0.6s,baz=29,slow=3.3,SNR=5.2							

*ISCJB **29** 20:16:47.5±2.8, 2261S±009×702W±0.1, h53km±30km, mb3.8/3, Error ellipse: s-maj=23.4km s-min=12.0km az=50.9*
*IDC **29** 20:16:50.6±3.2, 2265S×70.15W, h67km±29km, mb3.4/3, mb1 3.8/6, mb1mx3.7/17, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=29.8km s-min=26.2km az=118.0*
*NEIC **29** 20:16:50.8±1.4, 2261S×70.11W, h69km±14km, mb3.5/2, Error ellipse: s-maj=18.1km s-min=8.8km az=95.0*

ISC 29 20:16:49.8±2.1, 2263S±009×703W±02, h55km±24km, n13, σ0°75/12, mb3.8/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	9.12	169	P	Pn	20 18 59.4	+0.7
0.2nm,0.3s,baz=353,slow=12,SNR=25							
CFAA				S	Sn	20 20 48.0	+8.2
0.4nm,0.3s,baz=222,slow=17,SNR=12							
SIV	San Ignacio	10.90	54	P	Pn	20 19 21.7	-1.3
1.1nm,0.3s,baz=244,slow=13,SNR=22							
SIV				S	Sn	20 21 24.9	+1.4
0.1nm,0.3s,baz=302,slow=19,SNR=2.3							
CPUP	Villa Florida	12.34	110	P	Pn	20 19 42.5	-0.2
0.3nm,0.3s,baz=262,slow=12,SNR=6.9							
CPUP	Villa Florida	12.34	110	P	Pn	20 19 42.5	-0.2
SAML	Samuel	15.21	28	ePn	Pn	20 20 20.5	-0.5
1.1nm,0.5s							
TRQA	Tornquist	16.94	157	ePn	Pn	20 20 42.8	-0.2
2.4nm,0.6s							
TEIG	Tepich	46.08	336	eP	P	20 25 08.5	+0.3
TXAR	Lajitas Array	60.85	327	P	P	20 26 56.6	+0.2
0.6nm,0.8s,mb3.8,baz=138,slow=7.6,SNR=5.7							
PDAR	Pinedale Array	74.47	331	P	P	20 28 22.6	+0.4
0.2nm,0.4s,mb3.4,baz=110,slow=11,SNR=2.7							
TORD	Torodi Ar. Bea	78.92	71	P	P	20 28 46.5	-0.8
2.4nm,0.9s,mb4.1,baz=256,slow=5.3,SNR=21							
ASAR	Alice Springs	128.33	209	PKP	PKPdf	20 35 49.5	-0.6
0.5nm,0.7s,baz=122,slow=2.0,SNR=6.0							
MKAR	Makanchi Array	147.28	36	PKPbc	PKPbc	20 36 26.5	-0.5
1.5nm,0.7s,baz=322,slow=3.0,SNR=9.9							
MKAR	Makanchi Array	147.28	36	PKPbc	PKPbc	20 36 26.5	-0.5

*NIED **29** 20:24:00, 40.10N×142.40E, h44km, Mw3.6 Best double couple: M0:2.96000×10^14 NP1:φ=23.00000°, δ70.00000°, λ99.00000°. NP2:φ=178.00000°, δ22.00000°, λ67.00000°.*
*JMA **29** 20:24:35.8±0.1, 40.15N×142.45E, h34km±1km, M3.7*
*ISCJB **29** 20:24:36.5±0.8, 40.15N±003×142.41E±008, h45km±8km, mb3.6/4, Error ellipse: s-maj=10.0km s-min=5.3km az=29.2*
*NEIC **29** 20:24:37.6±1.2, 40.17N×142.66E, h65km±11km, MG3.7(JMA), Error ellipse: s-maj=26.7km s-min=10.1km az=112.0*
*IDC **29** 20:24:38.0±3.2, 40.17N×142.59E, h66km±29km, mb3.1/3, mb1 3.2/5, mb1mx3.1/23, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=49.4km s-min=25.2km az=88.0*

ISC 29 20:24:37.3±0.7, 4016N±004×14240E±008, h41km±9km, n18, σ1°25/31, mb3.6/4, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.46	242	⇓P	Pn	20 24 46.2	-1.4
JTH				S	Sn	20 24 53.8	-1.0
JANG	Nango	0.71	288	⇓P	Pn	20 24 49.7	-1.2
JANG				S	Sn	20 24 59.4	-1.2
MIYJ	Miyakonagasawa	0.73	218	⇓P	Pn	20 24 49.6	-1.6
MIYJ				S	Sn	20 24 59.3	-1.9
JKZ	Kuzumaki	0.84	258	⇓P	Pn	20 24 52.0	-0.6
JKZ				S	Sn	20 25 03.3	-0.4
JOM	Ohasama	1.09	232	⇓P	Pn	20 24 55.8	-0.3
JOM				eS	Sn	20 25 10.7	+0.7
JTM	Tenmabayashi	1.19	302	⇓P	Pn	20 24 57.2	-0.3
JTM				eS	Sn	20 25 13.2	+0.7
OFUJ	Ofunato	1.21	208	P	Pn	20 24 57.1	-0.7
OFUJ				S	Sn	20 25 12.9	-0.1
JAH	Hinai	1.35	272	⇓P	Pn	20 24 59.7	+0.1
JAH				eS	Sn	20 25 17.6	+1.3
JMK	Ichinoseki	1.51	217	P	Pn	20 25 01.6	-0.2
JMK				eS	Sn	20 25 21.5	+1.2
ERM	Erimo	1.94	17	ePn	Pn	20 25 07.5	-0.3
ERM				eSn	Sn	20 25 33.3	+2.3
ASAJ	Asahikawa	3.96	2	P	Pn	20 25 35.9	+0.4
3.6nm,0.3s,baz=211,slow=14,SNR=14							
ASAJ				S	Sn	20 26 27.2	+6.5
1.1nm,0.3s,baz=30,slow=20,SNR=3.4							
MAJO	Matsushiro	4.88	224	ePn	Pn	20 25 50.6	+2.3
8.1nm,0.6s							
MAJO				eSn	Sn	20 26 45.1	+1.6
MAT	Matsushiro	4.88	224	P	Pn	20 25 50.4	+2.2
MAT				S	Sn	20 26 46.5	+3.0
MJAR	Matsushiro Arr	4.88	224	P	Pn	20 25 50.5	+2.3
0.9nm,0.3s,baz=32,slow=14,SNR=18							
TATO	Taipei	23.15	235	eP	P	20 29 39.6	-0.4
19nm,0.6s,mb4.7							
SONM	Songino Array	26.82	299	P	P	20 30 13.4	-0.3
0.4nm,0.7s,mb3.1,baz=106,slow=9.7,SNR=4.3							
MKAR	Makanchi Array	43.18	299	P	P	20 32 33.2	-0.8
0.8nm,0.8s,mb3.5,baz=87,slow=11,SNR=6.9							
WRA	Warramunga Arr	60.26	189	P	P	20 34 39.5	-2.0
0.2nm,0.8s,mb3.2,baz=5.9,slow=7.0,SNR=3.6							

*NEIC **29** 20:24:46.1, 1823N×6144W, h25km, MD3.8(TRN), MD4.0(FDF), After TRN.*

TRN 29 20:24:48.1, 1825N×6153W, h35km, MD3.7, M3.9(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	0.67	205	eP	Pn	20 25 02.6	+1.6
CPB				eS	Sn	20 25 12.6	+2.4
BPA	Boggy Peak	1.23	195	eP	Pn	20 25 10.6	+1.7
BPA				eS	Sn	20 25 27.0	+2.8
BPA	Boggy Peak	1.23	195	eP	Pn	20 25 08.5	-0.3
BPA				eS	Sn	20 25 27.0	+2.8
SABS	Saba	1.75	249	eP	Pn	20 25 17.5	+1.6
SABS				eS	Sn	20 25 47.8	+11
SABT	Saba	1.75	249	eP	Pn	20 25 17.5	+1.6
SABT				eS	Sn	20 25 47.8	+11
DEG	La Desirade	1.97	167	eP	Pn	20 25 20.2	+1.2
DEG				eS	Sn	20 25 48.1	+5.6
LZG	Guadaloupe-1	2.11	186	eP	Pn	20 25 23.2	+2.4
SCG	Saint Claude	2.21	184	eP	Pn	20 25 26.0	+3.8
TBG	Guadaloupe-3	2.38	183	eP	Pn	20 25 27.6	+3.0
CPD	Cerro la Pandu	4.18	268	ePn	Pn	20 25 49.0	-0.3
CPD				eSn	Sn	20 26 37.1	+0.3

*ISCJB **29** 20:35:16.6±0.5, 3601N±003×140.14E±005, h77km±4km, mb3.3/3, Error ellipse: s-maj=7.2km s-min=5.0km az=169.5*
*IDC **29** 20:35:16.9±4.8, 3607N×140.30E, h71km±34km, mb3.2/3, mb1 3.3/4, mb1mx3.1/21, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=56.4km s-min=9.2km az=60.0*
*NEIC **29** 20:35:16.2±1.5, 3604N×140.33E, h67km±13km, Error ellipse: s-maj=19.2km s-min=12.6km az=135.0*
*JMA **29** 20:35:18.2±0.1, 3603N×140.07E, h62km±1km, M2.9*

ISC 29 20:35:17.4±0.5, 3601N±003×14014E±005, h71km±5km, n24, σ0°85/37, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.22	11	P	Pn	20 35 28.1	-0.1
JYT				S	Sn	20 35 35.4	-0.7
TOK	Tokyo	0.45	224	S	Sn	20 35 41.1	+2.1
JAG	Ashikaga	0.69	307	P	Pn	20 35 32.2	-0.1
JAG				S	Sn	20 35 42.3	-1.0
JRY	Ryogami san	1.00	271	P	Pn	20 35 35.9	-0.1
JRY				S	Sn	20 35 49.2	-0.6
JKT	Katashina	1.04	317	P	Pn	20 35 36.4	-0.1
JKT				S	Sn	20 35 50.4	-0.2
JOD2	Odawara 2	1.14	229	P	Pn	20 35 37.4	-0.3
JOD2				S	Sn	20 35 51.3	-1.5
BSO3	Boso 3	1.25	166	P	Pn	20 35 39.0	-0.1
JYN	Shimob	1.40	249	P	Pn	20 35 41.4	+0.4
JYN				S	Sn	20 35 57.9	-0.9
JIM2	Oshima 3	1.42	204	P	Pn	20 35 41.2	-0.1
JIM2				S	Sn	20 35 57.8	-1.5
JFY	Yanaizu	1.44	346	P	Pn	20 35 42.0	+0.4
JFY				S	Sn	20 35 59.6	-0.1
JFK	Kawauchi	1.47	23	P	Pn	20 35 42.6	+0.5
JFT	Otama	1.51	6	P	Pn	20 35 43.4	+0.8
BSO1	Boso 1	1.52	153	P	Pn	20 35 43.0	+0.3
JHK	Hiroka	1.53	324	P	Pn	20 35 43.1	+0.3
MJAR	Matsushiro Arr	1.65	289	P	Pn	20 35 45.0	+0.6
13nm,0.3s,baz=89,slow=9.1,SNR=274							
MJAR				S	Sn	20 36 06.0	+1.3
4.0nm,0.3s,baz=41,slow=2.5,SNR=9.3							
MAJO	Matsushiro	1.65	289	ePn	Pn	20 35 45.1	+0.7
MAJO				eSn	Sn	20 36 05.1	+0.4
MAT	Matsushiro	1.65	289	P	Pn	20 35 45.0	+0.6
MAT				S	Sn	20 36 05.4	+0.6
JHJ	Hachijo jima 2	2.90	186	P	Pn	20 36 01.9	+0.6
7.4nm,0.3s,baz=252,slow=20,SNR=5.9							
JHJ				S	Sn	20 36 36.8	+1.7
11nm,0.3s,baz=256,slow=24,SNR=6.5							
ERM	Erimo	6.44	20	ePn	Pn	20 36 47.3	-2.2
ERM				eSn	Sn	20 37 57.2	-4.3
MDJ	Mudanjiang	11.77	320	Pn	Pn	20 38 01.5	-0.8
TATO	Taipei	19.44	241	P	Pn	20 39 38.8	-1.2
SONM	Songino Array	27.53	306	P	P	20 40 57.3	0.0
0.4nm,0.6s,mb3.1,baz=100,slow=8.6,SNR=4.0							
MKAR	Makanchi Array	43.80	303	P	P	20 43 16.8	+0.6
0.6nm,1.0s,mb3.3,baz=88,slow=8.7,SNR=4.2							
WRA	Warramunga Arr	55.92	187	P	P	20 44 47.5	-0.5
0.3nm,0.7s,mb3.4,baz=4.0,slow=7.4,SNR=6.7							

IDC 29 20:44:38.9±15.0, 1771S×17877W, h668km±142km, mb2.9/3, mb1 3.0/3, mb1mx2.8/13, mbtmp4.0/3, Error ellipse: s-maj=148.9km s-min=77.8km az=116.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.42	241	P	P	20 51 07.0	+0.2
1.2nm,0.6s,baz=63,slow=9.7,SNR=3.3							
WRA	Warramunga Arr	44.33	259	P	P	20 51 53.3	+0.5
0.7nm,0.4s,baz=95,slow=6.9,SNR=26							
WRA				PcP	PcP	20 53 22.0	+0.6
0.2nm,0.3s,baz=91,slow=3.4,SNR=7.8							
ASAR	Alice Springs	44.52	254	P	P	20 51 54.7	+0.5
2.2nm,0.6s,baz=89,slow=8.0,SNR=30							
ASAR				PcP	PcP	20 53 22.2	+0.2
0.4nm,0.4s,baz=101,slow=4.0,SNR=7.8							
GERES	GERESS Array B	147.34	345	PKPbc	PKPbc	21 03 09.2	-0.4
0.4nm,0.5s,baz=40,slow=4.4,SNR=4.6							

*IDC **29** 21:10:16.1±1.9, 3195S×17798W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/13, mbtmp4.1/5, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/16, Error ellipse: s-maj=43.3km s-min=39.8km az=23.0*
*ISCJB **29** 21:10:21.3±6.5, 3225S±009×1784W±02, h26km±45km, mb4.2/6, MS3.3/1, Error ellipse: s-maj=24.4km s-min=15.5km az=168.7*
*NEIC **29** 21:10:22.2±1.3, 3205S×17808W, h35km, mb4.4/2, Error ellipse: s-maj=26.8km s-min=15.6km az=66.0*

ISC 29 21:10:23.3±6.8, 3220S±009×1782W±02, h33km±47km, n16, σ0°56/15, mb4.2/6, MS3.3/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.14	211	Pn	Pn	21 12 05.5	0.0
0.7nm,0.3s,baz=24,slow=18,SNR=6.4							
URZ				Sn	Sn	21 13 25.3	-0.1
2.3nm,0.3s,baz=150,slow=14,SNR=7.2							
STKA	Stephens Creek	33.92	260	P	P	21 17 03.0	-0.2
1.6nm,0.7s,mb4.1,baz=119,slow=13,SNR=2.9							
CTA	Charters Tower	33.94	282	P	P	21 17 03.0	-0.4
2.5nm,0.6s,mb4.3,baz=134,slow=16,SNR=2.9							
CTA				LR	LR	21 28 02.2	
comp=Z,56nm,18.6s,MS3.3,baz=229,slow=31							
CTA	Charters Tower	33.94	282	P	P	21 17 03.0	-0.4
CTA				LR	LR	21 28 02.2	
CTAO	Charters Tower	33.94	282	P	P	21 17 04.2	+0.8
AS31	Alice Springs	42.85	269	eP	P	21 18 18.4	+0.2
ASAR	Alice Springs	42.85	269	P	P	21 18 17.9	-0.3
1.2nm,0.8s,mb3.7,baz=105,slow=7.7,SNR=12							
WB2	Warramunga Arr	43.99	274	eP	P	21 18 27.4	0.0
WRA	Warramunga Arr	44.00	274	P	P	21 18 26.9	-0.6
2.0nm,0.6s,mb4.0,baz=114,slow=7.9,SNR=23							
SBA	Scott Base	46.23	184	eP	P	21 18 45.3	0.0
1.7nm,0.2s,mb4.6							
VNDA	Vanda	46.29	186	P	P	21 18 45.9	+0.3
NWAO	Narrogin (SRO)	53.60	251	eP	P	21 19 42.5	+1.3
1.6nm,0.5s,mb4.2							
VNA3	Neumayer Olymp	76.53	176	e	P	21 22 09.0	-1.1
VNA3				e	pP	21 22 19.6	-0.8
VNA3				e		21 22 29.9	
VNA2	Neumayer--Watz	76.96	177	e	P	21 22 13.0	+0.5
VNA2				e	pP	21 22 21.3	-1.6
VNA2				e		21 22 31.5	
FINES	FINESS Array B	146.76	339	PKPbc	PKPdf	21 29 57.9	-2.1
1.1nm,0.6s,baz=49,slow=2.8,SNR=8.8							
TORD	Torodi Ar. Bea	161.03	180	PKPab	PKPab	21 31 02.5	-0.7
1.0nm,1.1s,baz=196,slow=3.3,SNR=5.1							

*ISCJB **29** 21:12:52.4±0.4, 5148N±002×16.14E±003, h0km, Error ellipse: s-maj=3.4km s-min=2.9km az=80.9*
*IPEC **29** 21:12:53.6±0.3, 5155N×1619E, h0km±1km, ML2.1/3, Error ellipse: s-maj=2.3km s-min=1.5km az=29.0*
*CSEM **29** 21:12:55.0±0.2, 5149N×1610E, h0km, ML3.1/8, Error ellipse: s-maj=4.2km s-min=2.4km az=18.0*
*PRU **29** 21:12:55.8, 5144N×1611E, h0km*
*WAR **29** 21:12:56.2, 5146N×1608E, ML2.6, Mining Induced*
*IDC **29** 21:12:56.5±0.9, 5140N×1612E, h0km, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=19.0km s-min=8.1km az=112.0*
*VIE **29** 21:12:57.5±0.5, 5128N×1612E, h0km, mb2.3/5, ML2.6/5, Error ellipse: s-maj=3.3km s-min=3.1km az=118.0 65 km WNW of Breslau Suspected Mining induced.*
*NEIC **29** 21:12:59.6, 5120N×1596E, h10km, ML2.5(PRU), ML2.7(SZGRF), After PRU.*

ISC 29 21:12:53.9±0.4, 5151N±002×1614E±003, h0km, n35, σ0°82/65, 5C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	171	iPg	Pg	21 13 07.7	+1.0
KSP				e		21 13 14.3	
KSP				eSg	Sg	21 13 16.2	+0.8
KSP	Ksiaz	0.67	171	⇓iPg	Pg	21 13 07.7	+1.0
KSP				e		21 13 14.3	
KSP				eSg	Sg	21 13 16.2	+0.8
UPC	Upice	1.00	184	ePG	Pg	21 13 13.4	+0.3
DPC	Dobruska-Polom	1.16	174	ePG	Pg	21 13 16.5	+0.3
DPC				eSG	Sg	21 13 30.6	-0.7
31nm,0.4s							
DPC	Dobruska-Polom	1.16	174	ePg

comp=Z,8.7nm,0.5s
MOX Moxa 2.98 255 *e*PN **Pn 21 13 43.4 +1.1**
MOX *i* PG **Pg 21 13 50.9 0.0**
MOX *i* SG **Sg 21 14 30.4 +0.8**
GEC2 GERESS Array S 3.09 211 *e*Pn **Pn 21 13 44.9 +1.0**
GERES GERESS Array B 3.09 211 Pn **Pn 21 13 44.8 +0.9**
comp=Z,0.7nm,0.3s,baz=30,slow=13,SNR=23
GERES Pg **Pg 21 13 50.9 -2.2**
comp=Z,3.1nm,0.3s,baz=32,slow=17,SNR=55
GERES Sn **Sn 21 14 23.4 +2.0**
comp=Z,1.9nm,0.3s,baz=44,slow=26,SNR=5.3
GERES Lg 21 14 29.4
comp=Z,2.4nm,0.3s,baz=34,slow=27,SNR=6.3
GERES GERESS Array B 3.09 211 Pg **Pg 21 13 50.9 -2.2**
WET Wettzell 3.15 223 *e*Pn **Pn 21 13 45.0 +0.2**
VYHS Vyhne 3.48 149 *e*PG **Pg 21 13 59.7 -0.9**
VYHS *e*SG **Sg 21 14 45.3 -0.5**
VYHS Vyhne 3.48 149 *e*Pg **Pg 21 13 59.7 -0.9**
VYHS *e*Sg **Sg 21 14 45.4 -0.4**
CONA Conrad Observa 3.59 183 ⇑*i*Pn **Pn 21 13 52.2 +1.5**
CONA ⇑*i*Sg **Sg 21 14 48.2 -0.9**
comp=Z,6.4nm,0.4s
BSD Bornholm Skovb 3.69 349 *i* P **Pn 21 13 52.4 +0.3**
BSD *i* S **Sn 21 14 35.5 -0.8**
MOA Molln 3.86 199 ⇑*i*Pn **Pn 21 13 55.2 +0.8**
MOA ⇑*i*Sg **Sg 21 14 58.2 +0.4**
comp=Z,7.4nm,0.5s
ARSA Arzberg 4.28 186 ⇑*i*Pn **Pn 21 14 01.4 +1.1**
ARSA ⇓*i*Sg **Sg 21 15 11.7 +0.3**
comp=Z,5.6nm,0.4s
CRVS Cervenica-Dubn 4.30 125 *e*PG **Pg 21 14 16.7 +0.4**
COP Copenhagen 4.73 334 *i* P **Pg 21 14 17.1 -7.4**
DAVA Damuels 5.87 226 P **Pn 21 14 22.2 +0.1**
FINES FINESS Array B 11.36 25 Pn **Pn 21 15 36.8 -0.6**
comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=5.8
FINES Sn **Sn 21 17 38.6 -6.4**
comp=Z,0.1nm,0.3s,baz=216,slow=19,SNR=3.9
ARCES ARCESS Array B 18.62 10 Pn **Pn 21 17 12.4 -0.7**
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=4.0

IDC 29 21:32:00.6±1.4, 061N×12132E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/17, mbtmp3.2/4, Error ellipse: s-maj=169.5km s-min=23.2km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.08**	**149**	P	P	21 37 18.1	+0.4
0.6nm,0.5s,baz=328,slow=11,SNR=9.6							
ASAR	**Alice Springs**	**27.05**	**154**	P	P	21 37 45.1	+0.5
0.1nm,0.3s,baz=344,slow=15,SNR=4.2							
SONM	**Songino Array**	**48.79**	**347**	P	P	21 40 48.6	+1.2
0.3nm,0.8s,baz=162,slow=7.5,SNR=2.9							
MKAR	**Makanchi Array**	**57.22**	**329**	P	P	21 41 48.6	-1.1
0.3nm,0.7s,baz=124,slow=8.9,SNR=3.2							

*NEIC **29** 21:42:06.5, 2822S×7092W, h42km, MD4.1(GUC), After GUC.*

GUC 29 21:42:06.5±2.6, 2822S×7092W, h42km±11km, MD4.1, ML4.3, 4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.38**	**158**	⇓*e*P	Pn	21 42 16.4	+0.6
VACH				*i* S	Sn	21 42 22.8	+0.5
VACH				AML	AML	21 42 23.8	
comp=N,52μm,0.0s							
VACH	**Vallenar**	**0.38**	**158**	⇓*e*P	Pn	21 42 16.4	+0.6
VACH				*i* S	Sn	21 42 22.8	+0.5
CPCH	**Copiapo**	**1.00**	**30**	⇓*e*P	Pn	21 42 25.0	+0.9
CPCH				*i* S	Sn	21 42 38.5	+1.6
CPCH				AML	AML	21 42 42.5	
comp=N,32μm,0.1s							
CPCH	**Copiapo**	**1.00**	**30**	⇓*e*P	Pn	21 42 25.0	+0.9
CPCH				*i* S	Sn	21 42 38.5	+1.6
CDCH	**Caldera**	**1.15**	**4**	*e*P	Pn	21 42 27.1	+1.0
CDCH				*i* S	Sn	21 42 42.8	+2.2
CDCH				AML	AML	21 42 46.7	
comp=N,1μm,0.4s							
CDCH	**Caldera**	**1.15**	**4**	*e*P	Pn	21 42 27.1	+1.0
CDCH				*i* S	Sn	21 42 42.8	+2.2
OVCH	**Ovalle**	**2.39**	**186**	*e*P	Pn	21 42 43.5	+0.4
OVCH				*i* S	Sn	21 43 12.4	+1.2
CMCH	**Combarbala**	**2.94**	**181**	*e*P	Pn	21 42 50.9	+0.3
CMCH				*i* S	Sn	21 43 24.6	-0.1
CMCH				AML	AML	21 43 42.1	
comp=E,3μm,0.8s							
CMCH	**Combarbala**	**2.94**	**181**	*e*P	Pn	21 42 50.9	+0.3
CMCH				*i* S	Sn	21 43 24.6	-0.1
CPN1	**Cerro Paranal**	**3.61**	**8**	*e*P	Pn	21 43 00.2	+0.3
CPN1				*i* S	Sn	21 43 41.8	+0.5
CPN1				AML	AML	21 44 12.6	
comp=E,238nm,0.5s							
FCH	**Farellones**	**5.12**	**174**	*e*P	Pn	21 43 22.4	+1.8
FCH				*i* S	Sn	21 44 22.7	+4.3
FCH				AML	AML	21 44 42.0	
comp=E,131nm,0.2s							
CLCH	**Cerro Calan**	**5.17**	**176**	*e*P	Pn	21 43 22.2	+0.9
CLCH				*i* S	Sn	21 44 20.6	+1.0
PCH	**Pirque**	**5.39**	**176**	*e*P	Pn	21 43 25.2	+0.9
PCH				*i* S	Sn	21 44 25.5	+0.4

*IDC **29** 21:58:10.9±1.1, 478S×1024E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/19, mbtmp4.2/10, MS2.7/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=60.8km s-min=15.5km az=51.0*
*ISCJB **29** 21:58:13.5±0.4, 489S±008×1024E±01, h33km, mb4.4/20, Error ellipse: s-maj=17.5km s-min=8.5km az=118.9*
*NEIC **29** 21:58:15.6±0.4, 485S×1023E, h35km, mb4.4/5, Error ellipse: s-maj=15.8km s-min=8.1km az=62.0*

ISC 29 21:58:12.7±5.5, 484S±008×1024E±01, h12km±35km, n31, σ0§98/27, mb4.4/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.36**	**335**	LR	LR	22 03 40.5	
comp=Z,51nm,21.3s,baz=248,slow=40							
COCO	**West Island**	**9.15**	**217**	*e*Pn	**Pn**	**22 00 24.2**	**-0.3**
KULM	**Kulim**	**10.22**	**350**	*e*Pn	**Pn**	**22 00 38.7**	**-0.4**
MBWA	**Marble Bar**	**23.35**	**136**	*e*P	**P**	**22 03 19.2**	**-1.8**
2.8nm,0.9s,mb3.7							
FITZ	**Fitzroy Crossi**	**26.25**	**122**	P	**P**	**22 03 48.0**	**+0.4**
0.9nm,0.6s,mb3.5,baz=328,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	**34.50**	**119**	P	**P**	**22 05 00.2**	**-0.4**
1.0nm,0.4s,mb4.1,baz=300,slow=9.0,SNR=6.5							
WRA				PcP	PcP	22 07 35.3	-0.2
0.3nm,0.4s,baz=296,slow=2.0,SNR=4.5							
ASAR	**Alice Springs**	**35.65**	**125**	P	**P**	**22 05 11.2**	**+0.8**
0.8nm,0.5s,mb3.9,baz=293,slow=7.3,SNR=14							
ASAR				PcP	PcP	22 07 38.9	+0.1
0.4nm,0.5s,baz=315,slow=2.3,SNR=4.2							
GUN	**Gumba**	**36.26**	**335**	*e*P	**P**	**22 05 17.3**	**+1.6**
26nm,0.5s,mb5.4							
KKN	**Kakani**	**36.42**	**334**	*e*P	**P**	**22 05 18.0**	**+0.9**
13nm,0.6s,mb5.0							
GKN	**Gorkha**	**36.88**	**333**	*e*P	**P**	**22 05 22.2**	**+1.2**
10nm,0.6s,mb4.9							
KOLN	**Koldanda**	**37.16**	**332**	*e*P	**P**	**22 05 25.0**	**+1.6**
12nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**45.47**	**131**	P	**P**	**22 06 32.7**	**+1.0**
2.2nm,0.7s,mb4.1,baz=323,slow=9.8,SNR=5.0							
STKA	**Stephens Creek**	**45.47**	**131**	P	**P**	**22 06 32.7**	**+1.0**
SONM	**Songino Array**	**52.57**	**3**	P	**P**	**22 07 26.1**	**0.0**
2.5nm,0.7s,mb4.2,baz=180,slow=9.0,SNR=27							
SONM				PcP	PcP	22 08 35.7	-0.5
0.7nm,0.5s,baz=182,slow=4.4,SNR=7.8							
MK31	**Makanchi Array**	**54.42**	**343**	*e*P	**P**	**22 07 39.4**	**-0.2**
MKAR	**Makanchi Array**	**54.42**	**343**	P	**P**	**22 07 39.4**	**-0.2**
4.3nm,0.6s,mb4.6,baz=152,slow=8.7,SNR=45							
MKAR	**Makanchi Array**	**54.42**	**343**	P	**P**	**22 07 39.4**	**-0.2**
TAU	**Tasmania Unive**	**54.87**	**141**	P	**P**	**22 07 43.9**	**+1.1**
ZAL	**Zalesovo**	**60.40**	**348**	P	**P**	**22 08 21.3**	**-0.6**
5.2nm,0.4s,mb4.9,baz=308,slow=3.9,SNR=22							
ZAL	**Zalesovo**	**60.40**	**348**	P	**P**	**22 08 21.3**	**-0.6**
BRVK	**Borovoye**	**63.74**	**339**	*e*P	**P**	**22 08 43.3**	**-0.9**
1.4nm,0.4s,mb4.3							
BRVK				*e*PP	PP	22 11 04.6	+0.2
ZRNK	**Zerenda**	**64.12**	**338**	*e*P	**P**	**22 08 45.2**	**-1.5**
1.0nm,0.5s,mb4.1							
CHKZ	**Chkalovo**	**64.12**	**340**	*e*P	**P**	**22 08 46.2**	**-0.6**
2.7nm,0.6s,mb4.5							
BRTR	**Keskin Array B**	**77.01**	**312**	P	**P**	**22 10 06.2**	**+0.9**
0.9nm,0.6s,mb3.9,baz=135,slow=6.6,SNR=6.7							
JOF	**Joensuu**	**85.81**	**334**	*e*p	**P**	**22 10 50.9**	**-1.1**
2.3nm,0.5s,mb4.7							
FINES	**FINESS Array B**	**87.74**	**332**	P	**P**	**22 11 01.5**	**+0.1**
1.2nm,0.6s,mb4.3,baz=110,slow=5.2,SNR=16							
KAF	**Kangasniemi**	**87.80**	**333**	*e*p	**P**	**22 10 59.7**	**-2.0**
3.1nm,0.5s,mb4.8,baz=98,slow=4.3							
ARCES	**ARCESS Array B**	**89.95**	**340**	P	**P**	**22 11 12.2**	**+0.3**
2.3nm,0.9s,mb4.5,baz=101,slow=4.7,SNR=3.2							
TXAR	**Lajitas Array**	**145.32**	**42**	PKPbc	PKPbc	22 17 50.7	+0.6
1.2nm,0.4s,baz=273,slow=1.0,SNR=28							
TXAR	**Lajitas Array**	**145.32**	**42**	PKPbc	PKPbc	22 17 50.7	+0.5
JCT	**Junction City**	**147.00**	**37**	*e*PKP	PKPdf	22 17 55.4	+2.2

IDC 29 22:39:55.5±2.1, 127N×12640E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=176.1km s-min=27.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.47**	**160**	P	P	22 44 56.9	+0.7
0.7nm,0.5s,baz=339,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**25.84**	**164**	P	P	22 45 28.5	0.0
0.2nm,0.5s,baz=348,slow=7.4,SNR=5.0							
MKAR	**Makanchi Array**	**59.39**	**326**	P	P	22 49 59.8	+0.2
0.2nm,0.5s,baz=114,slow=8.2,SNR=5.3							

*MOS **29** 23:03:16.7±1.2, 39.11N×7044E, h83km, mb3.7/1, Error ellipse: s-maj=37.2km s-min=15.6km az=78.7*
*IDC **29** 23:03:17.9±10.0, 3903N×7064E, h75km±101km, mb3.0/2, mb1 3.4/4, mb1mx3.0/22, mbtmp3.5/4, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/7, Error ellipse: s-maj=90.4km s-min=39.4km az=5.0*
*NEIC **29** 23:03:18.6±3.9, 39.15N×7054E, h83km±36km, Error ellipse: s-maj=37.3km s-min=23.5km az=212.0*
*ISCJB **29** 23:03:19.3±2.9, 392N±02×705E±02, h105km±26km, mb3.3/2, Error ellipse: s-maj=35.1km s-min=18.4km az=45.3*

ISC 29 23:03:23.2±2.1, 395N±02×707E±02, h122km±20km, n22, σ1§00/24, mb3.3/2, 5C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.52**	**40**	P	**Pn**	**23 04 16.0**	**-0.5**
SNR=24							
KK31	**Karatay Array**	**3.65**	**358**	⇑Pn	**Pn**	**23 04 17.1**	**-1.0**
4.3nm,0.4s,baz=178,slow=12,SNR=78							
KK31				⇑Pg	**Pn**	**23 04 25.5**	**+7.4**
13nm,0.6s,baz=183,slow=15,SNR=6.4							
KK31				⇓Sn	**Sn**	**23 05 08.2**	**+7.6**
24nm,0.5s,baz=173,slow=19							
KK31				⇑Lg		23 05 21.2	
44nm,0.7s,baz=180,slow=28,SNR=5.8							
EKS2	**Erkin-Say**	**3.97**	**35**	P	**Pn**	**23 04 23.9**	**+1.5**
SNR=11							
UCH	**Uchtor**	**4.02**	**45**	P	**Pn**	**23 04 22.7**	**-0.4**
SNR=22							
AAK	**Ala-Archa**	**4.29**	**41**	P	**Pn**	**23 04 27.1**	**+0.4**
SNR=5.3							
AAK	**Ala-Archa**	**4.29**	**41**	*e*Pn	**Pn**	**23 04 26.1**	**-0.6**
AAK				*e*Sn	**Sn**	**23 05 13.9**	**-2.1**
KBK	**Karagaybulak**	**4.55**	**44**	P	**Pn**	**23 04 30.5**	**+0.4**
SNR=44							
CHMS	**Chumysh**	**4.69**	**40**	P	**Pn**	**23 04 32.4**	**+0.4**
SNR=9.6							
USP	**Ospenovka**	**4.77**	**36**	P	**Pn**	**23 04 32.7**	**-0.5**
SNR=17							
TKM2	**Tokmak 2**	**5.08**	**45**	P	**Pn**	**23 04 38.6**	**+1.4**
SNR=29							
TKM2	**Tokmak 2**	**5.08**	**45**	⇑Pn	**Pn**	**23 04 38.0**	**+0.8**
0.8nm,0.5s							
TKM2				⇑Lg		23 06 00.3	
3.4nm,0.7s							
MKAR	**Makanchi Array**	**11.21**	**45**	P	**Pn**	**23 05 59.6**	**-0.2**
0.1nm,0.3s,baz=233,slow=15,SNR=5.5							
BRVK	**Borovoye**	**13.61**	**359**	*e*P	**Pn**	**23 06 30.1**	**-1.0**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**13.61**	**359**	*e*Pn	**Pn**	**23 06 30.1**	**-1.0**
comp=Z,1.7nm,0.6s							
CHKZ	**Chkalovo**	**14.22**	**360**	*e*P	**Pn**	**23 06 40.9**	**+1.9**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.6s							
CHKZ	**Chkalovo**	**14.22**	**360**	*e*P	**Pn**	**23 06 40.9**	**+1.9**
comp=Z,0.7nm,0.6s							
ORR	**Orenburg**	**16.45**	**323**	P	**Pn**	**23 07 06.1**	**-0.7**
ORR				pmax	pmax		
comp=Z,10.0nm,1.1s							
ZAL	**Zalesovo**	**17.38**	**29**	P	**Pn**	**23 07 19.4**	**+1.4**
comp=Z,0.4nm,0.3s,baz=268,slow=7.7,SNR=5.3							
ZAL	**Zalesovo**	**17.38**	**29**	P	**Pn**	**23 07 19.4**	**+1.4**
GERES	**GERESS Array B**	**41.06**	**303**	LR	LR	23 30 54.7	
comp=Z,22nm,19.5s,baz=324,slow=40							
TORD	**Torodi Ar. Bea**	**65.57**	**267**	P	**P**	**23 13 53.6**	**-0.1**
comp=Z,0.3nm,0.8s,mb3.2,baz=46,slow=5.6,SNR=4.7							
WRA	**Warramunga Arr**	**83.77**	**122**	P	**P**	**23 15 37.9**	**-0.8**
comp=Z,0.4nm,0.8s,mb3.3,baz=323,slow=5.1,SNR=3.7							

*NEIC **29** 23:14:40.9, 1394N×9356W, h20km, MD4.4(MEX), After MEX.*

MEX 29 23:14:40.5±0.3, 1392N×9357W, h20km±46km, MD4.4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.73**	**30**	*i* P	Pn	23 15 21.0	-2.2
CCIG				*i* S	Sn	23 15 52.7	-2.8
CCIG	**Comitan**	**2.73**	**30**	*i* P	Pn	23 15 21.0	-2.2
CCIG				*i* S	Sn	23 15 52.6	-3.0
CMIG	**Matias Romero**	**3.40**	**338**	*i* P	Pn	23 15 30.6	-1.8
CMIG				*i* S	Sn	23 16 08.8	-3.3
CMIG	**Matias Romero**	**3.40**	**338**	*i* P	Pn	23 15 32.6	+0.2
CMIG				*i* S	Sn	23 16 07.8	-4.3
OXX	**Oaxaca**	**4.37**	**316**	*e*P	Pn	23 15 50.0	+4.2
OXX	**Oaxaca**	**4.37**	**316**	*e*P	Pn	23 15 53.0	+7.2
VHO	**Vista Hermosa**	**4.37**	**316**	*i* S	Sn	23 16 34.3	-1.9
TPIG	**Tehuac#an**	**5.77**	**321**	*i* S	Sn	23 17 08.0	-2.6
TEIG	**Tepich**	**8.06**	**38**	*i* P	Pn	23 16 32.8	-3.6
TEIG				*i* S	Sn	23 18 03.8	-3.1
TEIG	**Tepich**	**8.06**	**38**	*i* P	Pn	23 16 34.2	-2.2

*IDC **29** 23:43:34.3±4.7, 2356S×17803W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.7/12, mbtmp4.2/2, Error ellipse: s-maj=271.4km s-min=53.7km az=156.0*
*ISCJB **29** 23:43:38.0±1.8, 236S±02×1782W±03, h33km, mb4.3/4, Error ellipse: s-maj=41.6km s-min=18.2km az=106.8*
*NEIC **29** 23:43:38.0±1.3, 2339S×17793W, h35km, mb4.6/3, Error ellipse: s-maj=32.7km s-min=19.4km az=52.0*

ISC 29 23:43:39.7±11.8, 236S±02×1781W±03, h35km, n14, σ0§81/11, mb4.3/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**18.65**	**197**	P	**Pn**	**23 47 54.7**	**-0.3**
HNR	**Honiara**	**25.30**	**300**	*e*P	**P**	**23 49 02.4**	**-0.5**
CTA	**Charters Tower**	**33.24**	**269**	*e*P	**P**	**23 50 16.9**	**+3.4**
CTAO	**Charters Tower**	**33.24**	**269**	*e*P	**P**	**23 50 16.8**	**+3.4**
3.5nm,0.4s,mb4.6							
ASAR	**Alice Springs**	**43.82**	**260**	P	**P**	**23 51 43.0**	**+0.7**
1.4nm,0.6s,mb3.9,baz=99,slow=7.4,SNR=16							
WB2	**Warramunga Arr**	**44.17**	**265**	*e*P	**P**	**23 51 45.1**	**0.0**
WB2	**Warramunga Arr**	**44.17**	**265**	*e*P	**P**	**23 51 45.3**	**+0.2**
WRA	**Warramunga Arr**	**44.18**	**265**	P	**P**	**23 51 45.3**	**+0.2**
1.9nm,0.4s,mb4.2,baz=102,slow=8.2,SNR=19							
SBA	**Scott Base**	**54.77**	**184**	P	**P**	**23 53 05.8**	**0.0**
MBWA	**Marble Bar**	**57.16**	**259**	*e*P	**P**	**23 53 21.6**	**-1.3**
3.2nm,0.7s,mb4.5							
PMSA	**Palmer Station**	**78.47**	**156**	*e*P	**P**	**23 55 37.4**	**+0.3**
HFS	**Hagfors**	**142.59**	**350**	PKhKP		00 03 04.7	
1.1nm,0.6s,baz=42,slow=2.3,SNR=4.3							
BRTR	**Keskin Array B**	**148.80**	**308**	PKPbc	PKPbc	00 03 25.7	+2.2
0.7nm,0.8s,baz=121,slow=2.2,SNR=4.0							
MMAI	**Mount Meron Ar**	**149.18**	**295**	PKPbc	PKPbc	00 03 23.1	-1.4
0.9nm,0.4s,baz=89,slow=6.3,SNR=7.8							

*NEIC **29** 23:55:12.5, 3853N×1461E, h282km, mb3.7/17, After ROM.*
*ROM **29** 23:55:12.5±0.3, 3853N×1461E, h282km±5km, Ml3.1/35, Error ellipse: s-maj=3.1km s-min=2.8km az=82.0*
*ISCJB **29** 23:55:13.1±0.3, 3851N±003×1470E±004, h287km±2km, mb3.5/12, Error ellipse: s-maj=5.9km s-min=5.1km az=101.8*
*CSEM **29** 23:55:13.6±0.1, 3856N×1458E, h270km±1km, ML3.7/7, Error ellipse: s-maj=3.4km s-min=2.1km az=105.0*
*IDC **29** 23:55:14.3±0.9, 3873N×1443E, h289km±12km, mb3.3/9, mb1 3.3/14, mb1mx3.2/24, mbtmp3.9/14, Error ellipse: s-maj=17.9km s-min=12.3km az=96.0*
*MOS **29** 23:55:14.3±1.3, 3878N×1482E, h267km, mb3.8/10, Error ellipse: s-maj=11.3km s-min=5.3km az=115.5*
*LDG **29** 23:55:16.1±1.2, 3902N×1490E, h290km, Mb3.8/28, Error ellipse: s-maj=50.5km s-min=15.5km az=13.0*

ISC 29 23:55:13.9±0.3, 3852N±003×1471E±004, h282km±2km, n163, σ1§06/172, mb3.5/12, 28C-25D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNA	**Salina**	**0.11**	**65**	⇓*i*Pg	**Pn**	**23 55 49.7**	**-0.1**
IFIL	**Filicudi I Eol**	**0.12**	**293**	⇓*i*Pg	**Pn**	**23 55 49.3**	**-0.5**
LLI	**Lipari**	**0.20**	**111**	Pg	**Pn**	**23 55 50.2**	**+0.4**
VPL	**Vulcano Piano**	**0.26**	**122**	⇓*i*Pg	**Pn**	**23 55 49.5**	**-0.4**
136nm,0.5s							
MSRU	**Castanea**	**0.68**	**112**	⇓*i*Pg	**Pn**	**23 55 50.1**	**-0.8**
MSRU				Sg	**S**	**23 56 19.4**	**-0.9**
236nm,0.4s							
MMME	**Mongiuffi-Meli**	**0.72**	**143**	Pg	**Pn**	**23 55 51.1**	**0.0**
MMME				Sg	**S**	**23 56 21.5**	**+0.9**
125nm,0.6s							
MSI	**Messina ING**	**0.74**	**115**	Pg	**Pn**	**23 55 50.6**	**-0.5**
297nm,0.3s							
GIB	**Gibilmanna**	**0.75**	**226**	Pg	**Pn**	**23 55 50.0**	**-1.2**
31nm,0.2s							
CSLB	**Castelbuono**	**0.77**	**222**	Pg	**Pn**	**23 55 50.1**	**-1.2**
62nm,0.2s							
SCLL	**Scilla**	**0.83**	**108**	Pg	**Pn**	**23 55 50.1**	**-1.4**
71nm,0.3s							
JOPP	**Joppolo**	**0.93**	**84**	⇓*i*Pg	**Pn**	**23 55 51.6**	**-0.3**
JOPP				Sg	**S**	**23 56 20.7**	**-1.4**
136nm,0.3s							
MTTG	**Motta San Giov**	**0.93**	**123**	⇓*i*Pg	**Pn**	**23 55 52.3**	**+0.3**
96nm,0.6s							
VAE	**Valguarnera**	**1.06**	**193**	P	**Pn**	**23 55 53.7**	**+1.1**
4.6nm,0.3s,baz=125,slow=4.1,SNR=39							
MPG	**Monte Pellegri**	**1.12**	**252**	⇑*i*Pg	**Pn**	**23 55 52.0**	**-0.9**
36nm,0.4s							
SOI	**Samo**	**1.15**	**112**	⇓*i*Pg	**Pn**	**23 55 53.2**	**+0.1**
SOI				Sg	**S**	**23 56 22.9**	**-1.2**
135nm,0.6s							
MPAZ	**Palizzi**	**1.17**	**118**	Pg	**Pn**	**23 55 53.3**	**+0.1**
217nm,0.4s							
USI	**Ustica**	**1.21**	**279**	⇓*i*Pg	**Pn**	**23 55 53.1**	**-0.3**
132nm,0.4s							
CORL	**Corleone**	**1.27**	**241**	⇓*i*Pg	**Pn**	**23 55 52.9**	**-0.8**
123nm,0.6s							
HAGA	**Augusta**	**1.28**	**164**	⇓*i*Pg	**Pn**	**23 55 53.8**	**0.0**
97nm,1.1s							
RAFF	**Raffo Rosso**	**1.32**	**192**	Pg	**Pn**	**23 55 54.4**	**+0.3**
AGST	**Augusta-Monte**	**1.32**	**162**	⇓*i*Pg	**Pn**	**23 55 54.1**	**0.0**
538nm,2.8s							
HVZN	**Vizzini**	**1.34**	**180**	⇓*i*Pg	**Pn**	**23 55 54.5**	**+0.3**
121nm,0.4s							
PLAC	**Placanica**	**1.36**	**92**	⇓*e*Pg	**Pn**	**23 55 54.5**	**+0.2**
PLAC				Sg	**S**	**23 56 24.9**	**-1.5**
54nm,0.3s							
GRI	**Girifalco**	**1.38**	**77**	Pg	**Pn**	**23 55 54.8**	**+0.4**
119nm,0.4s							
CARO	**Carolei**	**1.39**	**58**	⇓*i*Pg	**Pn**	**23 55 54.4**	**-0.1**
CARO				Sg	**S**	**23 56 24.9**	**-1.8**
260nm,0.4s							
SSY	**Sortino**	**1.39**	**168**	⇓*i*Pg	**Pn**	**23 55 54.8**	**+0.3**
82nm,0.4s							
FAVR	**Favara**	**1.50**	**214**	Pg	**Pn**	**23 55 55.9**	**+0.7**
39nm,0.3s							
CLTB	**Caltabellotta**	**1.50**	**232**	⇓*i*Pg	**Pn**	**23 55 54.7**	**-0.6**
81nm,0.3s							
HMDC	**Modica**	**1.56**	**178**	⇓*i*Pg	**Pn**	**23 55 56.5**	**+0.9**
106nm,0.8s							
HAVL	**Avola**	**1.59**	**168**	Pg	**Pn**	**23 55 56.4**	**+0.5**
313nm,1.6s							
SERS	**Sersale**	**1.63**	**71**	⇓*i*Pg	**Pn**	**23 55 56.8**	**+0.6**
SERS				Sg	**S**	**23 56 29.0**	**-0.7**
90nm,0.4s							
BULG	**Bulgheria - Ca**	**1.64**	**18**	⇓*i*Pg	**Pn**	**23 55 56.7**	**+0.5**
46nm,0.9s							
CUC	**Castrocucco**	**1.71**	**30**	⇓*i*Pg	**Pn**	**23 55 57.0**	**+0.3**
35nm,0.8s							
TIP	**Timpagrande**	**1.73**	**67**	⇓*e*Pg	**Pn**	**23 55 57.5**	**+0.6**
TIP				Sg	**S**	**23 56 29.9**	**-1.2**
87nm,0.5s							
ERC	**Erice**	**1.73**	**255**	Pg	**Pn**	**23 55 55.8**	**-1.1**
87nm,0.8s							
CMPR	**Campora**	**1.86**	**14**	⇓*i*Pg	**Pn**	**23 55 58.3**	**+0.5**
22nm,1.0s							
SIRI	**Monte Sirino -**	**1.89**	**28**	Pg	**Pn**	**23 55 58.3**	**+0.2**
19nm,0.7s							
MTSN	**Montesano sull**	**1.92**	**25**	Pg	**Pn**	**23 55 58.5**	**+0.1**
20nm,0.7s							
SCHR	**S. Chirico Rap**	**1.99**	**32**	Pg	**Pn**	**23 55 59.9**	**+1.0**
29nm,1.2s							
MCEL	**Monticello**	**1.99**	**25**	Pg	**Pn**	**23 55 59.8**	**+0.8**
20nm,0.8s							
SLCN	**Sala Consilina**	**2.00**	**21**	⇓*i*Pg	**Pn**	**23 55 59.8**	**+0.8**
50nm,1.1s							
ORI	**Oriolo Calabro**	**2.05**	**41**	Pg	**Pn**	**23

5.5nm,0.4s
LPG La Plagne 9.14 322 *e*P **Pn 23 57 22.2 +0.8**
2.8nm,0.4s
LPL La Plagne 9.17 322 *e*P **Pn 23 57 22.1 +0.4**
ORIF Oris-en-Rattie 9.19 317⇑*i*P **Pn 23 57 26.1 +4.2**
9.2nm,0.6s
VIVF Saint-Julien-I 9.81 313 *e*P **Pn 23 57 33.6 +3.9**
3.3nm,0.5s
CABF La Chapelle 10.28 325⇑*i*P **Pn 23 57 34.1 -1.4**
VOIR 10.34 45⇓*i*P **Pn 23 57 43.3 +7.0**
GERES GERESS Array B 10.35 356 P **Pn 23 57 35.8 -0.6**
0.2nm,0.3s,baz=172,slow=12,SNR=13
VRAC Vranov 10.87 7 P **Pn 23 57 45.9 +3.0**
0.4nm,0.3s,baz=186,slow=15,SNR=4.0
MLR Muntele Rosu 10.88 47 P **Pn 23 57 48.8 +5.9**
0.8nm,0.3s,baz=141,slow=22,SNR=6.1
MLR Muntele Rosu 10.88 47⇑*i*P **Pn 23 57 49.1 +6.2**
MLR Muntele Rosu 10.88 47 P **Pn 23 57 48.8 +5.9**
MLR pmax pmax
comp=Z,1.0nm,0.3s
CDF Champ du Feu 11.26 334 *e*P **Pn 23 57 45.7 -1.9**
comp=Z,4.2nm,0.5s
CDF Champ du Feu 11.26 334 *e*P **Pn 23 57 45.7 -1.9**
CDF pmax pmax
comp=Z,2.0nm,0.5s
CDF Champ du Feu 11.26 334 *e*P **Pn 23 57 45.7 -1.9**
comp=Z,2.1nm,0.5s
HAU Haudompre 11.26 330 *e*P **Pn 23 57 46.2 -1.4**
comp=Z,3.5nm,0.4s
HAU Haudompre 11.26 330 *e*P **Pn 23 57 46.2 -1.4**
HAU pmax pmax
comp=Z,2.0nm,0.4s
HAU Haudompre 11.26 330 *e*P **Pn 23 57 46.2 -1.4**
comp=Z,1.8nm,0.4s
SMF Signal de Mont 11.40 319 *e*P **Pn 23 57 46.5 -2.8**
comp=Z,9.3nm,0.5s
SMF Signal de Mont 11.40 319 *e*P **Pn 23 57 46.5 -2.8**
SMF pmax pmax
comp=Z,5.0nm,0.5s
SMF Signal de Mont 11.40 319 *e*P **Pn 23 57 46.5 -2.8**
comp=Z,4.7nm,0.5s
CAF Calviac 11.40 308 *e*P **Pn 23 57 53.5 +4.1**
AVF Avril sur Loir 11.75 318 *e*P **Pn 23 57 51.3 -2.3**
comp=Z,4.3nm,0.5s
AVF Avril sur Loir 11.75 318 *e*P **Pn 23 57 51.3 -2.3**
AVF pmax pmax
comp=Z,2.0nm,0.5s
AVF Avril sur Loir 11.75 318 *e*P **Pn 23 57 51.3 -2.3**
comp=Z,2.2nm,0.5s
LOR Lormes 11.81 321⇑*i*P **Pn 23 57 54.5 +0.1**
comp=Z,8.3nm,0.7s
LOR Lormes 11.81 321⇑*i*P **Pn 23 57 54.5 +0.1**
LOR pmax pmax
comp=Z,4.0nm,0.7s
LOR Lormes 11.81 321⇑*i*P **Pn 23 57 54.5 +0.1**
comp=Z,4.2nm,0.7s
SSF Saint Saulge 11.85 320 *e*P **Pn 23 57 54.8 0.0**
comp=Z,5.9nm,0.5s
SSF Saint Saulge 11.85 320 *e*P **Pn 23 57 54.8 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.5s
SSF Saint Saulge 11.85 320 *e*P **Pn 23 57 54.8 0.0**
comp=Z,3.0nm,0.5s
BGF Bois d'Agland 11.87 316 *e*P **Pn 23 57 54.4 -0.6**
comp=Z,5.5nm,0.5s
BGF Bois d'Agland 11.87 316 *e*P **Pn 23 57 54.4 -0.6**
BGF pmax pmax
comp=Z,3.0nm,0.5s
BGF Bois d'Agland 11.87 316 *e*P **Pn 23 57 54.4 -0.6**
comp=Z,2.8nm,0.5s
BURAR Bucovina Array 11.89 37⇓*i*P **Pn 23 58 00.6 +5.2**
RJF Les Rejaudoux 11.93 309 *e*P **Pn 23 57 55.8 0.0**
comp=Z,2.5nm,0.5s
RJF Les Rejaudoux 11.93 309 *e*P **Pn 23 57 55.8 0.0**
RJF pmax pmax
comp=Z,1.0nm,0.5s
RJF Les Rejaudoux 11.93 309 *e*P **Pn 23 57 55.8 0.0**
comp=Z,1.2nm,0.5s
TCF Toulx Ste Croi 12.06 314⇑*i*P **Pn 23 57 58.5 +1.1**
comp=Z,3.6nm,0.6s
TCF Toulx Ste Croi 12.06 314⇑*i*P **Pn 23 57 58.5 +1.1**
TCF pmax pmax
comp=Z,2.0nm,0.6s
TCF Toulx Ste Croi 12.06 314⇑*i*P **Pn 23 57 58.5 +1.1**
comp=Z,1.8nm,0.6s
MEZF Maizieres J'vi 12.18 328 *e*P **Pn 23 57 58.9 0.0**
comp=Z,4.2nm,0.6s
MEZF Maizieres J'vi 12.18 328 *e*P **Pn 23 57 58.9 0.0**
comp=Z,2.1nm,0.6s
LFF La Frestale 12.24 306⇑*i*P **Pn 23 58 01.6 +2.0**
comp=Z,3.3nm,0.3s
LFF La Frestale 12.24 306⇑*i*P **Pn 23 58 01.6 +2.0**
LFF pmax pmax
comp=Z,2.0nm,0.3s
LFF La Frestale 12.24 306⇑*i*P **Pn 23 58 01.6 +2.0**
comp=Z,1.6nm,0.3s
CLL Collm 12.85 355 *e*(P) **Pn 23 58 08.0 +1.0**
MFF Saint Martin d 13.59 311 *e*P **Pn 23 58 15.7 -0.3**
comp=Z,5.2nm,0.5s
MFF Saint Martin d 13.59 311 *e*P **Pn 23 58 15.7 -0.3**
MFF pmax pmax
comp=Z,3.0nm,0.5s
MFF Saint Martin d 13.59 311 *e*P **Pn 23 58 15.7 -0.3**
comp=Z,2.6nm,0.5s
BAIF Baives 13.75 330 *e*P **Pn 23 58 17.7 -0.2**
LDF La Druitiere 14.71 318 *e*P **Pn 23 58 26.4 -2.9**
GRR Gorron 14.98 316 *e*P **Pn 23 58 28.5 -4.0**
comp=Z,6.6nm,0.5s
GRR Gorron 14.98 316 *e*P **Pn 23 58 28.5 -4.0**
GRR pmax pmax
comp=Z,3.0nm,0.5s
GRR Gorron 14.98 316 *e*P **Pn 23 58 28.5 -4.0**
comp=Z,3.3nm,0.5s
FLN La Foliniere 15.00 318 *e*P **Pn 23 58 28.7 -4.1**
comp=Z,3.9nm,0.4s
FLN La Foliniere 15.00 318 *e*P **Pn 23 58 28.7 -4.1**
FLN pmax pmax
comp=Z,2.0nm,0.4s
FLN La Foliniere 15.00 318 *e*P **Pn 23 58 28.7 -4.1**
comp=Z,2.0nm,0.4s
SGMF Saint Gilles 15.85 313⇑*i*P **Pn 23 58 39.4 -3.4**
comp=Z,11nm,0.6s
AKASG Malin Array Be 15.94 35 P **Pn 23 58 41.8 -2.1**
comp=Z,3.3nm,0.3s,baz=228,slow=9.3,SNR=25
AKASG Malin Array Be 15.94 35 P **Pn 23 58 41.8 -2.1**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
QUIF Quistinic 16.03 312 *e*P **P 23 58 41.0 -2.1**
comp=Z,19nm,0.6s
ROSF Rostrenen 16.30 313 *e*P **P 23 58 44.0 -2.0**
comp=Z,6.6nm,0.5s
MMAI Mount Meron Ar 17.66 102 P **P 23 59 04.7 +3.9**
comp=Z,0.4nm,0.3s,baz=302,slow=9.7,SNR=4.5
HFS Hagfors 21.65 359 P **P 23 59 38.6 -3.3**
comp=Z,3.8nm,1.0s,mb3.7,baz=186,slow=13,SNR=6.7
HFS Hagfors 21.65 359 P **P 23 59 38.6 -3.3**
HFS pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 22.65 356 P **P 23 59 48.6 -2.5**
comp=Z,1.2nm,0.8s,mb3.3,baz=23,slow=12,SNR=2.6
NOA NORSAR Array B 22.65 356 P **P 23 59 48.6 -2.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 24.02 13 P **P 00 00 01.2 -2.2**
comp=Z,1.4nm,0.3s,mb3.8,baz=185,slow=9.6,SNR=37
FINES FINESS Array B 24.02 13 P **P 00 00 01.2 -2.3**
FINES pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 24.68 13 *e*p **P 00 00 09.3 -0.1**
baz=198,slow=9.7
TORD Torodi Ar. Bea 27.79 208 P **P 00 00 38.0 +0.9**
comp=Z,0.2nm,0.6s,mb2.8,baz=14,slow=9.0,SNR=8.4
ARCES ARCESS Array B 31.62 7 P **P 00 01 07.7 -3.1**
comp=Z,4.6nm,1.0s,mb4.0,baz=178,slow=9.2,SNR=6.7
ARCES ARCESS Array B 31.62 7 P **P 00 01 07.7 -3.1**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ZRNK Zerenda 39.58 50 *e*P **P 00 02 18.5 +0.4**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
ZRNK Zerenda 39.58 50 *e*P **P 00 02 18.5 +0.4**
comp=Z,1.5nm,0.6s,mb3.5
BRVK Borovoye 40.35 50 *e*P **P 00 02 25.4 +1.0**
BRVK pmax pmax
comp=Z,2.0nm,0.5s,mb3.7
BRVK Borovoye 40.35 50 *e*P **P 00 02 25.4 +0.9**
comp=Z,1.9nm,0.5s,mb3.7
CHKZ Chkalovo 40.53 49 *e*P **P 00 02 25.9 0.0**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.2
CHKZ Chkalovo 40.53 49 *e*P **P 00 02 25.9 0.0**
comp=Z,1.2nm,0.6s,mb3.3
ZAL Zalesovo 48.84 48 P **P 00 03 31.0 -0.2**
comp=Z,1.2nm,0.4s,mb3.5,baz=191,slow=5.4,SNR=3.5
ZAL Zalesovo 48.84 48 P **P 00 03 31.0 -0.2**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL Zalesovo 48.84 48 P **P 00 03 31.0 -0.2**
MKAR Makanchi Array 48.99 57 P **P 00 03 32.8 +0.4**
comp=Z,1.1nm,0.4s,mb3.5,baz=283,slow=6.8,SNR=21
MKAR Makanchi Array 48.99 57 P **P 00 03 32.8 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 63.72 49 P **P 00 05 15.9 +0.2**
comp=Z,0.4nm,0.6s,mb3.2,baz=286,slow=5.5,SNR=4.1
BOSA Boshof 67.51 170 P **P 00 05 41.2 +1.4**
comp=Z,3.4nm,1.1s,mb4.0,baz=273,slow=16,SNR=2.6
BOSA Boshof 67.51 170 P **P 00 05 41.2 +1.4**
BOSA pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
BOSA Boshof 67.51 170 P **P 00 05 41.2 +1.4**

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*ISCJB **30** 00:03:28.6±1.0, 3427N×2522E×005, h5km±9km,*
Error ellipse: s-maj=8.3km s-min=6.3km az=105.8
*HLW **30** 00:03:31.4, 3449N×2532E, h33km, Mb2.9*
*ATH **30** 00:03:32.0, 3443N×2515E, h18km±2km, MD3.6/6*
ISC 30 00:03:30.3±1.0, 3431N±004×2520E±005, h7km±9km, n11, o0999/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.69**	**36**	*e*PN	**Pg**	**00 03 44.5**	**+0.8**
XRY				*e*SN	**Sg**	**00 03 53.5**	**+0.8**
NPS	**Neapolis**	**1.01**	**20**	*e*PN	**Pg**	**00 03 48.9**	**-0.7**
NPS				*e*SN	**Sg**	**00 04 01.3**	**-1.4**
GVD	**Gavdhos**	**1.05**	**300**	*e*PB	**Pg**	**00 03 49.6**	**-0.9**
GVD				*e*SN	**Sg**	**00 04 04.2**	**0.0**
VAM	**Vamos**	**1.36**	**323**	*e*PN	**Pn**	**00 03 55.5**	**-0.3**
VAM				*e*SN	**Sn**	**00 04 13.4**	**-0.7**
KYTH	**Kithira**	**2.64**	**319**	*e*PN	**Pn**	**00 04 14.5**	**+1.2**
VLI	**Veliai**	**3.02**	**323**	*e*PN	**Pn**	**00 04 20.2**	**+1.6**
SWA1		**5.05**	**175**	P	**Pn**	**00 04 47.3**	**+0.8**
SWA2		**5.06**	**177**	P	**Pn**	**00 04 47.7**	**+1.1**
SWA2				S	**Sn**	**00 05 43.2**	**-2.1**
AWBH		**6.76**	**151**	P	**Pn**	**00 05 10.3**	**+0.3**
HFRF	**Wahat Farafira**	**7.63**	**159**	P	**Pn**	**00 05 22.1**	**+0.3**
AMAG	**Maghara**	**7.70**	**116**	P	**Pn**	**00 05 21.8**	**-1.0**

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*CSEM **30** 00:18:56.1±0.1, 6779N×2019E, h2km, ML2.8, Error ellipse: s-maj=2.9km s-min=2.5km az=178.0, Mining explosion.*
*UPP **30** 00:18:57.3, 6783N×2020E, h0km, ML2.8, Mining explosion.*
HEL 30 00:18:58.0±0.1, 6783N×2018E, h0km, ML1.5, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**26**	*i* P	Pg	00 19 00.2	-0.4
KUA				*i* S	Sg	00 19 02.2	-0.1
NIKU	**Nikkaluokta**	**0.43**	**275**	*i* P	Pg	00 19 05.7	-0.6
LANU	**Lannavaara**	**0.72**	**72**	*i* P	Pg	00 19 10.7	-1.1
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 19 10.8	-1.2
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 19 12.3	-0.8
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 19 12.1	-1.1
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 19 20.3	-0.7
KIF				*e*S	Sg	00 19 36.2	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	P	Pg	00 19 20.2	-0.8
KIF				S	Sg	00 19 36.2	-0.3
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 19 22.5	-2.2
PAJU				*e*S	Sg	00 19 40.8	-2.0
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	00 19 25.5	-0.8
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	00 19 39.9	+0.5
SGF				*e*S	Sn	00 20 09.7	-0.4
SGF				MSG		00 20 16.7	
	comp=Z,1.9nm,0.2s						
SGF	**Sodankyl**	**2.46**	**96**	P	Pn	00 19 39.8	+0.5
SGF				S	Sn	00 20 09.6	-0.5
	comp=Z,1.9nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 19 48.3	-0.5
KEV				*e*S	Sn	00 20 26.7	-0.3
KEV				MSG		00 20 33.0	
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**3.14**	**49**	P	Pn	00 19 48.2	-0.6
KEV				S	Sn	00 20 26.7	-0.3
	comp=Z,1.2nm,0.3s						
KU4	**Liikasenvaara**	**3.96**	**107**	*e*PG	Pg	00 20 09.0	-4.9
KU4				*e*SG	Sg	00 21 00.4	-4.8
KU4				MSG		00 21 05.0	
	comp=Z,0.7nm,0.3s						
KU4	**Liikasenvaara**	**3.96**	**107**	Pg	Pg	00 20 08.9	-5.0
KU6	**Riekki**	**4.23**	**111**	*e*S	Sn	00 20 53.1	-0.7

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*CSEM **30** 00:24:26.0±0.2, 6785N×2027E, h3km±3km, ML3.1, Error ellipse: s-maj=7.9km s-min=4.6km az=51.0, Mining explosion.*
*UPP **30** 00:24:27.3, 6785N×2020E, h1km, ML3.1, Mining explosion.*
HEL 30 00:24:27.7±0.1, 6785N×2021E, h0km, ML1.5, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**26**	*i* P	Pg	00 24 29.7	-0.2
KUA				*i* S	Sg	00 24 31.4	+0.1
NIKU	**Nikkaluokta**	**0.45**	**272**	*i* P	Pg	00 24 35.6	-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	00 24 40.5	-0.6
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 24 40.5	-0.6
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 24 40.9	-1.1
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 24 42.1	-0.8
SALU	**Saltoluokta**	**0.81**	**235**	*i* P	Pg	00 24 42.1	-1.0
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	00 24 49.7	-0.6
KIF				*e*S	Sg	00 25 05.4	-0.2
KIF	**Kilpisjarvi**	**1.18**	**10**	P	Pg	00 24 49.7	-0.6
KIF				S	Sg	00 25 05.3	-0.2
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 24 52.6	-1.8
HARU	**Harads**	**1.72**	**170**	*e*P	Pn	00 24 58.3	-0.6
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 25 09.2	+0.7
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	00 25 07.3	-1.6
SGF				*e*S	Sn	00 25 37.1	-2.4
SGF				MSG		00 25 45.6	
	comp=Z,1.7nm,0.1s						
SGF	**Sodankyl**	**2.45**	**97**	P	Pn	00 25 07.2	-1.7
SGF				S	Sn	00 25 37.1	-2.5
	comp=Z,1.7nm,0.1s						
KEV	**Kevo**	**3.12**	**49**	*e*P	Pn	00 25 17.3	-0.9
KEV				*e*S	Sn	00 25 54.4	-1.8
KEV				MSG		00 26 06.8	
	comp=Z,1.0nm,0.2s						
KEV	**Kevo**	**3.12**	**49**	P	Pn	00 25 17.2	-1.0
KEV				S	Sn	00 25 54.3	-1.9
	comp=Z,1.0nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*SB	Sb	00 26 15.5	-0.8
OUL				MSG		00 26 16.7	
	comp=Z,0.9nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	Sg	Sg	00 26 15.5	-7.7
	comp=Z,0.9nm,0.3s						
KU6	**Riekki**	**4.23**	**111**	*e*P	Pn	00 25 31.7	-1.7
KU6				*e*S	Sn	00 26 18.7	-4.7

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*NEIC **30** 00:39:24.8, 4820N×433W, h20km, ML3.1(LDG), After LDG.*
*CSEM **30** 00:39:24.8±0.1, 4820N×433W, h21km, ML3.1/26, Error ellipse: s-maj=1.6km s-min=1.6km az=86.0*
*STR **30** 00:39:25.3±0.7, 4726N×395W, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 30 00:39:24.8±0.1, 4820N×433W, h20km, Md3.4/3, Ml3.1/27, Error ellipse: s-maj=1.9km s-min=1.7km az=124.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.72**	**79**	*e*Pg	Pb	00 39 38.7	+0.1
ROSF				*e*Sn	Sn	00 39 47.7	-2.6
	SNR=1.0						
ROSF				*e*Sg	Sb	00 39 48.8	+0.7
	52nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**0.72**	**79**	*e*Pn	Pn	00 39 38.1	-1.7
ROSF				*e*Pg	Pb	00 39 38.7	+0.1
ROSF				*e*Sn	Sn	00 39 47.7	-2.6
ROSF				*e*Sg	Sb	00 39 48.8	+0.7
ROSF	**Rostrenen**	**0.72**	**79**	*e*Pg	Pb	00 39 38.7	+0.1
ROSF				*e*Sn	Sn	00 39 47.7	-2.6
	SNR=1.0						
ROSF				*e*Sg	Sb	00 39 48.8	+0.7
	26nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**0.83**	**109**	*e*Pg	Pb	00 39 40.6	+0.1
QUIF				*e*Sg	Sb	00 39 51.8	+0.5
	76nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**0.83**	**109**	*e*Pn	Pn	00 39 39.7	-1.6
QUIF				*e*Pg	Pb	00 39 40.6	+0.1
QUIF				*e*Sg	Sb	00 39 51.8	+0.5
QUIF	**Quistinic**	**0.83**	**109**	*e*Pg	Pb	00 39 40.6	+0.1
QUIF				*e*Sg	Sb	00 39 51.8	+0.5
	38nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**1.19**	**87**	*e*Pg	Pn	00 39 46.8	+0.6
	SNR=1.0						
SGMF				*e*Sn	Sn	00 39 59.5	-2.3
SGMF				*e*Sg	Sb	00 40 02.2	+0.7
	99nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**1.19**	**87**	*e*Pn	Pn	00 39 44.7	-1.5
SGMF				*e*Pg	Pn	00 39 46.8	+0.6
SGMF				*e*Sn	Sn	00 39 59.5	-2.3
SGMF				*e*Sg	Sb	00 40 02.2	+0.7
SGMF	**Saint Gilles**	**1.19**	**87**	*e*Pg	Pn	00 39 46.8	+0.6
	SNR=1.0						
SGMF				*e*Sn	Sn	00 39 59.5	-2.3
SGMF				*e*Sg	Sb	00 40 02.2	+0.7
	50nm,0.2s,SNR=1.0						
RENF	**Rennes**	**1.81**	**92**	Pg	Pn	00 39 58.7	+3.9
RENF				Sg	Sn	00 40 23.8	+6.7
GRR	**Gorron**	**2.33**	**84**	*e*Pg	Pn	00 40 08.3	+6.4
GRR				*e*Sn	Sn	00 40 26.4	-3.5
	SNR=1.0						
GRR				*e*Sg	Sn	00 40 37.6	+7.7
	37nm,0.2s,SNR=1.0						
GRR	**Gorron**	**2.33**	**84**	*e*Pn	Pn	00 40 00.0	-1.9
GRR				*e*Pg	Pn	00 40 08.3	+6.4
GRR				*e*Sn	Sn	00 40 26.4	-3.5
GRR				*e*Sg	Sn	00 40 37.6	+7.7
GRR	**Gorron**	**2.33**	**84**	*e*Pg	Pn	00 40 08.3	+6.4
GRR				*e*Sn	Sn	00 40 26.4	-3.5
	SNR=1.0						
GRR				*e*Sg	Sn	00 40 37.6	+7.7
	18nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.62**	**76**	*e*Pn	Pn	00 40 04.3	-1.7
	baz=259,SNR=1.0						
FLN	**La Foliniere**	**2.62**	**76**	*e*Pg	Pn	00 40 13.4	+7.4
	baz=263						
FLN				*e*Sn	Sn	00 40 33.6	-3.6
FLN				*e*Sg	Sn	00 40 46.9	+10
	22nm,0.3s,baz=255,SNR=1.0						
FLN	**La Foliniere**	**2.62**	**76**	*e*Pn	Pn	00 40 04.3	-1.7
FLN				*e*Pg	Pn	00 40 13.4	+7.4
FLN				*e*Sn	Sn	00 40 33.6	-3.6
FLN				*e*Sg	Sn	00 40 46.9	+10
FLN	**La Foliniere**	**2.62**	**76**	*e*Pg	Pn	00 40 13.4	+7.4
FLN				*e*Sn	Sn	00 40 33.6	-3.6
FLN				*e*Sg	Sn	00 40 46.9	+10
	11nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.83**	**80**	*e*Pg	Pn	00 40 17.3	+8.4
LDF				*e*Sn	Sn	00 40 37.6	-4.8
	SNR=1.0						
LDF				*e*Sg	Sn	00 40 54.0	+12
	38nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.83**	**80**	*e*Pn	Pn	00 40 07.8	-1.1
LDF				*e*Pg	Pn	00 40 17.3	+8.4
LDF				*e*Sn	Sn	00 40 37.6	-4.8
LDF				*e*Sg	Sn	00 40 54.0	+12
LDF	**La Druitiere**	**2.83**	**80**	*e*Pg	Pn	00 40 17.3	+8.4
LDF				*e*Sn	Sn	00 40 37.6	-4.8
	SNR=1.0						
LDF				*e*Sg	Sn	00 40 54.0	+12
	19nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.26**	**118**	*e*Pg	Pn	00 40 24.7	+10
	SNR=1.0						
MFF				*e*Sn	Sn	00 40 49.0	-4.0
	SNR=1.0						
MFF				*e*Sg	Sn	00 41 06.8	+14
	11nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.26**	**118**	*e*Pn	Pn	00 40 13.2	-1.6
MFF				*e*Pg	Pn	00 40 24.7	+10
MFF				*e*Sn	Sn	00 40 49.0	-4.0
MFF				*e*Sg	Sn	00 41 06.8	+14
MFF	**Saint Martin d**	**3.26**	**118**	*e*Pg	Pn	00 40 24.7	+10
	SNR=1.0						
MFF				*e*Sn	Sn	00 40 49.0	-4.0
	SNR=1.0						
MFF				*e*Sg	Sn	00 41 06.8	+14
	5.6nm,0.3s,SNR=1.0						
CHIF	**Chize**	**3.38**	**126**	Pg	Pn	00 40 16.1	-0.3
CHIF				Sg	Sn	00 40 52.9	-3.0
LFF	**La Frestale**	**4.78**	**131**	*e*P	Pn	00 40 37.4	+1.8
	SNR=1.0						
LFF				*e*Sn	Sn	00 41 24.6	-5.8
	SNR=1.0						
LFF				*e*Sg	Sn	00 41 54.3	+24
	12nm,0.5s						
LFF	**La Frestale**	**4.78**	**131**	*e*Pn	Pn	00 40 33.4	-2.2
LFF				*e*P		00 40 37.4	
LFF				*e*Sn	Sn	00 41 24.6	-5.8
LFF				*e*Sg	Sn	00 41 54.3	+24
LFF	**La Frestale**	**4.78**	**131**	*e*P	Pn	00 40 37.4	+1.8
	SNR=1.0						
LFF				*e*Sn	Sn	00 41 24.6	-5.8
	SNR=1.0						
LFF				*e*Sg	Sn	00 41 54.3	+24
	6.2nm,0.5s						
HYF	**Humbligny**	**4.79**	**99**	*e*Pn	Pn	00 40 33.8	-2.0
HYF				*e*Sg	Sn	00 41 55.8	+25
TCF	**Toulx Ste Croi**	**4.85**	**111**	*e*Pg	Pn	00 40 54.5	+18
	SNR=1.0						
TCF				*e*Sn	Sn	00 41 26.8	-5.3
TCF				*e*Sg	Sn	00 41 57.7	+26
	3.5nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.85**	**111**	*e*Pn	Pn	00 40 34.9	-1.7
TCF				*e*Pg	Pn	00 40 54.5	+18
TCF				*e*Sn	Sn	00 41 26.8	-5.3
TCF				*e*Sg	Sn	00 41 57.7	+26
TCF	**Toulx Ste Croi**	**4.85**	**111**	*e*Pg	Pn	00 40 54.5	+18
	SNR=1.0						
TCF				*e*Sn	Sn	00 41 26.8	-5.3
TCF				*e*Sg	Sn	00 41 57.7	+26
	1.8nm,0.2s,SNR=1.0						
EARI	**Arriondas**	**4.94**	**187**	P	Pn	00 40 32.1	-5.7
EARI				S	Sn	00 41 21.9	-12
EARI	**Arriondas**	**4.94**	**187**	P	Pn	00 40 32.1	-5.7
RJF	**Les Rejaudoux**	**4.95**	**124**	*e*Pg	Pn	00 40 55.9	+18
RJF				*e*Sn	Sn	00 41 28.8	-5.9
RJF				*e*Sg	Sn	00 41 59.9	+25
	7.6nm,0.3s						
RJF	**Les Rejaudoux**	**4.95**	**124**	*e*Pn	Pn	00 40 35.8	-2.2
RJF				*e*Pg	Pn	00 40 55.9	+18
RJF				*e*Sn	Sn	00 41 28.8	-5.9
RJF				*e*Sg	Sn	00 41 59.9	+25
RJF	**Les Rejaudoux**	**4.95**	**124**	*e*Pg	Pn	00 40 55.9	+18
RJF				*e*Sn	Sn	00 41 28.8	-5.9
RJF				*e*Sg	Sn	00 41 59.9	+25
	3.8nm,0.3s						
ELAN	**Lanestosa**	**5.01**	**172**	P	Pn	00 40 34.0	-4.8
ELAN				S	Sn	00 41 24.5	-12
ELAN	**Lanestosa**	**5.01**	**172**	P	Pn	00 40 34.0	-4.8
BGF	**Bois d'Agland**	**5.14**	**106**	*e*Pg	Pn	00 41 00.0	+19
	SNR=1.0						
BGF				*e*Sn	Sn	00 41 33.6	-5.8
	SNR=1.0						
BGF				*e*Sg	Sn	00 42 06.2	+27
	12nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**5.14**	**106**	*e*Pn	Pn	00 40 38.9	-1.8
BGF				*e*Pg	Pn	00 41 00.0	+19
BGF				*e*Sn	Sn	00 41 33.6	-5.8
BGF				*e*Sg	Sn	00 42 06.2	+27
BGF	**Bois d'Agland**	**5.14**	**106**	*

EPON	**Pontenova**	**5.26 203**	P	Pn	00 40 36.2	-6.0
EPON			S	Sn	00 41 29.5	-13
EPON	**Pontenova**	**5.26 203**	P	Pn	00 40 36.2	-6.0
EALK	**Alkurruntz**	**5.36 157**	P	Pn	00 40 39.6	-4.0
EALK			S	Sn	00 41 36.3	-8.4
EALK	**Alkurruntz**	**5.36 157**	P	Pn	00 40 39.6	-4.0
AVF	**Avril sur Loir**	**5.39 102**	*e*Pn	Pn	00 40 41.9	-2.2
	SNR=1.0					
AVF			*e*Sn	Sn	00 41 39.7	-5.9
	SNR=1.0					
AVF			*e*Sg	Sn	00 42 13.4	+28
	4.7nm,0.5s,SNR=1.0					
AVF	**Avril sur Loir**	**5.39 102**	*e*Pn	Pn	00 40 41.9	-2.2
	SNR=1.0					
AVF			*e*Sn	Sn	00 41 39.7	-5.9
	SNR=1.0					
AVF			*e*Sg	Sn	00 42 13.4	+28
	2.3nm,0.5s,SNR=1.0					
ELIZ	**Elizondo**	**5.40 158**	P	Pn	00 40 40.4	-3.8
ELIZ			S	Sn	00 41 37.2	-8.6
ELIZ	**Elizondo**	**5.40 158**	P	Pn	00 40 40.4	-3.8
SSF	**Saint Saulge**	**5.42 99**	*e*Pn	Pn	00 40 43.0	-1.4
SSF			*e*Sn	Sn	00 41 40.1	-6.1
	SNR=1.0					
SSF			*e*Sg	Sn	00 42 14.3	+28
	5.9nm,0.5s,SNR=1.0					
SSF	**Saint Saulge**	**5.42 99**	*e*Pn	Pn	00 40 43.0	-1.4
SSF			*e*Sn	Sn	00 41 40.1	-6.1
	SNR=1.0					
SSF			*e*Sg	Sn	00 42 14.3	+28
	3.0nm,0.5s,SNR=1.0					
CAF	**Calviac**	**5.49 124**	*e*Pn	Pn	00 40 44.0	-1.4
	SNR=1.0					
CAF			*e*Sn	Sn	00 41 42.6	-5.4
CAF			*e*Sg	Sn	00 42 17.0	+29
	4.2nm,0.5s					
CAF	**Calviac**	**5.49 124**	*e*Pn	Pn	00 40 44.0	-1.4
	SNR=1.0					
CAF			*e*Sn	Sn	00 41 42.6	-5.4
CAF			*e*Sg	Sn	00 42 17.0	+29
	2.1nm,0.5s					
SJPF	**Ste Jean**	**5.53 156**	*e*Pn	Pn	00 40 42.6	-3.4
	SNR=1.0					
SJPF			*e*Sn	Sn	00 41 43.4	-5.6
LOR	**Lormes**	**5.60 97**	*e*Pg	Pn	00 41 10.0	+23
	baz=276,SNR=1.0					
LOR			*e*Sn	Sn	00 41 44.7	-6.0
LOR			*e*Sg	Sn	00 42 20.6	+30
	3.0nm,0.3s					
LOR	**Lormes**	**5.60 97**	*e*Pn	Pn	00 40 45.4	-1.6
LOR			*e*Pg	Pn	00 41 10.0	+23
LOR			*e*Sn	Sn	00 41 44.7	-6.0
LOR			*e*Sg	Sn	00 42 20.6	+30
LOR	**Lormes**	**5.60 97**	*e*Pg	Pn	00 41 10.0	+23
	SNR=1.0					
LOR			*e*Sn	Sn	00 41 44.7	-6.0
LOR			*e*Sg	Sn	00 42 20.6	+30
	1.5nm,0.3s					
SMF	**Signal de Mont**	**5.76 103**	*e*Pn	Pn	00 40 46.9	-2.2
SMF			*e*Sn	Sn	00 41 48.5	-6.1
	1.0nm,0.2s,SNR=1.0					
SMF			*e*Sg	Sn	00 42 25.2	+31
	1.6nm,0.3s					
SMF	**Signal de Mont**	**5.76 103**	*e*Pn	Pn	00 40 46.9	-2.2
SMF			*e*Sn	Sn	00 41 48.5	-6.1
	0.5nm,0.2s,SNR=1.0					
SMF			*e*Sg	Sn	00 42 25.2	+31
	0.8nm,0.3s					
BAIF	**Baives**	**5.91 68**	*e*P	Pn	00 40 53.5	+2.4
BAIF			*e*Sn	Sn	00 41 52.4	-5.8
BAIF	**Baives**	**5.91 68**	*e*Pn	Pn	00 40 49.2	-1.9
BAIF			*e*P		00 40 53.5	
BAIF			*e*Sn	Sn	00 41 52.4	-5.8
BAIF	**Baives**	**5.91 68**	*e*P	Pn	00 40 53.5	+2.4
BAIF			*e*Sn	Sn	00 41 52.4	-5.8
ETSF	**Etsaut**	**5.92 152**	*e*Pn	Pn	00 40 49.0	-2.4
	SNR=1.0					
EPF	**Esparros**	**6.12 146**	*e*Pn	Pn	00 40 50.4	-3.6
	SNR=1.0					
EPF			*e*Sn	Sn	00 41 57.2	-6.2
EPF			*e*Sg	Sn	00 42 37.0	+34
	2.1nm,0.4s					
EMAZ	**Mazaricos**	**6.18 214**	P	Pn	00 40 47.6	-7.3
EMAZ			S	Sn	00 41 50.6	-14
MEZF	**Maizieres J'vi**	**6.26 84**	*e*Pn	Pn	00 40 53.7	-2.3
MEZF			*e*Sn	Sn	00 42 01.2	-5.8
	2.2nm,0.3s,SNR=1.0					
MEZF			*e*Sg	Sn	00 42 41.0	+34
	4.9nm,0.5s					
MEZF	**Maizieres J'vi**	**6.26 84**	*e*Pn	Pn	00 40 53.7	-2.3
MEZF			*e*Sn	Sn	00 42 01.2	-5.8
	1.1nm,0.3s,SNR=1.0					
MEZF			*e*Sg	Sn	00 42 41.0	+34
	2.5nm,0.5s					
SFTF	**Sexfontaines**	**6.26 86**	*e*Pn	Pn	00 40 54.0	-2.0
SFTF			*e*Sn	Sn	00 42 00.8	-6.2
SFTF			*e*Sg	Sn	00 42 41.4	+34
	2.6nm,0.3s					
SFTF	**Sexfontaines**	**6.26 86**	*e*Pn	Pn	00 40 54.0	-2.0
SFTF			*e*Sn	Sn	00 42 00.8	-6.2
SFTF			*e*Sg	Sn	00 42 41.4	+34
	1.3nm,0.3s					
EBIE	**Bielsa**	**6.35 149**	P	Pn	00 40 56.4	-0.8
EBIE			S	Sn	00 42 04.4	-4.7
ECAL	**Calabor**	**6.48 196**	P	Pn	00 40 52.5	-6.6
ECAL			S	Sn	00 41 59.3	-13
MTLF	**Montolieu**	**6.67 134**	*e*Pn	Pn	00 40 59.5	-2.2
	SNR=1.0					
MTLF			*e*Sn	Sn	00 42 10.4	-6.7
MTLF			*e*Sg	Sn	00 42 53.9	+37
	1.6nm,0.5s					
MTLF	**Montolieu**	**6.67 134**	*e*Pn	Pn	00 40 59.5	-2.2
	SNR=1.0					
MTLF			*e*Sn	Sn	00 42 10.4	-6.7
MTLF			*e*Sg	Sn	00 42 53.9	+37
	0.8nm,0.5s					
VIVF	**Saint-Julien-l**	**7.05 115**	*e*Pn	Pn	00 41 04.2	-2.7
VIVF			*e*Sg	Sn	00 43 05.6	+39
	2.4nm,0.4s					
VIVF	**Saint-Julien-l**	**7.05 115**	*e*Pn	Pn	00 41 04.2	-2.7
VIVF			*e*Sg	Sn	00 43 05.6	+39
	1.2nm,0.4s					
HAU	**Haudompre**	**7.16 88**	*e*Sn	Sn	00 42 21.3	-7.6
	1.3nm,0.2s,SNR=1.0					
HAU			*e*Sg	Sn	00 43 08.4	+39
	4.8nm,0.4s					
HAU	**Haudompre**	**7.16 88**	*e*Sn	Sn	00 42 21.3	-7.6
	0.6nm,0.2s,SNR=1.0					
HAU			*e*Sg	Sn	00 43 08.4	+39
	2.4nm,0.4s					
CABF	**La Chapelle**	**7.25 99**	*e*Pn	Pn	00 41 07.4	-2.1
CABF			*e*Sn	Sn	00 42 23.3	-7.9
HINF	**Hinteralfeld**	**7.51 89**	*e*Sn	Sn	00 42 29.8	-8.0
	SNR=1.0					
HINF			*e*Sg	Sn	00 43 20.1	+42
	3.3nm,0.5s					
HINF	**Hinteralfeld**	**7.51 89**	*e*Sn	Sn	00 42 29.8	-8.0
	SNR=1.0					
HINF			*e*Sg	Sn	00 43 20.1	+42
	1.6nm,0.5s					
CDF	**Champ du Feu**	**7.75 84**	*e*Sn	Sn	00 42 34.8	-8.7
	0.7nm,0.3s,SNR=1.0					
CDF	**Champ du Feu**	**7.75 84**	*e*Sn	Sn	00 42 34.8	-8.7
	0.3nm,0.3s,SNR=1.0					

ISCJB ***30*** *00:45:59.9±0.3, 951S×006×15940E±005, h10km, mb4.7/32, MS4.0/8, Error ellipse: s-maj=9.1km s-min=6.5km az=121.5*
IDC ***30*** *00:45:59.4±0.5, 950S×15956E, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.6/13, mbtmp4.5/10, MS4.0/8, Ms1 4.0/8, ms1mx3.7/21, Error ellipse: s-maj=21.8km s-min=9.7km az=165.0*
MOS ***30*** *00:46:03.0±1.5, 958S×15942E, h33km, mb4.9/11, Error ellipse: s-maj=14.8km s-min=10.0km az=144.7*
NEIC ***30*** *00:46:05.4±0.3, 943S×15929E, h35km, mb4.6/18, Error ellipse: s-maj=10.5km s-min=7.3km az=122.0*
BJI ***30*** *00:46:05.4, 940S×15930E, h35km, mB5.4, mb4.8*
ISC 30 00:46:00.9±1.8, 947S±006×15935E±007, h4km±12km, n96, σ0°93/87, mb4.7/32, MS4.0/8, 4C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.59**	**86**	Pn	**Pg**	**00 46 12.1**	**-0.1**
	3μm,0.3s,baz=264,slow=2.8,SNR=1228						
HNR				Sn	**Sg**	**00 46 19.9**	**+0.1**
	8μm,0.3s,baz=276,slow=17,SNR=47						
PMG	**Port Moresby**	**12.03**	**269**	Pn	**Pn**	**00 48 59.9**	**+6.7**
	0.6nm,0.3s,baz=303,slow=8.7,SNR=3.7						
PMG				LR	LR	00 53 24.8	
	comp=Z,1μm,18.3s,baz=80,slow=36						
PMG	**Port Moresby**	**12.03**	**269**	*e*P	**Pn**	**00 48 58.5**	**+5.4**
PMG				pmax	pmax		
	comp=Z,52nm,1.1s						
PMG	**Port Moresby**	**12.03**	**269**	*e*Pn	**Pn**	**00 48 58.5**	**+5.3**
	comp=Z,52nm,1.1s						
CTA	**Charters Tower**	**16.47**	**229**	Pn	**Pn**	**00 49 56.5**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=58,slow=13,SNR=13						
CTA	**Charters Tower**	**16.47**	**229**	*e*P	**Pn**	**00 49 50.6**	**-2.3**
CTA				pmax	pmax		
	comp=Z,27nm,1.1s						
CTA	**Charters Tower**	**16.47**	**229**	*e*P	**Pn**	**00 49 50.6**	**-2.3**
	comp=Z,27nm,1.1s						
CTA				Pn	**Pn**	**00 49 56.5**	**+3.6**
CTAO	**Charters Tower**	**16.47**	**229**	*e*P	**Pn**	**00 49 50.5**	**-2.4**
CTAO				pmax	pmax		
	comp=Z,41nm,1.0s						
CTAO	**Charters Tower**	**16.47**	**229**	*e*P	**Pn**	**00 49 50.5**	**-2.4**
	comp=Z,42nm,1.0s						
ARMA	**Armidale**	**22.05**	**198**	*e*P	**P**	**00 50 57.3**	**+0.7**
WRAB	**Tennant Creek**	**26.29**	**244**	*d i*P	**P**	**00 51 36.8**	**-0.6**
WB2	**Warramunga Arr**	**26.29**	**244**	*e*P	**P**	**00 51 37.2**	**-0.2**
WRA	**Warramunga Arr**	**26.30**	**244**	P	**P**	**00 51 37.5**	**0.0**
	comp=Z,6.1nm,1.0s,mb4.1,baz=70,slow=9.1,SNR=17						
WRA				PcP	PcP	00 55 04.2	+0.4
	comp=Z,3.9nm,0.7s,baz=74,slow=2.5,SNR=12						
KAKA	**Kakadu**	**26.60**	**261**	*e*P	**P**	**00 51 39.3**	**-0.9**
	comp=Z,15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.72**	**214**	*e*P	**P**	**00 51 49.3**	**-1.0**
	comp=Z,13nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.72**	**214**	P	**P**	**00 51 50.1**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.0,baz=47,slow=14,SNR=6.2						
STKA				PcP	PcP	00 55 06.7	-0.4
	comp=Z,3.4nm,0.8s,baz=88,slow=7.3,SNR=2.8						
STKA				LR	LR	01 03 10.7	
	comp=Z,445nm,18.6s,MS4.1,baz=28,slow=37						
STKA	**Stephens Creek**	**27.72**	**214**	*e*P	**P**	**00 51 51.5**	**+1.2**
AS31	**Alice Springs**	**28.11**	**237**	*e*P	**P**	**00 51 54.0**	**+0.2**
ASAR	**Alice Springs**	**28.11**	**237**	P	**P**	**00 51 52.7**	**-1.1**
	comp=Z,4.9nm,1.0s,mb4.1,baz=66,slow=9.6,SNR=17						
ASAR				PcP	PcP	00 55 08.3	+0.2
	comp=Z,2.7nm,0.8s,baz=62,slow=2.7,SNR=8.9						
ASAR				LR	LR	01 02 32.5	
	comp=Z,229nm,20.4s,MS3.8,baz=162,slow=35						
ASAR	**Alice Springs**	**28.11**	**237**	P	**P**	**00 51 52.7**	**-1.1**
ASAR						00 55 08.3	
AFI	**Afiamalu**	**28.60**	**102**	LR	LR	01 01 06.0	
	comp=Z,375nm,19.7s,MS4.0,baz=260,slow=32						
URZ	**Urewera**	**32.81**	**154**	LR	LR	01 02 31.3	
	comp=Z,169nm,21.2s,MS3.7,baz=304,slow=30						
FITZ	**Fitzroy Crossi**	**33.80**	**252**	*e*P	**P**	**00 52 43.1**	**-0.9**
	comp=Z,5.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.80**	**252**	LR	LR	01 06 13.4	
	comp=Z,171nm,20.2s,MS3.8,baz=90,slow=36						
TAU	**Tasmania Unive**	**34.93**	**196**	P	**P**	**00 52 55.5**	**+1.7**
MBWA	**Marble Bar**	**39.83**	**248**	*e*P	**P**	**00 53 35.5**	**+0.2**
	comp=Z,7.2nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**45.26**	**233**	LR	LR	01 14 03.8	
	comp=Z,306nm,18.3s,MS4.3,baz=268,slow=37						
NWAO	**Narrogin (SRO)**	**45.26**	**233**	*e*P	**P**	**00 54 19.6**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**45.26**	**233**	*e*P	**P**	**00 54 19.6**	**+0.2**
	comp=Z,20nm,1.2s,mb4.8						
KKM	**Kota Kinabalu**	**45.67**	**288**	*e*P	**P**	**00 54 25.4**	**+2.8**
KSM	**Kuching**	**50.04**	**280**	*e*P	**P**	**00 54 56.8**	**+0.2**
PPT	**Papeete**	**50.18**	**105**	*e*S	**S**	**01 02 02.7**	**-7.4**
	comp=Z,92nm,26.0s						
PPT				*e*LR	LR	01 09 12.5	
	comp=Z,256nm,23.5s						
YHNB	**Yeheng**	**50.23**	**313**	*e*P	**P**	**00 54 58.7**	**+0.6**
TBI	**Tubuai**	**50.75**	**112**	*e*LQ		01 07 14.7	
	comp=Z,501nm,34.5s						
TBI				*e*LR	LR	01 09 38.2	
	comp=Z,148nm,26.8s						
QIZ	**Qiongzhong**	**56.43**	**300**	P	**P**	**00 55 42.2**	**-1.4**
NJ2	**Nanjing**	**56.59**	**319**	*e*P	**P**	**00 55 47.5**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
TAOE	**Nuku Hiva Isla**	**59.66**	**95**	*e*S	**S**	**01 04 10.4**	**-7.0**
	comp=Z,257nm,26.2s						
TAOE				*e*LR	LR	01 13 28.3	
	comp=Z,421nm,24.3s						
CN2	**Changchun**	**61.31**	**333**	*e*P	**P**	**00 56 22.8**	**+5.3**
HIA	**Hailar**	**68.02**	**333**	‖ *i*P	**P**	**00 57 02.2**	**+0.8**
VNDA	**Vanda**	**68.04**	**179**	P	**P**	**00 57 01.1**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.5,baz=339,slow=6.9,SNR=31						
VNDA	**Vanda**	**68.04**	**179**	*e*P	**P**	**00 57 01.3**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**68.04**	**179**	*e*P	**P**	**00 57 01.3**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.4						
SBA	**Scott Base**	**68.47**	**178**	*e*P	**P**	**00 57 04.6**	**+0.4**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**68.47**	**178**	*e*P	**P**	**00 57 04.6**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.5						
SEY	**Seymchan**	**72.39**	**357**	‖ *i*P	**P**	**00 57 27.6**	**-0.5**
ULN	**Ulaanbaatar**	**73.42**	**326**	‖ *i*P	**P**	**00 57 35.6**	**+1.3**
ULN	**Ulaanbaatar**	**73.42**	**326**	*e*P	**P**	**00 57 35.4**	**+1.1**
	comp=Z,4.3nm,0.9s,mb4.4						
GTA	**Gaotai**	**73.50**	**316**	*e*P	**P**	**00 57 36.3**	**+1.6**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
SONM	**Songino Array**	**73.76**	**326**	P	**P**	**00 57 37.2**	**+0.9**
	comp=Z,6.5nm,0.7s,mb4.7,baz=139,slow=5.6,SNR=60						
YAK	**Yakutsk**	**74.93**	**346**	⇑ *e*P	**P**	**00 57 42.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,92nm,2.8s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
LSA	**Lhasa**	**76.22**	**304**	*e*P	**P**	**00 57 52.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
LSA	**Lhasa**	**76.22**	**304**	*e*P	**P**	**00 57 52.2**	**+1.7**
	comp=Z,3.5nm,0.5s,mb4.5						
ZAK	**Zakamensk**	**76.88**	**327**	*i* P	**P**	**00 57 53.2**	**-1.0**
BILL	**Bilibino**	**77.47**	**3**	‖ *i*P	**P**	**00 57 57.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,30nm,1.8s,mb4.9						
JIRN	**Jiri**	**79.75**	**300**	*e*P	**P**	**00 58 10.9**	**+0.8**
	comp=Z,14nm,0.8s,mb5.0						
GUN	**Gumba**	**80.08**	**301**	*e*P	**P**	**00 58 12.9**	**+1.0**
PKI	**Pulchoki**	**80.39**	**300**	*e*P	**P**	**00 58 13.4**	**-0.2**
QSPA	**South Pole Qui**	**80.52**	**180**	*e*P	**P**	**00 58 13.6**	**-0.6**
	comp=Z,6.6nm,0.9s,mb4.6						
KKN	**Kakani**	**80.56**	**300**	*e*P	**P**	**00 58 14.9**	**+0.4**
DMN	**Daman**	**80.66**	**300**	*e*P	**P**	**00 58 15.8**	**+0.8**
GKN	**Gorkha**	**81.17**	**300**	*e*P	**P**	**00 58 18.1**	**+0.4**
	comp=Z,24nm,0.8s,mb5.2						
PMR	**Palmer**	**81.37**	**22**	*e*P	**P**	**00 58 18.2**	**-0.6**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
PMR	**Palmer**	**81.37**	**22**	*e*P	**P**	**00 58 18.2**	**-0.6**
	comp=Z,5.8nm,0.6s,mb4.7						
SML	**Sawmill**	**81.81**	**22**	*e*P	**P**	**00 58 20.8**	**-0.3**
KOLN	**Koldanda**	**81.99**	**300**	*e*P	**P**	**00 58 22.1**	**0.0**
	comp=Z,20nm,0.8s,mb5.1						
MCK	**McKinley**	**82.79**	**21**	*e*P	**P**	**00 58 25.1**	**-1.1**
MCK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
MCK	**McKinley**	**82.79**	**21**	*e*P	**P**	**00 58 25.1**	**-1.1**
	comp=Z,21nm,1.0s,mb5.1						
TIXI	**Tiksi**	**83.44**	**351**	*e*P	**P**	**00 58 28.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.3						
MAW	**Mawson**	**83.78**	**203**	P	**P**	**00 58 31.2**	**-0.2**
	comp=Z,1.9nm,0.9s,mb4.2,baz=82,slow=6.5,SNR=4.8						
MAW	**Mawson**	**83.78**	**203**	*e*P	**P**	**00 58 31.5**	**+0.1**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**83.78**	**203**	*e*P	**P**	**00 58 31.5**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.5						
COLA	**College**	**83.87**	**20**	‖ *i*P	**P**	**00 58 30.7**	**-1.1**
COLA	**College**	**83.87**	**20**	*e*P	**P**	**00 58 30.4**	**-1.4**
	comp=Z,19nm,0.9s,mb5.2						
DAWY	**Dawson**	**86.46**	**23**	*e*P	**P**	**00 58 45.1**	**+0.3**
MK31	**Makanchi Array**	**88.11**	**318**	*e*P	**P**	**00 58 52.5**	**-0.3**
MKAR	**Makanchi Array**	**88.11**	**318**	P	**P**	**00 58 51.7**	**-1.1**
	comp=Z,4.9nm,0.7s,mb4.9,baz=98,slow=6.3,SNR=39						
MKAR				LR	LR	01 38 34.5	
	comp=Z,45nm,18.5s,MS3.9,baz=356,slow=36						
MKAR	**Makanchi Array**	**88.11**	**318**	*e*P	**P**	**00 58 52.4**	**-0.4**
MKAR	**Makanchi Array**	**88.11**	**318**	P	**P**	**00 58 51.7**	**-1.1**
MKAR				LR	LR	01 38 34.5	
ZAL	**Zalesovo**	**88.65**	**325**	P	**P**	**00 58 54.3**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.5,baz=340,slow=4.9,SNR=7.0						
ZAL	**Zalesovo**	**88.65**	**325**	*i* P	**P**	**00 58 54.2**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MTUM	**Tungsten Hills**	**89.45**	**52**	*e*P	**P**	**00 58 59.9**	**+0.7**
NVAR	**Mina Array Bea**	**89.88**	**51**	P	**P**	**00 59 01.6**	**+0.5**
	comp=Z,5.2nm,1.1s,mb4.8,baz=248,slow=6.6,SNR=22						
DAC	**Darwin (Calif)**	**89.99**	**53**	*e*P	**P**	**00 59 01.9**	**+0.3**
DAC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
DAC	**Darwin (Calif)**	**89.99**	**53**	*e*P	**P**	**00 59 01.9**	**+0.3**
	comp=Z,5.5nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**92.58**	**313**	⇑ *e*P	**P**	**00 59 12.2**	**-1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**92.58**	**313**	P	**P**	**00 59 11.7**	**-1.9**
	comp=Z,2.8nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**96.80**	**323**	P	**P**	**00 59 32.7**	**-0.3**
BRVK	**Borovoye**	**96.93**	**323**	P	**P**	**00 59 31.6**	**-2.0**
PDAR	**Pinedale Array**	**97.15**	**48**	P	**P**	**00 59 34.8**	**+0.3**
	comp=Z,1.3nm,0.9s,mb4.4,baz=161,slow=0.1,SNR=8.3						
SNAA	**Sanae**	**98.17**	**186**	*e*P	**P**	**00 59 39.5**	**+0.3**
	comp=Z,0.3nm,0.5s,mb4.1						
EIL	**Elat**	**124.45**	**299**	PKPdf	PKPdf	01 05 01.4	+0.1
CPUP	**Villa Florida**	**129.64**	**136**	PKP	PKPdf	01 05 10.7	-0.5
	comp=Z,2.5nm,0.9s,baz=191,slow=4.1,SNR=5.5						
SDV	**Santo Domingo**	**130.69**	**86**	*e*P	PKPdf	01 05 13.2	-0.1
GERES	**GERESS Array B**	**131.36**	**330**	PKP	PKPdf	01 05 13.6	-0.9
	comp=Z,0.5nm,0.9s,baz=11,slow=1.5,SNR=6.1						
ESDC	**Sonseca Array**	**146.44**	**336**	PKPbc	PKPbc	01 05 42.0	-1.2
	comp=Z,1.3nm,0.8s,baz=23,slow=2.2,SNR=8.9						
TORD	**Torodi Ar. Bea**	**157.79**	**282**	PKP	PKPdf	01 05 58.9	+0.2
	comp=Z,1.1nm,0.8s,baz=11,slow=1.6,SNR=6.1						
TORD				PKPab	PKPab	01 06 32.6	+1.2
	comp=Z,1.2nm,0.7s,baz=68,slow=4.6,SNR=6.2						

BJI ***30*** *01:00:20.2, 785S×10676E, h10km, mB5.1, mb4.7, Ms4.6, Msz4.2*
ISCJB ***30*** *01:00:27.6±0.3, 709S±004×10674E±004, h15km, mb4.6/41, MS3.9/8, Error ellipse: s-maj=6.7km s-min=4.4km az=111.6*
NEIC ***30*** *01:00:28.4±0.3, 700S×10675E, h10km, mb4.7/10, Error ellipse: s-maj=15.9km s-min=7.4km az=49.0*
NEIC Felt [III] at Bogor, Cisarua and Sukabumi; [II] at Jakarta.
MOS ***30*** *01:00:30.5±1.0, 694S×10683E, h33km, mb4.9/10, Error ellipse: s-maj=17.7km s-min=8.7km az=123.1*
IDC ***30*** *01:00:38.1±2.9, 703S×10686E, h86km±24km, mb4.2/19, mb1 4.3/19, mb1mx4.3/21, mbtmp4.5/19, MS3.6/2, Ms1 3.5/2, ms1mx2.9/20, Error ellipse: s-maj=18.9km s-min=9.1km az=45.0*
ISC 30 01:00:29.9±0.3, 703S±004×10678E±004, h16km, h16km±.9km: pP-P, n98, σ1°01/93, mb4.6/41, MS3.9/8, 13C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBJI	**Citeko**	**0.61**	**6**	P	**Sg**	**01 00 51.2**	**+1.3**
	119μm,0.5s						
LEM	**Lembang**	**0.85**	**77**	P	**Sb**	**01 00 55.7**	**-1.8**
	11μm,0.8s						
TNG	**Tangerang**	**0.86**	**351**	P	**Sb**	**01 00 57.6**	**-0.1**
	6μm,0.8s						
SBJI	**Serang**	**1.11**	**324**	P	**Sb**	**01 00 59.7**	**-5.2**
	5μm,1.2s						
KLI	**Kotabumi**	**2.88**	**318**	P	**Pg**	**01 01 25.3**	**+0.2**
	1μm,0.7s						
BJII	**Banjamegara**	**2.92**	**96**	P	**Pn**	**01 01 22.3**	**+6.6**
	120nm,0.6s						
PSI	**Prapat**	**12.52**	**321**	P	**Pn**	**01 03 29.3**	**+1.9**
	0.7nm,0.3s,baz=206,slow=3.6,SNR=3.7						
PSI	**Prapat**	**12.52**	**321**	P	**Pn**	**01 03 29.3**	**+1.9**
MBWA	**Marble Bar**	**18.82**	**140**	*e*P	**Pn**	**01 04 49.9**	**+0.5**
MBWA				*e*S	Sn	01 07 59.6	-20
FITZ	**Fitzroy Crossi**	**21.42**	**123**	‖ *i*P	**P**	**01 05 18.2**	**+1.1**
	10nm,0.8s,mb4.2						
FITZ				*e*		01 05 32.9	
FITZ	**Fitzroy Crossi**	**21.42**	**123**	P	**P**	**01 05 18.5**	**+1.4**
	4.1nm,0.7s,mb3.9,baz=302,slow=7.1,SNR=14						
FITZ				S	**S**	**01 09 07.6**	**-6.6**
	1.7nm,0.8s,baz=108,slow=13,SNR=3.3						
KAKA	**Kakadu**	**25.89**	**105**	*e*P	**P**	**01 06 00.5**	**-0.5**
	7.1nm,0.4s,mb4.5						
QIZ	**Qiongzhong**	**26.07**	**7**	*e*P	**P**	**01 06 01.8**

CD2 PP PP 01 09 15.8 +3.7
CD2 S **S** **01 13 38.3 +2.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,30nm,8.2s
CD2 LR LR
comp=N,240nm,14.8s
CD2 LR LR
comp=Z,200nm,10.8s,MS4.2
JIRN Jiri 39.82 331 *e*P **P 01 08 02.2 -0.2**
comp=Z,5.9nm,0.3s,mb4.8
PMG Port Moresby 40.02 96⇑*i*P **P 01 08 05.1 +1.1**
PKI Pulchoki 40.13 330 *e*P **P 01 08 05.4 +0.5**
GUN Gumba 40.18 331 *e*P **P 01 08 05.1 -0.3**
comp=Z,16nm,0.6s,mb4.9
DMN Daman 40.31 330 *e*P **P 01 08 05.8 -0.7**
KKN Kakani 40.38 330 *e*P **P 01 08 05.8 -1.2**
STKA Stephens Creek 40.78 132⇑*i*P **P 01 08 10.7 +0.4**
comp=Z,12nm,0.4s,mb4.9
STKA Stephens Creek 40.78 132 P **P 01 08 10.8 +0.5**
comp=Z,15nm,0.4s,mb5.0,baz=310,slow=7.1,SNR=77
STKA PcP PcP 01 10 10.2 -1.2
comp=Z,3.6nm,1.0s,baz=310,slow=5.2,SNR=3.3
STKA LR LR 01 24 45.2
comp=Z,76nm,21.3s,MS3.5,baz=115,slow=36
STKA Stephens Creek 40.78 132 *e*P **P 01 08 10.7 +0.4**
STKA *e*PcP PcP 01 10 10.7 -0.6
GKN Gorkha 40.87 329 *e*P **P 01 08 10.5 -0.6**
comp=Z,7.8nm,0.3s,mb4.9
KOLN Koldanda 41.22 328 *e*P **P 01 08 13.5 -0.4**
comp=Z,19nm,0.7s,mb4.8
LZH Lanzhou 42.97 357 *e*P **P 01 08 30.8 +2.6**
LZH AP pP 01 08 34.5 +1.4
LZH XP sP 01 08 35.5 +0.5
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,95nm,4.8s
LZH LR LR
comp=N,477nm,13.5s
LZH LR LR
comp=Z,820nm,14.6s,MS4.8
LZH Lanzhou 42.97 357 *e*P **P 01 08 30.8 +2.6**
comp=Z,15nm,1.0s,mb4.7
LZH pP pP 01 08 34.5 +1.4
LZH sP sP 01 08 35.5 +0.5
LZH LR LR
comp=Z,820nm,14.6s,MS4.8
GTA Gaotai 46.65 353 *e*P **P 01 08 58.5 +1.0**
GTA AP pP 01 09 03.5 +1.0
GTA XP sP 01 09 06.0 +1.6
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.2
WMQ Urumqi 53.48 343 *e*P **P 01 09 49.8 +0.4**
WMQ AP pP 01 09 54.3 0.0
WMQ XP sP 01 09 57.0 +0.8
WMQ PCP PcP 01 10 57.0 +0.8
WMQ PP PP 01 11 52.0 +2.1
WMQ S **S** **01 17 20.0 -1.4**
WMQ XS sS 01 17 31.0 +1.4
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
WMQ AMB AMB
comp=Z,146nm,4.2s
WMQ LR LR
comp=N,189nm,23.0s,MS4.2
WMQ LR LR
comp=E,168nm,24.4s,MS4.2
WMQ LR LR
comp=Z,156nm,19.0s
SONM Songino Array 54.62 360 P **P 01 09 58.5 +0.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=175,slow=7.7,SNR=14
SONM PcP PcP 01 11 00.3 -0.3
comp=Z,3.5nm,0.6s,baz=182,slow=4.0,SNR=16
ULN Ulaanbaatar 54.65 0⇑*e*P **P 01 09 58.4 +0.5**
MK31 Makanchi Array 57.84 340 *e*P **P 01 10 18.7 -2.0**
MKAR Makanchi Array 57.84 340 P **P 01 10 19.4 -1.3**
comp=Z,2.5nm,0.5s,mb4.5,baz=150,slow=7.7,SNR=31
MKAR PcP PcP 01 11 12.3 -0.8
comp=Z,1.7nm,0.7s,baz=134,slow=6.9,SNR=4.3
ZAL Zalesovo 63.50 346 P **P 01 10 58.0 -1.3**
comp=Z,2.4nm,0.3s,mb4.8,baz=356,slow=2.0,SNR=6.8
MAW Mawson 67.28 197 P **P 01 11 23.8 +0.1**
comp=Z,1.4nm,0.4s,mb4.4,baz=42,slow=8.2,SNR=13
MAW Mawson 67.28 197 *e*P **P 01 11 23.8 +0.1**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 67.28 197 *e*P **P 01 11 23.8 0.0**
comp=Z,2.6nm,0.9s,mb4.3
BRVK Borovoye 67.37 337 *e*P **P 01 11 22.9 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 67.37 337 *e*P **P 01 11 22.9 -1.4**
comp=Z,3.3nm,0.6s,mb4.5
CHKZ Chkalovo 67.72 338 *e*P **P 01 11 25.5 -1.1**
CHKZ pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
CHKZ Chkalovo 67.72 338 *e*P **P 01 11 25.5 -1.1**
comp=Z,6.1nm,0.5s,mb4.9
ZRNK Zerenda 67.79 336 *e*P **P 01 11 25.7 -1.3**
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ZRNK Zerenda 67.79 336 *e*P **P 01 11 25.7 -1.3**
comp=Z,4.9nm,0.6s,mb4.7
KMBO Kilima Mbogo 69.55 271 P **P 01 11 39.0 +1.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=67,slow=10,SNR=8.8
AKTK Aktyubinsk 71.04 329 P **P 01 11 46.8 -0.2**
AKTO Aktyubinsk 71.04 329 P **P 01 11 46.8 -0.2**
comp=Z,3.1nm,0.3s,mb4.7,baz=121,slow=5.1,SNR=29
ARU Arti 74.55 335⇓*i*P **P 01 12 07.1 -0.8**
ARU *e* 01 12 20.3
ARU *e* 01 14 52.2
ARU *e*S S 01 21 39.9 -2.8
ARU *e*SS SS 01 26 25.0 -4.5
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VNDA Vanda 75.98 169 P **P 01 12 15.0 -1.1**
comp=Z,1.1nm,0.4s,mb4.1,baz=316,slow=5.6,SNR=19
VNDA Vanda 75.98 169 P **P 01 12 15.0 -1.1**
ASF Jabal al Asfar 76.99 305 P **P 01 12 23.5 +1.6**
comp=Z,4.5nm,0.7s,mb4.5,baz=341,slow=3.3,SNR=9.6
LSZ Lusaka 77.22 256 *e*P **P 01 12 24.1 +1.0**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSZ Lusaka 77.22 256 *e*P **P 01 12 24.1 +0.9**
comp=Z,2.9nm,0.6s,mb4.4
BOSA Boshof 79.25 242 P **P 01 12 34.6 +0.2**
comp=Z,3.2nm,0.4s,mb4.6,baz=93,slow=4.1,SNR=21
BOSA Boshof 79.25 242 *e*P **P 01 12 35.2 +0.8**
BOSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BOSA Boshof 79.25 242 *e*P **P 01 12 35.1 +0.7**
comp=Z,3.9nm,0.4s,mb4.7
TIXI Tiksi 79.86 7⇑*e*P **P 01 12 35.6 -2.1**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
VRHR Novokhopersk 80.29 325 *e*P **P 01 12 39.9 -0.1**
VRHR pmax pmax
comp=N,2.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.5
VRHR pmax pmax
comp=E,6.0nm,0.5s
BRTR Keskin Array B 81.69 312 P **P 01 12 47.3 -0.2**
comp=E,2.7nm,0.6s,mb4.3,baz=133,slow=7.3,SNR=21
BRTR Keskin Array B 81.69 312⇑*e*P **P 01 12 47.2 -0.3**
VRSR Storozhevoye 81.75 324*c i*P **P 01 12 47.1 -0.7**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRSR pmax pmax
comp=E,30nm,0.9s
OBN Obninsk 84.63 327⇑*i*P **P 01 13 02.3 -0.4**
OBN *e**PP pP 01 13 19.0 +11
OBN *e*S S 01 23 18.6 -11
OBN pmax pmax
comp=Z,27nm,0.8s,mb5.4
OBN Obninsk 84.63 327 *e*P **P 01 13 02.5 -0.1**
comp=Z,20nm,0.8s,mb5.3
AKASG Malin Array Be 87.58 322 P **P 01 13 16.4 -0.8**
comp=Z,1.3nm,0.4s,mb4.5,baz=97,slow=4.9,SNR=12
AKASG LR LR 01 57 47.4
comp=Z,31nm,18.8s,MS3.7,baz=10.0,slow=39
VRI Vrincioaia 88.12 316⇑*i*P **P 01 13 20.6 +0.8**
MLR Muntele Rosu 88.58 316 P **P 01 13 22.7 +0.7**
comp=Z,4.8nm,0.6s,mb5.0,baz=7.7,slow=2.3,SNR=8.3
MLR Muntele Rosu 88.58 316⇓*i*P **P 01 13 22.7 +0.7**
BURAR Bucovina Array 89.48 318⇓*i*P **P 01 13 27.3 +1.1**
JOF Joensuu 89.66 334 *e*p **P 01 13 25.8 -1.3**
comp=Z,1.6nm,0.4s,mb4.7
BZS Buzias 91.60 316⇑*i*P **P 01 13 35.7 -0.4**
FINES FINESS Array B 91.69 332 P **P 01 13 36.0 -0.5**
comp=Z,3.2nm,0.7s,mb4.8,baz=113,slow=6.6,SNR=9.8
FINES FINESS Array B 91.69 332⇑*e*P **P 01 13 36.0 -0.5**
KAF Kangasniemi 91.72 332 *e*p **P 01 13 35.9 -0.7**
comp=Z,4.4nm,0.6s,mb5.0,baz=93,slow=4.2
KAF Kangasniemi 91.72 332 *e*P **P 01 13 35.9 -0.7**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
ARCES ARCESS Array B 93.49 340 P **P 01 13 43.5 -1.3**
comp=Z,1.3nm,0.5s,mb4.6,baz=109,slow=5.0,SNR=17
GERES GERESS Array B 97.27 318 P **P 01 14 01.7 -0.4**
comp=Z,0.1nm,0.4s,mb3.6,baz=124,slow=8.5,SNR=2.9
NVAR Mina Array Bea 128.73 45 PKP PKPdf 01 19 37.7 +1.2
comp=Z,1.0nm,0.8s,baz=267,slow=3.2,SNR=4.9
NVAR Mina Array Bea 128.73 45 PKP PKPdf 01 19 37.7 +1.2
PDAR Pinedale Array 132.14 36 PKP PKPdf 01 19 43.5 +0.5
comp=Z,0.9nm,0.7s,baz=178,slow=0.6,SNR=8.4
MSU Marysvale 132.91 42 *e*PKIKP PKPdf 01 19 44.2 -0.2
AGMN Agassiz Refuge 134.60 21 PKPdf PKPdf 01 19 45.0 -2.5
PV10 Paradox Valley 135.05 41 *e*PKPdf PKPdf 01 19 49.7 +1.3
CPUP Villa Florida 143.43 204 PKP PKPdf 01 20 01.3 -2.4
comp=Z,0.8nm,0.4s,baz=113,slow=1.9,SNR=6.8
CPUP Villa Florida 143.43 204 PKP PKPdf 01 20 01.3 -2.4
WMOK Wichita Mounta 143.74 37 *e*PKIKP PKPdf 01 20 01.9 -2.3
TXAR Lajitas Array 143.75 48 PKP PKPdf 01 20 03.0 -1.2
comp=Z,1.8nm,0.5s,baz=337,slow=1.7,SNR=65
TXAR Lajitas Array 143.75 48 PKP PKPdf 01 20 03.0 -1.2
JCT Junction City 145.86 44 *e*PKP2 PKPab 01 20 08.8 0.0
PLAL Pickwick Lake 149.00 24 *e*PKPdf PKPdf 01 20 12.5 -0.5
PLAL *e*PKPbc PKPbc 01 20 16.6 -0.6
JSC Jenkinsville 151.88 14 *e*PKIKP PKPbc 01 20 24.2 +0.2

ISCJB ***30*** *01:48:48.4±1.4, 1999S∧007×17759W±007, h304km±14km, mb4.2/28, Error ellipse: s-maj=13.6km s-min=8.4km az=103.2*
IDC ***30*** *01:48:48.6±1.7, 1990S×17751W, h303km±18km, mb3.9/12, mb1 4.1/14, mb1mx4.0/18, mbtmp4.6/14, Error ellipse: s-maj=16.6km s-min=10.3km az=138.0*
NEIC ***30*** *01:48:49.5±1.4, 1997S×17753W, h304km±14km, mb4.3/21, Error ellipse: s-maj=11.6km s-min=7.2km az=139.0*
ISC 30 01:48:49.8±1.4, 2000S∧007×17753W±007, h304km±14km, n57, σ0.92/61, mb4.2/28, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.18**	**43**	P	**Pn**	**01 50 44.9**	**-0.6**
	5.7nm,0.3s,baz=124,slow=17,SNR=10						
AFI				S	**S**	**01 52 11.7**	**-7.8**
	5.0nm,0.3s,baz=164,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**15.11**	**259**	*e*P	**P**	**01 52 12.7**	**+5.0**
DZM				*e*S	**S**	**01 54 56.4**	**+4.4**
DZM	**Mont Dzumac**	**15.11**	**259**	P	**P**	**01 52 12.0**	**+4.3**
	8.1nm,0.3s,baz=78,slow=17,SNR=71						
DZM				S	**S**	**01 54 56.4**	**+4.3**
	baz=253,slow=19,SNR=4.2						
URZ	**Urewera**	**18.78**	**193**	P	**P**	**01 52 46.6**	**-0.9**
	19nm,0.3s,baz=331,slow=2.5,SNR=61						
URZ				S	**S**	**01 55 53.9**	**-11**
	3.4nm,0.3s,baz=195,slow=17,SNR=7.0						
SNZO	**South Karori**	**22.25**	**196**	P	**P**	**01 53 22.3**	**+0.8**
HNR	**Honiara**	**24.16**	**293**	P	**P**	**01 53 39.4**	**+0.5**
RPZ	**Rata Peaks**	**25.51**	**199**	P	**P**	**01 53 50.0**	**-1.0**
	25nm,0.9s,mb4.6,baz=0.0,slow=2.0,SNR=2.9						
PAE	**Paea**	**26.54**	**90**	*e*T		02 19 45.4	
	12nm,0.4s						
PPT	**Papeete**	**26.56**	**89**	*e*LR	LR	01 59 58.3	
	102nm,25.0s						
ARMA	**Armidale**	**29.69**	**243**⇓	*i*P	**P**	**01 54 29.9**	**+1.9**
CNB	**Canberra Magne**	**32.87**	**235**	*e*P	**P**	**01 54 56.5**	**+0.7**
	36nm,1.3s,mb4.7						
CTA	**Charters Tower**	**33.98**	**264**⇑	*i*P	**P**	**01 55 06.3**	**+1.0**
	14nm,0.3s,mb5.0						
CTA	**Charters Tower**	**33.98**	**264**	P	**P**	**01 55 05.0**	**-0.3**
	20nm,0.4s,mb5.0,baz=87,slow=10,SNR=45						
CTAO	**Charters Tower**	**33.98**	**264**	*e*P	**P**	**01 55 06.3**	**+1.0**
	17nm,0.4s,mb4.9						
PMG	**Port Moresby**	**35.67**	**282**	*e*P	**P**	**01 55 21.1**	**+1.5**
	8.7nm,0.7s,mb4.4						
TOO	**Toolangi**	**36.55**	**233**	*e*P	**P**	**01 55 27.1**	**+0.1**
	8.6nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**38.41**	**244**	*e*P	**P**	**01 55 42.9**	**+0.4**
	14nm,1.8s,mb4.1						
STKA	**Stephens Creek**	**38.41**	**244**	P	**P**	**01 55 42.1**	**-0.3**
	5.3nm,0.4s,mb4.3,baz=91,slow=11,SNR=22						
AS31	**Alice Springs**	**45.07**	**256**	*e*P	**P**	**01 56 35.9**	**-0.2**
AS31				*e*S	**S**	**02 02 45.8**	**-5.6**
ASAR	**Alice Springs**	**45.07**	**256**	P	**P**	**01 56 35.6**	**-0.4**
	16nm,0.7s,mb4.4,baz=94,slow=8.2,SNR=134						
ASAR				S	**S**	**02 02 46.5**	**-5.0**
	4.2nm,0.8s,baz=94,slow=16,SNR=25						
ASPA	**Alice Springs**	**45.07**	**256**	*e*P	**P**	**01 56 35.9**	**-0.2**
ASPA				*e*S	**S**	**02 02 45.8**	**-5.7**
WB2	**Warramunga Arr**	**45.10**	**261**⇑	*i*P	**P**	**01 56 35.5**	**-0.8**
WB2				*e*S	**S**	**02 02 46.7**	**-5.2**
WRA	**Warramunga Arr**	**45.11**	**261**	P	**P**	**01 56 35.7**	**-0.8**
	3.4nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=74						
WRA				S	**S**	**02 02 46.5**	**-5.6**
	2.0nm,1.0s,baz=98,slow=14,SNR=8.9						
KAKA	**Kakadu**	**48.41**	**271**⇑	*i*P	**P**	**01 57 01.1**	**-0.7**
	7.8nm,0.3s,mb4.5						
FORT	**Forrest**	**49.90**	**246**⇑	*i*P	**P**	**01 57 12.0**	**-1.0**
	20nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.54**	**262**⇑	*i*P	**P**	**01 57 39.6**	**-0.1**
	13nm,1.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.54**	**262**	P	**P**	**01 57 39.6**	**-0.1**
	2.7nm,0.4s,mb4.0,baz=95,slow=7.0,SNR=34						
FITZ				S	**S**	**02 04 46.9**	**-1.6**
	1.6nm,1.0s,baz=258,slow=14,SNR=3.1						
SBA	**Scott Base**	**58.40**	**184**	*e*P	**P**	**01 58 15.0**	**+1.2**
	3.2nm,0.8s,mb3.8						
MBWA	**Marble Bar**	**58.40**	**257**	*e*P	**P**	**01 58 13.1**	**-0.8**
	14nm,0.8s,mb4.5						
VNDA	**Vanda**	**58.44**	**185**	P	**P**	**01 58 14.6**	**+0.3**
	0.8nm,0.6s,mb3.3,baz=349,slow=8.4,SNR=7.4						
KLBR	**Kellerberrin**	**58.67**	**245**	*e*P	**P**	**01 58 14.6**	**-1.2**
	26nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**58.99**	**243**	*e*P	**P**	**01 58 19.9**	**+2.0**
	2.3nm,0.6s,mb3.8						
CASY	**Casey**	**64.60**	**205**	*e*P	**P**	**01 58 54.8**	**-0.3**
	11nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**70.06**	**180**	*e*P	**P**	**01 59 29.4**	**+0.2**
	4.7nm,0.6s,mb4.4						
MJAR	**Matsushiro Arr**	**70.08**	**323**	P	**P**	**01 59 28.2**	**-1.0**
	5.8nm,0.7s,mb4.4,baz=158,slow=5.6,SNR=15						
ISA	**Isabella**	**78.67**	**45**	*e*P	**P**	**02 00 19.1**	**+0.6**
CMB	**Columbia Colle**	**78.80**	**43**	*e*P	**P**	**02 00 19.4**	**+0.2**
	2.0nm,0.9s,mb3.9						
CMB				*e*PcP	PcP	02 00 27.1	+0.4
NVAR	**Mina Array Bea**	**80.36**	**43**	P	**P**	**02 00 27.2**	**-0.3**
	1.2nm,0.6s,mb3.8,baz=231,slow=9.2,SNR=13						
MDJ	**Mudanjiang**	**80.37**	**325**	*e*P	**P**	**02 00 29.2**	**+1.6**
	4.5nm,0.6s,mb4.4						
MAW	**Mawson**	**82.18**	**200**	*e*P	**P**	**02 00 35.1**	**-1.9**
	1.4nm,0.9s,mb3.7						
MAW	**Mawson**	**82.18**	**200**	P	**P**	**02 00 35.5**	**-1.6**
	1.4nm,0.8s,mb3.8,baz=41,slow=6.3,SNR=6.2						
MAW	**Mawson**	**82.18**	**200**	*e*P	**P**	**02 00 36.4**	**-0.6**
	1.7nm,0.6s,mb4.0						
PMR	**Palmer**	**84.43**	**13**	P	**P**	**02 00 47.9**	**-0.5**
TXAR	**Lajitas Array**	**86.41**	**57**	P	**P**	**02 00 57.2**	**-0.9**
	1.0nm,0.7s,mb3.8,baz=219,slow=5.7,SNR=16						
PV10	**Paradox Valley**	**86.51**	**47**	*e*P	**P**	**02 00 59.0**	**+0.4**
NEW	**Newport**	**86.71**	**36**	P	**P**	**02 00 59.7**	**+0.1**
PV01	**Paradox Valley**	**86.72**	**47**	*e*P	**P**	**02 00 59.0**	**-0.6**
ANMO	**Albuquerque**	**86.75**	**51**	*e*P	**P**	**02 00 60.0**	**+0.2**
	0.7nm,0.6s,mb3.7						
COLA	**College**	**87.63**	**12**	*e*P	**P**	**02 01 04.1**	**+0.1**
	1.8nm,0.4s,mb4.2						
IMA2	**Indian Mountai**	**87.68**	**9**	P	**P**	**02 01 05.8**	**+1.6**
PDAR	**Pinedale Array**	**88.30**	**43**	P	**P**	**02 01 05.2**	**-1.9**
	0.5nm,0.6s,mb3.6,baz=245,slow=3.1,SNR=5.5						
SNAA	**Sanae**	**88.49**	**178**	*e*P	**P**	**02 01 08.5**	**+0.5**
	0.4nm,0.5s,mb3.5						
OTAV	**Otavalo**	**98.61**	**93**	P	**P**	**02 01 55.5**	**+1.2**
AKASG	**Malin Array Be**	**142.79**	**332**	PKhKP		02 07 40.9	
	0.4nm,0.3s,baz=48,slow=4.2,SNR=4.0						
BRTR	**Keskin Array B**	**146.83**	**313**	PKPbc	PKPbc	02 07 55.0	-1.2
	1.5nm,0.9s,baz=100,slow=3.0,SNR=8.1						
CLL	**Collm**	**147.68**	**348**⇓	*i*PKPbc	PKPbc	02 08 00.5	+2.0
GERES	**GERESS Array B**	**149.84**	**345**	PKPbc	PKPbc	02 08 01.7	-2.2
	1.0nm,0.7s,baz=48,slow=2.0,SNR=10						

BJI ***30*** *01:57:58.3, 5360N×16390W, h27km, mB5.4, mb4.7*
IDC ***30*** *01:57:58.6±1.0, 5379N×16384W, h0km, mb4.2/20, mb1 4.4/21, mb1mx4.3/28, mbtmp4.2/21, ML4.0/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/35, Error ellipse: s-maj=30.1km s-min=12.9km az=11.0*
SZGRF ***30*** *01:57:59.9, 5282N×16378W, h33km, mb4.7, South of Alaska*
ISCJB ***30*** *01:58:00.7±1.4, 5368N∧006×16377W±005, h26km±10km, mb4.4/54, MS3.7/6, Error ellipse: s-maj=10.6km s-min=4.5km az=172.7*
MOS ***30*** *01:58:01.5±0.8, 5365N×16392W, h33km, mb4.7/31, Error ellipse: s-maj=19.4km s-min=7.5km az=92.3*
NEIC ***30*** *01:58:02.4±1.1, 5364N×16386W, h28km±7km, mb4.5/28, ML3.9(AEIC), Error ellipse: s-maj=8.4km s-min=3.4km az=176.0*
ISC 30 01:58:02.5±1.4, 5370N±006×16381W±004, h29km±10km, n144, σ0.971/151, mb4.4/54, MS3.7/6, 12C-3D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.24**	**292**	P	**Pn**	**01 58 24.1**	**+0.3**
AKA				S	**Sn**	**01 58 39.3**	**-0.3**
AKUT	**Akutan**	**1.24**	**292**	P	**Pn**	**01 58 24.0**	**+0.2**
AKUT				S	**Sn**	**01 58 40.0**	**+0.4**
AKLV	**Akutan Long Va**	**1.35**	**291**	P	**Pn**	**01 58 25.5**	**+0.1**
AKLV				S	**Sn**	**01 58 42.7**	**+0.3**
AKGG	**Akutan Green G**	**1.38**	**292**	P	**Pn**	**01 58 26.1**	**+0.3**
SDPT	**Sand Point**	**2.55**	**48**	*e*Pn	**Pn**	**01 58 42.5**	**+0.6**
SDPT				*e*Sn	**Sn**	**01 59 11.0**	**-1.1**
OKCD	**Okmok Cone D**	**2.58**	**266**	P	**Pn**	**01 58 42.0**	**-0.3**
OKCE	**Okmok Cone E**	**2.61**	**266**	P	**Pn**	**01 58 42.5**	**-0.2**
KDAK	**Kodiak Island**	**7.54**	**53**	Pn	**Pn**	**01 59 49.0**	**-1.5**
	2.3nm,0.3s,baz=227,slow=6.5,SNR=20						
KDAK				Sn	**Sn**	**02 01 12.6**	**-2.4**
	0.3nm,0.3s,baz=8.0,slow=23,SNR=3.5						
SVW2	**Sparrevohn**	**8.64**	**28**	*e*Pn	**Pn**	**02 00 06.8**	**+1.2**
SVW2				*e*Sn	**Sn**	**02 01 41.8**	**-0.3**
SLKM	**Skilak Lake**	**10.05**	**42**	*e*P	**Pn**	**02 00 25.9**	**+1.1**
AMKA	**Amchitka**	**10.54**	**264**	*e*Pn	**Pn**	**02 00 30.4**	**-1.3**
SKAG	**Skagway**	**16.63**	**58**	*e*P	**Pn**	**02 01 54.1**	**+0.6**
	14nm,0.8s						
DLBC	**Dease Lake**	**19.31**	**62**	*e*P	**Pn**	**02 02 27.1**	**+0.7**
DLBC				*e*		02 02 38.0	
BILL	**Bilibino**	**20.15**	**327**	*e*P	**P**	**02 02 34.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,25nm,1.6s						
BBB	**Bella Bella**	**21.43**	**80**	P	**P**	**02 02 47.4**	**-0.8**
	comp=Z,12nm,0.9s,mb4.2,baz=53,slow=5.7,SNR=4.0						
BBB				LR	LR	02 10 51.2	
	comp=Z,96nm,18.3s,MS3.2,baz=295,slow=36						
YKA	**Yellowknife Ar**	**26.82**	**51**	P	**P**	**02 03 41.5**	**+1.3**
	comp=Z,6.1nm,0.8s,mb4.2,baz=275,slow=7.3,SNR=8.1						
YKA	**Yellowknife Ar**	**26.82**	**51**	P	**P**	**02 03 41.5**	**+1.3**
NEW	**Newport**	**29.46**	**81**	P	**P**	**02 04 03.7**	**-0.1**
	comp=Z,2.5nm,0.9s,mb3.9,baz=322,slow=2.9,SNR=4.3						
TIXI	**Tiksi**	**33.36**	**328**⇑	*e*P	**P**	**02 04 38.1**	**0.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**34.42**	**98**	P	**P**	**02 04 49.5**	**+2.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=304,slow=9.7,SNR=3.9						
NVAR				ScP	ScP	02 11 09.9	+4.4
	comp=Z,0.5nm,0.8s,baz=290,slow=4.4,SNR=3.7						
PDAR	**Pinedale Array**	**36.90**	**85**	P	**P**	**02 05 08.5**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.5,baz=308,slow=5.5,SNR=5.4						
TMUT	**Trail Mountain**	**38.06**	**90**	*e*P	**P**	**02 05 18.8**	**+0.4**
PV10	**Paradox Valley**	**39.95**	**90**	*e*P	**P**	**02 05 34.3**	**+0.1**
PV10				*e*PcP	PcP	02 07 40.4	+1.1
PV01	**Paradox Valley**	**40.38**	**90**	*e*P	**P**	**02 05 37.5**	**-0.3**
ULM	**Lac du Bonnet**	**40.55**	**66**	P	**P**	**02 05 38.8**	**-0.4**
	comp=Z,3.2nm,1.0s,mb3.9,baz=307,slow=15,SNR=2.5						
ULM				LR	LR	02 23 57.5	
	comp=Z,60nm,20.0s,MS3.4,baz=100,slow=38						
MAJO	**Matsushiro**	**43.07**	**271**	*e*P	**P**	**02 05 59.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**43.07**	**271**	*e*P	**P**	**02 05 59.3**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**43.07**	**271**	P	**P**	**02 05 59.9**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.8,baz=7.0,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**43.07**	**271**	P	**P**	**02 05 59.9**	**+0.1**
CN2	**Changchun**	**45.85**	**288**	*e*P	**P**	**02 06 22.0**	**0.0**
TXAR	**Lajitas Array**	**49.43**	**95**	P	**P**	**02 06 49.6**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=301,slow=5.3,SNR=13						
ULN	**Ulaanbaatar**	**53.10**	**303**⇑	*e*P	**P**	**02 07 16.8**	**-0.5**
ULN	**Ulaanbaatar**	**53.10**	**303**	*e*P	**P**	**02 07 16.5**	**-0.8**
	comp=Z,9.3nm,0.9s,mb4.7						
SONM	**Songino Array**	**53.45**	**303**	P	**P**	**02 07 19.4**	**-0.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=44,slow=7.5,SNR=27						
ARCES	**ARCESS Array B**	**56.89**	**356**	P	**P**	**02 07 43.7**	**-1.0**
	comp=Z,5.3nm,0.9s,mb4.6,baz=8.2,slow=7.5,SNR=11						
ARCES				LR	LR	02 31 47.6	
	comp=Z,58nm,18.3s,MS3.7,baz=219,slow=36						
NJ2	**Nanjing**	**57.63**	**281**	*e*P	**P**	**02 07 49.5**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
ZAL	**Zalesovo**	**58.66**	**320**	P	**P**	**02 07 57.2**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=6.7,SNR=8.1						
ZAL				LR	LR	02 36 32.3	
	comp=Z,116nm,18.1s,MS4.0,baz=231,slow=40						
ZAL	**Zalesovo**	**58.66**	**320**	*i* P	**P**	**02 07 57.2**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA	**Gaotai**	**62.79**	**300**	*e*P	**P**	**02 08 24.5**	**-0.7**
GTA				AP	pP	02 08 28.8	-5.4
GTA				XP	sP	02 08 31.8	-5.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.6						
JOF	**Joensuu**	**63.12**	**352**	*e*p	**P**	**02 08 24.8**	**-2.7**
CHKZ	**Chkalovo**	**63.87**	**327**	*e*P	**P**	**02 08 31.6**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**63.87**	**327**	*e*P	**P**	**02 08 31.6**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**64.26**	**355**	*e*p

OBN pmax pmax
comp=Z,14nm,1.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
AKTK Aktyubinsk 70.44 333 P **P 02 09 14.4 +0.3**
AKTO Aktyubinsk 70.44 333 P **P 02 09 14.4 +0.3**
comp=Z,12nm,0.8s,mb4.9,baz=40,slow=5.5,SNR=51
AAK Ala-Archa 71.82 319 *e*P **P 02 09 22.1 -0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 71.82 319 *e*P **P 02 09 22.1 -0.4**
comp=Z,5.8nm,0.8s,mb4.6
CLL Collm 75.33 2 *e*P **P 02 09 43.0 -0.1**
AKASG Malin Array Be 75.40 351 P **P 02 09 42.6 -0.9**
comp=Z,2.6nm,0.6s,mb4.4,baz=9.5,slow=5.6,SNR=10.0
AKASG Malin Array Be 75.40 351 *i* P **P 02 09 42.5 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
MOX Moxa 75.96 3 *e*P **P 02 09 47.0 +0.3**
BAIF Baives 76.13 8 *e*P **P 02 09 47.7 +0.1**
comp=Z,9.3nm,0.9s,mb4.4
BAIF Baives 76.13 8 *e*P **P 02 09 47.7 +0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BAIF Baives 76.13 8 *e*P **P 02 09 47.7 +0.1**
comp=Z,4.7nm,0.9s,mb4.4
GIVF Givet 76.13 8 *e*P **P 02 09 47.5 -0.1**
MORC Moravsky Berou 76.89 359 ⇑*i*P **P 02 09 52.6 +0.6**
GRA1 Grafenberg Arr 76.90 3 *e*P **P 02 09 52.1 +0.1**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 76.90 3 *e*P **P 02 09 52.1 +0.1**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 76.90 3 *e*P **P 02 09 52.1 +0.1**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 76.90 3 *e*P **P 02 09 52.1 +0.1**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4,5
STHS Stebnicka Huta 77.17 357 *e*P **P 02 09 53.8 +0.3**
STHS Stebnicka Huta 77.17 357 *e*P **P 02 09 53.9 +0.4**
SGMF Saint Gilles 77.19 13 *e*P **P 02 09 53.9 +0.3**
comp=Z,20nm,1.1s,mb4.6
SGMF Saint Gilles 77.19 13 *e*P **P 02 09 53.9 +0.3**
SGMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SGMF Saint Gilles 77.19 13 *e*P **P 02 09 53.9 +0.3**
comp=Z,9.8nm,1.1s,mb4.7
KHC Kasperske Hory 77.53 2⇑*e*P **P 02 09 56.2 +0.7**
MEZF Maizieres J'vi 77.74 8 *e*P **P 02 09 56.8 +0.1**
comp=Z,28nm,1.5s,mb4.7
MEZF Maizieres J'vi 77.74 8 *e*P **P 02 09 56.8 +0.1**
comp=Z,28nm,1.5s,mb5.0
GERES GERESS Array B 77.81 2 P **P 02 09 57.1 0.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=357,slow=5.3,SNR=8.4
CDF Champ du Feu 77.99 6 *e*P **P 02 09 58.1 0.0**
comp=Z,5.6nm,0.9s,mb4.2
CDF Champ du Feu 77.99 6 *e*P **P 02 09 58.1 0.0**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CDF Champ du Feu 77.99 6 *e*P **P 02 09 58.1 0.0**
comp=Z,2.8nm,0.9s,mb4.2
KECS Kecovo 78.13 357 *e*P **P 02 09 59.2 +0.3**
KECS Kecovo 78.13 357 *e*P **P 02 09 52.4 -6.5**
KECS *e* pP 02 09 59.2 -8.8
VYHS Vyhne 78.16 358 *e*P **P 02 09 59.5 +0.5**
HAU Haudompre 78.33 7 *e*P **P 02 09 59.9 -0.1**
comp=Z,5.4nm,0.7s,mb4.3
HAU Haudompre 78.33 7 *e*P **P 02 09 59.9 -0.1**
HAU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HAU Haudompre 78.33 7 *e*P **P 02 09 59.9 -0.1**
comp=Z,2.7nm,0.7s,mb4.3
HINF Hinterlalfeld 78.55 6 *e*P **P 02 10 01.0 -0.2**
comp=Z,4.5nm,0.8s,mb4.1
HINF Hinterlalfeld 78.55 6 *e*P **P 02 10 01.0 -0.2**
HINF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
HINF Hinterlalfeld 78.55 6 *e*P **P 02 10 01.0 -0.2**
comp=Z,2.3nm,0.8s,mb4.2
BURAR Bucovina Array 78.78 354⇓*i*P **P 02 10 02.7 +0.3**
LOR Lormes 78.87 9 *e*P **P 02 10 02.9 0.0**
comp=Z,10nm,1.1s,mb4.4
LOR Lormes 78.87 9 *e*P **P 02 10 02.9 0.0**
LOR pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LOR Lormes 78.87 9 *e*P **P 02 10 02.9 0.0**
comp=Z,5.1nm,1.1s,mb4.4
GUN Gumba 78.95 302 *e*P **P 02 10 03.7 +0.3**
comp=Z,18nm,0.6s,mb5.2
JIRN Jiri 79.00 302 *e*P **P 02 10 04.3 +0.7**
SSF Saint Saulge 79.04 9 *e*P **P 02 10 03.9 0.0**
comp=Z,6.1nm,0.8s,mb4.3
SSF Saint Saulge 79.04 9 *e*P **P 02 10 03.9 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 79.04 9 *e*P **P 02 10 03.9 0.0**
comp=Z,3.0nm,0.8s,mb4.3
MFF Saint Martin d 79.11 11 *e*P **P 02 10 04.5 +0.2**
comp=Z,6.5nm,0.9s,mb4.3
MFF Saint Martin d 79.11 11 *e*P **P 02 10 04.5 +0.2**
MFF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MFF Saint Martin d 79.11 11 *e*P **P 02 10 04.5 +0.2**
comp=Z,3.3nm,0.9s,mb4.3
MOTA Moosalm 79.24 4⇑*i*P **P 02 10 05.6 +0.6**
comp=Z,3.1nm,1.0s,mb4.2
MOTA Moosalm 79.24 4⇑*i*P **P 02 10 05.6 +0.6**
MOTA pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AVF Avril sur Loir 79.30 9 *e*P **P 02 10 05.1 -0.2**
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 79.30 9 *e*P **P 02 10 05.1 -0.2**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 79.30 9 *e*P **P 02 10 05.1 -0.2**
comp=Z,5.6nm,0.9s,mb4.5
KKN Kakani 79.35 303 *e*P **P 02 10 05.7 +0.2**
SQTA Sankt Quirin 79.37 3⇑*i*P **P 02 10 06.3 +0.6**
comp=Z,5.2nm,0.9s,mb4.4
SQTA Sankt Quirin 79.37 3⇑*i*P **P 02 10 06.3 +0.6**
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PKI Pulchoki 79.46 302 *e*P **P 02 10 06.0 -0.2**
BGF Bois d'Agland 79.48 9 *e*P **P 02 10 06.1 -0.2**
comp=Z,4.9nm,0.8s,mb4.2
BGF Bois d'Agland 79.48 9 *e*P **P 02 10 06.1 -0.2**
BGF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BGF Bois d'Agland 79.48 9 *e*P **P 02 10 06.1 -0.2**
comp=Z,2.5nm,0.8s,mb4.2
SMF Signal de Mont 79.48 9 *e*P **P 02 10 06.2 -0.1**
comp=Z,12nm,1.0s,mb4.5
SMF Signal de Mont 79.48 9 *e*P **P 02 10 06.2 -0.1**
SMF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SMF Signal de Mont 79.48 9 *e*P **P 02 10 06.2 -0.1**
comp=Z,6.1nm,1.0s,mb4.5
GKN Gorkha 79.49 303 *e*P **P 02 10 06.5 +0.2**
comp=Z,14nm,0.6s,mb5.0
DMN Daman 79.58 303 *e*P **P 02 10 07.2 +0.4**
TCF Toulx Ste Croi 79.68 10 *e*P **P 02 10 07.3 -0.1**
CABF La Chapelle 79.70 7 *e*P **P 02 10 08.0 +0.5**
comp=Z,19nm,1.2s,mb4.6
CABF La Chapelle 79.70 7 *e*P **P 02 10 08.0 +0.5**
CABF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CABF La Chapelle 79.70 7 *e*P **P 02 10 08.0 +0.5**
comp=Z,9.6nm,1.2s,mb4.6
DRGR 79.73 355⇑*i*P **P 02 10 07.8 +0.1**
OBKA Obir 80.16 1⇓*i*P **P 02 10 11.1 +1.2**
comp=Z,11nm,0.8s,mb4.8
KOLN Koldanda 80.20 304 *e*P **P 02 10 10.2 0.0**
comp=Z,18nm,1.1s,mb4.9
MLR Muntele Rosu 80.84 353⇑*i*P **P 02 10 15.5 +1.9**
LPG La Plagne 80.86 7 *e*P **P 02 10 14.1 +0.4**
comp=Z,10.0nm,1.1s,mb4.4
LPG La Plagne 80.86 7 *e*P **P 02 10 14.1 +0.4**
LPG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LPG La Plagne 80.86 7 *e*P **P 02 10 14.1 +0.4**
comp=Z,5.0nm,1.1s,mb4.4
BZS Buzias 80.96 356⇓*i*P **P 02 10 14.4 +0.2**
VIVF Saint-Julien-l 81.33 8 *e*P **P 02 10 16.6 +0.4**
MBDF Montbardon 81.62 7 *e*P **P 02 10 19.0 +1.2**
comp=Z,8.5nm,0.8s,mb4.5
MBDF Montbardon 81.62 7 *e*P **P 02 10 19.0 +1.2**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MBDF Montbardon 81.62 7 *e*P **P 02 10 19.0 +1.2**
comp=Z,4.3nm,0.8s,mb4.4
ESDC Sonseca Array 85.39 15 P **P 02 10 35.5 -1.6**
comp=Z,0.3nm,0.5s,mb3.7,baz=346,slow=5.6,SNR=4.8
BRTR Keskin Array B 85.74 347 P **P 02 10 39.5 +0.6**
comp=Z,4.3nm,0.9s,mb4.7,baz=51,slow=2.4,SNR=21
WRAB Tennant Creek 90.48 236 *i* P **P 02 10 59.8 -1.7**

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*NEIC **30** 02:02:54.7, 3227S×7181W, h26km, ML2.7(GUC), After GUC.*

GUC 30 02:02:54.7±0.7, 3227S×7181W, h26km±4km, MD3.8, ML2.7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.41**	**130**	⇓*i*P	Pb	02 03 03.2	-0.2
PACH				*i* S	Sb	02 03 09.5	+0.1
CHNG	**Los Chungos**	**0.47**	**34**	⇑*i*P	Pb	02 03 04.2	-0.2
CHNG				*i* S	Sb	02 03 11.5	+0.5
CHNG				AML	AML	02 03 12.3	
comp=E,285nm,0.6s							
PTCH	**Petorca**	**0.74**	**90**	*e*P	Pb	02 03 08.7	-0.3
PTCH				*i* S	Sb	02 03 19.0	+0.3
PTCH				AML	AML	02 03 24.9	
comp=E,555nm,0.2s							
PTCH	**Petorca**	**0.74**	**90**	*e*P	Pb	02 03 08.7	-0.3
PTCH				*i* S	Sb	02 03 19.0	+0.3
ROCH	**El Roble**	**0.97**	**136**	*e*P	Pn	02 03 11.5	-1.1
ROCH				*i* S	Sb	02 03 24.9	-0.3
PEL	**Peldehue**	**1.28**	**133**	*e*P	Pn	02 03 17.1	+0.2
PEL				*i* S	Sn	02 03 34.1	+0.8
PEL				AML	AML	02 03 37.0	
comp=N,597nm,0.3s							
PEL	**Peldehue**	**1.28**	**133**	*e*P	Pn	02 03 17.1	+0.2
PEL				*i* S	Sn	02 03 34.1	+0.8
CMCH	**Combarbala**	**1.29**	**32**	⇑*i*P	Pn	02 03 17.1	+0.1
CMCH				*i* S	Sn	02 03 34.0	+0.6
CMCH				AML	AML	02 03 40.8	
comp=N,557nm,0.5s							
CMCH	**Combarbala**	**1.29**	**32**	⇑*i*P	Pn	02 03 17.1	+0.1
CMCH				*i* S	Sn	02 03 34.0	+0.6
RCDM	**Rinconada Maip**	**1.48**	**146**	*e*P	Pn	02 03 19.2	-0.4
RCDM				*i* S	Sn	02 03 38.6	+0.5
RCDM				AML	AML	02 03 41.0	
comp=E,126nm,0.1s							
RCDM	**Rinconada Maip**	**1.48**	**146**	*e*P	Pn	02 03 19.2	-0.4
RCDM				*i* S	Sn	02 03 38.6	+0.5
CLCH	**Cerro Calan**	**1.55**	**137**	*e*P	Pn	02 03 21.2	+0.6
CLCH				*i* S	Sn	02 03 41.8	+1.9
CLCH				AML	AML	02 03 49.7	
comp=N,134nm,0.3s							
TACH	**Talagante**	**1.56**	**152**	*e*P	Pn	02 03 21.7	+1.0
FCH	**Farellones**	**1.66**	**130**	⇓*e*P	Pn	02 03 22.9	+0.9
FCH				*i* S	Sn	02 03 44.7	+2.3
LNV	**Longovilo**	**1.71**	**169**	⇑*i*P	Pn	02 03 23.7	+0.9
PCH	**Pirque**	**1.73**	**141**	⇓*i*P	Pn	02 03 23.9	+0.8
CHCH	**Chadas Angostu**	**1.92**	**150**	*e*P	Pn	02 03 24.9	-0.8
CHCH				*i* S	Sn	02 03 51.7	+2.8
CACH	**El Canelo**	**2.10**	**152**	⇓*i*P	Pn	02 03 30.3	+2.2

MAN 30 02:05:17.2, 1349N×12151E, h6km, mb2.7, ML4.2, MS1.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.82**	**318**	*e*P	Pg	02 05 33.9	+0.9
TGY				*e*S	Sg	02 05 47.6	+4.0

NEIC 30 02:07:08.4, 5337N×16374W, h27km, ML3.4(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.43**	**303**	P	Pn	02 07 32.5	0.0
AKA				S	Sn	02 07 50.5	+0.2
AKUT	**Akutan**	**1.43**	**303**	*e*Pn	Pn	02 07 32.2	-0.3
AKUT				*e*Sn	Sn	02 07 50.5	+0.1
AKLV	**Akutan Long Va**	**1.54**	**302**	P	Pn	02 07 33.7	-0.3
AKLV				S	Sn	02 07 52.8	-0.3
AKGG	**Akutan Green G**	**1.57**	**303**	P	Pn	02 07 34.6	+0.1
AKGG				S	Sn	02 07 54.1	+0.1
OKCD	**Okmok Cone D**	**2.62**	**273**	P	Pn	02 07 50.0	+1.1
OKCD				S	Sn	02 08 19.9	+0.1
OKCE	**Okmok Cone E**	**2.65**	**273**	P	Pn	02 07 50.8	+1.5
SDPT	**Sand Point**	**2.75**	**43**	P	Pn	02 07 51.1	+0.4
DAWY	**Dawson**	**16.44**	**40**	*e*Pn	Pn	02 11 00.5	+3.3

IDC 30 02:12:15.6±1.1, 054N×12218E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, ML3.8/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/28, Error ellipse: s-maj=119.9km s-min=19.2km az=67.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.84**	**170**	P	Pn	02 16 38.4	+0.9
0.2nm,0.3s,baz=5.8,slow=8.4,SNR=8.5							
WRA	**Warramunga Arr**	**23.59**	**150**	P	P	02 17 27.9	-0.3
0.4nm,0.4s,baz=327,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**26.62**	**155**	P	P	02 17 55.9	+0.2
0.1nm,0.3s,baz=346,slow=15,SNR=3.8							
JHJ	**Hachijo jima 2**	**36.39**	**25**	LR	LR	02 32 25.1	
comp=Z,175nm,20.7s,baz=108,slow=33							
MJAR	**Matsushiro Arr**	**38.78**	**21**	LR	LR	02 33 06.2	
comp=Z,61nm,20.2s,baz=180,slow=32							
SONM	**Songino Array**	**49.06**	**346**	P	P	02 21 05.6	+1.1
0.6nm,0.6s,baz=163,slow=8.6,SNR=5.4							
MKAR	**Makanchi Array**	**57.72**	**329**	P	P	02 22 07.6	-0.6
0.6nm,0.3s,baz=128,slow=8.3,SNR=13							

MOS 30 02:12:28.4±0.7, 4316N×4285E, h13km, mb3.8/1, 5C-6D, Error ellipse: s-maj=10.1km s-min=9.0km az=87.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	**Shatzhatmas**	**0.59**	**348**	⇑*i*PG	Pg	02 12 41.1	+1.1
SHAR				*e*S	Sg	02 12 48.0	+0.1
DIGR	**Digorskoe uzhe**	**0.60**	**116**	⇓*i*PG	Pg	02 12 40.3	+0.2
DIGR				*i* S	Sg	02 12 46.9	-1.1
KUBR	**Kubataba**	**0.76**	**33**	⇑*i*PG	Pg	02 12 43.2	+0.1
KUBR				*e*S	Sg	02 12 52.7	-0.4
KIV	**Kislovodsk**	**0.80**	**352**	⇑*i*PG	Pg	02 12 44.6	+0.7
KIV				*e*S	Sg	02 12 54.5	+0.1
BEYR	**Belyy Ugol+**	**0.85**	**359**	*e*PG	Pg	02 12 45.0	+0.2
BEYR				*e*S	Sg	02 12 55.2	-0.8
ZEI	**Tsey**	**0.87**	**117**	⇑*i*PG	Pg	02 12 45.0	-0.2
ZEI				*i* S	Sg	02 12 55.0	-1.5
PYA	**Pyatigorsk**	**0.89**	**10**	*e*PG	Pg	02 12 45.8	+0.3
PYA				*e*S	Sg	02 12 55.9	-1.2
KORR	**Kora**	**0.90**	**94**	⇓*i*PG	Pg	02 12 45.7	-0.1
KORR				*i* S	Sg	02 12 56.3	-1.2
ARNR	**Ardon**	**1.05**	**88**	⇑*i*PG	Pg	02 12 48.6	0.0
ARNR				*i* S	Sb	02 13 01.3	-0.7
KMSR	**Komsomolskaya**	**1.08**	**78**	⇓*i*PG	Pg	02 12 49.3	+0.1
KMSR				*i* S	Sb	02 13 02.6	-0.2
LACR	**Lac**	**1.12**	**107**	⇓*i*PG	Pg	02 12 49.6	-0.3
LACR				*i* S	Sb	02 13 03.0	-1.0
SNJR	**Sundja**	**1.44**	**93**	⇓*i*PG	Pg	02 12 55.0	-1.1
SNJR				*i* S	Sn	02 13 12.4	-0.6
TRKR	**Terskaya**	**1.48**	**67**	⇓*i*PG	Pg	02 12 56.2	-0.7
TRKR				*i* S	Sn	02 13 14.6	+0.6

MAN 30 02:14:10.2, 1196N×12250E, h106km, mb2.8, ML4.2, MS3.8, Panay

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*NIED **30** 02:31:00, 3460N×14140E, h32km, Mw4.0 Best double couple: $M_0$1.16000×10^{15} NP1:ϕ_s165.00000°, δ86.00000°, λ5.00000°. NP2:ϕ_s74.00000°, δ85.00000°, λ176.00000°.*
*MOS **30** 02:31:07.3±0.9, 3474N×14155E, h36km, mb4.2/6, Error ellipse: s-maj=26.1km s-min=13.3km az=111.3*
*NEIC **30** 02:31:08.3, 3461N×14135E, h46km, MG3.9(JMA), After JMA.*
*ISCJB **30** 02:31:08.4±0.8, 3465N±004×14138E±007, h41km±8km, mb4.1/7, Error ellipse: s-maj=9.4km s-min=5.9km az=169.8*
*JMA **30** 02:31:08.3±0.2, 3461N×14135E, h46km±1km, M3.9*
*IDC **30** 02:31:09.6±6.4, 3466N×14128E, h28km±46km, mb3.9/7, mb1 4.1/10, mb1mx3.8/25, mbtmp4.2/10, ML4.4/3, Error ellipse: s-maj=24.3km s-min=14.6km az=84.0*

ISC 30 02:31:09.1±0.9, 3467N±003×14137E±005, h29km±6km, n34, σ0°66/46, mb4.1/7, 1C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.32**	**267**	⇑P	Pb	02 31 17.1	+0.4
BSO3	**Boso 3**	**0.72**	**281**	⇓P	Pb	02 31 22.5	-0.5
BSO3				*e*S	Sb	02 31 32.7	+0.2
BSO4	**Boso 4**	**0.90**	**291**	⇓P	Pn	02 31 25.6	-0.2
KTR	**Katsuura**	**0.99**	**299**	P	Pn	02 31 26.6	-0.3
KTR				*e*S	Sn	02 31 39.7	-0.2
CHOJ	**Chosi**	**1.11**	**338**	P	Pn	02 31 28.7	+0.1
CHOJ				*e*S	Sn	02 31 42.9	-0.1
JCN	**Nagara**	**1.21**	**308**	P	Pn	02 31 30.4	+0.4
JCN				*e*S	Sn	02 31 46.3	+0.9
JIM2	**Oshima 3**	**1.59**	**272**	P	Pn	02 31 34.0	-1.3
JYT	**Yasato**	**1.83**	**329**	P	Pn	02 31 39.2	+0.7
JYT				*e*S	Sn	02 32 02.2	+1.6
JKO	**Kozu shima**	**1.90**	**256**	P	Pn	02 31 39.7	+0.2
JKO				*e*S	Sn	02 32 01.7	-0.8
JHJ	**Hachijo jima 2**	**2.03**	**221**	Pn	Pn	02 31 41.5	+0.2
160nm,0.3s,baz=130,slow=2.2,SNR=110							
JHJ				Sn	Sn	02 32 05.2	-0.4
237nm,0.3s,baz=85,slow=23,SNR=13							
MJAR	**Matsushiro Arr**	**3.18**	**307**	Pn	Pn	02 31 57.4	+0.4
10nm,0.3s,baz=121,slow=15,SNR=40							
MJAR				Sn	Sn	02 32 33.4	-0.6
8.6nm,0.3s,baz=134,slow=14,SNR=6.4							
MJAR	**Matsushiro Arr**	**3.18**	**307**	P	Pn	02 31 57.4	+0.3
MJAR						02 32 33.4	
MJAR				pmax	pmax		
comp=Z,11nm,0.3s							
MJAR				smax			
comp=N,9.0nm,0.3s							
MAJO	**Matsushiro**	**3.18**	**307**	*e*Pn	Pn	02 31 57.7	+0.6
MAJO				*e*Sn	Sn	02 32 33.9	-0.1
MAT	**Matsushiro**	**3.18**	**307**	P	Pn	02 31 57.6	+0.5
MAT				S	Sn	02 32 33.7	-0.3
ERM	**Erimo**	**7.47**	**10**	*e*P	Pn	02 32 55.1	-0.9
ERM				*e*		02 34 17.8	
ERM				pmax	pmax		
comp=Z,22nm,0.4s							
ERM	**Erimo**	**7.47**	**10**	*e*Pn	Pn	02 32 55.1	-0.8
comp=Z,22nm,0.4s							
ERM				*e*Sn	Sn	02 34 17.8	-1.9
CBIJ	**Chichi jima**	**7.58**	**174**	Pn	Pn	02 32 57.3	-0.2
comp=Z,24nm,0.3s,baz=228,slow=18,SNR=17							
CBIJ				Sn	Sn	02 34 15.8	-6.6
comp=Z,8.9nm,0.3s,baz=51,slow=22,SNR=2.8							
ASAJ	**Asahikawa**	**9.48**	**5**	Pn	Pn	02 33 22.8	-0.8
comp=Z,4.8nm,0.3s,baz=231,slow=10.0,SNR=9.0							
ASAJ	**Asahikawa**	**9.48**	**5**	P	Pn	02 33 22.8	-0.8
ASAJ				pmax	pmax		
comp=Z,5.0nm,0.3s							
SONM	**Songino Array**	**29.13**	**308**	P	P	02 37 07.2	-0.2
comp=Z,0.7nm,0.6s,mb3.6,baz=111,slow=9.7,SNR=5.4							
SONM	**Songino Array**	**29.13**	**308**	P	P	02 37 07.2	-0.2
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
ZAL	**Zalesovo**	**43.52**	**314**	P	P	02 39 09.8	-0.1
comp=Z,1.0nm,0.3s,mb4.0,baz=41,slow=9.3,SNR=2.4							
ZAL	**Zalesovo**	**43.52**	**314**	P	P	02 39 09.8	-0.1
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**45.38**	**304**	P	P	02 39 24.7	-0.1
comp=Z,1.6nm,0.8s,mb3.9,baz=88,slow=8.6,SNR=7.6							
MKAR	**Makanchi Array**	**45.38**	**304**	P	P	02 39 24.7	0.0
MKAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**45.38**	**304**	P	P	02 39 24.7	-0.1
KDAK	**Kodiak Island**	**48.90**	**41**	P	P	02 39 53.6	+1.4
comp=Z,11nm,1.1s,mb4.8,baz=302,slow=9.5,SNR=3.4							
WB2	**Warramunga Arr**	**54.72**	**188**	*e*P	P	02 40 35.4	-0.2
WRA	**Warramunga Arr**	**54.72**	**188**	P	P	02 40 36.2	+0.6
comp=Z,2.9nm,0.6s,mb4.5,baz=3.3,slow=7.5,SNR=32							
WRA	**Warramunga Arr**	**54.72**	**188**	P	P	02 40 36.2	+0.6
WRA				pmax	pmax		
comp=Z,3.0nm,0.6s							
ASAR	**Alice Springs**	**58.44**	**188**	P	P	02 41 02.6	+0.5
comp=Z,1.0nm,0.7s,mb4.0,baz=14,slow=9.7,SNR=12							
ASAR	**Alice Springs**	**58.44**	**188**	P	P	02 41 02.6	+0.5
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**70.89**	**333**	P	P	02 42 23.6	+0.3
comp=Z,1.2nm,0.8s,mb3.9,baz=68,slow=9.1,SNR=3.5							
FINES	**FINESS Array B**	**70.89**	**333**	P	P	02 42 23.6	+0.3
FINES				pmax	pmax		
comp=Z,1.0nm,0.9s							

NEIC 30 02:35:13.5±0.9, 3681N×10496W, h5km, ML3.5, Error ellipse: s-maj=12.7km s-min=8.5km az=94.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**1.03**	**335**	*e*P	Pg	02 35 30.6	-2.5
SDCO				*e*S	Sg	02 35 43.4	-3.1
ANMO	**Albuquerque**	**2.22**	**214**	*e*P	Pn	02 35 51.0	+0.1
ANMO				*e*S	Sn	02 36 19.1	+0.4
LPM	**Los Pinos Moun**	**2.84**	**209**	*e*Pn	Pn	02 35 59.2	-0.3
LPM				*e*Pg	Pg	02 36 04.2	-3.7
LPM				*e*Sg	Sg	02 36 38.6	-6.1
SMCO	**Snowmass**	**2.85**	**327**	*e*Pn	Pn	02 36 00.7	+1.1
SMCO				*e*Sg	Sg	02 36 41.6	-3.3
MVCO	**Mesa Verde**	**2.86**	**279**	*e*Pn	Pn	02 36 00.1	+0.4
MVCO				*e*Sn	Sn	02 36 39.1	+4.6
BNM	**Barren Site**	**2.98**	**208**	*e*Pn	Pn	02 36 00.7	-0.7
BNM				*e*Pg	Pg	02 36 06.0	-4.7
BNM				*e*Sg	Sg	02 36 41.9	-7.4
LENM	**Lemitar**	**3.11**	**212**	Pn	Pn	02 36 03.5	+0.3
LENM				*e*Pg	Pg	02 36 10.0	-3.1
LENM				*e*Sn	Sn	02 36 39.1	-1.5
LENM				*e*Sg	Sg	02 36 47.6	-5.7
PV01	**Paradox Valley**	**3.16**	**296**	*e*Pn	Pn	02 36 04.9	+1.0
PV01				*e*Sg	Sg	02 36 52.7	-2.2
PV10	**Paradox Valley**	**3.59**	**297**	*e*Pn	Pn	02 36 11.7	+1.8
PV10				*e*Sg	Sg	02 37 06.7	-2.2
CBKS	**Cedar Bluff**	**4.59**	**63**	*e*Pn	Pn	02 36 24.3	+0.7
CBKS				*e*Sg	Sg	02 37 35.8	-5.3
GDL2	**Guadalupe Moun**	**4.63**	**174**	*e*Pg	Pg	02 36 36.4	-5.7
GDL2				*e*Sn	Sn	02 37 27.1	+9.0
SRU	**San Rafael**	**4.96**	**299**	*e*Pn	Pn	02 36 31.2	+2.7
SRU				*e*Sg	Sg	02 37 45.9	-6.8
MNTX	**Cornudas Mount**	**5.11**	**184**	Pn	Pn	02 36 38.5	+7.8
MNTX				*e*Pg	Pg	02 36 44.9	-6.5
MNTX				Sn	Sn	02 37 42.5	+12
MNTX				*e*Sg	Sg	02 37 50.0	-7.6
WUAZ	**Wupatki**	**5.34**	**258**	*e*Pn	Pn	02 36 34.1	+0.2
WUAZ				*e*Pg	Pg	02 36 48.5	-7.4
WUAZ				Sg	Sg	02 38 00.1	-5.0
WMOK	**Wichita Mounta**	**5.43**	**111**	Pn	Pn	02 36 34.0	-1.2
WMOK				*e*Pg	Pg	02 36 50.9	-6.7
WMOK				Sn	Sn	02 37 54.5	+16
WMOK				*e*

RSSD	**Black Hills**	**7.34**	**5**	Pn	Pn	02 37 05.8	+4.5
RSSD				*e*Pg	Pg	02 37 30.2	-3.8
RSSD				*e*Sg	Sg	02 39 07.6	-1.4
SPUT	**South Promonto**	**7.35**	**310**	*e*Pn	Pn	02 37 17.9	+16
SPUT				*e*Pg	Pg	02 37 27.7	-6.6
JCT	**Junction City**	**7.64**	**144**	Pn	Pn	02 37 16.9	+11
JCT				*e*Pg	Pg	02 37 34.4	-5.4
JCT				*e*Sg	Sg	02 39 12.5	-6.2
SHPR	**Sheep Range**	**8.20**	**271**	*e*Pb	Pb	02 37 46.0	+10

IDC ***30*** *02:46:37.1±0.7, 44.35N×81.34E, h0km, mb4.2/12, mb1 4.3/17, mb1mx4.2/26, mbtmp4.2/17, ML3.9/5, MS3.4/5, Ms1 3.4/5, ms1mx3.0/37, Error ellipse: s-maj=12.7km s-min=10.3km az=116.0*

ISCJB ***30*** *02:46:38.7±0.3, 44.69N±0.03×81.14E±0.04, h10km, mb4.5/75, MS3.4/5, Error ellipse: s-maj=4.1km s-min=3.9km az=36.9*

LDG ***30*** *02:46:38.8±0.5, 44.73N×81.03E, h10km, Mb4.5/35, Ms2.8/1, Error ellipse: s-maj=34.7km s-min=3.4km az=173.0*

SZGRF ***30*** *02:46:42.0, 45.01N×81.29E, h33km, mb4.6, Kazakhstan-Xinjiang border region*

NEIC ***30*** *02:46:42.9±0.3, 44.44N×81.22E, h35km, mb4.6/65, Error ellipse: s-maj=5.3km s-min=4.6km az=156.0*

MOS ***30*** *02:46:42.9±0.8, 44.60N×80.90E, h33km, mb4.6/52, Error ellipse: s-maj=9.9km s-min=5.1km az=127.3*

BJI ***30*** *02:46:42.0, 44.42N×81.45E, h25km, mB4.8, mb4.3, ML4.5, Ms4.1, Msz3.4*

NNC ***30*** *02:46:43.6±1.8, 44.64N×80.78E, h7km±13km, mb4.3, mpv4.0, Error ellipse: s-maj=13.5km s-min=7.6km az=142.0*

ISC 30 02:46:40.5±0.3, 44.62N±0.03×81.14E±0.04, h10km, n237, σ1.90/0.257, mb4.5/75, MS3.4/5, 92C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.32**	**20**	⇑Pn	**Pn**	**02 47 22.0**	**+3.3**
	51nm,0.2s,baz=200,slow=14,SNR=7383						
MK31				⇑Sn	**Sg**	**02 47 55.0**	**-0.1**
	976nm,0.4s,baz=197,slow=28						
MK31	**Makanchi Array**	**2.32**	**20**	*e*Pn	**Pn**	**02 47 22.0**	**+3.3**
MK31				*e*Sn	**Sn**	**02 47 51.7**	**+4.4**
MKAR	**Makanchi Array**	**2.32**	**20**	Pn	**Pn**	**02 47 20.9**	**+2.2**
	25nm,0.3s,baz=199,slow=15,SNR=216						
MKAR				Pg	**Pg**	**02 47 25.4**	**+0.4**
	212nm,0.3s,baz=195,slow=16,SNR=210						
MKAR				Lg		02 47 55.5	
	499nm,0.3s,baz=197,slow=29,SNR=19						
AAA	**Alma-Ata**	**3.31**	**248**	*i* PN	**Pn**	**02 47 40.2**	**+7.9**
AAA				*i* S	**Sg**	**02 48 22.5**	**-4.3**
AAA				smax			
	comp=N,2.0nm,0.4s						
KNDC	**Almaty**	**3.32**	**247**	⇓Pn	**Pn**	**02 47 33.4**	**+0.9**
	comp=N,26nm,0.3s						
KNDC				⇑Pg	**Pg**	**02 47 40.6**	**-3.5**
	comp=N,134nm,0.3s						
KNDC				⇑Lg		02 48 25.0	
	comp=N,2μm,0.5s						
ULHL	**Ulahol**	**4.28**	**238**	P	**Pn**	**02 47 46.9**	**+1.2**
	SNR=70						
TKM2	**Tokmak 2**	**4.36**	**249**	P	**Pn**	**02 47 47.4**	**+0.7**
	SNR=69						
TKM2	**Tokmak 2**	**4.36**	**249**	⇑Pn	**Pn**	**02 47 47.2**	**+0.6**
	comp=N,0.8nm,0.3s						
TKM2				⇑Pg	**Pg**	**02 47 58.1**	**-5.8**
	comp=N,19nm,0.7s						
TKM2				⇑Lg		02 48 57.0	
	comp=N,40nm,0.5s						
WMQ	**Urumqi**	**4.78**	**97**	P	**Pn**	**02 47 53.5**	**+1.0**
WMQ				S	**Sn**	**02 48 47.5**	**-0.4**
WMQ				SG	**Sg**	**02 49 07.0**	**-6.9**
WMQ				Smax			
	comp=N,404nm,0.9s						
WMQ				Smax			
	comp=E,429nm,0.9s						
WMQ				LR	LR		
	comp=N,923nm,4.2s						
WMQ				LR	LR		
	comp=E,982nm,3.8s						
CHMS	**Chumysh**	**4.90**	**253**	P	**Pn**	**02 47 54.9**	**+0.8**
	SNR=52						
KBK	**Karagaybulak**	**4.90**	**249**	P	**Pn**	**02 47 55.8**	**+1.6**
	SNR=43						
USP	**Ospenovka**	**4.98**	**257**	P	**Pn**	**02 47 56.1**	**+0.9**
	SNR=143						
KZA	**Kyzart**	**4.99**	**241**	P	**Pn**	**02 48 01.1**	**+5.7**
	SNR=6.0						
FRU	**Bishkek**	**5.05**	**252**	⇑*e*PN	**Pn**	**02 47 57.2**	**+1.0**
FRU				pmax	pmax		
	comp=Z,90nm,1.1s						
AAK	**Ala-Archa**	**5.21**	**250**	P	**Pn**	**02 48 00.1**	**+1.6**
	SNR=34						
AAK	**Ala-Archa**	**5.21**	**250**	⇑*e*PN	**Pn**	**02 47 58.3**	**-0.2**
AAK				*e*		02 49 17.7	
AAK				pmax	pmax		
	comp=Z,33nm,0.6s						
AAK	**Ala-Archa**	**5.21**	**250**	⇑*e*Pn	**Pn**	**02 47 58.3**	**-0.2**
	comp=Z,33nm,0.6s						
AAK				*e*Sn	**Sg**	**02 49 17.7**	**-10**
UCH	**Uchtor**	**5.38**	**246**	P	**Pn**	**02 48 03.3**	**+2.5**
	SNR=22						
EKS2	**Erkin-Say**	**5.69**	**252**	P	**Pn**	**02 48 06.1**	**+1.1**
	SNR=94						
AML	**Almayashu**	**5.97**	**248**	P	**Pn**	**02 48 11.3**	**+2.5**
	SNR=24						
KSH	**Kashi**	**6.38**	**219**	PG	**Pb**	**02 48 38.8**	**+7.2**
KSH				SG	**Sb**	**02 50 02.0**	**+14**
KSH				Smax			
	comp=N,669nm,1.0s						
KSH				Smax			
	comp=E,835nm,0.8s						
KK31	**Karatay Array**	**7.83**	**263**	Pn	**Pn**	**02 48 35.0**	**+0.6**
	comp=E,2.5nm,0.3s,baz=72,slow=14,SNR=62						
KK31				⇑Lg		02 50 44.7	
	comp=E,134nm,0.7s						
ZAL	**Zalesovo**	**9.63**	**13**	Pn	**Pn**	**02 49 01.3**	**+2.2**
	comp=E,2.9nm,0.3s,baz=276,slow=9.2,SNR=14						
ZAL				Sn	**Sn**	**02 50 47.2**	**-0.1**
	comp=E,4.2nm,0.3s,baz=149,slow=18,SNR=3.9						
ZAL				Lg		02 51 46.3	
	comp=E,4.7nm,0.3s,baz=93,slow=15,SNR=5.0						
ZAL	**Zalesovo**	**9.63**	**13**	P	**Pn**	**02 49 01.3**	**+2.2**
ZAL						02 50 47.2	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAL				smax			
	comp=N,4.0nm,0.3s						
ZAL	**Zalesovo**	**9.63**	**13**	Pn	**Pn**	**02 49 01.3**	**+2.2**
ZAL				Sn	**Sn**	**02 50 47.2**	**-0.1**
ZAL				Lg		02 51 46.3	
VOSK	**Vostochnaya**	**10.52**	**324**	⇑Pn	**Pn**	**02 49 12.5**	**+1.2**
	comp=N,6.1nm,0.5s						
VOSK				⇑Sn	**Sn**	**02 51 08.0**	**-1.2**
	comp=N,26nm,0.9s						
VOSK				⇓Lg		02 52 15.8	
	comp=N,134nm,0.9s						
BVA0	**Borovoye Array**	**10.99**	**324**	⇓Pn	**Pn**	**02 49 19.2**	**+1.5**
	comp=N,0.8nm,0.5s,baz=142,slow=14,SNR=19						
BVA0				⇑Sn	**Sn**	**02 51 21.7**	**+1.0**
	comp=N,5.0nm,0.8s						
BVA0				⇑Lg		02 52 27.1	
	comp=N,24nm,0.8s						
BVAR	**Borovoye Array**	**10.99**	**324**	Pn	**Pn**	**02 49 19.0**	**+1.3**
	comp=N,1.4nm,0.3s,baz=141,slow=13,SNR=22						
BVAR				Sn	**Sn**	**02 51 21.0**	**+0.3**
	comp=N,3.5nm,0.3s,baz=128,slow=19,SNR=3.5						
BVAR	**Borovoye Array**	**10.99**	**324**	P	**Pn**	**02 49 19.0**	**+1.3**
BVAR						02 51 21.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,4.0nm,0.3s						
BRVK	**Borovoye**	**11.06**	**324**	*e*P	**Pn**	**02 49 20.0**	**+1.4**
BRVK				*e*		02 51 22.0	
BRVK				pmax	pmax		
	comp=Z,11nm,0.5s						
BRVK	**Borovoye**	**11.06**	**324**	*e*Pn	**Pn**	**02 49 20.0**	**+1.4**
	comp=Z,11nm,0.5s						
BRVK				*e*Sn	**Sn**	**02 51 22.0**	**-0.4**
CHKZ	**Chkalovo**	**11.38**	**327**	⇓Pn	**Pn**	**02 49 24.1**	**+1.2**
	comp=Z,9.9nm,0.5s						
CHKZ				⇑Sn	**Sn**	**02 51 28.5**	**-1.6**
	comp=Z,18nm,0.6s						
CHKZ				⇑Lg		02 52 40.0	
	comp=Z,109nm,0.9s						
CHKZ	**Chkalovo**	**11.38**	**327**	⇑*i*P	**Pn**	**02 49 24.1**	**+1.1**
CHKZ				*e*		02 51 29.1	
CHKZ				pmax	pmax		
	comp=Z,19nm,0.5s						
CHKZ	**Chkalovo**	**11.38**	**327**	⇑*i*Pn	**Pn**	**02 49 24.1**	**+1.1**
	comp=Z,19nm,0.5s						
CHKZ				*e*Sn	**Sn**	**02 51 29.1**	**-1.1**
ZRNK	**Zerenda**	**11.54**	**321**	⇓Pn	**Pn**	**02 49 25.6**	**+0.3**
	comp=Z,5.1nm,0.6s						
ZRNK				⇑Sn	**Sn**	**02 51 31.0**	**-3.3**
	comp=Z,46nm,0.7s						
ZRNK				⇓Lg		02 52 45.4	
	comp=Z,292nm,1.8s						
ZRNK	**Zerenda**	**11.54**	**321**	*e*P	**Pn**	**02 49 25.7**	**+0.4**
ZRNK				*e*		02 51 32.7	
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ZRNK	**Zerenda**	**11.54**	**321**	*e*Pn	**Pn**	**02 49 25.7**	**+0.4**
	comp=Z,8.4nm,0.4s						
ZRNK				*e*Sn	**Sn**	**02 51 32.7**	**-1.6**
GTA	**Gaotai**	**14.82**	**104**	*e*P	**Pn**	**02 50 12.0**	**+2.0**
GTA				AP	pP	02 50 16.0	-2.7
GTA				XP	sP	02 50 19.8	-0.2
GTA				LG2		02 54 17.5	
AB31	**Akbulak array**	**15.19**	**295**	Pn	**Pn**	**02 50 12.1**	**-2.8**
	comp=Z,4.8nm,0.5s,baz=104,slow=11,SNR=59						
AB31				⇑Lg		02 54 42.6	
	comp=Z,43nm,0.9s						
ZAK	**Zakamensk**	**16.01**	**61**	*e*P	**Pn**	**02 50 29.5**	**+3.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKTK	**Aktyubinsk**	**16.63**	**299**	Pn	**Pn**	**02 50 32.5**	**-1.1**
AKTK				Sn	**Sn**	**02 53 33.1**	**-5.2**
AKTK				Lg		02 55 29.9	
AKTO	**Aktyubinsk**	**16.63**	**299**	⇓Pn	**Pn**	**02 50 32.7**	**-1.0**
	comp=Z,0.4nm,0.8s						
AKTO				⇑Lg		02 55 24.7	
	comp=Z,1.5nm,1.4s						
AKTO	**Aktyubinsk**	**16.63**	**299**	Pn	**Pn**	**02 50 32.5**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=100,slow=11,SNR=14						
AKTO				Sn	**Sn**	**02 53 33.1**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=49,slow=12,SNR=3.3						
AKTO				Lg		02 55 29.9	
	comp=Z,0.5nm,0.3s,baz=27,slow=15,SNR=6.7						
GKN	**Gorkha**	**16.82**	**169**	*e*P	**Pn**	**02 50 31.9**	**-4.1**
	comp=Z,25nm,0.7s						
GKN	**Gorkha**	**16.82**	**169**	*e*P	**Pn**	**02 50 32.7**	**-3.3**
	comp=Z,25nm,0.7s						
LSA	**Lhasa**	**16.87**	**149**	*e*P	**Pn**	**02 50 39.1**	**+2.4**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LSA	**Lhasa**	**16.87**	**149**	*e*Pn	**Pn**	**02 50 39.1**	**+2.5**
	comp=Z,7.6nm,0.5s						
KOLN	**Koldanda**	**16.93**	**172**	*e*P	**Pn**	**02 50 30.6**	**-6.8**
	comp=Z,26nm,0.9s						
KOLN	**Koldanda**	**16.93**	**172**	*e*P	**Pn**	**02 50 31.4**	**-6.0**
	comp=Z,26nm,0.9s						
GUN	**Gumba**	**17.10**	**166**	*e*P	**Pn**	**02 50 35.6**	**-3.9**
	comp=Z,70nm,0.9s						
GUN	**Gumba**	**17.10**	**166**	*e*P	**Pn**	**02 50 38.6**	**-0.9**
	comp=Z,70nm,0.9s						
KKN	**Kakani**	**17.12**	**167**	*e*P	**Pn**	**02 50 35.1**	**-4.6**
KKN	**Kakani**	**17.12**	**167**	*e*P	**Pn**	**02 50 37.6**	**-2.1**
DMN	**Daman**	**17.27**	**168**	*e*P	**Pn**	**02 50 37.8**	**-3.8**
PKI	**Pulchoki**	**17.35**	**167**	*e*P	**Pn**	**02 50 38.6**	**-4.1**
	comp=Z,27nm,0.9s						
SONM	**Songino Array**	**17.75**	**71**	Pn	**Pn**	**02 50 46.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=267,slow=11,SNR=17						
SONM				Lg		02 56 07.6	
	comp=Z,0.1nm,0.3s,baz=288,slow=28,SNR=5.5						
SONM				LR	LR	02 58 15.0	
	comp=Z,66nm,20.7s,baz=60,slow=39						
ARU	**Arti**	**18.49**	**318**	⇑*i*P	**Pn**	**02 50 58.3**	**+1.6**
ARU				*e*S	**Sn**	**02 54 14.5**	**-8.9**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU	**Arti**	**18.49**	**318**	*e*P	**Pn**	**02 50 57.8**	**+1.1**
	comp=Z,8.3nm,0.7s						
ORR	**Orenburg**	**18.89**	**301**	P	**Pn**	**02 51 01.1**	**-0.5**
ORR				pmax	pmax		
	comp=Z,20nm,2.0s						
LZH	**Lanzhou**	**19.24**	**108**	*e*P	**Pn**	**02 51 09.0**	**+3.2**
LZH				AP	pP	02 51 13.3	+5.6
LZH				XP	sP	02 51 16.0	+7.0
LZH				AMB	AMB		
	comp=Z,23nm,1.4s						
LZH	**Lanzhou**	**19.24**	**108**	*e*P	**Pn**	**02 51 09.1**	**+3.3**
	comp=Z,23nm,1.4s						
LZH				pP	pP	02 51 13.2	+5.5
LZH				sP	sP	02 51 16.1	+7.1
CD2	**Chengdu**	**22.42**	**120**	*e*P	**P**	**02 51 33.5**	**-5.7**
CD2				XP	sP	02 51 46.8	+3.4
CD2				PP		02 52 00.5	
CD2				S	**S**	**02 55 31.0**	**-15**
CD2				SS		02 56 11.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				LR	LR		
	comp=E,220nm,9.6s						
CD2				LR	LR		
	comp=Z,100nm,14.4s,MS3.4						
JOF	**Joensuu**	**33.57**	**321**	*e*p	**P**	**02 53 20.2**	**-0.4**
	comp=Z,2.5nm,0.4s,mb4.5						
JOF	**Joensuu**	**33.57**	**321**	*e*P	**P**	**02 53 20.2**	**-0.4**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
AKASG	**Malin Array Be**	**34.88**	**299**	P	**P**	**02 53 31.6**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=67,slow=8.5,SNR=6.2						
AKASG	**Malin Array Be**	**34.88**	**299**	P	**P**	**02 53 31.6**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BR131	**Keskin Array S**	**35.15**	**279**	*e*P	**P**	**02 53 34.5**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**35.15**	**279**	P	**P**	**02 53 33.9**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=85,slow=7.3,SNR=14						
BRTR	**Keskin Array B**	**35.15**	**279**	P	**P**	**02 53 33.9**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	**Kangasniemi**	**35.79**	**319**	*e*p	**P**	**02 53 40.5**	**+0.7**
	comp=Z,0.7nm,0.3s,mb4.1						
KAF	**Kangasniemi**	**35.79**	**319**	*e*P	**P**	**02 53 40.5**	**+0.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**35.87**	**318**	P	**P**	**02 53 40.2**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=323,slow=33,SNR=4.0						
FINES				LR	LR	03 09 13.6	
	comp=Z,60nm,18.9s,MS3.4,baz=357,slow=38						
FINES	**FINESS Array B**	**35.87**	**318**	P	**P**	**02 53 40.2**	**-0.2**
FINES				LR	LR	03 09 13.6	
KEV	**Kevo**	**36.69**	**332**	*e*p	**P**	**02 53 48.0**	**+0.5**
ARCES	**ARCESS Array B**	**37.15**	**331**	P	**P**	**02 53 51.5**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.4,baz=81,slow=10.0,SNR=13						
ARCES				LR	LR	03 09 54.3	
	comp=Z,97nm,21.3s,MS3.6,baz=203,slow=37						
ARCES	**ARCESS Array B**	**37.15**	**331**	P	**P**	**02 53 51.5**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,97nm,21.3s						
KWP	**Kalwaria**	**39.20**	**299**	*e*P	**P**	**02 54 09.2**	**+0.5**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.9						
KWP	**Kalwaria**	**39.20**	**299**	*e*P	**P**	**02 54 09.2**	**+0.5**
	comp=Z,7.8nm,0.3s,mb4.9						
MORC	**Moravsky Berou**	**42.37**	**300**	*e*P	**P**	**02 54 35.1**	**+0.3**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
MORC	**Moravsky Berou**	**42.37**	**300**	*e*P	**P**	**02 54 35.1**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.0						
NB2	**NORSAR Subarra**	**43.05**	**318**	P	**P**	**02 54 40.2**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.0,baz=80,slow=8.6						
NB2	**NORSAR Subarra**	**43.05**	**318**	P	**P**	**02 54 40.2**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**43.05**	**318**	P	**P**	**02 54 40.3**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=80,slow=8.1,SNR=6.8						
NOA				LR	LR	03 13 16.3	
	comp=Z,51nm,19.9s,MS3.4,baz=90,slow=37						
NOA	**NORSAR Array B**	**43.05**	**318**	P	**P**	**02 54 40.3**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,51nm,19.9s						
MJAR	**Matsushiro Arr**	**43.31**	**80**	LR	LR	03 13 26.8	
	comp=Z,48nm,21.9s,MS3.4,baz=310,slow=37						
CLL	**Collm**	**44.62**	**304**	⇓*i*P	**P**	**02 54 53.4**	**+0.5**
CLL				*i*		02 55 02.8	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
CLL	**Collm**	**44.62**	**304**	⇓*i*P	**P**	**02 54 53.4**	**+0.5**
	comp=Z,7.0nm,0.7s,mb4.6						
CLL				*i*		02 55 02.8	
CLL	**Collm**	**44.62**	**304**	⇓*i*P	**P**	**02 54 53.4**	**+0.5**
	comp=Z,7.0nm,0.7s,mb4.6						
CLL				*i* pP	pP	02 55 02.8	+6.7
GERES	**GERESS Array B**	**45.05**	**300**	P	**P**	**02 54 56.7**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=62,slow=8.3,SNR=12						
GRA1	**Grafenberg Arr**	**46.25**	**302**	*e*P	**P**	**02 55 06.8**	**+0.9**
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**46.25**	**302**	*e*P	**P**	**02 55 06.8**	**+0.9**
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**46.25**	**302**	*e*P	**P**	**02 55 06.8**	**+0.9**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**46.25**	**302**	*e*P	**P**	**02 55 06.8**	**+0.9**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
WTTA	**Wattenberg**	**46.93**	**299**	⇑*i*P	**P**	**02 55 11.8**	**+0.6**
	comp=Z,12nm,0.7s,mb4.9						
WTTA	**Wattenberg**	**46.93**	**299**	⇑*i*P	**P**	**02 55 11.8**	**+0.6**
WTTA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
WATA	**Walderalm**	**46.94**	**299**	⇑*i*P	**P**	**02 55 11.7**	**+0.3**
	comp=Z,3.8nm,0.9s,mb4.3						
WATA	**Walderalm**	**46.94**	**299**	⇑*i*P	**P**	**02 55 11.7**	**+0.4**
WATA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIP	**Timpagrande**	**47.12**	**287**	*e*P	**P**	**02 55 12.7**	**-0.1**
SQTA	**Sankt Quirin**	**47.22**	**299**	⇑*i*P	**P**	**02 55 13.8**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.5						
SQTA	**Sankt Quirin**	**47.22**	**299**	⇑*i*P	**P**	**02 55 13.9**	**+0.4**
SQTA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MOTA	**Moosalm**	**47.23**	**299**	⇓*i*P	**P**	**02 55 13.9**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.4						
MOTA	**Moosalm**	**47.23**	**299**	⇓*i*P	**P**	**02 55 13.9**	**+0.3**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
DAVA	**Damuels**	**48.02**	**300**	⇑*i*P	**P**	**02 55 20.0**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.6						
CDF	**Champ du Feu**	**49.14**	**302**	⇑*i*P	**P**	**02 55 28.2**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.0						
CDF	**Champ du Feu**	**49.14**	**302**	⇑*i*P	**P**	**02 55 28.2**	**-0.1**
CDF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CDF	**Champ du Feu**	**49.14**	**302**	⇑*i*P	**P**	**02 55 28.2**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1						
HINF	**Hinteralfeld**	**49.65**	**302**	⇑*i*P	**P**	**02 55 32.1**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.3						
HINF	**Hinteralfeld**	**49.65**	**302**	⇑*i*P	**P**	**02 55 32.1**	**-0.1**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
HINF	**Hinteralfeld**	**49.65**	**302**	⇑*i*P	**P**	**02 55 32.1**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.3						
HAU	**Haudompre**	**49.87**	**302**	⇑*i*P	**P**	**02 55 33.8**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.3						
HAU	**Haudompre**	**49.87**	**302**	⇑*i*P	**P**	**02 55 33.8**	**-0.1**
HAU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
HAU	**Haudompre**	**49.87**	**302**	⇑*i*P	**P**	**02 55 33.8**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.3						
MEZF	**Maizieres J'vi**	**50.44**	**303**	*e*P	**P**	**02 55 37.5**	**-0.7**
	comp=Z,4.4nm,0.4s,mb4.5						
MEZF	**Maizieres J'vi**	**50.44**	**303**	*e*P	**P**	**02 55 37.5**	**-0.7**
	comp=Z,4.4nm,0.4s,mb4.8						
CABF	**La Chapelle**	**50.65**	**301**	⇑*i*P	**P**	**02 55 38.7**	**-1.1**
	comp=Z,11nm,0.9s,mb4.5						
CABF	**La Chapelle**	**50.65**	**301**	⇑*i*P	**P**	**02 55 38.7**	**-1.1**
CABF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CABF	**La Chapelle**	**50.65**	**301**	⇑*i*P	**P**	**02 55 38.7**	**-1.1**
	comp=Z,5.6nm,0.9s,mb4.5						
PGF	**Pioggiola**	**50.69**	**295**	*e*P	**P**	**02 55 40.0**	**-0.1**
	comp=Z,17nm,0.9s,mb4.7						
PGF	**Pioggiola**	**50.69**	**295**	*e*P	**P**	**02 55 40.0**	**-0.1**
PGF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
PGF	**Pioggiola**	**50.69**	**295**	*e*P	**P**	**02 55 40.0**	**-0.1**
	comp=Z,8.7nm,0.9s,mb4.7						
LPG	**La Plagne**	**50.75**	**299**	*e*P	**P**	**02 55 41.5**	**+1.0**
	comp=Z,19nm,0.5s,mb5.0						
LPG	**La Plagne**	**50.75**	**299**	*e*P	**P**	**02 55 41.5**	**+1.0**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
LPG	**La Plagne**	**50.75**	**299**	*e*P	**P**	**02 55 41.5**	**+1.0**
	comp=Z,9.4nm,0.5s,mb5.0						
LPL	**La Plagne**	**50.75**	**299**	⇑*i*P	**P**	**02 55 41.4**	**+0.9**
	comp=Z,28nm,0.4s,mb5.3						
LPL	**La Plagne**	**50.75**	**299**	⇑*i*P	**P**	**02 55 41.4**	**+0.9**
LPL				pmax	pmax		
	comp=Z,14nm,0.4s,mb5.2						
LPL	**La Plagne**	**50.75**	**299**	⇑*i*P	**P**	**02 55 41.4**	**+0.9**
	comp=Z,14nm,0.4s,mb5.2						
BNI	**Bardonecchia**	**51.00**	**299**	⇑*i*P	**P**	**02 55 42.5**	**+0.1**
BNI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BNI	**Bardonecchia**	**51.00**	**299**	⇑*i*P	**P**	**02 55 42.5**	**+0.1**

comp=Z,4.0nm,0.5s,mb4.6
VIVF Saint-Julien-I 52.34 299⇑iP P 02 55 52.3 -0.2
comp=Z,3.8nm,0.5s,mb4.6
BGF Bois d'Agland 52.66 302⇑iP P 02 55 54.3 -0.5
comp=Z,9.1nm,0.8s,mb4.5
BGF Bois d'Agland 52.66 302⇑iP P 02 55 54.3 -0.5
BGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BGF Bois d'Agland 52.66 302⇑iP P 02 55 54.3 -0.5
comp=Z,4.6nm,0.8s,mb4.5
TCF Toulx Ste Croi 53.17 302⇑iP P 02 55 58.5 -0.1
comp=Z,7.5nm,0.6s,mb4.5
TCF Toulx Ste Croi 53.17 302⇑iP P 02 55 58.5 -0.1
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 53.17 302⇑iP P 02 55 58.5 -0.1
comp=Z,3.8nm,0.6s,mb4.5
LASF Ste Croix 53.23 299⇑iP P 02 55 59.2 +0.1
comp=Z,21nm,0.9s,mb4.8
LDF La Druitiere 53.45 305⇑iP P 02 56 00.1 -0.6
comp=Z,5.2nm,0.5s,mb4.4
LDF La Druitiere 53.45 305⇑iP P 02 56 00.1 -0.6
LDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LDF La Druitiere 53.45 305⇑iP P 02 56 00.1 -0.6
comp=Z,2.6nm,0.5s,mb4.4
FLN La Foliniere 53.58 306 *eP* **P 02 56 01.1 -0.5**
comp=Z,2.5nm,0.4s,mb4.2
FLN La Foliniere 53.58 306 *eP* **P 02 56 01.1 -0.5**
FLN pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
FLN La Foliniere 53.58 306 *eP* **P 02 56 01.1 -0.5**
comp=Z,1.3nm,0.4s,mb4.2
CAF Calviac 53.93 300 *eP* **P 02 56 04.4 +0.3**
comp=Z,4.2nm,0.6s,mb4.2
CAF Calviac 53.93 300 *eP* **P 02 56 04.4 +0.3**
CAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CAF Calviac 53.93 300 *eP* **P 02 56 04.4 +0.3**
comp=Z,2.1nm,0.6s,mb4.2
GRR Gorron 53.98 305 *eP* **P 02 56 04.1 -0.4**
comp=Z,9.0nm,0.6s,mb4.6
GRR Gorron 53.98 305 *eP* **P 02 56 04.1 -0.4**
GRR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GRR Gorron 53.98 305 *eP* **P 02 56 04.1 -0.4**
comp=Z,4.5nm,0.6s,mb4.6
RJF Les Rejaudoux 54.08 301⇑iP P 02 56 05.5 +0.3
comp=Z,6.5nm,0.7s,mb4.4
RJF Les Rejaudoux 54.08 301⇑iP P 02 56 05.5 +0.3
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
RJF Les Rejaudoux 54.08 301⇑iP P 02 56 05.5 +0.3
comp=Z,3.3nm,0.7s,mb4.4
MFF Saint Martin d 54.44 303 *eP* **P 02 56 07.2 -0.7**
MTLF Montolieu 54.63 299⇑iP P 02 56 09.5 +0.2
comp=Z,2.2nm,0.4s,mb4.2
MTLF Montolieu 54.63 299⇑iP P 02 56 09.5 +0.2
MTLF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
MTLF Montolieu 54.63 299⇑iP P 02 56 09.5 +0.2
comp=Z,1.1nm,0.4s,mb4.2
LFF La Frestale 54.73 301⇑iP P 02 56 10.3 +0.3
comp=Z,11nm,0.6s,mb4.8
LFF La Frestale 54.73 301⇑iP P 02 56 10.3 +0.3
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
LFF La Frestale 54.73 301⇑iP P 02 56 10.3 +0.3
comp=Z,5.6nm,0.6s,mb4.8
SGMF Saint Gilles 55.03 306 *eP* **P 02 56 12.0 -0.2**
comp=Z,16nm,0.8s,mb4.8
SGMF Saint Gilles 55.03 306 *eP* **P 02 56 12.0 -0.2**
SGMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SGMF Saint Gilles 55.03 306 *eP* **P 02 56 12.0 -0.2**
comp=Z,8.2nm,0.8s,mb4.8
ROSF Rostrenen 55.41 306⇑iP P 02 56 14.6 -0.3
comp=Z,8.4nm,0.7s,mb4.6
ROSF Rostrenen 55.41 306⇑iP P 02 56 14.6 -0.3
ROSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ROSF Rostrenen 55.41 306⇑iP P 02 56 14.6 -0.3
comp=Z,4.2nm,0.6s,mb4.7
QUIF Quistinic 55.56 306⇑iP P 02 56 15.6 -0.3
comp=Z,12nm,0.7s,mb4.7
QUIF Quistinic 55.56 306⇑iP P 02 56 15.6 -0.3
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
QUIF Quistinic 55.56 306⇑iP P 02 56 15.6 -0.3
comp=Z,5.8nm,0.7s,mb4.7
EPF Esparros 55.97 299 *eP* **P 02 56 18.1 -0.8**
comp=Z,4.6nm,0.5s,mb4.5
EPF Esparros 55.97 299 *eP* **P 02 56 18.1 -0.8**
EPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
EPF Esparros 55.97 299 *eP* **P 02 56 18.1 -0.8**
comp=Z,2.3nm,0.5s,mb4.5
EBIE Bielsa 56.27 299 P **P 02 56 21.3 +0.2**
comp=Z,15nm,0.8s,mb5.1
EPOB Poblet 56.39 297 P **P 02 56 20.8 -1.1**
comp=Z,3.3nm,0.4s,mb4.7
ETSF Etsaut 56.60 299⇑iP P 02 56 23.7 +0.3
comp=Z,8.8nm,0.6s,mb4.7
ETSF Etsaut 56.60 299⇑iP P 02 56 23.7 +0.3
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETSF Etsaut 56.60 299⇑iP P 02 56 23.7 +0.3
comp=Z,4.4nm,0.6s,mb4.7
ERTA Horta de San J 57.08 297 P **P 02 56 26.5 -0.4**
comp=Z,8.4nm,0.8s,mb4.8
ESAC San Caprasio 57.17 298 P **P 02 56 26.8 -0.7**
comp=Z,11nm,0.5s,mb5.2
EMOS Mosqueruela 57.92 297 P **P 02 56 32.8 +0.1**
comp=Z,7.2nm,0.7s,mb4.8
ETOR Torete 58.67 298 P **P 02 56 36.9 -1.1**
ETOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETOR Torete 58.67 298 P **P 02 56 36.9 -1.0**
comp=Z,4.1nm,0.6s,mb4.6
EVIA Vianos 60.19 296 P **P 02 56 47.7 -0.7**
EVIA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EVIA Vianos 60.19 296 P **P 02 56 47.7 -0.7**
comp=Z,4.9nm,0.6s,mb4.7
ESDC Sonseca Array 60.52 298 P **P 02 56 50.5 -0.2**
comp=Z,1.1nm,0.4s,mb4.3,baz=54,slow=6.9,SNR=21
ESDC Sonseca Array 60.52 298 P **P 02 56 50.6 -0.2**
comp=Z,1.7nm,0.4s,mb4.5
ESLA Sonseca Array 60.52 298 *eP* **P 02 56 50.2 -0.5**
comp=Z,0.2nm,0.5s,mb3.5
EQES Quesada 61.03 296 P **P 02 56 53.5 -0.7**
comp=Z,7.3nm,0.9s,mb4.8
EADA Adamuz 61.78 297 P **P 02 56 58.4 -0.9**
comp=Z,12nm,1.0s,mb5.0
ELUQ Luque 61.94 296 P **P 02 56 59.8 -0.6**
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
ELUQ Luque 61.94 296 P **P 02 56 59.8 -0.6**
comp=Z,4.3nm,0.7s,mb4.7
ERON Agron 61.97 295 P **P 02 56 59.0 -1.5**
comp=Z,1.6nm,0.2s,mb4.8
EMIN Mina Concepcio 63.35 298 P **P 02 57 10.2 +0.5**
comp=Z,23nm,1.2s,mb5.2
EVO Evora 63.73 299⇑iP P 02 57 12.8 +0.5
comp=Z,1.5nm,0.4s,mb4.0
COLA College 64.35 21 *eP* **P 02 57 15.5 -0.9**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
COLA College 64.35 21 *eP* **P 02 57 15.5 -0.9**
comp=Z,2.6nm,0.6s,mb4.4
KDAK Kodiak Island 68.61 28 P **P 02 57 43.3 -0.3**
comp=Z,8.1nm,0.5s,mb4.9,baz=3.7,slow=16,SNR=15
TORD Torodi Ar. Bea 73.40 272 P **P 02 58 11.4 -1.3**
comp=Z,4.1nm,0.4s,mb4.7,baz=40,slow=5.4,SNR=146
LSZ Lusaka 76.58 232 *eP* **P 02 58 29.4 -1.7**
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSZ Lusaka 76.58 232 *eP* **P 02 58 29.4 -1.7**
comp=Z,2.2nm,0.7s,mb4.2
WRA Warramunga Arr 80.49 130 P **P 02 58 49.5 -3.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=330,slow=5.1,SNR=7.1
WRA Warramunga Arr 80.49 130 P **P 02 58 49.5 -3.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 83.29 133 P **P 02 59 04.3 -3.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=323,slow=5.6,SNR=9.8
ASAR Alice Springs 83.29 133 P **P 02 59 04.3 -3.1**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
LBTB Lobatse 85.85 229 *eP* **P 02 59 19.1 -1.2**
LBTB pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
LBTB Lobatse 85.85 229 *eP* **P 02 59 19.1 -1.2**
comp=Z,2.0nm,0.8s,mb4.4
TSUM Tsumeb 85.89 238 *eP* **P 02 59 18.8 -1.7**
comp=Z,3.2nm,0.9s,mb4.5
PDAR Pinedale Array 92.48 8 P **P 02 59 51.0 -0.7**
comp=Z,0.4nm,0.5s,mb4.0,baz=63,slow=3.7,SNR=3.8
SIV San Ignacio 137.26 300 PKP PKPdf 03 06 03.3 -0.7
comp=Z,0.6nm,0.7s,baz=336,slow=4.6,SNR=3.5
CPUP Villa Florida 142.05 285 PKP PKPdf 03 06 11.4 -1.3
comp=Z,0.6nm,0.5s,baz=41,slow=3.4,SNR=3.6
CPUP Villa Florida 142.05 285 PKIKP PKPdf 03 06 11.4 -1.3
CPUP pmax pmax
comp=Z,1.0nm,0.5s

IDC ***30*** *02:56:46.0±1.1,29.10N×14007E,h0km,mb4.3/4, mb1 4.1/7,mb1mx3.7/23,mbtmp4.1/7,ML3.7/3,Error ellipse: s-maj=47.7km s-min=20.6km az=73.0*
ISCJB ***30*** *02:56:48.4±0.6,29.17N±007×1404E±01,h33km,mb4.0/5, Error ellipse: s-maj=18.9km s-min=6.6km az=135.7*
NEIC ***30*** *02:56:48.0±1.0,29.17N×14004E,h10km,mb3.3/1,Error ellipse: s-maj=34.8km s-min=13.0km az=84.0*
ISC 30 02:56:50.5±0.6,2916N±007×1404E±01,h35km,n10, σ0§89/12,mb4.0/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.58**	**142**	Pn	**Pn**	**02 57 29.4**	**-0.4**
	56nm,0.3s,baz=336,slow=6.2,SNR=46						
CBIJ				Sn	**Sn**	**02 57 59.4**	**-0.6**
	138nm,0.3s,baz=270,slow=24,SNR=16						
JHJ	**Hachijo jima 2**	**3.98**	**352**	Pn	**Pn**	**02 57 50.4**	**+1.3**
	3.3nm,0.3s,baz=11,slow=12,SNR=2.5						
JHJ				Sn	**Sn**	**02 58 34.3**	**-0.2**
	7.7nm,0.3s,baz=258,slow=24,SNR=3.6						
MJAR	**Matsushiro Arr**	**7.59**	**346**	Pn	**Pn**	**02 58 38.0**	**-0.6**
	0.2nm,0.3s,baz=234,slow=47,SNR=2.8						
ENH	**Enshi**	**26.85**	**280**	*eP*	**P**	**03 02 26.6**	**-1.0**
	0.3nm,0.3s,mb3.3						
WB2	**Warramunga Arr**	**49.16**	**188**	*eP*	**P**	**03 05 36.2**	**+1.3**
WRA	**Warramunga Arr**	**49.17**	**188**	P	**P**	**03 05 36.2**	**+1.3**
	0.4nm,0.3s,mb3.9,baz=5.0,slow=7.8,SNR=11						
ARCES	**ARCESS Array B**	**71.08**	**340**	P	**P**	**03 08 05.6**	**+0.5**
	2.0nm,0.7s,mb4.1,baz=47,slow=5.3,SNR=5.2						
ARCES	**ARCESS Array B**	**71.08**	**340**	P	**P**	**03 08 05.6**	**+0.5**
WSAR	**Wadi Sarin**	**72.23**	**287**	P	**P**	**03 08 10.8**	**-1.2**
	6.7nm,0.7s,mb4.7,baz=166,slow=21,SNR=5.7						
FINES	**FINESS Array B**	**75.41**	**333**	P	**P**	**03 08 30.4**	**-0.2**
	2.9nm,1.1s,mb4.1,baz=58,slow=4.7,SNR=3.4						

NEIC ***30*** *03:02:20.9,1437N×9338W,h142km,MD4.4(MEX),After MEX.*
MEX 30 03:02:28.7±0.3,1499N×9338W,h107km±35km,MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.75**	**43**	*i* P	Pn	03 02 57.5	-1.0
CCIG				*i* S	Sn	03 03 19.9	-1.2
CCIG	**Comitan**	**1.75**	**43**	*i* P	Pn	03 02 57.5	-1.0
CCIG				*i* S	Sn	03 03 26.0	+4.9
CMIG	**Matias Romero**	**2.54**	**326**	*i* P	Pn	03 03 07.3	-1.2
CMIG				*i* S	Sn	03 03 37.8	-1.3
CMIG	**Matias Romero**	**2.54**	**326**	*i* P	Pn	03 03 07.3	-1.2
CMIG				*i* S	Sn	03 03 44.9	+5.8
OXX	**Oaxaca**	**3.83**	**303**	*eP*	Pn	03 03 25.0	-0.6
TPIG	**Tehuac#an**	**5.12**	**312**	*i* S	Sn	03 04 39.8	-1.0
TEIG	**Tepich**	**7.13**	**42**	*i* P	Pn	03 04 09.2	-1.0
TEIG				*i* S	Sn	03 05 27.1	-2.5
TEIG	**Tepich**	**7.13**	**42**	*e*Pn	Pn	03 04 08.4	-1.9
	22nm,0.4s						
TEIG				*e*Sn	Sn	03 05 35.5	+5.9

ISCJB ***30*** *03:20:25.8±2.1,412N±02×724E±01,h10km,Error ellipse: s-maj=25.1km s-min=10.9km az=148.2*
KNET ***30*** *03:20:25.7±1.0,4131N×7259E,h13km±13km,ml2.2,Error ellipse: s-maj=11.0km s-min=8.9km az=154.0*
ISC 30 03:20:25.0±2.2,411N±02×724E±01,h10km,n7,σ1§03/11, 8C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.39**	**43**	⇓P	**Pn**	**03 20 47.9**	**-2.4**
	16nm,0.2s,SNR=6.1						
AML				⇑S	**Sb**	**03 21 04.7**	**-4.0**
	38nm,0.2s						
EKS2	**Erkin-Say**	**1.84**	**33**	⇑P	**Pn**	**03 20 56.6**	**0.0**
	4.0nm,0.2s,SNR=6.5						
EKS2				⇓S	**Sn**	**03 21 19.2**	**-0.6**
	8.0nm,0.2s						
UCH	**Uchtor**	**1.92**	**54**	⇑P	**Pn**	**03 20 57.9**	**+0.3**
	4.6nm,0.1s,SNR=28						
UCH				⇓S	**Sn**	**03 21 22.8**	**+1.0**
	26nm,0.3s						
AAK	**Ala-Archa**	**2.16**	**45**	⇓P	**Pn**	**03 21 01.5**	**+0.5**
	3.8nm,0.2s,SNR=6.0						
AAK				⇑S	**Sn**	**03 21 29.1**	**+1.3**
	8.6nm,0.2s						
KK31	**Karatay Array**	**2.43**	**325**	⇓Pn	**Pn**	**03 21 05.3**	**+0.5**
	0.8nm,0.2s,baz=141,slow=15,SNR=34						
KK31				⇑Lg		03 21 37.7	
	3.9nm,0.3s,baz=136,slow=29,SNR=6.7						
USP	**Ospenovka**	**2.64**	**35**	⇑P	**Pn**	**03 21 07.6**	**+0.1**
	3.4nm,0.2s,SNR=5.6						
TKM2	**Tokmak 2**	**2.97**	**52**	⇑Pg	**Pb**	**03 21 17.3**	**-0.7**
	0.5nm,0.8s						
TKM2				⇑Lg		03 21 52.9	
	0.4nm,0.5s						

MAN 30 03:35:35.0,1365N×12014E,h28km,mb1.4,ML3.3,MS4.6, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.90**	**60⇑**	*eP*	Pn	03 35 55.8	+4.1

IDC 30 03:53:00.3±41.0,2207S×17982W,h520km±395km, mb3.0/4,mb1 3.2/4,mb1mx2.9/13,mbtmp4.0/4,Error ellipse: s-maj=254.6km s-min=106.2km az=76.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.68**	**267**	P	P	03 58 41.6	+0.8
	1.2nm,0.3s,baz=93,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**35.59**	**246**	P	P	03 59 13.4	-0.3
	1.4nm,0.5s,baz=82,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**42.53**	**259**	P	P	04 00 09.6	-0.2
	1.3nm,0.8s,baz=92,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**42.73**	**264**	P	P	04 00 12.0	+0.6
	0.5nm,0.3s,baz=96,slow=8.4,SNR=18						
AKASG	**Malin Array Be**	**143.51**	**329**	PKP	PKPdf	04 11 34.8	-0.8
	0.3nm,0.3s,baz=45,slow=4.4,SNR=6.0						

CRAAG ***30*** *04:15:48.8,1522S×7058W,Mb5.1*
MOS ***30*** *04:15:53.5±1.2,15.12S×70.45W,h145km,mb4.9/50,Error ellipse: s-maj=8.9km s-min=5.5km az=97.3*
IDC ***30*** *04:15:56.2±1.1,1521S×7056W,h159km±9km,mb4.8/18, mb1 4.9/23,mb1mx4.9/26,mbtmp4.8/23,MS4.0/4, Ms1 4.0/4,ms1mx3.6/32,Error ellipse: s-maj=11.9km s-min=7.5km az=66.0*
ISCJB ***30*** *04:15:59.7±0.1,1525S±003×7045W±003,h203km, mb4.8/149,Error ellipse: s-maj=4.4km s-min=3.2km az=84.9*
LDG ***30*** *04:16:00.3±1.1,1517S×7038W,h210km,Mb4.6/26, Ms4.2/8,Error ellipse: s-maj=68.8km s-min=15.0km az=23.0*
GCMT ***30*** *04:16:01.3±0.2,1532S×7082W,h198km±1km,MW5.5/98, Moment Tensor Solution. s77,c127; s98,c171; Duration: 1§4 Moment tensor: Scale 1017Nm; Mrr-0.94±.04; Mθθ0.25±.04; Mφφ0.68±.05; Mrθ1.52±.03; Mθφ-0.19±.04; Mφr-1.94±.03; Best double couple: M0=2.60400×1017 NP1:φ§=164.00000°,δ10.00000°, λ-69.00000°. NP2:φ§=323.00000°,δ81.00000°, λ-94.00000°. Principal axes: T 2.4900, Plg36.0000°, Azm56.0000°; N 0.2270, Plg4.0000°, Azm324.0000°; P -2.7170, Plg54.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***30*** *04:16:01.0,1443S×7108W,h191km,mB5.4*
NEIC ***30*** *04:16:01.3±0.2,1520S×7046W,mb4.9/124,Error ellipse: s-maj=5.5km s-min=4.2km az=49.0*
ISC 30 04:16:01.6±0.1,1526S±003×7038W±003,h205km, h205km±1.2km:pP-P,n671,σ0§95/607,mb4.8/149, 114C-105D,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**7.08**	**297**	P	**Pn**	**04 17 35.5**	**-7.3**
	84nm,0.3s,baz=133,slow=10,SNR=314						
NNA				S	**Sn**	**04 18 50.1**	**-13**
	127nm,0.3s,baz=44,slow=18,SNR=6.0						
NNA	**Nana**	**7.08**	**297**	*e*Pb	**Pn**	**04 17 35.4**	**-7.4**
NNA				*e*Sn	**Sn**	**04 18 50.1**	**-13**
CEN1	**Los Morros**	**8.09**	**179**	*e*P	**Pn**	**04 17 51.4**	**-4.6**
CEN1				*i* S	**Sn**	**04 19 19.0**	**-8.2**
ANCH	**Antofagasta**	**8.38**	**180**	*e*P	**Pn**	**04 17 54.0**	**-5.7**
ANCH				*i* S	**Sn**	**04 19 21.6**	**-13**
SIV	**San Ignacio**	**8.99**	**96**	P	**Pn**	**04 18 07.2**	**-0.4**
	8.8nm,0.3s,baz=276,slow=13,SNR=330						
SIV				S	**Sn**	**04 19 46.5**	**-2.1**
	3.8nm,0.3s,baz=243,slow=19,SNR=2.4						
CPN1	**Cerro Paranal**	**9.32**	**180**	⇓*i*P	**Pn**	**04 18 06.1**	**-5.8**
CPN1				*i* S	**Sn**	**04 19 44.6**	**-12**
SAML	**Samuel**	**9.42**	**49**	*e*Pn	**Pn**	**04 18 13.3**	**+0.1**
	221nm,0.9s						
SAML				Sn	**Sn**	**04 20 00.9**	**+2.2**
ATAH	**Atahualpa**	**11.36**	**315**	P	**Pn**	**04 18 32.6**	**-5.6**
	4.9nm,0.3s,baz=185,slow=4.3,SNR=22						
ATAH				S	**S**	**04 20 36.5**	**-8.6**
	0.9nm,0.3s,baz=180,slow=20,SNR=1.4						
CMCH	**Combarbala**	**15.85**	**182**	⇑*i*P	**Pn**	**04 19 29.8**	**-4.1**
ZON	**Zonda**	**16.29**	**175**	*e*P	**P**	**04 19 37.0**	**-1.3**
CFAA	**Coronel Fontan**	**16.39**	**174**	P	**P**	**04 19 38.5**	**-0.9**
	2.4nm,0.3s,baz=348,slow=12,SNR=103						
CFAA				S	**S**	**04 22 40.6**	**+0.2**
	0.5nm,0.3s,baz=180,slow=17,SNR=4.8						
CFAA				ScP	ScP	04 27 36.8	+2.4
	baz=258,slow=2.0,SNR=4.1						
CFAA	**Coronel Fontan**	**16.39**	**174**	P	**P**	**04 19 38.5**	**-0.9**
CFAA				S	**S**	**04 22 40.6**	**+0.2**
CFAA				ScP	ScP	04 27 36.8	+2.4
CPUP	**Villa Florida**	**16.42**	**134**	P	**P**	**04 19 38.9**	**-0.9**
	13nm,0.3s,baz=295,slow=11,SNR=90						
CPUP				S	**S**	**04 22 45.4**	**+4.3**
	0.9nm,0.3s,baz=302,slow=15,SNR=1.7						
CPUP				ScP	ScP	04 27 38.0	+3.5
	0.4nm,0.3s,baz=29,slow=5.7,SNR=3.9						
CPUP	**Villa Florida**	**16.42**	**134**	*e*P	**P**	**04 19 38.7**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,324nm,0.6s						
CPUP	**Villa Florida**	**16.42**	**134**	*e*P	**P**	**04 19 38.7**	**-1.1**
	comp=Z,324nm,0.6s						
OTAV	**Otavalo**	**17.34**	**332⇑**	*e*P	**P**	**04 19 49.5**	**-0.3**
	comp=Z,216nm,0.9s						
OTAV				*e*S	**S**	**04 22 59.5**	**0.0**
MDZ	**Mendoza**	**17.60**	**176**	*e*P	**P**	**04 19 51.9**	**-0.8**
PEL	**Peldehue**	**17.81**	**181⇑**	*i*P	**P**	**04 19 53.2**	**-1.7**
FCH	**Farellones**	**17.99**	**180**	⇓*i*P	**P**	**04 19 56.5**	**-0.5**
CLCH	**Cerro Calan**	**18.06**	**180**	⇓*i*P	**P**	**04 19 57.3**	**-0.4**
CACH	**El Canelo**	**18.78**	**181**	⇑*i*P	**P**	**04 20 04.8**	**-0.7**
CICH	**Cipreses**	**18.98**	**180**	*e*P	**P**	**04 20 07.0**	**-0.6**
ROSC	**El Rosal**	**20.36**	**349**	P	**P**	**04 20 20.4**	**-2.0**
	comp=Z,23nm,0.5s,baz=109,slow=13,SNR=7.1						
ROSC				S	**S**	**04 24 01.8**	**+2.7**
	comp=Z,7.9nm,0.8s,baz=75,slow=20,SNR=2.3						
ROSC				LR	LR	04 29 04.2	
	comp=Z,58nm,21.5s,baz=191,slow=39						
CCHI	**Chillan**	**21.31**	**184**	*e*P	**P**	**04 20 31.8**	**-0.6**
TRQA	**Tornquist**	**23.89**	**163**	*e*P	**P**	**04 20 54.7**	**-1.8**
SDV	**Santo Domingo**	**23.99**	**359**	P	**P**	**04 20 55.7**	**-1.7**
	comp=Z,70nm,0.9s,mb5.3,baz=214,slow=7.3,SNR=26						
SDV				S	**S**	**04 24 56.4**	**-2.6**
	comp=Z,7.0nm,0.8s,baz=304,slow=11,SNR=2.7						
SDV	**Santo Domingo**	**23.99**	**359**	*e*P	**P**	**04 20 55.7**	**-1.7**
	comp=Z,157nm,1.1s,mb5.5						
PAYG	**Puerto Ayora**	**24.42**	**305**	*e*P	**P**	**04 21 00.2**	**-1.1**
	comp=Z,60nm,0.7s,mb5.3						
PCRV	**Puerto La Cruz**	**25.90**	**13**	P	**P**	**04 21 13.0**	**-1.7**
	comp=Z,24nm,0.9s,mb4.8,baz=155,slow=4.2,SNR=5.6						
CPD	**Cerro la Pandu**	**33.37**	**8**	*e*P	**P**	**04 22 19.6**	**-0.9**
MPR	**Mayaguez**	**33.41**	**6**	*e*P	**P**	**04 22 17.6**	**-3.2**
MTP	**Monte Pirata**	**33.48**	**8**	*e*P	**P**	**04 22 20.2**	**-1.2**
HUMP	**Col San Antoni**	**33.48**	**8**	*e*P	**P**	**04 22 20.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**33.58**	**329**	*e*P	**P**	**04 22 21.3**	**-0.9**
	comp=Z,26nm,0.3s,mb5.2						
CBYP	**Canovanas**	**33.61**	**8**	*e*P	**P**	**04 22 20.0**	**-2.5**
RCBR	**Riachuelo**	**35.11**	**78**	*e*P	**P**	**04 22 38.0**	**+2.6**
EFI	**East Falkland**	**37.65**	**167**	P	**P**	**04 22 56.9**	**+0.1**
	comp=Z,717nm,0.4s,mb6.5,SNR=5.7						
EFI	**East Falkland**	**37.65**	**167**	*e*P	**P**	**04 22 56.5**	**-0.3**
EFI				pmax	pmax		
	comp=Z,65nm,0.6s,mb5.3						
EFI	**East Falkland**	**37.65**	**167**	*e*P	**P**	**04 22 56.5**	**-0.3**
	comp=Z,65nm,0.6s,mb5.3						
CCIG	**Comitan**	**37.99**	**325**	*i* P	**P**	**04 23 05.3**	**+5.5**
RPN	**Rapa Nui**	**38.05**	**245**	P	**P**	**04 22 57.3**	**-2.8**
	comp=Z,211nm,0.7s,mb5.8,baz=51,slow=3.7,SNR=10						
TEIG	**Tepich**	**39.41**	**333**	*e*P	**P**	**04 23 10.7**	**-0.8**
USHA	**Ushuaia**	**39.52**	**178**	P	**P**	**04 23 11.9**	**-0.5**
	comp=Z,47nm,0.6s,mb5.1,baz=355,slow=5.6,SNR=39						
SOR	**Soroa**	**39.78**	**342**	*e*P	**P**	**04 23 13.9**	**-0.7**
CMIG	**Matias Romero**	**40.22**	**322**	*i* P	**P**	**04 23 17.3**	**-0.8**
VHO	**Vista Hermosa**	**41.33**	**320**	*i* P	**P**	**04 23 28.1**	**+0.9**
DWPF	**Disney**	**44.42**	**346**	*e*P	**P**	**04 23 50.4**	**-1.6**
	comp=Z,196nm,1.0s,mb5.4						
IIO	**Organos**	**44.46**	**320**	*i* P	**P**	**04 23 53.1**	**+0.8**
SFJM	**Santa Fe**	**47.87**	**317**	*i* P	**P**	**04 24 19.0**	**+0.1**
COW	**Cow Castle Cre**	**49.36**	**349**	*e*P	**P**	**04 24 29.1**	**-1.1**
PMSA	**Palmer Station**	**49.66**	**176**	P	**P**	**04 24 32.3**	**-0.2**
	comp=Z,58nm,0.9s,mb4.9,baz=350,slow=10,SNR=4.0						
JSC	**Jenkinsville**	**50.34**	**348**	*e*P	**P**	**04 24 35.8**	**-1.8**
LHS	**Liberty Hill**	**50.44**	**349**	*e*P	**P**	**04 24 37.1**	**-1.2**
HKT	**Hockley**	**51.21**	**331**	*e*P	**P**	**04 24 43.0**	**-1.0**
HKT				pmax	pmax		
	comp=Z,48nm,1.6s,mb4.7						
HKT	**Hockley**	**51.21**	**331**	*e*P	**P**	**04 24 43.0**	**-1.0**
	comp=Z,48nm,1.6s,mb4.7						
CPCT	**Cooper Cave**	**52.18**	**345**	*e*P	**P**	**04 24 49.4**	**-1.8**
NATX	**Nacogdoches**	**52.23**	**334**	*e*P	**P**	**04 24 51.9**	**+0.3**
	comp=Z,82nm,0.9s,mb5.2						
SWET	**Sewanee**	**52.32**	**344**	*e*P	**P**	**04 24 50.2**	**-2.0**
OXF	**Oxford**	**52.70**	**340**	*e*P	**P**	**04 24 52.4**	**-2.6**
PLAL	**Pickwick Lake**	**52.71**	**342**	*e*P	**P**	**04 24 52.6**	**-2.5**
	comp=Z,72nm,0.9s,mb5.1						
TZTN	**Tazewell**	**53.00**	**347**	*e*P	**P**	**04 24 54.9**	**-2.3**
	comp=Z,42nm,0.9s,mb4.9						
BLA	**Blacksburg**	**53.04**	**350**	*e*P	**P**	**04 24 56.1**	**-1.4**
BLA				*e**PP	pP	04 25 41.1	-2.0
BLA				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.0						

comp=Z,59nm,0.5s,mb5.4
USIN University of 55.37 343 *e*P **P 04 25 12.2 -2.1**
SIUC Southern Illin 55.59 342 *e*P **P 04 25 13.9 -2.0**
BLO Bloomington 56.21 345 *e*P **P 04 25 17.7 -2.6**
WMOK Wichita Mounta 56.57 332 *e*P **P 04 25 21.6 -1.2**
SLM Saint Louis 56.74 341 *e*P **P 04 25 22.1 -2.0**
GDL2 Guadalupe Moun 57.33 326 *e*P **P 04 25 27.7 -0.4**
ALLY Alegheny Colle 57.33 351 *e*P **P 04 25 26.9 -1.3**
BINY Binghamton 57.40 355 *e*P **P 04 25 27.4 -1.3**
comp=Z,53nm,0.9s,mb5.2
MNTX Cornudas Mount 57.51 325 *e*P **P 04 25 27.5 -1.9**
MNTX *e*PcP PcP 04 26 17.7 -2.9
AMTX Amarillo 58.05 330 *e*P **P 04 25 32.0 -1.2**
AAM Ann Arbor 58.56 348 *e*P **P 04 25 34.1 -2.6**
AAM pmax pmax
comp=Z,25nm,0.6s,mb5.0
AAM Ann Arbor 58.56 348 *e*P **P 04 25 34.1 -2.6**
comp=Z,25nm,0.6s,mb5.0
LBNH Lisbon 59.22 359 *e*P **P 04 25 40.2 -1.1**
LBNH pmax pmax
comp=Z,39nm,1.0s,mb5.0
LBNH Lisbon 59.22 359 *e*P **P 04 25 40.2 -1.0**
comp=Z,38nm,1.0s,mb5.0
KSU1 Kansas State U 59.37 336 *e*P **P 04 25 40.7 -1.6**
comp=Z,133nm,0.8s,mb5.6
FRNY Flat Rock 59.87 357 *e*P **P 04 25 44.7 -1.0**
BNM Barren Site 60.04 326 *e*P **P 04 25 47.0 +0.2**
BNM *e* pP 04 26 32.0 -1.5
Y22C IRIS PASSCAL I 60.14 325 ⇑P **P 04 25 47.8 +0.3**
baz=60
LPM Los Pinos Moun 60.16 326 *e*P **P 04 25 47.4 -0.2**
LENM Lemitar 60.24 325 *e*P **P 04 25 47.9 -0.3**
LENM *e* pP 04 26 34.5 -0.5
CBKS Cedar Bluff 60.40 334 ⇑*i*P **P 04 25 48.5 -0.8**
CBKS *e* pP 04 26 33.7 -2.3
CBKS pmax pmax
comp=Z,51nm,0.6s,mb5.3
CBKS Cedar Bluff 60.40 334 ⇑*i*P **P 04 25 48.5 -0.7**
comp=Z,51nm,0.6s,mb5.3
CBKS *e* pP 04 26 33.7 -2.3
LAZ Ladron 60.51 325 *e*P **P 04 25 49.6 -0.4**
LAZ *e* pP 04 26 36.1 -0.6
ANMO Albuquerque 60.55 326 ⇓*i*P **P 04 25 49.3 -1.0**
ANMO Albuquerque 60.55 326 *e*P **P 04 25 49.5 -0.8**
SCIA State Center 60.66 341 ⇑*e*P **P 04 25 48.7 -2.3**
comp=Z,145nm,0.8s,mb5.7
SCIA *e* pP 04 26 33.1 -4.7
JFWS Jewell Farm 60.69 343 *e*P **P 04 25 48.8 -2.5**
TUC Tucson 61.10 321 *e*P **P 04 25 53.5 -0.5**
116A Eloy 61.84 321 ⇓P **P 04 25 59.0 +0.1**
baz=62,SNR=9.5
SDCO Great Sand Dun 62.20 329 *e*P **P 04 26 01.4 +0.1**
115A Sonoran Desert 62.25 321 ⇓P **P 04 26 02.1 +0.5**
baz=62
Z14A Wintersburg 63.14 321 P **P 04 26 07.2 -0.3**
baz=63,SNR=6.6
MVCO Mesa Verde 63.34 327 *e*P **P 04 26 08.0 -0.8**
comp=Z,45nm,1.1s,mb5.0
MVCO *e*pP pP 04 26 57.1 +1.1
MVCO Mesa Verde 63.34 327 ⇑P **P 04 26 09.2 +0.4**
baz=64
X15A Humboldt 63.49 322 ⇓P **P 04 26 09.8 0.0**
baz=64,SNR=15
Y14A Wickenburg 63.57 321 P **P 04 26 10.0 -0.3**
baz=64,SNR=16
WUAZ Wupatki 63.70 323 *e*P **P 04 26 11.0 -0.2**
comp=Z,50nm,1.0s,mb5.1
WUAZ Wupatki 63.70 323 ⇓P **P 04 26 11.3 0.0**
baz=64
X14A Yava 63.86 322 P **P 04 26 12.2 -0.1**
baz=64,SNR=14
W15A Williams 63.98 323 ⇓P **P 04 26 13.2 +0.2**
baz=64
Y13A Salome 63.99 320 P **P 04 26 12.7 -0.4**
baz=64,SNR=16
SMCO Snowmass 64.04 329 *e*P **P 04 26 13.7 +0.3**
comp=Z,29nm,0.8s,mb5.0
PV01 Paradox Valley 64.06 327 *e*P **P 04 26 13.6 +0.1**
PV01 *e*pP pP 04 27 00.5 -0.4
GLA Glamis 64.11 319 *e*P **P 04 26 14.3 +0.5**
GLA Glamis 64.11 319 ⇑P **P 04 26 13.9 +0.1**
baz=64,SNR=5.9
Y12C Blythe 64.38 320 ⇑P **P 04 26 16.0 +0.4**
baz=64,SNR=6.4
PV10 Paradox Valley 64.49 327 *e*P **P 04 26 16.1 -0.2**
W14A Seligman 64.49 322 P **P 04 26 16.8 +0.5**
baz=65,SNR=19
PDMCI Parker Dam,Lak 64.51 321 ⇓P **P 04 26 16.7 +0.3**
baz=65
X13A Yucca 64.52 321 P **P 04 26 16.9 +0.4**
baz=65,SNR=8.8
SWSC Sam W. Stewart 64.65 318 ⇑P **P 04 26 17.8 +0.4**
baz=65
W13A Hualapai Mount 64.89 321 ⇓P **P 04 26 18.9 0.0**
baz=65,SNR=12
BC3 Big Chuckw Mtn 64.89 319 P **P 04 26 19.0 +0.1**
baz=65,SNR=12
PHWY Pilot Hill 64.96 331 *e*P **P 04 26 19.0 -0.4**
IRM Iron Mountain 65.04 320 P **P 04 26 19.9 0.0**
baz=65,SNR=18
109C Camp Elliot, M 65.46 318 ⇓P **P 04 26 22.5 -0.1**
baz=66
BELC Belle Mtn. 65.46 319 ⇑P **P 04 26 23.3 +0.7**
baz=66,SNR=5.9
PFO Pinyon Flat Ob 65.50 319 *e*P **P 04 26 23.4 +0.6**
PFO Pinyon Flat Ob 65.50 319 ⇓P **P 04 26 23.1 +0.2**
baz=66,SNR=6.3
W12A Cal Nev Ari 65.62 321 ⇑P **P 04 26 23.9 +0.3**
baz=66
EYMN Ely 65.68 345 *e*P **P 04 26 22.2 -1.8**
SRU San Rafael 65.81 327 *e*P **P 04 26 24.4 -0.4**
SRU *e**PP pP 04 27 12.7 +0.3
SRU pmax pmax
comp=Z,22nm,0.7s,mb4.9
SRU San Rafael 65.81 327 *e*P **P 04 26 24.4 -0.5**
comp=Z,22nm,0.7s,mb4.9
SRU *e*pP pP 04 27 12.7 +0.3
V12A Nelson 65.90 321 ⇑P **P 04 26 25.7 +0.3**
baz=66,SNR=20
MURC Murrieta 65.97 318 ⇓P **P 04 26 26.0 +0.1**
baz=66
U12A Valley of Fire 66.19 322 ⇑P **P 04 26 27.7 +0.5**
baz=66,SNR=14
HEC Hector,Ludlow 66.21 320 ⇑P **P 04 26 27.5 +0.1**
baz=66,SNR=5.7
BBRC Big Bear Sol-O 66.22 319 ⇓P **P 04 26 27.8 +0.4**
baz=66
CCUT Cedar City 66.27 324 *e*P **P 04 26 28.5 +0.8**
CCUT *e*pP pP 04 27 15.6 +0.2
MSU Marysvale 66.28 325 *e*P **P 04 26 28.2 +0.4**
TMUT Trail Mountain 66.31 326 *e*P **P 04 26 27.9 -0.1**
TUQ Turquoise Mtn. 66.36 320 ⇓P **P 04 26 28.4 +0.2**
baz=66
VNA3 Neumayer Olymp 66.41 162 ⇓*i*P **P 04 26 28.7 +0.1**
VNA3 *e* 04 26 30.6
VNA3 *e* 04 26 57.8
VNA3 *e* 04 27 01.8
VNA3 *e* pP 04 27 17.5 +1.2
VNA3 *e* 04 27 33.7
VNA3 *e* 04 27 44.1
ARUT Antelope Range 66.47 324 *e*P **P 04 26 29.7 +0.7**
ARUT *e**PP pP 04 27 15.9 -0.8
RSSD Black Hills 66.60 334 *e*P **P 04 26 29.9 +0.1**
RSSD pmax pmax
comp=Z,16nm,0.4s,mb5.0
RSSD Black Hills 66.60 334 *e*P **P 04 26 29.9 +0.1**
comp=Z,16nm,0.4s,mb5.0
SHPR Sheep Range 66.60 322 *e*P **P 04 26 30.2 +0.4**
VNA1 Neumayer--Stat 66.61 161 ⇓*i*P **P 04 26 30.4 +0.5**
VNA1 *e* 04 26 32.5
VNA1 *e* 04 27 03.2
VNA1 *e* pP 04 27 18.3 +0.8
VNA1 *e* 04 27 34.2
BFSC Mount Baldy St 66.67 318 ⇓P **P 04 26 30.2 -0.1**
baz=67,SNR=11
GSC Goldstone 66.81 320 *e*P **P 04 26 31.5 +0.3**
GSC Goldstone 66.81 320 ⇓P **P 04 26 31.7 +0.5**
baz=67,SNR=9.6
SHOC Shoshone 66.88 321 ⇑P **P 04 26 31.7 +0.1**
baz=67,SNR=5.9
MWC Mount Wilson 66.92 318 *e*P **P 04 26 32.5 +0.7**
VNA2 Neumayer--Watz 66.98 161 ⇓*i*P **P 04 26 32.4 +0.2**
VNA2 *e* 04 26 34.4
VNA2 *e* 04 26 59.5
VNA2 *e* 04 27 05.0
VNA2 *e* pP 04 27 21.2 +1.3
VNA2 *e* 04 27 36.5
VNA2 *e* 04 27 47.0
MPU Maple Canyon 67.06 327 *e*P **P 04 26 33.3 +0.6**
DECC Green Verdugo 67.11 318 ⇑P **P 04 26 33.3 +0.3**
baz=67
DAU Daniels Canyon 67.15 327 *e*P **P 04 26 33.6 +0.3**
EGOM La Gomera 67.16 50 P **P 04 26 34.0 +0.7**
comp=Z,41nm,0.5s,mb5.3
AGMN Agassiz Refuge 67.22 342 ⇑*i*P **P 04 26 32.4 -1.4**
comp=Z,131nm,0.7s,mb5.7
AGMN *e*PcP PcP 04 27 00.8 +0.7
NLU North Lily Min 67.25 326 *e*P **P 04 26 33.5 -0.4**
NLU *e*pP pP 04 27 21.2 -0.5
U10A Ash Meadows, A 67.25 321 ⇑P **P 04 26 34.3 +0.3**
baz=67,SNR=7.1
EDW2 Edwards Air Fo 67.29 319 ⇑P **P 04 26 34.3 +0.1**
baz=67,SNR=10
LRMC Laurel Mountai 67.48 319 ⇑P **P 04 26 35.5 +0.2**
baz=68,SNR=11
BLG Laguna Peak 67.50 318 ⇓P **P 04 26 35.7 +0.3**
baz=68
OSI Osito Adit 67.59 318 ⇓P **P 04 26 36.3 +0.2**
baz=68
FURC Furnace Creek, 67.61 321 ⇓P **P 04 26 36.7 +0.6**
baz=68,SNR=30
CTU Camp Tracy 67.61 327 *e*P **P 04 26 36.1 -0.1**
comp=Z,14nm,1.1s,mb4.5
CTU *e*pP pP 04 27 24.3 +0.4
CCAN Las Canadas 67.64 50 P **P 04 26 38.8 +2.5**
comp=Z,14nm,0.7s,mb4.7
MPMC Manual Prospec 67.73 320 ⇓P **P 04 26 37.1 +0.1**
baz=68,SNR=15
TCUT Toone Canyon 67.74 328 *e*P **P 04 26 38.2 +1.2**
DUG Dugway 67.82 326 *e*P **P 04 26 37.7 +0.2**
DUG pmax pmax
comp=Z,35nm,1.1s,mb4.9
DUG Dugway 67.82 326 *e*P **P 04 26 37.7 +0.2**
comp=Z,35nm,1.1s,mb4.9
DUG Dugway 67.82 326 ⇑P **P 04 26 37.9 +0.4**
baz=68
DAC Darwin (Calif) 67.93 320 *e*P **P 04 26 38.3 +0.1**
DAC pmax pmax
comp=Z,20nm,1.0s,mb4.7
DAC Darwin (Calif) 67.93 320 *e*P **P 04 26 38.3 +0.1**
comp=Z,20nm,1.0s,mb4.7
ARVC Arvin 67.98 319 ⇓P **P 04 26 38.7 +0.2**
baz=68
EBAJ Bajamar 68.01 50 P **P 04 26 40.5 +1.9**
comp=Z,14nm,0.5s,mb4.9
PDAR Pinedale Array 68.03 330 P **P 04 26 38.0 -0.9**
comp=Z,7.4nm,0.6s,mb4.5,baz=122,slow=7.7,SNR=72
BW06 Boulder Array 68.03 330 *e*P **P 04 26 38.1 -0.7**
comp=Z,18nm,0.9s,mb4.7
ISA Isabella 68.09 319 *e*P **P 04 26 39.3 +0.1**
ISA Isabella 68.09 319 ⇑P **P 04 26 39.4 +0.2**
baz=68,SNR=13
TRCR Troy Canyon 68.09 323 *e*P **P 04 26 39.5 +0.3**
Q12A Willow Creek R 68.13 324 P **P 04 26 39.6 +0.2**
baz=68,SNR=14
HWUT Hardware Ranch 68.18 328 *e*P **P 04 26 39.2 -0.5**
comp=Z,16nm,0.8s,mb4.7
GRAC Grapevine Rang 68.26 321 ⇑P **P 04 26 40.7 +0.5**
baz=68,SNR=5.9
TAOE Nuku Hiva Isla 68.30 266 *e*LQ 04 44 11.1
comp=Z,7μm,26.7s
TAOE *e*LR LR 04 47 33.2
comp=Z,1μm,28.9s
CWC Cottonwood Cre 68.34 320 ⇓P **P 04 26 41.3 +0.6**
baz=68
EOSO Osorio 68.35 51 P **P 04 26 43.6 +2.9**
comp=Z,11nm,0.5s,mb4.7
SPUT South Promonto 68.42 327 *e*P **P 04 26 37.9 -3.3**
BGU Big Grassy Mou 68.45 326 *e*P **P 04 26 40.7 -0.7**
BGU *e*pP pP 04 27 28.3 -1.0
Q11A Duckwater 68.47 323 ⇑P **P 04 26 42.0 +0.5**
baz=69
P12A McGill 68.47 324 ⇓P **P 04 26 41.9 +0.3**
baz=69,SNR=19
PKM Peak Mountain 68.47 318 ⇑P **P 04 26 41.9 +0.3**
baz=69,SNR=12
VES Vestal, Richgr 68.58 319 ⇑P **P 04 26 42.3 0.0**
baz=69,SNR=15
SNAA Sanae 68.61 162 P **P 04 26 42.3 -0.1**
comp=Z,25nm,0.5s,mb5.1,baz=283,slow=6.9,SNR=343
SNAA Sanae 68.61 162 ⇓*i*P **P 04 26 42.1 -0.3**
SNAA *e* 04 26 44.0
SNAA *e* pP 04 27 30.0 -0.3
SNAA *e* 04 27 45.8
S09A Goldfield 68.65 322 ⇑P **P 04 26 43.2 +0.6**
baz=69,SNR=21
AHID Auburn Hatcher 68.79 329 *e*P **P 04 26 43.7 +0.2**
comp=Z,25nm,0.6s,mb5.0
SMMC Simmler 68.84 318 ⇑P **P 04 26 44.1 +0.3**
baz=69,SNR=11
TPH Tonopah 68.87 322 *e*P **P 04 26 45.3 +1.3**
TPH pmax pmax
comp=Z,15nm,0.8s,mb4.7
TPH Tonopah 68.87 322 *e*P **P 04 26 45.3 +1.2**
comp=Z,15nm,0.8s,mb4.7
R09A Tonopah 68.89 322 P **P 04 26 44.2 +0.1**
baz=69,SNR=21
O12A Currie 68.92 325 ⇓P **P 04 26 44.5 +0.1**
baz=69
HVU Hansel Valley 68.93 327 *e*P **P 04 26 43.9 -0.5**
ULM Lac du Bonnet 68.97 343 P **P 04 26 43.0 -1.7**
comp=Z,108nm,0.6s,mb5.6,baz=153,slow=5.8,SNR=132
ULM Lac du Bonnet 68.97 343 P **P 04 26 43.0 -1.7**
P11A Circle Ranch, 69.00 324 ⇓P **P 04 26 45.1 +0.3**
baz=69
N13A Wendover, West 69.04 326 P **P 04 26 45.1 +0.1**
baz=69,SNR=7.2
S08C White Mtn Res 69.07 321 P **P 04 26 45.9 +0.7**
baz=69,SNR=12
HELL Mitchell Peak, 69.08 320 ⇓P **P 04 26 45.5 +0.2**
baz=69
REDW Red Top Meadow 69.11 330 *e*P **P 04 26 45.4 -0.1**
comp=Z,22nm,0.6s,mb5.0
V05C Boulder Hill, 69.12 319 ⇑P **P 04 26 45.9 +0.4**
baz=69
SNOW Snow King Moun 69.14 330 *e*P **P 04 26 45.6 0.0**
comp=Z,28nm,0.6s,mb5.1
LOHW Long Hollow 69.17 330 *e*P **P 04 26 45.5 -0.3**
comp=Z,22nm,0.7s,mb4.9
PTRM Twissleman Ran 69.19 318 *e*P **P 04 26 45.8 -0.2**
PTRM *e*pP pP 04 27 34.9 +0.9
MTUM Tungsten Hills 69.22 321 *e*P **P 04 26 46.7 +0.5**
MTUM *e*pP pP 04 27 34.3 +0.2
TPAW Teton Pass 69.25 330 *e*P **P 04 26 46.6 +0.3**
comp=Z,25nm,0.7s,mb5.0
RRI2 Red Ridge 69.33 329 *e*P **P 04 26 47.0 +0.2**
O11A Cowboy Ranch, 69.34 324 P **P 04 26 47.0 +0.1**
baz=70,SNR=30
MOOW Moose Ponds 69.34 330 *e*P **P 04 26 47.1 +0.2**
Q09A Carvers 69.35 323 ⇑P **P 04 26 47.4 +0.5**
baz=70,SNR=8.2
M13A Montello 69.37 326 ⇓P **P 04 26 46.8 -0.2**
baz=70
DCID1 Drake Creek 69.44 330 *e*P **P 04 26 48.8 +1.3**
P10A Eureka 69.45 324 ⇓P **P 04 26 48.2 +0.6**
baz=70
N12A Clover Valley, 69.49 325 ⇓P **P 04 26 48.1 +0.3**
baz=70
IMW Indian Meadow 69.55 330 *e*P **P 04 26 48.6 +0.5**
MLAC Mammoth Lakes 69.56 321 ⇓P **P 04 26 48.7 +0.5**
baz=70
FLWY Flagg Ranch 69.57 330 *e*P **P 04 26 49.0 +0.7**
LAO LASA Array 69.58 335 *e*P **P 04 26 46.8 -1.5**
comp=Z,29nm,0.4s,mb5.3
PKD Parkfield 69.58 318 ⇓P **P 04 26 48.4 0.0**
baz=70
R08A Mina 69.58 322 ⇑P **P 04 26 48.8 +0.5**
baz=70
V04C Ramage Ranch, 69.60 318 ⇓P **P 04 26 48.7 +0.2**
baz=70
CFTV Fuerteventura 69.63 51 P **P 04 26 49.4 0.7**
comp=Z,5.1nm,0.6s,mb4.3
KCC Kaiser Creek 69.66 320 ⇑P **P 04 26 48.7 -0.2**
baz=70
RLMT Red Lodge 69.68 332 *e*P **P 04 26 48.8 -0.2**
comp=Z,13nm,0.5s,mb4.8
RLMT *e*pP pP 04 27 34.5 -2.6
T06C Millerton Lake 69.71 320 ⇓P **P 04 26 48.5 -0.6**
baz=70
NVAR Mina Array Bea 69.75 322 P **P 04 26 49.5 +0.1**
comp=Z,4.6nm,0.7s,mb4.2,baz=159,slow=5.3,SNR=43
NVAR Mina Array Bea 69.75 322 P **P 04 26 49.5 +0.1**
P09A Austin 69.80 323 ⇑P **P 04 26 49.9 +0.2**
baz=70
Q08A Gabbs 69.81 322 ⇑P **P 04 26 49.8 0.0**
baz=70
M12A Wells 69.81 326 P **P 04 26 49.6 -0.2**
baz=70,SNR=17
N11A Elko Archery C 69.85 325 ⇓P **P 04 26 50.1 +0.1**
baz=70
SCHQ Schefferville 69.87 2 P **P 04 26 48.1 -2.0**
comp=Z,16nm,1.0s,mb4.6,baz=172,slow=3.6,SNR=5.5
YFT Old Faithful 69.91 330 *e*P **P 04 26 53.2 +2.8**
O10A Cortez Mining, 69.92 324 ⇑P **P 04 26 50.8 +0.3**
baz=70
R07C Lee Vining 69.98 321 P **P 04 26 51.4 +0.6**
baz=70,SNR=8.4
U04C Hernandez Rese 69.99 319 ⇑P **P 04 26 51.3 +0.5**
baz=70
YNR Norris Junctio 70.03 331 *e*P **P 04 26 51.6 +0.5**
V03C Hunter Liggett 70.07 318 ⇑P **P 04 26 52.2 +0.8**
baz=70,SNR=6.4
LRV Little Rabbit 70.18 318 *e*P **P 04 26 52.4 +0.4**
LRV *e*pP pP 04 27 42.0 +1.8
DGMT Dagmar 70.22 337 *e*P **P 04 26 52.4 +0.2**
N10A Dunphy 70.22 324 ⇑P **P 04 26 52.9 +0.7**
baz=70
O09A Fish Creek Ran 70.23 324 ⇓P **P 04 26 52.7 +0.3**
baz=70
M11A Holland Ranch, 70.30 325 ⇑P **P 04 26 53.1 +0.4**
baz=70
S05C Merced 70.31 320 ⇑P **P 04 26 53.2 +0.4**
baz=70,SNR=18
S06C San Francisco 70.34 320 ⇓P **P 04 26 53.0 +0.1**
baz=70
GCMT Greycliff 70.38 332 *e*P **P 04 26 52.9 -0.3**
GCMT *e*pP pP 04 27 39.2 -2.2
GCMT *e*sP sP 04 28 07.2 +3.9
Q07A Schurz 70.38 322 ⇓P **P 04 26 53.3 +0.1**
baz=70
EFAM Famara 70.42 51 P **P 04 26 54.8 +1.3**
comp=Z,23nm,0.5s,mb5.1
P08A Dixie Valley 70.44 323 ⇓P **P 04 26 54.0 +0.5**
baz=71
QLMT Earthquake Lak 70.48 330 *e*P **P 04 26 54.0 +0.2**
QLMT *e*pP pP 04 27 43.2 +1.2
WAKR Walker 70.48 321 *e*P **P 04 26 54.2 +0.4**
HAST UC Hastings Re 70.50 318 ⇑P **P 04 26 54.5 +0.6**
baz=71,SNR=5.9
R06C Coleville 70.50 321 ⇑P **P 04 26 55.0 +1.0**
baz=71
PACP Pacheco Peak 70.70 319 ⇑P **P 04 26 55.9 +0.8**
baz=71,SNR=5.1
CMB Columbia Colle 70.77 320 *e*P **P 04 26 54.9 -0.7**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
CMB Columbia Colle 70.77 320 *e*P **P 04 26 54.9 -0.7**
comp=Z,7.1nm,1.1s,mb4.2
CMB Columbia Colle 70.77 320 ⇓P **P 04 26 55.8 +0.3**
baz=71
M10A I.L. Ranch, Tu 70.77 325 P **P 04 26 56.3 +0.7**
baz=71,SNR=7.8
N09A Rock Creek Ran 70.88 324 ⇑P **P 04 26 56.2 0.0**
baz=71,SNR=10.0
R05C Kirkwood Meado 71.00 321 ⇓P **P 04 26 58.0 +1.1**
baz=71,SNR=14
S04C Ingram Canyon, 71.03 319 ⇓P **P 04 26 58.0 +0.9**
baz=71
HLID Hailey 71.04 328 *e*P **P 04 26 57.6 +0.4**
HLID Hailey 71.04 328 ⇑P **P 04 26 58.1 +0.9**
baz=71
MCMT McKenzie Canyo 71.16 329 *e*P **P 04 26 56.4 -1.5**
MCMT *e*pP pP 04 27 44.9 -1.3
BOZ Bozeman (W) 71.18 331 *e*P **P 04 26 57.7 -0.3**
N08A GE Springer Mi 71.18 324 ⇑P **P 04 26 58.3 +0.3**
baz=71
O07A Toulon 71.21 323 ⇑P **P 04 26 58.4 +0.2**
baz=71
PAHR Pah Rah Range 71.21 322 *e*P **P 04 26 59.3 +1.0**
comp=Z,32nm,0.8s,mb5.0
M09A Marrel Ranch, 71.22 324 ⇓P **P 04 26 58.7 +0.5**
baz=71,SNR=9.7
R04C Big Horse Ranc 71.25 320 P **P 04 26 59.3 +0.8**
baz=71,SNR=8.7
BNLO Ben Lomond (Sa 71.34 318 ⇑P **P 04 26 59.5 +0.5**
baz=72
WENL Wente Brothers 71.37 319 ⇑P **P 04 27 00.4 +1.2**
baz=72
DLMT Dillon 71.43 330 *e*P **P 04 26 59.4 -0.1**
comp=Z,14nm,0.6s,mb4.8
LAVA Lava Cap Winer 71.43 321 ⇑P **P 04 27 00.1 +0.5**
baz=72
P06A Stead Airport, 71.50 322 ⇓P **P 04 27 01.0 +1.1**
baz=72
JRSC Jasper Ridge 71.55 319 ⇑P **P 04 27 00.9 +0.7**
baz=72
BDM Black Diamond 71.64 319 ⇑P **P 04 27 01.9 +1.1**
baz=72
LRM Limekiln Ridge 71.69 330 *e*P **P 04 27 01.4 +0.3**
P05C Yuba Gap, Truc 71.69 321 P **P 04 27 02.3 +1.2**
baz=72,SNR=6.6
L09A Wilkinson Ranc 71.73 325 ⇓P **P 04 27 02.0 +0.6**
baz=72
O06A Flanigan 71.77 322 ⇓P **P 04 27 02.1 +0.6**
baz=72
Q04C Lincoln 71.88 320 ⇓P **P 04 27 03.0 +0.8**
baz=72
BEKR Beckwourth 71.90 322 ⇑P **P 04 27 02.7 +0.3**
baz=72,SNR=13
EGMT Eagleton 72.12 333 *e*P **P 04 27 03.2 -0.4**
comp=Z,59nm,1.2s,mb5.1
EGMT Eagleton 72.12 333 ⇑P **P 04 27 03.5 -0.2**
baz=72
F14A Wisdom 72.13 330 ⇓P **P 04 27 04.2 +0.5**
baz=72
N06A Buffalo Meadow 72.14 323 ⇑P **P 04 27 04.3 +0.5**
baz=72
Q03C Winters 72.15 320 ⇑P **P 04 27 05.0 +1.2**
baz=72,SNR=5.0
M07A Soldier Meadow 72.17 324 ⇓P **P 04 27 04.1 +0.1**
baz=72
K09A Rome 72.22 325 ⇑P **P 04 27 04.6 +0.4**
baz=72
L08A Fields 72.22 325 ⇑P **P 04 27 04.7 +0.4**
baz=72
E15A Deer Lodge 72.22 331 P **P 04 27 04.7 +0.4**
baz=72,SNR=9.9
OHCM Honcut 72.25 321 *e*P **P 04 27 04.7 +0.3**
OHCM *e*pP pP 04 27 53.5 +0.7
CVS Carmenet Viney 72.25 319 ⇓P **P 04 27 04.3 -0.1**
baz=72
O05C Quincy 72.29 321 ⇓P **P 04 27 04.9 +0.3**
baz=72
SUTB Sutter Butte 72.37 320 ⇑P **P 04 27 05.3 +0.2**
baz=72
ORV Oroville 72.39 321 ⇑P **P 04 27 06.1 +0.8**
baz=72
MCCM Marconi Confer 72.40 319 ⇓P **P 04 27 05.9 +0.6**
baz=72
NSHM Saint Helena R 72.45 319 *e*P **P 04 27 06.1 +0.5**
NSHM *e*PcP PcP 04 27 22.8 +0.6
WVOR Wild Horse Val 72.55 325 *e*P **P 04 27 06.3 +0.1**
F13A Darby 72.58 329 ⇓P **P 04 27 06.8 +0.5**
baz=73
D15A Lincoln 72.62 331 ⇑P **P 04 27 07.7 +1.1**
baz=73,SNR=19
E14A Clinton 72.62 330 ⇑P **P 04 27 07.1 +0.5**
baz=73
J09A Fry Pan Ranch, 72.67 326 ⇓P **P 04 27 07.4 +0.5**
baz=73
L07A Adell 72.67 324 ⇓P **P 04 27 07.3 +0.4**
baz=73
M06C Likely Place G 72.81 323 P **P 04 27 08.2 +0.5**
baz=73,SNR=7.4
CHMT Chamberlain Mo 72.87 331 *e*P **P 04 27 08.6 +0.5**
CHMT *e*PcP PcP 04 27 22.7 -1.3
CHMT *e*pP pP 04 27 55.6 -1.0
E13A Victor 72.98 330 P **P 04 27 09.5 +0.8**
baz=73,SNR=18
K07A Rock Creek Ran 73.06 325 ⇓P **P 04 27 09.4 +0.2**
baz=73
J08A Circle Bar Ran 73.06 325 ⇓P **P 04 27 09.1 -0.1**
baz=73
MAIT Maitri 73.11 160 *e*P **P 04 27 09.8 +0.3**
D14A Greenough 73.11 331 ⇓P **P 04 27 09.8 +0.3**
baz=73
MSO Missoula 73.14 330 *e*P **P 04 27 09.3 -0.3**
comp=Z,40nm,1.5s,mb4.8

MSO *e*pP pP 04 27 56.8 -1.4
NVL N'lazarevskaya 73.14 160*d i*P **P** **04 27 08.0 -1.6**
NVL *i* S S 04 36 22.8 +2.5
NVL *e*SS SS 04 41 07.4 +1.5
NVL pmax pmax
comp=E,23nm,1.1s
NVL pmax pmax
comp=Z,80nm,1.1s,mb5.3
NVL pmax pmax
comp=N,7.0nm,0.8s
HATC Hat Creek Radi 73.15 322 ⇑P **P** **04 27 09.9 +0.2**
baz=73
MOD Modoc 73.15 323 *e*P **P** **04 27 10.3 +0.6**
comp=N,13nm,0.7s,mb4.7
MOD *e*pP pP 04 27 59.4 +1.2
MOD Modoc 73.15 323 ⇓P **P** **04 27 10.2 +0.5**
baz=73
GASB Alder Springs 73.20 320 ⇓P **P** **04 27 10.9 +0.9**
baz=73
M05C Lookout 73.30 322 ⇑P **P** **04 27 11.3 +0.7**
baz=73
P01C Double 8 Ranch 73.47 320 ⇑P **P** **04 27 12.4 +0.8**
baz=74
I08A Drewsey 73.48 326 ⇓P **P** **04 27 12.4 +0.8**
baz=74
H09A Durkee 73.50 327 ⇓P **P** **04 27 11.8 0.0**
baz=74
J07A Hines 73.53 325 ⇑P **P** **04 27 12.1 +0.1**
baz=74
L05A Lakeview 73.55 323 ⇑P **P** **04 27 12.3 +0.3**
baz=74
O02C Red Bluff 73.56 321 ⇑P **P** **04 27 11.7 -0.4**
baz=74
D13A Huson 73.57 330 ⇓P **P** **04 27 11.8 -0.4**
baz=74
WDC Whiskeytown Da 73.65 321 *e*P **P** **04 27 10.5 -2.1**
WDC pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
WDC Whiskeytown Da 73.65 321 *e*P **P** **04 27 10.5 -2.1**
comp=Z,9.2nm,0.6s,mb4.6
WDC Whiskeytown Da 73.65 321 ⇓P **P** **04 27 11.0 -1.7**
baz=74
K06A Valley Falls 73.69 324 ⇓P **P** **04 27 13.1 +0.3**
baz=74
C14A Swan Lake 73.72 331 ⇓P **P** **04 27 13.5 +0.4**
baz=74
M03C McCloud 73.82 322 ⇑P **P** **04 27 13.5 -0.1**
baz=74
J06A Christmas Vall 73.93 325 ⇑P **P** **04 27 14.5 +0.3**
baz=74
H08A Prairie City 73.94 326 ⇓P **P** **04 27 14.4 +0.1**
baz=74
M04C Macdoel 73.97 323 ⇑P **P** **04 27 15.0 +0.5**
baz=74
K05A Summer Lake 74.01 324 ⇓P **P** **04 27 15.3 +0.6**
baz=74
C13A Hot Springs 74.05 331 ⇑P **P** **04 27 14.9 -0.1**
baz=74
I07A Izee 74.10 325 ⇑P **P** **04 27 15.6 +0.4**
baz=74
VAH Vaihoa 74.10 258 *e*P **P** **04 27 16.3 +1.0**
comp=Z,133nm,1.1s,mb5.5
F10A Beach Ranch, E 74.16 328 ⇓P **P** **04 27 16.1 +0.6**
baz=74
L04A Klamath Falls 74.24 323 ⇓P **P** **04 27 16.0 -0.1**
baz=74
N02C Big Bar 74.26 321 ⇑P **P** **04 27 16.4 +0.3**
baz=74
F09A S2 Ranch, Elgi 74.33 328 ⇑P **P** **04 27 16.9 +0.3**
baz=74
M02C Callahan 74.33 322 ⇓P **P** **04 27 16.2 -0.4**
baz=74
I06A Prineville 74.40 325 ⇑P **P** **04 27 17.5 +0.6**
baz=74
PMOR Pomariorio Ree 74.40 258 *e*P **P** **04 27 18.0 +1.0**
comp=Z,46nm,1.0s,mb5.1
K04A Chilquin 74.42 323 ⇑P **P** **04 27 17.6 +0.5**
baz=75
YBH Yreka Blue Hor 74.45 322 *e*P **P** **04 27 15.6 -1.7**
YBH *e**PP pP 04 28 05.7 -0.3
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 74.45 322 *e*P **P** **04 27 15.6 -1.7**
comp=Z,8.3nm,0.8s,mb4.4
YBH *e*pP pP 04 28 05.7 -0.3
YBH Yreka Blue Hor 74.45 322 ⇑P **P** **04 27 16.9 -0.4**
baz=75
H07A Lands Inn, Kim 74.47 326 ⇑P **P** **04 27 17.3 -0.1**
baz=75
B13A Whitefish 74.49 331 ⇓P **P** **04 27 17.1 -0.4**
baz=75
C12A Trout Creek 74.50 330 ⇑P **P** **04 27 17.9 +0.4**
baz=75
KHMM Horse Mountain 74.55 321 *e*P **P** **04 27 18.5 +0.7**
J05A Fort Rock 74.56 324 ⇑P **P** **04 27 18.1 +0.2**
baz=75
G08A Pilot Rock 74.60 327 ⇓P **P** **04 27 18.1 0.0**
baz=75
FFC Flin Flon 74.70 342 P **P** **04 27 17.2 -1.5**
comp=Z,170nm,0.8s,mb5.7,SNR=7.5
FFC Flin Flon 74.70 342 *e*P **P** **04 27 17.4 -1.3**
FFC *e* 04 27 32.6
FFC pmax pmax
comp=Z,22nm,0.8s,mb4.8
FFC Flin Flon 74.70 342 *e*P **P** **04 27 17.4 -1.2**
comp=Z,22nm,0.8s,mb4.8
FFC *e*PcP PcP 04 27 32.6 +0.8
WALA Waterton Lakes 74.73 332 *e*P **P** **04 27 18.5 -0.4**
QSPA South Pole Qui 74.90 180 ⇓*i*P **P** **04 27 19.7 -0.1**
comp=Z,29nm,0.5s,mb5.2
H06A Lindquist Farm 74.98 326 ⇑P **P** **04 27 20.8 +0.5**
baz=75
E09A Wood Farm, Sta 74.99 328 ⇓P **P** **04 27 20.6 +0.2**
baz=75
B12A Libby 75.09 331 ⇓P **P** **04 27 21.3 +0.4**
baz=75
HUMO Hull Mountain 75.13 323 ⇓P **P** **04 27 20.4 -0.7**
baz=75
L02A Cave Junction 75.24 322 ⇑P **P** **04 27 21.8 +0.1**
baz=75
H05A Madras 75.41 325 ⇓P **P** **04 27 23.3 +0.5**
baz=76
B11A Sandpoint 75.43 330 ⇑P **P** **04 27 23.0 +0.2**
baz=76
A12A Yaak River Ran 75.44 331 ⇑P **P** **04 27 23.1 +0.2**
baz=76
D09A Jones Farm, Ri 75.45 328 ⇓P **P** **04 27 23.1 +0.1**
baz=76
PAE Paea 75.45 255 *e*P **P** **04 27 24.1 +1.1**
comp=Z,130nm,1.1s,mb5.5
PAE Paea 75.45 255 *e*P **P** **04 27 24.1 +1.1**
PAE pmax pmax
comp=Z,130nm,1.1s,mb5.5
C10A Spilker Farm, 75.46 329 ⇓P **P** **04 27 23.1 +0.1**
baz=76
G06A Carlson Farm, 75.47 326 ⇓P **P** **04 27 23.6 +0.5**
baz=76
PPT Papeete 75.47 255 *e*P **P** **04 27 24.2 +1.1**
comp=Z,95nm,1.5s,mb5.2
PPT Papeete 75.47 255 *e*LR LR 04 50 42.9
comp=Z,328nm,26.2s
PPT Papeete 75.47 255 *e*P **P** **04 27 24.2 +1.1**
PPT pmax pmax
comp=Z,95nm,1.5s
F07A Phinny Hill Vi 75.51 327 ⇑P **P** **04 27 23.9 +0.6**
baz=76
HBO Huckleberry Mo 75.52 324 P **P** **04 27 22.9 -0.5**
K02A Glendale 75.54 323 ⇑P **P** **04 27 24.0 +0.5**
baz=76
HAWA Hanford 75.63 327 *e*P **P** **04 27 24.2 +0.2**
NEW Newport 75.68 330 *e*P **P** **04 27 18.4 -5.9**
comp=Z,2.8nm,0.5s,mb4.2
NEW *e*PcP PcP 04 27 30.2 -5.8
NEW *e*PP PP 04 30 17.6 +0.8
B10A Chitwood Farm, 75.75 330 ⇓P **P** **04 27 24.9 +0.2**
baz=76
D08A Wollman Farm, 75.75 328 ⇓P **P** **04 27 25.2 +0.5**
baz=76
A11A Hall Mountain, 75.80 331 ⇓P **P** **04 27 25.4 +0.5**
baz=76
G05A Wamic 75.84 326 ⇑P **P** **04 27 26.1 +0.9**
baz=76
F06A Goldendale 75.88 326 ⇓P **P** **04 27 26.1 +0.7**
baz=76
E07A Sunnyside 75.91 327 ⇑P **P** **04 27 26.5 +0.9**
baz=76
C09A Chrisman Ranch 75.93 329 ⇑P **P** **04 27 26.4 +0.7**
baz=76
J02A Umpqua 75.95 323 ⇑P **P** **04 27 26.4 +0.6**
baz=76
H04A Detroit Lake 75.97 325 ⇑P **P** **04 27 25.9 0.0**
baz=76
HOOD Mount Hood Mea 76.07 325 *e*P **P** **04 27 27.9 +1.4**
I03A Eugene 76.15 324 ⇓P **P** **04 27 27.2 +0.3**
baz=76
FCC Fort Churchill 76.27 348 *e*P **P** **04 27 26.8 -0.8**
FCC pmax pmax
comp=Z,46nm,0.8s,mb5.2
FCC Fort Churchill 76.27 348 *e*P **P** **04 27 26.8 -0.8**
comp=Z,46nm,0.8s,mb5.2
B09A Rice 76.28 329 ⇑P **P** **04 27 27.9 +0.2**
baz=76
D07A Quincy 76.38 328 ⇑P **P** **04 27 28.9 +0.6**
baz=76
G04A Mulino 76.46 325 ⇓P **P** **04 27 29.3 +0.7**
baz=77
TOA0 Torodi Ar. Sit 76.68 72 ⇑*i*P **P** **04 27 29.9 0.0**
TOA0 *e*pP pP 04 28 20.1 +1.2
TORD Torodi Ar. Bea 76.68 72 P **P** **04 27 30.2 +0.3**
comp=Z,177nm,0.6s,mb5.9,baz=260,slow=5.6,SNR=2583
TORD PKKPbc PKKPbc 04 46 39.2 +0.8
comp=Z,0.2nm,0.8s,baz=77,slow=1.3,SNR=5.8
TORD LR LR 05 01 29.0
comp=Z,403nm,18.6s,baz=245,slow=36
WTV Waterville 76.70 328 P **P** **04 27 30.1 0.0**
C07A Waterville 76.75 328 ⇓P **P** **04 27 30.6 +0.3**
baz=77
D06A Cle Elum 76.84 327 ⇑P **P** **04 27 31.3 +0.5**
baz=77
A09A Danville 76.87 330 ⇑P **P** **04 27 31.6 +0.6**
baz=77
F04A Amboy 76.88 326 ⇓P **P** **04 27 31.7 +0.7**
baz=77
LON Longmire 77.06 327 *e*P **P** **04 27 30.1 -1.9**
RVC Mount Rainier- 77.27 327 P **P** **04 27 33.8 +0.6**
B07A Winthrop 77.29 329 ⇓P **P** **04 27 33.0 -0.3**
baz=77
D05A Enumclaw 77.43 327 ⇑P **P** **04 27 34.2 +0.1**
baz=78
EDM Edmonton 77.54 335 *e*P **P** **04 27 33.5 -1.2**
C05A Tolt Reservoir 77.60 327 ⇑P **P** **04 27 34.9 -0.1**
baz=78
A07A Ashnola River, 77.81 329 ⇑P **P** **04 27 36.4 +0.2**
baz=78
RPW Rockport 77.99 328 P **P** **04 27 36.4 -0.8**
B06A Marblemount 78.02 328 ⇑P **P** **04 27 36.7 -0.6**
baz=78
MORF Marmelete 78.07 46 *e*P **P** **04 27 39.3 +1.7**
comp=Z,30nm,0.7s,mb5.0
PTEO Sao Teotonio 78.14 46 *e*P **P** **04 27 39.5 +1.5**
comp=Z,91nm,0.8s,mb5.5
B05A Bryant 78.17 328 ⇑P **P** **04 27 37.4 -0.8**
baz=78
C04A Brinnon 78.28 327 ⇓P **P** **04 27 38.6 -0.2**
baz=78
D03A Wishkah Elem. 78.34 326 ⇑P **P** **04 27 39.2 +0.1**
baz=78
A06A Chilliwack 78.39 329 ⇓P **P** **04 27 39.4 +0.1**
baz=78
A05A Maple Falls 78.63 328 ⇓P **P** **04 27 40.6 -0.1**
baz=79
PBEJ Beja 78.96 46 *e*P **P** **04 27 44.0 +1.5**
comp=Z,28nm,0.8s,mb4.9
EGRO El Granado 78.99 46 P **P** **04 27 44.5 +1.8**
comp=Z,44nm,0.9s,mb5.1
EVO Evora 79.11 45 *e*P **P** **04 27 42.4 -0.9**
comp=Z,56nm,1.0s,mb4.9
EVO *e*pP pP 04 28 30.3 -2.2
EVO *e*MLR MLR
comp=Z,292nm,21.2s
PGC Sidney 79.11 327 *e*P **P** **04 27 43.5 +0.2**
comp=Z,51nm,0.7s,mb5.3
EMIN Mina Concepcio 79.67 46 P **P** **04 27 48.3 +2.0**
comp=Z,33nm,0.9s,mb5.0
ESPR Espera 79.82 47 P **P** **04 27 48.7 +1.6**
comp=Z,13nm,0.5s,mb4.8
EJIF Jimena Fronter 79.90 48 P **P** **04 27 50.0 +2.4**
EJIF pmax pmax
comp=Z,15nm,0.8s,mb4.7
EJIF Jimena Fronter 79.90 48 P **P** **04 27 50.0 +2.5**
comp=Z,15nm,0.8s,mb4.7
EBAD Badajoz 79.90 45 P **P** **04 27 49.1 +1.5**
comp=Z,24nm,0.9s,mb4.8
PCBR Castelo Branco 80.11 44 *e*P **P** **04 27 48.9 +0.2**
comp=Z,13nm,1.1s,mb4.5
PVIS Viseu 80.27 43 *e*P **P** **04 27 50.9 +1.4**
comp=Z,13nm,1.4s,mb4.4
EMIJ Mijas 80.45 48 P **P** **04 27 51.7 +1.2**
comp=Z,10nm,0.6s,mb4.6
PVRL Vila Real 80.66 43 *e*P **P** **04 27 52.9 +1.3**
comp=Z,9.7nm,1.1s,mb4.3
PCAB Cabril 80.67 42 *e*P **P** **04 27 53.1 +1.4**
comp=Z,14nm,1.0s,mb4.4
EMAZ Mazaricos 80.69 41 P **P** **04 27 53.6 +1.8**
comp=Z,9.4nm,0.6s,mb4.6
STS Santiago 80.93 41 P **P** **04 27 53.8 +0.8**
STS pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
STS Santiago 80.93 41 P **P** **04 27 53.8 +0.8**
comp=Z,4.6nm,0.5s,mb4.4
ELOJ Sierra Loja 81.16 48 P **P** **04 27 55.2 +1.0**
ELOJ pmax pmax
comp=Z,12nm,0.5s,mb4.8
ELOJ Sierra Loja 81.16 48 P **P** **04 27 55.2 +1.0**
comp=Z,12nm,0.5s,mb4.8
ELUQ Luque 81.26 47 P **P** **04 27 56.2 +1.4**
ELUQ pmax pmax
comp=Z,7.0nm,0.3s,mb4.8
ELUQ Luque 81.26 47 P **P** **04 27 56.2 +1.4**
comp=Z,6.6nm,0.3s,mb4.7
EADA Adamuz 81.32 47 P **P** **04 27 55.9 +0.8**
comp=Z,30nm,1.0s,mb4.9
ERON Agron 81.35 48 P **P** **04 27 56.8 +1.5**
comp=Z,6.6nm,0.4s,mb4.6
PBRG Braganca 81.56 43 *e*P **P** **04 27 57.4 +1.1**
comp=Z,10.0nm,1.5s,mb4.2
ERUA La Rua 81.58 42 P **P** **04 27 57.3 +0.8**
ERUA pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
ERUA La Rua 81.58 42 P **P** **04 27 57.3 +0.8**
comp=Z,6.3nm,0.4s,mb4.6
ECAL Calabor 81.63 43 P **P** **04 27 56.8 +0.1**
comp=Z,6.7nm,0.6s,mb4.5
ECOG Cogollos-Vega 81.64 48 P **P** **04 27 57.7 +1.0**
ECOG pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
ECOG Cogollos-Vega 81.64 48 P **P** **04 27 57.7 +1.0**
comp=Z,6.0nm,0.5s,mb4.5
SBA Scott Base 81.69 190 *e*P **P** **04 27 56.9 -0.1**
SBA pmax pmax
comp=Z,37nm,1.1s,mb4.9
SBA Scott Base 81.69 190 *e*P **P** **04 27 56.9 -0.1**
comp=Z,37nm,1.1s,mb4.9
EBAN Banos Encina 81.87 47 P **P** **04 27 58.9 +0.9**
EBAN pmax pmax
comp=Z,12nm,0.6s,mb4.7
EBAN Banos Encina 81.87 47 P **P** **04 27 58.9 +0.9**
comp=Z,12nm,0.6s,mb4.7
EBER Berja 81.95 48 P **P** **04 28 00.5 +2.1**
EPON Pontenova 82.04 41 P **P** **04 27 58.7 -0.1**
comp=Z,22nm,0.8s,mb4.8
EQES Quesada 82.22 48 P **P** **04 28 00.3 +0.6**
comp=Z,30nm,0.9s,mb4.9
ESDC Sonseca Array 82.43 46 P **P** **04 28 01.5 +0.7**
comp=Z,7.9nm,0.7s,mb4.5,baz=252,slow=5.5,SNR=46
ESDC Sonseca Array 82.43 46 P **P** **04 28 01.8 +1.0**
comp=Z,9.1nm,0.8s,mb4.5
ESLA Sonseca Array 82.43 46 *e*P **P** **04 28 01.5 +0.7**
comp=Z,2.2nm,0.8s,mb3.8
ESLA *e*pP pP 04 28 49.7 -0.8
ENIJ Nijar 82.48 49 P **P** **04 28 02.6 +1.5**
ENIJ pmax pmax
comp=Z,8.0nm,0.5s,mb4.6
ENIJ Nijar 82.48 49 P **P** **04 28 02.6 +1.5**
comp=Z,8.1nm,0.5s,mb4.6
EHUE Huescar 82.57 48 P **P** **04 28 01.3 -0.3**
EHUE pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
EHUE Huescar 82.57 48 P **P** **04 28 01.3 -0.3**
comp=Z,5.2nm,0.4s,mb4.6
VNDA Vanda 82.73 190 P **P** **04 28 02.2 -0.2**
comp=Z,17nm,0.9s,mb4.8,baz=129,slow=4.3,SNR=69
GUD Guadarrama 82.73 45 P **P** **04 28 03.7 +1.3**
GUD pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
GUD Guadarrama 82.73 45 P **P** **04 28 03.7 +1.2**
comp=Z,6.3nm,0.6s,mb4.5
SYO Syowa Base 82.81 160 ⇑*i*P **P** **04 28 02.2 -0.6**
SYO Syowa Base 82.81 160 ⇓*e*sP pP 04 28 50.8 -1.7
EVIA Vianos 82.99 47 P **P** **04 28 05.3 +1.6**
EVIA pmax pmax
comp=Z,32nm,0.8s,mb5.1
EVIA Vianos 82.99 47 P **P** **04 28 05.3 +1.5**
comp=Z,32nm,0.8s,mb5.1
TSUM Tsumeb 83.23 108 P **P** **04 28 08.1 +3.1**
comp=Z,17nm,0.6s,mb4.9,baz=248,slow=9.0,SNR=11
EARI Arriondas 83.27 42 P **P** **04 28 06.1 +1.0**
comp=Z,38nm,1.3s,mb5.0
ETOB Tobarra 83.66 47 P **P** **04 28 08.3 +1.1**
comp=Z,28nm,0.7s,mb5.1
ETOR Torete 84.24 45 P **P** **04 28 11.4 +1.3**
ETOR pmax pmax
comp=Z,28nm,0.7s,mb5.1
ETOR Torete 84.24 45 P **P** **04 28 11.3 +1.2**
comp=Z,28nm,0.7s,mb5.1
ELAN Lanestosa 84.39 43 P **P** **04 28 13.0 +2.2**
comp=Z,11nm,0.7s,mb4.7
ETRT Tiaret 84.42 51 P pP 04 29 03.8 +2.9
EANR 'Ain N'Sour 84.49 51 P pP 04 29 05.5 +4.3
EBEN Beniarda 84.63 48 P **P** **04 28 13.3 +1.2**
comp=Z,12nm,0.7s,mb4.7
ECRI Cripan 84.72 43 P **P** **04 28 13.6 +1.1**
ECHA Ech Chlef 84.77 51 P pP 04 29 06.0 +3.3
YKA Yellowknife Ar 84.86 341 P **P** **04 28 11.9 -1.3**
comp=Z,42nm,0.5s,mb5.4,baz=132,slow=5.2,SNR=173
YKA Yellowknife Ar 84.86 341 P **P** **04 28 11.9 -1.3**
EBNR Beni Rached 84.95 50 P pP 04 29 08.0 +4.4
EMOS Mosqueruela 85.14 46 P **P** **04 28 16.2 +1.6**
comp=Z,10.0nm,0.5s,mb4.8
SJPF Ste Jean 85.79 43 *e*P **P** **04 28 16.8 -1.0**
ERTA Horta de San J 85.94 46 P **P** **04 28 20.8 +2.2**
comp=Z,8.5nm,0.7s,mb4.6
EMHD Djebel Mahouad 85.97 51 P pP 04 29 10.0 +1.2
ETSF Etsaut 86.14 44 *e*P **P** **04 28 19.0 -0.5**
comp=Z,4.5nm,0.6s,mb4.1
ETSF Etsaut 86.14 44 *e*P **P** **04 28 19.0 -0.5**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ETSF Etsaut 86.14 44 *e*P **P** **04 28 19.0 -0.5**
comp=Z,2.3nm,0.6s,mb4.1
EBIE Bielsa 86.52 44 P **P** **04 28 21.9 +0.6**
QUIF Quistinic 86.67 38 *e*P **P** **04 28 21.0 -1.1**
comp=Z,3.8nm,0.6s,mb4.0
QUIF Quistinic 86.67 38 *e*P **P** **04 28 21.0 -1.1**
QUIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
QUIF Quistinic 86.67 38 *e*P **P** **04 28 21.0 -1.1**
comp=Z,1.9nm,0.6s,mb4.0
EPF Esparros 86.79 44 *e*P **P** **04 28 21.7 -1.0**
comp=Z,16nm,1.0s,mb4.4
EPF Esparros 86.79 44 *e*P **P** **04 28 21.7 -1.0**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
EPF Esparros 86.79 44 *e*P **P** **04 28 21.7 -1.0**
comp=Z,7.8nm,1.0s,mb4.4
ROSF Rostrenen 86.80 38 *e*P **P** **04 28 21.6 -1.1**
comp=Z,5.9nm,0.7s,mb4.1
ROSF Rostrenen 86.80 38 *e*P **P** **04 28 21.6 -1.1**
ROSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ROSF Rostrenen 86.80 38 *e*P **P** **04 28 21.6 -1.1**
comp=Z,3.0nm,0.7s,mb4.1
SGMF Saint Gilles 87.19 38 *e*P **P** **04 28 23.3 -1.3**
LFF La Frestale 87.83 42 *e*P **P** **04 28 26.3 -1.3**
comp=Z,16nm,0.6s,mb4.7
LFF La Frestale 87.83 42 *e*P **P** **04 28 26.3 -1.3**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
LFF La Frestale 87.83 42 *e*P **P** **04 28 26.3 -1.3**
comp=Z,8.0nm,0.6s,mb4.7
MFF Saint Martin d 87.95 40 *e*P **P** **04 28 27.0 -1.2**
comp=Z,7.6nm,0.6s,mb4.4
MFF Saint Martin d 87.95 40 *e*P **P** **04 28 27.0 -1.2**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
MFF Saint Martin d 87.95 40 *e*P **P** **04 28 27.0 -1.2**
comp=Z,3.8nm,0.6s,mb4.4
BORG Borgarnes 87.98 19 LR LR 05 05 55.0
comp=Z,116nm,22.0s,baz=214,slow=34
WRAK Wrangell Islan 88.01 331 *e*P **P** **04 28 28.6 +0.1**
comp=Z,37nm,1.3s,mb5.0
DLBC Dease Lake 88.04 333 *e*P **P** **04 28 28.4 -0.2**
MTLF Montolieu 88.18 44 *e*P **P** **04 28 28.4 -0.8**
comp=Z,13nm,0.9s,mb4.4
MTLF Montolieu 88.18 44 *e*P **P** **04 28 28.4 -0.8**
MTLF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MTLF Montolieu 88.18 44 *e*P **P** **04 28 28.4 -0.8**
comp=Z,6.3nm,0.9s,mb4.5
GRR Gorron 88.27 39 *e*P **P** **04 28 28.2 -1.5**
comp=Z,19nm,0.8s,mb4.6
GRR *e*pP pP 04 29 19.9 -0.1
GRR Gorron 88.27 39 *e*P **P** **04 28 28.2 -1.5**
GRR *e**PP pP 04 29 19.9 -0.1
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
GRR Gorron 88.27 39 *e*P **P** **04 28 28.2 -1.5**
comp=Z,9.3nm,0.8s,mb4.7
GRR *e*pP pP 04 29 19.9 -0.1
RJF Les Rejaudoux 88.48 42 *e*P **P** **04 28 29.5 -1.2**
comp=Z,5.5nm,0.6s,mb4.2
RJF *e*MLR MLR
comp=Z,250nm,23.0s
RJF Les Rejaudoux 88.48 42 *e*P **P** **04 28 29.5 -1.2**
RJF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
RJF MLR MLR
comp=Z,250nm,23.0s
RJF Les Rejaudoux 88.48 42 *e*P **P** **04 28 29.5 -1.2**
comp=Z,2.8nm,0.6s,mb4.3
RJF LR LR
comp=Z,250nm,23.0s
FLN La Foliniere 88.65 38 *e*P **P** **04 28 30.3 -1.2**
comp=Z,15nm,0.8s,mb4.6
FLN *e*MLR MLR
comp=Z,147nm,20.0s
FLN La Foliniere 88.65 38 *e*P **P** **04 28 30.3 -1.2**
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
FLN MLR MLR
comp=Z,150nm,20.0s
FLN La Foliniere 88.65 38 *e*P **P** **04 28 30.3 -1.2**
comp=Z,7.7nm,0.8s,mb4.6
FLN LR LR
comp=Z,150nm,20.0s
CAF Calviac 88.69 43 *e*P **P** **04 28 30.8 -0.9**
comp=Z,7.9nm,0.7s,mb4.4
CAF *e*pP pP 04 29 22.5 +0.5
CAF Calviac 88.69 43 *e*P **P** **04 28 30.8 -0.9**
CAF *e**PP pP 04 29 22.5 +0.5
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
CAF Calviac 88.69 43 *e*P **P** **04 28 30.8 -0.9**
comp=Z,4.0nm,0.7s,mb4.4
CAF *e*pP pP 04 29 22.5 +0.5
LDF La Druitiere 88.80 39 *e*P **P** **04 28 30.9 -1.3**
comp=Z,15nm,0.8s,mb4.6
LDF La Druitiere 88.80 39 *e*P **P** **04 28 30.9 -1.3**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
LDF La Druitiere 88.80 39 *e*P **P** **04 28 30.9 -1.3**
comp=Z,7.3nm,0.8s,mb4.6
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 28 33.2 -1.4**
comp=Z,5.1nm,0.6s,mb4.2
TCF *e*pP pP 04 29 25.1 +0.1
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 28 33.2 -1.4**
TCF *e**PP pP 04 29 25.1 +0.1
TCF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 28 33.2 -1.4**
comp=Z,2.5nm,0.6s,mb4.2
TCF *e*pP pP 04 29 25.1 +0.1
LASF Ste Croix 89.56 44 *e*P **P** **04 28 34.7 -1.0**
BGF Bois d'Agland 89.83 41 *e*P **P** **04 28 35.9 -1.1**
comp=Z,14nm,0.6s,mb4.7
BGF *e*pP pP 04 29 27.6 +0.2
BGF Bois d'Agland 89.83 41 *e*P **P** **04 28 35.9 -1.1**
BGF *e**PP pP 04 29 27.6 +0.2
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7

BGF	**Bois d'Agland**	**89.83**	**41**	*e*P	**P**	**04 28 35.9**	**-1.1**
	comp=Z,7.1nm,0.6s,mb4.7						
BGF				*e*pP	pP	04 29 27.6	+0.2
AVF	**Avril sur Loir**	**90.24**	**41**	*e*P	**P**	**04 28 37.4**	**-1.5**
	comp=Z,6.0nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**90.24**	**41**	*e*P	**P**	**04 28 37.4**	**-1.5**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**90.24**	**41**	*e*P	**P**	**04 28 37.4**	**-1.5**
	comp=Z,3.0nm,0.7s,mb4.2						
VIVF	**Saint-Julien-l**	**90.38**	**43**	*e*P	**P**	**04 28 38.6**	**-1.0**
SSF	**Saint Saulge**	**90.44**	**41**	*e*P	**P**	**04 28 38.2**	**-1.6**
	comp=Z,3.9nm,0.7s,mb4.1						
SSF	**Saint Saulge**	**90.44**	**41**	*e*P	**P**	**04 28 38.2**	**-1.6**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
SSF	**Saint Saulge**	**90.44**	**41**	*e*P	**P**	**04 28 38.2**	**-1.6**
	comp=Z,2.0nm,0.6s,mb4.1						
SMF	**Signal de Mont**	**90.50**	**42**	*e*P	**P**	**04 28 38.9**	**-1.2**
	comp=Z,14nm,0.8s,mb4.6						
SMF				*e*pP	pP	04 29 30.7	+0.2
SMF	**Signal de Mont**	**90.50**	**42**	*e*P	**P**	**04 28 38.9**	**-1.2**
SMF				*e**PP	pP	04 29 30.7	+0.2
SMF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**90.50**	**42**	*e*P	**P**	**04 28 38.9**	**-1.2**
	comp=Z,7.2nm,0.8s,mb4.5						
SMF				*e*pP	pP	04 29 30.7	+0.2
MAW	**Mawson**	**90.68 164**		P	**P**	**04 28 41.0**	**0.0**
	comp=Z,31nm,0.9s,mb5.2,baz=223,slow=5.8,SNR=79						
KEST	**Kesra**	**90.68**	**53**	P	**P**	**04 28 41.5**	**+0.5**
	comp=Z,6.8nm,1.3s,mb4.4,baz=214,slow=0.7,SNR=3.9						
LOR	**Lormes**	**90.74**	**41**	*e*P	**P**	**04 28 39.3**	**-1.9**
	comp=Z,2.7nm,0.5s,mb4.1						
LOR				*e*MLR	MLR		
	comp=Z,114nm,18.8s						
LOR	**Lormes**	**90.74**	**41**	*e*P	**P**	**04 28 39.3**	**-1.9**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
LOR				MLR	MLR		
	comp=Z,110nm,18.8s						
LOR	**Lormes**	**90.74**	**41**	*e*P	**P**	**04 28 39.3**	**-1.9**
	comp=Z,1.4nm,0.5s,mb4.2						
LOR				LR	LR		
	comp=Z,110nm,18.8s						
RES	**Resolute Bay**	**91.07 354**		*e*P	**P**	**04 28 42.0**	**-0.7**
	comp=Z,1μm,1.1s						
LMR	**La Mourre**	**91.09**	**45**	*e*P	**P**	**04 28 42.2**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.3						
LMR	**La Mourre**	**91.09**	**45**	*e*P	**P**	**04 28 42.2**	**-0.6**
LMR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LMR	**La Mourre**	**91.09**	**45**	*e*P	**P**	**04 28 42.2**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.3						
ORIF	**Oris-en-Rattie**	**91.21**	**44**	*e*P	**P**	**04 28 42.3**	**-1.1**
	comp=Z,8.8nm,0.7s,mb4.5						
ORIF				*e*MLR	MLR		
	comp=Z,303nm,20.5s						
ORIF	**Oris-en-Rattie**	**91.21**	**44**	*e*P	**P**	**04 28 42.3**	**-1.1**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**91.21**	**44**	*e*P	**P**	**04 28 42.3**	**-1.1**
	comp=Z,4.4nm,0.7s,mb4.5						
FRF	**La Foret Royal**	**91.26**	**45**	*e*P	**P**	**04 28 41.8**	**-1.8**
MBDF	**Montbardon**	**91.74**	**44**	*e*P	**P**	**04 28 44.7**	**-1.1**
SBF	**Sospel**	**91.90**	**45**	*e*P	**P**	**04 28 45.0**	**-1.6**
CABF	**La Chapelle**	**91.93**	**42**	*e*P	**P**	**04 28 44.6**	**-2.1**
MEZF	**Maizieres J'vi**	**91.93**	**40**	*e*P	**P**	**04 28 44.9**	**-1.8**
LPL	**La Plagne**	**91.98**	**43**	*e*P	**P**	**04 28 47.1**	**+0.2**
LPL				*e*pP	pP	04 29 39.0	+1.6
LPG	**La Plagne**	**91.98**	**43**	*e*P	**P**	**04 28 47.2**	**+0.2**
	comp=Z,12nm,1.0s,mb4.5						
LPG	**La Plagne**	**91.98**	**43**	*e*P	**P**	**04 28 47.2**	**+0.2**
LPG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
LPG	**La Plagne**	**91.98**	**43**	*e*P	**P**	**04 28 47.2**	**+0.2**
	comp=Z,6.2nm,1.0s,mb4.5						
GIVF	**Givet**	**92.37**	**39**	*e*P	**P**	**04 28 46.6**	**-2.1**
HINF	**Hinteralfeld**	**92.83**	**41**	*e*P	**P**	**04 28 49.4**	**-1.5**
DAVA	**Damuels**	**94.61**	**42⇑**	*i*P	**P**	**04 28 59.9**	**+0.9**
	comp=Z,12nm,1.5s,mb4.8						
DAWY	**Dawson**	**94.75 336**		*e*P	**P**	**04 28 58.4**	**-1.3**
MOTA	**Moosalm**	**95.42**	**42⇓**	*i*P	**P**	**04 29 05.2**	**+2.5**
	comp=Z,31nm,1.9s,mb5.1						
MOTA	**Moosalm**	**95.42**	**42⇓**	*i*P	**P**	**04 29 05.2**	**+2.5**
MOTA				pmax	pmax		
	comp=Z,31nm,1.9s,mb5.1						
SQTA	**Sankt Quirin**	**95.45**	**43⇓**	*i*P	**P**	**04 29 05.4**	**+2.6**
	comp=Z,16nm,1.3s,mb5.0						
SQTA	**Sankt Quirin**	**95.45**	**43⇓**	*i*P	**P**	**04 29 05.4**	**+2.5**
SQTA				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
JMIC	**Jan Mayen**	**95.62**	**17**	LR	LR	05 06 36.3	
	comp=Z,112nm,19.4s,baz=268,slow=32						
WTTA	**Wattenberg**	**95.75**	**43⇑**	*i*P	**P**	**04 29 06.8**	**+2.6**
	comp=Z,16nm,1.3s,mb5.1						
WTTA	**Wattenberg**	**95.75**	**43⇑**	*i*P	**P**	**04 29 06.8**	**+2.6**
WTTA				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.1						
EGAK	**Eagle**	**95.75 336**		*e*P	**P**	**04 29 02.8**	**-1.4**
	comp=Z,6.6nm,1.0s,mb4.8						
GRA1	**Grafenberg Arr**	**96.16**	**40**	*e*P	**P**	**04 29 07.4**	**+1.3**
	comp=Z,3.0nm,0.9s,mb4.5						
GRA1				*e*pP	pP	04 29 56.1	-0.6
GRA1				*e*PP	PP	04 33 03.0	+1.2
GRF	**Grafenberg Arr**	**96.16**	**40**	*e*P	**P**	**04 29 07.4**	**+1.3**
	comp=Z,3.0nm,0.9s,mb4.5						
GRF				*e*pP	pP	04 29 56.1	-0.6
GRF				*e*PP	PP	04 33 03.0	+1.2
GRF	**Grafenberg Arr**	**96.16**	**40**	*e*P	**P**	**04 29 07.4**	**+1.3**
GRF				*e**PP	pP	04 29 56.1	-0.6
GRF				*e*		04 33 03.0	
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**96.16**	**40**	*e*P	**P**	**04 29 07.4**	**+1.3**
GRF				*e**PP	pP	04 29 56.1	-0.6
GRF				*e*		04 33 03.0	
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**97.50**	**42**	P	**P**	**04 29 11.1**	**-1.1**
	comp=Z,0.5nm,0.6s,mb4.0,baz=270,slow=2.7,SNR=6.2						
GERES				PP	PP	04 33 06.9	-5.2
	comp=Z,1.4nm,0.9s,baz=240,slow=4.5,SNR=5.3						
CLL	**Collm**	**97.68**	**39**	*e*pP	pP	04 30 04.0	+0.4
CLL				*e*PP	PP	04 33 12.0	-1.5
CLL				*e*SKSac	SKSac	04 39 32.0	+1.4
CLL				*e*SP	SP	04 41 49.0	+4.6
CLL				*e*pSP		04 42 47.0	
COLA	**College**	**98.46 335**		*i*P	**P**	**04 29 16.1**	**-0.3**
ARCES	**ARCESS Array B**	**106.23**	**21**	PKKPbc	PKKPbc	04 45 21.8	-1.0
	comp=Z,3.5nm,0.9s,baz=92,slow=4.1,SNR=6.6						
FINES	**FINESS Array B**	**106.35**	**30**	PKKPbc	PKKPbc	04 45 22.0	-0.5
	comp=Z,1.4nm,0.7s,baz=87,slow=7.8,SNR=4.2						
AKASG	**Malin Array Be**	**107.71**	**41**	PP	PP	04 34 21.0	-7.2
	comp=Z,4.3nm,1.0s,baz=264,slow=6.9,SNR=6.3						
BRTR	**Keskin Array B**	**110.29**	**53**	PKiKP	PKiKP	04 34 10.1	+1.0
	comp=Z,1.2nm,0.9s,baz=151,slow=2.8,SNR=7.1						
BRTR				PP	PP	04 34 40.3	-6.6
	comp=Z,2.1nm,1.0s,baz=243,slow=5.4,SNR=5.0						
SOC	**Sochi**	**114.87**	**49**	*i* PKIKP	PKiKP	04 34 22.7	+4.9
SOC				*e*		04 35 22.6	
SOC				*e*SS	SS	04 51 05.9	+7.7
SOC				*e*SSS		04 55 27.2	
SOC				pmax	pmax		
	comp=Z,27nm,1.1s						
BILL	**Bilibino**	**116.22 339**		*i* PKIKP	PKPdf	04 34 19.9	-0.5
BILL				*e*		04 35 24.3	
BILL				pmax	pmax		
	comp=Z,36nm,2.4s						
ORR	**Orenburg**	**123.42**	**38**	PKIKP	PKPdf	04 34 35.3	+1.1
ORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**124.00 213**		PKP	PKPdf	04 34 35.6	+0.3
	comp=Z,8.0nm,0.6s,baz=110,slow=1.8,SNR=22						
ZRNK	**Zerenda**	**130.66**	**31**	*e*PKIKP	PKPdf	04 34 49.2	+1.2
CHKZ	**Chkalovo**	**131.03**	**30**	*e*PKIKP	PKPdf	04 34 49.9	+1.2
BRVK	**Borovoye**	**131.23**	**31**	*e*PKIKP	PKPdf	04 34 49.7	+0.6
BVAR	**Borovoye Array**	**131.30**	**31**	SKPbc	SKPbc	04 37 58.4	+3.5
	comp=Z,6.6nm,0.8s,baz=298,slow=3.2,SNR=16						
WSAR	**Wadi Sarin**	**131.41**	**72**	PKP	PKPdf	04 34 49.7	+0.2
	comp=Z,14nm,0.9s,baz=257,slow=2.8,SNR=15						
WSAR				SKPbc	SKPbc	04 38 00.1	+4.8
	comp=Z,14nm,0.7s,baz=226,slow=4.5,SNR=14						
ZAL	**Zalesovo**	**136.79**	**21**	PKP	PKPdf	04 34 59.2	-0.3
	comp=Z,18nm,0.6s,baz=153,slow=1.0,SNR=24						
ZAL				SKPbc	SKPbc	04 38 17.5	+4.6
	comp=Z,15nm,0.8s,baz=158,slow=4.0,SNR=25						
ZAL	**Zalesovo**	**136.79**	**21**	PKP	PKPdf	04 34 59.2	-0.3
ZAL				SKPbc	SKPbc	04 38 17.5	+4.6
BOD	**Bodaibo**	**137.39 357**		*e*PKHKP		04 34 47.5	
BOD				pmax	pmax		
	comp=Z,8.0nm,2.2s						
WRA	**Warramunga Arr**	**137.41 216**		SKPbc	SKPbc	04 38 16.7	+2.1
	comp=Z,15nm,0.8s,baz=137,slow=2.4,SNR=9.6						
EKS2	**Erkin-Say**	**138.91**	**41**	P	PKPdf	04 35 06.4	+3.0
	SNR=12						
USP	**Ospenovka**	**139.05**	**40**	P	PKPdf	04 35 05.8	+2.1
	SNR=6.4						
AML	**Almayashu**	**139.12**	**42**	P	PKPdf	04 35 07.0	+3.2
	SNR=19						
FRU	**Bishkek**	**139.35**	**40**	*e*PKIKP	PKPdf	04 34 59.0	-5.2
FRU				pmax	pmax		
	comp=Z,350nm,3.2s						
AAK	**Ala-Archa**	**139.38**	**41**	P	PKPdf	04 35 07.3	+3.0
	SNR=11						
AAK	**Ala-Archa**	**139.38**	**41**	*e*PKPdf	PKPdf	04 35 05.5	+1.3
UCH	**Uchtor**	**139.60**	**41**	P	PKPdf	04 35 07.9	+3.2
	SNR=24						
TKM2	**Tokmak 2**	**139.91**	**40**	P	PKPdf	04 35 10.5	+5.3
	SNR=7.0						
MKAR	**Makanchi Array**	**141.18**	**30**	PKhKP		04 35 02.3	
	comp=Z,2.2nm,0.6s,baz=317,slow=3.5,SNR=20						
MKAR				PKP	PKPdf	04 35 08.5	+0.9
	comp=Z,7.3nm,0.9s,baz=312,slow=2.2,SNR=15						
MKAR				SKPbc	SKPbc	04 38 28.7	+3.8
	comp=Z,14nm,1.0s,baz=327,slow=2.5,SNR=14						
MKAR	**Makanchi Array**	**141.18**	**30**	PKHKP		04 35 02.3	
MKAR						04 35 08.5	
FITZ	**Fitzroy Crossi**	**143.29 206**		*e*P	PKPdf	04 35 07.9	-3.4
	comp=Z,23nm,0.8s						
FITZ	**Fitzroy Crossi**	**143.29 206**		PKhKP		04 35 08.4	
	comp=Z,11nm,0.6s,baz=202,slow=0.5,SNR=72						
TLY	**Talaya**	**143.35**	**6**	*e*PKIKP	PKPdf	04 35 09.8	-1.6
TLY				*e*		04 38 32.1	
TLY				pmax	pmax		
	comp=Z,19nm,0.9s						
ZAK	**Zakamensk**	**144.59**	**7⇑**	*i*PKIKP	PKPdf	04 35 13.2	-0.4
ZAK				*e*		04 36 04.0	
ZAK				*e*		04 38 38.2	
ZAK				pmax	pmax		
	comp=Z,30nm,1.0s						
THN	**Thein Dam**	**144.78**	**55**	*e*P	PKPdf	04 35 13.7	-0.2
HIA	**Hailar**	**145.09 348**		*i* PKIKP	PKPdf	04 35 14.5	+0.1
HIA	**Hailar**	**145.09 348**		*e*PKPdf	PKPdf	04 35 13.9	-0.5
AJM	**Ajmer**	**145.57**	**65**	*e*P	PKPdf	04 35 14.8	-0.4
POO	**Poona**	**145.65**	**79⇓**	*i*P	PKPdf	04 35 15.0	-0.4
	comp=Z,70nm,1.0s						
GUMO	**Guam**	**145.85 272**		PKPbc	PKPbc	04 35 15.9	-0.7
	comp=Z,38nm,0.4s,baz=162,slow=11,SNR=5.6						
WMQ	**Urumqi**	**145.95**	**29**	PKP	PKPdf	04 35 18.8	+2.9
WMQ				PKP2	PKPab	04 35 23.0	+5.1
WMQ				*e*PP	PP	04 38 45.0	+5.0
WMQ				PP	PP		
	comp=Z,221nm,4.7s						
WMQ				LR	LR		
	comp=N,263nm,22.5s						
WMQ				LR	LR		
	comp=E,194nm,22.5s						
WMQ				LR	LR		
	comp=Z,284nm,21.0s						
SDNR	**Sundarnagar**	**146.11**	**56**	*e*P	PKPdf	04 35 19.0	+2.8
MDJ	**Mudanjiang**	**146.19 334**		PKP	PKPdf	04 35 17.0	+0.7
MDJ				PP	PP	04 38 40.0	-1.5
MDJ				PP	PP		
	comp=Z,98nm,5.2s						
KHET	**Khetri**	**146.20**	**62**	*e*P	PKPdf	04 35 15.2	-1.1
MJAR	**Matsushiro Arr**	**146.89 315**		PKPbc	PKPbc	04 35 19.5	-0.2
	comp=Z,43nm,0.8s,baz=84,slow=1.7,SNR=89						
MAJO	**Matsushiro**	**146.89 315**		*e*PKP2	PKPab	04 35 19.2	-2.3
MAT	**Matsushiro**	**146.89 315**		PKP	PKPdf	04 35 18.1	+0.6
KLP	**Kalpa**	**147.12**	**55**	*e*P	PKPdf	04 35 20.7	+2.8
NDI	**New Delhi**	**147.23**	**60**	*e*P	PKPdf	04 35 20.0	+1.9
SONA	**Sohna**	**147.24**	**61**	*e*P	PKPdf	04 35 20.0	+1.9
TRD	**Trivandrum**	**147.37**	**98**	*e*P	PKPdf	04 35 19.8	+1.5
SONM	**Songino Array**	**147.41**	**4**	PKPbc	PKPbc	04 35 20.1	-1.0
	comp=Z,32nm,0.6s,baz=328,slow=1.8,SNR=186						
SONM				SKPbc	SKPbc	04 38 44.9	+5.4
	comp=Z,4.5nm,0.8s,baz=320,slow=1.7,SNR=4.1						
ULN	**Ulaanbaatar**	**147.42**	**3**	*e*PKPbc	PKPbc	04 35 20.7	-0.5
ULN				*e*pPKPdf	pPKPdf	04 36 15.2	+3.8
CBIJ	**Chichi jima**	**147.53 297**		PKPbc	PKPbc	04 35 20.5	-1.0
	comp=Z,83nm,0.7s,baz=290,slow=0.8,SNR=7.0						
CN2	**Changchun**	**148.51 338**		*e*PKP	PKPdf	04 35 16.5	-3.7
CN2				PP	PP	04 38 54.0	-1.0
BHPL	**Bhopal**	**148.63**	**70**	*e*P	PKPdf	04 35 19.8	-0.5
HYB	**Hyderabad**	**150.12**	**82**	*i* PKP	PKPdf	04 35 26.0	+3.3
	comp=Z,120nm,1.0s						
HYB				*e*PcP		04 35 27.5	
HYB	**Hyderabad**	**150.12**	**82**	*e*P	PKPdf	04 35 26.0	+3.3
PALK	**Pallekele**	**150.58 102**		*e*PKPbc	PKPbc	04 35 32.0	+3.0
PALK				*e*pPKPdf	pPKPdf	04 36 20.2	+3.7
ALBI	**Allahabad**	**152.11**	**65**	*ex*	x	04 35 32.0	
HHC	**Hu-ho-hao-te**	**154.44 357**		*e*PKP	PKPdf	04 35 34.0	+4.9
HHC				PP	PP		
	comp=Z,236nm,6.9s						
HHC				LR	LR		
	comp=N,127nm,5.2s						
HHC				LR	LR		
	comp=E,273nm,4.1s						
HHC				LR	LR		
	comp=Z,137nm,22.9s						
GTA	**Gaotai**	**154.44**	**18**	PKP	PKPdf	04 35 30.5	+1.4
GTA				PKS		04 39 04.0	
GTA				PP	PP	04 39 31.8	+3.0
GTA				PP	PP		
	comp=Z,103nm,6.5s						
GTA				LR	LR		
	comp=N,223nm,21.7s						
GTA				LR	LR		
	comp=E,320nm,23.9s						
GTA				LR	LR		
	comp=Z,424nm,23.9s						
BJI	**Beijing**	**154.65 348**		PKIKP	PKPdf	04 35 35.7	+6.3
BJI				MLR	MLR		
	comp=Z,80nm,22.7s						
BOK	**Bokaro**	**156.10**	**66**	*e*P	PKPdf	04 35 29.1	-2.2
BOK				AMb	AMB	04 35 56.7	
	comp=Z,19nm,0.7s						
LZH	**Lanzhou**	**158.62**	**13**	*e*PKP	PKPdf	04 35 35.3	+0.8
LZH	**Lanzhou**	**158.62**	**13**	*e*PKP	PKPdf	04 35 35.2	+0.7
LZH				pPKP	pPKPdf	04 36 09.8	-18
CD2	**Chengdu**	**163.52**	**18**	*e*PKP	PKPdf	04 35 41.5	+1.8
CD2				PP	PP		
	comp=Z,120nm,10.2s						
KMI	**Kunming**	**168.25**	**32**	PKP	PKPdf	04 35 44.5	+1.0
KMI	**Kunming**	**168.25**	**32**	PKP	PKPdf	04 35 44.6	+1.1
KMI				pPKP	pPKPdf	04 36 12.7	-24
KMI				sPKP		04 36 24.5	
KMI				LR	LR		
	comp=Z,80nm,32.2s						
GYA	**Guiyang**	**168.52**	**13**	PKP	PKPdf	04 35 45.3	+1.6
GYA				PKP2	PKPab	04 36 54.5	+0.2
GYA				PP	PP		
	comp=Z,130nm,8.6s						
GYA				LR	LR		
	comp=N,320nm,22.4s						
GYA				LR	LR		
	comp=E,240nm,23.0s						
GYA				LR	LR		
	comp=Z,270nm,22.6s						

NIED ***30*** *04:18:00, 4270N×13920E, h250km, Mw4.2 Best double couple: M0 1.97000×10^15 NP1:φs 322.00000°, δ82.00000°, λ-66.00000°. NP2:φs 69.00000°, δ25.00000°, λ-161.00000°.*

ISCJB ***30*** *04:18:38.9±0.3, 4266N±005×13931E±007, h216km±3km, mb4.0/20, Error ellipse: s-maj=8.9km s-min=6.8km az=90.1*

MOS ***30*** *04:18:39.0±1.2, 4276N×13925E, h219km, mb3.8/7, Error ellipse: s-maj=23.8km s-min=16.4km az=114.7*

JMA ***30*** *04:18:39.9±0.1, 4272N×13924E, h209km±1km, M3.5*

NEIC ***30*** *04:18:39.9, 4272N×13925E, h208km, mb3.9/3, After JMA.*

IDC ***30*** *04:18:39.9±1.1, 4273N×13924E, h208km±10km, mb3.4/10, mb1 3.6/12, mb1mx3.4/25, mbtmp3.9/12, Error ellipse: s-maj=14.8km s-min=12.9km az=154.0*

ISC 30 04:18:39.8±0.3, 4267N±005×13933E±007, h213km±3km, n49, σ0ˢ73/63, mb4.0/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**0.53**	**92**	P	**Pn**	**04 19 08.4**	**-0.1**
JSH				*e*S	**S**	**04 19 30.2**	**-0.5**
JOSM	**Okushiri--Mats**	**0.59**	**170**	P	**Pn**	**04 19 08.7**	**0.0**
JOSM				*e*S	**S**	**04 19 30.9**	**-0.3**
JYM2	**Yakumo 2**	**0.95**	**125**	P	**Pn**	**04 19 10.9**	**+0.4**
JYM2				*e*S	**S**	**04 19 35.0**	**+0.6**
JSK	**Shakotan**	**1.08**	**50**	P	**Pn**	**04 19 11.3**	**-0.1**
JSK				*e*S	**S**	**04 19 35.3**	**-0.7**
JNB	**Noboribetsu**	**1.28**	**98**	P	**Pn**	**04 19 13.0**	**+0.2**
JNB				*e*S	**S**	**04 19 38.7**	**+0.2**
JSR	**Shiriuchi**	**1.40**	**144**	P	**Pn**	**04 19 14.3**	**+0.5**
JSR				*e*S	**S**	**04 19 40.6**	**+0.4**
JKB	**Kayabe**	**1.48**	**121**	P	**Pn**	**04 19 14.8**	**+0.3**
JKB				*e*S	**S**	**04 19 41.9**	**+0.4**
JEW	**Eniwo**	**1.57**	**83**	P	**Pn**	**04 19 15.9**	**+0.7**
JOT	**Ohata**	**1.81**	**135**	P	**Pn**	**04 19 17.6**	**+0.2**
JOT				*e*S	**S**	**04 19 47.2**	**+0.4**
JHR	**Hokuryu**	**2.06**	**58**	P	**Pn**	**04 19 20.4**	**+0.6**
JYG	**Yagishiri**	**2.33**	**40**	P	**Pn**	**04 19 22.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.56**	**98**	P	**Pn**	**04 19 25.1**	**-0.1**
JNBK				*e*S	**S**	**04 20 00.8**	**+0.1**
JKK2	**Kamakawa 2**	**2.77**	**63**	P	**Pn**	**04 19 28.3**	**+0.8**
JKK2				*e*S	**S**	**04 20 04.9**	**0.0**
ASAJ	**Asahikawa**	**2.79**	**58**	P	**Pn**	**04 19 28.2**	**+0.6**
	30nm,0.3s,baz=253,slow=11,SNR=56						
ASAJ				S	**S**	**04 20 05.3**	**+0.2**
	2.7nm,0.3s,baz=55,slow=28,SNR=6.9						
ASAJ	**Asahikawa**	**2.79**	**58**	PN	**Pn**	**04 19 28.3**	**+0.6**
ASAJ				S	**S**	**04 20 05.4**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,30nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
JANG	**Nango**	**2.82**	**144**	P	**Pn**	**04 19 28.0**	**0.0**
JANG				*e*S	**S**	**04 20 04.0**	**-1.8**
ERM	**Erimo**	**2.91**	**102**	*e*Pn	**Pn**	**04 19 29.3**	**+0.3**
ERM				*e*Sn	**S**	**04 20 05.5**	**-2.2**
JCH	**Churui**	**2.98**	**90**	P	**Pn**	**04 19 29.4**	**-0.4**
JCH				*e*S	**S**	**04 20 07.0**	**-2.0**
JWK2	**Keihoku**	**3.23**	**34**	P	**Pn**	**04 19 33.8**	**+1.0**
MJAR	**Matsushiro Arr**	**6.18**	**188**	P	**Pn**	**04 20 10.6**	**+1.1**
	comp=N,0.4nm,0.3s,baz=11,slow=13,SNR=3.3						
SONM	**Songino Array**	**23.64**	**294**	P	**P**	**04 23 31.7**	**-0.1**
	comp=N,1.0nm,0.4s,mb3.8,baz=86,slow=8.9,SNR=10						
SONM	**Songino Array**	**23.64**	**294**	P	**P**	**04 23 31.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**37.09**	**307**	P	**P**	**04 25 29.7**	**0.0**
	comp=Z,2.0nm,0.5s,mb3.9,baz=25,slow=10.0,SNR=9.5						
ZAL	**Zalesovo**	**37.09**	**307**	P	**P**	**04 25 29.7**	**0.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**39.97**	**296**	P	**P**	**04 25 52.9**	**-0.7**
	comp=Z,2.5nm,0.6s,mb3.8,baz=84,slow=11,SNR=20						
MKAR				ScP	ScP	04 31 22.2	-0.9
	comp=Z,1.1nm,0.7s,baz=74,slow=5.0,SNR=5.7						
MKAR	**Makanchi Array**	**39.97**	**296**	P	**P**	**04 25 52.9**	**-0.7**
MKAR				ScP	ScP	04 31 22.2	-0.9
IMA2	**Indian Mountai**	**42.76**	**34**	*e*P	**P**	**04 26 16.4**	**+0.1**
KDAK	**Kodiak Island**	**44.14**	**46**	P	**P**	**04 26 27.4**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.0,baz=311,slow=11,SNR=3.0						
JIRN	**Jiri**	**45.23**	**268**	*e*P	**P**	**04 26 36.1**	**+0.2**
	comp=Z,12nm,0.6s,mb4.4						
GUN	**Gumba**	**45.32**	**269**	*e*P	**P**	**04 26 36.8**	**+0.2**
	comp=Z,43nm,0.5s,mb5.1						
CHKZ	**Chkalovo**	**45.41**	**309**	*e*P	**P**	**04 26 36.3**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**45.41**	**309**	*e*P	**P**	**04 26 36.3**	**-0.9**
	comp=Z,2.2nm,0.6s,mb3.7						
KKN	**Kakani**	**45.83**	**269**	*e*P	**P**	**04 26 40.8**	**+0.2**
	comp=Z,9.7nm,0.4s,mb4.5						
PKI	**Pulchoki**	**45.85**	**269**	*e*P	**P**	**04 26 40.7**	**-0.1**
	comp=Z,22nm,0.5s,mb4.7						
DMN	**Daman**	**46.06**	**269**	*e*P	**P**	**04 26 42.3**	**-0.1**
	comp=Z,19nm,0.5s,mb4.6						
GKN	**Gorkha**	**46.19**	**270**	*e*P	**P**	**04 26 43.0**	**-0.3**
	comp=Z,28nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**46.54**	**308**	*e*P	**P**	**04 26 44.4**	**-1.7**
ZRNK				pmax	pmax		

LSZ	**Lusaka**	**7.35**	**319**	*e*Pn	**Pn**	**04 25 51.0**	**+0.9**
LSZ				*e*Sn	**Sn**	**04 27 09.2**	**-4.4**
LSZ				Lg		04 27 45.7	
LSZ				LR	LR	04 28 45.6	
PRYS	**Parys**	**7.97**	**221**	*e*P	**Pn**	**04 25 58.5**	**0.0**
PRYS				*e*S	**Sn**	**04 27 29.1**	**+0.4**
PRYS				AML	AML	04 28 16.0	
	comp=Z,126nm,0.7s						
LBTB	**Lobatse**	**8.05**	**238**	Pn	**Pn**	**04 26 00.4**	**+0.7**
	comp=Z,6.7nm,0.3s,baz=65,slow=14,SNR=21						
LBTB				Sn	**Sn**	**04 27 26.6**	**-4.2**
	comp=Z,5.7nm,0.3s,baz=339,slow=17,SNR=3.5						
LBTB				Lg		04 28 03.5	
	comp=Z,14nm,0.3s,baz=340,slow=19,SNR=20						
LBTB	**Lobatse**	**8.05**	**238**	*e*Pn	**Pn**	**04 26 00.8**	**+1.0**
	comp=Z,84nm,0.4s						
LBTB				*e*Sn	**Sn**	**04 27 31.0**	**+0.1**
SWZ	**Schweizer**	**9.46**	**227**	*e*P	**Pn**	**04 26 19.3**	**+0.2**
SWZ				*e*S	**Sn**	**04 28 06.3**	**+0.7**
SWZ				AML	AML	04 29 10.1	
	comp=Z,72nm,0.7s						
KSD	**Kokstad**	**10.13**	**199**	*e*P	**Pn**	**04 26 27.9**	**-0.3**
KSD				*e*S	**Sn**	**04 28 19.5**	**-2.3**
KSD				AML	AML	04 29 34.7	
	comp=Z,47nm,0.6s						
BOSA	**Boshof**	**10.47**	**222**	Pn	**Pn**	**04 26 33.4**	**+0.5**
	comp=Z,3.4nm,0.3s,baz=47,slow=13,SNR=40						
BOSA				Sn	**Sn**	**04 28 23.9**	**-6.4**
	comp=Z,2.3nm,0.3s,baz=334,slow=15,SNR=5.3						
BOSA				Lg		04 29 25.9	
	comp=Z,6.0nm,0.3s,baz=315,slow=18,SNR=5.8						
BOSA				LR	LR	04 30 35.1	
	comp=Z,330nm,18.1s,baz=225,slow=38						
BOSA	**Boshof**	**10.47**	**222**	*e*Pn	**Pn**	**04 26 33.2**	**+0.3**
	comp=Z,7.9nm,0.5s						
BOSA				*e*Sn	**Sn**	**04 28 39.3**	**+9.0**
OPO	**Ambohidratompo**	**13.42**	**82**	Pn	**Pn**	**04 27 22.6**	**+9.3**
	comp=Z,0.4nm,0.3s,baz=260,slow=18,SNR=3.0						
OPO				Sn	**Sn**	**04 29 42.3**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=299,slow=19,SNR=6.8						
TSUM	**Tsumeb**	**14.73**	**274**	Pn	**Pn**	**04 27 29.4**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=98,slow=16,SNR=20						
TSUM				Sn	**Sn**	**04 30 09.5**	**-5.0**
	comp=Z,0.7nm,0.3s,baz=37,slow=20,SNR=4.4						
TSUM				Lg		04 31 36.5	
	comp=Z,2.5nm,0.3s,baz=94,slow=6.9,SNR=8.4						
TSUM				LR	LR	04 33 06.4	
	comp=Z,437nm,18.3s,baz=136,slow=38						
TSUM	**Tsumeb**	**14.73**	**274**	*e*Pn	**Pn**	**04 27 28.9**	**-2.2**
	comp=Z,28nm,0.9s						
TSUM				*e*Sn	**Sn**	**04 30 11.3**	**-3.1**
SUR	**Sutherland**	**15.84**	**222**	Pn	**Pn**	**04 27 45.2**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=50,slow=15,SNR=20						
SUR				Sn	**Sn**	**04 30 33.6**	**-7.8**
	comp=Z,1.2nm,0.3s,baz=151,slow=23,SNR=4.2						
SUR				Lg		04 32 06.8	
	comp=Z,0.9nm,0.3s,baz=152,slow=20,SNR=4.5						
SUR				LR	LR	04 33 59.2	
	comp=Z,250nm,18.2s,baz=228,slow=38						
SUR	**Sutherland**	**15.84**	**222**	*e*Pn	**Pn**	**04 27 47.0**	**+1.3**
	comp=Z,19nm,0.8s						
KMBO	**Kilima Mbogo**	**20.10**	**12**	LR	LR	04 36 30.1	
	comp=Z,96nm,19.8s,MS3.1,baz=115,slow=37						
TORD	**Torodi Ar. Bea**	**45.86**	**315**	P	**P**	**04 32 28.8**	**+3.7**
	comp=Z,2.9nm,0.9s,mb4.2,baz=125,slow=7.4,SNR=6.1						
ESDC	**Sonseca Array**	**69.56**	**330**	P	**P**	**04 35 16.3**	**+4.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=142,slow=5.3,SNR=7.0						
GERES	**GERESS Array B**	**71.61**	**347**	P	**P**	**04 35 29.0**	**+4.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=152,slow=5.3,SNR=5.2						

BJI ***30*** *04:29:15.6, 6.12S×155.27E, h31km, mB5.4, mb5.0, Ms5.1, Msz4.8*
MOS ***30*** *04:29:16.4±0.9, 6.35S×154.78E, h33km, mb5.4/16, MS4.6/10, Error ellipse: s-maj=9.4km s-min=7.7km az=78.0*
ISCJB ***30*** *04:29:16.1±0.2, 6.45S±0.04×154.89E±0.03, h32km, mb5.1/72, MS5.0/151, Error ellipse: s-maj=5.1km s-min=5.0km az=139.9*
IDC ***30*** *04:29:17.6±0.5, 6.47S×154.87E, h34km±3km, mb4.7/21, mb1 4.8/24, mb1mx4.8/25, mbtmp4.9/24, ML4.5/3, MS4.7/18, Ms1 4.7/18, ms1mx4.5/26, Error ellipse: s-maj=14.2km s-min=11.2km az=109.0*
GCMT ***30*** *04:29:17.7±0.1, 6.77S×154.87E, h36km, MW5.5/88, Moment Tensor Solution. s88,c155; s86,c141; Duration: 1ŝ3 Moment tensor: Scale 1017Nm; Mrr1.69±.03; Mθθ-0.97±.02; Mφφ-0.72±.02; Mrθ0.41±.03; Mθφ1.05±.02; Mφr-0.39±.03; Best double couple: M0 1.88400×1017 NP1:φ=311.00000°, δ36.00000°, λ89.00000°. NP2:φ=132.00000°, δ54.00000°, λ91.00000°. Principal axes: T 1.7780, Plg81.0000°, Azm45.0000°; N 0.2110, Plg0.0000°, Azm312.0000°; P -1.9900, Plg9.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *04:29:17.7±0.2, 6.48S×154.93E, h35km, mb5.3/22, MS5.1/130 Error ellipse: s-maj=7.2km s-min=5.2km az=119.0*

ISC 30 04:29:18.0±0.2, 6.48S±.004×154.97E±.004, h34km, h34km±.6km: pP-P, n319, σ1.905/178, mb5.1/72, MS5.0/151, 18C-6D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.73**	**121**	Pn	**Pn**	**04 30 46.0**	**+5.4**
	168nm,0.3s,baz=249,slow=3.1,SNR=19						
HNR				Sn	**Sn**	**04 31 51.6**	**+6.4**
	32nm,0.3s,baz=90,slow=20,SNR=2.4						
HNR				LR	LR	04 32 56.7	
	comp=Z,16μm,18.7s,baz=352,slow=38						
HNR	**Honiara**	**5.73**	**121**	P	**Pn**	**04 30 46.1**	**+5.4**
HNR						04 31 51.6	
PMG	**Port Moresby**	**8.27**	**249**	Pn	**Pn**	**04 31 15.9**	**+0.5**
	25nm,0.3s,baz=52,slow=11,SNR=37						
PMG				Sn	**Sn**	**04 32 49.3**	**+1.8**
	20nm,0.3s,baz=61,slow=19,SNR=12						
PMG				LR	LR	04 34 18.3	
	comp=Z,8μm,20.9s,baz=44,slow=37						
PMG	**Port Moresby**	**8.27**	**249**	*e*Pn	**Pn**	**04 31 16.7**	**+1.3**
PMG				*e*Sn	**Sn**	**04 32 49.9**	**+2.3**
CTA	**Charters Tower**	**15.96**	**211**	*e*P	**Pn**	**04 32 59.7**	**-0.2**
	48nm,0.9s						
CTA				*e*S	**Sn**	**04 36 09.6**	**+14**
CTA	**Charters Tower**	**15.96**	**211**	Pn	**Pn**	**04 32 59.9**	**0.0**
	1.1nm,0.3s,baz=31,slow=14,SNR=23						
CTA				Sn	**Sn**	**04 36 08.5**	**+13**
	0.2nm,0.3s,baz=121,slow=18,SNR=5.2						
CTA				LR	LR	04 38 21.2	
	comp=Z,4μm,20.4s,baz=22,slow=34						
CTA	**Charters Tower**	**15.96**	**211**	*e*P	**Pn**	**04 32 59.7**	**-0.2**
CTA				pmax	pmax		
	comp=Z,48nm,0.9s						
CTAO	**Charters Tower**	**15.96**	**211**	*e*P	**Pn**	**04 32 59.9**	**0.0**
DZM	**Mont Dzumac**	**19.05**	**146**	*e*P	**Pn**	**04 33 38.5**	**+0.3**
DZM	**Mont Dzumac**	**19.05**	**146**	P	**Pn**	**04 33 38.4**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=326,slow=16,SNR=17						
DZM				LR	LR	04 39 54.1	
	comp=Z,3μm,21.6s,baz=312,slow=33						
DZM	**Mont Dzumac**	**19.05**	**146**	P	**Pn**	**04 33 38.4**	**+0.2**
DZM				LR	LR	04 39 54.1	
GUMO	**Guam**	**22.32**	**333**	LR	LR	04 42 00.7	
	comp=Z,733nm,19.6s,MS4.1,baz=153,slow=34						
GUMO	**Guam**	**22.32**	**333**	PFAKE		04 34 20.0	+7.4
GUMO				LR	LR		
	comp=Z,1μm,20.0s,MS4.3						
ARMA	**Armidale**	**24.02**	**187**	*e*P	**P**	**04 34 30.1**	**+0.5**
WRAB	**Tennant Creek**	**24.08**	**234**	P	**P**	**04 34 29.0**	**-1.2**
	comp=Z,441nm,0.8s,mb5.9,SNR=39						
WRAB	**Tennant Creek**	**24.08**	**234**	*d*iP	**P**	**04 34 29.4**	**-0.8**
WB2	**Warramunga Arr**	**24.08**	**234**	⇓*i*P	**P**	**04 34 29.5**	**-0.7**
WB2				*e*PcP	PcP	04 38 11.2	+0.2
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**04 34 30.0**	**-0.3**
	comp=Z,36nm,0.6s,mb5.0,baz=57,slow=9.8,SNR=189						
WRA				PcP	PcP	04 38 11.5	+0.5
	comp=Z,12nm,0.5s,baz=58,slow=2.5,SNR=16						
WRA				S	**S**	**04 38 43.3**	**-2.3**
	comp=Z,5.8nm,1.2s,baz=57,slow=14,SNR=5.1						
FUNA	**Funafuti**	**24.10**	**96**	PFAKE		04 34 40.0	+10
FUNA				LR	LR		
	comp=Z,8μm,19.0s,MS5.2						
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**04 34 51.2**	**-0.9**
	comp=Z,16nm,1.0s,mb4.5,baz=60,slow=8.5,SNR=32						
ASAR				PcP	PcP	04 38 16.6	+0.2
	comp=Z,6.8nm,0.7s,baz=58,slow=2.6,SNR=6.2						
ASAR				S	**S**	**04 39 22.4**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=58,slow=18,SNR=2.2						
ASAR				ScP	ScP	04 41 54.1	+0.5
	comp=Z,2.6nm,0.9s,baz=57,slow=3.1,SNR=6.2						
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**04 34 51.3**	**-0.8**
ASAR						04 38 16.6	
ASAR				S	**S**	**04 39 22.4**	**-1.5**
STKA	**Stephens Creek**	**28.19**	**205**	P	**P**	**04 35 07.0**	**-0.3**
	comp=Z,7.8nm,0.8s,mb4.4,baz=28,slow=11,SNR=9.7						
STKA				PcP	PcP	04 38 19.3	-1.1
	comp=Z,9.1nm,0.6s,baz=301,slow=1.4,SNR=4.2						
STKA				LR	LR	04 46 17.6	
	comp=Z,3μm,19.2s,MS4.9,baz=11,slow=36						
STKA	**Stephens Creek**	**28.19**	**205**	*e*P	**P**	**04 35 07.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.84**	**245**	P	**P**	**04 35 31.5**	**+0.6**
	comp=Z,15nm,0.8s,mb4.9,baz=91,slow=8.0,SNR=11						
FITZ				LR	LR	04 48 13.9	
	comp=Z,3μm,19.9s,MS4.9,baz=78,slow=37						
DAV	**Davao City (W)**	**32.27**	**294**	PFAKE		04 36 00.0	+17
DAV				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
AFI	**Afiamalu**	**33.52**	**105**	PFAKE		04 36 10.0	+16
AFI				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
TAU	**Tasmania Unive**	**36.90**	**189**	*e*P	**P**	**04 36 24.0**	**+0.6**
TAU				*e**PP	pP	04 36 33.1	-0.3
TAU				MLR	MLR		
	comp=Z,320nm,19.0s,MS4.1						
MBWA	**Marble Bar**	**37.08**	**243**	*e*P	**P**	**04 36 25.1**	**+0.2**
	comp=Z,19nm,0.8s,mb5.0						
MBWA				*e*PcP	PcP	04 38 44.2	-0.8
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
URZ	**Urewera**	**37.46**	**151**	P	**P**	**04 36 28.4**	**+0.2**
	comp=Z,16nm,0.4s,mb5.2,baz=4.6,slow=5.7,SNR=11						
URZ				LR	LR	04 48 52.6	
	comp=Z,265nm,18.5s,MS4.1,baz=294,slow=31						
MWZ	**Matawai**	**37.73**	**150**	PN	**P**	**04 36 31.4**	**+1.0**
SNZO	**South Karori**	**38.89**	**156**	PFAKE		04 36 50.0	+10
SNZO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
RPZ	**Rata Peaks**	**39.69**	**162**	P	**P**	**04 36 47.1**	**+0.2**
	comp=Z,29nm,0.8s,mb5.0,baz=217,slow=1.1,SNR=4.3						
RPZ				LR	LR	04 51 35.7	
	comp=Z,1μm,18.2s,MS4.8,baz=324,slow=34						
KKM	**Kota Kinabalu**	**40.63**	**287**	P	**P**	**04 36 56.1**	**+1.4**
KKM	**Kota Kinabalu**	**40.63**	**287**	*e*P	**P**	**04 36 54.5**	**-0.1**
JOW	**Kunigami**	**42.02**	**323**	P	**P**	**04 37 06.4**	**+0.4**
	comp=Z,26nm,0.7s,mb4.9,baz=136,slow=13,SNR=4.6						
KLBR	**Kellerberrin**	**42.80**	**229**	*e*P	**P**	**04 37 11.1**	**-1.3**
	comp=Z,31nm,0.8s,mb5.1						
MIDW	**Midway**	**43.62**	**36**	PFAKE		04 37 30.0	+11
MIDW				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
NWAO	**Narrogin (SRO)**	**43.82**	**228**	P	**P**	**04 37 19.9**	**-0.7**
	comp=Z,3.2nm,0.4s,mb4.4,baz=127,slow=9.1,SNR=3.8						
NWAO				LR	LR	04 54 49.1	
	comp=Z,2μm,21.8s,MS5.0,baz=240,slow=35						
NWAO	**Narrogin (SRO)**	**43.82**	**228**	P	**P**	**04 37 19.9**	**-0.7**
NWAO				LR	LR	04 54 49.1	
MUN	**Mundaring**	**44.15**	**230**	*e*P	**P**	**04 37 39.3**	**+16**
NACB	**Ninganchiao**	**44.58**	**314**	*e*P	**P**	**04 37 27.6**	**+0.8**
TATO	**Taipei**	**45.16**	**315**	PFAKE		04 37 40.0	+8.7
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MJAR	**Matsushiro Arr**	**45.59**	**341**	P	**P**	**04 37 33.2**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.3,baz=162,slow=8.4,SNR=2.8						
MJAR				LR	LR	04 54 06.7	
	comp=Z,466nm,21.9s,MS4.4,baz=175,slow=33						
MJAR	**Matsushiro Arr**	**45.59**	**341**	P	**P**	**04 37 33.2**	**-1.5**
MJAR				LR	LR	04 54 06.7	
MAJO	**Matsushiro**	**45.59**	**341**	PFAKE		04 37 50.0	+15
MAJO				LR	LR		
	comp=Z,589nm,22.0s,MS4.5						
RAR	**Rarotonga**	**46.13**	**113**	PFAKE		04 37 50.0	+11
RAR				LR	LR		
	comp=Z,1.0nm,20.0s						
SSE	**Sheshan**	**49.39**	**321**	P	**P**	**04 38 05.5**	**+1.2**
SSE				XP	sP	04 38 21.8	+3.2
SSE				PCP	PcP	04 39 25.5	-0.8
SSE				S	**S**	**04 45 13.0**	**+4.2**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,188nm,5.2s						
SSE				LR	LR		
	comp=N,271nm,21.5s,MS4.4						
SSE				LR	LR		
	comp=E,302nm,21.5s,MS4.4						
SSE				LR	LR		
	comp=Z,475nm,21.0s,MS4.5						
SSE	**Sheshan**	**49.39**	**321**	P	**P**	**04 38 05.5**	**+1.2**
	comp=Z,27nm,0.7s,mb5.4						
SSE				sP	sP	04 38 21.8	+3.2
SSE				PcP	PcP	04 39 25.4	-0.9
SSE				S	**S**	**04 45 13.0**	**+4.2**
SSE				LR	LR		
	comp=Z,480nm,21.0s,MS4.5						
ERM	**Erimo**	**49.45**	**348**	PFAKE		04 38 20.0	+15
ERM				LR	LR		
	comp=Z,231nm,20.0s,MS4.2						
INCN	**Inchon**	**51.11**	**331**	PFAKE		04 38 30.0	+13
INCN				LR	LR		
	comp=Z,518nm,20.0s,MS4.5						
QIZ	**Qiongzhong**	**51.18**	**301**	P	**P**	**04 38 18.5**	**+0.7**
QIZ				S	**S**	**04 45 34.8**	**+1.1**
QIZ				AMB	AMB		
	comp=Z,38nm,2.8s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,451nm,3.1s						
QIZ				LR	LR		
	comp=E,631nm,22.7s						
QIZ				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
QIZ	**Qiongzhong**	**51.18**	**301**	PFAKE		04 38 30.0	+12
QIZ				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
NJ2	**Nanjing**	**51.51**	**320**	*e*P	**P**	**04 38 21.5**	**+1.3**
NJ2				AP	pP	04 38 31.5	+0.9
NJ2				XP	sP	04 38 40.3	+5.7
NJ2				PP	PP	04 40 20.0	+2.3
NJ2				S	**S**	**04 45 40.0**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,24.8s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,28.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,6μm,18.5s						
KGM	**Kluang**	**52.25**	**278**	P	**P**	**04 38 26.7**	**+0.9**
YSS	**Yuzh-Sakhalins**	**54.29**	**350**	PFAKE		04 38 50.0	+9.2
YSS				LR	LR		
	comp=Z,892nm,22.0s,MS4.8						
IPM	**Ipoh**	**54.95**	**280**	P	**P**	**04 38 46.4**	**+0.8**
PPT	**Papeete**	**55.17**	**107**	*e*S	**S**	**04 46 28.4**	**+0.5**
	comp=Z,433nm,25.2s						
PPT				*e*LQ		04 52 34.7	
	comp=Z,1μm,30.0s						
PPT				*e*LR	LR	04 55 20.7	
	comp=Z,739nm,22.2s,baz=278						
PPT	**Papeete**	**55.17**	**107**	LR	LR	04 56 49.1	
	comp=Z,508nm,18.9s,MS4.6,baz=280,slow=30						
KULM	**Kulim**	**55.47**	**281**	⇑*e*P	**P**	**04 38 48.7**	**-0.6**
MDJ	**Mudanjiang**	**55.76**	**338**	PFAKE		04 39 00.0	+8.6
MDJ				LR	LR		
	comp=Z,314nm,20.0s,MS4.4						
SNG	**Songkhla**	**55.90**	**283**	P	**P**	**04 38 53.0**	**+0.6**
TBI	**Tubuai**	**55.90**	**114**	*e*S	**S**	**04 46 38.4**	**+0.7**
	comp=Z,313nm,25.0s						
TBI				*e*LQ		04 52 52.6	
	comp=Z,1μm,37.5s						
TBI				*e*LR	LR	04 55 13.4	
	comp=Z,2μm,28.0s,baz=283						
PSI	**Prapat**	**56.71**	**278**	P	**P**	**04 38 56.7**	**-1.5**
	comp=Z,6.4nm,0.6s,mb4.9,baz=84,slow=9.0,SNR=6.9						
CN2	**Changchun**	**56.72**	**335**	*e*P	**P**	**04 38 57.8**	**-0.4**
CN2				*e*S	**S**	**04 46 47.8**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.5						
ENH	**Enshi**	**56.88**	**313**	PFAKE		04 39 10.0	+11
ENH				LR	LR		
	comp=Z,3.0nm,20.0s						
GYA	**Guiyang**	**57.12**	**307**	⇑*i*P	**P**	**04 39 04.0**	**+2.9**
GYA				AP	pP	04 39 14.5	+2.9
GYA				XP	sP	04 39 18.5	+2.9
GYA				PCP	PcP	04 39 58.0	+2.4
GYA				PP	PP	04 41 13.0	+4.9
GYA				PCS	PcS	04 43 57.5	+0.9
GYA				S	**S**	**04 46 55.5**	**+1.6**
GYA				PS		04 47 12.3	
GYA				SCS	ScS	04 48 46.8	-1.0
GYA				SS	SS	04 50 45.5	+2.5
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,130nm,6.4s						
GYA				LR	LR		
	comp=N,780nm,20.0s,MS5.0						
GYA				LR	LR		
	comp=E,840nm,20.1s,MS5.0						
GYA				LR	LR		
	comp=Z,920nm,20.1s,MS4.9						
BJT	**Baijiatuau**	**58.47**	**326**	PFAKE		04 39 20.0	+9.4
BJT				LR	LR		
	comp=Z,734nm,19.0s,MS4.8						
BJI	**Beijing**	**58.48**	**326**	P	**P**	**04 39 19.1**	**+8.4**
BJI				S	**S**	**04 47 14.2**	**+2.5**
BJI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
BJI	**Beijing**	**58.48**	**326**	P	**P**	**04 39 19.1**	**+8.4**
	comp=Z,11nm,1.0s,mb4.8						
BJI				S	**S**	**04 47 14.2**	**+2.5**
BJI				SS	SS	04 51 16.7	+12
BJI				LR	LR		
	comp=Z,360nm,21.8s,MS4.5						
XAN	**Xi'an**	**59.32**	**316**	P	**P**	**04 39 15.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
PET	**Petropavlovsk**	**59.36**	**3**	*e*P	**P**	**04 39 23.6**	**+6.9**
PET				*e*		04 41 31.7	
PET				*e*S	**S**	**04 47 30.7**	**+7.7**
PET				pmax	pmax		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**59.36**	**3**	PFAKE		04 39 30.0	+13
PET				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
KMI	**Kunming**	**59.71**	**304**	P	**P**	**04 39 20.5**	**+1.3**
KMI				AP	pP	04 39 30.5	+0.9
KMI				PCP	PcP	04 40 03.0	-2.8
KMI				PP	PP	04 41 34.0	+2.9
KMI				PPP		04 43 04.0	
KMI				S	**S**	**04 47 26.8**	**-0.8**
KMI				SS	SS	04 51 26.5	+2.9
KMI				AMB	AMB		
	comp=Z,61nm,1.3s,mb5.5						
KMI				AMB	AMB		
	comp=Z,324nm,3.5s						
KMI				LR	LR		
	comp=N,377nm,23.2s,MS4.7						
KMI				LR	LR		
	comp=E,489nm,21.5s,MS4.7						
KMI				LR	LR		
	comp=Z,674nm,23.7s,MS4.7						
KMI	**Kunming**	**59.71**	**304**	P	**P**	**04 39 20.6**	**+1.4**
KMI				*PP	pP	04 39 30.4	+0.8
KMI				*SP	sP	04 39 34.4	+0.7
KMI						04 40 02.9	
KMI						04 41 34.0	
KMI				PPP		04 43 04.1	
KMI				S	**S**	**04 47 26.8**	**-0.8**
KMI				*SS	sS	04 47 43.6	-1.2
KMI				SS	SS	04 51 26.6	+3.0
KMI				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.5						
KMI				MLR	MLR		
	comp=Z,670nm,23.7s,MS4.7						
KMI	**Kunming**	**59.71**	**304**	P	**P**	**04 39 20.6**	**+1.4**
	comp=Z,61nm,1.3s,mb5.5						
KMI				pP	pP	04 39 30.4	+0.8
KMI				sP	sP	04 39 34.4	+0.7
KMI				PcP	PcP	04 40 02.9	-2.9
KMI				PP	PP	04 41 34.0	+2.9
KMI				PPP		04 43 04.1	
KMI				S	**S**	**04 47 26.8**	**-0.8**
KMI				sS	sS	04 47 43.6	-1.2
KMI				SS	SS	04 51 26.6	+3.0
KMI				LR	LR		
	comp=Z,670nm,23.7s,MS4.7						
CHG	**Chiang Mai**	**60.66**	**296**	⇑P	**P**	**04 39 26.6**	**+1.0**
	comp=Z,64nm,0.8s,mb5.8						
CHTO	**Chiang Mai**	**60.66**	**296**	⇑*i*P	**P**	**04 39 26.5**	**+0.9**
CHTO				*e*	pP	04 39 35.4	-0.7
CHTO				pmax	pmax		
	comp=Z,89nm,1.3s,mb5.7						
CHTO				MLR	MLR		
	comp=Z,327nm,20.0s,MS4.5						
CHTO	**Chiang Mai**	**60.66**	**296**	⇑*i*P	**P**	**04 39 26.5**	**+0.8**
	comp=Z,89nm,1.3s,mb5.7						
CHTO				*e*	pP	04 39 35.4	-0.8
CHTO				LR	LR		
	comp=Z,327nm,20.0s,MS4.5						
SMY	**Shemya**	**61.19**	**13**	PFAKE		04 39 40.0	+11
SMY				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
CD2	**Chengdu**	**61.47**	**310**	⇓*i*P	**P**	**04 39 32.0**	**+0.9**
CD2				AP	pP	04 39 42.3	+0.7
CD2				PP	PP	04 41 50.0	+3.4
CD2				PCS	PcS	04 44 14.8	-1.0
CD2				S	**S**	**04 47 50.0**	**0.0**
CD2				SCS	ScS	04 49 17.3	-2.6
CD2				SS	SS	04 51 53.0	+1.9
CD2				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.6						
CD2				AMB	AMB		
	comp=Z,150nm,5.8s						
CD2				LR	LR		
	comp=N,480nm,18.0s						
CD2				LR	LR		
	comp=E,730nm,24.0s						
CD2				LR	LR		
	comp=Z,780nm,21.6s,MS4.8						
HHC	**Hu-ho-hao-te**	**61.67**	**324**	*e*P	**P**	**04 39 32.3**	**-0.2**
HHC				AP	pP	04 39 42.5	-0.5
HHC				PP	PP	04 41 50.8	+2.4
HHC				S	**S**	**04 47 50.3**	**-2.3**
HHC				PS		04 48 16.8	
HHC				SCS	ScS	04 49

comp=Z,1µm,18.9s,MS5.1
LZH Lanzhou 63.94 315 ⇑P **P 04 39 48.5 +0.9**
LZH *PP pP 04 39 58.0 -0.1
LZH *SP sP 04 40 02.6 +0.5
LZH 04 42 11.5
LZH *eS* **S 04 48 21.0 0.0**
LZH *SS sS 04 48 38.0 -0.4
LZH SS SS 04 52 31.1 +1.4
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.4
LZH MLR MLR
comp=Z,1µm,18.9s,MS5.1
LZH Lanzhou 63.94 315 ⇑P **P 04 39 48.5 +0.9**
comp=Z,56nm,1.5s,mb5.4
LZH pP pP 04 39 58.0 -0.1
LZH sP sP 04 40 02.6 +0.5
LZH PcP PcP 04 40 14.5 -8.4
LZH PP PP 04 42 11.5 +3.2
LZH *eS* **S 04 48 21.0 0.0**
LZH sS sS 04 48 38.0 -0.4
LZH SS SS 04 52 31.1 +1.4
LZH LR LR
comp=Z,1µm,18.9s,MS5.1
TAOE Nuku Hiva Isla 64.28 97 *eS* **S 04 48 26.0 +0.8**
comp=Z,1µm,28.9s
TAOE *e*LR LR 04 59 06.0
comp=Z,2µm,21.8s,baz=268
CASY Casey 67.07 198 PFAKE 04 40 20.0 +12
CASY LR LR
comp=Z,778nm,20.0s,MS4.9
CLNS Chul'man 67.73 343 *eP* **P 04 40 09.2 -2.8**
CLNS pmax pmax
comp=Z,17nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.0s
GTA Gaotai 68.35 317 *eP* **P 04 40 15.8 -0.1**
GTA AP pP 04 40 26.3 -0.2
GTA PP PP 04 42 50.0 +3.1
GTA SCP 04 44 41.8
GTA PCS 04 44 44.5
GTA S S 04 49 14.0 -0.7
GTA SS SS 04 53 39.0 +0.7
GTA AMB AMB
comp=Z,17nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,241nm,6.5s
GTA LR LR
comp=N,213nm,20.1s,MS4.6
GTA LR LR
comp=E,349nm,21.7s,MS4.6
GTA LR LR
comp=Z,385nm,20.2s,MS4.6
ULN Ulaanbaatar 68.56 328*c i*P **P 04 40 17.3 +0.1**
ULN Ulaanbaatar 68.56 328 *eP* **P 04 40 17.4 +0.2**
comp=Z,28nm,1.2s,mb5.1
ULN LR LR
comp=Z,351nm,19.0s,MS4.6
SONM Songino Array 68.89 327 P **P 04 40 19.4 +0.1**
comp=Z,5.6nm,0.5s,mb4.7,baz=145,slow=5.4,SNR=30
SONM pP pP 04 40 29.9 0.0
comp=Z,11nm,0.9s,baz=122,slow=5.7,SNR=11
SONM PKP2bc 05 08 29.4
comp=Z,0.5nm,0.6s,baz=290,slow=2.1,SNR=4.0
SONM Songino Array 68.89 327 P **P 04 40 19.4 +0.1**
SONM *PP pP 04 40 29.9 0.0
SONM Songino Array 68.89 327 P **P 04 40 19.4 +0.1**
SONM pP pP 04 40 29.9 0.0
SONM ⇑*e* 05 08 29.4
SHL Shillong 69.02 300 *i* P **P 04 40 19.5 -0.5**
SHL *i* pP pP 04 40 29.5 -1.2
SHL *eS* S 04 49 21.5 -1.1
SEY Seymchan 69.24 359 *i* P **P 04 40 19.6 -1.9**
LSA Lhasa 70.97 304 *eP* **P 04 40 33.2 +1.2**
LSA pmax pmax
comp=Z,90nm,1.3s,mb5.5
LSA MLR MLR
comp=Z,238nm,20.0s,MS4.5
LSA Lhasa 70.97 304 *eP* **P 04 40 33.2 +1.2**
comp=Z,90nm,1.3s,mb5.5
LSA LR LR
comp=Z,238nm,20.0s,MS4.5
YAK Yakutsk 71.05 348‖ *i*P **P 04 40 32.1 -0.4**
YAK pmax pmax
comp=Z,54nm,1.8s,mb5.2
YAK Yakutsk 71.05 348 PFAKE 04 40 40.0 +7.5
YAK LR LR
comp=Z,754nm,20.0s,MS5.0
VNDA Vanda 71.09 178 P **P 04 40 31.8 -1.0**
comp=Z,9.2nm,0.8s,mb4.7,baz=329,slow=6.6,SNR=42
VNDA LR LR 05 07 10.8
comp=Z,376nm,18.2s,MS4.7,baz=0.2,slow=32
VNDA Vanda 71.09 178 *eP* **P 04 40 31.9 -0.8**
VNDA LR LR
comp=Z,393nm,19.0s,MS4.7
SBA Scott Base 71.60 177 *eP* **P 04 40 36.2 +0.3**
SBA pmax pmax
comp=Z,31nm,1.4s,mb5.0
SBA MLR MLR
comp=Z,387nm,19.0s,MS4.7
SBA Scott Base 71.60 177 *eP* **P 04 40 36.2 +0.3**
comp=Z,31nm,1.4s,mb5.0
SBA LR LR
comp=Z,387nm,19.0s,MS4.7
ZAK Zakamensk 72.05 328 *eP* **P 04 40 37.2 -1.3**
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
BOD Bodaibo 72.13 338 *eP* **P 04 40 36.3 -2.7**
BOD pmax pmax
comp=Z,16nm,1.7s,mb4.7
TLY Talaya 72.61 329 *eP* **P 04 40 41.4 -0.5**
TLY *e* pP 04 40 51.0 -1.6
TLY pmax pmax
comp=Z,12nm,1.4s,mb4.6
TLY Talaya 72.61 329 PFAKE 04 40 50.0 +8.1
TLY LR LR
comp=Z,106nm,20.0s,MS4.1
MIR Mirnyy 73.16 202*d i*P **P 04 40 46.5 +1.4**
MIR *i* pP 04 40 55.0 -0.9
MIR *i* 04 41 04.0
MIR pmax pmax
comp=Z,360nm,1.9s,mb6.0
BOK Bokaro 73.74 297 *eP* **P 04 40 48.9 +0.3**
BOK AMb AMB 04 40 51.8
comp=Z,73nm,1.3s,mb5.5
BOK *i* pP pP 04 40 59.3 0.0
JIRN Jiri 74.50 301 *eP* **P 04 40 54.3 +1.3**
comp=Z,30nm,0.3s,mb5.7
VIS Vishakhapatnam 74.67 290 *eP* **P 04 40 53.5 -0.5**
VIS AMb AMB 04 40 56.2
comp=Z,50nm,1.2s,mb5.3
VIS *i* pP pP 04 41 06.0 +1.3
BILL Bilibino 74.77 4⇑*i*P **P 04 40 53.6 -1.0**
BILL pmax pmax
comp=Z,30nm,1.1s,mb5.1
BILL Bilibino 74.77 4 *eP* **P 04 40 54.0 -0.6**
comp=Z,30nm,0.9s,mb5.2
BILL LR LR
comp=Z,510nm,22.0s,MS4.8
GUN Gumba 74.83 301 *eP* **P 04 40 56.1 +1.2**
comp=Z,64nm,0.6s,mb5.8
PKI Pulchoki 75.14 301 *eP* **P 04 40 57.5 +0.8**
comp=Z,29nm,0.5s,mb5.5
KKN Kakani 75.31 301 *eP* **P 04 40 58.5 +0.8**
comp=Z,44nm,0.5s,mb5.6
PALK Pallekele 75.33 279 *eP* **P 04 40 58.6 +0.8**
comp=Z,26nm,1.0s
PALK LR LR
comp=Z,55nm,21.0s
DMN Daman 75.41 301 *eP* **P 04 40 59.2 +0.9**
GKN Gorkha 75.92 301 *eP* **P 04 41 01.7 +0.5**
MDRS Chennai 76.71 285 *ex* x 04 53 28.9
KDAK Kodiak Island 76.72 26 P **P 04 41 05.9 +0.2**
comp=Z,8.5nm,0.6s,mb4.8,baz=345,slow=0.8,SNR=6.3
KDAK pP pP 04 41 17.1 +0.6
comp=Z,22nm,0.8s,baz=297,slow=3.3,SNR=5.6
KDAK Kodiak Island 76.72 26 P **P 04 41 05.9 +0.2**
KDAK pP pP 04 41 17.1 +0.6
KDAK LR LR
comp=Z,217nm,21.0s,MS4.4
KOLN Koldanda 76.75 300 *eP* **P 04 41 05.5 -0.3**
TNA Tin City 76.83 15 PFAKE 04 41 20.0 +14
TNA LR LR
comp=Z,557nm,21.0s,MS4.8
SVW2 Sparrevohn 77.53 22 *eP* **P 04 41 11.4 +1.1**
WMQ Urumqi 78.44 317 P **P 04 41 15.5 +0.2**
WMQ AP pP 04 41 26.0 -0.1
WMQ PP PP 04 44 15.0 +2.2
WMQ PPP 04 46 04.0
WMQ S S 04 51 08.0 -0.8
WMQ AMB AMB
comp=Z,20nm,1.6s,mb4.8
WMQ AMB AMB
comp=Z,176nm,4.6s
WMQ LR LR
comp=N,714nm,23.6s,MS5.2
WMQ LR LR
comp=E,1µm,24.4s,MS5.2
WMQ LR LR
comp=Z,1µm,26.4s,MS5.2
HYB Hyderabad 79.08 289 *i* P **P 04 41 18.0 -0.8**
HYB *e*PcP PcP 04 41 27.5 +0.3
HYB Hyderabad 79.08 289 *eP* **P 04 41 18.0 -0.8**
HYB *e* pP 04 41 27.5 -2.1
SLKM Skilak Lake 79.28 24 *eP* **P 04 41 19.4 -0.5**
TIXI Tiksi 79.85 352 *i* P **P 04 41 21.7 -1.3**
TIXI pmax pmax
comp=Z,11nm,1.9s,mb4.5
TIXI Tiksi 79.85 352 PFAKE 04 41 30.0 +7.0
TIXI LR LR
comp=Z,2µm,22.0s,MS5.5
PMR Palmer 80.33 24 *eP* **P 04 41 25.7 +0.1**
PMR pmax pmax
comp=Z,32nm,1.2s,mb5.1
PMR MLR MLR
comp=Z,802nm,21.0s,MS5.0
PMR Palmer 80.33 24 *eP* **P 04 41 25.7 +0.1**
comp=Z,32nm,1.2s,mb5.1
PMR LR LR
comp=Z,802nm,21.0s,MS5.0
SML Sawmill 80.77 24 *eP* **P 04 41 27.9 0.0**
SML *e*PP pP 04 41 38.2 -0.6
IMA2 Indian Mountai 81.32 19 *eP* **P 04 41 31.0 +0.1**
AGRA Agra 81.51 299 *eP* **P 04 41 31.0 -0.9**
AGRA AMb AMB 04 41 35.5
comp=Z,57nm,0.4s,mb5.9
MCK McKinley 81.59 22 *eP* **P 04 41 31.4 -0.9**
MCK *e*PP pP 04 41 42.1 -1.1
MCK pmax pmax
comp=Z,49nm,1.3s,mb5.3
MCK MLR MLR
comp=Z,1µm,22.0s,MS5.2
MCK McKinley 81.59 22 *eP* **P 04 41 31.4 -0.9**
comp=Z,48nm,1.3s,mb5.3
MCK *e*pP pP 04 41 42.1 -1.1
MCK LR LR
comp=Z,1µm,22.0s,MS5.2
KLP Kalpa 82.15 303 *eP* **P 04 41 36.0 +0.7**
KLP *i* pP pP 04 41 45.1 -1.0
NDI New Delhi 82.44 300 *eP* **P 04 41 34.5 -2.3**
NDI *eP* 04 41 35.6
NDI AMb AMB 04 41 38.3
comp=Z,60nm,1.2s,mb5.4
NDI *e*pP pP 04 41 45.9 -1.7
SONA Sohna 82.47 300 *eP* **P 04 41 36.1 -0.8**
SONA AMb AMB 04 41 38.6
comp=Z,29nm,0.8s,mb5.3
AYAN Aya Nagar 82.47 300 *eP* **P 04 41 35.6 -1.3**
AYAN AMb AMB 04 41 38.3
comp=Z,33nm,1.1s,mb5.2
COLA College 82.61 21⇑*i P* **P 04 41 36.2 -1.5**
COLA College 82.61 21 *eP* **P 04 41 35.6 -2.1**
comp=Z,40nm,1.4s,mb5.3
COLA LR LR
comp=Z,906nm,21.0s,MS5.1
MKAR Makanchi Array 83.01 319 P **P 04 41 39.3 -0.5**
comp=Z,3.6nm,0.4s,mb4.8,baz=95,slow=7.8,SNR=26
MKAR pP pP 04 41 50.7 +0.1
comp=Z,18nm,0.8s,baz=100,slow=7.2,SNR=14
MKAR LR LR 05 20 47.0
comp=Z,255nm,18.7s,MS4.6,baz=100,slow=37
MKAR Makanchi Array 83.01 319 P **P 04 41 39.3 -0.4**
MKAR *PP pP 04 41 50.7 +0.1
KAD Karad 83.18 288 *eP* **P 04 41 40.0 -0.6**
QSPA South Pole Qui 83.49 180 *eP* **P 04 41 41.5 -0.7**
comp=Z,26nm,0.8s,mb5.3
QSPA LR LR
comp=Z,435nm,19.0s,MS4.8
KHET Khetri 83.54 299 *eP* **P 04 41 39.0 -3.5**
KHET AMb AMB 04 41 39.3
comp=Z,40nm,0.3s,mb6.0
KHET *ex* x 04 41 48.4
POO Poona 83.68 289⇑*i P* **P 04 41 40.0 -3.2**
comp=Z,40nm,1.0s,mb5.5
ZAL Zalesovo 83.75 326 P **P 04 41 42.4 -1.2**
comp=Z,3.9nm,0.4s,mb4.9,baz=7.1,slow=4.9,SNR=14
ZAL pP pP 04 41 53.1 -1.3
comp=Z,9.5nm,0.8s,baz=18,slow=5.7,SNR=11
AJM Ajmer 84.27 297 *eP* **P 04 41 45.8 -0.3**
AJM AMb AMB 04 41 48.3
comp=Z,77nm,0.9s,mb5.8
AJM *i* pP pP 04 41 55.5 -1.6
SIT Sitka 84.58 31 PFAKE 04 42 00.0 +12
SIT LR LR
comp=Z,998nm,20.0s,MS5.2
MAW Mawson 84.86 203 P **P 04 41 48.2 -1.0**
comp=Z,17nm,0.8s,mb5.3,baz=95,slow=7.8,SNR=55
MAW LR LR 05 16 44.5
comp=Z,389nm,19.0s,MS4.8,baz=90,slow=34
EGAK Eagle 85.06 23 *eP* **P 04 41 49.7 -0.4**
comp=Z,21nm,1.0s,mb5.2
EGAK *e*PP PP 04 44 56.3 -11
EGAK LR LR
comp=Z,2µm,22.0s,MS5.4
SKAG Skagway 85.43 29 *eP* **P 04 41 52.5 +0.5**
comp=Z,31nm,1.5s,mb5.2
DAWY Dawson 85.44 24 *eP* **P 04 41 52.5 +0.5**
DAWY *e*pP pP 04 42 02.9 -0.1
KSH Kashi 85.66 310 *eP* **P 04 41 55.3 +2.1**
KSH *e*AP pP 04 42 06.3 +2.2
KSH *e*XP sP 04 42 11.5 +3.5
KSH *e*PP PP 04 45 17.3 +5.0
KSH *e*PPP 04 47 13.8
KSH *eS* S 04 52 24.8 +1.8
KSH PP PP
comp=Z,647nm,5.5s
KSH LR LR
comp=Z,2µm,16.6s,MS5.6
WRAK Wrangell Islan 85.92 32 PFAKE 04 42 10.0 +16
WRAK LR LR
comp=Z,802nm,21.0s,MS5.1
AAK Ala-Archa 87.38 313⇑*eP* **P 04 42 01.4 -0.2**
AAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
AAK Ala-Archa 87.38 313 PFAKE 04 42 10.0 +8.4
AAK LR LR
comp=Z,93nm,21.0s,MS4.2
DLBC Dease Lake 87.71 31 *eP* **P 04 42 04.0 +0.8**
HOPS Hopland 87.82 51 PFAKE 04 42 20.0 +16
HOPS LR LR
comp=Z,820nm,21.0s,MS5.1
WDC Whiskeytown Da 88.49 49 PFAKE 04 42 20.0 +13
WDC LR LR
comp=Z,814nm,21.0s,MS5.1
HUMO Hull Mountain 88.53 47 PFAKE 04 42 20.0 +13
HUMO LR LR
comp=Z,1µm,20.0s,MS5.3
YBH Yreka Blue Hor 88.56 48 PFAKE 04 42 20.0 +13
YBH LR LR
comp=Z,1µm,20.0s,MS5.4
COR Corvallis 88.64 45 PFAKE 04 42 20.0 +12
COR LR LR
comp=Z,2µm,21.0s,MS5.5
SAO San Andreas Ge 88.72 53 PFAKE 04 42 20.0 +12
SAO LR LR
comp=Z,606nm,21.0s,MS5.0
NLWA Neilton Lookou 88.77 42 PFAKE 04 42 20.0 +12
NLWA LR LR
comp=Z,2µm,21.0s,MS5.5
CMB Columbia Colle 89.74 52 PFAKE 04 42 20.0 +7.2
CMB LR LR
comp=Z,798nm,20.0s,MS5.1
SNCC San Nicolas Is 89.77 57 PFAKE 04 42 20.0 +7.1
SNCC LR LR
comp=Z,1µm,19.0s,MS5.4
MOD Modoc 90.37 48 PFAKE 04 42 30.0 +14
MOD LR LR
comp=Z,803nm,21.0s,MS5.1
WAKR Walker 90.55 51 *eP* **P 04 42 18.3 +1.8**
WAKR *e*pP pP 04 42 25.8 -1.7
PAHR Pah Rah Range 90.75 50 *eP* **P 04 42 18.9 +1.5**
comp=Z,15nm,1.2s,mb5.2
PAHR *e*pP pP 04 42 29.5 +1.1
ISA Isabella 90.94 54 PFAKE 04 42 30.0 +12
ISA LR LR
comp=Z,202nm,20.0s,MS4.6
MWC Mount Wilson 91.10 56 *eP* **P 04 42 20.6 +1.5**
MWC *e*PP pP 04 42 31.2 +1.1
NVAR Mina Array Bea 91.42 52 P **P 04 42 21.8 +1.2**
comp=Z,3.3nm,0.7s,mb4.8,baz=261,slow=7.2,SNR=29
NVAR pP pP 04 42 33.0 +1.5
comp=Z,5.8nm,0.9s,baz=256,slow=5.9,SNR=11
HAWA Hanford 91.54 44 PFAKE 04 42 30.0 +8.9
HAWA LR LR
comp=Z,1µm,20.0s,MS5.4
WVOR Wild Horse Val 91.67 48 PFAKE 04 42 30.0 +8.3
WVOR LR LR
comp=Z,1µm,20.0s,MS5.3
DAC Darwin (Calif) 91.73 54 *eP* **P 04 42 23.0 +1.0**
DAC pmax pmax
comp=Z,27nm,1.5s,mb5.4
DAC MLR MLR
comp=Z,1µm,20.0s,MS5.3
DAC Darwin (Calif) 91.73 54 *eP* **P 04 42 23.0 +1.0**
comp=Z,27nm,1.5s,mb5.4
DAC LR LR
comp=Z,1µm,20.0s,MS5.3
BVAR Borovoye Array 91.87 323 P **P 04 42 20.5 -2.2**
comp=Z,1.0nm,0.4s,mb4.5,baz=80,slow=3.6,SNR=7.6
BVAR pP pP 04 42 31.6 -2.0
comp=Z,7.5nm,0.7s,baz=107,slow=6.0,SNR=17
BVAR LR LR 05 21 47.4
comp=Z,249nm,21.6s,MS4.6,baz=319,slow=34
BVAR Borovoye Array 91.87 323 P **P 04 42 20.5 -2.2**
BVAR *PP pP 04 42 31.6 -2.0
BRVK Borovoye 91.94 323 PFAKE 04 42 30.0 +7.0
BRVK LR LR
comp=Z,71nm,20.0s,MS4.1
TPH Tonopah 92.22 52 PFAKE 04 42 40.0 +16
TPH LR LR
comp=Z,682nm,21.0s,MS5.1
PFO Pinyon Flat Ob 92.36 57 PFAKE 04 42 40.0 +15
PFO LR LR
comp=Z,241nm,20.0s,MS4.6
BMN Battle Mountai 92.49 50 PFAKE 04 42 40.0 +14
BMN LR LR
comp=Z,658nm,20.0s,MS5.1
SYO Syowa Base 92.80 199⇑*eP* **P 04 42 25.0 -2.0**
SYO Syowa Base 92.80 199‖ *eX* 04 42 34.8
BMO Blue Mountains 92.91 45 PFAKE 04 42 40.0 +13
BMO LR LR
comp=Z,1µm,20.0s,MS5.3
NEW Newport 93.39 42 P **P 04 42 28.6 -1.0**
comp=Z,1.6nm,0.6s,mb4.6,baz=349,slow=19,SNR=3.3
NEW pP pP 04 42 39.2 -1.4
comp=Z,2.8nm,0.6s,baz=204,slow=1.7,SNR=4.4
NEW Newport 93.39 42 P **P 04 42 28.6 -1.0**
NEW pP pP 04 42 39.2 -1.4
NEW LR LR
comp=Z,2µm,21.0s,MS5.5
SHPR Sheep Range 93.70 54 *eP* **P 04 42 32.8 +1.7**
SHPR *e*pP pP 04 42 43.5 +1.5
HLID Hailey 94.86 47 PFAKE 04 42 50.0 +14
HLID LR LR
comp=Z,1µm,21.0s,MS5.4
MSO Missoula 95.42 44 PFAKE 04 42 50.0 +11
MSO LR LR
comp=Z,640nm,20.0s,MS5.1
DUG Dugway 95.83 50 PFAKE 04 42 50.0 +9.2
DUG LR LR
comp=Z,465nm,20.0s,MS5.0
YKA Yellowknife Ar 95.90 28 P **P 04 42 41.0 -0.1**
comp=Z,3.7nm,0.5s,mb5.1,baz=266,slow=4.5,SNR=19
YKA pP pP 04 42 51.0 -1.1
comp=Z,7.2nm,0.6s,baz=265,slow=4.5,SNR=7.2
YKA PKKPbc PKKPbc 04 59 27.0 -2.5
comp=Z,0.6nm,0.4s,baz=85,slow=2.5,SNR=5.8
YKA LR LR 05 21 53.9
comp=Z,398nm,22.0s,MS4.8,baz=250,slow=33
YKA Yellowknife Ar 95.90 28 P **P 04 42 41.0 -0.1**
YKA *PP pP 04 42 51.0 -1.1
YKA Yellowknife Ar 95.90 28 P **P 04 42 41.0 -0.1**
YKA pP pP 04 42 51.0 -1.1
YKA PKKPbc PKKPbc 04 59 27.0 -2.5
YKA LR LR 05 21 53.9
EDM Edmonton 96.15 37 *eP* **P 04 42 41.9 -0.4**
MVU Marysvale 96.19 52 PFAKE 04 42 50.0 +7.5
MVU LR LR
comp=Z,681nm,20.0s,MS5.1
WUAZ Wupatki 96.69 55 PFAKE 04 43 00.0 +15
WUAZ LR LR
comp=Z,562nm,20.0s,MS5.0
MPU Maple Canyon 96.72 51 PFAKE 04 43 00.0 +15
MPU LR LR
comp=Z,1µm,20.0s,MS5.3
HWUT Hardware Ranch 96.84 49 PFAKE 04 43 00.0 +15
HWUT LR LR
comp=Z,953nm,19.0s,MS5.3
BOZ Bozeman (W) 96.96 45 PFAKE 04 43 00.0 +14
BOZ LR LR
comp=Z,933nm,20.0s,MS5.3
TUC Tucson 97.00 58 PFAKE 04 43 00.0 +14
TUC LR LR
comp=Z,733nm,19.0s,MS5.2
AHID Auburn Hatcher 97.24 48 PFAKE 04 43 00.0 +13
AHID LR LR
comp=Z,836nm,21.0s,MS5.2
YMR Madison River 97.40 46 PFAKE 04 43 00.0 +12
YMR LR LR
comp=Z,2µm,21.0s,MS5.5
LKWY Lake 97.80 46 PFAKE 04 43 00.0 +10
LKWY LR LR
comp=Z,1µm,19.0s,MS5.3
EGMT Eagleton 98.30 42 PFAKE 04 43 00.0 +8.0
EGMT LR LR
comp=Z,1µm,22.0s,MS5.3
BW06 Boulder Array 98.37 48 PFAKE 04 43 00.0 +7.7
BW06 LR LR
comp=Z,755nm,20.0s,MS5.2
PDAR Pinedale Array 98.37 48 P **P 04 42 52.0 -0.3**
comp=Z,0.9nm,0.7s,mb4.4,baz=234,slow=4.2,SNR=7.3
PDAR LR LR 05 23 43.3
comp=Z,610nm,19.1s,MS5.1,baz=300,slow=33
MSEY Mahe Island 98.87 264 PFAKE 04 43 10.0 +15
MSEY LR LR
comp=Z,80nm,19.0s,MS4.2
ARU Arti 98.91 326 PFAKE 04 43 10.0 +15
ARU LR LR
comp=Z,109nm,20.0s,MS4.3
MVCO Mesa Verde 99.08 53 PFAKE 04 43 10.0 +15
MVCO LR LR
comp=Z,568nm,21.0s,MS5.0
ANMO Albuquerque 100.69 56 PFAKE 04 43 10.0 +7.3
ANMO LR LR
comp=Z,759nm,21.0s,MS5.2
LAO LASA Array 100.72 44 PFAKE 04 43 10.0 +7.2
LAO LR LR
comp=Z,730nm,20.0s,MS5.2
SDCO Great Sand Dun 101.46 53 PFAKE 04 43 20.0 +14
SDCO LR LR
comp=Z,947nm,19.0s,MS5.3
MNTX Cornudas Mount 101.57 59 PFAKE 04 43 20.0 +13
MNTX LR LR
comp=Z,984nm,21.0s,MS5.3
DGMT Dagmar 102.00 42 PFAKE 04 43 20.0 +11
DGMT LR LR
comp=Z,2µm,22.0s,MS5.5
RSSD Black Hills 102.37 46 PFAKE 04 43 20.0 +10
RSSD LR LR
comp=Z,2µm,20.0s,MS5.6
FFC Flin Flon 102.80 35 PFAKE 04 43 20.0 +8.0
FFC LR LR
comp=Z,212nm,20.0s,MS4.7
TXAR Lajitas Array 103.04 61 Pdiff Pdif 04 43 15.6 +2.5
comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=3.1
TXAR PKiKP PKiKP 04 47 33.0 0.0
comp=Z,0.1nm,0.4s,baz=222,slow=3.6,SNR=5.9
TXAR PKKPbc PKKPbc 04 59 07.8 -1.6
comp=Z,1.0nm,0.8s,baz=122,slow=3.6,SNR=9.9
AMTX Amarillo 104.62 56 PFAKE 04 43 30.0 +10
AMTX LR LR
comp=Z,884nm,21.0s,MS5.3
JCT Junction City 106.37 60 PFAKE 04 47 50.0 +11
JCT LR LR

comp=Z,880nm,19.0s,MS5.3
WMOK Wichita Mounta 107.01 56 PFAKE 04 47 50.0 +10
WMOK LR LR
comp=Z,846nm,19.0s,MS5.3
ULM Lac du Bonnet 107.17 39 PFAKE 04 47 50.0 +9.5
ULM LR LR
comp=Z,2μm,21.0s,MS5.6
AGMN Agassiz Refuge 107.54 41 PFAKE 04 47 50.0 +8.8
AGMN LR LR
comp=Z,1μm,21.0s,MS5.4
KSU1 Kansas State U 108.34 51 PFAKE 04 47 50.0 +7.3
KSU1 LR LR
comp=Z,697nm,20.0s,MS5.2
ARCES ARCESS Array B 109.09 343 PKiKP PKiKP 04 47 42.7 -1.4
comp=Z,2.9nm,0.9s,baz=67,slow=1.5,SNR=10
ARCES PKKPbc PKKPbc 04 58 49.1 -1.7
comp=Z,3.2nm,0.9s,baz=264,slow=1.2,SNR=5.1
ARCES ARCESS Array B 109.09 343 PKPdf PKiKP 04 47 42.7 -1.4
ARCES PKKPbc PKKPbc 04 58 49.1 -1.7
GNI Garni 109.60 310 PFAKE 04 48 00.0 +15
GNI LR LR
comp=Z,160nm,22.0s,MS4.5
HKT Hockley 109.83 61 PFAKE 04 48 00.0 +15
HKT LR LR
comp=Z,928nm,20.0s,MS5.3
KIV Kislovodsk 110.47 314 PFAKE 04 48 00.0 +13
KIV LR LR
comp=Z,55nm,21.0s,MS4.1
EYMN Ely 110.47 41 PFAKE 04 48 00.0 +13
EYMN LR LR
comp=Z,2μm,22.0s,MS5.5
SCIA State Center 110.50 48 PFAKE 04 48 00.0 +13
SCIA LR LR
comp=Z,1μm,19.0s,MS5.5
JOF Joensuu 110.60 336 *ep* PKiKP 04 47 43.8 -3.1
NATX Nacogdoches 110.69 59 PFAKE 04 48 00.0 +13
NATX LR LR
comp=Z,795nm,21.0s,MS5.3
OBN Obninsk 111.31 327⇑ *eP* Pdif 04 43 49.7 -0.2
OBN *eS* SKSac 04 54 29.5 +3.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 111.31 327 PFAKE 04 48 00.0 +12
OBN LR LR
comp=Z,126nm,20.0s,MS4.5
JFWS Jewell Farm 112.46 46 PFAKE 04 48 00.0 +10
JFWS LR LR
comp=Z,611nm,21.0s,MS5.2
KAF Kangasniemi 113.01 336 *ep* PKiKP 04 47 47.4 -4.1
FINES FINESS Array B 113.46 336 PKiKP PKiKP 04 47 51.0 -1.4
comp=Z,3.4nm,1.0s,baz=58,slow=2.9,SNR=6.6
FINES PKKPbc PKKPbc 04 58 35.2 -1.3
comp=Z,1.8nm,0.8s,baz=196,slow=2.5,SNR=13
FINES FINESS Array B 113.46 336 PKPdf PKiKP 04 47 51.0 -1.4
FINES PKKPbc PKKPbc 04 58 35.2 -1.3
OXF Oxford 114.71 55 PFAKE 04 48 10.0 +15
OXF LR LR
comp=Z,757nm,20.0s,MS5.3
WVT Waverly 115.69 53 PFAKE 04 48 10.0 +13
WVT LR LR
comp=Z,296nm,20.0s,MS4.9
PLAL Pickwick Lake 115.71 54 PFAKE 04 48 10.0 +13
PLAL LR LR
comp=Z,876nm,20.0s,MS5.4
WCI Wyandotte Cave 116.44 50 PFAKE 04 48 10.0 +12
WCI LR LR
comp=Z,1μm,20.0s,MS5.5
AKASG Malin Array Be 117.11 325 PKP PKPdf 04 47 57.9 -1.5
comp=Z,1.1nm,0.6s,baz=50,slow=1.9,SNR=3.9
AKASG PKKPbc PKKPbc 04 58 23.0 -0.8
comp=Z,1.5nm,0.4s,baz=263,slow=4.0,SNR=10
AKASG Malin Array Be 117.11 325 PKP PKPdf 04 47 57.9 -1.5
AKASG PKKPbc PKKPbc 04 58 23.0 -0.8
TEIG Tepich 117.30 71 PFAKE 04 48 10.0 +10
TEIG LR LR
comp=Z,586nm,20.0s,MS5.2
AAM Ann Arbor 117.32 45 PFAKE 04 48 10.0 +10
AAM LR LR
comp=Z,916nm,20.0s,MS5.4
KMBO Kilima Mbogo 117.38 265 PFAKE 04 48 10.0 +10
KMBO LR LR
comp=Z,262nm,21.0s,MS4.8
BR131 Keskin Array S 118.03 312 PFAKE 04 48 10.0 +8.8
BR131 LR LR
comp=Z,168nm,19.0s,MS4.7
BRTR Keskin Array B 118.03 312 PKP PKPdf 04 47 59.9 -1.3
comp=Z,0.5nm,0.7s,baz=20,slow=4.6,SNR=3.9
BRTR PKKPbc PKKPbc 04 58 21.2 +0.7
comp=Z,0.8nm,0.7s,baz=226,slow=4.0,SNR=4.4
TGUH Tegucigalpa,Un 118.43 78 PFAKE 04 48 10.0 +8.1
TGUH LR LR
comp=Z,569nm,20.0s,MS5.2
ANTO Ankara 118.61 312 PFAKE 04 48 10.0 +7.7
ANTO LR LR
comp=Z,131nm,21.0s,MS4.5
HOPE Hope Point 118.70 172 PFAKE 04 48 10.0 +7.6
HOPE LR LR
comp=Z,166nm,19.0s,MS4.7
NB2 NORSAR Subarra119.21 341 PKPdf PKPdf 04 48 01.3 -2.1
comp=Z,3.3nm,1.1s,baz=44,slow=1.9
NOA NORSAR Array B 119.21 341 PKP PKPdf 04 48 02.0 -1.4
comp=Z,0.5nm,0.5s,baz=76,slow=1.9,SNR=3.9
NOA pPKP pPKPdf 04 48 12.5 -2.2
comp=Z,1.5nm,0.7s,baz=46,slow=2.0,SNR=4.7
NOA PKKPbc PKKPbc 04 58 15.5 -0.8
comp=Z,0.8nm,0.9s,baz=188,slow=4.1,SNR=3.6
NOA NORSAR Array B 119.21 341 PKIKP PKPdf 04 48 02.0 -1.4
NOA 04 48 12.5
BOSA Boshof 120.32 232 PKP PKPdf 04 48 05.9 +0.3
comp=Z,6.0nm,0.6s,baz=141,slow=1.3,SNR=22
BOSA Boshof 120.32 232 PKP PKPdf 04 48 05.9 +0.3
BOSA LR LR
comp=Z,946nm,22.0s,MS5.4
MCWV Mont Chateau 120.88 47 PFAKE 04 48 20.0 +13
MCWV LR LR
comp=Z,1μm,20.0s,MS5.5
BLA Blacksburg 121.20 50 PFAKE 04 48 20.0 +13
BLA LR LR
comp=Z,997nm,20.0s,MS5.5
MLR Muntele Rosu 121.32 320 PKKPbc PKKPbc 04 58 08.6 +0.2
comp=Z,2.8nm,0.7s,baz=159,slow=15,SNR=4.2
SCHQ Schefferville 121.33 27 PKP PKPdf 04 48 07.2 -0.3
comp=Z,2.0nm,0.6s,baz=281,slow=5.2,SNR=2.9
SCHQ PKKPbc PKKPbc 04 58 07.2 -1.2
comp=Z,3.1nm,0.8s,baz=246,slow=17,SNR=5.5
LBTB Lobatse 121.65 235 PFAKE 04 48 20.0 +12
LBTB LR LR
comp=Z,475nm,20.0s,MS5.1
SUR Sutherland 121.74 226 PKP PKPdf 04 48 08.4 +0.1
comp=Z,12nm,0.8s,baz=67,slow=1.8,SNR=9.6
SUR Sutherland 121.74 226 PKP PKPdf 04 48 08.4 +0.1
SSPA Standing Stone 121.96 46 PFAKE 04 48 20.0 +11
SSPA LR LR
comp=Z,795nm,21.0s,MS5.3
DWPF Disney 122.56 61 PFAKE 04 48 20.0 +10
DWPF LR LR
comp=Z,700nm,22.0s,MS5.3
BINY Binghamton 122.69 43 PFAKE 04 48 20.0 +10
BINY LR LR
comp=Z,1μm,22.0s,MS5.6
LSZ Lusaka 123.02 247 PFAKE 04 48 20.0 +9.3
LSZ LR LR
comp=Z,461nm,19.0s,MS5.2
CBN Corbin 123.18 48 PFAKE 04 48 20.0 +8.9
CBN LR LR
comp=Z,816nm,20.0s,MS5.4
CNNC Cliffs of the 123.75 52 PFAKE 04 48 20.0 +7.9
CNNC LR LR
comp=Z,1μm,21.0s,MS5.5
TRQA Tornquist 123.92 145 PFAKE 04 48 20.0 +7.5
TRQA LR LR
comp=Z,1μm,22.0s,MS5.5
DPC Dobruska-Polom 124.33 329 *e*PKP PKPdf 04 48 13.7 +0.4
LBNH Lisbon 124.47 40 PFAKE 04 48 30.0 +16
LBNH LR LR
comp=Z,1μm,20.0s,MS5.6
NNA Nana 125.31 110 PFAKE 04 48 30.0 +15
NNA LR LR
comp=Z,74nm,19.0s,MS4.4
CLL Collm 125.35 332⇑ *e*PKIKP PKPdf 04 48 25.0 +10
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 125.35 332⇑ *ep*PKPdf pPKPdf 04 48 25.0 -1.5
comp=Z,8.0nm,1.0s
CLL L 05 45 00.0
comp=Z,300nm,19.8s

TREC Trest 125.40 329 *e*PKP PKPdf 04 48 09.0 -6.3
HRV Harvard--Oak R 125.52 41 PFAKE 04 48 30.0 +14
HRV LR LR
comp=Z,2μm,19.0s,MS5.8
WES Weston 125.73 41 PFAKE 04 48 30.0 +14
WES LR LR
comp=Z,2μm,19.0s,MS5.8
OTAV Otavalo 126.34 94 PFAKE 04 48 30.0 +13
OTAV LR LR
comp=Z,222nm,19.0s,MS4.9
KHC Kasperske Hory 126.48 329 *e*PKP PKPdf 04 48 17.0 -0.4
KHC *ep*PKP pPKPdf 04 48 26.5 -2.1
GERES GERESS Array B 126.60 329 PKP PKPdf 04 48 16.9 -0.7
comp=Z,1.4nm,0.7s,baz=91,slow=1.6,SNR=12
GERES pPKP pPKPdf 04 48 27.9 -1.0
comp=Z,2.9nm,0.7s,baz=85,slow=1.5,SNR=12
GRA1 Grafenberg Arr 127.28 331 *e*PKPdf PKPdf 04 48 17.7 -1.2
GRA1 *ep*PKPdf pPKPdf 04 48 28.3 -1.9
CDF Champ du Feu 130.03 332 *e*PKIKP PKPdf 04 48 23.3 -0.8
HINF Hinteralfeld 130.66 332 *e*PKIKP PKPdf 04 48 24.8 -0.5
TSUM Tsumeb 130.88 238 PFAKE 04 48 40.0 +14
TSUM LR LR
comp=Z,600nm,19.0s,MS5.3
ROSC El Rosal 130.93 89 PKP PKPdf 04 48 26.8 +1.0
comp=Z,4.9nm,0.4s,baz=287,slow=23,SNR=6.7
MEZF Maizieres J'vi 130.97 334 *e*PKIKP PKPdf 04 48 25.9 0.0
LPL La Plagne 132.36 330 *e*PKIKP PKPdf 04 48 27.5 -1.0
comp=Z,6.2nm,0.9s
LPG La Plagne 132.36 330 *e*PKIKP PKPdf 04 48 28.2 -0.4
comp=Z,7.8nm,0.8s
LOR Lormes 132.43 334 *e*PKIKP PKPdf 04 48 27.2 -1.5
AVF Avril sur Loir 133.01 333 *e*PKIKP PKPdf 04 48 29.3 -0.5
PGF Pioggiola 133.17 325 *e*PKIKP PKPdf 04 48 28.8 -1.3
comp=Z,44nm,1.2s
ORIF Oris-en-Rattie 133.21 330 *e*PKIKP PKPdf 04 48 28.8 -1.3
comp=Z,6.8nm,0.7s
FRF La Foret Royal 133.77 328 *e*PKIKP PKPdf 04 48 30.7 -0.5
TCF Toulx Ste Croi 133.91 334 *e*PKIKP PKPdf 04 48 31.6 +0.1
comp=Z,11nm,0.9s
SDV Santo Domingo 134.76 84 PFAKE 04 48 50.0 +17
SDV LR LR
comp=Z,144nm,22.0s,MS4.7
CPUP Villa Florida 134.77 138 PKP PKPdf 04 48 32.0 -1.1
comp=Z,1.6nm,0.7s,baz=219,slow=1.2,SNR=6.8
MSKU Masuku 140.59 259 PFAKE 04 49 00.0 +16
MSKU LR LR
comp=Z,3.0nm,20.0s
ESLA Sonseca Array 141.90 333 PFAKE 04 49 00.0 +14
ESLA LR LR
comp=Z,1μm,19.0s,MS5.7
MDT Midelt 147.64 327 PKPbc PKPbc 04 48 59.7 +0.9
baz=35,slow=4.9
TORD Torodi Ar. Bea 152.87 286 PKPbc PKPbc 04 49 11.1 -0.4
comp=Z,6.3nm,0.3s,baz=70,slow=2.2,SNR=146
TORD PKPab PKPab 04 49 21.4 -1.2
comp=Z,23nm,0.7s,baz=68,slow=2.7,SNR=36
RCBR Riachuelo 163.65 138 PFAKE 04 49 30.0 +13
RCBR LR LR
comp=Z,459nm,20.0s

IDC 30 04:36:53.4±2.3, 1534S×17338W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.7/5, Error ellipse: s-maj=167.1km s-min=21.7km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**48**	Pn	Pn	04 37 28.2	-1.6
86nm,0.3s,baz=229,slow=8.4,SNR=45							
AFI				Sn	Sn	04 37 47.6	-9.1
564nm,0.3s,baz=215,slow=24,SNR=48							
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	04 45 49.0	+0.5
0.6nm,0.8s,baz=84,slow=7.6,SNR=5.2							
ASAR	**Alice Springs**	**50.15**	**252**	P	P	04 45 50.0	-0.5
0.4nm,0.5s,baz=94,slow=7.9,SNR=5.6							
NVAR	**Mina Array Bea**	**74.27**	**42**	P	P	04 48 33.5	+1.1
0.4nm,0.6s,baz=232,slow=8.7,SNR=4.4							
TXAR	**Lajitas Array**	**80.56**	**56**	P	P	04 49 08.3	+0.7
0.8nm,1.0s,baz=240,slow=4.2,SNR=5.2							
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPbc	04 56 36.2	+0.8
0.7nm,0.8s,baz=79,slow=3.1,SNR=4.2							

PRE 30 04:49:54.4±1.6, 2104S×3285E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.93**	**243**	*e*P	Pn	04 50 43.6	+2.0
MSNA				*e*S	Sn	04 51 17.4	+0.2
MSNA				AML	AML	04 51 39.6	
comp=Z,97nm,0.7s							
POGA	**Pongola**	**6.40**	**190**	*e*P	Pn	04 51 28.9	-0.4
POGA				*e*S	Sn	04 52 39.4	-3.4
POGA				AML	AML	04 53 20.3	
comp=Z,22nm,0.4s							
PRYS	**Parys**	**7.71**	**220**	*e*P	Pn	04 51 48.6	+1.2
PRYS				*e*S	Sn	04 53 12.3	-2.7
PRYS				AML	AML	04 54 04.9	
comp=Z,20nm,0.7s							

*CSEM **30** 04:50:44.5±0.1, 3704N×2805E, h20km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.5km az=13.0*
*ISK **30** 04:50:44.8, 3704N×2804E, h21km, MD3.2*
*ISCJB **30** 04:50:45.7±0.5, 3700N±004×2804E±004, h21km±7km, Error ellipse: s-maj=7.1km s-min=4.9km az=74.3*
*ATH **30** 04:50:45.3, 3697N×2794E, h21km±3km, MD3.3/3*
ISC 30 04:50:45.6±0.5, 3701N±004×2805E±004, h18km±4km, n14, σ1§13/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.35**	**323**	*i* PG	**Pg**	**04 50 52.4**	**-0.6**
MLSB				*i* SG	**Sg**	**04 50 58.0**	**0.0**
DAT	**Datca**	**0.47**	**233**	*i* PG	**Pg**	**04 50 54.6**	**-0.5**
BDRM	**Kayabasi**	**0.48**	**276**	*i* P	**Pg**	**04 50 54.4**	**-0.9**
BDRM				*i* S	**Sg**	**04 51 02.8**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.53**	**117**	*i* PG	**Pg**	**04 50 56.1**	**-0.1**
DALT				*i* SG	**Sg**	**04 51 05.0**	**+1.6**
BODT	**Bodrum**	**0.59**	**275**	*i* PG	**Pg**	**04 50 57.0**	**-0.3**
BODT				*i* SG	**Sg**	**04 51 06.2**	**+1.0**
AYDN	**Tasoluk**	**0.66**	**348**	*i* P	**Pg**	**04 50 57.9**	**-0.6**
AYDN				*i* S	**Sg**	**04 51 07.2**	**-0.2**
ARG	**Arkhangelos**	**0.80**	**175**	*e*PN	**Pn**	**04 51 00.1**	**-1.8**
ARG				*e*SN	**Sn**	**04 51 11.2**	**-2.2**
DNZL	**Cakiroluk**	**1.04**	**49**	*i* P	**Pb**	**04 51 11.5**	**+6.4**
DNZL				*i* S	**Sb**	**04 51 27.6**	**+9.1**
DENT	**Denizli**	**1.08**	**46**	PG	**Pg**	**04 51 05.2**	**-1.3**
SMG	**Samos**	**1.19**	**306**	*e*PN	**Pn**	**04 51 07.5**	**+0.2**
SMG				*e*SN	**Sn**	**04 51 23.0**	**0.0**
AKAS	**Kas**	**1.48**	**121**	*i* P	**Pn**	**04 51 13.6**	**+2.4**
AKAS				*i* S	**Sn**	**04 51 37.3**	**+7.2**
IZM	**Izmir**	**1.52**	**336**	PN	**Pn**	**04 51 11.1**	**-0.7**
URLA	**Izmir**	**1.77**	**320**	*i* P	**Pn**	**04 51 17.8**	**+2.5**
URLA				*i* S	**Sn**	**04 51 44.8**	**+7.5**
APE	**Apeiranthos**	**2.01**	**272**	*e*PN	**Pn**	**04 51 19.3**	**+0.7**

MAN 30 04:58:18.3, 1668N×12216E, h62km, mb2.8, ML4.2, MS1.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.46**	**34**⇑	*i*P	Pn	04 58 32.1	+2.1
PALP				*i* S	Sn	04 58 42.6	+4.1

*IDC **30** 05:05:45.8±4.0, 652S×1549E, h36km±29km, mb3.9/10, mb1 4.1/12, mb1mx4.1/16, mbtmp4.2/12, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=30.0km s-min=19.5km az=102.0*
*NEIC **30** 05:05:45.4±0.5, 651S×1550E, h35km, mb4.5/3, Error ellipse: s-maj=16.0km s-min=10.4km az=125.0*
*ISCJB **30** 05:05:46.9±3.9, 66S±01×1549E±01, h56km±32km, mb4.4/16, Error ellipse: s-maj=23.4km s-min=18.1km az=137.4*
ISC 30 05:05:49.0±3.4, 66S±01×1549E±01, h62km±27km, n26, σ0§42/24, mb4.4/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.71**	**120**	LR	LR	05 09 03.3	
comp=Z,166nm,20.6s,baz=356,slow=34							
PMG	**Port Moresby**	**8.18**	**250**	Pn	**Pn**	**05 07 44.6**	**-0.4**
4.1nm,0.3s,baz=66,slow=8.4,SNR=12							
PMG				Sn	**Sn**	**05 09 15.9**	**+0.1**
1.1nm,0.3s,baz=248,slow=19,SNR=1.8							
PMG				LR	LR	05 09 54.5	
comp=Z,116nm,19.6s,baz=61,slow=30							
CTA	**Charters Tower**	**15.82**	**211**	Pn	**Pn**	**05 09 28.7**	**+0.8**
0.3nm,0.3s,baz=43,slow=14,SNR=5.2							
CTA	**Charters Tower**	**15.82**	**211**	Pn	**Pn**	**05 09 28.7**	**+0.8**
KAKA	**Kakadu**	**22.97**	**253**	*e*P	**P**	**05 10 47.8**	**-0.4**
6.0nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**23.97**	**234**	*e*P	**P**	**05 10 57.7**	**+0.1**
WRA	**Warramunga Arr**	**23.98**	**234**	P	**P**	**05 10 57.8**	**+0.1**
5.4nm,0.8s,mb4.0,baz=56,slow=9.5,SNR=28							
WRA				PcP	PcP	05 14 39.3	+0.9
2.1nm,0.6s,baz=59,slow=2.5,SNR=20							
ASAR	**Alice Springs**	**26.38**	**228**	P	**P**	**05 11 19.4**	**-0.1**
1.1nm,0.7s,mb3.5,baz=60,slow=8.4,SNR=11							
ASAR				PcP	PcP	05 14 44.9	+1.1
1.2nm,0.8s,baz=60,slow=2.9,SNR=9.3							
ASAR				ScP	ScP	05 18 22.1	+3.9
0.3nm,0.6s,baz=84,slow=1.8,SNR=4.2							
STKA	**Stephens Creek**	**28.05**	**205**	P	**P**	**05 11 33.5**	**-0.9**
1.5nm,0.8s,mb3.7,baz=40,slow=8.3,SNR=3.4							
STKA				PcP	PcP	05 14 47.5	-0.3
1.8nm,1.0s,baz=337,slow=8.9,SNR=3.2							
FITZ	**Fitzroy Crossi**	**30.75**	**246**	*e*P	**P**	**05 11 58.3**	**0.0**
6.1nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**30.75**	**246**	P	**P**	**05 11 58.5**	**+0.2**
2.6nm,1.0s,mb4.0,baz=81,slow=5.8,SNR=7.9							
FITZ				PcP	PcP	05 14 55.4	+0.8
1.3nm,0.7s,baz=50,slow=17,SNR=3.5							
SONM Songino Array		**68.98**	**327**	P	**P**	**05 16 47.3**	**-0.5**
1.4nm,0.8s,mb3.9,baz=143,slow=6.5,SNR=9.8							
VNDA Vanda		**70.97**	**178**	P	**P**	**05 16 59.9**	**0.0**
1.0nm,0.8s,mb3.8,baz=339,slow=6.3,SNR=7.8							
VNDA Vanda		**70.97**	**178**	P	**P**	**05 16 59.9**	**0.0**
GUN Gumba		**74.86**	**301**	*e*P	**P**	**05 17 23.6**	**+0.6**
18nm,0.6s,mb5.2							
KKN Kakani		**75.34**	**301**	*e*P	**P**	**05 17 25.6**	**-0.1**
DMN Daman		**75.44**	**301**	*e*P	**P**	**05 17 27.1**	**+0.8**
19nm,0.6s,mb5.2							
GKN Gorkha		**75.94**	**301**	*e*P	**P**	**05 17 29.5**	**+0.3**
16nm,0.7s,mb5.1							
KOLN Koldanda		**76.77**	**300**	*e*P	**P**	**05 17 33.8**	**-0.1**
11nm,0.7s,mb4.9							
MKAR Makanchi Array		**83.07**	**319**	P	**P**	**05 18 07.6**	**-0.3**
3.4nm,1.0s,mb4.3,baz=95,slow=5.1,SNR=7.3							
QSPA South Pole Qui		**83.36**	**180**	*e*P	**P**	**05 18 09.6**	**+0.2**
4.7nm,1.0s,mb4.5							
ZAL Zalesovo		**83.83**	**326**	P	**P**	**05 18 11.4**	**-0.4**
1.3nm,0.3s,mb4.5,baz=56,slow=3.6,SNR=2.9							
MAW Mawson		**84.72**	**203**	P	**P**	**05 18 16.0**	**-0.3**
1.7nm,0.7s,mb4.3,baz=65,slow=21,SNR=7.6							
NVAR Mina Array Bea		**91.54**	**52**	P	**P**	**05 18 49.1**	**+0.2**
1.6nm,0.9s,mb4.3,baz=258,slow=7.7,SNR=8.3							
GERES GERESS Array B 126.69 329				PKP	PKPdf	05 24 45.6	+0.2
0.4nm,0.7s,baz=15,slow=5.5,SNR=3.8							
TORD Torodi Ar. Bea		**152.85**	**286**	PKPbc	PKPbc	05 25 39.1	0.0
2.1nm,0.7s,baz=85,slow=1.8,SNR=16							
TORD				PKPab	PKPab	05 25 48.8	-1.4
2.4nm,0.9s,baz=68,slow=2.6,SNR=7.3							

PRE 30 05:12:04.4±1.4, 2083S×3296E, h5km, ML3.9, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.12**	**241**	*e*P	Pn	05 12 56.3	+2.1
MSNA				*e*S	Sn	05 13 32.3	+0.5
MSNA				AML	AML	05 13 48.9	
comp=Z,136nm,0.5s							
POGA	**Pongola**	**6.63**	**190**	*e*P	Pn	05 13 42.8	+0.4
POGA				*e*S	Sn	05 14 54.6	-3.7
POGA				AML	AML	05 15 42.6	
comp=Z,24nm,0.5s							
PRYS	**Parys**	**7.94**	**219**	*e*P	Pn	05 14 01.0	+0.5
PRYS				*e*S	Sn	05 15 27.9	-2.8
PRYS				AML	AML	05 16 17.4	
comp=Z,22nm,0.7s							

*NIED **30** 05:13:00, 32.10N×129.80E, h8km, Mw3.7 Best double couple: M0=4.33000×10^14 NP1:φ=251.00000°, δ=49.00000°, λ=-67.00000°. NP2:φ=38.00000°, δ=46.00000°, λ=-114.00000°.*
JMA 30 05:13:18.2, 3211N×12980E, h11km±1km, M3.5, 4C-1D Broadband fault plane solution: P waves. NP1: φ=60.00000°, δ=42.00000°, λ=-116.00000°. **NP2:** φ=273.00000°, δ=53.00000°, λ=-69.00000°. **Principal axes:** T Plg=6.0000°, Azm=348.0000°; N Plg=17.0000°, Azm=80.0000°; P Plg=72.0000°, Azm=239.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.44**	**189**	⇑P	Pg	05 13 26.6	-0.2
JSJ				*e*S	Sg	05 13 32.7	+0.1
JHD	**Hondo**	**0.46**	**39**	⇑P	Pg	05 13 27.3	+0.2
JHD				S	Sg	05 13 33.6	+0.4
NGSJ	**Nagasakinomoza**	**0.52**	**360**	⇑P	Pg	05 13 28.4	0.0
NGSJ				*e*S	Sg	05 13 35.8	+0.5
JZO	**Okuchi**	**0.68**	**87**	⇓P	Pg	05 13 31.4	+0.1
JZO				S	Sg	05 13 40.1	-0.1
JSU	**Suzuyama**	**0.82**	**137**	⇑P	Pg	05 13 33.6	-0.4
JSU				S	Sg	05 13 44.4	-0.4
JIU2	**Izumi 2**	**0.96**	**63**	P	Pg	05 13 36.0	-0.7
JIU2				*e*S	Sg	05 13 49.3	0.0
JFU	**Fukue jima 2**	**1.04**	**302**	P	Pb	05 13 38.2	0.0
JTA	**Tamana**	**1.05**	**36**	P	Pb	05 13 37.7	-0.7
JTA				*e*S	Sg	05 13 51.9	-0.3
JTZ	**Takazaki**	**1.11**	**100**	P	Pb	05 13 39.3	-0.2

*IDC **30** 05:16:26.8±0.8, 171S×126.29E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML4.0/1 Error ellipse: s-maj=55.6km s-min=15.8km az=66.0*
*NEIC **30** 05:16:31.9±0.5, 165S×126.39E, h35km, mb4.4/3, Error ellipse: s-maj=40.9km s-min=8.8km az=68.0*
*ISCJB **30** 05:16:36.5±0.6, 12S±02×127.4E±03, h100km, mb4.3/13, Error ellipse: s-maj=43.0km s-min=9.8km az=124.0*
ISC 30 05:16:37.9±0.6, 12S±02×1276E±03, h100km, n21, σ0§97/21, mb4.3/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.72**	**161**	P	**P**	**05 20 58.2**	**-1.3**
0.4nm,0.3s,baz=341,slow=12,SNR=26							
WB2	**Warramunga Arr**	**19.73**	**161**	*e*P	**P**	**05 20 58.2**	**-1.4**
AS31	**Alice Springs**	**23.11**	**165**	*e*P	**P**	**05 21 35.9**	**+0.7**
ASAR	**Alice Springs**	**23.12**	**165**	P	**P**	**05 21 34.8**	**-0.4**
0.1nm,0.3s,baz=31,slow=17,SNR=4.2							
CTA	**Charters Tower**	**26.14**	**137**	P	**P**	**05 22 07.1**	**+4.4**
1.4nm,0.4s,mb3.8,baz=314,slow=6.2,SNR=4.1							
CTA	**Charters Tower**	**26.14**	**137**	P	**P**	**05 22 07.1**	**+4.4**
STKA	**Stephens Creek**	**33.21**	**158**	P	**P**	**05 23 06.5**	**+1.3**
1.7nm,0.7s,mb4.0,baz=323,slow=15,SNR=4.4							
STKA	**Stephens Creek**	**33.21**	**158**	*e*P	**P**	**05 23 07.4**	**+2.2**
MJAR	**Matsushiro Arr**	**38.86**	**14**	P	**P**	**05 24 01.3**	**+8.0**
1.3nm,0.6s,mb3.9,baz=177,slow=7.8,SNR=3.9							
LZH	**Lanzhou**	**43.23**	**332**	*e*P	**P**	**05 24 39.5**	**+10**
LZH				pP	pP	05 24 46.0	-6.5
LZH				sP	sP	05 24 48.7	-15
GUN Gumba		**49.43**	**309**	*e*P	**P**	**05 25 18.2**	**+0.5**
17nm,0.6s,mb5.1							
KKN Kakani		**49.84**	**309**	*e*P	**P**	**05 25 20.8**	**0.0**
16nm,0.7s,mb5.0							
DMN Daman		**49.89**	**308**	*e*P	**P**	**05 25 20.8**	**-0.4**
21nm,0.9s,mb5.0							
KOLN Koldanda		**51.15**	**308**	*e*P	**P**	**05 25 31.9**	**+1.3**
38nm,0.7s							
ULN Ulaanbaatar		**52.09**	**343**	*e*P	**P**	**05 25 37.4**	**-0.2**
4.3nm,0.9s,mb4.5							
SONM Songino Array		**52.26**	**342**	P	**P**	**05 25 38.9**	**0.0**
0.8nm,0.7s,mb3.8,baz=148,slow=9.5,SNR=6.4							
MKAR Makanchi Array		**62.13**	**326**	P	**P**	**05 26 48.6**	**+0.2**
1.2nm,0.3s,mb4.4,baz=116,slow=7.7,SNR=32							
ZAL Zalesovo		**65.39**	**334**	P	**P**	**05 27 09.6**	**-0.2**
1.0nm,0.3s,mb4.1,baz=321,slow=2.4,SNR=4.5							
BVAR Borovoye Array		**71.95**	**328**	P	**P**	**05 27 49.9**	**-0.6**
1.1nm,0.6s,mb3.9,baz=134,slow=8.5,SNR=9.2							
CHKZ Chkalovo		**72.13**	**328**	*e*P	**P**	**05 27 51.0**	**-0.6**
3.1nm,0.9s,mb4.1							
ZRNK Zerenda		**72.66**	**327**	*e*P	**P**	**05 27 54.2**	**-0.5**

4.7nm,0.7s,mb4.4
ZRNK *e* 05 28 03.4

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*IDC **30** 05:25:56.5±1.8, 737N×7361W, h91km±33km, mb3.6/6, mb1 3.9/8, mb1mx3.6/19, mbtmp4.0/8, Error ellipse: s-maj=43.1km s-min=8.2km az=132.0*
*ISCJB **30** 05:25:57.0±0.5, 686N±006×7302W±006, h168km±6km, mb3.7/5, Error ellipse: s-maj=12.8km s-min=6.8km az=83.5*
*NEIC **30** 05:25:58.1±0.7, 683N×7306W, h162km±9km, mb3.5/1, Error ellipse: s-maj=14.0km s-min=10.4km az=133.0*
*FUNV **30** 05:25:58.2, 689N×73.18W, h169km, MW3.5*
ISC 30 05:25:58.2±0.5, 688N±006×7303W±007, h160km±6km, n20, σ0§80/30, mb3.7/5, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**36**	⇑*i*P	**Pn**	**05 26 26.6**	**+0.8**
CAPV				*e*S	**Sn**	**05 26 47.5**	**+0.6**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**05 26 38.4**	**-0.1**
ROSC	47nm,0.3s,baz=86,slow=16,SNR=163			S	**Sn**	**05 27 08.6**	**-1.0**
	222nm,0.3s,baz=73,slow=18,SNR=26						
VIGV	**El Vigia**	**2.55**	**40**	*e*P	**Pn**	**05 26 41.1**	**+0.6**
VIGV				*e*S	**Sn**	**05 27 13.2**	**+0.1**
SOCV	**Socops**	**2.57**	**57**	⇑*i*P	**Pn**	**05 26 41.4**	**+0.8**
SOCV				*e*S	**Sn**	**05 27 13.7**	**+0.2**
SDV	**Santo Domingo**	**3.10**	**50**	P	**Pn**	**05 26 48.1**	**+0.8**
	52nm,0.3s,baz=232,slow=4.2,SNR=224						
SDV				S	**Sn**	**05 27 25.1**	**-0.1**
	26nm,0.3s,baz=77,slow=22,SNR=15						
SDV	**Santo Domingo**	**3.10**	**50**	P	**Pn**	**05 26 48.1**	**+0.8**
SDV				S	**Sn**	**05 27 25.1**	**-0.1**
ELOV	**Elorza**	**3.52**	**88**	*e*P	**Pn**	**05 26 52.8**	**+0.2**
ELOV				*e*S	**Sn**	**05 27 34.6**	**-0.2**
QARV	**Quebrada Arrib**	**4.13**	**37**	⇑*i*P	**Pn**	**05 27 01.0**	**+0.5**
QARV				*e*S	**Sn**	**05 27 46.1**	**-2.8**
SANV	**Sanarito**	**4.33**	**53**	*e*P	**Pn**	**05 27 02.8**	**-0.2**
CURV	**Curarigua**	**4.35**	**44**	*e*P	**Pn**	**05 27 03.4**	**+0.2**
CURV				*e*S	**Sn**	**05 27 51.3**	**-2.7**
TEPV	**Terepaima**	**4.88**	**51**	*e*P	**Pn**	**05 27 10.3**	**+0.1**
SIQV	**Siquisique**	**4.92**	**40**	*e*P	**Pn**	**05 27 10.4**	**-0.3**
SIQV				*e*S	**Sn**	**05 28 03.0**	**-4.3**
PCRV	**Puerto La Cruz**	**8.92**	**68**	P	**Pn**	**05 28 04.4**	**+0.6**
	0.8nm,0.3s,baz=203,slow=8.2,SNR=5.2						
SAML	**Samuel**	**18.53**	**148**	*e*P	**P**	**05 30 02.1**	**-0.4**
	1.6nm,0.6s						
SAML				S	**S**	**05 33 30.2**	**+4.7**
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**05 32 48.2**	**+0.3**
	0.4nm,0.5s,mb3.3,baz=124,slow=9.4,SNR=7.8						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**05 34 14.6**	**-0.6**
	1.6nm,0.4s,mb4.0,baz=117,slow=3.8,SNR=4.2						
SCHQ	**Schefferville**	**48.08**	**5**	P	**P**	**05 34 22.3**	**+0.8**
	5.5nm,1.0s,mb4.1,baz=194,slow=12,SNR=2.9						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**05 34 21.6**	**0.0**
	0.4nm,0.5s,mb3.3,baz=132,slow=9.4,SNR=4.5						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**05 36 09.1**	**-0.4**
	1.0nm,0.5s,mb3.9,baz=135,slow=6.4,SNR=5.1						
NOA	**NORSAR Array B**	**81.23**	**29**	P	PcP	05 38 03.6	+1.6
	0.8nm,0.8s,baz=285,slow=3.3,SNR=3.3						

MEX 30 05:34:29.5±0.7, 1565N×9651W, h16km±713km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.43**	**351**	*i*P	Pn	05 34 51.2	-3.5
VHO				*i*S	Sn	05 35 08.3	-4.8
OXX	**Oaxaca**	**1.44**	**352**	*e*P	Pn	05 34 52.0	-2.8
UTMO	**Huajuapan**	**2.50**	**330**	*e*P	Pn	05 35 06.2	-3.2
UTMO				*i*S	Sn	05 35 35.1	-4.4
TPIG	**Tehuac#an**	**2.87**	**344**	*e*P	Pn	05 35 14.7	+0.1
TPIG				*i*S	Sn	05 35 45.3	-3.4

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*ISCJB **30** 05:37:02.6±2.7, 123S±005×1275E±01, h15km±16km, mb4.7/29, MS3.6/6, Error ellipse: s-maj=19.9km s-min=6.1km az=138.5*
*IDC **30** 05:37:02.5±0.7, 1.13S×127.34E, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.3/18, mbtmp4.3/12, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.2/33, Error ellipse: s-maj=33.2km s-min=13.9km az=69.0*
*MOS **30** 05:37:05.2±1.4, 123S×127.42E, h33km, mb4.9/8, Error ellipse: s-maj=25.6km s-min=9.4km az=112.8*
*BJI **30** 05:37:05.3, 152S×127.65E, h58km, mB5.2, mb4.9*
*NEIC **30** 05:37:07.5±0.4, 124S×127.36E, h35km, mb4.6/10, Error ellipse: s-maj=18.6km s-min=6.2km az=70.0*
ISC 30 05:37:07.7±1.5, 128S±006×1276E±01, h43km±15km, n61, σ1§01/59, mb4.7/29, MS3.6/6, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.32**	**157**	*e*P	**Pn**	**05 40 01.0**	**+0.5**
	15nm,0.6s						
KAKA				*e*S	**Sn**	**05 42 16.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**16.82**	**186**	*e*P	**Pn**	**05 41 00.5**	**+0.4**
	11nm,1.1s						
FITZ	**Fitzroy Crossi**	**16.82**	**186**	Pn	**Pn**	**05 41 00.4**	**+0.3**
	0.1nm,0.3s,baz=13,slow=15,SNR=6.1						
WRAB	**Tennant Creek**	**19.68**	**161**	⇓*e*P	**Pn**	**05 41 32.8**	**-2.0**
WRA	**Warramunga Arr**	**19.68**	**161**	P	**Pn**	**05 41 34.1**	**-0.8**
	0.7nm,0.3s,baz=344,slow=12,SNR=26						
WRA				S	**S**	**05 45 10.4**	**-2.4**
	0.1nm,0.3s,baz=340,slow=21,SNR=4.3						
WB2	**Warramunga Arr**	**19.68**	**161**	*e*P	**Pn**	**05 41 34.3**	**-0.6**
MBWA	**Marble Bar**	**21.19**	**201**	*e*P	**P**	**05 41 48.6**	**-1.0**
	21nm,1.3s,mb4.3						
GUMO	**Guam**	**22.61**	**49**	LR	LR	05 50 19.9	
	comp=Z,130nm,18.2s,MS3.4,baz=188,slow=35						
AS31	**Alice Springs**	**23.07**	**165**	*e*P	**P**	**05 42 11.0**	**+1.5**
ASAR	**Alice Springs**	**23.07**	**165**	P	**P**	**05 42 11.1**	**+1.5**
	8.9nm,0.7s,mb4.3,baz=345,slow=10,SNR=19						
ASAR				S	**S**	**05 46 16.8**	**-0.5**
	1.9nm,1.0s,baz=348,slow=21,SNR=8.8						
ASAR				ScP	ScP	05 49 41.0	+9.1
	0.4nm,0.9s,baz=337,slow=4.4,SNR=3.3						
ASAR	**Alice Springs**	**23.07**	**165**	P	**P**	**05 42 11.1**	**+1.6**
ASAR				S	**S**	**05 46 16.8**	**-0.5**
CTA	**Charters Tower**	**26.11**	**137**	P	**P**	**05 42 42.2**	**+4.7**
	7.0nm,0.9s,mb4.2,baz=318,slow=11,SNR=6.1						
CTA	**Charters Tower**	**26.11**	**137**	P	**P**	**05 42 42.2**	**+4.7**
JOW	**Kunigami**	**27.96**	**1**	LR	LR	05 52 58.7	
	comp=Z,163nm,19.1s,MS3.6,baz=129,slow=34						
PSI	**Prapat**	**28.95**	**278**	P	**P**	**05 43 01.8**	**-1.2**
	11nm,0.9s,mb4.6,baz=138,slow=3.4,SNR=7.9						
PSI	**Prapat**	**28.95**	**278**	P	**P**	**05 43 01.8**	**-1.2**
CBIJ	**Chichi jima**	**31.52**	**25**	LR	LR	05 54 59.3	
	comp=Z,100nm,21.5s,MS3.5,baz=226,slow=34						
NWAO	**Narrogin (SRO)**	**32.95**	**196**	LR	LR	05 58 16.6	
	comp=Z,112nm,21.4s,MS3.5,baz=290,slow=39						
STKA	**Stephens Creek**	**33.17**	**158**	P	**P**	**05 43 43.8**	**+3.6**
	5.5nm,0.8s,mb4.5,baz=329,slow=11,SNR=12						
STKA	**Stephens Creek**	**33.17**	**158**	*e*P	**P**	**05 43 43.7**	**+3.6**
NJ2	**Nanjing**	**34.17**	**347**	*e*P	**P**	**05 43 50.5**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
KMI	**Kunming**	**35.62**	**319**	P	**P**	**05 44 02.0**	**+0.7**
KMI				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
KMI	**Kunming**	**35.62**	**319**	P	**P**	**05 44 01.9**	**+0.6**
KMI				*PP	pP	05 44 07.2	-5.8
KMI				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
KMI	**Kunming**	**35.62**	**319**	P	**P**	**05 44 01.9**	**+0.6**
	comp=Z,16nm,0.7s,mb5.1						
KMI				pP	pP	05 44 07.2	-5.8
MJAR	**Matsushiro Arr**	**38.91**	**14**	P	**P**	**05 44 28.4**	**-0.7**
	comp=Z,0.8nm,0.3s,mb3.9,baz=194,slow=9.1,SNR=4.3						
MJAR				LR	LR	05 57 26.0	
	comp=Z,143nm,20.8s,MS3.8,baz=205,slow=32						
XAN	**Xi'an**	**39.28**	**335**	P	**P**	**05 44 31.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**43.27**	**332**	*e*P	**P**	**05 45 05.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,37nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,160nm,5.0s						
LZH	**Lanzhou**	**43.27**	**332**	*e*P	**P**	**05 45 05.6**	**+0.6**
LZH				*SP	sP	05 45 13.6	-8.4
LZH				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.0						
LZH	**Lanzhou**	**43.27**	**332**	*e*P	**P**	**05 45 05.6**	**+0.6**
	comp=Z,37nm,1.2s,mb5.0						
LZH				pP	pP	05 45 10.4	-6.5
LZH				sP	sP	05 45 13.6	-8.4
ASAJ	**Asahikawa**	**47.15**	**15**	LR	LR	06 04 00.8	
	comp=Z,94nm,19.1s,MS3.8,baz=9.9,slow=34						
GTA	**Gaotai**	**47.85**	**331**	*e*P	**P**	**05 45 41.3**	**+0.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4						
GUN	**Gumba**	**49.46**	**309**	*e*P	**P**	**05 45 53.7**	**+0.1**
	comp=Z,32nm,0.6s,mb5.5						
PKI	**Pulchoki**	**49.66**	**309**	*e*P	**P**	**05 45 54.8**	**-0.3**
	comp=Z,12nm,0.6s,mb5.1						
YSS	**Yuzh-Sakhalins**	**49.85**	**14**	*i*P	**P**	**05 45 56.6**	**+0.1**
KKN	**Kakani**	**49.87**	**309**	*e*P	**P**	**05 45 56.7**	**0.0**
	comp=Z,54nm,1.1s,mb5.5						
DMN	**Daman**	**49.92**	**308**	*e*P	**P**	**05 45 57.0**	**-0.1**
	comp=Z,27nm,0.9s,mb5.3						
GKN	**Gorkha**	**50.47**	**309**	*e*P	**P**	**05 46 01.0**	**-0.2**
	comp=Z,24nm,0.8s,mb5.3						
KOLN	**Koldanda**	**51.18**	**308**	*e*P	**P**	**05 46 06.8**	**+0.2**
	comp=Z,56nm,0.8s,mb5.6						
HYB	**Hyderabad**	**51.76**	**293**	*i*P	**P**	**05 46 12.0**	**+1.1**
ULN	**Ulaanbaatar**	**52.13**	**343**	⇓*e*P	**P**	**05 46 14.5**	**+0.9**
ULN	**Ulaanbaatar**	**52.13**	**343**	*e*P	**P**	**05 46 13.8**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8						
SONM	**Songino Array**	**52.30**	**342**	P	**P**	**05 46 14.8**	**-0.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=158,slow=8.4,SNR=11						
ZAK	**Zakamensk**	**55.52**	**341**	*e*P	**P**	**05 46 41.5**	**+3.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
WMQ	**Urumqi**	**57.33**	**327**	*e*P	**P**	**05 46 51.5**	**+0.2**
MK31	**Makanchi Array**	**62.17**	**326**	*e*P	**P**	**05 47 24.2**	**-0.4**
MKAR	**Makanchi Array**	**62.17**	**326**	P	**P**	**05 47 24.1**	**-0.5**
	comp=Z,5.5nm,0.6s,mb4.9,baz=116,slow=8.0,SNR=44						
AAK	**Ala-Archa**	**64.67**	**319**	*e*P	**P**	**05 47 41.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**64.67**	**319**	*e*P	**P**	**05 47 41.2**	**+0.2**
	comp=Z,7.4nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**65.43**	**334**	P	**P**	**05 47 44.3**	**-1.7**
	comp=Z,1.7nm,0.3s,mb4.5,baz=107,slow=4.9,SNR=7.2						
ZAL	**Zalesovo**	**65.43**	**334**	*i*P	**P**	**05 47 44.7**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**72.06**	**328**	*e*P	**P**	**05 48 26.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**72.06**	**328**	*e*P	**P**	**05 48 26.2**	**-1.1**
	comp=Z,6.1nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**72.17**	**328**	*e*P	**P**	**05 48 27.4**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**72.17**	**328**	*e*P	**P**	**05 48 27.4**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**72.69**	**327**	*e*P	**P**	**05 48 30.0**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**72.69**	**327**	*e*P	**P**	**05 48 30.0**	**-1.1**
	comp=Z,7.8nm,0.7s,mb4.8						
TIXI	**Tiksi**	**72.81**	**0**	*e*P	**P**	**05 48 31.4**	**-0.4**
VNDA	**Vanda**	**78.38**	**173**	P	**P**	**05 49 05.1**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=325,slow=3.8,SNR=3.8						
MAW	**Mawson**	**79.39**	**201**	P	**P**	**05 49 10.6**	**+1.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=4.0,slow=9.4,SNR=3.4						
QSPA	**South Pole Qui**	**88.66**	**180**	*e*P	**P**	**05 49 57.8**	**+1.4**
	comp=Z,2.0nm,0.7s,mb4.6						
TORD	**Torodi Ar. Bea**	**125.18**	**285**	PKP	PKPdf	05 56 06.3	+2.8
	comp=Z,1.0nm,1.1s,baz=68,slow=3.4,SNR=3.6						

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*CSEM **30** 05:42:59.3±1.0, 3866N×2843W, h20km±6km, ML1.9, Error ellipse: s-maj=3.2km s-min=2.3km az=159.0, After PDA*
*PDA **30** 05:42:59.3±1.0, 3866N×2843W, h20km±6km, MD2.9, ML1.9, Error ellipse: s-maj=3.2km s-min=2.3km az=159.0*
SVSA 30 05:42:59.3±1.0, 3866N×2843W, h20km±6km, MD2.9, ML1.9, Error ellipse: s-maj=3.2km s-min=2.3km az=159.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.16**	**178**	*e*P	Pg	05 43 03.2	-0.7
PICO				*e*S	Sg	05 43 06.0	-1.0
ROSA	**Rosais**	**0.16**	**68**	*i*P	Pg	05 43 03.1	-0.8
ROSA				*e*S	Sg	05 43 06.2	-0.8
ROSA	**Rosais**	**0.16**	**68**	*e*S	Sg	05 43 06.2	-0.8
PTEI	**Pico do Teixo**	**0.17**	**160**	*e*P	Pg	05 43 03.5	-0.6
PTEI				*e*S	Sg	05 43 06.6	-0.7
PTEI							
	46nm,0.1s						
PCND	**Candelaria**	**0.19**	**187**	*e*P	Pg	05 43 03.8	-0.5
PCND				*e*S	Sg	05 43 07.1	-0.6
PCND							
	64nm,0.2s						
PAMA	**Santo Amaro**	**0.20**	**84**	*e*P	Pg	05 43 04.0	-0.4
PAMA				*e*S	Sg	05 43 07.1	-0.8
PAMA							
	63nm,0.1s						
PAMA	**Santo Amaro**	**0.20**	**84**	*e*P	Pg	05 43 04.0	-0.4
PAMA				*e*S	Sg	05 43 07.1	-0.8
HOR	**Horta**	**0.20**	**229**	*i*P	Pg	05 43 03.5	-1.0
HOR				*e*S	Sg	05 43 06.6	-1.4
HOR	**Horta**	**0.20**	**229**	*e*S	Sg	05 43 06.6	-1.4
PCED	**Cedros**	**0.21**	**262**	*e*P	Pg	05 43 04.1	-0.5
PCED				*e*S	Sg	05 43 06.9	-1.3
PCED							
	100nm,0.1s						
PCED	**Cedros**	**0.21**	**262**	*e*P	Pg	05 43 04.1	-0.5
PCED				*e*S	Sg	05 43 06.9	-1.3
CALA	**Caldeira**	**0.23**	**250**	*i*P	Pg	05 43 04.1	-0.7
CALA				*e*S	Sg	05 43 07.7	-0.9
CALA	**Caldeira**	**0.23**	**250**	*e*S	Sg	05 43 07.7	-0.9
PBOI	**Pico dos Bois**	**0.23**	**169**	*e*P	Pg	05 43 04.2	-0.6
PBOI				*e*S	Sg	05 43 07.7	-0.9
PBOI							
	38nm,0.1s						
PMAN	**Manadas**	**0.27**	**96**	*e*P	Pg	05 43 04.0	-1.5
PMAN				*e*S	Sg	05 43 08.2	-1.6
PMAN							
	38nm,0.1s						
PMAN	**Manadas**	**0.27**	**96**	*e*P	Pg	05 43 04.0	-1.5
PMAN				*e*S	Sg	05 43 08.2	-1.6
PID	**Ribeirinha**	**0.33**	**131**	*e*P	Pg	05 43 05.4	-1.1
PIED	**Piedade**	**0.38**	**129**	*e*S	Sg	05 43 10.9	-2.0

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*NEIC **30** 05:44:59.8±0.9, 149N×124.78E, h35km, Error ellipse: s-maj=69.8km s-min=14.6km az=73.0*
IDC 30 05:45:27.9±10.0, 064N×12311E, h345km±127km, mb3.0/5, mb1 3.1/6, mb1mx3.0/18, mbtmp3.7/6, Error ellipse: s-maj=101.5km s-min=21.0km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.79**	**173**	P	P	05 49 24.0	+0.6
	0.2nm,0.3s,baz=0.2,slow=9.3,SNR=7.5						
WRA	**Warramunga Arr**	**23.23**	**152**	P	P	05 50 04.9	-0.6
	1.0nm,0.3s,baz=330,slow=9.8,SNR=52						
WB2	**Warramunga Arr**	**23.23**	**152**	*e*P	P	05 50 05.0	-0.5
ASAR	**Alice Springs**	**26.34**	**157**	P	P	05 50 34.0	+0.6
	0.3nm,0.5s,baz=336,slow=6.8,SNR=6.9						
STKA	**Stephens Creek**	**36.77**	**153**	P	P	05 52 04.2	+0.6
	0.9nm,0.7s,baz=308,slow=12,SNR=3.6						
SONM	**Songino Array**	**49.20**	**345**	P	P	05 53 41.9	-0.3
	0.4nm,0.5s,baz=167,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.13**	**328**	P	P	05 54 46.6	+0.3
	0.4nm,0.4s,baz=121,slow=8.6,SNR=6.0						

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*CSEM **30** 05:49:32.7±0.9, 3866N×2843W, h18km±9km, ML1.4, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0, After PDA*
*PDA **30** 05:49:32.7±0.9, 3866N×2843W, h18km±9km, MD2.8, ML1.4, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0*
SVSA 30 05:49:32.7±0.9, 3866N×2843W, h18km±9km, MD2.8, ML1.4, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.15**	**178**	*e*S	Sg	05 49 39.1	-0.8
ROSA	**Rosais**	**0.16**	**66**	*i*P	Pg	05 49 36.2	-0.9
ROSA				*e*S	Sg	05 49 39.3	-0.8
ROSA	**Rosais**	**0.16**	**66**	*e*S	Sg	05 49 39.3	-0.8
PTEI	**Pico do Teixo**	**0.17**	**160**	*e*S	Sg	05 49 39.5	-0.8
PTEI							
	16nm,0.1s						
PCND	**Candelaria**	**0.19**	**188**	*e*P	Pg	05 49 37.0	-0.5
PCND				*e*S	Sg	05 49 40.0	-0.7
PCND							
	23nm,0.1s						
PAMA	**Santo Amaro**	**0.20**	**83**	*e*S	Sg	05 49 40.4	-0.6
PAMA							
	23nm,0.1s						
HOR	**Horta**	**0.20**	**231**	*i*P	Pg	05 49 36.6	-1.1
HOR				*e*S	Sg	05 49 40.1	-1.0
HOR	**Horta**	**0.20**	**231**	*e*S	Sg	05 49 40.1	-1.0
PCED	**Cedros**	**0.21**	**263**	*e*P	Pg	05 49 37.4	-0.5
PCED				*e*S	Sg	05 49 40.1	-1.3
PCED							
	57nm,0.2s						
PCED	**Cedros**	**0.21**	**263**	*e*P	Pg	05 49 37.4	-0.5
PCED				*e*S	Sg	05 49 40.1	-1.3
PBOI	**Pico dos Bois**	**0.22**	**169**	*e*S	Sg	05 49 40.7	-0.9
PBOI							
	17nm,0.1s						
CALA	**Caldeira**	**0.23**	**251**	*e*P	Pg	05 49 37.3	-0.7
CALA				*e*S	Sg	05 49 40.8	-0.9
PMAN	**Manadas**	**0.27**	**95**	*e*S	Sg	05 49 41.3	-1.5
PMAN							
	14nm,0.1s						
SRBC	**Serra Branca**	**0.49**	**39**	*e*P	Pg	05 49 41.4	-1.2

IDC 30 05:53:41.5±57.0, 1610S×17469W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/13, mbtmp4.0/3, Error ellipse: s-maj=1077.0km s-min=177.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.61**	**240**	P	P	06 01 39.6	+0.2
	0.6nm,0.4s,baz=104,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**48.48**	**257**	P	P	06 02 26.3	+0.4
	0.5nm,0.3s,baz=94,slow=7.2,SNR=35						
ASAR	**Alice Springs**	**48.71**	**252**	P	P	06 02 28.1	+0.4
	2.5nm,0.6s,baz=88,slow=8.7,SNR=35						

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*NEIC **30** 06:07:16.1, 1832N×6384W, h100km, MD3.5(RSPR), After RSPR.*
RSPR 30 06:07:16.1, 1832N×6384W, h100km±1km, MD3.5/6, MD3.5/6, 7C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.74**	**278**	⇑*e*P	Pn	06 07 33.8	-0.2
TBVI				*e*S	Sn	06 07 46.9	-0.5
CDVI	**St. Croix**	**1.04**	**238**	⇑*e*P	Pn	06 07 36.5	-0.5
STVI	**Saint Thomas**	**1.06**	**272**	⇑*e*P	Pn	06 07 37.2	0.0
STVI				*e*S	Sn	06 07 52.9	-0.1
MTP	**Monte Pirata**	**1.64**	**263**	⇑*e*P	Pn	06 07 43.6	-0.5
MTP				*e*S	Sn	06 08 05.3	-0.1
CBYP	**Canovanas**	**1.92**	**269**	⇑*e*P	Pn	06 07 47.1	-0.5
CBYP				*e*S	Sn	06 08 11.2	-0.4
HUMP	**Col San Antoni**	**1.92**	**265**	⇑*e*P	Pn	06 07 47.2	-0.4
HUMP				*e*S	Sn	06 08 11.8	+0.1
CPD	**Cerro la Pandu**	**1.99**	**262**	⇑*e*P	Pn	06 07 48.0	-0.5
CPD				*e*S	Sn	06 08 13.6	+0.3

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*ISCJB **30** 06:14:19.8±0.7, 4483N±006×14803E±009, h119km±4km, mb4.1/17, Error ellipse: s-maj=11.8km s-min=7.6km az=78.4*
*SKHL **30** 06:14:19.5±2.3, 4482N×14827E, h108km±5km, mb5.1/2, msh5.3/1*
*MOS **30** 06:14:19.7±2.7, 4529N×14780E, h119km, mb3.8/7, Error ellipse: s-maj=20.3km s-min=13.5km az=112.3*
*IDC **30** 06:14:24.3±2.9, 4497N×14775E, h143km±27km, mb3.5/11, mb1 3.7/12, mb1mx3.5/23, mbtmp3.9/12, Error ellipse: s-maj=26.2km s-min=16.8km az=178.0*
*JMA **30** 06:14:24.5±0.7, 4449N×14789E, h116km, M3.9*
ISC 30 06:14:20.8±0.6, 4482N±006×14805E±009, h113km±4km, n50, σ1§28/60, mb4.1/17, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.43**	**342**	⇓*i*P	**Pn**	**06 14 36.0**	**-1.6**
KUR				*i*P		06 14 36.0	
KUR				AMB	AMB	06 14 36.4	
	4μm,1.0s						
KUR				AMB	AMB	06 14 36.5	
	330nm,0.5s						
KUR				AMB	AMB	06 14 36.5	
	530nm,0.5s						
KUR				AMB	AMB	06 14 36.5	
	2μm,0.5s						
KUR				*i*S	**Sn**	**06 14 48.8**	**-1.3**
KUR				A		06 14 49.0	
	5μm,1.0s						
KUR				A		06 14 49.0	
	10μm,1.0s						
KUR				A		06 14 49.8	
	2μm,0.5s						
KUR				A		06 14 49.8	
	3μm,0.5s						
KUR	**Kuril'sk**	**0.43**	**342**	k *i*PN	**Pn**	**06 14 36.0**	**-1.6**
KUR				*i*S	**Sn**	**06 14 48.8**	**-1.3**
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				pmax	pmax		
	comp=N,330nm,0.5s						
KUR				pmax	pmax		
	comp=E,530nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
KUR				smax			
	comp=N,5μm,1.0s						
KUR				smax			
	comp=E,10μm,1.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'

YSS			A			06 16 17.0	
	comp=E,50nm,1.0s						
JWK2	**Keihoku**	**4.39**	**279**	P	**Pn**	**06 15 28.2**	**+2.8**
JNBK	**Urakawa-nobuka**	**4.61**	**238**	P	**Pn**	**06 15 28.1**	**-0.3**
JNBK				*e*S	**Sn**	**06 16 17.3**	**-3.7**
JKB	**Kayabe**	**5.90**	**243**	P	**Pn**	**06 15 45.3**	**-0.5**
JOT	**Ohata**	**6.17**	**239**	P	**Pn**	**06 15 48.3**	**-1.2**
JANG	**Nango**	**6.56**	**230**	P	**Pn**	**06 15 53.2**	**-1.5**
JOSM	**Okushiri--Mats**	**6.82**	**249**	P	**Pn**	**06 15 58.2**	**0.0**
HIA	**Hailar**	**19.74**	**293**	*e*P	**P**	**06 18 33.6**	**-8.0**
TIXI	**Tiksi**	**28.45**	**347**	*e*P	**P**	**06 19 58.3**	**-6.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.4						
SONM	**Songino Array**	**28.67**	**291**	P	**P**	**06 20 05.6**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.4,baz=79,slow=9.2,SNR=3.7						
KDAK	**Kodiak Island**	**38.05**	**48**	P	**P**	**06 21 28.3**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.6,baz=57,slow=1.9,SNR=5.6						
MKAR	**Makanchi Array**	**44.67**	**297**	P	**P**	**06 22 20.9**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=75,slow=8.6,SNR=8.7						
MKAR	**Makanchi Array**	**44.67**	**297**	*i* P	**P**	**06 22 21.2**	**-1.1**
AAK	**Ala-Archa**	**51.48**	**295**	*e*P	**P**	**06 23 12.5**	**-2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
JIRN	**Jiri**	**51.53**	**273**	*e*P	**P**	**06 23 15.9**	**+0.9**
	comp=Z,5.2nm,0.2s,mb5.2						
GUN	**Gumba**	**51.60**	**273**	*e*P	**P**	**06 23 15.9**	**+0.3**
	comp=Z,16nm,0.4s						
KKN	**Kakani**	**52.10**	**273**	*e*P	**P**	**06 23 18.9**	**-0.3**
	comp=Z,6.9nm,0.5s,mb4.9						
DMN	**Daman**	**52.33**	**273**	*e*P	**P**	**06 23 21.5**	**+0.5**
	comp=Z,15nm,0.7s,mb5.1						
GKN	**Gorkha**	**52.43**	**274**	*e*P	**P**	**06 23 21.6**	**-0.1**
	comp=Z,7.9nm,0.5s,mb5.0						
KOLN	**Koldanda**	**53.31**	**274**	*e*P	**P**	**06 23 28.8**	**+0.7**
	comp=Z,7.8nm,0.6s,mb4.9						
JOF	**Joensuu**	**61.44**	**332**	*e*p	**P**	**06 24 21.7**	**-3.5**
KAF	**Kangasniemi**	**63.65**	**333**	*e*p	**P**	**06 24 32.2**	**-7.7**
FINES	**FINESS Array B**	**64.22**	**333**	P	**P**	**06 24 40.5**	**-3.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=46,slow=12,SNR=6.8						
FINES	**FINESS Array B**	**64.22**	**333**	*i* P	**P**	**06 24 40.7**	**-2.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**65.65**	**194**	P	**P**	**06 24 52.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=11,slow=6.8,SNR=4.9						
NVAR	**Mina Array Bea**	**66.47**	**59**	P	**P**	**06 24 59.5**	**+1.4**
	comp=Z,0.8nm,0.7s,mb3.7,baz=294,slow=7.0,SNR=7.0						
PDAR	**Pinedale Array**	**68.73**	**51**	P	**P**	**06 25 13.1**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.7,baz=281,slow=1.6,SNR=8.7						
NOA	**NORSAR Array B**	**68.84**	**339**	P	**P**	**06 25 09.7**	**-3.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=29,slow=2.9,SNR=3.3						
NOA	**NORSAR Array B**	**68.84**	**339**	P	**P**	**06 25 09.7**	**-3.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**77.27**	**314**	P	**P**	**06 26 02.5**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=77,slow=3.2,SNR=5.9						
BRTR	**Keskin Array B**	**77.27**	**314**	P	**P**	**06 26 02.6**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**78.33**	**331⇑**	*e*P	**P**	**06 26 08.8**	**+0.2**
GERES	**GERESS Array B**	**78.54**	**331**	P	**P**	**06 26 08.7**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.7,baz=31,slow=5.4,SNR=5.8						
GERES	**GERESS Array B**	**78.54**	**331**	P	**P**	**06 26 08.7**	**-1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**81.52**	**57**	P	**P**	**06 26 27.2**	**+1.5**
	comp=Z,1.7nm,0.5s,mb4.1,baz=290,slow=4.0,SNR=44						
TXAR	**Lajitas Array**	**81.52**	**57**	P	**P**	**06 26 27.2**	**+1.5**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						

ATH 30 06:43:09.1,3732N×2045E,h5km,MD3.8/7,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.86**	**7**	*e*PB	Pb	06 43 25.8	-0.8
RLS	**Riolos of Patr**	**1.09**	**47**	*e*PN	Pn	06 43 29.7	-1.3
RLS				*e*SB	Sb	06 43 45.7	+0.7
ITM	**Ithomi**	**1.19**	**96**	*e*PG	Pg	06 43 31.3	-0.6
EVR	**Evrytania**	**1.92**	**33**	*e*PN	Pn	06 43 45.4	+3.0
VLI	**Veliai**	**2.08**	**106**	*e*PG	Pg	06 43 47.7	-1.3
KYTH	**Kithira**	**2.32**	**116**	*e*PN	Pn	06 43 51.0	+3.1
THL	**Klokotos Trika**	**2.56**	**28**	*e*PN	Pn	06 43 54.4	+3.2

IDC 30 06:48:57.9±2.5,089S×12820E,h0km,mb3.2/2,mb1 3.3/3, mb1mx3.2/15,mbtmp3.1/3,ML3.1/1,Error ellipse: s-maj=199.4km s-min=27.4km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.87**	**163**	P	Pn	06 53 30.0	-2.1
	0.1nm,0.3s,baz=345,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**23.31**	**167**	P	P	06 54 08.4	+0.9
	0.3nm,0.7s,baz=345,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**62.17**	**326**	P	P	06 59 21.1	+0.1
	0.2nm,0.4s,baz=122,slow=7.6,SNR=4.5						

IDC 30 06:51:35.6±0.5,1403N×14465E,h179km±3km,mb3.4/9, mb1 3.6/10,mb1mx3.5/22,mbtmp4.0/10,Error ellipse: s-maj=22.9km s-min=12.8km az=79.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.49**	**154**	P	Pn	06 52 01.4	+1.2
	224nm,0.3s,baz=332,slow=4.2,SNR=86						
GUMO				S	Sn	06 52 20.3	+1.2
	76nm,0.3s,baz=138,slow=24,SNR=16						
JOW	**Kunigami**	**19.91**	**312**	P	P	06 55 55.3	+1.8
	2.5nm,0.3s,baz=146,slow=18,SNR=5.0						
MJAR	**Matsushiro Arr**	**23.15**	**347**	P	P	06 56 24.4	-1.7
	2.6nm,0.7s,baz=170,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**35.25**	**197**	P	P	06 58 12.9	-0.1
	0.5nm,0.5s,baz=21,slow=9.7,SNR=6.4						
FITZ	**Fitzroy Crossi**	**37.02**	**211**	P	P	06 58 27.5	-0.5
	0.9nm,0.5s,baz=45,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**38.91**	**196**	P	P	06 58 44.3	+0.5
	0.1nm,0.3s,baz=18,slow=9.3,SNR=2.9						
DZM	**Mont Dzumac**	**41.76**	**149**	P	P	06 59 08.1	+0.9
	4.1nm,0.6s,baz=295,slow=17,SNR=4.2						
SONM	**Songino Array**	**46.25**	**325**	P	P	06 59 43.6	+0.7
	0.7nm,0.6s,baz=133,slow=5.5,SNR=5.4						
MKAR	**Makanchi Array**	**61.03**	**316**	P	P	07 01 30.2	0.0
	2.1nm,0.6s,baz=91,slow=8.4,SNR=20						
NVAR	**Mina Array Bea**	**86.81**	**51**	P	P	07 04 00.8	+1.1
	0.8nm,0.4s,baz=269,slow=5.4,SNR=12						
PDAR	**Pinedale Array**	**91.81**	**45**	P	P	07 04 22.8	-0.4
	0.3nm,0.5s,baz=247,slow=3.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**134.44**	**305**	PKP	PKPdf	07 10 32.3	0.0
	0.5nm,0.9s,baz=24,slow=2.8,SNR=4.0						

*IDC **30** 07:38:35.7±0.3,241N×12677E,h0km,mb5.2/24, mb1 5.2/24,mb1mx5.2/25,mbtmp5.2/24,MS4.6/12, Ms1 4.6/12,ms1mx4.4/21,Error ellipse: s-maj=17.3km s-min=10.0km az=79.0*

*NEIC **30** 07:38:40.9±0.1,234N×12679E,h35km,mb5.4/54,Error ellipse: s-maj=5.5km s-min=3.3km az=72.0*

*ISCJB **30** 07:38:40.3±0.7,235N±003×12680E±004,h43km±6km, mb5.4/113,MS4.8/34,Error ellipse: s-maj=6.1km s-min=4.0km az=141.4*

*MOS **30** 07:38:42.5±1.2,240N×12680E,h62km,mb5.7/36, MS4.7/9,Error ellipse: s-maj=11.0km s-min=5.5km az=112.9*

*BJI **30** 07:38:43.6,239N×12668E,h74km,mB5.2,mb5.3,Ms4.8, Msz4.7*

*GCMT **30** 07:38:46.2±0.1,257N×12678E,h32km,MW5.5/85, Moment Tensor Solution. s85,c147; s83,c141; Duration: 1ŝ3 Moment tensor: Scale 1017Nm; M_{rr}1.73±.03; $M_{\theta\theta}$0.05±.02; $M_{\phi\phi}$-1.77±.02; $M_{r\theta}$0.07±.03; $M_{\theta\phi}$-0.16±.02; $M_{\phi r}$-0.59±.03; Best double couple: $M_0$1.85500×10^17^ NP1:ϕ_s9.00000°,δ36.00000°, λ96.00000°. NP2:ϕ_s181.00000°,δ54.00000°,λ85.00000°. Principal axes: T 1.8320, Plg80.0000°, Azm72.0000°; N 0.0520, Plg4.0000°, Azm184.0000°; P -1.8790, Plg9.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 07:38:44.1±0.6,235N±003×12686E±003,h62km±5km, h73km±3.0km:pP-P,n341,σ1ŝ09/323,mb5.4/113,18C-13D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.86**	**345⇑**	*e*P	**Sn**	**07 40 42.0**	**-7.5**
DAV	**Davao City (W)**	**4.86**	**345**	*e*Pn	**Pn**	**07 39 56.0**	**+1.4**
SWI	**Sorong**	**5.44**	**126**	P	**Pn**	**07 40 02.2**	**-0.3**
	407nm,0.8s						
AAI	**Ambon**	**6.15**	**167**	P	**Pn**	**07 40 15.8**	**+3.6**
	251nm,0.9s						
SCPH	**Surigao**	**7.50**	**350⇓**	*e*P	**Pn**	**07 40 32.0**	**+1.2**
PCI	**Palu**	**7.73**	**245**	P	**Pn**	**07 40 35.5**	**+1.6**
	375nm,0.9s						
TSM	**Tawau**	**9.17**	**282**	P	**Pn**	**07 40 53.3**	**-0.3**
KAPI	**Kappang**	**10.20**	**224**	Pn	**Pn**	**07 41 07.4**	**-0.2**
	340nm,0.5s,SNR=6.7						
KKM	**Kota Kinabalu**	**11.23**	**289**	P	**Pn**	**07 41 24.6**	**+2.9**
KKM	**Kota Kinabalu**	**11.23**	**289**	*e*Pn	**Pn**	**07 41 24.2**	**+2.5**
KMMI	**Kalianget**	**15.90**	**234**	P	**Pn**	**07 42 26.2**	**+2.3**
	605nm,0.9s						
KAKA	**Kakadu**	**15.96**	**160**	*e*P	**Pn**	**07 42 21.2**	**-3.4**
	102nm,0.5s						
KSM	**Kuching**	**16.56**	**267**	*e*P	**Pn**	**07 42 34.6**	**+2.4**
KRKI	**Karangkates**	**17.76**	**234**	P	**Pn**	**07 42 52.5**	**+5.5**
	373nm,1.0s						
BJII	**Banjamegara**	**19.63**	**241**	P	**Pn**	**07 43 07.2**	**-2.2**
	67nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.36**	**183**	*e*P	**P**	**07 43 15.0**	**-0.4**
	52nm,0.6s						
FITZ				*e*S	**S**	**07 46 52.1**	**-8.1**
FITZ	**Fitzroy Crossi**	**20.36**	**183**	P	**P**	**07 43 15.3**	**-0.1**
	17nm,0.5s,baz=17,slow=11,SNR=47						
FITZ				S	**S**	**07 46 54.9**	**-5.3**
	7.2nm,0.9s,baz=138,slow=16,SNR=1.8						
GUMO	**Guam**	**21.02**	**57**	P	**P**	**07 43 21.8**	**-0.7**
	202nm,1.1s,mb5.4,baz=167,slow=6.7,SNR=3.6						
LEM	**Lembang**	**21.26**	**244**	P	**P**	**07 43 24.2**	**-0.9**
	116nm,1.1s,mb5.1						
CBJI	**Citeko**	**21.79**	**246**	P	**P**	**07 43 35.3**	**+4.5**
	250nm,0.9s,mb5.6						
NACB	**Ninganchiao**	**22.28**	**347**	*e*P	**P**	**07 43 33.5**	**-2.6**
YHNB	**Yeheng**	**22.81**	**347**	*e*P	**P**	**07 43 40.9**	**-0.7**
WRAB	**Tennant Creek**	**23.34**	**162**	P	**P**	**07 43 45.0**	**-1.9**
	874nm,0.4s,mb6.5,SNR=59						
WRAB	**Tennant Creek**	**23.34**	**162**	*e*P	**P**	**07 43 45.4**	**-1.5**
WRA	**Warramunga Arr**	**23.34**	**162**	P	**P**	**07 43 45.2**	**-1.7**
	65nm,0.7s,mb5.2,baz=342,slow=10,SNR=155						
WRA				PcP	PcP	07 47 33.1	+1.0
	5.2nm,0.5s,baz=330,slow=2.3,SNR=6.1						
WRA				S	**S**	**07 47 52.7**	**-2.2**
	2.0nm,0.9s,baz=333,slow=18,SNR=2.7						
WB2	**Warramunga Arr**	**23.34**	**162⇑**	*i* P	**P**	**07 43 45.2**	**-1.8**
WB2				*e*PCP	PcP	07 47 34.3	+2.2
WB2				*e*S	**S**	**07 47 50.3**	**-4.6**
PMG	**Port Moresby**	**23.36**	**120**	P	**P**	**07 43 45.7**	**-1.4**
	13nm,0.7s,mb4.5,baz=347,slow=14,SNR=4.1						
PMG	**Port Moresby**	**23.36**	**120**	*d* P	**P**	**07 43 47.8**	**+0.7**
PMG	**Port Moresby**	**23.36**	**120**	*e*P	**P**	**07 43 46.2**	**-0.8**
	33nm,0.8s,mb4.8						
QIZ	**Qiongzhong**	**23.50**	**316**	P	**P**	**07 43 46.0**	**-2.3**
QIZ				AP		07 44 02.0	
QIZ				XP	sP	07 44 11.3	+1.2
QIZ				S	**S**	**07 47 57.0**	**-0.4**
QIZ				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,200nm,4.6s						
QIZ				LR	LR		
	comp=N,1μm,19.8s						
QIZ				LR	LR		
	comp=Z,2μm,21.4s						
QIZ	**Qiongzhong**	**23.50**	**316**	*e*P	**P**	**07 43 47.7**	**-0.6**
	comp=Z,86nm,1.4s,mb5.0						
KGM	**Kluang**	**23.52**	**270**	P	**P**	**07 43 49.0**	**+0.4**
QZH	**Quanzhou**	**23.83**	**341**	*e*P	**P**	**07 43 46.5**	**-4.9**
QZH				LR	LR		
	comp=Z,12μm,27.3s						
JOW	**Kunigami**	**24.38**	**3**	P	**P**	**07 43 56.0**	**-0.4**
	comp=Z,219nm,1.0s,mb5.5,baz=199,slow=7.5,SNR=16						
MBWA	**Marble Bar**	**24.39**	**196**	P	**P**	**07 43 58.0**	**+1.6**
	SNR=6.4						
MBWA	**Marble Bar**	**24.39**	**196**	*e*P	**P**	**07 43 56.4**	**0.0**
	comp=Z,35nm,0.7s,mb4.9						
GZH	**Guangzhou**	**24.42**	**329**	P	**P**	**07 43 58.3**	**+1.5**
GZH				LR	LR		
	comp=N,1μm,12.7s						
GZH				LR	LR		
	comp=E,1μm,19.0s						
GZH				LR	LR		
	comp=Z,3μm,24.2s						
IPM	**Ipoh**	**25.87**	**275**	P	**P**	**07 44 09.8**	**-0.1**
KULM	**Kulim**	**26.31**	**277**	*e*P	**P**	**07 44 12.8**	**-1.1**
KULM				*e*PcP	PcP	07 47 40.6	+1.9
SNG	**Songkhla**	**26.58**	**281**	P	**P**	**07 44 19.0**	**+2.7**
AS31	**Alice Springs**	**26.75**	**166**	*e*P	**P**	**07 44 17.3**	**-0.6**
AS31				*e*PcP	PcP	07 47 41.1	+1.4
AS31				*e*ScP	ScP	07 51 16.0	+1.6
ASAR	**Alice Springs**	**26.76**	**166**	P	**P**	**07 44 16.6**	**-1.4**
	comp=Z,6.0nm,0.5s,mb4.4,baz=334,slow=6.3,SNR=69						
ASAR				PcP	PcP	07 47 41.0	+1.4
	comp=Z,13nm,0.8s,baz=341,slow=1.9,SNR=9.5						
ASAR				S	**S**	**07 48 51.8**	**+2.5**
	comp=Z,2.2nm,0.9s,baz=356,slow=21,SNR=2.9						
ASAR				ScP	ScP	07 51 21.1	+6.7
	comp=Z,1.2nm,0.7s,baz=332,slow=2.7,SNR=4.1						
ASAR	**Alice Springs**	**26.76**	**166**	P	**P**	**07 44 16.6**	**-1.3**
ASAR						07 47 41.1	
ASAR				S	**S**	**07 48 51.8**	**+2.5**
ASPA	**Alice Springs**	**26.76**	**166**	*e*P	**P**	**07 44 17.3**	**-0.6**
ASPA				*e*PCP	PcP	07 47 41.1	+1.4
ASPA				*e*SCP	ScP	07 51 16.0	+1.6
KKTK	**Khon Kaen**	**27.43**	**302**	P	**P**	**07 44 23.0**	**-1.0**
	comp=Z,309nm,0.5s,mb6.1						
PSI	**Prapat**	**27.91**	**272**	P	**P**	**07 44 27.3**	**-0.9**
	comp=Z,19nm,0.9s,mb4.7,baz=86,slow=3.5,SNR=11						
CBIJ	**Chichi jima**	**28.65**	**29**	P	**P**	**07 44 34.2**	**-0.6**
	comp=Z,97nm,0.9s,mb5.5,baz=264,slow=9.2,SNR=6.3						
CBIJ				LR	LR	07 55 09.4	
	comp=Z,1μm,20.5s,baz=209,slow=35						
SSE	**Sheshan**	**29.09**	**350**	P	**P**	**07 44 42.0**	**+3.3**
SSE				AP	pP	07 45 00.5	+6.7
SSE				XP	sP	07 45 09.0	+8.0
SSE				S	**S**	**07 49 30.0**	**+4.0**
SSE				AMB	AMB		
	comp=Z,71nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,303nm,12.0s						
SSE				LR	LR		
	comp=N,791nm,25.0s						
SSE				LR	LR		
	comp=E,526nm,25.0s						
SSE				LR	LR		
	comp=Z,891nm,25.0s						
SSE	**Sheshan**	**29.09**	**350**	P	**P**	**07 44 42.1**	**+3.4**
	comp=Z,71nm,0.7s,mb5.5						
SSE				pP	pP	07 45 00.6	+6.8
SSE				sP	sP	07 45 09.1	+8.1
SSE				S	**S**	**07 49 29.9**	**+3.9**
SSE				LR	LR		
	comp=Z,890nm,25.0s						
CTA	**Charters Tower**	**29.32**	**140**	*e*P	**P**	**07 44 41.3**	**+0.5**
	comp=Z,20nm,1.1s,mb4.8						
CTA				*e*PCP	PcP	07 47 48.4	+2.4
CTA				*e*S	**S**	**07 49 19.4**	**-10**
CTA	**Charters Tower**	**29.32**	**140**	P	**P**	**07 44 40.8**	**0.0**
	comp=Z,22nm,0.9s,mb4.9,baz=324,slow=11,SNR=15						
CTA				PcP	PcP	07 47 47.8	+1.9
	comp=Z,13nm,0.9s,baz=270,slow=5.6,SNR=4.8						
CTA	**Charters Tower**	**29.32**	**140**	*e*P	**P**	**07 44 41.3**	**+0.5**
CTA				*e*		07 47 48.4	
CTA				pmax	pmax		
	comp=Z,20nm,1.1s						
CTAO	**Charters Tower**	**29.32**	**140**	*e*P	**P**	**07 44 41.2**	**+0.4**
CTAO				*e*		07 47 45.9	
CTAO				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.2						
CTAO	**Charters Tower**	**29.32**	**140**	*e*P	**P**	**07 44 41.2**	**+0.4**
	comp=Z,68nm,1.4s,mb5.2						
CTAO				*e*PcP	PcP	07 47 45.9	-0.1
NST	**Nakhon Sawan**	**29.47**	**298**	P	**P**	**07 44 41.1**	**-1.0**
NJ2	**Nanjing**	**30.49**	**347**	*e*P	**P**	**07 44 52.3**	**+1.2**
NJ2				AP	pP	07 45 10.0	+3.8
NJ2				XP	sP	07 45 19.0	+5.5
NJ2				PP	PP	07 45 55.5	-5.3
NJ2				S	**S**	**07 49 47.0**	**-1.0**
NJ2				XS	sS	07 50 18.0	+4.3
NJ2				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,650nm,4.5s						
NJ2				LR	LR		
	comp=N,4μm,25.7s						
NJ2				LR	LR		
	comp=E,790nm,18.3s						
NJ2				LR	LR		
	comp=Z,2μm,20.0s						
GYA	**Guiyang**	**30.83**	**323⇑**	*i* P	**P**	**07 44 54.8**	**+0.7**
GYA				AP	pP	07 45 14.5	+5.3
GYA				XP	sP	07 45 22.8	+6.3
GYA				PP	PP	07 46 01.5	-3.1
GYA				PPP		07 46 17.0	
GYA				PCP	PcP	07 47 52.5	+2.6
GYA				S	**S**	**07 49 55.5**	**+2.2**
GYA				XS	sS	07 50 25.3	+6.2
GYA				SCP	ScP	07 51 27.5	+0.3
GYA				PCS	PcS	07 51 35.3	+1.4
GYA				SCS	ScS	07 55 23.0	-1.0
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,250nm,4.9s						
BDT	**Bhumibol Dam**	**31.11**	**300**	P	**P**	**07 44 56.5**	**-0.1**
CM31	**Chiang Mai Arr**	**31.69**	**302**	*e*P	**P**	**07 45 01.8**	**0.0**
	comp=Z,29nm,0.8s,mb5.2						
CHG	**Chiang Mai**	**31.85**	**303**	⇓P	**P**	**07 45 02.3**	**-0.8**
	comp=Z,67nm,0.7s,mb5.6						
CHTO	**Chiang Mai**	**31.85**	**303**	P	**P**	**07 45 02.6**	**-0.5**
	SNR=20						
CHTO	**Chiang Mai**	**31.85**	**303**	*e*P	**P**	**07 45 02.3**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,43nm,0.6s,mb5.5						
CHTO	**Chiang Mai**	**31.85**	**303**	*e*P	**P**	**07 45 02.3**	**-0.8**
	comp=Z,43nm,0.6s,mb5.5						
KMI	**Kunming**	**32.45**	**316**	P	**P**	**07 45 08.5**	**+0.2**
KMI				AP	pP	07 45 28.8	+5.3
KMI				XP	sP	07 45 38.0	+7.3
KMI				PP	PP	07 46 19.3	-3.3
KMI				PPP		07 46 32.3	
KMI				S	**S**	**07 50 10.0**	**-8.6**
KMI				XS	sS	07 50 43.3	-1.1
KMI				SS	SS	07 52 13.0	-27
KMI				SSS		07 52 46.5	
KMI				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.0						
KMI				AMB	AMB		
	comp=Z,107nm,4.0s						
KMI				LR	LR		
	comp=N,711nm,21.7s						
KMI				LR	LR		
	comp=E,927nm,22.5s						
KMI				LR	LR		
	comp=Z,1μm,23.6s						
KMI	**Kunming**	**32.45**	**316**	P	**P**	**07 45 08.5**	**+0.2**
KMI				*PP	pP	07 45 28.8	+5.3
KMI						07 46 19.3	
KMI				PPP		07 46 32.2	
KMI				S	**S**	**07 50 10.1**	**-8.5**
KMI				SS	SS	07 52 13.0	-27
KMI				SSS		07 52 46.5	
KMI				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1μm,23.6s						
KMI	**Kunming**	**32.45**	**316**	P	**P**	**07 45 08.5**	**+0.2**
	comp=Z,17nm,0.6s,mb5.0						
KMI				pP	pP	07 45 28.8	+5.3
KMI				sP	sP	07 45 37.9	+7.2
KMI				PP	PP	07 46 19.3	-3.3
KMI				PPP		07 46 32.2	
KMI				S	**S**	**07 50 10.1**	**-8.5**
KMI				sS	sS	07 50 43.3	-1.1
KMI				SS	SS	07 52 13.0	-27
KMI				SSS		07 52 46.5	
KMI				LR	LR		
	comp=Z,1μm,23.6s						
JHJ	**Hachijo jima 2**	**32.92**	**20**	LR	LR	07 57 33.2	
	comp=Z,605nm,19.7s,baz=207,slow=35						
FORT	**Forrest**	**32.97**	**178**	*e*P	**P**	**07 45 12.0**	**-0.9**
	comp=Z,92nm,0.7s,mb5.8						
FORT				*e*PCP	PcP	07 47 57.6	+1.9
KLBR	**Kellerberrin**	**34.85**	**194**	*e*P	**P**	**07 45 29.2**	**0.0**
	comp=Z,32nm,0.7s,mb5.4						
KLBR				*e*PCP	PcP	07 48 02.7	+1.6
TIA	**Tai'an**	**34.87**	**346**	P	**P**	**07 45 30.0**	**+0.6**
HNR	**Honiara**	**34.98**	**110**	*e*P	**P**	**07 45 29.5**	**-0.9**
HNR				pmax	pmax		
	comp=Z,34nm,0.4s,mb5.6						
HNR	**Honiara**	**34.98**	**110**	*e*P	**P**	**07 45 29.5**	**-0.9**
	comp=Z,34nm,0.4s,mb5.6						
MAJO	**Matsushiro**	**35.60**	**16**	*e*P	**P**	**07 45 34.4**	**-1.3**
MAJO				*e*		07 48 04.9	
MAJO				pmax	pmax		
	comp=Z,74nm,0.8s,mb5.7						
MAJO	**Matsushiro**	**35.60**	**16**	*e*P	**P**	**07 45 34.4**	**-1.3**
	comp=Z,74nm,0.8s,mb5.7						
MAJO				*e*PcP	PcP	07 48 04.9	+1.7
MAT	**Matsushiro**	**35.60**	**16**	P	**P**	**07 45 34.4**	**-1.3**
MAT				S	**S**	**07 51 10.0**	**+2.7**
MJAR	**Matsushiro Arr**	**35.60**	**16**	P	**P**	**07 45 34.3**	**-1.3**
	comp=Z,51nm,0.9s,mb5.5,baz=198,slow=8.3,SNR=92						
MJAR				PcP	PcP	07 48 05.2	+1.9
	comp=Z,9.5nm,0.8s,baz=182,slow=2.6,SNR=6.8						
MJAR				ScP	ScP	07 51 50.3	+6.4
	comp=Z,0.6nm,0.3s,baz=179,slow=2.7,SNR=4.8						
MJAR				LR	LR	07 59 26.2	
	comp=Z,963nm,21.8s,baz=200,slow=35						
MJAR	**Mats

BJT	**Baijiatuau**	**38.73 347**	*e*P	**P**	**07 46 02.1**	**0.0**
BJT			pmax	pmax		
comp=Z,129nm,1.0s						
BJT	**Baijiatuau**	**38.73 347**	*e*P	**P**	**07 46 02.1**	**-0.1**
comp=Z,129nm,1.0s,mb5.6						
BJI	**Beijing**	**38.75 347**	P	**P**	**07 46 01.5**	**-0.8**
BJI			AP	pP	07 46 21.3	+3.5
BJI			XP	sP	07 46 31.0	+6.1
BJI			S	**S**	**07 51 53.0**	**-2.1**
BJI			AMB	AMB		
comp=Z,81nm,0.8s,mb5.5						
BJI			AMB	AMB		
comp=Z,246nm,5.1s						
BJI			LR	LR		
comp=N,627nm,23.7s						
BJI			LR	LR		
comp=E,702nm,23.7s						
BJI			LR	LR		
comp=Z,1μm,26.9s						
BJI	**Beijing**	**38.75 347**	P	**P**	**07 46 01.4**	**-0.9**
BJI			*PP	pP	07 46 21.3	+3.5
BJI			S	**S**	**07 51 53.0**	**-2.1**
BJI			SS	SS	07 54 45.2	-2.6
BJI			pmax	pmax		
comp=Z,81nm,0.8s,mb5.5						
BJI			MLR	MLR		
comp=Z,1μm,26.9s						
BJI	**Beijing**	**38.75 347**	P	**P**	**07 46 01.4**	**-0.9**
comp=Z,81nm,0.8s,mb5.5						
BJI			pP	pP	07 46 21.3	+3.5
BJI			sP	sP	07 46 31.0	+6.1
BJI			S	**S**	**07 51 53.0**	**-2.1**
BJI			SS	SS	07 54 45.2	-2.6
BJI			LR	LR		
comp=Z,1μm,26.9s						
ADE	**Adelaide**	**38.75 164**	*e*P	**P**	**07 46 02.6**	**+0.2**
SNY	**Shenyang**	**39.41 356**	⇓P	**P**	**07 46 08.3**	**+0.5**
SNY			S	**S**	**07 52 07.5**	**+2.5**
SNY			AMB	AMB		
comp=Z,51nm,0.8s,mb5.3						
SNY			AMB	AMB		
comp=Z,319nm,7.2s						
SNY			LR	LR		
comp=E,662nm,19.8s						
SNY			LR	LR		
comp=Z,922nm,32.4s						
LZH	**Lanzhou**	**39.75 330**	*e*P	**P**	**07 46 10.0**	**-0.7**
LZH			AP	pP	07 46 26.5	+0.3
LZH			XP	sP	07 46 35.0	+1.7
LZH			PP	PP	07 47 46.5	+3.6
LZH			PCP	PcP	07 48 15.5	-0.5
LZH			SCP	ScP	07 51 56.0	-3.5
LZH			*e*S	**S**	**07 52 11.0**	**+0.9**
LZH			XS	sS	07 52 35.0	-1.4
LZH			SS	SS	07 55 01.3	-6.6
LZH			AMB	AMB		
comp=Z,97nm,1.5s,mb5.3						
LZH			AMB	AMB		
comp=Z,231nm,5.2s						
LZH			LR	LR		
comp=E,1μm,18.3s						
LZH			LR	LR		
comp=Z,4μm,19.9s						
LZH	**Lanzhou**	**39.75 330**	*e*P	**P**	**07 46 10.0**	**-0.7**
LZH			*PP	pP	07 46 26.6	+0.4
LZH			*SP	sP	07 46 34.9	+1.6
LZH					07 47 46.5	
LZH					07 48 15.5	
LZH			*e*S	**S**	**07 52 11.0**	**+0.9**
LZH			*SS	sS	07 52 35.0	-1.4
LZH			SS	SS	07 55 01.2	-6.7
LZH			pmax	pmax		
comp=Z,97nm,1.5s,mb5.3						
LZH			MLR	MLR		
comp=Z,4μm,19.9s						
LZH	**Lanzhou**	**39.75 330**	*e*P	**P**	**07 46 10.0**	**-0.7**
comp=Z,97nm,1.5s,mb5.3						
LZH			pP	pP	07 46 26.6	+0.4
LZH			sP	sP	07 46 34.9	+1.6
LZH			PP	PP	07 47 46.5	+3.6
LZH			PcP	PcP	07 48 15.5	-0.5
LZH			ScP	ScP	07 51 56.0	-3.5
LZH			*e*S	**S**	**07 52 11.0**	**+0.9**
LZH			sS	sS	07 52 35.0	-1.4
LZH			SS	SS	07 55 01.2	-6.7
LZH			LR	LR		
comp=Z,4μm,19.9s						
ARMA	**Armidale**	**40.26 146**	⇓*i*P	**P**	**07 46 15.6**	**+0.7**
HHC	**Hu-ho-hao-te**	**40.74 342**	*e*P	**P**	**07 46 19.0**	**+0.2**
HHC			AP	pP	07 46 37.8	+3.4
HHC			XP	sP	07 46 46.5	+5.0
HHC			PP	PP	07 47 58.0	+4.3
HHC			PCP	PcP	07 48 20.3	+1.1
HHC			S	**S**	**07 52 26.0**	**+1.1**
HHC			XS	sS	07 52 56.3	+5.1
HHC			SS	SS	07 55 25.0	-2.5
HHC			SCS	ScS	07 56 15.5	-2.7
HHC			AMB	AMB		
comp=Z,27nm,0.6s,mb5.0						
HHC			AMB	AMB		
comp=Z,336nm,4.5s						
HHC			LR	LR		
comp=N,1μm,24.1s						
HHC			LR	LR		
comp=E,821nm,26.9s						
HHC			LR	LR		
comp=Z,2μm,26.3s						
SHL	**Shillong**	**40.80 308**	*i*P	**P**	**07 46 18.0**	**-1.4**
SHL			*i*PCP	PcP	07 48 20.5	+1.1
SHL			*i*x	x	07 52 25.0	
SHL			*i*SCS	ScS	07 56 20.0	+1.4
VLA	**Vladivostok**	**40.84 6**	*c i*P	**P**	**07 46 19.9**	**+0.2**
CN2	**Changchun**	**41.29 358**	*e*P	**P**	**07 46 23.0**	**-0.4**
CN2			*e*AP	pP	07 46 41.5	+2.6
CN2			PCP	PcP	07 48 22.0	+1.0
CN2			*e*S	**S**	**07 52 33.0**	**-0.1**
CN2			AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.4						
CN2			AMB	AMB		
comp=Z,200nm,6.0s						
CN2			LR	LR		
comp=N,700nm,20.0s						
CN2			LR	LR		
comp=E,600nm,20.0s						
CN2			LR	LR		
comp=Z,800nm,22.0s						
MDJ	**Mudanjiang**	**42.16 3**	P	**P**	**07 46 31.3**	**+0.8**
MDJ			AP	pP	07 46 46.3	+0.2
MDJ			XP	sP	07 46 53.3	+0.1
MDJ			PP	PP	07 48 11.0	+2.0
MDJ			PCP	PcP	07 48 24.8	+1.0
MDJ			SCP	ScP	07 52 10.0	+1.0
MDJ			PCS	PcS	07 52 16.5	+0.8
MDJ			S	**S**	**07 52 46.5**	**+0.6**
MDJ			AMB	AMB		
comp=Z,117nm,1.1s,mb5.4						
MDJ			AMB	AMB		
comp=Z,236nm,6.3s						
MDJ			LR	LR		
comp=N,927nm,24.7s						
MDJ			LR	LR		
comp=E,475nm,23.8s						
MDJ			LR	LR		
comp=Z,1μm,27.4s						
MDJ	**Mudanjiang**	**42.16 3**	*e*P	**P**	**07 46 31.0**	**+0.6**
comp=Z,182nm,1.2s,mb5.6						
MDJ			*e*		07 46 54.8	
MDJ			*e*PcP	PcP	07 48 25.0	+1.1
CNB	**Canberra Magne**	**42.99 153**	*e*P	**P**	**07 46 37.9**	**+0.7**
comp=Z,32nm,0.9s,mb5.1						
TOO	**Toolangi**	**43.32 158**	*e*P	**P**	**07 46 40.9**	**+1.0**
comp=Z,18nm,1.4s,mb4.6						
TOO	**Toolangi**	**43.32 158**	*e*P	**P**	**07 46 40.9**	**+1.0**
TOO			pmax	pmax		
comp=Z,18nm,1.4s,mb4.6						
LSA	**Lhasa**	**43.45 312**	P	**P**	**07 46 42.8**	**+1.9**
LSA	**Lhasa**	**43.45 312**	*e*P	**P**	**07 46 41.5**	**+0.6**
LSA			pmax	pmax		
comp=Z,49nm,0.6s,mb5.4						
LSA	**Lhasa**	**43.45 312**	*e*P	**P**	**07 46 41.5**	**+0.6**
comp=Z,49nm,0.6s,mb5.4						
ASAJ	**Asahikawa**	**43.87 16**	P	**P**	**07 46 44.0**	**-0.3**
comp=Z,83nm,1.0s,mb5.4,baz=245,slow=17,SNR=16						
GTA	**Gaotai**	**44.34 330**	*e*P	**P**	**07 46 47.3**	**-0.8**
GTA			AP	pP	07 47 05.8	+2.0
GTA			XP	sP	07 47 15.0	+4.2
GTA			PP	PP	07 48 31.3	-1.1
GTA			PCP	PcP	07 48 33.5	+2.3
GTA			SCP	ScP	07 52 15.0	-2.8
GTA			PCS	PcS	07 52 23.3	-1.2
GTA			S	**S**	**07 53 13.8**	**-4.0**
GTA			XS	sS	07 53 45.5	+1.1
GTA			SS	SS	07 56 22.5	-16
GTA			AMB	AMB		
comp=Z,19nm,0.9s,mb4.8						
GTA			AMB	AMB		
comp=Z,102nm,4.2s						
GTA			LR	LR		
comp=N,1μm,26.6s						
GTA			LR	LR		
comp=E,1μm,28.1s						
GTA			LR	LR		
comp=Z,3μm,28.5s						
BOK	**Bokaro**	**44.98 302**	*e*P	**P**	**07 46 53.4**	**+0.2**
VIS	**Vishakhapatnam**	**45.35 293**	*e*P	**P**	**07 46 56.3**	**+0.2**
VIS			AMb	AMB	07 46 56.9	
comp=Z,51nm,1.2s,mb5.2						
PALK	**Pallekele**	**46.23 278**	*e*P	**P**	**07 47 03.1**	**0.0**
comp=Z,3.6nm,0.4s,mb4.7						
JIRN	**Jiri**	**46.29 307**	*e*P	**P**	**07 47 03.0**	**-0.5**
comp=Z,8.7nm,0.2s,mb5.3						
YSS	**Yuzh-Sakhalins**	**46.53 15**	⇓*i*P	**P**	**07 47 05.0**	**-0.4**
YSS			*e*		07 48 40.0	
YSS			pmax	pmax		
comp=Z,110nm,1.1s,mb5.7						
YSS			MLR	MLR		
comp=Z,900nm,17.0s						
YSS	**Yuzh-Sakhalins**	**46.53 15**	*e*P	**P**	**07 47 05.3**	**0.0**
comp=Z,113nm,1.1s,mb5.7						
GUN	**Gumba**	**46.64 307**	*e*P	**P**	**07 47 05.5**	**-0.7**
comp=Z,163nm,0.7s,mb6.0						
PKI	**Pulchoki**	**46.87 306**	*e*P	**P**	**07 47 06.5**	**-1.6**
comp=Z,40nm,0.8s,mb5.4						
KLR	**Kul'dur**	**46.89 4**	*e*P	**P**	**07 47 04.6**	**-3.6**
KLR			*e*S	SS	07 57 20.5	-1.2
KLR			pmax	pmax		
comp=E,36nm,1.0s						
KLR			pmax	pmax		
comp=Z,200nm,1.0s,mb6.0						
KKN	**Kakani**	**47.07 307**	*e*P	**P**	**07 47 08.6**	**-1.0**
comp=Z,64nm,0.7s,mb5.6						
DMN	**Daman**	**47.13 306**	*e*P	**P**	**07 47 08.9**	**-1.2**
comp=Z,114nm,0.9s,mb5.8						
HIA	**Hailar**	**47.13 354**	*e*P	**P**	**07 47 10.6**	**+0.5**
HIA			*e*		07 47 34.3	
HIA			pmax	pmax		
comp=Z,82nm,1.2s						
HIA	**Hailar**	**47.13 354**	*e*P	**P**	**07 47 10.6**	**+0.5**
comp=Z,82nm,1.2s,mb5.5						
HIA			*e*		07 47 34.3	
MDRS	**Chennai**	**47.31 286**	*ex*	x	07 47 21.9	
GKN	**Gorkha**	**47.67 307**	*e*P	**P**	**07 47 13.2**	**-1.1**
comp=Z,61nm,0.8s,mb5.7						
KOLN	**Koldanda**	**48.42 306**	*e*P	**P**	**07 47 18.9**	**-1.1**
comp=Z,150nm,0.7s,mb6.1						
ULN	**Ulaanbaatar**	**48.46 342**	P	**P**	**07 47 20.8**	**+0.5**
SNR=11						
ULN	**Ulaanbaatar**	**48.46 342**	⇑*e*P	**P**	**07 47 20.6**	**+0.3**
ULN	**Ulaanbaatar**	**48.46 342**	*e*P	**P**	**07 47 20.1**	**-0.2**
comp=Z,25nm,0.8s,mb5.3						
SONM	**Songino Array**	**48.64 342**	P	**P**	**07 47 21.6**	**-0.1**
comp=Z,21nm,0.8s,mb5.2,baz=157,slow=8.8,SNR=70						
ALBI	**Allahabad**	**48.98 302**	*e*P	**P**	**07 47 21.5**	**-2.9**
HYB	**Hyderabad**	**49.71 291**	*i*P	**P**	**07 47 29.0**	**-0.9**
HYB	**Hyderabad**	**49.71 291**	*e*P	**P**	**07 47 29.0**	**-0.9**
TRD	**Trivandrum**	**50.01 279**	*e*P	**P**	**07 47 30.9**	**-1.3**
CIT	**Chita**	**50.73 349**	*e*P	**P**	**07 47 39.0**	**+1.4**
CIT			*e*	pP	07 47 52.9	-0.7
ZAK	**Zakamensk**	**51.86 341**	*e*P	**P**	**07 47 44.0**	**-2.0**
ZAK			*e*		07 48 58.8	
BHPL	**Bhopal**	**52.14 298**	*e*P	**P**	**07 47 47.3**	**-0.9**
BHPL			AMb	AMB	07 47 49.6	
comp=Z,53nm,0.8s,mb5.5						
TLY	**Talaya**	**52.87 342**	P	**P**	**07 47 54.9**	**+1.4**
comp=Z,214nm,0.9s,mb6.1,SNR=16						
TLY	**Talaya**	**52.87 342**	P	**P**	**07 47 54.3**	**+0.8**
SNR=17						
TLY	**Talaya**	**52.87 342**	*e*P	**P**	**07 47 53.8**	**+0.3**
TLY			*e*S	**S**	**07 55 16.9**	**-0.9**
TLY			*e*PS		07 55 39.2	
TLY			pmax	pmax		
comp=Z,44nm,1.2s,mb5.3						
TLY			MLR	MLR		
comp=Z,2μm,25.0s						
TLY	**Talaya**	**52.87 342**	*e*P	**P**	**07 47 53.9**	**+0.3**
comp=Z,29nm,0.8s,mb5.2						
AGRA	**Agra**	**52.90 303**	*e*P	**P**	**07 47 51.2**	**-2.5**
AGRA			AMb	AMB	07 47 54.5	
comp=Z,88nm,0.4s,mb6.0						
IRK	**Irkutsk**	**53.17 343**	*e*P	**P**	**07 47 56.1**	**+0.3**
IRK			pmax	pmax		
comp=Z,48nm,1.0s,mb5.4						
MOY	**Mondy**	**53.71 340**	*e*P	**P**	**07 48 00.4**	**+0.7**
MOY			pmax	pmax		
comp=Z,81nm,2.2s,mb5.3						
WMQ	**Urumqi**	**53.92 326**	P	**P**	**07 48 01.3**	**+0.1**
WMQ			AP	pP	07 48 18.0	+0.6
WMQ			XP	sP	07 48 26.0	+1.6
WMQ			PCP	PcP	07 49 06.0	0.0
WMQ			PP	PP	07 50 05.0	+2.1
WMQ			PPP		07 51 15.0	
WMQ			PCS	PcS	07 53 04.0	-1.3
WMQ			S	**S**	**07 55 31.0**	**-1.1**
WMQ			XS	sS	07 56 03.0	+3.7
WMQ			AMB	AMB		
comp=Z,39nm,1.0s,mb5.3						
WMQ			AMB	AMB		
comp=Z,190nm,3.7s						
WMQ			LR	LR		
comp=N,2μm,24.8s						
WMQ			LR	LR		
comp=E,2μm,24.8s						
WMQ			LR	LR		
comp=Z,2μm,25.6s						
SONA	**Sohna**	**53.95 304**	*e*P	**P**	**07 47 59.4**	**-2.1**
SONA			AMb	AMB	07 48 02.5	
comp=Z,69nm,1.2s,mb5.4						
NDI	**New Delhi**	**53.99 304**	*e*P	**P**	**07 48 00.5**	**-1.2**
NDI			AMb	AMB	07 48 01.4	
comp=Z,38nm,0.6s,mb5.5						
AYAN	**Aya Nagar**	**53.99 304**	*e*P	**P**	**07 47 59.4**	**-2.3**
AYAN			AMb	AMB	07 48 02.3	
comp=Z,37nm,1.0s,mb5.3						
KLP	**Kalpa**	**54.17 308**	*e*P	**P**	**07 48 02.9**	**-0.2**
KLP			AMb	AMB	07 48 11.8	
comp=Z,48nm,1.2s,mb5.3						
CLNS	**Chul'man**	**54.35 359**	*e*P	**P**	**07 48 02.6**	**-1.7**
CLNS			*e*		07 49 06.8	
CLNS			pmax	pmax		
comp=Z,86nm,0.9s,mb5.7						
CLNS			pmax	pmax		
comp=N,46nm,1.0s						
CLNS			pmax	pmax		
comp=E,16nm,0.8s						
KHET	**Khetri**	**54.96 303**	*ex*	**P**	**07 48 03.9**	**-4.9**
KHET			AMb	AMB	07 48 06.5	
comp=Z,64nm,1.2s,mb5.5						
AJM	**Ajmer**	**55.47 301**	*e*P	**P**	**07 48 10.0**	**-2.5**
AJM			*e*P		07 48 11.9	
BOD	**Bodaibo**	**56.24 352**	*e*P	**P**	**07 48 16.9**	**-1.0**
BOD			pmax	pmax		
comp=Z,33nm,1.1s,mb5.3						
THN	**Thein Dam**	**56.50 308**	*ex*	**P**	**07 48 13.3**	**-6.5**
PET	**Petropavlovsk**	**56.94 22**	*e*P	**P**	**07 48 26.7**	**+3.8**
PET			*e*S	**S**	**07 56 19.9**	**+7.5**
PET			MLR	MLR		
comp=Z,300nm,20.0s						
MK31	**Makanchi Array**	**58.75 326**	*e*P	**P**	**07 48 34.5**	**-1.1**
MKAR	**Makanchi Array**	**58.75 326**	P	**P**	**07 48 34.6**	**-1.0**
comp=Z,25nm,0.5s,mb5.5,baz=120,slow=7.7,SNR=123						
MKAR			LR	LR	08 17 02.0	
comp=Z,548nm,20.6s,baz=114,slow=39						
MKAR			PKP2bc		08 18 17.8	
comp=Z,2.2nm,1.0s,baz=299,slow=1.6,SNR=7.5						
MKAR	**Makanchi Array**	**58.75 326**	P	**P**	**07 48 34.6**	**-1.0**
MKAR			LR	LR	08 17 01.9	
MKAR			⇑*e*		08 18 17.8	
KSH	**Kashi**	**59.11 316**	*e*P	**P**	**07 48 39.8**	**+1.7**
KSH			*e*AP	pP	07 49 00.0	+5.6
KSH			*e*XP	sP	07 49 08.8	+7.4
KSH			*e*PCP	PcP	07 49 28.0	+1.8
KSH			*e*PP	PP	07 50 53.0	+3.8
KSH			*e*SCP	ScP	07 53 20.0	-1.4
KSH			*e*PCS	PcS	07 53 29.3	+1.2
KSH			*e*S	**S**	**07 56 37.8**	**-2.8**
KSH			*e*PS		07 57 04.5	
KSH			*e*XS	sS	07 57 13.0	+4.8
KSH			*e*SCS	ScS	07 58 20.0	-2.6
KSH			*e*SS	SS	08 00 36.5	+1.0
KSH			AMB	AMB		
comp=Z,784nm,4.0s						
KSH			LR	LR		
comp=N,699nm,6.8s						
KSH			LR	LR		
comp=E,1μm,6.6s						
KSH			LR	LR		
comp=Z,7μm,25.5s						
YAK	**Yakutsk**	**59.57 2**	⇑*e*P	**P**	**07 48 40.1**	**-1.2**
YAK	**Yakutsk**	**59.57 2**	*e*P	**P**	**07 48 41.4**	**+0.1**
RPZ	**Rata Peaks**	**60.57 145**	LR	LR	08 14 50.3	
comp=Z,866nm,21.2s,baz=307,slow=36						
TKM2	**Tokmak 2**	**60.86 319**	P	**P**	**07 48 50.0**	**-0.1**
SNR=29						
KBK	**Karagaybulak**	**61.17 318**	P	**P**	**07 48 52.6**	**+0.5**
SNR=11						
UCH	**Uchtor**	**61.27 318**	P	**P**	**07 48 53.5**	**+0.7**
SNR=42						
AAK	**Ala-Archa**	**61.46 318**	P	**P**	**07 48 55.0**	**+0.9**
SNR=14						
AAK	**Ala-Archa**	**61.46 318**	P	**P**	**07 48 53.5**	**-0.6**
comp=Z,80nm,0.8s,mb5.9,SNR=6.5						
AAK	**Ala-Archa**	**61.46 318**	P	**P**	**07 48 53.9**	**-0.3**
SNR=9.4						
AAK	**Ala-Archa**	**61.46 318**	⇑*e*P	**P**	**07 48 53.4**	**-0.7**
AAK			pmax	pmax		
comp=Z,13nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**61.46 318**	*e*P	**P**	**07 48 53.0**	**-1.2**
comp=Z,16nm,0.9s,mb5.2						
FRU	**Bishkek**	**61.47 319**	*e*P	**P**	**07 48 55.0**	**+0.8**
FRU			*e*	pP	07 49 12.0	+1.4
FRU					07 49 21.0	
FRU			MLR	MLR		
comp=Z,1μm,26.0s						
USP	**Ospenovka**	**61.73 319**	P	**P**	**07 48 55.6**	**-0.3**
SNR=53						
AML	**Almayashu**	**61.78 317**	P	**P**	**07 48 56.9**	**+0.6**
SNR=30						
ZAL	**Zalesovo**	**61.87 333**	P	**P**	**07 48 55.7**	**-1.2**
comp=Z,6.8nm,0.6s,mb5.0,baz=345,slow=5.8,SNR=20						
ZAL	**Zalesovo**	**61.87 333**	P	**P**	**07 48 55.7**	**-1.2**
EKS2	**Erkin-Say**	**61.95 318**	P	**P**	**07 48 57.7**	**+0.3**
SNR=21						
KURK	**Kurchatov**	**62.96 328**	P	**P**	**07 49 03.3**	**-0.9**
comp=Z,1μm,0.6s						
SEY	**Seymchan**	**63.34 13**	⇑*e*P	**P**	**07 49 08.4**	**+1.7**
AMKA	**Amchitka**	**65.58 33**	*e*P	**P**	**07 49 21.3**	**0.0**
BRVK	**Borovoye**	**68.61 327**	P	**P**	**07 49 40.5**	**0.0**
comp=Z,269nm,0.9s,mb6.2,SNR=25						
BRVK	**Borovoye**	**68.61 327**	P	**P**	**07 49 40.4**	**-0.2**
SNR=20						
BRVK	**Borovoye**	**68.61 327**	*e*P	**P**	**07 49 40.1**	**-0.4**
BRVK			pmax	pmax		
comp=Z,41nm,0.9s,mb5.4						
BRVK	**Borovoye**	**68.61 327**	*e*P	**P**	**07 49 40.1**	**-0.4**
comp=Z,41nm,0.9s,mb5.4						
CHKZ	**Chkalovo**	**68.71 328**	*e*P	**P**	**07 49 40.4**	**-0.7**
CHKZ			pmax	pmax		
comp=Z,23nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**68.71 328**	*e*P	**P**	**07 49 40.4**	**-0.8**
comp=Z,23nm,0.9s,mb5.1						
TIXI	**Tiksi**	**69.21 1**	*e*P	**P**	**07 49 43.9**	**-0.3**
ZRNK	**Zerenda**	**69.26 327**	*e*P	**P**	**07 49 43.9**	**-0.6**
ZRNK			pmax	pmax		
comp=Z,38nm,0.8s,mb5.4						
ZRNK	**Zerenda**	**69.26 327**	*e*P	**P**	**07 49 43.9**	**-0.6**
comp=Z,38nm,0.8s,mb5.4						
CASY	**Casey**	**69.47 187**	*e*P	**P**	**07 49 45.0**	**-0.9**
comp=Z,9.5nm,0.6s,mb4.9						
JMDO	**Jabal Madar**	**69.48 293**	P	**P**	**07 49 45.3**	**-0.6**
SNR=7.0						
BILL	**Bilibino**	**70.84 15**	*e*P	**P**	**07 49 54.5**	**+0.2**
BILL			pmax	pmax		
comp=Z,13nm,1.0s,mb4.8						
BILL	**Bilibino**	**70.84 15**	*e*P	**P**	**07 49 54.3**	**+0.1**
comp=Z,20nm,0.8s,mb5.1						
ASHO	**Ashiyiah**	**71.59 295**	⇓P	**P**	**07 49 59.1**	**+0.3**
SNR=6.9						
MIR	**Mirnyy**	**72.86 193**	*d i*P	**P**	**07 50 08.5**	**+2.2**
MIR			*i*	pP	07 50 21.0	-2.2
MIR			*i*		07 50 35.0	
MIR			pmax	pmax		
comp=Z,300nm,1.0s,mb6.2						
WHFO	**Wadi Hawf**	**73.19 288**	P	**P**	**07 50 07.7**	**-0.6**
SNR=5.3						
SVE	**Sverdlovsk**	**75.19 329**	⇑*e*P	**P**	**07 50 19.0**	**-1.0**
SVE			pmax	pmax		
comp=Z,170nm,1.0s,mb5.9						
RAR	**Rarotonga**	**75.39 112**	LR	LR	08 17 27.8	
comp=Z,457nm,20.0s,baz=288,slow=31						
ARU	**Arti**	**76.16 328**	⇓*i*P	**P**	**07 50 24.8**	**-0.7**
ARU			*e*		07 50 47.1	
ARU			*e*		07 53 16.6	
ARU			*e*PPP		07 55 01.1	
ARU			*e*S	S	08 00 02.0	-2.7
ARU			*e*SS	SS	08 04 55.8	-3.2
ARU	**Arti**	**76.16 328**	*e*P	**P**	**07 50 24.7**	**-0.8**
comp=Z,74nm,0.8s,mb5.7						
ORR	**Orenburg**	**77.10 323**	P	**P**	**07 50 30.7**	**-0.1**
ORR			pmax	pmax		
comp=Z,160nm,0.9s,mb6.0						
ORR			MLR	MLR		
comp=Z,760nm,27.0s						
SDPT	**Sand Point**	**78.26 34**	*e*P	**P**	**07 50 37.5**	**+0.3**
comp=Z,149nm,0.7s,mb6.0						
MAK	**Makhachkala**	**80.61 313**	*e*P	**P**	**07 50 50.2**	**+0.2**
MAK			*i* *PP	pP	07 51 05.6	-1.5
MAK			*i* S	S	08 00 52.0	-0.3
MAK			*i*		08 01 00.7	
MAK			pmax	pmax		
comp=Z,298nm,1.1s,mb6.1						
SVW2	**Sparrevohn**	**81.94 29**	*e*P	**P**	**07 50 58.1**	**+1.0**
VNDA	**Vanda**	**82.05 173**	P	**P**	**07 50 57.4**	**-0.3**
comp=Z,25nm,0.7s,mb5.3,baz=314,slow=6.1,SNR=169						
VNDA	**Vanda**	**82.05 173**	*e*P	**P**	**07 50 57.6**	**0.0**
VNDA			pmax	pmax		
comp=Z,43nm,1.0s						
VNDA	**Vanda**	**82.05 173**	*e*P	**P**	**07 50 57.6**	**-0.1**
comp=Z,43nm,1.0s,mb5.3						
GNI	**Garni**	**82.46 310**	*e*P	**P**	**07 51 00.5**	**+0.7**
GNI			pmax	pmax		
comp=Z,29nm,0.8s						
GNI	**Garni**	**82.46 310**	*e*P	**P**	**07 51 00.5**	**+0.7**
comp=Z,29nm,0.8s,mb5.3						
SEMD	**Semdilli**	**82.48 307**	*e*P	**P**	**07 51 00.2**	**+0.3**
MAW	**Mawson**	**82.52 200**	*e*P	**P**	**07 51 00.4**	**+0.3**
comp=Z,16nm,1.0s,mb5.0						
MAW	**Mawson**	**82.52 200**	P	**P**	**07 51 00.8**	**+0.8**
comp=Z,18nm,0.9s,mb5.1,baz=52,slow=6.4,SNR=46						
MAW			LR	LR	08 24 17.7	
comp=Z,407nm,21.2s,baz=65,slow=33						
SBA	**Scott Base**	**82.96 172**	*e*P	**P**	**07 51 02.3**	**-0.1**
SBA			pmax	pmax		
comp=Z,51nm,1.3s,mb5.4						
SBA	**Scott Base**	**82.96 172**	*e*P	**P**	**07 51 02.3**	**-0.1**
comp=Z,51nm,1.3s,mb5.4						
KDAK	**Kodiak Island**	**82.98 32**	P	**P**	**07 51 03.0**	**+0.5**
comp=Z,427nm,0.7s,SNR=15						
KDAK	**Kodiak Island**	**82.98 32**	*e*P	**P**	**07 51 03.7**	**+1.2**
CLDR	**Caldiran**	**83.04 309**	*e*P	**P**	**07 51 04.7**	**+1.9**
HAKT	**HAKKARI**	**83.14 307**	*i*P	**P**	**07 51 04.2**	**+0.9**
CUKT	**Cukurca**	**83.21 307**	*e*P	**P**	**07 51 03.9**	**+0.3**
ZEI	**Tsey**	**83.24 313**	*e*P	**P**	**07 51 04.7**	**+0.9**
ZEI			pmax	pmax		
comp=Z,80nm,1.0s,mb5.7						
IMA2	**Indian Mountai**	**83.58 24**	*e*P	**P**	**07 51 06.6**	**+1.0**
SIRT	**Sirnak**	**84.14 307**	*e*P	**P**	**07 51

PPT eLR LR 08 17 44.9
comp=Z,1μm,25.5s
PPT Papeete 84.57 108 LR LR 08 25 37.9
comp=Z,405nm,18.6s,baz=284,slow=33
BCA Borcka 84.88 311 *eP* **P 07 51 12.1 -0.1**
ERZM Erzurum 85.04 310 *i P* **P 07 51 14.6 +1.6**
EZM Erzurum 85.04 310 *eP* **P 07 51 14.9 +1.9**
BEST Besiri 85.08 308 *i P* **P 07 51 14.8 +1.7**
PMR Palmer 85.09 29 *eP* **P 07 51 13.5 +0.3**
PMR pmax pmax
comp=Z,115nm,1.2s,mb5.9
PMR Palmer 85.09 29 *eP* **P 07 51 13.5 +0.3**
comp=Z,114nm,1.2s,mb5.9
TBI Tubuai 85.12 114 *eS* S 08 01 40.5 +2.3
comp=Z,207nm,24.2s
TBI eLR LR 08 18 06.7
comp=Z,985nm,25.2s
VRHR Novokhopersk 85.18 321 *eP* **P 07 51 13.9 +0.2**
VRHR pmax pmax
comp=Z,70nm,0.4s,mb6.1
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,20nm,0.5s
BNGL BINGOL 85.19 309 *i P* **P 07 51 15.8 +2.1**
MCK McKinley 85.33 26 *eP* **P 07 51 15.4 +1.0**
MARD Mardin 85.46 307 *i P* **P 07 51 16.1 +1.0**
SML Sawmill 85.48 28 *eP* **P 07 51 15.9 +0.8**
COLA College 85.88 25 *eP* **P 07 51 16.6 -0.5**
comp=E,3.6nm,0.7s,mb4.7
COLA ePP PP 07 54 36.5 -0.8
EZC Erzincan 86.23 310 *eP* **P 07 51 22.6 +3.7**
SOC Sochi 86.32 313*c i P* **P 07 51 19.7 +0.4**
SOC *e* 07 54 37.1
SOC *eS* S 08 01 36.1 -14
SOC pmax pmax
comp=Z,78nm,0.9s,mb5.9
SOC pmax pmax
comp=Z,108nm,1.1s,mb6.0
SOC MLR MLR
comp=Z,851nm,29.0s
PTK Pertek 86.56 309 *eP* **P 07 51 21.1 +0.6**
VORD Divnogorie 86.65 321 *eP* **P 07 51 20.3 -0.6**
VORD pmax pmax
comp=Z,50nm,1.5s,mb5.5
VORD pmax pmax
comp=N,9.0nm,1.0s
VORD pmax pmax
comp=E,30nm,1.2s
VRSR Storozhevoye 86.72 321 *eP* **P 07 51 21.7 +0.5**
VRSR pmax pmax
comp=Z,40nm,0.9s,mb5.7
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,50nm,1.0s
ELZG Elazig 86.88 308 *i P* **P 07 51 24.0 +1.9**
URFA Urfa 87.02 307 *eP* **P 07 51 22.9 +0.2**
MYA Malataya 87.32 308 *eP* **P 07 51 25.4 +1.3**
GRSN GIRESUNGRSN 87.41 311 *i P* **P 07 51 24.0 -0.6**
MOS Moscow 87.64 326 *eP* **P 07 51 24.3 -1.4**
MOS *e* 07 51 47.4
MOS MLR MLR
comp=Z,1μm,22.0s
MENT Mentasta 87.66 27 *eP* **P 07 51 26.8 +1.0**
ANN Anapa 87.95 315 *eP* **P 07 51 27.4 +0.2**
ANN *e* 08 01 57.0
ANN pmax pmax
comp=Z,216nm,1.1s,mb6.3
GZT Gaziantep 88.03 307 *i P* **P 07 51 28.6 +1.1**
OBN Obninsk 88.25 325⇑*eP* **P 07 51 28.0 -0.6**
OBN *e* 07 54 52.4
OBN *eS* S 08 02 06.7 -1.8
OBN *e*PS 08 03 11.8
OBN pmax pmax
comp=Z,97nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,300nm,20.0s
OBN Obninsk 88.25 325 *eP* **P 07 51 28.6 0.0**
comp=Z,65nm,0.8s,mb5.9
GAZ Gaziantep 88.31 307 *eP* **P 07 51 29.9 +1.0**
SVSK Karacayir 88.40 310 *eP* **P 07 51 29.4 +0.1**
KMRS Kahramanmaras 88.55 307 *eP* **P 07 51 29.4 -0.6**
EGAK Eagle 88.74 25 *eP* **P 07 51 31.1 +0.2**
comp=Z,12nm,0.9s,mb5.2
KVT Kavak 89.08 311 *eP* **P 07 51 33.6 +1.1**
COBT Iskenderun 89.10 306 *i P* **P 07 51 33.6 +1.0**
KOZT Kozan 89.40 307 *eP* **P 07 51 34.4 +0.4**
DAWY Dawson 89.55 26 *eP* **P 07 51 34.4 -0.3**
DAWY *e* pP 07 51 52.4 +0.3
KMBO Kilima Mbogo 89.65 269 P **P 07 51 37.4 +2.2**
comp=Z,18nm,1.0s,mb5.4,baz=47,slow=7.0,SNR=12
KMBO LR LR 08 32 27.3
comp=Z,131nm,18.5s,baz=93,slow=36
KMBO Kilima Mbogo 89.65 269 ⇓P **P 07 51 37.4 +2.2**
SNR=8.5
KMBO Kilima Mbogo 89.65 269 *eP* **P 07 51 36.7 +1.5**
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 89.65 269 *eP* **P 07 51 36.7 +1.6**
comp=Z,18nm,1.0s,mb5.4
CTKT Corum 90.06 310 *i P* **P 07 51 29.1 -8.0**
SIM Simferopol' 90.30 315 *eP* **P 07 51 39.0 +0.8**
SIM *eS* S 08 02 28.0 +0.4
SIM pmax pmax
comp=Z,37nm,0.6s,mb5.9
SIM smax
comp=E,38nm,0.4s
CDAG Cicekdag 90.43 309 *i P* **P 07 51 40.3 +1.5**
JOF Joensuu 90.45 333 *ep* **P 07 51 38.0 -0.9**
comp=E,3.1nm,0.5s,mb4.9
EIL Elat 90.51 300 *eP* **P 07 51 39.8 +0.6**
comp=E,177nm,0.7s,mb5.5
BR131 Keskin Array S 90.99 310 *eP* **P 07 51 41.6 +0.1**
comp=E,3.5nm,0.5s,mb5.0
BRTR Keskin Array B 90.99 310 P **P 07 51 40.6 -0.8**
comp=E,6.5nm,0.8s,mb5.0,baz=116,slow=5.0,SNR=28
BRTR PKKPbc PKKPbc 08 09 06.3 +1.4
comp=E,0.3nm,0.3s,baz=159,slow=3.7,SNR=3.6
BRTR Keskin Array B 90.99 310 *i P* **P 07 51 41.5 +0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BALT Daday 91.06 311 *i P* **P 07 51 42.0 +0.3**
SYO Syowa Base 91.19 201⇑*eP* **P 07 51 42.6 +0.2**
SYO Syowa Base 91.19 201⇑*ep*P pP 07 52 02.4 +2.7
KEV Kevo 91.22 340 *ep* **P 07 51 41.7 -0.8**
comp=Z,3.8nm,0.6s,mb4.9
KEV Kevo 91.22 340 *eP* **P 07 51 41.7 -0.8**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
CSS Prodhromos 91.56 305 *eP* **P 07 51 44.4 +0.3**
comp=Z,20nm,0.7s,mb5.5
ARCES ARCESS Array B 91.78 340 P **P 07 51 43.8 -1.3**
comp=Z,13nm,0.8s,mb5.3,baz=85,slow=5.6,SNR=19
ARCES PKKPbc PKKPbc 08 09 04.0 +1.0
comp=Z,2.7nm,0.8s,baz=261,slow=3.2,SNR=5.2
ARCES LR LR 08 36 06.3
comp=Z,291nm,20.3s,baz=88,slow=38
SKAG Skagway 91.97 30 *eP* **P 07 51 46.0 +0.1**
comp=Z,21nm,1.0s,mb5.4
QSPA South Pole Qui 92.27 180 *eP* **P 07 51 47.2 -0.1**
comp=Z,17nm,1.0s,mb5.3
KAF Kangasniemi 92.87 332 *ep* **P 07 51 48.1 -2.0**
AKASG Malin Array Be 93.03 321 P **P 07 51 50.0 -0.8**
comp=Z,4.9nm,0.7s,mb5.1,baz=72,slow=4.0,SNR=15
AKASG LR LR 08 40 41.9
comp=Z,132nm,21.8s,baz=80,slow=40
AKASG Malin Array Be 93.03 321 *i P* **P 07 51 50.0 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 93.10 332 P **P 07 51 49.0 -2.1**
comp=Z,3.4nm,0.7s,mb4.9,baz=72,slow=4.9,SNR=11
FINES FINESS Array B 93.10 332 *i P* **P 07 51 52.2 +1.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
TAOE Nuku Hiva Isla 93.31 99 *eS* S 08 02 56.0 +1.3
comp=Z,361nm,24.7s
TAOE eLR LR 08 21 54.7
comp=Z,3μm,24.2s
WRAK Wrangell Islan 94.02 33 *eP* **P 07 51 56.4 +1.0**
comp=Z,120nm,1.2s,mb6.2
DLBC Dease Lake 94.85 31 *eP* **P 07 51 59.5 +0.3**
VRI Vrincioaia 95.37 316⇑*iP* **P 07 52 02.5 +0.9**
MLR Muntele Rosu 95.97 316⇓*iP* **P 07 52 04.6 +0.3**
BURAR Bucovina Array 96.11 318⇓*iP* **P 07 52 06.0 +1.1**
UZH Uzhgorod 97.83 320 *eP* **P 07 52 15.0 +2.3**
UZH pmax pmax
comp=Z,49nm,1.2s,mb5.9
DRGR 97.94 318⇑*iP* **P 07 52 13.9 +0.7**
LSZ Lusaka 98.98 255 *eP* **P 07 52 18.2 +0.3**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
LSZ Lusaka 98.98 255 *eP* **P 07 52 18.1 +0.3**
comp=Z,4.9nm,0.8s,mb5.1
NB2 NORSAR Subarra100.07 334 P Pdif 07 52 21.0 -1.7
comp=Z,7.2nm,1.1s,baz=67,slow=4.4
NB2 NORSAR Subarra100.07 334 P Pdif 07 52 21.0 -1.7
NB2 pmax pmax
comp=Z,7.0nm,1.1s
NOA NORSAR Array B 100.07 334 P Pdif 07 52 21.1 -1.6
comp=Z,3.1nm,0.8s,baz=66,slow=4.6,SNR=8.2
NOA LR LR 08 43 19.1
comp=Z,388nm,20.7s,baz=65,slow=39
MAIT Maitri 100.31 198 *eP* Pdif 07 52 24.5 +0.7
CLL Collm 102.82 324 *eSP* SP 08 05 48.0 -2.4
CLL *e*(SSSS) 08 18 24.0
GERES GERESS Array B 103.23 321 Pdiff Pdif 07 52 37.4 +0.6
comp=Z,1.0nm,0.7s,baz=68,slow=4.7,SNR=6.4
GERES PP PP 07 56 50.4 -2.1
comp=Z,0.4nm,0.6s,baz=73,slow=8.1,SNR=2.9
GERES PKiKP PKiKP 07 56 57.6 +1.7
comp=Z,1.0nm,0.8s,baz=68,slow=3.6,SNR=3.9
GERES GERESS Array B 103.23 321 Pdif Pdif 07 52 37.4 +0.6
GERES PP PP 07 56 50.4 -2.1
SNAA Sanae 103.92 195 Pdiff Pdif 07 52 40.3 +0.4
comp=Z,0.4nm,0.7s,baz=211,slow=14,SNR=3.7
NVAR Mina Array Bea 107.72 48 Pdiff Pdif 07 52 59.3 +2.5
comp=Z,0.7nm,0.8s,baz=297,slow=2.7,SNR=3.6
NVAR PP PP 07 57 18.6 -7.0
comp=Z,0.7nm,0.8s,baz=270,slow=5.3,SNR=3.7
PDAR Pinedale Array 112.30 42 PKiKP PKiKP 07 57 14.7 +1.8
comp=Z,0.8nm,0.7s,baz=326,slow=0.7,SNR=6.4
PDAR PP PP 07 57 54.5 -4.1
comp=Z,0.9nm,0.9s,baz=328,slow=5.3,SNR=4.6
PDAR PKKPbc PKKPbc 08 08 04.2 +1.1
comp=Z,0.9nm,0.8s,baz=123,slow=4.3,SNR=6.9
PDAR PKKPab PKKPab 08 08 12.4 +0.6
comp=Z,2.2nm,0.9s,baz=118,slow=6.2,SNR=7.7
PV10 Paradox Valley 114.53 46 *e*PKPdf PKiKP 07 57 18.9 +1.8
PV01 Paradox Valley 114.96 46 *e*PKPdf PKiKP 07 57 20.4 +2.5
RSSD Black Hills 115.19 38 *e*PKIKP PKiKP 07 57 18.6 +0.2
ULM Lac du Bonnet 116.10 29 PKP PKPdf 07 57 20.1 0.0
comp=Z,3.7nm,0.8s,baz=323,slow=9.6,SNR=6.8
ANMO Albuquerque 117.84 48⇑*iP*KIKP PKPdf 07 57 26.0 +2.5
SCHQ Schefferville 121.90 9 PKP PKPdf 07 57 31.6 +0.3
comp=Z,9.2nm,0.8s,baz=208,slow=5.0,SNR=12
TXAR Lajas Array 122.33 53 PKP PKPdf 07 57 33.9 +1.8
comp=Z,2.0nm,0.9s,baz=203,slow=0.7,SNR=18
TXAR PKKPbc PKKPbc 08 07 29.1 +1.7
comp=Z,0.4nm,0.9s,baz=126,slow=4.6,SNR=3.5
KSU1 Kansas State U 122.59 39 *e*PKPdf PKPdf 07 57 32.7 +0.1
KSU1 *ep*PKPdf pPKPdf 07 57 52.8 +2.2
TOA0 Torodi Ar. Sit 123.46 287 *e*PKPdf PKPdf 07 57 35.4 +1.1
TORD Torodi Ar. Bea 123.46 287 PKP PKPdf 07 57 35.5 +1.2
comp=Z,3.4nm,0.7s,baz=34,slow=2.2,SNR=22
TORD PKKPbc PKKPbc 08 07 25.5 +2.5
comp=Z,1.7nm,0.8s,baz=281,slow=3.4,SNR=8.0
JFWS Jewell Farm 123.90 32 *e*PKIKP PKPdf 07 57 35.3 +0.2
JCT Junction City 124.85 50 *e*PKIKP PKPdf 07 57 38.5 +1.6
JCT *e* 07 57 57.6
BLO Bloomington 128.53 33 *e*PKIKP PKPdf 07 57 45.4 +1.4
WVT Waverly 129.88 37 *e*PKIKP PKPdf 07 57 47.5 +1.0
WVT *e* 07 58 07.8
PLAL Pickwick Lake 130.49 38 *e*PKPdf PKPdf 07 57 48.1 +0.5
ELN Prospectdale 133.01 30 *e*PKPdf PKPdf 07 57 53.4 +0.9
ELN *ep*PKPdf pPKPdf 07 58 14.3 +3.8
CMIG Matias Romero 134.52 63 PKP PKPdf 07 57 56.8 +1.5
comp=Z,5.9nm,1.0s,baz=297,slow=1.8,SNR=4.0
TGUH Tegucigalpa,Un 142.45 63 *e*PKPdf PKPdf 07 58 08.8 -1.0
TRQA Tornquist 143.55 168 *e*PKPdf PKPdf 07 58 10.4 -1.3
CFAA Coronel Fontan 147.61 155 PKP PKPdf 07 58 19.6 +0.9
baz=221,slow=4.1
CFAA PKPbc PKPbc 07 58 22.2 +0.8
baz=222,slow=4.4
LMGC Las Mercedes 147.68 45 *eP* PKPbc 07 58 25.0 +3.4
ATAH Atahualpa 154.42 101 PKP PKPdf 07 58 32.2 +3.1
comp=Z,7.5nm,0.8s,baz=318,slow=7.3,SNR=5.6
ATAH PKPbc PKPbc 07 58 41.1 +3.6
comp=Z,21nm,0.8s,baz=247,slow=2.1,SNR=7.3
OTAV Otavalo 154.57 85 *e*PKPdf PKPdf 07 58 32.6 +3.3
NNA Nana 154.64 113 PKPbc PKPbc 07 58 40.3 +2.3
comp=Z,39nm,1.1s,baz=252,slow=6.7,SNR=5.4
NNA Nana 154.64 113 *e*PKPbc PKPbc 07 58 36.7 -1.3
CPUP Villa Florida 155.82 171 PKP PKPdf 07 58 32.4 +1.4
comp=Z,0.6nm,0.6s,baz=61,slow=3.6,SNR=4.2
CPUP PKPbc PKPdf 07 58 43.3 +12
comp=Z,6.2nm,0.8s,baz=162,slow=2.5,SNR=7.1
CPUP PKPab PKPab 07 58 59.7 +1.8
comp=Z,12nm,0.9s,baz=171,slow=4.0,SNR=8.0
CPUP Villa Florida 155.82 171 *e*PKPdf PKPdf 07 58 32.6 +1.6
CPUP *e*PKPdif 07 58 42.4
CPUP *es*PKPdf 07 59 00.3
ROSC El Rosal 157.65 71 PKP PKPdf 07 58 35.8 +2.4
comp=Z,6.1nm,0.8s,baz=250,slow=18,SNR=4.4
ROSC PKPab PKPab 07 59 09.0 +3.2
comp=Z,21nm,0.8s,baz=113,slow=4.2,SNR=10
SDV Santo Domingo 159.30 57 PKP PKPdf 07 58 38.0 +2.6
comp=Z,4.5nm,0.4s,baz=3.2,slow=1.0,SNR=7.2
SDV PKPab PKPab 07 59 15.7 +2.7
comp=Z,16nm,0.8s,baz=295,slow=3.8,SNR=3.0
SDV Santo Domingo 159.30 57 *e*PKPdf PKPdf 07 58 37.4 +2.1
SDV *e*PKPab PKPab 07 59 15.3 +2.3
SIV San Ignacio 164.36 151 PKP PKPdf 07 58 42.8 +2.3
comp=Z,3.7nm,1.0s,baz=162,slow=4.0,SNR=11
SIV PKPab PKPab 07 59 37.1 +1.9
comp=Z,8.5nm,0.9s,baz=220,slow=3.9,SNR=12
SAML Samuel 168.06 124 *e*PKPdf PKPdf 07 58 45.5 +2.1

*IDC **30** 07:45:48.6±1.2,3205S×72.14W,h0km,mb4.1/3,mb1 3.9/6, mb1mx3.8/16,mbtmp3.8/6,ML3.9/3,Error ellipse: s-maj=37.1km s-min=25.6km az=131.0*
*ISCJB **30** 07:45:53.8±0.7,32.11S±002×7175W±006,h23km±4km, mb4.0/3,Error ellipse: s-maj=8.2km s-min=3.4km az=176.6*
*NEIC **30** 07:45:54.6,32.12S×7165W,h27km,ML4.1(GUC),After GUC.*
*GUC **30** 07:45:54.6±0.7,32.12S×7165W,h27km±2km,MD4.3, ML4.1*
ISC 30 07:45:54.2±0.8,3211S±002×7174W±005,h20km±4km,n52, σ0:97/76,mb4.0/3,12C-19D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.30**	**41**⇑	*iP*	**Pg**	**07 46 01.5**	**+0.5**
CHNG				*i* S	**Sg**	**07 46 06.4**	**+0.8**
CHNG				AML	AML	07 46 07.0	
comp=E,30μm,0.3s							
PACH	**Papudo**	**0.49**	**149**⇑	*iP*	**Pb**	**07 46 04.3**	**+0.1**
PACH				*i* S	**Sb**	**07 46 11.1**	**+0.1**
PTCH	**Petorca**	**0.70**	**103**⇓	*iP*	**Pb**	**07 46 06.9**	**-0.8**
PTCH				*i* S	**Sb**	**07 46 15.9**	**-1.1**
PTCH				AML	AML	07 46 16.7	
comp=N,16μm,0.3s							
PTCH	**Petorca**	**0.70**	**103**⇓	*iP*	**Pb**	**07 46 06.9**	**-0.8**
PTCH				*i* S	**Sb**	**07 46 15.9**	**-1.1**
IHA	**Instituto Hidr**	**0.91**	**175**	*eP*	**Pb**	**07 46 10.8**	**-0.6**
IHA				*i* S	**Sb**	**07 46 23.2**	**+0.1**
ROCH	**El Roble**	**1.05**	**145**	*eP*	**Pb**	**07 46 12.8**	**-1.0**
ROCH				*i* S	**Sb**	**07 46 26.8**	**-0.4**
JACH	**Jahuel**	**1.12**	**121**⇑	*iP*	**Pn**	**07 46 13.5**	**-1.3**
JACH				*i* S	**Sb**	**07 46 28.2**	**-0.9**
CMCH	**Combarbala**	**1.13**	**34**⇓	*iP*	**Pn**	**07 46 13.3**	**-1.6**
CMCH				*i* S	**Sb**	**07 46 27.7**	**-1.5**
CMCH				AML	AML	07 46 30.3	
comp=E,29μm,0.8s							
CMCH	**Combarbala**	**1.13**	**34**⇓	*iP*	**Pn**	**07 46 13.3**	**-1.6**
CMCH				*i* S	**Sb**	**07 46 27.7**	**-1.5**
PEL	**Peldehue**	**1.36**	**140**⇑	*iP*	**Pn**	**07 46 17.4**	**-0.6**
PEL				*i* S	**Sn**	**07 46 34.7**	**-0.7**
PEL				AML	AML	07 46 37.1	
comp=N,7μm,0.2s							
PEL	**Peldehue**	**1.36**	**140**⇑	*iP*	**Pn**	**07 46 17.4**	**-0.6**
PEL				*i* S	**Sn**	**07 46 34.7**	**-0.7**
LCCH	**Las Cruces**	**1.37**	**174**⇓	*iP*	**Pn**	**07 46 18.1**	**-0.1**
LCCH				*i* S	**Sn**	**07 46 35.2**	**-0.5**
OVCH	**Ovalle**	**1.57**	**17**⇑	*iP*	**Pn**	**07 46 20.8**	**-0.2**
OVCH				*i* S	**Sn**	**07 46 41.1**	**+0.5**
OVCH				AML	AML	07 46 45.2	
comp=E,8μm,0.3s							
OVCH	**Ovalle**	**1.57**	**17**⇑	*iP*	**Pn**	**07 46 20.8**	**-0.2**
OVCH				*i* S	**Sn**	**07 46 41.1**	**+0.5**
RCDM	**Rinconada Maip**	**1.58**	**151**⇑	*iP*	**Pn**	**07 46 20.9**	**-0.2**
RCDM				*i* S	**Sn**	**07 46 41.1**	**+0.1**
RCDM				AML	AML	07 46 42.7	
comp=E,3μm,0.2s							
RCDM	**Rinconada Maip**	**1.58**	**151**⇑	*iP*	**Pn**	**07 46 20.9**	**-0.2**
RCDM				*i* S	**Sn**	**07 46 41.1**	**+0.1**
STL	**Santa Lucia**	**1.61**	**145**	*eP*	**Pn**	**07 46 20.4**	**-1.1**
STL				*i* S	**Sn**	**07 46 41.1**	**-0.6**
SAN	**Santiago**	**1.61**	**146**⇓	*iP*	**Pn**	**07 46 21.4**	**-0.1**
SAN				*i* S	**Sn**	**07 46 41.7**	**-0.1**
SAN				AML	AML	07 46 49.7	
comp=E,2μm,0.8s							
SAN	**Santiago**	**1.61**	**146**⇓	*iP*	**Pn**	**07 46 21.4**	**-0.1**
SAN				*i* S	**Sn**	**07 46 41.7**	**-0.1**
DSCH	**Colegio Aleman**	**1.62**	**143**⇑	*iP*	**Pn**	**07 46 20.8**	**-0.8**
DSCH				*i* S	**Sn**	**07 46 41.2**	**-0.7**
CLCH	**Cerro Calan**	**1.63**	**142**⇓	*iP*	**Pn**	**07 46 21.6**	**-0.2**
CLCH				*i* S	**Sn**	**07 46 42.3**	**+0.1**
CLCH				AML	AML	07 46 45.3	
comp=N,4μm,0.6s							
TACH	**Talagante**	**1.68**	**157**⇓	*iP*	**Pn**	**07 46 22.7**	**+0.2**
TACH				*i* S	**Sn**	**07 46 43.8**	**+0.5**
FCH	**Farellones**	**1.72**	**135**⇓	*iP*	**Pn**	**07 46 23.0**	**0.0**
FCH				*i* S	**Sn**	**07 46 45.1**	**+0.7**
FCH				AML	AML	07 46 47.1	
comp=E,3μm,0.3s							
ANTU	**Antumapu**	**1.72**	**148**⇓	*iP*	**Pn**	**07 46 23.3**	**+0.2**
ANTU				*i* S	**Sn**	**07 46 45.0**	**+0.5**
ANTU				AML	AML	07 46 50.6	
comp=N,2μm,0.4s							
ANTU	**Antumapu**	**1.72**	**148**⇓	*iP*	**Pn**	**07 46 23.3**	**+0.2**
ANTU				*i* S	**Sn**	**07 46 45.0**	**+0.5**
PCH	**Pirque**	**1.82**	**146**	*eP*	**Pn**	**07 46 24.4**	**0.0**
PCH				*i* S	**Sn**	**07 46 48.0**	**+1.1**
LNV	**Longovilo**	**1.86**	**172**	*i* S	**Sn**	**07 46 49.4**	**+1.6**
CHCH	**Chadas Angostu**	**2.03**	**154**⇓	*iP*	**Pn**	**07 46 27.8**	**+0.5**
CHCH				*i* S	**Sn**	**07 46 53.6**	**+1.5**
TLL	**Tololo Astrono**	**2.10**	**23**⇓	*iP*	**Pn**	**07 46 29.7**	**+1.5**
TLL				*i* S	**Sn**	**07 46 56.1**	**+2.4**
TLL				AML	AML	07 47 00.6	
comp=E,7μm,0.4s							
TLL	**Tololo Astrono**	**2.10**	**23**⇓	*iP*	**Pn**	**07 46 29.7**	**+1.5**
TLL				*i* S	**Sn**	**07 46 56.1**	**+2.4**
LMEL	**Las Melosas**	**2.16**	**144**⇓	*iP*	**Pn**	**07 46 29.6**	**+0.6**
LMEL				*i* S	**Sn**	**07 46 56.4**	**+1.2**
LMEL				AML	AML	07 47 09.6	
comp=N,2μm,0.5s							
LMEL	**Las Melosas**	**2.16**	**144**⇓	*iP*	**Pn**	**07 46 29.6**	**+0.6**
LMEL				*i* S	**Sn**	**07 46 56.4**	**+1.2**
CACH	**El Canelo**	**2.21**	**155**⇑	*iP*	**Pn**	**07 46 31.0**	**+1.2**
CICH	**Cipreses**	**2.46**	**154**⇓	*iP*	**Pn**	**07 46 34.2**	**+1.0**
ZON	**Zonda**	**2.66**	**79**	*eP*	**Pn**	**07 46 39.0**	**+3.0**
CFAA	**Coronel Fontan**	**3.02**	**81**	Pn	**Pn**	**07 46 42.9**	**+2.0**
comp=N,5.1nm,0.3s,baz=248,slow=11,SNR=390							
CFAA				Sn	**Sn**	**07 47 23.7**	**+7.3**
comp=N,4.8nm,0.3s,baz=125,slow=15,SNR=3.8							
CFAA	**Coronel Fontan**	**3.02**	**81**	Pn	**Pn**	**07 46 42.9**	**+2.0**
CFAA				Sn	**Sn**	**07 47 23.7**	**+7.3**
TALC	**Talca**	**3.28**	**179**	*eP*	**Pn**	**07 46 44.1**	**-0.3**
CPUP	**Villa Florida**	**13.83**	**69**	Pn	**Pn**	**07 49 10.1**	**+1.0**
comp=N,0.4nm,0.3s,baz=197,slow=12,SNR=3.7							
SIV	**San Ignacio**	**18.75**	**34**	P	**Pn**	**07 50 10.1**	**-2.2**
comp=N,0.1nm,0.3s,baz=230,slow=12,SNR=3.1							
SNAA	**Sanae**	**53.24**	**158**	P	**P**	**07 55 10.2**	**-1.1**
comp=N,1.3nm,0.8s,mb3.9,baz=288,slow=5.4,SNR=9.7							
MAW	**Mawson**	**74.91**	**164**	P	**P**	**07 57 32.2**	**-1.5**
comp=N,1.0nm,0.6s,mb3.9,baz=240,slow=8.8,SNR=7.2							
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**07 58 04.7**	**-1.3**
comp=N,1.6nm,0.6s,mb4.1,baz=259,slow=5.2,SNR=3.2							
GZR	**Gura Zlata**	**114.99**	**51**⇓	*iP*	PKiKP	08 04 35.7	+2.0
GZR	**Gura Zlata**	**114.99**	**51**	S	PKiKP	08 04 45.3	+12
DRGR		**115.44**	**49**⇑	*iP*	PKPdf	08 04 40.1	+5.5
WRA	**Warramunga Arr**	**122.53**	**209**	PKP	PKPdf	08 04 46.1	-2.1
comp=N,0.5nm,0.7s,baz=157,slow=1.6,SNR=10							
POO	**Poona**	**146.24**	**105**	*eP*	PKPbc	08 05 40.0	+6.8
PSI	**Prapat**	**149.55**	**161**	PKPbc	PKPbc	08 05 39.5	-2.6
comp=N,2.8nm,0.6s,baz=168,slow=6.9,SNR=3.9							
PSI	**Prapat**	**149.55**	**161**	PKPbc	PKPbc	08 05 39.5	-2.6
ZAL	**Zalesovo**	**152.49**	**31**	PKPbc	PKPbc	08 05 47.5	-1.4
comp=N,1.7nm,0.4s,baz=85,slow=0.9,SNR=4.4							
MKAR	**Makanchi Array**	**155.31**	**46**	PKPab	PKPab	08 06 09.4	-1.9
comp=N,0.9nm,0.7s,baz=293,slow=3.0,SNR=7.6							

*NEIC **30** 07:57:43.8,1693N×100.18W,h11km,MD3.8(MEX),After MEX.*
MEX 30 07:57:43.9±0.9,1695N×10017W,h12km±11km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**314**	*iP*	Pg	07 57 46.4	-0.8
CAIG				*i* S	Sg	07 57 49.1	-0.4
ACX	**Acapulco**	**0.26**	**110**	*iP*	Pg	07 57 49.0	-0.2
ACX				*i* S	Sg	07 57 52.5	-0.2
MEIG	**Mezcala**	**1.10**	**28**	*iP*	Pb	07 58 01.1	-3.8
MEIG				*i* S	Sb	07 58 14.4	-4.7
PLIG	**Platanillo**	**1.56**	**24**	*iP*	Pn	07 58 09.1	-2.4
PLIG				*i* S	Sn	07 58 28.1	-3.7
PLIG	**Platanillo**	**1.56**	**24**	*iP*	Pn	07 58 09.1	-2.4
PLIG				*i* S	Sn	07 58 29.2	-2.6
UTMO	**Huajuapan**	**2.42**	**69**	*iP*	Pn	07 58 20.6	-2.7
UTMO				*i* S	Sn	07 58 47.0	-5.9
MOIG	**Morelia**	**2.88**	**340**	*iP*	Pn	07 58 29.2	-0.4
MOIG				*i* S	Sn	07 59 00.7	-3.5
MOIG	**Morelia**	**2.88**	**340**	*iP*	Pn	07 58 36.4	+6.8
MOIG				*i* S	Sn	07 59 07.9	+3.7
IIO	**Organos**	**2.96**	**27**	*eP*	Pn	07 58 29.6	-1.1
IIO				*i* S	Sn	07 59 10.5	+4.3
TPIG	**Tehuac#an**	**3.05**	**61**	*i* S	Sn	07 59 05.9	-2.4
OXX	**Oaxaca**	**3.30**	**87**	*eP*	Pn	07 58 43.0	+7.6
OXX	**Oaxaca**	**3.30**	**87**	*eP*	Pn	07 58 53.0	+18

*INMG **30** 08:09:58.2±1.3,3620N×766W,h28km±20km,ML1.5,Error ellipse: s-maj=11.4km s-min=5.2km az=22.0*
MDD 30 08:09:57.5±1.7,3626N×763W,h20km±23km,mbLg2.1/10, 2C-1D,Error ellipse: s-maj=22.8km s-min=6.4km az=20.0,PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.27**	**5**	P	Pn	08 10 19.6	-0.5
0.5nm,0.0s,SNR=7.2							
EGRO				S	Sn	08 10 35.2	-1.4
8.3nm,0.2s,SNR=9.9							
MORF	**Marmelete**	**1.33**	**322**	*eP*	Pn	08 10 19.5	-1.4
MORF				*eS*	Sn	08 10 36.4	-1.5
MORF							
11nm,0.1s							
ESPR	**Espera**	**1.55**	**67**	P	Pn	08 10 23.1	-0.8
5.2nm,0.2s,SNR=5.1							
ESPR				S	Sn	08 10 42.2	-1.1
9.1nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**1.55**	**326**	*eP*	Pn	08 10 22.9	-1.1
PTEO				*eS*	Sn	08 10 41.2	-2.3
PTEO							
2.8nm,0.1s							
EMIN	**Mina Concepcio**	**1.68**	**27**	P	Pn	08 10 23.4	-2.4
0.2nm,0.1s,SNR=7.9							
EMIN				S	Sn	08 10 44.7	-2.0
1.9nm,0.1s,SNR=6.8							
EJIF	**Jimena Fronter**	**1.75**	**83**	P	Pn	08 10 26.1	-0.6
1

EBAN				S	Sn	08 11 29.2	-5.0
	2.0nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.96**	**66**	P	Pn	08 10 57.4	+0.4
	0.7nm,0.1s,SNR=7.9							
EQES				S	Sn	08 11 39.3	-3.5
	1.4nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**4.72**	**58**	⇓P	Pn	08 11 06.1	-1.4
	2.2nm,0.0s,SNR=18							
EVIA				S	Sn	08 11 57.9	-3.6
	2.7nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**5.39**	**62**	⇑P	Pn	08 11 15.4	-1.3
	0.7nm,0.1s,SNR=18							
ETOB				S	Sn	08 12 13.1	-5.0
	0.9nm,0.3s,SNR=7.9							

*CSEM **30** 08:12:55.5±0.8, 3884N×2929W, h5km, ML2.1, Error ellipse: s-maj=7.1km s-min=5.5km az=84.0, After PDA*
*PDA **30** 08:12:55.5±0.8, 3884N×2929W, h5km, MD3.3, ML2.1, Error ellipse: s-maj=7.1km s-min=5.5km az=84.0*

SVSA 30 08:12:55.5±0.8, 3884N×2929W, h5km, MD3.3, ML2.1, Error ellipse: s-maj=7.1km s-min=5.5km az=84.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.51**	**115**	*e*P	Pg	08 13 04.0	-1.2
PCED				*e*S	Sg	08 13 09.8	-2.0
PCED							
	123nm,0.3s						
PCED	**Cedros**	**0.51**	**115**	*e*P	Pg	08 13 04.0	-1.2
PCED				*e*S	Sg	08 13 09.8	-2.0
CALA	**Caldeira**	**0.53**	**119**	*e*P	Pg	08 13 04.3	-1.3
HOR	**Horta**	**0.60**	**121**	*e*P	Pg	08 13 05.4	-1.7
PCND	**Candelaria**	**0.74**	**120**	*e*P	Pg	08 13 08.0	-1.8
PCND				*e*S	Sg	08 13 16.8	-2.7
PCND							
	27nm,0.2s						
PICO	**Pico**	**0.76**	**116**	*e*P	Pg	08 13 08.1	-1.9
PICO				*e*S	Sg	08 13 17.3	-2.5
PTEI	**Pico do Teixo**	**0.81**	**115**	*e*P	Pg	08 13 08.9	-2.1
PTEI				*e*S	Sg	08 13 18.7	-2.7
PTEI							
	20nm,0.2s						
PBOI	**Pico dos Bois**	**0.82**	**119**	*e*P	Pg	08 13 08.9	-2.3
PBOI				*e*S	Sg	08 13 18.9	-3.0
PBOI							
	24nm,0.2s						
ROSA	**Rosais**	**0.83**	**98**	*e*P	Pg	08 13 08.6	-2.8
PAMA	**Santo Amaro**	**0.88**	**100**	*e*S	Sg	08 13 19.5	-4.3
PAMA							
	18nm,0.1s						
STGR	**Santa Cruz**	**1.03**	**76**	*e*S	Sg	08 13 23.8	-4.8
STGR							
	15nm,0.1s						

*NEIC **30** 08:16:51.2, 3062S×7123W, h39km, MD3.9(GUC), After GUC.*

GUC 30 08:16:51.2±0.9, 3062S×7123W, h39km±2km, MD3.9, ML3.3, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.03**	**68**	⇑*i*P	Pn	08 16 57.8	+0.3
OVCH				*i* S	Sn	08 17 02.1	+0.3
OVCH				AML	AML	08 17 02.4	
	comp=E,3μm,0.2s						
TLL	**Tololo Astrono**	**0.58**	**40**	⇓*i*P	Pn	08 17 04.1	+1.1
TLL				*i* S	Sn	08 17 13.0	+1.6
TLL				AML	AML	08 17 16.0	
	comp=N,945nm,0.7s						
TLL	**Tololo Astrono**	**0.58**	**40**	⇓*i*P	Pn	08 17 04.1	+1.1
TLL				*i* S	Sn	08 17 13.0	+1.6
CMCH	**Combarbala**	**0.59**	**160**	⇑*i*P	Pn	08 17 03.4	+0.3
CMCH				*i* S	Sn	08 17 12.4	+0.9
CMCH				AML	AML	08 17 14.6	
	comp=E,4μm,0.8s						
CMCH	**Combarbala**	**0.59**	**160**	⇑*i*P	Pn	08 17 03.4	+0.3
CMCH				*i* S	Sn	08 17 12.4	+0.9
CHNG	**Los Chungos**	**1.28**	**190**	*e*P	Pn	08 17 13.6	+1.0
CHNG				*i* S	Sn	08 17 30.4	+1.9
PTCH	**Petorca**	**1.66**	**171**	⇑*i*P	Pn	08 17 19.2	+1.4
PTCH				*i* S	Sn	08 17 39.6	+1.8
PTCH				AML	AML	08 17 45.6	
	comp=N,557nm,0.3s						
PTCH	**Petorca**	**1.66**	**171**	⇑*i*P	Pn	08 17 19.2	+1.4
PTCH				*i* S	Sn	08 17 39.6	+1.8
VACH	**Vallenar**	**2.08**	**12**	⇑*i*P	Pn	08 17 24.4	+0.9
VACH				*i* S	Sn	08 17 50.2	+2.0
VACH				AML	AML	08 17 51.7	
	comp=E,884nm,0.3s						
VACH	**Vallenar**	**2.08**	**12**	⇑*i*P	Pn	08 17 24.4	+0.9
VACH				*i* S	Sn	08 17 50.2	+2.0
PEL	**Peldehue**	**2.56**	**170**	*e*P	Pn	08 17 31.9	+1.7
PEL				AML	AML	08 18 16.9	
	comp=N,162nm,0.6s						
CLCH	**Cerro Calan**	**2.83**	**168**	*e*P	Pn	08 17 37.9	+4.0
CLCH				*i* S	Sn	08 18 10.9	+4.1
CLCH				AML	AML	08 18 23.5	
	comp=E,114nm,0.7s						
RCDM	**Rinconada Maip**	**2.88**	**173**	*e*P	Pn	08 17 36.5	+1.8
RCDM				*e*S	Sn	08 18 09.8	+1.7
RCDM				AML	AML	08 18 23.3	
	comp=E,83nm,0.4s						
RCDM	**Rinconada Maip**	**2.88**	**173**	*e*P	Pn	08 17 36.5	+1.8
RCDM				*e*S	Sn	08 18 09.8	+1.7

ATH 30 08:20:30.8, 3801N×2018E, h4km, MD3.6/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.36**	**63**	*e*PG	Pg	08 20 37.6	-0.2
VLS				*e*SG	Sg	08 20 43.5	+1.0
RLS	**Riolos of Patr**	**1.02**	**87**	*e*PB	Pb	08 20 49.8	-1.2
EVR	**Evrytania**	**1.57**	**54**	*e*PB	Pb	08 21 00.5	+0.2
ITM	**Ithomi**	**1.62**	**120**	*e*PB	Pb	08 21 01.5	+0.3
JAN	**Janina**	**1.73**	**17**	*e*PB	Pb	08 21 03.3	+0.3
KEK	**Kerkira**	**1.73**	**350**	*e*PG	Pg	08 21 02.9	-1.0
NAIG	**Nisos Aigina**	**2.63**	**94**	*e*PN	Pn	08 21 16.5	+2.5
KYTH	**Kithira**	**2.86**	**126**	*e*PN	Pn	08 21 19.5	+2.3

*IDC **30** 08:27:36.2±0.4, 240N×12683E, h0km, mb5.1/27, mb1 5.1/27, mb1mx5.1/28, mbtmp5.1/27, MS4.6/9, Ms1 4.6/9, ms1mx4.2/24, Error ellipse: s-maj=17.6km s-min=9.9km az=73.0*
*BJI **30** 08:27:38.7, 189N×12675E, h60km, mB5.5, mb5.2, Ms5.0, Msz4.8*
*GCMT **30** 08:27:41.7±0.1, 254N×12689E, h29km, MW5.5/86, Moment Tensor Solution. s86,c141; s82,c151; Duration: 1ŝ3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.84±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$-1.88±.02; $M_{r\theta}$0.24±.04; $M_{\theta\phi}$0.05±.02; $M_{\phi r}$-0.21±.04; Best double couple: $M_0$1.88900×10^{17} NP1:ϕ_s6.00000°, δ42.00000°, λ101.00000°. NP2:ϕ_s171.00000°, δ49.00000°, λ80.00000°. Principal axes: T 1.8840, Plg82.0000°, Azm22.0000°; N 0.0090, Plg7.0000°, Azm178.0000°; P -1.8940, Plg3.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **30** 08:27:41.7±0.9, 232N×12678E, h36km±8km, mb5.4/55, MS5.1/133, MW5.6 Error ellipse: s-maj=6.7km s-min=3.4km az=73.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}2.41; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-2.59; $M_{r\theta}$-0.55; $M_{\theta\phi}$0.95; $M_{\phi r}$-0.68; Best double couple: $M_0$2.80000×10^{17} NP1:ϕ_s180.00000°, δ53.00000°, λ113.00000°. NP2:ϕ_s325.00000°, δ43.00000°, λ63.00000°. Principal axes: T 2.6900, Plg71.0000°, Azm148.0000°; N 0.2400, Plg18.0000°, Azm346.0000°; P -2.9300, Plg5.0000°, Azm254.0000°;*
NEIC Felt on Ternate, Indonesia.
*MOS **30** 08:27:42.9±1.0, 271N×12674E, h45km, mb5.7/36, MS4.9/9 Error ellipse: s-maj=11.8km s-min=6.7km az=108.0*
*ISCJB **30** 08:27:42.6±0.2, 235N±003×12680E±004, h58km, mb5.4/114, MS5.0/164, Error ellipse: s-maj=5.3km s-min=3.4km az=147.8*

ISC 30 08:27:44.5±0.2, 235N±003×12686E±004, h60km, h60km±4.5km: pP-P, n419, σ1ŝ11/310, mb5.4/114, 26C-15D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.87**	**345**	*e*P	**Pn**	**08 28 58.0**	**+2.9**
DAV	**Davao City (W)**	**4.87**	**345**	*e*Pn	**Pn**	**08 28 54.8**	**-0.3**
AAI	**Ambon**	**6.14**	**167**	P	**Pn**	**08 29 16.3**	**+3.7**
	378nm,1.6s						
SCPH	**Surigao**	**7.51**	**350**	⇓*e*P	**Pn**	**08 29 34.2**	**+2.8**
PCI	**Palu**	**7.73**	**245**	P	**Pn**	**08 29 39.3**	**+4.9**
	426nm,1.0s						
TSM	**Tawau**	**9.18**	**282**	P	**Pn**	**08 29 55.0**	**+0.8**
BAKI	**Biak**	**9.89**	**111**	P	**Pn**	**08 30 06.6**	**+2.7**
	1μm,1.4s						
KAPI	**Kappang**	**10.19**	**224**	Pn	**Pn**	**08 30 08.8**	**+0.8**
	410nm,0.4s,SNR=16						
KKM	**Kota Kinabalu**	**11.23**	**289**	P	**Pn**	**08 30 25.5**	**+3.3**
KKM	**Kota Kinabalu**	**11.23**	**289**	*e*Pn	**Pn**	**08 30 24.7**	**+2.4**
KAKA	**Kakadu**	**15.95**	**160**	*e*P	**Pn**	**08 31 21.7**	**-3.3**
	960nm,1.5s						
KSM	**Kuching**	**16.57**	**267**	*e*Pn	**Pn**	**08 31 35.8**	**+3.0**
KRKI	**Karangkates**	**17.76**	**234**	P	**Pn**	**08 31 51.8**	**+4.3**
	515nm,0.8s						
BJII	**Banjamegara**	**19.63**	**241**	P	**Pn**	**08 32 07.8**	**-2.2**
	158nm,1.5s						
FITZ	**Fitzoy Crossi**	**20.35**	**183**	⇑*i*P	**P**	**08 32 14.6**	**-1.3**
	90nm,0.6s						
FITZ				*e*S	**S**	**08 35 55.9**	**-4.8**
FITZ	**Fitzroy Crossi**	**20.35**	**183**	P	**P**	**08 32 14.7**	**-1.2**
	35nm,0.6s,baz=15,slow=10,SNR=146						
FITZ				S	**S**	**08 35 56.3**	**-4.3**
	5.9nm,0.9s,baz=186,slow=13,SNR=2.0						
GUMO	**Guam**	**21.02**	**57**	P	**P**	**08 32 22.9**	**-0.2**
GUMO	**Guam**	**21.02**	**57**	PFAKE		08 32 40.0	+17
GUMO				LR	LR		
	comp=Z,6μm,22.0s						
LEM	**Lembang**	**21.26**	**245**	P	**P**	**08 32 25.7**	**0.0**
	comp=Z,164nm,0.8s,mb5.4						
NACB	**Ninganchiao**	**22.29**	**347**	*e*P	**P**	**08 32 35.5**	**-1.2**
YHNB	**Yeheng**	**22.82**	**347**	*e*P	**P**	**08 32 41.2**	**-1.0**
TATO	**Taipei**	**23.09**	**347**	PFAKE		08 33 00.0	+15
TATO				LR	LR		
	comp=Z,4μm,21.0s						
KLI	**Kotabumi**	**23.12**	**252**	P	**P**	**08 32 49.2**	**+3.7**
	comp=Z,190nm,1.6s,mb5.3						
WRAB	**Tennant Creek**	**23.33**	**162**	P	**P**	**08 32 46.0**	**-1.4**
	comp=Z,1μm,0.8s,mb6.4						
WRAB	**Tennant Creek**	**23.33**	**162**	*c i*P	**P**	**08 32 45.9**	**-1.5**
WRA	**Warramunga Arr**	**23.33**	**162**	P	**P**	**08 32 46.1**	**-1.3**
	comp=Z,90nm,0.6s,mb5.4,baz=342,slow=10,SNR=128						
WRA				S	**S**	**08 36 53.3**	**-2.1**
	comp=Z,8.3nm,1.1s,baz=348,slow=20,SNR=2.5						
WB2	**Warramunga Arr**	**23.34**	**162**	⇑*i*P	**P**	**08 32 46.0**	**-1.5**
WB2				*e*S	**S**	**08 36 49.8**	**-5.7**
PMG	**Port Moresby**	**23.35**	**120**	P	**P**	**08 32 46.9**	**-0.6**
	comp=Z,8.4nm,0.5s,mb4.4,baz=349,slow=3.9,SNR=4.1						
PMG	**Port Moresby**	**23.35**	**120**	*e*P	**P**	**08 32 47.6**	**0.0**
	comp=Z,66nm,1.2s,mb4.9						
PMG				LR	LR		
	comp=Z,6μm,22.0s						
QIZ	**Qiongzhong**	**23.51**	**316**	P	**P**	**08 32 44.5**	**-4.5**
QIZ				AP		08 32 58.3	
QIZ				PPP		08 33 26.8	
QIZ				S	**S**	**08 36 58.5**	**+0.3**
QIZ				XS	sS	08 37 21.5	-1.6
QIZ				AMB	AMB		
	comp=Z,25nm,1.7s,mb4.4						
QIZ				LR	LR		
	comp=N,2μm,21.7s						
QIZ				LR	LR		
	comp=E,1μm,22.2s						
QIZ				LR	LR		
	comp=Z,3μm,30.0s						
QIZ	**Qiongzhong**	**23.51**	**316**	*e*P	**P**	**08 32 47.1**	**-1.9**
	comp=Z,24nm,0.9s,mb4.6						
QIZ				LR	LR		
	comp=Z,2μm,22.0s						
KGM	**Kluang**	**23.53**	**270**	P	**P**	**08 32 49.4**	**+0.2**
QZH	**Quanzhou**	**23.84**	**341**	*e*P	**P**	**08 32 54.5**	**+2.4**
QZH				S	**S**	**08 37 00.5**	**-3.2**
QZH				LR	LR		
	comp=Z,14μm,25.1s						
MBWA	**Marble Bar**	**24.38**	**196**	P	**P**	**08 32 57.7**	**+0.7**
	SNR=16						
MBWA	**Marble Bar**	**24.38**	**196**	*e*P	**P**	**08 32 56.9**	**-0.1**
	comp=Z,128nm,1.2s,mb5.2						
MBWA				LR	LR		
	comp=Z,901nm,22.0s						
JOW	**Kunigami**	**24.39**	**3**	P	**P**	**08 32 55.9**	**-1.1**
	comp=Z,112nm,0.8s,mb5.4,baz=196,slow=6.1,SNR=14						
GZH	**Guangzhou**	**24.43**	**329**	P	**P**	**08 32 57.3**	**-0.2**
GZH				S	**S**	**08 37 16.0**	**+2.8**
GZH				LR	LR		
	comp=N,2μm,26.1s						
GZH				LR	LR		
	comp=E,1μm,18.2s						
GZH				LR	LR		
	comp=Z,4μm,27.4s						
IPM	**Ipoh**	**25.88**	**275**	P	**P**	**08 33 10.7**	**+0.1**
KULM	**Kulim**	**26.31**	**277**	*e*P	**P**	**08 33 14.0**	**-0.5**
KULM				*e*PcP	PcP	08 36 40.9	+1.6
AS31	**Alice Springs**	**26.75**	**166**	*e*P	**P**	**08 33 18.0**	**-0.4**
ASAR	**Alice Springs**	**26.75**	**166**	P	**P**	**08 33 17.6**	**-0.8**
	comp=Z,14nm,0.6s,mb4.6,baz=346,slow=7.5,SNR=99						
ASAR				PcP	PcP	08 36 41.1	+0.9
	comp=Z,10nm,0.6s,baz=346,slow=2.3,SNR=8.5						
ASAR				S	**S**	**08 37 53.5**	**+3.6**
	comp=Z,4.0nm,1.1s,baz=342,slow=18,SNR=3.2						
ASPA	**Alice Springs**	**26.75**	**166**	*e*P	**P**	**08 33 18.0**	**-0.4**
PSI	**Prapat**	**27.91**	**272**	P	**P**	**08 33 27.9**	**-1.0**
	comp=Z,10nm,0.9s,mb4.5,baz=96,slow=5.7,SNR=23						
PSI				PcP	PcP	08 36 44.1	+1.1
	comp=Z,7.3nm,0.9s,baz=233,slow=2.5,SNR=5.2						
CBIJ	**Chichi jima**	**28.66**	**29**	P	**P**	**08 33 33.5**	**-2.0**
	comp=Z,18nm,0.3s,mb5.2,baz=121,slow=16,SNR=8.2						
CBIJ				LR	LR	08 44 10.4	
	comp=Z,1μm,21.6s,baz=211,slow=35						
SSE	**Sheshan**	**29.09**	**350**	P	**P**	**08 33 40.3**	**+0.9**
SSE				S	**S**	**08 38 34.3**	**+7.5**
SSE				PCS	PcS	08 40 27.8	-1.0
SSE				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,341nm,6.4s						
SSE				LR	LR		
	comp=N,827nm,26.5s						
SSE				LR	LR		
	comp=E,652nm,26.5s						
SSE				LR	LR		
	comp=Z,996nm,25.0s						
SSE	**Sheshan**	**29.09**	**350**	P	**P**	**08 33 40.3**	**+0.9**
	comp=Z,53nm,1.0s,mb5.2						
SSE				sP	sP	08 33 49.1	-12
SSE				S	**S**	**08 38 34.2**	**+7.4**
SSE				sS	sS	08 38 43.6	-8.5
SSE				PcS	PcS	08 40 27.7	-1.1
SSE				LR	LR		
	comp=Z,1μm,25.0s						
CTA	**Charters Tower**	**29.31**	**140**	*e*P	**P**	**08 33 41.8**	**+0.5**
	comp=Z,26nm,1.7s,mb4.7						
CTA				*e*S	**S**	**08 38 40.9**	**+11**
CTA	**Charters Tower**	**29.31**	**140**	P	**P**	**08 33 41.2**	**-0.1**
	comp=Z,14nm,0.6s,mb4.8,baz=327,slow=9.9,SNR=19						
CTAO	**Charters Tower**	**29.31**	**140**	P	**P**	**08 33 42.1**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.3						
CTAO	**Charters Tower**	**29.31**	**140**	*e*P	**P**	**08 33 41.6**	**+0.3**
	comp=Z,79nm,1.3s,mb5.3						
CTAO				LR	LR		
	comp=Z,6μm,22.0s						
NST	**Nakhon Sawan**	**29.48**	**298**	P	**P**	**08 33 42.0**	**-0.8**
NJ2	**Nanjing**	**30.50**	**347**	*e*P	**P**	**08 33 53.0**	**+1.2**
NJ2				AP	pP	08 34 08.0	+1.4
NJ2				XP	sP	08 34 15.3	+1.6
NJ2				PP	PP	08 34 55.0	-6.5
NJ2				S	**S**	**08 38 49.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,5.4s						
NJ2				LR	LR		
	comp=N,4μm,26.8s						
NJ2				LR	LR		
	comp=E,2μm,20.8s						
NJ2				LR	LR		
	comp=Z,2μm,23.0s						
GYA	**Guiyang**	**30.84**	**323**	⇑*i*P	**P**	**08 33 54.5**	**-0.3**
GYA				AP	pP	08 34 09.5	-0.1
GYA				XP	sP	08 34 16.5	-0.2
GYA				PP	PP	08 34 57.8	-7.4
GYA				PCP	PcP	08 36 49.5	-1.0
GYA				S	**S**	**08 38 56.3**	**+2.2**
GYA				XS	sS	08 39 19.5	+0.1
GYA				SCP	ScP	08 40 25.8	-2.2
GYA				PCS	PcS	08 40 32.5	-2.0
GYA				SS	SS	08 40 40.3	-27
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
GYA				LR	LR		
	comp=Z,2μm,22.0s						
BDT	**Bhumibol Dam**	**31.11**	**300**	P	**P**	**08 33 57.0**	**-0.2**
CHG	**Chiang Mai**	**31.86**	**303**	⇓P	**P**	**08 34 02.9**	**-0.9**
	comp=Z,61nm,0.7s,mb5.5						
CHTO	**Chiang Mai**	**31.86**	**303**	P	**P**	**08 34 03.3**	**-0.5**
	SNR=17						
CHTO	**Chiang Mai**	**31.86**	**303**	P	**P**	**08 34 03.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.3						
CHTO	**Chiang Mai**	**31.86**	**303**	*e*P	**P**	**08 34 03.0**	**-0.8**
	comp=Z,38nm,0.7s,mb5.3						
CHTO				LR	LR		
	comp=Z,1μm,20.0s						
KMI	**Kunming**	**32.46**	**316**	P	**P**	**08 34 09.0**	**0.0**
KMI				PP	PP	08 35 16.0	-7.2
KMI				PPP		08 35 33.0	
KMI				S	**S**	**08 39 20.8**	**+1.4**
KMI				SS	SS	08 41 17.5	-23
KMI				SSS		08 41 42.0	
KMI				AMB	AMB		
	comp=Z,32nm,1.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,178nm,3.1s						
KMI				LR	LR		
	comp=N,783nm,23.7s						
KMI				LR	LR		
	comp=E,1μm,23.7s						
KMI				LR	LR		
	comp=Z,2μm,29.7s						
KMI	**Kunming**	**32.46**	**316**	P	**P**	**08 34 09.0**	**0.0**
	comp=Z,32nm,1.8s,mb4.8						
KMI				pP	pP	08 34 16.0	-7.9
KMI				sP	sP	08 34 19.4	-12
KMI				PP	PP	08 35 16.1	-7.1
KMI				PPP		08 35 33.1	
KMI				S	**S**	**08 39 20.8**	**+1.4**
KMI				sS	sS	08 39 34.3	-10
KMI				SS	SS	08 41 17.4	-23
KMI				SSS		08 41 41.9	
KMI				LR	LR		
	comp=Z,2μm,29.7s						
FORT	**Forrest**	**32.96**	**178**	*e*P	**P**	**08 34 13.0**	**-0.4**
	comp=Z,158nm,0.6s,mb6.1						
FORT				*e*PCP	PcP	08 36 57.4	+1.1
KLBR	**Kellerberrin**	**34.84**	**194**	*e*P	**P**	**08 34 29.2**	**-0.5**
	comp=Z,242nm,1.5s,mb5.9						
TIA	**Tai'an**	**34.88**	**346**	⇓P	**P**	**08 34 29.5**	**-0.6**
KS15	**Wonju Array Si**	**34.94**	**1**	*e*P	**P**	**08 34 31.3**	**+0.8**
INCN	**Inchon**	**34.97**	**360**	PFAKE		08 34 40.0	+9.2
INCN				LR	LR		
	comp=Z,729nm,21.0s						
HNR	**Honiara**	**34.98**	**110**	P	**P**	**08 34 35.6**	**+4.7**
HNR	**Honiara**	**34.98**	**110**	PFAKE		08 34 40.0	+9.1
HNR				LR	LR		
	comp=Z,1μm,22.0s						
MUN	**Mundaring**	**35.60**	**196**	*e*P	pP	08 34 52.8	+1.5
MJAR	**Matsushiro Arr**	**35.61**	**16**	P	**P**	**08 34 34.8**	**-1.5**
	comp=Z,22nm,0.7s,mb5.2,baz=191,slow=8.4,SNR=57						
MJAR				LR	LR	08 48 25.9	
	comp=Z,919nm,21.6s,baz=200,slow=35						
MAJO	**Matsushiro**	**35.61**	**16**	*e*P	**P**	**08 34 35.1**	**-1.2**
	comp=Z,255nm,1.4s,mb6.0						
MAJO				LR	LR		
	comp=Z,1μm,21.0s						
MAT	**Matsushiro**	**35.61**	**16**	P	**P**	**08 34 34.8**	**-1.5**
MAT				S	**S**	**08 40 11.0**	**+2.9**
XAN	**Xi'an**	**35.71**	**334**	P	**P**	**08 34 35.0**	**-2.2**
XAN				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.2						
CD2	**Chengdu**	**35.84**	**325**	⇓*i*P	**P**	**08 34 37.0**	**-1.3**
CD2				PP	PP	08 35 58.8	-1.8
CD2				PCP	PcP	08 37 03.8	-0.8
CD2				S	**S**	**08 40 14.5**	**+2.9**
CD2				SS	SS	08 42 37.0	-13
CD2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=N,2μm,22.8s						
CD2				LR	LR		
	comp=E,2μm,25.2s						
CD2				LR	LR		
	comp=Z,2μm,22.8s						
NWAO	**Narrogin (SRO)**	**36.24**	**194**	P	**P**	**08 34 41.8**	**+0.1**
	comp=Z,37nm,0.9s,mb5.3,baz=29,slow=9.6,SNR=14						
NWAO	**Narrogin (SRO)**	**36.24**	**194**	P	**P**	**08 34 42.6**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,150nm,1.4s						
NWAO	**Narrogin (SRO)**	**36.24**	**194**	*e*P	**P**	**08 34 41.9**	**+0.2**
	comp=Z,145nm,1.4s,mb5.7						
NWAO				LR	LR		
	comp=Z,728nm,19.0s						
DL2	**Dalian**	**36.70**	**353**	⇑P	**P**	**08 34 46.0**	**+0.4**
DL2				AP	pP	08 35 03.0	+2.3
DL2				XP	sP	08 35 10.3	+2.5
DL2				S	**S**	**08 40 28.3**	**+3.5**
DL2				XS	sS	08 40 54.8	+4.4
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
DL2				AMB	AMB		
	comp=Z,170nm,4.8s						
DL2				LR	LR		
	comp=N,450nm,21.8s						
DL2				LR	LR		
	comp=E,550nm,20.7s						
DL2				LR	LR		
	comp=Z,760nm,22.2s						
STKA	**Stephens Creek**	**36.80**	**159**	*e*P	**P**	**08 34 46.0**	**-0.4**
	comp=Z,99nm,0.6s,mb5.8						
STKA				*e*PCP	PcP	08 37 08.3	+0.8
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**08 34 46.0**	**-0.5**
	comp=Z,110nm,0.6s,mb5.9,baz=334,slow=8.3,SNR=110						
STKA				PcP	PcP	08 37 08.3	+0.9
	comp=Z,23nm,0.6s,baz=343,slow=4.9,SNR=5.0						
BJT	**Baijiatuau**	**38.74**	**347**	*e*P	**P**	**08 35 02.9**	**+0.1**
	comp=Z,257nm,1.3s,mb5.8						
BJT				LR	LR		
	comp=Z,959nm,21.0s						
ADE	**Adelaide**	**38.74**	**164**	*e*P	**P**	**08 35 03.4**	**+0.5**
BJI	**Beijing**	**38.76**	**347**	P	**P**	**08 35 02.5**	**-0.5**
BJI				PCP	PcP	08 37 15.5	+2.0
BJI				S	**S**	**08 40 55.0**	**-0.9**
BJI				SS	SS	08 43 39.8	-8.8
BJI				AMB	AMB		
	comp=Z,75nm,1.5s,mb5.2						
BJI				AMB	AMB		
	comp=Z,406nm,5.8s						
BJI				LR	LR		
	comp=N,613nm,24.6s						
BJI				LR	LR		
	comp=E,753nm,24.6s						
BJI				LR	LR		
	comp=Z,2μm,28.7s						
BJI	**Beijing**	**38.76**	**347**	P	**P**	**08 35 02.6**	**-0.4**
	comp=

comp=E,740nm,21.6s
SNY LR LR
comp=Z,520nm,25.2s
LZH Lanzhou 39.76 330 ⇑P **P 08 35 11.0 -0.3**
LZH AP pP 08 35 23.0 -3.6
LZH XP sP 08 35 29.0 -4.6
LZH PP PP 08 36 48.0 +4.4
LZH *e*S **S 08 41 11.3 +0.3**
LZH XS sS 08 41 39.0 +2.2
LZH SS SS 08 44 03.0 -5.7
LZH AMB AMB
comp=Z,137nm,1.7s,mb5.4
LZH AMB AMB
comp=Z,312nm,4.2s
LZH LR LR
comp=E,4μm,18.8s
LZH LR LR
comp=Z,5μm,19.9s
LZH Lanzhou 39.76 330 ⇑P **P 08 35 10.9 -0.4**
comp=Z,137nm,1.7s,mb5.4
LZH pP pP 08 35 23.0 -3.6
LZH sP sP 08 35 29.0 -4.6
LZH PP PP 08 36 48.0 +4.4
LZH *e*S **S 08 41 11.2 +0.2**
LZH sS sS 08 41 39.0 +2.2
LZH SS SS 08 44 03.0 -5.7
LZH LR LR
comp=Z,5μm,19.9s
ARMA Armidale 40.25 146 *e*P **P 08 35 16.0 +0.6**
HHC Hu-ho-hao-te 40.75 342 *e*P **P 08 35 22.8 +3.3**
HHC PP PP 08 37 01.0 +6.7
HHC SS SS 08 44 30.5 +2.2
HHC AMB AMB
comp=Z,25nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,402nm,4.7s
HHC LR LR
comp=N,1μm,25.1s
HHC LR LR
comp=E,807nm,24.3s
HHC LR LR
comp=Z,3μm,26.5s
SHL Shillong 40.81 308 *i* P **P 08 35 18.5 -1.5**
SHL *i x* x 08 41 10.0
SHL *i* SCS ScS 08 45 20.0 +0.6
VLA Vladivostok 40.85 6 *d i*P **P 08 35 20.2 -0.1**
VLA *e**SP sP 08 35 34.2 -8.4
VLA *e* 08 36 51.0
VLA pmax pmax
comp=Z,228nm,1.4s,mb5.6
VLA MLR MLR
comp=Z,900nm,22.6s
BTO Baotou 41.02 340 *e*P **P 08 35 22.5 +0.7**
CN2 Changchun 41.30 358 ⇑P **P 08 35 23.8 -0.2**
CN2 PCP PcP 08 37 22.0 +0.4
CN2 *e*S **S 08 41 38.8 +4.9**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb4.9
CN2 LR LR
comp=N,600nm,20.0s
CN2 LR LR
comp=E,700nm,20.0s
CN2 LR LR
comp=Z,900nm,21.0s
ERM Erimo 42.12 18 PFAKE 08 35 40.0 +9.3
ERM LR LR
comp=Z,218nm,20.0s
MDJ Mudanjiang 42.16 3 P **P 08 35 31.8 +0.7**
MDJ AP pP 08 35 45.0 -1.4
MDJ XP sP 08 35 52.0 -1.4
MDJ PCP PcP 08 37 25.5 +1.0
MDJ SCP ScP 08 41 11.3 +1.5
MDJ PCS PcS 08 41 17.3 +1.0
MDJ S **S 08 41 54.0 +7.3**
MDJ AMB AMB
comp=Z,132nm,1.5s,mb5.3
MDJ AMB AMB
comp=Z,312nm,4.8s
MDJ LR LR
comp=N,957nm,23.0s
MDJ LR LR
comp=E,500nm,27.2s
MDJ LR LR
comp=Z,1μm,26.5s
MDJ Mudanjiang 42.16 3 *e*P **P 08 35 31.9 +0.8**
comp=Z,296nm,1.4s,mb5.7
MDJ *e*PcP PcP 08 37 24.7 +0.2
MDJ LR LR
comp=Z,1μm,22.0s
CNB Canberra Magne 42.98 153 *e*P **P 08 35 38.3 +0.6**
comp=Z,90nm,1.2s,mb5.4
TOO Toolangi 43.31 158 *e*P **P 08 35 41.4 +1.0**
comp=Z,34nm,1.1s,mb5.0
LSA Lhasa 43.46 312 P **P 08 35 42.0 +0.4**
LSA Lhasa 43.46 312 *e*P **P 08 35 42.3 +0.7**
comp=Z,42nm,0.9s,mb5.2
LSA *e*S **S 08 42 07.0 +1.4**
LSA LR LR
comp=Z,674nm,22.0s
ASAJ Asahikawa 43.87 16 P **P 08 35 45.4 +0.5**
comp=Z,55nm,1.1s,mb5.2,baz=251,slow=8.1,SNR=8.4
GTA Gaotai 44.35 330 *e*P **P 08 35 47.5 -1.2**
GTA PCP PcP 08 37 33.5 +1.7
GTA S **S 08 42 20.8 +2.2**
GTA AMB AMB
comp=Z,19nm,2.1s,mb4.5
GTA AMB AMB
comp=Z,220nm,4.6s
GTA LR LR
comp=N,1μm,25.9s
GTA LR LR
comp=E,2μm,22.8s
GTA LR LR
comp=Z,3μm,28.9s
BOK Bokaro 44.98 302 *e*P **P 08 35 53.7 -0.1**
BOK *ex* x 08 37 16.6
VIS Vishakhapatnam 45.35 293 *e*P **P 08 35 56.4 -0.3**
VIS AMb AMB 08 35 59.5
comp=Z,83nm,1.4s,mb5.4
PALK Pallekele 46.24 278 *e*P **P 08 36 02.5 -1.1**
comp=Z,6.4nm,0.8s,mb4.6
PALK *e*PcP PcP 08 37 40.1 +1.7
PALK LR LR
comp=Z,241nm,22.0s
JIRN Jiri 46.29 307 *e*P **P 08 36 03.8 -0.3**
comp=Z,12nm,0.2s,mb5.4
YSS Yuzh-Sakhalins 46.53 15 *i* P **P 08 36 06.0 0.0**
YSS pmax pmax
comp=Z,110nm,1.3s,mb5.6
YSS MLR MLR
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 46.53 15 *e*P **P 08 36 05.8 -0.2**
comp=Z,63nm,1.0s,mb5.5
YSS *e* 08 36 38.4
YSS LR LR
comp=Z,939nm,22.0s
GUN Gumba 46.65 307 *e*P **P 08 36 06.2 -0.7**
comp=Z,138nm,0.7s,mb6.0
PKI Pulchoki 46.88 306 *e*P **P 08 36 07.6 -1.1**
comp=Z,39nm,0.6s,mb5.5
KLR Kul'dur 46.90 4 ⇓*e*P **P 08 36 05.9 -2.9**
KLR *e*S SS 08 46 18.0 -4.5
KLR pmax pmax
comp=E,43nm,1.4s
KKN Kakani 47.08 307 *e*P **P 08 36 09.1 -1.1**
comp=E,241nm,1.5s,mb5.9
DMN Daman 47.14 306 *e*P **P 08 36 09.7 -1.0**
comp=E,79nm,0.9s,mb5.7
HIA Hailar 47.14 354 ⇑*i*P **P 08 36 11.0 +0.3**
HIA Hailar 47.14 354 *e*P **P 08 36 11.0 +0.2**
comp=E,145nm,1.5s,mb5.7
HIA *e* pP 08 36 28.5 +2.2
HIA *e*PcP PcP 08 37 43.0 +1.4
HIA LR LR
comp=Z,766nm,22.0s
MDRS Chennai 47.32 286 *e*P **P 08 36 10.7 -1.4**
GKN Gorkha 47.68 307 *e*P **P 08 36 13.8 -1.1**
comp=Z,43nm,0.7s,mb5.6
KOLN Koldanda 48.43 306 *e*P **P 08 36 20.0 -0.7**
comp=Z,127nm,0.6s,mb6.1
ULN Ulaanbaatar 48.47 342 P **P 08 36 21.2 +0.2**
SNR=23
ULN Ulaanbaatar 48.47 342 *e*P **P 08 36 21.1 +0.1**
comp=Z,76nm,1.3s,mb5.6
ULN *e*PcP PcP 08 37 47.5 +1.2
ULN LR LR
comp=Z,543nm,22.0s
SONM Songino Array 48.64 342 P **P 08 36 22.1 -0.3**
comp=Z,5.2nm,0.5s,mb4.8,baz=157,slow=9.8,SNR=36
SONM LR LR 09 00 43.5
comp=Z,434nm,19.3s,baz=160,slow=41
TAU Tasmania Unive 48.68 160 P **P 08 36 28.7 +6.1**
TAU Tasmania Unive 48.68 160 PFAKE 08 36 30.0 +7.4
TAU LR LR
comp=Z,424nm,21.0s
ALBI Allahabad 48.99 302 *e*P **P 08 36 22.0 -3.0**
HYB Hyderabad 49.72 291 ⇓*i*P **P 08 36 29.5 -1.0**
HYB Hyderabad 49.72 291 ⇓*e*P **P 08 36 29.5 -1.0**
TRD Trivandrum 50.02 279 *e*P **P 08 36 33.2 +0.3**
TRD AMb AMB 08 36 36.4
comp=Z,81nm,1.5s,mb5.5
CIT Chita 50.74 349 *e*P **P 08 36 38.8 +0.5**
CIT pmax pmax
comp=Z,312nm,1.8s,mb5.9
ZAK Zakamensk 51.87 341 *e*P **P 08 36 46.0 -0.7**
BHPL Bhopal 52.15 298 *e*P **P 08 36 47.4 -1.4**
BHPL AMb AMB 08 36 51.2
comp=Z,68nm,0.8s,mb5.7
BHPL *ex* x 08 38 50.0
TLY Talaya 52.88 342 P **P 08 36 54.3 +0.1**
comp=Z,204nm,1.0s,mb6.0,SNR=8.6
TLY Talaya 52.88 342 P **P 08 36 54.9 +0.7**
SNR=30
TLY Talaya 52.88 342 ⇑*i*P **P 08 36 54.5 +0.3**
TLY *e*S **S 08 44 13.3 -5.3**
TLY pmax pmax
comp=Z,116nm,1.9s,mb5.5
TLY MLR MLR
comp=Z,2μm,25.0s
TLY Talaya 52.88 342 *e*P **P 08 36 54.5 +0.3**
comp=Z,171nm,1.6s,mb5.7
IRK Irkutsk 53.18 343 ⇓*i*P **P 08 36 57.0 +0.6**
IRK pmax pmax
comp=Z,140nm,2.0s,mb5.5
FUNA Funafuti 53.28 102 PFAKE 08 37 10.0 +13
FUNA LR LR
comp=Z,8μm,20.0s
MOY Mondy 53.72 340 *e*P **P 08 37 01.0 +0.6**
MOY pmax pmax
comp=Z,156nm,1.7s,mb5.7
WMQ Urumqi 53.93 326 P **P 08 37 01.5 -0.4**
WMQ PCP PcP 08 38 06.0 -0.6
WMQ PP PP 08 39 05.0 +1.4
WMQ PPP 08 40 15.0
WMQ PCS PcS 08 42 04.0 -1.9
WMQ S **S 08 44 35.0 +2.1**
WMQ AMB AMB
comp=Z,51nm,1.6s,mb5.2
WMQ AMB AMB
comp=Z,349nm,3.9s
WMQ LR LR
comp=N,3μm,24.6s
WMQ LR LR
comp=E,3μm,26.9s
WMQ LR LR
comp=Z,3μm,24.0s
NDI New Delhi 53.99 304 *e*P **P 08 37 00.3 -2.0**
NDI *e*P 08 37 01.5
NDI AMb AMB 08 37 02.9
comp=Z,89nm,2.1s,mb5.3
POO Poona 54.32 291 *e*P **P 08 37 02.0 -2.8**
CLNS Chul'man 54.35 359 *e*P **P 08 37 03.6 -1.4**
CLNS pmax pmax
comp=Z,29nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,29nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.8s
DGAR Diego Garcia 55.15 259 P **P 08 37 13.7 +3.0**
DGAR Diego Garcia 55.15 259 PFAKE 08 37 20.0 +9.3
DGAR LR LR
comp=Z,227nm,22.0s
AJM Ajmer 55.48 301 *e*P **P 08 37 11.0 -2.1**
BOD Bodaibo 56.24 352 *e*P **P 08 37 18.0 -0.6**
BOD pmax pmax
comp=Z,59nm,1.7s,mb5.3
DLH Dalhousie 56.35 308 *ex* **P 08 37 15.0 -4.4**
THN Thein Dam 56.51 308 *e*P **P 08 37 19.1 -1.4**
PET Petropavlovsk 56.95 22 *e*P **P 08 37 24.0 +0.4**
PET *e*S **S 08 45 11.6 -1.5**
PET *e*SS SS 08 48 59.8 -2.4
PET pmax pmax
comp=Z,78nm,1.5s,mb5.5
PET pmax pmax
comp=Z,200nm,19.4s
PET MLR MLR
comp=Z,500nm,21.0s
PET Petropavlovsk 56.95 22 PFAKE 08 37 40.0 +16
PET LR LR
comp=Z,1μm,20.0s
MK31 Makanchi Array 58.76 326 P **P 08 37 35.5 -0.8**
MK31 Makanchi Array 58.76 326 *e*P **P 08 37 35.6 -0.7**
MKAR Makanchi Array 58.76 326 P **P 08 37 35.5 -0.8**
comp=Z,20nm,0.4s,mb5.5,baz=121,slow=7.7,SNR=128
MKAR PKPPKP 09 07 02.3
comp=Z,0.6nm,0.9s,baz=323,slow=1.8,SNR=3.7
MKAR PKP2bc 09 07 19.8
comp=Z,1.2nm,0.9s,baz=306,slow=2.9,SNR=5.2
MKAR Makanchi Array 58.76 326 *i* P **P 08 37 35.5 -0.8**
MKAR pmax pmax
comp=Z,21nm,0.4s
MKAR Makanchi Array 58.76 326 P **P 08 37 35.5 -0.8**
MKAR P'P' 09 07 02.3
MKAR ⇑*e* 09 07 19.8
KSH Kashi 59.12 316 *e*P **P 08 37 41.3 +2.6**
KSH *e*PP PP 08 39 55.0 +5.2
KSH *e*S **S 08 45 46.5 +5.1**
KSH AMB AMB
comp=Z,784nm,4.0s
KSH LR LR
comp=N,1μm,4.3s
KSH LR LR
comp=E,1μm,4.9s
KSH LR LR
comp=Z,3μm,22.1s
YAK Yakutsk 59.58 2 *e*P **P 08 37 42.0 0.0**
comp=Z,114nm,0.8s,mb6.0
YAK LR LR
comp=Z,1μm,20.0s
KRAR Krasnoyarsk 60.07 339 *e*P **P 08 37 44.8 -0.5**
KRAR pmax pmax
comp=Z,40nm,1.7s,mb5.2
KRAR MLR MLR
comp=Z,1μm,24.0s
TKM2 Tokmak 2 60.87 319 P **P 08 37 51.0 +0.2**
SNR=15
UCH Uchtor 61.28 318 P **P 08 37 54.2 +0.6**
SNR=21
SNZO South Karori 61.41 141 PFAKE 08 38 10.0 +16
SNZO LR LR
comp=Z,3μm,21.0s
AAK Ala-Archa 61.47 318 P **P 08 37 57.3 +2.5**
SNR=6.0
AAK Ala-Archa 61.47 318 P **P 08 37 54.5 -0.3**
comp=Z,54nm,1.0s,mb5.6,SNR=7.5
AAK Ala-Archa 61.47 318 P **P 08 37 54.7 -0.1**
SNR=12
AAK Ala-Archa 61.47 318 *e*P **P 08 37 55.0 +0.2**
comp=Z,18nm,1.2s,mb5.1
AAK LR LR
comp=Z,162nm,21.0s
FRU Bishkek 61.47 319 *e*P **P 08 37 53.5 -1.3**
FRU pmax pmax
comp=Z,60nm,2.2s,mb5.3
FRU MLR MLR
comp=N,900nm,26.0s
FRU MLR MLR
comp=E,1μm,26.0s
FRU MLR MLR
comp=Z,2μm,26.0s
USP Ospenovka 61.74 319 P **P 08 37 56.1 -0.5**
SNR=26
AML Almayashu 61.79 317 P **P 08 37 57.5 +0.6**
SNR=9.3
ZAL Zalesovo 61.88 333 P **P 08 37 57.0 -0.5**
comp=Z,8.2nm,0.4s,mb5.2,baz=348,slow=7.1,SNR=11
EKS2 Erkin-Say 61.96 318 P **P 08 37 58.1 0.0**
SNR=10.0
AFI Afiamalu 62.91 107 PFAKE 08 38 20.0 +16
AFI LR LR
comp=Z,1μm,21.0s
KURK Kurchatov 62.97 328 P **P 08 38 04.1 -0.8**
comp=Z,713nm,0.5s,SNR=83
SEY Seymchan 63.34 13 ⇑*e*P **P 08 38 06.1 -1.2**
SMY Shemya 63.59 30 PFAKE 08 38 20.0 +11
SMY LR LR
comp=Z,1μm,21.0s
BVAR Borovoye Array 68.55 327 P **P 08 38 40.1 -0.6**
comp=Z,12nm,0.7s,mb4.9,baz=126,slow=7.5,SNR=32
BRVK Borovoye 68.62 327 P **P 08 38 40.5 -0.7**
comp=Z,28nm,0.8s,mb6.2,SNR=12
BRVK Borovoye 68.62 327 P **P 08 38 41.2 0.0**
SNR=22
BRVK Borovoye 68.62 327 *e*P **P 08 38 40.7 -0.5**
comp=Z,37nm,0.8s,mb5.4
BRVK LR LR
comp=Z,107nm,22.0s
CHKZ Chkalovo 68.72 328 *e*P **P 08 38 41.5 -0.3**
comp=Z,28nm,0.8s,mb5.2
WSAR Wadi Sarin 69.10 294 P **P 08 38 44.4 +0.3**
comp=Z,3.1nm,0.6s,mb4.4,baz=137,slow=6.7,SNR=7.2
WSAR LR LR 09 11 31.6
comp=Z,150nm,19.4s,baz=150,slow=38
WSAR Wadi Sarin 69.10 294 P **P 08 38 44.4 +0.3**
WSAR LR LR 09 11 31.6
TIXI Tiksi 69.22 1 *e*P **P 08 38 44.8 -0.1**
TIXI LR LR
comp=Z,2μm,22.0s
ZRNK Zerenda 69.27 327 P **P 08 38 44.6 -0.6**
ZRNK pmax pmax
comp=Z,27nm,0.7s,mb5.3
ZRNK Zerenda 69.27 327 *e*P **P 08 38 44.6 -0.6**
comp=Z,27nm,0.7s,mb5.3
CASY Casey 69.47 187 *e*P **P 08 38 47.3 +0.9**
CASY LR LR
comp=Z,426nm,19.0s
DRV Dumont d'Urvil 69.49 174 P **P 08 38 43.0 -3.6**
BILL Bilibino 70.85 15 *e*P **P 08 38 54.9 0.0**
BILL pmax pmax
comp=Z,16nm,1.7s,mb4.7
BILL Bilibino 70.85 15 *e*P **P 08 38 54.8 -0.1**
comp=Z,7.8nm,0.4s,mb5.0
BILL LR LR
comp=Z,1μm,22.0s
MSEY Mahe Island 71.66 264 PFAKE 08 39 10.0 +10
MSEY LR LR
comp=Z,77nm,20.0s
MIR Mirnyy 72.85 193 *d i*P **P 08 39 09.0 +2.1**
MIR *i* pP 08 39 27.0 +3.6
MIR pmax pmax
comp=Z,40nm,1.5s,mb5.1
AKTK Aktyubinsk 74.82 322 P **P 08 39 18.2 -0.2**
AKTO Aktyubinsk 74.82 322 P **P 08 39 18.2 -0.2**
comp=Z,26nm,0.7s,mb5.3,baz=103,slow=6.8,SNR=60
SVE Sverdlovsk 75.20 329 ⇑*e*P **P 08 39 20.0 -0.6**
SVE pmax pmax
comp=Z,35nm,2.0s,mb4.9
ARU Arti 76.17 328 P **P 08 39 25.5 -0.6**
comp=Z,300nm,1.2s,mb6.1,SNR=12
ARU Arti 76.17 328 ⇑*i*P **P 08 39 25.3 -0.8**
ARU *e* pP 08 39 37.2 -5.6
ARU *e* 08 42 16.7
ARU *e*PPP 08 43 59.7
ARU *e*S S 08 49 08.4 +2.9
ARU *e*SS SS 08 54 01.3 +1.4
ARU pmax pmax
comp=Z,64nm,1.1s,mb5.5
ARU Arti 76.17 328 *e*P **P 08 39 25.4 -0.8**
comp=Z,84nm,1.1s,mb5.6
ARU LR LR
comp=Z,199nm,22.0s
ORR Orenburg 77.11 323 P **P 08 39 31.2 -0.2**
TNA Tin City 77.81 23 PFAKE 08 39 50.0 +15
TNA LR LR
comp=Z,427nm,22.0s
SDPT Sand Point 78.26 34 *e*P **P 08 39 38.6 +0.7**
comp=Z,89nm,0.7s,mb5.8
SVW2 Sparrevohn 81.95 29 *e*P **P 08 39 59.1 +1.4**
VNDA Vanda 82.04 173 P **P 08 39 58.3 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=316,slow=6.0,SNR=124
VNDA Vanda 82.04 173 P **P 08 39 57.9 -0.3**
VNDA pmax pmax
comp=Z,20nm,0.9s
VNDA Vanda 82.04 173 *e*P **P 08 39 58.1 -0.1**
comp=Z,20nm,0.8s,mb5.1
VNDA LR LR
comp=Z,599nm,21.0s
DGRG David-gareji 82.07 311 P **P 08 39 59.9 +1.6**
GNI Garni 82.47 310 P **P 08 40 00.9 +0.5**
comp=Z,2.7nm,0.3s,mb4.6,baz=198,slow=7.4,SNR=5.5
GNI Garni 82.47 310 *e*P **P 08 40 03.3 +2.9**
GNI Garni 82.47 310 *e*P **P 08 40 02.5 +2.0**
comp=Z,25nm,0.7s,mb5.2
GNI LR LR
comp=Z,262nm,20.0s
SEMD Semdilli 82.49 307 P **P 08 40 01.3 +0.8**
MAW Mawson 82.51 200 *e*P **P 08 40 01.2 +0.6**
comp=Z,10nm,0.6s,mb5.0
MAW Mawson 82.51 200 P **P 08 40 01.3 +0.7**
comp=Z,14nm,0.7s,mb5.1,baz=61,slow=5.4,SNR=66
MAW Mawson 82.51 200 P **P 08 40 01.4 +0.8**
MAW pmax pmax
comp=Z,110nm,1.6s
MTA Mtatsminda 82.52 312 P **P 08 40 01.3 +0.6**
SBA Scott Base 82.95 172 P **P 08 40 04.0 +1.1**
SBA pmax pmax
comp=Z,67nm,1.4s,mb5.5
SBA Scott Base 82.95 172 *e*P **P 08 40 03.6 +0.7**
comp=Z,67nm,1.4s,mb5.5
SBA LR LR
comp=Z,354nm,19.0s
KDAK Kodiak Island 82.98 32 P **P 08 40 04.3 +1.2**
comp=Z,236nm,0.6s,mb6.4,SNR=6.8
KDAK Kodiak Island 82.98 32 *e*P **P 08 40 04.1 +1.0**
KDAK LR LR
comp=Z,229nm,20.0s
GOR Gori 83.05 312 P **P 08 40 10.7 +7.2**
CLDR Caldiran 83.05 309 P **P 08 40 04.6 +1.2**
CUKT Cukurca 83.22 307 P **P 08 40 04.7 +0.4**
ZEI Tsey 83.25 313 *e*P **P 08 40 05.2 +0.8**
ZEI *e**PP pP 08 40 13.5 -7.8
ZEI pmax pmax
comp=Z,63nm,0.9s,mb5.7
ONI Oni 83.57 312 P **P 08 40 07.4 +1.3**
IMA2 Indian Mountai 83.58 24 *e*P **P 08 40 07.5 +1.3**
KARS Kars 83.75 310 *e*P **P 08 40 07.3 +0.3**
PECR Pechory 84.05 326 *e*P **P 08 40 08.6 +0.1**
PECR pmax pmax
comp=Z,500nm,2.0s,mb6.3
SIRT Sirnak 84.15 307 *e*P **P 08 40 10.7 +1.6**
KIV Kislovodsk 84.18 314 P **P 08 40 10.2 +1.0**
comp=Z,157nm,0.8s,mb6.2,SNR=7.5
KIV Kislovodsk 84.18 314 P **P 08 40 10.0 +0.8**
SNR=13
KIV Kislovodsk 84.18 314 *e*P **P 08 40 09.6 +0.4**
KIV *e* 08 50 28.0
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,657nm,19.0s
KIV Kislovodsk 84.18 314 *e*P **P 08 40 11.0 +1.8**
comp=Z,46nm,1.0s,mb5.6
KIV LR LR
comp=Z,131nm,19.0s
SLKM Skilak Lake 84.47 30 P **P 08 40 11.0 +0.3**
SLKM Skilak Lake 84.47 30 *e*P **P 08 40 10.3 -0.4**
PPT Papeete 84.57 108 *e*LR LR 09 06 49.2
comp=Z,1μm,25.2s
PPT Papeete 84.57 108 LR LR 09 13 46.2
comp=Z,534nm,19.6s,baz=276,slow=33
BCA Borcka 84.89 311 *e*P **P 08 40 12.6 -0.2**
BTMT Batman 84.92 308 *e*P **P 08 40 14.4 +1.4**
EZM Erzurum 85.05 310 *e*P **P 08 40 15.6 +2.0**
PMR Palmer 85.09 29 *e*P **P 08 40 14.1 +0.3**
PMR Palmer 85.09 29 *e*P **P 08 40 14.7 +0.9**
comp=Z,80nm,1.1s,mb5.8
PMR LR LR
comp=Z,568nm,21.0s
TBI Tubuai 85.12 114 *e*LR LR 09 07 02.5
comp=Z,1μm,25.8s
VRHR Novokhopersk 85.19 321 *e*P **P 08 40 14.0 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.4s,mb5.6
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=E,4.0nm,0.4s

MCK McKinley 85.34 26 *e*P **P 08 40 15.4 +0.4**
comp=E,91nm,1.8s,mb5.6
MCK LR LR
comp=Z,442nm,22.0s
SML Sawmill 85.48 28 *e*P **P 08 40 16.7 +0.9**
SML Sawmill 85.48 28 *e*P **P 08 40 16.5 +0.7**
COLA College 85.88 25 P **P 08 40 19.0 +1.2**
COLA pmax pmax
comp=Z,21nm,1.5s,mb5.2
COLA College 85.88 25 *e*P **P 08 40 17.2 -0.6**
comp=Z,21nm,1.5s,mb5.1
COLA *e*PP PP 08 43 34.9 -3.1
COLA LR LR
comp=Z,483nm,22.0s
EZC Erzincan 86.24 310 *e*P **P 08 40 22.8 +3.3**
KTUT Trabzon 86.28 311 *e*P **P 08 40 20.0 +0.3**
SOC Sochi 86.33 313 *i*P **P 08 40 20.6 +0.7**
PTK Pertek 86.57 309 *e*P **P 08 40 23.0 +1.9**
VOR Voronezh 86.72 322 P **P 08 40 21.0 -0.9**
VOR pmax pmax
comp=Z,300nm,1.8s,mb6.2
VRSR Storozhevoye 86.73 321 *e*P **P 08 40 21.7 -0.2**
VRSR pmax pmax
comp=Z,30nm,1.3s,mb5.4
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.1s
URFA Urfa 87.03 307 *e*P **P 08 40 25.0 +1.6**
MYA Malataya 87.33 308 *e*P **P 08 40 27.0 +2.2**
MOS Moscow 87.65 326 *e*P **P 08 40 24.8 -1.6**
MOS *e* 08 40 35.0
MOS *e* 08 51 01.4
MOS pmax pmax
comp=Z,74nm,1.0s,mb5.9
ANN Anapa 87.96 315 *e*P **P 08 40 27.9 +0.1**
ANN *e* 08 51 04.2
ANN pmax pmax
comp=Z,88nm,0.7s,mb6.1
OBN Obninsk 88.26 325⇑ *e*P **P 08 40 28.3 -1.0**
OBN *e* 08 43 57.1
OBN *e*S S 08 51 06.0 -3.3
OBN pmax pmax
comp=Z,110nm,1.5s,mb5.9
OBN MLR MLR
comp=Z,400nm,21.0s
OBN Obninsk 88.26 325 *e*P **P 08 40 27.9 -1.4**
comp=Z,131nm,1.4s,mb6.0
OBN LR LR
comp=Z,104nm,20.0s
GAZ Gaziantep 88.32 307 *e*P **P 08 40 31.0 +1.5**
SVSK Karacayir 88.41 310 *e*P **P 08 40 31.2 +1.3**
KMRS Kahramanmaras 88.56 307 *e*P **P 08 40 30.8 +0.1**
EGAK Eagle 88.74 25 *e*P **P 08 40 31.5 0.0**
comp=Z,7.3nm,0.8s,mb5.1
EGAK LR LR
comp=Z,582nm,20.0s
KVT Kavak 89.09 311 *e*P **P 08 40 32.6 -0.6**
KOZT Kozan 89.41 307 *e*P **P 08 40 32.1 -2.5**
KMBO Kilima Mbogo 89.66 269 P **P 08 40 37.7 +1.9**
comp=Z,6.3nm,1.0s,mb4.9,baz=69,slow=6.0,SNR=13
KMBO LR LR 09 17 46.8
comp=Z,172nm,21.5s,baz=95,slow=34
KMBO Kilima Mbogo 89.66 269 P **P 08 40 38.3 +2.5**
SNR=8.5
KMBO Kilima Mbogo 89.66 269 *e*P **P 08 40 37.6 +1.8**
comp=Z,47nm,1.6s,mb5.6
KMBO LR LR
comp=Z,434nm,21.0s
MMAI Mount Meron Ar 89.96 303 P **P 08 40 38.0 +0.7**
comp=Z,5.2nm,0.6s,mb5.0,baz=123,slow=5.3,SNR=10
SIM Simferopol' 90.31 315 *e*P **P 08 40 40.0 +1.1**
SIM *e*S S 08 51 31.0 +2.6
SIM pmax pmax
comp=Z,37nm,0.6s,mb5.9
JOF Joensuu 90.46 333 *e*p **P 08 40 36.6 -3.0**
comp=Z,3.1nm,0.5s,mb4.9
JOF Joensuu 90.46 333 *e*P **P 08 40 36.6 -3.0**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
EIL Elat 90.52 300 *e*P **P 08 40 40.7 +0.9**
comp=Z,197nm,0.9s,mb6.4
BR131 Keskin Array S 91.00 310 *e*P **P 08 40 42.5 +0.4**
comp=Z,5.6nm,0.8s,mb5.0
BR131 LR LR
comp=Z,286nm,21.0s
BRTR Keskin Array B 91.00 310 P **P 08 40 42.0 -0.1**
comp=Z,3.1nm,0.6s,mb4.8,baz=127,slow=4.4,SNR=12
BRTR PKKPbc PKKPbc 08 58 07.5 +2.0
comp=Z,0.4nm,0.4s,baz=251,slow=3.8,SNR=3.8
BRTR Keskin Array B 91.00 310 *i*P **P 08 40 42.0 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
SYO Syowa Base 91.19 201⇓ *i*P **P 08 40 43.0 0.0**
SYO Syowa Base 91.19 201⇓ *e*pP pP 08 41 01.0 +1.0
SYO Syowa Base 91.19 201⇑ *e*PP PP 08 44 20.8 +0.4
KEV Kevo 91.23 340 *e*P **P 08 40 33.7 -9.4**
KEV LR LR
comp=Z,537nm,20.0s
ANTO Ankara 91.64 310 PFAKE 08 41 00.0 +15
ANTO LR LR
comp=Z,376nm,20.0s
ARCES ARCESS Array B 91.78 340 P **P 08 40 44.3 -1.4**
comp=Z,12nm,0.8s,mb5.3,baz=77,slow=3.3,SNR=22
ARCES PKKPbc PKKPbc 08 58 05.1 +1.5
comp=Z,2.2nm,0.7s,baz=266,slow=1.9,SNR=5.4
ARCES LR LR 09 25 54.8
comp=Z,509nm,21.4s,baz=78,slow=38
SKAG Skagway 91.97 30 *e*P **P 08 40 47.4 +0.8**
comp=Z,34nm,1.4s,mb5.5
QSPA South Pole Qui 92.26 180 *e*P **P 08 40 48.6 +0.7**
comp=Z,12nm,0.8s,mb5.3
QSPA LR LR
comp=Z,755nm,20.0s
SIT Sitka 92.30 33 PFAKE 08 41 00.0 +12
SIT LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 92.38 350 PFAKE 08 41 00.0 +12
KBS LR LR
comp=Z,502nm,19.0s
KAF Kangasniemi 92.88 332 *e*p **P 08 40 50.6 -0.2**
comp=Z,2.3nm,0.4s,mb5.0
KAF Kangasniemi 92.88 332 *e*P **P 08 40 50.6 -0.2**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
AKASG Malin Array Be 93.04 321 P **P 08 40 50.4 -1.2**
comp=Z,1.4nm,0.5s,mb4.7,baz=70,slow=3.9,SNR=11
AKASG LR LR 09 29 41.6
comp=Z,207nm,21.6s,baz=65,slow=40
AKASG Malin Array Be 93.04 321 *i*P **P 08 40 50.4 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 93.11 332 P **P 08 40 52.4 +0.6**
comp=Z,3.4nm,0.8s,mb4.8,baz=72,slow=6.2,SNR=9.6
FINES FINESS Array B 93.11 332 *i*P **P 08 40 52.4 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
TAOE Nuku Hiva Isla 93.31 99 *e*LR LR 09 10 52.3
comp=Z,4μm,24.3s
WRAK Wrangell Islan 94.02 33 *e*P **P 08 40 56.9 +0.9**
comp=Z,17nm,0.7s,mb5.6
WRAK LR LR
comp=Z,579nm,21.0s
VRI Vrincioaia 95.38 316⇑ *i*P **P 08 41 02.7 +0.5**
VRI Vrincioaia 95.38 316⇑ P **P 08 41 02.7 +0.4**
MLR Muntele Rosu 95.98 316 LR LR 09 30 28.8
comp=Z,464nm,21.5s,baz=66,slow=39
MLR Muntele Rosu 95.98 316⇑ *i*P **P 08 41 05.0 0.0**
MLR Muntele Rosu 95.98 316⇑ P **P 08 41 05.0 0.0**
BURAR Bucovina Array 96.12 318⇑ *i*P **P 08 41 05.8 +0.2**
BURAR Bucovina Array 96.12 318⇑ P **P 08 41 05.8 +0.2**
UZH Uzhgorod 97.84 320⇓ *e*P **P 08 41 15.0 +1.6**
UZH pmax pmax
comp=Z,34nm,1.0s,mb5.8
DRGR 97.95 318⇑ *i*P **P 08 41 14.3 +0.4**
DRGR 97.95 318⇑ P **P 08 41 14.3 +0.5**
DAG Danmarks Havn 98.64 352⇓ *i*P **P 08 41 15.6 -1.3**
comp=Z,11nm,0.6s,mb5.6
DAG Danmarks Havn 98.64 352⇓ *i*P **P 08 41 15.6 -1.3**
DAG pmax pmax
comp=Z,11nm,0.6s,mb5.6
LSZ Lusaka 98.98 255 P **P 08 41 19.3 +0.8**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
LSZ Lusaka 98.98 255 *e*P **P 08 41 19.2 +0.7**
comp=Z,6.2nm,0.9s,mb5.1
LSZ LR LR
comp=Z,462nm,21.0s
NB2 NORSAR Subarra 100.08 334 P Pdif 08 41 22.0 -1.4
comp=Z,9.0nm,1.2s,baz=67,slow=4.6
NOA NORSAR Array B 100.08 334 P Pdif 08 41 21.1 -2.3
comp=Z,2.0nm,0.8s,baz=66,slow=4.5,SNR=6.0
MAIT Maitri 100.31 198 *e*P Pdif 08 41 25.5 +1.1
LBTB Lobatse 101.20 245 P Pdif 08 41 32.6 +4.3
LBTB Lobatse 101.20 245 PFAKE 08 41 40.0 +12
LBTB LR LR
comp=Z,425nm,21.0s
NLWA Neilton Lookou 101.20 41 PFAKE 08 41 40.0 +12
NLWA LR LR
comp=Z,1μm,22.0s
BOSA Boshof 101.31 241 P Pdif 08 41 33.2 +4.4
BOSA Boshof 101.31 241 PFAKE 08 41 40.0 +11
BOSA LR LR
comp=Z,534nm,21.0s
KONO Kongsberg 101.39 333 PFAKE 08 41 40.0 +11
KONO LR LR
comp=Z,921nm,21.0s
COR Corvallis 102.35 43 PFAKE 08 41 50.0 +17
COR LR LR
comp=Z,2μm,21.0s
CLL Collm 102.83 324 *i*P Pdif 08 41 35.9 +0.3
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL MLR MLR
comp=Z,700nm,17.2s
CLL Collm 102.83 324 *i*Pdif Pdif 08 41 35.9 +0.3
comp=Z,10.0nm,1.2s
CLL LR LR
comp=Z,700nm,17.2s
CLL Collm 102.83 324 *i*Pdif Pdif 08 41 35.9 +0.3
comp=Z,10.0nm,1.2s
CLL *e*Sdif Sdif 08 53 18.0 +1.6
CLL *e*SSS 09 05 00.0
HUMO Hull Mountain 103.12 45 PFAKE 08 41 50.0 +13
HUMO LR LR
comp=Z,946nm,22.0s
GERES GERESS Array B 103.24 321 Pdiff Pdif 08 41 37.8 +0.4
comp=Z,0.3nm,0.2s,baz=103,slow=4.2,SNR=4.0
YBH Yreka Blue Hor 103.54 46 PFAKE 08 41 50.0 +11
YBH LR LR
comp=Z,1μm,22.0s
SNAA Sanae 103.92 195 P Pdif 08 41 45.1 +4.7
WDC Whiskeytown Da 103.97 47 PFAKE 08 41 50.0 +9.3
WDC LR LR
comp=Z,818nm,22.0s
HOPS Hopland 103.99 49 PFAKE 08 41 50.0 +9.3
HOPS LR LR
comp=Z,1μm,21.0s
HAWA Hanford 104.34 41 PFAKE 08 41 50.0 +7.7
HAWA LR LR
comp=Z,1μm,21.0s
SUR Sutherland 104.80 237 PFAKE 08 42 00.0 +16
SUR LR LR
comp=Z,212nm,22.0s
MOD Modoc 105.21 45 PFAKE 08 46 10.0 +10
MOD LR LR
comp=Z,399nm,22.0s
NEW Newport 105.22 38 PFAKE 08 46 10.0 +10
NEW LR LR
comp=Z,729nm,20.0s
WVOR Wild Horse Val 106.23 45 PFAKE 08 46 10.0 +7.9
WVOR LR LR
comp=Z,662nm,22.0s
CMB Columbia Colle 106.27 49 PFAKE 08 46 10.0 +7.9
CMB LR LR
comp=Z,897nm,22.0s
BMO Blue Mountains 106.33 42 PFAKE 08 46 10.0 +7.8
BMO LR LR
comp=Z,732nm,22.0s
BFO Black Forest 106.75 322 PFAKE 08 46 20.0 +17
BFO LR LR
comp=Z,186nm,19.0s
NVAR Mina Array Bea 107.72 48 Pdiff Pdif 08 41 59.7 +2.3
comp=Z,0.5nm,0.7s,baz=258,slow=8.2,SNR=3.6
NVAR PKiKP PKiKP 08 46 06.8 +1.9
comp=Z,0.3nm,0.6s,baz=305,slow=3.2,SNR=2.8
MSO Missoula 107.77 39 PFAKE 08 46 20.0 +15
MSO LR LR
comp=Z,492nm,22.0s
BMN Battle Mountai 107.88 46 PFAKE 08 46 20.0 +15
BMN LR LR
comp=Z,448nm,19.0s
ISA Isabella 108.42 51 PFAKE 08 46 20.0 +14
ISA LR LR
comp=Z,203nm,20.0s
TPH Tonopah 108.64 49 PFAKE 08 46 20.0 +13
TPH LR LR
comp=Z,590nm,20.0s
HLID Hailey 108.73 42 PFAKE 08 46 20.0 +13
HLID LR LR
comp=Z,701nm,22.0s
DAC Darwin (Calif) 108.92 50 PFAKE 08 46 20.0 +13
DAC LR LR
comp=Z,775nm,22.0s
TSUM Tsumeb 108.97 251 PFAKE 08 46 20.0 +13
TSUM LR LR
comp=Z,549nm,19.0s
ESK Eskdalemuir 109.53 332 PFAKE 08 46 20.0 +12
ESK LR LR
comp=Z,235nm,20.0s
BOZ Bozeman (W) 109.72 39 PFAKE 08 46 20.0 +11
BOZ LR LR
comp=Z,567nm,22.0s
EGMT Eagleton 109.81 37 PFAKE 08 46 20.0 +11
EGMT LR LR
comp=Z,632nm,21.0s
FFC Flin Flon 110.39 28 PFAKE 08 46 20.0 +10
FFC LR LR
comp=Z,277nm,22.0s
YMR Madison River 110.56 40 PFAKE 08 46 20.0 +10
YMR LR LR
comp=Z,1μm,21.0s
PFO Pinyon Flat Ob 110.61 53 PFAKE 08 46 20.0 +10
PFO LR LR
comp=Z,194nm,20.0s
LKWY Lake 110.97 40 PFAKE 08 46 20.0 +9.1
LKWY LR LR
comp=Z,712nm,22.0s
DUG Dugway 111.12 45 PFAKE 08 46 20.0 +8.8
DUG LR LR
comp=Z,345nm,21.0s
AHID Auburn Hatcher 111.27 42 PFAKE 08 46 20.0 +8.5
AHID LR LR
comp=Z,499nm,21.0s
HWUT Hardware Ranch 111.44 43 PFAKE 08 46 20.0 +8.2
HWUT LR LR
comp=Z,471nm,19.0s
MPU Maple Canyon 112.02 45 PFAKE 08 46 30.0 +17
MPU LR LR
comp=Z,1μm,22.0s
MVU Marysvale 112.19 47 PFAKE 08 46 30.0 +17
MVU LR LR
comp=Z,783nm,22.0s
BW06 Boulder Array 112.30 42 PFAKE 08 46 30.0 +17
BW06 LR LR
comp=Z,976nm,22.0s
PDAR Pinedale Array 112.30 42 PKiKP PKiKP 08 46 15.8 +2.3
comp=Z,0.5nm,0.6s,baz=99,slow=1.6,SNR=4.7
PDAR PKKPbc PKKPbc 08 57 03.0 -0.7
comp=Z,0.8nm,0.7s,baz=114,slow=5.8,SNR=7.0
PDAR PKKPab PKKPab 08 57 12.8 +0.3
comp=Z,1.2nm,0.8s,baz=117,slow=5.8,SNR=7.0
LAO LASA Array 112.56 37 PFAKE 08 46 30.0 +16
LAO LR LR
comp=Z,918nm,22.0s
DGMT Dagmar 112.81 34 PFAKE 08 46 30.0 +16
DGMT LR LR
comp=Z,906nm,20.0s
WUAZ Wupatki 113.93 49 PFAKE 08 46 30.0 +13
WUAZ LR LR
comp=Z,612nm,20.0s
PV10 Paradox Valley 114.53 46 *e*PKPdf PKiKP 08 46 20.0 +2.3
PV01 Paradox Valley 114.97 46 *e*PKPdf PKiKP 08 46 19.9 +1.4
MVCO Mesa Verde 115.40 47 PFAKE 08 46 30.0 +11
MVCO LR LR
comp=Z,1μm,22.0s
TUC Tucson 115.54 52 PFAKE 08 46 30.0 +10
TUC LR LR
comp=Z,551nm,21.0s
ULM Lac du Bonnet 116.10 29 PKP PKPdf 08 46 19.6 -1.1
comp=Z,2.5nm,0.6s,baz=2.4,slow=2.8,SNR=7.1
ULM Lac du Bonnet 116.10 29 PKP PKPdf 08 46 19.6 -1.1
ULM LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 117.32 45 PFAKE 08 46 40.0 +17
SDCO LR LR
comp=Z,878nm,22.0s
AGMN Agassiz Refuge 117.38 31 PFAKE 08 46 40.0 +17
AGMN LR LR
comp=Z,728nm,21.0s
ANMO Albuquerque 117.84 48 PFAKE 08 46 40.0 +16
ANMO LR LR
comp=Z,492nm,20.0s
BNM Barren Site 118.05 49 *e*PKPdf PKPdf 08 46 26.3 +1.8
ESLA Sonseca Array 118.58 318 PFAKE 08 46 40.0 +15
ESLA LR LR
comp=Z,3μm,21.0s
EYMN Ely 119.78 29 PFAKE 08 46 40.0 +12
EYMN LR LR
comp=Z,776nm,21.0s
MNTX Cornudas Mount 120.02 51 PFAKE 08 46 40.0 +12
MNTX LR LR
comp=Z,682nm,21.0s
CBKS Cedar Bluff 120.73 41 PFAKE 08 46 40.0 +10
CBKS LR LR
comp=Z,879nm,21.0s
AMTX Amarillo 121.38 46 PFAKE 08 46 40.0 +9.1
AMTX LR LR
comp=Z,615nm,19.0s
SCHQ Schefferville 121.91 9 PKP PKPdf 08 46 31.6 -0.3
comp=Z,4.3nm,0.6s,baz=306,slow=3.7,SNR=7.7
SCHQ Schefferville 121.91 9 PKP PKPdf 08 46 31.6 -0.3
SCHQ LR LR
comp=Z,1μm,20.0s
TXAR Lajitas Array 122.33 53 PKP PKPdf 08 46 34.2 +1.5
comp=Z,1.1nm,0.8s,baz=237,slow=0.5,SNR=14
TXAR PKKPbc PKKPbc 08 56 30.5 +2.6
comp=Z,0.6nm,1.0s,baz=154,slow=4.6,SNR=3.6
TXAR Lajitas Array 122.33 53 PKP PKPdf 08 46 34.2 +1.5
TXAR PKKPbc PKKPbc 08 56 30.5 +2.6
KSU1 Kansas State U 122.59 39 *e*PKPdf PKPdf 08 46 34.4 +1.1
KSU1 LR LR
comp=Z,841nm,19.0s
TOA0 Torodi Ar. Sit 123.46 287 *e*PKPdf PKPdf 08 46 36.6 +1.7
TORD Torodi Ar. Bea 123.46 287 PKP PKPdf 08 46 36.0 +1.1
comp=Z,3.6nm,0.7s,baz=71,slow=1.4,SNR=15
TORD PKKPbc PKKPbc 08 56 27.0 +3.5
comp=Z,0.7nm,0.6s,baz=286,slow=3.6,SNR=6.4
TORD Torodi Ar. Bea 123.46 287 PKP PKPdf 08 46 36.0 +1.1
TORD PKKPbc PKKPbc 08 56 27.0 +3.5
WMOK Wichita Mounta 123.52 45 PFAKE 08 46 50.0 +15
WMOK LR LR
comp=Z,824nm,22.0s
JFWS Jewell Farm 123.91 32 PKIKP PKPdf 08 46 36.2 +0.5
JFWS Jewell Farm 123.91 32 *e*PKPdf PKPdf 08 46 35.9 +0.2
JFWS LR LR
comp=Z,635nm,22.0s
JCT Junction City 124.85 50 *e*PKPdf PKPdf 08 46 39.3 +1.8
JCT LR LR
comp=Z,744nm,21.0s
HDIL Hopedale 126.04 34 PFAKE 08 46 50.0 +10
HDIL LR LR
comp=Z,252nm,19.0s
AAM Ann Arbor 127.69 28 PFAKE 08 47 00.0 +17
AAM LR LR
comp=Z,1μm,22.0s
NATX Nacogdoches 128.02 46 PFAKE 08 47 00.0 +16
NATX LR LR
comp=Z,591nm,20.0s
HKT Hockley 128.11 48 PFAKE 08 47 00.0 +16
HKT LR LR
comp=Z,466nm,20.0s
BLO Bloomington 128.53 33 *e*PKIKP PKPdf 08 46 46.4 +1.8
BLO Bloomington 128.53 33 *e*PKPdf PKPdf 08 46 45.9 +1.3
WCI Wyandotte Cave 129.33 34 PFAKE 08 47 00.0 +14
WCI LR LR
comp=Z,877nm,22.0s
WVT Waverly 129.88 37 PFAKE 08 47 00.0 +13
WVT LR LR
comp=Z,476nm,19.0s
OXF Oxford 129.96 40 PFAKE 08 47 00.0 +13
OXF LR LR
comp=Z,849nm,22.0s
PLAL Pickwick Lake 130.50 38 *e*PKPdf PKPdf 08 46 49.3 +1.0
PLAL LR LR
comp=Z,613nm,22.0s
LBNH Lisbon 130.67 18 PFAKE 08 47 00.0 +11
LBNH LR LR
comp=Z,965nm,22.0s
BINY Binghamton 131.07 23 PFAKE 08 47 00.0 +11
BINY LR LR
comp=Z,1μm,20.0s
MCWV Mont Chateau 131.54 28 PFAKE 08 47 00.0 +10
MCWV LR LR
comp=Z,965nm,21.0s
SSPA Standing Stone 131.62 25 PFAKE 08 47 00.0 +10
SSPA LR LR
comp=Z,473nm,22.0s
HRV Harvard--Oak R 132.35 18 PFAKE 08 47 00.0 +8.2
HRV LR LR
comp=Z,770nm,19.0s
WES Weston 132.53 18 PFAKE 08 47 00.0 +7.8
WES LR LR
comp=Z,1μm,19.0s
ELN Prospectdale 133.02 30 *e*PKPdf PKPdf 08 46 54.2 +1.2
BLA Blacksburg 133.20 30 PFAKE 08 47 10.0 +17
BLA LR LR
comp=Z,855nm,21.0s
CBN Corbin 133.85 27 PFAKE 08 47 10.0 +15
CBN LR LR
comp=Z,847nm,22.0s
CNNC Cliffs of the 136.01 30 PFAKE 08 47 10.0 +11
CNNC LR LR
comp=Z,519nm,19.0s
TEIG Tepich 138.88 55 PFAKE 08 47 20.0 +16
TEIG LR LR
comp=Z,652nm,22.0s
DWPF Disney 139.30 40 PFAKE 08 47 20.0 +15
DWPF LR LR
comp=Z,691nm,20.0s
TGUH Tegucigalpa,Un 142.45 63 PFAKE 08 47 20.0 +10
TGUH LR LR
comp=Z,664nm,21.0s
PAYG Puerto Ayora 142.83 88 PFAKE 08 47 20.0 +8.9
PAYG LR LR
comp=Z,1μm,21.0s
TRQA Tornquist 143.55 168 *e*PKPdf PKPdf 08 47 11.8 -0.6
TRQA LR LR
comp=Z,1μm,19.0s
CLCH Cerro Calan 145.08 154⇑ *i*P PKPbc 08 47 16.1 +1.6
FCH Farellones 145.24 154⇑ *i*P PKPbc 08 47 17.2 +2.1
OTAV Otavalo 154.56 85 *e*PKPdf PKPdf 08 47 33.5 +3.6
OTAV LR LR
comp=Z,523nm,22.0s
NNA Nana 154.63 113 PFAKE 08 47 40.0 +10
NNA LR LR
comp=Z,146nm,19.0s
CPUP Villa Florida 155.81 171 PKP PKPdf 08 47 33.0 +1.4
comp=Z,0.4nm,0.4s,baz=48,slow=6.0,SNR=2.9
CPUP PKPbc PKPdf 08 47 42.9 +11
comp=Z,3.7nm,0.5s,baz=118,slow=1.2,SNR=8.4
CPUP PKPab PKPab 08 48 00.6 +2.1
comp=Z,7.6nm,0.7s,baz=181,slow=3.4,SNR=6.2
CPUP Villa Florida 155.81 171 PKPdf PKPdf 08 47 33.8 +2.1
CPUP *e*PKPbc PKPdf 08 47 43.2 +12
CPUP *e*PKPab PKPab 08 47 59.7 +1.2
ROSC El Rosal 157.65 71 PKP PKPdf 08 47 35.9 +1.9
comp=Z,3.7nm,0.4s,baz=110,slow=24,SNR=4.8
ROSC PKPab PKPab 08 48 09.1 +2.6
comp=Z,8.6nm,0.7s,baz=272,slow=20,SNR=7.7
SDV Santo Domingo 159.30 57 *e*PKPdf PKPdf 08 47 35.9 0.0
SDV *e*PKPab PKPab 08 48 16.6 +3.1
SDV LR LR
comp=Z,238nm,20.0s
RCBR Riachuelo 162.47 258 PFAKE 08 47 50.0 +11
RCBR LR LR
comp=Z,598nm,21.0s
BBGH Gun Hill 163.34 22 PFAKE 08 47 50.0 +10
BBGH LR LR
comp=Z,2μm,21.0s
SAML Samuel 168.05 124 *e*PKPdf PKPdf 08 47 45.7 +1.6

*NEIC **30** 08:37:32.8, 1866N×102.07W, h54km, MD4.3(MEX), After MEX.*

MEX 30 08:37:31.7±0.7, 1863N×10208W, h66km±15km, MD4.3, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.17**	**150**	*i* P	Pn	08 37 50.3	-1.9
ZIIG				*i* S	Sn	08 38 05.6	-1.9
ZIIG	**Zihuatanejo**	**1.17**	**150**	*i* P	Pn	08 37 50.2	-2.0
ZIIG				*i* S	Sn	08 38 05.8	-1.7
MMIG	**Aquila**	**1.25**	**254**	*i* P	Pn	08 37 51.8	-1.4
MMIG				*i* S	Sn	08 38 07.9	-1.3
MOIG	**Morelia**	**1.34**	**39**	*i* P	Pn	08 37 53.1	-1.3
MOIG				*i* S	Sn	08 38 10.3	-1.2
SFJM	**Santa Fe**	**2.06**	**334**	*i* P	Pn	08 38 03.0	-1.0
SFJM				*i* S	Sn	08 38 26.0	-2.6
SFJM	**Santa Fe**	**2.06**	**334**	*i* P	Pn	08 38 03.0	-1.0
SFJM				*i* S	Sn	08 38 32.0	+3.4
CAIG	**El Cayaco**	**2.34**	**132**	*i* P	Pn	08 38 06.6	-1.2
CAIG				*i* S	Sn	08 38 34.1	-1.3
CAIG	**El Cayaco**	**2.34**	**132**	*i* P	Pn	08 38 08.7	+0.9
CAIG				*i* S	Sn	08 38 36.1	+0.7
MEIG	**Mezcala**	**2.44**	**106**	*i* P	Pn	08 38 08.8	-0.5
MEIG				*e*S	Sn	08 38 37.1	-0.9
PLIG	**Platanillo**	**2.46**	**95**	*i* P	Pn	08 38 08.9	-0.5
PLIG				*i* S	Sn	08 38 37.1	-1.4
PLIG	**Platanillo**	**2.46**	**95**	*i* P	Pn	08 38 10.2	+0.8
PLIG				*i* S	Sn	08 38 41.6	+3.2
SZVM	**Salazar**	**2.65**	**74**	*e*P	Pn	08 38 11.8	-0.2
SZVM				*i* S	Sn	08 38 41.4	-1.6
ACX	**Acapulco**	**2.71**	**130**	*i* P	Pn	08 38 14.5	+1.7
UNM	**Universidad Na**	**2.84**	**75**	*i* P	Pn	08 38 18.1	+3.5
CJM	**Chamela**	**2.93**	**288**	*i* P	Pn	08 38 15.7	-0.2
CJM				*i* S	Sn	08 38 48.6	-1.2
CJM	**Chamela**	**2.93**	**288**	*i* P	Pn	08 38 17.7	+1.8
CJM				*i* S	Sn	08 38 56.6	+6.8
PPM	**Popocatepetl**	**3.30**	**82**	*i* P	Pn	08 38 21.4	+0.5
PPM				*i* S	Sn	08 39 00.2	+1.2
PPM	**Popocatepetl**	**3.30**	**82**	*i* P	Pn	08 38 25.8	+4.9
PPM				*i* S	Sn	08 39 03.1	+4.1
IIO	**Organos**	**3.32**	**73**	*i* P	Pn	08 38 19.6	-1.6
IIO				*i* S	Sn	08 39 03.5	+4.1
ANIG	**Ahuacatlan**	**3.33**	**317**	*i* P	Pn	08 38 21.2	-0.2
UTMO	**Huajuapan**	**4.14**	**100**	*e*P	Pn	08 38 32.8	+0.4
UTMO				*i* S	Sn	08 39 17.5	-2.2
ZAIG	**Zacatecas**	**4.14**	**354**	*i* P	Pn	08 38 32.3	-0.1
ZAIG				*i* S	Sn	08 39 18.2	-1.4
TPIG	**Tehuac#an**	**4.48**	**92**	*i* S	Sn	08 39 28.4	+0.4
OXX	**Oaxaca**	**5.33**	**106**	*e*P	Pn	08 38 51.5	+2.8

IDC 30 08:37:59.1±1.6, 249N×12693E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, MS4.5/1, Ms1 4.5/1, ms1mx3.3/36, Error ellipse: s-maj=103.3km s-min=21.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.50**	**184**	P	P	08 42 38.4	-0.3
	2.5nm,1.0s,baz=355,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**23.45**	**162**	P	P	08 43 08.8	-1.4
	1.1nm,0.4s,baz=342,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**26.87**	**166**	P	P	08 43 43.5	+2.1
	0.3nm,0.3s,baz=346,slow=12,SNR=4.1						
JHJ	**Hachijo jima 2**	**32.77**	**20**	LR	LR	08 55 23.7	
	comp=Z,718nm,19.4s,baz=211,slow=32						
STKA	**Stephens Creek**	**36.90**	**159**	P	P	08 45 09.8	+0.2
	2.4nm,0.6s,baz=342,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**58.69**	**326**	P	P	08 47 58.3	-0.1
	0.5nm,0.4s,baz=131,slow=8.0,SNR=10						

ATH 30 08:39:35.7, 3797N×2016E, h5km, MD3.6/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.40**	**58**	*e*PB	Pg	08 39 43.7	+0.3
RLS	**Riolos of Patr**	**1.04**	**85**	*e*PG	Pg	08 39 54.9	-0.7
EVR	**Evrytania**	**1.60**	**53**	*e*PB	Pb	08 40 06.4	+0.6
EVR				*e*SB	Sb	08 40 28.5	+2.2
ITM	**Ithomi**	**1.61**	**119**	*e*PB	Pb	08 40 06.5	+0.6
KEK	**Kerkira**	**1.76**	**351**	*e*PN	Pn	08 40 09.0	+2.1
JAN	**Janina**	**1.77**	**18**	*e*PN	Pn	08 40 09.2	+2.3
THL	**Klokotos Trika**	**2.15**	**42**	*e*PN	Pn	08 40 14.8	+2.6
NAIG	**Nisos Aigina**	**2.64**	**94**	*e*PN	Pn	08 40 22.3	+3.3
KYTH	**Kithira**	**2.85**	**125**	*e*PN	Pn	08 40 25.0	+3.2

IDC 30 08:53:54.3±8.4, 220N×12614E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/16, mbtmp4.1/3, Error ellipse: s-maj=180.1km s-min=130.1km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**160**	P	P	08 59 05.7	+0.6
	3.2nm,0.4s,baz=339,slow=11,SNR=62						
ASAR	**Alice Springs**	**26.80**	**164**	P	P	08 59 36.4	+0.3
	1.0nm,0.3s,baz=342,slow=9.9,SNR=25						
STKA	**Stephens Creek**	**36.93**	**158**	P	P	09 01 04.6	-0.3
	1.4nm,0.7s,baz=351,slow=12,SNR=3.8						

*IDC **30** 08:55:44.5±1.1, 1292N×12365E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML4.4/1, Error ellipse: s-maj=61.8km s-min=16.4km az=66.0*
*MAN **30** 08:55:45.9, 1267N×12320E, h14km, mb3.5, ML4.7, MS2.5*
*ISCJB **30** 08:55:50.1±1.5, 128N±0.1×1234E±0.1, h57km±15km, mb3.8/7, Error ellipse: s-maj=24.5km s-min=16.2km az=113.2*

ISC 30 08:55:51.2±1.5, 129N±01×1234E±01, h47km±17km, n9, σ0§29/9, mb3.8/7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.01**	**43**	*e*P	**Pn**	**08 56 09.1**	**0.0**
TGY	**Tagaytay City**	**2.74**	**297**	Pn	**Pn**	**08 56 32.6**	**-0.1**
	61nm,0.3s,baz=11,slow=4.1,SNR=20						
FITZ	**Fitzroy Crossi**	**30.83**	**176**	P	**P**	**09 02 03.0**	**+0.3**
	1.9nm,0.9s,mb3.9,baz=3.4,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**34.31**	**162**	P	**P**	**09 02 33.4**	**+0.3**
	1.1nm,0.8s,mb3.8,baz=340,slow=9.8,SNR=6.3						
SONM	**Songino Array**	**37.67**	**341**	P	**P**	**09 03 01.9**	**0.0**
	0.7nm,0.7s,mb3.5,baz=170,slow=9.0,SNR=5.7						
ASAR	**Alice Springs**	**37.71**	**164**	P	**P**	**09 03 01.6**	**-0.6**
	0.6nm,0.7s,mb3.4,baz=347,slow=7.2,SNR=7.2						
MKAR	**Makanchi Array**	**48.31**	**323**	P	**P**	**09 04 28.2**	**+0.4**
	1.0nm,0.7s,mb4.0,baz=124,slow=7.9,SNR=8.3						
ZAL	**Zalesovo**	**51.05**	**332**	P	**P**	**09 04 48.4**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=180,slow=1.0,SNR=2.9						
BVAR	**Borovoye Array**	**57.98**	**325**	P	**P**	**09 05 39.0**	**0.0**
	0.7nm,0.7s,mb3.8,baz=121,slow=14,SNR=3.7						

IDC 30 08:58:40.0±39.0, 1956S×17950W, h650km±364km, mb2.7/3, mb1 2.9/3, mb1mx2.6/13, mbtmp3.8/3, Error ellipse: s-maj=366.4km s-min=176.5km az=110.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.19**	**263**	P	P	09 04 18.6	+1.0
	1.7nm,0.5s,baz=95,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**43.34**	**261**	P	P	09 05 48.0	+0.6
	0.7nm,0.6s,baz=96,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**43.36**	**256**	P	P	09 05 47.6	0.0
	0.5nm,0.5s,baz=96,slow=7.9,SNR=18						
AKASG	**Malin Array Be**	**141.51**	**331**	PKP	PKPdf	09 16 58.1	-0.8
	0.9nm,0.4s,baz=38,slow=4.5,SNR=6.0						

*IDC **30** 09:27:10.5±1.2, 3929N×3976E, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.7/23, mbtmp3.7/13, ML3.6/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/38, Error ellipse: s-maj=29.4km s-min=9.5km az=179.0*
*NEIC **30** 09:27:10.4, 3962N×3969E, h5km, mb4.3/2, ML3.9(ISK), After ISK.*
*CSEM **30** 09:27:11.0±0.1, 3964N×3970E, h2km, mb4.5/5, Error ellipse: s-maj=1.6km s-min=1.2km az=177.0*
*ISCJB **30** 09:27:11.9±0.5, 3963N±002×3968E±002, h4km±4km, mb4.0/13, MS3.9/1, Error ellipse: s-maj=3.2km s-min=3.0km az=92.4*
*ISK **30** 09:27:11.1, 3963N×3969E, h5km, MD3.9*

*MOS **30** 09:27:12.0±0.7, 3957N×3969E, h12km, mb4.1/6, Error ellipse: s-maj=9.2km s-min=6.4km az=65.9*

ISC 30 09:27:12.7±0.5, 3962N±002×3970E±003, h2km±4km, n118, σ1§30/143, mb4.0/13, MS3.9/1, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.16**	**33**	*i* PG	**Pg**	**09 27 17.2**	**+1.5**
EZC	**Erzincan**	**0.16**	**33**	Pg	**Pg**	**09 27 17.3**	**+1.5**
KELT	**Kelkit**	**0.63**	**327**	*i* P	**Pg**	**09 27 22.8**	**-2.0**
KELT				*i* S	**Sg**	**09 27 32.1**	**-1.0**
PTK	**Pertek**	**0.76**	**199**	PG	**Pg**	**09 27 25.7**	**-1.6**
PTK				SG	**Sg**	**09 27 36.8**	**-0.4**
PTK	**Pertek**	**0.76**	**199**	Pg	**Pg**	**09 27 25.8**	**-1.5**
PTK				Sg	**Sg**	**09 27 36.8**	**-0.4**
PTK	**Pertek**	**0.76**	**199**	Pg	**Pg**	**09 27 25.8**	**-1.5**
PTK				*e*Sg	**Sg**	**09 27 36.8**	**-0.4**
BINT	**Bingol**	**0.96**	**140**	PG	**Pg**	**09 27 29.9**	**-1.2**
BINT	**Bingol**	**0.96**	**140**	Pg	**Pg**	**09 27 29.9**	**-1.1**
ELZG	**Elazig**	**1.25**	**207**	*i* P	**Pg**	**09 27 34.2**	**-2.5**
ELZG				*i* S	**Sg**	**09 27 54.3**	**+1.4**
BNGL	**BINGOL**	**1.30**	**120**	*i* P	**Pg**	**09 27 40.0**	**+2.3**
BNGL				*i* S	**Sg**	**09 27 57.9**	**+3.4**
EZM	**Erzurum**	**1.31**	**77**	PN	**Pn**	**09 27 35.9**	**-2.1**
EZM	**Erzurum**	**1.31**	**77**	Pn	**Pn**	**09 27 35.8**	**-2.2**
ERZM	**Erzurum**	**1.31**	**77**	*i* P	**Pn**	**09 27 35.8**	**-2.3**
ERZM				*i* S	**Sg**	**09 27 52.8**	**-2.1**
MACK	**Trabzon**	**1.33**	**2**	*i* P	**Pn**	**09 27 35.7**	**-2.6**
MACK				*i* S	**Sg**	**09 27 54.3**	**-1.0**
KTUT	**Trabzon**	**1.37**	**2**	PN	**Pn**	**09 27 36.5**	**-2.4**
KTUT				SN	**Sn**	**09 27 55.4**	**-2.2**
MYA	**Malataya**	**1.63**	**218**	PN	**Pn**	**09 27 40.5**	**-1.9**
MYA	**Malataya**	**1.63**	**218**	Pn	**Pn**	**09 27 40.5**	**-1.9**
GRSN	**GIRESUNGRSN**	**1.71**	**320**	*i* P	**Pn**	**09 27 41.6**	**-1.9**
GRSN				*i* S	**Sn**	**09 28 08.0**	**+2.1**
DIY	**Diyarbakir**	**1.77**	**166**	PN	**Pn**	**09 27 43.5**	**-0.8**
DIY	**Diyarbakir**	**1.77**	**166**	Pn	**Pn**	**09 27 43.5**	**-0.8**
BTMT	**Batman**	**1.99**	**135**	PN	**Pn**	**09 27 46.8**	**-0.6**
SVSK	**Karacayir**	**2.11**	**279**	PN	**Pn**	**09 27 48.6**	**-0.4**
SVSK	**Karacayir**	**2.11**	**279**	Pn	**Pn**	**09 27 48.6**	**-0.4**
URFA	**Urfa**	**2.28**	**198**	PN	**Pn**	**09 27 51.0**	**-0.4**
URFA	**Urfa**	**2.28**	**198**	Pn	**Pn**	**09 27 51.1**	**-0.3**
BCA	**Borcka**	**2.34**	**38**	PN	**Pn**	**09 27 51.7**	**-0.5**
BCA	**Borcka**	**2.34**	**38**	Pn	**Pn**	**09 27 51.8**	**-0.4**
MARD	**Mardin**	**2.45**	**160**	*i* P	**Pb**	**09 27 55.8**	**-1.7**
MARD				*i* S	**Sb**	**09 28 28.9**	**+0.8**
TOKT	**Tokat**	**2.53**	**287**	*e*PN	**Pn**	**09 27 54.1**	**-0.7**
TOKT	**Tokat**	**2.53**	**287**	Pn	**Pn**	**09 27 54.1**	**-0.6**
AGRT	**Agri**	**2.54**	**89**	*e*PN	**Pn**	**09 27 54.4**	**-0.5**
KARS	**Kars**	**2.78**	**68**	*e*PN	**Pn**	**09 27 58.5**	**+0.2**
KARS	**Kars**	**2.78**	**68**	Pn	**Pn**	**09 27 58.5**	**+0.2**
SIRT	**Sirnak**	**3.01**	**134**	*e*PN	**Pn**	**09 28 01.9**	**+0.5**
VANB	**Van**	**3.04**	**108**	*e*PN	**Pn**	**09 28 02.4**	**+0.5**
VANB	**Van**	**3.04**	**108**	Pn	**Pn**	**09 28 02.5**	**+0.6**
KMRS	**Kahramanmaras**	**3.04**	**227**	*e*PN	**Pn**	**09 28 01.9**	**0.0**
BNN	**Bunyan**	**3.09**	**257**	*e*PN	**Pn**	**09 28 01.6**	**-0.9**
BNN	**Bunyan**	**3.09**	**257**	Pn	**Pn**	**09 28 01.6**	**-0.9**
GAZ	**Gaziantep**	**3.13**	**220**	*e*PN	**Pn**	**09 28 02.9**	**-0.1**
GAZ	**Gaziantep**	**3.13**	**220**	Pn	**Pn**	**09 28 03.0**	**-0.1**
GAZ	**Gaziantep**	**3.13**	**220**	Pn	**Pn**	**09 28 03.0**	**0.0**
KVT	**Kavak**	**3.15**	**299**	*e*PN	**Pn**	**09 28 03.4**	**0.0**
KVT	**Kavak**	**3.15**	**299**	Pn	**Pn**	**09 28 03.5**	**+0.1**
CLDR	**Caldiran**	**3.30**	**97**	*e*PN	**Pn**	**09 28 05.4**	**0.0**
CLDR	**Caldiran**	**3.30**	**97**	Pn	**Pn**	**09 28 05.5**	**+0.1**
CLDR	**Caldiran**	**3.30**	**97**	Pn	**Pn**	**09 28 05.5**	**+0.1**
YOZ	**Yozgat**	**3.39**	**272**	*e*PN	**Pn**	**09 28 06.9**	**+0.3**
YOZ	**Yozgat**	**3.39**	**272**	Pn	**Pn**	**09 28 07.0**	**+0.4**
KOZT	**Kozan**	**3.71**	**236**	*e*PN	**Pn**	**09 28 10.9**	**-0.2**
CUKT	**Cukurca**	**3.87**	**126**	*e*PN	**Pn**	**09 28 14.2**	**+0.9**
GNI	**Garni**	**3.91**	**81**	Pn	**Pn**	**09 28 13.1**	**-0.7**
	0.3nm,0.3s,baz=349,slow=5.2,SNR=2.5						
GNI				Pg	**Pb**	**09 28 24.2**	**+1.8**
	3.0nm,0.3s,baz=308,slow=4.5,SNR=12						
GNI				Lg		09 29 14.9	
	baz=158,slow=19,SNR=1.4						
GNI	**Garni**	**3.91**	**81**	P	**Pn**	**09 28 13.1**	**-0.7**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GNI	**Garni**	**3.91**	**81**	Pn	**Pn**	**09 28 13.1**	**-0.7**
GNI				Pg	**Pb**	**09 28 24.2**	**+1.8**
GNI				*e*Pg	**Pb**	**09 28 24.6**	**+2.2**
GNI				Lg		09 29 14.9	
GNI	**Garni**	**3.91**	**81**	Pg	**Pb**	**09 28 24.2**	**+1.8**
SOC	**Sochi**	**3.96**	**0**	*c i* P	**Pn**	**09 28 14.6**	**+0.1**
SOC				*e*		09 29 01.0	
SOC				pmax	pmax		
	comp=Z,81nm,0.9s						
SOC	**Sochi**	**3.96**	**0**	*i* P	**Pn**	**09 28 14.6**	**+0.1**
	comp=Z,81nm,0.9s						
SOC				*e*S	**Sn**	**09 29 01.0**	**-0.6**
CEYT	**Ceyhan**	**4.06**	**231**	*e*PN	**Pn**	**09 28 16.3**	**+0.5**
CEYT	**Ceyhan**	**4.06**	**231**	Pn	**Pn**	**09 28 16.4**	**+0.6**
ONI	**Oni**	**4.10**	**43**	P	**Pn**	**09 28 16.4**	**0.0**
ONI				S	**Sg**	**09 29 19.9**	**-4.4**
MSL	**Mosul**	**4.26**	**140**	*ex*	x	09 28 24.0	
MSL				*ex*	x	09 28 33.5	
MSL				*ex*	x	09 29 20.0	
MSL				*ex*	x	09 29 34.0	
KARA	**Karaisali**	**4.34**	**239**	*e*PN	**Pn**	**09 28 20.8**	**+1.1**
TBLG	**Delisi**	**4.37**	**59**	P	**Pb**	**09 28 30.5**	**+0.3**
TBLG				S	**Sg**	**09 29 42.8**	**+10**
MTA	**Mtatsminda**	**4.39**	**60**	P	**Pb**	**09 28 32.5**	**+1.9**
MTA				S	**Sg**	**09 29 41.4**	**+7.6**
ZEI	**Tsey**	**4.46**	**44**	*e*P	**Pn**	**09 28 22.4**	**+1.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ZEI	**Tsey**	**4.46**	**44**	*e*P	**Pn**	**09 28 22.4**	**+1.0**
	comp=Z,5.0nm,0.1s						
BR131	**Keskin Array S**	**4.68**	**273**	*e*Pn	**Pn**	**09 28 24.0**	**-0.4**
BR131	**Keskin Array S**	**4.68**	**273**	*e*Pn	**Pn**	**09 28 24.0**	**-0.4**
BRTR	**Keskin Array B**	**4.68**	**273**	Pn	**Pn**	**09 28 23.8**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=103,slow=15,SNR=17						
BRTR				Pg	**Pb**	**09 28 35.4**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=78,slow=13,SNR=12						
BRTR				Lg		09 29 43.4	
	comp=Z,0.6nm,0.3s,baz=80,slow=40,SNR=2.2						
BRTR				LR	LR	09 30 16.2	
	comp=Z,442nm,19.5s,baz=123,slow=39						
BRTR	**Keskin Array B**	**4.68**	**273**	Pg	**Pb**	**09 28 35.4**	**-0.1**
SHAR	**Shatzhatmas**	**4.68**	**27**	*e*P	**Pn**	**09 28 25.9**	**+1.5**
DGRG	**David-gareji**	**4.69**	**65**	P	**Pn**	**09 28 24.0**	**-0.6**
DGRG				S	**Sg**	**09 29 53.9**	**+10**
KIV	**Kislovodsk**	**4.88**	**26**	*de*P	**Pn**	**09 28 27.1**	**+0.1**
KIV				*e*S	**Sn**	**09 29 24.6**	**+0.5**
KIV	**Kislovodsk**	**4.88**	**26**	*e*Pn	**Pn**	**09 28 26.7**	**-0.4**
KIV	**Kislovodsk**	**4.88**	**26**	*e*Pn	**Pn**	**09 28 26.7**	**-0.3**
KIV				*e*S	**Sn**	**09 29 24.6**	**+0.5**
KUBR	**Kubataba**	**5.02**	**32**	*e*P	**Pn**	**09 28 30.1**	**+1.1**
ANTO	**Ankara**	**5.33**	**275**	*e*P	**Pg**	**09 28 49.7**	**-5.2**
ANTO				pmax	pmax		
	comp=Z,31nm,0.8s						
ANTO	**Ankara**	**5.33**	**275**	*e*Pg	**Pg**	**09 28 49.7**	**-5.2**
	comp=Z,31nm,0.8s						
ANTO				*e*Sg	**Sg**	**09 30 06.7**	**+2.7**
ANTO	**Ankara**	**5.33**	**275**	*e*Pg	**Pg**	**09 28 49.7**	**-5.2**
	comp=Z,31nm,0.8s						
ANTO				*e*Sg	**Sg**	**09 30 06.7**	**+2.7**
ANN	**Anapa**	**5.45**	**343**	*e*P	**Pn**	**09 28 36.3**	**+1.4**
ANN				*e*S	**Sn**	**09 29 42.6**	**+4.4**
ANN				pmax	pmax		
	comp=Z,83nm,1.3s						
ANN	**Anapa**	**5.45**	**343**	*e*P	**Pn**	**09 28 36.3**	**+1.4**
	comp=Z,83nm,1.3s						
AKASG	**Malin Array Be**	**13.31**	**330**	Pn	**Pn**	**09 30 22.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=199,slow=31,SNR=5.2						
AKASG	**Malin Array Be**	**13.31**	**330**	P	**Pn**	**09 30 23.0**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**15.65**	**353**	*e*P	**Pn**	**09 30 57.7**	**+3.4**
OBN				*e*S	**Sn**	**09 33 41.6**	**-6.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ORR	**Orenburg**	**15.93**	**36**	P	**Pn**	**09 30 59.1**	**+1.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
ORR	**Orenburg**	**15.93**	**36**	P	**Pn**	**09 30 59.1**	**+1.2**
	comp=Z,10.0nm,1.5s						
AKTK	**Aktyubinsk**	**16.82**	**44**	P	**Pn**	**09 31 10.4**	**+1.1**
AKTO	**Aktyubinsk**	**16.82**	**44**	P	**Pn**	**09 31 10.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=235,slow=11,SNR=6.4						
GERES	**GERESS Array B**	**20.71**	**305**	P	**P**	**09 31 56.0**	**+1.8**
	comp=Z,0.3nm,0.2s,baz=123,slow=9.7,SNR=3.9						
PGF	**Pioggiola**	**23.27**	**287**	*e*P	**P**	**09 32 23.3**	**+1.7**
	comp=Z,32nm,1.2s,mb4.3						
FINES	**FINESS Array B**	**23.41**	**343**	P	**P**	**09 32 24.5**	**+1.4**
	comp=Z,3.3nm,0.9s,mb3.8,baz=155,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**23.41**	**343**	*i* P	**P**	**09 32 25.2**	**+2.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MBDF	**Montbardon**	**24.83**	**293**	*e*P	**P**	**09 32 36.7**	**+0.4**
BVAR	**Borovoye Array**	**24.85**	**47**	P	**P**	**09 32 35.9**	**-0.6**
	comp=Z,1.9nm,0.7s,mb3.8,baz=250,slow=4.3,SNR=8.5						
BVAR	**Borovoye Array**	**24.85**	**47**	P	**P**	**09 32 35.9**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPG	**La Plagne**	**24.86**	**294**	*e*P	**P**	**09 32 38.8**	**+2.2**
	comp=Z,6.5nm,0.6s,mb4.0						
LPG	**La Plagne**	**24.86**	**294**	*e*P	**P**	**09 32 38.8**	**+2.2**
	comp=Z,6.0nm,0.6s,mb4.3						
LPL	**La Plagne**	**24.87**	**295**	*e*P	**P**	**09 32 39.0**	**+2.3**
BNI	**Bardonecchia**	**24.90**	**293**	*e*P	**P**	**09 32 36.8**	**-0.2**
BNI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
BNI	**Bardonecchia**	**24.90**	**293**	*e*P	**P**	**09 32 36.8**	**-0.2**
	comp=Z,11nm,1.1s,mb4.3						
BNI	**Bardonecchia**	**24.90**	**293**	*e*P	**P**	**09 32 36.8**	**-0.2**
	comp=Z,11nm,1.1s,mb4.3						
FRF	**La Foret Royal**	**24.94**	**290**	*e*P	**P**	**09 32 38.1**	**+0.8**
CHKZ	**Chkalovo**	**25.21**	**46**	*e*P	**P**	**09 32 38.6**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**25.21**	**46**	*e*P	**P**	**09 32 38.6**	**-1.2**
	comp=Z,4.0nm,0.9s,mb4.0						
CABF	**La Chapelle**	**25.38**	**297**	*e*P	**P**	**09 32 39.5**	**-1.8**
	comp=Z,34nm,1.0s,mb4.5						
CABF	**La Chapelle**	**25.38**	**297**	*e*P	**P**	**09 32 39.5**	**-1.8**
	comp=Z,33nm,1.0s,mb4.8						
SMRF	**Simiane la Rot**	**25.70**	**291**	*e*P	**P**	**09 32 44.5**	**+0.3**
HFS	**Hagfors**	**26.20**	**330**	P	**P**	**09 32 49.4**	**+0.7**
	comp=Z,2.9nm,0.8s,mb3.9,baz=154,slow=11,SNR=3.1						
HFS	**Hagfors**	**26.20**	**330**	P	**P**	**09 32 49.4**	**+0.7**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SMF	**Signal de Mont**	**26.93**	**297**	*e*P	**P**	**09 32 57.3**	**+2.0**
MKAR	**Makanchi Array**	**31.55**	**63**	P	**P**	**09 33 35.1**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=284,slow=7.3,SNR=3.4						
ESDC	**Sonseca Array**	**33.38**	**284**	P	**P**	**09 33 51.0**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=61,slow=10,SNR=5.3						
ZAL	**Zalesovo**	**33.43**	**49**	P	**P**	**09 33 51.7**	**-1.1**
	comp=Z,0.9nm,0.3s,mb4.2,baz=212,slow=14,SNR=3.2						
ZAL	**Zalesovo**	**33.43**	**49**	*i* P	**P**	**09 33 52.0**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**33.43**	**49**	*i* P	**P**	**09 33 52.0**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.2						
TORD	**Torodi Ar. Bea**	**42.57**	**242**	P	**P**	**09 35 07.7**	**-2.3**
	comp=Z,1.3nm,1.2s,mb3.5,baz=36,slow=5.4,SNR=3.3						
SONM	**Songino Array**	**47.53**	**57**	P	**P**	**09 35 48.3**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=269,slow=9.5,SNR=2.7						
SONM				LR	LR	09 58 11.7	
	comp=Z,112nm,18.6s,MS3.9,baz=160,slow=39						
ULN	**Ulaanbaatar**	**47.95**	**57**	*e*P	**P**	**09 35 52.8**	**+0.1**

*IDC **30** 09:37:20.5±2.0, 1874S×17585W, h162km±20km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, mbtmp4.3/7, MS4.1/3, Ms1 4.1/3, ms1mx3.2/30, Error ellipse: s-maj=28.4km s-min=14.1km az=133.0*
*ISCJB **30** 09:37:21.0±1.9, 189S±01×1756W±01, h187km±22km, mb4.2/10, Error ellipse: s-maj=24.7km s-min=19.9km az=139.0*
*NEIC **30** 09:37:21.0±1.2, 1894S×17565W, h168km±12km, mb4.6/7, Error ellipse: s-maj=15.1km s-min=9.3km az=137.0*

**ISC 30 09:37:21.1±1.9, 190S±01×1756W±

13nm,0.3s
SBF Sospel 1.25 175 eSg Sg 09 45 04.8 +0.4
2.8nm,0.2s
FRF La Foret Royal 1.62 197 eSg Sg 09 45 15.9 -0.1
6.5nm,0.3s
SMRF Simiane la Rot 1.67 228 eSg Sg 09 45 17.2 -0.4
3.0nm,0.4s
VIVF Saint-Julien-l 1.87 263 eSg Sg 09 45 23.4 -0.7
3.8nm,0.5s

IDC 30 09:59:15.0±4.1,318S×12772E,h46km±38km,mb3.8/6, mb1 4.0/8,mb1mx3.8/18,mbtmp4.1/8,ML4.2/2,Error ellipse: s-maj=86.8km s-min=11.9km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.97	188	eP	Pn	10 02 45.2	+1.7
4.3nm,0.6s							
FITZ	Fitzroy Crossi	14.97	188	P	Pn	10 02 45.4	+1.9
0.1nm,0.3s,baz=358,slow=7.0,SNR=4.7							
WRA	Warramunga Arr	17.87	159	P	Pn	10 03 20.8	+0.6
2.6nm,0.3s,baz=341,slow=11,SNR=98							
WB2	Warramunga Arr	17.87	159	eP	Pn	10 03 20.6	+0.4
ASAR	Alice Springs	21.22	164	P	P	10 03 57.0	+0.1
8.1nm,0.4s,baz=339,slow=11,SNR=181							
ASAR				S	S	10 07 51.1	+0.9
0.5nm,0.6s,baz=350,slow=22,SNR=4.0							
ASAR				PcP	PcP	10 08 01.0	+0.3
0.8nm,0.4s,baz=345,slow=1.3,SNR=9.7							
ASPA	Alice Springs	21.22	164	eP	P	10 03 57.8	+0.9
STKA	Stephens Creek	31.39	157	P	P	10 05 31.0	-0.4
1.8nm,0.5s,baz=337,slow=7.3,SNR=5.4							
SONM	Songino Array	54.13	342	P	P	10 08 35.4	0.0
0.7nm,0.9s,baz=157,slow=7.8,SNR=3.5							
MKAR	Makanchi Array	63.81	327	P	P	10 09 42.4	-0.1
1.4nm,0.7s,baz=127,slow=7.9,SNR=11							
ZAL	Zalesovo	67.18	334	P	P	10 10 03.6	-0.6
0.7nm,0.6s,baz=187,slow=5.8,SNR=3.3							
BVAR	Borovoye Array	73.64	328	P	P	10 10 43.3	-0.4
1.0nm,0.8s,baz=140,slow=5.8,SNR=4.0							
TXAR	Lajitas Array	124.82	56	PKP	PKPdf	10 18 11.3	+1.5
0.2nm,0.9s,baz=107,slow=0.9,SNR=3.6							
TORD	Torodi Ar. Bea	125.77	284	PKP	PKPdf	10 18 13.1	+1.5
0.7nm,0.7s,baz=83,slow=2.1,SNR=4.7							
CPUP	Villa Florida	150.26	171	PKPbc	PKPbc	10 19 02.2	+1.2
2.0nm,0.7s,baz=154,slow=2.5,SNR=7.4							

IDC 30 09:59:29.7±10.0,3131S×17895W,h120km±98km, mb3.6/2,mb1 3.8/3,mb1mx3.4/11,mbtmp4.0/3,ML2.9/1, Error ellipse: s-maj=84.4km s-min=58.6km az=167.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.65	204	P	Pn	10 01 19.0	+0.6
0.2nm,0.3s,baz=0.0,slow=12,SNR=2.5							
URZ				S	Sn	10 02 42.8	-0.6
0.8nm,0.3s,baz=307,slow=20,SNR=8.5							
ASAR	Alice Springs	42.25	268	P	P	10 07 11.3	+0.4
1.0nm,0.7s,baz=107,slow=7.4,SNR=6.3							
WRA	Warramunga Arr	43.32	274	P	P	10 07 19.8	+0.2
1.6nm,0.5s,baz=112,slow=7.9,SNR=9.3							
FINES	FINESS Array B	145.71	339	PKPbc	PKPbc	10 18 52.6	-1.8
4.5nm,1.1s,baz=17,slow=1.5,SNR=3.5							

*IDC **30** 10:04:26.4±2.4,1195N×12445E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.6/18,mbtmp3.5/4,Error ellipse: s-maj=240.6km s-min=23.0km az=66.0*
*ISCJB **30** 10:04:29.6±1.0,118N±0.1×1242E±0.4,h33km,mb3.5/4, Error ellipse: s-maj=64.2km s-min=15.7km az=154.7*
*MAN **30** 10:04:32.5,1225N×12487E,h22km,MS1.3*
ISC 30 10:04:31.7±1.1,119N±02×1244E±06,h35km,n5,σ0§51/5, mb3.5/4,1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.66	352	⇓eP	Pn	10 04 58.2	-0.1
WRA	Warramunga Arr	33.16	163	P	P	10 11 05.1	+0.3
0.2nm,0.6s,mb3.2,baz=344,slow=9.2,SNR=5.0							
ASAR	Alice Springs	36.59	165	P	P	10 11 34.0	-0.3
0.5nm,0.5s,mb3.6,baz=347,slow=7.0,SNR=13							
MKAR	Makanchi Array	49.58	323	P	P	10 13 19.0	-0.4
0.1nm,0.4s,mb3.2,baz=120,slow=8.5,SNR=3.8							
ZAL	Zalesovo	52.28	332	P	P	10 13 40.2	+0.6
0.7nm,0.5s,mb3.8,baz=207,slow=16,SNR=3.1							

*ISCJB **30** 10:11:39.6±3.3,236N±009×1269E±02,h12km±21km, mb4.4/17,MS3.8/4,Error ellipse: s-maj=39.8km s-min=10.4km az=148.7*
*IDC **30** 10:11:39.3±0.7,238N×12694E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.2/18,mbtmp4.2/11,MS3.6/2, Ms1 3.6/2,ms1mx2.8/32,Error ellipse: s-maj=48.5km s-min=13.7km az=74.0*
*NEIC **30** 10:11:45.4±5.1,239N×127.13E,h47km±50km,mb4.2/5, Error ellipse: s-maj=33.2km s-min=10.2km az=77.0*
*BJI **30** 10:11:45.4,240N×127.10E,h47km,mB5.2,mb4.7,Ms4.4, Msz4.1*
ISC 30 10:11:45.6±3.0,234N±009×1270E±02,h43km±29km,n29, σ1§00/30,mb4.4/17,MS3.8/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.90	160	eP	Pn	10 15 30.5	+4.2
9.6nm,0.8s							
FITZ	Fitzroy Crossi	20.35	184	eP	P	10 16 19.6	+1.3
5.0nm,0.6s							
FITZ	Fitzroy Crossi	20.35	184	P	P	10 16 18.9	+0.6
3.4nm,0.6s,baz=19,slow=9.8,SNR=17							
WRA	Warramunga Arr	23.29	162	P	P	10 16 49.2	-0.5
2.7nm,0.3s,mb4.1,baz=340,slow=11,SNR=35							
WB2	Warramunga Arr	23.29	162	eP	P	10 16 49.0	-0.7
AS31	Alice Springs	26.71	166	eP	P	10 17 18.9	-1.8
ASAR	Alice Springs	26.71	166	P	P	10 17 20.8	0.0
0.4nm,0.3s,mb3.4,baz=345,slow=7.7,SNR=16							
ASAR				PcP	PcP	10 20 44.7	+1.3
1.1nm,0.7s,baz=357,slow=2.6,SNR=9.3							
ASPA	Alice Springs	26.71	166	eP	P	10 17 23.2	+2.4
NJ2	Nanjing	30.53	346	eP	P	10 18 00.0	+5.2
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.1							
MJAR	Matsushiro Arr	35.58	16	P	P	10 18 37.8	-1.0
comp=Z,4.0nm,1.1s,mb4.3,baz=193,slow=8.8,SNR=5.0							
MJAR				LR	LR	10 30 39.9	
comp=Z,109nm,21.7s,MS3.6,baz=185,slow=32							
CD2	Chengdu	35.92	325	eP	P	10 18 41.3	-0.4
CD2				PP	PP	10 20 02.5	-1.3
CD2				S	S	10 24 17.5	+0.7
CD2				SS	SS	10 26 38.3	-16
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
CD2				LR	LR		
comp=N,180nm,10.8s							
CD2				LR	LR		
comp=Z,100nm,12.0s,MS3.8							
STKA	Stephens Creek	36.74	159	P	P	10 18 49.2	+0.5
comp=Z,7.8nm,0.7s,mb4.7,baz=338,slow=8.1,SNR=16							
STKA	Stephens Creek	36.74	159	eP	P	10 18 49.6	+0.8
HHC	Hu-ho-hao-te	40.79	342	eP	P	10 19 26.0	+3.3
HHC				AMB	AMB		
comp=Z,13nm,0.4s,mb4.9							
HHC				AMB	AMB		
comp=Z,173nm,4.8s							
MDJ	Mudanjiang	42.16	3	P	P	10 19 35.5	+1.6
MDJ				AMB	AMB		
comp=Z,10.0nm,1.4s,mb4.2							
MDJ				AMB	AMB		
comp=Z,112nm,5.0s							
SONM	Songino Array	48.69	342	P	P	10 20 26.3	+0.7
comp=Z,0.5nm,0.3s,mb4.0,baz=168,slow=8.8,SNR=5.7							
SONM				LR	LR	10 40 45.2	
comp=Z,69nm,19.0s,MS3.7,baz=245,slow=36							
WMQ	Urumqi	54.01	325	eP	P	10 21 06.0	+0.7
WMQ				PCP	PcP	10 22 11.0	+1.0
WMQ				PP	PP	10 23 09.0	+2.0
WMQ				S	S	10 28 39.0	+0.8
WMQ				AMB	AMB		
comp=Z,7.0nm,0.6s,mb4.8							
WMQ				AMB	AMB		
comp=Z,158nm,4.6s							
WMQ				LR	LR		
comp=N,234nm,21.2s,MS4.3							
WMQ				LR	LR		
comp=E,184nm,22.0s,MS4.3							
WMQ				LR	LR		
comp=Z,160nm,18.4s,MS4.1							
MK31	Makanchi Array	58.84	326	eP	P	10 21 39.0	-0.7
MKAR	Makanchi Array	58.84	326	P	P	10 21 39.0	-0.8
comp=Z,2.2nm,0.5s,mb4.4,baz=120,slow=7.3,SNR=21							
MKAR	Makanchi Array	58.84	326	P	P	10 21 39.0	-0.8
AAK	Ala-Archa	61.56	318	eP	P	10 22 05.2	+6.9
comp=Z,11nm,0.9s,mb5.0							
BVAR	Borovoye Array	68.62	327	P	P	10 22 43.8	-0.4
comp=Z,1.3nm,0.6s,mb4.0,baz=120,slow=6.0,SNR=8.2							
ZRNK	Zerenda	69.34	327	eP	P	10 22 48.2	-0.5
comp=Z,3.4nm,0.8s,mb4.3							
AKTK	Aktyubinsk	74.90	322	P	P	10 23 21.2	-0.7
AKTO	Aktyubinsk	74.90	322	P	P	10 23 21.2	-0.7
comp=Z,2.9nm,0.7s,mb4.3,baz=110,slow=7.3,SNR=10							
VNDA	Vanda	82.02	173	P	P	10 24 00.6	-0.6
comp=Z,2.2nm,0.8s,mb4.1,baz=318,slow=6.2,SNR=18							
VNDA	Vanda	82.02	173	eP	P	10 24 00.9	-0.3
comp=Z,2.9nm,0.9s,mb4.2							
MAW	Mawson	82.55	200	P	P	10 24 04.0	+0.1
comp=Z,2.2nm,1.0s,mb4.2,baz=68,slow=8.9,SNR=5.4							
ULM	Lac du Bonnet	116.05	29	PKP	PKPdf	10 30 24.7	+0.9
comp=Z,1.6nm,0.4s,baz=43,slow=9.6,SNR=6.6							

*ISCJB **30** 10:19:40.5±0.4,3158S±002×6953W±004,h123km±5km, mb3.5/2,Error ellipse: s-maj=5.9km s-min=4.0km az=19.4*
*NEIC **30** 10:19:40.9,3159S×6956W,h120km,MD3.9(GUC),After GUC.*
*GUC **30** 10:19:40.9±0.9,3159S×6956W,h120km±4km,MD3.9, ML4.2*
*IDC **30** 10:19:43.0±2.1,3158S×6933W,h122km±12km,mb3.3/2, mb1 3.4/4,mb1mx3.2/15,mbtmp3.2/4,Error ellipse: s-maj=40.2km s-min=37.5km az=40.0*
ISC 30 10:19:41.5±0.4,3158S±002×6952W±004,h117km±5km, n42,σ0§68/71,mb3.5/2,13C-11D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.72	87	⇓iP	Pn	10 20 01.2	+0.4
ZON				i S	Sn	10 20 15.9	+0.6
ZON				AML	AML	10 20 18.0	
comp=N,2μm,0.2s							
CFAA	Coronel Fontan	1.10	91	P	Pn	10 20 04.4	+0.1
comp=N,18nm,0.3s,baz=269,slow=7.6,SNR=1021							
CFAA				S	Sn	10 20 21.4	-0.2
comp=N,11nm,0.3s,baz=271,slow=13,SNR=8.2							
CMCH	Combarbala	1.33	288	⇓iP	Pn	10 20 06.6	-0.2
CMCH				i S	Sn	10 20 26.1	+0.1
CMCH				AML	AML	10 20 28.6	
comp=E,9μm,0.7s							
CMCH	Combarbala	1.33	288	⇓iP	Pn	10 20 06.6	-0.2
CMCH				i S	Sn	10 20 26.1	+0.1
PTCH	Petorca	1.38	240	⇓iP	Pn	10 20 06.9	-0.4
PTCH				i S	Sn	10 20 26.8	-0.1
PTCH				AML	AML	10 20 28.3	
comp=E,3μm,0.2s							
PTCH	Petorca	1.38	240	⇓iP	Pn	10 20 06.9	-0.4
PTCH				i S	Sn	10 20 26.8	-0.1
JACH	Jahuel	1.42	219	⇓iP	Pn	10 20 08.3	+0.4
JACH				i S	Sn	10 20 28.4	+0.5
CHNG	Los Chungos	1.71	259	⇑iP	Pn	10 20 10.9	-0.3
CHNG				i S	Sn	10 20 33.3	-0.7
OVCH	Ovalle	1.74	304	⇑iP	Pn	10 20 11.3	-0.3
OVCH				i S	Sn	10 20 34.2	-0.3
OVCH				AML	AML	10 20 36.6	
comp=E,2μm,0.3s							
OVCH	Ovalle	1.74	304	⇑iP	Pn	10 20 11.3	-0.3
OVCH				i S	Sn	10 20 34.2	-0.3
TLL	Tololo Astrono	1.79	322	⇑iP	Pn	10 20 13.1	+0.8
TLL				i S	Sn	10 20 36.7	+1.0
TLL				AML	AML	10 20 40.2	
comp=N,4μm,0.6s							
TLL	Tololo Astrono	1.79	322	⇑iP	Pn	10 20 13.1	+0.8
TLL				i S	Sn	10 20 36.7	+1.0
PEL	Peldehue	1.84	212	⇓iP	Pn	10 20 12.6	-0.2
PEL				i S	Sn	10 20 36.5	-0.3
PEL				AML	AML	10 20 38.5	
comp=E,3μm,0.8s							
PEL	Peldehue	1.84	212	⇓iP	Pn	10 20 12.6	-0.2
PEL				i S	Sn	10 20 36.5	-0.3
FCH	Farellones	1.86	200	⇑iP	Pn	10 20 14.1	+1.1
FCH				i S	Sn	10 20 38.9	+1.8
FCH				AML	AML	10 20 40.2	
comp=N,1μm,0.8s							
ROCH	El Roble	1.87	222	⇑iP	Pn	10 20 13.0	-0.3
PACH	Papudo	1.88	239	⇑iP	Pn	10 20 12.7	-0.7
CLCH	Cerro Calan	2.00	205	⇑iP	Pn	10 20 14.9	+0.1
CLCH				i S	Sn	10 20 40.4	+0.1
CLCH				AML	AML	10 20 44.5	
comp=E,2μm,0.6s							
STL	Santa Lucia	2.08	207	eP	Pn	10 20 15.0	-0.7
STL				i S	Sn	10 20 41.4	-0.5
SAN	Santiago	2.10	207	eP	Pn	10 20 16.1	0.0
SAN				i S	Sn	10 20 42.2	-0.3
SAN				AML	AML	10 20 44.9	
comp=E,1μm,0.3s							
SAN	Santiago	2.10	207	eP	Pn	10 20 16.1	0.0
SAN				i S	Sn	10 20 42.2	-0.3
RCDM	Rinconada Maip	2.19	209	⇓iP	Pn	10 20 16.8	-0.4
RCDM				i S	Sn	10 20 44.4	-0.1
RCDM				AML	AML	10 20 45.4	
comp=E,2μm,0.5s							
RCDM	Rinconada Maip	2.19	209	⇓iP	Pn	10 20 16.8	-0.4
RCDM				i S	Sn	10 20 44.4	-0.1
ANTU	Antumapu	2.19	205	eP	Pn	10 20 17.2	0.0
ANTU				i S	Sn	10 20 44.6	0.0
ANTU				AML	AML	10 20 46.6	
comp=N,1μm,0.4s							
ANTU	Antumapu	2.19	205	eP	Pn	10 20 17.2	0.0
ANTU				i S	Sn	10 20 44.6	0.0
PCH	Pirque	2.20	202	eP	Pn	10 20 17.4	0.0
PCH				eS	Sn	10 20 44.7	0.0
LMEL	Las Melosas	2.33	194	⇑iP	Pn	10 20 19.3	+0.3
LMEL				eS	Sn	10 20 49.4	+1.6
LMEL				AML	AML	10 20 54.7	
comp=N,792nm,0.2s							
LMEL	Las Melosas	2.33	194	⇑iP	Pn	10 20 19.3	+0.3
LMEL				S	Sn	10 20 49.4	+1.6
TACH	Talagante	2.38	210	⇑iP	Pn	10 20 18.9	-0.7
TACH				i S	Sn	10 20 48.1	-0.9
CHCH	Chadas Angostu	2.53	202	eP	Pn	10 20 21.3	-0.3
CHCH				i S	Sn	10 20 52.0	-0.4
CACH	El Canelo	2.68	199	⇓iP	Pn	10 20 23.7	+0.2
CACH				i S	Sn	10 20 56.4	+0.5
CICH	Cipreses	2.83	195	⇑iP	Pn	10 20 25.7	+0.2
VACH	Vallenar	3.18	340	eP	Pn	10 20 30.2	+0.1
VACH				i S	Sn	10 21 07.0	-0.7
VACH				AML	AML	10 21 08.4	
comp=N,2μm,0.1s							
VACH	Vallenar	3.18	340	eP	Pn	10 20 30.2	+0.1
VACH				i S	Sn	10 21 07.0	-0.7
TRQA	Tornquist	8.95	138	ePn	Pn	10 21 46.1	-1.8
comp=N,34nm,0.8s							
CPUP	Villa Florida	11.89	67	P	Pn	10 22 25.3	-1.9
comp=N,0.7nm,0.3s,baz=221,slow=9.9,SNR=3.1							
CPUP	Villa Florida	11.89	67	Pn	Pn	10 22 25.3	-1.9
SIV	San Ignacio	17.33	28	P	Pn	10 23 36.4	+0.3
comp=N,0.2nm,0.3s,baz=203,slow=12,SNR=6.2							
TXAR	Lajitas Array	68.73	328	P	P	10 30 34.0	+1.5
comp=N,0.2nm,0.6s,mb3.2,baz=142,slow=4.6,SNR=2.7							
TXAR				pP	pP	10 31 03.6	+2.1
comp=N,0.3nm,0.6s,baz=150,slow=8.3,SNR=4.7							
TORD	Torodi Ar. Bea	81.38	69	P	P	10 31 45.8	+0.7
comp=N,1.4nm,0.7s,mb3.9,baz=232,slow=1.6,SNR=16							
ZAL	Zalesovo	151.06	32	PKPbc	PKPbc	10 39 21.4	+0.7
comp=N,2.9nm,0.6s,baz=158,slow=4.7,SNR=8.1							
MKAR	Makanchi Array	153.58	47	PKPbc	PKPbc	10 39 25.9	-0.4
comp=N,0.5nm,0.7s,baz=282,slow=2.4,SNR=5.2							
MKAR				PKPab	PKPab	10 39 39.5	+0.3
comp=N,0.4nm,0.7s,baz=316,slow=3.8,SNR=4.4							

*ISCJB **30** 10:30:17.6±5.2,52S±02×1515E±04,h64km±37km, mb4.0/4,Error ellipse: s-maj=71.8km s-min=29.1km az=50.8*
*IDC **30** 10:30:22.2±7.4,529S×15135E,h84km±51km,mb3.7/4, mb1 3.8/5,mb1mx3.5/14,mbtmp4.0/5,ML2.5/1,Error ellipse: s-maj=84.8km s-min=31.7km az=106.0*
ISC 30 10:30:18.4±4.9,53S±02×1517E±04,h61km±34km,n10, σ0§65/10,mb4.0/4,2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.05	228	P	Pn	10 31 45.0	-0.2
0.8nm,0.3s,baz=31,slow=18,SNR=3.1							
PMG				S	Sn	10 32 53.7	+0.7
1.8nm,0.3s,baz=137,slow=20,SNR=3.8							
KAKA	Kakadu	20.36	248	⇓iP	P	10 34 49.4	-0.4
5.6nm,0.4s							
WB2	Warramunga Arr	22.26	228	⇓iP	P	10 35 09.4	-0.8
WRA	Warramunga Arr	22.27	228	P	P	10 35 09.6	-0.6
2.5nm,0.5s,mb3.9,baz=52,slow=10.0,SNR=35							
ASAR	Alice Springs	25.02	221	P	P	10 35 36.9	+0.3
2.2nm,0.7s,mb3.8,baz=56,slow=9.1,SNR=34							
ASPA	Alice Springs	25.02	221	eP	P	10 35 37.7	+1.1
FITZ	Fitzroy Crossi	28.44	241	eP	P	10 36 06.5	-0.8
4.3nm,0.5s,mb4.3							
FITZ	Fitzroy Crossi	28.44	241	P	P	10 36 06.8	-0.4
2.6nm,0.5s,mb4.1,baz=63,slow=6.8,SNR=20							
SONM	Songino Array	66.18	328	P	P	10 41 00.2	+0.7
0.6nm,0.5s,mb3.9,baz=143,slow=5.8,SNR=6.9							
TORD	Torodi Ar. Bea	149.40	287	PKPbc	PKPbc	10 50 01.1	+0.7
1.0nm,0.6s,baz=73,slow=1.8,SNR=15							

MAN 30 10:40:24.2,1347N×12149E,h4km,mb2.6,ML4.1,MS3.2, Mindoro

*NEIC **30** 11:09:47.0,3731S×17784E,h103km,MG3.8(WEL),After WEL.*
WEL 30 11:09:47.9±0.7,3731S×17783E,h102km±5km,ML3.8/11, 2C-2D,Error ellipse: s-maj=4.1km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.46	124	P	Pn	11 10 03.6	+0.1
MXZ				S	Sn	11 10 16.0	+0.7
MXZ	Matakaoa Point	0.46	124	⇑PN	Pn	11 10 03.6	+0.1
MXZ				SN	Sn	11 10 15.8	+0.5
WIZ	White Island	0.56	247	P	Pn	11 10 03.9	-0.4
WIZ	White Island	0.56	247	PN	Pn	11 10 03.8	-0.4
PUZ	Puketiti	0.83	156	eP	Pn	11 10 06.7	0.0
PUZ				S	Sn	11 10 20.7	-0.2
PUZ	Puketiti	0.83	156	⇑PN	Pn	11 10 06.7	0.0
PUZ				SN	Sn	11 10 20.7	-0.2
MWZ	Matawai	1.05	193	P	Pn	11 10 09.1	+0.1
MWZ	Matawai	1.05	193	PN	Pn	11 10 09.0	0.0
URZ	Urewera	1.11	211	⇓PN	Pn	11 10 09.4	-0.2
EDRZ	Edgecumbe	1.18	227	PN	Pn	11 10 10.5	+0.1
MYRZ	Mayor Island	1.27	271	PN	Pn	11 10 11.9	+0.4
TGRZ	Tauranga	1.32	251	P	Pn	11 10 12.1	+0.1
TGRZ	Tauranga	1.32	251	⇓PN	Pn	11 10 12.1	+0.1
TAZ	Tarawera	1.40	228	P	Pn	11 10 13.7	+0.7
TAZ	Tarawera	1.40	228	PN	Pn	11 10 13.7	+0.8
PATZ	Paeroa	1.64	229	P	Pn	11 10 16.6	+0.6
PATZ	Paeroa	1.64	229	PN	Pn	11 10 16.6	+0.7
KNZ	Kokohu	1.71	184	eP	Pn	11 10 16.5	-0.4
KNZ	Kokohu	1.71	184	PN	Pn	11 10 16.5	-0.4
KUZ	Kuaotunu	1.78	288	eP	Pn	11 10 17.8	+0.1
KUZ	Kuaotunu	1.78	288	PN	Pn	11 10 17.8	+0.1
BKZ	Black Stump Fm	2.13	209	P	Pn	11 10 22.0	-0.2
BKZ	Black Stump Fm	2.13	209	PN	Pn	11 10 22.0	-0.2
KRVZ	Karewarewa	2.48	223	PN	Pn	11 10 27.5	+0.7
NGZ	Ngauruhoe	2.56	223	P	Pn	11 10 28.4	+0.6
NGZ	Ngauruhoe	2.56	223	PN	Pn	11 10 28.4	+0.5
TWVZ	Taurewa	2.58	226	P	Pn	11 10 28.6	+0.5
TWVZ	Taurewa	2.58	226	PN	Pn	11 10 28.6	+0.6
TUVZ	Tukino	2.60	221	P	Pn	11 10 28.5	+0.1
TUVZ	Tukino	2.60	221	PN	Pn	11 10 28.5	+0.2
WPVZ	Whakapapa	2.61	223	eP	Pn	11 10 29.2	+0.7
WPVZ	Whakapapa	2.61	223	PN	Pn	11 10 29.2	+0.7
FWVZ	Far West T-bar	2.65	222	eP	Pn	11 10 29.2	+0.3
FWVZ	Far West T-bar	2.65	222	ePN	Pn	11 10 28.8	-0.1
MOVZ	Moawhango	2.66	217	P	Pn	11 10 28.5	-0.6
MOVZ	Moawhango	2.66	217	PN	Pn	11 10 28.5	-0.6
WNVZ	Wahianoa	2.67	220	P	Pn	11 10 29.3	0.0
WNVZ	Wahianoa	2.67	220	PN	Pn	11 10 29.3	0.0
MTVZ	Mangateitei	2.78	221	PN	Pn	11 10 30.8	0.0
PXZ	Pawanui	2.82	195	PN	Pn	11 10 29.3	-2.0
WPHZ	Waipukurau	2.96	201	PN	Pn	11 10 31.3	-1.9
TSZ	Takapari Road	3.11	207	eP	Pn	11 10 33.2	-2.0
TSZ	Takapari Road	3.11	207	PN	Pn	11 10 33.2	-2.0
WAZ	Wanganui	3.31	222	eP	Pn	11 10 37.7	-0.1
BFZ	Birch Farm	3.59	200	eP	Pn	11 10 38.7	-2.8
BFZ	Birch Farm	3.59	200	PN	Pn	11 10 38.7	-2.8
MRZ	Mangatainoka R	3.78	207	eP	Pn	11 10 41.2	-2.9
MRZ	Mangatainoka R	3.78	207	PN	Pn	11 10 41.2	-2.9
TIWZ	Tintock	3.78	203	PN	Pn	11 10 41.4	-2.7
KIW	Kapiti Island	4.21	212	PN	Pn	11 10 47.1	-2.9
MTW	Mount Morrison	4.25	204	P	Pn	11 10 46.7	-3.7
MTW	Mount Morrison	4.25	204	PN	Pn	11 10 46.7	-3.7
CAW	Cannon Point	4.36	209	P	Pn	11 10 48.4	-3.5
CAW	Cannon Point	4.36	209	PN	Pn	11 10 48.4	-3.5
PAWZ	Paruwai Farm	4.47	204	P	Pn	11 10 49.6	-3.9
PAWZ	Paruwai Farm	4.47	204	PN	Pn	11 10 49.6	-3.8
SNZO	South Karori	4.67	210	eP	Pn	11 10 52.1	-4.1
SNZO	South Karori	4.67	210	PN	Pn	11 10 52.1	-4.1
TCW	Tory Channel	4.78	214	P	Pn	11 10 53.9	-3.7
TCW	Tory Channel	4.78	214	PN	Pn	11 10 53.9	-3.7
BSWZ	Blackbirch Sta	5.36	214	P	Pn	11 11 01.6	-3.8
BSWZ	Blackbirch Sta	5.36	214	PN	Pn	11 11 01.6	-3.8
THZ	Tophouse	5.86	219	eP	Pn	11 11 08.2	-4.0
THZ	Tophouse	5.86	219	ePN	Pn	11 11 08.0	-4.2
KHZ	Kahutara	6.08	212	eP	Pn	11 11 10.6	-4.6
KHZ	Kahutara	6.08	212	PN	Pn	11 11 10.3	-4.9
LTZ	Lake Taylor	6.93	216	eP	Pn	11 11 21.3

KKM	**Kota Kinabalu**	**11.29 289**	P		**Pn**	**11 18 40.4 +0.3**
KKM	**Kota Kinabalu**	**11.29 289**	*e*Pn		**Pn**	**11 18 42.0 +1.8**
KAKA	**Kakadu**	**15.93 160**	⇑*i*P		**Pn**	**11 19 37.8 -3.9**
	245nm,1.1s					
KMMI	**Kalianget**	**15.93 234**	P		**Pn**	**11 19 43.7 +1.8**
	591nm,0.9s					
KSM	**Kuching**	**16.62 267**	*e*P		**Pn**	**11 19 52.0 +1.6**
KRKI	**Karangkates**	**17.80 234**	P		**Pn**	**11 20 06.3 +1.4**
	360nm,0.9s					
BJII	**Banjamegara**	**19.67 241**	P		**Pn**	**11 20 24.0 -3.4**
	173nm,1.1s					
FITZ	**Fitzroy Crossi**	**20.35 183**	⇑*i*P		**P**	**11 20 31.2 -1.6**
	92nm,0.7s					
FITZ			*i* S		**S**	**11 24 12.6 -4.6**
FITZ	**Fitzroy Crossi**	**20.35 183**	P		**P**	**11 20 31.1 -1.7**
	43nm,0.7s,baz=14,slow=11,SNR=87					
FITZ			S		**S**	**11 24 16.8 -0.4**
	8.4nm,0.9s,baz=191,slow=15,SNR=2.4					
GUMO	**Guam**	**20.98 57**	P		**P**	**11 20 38.0 -1.6**
	40nm,0.7s,baz=242,slow=23,SNR=1.8					
GUMO			S		**S**	**11 24 31.1 +1.4**
	30nm,0.6s,baz=54,slow=23,SNR=1.7					
LEM	**Lembang**	**21.30 245**	P		**P**	**11 20 44.7 +1.7**
	68nm,1.0s,mb4.9					
CBJI	**Citeko**	**21.84 246**	P		**P**	**11 20 50.1 +1.3**
	274nm,1.1s,mb5.5					
YHNB	**Yeheng**	**22.84 347**	*e*P		**P**	**11 20 58.4 -0.9**
PMG	**Port Moresby**	**23.30 120**	P		**P**	**11 21 02.2 -1.7**
	4.9nm,0.7s,baz=315,slow=14,SNR=2.1					
PMG			S		**S**	**11 25 18.6 +7.3**
	5.4nm,0.7s,baz=271,slow=6.0,SNR=2.2					
PMG	**Port Moresby**	**23.30 120**	P		**P**	**11 21 02.2 -1.7**
PMG			*e*P			11 21 05.5
PMG			S		**S**	**11 25 18.6 +7.3**
WRAB	**Tennant Creek**	**23.30 162**	P		**P**	**11 21 02.0 -2.0**
	1μm,0.9s,mb6.2,SNR=95					
WRAB	**Tennant Creek**	**23.30 162**	*c i*P		**P**	**11 21 02.2 -1.8**
WRA	**Warramunga Arr**	**23.31 162**	P		**P**	**11 21 02.7 -1.4**
	95nm,0.8s,mb5.2,baz=342,slow=11,SNR=233					
WRA			S		**S**	**11 25 11.0 -0.5**
	5.7nm,1.0s,baz=343,slow=18,SNR=3.2					
WRA			ScS		ScS	11 32 09.3 +1.4
	0.3nm,0.8s,baz=277,slow=15,SNR=3.4					
WB2	**Warramunga Arr**	**23.31 162**	⇑*i*P		**P**	**11 21 02.6 -1.5**
WB2			*e*S		**S**	**11 25 08.9 -2.7**
WB2			*e*			11 28 27.6
QIZ	**Qiongzhong**	**23.55 316**	P		**P**	**11 21 04.5 -1.7**
QIZ			AP			11 21 20.8
QIZ			XP		sP	11 21 26.5 -2.5
QIZ			S		**S**	**11 25 13.3 -2.1**
QIZ			XS		sS	11 25 36.8 -5.0
QIZ			SS			11 26 07.8
QIZ			AMB		AMB	
	comp=Z,163nm,3.1s					
QIZ			LR		LR	
	comp=N,2μm,22.9s					
QIZ			LR		LR	
	comp=E,1μm,23.2s					
QIZ			LR		LR	
	comp=Z,2μm,31.4s					
KGM	**Kluang**	**23.58 270**	P		**P**	**11 21 06.0 -0.5**
QZH	**Quanzhou**	**23.87 341**	*e*P		**P**	**11 21 09.0 -0.1**
QZH			S		**S**	**11 25 17.5 -3.0**
QZH			LR		LR	
	comp=N,10μm,26.2s					
QZH			LR		LR	
	comp=E,6μm,25.7s					
QZH			LR		LR	
	comp=Z,13μm,24.5s					
MBWA	**Marble Bar**	**24.39 196**	P		**P**	**11 21 13.7 -0.1**
	SNR=15					
MBWA	**Marble Bar**	**24.39 196**	*e*P		**P**	**11 21 13.5 -0.4**
	comp=Z,139nm,1.0s,mb5.2					
JOW	**Kunigami**	**24.39 3**	P		**P**	**11 21 12.1 -1.8**
	comp=Z,125nm,0.8s,mb5.3,baz=189,slow=8.0,SNR=16					
GZH	**Guangzhou**	**24.47 329**	P		**P**	**11 21 15.0 +0.4**
GZH			LR		LR	
	comp=N,867nm,28.0s					
GZH			LR		LR	
	comp=E,2μm,24.3s					
GZH			LR		LR	
	comp=Z,3μm,26.1s					
IPM	**Ipoh**	**25.93 275**	P		**P**	**11 21 27.2 -0.6**
KULM	**Kulim**	**26.37 277**	*e*P		**P**	**11 21 30.4 -1.4**
AS31	**Alice Springs**	**26.73 166**	*e*P		**P**	**11 21 34.2 -0.8**
ASPA	**Alice Springs**	**26.73 166**	*e*P		**P**	**11 21 34.2 -0.8**
ASAR	**Alice Springs**	**26.73 166**	P		**P**	**11 21 34.2 -0.8**
	comp=Z,9.2nm,0.6s,mb4.5,baz=343,slow=6.2,SNR=119					
ASAR			PcP		PcP	11 24 58.4 +1.5
	comp=Z,6.9nm,0.6s,baz=344,slow=2.3,SNR=7.6					
ASAR			S		**S**	**11 26 10.6 +4.6**
	comp=Z,1.1nm,0.8s,baz=298,slow=35,SNR=2.2					
KKTK	**Khon Kaen**	**27.49 302**	P		**P**	**11 21 41.0 -0.9**
	comp=Z,401nm,0.5s,mb6.2					
PSI	**Prapat**	**27.96 272**	P		**P**	**11 21 44.5 -1.6**
	comp=Z,10nm,0.9s,mb4.3,baz=151,slow=5.7,SNR=11					
PSI			S		**S**	**11 26 29.1 +3.7**
	comp=Z,1.1nm,0.3s,baz=294,slow=23,SNR=6.0					
CBIJ	**Chichi jima**	**28.64 29**	P		**P**	**11 21 51.0 -1.2**
	comp=Z,20nm,0.5s,mb5.0,baz=321,slow=20,SNR=4.2					
CBIJ			LR		LR	11 32 39.1
	comp=Z,738nm,21.4s,baz=214,slow=35					
SSE	**Sheshan**	**29.11 350**	P		**P**	**11 21 57.8 +1.5**
SSE			S		**S**	**11 26 47.5 +4.0**
SSE			PCS		PcS	11 28 44.5 -1.1
SSE			AMB		AMB	
	comp=Z,39nm,0.8s,mb5.1					
SSE			AMB		AMB	
	comp=Z,313nm,8.3s					
SSE			LR		LR	
	comp=N,401nm,25.5s					
SSE			LR		LR	
	comp=E,879nm,25.5s					
SSE			LR		LR	
	comp=Z,846nm,22.4s					
SSE	**Sheshan**	**29.11 350**	P		**P**	**11 21 57.8 +1.5**
	comp=Z,39nm,0.8s,mb5.1					
SSE			PP		PP	11 23 05.3 +2.3
SSE			S		**S**	**11 26 47.5 +4.0**
SSE			sS		sS	11 27 19.3 +8.9
SSE			PcS		PcS	11 28 44.6 -1.0
SSE			LR		LR	
	comp=Z,850nm,22.4s					
CTA	**Charters Tower**	**29.27 140**	⇑*i*P		**P**	**11 21 58.1 +0.4**
	comp=Z,15nm,1.4s,mb4.4					
CTA	**Charters Tower**	**29.27 140**	P		**P**	**11 21 58.4 +0.6**
	comp=Z,15nm,0.9s,mb4.6,baz=320,slow=11,SNR=10					
CTA			S		**S**	**11 26 52.5 +6.5**
	comp=Z,6.3nm,1.0s,baz=282,slow=6.9,SNR=2.0					
CTAO	**Charters Tower**	**29.27 140**	*e*P		**P**	**11 21 58.3 +0.6**
NST	**Nakhon Sawan**	**29.53 298**	P		**P**	**11 22 01.5 +1.5**
NJ2	**Nanjing**	**30.52 346**	*e*P		**P**	**11 22 10.3 +1.6**
NJ2			PP		PP	11 23 11.5 -7.1
NJ2			S		**S**	**11 27 05.0 -0.6**
NJ2			AMB		AMB	
	comp=Z,140nm,1.5s,mb5.5					
NJ2			AMB		AMB	
	comp=Z,48nm,4.2s					
NJ2			LR		LR	
	comp=N,4μm,25.8s					
NJ2			LR		LR	
	comp=E,2μm,17.7s					
NJ2			LR		LR	
	comp=Z,10μm,24.8s					
GYA	**Guiyang**	**30.87 323**	⇑*i*P		**P**	**11 22 12.5 +0.6**
GYA			AP		pP	11 22 29.5 +1.9
GYA			XP		sP	11 22 38.0 +2.8
GYA			PP		PP	11 23 16.5 -6.1
GYA			PPP			11 23 32.0
GYA			PCP		PcP	11 25 07.3 0.0
GYA			S		**S**	**11 27 11.8 +0.6**
GYA			XS		sS	11 27 40.3 +2.2
GYA			SCP		ScP	11 28 42.3 -2.1
GYA			PCS		PcS	11 28 50.0 -1.3
GYA			SS		SS	11 28 59.8 -25
GYA			SSS			11 29 22.3
GYA			SCS		ScS	11 32 35.3 -5.9
BDT	**Bhumibol Dam**	**31.16 300**	P		**P**	**11 22 14.5 +0.1**
CHG	**Chiang Mai**	**31.91 303**	⇑P		**P**	**11 22 23.7 +2.7**
	comp=Z,48nm,0.7s,mb5.3					
CHTO	**Chiang Mai**	**31.91 303**	P		**P**	**11 22 19.8 -1.2**
	SNR=23					
CHTO	**Chiang Mai**	**31.91 303**	*e*P		**P**	**11 22 19.9 -1.1**
CHTO			pmax		pmax	
	comp=Z,40nm,0.8s,mb5.2					
CHTO	**Chiang Mai**	**31.91 303**	*e*P		**P**	**11 22 19.9 -1.1**
	comp=Z,40nm,0.8s,mb5.2					
KMI	**Kunming**	**32.50 316**	P		**P**	**11 22 25.8 -0.3**
KMI			AP		pP	11 22 38.8 -3.1
KMI			PP		PP	11 23 34.8 -5.8
KMI			PPP			11 23 48.5
KMI			S		**S**	**11 27 35.8 -0.7**
KMI			XS		sS	11 28 00.5 -2.9
KMI			SS		SS	11 29 31.8 -27
KMI			SSS			11 29 57.3
KMI			AMB		AMB	
	comp=Z,28nm,1.6s,mb4.7					
KMI			AMB		AMB	
	comp=Z,140nm,3.8s					
KMI			LR		LR	
	comp=N,645nm,22.7s					
KMI			LR		LR	
	comp=E,1μm,21.8s					
KMI			LR		LR	
	comp=Z,2μm,25.9s					
KMI	**Kunming**	**32.50 316**	P		**P**	**11 22 25.7 -0.4**
KMI			*PP		pP	11 22 38.8 -3.1
KMI			*SP		sP	11 22 45.2 -4.3
KMI						11 23 34.7
KMI			PPP			11 23 48.6
KMI			S		**S**	**11 27 35.7 -0.8**
KMI			*SS		sS	11 28 00.5 -2.9
KMI			SS		SS	11 29 31.7 -27
KMI			SSS			11 29 57.3
KMI			pmax		pmax	
	comp=Z,28nm,1.6s,mb4.7					
KMI			MLR		MLR	
	comp=Z,2μm,25.9s					
KMI	**Kunming**	**32.50 316**	P		**P**	**11 22 25.7 -0.4**
	comp=Z,28nm,1.6s,mb4.7					
KMI			pP		pP	11 22 38.8 -3.1
KMI			sP		sP	11 22 45.2 -4.3
KMI			PP		PP	11 23 34.7 -5.9
KMI			PPP			11 23 48.6
KMI			S		**S**	**11 27 35.7 -0.8**
KMI			sS		sS	11 28 00.5 -2.9
KMI			SS		SS	11 29 31.7 -27
KMI			SSS			11 29 57.3
KMI			LR		LR	
	comp=Z,2μm,25.9s					
FORT	**Forrest**	**32.95 178**	*e*P		**P**	**11 22 29.5 -0.6**
	comp=Z,116nm,0.7s,mb5.8					
KLBR	**Kellerberrin**	**34.84 194**	⇑*i*P		**P**	**11 22 46.4 -0.1**
	comp=Z,140nm,1.0s,mb5.8					
TIA	**Tai'an**	**34.90 346**	⇓P		**P**	**11 22 47.3 +0.3**
HNR	**Honiara**	**34.93 110**	P		**P**	**11 22 46.2 -1.0**
	comp=Z,22nm,0.5s,mb5.2,baz=86,slow=23,SNR=2.9					
INCN	**Inchon**	**34.98 360**	*e*P		**P**	**11 22 48.3 +0.6**
	comp=Z,47nm,0.8s,mb5.4					
MAJO	**Matsushiro**	**35.60 16**	*e*P		**P**	**11 22 51.8 -1.2**
MAJO			pmax		pmax	
	comp=Z,93nm,1.2s,mb5.6					
MAJO	**Matsushiro**	**35.60 16**	*e*P		**P**	**11 22 51.8 -1.3**
	comp=Z,93nm,1.2s,mb5.6					
MAT	**Matsushiro**	**35.60 16**	P		**P**	**11 22 51.7 -1.3**
MAT			S		**S**	**11 28 20.0 -4.4**
MJAR	**Matsushiro Arr**	**35.60 16**	P		**P**	**11 22 51.7 -1.3**
	comp=Z,41nm,1.0s,mb5.3,baz=200,slow=8.6,SNR=46					
MJAR			PcP		PcP	11 25 22.1 +1.5
	comp=Z,6.1nm,0.9s,baz=169,slow=2.7,SNR=4.3					
MUN	**Mundaring**	**35.61 196**	*e*P		pP	11 23 09.3 +0.3
XAN	**Xi'an**	**35.74 334**	P		**P**	**11 22 52.5 -1.7**
XAN			AMB		AMB	
	comp=Z,30nm,1.6s,mb5.0					
CD2	**Chengdu**	**35.87 325**	⇓*i*P		**P**	**11 22 54.5 -0.9**
CD2			AP		pP	11 23 11.0 -0.3
CD2			XP		sP	11 23 19.0 +0.1
CD2			PP		PP	11 24 18.0 +0.1
CD2			PCP		PcP	11 25 19.8 -1.6
CD2			S		**S**	**11 28 27.5 -1.1**
CD2			XS		sS	11 28 55.5 -0.2
CD2			PCS		PcS	11 29 07.5 -1.3
CD2			SCS		ScS	11 33 04.5 -2.7
CD2			AMB		AMB	
	comp=Z,50nm,1.0s,mb5.4					
CD2			AMB		AMB	
	comp=Z,130nm,6.8s					
CD2			LR		LR	
	comp=N,2μm,22.8s					
CD2			LR		LR	
	comp=E,1μm,22.8s					
CD2			LR		LR	
	comp=Z,2μm,22.3s					
NWAO	**Narrogin (SRO)**	**36.25 194**	P		**P**	**11 22 58.6 0.0**
	comp=Z,33nm,0.6s,mb5.4,baz=17,slow=8.5,SNR=32					
NWAO			S		**S**	**11 28 40.1 +5.9**
	comp=Z,5.6nm,0.9s,baz=192,slow=20,SNR=2.3					
NWAO	**Narrogin (SRO)**	**36.25 194**	*e*P		**P**	**11 22 58.7 +0.1**
NWAO			pmax		pmax	
	comp=Z,101nm,1.2s					
NWAO	**Narrogin (SRO)**	**36.25 194**	*e*P		**P**	**11 22 58.7 +0.1**
	comp=Z,101nm,1.2s,mb5.6					
DL2	**Dalian**	**36.72 353**	P		**P**	**11 23 01.8 -0.7**
DL2			AP		pP	11 23 20.3 +1.8
DL2			S		**S**	**11 28 43.5 +2.1**
DL2			XS		sS	11 29 11.5 +2.9
DL2			AMB		AMB	
	comp=Z,50nm,0.8s,mb5.5					
DL2			AMB		AMB	
	comp=Z,140nm,5.2s					
DL2			LR		LR	
	comp=N,510nm,20.6s					
DL2			LR		LR	
	comp=E,370nm,22.4s					
DL2			LR		LR	
	comp=Z,760nm,22.0s					
STKA	**Stephens Creek**	**36.77 159**	⇑*i*P		**P**	**11 23 02.7 -0.3**
	comp=Z,86nm,1.0s,mb5.6					
STKA			*e*PP		PP	11 24 26.0 -1.8
STKA			*e*			11 25 22.4
STKA	**Stephens Creek**	**36.77 159**	P		**P**	**11 23 02.9 -0.1**
	comp=Z,104nm,1.0s,mb5.7,baz=334,slow=8.3,SNR=104					
STKA			PP		PP	11 24 26.1 -1.7
	comp=Z,36nm,0.9s,baz=340,slow=11,SNR=2.8					
STKA			PcP		PcP	11 25 24.3 +0.2
	comp=Z,11nm,0.8s,baz=326,slow=6.4,SNR=3.0					
ADE	**Adelaide**	**38.72 164**	*e*P		**P**	**11 23 20.0 +0.5**
BJT	**Baijiatuau**	**38.76 347**	*e*P		**P**	**11 23 19.7 -0.1**
BJT			pmax		pmax	
	comp=Z,77nm,0.9s					
BJT	**Baijiatuau**	**38.76 347**	*e*P		**P**	**11 23 19.7 0.0**
	comp=Z,77nm,0.9s,mb5.5					
BJI	**Beijing**	**38.77 347**	P		**P**	**11 23 19.5 -0.4**
BJI			AP		pP	11 23 34.3 -1.7
BJI			PCP		PcP	11 25 33.3 +3.1
BJI			S		**S**	**11 29 04.5 -8.1**
BJI			AMB		AMB	
	comp=Z,86nm,1.3s,mb5.4					
BJI			AMB		AMB	
	comp=Z,330nm,3.1s					
BJI			LR		LR	
	comp=N,566nm,17.8s					
BJI			LR		LR	
	comp=E,683nm,17.8s					
BJI			LR		LR	
	comp=Z,1μm,25.0s					
BJI	**Beijing**	**38.77 347**	P		**P**	**11 23 19.5 -0.4**
	comp=Z,86nm,1.3s,mb5.4					
BJI			pP		pP	11 23 34.2 -1.8
BJI			PcP		PcP	11 25 33.3 +3.1
BJI			S		**S**	**11 29 04.5 -8.1**
BJI			SS		SS	11 31 48.5 -17
BJI			LR		LR	
	comp=Z,1μm,25.0s					
SNY	**Shenyang**	**39.43 356**	⇑P		**P**	**11 23 25.5 +0.1**
SNY			S		**S**	**11 29 24.5 +2.1**
SNY			AMB		AMB	
	comp=Z,42nm,0.8s,mb5.3					
SNY			AMB		AMB	
	comp=Z,353nm,9.0s					
SNY			LR		LR	
	comp=N,621nm,25.2s					
SNY			LR		LR	
	comp=E,824nm,24.0s					
SNY			LR		LR	
	comp=Z,884nm,27.0s					
LZH	**Lanzhou**	**39.79 330**	⇑P		**P**	**11 23 28.8 +0.4**
LZH			AP		pP	11 23 45.0 +0.5
LZH			XP		sP	11 23 54.5 +2.5
LZH			PP		PP	11 25 05.5 +4.7
LZH			PCP		PcP	11 25 28.3 -5.1
LZH			SCP		ScP	11 29 11.5 -5.1
LZH			*e*S		**S**	**11 29 30.0 +2.1**
LZH			XS		sS	11 29 57.0 +1.7
LZH			SS		SS	11 32 24.0 -1.9
LZH			SCS		ScS	11 33 28.8 -0.8
LZH			AMB		AMB	
	comp=Z,83nm,1.5s,mb5.3					
LZH			AMB		AMB	
	comp=Z,263nm,4.0s					
LZH			LR		LR	
	comp=N,2μm,19.0s					
LZH			LR		LR	
	comp=Z,5μm,19.9s					
LZH	**Lanzhou**	**39.79 330**	⇑P		**P**	**11 23 28.7 +0.3**
LZH			*PP		pP	11 23 45.1 +0.6
LZH			*SP		sP	11 23 54.4 +2.4
LZH						11 25 05.5
LZH						11 25 28.2
LZH			*e*S		**S**	**11 29 30.0 +2.1**
LZH			*SS		sS	11 29 57.1 +1.8
LZH			SS		SS	11 32 24.1 -1.9
LZH						11 33 28.7
LZH			pmax		pmax	
	comp=Z,83nm,1.5s,mb5.3					
LZH			MLR		MLR	
	comp=Z,5μm,19.9s					
LZH	**Lanzhou**	**39.79 330**	⇑P		**P**	**11 23 28.7 +0.3**
	comp=Z,83nm,1.5s,mb5.3					
LZH			pP		pP	11 23 45.1 +0.6
LZH			sP		sP	11 23 54.4 +2.4
LZH			PP		PP	11 25 05.5 +4.7
LZH			PcP		PcP	11 25 28.2 -5.2
LZH			ScP		ScP	11 29 11.5 -5.1
LZH			*e*S		**S**	**11 29 30.0 +2.1**
LZH			sS		sS	11 29 57.1 +1.8
LZH			SS		SS	11 32 24.1 -1.9
LZH			ScS		ScS	11 33 28.7 -0.9
LZH			LR		LR	
	comp=Z,5μm,19.9s					
ARMA	**Armidale**	**40.21 146**	⇑*i*P		**P**	**11 23 32.6 +0.7**
HHC	**Hu-ho-hao-te**	**40.77 342**	*e*P		**P**	**11 23 38.8 +2.3**
HHC			AP		pP	11 23 54.5 +1.8
HHC			XP		sP	11 24 01.3 +1.1
HHC			PP		PP	11 25 16.3 +4.8
HHC			PCP		PcP	11 25 39.3 +2.7
HHC			SCP		ScP	11 29 22.3 +1.8
HHC			S		**S**	**11 29 42.5 0.0**
HHC			XS		sS	11 30 12.5 +2.5
HHC			SS		SS	11 32 43.5 -1.9
HHC			AMB		AMB	
	comp=Z,28nm,0.6s,mb5.3					
HHC			AMB		AMB	
	comp=Z,393nm,4.7s					
HHC			LR		LR	
	comp=N,1μm,26.5s					
HHC			LR		LR	
	comp=E,697nm,21.1s					
HHC			LR		LR	
	comp=Z,2μm,27.9s					
VLA	**Vladivostok**	**40.85 6**	*c e*P		**P**	**11 23 38.0 +0.9**
SHL	**Shillong**	**40.85 308**	*i* P		**P**	**11 23 35.0 -2.2**
SHL			*i* PCP		PcP	11 25 36.0 -0.9
SHL			*ex*		x	11 29 27.0
CN2	**Changchun**	**41.31 358**	*e*P		**P**	**11 23 40.5 -0.4**
CN2			*e*AP		pP	11 23 56.0 -1.1
CN2			PCP		PcP	11 25 37.8 -0.5
CN2			*e*S		**S**	**11 29 51.5 +1.1**
CN2			AMB		AMB	
	comp=Z,20nm,0.9s,mb5.0					
CN2			AMB		AMB	
	comp=Z,200nm,6.0s					
CN2			LR		LR	
	comp=N,600nm,20.0s					
CN2			LR		LR	
	comp=E,600nm,20.0s					
CN2			LR		LR	
	comp=Z,800nm,22.0s					
MDJ	**Mudanjiang**	**42.17 3**	P		**P**	**11 23 49.0 +1.1**
MDJ			AP		pP	11 24 05.8 +1.6
MDJ			XP		sP	11 24 16.3 +4.6
MDJ			PP		PP	11 25 31.3 +4.7
MDJ			PCP		PcP	11 25 42.3 +1.1
MDJ			SCP		ScP	11 29 27.5 +1.5
MDJ			PCS		PcS	11 29 35.0 +2.0
MDJ			S		**S**	**11 30 04.0 +0.8**
MDJ			AMB		AMB	
	comp=Z,111nm,1.1s,mb5.5					
MDJ			AMB		AMB	
	comp=Z,236nm,5.7s					
MDJ			LR		LR	
	comp=N,740nm,22.9s					
MDJ			LR		LR	
	comp=E,445nm,17.2s					
MDJ			LR		LR	
	comp=Z,1μm,21.5s					
MDJ	**Mudanjiang**	**42.17 3**	*e*P		**P**	**11 23 48.7 +0.8**
	comp=Z,131nm,1.0s,mb5.6					
CNB	**Canberra Magne**	**42.95 153**	*e*P		**P**	**11 23 54.8 +0.5**
	comp=Z,56nm,1.1s,mb5.2					
TOO	**Toolangi**	**43.28 158**	*e*P		**P**	**11 23 57.7 +0.8**
	comp=Z,22nm,1.2s,mb4.8					
TOO	**Toolangi**	**43.28 158**	*e*P		**P**	**11 23 57.7 +0.8**
TOO			pmax		pmax	
	comp=Z,22nm,1.2s,mb4.8					
LSA	**Lhasa**	**43.50 312**	P		**P**	**11 23 58.5 -0.2**
LSA	**Lhasa**	**43.50 312**	*e*P		**P**	**11 23 59.3 +0.6**
LSA			pmax		pmax	
	comp=Z,22nm,0.7s,mb5.0					
LSA	**Lhasa**	**43.50 312**	*e*P		**P**	**11 23 59.3 +0.6**
	comp=Z,22nm,0.7s,mb5.0					
ASAJ	**Asahikawa**	**43.87 16**	P		**P**	**11 24 01.9 +0.3**
	comp=Z,69nm,1.2s,mb5.3,baz=232,slow=14,SNR=9.6					
ASAJ			S		**S**	**11 30 30.0 +2.0**
	comp=Z,11nm,1.1s,baz=243,slow=33,SNR=2.0					
GTA	**Gaotai**	**44.38 330**	*e*P		**P**	**11 24 05.0 -0.7**
GTA			AP		pP	11 24 20.0 -2.1
GTA			XP		sP	11 24 27.5 -2.1
GTA			PP		PP	11 25 49.5 -0.8
GTA			S		**S**	**11 30 32.3 -3.2**
GTA			AMB		AMB	
	comp=Z,11nm,1.0s,mb4.5					
GTA			AMB		AMB	
	comp=Z,117nm,3.8s					
GTA			LR		LR	
	comp=N,935nm,26.2s					
GTA			LR		LR	
	comp=E,2μm,25.9s					
GTA			LR		LR	
	comp=Z,3μm,27.8s					
BOK	**Bokaro**	**45.03 302**	*e*P		**P**	**11 24 10.5 -0.4**
BOK			AMb		AMB	11 24 14.0
	comp=Z,32nm,0.9s,mb5.0					
VIS	**Vishakhapatnam**	**45.40 293**	*e*P		**P**	**11 24 13.8 -0.1**
VIS			AMb		AMB	11 24 17.0
	comp=Z,47nm,1.3s,mb5.1					
DZM	**Mont Dzumac**	**45.59 124**	P		**P**	**11 24 16.2 +0.8**
	comp=Z,21nm,1.1s,mb4.8,baz=126,slow=4.5,SNR=5.7					
JIRN	**Jiri**	**46.34 307**	*e*P		**P**	**11 24 20.7 -0.5**
	comp=Z,10nm,0.3s,mb5.1					
YSS	**Yuzh-Sakhalins**	**46.53 15**	⇑*i*P		**P**	**11 24 22.4 -0.3**
YSS			*e*			11 25 58.0
YSS			pmax		pmax	
	comp=Z,60nm,1.1s,mb5.2					
YSS			MLR		MLR	
	comp=Z,500nm,17.0s					
YSS	**Yuzh-Sakhalins**	**46.53 15**	*e*P		**P**	**11 24 22.8 +0.1**
	comp=Z,51nm,1.0s,mb5.2					
GUN	**Gumba**	**46.70 307**	*e*P		**P**	**11 24 23.3 -0.7**
	comp=Z,88nm,0.6s,mb5.7					
KLR	**Kul'dur**	**46.90 4**	*e*P		**P**	**11 24 21.0 -4.6**
KLR			*e*S		SS	11 34 35.0 -4.0
KLR			pmax		pmax	
	comp=E,25nm,1.2s					
KLR			pmax		pmax	
	comp=Z,160nm,1.2s,mb5.6					
PKI	**Pulchoki**	**46.93 306**	*e*P		**P**	**11 24 24.6 -1.2**
	comp=Z,43nm,0.9s,mb5.2					
KKN	**Kakani**	**47.12 307**	*e*P		**P**	**11 24 26.2 -1.2**
	comp=Z,80nm,0.9s,mb5.5					
HIA	**Hailar**	**47.16 354**	*e*P		**P**	**11 24 28.2 +0.6**
HIA			pmax		pmax	
	comp=Z,37nm,1.0s					
HIA	**Hailar**	**47.16 354**	*e*P		**P**	**11 24 28.2 +0.5**
	comp=Z,37nm,1.0s,mb5.1					

DMN Daman 47.19 306 *e*P **P 11 24 26.7 -1.2**
comp=Z,113nm,1.1s,mb5.5
GKN Gorkha 47.73 307 *e*P **P 11 24 30.7 -1.4**
comp=Z,106nm,1.2s,mb5.5
KOLN Koldanda 48.47 306 *e*P **P 11 24 36.1 -1.7**
comp=Z,110nm,0.8s,mb5.7
ULN Ulaanbaatar 48.49 342 P **P 11 24 38.6 +0.7**
SNR=12
ULN Ulaanbaatar 48.49 342 *e*P **P 11 24 38.0 +0.1**
ULN pmax pmax
comp=Z,44nm,1.0s,mb5.2
ULN Ulaanbaatar 48.49 342 *e*P **P 11 24 38.0 +0.1**
comp=Z,44nm,1.0s,mb5.2
SONM Songino Array 48.67 342 P **P 11 24 39.2 -0.1**
comp=Z,9.0nm,0.6s,mb4.9,baz=161,slow=9.1,SNR=38
SONM ScP ScP 11 29 59.0 +6.1
comp=Z,1.2nm,1.0s,baz=165,slow=6.2,SNR=3.6
SONM LR LR 11 49 19.8
comp=Z,302nm,18.3s,baz=162,slow=41
HYB Hyderabad 49.77 291 *i*P **P 11 24 47.0 -0.7**
HYB Hyderabad 49.77 291 *e*P **P 11 24 47.0 -0.7**
TRD Trivandrum 50.07 279 *e*P **P 11 24 49.1 -0.9**
TRD AMb AMB 11 24 53.6
comp=Z,47nm,1.0s,mb5.4
CIT Chita 50.76 349 *e*P **P 11 24 56.2 +1.0**
CIT *e* pP 11 25 14.0 +2.1
CIT pmax pmax
comp=Z,176nm,1.6s,mb5.8
ZAK Zakamensk 51.89 341 *e*P **P 11 25 03.2 -0.4**
ZAK *e* 11 26 15.9
BHPL Bhopal 52.20 298 *e*P **P 11 25 04.6 -1.3**
BHPL AMb AMB 11 25 10.9
comp=Z,51nm,0.6s,mb5.7
TLY Talaya 52.90 342 P **P 11 25 11.6 +0.5**
comp=Z,179nm,1.0s,mb6.0,SNR=6.0
TLY Talaya 52.90 342 P **P 11 25 12.2 +1.0**
SNR=11
TLY Talaya 52.90 342 *e*P **P 11 25 11.9 +0.8**
AGRA Agra 52.95 303 *e*P **P 11 25 09.7 -1.8**
AGRA AMb AMB 11 25 12.1
comp=Z,31nm,0.2s,mb5.9
IRK Irkutsk 53.20 343⇑ *i*P **P 11 25 13.4 +0.1**
IRK *e* 11 27 15.7
IRK pmax pmax
comp=Z,83nm,2.2s,mb5.4
ASOR Ausora 53.61 304 *e*P **P 11 25 15.4 -0.9**
ASOR AMb AMB 11 25 19.4
comp=Z,217nm,0.3s
MOY Mondy 53.74 340 *e*P **P 11 25 17.8 +0.5**
MOY pmax pmax
comp=Z,84nm,3.4s
BISR Bishrakh 53.82 304 *e*P **P 11 25 18.2 +0.4**
WMQ Urumqi 53.97 326 P **P 11 25 19.0 +0.1**
WMQ AP pP 11 25 36.0 +0.3
WMQ XP sP 11 25 44.0 +0.9
WMQ PCP PcP 11 26 24.0 +0.6
WMQ PP PP 11 27 23.0 +2.3
WMQ PPP 11 28 33.0
WMQ PCS PcS 11 30 22.0 -0.8
WMQ S **S 11 32 49.0 -0.8**
WMQ XS sS 11 33 20.0 +1.8
WMQ SCS ScS 11 35 02.0 -0.3
WMQ AMB AMB
comp=Z,25nm,1.3s,mb5.1
WMQ AMB AMB
comp=Z,273nm,5.4s
WMQ LR LR
comp=N,3μm,26.0s
WMQ LR LR
comp=E,2μm,24.7s
WMQ LR LR
comp=Z,2μm,23.0s
SONA Sohna 54.01 304 *e*P **P 11 25 17.3 -1.9**
SONA AMb AMB 11 25 23.1
comp=Z,60nm,0.6s,mb5.8
NDI New Delhi 54.04 304 *e*P **P 11 25 18.6 -0.9**
NDI AMb AMB 11 25 20.3
comp=Z,50nm,1.1s,mb5.5
AYAN Aya Nagar 54.05 304 *e*P **P 11 25 17.4 -2.1**
KLP Kalpa 54.23 308 *e*P **P 11 25 20.5 -0.3**
KLP AMb AMB 11 25 30.1
comp=Z,49nm,1.6s,mb5.3
BHGR Bahadurgarh 54.27 304 *e*P **P 11 25 19.3 -1.8**
BHGR AMb AMB 11 25 22.5
comp=Z,115nm,0.2s
CLNS Chul'man 54.36 359 *e*P **P 11 25 19.9 -1.9**
CLNS *e* 11 26 25.5
CLNS pmax pmax
comp=Z,77nm,0.7s,mb5.8
CLNS pmax pmax
comp=N,39nm,0.8s
CLNS pmax pmax
comp=E,21nm,0.6s
POO Poona 54.38 291 *e*P **P 11 25 19.0 -2.9**
KHET Khetri 55.02 303 *ex* x 11 25 22.1
KHET AMb AMB 11 25 28.0
comp=Z,55nm,0.9s,mb5.6
AJM Ajmer 55.53 301 *e*P **P 11 25 30.3 +0.1**
AJM AMb AMB 11 25 35.4
comp=Z,25nm,0.7s,mb5.4
BOD Bodaibo 56.26 352 *e*P **P 11 25 34.5 -0.9**
BOD pmax pmax
comp=Z,45nm,1.3s,mb5.3
DLH Dalhousie 56.40 308 *e*P **P 11 25 34.0 -2.4**
THN Thein Dam 56.56 308 *e*P **P 11 25 36.8 -0.8**
PET Petropavlovsk 56.94 22⇑ *e*P **P 11 25 41.2 +1.0**
PET pmax pmax
comp=Z,35nm,1.2s,mb5.3
MK31 Makanchi Array 58.80 326 *e*P **P 11 25 52.6 -0.7**
MKAR Makanchi Array 58.80 326 P **P 11 25 52.7 -0.6**
comp=Z,11nm,0.6s,mb5.1,baz=120,slow=7.9,SNR=106
MKAR ScP ScP 11 30 39.8 +2.7
comp=Z,0.7nm,0.9s,baz=98,slow=6.0,SNR=2.2
MKAR S **S 11 33 49.4 -4.3**
comp=Z,0.2nm,0.7s,baz=46,slow=6.9,SNR=2.5
MKAR PKPPKP 11 55 30.9
comp=Z,0.7nm,0.9s,baz=259,slow=2.5,SNR=4.0
MKAR Makanchi Array 58.80 326 P **P 11 25 52.7 -0.6**
MKAR S **S 11 33 49.4 -4.3**
KSH Kashi 59.16 316 *e*P **P 11 25 58.0 +2.2**
KSH *e*AP pP 11 26 14.0 +1.2
KSH *e*XP sP 11 26 21.0 +0.9
KSH *e*PCP PcP 11 26 46.3 +2.6
KSH *e*PP PP 11 28 11.3 +4.3
KSH *e*PPP 11 29 34.3
KSH *e*SCP ScP 11 30 39.5 +0.9
KSH *e*S **S 11 33 57.8 -0.5**
KSH *e*PS 11 34 21.3
KSH *e*XS sS 11 34 30.5 +3.3
KSH *e*SCS ScS 11 35 40.0 +0.1
KSH *e*SS SS 11 37 54.0 +0.6
KSH AMB AMB
comp=Z,784nm,4.0s
KSH LR LR
comp=N,809nm,9.1s
KSH LR LR
comp=E,1μm,8.6s
KSH LR LR
comp=Z,7μm,25.5s
YAK Yakutsk 59.59 2*c* *i*P **P 11 25 58.8 +0.1**
YAK *e**PP pP 11 26 21.6 +5.8
YAK *e*S **S 11 34 11.8 +7.9**
YAK pmax pmax
comp=Z,198nm,1.1s,mb6.1
YAK pmax pmax
comp=N,117nm,1.3s
YAK pmax pmax
comp=E,44nm,1.3s
YAK smax
comp=N,100nm,17.7s
YAK smax
comp=E,100nm,18.6s
YAK smax
comp=Z,100nm,18.6s
YAK MLR MLR
comp=Z,700nm,23.0s
YAK MLR MLR
comp=N,600nm,24.0s
YAK MLR MLR
comp=E,600nm,27.0s
YAK Yakutsk 59.59 2 *e*P **P 11 25 59.0 +0.2**
KRAR Krasnoyarsk 60.10 339 *e*P **P 11 26 01.7 -0.5**
KRAR pmax pmax
comp=Z,36nm,0.5s,mb5.7
TKM2 Tokmak 2 60.91 319 P **P 11 26 07.4 -0.3**
SNR=9.8
UCH Uchtor 61.32 318 P **P 11 26 11.2 +0.7**
SNR=22
AAK Ala-Archa 61.51 318 P **P 11 26 11.7 -0.1**
SNR=5.6
AAK Ala-Archa 61.51 318 *e*P **P 11 26 10.8 -1.1**
comp=Z,4.4nm,0.7s,mb4.6
USP Ospenovka 61.78 319 P **P 11 26 13.3 -0.4**
SNR=11
AML Almayashu 61.83 317 P **P 11 26 14.4 +0.5**
SNR=9.8
ZAL Zalesovo 61.91 333 P **P 11 26 13.6 -0.9**
comp=Z,6.7nm,0.3s,mb5.1,baz=12,slow=4.3,SNR=15
ZAL Zalesovo 61.91 333 *i*P **P 11 26 13.8 -0.7**
ZAL pmax pmax
comp=Z,7.0nm,0.4s
ZAL Zalesovo 61.91 333 P **P 11 26 13.6 -0.9**
EKS2 Erkin-Say 62.00 318 P **P 11 26 15.7 +0.6**
SNR=9.7
KURK Kurchatov 63.01 328 P **P 11 26 21.1 -0.7**
comp=Z,321nm,0.5s,SNR=10
NVS Novosibirsk 63.19 333⇑ *i*P **P 11 26 21.8 -1.2**
NVS *e* 11 36 03.5
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,39nm,1.2s,mb5.2
NVS pmax pmax
comp=N,27nm,1.6s
SEY Seymchan 63.34 13 *e*P **P 11 26 23.3 -0.7**
BVAR Borovoye Array 68.58 327 P **P 11 26 57.2 -0.4**
comp=N,19nm,0.9s,mb4.9,baz=126,slow=7.5,SNR=48
BVAR S S 11 35 54.6 -0.6
comp=N,0.6nm,0.5s,baz=213,slow=41,SNR=2.5
BVAR ScS ScS 11 36 54.6 +2.7
comp=N,0.7nm,0.4s,baz=134,slow=27,SNR=2.9
BRVK Borovoye 68.65 327 P **P 11 26 57.9 -0.2**
comp=N,219nm,0.8s,mb6.0,SNR=17
BRVK Borovoye 68.65 327 P **P 11 26 58.1 0.0**
SNR=20
BRVK Borovoye 68.65 327 *e*P **P 11 26 57.8 -0.3**
BRVK pmax pmax
comp=Z,61nm,1.1s,mb5.3
BRVK Borovoye 68.65 327 *e*P **P 11 26 57.8 -0.3**
comp=Z,61nm,1.1s,mb5.3
CHKZ Chkalovo 68.75 328 *e*P **P 11 26 58.1 -0.6**
CHKZ pmax pmax
comp=Z,17nm,0.8s,mb4.9
CHKZ Chkalovo 68.75 328 *e*P **P 11 26 58.1 -0.7**
comp=Z,17nm,0.8s,mb4.9
WSAR Wadi Sarin 69.15 294 P **P 11 27 00.3 -0.9**
comp=Z,5.4nm,0.7s,mb4.5,baz=123,slow=5.4,SNR=5.0
WSAR S S 11 36 05.3 +3.4
comp=Z,1.7nm,1.0s,baz=65,slow=17,SNR=1.9
TIXI Tiksi 69.22 1⇑ *e*P **P 11 27 00.6 -1.1**
TIXI pmax pmax
comp=Z,92nm,1.4s,mb5.4
ZRNK Zerenda 69.30 327 *e*P **P 11 27 01.5 -0.6**
ZRNK pmax pmax
comp=Z,30nm,0.8s,mb5.2
ZRNK Zerenda 69.30 327 *e*P **P 11 27 01.5 -0.6**
comp=Z,30nm,0.8s,mb5.2
CASY Casey 69.46 187⇑ *i*P **P 11 27 03.6 +0.5**
DRV Dumont d'Urvil 69.48 174 P **P 11 27 03.0 -0.2**
DRV Dumont d'Urvil 69.48 174 PP PP 11 29 35.0 -2.4
DRV SP 11 36 59.0
DRV SS SS 11 40 36.0 +1.9
BILL Bilibino 70.84 15 *e*P **P 11 27 11.0 -0.6**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MIR Mirnyy 72.86 194*d* *i*P **P 11 27 26.0 +2.4**
MIR *i* 11 27 38.0
MIR *i* pP 11 27 47.0 +5.8
MIR pmax pmax
comp=Z,40nm,1.5s,mb5.0
WHFO Wadi Hawf 73.25 288 P **P 11 27 25.3 -0.6**
SNR=6.6
SVE Sverdlovsk 75.24 329⇑ *e*P **P 11 27 37.0 -0.5**
SVE pmax pmax
comp=Z,200nm,1.5s,mb5.6
ARU Arti 76.20 328⇑ *i*P **P 11 27 42.6 -0.4**
ARU *e* 11 27 52.3
ARU *e* pP 11 27 59.7 -1.0
ARU *e* 11 30 34.7
ARU *e*S S 11 37 23.9 +1.7
ARU *e*SS SS 11 42 15.4 -1.4
ARU pmax pmax
comp=Z,62nm,1.0s,mb5.3
ARU Arti 76.20 328 *e*P **P 11 27 42.5 -0.6**
comp=Z,49nm,0.8s,mb5.3
ORR Orenburg 77.14 323 P **P 11 27 48.3 0.0**
ORR pmax pmax
comp=Z,100nm,1.0s,mb5.5
SDPT Sand Point 78.24 34 *e*P **P 11 27 55.4 +1.0**
comp=Z,72nm,0.7s,mb5.5
MAK Makhachkala 80.66 313 *e*P **P 11 28 10.6 +3.0**
MAK *e*S SKSac 11 38 21.4 +1.2
MAK pmax pmax
comp=Z,260nm,1.7s,mb5.8
SVW2 Sparrevohn 81.93 29 *e*P **P 11 28 16.3 +2.0**
VNDA Vanda 82.03 173 P **P 11 28 15.0 +0.1**
comp=Z,27nm,0.8s,mb5.1,baz=318,slow=5.9,SNR=116
DGRG David-gareji 82.11 311 P **P 11 28 16.8 +1.5**
GNI Garni 82.51 310 P **P 11 28 17.7 +0.3**
comp=Z,2.8nm,0.4s,mb4.5,baz=84,slow=15,SNR=2.0
GNI S S 11 38 31.7 +2.7
comp=Z,3.3nm,0.3s,baz=296,slow=18,SNR=2.3
MAW Mawson 82.52 200⇑ *i*P **P 11 28 18.0 +0.6**
comp=Z,18nm,1.0s,mb4.9
MAW Mawson 82.52 200 P **P 11 28 18.1 +0.7**
comp=Z,28nm,1.1s,mb5.0,baz=66,slow=6.3,SNR=32
MAW LR LR 11 59 06.3
comp=Z,128nm,21.9s,baz=67,slow=31
MAW Mawson 82.52 200⇑ *i*P **P 11 28 18.0 +0.6**
MAW pmax pmax
comp=Z,18nm,1.0s
SEMD Semdili 82.54 307 *e*P **P 11 28 18.3 +0.8**
MTA Mtatsminda 82.56 312 P **P 11 28 18.6 +1.0**
TBLG Delisi 82.61 312 P **P 11 28 19.6 +1.7**
KDAK Kodiak Island 82.96 32 P **P 11 28 21.0 +1.3**
comp=Z,35nm,0.8s,mb5.2,baz=232,slow=3.8,SNR=22
KDAK S S 11 38 37.8 +4.2
comp=Z,4.1nm,0.9s,baz=293,slow=14,SNR=1.7
CLDR Caldiran 83.10 309 *e*P **P 11 28 21.7 +1.3**
HAKT HAKKARI 83.19 307 *i*P **P 11 28 21.5 +0.7**
CUKT Cukurca 83.26 307 *e*P **P 11 28 22.0 +0.8**
ZEI Tsey 83.29 313 *e*P **P 11 28 22.4 +1.0**
ZEI *e**PP pP 11 28 36.1 -3.2
ZEI pmax pmax
comp=Z,59nm,0.9s,mb5.4
ATD Arta Tunnel 83.73 281 P **P 11 28 24.1 +0.4**
comp=Z,16nm,0.7s,mb5.0,baz=277,slow=22,SNR=2.0
PECR Pechory 84.08 326 *i*P **P 11 28 24.7 -0.7**
PECR pmax pmax
comp=Z,130nm,1.4s,mb5.6
KIV Kislovodsk 84.23 314⇑ *e*P **P 11 28 26.6 +0.4**
KIV pmax pmax
comp=Z,53nm,1.7s,mb5.1
SLKM Skilak Lake 84.46 30 *e*P **P 11 28 27.7 +0.4**
PPT Papeete 84.52 108 *e*S S 11 38 55.2 +6.0
comp=Z,218nm,26.5s
PPT *e*LR LR 11 55 04.1
comp=Z,1μm,25.2s
PPT Papeete 84.52 108 LR LR 12 02 24.5
comp=Z,560nm,19.1s,baz=276,slow=33
BCA Borcka 84.93 311 *e*P **P 11 28 29.6 -0.1**
TBI Tubuai 85.07 114 *e*S S 11 39 00.3 +5.7
comp=Z,178nm,25.5s
TBI *e*LR LR 11 55 23.9
comp=Z,1μm,25.5s
ERZM Erzurum 85.09 310 *i*P **P 11 28 32.3 +1.8**
BEST Besiri 85.13 308 *i*P **P 11 28 33.5 +2.8**
VRHR Novokhopersk 85.23 321 *e*P **P 11 28 31.2 0.0**
VRHR pmax pmax
comp=N,2.0nm,0.7s
VRHR pmax pmax
comp=Z,80nm,0.7s,mb5.8
VRHR pmax pmax
comp=E,60nm,0.9s
BNGL BINGOL 85.24 309 *i*P **P 11 28 33.1 +1.8**
MARD Mardin 85.52 307 *i*P **P 11 28 32.8 +0.1**
COLA College 85.87 25 *e*P **P 11 28 34.5 +0.1**
EZC Erzincan 86.28 310 *e*P **P 11 28 40.6 +4.1**
SOC Sochi 86.37 313 *e*P **P 11 28 35.8 -1.1**
SOC *e**PP pP 11 28 51.5 -3.4
SOC *e*S S 11 38 56.2 -11
SOC pmax pmax
comp=Z,51nm,1.0s,mb5.4
SOC MLR MLR
comp=Z,586nm,21.0s
PTK Pertek 86.61 309 *e*P **P 11 28 40.1 +2.0**
KELT Kelkit 86.72 310 *i*P **P 11 28 41.6 +3.1**
KELT Kelkit 86.72 310 *i*P pP 11 28 49.9 -6.7
VRSR Storozhevoye 86.76 321 *e*P **P 11 28 39.1 +0.3**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.9s
ELZG Elazig 86.94 308 *i*P **P 11 28 42.0 +2.4**
URFA Urfa 87.08 307 *e*P **P 11 28 40.6 +0.3**
MYA Malataya 87.38 308 *e*P **P 11 28 43.5 +1.8**
MENT Mentasta 87.65 27 *e*P **P 11 28 45.4 +2.4**
MOS Moscow 87.68 326 *e*P **P 11 28 42.6 -0.6**
ANN Anapa 88.00 315 *e*P **P 11 28 43.9 -0.8**
ANN *e* 11 39 16.8
ANN pmax pmax
comp=Z,85nm,0.9s,mb5.8
GZT Gaziantep 88.08 307 *i*P **P 11 28 47.0 +1.9**
OBN Obninsk 88.30 325⇓ *e*P **P 11 28 45.6 -0.5**
OBN *e* 11 32 13.9
OBN pmax pmax
comp=Z,71nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,400nm,24.0s
GAZ Gaziantep 88.37 307 *e*P **P 11 28 46.5 +0.1**
SVSK Karacayir 88.45 310 *e*P **P 11 28 48.0 +1.1**
EGAK Eagle 88.73 25 *e*P **P 11 28 48.2 0.0**
comp=Z,9.6nm,0.9s,mb4.8
ASF Jabal al Asfar 88.78 302 P **P 11 28 49.8 +1.4**
comp=Z,34nm,1.2s,mb5.3,baz=331,slow=0.8,SNR=25
ASF S SKSac 11 39 13.1 +0.9
comp=Z,0.6nm,0.4s,baz=184,slow=22,SNR=2.2
KVT Kavak 89.14 311 *e*P **P 11 28 51.5 +1.4**
DAWY Dawson 89.54 26 *e*P **P 11 28 52.4 +0.5**
KMBO Kilima Mbogo 89.71 269 P **P 11 28 55.2 +2.4**
comp=Z,3.8nm,0.8s,mb4.6,baz=48,slow=7.1,SNR=9.1
KMBO S SKSac 11 39 25.9 +8.3
comp=Z,0.3nm,0.3s,baz=39,slow=24,SNR=1.8
KMBO LR LR 12 09 50.8
comp=Z,129nm,18.6s,baz=91,slow=36
KMBO Kilima Mbogo 89.71 269 *i*P **P 11 28 55.5 +2.8**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
BOYT Boyabat 89.98 311 *i*P **P 11 28 54.8 +0.7**
MMAI Mount Meron Ar 90.01 303 P **P 11 28 55.4 +1.2**
comp=Z,2.3nm,0.5s,mb4.6,baz=77,slow=6.5,SNR=2.0
CTKT Corum 90.11 310 *i*P **P 11 28 55.8 +1.2**
AVNT Avonos 90.16 309 *i*P **P 11 28 53.7 -1.1**
SIM Simferopol' 90.35 315 P **P 11 29 02.0 +6.2**
SIM *e*S S 11 39 48.0 +2.9
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.2
JOF Joensuu 90.50 333 *e*p **P 11 28 53.7 -2.7**
comp=Z,6.0nm,0.8s,mb4.8
BRTR Keskin Array B 91.05 310 P **P 11 28 57.6 -1.3**
comp=Z,4.5nm,1.0s,mb4.6,baz=138,slow=5.3,SNR=13
BRTR Keskin Array B 91.05 310 *i*P **P 11 28 59.0 0.0**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BALT Daday 91.11 311 *i*P **P 11 28 59.7 +0.4**
SYO Syowa Base 91.20 201⇓ *e*P **P 11 29 00.0 +0.3**
CSS Prodhromos 91.61 305 *e*P **P 11 29 06.2 +4.6**
comp=Z,15nm,0.8s,mb5.3
ARCES ARCESS Array B 91.81 340 P **P 11 29 01.1 -1.4**
comp=Z,21nm,0.9s,mb5.4,baz=68,slow=4.3,SNR=17
ARCES LR LR 12 14 35.0
comp=Z,492nm,20.6s,baz=269,slow=38
SKAG Skagway 91.95 30 *e*P **P 11 29 02.1 -1.0**
comp=Z,10.0nm,0.9s,mb5.0
QSPA South Pole Qui 92.25 180 *e*P **P 11 29 05.1 +0.5**
comp=Z,28nm,1.1s,mb5.4
KAF Kangasniemi 92.91 332 *e*p **P 11 29 12.7 +5.1**
AKASG Malin Array Be 93.08 321 P **P 11 29 06.9 -1.5**
comp=Z,4.8nm,0.8s,mb4.9,baz=69,slow=4.2,SNR=13
AKASG Malin Array Be 93.08 321 *i*P **P 11 29 07.5 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 93.14 332 P **P 11 29 08.5 -0.1**
comp=Z,2.7nm,0.7s,mb4.7,baz=64,slow=4.4,SNR=6.2
FINES FINESS Array B 93.14 332 P **P 11 29 08.5 -0.1**
WRAK Wrangell Islan 94.00 33 *e*P **P 11 29 14.1 +1.4**
comp=Z,17nm,0.8s,mb5.4
VRI Vrincioaia 95.42 316⇑ *i*P **P 11 29 19.3 +0.2**
VRI Vrincioaia 95.42 316⇑ P **P 11 29 19.3 +0.2**
MLR Muntele Rosu 96.02 316 P **P 11 29 21.7 -0.2**
comp=Z,10nm,1.0s,mb5.2,baz=76,slow=0.5,SNR=7.2
MLR Muntele Rosu 96.02 316⇑ *i*P **P 11 29 21.8 -0.1**
MLR Muntele Rosu 96.02 316⇑ P **P 11 29 21.8 -0.1**
BURAR Bucovina Array 96.16 318⇑ *i*P **P 11 29 23.2 +0.7**
BURAR Bucovina Array 96.16 318⇑ P **P 11 29 23.2 +0.7**
DRGR 97.99 318⇓ *i*P **P 11 29 31.8 +1.0**
DRGR 97.99 318⇓ P **P 11 29 31.8 +1.1**
MATP Matopo 98.69 250 P **P 11 29 34.0 +0.1**
comp=Z,3.8nm,0.9s,mb4.9,baz=82,slow=3.7,SNR=5.6
MATP Matopo 98.69 250 P **P 11 29 34.0 +0.1**
LSZ Lusaka 99.03 255 P **P 11 29 35.9 +0.5**
comp=Z,3.9nm,0.8s,mb5.0,baz=82,slow=3.4,SNR=8.3
LSZ Lusaka 99.03 255 *e*P **P 11 29 36.2 +0.8**
LSZ pmax pmax
comp=Z,15nm,1.4s,mb5.3
LSZ Lusaka 99.03 255 *e*P **P 11 29 36.2 +0.8**
comp=Z,15nm,1.4s,mb5.3
NB2 NORSAR Subarra100.11 334 P Pdif 11 29 38.5 -1.7
comp=Z,4.6nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra100.11 334 P Pdif 11 29 38.5 -1.7
NB2 pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 100.11 334 P Pdif 11 29 38.9 -1.3
comp=Z,3.3nm,0.9s,baz=67,slow=4.6,SNR=5.6
NOA NORSAR Array B 100.11 334 P Pdif 11 29 38.9 -1.3
GERES GERESS Array B 103.28 321 Pdiff Pdif 11 29 54.8 +0.5
comp=Z,0.2nm,0.2s,baz=86,slow=2.0,SNR=4.0
NVAR Mina Array Bea 107.69 48 Pdiff Pdif 11 30 17.1 +3.2
comp=Z,0.3nm,0.7s,baz=292,slow=4.8,SNR=3.4
NVAR PKKPbc PKKPbc 11 45 38.0 +2.8
comp=Z,0.2nm,0.6s,baz=112,slow=2.9,SNR=4.2
NVAR PKKP PKKPdf 11 45 50.8 +2.4
comp=Z,0.6nm,0.7s,baz=164,slow=4.1,SNR=4.6
PDAR Pinedale Array 112.27 42 PKiKP PKiKP 11 34 32.5 +2.5
comp=Z,0.4nm,0.6s,baz=75,slow=1.7,SNR=3.8
PDAR PKKPbc PKKPbc 11 45 22.1 +1.7
comp=Z,0.9nm,0.8s,baz=119,slow=3.9,SNR=7.4
PDAR PKKPab PKKPab 11 45 29.9 +0.5
comp=Z,1.7nm,1.0s,baz=104,slow=6.3,SNR=7.6
PDAR PKKP PKKPdf 11 45 45.5 +5.7
comp=Z,1.3nm,0.9s,baz=127,slow=6.3,SNR=5.0
PV10 Paradox Valley 114.50 46 *e*PKPdf PKiKP 11 34 37.0 +2.7
PV01 Paradox Valley 114.94 46 *e*PKPdf PKiKP 11 34 37.4 +2.3
ULM Lac du Bonnet 116.08 29 PKP PKPdf 11 34 37.0 -0.4
comp=Z,3.3nm,0.8s,baz=189,slow=1.6,SNR=3.8
ULM Lac du Bonnet 116.08 29 PKP PKPdf 11 34 37.0 -0.4
ANMO Albuquerque 117.81 48 PKP PKPdf 11 34 43.2 +2.6
comp=Z,1.0nm,0.5s,baz=202,slow=3.7,SNR=7.0
MNTX Cornudas Mount 119.98 51 *e*PKPdf PKPdf 11 34 46.5 +1.7
SCHQ Schefferville 121.91 9 PKP PKPdf 11 34 48.8 +0.2
comp=Z,9.1nm,0.8s,baz=43,slow=4.7,SNR=6.4
TXAR Lajitas Array 122.30 53 PKP PKPdf 11 34 51.5 +2.1
comp=Z,1.3nm,0.8s,baz=264,slow=0.4,SNR=14
TXAR PKKPbc PKKPbc 11 44 46.5 +1.7
comp=Z,1.0nm,1.1s,baz=134,slow=3.6,SNR=4.5
TXAR Lajitas Array 122.30 53 PKP PKPdf 11 34 51.5 +2.1
TXAR PKKPbc PKKPbc 11 44 46.5 +1.7
TOA0 Torodi Ar. Sit 123.52 287 *e*PKPdf PKPdf 11 34 53.2 +1.5
TORD Torodi Ar. Bea 123.52 287 PKP PKPdf 11 34 52.6 +0.9
comp=Z,5.9nm,0.8s,baz=44,slow=1.6,SNR=25
TORD PKKPab PKKPab 11 44 43.0 +2.7
comp=Z,0.8nm,0.8s,baz=280,slow=3.6,SNR=4.5
JFWS Jewell Farm 123.89 32 *e*PKIKP PKPdf 11 34 52.6 +0.2
JCT Junction City 124.82 50 *e*PKIKP PKPdf 11 34 56.4 +2.2
USIN University of 128.71 35 *e*PKPdf PKPdf 11 35 03.7 +2.1
WVT Waverly 129.86 37 *e*PKIKP PKPdf 11 35 05.6 +1.8
PLAL Pickwick Lake 130.47 38 *e*PKPdf PKPdf 11 35 05.9 +1.0
SWET Sewanee 131.61 36 *e*PKPdf PKPdf 11 35 10.0 +2.9
LHS Liberty Hill 135.06 33 *e*PKIKP PKPdf 11 35 18.8 +5.2
TRQA Tornquist 143.53 168 *e*PKPdf PKPdf 11 35 27.1 -1.9
MDZ Mendoza 146.20 156 *e*PKP2 PKPab 11 35 37.6 +2.1
CPUP Villa Florida 155.80 171 PKP PKPdf 11 35 49.6 +1.4
comp=Z,0.3nm,0.3s,baz=316,slow=3.3,SNR=3.1

CPUP PKPbc PKPdf 11 35 59.0 +11
comp=Z,3.8nm,0.6s,baz=224,slow=0.9,SNR=9.9
ROSC El Rosal 157.60 71 PKP PKPdf 11 35 52.8 +2.2
comp=Z,4.7nm,0.3s,baz=111,slow=12,SNR=4.0
ROSC PKPab PKPab 11 36 26.3 +3.3
comp=Z,4.2nm,0.4s,baz=268,slow=23,SNR=4.8
SDV Santo Domingo 159.26 57 *e*PKPdf PKPdf 11 35 54.5 +1.9

NEIC ***30*** *11:19:08.0, 3852S×17591E, h149km, MG3.8(WEL), After WEL.*
WEL 30 11:19:08.5±0.4, 3854S×17592E, h148km±3km, ML3.6/15, 7C-1D, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.60**	**201**	PN	Pn	11 19 30.4	+0.2
WTVZ	**West Tongariro**	**0.64**	**204**	PN	Pn	11 19 30.7	+0.3
TWVZ	**Taurewa**	**0.66**	**215**	P	Pn	11 19 30.7	+0.1
TWVZ	**Taurewa**	**0.66**	**215**	PN	Pn	11 19 30.7	+0.2
NGZ	**Ngauruhoe**	**0.69**	**201**	P	Pn	11 19 31.1	+0.3
NGZ	**Ngauruhoe**	**0.69**	**201**	PN	Pn	11 19 31.1	+0.4
WPVZ	**Whakapapa**	**0.73**	**203**	P	Pn	11 19 31.3	+0.3
WPVZ	**Whakapapa**	**0.73**	**203**	⇑PN	Pn	11 19 31.3	+0.3
TUVZ	**Tukino**	**0.76**	**196**	P	Pn	11 19 31.6	+0.3
TUVZ	**Tukino**	**0.76**	**196**	⇑PN	Pn	11 19 31.6	+0.4
FWVZ	**Far West T-bar**	**0.78**	**201**	*e*P	Pn	11 19 31.5	+0.1
FWVZ	**Far West T-bar**	**0.78**	**201**	PN	Pn	11 19 31.5	+0.1
BKZ	**Black Stump Fm**	**0.78**	**145**	P	Pn	11 19 31.7	+0.3
BKZ				S	Sn	11 19 48.8	0.0
BKZ	**Black Stump Fm**	**0.78**	**145**	⇑PN	Pn	11 19 31.7	+0.3
BKZ				SN	Sn	11 19 48.8	0.0
WNVZ	**Wahianoa**	**0.83**	**197**	P	Pn	11 19 32.0	+0.2
WNVZ	**Wahianoa**	**0.83**	**197**	PN	Pn	11 19 32.0	+0.2
HIZ	**Hauiti**	**0.83**	**271**	*e*P	Pn	11 19 31.7	-0.1
HIZ	**Hauiti**	**0.83**	**271**	PN	Pn	11 19 31.7	-0.1
PKVZ	**Pokaka**	**0.88**	**210**	⇑PN	Pn	11 19 32.1	0.0
MOVZ	**Moawhango**	**0.88**	**188**	P	Pn	11 19 32.0	-0.2
MOVZ	**Moawhango**	**0.88**	**188**	⇑PN	Pn	11 19 32.0	-0.2
MTVZ	**Mangateitei**	**0.92**	**202**	PN	Pn	11 19 32.6	+0.1
URZ	**Urewera**	**0.98**	**74**	P	Pn	11 19 32.8	-0.1
URZ	**Urewera**	**0.98**	**74**	⇓PN	Pn	11 19 32.8	-0.1
URZ				SN	Sn	11 19 51.0	-0.6
VRZ	**Vera Road**	**1.08**	**236**	*e*P	Pn	11 19 33.6	-0.2
VRZ	**Vera Road**	**1.08**	**236**	*e*PN	Pn	11 19 33.6	-0.2
MWZ	**Matawai**	**1.28**	**82**	P	Pn	11 19 35.8	+0.1
MWZ	**Matawai**	**1.28**	**82**	PN	Pn	11 19 35.8	+0.1
WAZ	**Wanganui**	**1.42**	**210**	*e*P	Pn	11 19 36.6	-0.5
KNZ	**Kokohu**	**1.46**	**110**	*e*P	Pn	11 19 37.9	+0.4
KNZ	**Kokohu**	**1.46**	**110**	PN	Pn	11 19 37.9	+0.4
TSZ	**Takapari Road**	**1.52**	**179**	⇑PN	Pn	11 19 37.8	-0.4
WPHZ	**Waipukurau**	**1.58**	**165**	PN	Pn	11 19 38.6	-0.2
PXZ	**Pawanui**	**1.67**	**154**	PN	Pn	11 19 39.6	-0.2
PUZ	**Puketiti**	**1.90**	**77**	*e*P	Pn	11 19 41.8	-0.6
PUZ	**Puketiti**	**1.90**	**77**	PN	Pn	11 19 41.8	-0.5
MXZ	**Matakaoa Point**	**2.12**	**64**	*e*P	Pn	11 19 44.9	-0.1
MXZ	**Matakaoa Point**	**2.12**	**64**	PN	Pn	11 19 44.9	0.0
MRZ	**Mangatainoka R**	**2.14**	**187**	⇑PN	Pn	11 19 43.6	-1.6
BFZ	**Birch Farm**	**2.16**	**173**	P	Pn	11 19 44.1	-1.3
BFZ	**Birch Farm**	**2.16**	**173**	PN	Pn	11 19 44.1	-1.3
TIWZ	**Tintock**	**2.24**	**181**	PN	Pn	11 19 44.9	-1.4
KIW	**Kapiti Island**	**2.45**	**198**	P	Pn	11 19 46.7	-2.2
KIW	**Kapiti Island**	**2.45**	**198**	PN	Pn	11 19 46.7	-2.2
MTW	**Mount Morrison**	**2.64**	**187**	PN	Pn	11 19 48.8	-2.5
CAW	**Cannon Point**	**2.65**	**194**	P	Pn	11 19 49.1	-2.3
CAW	**Cannon Point**	**2.65**	**194**	PN	Pn	11 19 49.1	-2.3
DUWZ	**D'Urville Isla**	**2.74**	**214**	PN	Pn	11 19 50.0	-2.6
MRW	**Makara Radio**	**2.85**	**199**	P	Pn	11 19 51.2	-2.7
MRW	**Makara Radio**	**2.85**	**199**	PN	Pn	11 19 51.2	-2.7
TRWZ	**Traveller**	**2.87**	**183**	PN	Pn	11 19 51.8	-2.3
PAWZ	**Paruwai Farm**	**2.87**	**187**	P	Pn	11 19 51.5	-2.6
PAWZ	**Paruwai Farm**	**2.87**	**187**	PN	Pn	11 19 51.5	-2.6
WEL	**Wellington**	**2.89**	**197**	P	Pn	11 19 51.5	-2.9
WEL	**Wellington**	**2.89**	**197**	PN	Pn	11 19 51.5	-2.8
MSWZ	**Moikau Station**	**2.92**	**190**	P	Pn	11 19 52.0	-2.8
MSWZ	**Moikau Station**	**2.92**	**190**	PN	Pn	11 19 52.0	-2.8
SNZO	**South Karori**	**2.92**	**198**	P	Pn	11 19 51.9	-2.9
SNZO	**South Karori**	**2.92**	**198**	PN	Pn	11 19 51.9	-3.0
TCW	**Tory Channel**	**2.96**	**205**	P	Pn	11 19 52.4	-2.9
TCW	**Tory Channel**	**2.96**	**205**	PN	Pn	11 19 52.4	-2.8
NNZ	**Nelson**	**3.32**	**215**	*e*P	Pn	11 19 56.5	-3.3
NNZ	**Nelson**	**3.32**	**215**	PN	Pn	11 19 56.5	-3.3
QRZ	**Quartz Range**	**3.48**	**228**	*e*P	Pn	11 19 57.9	-4.0
QRZ	**Quartz Range**	**3.48**	**228**	PN	Pn	11 19 57.9	-3.9
THZ	**Tophouse**	**3.97**	**215**	*e*P	Pn	11 20 04.6	-3.7
THZ	**Tophouse**	**3.97**	**215**	PN	Pn	11 20 04.6	-3.7
KHZ	**Kahutara**	**4.28**	**204**	*e*P	Pn	11 20 08.7	-3.7
KHZ	**Kahutara**	**4.28**	**204**	PN	Pn	11 20 08.7	-3.7
MQZ	**McQueen's Vall**	**5.72**	**204**	SN	Sn	11 21 25.9	-10

CSEM ***30*** *11:22:17.6±0.1, 3446N×3673E, h2km, Mc1.6, Error ellipse: s-maj=4.5km s-min=2.8km az=51.0*
ISCJB ***30*** *11:22:18.5±0.6, 3444N±004×3671E±004, h8km±8km, Error ellipse: s-maj=7.4km s-min=5.4km az=52.9*
NSSC ***30*** *11:22:18, 3445N×3669E, h6km±3km*
GRAL ***30*** *11:22:18.1±0.6, 3470N×3669E, h14km±999km, MD3.0*
ISC 30 11:22:19.0±0.6, 3446N±004×3672E±004, h9km±7km, n15, σ0°66/26, 5D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.27**	**283**	⇑*i*P	**Pg**	**11 22 23.4**	**-0.9**
HAWK	**Haweek**	**0.27**	**283**	⇑P	**Pg**	**11 22 23.0**	**-1.3**
HAWK				⇓S	**Sg**	**11 22 28.0**	**+0.1**
ROOS	**tl_alroos**	**0.55**	**121**	⇑*i*P	**Pg**	**11 22 29.3**	**-0.4**
ROOS	**tl_alroos**	**0.55**	**121**	⇑P	**Pg**	**11 22 29.0**	**-0.7**
ROOS				⇑S	**Sg**	**11 22 38.0**	**+1.1**
BIDA	**Albida**	**0.64**	**329**	⇑*i*P	**Pg**	**11 22 31.4**	**0.0**
BIDA	**Albida**	**0.64**	**329**	⇑P	**Pg**	**11 22 31.0**	**-0.4**
BIDA				⇑S	**Sg**	**11 22 41.0**	**+1.2**
HWQ	**Hawqa**	**0.66**	**254**	*e*Pg	**Pg**	**11 22 31.4**	**-0.4**
HWQ				*e*Sg	**Sg**	**11 22 40.8**	**+0.4**
BHL	**Bhannes**	**1.04**	**238**	*e*Pg	**Pg**	**11 22 38.4**	**-0.6**
BHL				*e*Sg	**Sg**	**11 22 53.4**	**+0.9**
WRDH	**Warideh**	**1.08**	**347**	⇑*i*P	**Pg**	**11 22 39.2**	**-0.4**
WRDH				⇓*i*S	**Sg**	**11 22 53.9**	**+0.3**
WRDH	**Warideh**	**1.08**	**347**	⇑P	**Pg**	**11 22 39.0**	**-0.6**
WRDH				⇓S	**Sg**	**11 22 53.0**	**-0.6**
SLNF	**Slenfeh**	**1.20**	**340**	⇑*i*P	**Pb**	**11 22 41.7**	**-0.2**
SLNF				⇓*i*S	**Sb**	**11 22 58.6**	**+1.0**
SLNF	**Slenfeh**	**1.20**	**340**	⇑P	**Pb**	**11 22 41.0**	**-0.9**
SLNF				⇓S	**Sb**	**11 22 58.0**	**+0.4**
ARNB	**Al Arnab**	**1.53**	**337**	⇑P	**Pn**	**11 22 46.0**	**-0.4**
BTCH	**Batrach**	**1.59**	**352**	⇑*i*P	**Pn**	**11 22 47.2**	**-0.1**
BTCH				⇑*i*S	**Sn**	**11 23 08.5**	**+0.6**
BTCH	**Batrach**	**1.59**	**352**	⇑P	**Pn**	**11 22 47.0**	**-0.3**
BTCH				⇑S	**Sn**	**11 23 08.0**	**+0.1**

IDC ***30*** *11:23:48.7±1.9, 4013N×12458W, h0km, mb3.0/2, mb1 3.4/5, mb1mx3.3/22, mbtmp3.2/5, ML3.4/3, Error ellipse: s-maj=49.5km s-min=17.4km az=24.0*
ISCJB ***30*** *11:23:53.6±0.4, 4052N±002×12408W±004, h37km±7km, mb3.4/1, Error ellipse: s-maj=5.8km s-min=2.9km az=157.6*
NEIC ***30*** *11:23:54.4, 4053N×12406W, h19km, ML3.2(NCEDC), After NCEDC.*
ISC 30 11:23:54.3±0.5, 4051N±002×12408W±004, h29km±3km, n81, σ0°80/105, mb3.4/1, 33C-35D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.31**	**7**	⇓P	**Pb**	**11 24 00.9**	**-0.9**
JCC				⇑S	**Sb**	**11 24 06.8**	**-0.1**
O01C	**Eel River Cons**	**0.42**	**152**	⇓P	**Pb**	**11 24 03.5**	**+0.1**
O01C				⇓S	**Sb**	**11 24 10.8**	**+1.1**
KHMM	**Horse Mountain**	**0.45**	**36**	*e*Pg	**Pb**	**11 24 03.7**	**-0.2**
KHMM				*e*Sg	**Sb**	**11 24 10.2**	**-0.2**
N02C	**Big Bar**	**0.66**	**62**	⇑P	**Pb**	**11 24 06.6**	**-0.8**
N02C				⇓S	**Sb**	**11 24 16.5**	**+0.2**
KIPM	**Iron Peak**	**0.84**	**147**	*e*Pg	**Pn**	**11 24 09.7**	**-0.4**
KCPM	**Cahto Peak**	**0.91**	**155**	*e*Pg	**Pn**	**11 24 10.7**	**-0.4**
KRMB	**Red Mountain**	**1.02**	**7**	*e*Pn	**Pn**	**11 24 11.4**	**-1.2**
O02C	**Red Bluff**	**1.04**	**108**	P	**Pn**	**11 24 12.2**	**-0.8**
O02C				⇑S	**Sn**	**11 24 26.6**	**+0.1**
WDC	**Whiskeytown Da**	**1.17**	**86**	*e*Pn	**Pn**	**11 24 13.7**	**-1.1**
WDC	**Whiskeytown Da**	**1.17**	**86**	P	**Pn**	**11 24 13.8**	**-0.9**
P01C	**Double 8 Ranch**	**1.19**	**151**	P	**Pn**	**11 24 13.7**	**-1.2**
P01C				⇓S	**Sn**	**11 24 29.6**	**-0.5**
M02C	**Callahan**	**1.28**	**46**	P	**Pn**	**11 24 15.5**	**-0.7**
M02C				⇑S	**Sn**	**11 24 31.4**	**-0.9**
M01C	**Crescent City**	**1.33**	**359**	P	**Pn**	**11 24 15.7**	**-1.3**
M01C				⇑S	**Sn**	**11 24 32.4**	**-1.4**
GASB	**Alder Springs**	**1.35**	**129**	⇑P	**Pn**	**11 24 16.8**	**-0.4**
YBH	**Yreka Blue Hor**	**1.60**	**40**	*e*Pn	**Pn**	**11 24 20.3**	**-0.3**
YBH				*e*Sn	**Sn**	**11 24 42.0**	**+1.8**
YBH	**Yreka Blue Hor**	**1.60**	**40**	⇑P	**Pn**	**11 24 20.2**	**-0.3**
YBH				⇓S	**Sn**	**11 24 40.2**	**-0.1**
O03C	**Acorn Hollow,**	**1.65**	**108**	⇑S	**Sn**	**11 24 41.5**	**0.0**
M03C	**McCloud**	**1.67**	**62**	⇓P	**Pn**	**11 24 21.7**	**+0.2**
M03C				⇑S	**Sn**	**11 24 42.6**	**+0.6**
L02A	**Cave Junction**	**1.68**	**12**	P	**Pn**	**11 24 21.0**	**-0.7**
KBO	**Bosley Butte**	**1.70**	**356**	*e*Pn	**Pn**	**11 24 20.7**	**-1.4**
HOPS	**Hopland**	**1.70**	**153**	*e*Pg	**Pn**	**11 24 26.9**	**+4.9**
HATC	**Hat Creek Radi**	**2.01**	**80**	⇓P	**Pn**	**11 24 26.3**	**0.0**
M04C	**Macdoel**	**2.11**	**52**	⇑P	**Pn**	**11 24 27.9**	**+0.2**
SUTB	**Sutter Butte**	**2.18**	**125**	⇑P	**Pn**	**11 24 27.5**	**-1.1**
ORV	**Oroville**	**2.20**	**115**	⇑P	**Pn**	**11 24 28.0**	**-0.8**
ORV				⇑S	**Sn**	**11 24 54.7**	**-0.3**
HUMO	**Hull Mountain**	**2.26**	**22**	*e*Pn	**Pn**	**11 24 29.5**	**-0.2**
HUMO	**Hull Mountain**	**2.26**	**22**	P	**Pn**	**11 24 29.4**	**-0.2**
HUMO				⇓S	**Sn**	**11 24 56.1**	**-0.4**
O04C	**Chester**	**2.29**	**94**	⇓P	**Pn**	**11 24 29.9**	**-0.2**
K02A	**Glendale**	**2.30**	**11**	⇑P	**Pn**	**11 24 29.8**	**-0.4**
OHCM	**Honcut**	**2.31**	**120**	*e*Pn	**Pn**	**11 24 29.3**	**-1.1**
OHCM				*e*Pg	**Pn**	**11 24 36.9**	**+6.5**
OHCM				*e*Sg	**Sn**	**11 25 06.2**	**+8.2**
L04A	**Klamath Falls**	**2.34**	**44**	⇑P	**Pn**	**11 24 31.1**	**+0.3**
KEBM	**Edson Butte**	**2.37**	**355**	*e*Pn	**Pn**	**11 24 32.9**	**+1.7**
M05C	**Lookout**	**2.38**	**68**	⇓P	**Pn**	**11 24 30.8**	**-0.5**
M05C				⇑S	**Sn**	**11 24 58.9**	**-0.6**
O05C	**Quincy**	**2.48**	**102**	⇓P	**Pn**	**11 24 33.0**	**+0.3**
MCCM	**Marconi Confer**	**2.54**	**158**	⇑S	**Sn**	**11 25 02.9**	**-0.6**
K04A	**Chilquin**	**2.74**	**39**	⇑P	**Pn**	**11 24 36.6**	**+0.3**
M06C	**Likely Place G**	**2.82**	**75**	P	**Pn**	**11 24 37.1**	**-0.3**
J02A	**Umpqua**	**2.88**	**7**	⇑P	**Pn**	**11 24 37.9**	**-0.3**
J02A				⇓S	**Sn**	**11 25 11.6**	**-0.2**
L05A	**Lakeview**	**2.89**	**57**	⇓P	**Pn**	**11 24 38.4**	**+0.1**
BEKR	**Beckwourth**	**2.92**	**102**	⇓P	**Pn**	**11 24 38.8**	**0.0**
P05C	**Yuba Gap, Truc**	**2.93**	**113**	⇓P	**Pn**	**11 24 39.4**	**+0.5**
FARB	**Farallon Islan**	**2.93**	**163**	⇓P	**Pn**	**11 24 39.2**	**+0.2**
J03A	**Ideyid Park**	**2.98**	**16**	P	**Pn**	**11 24 40.1**	**+0.5**
MOD	**Modoc**	**3.17**	**63**	*e*Pn	**Pn**	**11 24 42.3**	**+0.1**
MOD	**Modoc**	**3.17**	**63**	⇑P	**Pn**	**11 24 41.9**	**-0.3**
N06A	**Buffalo Meadow**	**3.24**	**84**	⇓P	**Pn**	**11 24 42.6**	**-0.6**
K05A	**Summer Lake**	**3.25**	**46**	⇑P	**Pn**	**11 24 43.5**	**+0.2**
J05A	**Fort Rock**	**3.49**	**37**	⇓P	**Pn**	**11 24 47.9**	**+1.3**
J05A				⇑S	**Sn**	**11 25 26.6**	**-0.3**
I02A	**Mapleton**	**3.49**	**3**	⇓P	**Pn**	**11 24 46.7**	**+0.1**
I02A				⇓S	**Sn**	**11 25 26.4**	**-0.6**
I03A	**Eugene**	**3.51**	**9**	⇑P	**Pn**	**11 24 47.2**	**+0.3**
WCN	**Washoe City**	**3.54**	**109**	⇓P	**Pn**	**11 24 47.7**	**+0.4**
K06A	**Valley Falls**	**3.67**	**50**	⇑P	**Pn**	**11 24 49.4**	**+0.3**
K06A				⇑S	**Sn**	**11 25 30.7**	**-0.6**
S04C	**Ingram Canyon,**	**3.69**	**144**	⇓S	**Sn**	**11 25 32.6**	**+0.7**
BNLO	**Ben Lomond (Sa**	**3.69**	**156**	⇓P	**Pn**	**11 24 49.5**	**+0.1**
CMB	**Columbia Colle**	**3.79**	**130**	*e*Pn	**Pn**	**11 24 53.4**	**+2.7**
CMB				*e*Pg	**Pn**	**11 25 03.9**	**+13**
M07A	**Soldier Meadow**	**3.82**	**75**	P	**Pn**	**11 24 50.5**	**-0.7**
L07A	**Adell**	**3.88**	**66**	⇓P	**Pn**	**11 24 51.5**	**-0.4**
L07A				⇓S	**Sn**	**11 25 37.1**	**+0.7**
O07A	**Toulon**	**3.99**	**93**	⇓P	**Pn**	**11 24 53.3**	**-0.2**
K07A	**Rock Creek Ran**	**4.23**	**57**	⇑P	**Pn**	**11 24 56.7**	**-0.1**
H04A	**Detroit Lake**	**4.40**	**18**	⇑P	**Pn**	**11 24 59.8**	**+0.7**
H04A				⇑S	**Sn**	**11 25 49.9**	**+0.6**
WVOR	**Wild Horse Val**	**4.52**	**63**	*e*Pn	**Pn**	**11 25 00.1**	**-0.7**
WVOR				*e*Pg	**Pn**	**11 25 17.3**	**+17**
N08A	**GE Springer Mi**	**4.53**	**85**	⇓P	**Pn**	**11 25 00.7**	**-0.2**
HAST	**UC Hastings Re**	**4.57**	**153**	⇓P	**Pn**	**11 25 00.2**	**-1.2**
K08A	**Mann Creek Ran**	**4.74**	**60**	⇓P	**Pn**	**11 25 03.3**	**-0.5**
G03A	**Yamhill**	**4.84**	**7**	⇑P	**Pn**	**11 25 06.2**	**+1.0**
NVAR	**Mina Array Bea**	**4.93**	**113**	Pn	**Pn**	**11 25 07.5**	**+1.2**
NVAR				Lg		11 26 31.8	
NVAR	**Mina Array Bea**	**4.93**	**113**	Pn	**Pn**	**11 25 07.5**	**+1.2**
NVAR				Lg		11 26 31.8	
N09A	**Rock Creek Ran**	**4.99**	**84**	⇑P	**Pn**	**11 25 07.2**	**-0.1**
V03C	**Hunter Liggett**	**5.01**	**153**	⇑P	**Pn**	**11 25 08.9**	**+1.4**
H06A	**Lindquist Farm**	**5.04**	**32**	⇓P	**Pn**	**11 25 09.7**	**+1.8**
J08A	**Circle Bar Ran**	**5.05**	**54**	⇓P	**Pn**	**11 25 08.1**	**0.0**
L09A	**Wilkinson Ranc**	**5.06**	**71**	⇑P	**Pn**	**11 25 08.7**	**+0.5**
G05A	**Wamic**	**5.14**	**22**	⇓P	**Pn**	**11 25 10.9**	**+1.6**
G06A	**Carlson Farm,**	**5.36**	**27**	⇑P	**Pn**	**11 25 13.5**	**+1.3**
F04A	**Amboy**	**5.55**	**12**	⇓P	**Pn**	**11 25 16.1**	**+1.1**
E05A	**Randle**	**6.28**	**15**	⇓P	**Pn**	**11 25 25.5**	**+0.6**
HAWA	**Hanford**	**6.74**	**28**	*e*Pn	**Pn**	**11 25 33.4**	**+2.1**
PDAR	**Pinedale Array**	**11.10**	**74**	Pn	**Pn**	**11 26 39.1**	**+8.1**
ANMO	**Albuquerque**	**15.00**	**106**	Pn	**Pn**	**11 27 27.2**	**+3.0**
TXAR	**Lajitas Array**	**20.06**	**117**	P	**P**	**11 28 26.6**	**+1.4**
SONM	**Songino Array**	**81.30**	**328**	P	**P**	**11 36 07.6**	**-0.3**

0.2nm,0.4s,baz=273,slow=7.1,SNR=4.3
0.1nm,0.3s,baz=254,slow=16,SNR=4.9
0.1nm,0.3s,baz=313,slow=15,SNR=3.4
0.1nm,0.5s,baz=291,slow=10,SNR=4.0
0.5nm,1.0s,mb3.4,baz=35,slow=5.3,SNR=2.5

IDC 30 11:26:14.7±1.5, 262N×12727E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.6/5, Error ellipse: s-maj=61.7km s-min=18.4km az=79.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.65**	**184**	P	P	11 30 54.2	-1.7
	1.0nm,0.8s,baz=16,slow=11,SNR=4.7						
FITZ				S	S	11 34 50.1	+2.7
	0.4nm,0.6s,baz=115,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**23.47**	**163**	P	P	11 31 24.7	-1.3
	1.2nm,0.6s,baz=339,slow=10,SNR=20						
ASAR	**Alice Springs**	**26.91**	**166**	P	P	11 31 59.2	+1.8
	0.3nm,0.4s,baz=346,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**36.91**	**159**	P	P	11 33 24.8	-0.3
	0.8nm,0.5s,baz=342,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**58.77**	**325**	P	P	11 36 15.0	+0.4
	0.2nm,0.4s,baz=112,slow=9.2,SNR=2.6						

IGQ 30 11:30:50.7, 078S×8018W, h12km±8km, Mb4.0, Ms3.8, 4C-6D, Error ellipse: s-maj=8.9km s-min=4.3km az=179.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.81**	**30**	P	Pg	11 31 07.3	+0.9
MAG1				S	Sg	11 31 22.3	+5.2
JUA2	**San Juan 2**	**1.67**	**70**	⇓P	Pn	11 31 21.0	+1.2
JUA2				S	Sn	11 31 46.7	+5.6
CAMI	**Rancho Maria**	**1.68**	**87**	⇓P	Pn	11 31 22.5	+2.6
TERV	**Terraza Guagua**	**1.69**	**69**	⇑P	Pn	11 31 21.0	+1.0
TERV				S	Sn	11 31 45.8	+4.3
PINO	**Pino**	**1.69**	**69**	⇓P	Pn	11 31 20.9	+0.8
IGUA	**Igualata**	**1.69**	**115**	⇓P	Pn	11 31 22.6	+2.5
GGP	**Refugio Guagua**	**1.70**	**69**	⇓P	Pn	11 31 21.0	+0.9
NAS1	**Nasa**	**1.71**	**85**	P	Pn	11 31 23.2	+3.0
NAS1				S	Sn	11 31 51.3	+9.2
YANA	**Yana**	**1.74**	**68**	P	Pn	11 31 21.4	+0.7
VC1	**Cotopaxi 1**	**1.78**	**86**	⇑P	Pn	11 31 24.4	+3.2
TAMB	**Tambo**	**1.81**	**87**	P	Pn	11 31 27.1	+5.3
PISA	**Pisayambo**	**1.81**	**99**	P	Pn	11 31 24.6	+2.8
JUIV	**Juive**	**1.83**	**110**	P	Pn	11 31 26.7	+4.8
RUN5	**Runtun**	**1.86**	**110**	⇑P	Pn	11 31 25.5	+3.1
ARRY	**Arrayan**	**1.87**	**113**	⇓P	Pn	11 31 25.2	+2.7
ARRY				S	Sn	11 31 52.8	+6.8
PATA	**Patacocha**	**1.89**	**112**	P	Pn	11 31 25.5	+2.8
ULBA	**Ulba**	**1.89**	**111**	P	Pn	11 31 26.2	+3.4
ANTI	**Antisana**	**2.04**	**81**	⇑P	Pn	11 31 28.0	+3.1
COTA	**Cotacachi**	**2.15**	**59**	P	Pn	11 31 28.0	+1.7
COTA				S	Sn	11 32 02.0	+9.1
CAYR	**Refugio Cayamb**	**2.31**	**70**	P	Pn	11 31 31.9	+3.3
CAYR				S	Sn	11 32 04.4	+7.4
CAYA	**Cayambe**	**2.35**	**69**	P	Pn	11 31 32.3	+3.2
CAYA				S	Sn	11 32 06.2	+8.4
CONE	**Cono NE Rev Vo**	**2.63**	**74**	P	Pn	11 31 38.9	+5.9

IDC 30 11:31:16.5±7.3, 278N×12654E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=126.1km s-min=104.1km az=111.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.77**	**182**	P	P	11 36 01.0	+2.1
	0.5nm,0.4s,baz=4.9,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**23.85**	**162**	P	P	11 36 31.8	+0.4
	0.6nm,0.4s,baz=338,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.25**	**165**	P	P	11 37 02.4	+0.1
	0.7nm,0.6s,baz=350,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**37.32**	**159**	P	P	11 38 29.6	-0.8
	0.7nm,0.3s,baz=336,slow=10.0,SNR=3.4						

IDC 30 11:52:35.8±1.7, 281S×12746E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=102.0km s-min=24.5km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.30**	**187**	Pn	Pn	11 56 13.8	+0.7
	0.1nm,0.3s,baz=4.8,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**18.31**	**159**	P	Pn	11 56 51.6	+0.4
	0.1nm,0.3s,baz=337,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**21.65**	**164**	P	P	11 57 27.9	+0.1
	2.1nm,0.6s,baz=346,slow=12,SNR=32						
STKA	**Stephens Creek**	**31.83**	**157**	P	P	11 59 01.8	-0.4
	1.2nm,0.8s,baz=340,slow=12,SNR=2.0						
MKAR	**Makanchi Array**	**63.35**	**327**	P	P	12 03 07.5	+0.7
	0.5nm,0.7s,baz=116,slow=5.1,SNR=4.1						

BJI ***30*** *11:54:49.7, 1868N×10861W, h9km, Ms4.8, Msz4.5*
ISCJB ***30*** *11:54:52.0±0.6, 1886N±007×10809W±005, h10km, mb4.2/18, MS4.1/4, Error ellipse: s-maj=10.8km s-min=5.5km az=56.8*
IDC ***30*** *11:54:51.8±2.4, 1908N×10825W, h0km, mb3.8/3, mb1 4.3/6, mb1mx4.1/17, mbtmp4.0/6, ML4.3/3, MS3.8/4, Ms1 3.8/4, ms1mx3.5/24, Error ellipse: s-maj=64.6km s-min=25.5km az=61.0*
NEIC ***30*** *11:54:56.2±3.6, 1898N×10804W, h20km±24km, mb4.3/18, Error ellipse: s-maj=21.2km s-min=7.2km az=215.0*
ISC 30 11:54:54.0±0.6, 1886N±007×10815W±005, h10km, n222, σ0°72/214, mb4.2/18, MS4.1/4, 62C-65D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.00**	**77**	*i* P	**Pn**	**11 55 37.1**	**-4.5**
LPIG	**La Paz**	**5.59**	**339**	Pn	**Pn**	**11 56 15.1**	**-2.0**
	9.8nm,0.3s,baz=189,slow=1.9,SNR=4.9						
LPIG				LR	LR	11 57 57.9	
	comp=

X14A	Yava	16.11	346	⇓P	Pn	11 58 41.2 +0.7
	baz=16,SNR=6.3					
BC3	Big Chuckw Mtn	16.11	338	⇑P	Pn	11 58 40.7 +0.1
	baz=16,SNR=14					
PDMCI	Parker Dam,Lak	16.28	342	⇓P	Pn	11 58 42.9 +0.3
	baz=17,SNR=6.6					
X13A	Yucca	16.46	343	⇑P	Pn	11 58 45.2 +0.2
	baz=17,SNR=6.7					
IRM	Iron Mountain	16.47	339	⇓P	Pn	11 58 45.2 +0.2
	baz=17,SNR=11					
BELC	Belle Mtn.	16.62	337	⇓P	Pn	11 58 46.6 -0.5
	baz=17,SNR=8.2					
W15A	Williams	16.66	348	⇑P	Pn	11 58 48.0 +0.5
	baz=17,SNR=5.8					
MURC	Murrieta	16.76	333	⇓P	Pn	11 58 49.5 +0.7
	baz=17					
WUAZ	Wupatki	16.84	351	*e*Pn	Pn	11 58 47.8 -2.0
WUAZ				*e*P		11 58 52.2
WUAZ	Wupatki	16.84	351	⇑P	Pn	11 58 51.1 +1.4
	baz=17,SNR=8.4					
W14A	Seligman	16.87	346	⇑P	Pn	11 58 51.0 +0.9
	baz=17,SNR=17					
W13A	Hualapai Mount	16.96	344	⇓P	Pn	11 58 51.9 +0.7
	baz=17					
BBRC	Big Bear Sol-O	17.22	335	⇑P	Pn	11 58 54.9 +0.4
	baz=18					
W12A	Cal Nev Ari	17.43	341	⇑P	Pn	11 58 57.4 +0.3
	baz=18					
HEC	Hector,Ludlow	17.49	337	⇑P	Pn	11 58 58.3 +0.4
	baz=18					
BFSC	Mount Baldy St	17.50	333	⇓P	Pn	11 58 58.9 +0.9
	baz=18					
V12A	Nelson	17.82	342	P	Pn	11 59 03.0 +1.1
	baz=18,SNR=25					
WMOK	Wichita Mounta	17.87	26	*e*Pn	Pn	11 59 01.6 -1.0
	31nm,1.8s					
TUQ	Turquoise Mtn.	17.89	339	⇓P	Pn	11 59 04.1 +1.3
	baz=18,SNR=5.3					
BLG	Laguna Peak	18.04	330	⇑P	Pn	11 59 05.4 +0.8
	baz=18					
GSC	Goldstone	18.08	337	*e*P	Pn	11 59 06.4 +1.1
GSC	Goldstone	18.08	337	⇓P	Pn	11 59 05.7 +0.4
	baz=18,SNR=6.2					
EDW2	Edwards Air Fo	18.19	333	⇓P	Pn	11 59 06.7 +0.1
	baz=18					
MVCO	Mesa Verde	18.28	359	⇓P	Pn	11 59 07.4 -0.3
	baz=19					
U12A	Valley of Fire	18.39	343	⇑P	Pn	11 59 08.8 -0.1
	baz=19					
SHOC	Shoshone	18.43	339	⇑P	Pn	11 59 09.7 +0.2
	baz=19					
LRMC	Laurel Mountai	18.58	335	⇓P	Pn	11 59 11.2 -0.1
	baz=19					
SHPR	Sheep Range	18.63	342	*e*Pn	Pn	11 59 12.3 +0.3
U10A	Ash Meadows, A	18.92	339	⇑P	Pn	11 59 15.2 -0.2
	baz=19,SNR=10					
SDCO	Great Sand Dun	18.96	6	*e*Pn	Pn	11 59 15.6 -0.3
MPMC	Manual Prospec	19.01	336	⇓P	Pn	11 59 16.4 -0.2
	baz=19,SNR=10					
ISA	Isabella	19.07	333	*e*P	Pn	11 59 17.0 -0.2
ISA	Isabella	19.07	333	⇓P	Pn	11 59 16.5 -0.7
	baz=19					
FURC	Furnace Creek,	19.15	338	⇑P	Pn	11 59 17.9 -0.3
	baz=20					
PV01	Paradox Valley	19.21	359	*e*P	Pn	11 59 18.9 0.0
DAC	Darwin (Calif)	19.24	336	*e*Pn	Pn	11 59 19.0 -0.3
ARUT	Antelope Range	19.42	347	*e*P	Pn	11 59 21.5 +0.1
PV10	Paradox Valley	19.46	358	*e*P	Pn	11 59 21.0 -0.9
VES	Vestal, Richgr	19.48	332	⇑P	Pn	11 59 21.7 -0.4
	baz=20,SNR=7.8					
CWC	Cottonwood Cre	19.57	335	⇑P	Pn	11 59 21.9 -1.4
	baz=20					
MSU	Marysvale	19.89	351	*e*Pn	Pn	11 59 26.6 -0.5
MSU				*ep*P	pP	11 59 30.8 +2.5
HELL	Mitchell Peak,	20.16	334	P	P	11 59 29.3 +0.9
	baz=20,SNR=22					
PKD	Parkfield	20.23	330	⇑P	P	11 59 29.3 +0.2
	baz=21					
SRU	San Rafael	20.28	355	*e*Pn	P	11 59 29.7 -0.1
S09A	Goldfield	20.40	339	P	P	11 59 31.7 +0.7
	baz=21,SNR=24					
TMUT	Trail Mountain	20.54	353	*e*Pn	P	11 59 33.0 +0.6
S08C	White Mtn Res	20.54	337	⇑P	P	11 59 33.4 +0.9
	baz=21,SNR=22					
MTUM	Tungsten Hills	20.56	336	*e*P	P	11 59 33.6 +0.8
TGUH	Tegucigalpa,Un	20.58	100	*e*P	P	11 59 26.2 -6.7
	28nm,0.6s					
U04C	Hernandez Rese	20.68	330	P	P	11 59 35.6 +1.5
	baz=21,SNR=9.9					
TPH	Tonopah	20.72	339	*e*P	P	11 59 35.3 +0.8
	13nm,1.0s					
T06C	Millerton Lake	20.73	333	⇓P	P	11 59 34.4 -0.2
	baz=21,SNR=13					
R09A	Tonopah	20.82	340	P	P	11 59 35.8 +0.2
	baz=21,SNR=19					
KCC	Kaiser Creek	20.84	334	⇓P	P	11 59 35.7 -0.1
	baz=21					
LRV	Little Rabbit	20.84	330	*e*P	P	11 59 36.9 +1.1
MLAC	Mammoth Lakes	20.91	336	⇓P	P	11 59 36.3 -0.1
	baz=21,SNR=5.2					
Q12A	Willow Creek R	20.93	345	P	P	11 59 37.0 +0.3
	baz=21,SNR=10					
Q11A	Duckwater	20.95	343	P	P	11 59 37.6 +0.6
	baz=21,SNR=19					
HAST	UC Hastings Re	21.08	329	⇑P	P	11 59 38.7 +0.4
	baz=21					
R08A	Mina	21.27	338	⇓P	P	11 59 40.9 +0.5
	baz=22,SNR=30					
S05C	Merced	21.28	332	⇑P	P	11 59 40.3 -0.2
	baz=22					
MPU	Maple Canyon	21.30	353	*e*Pn	P	11 59 41.2 +0.5
P12A	McGill	21.36	346	⇓P	P	11 59 41.1 -0.3
	baz=22,SNR=6.5					
R07C	Lee Vining	21.39	336	⇑P	P	11 59 41.5 -0.2
	baz=22,SNR=16					
Q09A	Carvers	21.39	340	⇑P	P	11 59 42.1 +0.4
	baz=22					
NVAR	Mina Array Bea	21.41	338	P	P	11 59 42.4 +0.5
	6.9nm,0.8s,mb4.0,baz=170,slow=13,SNR=56					
NVAR	Mina Array Bea	21.41	338	P	P	11 59 42.4 +0.5
S06C	San Francisco	21.53	334	⇑P	P	11 59 42.8 -0.4
	baz=22,SNR=6.6					
DUG	Dugway	21.64	350	*e*P	P	11 59 43.9 -0.5
	11nm,0.8s,mb4.3					
DUG	Dugway	21.64	350	P	P	11 59 45.0 +0.7
	baz=22,SNR=12					
P11A	Circle Ranch,	21.64	344	⇓P	P	11 59 44.4 0.0
	baz=22					
DAU	Daniels Canyon	21.64	354	*e*P	P	11 59 44.9 +0.4
Q08A	Gabbs	21.66	339	⇑P	P	11 59 45.0 +0.4
	baz=22					
S04C	Ingram Canyon,	21.86	331	⇓P	P	11 59 46.8 0.0
	baz=22					
CMB	Columbia Colle	21.89	333	*e*P	P	11 59 46.6 -0.5
	7.2nm,1.0s,mb4.1					
CMB	Columbia Colle	21.89	333	P	P	11 59 46.7 -0.3
	baz=22,SNR=7.8					
WAKR	Walker	21.90	336	*e*P	P	11 59 47.9 +0.7
P10A	Eureka	21.90	343	⇓P	P	11 59 46.9 -0.3
	baz=22,SNR=6.6					
R06C	Coleville	21.92	336	⇓P	P	11 59 47.3 -0.1
	baz=22,SNR=17					
CTU	Camp Tracy	21.98	353	*e*P	P	11 59 50.2 +2.2
	13nm,1.1s,mb4.3					
P09A	Austin	22.04	341	⇓P	P	11 59 48.7 +0.1
	baz=22					
O12A	Currie	22.08	346	P	P	11 59 49.5 +0.5
	baz=22,SNR=18					
WENL	Wente Brothers	22.16	330	⇓P	P	11 59 50.3 +0.4
	baz=22					
O11A	Cowboy Ranch,	22.16	345	P	P	11 59 50.4 +0.4
	baz=22,SNR=12					
R04C	Big Horse Ranc	22.31	333	⇓P	P	11 59 51.5 0.0
	baz=23					
R05C	Kirkwood Meado	22.32	335	⇑P	P	11 59 51.7 +0.1
	baz=23,SNR=13					
TCUT	Toone Canyon	22.36	354	*e*P	P	11 59 52.3 +0.2
BDM	Black Diamond	22.48	331	⇑P	P	11 59 53.3 0.0
	baz=23					
N13A	Wendover, West	22.53	348	⇑P	P	11 59 54.8 +1.0
	baz=23,SNR=8.8					
O10A	Cortez Mining,	22.54	343	⇓P	P	11 59 53.9 0.0
	baz=23					
P07A	Fallon	22.60	338	⇓P	P	11 59 54.9 +0.2
	baz=23					
O09A	Fish Creek Ran	22.62	342	⇑P	P	11 59 55.1 +0.2
	baz=23					
LAVA	Lava Cap Winer	22.64	334	⇓P	P	11 59 54.8 -0.3
	baz=23					
N12A	Clover Valley,	22.70	346	⇓P	P	11 59 55.3 -0.4
	baz=23					
WCN	Washoe City	22.71	336	⇑P	P	11 59 55.8 -0.1
	baz=23,SNR=6.3					
N11A	Elko Archery C	22.83	345	⇑P	P	11 59 56.6 -0.4
	baz=23					
HWUT	Hardware Ranch	22.86	353	*e*P	P	11 59 59.2 +1.8
	6.9nm,0.9s,mb4.1					
N10A	Dunphy	22.94	344	⇓P	P	11 59 58.3 +0.1
	baz=23					
Q04C	Lincoln	22.98	333	⇑P	P	11 59 59.2 +0.5
	baz=23					
M13A	Montello	23.01	348	⇓P	P	11 59 59.0 0.0
	baz=23					
P05C	Yuba Gap, Truc	23.05	335	⇑P	P	11 59 59.7 +0.3
	baz=23					
O07A	Toulon	23.15	339	⇓P	P	12 00 00.3 -0.2
	baz=24,SNR=8.1					
M12A	Wells	23.21	347	P	P	12 00 01.1 -0.1
	baz=24,SNR=16					
N09A	Rock Creek Ran	23.35	342	⇑P	P	12 00 02.1 -0.5
	baz=24					
M11A	Holland Ranch,	23.43	345	⇓P	P	12 00 03.5 +0.1
	baz=24,SNR=10					
BEKR	Beckwourth	23.44	336	⇓P	P	12 00 03.1 -0.3
	baz=24					
OHCM	Honcut	23.44	333	*e*P	P	12 00 03.4 -0.2
N08A	GE Springer Mi	23.47	341	⇓P	P	12 00 03.5 -0.3
	baz=24					
ORV	Oroville	23.63	334	⇓P	P	12 00 05.1 -0.3
	baz=24					
M10A	I.L. Ranch, Tu	23.70	344	⇑P	P	12 00 06.0 0.0
	baz=24,SNR=9.6					
O05C	Quincy	23.74	335	⇑P	P	12 00 06.7 +0.3
	baz=24					
M09A	Marrel Ranch,	23.85	343	⇑P	P	12 00 07.0 -0.4
	baz=24					
PDAR	Pinedale Array	23.86	357	P	P	12 00 04.0 -3.5
	1.4nm,0.8s,mb3.5,baz=164,slow=8.3,SNR=13					
AHID	Auburn Hatcher	23.96	355	*e*P	P	12 00 08.4 0.0
	5.8nm,0.6s,mb4.2					
PLAL	Pickwick Lake	23.97	44	*e*P	P	12 00 07.0 -1.5
	19nm,1.5s,mb4.3					
N06A	Buffalo Meadow	24.01	338	⇓P	P	12 00 09.7 +0.8
	baz=24,SNR=7.0					
O04C	Chester	24.11	335	⇓P	P	12 00 10.2 +0.4
	baz=24					
O03C	Acorn Hollow,	24.23	333	⇓P	P	12 00 11.5 +0.7
	baz=25					
M07A	Soldier Meadow	24.35	340	⇑P	P	12 00 12.5 +0.6
	baz=25					
L09A	Wilkinson Ranc	24.46	343	P	P	12 00 13.3 +0.3
	baz=25,SNR=10					
RRI2	Red Ridge	24.56	354	*e*P	P	12 00 13.2 -0.6
	28nm,1.1s,mb4.7					
SNOW	Snow King Moun	24.62	355	*e*P	P	12 00 14.7 +0.2
M06C	Likely Place G	24.64	337	P	P	12 00 15.5 +0.9
	baz=25,SNR=7.0					
HATC	Hat Creek Radi	24.68	335	⇑P	P	12 00 15.8 +0.8
	baz=25					
LOHW	Long Hollow	24.76	356	*e*P	P	12 00 15.1 -0.6
	23nm,1.0s,mb4.7					
DCID1	Drake Creek	24.79	355	*e*P	P	12 00 16.9 +1.0
L08A	Fields	24.82	342	P	P	12 00 16.4 +0.2
	baz=25,SNR=11					
MOOW	Moose Ponds	24.91	356	*e*P	P	12 00 19.1 +2.0
	7.9nm,1.2s,mb4.1					
WDC	Whiskeytown Da	24.93	333	⇓P	P	12 00 17.4 +0.1
	baz=25					
L07A	Adell	24.97	340	P	P	12 00 18.4 +0.8
	baz=25,SNR=7.9					
M05C	Lookout	25.03	336	⇑P	P	12 00 18.1 0.0
	baz=25					
IMW	Indian Meadow	25.07	355	*e*P	P	12 00 17.9 -0.6
	13nm,1.2s,mb4.3					
K09A	Rome	25.11	343	P	P	12 00 18.9 0.0
	baz=26,SNR=20					
WVOR	Wild Horse Val	25.13	341	*e*P	P	12 00 18.7 -0.4
	18nm,1.2s,mb4.5					
HLID	Hailey	25.19	349	*e*P	P	12 00 19.4 -0.2
HLID	Hailey	25.19	349	P	P	12 00 19.9 +0.3
	baz=26,SNR=17					
MOD	Modoc	25.19	338	*e*P	P	12 00 21.7 +2.1
	5.3nm,1.1s,mb4.0					
MOD	Modoc	25.19	338	⇑P	P	12 00 19.6 0.0
	baz=26					
K08A	Mann Creek Ran	25.36	342	⇓P	P	12 00 20.9 -0.2
	baz=26,SNR=15					
L05A	Lakeview	25.51	338	⇓P	P	12 00 22.0 -0.5
	baz=26					
K07A	Rock Creek Ran	25.55	341	⇓P	P	12 00 22.7 -0.2
	baz=26					
M04C	Macdoel	25.66	336	⇓P	P	12 00 23.2 -0.6
	baz=26					
J09A	Fry Pan Ranch,	25.72	344	⇑P	P	12 00 23.5 -1.0
	baz=26,SNR=6.8					
J08A	Circle Bar Ran	25.93	343	P	P	12 00 26.2 -0.1
	baz=26,SNR=9.8					
K06A	Valley Falls	25.97	339	⇓P	P	12 00 26.2 -0.5
	baz=26					
K05A	Summer Lake	26.12	338	⇑P	P	12 00 27.0 -1.1
	baz=26					
MCMT	McKenzie Canyo	26.19	352	*e*P	P	12 00 28.4 -0.2
J07A	Hines	26.19	341	⇑P	P	12 00 27.7 -0.9
	baz=26					
I08A	Drewsey	26.46	343	⇑P	P	12 00 30.4 -0.8
	baz=27					
DLMT	Dillon	26.68	353	*e*P	P	12 00 29.4 -3.7
J05A	Fort Rock	26.74	338	⇓P	P	12 00 33.5 -0.1
	baz=27					
BOZ	Bozeman (W)	26.87	355	*e*P	P	12 00 34.2 -0.5
K02A	Glendale	27.14	335	⇓P	P	12 00 36.6 -0.7
	baz=28					
F14A	Wisdom	27.22	352	⇑P	P	12 00 37.2 -0.8
	baz=28					
TKL	Tuckaleechee C	27.26	47	LR	LR	12 13 50.7
	comp=Z,52nm,18.3s,MS3.1,baz=275,slow=42					
H06A	Lindquist Farm	27.73	341	⇓P	P	12 00 41.5 -1.1
	baz=28					
E15A	Deer Lodge	27.74	353	⇑P	P	12 00 41.7 -0.9
	baz=28					
E14A	Clinton	27.83	352	⇓P	P	12 00 42.4 -1.0
	baz=28					
HRY	Holter Researc	27.94	355	*e*P	P	12 00 45.1 +0.7
E13A	Victor	27.95	351	⇑P	P	12 00 43.5 -1.0
	baz=28					
F09A	S2 Ranch, Elgi	27.97	345	P	P	12 00 43.9 -0.8
	baz=28,SNR=6.5					
F10A	Beach Ranch, E	28.06	346	⇓P	P	12 00 44.4 -1.1
	baz=28					
G06A	Carlson Farm,	28.28	341	⇑P	P	12 00 46.3 -1.1
	baz=29					
H04A	Detroit Lake	28.29	339	⇑P	P	12 00 46.6 -1.0
	baz=29					
MSO	Missoula	28.30	352	*e*P	P	12 00 47.0 -0.6
	7.3nm,1.3s,mb4.2					
D15A	Lincoln	28.34	354	⇑P	P	12 00 47.0 -0.9
	baz=29					
D14A	Greenough	28.49	352	⇑P	P	12 00 48.5 -0.8
	baz=29,SNR=6.6					
G05A	Wamic	28.50	340	⇓P	P	12 00 48.7 -0.6
	baz=29					
D13A	Huson	28.63	351	⇓P	P	12 00 49.6 -0.9
	baz=29					
HOOD	Mount Hood Mea	28.68	340	*e*P	P	12 00 51.9 +1.0
F06A	Goldendale	28.80	341	⇓P	P	12 00 51.5 -0.5
	baz=29					
G03A	Yamhill	29.23	338	⇓P	P	12 00 54.9 -1.0
	baz=30					
E07A	Sunnyside	29.26	343	⇑P	P	12 00 55.7 -0.4
	baz=30					
C12A	Trout Creek	29.39	350	⇓P	P	12 00 55.8 -1.4
	baz=30					
F04A	Amboy	29.47	340	⇓P	P	12 00 57.1 -0.8
	baz=30					
D08A	Wollman Farm,	29.48	345	⇓P	P	12 00 57.6 -0.5
	baz=30					
D07A	Quincy	29.88	344	⇑P	P	12 01 01.0 -0.6
	baz=30					
B10A	Chitwood Farm,	30.28	348	⇓P	P	12 01 04.6 -0.6
	baz=31					
C07A	Waterville	30.36	344	⇑P	P	12 01 05.4 -0.4
	baz=31					
D05A	Enumclaw	30.45	341	⇑P	P	12 01 06.4 -0.3
	baz=31					
B09A	Rice	30.59	347	⇓P	P	12 01 07.2 -0.7
	baz=31					
A11A	Hall Mountain,	30.75	349	⇑P	P	12 01 08.3 -1.0
	baz=31					
A10A	Northport	30.99	348	⇑P	P	12 01 10.9 -0.6
	baz=31					
B07A	Winthrop	31.08	344	⇓P	P	12 01 11.4 -0.9
	baz=31					
B05A	Bryant	31.44	342	⇑P	P	12 01 14.7 -0.7
	baz=32					
C03A	Quillayute Air	31.95	339	⇓P	P	12 01 19.0 -0.9
	baz=32					
SDV	Santo Domingo	37.67	100	*e*P	P	12 02 10.4 +1.1
	4.7nm,0.7s,mb4.3					
DLBC	Dease Lake	42.65	343	*e*P	P	12 02 51.0 +0.4
YKA	Yellowknife Ar	43.82	356	P	P	12 02 57.3 -2.8
	4.7nm,0.9s,mb4.2,baz=176,slow=34,SNR=3.6					
RAR	Rarotonga	64.34	234	LR	LR	12 25 45.4
	comp=Z,215nm,19.2s,MS4.3,baz=99,slow=29					
CPUP	Villa Florida	66.72	131	P	P	12 05 46.6 +1.4
	0.8nm,0.6s,mb3.9,baz=301,slow=5.9,SNR=3.0					
HNR	Honiara	94.78	262	LR	LR	12 39 37.6
	comp=Z,92nm,20.2s,MS4.2,baz=180,slow=28					
NJ2	Nanjing	112.25	318	*e*PKP	PKiKP	12 13 23.0 -6.9
WMQ	Urumqi	115.96	347	*e*PKP	PKPdf	12 13 34.0 -3.0
LZH	Lanzhou	117.53	331	*e*PKP	PKPdf	12 13 33.0 -7.0
LZH				LR	LR	
	comp=N,125nm,19.3s					
LZH				LR	LR	
	comp=Z,254nm,20.3s,MS4.8					
CD2	Chengdu	121.78	328	*e*PKP	PKPdf	12 13 44.5 -3.7
GYA	Guiyang	123.68	322	PKP	PKPdf	12 13 49.5 -2.3
GYA				PP	PP	12 15 36.5 +2.4

ISCJB ***30*** *11:59:44.6±0.7, 1363N±009×1445E±03, h131km±10km, mb3.8/8, Error ellipse: s-maj=42.9km s-min=14.8km az=1.1*

IDC ***30*** *11:59:45.4±0.6, 1365N×1446OE, h125km±8km, mb3.5/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.9/8, Error ellipse: s-maj=36.6km s-min=14.1km az=90.0*

NEIC ***30*** *11:59:45.8±0.7, 1365N×1445ΘE, h130km±7km, mb4.1/1, Error ellipse: s-maj=25.9km s-min=9.5km az=91.0*

ISC 30 11:59:45.9±0.7, 1366N±009×1446E±03, h128km±9km, n16, σ0°33/15, mb3.9/8, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.32	102	P	Pn	12 00 03.9	+0.1
	2μm,0.3s,baz=209,slow=1.0,SNR=1290						
GUMO				S	Sn	12 00 17.3	-0.1
	820nm,0.3s,baz=348,slow=24,SNR=23						
MJAR	Matsushiro Arr	23.49	347	P	P	12 04 43.4	-0.6
	1.9nm,0.6s,mb3.6,baz=170,slow=5.1,SNR=8.3						
WB2	Warramunga Arr	34.86	197	⇓*i*P	P	12 06 24.7	0.0
WRA	Warramunga Arr	34.87	197	P	P	12 06 24.6	-0.2
	2.1nm,0.7s,mb4.1,baz=19,slow=8.6,SNR=34						
FITZ	Fitzroy Crossi	36.66	211	*e*P	P	12 06 40.5	+0.5
	1.1nm,0.3s,mb4.3						
FITZ	Fitzroy Crossi	36.66	211	P	P	12 06 40.4	+0.3
	0.8nm,0.3s,mb4.1,baz=38,slow=11,SNR=12						
AS31	Alice Springs	38.52	196	*e*P	P	12 06 55.9	+0.1
ASAR	Alice Springs	38.52	196	P	P	12 06 55.9	+0.1
	1.6nm,0.5s,mb4.1,baz=17,slow=13,SNR=47						
ASPA	Alice Springs	38.53	196	*e*P	P	12 06 55.8	0.0
STKA	Stephens Creek	45.36	184	P	P	12 07 50.7	-0.6
	1.5nm,0.6s,mb3.9,baz=346,slow=7.3,SNR=4.9						
SONM	Songino Array	46.50	325	P	P	12 08 00.7	+0.6
	0.5nm,0.6s,mb3.4,baz=124,slow=5.8,SNR=6.0						
MKAR	Makanchi Array	61.22	316	P	P	12 09 47.0	-0.2
	0.8nm,0.5s,mb4.0,baz=89,slow=8.6,SNR=12						
MKAR	Makanchi Array	61.22	316	P	P	12 09 47.0	-0.2
NVAR	Mina Array Bea	87.12	51	P	P	12 12 17.7	+0.4
	0.6nm,0.7s,mb3.7,baz=271,slow=7.4,SNR=6.7						
EMHD	Djebel Mahouad	118.57	325	P	Pdif	12 14 43.0	+4.0
TORD	Torodi Ar. Bea	134.57	304	PKP	PKPdf	12 18 50.3	+1.3
	0.2nm,0.8s,baz=44,slow=1.7,SNR=4.4						

IDC ***30*** *12:10:19.4±1.2, 046N×12383E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=60.7km s-min=18.6km az=76.0*

NEIC ***30*** *12:10:37.4±2.3, 037N×12423E, h163km±28km, mb4.0/2, Error ellipse: s-maj=35.7km s-min=10.9km az=65.0*

ISCJB ***30*** *12:10:39.5±3.5, 03N±01×1240E±03, h207km±43km, mb3.8/5, Error ellipse: s-maj=56.7km s-min=14.6km az=139.0*

ISC 30 12:10:39.3±4.0, 03N±01×1241E±04, h184km±48km, n11, σ0°89/11, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.69	306	*e*P	Pn	12 12 55.0	+0.4
FITZ	Fitzroy Crossi	18.38	175	P	P	12 14 38.9	-1.4
	0.4nm,0.3s,baz=12,slow=11,SNR=11						
WRA	Warramunga Arr	22.52	154	P	P	12 15 22.9	-0.7
	5.3nm,0.7s,mb4.1,baz=331,slow=10,SNR=45						
WB2	Warramunga Arr	22.52	154	*e*P	P	12 15 22.5	-1.1
WB2	Warramunga Arr	22.52	154	*e*P	P	12 15 22.4	-1.2
AS31	Alice Springs	25.69	159	*e*P	P	12 15 53.5	+1.2
ASPA	Alice Springs	25.69	159	*e*P	P	12 15 52.5	+0.2
ASAR	Alice Springs	25.69	159	P	P	12 15 53.0	+0.7
	1.1nm,0.6s,mb3.7,baz=336,slow=7.7,SNR=21						
STKA	Stephens Creek	36.07	154	P	P	12 17 24.6	+1.4
	2.5nm,0.5s,mb4.1,baz=328,slow=8.0,SNR=7.9						
MJAR	Matsushiro Arr	38.34	18	P	P	12 17 42.0	-0.3
	2.6nm,0.9s,mb3.9,baz=192,slow=10,SNR=7.2						
MKAR	Makanchi Array	58.91	328	P	P	12 20 18.6	-0.4
	0.4nm,0.6s,mb3.4,baz=127,slow=7.7,SNR=6.2						

ISCJB ***30*** *12:28:10.7±1.1, 2985N±005×36.18E±008, h0km, Error ellipse: s-maj=10.0km s-min=7.3km az=20.7*

CSEM ***30*** *12:28:11.8±0.2, 2981N×36.11E, h2km, ML2.4, Error ellipse: s-maj=4.7km s-min=2.6km az=121.0, Mining explosion.*

GII ***30*** *12:28:11.3±0.4, 2988N×36.17E, h0km±7km, ML2.4/4*

HLW ***30*** *12:28:21.5, 2980N×3551E, h20km, Mb3.9*

ISC 30 12:28:10.3±1.1, 2984N±005×3625E±008, h0km, n21, σ0°52/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.05	264	Pg	Pg	12 28 30.9	+0.5
HRFI	Mount Harif	1.07	281	Pg	Pg	12 28 30.8	0.0
EIL	Elat	1.15	262	Pg	Pg	12 28 32.5	+0.3
EIL	Elat	1.15	262	Pg	Pg	12 28 32.6	+0.4
MBH	Mount Berech	1.16	268	Pg	Pg	12 28 33.0	+0.4
ZFRI	Zfri	1.17	308	Pg	Pg	12 28 32.3	-0.5
PRNI	Paran	1.20	296	Pg

EMEL Melilla 0.85 76 P Pg 13 09 16.3 0.0
33nm,0.1s,SNR=7.9
EMEL S Sg 13 09 29.5 +2.1
50nm,0.2s,SNR=7.9
EMLI Melilla 0.85 77 Pg Pg 13 09 16.3 -0.1
33nm,0.1s,SNR=7.9
ZAI Zaio 1.01 97 *e*P Pg 13 09 20.0 +0.6
EALB Alboran 1.13 42 P Pb 13 09 20.6 -0.8
0.9nm,0.1s,SNR=7.9
EALB S Sb 13 09 34.8 -1.3
12nm,0.2s,SNR=7.9
EALB Alboran 1.13 42 Pg Pg 13 09 20.6 -1.0
0.9nm,0.1s,SNR=7.9
EMIJ Mijas 1.60 336 P Pn 13 09 29.5 +1.4
0.8nm,0.1s,SNR=7.9
EMIJ S Sn 13 09 46.5 -2.2
1.9nm,0.3s,SNR=7.9
EBER Berja 1.99 26 S Sn 13 09 57.4 -1.0
SNR=7.9

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*MDD **30** 13:09:45.8±0.9,3514N×389W,h11km±9km,mb3.7/2, Error ellipse: s-maj=9.5km s-min=6.1km az=117.0, PRXIMO*
*CNRM **30** 13:09:45.6,3517N×387W,h10km,MD3.0*
CSEM 30 13:09:43.7±0.1,3510N×393W,h10km,MD3.0,Error ellipse: s-maj=5.8km s-min=2.8km az=107.0,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.12**	**356**	*i* P	Pg	13 09 47.5	+0.9
TOU	**Touzarine**	**0.20**	**134**	P	Pg	13 09 50.0	+2.1
TOU				S	Sg	13 09 53.5	+2.7
TOU	**Touzarine**	**0.20**	**134**	*i* P	Pg	13 09 50.0	+2.1
EMEL	**Melilla**	**0.82**	**76**	P	Pg	13 10 00.5	+1.0
70nm,0.1s,SNR=7.9							
EMLI	**Melilla**	**0.83**	**76**	Pg	Pg	13 10 00.5	+0.8
70nm,0.1s,SNR=7.9							
ZAI	**Zaio**	**0.98**	**97**	*e*P	Pg	13 10 03.0	+0.4
ZAI				*e*S	Sg	13 10 15.5	+0.1
EALB	**Alboran**	**1.11**	**41**	P	Pb	13 10 04.1	-1.0
0.8nm,0.0s,SNR=7.9							
EALB				S	Sg	13 10 18.8	-0.8
12nm,0.2s,SNR=7.9							
EALB	**Alboran**	**1.11**	**41**	Pg	Pg	13 10 04.1	-1.0
1.4nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**1.61**	**335**	P	Pn	13 10 13.3	+1.1
0.4nm,0.1s,SNR=7.9							
EMIJ				S	Sn	13 10 32.7	-0.4
2.5nm,0.3s,SNR=7.9							
EBER	**Berja**	**1.98**	**25**	S	Sn	13 10 41.4	-0.8
3.5nm,0.3s,SNR=7.9							
CZD	**Col de Zad**	**2.26**	**204**	*e*P	Pn	13 10 22.0	+0.9
CZD				*e*S	Sn	13 10 51.0	+2.0

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*IDC **30** 13:32:34.2±0.9,3030S×7130W,h44km±5km,mb3.7/2, mb1 3.9/4,mb1mx3.6/15,mbtmp4.0/4,ML4.4/2,Error ellipse: s-maj=37.9km s-min=28.7km az=2.0*
*ISCJB **30** 13:32:35.2±0.9,3003S±006×713W±0.1,h60km±6km, mb4.0/4,Error ellipse: s-maj=18.5km s-min=7.1km az=40.7*
*NEIC **30** 13:32:35.5,3005S×7132W,h41km,mb4.0/2,After GUC. NEIC Felt [IV] at Coquimbo and La Serena.*
*GUC **30** 13:32:35.5±0.9,3005S×7132W,h41km±4km,ML4.2*
ISC 30 13:32:36.2±1.1,3003S±006×713W±01,h51km±9km,n31, σ0§88/34,mb4.0/4,7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.44**	**109**	⇓*i*P	**Pn**	**13 32 46.6**	**-0.2**
TLL				*i* S	**Sn**	**13 32 54.8**	**+0.4**
TLL				AML	AML	13 32 56.8	
comp=E,33μm,0.5s							
TLL	**Tololo Astrono**	**0.44**	**109**	⇓*i*P	**Pn**	**13 32 46.6**	**-0.2**
TLL				*i* S	**Sn**	**13 32 54.8**	**+0.4**
OVCH	**Ovalle**	**0.58**	**173**	⇑*i*P	**Pn**	**13 32 47.2**	**-1.3**
OVCH				*i* S	**Sn**	**13 32 56.3**	**-1.1**
OVCH				AML	AML	13 33 02.5	
comp=N,19μm,0.5s							
OVCH	**Ovalle**	**0.58**	**173**	⇑*i*P	**Pn**	**13 32 47.2**	**-1.3**
OVCH				*i* S	**Sn**	**13 32 56.3**	**-1.1**
CMCH	**Combarbala**	**1.17**	**168**	⇑*i*P	**Pn**	**13 32 55.0**	**-1.2**
CMCH				*i* S	**Sn**	**13 33 10.2**	**-0.8**
CMCH				AML	AML	13 33 11.0	
comp=N,15μm,0.5s							
CHNG	**Los Chungos**	**1.86**	**186**	⇑*i*P	**Pn**	**13 33 05.3**	**-0.2**
CHNG				*i* S	**Sn**	**13 33 28.6**	**+0.7**
CHNG				AML	AML	13 33 43.6	
comp=E,1μm,0.7s							
PTCH	**Petorca**	**2.25**	**172**	⇑*i*P	**Pn**	**13 33 11.4**	**+0.4**
PTCH				*i* S	**Sn**	**13 33 38.1**	**+0.7**
PTCH				AML	AML	13 33 52.7	
comp=E,3μm,0.5s							
PTCH	**Petorca**	**2.25**	**172**	⇑*i*P	**Pn**	**13 33 11.4**	**+0.4**
PTCH				*i* S	**Sn**	**13 33 38.1**	**+0.7**
PACH	**Papudo**	**2.51**	**183**	⇑*i*P	**Pn**	**13 33 14.3**	**-0.1**
PACH				*i* S	**Sn**	**13 33 44.1**	**+0.3**
CFAA	**Coronel Fontan**	**3.06**	**122**	P	**Pn**	**13 33 23.1**	**+1.2**
comp=E,1.3nm,0.3s,baz=309,slow=11,SNR=43							
FCH	**Farellones**	**3.40**	**166**	⇓*i*P	**Pn**	**13 33 28.8**	**+2.2**
FCH				AML	AML	13 34 26.0	
comp=E,440nm,0.4s							
FCH				AML	AML	13 34 26.1	
comp=N,292nm,0.4s							
CLCH	**Cerro Calan**	**3.42**	**169**	*e*P	**Pn**	**13 33 28.1**	**+1.1**
CLCH				AML	AML	13 34 38.9	
comp=N,954nm,1.0s							
LCCH	**Las Cruces**	**3.45**	**184**	⇓*i*P	**Pn**	**13 33 26.9**	**-0.5**
MDZ	**Mendoza**	**3.53**	**144**	*e*P	**Pn**	**13 33 33.8**	**+5.4**
MDZ				*e*		13 33 51.6	
MDZ				S	Sn	13 34 35.7	+27
PCH	**Pirque**	**3.64**	**170**	*e*P	**Pn**	**13 33 31.3**	**+1.3**
TRQA	**Tornquist**	**11.12**	**139**	*e*P	**Pn**	**13 35 11.6**	**-0.8**
comp=N,21nm,1.1s							
CPUP	**Villa Florida**	**12.85**	**77**	P	**Pn**	**13 35 33.9**	**-2.2**
comp=N,0.6nm,0.3s,baz=218,slow=8.9,SNR=4.3							
CPUP	**Villa Florida**	**12.85**	**77**	*e*Pn	**Pn**	**13 35 35.8**	**-0.2**
comp=N,12nm,0.5s							
SIV	**San Ignacio**	**16.82**	**36**	P	**Pn**	**13 36 29.0**	**+0.9**
comp=N,0.6nm,0.3s,baz=231,slow=12,SNR=18							
SAML	**Samuel**	**22.30**	**22**	*e*P	**P**	**13 37 29.5**	**+0.3**
comp=N,1.3nm,0.7s,mb3.5							
SNAA	**Sanae**	**55.03**	**159**	*e*P	**P**	**13 42 01.5**	**-1.0**
comp=N,5.4nm,1.2s,mb4.5							
QSPA	**South Pole Qui**	**60.20**	**180**	*e*P	**P**	**13 42 38.1**	**-0.7**
TXAR	**Lajitas Array**	**66.62**	**329**	P	**P**	**13 43 21.6**	**+0.4**
comp=N,0.5nm,0.6s,mb3.8,baz=152,slow=8.1,SNR=6.6							
TXAR				pP	pP	13 43 34.5	-1.1
comp=N,0.2nm,0.6s,baz=152,slow=5.7,SNR=3.2							
TOA0	**Torodi Ar. Sit**	**82.26**	**70**	*e*P	**P**	**13 44 51.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.26**	**70**	P	**P**	**13 44 51.9**	**-0.1**
comp=N,1.5nm,0.6s,mb4.1,baz=278,slow=5.4,SNR=17							
TORD				pP	pP	13 45 05.1	-1.6
comp=N,0.8nm,0.8s,baz=251,slow=6.9,SNR=3.4							
TORD				sP	sP	13 45 11.0	-1.4
comp=N,0.9nm,0.6s,baz=280,slow=5.0,SNR=4.7							
ASAR	**Alice Springs**	**121.39**	**207**	PKP	PKPdf	13 51 21.8	-1.9
comp=N,0.3nm,0.8s,baz=122,slow=1.4,SNR=4.2							
WRA	**Warramunga Arr**	**124.53**	**210**	PKP	PKPdf	13 51 28.5	-1.2
comp=N,0.5nm,0.5s,baz=152,slow=1.6,SNR=12							
WRA				pPKP	pPKPdf	13 51 42.8	-2.4
comp=N,0.2nm,0.6s,baz=158,slow=1.7,SNR=2.8							
AAK	**Ala-Archa**	**149.91**	**56**	*e*PKPbc	PKPbc	13 52 20.2	-0.5
ZAL	**Zalesovo**	**150.49**	**29**	PKPbc	PKPbc	13 52 21.9	-0.2
comp=N,3.7nm,0.7s,baz=174,slow=2.6,SNR=13							
MKAR	**Makanchi Array**	**153.56**	**43**	PKPbc	PKPbc	13 52 28.3	-0.7
comp=N,0.5nm,0.7s,baz=339,slow=3.1,SNR=3.5							
MKAR				pPKPbc	pPKPbc	13 52 41.5	-3.0
comp=N,1.0nm,0.9s,baz=308,slow=3.5,SNR=5.3							
MKAR	**Makanchi Array**	**153.56**	**43**	PKPbc	PKPbc	13 52 28.3	-0.7
MKAR				pPKPbc	pPKPbc	13 52 41.5	-3.0

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*CSEM **30** 13:58:54.2±0.8,3869N×2852W,h13km±4km,ML1.8,Error ellipse: s-maj=2.6km s-min=1.8km az=158.0,After PDA*
*PDA **30** 13:58:54.2±0.8,3869N×2852W,h13km±4km,MD2.9, ML1.8,Error ellipse: s-maj=2.6km s-min=1.8km az=158.0*
SVSA 30 13:58:54.2±0.8,3869N×2852W,h13km±4km,MD2.9, ML1.8,Error ellipse: s-maj=2.6km s-min=1.8km az=158.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.15**	**247**	*i* P	Pg	13 58 57.1	-0.7
PCED				*e*S	Sg	13 59 00.2	-0.2
PCED							
166nm,0.1s							
PCED	**Cedros**	**0.15**	**247**	*e*S	Sg	13 59 00.2	-0.2
CALA	**Caldeira**	**0.18**	**233**	*i* P	Pg	13 58 58.0	-0.2
CALA				*e*S	Sg	13 59 00.9	-0.1
CALA	**Caldeira**	**0.18**	**233**	*e*S	Sg	13 59 00.9	-0.1
HOR	**Horta**	**0.18**	**207**	*i* P	Pg	13 58 57.5	-0.8
HOR				*e*S	Sg	13 59 00.6	-0.6
HOR	**Horta**	**0.18**	**207**	*e*S	Sg	13 59 00.6	-0.6
PICO	**Pico**	**0.20**	**158**	*i* P	Pg	13 58 57.9	-0.8
PICO				*e*S	Sg	13 59 01.3	-0.4
PICO	**Pico**	**0.20**	**158**	*e*S	Sg	13 59 01.3	-0.4
ROSA	**Rosais**	**0.22**	**82**	*i* P	Pg	13 58 58.5	-0.5
ROSA				*e*S	Sg	13 59 01.4	-0.8
ROSA	**Rosais**	**0.22**	**82**	*e*S	Sg	13 59 01.4	-0.8
PCND	**Candelaria**	**0.23**	**168**	*e*P	Pg	13 58 58.6	-0.4
PCND				*e*S	Sg	13 59 02.0	-0.3
PCND							
112nm,0.2s							
PTEI	**Pico do Teixo**	**0.23**	**146**	*e*P	Pg	13 58 58.5	-0.7
PTEI				*e*S	Sg	13 59 01.9	-0.7
PTEI							
24nm,0.2s							
PAMA	**Santo Amaro**	**0.27**	**92**	*e*P	Pg	13 58 59.4	-0.4
PAMA				*e*S	Sg	13 59 03.1	-0.5
PAMA							
32nm,0.1s							
PAMA	**Santo Amaro**	**0.27**	**92**	*e*P	Pg	13 58 59.4	-0.4
PAMA				*e*S	Sg	13 59 03.1	-0.5
PBOI	**Pico dos Bois**	**0.28**	**155**	*e*P	Pg	13 58 59.3	-0.7
PBOI				*e*S	Sg	13 59 03.1	-0.7
PBOI							
40nm,0.1s							
PID	**Ribeirinha**	**0.40**	**128**	*e*P	Pg	13 59 01.0	-1.2
PIED	**Piedade**	**0.46**	**126**	*e*S	Sg	13 59 07.8	-1.5

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*IDC **30** 14:36:25.7±0.8,1556N×14797E,h0km,mb4.4/13, mb1 4.5/15,mb1mx4.3/25,mbtmp4.5/15,ML4.2/2,MS3.6/6, Ms1 3.5/6,ms1mx3.2/25,Error ellipse: s-maj=31.2km s-min=14.2km az=86.0*
*ISCJB **30** 14:36:28.8±3.7,1555N±005×14783E±0.10,h29km±26km, mb4.5/30,MS3.6/5,Error ellipse: s-maj=15.7km s-min=7.9km az=16.8*
*MOS **30** 14:36:29.1±1.0,1555N×14795E,h33km,mb4.8/8,Error ellipse: s-maj=16.7km s-min=9.3km az=106.8*
*NEIC **30** 14:36:31.0±0.5,1555N×14793E,h35km,mb4.5/7,Error ellipse: s-maj=17.2km s-min=7.9km az=94.0*
*BJI **30** 14:36:30.9,1550N×14790E,h35km,mB5.2,mb4.5,Ms4.4, Msz4.2*
ISC 30 14:36:27.1±4.6,1556N±005×1479E±01,h7km±28km,n60, σ1§07/60,mb4.5/30,MS3.6/5,2C-2D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.54**	**237**	Pn	**Pn**	**14 37 22.5**	**0.0**
139nm,0.3s,baz=132,slow=5.3,SNR=107							
GUMO				Sn	**Sn**	**14 38 00.2**	**-4.4**
124nm,0.3s,baz=207,slow=23,SNR=10							
GUMO				LR	LR	14 38 15.5	
comp=Z,235nm,19.5s,baz=102,slow=31							
GUMO	**Guam**	**3.54**	**237**	*e*P	**Pn**	**14 37 22.4**	**-0.1**
GUMO				*e*Sn	**Sn**	**14 38 02.8**	**-1.8**
CBIJ	**Chichi jima**	**12.65**	**336**	Pn	**Pn**	**14 39 26.2**	**-1.3**
2.5nm,0.3s,baz=265,slow=23,SNR=7.2							
JOW	**Kunigami**	**21.44**	**305**	P	**P**	**14 41 16.5**	**+0.6**
23nm,0.5s,mb4.7,baz=137,slow=12,SNR=10							
MJAR	**Matsushiro Arr**	**22.61**	**339**	P	**P**	**14 41 27.2**	**-1.2**
3.3nm,0.7s,mb3.9,baz=171,slow=9.3,SNR=9.3							
MJAR	**Matsushiro Arr**	**22.61**	**339**	P	**P**	**14 41 27.2**	**-1.2**
MAJO	**Matsushiro**	**22.61**	**339**	*e*P	**P**	**14 41 27.6**	**-0.8**
MAJO				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.3							
MAJO	**Matsushiro**	**22.61**	**339**	*e*P	**P**	**14 41 27.6**	**-0.8**
comp=Z,7.8nm,0.6s,mb4.3							
MAT	**Matsushiro**	**22.61**	**339**	P	**P**	**14 41 27.6**	**-0.8**
MAT				*e*S	**S**	**14 45 27.0**	**-10**
HNR	**Honiara**	**27.54**	**154**	LR	LR	14 51 55.6	
comp=Z,189nm,19.1s,MS3.7,baz=359,slow=34							
ASAJ	**Asahikawa**	**28.82**	**352**	P	**P**	**14 42 27.6**	**+1.6**
comp=Z,6.6nm,0.8s,mb4.4,baz=69,slow=33,SNR=2.9							
YSS	**Yuzh-Sakhalins**	**31.59**	**353**	*e*P	**P**	**14 42 53.0**	**+2.6**
YSS				*e*		14 43 05.0	
KAKA	**Kakadu**	**31.99**	**209**	*e*P	**P**	**14 42 53.3**	**-0.6**
comp=Z,6.0nm,0.7s,mb4.5							
KLR	**Kul'dur**	**36.08**	**342**	*e*P	**P**	**14 43 28.0**	**-1.5**
WRAB	**Tennant Creek**	**37.71**	**201**	*d i*P	**P**	**14 43 43.4**	**+0.1**
WB2	**Warramunga Arr**	**37.72**	**201**	⇓*i*P	**P**	**14 43 43.5**	**+0.2**
WRA	**Warramunga Arr**	**37.72**	**201**	P	**P**	**14 43 43.6**	**+0.2**
comp=Z,10nm,0.8s,mb4.6,baz=23,slow=9.2,SNR=58							
WRA				PcP	PcP	14 46 00.4	0.0
comp=Z,1.4nm,0.7s,baz=9.7,slow=3.4,SNR=8.1							
WRA	**Warramunga Arr**	**37.72**	**201**	*i* P	**P**	**14 43 43.5**	**+0.1**
WRA				pmax	pmax		
comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**39.59**	**305**	P	**P**	**14 43 59.5**	**+0.4**
XAN				AMB	AMB		
comp=Z,5.0nm,1.1s,mb4.2							
FITZ	**Fitzroy Crossi**	**40.01**	**214**	*e*P	**P**	**14 44 02.3**	**-0.2**
comp=Z,4.2nm,0.9s,mb4.2							
HIA	**Hailar**	**40.71**	**332**	*e*P	**P**	**14 44 08.2**	**-0.2**
AS31	**Alice Springs**	**41.32**	**200**	*e*P	**P**	**14 44 13.9**	**+0.5**
ASAR	**Alice Springs**	**41.32**	**200**	P	**P**	**14 44 13.8**	**+0.4**
comp=Z,7.7nm,0.7s,mb4.5,baz=24,slow=8.1,SNR=202							
ASAR				PcP	PcP	14 46 11.6	-0.2
comp=Z,0.6nm,0.9s,baz=5.7,slow=1.9,SNR=2.9							
ASAR				LR	LR	15 01 08.0	
comp=Z,62nm,19.9s,MS3.5,baz=249,slow=36							
ASAR	**Alice Springs**	**41.32**	**200**	P	**P**	**14 44 13.9**	**+0.5**
ASAR						14 46 11.7	
ASPA	**Alice Springs**	**41.32**	**200**	*e*P	**P**	**14 44 13.9**	**+0.5**
LZH	**Lanzhou**	**44.17**	**306**	*e*P	**P**	**14 44 42.3**	**+5.7**
LZH				AP	pP	14 44 46.5	+7.9
LZH				XP	sP	14 44 49.0	+10
LZH				AMB	AMB		
comp=Z,22nm,1.3s,mb4.7							
ULN	**Ulaanbaatar**	**46.53**	**323**	*e*P	**P**	**14 44 56.3**	**+1.0**
ULN				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
ULN	**Ulaanbaatar**	**46.53**	**323**	*e*P	**P**	**14 44 56.3**	**+1.0**
comp=Z,5.3nm,1.0s,mb4.4							
SONM	**Songino Array**	**46.91**	**322**	P	**P**	**14 44 58.8**	**+0.6**
comp=Z,4.0nm,0.8s,mb4.4,baz=134,slow=8.1,SNR=23							
SONM				LR	LR	15 04 51.5	
comp=Z,87nm,19.1s,MS3.7,baz=263,slow=36							
STKA	**Stephens Creek**	**47.55**	**187**	P	**P**	**14 45 02.6**	**-0.6**
comp=Z,2.8nm,0.7s,mb4.4,baz=338,slow=8.8,SNR=7.1							
STKA				LR	LR	15 04 56.0	
comp=Z,93nm,18.8s,MS3.8,baz=24,slow=36							
GTA	**Gaotai**	**48.15**	**309**	*e*P	**P**	**14 45 08.5**	**+0.6**
GTA				AMB	AMB		
comp=Z,2.0nm,1.0s,mb4.1							
ZAK	**Zakamensk**	**49.92**	**324**	*e*P	**P**	**14 45 22.8**	**+1.4**
BILL	**Bilibino**	**53.77**	**8**	P	**P**	**14 45 50.1**	**-0.1**
BILL				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
BILL	**Bilibino**	**53.77**	**8**	P	**P**	**14 45 50.1**	**-0.1**
comp=Z,9.6nm,1.0s,mb4.7							
LSA	**Lhasa**	**53.77**	**296**	P	**P**	**14 45 53.0**	**+2.8**
LSA	**Lhasa**	**53.77**	**296**	*e*P	**P**	**14 45 52.7**	**+2.5**
LSA				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**53.77**	**296**	*e*P	**P**	**14 45 52.7**	**+2.6**
comp=Z,5.6nm,0.6s,mb4.7							
TIXI	**Tiksi**	**57.22**	**353**	*e*P	**P**	**14 46 15.2**	**+0.2**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.4							
WMQ	**Urumqi**	**57.96**	**312**	*e*P	**P**	**14 46 23.5**	**+3.2**
JIRN	**Jiri**	**58.12**	**293**	*e*P	**P**	**14 46 21.7**	**+0.3**
comp=Z,11nm,0.5s,mb5.1							
GUN	**Gumba**	**58.39**	**293**	*e*P	**P**	**14 46 24.1**	**+0.9**
comp=Z,11nm,0.5s,mb5.1							
KKN	**Kakani**	**58.92**	**293**	*e*P	**P**	**14 46 24.7**	**-2.3**
GKN	**Gorkha**	**59.49**	**294**	*e*P	**P**	**14 46 31.1**	**+0.3**
comp=Z,15nm,0.8s,mb5.1							
KOLN	**Koldanda**	**60.41**	**293**	*e*P	**P**	**14 46 37.5**	**+0.3**
comp=Z,9.8nm,0.7s,mb4.9							
MK31	**Makanchi Array**	**62.16**	**315**	*e*P	**P**	**14 46 50.8**	**+1.8**
MKAR	**Makanchi Array**	**62.16**	**315**	P	**P**	**14 46 49.4**	**+0.4**
comp=Z,1.6nm,0.5s,mb4.5,baz=90,slow=7.7,SNR=32							
BVAR	**Borovoye Array**	**70.23**	**321**	P	**P**	**14 47 40.9**	**0.0**
comp=Z,1.2nm,0.5s,mb4.1,baz=97,slow=7.6,SNR=9.3							
ZRNK	**Zerenda**	**71.07**	**321**	P	**P**	**14 47 47.8**	**+1.8**
ZRNK				pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.4							
ZRNK	**Zerenda**	**71.07**	**321**	P	**P**	**14 47 47.8**	**+1.8**
comp=Z,6.0nm,1.2s,mb4.4							
ARU	**Arti**	**76.84**	**325**	⇑*i*P	**P**	**14 48 18.8**	**-0.9**
ARU				*e*		14 48 32.1	
ARU				*e*		14 51 09.1	
ARU				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
AKTK	**Aktyubinsk**	**78.11**	**319**	P	**P**	**14 48 25.6**	**-1.3**
AKTO	**Aktyubinsk**	**78.11**	**319**	P	**P**	**14 48 25.6**	**-1.3**
comp=Z,0.7nm,0.2s,mb4.2,baz=222,slow=14,SNR=2.7							
YKA	**Yellowknife Ar**	**79.76**	**28**	LR	LR	15 26 46.1	
comp=Z,26nm,19.0s,MS3.6,baz=270,slow=38							
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**14 48 55.1**	**0.0**
comp=Z,0.8nm,0.8s,mb3.8,baz=266,slow=4.2,SNR=4.8							
ARCES	**ARCESS Array B**	**86.11**	**343**	P	**P**	**14 49 08.7**	**-0.1**
comp=Z,3.2nm,0.8s,mb4.6,baz=68,slow=8.0,SNR=5.9							
JOF	**Joensuu**	**87.74**	**336**	*e*p	**P**	**14 49 14.7**	**-2.0**
comp=Z,1.6nm,0.4s,mb4.6							
OBN	**Obninsk**	**89.05**	**328**	⇑*e*P	**P**	**14 49 23.1**	**+0.2**
OBN				*e*		14 52 57.0	
OBN				*e*S	SKSac	14 59 48.4	-4.8
KAF	**Kangasniemi**	**90.13**	**336**	*e*p	**P**	**14 49 26.2**	**-1.8**
FINES	**FINESS Array B**	**90.60**	**336**	P	**P**	**14 49 29.0**	**-1.2**
comp=Z,2.2nm,0.5s,mb4.7,baz=71,slow=4.9,SNR=21							
TORD	**Torodi Ar. Bea**	**136.06**	**309**	PKP	PKPdf	14 55 51.1	+2.1
comp=Z,0.3nm,0.6s,baz=46,slow=1.8,SNR=5.0							

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*IDC **30** 14:37:06.1±7.7,3712N×7157E,h77km±70km,mb3.5/3, mb1 3.8/7,mb1mx3.4/23,mbtmp4.0/7,ML3.9/4,Error ellipse: s-maj=62.7km s-min=47.8km az=142.0*
*ISCJB **30** 14:37:07.1±1.1,3720N±005×715E±0.1,h108km±15km, mb3.7/3,Error ellipse: s-maj=17.3km s-min=5.0km az=133.4*
*NEIC **30** 14:37:11.5±3.8,3751N×7144E,h111km±30km,mb3.8/5, Error ellipse: s-maj=35.0km s-min=22.2km az=185.0*
*NNC **30** 14:37:13.7±7.3,3768N×7122E,h109km±89km,mb3.1, mpv3.2,Error ellipse: s-maj=59.0km s-min=39.6km az=2.0*
ISC 30 14:37:08.9±0.9,3724N±004×716E±01,h111km±12km,n39, σ1§29/44,mb3.7/3,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.16**	**18**	P	**Pn**	**14 38 24.8**	**+1.0**
SNR=69							
UCH	**Uchtor**	**5.48**	**24**	P	**Pn**	**14 38 29.2**	**+0.9**
SNR=12							
EKS2	**Erkin-Say**	**5.68**	**17**	P	**Pn**	**14 38 32.0**	**+1.1**
SNR=10							
AAK	**Ala-Archa**	**5.85**	**22**	P	**Pn**	**14 38 34.6**	**+1.5**
SNR=15							
AAK	**Ala-Archa**	**5.85**	**22**	*e*P	**Pn**	**14 38 33.9**	**+0.7**
15nm,0.4s							
THN	**Thein Dam**	**5.89**	**143**	*e*P	**Pn**	**14 38 34.0**	**+0.3**
THN				*e*S	**Sn**	**14 39 40.4**	**+0.5**
KK31	**Karatay Array**	**5.92**	**353**	⇓P	**Pn**	**14 38 33.4**	**-0.7**
3.3nm,0.3s,baz=182,slow=14,SNR=92							
KK31				⇑S	**Sn**	**14 39 35.1**	**-5.4**
20nm,0.6s,baz=180,slow=24							
DLH	**Dalhousie**	**5.92**	**141**	*e*S	**Sn**	**14 39 38.0**	**-2.7**
CHMS	**Chumysh**	**6.26**	**22**	P	**Pn**	**14 38 39.8**	**+1.1**
SNR=14							
USP	**Ospenovka**	**6.43**	**20**	P	**Pn**	**14 38 41.5**	**+0.4**
SNR=8.8							
TKM2	**Tokmak 2**	**6.47**	**27**	P	**Pn**	**14 38 43.0**	**+1.4**
SNR=12							
TKM2	**Tokmak 2**	**6.47**	**27**	⇓P	**Pn**	**14 38 42.7**	**+1.1**
0.3nm,0.4s							
TKM2				⇑S	**Sn**	**14 39 51.6**	**-2.4**
0.6nm,0.7s							
SDNR	**Sundarnagar**	**7.26**	**140**	*e*P	**Pn**	**14 38 57.5**	**+5.1**
SDNR				*e*S	**Sn**	**14 40 14.5**	**+1.2**
KLP	**Kalpa**	**7.94**	**134**	*e*P	**Pn**	**14 38 60.0**	**-1.5**
KLP				*e*S	**Sn**	**14 40 25.6**	**-3.9**
KLP				AML	AML	14 40 35.0	
comp=E,149nm,0.5s							
KLP				AML	AML	14 40 36.1	
comp=N,132nm,0.7s							
KHET	**Khetri**	**9.81**	**157**	*e*S	**Sn**	**14 41 11.0**	**-4.2**
KHET				AML	AML	14 41 15.1	
comp=E,5.8nm,0.2s							
KHET				AML	AML	14 41 16.0	
comp=N,5.2nm,0.0s							
SONA	**Sohna**	**10.10**	**151**	*e*S	**Sn**	**14 41 16.9**	**-5.1**
SONA				AML	AML	14 41 20.0	
comp=N,8.7nm,0.6s							
SONA				AML	AML	14 41 20.9	
comp=E,23nm,0.5s							
MK31	**Makanchi Array**	**12.44**	**36**	*e*P	**Pn**	**14 40 02.5**	**+0.5**
MKAR	**Makanchi Array**	**12.44**	**36**	P	**Pn**	**14 40 02.6**	**+0.6**
comp=E,0.2nm,0.3s,baz=226,slow=15,SNR=14							
KOLN	**Koldanda**	**13.86**	**129**	*e*P	**Pn**	**14 40 20.9**	**+0.4**
comp=E,12nm,0.7s							
GKN

ORDF				Sg	Sg	14 39 05.9	+0.3
ORDF	**Ordiarp**	**0.29**	**298**	P	Pg	14 39 01.5	-0.4
ORDF				S	Sg	14 39 05.9	+0.3
LARF	**Larrau**	**0.30**	**262**	Pg	Pg	14 39 01.7	-0.3
LARF				Sg	Sg	14 39 06.4	+0.5
LARF	**Larrau**	**0.30**	**262**	P	Pg	14 39 01.8	-0.3
LARF				S	Sg	14 39 06.6	+0.7
SJPF	**Ste Jean**	**0.47**	**274**	*e*Pg	Pg	14 39 04.9	-0.4
SJPF				*e*Sg	Sg	14 39 11.2	-0.2
14nm,0.3s							
SJPF	**Ste Jean**	**0.47**	**274**	Pg	Pg	14 39 04.9	-0.4
SJPF				Lg		14 39 11.2	
6.9nm,0.3s							
LABF	**Labassere**	**0.49**	**94**	P	Pg	14 39 05.2	-0.4
LABF				S	Sg	14 39 12.7	+0.8
VIEF	**Viey**	**0.49**	**113**	P	Pg	14 39 05.1	-0.6
VIEF				S	Sg	14 39 12.4	+0.4
OSSF	**Osses**	**0.52**	**290**	P	Pg	14 39 05.5	-0.9
OSSF				S	Sg	14 39 12.1	-1.1
IPRE	**Itoiz**	**0.63**	**244**	Pg	Pg	14 39 07.5	-0.8
4.0nm,0.4s,SNR=4.0							
IPRE				Lg		14 39 17.4	
4.4nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**0.67**	**126**	Pg	Pg	14 39 08.3	-0.7
0.7nm,0.3s,SNR=14							
EBIE				Lg		14 39 16.8	
4.1nm,0.3s,SNR=26							
EPF	**Esparros**	**0.68**	**94**	*e*Pg	Pg	14 39 09.1	-0.2
EPF				*e*Sg	Sg	14 39 18.4	+0.2
3.7nm,0.2s							
EPF	**Esparros**	**0.68**	**94**	Pg	Pg	14 39 09.1	-0.2
EPF				Lg		14 39 18.4	
1.9nm,0.2s							
EALK	**Alkurruntz**	**0.69**	**282**	Pg	Pg	14 39 08.7	-0.8
2.4nm,0.3s,SNR=6.3							
EALK				Lg		14 39 17.8	
3.5nm,0.3s,SNR=5.0							
ELIZ	**Elizondo**	**0.69**	**277**	Pg	Pg	14 39 08.7	-0.9
2.4nm,0.3s,SNR=6.2							
ELIZ				Lg		14 39 18.3	
1.1nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.72**	**260**	Lg		14 39 19.0	
1.5nm,0.3s,SNR=5.6							
SALF	**Salau**	**1.34**	**103**	S	Sb	14 39 38.6	-0.8
ESAC	**San Caprasio**	**1.36**	**176**	Pg	Pg	14 39 22.5	+0.2
SNR=7.9							
ESAC				Lg		14 39 41.4	
11nm,0.2s,SNR=7.9							
ECRI	**Cripan**	**1.49**	**252**	Lg		14 39 44.2	
2.6nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**2.07**	**82**	*e*Sg	Sg	14 40 02.2	-0.5
0.6nm,0.2s							
MTLF	**Montolieu**	**2.07**	**82**	Lg		14 40 02.2	
0.3nm,0.2s							

*ISCJB **30** 14:39:00.1±3.9,220S±02×690W±03,h75km±29km, mb3.9/1,Error ellipse: s-maj=55.5km s-min=17.6km az=43.8*
*NEIC **30** 14:39:05.2±1.0,22.15S×68.76W,mb3.6/1,Error ellipse: s-maj=23.1km s-min=13.9km az=108.0*
*IDC **30** 14:39:06.3±1.2,22.28S×68.65W,h106km±6km,mb3.8/1, mb1 3.3/4,mb1mx3.2/17,mbtmp3.6/4,Error ellipse: s-maj=39.4km s-min=27.3km az=120.0*

ISC 30 14:39:02.5±3.3,221S±02×690W±03,h75km±22km,n10, σ0§83/7,mb3.9/1,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**9.53**	**176**	P	**Pn**	**14 41 16.2**	**-0.6**
0.1nm,0.3s,baz=347,slow=12,SNR=26							
SIV	**San Ignacio**	**9.62**	**52**	P	**Pn**	**14 41 18.5**	**+0.4**
0.6nm,0.3s,baz=236,slow=14,SNR=18							
CPUP	**Villa Florida**	**11.46**	**114**	P	**Pn**	**14 41 42.6**	**-0.5**
0.1nm,0.3s,baz=315,slow=12,SNR=3.3							
TRQA	**Tornquist**	**17.04**	**161**	*e*P	**Pn**	**14 42 57.0**	**+1.1**
2.0nm,0.6s							
TOA0	**Torodi Ar. Sit**	**77.62**	**70**	*e*P	**P**	**14 50 50.4**	**-0.2**
TOA0				*e*		14 51 16.9	
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**14 50 50.3**	**-0.3**
1.2nm,0.5s,mb3.9,baz=255,slow=5.5,SNR=22							
TORD				pP	pP	14 51 17.1	+6.6
1.7nm,0.8s,baz=258,slow=4.4,SNR=4.5							
TORD				sP	sP	14 51 29.0	+10
1.8nm,0.8s,baz=249,slow=5.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**14 50 50.3**	**-0.2**
TORD				pP	pP	14 51 17.1	+6.6
TORD				sP	sP	14 51 29.0	+10
ASAR	**Alice Springs**	**129.38**	**207**	PKP	PKPdf	14 58 01.9	-0.5
0.4nm,0.8s,baz=136,slow=2.1,SNR=5.0							
WRA	**Warramunga Arr**	**132.43**	**210**	PKP	PKPdf	14 58 09.3	+1.2
0.4nm,0.9s,baz=154,slow=1.5,SNR=5.7							
MKAR	**Makanchi Array**	**146.13**	**36**	PKPbc	PKPbc	14 58 33.5	-0.5
0.9nm,1.0s,baz=318,slow=1.6,SNR=4.5							
MKAR				pPKPbc	pPKPbc	14 59 02.3	+7.3
1.6nm,0.8s,baz=324,slow=3.7,SNR=9.7							

IDC 30 15:02:02.5±1.4,437N×12635E,h0km,mb3.9/6,mb1 4.1/6, mb1mx3.8/18,mbtmp3.9/6,MS3.2/3,Ms1 3.2/3, ms1mx2.7/32,Error ellipse: s-maj=103.2km s-min=18.5km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.34**	**182**	*e*P	P	15 07 04.2	+2.4
4.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.34**	**182**	P	P	15 07 02.9	+1.2
3.4nm,0.7s,baz=15,slow=7.3,SNR=13							
WRA	**Warramunga Arr**	**25.40**	**162**	P	P	15 07 31.1	-0.5
1.5nm,0.5s,baz=339,slow=10,SNR=24							
WB2	**Warramunga Arr**	**25.40**	**162**	*e*P	P	15 07 31.2	-0.4
ASPA	**Alice Springs**	**28.82**	**166**	*e*P	P	15 08 04.1	+1.8
ASAR	**Alice Springs**	**28.82**	**166**	P	P	15 08 02.5	+0.3
0.7nm,0.8s,baz=336,slow=7.7,SNR=16							
JHJ	**Hachijo jima 2**	**31.24**	**22**	LR	LR	15 18 46.9	
comp=Z,54nm,19.3s,baz=20,slow=32							
MJAR	**Matsushiro Arr**	**33.83**	**17**	LR	LR	15 21 05.7	
comp=Z,29nm,19.4s,baz=85,slow=34							
STKA	**Stephens Creek**	**38.85**	**159**	P	P	15 09 29.7	+0.4
1.7nm,0.7s,baz=348,slow=8.4,SNR=5.2							
SONM	**Songino Array**	**46.58**	**342**	LR	LR	15 30 02.5	
comp=Z,35nm,20.6s,baz=94,slow=36							
MKAR	**Makanchi Array**	**56.82**	**325**	P	P	15 11 49.0	+0.4
0.4nm,0.4s,baz=116,slow=7.9,SNR=11							
ZAL	**Zalesovo**	**59.85**	**333**	P	P	15 12 09.4	-0.4
0.8nm,0.4s,baz=243,slow=3.4,SNR=3.3							

IDC 30 15:12:35.8±2.0,113S×12748E,h0km,mb3.5/2,mb1 3.6/3, mb1mx3.4/15,mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=159.3km s-min=25.6km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.86**	**161**	P	Pn	15 17 08.7	-1.2
0.2nm,0.3s,baz=340,slow=11,SNR=9.4							
ASAR	**Alice Springs**	**23.25**	**165**	P	P	15 17 45.0	+0.2
0.3nm,0.8s,baz=341,slow=11,SNR=4.3							
MKAR	**Makanchi Array**	**61.98**	**326**	P	P	15 22 57.7	+0.1
0.3nm,0.4s,baz=118,slow=7.9,SNR=9.8							

*IDC **30** 15:52:53.1±2.1,3527N×13696E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.3/23,mbtmp3.6/3,ML3.3/1,Error ellipse: s-maj=60.2km s-min=12.7km az=121.0*
*ISCJB **30** 15:53:01.0±0.6,3576N±004×13927E±009,h119km±4km, mb3.7/2,Error ellipse: s-maj=12.1km s-min=6.5km az=138.8*
*JMA **30** 15:53:02.8±0.1,3573N×13934E,h105km±1km,M3.2*

ISC 30 15:53:02.3±0.6,3576N±004×13928E±008,h112km±4km, n16,σ0§61/27,mb3.7/2,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.09**	**359**	P	**Pn**	**15 53 17.8**	**+0.1**
JHU				S	**Sn**	**15 53 29.0**	**-0.2**
JRY	**Ryogami san**	**0.40**	**310**	P	**Pn**	**15 53 19.2**	**+0.5**
JRY				S	**Sn**	**15 53 31.5**	**+0.4**
JOD2	**Odawara 2**	**0.52**	**198**	P	**Pn**	**15 53 19.1**	**-0.3**
JOD2				S	**Sn**	**15 53 31.3**	**-1.1**
JYN	**Shimob**	**0.66**	**247**	P	**Pn**	**15 53 20.5**	**+0.1**
JYN				S	**Sn**	**15 53 34.5**	**+0.4**
JAG	**Ashikaga**	**0.68**	**12**	P	**Pn**	**15 53 20.8**	**+0.2**
JAG				S	**Sn**	**15 53 34.1**	**-0.3**
JKT	**Katashina**	**1.00**	**358**	P	**Pn**	**15 53 24.2**	**+0.6**
JKT				S	**Sn**	**15 53 40.3**	**+0.5**
JIM2	**Oshima 3**	**1.05**	**173**	P	**Pn**	**15 53 23.8**	**-0.3**
JIM2				S	**Sn**	**15 53 39.8**	**-0.8**
MJAR	**Matsushiro Arr**	**1.17**	**312**	Pg	**Pn**	**15 53 24.5**	**-0.9**
6.9nm,0.3s,baz=270,slow=14,SNR=73							
MJAR				Lg		15 53 43.2	
17nm,0.3s,baz=34,slow=10,SNR=23							
MAT	**Matsushiro**	**1.17**	**312**	P	**Pn**	**15 53 25.7**	**+0.3**
MAT				S	**Sn**	**15 53 42.5**	**-0.4**
MAT	**Matsushiro**	**1.17**	**312**	P	**Pn**	**15 53 25.8**	**+0.4**
MAT				S	**Sn**	**15 53 42.7**	**-0.2**
BSO1	**Boso 1**	**1.77**	**128**	P	**Pn**	**15 53 32.2**	**-0.3**
BSO1				*e*S	**Sn**	**15 53 55.2**	**-0.3**
JHJ	**Hachijo jima 2**	**2.67**	**171**	Pn	**Pn**	**15 53 45.0**	**+1.0**
9.8nm,0.3s,baz=121,slow=19,SNR=6.3							
JHJ				Sn	**Sn**	**15 54 17.8**	**+1.8**
13nm,0.3s,baz=67,slow=17,SNR=3.1							
WB2	**Warramunga Arr**	**55.59**	**186**	*e*P	**P**	**16 02 25.6**	**-0.6**
WRA	**Warramunga Arr**	**55.59**	**186**	P	**P**	**16 02 25.6**	**-0.6**
0.7nm,0.5s,mb3.9,baz=1.0,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**59.32**	**186**	P	**P**	**16 02 52.3**	**0.0**
0.2nm,0.4s,mb3.5,baz=20,slow=11,SNR=9.6							
ASPA	**Alice Springs**	**59.32**	**186**	*e*P	**P**	**16 02 52.6**	**+0.3**

*HLW **30** 16:08:44.8,3738N×2866E,h31km,Mb3.6*
*CSEM **30** 16:08:44.9±0.1,3705N×2865E,h20km,MD3.4,Error ellipse: s-maj=1.9km s-min=1.4km az=68.0*
*ATH **30** 16:08:44.8,37.19N×2866E,h7km±6km,MD3.5/6*
*ISK **30** 16:08:44.9,37.16N×2867E,h13km,MD3.4*
*ISCJB **30** 16:08:46.2±0.4,3705N±002×2867E±003,h27km±4km, Error ellipse: s-maj=4.6km s-min=3.9km az=129.5*

ISC 30 16:08:45.7±0.5,3713N±002×2866E±003,h8km±4km,n47, σ0§82/59,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.36**	**183**	PG	**Pg**	**16 08 52.6**	**-0.1**
DALT				SG	**Sg**	**16 08 59.4**	**+1.9**
DENT	**Denizli**	**0.69**	**25**	PG	**Pg**	**16 08 57.5**	**-1.5**
MLSB	**Milas**	**0.72**	**283**	PG	**Pg**	**16 08 59.4**	**-0.2**
MLSB				SG	**Sg**	**16 09 10.7**	**+1.6**
GOLH	**Golhisar**	**0.73**	**81**	*i* P	**Pg**	**16 08 58.0**	**-1.7**
GOLH				*i* S	**Sg**	**16 09 10.6**	**+1.4**
GOLH	**Golhisar**	**0.73**	**81**	*i* P	**Pg**	**16 08 58.0**	**-1.7**
GOLH				*i* S	**Sg**	**16 09 10.6**	**+1.4**
AYDN	**Tasoluk**	**0.82**	**311**	*i* P	**Pg**	**16 09 00.9**	**-0.4**
AYDN				*i* S	**Sg**	**16 09 17.6**	**+5.6**
AYDN	**Tasoluk**	**0.82**	**311**	*i* P	**Pg**	**16 09 00.9**	**-0.5**
AYDN				*i* S	**Sg**	**16 09 17.6**	**+5.6**
DAT	**Datca**	**0.95**	**246**	PG	**Pg**	**16 09 03.4**	**-0.6**
BDRM	**Kayabasi**	**0.97**	**267**	*i* P	**Pg**	**16 09 05.0**	**+0.6**
BDRM				*i* S	**Sg**	**16 09 21.1**	**+4.1**
ARG	**Arkhangelos**	**1.01**	**205**	*e*PG	**Pg**	**16 09 04.7**	**-0.3**
BODT	**Bodrum**	**1.08**	**267**	PN	**Pn**	**16 09 05.8**	**-1.3**
AKAS	**Kas**	**1.17**	**139**	*i* P	**Pb**	**16 09 08.1**	**-0.1**
AKAS				*i* S	**Sg**	**16 09 29.5**	**+6.0**
KSL	**Kastellorizon**	**1.23**	**142**	*e*PB	**Pb**	**16 09 09.0**	**-0.1**
NISR	**Nisiros**	**1.33**	**248**	*e*PB	**Pb**	**16 09 10.7**	**-0.2**
MANT	**Manisa**	**1.36**	**357**	*i* P	**Pn**	**16 09 10.5**	**-0.5**
MANT				*i* S	**Sb**	**16 09 30.2**	**+1.3**
SMG	**Samos**	**1.56**	**292**	*e*PB	**Pb**	**16 09 13.8**	**-1.0**
BCK	**Bucak**	**1.57**	**77**	PN	**Pn**	**16 09 13.3**	**-0.6**
TKTP	**Tekketepe**	**1.60**	**55**	*i* P	**Pn**	**16 09 15.2**	**+0.9**
TKTP				*i* S	**Sn**	**16 09 34.9**	**-0.2**
ANTB	**Antalya**	**1.61**	**98**	*e*PN	**Pn**	**16 09 14.2**	**-0.2**
IZM	**Izmir**	**1.68**	**319**	PN	**Pn**	**16 09 14.6**	**-0.8**
KDAG	**Bornova**	**1.68**	**319**	*i* P	**Pn**	**16 09 15.0**	**-0.4**
KDAG				*i* S	**Sg**	**16 09 40.0**	**+0.2**
URLA	**Izmir**	**2.05**	**308**	*i* P	**Pg**	**16 09 23.6**	**-1.3**
URLA				*i* S	**Sg**	**16 09 56.7**	**+5.3**
GDZ	**Gediz**	**2.06**	**18**	*i* P	**Pn**	**16 09 20.6**	**+0.1**
PRK	**Paraskevi**	**2.83**	**319**	*e*PB	**Pn**	**16 09 31.7**	**+0.5**
ESKT	**Eskisehir**	**2.94**	**35**	*e*PN	**Pn**	**16 09 33.4**	**+0.7**
KONT	**Konya--Tatoy**	**3.05**	**73**	*e*PN	**Pn**	**16 09 34.5**	**+0.3**
NPS	**Neapolis**	**3.09**	**234**	*e*PB	**Pn**	**16 09 37.2**	**+2.5**
EZN	**Ezine**	**3.26**	**326**	*e*PN	**Pn**	**16 09 37.2**	**+0.2**
GEMT	**Gemlik**	**3.33**	**7**	*e*PN	**Pn**	**16 09 37.6**	**-0.4**
ADVT	**Abdulvahap**	**3.41**	**14**	*e*PN	**Pn**	**16 09 39.5**	**+0.4**
YLV	**Yalova**	**3.48**	**9**	*e*PN	**Pn**	**16 09 40.6**	**+0.5**
SGKT	**Sivrigoynuk**	**4.34**	**37**	*i* P	**Pn**	**16 09 53.6**	**+1.6**
DABA	**Dabaa**	**6.11**	**183**	P	**Pn**	**16 10 16.6**	**+0.4**
AMAG	**Maghara**	**7.49**	**148**	P	**Pn**	**16 10 34.8**	**-0.5**
KOT	**Kottamia**	**7.65**	**159**	P	**Pn**	**16 10 37.2**	**-0.3**
HHAG	**Hagoal**	**7.71**	**157**	P	**Pn**	**16 10 38.1**	**-0.1**
HSAF	**As Saff**	**7.87**	**161**	P	**Pn**	**16 10 40.1**	**-0.3**
GLL	**Jalalah**	**7.95**	**160**	P	**Pn**	**16 10 41.0**	**-0.5**
SWA1		**8.22**	**198**	P	**Pn**	**16 10 44.9**	**-0.4**
SWA2		**8.31**	**200**	P	**Pn**	**16 10 46.2**	**-0.2**
HNKL	**Nakhl**	**8.44**	**147**	P	**Pn**	**16 10 47.9**	**-0.4**
HNKL	**Nakhl**	**8.44**	**147**	P	**Pn**	**16 10 47.8**	**-0.5**
TR2		**9.70**	**153**	P	**Pn**	**16 11 05.4**	**-0.2**
ASUT		**10.01**	**165**	P	**Pn**	**16 11 09.9**	**+0.1**
HHRG	**Al Ghardaqah**	**10.72**	**156**	P	**Pn**	**16 11 19.6**	**+0.2**
HHRG	**Al Ghardaqah**	**10.72**	**156**	P	**Pn**	**16 11 19.6**	**+0.1**
HDK1	**Dakhla**	**11.57**	**177**	P	**Pn**	**16 11 31.5**	**+0.4**

IDC 30 16:30:25.3±11.0,1481S×16575E,h0km,mb4.2/4, mb1 4.3/5,mb1mx3.9/16,mbtmp4.1/5,ML3.5/1,Error ellipse: s-maj=206.9km s-min=33.9km az=58.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.25**	**175**	Pn	Pn	16 32 13.0	+0.5
0.8nm,0.3s,baz=265,slow=19,SNR=19							
DZM				Sn	Sn	16 33 36.4	+0.9
0.9nm,0.3s,baz=108,slow=20,SNR=4.7							
STKA	**Stephens Creek**	**27.83**	**228**	P	P	16 36 16.1	-0.2
3.2nm,0.5s,baz=62,slow=8.8,SNR=22							
WRA	**Warramunga Arr**	**30.38**	**256**	P	P	16 36 40.2	+1.2
0.7nm,0.6s,baz=85,slow=9.0,SNR=6.6							
ASAR	**Alice Springs**	**31.27**	**249**	P	P	16 36 46.9	+0.1
1.4nm,0.4s,baz=78,slow=9.2,SNR=62							
ASPA	**Alice Springs**	**31.27**	**249**	*e*P	P	16 36 46.8	0.0
FITZ	**Fitzroy Crossi**	**38.56**	**259**	*e*P	P	16 37 50.4	+0.7
3.0nm,0.4s							
FITZ	**Fitzroy Crossi**	**38.56**	**259**	P	P	16 37 50.0	+0.3
1.8nm,0.5s,baz=76,slow=9.9,SNR=24							

*TIR **30** 16:43:56.0,4243N×1982E,h19km,Ml2.6*
*ISCJB **30** 16:43:57.5±0.3,4240N±002×1980E±002,h10km,Error ellipse: s-maj=3.1km s-min=2.2km az=82.6*
*NEIC **30** 16:43:57.8,4240N×1979E,h3km,ML2.7(PDG),After PDG.*
*PDG **30** 16:43:57.8±0.2,4240N×1979E,h3km±1km*
*SKO **30** 16:43:59.5,4246N×1978E,h5km*

ISC 30 16:43:58.3±0.3,4241N±002×1980E±003,h10km,n19, σ1§09/37,5C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.20**	**101**	*i* Pg	**Pg**	**16 44 01.0**	**-1.6**
BCI				*i* Sg	**Sg**	**16 44 04.3**	**-1.2**
PVY	**Plav**	**0.23**	**35**	⇑*i*Pg	**Pg**	**16 44 01.7**	**-1.3**
PVY				*e*Sg	**Sg**	**16 44 05.7**	**-0.5**
PUK	**Puka**	**0.37**	**169**	*i* Pg	**Pg**	**16 44 04.7**	**-0.9**
PUK				*i* Sg	**Sg**	**16 44 10.6**	**0.0**
TTG	**Podgorica**	**0.40**	**274**	⇑*i*Pg	**Pg**	**16 44 04.8**	**-1.3**
TTG				*e*Sg	**Sg**	**16 44 11.3**	**-0.1**
IVA	**Berane**	**0.47**	**9**	⇑*i*Pg	**Pg**	**16 44 06.6**	**-0.9**
IVA				*e*Sg	**Sg**	**16 44 13.9**	**+0.2**
ULC	**Ulcinj**	**0.60**	**223**	⇓*i*Pg	**Pg**	**16 44 09.3**	**-0.6**
ULC				*e*Sg	**Sg**	**16 44 18.2**	**+0.4**
BUM	**Brajici-Budva**	**0.67**	**261**	⇓*i*Pg	**Pg**	**16 44 10.2**	**-1.1**
BUM				*e*Sg	**Sg**	**16 44 20.8**	**+0.7**
NKY	**Niksic**	**0.72**	**305**	⇓*i*Pg	**Pg**	**16 44 10.4**	**-1.8**
NKY				*e*Sg	**Sg**	**16 44 22.6**	**+1.1**
PHP	**Peshkopia**	**0.87**	**146**	*i* Pg	**Pg**	**16 44 13.7**	**-1.3**
PHP				*i* Sg	**Sg**	**16 44 26.9**	**+0.6**
HCY	**Herceg Novi**	**0.96**	**273**	⇑*i*Pg	**Pg**	**16 44 15.6**	**-1.2**
HCY				*e*Sg	**Sg**	**16 44 30.4**	**+1.0**
PLE	**Pljevlja**	**0.97**	**342**	⇑*i*Pg	**Pg**	**16 44 15.8**	**-1.2**
PLE				*e*Sg	**Sg**	**16 44 31.1**	**+1.5**
UPM	**Unac-Piva**	**1.03**	**321**	⇓*i*Pg	**Pg**	**16 44 17.0**	**-1.1**
UPM				*e*Sg	**Sg**	**16 44 33.0**	**+1.5**
BRY	**Bratogost**	**1.05**	**299**	⇓*i*Pg	**Pg**	**16 44 17.1**	**-1.3**
BRY				*e*Sg	**Sg**	**16 44 33.3**	**+1.2**
SKO	**Skopje**	**1.29**	**109**	*e*Pg	**Pg**	**16 44 23.9**	**+0.7**
SKO				*i* Sg	**Sg**	**16 44 41.7**	**+1.7**
OHR	**Ohrid**	**1.50**	**150**	*e*Pg	**Pg**	**16 44 28.1**	**+1.1**
OHR				*e*Sg	**Sg**	**16 44 47.6**	**+1.2**
KRUS	**Krusevo**	**1.50**	**133**	*e*Pg	**Pg**	**16 44 26.5**	**-0.6**
KRUS				*i* Sg	**Sg**	**16 44 47.8**	**+1.2**
STON	**Ston**	**1.62**	**287**	*i* Pn	**Pn**	**16 44 27.4**	**+0.5**
STON				*i* Sn	**Sn**	**16 44 52.5**	**+4.8**
DIVS	**Divcibare**	**1.70**	**5**	*i* Pn	**Pn**	**16 44 29.8**	**+1.8**
DIVS				Sn	**Sn**	**16 44 51.0**	**+1.3**
BIA	**Bitola**	**1.80**	**140**	*e*Pg	**Pg**	**16 44 33.0**	**+0.2**

*NIED **30** 16:57:00,2960N×14190E,h80km,Mw4.1 Best double couple: M0 1.43000×10^15 NP1:φ0§175.00000°,δ64.00000°, λ48.00000° NP2:φ0§59.00000°,δ49.00000°,λ144.00000°.*
*ISCJB **30** 16:57:12.4±1.1,2941N±009×1409E±03,h59km±18km, mb3.9/4,Error ellipse: s-maj=40.6km s-min=7.6km az=140.6*
*IDC **30** 16:57:13.6±1.5,2944N×14100E,h54km±23km,mb3.7/4, mb1 3.8/7,mb1mx3.4/22,mbtmp3.9/7,ML3.6/3,MS3.0/3, Ms1 3.0/3,ms1mx2.6/36,Error ellipse: s-maj=81.8km s-min=7.6km az=72.0*

ISC 30 16:57:14.1±0.9,2943N±009×1410E±03,h60km±16km,n14, σ0§58/14,mb3.9/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.56**	**155**	P	**Pn**	**16 57 52.8**	**-0.4**
46nm,0.3s,baz=348,slow=7.3,SNR=43							
CBIJ				S	**Sn**	**16 58 22.9**	**-0.1**
117nm,0.3s,baz=271,slow=23,SNR=20							
JHJ	**Hachijo jima 2**	**3.82**	**345**	P	**Pn**	**16 58 11.2**	**+0.9**
5.9nm,0.3s,baz=65,slow=23,SNR=2.9							
JHJ				S	**Sn**	**16 58 52.6**	**-1.3**
9.9nm,0.3s,baz=251,slow=18,SNR=3.1							
MJAR	**Matsushiro Arr**	**7.46**	**343**	P	**Pn**	**16 59 01.3**	**+1.0**
0.1nm,0.3s,baz=163,slow=9.9,SNR=3.4							
MJAR				LR	LR	17 01 30.8	
comp=Z,73nm,19.9s,baz=190,slow=35							
JOW	**Kunigami**	**11.50**	**260**	LR	LR	17 03 04.7	
comp=Z,128nm,20.9s,baz=28,slow=30							
ASAJ	**Asahikawa**	**14.72**	**5**	LR	LR	17 07 14.0	
comp=Z,71nm,18.6s,baz=166,slow=41							
JIRN	**Jiri**	**47.78**	**282**	*e*P	**P**	**17 05 45.7**	**+0.4**
16nm,0.9s							
GUN	**Gumba**	**47.98**	**282**	*e*P	**P**	**17 05 47.1**	**+0.3**
11nm,0.6s							
KKN	**Kakani**	**48.52**	**282**	*e*P	**P**	**17 05 51.0**	**0.0**
15nm,1.0s							
GKN	**Gorkha**	**49.01**	**283**	*e*P	**P**	**17 05 54.3**	**-0.5**
25nm,1.5s							
WRA	**Warramunga Arr**	**49.50**	**188**	P	**P**	**17 05 58.9**	**+0.4**
0.6nm,0.6s,mb3.8,baz=5.3,slow=7.8,SNR=12							
KOLN	**Koldanda**	**49.96**	**283**	*e*P	**P**	**17 06 01.4**	**-0.6**
15nm,1.1s							
ASAR	**Alice Springs**	**53.22**	**188**	P	**P**	**17 06 26.1**	**-0.2**
0.1nm,0.5s,mb3.0,baz=0.1,slow=5.0,SNR=7.7							
ARCES	**ARCESS Array B**	**70.99**	**340**	P	**P**	**17 08 25.1**	**-0.2**
3.0nm,0.9s,mb4.2,baz=58,slow=12,SNR=5.6							
FINES	**FINESS Array B**	**75.39**	**333**	P	**P**	**17 08 51.6**	**+0.3**
6.3nm,1.1s,mb4.5,baz=80,slow=4.3,SNR=4.0							

*ISCJB **30** 17:04:06.6±2.1,2964N±006×68.11E±006,h8km±15km, mb3.8/8,Error ellipse: s-maj=10.9km s-min=8.2km az=139.6*
*IDC **30** 17:04:08.4±1.2,2976N×6803E,h0km,mb3.6/6,mb1 3.7/7, mb1mx3.6/25,mbtmp3.7/7,ML4.0/1,MS3.7/1,Ms1 3.7/1, ms1mx2.5/35,Error ellipse: s-maj=30.1km s-min=22.6km az=131.0*
*NEIC **30** 17:04:11.7±0.9,2982N×6802E,h25km,mb4.0/3,Error ellipse: s-maj=22.4km s-min=11.4km az=125.0*
*BJI **30** 17:04:22.0,3056N×6890E,h25km,mb4.1,Ms4.6*

ISC 30 17:04:11.8±1.0,2960N±006×6810E±007,h41km±12km, n31,σ1§29/35,mb3.8/8,1C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.80**	**40**	P	**Pn**	**17 04 58.3**	**+4.3**
SBDP	**Sheikh Budin**	**3.55**	**40**	⇑P	**Pn**	**17 05 04.7**	**+0.3**
SBDP				S	**Sn**	**17 05 46.0**	**+0.9**
THW	**Thamme Wali**	**4.45**	**43**	⇓P	**Pn**	**17 05 17.2**	**+0.4**
THW				S	**Sn**	**17 06 08.0**	**+0.6**
CEP	**Cherat**	**5.31**	**37**	⇓P	**Pn**	**17 05 29.1**	**+0.5**
CEP				S	**Sn**	**17 06 28.0**	**-0.5**

comp=N,1μm,0.5s
PSI Prapat 10.12 139 LR LR 17 21 54.3
comp=N,52nm,18.9s,baz=335,slow=39
WSAR Wadi Sarin 34.51 296 LR LR 17 35 06.7
comp=N,43nm,19.8s,MS3.2,baz=185,slow=34
MKAR Makanchi Array 37.10 349 P **P 17 22 27.3 -0.1**
comp=N,0.7nm,0.7s,mb3.6,baz=173,slow=8.6,SNR=7.0
SONM Songino Array 39.00 15 P **P 17 22 43.4 0.0**
comp=N,0.9nm,0.9s,mb3.5,baz=195,slow=7.2,SNR=7.0
FITZ Fitzroy Crossi 43.51 131 *eP* **P 17 23 20.1 -0.4**
comp=N,4.5nm,1.0s,mb4.2
FITZ Fitzroy Crossi 43.51 131 P **P 17 23 19.0 -1.4**
comp=N,2.9nm,0.9s,mb4.0,baz=308,slow=6.9,SNR=14
WRA Warramunga Arr 51.28 126 P **P 17 24 20.7 -0.2**
comp=N,2.2nm,0.4s,mb4.4,baz=305,slow=8.6,SNR=61
WB2 Warramunga Arr 51.29 126⇑ *iP* **P 17 24 21.2 +0.2**
ASPA Alice Springs 53.01 130 *eP* **P 17 24 34.0 +0.3**
AS31 Alice Springs 53.01 130 *eP* **P 17 24 34.0 +0.3**
ASAR Alice Springs 53.01 130 P **P 17 24 34.0 +0.3**
comp=N,3.5nm,0.8s,mb4.4,baz=303,slow=7.3,SNR=99

CASC 30 17:20:33.2±2.4, 1284N×8876W, h58km±110km, MD3.6, ML3.5, 3C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.79**	**40**⇑	*eP*	x	17 21 04.4	
BLLM				*eS*	x	17 21 16.9	
BLLM				*eS*	x	17 21 17.4	
LCBS	**La Ceiba**	**0.84**	**346**⇑	*eP*	x	17 21 04.9	
LCBS				*eS*	x	17 21 17.2	
LBRS	**Las Brisas**	**0.93**	**343**⇓	*eP*	x	17 21 06.6	
LBRS				*eS*	x	17 21 19.0	
BOQS	**Boqueron**	**1.02**	**331**⇑	*eP*	x	17 21 07.7	
BOQS				*eS*	x	17 21 22.1	
MTO2	**Montecristo 2**	**1.66**	**340**⇓	*eP*	x	17 21 17.0	
MTO2				*eS*	x	17 21 38.5	
CRIN	**San Cristobal**	**1.68**	**95**	*eP*	Pn	17 21 02.1	+1.9
CRIN				*eS*	Sn	17 21 22.6	+1.9
LEON	**Leon**	**1.88**	**103**	*eP*	Pn	17 21 02.7	-0.2
LEON				*eS*	Sn	17 21 25.6	+0.1
TELN	**Telica**	**1.90**	**97**	*eS*	Sn	17 21 26.0	0.0
MIRN	**Miramar**	**2.04**	**101**	*eP*	Pn	17 21 05.8	+0.6
MIRN				*eS*	Sn	17 21 30.5	+1.0
CNGN	**Cerro Negro**	**2.04**	**99**	*eP*	Pn	17 21 06.1	+0.9
CNGN				*eS*	Sn	17 21 29.8	+0.2
MOMJ	**Momotombo**	**2.21**	**101**	*eP*	Pn	17 21 06.5	-1.0
COPN	**Copaltepe**	**2.22**	**107**⇓	*eP*	Pn	17 21 07.7	+0.1
COPN				*eS*	Sn	17 21 35.4	+1.5
MGAN	**Managua**	**2.55**	**105**	*i*	Sn	17 21 44.2	+2.2
	comp=E,283nm,0.3s						

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*ISK **30** 17:34:39.6, 3731N×2670E, h32km, MD3.6*
*ISCJB **30** 17:34:39.4±0.6, 3736N±002×2677E±003, h12km±5km, Error ellipse: s-maj=3.8km s-min=3.3km az=174.2*
*ATH **30** 17:34:39.1, 3736N×2678E, h22km, MD3.7/16, ML3.8*
*CSEM **30** 17:34:39.9±0.1, 3739N×2683E, h20km, ML3.5, Error ellipse: s-maj=1.8km s-min=1.7km az=84.0*
*HLW **30** 17:34:40.2, 3740N×2676E, h33km, Mb3.4*
*NEIC **30** 17:34:40.0, 3741N×2687E, h10km, ML3.5(ATH), After ATH.*

ISC 30 17:34:40.4±0.5, 3737N±002×2679E±003, h13km±4km, n62, σ0°92/76, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**6**	*eP*B	**Pg**	**17 34 46.7**	**-0.7**
SMG				*eS*B	**Sg**	**17 34 52.2**	**+0.2**
BODT	**Bodrum**	**0.52**	**126**	PG	**Pg**	**17 34 50.7**	**+0.2**
BODT				SG	**Sg**	**17 34 59.0**	**+1.6**
BDRM	**Kayabasi**	**0.60**	**120**	*i* P	**Pg**	**17 34 52.1**	**0.0**
BDRM				*i* S	**Sg**	**17 35 01.1**	**+1.0**
MLSB	**Milas**	**0.79**	**95**	PG	**Pg**	**17 34 55.4**	**-0.3**
MLSB				SG	**Sg**	**17 35 07.5**	**+1.4**
NISR	**Nisiros**	**0.80**	**160**	*e*PN	**Pg**	**17 34 54.5**	**-1.4**
DAT	**Datca**	**0.90**	**135**	PG	**Pg**	**17 34 57.2**	**-0.5**
AYDN	**Tasoluk**	**0.92**	**71**	*i* P	**Pb**	**17 34 57.3**	**-0.8**
AYDN				*i* S	**Sg**	**17 35 10.0**	**0.0**
URLA	**Izmir**	**1.00**	**351**	*i* P	**Pb**	**17 34 58.6**	**-1.0**
URLA				*i* S	**Sb**	**17 35 13.4**	**+0.8**
IZM	**Izmir**	**1.09**	**20**	PN	**Pn**	**17 35 00.2**	**-1.2**
KDAG	**Bornova**	**1.10**	**20**	*i* P	**Pb**	**17 35 00.5**	**-0.8**
KDAG				*i* S	**Sb**	**17 35 14.6**	**-0.9**
SANT	**Santorini**	**1.46**	**227**	*e*Pn	**Pn**	**17 35 05.9**	**-0.4**
SANT				*e*Sn	**Sn**	**17 35 23.9**	**-1.4**
SANT	**Santorini**	**1.46**	**227**	*e*Pn	**Pn**	**17 35 05.9**	**-0.4**
SANT				*e*Sn	**Sn**	**17 35 23.9**	**-1.4**
ARG	**Arkhangelos**	**1.57**	**137**	*e*PN	**Pn**	**17 35 08.0**	**+0.1**
ARG	**Arkhangelos**	**1.57**	**137**	P	**Pn**	**17 35 08.4**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.59**	**111**	PN	**Pn**	**17 35 07.6**	**-0.6**
DENT	**Denizli**	**1.82**	**77**	PN	**Pn**	**17 35 11.3**	**-0.1**
PRK	**Paraskevi**	**1.92**	**348**	*e*PB	**Pn**	**17 35 12.1**	**-0.6**
PRK	**Paraskevi**	**1.92**	**348**	P	**Pn**	**17 35 12.9**	**+0.2**
AYVA	**Ayvalik**	**1.94**	**358**	*i* P	**Pb**	**17 35 15.2**	**-0.4**
AYVA				*i* S	**Sg**	**17 35 43.8**	**+1.1**
GOLH	**Golhisar**	**2.21**	**93**	*i* P	**Pn**	**17 35 18.7**	**+1.9**
NPS	**Neapolis**	**2.31**	**205**	*e*PN	**Pn**	**17 35 17.7**	**-0.3**
NPS	**Neapolis**	**2.31**	**205**	P	**Pn**	**17 35 18.1**	**+0.1**
PTL	**Penteli**	**2.42**	**287**	*e*PN	**Pn**	**17 35 19.5**	**0.0**
KVR	**Kavouri**	**2.44**	**282**	*e*PN	**Pn**	**17 35 20.0**	**+0.1**
EZN	**Ezine**	**2.48**	**352**	*e*PN	**Pn**	**17 35 19.1**	**-1.3**
ATH	**Athens Observa**	**2.51**	**285**	*e*PN	**Pn**	**17 35 21.1**	**+0.3**
AKAS	**Kas**	**2.53**	**116**	*i* P	**Pb**	**17 35 24.3**	**-1.3**
AKAS				*i* S	**Sg**	**17 36 01.5**	**-0.1**
KSL	**Kastellorizon**	**2.55**	**118**	*e*PN	**Pn**	**17 35 21.5**	**+0.1**
IDI	**Anoyia**	**2.58**	**217**	P	**Pn**	**17 35 22.4**	**+0.6**
NAIG	**Nisos Aigina**	**2.65**	**279**	*e*PN	**Pn**	**17 35 22.6**	**-0.2**
CANB	**Canakkale**	**2.66**	**5**	*e*PN	**Pn**	**17 35 22.1**	**-0.7**
GDZ	**Gediz**	**2.73**	**50**	*i* P	**Pg**	**17 35 32.3**	**-0.4**
GDZ				*i* S	**Sg**	**17 36 11.9**	**+3.9**
LIA	**Limnos Island**	**2.82**	**334**	*e*PN	**Pn**	**17 35 25.5**	**+0.4**
VAM	**Vamos**	**2.86**	**228**	*e*PN	**Pn**	**17 35 25.8**	**+0.1**
VAM	**Vamos**	**2.86**	**228**	P	**Pn**	**17 35 27.8**	**+2.1**
ISP	**Isparta**	**2.99**	**80**	*e*Pn	**Pn**	**17 35 27.5**	**0.0**
ISP	**Isparta**	**2.99**	**80**	*e*Pn	**Pn**	**17 35 27.5**	**+0.1**
VLI	**Veliai**	**3.15**	**259**	*e*PN	**Pn**	**17 35 29.5**	**-0.1**
VLI	**Veliai**	**3.15**	**259**	P	**Pn**	**17 35 31.3**	**+1.7**
KYTH	**Kithira**	**3.20**	**251**	*e*PN	**Pn**	**17 35 30.9**	**+0.6**
MRMT	**Marmara Adasi**	**3.29**	**11**	*e*PN	**Pn**	**17 35 31.7**	**+0.1**
ULDT	**Uludag**	**3.32**	**33**	*i* P	**Pb**	**17 35 41.1**	**+1.9**
ULDT				*i* S	**Sg**	**17 36 24.4**	**-2.7**
NEO	**Neokhori**	**3.41**	**306**	P	**Pn**	**17 35 34.1**	**+0.9**
MFT	**Murefte**	**3.44**	**6**	*e*PN	**Pn**	**17 35 33.5**	**-0.1**
GEMT	**Gemlik**	**3.59**	**31**	*e*PN	**Pn**	**17 35 36.1**	**+0.4**
YLV	**Yalova**	**3.78**	**31**	*e*PN	**Pn**	**17 35 38.8**	**+0.6**
BORA	**Eskisehir**	**3.81**	**48**	*i* P	**Pg**	**17 35 53.2**	**-0.2**
BORA				*i* S	**Sg**	**17 36 48.0**	**+5.2**
ESKT	**Eskisehir**	**3.84**	**55**	*e*PN	**Pn**	**17 35 39.2**	**0.0**
ITM	**Ithomi**	**3.88**	**269**	P	**Pn**	**17 35 42.1**	**+2.4**
RDO	**Rodhopi**	**3.90**	**346**	*e*PN	**Pn**	**17 35 40.2**	**+0.3**
GPA	**Golpazari**	**4.01**	**42**	*e*PN	**Pn**	**17 35 41.8**	**+0.4**
HRT	**Hereke**	**4.11**	**32**	*e*PN	**Pn**	**17 35 43.6**	**+0.7**
EVR	**Evrytania**	**4.22**	**293**	*e*PN	**Pn**	**17 35 45.3**	**+1.0**
EDRB	**Edirne**	**4.47**	**360**	*e*PN	**Pn**	**17 35 47.7**	**-0.1**
HENT	**Hendek**	**4.70**	**42**	*i* P	**Pg**	**17 36 08.7**	**-1.8**
BR131	**Keskin Array S** 5.7nm,0.5s	**5.86**	**64**	*e*Pn	**Pn**	**17 36 09.0**	**+2.1**
BR131	**Keskin Array S** 5.7nm,0.5s	**5.86**	**64**	*e*Pn	**Pn**	**17 36 09.0**	**+2.1**
SWA1		**8.13**	**187**	P	**Pn**	**17 36 37.1**	**-1.0**
SWA2		**8.18**	**188**	P	**Pn**	**17 36 37.6**	**-1.1**
AMAG	**Maghara**	**8.56**	**140**	P	**Pn**	**17 36 43.5**	**-0.5**
HNKL	**Nakhl**	**9.53**	**139**	P	**Pn**	**17 36 57.0**	**-0.3**
ASUT		**10.73**	**157**	P	**Pn**	**17 37 12.7**	**-0.9**

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*IDC **30** 17:36:37.5±1.8, 197S×133.34E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/15, mbtmp3.8/5, ML3.9/2, MS3.4/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=74.0km s-min=23.5km az=75.0*
*NEIC **30** 17:36:43.7±1.3, 2.09S×133.19E, h40km, mb3.6/1, Error ellipse: s-maj=43.1km s-min=15.6km az=79.0*
*ISCJB **30** 17:36:45.5±3.0, 2.29S±0.10×132.8E±02, h64km±30km, mb3.7/3, Error ellipse: s-maj=32.2km s-min=15.9km az=5.3*

ISC 30 17:36:49.1±2.9, 25S±01×131.9E±03, h65km±29km, n11, σ1°24/13, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.16**	**177**	*eP*	**Pn**	**17 39 11.8**	**-0.3**
	8.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**16.69**	**201**	*eP*	**Pn**	**17 40 45.7**	**+7.1**
	2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**16.69**	**201**	P	**Pn**	**17 40 45.6**	**+7.0**
	0.3nm,0.3s,baz=43,slow=15,SNR=13						
FITZ				S	**S**	**17 43 50.4**	**-0.4**
	0.1nm,0.3s,baz=262,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**17.50**	**172**	P	**Pn**	**17 40 47.6**	**-1.1**
	0.5nm,0.3s,baz=356,slow=12,SNR=32						
WRA				S	**S**	**17 43 58.7**	**-8.6**
	0.1nm,0.3s,baz=5.8,slow=23,SNR=4.5						
WB2	**Warramunga Arr**	**17.50**	**172**	*eP*	**Pn**	**17 40 48.2**	**-0.4**
WB2	**Warramunga Arr**	**17.50**	**172**	*e*Pn	**Pn**	**17 40 48.1**	**-0.5**
AS31	**Alice Springs**	**21.13**	**175**	*eP*	**P**	**17 41 30.1**	**+1.6**
ASAR	**Alice Springs**	**21.13**	**175**	P	**P**	**17 41 29.9**	**+1.4**
	2.7nm,0.6s,mb3.7,baz=2.7,slow=12,SNR=36						
ASPA	**Alice Springs**	**21.13**	**175**	*eP*	**P**	**17 41 30.1**	**+1.6**
STKA	**Stephens Creek**	**30.61**	**164**	P	**P**	**17 42 54.3**	**-2.6**
	1.1nm,0.9s,mb3.6,baz=355,slow=12,SNR=2.5						
STKA				LR	LR	17 56 44.3	
	comp=Z,65nm,19.4s,baz=153,slow=39						
MKAR	**Makanchi Array**	**65.60**	**325**	P	**P**	**17 47 25.9**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=120,slow=8.0,SNR=7.6						

KRSC 30 17:47:32, 5355N×15965E, h103km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.42**	**206**	*eP*	Pn	17 47 49.1	+1.5
NLC				*eS*	Sn	17 48 00.7	+1.5
SPN	**Mys Shipunski**	**0.51**	**154**	*eP*	Pn	17 47 49.4	+1.3
SPN				*eS*	Sn	17 48 01.7	+1.5
AVH	**Avacha**	**0.62**	**243**	*eP*	Pn	17 47 50.5	+1.5
AVH				*eS*	Sn	17 48 03.5	+1.8
PET	**Petropavlovsk**	**0.80**	**229**	*eP*	Pn	17 47 51.8	+1.2
PET				*eS*	Sn	17 48 04.8	+0.3
GNL	**Ganaly**	**1.03**	**279**	*eP*	Pn	17 47 53.9	+1.0
GNL				*eS*	Sn	17 48 09.7	+1.0
RUS	**Russkaya**	**1.31**	**212**	*eP*	Pn	17 47 57.4	+1.3
RUS				*eS*	Sn	17 48 16.0	+1.6
GRL	**Gorelyy**	**1.38**	**224**	*eP*	Pn	17 47 59.3	+2.4
GRL				*eS*	Sn	17 48 18.5	+2.7
MKZ	**Mys Kozlova**	**1.59**	**50**	*eP*	Pn	17 48 00.8	+1.3
MKZ				*eS*	Sn	17 48 21.0	+0.7
TUMR	**Tumrok**	**1.76**	**9**	*eP*	Pn	17 48 03.9	+2.3
TUMR				*eS*	Sn	17 48 26.4	+2.2
KMNR	**Kamenistaya**	**2.24**	**9**	*eP*	Pn	17 48 09.5	+1.8
KMNR				*eS*	Sn	17 48 37.5	+2.4
KPT	**Kopyto**	**2.44**	**8**	*eP*	Pn	17 48 12.5	+2.1
KOZ	**Kozyrevsk**	**2.52**	**3**	*eP*	Pn	17 48 13.5	+2.1
ZLN	**Zelenaya**	**2.56**	**15**	S	Sn	17 48 45.3	+2.6
SRDR	**Sredinnyy**	**2.77**	**1**	*eP*	Pn	17 48 16.0	+1.2
KLY	**Klyuchi**	**2.83**	**11**	P	Pn	17 48 19.4	+3.9
SRKR	**Sorokina**	**3.23**	**15**	*eP*	Pn	17 48 23.2	+2.3
SRKR				*eS*	Sn	17 49 00.8	+2.2
KBTR	**Krutoberegovo**	**3.23**	**33**	*eP*	Pn	17 48 24.0	+3.1
KBTR				*eS*	Sn	17 49 01.8	+3.2

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*NEIC **30** 18:27:56.8±1.5, 2.16S×98.84E, h30km, Error ellipse: s-maj=61.4km s-min=13.9km az=63.0*
*ISCJB **30** 18:28:02.3±5.7, 16S±05×995E±07, h76km±34km, mb3.9/6, Error ellipse: s-maj=145.6km s-min=18.0km az=115.2*
*IDC **30** 18:28:05.6±6.1, 153S×9980E, h81km±41km, mb3.5/6, mb1 3.7/7, mb1mx3.4/20, mbtmp3.8/7, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=137.4km s-min=16.2km az=57.0*

ISC 30 18:28:04.3±5.2, 16S±05×996E±07, h72km±30km, n11, σ0°49/10, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.41**	**351**	P	**Pn**	**18 29 08.7**	**0.0**
	2.3nm,0.3s,baz=196,slow=9.7,SNR=5.6						
PSI				LR	LR	18 31 19.4	
	comp=Z,195nm,18.4s,baz=285,slow=45						
WRA	**Warramunga Arr**	**38.52**	**121**	P	**P**	**18 35 18.9**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**39.80**	**126**	P	**P**	**18 35 30.0**	**-0.2**
	0.6nm,0.6s,mb3.6,baz=302,slow=7.8,SNR=20						
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**18 36 48.4**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=194,slow=9.1,SNR=4.3						
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**18 36 49.8**	**+0.9**
	1.4nm,0.8s,mb3.9,baz=243,slow=2.3,SNR=3.5						
MK31	**Makanchi Array**	**50.53**	**345**	*eP*	**P**	**18 36 54.6**	**-0.5**
MKAR	**Makanchi Array**	**50.53**	**345**	P	**P**	**18 36 55.2**	**0.0**
	0.4nm,0.3s,mb3.9,baz=160,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**50.53**	**345**	P	**P**	**18 36 55.2**	**0.0**
ZAL	**Zalesovo**	**56.68**	**350**	P	**P**	**18 37 40.2**	**0.0**
	1.5nm,0.4s,mb4.4,baz=21,slow=3.0,SNR=6.6						
ZAL	**Zalesovo**	**56.68**	**350**	P	**P**	**18 37 40.2**	**0.0**
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	18 47 33.0	+0.6
	0.3nm,0.4s,baz=224,slow=0.9,SNR=6.6						

IDC 30 18:30:26.9±6.7, 313N×12709E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=117.6km s-min=94.5km az=117.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.14**	**184**	P	P	18 35 14.8	+1.4
	0.6nm,0.3s,baz=354,slow=13,SNR=8.7						
WRA	**Warramunga Arr**	**24.01**	**163**	P	P	18 35 45.5	+2.2
	1.2nm,0.4s,baz=340,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.45**	**166**	P	P	18 36 13.2	-1.2
	0.2nm,0.4s,baz=340,slow=7.4,SNR=5.9						
STKA	**Stephens Creek**	**37.44**	**159**	P	P	18 37 41.0	-0.9
	0.7nm,0.5s,baz=349,slow=10,SNR=3.2						

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*CSEM **30** 18:34:35.5, 6784N×2020E, h0km, ML3.2, Suspected Mining explosion. After UPP*
*UPP **30** 18:34:35.5, 6784N×2020E, h0km, ML3.2, Suspected Mining explosion.*

HEL 30 18:34:36.2±0.2, 6786N×2015E, h0km, ML1.5, ML3.2(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**38**	*i* P	Pg	18 34 38.1	-0.3
NIKU	**Nikkaluokta**	**0.42**	**271**	*i* P	Pg	18 34 43.9	-0.4
LANU	**Lannavaara**	**0.72**	**74**	*i* P	Pg	18 34 48.8	-1.2
SALU	**Saltoluokta**	**0.79**	**233**	*i* P	Pg	18 34 50.5	-0.9
MASU	**Masugnsbyn**	**0.82**	**119**	*i* P	Pg	18 34 50.2	-1.6
KIF	**Kilpisjarvi**	**1.17**	**12**	*e*PN	Pn	18 34 59.6	-0.2
KIF				*e*SB	Sb	18 35 15.7	+0.6
PAJU	**Pajala**	**1.42**	**125**	*eP*	Pn	18 35 00.9	-2.4
ERTU	**Ertsjaerv**	**1.54**	**148**	*eP*	Pn	18 35 03.9	-1.0
ERTU	**Ertsjaerv** baz=303	**1.54**	**148**	P	Pn	18 35 03.9	-1.0
HARU	**Harads**	**1.74**	**169**	*eP*	Pn	18 35 07.1	-0.5
SJUU	**Sjulsmark**	**2.44**	**166**	*eP*	Pn	18 35 17.1	-0.1
SJUU	**Sjulsmark**	**2.44**	**166**	P	Pn	18 35 17.1	-0.1
SGF	**Sodankyl**	**2.48**	**97**	*e*SG	Sg	18 35 53.1	-2.6
KEV	**Kevo**	**3.13**	**50**	*e*S	Sn	18 36 05.7	+0.8
OUL	**Oulu**	**3.62**	**138**	*e*SB	Sb	18 36 25.0	-0.5
MSF	**Maaselka**	**4.02**	**115**	*e*SG	Sg	18 36 41.9	-3.3
KU6	**Riekki**	**4.25**	**111**	*e*SG	Sg	18 36 48.0	-4.8

IDC 30 18:35:01.4±3.8, 707S×14605E, h163km±51km, mb2.8/3, mb1 2.8/5, mb1mx2.8/13, mbtmp3.2/5, Error ellipse: s-maj=63.4km s-min=30.8km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.56**	**155**	P	Pn	18 35 44.4	+0.5
	3.3nm,0.3s,baz=26,slow=4.8,SNR=19						
PMG				S	Sn	18 36 16.9	+0.1
	4.2nm,0.3s,baz=200,slow=21,SNR=7.5						
WRA	**Warramunga Arr**	**17.11**	**220**	P	Pn	18 38 51.1	+0.2
	0.1nm,0.3s,baz=34,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**20.21**	**214**	P	P	18 39 24.6	+1.0
	0.2nm,0.3s,baz=50,slow=8.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**22.71**	**239**	P	P	18 39 49.2	-0.1
	0.4nm,0.4s,baz=37,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**77.72**	**321**	P	P	18 46 40.5	+0.3
	0.2nm,0.3s,baz=102,slow=6.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**144.42**	**283**	PKP	PKPdf	18 54 17.8	-0.4
	1.2nm,0.8s,baz=84,slow=3.1,SNR=8.5						

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*ISCJB **30** 18:37:02.5±0.2, 45798N±0010×699E±002, h6km±2km, Error ellipse: s-maj=2.0km s-min=1.6km az=174.9*
*NEIC **30** 18:37:03.4, 4578N×707E, h9km, ML2.2(ROM), ML2.8(STR), ML2.9(LDG), After ROM.*
*CSEM **30** 18:37:03.7±0.0, 4575N×7.15E, h5km, ML2.9/23, Error ellipse: s-maj=0.9km s-min=0.7km az=88.0*
*ROM **30** 18:37:03.4±0.2, 4578N×707E, h9km±1km, Md2.4/5, Ml2.2/4, Error ellipse: s-maj=3.7km s-min=2.7km az=100.0*
*LDG **30** 18:37:04.3±0.0, 4578N×7.12E, h2km, Md3.0/2, Ml2.9/24, Error ellipse: s-maj=1.0km s-min=0.6km az=102.0*
*STR **30** 18:37:04.2±0.4, 4576N×708E, h10km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **30** 18:37:04.0, 4579N×7.11E, h3km, ML2.0*
*ZUR **30** 18:37:04.6, 4580N×7.12E, h2km±3km, ML2.4/12*

ISC 30 18:37:03.7±0.2, 45783N±0009×707E±002, h12km±2km, n135, σ0°95/275, 20C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.01**	**191**	Pg	**Pg**	**18 37 05.5**	**-0.2**
MRGE				Sg	**Sg**	**18 37 06.2**	**-1.0**
	8μm,0.1s						
EMV	**Vieux Emosson**	**0.30**	**338**⇑	*i*Pg	**Pg**	**18 37 10.6**	**+0.8**
	638nm,0.2s						
EMV				*i* Sg	**Sg**	**18 37 14.7**	**+0.7**
	638nm,0.2s						
RSL	**Roselend**	**0.32**	**253**	Pg	**Pg**	**18 37 11.1**	**+0.9**
RSL				Sg	**Sg**	**18 37 15.6**	**+1.1**
LSD	**Ceresole Reale**	**0.33**	**169**	P	**Pg**	**18 37 10.8**	**+0.4**
LPL	**La Plagne**	**0.35**	**221**	*e*Pg	**Pg**	**18 37 11.5**	**+0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 37 16.2**	**+0.6**
	92nm,0.3s						
LPL	**La Plagne**	**0.35**	**221**	*e*Pg	**Pg**	**18 37 11.5**	**+0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 37 16.2**	**+0.6**
	46nm,0.3s						
LPG	**La Plagne**	**0.36**	**218**	*e*Pg	**Pg**	**18 37 11.6**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 37 16.5**	**+0.8**
	196nm,0.3s						
LPG	**La Plagne**	**0.36**	**218**	*e*Pg	**Pg**	**18 37 11.6**	**+0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 37 16.5**	**+0.8**
	98nm,0.3s						
SALAN	**Lac Salanfe**	**0.37**	**350**⇑	*i*Pg	**Pg**	**18 37 11.7**	**+0.7**
	98nm,0.3s						
SALAN				*i* Sg	**Sg**	**18 37 16.5**	**+0.6**
	98nm,0.3s						
DIX	**Grande Dixence**	**0.38**	**39**	*e*Sg	**Sg**	**18 37 11.4**	**-5.0**
	2μm,0.2s						
DIX	**Grande Dixence**	**0.38**	**39**⇑	*i*Pg	**Pg**	**18 37 16.2**	**+4.9**
	2μm,0.2s						
GRYON	**Gryon**	**0.47**	**4**	*e*Sg	**Sg**	**18 37 13.5**	**-5.6**
	219nm,0.1s						
GRYON	**Gryon**	**0.47**	**4**⇑	*i*Pg	**Pg**	**18 37 19.7**	**+6.8**
	219nm,0.1s						
AIGLE	**Aigle**	**0.56**	**352**⇑	*i*Pg	**Pg**	**18 37 15.3**	**+0.6**
	259nm,0.4s						
SENIN	**Lac Senin/Sane**	**0.60**	**16**⇑	*i*Pg	**Pg**	**18 37 15.5**	**+0.1**
	312nm,0.3s						
OG01	**Vacheresse**	**0.61**	**334**	Pg	**Pg**	**18 37 16.5**	**+1.0**
OG01				Sg	**Sg**	**18 37 25.2**	**+1.7**
RSP	**Reno Superiore**	**0.65**	**168**	Pg	**Pg**	**18 37 16.4**	**+0.2**
RSP				Sg	**Sg**	**18 37 25.0**	**+0.3**
	57nm,0.4s						
ORX	**Oropa**	**0.66**	**103**	P	**Pg**	**18 37 16.2**	**-0.3**
ORX				S	**Sg**	**18 37 24.5**	**-0.7**
ORO	**Oropa**	**0.66**	**103**	Pg	**Pg**	**18 37 16.2**	**-0.3**
	147nm,0.2s						
MMK	**Mattmark**	**0.68**	**67**	Pg	**Pg**	**18 37 16.4**	**-0.5**
MMK				Sg	**Sg**	**18 37 25.4**	**-0.5**
MMK	**Mattmark**	**0.68**	**67**	*eP*	**Pg**	**18 37 16.2**	**-0.7**
	370nm,0.2s						
LKBD	**Leukerbad**	**0.72**	**33**	*eP*	**Pg**	**18 37 17.6**	**0.0**
	125nm,0.4s						
BNI	**Bardonecchia**	**0.78**	**201**	Pg	**Pg**	**18 37 19.0**	**+0.2**
BNI				Sg	**Sg**	**18 37 28.5**	**-0.5**
	22nm,0.5s						
RRL	**Cesana Torines**	**0.89**	**193**	P	**Pg**	**18 37 21.1**	**+0.3**
RR

SBF				*e*Sg	**Sg**	**18 38 05.6**	**-0.4**
SBF	**Sospel**	**1.94**	**172**	*e*Pg	**Pg**	**18 37 40.6**	**-0.2**
SBF				*e*Sg	**Sg**	**18 38 05.6**	**-0.4**
	22nm,0.6s,SNR=1.0						
NEGI	**Negi**	**1.99**	**167**	P	**Pn**	**18 37 36.0**	**-1.1**
HINF	**Hinteralfeld**	**2.04**	**356**	*e*Pg	**Pg**	**18 37 42.2**	**-0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**18 38 02.4**	**-0.8**
HINF				*e*Sg	**Sg**	**18 38 08.4**	**-0.8**
	12nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**2.04**	**356**	*e*Pn	**Pn**	**18 37 38.1**	**+0.3**
HINF				*e*Pg	**Pg**	**18 37 42.2**	**-0.6**
HINF				*e*Sn	**Sn**	**18 38 02.4**	**-0.8**
HINF				*e*Sg	**Sg**	**18 38 08.4**	**-0.8**
HINF	**Hinteralfeld**	**2.04**	**356**	*e*Pg	**Pg**	**18 37 42.2**	**-0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**18 38 02.4**	**-0.8**
HINF				*e*Sg	**Sg**	**18 38 08.4**	**-0.8**
	6.1nm,0.2s,SNR=1.0						
MOF	**Molkenrain**	**2.07**	**1**	Pg	**Pg**	**18 37 43.3**	**-0.1**
SMRF	**Simiane la Rot**	**2.10**	**211**	*e*Pg	**Pg**	**18 37 43.0**	**-0.8**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**18 38 11.3**	**+0.3**
	11nm,0.6s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.10**	**211**	*e*P	**Pn**	**18 37 41.1**	**+2.5**
SMRF				*e*Pg	**Pg**	**18 37 43.0**	**-0.8**
SMRF				*e*Sg	**Sg**	**18 38 11.3**	**+0.3**
SMRF	**Simiane la Rot**	**2.10**	**211**	*e*Pg	**Pg**	**18 37 43.0**	**-0.8**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**18 38 11.3**	**+0.3**
	5.5nm,0.6s,SNR=1.0						
FELD	**Feldberg im Sc**	**2.19**	**17**	Pg	**Pg**	**18 37 45.5**	**-0.2**
FRF	**La Foret Royal**	**2.24**	**188**	*e*Pg	**Pg**	**18 37 46.1**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**18 38 15.4**	**-0.3**
	6.3nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**2.24**	**188**	*e*Pg	**Pg**	**18 37 46.1**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**18 38 15.4**	**-0.3**
	3.2nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.28**	**348**	*e*Pg	**Pg**	**18 37 46.9**	**-0.4**
HAU				*e*Sn	**Sn**	**18 38 08.1**	**-0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**18 38 16.2**	**-0.6**
	24nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.28**	**348**	*e*Pn	**Pn**	**18 37 41.7**	**+0.6**
HAU				*e*Pg	**Pg**	**18 37 46.9**	**-0.4**
HAU				*e*Sn	**Sn**	**18 38 08.1**	**-0.9**
HAU				*e*Sg	**Sg**	**18 38 16.2**	**-0.6**
HAU	**Haudompre**	**2.28**	**348**	*e*Pg	**Pg**	**18 37 46.9**	**-0.4**
HAU				*e*Sn	**Sn**	**18 38 08.1**	**-0.9**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**18 38 16.2**	**-0.6**
	12nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.40**	**292**	*e*Pg	**Pg**	**18 37 49.4**	**-0.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**18 38 11.3**	**-0.7**
SMF				*e*Sg	**Sg**	**18 38 20.7**	**-0.1**
	14nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.40**	**292**	*e*Pn	**Pn**	**18 37 43.2**	**+0.5**
SMF				*e*Pg	**Pg**	**18 37 49.4**	**-0.3**
SMF				*e*Sn	**Sn**	**18 38 11.3**	**-0.7**
SMF				*e*Sg	**Sg**	**18 38 20.7**	**-0.1**
SMF	**Signal de Mont**	**2.40**	**292**	*e*Pg	**Pg**	**18 37 49.4**	**-0.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**18 38 11.3**	**-0.7**
SMF				*e*Sg	**Sg**	**18 38 20.7**	**-0.1**
	6.8nm,0.3s,SNR=1.0						
PLDF	**La Plantade**	**2.41**	**276**	Pg	**Pg**	**18 37 50.8**	**+0.9**
DAVA	**Damuels**	**2.46**	**51**	⇑*i*Pn	**Pn**	**18 37 47.3**	**+3.8**
DAVA				⇓*i*Pg	**Pg**	**18 37 54.2**	**+3.4**
DAVA	**Damuels**	**2.46**	**51**	⇑*i*Sn	**Sn**	**18 38 18.5**	**+5.0**
DAVA				⇑*i*Sg	**Sg**	**18 38 28.8**	**+6.2**
	comp=Z,7.0nm,0.2s						
DAVA	**Damuels**	**2.46**	**51**	⇓*e*Pn	**Pn**	**18 37 43.5**	**-0.1**
DAVA				⇓*i*Pg	**Pg**	**18 37 49.5**	**-1.3**
DAVA				⇓*e*Sg	**Sg**	**18 38 24.6**	**+2.0**
	7.0nm,0.2s						
DAVA	**Damuels**	**2.46**	**51**	⇑*i*Pn	**Pn**	**18 37 47.3**	**+3.8**
DAVA				⇓*i*Pg	**Pg**	**18 37 54.2**	**+3.4**
DAVA				*i* Sn	**Sn**	**18 38 18.5**	**+5.0**
DAVA				*i* Sg	**Sg**	**18 38 28.8**	**+6.2**
DAVA	**Damuels**	**2.46**	**51**	Pg	**Pg**	**18 37 49.5**	**-1.3**
DAVA				Sn	**Sn**	**18 38 18.5**	**+5.0**
DAVA				Sg	**Sg**	**18 38 24.6**	**+2.0**
	7.0nm,0.2s						
LMR	**La Mourre**	**2.48**	**189**	*e*Pg	**Pg**	**18 37 49.0**	**-2.2**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**18 38 22.8**	**-0.6**
	9.8nm,0.6s,SNR=1.0						
LMR	**La Mourre**	**2.48**	**189**	*e*Pn	**Pn**	**18 37 43.0**	**-0.9**
LMR				*e*Pg	**Pg**	**18 37 49.0**	**-2.2**
LMR				*e*Sg	**Sg**	**18 38 22.8**	**-0.6**
LMR	**La Mourre**	**2.48**	**189**	*e*Pg	**Pg**	**18 37 49.0**	**-2.2**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**18 38 22.8**	**-0.6**
	4.9nm,0.6s,SNR=1.0						
CDF	**Champ du Feu**	**2.63**	**3**	*e*Pg	**Pg**	**18 37 53.2**	**-1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**18 38 27.5**	**-0.8**
	11nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.63**	**3**	*e*Pn	**Pn**	**18 37 46.3**	**+0.3**
CDF				*e*Pg	**Pg**	**18 37 53.2**	**-1.0**
CDF				*e*Sg	**Sg**	**18 38 27.5**	**-0.8**
CDF	**Champ du Feu**	**2.63**	**3**	*e*Pg	**Pg**	**18 37 53.2**	**-1.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**18 38 27.5**	**-0.8**
	5.6nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.67**	**305**	*e*P	**Pn**	**18 37 49.4**	**+3.0**
	baz=122,SNR=1.0						
LOR	**Lormes**	**2.67**	**305**	*e*Pg	**Pg**	**18 37 54.3**	**-0.5**
	baz=120,SNR=1.0						
LOR				*e*Sg	**Sg**	**18 38 27.8**	**-1.5**
	20nm,0.3s,baz=128,SNR=1.0						
LOR	**Lormes**	**2.67**	**305**	*e*Pn	**Pn**	**18 37 46.9**	**+0.5**
LOR				*e*Pg	**Pg**	**18 37 54.3**	**-0.5**
LOR				*e*Sg	**Sg**	**18 38 27.8**	**-1.5**
LOR	**Lormes**	**2.67**	**305**	*e*P	**Pn**	**18 37 49.4**	**+3.0**
	SNR=1.0						
LOR	**Lormes**	**2.67**	**305**	*e*Pg	**Pg**	**18 37 54.3**	**-0.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**18 38 27.8**	**-1.5**
	10nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**2.69**	**18**	*e*Pn	**Pn**	**18 37 47.2**	**+0.4**
BFO	**Black Forest**	**2.69**	**18**	*e*Pn	**Pn**	**18 37 47.2**	**+0.4**
LBL	**Lubilhac**	**2.74**	**260**	Pg	**Pg**	**18 37 56.9**	**+0.7**
LBL				Sg	**Sg**	**18 38 31.5**	**-0.2**
AVF	**Avril sur Loir**	**2.76**	**293**	*e*P	**Pn**	**18 37 50.9**	**+3.1**
AVF	**Avril sur Loir**	**2.76**	**293**	*e*Pg	**Pg**	**18 37 56.3**	**-0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**18 38 19.7**	**-1.4**
AVF				*e*Sg	**Sg**	**18 38 31.5**	**-1.0**
	8.0nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.76**	**293**	*e*Pn	**Pn**	**18 37 48.3**	**+0.5**
AVF				*e*Pg	**Pg**	**18 37 56.3**	**-0.3**
AVF				*e*Sn	**Sn**	**18 38 19.7**	**-1.4**
AVF				*e*Sg	**Sg**	**18 38 31.5**	**-1.0**
AVF	**Avril sur Loir**	**2.76**	**293**	*e*P	**Pn**	**18 37 50.9**	**+3.1**
AVF	**Avril sur Loir**	**2.76**	**293**	*e*Pg	**Pg**	**18 37 56.3**	**-0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**18 38 19.7**	**-1.4**
AVF				*e*Sg	**Sg**	**18 38 31.5**	**-1.0**
	4.0nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.77**	**299**	*e*P	**Pn**	**18 37 51.2**	**+3.3**
SSF	**Saint Saulge**	**2.77**	**299**	*e*Pg	**Pg**	**18 37 56.3**	**-0.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**18 38 31.8**	**-1.0**
	15nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.77**	**299**	*e*Pn	**Pn**	**18 37 48.3**	**+0.4**
SSF				*e*Pg	**Pg**	**18 37 56.3**	**-0.5**
SSF				*e*Sg	**Sg**	**18 38 31.8**	**-1.0**
SSF	**Saint Saulge**	**2.77**	**299**	*e*P	**Pn**	**18 37 51.2**	**+3.3**
SSF	**Saint Saulge**	**2.77**	**299**	*e*Pg	**Pg**	**18 37 56.3**	**-0.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**18 38 31.8**	**-1.0**
	7.3nm,0.4s,SNR=1.0						
SFTF	**Sexfontaines**	**2.79**	**331**	*e*P	**Pn**	**18 37 51.2**	**+3.1**
	baz=150						
SFTF	**Sexfontaines**	**2.79**	**331**	*e*Pg	**Pg**	**18 37 56.5**	**-0.7**
	baz=146						
SFTF				*e*Sn	**Sn**	**18 38 21.0**	**-0.7**
	baz=149						
SFTF				*e*Sg	**Sg**	**18 38 32.7**	**-0.7**
	32nm,0.6s						
SFTF	**Sexfontaines**	**2.79**	**331**	*e*Pn	**Pn**	**18 37 48.6**	**+0.5**
SFTF				*e*Pg	**Pg**	**18 37 56.5**	**-0.7**
SFTF				*e*Sn	**Sn**	**18 38 21.0**	**-0.7**
SFTF				*e*Sg	**Sg**	**18 38 32.7**	**-0.7**
SFTF	**Sexfontaines**	**2.79**	**331**	*e*P	**Pn**	**18 37 51.2**	**+3.1**
SFTF				*e*Pg	**Pg**	**18 37 56.5**	**-0.7**
SFTF				*e*Sn	**Sn**	**18 38 21.0**	**-0.7**
SFTF				*e*Sg	**Sg**	**18 38 32.7**	**-0.7**
	16nm,0.6s						
PYM	**Petit Puy Mans**	**2.84**	**271**	Pg	**Pg**	**18 37 58.7**	**+0.6**
LASF	**Ste Croix**	**2.85**	**234**	*e*Pg	**Pg**	**18 37 57.7**	**-0.5**
LASF				*e*Sg	**Sg**	**18 38 34.4**	**-0.7**
	8.3nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.85**	**234**	*e*Pn	**Pn**	**18 37 49.2**	**+0.3**
LASF				*e*Pg	**Pg**	**18 37 57.7**	**-0.5**
LASF				*e*Sg	**Sg**	**18 38 34.4**	**-0.7**
LASF	**Ste Croix**	**2.85**	**234**	*e*Pg	**Pg**	**18 37 57.7**	**-0.5**
LASF				*e*Sg	**Sg**	**18 38 34.4**	**-0.7**
	4.2nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.03**	**286**	*e*P	**Pn**	**18 37 54.4**	**+2.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.03**	**286**	*e*Pg	**Pg**	**18 38 01.3**	**-0.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**18 38 26.9**	**-0.8**
BGF				*e*Sg	**Sg**	**18 38 40.7**	**-0.4**
	21nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.03**	**286**	*e*Pn	**Pn**	**18 37 52.0**	**+0.5**
BGF				*e*Pg	**Pg**	**18 38 01.3**	**-0.5**
BGF				*e*Sn	**Sn**	**18 38 26.9**	**-0.8**
BGF				*e*Sg	**Sg**	**18 38 40.7**	**-0.4**
BGF	**Bois d'Agland**	**3.03**	**286**	*e*P	**Pn**	**18 37 54.4**	**+2.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.03**	**286**	*e*Pg	**Pg**	**18 38 01.3**	**-0.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**18 38 26.9**	**-0.8**
BGF				*e*Sg	**Sg**	**18 38 40.7**	**-0.4**
	11nm,0.5s,SNR=1.0						
RFYF	**Reffroy**	**3.05**	**340**	*e*Pg	**Pg**	**18 38 01.1**	**-0.9**
	baz=148						
RFYF				*e*Sg	**Sg**	**18 38 40.6**	**-0.9**
	16nm,0.3s						
RFYF	**Reffroy**	**3.05**	**340**	*e*Pg	**Pg**	**18 38 01.1**	**-0.9**
RFYF				*e*Sg	**Sg**	**18 38 40.6**	**-0.9**
	8.1nm,0.3s						
MEZF	**Maizieres J'vi**	**3.05**	**334**	*e*Pg	**Pg**	**18 38 01.3**	**-0.8**
	baz=153,SNR=1.0						
MEZF				*e*Sn	**Sn**	**18 38 26.4**	**-1.6**
MEZF				*e*Sg	**Sg**	**18 38 40.5**	**-1.0**
	32nm,0.4s						
MEZF	**Maizieres J'vi**	**3.05**	**334**	*e*Pn	**Pn**	**18 37 51.9**	**+0.2**
MEZF				*e*Pg	**Pg**	**18 38 01.3**	**-0.8**
MEZF				*e*Sn	**Sn**	**18 38 26.4**	**-1.6**
MEZF				*e*Sg	**Sg**	**18 38 40.5**	**-1.0**
MEZF	**Maizieres J'vi**	**3.05**	**334**	*e*Pg	**Pg**	**18 38 01.3**	**-0.8**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**18 38 26.4**	**-1.6**
MEZF				*e*Sg	**Sg**	**18 38 40.5**	**-1.0**
	16nm,0.4s						
MOTA	**Moosalm**	**3.19**	**59**	⇑*i*Sn	**Sn**	**18 38 35.9**	**+4.2**
MOTA	**Moosalm**	**3.19**	**59**	⇑*i*Sg	**Sg**	**18 38 52.3**	**+6.0**
	comp=Z,3.0nm,0.3s						
MOTA	**Moosalm**	**3.19**	**59**	⇑*i*Pn	**Pn**	**18 37 57.2**	**+3.5**
MOTA				⇑*i*Sn	**Sn**	**18 38 33.3**	**+1.7**
MOTA	**Moosalm**	**3.19**	**59**	⇑*i*Pn	**Pn**	**18 37 57.2**	**+3.5**
MOTA				*i* Sn	**Sn**	**18 38 35.9**	**+4.2**
MOTA				*i* Sg	**Sg**	**18 38 52.3**	**+6.0**
MOTA	**Moosalm**	**3.19**	**59**	Pn	**Pn**	**18 37 57.2**	**+3.5**
MOTA				Sn	**Sn**	**18 38 35.9**	**+4.2**
SQTA	**Sankt Quirin**	**3.20**	**62**	⇑*i*Sn	**Sn**	**18 38 35.1**	**+3.2**
SQTA	**Sankt Quirin**	**3.20**	**62**	⇑*i*Sg	**Sg**	**18 38 51.4**	**+4.8**
	comp=Z,4.1nm,0.3s						
SQTA	**Sankt Quirin**	**3.20**	**62**	⇑*e*Pn	**Pn**	**18 37 52.6**	**-1.2**
SQTA				⇑*i*Sn	**Sn**	**18 38 33.2**	**+1.4**
SQTA				⇑*i*Sg	**Sg**	**18 38 49.5**	**+2.9**
	4.1nm,0.3s						
SQTA	**Sankt Quirin**	**3.20**	**62**	⇓*i*Pn	**Pn**	**18 37 56.3**	**+2.5**
SQTA				*i* Sn	**Sn**	**18 38 35.1**	**+3.2**
SQTA				*i* Sg	**Sg**	**18 38 51.4**	**+4.8**
SQTA	**Sankt Quirin**	**3.20**	**62**	Pn	**Pn**	**18 37 56.3**	**+2.5**
SQTA				Sn	**Sn**	**18 38 35.1**	**+3.2**
HYF	**Humbligny**	**3.40**	**298**	*e*Pg	**Pg**	**18 38 07.8**	**-1.0**
HYF				*e*Sg	**Sg**	**18 38 51.7**	**-1.1**
TCF	**Toulx Ste Croi**	**3.42**	**280**	*e*Pg	**Pg**	**18 38 08.6**	**-0.6**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**18 38 52.8**	**-0.7**
	7.4nm,0.4s						
TCF	**Toulx Ste Croi**	**3.42**	**280**	*e*Pg	**Pg**	**18 38 08.6**	**-0.6**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**18 38 52.8**	**-0.7**
	3.7nm,0.4s						
CAF	**Calviac**	**3.63**	**258**	*e*Pn	**Pn**	**18 38 00.1**	**+0.5**
CAF				*e*Sg	**Sg**	**18 38 59.5**	**-0.7**
	5.5nm,0.5s						
CAF	**Calviac**	**3.63**	**258**	*e*Pn	**Pn**	**18 38 00.1**	**+0.5**
CAF				*e*Sg	**Sg**	**18 38 59.5**	**-0.7**
	2.8nm,0.5s						

*IDC **30** 18:55:27.4±9.8, 3214S×17965W, h219km±100km, mb3.4/2, mb1 3.6/3, mb1mx3.2/11, mbtmp3.9/3, Error ellipse: s-maj=98.5km s-min=41.8km az=2.0*
*ISCJB **30** 18:55:32.6±2.4, 3265±03×1797W±08, h286km±44km, mb3.4/2, Error ellipse: s-maj=113.1km s-min=19.0km az=39.6*

ISC 30 18:55:35.5±2.4, 3295±03×1796W±07, h315km±36km, n9, σ0°53/10, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.49**	**198**	*e*PN	**Pn**	**18 56 59.2**	**0.0**
PUZ				SN	**S**	**18 58 06.7**	**0.0**
MWZ	**Matawai**	**5.94**	**203**	*e*PN	**Pn**	**18 57 05.0**	**+0.5**
URZ	**Urewera**	**6.02**	**206**	P	**Pn**	**18 57 05.1**	**-0.3**
	0.6nm,0.3s,baz=18,slow=20,SNR=6.5						
URZ				S	**S**	**18 58 17.5**	**-0.6**
	0.6nm,0.3s,baz=274,slow=15,SNR=3.6						
MRZ	**Mangatainoka R**	**8.70**	**205**	SN	**S**	**18 59 16.9**	**-0.2**
TCW	**Tory Channel**	**9.67**	**209**	SN	**S**	**18 59 40.1**	**+1.2**
MQZ	**McQueen's Vall**	**12.42**	**207**	SN	**S**	**19 00 40.0**	**-0.6**
ASAR	**Alice Springs**	**41.72**	**270**	P	**P**	**19 02 54.8**	**+0.4**
	0.6nm,0.3s,mb3.2,baz=105,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**42.94**	**276**	P	**P**	**19 03 03.7**	**-0.4**
	1.0nm,0.3s,mb3.5,baz=112,slow=7.9,SNR=25						
FINES	**FINESS Array B**	**146.96**	**338**	PKPbc	PKPbc	19 14 40.2	-1.0
	0.7nm,0.5s,baz=66,slow=4.6,SNR=8.0						

IDC 30 19:09:50.7±2.1, 6675×12888E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=82.3km s-min=28.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.80**	**195**	Pn	Pn	19 12 40.3	+0.1
	0.1nm,0.3s,baz=10,slow=11,SNR=7.2						
FITZ				Sn	Sn	19 14 35.8	-17
	0.1nm,0.3s,baz=148,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**14.22**	**159**	Pn	Pn	19 13 13.0	-0.3
	0.1nm,0.3s,baz=337,slow=14,SNR=3.4						
WRA				Sn	Sn	19 15 39.2	-13
	0.1nm,0.3s,baz=332,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**17.58**	**165**	P	Pn	19 13 57.6	+0.6
	0.1nm,0.3s,baz=346,slow=10,SNR=8.7						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	19 20 47.8	+0.2
	0.2nm,0.5s,baz=115,slow=8.2,SNR=5.2						

MAN 30 19:31:24.9, 1505N×12294E, h24km, mb3.2, ML4.5, MS3.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.86**	**141**	⇓*e*P	Pn	19 31 54.0	-1.3

*ISCJB **30** 20:44:36.7±1.1, 2434S±006×673W±02, h187km±27km, mb3.3/1, Error ellipse: s-maj=27.2km s-min=9.3km az=1.2*
*NEIC **30** 20:44:36.7±1.0, 2425S×6706W, h159km±13km, mb3.7/1, Error ellipse: s-maj=22.8km s-min=11.5km az=111.0*
*IDC **30** 20:44:37.4±3.4, 2439S×6673W, h157km±26km, mb3.3/1, mb1 3.3/2, mb1mx3.1/15, mbtmp3.3/2, Error ellipse: s-maj=91.2km s-min=20.7km az=113.0*
*GUC **30** 20:44:39.4±0.7, 2435S×6752W, h182km±139km, MD3.8, ML3.9*

ISC 30 20:44:36.9±0.9, 2433S±006×671W±01, h161km±24km, n12, σ1°25/17, mb3.3/1, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.96**	**288**	⇓*i*P	**Pn**	**20 45 26.0**	**+1.9**
CEN1				*i* S	**Sn**	**20 46 01.0**	**+0.2**
CEN1				AML	AML	20 46 03.4	
	comp=N,166nm,0.2s						
CPN1	**Cerro Paranal**	**2.99**	**264**	⇑*i*P	**Pn**	**20 45 25.6**	**+1.1**
CPN1				*i* S	**Sn**	**20 46 01.5**	**0.0**
CPN1				AML	AML	20 46 04.6	
	comp=E,178nm,0.2s						
ANCH	**Antofagasta**	**3.06**	**282**	*e*P	**Pn**	**20 45 26.3**	**+0.9**
ANCH				*i* S	**Sn**	**20 46 01.6**	**-1.5**
ANCH				AML	AML	20 46 04.7	
	comp=N,399nm,0.6s						
ANCH	**Antofagasta**	**3.06**	**282**	*e*P	**Pn**	**20 45 26.3**	**+0.9**
ANCH				*i* S	**Sn**	**20 46 01.6**	**-1.5**
CDCH	**Caldera**	**4.31**	**230**	*e*P	**Pn**	**20 45 41.0**	**-0.4**
CDCH				*i* S	**Sn**	**20 46 29.3**	**-2.3**
CDCH				AML	AML	20 46 36.5	
	comp=E,82nm,0.7s						
CDCH	**Caldera**	**4.31**	**230**	*e*P	**Pn**	**20 45 41.0**	**-0.4**
CDCH				*i* S	**Sn**	**20 46 29.3**	**-2.3**
CFAA	**Coronel Fontan**	**7.31**	**187**	P	**Pn**	**20 46 23.3**	**+2.3**
	comp=E,0.0nm,0.3s,baz=344,slow=19,SNR=2.9						
CFAA				S	**Sn**	**20 47 42.6**	**-0.3**
	comp=E,0.1nm,0.3s,baz=193,slow=19,SNR=3.8						
LPAZ	**La Paz**	**8.06**	**353**	*e*P	**Pn**	**20 46 31.2**	**+0.3**
	comp=E,1.3nm,0.5s						
SIV	**San Ignacio**	**10.06**	**36**	P	**Pn**	**20 46 55.4**	**-2.0**
	comp=E,0.5nm,0.3s,baz=227,slow=13,SNR=8.7						
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**20 56 10.5**	**-0.2**
	comp=E,0.3nm,0.4s,mb3.3,baz=259,slow=5.0,SNR=8.1						
WRA	**Warramunga Arr**	**131.28**	**207**	PKP	PKPdf	21 03 30.9	+1.1
	comp=E,0.2nm,0.5s,baz=162,slow=1.5,SNR=7.2						
MKAR	**Makanchi Array**	**146.86**	**40**	PKPbc	PKPbc	21 04 00.3	+0.2
	comp=E,0.5nm,0.8s,baz=320,slow=3.6,SNR=3.7						

*NIED **30** 20:48:00, 3390N×13740E, h380km, Mw4.0 Best double couple: M1.02000×10^15 NP1:ϕ1≈354.00000°, δ72.00000°, λ-120.00000°. NP2:ϕ2≈236.00000°, δ35.00000°, λ-33.00000°.*
*BJI **30** 20:48:48.6, 3382N×13772E, h341km, mB4.4, mb4.4*
*JMA **30** 20:48:50.5±0.3, 3385N×13741E, h353km±3km, M3.5*
*ISCJB **30** 20:48:50.7±0.3, 3381N±005×13743E±006, h347km±2km, mb3.8/13, Error ellipse: s-maj=8.2km s-min=8.0km az=116.7*
*NEIC **30** 20:48:51.4±0.6, 3375N×13746E, h334km±8km, mb3.8/4, Error ellipse: s-maj=20.2km s-min=7.9km az=74.0*
*IDC **30** 20:48:51.5±0.8, 3377N×13746E, h333km±9km, mb3.3/9, mb1 3.4/12, mb1mx3.3/27, mbtmp4.1/12, Error ellipse: s-maj=21.9km s-min=10.7km az=75.0*

ISC 30 20:48:51.8±0.3, 3385N±005×13742E±006, h341km±2km, n50, σ0°94/62, mb3.8/13, 2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.30**	**71**	P	**Pn**	**20 49 35.3**	**+0.6**
TK02				S	**S**	**20 50 10.9**	**+1.9**
TK03	**Tokai 3**	**0.55**	**55**	*e*S	**S**	**20 50 11.4**	**+1.6**
TK04	**Tokai 4**	**0.65**	**35**	P	**Pn**	**20 49 36.3**	**+0.9**
TK04				*e*S	**S**	**20 50 12.3**	**+2.0**
JIE	**Ise**	**0.80**	**313**	P	**Pn**	**20 49 36.1**	**+0.3**
JIE				S	**S**	**20 50 10.5**	**-0.6**
JWZ	**Kozaga**	**1.46**	**258**	P	**Pn**	**20 49 38.3**	**-0.5**
JWY	**Kouya**	**1.56**	**284**	P	**Pn**	**20 49 39.7**	**+0.4**
JWY				S	**S**	**20 50 16.4**	**-1.1**
JYN	**Shimob**	**1.89**	**29**	P	**Pn**	**20 49 41.8**	**+0.4**
JGM	**Miyama**	**1.93**	**343**	P	**Pn**	**20 49 42.2**	**+0.5**
JGM				S	**S**	**20 50 21.5**	**-0.3**
JOD2	**Odawara 2**	**1.97**	**44**	P	**Pn**	**20 49 42.3**	**+0.3**
JHJ	**Hachijo jima 2**	**2.11**	**110**	P	**Pn**	**20 49 43.6**	**+0.6**
	21nm,0.3s,baz=250,slow=22,SNR=8.2						
JHJ				S	**S**	**20 50 27.9**	**+3.7**
	20nm,0.3s,baz=90,slow=20,SNR=6.2						
JWT	**Wachi**	**2.19**	**311**	P	**Pn**	**20 49 43.8**	**+0.2**
JWT				S	**S**	**20 50 23.5**	**-1.8**
JAI	**Aioi**	**2.47**	**269**	P	**Pn**	**20 49 45.6**	**-0.2**
JRY	**Ryogami san**	**2.48**	**29**	P	**Pn**	**20 49 46.5**	**+0.6**
MAJO	**Matsushiro**	**2.76**	**13**	*e*P

ellipse: s-maj=80.4km s-min=12.7km az=149.0

ISC 30 21:02:04.6±0.6, 4372N±006×10520W±007, h0km, n24, σ1§06/24, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	64	eP	Pg	21 02 23.7	+1.2
PHWY	Pilot Hill	2.42	185	ePn	Pn	21 02 45.9	+0.4
RWWY	Rawlins	2.51	217	ePn	Pn	21 02 47.7	+1.0
RLMT	Red Lodge	3.23	297	ePn	Pn	21 02 56.7	0.0
PDAR	Pinedale Array	3.32	255	Pn	Pn	21 02 58.0	+0.2
	4.5nm,0.3s,baz=71,slow=15,SNR=99						
PDAR				Lg		21 03 43.0	
	12nm,0.3s,baz=79,slow=31,SNR=11						
BW06	Boulder Array	3.32	255	ePn	Pn	21 02 57.7	-0.1
GCMT	Greycliff	3.80	305	ePn	Pn	21 03 04.5	+0.1
FLWY	Flagg Ranch	3.99	277	ePn	Pn	21 03 07.2	+0.2
MOOW	Moose Ponds	4.02	272	ePn	Pn	21 03 08.0	+0.6
SNOW	Snow King Moun	4.04	268	ePn	Pn	21 03 10.1	+2.4
REDW	Red Top Meadow	4.12	267	ePn	Pn	21 03 09.3	+0.5
YFT	Old Faithful	4.13	282	Pn	Pn	21 03 07.4	-1.5
IMW	Indian Meadow	4.16	274	ePn	Pn	21 03 10.8	+1.5
TPAW	Teton Pass	4.18	269	Pn	Pn	21 03 03.0	-6.7
RRI2	Red Ridge	4.46	267	ePn	Pn	21 03 13.8	+0.2
SMCO	Snowmass	4.72	197	P	Pn	21 03 14.4	-2.7
BOZ	Bozeman (W)	4.97	295	ePn	Pn	21 03 19.2	-1.4
HWUT	Hardware Ranch	5.14	248	ePn	Pn	21 03 21.0	-1.9
	10nm,0.4s						
DLMT	Dillon	5.54	290	ePn	Pn	21 03 29.5	+1.2
	3.3nm,0.4s						
HRY	Holter Researc	5.56	305	ePn	Pn	21 03 28.6	0.0
MCMT	McKenzie Canyo	5.60	284	ePn	Pn	21 03 28.2	-1.0
CHMT	Chamberlain Mo	6.51	302	ePn	Pn	21 03 41.7	-0.1
ULM	Lac du Bonnet	9.12	41	Pn	Pn	21 04 17.1	-0.5
	2.1nm,0.3s,baz=235,slow=11,SNR=18						
ARCES	ARCESS Array B	61.42	18	P	P	21 12 21.5	-1.2
	2.8nm,0.9s,mb4.4,baz=335,slow=6.3,SNR=7.4						

*ISCJB **30** 21:05:47.1±0.5, 5007N±003×1838E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.9km az=15.2*
*IPEC **30** 21:05:48.4±0.1, 5007N×1845E, h0km, ML1.7/4, Error ellipse: s-maj=2.0km s-min=0.7km az=163.0*
*CSEM **30** 21:05:49.0±0.2, 5005N×1846E, h2km, ML2.7/4, Error ellipse: s-maj=6.4km s-min=2.8km az=175.0*
*PRU **30** 21:05:49.7, 50.13N×1834E, h0km*
*VIE **30** 21:05:49.1±0.7, 4980N×1853E, h0km, mb1.9/3, ML2.2/4, Error ellipse: s-maj=3.8km s-min=3.3km az=74.0 20 km E of Ostrava Suspected Mining induced.*

ISC 30 21:05:48.3±0.5, 5007N±003×1842E±003, h0km, n21, σ1§14/40, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.14	276	⇓iPg	Pg	21 05 52.7	+1.7
RAC				eSg	Sg	21 05 56.1	+3.2
OKC	Ostrava-Krasne	0.29	217	ePG	Pg	21 05 54.8	+1.0
OKC				eSG	Sg	21 05 59.4	+1.9
	59nm,0.5s						
OKC	Ostrava-Krasne	0.29	217	ePg	Pg	21 05 54.7	+0.9
MORC	Moravsky Berou	0.64	243	ePg	Pg	21 06 00.8	+0.3
MORC				eSg	Sg	21 06 09.8	+1.1
	19nm,0.2s						
OJC	Ojcow	0.90	80	ePg	Pg	21 06 05.3	-0.2
OJC				eSg	Sg	21 06 17.3	+0.1
OJC	Ojcow	0.90	80	ePg	Pg	21 06 05.0	-0.5
OJC				eSg	Sg	21 06 16.7	-0.5
DPC	Dobruska-Polom	1.38	283	ePG	Pg	21 06 14.4	-0.2
DPC				eSG	Sg	21 06 32.7	+0.2
	26nm,0.4s						
DPC	Dobruska-Polom	1.38	283	ePn	Pg	21 06 14.4	-0.2
DPC				eSg	Sg	21 06 32.6	+0.1
NIE	Niedzica	1.39	117	ePg	Pg	21 06 15.2	+0.3
NIE				eSg	Sg	21 06 33.4	+0.5
VRAC	Vranov	1.41	238	ePn	Pn	21 06 14.8	-0.3
VRAC				eSg	Sg	21 06 33.5	0.0
	16nm,0.3s						
KSP	Ksiaz	1.56	301	Pn	Pn	21 06 17.7	+0.4
KSP				ePg	Pg	21 06 19.3	+1.1
KSP				eSg	Sg	21 06 38.9	+0.4
VYHS	Vyhne	1.60	170	ePN	Pn	21 06 16.7	-1.1
VYHS				eSN	Sn	21 06 39.7	+0.6
UPC	Upice	1.60	287	ePG	Pg	21 06 17.3	-1.7
UPC				eSG	Sg	21 06 40.1	+0.3
KRUC	Moravsky	1.66	233	ePn	Pn	21 06 18.5	-0.1
KRUC				eSg	Sg	21 06 40.4	-1.1
	6.6nm,0.2s						
STHS	Stebnicka Huta	1.95	108	ePN	Pn	21 06 25.7	+3.2
STHS				eSN	Sn	21 06 53.0	+5.3
KECS	Kecovo	2.08	139	ePN	Pn	21 06 29.6	+5.1
PRU	Pruhonice	2.50	270	ePG	Pg	21 06 33.4	-2.8
PRU				eSG	Sg	21 07 07.8	-0.8
	9.1nm,0.8s						
CONA	Conrad Observa	2.72	219	⇓iPn	Pn	21 06 31.9	-1.3
CONA				⇑iSg	Sg	21 07 13.9	-1.8
	1.8nm,0.4s						
KHC	Kasperske Hory	3.29	255	ePG	Pg	21 06 48.5	-2.7
KHC				eSG	Sg	21 07 33.9	+0.1
MOA	Molln	3.52	233	⇑iPg	Pg	21 06 54.6	-1.2
MOA				⇑iSg	Sg	21 07 42.9	+1.4
	comp=Z,3.0nm,0.6s						
CLL	Collm	3.66	292	eSg	Sg	21 07 46.0	+0.1

*MOS **30** 21:26:05.5±1.8, 5635N×11377E, h24km, mb4.3/1, Error ellipse: s-maj=31.3km s-min=17.0km az=70.3*

BYKL 30 21:26:06.3±0.3, 5640N×11374E, h22km±3km, 3C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	Severomuysk	0.30	200	⇑iPg	Pb	21 26 12.2	-0.9
SVKR				eSg	Sb	21 26 16.4	-1.3
SVKR				Pmax			
	684nm,0.1s						
SVKR				Smax			
	9μm,0.4s						
SVKR	Severomuysk	0.30	200	ePG	Pb	21 26 12.2	-0.9
SVKR				e		21 26 16.3	
SVKR				pmax	pmax		
	comp=Z,674nm,0.1s						
SVKR				smax			
	comp=E,9μm,0.4s						
UKT	Uakit	0.92	184	⇓iPg	Pb	21 26 23.1	-0.4
UKT				ePb	Pb	21 26 24.7	+1.2
UKT				eSg	Sb	21 26 35.7	+0.5
UKT				max			
	comp=E,91nm,0.3s						
UKT				Smax			
	comp=E,245nm,0.2s						
UKT	Uakit	0.92	184	ePG	Pb	21 26 23.0	-0.5
UKT				e		21 26 35.5	
UKT				pmax	pmax		
	comp=Z,91nm,0.1s						
UKT				smax			
	comp=E,247nm,0.1s						
NLYR	Nelyaty	1.09	84	ePg	Pn	21 26 26.0	-0.3
NLYR				eSg	Sb	21 26 40.9	+0.6
YOA	Uoyan	1.16	257	ePg	Pn	21 26 27.4	+0.3
YOA				e		21 26 30.2	
YOA				eSg	Sb	21 26 43.4	+1.3
YOA				eSb	Sb	21 26 46.0	+3.9
YOA	Uoyan	1.16	257	⇑iPG	Pn	21 26 27.7	+0.6
YOA				e		21 26 43.6	
YOA				pmax	pmax		
	comp=Z,124nm,0.2s						
YOA				smax			
	comp=N,2μm,0.5s						
BOD	Bodaibo	1.43	6	ePg	Pn	21 26 31.2	+0.3
BOD				eSg	Sn	21 26 50.2	+1.2
BOD				Pmax			
	comp=N,39nm,0.4s						
BOD				Smax			
	comp=N,444nm,0.3s						
BOD	Bodaibo	1.43	6	⇑iPN	Pn	21 26 31.1	+0.2
BOD				e		21 26 49.8	
BOD				pmax	pmax		
	comp=Z,47nm,0.2s						
BOD				smax			
	comp=E,441nm,0.2s						
KMO	Kumora	1.51	251	ePg	Pn	21 26 33.6	+1.6
KMO				eSg	Sn	21 26 53.5	+2.5
KMO				Pmax			
	comp=E,24nm,0.1s						
KMO				Smax			
	comp=E,211nm,0.6s						
KMO	Kumora	1.51	251	ePN	Pn	21 26 33.4	+1.4
KMO				e		21 26 53.5	
KMO				pmax	pmax		
	comp=Z,20nm,0.1s						
KMO				smax			
	comp=N,203nm,0.5s						
YLYR	Ulyunkhan	2.11	225	⇓iPn	Pn	21 26 41.3	+1.0
YLYR				ePg	Pn	21 26 43.4	+3.1
YLYR				e		21 26 51.2	
YLYR				eSn	Sn	21 27 08.0	+2.1
YLYR				eSg	Sn	21 27 11.8	+5.9
YLYR				max			
	comp=N,23nm,0.3s						
YLYR				Smax			
	comp=N,130nm,0.2s						
NIZ	Nizh Angarsk	2.44	257	ePn	Pn	21 26 46.5	+1.8
NIZ				ePg	Pn	21 26 49.8	+5.1
NIZ				eSn	Sn	21 27 16.3	+2.5
NIZ				eSg	Sn	21 27 21.8	+8.0
NIZ				Pmax			
	comp=N,6.0nm,0.2s						
NIZ				Smax			
	comp=N,89nm,0.3s						
CRS	Chara	2.55	77	ePn	Pn	21 26 47.7	+1.4
CRS				ePg	Pn	21 26 52.2	+5.9
CRS				eSg	Sn	21 27 25.5	+8.8
CRS				Pmax			
	comp=N,7.0nm,0.4s						
CRS				Smax			
	comp=N,73nm,1.4s						
SYVR	Suvo	3.49	220	ePn	Pn	21 26 59.6	+0.4
SYVR				ePg	Pn	21 27 08.3	+9.1
SYVR				eSn	Sn	21 27 40.3	+0.4
SYVR				eSg	Sn	21 27 53.5	+14
SYVR				Pmax			
	comp=N,7.0nm,0.4s						
SYVR				Smax			
	comp=N,26nm,0.5s						
TUP	Tupik	4.06	117	ePn	Pn	21 27 07.2	+0.2
TUP				ePg	Pn	21 27 18.5	+11
TUP				eSn	Sn	21 27 52.1	-1.7
TUP				eSg	Sn	21 28 11.1	+17
TUP				Pmax			
	comp=N,4.0nm,0.8s						
TUP				Smax			
	comp=N,26nm,0.6s						
CIT	Chita	4.39	182	ePg	Pn	21 27 25.3	+14
CIT				eSn	Sn	21 28 04.7	+2.7
CIT				eSg	Sn	21 28 22.4	+20
CIT				Pmax			
	comp=N,7.0nm,0.4s						
CIT				Smax			
	comp=N,38nm,0.8s						
OGRR	Ongureny	4.49	235	ePg	Pn	21 27 26.4	+13
OGRR				eSg	Sn	21 28 24.5	+20
OGRR				Pmax			
	comp=N,2.0nm,0.6s						
OGRR				Smax			
	comp=N,14nm,0.4s						
TRG	Tyrgan	5.64	233	ePg	Pn	21 27 47.8	+19
TRG				eSg	Sn	21 29 01.5	+29
TRG				Pmax			
	comp=N,2.0nm,0.8s						
TRG				Smax			
	comp=N,8.0nm,0.5s						
KPC	Khapcheranga	6.76	188	ePg	Pn	21 28 09.4	+25
KPC				eSg	Sn	21 29 36.4	+36
KPC				Pmax			
	comp=N,1.0nm,0.5s						
KPC				Smax			
	comp=N,8.0nm,0.4s						
ARS	Arshan	8.01	241	e		21 29 51.0	
ARS				eSg	Sn	21 30 14.9	+44
ARS				Smax			
	comp=N,13nm,0.7s						

*IDC **30** 21:36:12.8±1.2, 4210N×8422E, h0km, mb3.9/6, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.3/5, Error ellipse: s-maj=24.0km s-min=16.6km az=69.0*
*NEIC **30** 21:36:13.9±0.7, 4203N×8413E, h10km, mb4.5/4, Error ellipse: s-maj=10.8km s-min=8.5km az=198.0*
*ISCJB **30** 21:36:13.1±0.5, 4204N±005×8399E±005, h10km, mb4.0/10, Error ellipse: s-maj=7.0km s-min=5.7km az=141.3*
*BJI **30** 21:36:14.8, 4196N×8423E, h17km, mb4.3, ML3.8*
*MOS **30** 21:36:15.5±0.8, 4212N×8410E, h33km, mb4.2/9, Error ellipse: s-maj=20.0km s-min=7.8km az=115.2*
*NNC **30** 21:36:19.9±3.2, 4235N×8393E, h12km±13km, mb3.7, mpv3.4, Error ellipse: s-maj=22.9km s-min=11.3km az=152.0*

ISC 30 21:36:14.4±0.5, 4203N±005×8408E±006, h10km, n53, σ1§27/61, mb4.0/10, 7C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.20	55	P	Pn	21 37 06.8	+2.0
WMQ				S	Sn	21 37 46.0	+3.0
WMQ				Smax			
	comp=N,319nm,0.4s						
WMQ				Smax			
	comp=E,330nm,0.5s						
MK31	Makanchi Array	4.93	346	⇑Pn	Pn	21 37 29.6	+1.1
	comp=E,2.5nm,0.5s,baz=151,slow=14,SNR=214						
MK31				⇑Pg	Pg	21 37 43.0	-5.8
	comp=E,13nm,0.6s,baz=155,slow=17,SNR=60						
MK31				⇓Lg		21 38 45.5	
	comp=E,278nm,0.8s,baz=143,slow=23						
MK31	Makanchi Array	4.93	346	eP	Pn	21 37 28.8	+0.2
MKAR	Makanchi Array	4.93	346	Pn	Pn	21 37 29.3	+0.8
	comp=E,0.6nm,0.3s,baz=168,slow=14,SNR=25						
MKAR				Pg	Pg	21 37 41.9	-6.9
	comp=E,7.7nm,0.3s,baz=157,slow=15,SNR=51						
MKAR				Sn	Sn	21 38 25.6	+0.1
	comp=E,8.1nm,0.3s,baz=156,slow=20,SNR=3.9						
MKAR				Lg		21 38 46.7	
	comp=E,22nm,0.3s,baz=158,slow=29,SNR=9.7						
MKAR	Makanchi Array	4.93	346	P	Pn	21 37 29.3	+0.8
MKAR						21 38 25.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,8.0nm,0.3s						
TKM2	Tokmak 2	6.33	281	⇑Pn	Pn	21 37 50.9	+3.1
	comp=N,0.6nm,0.6s						
TKM2				⇑Sn	Sn	21 39 02.4	+2.2
	comp=N,3.1nm,0.8s						
TKM2				⇓Lg		21 39 38.5	
	comp=N,1.8nm,0.6s						
KSH	Kashi	6.64	250	ePG	Pg	21 38 12.3	-9.3
KSH				SG	Sg	21 39 37.5	-10
KSH				Smax			
	comp=N,119nm,0.6s						
KSH				Smax			
	comp=E,140nm,0.8s						
AAK	Ala-Archa	7.12	278	eP	Pn	21 37 58.7	0.0
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	Ala-Archa	7.12	278	eP	Pn	21 37 58.7	0.0
	comp=Z,5.6nm,0.8s						
ZAL	Zalesovo	11.92	2	Pn	Pn	21 39 03.4	-1.0
	comp=Z,0.5nm,0.3s,baz=294,slow=10,SNR=4.5						
ZAL				Sn	Sn	21 41 09.2	-8.3
	comp=Z,0.7nm,0.3s,baz=87,slow=17,SNR=3.2						
ZAL				Lg		21 42 24.1	
	comp=Z,0.7nm,0.3s,baz=304,slow=2.2,SNR=4.0						
ZAL	Zalesovo	11.92	2	P	Pn	21 39 03.4	-1.0
ZAL						21 41 09.2	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				smax			
	comp=N,1.0nm,0.3s						
CHCP	Chirah Chowk	11.95	229	P	Pn	21 39 06.4	+1.6
GTA	Gaotai	12.23	97	eP	Pn	21 39 12.5	+3.9
GTA				AP		21 39 16.8	
GTA				XP		21 39 20.0	
GTA				LG2		21 42 34.5	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s						
CEP	Cherat	12.62	233	P	Pn	21 39 14.9	+1.0
CEP				S	Sn	21 41 18.0	-16
THW	Thamme Wali	13.45	231	P	Pn	21 39 24.8	-0.4
VOSK	Vostochnaya	13.87	325	⇑Pn	Pn	21 39 31.5	+0.4
	comp=Z,4.5nm,1.7s						
VOSK				⇑Lg		21 43 33.5	
	comp=Z,12nm,1.1s						
GKN	Gorkha	14.01	178	eP	Pn	21 39 43.1	+10
	comp=Z,8.2nm,0.5s						
GUN	Gumba	14.17	173	eP	Pn	21 39 44.6	+10
	comp=Z,6.3nm,0.3s						
KKN	Kakani	14.24	176	eP	Pn	21 39 45.2	+9.0
	comp=Z,13nm,0.8s						
BVA0	Borovoye Array	14.34	325	⇑Pn	Pn	21 39 38.9	+1.5
	comp=Z,0.8nm,1.1s,baz=126,slow=14,SNR=11						
BVA0				⇓Lg		21 43 45.6	
	comp=Z,3.6nm,1.4s						
BVAR	Borovoye Array	14.34	325	Pn	Pn	21 39 36.8	-0.6
	comp=Z,0.2nm,0.3s,baz=130,slow=14,SNR=8.5						
BVAR				Lg		21 43 43.3	
	comp=Z,0.1nm,0.3s,baz=109,slow=31,SNR=2.9						
BRVK	Borovoye	14.40	325	eP	Pn	21 39 36.7	-1.6
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	14.40	325	eP	Pn	21 39 36.7	-1.7
	comp=Z,5.0nm,0.8s						
JIRN	Jiri	14.44	172	eP	Pn	21 39 48.6	+10
	comp=Z,13nm,0.5s						
CHKZ	Chkalovo	14.71	327	eP	Pn	21 39 43.3	+0.8
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	Chkalovo	14.71	327	eP	Pn	21 39 43.3	+0.8
	comp=Z,2.9nm,0.8s						
ZRNK	Zerenda	14.90	322	eP	Pn	21 39 44.4	-0.7
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	Zerenda	14.90	322	eP	Pn	21 39 44.4	-0.6
	comp=Z,1.4nm,0.4s						
SONM	Songino Array	16.81	62	Pn	Pn	21 40 08.6	-1.2
	comp=Z,0.1nm,0.3s,baz=255,slow=12,SNR=12						
SONM				Lg		21 45 02.0	
	comp=Z,0.1nm,0.3s,baz=276,slow=28,SNR=2.5						
CD2	Chengdu	19.29	119	eP	Pn	21 40 37.8	-2.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
AKTK	Aktyubinsk	19.81	304	P	Pn	21 40 45.3	-1.3
AKTO	Aktyubinsk	19.81	304	P	Pn	21 40 45.3	-1.3
	comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=6.0						
ARU	Arti	21.85	320	eP	P	21 41 07.3	+0.2
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
ARU	Arti	21.85	320	eP	P	21 41 07.2	+0.2
	comp=Z,4.7nm,0.6s,mb4.1						
NJ2	Nanjing	29.32	98	eP	P	21 42 15.3	-1.9
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
JOF	Joensuu	36.92	323	ep	P	21 43 21.9	-1.5
	comp=Z,1.6nm,0.4s,mb4.2						
JOF	Joensuu	36.92	323	eP	P	21 43 21.9	-1.5
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
KAF	Kangasniemi	39.14	321	ep	P	21 43 33.5	-8.7
	comp=Z,0.6nm,0.4s,mb3.7						
KAF	Kangasniemi	39.14	321	eP	P	21 43 33.5	-8.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MMAI	Mount Meron Ar	39.19	273	P	P	21 43 42.9	+0.4
	comp=Z,0.2nm,0.3s,mb3.3,baz=74,slow=11,SNR=2.1						
FINES	FINESS Array B	39.22	320	P	P	21 43 42.0	-0.8
	comp=Z,4.1nm,1.1s,mb4.1,baz=101,slow=9.9,SNR=5.7						
FINES	FINESS Array B	39.22	320	P	P	21 43 42.1	-0.7
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	40.44	332	P	P	21 43 52.6	-0.4
	comp=Z,3.0nm,0.6s,mb4.2,baz=88,slow=7.8,SNR=21						
ARCES	ARCESS Array B	40.44	332	P	P	21 43 52.6	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	Hagfors	45.35	318	P	P	21 44 32.4	-0.3
	comp=Z,2.5nm,0.9s,mb4.0,baz=89,slow=6.2,SNR=6.2						
HFS	Hagfors	45.35	318	P	P	21 44 32.4	-0.4
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	NORSAR Subarra	46.40	320	P	P	21 44 40.2	-0.9
	comp=Z,0.7nm,0.5s,mb3.9,baz=79,slow=7.9						
NB2	NORSAR Subarra	46.40	320	P	P	21 44 40.2	-0.9
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	NORSAR Array B	46.40	320	P	P	21 44 40.5	-0.5
	comp=Z,0.9nm,0.5s,mb4.0,baz=80,slow=7.9,SNR=3.8						
NOA	NORSAR Array B	46.40	320	P	P	21 44 40.5	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	Collm	47.86	307	e(sP)	P	21 44 59.0	+6.6
WRA	Warramunga Arr	77.18	132	P	P	21 48 08.2	-0.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=332,slow=5.3,SNR=5.3						
WRA	Warramunga Arr	77.18	132	P	P	21 48 08.2	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*CSEM **30** 21:39:32.0±0.1, 4945N×2834W, h2km, mb4.5/28, Ms3.6, Error ellipse: s-maj=5.8km s-min=2.9km az=28.0*
*IDC **30** 21:39:32.5±0.7, 4912N×2836W, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML4.0/2, MS3.9/24, Ms1 3.8/24, ms1mx3.8/28, Error ellipse: s-maj=21.1km s-min=16.0km az=1.0*
*ISCJB **30** 21:39:33.2±0.5, 4927N±006×2832W±008, h10km, mb4.2/47, MS3.9/30, Error ellipse: s-maj=10.8km s-min=5.9km az=72.7*
*MOS **30** 21:39:34.8±1.2, 4951N×2814W, h10km, mb4.5/31, Error ellipse: s-maj=11.1km s-min=6.1km az=167.0*
*GCMT **30** 21:39:35.2±0.4, 4909N×2816W, h15km±1km, MW4.7/63, Moment Tensor Solution. s17,c17; s63,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.41±.14; $M_{\theta\theta}$0.07±.08; $M_{\phi\phi}$1.34±.10; $M_{r\theta}$-0.18±.21; $M_{\theta\phi}$-0.16±.05; $M_{\phi r}$-0.19±.16; Best double couple: $M_0$1.40900×10^{16} NP1:ϕ_s165.00000°, δ42.00000°, λ-102.00000°. NP2: ϕ_s1.00000°, δ49.00000°, λ-80.00000°. Principal axes: T 1.3700, Plg3.0000°, Azm83.0000°; N 0.0770, Plg8.0000°, Azm174.0000°; P -1.4480, Plg82.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 21:39:35.2±0.6, 4943N×2833W, h10km, mb4.3/46 Error ellipse: s-maj=12.8km s-min=7.7km az=204.0*
*SZGRF **30** 21:39:56.4, 4879N×2519W, h33km, mb4.4, MS3.8, Northern Mid-Atlantic Ridge*

ISC 30 21:39:35.1±0.5, 4933N±007×2828W±008, h10km, n219, σ1§22/205, mb4.2/47, MS3.9/30, 5C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	14.80	108	P	Pn	21 43 00.7	-3.8
	7.3nm,0.8s						
STS	Santiago	15.10	108	P	Pn	21 43 05.8	-2.7
STS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STS	Santiago	15.10	108	P	Pn	21 43 05.8	-2.7
	comp=Z,0.9nm,0.8s						
EPON	Pontenova	15.76	104	P	Pn	21 43 14.0	-3.0
	comp=Z,20nm,0.7s						
EKA	Eskdalemuir Ar	16.44	59	Pn	Pn	21 43 26.9	+1.1
	comp=Z,0.2nm,0.3s,baz=217,slow=29,SNR=4.1						
ROSF	Rostrenen	16.48	84	eP	Pn	21 43 22.9	-3.4
	comp=Z,13nm,0.7s						
ROSF	Rostrenen	16.48	84	eP	Pn	21 43 22.9	-3.4
ROSF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ROSF	Rostrenen	16.48	84	eP	Pn	21 43 22.9	-3.4
	comp=Z,6.6nm,0.7s						
QUIF	Quistinic	16.65	85	eP	Pn	21 43 26.0	-2.5
	comp=Z,12nm,0.6s						
QUIF	Quistinic	16.65	85	eP	Pn	21 43 26.0	-2.5
QUIF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
QUIF	Quistinic	16.65	85	eP	Pn	21 43 26.0	-2.5
	comp=Z,5.8nm,0.6s						
SGMF	Saint Gilles	16.96	84	eP	Pn	21 43 30.1	-2.4
	comp=Z,9.8nm,0.5s						
SGMF	Saint Gilles	16.96	84	eP	Pn	21 43 30.1	-2.4
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SGMF	Saint Gilles	16.96	84	eP	Pn	21 43 30.1

comp=Z,4.9nm,0.5s
PCBR Castelo Branco 17.54 115 *e*P **Pn 21 43 37.4 -2.3**
GRR Gorron 18.03 83 *e*P **Pn 21 43 43.7 -2.1**
comp=Z,15nm,0.7s
GRR Gorron 18.03 83 *e*P **Pn 21 43 43.7 -2.1**
GRR pmax pmax
comp=Z,7.0nm,0.7s
GRR Gorron 18.03 83 *e*P **Pn 21 43 43.7 -2.1**
comp=Z,7.4nm,0.7s
EVO Evora 18.09 119 *e*P **Pn 21 43 45.9 -0.6**
comp=Z,51nm,1.2s
EVO *e*MLR MLR
comp=Z,273nm,21.0s
PESTR Estremoz 18.11 117 *e*P **Pn 21 43 47.9 +1.2**
PESTR *e*LR LR 21 48 05.5
comp=Z,256nm,21.5s
ELAN Lanestosa 18.18 100 P **Pn 21 43 46.6 -1.0**
comp=Z,14nm,0.8s
ELAN Lanestosa 18.18 100 P **Pn 21 43 46.6 -1.0**
comp=Z,14nm,0.8s
FLN La Foliniere 18.20 81 *e*P **Pn 21 43 45.9 -1.9**
FLN *e*MLR MLR
comp=Z,858nm,18.8s
FLN La Foliniere 18.20 81 *e*P **Pn 21 43 45.9 -1.9**
FLN pmax pmax
comp=Z,32nm,1.4s
FLN La Foliniere 18.20 81 *e*P **Pn 21 43 45.9 -1.9**
comp=Z,32nm,1.4s
LDF La Druitiere 18.46 82 *e*P **Pn 21 43 49.5 -1.6**
comp=Z,50nm,1.4s
LDF La Druitiere 18.46 82 *e*P **Pn 21 43 49.5 -1.6**
LDF pmax pmax
comp=Z,25nm,1.4s
LDF La Druitiere 18.46 82 *e*P **Pn 21 43 49.5 -1.6**
comp=Z,25nm,1.4s
PBEJ Beja 18.52 120 *e*P **Pn 21 43 53.3 +1.5**
comp=Z,14nm,1.5s
MORF Marmelete 18.60 123 *e*P **Pn 21 43 50.7 -2.0**
MFF Saint Martin d 18.99 88 *e*P **Pn 21 43 55.9 -1.6**
comp=Z,5.0nm,0.4s
MFF Saint Martin d 18.99 88 *e*P **Pn 21 43 55.9 -1.6**
comp=Z,2.5nm,0.4s
ECRI Cripan 19.07 101 P **Pn 21 43 58.7 +0.3**
GUD Guadarrama 19.08 108 P **Pn 21 43 58.9 +0.4**
EMIN Mina Concepcio 19.39 118 P **Pn 21 44 01.0 -1.2**
comp=Z,13nm,0.8s
EMIN Mina Concepcio 19.39 118 P **Pn 21 44 01.0 -1.2**
comp=Z,13nm,0.8s
EALK Alkurruntz 19.43 98 P **Pn 21 44 02.4 -0.3**
comp=Z,15nm,0.9s
EALK Alkurruntz 19.43 98 P **Pn 21 44 02.4 -0.3**
comp=Z,15nm,0.9s
SJPF Ste Jean 19.66 98 *e*P **Pn 21 44 04.7 -0.8**
comp=Z,9.1nm,0.7s
SJPF Ste Jean 19.66 98 *e*P **Pn 21 44 04.7 -0.8**
SJPF pmax pmax
comp=Z,5.0nm,0.7s
SJPF Ste Jean 19.66 98 *e*P **Pn 21 44 04.7 -0.8**
comp=Z,4.6nm,0.7s
ESDC Sonseca Array 19.77 110 P **Pn 21 44 04.7 -2.1**
comp=Z,0.2nm,0.3s,baz=306,slow=9.6,SNR=10
ESDC LR LR 21 50 09.9
comp=Z,347nm,18.4s,baz=300,slow=32
LFF La Frestale 20.16 92 *e*P **P 21 44 11.3 +1.8**
comp=Z,95nm,1.4s
LFF La Frestale 20.16 92 *e*P **P 21 44 11.3 +1.8**
LFF pmax pmax
comp=Z,48nm,1.4s
LFF La Frestale 20.16 92 *e*P **P 21 44 11.3 +1.8**
comp=Z,48nm,1.4s
ETSF Etsaut 20.19 98 *e*P **P 21 44 11.0 +1.1**
ETOR Torete 20.30 105 P **P 21 44 12.7 +1.6**
ETOR pmax pmax
comp=Z,6.0nm,1.0s
ETOR Torete 20.30 105 P **P 21 44 12.7 +1.6**
comp=Z,5.7nm,1.0s
ETOR Torete 20.30 105 P **P 21 44 12.7 +1.6**
comp=Z,5.7nm,1.0s
EADA Adamuz 20.34 114 P **P 21 44 11.7 +0.1**
comp=Z,11nm,0.9s
ESPR Espera 20.48 119 P **P 21 44 14.0 +1.0**
comp=Z,18nm,1.0s
ESPR Espera 20.48 119 P **P 21 44 14.0 +1.0**
comp=Z,18nm,1.0s
RJF Les Rejaudoux 20.53 90 *e*P **P 21 44 14.3 +0.8**
RJF *e*MLR MLR
comp=Z,501nm,19.0s
RJF Les Rejaudoux 20.53 90 *e*P **P 21 44 14.3 +0.8**
RJF LR LR
comp=Z,500nm,19.0s,MS3.9
TCF Toulx Ste Croi 20.63 87 *e*P **P 21 44 14.3 -0.4**
comp=Z,18nm,0.7s
TCF Toulx Ste Croi 20.63 87 *e*P **P 21 44 14.3 -0.4**
TCF pmax pmax
comp=Z,9.0nm,0.7s
TCF Toulx Ste Croi 20.63 87 *e*P **P 21 44 14.3 -0.4**
comp=Z,9.1nm,0.7s
EPF Esparros 20.71 97 *e*P **P 21 44 17.6 +2.0**
comp=Z,14nm,1.0s
EPF Esparros 20.71 97 *e*P **P 21 44 17.6 +2.0**
EPF pmax pmax
comp=Z,7.0nm,1.0s
EPF Esparros 20.71 97 *e*P **P 21 44 17.6 +2.0**
comp=Z,7.1nm,1.0s
EBIE Bielsa 20.75 98 P **P 21 44 18.4 +2.4**
comp=Z,6.5nm,0.8s
EBIE Bielsa 20.75 98 P **P 21 44 18.4 +2.5**
comp=Z,6.5nm,0.8s
EBAN Banos Encina 20.82 113 P **P 21 44 20.3 +3.6**
EBAN pmax pmax
comp=Z,5.0nm,0.6s
EBAN Banos Encina 20.82 113 P **P 21 44 20.3 +3.6**
comp=Z,4.6nm,0.6s
EBAN Banos Encina 20.82 113 P **P 21 44 20.3 +3.6**
comp=Z,4.6nm,0.6s
ESAC San Caprasio 20.83 101 P **P 21 44 23.0 +6.2**
comp=Z,14nm,0.6s
ELUQ Luque 20.93 115 P **P 21 44 22.5 +4.6**
ELUQ pmax pmax
comp=Z,6.0nm,0.7s
ELUQ Luque 20.93 115 P **P 21 44 22.5 +4.6**
comp=Z,5.5nm,0.7s
BAIF Baives 20.94 76 *e*P **P 21 44 18.8 +0.8**
comp=Z,30nm,1.0s
BAIF Baives 20.94 76 *e*P **P 21 44 18.8 +0.8**
BAIF pmax pmax
comp=Z,15nm,1.0s
BAIF Baives 20.94 76 *e*P **P 21 44 18.8 +0.8**
comp=Z,15nm,1.0s
BGF Bois d'Agland 20.96 86 *e*P **P 21 44 17.9 -0.3**
comp=Z,92nm,1.1s
BGF Bois d'Agland 20.96 86 *e*P **P 21 44 17.9 -0.3**
BGF pmax pmax
comp=Z,46nm,1.1s
BGF Bois d'Agland 20.96 86 *e*P **P 21 44 17.9 -0.3**
comp=Z,46nm,1.1s
CAF Calviac 21.03 91 *e*P **P 21 44 17.9 -1.1**
comp=Z,120nm,1.6s,mb4.7
CAF Calviac 21.03 91 *e*P **P 21 44 17.9 -1.1**
CAF pmax pmax
comp=Z,60nm,1.6s,mb4.7
CAF Calviac 21.03 91 *e*P **P 21 44 17.9 -1.1**
comp=Z,60nm,1.6s,mb4.7
AVF Avril sur Loir 21.21 85 *e*P **P 21 44 20.5 -0.5**
comp=Z,20nm,0.8s,mb4.2
AVF Avril sur Loir 21.21 85 *e*P **P 21 44 20.5 -0.5**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
AVF Avril sur Loir 21.21 85 *e*P **P 21 44 20.5 -0.5**
comp=Z,9.9nm,0.8s,mb4.2
SSF Saint Saulge 21.23 84 *e*P **P 21 44 20.7 -0.4**
comp=Z,32nm,1.0s,mb4.3
SSF Saint Saulge 21.23 84 *e*P **P 21 44 20.7 -0.4**
SSF pmax pmax
comp=Z,16nm,1.0s,mb4.3
SSF Saint Saulge 21.23 84 *e*P **P 21 44 20.7 -0.4**
comp=Z,16nm,1.0s,mb4.3
EVIA Vianos 21.30 110 P **P 21 44 24.5 +2.6**
EVIA pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
EVIA Vianos 21.30 110 P **P 21 44 24.5 +2.6**
comp=Z,5.7nm,0.8s,mb4.0
EVIA Vianos 21.30 110 P **P 21 44 24.5 +2.6**
comp=Z,5.7nm,0.8s,mb4.0
EMIJ Mijas 21.31 118 P **P 21 44 23.5 +1.5**
comp=Z,24nm,1.0s,mb4.5
EMIJ Mijas 21.31 118 P **P 21 44 23.5 +1.5**
comp=Z,24nm,1.0s,mb4.5
AGO Saint Agoulin 21.31 87 *e*P **P 21 44 23.1 +1.1**
AGO Saint Agoulin 21.31 87 *e*P **P 21 44 23.4 +1.4**
GIVF Givet 21.33 75 *e*P **P 21 44 22.8 +0.6**
comp=Z,38nm,0.8s,mb4.5
GIVF Givet 21.33 75 *e*P **P 21 44 22.8 +0.6**
GIVF pmax pmax
comp=Z,19nm,0.8s,mb4.5
GIVF Givet 21.33 75 *e*P **P 21 44 22.8 +0.6**
comp=Z,19nm,0.8s,mb4.5
PYM Petit Puy Mans 21.34 88 *e*P **P 21 44 23.1 +0.8**
LOR Lormes 21.40 83 *e*P **P 21 44 23.8 +0.9**
comp=Z,43nm,1.2s,mb4.3
LOR *e*MLR MLR
comp=Z,744nm,20.8s
LOR Lormes 21.40 83 *e*P **P 21 44 23.8 +0.9**
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.3
LOR MLR MLR
comp=Z,740nm,20.8s,MS4.1
LOR Lormes 21.40 83 *e*P **P 21 44 23.8 +0.9**
comp=Z,21nm,1.2s,mb4.3
LOR LR LR
comp=Z,740nm,20.8s,MS4.1
EQES Quesada 21.48 113 P **P 21 44 29.0 +5.1**
comp=Z,5.4nm,0.8s,mb3.9
ECOG Cogollos-Vega 21.53 115 P **P 21 44 28.6 +4.2**
EMOS Mosqueruela 21.55 104 P **P 21 44 29.3 +4.6**
comp=Z,51nm,1.6s,mb4.7
SMF Signal de Mont 21.58 85 *e*P **P 21 44 25.4 +0.5**
comp=Z,114nm,1.5s,mb4.8
SMF Signal de Mont 21.58 85 *e*P **P 21 44 25.4 +0.5**
SMF pmax pmax
comp=Z,57nm,1.5s,mb4.8
SMF Signal de Mont 21.58 85 *e*P **P 21 44 25.4 +0.5**
comp=Z,57nm,1.5s,mb4.8
PLDF La Plantade 21.66 87 *e*P **P 21 44 26.7 +0.9**
LBL Lubilhac 21.69 89 *e*P **P 21 44 30.3 +4.2**
LBL Lubilhac 21.69 89 *e*P **P 21 44 30.8 +4.7**
ERTA Horta de San J 21.75 102 P **P 21 44 30.0 +3.3**
comp=Z,6.7nm,0.8s,mb4.1
EHUE Huescar 21.77 112 P **P 21 44 27.3 +0.4**
EHUE pmax pmax
comp=Z,268nm,4.6s
EHUE Huescar 21.77 112 P **P 21 44 27.3 +0.4**
comp=Z,268nm,4.6s
EHUE Huescar 21.77 112 P **P 21 44 27.3 +0.4**
comp=Z,268nm,4.6s
MTLF Montolieu 21.80 94 *e*P **P 21 44 26.4 -0.8**
comp=Z,94nm,1.6s,mb4.7
MTLF Montolieu 21.80 94 *e*P **P 21 44 26.4 -0.8**
MTLF pmax pmax
comp=Z,47nm,1.6s,mb4.7
MTLF Montolieu 21.80 94 *e*P **P 21 44 26.4 -0.8**
comp=Z,47nm,1.6s,mb4.7
MEZF Maizieres J'vi 21.82 79 *e*P **P 21 44 28.5 +1.0**
comp=Z,36nm,0.9s,mb4.5
MEZF Maizieres J'vi 21.82 79 *e*P **P 21 44 28.5 +1.0**
comp=Z,18nm,0.9s,mb4.5
EPOB Poblet 22.02 100 P **P 21 44 35.5 +6.0**
comp=Z,6.0nm,0.7s,mb4.1
EBER Berja 22.19 114 P **P 21 44 36.6 +5.2**
comp=Z,13nm,0.9s,mb4.4
THEF They Montfort 22.50 80 *e*P **P 21 44 41.2 +6.5**
LASF Ste Croix 22.55 91 *e*P **P 21 44 35.7 +0.5**
comp=Z,35nm,1.3s,mb4.3
LASF Ste Croix 22.55 91 *e*P **P 21 44 35.7 +0.5**
comp=Z,18nm,1.3s,mb4.3
VIVF Saint-Julien-l 22.77 89 *e*P **P 21 44 37.7 +0.2**
comp=Z,85nm,1.6s,mb4.6
VIVF Saint-Julien-l 22.77 89 *e*P **P 21 44 37.7 +0.2**
VIVF pmax pmax
comp=Z,43nm,1.6s,mb4.6
VIVF Saint-Julien-l 22.77 89 *e*P **P 21 44 37.7 +0.2**
comp=Z,43nm,1.6s,mb4.6
HAU Haudompre 22.79 80 *e*P **P 21 44 37.7 -0.1**
HAU *e*MLR MLR
comp=Z,567nm,19.5s
HAU Haudompre 22.79 80 *e*P **P 21 44 37.7 -0.1**
HAU LR LR
comp=Z,570nm,19.5s,MS4.0
CABF La Chapelle 23.05 84 *e*P **P 21 44 41.3 +0.7**
comp=Z,49nm,1.2s,mb4.5
CABF La Chapelle 23.05 84 *e*P **P 21 44 41.3 +0.7**
CABF pmax pmax
comp=Z,24nm,1.2s,mb4.5
CABF La Chapelle 23.05 84 *e*P **P 21 44 41.3 +0.7**
comp=Z,24nm,1.2s,mb4.5
HINF Hinteralfeld 23.17 80 *e*P **P 21 44 41.5 -0.3**
comp=Z,40nm,1.4s,mb4.4
HINF Hinteralfeld 23.17 80 *e*P **P 21 44 41.5 -0.3**
HINF pmax pmax
comp=Z,20nm,1.4s,mb4.3
HINF Hinteralfeld 23.17 80 *e*P **P 21 44 41.5 -0.3**
comp=Z,20nm,1.4s,mb4.4
ECH Echery 23.26 79 *e*P **P 21 44 44.2 +1.5**
CDF Champ du Feu 23.28 79 *e*P **P 21 44 42.0 -1.0**
comp=Z,16nm,1.1s,mb4.1
CDF Champ du Feu 23.28 79 *e*P **P 21 44 42.0 -1.0**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
CDF Champ du Feu 23.28 79 *e*P **P 21 44 42.0 -1.0**
comp=Z,8.1nm,1.1s,mb4.1
LOMF Lomont 23.30 81 *e*P **P 21 44 44.4 +1.3**
MOF Molkenrain 23.34 80 *e*P **P 21 44 44.6 +1.0**
MOF Molkenrain 23.34 80 *e*P **P 21 44 44.0 +0.4**
ORIF Oris-en-Rattie 23.53 88 *e*P **P 21 44 45.3 -0.3**
ORIF *e*MLR MLR
comp=Z,398nm,23.0s
JMIC Jan Mayen 23.61 16 LR LR 21 51 25.2
comp=Z,44nm,21.8s,MS3.4,baz=111,slow=30
LPL La Plagne 23.86 86 *e*P **P 21 44 48.5 -0.1**
comp=Z,9.0nm,0.8s,mb4.0
LPL La Plagne 23.86 86 *e*P **P 21 44 48.5 -0.1**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
LPL La Plagne 23.86 86 *e*P **P 21 44 48.5 -0.1**
comp=Z,4.5nm,0.8s,mb4.0
LPG La Plagne 23.88 86 *e*P **P 21 44 50.0 +1.2**
comp=Z,18nm,1.1s,mb4.1
LPG La Plagne 23.88 86 *e*P **P 21 44 50.0 +1.2**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
LPG La Plagne 23.88 86 *e*P **P 21 44 50.0 +1.2**
comp=Z,9.2nm,1.1s,mb4.1
FELD Feldberg im Sc 23.90 80 *e*P **P 21 44 49.0 0.0**
SCHQ Schefferville 24.10 298 LR LR 21 53 22.6
comp=Z,68nm,18.3s,MS3.2,baz=71,slow=34
MDT Midelt 24.14 124 P **P 21 44 49.2 -2.1**
comp=Z,2.0nm,1.0s,mb3.5,baz=251,slow=8.3,SNR=4.7
MDT LR LR 21 52 27.2
comp=Z,72nm,20.4s,MS3.1,baz=317,slow=32
NOA NORSAR Array B 24.99 47 LR LR 21 54 10.3
comp=Z,226nm,18.0s,MS3.7,baz=270,slow=35
GRA1 Grafenberg Arr 25.45 74 *e*P **P 21 45 04.4 +1.3**
comp=Z,20nm,1.5s,mb4.4
GRA1 LR LR
comp=Z,300nm,21.2s,MS3.8
GRF Grafenberg Arr 25.45 74 *e*P **P 21 45 04.4 +1.3**
comp=Z,20nm,1.5s,mb4.4
GRF *e*L 21 53 56.5
comp=Z,343nm,21.2s
GRF Grafenberg Arr 25.45 74 *e*P **P 21 45 04.4 +1.3**
GRF pmax pmax
comp=Z,20nm,1.5s,mb4.4
GRF MLR MLR
comp=Z,300nm,21.2s,MS3.8
GRF Grafenberg Arr 25.45 74 *e*P **P 21 45 04.4 +1.3**
GRF pmax pmax
comp=Z,20nm,1.5s,mb4.4
GRF MLR MLR
comp=Z,300nm,21.2s,MS3.8
GRF Grafenberg Arr 25.45 74 *e*P **P 21 45 04.4 +1.3**
GRF pmax pmax
comp=Z,20nm,1.5s,mb4.4
GRF MLR MLR
comp=Z,300nm,21.2s,MS3.8
DAVOX Davos/Dischmat 25.45 81 P **P 21 45 04.8 +1.6**
comp=Z,2.0nm,0.7s,mb3.7,baz=289,slow=14,SNR=4.0
DAVOX LR LR 21 54 32.8
comp=Z,461nm,18.6s,MS4.0,baz=294,slow=35
MOX Moxa 25.48 72 *e*P **P 21 45 06.0 +2.6**
MOX MLR MLR
comp=Z,300nm,20.0s,MS3.8
HFS Hagfors 26.08 50 LR LR 21 54 53.8
comp=Z,254nm,18.3s,MS3.8,baz=250,slow=35
CLL Collm 26.19 70 *e*(P) **P 21 45 14.0 +4.2**
CLL Lm 21 54 00.0
comp=Z,400nm,19.8s
KHC Kasperske Hory 27.09 74 *e*P **P 21 45 24.4 +6.5**
GERES GERESS Array B 27.25 75 P **P 21 45 18.5 -0.9**
comp=Z,0.6nm,0.8s,mb3.1,baz=293,slow=12,SNR=5.7
GERES LR LR 21 56 01.5
comp=Z,419nm,18.1s,MS4.0,baz=285,slow=36
PRU Pruhonice 27.45 72 *e*P **P 21 45 26.3 +5.1**
DPC Dobruska-Polom 28.46 71 *e*P **P 21 45 34.1 +3.9**
VRAC Vranov 28.93 73 LR LR 21 56 34.6
comp=Z,343nm,19.7s,MS4.0,baz=282,slow=35
KEST Kesra 30.54 102 P **P 21 45 47.2 -1.4**
comp=Z,2.3nm,0.9s,mb4.0,baz=246,slow=3.8,SNR=4.1
KEST LR LR 21 56 10.6
comp=Z,65nm,20.1s,MS3.3,baz=253,slow=33
FINES FINESS Array B 32.17 47 P **P 21 46 03.1 +0.1**
comp=Z,3.5nm,0.8s,mb4.2,baz=184,slow=5.5,SNR=5.3
FINES LR LR 21 58 41.1
comp=Z,155nm,18.0s,MS3.7,baz=84,slow=36
KAF Kangasniemi 32.25 46 *e*p **P 21 46 01.2 -2.5**
ARCES ARCESS Array B 32.45 32 LR LR 21 57 42.6
comp=Z,106nm,19.7s,MS3.5,baz=194,slow=33
JOF Joensuu 34.52 44 *e*p **P 21 46 22.5 -1.0**
comp=Z,9.7nm,0.9s,mb4.7
AKASG Malin Array Be 36.18 65 P **P 21 46 36.2 -1.6**
comp=Z,0.2nm,0.3s,mb3.5,baz=282,slow=9.6,SNR=4.8
AKASG LR LR 22 01 47.4
comp=Z,279nm,19.1s,MS4.0,baz=280,slow=37
AKASG Malin Array Be 36.18 65 *i* P **P 21 46 38.4 +0.6**
OBN Obninsk 38.85 56⇑ *e*P **P 21 46 59.6 -0.8**
OBN *e*SS SS 21 56 05.2 +16
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.0
OBN Obninsk 38.85 56 *e*P **P 21 46 59.6 -0.8**
comp=Z,200nm,17.0s
ULM Lac du Bonnet 42.28 298 LR LR 22 03 03.1
comp=Z,101nm,20.8s,MS3.7,baz=335,slow=33
TORD Torodi Ar. Bea 43.69 135 P **P 21 47 37.5 -2.7**
comp=Z,1.8nm,0.7s,mb3.9,baz=337,slow=8.0,SNR=14
TORD LR LR 22 03 23.9
comp=Z,153nm,20.9s,MS3.9,baz=310,slow=33
ANN Anapa 43.72 70 *e*P **P 21 47 39.9 -0.6**
ANN *e*S **S 21 54 04.4 -6.2**
ANN pmax pmax
comp=Z,90nm,1.4s,mb5.3
ANN MLR MLR
comp=Z,383nm,16.0s,MS4.4
ANN Anapa 43.72 70 *e*P **P 21 47 39.9 -0.6**
comp=Z,90nm,1.4s,mb5.3
BRTR Keskin Array B 44.03 78 P **P 21 47 42.9 0.0**
comp=Z,0.9nm,0.8s,mb3.6,baz=305,slow=10,SNR=3.8
YKA Yellowknife Ar 46.43 320 LR LR 22 04 23.7
comp=Z,59nm,19.2s,MS3.5,baz=85,slow=32
KIV Kislovodsk 47.38 68 *i* P **P 21 48 06.3 -3.1**
ARU Arti 49.55 47⇑ *e*P **P 21 48 25.8 -0.3**
ARU pmax pmax
comp=Z,11nm,1.6s,mb4.6
ARU Arti 49.55 47 *e*P **P 21 48 25.8 -0.3**
comp=Z,11nm,1.6s,mb4.6
AKTK Aktyubinsk 52.52 54 P **P 21 48 48.2 -0.3**
AKTK Aktyubinsk 52.52 54 P **P 21 48 48.2 -0.3**
AKTO Aktyubinsk 52.52 54 P **P 21 48 48.2 -0.3**
comp=Z,3.1nm,0.8s,mb4.3,baz=301,slow=8.0,SNR=5.1
PDAR Pinedale Array 54.22 296 P **P 21 48 59.6 -1.3**
comp=Z,1.5nm,0.9s,mb3.9,baz=69,slow=7.8,SNR=8.3
PDAR LR LR 22 09 16.0
comp=Z,108nm,19.2s,MS3.9,baz=62,slow=33
DAWY Dawson 54.86 330 *e*P **P 21 49 05.2 -0.4**
ZRNK Zerenda 56.50 46 *e*P **P 21 49 17.5 +0.1**
ZRNK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
ZRNK Zerenda 56.50 46 *e*P **P 21 49 17.5 +0.1**
comp=Z,1.1nm,0.8s,mb3.9
ZRNK Zerenda 56.50 46 *e*P **P 21 49 17.5 +0.1**
comp=Z,1.0nm,0.8s,mb3.9
BRVK Borovoye 57.03 45 *e*P **P 21 49 21.7 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 57.03 45 *e*P **P 21 49 21.7 +0.6**
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 57.03 45 *e*P **P 21 49 21.7 +0.5**
comp=Z,6.0nm,0.8s,mb4.7
BVAR Borovoye Array 57.10 45 P **P 21 49 22.0 +0.4**
comp=Z,4.5nm,0.7s,mb4.6,baz=298,slow=5.9,SNR=22
ANMO Albuquerque 57.23 287 *e*P **P 21 49 23.2 +0.7**
TIXI Tiksi 58.24 8 *e*P **P 21 49 31.3 +1.6**
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
TIXI Tiksi 58.24 8 *e*P **P 21 49 31.3 +1.6**
comp=Z,2.0nm,1.3s,mb4.0
ROSC El Rosal 58.93 237 LR LR 22 11 22.4
comp=Z,97nm,18.7s,MS4.0,baz=8,slow=32
TXAR Lajitas Array 59.16 280 P **P 21 49 36.0 0.0**
comp=Z,1.3nm,0.9s,mb4.0,baz=44,slow=9.6,SNR=2.8
TXAR LR LR 22 14 02.1
comp=Z,241nm,20.8s,MS4.3,baz=205,slow=35
NVS Novosibirsk 61.44 38 *e*P **P 21 49 51.6 -0.1**
BILL Bilibino 62.45 354⇑ *e*P **P 21 49 58.4 -0.1**
BILL *e* 21 52 11.8
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.5
BILL Bilibino 62.45 354 *e*P **P 21 49 58.4 -0.1**
comp=Z,6.0nm,1.7s,mb4.5
ZAL Zalesovo 62.73 38 P **P 21 50 00.5 +0.2**
comp=Z,1.2nm,0.3s,mb4.5,baz=166,slow=5.3,SNR=3.9
ZAL LR LR 22 18 55.5
comp=Z,158nm,18.9s,MS4.2,baz=124,slow=38
ZAL Zalesovo 62.73 38 P **P 21 50 00.5 +0.2**
ZAL LR LR 22 18 55.5
AAK Ala-Archa 66.20 52⇑ *e*P **P 21 50 22.9 -0.1**
AAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
AAK Ala-Archa 66.20 52 *e*P **P 21 50 22.9 -0.1**
comp=Z,2.0nm,1.2s,mb4.0
MK31 Makanchi Array 66.95 44 *e*P **P 21 50 27.7 -0.1**
MKAR Makanchi Array 66.95 44 P **P 21 50 27.8 -0.1**
comp=Z,2.3nm,0.7s,mb4.3,baz=324,slow=6.0,SNR=16
MKAR LR LR 22 19 09.6
comp=Z,107nm,19.7s,MS4.1,baz=320,slow=35
MKAR Makanchi Array 66.95 44⇑ *e*P **P 21 50 27.7 -0.1**
YAK Yakutsk 67.61 11 *e*P **P 21 50 32.0 0.0**
KMBO Kilima Mbogo 75.16 110 LR LR 22 23 37.0
comp=Z,64nm,18.0s,MS4.0,baz=84,slow=35
SONM Songino Array 75.59 30 P **P 21 51 20.6 +0.5**
comp=Z,1.3nm,1.0s,mb3.8,baz=329,slow=5.2,SNR=7.2
SONM LR LR 22 27 53.0
comp=Z,61nm,19.2s,MS3.9,baz=169,slow=38
ULN Ulaanbaatar 75.77 29 *e*P **P 21 51 20.5 -0.6**
BOSA Boshof 91.05 135 LR LR 22 31 37.1
comp=Z,84nm,18.4s,MS4.2,baz=184,slow=34
QSPA South Pole Qui 139.21 180 *e*P PKPdf 21 59 01.3 -1.0
WRA Warramunga Arr 147.55 32 PKPbc PKPbc 21 59 17.4 -2.1
comp=Z,2.0nm,1.1s,baz=338,slow=3.1,SNR=7.6
ASAR Alice Springs 150.81 35 PKPbc PKPbc 21 59 26.1 -1.6
comp=Z,1.1nm,0.8s,baz=345,slow=1.7,SNR=10.0
ASAR PKPab PKPab 21 59 32.7 -2.2
comp=Z,2.0nm,0.9s,baz=342,slow=2.2,SNR=9.5
VNDA Vanda 151.43 185 PKPbc PKPbc 21 59 26.4 -2.8
comp=Z,1.5nm,0.8s,baz=288,slow=4.0,SNR=9.4
VNDA PKPab PKPab 21 59 34.1 -3.4
comp=Z,1.9nm,0.8s,baz=241,slow=2.5,SNR=7.0

MDD 30 22:08:10.9±0.6, 2956N×1522W, h0km, mb3.5/4, mbLg2.2/6, Error ellipse: s-maj=7.1km s-min=3.0km az=7.0, PRXIMO TT_MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**1.42**	**224**	P	Pn	22 08 34.6	-3.4
	SNR=24						
EBAJ				S	Sg	22 08 51.7	-4.9
	5.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.45**	**129**	P	Pn	22 08 35.0	-3.3
	0.8nm,0.0s,SNR=7.9						
CFUE				S	Sg	22 08 52.2	-5.2
	13nm,0.1s,SNR=7.9						

CFTV	Fuerteventura	1.52 139	S	Sg	22 08 53.6	-6.0
	2.5nm,0.1s,SNR=7.9					
EOSO	Osorio	1.52 191	P	Pn	22 08 36.9	-2.4
	2.5nm,0.1s,SNR=7.9					
EOSO			S	Sg	22 08 56.2	-3.4
	5.7nm,0.2s,SNR=7.9					
CCAN	Las Canadas	1.81 223	P	Pn	22 08 38.9	-4.4
	1.4nm,0.1s,SNR=9.7					
CCAN			S	Sn	22 09 00.4	-6.5
	0.4nm,0.3s					
CHIO	Chio	1.93 227	P	Pn	22 08 40.4	-4.5
	14nm,0.2s,SNR=5.2					
CHIO			S	Sn	22 09 03.8	-6.0
	9.6nm,0.2s,SNR=5.1					
EGOM	La Gomera	2.24 232	P	Pn	22 08 43.6	-5.6
	3.3nm,0.2s,SNR=7.9					
EGOM			S	Sn	22 09 08.7	-8.8
	12nm,0.3s,SNR=7.9					

NIED ***30*** *22:38:00, 3220N×14090E, h47km, Mw3.8 Best double couple: M0:5.03000×10^14 NP1:φ148.00000°, δ53.00000°, λ114.00000°. NP2:φ291.00000°, δ44.00000°, λ62.00000°.*
ISCJB ***30*** *22:38:26.9±0.8, 3194N±005×1410E±01, h55km±10km, mb3.7/5, Error ellipse: s-maj=17.5km s-min=6.5km az=144.8*
IDC ***30*** *22:38:28.1±1.7, 3182N×14083E, h44km±16km, mb3.5/5, mb1 3.7/7, mb1mx3.4/22, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=50.6km s-min=10.3km az=71.0*
JMA ***30*** *22:38:29.8±0.2, 3222N×14094E, h16km, M3.9*

ISC 30 22:38:28.1±0.7, 3190N±005×1409E±01, h44km±10km, n21, σ1°35/33, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.53	322	P		Pn	22 38 53.3	+0.5
JHJ2				S		Sn	22 39 10.3	-1.2
JHJ	Hachijo jima 2	1.55	322	P		Pn	22 38 53.4	+0.2
	25nm,0.3s,baz=278,slow=24,SNR=17							
JHJ				S		Sn	22 39 09.5	-2.6
	151nm,0.3s,baz=90,slow=20,SNR=14							
JKO	Kozu shima	2.73	327	P		Pn	22 39 10.5	+1.2
JKO				S		Sn	22 39 40.5	-0.6
BSO1	Boso 1	2.74	1	P		Pn	22 39 09.8	+0.3
BSO2	Boso 2	2.84	357	e	S	Sn	22 39 41.8	-2.1
NJJJ	Nii jima 2	2.85	331	P		Pn	22 39 13.3	+2.3
BSO3	Boso 3	2.91	353	P		Pn	22 39 12.3	+0.4
BSO3				S		Sn	22 39 43.1	-2.5
JIM2	Oshima 3	3.07	336	P		Pn	22 39 14.8	+0.7
JIM2				e	S	Sn	22 39 47.5	-2.1
JOD2	Odawara 2	3.68	336	P		Pn	22 39 22.7	+0.2
JOD2				e	S	Sn	22 40 02.2	-2.4
JYN	Shimob	4.10	332	P		Pn	22 39 30.3	+2.2
JYN				S		Sn	22 40 16.9	+2.1
JRY	Ryogami san	4.43	338	P		Pn	22 39 35.0	+2.2
JRY				e	S	Sn	22 40 22.1	-1.0
JAG	Ashikaga	4.67	345	P		Pn	22 39 36.7	+0.7
JAG				e	S	Sn	22 40 28.3	-0.7
CBIJ	Chichi jima	4.92	167	P		Pn	22 39 38.5	-0.8
	3.3nm,0.3s,baz=288,slow=23,SNR=8.7							
CBIJ				S		Sn	22 40 33.3	-1.7
	6.9nm,0.3s,baz=259,slow=22,SNR=6.0							
MJAR	Matsushiro Arr	5.14	335	P		Pn	22 39 42.7	+0.2
	1.3nm,0.3s,baz=156,slow=12,SNR=8.5							
MJAR				S		Sn	22 40 41.5	+0.9
	0.9nm,0.3s,baz=299,slow=30,SNR=4.2							
MAT	Matsushiro	5.14	335	P		Pn	22 39 44.9	+2.4
MAT				e	S	Sn	22 40 41.0	+0.4
JGM	Miyama	5.16	318	P		Pn	22 39 47.2	+4.5
MKAR	Makanchi Array	46.66	306	P		P	22 46 52.1	-0.1
	0.5nm,0.4s,mb3.8,baz=86,slow=9.5,SNR=15							
WRA	Warramunga Arr	51.94	188	P		P	22 47 32.3	-0.2
	0.2nm,0.4s,mb3.4,baz=6.3,slow=7.7,SNR=11							
ASAR	Alice Springs	55.66	188	P		P	22 47 59.0	-0.7
	0.2nm,0.4s,mb3.5,baz=11,slow=8.0,SNR=4.3							
FINES	FINESS Array B	73.17	333	P		P	22 49 53.2	-1.0
	2.3nm,0.9s,mb4.1,baz=49,slow=6.1,SNR=6.0							
TXAR	Lajitas Array	93.57	52	P		P	22 51 40.9	+1.5
	0.2nm,0.6s,mb3.7,baz=310,slow=4.4,SNR=3.7							

IDC ***30*** *22:54:26.4±1.0, 3441N×8060E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=41.7km s-min=21.6km az=52.0*
ISCJB ***30*** *22:54:29.4±0.8, 3456N±008×805E±02, h33km, mb4.0/7, Error ellipse: s-maj=19.2km s-min=11.9km az=158.4*
MOS ***30*** *22:54:29.4±0.8, 3455N×8049E, h33km, mb3.8/3, Error ellipse: s-maj=35.3km s-min=10.6km az=103.6*
NEIC ***30*** *22:54:31.5±0.6, 3448N×8049E, h35km, mb3.6/5, Error ellipse: s-maj=14.6km s-min=9.0km az=80.0*

ISC 30 22:54:31.6±0.8, 3454N±008×805E±02, h35km, n21, σ0°84/21, mb4.0/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.35	332	e	P	Pn	22 56 43.6	-0.2
MK31	Makanchi Array	12.32	6	e	P	Pn	22 57 25.0	+0.5
MKAR	Makanchi Array	12.32	6	P		Pn	22 57 24.8	+0.2
	0.2nm,0.3s,baz=186,slow=13,SNR=13							
BVAR	Borovoye Array	19.84	342	P		P	22 59 00.0	-1.0
	0.2nm,0.3s,baz=155,slow=13,SNR=6.6							
BRVK	Borovoye	19.89	342	e	P	P	22 59 00.0	-1.8
BRVK				p	max	pmax		
	comp=Z,1.0nm,0.4s							
BRVK	Borovoye	19.89	342	e	P	Pn	22 59 00.0	-1.7
	comp=Z,0.8nm,0.4s							
ZRNK	Zerenda	20.15	340	P		P	22 59 03.2	+0.5
ZRNK				p	max	pmax		
	comp=Z,1.0nm,0.4s							
ZRNK	Zerenda	20.15	340	P		P	22 59 03.2	+0.5
	comp=Z,0.6nm,0.4s							
CHKZ	Chkalovo	20.37	343	e	P	P	22 59 06.9	+1.7
CHKZ				p	max	pmax		
	comp=Z,1.0nm,0.4s							
CHKZ	Chkalovo	20.37	343	e	P	P	22 59 06.9	+1.8
	comp=Z,0.5nm,0.4s							
KIV	Kislovodsk	30.53	299	e	P	P	23 00 41.1	-0.5
KIV				p	max	pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
KIV	Kislovodsk	30.53	299	e	P	P	23 00 41.0	-0.5
	comp=Z,2.1nm,0.4s,mb4.3							
BR131	Keskin Array S	37.38	292	P		P	23 01 40.8	-0.2
JOF	Joensuu	41.52	328	e	p	P	23 02 14.7	-0.8
	comp=Z,1.8nm,0.4s,mb4.0							
FINES	FINESS Array B	43.47	325	P		P	23 02 32.2	+0.9
	comp=Z,2.0nm,0.9s,mb3.9,baz=120,slow=11,SNR=9.0							
TORD	Torodi Ar. Bea	73.52	275	P		P	23 06 01.9	+1.2
	comp=Z,0.9nm,0.6s,mb3.9,baz=46,slow=5.0,SNR=20							
TORD	Torodi Ar. Bea	73.52	275	P		P	23 06 01.9	+1.2
WRA	Warramunga Arr	74.52	128	P		P	23 06 06.4	-0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=326,slow=5.9,SNR=9.0							
ASAR	Alice Springs	76.94	131	P		P	23 06 20.1	-0.4
	comp=Z,0.3nm,0.5s,mb3.5,baz=316,slow=5.6,SNR=7.1							
LBTB	Lobatse	78.85	229	e	P	P	23 06 31.1	0.0
LBTB				p	max	pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
LBTB	Lobatse	78.85	229	e	P	P	23 06 31.1	+0.1
	comp=Z,7.1nm,1.1s,mb4.5							

IDC 30 22:58:07.8±8.3, 1059N×9261E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/20, mbtmp3.3/3, Error ellipse: s-maj=437.8km s-min=30.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.06	7	e	P	x	22 58 24.0	
PBA				e	S	x	22 58 41.3	
PBA				e	x	x	22 58 43.8	
	comp=N,264nm,0.3s							
PBA				e	x	x	22 58 44.0	
	comp=E,259nm,0.4s							
MKAR	Makanchi Array	37.13	348	P		P	23 05 20.1	0.0
	comp=E,0.4nm,0.8s,baz=180,slow=7.2,SNR=4.1							
WRA	Warramunga Arr	51.07	126	P		P	23 07 12.4	+0.5
	comp=E,0.3nm,0.6s,baz=307,slow=8.5,SNR=5.0							
ASAR	Alice Springs	52.82	131	P		P	23 07 25.2	+0.3
	comp=E,0.5nm,0.8s,baz=310,slow=7.9,SNR=6.1							

MAN ***30*** *23:03:22.7, 438N×12511E, h1km, mb4.0, ML4.9, MS8.2*
ISCJB ***30*** *23:03:25.5±0.6, 496N±010×1254E±0.1, h10km, mb4.0/7, Error ellipse: s-maj=22.4km s-min=9.3km az=114.9*
IDC ***30*** *23:03:25.6±1.4, 499N×12550E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/18, mbtmp4.1/6, Error ellipse: s-maj=104.5km s-min=19.2km az=68.0*
NEIC ***30*** *23:03:27.4±0.5, 497N×12544E, h10km, mb4.1/3, Error ellipse: s-maj=16.9km s-min=7.2km az=58.0*

ISC 30 23:03:26.7±11.0, 50N±02×1255E±02, h4km±70km, n17, σ0°81/17, mb4.0/7, Taland Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	9.25	277	Pn		Pn	23 05 41.2	+0.4
KAKA	Kakadu	18.90	158	e	P	Pn	23 07 47.3	-1.4
	5.2nm,0.8s							
FITZ	Fitzroy Crossi	22.94	180	e	P	P	23 08 31.6	-0.2
	8.8nm,0.7s,mb4.3							
FITZ	Fitzroy Crossi	22.94	180	P		P	23 08 30.6	-1.2
	4.8nm,0.7s,mb4.0,baz=355,slow=7.5,SNR=18							
PMG	Port Moresby	25.93	123	P		P	23 09 00.7	+0.8
WRA	Warramunga Arr	26.27	161	P		P	23 09 02.9	-0.1
	3.0nm,0.4s,mb4.2,baz=342,slow=10,SNR=48							
WB2	Warramunga Arr	26.27	161	e	P	P	23 09 02.7	-0.3
MBWA	Marble Bar	26.58	192	P		P	23 09 05.9	+0.1
AS31	Alice Springs	29.64	164	e	P	P	23 09 34.2	+1.0
ASPA	Alice Springs	29.64	164	e	P	P	23 09 34.2	+1.0
ASAR	Alice Springs	29.65	164	P		P	23 09 32.8	-0.4
	0.5nm,0.5s,mb3.5,baz=345,slow=7.4,SNR=13							
STKA	Stephens Creek	39.75	158	P		P	23 11 01.2	+0.8
	0.9nm,0.3s,mb4.0,baz=332,slow=9.2,SNR=5.7							
MK31	Makanchi Array	55.80	325	e	P		23 13 05.3	+0.4
MK31				e	PcP	PcP	23 14 05.2	+1.3
MKAR	Makanchi Array	55.80	325	P		P	23 13 05.5	+0.5
	0.9nm,0.5s,mb4.1,baz=120,slow=7.9,SNR=35							
BRVK	Borovoye	65.65	327	P		P	23 14 11.7	-0.3
CHKZ	Chkalovo	65.75	328	e	P	P	23 14 12.7	+0.1
	0.5nm,0.4s,mb3.9							
FINES	FINESS Array B	90.13	332	P		P	23 16 26.0	-2.0
	2.2nm,0.8s,mb4.5,baz=81,slow=5.5,SNR=3.6							

NEIC ***30*** *23:04:20.1, 1703N×10028W, h8km, MD3.6(MEX), After MEX.*

MEX 30 23:04:20.6±0.9, 1705N×10024W, h5km±32km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.02	262	i	P	Pg	23 04 20.6	-1.0
CAIG				i	S	Sg	23 04 21.6	-0.7
ACX	Acapulco	0.36	120	i	P	Pg	23 04 27.0	-0.6
ACX				i	S	Sg	23 04 33.0	+0.7
MEIG	Mezcala	1.05	34	i	P	Pg	23 04 38.2	-2.6
MEIG				i	S	Sg	23 04 51.4	-3.1
PLIG	Platanillo	1.51	28	i	P	Pn	23 04 46.1	-2.1
PLIG				i	S	Sn	23 05 03.1	-5.2
PLIG	Platanillo	1.51	28	i	P	Pn	23 04 46.1	-2.1
PLIG				i	S	Sn	23 05 05.8	-2.5
UTMO	Huajuapan	2.45	71	i	P	Pn	23 04 59.6	-1.7
UTMO				i	S	Sn	23 05 26.2	-5.4
IIO	Organos	2.91	30	i	P	Pn	23 05 12.5	+4.9
IIO				i	S	Sn	23 05 48.9	+6.0
CMIG	Matias Romero	5.13	89	i	P	Pn	23 05 32.3	-5.7
CMIG				i	S	Sn	23 05 53.5	-44

NEIC ***30*** *23:33:15.4, 3234S×7146W, h47km, MD3.6(GUC), After GUC.*

GUC 30 23:33:15.4±0.9, 3234S×7146W, h47km±3km, MD3.6, ML2.4, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.20	175	⇓i	P	Pn	23 33 23.9	+0.6
PACH				i	S	Sn	23 33 29.7	+0.7
PTCH	Petorca	0.46	80	⇓i	P	Pn	23 33 26.6	+0.7
PTCH				i	S	Sn	23 33 34.4	+1.0
PTCH					AML	AML	23 33 35.1	
	comp=N,1μm,0.3s							
PTCH	Petorca	0.46	80	⇓i	P	Pn	23 33 26.6	+0.7
PTCH				i	S	Sn	23 33 34.4	+1.0
CHNG	Los Chungos	0.46	356	e	P	Pn	23 33 26.2	+0.2
CHNG				i	S	Sn	23 33 33.9	+0.4
PEL	Peldehue	1.03	141	e	P	Pn	23 33 34.7	+1.2
PEL				i	S	Sn	23 33 48.0	+1.2
PEL					AML	AML	23 33 49.1	
	comp=N,126nm,0.2s							
PEL	Peldehue	1.03	141	e	P	Pn	23 33 34.7	+1.2
PEL				i	S	Sn	23 33 48.0	+1.2
RCDM	Rinconada Maip	1.27	155	e	P	Pn	23 33 37.5	+0.8
RCDM				i	S	Sn	23 33 53.6	+1.1
FCH	Farellones	1.39	135	e	P	Pn	23 33 39.6	+1.3
FCH				i	S	Sn	23 33 57.4	+1.9
FCH					AML	AML	23 33 58.7	
	comp=E,41nm,0.3s							

ISCJB ***30*** *23:36:38.3±2.6, 402N±02×726E±01, h10km, Error ellipse: s-maj=25.5km s-min=10.6km az=28.9*
NNC ***30*** *23:36:41.9±4.5, 4045N×7266E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=38.3km s-min=14.7km az=8.0*

ISC 30 23:36:38.7±2.5, 401N±02×726E±01, h10km, n17, σ1°25/16, 5C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.17	23	P		Pn	23 37 12.6	-2.3
	SNR=293							
UCH	Uchtor	2.56	34	P		Pn	23 37 20.7	+0.5
	SNR=477							
EKS2	Erkin-Say	2.69	19	P		Pn	23 37 21.0	-1.0
	SNR=153							
KZA	Kyzart	2.81	45	P		Pn	23 37 25.9	+2.3
	SNR=40							
AAK	Ala-Archa	2.89	29	P		Pn	23 37 24.7	0.0
	SNR=403							
KBK	Karagaybulak	3.09	35	P		Pn	23 37 28.4	+0.8
	SNR=89							
CHMS	Chumysh	3.30	29	P		Pn	23 37 30.3	-0.1
	SNR=34							
KK31	Karatay Array	3.35	333	Pn		Pn	23 37 31.2	+0.2
	4.9nm,0.2s,baz=134,slow=13,SNR=802							
KK31				⇑Sn		Sn	23 38 11.2	+0.4
	59nm,0.4s,baz=136,slow=29							
USP	Ospenovka	3.45	24	P		Pn	23 37 31.5	-0.9
	SNR=32							
ULHL	Ulahol	3.48	52	P		Pb	23 37 37.5	-2.9
	SNR=5.2							
TKM2	Tokmak 2	3.60	38	P		Pn	23 37 35.5	+1.0
	SNR=85							
TKM2	Tokmak 2	3.60	38	⇓Pn		Pn	23 37 35.3	+0.8
	2.4nm,0.3s							
TKM2				⇑Sn		Sn	23 38 17.0	0.0
	7.5nm,0.6s							
KNDC	Almaty	4.51	45	⇓Pg		Pb	23 38 00.7	+2.8
	45nm,0.7s							
MK31	Makanchi Array	9.71	43	Pn		Pn	23 38 57.3	-1.0
	1.1nm,0.6s,baz=223,slow=14,SNR=14							
MK31				⇑Lg			23 41 40.1	
	5.2nm,0.8s							
VOSK	Vostochnaya	12.64	356	⇑Lg			23 43 13.9	
	14nm,1.0s							
ZRNK	Zerenda	13.05	350	⇓Lg			23 43 25.5	
	5.4nm,0.8s							
CHKZ	Chkalovo	13.62	355	⇑Lg			23 43 44.0	
	9.3nm,1.4s							

IDC 30 23:37:48.7±2.5, 1072S×16427E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=54.5km s-min=34.7km az=96.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.48	170	Pn		Pn	23 40 34.0	+0.1
	0.8nm,0.3s,baz=326,slow=23,SNR=8.6							
WRA	Warramunga Arr	30.24	249	P		P	23 44 01.4	+0.3
	0.7nm,0.5s,baz=79,slow=9.2,SNR=12							
ASAR	Alice Springs	31.65	242	P		P	23 44 13.9	+0.4
	0.3nm,0.6s,baz=62,slow=10,SNR=4.7							
FITZ	Fitzroy Crossi	38.06	254	P		P	23 45 09.4	+0.5
	3.5nm,1.2s,baz=58,slow=14,SNR=4.1							
SONM	Songino Array	77.55	324	P		P	23 49 46.7	+0.3
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.0							

ISCJB ***30*** *23:44:07.2±1.9, 838S×009×1195E±0.1, h192km±21km, mb3.5/3, Error ellipse: s-maj=19.8km s-min=10.3km az=103.3*
NEIC ***30*** *23:44:08.1±2.3, 833S×11950E, h183km±27km, mb4.1/3, Error ellipse: s-maj=20.0km s-min=12.0km az=209.0*
IDC ***30*** *23:44:10.2±2.8, 848S×11943E, h208km±31km, mb2.9/3, mb1 3.0/5, mb1mx2.9/17, mbtmp3.5/5, Error ellipse: s-maj=85.4km s-min=11.2km az=52.0*

ISC 30 23:44:09.1±1.7, 84S±01×1195E±01, h195km±18km, n13, σ0°96/19, mb3.5/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.34	149	e	P	Pn	23 46 45.7	+0.1
	6.5nm,0.6s							
FITZ				e	S	Sn	23 48 42.9	-8.9
FITZ	Fitzroy Crossi	11.34	149	P		Pn	23 46 45.8	+0.2
	0.5nm,0.3s,baz=340,slow=9.4,SNR=22							
FITZ				S		Sn	23 48 45.8	-6.1
	0.5nm,0.3s,baz=189,slow=20,SNR=5.6							
MBWA	Marble Bar	12.68	179	e	Pn	Pn	23 47 03.3	+0.7
MBWA				e	S	Sn	23 49 19.0	-4.8
KAKA	Kakadu	13.43	110	e	P	Pn	23 47 11.2	-0.8
	2.5nm,0.3s							
WRA	Warramunga Arr	18.38	130	P		P	23 48 09.5	+0.2
	0.2nm,0.3s,baz=309,slow=12,SNR=14							
WRA				S		S	23 51 30.4	+1.3
	0.3nm,0.3s,baz=308,slow=24,SNR=7.8							
WB2	Warramunga Arr	18.39	130	e	P	P	23 48 09.7	+0.3
WB2				e	S	S	23 51 26.8	-2.4
ASAR	Alice Springs	20.51	139	P		P	23 48 33.0	+0.9
	0.6nm,0.7s,baz=316,slow=9.3,SNR=7.5							
ASAR				S		S	23 52 10.7	0.0
	0.4nm,0.6s,baz=314,slow=19,SNR=5.1							
KULM	Kulim	23.20	305	e	P	P	23 48 57.9	-0.7
LSA	Lhasa	46.68	325	P		P	23 52 19.2	+1.0
SONM	Songino Array	57.19	350	P		P	23 53 36.0	+0.3
	0.3nm,0.4s,mb3.2,baz=160,slow=7.5,SNR=3.7							
MKAR	Makanchi Array	64.16	333	P		P	23 54 22.7	0.0
	0.5nm,0.7s,mb3.3,baz=144,slow=7.5,SNR=5.6							
BRVK	Borovoye	74.08	332	e	P	P	23 55 23.1	-0.7
	1.3nm,0.3s,mb4.0							
CHKZ	Chkalovo	74.31	332	P		P	23 55 24.7	-0.4

CSEM ***31*** *00:18:28.4±0.1, 6786N×2025E, h1km, ML3.1, Error ellipse: s-maj=4.8km s-min=4.1km az=28.0, Mining explosion.*
UPP ***31*** *00:18:29.5, 6783N×2020E, h1km, ML3.1, Mining explosion.*

HEL 31 00:18:30.0±0.1, 6783N×2021E, h0km, ML1.9, ML3.1(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	21	i	P	Pg	00 18 32.3	-0.3
KUA				i	S	Sg	00 18 34.3	-0.1
NIKU	Nikkaluokta	0.45	276	i	P	Pg	00 18 37.9	-0.7
LANU	Lannavaara	0.71	71	i	P	Pg	00 18 42.8	-0.7
DUNU	Dundret	0.72	169	i	P	Pg	00 18 43.0	-0.9
MASU	Masugnsbyn	0.78	118	i	P	Pg	00 18 44.2	-0.7
SALU	Saltoluokta	0.79	236	i	P	Pg	00 18 44.3	-0.9
KIF	Kilpisjarvi	1.20	10	e	P	Pg	00 18 52.1	-0.9
KIF				e	S	Sg	00 19 08.8	+0.2
PAJU	Pajala	1.38	124	e	P	Pg	00 18 54.8	-1.7
ERTU	Ertsjaerv	1.49	148	e	P	Pn	00 18 57.7	-0.4
HARU	Harads	1.70	169	e	P	Pn	00 19 00.1	-0.8
SJUU	Sjulsmark	2.40	166	e	P	Pn	00 19 10.9	+0.4
SGF	Sodankyl	2.45	96	e	P	Pn	00 19 11.1	-0.1
SGF				e	SB	Sb	00 19 43.3	-2.3
SGF					MSG		00 19 48.6	
	comp=Z,2.2nm,0.1s							
SGF	Sodankyl	2.45	96	P		Pn	00 19 11.0	-0.2
OUL	Oulu	3.58	138	e	PG	Pg	00 19 33.8	-4.7
OUL				e	SB	Sb	00 20 15.7	-2.3
OUL					MSG		00 20 25.4	
	comp=Z,2.8nm,0.3s							
KU4	Liikasenvaara	3.95	107	e	P	Pn	00 19 31.5	-0.3
KU4				e	SG	Sg	00 20 31.0	-5.8
KU4					MSG		00 20 35.6	
	comp=Z,2.6nm,0.4s							
KU4	Liikasenvaara	3.95	107	P		Pn	00 19 31.4	-0.4
MSF	Maaselka	3.98	115	e	P	Pn	00 19 31.9	-0.3

NEIC ***31*** *00:28:27.9±0.8, 1185N×7813W, h205km±9km, mb3.7/2, Error ellipse: s-maj=19.7km s-min=10.9km az=80.0*
ISCJB ***31*** *00:28:28.5±1.0, 1155S×006×7801W±02, h219km±15km, mb3.3/2, Error ellipse: s-maj=31.3km s-min=10.0km az=178.9*
IDC ***31*** *00:28:28.5±5.7, 121S×7814W, h212km±48km, mb3.0/2, mb1 3.0/4, mb1mx2.9/18, mbtmp3.6/4, Error ellipse: s-maj=50.3km s-min=33.0km az=173.0*

ISC 31 00:28:29.3±1.0, 113S±007×781W±02, h208km±14km, n13, σ0°91/15, mb3.3/2, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	1.41	344	e	Pn	Pn	00 29 01.4	-1.5
OTAV				e	Pg	Pn	00 29 08.7	+5.8
OTAV				e	S	Sn	00 29 23.4	-5.7
ATAH	Atahualpa	5.84	183	P		Pn	00 29 56.0	+1.4
	4.4nm,0.3s,baz=15,slow=9.4,SNR=21							
ATAH				S		Sn	00 31 02.2	0.0
	7.0nm,0.3s,baz=233,slow=22,SNR=15							
NNA	Nana	10.86	174	e	Pn	Pn	00 30 58.4	-0.9
NNA				e	S	S	00 32 56.2	-4.4
SDV	Santo Domingo	12.40	36	e	Pn	Pn	00 31 19.6	+0.7
SAML	Samuel	16.72	118	e	P	P	00 32 05.8	-4.7
	2.3nm,0.4s							
LPAZ	La Paz	17.96	148	P		P	00 32 25.5	+1.5
	0.1nm,0.3s,baz=353,slow=8.1,SNR=3.3							
LPAZ	La Paz	17.96	148	e	P	P	00 32 24.0	0.0
	0.8nm,0.4s							
SIV	San Ignacio	22.33	132	P		P	00 33 08.6	-1.1
	0.8nm,0.5s,mb3.5,baz=315,slow=10.0,SNR=7.9							
TEIG	Tepich	23.47	335	P		P	00 33 20.1	+0.2
TORD	Torodi Ar. Bea	80.28	77	P		P	00 40 16.8	-0.1
	0.2nm,0.4s,mb3.1,baz=278,slow=5.7,SNR=15							
TORD	Torodi Ar. Bea	80.28	77	P		P	00 40 16.8	-0.1
WRA	Warramunga Arr	141.96	235	PKP		PKPdf	00 47 36.4	+0.2
	0.3nm,0.7s,baz=123,slow=2.9,SNR=4.3							
FITZ	Fitzroy Crossi	149.85	230	PKPab		PKPab	00 47 59.7	-1.1
	0.5nm,0.4s,baz=160,slow=2.6,SNR=6.0							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.79**	**202**	*e*P	**Pn**	**00 35 41.8**	**+1.5**
MXZ	**Matakaoa Point**	**3.79**	**202**	*e*PN	**Pn**	**00 35 41.1**	**+0.8**
MXZ				SN	**S**	**00 36 32.3**	**+4.8**
PUZ	**Puketiti**	**4.28**	**200**	P	**Pn**	**00 35 46.1**	**-0.1**
PUZ				S	**S**	**00 36 41.4**	**+3.2**
PUZ	**Puketiti**	**4.28**	**200**	PN	**Pn**	**00 35 46.1**	**-0.1**
PUZ				SN	**S**	**00 36 41.4**	**+3.2**
MWZ	**Matawai**	**4.75**	**205**	*e*P	**Pn**	**00 35 52.8**	**+0.7**
MWZ	**Matawai**	**4.75**	**205**	*e*PN	**Pn**	**00 35 52.3**	**+0.2**
URZ	**Urewera**	**4.85**	**209**	P	**Pn**	**00 35 53.8**	**+0.5**
	2.8nm,0.3s,baz=324,slow=19,SNR=19						
URZ				S	**S**	**00 36 53.2**	**+2.2**
	9.6nm,0.3s,baz=179,slow=23,SNR=12						
URZ	**Urewera**	**4.85**	**209**	P	**Pn**	**00 35 54.5**	**+1.2**
URZ	**Urewera**	**4.85**	**209**	*e*PN	**Pn**	**00 35 53.8**	**+0.5**
URZ				SN	**S**	**00 36 53.5**	**+2.5**
KNZ	**Kokohu**	**5.33**	**201**	P	**Pn**	**00 36 02.2**	**+2.8**
KNZ	**Kokohu**	**5.33**	**201**	*e*PN	**Pn**	**00 36 00.1**	**+0.7**
MOVZ	**Moawhango**	**6.39**	**212**	*e*PN	**Pn**	**00 36 13.4**	**+0.5**
PXZ	**Pawanui**	**6.51**	**203**	*e*PN	**Pn**	**00 36 13.5**	**-0.9**
PXZ				SN	**S**	**00 37 30.0**	**+0.8**
WPHZ	**Waipukurau**	**6.68**	**205**	SN	**S**	**00 37 37.4**	**+4.3**
BFZ	**Birch Farm**	**7.29**	**204**	*e*P	**Pn**	**00 36 24.7**	**+0.2**
BFZ	**Birch Farm**	**7.29**	**204**	*e*PN	**Pn**	**00 36 24.3**	**-0.2**
BFZ				SN	**S**	**00 37 47.3**	**-0.3**
MRZ	**Mangatainoka R**	**7.52**	**207**	*e*PN	**Pn**	**00 36 25.8**	**-1.6**
KIW	**Kapiti Island**	**7.95**	**210**	P	**Pn**	**00 36 32.6**	**-0.4**
KIW	**Kapiti Island**	**7.95**	**210**	*e*PN	**Pn**	**00 36 32.6**	**-0.4**
MTW	**Mount Morrison**	**7.98**	**206**	P	**Pn**	**00 36 32.4**	**-1.0**
MTW	**Mount Morrison**	**7.98**	**206**	*e*PN	**Pn**	**00 36 31.1**	**-2.3**
CAW	**Cannon Point**	**8.10**	**208**	P	**Pn**	**00 36 34.0**	**-0.9**
CAW	**Cannon Point**	**8.10**	**208**	*e*PN	**Pn**	**00 36 33.6**	**-1.3**
CAW				SN	**S**	**00 38 07.2**	**+0.7**
PAWZ	**Paruwai Farm**	**8.20**	**206**	SN	**S**	**00 38 09.4**	**+0.5**
TCW	**Tory Channel**	**8.51**	**211**	P	**Pn**	**00 36 38.8**	**-1.4**
TCW	**Tory Channel**	**8.51**	**211**	*e*PN	**Pn**	**00 36 37.9**	**-2.3**
TCW				SN	**S**	**00 38 14.7**	**-1.5**
NNZ	**Nelson**	**8.92**	**215**	SN	**S**	**00 38 25.8**	**-0.2**
THZ	**Tophouse**	**9.57**	**214**	*e*P	**Pn**	**00 36 52.5**	**-1.4**
THZ	**Tophouse**	**9.57**	**214**	*e*PN	**Pn**	**00 36 51.2**	**-2.7**
THZ				SN	**S**	**00 38 37.9**	**-3.4**
KHZ	**Kahutara**	**9.82**	**210**	P	**Pn**	**00 36 56.4**	**-0.6**
KHZ	**Kahutara**	**9.82**	**210**	*e*PN	**Pn**	**00 36 56.2**	**-0.9**
KHZ				SN	**S**	**00 38 43.3**	**-3.9**
MQZ	**McQueen's Vall**	**11.25**	**209**	SN	**S**	**00 39 13.8**	**-7.3**
TAU	**Tasmania Unive**	**27.02**	**241**	*e*P	**P**	**00 40 03.8**	**+1.3**
	3.5nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**33.05**	**286**	*e*P	**P**	**00 40 55.4**	**-0.1**
	1.7nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**41.48**	**272**	P	**P**	**00 42 07.7**	**+1.4**
	0.6nm,0.6s,mb3.2,baz=107,slow=7.6,SNR=8.5						
WB2	**Warramunga Arr**	**42.80**	**277**	*e*P	**P**	**00 42 16.9**	**+0.1**
WRA	**Warramunga Arr**	**42.80**	**277**	P	**P**	**00 42 17.3**	**+0.4**
	0.6nm,0.3s,mb3.5,baz=118,slow=8.0,SNR=31						
VNDA	**Vanda**	**44.31**	**186**	*e*P	**P**	**00 42 29.6**	**+0.8**
	0.1nm,0.3s						
NWAO	**Narrogin (SRO)**	**51.70**	**253**	LR	LR	01 03 56.6	
	comp=Z,65nm,18.3s,baz=277,slow=34						
SNAA	**Sanae**	**74.54**	**179**	*e*P	**P**	**00 45 57.6**	**+2.2**
	0.2nm,0.3s,mb3.2						
ELK	**Elko**	**95.29**	**44**	*e*P	**P**	**00 47 37.4**	**-2.3**
	17nm,0.8s						
FINES	**FINESS Array B**	**147.95**	**337**	PKPbc	PKPbc	00 53 58.3	-1.8
	1.9nm,1.0s,baz=88,slow=6.1,SNR=3.6						

IDC 31 01:00:01.1±3.5, 3022S×13856E, h0km, mb1 2.8/3, mb1mx2.8/11, mbtmp2.6/3, ML2.8/3, Error ellipse: s-maj=104.3km s-min=21.0km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.08**	**123**	Pn	Pn	01 00 51.5	+0.5
	0.9nm,0.3s,baz=304,slow=14,SNR=6.4						
STKA				Pg	Pg	01 00 57.1	-3.0
	0.9nm,0.3s,baz=305,slow=16,SNR=9.5						
STKA				Sn	Sn	01 01 28.8	+0.3
	0.5nm,0.3s,baz=149,slow=18,SNR=3.4						
ASAR	**Alice Springs**	**7.74**	**326**	Pn	Pn	01 01 55.0	0.0
	0.1nm,0.3s,baz=148,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**10.93**	**339**	Pn	Pn	01 02 38.6	0.0
	0.1nm,0.3s,baz=156,slow=13,SNR=5.1						

SSNC 31 01:33:53.5, 1966N×7391W, h0km, MD3.0, ML3.8, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.59**	**329**	*e*P	Pg	01 34 04.8	0.0
MASC				*e*S	Sg	01 34 11.8	-0.7
	comp=N,31μm,0.1s						
MASC				*e*			
	comp=E,36μm,0.1s						
MOAC	**Moa**	**1.40**	**315**	*e*P	Pn	01 34 18.8	-1.4
MOAC				*e*S	Sg	01 34 36.9	-1.5
	comp=N,962nm,0.3s						
MOAC				*e*			
	comp=E,1μm,0.4s						
HLGC	**Holguin**	**2.36**	**302**	*e*P	Pn	01 34 32.1	-1.4
HLGC				*e*S	Sn	01 35 02.4	-0.7
	comp=N,12μm,0.3s						
HLGC				*e*			
	comp=E,12μm,0.3s						

*IDC **31** 01:38:24.2±1.2, 404N×12653E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=91.6km s-min=17.7km az=71.0*
*ISCJB **31** 01:38:27.4±0.7, 40N±01×1264E±0.1, h33km, mb3.8/9, MS3.1/2, Error ellipse: s-maj=24.5km s-min=10.2km az=111.5*
*NEIC **31** 01:38:29.4±0.5, 398N×12646E, h35km, mb4.1/3, Error ellipse: s-maj=18.7km s-min=7.9km az=56.0*
ISC 31 01:38:29.7±0.7, 40N±01×1265E±01, h35km, n14, σ0≥61/13, mb3.8/9, MS3.1/2, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.41**	**282**	Pn	**Pn**	**01 40 55.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.96**	**182**	*e*P	**P**	**01 43 20.4**	**+0.1**
	1.1nm,0.5s,mb3.5						
FITZ	**Fitzroy Crossi**	**21.96**	**182**	P	**P**	**01 43 20.3**	**0.0**
	0.3nm,0.3s,mb3.1,baz=18,slow=6.4,SNR=3.2						
PMG	**Port Moresby**	**24.54**	**123**	*e*P	**P**	**01 43 45.0**	**-0.9**
	4.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**25.00**	**162**	P	**P**	**01 43 49.3**	**-0.8**
	1.7nm,0.7s,mb3.7,baz=343,slow=10,SNR=12						
WB2	**Warramunga Arr**	**25.01**	**162**	*e*P	**P**	**01 43 50.0**	**-0.2**
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**01 44 21.6**	**+0.7**
	0.2nm,0.5s,mb3.0,baz=344,slow=7.5,SNR=3.5						
ASAR				LR	LR	01 54 19.3	
	comp=Z,53nm,20.8s,MS3.1,baz=346,slow=34						
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**01 45 49.1**	**+1.0**
	1.9nm,0.7s,mb3.9,baz=350,slow=9.0,SNR=4.2						
LSA	**Lhasa**	**42.08**	**311**	*e*P	**P**	**01 46 18.8**	**+0.8**
	5.4nm,0.3s,mb4.7						
ASAJ	**Asahikawa**	**42.43**	**17**	LR	LR	02 03 41.0	
	comp=Z,22nm,21.3s,MS3.0,baz=35,slow=36						
SONM	**Songino Array**	**46.98**	**342**	P	**P**	**01 46 57.2**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=151,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**57.20**	**325**	P	**P**	**01 48 12.7**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=120,slow=8.1,SNR=15						
BRVK	**Borovoye**	**67.04**	**327**	P	**P**	**01 49 19.6**	**+0.4**
ZRNK	**Zerenda**	**67.69**	**327**	*e*P	**P**	**01 49 23.2**	**0.0**
	0.8nm,0.3s,mb4.2						

CASC 31 02:24:19.6±2.5, 907N×8497W, h27km±7km, MD3.6, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**0.64**	**348**	⇓*e*P	Pb	02 24 31.4	-0.8
JCR	**Jicaral**	**0.79**	**349**	*e*P	Pb	02 24 33.9	-0.8
EPA	**Esparza**	**0.98**	**22**	*e*P	Pn	02 24 37.2	-0.4
CGA2	**Cerro Gallo 2**	**1.06**	**28**	*e*P	Pn	02 24 38.8	+0.1
PRS1	**Puriscal**	**1.11**	**35**	*e*P	Pn	02 24 37.6	-1.8
PRS1				*e*S	Sn	02 24 51.8	-2.0
LAJ	**Bijagual**	**1.15**	**47**	⇑*e*P	Pn	02 24 33.3	-6.6
LAJ				*e*S	Sn	02 24 44.8	-10
LCR2	**La Lucha 2**	**1.16**	**55**	⇓*e*P	Pn	02 24 39.9	-0.2
LCR2				*e*S	Sn	02 24 55.8	+0.8
VCR	**Vista de Mar**	**1.23**	**328**	*e*P	Pn	02 24 38.9	-2.3
IRZ2	**Volcan Irazu 2**	**1.38**	**50**	⇓*e*P	Pn	02 24 43.9	+0.8
LIM1	**Limonal**	**1.64**	**350**	*i* P	Pn	02 24 46.8	+0.1
CTCR	**Cotoan**	**2.19**	**94**	*e*P	Pn	02 24 54.2	0.0

IDC 31 02:28:19.9±22.0, 2349S×17942E, h650km±279km, mb3.3/4, mb1 3.6/4, mb1mx3.1/12, mbtmp4.4/4, Error ellipse: s-maj=234.9km s-min=69.9km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.94**	**270**	P	P	02 33 47.5	+0.6
	6.8nm,0.3s,baz=96,slow=11,SNR=18						
ASAR	**Alice Springs**	**41.57**	**260**	P	P	02 35 14.0	+0.4
	2.5nm,0.8s,baz=94,slow=7.9,SNR=24						
WB2	**Warramunga Arr**	**41.89**	**266**	*e*P	P	02 35 16.3	+0.3
WRA	**Warramunga Arr**	**41.90**	**266**	P	P	02 35 16.4	+0.3
	2.8nm,0.4s,baz=103,slow=8.2,SNR=38						
KAKA	**Kakadu**	**45.74**	**275**	*e*P	P	02 35 46.2	+0.7
	2.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.33**	**265**	*e*P	P	02 36 21.0	+1.6
	4.0nm,0.8s						
TXAR	**Lajitas Array**	**90.67**	**58**	P	P	02 40 15.6	+0.5
	0.4nm,0.7s,baz=205,slow=5.5,SNR=6.2						

*IDC **31** 02:30:02.9±33.0, 896N×8397W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.5/3, Error ellipse: s-maj=584.3km s-min=244.5km az=155.0*
*ISCJB **31** 02:30:07.6±1.8, 9.11N±007×8497W±005, h6km±12km, mb3.2/3, Error ellipse: s-maj=12.6km s-min=8.4km az=13.1*
*CASC **31** 02:30:08.1±1.4, 903N×8501W, h28km±5km, MD3.8*
ISC 31 02:30:08.9±1.8, 915N±009×8491W±006, h10km±8km, n17, σ1≥14/20, mb3.2/3, 4C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**0.58**	**340**	⇓*e*P	**Pg**	**02 30 20.6**	**+0.4**
JCR	**Jicaral**	**0.72**	**344**	⇑*e*P	**Pg**	**02 30 22.9**	**0.0**
EPA	**Esparza**	**0.89**	**20**	*e*P	**Pg**	**02 30 26.3**	**+0.3**
CGA2	**Cerro Gallo 2**	**0.96**	**27**	*e*P	**Pg**	**02 30 27.4**	**0.0**
PRS1	**Puriscal**	**1.01**	**35**	⇑*e*P	**Pg**	**02 30 26.8**	**-1.7**
PRS1				*e*S	**Sg**	**02 30 42.0**	**+0.4**
LAJ	**Bijagual**	**1.05**	**47**	⇑*e*P	**Pg**	**02 30 22.5**	**-6.6**
LCR2	**La Lucha 2**	**1.07**	**56**	⇓*e*P	**Pb**	**02 30 29.2**	**-0.2**
LCR2				*e*S	**Sg**	**02 30 46.4**	**+3.1**
SJS	**Escuela Geolog**	**1.15**	**47**	⇑*e*P	**Pb**	**02 30 31.0**	**+0.1**
OCM	**Ochomogo**	**1.19**	**51**	⇓*e*P	**Pb**	**02 30 30.9**	**-0.6**
VCR	**Vista de Mar**	**1.21**	**324**	*e*P	**Pn**	**02 30 29.2**	**-2.6**
IRZ2	**Volcan Irazu 2**	**1.28**	**51**	⇓*e*P	**Pn**	**02 30 33.1**	**+0.3**
VACR	**Volcan Arenal**	**1.33**	**10**	*e*P	**Pn**	**02 30 33.9**	**+0.4**
LIM1	**Limonal**	**1.58**	**347**	*i* P	**Pn**	**02 30 35.9**	**-1.0**
LIM1				*i* S	**Sn**	**02 30 56.7**	**-0.6**
CTCR	**Cotoan**	**2.13**	**97**	*e*P	**Pn**	**02 30 43.4**	**-1.1**
TXAR	**Lajitas Array**	**26.70**	**321**	P	**P**	**02 35 51.0**	**+2.9**
	0.7nm,0.7s,mb3.3,baz=136,slow=11,SNR=9.0						
PDAR	**Pinedale Array**	**39.85**	**331**	P	**P**	**02 37 43.3**	**+0.9**
	0.3nm,0.6s,mb3.2,baz=137,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**41.82**	**320**	P	**P**	**02 38 00.7**	**+2.0**
	0.4nm,0.6s,mb3.2,baz=128,slow=5.8,SNR=3.9						

*ISCJB **31** 02:44:44.3±4.2, 28S±02×1294E±04, h6km±26km, mb3.8/3, Error ellipse: s-maj=62.0km s-min=20.2km az=145.3*
*NEIC **31** 02:44:51.0±1.1, 293S×12928E, h35km, mb3.8/1, Error ellipse: s-maj=39.4km s-min=13.9km az=72.0*
*IDC **31** 02:44:53.2±4.8, 307S×12905E, h53km±44km, mb3.6/3, mb1 3.9/5, mb1mx3.6/16, mbtmp3.9/5, ML3.6/2, Error ellipse: s-maj=95.5km s-min=15.7km az=72.0*
ISC 31 02:44:52.2±3.5, 30S±02×1293E±04, h45km±33km, n9, σ0≥32/10, mb3.8/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.45**	**193**	*e*P	**Pn**	**02 48 27.0**	**0.0**
	5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.45**	**193**	P	**Pn**	**02 48 27.2**	**+0.1**
	0.2nm,0.3s,baz=31,slow=10.0,SNR=9.6						
WRA	**Warramunga Arr**	**17.59**	**164**	P	**Pn**	**02 48 54.5**	**+0.6**
	0.2nm,0.3s,baz=343,slow=13,SNR=14						
WB2	**Warramunga Arr**	**17.59**	**164**	*e*P	**Pn**	**02 48 53.3**	**-0.7**
AS31	**Alice Springs**	**21.06**	**168**	*e*P	**P**	**02 49 32.5**	**0.0**
ASAR	**Alice Springs**	**21.06**	**168**	P	**P**	**02 49 32.4**	**-0.1**
	11nm,0.8s,mb4.2,baz=348,slow=12,SNR=98						
ASAR				S	**S**	**02 53 24.3**	**-0.1**
	0.6nm,0.9s,baz=349,slow=18,SNR=4.4						
ASPA	**Alice Springs**	**21.06**	**168**	*e*P	**P**	**02 49 32.5**	**0.0**
STKA	**Stephens Creek**	**31.02**	**159**	P	**P**	**02 51 05.7**	**+0.2**
	1.4nm,0.7s,mb3.9,baz=330,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**64.47**	**326**	P	**P**	**02 55 24.1**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=132,slow=8.1,SNR=2.8						

*ROM **31** 03:08:06.5±0.1, 4672N×987E, h9km±2km, Md2.8/11, Ml2.4/5, Error ellipse: s-maj=3.3km s-min=1.2km az=51.0*
*ISCJB **31** 03:08:06.1±0.2, 4677N±001×986E±002, h8km±2km, Error ellipse: s-maj=2.4km s-min=1.7km az=138.9*
*CSEM **31** 03:08:07.2±0.1, 4673N×995E, h2km, ML2.9/26, Error ellipse: s-maj=1.1km s-min=0.8km az=173.0*
*ZUR **31** 03:08:07.2, 4674N×987E, h5km±1km, ML2.8/21*
*NEIC **31** 03:08:07.2, 4674N×987E, h5km, ML2.4(ROM), ML2.8(LDG), ML2.7(STR), ML2.8(ZUR), After ZUR.*
*PRU **31** 03:08:08.8, 4678N×1000E, h2km*
*LDG **31** 03:08:10.6±0.2, 4685N×976E, h10km, Ml2.8/25, Error ellipse: s-maj=3.9km s-min=2.2km az=82.0*
*STR **31** 03:08:10.5±0.2, 4684N×979E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 31 03:08:07.1±0.2, 4679N±001×985E±001, h5km±2km, n124, σ1≥17/242, 23C-9D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.02**	**106**	Pg	**Sg**	**03 08 08.9**	**+0.3**
DAVOX				Sg	**Sg**	**03 08 09.9**	**+1.3**
DAVOX	**Davos/Dischmat**	**0.02**	**106**	*i* Sg	**Sg**	**03 08 08.9**	**+0.3**
DAVOX	**Davos/Dischmat**	**0.02**	**106**	⇓*i*Pg	**Sg**	**03 08 09.9**	**+1.3**
FUORN	**Ofenpass-Fuorn**	**0.33**	**120**	⇑*i*Pg	**Pg**	**03 08 13.1**	**-0.3**
	1μm,0.4s						
BERNI	**Berninapass**	**0.39**	**162**	⇑*i*Pg	**Pg**	**03 08 14.4**	**-0.2**
	2μm,0.3s						
BERNI				*i* Sg	**Sg**	**03 08 19.2**	**-0.5**
	2μm,0.3s						
VDL	**Val di Lei**	**0.40**	**222**	⇑*i*Pg	**Pg**	**03 08 15.0**	**+0.2**
	1μm,0.2s						
PLONS	**Plons/SG**	**0.42**	**309**	*i* Pg	**Pg**	**03 08 16.3**	**+1.2**
	321nm,0.2s						
TUE	**Stuetta**	**0.47**	**228**	Pg	**Pg**	**03 08 16.2**	**+0.1**
TUE				Sg	**Sg**	**03 08 23.2**	**+1.0**
	348nm,0.4s						
BRMO	**Bormio**	**0.47**	**131**	Pg	**Pg**	**03 08 15.7**	**-0.5**
BRMO				Sg	**Sg**	**03 08 22.4**	**0.0**
	73nm,0.1s						
DAVA	**Damuels**	**0.50**	**2**	*e*Pg	**Pg**	**03 08 17.8**	**+1.1**
	SNR=174						
DAVA				⇑*i*Sg	**Sg**	**03 08 24.5**	**+1.2**
	comp=Z,92nm,0.2s						
DAVA	**Damuels**	**0.50**	**2**	Pg	**Pg**	**03 08 17.8**	**+1.1**
	173nm,9.0s						
DAVA				Sg	**Sg**	**03 08 24.5**	**+1.3**
	92nm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.57**	**334**	*e*P	**Pg**	**03 08 18.8**	**+0.9**
	317nm,0.6s						
LLS	**Linth-Limmern**	**0.58**	**276**	⇑*i*Pg	**Pg**	**03 08 17.7**	**-0.6**
	107nm,0.3s						
MUO	**Muotathal**	**0.85**	**283**	*e*P	**Pg**	**03 08 23.4**	**0.0**
	486nm,0.3s						
MABI	**Malga Bissina**	**0.86**	**148**	Pg	**Pg**	**03 08 22.8**	**-0.8**
MABI				Sg	**Sg**	**03 08 34.6**	**-0.2**
	34nm,0.1s						
FUSIO	**Fusio**	**0.88**	**248**	⇑*i*P	**Pg**	**03 08 23.7**	**-0.3**
	419nm,0.2s						
WILA	**Wila**	**0.90**	**315**	⇑*i*P	**Pg**	**03 08 24.5**	**+0.1**
	1μm,0.5s						
BNALP	**Bannalp**	**0.98**	**275**	⇑*i*P	**Pg**	**03 08 26.2**	**+0.3**
	277nm,0.4s						
APPI	**Appiano**	**1.00**	**107**	Pg	**Pg**	**03 08 25.6**	**-0.6**
APPI				Sg	**Sg**	**03 08 40.0**	**+0.9**
	92nm,0.2s						
MDI	**Monti di Nese**	**1.01**	**186**	Pg	**Pg**	**03 08 26.3**	**-0.2**
MDI				Sg	**Sg**	**03 08 39.5**	**-0.2**
	124nm,0.3s						
MOTA	**Moosalm**	**1.02**	**56**	⇓*e*Pg	**Pg**	**03 08 26.0**	**-0.7**
	SNR=14						
MOTA				⇓*i*Sg	**Sg**	**03 08 40.1**	**+0.2**
	42nm,0.3s						
MOTA	**Moosalm**	**1.02**	**56**	Pg	**Pg**	**03 08 26.0**	**-0.7**
	13nm,8.0s						
MOTA				Sg	**Sg**	**03 08 40.1**	**+0.2**
	42nm,0.3s						
SQTA	**Sankt Quirin**	**1.02**	**64**	⇓*i*Sg	**Sg**	**03 08 40.0**	**0.0**
	comp=Z,99nm,0.3s						
SQTA	**Sankt Quirin**	**1.02**	**64**	⇓*e*Pg	**Pg**	**03 08 26.1**	**-0.6**
	SNR=54						
SQTA				⇓*i*Sg	**Sg**	**03 08 40.0**	**0.0**
	99nm,0.3s						
SQTA	**Sankt Quirin**	**1.02**	**64**	Pg	**Pg**	**03 08 26.1**	**-0.6**
	54nm,4.0s						
SQTA				Sg	**Sg**	**03 08 40.0**	**0.0**
	99nm,0.3s						
MUGIO	**Muggio**	**1.03**	**213**	⇑*i*P	**Pg**	**03 08 25.9**	**-0.9**
	410nm,0.3s						
MUGIO	**Muggio**	**1.03**	**213**	Pg	**Pg**	**03 08 26.2**	**-0.6**
MUGIO				Sg	**Sg**	**03 08 40.6**	**+0.4**
ZUR	**Degenried**	**1.05**	**304**	⇓*i*Pn	**Pn**	**03 08 26.2**	**-2.2**
	658nm,0.3s						
HASLI	**Hasliberg/Brie**	**1.17**	**269**	*i* Pn	**Pn**	**03 08 26.3**	**-3.8**
	460nm,0.4s						
SCE	**Schlegeis**	**1.30**	**78**	⇓*i*Pg	**Pg**	**03 08 30.9**	**-1.1**
SCE				*i* Sg	**Sg**	**03 08 48.7**	**-0.1**
WATA	**Walderalm**	**1.30**	**64**	⇑*e*Pn	**Pn**	**03 08 31.2**	**-0.7**
	SNR=23						
WATA				⇓*i*Sg	**Sg**	**03 08 48.6**	**-0.3**
	36nm,0.2s						
WATA	**Walderalm**	**1.30**	**64**	Pg	**Pg**	**03 08 31.2**	**-0.8**
	22nm,7.0s						
WATA				Sg	**Sg**	**03 08 48.6**	**-0.3**
	36nm,0.2s						
WTTA	**Wattenberg**	**1.31**	**68**	⇑*e*Pn	**Pn**	**03 08 31.1**	**-0.9**
	SNR=60						
WTTA				⇑*i*Sg	**Sg**	**03 08 48.7**	**-0.5**
	65nm,0.4s						
WTTA	**Wattenberg**	**1.31**	**68**	Pg	**Pg**	**03 08 31.1**	**-1.1**
	60nm,4.0s						
WTTA				Sg	**Sg**	**03 08 48.7**	**-0.5**
	65nm,0.4s						
CTI	**Castel Tesino**	**1.45**	**120**	Pg	**Pg**	**03 08 34.1**	**-0.7**
CTI				Sg	**Sg**	**03 08 55.6**	**+2.1**
	14nm,0.2s						
MMK	**Mattmark**	**1.50**	**241**	*e*Pn	**Pn**	**03 08 29.6**	**-5.0**
	161nm,0.5s						
MMK	**Mattmark**	**1.50**	**241**	Pg	**Pg**	**03 08 34.9**	**-0.9**
MMK				Sg	**Sg**	**03 08 57.6**	**+2.4**
SEST	**Monte Rota**	**1.62**	**90**	Pg	**Pg**	**03 08 37.0**	**-1.2**
	78nm,0.4s						
FELD	**Feldberg im Sc**	**1.67**	**312**	Pn	**Pn**	**03 08 38.0**	**+1.1**
FELD				Sn	**Sg**	**03 09 02.7**	**+2.1**
FELD	**Feldberg im Sc**	**1.67**	**312**	Pg	**Pg**	**03 08 40.3**	**+1.3**
FELD				Sg	**Sg**	**03 09 02.7**	**+2.1**
BBS	**Basel-Blauen**	**1.74**	**294**	Pn	**Pg**	**03 08 41.7**	**+1.3**
BBS				Sn	**Sn**	**03 09 05.7**	**+5.2**
BBS	**Basel-Blauen**	**1.74**	**294**	Pg	**Pg**	**03 08 41.7**	**+1.3**
BBS				Sg	**Sg**	**03 09 05.5**	**+2.6**
ORO	**Oropa**	**1.74**	**229**	Pg	**Pg**	**03 08 38.6**	**-1.8**
ORO				Sg	**Sg**	**03 09 03.2**	**+0.2**
	34nm,0.2s						
DIX	**Grande Dixence**	**1.83**	**248**	*e*Pn	**Pn**	**03 08 34.1**	**-5.1**
	219nm,0.5s						
BFO	**Black Forest**	**1.86**	**327**	*e*Pn	**Pn**	**03 08 44.9**	**+5.4**
BFO				*e*Sn	**Sn**	**03 09 06.3**	**+2.9**
MOF	**Molkenrain**	**2.13**	**301**	Pn	**Pn**	**03 08 44.7**	**+1.3**
MOF	**Molkenrain**	**2.13**	**301**	Pn	**Pn**	**03 08 44.8**	**+1.4**
LOMF	**Lomont**	**2.14**	**286**	Pn	**Pn**	**03 08 47.7**	**+4.2**
LOMF	**Lomont**	**2.14**	**286**	Pn	**Pn**	**03 08 49.5**	**+6.0**
HINF	**Hinteralfeld**	**2.29**	**298**	*e*Pg	**Pg**	**03 08 51.6**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**03 09 11.9**	**-2.1**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**03 09 19.9**	**-0.6**
	13nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.29**	**298**	*e*Pn	**Pn**	**03 08 45.9**	**+0.4**
HINF				*e*Pg	**Pg**	**03 08 51.6**	**+0.7**
HINF				*e*Sn	**Sn**	**03 09 11.9**	**-2.1**
HINF				*e*Sg	**Sg**	**03 09 19.9**	**-0.6**
HINF	**Hinteralfeld**	**2.29**	**298**	*e*Pg	**

MBDF	**Montbardon**	**2.98 227**	*e*Pn	**Pn**	**03 08 56.0**	**+1.0**
	SNR=1.0					
MBDF			*e*Sn	**Sn**	**03 09 30.5**	**-0.7**
	SNR=1.0					
MBDF			*e*Sg	**Sg**	**03 09 42.7**	**-0.2**
	10nm,0.5s					
MBDF	**Montbardon**	**2.98 227**	*e*Pn	**Pn**	**03 08 56.0**	**+1.0**
	SNR=1.0					
MBDF			*e*Sn	**Sn**	**03 09 30.5**	**-0.7**
	SNR=1.0					
MBDF			*e*Sg	**Sg**	**03 09 42.7**	**-0.2**
	5.2nm,0.5s					
MOA	**Molln**	**3.19 69**	⇑*i*Pn	**Pn**	**03 08 59.6**	**+1.8**
MOA			⇑*i*Pg	**Pg**	**03 09 07.6**	**-0.5**
MOA	**Molln**	**3.19 69**	⇑*i*Sn	**Sn**	**03 09 35.5**	**-0.7**
MOA			⇑*i*Sg	**Sg**	**03 09 51.3**	**+1.9**
	comp=E,4.8nm,0.3s					
MOA	**Molln**	**3.19 69**	⇑*i*Pn	**Pn**	**03 08 59.6**	**+1.8**
MOA			⇑*i*Pg	**Pg**	**03 09 07.6**	**-0.5**
MOA			⇑*i*Sn	**Sn**	**03 09 35.5**	**-0.7**
MOA			⇑*i*Sg	**Sg**	**03 09 51.3**	**+1.9**
	4.8nm,0.3s					
GEC2	**GERESS Array S**	**3.31 50**	*e*Pn	**Pn**	**03 09 00.5**	**+0.9**
GEC2			*e*Sn	**Sn**	**03 09 39.9**	**+0.5**
GEC2	**GERESS Array S**	**3.31 50**	*e*Pn	**Pn**	**03 09 00.5**	**+0.9**
GEC2			*e*Sn	**Sn**	**03 09 39.9**	**+0.6**
ORIF	**Oris-en-Rattie**	**3.35 238**	*e*P	**Pn**	**03 09 04.0**	**+4.0**
ORIF			*e*Sn	**Sn**	**03 09 39.1**	**-1.0**
ORIF			*e*Sg	**Sg**	**03 09 54.9**	**+0.4**
	4.4nm,0.3s					
ORIF	**Oris-en-Rattie**	**3.35 238**	*e*Pn	**Pn**	**03 09 00.7**	**+0.7**
ORIF			*e*P		03 09 04.0	
ORIF			*e*Sn	**Sn**	**03 09 39.1**	**-1.0**
ORIF	**Oris-en-Rattie**	**3.35 238**	*e*P	**Pn**	**03 09 04.0**	**+4.0**
ORIF			*e*Sn	**Sn**	**03 09 39.1**	**-1.0**
ORIF			*e*Sg	**Sg**	**03 09 54.9**	**+0.4**
	2.2nm,0.3s					
SBF	**Sospel**	**3.38 211**	*e*P	**Pn**	**03 09 05.3**	**+4.8**
	SNR=1.0					
SBF			*e*Sn	**Sn**	**03 09 40.4**	**-0.7**
	22nm,0.6s,SNR=1.0					
SBF	**Sospel**	**3.38 211**	*e*Pn	**Pn**	**03 09 02.1**	**+1.6**
SBF			*e*P		03 09 05.3	
SBF			*e*Sn	**Sn**	**03 09 40.4**	**-0.7**
SBF	**Sospel**	**3.38 211**	*e*P	**Pn**	**03 09 05.3**	**+4.8**
	SNR=1.0					
SBF			*e*Sn	**Sn**	**03 09 40.4**	**-0.7**
	11nm,0.6s,SNR=1.0					
KHC	**Kasperske Hory**	**3.43 45**	*e*PN	**Pn**	**03 09 01.6**	**+0.4**
KHC			*e*PG	**Pg**	**03 09 09.6**	**-3.2**
KHC			*e*SN	**Sn**	**03 09 42.9**	**+0.7**
KHC			*e*SG	**Sg**	**03 09 54.7**	**-2.6**
	10nm,0.4s					
RFYF	**Reffroy**	**3.48 304**	*e*Pn	**Pn**	**03 09 01.9**	**0.0**
	baz=121					
RFYF			*e*Sg	**Sg**	**03 09 57.5**	**-1.5**
	9.7nm,0.5s					
RFYF	**Reffroy**	**3.48 304**	*e*Pn	**Pn**	**03 09 01.9**	**0.0**
RFYF			*e*Sg	**Sg**	**03 09 57.5**	**-1.5**
	4.8nm,0.5s					
SFTF	**Sexfontaines**	**3.56 295**	*e*Pn	**Pn**	**03 09 02.9**	**-0.1**
	baz=116					
SFTF	**Sexfontaines**	**3.56 295**	*e*Pg	**Pg**	**03 09 15.0**	**-0.3**
	baz=119					
SFTF			*e*Sg	**Sg**	**03 09 59.8**	**-1.6**
	8.3nm,0.6s					
SFTF	**Sexfontaines**	**3.56 295**	*e*Pn	**Pn**	**03 09 02.9**	**-0.1**
SFTF			*e*Pg	**Pg**	**03 09 15.0**	**-0.3**
SFTF			*e*Sg	**Sg**	**03 09 59.8**	**-1.6**
SFTF	**Sexfontaines**	**3.56 295**	*e*Pg	**Pg**	**03 09 15.0**	**-0.3**
SFTF			*e*Sg	**Sg**	**03 09 59.8**	**-1.6**
	4.2nm,0.6s					
MEZF	**Maizieres J'vi**	**3.67 300**	*e*Pn	**Pn**	**03 09 04.3**	**-0.2**
MEZF			*e*Sg	**Sg**	**03 10 03.5**	**-1.5**
	5.7nm,0.4s					
MEZF	**Maizieres J'vi**	**3.67 300**	*e*Pn	**Pn**	**03 09 04.3**	**-0.2**
MEZF			*e*Sg	**Sg**	**03 10 03.5**	**-1.5**
	2.8nm,0.4s					
FRF	**La Foret Royal**	**3.94 216**	*e*Pn	**Pn**	**03 09 09.4**	**+1.2**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**03 09 53.5**	**-1.4**
	4.4nm,0.3s					
FRF	**La Foret Royal**	**3.94 216**	*e*Pn	**Pn**	**03 09 09.4**	**+1.2**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**03 09 53.5**	**-1.4**
	2.2nm,0.3s					
MOX	**Moxa**	**4.03 16**	*e*PG	**Sn**	**03 09 55.6**	**-1.5**
VIVF	**Saint-Julien-l**	**4.10 244**	*e*Pn	**Pn**	**03 09 12.0**	**+1.6**
	SNR=1.0					
VIVF			*e*Sn	**Sn**	**03 09 55.5**	**-3.3**
VIVF			*e*Sg	**Sg**	**03 10 17.8**	**-1.1**
	3.5nm,0.4s					
VIVF	**Saint-Julien-l**	**4.10 244**	*e*Pn	**Pn**	**03 09 12.0**	**+1.6**
	SNR=1.0					
VIVF			*e*Sn	**Sn**	**03 09 55.5**	**-3.3**
VIVF			*e*Sg	**Sg**	**03 10 17.8**	**-1.1**
	1.8nm,0.4s					
SMRF	**Simiane la Rot**	**4.12 229**	*e*Pn	**Pn**	**03 09 12.2**	**+1.5**
SMRF			*e*Sn	**Sn**	**03 09 57.1**	**-2.1**
	1.8nm,0.4s					
SMRF	**Simiane la Rot**	**4.12 229**	*e*Pn	**Pn**	**03 09 12.2**	**+1.5**
SMRF			*e*Sn	**Sn**	**03 09 57.1**	**-2.1**
	0.9nm,0.4s					
LOR	**Lormes**	**4.13 279**	*e*Pn	**Pn**	**03 09 11.1**	**+0.3**
	baz=98					
LOR			*e*Sg	**Sg**	**03 10 17.7**	**-1.9**
	4.7nm,0.4s					
LOR	**Lormes**	**4.13 279**	*e*Pn	**Pn**	**03 09 11.1**	**+0.3**
LOR			*e*Sg	**Sg**	**03 10 17.7**	**-1.9**
	2.3nm,0.4s					
SMF	**Signal de Mont**	**4.14 270**	*e*Pg	**Pg**	**03 09 25.6**	**-0.7**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**03 10 18.7**	**-1.3**
	4.4nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**4.14 270**	*e*Pn	**Pn**	**03 09 11.4**	**+0.5**
SMF			*e*Pg	**Pg**	**03 09 25.6**	**-0.7**
SMF			*e*Sg	**Sg**	**03 10 18.7**	**-1.3**
SMF	**Signal de Mont**	**4.14 270**	*e*Pg	**Pg**	**03 09 25.6**	**-0.7**
	SNR=1.0					
SMF			*e*Sg	**Sg**	**03 10 18.7**	**-1.3**
	2.2nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**4.19 216**	*e*Pn	**Pn**	**03 09 13.2**	**+1.6**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**03 09 59.2**	**-1.7**
	1.9nm,0.3s					
LMR	**La Mourre**	**4.19 216**	*e*Pn	**Pn**	**03 09 13.2**	**+1.6**
	SNR=1.0					
LMR			*e*Sn	**Sn**	**03 09 59.2**	**-1.7**
	0.9nm,0.3s					
PGF	**Pioggiola**	**4.28 188**	*e*Pn	**Pn**	**03 09 13.6**	**+0.7**
PGF			*e*Sn	**Sn**	**03 10 02.8**	**-0.4**
	1.9nm,0.4s					
PGF	**Pioggiola**	**4.28 188**	*e*Pn	**Pn**	**03 09 13.6**	**+0.7**
PGF			*e*Sn	**Sn**	**03 10 02.8**	**-0.4**
	0.9nm,0.4s					
SSF	**Saint Saulge**	**4.36 276**	*e*Pn	**Pn**	**03 09 14.6**	**+0.7**
SSF			*e*Sg	**Sg**	**03 10 25.1**	**-1.9**
	2.8nm,0.3s					
SSF	**Saint Saulge**	**4.36 276**	*e*Pn	**Pn**	**03 09 14.6**	**+0.7**
SSF			*e*Sg	**Sg**	**03 10 25.1**	**-1.9**
	1.4nm,0.3s					
AVF	**Avril sur Loir**	**4.46 272**	*e*Pn	**Pn**	**03 09 16.4**	**+1.0**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**03 10 28.0**	**-2.5**
	1.6nm,0.3s					
AVF	**Avril sur Loir**	**4.46 272**	*e*Pn	**Pn**	**03 09 16.4**	**+1.0**
	SNR=1.0					
AVF			*e*Sg	**Sg**	**03 10 28.0**	**-2.5**
	0.8nm,0.3s					
PRU	**Pruhonice**	**4.47 43**	*e*PG	**Pg**	**03 09 28.8**	**-4.0**
BGF	**Bois d'Agland**	**4.83 270**	*e*Pn	**Pn**	**03 09 21.5**	**+1.1**
BGF			*e*Sg	**Sg**	**03 10 40.0**	**-2.1**
	5.7nm,0.4s					
BGF	**Bois d'Agland**	**4.83 270**	*e*Pn	**Pn**	**03 09 21.5**	**+1.1**
BGF			*e*Sg	**Sg**	**03 10 40.0**	**-2.1**
	2.8nm,0.4s					
HYF	**Humbligny**	**4.96 278**	*e*Pn	**Pn**	**03 09 22.8**	**+0.6**
BAIF	**Baives**	**4.99 313**	*e*Pn	**Pn**	**03 09 22.7**	**+0.1**
LASF	**Ste Croix**	**5.01 239**	*e*Pn	**Pn**	**03 09 23.5**	**+0.5**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**03 10 17.8**	**-3.5**
	5.4nm,0.7s					
LASF	**Ste Croix**	**5.01 239**	*e*Pn	**Pn**	**03 09 23.5**	**+0.5**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**03 10 17.8**	**-3.5**
	2.7nm,0.7s					
TCF	**Toulx Ste Croi**	**5.30 267**	*e*Pn	**Pn**	**03 09 27.6**	**+0.8**
CAF	**Calviac**	**5.75 254**	*e*Pn	**Pn**	**03 09 34.5**	**+1.4**
	SNR=1.0					
MFF	**Saint Martin d**	**6.88 272**	*e*Pn	**Pn**	**03 09 49.1**	**+0.5**

MOS ***31*** *03:09:37.0±0.8,5161N×1624E,h7km,mb4.0/2,Error ellipse: s-maj=8.4km s-min=4.2km az=84.9*
CSEM ***31*** *03:09:38.4±0.1,5151N×1607E,h1km,mb3.9/2,ML4.0/12, Error ellipse: s-maj=1.8km s-min=1.3km az=12.0*
NEIC ***31*** *03:09:38.9±0.5,5153N×1611E,h5km,ML3.2(BRA), ML3.3(SZGRF),Error ellipse: s-maj=5.8km s-min=5.3km az=190.0*
LDG ***31*** *03:09:38.6±0.1,5143N×1611E,h1km,Ml4.0/8,Error ellipse: s-maj=3.6km s-min=2.7km az=179.0,Suspected Mining induced.*
ISCJB ***31*** *03:09:38.3±0.3,5138N±002×1617E±002,h0km,mb3.6/6, Error ellipse: s-maj=2.3km s-min=1.8km az=18.7*
IPEC ***31*** *03:09:39.6±0.3,5145N×1624E,h7km±1km,ML2.9/3,Error ellipse: s-maj=1.9km s-min=0.7km az=37.0*
BGR ***31*** *03:09:39.0±0.5,5145N×1616E,h1km,ML3.3,Error ellipse: s-maj=7.8km s-min=3.3km az=18.0*
WAR ***31*** *03:09:40.8,5145N×1617E,ML3.3,Mining Induced*
IDC ***31*** *03:09:40.1±0.5,5146N×1608E,h0km,mb3.6/4, mb1 3.8/12,mb1mx3.7/23,mbtmp3.6/12,ML3.5/8,Error ellipse: s-maj=10.7km s-min=6.1km az=109.0*
PRU ***31*** *03:09:40.9,5141N×1613E,h0km*
STR ***31*** *03:09:40.8±1.4,5117N×1622E,h5km±1km,Ml4.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
VIE ***31*** *03:09:44.6±0.6,5114N×1621E,h10km,mb2.9/7,ML3.1/10, Error ellipse: s-maj=3.9km s-min=3.1km az=177.0 56 km W of Breslau Suspected Mining induced.*
ISC 31 03:09:39.0±0.2,5148N±001×1618E±002,h0km,n152, σ1§17/248,mb3.6/6,16C-15D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**173**	*i* Pg	**Pg**	**03 09 51.9**	**+0.6**
KSP				*e*		03 09 58.8	
KSP				*e*Sg	**Sg**	**03 10 00.0**	**+0.4**
KSP				*e*L		03 10 03.3	
KSP	**Ksiaz**	**0.64**	**173**	*e*Pn	**Pg**	**03 09 51.2**	**-0.1**
KSP	**Ksiaz**	**0.64**	**173**	⇓*i*Pg	**Pg**	**03 09 51.9**	**+0.6**
KSP				*e*		03 09 58.8	
KSP				*e*Sg	**Sg**	**03 10 00.0**	**+0.4**
KSP				*e*		03 10 03.3	
KSP	**Ksiaz**	**0.64**	**173**	*e*Pg	**Pg**	**03 09 51.8**	**+0.5**
KSP				*e*Sg	**Sg**	**03 09 58.6**	**-1.0**
UPC	**Upice**	**0.98**	**186**	*e*PG	**Pg**	**03 09 58.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*Pn	**Pn**	**03 10 00.6**	**-1.5**
DPC				*e*Sg	**Sg**	**03 10 14.3**	**-1.1**
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*PG	**Pg**	**03 10 00.7**	**0.0**
DPC				*e*SG	**Sg**	**03 10 14.9**	**-0.5**
	268nm,0.7s						
PVCC	**Panska Ves**	**1.39**	**227**	*e*PG	**Pg**	**03 10 05.8**	**+0.1**
PVCC				*e*SG	**Sg**	**03 10 24.5**	**+0.8**
PVCC	**Panska Ves**	**1.39**	**227**	*e*Pn	**Pg**	**03 10 05.8**	**+0.1**
PVCC				*e*Sg	**Sg**	**03 10 24.2**	**+0.5**
BRG	**Berggiesshubel**	**1.53**	**248**	*e*Pg	**Pg**	**03 10 06.8**	**-1.6**
BRG	**Berggiesshubel**	**1.53**	**248**	PN	**Pn**	**03 10 07.0**	**-0.6**
BRG				PG	**Pg**	**03 10 08.4**	**+0.1**
BRG				SG	**Sg**	**03 10 28.7**	**+0.5**
	86nm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**248**	*e*Pn	**Pn**	**03 10 06.9**	**-0.7**
RUE	**Ruedersdorf**	**1.79**	**305**	⇓*i*Pn	**Pn**	**03 10 10.9**	**-0.2**
RUE				*e*Sn	**Sn**	**03 10 36.3**	**+1.8**
RUE	**Ruedersdorf**	**1.79**	**305**	*e*Pn	**Pn**	**03 10 10.8**	**-0.3**
RUE				*e*Sn	**Sn**	**03 10 36.3**	**+1.8**
PRA	**Prague**	**1.79**	**219**	PG	**Pn**	**03 10 10.0**	**-1.2**
PRA				SG	**Sg**	**03 10 36.0**	**-0.6**
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**03 10 11.0**	**-0.5**
PRU				*e*PG	**Pg**	**03 10 13.1**	**-0.7**
PRU				*e*SG	**Sg**	**03 10 36.7**	**-0.7**
	222nm,0.5s						
PRU	**Pruhonice**	**1.82**	**215**	*e*Pg	**Pg**	**03 10 13.1**	**-0.7**
PRU				*e*Sg	**Sg**	**03 10 35.4**	**-2.0**
FBE	**Freiberg**	**1.86**	**254**	*e*Pn	**Pn**	**03 10 11.5**	**-0.6**
FBE				*e*Sg	**Sg**	**03 10 38.0**	**-0.8**
RAC	**Raciborz**	**1.90**	**137**	*e*Pn	**Pn**	**03 10 11.8**	**-0.8**
RAC				*e*Pg	**Pg**	**03 10 15.5**	**+0.2**
RAC				*e*Sg	**Sg**	**03 10 38.3**	**-1.6**
RAC	**Raciborz**	**1.90**	**137**	*e*Pg	**Pg**	**03 10 15.5**	**+0.2**
RAC				*e*Sg	**Sg**	**03 10 38.3**	**-1.6**
GKP	**Gorka Klasztor**	**1.91**	**20**	*e*Pn	**Pn**	**03 10 14.1**	**+1.3**
GKP				*e*Pg	**Pg**	**03 10 21.6**	**+6.0**
GKP				*e*Sg	**Sg**	**03 10 45.3**	**+4.9**
GKP	**Gorka Klasztor**	**1.91**	**20**	*e*P	**Pn**	**03 10 14.1**	**+1.3**
GKP				*e*		03 10 21.6	
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**03 10 12.0**	**-0.9**
MORC	**Moravsky Berou**	**1.91**	**152**	⇑*i*P	**Pn**	**03 10 12.5**	**-0.3**
MORC	**Moravsky Berou**	**1.91**	**152**	⇓*e*Pn	**Pn**	**03 10 12.4**	**-0.4**
MORC				*e*Sn	**Sn**	**03 10 38.6**	**+1.0**
MORC	**Moravsky Berou**	**1.91**	**152**	Pn	**Pn**	**03 10 12.0**	**-0.8**
MORC				*e*Sg	**Sg**	**03 10 37.0**	**-3.5**
MORC				*e*Sn	**Sn**	**03 10 38.6**	**+1.0**
CLL	**Collm**	**2.00**	**266**	*e*Pn	**Pn**	**03 10 13.3**	**-0.6**
CLL				*i* Pg	**Pg**	**03 10 17.2**	**0.0**
CLL				*i* Sg	**Sg**	**03 10 44.6**	**+1.5**
CLL	**Collm**	**2.00**	**266**	*i* Pn	**Pn**	**03 10 13.6**	**-0.4**
CLL				*i* Pg	**Pg**	**03 10 17.2**	**0.0**
CLL				*i* Sg	**Sg**	**03 10 44.6**	**+1.5**
	comp=Z,156nm,1.0s						
CLL	**Collm**	**2.00**	**266**	Sg	**Sg**	**03 10 44.6**	**+1.5**
CLL	**Collm**	**2.00**	**266**	Pg	**Pg**	**03 10 17.2**	**0.0**
CLL				*e*Sg	**Sg**	**03 10 43.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*Pn	**Pn**	**03 10 14.1**	**-0.8**
OKC				*e*Sg	**Sg**	**03 10 43.2**	**-2.2**
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*PN	**Pn**	**03 10 14.0**	**-1.0**
OKC				*e*PG	**Pg**	**03 10 18.2**	**-0.4**
OKC				*e*SG	**Sg**	**03 10 42.9**	**-2.5**
	comp=Z,188nm,0.7s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*Pg	**Pg**	**03 10 18.2**	**-0.4**
OKC				Sg	**Sg**	**03 10 43.2**	**-2.2**
VRAC	**Vranov**	**2.19**	**173**	Pn	**Pn**	**03 10 17.5**	**+0.8**
	comp=Z,12nm,0.3s,baz=343,slow=13,SNR=19						
VRAC				Lg		03 10 47.8	
	comp=Z,22nm,0.3s,baz=75,slow=7.7,SNR=16						
VRAC	**Vranov**	**2.19**	**173**	⇑*i*P	**Pn**	**03 10 17.0**	**+0.4**
VRAC	**Vranov**	**2.19**	**173**	*e*Pn	**Pn**	**03 10 17.0**	**+0.4**
VRAC				*e*Sg	**Sg**	**03 10 45.9**	**-3.4**
KRUC	**Moravsky**	**2.42**	**177**	*e*Pn	**Pn**	**03 10 19.5**	**-0.3**
KRUC				*e*Sg	**Sg**	**03 10 55.4**	**-1.5**
	comp=Z,54nm,0.4s						
OJC	**Ojcow**	**2.62**	**117**	*e*Pn	**Pn**	**03 10 20.9**	**-1.7**
OJC				*e*Pg	**Pg**	**03 10 29.6**	**+0.4**
OJC				*e*Sg	**Sg**	**03 11 04.4**	**+1.2**
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**03 10 29.6**	**+0.4**
OJC				Sg	**Sg**	**03 11 02.7**	**-0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**03 10 26.5**	**+0.4**
KHC				*e*PG	**Pg**	**03 10 32.4**	**-1.8**
KHC				*e*SG	**Sg**	**03 11 09.2**	**-2.3**
	comp=Z,81nm,0.7s						
MOX	**Moxa**	**3.00**	**256**	*e*P	**Pg**	**03 10 36.4**	**0.0**
MOX	**Moxa**	**3.00**	**256**	*e*Pg	**Pg**	**03 10 36.1**	**-0.3**
MOX				*e*Sg	**Sg**	**03 11 14.8**	**-0.4**
MOX	**Moxa**	**3.00**	**256**	*i* SG	**Pg**	**03 10 36.4**	**0.0**
ROTZ	**Rotzenmuhle**	**3.05**	**237**	*e*Pn	**Pn**	**03 10 28.6**	**+0.1**
SMOL	**Smolenice**	**3.08**	**164**	*e*PG	**Pg**	**03 10 38.2**	**+0.2**
SMOL				*e*SG	**Sg**	**03 11 17.3**	**-0.5**
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**03 10 29.7**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=37,slow=14,SNR=15						
GERES				Pg	**Pg**	**03 10 35.7**	**-2.3**
	comp=Z,14nm,0.3s,baz=31,slow=16,SNR=40						
GERES				Lg		03 11 14.3	
	comp=Z,12nm,0.3s,baz=33,slow=26,SNR=6.4						
GERES	**GERESS Array B**	**3.08**	**212**	Pg	**Pg**	**03 10 35.7**	**-2.3**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**03 10 29.8**	**-0.1**
WET				*e*Sg	**Sg**	**03 11 17.7**	**-2.5**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**03 10 29.8**	**-0.1**
WET				*e*Sg	**Sg**	**03 11 17.7**	**-2.5**
ZST	**Bratislava**	**3.34**	**169**	*e*PG	**Pg**	**03 10 42.2**	**-0.8**
ZST				*e*SG	**Sg**	**03 11 26.0**	**-0.3**
NIE	**Niedzica**	**3.35**	**126**	*e*P	**Pg**	**03 10 44.5**	**+1.2**
NIE				*e*S	**Sg**	**03 11 27.8**	**+1.0**
VYHS	**Vyhne**	**3.45**	**149**	*e*PN	**Pn**	**03 10 33.7**	**-0.2**
VYHS				*e*PG	**Pg**	**03 10 45.4**	**+0.3**
VYHS				*e*SG	**Sg**	**03 11 30.4**	**+0.7**
VYHS	**Vyhne**	**3.45**	**149**	*e*Sg	**Sg**	**03 11 30.4**	**+0.7**
CONA	**Conrad Observa**	**3.56**	**183**	⇓*i*Pn	**Pn**	**03 10 34.8**	**-0.7**
CONA				⇓*i*Sg	**Sg**	**03 11 31.2**	**-2.2**
	comp=Z,50nm,0.4s						
GRA1	**Grafenberg Arr**	**3.63**	**242**	*e*Pn	**Pn**	**03 10 36.5**	**+0.1**
GRF	**Grafenberg Arr**	**3.63**	**242**	*e*Pn	**Pn**	**03 10 36.5**	**+0.1**
CLZ	**Clausthal**	**3.63**	**278**	*e*Pn	**Pn**	**03 10 37.2**	**+0.7**
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**03 10 37.1**	**-0.6**
BSD				*i* S	**Sn**	**03 11 20.5**	**-1.7**
SOP	**Sopron**	**3.81**	**176**	⇓*e*Pn	**Pn**	**03 10 39.9**	**+1.0**
SOP				*e*Sg	**Sg**	**03 11 44.6**	**+3.3**
SOP	**Sopron**	**3.81**	**176**	⇓*e*Pn	**Pn**	**03 10 39.9**	**+1.0**
SOP				*e*Sn	**Sg**	**03 11 44.5**	**+3.2**
MOA	**Molln**	**3.84**	**200**	⇓*i*Pn	**Pn**	**03 10 40.0**	**+0.7**
	SNR=10						
MOA				⇑*i*Sg	**Sg**	**03 11 42.3**	**0.0**
	comp=Z,74nm,0.6s						
MOA	**Molln**	**3.84**	**200**	Pn	**Pn**	**03 10 40.0**	**+0.7**
	comp=Z,10.0nm,4.0s						
MOA				Sg	**Sg**	**03 11 42.3**	**0.0**
	comp=Z,74nm,0.6s						
MOA	**Molln**	**3.84**	**200**	⇓*i*Pn	**Pn**	**03 10 40.0**	**+0.7**
	SNR=10						
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PN	**Pn**	**03 10 39.8**	**+0.5**
STHS				*e*PG	**Pg**	**03 10 54.1**	**+1.5**
STHS				*e*SG	**Sg**	**03 11 46.9**	**+4.5**
KECS	**Kecovo**	**4.09**	**135**	*e*PN	**Pn**	**03 10 41.9**	**-0.9**
KECS				*e*PG	**Pg**	**03 10 57.7**	**+0.3**
KECS				*e*SG	**Sg**	**03 11 49.9**	**-0.5**
ARSA	**Arzberg**	**4.25**	**186**	⇑*i*Pn	**Pn**	**03 10 46.1**	**+1.1**
ARSA				⇑*i*Sg	**Sg**	**03 11 53.8**	**-1.9**
	comp=Z,130nm,1.1s						
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*PN	**Pn**	**03 10 45.9**	**+0.7**
CRVS				*e*PG	**Pg**	**03 11 01.8**	**+1.1**
CRVS				*e*SG	**Sg**	**03 11 55.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*Pn	**Pn**	**03 10 45.9**	**+0.7**
CRVS				*e*Pg	**Pg**	**03 11 01.8**	**+1.1**
CRVS				*e*Sg	**Sg**	**03 11 56.0**	**0.0**
CRVS	**Cervenica-Dubn**	**4.26**	**125**	*e*Pg	**Pg**	**03 11 01.8**	**+1.1**
CRVS				*e*Sg	**Sg**	**03 11 56.0**	**0.0**
PSZ	**Piszkesteto**	**4.30**	**144**	⇑*e*Pn	**Pn**	**03 10 46.5**	**+0.8**
PSZ	**Piszkesteto**	**4.30**	**144**	⇑*i*P	**Pn**	**03 10 46.3**	**+0.6**
PSZ	**Piszkesteto**	**4.30**	**144**	*e*Pn	**Pn**	**03 10 46.3**	**+0.6**
PSZ	**Piszkesteto**	**4.30**	**144**	*e*Pn	**Pn**	**03 10 46.3**	**+0.6**
KWP	**Kalwaria**	**4.56**	**111**	*e*Pn	**Pn**	**03 10 49.2**	**0.0**
KWP				*e*Pg	**Pg**	**03 11 10.2**	**+3.9**
KWP				*e*Sn	**Sn**	**03 11 49.0**	**+6.2**
KWP				*e*Sg	**Sg**	**03 12 12.8**	**+7.4**
KWP	**Kalwaria**	**4.56**	**111**	*e*P	**Pn**	**03 10 49.2**	**0.0**
KWP				*e*		03 11 49.0	
KWP	**Kalwaria**	**4.56**	**111**	*e*Sn	**Sn**	**03 11 49.0**	**+6.2**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*PN	**Pn**	**03 10 51.0**	**+0.2**
KOLS				*e*		03 11 11.4	
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*Pn	**Pn**	**03 10 51.0**	**+0.2**
KOLS				*e*		03 11 11.4	
KOLS				*e*Sg	**Sg**	**03 12 10.2**	**+1.1**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*Pn	**Pn**	**03 10 51.0**	**+0.2**
KOLS				*e*Sg	**Sg**	**03 12 10.2**	**+1.1**
KBA	**Koelnbreinsper**	**4.78**	**204**	⇑*i*Pn	**Pn**	**03 10 53.1**	**+0.9**
KBA				⇑*i*Sg	**Sg**	**03 12 12.1**	**-0.4**
	comp=Z,42nm,0.6s						
UZH	**Uzhgorod**	**4.86**	**123**	*e*P	**Pn**	**03 10 48.0**	**-5.4**
UZH				*e*S	**Sn**	**03 11 41.8**	**-8.6**
UZH				pmax	pmax		
	comp=Z,28nm,0.9s						
UZH	**Uzhgorod**	**4.86**	**123**	*e*P	**Pn**	**03 10 48.0**	**-5.4**
	comp=Z,28nm,0.9s						
GROS	**Grobnik**	**5.04**	**185**	*e*Pn	**Pn**	**03 10 57.1**	**+1.2**
TOD	**Tromm**	**5.06**	**251**	P	**Pn**	**03 10 55.4**	**-0.7**
WATA	**Walderalm**	**5.12**	**218**	⇑*i*Pn	**Pn**	**03 10 58.1**	**+1.2**
WATA				⇑*i*Sg	**Sg**	**03 12 25.2**	**+1.7**
	comp=Z,38nm,0.8s						

LPG	La Plagne	8.65	230	eP	Pn	03 11 46.9	+1.4
HFS	Hagfors	8.79	352	Pn	Pn	03 11 46.4	-0.8
	comp=Z,0.5nm,0.3s,baz=168,slow=15,SNR=9.5						
HFS				Sn	Sn	03 13 26.4	-0.6
	comp=Z,0.4nm,0.3s,baz=177,slow=32,SNR=3.2						
HFS	Hagfors	8.79	352	Pn	Pn	03 11 46.4	-0.8
HFS				Sn	Sn	03 13 26.4	-0.6
MBDF	Montbardon	9.22	227	ePn	Pn	03 11 49.6	-3.7
MBDF	Montbardon	9.22	227	eP	Pn	03 11 54.5	+1.2
MBDF	Montbardon	9.22	227	eP	Pn	03 11 54.5	+1.2
VSU	Vasula	9.26	37	eP	Pn	03 11 48.7	-5.0
SBF	Sospel	9.63	221	ePn	Pn	03 11 55.3	-3.5
SBF	Sospel	9.63	221	eP	Pn	03 12 00.4	+1.6
SBF	Sospel	9.63	221	eP	Pn	03 12 00.4	+1.6
NOA	NORSAR Array B	9.97	346	Pn	Pn	03 12 01.4	-2.1
	comp=Z,0.4nm,0.3s,baz=164,slow=12,SNR=2.8						
FINES	FINESS Array B	11.38	25	Pn	Pn	03 12 20.1	-2.6
	comp=Z,0.6nm,0.3s,baz=202,slow=11,SNR=28						
FINES				Sn	Sn	03 14 20.9	-10
	comp=Z,0.2nm,0.3s,baz=203,slow=21,SNR=2.9						
KAF	Kangasniemi	12.00	23	ep	Pn	03 12 28.7	-2.6
	comp=Z,2.4nm,0.5s						
KAF	Kangasniemi	12.00	23	eP	Pn	03 12 28.7	-2.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
EKA	Eskdalemuir Ar	12.16	296	Pn	Pn	03 12 30.9	-2.6
	comp=Z,0.3nm,0.3s,baz=100,slow=14,SNR=5.0						
OBN	Obninsk	12.72	65	eP	Pn	03 12 36.4	-4.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
JOF	Joensuu	14.05	29	ep	Pn	03 12 55.2	-4.1
	comp=Z,2.8nm,0.4s						
JOF	Joensuu	14.05	29	eP	Pn	03 12 55.2	-4.1
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES	ARCESS Array B	18.65	10	Pn	Pn	03 13 54.5	-4.1
	comp=Z,1.1nm,0.3s,baz=195,slow=12,SNR=20						
ARCES	ARCESS Array B	18.65	10	P	Pn	03 13 54.5	-4.0
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	25.12	62⇑	iP	P	03 15 05.9	+0.4
ARU				e		03 15 38.3	
ARU				ePPP		03 15 47.3	
ARU				eS	S	03 19 33.8	+2.6
ARU				eSS		03 20 26.2	
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
ARU	Arti	25.12	62	iP	P	03 15 05.9	+0.4
	comp=Z,5.0nm,1.0s,mb4.2						
TORD	Torodi Ar. Bea	39.98	202	P	P	03 17 15.4	+0.1
	comp=Z,1.4nm,0.9s,mb3.6,baz=8.9,slow=8.6,SNR=8.7						
ZAL	Zalesovo	40.17	59	iP	P	03 17 18.0	+1.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	40.17	59	iP	P	03 17 18.0	+1.1
	comp=Z,1.0nm,0.5s,mb3.7						
SONM	Songino Array	54.90	55	P	P	03 19 12.9	+1.5
	comp=Z,0.2nm,0.5s,mb3.4,baz=287,slow=7.6,SNR=4.7						
PDAR	Pinedale Array	74.99	322	P	P	03 21 22.6	+0.5
	comp=Z,0.7nm,1.0s,mb3.7,baz=73,slow=2.0,SNR=4.4						
TXAR	Lajitas Array	83.77	310	P	P	03 22 11.5	+1.5
	comp=Z,0.1nm,0.5s,mb3.3,baz=46,slow=5.2,SNR=2.6						

*IDC **31** 03:13:51.6±0.6, 3164S×17861W, h0km, mb4.6/7, mb1 4.8/8, mb1mx4.7/11, mbtmp4.6/8, ML4.6/1, MS3.9/15, Ms1 3.9/15, ms1mx3.8/19, Error ellipse: s-maj=23.8km s-min=19.1km az=121.0*

*MOS **31** 03:13:56.1±1.2, 3176S×17868W, h33km, mb5.1/4, Error ellipse: s-maj=20.0km s-min=19.1km az=132.8*

*NEIC **31** 03:13:56.3±0.5, 3206S×17854W, h35km, mb5.1/8, Error ellipse: s-maj=18.6km s-min=7.0km az=112.0*

*GCMT **31** 03:13:56.3±0.5, 3185S×17831W, h57km±2km, MW5.0/37, Moment Tensor Solution. s37,c42; s33,c38; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.88±.23; Mθθ0.81±.24; Mφφ-3.69±.19; Mrθ-0.02±.16; Mrφ-1.55±.20; Mθφ0.53±.14; Best double couple: M0=3.57100×10^16 NP1:φs204.00000°, δ41.00000°, λ99.00000°. NP2: φs12.00000°, δ49.00000°, λ82.00000°. Principal axes: T 2.9340, Plg83.0000°, Azm231.0000°; N 1.2700, Plg6.0000°, Azm17.0000°; P -4.2080, Plg4.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **31** 03:13:58.7±1.1, 3234S±006×1788W±0.1, h61km±10km, mb4.9/17 Error ellipse: s-maj=16.6km s-min=7.2km az=53.7*

ISC 31 03:13:57.7±1.6, 3213S±005×1788W±01, h33km±11km, n161, σ1$60/112, mb4.9/17, MS4.0/13, 3C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.93	203	eP	Pn	03 15 25.6	+2.4
MXZ	Matakaoa Point	5.93	203	ePN	Pn	03 15 25.6	+2.4
MXZ				SN	Sn	03 16 37.3	+7.2
MXZ				T		03 19 59.5	
PUZ	Puketiti	6.41	202	eP	Pn	03 15 30.0	+0.2
PUZ	Puketiti	6.41	202	ePN	Pn	03 15 30.0	+0.1
WCZ	Waipu Caves	6.87	234	eP	Pn	03 15 45.2	+9.1
WCZ	Waipu Caves	6.87	234	ePN	Pn	03 15 45.2	+9.1
MWZ	Matawai	6.89	205	eP	Pn	03 15 38.2	+1.7
MWZ				S	Sn	03 17 00.9	+7.1
MWZ	Matawai	6.89	205	ePN	Pn	03 15 38.2	+1.7
MWZ				SN	Sn	03 17 00.9	+7.2
MARZ	Manawahe	6.94	211	eP	Pn	03 15 43.1	+6.1
MARZ	Manawahe	6.94	211	ePN	Pn	03 15 43.1	+6.1
URZ	Urewera	6.99	208	Pn	Pn	03 15 40.0	+2.3
	9.6nm,0.3s,baz=302,slow=1.4,SNR=35						
URZ				Sn	Sn	03 17 02.4	+6.4
	32nm,0.3s,baz=274,slow=19,SNR=9.9						
URZ				LR	LR	03 18 05.1	
	comp=Z,274nm,19.1s,baz=36,slow=34						
URZ	Urewera	6.99	208	eP	Pn	03 15 39.8	+2.1
URZ	Urewera	6.99	208	ePN	Pn	03 15 39.8	+2.0
URZ				eSN	Sn	03 17 01.9	+5.9
OUZ	Omahuta	7.07	242	P	Pn	03 15 47.8	+8.9
OUZ	Omahuta	7.07	242	PN	Pn	03 15 47.8	+8.9
KNZ	Kokohu	7.46	202	eP	Pn	03 15 46.0	+1.7
KNZ				S	Sn	03 17 10.5	+2.8
KNZ	Kokohu	7.46	202	ePN	Pn	03 15 46.0	+1.7
KNZ				SN	Sn	03 17 10.5	+2.8
BKZ	Black Stump Fm	8.01	207	eP	Pn	03 15 53.4	+1.6
BKZ				S	Sn	03 17 26.3	+5.1
BKZ	Black Stump Fm	8.01	207	ePN	Pn	03 15 53.4	+1.6
BKZ				SN	Sn	03 17 26.3	+5.1
FWVZ	Far West T-bar	8.48	211	eP	Pn	03 16 02.3	+4.1
FWVZ	Far West T-bar	8.48	211	ePN	Pn	03 16 02.3	+4.2
MOVZ	Moawhango	8.52	210	ePN	Pn	03 16 01.1	+2.4
WNVZ	Wahianoa	8.52	211	eP	Pn	03 16 00.9	+2.2
WNVZ	Wahianoa	8.52	211	ePN	Pn	03 16 00.9	+2.2
PXZ	Pawanui	8.64	203	ePN	Pn	03 15 59.8	-0.6
WPHZ	Waipukurau	8.82	205	eSN	Sn	03 17 43.0	+2.0
TSZ	Takapari Road	8.99	207	eP	Pn	03 16 06.9	+1.7
TSZ	Takapari Road	8.99	207	ePN	Pn	03 16 06.9	+1.8
TSZ				SN	Sn	03 17 47.5	+2.2
BFZ	Birch Farm	9.43	204	eP	Pn	03 16 10.4	-0.9
BFZ	Birch Farm	9.43	204	ePN	Pn	03 16 10.4	-0.9
MRZ	Mangatainoka R	9.66	207	eP	Pn	03 16 13.1	-1.2
MRZ				S	Sn	03 17 59.2	-2.4
MRZ	Mangatainoka R	9.66	207	ePN	Pn	03 16 13.1	-1.3
MRZ				SN	Sn	03 17 59.2	-2.5
KIW	Kapiti Island	10.09	208	eP	Pn	03 16 18.8	-1.5
KIW				S	Sn	03 18 10.4	-1.9
KIW	Kapiti Island	10.09	208	ePN	Pn	03 16 18.8	-1.5
KIW				SN	Sn	03 18 10.4	-1.9
TRWZ	Traveller	10.26	204	ePN	Pn	03 16 21.1	-1.6
PAWZ	Paruwai Farm	10.34	205	SN	Sn	03 18 18.1	-0.4
MSWZ	Moikau Station	10.44	206	SN	Sn	03 18 20.3	-0.4
DUWZ	D'Urville Isla	10.46	212	ePN	Pn	03 16 25.8	+0.4
MRW	Makara Radio	10.49	208	ePN	Pn	03 16 26.1	+0.4
MRW				SN	Sn	03 18 22.3	+0.3
TCW	Tory Channel	10.65	210	eP	Pn	03 16 25.5	-2.4
TCW				S	Sn	03 18 24.2	-1.7
TCW	Tory Channel	10.65	210	ePN	Pn	03 16 25.5	-2.3
TCW				SN	Sn	03 18 24.2	-1.7
NNZ	Nelson	11.04	213	eP	Pn	03 16 31.3	-2.0
NNZ				S	Sn	03 18 35.0	-0.6
NNZ	Nelson	11.04	213	ePN	Pn	03 16 31.3	-2.1
NNZ				SN	Sn	03 18 35.0	-0.6
BSWZ	Blackbirch Sta	11.23	209	eP	Pn	03 16 33.5	-2.4
BSWZ	Blackbirch Sta	11.23	209	ePN	Pn	03 16 33.5	-2.4
THZ	Tophouse	11.69	212	eP	Pn	03 16 41.3	-0.9
THZ				S	Sn	03 18 50.0	-1.5
THZ	Tophouse	11.69	212	ePN	Pn	03 16 41.3	-0.9
THZ				SN	Sn	03 18 50.0	-1.6
KHZ	Kahutara	11.95	209	eP	Pn	03 16 44.5	-1.3
KHZ	Kahutara	11.95	209	ePN	Pn	03 16 44.5	-1.3
KHZ				SN	Sn	03 18 54.5	-3.4
LTZ	Lake Taylor	12.79	211	SN	Sn	03 19 14.4	-3.9
MQZ	McQueen's Vall	13.39	208	eP	Pn	03 17 01.5	-3.9
MQZ	McQueen's Vall	13.39	208	ePN	Pn	03 17 01.5	-3.9
MQZ				SN	Sn	03 19 25.4	-7.6
RPZ	Rata Peaks	14.07	212	Pn	Pn	03 17 12.6	-2.1
	0.9nm,0.3s,baz=124,slow=11,SNR=3.0						
RPZ				Sn	Sn	03 19 43.5	-6.2
	8.5nm,0.3s,baz=297,slow=5.0,SNR=7.6						
ODZ	Otahua Downs	15.31	210	ePN	Pn	03 17 28.3	-3.0
JCZ	Jackson Bay	15.43	216	ePN	Pn	03 17 28.6	-4.2
JCZ				SN	Sn	03 20 14.6	-8.0
DZM	Mont Dzumac	16.53	304	LR	LR	03 21 52.6	
	comp=Z,213nm,19.5s,baz=174,slow=29						
RAR	Rarotonga	20.12	62	LR	LR	03 24 29.7	
	comp=Z,137nm,21.7s,MS3.3,baz=106,slow=32						
TBI	Tubuai	27.30	79	eLR	LR	03 26 22.5	
	756nm,27.0s,baz=241						
HNR	Honiara	29.98	314	LR	LR	03 29 42.2	
	comp=Z,134nm,21.9s,MS3.5,baz=178,slow=32						
PPT	Papeete	30.07	68	eLR	LR	03 27 32.7	
	765nm,29.0s,baz=236						
PPT	Papeete	30.07	68	LR	LR	03 28 39.4	
	comp=Z,236nm,19.0s,MS3.9,baz=254,slow=30						
CTAO	Charters Tower	33.48	282	eP	P	03 20 36.7	+2.9
CTAO				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.7						
CTAO	Charters Tower	33.48	282	eP	P	03 20 36.7	+3.0
	comp=Z,110nm,1.1s,mb5.7						
STKA	Stephens Creek	33.49	260	P	P	03 20 35.9	+2.0
	comp=Z,16nm,0.8s,mb5.0,baz=97,slow=9.1,SNR=29						
STKA				LR	LR	03 32 22.3	
	comp=Z,397nm,20.7s,MS4.1,baz=285,slow=33						
STKA	Stephens Creek	33.49	260	eP	P	03 20 37.1	+3.2
STKA				LR	LR	03 32 22.3	
RKT	Rikitea	39.60	88	eS	S	03 27 18.1	-8.6
	comp=Z,392nm,40.2s						
RKT				eLR	LR	03 32 09.7	
	comp=Z,662nm,27.2s						
AS31	Alice Springs	42.39	269	eP	P	03 21 50.0	+1.0
ASAR	Alice Springs	42.39	269	P	P	03 21 49.9	+0.9
	comp=Z,20nm,0.4s,mb5.1,baz=108,slow=7.6,SNR=335						
ASAR				LR	LR	03 39 14.5	
	comp=Z,170nm,19.4s,MS3.9,baz=138,slow=36						
TAOE	Nuku Hiva Isla	42.60	66	eLR	LR	03 33 18.5	
	comp=Z,981nm,28.8s						
WB2	Warramunga Arr	43.53	274⇑	iPn	P	03 21 58.7	+0.5
WRAB	Tennant Creek	43.53	274	eiP	P	03 21 58.5	+0.3
WRA	Warramunga Arr	43.54	274	P	P	03 21 58.8	+0.6
	comp=Z,64nm,0.5s,mb5.6,baz=113,slow=7.9,SNR=821						
WRA				LR	LR	03 39 13.8	
	comp=Z,274nm,19.7s,MS4.2,baz=120,slow=35						
SBA	Scott Base	46.27	184	eP	P	03 22 17.1	-2.9
SBA				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
SBA	Scott Base	46.27	184	eP	P	03 22 17.1	-2.9
	comp=Z,12nm,1.0s,mb4.8						
VNDA	Vanda	46.32	186	P	P	03 22 24.5	+4.1
	comp=Z,1.7nm,0.8s,mb4.0,baz=9.6,slow=7.9,SNR=3.7						
VNDA				LR	LR	03 39 00.1	
	comp=Z,99nm,18.3s,MS3.8,baz=42,slow=32						
CASY	Casey	53.31	208	eP	P	03 23 13.8	+0.3
	comp=Z,15nm,0.8s,mb5.0						
MBWA	Marble Bar	55.41	265	eP	P	03 23 27.8	-0.9
	comp=Z,33nm,1.1s,mb5.3						
QSPA	South Pole Qui	57.99	180	eP	P	03 23 50.0	+2.9
	comp=Z,54nm,0.6s,mb5.8						
MIR	Mirnyy	60.29	207	diP	P	03 24 05.0	+2.0
MIR				i		03 24 44.0	
MIR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
MAW	Mawson	70.47	201	P	P	03 25 09.8	+0.9
	comp=Z,14nm,1.0s,mb4.8,baz=125,slow=5.9,SNR=23						
MAW				LR	LR	03 55 15.5	
	comp=Z,117nm,18.6s,MS4.2,baz=67,slow=35						
SNAA	Sanae	76.45	179	e	P	03 25 44.9	+0.8
SNAA				e		03 25 47.6	
SNAA				e		03 25 49.6	
SNAA				e	pP	03 25 56.6	+2.2
SNAA	Sanae	76.45	179	eP	P	03 25 44.5	+0.4
SNAA				pmax	pmax		
	comp=Z,14nm,0.6s						
SNAA	Sanae	76.45	179	eP	P	03 25 44.5	+0.4
	comp=Z,14nm,0.6s,mb5.0						
VNA3	Neumayer Olymp	76.63	176	e	P	03 25 45.8	+0.7
VNA3				e		03 25 48.9	
VNA3				e		03 25 51.4	
VNA3				e		03 26 01.9	
VNA2	Neumayer--Watz	77.06	177	e	P	03 25 48.6	+1.1
VNA2				e		03 25 51.4	
VNA2				e		03 25 53.9	
VNA2				e		03 26 04.6	
VNA1	Neumayer--Stat	77.29	177	e	P	03 25 50.2	+1.4
VNA1				e		03 25 53.0	
VNA1				e		03 25 55.5	
MJAR	Matsushiro Arr	79.29	326	P	P	03 25 57.1	-2.7
	comp=Z,4.8nm,1.0s,mb4.4,baz=155,slow=5.3,SNR=10						
MJAR				LR	LR	03 54 28.1	
	comp=Z,91nm,21.1s,MS4.1,baz=150,slow=31						
MAJO	Matsushiro	79.29	326	eP	P	03 25 57.3	-2.6
MAJO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
MAJO	Matsushiro	79.29	326	eP	P	03 25 57.3	-2.6
	comp=Z,13nm,1.2s,mb4.7						
PSI	Prapat	84.97	276	LR	LR	04 05 58.6	
	comp=Z,223nm,18.1s,MS4.6,baz=248,slow=37						
CMB	Columbia Colle	88.48	42	eP	P	03 26 44.6	-2.1
CMB				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.9						
CMB	Columbia Colle	88.48	42	eP	P	03 26 44.6	-2.1
	comp=Z,12nm,1.5s,mb4.9						
MTUM	Tungsten Hills	89.07	44	eP	P	03 26 48.5	-1.0
NVAR	Mina Array Bea	89.95	43	P	P	03 26 52.3	-1.3
	comp=Z,3.5nm,0.9s,mb4.7,baz=229,slow=9.3,SNR=17						
TXAR	Lajitas Array	93.87	58	P	P	03 27 11.2	-0.6
	comp=Z,0.4nm,0.9s,mb3.9,baz=196,slow=7.7,SNR=3.5						
TXAR				LR	LR	04 03 59.6	
	comp=Z,74nm,19.0s,MS4.2,baz=180,slow=32						
PDAR	Pinedale Array	97.83	44	LR	LR	04 07 49.1	
	comp=Z,70nm,18.9s,MS4.2,baz=38,slow=33						
LPAZ	La Paz	98.03	115	LR	LR	04 04 28.7	
	comp=Z,100nm,21.6s,MS4.3,baz=20,slow=31						
MDRS	Chennai	106.05	276	ex	x	03 27 01.0	
MK31	Makanchi Array	118.37	310	ePKIKP	PKPdf	03 32 38.8	-2.9
MKAR	Makanchi Array	118.37	310	PKP	PKPdf	03 32 38.9	-2.9
	comp=Z,1.2nm,0.6s,baz=71,slow=1.2,SNR=17						
MATP	Matopo	121.58	210	PKP	PKPdf	03 32 48.0	+0.2
	comp=Z,4.6nm,0.7s,baz=159,slow=2.6,SNR=12						
AAK	Ala-Archa	122.51	303	i⇑iPKIKP	PKPdf	03 32 45.3	-4.4
LSZ	Lusaka	126.25	213	PKP	PKPdf	03 32 57.4	+0.5
	comp=Z,5.3nm,0.8s,baz=61,slow=2.0,SNR=12						
CHKZ	Chkalovo	127.09	316	ePKIKP	PKPdf	03 32 55.0	-3.5
BRVK	Borovoye	127.23	315	ePKIKP	PKPdf	03 32 55.6	-3.1
ZRNK	Zerenda	127.99	315	ePKIKP	PKPdf	03 32 57.3	-2.9
ARU	Arti	133.99	319	iPKIKP	PKPdf	03 33 09.3	-2.2
AKTK	Aktyubinsk	134.76	311	PKP	PKPdf	03 33 11.1	-1.9
AKTO	Aktyubinsk	134.76	311	PKP	PKPdf	03 33 11.1	-1.9
	comp=Z,3.3nm,0.8s,baz=160,slow=0.9,SNR=12						
ARCES	ARCESS Array B	140.13	347	PKhKP		03 33 12.4	
	comp=Z,1.2nm,0.5s,baz=69,slow=2.0,SNR=12						
JOF	Joensuu	143.76	337	epkp	PKPdf	03 33 21.3	-8.1
ZEI	Tsey	144.84	300	ePKIKP	PKPdf	03 33 32.9	+1.7
GOF	Gofitskoye	145.25	304	ePKIKP	pPKPbc	03 33 40.0	-2.4
MOS	Moscow	145.36	324	ePKHKP		03 33 26.1	
MOS				pmax	pmax		
	comp=Z,49nm,1.0s						
KIV	Kislovodsk	145.62	302	iPKIKP	PKPdf	03 33 35.9	+3.3
KAF	Kangasniemi	145.94	339	epkp	PKPdf	03 33 29.5	-3.6
OBN	Obninsk	146.19	323	⇓iPKP2	PKPab	03 33 31.6	-3.7
OBN				pmax	pmax		
	comp=Z,59nm,1.5s						
OBN	Obninsk	146.19	323	ePKPdf	PKPdf	03 33 31.0	-2.5
PUL	Pulkovo	146.27	334	ePKP2	PKPab	03 33 32.4	-3.2
PUL				pmax	pmax		
	comp=Z,45nm,0.4s						
VRSR	Storozhevoye	146.33	316	ePKP2	PKPab	03 33 32.5	-3.3
VRSR				pmax	pmax		
	comp=Z,30nm,1.1s						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,20nm,1.0s						
FIA1	FINESS Array S	146.52	339	ePKPdf	PKPdf	03 33 31.8	-2.3
FINES	FINESS Array B	146.52	339	PKPbc	PKPbc	03 33 31.7	-3.9
	comp=E,12nm,0.4s,baz=56,slow=4.2,SNR=166						
VSU	Vasula	148.51	334	iPKP2	PKPdf	03 33 37.5	+0.1
ASF	Jabal al Asfar	149.89	280	PKPbc	PKPbc	03 33 43.5	-0.9
	comp=E,3.0nm,0.8s,baz=308,slow=3.0,SNR=5.8						
NB2	NORSAR Subarra	150.35	350	PKP	PKPdf	03 33 42.6	+2.3
	comp=Z,16nm,0.8s,baz=15,slow=2.6						
NOA	NORSAR Array B	150.35	350	PKPbc	PKPbc	03 33 42.2	-3.4
	comp=Z,5.1nm,0.5s,baz=15,slow=4.1,SNR=18						
NOA	NORSAR Array B	150.35	350	PKPbc	PKPbc	03 33 42.2	-3.4
NAO01	NORSAR Array S	150.58	350	ePKPbc	PKPbc	03 33 43.3	-2.9
MNK	Minsk	150.74	328	ePKIKP	PKPdf	03 33 40.0	-0.9
MMAI	Mount Meron Ar	151.26	281	PKPbc	PKPbc	03 33 47.3	-0.4
	comp=Z,2.0nm,0.3s,baz=84,slow=7.6,SNR=21						
AKASG	Malin Array Be	152.24	320	PKPbc	PKPbc	03 33 47.2	-2.8
	comp=Z,2.3nm,0.6s,baz=52,slow=2.2,SNR=19						
AKASG	Malin Array Be	152.24	320	PKPbc	PKPbc	03 33 47.2	-2.8
AKBB	Malin Array Si	152.24	320	ePKIKP	PKPdf	03 33 46.8	+3.6
BR131	Keskin Array S	152.79	295	ePKPbc	PKPbc	03 33 48.4	-2.8
BRTR	Keskin Array B	152.79	295	PKPbc	PKPbc	03 33 49.2	-2.0
	comp=Z,2.6nm,0.5s,baz=135,slow=3.1,SNR=21						
BRTR				PKPab	PKPab	03 34 00.8	-1.4
	comp=Z,3.7nm,0.9s,baz=102,slow=1.8,SNR=6.5						
SUW	Suwalki	153.09	331	ePKP	PKPdf	03 33 49.4	+4.9
GERES	GERESS Array B	160.84	334	PKP	PKPdf	03 33 52.1	-2.3
	comp=Z,1.4nm,1.0s,baz=116,slow=3.1,SNR=4.9						
GERES				PKPab	PKPab	03 34 32.5	-4.3
	comp=Z,0.7nm,0.7s,baz=35,slow=4.9,SNR=5.4						
TOA0	Torodi Ar. Sit	161.10	181	ePKPdf	PKPdf	03 33 53.4	-1.2
TORD	Torodi Ar. Bea	161.10	181	PKP	PKPdf	03 33 54.3	-0.3
	comp=Z,3.4nm,1.0s,baz=229,slow=0.6,SNR=8.2						
TORD				PKPab	PKPab	03 34 39.0	+1.1
	comp=Z,7.2nm,0.8s,baz=182,slow=3.5,SNR=15						
FLN	La Foliniere	163.33	4	ePKP2	PKPab	03 34 43.5	-4.2
	comp=Z,8.8nm,0.6s						
ROSF	Rostrenen	163.45	11	ePKP2	PKPab	03 34 43.8	-4.4
LDF	La Druitiere	163.52	3	ePKP2	PKPab	03 34 44.2	-4.3
	comp=Z,13nm,0.9s						
SGMF	Saint Gilles	163.64	9	ePKP2	PKPab	03 34 44.6	-4.4
	comp=Z,62nm,1.1s						
GRR	Gorron	163.68	5	ePKP2	PKPab	03 34 45.0	-4.2
	comp=Z,41nm,1.3s						
QUIF	Quistinic	163.88	11	ePKP2	PKPab	03 34 45.6	-4.5
	comp=Z,39nm,1.2s						
SSF	Saint Saulge	164.98	354	ePKP2	PKPab	03 34 50.2	-4.8
	comp=Z,9.6nm,0.9s						
AVF	Avril sur Loir	165.27	354	ePKP2	PKPab	03 34 51.4	-4.8
	comp=Z,16nm,1.1s						
SMF	Signal de Mont	165.36	353	ePKP2	PKPab	03 34 51.9	-4.7
	comp=Z,24nm,1.1s						
MFF	Saint Martin d	165.51	4	ePKP2	PKPab	03 34 53.4	-3.9
	comp=Z,39nm,1.1s						
BGF	Bois d'Agland	165.54	356	ePKP2	PKPab	03 34 52.4	-5.0
TCF	Toulx Ste Croi	165.84	357	ePKP2	PKPab	03 34 54.6	-4.1
LPL	La Plagne	165.97	344	ePKP2	PKPab	03 34 55.6	-3.7
LPG	La Plagne	165.98	344	ePKP2	PKPab	03 34 55.8	-3.5
	comp=Z,8.2nm,0.9s						
MBDF	Montbardon	166.70	343	ePKP2	PKPab	03 34 59.7	-2.8
	comp=Z,10nm,1.0s						
ORIF	Oris-en-Rattie	166.72	345	ePKP2	PKPab	03 34 59.3	-3.3
ORIF				eMLR	MLR		
	comp=Z,132nm,22.2s						
LFF	La Frestale	167.20	2	ePKP2	PKPab	03 35 01.2	-3.5
	comp=Z,22nm,1.0s						
EPF	Esparros	169.09	3	ePKP2	PKPab	03 35 08.8	-4.3
ETSF	Etsaut	169.16	7	ePKP2	PKPab	03 35 08.6	-4.8
EVO	Evora	170.11	47	ePKIKP	PKPdf	03 33 58.2	-3.8
	comp=Z,9.5nm,0.9s						
EVO				eMLR	MLR		
	comp=Z,76nm,19.5s						
ESDC	Sonseca Array	171.37	28	PKP	PKPdf	03 34 02.0	-0.7
	comp=Z,1.0nm,0.8s,baz=2.0,slow=3.5,SNR=5.7						
ESDC				PKPab	PKPab	03 35 20.7	-2.5
	comp=Z,1.0nm,0.8s,baz=297,slow=2.9,SNR=5.0						
MDT	Midelt	175.01

	baz=1.7,SNR=27						
BNLO	**Ben Lomond (Sa**	**1.72**	**165**	⇑P	**Pn**	**03 43 48.1**	**-2.3**
	baz=1.7,SNR=28						
P05C	**Yuba Gap, Truc**	**1.73**	**72**	⇑P	**Pn**	**03 43 49.6**	**-1.0**
	baz=1.8,SNR=25						
WDC	**Whiskeytown Da**	**1.79**	**5**	*e*Pn	**Pn**	**03 43 52.1**	**+0.6**
WDC	**Whiskeytown Da**	**1.79**	**5**	⇓P	**Pn**	**03 43 50.6**	**-0.8**
	baz=1.8						
O05C	**Quincy**	**1.83**	**50**	⇑P	**Pn**	**03 43 51.1**	**-0.8**
	baz=1.8						
O04C	**Chester**	**1.99**	**39**	⇓P	**Pn**	**03 43 54.0**	**-0.1**
	baz=2.0,SNR=45						
CMB	**Columbia Colle**	**1.99**	**112**	⇑*i*Pn	**Pn**	**03 43 53.7**	**-0.5**
CMB	**Columbia Colle**	**1.99**	**112**	⇓P	**Pn**	**03 43 53.8**	**-0.4**
	baz=2.0,SNR=44						
CMB				⇓S	**Sn**	**03 44 19.0**	**-0.4**
	baz=2.0						
N02C	**Big Bar**	**2.08**	**348**	⇑P	**Pn**	**03 43 56.4**	**+1.1**
	baz=2.1						
R05C	**Kirkwood Meado**	**2.08**	**92**	P	**Pn**	**03 43 56.0**	**+0.6**
	baz=2.1,SNR=330						
PACP	**Pacheco Peak**	**2.12**	**147**	⇑P	**Pn**	**03 43 54.8**	**-1.2**
	baz=2.1						
BEKR	**Beckwourth**	**2.13**	**59**	⇑P	**Pn**	**03 43 56.8**	**+0.7**
	baz=2.1,SNR=150						
BEKR				⇑S	**Sn**	**03 44 22.9**	**0.0**
	baz=2.1						
KHMM	**Horse Mountain**	**2.22**	**340**	*e*Pn	**Pn**	**03 44 04.1**	**+6.8**
SAO	**San Andreas Ge**	**2.27**	**153**	*e*Pn	**Pn**	**03 43 56.1**	**-1.8**
P06A	**Stead Airport,**	**2.37**	**67**	⇓P	**Pn**	**03 43 56.8**	**-2.7**
	baz=2.4						
WCN	**Washoe City**	**2.37**	**77**	⇑P	**Pn**	**03 44 00.3**	**+0.9**
	baz=2.4,SNR=110						
S05C	**Merced**	**2.38**	**127**	⇓P	**Pn**	**03 43 59.2**	**-0.4**
	baz=2.4,SNR=39						
S05C				⇑S	**Sn**	**03 44 29.0**	**-0.2**
	baz=2.4						
ELFS	**Eagle Lake Fie**	**2.39**	**40**	⇓P	**Pn**	**03 44 00.2**	**+0.5**
	baz=2.4						
S06C	**San Francisco**	**2.44**	**111**	⇑P	**Pn**	**03 44 00.8**	**+0.4**
	baz=2.5,SNR=405						
S06C				⇑S	**Sn**	**03 44 30.4**	**-0.2**
	baz=2.5						
T05C	**Eagle Field, D**	**2.50**	**139**	⇓P	**Pn**	**03 44 01.2**	**0.0**
	baz=2.5						
HAST	**UC Hastings Re**	**2.58**	**158**	P	**Pn**	**03 44 00.0**	**-2.2**
	baz=2.6,SNR=56						
R06C	**Coleville**	**2.58**	**95**	⇑P	**Pn**	**03 44 03.9**	**+1.6**
	baz=2.6,SNR=82						
O06A	**Flanigan**	**2.63**	**58**	P	**Pn**	**03 44 03.0**	**0.0**
	baz=2.6						
LRV	**Little Rabbit**	**2.73**	**150**	*e*Pn	**Pn**	**03 44 03.4**	**-0.9**
M05C	**Lookout**	**2.84**	**25**	⇓P	**Pn**	**03 44 06.5**	**+0.6**
	baz=2.9						
U04C	**Hernandez Rese**	**2.88**	**147**	⇑P	**Pn**	**03 44 06.2**	**-0.1**
	baz=2.9						
YBH	**Yreka Blue Hor**	**2.94**	**0**	*e*Pn	**Pn**	**03 44 09.3**	**+2.1**
N06A	**Buffalo Meadow**	**2.97**	**48**	⇑P	**Pn**	**03 44 08.3**	**+0.6**
	baz=3.0						
M06C	**Likely Place G**	**2.97**	**35**	⇓P	**Pn**	**03 44 07.6**	**-0.1**
	baz=3.0						
R07C	**Lee Vining**	**2.98**	**102**	⇓P	**Pn**	**03 44 08.9**	**+1.1**
	baz=3.0						
T06C	**Millerton Lake**	**2.98**	**126**	⇑P	**Pn**	**03 44 08.3**	**+0.5**
	baz=3.0						
T06C				⇑S	**Sn**	**03 44 43.9**	**0.0**
	baz=3.0						
KCC	**Kaiser Creek**	**3.07**	**117**	⇓P	**Pn**	**03 44 10.8**	**+1.8**
	baz=3.1						
O07A	**Toulon**	**3.28**	**64**	⇓P	**Pn**	**03 44 11.8**	**-0.2**
	baz=3.3						
PKD	**Parkfield**	**3.33**	**148**	⇑P	**Pn**	**03 44 12.3**	**-0.4**
	baz=3.3,SNR=14						
NVAR	**Mina Array Bea**	**3.49**	**95**	Pn	**Pn**	**03 44 15.6**	**+0.8**
	1.5nm,0.3s,baz=272,slow=15,SNR=24						
NVAR				Pg	**Pg**	**03 44 22.9**	**-3.9**
	5.1nm,0.3s,baz=268,slow=20,SNR=51						
NVAR				Lg		03 45 08.9	
	3.1nm,0.3s,baz=251,slow=14,SNR=5.8						
N07B	**Gerlach**	**3.51**	**54**	⇓P	**Pn**	**03 44 15.4**	**+0.3**
	baz=3.5						
MTUM	**Tungsten Hills**	**3.59**	**112**	*e*Pn	**Pn**	**03 44 17.1**	**+0.9**
MTUM				*e*S	**Sn**	**03 45 03.2**	**+4.4**
HELL	**Mitchell Peak,**	**3.62**	**124**	⇓P	**Pn**	**03 44 17.7**	**+1.1**
	baz=3.6						
Q08A	**Gabbs**	**3.75**	**87**	⇓P	**Pn**	**03 44 18.9**	**+0.5**
	baz=3.8						
S08C	**White Mtn Res**	**3.82**	**108**	⇑P	**Pn**	**03 44 21.3**	**+1.9**
	baz=3.8						
N08A	**GE Springer Mi**	**4.06**	**59**	⇓P	**Pn**	**03 44 21.9**	**-0.8**
	baz=4.1						
L07A	**Adell**	**4.14**	**38**	⇓P	**Pn**	**03 44 24.3**	**+0.6**
	baz=4.1						
VES	**Vestal, Richgr**	**4.14**	**134**	⇓P	**Pn**	**03 44 24.2**	**+0.4**
	baz=4.2						
Q09A	**Carvers**	**4.34**	**88**	⇓P	**Pn**	**03 44 27.3**	**+0.8**
	baz=4.3						
R09A	**Tonopah**	**4.47**	**95**	⇑P	**Pn**	**03 44 28.5**	**+0.2**
	baz=4.5						
GRAC	**Grapevine Rang**	**4.60**	**111**	⇓P	**Pn**	**03 44 30.5**	**+0.4**
	baz=4.6						
ISA	**Isabella**	**4.62**	**131**	*e*Pn	**Pn**	**03 44 31.4**	**+1.1**
ISA				*e*S	**Sn**	**03 45 31.5**	**+7.3**
ISA	**Isabella**	**4.62**	**131**	⇑P	**Pn**	**03 44 31.1**	**+0.8**
	baz=4.6						
ARVC	**Arvin**	**4.81**	**138**	⇑P	**Pn**	**03 44 33.3**	**+0.3**
	baz=4.8						
EDW2	**Edwards Air Fo**	**5.45**	**134**	⇓P	**Pn**	**03 44 42.7**	**+1.0**
	baz=5.5						
P11A	**Circle Ranch,**	**5.48**	**80**	⇑P	**Pn**	**03 44 43.3**	**+1.2**
	baz=5.5						
Q11A	**Duckwater**	**5.53**	**87**	P	**Pn**	**03 44 43.8**	**+0.9**
	baz=5.5,SNR=19						
P12A	**McGill**	**6.12**	**81**	⇓P	**Pn**	**03 44 51.8**	**+0.8**
	baz=6.1						
Q12A	**Willow Creek R**	**6.17**	**85**	⇓P	**Pn**	**03 44 52.3**	**+0.7**
	baz=6.2						
PDAR	**Pinedale Array**	**10.75**	**64**	Pn	**Pn**	**03 45 59.6**	**+5.1**
	0.0nm,0.3s,baz=237,slow=12,SNR=7.0						
TXAR	**Lajitas Array**	**18.37**	**115**	P	**Pn**	**03 47 39.1**	**+3.7**
	0.0nm,0.3s,baz=300,slow=9.2,SNR=3.6						

IDC 31 03:59:18.9±4.5,3069S×13893E,h0km,mb1 3.0/3, mb1mx2.9/12,mbtmp2.7/3,ML2.8/3,Error ellipse: s-maj=120.2km s-min=20.7km az=45.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.57**	**118**	Pn	Pn	04 00 01.6	-0.2
	0.8nm,0.3s,baz=290,slow=14,SNR=13						
STKA				Sn	Sn	04 00 34.8	+1.0
	2.6nm,0.3s,baz=276,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**8.30**	**326**	Pn	Pn	04 01 22.2	+1.7
	0.1nm,0.3s,baz=152,slow=13,SNR=4.3						
ASAR				Sn	Sn	04 02 54.2	-0.8
	0.3nm,0.3s,baz=152,slow=22,SNR=9.0						
WRA	**Warramunga Arr**	**11.47**	**338**	Pn	Pn	04 02 03.6	-0.3
	0.1nm,0.3s,baz=156,slow=12,SNR=3.7						
WRA				Sn	Sn	04 04 13.3	+0.5
	0.1nm,0.3s,baz=168,slow=24,SNR=4.4						

IDC 31 04:40:24.0±2.3,241N×12706E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/15,mbtmp3.4/3,Error ellipse: s-maj=183.5km s-min=26.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**162**	P	P	04 45 33.6	-0.2
	1.0nm,0.4s,baz=341,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.76**	**166**	P	P	04 46 06.0	+0.7
	0.2nm,0.6s,baz=358,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**58.83**	**326**	P	P	04 50 24.4	+0.2
	0.3nm,0.6s,baz=128,slow=8.4,SNR=4.5						

CASC 31 04:49:35.0±2.6,1288N×8898W,h20km±29km,MD3.7, ML2.9,2D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.74**	**354**	⇓*e*P	x	04 50 07.2	
LFRS				*e*S	x	04 50 17.6	
LCBS	**La Ceiba**	**0.77**	**360**	⇓*e*P	x	04 50 07.6	
LCBS				*e*S	x	04 50 18.1	
LBRS	**Las Brisas**	**0.85**	**356**	*e*P	x	04 50 09.1	
LBRS				*e*S	x	04 50 21.1	
LFU	**La Fuente**	**0.87**	**351**	*e*P	x	04 50 09.3	
BLLM	**Bellamira**	**0.91**	**52**	*e*P	x	04 50 10.8	
BLLM				*e*S	x	04 50 24.1	
CNCH	**Conchagua**	**1.18**	**70**	*e*P	x	04 50 14.7	
CNCH				*e*S	x	04 50 30.4	
RBDL	**Robledal**	**1.41**	**331**	*e*P	x	04 50 16.6	
MTO2	**Montecristo 2**	**1.56**	**346**	*e*P	x	04 50 18.8	
CRIN	**San Cristobal**	**1.89**	**95**	*e*P	Pn	04 50 06.9	+0.8
CRIN				*e*S	Sn	04 50 30.9	+1.6
LEON	**Leon**	**2.09**	**103**	*e*P	Pn	04 50 08.6	-0.2
MIRN	**Miramar**	**2.25**	**101**	*e*P	Pn	04 50 11.2	+0.1
COPN	**Copaltepe**	**2.43**	**106**	*e*P	Pn	04 50 13.3	-0.2
MGAN	**Managua**	**2.77**	**105**	*e*P	Pn	04 50 17.6	-0.6
MGAN				*e*S	Sn	04 50 48.6	-2.4
MGAN				*i*		04 50 50.3	
	comp=N,65nm,0.2s						

*LDG **31** 04:52:24.4±0.1,4309N×052W,h10km,Md1.6/3,Error ellipse: s-maj=2.3km s-min=1.0km az=3.0*
*CSEM **31** 04:52:24.6±0.1,43.11N×052W,h8km,ML2.1,Error ellipse: s-maj=4.3km s-min=1.8km az=7.0*
*STR **31** 04:52:24.2±0.1,4301N×052W,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 31 04:52:24.6±0.5,4310N×051W,h10km±4km,mbLg0.9/6, Error ellipse: s-maj=4.5km s-min=2.0km az=12.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.09**	**110**	Pg	Pg	04 52 27.0	-0.1
REYF				Sg	Sg	04 52 29.1	+0.3
REYF	**Montagne du Re**	**0.09**	**110**	P	Pg	04 52 27.0	-0.1
REYF				S	Sg	04 52 29.1	+0.3
ATE	**Arette**	**0.14**	**264**	Pg	Pg	04 52 27.8	0.0
ATE				Sg	Sg	04 52 30.3	+0.4
ATE	**Arette**	**0.14**	**264**	P	Pg	04 52 27.5	-0.2
ATE				S	Sg	04 52 30.0	0.0
ETSF	**Etsaut**	**0.21**	**190**	*e*Pg	Pg	04 52 28.8	-0.1
ETSF				*e*Sg	Sg	04 52 31.6	-0.2
	26nm,0.2s						
ETSF	**Etsaut**	**0.21**	**190**	*e*Pg	Pg	04 52 28.8	-0.1
ETSF				*e*Sg	Sg	04 52 31.6	-0.2
	13nm,0.2s						
LARF	**Larrau**	**0.35**	**260**	P	Pg	04 52 31.6	0.0
LARF				S	Sg	04 52 37.2	+0.8
SJPF	**Ste Jean**	**0.52**	**272**	*e*Pg	Pg	04 52 34.2	-0.6
SJPF				*e*Sg	Sg	04 52 41.3	-0.3
	3.4nm,0.3s						
SJPF	**Ste Jean**	**0.52**	**272**	*e*Pg	Pg	04 52 34.2	-0.6
SJPF				*e*Sg	Sg	04 52 41.3	-0.3
	1.7nm,0.3s						
EPF	**Esparros**	**0.63**	**96**	*e*Pg	Pg	04 52 36.6	-0.2
EPF				*e*Sg	Sg	04 52 45.1	+0.1
	1.8nm,0.3s						
EPF	**Esparros**	**0.63**	**96**	*e*Pg	Pg	04 52 36.6	-0.2
EPF				*e*Sg	Sg	04 52 45.1	+0.1
	0.9nm,0.3s						
EBIE	**Bielsa**	**0.64**	**131**	Pg	Pg	04 52 36.4	-0.6
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		04 52 44.5	
	2.9nm,0.2s,SNR=11						
EBIE	**Bielsa**	**0.64**	**131**	Pg	Pg	04 52 36.4	-0.5
	0.3nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.75**	**275**	Pg	Pg	04 52 37.8	-1.2
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		04 52 48.1	
	0.9nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**179**	Pg	Pg	04 52 51.2	+0.1
	1.4nm,0.1s,SNR=7.9						
ESAC				Lg		04 53 10.1	
	8.6nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**179**	Pg	Pg	04 52 51.2	+0.1
	1.4nm,0.1s,SNR=7.9						

IDC 31 05:00:03.7±3.7,2995S×13904E,h0km,mb1 2.9/3, mb1mx2.9/12,mbtmp2.6/3,ML2.2/2,Error ellipse: s-maj=177.5km s-min=16.3km az=47.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.92**	**132**	Pn	Pn	05 00 50.5	-0.9
	0.2nm,0.3s,baz=311,slow=9.3,SNR=2.6						
STKA				Sn	Sn	05 01 27.3	+0.1
	0.4nm,0.3s,baz=301,slow=14,SNR=5.2						
STKA				Lg		05 01 37.6	
	0.7nm,0.3s,baz=18,slow=21,SNR=7.6						
ASAR	**Alice Springs**	**7.76**	**323**	Pn	Pn	05 01 57.9	0.0
	0.1nm,0.3s,baz=148,slow=12,SNR=3.7						
ASAR				Sn	Sn	05 03 27.4	+1.1
	0.1nm,0.3s,baz=160,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**10.83**	**336**	Pn	Pn	05 02 41.0	+1.0
	baz=154,slow=14,SNR=3.0						

*NIED **31** 05:08:00,4060N×14090E,h113km,Mw4.1 Best double couple: Mo1.36000×10^15 NP1:φ=348.00000°,δ=88.00000°, λ=-63.00000°. NP2:φ=82.00000°,δ=27.00000°, λ=-176.00000°.*
*ISCJB **31** 05:08:12.0±0.3,4056N±003×14097E±007,h129km±3km, mb4.2/12,Error ellipse: s-maj=9.6km s-min=5.0km az=26.3*
*IDC **31** 05:08:12.7±1.7,4057N×14094E,h122km±16km,mb3.8/8, mb1 3.7/10,mb1mx3.5/24,mbtmp4.1/10,MS3.4/2, Ms1 3.5/2,ms1mx2.5/31,Error ellipse: s-maj=22.2km s-min=14.0km az=103.0*
*JMA **31** 05:08:13.6±0.1,4055N×14090E,h122km±1km,M3.5 JMA Felt I J1.*
*NEIC **31** 05:08:13.7,4055N×14090E,h122km,MG3.5(JMA),After JMA.*

ISC 31 05:08:13.0±0.3,4057N±003×14098E±007,h124km±3km, n32,σ0°73/43,mb4.3/12,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.23**	**17**	P	**Pn**	**05 08 30.6**	**+0.4**
JTM				S	**Sn**	**05 08 43.1**	**-0.1**
JANG	**Nango**	**0.45**	**115**	P	**Pn**	**05 08 31.6**	**+0.5**
JANG				S	**Sn**	**05 08 45.0**	**+0.2**
JAH	**Hinai**	**0.46**	**215**	P	**Pn**	**05 08 31.3**	**+0.1**
JAH				S	**Sn**	**05 08 44.8**	**-0.1**
JIW	**Iwasaki**	**0.74**	**272**	P	**Pn**	**05 08 33.2**	**+0.1**
JIW				*e*S	**Sn**	**05 08 47.3**	**-1.0**
JOT	**Ohata**	**0.82**	**4**	P	**Pn**	**05 08 34.3**	**+0.6**
JOT				*e*S	**Sn**	**05 08 50.8**	**+1.4**
JSR	**Shiriuchi**	**1.05**	**336**	P	**Pn**	**05 08 36.1**	**+0.2**
JSR				*e*S	**Sn**	**05 08 52.6**	**-0.6**
JOM	**Ohasama**	**1.12**	**167**	P	**Pn**	**05 08 36.8**	**+0.3**
JOM				S	**Sn**	**05 08 54.6**	**+0.2**
JMK	**Ichinoseki**	**1.62**	**173**	P	**Pn**	**05 08 42.3**	**+0.2**
JMK				S	**Sn**	**05 09 03.7**	**-0.6**
JYK	**Kaneyama**	**1.71**	**196**	P	**Pn**	**05 08 43.4**	**+0.2**
JYK				S	**Sn**	**05 09 05.6**	**-0.6**
ERM	**Erimo**	**2.19**	**48**	*e*Pn	**Pn**	**05 08 49.7**	**+0.7**
ERM				*e*Sn	**Sn**	**05 09 14.2**	**-2.4**
ASAJ	**Asahikawa**	**3.75**	**18**	P	**Pn**	**05 09 09.3**	**+0.1**
	6.6nm,0.3s,baz=234,slow=17,SNR=14						
ASAJ				S	**Sn**	**05 09 52.3**	**-0.4**
	4.5nm,0.3s,baz=142,slow=31,SNR=2.9						
MAJO	**Matsushiro**	**4.57**	**209**	*e*Pn	**Pn**	**05 09 20.9**	**+0.7**
MAT	**Matsushiro**	**4.57**	**209**	P	**Pn**	**05 09 20.4**	**+0.2**
MAT				*e*S	**Sn**	**05 10 10.9**	**-1.5**
MJAR	**Matsushiro Ar**	**4.57**	**209**	P	**Pn**	**05 09 20.6**	**+0.4**
	3.0nm,0.3s,baz=18,slow=15,SNR=19						
JHJ	**Hachijo jima 2**	**7.49**	**188**	S	**Sn**	**05 11 14.2**	**-8.8**
	6.4nm,0.3s,baz=242,slow=24,SNR=2.5						
SONM	**Songino Array**	**25.67**	**298**	P	**P**	**05 13 30.6**	**-0.6**
	1.1nm,0.4s,mb3.7,baz=89,slow=8.4,SNR=13						
SONM				LR	LR	05 24 05.6	
	comp=Z,40nm,18.4s,baz=126,slow=37						
ZAL	**Zalesovo**	**39.36**	**309**	P	**P**	**05 15 30.1**	**-0.1**
	3.3nm,0.5s,mb4.4,baz=26,slow=9.0,SNR=9.1						
MK31	**Makanchi Array**	**42.04**	**299**	*e*P	**P**	**05 15 51.5**	**-0.7**
MKAR	**Makanchi Array**	**42.04**	**299**	P	**P**	**05 15 52.0**	**-0.1**
	2.2nm,0.6s,mb4.1,baz=85,slow=10,SNR=29						
KDAK	**Kodiak Island**	**44.75**	**44**	P	**P**	**05 16 14.7**	**+0.7**
	4.5nm,0.7s,mb4.3,baz=302,slow=6.7,SNR=5.0						
JIRN	**Jiri**	**46.47**	**272**	*e*P	**P**	**05 16 28.7**	**+1.3**
GUN	**Gumba**	**46.58**	**272**	*e*P	**P**	**05 16 29.4**	**+1.1**
	17nm,0.4s,mb5.2						
KKN	**Kakani**	**47.09**	**272**	*e*P	**P**	**05 16 32.3**	**0.0**
	12nm,0.5s,mb4.9						
DMN	**Daman**	**47.32**	**272**	*e*P	**P**	**05 16 34.8**	**+0.7**
GKN	**Gorkha**	**47.48**	**273**	*e*P	**P**	**05 16 36.1**	**+0.8**
	7.1nm,0.3s,mb4.8						
BVAR	**Borovoye Array**	**48.00**	**310**	P	**P**	**05 16 38.7**	**-0.6**
	1.5nm,0.4s,mb4.2,baz=66,slow=8.6,SNR=9.8						
KOLN	**Koldanda**	**48.38**	**273**	*e*P	**P**	**05 16 43.1**	**+0.9**
WRA	**Warramunga Arr**	**60.51**	**187**	P	**P**	**05 18 09.3**	**-0.6**
	0.3nm,0.4s,mb3.7,baz=4.2,slow=7.3,SNR=12						
JOF	**Joensuu**	**62.70**	**331**	*e*p	**P**	**05 18 23.2**	**-1.4**
	1.5nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**65.55**	**331**	P	**P**	**05 18 42.1**	**-1.0**
	0.9nm,0.6s,mb3.8,baz=40,slow=9.9,SNR=7.0						
AKASG	**Malin Array Be**	**71.31**	**321**	P	**P**	**05 19 18.6**	**-0.4**
	0.8nm,0.3s,mb4.0,baz=45,slow=6.8,SNR=7.4						
PDAR	**Pinedale Array**	**75.44**	**46**	LR	LR	05 51 31.9	
	comp=Z,49nm,19.0s,baz=255,slow=34						

*NEIC **31** 05:13:47.0,17.13N×9492W,h126km,MD4.0(MEX),After MEX.*

MEX 31 05:13:46.8±0.9,1711N×9490W,h128km±8km,MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.02**	**143**	*i* P	Pn	05 14 02.9	-1.2
CMIG				*i* S	Sn	05 14 15.2	-1.9
TUIG	**Tuzandepetl**	**1.02**	**26**	*i* P	Pn	05 14 08.4	-1.3
TUIG				*i* S	Sn	05 14 24.6	-2.5
OXX	**Oaxaca**	**1.75**	**269**	*i* P	Pn	05 14 17.0	-0.5
OXX				*i* S	Sn	05 14 40.0	-1.0
VHO	**Vista Hermosa**	**1.76**	**269**	*i* P	Pn	05 14 16.9	-0.8
VHO				*i* S	Sn	05 14 40.6	-0.7
HUIG	**Huatulco**	**1.77**	**221**	*i* P	Pn	05 14 15.3	-2.5
HUIG				*i* S	Sn	05 14 39.6	-1.9
TPIG	**Tehuac#an**	**2.69**	**299**	*i* P	Pn	05 14 27.9	-1.3
TPIG				*i* S	Sn	05 14 58.1	-3.8
CCIG	**Comitan**	**2.77**	**107**	*i* P	Pn	05 14 30.7	+0.4
CCIG				*i* S	Sn	05 15 02.8	-1.1
UTMO	**Huajuapan**	**2.86**	**285**	*i* P	Pn	05 14 30.6	-0.9
UTMO				*i* S	Sn	05 15 02.8	-3.2

IDC 31 05:20:50.1±3.5,1094S×11872E,h0km,mb3.9/1, mb1 3.7/3,mb1mx3.5/14,mbtmp3.5/3,ML3.4/2,Error ellipse: s-maj=262.6km s-min=27.7km az=48.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.51**	**123**	P	Pn	05 24 55.3	-0.3
	0.1nm,0.3s,baz=296,slow=13,SNR=9.3						
WRA				S	Sn	05 27 58.4	-13
	0.2nm,0.3s,baz=290,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**19.22**	**133**	P	Pn	05 25 16.4	-0.1
	0.1nm,0.3s,baz=308,slow=12,SNR=12						
ASAR				S	Sn	05 28 37.6	-15
	0.2nm,0.3s,baz=300,slow=24,SNR=6.7						
MKAR	**Makanchi Array**	**66.05**	**333**	P	P	05 31 38.8	+0.1
	0.6nm,0.4s,baz=151,slow=7.1,SNR=11						

*NEIC **31** 05:22:06.0,3706N×1841E,h10km,ML3.8(ATH),After ATH.*
*ISCJB **31** 05:22:38.7±1.1,3762N±005×2177E±010,h2km±11km, Error ellipse: s-maj=13.9km s-min=5.6km az=132.6*
*ATH **31** 05:22:39.4,3762N×2179E,h5km,MD3.2/7*

ISC 31 05:22:39.8±0.7,3764N±004×2181E±009,h3km±13km,n11, σ0°60/13,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.46**	**168**	*e*PB	**Pg**	**05 22 47.9**	**-0.8**
ITM				*e*SB	**Sg**	**05 22 55.0**	**+0.3**
ITM	**Ithomi**	**0.46**	**168**	P	**Pg**	**05 22 48.1**	**-0.6**
RLS	**Riolos of Patr**	**0.50**	**327**	*e*PB	**Pg**	**05 22 48.7**	**-0.7**
RLS				*e*SB	**Sg**	**05 22 57.1**	**+1.2**
RLS	**Riolos of Patr**	**0.50**	**327**	P	**Pg**	**05 22 49.4**	**0.0**
VLS	**Valsamata**	**1.11**	**300**	*e*PB	**Pb**	**05 23 00.9**	**-0.6**
EVR	**Evrytania**	**1.28**	**360**	*e*PG	**Pg**	**05 23 03.8**	**-0.5**
VLI	**Veliai**	**1.28**	**135**	*e*PB	**Pb**	**05 23 04.4**	**-0.1**
VLI	**Veliai**	**1.28**	**135**	P	**Pg**	**05 23 05.1**	**+0.7**
LKR	**Lokris**	**1.38**	**42**	*e*PG	**Pg**	**05 23 05.7**	**-0.5**
LKR	**Lokris**	**1.38**	**42**	P	**Pn**	**05 23 06.4**	**+0.5**
KYTH	**Kithira**	**1.67**	**144**	*e*PB	**Pb**	**05 23 11.3**	**+0.2**

*IDC **31** 05:29:53.9±3.6,6252N×14848W,h46km±40km,mb3.5/8, mb1 3.8/10,mb1mx3.7/22,mbtmp3.7/10,ML3.4/2,MS2.7/1, Ms1 2.7/1,ms1mx2.4/20,Error ellipse: s-maj=27.3km s-min=17.6km az=31.0*
*ISCJB **31** 05:29:54.2±0.3,6245N±003×14789W±007,h68km±6km, mb3.6/8,Error ellipse: s-maj=5.6km s-min=5.0km az=129.7*
*NEIC **31** 05:29:56.3,6246N×14789W,h40km,ML3.8(PMR), ML3.9(AEIC),After AEIC.*
NEIC Felt at Talkeetna.
*PGC **31** 05:30:10.6±305.0,6254N×14490W,h5km,ML3.3/4, 174km northeast of Valdez, Ak Central Alaska*

ISC 31 05:29:55.5±0.3,6244N±003×14795W±007,h59km±6km, n47,σ0°98/48,mb3.7/8,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.66**	**196**	P	**Pn**	**05 30 08.5**	**-0.7**
SML				S	**Sn**	**05 30 18.5**	**-0.7**
GHO	**Glory Hole Cre**	**0.82**	**215**	P	**Pn**	**05 30 10.5**	**-0.6**
PMR	**Palmer**	**1.02**	**214**	P	**Pn**	**05 30 13.3**	**-0.4**
PMR				S	**Sn**	**05 30 26.9**	**-0.3**
KNK	**Knik Glacier**	**1.06**	**193**

ARCES ARCESS Array B 48.23 3 P P 05 38 27.1 -3.0
1.4nm,0.8s,mb4.0,baz=22,slow=6.8,SNR=4.8
ARCES PcP PcP 05 39 55.0 -1.5
2.6nm,0.9s,baz=354,slow=4.9,SNR=5.1
SONM Songino Array 55.28 308 P P 05 39 21.9 -0.8
0.2nm,0.5s,mb3.4,baz=8.6,slow=4.8,SNR=2.2
FINES FINESS Array B 56.35 3 P P 05 39 28.2 -2.2
0.6nm,0.5s,mb3.9,baz=352,slow=8.1,SNR=3.9
MKAR Makanchi Array 63.97 324 P P 05 40 19.7 -2.8
0.3nm,0.4s,mb3.7,baz=41,slow=7.0,SNR=7.2
ESDC Sonseca Array 74.18 28 P P 05 41 25.7 -0.1
1.5nm,0.7s,mb4.1,baz=345,slow=6.5,SNR=7.4
BOSA Boshof 145.87 11 PKPbc PKPbc 05 49 26.8 -1.4
1.7nm,0.5s,baz=54,slow=1.1,SNR=6.4

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*MOS **31** 06:25:48.5±1.5, 648N×12622E, h118km, mb4.6/9, Error ellipse: s-maj=19.3km s-min=8.0km az=104.0*
*ISCJB **31** 06:25:51.2±0.5, 645N±003×12623E±006, h141km±4km, mb4.7/48, Error ellipse: s-maj=9.6km s-min=4.9km az=156.2*
*IDC **31** 06:25:52.0±1.6, 648N×12627E, h139km±13km, mb4.2/15, mb1 4.3/15, mb1mx4.1/22, mbtmp4.6/15, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=24.4km s-min=9.2km az=73.0*
*NEIC **31** 06:25:52.6±0.9, 649N×12619E, h140km±8km, mb4.9/21, Error ellipse: s-maj=12.2km s-min=5.7km az=79.0*
*BJI **31** 06:25:52.1, 620N×12637E, h170km, mB4.8, mb4.9*
*MAN **31** 06:25:55.8, 670N×12600E, h123km, mb4.1, ML5.0, MS4.7*
ISC 31 06:25:52.5±0.5, 647N±003×12622E±006, h136km±4km, h137km±5.5km; pP-P, n114, σ1§10/124, mb4.7/48, 18C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.88**	**313**	⇑*i*P	**Pn**	**06 26 14.5**	**-0.3**
DAV	**Davao City (W)**	**0.88**	**313**	⇑*e*Pn	**Pn**	**06 26 14.7**	**-0.1**
DAV				*e*Sn	**Sn**	**06 26 28.6**	**-3.2**
KCP	**Kidapawan**	**1.25**	**296**	⇓*e*P	**Pn**	**06 26 18.0**	**-0.3**
KCP				*i* S	**Sn**	**06 26 37.4**	**-0.5**
CTBH	**Cotabato--PC H**	**2.10**	**291**	⇑*e*P	**Pn**	**06 26 27.1**	**-0.8**
CTBH				*i* S	**Sn**	**06 26 50.5**	**-4.7**
CGP	**Cagayan de Oro**	**2.49**	**323**	⇑*e*P	**Pn**	**06 26 32.9**	**+0.1**
CGP				*e*S	**Sn**	**06 27 03.1**	**-0.7**
SCPH	**Surigao**	**3.37**	**348**	⇑*e*P	**Pn**	**06 26 45.0**	**+0.9**
SCPH				*i* S	**Sn**	**06 27 26.6**	**+2.6**
DCPH	**Dipolog City**	**3.54**	**307**	⇑*i*P	**Pn**	**06 26 46.7**	**+0.4**
TBP	**Tagbilaran**	**3.96**	**324**	⇑*e*P	**Pn**	**06 26 51.4**	**-0.5**
TBP				*e*S	**Sn**	**06 27 34.4**	**-3.6**
SNPH	**Sibulan**	**4.11**	**314**	*e*P	**Pn**	**06 26 54.0**	**+0.2**
LLP	**Lapu-Lapu**	**4.43**	**330**	⇑*e*P	**Pn**	**06 26 58.4**	**+0.3**
LLP				*e*S	**Sn**	**06 27 35.5**	**-13**
PLP	**Palo**	**4.83**	**345**	*e*P	**Pn**	**06 27 03.1**	**-0.2**
PLP				*e*S	**Sn**	**06 27 58.3**	**-0.1**
TSM	**Tawau**	**8.59**	**256**	P	**Pn**	**06 27 55.4**	**+1.7**
KKM	**Kota Kinabalu**	**9.96**	**268**	P	**Pn**	**06 28 13.0**	**+0.9**
KKM	**Kota Kinabalu**	**9.96**	**268**	P	**Pn**	**06 28 15.1**	**+3.0**
KSM	**Kuching**	**16.63**	**253**	*e*P	**Pn**	**06 29 39.4**	**+1.9**
QZH	**Quanzhou**	**19.77**	**339**	*e*P	**P**	**06 30 12.0**	**+0.1**
KAKA	**Kakadu**	**20.03**	**162**	⇑*i*P	**P**	**06 30 15.0**	**+0.3**
88nm,0.6s
QIZ	**Qiongzhong**	**20.25**	**310**	*e*P	**P**	**06 30 18.0**	**+1.0**
QIZ				S	**S**	**06 33 56.0**	**-0.7**
QIZ				LR	LR		
comp=N,163nm,21.8s
QIZ				LR	LR		
comp=E,163nm,21.8s
JOW	**Kunigami**	**20.35**	**5**	P	**P**	**06 30 18.7**	**+0.6**
comp=E,17nm,0.6s,baz=221,slow=21,SNR=4.6
GZH	**Guangzhou**	**20.66**	**324**	P	**P**	**06 30 27.3**	**+5.8**
KGM	**Kluang**	**23.26**	**260**	P	**P**	**06 30 49.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**24.42**	**181**	⇑*i*P	**P**	**06 30 58.1**	**-0.2**
comp=E,33nm,1.0s,mb4.8
FITZ	**Fitzroy Crossi**	**24.42**	**181**	P	**P**	**06 30 58.2**	**-0.1**
comp=E,15nm,0.6s,mb4.7,baz=16,slow=8.7,SNR=28
FITZ				ScP	ScP	06 37 59.5	-0.2
comp=E,1.0nm,0.5s,baz=344,slow=19,SNR=6.6
IPM	**Ipoh**	**25.16**	**267**	P	**P**	**06 31 06.5**	**+1.5**
PMG	**Port Moresby**	**26.15**	**127**	P	**P**	**06 31 13.8**	**-0.2**
comp=E,5.4nm,0.5s,mb4.4,baz=289,slow=3.2,SNR=4.5
NJ2	**Nanjing**	**26.37**	**346**	*e*P	**P**	**06 31 17.0**	**+1.1**
NJ2				AMB	AMB		
comp=Z,70nm,0.8s,mb5.3
WHN	**Wuhan**	**26.42**	**336**	⇑P	**P**	**06 31 19.0**	**+2.6**
WRAB	**Tennant Creek**	**27.43**	**163**	*e*P	**P**	**06 31 23.5**	**-1.9**
WRA	**Warramunga Arr**	**27.43**	**163**	P	**P**	**06 31 24.8**	**-0.6**
comp=Z,7.9nm,0.6s,mb4.5,baz=345,slow=9.6,SNR=52
WRA				PcP	PcP	06 34 41.2	+0.6
comp=Z,2.8nm,0.7s,baz=346,slow=3.0,SNR=5.0
WRA				S	**S**	**06 35 51.7**	**-4.1**
comp=Z,0.6nm,0.7s,baz=349,slow=9.1,SNR=3.7
WRA				ScP	ScP	06 38 08.9	+0.4
comp=Z,1.4nm,0.8s,baz=342,slow=3.5,SNR=5.1
WRA				LR	LR	06 41 27.8	
comp=Z,43nm,19.7s,baz=185,slow=34
WRA	**Warramunga Arr**	**27.43**	**163**	P	**P**	**06 31 24.8**	**-0.6**
WRA						06 34 41.2	
WRA				S	**S**	**06 35 51.7**	**-4.1**
WB2	**Warramunga Arr**	**27.43**	**163**	⇑*i*P	**P**	**06 31 24.7**	**-0.8**
PSI	**Prapat**	**27.44**	**264**	P	**P**	**06 31 26.7**	**+1.1**
comp=Z,2.9nm,0.4s,mb4.2,baz=154,slow=3.6,SNR=4.4
PSI	**Prapat**	**27.44**	**264**	P	**P**	**06 31 26.7**	**+1.1**
MBWA	**Marble Bar**	**28.18**	**193**	*e*P	**P**	**06 31 31.4**	**-0.7**
comp=Z,19nm,0.6s,mb5.0
AS31	**Alice Springs**	**30.87**	**166**	⇑*i*P	**P**	**06 31 55.8**	**-0.1**
ASAR	**Alice Springs**	**30.87**	**166**	P	**P**	**06 31 55.9**	**0.0**
comp=Z,16nm,0.4s,mb5.1,baz=343,slow=7.3,SNR=239
ASAR				PcP	PcP	06 34 49.9	+0.5
comp=Z,4.2nm,0.7s,baz=347,slow=2.6,SNR=10
ASAR				ScP	ScP	06 38 20.6	+1.2
comp=Z,1.7nm,0.9s,baz=341,slow=1.8,SNR=8.2
ASAR	**Alice Springs**	**30.87**	**166**	P	**P**	**06 31 55.9**	**0.0**
ASAR						06 34 49.9	
ASPA	**Alice Springs**	**30.87**	**166**	⇑*i*P	**P**	**06 31 55.8**	**-0.1**
XAN	**Xi'an**	**31.77**	**332**	P	**P**	**06 32 02.5**	**-1.2**
XAN				AMB	AMB		
comp=Z,80nm,0.7s,mb5.6
MJAR	**Matsushiro Arr**	**31.88**	**18**	P	**P**	**06 32 02.3**	**-2.4**
comp=Z,0.6nm,0.3s,mb3.8,baz=200,slow=9.3,SNR=5.0
MJAR				pP	pP	06 32 29.6	-4.4
comp=Z,1.5nm,0.7s,baz=194,slow=6.9,SNR=2.2
MJAR				ScP	ScP	06 38 23.4	+0.6
comp=Z,2.9nm,0.9s,baz=214,slow=3.5,SNR=11
MJAR	**Matsushiro Arr**	**31.88**	**18**	P	**P**	**06 32 02.3**	**-2.4**
MJAR				*PP	pP	06 32 29.6	-4.4
DL2	**Dalian**	**32.56**	**353**	P	**P**	**06 32 12.0**	**+1.3**
DL2				AMB	AMB		
comp=Z,50nm,0.9s,mb5.2
CTA	**Charters Tower**	**32.93**	**144**	⇓*i*P	**P**	**06 32 15.6**	**+1.7**
comp=Z,9.9nm,0.4s,mb4.9
CTA	**Charters Tower**	**32.93**	**144**	⇓*i*P	**P**	**06 32 15.6**	**+1.7**
CTA				pmax	pmax		
comp=Z,10.0nm,0.4s
BJI	**Beijing**	**34.62**	**346**	P	**P**	**06 32 28.5**	**0.0**
BJI				AMB	AMB		
comp=Z,121nm,0.9s,mb5.5
BJI	**Beijing**	**34.62**	**346**	P	**P**	**06 32 28.6**	**+0.1**
BJI				pmax	pmax		
comp=Z,121nm,0.9s,mb5.5
BJI	**Beijing**	**34.62**	**346**	P	**P**	**06 32 28.6**	**+0.1**
comp=Z,121nm,0.9s,mb5.5
LZH	**Lanzhou**	**35.91**	**328**	*e*P	**P**	**06 32 44.5**	**+4.9**
LZH				AMB	AMB		
comp=Z,53nm,1.3s,mb5.0
LZH				AMB	AMB		
comp=Z,160nm,4.0s
LZH	**Lanzhou**	**35.91**	**328**	*e*P	**P**	**06 32 44.5**	**+4.9**
comp=Z,53nm,1.3s,mb5.0
LZH				pP	pP	06 33 06.0	-3.2
LZH				sP	sP	06 33 11.5	-13
HHC	**Hu-ho-hao-te**	**36.66**	**341**	*e*P	**P**	**06 32 48.3**	**+2.4**
HHC				AP	pP	06 33 18.5	+2.9
HHC				S	**S**	**06 38 11.0**	**-8.0**
HHC				AMB	AMB		
comp=Z,41nm,0.9s,mb5.1
HHC				AMB	AMB		
comp=Z,108nm,3.9s
FORT	**Forrest**	**37.07**	**177**	⇑*i*P	**P**	**06 32 49.6**	**+0.2**
comp=Z,38nm,0.4s,mb5.4
MDJ	**Mudanjiang**	**38.12**	**4**	*e*P	**P**	**06 32 59.0**	**+0.8**
comp=Z,15nm,0.8s,mb4.7
KLBR	**Kellerberrin**	**38.70**	**192**	⇑*i*P	**P**	**06 33 02.7**	**-0.3**
comp=Z,28nm,0.4s,mb5.2
NWAO	**Narrogin (SRO)**	**40.09**	**192**	*e*P	**P**	**06 33 14.5**	**-0.1**
NWAO				pmax	pmax		
comp=Z,25nm,0.6s
NWAO	**Narrogin (SRO)**	**40.09**	**192**	*e*P	**P**	**06 33 14.5**	**-0.1**
comp=Z,25nm,0.6s,mb5.0
GTA	**Gaotai**	**40.51**	**328**	*e*P	**P**	**06 33 17.5**	**-0.6**
GTA				AMB	AMB		
comp=Z,6.0nm,0.5s,mb4.5
STKA	**Stephens Creek**	**40.85**	**160**	⇑*i*P	**P**	**06 33 21.3**	**+0.5**
comp=Z,16nm,0.8s,mb4.7
STKA	**Stephens Creek**	**40.85**	**160**	P	**P**	**06 33 20.9**	**+0.1**
comp=Z,15nm,0.5s,mb4.9,baz=336,slow=8.4,SNR=42
KLR	**Kul'dur**	**42.87**	**5**	*e*P	**P**	**06 33 34.0**	**-3.3**
HIA	**Hailar**	**43.00**	**354**	*e*P	**P**	**06 33 39.2**	**+0.9**
HIA				pmax	pmax		
comp=Z,37nm,1.0s
HIA	**Hailar**	**43.00**	**354**	*e*P	**P**	**06 33 39.2**	**+0.9**
comp=Z,37nm,1.0s,mb5.0
JIRN	**Jiri**	**43.40**	**304**	*e*P	**P**	**06 33 40.3**	**-1.2**
comp=Z,7.7nm,0.3s,mb4.8
GUN	**Gumba**	**43.75**	**304**	*e*P	**P**	**06 33 43.9**	**-0.4**
comp=Z,13nm,0.4s,mb4.9
PKI	**Pulchoki**	**44.02**	**303**	*e*P	**P**	**06 33 45.0**	**-1.4**
comp=Z,3.8nm,0.4s,mb4.4
ARMA	**Armidale**	**44.03**	**148**	*e*P	**P**	**06 33 47.4**	**+0.9**
KKN	**Kakani**	**44.20**	**304**	*e*P	**P**	**06 33 47.3**	**-0.6**
comp=Z,7.1nm,0.4s,mb4.6
DMN	**Daman**	**44.28**	**303**	*e*P	**P**	**06 33 47.9**	**-0.6**
ULN	**Ulaanbaatar**	**44.38**	**342**	*e*P	**P**	**06 33 49.4**	**+0.1**
ULN	**Ulaanbaatar**	**44.38**	**342**	*e*P	**P**	**06 33 49.1**	**-0.2**
comp=Z,11nm,1.0s,mb4.5
SONM	**Songino Array**	**44.56**	**341**	P	**P**	**06 33 49.6**	**-1.2**
comp=Z,3.5nm,0.8s,mb4.1,baz=160,slow=7.3,SNR=16
GKN	**Gorkha**	**44.81**	**304**	*e*P	**P**	**06 33 52.0**	**-0.7**
comp=Z,6.1nm,0.4s,mb4.6
KOLN	**Koldanda**	**45.59**	**303**	*e*P	**P**	**06 33 57.9**	**-1.0**
comp=Z,8.1nm,0.4s,mb4.8
CIT	**Chita**	**46.60**	**349**	*e*P	**P**	**06 34 08.3**	**+1.5**
CNB	**Canberra Magne**	**46.93**	**154**	*e*P	**P**	**06 34 10.6**	**+1.3**
comp=Z,3nm,0.9s,mb4.6
ZAK	**Zakamensk**	**47.79**	**340**	*e*P	**P**	**06 34 17.6**	**+1.6**
WMQ	**Urumqi**	**50.22**	**324**	*e*P	**P**	**06 34 36.0**	**+1.5**
WMQ				AP	pP	06 35 10.0	+4.3
WMQ				PCP	PcP	06 35 53.0	+1.4
WMQ				PP	PP	06 36 35.0	+4.0
WMQ				*e*S	**S**	**06 41 36.0**	**-0.2**
WMQ				AMB	AMB		
comp=Z,11nm,0.6s,mb4.7
WMQ				AMB	AMB		
comp=Z,213nm,4.6s
WMQ				LR	LR		
comp=N,224nm,23.0s
WMQ				LR	LR		
comp=E,235nm,24.2s
WMQ				LR	LR		
comp=Z,192nm,23.5s
CLNS	**Chul'man**	**50.25**	**359**	*e*P	**P**	**06 34 35.5**	**+0.8**
CLNS				pmax	pmax		
comp=N,19nm,0.8s
CLNS				pmax	pmax		
comp=Z,36nm,0.8s,mb5.0
CLNS				pmax	pmax		
comp=E,11nm,0.9s
BOD	**Bodaibo**	**52.10**	**352**	⇑*i*P	**P**	**06 34 48.3**	**-0.2**
BOD				pmax	pmax		
comp=Z,12nm,1.4s,mb4.3
MK31	**Makanchi Array**	**55.04**	**324**	*e*P	**P**	**06 35 08.6**	**-1.4**
MKAR	**Makanchi Array**	**55.04**	**324**	P	**P**	**06 35 08.6**	**-1.4**
comp=Z,1.7nm,0.4s,mb4.1,baz=122,slow=8.1,SNR=20
MKAR				pP	pP	06 35 39.8	-1.9
comp=Z,2.1nm,0.6s,baz=123,slow=7.5,SNR=3.3
MKAR				ScP	ScP	06 39 54.9	-0.8
comp=Z,0.4nm,0.5s,baz=118,slow=4.4,SNR=3.5
MKAR	**Makanchi Array**	**55.04**	**324**	P	**P**	**06 35 08.6**	**-1.4**
MKAR				*PP	pP	06 35 39.8	-1.9
MKAR	**Makanchi Array**	**55.04**	**324**	P	**P**	**06 35 08.6**	**-1.4**
MKAR				pP	pP	06 35 39.8	-1.9
MKAR				ScP	ScP	06 39 54.9	-0.8
YAK	**Yakutsk**	**55.51**	**2**	*d i*P	**P**	**06 35 13.2**	**-0.1**
YAK	**Yakutsk**	**55.51**	**2**	*e*P	**P**	**06 35 13.4**	**+0.1**
comp=Z,59nm,0.8s,mb5.5
ZAL	**Zalesovo**	**57.94**	**333**	P	**P**	**06 35 29.4**	**-1.1**
comp=Z,1.5nm,0.3s,mb4.3,baz=324,slow=8.1,SNR=4.1
ZAL	**Zalesovo**	**57.94**	**333**	*i* P	**P**	**06 35 32.7**	**+2.2**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.3s
NVS	**Novosibirsk**	**59.22**	**333**	*e*P	**P**	**06 35 39.8**	**+0.5**
TIXI	**Tiksi**	**65.13**	**1**	*e*P	**P**	**06 36 18.2**	**-0.5**
ZRNK	**Zerenda**	**65.50**	**326**	*e*P	**P**	**06 36 19.3**	**-1.8**
ZRNK				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5
ZRNK	**Zerenda**	**65.50**	**326**	*e*P	**P**	**06 36 19.3**	**-1.8**
comp=Z,6.3nm,0.8s,mb4.5
BILL	**Bilibino**	**67.06**	**15**	*e*P	**P**	**06 36 29.5**	**-1.5**
BILL				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.1
ARU	**Arti**	**72.37**	**327**	⇓*i*P	**P**	**06 37 04.9**	**+1.3**
ARU				*e*		06 39 46.8	
ARU				*e*S	S	06 46 19.4	+3.4
ARU				*e*SS	SS	06 51 03.0	+6.1
ARU				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.3
ARU	**Arti**	**72.37**	**327**	*e*P	**P**	**06 37 05.3**	**+1.7**
comp=Z,4.4nm,0.6s,mb4.4
CASY	**Casey**	**73.45**	**187**	*e*P	**P**	**06 37 09.8**	**-0.1**
KIV	**Kislovodsk**	**80.90**	**313**	*e*P	**P**	**06 37 50.2**	**-1.3**
KIV				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.3
MCK	**McKinley**	**81.96**	**27**	*e*P	**P**	**06 37 57.1**	**0.0**
MCK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.2
MCK	**McKinley**	**81.96**	**27**	*e*P	**P**	**06 37 57.1**	**+0.1**
comp=Z,6.2nm,1.0s,mb4.2
SML	**Sawmill**	**82.19**	**29**	*e*P	**P**	**06 37 59.4**	**+1.1**
EGAK	**Eagle**	**85.32**	**25**	*e*P	**P**	**06 38 14.2**	**+0.1**
comp=Z,3.6nm,0.6s,mb4.3
MAW	**Mawson**	**86.13**	**200**	*e*P	**P**	**06 38 17.4**	**-0.8**
comp=Z,1.0nm,0.8s,mb3.6
MAW	**Mawson**	**86.13**	**200**	P	**P**	**06 38 17.3**	**-0.9**
comp=Z,1.0nm,0.6s,mb3.7,baz=80,slow=7.3,SNR=4.5
MAW	**Mawson**	**86.13**	**200**	*e*P	**P**	**06 38 17.4**	**-0.8**
MAW				pmax	pmax		
comp=Z,1.0nm,0.8s
DAWY	**Dawson**	**86.16**	**26**	*e*P	**P**	**06 38 18.7**	**+0.4**
VNDA	**Vanda**	**86.19**	**173**	P	**P**	**06 38 17.7**	**-0.8**
comp=Z,1.5nm,0.5s,mb3.9,baz=317,slow=6.2,SNR=18
VNDA	**Vanda**	**86.19**	**173**	*e*P	**P**	**06 38 17.7**	**-0.8**
VNDA				pmax	pmax		
comp=Z,1.0nm,0.6s
VNDA	**Vanda**	**86.19**	**173**	*e*P	**P**	**06 38 17.7**	**-0.8**
comp=Z,1.5nm,0.6s,mb3.9
JOF	**Joensuu**	**86.53**	**333**	*e*p	**P**	**06 38 17.5**	**-2.6**
comp=Z,6.5nm,0.7s,mb4.6
ARCES	**ARCESS Array B**	**87.72**	**340**	P	**P**	**06 38 24.4**	**-1.5**
comp=Z,5.9nm,0.9s,mb4.4,baz=77,slow=6.4,SNR=9.5
FINES	**FINESS Array B**	**89.20**	**332**	P	**P**	**06 38 30.6**	**-2.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=63,slow=5.1,SNR=7.8
FINES	**FINESS Array B**	**89.20**	**332**	*i* P	**P**	**06 38 33.2**	**+0.4**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s
QSPA	**South Pole Qui**	**96.35**	**180**	*e*P	**P**	**06 39 06.3**	**+0.5**
comp=Z,1.0nm,0.3s,mb4.6
TXAR	**Lajitas Array**	**120.30**	**51**	PKP	PKPdf	06 44 28.4	+0.9
comp=Z,0.1nm,0.4s,baz=154,slow=3.7,SNR=4.4
TXAR	**Lajitas Array**	**120.30**	**51**	PKP	PKPdf	06 44 28.4	+0.9
TORD	**Torodi Ar. Bea**	**121.56**	**290**	PKP	PKPdf	06 44 29.8	-0.1
comp=Z,1.0nm,0.7s,baz=63,slow=2.4,SNR=10.0

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*IDC **31** 06:42:39.0±0.7, 102S×2457W, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, MS4.2/24, Ms1 4.2/24, ms1mx4.1/30, Error ellipse: s-maj=25.2km s-min=16.9km az=163.0*
*ISCJB **31** 06:42:39.5±0.5, 10S±0.1×2456W±008, h10km, mb4.3/21, MS4.2/24, Error ellipse: s-maj=14.8km s-min=11.5km az=144.0*
*NEIC **31** 06:42:41.1±0.4, 1.12S×2470W, h10km, mb4.7/11, Error ellipse: s-maj=12.9km s-min=9.7km az=156.0*
*GCMT **31** 06:42:41.1±0.2, 106S×2438W, h17km±1km, MW5.0/70, Moment Tensor Solution. s38,c53; s70,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.93±.15; $M_{\theta\theta}$1.93±.13; $M_{\phi\phi}$0.00±.12; $M_{r\theta}$0.77±.30; $M_{\theta\phi}$-3.83±.11; $M_{\phi r}$-0.75±.32; Best double couple: M_0=4.03900×10^{16}*
NP1:φ82.00000°, δ79.00000°, λ179.00000°. NP2: φ173.00000°, δ89.00000°, λ11.00000°. Principal axes: T 5.0760, Plg9.0000°, Azm38.0000°; N -2.0760, Plg79.0000°, Azm177.0000°; P -3.0010, Plg7.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 31 06:42:41.5±0.4, 099S±010×2455W±008, h10km, n49, σ1§03/30, mb4.3/21, MS4.2/24, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.30**	**247**	*e*Pn	**Pn**	**06 45 31.8**	**-4.9**
RCBR				*e*Sn	**Sn**	**06 47 35.3**	**-19**
TOA0	**Torodi Ar. Sit**	**29.58**	**61**	*e*P	**P**	**06 48 44.7**	**-1.8**
TORD	**Torodi Ar. Bea**	**29.58**	**61**	P	**P**	**06 48 44.6**	**-1.9**
3.6nm,1.0s,mb4.1,baz=252,slow=7.6,SNR=11
TORD				LR	LR	06 58 58.2	
comp=Z,470nm,18.5s,MS4.2,baz=230,slow=33
MDT	**Midelt**	**38.54**	**27**	P	**P**	**06 50 06.9**	**+2.7**
1.2nm,0.7s,mb3.7,baz=254,slow=8.4,SNR=4.6
SIV	**San Ignacio**	**38.96**	**246**	P	**P**	**06 50 06.9**	**-0.9**
3.0nm,0.9s,mb4.0,baz=100,slow=9.9,SNR=10
SAML	**Samuel**	**39.26**	**257**	*e*P	**P**	**06 50 10.3**	**+0.1**
16nm,1.4s,mb4.5
ESDC	**Sonseca Array**	**44.65**	**23**	P	**P**	**06 50 54.3**	**0.0**
1.5nm,0.7s,mb3.9,baz=207,slow=8.3,SNR=8.4
ESDC				LR	LR	07 07 04.1	
comp=Z,138nm,21.4s,MS3.9,baz=315,slow=33
TSUM	**Tsumeb**	**45.06**	**116**	P	**P**	**06 50 58.5**	**+0.9**
1.9nm,0.8s,mb4.0,baz=299,slow=11,SNR=3.4
TSUM	**Tsumeb**	**45.06**	**116**	P	**P**	**06 50 58.2**	**+0.7**
5.3nm,0.9s,mb4.4
LPAZ	**La Paz**	**45.54**	**248**	P	**P**	**06 51 01.4**	**0.0**
3.7nm,0.8s,mb4.3,baz=93,slow=3.6,SNR=15
LPAZ				LR	LR	07 10 49.9	
comp=Z,199nm,18.2s,MS4.1,baz=73,slow=37
LPAZ	**La Paz**	**45.54**	**248**	*e*P	**P**	**06 51 01.2**	**-0.1**
8.9nm,1.1s,mb4.6
KEST	**Kesra**	**48.30**	**37**	LR	LR	07 13 04.7	
comp=Z,334nm,18.2s,MS4.4,baz=186,slow=38
ROSC	**El Rosal**	**50.07**	**277**	P	**P**	**06 51 36.7**	**+0.2**
3.3nm,0.7s,mb4.5,baz=256,slow=19,SNR=5.2
ROSC				LR	LR	07 09 34.9	
comp=Z,195nm,19.5s,MS4.1,baz=121,slow=32
TRQA	**Tornquist**	**50.40**	**219**	*e*P	**P**	**06 51 36.8**	**-2.2**
3.7nm,0.6s,mb4.6
BOSA	**Boshof**	**54.86**	**125**	P	**P**	**06 52 12.3**	**+0.4**
2.5nm,0.9s,mb4.2,baz=247,slow=5.2,SNR=3.2
BOSA				LR	LR	07 10 58.1	
comp=Z,283nm,18.3s,MS4.4,baz=320,slow=31
GERES	**GERESS Array B**	**59.62**	**28**	LR	LR	07 15 26.2	
comp=Z,206nm,20.9s,MS4.2,baz=262,slow=33
KMBO	**Kilima Mbogo**	**61.79**	**91**	LR	LR	07 17 07.0	
comp=Z,436nm,18.0s,MS4.7,baz=276,slow=34
MLR	**Muntele Rosu**	**64.20**	**37**	LR	LR	07 21 53.8	
comp=Z,478nm,19.8s,MS4.7,baz=65,slow=37
SCHQ	**Schefferville**	**65.55**	**335**	LR	LR	07 18 26.1	
comp=Z,168nm,19.4s,MS4.2,baz=98,slow=33
MMAI	**Mount Meron Ar**	**65.72**	**53**	LR	LR	07 21 45.4	
comp=Z,72nm,20.0s,MS3.9,baz=250,slow=36
ASF	**Jabal al Asfar**	**66.66**	**54**	LR	LR	07 24 24.3	
comp=Z,97nm,18.0s,MS4.1,baz=124,slow=38
ATD	**Arta Tunnel**	**68.09**	**77**	LR	LR	07 21 28.1	
comp=Z,86nm,18.5s,MS4.0,baz=48,slow=34
AKASG	**Malin Array Be**	**68.75**	**33**	P	**P**	**06 53 44.8**	**-0.7**
1.4nm,0.6s,mb4.1,baz=240,slow=6.6,SNR=6.1
AKASG				LR	LR	07 24 05.9	
comp=Z,105nm,18.2s,MS4.1,baz=240,slow=36
WVT	**Waverly**	**69.28**	**309**	*e*P	**P**	**06 53 48.2**	**-0.6**
6.2nm,0.8s,mb4.6
SIUC	**Southern Illin**	**70.80**	**311**	*e*P	**P**	**06 53 57.3**	**-0.9**
13nm,0.8s,mb4.9
SNAA	**Sanae**	**71.93**	**173**	*e*P	**P**	**06 54 07.0**	**+2.0**
2.4nm,0.9s,mb4.1
FINES	**FINESS Array B**	**73.16**	**23**	P	**P**	**06 54 12.6**	**+0.2**
2.5nm,0.9s,mb4.1,baz=258,slow=7.6,SNR=3.7
FINES				LR	LR	07 25 35.5	
comp=Z,109nm,18.7s,MS4.2,baz=170,slow=35
FINES	**FINESS Array B**	**73.16**	**23**	P	**P**	**06 54 12.6**	**+0.2**
GNI	**Garni**	**74.94**	**48**	LR	LR	07 32 17.2	
comp=Z,75nm,19.7s,MS4.0,baz=70,slow=40
ARCES	**ARCESS Array B**	**77.90**	**16**	LR	LR	07 25 49.8	
comp=Z,82nm,19.1s,MS4.1,baz=189,slow=33
TXAR	**Lajitas Array**	**81.00**	**300**	P	**P**	**06 54 56.0**	**-0.4**
1.7nm,0.7s,mb4.1,baz=119,slow=7.2,SNR=24
TXAR				LR	LR	07 29 27.5	
comp=Z,56nm,19.3s,MS3.9,baz=105,slow=35
SDCO	**Great Sand Dun**	**83.44**	**308**	*e*P	**P**	**06 55 09.7**	**+0.5**
12nm,1.4s,mb4.7
ANMO	**Albuquerque**	**83.93**	**305**	*e*P	**P**	**06 55 12.2**	**+0.5**
2.5nm,0.8s,mb4.4
WSAR	**Wadi Sarin**	**84.12**	**67**	LR	LR	07 33 36.3	
comp=Z,111nm,18.9s,MS4.3,baz=297,slow=36
LAZ	**Ladron**	**84.44**	**305**	*e*P	**P**	**06 55 15.0**	**+0.7**
RPN	**Rapa Nui**	**84.90**	**243**	LR	LR	07 27 28.5	
comp=Z,163nm,18.9s,MS4.4,baz=358,slow=32
LAO	**LASA Array**	**85.00**	**317**	*e*P	**P**	**06 55 17.2**	**+0.1**
5.9nm,0.6s,mb4.9
PV01	**Paradox Valley**	**85.90**	**308**	*e*P	**P**	**06 55 22.2**	**+0.7**
AKTO	**Aktyubinsk**	**86.02**	**39**	LR	LR	07 32 16.2	
comp=Z,159nm,21.4s,MS4.4,baz=210,slow=35
PV10	**Paradox Valley**	**86.28**	**308**	P	**P**	**06 55 24.1**	**+0.6**
PDAR	**Pinedale Array**	**87.00**	**313**	P	**P**	**06 55 22.2**	**-4.7**
0.7nm,0.7s,mb4.0,baz=97,slow=7.6,SNR=6.0
PDAR				LR	LR	07 27 59.5	
comp=Z,170nm,20.1s,MS4.5,baz=350,slow=31
QSPA	**South Pole Qui**	**89.08**	**180**	*e*P	**P**	**06 55 37.1**	**+0.2**
4.6nm,0.9s,mb4.8
YKA	**Yellowknife Ar**	**90.90**	**332**	LR	LR	07 31 38.6

0.3nm,0.3s,baz=310,slow=21,SNR=7.5
MKAR Makanchi Array 65.71 331 P P 07 14 46.5 +0.1
0.6nm,0.5s,baz=135,slow=7.3,SNR=11

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*NEIC **31** 07:36:09.7, 3156S×7181W, h25km, ML2.8(GUC), After GUC.*
GUC 31 07:36:09.7±0.8, 3156S×7181W, h25km±4km, MD3.6, ML2.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.42**	**141**	⇓*iP*	Pb	07 36 18.1	-0.5
CHNG				*i* S	Sb	07 36 24.7	+0.1
CHNG				AML	AML	07 36 25.2	
comp=E,358nm,0.5s							
CMCH	**Combarbala**	**0.79**	**61**	⇑*iP*	Pb	07 36 24.0	-0.8
CMCH				*i* S	Sb	07 36 35.5	+0.4
CMCH				AML	AML	07 36 38.1	
comp=E,791nm,0.7s							
CMCH	**Combarbala**	**0.79**	**61**	⇑*iP*	Pb	07 36 24.0	-0.8
CMCH				*i* S	Sb	07 36 35.5	+0.4
PTCH	**Petorca**	**1.03**	**133**	*eP*	Pn	07 36 27.7	-0.8
PTCH				*i* S	Sb	07 36 41.6	-0.2
PTCH				AML	AML	07 36 42.7	
comp=N,961nm,0.1s							
PTCH	**Petorca**	**1.03**	**133**	*eP*	Pn	07 36 27.7	-0.8
PTCH				*i* S	Sb	07 36 41.6	-0.2
TLL	**Tololo Astrono**	**1.63**	**32**	*eP*	Pn	07 36 38.0	+1.1
TLL				*i* S	Sn	07 36 59.9	+2.8
TLL				AML	AML	07 37 04.9	
comp=E,194nm,0.4s							
TLL	**Tololo Astrono**	**1.63**	**32**	*eP*	Pn	07 36 38.0	+1.1
TLL				*i* S	Sn	07 36 59.9	+2.8
PEL	**Peldehue**	**1.85**	**149**	*eP*	Pn	07 36 41.5	+1.8
PEL				AML	AML	07 37 10.2	
comp=E,170nm,0.3s							
RCDM	**Rinconada Maip**	**2.10**	**156**	*eP*	Pn	07 36 44.6	+1.2
RCDM				*i* S	Sn	07 37 11.1	+2.4
RCDM				AML	AML	07 37 16.6	
comp=N,70nm,0.7s							
RCDM	**Rinconada Maip**	**2.10**	**156**	*eP*	Pn	07 36 44.6	+1.2
RCDM				*i* S	Sn	07 37 11.1	+2.4
CLCH	**Cerro Calan**	**2.13**	**150**	*eP*	Pn	07 36 45.2	+1.6
CLCH				*i* S	Sn	07 37 11.9	+2.7
CLCH				AML	AML	07 37 18.6	
comp=E,110nm,0.8s							

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*ISCJB **31** 08:21:21.6±0.5, 3721N±002×3623E±003, h2km±4km, Error ellipse: s-maj=5.0km s-min=3.0km az=72.6*
*ISK **31** 08:21:21.7, 3721N×3625E, h7km, MD3.2*
*CSEM **31** 08:21:21.5±0.1, 3721N×3625E, h5km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.2km az=152.0*
*NEIC **31** 08:21:21.7, 3721N×3624E, h7km, MD3.2(ISK), After ISK.*
*NSSC **31** 08:21:26, 3703N×3649E, h15km±3km*
ISC 31 08:21:22.3±0.5, 3720N±002×3622E±003, h6km±3km, n43, σ0§97/72, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.42**	**244**	PG	**Pg**	**08 21 30.9**	**+0.4**
CEYT	**Ceyhan**	**0.42**	**244**	Pg	**Pg**	**08 21 30.9**	**+0.4**
KOZT	**Kozan**	**0.42**	**312**	PG	**Pg**	**08 21 30.4**	**-0.1**
KMRS	**Kahramanmaras**	**0.62**	**60**	*i* PG	**Pg**	**08 21 33.7**	**-0.6**
KMRS				*i* SG	**Sg**	**08 21 42.4**	**0.0**
COBT	**Iskenderun**	**0.68**	**178**	*i* P	**Pg**	**08 21 35.2**	**-0.1**
COBT				*i* S	**Sg**	**08 21 45.3**	**+1.2**
DRWC	**Darouich**	**0.68**	**148**	⇑*iP*	**Pg**	**08 21 35.4**	**0.0**
DRWC	**Darouich**	**0.68**	**148**	⇑P	**Pg**	**08 21 35.0**	**-0.4**
DRWC				⇑S	**Sg**	**08 21 42.0**	**-2.2**
GAZ	**Gaziantep**	**0.79**	**92**	*i* PG	**Pg**	**08 21 37.1**	**-0.4**
GAZ				*i* SG	**Sg**	**08 21 48.1**	**+0.3**
GAZ	**Gaziantep**	**0.79**	**92**	Pg	**Pg**	**08 21 37.1**	**-0.4**
GAZ				Sg	**Sg**	**08 21 48.1**	**+0.3**
KRTS	**Karatas**	**0.92**	**228**	*e*PG	**Pg**	**08 21 39.9**	**-0.1**
KARA	**Karaisali**	**0.93**	**274**	*e*PG	**Pg**	**08 21 40.4**	**+0.2**
HTY	**Hatay**	**1.08**	**184**	Pn	**Pn**	**08 21 43.4**	**-0.6**
HTY				SN	**Sn**	**08 21 58.1**	**-1.1**
HTY	**Hatay**	**1.08**	**184**	Pn	**Pn**	**08 21 43.5**	**-0.5**
HTY				Sg	**Sg**	**08 21 58.5**	**+1.5**
HTY	**Hatay**	**1.08**	**184**	Pn	**Pn**	**08 21 43.5**	**-0.5**
HTY				*e*Sn	**Sn**	**08 21 58.1**	**-1.1**
HTY				Sg	**Sg**	**08 21 58.5**	**+1.6**
GZT	**Gaziantep**	**1.08**	**81**	*i* P	**Pg**	**08 21 42.9**	**-0.3**
GZT				*i* S	**Sg**	**08 21 57.9**	**+0.7**
BTCH	**Batrach**	**1.17**	**170**	⇑*iP*	**Pg**	**08 21 44.5**	**-0.3**
BTCH	**Batrach**	**1.17**	**170**	⇑P	**Pg**	**08 21 44.0**	**-0.8**
BTCH				⇓S	**Sg**	**08 22 00.0**	**-0.1**
ARNB	**Al Arnab**	**1.35**	**189**	⇑P	**Pn**	**08 21 49.0**	**+1.3**
ARNB				⇓S	**Sb**	**08 22 06.0**	**+0.5**
SLNF	**Slenfeh**	**1.60**	**180**	⇑*iP*	**Pn**	**08 21 52.5**	**+1.3**
SLNF	**Slenfeh**	**1.60**	**180**	⇑P	**Pn**	**08 21 52.0**	**+0.8**
SLNF				⇓S	**Sn**	**08 22 12.0**	**-0.1**
ATAB	**Bozova**	**1.68**	**80**	*i* P	**Pn**	**08 21 53.9**	**+1.6**
ATAB				*i* S	**Sn**	**08 22 16.0**	**+2.0**
BNN	**Bunyan**	**1.68**	**350**	PN	**Pn**	**08 21 52.1**	**-0.2**
BNN	**Bunyan**	**1.68**	**350**	Pn	**Pn**	**08 21 52.1**	**-0.1**
SLMH	**Al Salmeh**	**1.69**	**125**	⇓*iP*	**Pn**	**08 21 52.5**	**+0.1**
SLMH	**Al Salmeh**	**1.69**	**125**	⇓P	**Pn**	**08 21 52.0**	**-0.4**
SLMH				⇑S	**Sn**	**08 22 11.0**	**-3.3**
WRDH	**Warideh**	**1.69**	**175**	⇑*iP*	**Pn**	**08 21 53.6**	**+1.1**
WRDH	**Warideh**	**1.69**	**175**	⇑P	**Pn**	**08 21 53.0**	**+0.5**
WRDH				⇑S	**Sn**	**08 22 14.0**	**-0.5**
MYA	**Malataya**	**2.08**	**57**	PN	**Pn**	**08 21 58.0**	**+0.2**
MYA				SN	**Sn**	**08 22 23.8**	**-0.2**
MYA	**Malataya**	**2.08**	**57**	Pn	**Pn**	**08 21 58.0**	**+0.3**
MYA				Sg	**Sn**	**08 22 23.1**	**-0.9**
MYA	**Malataya**	**2.08**	**57**	*e*Pn	**Pn**	**08 21 58.0**	**+0.2**
MYA				Sg	**Sn**	**08 22 23.0**	**-1.0**
MYA				*e*Sn	**Sn**	**08 22 23.8**	**-0.2**
URFA	**Urfa**	**2.09**	**83**	PN	**Pn**	**08 21 58.0**	**+0.1**
URFA				SN	**Sn**	**08 22 24.2**	**0.0**
URFA	**Urfa**	**2.09**	**83**	Pn	**Pn**	**08 21 58.0**	**+0.2**
URFA				Sg	**Sn**	**08 22 24.1**	**-0.2**
URFA	**Urfa**	**2.09**	**83**	*e*Pn	**Pn**	**08 21 58.0**	**+0.1**
URFA				Sg	**Sn**	**08 22 24.0**	**-0.2**
URFA				*e*Sn	**Sn**	**08 22 24.2**	**0.0**
BIDA	**Albida**	**2.18**	**178**	⇑*iP*	**Pn**	**08 21 59.7**	**+0.5**
BIDA	**Albida**	**2.18**	**178**	⇑P	**Pn**	**08 21 59.0**	**-0.2**
BIDA				⇓S	**Sn**	**08 22 24.0**	**-2.5**
ELZG	**Elazig**	**2.54**	**58**	*i* P	**Pg**	**08 22 09.4**	**-1.7**
ELZG				*i* S	**Sg**	**08 22 44.0**	**0.0**
ELZG	**Elazig**	**2.54**	**58**	*i* P	**Pg**	**08 22 09.4**	**-1.7**
ELZG				*i* S	**Sg**	**08 22 44.0**	**0.0**
SVSK	**Karacayir**	**2.78**	**12**	*e*PN	**Pn**	**08 22 07.5**	**+0.1**
PTK	**Pertek**	**3.02**	**55**	*e*PN	**Pn**	**08 22 10.4**	**-0.3**
PTK	**Pertek**	**3.02**	**55**	Pn	**Pn**	**08 22 10.4**	**-0.3**
MARD	**Mardin**	**3.64**	**87**	*i* P	**Pn**	**08 22 19.3**	**0.0**
MARD				*i* S	**Sb**	**08 23 13.4**	**+1.9**
MARD	**Mardin**	**3.64**	**87**	*i* P	**Pn**	**08 22 19.3**	**0.0**
MARD				*i* S	**Sb**	**08 23 13.4**	**+1.9**
EZC	**Erzincan**	**3.80**	**47**	*e*PN	**Pn**	**08 22 18.5**	**-2.9**

IDC 31 08:27:03.2±2.6, 744S×13273E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/12, mbtmp3.2/4, ML3.3/3, Error ellipse: s-maj=102.2km s-min=26.5km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.52**	**173**	Pn	Pn	08 30 01.3	-1.3
0.2nm,0.3s,baz=354,slow=13,SNR=10							
WRA				Sn	Sn	08 32 24.2	+1.4
0.2nm,0.3s,baz=0.4,slow=25,SNR=4.2							
FITZ	**Fitzroy Crossi**	**12.64**	**212**	Pn	Pn	08 30 04.4	+0.1
0.1nm,0.3s,baz=36,slow=17,SNR=3.1							
FITZ				Sn	Sn	08 32 17.6	-8.2
0.2nm,0.3s,baz=194,slow=14,SNR=3.5							
ASAR	**Alice Springs**	**16.17**	**176**	Pn	Pn	08 30 54.1	+2.3
0.1nm,0.3s,baz=356,slow=14,SNR=6.6							
MKAR	**Makanchi Array**	**70.09**	**326**	P	P	08 38 17.4	+0.2
0.2nm,0.6s,baz=129,slow=7.5,SNR=3.1							

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*IDC **31** 08:29:46.3±1.0, 3589N×6921E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.9/23, mbtmp3.9/11, ML3.4/3, Error ellipse: s-maj=23.2km s-min=19.8km az=16.0*
*NEIC **31** 08:29:48.0±0.9, 3597N×6917E, h10km, mb3.6/4, Error ellipse: s-maj=14.3km s-min=12.8km az=146.0*
*MOS **31** 08:29:50.0±1.3, 3606N×6922E, h33km, mb4.3/2, Error ellipse: s-maj=19.4km s-min=8.3km az=85.0*
*NNC **31** 08:29:52.5±3.1, 3660N×6895E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=30.2km s-min=23.9km az=74.0*
*ISCJB **31** 08:29:53.4±0.8, 3620N±003×6924E±007, h67km±10km, mb3.8/7, Error ellipse: s-maj=10.0km s-min=4.9km az=156.0*
ISC 31 08:29:54.9±0.7, 3617N±003×6916E±008, h67km±9km, n56, σ1§34/64, mb3.8/8, 6C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.25**	**135**	P	**Pn**	**08 30 44.3**	**+0.8**
CEP				S	**Sn**	**08 31 29.0**	**+7.9**
THW	**Thamme Wali**	**3.99**	**147**	P	**Pn**	**08 30 53.0**	**-0.6**
SBDP	**Sheikh Budin**	**4.10**	**160**	P	**Pn**	**08 30 55.5**	**+0.5**
CHCP	**Chirah Chowk**	**4.20**	**125**	P	**Pn**	**08 30 57.2**	**+0.7**
DRP	**Derazinda**	**4.50**	**169**	P	**Pn**	**08 31 01.8**	**+1.2**
THN	**Thein Dam**	**6.58**	**123**	*e*P	**Pn**	**08 31 30.8**	**+1.7**
THN				*e*S	**Sn**	**08 32 44.7**	**+2.0**
AML	**Almayashu**	**6.92**	**29**	P	**Pn**	**08 31 33.7**	**+0.1**
SNR=63							
KK31	**Karatay Array**	**7.00**	**8**	⇑Pn	**Pn**	**08 31 34.4**	**-0.3**
3.5nm,0.5s,baz=198,slow=14,SNR=59							
KK31				⇓Sn	**Sn**	**08 32 53.0**	**+0.1**
4.7nm,0.4s,baz=192,slow=23,SNR=4.9							
UCH	**Uchtor**	**7.34**	**33**	P	**Pn**	**08 31 39.5**	**+0.2**
SNR=28							
AAK	**Ala-Archa**	**7.66**	**31**	P	**Pn**	**08 31 43.9**	**+0.2**
SNR=14							
AAK	**Ala-Archa**	**7.66**	**31**	*e*P	**Pn**	**08 31 42.5**	**-1.3**
AAK				*e*		08 33 09.8	
AAK				pmax	pmax		
comp=Z,13nm,0.6s							
AAK	**Ala-Archa**	**7.66**	**31**	*e*Pn	**Pn**	**08 31 42.5**	**-1.3**
comp=Z,13nm,0.6s							
AAK				*e*Sn	**Sn**	**08 33 09.8**	**+0.8**
CHMS	**Chumysh**	**8.07**	**31**	P	**Pn**	**08 31 47.9**	**-1.4**
SNR=10							
ULHL	**Ulahol**	**8.18**	**40**	P	**Pn**	**08 31 51.2**	**+0.3**
SNR=7.0							
USP	**Ospenovka**	**8.19**	**29**	P	**Pn**	**08 31 50.1**	**-0.9**
SNR=9.0							
TKM2	**Tokmak 2**	**8.37**	**34**	P	**Pn**	**08 31 53.1**	**-0.4**
SNR=6.7							
TKM2	**Tokmak 2**	**8.37**	**34**	⇑Pn	**Pn**	**08 31 52.9**	**-0.7**
comp=Z,0.6nm,0.6s							
TKM2				⇑Sn	**Sn**	**08 33 28.9**	**+2.4**
comp=Z,1.1nm,0.8s							
MK31	**Makanchi Array**	**14.45**	**39**	⇓Pn	**Pn**	**08 33 15.8**	**-0.1**
comp=Z,1.5nm,0.6s,baz=231,slow=12,SNR=6.5							
MK31	**Makanchi Array**	**14.45**	**39**	*e*Pn	**Pn**	**08 33 16.0**	**+0.1**
MKAR	**Makanchi Array**	**14.45**	**39**	Pn	**Pn**	**08 33 12.1**	**-3.8**
comp=Z,0.0nm,0.3s,baz=233,slow=13,SNR=8.2							
MKAR	**Makanchi Array**	**14.45**	**39**	Pn	**Pn**	**08 33 12.1**	**-3.8**
AB31	**Akbulak array**	**14.71**	**336**	⇑Pn	**Pn**	**08 33 15.3**	**-4.0**
comp=Z,2.3nm,0.5s,baz=151,slow=12,SNR=24							
AB31				⇑Sn	**Sn**	**08 35 50.3**	**-11**
comp=Z,1.3nm,0.4s,baz=332,slow=17,SNR=2.7							
KOLN	**Koldanda**	**14.83**	**120**	*e*P	**Pn**	**08 33 17.7**	**-3.2**
KOLN				*e*S	**Sn**	**08 35 53.8**	**-10**
GKN	**Gorkha**	**15.43**	**117**	*e*P	**Pn**	**08 33 25.8**	**-2.7**
GKN				*e*S	S	08 36 09.3	-21
DMN	**Daman**	**15.99**	**118**	*e*P	**Pn**	**08 33 32.5**	**-3.2**
KKN	**Kakani**	**16.02**	**117**	*e*P	**Pn**	**08 33 33.8**	**-2.1**
comp=Z,20nm,0.6s							
PKI	**Pulchoki**	**16.23**	**117**	*e*P	**Pn**	**08 33 36.9**	**-1.8**
comp=Z,15nm,0.6s							
AKTK	**Aktyubinsk**	**16.37**	**334**	Pn	**Pn**	**08 33 38.8**	**-1.6**
AKTO	**Aktyubinsk**	**16.37**	**334**	⇓Pn	**Pn**	**08 33 38.9**	**-1.5**
comp=Z,0.2nm,1.0s							
AKTO				⇑Sn	**Sn**	**08 36 34.7**	**-6.6**
AKTO	**Aktyubinsk**	**16.37**	**334**	Pn	**Pn**	**08 33 38.8**	**-1.6**
comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=9.2							
GUN	**Gumba**	**16.38**	**115**	*e*P	**Pn**	**08 33 38.6**	**-1.9**
VOSK	**Vostochnaya**	**16.60**	**4**	⇓Pn	**Pn**	**08 33 44.2**	**+1.0**
comp=Z,1.8nm,0.8s							
ZRNK	**Zerenda**	**16.78**	**360**	⇓Pn	**Pn**	**08 33 45.0**	**-0.5**
comp=Z,1.6nm,0.7s							
ZRNK	**Zerenda**	**16.78**	**360**	*e*P	**Pn**	**08 33 46.2**	**+0.7**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZRNK	**Zerenda**	**16.78**	**360**	*e*P	**Pn**	**08 33 46.2**	**+0.8**
comp=Z,2.3nm,0.7s							
BVA0	**Borovoye Array**	**16.87**	**3**	⇓Pn	**Pn**	**08 33 48.2**	**+1.5**
comp=Z,0.6nm,0.9s,baz=167,slow=9.7,SNR=11							
BVAR	**Borovoye Array**	**16.87**	**3**	P	**Pn**	**08 33 45.8**	**-0.8**
comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=5.8							
BRVK	**Borovoye**	**16.90**	**2**	*e*P	**Pn**	**08 33 48.3**	**+1.3**
BRVK				pmax	pmax		
comp=Z,12nm,1.3s							
BRVK	**Borovoye**	**16.90**	**2**	*e*P	**Pn**	**08 33 48.3**	**+1.3**
comp=Z,12nm,1.3s							
CHKZ	**Chkalovo**	**17.53**	**3**	⇓Pn	**Pn**	**08 33 52.2**	**-2.6**
comp=Z,1.5nm,0.8s							
CHKZ	**Chkalovo**	**17.53**	**3**	*e*P	**Pn**	**08 33 53.3**	**-1.5**
CHKZ				pmax	pmax		
comp=Z,3.0nm,1.3s							
CHKZ	**Chkalovo**	**17.53**	**3**	*e*P	**Pn**	**08 33 53.3**	**-1.5**
comp=Z,3.5nm,1.3s							
ZAL	**Zalesovo**	**20.84**	**27**	P	**P**	**08 34 31.6**	**+0.6**
comp=Z,4.9nm,0.5s,baz=256,slow=8.8,SNR=16							
NVS	**Novosibirsk**	**21.04**	**23**	*e*P	**P**	**08 34 31.4**	**-1.9**
NVS				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.0							
NVS				pmax	pmax		
comp=N,2.0nm,0.5s							
NVS				pmax	pmax		
comp=E,3.0nm,0.5s							
ARU	**Arti**	**21.50**	**344**	*e*P	**P**	**08 34 41.4**	**+3.3**
SONM	**Songino Array**	**29.74**	**55**	P	**P**	**08 35 56.9**	**+2.0**
comp=E,1.4nm,0.8s,mb3.6,baz=258,slow=8.9,SNR=8.5							
AKASG	**Malin Array Be**	**32.00**	**310**	P	**P**	**08 36 16.7**	**+1.9**
comp=E,1.3nm,0.5s,mb3.9,baz=83,slow=7.7,SNR=6.4							
AKASG	**Malin Array Be**	**32.00**	**310**	P	**P**	**08 36 16.7**	**+1.9**
FINES	**FINESS Array B**	**36.94**	**327**	P	**P**	**08 36 59.2**	**+1.8**
comp=E,2.2nm,0.8s,mb4.1,baz=128,slow=12,SNR=3.8							
FINES	**FINESS Array B**	**36.94**	**327**	P	**P**	**08 36 59.2**	**+1.8**
NB2	**NORSAR Subarra**	**43.75**	**323**	P	**P**	**08 37 54.2**	**+0.5**
comp=Z,1.5nm,0.5s,mb4.0,baz=98,slow=7.9							
NB2	**NORSAR Subarra**	**43.75**	**323**	P	**P**	**08 37 54.2**	**+0.5**
NB2				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.1							
NOA	**NORSAR Array B**	**43.75**	**323**	P	**P**	**08 37 54.9**	**+1.2**
comp=Z,2.7nm,0.7s,mb4.1,baz=97,slow=8.1,SNR=6.3							
TORD	**Torodi Ar. Bea**	**64.22**	**268**	P	**P**	**08 40 22.9**	**+0.1**
comp=Z,0.7nm,0.4s,mb3.8,baz=48,slow=6.0,SNR=13							
WRA	**Warramunga Arr**	**83.09**	**121**	P	**P**	**08 42 13.1**	**-0.2**
comp=Z,0.3nm,0.7s,mb3.2,baz=324,slow=4.9,SNR=7.9							
ASAR	**Alice Springs**	**85.30**	**124**	P	**P**	**08 42 24.4**	**-0.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=314,slow=4.3,SNR=4.6							

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*IDC **31** 08:40:47.8±2.5, 3034N×4975E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=57.4km s-min=32.4km az=148.0*
*KISR **31** 08:40:49.6±0.9, 3034N×4996E, h34km, ML3.1*
*ISCJB **31** 08:40:50.1±0.7, 3044N±004×4985E±006, h10km, mb3.6/4, Error ellipse: s-maj=8.1km s-min=5.0km az=61.5*
*CSEM **31** 08:40:53.1, 3050N×5004E, h16km, ML3.2, After THR*
*THR **31** 08:40:53.1±0.4, 3050N×5004E, h16km±9km, ML3.2*
ISC 31 08:40:52.9±2.7, 3020N±007×5008E±009, h35km±24km, n14, σ1§22/20, mb3.6/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMR	**Umm Al-Rimmam**	**2.15**	**253**	*e*P	**Pn**	**08 41 25.9**	**-0.3**
UMR				*e*S	**Sn**	**08 41 51.9**	**+0.1**
UMR				AML	AML	08 41 54.2	
comp=Z,178nm,0.5s							
SHGR	**Shooshtar-Gavs**	**2.20**	**330**	*e*Pg	**Pn**	**08 41 28.1**	**+1.2**
SHGR				*e*Sg	**Sn**	**08 41 53.5**	**+0.6**
SHGR				AML	AML	08 42 05.7	
comp=E,315nm,0.5s							
SHGR				AML	AML	08 42 06.3	
comp=N,349nm,0.7s							
SHGR	**Shooshtar-Gavs**	**2.20**	**330**	*e*Pg	**Pn**	**08 41 28.1**	**+1.2**
SNR=91							
SHGR				*e*Sg	**Sn**	**08 41 53.5**	**+0.6**
comp=N,349nm,0.7s,SNR=91							
QRN	**Al-Qurain**	**2.38**	**233**	*e*P	**Pn**	**08 41 29.1**	**-0.3**
QRN				*e*S	**Sn**	**08 41 59.0**	**+1.7**
QRN				AML	AML	08 41 59.7	
comp=Z,76nm,0.3s							
RDF	**Al-Radifah**	**2.54**	**241**	*e*P	**Pn**	**08 41 31.2**	**-0.4**
RDF				*e*S	**Sn**	**08 42 02.7**	**+1.3**
RDF				AML	AML	08 42 03.9	
comp=Z,111nm,0.4s							
NAY	**Al-Naaiem**	**2.65**	**250**	*e*P	**Pn**	**08 41 32.5**	**-0.5**
NAY				*e*S	**Sn**	**08 42 04.3**	**+0.4**
NAY				AML	AML	08 42 06.7	
comp=Z,40nm,0.5s							
RST	**Umm Al-Ruwaisa**	**2.77**	**256**	*e*P	**Pn**	**08 41 33.2**	**-1.5**
GHIR	**Ghir-Karzin**	**3.17**	**126**	*e*P	**Pn**	**08 41 47.5**	**+7.2**
GHIR				AML	AML	08 43 02.0	
comp=N,46nm,0.6s							
GHIR				AML	AML	08 43 07.6	
comp=E,46nm,0.5s							
NASN	**Na'in**	**3.48**	**41**	*e*Pn	**Pn**	**08 41 46.3**	**+1.7**
ASAO	**Ashtian**	**4.34**	**359**	*e*Pn	**Pn**	**08 41 56.6**	**+0.3**
ASAO				AML	AML	08 42 50.9	
comp=N,31nm,0.8s							
ASAO				AML	AML	08 42 53.8	
comp=E,19nm,0.5s							
AKASG	**Malin Array Be**	**25.75**	**329**	P	**P**	**08 46 17.8**	**-2.3**
comp=E,0.8nm,0.4s,mb3.6,baz=125,slow=7.5,SNR=4.2							
MKAR	**Makanchi Array**	**29.90**	**47**	P	**P**	**08 46 58.3**	**+1.0**
comp=E,0.2nm,0.7s,mb3.0,baz=234,slow=9.5,SNR=3.9							
FINES	**FINESS Array B**	**35.02**	**340**	P	**P**	**08 47 39.5**	**-2.7**
comp=E,2.6nm,0.9s,mb4.2,baz=148,slow=11,SNR=6.4							
TORD	**Torodi Ar. Bea**	**47.69**	**260**	P	**P**	**08 49 24.3**	**-1.7**
comp=E,0.9nm,0.8s,mb3.9,baz=58,slow=8.2,SNR=7.4							

IGQ 31 09:18:25.5, 247S×7998W, h10km±7km, Mb4.1, Ms3.9, 6C, Error ellipse: s-maj=14.2km s-min=5.1km az=103.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.66**	**54**	P	Pn	09 18 55.7	+1.1
ARRY	**Arrayan**	**1.80**	**58**	P	Pn	09 18 58.0	+1.4
JUIV	**Juive**	**1.84**	**56**	P	Pn	09 18 59.1	+1.9
ULBA	**Ulba**	**1.87**	**57**	P	Pn	09 19 00.2	+2.7
RUN5	**Runtun**	**1.88**	**56**	P	Pn	09 18 59.9	+2.2
RUN5				S	Sn	09 19 26.0	+4.6
PISA	**Pisayambo**	**2.12**	**49**	⇑P	Pn	09 19 04.5	+3.4
CAMI	**Rancho Maria**	**2.31**	**40**	P	Pn	09 19 07.4	+3.8
NAS1	**Nasa**	**2.36**	**39**	P	Pn	09 19 08.5	+4.2
TAMB	**Tambo**	**2.39**	**42**	P	Pn	09 19 09.0	+4.3
MAG1	**Magdalena**	**2.39**	**5**	P	Pn	09 19 05.5	+0.7
VC1	**Cotopaxi 1**	**2.41**	**41**	P	Pn	09 19 09.2	+4.3
JUA2	**San Juan 2**	**2.63**	**32**	P	Pn	09 19 11.2	+3.1
TERV	**Terraza Guagua**	**2.66**	**31**	⇑P	Pn	09 19 11.6	+3.1
TERV				S	Sn	09 19 47.9	+7.1
GGP	**Refugio Guagua**	**2.67**	**31**	⇑P	Pn	09 19 11.7	+3.2
PINO	**Pino**	**2.67**	**31**	⇑P	Pn	09 19 11.6	+2.9
ANTI	**Antisana**	**2.71**	**42**	⇑P	Pn	09 19 12.8	+3.7
YANA	**Yana**	**2.73**	**31**	⇑P	Pn	09 19 12.2	+2.8
YANA				S	Sn	09 19 47.8	+5.4
CAYR	**Refugio Cayamb**	**3.16**	**39**	P	Pn	09 19 19.0	+3.7
COTA	**Cotacachi**	**3.23**	**31**	P	Pn	09 19 20.0	+3.6

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*IDC **31** 09:35:11.0±0.6, 5231N×16866W, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.6/30, mbtmp4.6/25, MS4.0/2, Ms1 4.0/2, ms1mx3.2/44, Error ellipse: s-maj=19.8km s-min=13.9km az=175.0*
*ISCJB **31** 09:35:13.2±1.2, 5228N±004×16867W±004, h20km±7km, mb4.8/127, MS4.4/10, Error ellipse: s-maj=7.2km s-min=4.5km az=160.8*
*BJI **31** 09:35:14.5, 5276N×16908W, h21km, mB5.1, mb5.0, Ms4.7, Msz4.5*
*MOS **31** 09:35:15.3±1.0, 5237N×16867W, h33km, mb5.2/67, Error ellipse: s-maj=11.3km s-min=4.9km az=91.8*
*NEIC **31** 09:35:15.2±1.2, 5235N×16860W, h22km±7km, mb4.9/88, ML4.2(AEIC), Error ellipse: s-maj=6.3km s-min=3.4km az=179.0*
*SZGRF **31** 09:35:21.1, 5278N×16920W, h33km, mb5.0, Fox Islands, Aleutian Islands, United States*
ISC 31 09:35:16.0±1.2, 5238N±005×16865W±004, h28km±8km, h28km±1.5km: pP-P, n327, σ0§88/335, mb4.8/127, MS4.4/10, 17C-10D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**1.09**	**15**	P	**Pn**	**09 35 36.0**	**+0.6**
OKCE				S	**Sn**	**09 35 53.1**	**+3.7**
OKCD	**Okmok Cone D**	**1.10**	**17**	P	**Pn**	**09 35 36.2**	**+0.7**
OKCD				S	**Sn**	**09 35 52.7**	**+3.0**
**UN

comp=Z,5.1nm,0.9s,mb4.2
FLWY Flagg Ranch 38.54 79 *e*P **P 09 42 36.4 +0.4**
comp=Z,15nm,1.3s,mb4.6
RRI2 Red Ridge 38.57 80 *e*P **P 09 42 37.1 +0.8**
comp=Z,13nm,1.1s,mb4.6
TPAW Teton Pass 38.72 80 *e*P **P 09 42 38.1 +0.6**
comp=Z,9.2nm,1.3s,mb4.3
REDW Red Top Meadow 38.85 80 *e*P **P 09 42 39.6 +1.0**
comp=Z,13nm,1.4s,mb4.5
SNOW Snow King Moun 38.85 79 *e*P **P 09 42 39.1 +0.5**
comp=Z,9.8nm,1.3s,mb4.4
LOHW Long Hollow 38.86 79 *e*P **P 09 42 39.3 +0.7**
DUG Dugway 39.50 85 *e*P **P 09 42 44.8 +0.7**
DUG pmax pmax
comp=Z,19nm,1.6s,mb4.6
DUG Dugway 39.50 85 *e*P **P 09 42 44.8 +0.7**
comp=Z,19nm,1.6s,mb4.6
BW06 Boulder Array 39.97 80 *e*P **P 09 42 47.8 -0.1**
comp=Z,5.9nm,0.9s,mb4.3
PDAR Pinedale Array 39.97 80 P **P 09 42 47.5 -0.5**
comp=Z,4.7nm,0.9s,mb4.2,baz=306,slow=4.6,SNR=36
MAJO Matsushiro 40.14 268 *e*P **P 09 42 49.5 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.0s,mb4.8
MAJO Matsushiro 40.14 268 *e*P **P 09 42 49.5 +0.1**
comp=Z,18nm,1.0s,mb4.8
MAT Matsushiro 40.14 268 P **P 09 42 49.2 -0.2**
MJAR Matsushiro Arr 40.14 268 P **P 09 42 49.2 -0.1**
comp=Z,5.8nm,1.0s,mb4.2,baz=50,slow=7.5,SNR=12
GSC Goldstone 40.15 94 *e*P **P 09 42 50.3 +0.8**
FCC Fort Churchill 40.59 51 *e*P **P 09 42 52.8 -0.3**
FCC pmax pmax
comp=Z,29nm,0.9s,mb4.9
FCC Fort Churchill 40.59 51 *e*P **P 09 42 52.8 -0.3**
comp=Z,29nm,0.9s,mb4.9
BOD Bodaibo 42.33 309 *e*P **P 09 43 05.2 -2.2**
BOD pmax pmax
comp=Z,11nm,0.8s,mb4.5
RSSD Black Hills 42.49 74 *e*P **P 09 43 06.5 -2.1**
comp=Z,2.6nm,0.9s,mb3.9
PV01 Paradox Valley 43.37 84 *e*P **P 09 43 15.0 -0.8**
CN2 Changchun 43.44 286 ⇑P **P 09 43 15.8 -0.5**
CN2 *e*XP sP 09 43 25.5 -2.8
CN2 *e*S **S 09 49 41.3 -1.5**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,300nm,16.0s,MS4.4
CN2 LR LR
comp=Z,500nm,17.0s,MS4.5
SDCO Great Sand Dun 45.48 83 *e*P **P 09 43 32.8 +0.2**
KS15 Wonju Array Si 45.87 277 *e*P **P 09 43 36.0 +0.2**
INCN Inchon 46.61 278 *e*P **P 09 43 41.8 +0.3**
comp=Z,41nm,1.0s,mb5.3
ANMO Albuquerque 46.72 86⇑*e*P **P 09 43 42.5 +0.1**
JNU Nakatsue 46.91 271 P **P 09 43 44.4 +0.5**
comp=Z,16nm,0.9s,mb5.0,baz=244,slow=20,SNR=3.6
BNM Barren Site 47.16 87 *e*P **P 09 43 49.1 +3.3**
TLY Talaya 50.69 306 *d i*P **P 09 44 13.0 +0.1**
TLY pmax pmax
comp=Z,16nm,0.8s,mb5.0
TLY Talaya 50.69 306 *e*P **P 09 44 13.4 +0.5**
comp=Z,6.4nm,0.6s,mb4.7
ULN Ulaanbaatar 51.31 301 *d i*P **P 09 44 17.2 -0.4**
ULN Ulaanbaatar 51.31 301 *e*P **P 09 44 16.9 -0.7**
comp=Z,10nm,0.8s,mb4.8
ZAK Zakamensk 51.67 305 *e*P **P 09 44 19.5 -0.8**
ZAK *e* 09 45 32.6
SONM Songino Array 51.67 301 P **P 09 44 20.2 -0.1**
comp=Z,4.7nm,0.7s,mb4.5,baz=56,slow=7.6,SNR=25
SONM LR LR 10 07 37.1
comp=Z,111nm,18.8s,MS3.9,baz=50,slow=38
MOY Mondy 51.99 308 *e*P **P 09 44 22.9 +0.2**
TXAR Lajitas Array 52.30 89 P **P 09 44 23.9 -1.1**
comp=Z,1.6nm,0.7s,mb4.1,baz=297,slow=5.2,SNR=16
TXAR Lajitas Array 52.30 89 P **P 09 44 23.9 -1.1**
HHC Hu-ho-hao-te 53.33 291 *e*P **P 09 44 32.8 +0.2**
HHC AP pP 09 44 40.3 -1.0
HHC XP sP 09 44 43.0 -1.7
HHC PP PP 09 46 33.0 +0.1
HHC S **S 09 52 01.0 -1.5**
HHC XS sS 09 52 12.8 -4.0
HHC PS 09 52 18.0
HHC SS SS 09 55 41.0 -1.4
HHC AMB AMB
comp=Z,12nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,148nm,4.8s
HHC LR LR
comp=N,163nm,4.5s
HHC LR LR
comp=E,223nm,4.5s
HHC LR LR
comp=Z,186nm,17.8s,MS4.2
NJ2 Nanjing 54.98 279 *e*P **P 09 44 40.3 -4.3**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
SCHQ Schefferville 55.12 44 P **P 09 44 44.5 -1.1**
comp=Z,6.6nm,0.8s,mb4.7,baz=8.4,slow=12,SNR=3.6
ZAL Zalesovo 57.73 318 P **P 09 45 04.3 +0.1**
comp=Z,2.2nm,0.3s,mb4.7,baz=163,slow=2.3,SNR=5.2
ZAL Zalesovo 57.73 318 P **P 09 45 04.3 +0.1**
ARCES ARCESS Array B 57.96 354 P **P 09 45 04.5 -1.3**
comp=Z,9.1nm,0.9s,mb4.8,baz=352,slow=5.8,SNR=12
WHN Wuhan 58.77 281 P **P 09 45 11.3 -0.2**
LVZ Lovozero 58.78 350 *e*P **P 09 45 10.2 -1.4**
LVZ pmax pmax
comp=Z,52nm,1.1s,mb5.5
LVZ pmax pmax
comp=N,37nm,1.9s
LVZ pmax pmax
comp=E,27nm,2.2s
FWV Forest Hill 60.12 66 *e*P **P 09 45 19.2 -1.5**
ELN Prospectdale 60.40 67 *e*P **P 09 45 21.3 -1.4**
GTA Gaotai 60.87 298 *e*P **P 09 45 25.5 -0.4**
GTA AP pP 09 45 32.0 -2.7
GTA XP sP 09 45 36.0 -2.1
GTA PP PP 09 47 39.8 -0.3
GTA S **S 09 53 41.8 0.0**
GTA XS sS 09 53 54.5 -1.8
GTA AMB AMB
comp=Z,9.0nm,1.3s,mb4.7
GTA AMB AMB
comp=Z,73nm,6.1s
GTA LR LR
comp=N,122nm,15.6s,MS4.4
GTA LR LR
comp=E,219nm,17.9s,MS4.4
GTA LR LR
comp=Z,234nm,17.9s,MS4.4
LZH Lanzhou 60.99 292 *e*P **P 09 45 27.3 +0.6**
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,160nm,4.1s
LZH LR LR
comp=N,670nm,17.3s
LZH LR LR
comp=Z,929nm,18.2s,MS5.0
LZH Lanzhou 60.99 292 *e*P **P 09 45 27.2 +0.5**
LZH *SP sP 09 45 37.4 -1.6
LZH 09 46 10.7
LZH 09 47 43.0
LZH *e*S **S 09 53 41.0 -2.4**
LZH *SS sS 09 53 54.1 -3.8
LZH *e*SS SS 09 57 40.0 -3.0
LZH pmax pmax
comp=Z,39nm,1.2s,mb5.4
LZH MLR MLR
comp=Z,930nm,18.2s,MS5.0
LZH Lanzhou 60.99 292 *e*P **P 09 45 27.2 +0.5**
comp=Z,39nm,1.2s,mb5.4
LZH pP pP 09 45 34.5 -1.1
LZH sP sP 09 45 37.4 -1.6
LZH PcP PcP 09 46 10.7 +0.9
LZH PP PP 09 47 43.0 +1.8
LZH *e*S **S 09 53 41.0 -2.4**
LZH sS sS 09 53 54.1 -3.8
LZH *e*SS SS 09 57 40.0 -3.0
LZH LR LR
comp=Z,930nm,18.2s,MS5.0

CHKZ Chkalovo 63.34 325 *e*P **P 09 45 41.9 -0.6**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
CHKZ Chkalovo 63.34 325 *e*P **P 09 45 41.9 -0.6**
comp=Z,5.7nm,1.0s,mb4.7
WMQ Urumqi 63.87 308 P **P 09 45 46.5 +0.5**
WMQ AP pP 09 45 54.0 -0.9
WMQ XP sP 09 45 58.0 -0.2
WMQ PCP PcP 09 46 22.0 +0.5
WMQ PP PP 09 48 09.0 +2.4
WMQ S **S 09 54 25.0 +5.4**
WMQ SCS ScS 09 55 36.0 -1.7
WMQ AMB AMB
comp=Z,17nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,126nm,4.6s
WMQ LR LR
comp=N,292nm,21.6s,MS4.6
WMQ LR LR
comp=E,323nm,20.4s,MS4.6
WMQ LR LR
comp=Z,326nm,19.3s,MS4.5
BVAR Borovoye Array 63.95 325 P **P 09 45 45.8 -0.7**
comp=Z,12nm,0.9s,mb4.9,baz=48,slow=6.6,SNR=36
BRVK Borovoye 63.96 325 *e*P **P 09 45 45.9 -0.7**
BRVK pmax pmax
comp=Z,15nm,0.9s,mb5.0
BRVK Borovoye 63.96 325 *e*P **P 09 45 45.9 -0.7**
comp=Z,15nm,0.9s,mb5.0
JOF Joensuu 63.97 350 *e*p **P 09 45 45.1 -1.6**
comp=Z,17nm,0.7s,mb5.2
MK31 Makanchi Array 64.12 314 *e*P **P 09 45 46.6 -1.0**
MKAR Makanchi Array 64.12 314 P **P 09 45 46.3 -1.3**
comp=Z,6.6nm,0.8s,mb4.7,baz=50,slow=6.3,SNR=33
MKAR Makanchi Array 64.12 314 *i* P **P 09 45 46.2 -1.4**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
ZRNK Zerenda 64.50 326 *e*P **P 09 45 49.8 -0.3**
ZRNK pmax pmax
comp=Z,25nm,1.0s,mb5.2
ZRNK Zerenda 64.50 326 *e*P **P 09 45 49.8 -0.3**
comp=Z,25nm,1.0s,mb5.2
CD2 Chengdu 64.79 288⇓*i*P **P 09 45 52.5 +0.5**
CD2 AP pP 09 46 00.3 -0.6
CD2 XP sP 09 46 03.8 -0.4
CD2 PP PP 09 48 16.0 +1.4
CD2 S **S 09 54 29.0 -1.9**
CD2 XS sS 09 54 42.0 -3.6
CD2 SS SS 09 58 41.5 -0.8
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=E,210nm,12.0s
CD2 LR LR
comp=Z,260nm,10.8s,MS4.7
ARU Arti 64.81 333⇓*i*P **P 09 45 51.0 -1.1**
ARU *e* 09 48 12.0
ARU *e*PPP 09 49 44.4
ARU *e*S **S 09 54 30.5 -0.7**
ARU *e*SS SS 09 58 40.7 -1.9
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARU Arti 64.81 333⇑*e*P **P 09 45 51.1 -1.0**
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.1
ARU Arti 64.81 333 *e*P **P 09 45 51.3 -0.8**
comp=Z,32nm,1.2s,mb5.2
KAF Kangasniemi 65.24 352 *e*p **P 09 45 53.0 -1.9**
comp=Z,25nm,0.7s,mb5.3,baz=6.9,slow=6.0
KAF Kangasniemi 65.24 352 *e*P **P 09 45 53.0 -1.9**
KAF pmax pmax
comp=Z,25nm,0.7s,mb5.3
FINES FINESS Array B 65.92 352 P **P 09 45 58.2 -1.1**
comp=Z,8.2nm,0.5s,mb5.0,baz=12,slow=7.1,SNR=54
FINES FINESS Array B 65.92 352 P **P 09 45 58.2 -1.1**
GYA Guiyang 66.36 283 P **P 09 46 04.3 +2.2**
NB2 NORSAR Subarra 66.93 0 P **P 09 46 04.8 -1.0**
comp=Z,3.7nm,0.7s,mb4.5,baz=360,slow=6.5
NB2 NORSAR Subarra 66.93 0 P **P 09 46 04.8 -1.0**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NOA NORSAR Array B 66.93 0 P **P 09 46 04.5 -1.2**
comp=Z,5.4nm,0.7s,mb4.7,baz=0.5,slow=6.3,SNR=12
HFS Hagfors 67.82 359 P **P 09 46 10.4 -1.0**
comp=Z,5.4nm,0.3s,mb5.0,baz=40,slow=2.5,SNR=48
KMI Kunming 69.69 285 P **P 09 46 24.0 +0.9**
KMI AMB AMB
comp=Z,13nm,1.6s,mb4.6
KMI Kunming 69.69 285 P **P 09 46 24.0 +0.9**
comp=Z,13nm,1.6s,mb4.6
TKM2 Tokmak 2 70.10 315 P **P 09 46 25.9 +0.3**
SNR=8.0
AKTK Aktyubinsk 70.22 330 P **P 09 46 25.9 -0.4**
AKTO Aktyubinsk 70.22 330 P **P 09 46 25.9 -0.4**
comp=Z,15nm,0.8s,mb5.0,baz=40,slow=6.2,SNR=41
USP Osenovka 70.28 316 P **P 09 46 26.9 +0.2**
SNR=11
ULHL Ulahol 70.36 314 P **P 09 46 27.3 +0.2**
SNR=6.5
FRU Bishkek 70.59 316 *e*P **P 09 46 28.5 -0.1**
KBK Karagaybulak 70.59 316 P **P 09 46 29.0 +0.4**
SNR=8.7
AAK Ala-Archa 70.80 316 P **P 09 46 30.2 +0.4**
SNR=11
AAK Ala-Archa 70.80 316 *e*P **P 09 46 28.9 -1.0**
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
AAK Ala-Archa 70.80 316 *e*P **P 09 46 28.9 -1.0**
comp=Z,14nm,1.0s,mb4.9
OBN Obninsk 70.85 345 *e*P **P 09 46 28.7 -1.4**
OBN *e* 09 46 48.6
OBN pmax pmax
comp=Z,25nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
EKS2 Erkin-Say 71.09 316 P **P 09 46 32.0 +0.4**
SNR=6.5
UCH Uchtor 71.13 316 P **P 09 46 32.2 +0.4**
SNR=6.9
AML Almayashu 71.56 316 P **P 09 46 35.7 +1.3**
SNR=9.1
LSA Lhasa 72.84 296 *e*P **P 09 46 43.8 +1.7**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSA Lhasa 72.84 296 *e*P **P 09 46 43.8 +1.7**
comp=Z,9.3nm,0.8s,mb4.8
IBBN Ibbenburen 75.64 2 *e*P **P 09 46 58.5 +0.1**
comp=Z,19nm,0.8s,mb5.1
CLZ Clausthal 76.15 1 *e*P **P 09 47 01.5 +0.2**
comp=Z,28nm,1.1s,mb5.1
CLZ Clausthal 76.15 1 *e*P **P 09 47 01.5 +0.2**
CLZ pmax pmax
comp=Z,28nm,1.1s,mb5.1
AKASG Malin Array Be 76.19 348 P **P 09 47 00.5 -1.1**
comp=Z,6.9nm,0.6s,mb4.7,baz=11,slow=5.7,SNR=20
AKBB Malin Array Si 76.19 348 *e*P **P 09 47 00.3 -1.2**
CLL Collm 76.68 359 *e*P **P 09 47 03.8 -0.5**
comp=Z,19nm,1.5s,mb4.8
CLL Collm 76.68 359⇓*i*P **P 09 47 04.0 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 76.68 359⇓*i*P **P 09 47 04.0 -0.3**
comp=Z,10.0nm,1.1s,mb4.7
FBE Freiberg 77.06 359 *e*P **P 09 47 06.7 +0.2**
comp=Z,16nm,1.2s,mb4.8
BRG Berggiesshubel 77.10 358 *e*P **P 09 47 06.6 -0.1**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 77.10 358 *i* P **P 09 47 06.4 -0.3**
comp=Z,6.3nm,1.1s,mb4.5
BRG Berggiesshubel 77.10 358 *i* P **P 09 47 06.4 -0.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GUN Gumba 77.11 299 *e*P **P 09 47 07.3 +0.6**
JIRN Jiri 77.14 299 *e*P **P 09 47 07.8 +0.9**
comp=Z,8.3nm,0.3s,mb5.1
MEM Membach 77.28 3 P **P 09 47 08.3 +0.5**
MOX Moxa 77.35 360 *e*P **P 09 47 08.1 0.0**
comp=Z,20nm,1.4s,mb4.8
MOX Moxa 77.35 360 *e*P **P 09 47 08.2 +0.1**
comp=Z,26nm,1.3s,mb5.0
MOX Moxa 77.35 360 *e*P **P 09 47 08.2 +0.1**
MOX pmax pmax
comp=Z,26nm,1.3s,mb5.0
UPC Upice 77.41 357 *e*P **P 09 47 08.6 +0.2**

PVCC Panska Ves 77.43 358 *e*P **P 09 47 08.7 +0.2**
BCLA Clavier 77.45 4 P **P 09 47 09.2 +0.6**
KKN Kakani 77.52 299 *e*P **P 09 47 09.8 +0.7**
OJC Ojcow 77.53 354 *e*P **P 09 47 09.0 -0.1**
DPC Dobruska-Polom 77.56 357 *e*P **P 09 47 10.0 +0.7**
PKI Pulchoki 77.63 299 *e*P **P 09 47 09.9 +0.3**
GKN Gorkha 77.69 300 *e*P **P 09 47 10.2 +0.2**
comp=Z,29nm,0.8s,mb5.3
WERN Wernitzgruen 77.70 359 *e*P **P 09 47 10.0 -0.1**
comp=Z,14nm,1.1s,mb4.8
DOU Dourbes 77.74 4 P **P 09 47 10.5 +0.3**
GIVF Givet 77.74 4 *e*P **P 09 47 10.1 -0.2**
TNS Taunus Mts 77.74 2 *e*P **P 09 47 10.5 +0.2**
comp=Z,14nm,1.3s,mb4.7
TNS Taunus Mts 77.74 2 *e*P **P 09 47 10.5 +0.2**
TNS pmax pmax
comp=Z,14nm,1.3s,mb4.7
BAIF Baives 77.76 5 *e*P **P 09 47 10.3 -0.1**
DMN Daman 77.76 299 *e*P **P 09 47 10.6 +0.2**
comp=Z,38nm,1.1s,mb5.2
KWP Kalwaria 77.91 352 *e*P **P 09 47 11.5 +0.3**
KWP Kalwaria 77.91 352 *e*P **P 09 47 11.2 0.0**
KWP pmax pmax
comp=Z,41nm,1.0s,mb5.3
KWP Kalwaria 77.91 352 *e*P **P 09 47 11.2 0.0**
comp=Z,42nm,1.0s,mb5.3
PRU Pruhonice 77.97 358 *e*P **P 09 47 12.0 +0.4**
OKC Ostrava-Krasne 78.00 356 *e*P **P 09 47 12.3 +0.6**
MORC Moravsky Berou 78.08 356 *e*P **P 09 47 12.3 +0.1**
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.7
MORC Moravsky Berou 78.08 356 *e*P **P 09 47 12.3 +0.1**
comp=Z,12nm,1.1s,mb4.7
ROTZ Rotzenmuhle 78.23 359 *e*P **P 09 47 13.1 +0.1**
comp=Z,16nm,1.5s,mb4.7
STHS Stebnicka Huta 78.23 353 *e*P **P 09 47 14.3 +1.3**
STHS pmax pmax
comp=Z,13nm,1.0s,mb4.8
STHS Stebnicka Huta 78.23 353 *e*P **P 09 47 14.3 +1.3**
comp=Z,13nm,1.0s,mb4.8
GRA1 Grafenberg Arr 78.30 0 *e*P **P 09 47 14.0 +0.6**
GRF Grafenberg Arr 78.30 0 *e*P **P 09 47 14.0 +0.6**
KOLN Koldanda 78.43 301 *e*P **P 09 47 14.2 +0.1**
comp=Z,46nm,1.2s,mb5.3
KOLS Kolonicke sedl 78.64 353 *e*P **P 09 47 16.0 +0.8**
CRVS Cervenica-Dubn 78.73 353 *e*P **P 09 47 16.0 +0.3**
FLN La Foliniere 78.73 8 *e*P **P 09 47 15.1 -0.7**
comp=Z,31nm,1.1s,mb4.8
FLN La Foliniere 78.73 8 *e*P **P 09 47 15.1 -0.7**
FLN pmax pmax
comp=Z,15nm,1.1s,mb4.8
FLN La Foliniere 78.73 8 *e*P **P 09 47 15.1 -0.7**
comp=Z,15nm,1.1s,mb4.8
WET Wettzell 78.84 359 *e*P **P 09 47 17.1 +0.7**
comp=Z,16nm,1.4s,mb4.8
KHC Kasperske Hory 78.85 359 *e*P **P 09 47 16.3 -0.1**
KHC Kasperske Hory 78.85 359⇑*i*P **P 09 47 16.4 0.0**
LDF La Druitiere 78.93 8 *e*P **P 09 47 16.2 -0.6**
comp=Z,47nm,1.1s,mb5.0
LDF La Druitiere 78.93 8 *e*P **P 09 47 16.2 -0.6**
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.1
LDF La Druitiere 78.93 8 *e*P **P 09 47 16.2 -0.6**
comp=Z,24nm,1.0s,mb5.1
SGMF Saint Gilles 79.04 9 *e*P **P 09 47 17.1 -0.4**
GRR Gorron 79.07 8 *e*P **P 09 47 17.2 -0.4**
comp=Z,72nm,1.4s,mb5.1
GRR Gorron 79.07 8 *e*P **P 09 47 17.2 -0.4**
GRR pmax pmax
comp=Z,36nm,1.4s,mb5.1
GRR Gorron 79.07 8 *e*P **P 09 47 17.2 -0.4**
comp=Z,36nm,1.4s,mb5.1
GEC2 GERESS Array S 79.13 358 *e*P **P 09 47 18.2 +0.2**
comp=Z,14nm,1.1s,mb4.8
GEC2 GERESS Array S 79.13 358 *e*P **P 09 47 18.2 +0.2**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
GERES GERESS Array B 79.13 358 P **P 09 47 18.0 +0.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=7.6,slow=4.0,SNR=23
GOF Gofitskoye 79.19 338 *e*P **P 09 47 28.0 +10**
GOF pmax pmax
comp=Z,120nm,1.3s,mb5.7
KECS Kecovo 79.21 354 *e*P **P 09 47 18.7 +0.3**
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KECS Kecovo 79.21 354 *e*P **P 09 47 18.7 +0.3**
comp=Z,6.9nm,0.9s,mb4.6
VYHS Vyhne 79.30 355 *e*P **P 09 47 19.3 +0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VYHS Vyhne 79.30 355 *e*P **P 09 47 19.3 +0.4**
comp=Z,10nm,1.1s,mb4.7
QUIF Quistinic 79.31 10 *e*P **P 09 47 18.6 -0.4**
MEZF Maizieres J'vi 79.35 4 *e*P **P 09 47 19.4 +0.2**
CDF Champ du Feu 79.52 3 *e*P **P 09 47 20.1 0.0**
comp=Z,30nm,1.3s,mb4.8
CDF Champ du Feu 79.52 3 *e*P **P 09 47 20.1 0.0**
CDF pmax pmax
comp=Z,15nm,1.3s,mb4.8
CDF Champ du Feu 79.52 3 *e*P **P 09 47 20.1 0.0**
comp=Z,15nm,1.3s,mb4.8
BFO Black Forest 79.63 2 *e*P **P 09 47 20.8 +0.1**
comp=Z,18nm,1.1s,mb4.9
BFO Black Forest 79.63 2 *e*P **P 09 47 20.8 +0.1**
BFO pmax pmax
comp=Z,18nm,1.1s,mb4.9
PSZ Piszkesteto 79.81 354 *e*P **P 09 47 22.5 +0.8**
PSZ pmax pmax
comp=Z,18nm,1.4s,mb4.8
PSZ Piszkesteto 79.81 354 *e*P **P 09 47 22.5 +0.8**
comp=Z,18nm,1.4s,mb4.8
HAU Haudompre 79.90 3 *e*P **P 09 47 22.1 0.0**
comp=Z,24nm,1.0s,mb4.8
HAU Haudompre 79.90 3 *e*P **P 09 47 22.1 0.0**
HAU pmax pmax
comp=Z,12nm,1.0s,mb4.8
HAU Haudompre 79.90 3 *e*P **P 09 47 22.1 0.0**
comp=Z,12nm,1.0s,mb4.8
CONA Conrad Observa 80.00 357⇑*i*P **P 09 47 23.6 +0.9**
HINF Hinteralfeld 80.11 3 *e*P **P 09 47 23.0 -0.3**
comp=Z,22nm,1.0s,mb4.7
HINF Hinteralfeld 80.11 3 *e*P **P 09 47 23.0 -0.3**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 80.11 3 *e*P **P 09 47 23.0 -0.3**
comp=Z,11nm,1.0s,mb4.7
KIV Kislovodsk 80.31 338 *d i*P **P 09 47 25.2 +0.9**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.2
KIV Kislovodsk 80.31 338 *e*P **P 09 47 25.3 +1.0**
comp=Z,23nm,0.9s,mb5.1
LOR Lormes 80.52 5 *e*P **P 09 47 25.4 -0.1**
comp=Z,43nm,1.2s,mb5.0
LOR Lormes 80.52 5 *e*P **P 09 47 25.4 -0.1**
LOR pmax pmax
comp=Z,21nm,1.2s,mb4.9
LOR Lormes 80.52 5 *e*P **P 09 47 25.4 -0.1**
comp=Z,21nm,1.2s,mb5.0
MOTA Moosalm 80.65 0⇑*i*P **P 09 47 26.7 +0.5**
comp=Z,18nm,1.1s,mb4.9
MOTA Moosalm 80.65 0⇑*i*P **P 09 47 26.7 +0.5**
MOTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
ARSA Arzberg 80.68 357⇓*i*P **P 09 47 27.3 +1.0**
comp=Z,17nm,1.1s,mb4.9
SSF Saint Saulge 80.71 5 *e*P **P 09 47 26.5 0.0**
comp=Z,36nm,1.1s,mb4.9
SSF Saint Saulge 80.71 5 *e*P **P 09 47 26.5 0.0**
SSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 80.71 5 *e*P **P 09 47 26.5 0.0**
comp=Z,18nm,1.1s,mb4.9
WTTA Wattenberg 80.73 360⇑*i*P **P 09 47 27.4 +0.8**
comp=Z,25nm,1.4s,mb5.0
WTTA Wattenberg 80.73 360⇑*i*P **P 09 47 27.4 +0.8**
WTTA pmax pmax
comp=Z,25nm,1.4s,mb5.0
WTTA Wattenberg 80.73 360⇑*i*P **P 09 47 27.4 +0.8**
comp=Z,25nm,1.4s,mb5.0
SQTA Sankt Quirin 80.78 0⇑*i*P **P 09 47 27.8 +0.9**
comp=Z,19nm,1.0s,mb5.0
SQTA Sankt Quirin 80.78 0⇑*i*P **P 09 47 27.8 +0.9**
SQTA pmax pmax
comp=Z,19nm,1.0s,mb5.0

MFF	**Saint Martin d**	**80.90**	**8**	*e*P	**P**	**09 47 27.5**	**0.0**
	comp=Z,61nm,1.1s,mb5.2						
MFF	**Saint Martin d**	**80.90**	**8**	*e*P	**P**	**09 47 27.5**	**0.0**
MFF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
MFF	**Saint Martin d**	**80.90**	**8**	*e*P	**P**	**09 47 27.5**	**0.0**
	comp=Z,30nm,1.1s,mb5.1						
KBA	**Koelnbreinsper**	**80.91**	**359⇑**	*i*P	**P**	**09 47 28.9**	**+1.3**
	comp=Z,50nm,1.1s,mb5.4						
KBA	**Koelnbreinsper**	**80.91**	**359⇑**	*i*P	**P**	**09 47 28.9**	**+1.4**
KBA				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
AVF	**Avril sur Loir**	**80.97**	**6**	*e*P	**P**	**09 47 27.7**	**-0.2**
	comp=Z,33nm,1.1s,mb4.9						
AVF	**Avril sur Loir**	**80.97**	**6**	*e*P	**P**	**09 47 27.7**	**-0.2**
AVF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
AVF	**Avril sur Loir**	**80.97**	**6**	*e*P	**P**	**09 47 27.7**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						
ZEI	**Tsey**	**81.14**	**336**	*e*P	**P**	**09 47 28.7**	**-0.1**
ZEI				*e**PP	pP	09 47 37.1	-0.8
ZEI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
SMF	**Signal de Mont**	**81.14**	**5**	*e*P	**P**	**09 47 28.7**	**-0.1**
	comp=Z,55nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**81.14**	**5**	*e*P	**P**	**09 47 28.7**	**-0.1**
SMF				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**81.14**	**5**	*e*P	**P**	**09 47 28.7**	**-0.1**
	comp=Z,28nm,1.2s,mb5.1						
BGF	**Bois d'Agland**	**81.17**	**6**	*e*P	**P**	**09 47 28.8**	**-0.1**
	comp=Z,63nm,1.4s,mb5.1						
BGF	**Bois d'Agland**	**81.17**	**6**	*e*P	**P**	**09 47 28.8**	**-0.1**
BGF				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
BGF	**Bois d'Agland**	**81.17**	**6**	*e*P	**P**	**09 47 28.8**	**-0.1**
	comp=Z,32nm,1.4s,mb5.0						
DAVOX	**Davos/Dischmat**	**81.21**	**1**	P	**P**	**09 47 29.6**	**+0.5**
	comp=Z,6.7nm,0.7s,mb4.7,baz=349,slow=10,SNR=7.1						
CABF	**La Chapelle**	**81.28**	**4**	*e*P	**P**	**09 47 30.0**	**+0.4**
	comp=Z,42nm,1.0s,mb5.0						
CABF	**La Chapelle**	**81.28**	**4**	*e*P	**P**	**09 47 30.0**	**+0.4**
CABF				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
CABF	**La Chapelle**	**81.28**	**4**	*e*P	**P**	**09 47 30.0**	**+0.4**
	comp=Z,21nm,1.0s,mb5.0						
PERS	**Pernice**	**81.31**	**357**	*e*P	**P**	**09 47 30.1**	**+0.4**
TCF	**Toulx Ste Croi**	**81.40**	**6**	*e*P	**P**	**09 47 30.0**	**-0.2**
	comp=Z,15nm,0.9s,mb4.6						
TCF	**Toulx Ste Croi**	**81.40**	**6**	*e*P	**P**	**09 47 30.0**	**-0.2**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
TCF	**Toulx Ste Croi**	**81.40**	**6**	*e*P	**P**	**09 47 30.0**	**-0.2**
	comp=Z,7.7nm,0.9s,mb4.6						
OBKA	**Obir**	**81.45**	**358⇑**	*i*P	**P**	**09 47 30.7**	**+0.3**
	comp=Z,14nm,0.9s,mb4.9						
CADS	**Cadrg**	**81.75**	**358**	*i* P	**P**	**09 47 31.5**	**-0.5**
CRES	**Cresnjev**	**82.11**	**357**	*i* P	**P**	**09 47 33.9**	**0.0**
RJF	**Les Rejaudoux**	**82.33**	**7**	*e*P	**P**	**09 47 34.7**	**-0.3**
	comp=Z,23nm,1.2s,mb4.7						
RJF	**Les Rejaudoux**	**82.33**	**7**	*e*P	**P**	**09 47 34.7**	**-0.3**
RJF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
RJF	**Les Rejaudoux**	**82.33**	**7**	*e*P	**P**	**09 47 34.7**	**-0.3**
	comp=Z,12nm,1.2s,mb4.7						
LPL	**La Plagne**	**82.40**	**3**	*e*P	**P**	**09 47 36.7**	**+1.3**
	comp=Z,12nm,0.8s,mb4.6						
LPL	**La Plagne**	**82.40**	**3**	*e*P	**P**	**09 47 36.7**	**+1.3**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**82.40**	**3**	*e*P	**P**	**09 47 36.7**	**+1.3**
	comp=Z,6.3nm,0.8s,mb4.6						
LPG	**La Plagne**	**82.42**	**3**	*e*P	**P**	**09 47 37.0**	**+1.5**
	comp=Z,19nm,1.0s,mb4.7						
LPG	**La Plagne**	**82.42**	**3**	*e*P	**P**	**09 47 37.0**	**+1.5**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LPG	**La Plagne**	**82.42**	**3**	*e*P	**P**	**09 47 37.0**	**+1.5**
	comp=Z,9.6nm,1.0s,mb4.7						
BOJS	**Bojanci**	**82.44**	**357**	*e*P	**P**	**09 47 35.6**	**0.0**
LFF	**La Frestale**	**82.63**	**8**	*e*P	**P**	**09 47 36.5**	**-0.1**
	comp=Z,34nm,0.9s,mb5.1						
LFF	**La Frestale**	**82.63**	**8**	*e*P	**P**	**09 47 36.5**	**-0.1**
LFF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
LFF	**La Frestale**	**82.63**	**8**	*e*P	**P**	**09 47 36.5**	**-0.1**
	comp=Z,17nm,0.9s,mb5.1						
CAF	**Calviac**	**82.74**	**7**	*e*P	**P**	**09 47 37.4**	**+0.2**
BNI	**Bardonecchia**	**82.86**	**3**	*e*P	**P**	**09 47 39.9**	**+2.1**
BNI				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
BNI	**Bardonecchia**	**82.86**	**3**	*e*P	**P**	**09 47 39.9**	**+2.1**
	comp=Z,22nm,1.0s,mb5.1						
ORIF	**Oris-en-Rattie**	**82.97**	**4**	*e*P	**P**	**09 47 39.1**	**+0.7**
	comp=Z,6.9nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**82.97**	**4**	*e*P	**P**	**09 47 39.1**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**82.97**	**4**	*e*P	**P**	**09 47 39.1**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.6						
VIVF	**Saint-Julien-l**	**82.97**	**5**	*e*P	**P**	**09 47 38.9**	**+0.5**
	comp=Z,11nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**82.97**	**5**	*e*P	**P**	**09 47 38.9**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**82.97**	**5**	*e*P	**P**	**09 47 38.9**	**+0.5**
	comp=Z,5.4nm,0.8s,mb4.6						
MBDF	**Montbardon**	**83.19**	**3**	*e*P	**P**	**09 47 40.8**	**+1.3**
	comp=Z,20nm,0.8s,mb4.9						
MBDF	**Montbardon**	**83.19**	**3**	*e*P	**P**	**09 47 40.8**	**+1.3**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MBDF	**Montbardon**	**83.19**	**3**	*e*P	**P**	**09 47 40.8**	**+1.3**
	comp=Z,10nm,0.8s,mb4.9						
SMRF	**Simiane la Rot**	**83.89**	**4**	*e*P	**P**	**09 47 44.3**	**+1.2**
	comp=Z,31nm,0.9s,mb5.1						
SMRF	**Simiane la Rot**	**83.89**	**4**	*e*P	**P**	**09 47 44.3**	**+1.2**
	comp=Z,31nm,0.9s,mb5.4						
SBF	**Sospel**	**84.08**	**3**	*e*P	**P**	**09 47 45.2**	**+1.1**
	comp=Z,56nm,1.0s,mb5.3						
SBF	**Sospel**	**84.08**	**3**	*e*P	**P**	**09 47 45.2**	**+1.1**
SBF				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.3						
SBF	**Sospel**	**84.08**	**3**	*e*P	**P**	**09 47 45.2**	**+1.1**
	comp=Z,28nm,1.0s,mb5.3						
SJPF	**Ste Jean**	**84.26**	**9**	*e*P	**P**	**09 47 44.9**	**-0.1**
	comp=Z,21nm,1.0s,mb4.9						
SJPF	**Ste Jean**	**84.26**	**9**	*e*P	**P**	**09 47 44.9**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
SJPF	**Ste Jean**	**84.26**	**9**	*e*P	**P**	**09 47 44.9**	**-0.1**
	comp=Z,11nm,1.0s,mb4.9						
MTLF	**Montolieu**	**84.33**	**7**	*e*P	**P**	**09 47 45.7**	**+0.3**
	comp=Z,28nm,1.0s,mb5.1						
MTLF	**Montolieu**	**84.33**	**7**	*e*P	**P**	**09 47 45.7**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
MTLF	**Montolieu**	**84.33**	**7**	*e*P	**P**	**09 47 45.7**	**+0.3**
	comp=Z,14nm,1.0s,mb5.0						
FRF	**La Foret Royal**	**84.35**	**3**	*e*P	**P**	**09 47 45.7**	**+0.2**
	comp=Z,35nm,0.9s,mb5.2						
FRF	**La Foret Royal**	**84.35**	**3**	*e*P	**P**	**09 47 45.7**	**+0.2**
FRF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.2						
FRF	**La Foret Royal**	**84.35**	**3**	*e*P	**P**	**09 47 45.7**	**+0.2**
	comp=Z,18nm,0.9s,mb5.2						
EPF	**Esparros**	**84.49**	**8**	*e*P	**P**	**09 47 45.8**	**-0.4**
	comp=Z,27nm,1.0s,mb5.0						
EPF	**Esparros**	**84.49**	**8**	*e*P	**P**	**09 47 45.8**	**-0.4**
EPF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
EPF	**Esparros**	**84.49**	**8**	*e*P	**P**	**09 47 45.8**	**-0.4**
	comp=Z,14nm,1.0s,mb5.0						
ETSF	**Etsaut**	**84.54**	**9**	*e*P	**P**	**09 47 47.0**	**+0.6**
	comp=Z,21nm,0.8s,mb5.0						
ETSF	**Etsaut**	**84.54**	**9**	*e*P	**P**	**09 47 47.0**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
ETSF	**Etsaut**	**84.54**	**9**	*e*P	**P**	**09 47 47.0**	**+0.6**
	comp=Z,10nm,0.8s,mb5.0						
LMR	**La Mourre**	**84.57**	**4**	*e*P	**P**	**09 47 47.1**	**+0.5**
	comp=Z,32nm,1.0s,mb5.1						
LMR	**La Mourre**	**84.57**	**4**	*e*P	**P**	**09 47 47.1**	**+0.5**
LMR				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
LMR	**La Mourre**	**84.57**	**4**	*e*P	**P**	**09 47 47.1**	**+0.5**
	comp=Z,16nm,1.0s,mb5.1						
PGF	**Pioggiola**	**85.43**	**2**	*e*P	**P**	**09 47 51.3**	**+0.4**
	comp=Z,50nm,0.8s,mb5.4						
PGF	**Pioggiola**	**85.43**	**2**	*e*P	**P**	**09 47 51.3**	**+0.4**
PGF				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.4						
PGF	**Pioggiola**	**85.43**	**2**	*e*P	**P**	**09 47 51.3**	**+0.4**
	comp=Z,25nm,0.8s,mb5.4						
BR131	**Keskin Array S**	**86.24**	**343**	*e*P	**P**	**09 47 56.5**	**+1.6**
	comp=Z,5.2nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**86.24**	**343**	P	**P**	**09 47 55.1**	**+0.2**
	comp=Z,6.7nm,0.9s,mb4.8,baz=62,slow=2.5,SNR=14						
ESDC	**Sonseca Array**	**87.36**	**12**	P	**P**	**09 48 00.4**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.7,baz=349,slow=4.8,SNR=13						
ESLA	**Sonseca Array**	**87.36**	**12**	*e*P	**P**	**09 48 00.7**	**+0.4**
	comp=Z,0.7nm,0.7s,mb4.0						
ESLA				*e*pP	pP	09 48 10.7	+1.1
WRA	**Warramunga Arr**	**87.36**	**232**	P	**P**	**09 47 58.2**	**-2.2**
	comp=Z,0.5nm,0.5s,mb4.0,baz=34,slow=6.0,SNR=7.7						
PSI	**Prapat**	**89.29**	**274**	P	**P**	**09 48 09.2**	**-0.3**
	comp=Z,5.7nm,0.7s,mb5.0,baz=51,slow=2.8,SNR=7.2						
ASAR	**Alice Springs**	**90.74**	**231**	P	**P**	**09 48 14.8**	**-1.4**
	comp=Z,1.6nm,0.8s,mb4.4,baz=34,slow=5.0,SNR=17						
WSAR	**Wadi Sarin**	**94.16**	**317**	P	**P**	**09 48 30.8**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.8,baz=49,slow=5.8,SNR=4.0						
KMBO	**Kilima Mbogo**	**124.52**	**328**	PKP	PKPdf	09 54 11.9	-0.6
	comp=Z,1.4nm,0.8s,baz=44,slow=19,SNR=4.0						
TSUM	**Tsumeb**	**146.53**	**349**	*e*PKPdf	PKPdf	09 54 54.4	+1.3
MAW	**Mawson**	**151.16**	**218**	*e*P	PKPdf	09 55 03.9	+3.3
	comp=Z,2.3nm,1.1s						
MAW	**Mawson**	**151.16**	**218**	PKPbc	PKPbc	09 55 04.2	-2.3
	comp=Z,3.0nm,1.0s,baz=68,slow=3.1,SNR=6.4						

MAN ***31*** *09:35:43.7, 1902N×11966E, h13km, mb2.2, ML3.9, MS7.1*
BJI ***31*** *09:35:45.9, 1926N×11962E, h3km, mB4.5, mb4.5, Ms3.9, Ms23.9*
MOS ***31*** *09:35:46.7±1.3, 1895N×11988E, h33km, mb4.9/5, Error ellipse: s-maj=24.7km s-min=11.0km az=109.6*
ISCJB ***31*** *09:35:46.0±0.4, 1896N±005×11980E±007, h30km, mb4.2/15, MS3.9/3, Error ellipse: s-maj=11.6km s-min=5.3km az=113.3*
NEIC ***31*** *09:35:47.6±0.3, 1893N×11999E, mb4.7/6, MS4.2/1, Error ellipse: s-maj=14.5km s-min=6.1km az=71.0*
IDC ***31*** *09:35:48.1±0.7, 1895N×11995E, h30km±5km, mb3.9/10, mb1 4.0/10, mb1mx3.8/22, mbtmp4.0/10, MS3.6/2, Ms1 3.6/2, ms1mx3.0/42, Error ellipse: s-maj=24.3km s-min=11.8km az=69.0*

ISC 31 09:35:48.3±0.4, 1897N±005×11986E±007, h32km, h32km±.5km:pP-P, n37, σ1§01/37, mb4.2/15, MS3.9/3, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.25**	**124⇓**	*e*P	**Pn**	**09 36 22.5**	**-0.8**
CVP				*e*S	**Sn**	**09 36 50.0**	**+0.1**
BCPH	**Baguio City Da**	**2.66**	**165⇓**	*e*P	**Pn**	**09 36 29.0**	**+0.1**
BCPH				*i* S	**Sn**	**09 37 01.9**	**+1.8**
GZH	**Guangzhou**	**7.33**	**305**	P	**Pn**	**09 37 30.5**	**-2.6**
QIZ	**Qiongzhong**	**9.47**	**272**	P	**Pn**	**09 38 00.0**	**-2.4**
QIZ				S	**Sn**	**09 39 41.5**	**-6.3**
QIZ				LR	LR		
	comp=N,395nm,6.6s						
JOW	**Kunigami**	**11.02**	**43**	LR	LR	09 42 34.6	
	comp=N,158nm,19.8s,baz=14,slow=37						
BJT	**Baijiatuau**	**21.22**	**352**	*e*P	**P**	**09 40 31.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,42nm,1.0s						
BJT	**Baijiatuau**	**21.22**	**352**	*e*P	**P**	**09 40 31.4**	**+0.1**
	comp=Z,42nm,1.0s,mb4.7						
BJI	**Beijing**	**21.24**	**352**	P	**P**	**09 40 31.0**	**-0.5**
BJI				S	**S**	**09 44 25.8**	**0.0**
BJI				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.7						
BJI				AMB	AMB		
	comp=Z,86nm,4.3s						
BJI				LR	LR		
	comp=N,143nm,14.8s,MS3.8						
BJI				LR	LR		
	comp=E,229nm,14.9s,MS3.8						
BJI				LR	LR		
	comp=Z,94nm,16.1s,MS3.3						
BJI	**Beijing**	**21.24**	**352**	P	**P**	**09 40 31.1**	**-0.4**
	comp=Z,40nm,1.0s,mb4.7						
BJI				S	**S**	**09 44 25.7**	**-0.1**
BJI				LR	LR		
	comp=Z,90nm,16.1s,MS3.2						
LZH	**Lanzhou**	**22.14**	**324**	*e*P	**P**	**09 40 43.5**	**+2.4**
LZH				AP		09 40 49.0	
LZH				XP	sP	09 40 51.5	-2.3
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,240nm,4.0s						
LZH				LR	LR		
	comp=N,670nm,17.3s						
LZH				LR	LR		
	comp=Z,929nm,18.2s,MS4.2						
LZH	**Lanzhou**	**22.14**	**324**	*e*P	**P**	**09 40 43.5**	**+2.4**
	comp=Z,69nm,1.5s,mb4.9						
LZH				pP		09 40 49.0	
LZH				sP	sP	09 40 51.6	-2.2
LZH				LR	LR		
	comp=Z,930nm,18.2s,MS4.2						
MJAR	**Matsushiro Arr**	**23.81**	**39**	P	**P**	**09 40 57.7**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.4,baz=227,slow=11,SNR=2.8						
MJAR				pP		09 41 06.3	
	comp=Z,1.7nm,0.7s,baz=236,slow=11,SNR=4.8						
MJAR	**Matsushiro Arr**	**23.81**	**39**	P	**P**	**09 40 57.7**	**-0.5**
MJAR				pP		09 41 06.3	
PSI	**Prapat**	**26.03**	**234**	P	**P**	**09 41 19.2**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.0,baz=37,slow=7.0,SNR=5.4						
SONM	**Songino Array**	**30.81**	**342**	P	**P**	**09 42 00.6**	**-0.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=159,slow=9.2,SNR=7.6						
ZAK	**Zakamensk**	**34.01**	**341**	*e*P	**P**	**09 42 28.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**37.27**	**171**	*e*P	**P**	**09 42 56.5**	**-0.6**
	comp=Z,5.7nm,0.9s,mb4.4						
FITZ				*e*pP	pP	09 43 05.4	-1.1
WRA	**Warramunga Arr**	**41.19**	**159**	P	**P**	**09 43 28.5**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.0,baz=342,slow=9.0,SNR=21						
WRA				PcP	PcP	09 45 28.8	+0.2
	comp=Z,1.9nm,0.7s,baz=344,slow=3.5,SNR=10						
WB2	**Warramunga Arr**	**41.20**	**159**	*e*P	**P**	**09 43 28.6**	**-1.3**
WB2	**Warramunga Arr**	**41.20**	**159**	*e*P	**P**	**09 43 28.8**	**-1.1**
WB2				*e*pP	pP	09 43 37.7	-1.6
MK31	**Makanchi Array**	**41.40**	**321**	*e*P	**P**	**09 43 32.4**	**+0.9**
MK31				*e**PP	pP	09 43 41.6	+0.6
MKAR	**Makanchi Array**	**41.40**	**321**	P	**P**	**09 43 31.6**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.0,baz=113,slow=9.3,SNR=25						
MKAR				pP	pP	09 43 41.5	+0.5
	comp=Z,3.5nm,0.9s,baz=109,slow=9.2,SNR=10						
ZAL	**Zalesovo**	**44.06**	**331**	P	**P**	**09 43 53.3**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.0,baz=351,slow=2.7,SNR=8.5						
AS31	**Alice Springs**	**44.53**	**161**	*e*P	**P**	**09 43 56.5**	**-0.4**
AS31				*e*pP	pP	09 44 05.5	-1.0
ASAR	**Alice Springs**	**44.54**	**161**	P	**P**	**09 43 56.8**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=341,slow=6.9,SNR=32						
ASAR				pP	pP	09 44 05.5	-0.9
	comp=Z,4.1nm,0.7s,baz=339,slow=7.1,SNR=20						
ASAR				PcP	PcP	09 45 40.0	+0.3
	comp=Z,0.4nm,0.6s,baz=340,slow=3.3,SNR=4.1						
ASPA	**Alice Springs**	**44.54**	**162**	*e*P	**P**	**09 43 56.8**	**-0.1**
BVAR	**Borovoye Array**	**51.02**	**324**	P	**P**	**09 44 48.7**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=115,slow=10,SNR=4.9						
ZRNK	**Zerenda**	**51.77**	**323**	P	**P**	**09 44 53.9**	**+1.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
ZRNK	**Zerenda**	**51.77**	**323**	P	**P**	**09 44 53.9**	**+1.1**
	comp=Z,5.1nm,1.3s,mb4.3						
STKA	**Stephens Creek**	**54.68**	**157**	*e*P	**P**	**09 45 14.5**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.6						
STKA				*e*pP	pP	09 45 23.7	-0.2
STKA	**Stephens Creek**	**54.68**	**157**	P	**P**	**09 45 14.7**	**+0.5**
	comp=Z,5.4nm,0.8s,mb4.6,baz=340,slow=6.6,SNR=11						
STKA				pP	pP	09 45 23.7	-0.2
	comp=Z,9.2nm,0.8s,baz=342,slow=7.3,SNR=11						
AKTK	**Aktyubinsk**	**57.72**	**318**	P	**P**	**09 45 36.5**	**+0.6**
AKTO	**Aktyubinsk**	**57.72**	**318**	P	**P**	**09 45 36.5**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=101,slow=16,SNR=2.9						
IDI	**Anoyia**	**83.18**	**305**	LR	LR	10 29 00.7	
	comp=Z,73nm,20.0s,MS4.0,baz=262,slow=38						
TXAR	**Lajitas Array**	**116.21**	**42**	PKP	PKPdf	09 54 29.1	+0.9
	comp=Z,0.2nm,0.5s,baz=214,slow=1.2,SNR=6.5						
IIO	**Organos**	**126.15**	**47**	*e*P	Pdif	09 51 23.9	-2.5
LPAZ	**La Paz**	**171.93**	**72**	PKP	PKPdf	09 55 55.5	+1.9
	comp=Z,1.0nm,0.4s,baz=233,slow=5.8,SNR=8.6						

CSEM ***31*** *09:37:00.6±0.2, 3712N×2889E, h20km, MD3.0, Error ellipse: s-maj=6.1km s-min=4.1km az=14.0*
ATH ***31*** *09:37:01.3, 3746N×2867E, h10km, MD3.1/3*
ISK ***31*** *09:37:02.1, 3714N×2889E, h32km, MD3.0*
ISCJB ***31*** *09:37:04.4±1.0, 3728N±006×2858E±005, h12km±10km, Error ellipse: s-maj=10.5km s-min=5.3km az=137.7*

ISC 31 09:37:04.7±0.7, 3724N±005×2860E±004, h14km±7km, n13, σ1§39/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.62**	**33**	PG	**Pg**	**09 37 15.7**	**-1.1**
DENT				SG	**Sg**	**09 37 23.6**	**-1.4**
MLSB	**Milas**	**0.66**	**275**	*e*PG	**Pg**	**09 37 18.2**	**+0.6**
AYDN	**Tasoluk**	**0.71**	**307**	*i* P	**Pg**	**09 37 20.1**	**+1.5**
AYDN				*i* S	**Sg**	**09 37 31.6**	**+3.5**
GOLH	**Golhisar**	**0.76**	**90**	*i* P	**Pg**	**09 37 17.5**	**-2.0**
GOLH				*i* S	**Sg**	**09 37 30.9**	**+1.4**
BDRM	**Kayabasi**	**0.94**	**260**	*i* P	**Pb**	**09 37 22.6**	**-0.1**
BDRM				*i* S	**Sb**	**09 37 39.6**	**+4.6**
DAT	**Datca**	**0.96**	**239**	*e*PN	**Pn**	**09 37 22.0**	**-1.7**
BODT	**Bodrum**	**1.05**	**261**	*e*PN	**Pn**	**09 37 24.1**	**-0.8**
ARG	**Arkhangelos**	**1.09**	**201**	*e*PB	**Pb**	**09 37 26.3**	**+1.1**
ELL	**Elmali**	**1.15**	**115**	*e*PG	**Pg**	**09 37 18.6**	**-8.3**
KSL	**Kastellorizon**	**1.34**	**144**	*e*PB	**Pb**	**09 37 29.5**	**0.0**
SMG	**Samos**	**1.48**	**289**	*e*PB	**Pn**	**09 37 29.0**	**-1.8**
IZM	**Izmir**	**1.57**	**318**	*e*PN	**Pn**	**09 37 31.8**	**-0.3**
TKTP	**Tekketepe**	**1.58**	**59**	*i* P	**Pn**	**09 37 34.2**	**+2.0**
TKTP				*i* S	**Sn**	**09 37 53.7**	**+1.3**

MOS ***31*** *09:44:34.9±1.3, 5500N×11170E, h5km, mb4.4/1, Error ellipse: s-maj=22.1km s-min=14.6km az=79.8*

BYKL 31 09:44:34.6±0.3, 5502N×11166E, h18km±6km, 4C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**244⇓**	*i*Pg	Pg	09 44 41.3	-0.2
	349nm,0.2s						
YLYR				*i*Pg	Pg	09 44 41.3	-0.2
	375nm,0.2s						
YLYR				*i*Pg	Pg	09 44 41.3	-0.2
	349nm,0.2s						
YLYR				*e*Sg	Sg	09 44 46.2	0.0
YLYR				Pmax			
	172nm,0.1s						
YLYR				Smax			
	1μm,0.5s						
KMO	**Kumora**	**0.91**	**343⇓**	*i*Pg	Pg	09 44 51.2	-1.1
KMO				*e*Sg	Sg	09 45 03.1	-1.1
KMO				Pmax			
	86nm,0.3s						
KMO				Smax			
	302nm,1.0s						
KMO	**Kumora**	**0.91**	**343**	*e*PG	Pg	09 44 51.2	-1.1
KMO				*i*		09 45 03.2	
KMO				pmax	pmax		
	comp=Z,87nm,0.4s						
KMO				smax			
	comp=N,258nm,0.7s						
YOA	**Uoyan**	**1.12**	**2**	*e*Pg	Pg	09 44 55.7	-0.5
YOA				*e*Sg	Sg	09 45 10.5	-0.3
YOA				Pmax			
	comp=N,209nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.7s						
YOA	**Uoyan**	**1.12**	**2**	*e*PG	Pg	09 44 55.8	-0.4
YOA				*i*		09 45 10.6	
YOA				pmax	pmax		
	comp=Z,226nm,0.2s						
YOA				smax			
	comp=N,1μm,0.4s						
UKT	**Uakit**	**1.22**	**67⇑**	*i*Pg	Pg	09 44 56.3	-1.9
UKT				*e*		09 44 58.4	
UKT				*e*Sg	Sg	09 45 12.9	-1.3
UKT				*e*		09 45 16.8	
UKT				max			
	comp=N,108nm,0.2s						
UKT				max			
	comp=N,771nm,0.3s						
UKT	**Uakit**	**1.22**	**67⇑**	*i*PG	Pg	09 44 56.3	-1.9
UKT				*e*		09 45 12.6	
UKT				pmax	pmax		
	comp=Z,107nm,0.1s						
UKT				smax			
	comp=N,760nm,0.2s						
NIZ	**Nizh Angarsk**	**1.

comp=N,43nm,0.6s
CRS Chara 4.17 60 *e*PN Pn 09 45 48.8 +12
CRS *e* 09 46 43.8
CRS pmax pmax
comp=Z,51nm,1.2s
CRS smax
comp=E,92nm,1.6s
FFNB Fofonovo 4.17 226 *e*Sg Sg 09 46 43.9 -4.6
FFNB Smax
comp=E,87nm,0.5s
TUP Tupik 4.84 94 *e* Pn 09 45 47.7 +1.1
TUP *e*Pg Pg 09 46 01.7 -5.7
TUP *e* 09 46 45.6
TUP *e*Sg Sg 09 47 05.6 -4.5
TUP Pmax
comp=E,8.0nm,0.5s
TUP Smax
comp=E,95nm,1.9s
KPC Khapcheranga 5.34 175 *e* Pn 09 46 11.6 +18
KPC *e*Sg Sg 09 47 19.7 -6.4
KPC Smax
comp=E,30nm,0.4s
ORL Orlik 7.45 255 *e* Pb 09 47 44.1 +61
ORL *e*Sg Sn 09 48 24.4 +38
ORL Smax
comp=E,33nm,1.0s
ORL Orlik 7.45 255 *e*PN Pn 09 46 25.8 +3.5
ORL *e*S Sn 09 47 45.9 -0.4
ORL *e*S Sn 09 48 27.0 +41
ORL smax
comp=N,19nm,1.2s

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*ISCJB **31** 09:46:55.8±1.2, 4398N±007×1479E±01, h47km±12km, mb3.6/3, MS3.9/2, Error ellipse: s-maj=16.4km s-min=7.2km az=85.2*
*JMA **31** 09:46:55.8±0.3, 4368N×14762E, h0km, M4.1*
*IDC **31** 09:46:56.0±1.1, 4535N×14797E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.0/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/38, Error ellipse: s-maj=32.1km s-min=28.0km az=155.0*
*MOS **31** 09:46:57.5±1.3, 4413N×14789E, h63km, mb4.0/2, Error ellipse: s-maj=29.9km s-min=22.0km az=131.3*
ISC 31 09:46:57.0±1.3, 4401N±008×1479E±01, h44km±13km, n28, σ1§14/26, mb3.6/3, MS3.9/2, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.22**	**359**	⇓*i*PN	**Pn**	**09 47 17.0**	**-0.5**
KUR				*i* S	**Sn**	**09 47 32.0**	**-0.8**
KUR				pmax	pmax		
	comp=N,160nm,0.4s						
KUR				pmax	pmax		
	comp=E,150nm,0.4s						
KUR				pmax	pmax		
	comp=Z,330nm,0.4s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,840nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**272**	*e*PN	**Pn**	**09 47 21.0**	**0.0**
YUK				*e*S	**Sn**	**09 47 37.0**	**-2.0**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=E,210nm,0.4s						
YUK				smax			
	comp=N,4μm,1.0s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.69**	**248**	P	**Pn**	**09 47 22.3**	**-1.7**
JRA	**Rausu**	**2.01**	**269**	P	**Pn**	**09 47 28.8**	**+0.5**
JRA				*e*S	**Sn**	**09 47 53.5**	**+1.3**
JNK	**Nakash**	**2.34**	**261**	*e*S	**Sn**	**09 48 00.2**	**-0.3**
JAK	**Akkeshi**	**2.54**	**248**	P	**Pn**	**09 47 34.7**	**-1.0**
JTKR	**Abashiri--Toko**	**2.88**	**271**	P	**Pn**	**09 47 41.7**	**+1.4**
JAR	**Ashorobuto**	**3.08**	**258**	P	**Pn**	**09 47 43.7**	**+0.6**
JAR				*e*S	**Sn**	**09 48 19.3**	**+0.6**
JOB	**Onbets**	**3.16**	**251**	P	**Pn**	**09 47 43.8**	**-0.4**
JOB				*e*S	**Sn**	**09 48 19.1**	**-1.6**
JMP	**Maruseppu**	**3.28**	**271**	P	**Pn**	**09 47 47.3**	**+1.5**
JCH	**Churui**	**3.59**	**249**	P	**Pn**	**09 47 49.9**	**-0.2**
ASAJ	**Asahikawa**	**3.82**	**273**	Pn	**Pn**	**09 47 56.8**	**+3.5**
	comp=E,0.8nm,0.3s,baz=61,slow=16,SNR=4.7						
ASAJ				Sn	**Sn**	**09 48 47.5**	**+11**
	comp=E,1.8nm,0.3s,baz=17,slow=30,SNR=3.9						
JEM	**Erimo**	**4.01**	**242**	P	**Pn**	**09 47 56.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.15**	**247**	P	**Pn**	**09 47 57.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.66**	**311**	*e*PN	**Pn**	**09 48 07.5**	**+2.7**
JNU	**Nakatsue**	**17.15**	**236**	LR	LR	09 57 48.4	
	comp=E,90nm,18.1s,baz=271,slow=36						
MKAR	**Makanchi Array**	**44.94**	**298**	P	**P**	**09 55 07.8**	**+0.3**
	comp=E,0.5nm,0.6s,mb3.5,baz=74,slow=8.5,SNR=5.7						
MKAR				LR	LR	10 14 34.4	
	comp=E,121nm,18.6s,MS3.9,baz=38,slow=37						
MKAR	**Makanchi Array**	**44.94**	**298**	P	**P**	**09 55 07.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,121nm,18.6s						
WRA	**Warramunga Arr**	**64.84**	**194**	P	pP	09 57 46.0	+2.0
	comp=Z,0.2nm,0.3s,baz=8.0,slow=6.9,SNR=7.2						
FINES	**FINESS Array B**	**64.89**	**333**	P	**P**	**09 57 30.0**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=45,slow=8.4,SNR=4.2						
FINES	**FINESS Array B**	**64.89**	**333**	P	**P**	**09 57 30.0**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WSAR	**Wadi Sarin**	**73.73**	**287**	LR	LR	10 32 01.8	
	comp=Z,57nm,18.4s,MS3.9,baz=37,slow=37						
TXAR	**Lajitas Array**	**82.05**	**57**	P	**P**	**09 59 13.3**	**+0.7**
	comp=Z,0.4nm,0.9s,mb3.3,baz=293,slow=2.8,SNR=5.2						
SNAA	**Sanae**	**148.87**	**197**	PKPbc	PKPbc	10 06 46.6	+6.8
	comp=Z,0.9nm,1.0s,baz=137,slow=8.0,SNR=5.8						
VNA2	**Neumayer--Watz**	**150.39**	**196**	*e*P	PKPdf	10 06 51.7	+13
	baz=182,slow=3.9						
VNA2	**Neumayer--Watz**	**150.39**	**196**	*e*P	PKPdf	10 06 51.7	+13
	baz=300,slow=6.1						
VNA2				*e*		10 06 55.8	
VNA2				*e*		10 06 59.8	
VNA3	**Neumayer Olymp**	**150.57**	**195**	*e*P	PKPdf	10 06 49.9	+11
VNA3	**Neumayer Olymp**	**150.57**	**195**	*e*P	PKPdf	10 06 49.9	+11
VNA3				*e*		10 06 53.4	
VNA3				*e*		10 06 57.0	

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*ISCJB **31** 09:51:56.0±0.4, 3075N±002×3505E±004, h0km, Error ellipse: s-maj=4.7km s-min=2.6km az=7.2*
*HLW **31** 09:51:55.9, 3087N×3529E, h20km, Mb2.4*
*GII **31** 09:51:55.4±0.2, 3076N×3503E, h0km, ML2.7/6*
*CSEM **31** 09:51:56.0±0.1, 3075N×3502E, h2km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.0km az=80.0, Mining explosion.*
ISC 31 09:51:56.5±0.4, 3076N±002×3504E±004, h0km, n24, σ1§04/34, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.23**	**150**	Pg	**Pg**	**09 52 00.8**	**-0.2**
MASH	**Mash'abbe Sade**	**0.32**	**317**	Pg	**Pg**	**09 52 02.7**	**-0.1**
MASH				Sg	**Sg**	**09 52 09.2**	**+2.3**
SVTA	**Shivta**	**0.40**	**295**	Pg	**Pg**	**09 52 04.0**	**-0.2**
PRNI	**Paran**	**0.41**	**185**	Pg	**Pg**	**09 52 04.3**	**+0.1**
PRNI				Sg	**Sg**	**09 52 11.3**	**+1.7**
RTMI	**Retamim**	**0.42**	**315**	Pg	**Pg**	**09 52 04.7**	**+0.1**
KZIT	**Kziot**	**0.57**	**285**	Pg	**Pg**	**09 52 07.4**	**-0.1**
KZIT				Sg	**Sg**	**09 52 16.2**	**+1.3**
YTIR	**Yattir**	**0.61**	**6**	Pg	**Pg**	**09 52 07.9**	**-0.2**
MZDA	**Masada**	**0.61**	**27**	Pg	**Pg**	**09 52 07.5**	**-0.8**
KMTI	**Karmit**	**0.71**	**203**	Pg	**Pg**	**09 52 09.9**	**-0.1**
HRFI	**Mount Harif**	**0.72**	**180**	Pg	**Pg**	**09 52 11.2**	**+0.9**
HRFI				Sg	**Sg**	**09 52 21.2**	**+1.6**
DSI	**Dead Sea**	**0.86**	**20**	Pg	**Pg**	**09 52 14.0**	**+1.0**
DSI				Sg	**Sg**	**09 52 27.2**	**+3.1**
DRGI	**Dragot**	**0.89**	**20**	Pg	**Pg**	**09 52 13.2**	**-0.2**
MBH	**Mount Berech**	**0.97**	**187**	Pg	**Pg**	**09 52 15.5**	**+0.4**
AQBJ	**Aqaba**	**1.03**	**180**	Pg	**Pg**	**09 52 15.8**	**-0.4**
EIL	**Elat**	**1.09**	**184**	Pg	**Pg**	**09 52 16.1**	**-1.3**
EIL				Sg	**Sg**	**09 52 33.4**	**+1.9**
HMDT	**Nahal Hemdat**	**1.55**	**15**	Pn	**Pn**	**09 52 23.8**	**-1.5**
HMDT				Sn	**Sn**	**09 52 46.4**	**+0.3**
AMAG	**Maghara**	**1.58**	**266**	P	**Pn**	**09 52 25.0**	**-0.8**
AMAG				S	**Sn**	**09 52 46.0**	**-1.0**
MMLI	**Mount Malkishu**	**1.71**	**11**	Pn	**Pn**	**09 52 26.4**	**-1.1**
MMLI				Sn	**Sn**	**09 52 50.6**	**+0.6**
SUZ		**2.12**	**245**	P	**Pn**	**09 52 32.0**	**-1.2**
MMC5	**Mount Meron ar**	**2.27**	**8**	Pn	**Pn**	**09 52 34.9**	**-0.3**
MMC5				Sn	**Sn**	**09 53 04.5**	**+0.7**
HKAT	**Jabal Katrina**	**2.41**	**203**	P	**Pn**	**09 52 36.0**	**-1.1**
TR2		**2.63**	**206**	P	**Pn**	**09 52 38.7**	**-1.5**
TR2		**2.63**	**206**	P	**Pn**	**09 52 38.7**	**-1.5**
	573nm,0.2s						
TR1		**2.90**	**199**	P	**Pn**	**09 52 42.7**	**-1.2**

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*ISCJB **31** 09:53:11.7±1.5, 4235E±006×15279E±006, h45km±13km, mb4.7/22, MS3.8/13, Error ellipse: s-maj=11.0km s-min=9.6km az=130.7*
*MOS **31** 09:53:11.5±2.6, 4265S×15283E, h33km, mb5.1/4, Error ellipse: s-maj=16.0km s-min=10.4km az=77.6*
*IDC **31** 09:53:13.0±0.6, 4365S×15266E, h40km±5km, mb4.3/10, mb1 4.4/11, mb1mx4.4/16, mbtmp4.4/11, ML5.0/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/29, Error ellipse: s-maj=14.3km s-min=12.7km az=104.0*
*NEIC **31** 09:53:12.7±0.4, 4215S×15275E, mb4.8/13, Error ellipse: s-maj=8.9km s-min=7.6km az=66.0*
*BJI **31** 09:53:12.6, 4205S×15270E, h39km, mB5.0, mb4.6, Ms5.2, Msz4.7*
ISC 31 09:53:15.6±1.2, 4275S±007×15279E±006, h65km±10km, h41km±1.5km: pP-P, n59, σ0§90/63, mb4.5/22, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.57**	**227**	Pn	**Pn**	**09 55 02.5**	**-0.6**
	22nm,0.3s,baz=41,slow=11,SNR=50						
PMG				Sn	**Sn**	**09 56 26.3**	**-1.1**
	2.0nm,0.3s,baz=128,slow=17,SNR=2.1						
PMG	**Port Moresby**	**7.57**	**227**	*e*P	**Pn**	**09 55 05.3**	**+2.1**
PMG				*e*		09 56 31.4	
PMG				pmax	pmax		
	comp=Z,128nm,0.8s						
PMG	**Port Moresby**	**7.57**	**227**	*e*Pn	**Pn**	**09 55 05.3**	**+2.2**
	comp=Z,128nm,0.8s						
PMG				*e*Sn	**Sn**	**09 56 31.4**	**+4.0**
HNR	**Honiara**	**8.76**	**126**	Pn	**Pn**	**09 55 18.1**	**-1.4**
	comp=Z,18nm,0.3s,baz=253,slow=2.1,SNR=9.2						
HNR				Sn	**Sn**	**09 56 53.9**	**-2.7**
	baz=278,slow=19,SNR=2.8						
HNR	**Honiara**	**8.76**	**126**	*e*P	**Pn**	**09 55 19.4**	**0.0**
HNR				*e*		09 56 58.7	
HNR				pmax	pmax		
	comp=Z,197nm,0.8s						
HNR	**Honiara**	**8.76**	**126**	*e*Pn	**Pn**	**09 55 19.4**	**-0.1**
	comp=Z,197nm,0.8s						
HNR				*e*Sn	**Sn**	**09 56 58.7**	**+2.1**
CTA	**Charters Tower**	**16.96**	**202**	*e*P	**Pn**	**09 57 08.9**	**+0.5**
	comp=Z,8.0nm,0.6s						
CTA	**Charters Tower**	**16.96**	**202**	Pn	**Pn**	**09 57 09.2**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=25,slow=14,SNR=19						
CTA	**Charters Tower**	**16.96**	**202**	*e*P	**Pn**	**09 57 08.9**	**+0.5**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	**Charters Tower**	**16.96**	**202**	*e*P	**Pn**	**09 57 08.5**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,49nm,1.5s						
CTAO	**Charters Tower**	**16.96**	**202**	*e*P	**Pn**	**09 57 08.5**	**0.0**
	comp=Z,50nm,1.5s						
KAKA	**Kakadu**	**21.79**	**246**	⇑*i*P	**P**	**09 58 01.9**	**-0.1**
	comp=Z,56nm,0.5s,mb5.2						
KAKA				*e*S	**S**	**10 01 58.3**	**-0.8**
DZM	**Mont Dzumac**	**22.09**	**144**	P	**P**	**09 58 03.9**	**-1.3**
	comp=Z,15nm,0.5s,mb4.6,baz=0.0,slow=11,SNR=12						
DZM				LR	LR	10 04 00.9	
	comp=Z,170nm,20.5s,baz=29,slow=29						
WB2	**Warramunga Arr**	**23.78**	**228**	*e*P	**P**	**09 58 22.2**	**+0.1**
WB2				*e*S	**S**	**10 02 32.9**	**+0.1**
WRA	**Warramunga Arr**	**23.79**	**228**	P	**P**	**09 58 22.1**	**0.0**
	comp=Z,35nm,0.4s,mb5.1,baz=54,slow=9.8,SNR=133						
WRA				S	**S**	**10 02 33.8**	**+0.9**
	comp=Z,10nm,0.9s,baz=50,slow=15,SNR=13						
WRA				ScP	ScP	10 05 40.8	+4.2
	comp=Z,2.4nm,1.1s,baz=53,slow=3.2,SNR=4.7						
WRA				LR	LR	10 07 42.9	
	comp=Z,87nm,21.1s,baz=45,slow=37						
WRA	**Warramunga Arr**	**23.79**	**228**	P	**P**	**09 58 22.1**	**0.0**
WRA				S	**S**	**10 02 33.8**	**+0.9**
ARMA	**Armidale**	**26.03**	**182**	*e*P	**P**	**09 58 43.4**	**+0.9**
AS31	**Alice Springs**	**26.53**	**222**	*e*P	**P**	**09 58 47.1**	**+0.1**
ASAR	**Alice Springs**	**26.53**	**222**	P	**P**	**09 58 47.1**	**+0.1**
	comp=Z,3.8nm,0.3s,mb4.3,baz=56,slow=9.2,SNR=93						
ASAR				S	**S**	**10 03 16.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=44,slow=13,SNR=4.3						
ASAR				LR	LR	10 09 18.9	
	comp=Z,104nm,21.5s,baz=51,slow=37						
ASAR	**Alice Springs**	**26.53**	**222**	P	**P**	**09 58 47.1**	**+0.1**
ASAR				S	**S**	**10 03 16.3**	**-0.3**
ASPA	**Alice Springs**	**26.54**	**222**	*e*P	**P**	**09 58 47.1**	**0.0**
STKA	**Stephens Creek**	**29.40**	**200**	*e*P	**P**	**09 59 11.5**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.40**	**200**	P	**P**	**09 59 11.8**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.3,baz=38,slow=14,SNR=15						
STKA				LR	LR	10 10 41.8	
	comp=Z,235nm,21.6s,baz=21,slow=36						
FITZ	**Fitzroy Crossi**	**29.91**	**241**	*e*P	**P**	**09 59 16.4**	**-0.7**
	comp=Z,14nm,0.3s,mb5.0						
FITZ				*e*S	**S**	**10 04 08.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**29.91**	**241**	P	**P**	**09 59 17.1**	**0.0**
	comp=Z,7.0nm,0.3s,mb4.7,baz=63,slow=8.2,SNR=58						
FITZ				S	**S**	**10 04 08.6**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=151,slow=19,SNR=4.8						
FITZ				LR	LR	10 11 34.6	
	comp=Z,107nm,20.0s,baz=69,slow=37						
CBIJ	**Chichi jima**	**32.83**	**342**	LR	LR	10 11 15.2	
	comp=Z,172nm,19.7s,baz=167,slow=33						
FORT	**Forrest**	**35.19**	**219**	*e*P	**P**	**10 00 03.2**	**0.0**
	comp=Z,31nm,0.5s,mb5.4						
MBWA	**Marble Bar**	**36.23**	**239**	*e*P	**P**	**10 00 11.9**	**-0.2**
	comp=Z,3.8nm,0.3s,mb4.8						
TAU	**Tasmania Unive**	**38.78**	**186**	*e*P	**P**	**10 00 34.7**	**+1.0**
TAU				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.2						
TAU	**Tasmania Unive**	**38.78**	**186**	*e*P	**P**	**10 00 34.7**	**+1.0**
	comp=Z,24nm,0.6s,mb5.2						
JOW	**Kunigami**	**38.97**	**324**	LR	LR	10 13 51.8	
	comp=Z,114nm,18.0s,baz=116,slow=32						
JHJ	**Hachijo jima 2**	**39.18**	**343**	LR	LR	10 13 20.3	
	comp=Z,107nm,20.2s,baz=117,slow=31						
URZ	**Urewera**	**40.44**	**150**	P	**P**	**10 00 47.9**	**+0.4**
	comp=Z,3.7nm,0.3s,mb4.7,baz=135,slow=6.4,SNR=8.3						
RPZ	**Rata Peaks**	**42.47**	**160**	P	**P**	**10 01 03.6**	**-0.5**
	comp=Z,44nm,0.9s,mb5.2,baz=28,slow=4.2,SNR=15						
RPZ				LR	LR	10 16 01.7	
	comp=Z,428nm,19.9s,baz=105,slow=32						
KLBR	**Kellerberrin**	**42.66**	**226**	*e*P	**P**	**10 01 04.9**	**-0.7**
	comp=Z,8.1nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**42.83**	**343**	P	**P**	**10 01 05.9**	**-1.1**
	comp=Z,1.8nm,1.0s,mb3.7,baz=152,slow=8.1,SNR=3.7						
MJAR				LR	LR	10 16 55.8	
	comp=Z,122nm,20.0s,baz=175,slow=33						
NWAO	**Narrogin (SRO)**	**43.75**	**225**	LR	LR	10 21 01.0	
	comp=Z,166nm,20.3s,baz=286,slow=38						
GTA	**Gaotai**	**65.27**	**317**	*e*P	**P**	**10 03 54.3**	**+3.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,109nm,6.8s						
GTA				LR	LR		
	comp=N,227nm,12.9s						
GTA				LR	LR		
	comp=E,823nm,12.2s						
GTA				LR	LR		
	comp=Z,445nm,11.5s						
SONM	**Songino Array**	**65.88**	**328**	P	**P**	**10 03 54.9**	**+0.6**
	comp=Z,1.5nm,1.2s,mb3.7,baz=140,slow=5.2,SNR=6.1						
SONM				pP	pP	10 04 07.3	-4.5
	comp=Z,2.8nm,1.1s,baz=140,slow=4.3,SNR=8.6						
SONM				LR	LR	10 30 11.0	
	comp=Z,93nm,19.8s,baz=8.9,slow=34						
SONM	**Songino Array**	**65.88**	**328**	P	**P**	**10 03 54.9**	**+0.6**
SONM				*PP	pP	10 04 07.3	-4.5
ZAK	**Zakamensk**	**69.04**	**329**	*e*P	**P**	**10 04 14.8**	**+0.5**
VNDA	**Vanda**	**73.35**	**178**	P	**P**	**10 04 37.0**	**-3.3**
	comp=Z,5.5nm,0.9s,mb4.4,baz=353,slow=4.9,SNR=8.0						
VNDA	**Vanda**	**73.35**	**178**	*e*P	**P**	**10 04 39.7**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VNDA	**Vanda**	**73.35**	**178**	*e*P	**P**	**10 04 39.7**	**-0.6**
	comp=Z,8.0nm,1.0s,mb4.5						
SBA	**Scott Base**	**73.90**	**177**	*e*P	**P**	**10 04 44.8**	**+1.3**
SBA				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.6						
SBA	**Scott Base**	**73.90**	**177**	*e*P	**P**	**10 04 44.8**	**+1.3**
	comp=Z,22nm,1.6s,mb4.6						
MIR	**Mirnyy**	**74.41**	**201**	*d*iP	**P**	**10 04 49.0**	**+2.5**
MIR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**10 05 18.0**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=247,slow=2.5,SNR=4.8						
MKAR				pP	pP	10 05 29.8	-5.6
	comp=Z,0.9nm,0.8s,baz=118,slow=4.4,SNR=3.5						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**10 05 18.0**	**+0.6**
MKAR				pP	pP	10 05 29.8	-5.6
NVS	**Novosibirsk**	**81.89**	**327**	*e*P	**P**	**10 05 26.9**	**-0.9**
QSPA	**South Pole Qui**	**85.68**	**180**	*e*P	**P**	**10 05 47.2**	**0.0**
	comp=Z,12nm,1.1s,mb4.8						
MAW	**Mawson**	**86.05**	**203**	*e*P	**P**	**10 05 48.4**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.4						
MAW	**Mawson**	**86.05**	**203**	P	**P**	**10 05 48.2**	**-0.8**
	comp=Z,4.5nm,0.8s,mb4.5,baz=81,slow=5.6,SNR=21						
MAW	**Mawson**	**86.05**	**203**	*e*P	**P**	**10 05 48.4**	**-0.6**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**88.82**	**323**	P	**P**	**10 06 02.6**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=101,slow=7.7,SNR=10.0						
BVAR				pP	pP	10 06 14.4	-6.1
	comp=Z,2.0nm,0.9s,baz=91,slow=5.9,SNR=4.6						
BOSA	**Boshof**	**119.93**	**234**	PKP	PKPdf	10 12 00.0	+1.5
	comp=Z,2.4nm,0.9s,baz=77,slow=4.5,SNR=3.1						
CFAA	**Coronel Fontan**	**127.11**	**135**	PKP	PKPdf	10 12 13.1	+0.9
	comp=Z,0.3nm,0.6s,baz=257,slow=4.3,SNR=5.7						
MDT	**Midelt**	**144.61**	**326**	PKP	PKPdf	10 12 45.4	+0.8
	comp=Z,1.3nm,0.6s,baz=261,slow=2.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.13**	**289**	PKPbc	PKPbc	10 13 00.3	+1.4
	comp=Z,2.9nm,0.4s,baz=82,slow=2.2,SNR=26						
TORD				pPKPbc	pPKPbc	10 13 12.2	-5.5
	comp=Z,7.8nm,0.9s,baz=27,slow=3.6,SNR=13						

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*SZGRF **31** 09:55:10.6, 2975S×7611W, h33km, mb5.6, Peru-Ecuador border region*
*CASC **31** 09:55:23.1±2.1, 1395S×7775W, h20km, MW4.4, mb5.2(NEIC)*
*IGQ **31** 09:55:24.1, 1535S×7797W, h196km±7km, Mb4.8, Ms4.7, Error ellipse: s-maj=4.2km s-min=2.0km az=53.5*
*ISCJB **31** 09:55:27.2±0.1, 1425S±002×7783W±002, h181km, mb5.2/255, Error ellipse: s-maj=3.3km s-min=2.3km az=71.9*
*MOS **31** 09:55:27.0±0.8, 1305S×7780W, h174km, mb5.3/100, MS4.4/4, Error ellipse: s-maj=6.4km s-min=4.4km az=85.0*
*BGS **31** 09:55:28.2, 1395S×7775W, h181km, mb5.3*
*GCMT **31** 09:55:28.7±0.1, 1535S×7804W, h178km, MW5.4/95, Moment Tensor Solution. s78,c130; s95,c183; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.26±.02; $M_{\theta\theta}$0.74±.03; $M_{\phi\phi}$0.52±.03; $M_{r\theta}$0.73±.02; $M_{\theta\phi}$-0.85±.02; $M_{\phi r}$-0.47±.02; Best double couple: $M_0$1.62700×10^{17} NP1:ϕ_s306.00000°, δ61.00000°, λ-95.00000°. NP2:ϕ_s137.00000°, δ29.00000°, λ-80.00000°. Principal axes: T 1.7370, Plg16.0000°, Azm40.0000°; N -0.2160, Plg5.0000°, Azm309.0000°; P -1.5170, Plg73.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 09:55:28.7±0.1, 1395S×7775W, mb5.2/215, MD4.8(IGQ) Error ellipse: s-maj=3.0km s-min=2.2km az=41.0*
NEIC Felt at Bahia de Caraquez, Cuenca, Portoviejo and Quevedo.
*IDC **31** 09:55:28.2±0.5, 1335S×7773W, h175km±4km, mb4.9/25, mb1 5.1/29, mb1mx5.1/29, mbtmp5.4/29, MS4.1/6, Ms1 4.1/6, ms1mx3.7/19, Error ellipse: s-maj=10.8km s-min=7.1km az=63.0*
*CRAAG **31** 09:55:28.1, 1385S×7780W, Mb5.2*
*BJI **31** 09:55:28.7, 1405S×7780W, h181km, mB5.3*
ISC 31 09:55:29.4±0.1, 1385S±002×7773W±002, h183km, h183km±.8km: pP-P, n1094, σ0§75/965, mb5.2/254, 162C-148D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.68**	**264**	⇑P	**Pn**	**09 55 51.2**	**-4.1**
RUN5	**Runtun**	**0.70**	**267**	⇓P	**Pn**	**09 55 51.3**	**-4.1**
RETU	**Refugio**	**0.72**	**264**	⇓P	**Pn**	**09 55 51.7**	**-3.8**
PISA	**Pisayambo**	**0.73**	**296**	⇓P	**Pn**	**09 55 52.1**	**-3.4**
ARRY	**Arrayan**	**0.74**	**260**	⇑P	**Pn**	**09 55 50.9**	**-4.7**
JUIV	**Juive**	**0.74**	**266**	⇓P	**Pn**	**09 55 51.4**	**-4.2**
BILB	**Tungurahua vol**	**0.77**	**265**	⇑P	**Pn**	**09 55 51.5**	**-4.3**
IGUA	**Igualata**	**0.92**	**263**	⇑P	**Pn**	**09 55 52.3**	**-4.4**
TAMB	**Tambo**	**0.93**	**317**	P	**Pn**	**09 55 54.0**	**-2.8**
VC1	**Cotopaxi 1**	**0.99**	**317**	⇓P	**Pn**	**09 55 54.6**	**-2.7**
ANTI	**Antisana**	**1.02**	**335**	⇓P	**Pn**	**09 55 55.2**	**-2.2**
CAMI	**Rancho Maria**	**1.04**	**312**	⇓P	**Pn**	**09 55 54.7**	**-2.9**
NAS1	**Nasa**	**1.05**	**315**	⇓P	**Pn**	**09 55 55.2**	**-2.5**
LAV3	**Lava3-Reventad**	**1.28**	**4**	⇓P	**Pn**	**09 55 58.0**	**-1.5**
CONE	**Cono NE Rev Vo**	**1.30**	**4**	P	**Pn**	**09 55 58.0**	**-1.7**
CAYR	**Refugio Cayamb**	**1.41**	**349**	⇓P	**Pn**	**09 55 59.4**	**-1.3**
JUA2	**San Juan 2**	**1.45**	**323**	⇓P	**Pn**	**09 55 58.1**	**-3.0**
CAYA	**Cayambe**	**1.46**	**350**	⇓P	**Pn**	**09 56 00.0**	**-1.1**
GGP	**Refugio Guagua**	**1.48**	**324**	⇓P	**Pn**	**09 55 58.4**	**-2.9**
TERV	**Terraza Guagua**	**1.48**	**324**	⇓P	**Pn**	**09 55 58.6**	**-2.8**
PINO	**Pino**	**1.50**	**324**	⇓P	**Pn**	**09 55 58.7**	**-2.8**
YANA	**Y

STH Stony Hill 19.35 3⇓ eP P 09 59 43.3 +2.4
CMJ Castle Mountai 19.44 4⇓ eP P 09 59 43.5 +1.7
CVJ Coleyville 19.48 1⇓ iP P 09 59 44.9 +2.6
BNJ Bonny Gate 19.59 2⇓ iP P 09 59 45.9 +2.5
BBJ Bamboo Saint A 19.64 1⇓ iP P 09 59 46.7 +2.7
GRHS Sauteurs 20.93 49 eP P 09 59 50.7 -7.0
GRSS Sisters 20.99 49 eP P 10 00 00.7 +2.3
GRIC Isle de Caille 21.01 49 eP P 09 59 59.3 +0.8
LMGC Las Mercedes 21.32 2 eP P 10 00 03.8 +1.9
baz=191
LMGC eS sP 10 00 49.9 -6.3
comp=N,60nm,5.5s
LMGC e
comp=E,57nm,8.0s
MASC Masc 21.69 9 eP P 10 00 07.7 +1.9
SIV San Ignacio 21.92 132 P P 10 00 07.6 -0.6
comp=E,258nm,0.8s,mb5.7,baz=307,slow=10.0,SNR=361
SIV S **S 10 04 01.4 +4.4**
comp=E,9.6nm,0.8s,baz=295,slow=18,SNR=3.4
SIV ScP ScP 10 07 21.4 +1.9
comp=E,27nm,1.0s,baz=47,slow=23,SNR=3.1
MPR Mayaguez 22.08 28 eP P 10 00 09.7 +0.1
HLGC Holguin 22.19 4 eP P 10 00 11.3 +0.6
CPD Cerro la Pandu 22.53 31 eP P 10 00 12.4 -1.4
CCIG Comitan 22.59 322 *i P* **P 10 00 14.2 -0.1**
HUMP Col San Antoni 22.65 31 eP P 10 00 14.2 -0.6
CBYP Canovanas 22.75 30 eP P 10 00 15.7 -0.1
MTP Monte Pirata 22.76 31 eP P 10 00 15.5 -0.4
BIM Bigot 22.84 46 eP P 10 00 16.2 -0.4
FDF Fort de France 22.92 45 eP P 10 00 16.1 -1.3
CEN1 Los Morros 23.07 162⇑ iP P 10 00 20.7 +2.0
MGV Manicaragua 23.45 355 eP P 10 00 22.1 -0.1
TEIG Tepich 23.83 335 eP P 10 00 25.4 -0.2
comp=E,254nm,1.8s,mb5.5
CMIG Matias Romero 24.96 318 P P 10 00 35.6 -0.3
comp=E,80nm,0.7s,mb5.3,baz=111,slow=6.2,SNR=126
CMIG pP 10 01 10.6
comp=E,40nm,1.2s,baz=146,slow=7.5,SNR=1.9
CMIG PcP PcP 10 04 06.4 +0.3
comp=E,9.9nm,0.7s,baz=93,slow=3.7,SNR=7.0
CMIG ScP ScP 10 07 29.3 +1.6
comp=E,8.5nm,1.1s,baz=30,slow=4.5,SNR=3.6
CMIG Matias Romero 24.96 318 *i P* **P 10 00 35.5 -0.4**
OXX Oaxaca 26.22 315 *i P* **P 10 00 48.5 +1.3**
VHO Vista Hermosa 26.22 315 *i P* **P 10 00 47.1 0.0**
PPM Popocatepetl 28.89 316 *i P* **P 10 01 13.0 +2.1**
PLIG Platanillo 29.07 314 *i P* **P 10 01 13.5 +0.9**
TLL Tololo Astrono 29.38 168 *i P* **P 10 01 15.5 +0.2**
DWPF Disney 29.53 353 *eP* **P 10 01 17.5 +0.8**
comp=E,156nm,1.0s,mb5.7
CMCH Combarbala 30.31 169⇑ *iP* **P 10 01 23.3 -0.2**
MOIG Morelia 31.11 313 *i P* **P 10 01 31.7 +1.2**
CFAA Coronel Fontan 31.37 164 P P 10 01 33.2 +0.3
comp=E,14nm,0.7s,mb4.8,baz=338,slow=8.6,SNR=165
CFAA PcP PcP 10 04 22.0 0.0
comp=E,3.5nm,0.6s,baz=305,slow=1.9,SNR=7.7
CFAA Coronel Fontan 31.37 164 P P 10 01 33.2 +0.3
CFAA PcP PcP 10 04 22.0 0.0
MDZ Mendoza 32.43 166 eP P 10 01 42.8 +0.7
FCH Farellones 32.54 168 eP P 10 01 43.2 +0.2
CLCH Cerro Calan 32.56 169⇓ *iP* **P 10 01 43.8 +0.6**
SFJM Santa Fe 32.97 313 *i P* **P 10 01 47.5 +0.8**
LMEL Las Melosas 33.06 168⇓ *iP* **P 10 01 48.5 +1.0**
ZAIG Zacatecas 34.09 316 *i P* **P 10 01 57.5 +1.1**
COW Cow Castle Cre 34.69 356 eP P 10 02 02.3 +0.8
JSC Jenkinsville 35.62 355 eP P 10 02 09.4 -0.2
BBSR BB Station 35.76 19 eP P 10 02 10.8 +0.1
comp=E,24nm,0.5s,mb5.1
LHS Liberty Hill 35.78 356 eP P 10 02 10.7 -0.2
CNNC Cliffs of the 36.43 360 eP P 10 02 16.8 +0.4
comp=E,173nm,0.5s,mb5.9
NATX Nacogdoches 36.66 335 eP P 10 02 18.1 -0.3
comp=E,16nm,0.8s,mb4.7
NATX ePcP PcP 10 04 37.5 +0.4
MYNC Murphy 36.75 351 eP P 10 02 18.8 -0.3
MYNC pmax pmax
comp=Z,63nm,1.2s,mb5.1
MYNC Murphy 36.75 351 eP P 10 02 18.8 -0.4
comp=Z,63nm,1.2s,mb5.1
CPCT Cooper Cave 37.18 351 *epP* pP 10 03 01.5 +0.1
OXF Oxford 37.35 344 eP P 10 02 22.9 -1.2
OXF *e*PP* pP 10 03 02.6 -0.2
OXF *e*SP* sP 10 03 18.0 -5.6
OXF *e* 10 04 39.0
OXF pmax pmax
comp=Z,16nm,0.5s,mb4.9
OXF Oxford 37.35 344 eP P 10 02 22.9 -1.3
comp=Z,16nm,0.5s,mb4.9
OXF *epP* pP 10 03 02.6 -0.2
OXF *esP* sP 10 03 18.0 -5.6
OXF *ePcP* PcP 10 04 39.0 -0.2
PLAL Pickwick Lake 37.45 346 eP P 10 02 23.4 -1.6
JCT Junction City 38.02 328 eP P 10 02 30.1 +0.3
JCT *e*PP* pP 10 03 10.4 +1.8
JCT *e* 10 04 41.7
JCT *e* 10 08 13.2
JCT pmax pmax
comp=Z,36nm,0.8s,mb5.0
JCT Junction City 38.02 328 eP P 10 02 30.1 +0.3
comp=Z,36nm,0.8s,mb5.0
JCT *epP* pP 10 03 10.4 +1.8
JCT *ePcP* PcP 10 04 41.7 +0.4
JCT *eScP* ScP 10 08 13.2 +1.7
TZTN Tazewell 38.11 352 eP P 10 02 30.0 -0.5
comp=Z,48nm,0.5s,mb5.4
BLA Blacksburg 38.48 357 eP P 10 02 33.7 +0.1
BLA *e*PP* pP 10 03 11.6 -0.8
BLA *e* 10 04 43.1
BLA *e* 10 08 14.4
BLA pmax pmax
comp=Z,105nm,1.0s,mb5.4
BLA Blacksburg 38.48 357 eP P 10 02 33.7 +0.1
comp=Z,105nm,1.0s,mb5.4
BLA *epP* pP 10 03 11.6 -0.8
BLA *ePcP* PcP 10 04 43.1 +0.4
BLA *eScP* ScP 10 08 14.4 +1.1
UALR University of 38.48 341 eP P 10 02 32.5 -1.2
comp=Z,19nm,0.6s,mb4.9
UALR *epP* pP 10 03 10.3 -2.2
UALR *ePcP* PcP 10 04 42.3 -0.5
WVT Waverly 38.48 347 eP P 10 02 31.5 -2.1
WVT *e*PP* pP 10 03 10.1 -2.4
WVT *e* 10 04 41.8
WVT pmax pmax
comp=Z,22nm,0.6s,mb5.0
WVT Waverly 38.48 347 eP P 10 02 31.5 -2.1
comp=Z,22nm,0.6s,mb5.0
WVT *epP* pP 10 03 10.1 -2.4
WVT *ePcP* PcP 10 04 41.8 -0.9
ELN Prospectdale 38.51 356 eP P 10 02 34.5 +0.6
ELN *epP* pP 10 03 12.9 +0.2
ELN *ePcP* PcP 10 04 42.4 -0.4
ELN *eScP* ScP 10 08 14.4 +1.0
FWV Forest Hill 38.87 356 eP P 10 02 37.1 +0.3
FWV *epP* pP 10 03 15.3 -0.4
FWV *eScP* ScP 10 08 15.9 +1.2
TRQA Tornquist 39.27 160⇓ *iP* **P 10 02 39.6 -0.6**
comp=Z,93nm,0.9s,mb5.4
TRQA *ePcP* PcP 10 04 45.5 +0.3
TXAR Lajitas Array 39.34 323 P P 10 02 40.8 +0.1
comp=Z,12nm,0.7s,mb4.7,baz=149,slow=8.3,SNR=193
TXAR pP pP 10 03 18.8 -0.9
comp=Z,4.3nm,0.7s,baz=185,slow=8.7,SNR=3.1
TXAR PcP PcP 10 04 46.0 +0.6
comp=Z,17nm,0.6s,baz=146,slow=6.7,SNR=22
TXAR ScP ScP 10 08 18.0 +1.4
comp=Z,3.2nm,0.8s,baz=150,slow=7.3,SNR=7.2
TXAR PKiKP PKiKP 10 11 56.0 -1.2
comp=Z,0.7nm,0.9s,baz=123,slow=4.6,SNR=3.8
TXAR LR LR 10 20 03.6
comp=Z,188nm,20.7s,baz=290,slow=38
TXAR Lajitas Array 39.34 323 P P 10 02 40.8 +0.1
TXAR pP pP 10 03 18.8 -0.9
TXAR PcP PcP 10 04 46.0 +0.6
TXAR ScP ScP 10 08 18.0 +1.4
CBN Corbin 39.39 0 eP P 10 02 41.9 +0.8
CAM4 Nova Friburgo 40.04 124⇓ *iP* **P 10 02 46.6 +0.1**
CAM4 *i* 10 02 49.1
CAM4 *i* 10 02 57.1
CAM4 *i* 10 02 57.1
CAM4 *i* 10 03 02.5
WCI Wyandotte Cave 40.20 350 eP P 10 02 46.1 -1.7
WCI *e*PP* pP 10 03 24.0 -2.9
WCI *e* 10 04 47.9
WCI pmax pmax
comp=Z,22nm,0.6s,mb5.0
WCI Wyandotte Cave 40.20 350 *eP* **P 10 02 46.1 -1.7**
comp=Z,22nm,0.6s,mb5.0
WCI *epP* pP 10 03 24.0 -2.9
WCI *ePcP* PcP 10 04 47.9 -0.3
USIN University of 40.21 348 *eP* **P 10 02 46.3 -1.6**
comp=Z,87nm,0.7s,mb5.5
SIUC Southern Illin 40.32 346 *eP* **P 10 02 47.2 -1.6**
comp=Z,71nm,0.7s,mb5.4
SIUC *ePcP* PcP 10 04 48.7 +0.1
MCWV Mont Chateau 40.88 358 *eP* **P 10 02 54.0 +0.6**
WMOK Wichita Mounta 40.99 333 *eP* **P 10 02 53.7 -0.6**
WMOK *e*PP* pP 10 03 33.9 +0.4
WMOK *e* 10 04 51.0
WMOK pmax pmax
comp=Z,27nm,0.9s,mb4.9
WMOK Wichita Mounta 40.99 333 *eP* **P 10 02 53.7 -0.6**
comp=Z,27nm,0.9s,mb4.9
WMOK *epP* pP 10 03 33.9 +0.3
WMOK *ePcP* PcP 10 04 51.0 +0.3
CAM3 Guarapari 41.09 121⇓ *iP* **P 10 02 55.2 +0.1**
CAM3 *i* 10 02 56.9
BLO Bloomington 41.15 350 *eP* **P 10 02 54.1 -1.5**
BLO *e* 10 04 51.1
BLO pmax pmax
comp=Z,71nm,0.6s,mb5.5
BLO Bloomington 41.15 350 *eP* **P 10 02 54.1 -1.6**
comp=Z,71nm,0.6s,mb5.5
BLO *ePcP* PcP 10 04 51.1 -0.2
CCM Cathedral Cave 41.18 344 *eP* **P 10 02 52.8 -3.0**
CCM *e* 10 04 50.4
CCM *eS* **S 10 08 50.5 -4.8**
CCM pmax pmax
comp=Z,27nm,0.6s,mb5.0
CCM Cathedral Cave 41.18 344 *eP* **P 10 02 52.8 -3.0**
comp=Z,27nm,0.6s,mb5.0
CCM *ePcP* PcP 10 04 50.4 -1.0
CCM *eScP* ScP 10 08 24.1 +0.3
CCM *eS* **S 10 08 50.5 -4.9**
MVL Millersville 41.20 2 *eP* **P 10 02 57.0 +1.1**
MVL *epP* pP 10 03 35.4 +0.1
SLM Saint Louis 41.45 345 *eP* **P 10 02 56.3 -1.8**
SLM *e*PP* pP 10 03 36.5 -0.9
SLM *e* 10 04 52.5
SLM pmax pmax
comp=Z,54nm,1.1s,mb5.1
SLM Saint Louis 41.45 345 *eP* **P 10 02 56.3 -1.8**
comp=Z,54nm,1.1s,mb5.1
SLM *epP* pP 10 03 36.5 -0.9
SLM *ePcP* PcP 10 04 52.5 +0.2
SSPA Standing Stone 41.81 360 *eP* **P 10 03 01.5 +0.5**
comp=Z,124nm,0.8s,mb5.6
SSPA *epP* pP 10 03 40.2 -0.2
GDL2 Guadalupe Moun 41.84 325 *eP* **P 10 03 02.0 +0.7**
BRNJ Basking Ridge 41.96 4 *eP* **P 10 03 03.3 +1.1**
RCBR Riachuelo 41.96 97 *eP* **P 10 03 02.2 0.0**
comp=Z,82nm,1.1s,mb5.3
MNTX Cornudas Mount 42.07 324 *eP* **P 10 03 02.8 -0.3**
comp=Z,52nm,0.9s,mb5.2
MNTX *epP* pP 10 03 43.3 +0.8
MNTX *esP* sP 10 04 01.5 -1.6
MNTX *ePcP* PcP 10 04 53.3 -1.1
MNTX *eScP* ScP 10 08 28.2 +0.9
CPNY Central Park 42.11 4 *eP* **P 10 03 03.8 +0.4**
PAL Palisades 42.33 4 *eP* **P 10 03 05.6 +0.5**
PAL pmax pmax
comp=Z,114nm,1.0s,mb5.5
PAL Palisades 42.33 4 *eP* **P 10 03 05.6 +0.4**
comp=Z,114nm,1.0s,mb5.5
AMTX Amarillo 42.48 330 *eP* **P 10 03 06.4 0.0**
comp=Z,112nm,0.8s,mb5.5
AMTX *epP* pP 10 03 46.0 +0.1
AMTX *esP* sP 10 04 08.6 +2.2
AMTX *ePcP* PcP 10 04 55.4 -0.3
AMTX *eScP* ScP 10 08 30.7 +1.7
ALLY Alegheny Colle 42.88 357 *eP* **P 10 03 09.4 -0.2**
BINY Binghamton 43.40 2 *eP* **P 10 03 14.6 +0.8**
comp=Z,254nm,0.8s,mb5.9
BINY *epP* pP 10 03 52.8 -0.7
BINY *ePcP* PcP 10 05 00.2 +1.4
QUA2 Belchertown 43.73 6 *eP* **P 10 03 16.6 +0.3**
comp=Z,198nm,1.2s,mb5.6
AAM Ann Arbor 43.81 354 *eP* **P 10 03 16.5 -0.5**
AAM pmax pmax
comp=Z,42nm,0.8s,mb5.1
AAM Ann Arbor 43.81 354 *eP* **P 10 03 16.5 -0.5**
comp=Z,42nm,0.8s,mb5.1
KSU1 Kansas State U 43.86 339 *eP* **P 10 03 16.6 -0.8**
comp=Z,34nm,0.7s,mb5.1
KSU1 *epP* pP 10 03 55.1 -2.0
WES Weston 43.94 7 *eP* **P 10 03 18.5 +0.4**
WES pmax pmax
comp=Z,96nm,0.7s,mb5.5
WES Weston 43.94 7 *eP* **P 10 03 18.5 +0.4**
comp=Z,96nm,0.7s,mb5.5
HRV Harvard--Oak R 44.04 7 *eP* **P 10 03 19.6 +0.8**
HRV pmax pmax
comp=Z,89nm,0.8s,mb5.5
HRV Harvard--Oak R 44.04 7 *eP* **P 10 03 19.6 +0.8**
comp=Z,89nm,0.8s,mb5.5
BNM Barren Site 44.56 325 *eP* **P 10 03 23.7 +0.7**
BNM *epP* pP 10 04 02.1 -0.8
BNM *ePcP* PcP 10 05 02.8 0.0
BNM *eScP* ScP 10 08 39.6 +2.1
Y22C IRIS PASSCAL I 44.67 325⇑ *P* **P 10 03 24.8 +0.9**
baz=45,SNR=6.2
LPM Los Pinos Moun 44.68 325 *eP* **P 10 03 24.5 +0.5**
LPM *epP* pP 10 04 05.1 +1.3
LPM *ePcP* PcP 10 05 03.6 +0.4
LPM *eScP* ScP 10 08 39.8 +1.8
ACCN Adirondack Com 44.71 4 *eP* **P 10 03 24.6 +0.4**
LENM Lemitar 44.77 325 *eP* **P 10 03 25.3 +0.6**
LENM *epP* pP 10 04 05.4 +0.9
LENM *ePcP* PcP 10 05 04.4 +1.0
LENM *eScP* ScP 10 08 40.1 +1.7
CBKS Cedar Bluff 44.83 335 *eP* **P 10 03 25.4 +0.3**
CBKS pmax pmax
comp=Z,100nm,0.8s,mb5.5
CBKS Cedar Bluff 44.83 335 *eP* **P 10 03 25.4 +0.3**
comp=Z,100nm,0.8s,mb5.5
FFD Franklin Falls 44.98 6 *eP* **P 10 03 27.3 +1.0**
comp=Z,201nm,1.1s,mb5.7
LAZ Ladron 45.04 325 *eP* **P 10 03 27.5 +0.7**
LAZ *epP* pP 10 04 05.3 -1.3
LAZ *ePcP* PcP 10 05 05.1 +0.7
ANMO Albuquerque 45.05 326 *d iP* **P 10 03 27.4 +0.5**
ANMO *i *PP* pP 10 04 06.4 -0.4
ANMO Albuquerque 45.05 326 *eP* **P 10 03 27.1 +0.2**
comp=Z,132nm,0.7s,mb5.7
ANMO *epP* pP 10 04 06.2 -0.6
ANMO *eScP* ScP 10 08 41.5 +1.9
HNH Hanover 45.15 6 *eP* **P 10 03 28.5 +0.9**
comp=Z,9.9nm,1.0s,mb4.4
NCB Newcomb 45.26 4 *eP* **P 10 03 29.0 +0.5**
comp=Z,130nm,1.0s,mb5.5
NCB *epP* pP 10 04 07.5 -0.9
SCIA State Center 45.31 344 *eP* **P 10 03 27.4 -1.5**
comp=Z,63nm,0.9s,mb5.2
SCIA *ePcP* PcP 10 05 05.7 +0.3
JFWS Jewell Farm 45.51 347 *eP* **P 10 03 28.6 -1.9**
JFWS *e* 10 05 05.5
JFWS pmax pmax
comp=Z,68nm,0.5s,mb5.5
JFWS Jewell Farm 45.51 347 *eP* **P 10 03 28.6 -1.9**
comp=Z,68nm,0.5s,mb5.5
JFWS *ePcP* PcP 10 05 05.5 -0.6
LBNH Lisbon 45.71 6 *eP* **P 10 03 32.9 +0.9**
LBNH pmax pmax
comp=Z,166nm,0.8s,mb5.7
LBNH Lisbon 45.71 6 *eP* **P 10 03 32.9 +0.9**
comp=Z,166nm,0.8s,mb5.7
TUC Tucson 45.83 320 *eP* **P 10 03 33.3 +0.3**
TUC pmax pmax
comp=Z,57nm,0.7s,mb5.3
TUC Tucson 45.83 320 *eP* **P 10 03 33.2 +0.3**
comp=Z,57nm,0.7s,mb5.3
LONY Lake Ozonia 45.88 3 *eP* **P 10 03 33.8 +0.4**
comp=Z,161nm,1.0s,mb5.6
FRNY Flat Rock 46.16 4 *eP* **P 10 03 36.2 +0.6**
FRNY *epP* pP 10 04 15.1 -0.5
MSNY Massena 46.24 3 *eP* **P 10 03 36.7 +0.5**
MSNY *epP* pP 10 04 16.2 -0.1
WVL Waterville 46.30 8 *eP* **P 10 03 37.6 +0.9**
116A Eloy 46.58 319 P **P 10 03 39.2 +0.4**
baz=47,SNR=103
SDCO Great Sand Dun 46.63 329 *eP* **P 10 03 40.2 +1.0**
comp=Z,115nm,0.6s,mb5.7
SDCO *epP* pP 10 04 21.7 +2.3
SDCO *ePcP* PcP 10 05 09.8 -0.2
SDCO *eScP* ScP 10 08 47.8 +1.7
115A Sonoran Desert 47.01 319⇑ P **P 10 03 42.7 +0.5**
baz=47,SNR=33
PKME Peaks-Kenny Pk 47.04 8 *eP* **P 10 03 43.0 +0.6**
comp=Z,201nm,0.6s,mb5.9
MVCO Mesa Verde 47.82 327 *eP* **P 10 03 48.4 0.0**
comp=Z,35nm,0.7s,mb5.1
MVCO *epP* pP 10 04 29.6 +0.8
MVCO *eScP* ScP 10 08 52.8 +1.7
MVCO Mesa Verde 47.82 327 P **P 10 03 48.8 +0.4**
baz=48,SNR=40
Z14A Wintersburg 47.90 319 P **P 10 03 49.5 +0.5**
baz=48,SNR=16
X15A Humboldt 48.16 321 P **P 10 03 51.7 +0.7**
baz=48,SNR=77
Y14A Wickenburg 48.30 320 P **P 10 03 52.4 +0.3**
baz=48,SNR=51
WUAZ Wupatki 48.31 323 *eP* **P 10 03 53.0 +0.9**
comp=Z,100nm,0.8s,mb5.5
WUAZ *epP* pP 10 04 32.8 +0.3
WUAZ *ePcP* PcP 10 05 16.4 +0.4
WUAZ *eScP* ScP 10 08 55.1 +1.9
WUAZ Wupatki 48.31 323⇑ P **P 10 03 52.9 +0.8**
baz=48,SNR=98
SMCO Snowmass 48.47 330 *eP* **P 10 03 54.2 +0.8**
comp=Z,38nm,0.8s,mb5.1
SMCO *epP* pP 10 04 35.5 +1.6
PV01 Paradox Valley 48.53 327 *eP* **P 10 03 54.3 +0.4**
PV01 *epP* pP 10 04 35.7 +1.4
PV01 *ePcP* PcP 10 05 17.5 +0.7
X14A Yava 48.56 321 P **P 10 03 54.9 +0.8**
baz=49,SNR=121
W15A Williams 48.63 322⇑ P **P 10 03 55.7 +1.1**
baz=49,SNR=24
Y13A Salome 48.75 319 P **P 10 03 56.0 +0.4**
baz=49,SNR=34
GLA Glamis 48.95 318 *eP* **P 10 03 57.3 +0.3**
GLA *e*PP* pP 10 04 38.2 +0.6
GLA *e* 10 05 18.3
GLA Glamis 48.95 318 *eP* **P 10 03 57.3 +0.2**
GLA *epP* pP 10 04 38.2 +0.6
GLA *ePcP* PcP 10 05 18.3 0.0
GLA *eScP* ScP 10 08 58.5 +2.6
GLA Glamis 48.95 318 P **P 10 03 57.3 +0.3**
baz=49,SNR=46
PV10 Paradox Valley 48.96 327 *eP* **P 10 03 56.7 -0.4**
PV10 *epP* pP 10 04 36.5 -1.1
PV10 *ePcP* PcP 10 05 18.4 0.0
W14A Seligman 49.16 321⇑ P **P 10 03 59.2 +0.6**
baz=49,SNR=22
Y12C Blythe 49.17 319⇑ P **P 10 03 58.8 +0.1**
baz=49,SNR=17
X13A Yucca 49.24 320 P **P 10 03 59.4 +0.2**
baz=49,SNR=30
PDMCI Parker Dam,Lak 49.26 320 P **P 10 03 59.4 +0.1**
baz=49,SNR=11
PHWY Pilot Hill 49.38 332 *eP* **P 10 04 00.6 +0.3**
PHWY *epP* pP 10 04 42.8 +1.9
SWSC Sam W. Stewart 49.54 317 P **P 10 04 01.8 +0.3**
baz=50,SNR=15
DVTC Desert V Tower 49.59 317⇑ P **P 10 04 02.2 +0.4**
baz=50,SNR=9.4
W13A Hualapai Mount 49.59 321 P **P 10 04 02.7 +0.8**
baz=50,SNR=129
BC3 Big Chuckw Mtn 49.73 318 P **P 10 04 03.3 +0.4**
baz=50,SNR=28
IRM Iron Mountain 49.83 319 P **P 10 04 04.1 +0.4**
baz=50,SNR=69
MONP Monument Peak 49.94 317 P **P 10 04 05.0 +0.5**
baz=50,SNR=18
BELC Belle Mtn. 50.30 318 P **P 10 04 07.7 +0.5**
baz=50,SNR=30
W12A Cal Nev Ari 50.35 320⇑ P **P 10 04 07.8 +0.2**
baz=50
PFO Pinyon Flat Ob 50.38 317 P **P 10 04 08.9 +1.1**
comp=Z,211nm,1.2s,mb5.6,SNR=11
PFO Pinyon Flat Ob 50.38 317 *eP* **P 10 04 08.0 +0.2**
PFO *e*PP* pP 10 04 49.6 +1.0
PFO *e* 10 05 23.7
PFO pmax pmax
comp=Z,41nm,1.0s,mb5.0
PFO Pinyon Flat Ob 50.38 317 *eP* **P 10 04 08.0 +0.2**
comp=Z,42nm,1.0s,mb5.0
PFO *epP* pP 10 04 49.6 +1.0
PFO *ePcP* PcP 10 05 23.7 +0.1
PFO Pinyon Flat Ob 50.38 317⇓ P **P 10 04 08.2 +0.4**
baz=50,SNR=14
109C Camp Elliot, M 50.41 316⇑ P **P 10 04 08.2 +0.1**
baz=50,SNR=17
RWWY Rawlins 50.51 331 *eP* **P 10 04 09.2 +0.4**
comp=Z,77nm,0.8s,mb5.4
RWWY *epP* pP 10 04 48.4 -1.1
RWWY *ePcP* PcP 10 05 24.1 0.0
EYMN Ely 50.57 348 *eP* **P 10 04 07.4 -1.9**
comp=Z,42nm,0.6s,mb5.2
EYMN *ePcP* PcP 10 05 24.0 -0.3
V12A Nelson 50.60 321 P **P 10 04 09.9 +0.4**
baz=51,SNR=82
U12A Valley of Fire 50.85 321 P **P 10 04 11.9 +0.6**
baz=51,SNR=11
MURC Murrieta 50.88 317⇑ P **P 10 04 11.9 +0.3**
baz=51,SNR=38
HEC Hector,Ludlow 51.01 319 P **P 10 04 13.5 +0.9**
baz=51,SNR=28
RSSD Black Hills 51.03 336 *eP* **P 10 04 13.1 +0.4**
RSSD *e*PP* pP 10 04 53.7 +0.1
RSSD *e* 10 05 25.6
RSSD pmax pmax
comp=Z,25nm,0.6s,mb5.0
RSSD Black Hills 51.03 336 *eP* **P 10 04 13.1 +0.4**
comp=Z,25nm,0.6s,mb5.0
RSSD *epP* pP 10 04 53.7 +0.1
RSSD *ePcP* PcP 10 05 25.6 -0.4
BBRC Big Bear Sol-O 51.07 318 P **P 10 04 14.2 +1.2**
baz=51,SNR=44
TUQ Turquoise Mtn. 51.11 320 P **P 10 04 13.7 +0.5**
baz=51,SNR=26
SHPR Sheep Range 51.28 321 *eP* **P 10 04 15.2 +0.6**
SCI San Clemente I 51.47 315⇓ P **P 10 04 15.8 -0.1**
baz=52,SNR=9.6
RRX Edison Barstow 51.49 318⇑ P **P 10 04 16.8 +0.8**
baz=52
BFSC Mount Baldy St 51.56 317 P **P 10 04 16.5 -0.1**
baz=52,SNR=30
CIS Catalina Islan 51.60 316⇓ P **P 10 04 17.1 +0.1**
baz=52,SNR=13
GSC Goldstone 51.61 319 *eP* **P 10 04 17.5 +0.5**
GSC *e*PP* pP 10 04 58.8 +0.9
GSC *e* 10 05 28.3
GSC Goldstone 51.61 319 P **P 10 04 17.6 +0.6**
baz=52,SNR=55
SHOC Shoshone 51.62 320 P **P 10 04 17.3 +0.2**
baz=52,SNR=48
FMP Fort Macarthur 51.69 316⇓ P **P 10 04 18.1 +0.5**
baz=52,SNR=7.8
MWC Mount Wilson 51.82 317 *eP* **P 10 04 19.0 +0.5**
AGMN Agassiz Refuge 51.93 345 *eP* **P 10 04 17.8 -1.5**
comp=Z,35nm,0.6s,mb5.2
AGMN *ePcP* PcP 10 05 28.7 -0.6
U10A Ash Meadows, A 51.97 320⇑ P **P 10 04 20.3 +0.6**
baz=52,SNR=46
DECC Green Verdugo 52.02 317⇑ P **P 10 04 20.6 +0.5**
baz=52,SNR=6.8
EDW2 Edwards Air Fo 52.15 318⇑ P **P 10 04 21.2 +0.2**
baz=52,SNR=95
LRMC Laurel Mountai 52.29 319 P **P 10 04 22.5 +0.5**
baz=52,SNR=49
SNCC San Nicolas Is 52.30 315⇓ P **P 10 04 21.9 -0.2**
baz=52
DUG Dugway 52.32 326 *eP* **P 10 04 22.8 +0.6**
DUG Dugway 52.32 326 P **P 10 04 22.9 +0.7**
baz=52,SNR=70
FURC Furnace Creek, 52.34 320 P **P 10 04 23.0 +0.6**
baz=52,SNR=80
BLG Laguna Peak 52.45 316⇑ P **P 10 04 23.3 +0.2**
baz=52,SNR=10
BW06 Boulder Array 52.46 331 *eP* **P 10 04 21.9 -1.3**
PDAR Pinedale Array 52.46 331 P **P 10 04 22.7 -0.5**
comp=Z,16nm,0.7s,mb4.8,baz=125,slow=9.1,SNR=130

PDAR pP pP 10 05 02.9 -1.5
comp=Z,3.3nm,0.7s,baz=145,slow=6.6,SNR=1.7
PDAR PcP PcP 10 05 30.7 -0.6
comp=Z,20nm,1.0s,baz=140,slow=5.0,SNR=11
PDAR ScP ScP 10 09 10.2 -0.8
comp=Z,2.4nm,1.0s,baz=134,slow=4.3,SNR=6.0
PDAR PKPPKP 10 34 50.4
comp=Z,0.6nm,0.8s,baz=219,slow=0.9,SNR=3.9
OSI Osito Adit 52.49 317 ⇑P P 10 04 23.6 +0.1
baz=53
MPMC Manual Prospec 52.50 319 P P 10 04 23.7 +0.2
baz=53,SNR=18
HWUT Hardware Ranch 52.63 328 eP P 10 04 24.3 -0.2
comp=Z,97nm,0.6s,mb5.7
HWUT epP pP 10 05 06.2 +0.6
HWUT ePcP PcP 10 05 32.0 0.0
DAC Darwin (Calif) 52.70 319 eP P 10 04 25.1 +0.1
Q12A Willow Creek R 52.70 324 ⇑P P 10 04 25.5 +0.5
baz=53,SNR=47
TRCR Troy Canyon 52.71 323 eP P 10 04 25.8 +0.7
TRCR epP pP 10 05 07.3 +1.2
TRCR ePcP PcP 10 05 32.5 +0.2
BSC Santa Cruz Isl 52.78 316 ⇑P P 10 04 25.6 0.0
baz=53,SNR=5.7
EFI East Falkland 52.78 165 P P 10 04 25.8 +0.2
comp=Z,2μm,0.7s,SNR=32
EFI East Falkland 52.78 165 eP P 10 04 25.6 0.0
EFI pmax pmax
comp=Z,189nm,0.6s,mb6.0
EFI East Falkland 52.78 165 eP P 10 04 25.6 0.0
comp=Z,189nm,0.6s,mb6.0
ARVC Arvin 52.85 317 P P 10 04 26.5 +0.3
baz=53,SNR=35
ISA Isabella 52.92 318 eP P 10 04 26.8 +0.1
comp=Z,0.1nm,1.0s
ISA epP pP 10 05 08.8 +1.0
ISA ePcP PcP 10 05 33.3 +0.2
ISA Isabella 52.92 318 P P 10 04 27.2 +0.5
baz=53,SNR=44
GRAC Grapevine Rang 52.99 320 ⇓P P 10 04 27.8 +0.7
baz=53,SNR=7.8
P12A McGill 53.03 324 P P 10 04 28.2 +0.8
baz=53,SNR=52
Q11A Duckwater 53.07 323 P P 10 04 28.3 +0.6
baz=53,SNR=144
SBC Santa Barbara 53.08 316 ⇑P P 10 04 27.7 0.0
baz=53
R10A Warm Springs 53.11 322 P P 10 04 29.2 +1.2
baz=53,SNR=40
CWC Cottonwood Cre 53.11 319 ⇑P P 10 04 28.6 +0.5
baz=53,SNR=16
AHID Auburn Hatcher 53.23 330 eP P 10 04 28.4 -0.5
comp=Z,51nm,0.7s,mb5.4
S09A Goldfield 53.33 321 P P 10 04 30.0 +0.3
baz=54,SNR=52
PKM Peak Mountain 53.40 317 P P 10 04 30.5 +0.3
baz=54,SNR=36
VES Vestal, Richgr 53.43 318 ⇓P P 10 04 30.6 +0.3
baz=54,SNR=30
O12A Currie 53.46 325 P P 10 04 31.1 +0.5
baz=54,SNR=130
REDW Red Top Meadow 53.54 330 eP P 10 04 31.1 -0.1
comp=Z,50nm,0.9s,mb5.2
REDW epP pP 10 05 13.4 +1.1
N13A Wendover, West 53.54 326 P P 10 04 31.5 +0.3
baz=54,SNR=36
TPH Tonopah 53.55 321 eP P 10 04 31.6 +0.4
TPH e*PP pP 10 05 13.6 +1.2
TPH e 10 05 35.5
TPH pmax pmax
comp=Z,57nm,0.9s,mb5.3
TPH Tonopah 53.55 321 eP P 10 04 31.6 +0.5
comp=Z,57nm,0.9s,mb5.3
TPH epP pP 10 05 13.6 +1.2
TPH ePcP PcP 10 05 35.5 +0.1
R09A Tonopah 53.55 322 P P 10 04 31.6 +0.4
baz=54,SNR=67
SNOW Snow King Moun 53.56 330 eP P 10 04 31.4 +0.1
TIN Tinemaha 53.57 320 ⇓P P 10 04 31.8 +0.4
baz=54
P11A Circle Ranch, 53.58 324 ⇓P P 10 04 31.7 +0.3
baz=54,SNR=7.7
LOHW Long Hollow 53.60 331 eP P 10 04 31.4 -0.2
comp=Z,38nm,0.7s,mb5.2
LOHW epP pP 10 05 13.0 +0.2
LOHW ePcP PcP 10 05 35.8 +0.1
LOHW eScP ScP 10 09 16.4 +0.4
TPAW Teton Pass 53.68 330 eP P 10 04 32.1 -0.1
ULM Lac du Bonnet 53.73 346 P P 10 04 30.6 -1.9
comp=Z,20nm,0.5s,mb5.1,baz=159,slow=7.6,SNR=48
ULM PcP PcP 10 05 35.1 -1.0
comp=Z,16nm,0.5s,baz=150,slow=4.3,SNR=6.6
ULM Lac du Bonnet 53.73 346 eP P 10 04 30.6 -1.9
comp=Z,25nm,0.5s,mb5.2
ULM ePcP PcP 10 05 35.0 -1.1
RRI2 Red Ridge 53.76 330 eP P 10 04 32.8 +0.1
MOOW Moose Ponds 53.77 331 eP P 10 04 32.5 -0.3
S08C White Mtn Res 53.80 320 ⇑P P 10 04 34.0 +1.0
baz=54,SNR=93
RCTC Rector, Farmer 53.80 318 ⇓P P 10 04 32.7 -0.4
baz=54,SNR=18
USHA Ushuaia 53.82 173 P P 10 04 33.4 +0.2
comp=Z,144nm,0.8s,mb5.8,baz=337,slow=5.4,SNR=60
M13A Montello 53.86 326 P P 10 04 33.2 -0.2
baz=54,SNR=32
HELL Mitchell Peak, 53.87 319 ⇓P P 10 04 33.8 +0.2
baz=54,SNR=90
DCID1 Drake Creek 53.87 330 eP P 10 04 33.7 +0.1
DCID1 ePcP PcP 10 05 37.1 +0.4
O11A Cowboy Ranch, 53.90 324 P P 10 04 34.2 +0.5
baz=54,SNR=45
MTUM Tungsten Hills 53.96 320 eP P 10 04 34.7 +0.5
MTUM epP pP 10 05 16.8 +1.3
IMW Indian Meadow 53.97 331 eP P 10 04 34.2 -0.1
comp=Z,54nm,0.6s,mb5.5
IMW epP pP 10 05 16.9 +1.3
IMW ePcP PcP 10 05 37.1 0.0
IMW eScP ScP 10 09 18.6 +1.0
Q09A Carvers 53.99 322 ⇑P P 10 04 35.1 +0.7
baz=54,SNR=5.6
FLWY Flagg Ranch 53.99 331 eP P 10 04 34.6 +0.2
comp=Z,107nm,0.9s,mb5.6
FLWY epP pP 10 05 16.9 +1.2
V05C Boulder Hill, 53.99 318 ⇓P P 10 04 34.8 +0.3
baz=54
N12A Clover Valley, 54.01 325 ⇑P P 10 04 34.5 -0.1
baz=54,SNR=22
LAO LASA Array 54.02 336 eP P 10 04 33.7 -0.9
comp=Z,22nm,0.8s,mb4.9
LAO epP pP 10 05 14.9 -1.0
LAO eSP sP 10 05 36.5 +0.5
P10A Eureka 54.04 323 P P 10 04 35.6 +0.8
baz=54,SNR=25
ELK Elko 54.05 325 eP P 10 04 35.1 +0.2
ELK e*PP pP 10 05 16.4 +0.2
ELK e*SP sP 10 05 37.4 +1.1
ELK pmax pmax
comp=Z,29nm,0.8s
ELK Elko 54.05 325 eP P 10 04 35.1 +0.2
comp=Z,28nm,0.8s,mb5.0
ELK epP pP 10 05 16.4 +0.2
ELK eSP sP 10 05 37.4 +1.1
PTRM Twissleman Ran 54.09 317 eP P 10 04 35.4 +0.3
PTRM epP pP 10 05 17.2 +0.8
RLMT Red Lodge 54.10 333 eP P 10 04 34.5 -0.7
comp=Z,33nm,0.7s,mb5.2
LKWY Lake 54.21 332 eP P 10 04 36.6 +0.6
LKWY pmax pmax
comp=Z,25nm,0.7s,mb5.0
LKWY Lake 54.21 332 eP P 10 04 36.6 +0.6
comp=Z,25nm,0.7s,mb5.0
R08A Mina 54.26 321 ⇓P P 10 04 37.0 +0.6
baz=54,SNR=12
MLAC Mammoth Lakes 54.30 320 ⇑P P 10 04 37.1 +0.4
baz=54,SNR=12
M12A Wells 54.32 326 P P 10 04 36.5 -0.3
baz=54,SNR=61
N11A Elko Archery C 54.39 325 ⇑P P 10 04 37.3 +0.1
baz=54,SNR=24
U05C Westside ANR, 54.40 318 ⇓P P 10 04 37.1 -0.3
baz=54
P09A Austin 54.41 323 ⇑P P 10 04 37.8 +0.4
baz=54,SNR=23
KCC Kaiser Creek 54.43 319 ⇑P P 10 04 37.2 -0.4
baz=54,SNR=16
NVAR Mina Array Bea 54.44 321 P P 10 04 37.2 -0.4
comp=Z,20nm,0.6s,mb5.0,baz=125,slow=8.3,SNR=161
NVAR pP pP 10 05 18.5 -0.5
comp=Z,11nm,0.9s,baz=118,slow=9.4,SNR=2.5
NVAR PcP PcP 10 05 39.0 +0.1
comp=Z,18nm,0.7s,baz=131,slow=4.4,SNR=11
NVAR PKPPKP 10 34 43.8
comp=Z,0.4nm,0.7s,baz=261,slow=3.5,SNR=3.9
NVAR Mina Array Bea 54.44 321 P P 10 04 37.2 -0.4
NVAR pP pP 10 05 18.5 -0.5
NVAR PcP PcP 10 05 39.0 +0.1
NVAR P'P' 10 34 43.8
Q08A Gabbs 54.47 322 ⇓P P 10 04 38.1 +0.3
baz=55
PKD Parkfield 54.47 317 ⇑P P 10 04 37.5 -0.4
baz=55,SNR=15
O10A Cortez Mining, 54.49 324 P P 10 04 38.7 +0.7
baz=55,SNR=59
T06C Millerton Lake 54.51 319 P P 10 04 36.8 -1.4
baz=55,SNR=17
V04C Ramage Ranch, 54.52 317 ⇑P P 10 04 38.5 +0.2
baz=55,SNR=12
R07C Lee Vining 54.70 320 ⇑P P 10 04 40.2 +0.6
baz=55,SNR=12
DGMT Dagmar 54.71 339 eP P 10 04 39.3 -0.3
comp=Z,21nm,0.6s,mb5.0
DGMT ePcP PcP 10 05 39.8 -0.2
N10A Dunphy 54.77 324 ⇑P P 10 04 39.8 -0.2
baz=55,SNR=5.9
GCMT Greycliff 54.79 333 eP P 10 04 40.3 +0.1
GCMT epP pP 10 05 21.6 0.0
M11A Holland Ranch, 54.82 325 ⇑P P 10 04 40.3 -0.1
baz=55,SNR=25
O09A Fish Creek Ran 54.82 323 ⇑P P 10 04 40.8 +0.3
baz=55,SNR=68
U04C Hernandez Rese 54.86 318 ⇓P P 10 04 40.6 -0.1
baz=55,SNR=42
QLMT Earthquake Lak 54.90 331 eP P 10 04 41.5 +0.6
QLMT epP pP 10 05 23.4 +1.1
V03C Hunter Liggett 54.98 317 P P 10 04 42.0 +0.5
baz=55,SNR=18
BMN Battle Mountai 55.01 324 eP P 10 04 41.5 -0.2
BMN pmax pmax
comp=Z,67nm,0.8s,mb5.4
BMN Battle Mountai 55.01 324 eP P 10 04 41.5 -0.3
comp=Z,67nm,0.8s,mb5.4
LRV Little Rabbit 55.05 318 eP P 10 04 42.6 +0.5
LRV epP pP 10 05 24.9 +1.4
Q07A Schurz 55.06 321 ⇓P P 10 04 42.5 +0.4
baz=55
P08A Dixie Valley 55.06 322 ⇑P P 10 04 42.6 +0.4
baz=55,SNR=30
T05C Eagle Field, D 55.08 318 ⇓P P 10 04 42.2 -0.1
baz=55
S06C San Francisco 55.10 320 ⇑P P 10 04 42.5 +0.1
baz=55,SNR=66
S05C Merced 55.11 319 P P 10 04 42.4 -0.1
baz=55,SNR=45
WAKR Walker 55.20 321 eP P 10 04 43.7 +0.6
R06C Coleville 55.22 321 ⇑P P 10 04 43.9 +0.7
baz=55,SNR=39
M10A I.L. Ranch, Tu 55.31 325 P P 10 04 43.9 0.0
baz=55,SNR=14
HAST UC Hastings Re 55.40 317 P P 10 04 44.6 +0.1
baz=56,SNR=27
N09A Rock Creek Ran 55.45 324 P P 10 04 44.6 -0.3
baz=56,SNR=49
P07A Fallon 55.47 322 ⇑P P 10 04 45.5 +0.5
baz=56,SNR=11
O08A Rochester Mine 55.48 323 ⇑P P 10 04 44.9 -0.1
baz=56
HLID Hailey 55.50 328 ⇓P P 10 04 45.5 +0.2
comp=Z,41nm,0.7s,mb5.4
HLID epP pP 10 05 26.4 -0.4
HLID ePcP PcP 10 05 43.1 +0.2
HLID Hailey 55.50 328 ⇑P P 10 04 45.5 +0.3
baz=56,SNR=83
SAO San Andreas Ge 55.53 318 eP P 10 04 45.2 -0.3
SAO e*PP pP 10 05 26.9 -0.1
SAO e 10 05 42.8
SAO pmax pmax
comp=Z,16nm,0.8s,mb4.9
SAO San Andreas Ge 55.53 318 eP P 10 04 45.2 -0.3
comp=Z,16nm,0.8s,mb4.9
SAO epP pP 10 05 26.9 -0.1
SAO ePcP PcP 10 05 42.8 -0.3
CMB Columbia Colle 55.53 320 eP P 10 04 45.1 -0.4
CMB e 10 05 43.0
CMB pmax pmax
comp=Z,13nm,0.7s,mb4.9
CMB Columbia Colle 55.53 320 eP P 10 04 45.1 -0.4
comp=Z,13nm,0.7s,mb4.9
CMB ePcP PcP 10 05 43.0 -0.2
CMB Columbia Colle 55.53 320 ⇑P P 10 04 45.3 -0.2
baz=56,SNR=19
PACP Pacheco Peak 55.55 318 P P 10 04 45.8 +0.2
baz=56,SNR=25
MCMT McKenzie Canyo 55.59 330 eP P 10 04 46.1 +0.3
MCMT eScP ScP 10 09 26.4 +1.6
R05C Kirkwood Meado 55.72 320 P P 10 04 47.6 +0.8
baz=56,SNR=52
N08A GE Springer Mi 55.77 323 ⇓P P 10 04 46.2 -1.0
baz=56,SNR=28
M09A Marrel Ranch, 55.77 324 ⇓P P 10 04 46.9 -0.3
baz=56,SNR=6.6
O07A Toulon 55.84 322 ⇓P P 10 04 47.3 -0.4
baz=56,SNR=32
DLMT Dillon 55.85 331 eP P 10 04 47.4 -0.3
comp=Z,34nm,0.9s,mb5.2
DLMT eScP ScP 10 09 27.0 +1.1
S04C Ingram Canyon, 55.85 318 ⇓P P 10 04 47.6 -0.2
baz=56,SNR=14
WCN Washoe City 55.87 321 ⇓P P 10 04 48.6 +0.7
baz=56,SNR=22
PAHR Pah Rah Range 55.87 322 eP P 10 04 48.3 +0.4
R04C Big Horse Ranc 56.02 319 P P 10 04 49.6 +0.7
baz=56,SNR=121
LRM Limekiln Ridge 56.11 331 eP P 10 04 49.4 -0.2
LAVA Lava Cap Winer 56.17 320 ⇑P P 10 04 50.0 0.0
baz=56,SNR=23
P06A Stead Airport, 56.18 321 ⇓P P 10 04 50.6 +0.5
baz=56,SNR=22
WENL Wente Brothers 56.20 318 ⇑P P 10 04 50.9 +0.6
baz=56,SNR=10
BNLO Ben Lomond (Sa 56.22 318 ⇑P P 10 04 50.2 -0.1
baz=56,SNR=8.3
N07B Gerlach 56.27 323 ⇑P P 10 04 50.0 -0.7
baz=56,SNR=16
L09A Wilkinson Ranc 56.27 325 ⇓P P 10 04 50.8 +0.1
baz=56,SNR=58
M08A Happy Creek Ra 56.33 324 ⇑P P 10 04 50.9 -0.2
baz=56,SNR=54
P05C Yuba Gap, Truc 56.40 321 ⇓P P 10 04 52.2 +0.5
baz=56,SNR=60
JRSC Jasper Ridge 56.41 318 ⇑P P 10 04 51.6 -0.1
baz=56,SNR=5.1
BDM Black Diamond 56.46 319 ⇑P P 10 04 52.8 +0.7
baz=57,SNR=15
EGMT Eagleton 56.55 335 eP P 10 04 52.3 -0.3
comp=Z,35nm,0.9s,mb5.2
EGMT epP pP 10 05 34.9 +0.6
EGMT Eagleton 56.55 335 ⇑P P 10 04 52.2 -0.4
baz=57,SNR=11
BEKR Beckwourth 56.57 321 P P 10 04 53.3 +0.5
baz=57,SNR=73
SAC San Andreas 56.62 318 eP P 10 04 53.5 +0.3
Q04C Lincoln 56.63 320 P P 10 04 54.2 +0.9
baz=57,SNR=59
E15A Deer Lodge 56.64 332 ⇓P P 10 04 53.1 -0.3
baz=57,SNR=12
SCHQ Schefferville 56.73 8 P P 10 04 53.6 -0.4
comp=Z,44nm,0.6s,mb5.5,baz=203,slow=4.9,SNR=80
SCHQ Schefferville 56.73 8 eP P 10 04 53.6 -0.4
comp=Z,70nm,0.9s,mb5.5
K09A Rome 56.74 325 P P 10 04 54.5 +0.5
baz=57,SNR=351
M07A Soldier Meadow 56.76 323 P P 10 04 53.8 -0.4
baz=57,SNR=39
L08A Fields 56.77 325 P P 10 04 54.2 0.0
baz=57,SNR=184
N06A Buffalo Meadow 56.77 322 P P 10 04 54.2 -0.1
baz=57,SNR=94
Q03C Winters 56.93 319 ⇓P P 10 04 56.0 +0.6
baz=57,SNR=21
O05C Quincy 56.98 321 P P 10 04 56.4 +0.7
baz=57,SNR=36
OHCM Honcut 56.98 320 eP P 10 04 55.8 0.0
F13A Darby 57.01 330 P P 10 04 55.6 -0.3
baz=57,SNR=46
D15A Lincoln 57.04 332 P P 10 04 56.1 0.0
baz=57,SNR=12
E14A Clinton 57.04 331 ⇓P P 10 04 56.0 -0.1
baz=57,SNR=34
CVS Carmenet Viney 57.06 319 ⇑P P 10 04 56.1 -0.2
baz=57,SNR=15
FARB Farallon Islan 57.08 318 ⇓P P 10 04 56.2 -0.2
baz=57,SNR=7.2
WVOR Wild Horse Val 57.09 325 eP P 10 04 56.3 -0.2
WVOR pmax pmax
comp=Z,141nm,1.0s,mb5.8
WVOR Wild Horse Val 57.09 325 eP P 10 04 56.3 -0.2
comp=Z,141nm,1.0s,mb5.8
ORV Oroville 57.11 320 P P 10 04 57.0 +0.4
baz=57,SNR=293
SUTB Sutter Butte 57.11 320 ⇑P P 10 04 56.6 -0.1
baz=57,SNR=26
J09A Fry Pan Ranch, 57.17 326 P P 10 04 57.0 -0.1
baz=57,SNR=158
K08A Mann Creek Ran 57.19 325 P P 10 04 57.2 0.0
baz=57,SNR=185
MCCM Marconi Confer 57.23 318 ⇓P P 10 04 57.2 -0.3
baz=57,SNR=11
L07A Adell 57.24 324 P P 10 04 57.5 -0.1
baz=57,SNR=55
NSHM Saint Helena R 57.26 319 eP P 10 04 58.3 +0.7
CHMT Chamberlain Mo 57.29 332 eP P 10 04 57.3 -0.6
O04C Chester 57.29 321 P P 10 04 58.3 +0.4
baz=57,SNR=112
MNRC McLaughlin Nat 57.34 319 ⇑P P 10 04 58.5 +0.3
baz=58,SNR=18
E13A Victor 57.40 331 ⇑P P 10 04 58.5 -0.1
baz=58,SNR=21
M06C Likely Place G 57.43 323 P P 10 04 59.0 0.0
baz=58,SNR=44
D14A Greenough 57.53 332 ⇓P P 10 04 59.0 -0.6
baz=58,SNR=7.9
MSO Missoula 57.56 331 eP P 10 04 59.7 -0.1
I09A Lost Marbles R 57.57 327 P P 10 04 59.4 -0.4
baz=58,SNR=96
J08A Circle Bar Ran 57.58 326 P P 10 04 59.7 -0.2
baz=58,SNR=85
K07A Rock Creek Ran 57.60 325 ⇑P P 10 04 59.5 -0.6
baz=58,SNR=28
O03C Acorn Hollow, 57.70 321 ⇓P P 10 04 59.8 -1.0
baz=58,SNR=10.0
MOD Modoc 57.74 323 eP P 10 05 00.7 -0.4
MOD Modoc 57.74 323 ⇓P P 10 05 00.3 -0.7
baz=58,SNR=19
HATC Hat Creek Radi 57.81 322 ⇑P P 10 05 01.4 -0.1
baz=58,SNR=26
HOPS Hopland 57.82 319 eP P 10 05 01.7 +0.1
HOPS Hopland 57.82 319 ⇓P P 10 05 01.7 +0.1
baz=58,SNR=7.0
BMO Blue Mountains 57.91 328 eP P 10 05 01.0 -1.2
comp=Z,25nm,1.0s,mb5.0
BMO ePcP PcP 10 05 52.5 +0.1
M05C Lookout 57.93 322 ⇓P P 10 05 02.3 -0.1
baz=58,SNR=47
GASB Alder Springs 57.95 320 ⇓P P 10 05 02.8 +0.3
baz=58,SNR=59
H09A Durkee 57.98 327 P P 10 05 01.9 -0.8
baz=58,SNR=28
I08A Drewsey 57.99 326 P P 10 05 02.3 -0.4
baz=58,SNR=24
D13A Huson 57.99 331 P P 10 05 02.8 -0.1
baz=58,SNR=34
J07A Hines 58.06 325 P P 10 05 02.8 -0.5
baz=58,SNR=28
C14A Swan Lake 58.14 332 P P 10 05 04.1 +0.3
baz=58,SNR=20
L05A Lakeview 58.15 323 P P 10 05 04.3 +0.4
baz=58,SNR=44
P01C Double 8 Ranch 58.25 319 ⇓P P 10 05 05.1 +0.5
baz=58,SNR=14
K06A Valley Falls 58.26 324 P P 10 05 04.3 -0.3
baz=58,SNR=17
O02C Red Bluff 58.28 320 ⇑P P 10 05 03.6 -1.2
baz=58,SNR=27
WDC Whiskeytown Da 58.35 321 eP P 10 05 03.0 -2.3
WDC e*PP pP 10 05 49.1 +1.9
WDC pmax pmax
comp=Z,45nm,0.7s,mb5.4
WDC Whiskeytown Da 58.35 321 eP P 10 05 03.0 -2.3
comp=Z,45nm,0.7s,mb5.4
WDC epP pP 10 05 49.1 +1.9
WDC Whiskeytown Da 58.35 321 ⇓P P 10 05 03.2 -2.1
baz=58,SNR=41
H08A Prairie City 58.43 327 P P 10 05 05.6 -0.2
baz=59,SNR=179
C13A Hot Springs 58.47 332 ⇑P P 10 05 06.0 0.0
baz=59,SNR=22
M03C McCloud 58.48 322 ⇓P P 10 05 05.5 -0.7
baz=59,SNR=37
KCPM Cahto Peak 58.53 320 eP P 10 05 07.0 +0.6
KCPM epP pP 10 05 49.5 +1.1
KCPM ePcP PcP 10 05 55.4 +0.5
KIPM Iron Peak 58.53 320 eP P 10 05 06.8 +0.3
K05A Summer Lake 58.59 324 ⇓P P 10 05 07.4 +0.5
baz=59,SNR=48
M04C Macdoel 58.60 322 P P 10 05 07.0 0.0
baz=59,SNR=48
F10A Beach Ranch, E 58.61 329 P P 10 05 06.9 -0.2
baz=59,SNR=79
I07A Izee 58.62 326 P P 10 05 07.2 +0.1
baz=59,SNR=111
BSMT Bassoo Peak 58.69 332 eP P 10 05 07.5 -0.1
F09A S2 Ranch, Elgi 58.79 328 ⇓P P 10 05 08.6 +0.3
baz=59,SNR=155
L04A Klamath Falls 58.86 323 ⇑P P 10 05 08.6 -0.2
baz=59,SNR=12
B13A Whitefish 58.91 332 P P 10 05 09.2 +0.1
baz=59,SNR=21
C12A Trout Creek 58.92 331 P P 10 05 09.4 +0.3
baz=59,SNR=100
O01C Eel River Cons 58.92 320 ⇓P P 10 05 09.6 +0.4
baz=59,SNR=5.7
I06A Prineville 58.93 325 P P 10 05 09.8 +0.5
baz=59,SNR=179
N02C Big Bar 58.97 321 ⇓P P 10 05 09.2 -0.4
baz=59,SNR=33
H07A Lands Inn, Kim 58.97 326 P P 10 05 09.5 -0.1
baz=59,SNR=126
M02C Callahan 59.00 322 ⇑P P 10 05 08.5 -1.2
baz=59,SNR=14
K04A Chilquin 59.02 323 P P 10 05 10.0 +0.1
baz=59,SNR=14
G08A Pilot Rock 59.08 327 P P 10 05 10.5 +0.2
baz=59,SNR=176
YBH Yreka Blue Hor 59.11 322 eP P 10 05 09.0 -1.5
YBH e pP 10 05 55.5 +3.0
YBH pmax pmax
comp=Z,38nm,0.8s
YBH Yreka Blue Hor 59.11 322 eP P 10 05 09.0 -1.5
comp=Z,38nm,0.8s,mb5.3
YBH ePcP PcP 10 05 55.5 -1.6
YBH Yreka Blue Hor 59.11 322 P P 10 05 09.1 -1.4
baz=59,SNR=22
J05A Fort Rock 59.12 324 P P 10 05 10.9 +0.3
baz=59,SNR=147
WALA Waterton Lakes 59.15 333 eP P 10 05 10.4 -0.4
comp=Z,38nm,0.8s,mb5.3
WALA epP pP 10 05 53.7 +0.9
KHMM Horse Mountain 59.27 321 eP P 10 05 11.9 +0.4
KHMM epP pP 10 05 53.9 +0.2
A13A Flathead Natio 59.29 333 ⇑P P 10 05 11.9 +0.1
baz=59,SNR=43
FFC Flin Flon 59.38 344 eP P 10 05 12.4 0.0
FFC e*PP pP 10 05 52.8 -1.6
FFC pmax pmax
comp=Z,18nm,1.0s,mb4.9
FFC Flin Flon 59.38 344 eP P 10 05 12.4 0.0
comp=Z,18nm,1.0s,mb4.9
FFC epP pP 10 05 52.8 -1.6
JCC Jacoby Creek 59.43 320 ⇓P P 10 05 12.8 +0.2
baz=60,SNR=6.6
E09A Wood Farm, Sta 59.44 329 ⇑P P 10 05 12.5 -0.3
baz=60
G07A Ruggs Ranch, H 59.45 327 ⇓P P 10 05 13.1 +0.2
baz=60
H06A Lindquist Farm 59.49 326 ⇓P P 10 05 13.5 +0.4
baz=60
B12A Libby 59.51 332 ⇑P P 10 05 13.4 +0.2
baz=60,SNR=19
RKT Rikitea 59.52 244 eP P 10 05 12.9 -0.4
comp=Z,196nm,0.9s,mb6.0

RKT **Rikitea** 59.52 244 *e*P P 10 05 12.9 -0.4
RKT pmax pmax
comp=Z,196nm,0.9s,mb5.9
KRMB **Red Mountain** 59.73 321 *e*P P 10 05 14.8 0.0
KRMB *e*pP pP 10 05 56.7 -0.2
HUMO **Hull Mountain** 59.75 323 *e*P P 10 05 13.2 -1.7
comp=Z,11nm,0.5s,mb4.9
HUMO **Hull Mountain** 59.75 323 P P 10 05 13.5 -1.4
baz=60,SNR=8.6
B11A **Sandpoint** 59.85 331 P P 10 05 15.6 0.0
baz=60,SNR=24
A12A **Yaak River Ran** 59.86 332 P P 10 05 16.1 +0.4
baz=60,SNR=17
C10A **Spilker Farm,** 59.89 330 ⇓P P 10 05 15.6 -0.3
baz=60,SNR=12
D09A **Jones Farm, Ri** 59.89 329 P P 10 05 15.6 -0.3
baz=60,SNR=46
L02A **Cave Junction** 59.90 322 ⇓P P 10 05 15.4 -0.5
baz=60,SNR=11
H05A **Madras** 59.94 325 ⇓P P 10 05 16.7 +0.5
baz=60,SNR=20
G06A **Carlson Farm,** 59.97 326 ⇑P P 10 05 17.1 +0.8
baz=60,SNR=58
F07A **Phinny Hill Vi** 59.99 327 ⇓P P 10 05 16.8 +0.2
baz=60,SNR=35
M01C **Crescent City** 60.05 321 ⇑P P 10 05 17.1 +0.2
baz=60,SNR=5.3
HBO **Huckleberry Mo** 60.09 324 P P 10 05 16.9 -0.3
HAWA **Hanford** 60.09 328 ⇓*i*P P 10 05 16.9 -0.4
comp=Z,54nm,0.6s,mb5.5
NEW **Newport** 60.10 331 ⇓*i*P P 10 05 16.8 -0.5
NEW *e**PP pP 10 05 58.5 -0.9
NEW pmax pmax
comp=Z,52nm,0.8s
NEW **Newport** 60.10 331 ⇓*i*P P 10 05 16.8 -0.5
comp=Z,52nm,0.8s,mb5.4
NEW *e*pP pP 10 05 58.5 -0.9
K02A **Glendale** 60.17 323 ⇑P P 10 05 17.3 -0.5
baz=60,SNR=36
B10A **Chitwood Farm,** 60.18 331 ⇑P P 10 05 17.4 -0.4
baz=60,SNR=8.0
J03A **Ideyld Park** 60.20 323 P P 10 05 16.8 -1.1
baz=60,SNR=9.1
D08A **Wollman Farm,** 60.20 329 P P 10 05 17.9 -0.1
baz=60,SNR=21
A11A **Hall Mountain,** 60.21 332 ⇓P P 10 05 18.2 +0.2
baz=60,SNR=19
KBO **Bosley Butte** 60.31 322 *e*P P 10 05 19.2 +0.5
OD2 **Odessa Site #2** 60.31 329 P P 10 05 18.6 -0.1
G05A **Wamic** 60.35 326 ⇑P P 10 05 19.8 +0.8
baz=60,SNR=60
C09A **Chrisman Ranch** 60.36 330 ⇑P P 10 05 19.2 +0.1
baz=60
E07A **Sunnyside** 60.37 328 ⇓P P 10 05 19.2 +0.1
baz=60,SNR=29
F06A **Goldendale** 60.38 327 ⇑P P 10 05 20.0 +0.8
baz=60
H04A **Detroit Lake** 60.51 325 ⇑P P 10 05 19.6 -0.5
baz=61,SNR=36
J02A **Umpqua** 60.56 323 ⇓P P 10 05 20.5 +0.1
baz=61,SNR=34
HOOD **Mount Hood Mea** 60.59 326 *e*P P 10 05 21.2 +0.7
B09A **Rice** 60.71 330 ⇓P P 10 05 21.4 0.0
baz=61,SNR=56
I03A **Eugene** 60.73 324 ⇓P P 10 05 21.2 -0.3
baz=61,SNR=17
C08A **Higginbotham F** 60.74 329 ⇓P P 10 05 21.6 0.0
baz=61,SNR=14
KEBM **Edson Butte** 60.74 322 *e*P P 10 05 21.6 0.0
KEBM *e*PcP PcP 10 06 04.2 +0.4
SSOR **Sweet Springs** 60.77 325 P P 10 05 21.3 -0.5
K01A **Sixes** 60.79 322 ⇓P P 10 05 22.4 +0.4
baz=61
A10A **Northport** 60.80 331 P P 10 05 21.5 -0.5
baz=61,SNR=22
F05A **White Salmon** 60.82 326 ⇓P P 10 05 22.5 +0.3
baz=61,SNR=22
D07A **Quincy** 60.84 328 ⇑P P 10 05 22.7 +0.4
baz=61,SNR=42
E06A **Yakima** 60.97 327 P P 10 05 23.6 +0.5
baz=61,SNR=45
G04A **Mulino** 60.98 325 ⇓P P 10 05 23.1 -0.2
baz=61,SNR=39
I02A **Mapleton** 61.07 324 ⇑P P 10 05 24.0 +0.2
baz=61,SNR=9.0
COR **Corvallis** 61.10 324 *e*P P 10 05 24.0 0.0
COR *e**PP pP 10 06 04.5 -1.8
COR pmax pmax
comp=Z,106nm,0.8s,mb5.7
COR **Corvallis** 61.10 324 *e*P P 10 05 24.0 0.0
comp=Z,106nm,0.8s,mb5.7
COR *e*pP pP 10 06 04.5 -1.9
TBM **Table Mountain** 61.15 328 P P 10 05 24.9 +0.5
C07A **Waterville** 61.20 329 P P 10 05 24.9 +0.1
baz=61,SNR=59
A09A **Danville** 61.30 331 P P 10 05 25.1 -0.2
baz=61,SNR=31
D06A **Cle Elum** 61.30 328 ⇓P P 10 05 25.7 +0.3
baz=61,SNR=18
FCC **Fort Churchill** 61.34 350 *e*P P 10 05 24.3 -1.4
FCC *e**PP pP 10 06 05.4 -2.6
FCC pmax pmax
comp=Z,39nm,1.0s,mb5.2
FCC **Fort Churchill** 61.34 350 *e*P P 10 05 24.3 -1.4
comp=Z,39nm,1.0s,mb5.2
FCC *e*pP pP 10 06 05.3 -2.7
F04A **Amboy** 61.38 326 ⇓P P 10 05 25.6 -0.3
baz=62,SNR=34
E05A **Randle** 61.40 327 ⇓P P 10 05 25.9 -0.1
baz=62,SNR=52
G03A **Yamhill** 61.51 325 ⇓P P 10 05 26.4 -0.3
baz=62,SNR=16
LON **Longmire** 61.54 327 P P 10 05 26.8 -0.2
B07A **Winthrop** 61.73 329 P P 10 05 27.9 -0.3
baz=62,SNR=27
D05A **Enumclaw** 61.91 327 ⇑P P 10 05 29.4 0.0
baz=62,SNR=32
E04A **Onalaska** 61.95 326 ⇑P P 10 05 29.6 -0.1
baz=62,SNR=11
EDM **Edmonton** 61.99 337 *e*P P 10 05 28.8 -1.2
EDM *e* pP 10 06 07.3 -5.1
F03A **Seaside** 62.03 325 ⇑P P 10 05 30.5 +0.3
baz=62,SNR=11
C05A **Tolt Reservoir** 62.06 328 P P 10 05 29.6 -0.8
baz=62,SNR=22
A07A **Ashnola River,** 62.24 330 P P 10 05 32.3 +0.6
baz=62,SNR=44
E03A **Lebam** 62.39 326 ⇓P P 10 05 32.7 +0.1
baz=62,SNR=32
B06A **Marblemount** 62.47 329 P P 10 05 32.7 -0.5
baz=63,SNR=33
TAOE **Nuku Hiva Isla** 62.54 261 *e*S S 10 13 43.9 -2.7
comp=Z,1μm,28.9s
TAOE *e*LR LR 10 24 14.7
comp=Z,482nm,25.5s
TAOE **Nuku Hiva Isla** 62.54 261 *e*P P 10 05 33.4 -0.3
comp=Z,2μm,1.3s
TAOE *e*S S 10 13 43.9 -2.7
HOPE **Hope Point** 62.60 154 P P 10 05 34.8 +0.7
comp=Z,2μm,0.8s,SNR=38
HOPE **Hope Point** 62.60 154 *e*P P 10 05 34.3 +0.3
comp=Z,254nm,0.8s,mb6.1
B05A **Bryant** 62.63 328 P P 10 05 33.3 -0.9
baz=63,SNR=30
C04A **Brinnon** 62.76 327 ⇑P P 10 05 34.7 -0.4
baz=63,SNR=27
A06A **Chilliwack** 62.83 329 ⇓P P 10 05 35.1 -0.5
baz=63,SNR=8.3
D03A **Wishkah Elem.** 62.84 326 ⇑P P 10 05 36.2 +0.6
baz=63
NLWA **Neilton Lookou** 63.05 327 ⇓P P 10 05 37.6 +0.5
baz=63,SNR=18
A05A **Maple Falls** 63.08 329 ⇑P P 10 05 36.8 -0.4
baz=63,SNR=46
OSD **Olympics--Snow** 63.22 327 P P 10 05 38.9 +0.8
A04A **Legoe Bay, Lum** 63.23 328 ⇑P P 10 05 38.2 0.0
baz=63,SNR=11
B04A **Port Angeles** 63.25 327 ⇓P P 10 05 38.9 +0.6
baz=63,SNR=7.4
PGC **Sidney** 63.58 328 *e*P P 10 05 40.6 +0.2
comp=Z,134nm,0.8s,mb5.8
C03A **Quillayute Air** 63.76 327 ⇓P P 10 05 42.7 +1.0
baz=64
PMSA **Palmer Station** 64.03 174 P P 10 05 43.6 +0.1
comp=Z,85nm,0.6s,mb5.7,baz=352,slow=5.4,SNR=19
PMSA **Palmer Station** 64.03 174 *e*P P 10 05 43.1 -0.3
comp=Z,89nm,0.6s,mb5.8

YKA **Yellowknife Ar** 69.50 343 P P 10 06 16.5 -1.5
comp=Z,19nm,0.8s,mb4.9,baz=141,slow=6.4,SNR=41
YKA LR LR 10 35 38.9
comp=Z,124nm,19.6s,baz=55,slow=35
TRIS **Tristan da Cun** 69.69 129 *e*P P 10 06 20.2 +1.0
comp=Z,132nm,1.0s,mb5.6
TRIS *e*pP pP 10 07 01.8 -0.7
VAH **Vaihoa** 70.25 254 *e*P P 10 06 22.9 +0.3
comp=Z,126nm,0.9s,mb5.6
VAH *e*pP pP 10 07 02.9 -3.1
comp=Z,98nm,1.1s
PMOR **Pomariorio Ree** 70.49 255 *e*P P 10 06 24.4 +0.4
comp=Z,102nm,0.9s,mb5.5
SFJD **Kangerlussuaq** 70.86 11⇑*i*P PP 10 09 08.0 +2.3
SFJD **Kangerlussuaq** 70.86 11 *e*P P 10 06 25.0 -1.3
SFJD pmax pmax
comp=Z,109nm,0.9s,mb5.6
SFJD **Kangerlussuaq** 70.86 11 *e*P P 10 06 25.0 -1.3
comp=Z,109nm,0.9s,mb5.6
PPT **Papeete** 72.29 252 *e*P P 10 06 35.2 +0.4
comp=Z,80nm,1.2s,mb5.3
PPT **Papeete** 72.29 252 *e*S S 10 15 41.0 -1.8
comp=Z,341nm,26.5s
PPT *e*LR LR 10 28 43.2
comp=Z,170nm,24.5s
PPT **Papeete** 72.29 252 P P 10 06 34.5 -0.3
comp=Z,50nm,0.8s,mb5.3,baz=49,slow=14,SNR=3.7
PPT LR LR 10 30 49.8
comp=Z,143nm,21.1s,baz=93,slow=29
PPT **Papeete** 72.29 252 P P 10 06 34.5 -0.3
PPT LR LR 10 30 49.8
PAE **Paea** 72.30 252 *e*P P 10 06 35.3 +0.5
comp=Z,382nm,1.0s,mb6.1
DLBC **Dease Lake** 72.47 334 ⇓*i*P P 10 06 35.7 -0.1
DLBC *e*pP pP 10 07 18.5 -1.0
TBI **Tubuai** 72.70 246 *e*S S 10 15 46.2 -1.2
comp=Z,737nm,30.0s
TBI *e*LR LR 10 29 13.1
comp=Z,288nm,26.5s
TBI **Tubuai** 72.70 246 *e*P P 10 06 37.8 +0.6
comp=Z,167nm,1.0s,mb5.7
TBI *e*S S 10 15 46.2 -1.2
MORF **Marmelete** 74.32 51 *e*P P 10 06 46.8 +0.1
comp=Z,38nm,1.7s,mb4.8
PTEO **Sao Teotonio** 74.32 50 *e*P P 10 06 46.5 -0.2
comp=Z,20nm,0.8s,mb4.9
PBEJ **Beja** 75.10 50 *e*P P 10 06 50.7 -0.4
EVO **Evora** 75.11 50⇑*i*P P 10 06 50.1 -1.1
comp=Z,16nm,0.6s,mb4.6
EVO *e*MLR MLR
comp=Z,232nm,20.0s
EGRO **El Granado** 75.28 51 P P 10 06 52.4 +0.2
comp=Z,34nm,1.5s,mb4.8
SKAG **Skagway** 75.34 334 *e*P P 10 06 52.1 -0.4
comp=Z,29nm,1.2s,mb4.8
SKAG *e*pP pP 10 07 37.6 +1.1
PESTR **Estremoz** 75.51 49 *e*P P 10 06 53.0 -0.5
comp=Z,40nm,1.4s,mb4.9
PVIS **Viseu** 75.73 47 *e*P P 10 06 53.9 -0.8
comp=Z,22nm,0.8s,mb4.8
PCBR **Castelo Branco** 75.83 48 *e*P P 10 06 54.4 -0.9
PCAB **Cabril** 75.89 46 *e*P P 10 06 55.2 -0.4
EBAD **Badajoz** 75.92 50 P P 10 06 55.2 -0.6
comp=Z,18nm,1.0s,mb4.7
EMIN **Mina Concepcio** 75.96 51 P P 10 06 54.0 -2.0
comp=Z,12nm,1.1s,mb4.5
ESPR **Espera** 76.40 52 P P 10 06 58.3 -0.2
comp=Z,13nm,0.9s,mb4.5
MDT **Midelt** 76.61 56 P P 10 07 01.2 +1.5
comp=Z,8.2nm,1.0s,mb4.3,baz=276,slow=4.9,SNR=20
MDT pP pP 10 07 43.8 0.0
comp=Z,7.7nm,1.1s,baz=264,slow=6.3,SNR=3.0
EJIF **Jimena Fronter** 76.62 52 P P 10 06 58.4 -1.3
EJIF pmax pmax
comp=Z,14nm,0.7s,mb4.7
EJIF **Jimena Fronter** 76.62 52 P P 10 06 58.4 -1.4
comp=Z,14nm,0.7s,mb4.7
PBRG **Braganca** 76.84 47 *e*P P 10 07 00.3 -0.7
comp=Z,12nm,0.7s,mb4.6
ECAL **Calabor** 76.88 46 P P 10 07 00.9 -0.3
comp=Z,47nm,1.6s,mb4.9
EPON **Pontenova** 76.92 45 ⇑P P 10 07 00.8 -0.7
comp=Z,89nm,1.8s,mb5.1
EMIJ **Mijas** 77.19 52 P P 10 07 02.7 -0.2
comp=Z,21nm,1.0s,mb4.7
BORG **Borgarnes** 77.54 21 P P 10 06 57.9 -7.0
comp=Z,620nm,0.8s,SNR=14
BORG **Borgarnes** 77.54 21 *e*P P 10 06 57.6 -7.3
comp=Z,132nm,1.1s,mb5.5
EADA **Adamuz** 77.66 51 P P 10 07 04.9 -0.7
comp=Z,21nm,1.3s,mb4.6
ELOJ **Sierra Loja** 77.79 52 P P 10 07 05.8 -0.5
ELOJ pmax pmax
comp=Z,24nm,1.0s,mb4.8
ELOJ **Sierra Loja** 77.79 52 P P 10 07 05.8 -0.5
comp=Z,24nm,1.0s,mb4.8
ERON **Agron** 78.04 52 P P 10 07 07.2 -0.4
comp=Z,11nm,0.6s,mb4.7
EBAN **Banos Encina** 78.27 51 P P 10 07 07.6 -1.3
EBAN pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
EBAN **Banos Encina** 78.27 51 P P 10 07 07.6 -1.3
comp=Z,9.7nm,0.6s,mb4.6
ECOG **Cogollos-Vega** 78.27 52 P P 10 07 08.5 -0.4
ECOG pmax pmax
comp=Z,21nm,0.6s,mb4.9
ECOG **Cogollos-Vega** 78.27 52 P P 10 07 08.5 -0.4
comp=Z,21nm,0.6s,mb5.0
EARI **Arriondas** 78.29 45 P P 10 07 08.9 -0.1
comp=Z,52nm,1.2s,mb5.0
ESDC **Sonseca Array** 78.43 49 P P 10 07 09.7 -0.1
comp=Z,7.0nm,0.6s,mb4.5,baz=261,slow=6.3,SNR=22
ESDC PKKPbc PKKPbc 10 26 04.5 -0.4
comp=Z,0.3nm,0.4s,baz=113,slow=3.9,SNR=4.3
ESDC LR LR 10 34 14.2
comp=Z,90nm,21.6s,baz=0.0,slow=30
ESDC **Sonseca Array** 78.43 49 P P 10 07 09.4 -0.4
comp=Z,6.9nm,0.6s,mb4.5
ESLA **Sonseca Array** 78.43 49 *e*P P 10 07 09.3 -0.5
comp=Z,1.4nm,0.6s
ESLA *e*pP pP 10 07 53.8 -0.4
EALB **Alboran** 78.45 53 P P 10 07 09.0 -0.9
comp=Z,46nm,1.3s,mb5.0
GUD **Guadarrama** 78.48 48 ⇑P P 10 07 09.3 -0.8
GUD pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
GUD **Guadarrama** 78.48 48 ⇑P P 10 07 09.3 -0.8
comp=Z,8.0nm,0.6s,mb4.5
EBER **Berja** 78.74 52 P P 10 07 11.7 +0.2
comp=Z,55nm,1.1s,mb5.1
EQES **Quesada** 78.76 51 P P 10 07 10.8 -0.8
comp=Z,38nm,1.2s,mb4.9
EHUE **Huescar** 79.13 51 ⇑P P 10 07 12.7 -0.9
EHUE pmax pmax
comp=Z,18nm,0.9s,mb4.7
EHUE **Huescar** 79.13 51 ⇑P P 10 07 12.7 -0.9
comp=Z,18nm,0.9s,mb4.7
DAWY **Dawson** 79.21 337 *e*P P 10 07 12.9 -1.1
ENIJ **Nijar** 79.29 52 P P 10 07 13.0 -1.4
ENIJ pmax pmax
comp=Z,35nm,1.2s,mb4.9
ENIJ **Nijar** 79.29 52 P P 10 07 13.0 -1.5
comp=Z,35nm,1.2s,mb4.9
EVIA **Vianos** 79.35 50 P P 10 07 15.4 +0.6
EVIA pmax pmax
comp=Z,40nm,0.9s,mb5.0
EVIA **Vianos** 79.35 50 P P 10 07 15.4 +0.6
comp=Z,40nm,0.9s,mb5.0
ELAN **Lanestosa** 79.54 46 P P 10 07 16.0 +0.2
comp=Z,44nm,1.3s,mb4.9
TOA0 **Torodi Ar. Sit** 80.02 76⇑*i*P P 10 07 18.1 -0.2
TOA0 *e*pP pP 10 08 00.9 -2.0
TOA0 *e*S S 10 17 07.1 0.0
TORD **Torodi Ar. Bea** 80.02 76 P P 10 07 18.1 -0.2
comp=Z,43nm,0.4s,mb5.4,baz=280,slow=5.7,SNR=909
TORD pP pP 10 08 00.8 -2.0
comp=Z,2.9nm,0.4s,baz=270,slow=4.0,SNR=1.4
TORD S S 10 17 05.0 -2.1
comp=Z,3.6nm,1.0s,baz=264,slow=13,SNR=12
TORD PKKPbc PKKPbc 10 26 01.8 +0.3
comp=Z,2.2nm,0.6s,baz=52,slow=2.0,SNR=24
TORD PKP2bc 10 33 44.3
comp=Z,0.5nm,0.6s,baz=70,slow=1.6,SNR=4.0
TORD PKPPKP 10 34 03.5
comp=Z,1.1nm,0.8s,baz=49,slow=2.3,SNR=3.9
TORD **Torodi Ar. Bea** 80.02 76 P P 10 07 18.1 -0.2
TORD pP pP 10 08 00.8 -2.0

TORD S S 10 17 05.0 -2.1
TORD PKKPbc PKKPbc 10 26 01.8 +0.3
TORD ⇑*e* 10 33 44.3
TORD P'P' 10 34 03.5
ECRI **Cripan** 80.08 46 P P 10 07 18.9 +0.2
ECRI pmax pmax
comp=Z,13nm,0.5s,mb4.8
ECRI **Cripan** 80.08 46 P P 10 07 18.9 +0.1
comp=Z,13nm,0.5s,mb4.8
ETOR **Torete** 80.08 48 P P 10 07 18.4 -0.3
ETOR pmax pmax
comp=Z,32nm,0.8s,mb5.0
ETOR **Torete** 80.08 48 P P 10 07 18.4 -0.3
comp=Z,32nm,0.8s,mb5.0
ETOB **Tobarra** 80.09 51 P P 10 07 18.2 -0.6
comp=Z,44nm,1.0s,mb5.0
EGAK **Eagle** 80.21 337 ⇓*i*P P 10 07 18.8 -0.7
comp=Z,148nm,0.9s,mb5.6
MENT **Mentasta** 80.51 335 *e*P P 10 07 20.4 -0.6
EYAK **Cordova Ski Ar** 80.55 332 *e*P P 10 07 20.6 -0.6
EYAK *e*PP PP 10 10 24.9 -2.2
QUIF **Quistinic** 80.72 41 *e*P P 10 07 21.8 -0.3
comp=Z,90nm,1.1s,mb5.0
QUIF **Quistinic** 80.72 41 *e*P P 10 07 21.8 -0.3
QUIF pmax pmax
comp=Z,45nm,1.1s,mb5.0
QUIF **Quistinic** 80.72 41 *e*P P 10 07 21.8 -0.3
comp=Z,45nm,1.1s,mb5.0
ROSF **Rostrenen** 80.74 41⇑*i*P P 10 07 21.6 -0.6
comp=Z,51nm,0.8s,mb4.9
ROSF **Rostrenen** 80.74 41⇑*i*P P 10 07 21.6 -0.6
ROSF pmax pmax
comp=Z,26nm,0.8s,mb4.9
ROSF **Rostrenen** 80.74 41⇑*i*P P 10 07 21.6 -0.6
comp=Z,26nm,0.8s,mb4.9
EALK **Alkurruntz** 80.92 46 P P 10 07 24.4 +1.2
comp=Z,23nm,1.1s,mb4.7
OSSF **Osses** 81.11 46 *e*P P 10 07 23.4 -0.8
SJPF **Ste Jean** 81.11 46⇑*i*P P 10 07 24.2 0.0
comp=Z,65nm,0.6s,mb5.1
SJPF *e*pP pP 10 08 09.1 +0.3
SJPF **Ste Jean** 81.11 46⇑*i*P P 10 07 24.2 0.0
SJPF *e**PP pP 10 08 09.1 +0.3
SJPF pmax pmax
comp=Z,32nm,0.6s,mb5.1
SJPF **Ste Jean** 81.11 46⇑*i*P P 10 07 24.2 0.0
comp=Z,32nm,0.6s,mb5.1
SJPF *e*pP pP 10 08 09.1 +0.3
EBEN **Beniarda** 81.12 51 P P 10 07 24.6 +0.4
comp=Z,57nm,0.9s,mb5.2
SGMF **Saint Gilles** 81.19 41 *e*P P 10 07 24.2 -0.4
comp=Z,101nm,1.0s,mb5.1
SGMF **Saint Gilles** 81.19 41 *e*P P 10 07 24.2 -0.4
SGMF pmax pmax
comp=Z,51nm,1.0s,mb5.1
SGMF **Saint Gilles** 81.19 41 *e*P P 10 07 24.2 -0.4
comp=Z,51nm,1.0s,mb5.1
EMOS **Mosqueruela** 81.19 49 P P 10 07 25.5 +0.9
comp=Z,33nm,0.7s,mb5.1
LARF **Larrau** 81.26 46 *e*P P 10 07 25.4 +0.4
GAL1 **Galloway** 81.41 34 *e*P P 10 07 25.4 -0.4
GAL1 AMb AMB 10 07 26.2
comp=Z,192nm,1.1s,mb5.7
ESAC **San Caprasio** 81.42 48 P P 10 07 26.4 +0.6
comp=Z,105nm,0.9s,mb5.5
WPM1 **Penmaenmawr** 81.47 36 *e*P P 10 07 25.5 -0.6
ATE **Arette** 81.48 46 *e*P P 10 07 25.6 -0.5
ETSF **Etsaut** 81.55 46⇑*i*P P 10 07 26.5 0.0
comp=Z,22nm,0.7s,mb4.6
ETSF **Etsaut** 81.55 46⇑*i*P P 10 07 26.5 0.0
ETSF pmax pmax
comp=Z,11nm,0.7s,mb4.6
ETSF **Etsaut** 81.55 46⇑*i*P P 10 07 26.5 0.0
comp=Z,11nm,0.7s,mb4.6
KPL **Plockton** 81.56 31 *e*P P 10 07 25.9 -0.7
KPL AMb AMB 10 07 27.7
comp=Z,218nm,1.7s,mb5.5
KSB **Sheil Bridge** 81.64 32 *e*P P 10 07 26.6 -0.4
MCH1 **Michaelchurch** 81.72 37 *e*P P 10 07 26.5 -0.9
MCH1 *e*P 10 07 26.5
MCH1 AMb AMB 10 07 34.5
comp=Z,40nm,1.8s,mb4.8
VNA3 **Neumayer Olymp** 81.75 162⇓*i*P P 10 07 27.2 -0.4
VNA3 **Neumayer Olymp** 81.75 162⇓*i*P P 10 07 27.2 -0.4
VNA3 *e* 10 07 32.1
VNA3 *e* 10 10 35.9
SBD1 **Bryn Du** 81.77 36 *e*P P 10 07 26.9 -0.8
PGBU **Glenifferbraes** 81.78 33 *e*P P 10 07 26.2 -1.5
PGBU AMb AMB 10 07 27.2
comp=Z,108nm,1.5s,mb5.2
KAC **Achnashellach** 81.79 31 *e*P P 10 07 27.4 -0.3
ERTA **Horta de San J** 81.89 48 ⇑P P 10 07 28.8 +0.5
comp=Z,55nm,0.8s,mb5.2
HLM1 **Long Mynd** 81.91 37 *e*P P 10 07 27.3 -1.1
VNA1 **Neumayer--Stat** 81.99 162⇓*i*P P 10 07 28.8 0.0
VNA1 **Neumayer--Stat** 81.99 162⇓*i*P P 10 07 28.8 0.0
VNA1 *e* 10 07 34.3
VNA1 *e* 10 10 40.1
EBIE **Bielsa** 82.02 47 P P 10 07 28.8 -0.2
comp=Z,62nm,1.7s,mb5.0
LABF **Labassere** 82.03 46 *e*P P 10 07 29.7 +0.7
LCHF **La Chataignera** 82.08 43 *e*P P 10 07 29.2 -0.1
SML **Sawmill** 82.15 333 ⇓*i*P P 10 07 28.6 -1.0
RESF **Ens** 82.19 47 *e*P P 10 07 30.5 +0.7
EPF **Esparros** 82.22 46⇑*i*P P 10 07 30.0 0.0
comp=Z,98nm,1.1s,mb5.1
EPF **Esparros** 82.22 46⇑*i*P P 10 07 30.0 0.0
EPF pmax pmax
comp=Z,49nm,1.1s,mb5.0
EPF **Esparros** 82.22 46⇑*i*P P 10 07 30.0 0.0
comp=Z,49nm,1.1s,mb5.0
GRR **Gorron** 82.32 41 *e*P P 10 07 30.1 -0.4
comp=Z,128nm,1.0s,mb5.2
GRR **Gorron** 82.32 41 *e*P P 10 07 30.1 -0.4
GRR pmax pmax
comp=Z,64nm,1.0s,mb5.2
GRR **Gorron** 82.32 41 *e*P P 10 07 30.1 -0.4
comp=Z,64nm,1.0s,mb5.2
VNA2 **Neumayer--Watz** 82.35 162⇓*i*P P 10 07 30.1 -0.6
baz=182,slow=3.9
VNA2 **Neumayer--Watz** 82.35 162⇓*i*P P 10 07 30.1 -0.6
baz=300,slow=6.1
VNA2 *e* 10 07 35.3
VNA2 *e* 10 10 41.0
ESK **Eskdalemuir** 82.36 34 P P 10 07 30.5 -0.2
comp=Z,374nm,0.8s,mb6.1,SNR=7.4
ESK **Eskdalemuir** 82.36 34 *e*P P 10 07 30.4 -0.4
ESK AMb AMB 10 07 31.9
comp=Z,161nm,1.7s,mb5.4
ESK **Eskdalemuir** 82.36 34 *e*P P 10 07 30.2 -0.5
ESK pmax pmax
comp=Z,25nm,0.8s,mb4.9
ESK **Eskdalemuir** 82.36 34 *e*P P 10 07 30.1 -0.6
comp=Z,25nm,0.8s,mb4.9
ECK **Cauldkaine Hil** 82.37 34 *e*P P 10 07 30.5 -0.3
EIBI **Ibiza** 82.38 50 P P 10 07 30.7 -0.1
comp=Z,40nm,1.0s,mb5.0
PMR **Palmer** 82.44 333 *e*P P 10 07 29.5 -1.6
PMR pmax pmax
comp=Z,28nm,0.6s,mb5.1
PMR **Palmer** 82.44 333 *e*P P 10 07 29.5 -1.6
comp=Z,28nm,0.6s,mb5.1
MFF **Saint Martin d** 82.48 43⇑*i*P P 10 07 30.9 -0.4
comp=Z,104nm,0.8s,mb5.2
MFF **Saint Martin d** 82.48 43⇑*i*P P 10 07 30.9 -0.4
MFF pmax pmax
comp=Z,52nm,0.8s,mb5.2
MFF **Saint Martin d** 82.48 43⇑*i*P P 10 07 30.9 -0.4
comp=Z,52nm,0.8s,mb5.2
EPOB **Poblet** 82.51 48 P P 10 07 30.5 -1.0
comp=Z,40nm,1.4s,mb5.0
EDI **Edinburgh** 82.52 33 *e*P P 10 07 30.1 -1.5
EDI AMb AMB 10 07 30.8
comp=Z,260nm,1.7s,mb5.7
KWE **Weaver Farm** 82.63 36 *e*P P 10 07 31.8 -0.3
FLN **La Foliniere** 82.64 41⇑*i*P P 10 07 31.6 -0.6
comp=Z,115nm,0.9s,mb5.3
FLN *e*MLR MLR
comp=Z,192nm,19.5s
FLN **La Foliniere** 82.64 41⇑*i*P P 10 07 31.6 -0.6
FLN pmax pmax
comp=Z,58nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,190nm,19.5s
FLN **La Foliniere** 82.64 41⇑*i*P P 10 07 31.6 -0.6

comp=Z,58nm,0.9s,mb5.3
FLN LR LR
comp=Z,190nm,19.5s
SLKM Skilak Lake 82.64 332⇓iP P 10 07 31.2 -1.0
LHO Holmfirth 82.73 36 eP P 10 07 32.5 -0.2
MLS Moulis 82.76 47 eP P 10 07 33.0 +0.2
SALF Salau 82.80 47 eP P 10 07 33.2 +0.2
LFF La Frestale 82.81 45⇑iP P 10 07 32.6 -0.4
comp=Z,113nm,0.8s,mb5.3
LFF La Frestale 82.81 45⇑iP P 10 07 32.6 -0.4
LFF pmax pmax
comp=Z,57nm,0.8s,mb5.3
LFF La Frestale 82.81 45⇑iP P 10 07 32.6 -0.4
comp=Z,56nm,0.8s,mb5.3
LDF La Druitiere 82.84 41 eP P 10 07 32.8 -0.4
comp=Z,98nm,0.9s,mb5.2
LDF La Druitiere 82.84 41 eP P 10 07 32.8 -0.4
LDF pmax pmax
comp=Z,49nm,0.9s,mb5.2
LDF La Druitiere 82.84 41 eP P 10 07 32.8 -0.4
comp=Z,49nm,0.9s,mb5.2
KBI1 Birley Grange 82.87 36 eP P 10 07 33.2 -0.1
MCD Coleburn Disti 82.88 32 eP P 10 07 33.0 -0.4
COLA College 82.90 336 eP P 10 07 32.2 -1.3
COLA pmax pmax
comp=Z,55nm,0.8s,mb5.3
COLA College 82.90 336 eP P 10 07 32.2 -1.3
comp=Z,55nm,0.8s,mb5.3
EMIR Miracle 82.92 48 P P 10 07 33.5 -0.1
comp=Z,78nm,1.1s,mb5.3
MCK McKinley 83.00 335 eP P 10 07 33.0 -1.0
MCK pmax pmax
comp=Z,32nm,0.8s,mb5.1
MCK McKinley 83.00 335 eP P 10 07 33.0 -1.0
comp=Z,32nm,0.8s,mb5.1
KDAK Kodiak Island 83.12 329 P P 10 07 33.5 -1.2
comp=Z,12nm,0.6s,mb4.8,baz=116,slow=4.1,SNR=25
VALF Valcebollere 83.35 47 eP P 10 07 36.0 +0.2
RJF Les Rejaudoux 83.41 44⇑iP P 10 07 35.6 -0.5
comp=Z,123nm,0.8s,mb5.4
RJF epP pP 10 08 20.7 -0.3
RJF eMLR MLR
comp=Z,197nm,18.5s
RJF Les Rejaudoux 83.41 44⇑iP P 10 07 35.6 -0.5
RJF e*PP pP 10 08 20.7 -0.3
RJF pmax pmax
comp=Z,62nm,0.8s,mb5.4
RJF MLR MLR
comp=Z,200nm,18.5s
RJF Les Rejaudoux 83.41 44⇑iP P 10 07 35.6 -0.5
comp=Z,62nm,0.8s,mb5.4
RJF epP pP 10 08 20.7 -0.3
RJF LR LR
comp=Z,200nm,18.5s
CARF Carcanieres 83.46 47 eP P 10 07 36.0 -0.4
ETOS Mallorca 83.60 50 ⇑P P 10 07 37.3 +0.2
comp=Z,66nm,0.9s,mb5.4
MTLF Montolieu 83.63 46⇑iP P 10 07 36.7 -0.5
comp=Z,144nm,0.9s,mb5.4
MTLF Montolieu 83.63 46⇑iP P 10 07 36.7 -0.5
MTLF pmax pmax
comp=Z,72nm,0.9s,mb5.4
MTLF Montolieu 83.63 46⇑iP P 10 07 36.7 -0.5
comp=Z,72nm,0.9s,mb5.4
CAF Calviac 83.74 45 eP P 10 07 37.5 -0.3
FILF Fillols 83.77 47 eP P 10 07 37.4 -0.5
SNAA Sanae 83.97 162 P P 10 07 38.2 -0.7
comp=Z,25nm,0.7s,mb5.0,baz=277,slow=5.0,SNR=264
SNAA Sanae 83.97 162⇓iP P 10 07 38.1 -0.8
SNAA Sanae 83.97 162⇓iP P 10 07 38.1 -0.8
SNAA e 10 07 43.0
SNAA e 10 10 50.3
SNAA Sanae 83.97 162 eP P 10 07 38.0 -0.9
SNAA pmax pmax
comp=Z,98nm,0.9s
SNAA Sanae 83.97 162 eP P 10 07 38.0 -0.9
comp=Z,98nm,0.9s,mb5.5
EJON La Jonquera 84.00 47 P P 10 07 39.0 -0.1
comp=Z,22nm,1.8s,mb4.6
SJAF Saint Jean de 84.00 47 eP P 10 07 38.9 -0.2
TCF Toulx Ste Croi 84.03 43⇑iP P 10 07 38.7 -0.6
comp=Z,99nm,0.8s,mb5.3
TCF Toulx Ste Croi 84.03 43⇑iP P 10 07 38.7 -0.6
TCF pmax pmax
comp=Z,49nm,0.8s,mb5.3
TCF Toulx Ste Croi 84.03 43⇑iP P 10 07 38.7 -0.6
comp=Z,49nm,0.8s,mb5.3
ALE Alert 84.09 2 P P 10 07 39.0 -0.6
comp=Z,87nm,0.7s,mb5.6,SNR=9.7
VERF Verneugheol 84.15 44 eP P 10 07 39.8 -0.1
HYF Humbligny 84.47 42 eP P 10 07 41.2 -0.3
BGF Bois d'Agland 84.51 43 eP P 10 07 41.2 -0.5
comp=Z,170nm,1.0s,mb5.4
BGF Bois d'Agland 84.51 43 eP P 10 07 41.2 -0.5
BGF pmax pmax
comp=Z,85nm,1.0s,mb5.4
BGF Bois d'Agland 84.51 43 eP P 10 07 41.2 -0.5
comp=Z,85nm,1.0s,mb5.4
PYM Petit Puy Mans 84.51 44 eP P 10 07 41.9 +0.2
LBL Lubilhac 84.61 45 eP P 10 07 42.8 +0.6
AGO Saint Agoulin 84.64 44 eP P 10 07 43.0 +0.7
AVF Avril sur Loir 84.89 43⇑iP P 10 07 42.7 -0.8
comp=Z,83nm,0.8s,mb5.2
AVF Avril sur Loir 84.89 43⇑iP P 10 07 42.7 -0.8
AVF pmax pmax
comp=Z,41nm,0.8s,mb5.2
AVF Avril sur Loir 84.89 43⇑iP P 10 07 42.7 -0.8
comp=Z,42nm,0.8s,mb5.2
LASF Ste Croix 84.90 46⇑iP P 10 07 43.7 +0.1
comp=Z,72nm,0.9s,mb5.1
PLDF La Plantade 84.97 44 eP P 10 07 44.0 +0.1
SSF Saint Saulge 85.02 43⇑iP P 10 07 43.3 -0.9
comp=Z,75nm,1.0s,mb5.1
SSF Saint Saulge 85.02 43⇑iP P 10 07 43.3 -0.9
SSF pmax pmax
comp=Z,37nm,1.0s,mb5.1
SSF Saint Saulge 85.02 43⇑iP P 10 07 43.3 -0.9
comp=Z,37nm,1.0s,mb5.1
SMF Signal de Mont 85.20 43⇑iP P 10 07 44.4 -0.7
comp=Z,119nm,1.1s,mb5.2
SMF epP pP 10 08 29.5 -0.6
SMF Signal de Mont 85.20 43⇑iP P 10 07 44.4 -0.7
SMF e*PP pP 10 08 29.5 -0.6
SMF pmax pmax
comp=Z,60nm,1.1s,mb5.2
SMF Signal de Mont 85.20 43⇑iP P 10 07 44.4 -0.7
comp=Z,60nm,1.1s,mb5.2
SMF epP pP 10 08 29.5 -0.6
LOR Lormes 85.29 43⇑iP P 10 07 44.7 -0.9
comp=Z,74nm,0.8s,mb5.2
LOR epP pP 10 08 29.9 -0.7
LOR eMLR MLR
comp=Z,168nm,17.5s
LOR Lormes 85.29 43⇑iP P 10 07 44.7 -0.9
LOR e*PP pP 10 08 29.9 -0.7
LOR pmax pmax
comp=Z,37nm,0.8s,mb5.2
LOR MLR MLR
comp=Z,170nm,17.5s
LOR Lormes 85.29 43⇑iP P 10 07 44.7 -0.9
comp=Z,37nm,0.8s,mb5.2
LOR epP pP 10 08 29.9 -0.7
LOR LR LR
comp=Z,170nm,17.5s
SVW2 Sparrevohn 85.33 332 eP P 10 07 43.9 -1.9
VIVF Saint-Julien-l 85.57 45 eP P 10 07 47.1 +0.2
comp=Z,31nm,0.9s,mb4.7
VIVF Saint-Julien-l 85.57 45 eP P 10 07 47.1 +0.2
VIVF pmax pmax
comp=Z,16nm,0.9s,mb4.8
VIVF Saint-Julien-l 85.57 45 eP P 10 07 47.1 +0.2
comp=Z,16nm,0.9s,mb4.7
DFRA Djebel Bou Aff 85.67 53 P P 10 07 50.0 +2.6
BAIF Baives 85.86 40 eP P 10 07 47.8 -0.6
comp=Z,63nm,0.9s,mb5.1
BAIF Baives 85.86 40 eP P 10 07 47.8 -0.6
BAIF pmax pmax
comp=Z,32nm,0.9s,mb5.0
BAIF Baives 85.86 40 eP P 10 07 47.8 -0.6
comp=Z,32nm,0.9s,mb5.0
SNF Seneffe 85.97 39 P P 10 07 49.2 +0.3
UCC Uccle 86.05 39 P P 10 07 49.5 +0.2
DOU Dourbes 86.12 40 P P 10 07 49.4 -0.2
SMRF Simiane la Rot 86.12 46 eP P 10 07 49.6 -0.1
comp=Z,19nm,0.9s,mb4.5
SMRF Simiane la Rot 86.12 46 eP P 10 07 49.6 -0.1
comp=Z,19nm,0.9s,mb4.8
CASM Ain Smara 86.14 54 P P 10 07 51.0 +1.3
MEZF Maizieres J'vi 86.23 41⇑iP P 10 07 49.7 -0.5
comp=Z,109nm,0.7s,mb5.4
MEZF Maizieres J'vi 86.23 41⇑iP P 10 07 49.7 -0.5
comp=Z,109nm,0.7s,mb5.7
GIVF Givet 86.26 40⇑iP P 10 07 50.1 -0.2
comp=Z,228nm,0.8s,mb5.6
GIVF Givet 86.26 40⇑iP P 10 07 50.1 -0.2
GIVF pmax pmax
comp=Z,114nm,0.8s,mb5.7
GIVF Givet 86.26 40⇑iP P 10 07 50.1 -0.2
comp=Z,114nm,0.8s,mb5.7
CKFL Kef-Lekhel 86.33 54 P P 10 07 52.0 +1.3
ORIF Oris-en-Rattie 86.43 45 eP P 10 07 51.2 0.0
comp=Z,50nm,0.8s,mb5.0
ORIF eMLR MLR
comp=Z,218nm,19.5s
ORIF Oris-en-Rattie 86.43 45 eP P 10 07 51.2 0.0
ORIF pmax pmax
comp=Z,25nm,0.8s,mb5.0
ORIF Oris-en-Rattie 86.43 45 eP P 10 07 51.2 0.0
comp=Z,25nm,0.8s,mb5.0
BCLA Clavier 86.60 40 P P 10 07 52.4 +0.4
CABF La Chapelle 86.73 43 eP P 10 07 52.2 -0.4
comp=Z,59nm,0.8s,mb5.1
CABF La Chapelle 86.73 43 eP P 10 07 52.2 -0.4
CABF pmax pmax
comp=Z,29nm,0.8s,mb5.2
CABF La Chapelle 86.73 43 eP P 10 07 52.2 -0.4
comp=Z,29nm,0.8s,mb5.2
LMR La Mourre 86.74 47 eP P 10 07 51.9 -0.8
comp=Z,31nm,0.8s,mb4.9
LMR La Mourre 86.74 47 eP P 10 07 51.9 -0.8
LMR pmax pmax
comp=Z,16nm,0.8s,mb4.9
LMR La Mourre 86.74 47 eP P 10 07 51.9 -0.8
comp=Z,16nm,0.8s,mb4.9
THEF They Montfort 86.82 42 eP P 10 07 52.5 -0.6
FRF La Foret Royal 86.86 46 eP P 10 07 53.1 -0.1
comp=Z,81nm,0.8s,mb5.3
FRF La Foret Royal 86.86 46 eP P 10 07 53.1 -0.1
FRF pmax pmax
comp=Z,40nm,0.8s,mb5.3
FRF La Foret Royal 86.86 46 eP P 10 07 53.1 -0.1
comp=Z,40nm,0.8s,mb5.3
BEBN Eben Emael 86.88 39 P P 10 07 53.8 +0.4
CMAH Djebel Manchou 86.91 53 P P 10 07 54.5 +1.0
ABSA Djebel Ababsia 86.94 54 P P 10 07 54.0 +0.4
BNI Bardonecchia 87.01 45 eP P 10 07 54.9 +0.9
BNI pmax pmax
comp=Z,15nm,0.6s,mb5.0
BNI Bardonecchia 87.01 45 eP P 10 07 54.9 +0.9
comp=Z,15nm,0.6s,mb5.0
HGN Heimansgroeve 87.04 39⇓iP P 10 07 54.6 +0.5
comp=Z,104nm,0.9s,mb5.7
HAU Haudompre 87.04 42 eP P 10 07 53.2 -0.9
comp=Z,31nm,0.8s,mb4.9
HAU eMLR MLR
comp=Z,184nm,18.8s
HAU Haudompre 87.04 42 eP P 10 07 53.2 -0.9
HAU pmax pmax
comp=Z,16nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,180nm,18.8s
HAU Haudompre 87.04 42 eP P 10 07 53.2 -0.9
comp=Z,16nm,0.8s,mb4.9
HAU LR LR
comp=Z,180nm,18.8s
MBDF Montbardon 87.04 45 eP P 10 07 53.9 -0.2
comp=Z,20nm,0.8s,mb4.7
MBDF Montbardon 87.04 45 eP P 10 07 53.9 -0.2
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
MBDF Montbardon 87.04 45 eP P 10 07 53.9 -0.2
comp=Z,10nm,0.8s,mb4.7
MEM Membach 87.07 39 P P 10 07 54.7 +0.5
WLF Walferdange 87.07 40 eP P 10 07 54.9 +0.6
comp=Z,114nm,1.0s,mb5.7
WLF Walferdange 87.07 40 P P 10 07 55.2 +0.9
WLF Walferdange 87.07 40 eP P 10 07 54.9 +0.6
WLF pmax pmax
comp=Z,124nm,0.9s,mb5.7
WLF Walferdange 87.07 40 eP P 10 07 54.9 +0.6
comp=Z,124nm,0.9s,mb5.7
LPL La Plagne 87.08 44 eP P 10 07 54.4 +0.1
comp=Z,22nm,0.7s,mb4.8
LPL La Plagne 87.08 44 eP P 10 07 54.4 +0.1
LPL pmax pmax
comp=Z,11nm,0.7s,mb4.8
LPL La Plagne 87.08 44 eP P 10 07 54.4 +0.1
comp=Z,11nm,0.7s,mb4.8
LPG La Plagne 87.10 45 eP P 10 07 54.7 +0.3
comp=Z,22nm,0.7s,mb4.8
LPG La Plagne 87.10 45 eP P 10 07 54.7 +0.3
LPG pmax pmax
comp=Z,11nm,0.6s,mb4.9
LPG La Plagne 87.10 45 eP P 10 07 54.7 +0.3
comp=Z,11nm,0.6s,mb4.9
LOMF Lomont 87.31 43 eP P 10 07 55.1 -0.3
HINF Hinteralfeld 87.36 42 eP P 10 07 54.6 -1.1
comp=Z,22nm,0.7s,mb4.8
HINF Hinteralfeld 87.36 42 eP P 10 07 54.6 -1.1
HINF pmax pmax
comp=Z,11nm,0.6s,mb4.9
HINF Hinteralfeld 87.36 42 eP P 10 07 54.6 -1.1
comp=Z,11nm,0.6s,mb4.9
SBF Sospel 87.45 46 eP P 10 07 55.3 -0.8
comp=Z,71nm,0.7s,mb5.3
SBF Sospel 87.45 46 eP P 10 07 55.3 -0.8
SBF pmax pmax
comp=Z,36nm,0.7s,mb5.3
SBF Sospel 87.45 46 eP P 10 07 55.3 -0.8
comp=Z,36nm,0.7s,mb5.3
AUTN L'Aution 87.45 46 eP P 10 07 56.3 +0.2
SAOF Saorge 87.55 46 eP P 10 07 56.4 -0.1
MOF Molkenrain 87.56 42 eP P 10 07 56.0 -0.6
ECH Echery 87.60 42 eP P 10 07 55.7 -1.1
RUP Ruppelstein 87.66 40 eP P 10 07 57.0 -0.1
WTSB Winterswijk 87.69 38⇓iP P 10 07 57.9 +0.7
comp=Z,110nm,0.8s,mb5.8
CDF Champ du Feu 87.70 42 eP P 10 07 56.6 -0.6
comp=Z,77nm,0.7s,mb5.3
CDF Champ du Feu 87.70 42 eP P 10 07 56.6 -0.6
CDF pmax pmax
comp=Z,39nm,0.7s,mb5.3
CDF Champ du Feu 87.70 42 eP P 10 07 56.6 -0.6
comp=Z,39nm,0.7s,mb5.3
WLS Welschbruch 87.75 42 eP P 10 07 57.0 -0.5
BBS Basel-Blauen 87.78 43 eP P 10 07 57.3 -0.3
LIBD Limburg 87.89 42 eP P 10 07 57.9 -0.3
BUG Bochum--Univer 87.94 39 eP P 10 07 58.8 +0.4
comp=Z,73nm,1.0s,mb5.5
ORO Oropa 87.97 44 P P 10 07 58.3 -0.2
ABH Alteburg 87.99 40 eP P 10 07 58.6 0.0
LANF Langenberg 88.09 41 eP P 10 07 59.2 +0.1
FELD Feldberg im Sc 88.14 42 eP P 10 07 59.0 -0.3
IBBN Ibbenburen 88.31 38 eP P 10 08 00.6 +0.5
comp=Z,56nm,1.2s,mb5.3
BFO Black Forest 88.39 42 eP P 10 08 00.1 -0.4
comp=Z,19nm,1.0s,mb4.9
BFO Black Forest 88.39 42 eP P 10 08 00.1 -0.4
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
BFO Black Forest 88.39 42 eP P 10 08 00.1 -0.4
comp=Z,9.8nm,1.0s,mb4.6
KEST Kesra 88.42 54 P P 10 08 01.2 +0.6
comp=Z,11nm,0.8s,mb4.8,baz=288,slow=3.9,SNR=25
PGF Pioggiola 88.50 48 eP P 10 08 00.2 -0.8
comp=Z,53nm,1.0s,mb5.1
PGF Pioggiola 88.50 48 eP P 10 08 00.2 -0.8
PGF pmax pmax
comp=Z,26nm,1.0s,mb5.1
PGF Pioggiola 88.50 48 eP P 10 08 00.2 -0.8
comp=Z,26nm,1.0s,mb5.1
MAIT Maitri 88.53 161⇓iP P 10 08 00.5 -0.7
NVL N'lazarevskaya 88.56 161diP P 10 07 59.9 -1.4
NVL pmax pmax
comp=Z,86nm,1.2s,mb5.6
NVL pmax pmax
comp=N,13nm,0.9s
NVL pmax pmax
comp=E,13nm,0.8s
TNS Taunus Mts 88.59 40 eP P 10 08 01.6 +0.1
comp=Z,46nm,1.1s,mb5.3
TNS Taunus Mts 88.59 40 eP P 10 08 01.6 +0.1
TNS pmax pmax
comp=Z,46nm,1.1s,mb5.3
VSL Villasalto 88.63 51 eP P 10 08 01.8 +0.2
comp=Z,77nm,0.8s,mb5.7
QSPA South Pole Qui 88.69 180⇓iP P 10 08 02.1 +0.2
comp=Z,412nm,1.1s
STU Stuttgart 88.99 41 eP P 10 08 03.5 +0.2
comp=Z,43nm,0.7s,mb5.5
STU Stuttgart 88.99 41 eP P 10 08 03.4 +0.1
STU pmax pmax
comp=Z,29nm,0.7s,mb5.3
STU Stuttgart 88.99 41 eP P 10 08 03.4 +0.1
comp=Z,29nm,0.7s,mb5.3
DAVA Damuels 89.38 43⇑iP P 10 08 05.9 +0.8
comp=Z,60nm,1.1s,mb5.5,SNR=12
GTTG Gvttingen 89.63 39 eP P 10 08 07.7 +1.4
comp=Z,18nm,0.9s,mb5.0
BRMO Bormio 89.68 44 P P 10 08 07.1 +0.6
CLZ Clausthal 89.89 38 eP P 10 08 08.2 +0.7
comp=Z,32nm,1.1s,mb5.2
CLZ Clausthal 89.89 38 eP P 10 08 08.2 +0.7
CLZ pmax pmax
comp=Z,32nm,1.1s,mb5.2
ZCCA Zocca 90.02 46 P P 10 08 08.4 +0.3
comp=Z,62nm,0.6s,mb5.7
MOTA Moosalm 90.21 43⇓iP P 10 08 09.4 +0.4
comp=Z,26nm,0.9s,mb5.2,SNR=8.7
MOTA Moosalm 90.21 43⇓iP P 10 08 09.4 +0.4
MOTA pmax pmax
comp=Z,26nm,0.9s,mb5.2
SQTA Sankt Quirin 90.28 43⇓iP P 10 08 09.7 +0.4
comp=Z,22nm,0.7s,mb5.2,SNR=22
SQTA Sankt Quirin 90.28 43⇓iP P 10 08 09.7 +0.4
SQTA pmax pmax
comp=Z,22nm,0.7s,mb5.2
FUR Furstenfeldbru 90.35 42 eP P 10 08 10.2 +0.5
comp=Z,57nm,1.2s,mb5.4
FUR Furstenfeldbru 90.35 42 eP P 10 08 10.2 +0.5
FUR pmax pmax
comp=Z,57nm,1.2s,mb5.4
GRA1 Grafenberg Arr 90.36 40 eP P 10 08 10.2 +0.5
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 90.36 40 eP P 10 08 10.2 +0.5
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 90.36 40 eP P 10 08 10.2 +0.5
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
GRF Grafenberg Arr 90.36 40 eP P 10 08 10.2 +0.5
GRF pmax pmax
comp=Z,30nm,0.9s,mb5.2
WATA Walderalm 90.53 43⇓iP P 10 08 10.9 +0.4
comp=Z,16nm,1.0s,mb5.0
WATA Walderalm 90.53 43⇓iP P 10 08 10.9 +0.4
WATA pmax pmax
comp=Z,16nm,1.0s,mb5.0
CTI Castel Tesino 90.55 44 P P 10 08 11.0 +0.4
WTTA Wattenberg 90.57 43⇓iP P 10 08 11.3 +0.7
comp=Z,33nm,0.7s,mb5.5,SNR=12
WTTA Wattenberg 90.57 43⇓iP P 10 08 11.3 +0.6
WTTA pmax pmax
comp=Z,33nm,0.7s,mb5.5
MOX Moxa 90.64 40 eP P 10 08 11.3 +0.3
comp=Z,61nm,1.8s,mb5.3
MOX Moxa 90.64 40 eP P 10 08 11.5 +0.5
comp=Z,51nm,1.7s,mb5.3
MOX Moxa 90.64 40 eP P 10 08 11.5 +0.5
MOX pmax pmax
comp=Z,51nm,1.7s,mb5.3
NB2 NORSAR Subarra 90.68 29 P P 10 08 11.1 -0.1
comp=Z,6.4nm,0.6s,mb4.8,baz=269,slow=4.6
NB2 NORSAR Subarra 90.68 29 P P 10 08 11.1 -0.1
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
NOA NORSAR Array B 90.68 29 P P 10 08 10.9 -0.2
comp=Z,10nm,0.7s,mb5.0,baz=268,slow=4.7,SNR=23
NOA LR LR 10 43 31.2
comp=Z,87nm,18.8s,baz=265,slow=32
MANZ Manzenberg 90.94 40 eP P 10 08 13.3 +0.9
comp=Z,23nm,1.1s,mb5.1
ROTZ Rotzenmuhle 91.00 40 eP P 10 08 13.1 +0.4
comp=Z,36nm,1.2s,mb5.3
WERD Werda 91.07 40 eP P 10 08 13.1 +0.1
comp=Z,26nm,1.1s,mb5.2
GUNZ Gunzen 91.09 40 eP P 10 08 13.7 +0.6
comp=Z,17nm,1.2s,mb5.0
WERN Wernitzgruen 91.12 40 eP P 10 08 14.0 +0.8
comp=Z,31nm,1.1s,mb5.2
TANN Tannenbergstha 91.17 40 eP P 10 08 14.2 +0.7
comp=Z,40nm,1.1s,mb5.4
FVI Forni Avoltri 91.34 44 P P 10 08 14.6 +0.3
WET Wettzell 91.43 41 eP P 10 08 14.7 0.0
comp=Z,50nm,1.5s,mb5.3
WET Wettzell 91.43 41 eP P 10 08 14.7 0.0
WET pmax pmax
comp=Z,50nm,1.5s,mb5.3
CLL Collm 91.52 39 eP P 10 08 15.5 +0.4
comp=Z,34nm,1.2s,mb5.2
CLL Collm 91.52 39 iP P 10 08 15.5 +0.4
CLL pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLL Collm 91.52 39 iP P 10 08 15.5 +0.4
comp=Z,34nm,1.2s,mb5.2
GMNA Gemona 91.66 44 P P 10 08 15.9 +0.2
comp=Z,404nm,1.4s
KBA Koelnbreinsper 91.73 43 iP P 10 08 16.5 +0.5
comp=Z,17nm,0.7s,mb5.2,SNR=8.7
KBA Koelnbreinsper 91.73 43 iP P 10 08 16.5 +0.4
KBA pmax pmax
comp=Z,17nm,0.6s,mb5.2
PTCC Patocco-Chiusa 91.74 44 P P 10 08 16.5 +0.4
comp=Z,17nm,0.7s,mb5.2
FBE Freiberg 91.74 39 eP P 10 08 17.1 +1.0
comp=Z,46nm,1.1s,mb5.4
KHC Kasperske Hory 91.89 41 eP P 10 08 17.2 +0.4
KHC Kasperske Hory 91.89 41diP P 10 08 17.4 +0.6
GEC2 GERESS Array S 91.97 41 eP P 10 08 17.0 -0.2
GERES GERESS Array B 91.97 41 P P 10 08 17.4 +0.3
comp=Z,4.7nm,0.6s,mb4.7,baz=264,slow=3.5,SNR=22
GERES PKKPbc PKKPbc 10 25 30.5 -2.6
comp=Z,0.5nm,0.3s,baz=79,slow=2.0,SNR=5.7
GERES LR LR 10 47 25.9
comp=Z,98nm,18.7s,baz=114,slow=34
GERES GERESS Array B 91.97 41 P P 10 08 17.4 +0.2
GERES 10 25 30.5
CADS Cadrg 92.00 44 eP P 10 08 17.4 0.0
RUE Ruedersdorf 92.00 38 eP P 10 08 18.0 +0.7
comp=Z,24nm,0.7s,mb5.3
SDI San Donato 92.06 49 P P 10 08 17.7 +0.1
SDI pmax pmax
comp=Z,51nm,1.1s,mb5.5
SDI San Donato 92.06 49 P P 10 08 17.7 +0.1
comp=Z,51nm,1.1s,mb5.5
VOY Vojsko 92.11 44 eP P 10 08 17.6 -0.2
BRG Berggiesshubel 92.12 39 eP P 10 08 18.4 +0.6
comp=Z,35nm,1.0s,mb5.3
BRG Berggiesshubel 92.12 39⇑iP P 10 08 18.4 +0.5
comp=Z,21nm,1.0s,mb5.1
BRG e 10 08 27.6
comp=Z,5.1nm,0.9s
JAVS Javornik 92.23 44 eP P 10 08 18.6 +0.2
MOA Molln 92.35 42⇓iP P 10 08 19.2 +0.2
comp=Z,23nm,1.0s,mb5.2
PRU Pruhonice 92.51 40 eP P 10 08 20.3 +0.6
PVCC Panska Ves 92.52 40 eP P 10 08 20.7 +1.0
LJU Ljubljana 92.55 44 iP P 10 08 20.3 +0.5
OBKA Obir 92.56 44⇑iP P 10 08 20.2 +0.3
comp=Z,13nm,1.1s,mb5.0
ARSA Arzberg 93.22 43⇑iP P 10 08 23.2 +0.3
comp=Z,13nm,0.6s,mb5.2
ARSA Arzberg 93.22 43⇑iP P 10 08 23.2 +0.3
comp=Z,13nm,0.6s,mb5.2
GROS Grobnik 93.22 44 iP P 10 08 23.0 0.0
CONA Conrad Observa 93.43 42⇓iP P 10 08 24.5 +0.6
comp=Z,16nm,0.9s,mb5.2
UPC Upice 93.44 40 eP P 10 08 24.5 +0.6
KSP Ksiaz 93.61 39 eP P 10 08 25.9 +1.2
KSP Ksiaz 93.61 39⇑eP P 10 08 25.4 +0.7
DPC Dobruska-Polom 93.64 40 eP P 10 08 25.6 +0.7
KOGS Kog 93.74 44 eP P 10 08 25.7 +0.4
SBA Scott Base 93.89 191 eP P 10 08 25.6 -0.5
comp=Z,41nm,1.1s,mb5.5
GKP Gorka Klasztor 94.08 37 eP P 10 08 28.2 +1.4
MORC Moravsky Berou 94.46 40⇓iP P 10 08 29.6 +1.0
MORC Moravsky Berou 94.46 40 eP P 10 08 29.5 +0.9
MORC pmax pmax
comp=Z,6.0nm,0.7s,mb4.8

MORC **Moravsky Berou 94.46 40** ⇓P P 10 08 29.6 +1.0
MORC **Moravsky Berou 94.46 40** eP P 10 08 29.5 +0.9
comp=Z,6.3nm,0.7s,mb4.8
TSUM **Tsumeb 94.57 109** P P 10 08 31.0 +1.8
comp=Z,18nm,0.7s,mb5.4,baz=281,slow=5.1,SNR=34
TSUM **Tsumeb 94.57 109** eP P 10 08 30.7 +1.6
comp=Z,26nm,0.9s,mb5.5
VNDA **Vanda 94.98 191** P P 10 08 30.6 -0.3
comp=Z,14nm,0.7s,mb5.3,baz=124,slow=4.3,SNR=75
VNDA PKKPbc PKKPbc 10 25 22.4 -2.9
comp=Z,0.5nm,0.5s,baz=306,slow=4.3,SNR=6.7
VNDA **Vanda 94.98 191** eP P 10 08 30.5 -0.5
VNDA pmax pmax
comp=Z,19nm,0.9s
VNDA **Vanda 94.98 191** eP P 10 08 30.5 -0.5
comp=Z,19nm,0.9s,mb5.3
VYHS **Vyhne 95.39 42** eP P 10 08 33.3 +0.5
comp=Z,13nm,1.2s,mb5.0
PKSM **Moragy 95.41 44**⇑iP P 10 08 33.7 +0.8
PKSM **Moragy 95.41 44** ⇑P P 10 08 33.7 +0.8
OJC **Ojcow 95.88 40** eP P 10 08 34.6 -0.5
ARCES **ARCESS Array B 95.90 20** P P 10 08 34.1 -1.0
comp=Z,9.0nm,0.6s,mb5.3,baz=276,slow=3.9,SNR=62
ARCES PP PP 10 12 30.2 +0.5
comp=Z,1.6nm,0.6s,baz=265,slow=6.1,SNR=3.6
ARCES PKKPbc PKKPbc 10 25 21.5 -1.3
comp=Z,2.2nm,0.5s,baz=122,slow=3.1,SNR=14
ARCES **ARCESS Array B 95.90 20** P P 10 08 34.2 -1.0
ARCES 10 12 30.3
PSZ **Piszkesteto 96.14 42** eP P 10 08 36.2 0.0
PSZ pmax pmax
comp=Z,13nm,0.8s,mb5.3
PSZ **Piszkesteto 96.14 42** eP P 10 08 36.2 0.0
comp=Z,13nm,0.8s,mb5.3
NIE **Niedzica 96.28 41** eP P 10 08 38.9 +2.0
KECS **Kecovo 96.48 42** eP P 10 08 38.8 +1.0
KECS pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
KECS **Kecovo 96.48 42** eP P 10 08 38.8 +1.0
comp=Z,8.2nm,1.2s,mb4.9
SUR **Sutherland 96.48 123** P P 10 08 39.1 +1.3
comp=Z,12nm,0.8s,mb5.3,baz=95,slow=7.5,SNR=7.2
SUR **Sutherland 96.48 123** eP P 10 08 39.4 +1.6
comp=Z,15nm,0.9s,mb5.3
STHS **Stebnicka Huta 96.89 41** eP P 10 08 41.3 +1.7
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
STHS **Stebnicka Huta 96.89 41** eP P 10 08 41.3 +1.7
comp=Z,4.4nm,1.1s,mb4.7
CRVS **Cervenica-Dubn 97.08 41** eP P 10 08 41.0 +0.5
BZS **Buzias 97.52 44**⇓iP P 10 08 43.2 +0.7
BZS **Buzias 97.52 44** ⇓P P 10 08 43.2 +0.7
SUW **Suwalki 97.52 36** eP P 10 08 42.8 +0.3
KAF **Kangasniemi 97.76 27** ep P 10 08 41.5 -2.1
comp=Z,5.6nm,0.6s,mb5.2
KAF **Kangasniemi 97.76 27** eP P 10 08 41.5 -2.1
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
FINES **FINESS Array B 97.79 28** P P 10 08 43.0 -0.8
comp=Z,9.3nm,0.7s,mb5.4,baz=260,slow=4.0,SNR=28
FINES PKKPbc PKKPbc 10 25 15.2 -2.5
comp=Z,3.8nm,0.8s,baz=179,slow=7.6,SNR=6.3
KWP **Kalwaria 97.81 40** eP P 10 08 45.1 +1.3
DRGR **98.15 43**⇓iP P 10 08 46.2 +0.9
DRGR **98.15 43** ⇓P P 10 08 46.2 +0.9
SYO **Syowa Base 98.22 161**⇑ePdiff P 10 08 44.2 -1.5
SYO **Syowa Base 98.22 161**⇑epP pP 10 09 26.2 -5.1
GZR **Gura Zlata 98.36 44**⇑iP P 10 08 47.2 +0.9
GZR **Gura Zlata 98.36 44** ⇑P P 10 08 47.2 +0.9
LVV **L'vov 98.64 40** eP P 10 08 46.4 -1.1
JOF **Joensuu 99.82 26** ep Pdif 10 08 51.1 -1.6
comp=Z,2.3nm,0.6s
MLR **Muntele Rosu 100.56 44**⇓iP Pdif 10 08 59.5 +3.5
BOSA **Boshof 100.73 119** P Pdif 10 08 57.1 +0.3
comp=Z,2.2nm,0.5s,baz=142,slow=20,SNR=7.0
BOSA PKiKP PKiKP 10 13 22.8 +0.9
comp=Z,2.7nm,0.4s,baz=293,slow=4.1,SNR=8.0
BOSA PKKPbc PKKPbc 10 25 09.2 -0.2
comp=Z,5.2nm,0.7s,baz=108,slow=2.8,SNR=12
BILL **Bilibino 100.78 340**⇑iP Pdif 10 08 56.2 -0.8
BILL pmax pmax
comp=Z,16nm,1.3s
LBTB **Lobatse 101.48 116** ePdif Pdif 10 09 01.3 +1.2
AKASG **Malin Array Be 101.76 38** P Pdif 10 09 00.5 -0.9
comp=Z,0.2nm,0.3s,baz=304,slow=2.2,SNR=4.5
AKASG PKKPbc PKKPbc 10 25 05.5 -1.0
comp=Z,1.7nm,0.5s,baz=84,slow=3.0,SNR=12
AKASG **Malin Array Be 101.76 38** P Pdif 10 09 00.5 -0.9
AKASG PKKPbc PKKPbc 10 25 05.5 -1.0
MATP **Matopo 104.70 111** PKKPbc PKKPbc 10 24 57.4 -0.4
comp=Z,1.8nm,0.9s,baz=95,slow=18,SNR=5.1
MATP PKKP PKKPdf 10 25 16.8 +10
comp=Z,4.0nm,0.9s,baz=123,slow=3.4,SNR=5.1
OBN **Obninsk 104.83 33** eP Pdif 10 09 14.8 -0.2
OBN pmax pmax
comp=Z,26nm,1.5s
OBN MLR MLR
comp=Z,100nm,17.0s
LSZ **Lusaka 104.97 106** PKKPbc PKKPbc 10 24 56.0 -1.0
comp=Z,5.3nm,0.7s,baz=69,slow=3.0,SNR=10
LSZ PKKP PKKPdf 10 25 15.7 +9.1
comp=Z,4.3nm,0.8s,baz=102,slow=4.7,SNR=6.9
MAW **Mawson 105.90 165** Pdiff Pdif 10 09 19.5 -0.3
comp=Z,2.5nm,0.7s,baz=218,slow=6.3,SNR=12
MAW PKiKP PKiKP 10 13 29.0 -2.2
comp=Z,2.4nm,0.9s,baz=207,slow=5.9,SNR=3.5
MAW PKKPbc PKKPbc 10 24 52.6 -1.5
comp=Z,0.8nm,0.4s,baz=349,slow=5.1,SNR=9.8
MAW **Mawson 105.90 165** eP Pdif 10 09 18.4 -1.4
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW **Mawson 105.90 165** ePdif Pdif 10 09 18.4 -1.4
comp=Z,3.3nm,0.8s
MAW PKPdf PKiKP 10 13 29.0 -2.2
MAW PKKPbc PKKPbc 10 24 52.6 -1.5
BRTR **Keskin Array B 107.22 49** PKiKP PKiKP 10 13 33.9 +0.2
comp=Z,0.4nm,0.6s,baz=300,slow=0.7,SNR=3.6
BRTR PKKPbc PKKPbc 10 24 49.6 -0.4
comp=Z,2.4nm,0.7s,baz=135,slow=4.5,SNR=8.8
BRTR PKKP PKKPbc 10 25 04.7 +15
comp=Z,4.0nm,0.8s,baz=129,slow=5.8,SNR=13
KIV **Kislovodsk 112.46 42** iPKIKP PKiKP 10 13 44.2 +0.6
ARU **Arti 114.92 25** iPKIKP PKiKP 10 13 47.5 -0.8
ARU e 10 14 50.3
ARU e 10 20 17.5
ARU eSS SS 10 30 35.2 +4.6
KMBO **Kilima Mbogo 114.94 92** PKP PKiKP 10 13 50.5 +2.2
comp=Z,0.7nm,0.5s,baz=45,slow=5.5,SNR=5.2
YAK **Yakutsk 116.07 346**⇓iPKIKP PKPdf 10 13 49.3 -1.2
AKTK **Aktyubinsk 118.44 30** PKP PKPdf 10 13 54.7 -0.4
AKTK PKKPbc PKKPbc 10 24 11.7 -1.0
AKTO **Aktyubinsk 118.44 30** PKP PKPdf 10 13 54.7 -0.4
comp=Z,3.9nm,0.6s,baz=11,slow=1.1,SNR=12
AKTO PKKPbc PKKPbc 10 24 11.7 -1.0
comp=Z,13nm,0.6s,baz=106,slow=5.5,SNR=20
MIB **Mutribah 120.73 56** eP PKPdf 10 13 59.5 0.0
MIB AMb AMB 10 14 01.4
comp=Z,31nm,0.8s
NAY **Al-Naaiem 120.82 56** eP PKPdf 10 13 59.5 -0.2
NAY AMb AMB 10 14 03.2
comp=Z,13nm,1.2s
UMR **Umm Al-Rimmam 121.12 56** eP PKPdf 10 14 00.5 +0.2
UMR AMb AMB 10 14 01.7
comp=Z,42nm,0.4s
RDF **Al-Radifah 121.17 57** eP PKPdf 10 14 00.2 -0.1
RDF AMb AMB 10 14 02.4
comp=Z,29nm,0.9s
ZRNK **Zerenda 121.65 23** ePKIKP PKPdf 10 14 01.0 -0.2
BRVK **Borovoye 122.06 22** ePKIKP PKPdf 10 14 01.7 -0.3
BVAR **Borovoye Array 122.13 22** PKP PKPdf 10 14 02.0 -0.2
comp=Z,6.7nm,0.5s,baz=264,slow=1.4,SNR=37
BVAR PKKPbc PKKPbc 10 23 57.8 -1.2
comp=Z,2.8nm,0.7s,baz=134,slow=4.3,SNR=10
YSS **Yuzh-Sakhalins 122.57 328**⇓iPKIKP PKPdf 10 14 02.9 -0.1
CNB **Canberra Magne 122.88 226** ePKP PKPdf 10 14 03.7 +0.1
comp=Z,14nm,0.4s
BOD **Bodaibo 122.96 353** ePKIKP PKPdf 10 14 01.6 -2.2
BOD pmax pmax
comp=Z,9.0nm,0.7s
ARMA **Armidale 123.40 232** iPKP PKPdf 10 14 05.1 +0.5
TOO **Toolangi 124.36 221** ePKP PKPdf 10 14 06.1 -0.3
comp=Z,23nm,0.5s
NVS **Novosibirsk 124.48 13** ePKIKP PKPdf 10 14 04.8 -1.9
NVS pmax pmax
comp=N,1.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS pmax pmax
comp=Z,11nm,0.6s
KRAR **Krasnoyarsk 125.01 6**⇑iPKIKP PKPdf 10 14 08.1 +0.4
ZAL **Zalesovo 125.67 13** PKP PKPdf 10 14 08.8 -0.2
comp=Z,24nm,0.6s,baz=201,slow=2.2,SNR=88
ZAL SKP 10 17 29.2
comp=Z,3.8nm,0.7s,baz=215,slow=3.0,SNR=7.7
ZAL PKKPbc 10 23 43.8
comp=Z,1.6nm,0.5s,baz=303,slow=3.5,SNR=6.5
ZAL **Zalesovo 125.67 13** PKP PKPdf 10 14 08.8 -0.2
ZAL SKP 10 17 29.2
ZAL PKKPbc 10 23 43.8
KLR **Kul'dur 126.05 336** ePKIKP PKPdf 10 14 05.7 -4.0
KLR pmax pmax
comp=Z,44nm,1.0s
TLY **Talaya 129.86 359** ePKPdf PKPdf 10 14 16.6 -0.3
HIA **Hailar 129.99 345** ePKPdf PKPdf 10 14 16.2 -1.0
STKA **Stephens Creek 130.20 225** iPKP PKPdf 10 14 17.4 -0.2
comp=Z,48nm,0.8s
STKA ePKS 10 17 41.2
STKA **Stephens Creek 130.20 225** PKhKP 10 14 06.7
comp=Z,2.1nm,0.7s,baz=58,slow=3.4,SNR=4.8
STKA PKP PKPdf 10 14 17.5 -0.1
comp=Z,53nm,0.8s,baz=97,slow=1.7,SNR=83
STKA **Stephens Creek 130.20 225** PKP 10 14 06.7
STKA iPKP PKPdf 10 14 17.4 -0.2
STKA ePKS 10 17 41.2
MDJ **Mudanjiang 130.62 334** PKP PKPdf 10 14 17.5 -0.9
USP **Ospenovka 131.49 27** P PKPdf 10 14 21.1 +1.0
SNR=15
MK31 **Makanchi Array 131.52 18** ePKPdf PKPdf 10 14 19.5 -0.6
MK31 eSKPab 10 17 29.3
MKAR **Makanchi Array 131.52 18** PKhKP 10 14 08.1
comp=Z,1.0nm,1.0s,baz=326,slow=4.8,SNR=5.0
MKAR PKP PKPdf 10 14 19.7 -0.4
comp=Z,8.4nm,0.5s,baz=293,slow=2.7,SNR=100
MKAR PP PP 10 16 36.0 -5.3
comp=Z,2.1nm,0.7s,baz=355,slow=5.2,SNR=4.1
MKAR SKPbc SKPbc 10 17 29.7 +1.4
comp=Z,7.2nm,0.8s,baz=319,slow=4.5,SNR=12
MKAR PKKPbc 10 23 26.8
comp=Z,0.2nm,0.4s,baz=191,slow=5.7,SNR=4.3
MKAR PKKP 10 24 14.6
comp=Z,0.3nm,0.5s,baz=240,slow=2.1,SNR=4.2
MKAR SKKPbc 10 26 55.4
comp=Z,1.3nm,0.8s,baz=145,slow=6.8,SNR=4.1
MKAR **Makanchi Array 131.52 18** PKHKP 10 14 08.1
MKAR 10 14 19.7
MKAR e 10 26 55.4
MKAR **Makanchi Array 131.52 18** PKP 10 14 08.1
MKAR PKP PKPdf 10 14 19.7 -0.4
MKAR PP PP 10 16 36.0 -5.3
MKAR SKPbc SKPbc 10 17 29.7 +1.4
MKAR PKKPbc 10 23 26.8
MKAR PKKP 10 24 14.6
MKAR SKKPbc 10 26 55.4
EKS2 **Erkin-Say 131.62 28** P PKPdf 10 14 22.3 +2.0
SNR=8.5
MAJO **Matsushiro 131.76 321** ePKIKP PKPdf 10 14 20.0 -0.5
MAT **Matsushiro 131.76 321** PKP PKPdf 10 14 19.8 -0.7
MJAR **Matsushiro Arr 131.76 321** PKP PKPdf 10 14 20.1 -0.4
comp=Z,11nm,0.6s,baz=96,slow=1.1,SNR=41
MJAR SKPbc SKPbc 10 17 30.5 +1.4
comp=Z,15nm,1.0s,baz=36,slow=2.3,SNR=28
CTA **Charters Tower 131.91 241** iPKP PKPdf 10 14 21.0 +0.2
comp=Z,29nm,0.5s
CTA iSKP 10 17 29.9
CTA **Charters Tower 131.91 241** PKP PKPdf 10 14 21.0 +0.2
comp=Z,39nm,0.5s,baz=133,slow=2.2,SNR=93
CTA SKPbc SKPbc 10 17 29.9 +0.2
comp=Z,6.3nm,0.9s,baz=222,slow=6.8,SNR=4.6
CTAO **Charters Tower 131.91 241** ePKIKP PKPdf 10 14 20.8 0.0
AAK **Ala-Archa 131.98 28** P PKPdf 10 14 21.1 +0.2
SNR=17
AAK **Ala-Archa 131.98 28**diPKIKP PKPdf 10 14 21.2 +0.3
AAK **Ala-Archa 131.98 28** ePKPdf PKPdf 10 14 20.4 -0.5
AML **Almayashu 131.99 29** P PKPdf 10 14 23.1 +2.2
SNR=11
TKM2 **Tokmak 2 132.25 26** P PKPdf 10 14 22.7 +1.2
SNR=6.9
UCH **Uchtor 132.30 28** P PKPdf 10 14 20.9 -0.6
SNR=15
WSAR **Wadi Sarin 132.44 59** PKP PKPdf 10 14 22.4 +0.6
comp=Z,12nm,1.0s,baz=284,slow=2.9,SNR=7.7
WSAR SKPbc SKPbc 10 17 34.2 +2.7
comp=Z,9.1nm,0.7s,baz=281,slow=5.0,SNR=8.8
WSAR **Wadi Sarin 132.44 59** PKP PKPdf 10 14 22.4 +0.6
WSAR SKPbc SKPbc 10 17 34.2 +2.7
CN2 **Changchun 132.99 337** ePKP PKPdf 10 14 26.0 +3.1
ULHL **Ulahol 133.08 26** P PKPdf 10 14 24.8 +1.8
SNR=11
ULN **Ulaanbaatar 133.51 356**diPKIKP PKPdf 10 14 23.8 0.0
ULN **Ulaanbaatar 133.51 356** ePKPdf PKPdf 10 14 23.9 +0.1
SONM **Songino Array 133.59 356** PKP PKPdf 10 14 23.9 -0.1
comp=Z,12nm,0.5s,baz=331,slow=1.1,SNR=73
SONM SKPbc SKPbc 10 17 37.8 +2.4
comp=Z,11nm,0.8s,baz=323,slow=2.1,SNR=17
SONM SKKPbc 10 26 56.0
comp=Z,2.6nm,0.8s,baz=203,slow=3.8,SNR=9.5
SONM **Songino Array 133.59 356** PKIKP PKPdf 10 14 23.9 -0.1
SONM e 10 26 56.0
CBIJ **Chichi jima 133.98 307** PKP PKPdf 10 14 23.9 -0.9
comp=Z,26nm,0.5s,baz=292,slow=19,SNR=5.5
PMG **Port Moresby 134.03 256** PKP PKPdf 10 14 25.0 +0.2
comp=Z,4.2nm,0.6s,baz=25,slow=6.6,SNR=3.8
PMG **Port Moresby 134.03 256** iPKIKP PKPdf 10 14 25.4 +0.6
KSH **Kashi 135.11 29** ePKP PKPdf 10 14 29.8 +3.0
KSH eXPKP 10 15 30.0
KSH ePKS 10 18 06.8
KSH PP PP
comp=Z,577nm,6.8s
KSH LR LR
comp=Z,2μm,16.6s
WMQ **Urumqi 135.79 15** PKP PKPdf 10 14 28.8 +0.7
WMQ XPKP 10 15 30.0
WMQ ePP PP 10 17 14.0 +5.6
WMQ PKS 10 18 03.0
WMQ SKS SKSdf 10 21 18.0 -3.7
WMQ SKKS SKKSac 10 23 44.0 -1.2
WMQ PP PP
comp=Z,253nm,5.5s
WMQ LR LR
comp=N,276nm,21.0s
WMQ LR LR
comp=E,231nm,22.8s
WMQ LR LR
comp=Z,213nm,22.3s
JNU **Nakatsue 138.55 323** PKP PKPdf 10 14 33.0 -0.1
comp=Z,21nm,0.8s,baz=204,slow=20,SNR=6.1
BJI **Beijing 139.49 344** PKP PKPdf 10 14 34.5 -0.4
BJI **Beijing 139.49 344** PKP PKPdf 10 14 34.6 -0.3
BJI sPKP 10 15 26.6
BJT **Baijiatuau 139.51 343** ePKIKP PKPdf 10 14 34.6 -0.3
FORT **Forrest 139.69 215** ePKP PKPdf 10 14 28.1 -7.2
comp=Z,28nm,0.5s
FORT e 10 14 34.7
HHC **Hu-ho-hao-te 139.82 349** ePKP PKPdf 10 14 36.8 +1.3
HHC XPKP 10 15 36.3
HHC PP PP 10 17 39.8 +6.5
HHC PKS 10 18 11.0
HHC SKS SKSdf 10 21 29.8 +1.3
HHC SKKS SKKSac 10 24 10.0 +1.0
HHC PP PP
comp=Z,172nm,4.7s
HHC LR LR
comp=N,108nm,5.9s
HHC LR LR
comp=E,97nm,7.8s
HHC LR LR
comp=Z,164nm,16.7s
AS31 **Alice Springs 140.44 229** ePKP 10 14 27.6
AS31 i 10 14 36.5
ASAR **Alice Springs 140.44 229** PKhKP 10 14 27.6
comp=Z,19nm,0.6s,baz=125,slow=3.8,SNR=155
ASAR PKP PKPdf 10 14 36.5 -0.2
comp=Z,45nm,0.7s,baz=119,slow=2.1,SNR=47
ASAR SKPbc SKPbc 10 17 55.9 +0.2
comp=Z,2.7nm,1.0s,baz=148,slow=4.7,SNR=4.1
ASAR PKKP 10 23 58.8
comp=Z,0.4nm,0.3s,baz=318,slow=1.5,SNR=6.3
ASAR **Alice Springs 140.44 229** PKHKP 10 14 27.7
ASAR 10 14 36.5
ASPA **Alice Springs 140.44 229** ePKP 10 14 27.6
ASPA i 10 14 36.5
WB2 **Warramunga Arr 142.07 234** iPKP PKPdf 10 14 33.7 -5.9
WB2 i 10 14 39.8
WB2 epPKP pPKPdf 10 15 24.8 -2.5
WB2 ePKS 10 18 16.5
WRAB **Tennant Creek 142.08 234** iPKHKP 10 14 34.2
GTA **Gaotai 142.08 3** PKP PKPdf 10 14 35.5 -4.1
GTA PP PP 10 17 47.5 +0.4
GTA PKS 10 18 11.0
GTA SKS SKSdf 10 21 28.0 -4.1
GTA SKKS SKKSac 10 24 17.8 -4.3
GTA SS SS 10 36 03.0 -2.6
GTA PP PP
comp=Z,125nm,7.7s
GTA LR LR
comp=N,117nm,7.6s
GTA LR LR
comp=E,91nm,7.3s
GTA LR LR
comp=Z,175nm,10.7s
WRA **Warramunga Arr 142.08 234** PKhKP 10 14 34.0
comp=Z,40nm,0.8s,baz=125,slow=3.0,SNR=281
WRA PKP PKPdf 10 14 39.3 -0.3
comp=Z,58nm,0.6s,baz=114,slow=2.0,SNR=74
WRA pPKP pPKPdf 10 15 26.2 -1.1
comp=Z,10nm,0.6s,baz=22,slow=11,SNR=5.4
WRA PP PP 10 17 43.3 -3.8
comp=Z,8.5nm,1.2s,baz=124,slow=5.3,SNR=8.5
WRA SKPbc SKPbc 10 18 00.9 +1.1
comp=Z,14nm,1.1s,baz=114,slow=2.4,SNR=8.2
WRA PKKP 10 23 53.9
comp=Z,0.2nm,0.4s,baz=316,slow=1.4,SNR=7.8
WRA **Warramunga Arr 142.08 234** PKHKP 10 14 34.0
WRA 10 14 39.3
WRA 10 15 26.2
WRA 10 17 43.3
NWAO **Narrogin (SRO) 143.07 201** PKhKP 10 14 37.7
comp=Z,17nm,0.5s,baz=155,slow=3.5,SNR=29
NWAO **Narrogin (SRO) 143.07 201** ePKPdf PKPdf 10 14 37.3 -4.1
AJM **Ajmer 143.56 44** eP PKPdf 10 14 40.3 -1.9
NDI **New Delhi 143.82 39** eP PKPdf 10 14 41.0 -1.6
KLBR **Kellerberrin 144.07 203** iPKP PKPdf 10 14 40.7 -2.4
comp=Z,212nm,0.5s
JOW **Kunigami 144.45 318** PKP PKPdf 10 14 42.9 -0.9
comp=Z,222nm,0.7s,baz=329,slow=1.5,SNR=67
LZH **Lanzhou 145.43 358** ⇓PKP PKPdf 10 14 47.0 +1.6
LZH APKP 10 15 32.0
LZH XPKP 10 15 49.5
LZH ePP PP 10 18 12.0 +4.8
LZH PKS 10 18 20.0
LZH SKKS SKKSac 10 24 41.0 -0.3
LZH SS SS 10 36 43.3 -0.7
LZH PP PP
comp=Z,200nm,5.8s
LZH **Lanzhou 145.43 358** ⇓PKP2 PKPab 10 14 46.9 +0.7
LZH e 10 18 11.9
LZH SS SS 10 36 43.2 -0.8
LZH **Lanzhou 145.43 358** ⇓PKP PKPdf 10 14 46.9 +1.5
LZH pPKP pPKPdf 10 15 32.0 -1.2
LZH sPKP 10 15 49.4
LZH ePP PP 10 18 11.9 +4.7
LZH PKS 10 18 20.1
LZH SKKS SKKSac 10 24 41.0 -0.3
LZH SS SS 10 36 43.2 -0.8
NJ2 **Nanjing 145.71 335** ePKP PKPdf 10 14 45.3 -0.6
NJ2 SKS SKSdf 10 21 29.0 -8.6
NJ2 PP PP
comp=Z,1μm,10.2s
NJ2 LR LR
comp=N,13μm,21.9s
NJ2 LR LR
comp=E,12μm,20.9s
NJ2 LR LR
comp=Z,10μm,26.2s
XAN **Xi'an 146.92 350** PKP PKPdf 10 14 48.3 +0.4
KAKA **Kakadu 146.95 244** ePKP PKPdf 10 14 48.0 0.0
comp=Z,264nm,0.6s
POO **Poona 147.32 57**⇑iP PKPdf 10 14 46.0 -2.6
comp=Z,20nm,1.0s
BHPL **Bhopal 147.54 46** eP PKPdf 10 14 51.6 +2.6
KAD **Karad 148.17 59** eP PKPdf 10 14 49.5 -0.5
KOLN **Koldanda 148.25 33** eP PKPdf 10 14 50.9 +0.8
GKN **Gorkha 148.60 31** eP PKPdf 10 14 51.7 +1.0
comp=Z,320nm,0.8s
WHN **Wuhan 148.81 340** PKP PKPdf 10 14 51.0 -0.1
ALBI **Allahabad 149.08 38** eP PKPdf 10 14 49.5 -2.0
KKN **Kakani 149.10 30** eP PKPdf 10 14 52.4 +0.9
comp=Z,259nm,0.6s
DMN **Daman 149.16 31** eP PKPdf 10 14 52.5 +0.9
comp=Z,231nm,0.5s
GUN **Gumba 149.30 29** eP PKPdf 10 14 53.0 +1.2
comp=Z,221nm,0.5s
PKI **Pulchoki 149.35 30** eP PKPdf 10 14 52.7 +0.8
JIRN **Jiri 149.66 29** eP PKPdf 10 14 54.0 +1.6
LSA **Lhasa 149.91 20** PKP PKPdf 10 14 55.0 +2.2
LSA **Lhasa 149.91 20** ePKPdf PKPdf 10 14 55.0 +2.2
LSA ePKPbc PKPbc 10 14 59.2 +1.4
FITZ **Fitzroy Crossi 149.94 229** iPKP PKPdf 10 14 53.2 +0.3
comp=Z,62nm,0.7s
FITZ i 10 14 57.8
FITZ i 10 15 04.7
FITZ **Fitzroy Crossi 149.94 229** PKP PKPdf 10 14 53.2 +0.3
comp=Z,71nm,0.9s,baz=178,slow=1.9,SNR=125
FITZ PKPbc PKPbc 10 14 57.7 -0.2
comp=Z,186nm,0.7s,baz=169,slow=4.5,SNR=129
FITZ PKPab PKPab 10 15 04.3 +0.1
comp=Z,127nm,0.6s,baz=164,slow=6.2,SNR=23
YHNB **Yeheng 150.38 323** ePKPbc PKPbc 10 14 58.3 -0.7
CD2 **Chengdu 150.59 357** ePKP PKPdf 10 14 53.5 -0.4
CD2 PKP2 PKPab 10 15 08.0 +1.1
CD2 APKP 10 15 40.0
CD2 XPKP 10 16 02.0
CD2 PP PP 10 18 39.8 +2.6
CD2 SKS SKSdf 10 21 41.5 -2.8
CD2 SKKS SKKSac 10 25 08.5 -1.6
CD2 SS SS 10 37 39.5 -2.3
CD2 PP PP
comp=Z,80nm,9.2s
NACB **Ninganchiao 150.62 322** ePKPbc PKPbc 10 14 59.4 -0.1
HYB **Hyderabad 151.75 54** iPKP PKPdf 10 14 56.0 +0.4
comp=Z,100nm,1.0s
HYB e 10 15 12.0
HYB **Hyderabad 151.75 54** eP PKPdf 10 14 56.0 +0.4
HYB e 10 15 12.0
MBWA **Marble Bar 151.83 216** ePKPdf PKPdf 10 14 56.2 +0.4
MBWA ePKPbc PKPbc 10 15 01.8 -0.5
MBWA ePKPab PKPab 10 15 11.6 -0.5
BOK **Bokaro 152.64 34** eP PKPdf 10 14 56.0 -0.9
TRD **Trivandrum 153.82 73** eP PKPdf 10 14 58.2 -0.5
GYA **Guiyang 154.71 351** PKP PKPdf 10 14 59.3 -0.6
GYA PKP2 PKPab 10 15 25.3 +1.0
GYA APKP 10 15 48.5
GYA XPKP 10 16 07.8
GYA PKS 10 18 32.0
GYA PP PP 10 19 02.5 +2.0
GYA SKS SKSdf 10 21 45.3 -3.9
GYA PPP 10 22 36.8
GYA SKKS SKKSac 10 25 30.0 -2.4
GYA SS SS 10 38 24.3 -2.5
GYA LR LR
comp=Z,80μm,20.0s
VIS **Vishakhapatnam 155.30 48** eP PKPdf 10 15 00.5 -0.2
KMI **Kunming 156.39 359** PKP PKPdf 10 15 01.3 -0.8
KMI sPKP 10 16 09.9
KMI PP PP 10 19 12.3 +2.5
KMI SS SS 10 38 43.7 -1.2
KMI LR LR
comp=Z,70nm,27.8s
PALK **Pallekele 157.72 74** ePKPdf PKPdf 10 15 04.7 +0.9
PALK ePKPab PKPab 10 15 38.1 +0.9
CHG **Chiang Mai 162.37 10** ⇓P PKPdf 10 15 09.4 +0.4
comp=Z,12nm,0.9s
CHTO **Chiang Mai 162.37 10** ePKIKP PKPdf 10 15 09.1 +0.1
KKTK **Khon Kaen 165.12 358** P PKPdf 10 15 12.5 +1.0
PSI **Prapat 176.37 67** PKP PKPdf 10 15 16.7 -0.8
comp=Z,28nm,0.9s,baz=226,slow=3.7,SNR=21
PSI PP PP 10 20 53.7 +1.3
comp=Z,1.2nm,0.3s,baz=254,slow=5.3,SNR=3.7
PSI **Prapat 176.37 67** PKP PKPdf 10 15 16.7 -0.8
PSI PP PP 10 20 53.7 +1.3

ISCJB ***31*** *10:10:26.8±0.4, 4032N±002×2148E±003, h10km, Error*

ellipse: s-maj=4.0km s-min=3.4km az=123.0
*SKO **31** 10:10:26.2, 4020N×2135E, h0km, M2.6, ML2.8*
*CSEM **31** 10:10:26.4±0.2, 4033N×2133E, h30km, ML2.8, Error ellipse: s-maj=3.6km s-min=2.6km az=61.0*
*THE **31** 10:10:27.5, 4032N×2143E, h7km*
*ATH **31** 10:10:29.1, 4012N×2158E, h10km, MD2.9/4*

ISC 31 10:10:27.3±0.4, 4032N±002×2148E±003, h10km, n20, σ1§35/31, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.23**	**93**	⇑*i* PG	**Pg**	**10 10 33.8**	**+1.9**
KZN				*e*Sg	**Sg**	**10 10 38.1**	**+3.0**
FNA	**Florina**	**0.47**	**351**	*e*Pg	**Pg**	**10 10 36.6**	**+0.2**
FNA				*e*Sg	**Sg**	**10 10 44.4**	**+1.7**
MEV	**Metsovon**	**0.57**	**200**	*e*Pg	**Pg**	**10 10 37.3**	**-1.0**
MEV				*e*Sg	**Sg**	**10 10 46.6**	**+0.8**
KBN	**Korca**	**0.61**	**300**	*i* Pg	**Pg**	**10 10 39.8**	**+0.8**
KBN				*i* Sg	**Sg**	**10 10 47.0**	**0.0**
BIA	**Bitola**	**0.71**	**351**	*i* Pg	**Pg**	**10 10 40.2**	**-0.8**
BIA				*i* Sg	**Sg**	**10 10 52.3**	**+2.1**
BIA				*e*Lg		10 10 53.1	
	comp=E,55nm,0.2s						
BIA				*e*Lg		10 10 53.3	
	comp=N,61nm,0.2s						
BIA	**Bitola**	**0.71**	**351**	*e*Pg	**Pg**	**10 10 40.2**	**-0.8**
BIA				*e*Sg	**Sg**	**10 10 51.3**	**+1.1**
LIT	**Litokhoron**	**0.81**	**105**	*e*Pg	**Pg**	**10 10 43.8**	**+1.0**
LIT				*e*Sg	**Sg**	**10 10 55.6**	**+2.2**
JAN	**Janina**	**0.82**	**216**	*e*PB	**Pg**	**10 10 42.5**	**-0.5**
OHR	**Ohrid**	**0.94**	**327**	*i* Pg	**Pg**	**10 10 44.2**	**-1.3**
OHR				*i* Sg	**Sg**	**10 10 58.8**	**+1.1**
OHR				*e*Lg		10 10 59.4	
	comp=E,188nm,0.5s						
OHR				*e*Lg		10 11 00.4	
	comp=N,140nm,0.5s						
OHR	**Ohrid**	**0.94**	**327**	*e*Pg	**Pg**	**10 10 44.0**	**-1.4**
OHR				*e*Sg	**Sg**	**10 10 58.2**	**+0.5**
GRG	**Griva**	**0.95**	**48**	*e*Pg	**Pg**	**10 10 45.7**	**+0.2**
IGT	**Igoumenitsa**	**1.18**	**229**	*e*Pg	**Pb**	**10 10 48.8**	**-0.9**
IGT				*e*Sg	**Sb**	**10 11 07.2**	**+2.1**
HORT	**Hortiatis**	**1.27**	**77**	*e*Pg	**Pg**	**10 10 50.9**	**-0.8**
KNT	**Kendrikon**	**1.37**	**52**	*e*Pg	**Pn**	**10 10 51.8**	**-0.6**
KEK	**Kerkira**	**1.42**	**245**	*e*PB	**Pg**	**10 10 56.2**	**+1.6**
EVR	**Evrytania**	**1.42**	**169**	*e*PB	**Pn**	**10 10 52.3**	**-0.9**
AGG	**Agios Georgios**	**1.45**	**153**	*e*Pg	**Pg**	**10 10 53.0**	**-2.1**
PLG	**Polygyros**	**1.51**	**87**	*e*Pg	**Pg**	**10 10 54.9**	**-1.3**
SOH	**Sokhos**	**1.52**	**70**	*e*Pg	**Pg**	**10 10 54.8**	**-1.6**
PHP	**Peshkopia**	**1.57**	**330**	*i* Pn	**Pn**	**10 10 52.5**	**-2.7**
PHP				*i* Sn	**Sg**	**10 11 16.2**	**-1.7**

*ISCJB **31** 10:27:31.3±0.5, 3724N±007×13530E±008, h379km±6km, mb3.1/4, Error ellipse: s-maj=12.1km s-min=8.9km az=89.1*
*IDC **31** 10:27:32.2±0.8, 3737N×13539E, h371km±14km, mb2.9/4, mb1 3.0/7, mb1mx2.9/25, mbtmp3.6/7, Error ellipse: s-maj=23.6km s-min=16.3km az=85.0*
*JMA **31** 10:27:32.0±0.2, 3725N×13524E, h372km±3km, M2.8*

ISC 31 10:27:32.3±0.5, 3726N±007×13522E±009, h368km±6km, n24, σ0§74/36, mb3.1/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**1.71**	**83**	P	**Pn**	**10 28 23.8**	**+0.4**
JSZ				*e*S	**S**	**10 29 04.5**	**0.0**
SAI	**Saigo**	**1.85**	**236**	P	**Pn**	**10 28 24.6**	**+0.4**
JGM	**Miyama**	**1.97**	**142**	P	**Pn**	**10 28 25.0**	**0.0**
JGM				*e*S	**S**	**10 29 07.1**	**-0.4**
JWT	**Wachi**	**1.98**	**176**	P	**Pn**	**10 28 25.5**	**+0.4**
JWT				S	**S**	**10 29 06.6**	**-1.0**
MAT	**Matsushiro**	**2.50**	**106**	P	**Pn**	**10 28 29.0**	**+0.2**
MAT				S	**S**	**10 29 14.2**	**-0.1**
MAT	**Matsushiro**	**2.50**	**106**	P	**Pn**	**10 28 29.1**	**+0.3**
MAT				S	**S**	**10 29 14.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.50**	**106**	P	**Pn**	**10 28 29.4**	**+0.5**
	2.8nm,0.3s,baz=282,slow=8.9,SNR=63						
MJAR				S	**S**	**10 29 14.4**	**0.0**
	baz=288,slow=11,SNR=2.9						
JSD	**Sado**	**2.53**	**71**	P	**Pn**	**10 28 29.0**	**-0.1**
JSD				*e*S	**S**	**10 29 15.0**	**+0.2**
JHS	**Saijyo**	**2.83**	**218**	P	**Pn**	**10 28 31.8**	**+0.3**
JWY	**Kouya**	**3.05**	**174**	P	**Pn**	**10 28 33.8**	**+0.4**
JWY				*e*S	**S**	**10 29 21.0**	**-1.7**
JIE	**Ise**	**3.11**	**157**	P	**Pn**	**10 28 34.6**	**+0.7**
JIE				*e*S	**S**	**10 29 22.8**	**-0.8**
JYN	**Shimob**	**3.21**	**122**	P	**Pn**	**10 28 34.7**	**-0.1**
JRY	**Ryogami san**	**3.21**	**112**	P	**Pn**	**10 28 35.9**	**+1.1**
JOD2	**Odawara 2**	**3.71**	**121**	P	**Pn**	**10 28 39.5**	**0.0**
JOD2				*e*S	**S**	**10 29 34.0**	**+0.3**
JWZ	**Kozaga**	**3.75**	**174**	P	**Pn**	**10 28 40.0**	**+0.2**
BSO1	**Boso 1**	**5.34**	**117**	P	**Pn**	**10 28 55.4**	**-1.0**
BSO1				*e*S	**S**	**10 30 00.3**	**-4.4**
JNU	**Nakatsue**	**5.45**	**222**	P	**Pn**	**10 28 58.5**	**+0.8**
	1.0nm,0.3s,baz=236,slow=12,SNR=5.0						
JHJ	**Hachijo jima 2**	**5.57**	**137**	S	**S**	**10 30 11.7**	**+2.5**
	9.0nm,0.3s,baz=74,slow=23,SNR=6.2						
ASAJ	**Asahikawa**	**8.84**	**37**	P	**Pn**	**10 29 35.1**	**-1.4**
	0.8nm,0.3s,baz=234,slow=11,SNR=8.5						
ASAJ				S	**S**	**10 31 11.7**	**-6.6**
	1.2nm,0.3s,baz=315,slow=29,SNR=7.2						
CBIJ	**Chichi jima**	**11.72**	**148**	S	**S**	**10 32 08.9**	**-12**
	3.6nm,0.3s,baz=287,slow=19,SNR=5.6						
SONM	**Songino Array**	**23.59**	**306**	P	**P**	**10 32 11.6**	**0.0**
	0.5nm,0.5s,mb3.0,baz=111,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**39.78**	**301**	P	**P**	**10 34 31.6**	**+0.5**
	0.4nm,0.6s,mb2.9,baz=89,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**56.90**	**181**	P	**P**	**10 36 39.8**	**-0.4**
	0.4nm,1.0s,mb2.7,baz=358,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**66.23**	**330**	P	**P**	**10 37 41.1**	**-0.8**
	2.6nm,0.9s,mb4.0,baz=41,slow=7.4,SNR=4.2						

*ISCJB **31** 10:37:25.3±1.1, 2212N±005×10115E±004, h17km±9km, mb4.2/13, MS3.9/4, Error ellipse: s-maj=9.3km s-min=5.7km az=46.9*
*IDC **31** 10:37:25.5±0.7, 2223N×10117E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.1/22, mbtmp4.3/12, ML4.8/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/33, Error ellipse: s-maj=34.4km s-min=13.9km az=65.0*
*BJI **31** 10:37:25.2, 2207N×10124E, h12km, mB4.6, mb4.3, ML4.6, Ms4.4, Msz3.9*
*NEIC **31** 10:37:28.7±3.0, 2213N×10109E, h24km±23km, mb4.2/2, Error ellipse: s-maj=11.5km s-min=8.0km az=82.0*
*PLV **31** 10:37:37.2±0.6, 2203N×10205E, h4km±3km, MD4.7*

ISC 31 10:37:27.2±1.2, 2206N±004×10102E±003, h17km±9km, n42, σ1§28/58, mb4.2/13, MS3.9/4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.43**	**27**	P	**Pn**	**10 38 20.5**	**+0.6**
KMI				SG	**Sb**	**10 39 11.3**	**+2.3**
KMI				Smax			
	comp=N,367nm,1.0s						
KMI				Smax			
	comp=E,321nm,1.0s						
KMI				LR	LR		
	comp=N,6μm,7.3s						
KMI				LR	LR		
	comp=E,7μm,7.6s						
KMI	**Kunming**	**3.43**	**27**	Pn	**Pn**	**10 38 20.6**	**+0.7**
CHG	**Chiang Mai**	**3.77**	**212**	PG	**Pg**	**10 38 37.8**	**-1.6**
CHG				SG	**Sg**	**10 39 30.8**	**+2.5**
CHTO	**Chiang Mai**	**3.77**	**212**	*e*Pn	**Pn**	**10 38 25.7**	**+1.2**
CHTO				*e*Sn	**Sg**	**10 39 28.3**	**0.0**
HNV	**Hanoi**	**4.55**	**102**	*e*Pn	**Pn**	**10 38 33.1**	**-2.2**
HNV				*e*Pg	**Pg**	**10 38 45.6**	**-8.8**
HNV				*e*Sg	**Sb**	**10 39 31.8**	**-9.5**
DSV	**Doi Son**	**4.84**	**107**	*e*Pn	**Pn**	**10 38 38.5**	**-0.7**
DSV				*e*Pg	**Pb**	**10 38 52.4**	**+0.9**
DSV				*e*Sg	**Sb**	**10 39 43.9**	**-5.5**
MTZV	**Met**	**4.97**	**95**	*e*Pn	**Pn**	**10 38 39.6**	**-1.3**
MTZV				*e*Pg	**Pb**	**10 38 54.1**	**+0.4**
MTZV				*e*Sg	**Sb**	**10 39 46.8**	**-6.3**
PLV	**Phu-Lien**	**5.37**	**102**	*e*Pn	**Pn**	**10 38 45.0**	**-1.4**
PLV				*e*Pg	**Pb**	**10 39 02.0**	**+1.5**
PLV				*e*Sg	**Sb**	**10 39 59.8**	**-4.8**
YTV	**Yen Tu**	**5.37**	**99**	*e*Pn	**Pn**	**10 38 45.6**	**-0.9**
YTV				*e*Pg	**Pb**	**10 39 02.3**	**+1.7**
YTV				*e*Sg	**Sb**	**10 39 59.8**	**-5.0**
GYA	**Guiyang**	**6.76**	**48**	*i* P	**Pn**	**10 39 04.5**	**-1.1**
GYA				S	**Sn**	**10 40 26.0**	**+3.9**
QIZ	**Qiongzhong**	**8.79**	**108**	P	**Pn**	**10 39 33.3**	**-0.2**
QIZ				S	**Sn**	**10 41 10.5**	**-1.7**
QIZ				AMB	AMB		
	comp=Z,37nm,0.7s						
QIZ				LR	LR		
	comp=N,1μm,8.0s						
QIZ				LR	LR		
	comp=Z,887nm,11.9s						
QIZ	**Qiongzhong**	**8.79**	**108**	*e*P	**Pn**	**10 39 33.2**	**-0.3**
	comp=Z,32nm,0.8s						
LZH	**Lanzhou**	**14.19**	**9**	*e*P	**Pn**	**10 40 49.8**	**+2.4**
LZH				AP	pP	10 40 55.3	-4.3
LZH				XP	sP	10 40 58.3	-3.6
LZH				AMB	AMB		
	comp=Z,22nm,1.3s						
GUN	**Gumba**	**14.91**	**296**	*e*P	**Pn**	**10 40 57.2**	**0.0**
	comp=Z,43nm,0.8s						
PKI	**Pulchoki**	**15.20**	**294**	*e*P	**Pn**	**10 41 00.0**	**-1.0**
	comp=Z,24nm,0.8s						
KKN	**Kakani**	**15.38**	**295**	*e*P	**Pn**	**10 41 02.7**	**-0.6**
	comp=Z,49nm,1.0s						
DMN	**Daman**	**15.47**	**294**	*e*P	**Pn**	**10 41 03.7**	**-0.8**
	comp=Z,51nm,1.0s						
GKN	**Gorkha**	**15.98**	**295**	*e*P	**Pn**	**10 41 09.1**	**-2.1**
	comp=Z,23nm,0.7s						
KOLN	**Koldanda**	**16.79**	**293**	*e*P	**Pn**	**10 41 17.7**	**-3.8**
	comp=Z,44nm,1.4s						
GTA	**Gaotai**	**17.33**	**357**	*e*P	**Pn**	**10 41 28.0**	**-0.2**
GTA				AP	pP	10 41 32.0	-2.4
GTA				XP	sP	10 41 35.3	-1.4
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s						
NJ2	**Nanjing**	**18.72**	**54**	*e*P	**Pn**	**10 41 40.0**	**-5.3**
NJ2				AP	pP	10 41 47.8	-1.9
NJ2				XP	sP	10 41 52.5	+0.5
NJ2				PP		10 41 56.0	
NJ2				S	**Sn**	**10 45 05.0**	**-9.2**
NJ2				XS	sS	10 45 18.0	-7.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,402nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,11.9s						
NJ2				LR	LR		
	comp=E,2μm,10.9s						
PSI	**Prapat**	**19.25**	**186**	P	**Pn**	**10 41 55.2**	**+3.6**
	comp=E,0.3nm,0.3s,baz=344,slow=7.7,SNR=12						
HHC	**Hu-ho-hao-te**	**20.75**	**23**	*e*P	**P**	**10 42 09.5**	**+2.5**
HHC				AMB	AMB		
	comp=Z,15nm,0.4s						
HHC				AMB	AMB		
	comp=Z,122nm,4.5s						
HHC				LR	LR		
	comp=N,287nm,8.0s						
HHC				LR	LR		
	comp=E,412nm,10.2s						
HHC				LR	LR		
	comp=Z,252nm,9.1s						
WMQ	**Urumqi**	**24.36**	**336**	*e*P	**P**	**10 42 43.5**	**-0.6**
WMQ				AP		10 42 48.0	
WMQ				XP	sP	10 42 51.0	-0.6
WMQ				PP		10 43 18.0	
WMQ				PPP		10 43 28.0	
WMQ				*e*S	**S**	**10 46 57.0**	**-5.8**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,67nm,4.8s						
WMQ				LR	LR		
	comp=N,598nm,12.6s,MS4.4						
WMQ				LR	LR		
	comp=E,517nm,13.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,320nm,18.8s						
THN	**Thein Dam**	**24.70**	**300**	*e*P	**P**	**10 42 46.3**	**-1.0**
JOW	**Kunigami**	**25.24**	**74**	LR	LR	10 52 54.1	
	comp=Z,156nm,18.0s,MS3.6,baz=288,slow=37						
SONM	**Songino Array**	**26.08**	**8**	P	**P**	**10 42 59.9**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.0,baz=193,slow=9.5,SNR=24						
SONM				LR	LR	10 54 25.9	
	comp=Z,209nm,19.4s,MS3.7,baz=105,slow=39						
ULN	**Ulaanbaatar**	**26.20**	**9**	*e*P	**P**	**10 43 04.2**	**+3.3**
	comp=Z,4.5nm,0.9s,mb4.0						
MK31	**Makanchi Array**	**28.97**	**333**	*e*P	**P**	**10 43 26.6**	**+1.0**
MKAR	**Makanchi Array**	**28.97**	**333**	P	**P**	**10 43 26.4**	**+0.7**
	comp=Z,9.2nm,0.8s,mb4.6,baz=141,slow=9.3,SNR=49						
ZAL	**Zalesovo**	**34.13**	**343**	P	**P**	**10 44 11.8**	**+0.7**
	comp=Z,2.7nm,0.3s,mb4.7,baz=175,slow=0.8,SNR=4.9						
ZAL	**Zalesovo**	**34.13**	**343**	P	**P**	**10 44 11.8**	**+0.7**
MJAR	**Matsushiro Arr**	**35.26**	**57**	P	**P**	**10 44 19.7**	**-1.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=265,slow=9.1,SNR=5.0						
BVAR	**Borovoye Array**	**38.77**	**331**	P	**P**	**10 44 50.3**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.1,baz=132,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**52.93**	**140**	P	**P**	**10 46 43.7**	**+1.2**
	comp=Z,3.0nm,0.9s,mb4.2,baz=328,slow=7.9,SNR=21						
WB2	**Warramunga Arr**	**52.94**	**140**	*e*P	**P**	**10 46 43.3**	**+0.8**
ASAR	**Alice Springs**	**55.58**	**143**	P	**P**	**10 47 03.2**	**+1.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=323,slow=6.8,SNR=30						
ASAR				PcP	PcP	10 48 04.2	+2.8
	comp=Z,0.6nm,0.8s,baz=321,slow=2.9,SNR=4.2						
FINES	**FINESS Array B**	**63.69**	**329**	P	**P**	**10 47 58.0**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=68,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**64.46**	**338**	P	**P**	**10 48 02.4**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=80,slow=8.7,SNR=5.9						
ARCES				LR	LR	11 21 56.5	
	comp=Z,74nm,18.2s,MS3.9,baz=173,slow=42						
STKA	**Stephens Creek**	**66.22**	**143**	P	**P**	**10 48 15.8**	**+1.8**
	comp=Z,2.6nm,0.7s,mb4.3,baz=315,slow=9.0,SNR=5.6						
NB2	**NORSAR Subarra**	**70.87**	**329**	P	**P**	**10 48 42.3**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=78,slow=6.5						
NOA	**NORSAR Array B**	**70.87**	**329**	P	**P**	**10 48 42.6**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=80,slow=6.1,SNR=5.9						

IDC 31 11:06:25.4±6.0, 848S×12988E, h51km±60km, mb3.5/2, mb1 3.6/5, mb1mx3.4/13, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=46.4km s-min=31.6km az=51.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.41**	**203**	P	Pn	11 08 53.0	+1.0
	0.2nm,0.3s,baz=22,slow=13,SNR=8.8						
FITZ				S	Sn	11 10 47.3	+0.1
	0.4nm,0.3s,baz=140,slow=19,SNR=8.3						
WRA	**Warramunga Arr**	**12.18**	**160**	P	Pn	11 09 15.6	-0.6
	0.4nm,0.3s,baz=338,slow=12,SNR=22						
WRA				S	Sn	11 11 30.8	+0.4
	0.5nm,0.3s,baz=338,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**15.58**	**166**	P	Pn	11 10 02.9	+1.2
	0.2nm,0.3s,baz=345,slow=8.7,SNR=14						
ASAR				S	S	11 12 53.5	-13
	0.1nm,0.3s,baz=350,slow=26,SNR=7.4						
STKA	**Stephens Creek**	**25.70**	**157**	P	P	11 11 51.2	+0.5
	2.5nm,1.0s,baz=350,slow=6.1,SNR=2.9						
MKAR	**Makanchi Array**	**69.39**	**327**	P	P	11 17 27.9	0.0
	0.4nm,0.5s,baz=119,slow=8.0,SNR=4.6						

CASC 31 11:10:03.5±1.3, 791N×8257W, h4km±8km, MD3.7, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.53**	**13**	*e*P	Pg	11 10 14.3	+0.6
CTCR	**Cotoan**	**0.99**	**349**	⇑*e*P	Pg	11 10 22.2	-0.3
CNI	**Changuinola**	**1.49**	**2**	*e*P	Pn	11 10 30.3	-0.7
AZU	**Azuero**	**2.27**	**93**	*e*P	Pn	11 10 41.2	-0.6
LCR2	**La Lucha 2**	**2.31**	**322**	*e*P	Pn	11 10 42.7	+0.5
LCR2				*e*S	Sn	11 11 11.5	+0.6
PRS1	**Puriscal**	**2.68**	**320**	⇑*e*P	Pn	11 10 46.0	-1.4
PRS1				*e*S	Sn	11 11 21.6	+1.4
PTP	**Ponta Puerca**	**19.42**	**56**	*e*P		11 10 12.1	

*ISCJB **31** 11:24:47.5±0.6, 3742N×00815.1E±0.1, h384km±7km, mb3.0/4, Error ellipse: s-maj=15.7km s-min=11.9km az=52.0*
*JMA **31** 11:24:47.9±0.4, 3743N×13514E, h381km±4km, M3.0*
*IDC **31** 11:24:48.7±1.3, 3749N×13524E, h383km±24km, mb2.8/4, mb1 3.0/7, mb1mx2.9/25, mbtmp3.7/7, Error ellipse: s-maj=48.4km s-min=14.8km az=63.0*

ISC 31 11:24:48.4±0.6, 3745N±007×1351E±01, h373km±6km, n20, σ0§71/26, mb3.0/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**1.82**	**89**	P	**Pn**	**11 25 41.0**	**+0.3**
JSZ				*e*S	**S**	**11 26 23.2**	**+0.4**
JWT	**Wachi**	**2.18**	**173**	P	**Pn**	**11 25 43.4**	**+0.4**
JWT				*e*S	**S**	**11 26 26.2**	**-0.8**
JGM	**Miyama**	**2.19**	**142**	P	**Pn**	**11 25 42.9**	**-0.2**
JGM				*e*S	**S**	**11 26 26.2**	**-1.0**
JSD	**Sado**	**2.59**	**76**	P	**Pn**	**11 25 46.1**	**0.0**
MAT	**Matsushiro**	**2.67**	**109**	P	**Pn**	**11 25 46.7**	**0.0**
MAT				*e*S	**S**	**11 26 34.2**	**+0.5**
MAT	**Matsushiro**	**2.67**	**109**	P	**Pn**	**11 25 46.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.67**	**109**	P	**Pn**	**11 25 47.2**	**+0.5**
	4.1nm,0.3s,baz=288,slow=9.7,SNR=58						
JGT	**Gotsu**	**3.28**	**223**	P	**Pn**	**11 25 52.5**	**+0.6**
JIE	**Ise**	**3.33**	**156**	P	**Pn**	**11 25 52.7**	**+0.3**
JIE				*e*S	**S**	**11 26 43.2**	**-0.8**
JRY	**Ryogami san**	**3.39**	**114**	P	**Pn**	**11 25 54.2**	**+1.3**
JOD2	**Odawara 2**	**3.91**	**123**	P	**Pn**	**11 25 57.6**	**-0.2**
JMK	**Ichinoseki**	**5.07**	**71**	P	**Pn**	**11 26 09.6**	**-0.2**
BSO1	**Boso 1**	**5.54**	**119**	P	**Pn**	**11 26 13.5**	**-1.4**
JHJ	**Hachijo jima 2**	**5.79**	**137**	P	**Pn**	**11 26 17.4**	**-0.2**
	6.3nm,0.3s,baz=76,slow=22,SNR=6.3						
JHJ				S	**S**	**11 27 31.8**	**+1.7**
	2.5nm,0.3s,baz=44,slow=18,SNR=3.7						
ASAJ	**Asahikawa**	**8.77**	**38**	P	**Pn**	**11 26 50.5**	**-1.2**
	0.8nm,0.3s,baz=232,slow=17,SNR=6.4						
CBIJ	**Chichi jima**	**11.95**	**148**	S	**S**	**11 29 32.1**	**-8.6**
	5.0nm,0.3s,baz=285,slow=21,SNR=6.4						
SONM	**Songino Array**	**23.38**	**305**	P	**P**	**11 29 26.1**	**+0.7**
	0.6nm,0.5s,mb3.1,baz=112,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**39.59**	**301**	P	**P**	**11 31 45.0**	**-0.1**
	0.4nm,0.6s,mb2.8,baz=94,slow=9.8,SNR=5.7						
WRA	**Warramunga Arr**	**57.09**	**181**	P	**P**	**11 33 56.5**	**-0.6**
	0.8nm,0.4s,mb3.4,baz=358,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**60.80**	**181**	P	**P**	**11 34 22.3**	**0.0**
	0.2nm,1.0s,mb2.5,baz=355,slow=4.6,SNR=5.2						

*ISCJB **31** 11:51:03.1±0.9, 2349S±005×6852W±008, h72km±10km, mb3.9/8, Error ellipse: s-maj=12.1km s-min=8.6km az=17.0*
*NEIC **31** 11:51:05.7, 2368S×6879W, h110km, MD4.4(GUC), After GUC.*
*GUC **31** 11:51:05.7±1.3, 2368S×6879W, h110km, MD4.2, ML4.4*
*IDC **31** 11:51:06.4±0.6, 2342S×6889W, h94km±4km, mb3.7/8, mb1 3.8/10, mb1mx3.7/17, mbtmp3.9/10, Error ellipse: s-maj=25.1km s-min=13.4km az=77.0*

ISC 31 11:51:05.0±0.7, 2347S±005×6860W±007, h75km±8km, n26, σ1§18/27, mb3.9/8, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.47**	**273**	⇓*i* P	**Pn**	**11 51 29.2**	**-0.4**
CEN1				*i* S	**Sn**	**11 51 48.2**	**0.0**
CEN1				AML	AML	11 51 49.8	
	comp=N,6μm,0.7s						
ANCH	**Antofagasta**	**1.67**	**262**	⇑*i* P	**Pn**	**11 51 34.2**	**+1.9**
ANCH				*i* S	**Sn**	**11 51 54.9**	**+1.9**
CPN1	**Cerro Paranal**	**2.01**	**235**	⇑*i* P	**Pn**	**11 51 36.6**	**-0.2**
CPN1				*i* S	**Sn**	**11 52 00.4**	**-0.7**
CPN1				AML	AML	11 52 04.7	
	comp=E,5μm,0.4s						
CDCH	**Caldera**	**4.11**	**209**	*e*P	**Pn**	**11 52 03.2**	**-2.2**
CDCH				*i* S	**Sn**	**11 52 47.4**	**-4.8**
TLL	**Tololo Astrono**	**6.95**	**196**	*e*P	**Pn**	**11 52 44.0**	**-0.2**
LPAZ	**La Paz**	**7.16**	**4**	P	**Pn**	**11 52 46.7**	**-0.2**
	comp=E,0.3nm,0.3s,baz=191,slow=9.4,SNR=8.3						
CFAA	**Coronel Fontan**	**8.11**	**178**	P	**Pn**	**11 53 00.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=347,slow=12,SNR=11						
CFAA				S	**Sn**	**11 54 28.3**	**-1.7**
	comp=E,0.2nm,0.3s,baz=198,slow=20,SNR=1.8						
CFAA	**Coronel Fontan**	**8.11**	**178**	P	**Pn**	**11 53 00.8**	**+0.9**
SIV	**San Ignacio**	**10.28**	**45**	P	**Pn**	**11 53 29.5**	**0.0**
	comp=E,5.6nm,0.3s,baz=244,slow=11,SNR=70						
SIV				S	**Sn**	**11 55 18.9**	**-4.0**
	comp=E,0.3nm,0.3s,baz=127,slow=20,SNR=2.5						
VNA3	**Neumayer Olymp**	**58.13**	**161**	*e*	**P**	**12 00 52.0**	**+1.2**
VNA3				*e*		12 00 54.0	
VNA3				*e*		12 03 00.1	
VNA1	**Neumayer--Stat**	**58.34**	**160**	*e*	**P**	**12 00 53.4**	**+1.1**
VNA2	**Neumayer--Watz**	**58.71**	**160**	*e*	**P**	**12 00 55.7**	**+0.9**
VNA2				*e*		12 00 57.2	
VNA2				*e*		12 03 03.3	
SNAA	**Sanae**	**60.34**	**161**	P	**P**	**12 01 06.6**	**+0.6**
	comp=E,1.2nm,0.6s,mb4.1,baz=284,slow=7.8,SNR=29						
SNAA	**Sanae**	**60.34**	**161**	*e*	**P**	**12 01 06.4**	**+0.4**
SNAA				*e*		12 01 08.1	
TXAR	**Lajitas Array**	**62.40**	**326**	P	**P**	**12 01 18.4**	**-1.5**
	comp=E,0.5nm,0.6s,mb3.7,baz=152,slow=7.7,SNR=8.5						
TXAR				sP	sP	12 01 51.5	+4.0
	comp=E,0.2nm,0.6s,baz=159,slow=6.7,SNR=2.2						
VNDA	**Vanda**	**74.97**	**190**	P	**P**	**12 02 37

HNKL	Nakhl	2.05	273	P		Pn	12 39 22.5	+2.0
HKAT	Jabal Katrina	2.44	238	P		Pn	12 39 25.9	0.0
TR2		2.71	238	⇑P		Pn	12 39 29.6	-0.1
TR2		2.71	238	P		Pn	12 39 29.5	-0.2
TR1		2.78	229	P		Pn	12 39 30.6	0.0
AMAG	Maghara	2.82	287	P		Pn	12 39 35.5	+4.4
AMAG				S		Sn	12 40 06.8	+1.0

MOS 31 13:02:40.8±0.7, 4259N×4655E, h20km, mb3.6/1, 2D, Error ellipse: s-maj=34.0km s-min=25.0km az=63.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	Uncukul	0.22	56	⇓iPG	Pb	13 02 48.5	+2.3
UNCR				i S	Sb	13 02 55.5	+5.7
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
BTLR	Botlikh	0.25	286	ePG	Pb	13 02 48.5	+1.8
BTLR				eS	Sb	13 02 56.0	+5.3
BTLR				pmax	pmax		
	comp=Z,112nm,0.1s						
KRNR	Karanay	0.35	48	⇓iPG	Pb	13 02 49.8	+1.4
KRNR				i S	Sb	13 02 57.8	+4.3
DBC	Dubki	0.47	26	i PG	Pb	13 02 51.0	+0.6
DBC				S	Sb	13 03 00.5	+3.5
KMKR	Kumukh	0.61	138	ePG	Pb	13 02 53.5	+0.7
KMKR				eS	Sb	13 03 05.0	+3.9

KRSC 31 13:12:15, 5010N×15814E, h10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.35	6	eP	Pn	13 12 54.7	+1.1
RUS				i S	Sn	13 13 24.0	+1.5
GRL	Gorelyy	2.46	359	eP	Pn	13 12 56.8	+1.7
GRL				i S	Sn	13 13 27.4	+2.2
AVH	Avacha	3.19	6	eP	Pn	13 13 08.1	+2.9
AVH				i S	Sn	13 13 45.0	+1.7
SPN	Mys Shipunski	3.22	21	eP	Pn	13 13 09.0	+3.3
SPN				i S	Sn	13 13 46.3	+2.2
GNL	Ganaly	3.60	358	eP	Pn	13 13 14.0	+3.1

IDC 31 13:40:08.6±1.3, 2187N×14254E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/21, mbtmp3.8/6, ML3.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/28, Error ellipse: s-maj=57.1km s-min=20.7km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.22	356	Pn	Pn	13 41 26.9	-1.0
	10.0nm,0.3s,baz=261,slow=19,SNR=6.5						
JOW	Kunigami	13.91	294	LR	LR	13 48 21.9	
	comp=Z,22nm,21.8s,baz=42,slow=36						
SONM	Songino Array	38.83	321	P	P	13 47 35.8	+0.5
	0.4nm,0.7s,baz=124,slow=7.2,SNR=4.5						
WRA	Warramunga Arr	42.32	192	P	P	13 48 04.9	+0.8
	0.9nm,0.7s,baz=16,slow=9.6,SNR=7.9						
ASAR	Alice Springs	46.03	191	P	P	13 48 33.0	-0.9
	0.2nm,0.6s,baz=20,slow=10,SNR=5.7						
ZAL	Zalesovo	53.72	322	P	P	13 49 31.6	-0.7
	1.9nm,0.3s,baz=331,slow=4.8,SNR=4.2						
MKAR	Makanchi Array	54.15	313	P	P	13 49 35.9	+0.4
	0.3nm,0.6s,baz=96,slow=7.7,SNR=4.9						
LPAZ	La Paz	150.51	85	PKPbc	PKPbc	14 00 04.0	+1.8
	0.9nm,0.6s,baz=309,slow=6.5,SNR=5.3						

*BJI **31** 14:05:07.6, 4680N×2740W, h10km, mb5.1*
*CSEM **31** 14:05:10.4±0.1, 4687N×2742W, h10km, mb4.3/10, Ms3.7, Error ellipse: s-maj=7.1km s-min=2.1km az=13.0*
*ISCJB **31** 14:05:11.0±0.4, 4695N±008×2737W±006, h10km, mb4.1/24, MS3.9/26, Error ellipse: s-maj=11.5km s-min=4.9km az=29.7*
*MOS **31** 14:05:11.6±1.1, 4711N×2738W, h10km, mb4.5/10, Error ellipse: s-maj=20.1km s-min=8.6km az=159.0*
*IDC **31** 14:05:11.1±0.6, 4699N×2728W, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/25, mbtmp4.1/13, ML5.0/1, MS3.9/24, Ms1 3.9/24, ms1mx3.8/30, Error ellipse: s-maj=26.0km s-min=14.0km az=18.0*
*NEIC **31** 14:05:12.6±0.4, 4685N×2739W, h10km, mb4.2/20, Error ellipse: s-maj=14.0km s-min=5.5km az=191.0*
ISC 31 14:05:12.8±0.4, 4696N±008×2734W±006, h10km, n133, σ1°09/115, mb4.1/24, MS3.9/26, 2C-1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	13.61	100	P	Pn	14 08 23.1	-2.7
	12nm,0.3s						
EZAM	Zamans	14.13	103	P	Pn	14 08 30.0	-2.9
EZAM				pmax	pmax		
	comp=Z,5.0nm,0.2s						
EZAM	Zamans	14.13	103	P	Pn	14 08 30.0	-2.9
	comp=Z,5.3nm,0.2s						
EPON	Pontenova	14.70	97	P	Pn	14 08 39.6	-1.1
	comp=Z,0.5nm,0.2s						
EPON	Pontenova	14.70	97	P	Pn	14 08 39.6	-1.1
	comp=Z,0.5nm,0.2s						
EARI	Arriondas	16.03	95	P	Pn	14 08 56.9	-1.4
	comp=Z,0.7nm,0.4s						
EARI	Arriondas	16.03	95	P	Pn	14 08 56.9	-1.4
	comp=Z,0.7nm,0.4s						
EVO	Evora	16.48	114	eP	Pn	14 09 00.2	-3.8
	comp=Z,20nm,0.8s						
EVO				eMLR	MLR		
	comp=Z,464nm,20.8s						
PESTR	Estremoz	16.55	112	eP	Pn	14 09 07.2	+2.3
	comp=Z,18nm,0.8s						
MORF	Marmelete	16.85	118	eP	Pn	14 09 08.2	-0.5
	comp=Z,11nm,1.0s						
EBAD	Badajoz	16.98	112	P	Pn	14 09 10.7	+0.4
	comp=Z,1.8nm,0.2s						
ELAN	Lanestosa	17.27	94	P	Pn	14 09 13.9	0.0
	comp=Z,6.6nm,0.4s						
ELAN	Lanestosa	17.27	94	P	Pn	14 09 13.9	-0.1
	comp=Z,6.6nm,0.4s						
EMIN	Mina Concepcio	17.78	114	P	Pn	14 09 19.3	-1.0
	comp=Z,0.6nm,0.3s						
EMIN	Mina Concepcio	17.78	114	P	Pn	14 09 19.3	-1.0
	comp=Z,0.6nm,0.3s						
GRR	Gorron	17.87	76	eP	Pn	14 09 22.6	+1.2
	comp=Z,57nm,1.1s						
GRR	Gorron	17.87	76	eP	Pn	14 09 22.6	+1.2
GRR				pmax	pmax		
	comp=Z,28nm,1.1s						
GRR	Gorron	17.87	76	eP	Pn	14 09 22.6	+1.2
	comp=Z,28nm,1.1s						
FLN	La Foliniere	18.09	74	eP	Pn	14 09 25.5	+1.4
	comp=Z,48nm,1.1s						
FLN				eMLR	MLR		
	comp=Z,618nm,19.5s						
FLN	La Foliniere	18.09	74	eP	Pn	14 09 25.5	+1.4
FLN				pmax	pmax		
	comp=Z,24nm,1.1s						
FLN	La Foliniere	18.09	74	eP	Pn	14 09 25.5	+1.4
	comp=Z,24nm,1.1s						
ESDC	Sonseca Array	18.46	105	P	Pn	14 09 26.8	-1.9
	comp=Z,1.1nm,0.3s,baz=302,slow=8.6,SNR=15						
ESDC				LR	LR	14 15 13.5	
	comp=Z,396nm,18.9s,baz=300,slow=33						
ESDC	Sonseca Array	18.46	105	P	Pn	14 09 29.9	+1.2
ESDC				LR	LR	14 15 13.6	
ESDC	Sonseca Array	18.46	105	P	Pn	14 09 29.9	+1.2
ESLA	Sonseca Array	18.46	105	eP	Pn	14 09 28.4	-0.3
	comp=Z,4.1nm,1.3s						
MFF	Saint Martin d	18.60	81	eP	Pn	14 09 30.9	+0.5
	comp=Z,17nm,0.9s						
MFF	Saint Martin d	18.60	81	eP	Pn	14 09 30.9	+0.5
MFF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MFF	Saint Martin d	18.60	81	eP	Pn	14 09 30.9	+0.5
	comp=Z,8.6nm,0.9s						
SJPF	Ste Jean	18.82	92	eP	Pn	14 09 34.9	+1.8
	comp=Z,26nm,1.1s						
SJPF	Ste Jean	18.82	92	eP	Pn	14 09 34.9	+1.8
SJPF				pmax	pmax		
	comp=Z,13nm,1.1s						
SJPF	Ste Jean	18.82	92	eP	Pn	14 09 34.9	+1.8
	comp=Z,13nm,1.1s						
EPF	Esparros	19.92	91	eP	Pn	14 09 46.9	+0.6
TCF	Toulx Ste Croi	20.26	81	eP	P	14 09 48.8	+0.5
	comp=Z,24nm,0.8s						
TCF	Toulx Ste Croi	20.26	81	eP	P	14 09 48.8	+0.5
TCF				pmax	pmax		
	comp=Z,12nm,0.8s						
TCF	Toulx Ste Croi	20.26	81	eP	P	14 09 48.8	+0.5
	comp=Z,12nm,0.8s						
BGF	Bois d'Agland	20.63	80	eP	P	14 09 53.4	+1.1
ERTA	Horta de San J	20.75	97	P	P	14 09 54.2	+0.6
	comp=Z,1.1nm,0.2s						
ERTA	Horta de San J	20.75	97	P	P	14 09 54.2	+0.7
	comp=Z,1.1nm,0.2s						
AVF	Avril sur Loir	20.93	79	eP	P	14 09 54.5	-1.0
	comp=Z,34nm,1.0s						
AVF	Avril sur Loir	20.93	79	eP	P	14 09 54.5	-1.0
AVF				pmax	pmax		
	comp=Z,17nm,1.0s						
AVF	Avril sur Loir	20.93	79	eP	P	14 09 54.5	-1.0
	comp=Z,17nm,1.0s						
SSF	Saint Saulge	20.97	78	eP	P	14 09 56.1	+0.1
	comp=Z,25nm,0.9s						
SSF	Saint Saulge	20.97	78	eP	P	14 09 56.1	+0.1
SSF				pmax	pmax		
	comp=Z,13nm,0.9s						
SSF	Saint Saulge	20.97	78	eP	P	14 09 56.1	+0.1
	comp=Z,13nm,0.9s						
BAIF	Baives	21.05	70	eP	P	14 09 56.8	0.0
	comp=Z,39nm,1.1s,mb4.4						
BAIF	Baives	21.05	70	eP	P	14 09 56.8	0.0
BAIF				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
BAIF	Baives	21.05	70	eP	P	14 09 56.8	0.0
	comp=Z,20nm,1.1s,mb4.4						
EPOB	Poblet	21.08	95	P	P	14 09 57.5	+0.3
	comp=Z,0.9nm,0.4s,mb3.5						
EPOB	Poblet	21.08	95	P	P	14 09 57.5	+0.3
	comp=Z,0.9nm,0.4s,mb3.5						
MTLF	Montolieu	21.10	89	eP	P	14 10 00.1	+2.7
LOR	Lormes	21.17	78	eP	P	14 09 59.2	+1.0
	comp=Z,44nm,1.1s,mb4.4						
LOR				eMLR	MLR		
	comp=Z,373nm,17.9s						
LOR	Lormes	21.17	78	eP	P	14 09 59.2	+1.0
LOR				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.4						
LOR				MLR	MLR		
	comp=Z,370nm,17.9s,MS3.8						
LOR	Lormes	21.17	78	eP	P	14 09 59.2	+1.0
	comp=Z,22nm,1.1s,mb4.4						
LOR				LR	LR		
	comp=Z,370nm,17.9s,MS3.8						
SMF	Signal de Mont	21.28	79	eP	P	14 10 00.4	+1.0
	comp=Z,50nm,1.2s,mb4.4						
SMF	Signal de Mont	21.28	79	eP	P	14 10 00.4	+1.0
SMF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.4						
SMF	Signal de Mont	21.28	79	eP	P	14 10 00.4	+1.0
	comp=Z,25nm,1.2s,mb4.4						
GIVF	Givet	21.44	70	eP	P	14 10 01.9	+0.8
LASF	Ste Croix	21.98	86	eP	P	14 10 05.0	-1.8
VIVF	Saint-Julien-l	22.30	84	eP	P	14 10 10.7	+0.5
MDT	Midelt	22.33	121	P	P	14 10 11.7	+1.1
	comp=Z,3.8nm,0.9s,mb3.8,baz=333,slow=11,SNR=12						
MDT				LR	LR	14 18 06.1	
	comp=Z,182nm,18.9s,MS3.5,baz=315,slow=35						
HAU	Haudompre	22.70	75	eP	P	14 10 14.5	0.0
	comp=Z,38nm,1.0s,mb4.5						
HAU				eMLR	MLR		
	comp=Z,470nm,23.0s						
HAU	Haudompre	22.70	75	eP	P	14 10 14.5	0.0
HAU				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.5						
HAU				MLR	MLR		
	comp=Z,470nm,23.0s,MS3.9						
HAU	Haudompre	22.70	75	eP	P	14 10 14.5	0.0
	comp=Z,19nm,1.0s,mb4.5						
HAU				LR	LR		
	comp=Z,470nm,23.0s,MS3.9						
CABF	La Chapelle	22.80	79	eP	P	14 10 16.2	+0.6
	comp=Z,29nm,1.1s,mb4.3						
CABF	La Chapelle	22.80	79	eP	P	14 10 16.2	+0.6
CABF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
CABF	La Chapelle	22.80	79	eP	P	14 10 16.2	+0.6
	comp=Z,15nm,1.1s,mb4.3						
HINF	Hinteralfeld	23.06	75	eP	P	14 10 17.6	-0.8
ORIF	Oris-en-Rattie	23.10	83	eP	P	14 10 18.9	+0.2
ORIF				eMLR	MLR		
	comp=Z,474nm,20.5s						
CDF	Champ du Feu	23.24	74	eP	P	14 10 21.1	+0.9
DAVOX	Davos/Dischmat	25.30	77	eP	P	14 10 37.5	-1.9
	comp=Z,3.1nm,0.7s,mb4.0,baz=321,slow=18,SNR=2.8						
DAVOX				LR	LR	14 19 20.1	
	comp=Z,282nm,20.8s,MS3.8,baz=268,slow=34						
JMIC	Jan Mayen	25.74	14	LR	LR	14 17 55.9	
	comp=Z,96nm,20.8s,MS3.3,baz=220,slow=30						
SCHQ	Schefferville	25.83	302	P	P	14 10 44.0	-0.2
	comp=Z,4.3nm,0.8s,mb4.0,baz=45,slow=4.3,SNR=4.2						
SCHQ				LR	LR	14 19 01.5	
	comp=Z,438nm,18.8s,MS4.0,baz=94,slow=32						
NOA	NORSAR Array B	26.22	43	LR	LR	14 19 17.5	
	comp=Z,139nm,19.1s,MS3.5,baz=30,slow=32						
CLL	Collm	26.51	66	eP	P	14 10 49.0	-1.4
CLL				e(PPPP)		14 11 47.0	
CLL				LmV		14 21 00.0	
	comp=Z,300nm,18.0s						
BRG	Berggiesshubel	27.16	66	e(P)	P	14 10 59.4	+3.2
	comp=Z,1.9nm,1.0s,mb3.6						
BRG	Berggiesshubel	27.16	66	P	P	14 10 59.4	+3.2
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
HFS	Hagfors	27.21	46	LR	LR	14 20 31.8	
	comp=Z,86nm,20.6s,MS3.3,baz=265,slow=34						
GERES	GERESS Array B	27.35	71	LR	LR	14 20 54.5	
	comp=Z,400nm,19.7s,MS4.0,baz=274,slow=35						
VRAC	Vranov	29.11	69	LR	LR	14 22 21.7	
	comp=Z,474nm,19.6s,MS4.1,baz=266,slow=36						
KEST	Kesra	29.48	99	P	P	14 11 17.1	+0.2
	comp=Z,2.3nm,0.9s,mb3.9,baz=303,slow=1.6,SNR=5.7						
KEST				LR	LR	14 21 56.0	
	comp=Z,197nm,19.1s,MS3.8,baz=280,slow=34						
FINES	FINESS Array B	33.38	45	LR	LR	14 23 40.5	
	comp=Z,112nm,21.8s,MS3.5,baz=351,slow=33						
ARCES	ARCESS Array B	34.16	30	LR	LR	14 23 54.8	
	comp=Z,74nm,19.1s,MS3.4,baz=203,slow=33						
AKASG	Malin Array Be	36.65	63	LR	LR	14 26 54.6	
	comp=Z,120nm,18.5s,MS3.7,baz=285,slow=36						
OBN	Obninsk	39.70	54	eP	P	14 12 42.5	-2.7
OBN				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.0						
TOA0	Torodi Ar. Sit	41.58	135	eP	P	14 12 59.8	-0.9
TOA0	Torodi Ar. Sit	41.58	135	eP	P	14 12 59.8	-0.9
TORD	Torodi Ar. Bea	41.58	135	P	P	14 12 59.3	-1.4
	comp=Z,10nm,0.8s,mb4.5,baz=329,slow=7.9,SNR=45						
TORD				LR	LR	14 29 13.0	
	comp=Z,454nm,18.7s,MS4.4,baz=325,slow=35						
BRTR	Keskin Array B	43.94	76	LR	LR	14 31 35.6	
	comp=Z,121nm,19.7s,MS3.8,baz=303,slow=36						
ULM	Lac du Bonnet	43.98	301	P	P	14 13 19.8	-0.4
	comp=Z,4.5nm,1.0s,mb4.1,baz=55,slow=9.8,SNR=4.0						
ULM				LR	LR	14 29 08.1	
	comp=Z,168nm,18.5s,MS4.0,baz=53,slow=33						
ULM	Lac du Bonnet	43.98	301	eP	P	14 13 19.9	-0.3
ULM	Lac du Bonnet	43.98	301	eP	P	14 13 19.9	-0.3
YKA	Yellowknife Ar	48.67	322	LR	LR	14 31 11.8	
	comp=Z,107nm,19.8s,MS3.8,baz=130,slow=32						
ARU	Arti	50.73	46	eP	P	14 14 10.6	-2.1
ARU				eS	S	14 21 25.2	-2.9
ARU				eSS	SS	14 24 57.3	-5.2
EDM	Edmonton	52.35	311	eP	P	14 14 24.6	-0.3
GCMT	Greycliff	54.23	301	eP	P	14 14 38.9	+0.2
GCMT	Greycliff	54.23	301	eP	P	14 14 38.9	+0.2
HRY	Holter Researc	54.98	303	eP	P	14 14 43.7	-0.4
BW06	Boulder Array	55.86	298	eP	P	14 14 49.7	-0.7
	comp=Z,5.5nm,1.1s,mb4.5						
BW06	Boulder Array	55.86	298	eP	P	14 14 49.7	-0.8
	comp=Z,5.5nm,1.1s,mb4.5						
PDAR	Pinedale Array	55.86	298	P	P	14 14 49.9	-0.6
	comp=Z,2.7nm,1.1s,mb4.2,baz=54,slow=7.7,SNR=12						
PDAR				LR	LR	14 35 26.8	
	comp=Z,162nm,20.7s,MS4.1,baz=62,slow=32						
PDAR	Pinedale Array	55.86	298	P	P	14 14 49.8	-0.7
DAWY	Dawson	57.23	331	eP	P	14 14 59.8	-0.5
DAWY	Dawson	57.23	331	eP	P	14 14 59.8	-0.4
PV10	Paradox Valley	58.12	294	eP	P	14 15 07.7	+1.2
PV10	Paradox Valley	58.12	294	eP	P	14 15 07.7	+1.2
ROSC	El Rosal	58.20	239	LR	LR	14 35 21.4	
	comp=Z,142nm,20.2s,MS4.1,baz=142,slow=31						
ANMO	Albuquerque	58.55	289	i P	P	14 15 10.9	+1.4
TXAR	Lajitas Array	60.23	282	P	P	14 15 21.6	+0.5
	comp=Z,0.6nm,0.8s,mb3.7,baz=79,slow=7.8,SNR=5.0						
TXAR				LR	LR	14 40 39.6	
	comp=Z,243nm,20.1s,MS4.3,baz=245,slow=35						
TXAR	Lajitas Array	60.23	282	P	P	14 15 21.5	+0.4
TIXI	Tiksi	60.50	8	⇓eP	P	14 15 23.4	+0.5
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.4						
TIXI	Tiksi	60.50	8	eP	P	14 15 23.4	+0.5
	comp=Z,10.0nm,2.5s,mb4.4						
NVAR	Mina Array Bea	63.77	299	P	P	14 15 45.0	+0.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=51,slow=4.8,SNR=5.3						
ZAL	Zalesovo	64.22	37	LR	LR	14 44 23.9	
	comp=Z,82nm,19.8s,MS3.9,baz=172,slow=37						
KRAR	Krasnoyarsk	65.85	32	⇑eP	P	14 15 58.7	+0.3
KRAR				pmax	pmax		
	comp=Z,25nm,0.5s						
KRAR	Krasnoyarsk	65.85	32	eP	P	14 15 58.7	+0.3
	comp=Z,25nm,0.5s						
AAK	Ala-Archa	67.17	52	⇑eP	P	14 16 05.9	-1.0
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
AAK	Ala-Archa	67.17	52	eP	P	14 16 05.9	-1.0
	comp=Z,4.0nm,1.7s,mb4.2						
MK31	Makanchi Array	68.21	44	eP	P	14 16 12.5	-0.9
MKAR	Makanchi Array	68.21	44	P	P	14 16 13.0	-0.4
	comp=Z,1.4nm,0.9s,mb4.0,baz=311,slow=5.6,SNR=11						
MKAR				LR	LR	14 45 26.3	
	comp=Z,70nm,18.7s,MS3.9,baz=334,slow=35						
MKAR	Makanchi Array	68.21	44	P	P	14 16 13.0	-0.4
MKAR				LR	LR	14 45 26.3	
LPAZ	La Paz	72.84	221	P	P	14 16 42.7	+1.0
	comp=Z,1.0nm,0.9s,mb3.8,baz=27,slow=10.0,SNR=3.8						
LPAZ	La Paz	72.84	221	P	P	14 16 42.7	+1.0
KMBO	Kilima Mbogo	73.76	110	LR	LR	14 48 52.5	
	comp=Z,150nm,19.9s,MS4.3,baz=80,slow=36						
SONM	Songino Array	77.33	30	P	P	14 17 08.0	+0.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=318,slow=5.7,SNR=13						
ULN	Ulaanbaatar	77.53	30	eP	P	14 17 09.9	+1.2
GTA	Gaotai	81.94	39	eP	P	14 17 32.8	+0.1
GTA				AP	pP	14 17 38.5	+2.5
GTA				XP	sP	14 17 42.0	+4.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
BOSA	Boshof	88.93	136	LR	LR	14 57 45.5	
	comp=Z,117nm,18.3s,MS4.3,baz=123,slow=36						
NJ2	Nanjing	95.66	28	eP	P	14 18 38.3	-0.3
VNDA	Vanda	149.11	184	PKPbc	PKPbc	14 25 00.7	-0.6
	comp=Z,2.0nm,1.1s,baz=272,slow=3.9,SNR=5.6						
VNDA	Vanda	149.11	184	ePKPbc	PKPbc	14 25 00.6	-0.6
WRA	Warramunga Arr	149.18	35	PKPbc	PKPbc	14 25 00.9	-0.6
	comp=Z,1.5nm,0.8s,baz=337,slow=3.1,SNR=9.2						
ASAR	Alice Springs	152.32	39	PKPbc	PKPbc	14 25 08.0	-0.9
	comp=Z,1.1nm,0.8s,baz=347,slow=1.9,SNR=8.6						
ASAR	Alice Springs	152.32	39	PKPbc	PKPbc	14 25 07.9	-1.0

*IDC **31** 14:12:50.5±2.1, 663S×12971E, h0km, mb3.6/1, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=85.5km s-min=27.3km az=77.0*
*ISCJB **31** 14:13:09.4±2.1, 75S±01×1294E±02, h200km±22km, mb3.3/1, Error ellipse: s-maj=39.8km s-min=16.1km az=123.1*
ISC 31 14:13:10.0±1.8, 75S±01×1294E±02, h188km±16km, n8, σ1°11/12, mb3.4/1, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.97	150	eP	Pn	14 14 37.0	+0.4
	36nm,0.3s						
KAKA				eS	Sn	14 15 44.2	-0.7
FITZ	Fitzroy Crossi	11.12	199	eP	Pn	14 15 43.3	-0.5
	4.4nm,0.4s						
FITZ				eS	Sx	14 17 37.4	
FITZ	Fitzroy Crossi	11.12	199	Pn	Pn	14 15 43.3	-0.4
	0.4nm,0.3s,baz=30,slow=16,SNR=15						
FITZ				Sn	Sx	14 17 40.7	
	2.6nm,0.3s,baz=90,slow=23,SNR=7.6						
WRA	Warramunga Arr	13.24	159	Pn	Pn	14 16 10.7	-0.1
	1.6nm,0.3s,baz=346,slow=13,SNR=48						
WRA				Sn	Sn	14 18 32.7	-5.6
	2.4nm,0.3s,baz=332,slow=22,SNR=8.6						
WB2	Warramunga Arr	13.25	159	⇓iP	Pn	14 16 10.1	-0.8
WB2				eS	Sn	14 18 33.6	-4.8
ASAR	Alice Springs	16.62	165	P	Pn	14 16 55.0	+2.8
	0.7nm,0.3s,baz=341,slow=9.5,SNR=49						
ASAR				S	Sx	14 19 49.9	
	0.2nm,0.3s,baz=344,slow=18,SNR=4.5						
ASPA	Alice Springs	16.62	165	eP	Pn	14 16 55.0	+2.8
ASPA				eS	S	14 19 55.0	-0.4
MKAR	Makanchi Array	68.33	327	P	P	14 23 50.2	-0.6
	0.4nm,0.5s,mb3.4,baz=118,slow=7.5,SNR=8.8						

MEX 31 14:31:54.3±0.7, 1774N×9577W, h91km±20km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.07	127	i P	Pn	14 32 13.7	-1.1
CMIG				i S	Sn	14 32 28.4	-1.7
VHO	Vista Hermosa	1.13	234	i P	Pn	14 32 14.1	-1.4
VHO				i S	Sn	14 32 30.6	-0.9
UTMO	Huajuapan	1.94	273	i P	Pn	14 32 25.1	-0.6
UTMO				i S	Sn	14 32 48.2	-1.4

CASC 31 14:32:02.2±2.1, 1062N×8666W, h20km±9km, MD3.9, ML3.0, 5C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZC	La Cruz	1.10	72	⇑eP	Pn	14 32 21.9	-0.5
CRZC				eS	Sb	14 32 39.5	+3.1
VCR	Vista de Mar	1.13	116	eP	Pn	14 32 21.8	-1.1
MADN	Villa Maderas	1.36	55	⇑eP	Pn	14 32 26.0	0.0
CONN	Concepcion	1.39	47	⇑eP	Pn	14 32 26.0	-0.3
LIM1	Limonal	1.39	87	i P	Pn	14

KNDS				*e*Sg	**Sg**	**14 46 24.0**	**+2.3**
CRES	**Cresnjev**	**1.35**	**3**	*e*Pg	**Pg**	**14 46 07.1**	**-0.1**
CRES				*e*Sg	**Sg**	**14 46 25.3**	**+0.6**
VISS	**Visnje**	**1.37**	**345**	*e*Pg	**Pg**	**14 46 07.2**	**-0.5**
VISS				*e*Sg	**Sg**	**14 46 25.3**	**-0.2**
VISS							
	comp=Z,92nm,0.2s						
VISS	**Visnje**	**1.37**	**345**	*e*Pg	**Pg**	**14 46 07.2**	**-0.5**
VISS				*e*Sg	**Sg**	**14 46 25.3**	**-0.2**
	comp=Z,92nm,0.2s						
GCIS	**Gornji Cirnik**	**1.40**	**8**	*e*Pn	**Pn**	**14 46 07.9**	**+0.3**
CEY	**Cerknica**	**1.42**	**333**	*e*Pn	**Pn**	**14 46 07.5**	**-0.4**
LEGS	**Legarje**	**1.47**	**359**	*e*Sn	**Sn**	**14 46 29.1**	**+0.8**
LEGS	**Legarje**	**1.47**	**359**	*e*Sg	**Sg**	**14 46 29.0**	**+0.4**
AOI	**Ancona**	**1.56**	**234**	Pn	**Pn**	**14 46 09.6**	**-0.3**
AOI				Sn	**Sn**	**14 46 31.2**	**+0.6**
	comp=Z,171nm,0.6s						
PDKS	**Podkum**	**1.60**	**351**	*e*Pn	**Pn**	**14 46 10.8**	**+0.4**
TRI	**Trieste**	**1.67**	**318**	Pn	**Pn**	**14 46 10.9**	**-0.4**
TRI				Sn	**Sn**	**14 46 34.5**	**+1.4**
	comp=Z,257nm,0.8s						
LJU	**Ljubljana**	**1.67**	**340**	*e*Pn	**Pn**	**14 46 11.7**	**+0.4**
LJU				*i*		14 46 16.0	
LJU				*e*Sg	**Sg**	**14 46 34.5**	**-0.5**
DOBS	**Dobrina**	**1.68**	**3**	*e*Pn	**Pn**	**14 46 11.9**	**+0.5**
DOBS				*e*Sn	**Sn**	**14 46 33.2**	**-0.1**
JAVS	**Javornik**	**1.68**	**328**	*e*Pn	**Pn**	**14 46 11.3**	**-0.2**
JAVS				*e*Sn	**Sn**	**14 46 34.3**	**+0.8**
VOY	**Vojsko**	**1.86**	**327**	*e*Pn	**Pn**	**14 46 13.2**	**-0.8**
VOY				*e*Sn	**Sn**	**14 46 39.7**	**+1.8**
VOJS	**Vojsko**	**1.87**	**327**	*i* Pn	**Pn**	**14 46 13.8**	**-0.2**
VOJS				*e*Sn	**Sn**	**14 46 38.5**	**+0.5**
GROS	**Grobnik**	**1.99**	**3**	*e*Pn	**Pn**	**14 46 15.8**	**+0.1**
FSSB	**Fossombrone**	**2.01**	**248**	Pn	**Pn**	**14 46 15.7**	**-0.3**
FSSB				Sn	**Sn**	**14 46 41.3**	**-0.3**
	comp=Z,175nm,0.2s						
GORS	**Gorjuse**	**2.07**	**333**	*e*Sn	**Sn**	**14 46 45.0**	**+1.9**
OBKA	**Obir**	**2.11**	**345⇓**	*e*Pn	**Pn**	**14 46 17.7**	**+0.3**
	SNR=17						
OBKA			⇓	*i*Sn	**Sn**	**14 46 43.5**	**-0.5**
ROBS	**Robic**	**2.19**	**324**	*i* Pn	**Pn**	**14 46 18.0**	**-0.5**
STON	**Ston**	**2.34**	**132**	*i* Pn	**Pn**	**14 46 22.5**	**+1.9**
STON				*i* Sn	**Sn**	**14 46 55.5**	**+5.7**
STON	**Ston**	**2.34**	**132**	*i* Pn	**Pn**	**14 46 22.4**	**+1.8**
MURB	**Monte Urbino**	**2.37**	**240**	Pn	**Pn**	**14 46 21.1**	**+0.1**
	comp=Z,51nm,0.3s						
PTCC	**Patocco-Chiusa**	**2.38**	**325**	Pn	**Pn**	**14 46 21.2**	**0.0**
	comp=Z,38nm,0.4s						
LNSS	**Leonessa**	**2.51**	**223**	Pn	**Pn**	**14 46 23.2**	**+0.3**
LNSS				Sn	**Sn**	**14 46 53.7**	**-0.3**
	comp=Z,230nm,0.5s						
FAGN	**Fagnano**	**2.56**	**211**	Pn	**Pn**	**14 46 23.8**	**+0.3**
FAGN				Sn	**Sn**	**14 46 54.7**	**-0.4**
	comp=Z,271nm,0.5s						
SFI	**Santa Sofia**	**2.58**	**258**	Pn	**Pn**	**14 46 22.9**	**-1.0**
	comp=Z,45nm,1.0s						
CRE	**Caprese Michel**	**2.59**	**252**	Pn	**Pn**	**14 46 25.1**	**+1.1**
	comp=Z,9.0nm,0.3s						
RGNG	**Rignano Grg**	**2.81**	**176**	Pn	**Pn**	**14 46 26.3**	**-0.7**
KBA	**Koelnbreinsper**	**2.95**	**332⇓**	*i*Pn	**Pn**	**14 46 29.2**	**+0.2**
KBA			⇓	*i*Sn	**Sn**	**14 47 04.2**	**-0.7**
MOA	**Molln**	**3.46**	**348⇑**	*i*Pn	**Pn**	**14 46 36.0**	**+0.1**
MOA			⇑	*i*Sn	**Sn**	**14 47 17.1**	**-0.1**
CONA	**Conrad Observa**	**3.47**	**6⇓**	*i*Pn	**Pn**	**14 46 36.6**	**+0.5**
	SNR=17						
CONA			⇓	*i*Sn	**Sn**	**14 47 16.6**	**-1.0**
WTTA	**Wattenberg**	**3.81**	**318⇑**	*i*Pn	**Pn**	**14 46 40.8**	**+0.2**
WTTA			⇑	*i*Sn	**Sn**	**14 47 24.4**	**-1.4**
WTTA			⇑	*i*Sg	**Sg**	**14 47 44.8**	**+1.2**
	comp=Z,27nm,0.5s						
WTTA	**Wattenberg**	**3.81**	**318⇑**	*i*Pn	**Pn**	**14 46 40.8**	**+0.1**
WTTA				Sn	**Sn**	**14 47 24.4**	**-1.5**
WTTA				Sg	**Sg**	**14 47 44.8**	**+1.2**
	comp=Z,27nm,0.5s						
KHC	**Kasperske Hory**	**4.81**	**346**	*e*PN	**Pn**	**14 46 54.0**	**-0.5**
KHC				*e*SN	**Sn**	**14 47 48.3**	**-2.4**
PRU	**Pruhonice**	**5.54**	**355**	*e*SN	**Sn**	**14 48 06.1**	**-2.6**
CLL	**Collm**	**7.01**	**348**	*e*Sg	**Sg**	**14 49 25.0**	**-1.5**

*ISCJB **31** 15:09:33.3±0.7,3619N±004×13990E±006,h87km±5km, mb3.3/2,Error ellipse: s-maj=8.6km s-min=5.6km az=74.3*
*IDC **31** 15:09:33.8±5.0,3630N×14001E,h83km±36km,mb3.0/2, mb1 3.3/2,mb1mx2.9/21,mbtmp3.4/2,Error ellipse: s-maj=59.3km s-min=31.4km az=61.0*
*JMA **31** 15:09:34.7±0.1,3622N×13988E,h77km±1km,M2.7*
ISC 31 15:09:34.3±0.7,3619N±004×13990E±006,h81km±5km, n16,σ0§40/29,mb3.3/2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.24**	**82**	P	**Pn**	**15 09 46.5**	**+0.1**
JYT				S	**Sn**	**15 09 55.4**	**+0.1**
JAG	**Ashikaga**	**0.43**	**303**	P	**Pn**	**15 09 47.4**	**-0.1**
JAG				S	**Sn**	**15 09 56.7**	**-0.6**
JKT	**Katashina**	**0.78**	**318**	P	**Pn**	**15 09 50.8**	**0.0**
JKT				S	**Sn**	**15 10 03.1**	**0.0**
JRY	**Ryogami san**	**0.83**	**258**	P	**Pn**	**15 09 51.7**	**+0.3**
JRY				S	**Sn**	**15 10 04.2**	**+0.1**
JOD2	**Odawara 2**	**1.14**	**216**	P	**Pn**	**15 09 55.2**	**+0.2**
JOD2				S	**Sn**	**15 10 09.9**	**-0.7**
JFY	**Yanaizu**	**1.22**	**353**	P	**Pn**	**15 09 55.9**	**-0.2**
JFY				S	**Sn**	**15 10 12.4**	**-0.1**
JHK	**Hiroka**	**1.27**	**326**	P	**Pn**	**15 09 56.8**	**+0.1**
JHK				S	**Sn**	**15 10 13.6**	**+0.1**
JYN	**Shimob**	**1.30**	**238**	P	**Pn**	**15 09 57.7**	**+0.6**
JYN				S	**Sn**	**15 10 14.7**	**+0.5**
JFT	**Otama**	**1.37**	**15**	P	**Pn**	**15 09 58.2**	**+0.3**
JFT				S	**Sn**	**15 10 16.1**	**+0.3**
MJAR	**Matsushiro Arr**	**1.41**	**285**	P	**Pn**	**15 09 58.4**	**0.0**
	15nm,0.3s,baz=89,slow=13,SNR=142						
MJAR				S	**Sn**	**15 10 17.0**	**+0.3**
	6.1nm,0.3s,baz=230,slow=21,SNR=8.7						
JFK	**Kawauchi**	**1.41**	**34**	P	**Pn**	**15 09 58.4**	**-0.1**
JFK				S	**Sn**	**15 10 16.3**	**-0.4**
MAT	**Matsushiro**	**1.41**	**285**	P	**Pn**	**15 09 58.5**	**+0.1**
MAT				S	**Sn**	**15 10 14.7**	**-2.0**
MAT	**Matsushiro**	**1.41**	**285**	P	**Pn**	**15 09 58.7**	**+0.3**
MAT				S	**Sn**	**15 10 17.1**	**+0.4**
JNS	**Sasagawa**	**1.69**	**344**	P	**Pn**	**15 10 02.4**	**+0.3**
MKAR	**Makanchi Array**	**43.54**	**303**	P	**P**	**15 17 29.5**	**-0.3**
	0.3nm,0.8s,mb3.1,baz=95,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**56.08**	**186**	P	**P**	**15 19 04.6**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=1.0,slow=7.6,SNR=5.7						

*ATH **31** 15:18:02.5,3905N×21.15E,h33km,MD3.0/3*
*ISCJB **31** 15:18:04.5±0.8,3889N±004×21.15E±005,h5km±7km, Error ellipse: s-maj=7.6km s-min=5.5km az=115.7*
*CSEM **31** 15:18:05.8,3895N×21.18E,h10km,ML3.5,After THE THE **31** 15:18:05.8,3895N×21.18E,h10km,ML3.5*
ISC 31 15:18:04.8±0.8,3888N±004×2114E±005,h8km±7km,n9, σ0§92/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.41**	**246**	*e*Pg	**Pg**	**15 18 14.4**	**+1.5**
LKD				*e*Sg	**Sg**	**15 18 22.9**	**+4.5**
EVR	**Evrytania**	**0.53**	**86**	*e*PN	**Pg**	**15 18 14.0**	**-1.0**
EVR				*e*SN	**Sg**	**15 18 22.0**	**+0.1**
JAN	**Janina**	**0.81**	**344**	*e*PN	**Pg**	**15 18 15.7**	**-4.7**
VLS	**Valsamata**	**0.82**	**212**	*e*PN	**Pn**	**15 18 21.3**	**-1.4**
VLS				*e*SN	**Sn**	**15 18 35.1**	**+0.1**
IGT	**Igoumenitsa**	**0.90**	**317**	*e*Pg	**Pg**	**15 18 22.4**	**+0.2**
MEV	**Metsovon**	**0.91**	**5**	*e*Pg	**Pg**	**15 18 20.7**	**-1.6**
MEV				*e*Sg	**Sg**	**15 18 34.3**	**+0.2**
AGG	**Agios Georgios**	**0.94**	**81**	*e*Pg	**Pg**	**15 18 22.4**	**-0.5**
AGG				*e*Sg	**Sg**	**15 18 36.4**	**+1.2**
LIT	**Litokhoron**	**1.61**	**40**	*e*Pg	**Pn**	**15 18 33.7**	**+0.1**
LIT				*e*Sg	**Sn**	**15 18 55.3**	**+0.8**
FNA	**Florina**	**1.91**	**5**	*e*Pb	**Pn**	**15 18 37.7**	**0.0**

*ISCJB **31** 15:29:29.0±2.9,2191N±004×143.13E±0.10,h6km±18km, mb4.4/31,MS3.5/1,Error ellipse: s-maj=15.2km s-min=7.3km az=170.0*
*MOS **31** 15:29:33.1±0.8,2194N×14309E,h33km,mb4.9/14,Error ellipse: s-maj=21.4km s-min=8.1km az=108.8*
*BJI **31** 15:29:33.9,2189N×14339E,h55km,mB5.2,mb4.8,Ms4.8, Msz3.8*

*IDC **31** 15:29:35.7±4.0,2192N×14295E,h38km±34km,mb4.1/15, mb1 4.3/17,mb1mx4.2/25,mbtmp4.3/17,ML4.0/2,Error ellipse: s-maj=23.2km s-min=12.2km az=88.0*
*NEIC **31** 15:29:35.2±0.3,2193N×14301E,h35km,mb4.7/11,Error ellipse: s-maj=13.8km s-min=6.6km az=81.0*
ISC 31 15:29:31.1±3.4,2192N±004×14318E±010,h7km±21km, n68,σ1§02/67,mb4.4/31,MS3.5/1,7C-4D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.23**	**350**	Pn	**Pn**	**15 30 50.9**	**+1.2**
	23nm,0.3s,baz=53,slow=20,SNR=14						
CBIJ				Sn	**Sn**	**15 31 49.9**	**-0.3**
	2.3nm,0.3s,baz=294,slow=19,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.20**	**345**	Pn	**Pn**	**15 33 05.5**	**-0.5**
	0.2nm,0.3s,baz=170,slow=11,SNR=6.3						
NJ2	**Nanjing**	**23.86**	**300**	*e*P	**P**	**15 34 45.3**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**24.98**	**359⇑**	*e*P	**P**	**15 34 54.0**	**-1.1**
YSS				pmax	pmax		
	comp=Z,132nm,2.5s,mb5.0						
KLR	**Kul'dur**	**28.73**	**344**	*e*P	**P**	**15 35 26.0**	**-2.9**
QIZ	**Qiongzhong**	**31.33**	**271**	P	**P**	**15 35 52.3**	**+0.4**
QIZ				S	**S**	**15 40 58.8**	**-0.3**
QIZ				LR	LR		
	comp=Z,172nm,32.2s,MS3.5						
ULN	**Ulaanbaatar**	**38.79**	**321**	*d i*P	**P**	**15 36 56.5**	**+0.3**
ULN	**Ulaanbaatar**	**38.79**	**321**	*e*P	**P**	**15 36 54.6**	**-1.6**
	comp=Z,12nm,1.4s,mb4.4						
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**15 36 58.4**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.3,baz=140,slow=7.9,SNR=26						
GTA	**Gaotai**	**40.74**	**305**	*e*P	**P**	**15 37 12.0**	**-0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,2.2s,mb3.5						
YAK	**Yakutsk**	**41.15**	**350**	*e*P	**P**	**15 37 15.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
YAK	**Yakutsk**	**41.15**	**350**	*e*P	**P**	**15 37 15.5**	**-0.3**
	comp=Z,14nm,0.9s,mb4.6						
SEY	**Seymchan**	**41.46**	**6⇑**	*e*P	**P**	**15 37 17.7**	**-0.7**
BOD	**Bodaibo**	**41.63**	**337**	*e*P	**P**	**15 37 19.1**	**-0.7**
CTA	**Charters Tower**	**41.86**	**176**	*e*P	**P**	**15 37 22.7**	**+1.1**
	comp=Z,7.6nm,0.9s,mb4.3						
CTA	**Charters Tower**	**41.86**	**176**	P	**P**	**15 37 22.8**	**+1.1**
	comp=Z,11nm,1.0s,mb4.4,baz=1.5,slow=8.0,SNR=8.3						
CTA	**Charters Tower**	**41.86**	**176**	*e*P	**P**	**15 37 22.7**	**+1.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**41.86**	**176**	*e*P	**P**	**15 37 22.7**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**41.86**	**176**	*e*P	**P**	**15 37 22.7**	**+1.0**
	comp=Z,11nm,0.9s,mb4.5						
ZAK	**Zakamensk**	**42.17**	**322**	*e*P	**P**	**15 37 24.1**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.1						
WRAB	**Tennant Creek**	**42.48**	**192⇑**	*e*P	**P**	**15 37 26.1**	**-0.6**
WB2	**Warramunga Arr**	**42.49**	**192**	*e*P	**P**	**15 37 26.5**	**-0.3**
WRA	**Warramunga Arr**	**42.49**	**192**	P	**P**	**15 37 26.8**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.1,baz=16,slow=9.0,SNR=24						
TLY	**Talaya**	**42.58**	**324**	*d i*P	**P**	**15 37 27.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	*e*P	**P**	**15 37 35.5**	**+2.0**
	comp=Z,4.0nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	P	**P**	**15 37 33.2**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.1,baz=33,slow=13,SNR=12						
AS31	**Alice Springs**	**46.20**	**192**	*e*P	**P**	**15 37 55.1**	**-1.4**
ASAR	**Alice Springs**	**46.20**	**192**	P	**P**	**15 37 56.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=17,slow=8.5,SNR=52						
ASPA	**Alice Springs**	**46.20**	**192**	*e*P	**P**	**15 37 55.1**	**-1.4**
TIXI	**Tiksi**	**50.43**	**354⇑**	*e*P	**P**	**15 38 28.8**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.3						
WMQ	**Urumqi**	**50.44**	**309**	*e*P	**P**	**15 38 30.5**	**+1.3**
WMQ				AP	pP	15 38 40.5	+8.9
WMQ				XP	sP	15 38 44.5	+12
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,263nm,5.2s						
WMQ				LR	LR		
	comp=N,170nm,16.5s						
WMQ				LR	LR		
	comp=E,157nm,22.2s						
WMQ				LR	LR		
	comp=Z,200nm,27.8s						
STKA	**Stephens Creek**	**53.51**	**182⇓**	*i*P	**P**	**15 38 51.7**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.51**	**182**	P	**P**	**15 38 52.0**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.5,baz=359,slow=9.6,SNR=7.7						
ZAL	**Zalesovo**	**54.04**	**322**	P	**P**	**15 38 55.6**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=7.0,slow=8.7,SNR=20						
MK31	**Makanchi Array**	**54.55**	**313**	*e*P	**P**	**15 39 00.0**	**+0.3**
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**15 39 00.1**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=92,slow=9.3,SNR=25						
MKAR				PcP	PcP	15 40 01.8	-1.1
	comp=Z,0.6nm,0.7s,baz=75,slow=3.6,SNR=3.7						
NVS	**Novosibirsk**	**55.13**	**322**	*e*P	**P**	**15 39 02.7**	**-1.2**
TKM2	**Tokmak 2**	**59.21**	**308**	P	**P**	**15 39 34.3**	**+1.6**
	SNR=9.2						
KBK	**Karagaybulak**	**59.69**	**307**	P	**P**	**15 39 37.2**	**+1.2**
	SNR=6.0						
USP	**Ospenovka**	**59.99**	**308**	P	**P**	**15 39 39.1**	**+0.9**
	SNR=5.2						
AAK	**Ala-Archa**	**60.03**	**307⇑**	*i*P	**P**	**15 39 38.2**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
UCH	**Uchtor**	**60.04**	**307**	P	**P**	**15 39 40.3**	**+1.8**
	SNR=12						
AML	**Almayashu**	**60.65**	**307**	P	**P**	**15 39 44.7**	**+2.0**
	SNR=8.3						
COLA	**College**	**61.45**	**27⇑**	*e*P	**P**	**15 39 44.4**	**-3.7**
CHKZ	**Chkalovo**	**62.36**	**320**	*e*P	**P**	**15 39 53.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
CHKZ	**Chkalovo**	**62.36**	**320**	*e*P	**P**	**15 39 53.4**	**-0.8**
	comp=Z,12nm,1.2s,mb4.9						
BRVK	**Borovoye**	**62.56**	**319**	*e*P	**P**	**15 39 55.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**62.56**	**319**	*e*P	**P**	**15 39 55.6**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**63.34**	**319**	*e*P	**P**	**15 40 00.4**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**63.34**	**319**	*e*P	**P**	**15 40 00.4**	**-0.3**
	comp=Z,7.1nm,1.0s,mb4.8						
INK	**Inuvik**	**67.37**	**24**	P	**P**	**15 40 27.1**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=270,slow=5.1						
ARU	**Arti**	**69.08**	**324⇓**	*i*P	**P**	**15 40 34.4**	**-3.2**
ARU				*e*		15 40 55.2	
ARU				*e*PPP		15 44 43.4	
ARU				*e*S	S	15 49 38.2	-4.9
ARU				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
ARU	**Arti**	**69.08**	**324**	*e*P	**P**	**15 40 36.6**	**-1.0**
	comp=Z,12nm,1.1s,mb4.7						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**15 41 20.4**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=293,slow=6.2,SNR=5.2						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	**P**	**15 41 20.4**	**+0.2**
OBN	**Obninsk**	**81.30**	**326**	*e*P	**P**	**15 41 48.1**	**+0.1**
OBN				*e*		15 41 55.6	
OBN				pmax	pmax		
	comp=Z,49nm,2.5s,mb5.0						
KIV	**Kislovodsk**	**82.27**	**314**	*e*P	**P**	**15 41 53.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**82.27**	**314**	*e*P	**P**	**15 41 53.4**	**+0.3**
	comp=Z,17nm,0.9s,mb5.0						
GNI	**Garni**	**82.30**	**310⇑**	*e*P	**P**	**15 41 55.0**	**+1.7**
GNI				pmax	pmax		
	comp=Z,20nm,2.5s						
FINES	**FINESS Array B**	**82.98**	**334**	P	**P**	**15 41 55.3**	**-1.5**
	comp=Z,6.6nm,1.1s,mb4.6,baz=98,slow=5.8,SNR=4.4						
NVAR	**Mina Array Bea**	**83.01**	**51**	P	**P**	**15 41 58.7**	**+1.8**
	comp=Z,1.8nm,0.8s,mb4.2,baz=272,slow=7.5,SNR=12						
QLMT	**Earthquake Lak**	**85.10**	**44**	*e*P	**P**	**15 42 09.2**	**+1.6**
PDAR	**Pinedale Array**	**87.24**	**45**	P	**P**	**15 42 19.1**	**+0.9**
	comp=Z,1.2nm,0.9s,mb4.1,baz=256,slow=3.1,SNR=6.5						
AKASG	**Malin Array Be**	**87.32**	**324**	P	**P**	**15 42 16.7**	**-1.9**
	comp=Z,1.3nm,0.5s,mb4.4,baz=52,slow=4.9,SNR=6.5						
BRTR	**Keskin Array B**	**90.19**	**313**	P	**P**	**15 42 31.6**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.5,baz=85,slow=4.1,SNR=8.0						
TORD	**Torodi Ar. Bea**	**128.60**	**309**	PKP	PKPdf	15 48 38.6	-0.2
	comp=Z,0.5nm,0.6s,baz=26,slow=1.6,SNR=6.2						
LPAZ	**La Paz**	**149.92**	**85**	PKPbc	PKPbc	15 49 23.9	+1.9
	comp=Z,2.9nm,0.9s,baz=328,slow=2.6,SNR=9.6						
LPAZ				PKPab	PKPab	15 49 30.1	+2.5
	comp=Z,3.8nm,0.8s,baz=189,slow=4.6,SNR=11						
SAML	**Samuel**	**151.56**	**67**	*e*PKPbc	PKPbc	15 49 26.1	+0.2
SAML				*e*PKPab	PKPab	15 49 33.8	-0.6

*ISCJB **31** 15:33:48.7±0.7,2180N±009×1429E±02,h29km,mb4.5/27, MS4.1/5,Error ellipse: s-maj=30.5km s-min=10.2km az=151.3*
*IDC **31** 15:33:50.4±0.7,2183N×14303E,h30km±3km,mb3.9/9, mb1 4.0/10,mb1mx4.0/17,mbtmp4.0/10,ML3.5/1,MS3.8/4, Ms1 3.8/4,ms1mx3.5/12,Error ellipse: s-maj=28.0km s-min=11.8km az=75.0*
*NEIC **31** 15:33:50.3±0.6,2192N×143.15E,mb4.7/6,Error ellipse: s-maj=26.5km s-min=9.6km az=76.0*
*BJI **31** 15:33:50.2,2190N×14320E,h29km,mB5.3,mb4.6,Ms4.4, Msz4.5*
*MOS **31** 15:33:55.6±2.4,2185N×14325E,h28km,mb4.8/13,Error ellipse: s-maj=22.9km s-min=8.7km az=109.3*
ISC 31 15:33:50.9±0.7,2183N±009×1430E±02,h31km, h31km±.7km:pP-P,n52,σ0§84/24,mb4.5/27,MS4.1/5,6C-4D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**352**	LR	LR	15 36 46.4	
	comp=Z,176nm,18.2s,baz=185,slow=33						
JOW	**Kunigami**	**14.30**	**293**	LR	LR	15 41 59.5	
	comp=Z,522nm,18.7s,baz=128,slow=34						
MJAR	**Matsushiro Arr**	**15.24**	**345**	Pn	**Pn**	**15 37 22.2**	**-1.5**
	0.2nm,0.3s,baz=156,slow=7.3,SNR=3.3						
SSE	**Sheshan**	**21.55**	**300**	P	pP	15 38 46.0	0.0
SSE				AMB	AMB		
	comp=Z,41nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,280nm,4.7s						
SSE				LR	LR		
	comp=N,370nm,7.5s						
SSE				LR	LR		
	comp=E,262nm,7.5s						
SSE				LR	LR		
	comp=Z,451nm,5.0s						
YSS	**Yuzh-Sakhalins**	**25.07**	**360⇑**	*e*P	pP	15 39 22.0	+0.5
YSS				pmax	pmax		
	comp=Z,187nm,2.5s,mb5.2						
KLR	**Kul'dur**	**28.77**	**345**	*e*P	**P**	**15 39 48.0**	**+2.3**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.7						
KAKA	**Kakadu**	**35.85**	**198**	*e*P	**P**	**15 40 51.5**	**+3.8**
	comp=Z,3.3nm,0.4s,mb4.6						
ULN	**Ulaanbaatar**	**38.75**	**321**	*e*P	**P**	**15 41 12.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**38.75**	**321**	*e*P	**P**	**15 41 12.6**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.3						
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**15 41 15.4**	**0.0**
	comp=Z,2.6nm,0.9s,mb4.0,baz=126,slow=6.7,SNR=14						
SONM				pP	pP	15 41 24.7	+0.1
	comp=Z,3.1nm,0.5s,baz=130,slow=7.9,SNR=19						
YAK	**Yakutsk**	**41.21**	**351⇓**	*e*P	pP	15 41 40.2	-1.8
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
SEY	**Seymchan**	**41.58**	**6⇑**	*e*P	pP	15 41 44.2	-0.8
CTA	**Charters Tower**	**41.78**	**175**	P	**P**	**15 41 36.8**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.0,baz=14,slow=6.3,SNR=3.9						
ZAK	**Zakamensk**	**42.13**	**322⇓**	*e*P	**P**	**15 41 40.1**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**42.35**	**192⇑**	*e*P	pP	15 41 52.0	+0.7
WRA	**Warramunga Arr**	**42.36**	**192**	P	**P**	**15 41 42.5**	**+0.3**
	comp=Z,1.8nm,0.9s,mb3.7,baz=14,slow=8.7,SNR=7.1						
WRA				pP	pP	15 41 52.1	+0.7
	comp=Z,3.4nm,0.9s,baz=12,slow=8.5,SNR=6.7						
TLY	**Talaya**	**42.55**	**324**	*e*P	pP	15 41 50.9	-2.0
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
TLY				MLR	MLR

comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 83.21 51 P P 15 46 14.5 +0.4
comp=Z,0.6nm,0.7s,mb3.8,baz=284,slow=5.0,SNR=4.7
NVAR pP pP 15 46 23.9 -0.1
comp=Z,2.2nm,0.8s,baz=288,slow=4.3,SNR=9.5
AKASG Malin Array Be 87.29 324 pP pP 15 46 42.0 -2.5
comp=Z,2.8nm,0.8s,baz=46,slow=4.4,SNR=3.2
AKASG Malin Array Be 87.29 324 *i P* pP 15 46 42.9 -1.6
AKASG pmax pmax
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 87.43 45 pP pP 15 46 44.7 -0.5
comp=Z,0.7nm,0.8s,baz=261,slow=7.4,SNR=3.8
PDAR LR LR 16 18 04.7
comp=Z,176nm,20.6s,MS4.5,baz=274,slow=30
BRTR Keskin Array B 90.12 313 pP pP 15 46 56.5 -1.4
comp=Z,3.2nm,0.9s,baz=108,slow=4.0,SNR=5.8
TORD Torodi Ar. Bea 128.52 309 pPKP pPKPdf 15 53 05.1 +0.2
comp=Z,0.4nm,0.5s,baz=41,slow=1.6,SNR=4.1
LPAZ La Paz 150.11 85 PKPbc PKPbc 15 53 39.0 +0.6
comp=Z,1.2nm,0.9s,baz=315,slow=1.4,SNR=3.8

*IDC **31** 15:35:14.6±0.8,2200N×14308E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.2/22,mbtmp4.1/10,MS3.9/4, Ms1 4.0/4,ms1mx3.5/13,Error ellipse: s-maj=31.5km s-min=16.7km az=79.0*
*ISCJB **31** 15:35:17.8±0.7,2197N±009×1430E±02,h33km,mb4.2/13, MS4.1/3,Error ellipse: s-maj=28.3km s-min=12.4km az=154.9*
*NEIC **31** 15:35:19.8±0.4,2200N×14305E,h35km,mb4.5/3,Error ellipse: s-maj=18.8km s-min=9.3km az=76.0*
ISC 31 15:35:19.9±0.7,2201N±009×1431E±02,h35km,n19, σ0°73/14,mb4.2/13,MS4.1/3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**11.44**	**346**	LR	LR	15 40 56.0	
	comp=Z,444nm,21.4s,baz=152,slow=30						
ULN	**Ulaanbaatar**	**38.65**	**321**	*e*P	**P**	**15 42 40.6**	**+0.6**
	5.5nm,1.1s,mb4.2						
SONM	**Songino Array**	**39.02**	**320**	P	**P**	**15 42 43.4**	**+0.3**
	2.5nm,0.7s,mb4.0,baz=130,slow=7.8,SNR=7.0						
YAK	**Yakutsk**	**41.04**	**350**	*e*P	**P**	**15 42 59.1**	**-0.7**
	9.3nm,0.8s,mb4.5						
CTA	**Charters Tower**	**41.96**	**176**	P	**P**	**15 43 07.7**	**+0.3**
	6.3nm,1.0s,mb4.2,baz=353,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**42.56**	**192**	P	**P**	**15 43 13.6**	**+1.3**
	2.8nm,0.9s,mb4.0,baz=14,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**46.27**	**192**	P	**P**	**15 43 40.2**	**-1.6**
	0.8nm,0.6s,mb3.8,baz=14,slow=9.6,SNR=3.3						
DZM	**Mont Dzumac**	**49.39**	**151**	LR	LR	16 01 18.2	
	comp=Z,142nm,20.7s,MS4.0,baz=327,slow=32						
STKA	**Stephens Creek**	**53.60**	**182**	P	**P**	**15 44 37.2**	**-0.4**
	1.1nm,0.5s,mb4.0,baz=350,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**53.60**	**182**	P	**P**	**15 44 37.2**	**-0.4**
ZAL	**Zalesovo**	**53.90**	**322**	P	**P**	**15 44 39.7**	**0.0**
	2.5nm,0.8s,mb4.2,baz=5,0,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**54.40**	**312**	P	**P**	**15 44 43.6**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=80,slow=8.2,SNR=4.5						
CHKZ	**Chkalovo**	**62.22**	**320**	*e*P	**P**	**15 45 37.4**	**-0.6**
	6.2nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**62.36**	**319**	P	**P**	**15 45 38.9**	**0.0**
	2.4nm,0.5s,mb4.6,baz=81,slow=8.9,SNR=3.4						
AKTO	**Aktyubinsk**	**70.26**	**317**	LR	LR	16 18 11.5	
	comp=Z,91nm,18.7s,MS4.0,baz=341,slow=37						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**15 47 04.2**	**-0.5**
	0.9nm,0.4s,mb4.0,baz=294,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**83.04**	**51**	P	**P**	**15 47 42.6**	**+0.9**
	1.0nm,0.8s,mb3.9,baz=288,slow=6.5,SNR=2.4						
PDAR	**Pinedale Array**	**87.25**	**45**	LR	LR	16 27 25.8	
	comp=Z,92nm,18.2s,MS4.2,baz=277,slow=36						
LPAZ	**La Paz**	**150.03**	**85**	PKPab	PKPab	15 55 14.4	+1.9
	2.1nm,0.7s,baz=270,slow=3.0,SNR=4.4						

KRSC 31 15:39:35,5298N×15705E,h315km,ML3.5,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.76**	**124**	*e*P	Pn	15 40 18.4	+2.4
GRL				*e*S	S	15 40 49.4	+0.7
GNL	**Ganaly**	**0.89**	**36**	*e*P	Pn	15 40 18.6	+2.1
GNL				*e*S	S	15 40 50.0	+0.4
PET	**Petropavlovsk**	**0.97**	**87**	*e*P	Pn	15 40 19.2	+2.4
PET				*e*S	S	15 40 51.0	+0.8
RUS	**Russkaya**	**1.04**	**121**	*e*P	Pn	15 40 18.6	+1.4
RUS				*e*S	S	15 40 50.8	0.0
AVH	**Avacha**	**1.06**	**74**	*e*P	Pn	15 40 19.4	+2.2
AVH				*e*S	S	15 40 51.3	+0.4
NLC	**Nalytchevo**	**1.40**	**81**	*e*S	S	15 40 55.0	+0.9
SPN	**Mys Shipunski**	**1.80**	**85**	*e*P	Pn	15 40 23.5	+1.9
SPN				*e*S	S	15 40 57.6	-1.2
MKZ	**Mys Kozlova**	**3.19**	**59**	*e*P	Pn	15 40 36.5	+2.8
MKZ				*e*S	S	15 41 20.1	-0.5
ZLN	**Zelenaya**	**3.75**	**34**	*e*P	Pn	15 40 40.5	+1.2
KBTR	**Krutoberegovo**	**4.66**	**44**	*e*P	Pn	15 40 52.1	+2.9
KBTR				*e*S	S	15 41 47.6	-1.3

*CSEM **31** 15:58:54.7±0.3,3762N×2075E,h8km,ML4.1,Error ellipse: s-maj=8.0km s-min=3.7km az=62.0*
*NEIC **31** 15:58:56.8,3774N×2098E,h0km,ML3.8(ATH), ML4.1(THE),After THE.*
*THE **31** 15:58:56.4,3774N×2097E,h10km,ML3.7*
*ISCJB **31** 15:58:57.0±0.7,3778N±004×2097E±006,h5km,Error ellipse: s-maj=7.0km s-min=4.2km az=113.2*
*ATH **31** 15:58:57.2,3790N×2109E,h5km±3km,MD3.6/14,ML3.6*
ISC 31 15:58:56.9±0.8,3769N±004×2086E±007,h10km,n45, σ1°17/59,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**336**	*e*PB	**Pg**	**15 59 07.1**	**-0.1**
VLS	**Valsamata**	**0.53**	**336**	P	**Pg**	**15 59 07.5**	**+0.3**
RLS	**Riolos of Patr**	**0.60**	**53**	*e*PB	**Pg**	**15 59 04.3**	**-4.2**
RLS				*e*SB	**Sg**	**15 59 09.0**	**-7.4**
ITM	**Ithomi**	**0.99**	**121**	*e*PB	**Pg**	**15 59 15.9**	**0.0**
ITM	**Ithomi**	**0.99**	**121**	P	**Pg**	**15 59 15.7**	**-0.2**
LKD	**Levkas**	**1.03**	**351**	*e*Pg	**Pg**	**15 59 14.2**	**-2.4**
LKD				*e*Sg	**Sg**	**15 59 29.5**	**-0.5**
EVR	**Evrytania**	**1.43**	**31**	*e*PB	**Pn**	**15 59 19.4**	**-3.5**
EVR	**Evrytania**	**1.43**	**31**	P	**Pn**	**15 59 21.4**	**-1.5**
AGG	**Agios Georgios**	**1.76**	**41**	*e*Pb	**Pn**	**15 59 25.1**	**-2.3**
AGG				*e*Sb	**Sn**	**15 59 48.9**	**-0.9**
AGG	**Agios Georgios**	**1.76**	**41**	P	**Pn**	**15 59 24.9**	**-2.4**
AGG				S	**Sn**	**15 59 48.9**	**-0.9**
IGT	**Igoumenitsa**	**1.88**	**347**	*e*Pb	**Pn**	**15 59 29.2**	**+0.1**
IGT				*e*Sb	**Sn**	**15 59 55.2**	**+2.3**
IGT	**Igoumenitsa**	**1.88**	**347**	P	**Pn**	**15 59 29.2**	**+0.1**
IGT				S	**Sn**	**15 59 55.6**	**+2.7**
VLI	**Veliai**	**1.92**	**120**	*e*PN	**Pb**	**15 59 33.2**	**+1.2**
LKR	**Lokris**	**1.94**	**60**	*e*PB	**Pn**	**15 59 28.8**	**-1.0**
LKR	**Lokris**	**1.94**	**60**	P	**Pn**	**15 59 29.4**	**-0.4**
JAN	**Janina**	**1.96**	**360**	*e*PN	**Pn**	**15 59 30.3**	**+0.1**
NAIG	**Nisos Aigina**	**2.08**	**87**	*e*PN	**Pn**	**15 59 33.0**	**+1.2**
MEV	**Metsovon**	**2.11**	**8**	*e*Pn	**Pn**	**15 59 30.8**	**-1.4**
KEK	**Kerkira**	**2.18**	**338**	*e*PG	**Pn**	**15 59 36.0**	**+2.8**
KYTH	**Kithira**	**2.24**	**128**	*e*PN	**Pb**	**15 59 38.0**	**+0.6**
ATH	**Athens Observa**	**2.28**	**82**	*e*PN	**Pn**	**15 59 35.5**	**+1.0**
KVR	**Kavouri**	**2.31**	**86**	*e*PB	**Pn**	**15 59 33.5**	**-1.4**
PTL	**Penteli**	**2.40**	**81**	*e*PN	**Pn**	**15 59 37.0**	**+0.8**
NEO	**Neokhori**	**2.46**	**48**	P	**Pn**	**15 59 37.7**	**+0.7**
XOR	**Xorichti**	**2.48**	**47**	P	**Pn**	**15 59 37.7**	**+0.5**
XOR	**Xorichti**	**2.48**	**47**	P	**Pn**	**15 59 37.7**	**+0.5**
KZN	**Kozani**	**2.70**	**15**	*e*PB	**Pn**	**15 59 39.0**	**-1.4**
LIT	**Litokhoron**	**2.72**	**27**	*e*Pn	**Pn**	**15 59 41.3**	**+0.7**
LIT	**Litokhoron**	**2.72**	**27**	P	**Pn**	**15 59 41.2**	**+0.7**
LIT				S	**Sn**	**16 00 15.8**	**+2.3**
AOS	**Alonnisos**	**2.79**	**57**	*e*Pn	**Pn**	**15 59 40.5**	**-1.0**
AOS				*e*Sn	**Sn**	**16 00 14.7**	**-0.6**
AOS	**Alonnisos**	**2.79**	**57**	*e*Pn	**Pn**	**15 59 40.5**	**-1.1**
AOS				*e*Sn	**Sn**	**16 00 14.7**	**-0.6**
FNA	**Florina**	**3.11**	**7**	*e*Pn	**Pn**	**15 59 45.5**	**-0.5**
BIA	**Bitola**	**3.34**	**6**	*e*Pn	**Pn**	**15 59 52.0**	**+2.9**
BIA	**Bitola**	**3.34**	**6**	P	**Pn**	**15 59 51.2**	**+2.0**
PLG	**Polygyros**	**3.35**	**36**	*e*Pn	**Pn**	**15 59 49.2**	**0.0**
PLG				*e*Sn	**Sn**	**16 00 30.1**	**+1.1**
HORT	**Hortiatis**	**3.38**	**30**	*e*Pn	**Pn**	**15 59 49.4**	**-0.3**
OHR	**Ohrid**	**3.41**	**359**	*e*Pn	**Pn**	**15 59 49.1**	**-1.0**
OHR				*e*Sn	**Sg**	**16 00 48.1**	**+1.6**
GRG	**Griva**	**3.47**	**20**	*e*Pn	**Pn**	**15 59 49.8**	**-1.1**
SOH	**Sokhos**	**3.67**	**31**	*e*Pn	**Pn**	**15 59 54.6**	**+0.9**
SOH				*e*Sn	**Sn**	**16 00 37.4**	**+0.3**
SOH	**Sokhos**	**3.67**	**31**	*e*Pn	**Pn**	**15 59 54.6**	**+0.9**
SOH				*e*Sn	**Sn**	**16 00 37.3**	**+0.2**
KRUS	**Krusevo**	**3.68**	**5**	*e*Pn	**Pn**	**15 59 49.2**	**-4.6**
KNT	**Kendrikon**	**3.81**	**24**	*e*Pn	**Pn**	**15 59 55.0**	**-0.6**
VAY	**Valandovo**	**3.86**	**19**	*e*Pn	**Pb**	**16 00 05.2**	**+0.2**
STIP	**Stip**	**4.12**	**14**	*e*Pn	**Pb**	**16 00 06.1**	**-3.4**
MMB	**Musomiste**	**4.47**	**29**	*e*Pn	**Pn**	**16 00 04.2**	**-0.5**
MMB				*e*Sn	**Sn**	**16 00 56.8**	**0.0**

*NEIC **31** 16:01:30.4,1661N×9438W,h113km,MD3.8(MEX),After MEX.*
MEX 31 16:01:30.2±1.0,1663N×9439W,h115km±13km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.66**	**314**	*i* P	Pn	16 01 47.2	-1.4
CMIG				*i* S	Sn	16 02 01.1	-1.5
TUIG	**Tuzandepetl**	**1.40**	**359**	*i* P	Pn	16 01 55.6	-0.5
TUIG				*i* S	Sn	16 02 11.4	-4.3
TUIG	**Tuzandepetl**	**1.40**	**359**	*i* P	Pn	16 02 02.6	+6.5
TUIG				*i* S	Sn	16 02 10.7	-5.0
HUIG	**Huatulco**	**1.86**	**243**	*i* P	Pn	16 01 59.5	-2.1
HUIG				*i* S	Sn	16 02 24.8	-0.8
CCIG	**Comitan**	**2.19**	**99**	*i* P	Pn	16 02 05.1	-0.7
CCIG				*i* S	Sn	16 02 31.9	-1.2
OXX	**Oaxaca**	**2.28**	**282**	*e*P	Pn	16 02 08.0	+1.1
VHO	**Vista Hermosa**	**2.29**	**281**	*i* P	Pn	16 02 07.0	0.0
VHO				*i* S	Sn	16 02 35.0	-0.2
UTMO	**Huajuapan**	**3.47**	**291**	*i* P	Pn	16 02 22.1	-0.5
UTMO				*i* S	Sn	16 03 01.2	-1.8

KRSC 31 16:27:22,5329N×16175E,h17km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**260**	*e*P	Pb	16 27 42.4	+0.6
SPN				*i* S	Sb	16 27 56.7	+1.3
MKZ	**Mys Kozlova**	**1.27**	**359**	*e*P	Pn	16 27 44.6	-0.3
MKZ				*i* S	Sb	16 28 00.8	-0.7
NLC	**Nalytchevo**	**1.45**	**266**	*e*P	Pn	16 27 48.1	+0.7
NLC				*i* S	Sn	16 28 07.1	+1.0
AVH	**Avacha**	**1.81**	**270**	*e*P	Pn	16 27 53.9	+1.5
AVH				*i* S	Sn	16 28 16.8	+1.9
PET	**Petropavlovsk**	**1.88**	**263**	*e*P	Pn	16 27 54.2	+0.8
PET				*i* S	Sn	16 28 17.4	+0.7
RUS	**Russkaya**	**2.14**	**248**	*e*P	Pn	16 27 57.7	+0.8
RUS				*i* S	Sn	16 28 23.0	-0.1
TUMR	**Tumrok**	**2.21**	**335**	*e*P	Pn	16 27 59.7	+1.9
TUMR				*i* S	Sn	16 28 27.6	+2.9
GNL	**Ganaly**	**2.31**	**282**	*e*P	Pn	16 28 01.5	+2.2
GNL				*i* S	Sn	16 28 29.5	+2.2
GRL	**Gorelyy**	**2.34**	**253**	*e*P	Pn	16 28 01.7	+2.0
GRL				*i* S	Sn	16 28 30.5	+2.4
KMNR	**Kamenistaya**	**2.62**	**341**	*e*P	Pn	16 28 04.2	+0.6
KMNR				*i* S	Sn	16 28 35.8	+0.8
ZLN	**Zelenaya**	**2.79**	**349**	*e*P	Pn	16 28 07.5	+1.7
ZLN				*i* S	Sn	16 28 41.4	+2.4
KPT	**Kopyto**	**2.83**	**342**	*e*P	Pn	16 28 07.9	+1.6
KOZ	**Kozyrevsk**	**2.98**	**339**	*e*P	Pn	16 28 10.5	+2.0
KOZ				*i* S	Sn	16 28 46.7	+2.9
KBTR	**Krutoberegovo**	**2.99**	**12**	*e*P	Pn	16 28 09.4	+0.8
KBTR				*i* S	Sn	16 28 44.8	+0.8
KLY	**Klyuchi**	**3.10**	**349**	*e*P	Pn	16 28 12.5	+2.4
KLY				*i* S	Sn	16 28 48.5	+1.9
SRDR	**Sredinnyy**	**3.25**	**340**	*e*P	Pn	16 28 13.3	+1.1
SRKR	**Sorokina**	**3.39**	**355**	*e*P	Pn	16 28 15.7	+1.6
SRKR				*i* S	Sn	16 28 54.7	+0.8

*IDC **31** 16:29:50.8±1.3,1396N×14485E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/20,mbtmp3.8/6,MS3.1/1,Ms1 3.1/1, ms1mx2.4/31,Error ellipse: s-maj=50.4km s-min=21.7km az=84.0*
*ISCJB **31** 16:30:07.2±0.7,138N±0.1×1445E±03,h151km±10km, mb3.7/8,Error ellipse: s-maj=46.4km s-min=19.0km az=172.9*
*NEIC **31** 16:30:08.7±0.7,1384N×14468E,h152km±7km,mb4.0/2, Error ellipse: s-maj=29.1km s-min=11.7km az=86.0*
ISC 31 16:30:08.7±0.7,139N±01×1446E±03,h149km±8km,n11, σ0°45/11,mb3.7/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**137**	*e*Pg	**Pn**	**16 30 29.5**	**+0.3**
GUMO				*e*Sg	**Sn**	**16 30 44.6**	**-0.2**
JHJ	**Hachijo jima 2**	**19.68**	**348**	LR	LR	16 39 45.3	
	comp=Z,62nm,20.6s,baz=233,slow=30						
WB2	**Warramunga Arr**	**35.07**	**197**	*e*P	**P**	**16 36 47.4**	**+0.1**
WRA	**Warramunga Arr**	**35.07**	**197**	P	**P**	**16 36 46.9**	**-0.5**
	1.1nm,0.8s,mb3.6,baz=18,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**38.73**	**196**	P	**P**	**16 37 18.8**	**+0.5**
	0.3nm,0.4s,mb3.2,baz=18,slow=13,SNR=5.4						
SONM	**Songino Array**	**46.38**	**325**	P	**P**	**16 38 20.7**	**+0.7**
	1.0nm,0.9s,mb3.4,baz=149,slow=5.9,SNR=5.1						
MKAR	**Makanchi Array**	**61.13**	**316**	P	**P**	**16 40 07.6**	**+0.4**
	1.3nm,0.5s,mb4.0,baz=94,slow=8.4,SNR=24						
CHKZ	**Chkalovo**	**69.48**	**322**	*e*P	**P**	**16 41 00.1**	**-0.9**
	0.5nm,0.3s,mb3.7						
BVAR	**Borovoye Array**	**69.57**	**322**	P	**P**	**16 41 01.2**	**-0.2**
	1.6nm,0.4s,mb4.1,baz=107,slow=7.7,SNR=15						
BRVK	**Borovoye**	**69.64**	**322**	*e*P	**P**	**16 41 01.6**	**-0.3**
	2.5nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**86.95**	**51**	P	**P**	**16 42 37.0**	**+0.1**
	0.2nm,0.3s,mb3.4,baz=290,slow=4.6,SNR=3.6						

*ISCJB **31** 16:51:54.8±0.3,4435N±002×732E±003,h20km±3km, Error ellipse: s-maj=3.9km s-min=2.8km az=134.5*
*CSEM **31** 16:51:54.5±0.1,4438N×735E,h12km,ML2.6/9,Error ellipse: s-maj=1.1km s-min=0.8km az=60.0*
*ROM **31** 16:51:54.9±0.2,4435N×731E,h10km±2km,Md2.2/4, Ml2.4/2,Error ellipse: s-maj=5.1km s-min=1.2km az=130.0*
*GEN **31** 16:51:54.9,4434N×726E,h14km,ML2.0*
*LDG **31** 16:51:54.3±0.1,4438N×737E,h10km,Md2.7/1,Ml2.7/9, Error ellipse: s-maj=1.7km s-min=0.9km az=64.0*
*NEIC **31** 16:51:54.9,4435N×731E,h10km,ML2.4(ROM), ML2.6(STR),ML2.7(LDG),After ROM.*
*STR **31** 16:51:55.9±0.3,4431N×727E,h5km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 31 16:51:54.4±0.3,4435N±002×729E±003,h19km±2km,n50, σ0°63/95,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sta Anna Valdi**	**0.11**	**168**	Pg	**Pg**	**16 51 58.2**	**-0.2**
STV				Sg	**Sg**	**16 52 00.2**	**-0.8**
	686nm,0.2s						
DOI	**San Damiano**	**0.15**	**348**	Pg	**Pg**	**16 51 59.2**	**+0.4**
DOI				Sg	**Sg**	**16 52 02.0**	**+0.2**
	1μm,0.2s						
ENR	**Entracque**	**0.16**	**144**	P	**Pg**	**16 51 58.7**	**-0.2**
PZZ	**Prazzo**	**0.20**	**318**	P	**Pg**	**16 51 59.8**	**+0.3**
TOUF	**Mont Tournerai**	**0.34**	**185**	Pg	**Pg**	**16 52 02.0**	**+0.2**
AUTN	**L'Aution**	**0.37**	**165**	Pg	**Pg**	**16 52 02.6**	**+0.3**
AUTN				Sg	**Sg**	**16 52 07.2**	**-0.4**
SAOF	**Saorge**	**0.41**	**153**	Pg	**Pg**	**16 52 03.2**	**+0.2**
SAOF				Sg	**Sg**	**16 52 08.3**	**-0.5**
ROB	**Roburent**	**0.42**	**98**	P	**Pg**	**16 52 03.5**	**+0.4**
MONE	**Monesi**	**0.43**	**129**	P	**Pg**	**16 52 03.4**	**+0.1**
LUCF	**Luceram**	**0.46**	**175**	Pg	**Pg**	**16 52 04.1**	**+0.2**
LUCF				Sg	**Sg**	**16 52 10.6**	**+0.4**
MVIF	**Mont Vial**	**0.47**	**192**	Pg	**Pg**	**16 52 04.3**	**+0.3**
MVIF				Sg	**Sg**	**16 52 10.4**	**0.0**
SBF	**Sospel**	**0.50**	**168**	*e*Pg	**Pg**	**16 52 04.7**	**+0.1**
SBF				*e*Sg	**Sg**	**16 52 11.6**	**+0.2**
	108nm,0.4s,SNR=1.0						
SBF	**Sospel**	**0.50**	**168**	*e*Pg	**Pg**	**16 52 04.7**	**+0.1**
SBF				*e*Sg	**Sg**	**16 52 11.6**	**+0.2**
	54nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**0.53**	**315**	*e*Pg	**Pg**	**16 52 05.2**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**16 52 12.9**	**+0.7**
	47nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.53**	**315**	*e*Pg	**Pg**	**16 52 05.2**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**16 52 12.9**	**+0.7**
	23nm,0.2s,SNR=1.0						
NEGI	**Negi**	**0.59**	**150**	P	**Pb**	**16 52 06.1**	**0.0**
RORO		**0.61**	**113**	P	**Pb**	**16 52 06.8**	**+0.4**
IMI	**Imperia**	**0.62**	**136**	Pg	**Pg**	**16 52 06.8**	**+0.1**
IMI				Sg	**Sg**	**16 52 15.2**	**+0.2**
	41nm,0.2s						
RRL	**Cesana Torines**	**0.67**	**328**	P	**Pb**	**16 52 07.7**	**+0.2**
FIN	**Finale Ligure**	**0.67**	**102**	Pg	**Pg**	**16 52 07.8**	**+0.1**
FIN				Sg	**Sg**	**16 52 17.1**	**+0.4**
	23nm,0.2s						
RSP	**Reno Superiore**	**0.80**	**358**	P	**Pb**	**16 52 08.9**	**-0.8**
PCP	**Pian Castagno**	**0.92**	**78**	P	**Pb**	**16 52 12.3**	**+0.6**
FRF	**La Foret Royal**	**0.92**	**211**	*e*Pn	**Pn**	**16 52 12.1**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**16 52 23.7**	**-0.8**
	32nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.92**	**211**	*e*Pn	**Pn**	**16 52 12.1**	**-0.2**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**16 52 23.7**	**-0.8**
	16nm,0.2s,SNR=1.0						
LSD	**Ceresole Reale**	**1.11**	**355**	P	**Pn**	**16 52 15.7**	**+0.8**
ORIF	**Oris-en-Rattie**	**1.16**	**300**	*e*Pg	**Pg**	**16 52 16.6**	**-0.2**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**16 52 31.5**	**+0.7**
	13nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.16**	**300**	*e*Pg	**Pg**	**16 52 16.6**	**-0.2**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**16 52 31.5**	**+0.7**
	6.6nm,0.2s,SNR=1.0						
TAVF	**Tavernes**	**1.16**	**231**	Pg	**Pg**	**16 52 17.0**	**+0.2**
TAVF				Sg	**Sg**	**16 52 31.8**	**-0.2**
LMR	**La Mourre**	**1.17**	**209**	*e*Pg	**Pg**	**16 52 16.6**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 52 31.0**	**-0.1**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**16 52 32.6**	**+0.3**
	43nm,0.2s						
LMR	**La Mourre**	**1.17**	**209**	*e*Pg	**Pg**	**16 52 16.6**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 52 31.0**	**-0.1**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**16 52 32.6**	**+0.3**
	22nm,0.2s						
LPG	**La Plagne**	**1.21**	**342**	*e*Pg	**Pg**	**16 52 16.9**	**-0.9**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 52 33.0**	**-0.6**
	6.2nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.21**	**342**	*e*Pg	**Pg**	**16 52 16.9**	**-0.9**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 52 33.0**	**-0.6**
	3.1nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.23**	**341**	*e*Pg	**Pg**	**16 52 17.5**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**16 52 33.7**	**-0.6**
	9.3nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.23**	**341**	*e*Pg	**Pg**	**16 52 17.5**	**-0.7**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**16 52 33.7**	**-0.6**
	4.7nm,0.4s,SNR=1.0						
VILF	**Villemus**	**1.24**	**247**	Pg	**Pg**	**16 52 18.9**	**+0.4**
VILF				Sg	**Sg**	**16 52 35.3**	**+0.6**
SMRF	**Simiane la Rot**	**1.29**	**254**	*e*Pg	**Pg**	**16 52 19.5**	**+0.1**
SMRF				*e*Sn	**Sn**	**16 52 34.4**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**16 52 37.0**	**+0.7**
	28nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.29**	**254**	*e*Pn	**Pn**	**16 52 17.6**	**+0.1**
SMRF				*e*Pg	**Pg**	**16 52 19.5**	**+0.1**
SMRF				*e*Sn	**Sn**	**16 52 34.4**	**+0.2**
SMRF				*e*Sg	**Sg**	**16 52 37.0**	**+0.7**
SMRF	**Simiane la Rot**	**1.29**	**254**	*e*Pg	**Pg**	**16 52 19.5**	**+0.1**
SMRF				*e*Sn	**Sn**	**16 52 34.4**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**16 52 37.0**	**+0.7**
	14nm,0.2s,SNR=1.0						
GELF	**Grande-Etoile**	**1.66**	**235**	Pg	**Pg**	**16 52 26.9**	**+0.5**
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*Pg	**Pg**	**16 52 31.1**	**-0.6**
VIVF				*e*Sn	**Sn**	**16 52 49.8**	**-0.3**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**16 52 57.0**	**+0.1**
	9.5nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.94**	**286**	*e*P	**Pn**	**16 52 28.3**	**+2.0**
VIVF				*e*Pg	**Pg**	**16 52 31.1**	**-0.6**
VIVF				*e*Sn	**Sn**	**16 52 49.8**

JEW Eniwo 1.34 290 ⇓P **Pn 17 40 03.8 +0.7**
JEW *e*S **Sn 17 40 21.7 +1.6**
ASAJ Asahikawa 1.77 347 P **Pn 17 40 09.7 +0.8**
116nm,0.3s,baz=207,slow=14,SNR=1063
ASAJ Asahikawa 1.77 347 PN **Pn 17 40 09.7 +0.8**
ASAJ pmax pmax
comp=Z,116nm,0.3s
YUK Yuzh-Kuril'sk 2.57 49⇓*i*PN **Pn 17 40 21.4 +1.8**
YUK *i* S **Sn 17 40 50.9 +1.2**
YUK pmax pmax
comp=N,350nm,0.4s
YUK pmax pmax
comp=Z,710nm,0.4s
YUK pmax pmax
comp=E,250nm,0.3s
YUK smax
comp=N,3μm,0.8s
YUK smax
comp=N,3μm,0.5s
YUK smax
comp=E,1μm,0.4s
KUR Kuril'sk 4.43 49⇑*e*PN **Pn 17 40 44.0 -1.1**
KUR *e*S **Sn 17 41 36.0 +0.6**
KUR pmax pmax
comp=N,80nm,0.6s
KUR pmax pmax
comp=E,90nm,0.6s
KUR pmax pmax
comp=Z,150nm,0.6s
KUR smax
comp=N,300nm,0.6s
KUR smax
comp=E,230nm,0.6s
YSS Yuzh-Sakhalins 4.57 356 *e*PN **Pn 17 40 48.3 +1.3**
YSS *e*S **Sn 17 41 42.0 +3.2**
YSS pmax pmax
comp=Z,110nm,0.9s
YSS Yuzh-Sakhalins 4.57 356 *e*P **Pn 17 40 48.0 +1.0**
MAJO Matsushiro 6.99 215 *e*PN **Pn 17 41 19.3 -0.8**
MAJO pmax pmax
comp=Z,22nm,0.5s
MAJO Matsushiro 6.99 215 *e*P **Pn 17 41 19.3 -0.7**
comp=Z,22nm,0.5s
MAT Matsushiro 6.99 215 P **Pn 17 41 19.8 -0.3**
MAT *e*S **Sn 17 42 43.0 +4.9**
MJAR Matsushiro Arr 6.99 215 P **Pn 17 41 19.6 -0.4**
comp=Z,3.6nm,0.3s,baz=28,slow=14,SNR=30
MJAR S **Sn 17 42 39.8 +1.7**
comp=Z,0.8nm,0.3s,baz=359,slow=12,SNR=2.3
JHJ Hachijo jima 2 9.63 197 P **Pn 17 41 53.1 -3.1**
comp=Z,44nm,0.3s,baz=25,slow=13,SNR=28
JHJ S **Sn 17 43 34.1 -8.8**
comp=Z,36nm,0.3s,baz=58,slow=23,SNR=8.9
KLR Kul'dur 10.49 315 *e*PN **Pn 17 42 09.7 +1.7**
KLR pmax pmax
comp=Z,34nm,1.2s
KLR MLR MLR
comp=Z,1μm,13.0s
JNU Nakatsue 13.41 230 P **Pn 17 42 46.9 -0.9**
comp=Z,0.4nm,0.3s,baz=218,slow=12,SNR=2.6
JNU LR LR 17 47 46.0
comp=Z,130nm,19.8s,baz=53,slow=36
CBIJ Chichi jima 15.28 183 P **Pn 17 43 10.0 -2.3**
comp=Z,10nm,0.3s,baz=301,slow=12,SNR=14
CBIJ S **Sn 17 45 46.5 -14**
comp=Z,8.1nm,0.3s,baz=102,slow=22,SNR=4.9
HIA Hailar 17.67 301 *e*P **Pn 17 43 41.1 -1.0**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 17.67 301 *e*P **Pn 17 43 41.1 -1.0**
comp=Z,6.4nm,0.6s
MA2 Magadan 17.84 13 *e*P **Pn 17 43 42.6 -1.5**
JOW Kunigami 19.73 223 P **Pn 17 44 03.4 -3.4**
comp=Z,0.7nm,0.3s,baz=299,slow=19,SNR=2.1
BJI Beijing 20.41 272 P **P 17 44 10.8 -1.4**
BJI AMB AMB
comp=Z,7.0nm,0.7s
BJI AMB AMB
comp=Z,136nm,4.2s
BJI LR LR
comp=Z,110nm,24.8s
BJI Beijing 20.41 272 P **P 17 44 10.8 -1.4**
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,110nm,24.8s
BJT Baijiatuau 20.42 272 P **P 17 44 10.7 -1.6**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 20.42 272 P **P 17 44 10.7 -1.6**
comp=Z,12nm,0.6s
YAK Yakutsk 21.25 342⇑*e*P **P 17 44 19.0 -2.2**
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.3
YAK Yakutsk 21.25 342 *e*P **P 17 44 18.6 -2.6**
comp=Z,13nm,0.6s,mb4.4
SEY Seymchan 21.28 12⇑*e*P **P 17 44 19.5 -2.0**
NJ2 Nanjing 21.87 250 *e*P **P 17 44 28.3 +0.5**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb4.7
BOD Bodaibo 23.99 320 *e*P **P 17 44 42.6 -6.4**
BOD pmax pmax
comp=Z,40nm,1.0s,mb4.8
ULN Ulaanbaatar 25.89 295*c i*P **P 17 45 06.2 -0.1**
ULN Ulaanbaatar 25.89 295 *e*P **P 17 45 06.3 0.0**
comp=Z,111nm,1.2s,mb5.3
SONM Songino Array 26.34 295 P **P 17 45 10.2 -0.1**
comp=Z,11nm,0.7s,mb4.5,baz=85,slow=8.6,SNR=106
SONM LR LR 17 56 04.5
comp=Z,92nm,18.4s,baz=81,slow=38
TLY Talaya 28.18 303 *e*P **P 17 45 26.4 -0.4**
TLY *e* 17 50 07.2
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,70nm,14.0s
ZAK Zakamensk 28.36 300 *e*P **P 17 45 28.0 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BILL Bilibino 28.52 18 *e*P **P 17 45 29.2 -0.6**
BILL pmax pmax
comp=Z,16nm,2.0s,mb4.4
TIXI Tiksi 30.17 351⇑*e*P **P 17 45 41.5 -3.0**
TIXI pmax pmax
comp=Z,4.0nm,1.7s,mb3.9
GTA Gaotai 32.64 280 P **P 17 46 07.0 +0.8**
GTA PCP PcP 17 48 52.8 +1.9
GTA AMB AMB
comp=Z,18nm,1.1s,mb4.9
KRAR Krasnoyarsk 34.76 311⇑*e*P **P 17 46 23.9 -0.6**
KRAR pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
ZAL Zalesovo 39.52 308 P **P 17 47 05.1 +0.2**
comp=Z,7.0nm,0.5s,mb4.7,baz=25,slow=8.6,SNR=31
ZAL PcP PcP 17 49 11.9 +0.6
comp=Z,2.7nm,0.6s,baz=53,slow=1.2,SNR=6.6
ZAL LR LR 18 05 06.3
comp=Z,64nm,18.7s,baz=185,slow=39
ZAL Zalesovo 39.52 308 P **P 17 47 05.1 +0.3**
ZAL 17 49 12.0
ZAL Zalesovo 39.52 308 P **P 17 47 05.1 +0.2**
ZAL PcP PcP 17 49 11.9 +0.6
ZAL LR LR 18 05 06.3
WMQ Urumqi 39.88 292⇓*i*P **P 17 47 08.5 +0.7**
WMQ AP pP 17 47 27.0 +3.2
WMQ XP sP 17 47 36.0 +4.8
WMQ AMB AMB
comp=Z,21nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,216nm,6.3s
WMQ LR LR
comp=N,323nm,17.3s
WMQ LR LR
comp=E,287nm,15.8s
WMQ LR LR
comp=Z,306nm,16.9s
NVS Novosibirsk 40.30 309 *e*P **P 17 47 10.7 -0.7**
KDAK Kodiak Island 42.30 46 P **P 17 47 28.0 +0.2**
comp=Z,3.3nm,0.5s,mb4.3,baz=280,slow=19,SNR=9.3
MK31 Makanchi Array 42.62 298 *e*P **P 17 47 30.1 -0.3**
MKAR Makanchi Array 42.62 298 P **P 17 47 30.4 0.0**
comp=Z,9.1nm,0.8s,mb4.6,baz=82,slow=10,SNR=75
MKAR PcP PcP 17 49 21.6 +0.1
comp=Z,2.1nm,0.7s,baz=59,slow=3.1,SNR=5.2
MKAR LR LR 18 06 12.0
comp=Z,42nm,18.0s,baz=168,slow=37
MKAR Makanchi Array 42.62 298 P **P 17 47 30.4 0.0**
MKAR 17 49 21.6
MKAR Makanchi Array 42.62 298 P **P 17 47 30.4 0.0**
MKAR PcP PcP 17 49 21.6 +0.1
MKAR LR LR 18 06 12.0
LSA Lhasa 43.30 270 P **P 17 47 37.5 +1.7**
LSA Lhasa 43.30 270 *e*P **P 17 47 37.7 +1.9**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LSA Lhasa 43.30 270 *e*P **P 17 47 37.7 +1.9**
comp=Z,6.6nm,0.8s,mb4.4
COLA College 43.88 35*d i*P **P 17 47 41.3 +0.8**
EGAK Eagle 46.73 35 *e*P **P 17 48 02.2 -0.9**
comp=Z,4.3nm,0.8s,mb4.4
DAWY Dawson 47.62 36 P **P 17 48 11.9 +2.0**
CHKZ Chkalovo 47.77 310 *e*P **P 17 48 10.8 -0.4**
CHKZ pmax pmax
comp=Z,19nm,0.8s,mb5.2
CHKZ Chkalovo 47.77 310 *e*P **P 17 48 10.8 -0.4**
comp=Z,19nm,0.8s,mb5.2
JIRN Jiri 48.06 271 *e*P **P 17 48 14.5 +1.1**
comp=Z,12nm,0.4s,mb5.3
BRVK Borovoye 48.15 309 *e*P **P 17 48 13.9 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
BRVK Borovoye 48.15 309 *e*P **P 17 48 13.9 -0.2**
comp=Z,4.5nm,0.4s,mb4.8
GUN Gumba 48.16 272 *e*P **P 17 48 15.2 +1.1**
comp=Z,75nm,0.4s
KKN Kakani 48.67 272 *e*P **P 17 48 18.8 +0.8**
comp=Z,30nm,0.8s,mb5.4
PKI Pulchoki 48.69 272 *e*P **P 17 48 18.9 +0.7**
DMN Daman 48.89 272 *e*P **P 17 48 20.7 +0.9**
comp=Z,13nm,0.4s,mb5.3
ZRNK Zerenda 48.92 309 *e*P **P 17 48 19.9 -0.1**
ZRNK pmax pmax
comp=Z,18nm,0.7s,mb5.2
ZRNK Zerenda 48.92 309 *e*P **P 17 48 19.9 -0.1**
comp=Z,18nm,0.7s,mb5.2
GKN Gorkha 49.03 273 *e*P **P 17 48 21.2 +0.4**
comp=Z,13nm,0.5s,mb5.2
AAK Ala-Archa 49.30 295 *e*P **P 17 48 22.0 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
AAK Ala-Archa 49.30 295 *e*P **P 17 48 22.0 -0.9**
comp=Z,2.6nm,0.5s,mb4.5
KOLN Koldanda 49.92 273 *e*P **P 17 48 28.6 +1.0**
comp=Z,24nm,0.7s,mb5.4
ARU Arti 53.33 316*d i*P **P 17 48 52.7 -0.3**
ARU pmax pmax
comp=Z,16nm,0.7s,mb5.1
ARU Arti 53.33 316 *e*P **P 17 48 52.4 -0.7**
comp=Z,15nm,0.8s,mb5.0
AKTO Aktyubinsk 56.19 310 LR LR 18 15 19.8
comp=Z,53nm,19.2s,baz=232,slow=38
ARCES ARCESS Array B 59.48 339 P **P 17 49 35.2 -1.6**
comp=Z,2.7nm,0.6s,mb4.4,baz=46,slow=8.7,SNR=10
JOF Joensuu 61.90 331 *e*p **P 17 49 51.6 -1.6**
comp=Z,7.3nm,0.6s,mb5.0
WRAB Tennant Creek 62.54 189⇑*e*P **P 17 50 01.3 +3.8**
WB2 Warramunga Arr 62.55 189 *e*P **P 17 49 57.3 -0.2**
WRA Warramunga Arr 62.55 189 P **P 17 49 57.3 -0.3**
comp=Z,0.5nm,0.6s,mb3.8,baz=6.7,slow=6.8,SNR=10
KAF Kangasniemi 64.19 332 *e*p **P 17 50 06.1 -2.3**
comp=Z,3.3nm,0.6s,mb4.5,baz=46,slow=6.2
KAF Kangasniemi 64.19 332 *e*P **P 17 50 06.1 -2.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
FINES FINESS Array B 64.72 332 P **P 17 50 10.5 -1.4**
comp=Z,4.6nm,0.5s,mb4.8,baz=54,slow=7.9,SNR=48
FINES LR LR 18 21 02.2
comp=Z,88nm,18.5s,baz=317,slow=38
FINES FINESS Array B 64.72 332 *i* P **P 17 50 11.1 -0.8**
FINES pmax pmax
comp=Z,5.0nm,0.5s
ASAR Alice Springs 66.28 189 P **P 17 50 22.9 +1.0**
comp=Z,0.2nm,0.4s,baz=5.3,slow=7.2,SNR=6.6
KIV Kislovodsk 68.45 310*d i*P **P 17 50 37.0 +1.4**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.1
KIV Kislovodsk 68.45 310 *e*P **P 17 50 36.7 +1.1**
comp=Z,12nm,0.7s,mb5.0
GNI Garni 69.62 306 LR LR 18 24 41.7
comp=Z,40nm,18.2s,baz=170,slow=39
NB2 NORSAR Subarra 69.77 337 P **P 17 50 42.9 -0.9**
comp=Z,2.0nm,0.6s,mb4.2,baz=35,slow=6.5
NB2 NORSAR Subarra 69.77 337 P **P 17 50 42.9 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 69.77 337 P **P 17 50 43.0 -0.8**
comp=Z,2.9nm,0.7s,mb4.3,baz=36,slow=6.2,SNR=9.4
NOA LR LR 18 26 02.5
comp=Z,44nm,18.5s,baz=275,slow=40
NOA NORSAR Array B 69.77 337 P **P 17 50 43.0 -0.8**
NOA LR LR 18 26 02.5
NVAR Mina Array Bea 70.76 55 P **P 17 50 51.9 +2.0**
comp=Z,0.8nm,0.7s,mb3.8,baz=294,slow=7.6,SNR=6.7
AKASG Malin Array Be 70.90 322 P **P 17 50 49.9 -0.8**
comp=Z,0.7nm,0.3s,mb4.0,baz=44,slow=6.5,SNR=8.8
PDAR Pinedale Array 73.00 47 P **P 17 51 03.6 +0.4**
comp=Z,0.7nm,0.5s,mb3.9,baz=360,slow=1.7,SNR=6.3
STKA Stephens Creek 73.92 181 LR LR 18 24 18.5
comp=Z,79nm,19.7s,baz=25,slow=36
OJC Ojcow 75.34 326 *e*P **P 17 51 17.3 +0.4**
BRTR Keskin Array B 76.31 312 P **P 17 51 22.6 +0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=66,slow=4.0,SNR=9.6
CLL Collm 77.11 331 *e*P **P 17 51 27.0 0.0**
NWAO Narrogin (SRO) 78.64 202 LR LR 18 24 45.2
comp=Z,44nm,20.4s,baz=162,slow=34
KHC Kasperske Hory 78.67 329⇓*i*P **P 17 51 36.5 +0.9**
GERES GERESS Array B 78.86 329 P **P 17 51 36.1 -0.5**
comp=Z,0.7nm,0.6s,mb3.8,baz=33,slow=5.1,SNR=7.4
GERES LR LR 18 30 27.9
comp=Z,99nm,18.1s,baz=7.1,slow=39
LOR Lormes 83.72 333 *e*P **P 17 52 02.8 +0.4**
FLN La Foliniere 83.75 337 *e*P **P 17 52 01.8 -0.7**
LDF La Druitiere 83.80 336 *e*P **P 17 52 02.5 -0.3**
SSF Saint Saulge 84.02 334 *e*P **P 17 52 04.2 +0.3**
GRR Gorron 84.20 337 *e*P **P 17 52 05.1 +0.3**
comp=Z,42nm,1.1s,mb5.2
GRR Gorron 84.20 337 *e*P **P 17 52 05.1 +0.3**
GRR pmax pmax
comp=Z,21nm,1.1s,mb5.2
GRR Gorron 84.20 337 *e*P **P 17 52 05.1 +0.3**
comp=Z,21nm,1.1s,mb5.2
LPL La Plagne 84.25 331 *e*P **P 17 52 04.3 -0.7**
SMF Signal de Mont 84.27 333 *e*P **P 17 52 04.9 -0.3**
AVF Avril sur Loir 84.31 334 *e*P **P 17 52 05.1 -0.3**
comp=Z,15nm,1.0s,mb4.8
AVF Avril sur Loir 84.31 334 *e*P **P 17 52 05.1 -0.3**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
AVF Avril sur Loir 84.31 334 *e*P **P 17 52 05.1 -0.3**
comp=Z,7.7nm,1.0s,mb4.8
BGF Bois d'Agland 84.68 334 *e*P **P 17 52 08.1 +0.9**
VIVF Saint-Julien-l 85.55 332 *e*P **P 17 52 11.7 +0.1**
MFF Saint Martin d 85.59 336 *e*P **P 17 52 12.0 +0.2**
TXAR Lajitas Array 85.82 54 P **P 17 52 13.9 +1.0**
comp=Z,1.6nm,0.7s,mb4.4,baz=295,slow=3.3,SNR=17
PPT Papeete 85.89 118 LR LR 18 28 39.2
comp=Z,9.6nm,18.2s,baz=284,slow=34
RJF Les Rejaudoux 86.22 334 *e*P **P 17 52 15.2 +0.3**
CAF Calviac 86.38 333 *e*P **P 17 52 16.4 +0.7**
comp=Z,5.9nm,0.7s,mb4.7
CAF Calviac 86.38 333 *e*P **P 17 52 16.4 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
CAF Calviac 86.38 333 *e*P **P 17 52 16.4 +0.7**
comp=Z,3.0nm,0.7s,mb4.6
MTLF Montolieu 87.73 333 *e*P **P 17 52 22.8 +0.6**
comp=Z,6.1nm,0.8s,mb4.6
MTLF Montolieu 87.73 333 *e*P **P 17 52 22.8 +0.6**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MTLF Montolieu 87.73 333 *e*P **P 17 52 22.8 +0.6**
comp=Z,3.0nm,0.8s,mb4.6
ETSF Etsaut 89.04 334 *e*P **P 17 52 29.2 +0.8**
comp=Z,4.2nm,0.6s,mb4.7
ETSF Etsaut 89.04 334 *e*P **P 17 52 29.2 +0.8**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
ETSF Etsaut 89.04 334 *e*P **P 17 52 29.2 +0.8**
comp=Z,2.1nm,0.6s,mb4.6
TORD Torodi Ar. Bea 114.38 318 PKP PKiKP 17 58 12.5 -0.3
comp=Z,0.2nm,0.6s,baz=10.0,slow=1.5,SNR=6.7
TORD Torodi Ar. Bea 114.38 318 PKP PKiKP 17 58 12.5 -0.3
MAW Mawson 124.93 207 PKP PKPdf 17 58 33.2 +0.1
comp=Z,1.3nm,0.7s,baz=134,slow=1.4,SNR=8.0
SNAA Sanae 146.26 199 *e*PKPdf PKPdf 17 59 12.8 +0.3
SNAA *e* 17 59 13.8
SNAA *e* 17 59 15.0
VNA2 Neumayer--Watz 147.83 198 *e*PKPdf PKPdf 17 59 18.1 +3.0
VNA2 *e* 17 59 19.2
VNA2 *e* 17 59 25.3
VNA2 *e* 17 59 25.8
VNA2 *e* 17 59 29.7
VNA2 *e* 17 59 34.2
VNA3 Neumayer Olymp 148.08 196 *e*PKPdf PKPdf 17 59 18.3 +2.8
VNA3 *e* 17 59 25.0
VNA3 *e* 17 59 34.5

IDC 31 17:46:33.4±11.0, 1660S×17490E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/13, mbtmp4.2/4, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/22, Error ellipse: s-maj=219.9km s-min=96.8km az=105.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.66**	**234**	*e*P	Pn	17 48 53.9	+0.2
DZM	**Mont Dzumac**	**9.66**	**234**	Pn	Pn	17 48 53.8	+0.2
2.5nm,0.3s,baz=60,slow=18,SNR=27							
HNR	**Honiara**	**16.21**	**294**	LR	LR	17 55 48.2	
comp=Z,57nm,18.8s,baz=180,slow=34							
STKA	**Stephens Creek**	**33.80**	**237**	P	P	17 53 17.0	0.0
1.9nm,0.6s,baz=52,slow=8.4,SNR=7.2							
WRA	**Warramunga Arr**	**38.59**	**259**	P	P	17 53 58.5	+0.4
0.3nm,0.3s,baz=82,slow=6.1,SNR=15							
ASAR	**Alice Springs**	**39.02**	**253**	P	P	17 54 02.1	+0.5
3.9nm,0.5s,baz=82,slow=8.9,SNR=117							

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*ISCJB **31** 17:57:21.6±0.4, 2664N±006×12677E±006, h100km±5km, mb3.5/4, Error ellipse: s-maj=12.6km s-min=3.8km az=104.0*
*IDC **31** 17:57:23.0±4.8, 2665N×12682E, h97km±61km, mb3.2/4, mb1 3.4/5, mb1mx3.3/22, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=83.1km s-min=17.3km az=63.0*
*JMA **31** 17:57:23.4±0.1, 2665N×12675E, h88km±1km, M3.3*
ISC 31 17:57:22.7±0.4, 2664N±006×12677E±005, h94km±5km, n22, σ0°85/38, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.31**	**177**	P	**Pn**	**17 57 36.8**	**+0.2**
JKE				*e*S	**Sn**	**17 57 46.6**	**-0.4**
JAGN	**Aguni-jima**	**0.43**	**96**	P	**Pn**	**17 57 37.6**	**+0.3**
JAGN				S	**Sn**	**17 57 48.2**	**0.0**
NAH1	**Naha**	**0.93**	**117**	P	**Pn**	**17 57 42.4**	**+0.5**
NAH1				S	**Sn**	**17 57 56.1**	**-0.3**
JJT2	**Tamagusuku 2**	**1.01**	**119**	P	**Pn**	**17 57 43.7**	**+0.9**
JJT2				*e*S	**Sn**	**17 57 58.6**	**+0.7**
JIH	**Iheya**	**1.14**	**69**	P	**Pn**	**17 57 45.1**	**+0.8**
JIH				S	**Sn**	**17 58 00.7**	**+0.1**
JOW	**Kunigami**	**1.36**	**81**	P	**Pn**	**17 57 47.5**	**+0.6**
24nm,0.3s,baz=216,slow=12,SNR=97							
JOW				S	**Sn**	**17 58 04.7**	**-0.5**
158nm,0.3s,baz=137,slow=28,SNR=59							
JOW	**Kunigami**	**1.36**	**81**	P	**Pn**	**17 57 47.5**	**+0.6**
JOW				S	**Sn**	**17 58 04.8**	**-0.4**
JOGS	**Gusukube**	**2.23**	**214**	P	**Pn**	**17 57 59.7**	**+1.6**
JOGS				*e*S	**Sn**	**17 58 25.2**	**0.0**
JMJ	**Miyako jima 2**	**2.25**	**217**	*e*S	**Sn**	**17 58 25.9**	**+0.4**
JTK	**Tokunoshima**	**2.26**	**59**	P	**Pn**	**17 57 58.8**	**+0.4**
JTK				S	**Sn**	**17 58 24.3**	**-1.4**
JTJ	**Tarama**	**2.72**	**224**	P	**Pn**	**17 58 04.6**	**0.0**
JTJ				*e*S	**Sn**	**17 58 34.6**	**-2.2**
JAM	**Amami Oshima**	**3.08**	**54**	P	**Pn**	**17 58 09.6**	**+0.2**
JAM				S	**Sn**	**17 58 43.3**	**-2.0**
JIJ	**Ishigaki jima**	**3.28**	**227**	P	**Pn**	**17 58 11.3**	**-0.7**
JIJ				S	**Sn**	**17 58 46.3**	**-3.8**
JZK	**Kikaishima**	**3.30**	**59**	P	**Pn**	**17 58 12.8**	**+0.4**
JZK				*e*S	**Sn**	**17 58 50.9**	**+0.2**
JKRS	**Kuro-shima**	**3.45**	**227**	P	**Pn**	**17 58 14.6**	**+0.2**
JKRS				*e*S	**Sn**	**17 58 54.2**	**-0.1**
IRIF	**Iriomote-Funau**	**3.58**	**231**	P	**Pn**	**17 58 15.6**	**-0.4**
IRIF				*e*S	**Sn**	**17 58 57.5**	**+0.2**
JMZ	**Minamidaito 2**	**4.08**	**101**	P	**Pn**	**17 58 20.6**	**-2.3**
JMZ				S	**Sn**	**17 59 03.7**	**-5.9**
JNU	**Nakatsue**	**7.38**	**28**	P	**Pn**	**17 59 09.4**	**+1.7**
0.4nm,0.3s,baz=220,slow=12,SNR=4.0							
SONM	**Songino Array**	**26.51**	**328**	P	**P**	**18 02 51.2**	**-0.1**
0.6nm,0.7s,mb3.2,baz=136,slow=6.5,SNR=5.8							
MKAR	**Makanchi Array**	**40.29**	**312**	P	**P**	**18 04 50.3**	**-0.2**
0.5nm,0.6s,mb3.6,baz=94,slow=10,SNR=9.0							
WRA	**Warramunga Arr**	**46.88**	**170**	P	**P**	**18 05 43.5**	**0.0**
0.5nm,0.5s,mb3.5,baz=350,slow=8.4,SNR=6.7							
ASAR	**Alice Springs**	**50.48**	**172**	P	**P**	**18 06 11.4**	**+0.4**
0.6nm,0.5s,mb3.8,baz=353,slow=7.8,SNR=22							

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*CSEM **31** 18:36:44.3±0.3, 6690N×1377E, h2km, ML1.8, Error ellipse: s-maj=7.4km s-min=5.8km az=104.0, Suspected Mining explosion.*
*ISCJB **31** 18:36:45.1±0.6, 6691N±003×139E±0.1, h0km, Error ellipse: s-maj=7.4km s-min=4.5km az=38.7*
*UPP **31** 18:36:46.5, 6708N×1380E, h0km, ML2.5, Suspected Mining explosion.*
*BER **31** 18:36:47.7±2.4, 6689N×1385E, h15km±27km, MD2.4, ML1.8*
ISC 31 18:36:45.7±0.6, 6692N±003×139E±01, h0km, n14, σ0°67/18, 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK1	**Konsvik**	**0.52**	**217**	*e*P	**Pg**	**18 36 55.7**	**0.0**
STOK1	**Konsvik**	**0.52**	**217**	*e*S	**Sg**	**18 37 03.0**	**+0.6**
STOK1				AML	AML	18 37 03.5	
comp=Z,124nm,0.2s							
STOK2	**Flostrand**	**0.62**	**201**	⇑*i*P	**Pg**	**18 36 57.9**	**+0.4**
MOR8	**Moi Rana**	**0.78**	**164**	*e*P	**Pg**	**18 36 59.3**	**-1.3**
MOR8				*e*S	**Sg**	**18 37 09.8**	**-0.9**
LOF	**Lofoten**	**1.23**	**354**	*e*P	**Pg**	**18 37 08.7**	**-0.6**
LOF				*e*S	**Sg**	**18 37 24.9**	**-0.3**
LOF				AML	AML	18 37 29.4	
comp=Z,14nm,0.4s							
SALU	**Saltoluokta**	**1.86**	**73**	P	**Pn**	**18 37 18.7**	**0.0**
NIKU	**Nikkaluokta**	**2.20**	**62**	P	**Pn**	**18 37 23.3**	**-0.2**
NSS	**Namsos**	**2.53**	**199**	*e*P	**Pn**	**18 37 28.1**	**+0.1**
NSS				*e*Sg	**Sg**	**18 38 01.8**	**-5.0**
NSS	**Namsos**	**2.53**	**199**	*e*P	**Pn**	**18 37 28.0**	**+0.1**
NSS=50							
NSS				*e*Sg	**Sg**	**18 38 01.8**	**-5.1**
SNR=90							
DUNU	**Dundret**	**2.62**	**82**	P	**Pn**	**18 37 33.4**	**+4.1**
HARU	**Harads**	**2.93**	**102**	P	**Pn**	**18 37 34.9**	**+1.4**
ERTU	**Ertsjaerv**	**3.31**	**92**	P	**Pn**	**18 37 39.3**	**+0.6**
LANU	**Lannavaara**	**3.31**	**66**	P	**Pn**	**18 37 38.7**	**0.0**
PAJU	**Pajala**	**3.62**	**84**	P	**Pn**	**18 37 43.1**	**+0.1**

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*ISCJB **31** 18:39:25.3±0.3, 4676N±003×984E±003, h13km±3km, Error ellipse: s-maj=4.4km s-min=2.8km az=148.5*
*ZUR **31** 18:39:26.9, 4674N×988E, h3km±1km, ML2.0/5*
*CSEM **31** 18:39:26.0±0.1, 4670N×989E, h0km, MD2.2/1, ML2.5/9, Error ellipse: s-maj=1.6km s-min=1.1km az=143.0*
*VIE **31** 18:39:26.1±0.4, 4672N×992E, h4km±3km, mb1.7/2, ML2.3/5, Error ellipse: s-maj=3.1km s-min=1.2km az=11.0 12 km SE of Davos*
*ROM **31** 18:39:26.0±0.2, 4669N×987E, h5km±4km, Md2.2/3, Ml1.6/2, Error ellipse: s-maj=2.7km s-min=2.3km az=19.0*
*LDG **31** 18:39:28.3±0.2, 4674N×980E, h10km, Ml2.3/5, Error ellipse: s-maj=5.0km s-min=3.1km az=94.0*
*PRU **31** 18:39:31.8, 47.13N×9.73E, h27km*
ISC 31 18:39:26.3±0.3, 4675N±002×986E±002, h12km±3km, n39, σ0°77/61, 8C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.03**	**29**	Pg	**Pg**	**18 39 28.4**	**-0.1**
DAVOX				Sg	**Sg**	**18 39 29.3**	**-0.8**
DAVOX	**Davos/Dischmat**	**0.03**	**29**	*i* Sg	**Pg**	**18 39 28.4**	**-0.1**
DAVOX	**Davos/Dischmat**	**0.03**	**29**	⇓*i*Pg	**Pg**	**18 39 29.4**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**0.31**	**115**	*i* Pg	**Pg**	**18 39 32.7**	**+0.1**
BERNI	**Berninapass**	**0.36**	**161**	⇑*i*Pg	**Pg**	**18 39 33.9**	**+0.4**
361nm,0.3s							
VDL	**Val di Lei**	**0.38**	**225**	⇑*i*Pg	**Pg**	**18 39 34.5**	**+0.7**

214nm,0.2s
PLONS Plons/SG 0.44 313 *e*P **Pg 18 39 35.7 +0.7**
67nm,0.2s
TUE Stuetta 0.45 232 Pg **Pg 18 39 35.7 +0.5**
TUE Sg **Sg 18 39 42.0 +0.9**
67nm,0.2s
BRMO Bormio 0.45 127 Pg **Pg 18 39 35.4 +0.2**
BRMO Sg **Sg 18 39 41.5 +0.3**
22nm,0.3s
DAVA Damuels 0.54 2⇑*i*Pg **Pg 18 39 37.3 +0.5**
DAVA ⇑*i*Sg **Sg 18 39 45.3 +1.4**
comp=Z,17nm,0.2s
LLS Linth-Limmern 0.59 280 *i* P **Pg 18 39 37.3 -0.5**
LIENZ Kamor/St.Gall 0.60 336 *e*P **Pg 18 39 38.5 +0.5**
APPI Appiano 0.98 106 Pg **Pg 18 39 45.0 -0.3**
APPI Sg **Sg 18 39 57.4 -0.7**
MUGIO Muggio 1.00 215 *e*Pn **Pn 18 39 39.1 -7.1**
103nm,0.3s
SQTA Sankt Quirin 1.04 63⇑*i*Pg **Pg 18 39 45.7 -0.6**
SQTA ⇓*i*Sg **Sg 18 39 59.5 -0.4**
11nm,0.2s
SQTA Sankt Quirin 1.04 63 Pg **Pg 18 39 45.7 -0.6**
SQTA Sg **Sg 18 39 59.5 -0.4**
11nm,0.2s
MOTA Moosalm 1.04 55⇑*i*Pg **Pg 18 39 45.8 -0.5**
MOTA ⇓*i*Sg **Sg 18 40 00.4 +0.5**
9.7nm,0.3s
WATA Walderalm 1.31 63⇑*i*Pg **Pg 18 39 50.9 -0.7**
WATA ⇓*i*Sg **Sg 18 40 09.3 +0.7**
7.0nm,0.2s
WATA Walderalm 1.31 63 Pg **Pg 18 39 50.9 -0.7**
WATA Sg **Sg 18 40 09.3 +0.6**
7.0nm,0.2s
WTTA Wattenberg 1.32 67⇓*i*Pg **Pg 18 39 50.8 -1.0**
WTTA ⇑*i*Sg **Sg 18 40 09.2 +0.3**
13nm,0.3s
SLE Schleitheim 1.38 318 *e*Pn **Pn 18 39 45.9 -5.4**
76nm,0.5s
HINF Hinteralfeld 2.31 299 *e*Pn **Pn 18 40 04.5 +0.4**
HINF *e*Sn **Sn 18 40 31.6 -0.8**
HINF *e*Sg **Sg 18 40 40.1 -0.3**
2.8nm,0.3s
HINF Hinteralfeld 2.31 299 *e*Pn **Pn 18 40 04.5 +0.4**
HINF *e*Sn **Sn 18 40 31.6 -0.8**
HINF *e*Sg **Sg 18 40 40.1 -0.3**
1.4nm,0.3s
CDF Champ du Feu 2.41 315 *e*Pn **Pn 18 40 06.5 +1.0**
CDF *e*Sg **Sg 18 40 43.2 -0.6**
5.8nm,0.4s
CDF Champ du Feu 2.41 315 *e*Pn **Pn 18 40 06.5 +1.0**
CDF *e*Sg **Sg 18 40 43.2 -0.6**
2.9nm,0.4s
LPG La Plagne 2.50 241 *e*Sg **Sg 18 40 46.3 -0.2**
2.8nm,0.4s
LPG La Plagne 2.50 241 *e*Sg **Sg 18 40 46.3 -0.2**
1.4nm,0.4s
LPL La Plagne 2.50 242 *e*Pn **Pn 18 40 06.8 +0.1**
LPL La Plagne 2.50 242 *e*Pg **Pg 18 40 12.8 -1.4**
LPL *e*Sg **Sg 18 40 46.2 -0.4**
3.3nm,0.4s
LPL La Plagne 2.50 242 *e*Pg **Pg 18 40 12.8 -1.4**
LPL *e*Sg **Sg 18 40 46.2 -0.4**
1.6nm,0.4s
CABF La Chapelle 2.60 268 *e*Pn **Pn 18 40 08.5 +0.4**
CABF La Chapelle 2.60 268 *e*Pg **Pg 18 40 15.3 -0.8**
CABF *e*Sg **Sg 18 40 49.2 -0.6**
2.5nm,0.3s
CABF La Chapelle 2.60 268 *e*Pg **Pg 18 40 15.3 -0.8**
CABF *e*Sg **Sg 18 40 49.2 -0.6**
1.2nm,0.3s
HAU Haudompre 2.69 299 *e*Pn **Pn 18 40 09.5 +0.1**
MBDF Montbardon 2.96 228 *e*Pn **Pn 18 40 13.4 +0.3**
MBDF Montbardon 2.96 228 *e*P **Pn 18 40 16.0 +2.9**
MBDF Montbardon 2.96 228 *e*P **Pn 18 40 16.0 +2.9**
ORIF Oris-en-Rattie 3.33 238 *e*Pn **Pn 18 40 18.3 +0.1**
KHC Kasperske Hory 3.45 45 *e*PN **Pb 18 40 30.4 +3.0**
KHC *e*SN **Sn 18 40 59.1 -1.6**
KHC *ex* x 18 41 14.0

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*NEIC **31** 19:06:33.4, 15.15N×9450W, h16km, MD4.4(MEX), After MEX.*
MEX 31 19:06:33.3±0.5, 1515N×9450W, h15km±10km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.67**	**292**	*i* P	Pn	19 06 58.8	-3.1
HUIG				*i* S	Sn	19 07 18.0	-5.1
CMIG	**Matias Romero**	**1.96**	**349**	*i* P	Pn	19 07 02.6	-3.4
CMIG				*i* S	Sn	19 07 25.9	-4.4
CCIG	**Comitan**	**2.54**	**63**	*e*P	Pn	19 07 11.2	-2.7
CCIG				*i* S	Sn	19 07 41.1	-3.4
OXX	**Oaxaca**	**2.87**	**312**	*e*P	Pn	19 07 19.0	+0.5
VHO	**Vista Hermosa**	**2.87**	**312**	*i* P	Pn	19 07 16.7	-1.8
VHO				*i* S	Sn	19 07 50.4	-2.4
VHO	**Vista Hermosa**	**2.87**	**312**	*i* P	Pn	19 07 16.7	-1.8
VHO				*i* S	Sn	19 07 51.2	-1.6
UTMO	**Huajuapan**	**4.14**	**310**	*e*P	Pn	19 07 36.3	+0.4
UTMO				*i* S	Sn	19 08 19.7	-4.3
TPIG	**Tehuac#an**	**4.25**	**320**	*i* S	Sn	19 08 25.1	-1.7
TEIG	**Tepich**	**7.78**	**49**	*i* P	Pn	19 08 22.8	-3.2
TEIG				*i* S	Sn	19 09 49.4	-4.4
TEIG	**Tepich**	**7.78**	**49**	*i* P	Pn	19 08 22.8	-3.2
TEIG				*i* S	Sn	19 09 49.2	-4.6

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*ISCJB **31** 19:14:09.2±1.8, 4085N±009×74.1E±0.1, h10km, Error ellipse: s-maj=13.4km s-min=12.5km az=55.7*
*KNET **31** 19:14:09.8±0.5, 4104N×7426E, h1km±2km, ml1.8, Error ellipse: s-maj=3.1km s-min=2.0km az=39.0*
ISC 31 19:14:09.3±1.8, 4086N±010×740E±01, h10km, n7, σ1§33/11, 5C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.29**	**350**	⇓P	**Pn**	**19 14 32.6**	**-0.8**
	6.7nm,0.3s,SNR=10						
AML				⇓S	**Sb**	**19 14 50.1**	**-0.3**
	7.4nm,0.2s						
UCH	**Uchtor**	**1.42**	**15**	⇓P	**Pn**	**19 14 33.3**	**-1.8**
	3.4nm,0.2s,SNR=11						
UCH				⇓S	**Sn**	**19 14 51.5**	**-2.4**
	3.3nm,0.1s						
EKS2	**Erkin-Say**	**1.81**	**355**	⇑P	**Pn**	**19 14 41.4**	**+0.8**
	1.4nm,0.2s,SNR=8.1						
EKS2				⇓S	**Sn**	**19 15 06.1**	**+2.6**
	4.7nm,0.5s						
KBK	**Karagaybulak**	**1.93**	**21**	⇑P	**Pn**	**19 14 42.5**	**+0.3**
	3.2nm,0.1s,SNR=8.5						
KBK				⇑S	**Sn**	**19 15 07.1**	**+0.6**
	7.1nm,0.2s						
ULHL	**Ulahol**	**2.17**	**50**	⇑P	**Pn**	**19 14 45.2**	**-0.3**
	4.4nm,0.2s,SNR=30						
TKM2	**Tokmak 2**	**2.38**	**29**	⇑Pn	**Pn**	**19 14 50.7**	**+2.4**
TKM2				⇓Lg		19 15 20.9	
	0.5nm,0.6s						
KK31	**Karatay Array**	**3.44**	**312**	⇓Pn	**Pb**	**19 15 10.1**	**-0.3**
	0.1nm,0.3s,baz=122,slow=17,SNR=5.5						
KK31				⇓Lg		19 15 59.8	
	0.5nm,0.3s,baz=127,slow=28,SNR=8.0						

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*IDC **31** 19:35:53.9±1.1, 3996N×5197E, h0km, mb4.2/12, mb1 4.3/15, mb1mx4.1/24, mbtmp4.2/15, ML4.8/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=23.0km s-min=10.4km az=166.0*
*ISCJB **31** 19:35:55.5±0.3, 4031N±003×5199E±003, h10km, mb4.3/24, MS3.5/4, Error ellipse: s-maj=4.8km s-min=3.3km az=167.9*
*BJI **31** 19:35:56.2, 4039N×5160E, h31km, mB4.9, mb4.5, Ms4.6, Msz4.3*
*NEIC **31** 19:35:57.1±0.4, 4030N×5205E, h10km, mb4.4/10, Error ellipse: s-maj=8.3km s-min=5.0km az=166.0*
*CSEM **31** 19:35:57.6±0.1, 4021N×5194E, h30km, mb4.5/8, ML4.0/3, Error ellipse: s-maj=2.3km s-min=1.7km az=128.0*
*MOS **31** 19:35:58.7±1.0, 4040N×5198E, h29km, mb4.6/8, Error ellipse: s-maj=7.4km s-min=5.9km az=95.3*
*THR **31** 19:36:03.2±0.3, 3972N×5146E, h15km, ML4.2*
*NNC **31** 19:36:05.7±3.7, 4070N×5324E, h0km, mb4.2, Error ellipse: s-maj=30.8km s-min=26.6km az=16.0*

ISC 31 19:35:57.1±0.3, 4029N±003×5202E±003, h10km, n123, σ1§14/152, mb4.3/24, MS3.5/4, 24C-10D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.52**	**246**	*e*Pn	**Pn**	**19 36 51.1**	**-0.7**
GRMI				AML	AML	19 37 34.8	
	comp=N,220nm,0.6s						
MAK	**Makhachkala**	**4.31**	**310**	*e*PN	**Pg**	**19 37 19.0**	**-0.7**
MAK				*e*		19 37 57.1	
CHTH	**Charan**	**4.43**	**189**	*e*Pn	**Pn**	**19 37 03.8**	**-0.7**
THKV	**Tehran--Karaj**	**4.46**	**192**	*e*Pn	**Pn**	**19 37 03.8**	**-1.1**
THKV				AML	AML	19 37 53.2	
	comp=N,707nm,0.5s						
THKV				AML	AML	19 37 53.4	
	comp=E,470nm,0.4s						
DAMV	**Damavand**	**4.66**	**180**	*e*Pn	**Pn**	**19 37 07.7**	**+0.2**
DAMV				AML	AML	19 37 57.9	
	comp=N,427nm,0.4s						
DAMV				AML	AML	19 38 00.1	
	comp=E,397nm,0.6s						
DGRG	**David-gareji**	**5.17**	**285**	P	**Pn**	**19 37 16.6**	**+2.0**
DGRG				S	**Sn**	**19 38 13.2**	**-1.0**
GNI	**Garni**	**5.57**	**271**	Pn	**Pn**	**19 37 21.4**	**+1.3**
	comp=E,3.4nm,0.3s,baz=355,slow=1.7,SNR=15						
GNI				Sn	**Sn**	**19 38 26.4**	**+2.2**
	comp=E,2.8nm,0.3s,baz=321,slow=21,SNR=3.8						
GNI	**Garni**	**5.57**	**271**	P	**Pn**	**19 37 21.4**	**+1.3**
GNI						19 38 26.4	
GNI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GNI				smax			
	comp=N,3.0nm,0.3s						
GNI	**Garni**	**5.57**	**271**	*e*Pn	**Pn**	**19 37 22.4**	**+2.3**
	comp=N,45nm,0.8s						
MTA	**Mtatsminda**	**5.65**	**287**	S	**Sn**	**19 38 24.6**	**-1.3**
TBLG	**Delisi**	**5.69**	**287**	P	**Pn**	**19 37 23.1**	**+1.3**
TBLG				S	**Sn**	**19 38 25.7**	**-1.4**
MAKU	**Maku**	**5.73**	**263**	*e*Pn	**Pn**	**19 37 23.5**	**+1.3**
ASAO	**Ashtian**	**5.95**	**196**	*e*Pn	**Pn**	**19 37 24.0**	**-1.3**
ZEI	**Tsey**	**6.58**	**295**	*e*P	**Pn**	**19 37 40.9**	**+7.0**
ZEI				*e*		19 38 51.3	
KIV	**Kislovodsk**	**7.84**	**301**	*e*P	**Pn**	**19 37 52.7**	**+1.4**
KIV				*e*		19 39 10.4	
KIV				pmax	pmax		
	comp=Z,21nm,0.6s						
KIV	**Kislovodsk**	**7.84**	**301**	*e*Pn	**Pn**	**19 37 52.7**	**+1.5**
	comp=Z,21nm,0.6s						
KIV				*e*Sn	**Sn**	**19 39 10.4**	**-10**
KIV	**Kislovodsk**	**7.84**	**301**	*e*P	**Pn**	**19 37 52.7**	**+1.4**
	comp=Z,21nm,0.6s						
AB31	**Akbulak array**	**10.58**	**29**	Pn	**Pn**	**19 38 28.9**	**+0.2**
	comp=Z,6.4nm,0.4s,baz=207,slow=13,SNR=149						
AB31				⇑Sn	**Sn**	**19 40 21.5**	**-5.7**
	comp=Z,16nm,0.5s,baz=182,slow=9.9,SNR=7.3						
AKTK	**Aktyubinsk**	**10.98**	**21**	Pn	**Pn**	**19 38 35.3**	**+1.1**
AKTK				Sn	**Sn**	**19 40 30.8**	**-6.3**
AKTK				LR	LR	19 43 49.0	
AKTK	**Aktyubinsk**	**10.98**	**21**	P	**Pn**	**19 38 35.3**	**+1.1**
AKTO	**Aktyubinsk**	**10.98**	**21**	Pn	**Pn**	**19 38 35.3**	**+1.1**
	comp=Z,27nm,0.3s,baz=206,slow=12,SNR=90						
AKTO				Sn	**Sn**	**19 40 30.8**	**-6.3**
	comp=Z,11nm,0.3s,baz=58,slow=21,SNR=9.0						
AKTO				LR	LR	19 43 49.0	
	comp=Z,165nm,19.9s,baz=215,slow=42						
AKTO	**Aktyubinsk**	**10.98**	**21**	P	**Pn**	**19 38 35.3**	**+1.1**
AKTO						19 40 30.8	
AKTO	**Aktyubinsk**	**10.98**	**21**	Pn	**Pn**	**19 38 35.3**	**+1.1**
	comp=Z,0.2nm,0.3s						
AKTO				Sn	**Sn**	**19 40 30.6**	**-6.5**
	comp=Z,0.5nm,0.6s						
ORR	**Orenburg**	**11.48**	**9**	*i* P	**Pn**	**19 38 42.3**	**+1.1**
ORR				S	**Sn**	**19 40 42.6**	**-6.9**
ORR				pmax	pmax		
	comp=Z,60nm,0.4s						
ORR	**Orenburg**	**11.48**	**9**	*i* P	**Pn**	**19 38 42.3**	**+1.1**
	comp=Z,60nm,0.4s						
VRHR	**Novokhopersk**	**13.00**	**330**	*e*P	**Pn**	**19 39 04.0**	**+2.1**
VRHR				pmax	pmax		
	comp=Z,30nm,0.9s						
VRHR				pmax	pmax		
	comp=N,2.0nm,1.0s						
VRHR				pmax	pmax		
	comp=E,4.0nm,0.4s						
VRHR	**Novokhopersk**	**13.00**	**330**	*e*P	**Pn**	**19 39 04.0**	**+2.1**
	comp=E,2.0nm,1.0s						
KK31	**Karatay Array**	**14.10**	**72**	⇑Pn	**Pn**	**19 39 17.6**	**+0.7**
	comp=E,7.6nm,0.8s,baz=263,slow=15,SNR=51						
KK31				⇑Sn	**Sn**	**19 41 45.8**	**-7.5**
	comp=E,5.7nm,0.6s,baz=1.6,slow=36,SNR=4.1						
VRSR	**Storozhevoye**	**14.10**	**325**	*e* *i*P	**Pn**	**19 39 17.0**	**+0.1**
VRSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VRSR				pmax	pmax		
	comp=N,70nm,0.8s						
VRSR				pmax	pmax		
	comp=E,70nm,0.8s						
VRSR	**Storozhevoye**	**14.10**	**325**	*i* P	**Pn**	**19 39 17.0**	**+0.1**
	comp=E,20nm,0.7s						
BRTR	**Keskin Array B**	**14.11**	**274**	Pn	**Pn**	**19 39 17.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=84,slow=12,SNR=11						
BRTR				Sn	**Sn**	**19 41 46.0**	**-7.6**
	comp=E,0.2nm,0.3s,baz=216,slow=19,SNR=8.2						
ASF	**Jabal al Asfar**	**14.64**	**241**	Pn	**Pn**	**19 39 26.6**	**+2.4**
	comp=E,0.2nm,0.3s,baz=102,slow=20,SNR=2.2						
ARU	**Arti**	**16.71**	**13**	*e*P	**Pn**	**19 39 49.3**	**-2.0**
ARU				pmax	pmax		
	comp=Z,19nm,0.4s						
ARU	**Arti**	**16.71**	**13**	*e*Pn	**Pn**	**19 39 49.2**	**-2.1**
	comp=Z,19nm,0.4s						
ARU				*e*Sn	**Sn**	**19 42 42.8**	**-14**
ARU	**Arti**	**16.71**	**13**	*e*Pn	**Pn**	**19 39 49.2**	**-2.1**
	comp=Z,19nm,0.4s						
AAK	**Ala-Archa**	**17.00**	**75**⇑	*e*P	**Pn**	**19 39 56.2**	**+1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**17.00**	**75**	*e*Pn	**Pn**	**19 39 56.1**	**+1.1**
	comp=Z,44nm,0.7s						
AAK	**Ala-Archa**	**17.00**	**75**	*e*Pn	**Pn**	**19 39 56.1**	**+1.1**
	comp=Z,44nm,0.7s						
ZRNK	**Zerenda**	**17.16**	**37**	⇑Pn	**Pn**	**19 39 55.5**	**-1.5**
	comp=Z,9.5nm,0.7s						
ZRNK				⇑Sn	**Sn**	**19 42 56.0**	**-12**
	comp=Z,17nm,1.0s						
ZRNK	**Zerenda**	**17.16**	**37**	*e*Pn	**Pn**	**19 39 56.0**	**-1.0**
	comp=Z,12nm,0.6s						
ZRNK				*e*Sn	**Sn**	**19 42 51.6**	**-16**
ZRNK	**Zerenda**	**17.16**	**37**	*e*Pn	**Pn**	**19 39 56.0**	**-0.9**
	comp=Z,12nm,0.6s						
ZRNK				Sn	**Sn**	**19 42 56.0**	**-12**
	comp=Z,17nm,1.0s						
SVE	**Sverdlovsk**	**17.48**	**16**	*e*P	**Pn**	**19 40 01.0**	**+0.1**
EIL	**Elat**	**17.52**	**238**	*e*Pn	**Pn**	**19 40 02.4**	**+0.9**
EIL	**Elat**	**17.52**	**238**	*e*Pn	**Pn**	**19 40 02.4**	**+0.9**
TKM2	**Tokmak 2**	**17.82**	**74**	⇓Pn	**Pn**	**19 40 06.2**	**+1.1**
	comp=Z,2.4nm,0.8s						
TKM2				⇑Sn	**Sn**	**19 43 13.9**	**-10**
	comp=Z,2.2nm,1.1s						
BRVK	**Borovoye**	**17.82**	**38**	*e*P	**Pn**	**19 40 04.8**	**-0.4**
BRVK				*e*		19 43 13.7	
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s						
BRVK	**Borovoye**	**17.82**	**38**	*e*Pn	**Pn**	**19 40 04.8**	**-0.4**
	comp=Z,14nm,0.6s						
BRVK				*e*Sn	**Sn**	**19 43 13.7**	**-10**
BRVK	**Borovoye**	**17.82**	**38**	*e*Pn	**Pn**	**19 40 04.8**	**-0.4**
	comp=Z,14nm,0.6s						
BVA0	**Borovoye Array**	**17.85**	**38**	Pn	**Pn**	**19 40 05.0**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=224,slow=12,SNR=245						
BVA0				⇓Sn	**Sn**	**19 43 13.9**	**-11**
	comp=Z,2.0nm,0.8s,baz=221,slow=25,SNR=12						
BVAR	**Borovoye Array**	**17.85**	**38**	P	**Pn**	**19 40 05.0**	**-0.6**
	comp=Z,8.0nm,0.3s,baz=228,slow=11,SNR=141						
BVAR				S	**Sn**	**19 43 12.8**	**-12**
	comp=Z,1.5nm,0.3s,baz=222,slow=17,SNR=7.4						
BVAR				LR	LR	19 48 14.0	
	comp=Z,205nm,18.6s,baz=135,slow=41						
BVAR	**Borovoye Array**	**17.85**	**38**	P	**Pn**	**19 40 05.0**	**-0.6**
BVAR				S	**Sn**	**19 43 12.8**	**-12**
BVAR	**Borovoye Array**	**17.85**	**38**	Pn	**Pn**	**19 40 05.0**	**-0.6**
	comp=Z,2.7nm,0.5s,SNR=245						
BVAR				Sn	**Sn**	**19 43 13.9**	**-11**
	comp=Z,2.0nm,0.8s,SNR=12						
WSAR	**Wadi Sarin**	**17.90**	**160**	P	**Pn**	**19 40 05.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=352,slow=10,SNR=3.5						
VOSK	**Vostochnaya**	**17.95**	**40**	⇑Pn	**Pn**	**19 40 06.4**	**-0.4**
	comp=Z,11nm,0.8s						
VOSK				⇑Sn	**Sn**	**19 43 15.2**	**-12**
	comp=Z,6.9nm,0.6s						
VOSK	**Vostochnaya**	**17.95**	**40**	Pn	**Pn**	**19 40 06.4**	**-0.4**
	comp=Z,11nm,0.8s						
VOSK				Sn	**Sn**	**19 43 15.2**	**-12**
	comp=Z,6.9nm,0.6s						
OBN	**Obninsk**	**18.05**	**330**	*e*P	**Pn**	**19 40 08.6**	**+0.6**
OBN				*e*S	**Sn**	**19 43 28.8**	**-0.5**
OBN				pmax	pmax		
	comp=Z,19nm,0.6s						
OBN	**Obninsk**	**18.05**	**330**	*e*P	**Pn**	**19 40 07.1**	**-0.9**
	comp=Z,18nm,0.4s						
CHKZ	**Chkalovo**	**18.37**	**37**	⇑Pn	**Pn**	**19 40 12.1**	**+0.2**
	comp=Z,4.5nm,0.6s						
CHKZ				⇑Sn	**Sn**	**19 43 29.7**	**-7.4**
	comp=Z,16nm,0.9s						
CHKZ	**Chkalovo**	**18.37**	**37**	*e*P	**Pn**	**19 40 12.0**	**+0.1**
CHKZ				*e*		19 43 27.9	
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CHKZ	**Chkalovo**	**18.37**	**37**	*e*P	**Pn**	**19 40 12.0**	**+0.1**
	comp=Z,6.7nm,0.5s						
CHKZ				*e*Sn	**Sn**	**19 43 27.9**	**-9.1**
AKASG	**Malin Array Be**	**19.00**	**311**	P	**Pn**	**19 40 17.9**	**-1.6**
	comp=Z,7.8nm,0.3s,baz=100,slow=9.2,SNR=32						
AKASG				S	**Sn**	**19 43 48.1**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=117,slow=23,SNR=7.4						
AKBB	**Malin Array Si**	**19.00**	**311**	*e*P	**Pn**	**19 40 17.8**	**-1.7**
AKBB				*e*S	**Sn**	**19 43 46.1**	**-6.1**
PLOR	**Plostina**	**19.31**	**295**⇑	*i* P	**Pn**	**19 40 29.2**	**+5.9**
MLR	**Muntele Rosu**	**19.76**	**294**	P	**Pn**	**19 40 27.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=2.7						
MTUR	**Matau**	**20.35**	**293**⇑	*i*P	**P**	**19 40 37.4**	**+3.7**
MTUR	**Matau**	**20.35**	**293**	⇑P	**P**	**19 40 37.4**	**+3.7**
VOIR		**20.38**	**294**⇑	*i*P	**P**	**19 40 35.6**	**+1.6**
VOIR		**20.38**	**294**	⇑P	**P**	**19 40 35.6**	**+1.7**
BURAR	**Bucovina Array**	**20.57**	**300**⇑	*i*P	**P**	**19 40 36.6**	**+0.6**
BURAR	**Bucovina Array**	**20.57**	**300**	⇑P	**P**	**19 40 36.6**	**+0.6**
VTS	**Vitosha**	**21.68**	**286**⇓	*i*P	**P**	**19 40 48.2**	**+0.2**
VTS	**Vitosha**	**21.68**	**286**	⇓P	**P**	**19 40 48.2**	**+0.2**
GZR	**Gura Zlata**	**21.97**	**293**⇑	*i*P	**P**	**19 40 50.8**	**-0.3**
GZR	**Gura Zlata**	**21.97**	**293**	⇑P	**P**	**19 40 50.8**	**-0.4**
DRGR		**22.14**	**297**⇓	*i*P	**P**	**19 40 53.9**	**+1.0**
DRGR		**22.14**	**297**	⇓P	**P**	**19 40 53.9**	**+1.0**
MK31	**Makanchi Array**	**22.79**	**63**	Pn	**P**	**19 41 00.4**	**+0.6**
	comp=Z,9.8nm,0.9s,mb4.2,baz=260,slow=6.7,SNR=24						
MK31				⇑Sn	**S**	**19 45 13.3**	**+4.2**
	comp=Z,2.8nm,0.8s,baz=295,slow=26,SNR=4.0						
MK31	**Makanchi Array**	**22.79**	**63**	*e*P	**P**	**19 41 00.5**	**+0.6**
MKAR	**Makanchi Array**	**22.79**	**63**	P	**P**	**19 40 59.9**	**0.0**
	comp=Z,5.2nm,0.7s,mb4.0,baz=257,slow=9.2,SNR=23						
MKAR				LR	LR	19 50 49.7	
	comp=Z,50nm,18.3s,MS3.0,baz=70,slow=39						
BZS	**Buzias**	**22.80**	**294**⇓	*i*P	**P**	**19 40 59.4**	**-0.5**
BZS	**Buzias**	**22.80**	**294**	⇓P	**P**	**19 40 59.4**	**-0.5**
NVS	**Novosibirsk**	**25.33**	**44**⇑	*i*P	**P**	**19 41 24.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.4						
NVS	**Novosibirsk**	**25.33**	**44**	*i* P	**P**	**19 41 24.1**	**0.0**
	comp=Z,32nm,2.5s,mb4.4						
JOF	**Joensuu**	**25.82**	**338**	*e*p	**P**	**19 41 27.7**	**-0.8**
	comp=Z,16nm,0.4s,mb4.9						
ZAL	**Zalesovo**	**25.88**	**47**	P	**P**	**19 41 29.5**	**+0.5**
	comp=Z,4.5nm,0.6s,mb4.2,baz=209,slow=10,SNR=27						
ZAL				LR	LR	19 53 50.3	
	comp=Z,98nm,20.5s,MS3.3,baz=203,slow=41						
ZAL	**Zalesovo**	**25.88**	**47**	P	**P**	**19 41 29.5**	**+0.5**
ZAL				LR	LR	19 53 50.3	
FINES	**FINESS Array B**	**26.44**	**332**	P	**P**	**19 41 34.0**	**0.0**
	comp=Z,5.7nm,0.4s,mb4.5,baz=133,slow=12,SNR=49						
FINES	**FINESS Array B**	**26.44**	**332**	P	**P**	**19 41 34.0**	**-0.1**
WMQ	**Urumqi**	**26.59**	**71**	*e*P	**P**	**19 41 37.5**	**+2.0**
WMQ				AP	pP	19 41 42.0	+3.5
WMQ				XP	sP	19 41 45.0	+5.2
WMQ				PP		19 42 21.0	
WMQ				PPP		19 42 33.0	
WMQ				*e*S	**S**	**19 46 09.0**	**-1.1**
WMQ				SS		19 47 20.0	
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,119nm,5.4s						
WMQ				LR	LR		
	comp=N,492nm,10.8s,MS4.4						
WMQ				LR	LR		
	comp=E,394nm,10.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,423nm,13.2s,MS4.2						
KAF	**Kangasniemi**	**26.80**	**333**	*e*p	**P**	**19 41 39.7**	**+2.3**
	comp=Z,4.5nm,0.3s,mb4.5						
KAF	**Kangasniemi**	**26.80**	**333**	*e*P	**P**	**19 41 39.7**	**+2.3**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.5						
GERES	**GERESS Array B**	**28.35**	**300**	P	**P**	**19 41 51.8**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.4,baz=95,slow=8.2,SNR=5.7						
HFS	**Hagfors**	**30.91**	**323**	P	**P**	**19 42 13.8**	**-0.1**
	comp=Z,2.6nm,0.3s,mb4.5,baz=103,slow=8.7,SNR=26						
KRAR	**Krasnoyarsk**	**30.92**	**46**⇓	*e*P	**P**	**19 42 13.8**	**-0.2**
KRAR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
KRAR	**Krasnoyarsk**	**30.92**	**46**	*e*P	**P**	**19 42 13.8**	**-0.2**
	comp=Z,7.0nm,0.5s,mb4.8						
DAVOX	**Davos/Dischmat**	**30.94**	**296**	LR	LR	19 57 02.3	
	comp=Z,98nm,18.5s,MS3.5,baz=268,slow=41						
KEV	**Kevo**	**32.31**	**344**	P	**P**	**19 42 26.4**	**+0.1**
NB2	**NORSAR Subarra**	**32.38**	**324**	P	**P**	**19 42 26.1**	**-0.8**
	comp=Z,2.1nm,0.5s,mb4.2,baz=115,slow=8.6						
NB2	**NORSAR Subarra**	**32.38**	**324**	P	**P**	**19 42 26.1**	**-0.8**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
NOA	**NORSAR Array B**	**32.38**	**324**	P	**P**	**19 42 26.1**	**-0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.32**	**159**	⇑Pg	Pb	20 08 56.2	-0.7
EMIJ	7.3nm,0.1s,SNR=18			Lg		20 09 02.4	
LIJA	**Lijar**	**0.40**	**276**	P	Pb	20 08 57.0	-1.2
LIJA	44nm,0.3s,SNR=7.9			S	Sb	20 09 04.1	+0.2
REAL	**Reales**	**0.45**	**212**	P	Pb	20 09 00.1	+1.0
REAL				S	Sb	20 09 07.8	+2.4
EJIF	**Jimena Fronter**	**0.61**	**227**	Pg	Pb	20 09 01.5	-0.3
ELOJ	6.9nm,0.3s,SNR=9.2 **Sierra Loja**	**0.67**	**65**	⇑Pg	Pb	20 09 01.3	-1.5
ELOJ	2.8nm,0.4s,SNR=18			Lg		20 09 12.4	
ESPR	**Espera**	**0.76**	**271**	Pg	Pb	20 09 04.1	-0.3
ESPR	3.8nm,0.3s,SNR=7.9 0.5nm,0.1s,SNR=11			Lg		20 09 15.8	
ELUQ	**Luque**	**0.86**	**36**	Pg	Pb	20 09 05.0	-1.2
ELUQ	2.4nm,0.1s,SNR=10.0			Lg		20 09 17.3	
ERON	**Agron**	**0.90**	**80**	Pg	Pb	20 09 07.8	+1.1
EGUA	15nm,0.3s,SNR=11 5.4nm,0.3s,SNR=9.2 **Guajares**	**1.08**	**91**	Pg	Pn	20 09 10.4	+0.6
EGUA	1.2nm,0.2s,SNR=7.9			Lg		20 09 26.5	
ECOG	**Cogollos-Vega**	**1.15**	**69**	Pg	Pn	20 09 11.9	+1.1
ECOG	2.8nm,0.2s,SNR=7.9			Lg		20 09 28.4	
EQUE	**Quentar**	**1.23**	**74**	Pg	Pn	20 09 13.4	+1.6
EQUE	4.1nm,0.2s,SNR=7.9 4.5nm,0.3s,SNR=24			Lg		20 09 31.2	
EADA	**Adamuz**	**1.33**	**11**	Pg	Pn	20 09 12.1	-1.2
EADA	3.2nm,0.3s,SNR=7.9 1.7nm,0.1s,SNR=7.9			Lg		20 09 29.5	
EBAN	**Banos Encina**	**1.58**	**34**	Pg	Pn	20 09 15.5	-1.1
EBAN	27nm,0.4s,SNR=7.9 4.3nm,0.2s,SNR=7.9			Lg		20 09 36.3	
EBER	**Berja**	**1.62**	**88**	Pg	Pn	20 09 22.0	+4.8
EBER	50nm,0.5s,SNR=7.9 3.2nm,0.4s,SNR=4.0			Lg		20 09 45.2	
EMIN	**Mina Concepcio**	**1.67**	**303**	Pn	Pn	20 09 15.8	-2.1
EMIN	1.2nm,0.1s,SNR=14			Pg	Pn	20 09 18.8	+0.9
EMIN	0.9nm,0.2s,SNR=7.9			Lg		20 09 39.1	
EQES	**Quesada**	**1.74**	**57**	Pn	Pn	20 09 19.2	+0.3
EQES	4.4nm,0.2s,SNR=7.9 0.3nm,0.2s,SNR=7.9			Pg	Pn	20 09 21.3	+2.4
EQES	2.9nm,0.4s,SNR=14			Lg		20 09 44.3	
EBAD	15nm,0.4s,SNR=7.9 **Badajoz**	**2.52**	**319**	Pn	Pn	20 09 27.5	-2.1
EBAD	0.6nm,0.2s,SNR=7.9			Sn	Sn	20 09 57.2	-2.4
EBAD	SNR=7.9			Lg		20 10 06.7	
EVIA	4.1nm,0.2s,SNR=7.9 **Vianos**	**2.60**	**46**	Pg	Pn	20 09 37.0	+6.2
EVIA	SNR=7.9			Sn	Sn	20 10 00.8	-0.9
EVIA	4.4nm,0.4s,SNR=7.9			Lg		20 10 12.1	
PBEJ	**Beja**	**2.62**	**297**	eSg	Sn	20 10 10.4	+8.2
ESDC	**Sonseca Array**	**2.90**	**15**	Pg	Pn	20 09 42.5	+7.7
ESDC	baz=197,slow=18,SNR=7.9			Lg		20 10 18.9	
PESTR	4.8nm,0.5s,baz=198,slow=29,SNR=7.9 **Estremoz**	**2.91**	**314**	ePg	Pn	20 09 41.9	+6.9
PESTR				eSg	Sn	20 10 18.4	+9.0
MORF	**Marmelete**	**3.02**	**279**	eSn	Sn	20 10 10.9	-1.2
MORF				eSg	Sn	20 10 23.7	+12
MORF	2.1nm,0.3s						
PTEO	**Sao Teotonio**	**3.12**	**284**	eSn	Sn	20 10 13.0	-1.5
ETOB	**Tobarra**	**3.20**	**55**	Lg		20 10 31.9	
PCBR	SNR=7.9 **Castelo Branco**	**3.59**	**327**	eSn	Sn	20 10 23.4	-2.7
PCBR				eSg	Sn	20 10 39.0	+13
ETOR	**Torete**	**4.53**	**29**	Lg		20 11 12.3	
	SNR=7.9						

*ISCJB **31** 20:10:28.5±0.3, 4465N±002×7.17E±003, h12km±3km, Error ellipse: s-maj=3.9km s-min=2.1km az=122.0*
*NEIC **31** 20:10:28.7, 4466N×7.16E, h10km, ML1.9(ROM), ML2.5(STR), ML2.6(LDG), After ROM.*
*GEN **31** 20:10:28.9, 4467N×7.13E, h11km, ML2.0*
*ROM **31** 20:10:28.7±0.2, 4466N×7.16E, h10km±1km, Md2.1/5, Ml1.9/5, Error ellipse: s-maj=3.6km s-min=2.1km az=0.0*
*STR **31** 20:10:29.1±0.4, 4466N×7.19E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 20:10:29.1±0.1, 4468N×721E, h3km, Ml2.6/8, Error ellipse: s-maj=1.3km s-min=0.6km az=67.0*
*CSEM **31** 20:10:29.1±0.1, 4467N×720E, h10km, ML2.7/10, Error ellipse: s-maj=1.4km s-min=0.9km az=68.0*

ISC 31 20:10:29.1±0.3, 4466N±002×720E±003, h10km±4km, n51, σ0°70/85, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.16**	**167**	Pg	**Pg**	**20 10 33.2**	**+0.6**
DOI				Sg	**Sg**	**20 10 35.6**	**+0.6**
OG22	561nm,0.3s **Abries**	**0.24**	**312**	Pg	**Pg**	**20 10 34.3**	**+0.3**
OG22				Sg	**Sg**	**20 10 37.3**	**0.0**
MBDF	**Montbardon**	**0.31**	**282**	ePg	**Pg**	**20 10 35.6**	**+0.3**
MBDF				eSg	**Sg**	**20 10 39.6**	**+0.2**
MBDF	183nm,0.2s **Montbardon**	**0.31**	**282**	ePg	**Pg**	**20 10 35.6**	**+0.3**
MBDF				eSg	**Sg**	**20 10 39.6**	**+0.2**
RRL	92nm,0.2s **Cesana Torines**	**0.39**	**311**	P	**Pg**	**20 10 36.0**	**-0.8**
STV	**Sta Anna Valdi**	**0.43**	**168**	Pg	**Pg**	**20 10 37.8**	**+0.4**
STV				Sg	**Sg**	**20 10 43.4**	**+0.3**
ENR	43nm,0.1s **Entracque**	**0.46**	**160**	P	**Pg**	**20 10 38.3**	**+0.2**
RSP	**Reno Superiore**	**0.49**	**5**	Pg	**Pg**	**20 10 38.5**	**-0.2**
RSP				Sg	**Sg**	**20 10 45.3**	**+0.2**
BNI	56nm,0.2s **Bardonecchia**	**0.54**	**317**	Pg	**Pg**	**20 10 39.5**	**0.0**
BNI				Sg	**Sg**	**20 10 46.2**	**-0.4**
ROB	29nm,0.3s **Roburent**	**0.61**	**127**	P	**Pg**	**20 10 41.2**	**+0.4**
TOUF	**Mont Tournerai**	**0.65**	**177**	Pg	**Pg**	**20 10 42.2**	**+0.6**
MONC	**Moncucco Torin**	**0.66**	**51**	Pg	**Pg**	**20 10 42.7**	**+0.8**
AUTN	**L'Aution**	**0.69**	**166**	Pg	**Pg**	**20 10 42.0**	**-0.3**
AUTN				Sg	**Sg**	**20 10 51.8**	**+0.5**
MONE	**Monesi**	**0.71**	**145**	P	**Pg**	**20 10 42.5**	**-0.2**
SAOF	**Saorge**	**0.72**	**159**	Pg	**Pg**	**20 10 43.1**	**+0.1**
SAOF				Sg	**Sg**	**20 10 52.5**	**0.0**
MVIF	**Mont Vial**	**0.77**	**182**	Pg	**Pg**	**20 10 44.3**	**+0.4**
MVIF				Sg	**Sg**	**20 10 54.5**	**+0.6**
LUCF	**Luceram**	**0.78**	**172**	Pg	**Pg**	**20 10 43.9**	**-0.2**
LUCF				Sg	**Sg**	**20 10 53.8**	**-0.4**
LSD	**Ceresole Reale**	**0.80**	**358**	P	**Pg**	**20 10 44.2**	**-0.2**
SBF	**Sospel**	**0.82**	**168**	ePg	**Pg**	**20 10 44.5**	**-0.3**
SBF				eSg	**Sg**	**20 10 55.5**	**0.0**
SBF	23nm,0.3s **Sospel**	**0.82**	**168**	ePg	**Pg**	**20 10 44.5**	**-0.3**
SBF				eSg	**Sg**	**20 10 55.5**	**0.0**
RORO	12nm,0.3s	**0.83**	**131**	P	**Pg**	**20 10 45.0**	**-0.1**
FIN	**Finale Ligure**	**0.85**	**122**	Pg	**Pg**	**20 10 45.5**	**0.0**
FIN				Sg	**Sg**	**20 10 57.1**	**+0.4**
FIN	18nm,0.2s **Finale Ligure**	**0.85**	**122**	Pg	**Pg**	**20 10 45.3**	**-0.2**
FIN	**Finale Ligure**	**0.85**	**122**	Pg	**Pg**	**20 10 45.5**	**0.0**
FIN				Sg	**Sg**	**20 10 57.1**	**+0.4**
NEGI	18nm,0.2s **Negi**	**0.89**	**156**	P	**Pg**	**20 10 45.5**	**-0.8**
LPG	**La Plagne**	**0.89**	**339**	ePg	**Pg**	**20 10 46.1**	**-0.2**
LPG				eSg	**Sg**	**20 10 57.4**	**-0.5**
LPG	19nm,0.3s **La Plagne**	**0.89**	**339**	ePg	**Pg**	**20 10 46.1**	**-0.2**
LPG				eSg	**Sg**	**20 10 57.4**	**-0.5**
IMI	9.6nm,0.3s **Imperia**	**0.90**	**146**	Pg	**Pg**	**20 10 46.2**	**-0.2**
IMI				Sg	**Sg**	**20 10 57.8**	**-0.4**
LPL	9.0nm,0.1s **La Plagne**	**0.92**	**339**	ePg	**Pg**	**20 10 46.5**	**-0.2**
LPL				eSg	**Sg**	**20 10 58.0**	**-0.6**
LPL	15nm,0.3s **La Plagne**	**0.92**	**339**	ePg	**Pg**	**20 10 46.5**	**-0.2**
LPL				eSg	**Sg**	**20 10 58.0**	**-0.6**
PCP	7.3nm,0.3s **Pian Castagno**	**0.97**	**97**	P	**Pg**	**20 10 47.5**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.97**	**286**	ePg	**Pg**	**20 10 47.6**	**-0.2**
ORIF				eSg	**Sg**	**20 11 00.1**	**-0.3**
ORIF	14nm,0.2s **Oris-en-Rattie**	**0.97**	**286**	ePg	**Pg**	**20 10 47.6**	**-0.2**
ORIF				eSg	**Sg**	**20 11 00.1**	**-0.3**
FRF	7.2nm,0.2s **La Foret Royal**	**1.17**	**200**	ePg	**Pg**	**20 10 51.5**	**-0.1**
FRF				eSg	**Sg**	**20 11 06.7**	**-0.1**
FRF	37nm,0.3s **La Foret Royal**	**1.17**	**200**	ePg	**Pg**	**20 10 51.5**	**-0.1**
FRF				eSg	**Sg**	**20 11 06.7**	**-0.1**
SMRF	19nm,0.3s **Simiane la Rot**	**1.35**	**240**	ePg	**Pg**	**20 10 55.4**	**+0.4**
SMRF				eSg	**Sg**	**20 11 12.6**	**0.0**
SMRF	14nm,0.3s **Simiane la Rot**	**1.35**	**240**	ePg	**Pg**	**20 10 55.4**	**+0.4**
SMRF				eSg	**Sg**	**20 11 12.6**	**0.0**
LMR	7.2nm,0.3s **La Mourre**	**1.42**	**201**	ePg	**Pg**	**20 10 55.9**	**-0.4**
LMR				eSg	**Sg**	**20 11 14.2**	**-0.5**
LMR	24nm,0.2s **La Mourre**	**1.42**	**201**	ePg	**Pg**	**20 10 55.9**	**-0.4**
LMR				eSg	**Sg**	**20 11 14.2**	**-0.5**
VIVF	12nm,0.2s **Saint-Julien-l**	**1.81**	**277**	ePg	**Pg**	**20 11 03.2**	**-0.6**
VIVF				eSg	**Sg**	**20 11 26.5**	**-0.7**
VIVF	9.2nm,0.4s **Saint-Julien-l**	**1.81**	**277**	eP	**Pn**	**20 11 01.5**	**+1.2**
VIVF				ePg	**Pg**	**20 11 03.2**	**-0.6**
VIVF				eSg	**Sg**	**20 11 26.5**	**-0.7**
VIVF	**Saint-Julien-l**	**1.81**	**277**	ePg	**Pg**	**20 11 03.2**	**-0.6**
VIVF				eSg	**Sg**	**20 11 26.5**	**-0.7**
CABF	4.6nm,0.4s **La Chapelle**	**2.10**	**339**	eP	**Pn**	**20 11 06.0**	**+1.7**
PGF	**Pioggiola**	**2.48**	**148**	ePn	**Pn**	**20 11 08.7**	**-0.9**
PGF				eSn	**Sn**	**20 11 38.0**	**-2.0**
PGF	0.9nm,0.2s **Pioggiola**	**2.48**	**148**	ePn	**Pn**	**20 11 08.7**	**-0.9**
PGF				eSn	**Sn**	**20 11 38.0**	**-2.0**
SMF	0.4nm,0.2s **Signal de Mont**	**3.08**	**311**	eP	**Pn**	**20 11 19.8**	**+2.0**
HAU	**Haudompre**	**3.40**	**350**	ePn	**Pn**	**20 11 21.0**	**-1.2**
AVF	**Avril sur Loir**	**3.43**	**310**	eP	**Pn**	**20 11 24.5**	**+1.8**
LOR	**Lormes**	**3.50**	**319**	ePn	**Pn**	**20 11 22.6**	**-0.9**
BGF	**Bois d'Agland**	**3.59**	**303**	eP	**Pn**	**20 11 27.0**	**+2.1**
CAF	**Calviac**	**3.66**	**276**	ePn	**Pn**	**20 11 25.0**	**-0.8**

*ISCJB **31** 20:10:33.7±2.4, 3281N±004×9599E±007, h18km±19km, mb4.1/10, MS3.1/3, Error ellipse: s-maj=9.7km s-min=6.9km az=41.6*
*IDC **31** 20:10:33.2±0.9, 3283N×9612E, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, ML4.1/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/29, Error ellipse: s-maj=59.7km s-min=17.1km az=58.0*
*MOS **31** 20:10:35.9±1.5, 3280N×9591E, h33km, mb4.8/2, Error ellipse: s-maj=75.5km s-min=14.2km az=113.7*
*BJI **31** 20:10:37.5, 3305N×9609E, h40km, mb4.2, ML3.8, Ms3.8, Msz3.8*
*NEIC **31** 20:10:38.8±0.9, 3290N×9621E, h38km±10km, mb4.1/4, Error ellipse: s-maj=11.2km s-min=6.1km az=73.0*

ISC 31 20:10:37.1±2.2, 3286N±004×9600E±006, h28km±18km, n45, σ1°16/44, mb4.1/10, MS3.1/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.21**	**234**	P	**Pn**	**20 11 59.0**	**+5.9**
LSA	**Lhasa**	**5.21**	**234**	ePn	**Pn**	**20 11 58.3**	**+5.2**
GTA	45nm,1.1s **Gaotai**	**7.23**	**24**	eP	**Pn**	**20 12 19.3**	**-1.6**
GTA				AP		20 12 23.8	
GTA				AMB	AMB		
SHL	comp=Z,2.0nm,1.0s **Shillong**	**8.10**	**207**	eP	**Pn**	**20 12 31.9**	**-0.9**
SHL				eS	**Sn**	**20 14 01.6**	**-2.0**
JIRN	**Jiri**	**9.94**	**241**	eP	**Pn**	**20 13 00.1**	**+2.1**
GUN	comp=Z,5.1nm,0.3s **Gumba**	**10.03**	**243**	eP	**Pn**	**20 13 01.0**	**+1.7**
KKN	comp=Z,18nm,0.4s **Kakani**	**10.55**	**244**	eP	**Pn**	**20 13 07.1**	**+0.7**
PKI	comp=Z,14nm,0.4s **Pulchoki**	**10.57**	**243**	eP	**Pn**	**20 13 07.8**	**+1.2**
DMN	comp=Z,19nm,0.4s **Daman**	**10.77**	**244**	eP	**Pn**	**20 13 10.8**	**+1.3**
GKN	comp=Z,15nm,0.4s **Gorkha**	**10.93**	**247**	eP	**Pn**	**20 13 11.3**	**-0.4**
KOLN	comp=Z,14nm,0.5s **Koldanda**	**11.85**	**248**	eP	**Pn**	**20 13 23.8**	**-0.4**
BOK	comp=Z,7.7nm,0.5s **Bokaro**	**12.68**	**227**	eP	**Pn**	**20 13 34.8**	**-0.7**
CHTO	**Chiang Mai**	**14.23**	**169**	eP	**Pn**	**20 13 57.0**	**+0.3**
CHTO				pmax	pmax		
CHTO	comp=Z,5.0nm,0.9s **Chiang Mai**	**14.23**	**169**	eP	**Pn**	**20 13 57.0**	**+0.3**
CM31	comp=Z,4.9nm,0.9s **Chiang Mai Arr**	**14.58**	**169**	P	**Pn**	**20 14 02.6**	**+1.2**
KLP	**Kalpa**	**15.09**	**270**	eP	**Pn**	**20 14 07.4**	**-0.9**
KLP				AMb	AMB	20 14 15.2	
SONM	comp=Z,7.6nm,1.3s **Songino Array**	**16.91**	**25**	Pn	**Pn**	**20 14 30.7**	**-0.9**
SONM	comp=Z,0.9nm,0.3s,baz=209,slow=14,SNR=43			LR	LR	20 21 31.6	
SONA	comp=Z,60nm,18.0s,baz=78,slow=39 **Sohna**	**16.93**	**259**	eP	**Pn**	**20 14 30.4**	**-1.5**
SONA				AMb	AMB	20 14 36.2	
ULN	comp=Z,12nm,1.0s **Ulaanbaatar**	**17.17**	**26**	eP	**Pn**	**20 14 35.4**	**+0.5**
ULN				pmax	pmax		
ULN	comp=Z,2.0nm,0.8s **Ulaanbaatar**	**17.17**	**26**	ePn	**Pn**	**20 14 35.4**	**+0.5**
MK31	comp=Z,2.0nm,0.8s **Makanchi Array**	**17.42**	**327**	eP	**Pn**	**20 14 38.7**	**+0.7**
MKAR	**Makanchi Array**	**17.42**	**327**	P	**Pn**	**20 14 38.8**	**+0.8**
MKAR	comp=Z,0.4nm,0.3s,baz=131,slow=15,SNR=27			LR	LR	20 22 06.5	
KHET	comp=Z,70nm,19.7s,baz=54,slow=40 **Khetri**	**18.05**	**260**	eP	**Pn**	**20 14 43.1**	**-2.7**
KHET				AMb	AMB	20 14 47.0	
ZAK	comp=Z,12nm,1.2s **Zakamensk**	**18.32**	**15**	eP	**Pn**	**20 14 47.5**	**-1.6**
ZAK				pmax	pmax		
BHPL	comp=Z,1.0nm,1.9s **Bhopal**	**18.96**	**244**	eP	**Pn**	**20 14 56.0**	**-0.9**
BHPL				AMb	AMB	20 14 59.4	
AAK	comp=Z,14nm,1.0s **Ala-Archa**	**19.56**	**306**	eP	**Pn**	**20 15 04.9**	**+0.8**
AAK				pmax	pmax		
AAK	comp=Z,3.0nm,0.7s **Ala-Archa**	**19.56**	**306**	eP	**Pn**	**20 15 04.9**	**+0.8**
AJM	comp=Z,2.7nm,0.7s **Ajmer**	**19.60**	**257**	eP	**Pn**	**20 15 02.5**	**-2.1**
AJM				AMb	AMB	20 15 07.2	
ZAL	comp=Z,15nm,1.0s **Zalesovo**	**22.54**	**343**	P	**P**	**20 15 36.2**	**+1.5**
ZAL	comp=Z,1.7nm,0.7s,mb3.6,baz=317,slow=9.8,SNR=9.7			LR	LR	20 25 07.9	
ZAL	comp=Z,43nm,20.2s,MS2.9,baz=124,slow=39 **Zalesovo**	**22.54**	**343**	P	**P**	**20 15 36.2**	**+1.5**
ZAL				LR	LR	20 25 07.9	
CN2	**Changchun**	**25.43**	**56**	eP	**P**	**20 16 01.8**	**-0.6**
BVAR	**Borovoye Array**	**27.28**	**325**	LR	LR	20 28 43.6	
KULM	comp=Z,64nm,18.6s,MS3.2,baz=50,slow=40 **Kulim**	**27.77**	**170**	eP	**P**	**20 16 23.6**	**+0.1**
MJAR	**Matsushiro Arr**	**34.70**	**72**	LR	LR	20 33 02.0	
ARU	comp=Z,47nm,19.5s,MS3.2,baz=255,slow=39 **Arti**	**34.89**	**324**	P	**P**	**20 17 26.6**	**+0.5**
ARU				pmax	pmax		
ARU	comp=Z,17nm,1.5s,mb4.8 **Arti**	**34.89**	**324**	P	**P**	**20 17 26.6**	**+0.5**
	comp=Z,17nm,1.5s,mb4.8						

JOF	**Joensuu**	**49.85**	**327**	ep	**P**	**20 19 24.5**	**-3.2**
	comp=Z,3.3nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**52.24**	**325**	P	**P**	**20 19 46.5**	**+0.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=98,slow=7.9,SNR=7.8						
ARCES	**ARCESS Array B**	**52.82**	**335**	P	**P**	**20 19 49.4**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=89,slow=8.6,SNR=7.1						
NOA	**NORSAR Array B**	**59.41**	**326**	P	**P**	**20 20 37.1**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=76,slow=6.9,SNR=3.3						
GERES	**GERESS Array B**	**61.33**	**312**	P	**P**	**20 20 51.5**	**+1.4**
	comp=Z,0.6nm,0.9s,mb3.7,baz=42,slow=4.2,SNR=4.0						
WRAB	**Tennant Creek**	**64.02**	**140**	P	**P**	**20 21 09.3**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
WRAB	**Tennant Creek**	**64.02**	**140**	P	**P**	**20 21 09.3**	**+1.2**
	comp=Z,7.1nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**64.02**	**140**	P	**P**	**20 21 08.4**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=320,slow=8.9,SNR=9.6						
ASAR	**Alice Springs**	**66.83**	**142**	P	**P**	**20 21 26.3**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=324,slow=6.6,SNR=15						

*LDG **31** 20:11:07.8±0.1, 4475N×730E, h4km, Md3.0/1, Ml2.9/21, Error ellipse: s-maj=2.4km s-min=1.4km az=79.0*
*GEN **31** 20:11:08.9, 4467N×7.19E, h14km, ML2.0*
*STR **31** 20:11:08.8±0.4, 4468N×725E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **31** 20:11:08.1±0.2, 4467N±001×7.19E±002, h14km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=127.0*
*NEIC **31** 20:11:08.6, 4466N×7.17E, h10km, ML2.3(ROM), ML2.7(STR), ML2.9(LDG), After ROM.*
*CSEM **31** 20:11:08.0±0.1, 4472N×727E, h10km, ML2.9/20, Error ellipse: s-maj=1.5km s-min=0.9km az=74.0*
*ROM **31** 20:11:08.6±0.2, 4466N×7.17E, h10km±2km, Md2.2/6, Ml2.3/8, Error ellipse: s-maj=3.5km s-min=2.4km az=14.0*

ISC 31 20:11:08.3±0.2, 4470N±001×719E±002, h16km±2km, n87, σ1°30/167, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.20**	**168**	Pg	**Pg**	**20 11 13.0**	**0.0**
DOI				Sg	**Sg**	**20 11 15.4**	**-0.9**
OG22	2μm,0.3s **Abries**	**0.21**	**305**	Pg	**Pg**	**20 11 14.2**	**+1.0**
OG22				Sg	**Sg**	**20 11 17.2**	**+0.6**
MBDF	**Montbardon**	**0.30**	**275**	ePg	**Pg**	**20 11 15.4**	**+0.7**
MBDF				eSg	**Sg**	**20 11 19.7**	**+0.7**
MBDF	926nm,0.3s **Montbardon**	**0.30**	**275**	ePg	**Pg**	**20 11 15.4**	**+0.7**
MBDF				eSg	**Sg**	**20 11 19.7**	**+0.7**
RRL	463nm,0.3s **Cesana Torines**	**0.36**	**307**	P	**Pg**	**20 11 16.5**	**+0.7**
RSP	**Reno Superiore**	**0.45**	**6**	Pg	**Pg**	**20 11 18.4**	**+1.0**
RSP				Sg	**Sg**	**20 11 25.3**	**+1.8**
STV	255nm,0.2s **Sta Anna Valdi**	**0.47**	**168**	Pg	**Pg**	**20 11 17.7**	**0.0**
STV				Sg	**Sg**	**20 11 23.3**	**-0.7**
ENR	116nm,0.2s **Entracque**	**0.50**	**161**	P	**Pg**	**20 11 18.0**	**-0.3**
BNI	**Bardonecchia**	**0.51**	**314**	Pg	**Pg**	**20 11 19.4**	**+1.0**
BNI				Sg	**Sg**	**20 11 26.0**	**+0.8**
ROB	110nm,0.3s **Roburent**	**0.64**	**130**	P	**Pg**	**20 11 20.7**	**-0.1**
MONC	**Moncucco Torin**	**0.64**	**54**	Pg	**Pg**	**20 11 22.6**	**+1.7**
TOUF	96nm,0.5s **Mont Tournerai**	**0.69**	**176**	Pg	**Pg**	**20 11 21.9**	**+0.1**
TOUF				Sg	**Sg**	**20 11 29.7**	**-1.2**
AUTN	**L'Aution**	**0.73**	**166**	Pg	**Pg**	**20 11 22.0**	**-0.5**
AUTN				Sg	**Sg**	**20 11 31.6**	**-0.5**
MONE	**Monesi**	**0.74**	**147**	P	**Pb**	**20 11 22.3**	**-0.5**
LSD	**Ceresole Reale**	**0.76**	**358**	P	**Pb**	**20 11 23.9**	**+0.8**
SAOF	**Saorge**	**0.76**	**160**	Pg	**Pg**	**20 11 22.8**	**-0.3**
SAOF				Sg	**Sg**	**20 11 32.3**	**-0.9**
MVIF	**Mont Vial**	**0.81**	**182**	Pg	**Pg**	**20 11 24.2**	**+0.2**
LUCF	**Luceram**	**0.82**	**172**	Pg	**Pg**	**20 11 23.6**	**-0.6**
LPG	**La Plagne**	**0.85**	**339**	ePn	**Pn**	**20 11 26.4**	**+0.8**
LPG	SNR=1.0			eSg	**Sg**	**20 11 34.1**	**-2.1**
LPG	**La Plagne**	**0.85**	**339**	ePg	**Pg**	**20 11 24.4**	**-0.5**
LPG				ePn	**Pn**	**20 11 26.4**	**+0.8**
LPG				eSg	**Sg**	**20 11 34.1**	**-2.1**
LPG				eSn	**Sn**	**20 11 37.0**	**-0.8**
LPG	**La Plagne**	**0.85**	**339**	ePn	**Pn**	**20 11 26.4**	**+0.8**
LPG	SNR=1.0			eSg	**Sg**	**20 11 34.1**	**-2.1**
LPG				eSn	**Sn**	**20 11 37.0**	**-0.8**
SBF	32nm,0.2s,SNR=1.0 **Sospel**	**0.86**	**168**	ePg	**Pg**	**20 11 25.0**	**+0.1**
SBF				eSg	**Sg**	**20 11 36.1**	**-0.1**
SBF	118nm,0.3s **Sospel**	**0.86**	**168**	ePg	**Pg**	**20 11 25.0**	**+0.1**
SBF				eSg	**Sg**	**20 11 36.1**	**-0.1**
RORO	59nm,0.3s	**0.86**	**133**	P	**Pb**	**20 11 24.5**	**-0.3**
LPL	**La Plagne**	**0.88**	**339**	ePn	**Pn**	**20 11 25.4**	**-0.5**
LPL	SNR=1.0 **La Plagne**	**0.88**	**339**	ePg	**Pg**	**20 11 24.4**	**-0.9**
LPL				ePn	**Pn**	**20 11 25.4**	**-0.5**
LPL				eSg	**Sg**	**20 11 34.9**	**-2.0**
LPL				eSn	**Sn**	**20 11 37.5**	**-0.8**
LPL	**La Plagne**	**0.88**	**339**	ePn	**Pn**	**20 11 25.4**	**-0.5**
LPL	SNR=1.0			eSg	**Sg**	**20 11 34.9**	**-2.0**
LPL				eSn	**Sn**	**20 11 37.5**	**-0.8**
FIN	29nm,0.3s **Finale Ligure**	**0.88**	**124**	P	**Pb**	**20 11 24.6**	**-0.6**
NEGI	**Negi**	**0.93**	**156**	P	**Pb**	**20 11 25.0**	**-1.0**
ORIF	**Oris-en-Rattie**	**0.96**	**284**	ePn	**Pn**	**20 11 27.4**	**+0.4**
ORIF	SNR=1.0			eSg	**Sg**	**20 11 40.0**	**+0.6**
ORIF	72nm,0.3s,SNR=1.0 **Oris-en-Rattie**	**0.96**	**284**	ePg	**Pg**	**20 11 26.9**	**+0.1**
ORIF				ePn	**Pn**	**20 11 27.4**	**+0.4**
ORIF				eSg	**Sg**	**20 11 40.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**0.96**	**284**	ePn	**Pn**	**20 11 27.4**	**+0.4**
ORIF	SNR=1.0			eSg	**Sg**	**20 11 40.0**	**+0.6**
PCP	36nm,0.3s,SNR=1.0 **Pian Castagno**	**0.98**	**99**	Pg	**Pg**	**20 11 27.1**	**-0.2**
PCP				Sg	**Sg**	**20 11 40.5**	**+0.3**
MRGE	50nm,0.3s **Morge**	**1.07**	**355**	Pg	**Pg**	**20 11 29.9**	**+0.9**
ORX	45nm,0.7s **Oropa**	**1.09**	**31**	P	**Pb**	**20 11 27.8**	**-0.9**
STOF	**St-Etienne Org**	**1.16**	**233**	Pg	**Pg**	**20 11 32.2**	**+1.6**
FRF	**La Foret Royal**	**1.21**	**199**	ePg	**Pg**	**20 11 31.2**	**-0.4**
FRF	SNR=1.0			eSn	**Sn**	**20 11 46.1**	**-0.3**
FRF	97nm,0.2s,SNR=1.0 **La Foret Royal**	**1.21**	**199**	ePg	**Pg**	**20 11 31.2**	**-0.4**
FRF	SNR=1.0			eSn	**Sn**	**20 11 46.1**	**-0.3**
TAVF	48nm,0.2s,SNR=1.0 **Tavernes**

GELF	**Grande-Etoile**	**1.83 225**	Pg		**Pg**	**20 11 42.9**	**-0.6**
CABF	**La Chapelle**	**2.06 338**	*e*Pg		**Pg**	**20 11 45.4**	**-2.4**
	SNR=1.0						
CABF			*e*Sg		**Sg**	**20 12 12.0**	**-2.6**
	20nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.06 338**	*e*Pn		**Pn**	**20 11 41.0**	**-1.2**
CABF			*e*Pg		**Pg**	**20 11 45.4**	**-2.4**
CABF			*e*Sg		**Sg**	**20 12 12.0**	**-2.6**
CABF	**La Chapelle**	**2.06 338**	*e*Pg		**Pg**	**20 11 45.4**	**-2.4**
	SNR=1.0						
CABF			*e*Sg		**Sg**	**20 12 12.0**	**-2.6**
	9.8nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.47 257**	*e*Pg		**Pg**	**20 11 54.7**	**-1.0**
LASF			*e*Sg		**Sg**	**20 12 18.1**	**-10**
	3.3nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.47 257**	*e*P		**Pn**	**20 11 50.6**	**+2.8**
LASF			*e*Pg		**Pg**	**20 11 54.7**	**-1.0**
LASF			*e*Sg		**Sg**	**20 12 18.1**	**-10**
LASF	**Ste Croix**	**2.47 257**	*e*Pg		**Pg**	**20 11 54.7**	**-1.0**
PGF	**Pioggiola**	**2.52 148**	*e*Pn		**Pn**	**20 11 48.4**	**-0.2**
PGF			*e*Sn		**Sn**	**20 12 17.4**	**-1.5**
	3.3nm,0.2s						
PGF	**Pioggiola**	**2.52 148**	*e*Pn		**Pn**	**20 11 48.4**	**-0.2**
PGF			*e*Sn		**Sn**	**20 12 17.4**	**-1.5**
	1.6nm,0.2s						
SMF	**Signal de Mont**	**3.05 311**	*e*P		**Pn**	**20 11 58.0**	**+2.2**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**20 12 30.2**	**-1.7**
	SNR=1.0						
SMF			*e*Sg		**Sg**	**20 12 43.8**	**-2.4**
	10nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.05 311**	*e*Pn		**Pn**	**20 11 54.9**	**-0.9**
SMF			*e*P			20 11 58.0	
SMF			*e*Sn		**Sn**	**20 12 30.2**	**-1.7**
SMF			*e*Sg		**Sg**	**20 12 43.8**	**-2.4**
SMF	**Signal de Mont**	**3.05 311**	*e*P		**Pn**	**20 11 58.0**	**+2.2**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**20 12 30.2**	**-1.7**
	SNR=1.0						
SMF			*e*Sg		**Sg**	**20 12 43.8**	**-2.4**
	5.2nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.12 356**	*e*P		**Pn**	**20 11 58.2**	**+1.3**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**20 12 30.1**	**-3.7**
	2.7nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.12 356**	*e*P		**Pn**	**20 11 58.2**	**+1.3**
	SNR=1.0						
HINF			*e*Sn		**Sn**	**20 12 30.1**	**-3.7**
	1.4nm,0.3s,SNR=1.0						
DAVA	**Damuels**	**3.19 35**	⇑*i*Pn		**Pn**	**20 12 00.5**	**+2.7**
DAVA			⇑*i*Sn		**Sn**	**20 12 38.7**	**+3.2**
HAU	**Haudompre**	**3.36 350**	*e*P		**Pn**	**20 12 03.0**	**+3.0**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**20 12 36.0**	**-3.5**
	5.9nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.36 350**	*e*P		**Pn**	**20 12 03.0**	**+3.0**
	SNR=1.0						
HAU			*e*Sn		**Sn**	**20 12 36.0**	**-3.5**
	3.0nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.40 309**	*e*P		**Pn**	**20 12 04.3**	**+3.6**
	SNR=1.0						
LOR	**Lormes**	**3.46 319**	*e*P		**Pn**	**20 12 03.6**	**+2.1**
	baz=140,SNR=1.0						
LOR			*e*Sn		**Sn**	**20 12 40.2**	**-1.9**
	SNR=1.0						
SSF	**Saint Saulge**	**3.49 314**	*e*P		**Pn**	**20 12 05.0**	**+3.1**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**20 12 41.4**	**-1.5**
	4.3nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.49 314**	*e*Pn		**Pn**	**20 12 00.3**	**-1.6**
SSF			*e*P			20 12 05.0	
SSF			*e*Sn		**Sn**	**20 12 41.4**	**-1.5**
SSF	**Saint Saulge**	**3.49 314**	*e*P		**Pn**	**20 12 05.0**	**+3.1**
	SNR=1.0						
SSF			*e*Sn		**Sn**	**20 12 41.4**	**-1.5**
	2.2nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.57 303**	*e*P		**Pn**	**20 12 06.6**	**+3.7**
BGF			*e*Sg		**Sg**	**20 13 00.5**	**-2.4**
	11nm,0.3s						
BGF	**Bois d'Agland**	**3.57 303**	*e*P		**Pn**	**20 12 06.6**	**+3.7**
BGF			*e*Sg		**Sg**	**20 13 00.5**	**-2.4**
	5.6nm,0.3s						
CAF	**Calviac**	**3.65 275**	*e*P		**Pn**	**20 12 07.2**	**+3.1**
	SNR=1.0						
CAF			*e*Sg		**Sg**	**20 13 04.6**	**-1.1**
	2.7nm,0.4s,SNR=1.0						
CAF	**Calviac**	**3.65 275**	*e*Pn		**Pn**	**20 12 04.0**	**-0.1**
CAF			*e*P			20 12 07.2	
CAF			*e*Sg		**Sg**	**20 13 04.6**	**-1.1**
CAF	**Calviac**	**3.65 275**	*e*P		**Pn**	**20 12 07.2**	**+3.1**
	SNR=1.0						
CAF			*e*Sg		**Sg**	**20 13 04.6**	**-1.1**
	1.4nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**3.71 1**	*e*P		**Pn**	**20 12 06.9**	**+2.0**
	SNR=1.0						
CDF			*e*Sn		**Sn**	**20 12 44.0**	**-4.3**
	2.4nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.71 1**	*e*Pn		**Pn**	**20 12 03.1**	**-1.8**
CDF			*e*P			20 12 06.9	
CDF			*e*Sn		**Sn**	**20 12 44.0**	**-4.3**
CDF	**Champ du Feu**	**3.71 1**	*e*P		**Pn**	**20 12 06.9**	**+2.0**
	SNR=1.0						
CDF			*e*Sn		**Sn**	**20 12 44.0**	**-4.3**
	1.2nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**3.81 338**	*e*P		**Pn**	**20 12 08.1**	**+1.9**
	baz=158						
MTLF	**Montolieu**	**3.83 251**	*e*Pg		**Pg**	**20 12 19.8**	**-2.0**
MTLF			*e*Sn		**Sn**	**20 12 51.9**	**+0.6**
	5.3nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**3.83 251**	*e*P		**Pn**	**20 12 09.1**	**+2.5**
MTLF			*e*Pg		**Pg**	**20 12 19.8**	**-2.0**
MTLF			*e*Sn		**Sn**	**20 12 51.9**	**+0.6**
MTLF	**Montolieu**	**3.83 251**	*e*Pg		**Pg**	**20 12 19.8**	**-2.0**
MTLF			*e*Sn		**Sn**	**20 12 51.9**	**+0.6**
	2.7nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.84 296**	*e*P		**Pn**	**20 12 09.9**	**+3.2**
	SNR=1.0						
TCF			*e*Sn		**Sn**	**20 12 50.1**	**-1.5**
	5.6nm,0.7s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.84 296**	*e*P		**Pn**	**20 12 09.9**	**+3.2**
	SNR=1.0						
TCF			*e*Sn		**Sn**	**20 12 50.1**	**-1.5**
	2.8nm,0.7s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.07 281**	*e*Sg		**Sg**	**20 13 17.3**	**-1.6**
	3.4nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.07 281**	*e*Sg		**Sg**	**20 13 17.3**	**-1.6**
	1.7nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**4.08 340**	*e*P		**Pn**	**20 12 11.8**	**+1.9**
	baz=159,SNR=1.0						
GRR	**Gorron**	**6.66 306**	*e*Pn		**Pn**	**20 12 44.4**	**-1.1**
	SNR=1.0						

*ISCJB **31** 20:26:06.5±0.3,3581N±002×12044W±002,h22km±3km, Error ellipse: s-maj=4.3km s-min=2.4km az=79.9*
*NEIC **31** 20:26:06.9,3586N×12041W,h9km,ML3.6(NCEDC), After NCEDC.*

ISC 31 20:26:06.7±0.4,3583N±002×12043W±002,h14km±2km, n66,σ0§90/87,31C-30D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKD	**Parkfield**	**0.14**	**321**	⇓P	**Pg**	**20 26 10.3**	**-0.2**
	baz=0.1,SNR=1000						
PKD				⇑S	**Sg**	**20 26 12.6**	**-0.5**
	baz=0.1						
PTRM	**Twissleman Ran**	**0.25**	**135**	*e*Pg	**Pg**	**20 26 12.1**	**0.0**
V04C	**Ramage Ranch,**	**0.41**	**242**	P	**Pg**	**20 26 15.7**	**+0.8**
	baz=0.4,SNR=63						
V04C				⇑S	**Sg**	**20 26 21.9**	**+1.5**
	baz=0.4						
V05C	**Boulder Hill,**	**0.43**	**85**	P	**Pg**	**20 26 16.6**	**+1.3**
	baz=0.4,SNR=227						
U05C	**Westside ANR,**	**0.56**	**26**	⇓P	**Pg**	**20 26 19.0**	**+1.2**
	baz=0.5,SNR=7.5						
U05C				⇓S	**Sg**	**20 26 25.3**	**0.0**
	baz=0.5						
U04C	**Hernandez Rese**	**0.60**	**332**	P	**Pg**	**20 26 19.0**	**+0.4**
	baz=0.6,SNR=745						
V03C	**Hunter Liggett**	**0.68**	**286**	P	**Pg**	**20 26 20.2**	**+0.2**
	baz=0.7,SNR=1000						
V03C				⇑S	**Sg**	**20 26 29.7**	**+0.7**
	baz=0.7						
LRV	**Little Rabbit**	**0.76**	**321**	*e*Pg	**Pg**	**20 26 21.4**	**-0.1**
PKM	**Peak Mountain**	**1.06**	**152**	⇓P	**Pb**	**20 26 27.2**	**+0.5**
	baz=1.1,SNR=852						
HAST	**UC Hastings Re**	**1.06**	**302**	⇓P	**Pb**	**20 26 26.3**	**-0.6**
	baz=1.1,SNR=1000						
RCTC	**Rector, Farmer**	**1.08**	**63**	⇑P	**Pb**	**20 26 25.7**	**-1.4**
	baz=1.0,SNR=8.7						
T05C	**Eagle Field, D**	**1.08**	**350**	⇓P	**Pb**	**20 26 26.7**	**-0.5**
	baz=1.1,SNR=23						
VES	**Vestal, Richgr**	**1.10**	**89**	⇓P	**Pb**	**20 26 26.1**	**-1.3**
	baz=1.1						
VES				⇓S	**Sb**	**20 26 41.1**	**-0.4**
	baz=1.1						
SAO	**San Andreas Ge**	**1.24**	**319**	*e*Pn	**Pn**	**20 26 28.6**	**-1.0**
SAO				*e*Sn	**Sn**	**20 26 45.4**	**-0.7**
T06C	**Millerton Lake**	**1.31**	**26**	P	**Pn**	**20 26 29.2**	**-1.3**
	baz=1.3,SNR=88						
PACP	**Pacheco Peak**	**1.36**	**330**	⇓P	**Pn**	**20 26 31.3**	**0.0**
	baz=1.4,SNR=34						
HELL	**Mitchell Peak,**	**1.42**	**53**	⇑P	**Pn**	**20 26 30.9**	**-1.1**
	baz=1.4						
ARVC	**Arvin**	**1.48**	**118**	⇑P	**Pn**	**20 26 31.9**	**-1.0**
	baz=1.5,SNR=15						
S05C	**Merced**	**1.51**	**3**	⇓P	**Pn**	**20 26 32.2**	**-1.1**
	baz=1.5,SNR=35						
S05C				⇑S	**Sn**	**20 26 52.8**	**0.0**
	baz=1.5						
ISA	**Isabella**	**1.60**	**95**	*e*Pn	**Pn**	**20 26 34.0**	**-0.5**
ISA				*e*Sn	**Sn**	**20 26 54.9**	**0.0**
ISA	**Isabella**	**1.60**	**95**	⇑P	**Pn**	**20 26 33.9**	**-0.6**
	baz=1.6,SNR=90						
KCC	**Kaiser Creek**	**1.74**	**31**	⇓P	**Pn**	**20 26 36.2**	**-0.2**
	baz=1.7,SNR=35						
KCC				⇑S	**Sn**	**20 26 57.5**	**-0.9**
	baz=1.7						
S04C	**Ingram Canyon,**	**1.82**	**337**	⇑P	**Pn**	**20 26 37.4**	**-0.1**
	baz=1.8,SNR=7.1						
OSI	**Osito Adit**	**1.85**	**131**	⇑P	**Pn**	**20 26 38.2**	**+0.2**
	baz=1.9,SNR=9.3						
BNLO	**Ben Lomond (Sa**	**1.91**	**313**	⇑P	**Pn**	**20 26 37.7**	**-1.1**
	baz=1.9,SNR=161						
BNLO				⇑S	**Sn**	**20 27 01.4**	**-1.2**
	baz=1.9						
BSC	**Santa Cruz Isl**	**1.95**	**160**	⇓P	**Pn**	**20 26 39.8**	**+0.6**
	baz=2.0						
CWC	**Cottonwood Cre**	**2.00**	**72**	⇓P	**Pn**	**20 26 40.9**	**+0.9**
	baz=2.0,SNR=54						
BLG	**Laguna Peak**	**2.05**	**146**	⇓P	**Pn**	**20 26 40.6**	**-0.1**
	baz=2.1,SNR=9.6						
WENL	**Wente Brothers**	**2.08**	**330**	⇑S	**Sn**	**20 27 07.4**	**+0.6**
	baz=2.1						
S06C	**San Francisco**	**2.10**	**13**	P	**Pn**	**20 26 41.7**	**+0.3**
	baz=2.1,SNR=130						
MTUM	**Tungsten Hills**	**2.14**	**44**	*e*Pn	**Pn**	**20 26 42.9**	**+1.1**
MTUM				*e*Sn	**Sn**	**20 27 08.7**	**+0.6**
JRSC	**Jasper Ridge**	**2.14**	**318**	⇓P	**Pn**	**20 26 41.6**	**-0.4**
	baz=2.1,SNR=11						
CMB	**Columbia Colle**	**2.20**	**1**	*e*Pn	**Pn**	**20 26 42.6**	**-0.2**
CMB	**Columbia Colle**	**2.20**	**1**	⇑P	**Pn**	**20 26 42.6**	**-0.1**
	baz=2.2,SNR=15						
MLAC	**Mammoth Lakes**	**2.21**	**35**	⇓P	**Pn**	**20 26 43.6**	**+0.8**
	baz=2.2						
EDW2	**Edwards Air Fo**	**2.21**	**115**	⇓P	**Pn**	**20 26 42.3**	**-0.6**
	baz=2.2,SNR=55						
LRMC	**Laurel Mountai**	**2.26**	**98**	⇑P	**Pn**	**20 26 43.4**	**-0.1**
	baz=2.2,SNR=51						
DAC	**Darwin (Calif)**	**2.34**	**78**	*e*Pn	**Pn**	**20 26 44.8**	**+0.1**
SAC	**San Andreas**	**2.37**	**318**	*e*Pn	**Pn**	**20 26 44.2**	**-0.9**
MPMC	**Manual Prospec**	**2.40**	**84**	⇑P	**Pn**	**20 26 45.4**	**-0.1**
	baz=2.4,SNR=32						
R04C	**Big Horse Ranc**	**2.46**	**351**	⇑S	**Sn**	**20 27 16.6**	**+0.6**
	baz=2.4						
S08C	**White Mtn Res**	**2.46**	**47**	⇓P	**Pn**	**20 26 48.1**	**+1.8**
	baz=2.4,SNR=88						
R07C	**Lee Vining**	**2.51**	**26**	⇑P	**Pn**	**20 26 48.8**	**+1.7**
	baz=2.5,SNR=68						
R07C				⇓S	**Sn**	**20 27 19.1**	**+1.7**
	baz=2.5						
SNCC	**San Nicolas Is**	**2.68**	**164**	*e*Pn	**Pn**	**20 26 47.0**	**-2.4**
GRAC	**Grapevine Rang**	**2.73**	**64**	⇑P	**Pn**	**20 26 50.8**	**+0.8**
	baz=2.7,SNR=13						
BFSC	**Mount Baldy St**	**2.77**	**124**	⇑P	**Pn**	**20 26 50.5**	**-0.2**
	baz=2.8,SNR=13						
BFSC				⇑S	**Sn**	**20 27 23.8**	**-0.1**
	baz=2.8						
FARB	**Farallon Islan**	**2.78**	**313**	⇑P	**Pn**	**20 26 50.0**	**-0.8**
	baz=2.8,SNR=6.2						
CVS	**Carmenet Viney**	**2.99**	**328**	⇓P	**Pn**	**20 26 54.1**	**+0.5**
	baz=3.0,SNR=5.8						
CVS				⇓S	**Sn**	**20 27 29.3**	**+0.1**
	baz=3.0						
GSC	**Goldstone**	**3.00**	**99**	*e*Pn	**Pn**	**20 26 53.2**	**-0.6**
GSC	**Goldstone**	**3.00**	**99**	⇓S	**Sn**	**20 27 30.6**	**+1.1**
	baz=3.0						
MCCM	**Marconi Confer**	**3.03**	**320**	⇓P	**Pn**	**20 26 53.6**	**-0.5**
	baz=3.0,SNR=13						
MCCM				⇑S	**Sn**	**20 27 30.3**	**0.0**
	baz=3.0						
Q03C	**Winters**	**3.07**	**336**	⇑S	**Sn**	**20 27 32.4**	**+1.2**
	baz=3.1						
Q04C	**Lincoln**	**3.10**	**346**	⇓S	**Sn**	**20 27 33.5**	**+1.6**
	baz=3.1						
TPH	**Tonopah**	**3.41**	**48**	*e*Pn	**Pn**	**20 26 56.0**	**-3.3**
TPH				*e*Pg	**Pg**	**20 27 09.9**	**-2.1**
HEC	**Hector,Ludlow**	**3.50**	**105**	⇑P	**Pn**	**20 27 00.6**	**-0.1**
	baz=3.5,SNR=6.0						
HEC				⇓S	**Sn**	**20 27 42.7**	**+0.9**
	baz=3.5						
OHCM	**Honcut**	**3.60**	**347**	*e*Pn	**Pn**	**20 27 03.3**	**+1.4**
TUQ	**Turquoise Mtn.**	**3.69**	**95**	⇑S	**Sn**	**20 27 45.8**	**-0.7**
	baz=3.7						
HOPS	**Hopland**	**3.79**	**327**	⇑P	**Pn**	**20 27 05.0**	**+0.4**
	baz=3.8,SNR=5.4						
PFO	**Pinyon Flat Ob**	**3.95**	**123**	*e*Pn	**Pn**	**20 27 07.1**	**+0.2**
PFO	**Pinyon Flat Ob**	**3.95**	**123**	⇑P	**Pn**	**20 27 07.2**	**+0.3**
	baz=3.9,SNR=7.5						
PFO				⇓S	**Sn**	**20 27 53.5**	**+0.5**
	baz=3.9						
PAHR	**Pah Rah Range**	**3.96**	**12**	*e*Pn	**Pn**	**20 27 05.4**	**-1.6**
BELC	**Belle Mtn.**	**4.07**	**115**	⇓P	**Pn**	**20 27 08.3**	**-0.2**
	baz=4.1,SNR=10						
BELC				⇑S	**Sn**	**20 27 58.6**	**+2.6**
	baz=4.1						
MONP	**Monument Peak**	**4.43**	**130**	⇓P	**Pn**	**20 27 13.6**	**+0.2**
	baz=4.4,SNR=10						
MONP				⇑S	**Sn**	**20 28 04.5**	**-0.2**
	baz=4.4						
IRM	**Iron Mountain**	**4.64**	**110**	⇓P	**Pn**	**20 27 16.1**	**-0.3**
	baz=4.6						
IRM				⇓S	**Sn**	**20 28 09.8**	**-0.2**
	baz=4.6						
CCUT	**Cedar City**	**5.93**	**71**	*e*Pg	**Pg**	**20 27 55.8**	**-4.5**
MOD	**Modoc**	**6.06**	**1**	*e*Pg	**Pg**	**20 27 59.0**	**-3.8**
	3.7nm,0.9s						

*IDC **31** 20:42:21.9±0.7,068N×9743E,h0km,mb4.2/12, mb1 4.3/13,mb1mx4.1/21,mbtmp4.1/13,ML3.3/1,MS4.0/13, Ms1 4.0/13,ms1mx3.8/23,Error ellipse: s-maj=26.7km s-min=15.0km az=64.0*
*MOS **31** 20:42:24.9±1.1,074N×9752E,h33km,mb4.7/14,Error ellipse: s-maj=16.6km s-min=8.3km az=97.1*
*BJI **31** 20:42:25.1,033N×9738E,h54km,mB5.2,mb4.6,Ms4.6, Msz4.4*
*ISCJB **31** 20:42:26.7±1.4,071N±006×9755E±007,h47km±11km, mb4.5/38,MS4.1/16,Error ellipse: s-maj=13.0km s-min=6.8km az=105.0*
*NEIC **31** 20:42:26.4±0.3,068N×9748E,h30km,mb4.5/21,Error ellipse: s-maj=8.5km s-min=5.8km az=56.0*

ISC 31 20:42:28.3±1.2,068N±005×9752E±006,h44km±10km,n99, σ1§05/90,mb4.5/38,MS4.1/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.53**	**34**	Pn	**Pn**	**20 43 05.3**	**-1.6**
	6.8nm,0.3s,baz=178,slow=8.6,SNR=28						
PSI				LR	LR	20 44 12.7	
	comp=Z,1μm,20.3s,baz=122,slow=44						
PSI	**Prapat**	**2.53**	**34**	Pn	**Pn**	**20 43 05.3**	**-1.6**
PSI				LR	LR	20 44 12.7	
IPM	**Ipoh**	**5.15**	**43**	P	**Pn**	**20 43 43.8**	**+0.9**
KULM	**Kulim**	**5.54**	**34**	*e*Pn	**Pn**	**20 43 47.2**	**-1.1**
KGM	**Kluang**	**5.95**	**77**	P	**Pn**	**20 43 54.6**	**+0.7**
KLI	**Kotabumi**	**9.17**	**127**	P		20 44 53.6	
	244nm,1.4s						
CBJI	**Citeko**	**11.68**	**127**	P		20 45 20.8	
	140nm,0.8s						
KSM	**Kuching**	**12.81**	**86**	Pn	**Pn**	**20 45 29.0**	**+1.2**
PALK	**Pallekele**	**18.00**	**292**	P	**Pn**	**20 46 35.4**	**+0.2**
	9.7nm,1.0s						
CHTO	**Chiang Mai**	**18.07**	**4**	*e*P	**Pn**	**20 46 34.2**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**18.07**	**4**	*e*P	**Pn**	**20 46 34.2**	**-1.9**
	comp=Z,6.5nm,0.9s						
KKM	**Kota Kinabalu**	**19.40**	**74**	*e*P	**Pn**	**20 46 51.0**	**-1.1**
TSM	**Tawau**	**20.65**	**80**	P	**P**	**20 47 06.0**	**+1.8**
MDRS	**Chennai**	**21.08**	**306**	*ex*	pP	20 47 23.0	+3.5
QIZ	**Qiongzhong**	**21.88**	**33**	P	**P**	**20 47 18.5**	**+1.1**
QIZ				S	**S**	**20 51 18.8**	**+2.2**
QIZ				LR	LR		
	comp=N,234nm,21.6s,MS3.8						
QIZ				LR	LR		
	comp=E,295nm,21.6s,MS3.8						
PCI	**Palu**	**22.37**	**94**	P	pP	20 47 31.8	-1.6
	comp=E,39nm,1.1s						
KMI	**Kunming**	**24.82**	**11**	P	**P**	**20 47 47.0**	**+0.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
KMI	**Kunming**	**24.82**	**11**	P	**P**	**20 47 46.9**	**+0.6**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
KMI	**Kunming**	**24.82**	**11**	P	**P**	**20 47 46.9**	**+0.6**
	comp=Z,10.0nm,1.4s,mb4.2						
JIRN	**Jiri**	**28.94**	**339**	*e*P	**P**	**20 48 25.1**	**+1.7**
PKI	**Pulchoki**	**29.15**	**338**	*e*P	**P**	**20 48 27.7**	**+2.4**
GUN	**Gumba**	**29.28**	**339**	*e*P	**P**	**20 48 27.1**	**+0.7**
	comp=Z,8.2nm,0.4s,mb4.9						
DMN	**Daman**	**29.30**	**337**	*e*P	**P**	**20 48 29.0**	**+2.4**
KKN	**Kakani**	**29.40**	**338**	*e*P	**P**	**20 48 28.2**	**+0.8**
	comp=Z,11nm,0.7s,mb4.7						
LSA	**Lhasa**	**29.49**	**349**	P	**P**	**20 48 29.5**	**+1.3**
LSA	**Lhasa**	**29.49**	**349**	*e*P	**P**	**20 48 28.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**29.49**	**349**	*e*P	**P**	**20 48 28.7**	**+0.5**
	comp=Z,8.1nm,0.9s,mb4.5						
GKN	**Gorkha**	**29.84**	**337**	*e*P	**P**	**20 48 31.6**	**+0.3**
	comp=Z,21nm,0.9s,mb4.9						
KOLN	**Koldanda**	**30.06**	**335**	*e*P	**P**	**20 48 33.8**	**+0.5**
	comp=Z,14nm,0.7s,mb4.8						
CD2	**Chengdu**	**30.64**	**11**	*e*P	**P**	**20 48 38.8**	**+0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
FITZ	**Fitzroy Crossi**	**33.37**	**125**	*e*P	**P**	**20 49 01.5**	**-0.9**
	comp=Z,7.2nm,0.7s,mb4.7						
XAN	**Xi'an**	**34.86**	**17**	P	**P**	**20 49 14.3**	**-1.0**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
LZH	**Lanzhou**	**35.71**	**9**	*e*P	**P**	**20 49 23.5**	**+0.9**
LZH				AP	pP	20 49 34.5	0.0
LZH				XP	sP	20 49 38.3	-1.3
LZH				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
LZH	**Lanzhou**	**35.71**	**9**	*e*P	**P**	**20 49 23.6**	**+1.0**
LZH				*PP	pP	20 49 34.4	-0.1
LZH				*SP	sP	20 49 38.3	-1.3
LZH				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
LZH	**Lanzhou**	**35.71**	**9**	*e*P	**P**	**20 49 23.6**	**+1.0**
	comp=Z,16nm,1.0s,mb4.9						
LZH				pP	pP	20 49 34.4	-0.1
LZH				sP	sP	20 49 38.3	-1.3
GTA	**Gaotai**	**38.60**	**3**	*e*P	**P**	**20 49 47.0**	**-0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb4.0						
WRA	**Warramunga Arr**	**41.49**	**122**	P	**P**	**20 50 10.7**	**-0.4**
	comp=Z,7.9nm,0.8s,mb4.4,baz=304,slow=8.9,SNR=45						
WRA				PcP	PcP	20 52 09.2	+1.1
	comp=Z,0.8nm,0.8s,baz=315,slow=2.6,SNR=4.7						
WRAB	**Tennant Creek**	**41.50**	**122**	*e*P	**P**	**20 50 10.8**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**41.50**	**122**	*e*P	**P**	**20 50 10.8**	**-0.3**
	comp=Z,15nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**41.50**	**122**	*e*P	**P**	**20 50 10.1**	**-1.1**
WB2	**Warramunga Arr**	**41.50**	**122**	*e*P	**P**	**20 50 10.8**	**-0.3**
FORT	**Forrest**	**42.68**	**140**	*e*P	**P**	**20 50 20.7**	**0.0**
	comp=Z,18nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**42.68**	**21**	*e*P	**P**	**20 50 21.2**	**+0.4**
BJT				*e*		20 50 28.6	
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**42.68**	**21**	*e*P	**P**	**20 50 21.2**	**+0.4**
	comp=Z,19nm,0.8s,mb4.9						
BJT				*e*		20 50 28.6	
BJI	**Beijing**	**42.70**	**21**	P	**P**	**20 50 21.3**	**+0.4**
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
BJI				LR	LR		
	comp=N,383nm,16.0s,MS4.4						
BJI				LR	LR		
	comp=E,196nm,17.2s,MS4.4						
BJI				LR	LR	

STKA Stephens Creek 52.77 132 P **P 20 51 40.5 +1.6**
comp=Z,5.3nm,0.9s,mb4.5,baz=326,slow=7.3,SNR=9.4
STKA LR LR 21 15 59.2
comp=Z,215nm,20.0s,MS4.2,baz=332,slow=38
STKA Stephens Creek 52.77 132 *eP* **P 20 51 39.7 +0.8**
ZAL Zalesovo 54.11 351 P **P 20 51 49.0 +0.2**
comp=Z,3.7nm,0.4s,mb4.6,baz=311,slow=5.9,SNR=16
ZAL LR LR 21 17 55.5
comp=Z,72nm,18.9s,MS3.8,baz=132,slow=39
ZAL Zalesovo 54.11 351 P **P 20 51 49.0 +0.2**
ZAL LR LR 21 17 55.5
NVS Novosibirsk 55.24 350 *eP* **P 20 51 55.3 -1.7**
KLR Kul'dur 56.57 26 *eP* **P 20 52 03.9 -2.6**
KLR MLR MLR
comp=N,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
ZRNK Zerenda 57.24 340 *eP* **P 20 52 09.5 -1.8**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZRNK Zerenda 57.24 340 *eP* **P 20 52 09.5 -1.8**
comp=Z,2.4nm,0.9s,mb4.2
CHKZ Chkalovo 57.32 341 *eP* **P 20 52 10.8 -1.0**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 57.32 341 *eP* **P 20 52 10.8 -1.0**
comp=Z,6.8nm,0.8s,mb4.7
BOD Bodaibo 58.46 10 *eP* **P 20 52 12.0 -7.8**
BOD *e* 20 52 19.1
BOD pmax pmax
comp=Z,7.0nm,1.9s,mb4.4
ARU Arti 63.78 337 P **P 20 52 53.3 -2.5**
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARU Arti 63.78 337 P **P 20 52 53.3 -2.6**
comp=Z,3.0nm,0.6s,mb4.5
KIV Kislovodsk 64.91 319 P **P 20 53 04.5 +1.3**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KIV Kislovodsk 64.91 319 P **P 20 53 04.5 +1.3**
comp=Z,10nm,1.2s,mb4.7
YAK Yakutsk 65.83 16 *eP* **P 20 53 07.6 -1.5**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
YAK Yakutsk 65.83 16 *eP* **P 20 53 07.6 -1.6**
comp=Z,14nm,0.8s,mb5.0
BRTR Keskin Array B 69.69 312 P **P 20 53 32.7 -0.8**
comp=Z,0.7nm,0.7s,mb3.7,baz=123,slow=9.0,SNR=4.0
MAW Mawson 72.28 193 P **P 20 53 49.2 +0.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=327,slow=6.5,SNR=4.1
MAW LR LR 21 19 06.2
comp=Z,58nm,19.2s,MS3.9,baz=247,slow=30
MAW Mawson 72.28 193 *eP* **P 20 53 49.6 +0.4**
MAW pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 72.28 193 *eP* **P 20 53 49.6 +0.4**
comp=Z,1.2nm,0.7s,mb3.9
AKASG Malin Array Be 75.86 322 P **P 20 54 09.1 -0.9**
comp=Z,1.0nm,0.4s,mb4.1,baz=95,slow=3.9,SNR=4.3
ARCES ARCESS Array B 83.13 340 LR LR 21 35 27.9
comp=Z,104nm,18.6s,MS4.2,baz=188,slow=38
VNDA Vanda 85.26 169 P **P 20 55 00.6 +0.2**
comp=Z,0.6nm,0.8s,mb3.8,baz=299,slow=3.8,SNR=3.9
VNDA LR LR 21 25 49.9
comp=Z,93nm,20.2s,MS4.2,baz=331,slow=31
VNDA Vanda 85.26 169 P **P 20 55 00.4 0.0**
VNDA pmax pmax
comp=Z,4.0nm,1.5s
VNDA Vanda 85.26 169 P **P 20 55 00.4 0.0**
comp=Z,4.4nm,1.5s,mb4.4
GERES GERESS Array B 85.41 319 P **P 20 55 00.9 -0.2**
comp=Z,0.6nm,0.7s,mb3.8,baz=123,slow=4.9,SNR=6.2
GERES LR LR 21 33 52.3
comp=Z,110nm,18.2s,MS4.3,baz=305,slow=36
NOA NORSAR Array B 87.61 331 LR LR 21 36 34.8
comp=Z,101nm,18.5s,MS4.3,baz=130,slow=37
QSPA South Pole Qui 90.63 180 P **P 20 55 26.7 +0.6**
comp=Z,3.3nm,1.1s,mb4.6
TORD Torodi Ar. Bea 95.52 283 LR LR 21 37 37.0
comp=Z,61nm,18.8s,MS4.1,baz=290,slow=35
KDAK Kodiak Island 99.92 31 LR LR 21 44 09.4
comp=Z,83nm,18.3s,MS4.3,baz=271,slow=37
NVAR Mina Array Bea 129.01 36 PKP PKPdf 21 01 33.9 +2.5
comp=Z,0.8nm,0.7s,baz=300,slow=2.9,SNR=5.0
TXAR Lajitas Array 143.94 32 PKP PKPdf 21 01 59.1 +0.2
comp=Z,1.2nm,0.6s,baz=303,slow=0.4,SNR=9.0
JCT Junction City 144.90 27 *e*PKPdf PKPdf 21 02 00.5 0.0

*ISCJB **31** 20:53:49.7±0.4, 4466N±002×7.18E±004, h10km, Error ellipse: s-maj=3.8km s-min=2.1km az=131.4*
*ROM **31** 20:53:49.9±0.2, 4467N×720E, h10km±1km, Md1.8/5, Ml1.3/2, Error ellipse: s-maj=5.5km s-min=2.0km az=173.0*
*STR **31** 20:53:49.8±0.5, 4470N×727E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 20:53:50.1±0.1, 4468N×723E, h5km, Md2.4/1, Ml2.2/7, Error ellipse: s-maj=2.1km s-min=0.9km az=65.0*

ISC 31 20:53:50.3±0.4, 4467N±002×720E±004, h10km, n24, σ0°64/41, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.17**	**169**		Pg	**Pg**	**20 53 54.3**	**+0.4**
DOI					Sg	**Sg**	**20 53 56.7**	**+0.3**
OG22	**Abries**	**0.24**	**311**		Pg	**Pg**	**20 53 55.4**	**+0.2**
OG22					Sg	**Sg**	**20 53 58.6**	**+0.1**
MBDF	**Montbardon**	**0.31**	**281**	*e*Pg		**Pg**	**20 53 56.7**	**+0.1**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**20 54 00.7**	**-0.1**
	90nm,0.2s							
STV	**Sta Anna Valdi**	**0.43**	**168**	Pg		**Pg**	**20 53 59.0**	**+0.2**
STV				Sg		**Sg**	**20 54 04.6**	**+0.1**
	19nm,0.4s							
RSP	**Reno Superiore**	**0.49**	**5**	Pg		**Pg**	**20 53 59.7**	**-0.1**
RSP				Sg		**Sg**	**20 54 06.5**	**+0.3**
	19nm,0.4s							
TOUF	**Mont Tournerai**	**0.65**	**177**	Pg		**Pg**	**20 54 03.3**	**+0.3**
AUTN	**L'Aution**	**0.69**	**166**	Pg		**Pg**	**20 54 03.3**	**-0.4**
AUTN				Sg		**Sg**	**20 54 13.3**	**+0.6**
SAOF	**Saorge**	**0.73**	**159**	Pg		**Pg**	**20 54 03.7**	**-0.7**
MVIF	**Mont Vial**	**0.77**	**183**	Pg		**Pg**	**20 54 05.6**	**+0.4**
MVIF				Sg		**Sg**	**20 54 16.1**	**+0.8**
LUCF	**Luceram**	**0.78**	**172**	Pg		**Pg**	**20 54 04.9**	**-0.5**
LUCF				Sg		**Sg**	**20 54 15.5**	**-0.1**
SBF	**Sospel**	**0.82**	**168**	*e*Pg		**Pg**	**20 54 05.6**	**-0.6**
SBF				*e*Sg		**Sg**	**20 54 16.5**	**-0.4**
	9.6nm,0.3s,SNR=1.0							
FIN	**Finale Ligure**	**0.85**	**122**	Pg		**Pg**	**20 54 06.4**	**-0.4**
FIN				Sg		**Sg**	**20 54 17.6**	**-0.3**
	5.0nm,0.2s							
LPG	**La Plagne**	**0.89**	**339**	*e*Pg		**Pg**	**20 54 07.2**	**-0.3**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**20 54 18.5**	**-0.5**
	13nm,0.6s,SNR=1.0							
LPL	**La Plagne**	**0.91**	**339**	*e*Pg		**Pg**	**20 54 07.6**	**-0.3**
LPL				*e*Sg		**Sg**	**20 54 19.0**	**-0.8**
	6.2nm,0.3s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**0.97**	**285**	*e*Pg		**Pg**	**20 54 08.7**	**-0.4**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**20 54 21.2**	**-0.5**
	7.5nm,0.2s,SNR=1.0							
STOF	**St-Etienne Org**	**1.14**	**235**	Pg		**Pg**	**20 54 13.7**	**+1.4**
FRF	**La Foret Royal**	**1.18**	**200**	*e*Pg		**Pg**	**20 54 12.6**	**-0.3**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**20 54 27.8**	**-0.4**
	7.2nm,0.2s,SNR=1.0							
TAVF	**Tavernes**	**1.33**	**219**	Pg		**Pg**	**20 54 16.5**	**+0.6**
SMRF	**Simiane la Rot**	**1.36**	**240**	*e*Pg		**Pg**	**20 54 16.5**	**+0.1**
	SNR=1.0							
SMRF				*e*Sg		**Sg**	**20 54 33.8**	**-0.2**
	6.3nm,0.5s,SNR=1.0							
LMR	**La Mourre**	**1.42**	**201**	*e*Pg		**Pg**	**20 54 17.2**	**-0.4**
	SNR=1.0							
LMR				*e*Sg		**Sg**	**20 54 35.0**	**-1.1**
	6.7nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.81**	**277**	*e*P		**Pn**	**20 54 22.6**	**+1.0**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.81**	**277**	*e*Pg		**Pg**	**20 54 24.4**	**-0.7**
VIVF				*e*Sg		**Sg**	**20 54 47.8**	**-0.7**
	2.4nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**3.43**	**310**	*e*P		**Pn**	**20 54 45.5**	**+1.7**
BGF	**Bois d'Agland**	**3.59**	**303**	*e*P		**Pn**	**20 54 48.0**	**+1.9**

*IDC **31** 21:29:10.0±1.0, 2189N×14303E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/20, mbtmp4.0/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=42.9km s-min=18.3km az=78.0*
*NEIC **31** 21:29:11.2±0.5, 2187N×14300E, h10km, mb4.3/3, Error ellipse: s-maj=20.6km s-min=10.4km az=78.0*
*ISCJB **31** 21:29:13.0±0.7, 219N±01×1429E±02, h33km, mb4.0/11, Error ellipse: s-maj=28.6km s-min=14.3km az=155.5*

ISC 31 21:29:15.2±0.7, 219N±01×1430E±02, h35km, n15, σ0°59/13, mb4.0/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.25**	**293**		LR	LR	21 37 21.4	
	comp=Z,74nm,20.1s,baz=59,slow=34							
MJAR	**Matsushiro Arr**	**15.17**	**345**		LR	LR	21 38 04.0	
	comp=Z,76nm,20.7s,baz=95,slow=35							
ULN	**Ulaanbaatar**	**38.68**	**321**	*e*P		**P**	**21 36 35.8**	**+0.3**
	1.2nm,0.6s,mb3.8							
SONM	**Songino Array**	**39.05**	**320**	P		**P**	**21 36 39.2**	**+0.6**
	1.0nm,0.5s,mb3.8,baz=132,slow=8.2,SNR=13							
WRA	**Warramunga Arr**	**42.42**	**192**	P		**P**	**21 37 06.5**	**+0.2**
	1.8nm,0.8s,mb3.7,baz=12,slow=8.9,SNR=15							
ASAR	**Alice Springs**	**46.13**	**192**	P		**P**	**21 37 36.1**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=19,slow=9.3,SNR=12							
STKA	**Stephens Creek**	**53.48**	**181**	P		**P**	**21 38 32.4**	**+0.5**
	1.9nm,0.8s,mb4.1,baz=330,slow=15,SNR=3.8							
STKA	**Stephens Creek**	**53.48**	**181**	*e*P		**P**	**21 38 30.8**	**-1.1**
ZAL	**Zalesovo**	**53.94**	**322**	P		**P**	**21 38 35.6**	**+0.4**
	1.7nm,0.4s,mb4.3,baz=7.5,slow=4.2,SNR=7.8							
MKAR	**Makanchi Array**	**54.41**	**313**	P		**P**	**21 38 39.2**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=92,slow=8.1,SNR=12							
BRVK	**Borovoye**	**62.45**	**319**	*e*P		**P**	**21 39 33.9**	**-0.9**
	2.5nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**63.22**	**319**	*e*P		**P**	**21 39 39.1**	**-0.8**
	2.4nm,0.9s,mb4.3							
DAWY	**Dawson**	**65.15**	**28**	P		**P**	**21 39 52.0**	**-0.5**
FINES	**FINESS Array B**	**82.92**	**334**	P		**P**	**21 41 35.9**	**-0.4**
	7.5nm,1.1s,mb4.6,baz=111,slow=6.1,SNR=5.1							
NVAR	**Mina Array Bea**	**83.19**	**51**	P		**P**	**21 41 38.5**	**+0.8**
	1.2nm,0.8s,mb4.0,baz=267,slow=7.4,SNR=6.2							

IDC 31 21:38:48.6±9.3, 2190N×14315E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/20, mbtmp3.5/4, Error ellipse: s-maj=365.0km s-min=24.4km az=75.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.16**	**320**	P		P	21 46 18.7	+0.7
	0.4nm,0.5s,baz=128,slow=7.2,SNR=7.8							
WRA	**Warramunga Arr**	**42.47**	**192**	P		P	21 46 45.8	+0.4
	0.8nm,0.7s,baz=14,slow=9.0,SNR=7.1							
ASAR	**Alice Springs**	**46.18**	**192**	P		P	21 47 15.0	0.0
	0.3nm,0.5s,baz=15,slow=9.4,SNR=5.6							
MKAR	**Makanchi Array**	**54.54**	**313**	P		P	21 48 17.6	-0.7
	0.4nm,0.6s,baz=84,slow=8.6,SNR=6.2							

IDC 31 21:43:03.6±23.0, 260S×6682E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/20, mbtmp4.0/3, MS3.4/3, Ms1 3.4/3, ms1mx3.1/23, Error ellipse: s-maj=706.5km s-min=40.0km az=74.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**32.53**	**81**		LR	LR	21 58 44.0	
	comp=Z,70nm,21.4s,baz=247,slow=29							
BOSA	**Boshof**	**47.27**	**233**		LR	LR	22 09 35.8	
	comp=Z,27nm,18.4s,baz=232,slow=34							
SONM	**Songino Array**	**60.95**	**29**	P		P	21 53 18.7	+0.2
	1.8nm,1.0s,baz=228,slow=5.4,SNR=12							
SONM					LR	LR	22 18 47.2	
	comp=Z,51nm,19.9s,baz=186,slow=35							
ASAR	**Alice Springs**	**68.00**	**114**	P		P	21 54 05.5	+0.9
	1.2nm,0.8s,baz=277,slow=6.2,SNR=11							
WRA	**Warramunga Arr**	**68.00**	**110**	P		P	21 54 05.2	+0.6
	0.8nm,0.8s,baz=283,slow=6.2,SNR=9.8							

KRSC 31 22:45:19, 5258N×15970E, h34km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.56**	**21**	*e*P		Pn	22 45 30.9	+0.4
SPN				*i* S		Sb	22 45 39.3	+0.9
NLC	**Nalytchevo**	**0.63**	**340**	*e*P		Pn	22 45 32.3	+0.8
NLC				*i* S		Sn	22 45 41.4	+1.0
RUS	**Russkaya**	**0.74**	**259**	*e*P		Pn	22 45 32.8	-0.2
RUS				*i* S		Sn	22 45 43.2	+0.1
PET	**Petropavlovsk**	**0.78**	**305**	*e*P		Pn	22 45 33.5	0.0
PET				*i* S		Sn	22 45 44.2	+0.2
AVH	**Avacha**	**0.90**	**320**	*e*P		Pn	22 45 36.0	+0.8
AVH				*i* S		Sn	22 45 47.1	+0.1
GRL	**Gorelyy**	**0.99**	**269**	*e*P		Pn	22 45 37.3	+0.8
GRL				*i* S		Sn	22 45 50.8	+1.5
GNL	**Ganaly**	**1.54**	**317**	*e*P		Pn	22 45 45.5	+1.5
GNL				*i* S		Sn	22 46 05.7	+2.9
MKZ	**Mys Kozlova**	**2.32**	**31**	*e*P		Pn	22 45 54.7	-0.1
MKZ				*i* S		Sn	22 46 21.0	-1.1
TUMR	**Tumrok**	**2.72**	**5**	*e*P		Pn	22 46 02.3	+2.0
TUMR				*i* S		Sn	22 46 34.7	+2.7
KMNR	**Kamenistaya**	**3.20**	**5**	*e*P		Pn	22 46 09.9	+3.1
ZLN	**Zelenaya**	**3.50**	**10**	*e*P		Pn	22 46 14.5	+3.5
ZLN				*i* S		Sn	22 46 54.1	+2.8
KBTR	**Krutoberegovo**	**4.07**	**25**	*e*P		Pn	22 46 20.8	+2.0
KBTR				*i* S		Sn	22 47 05.7	+0.5
SRKR	**Sorokina**	**4.17**	**11**	*e*P		Pn	22 46 22.5	+2.3

WEL 31 23:02:40.9±0.3, 3830S×17590E, h187km±2km, ML3.5/14, 3C, Error ellipse: s-maj=3.5km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.95**	**88**	⇑PN		Pn	23 03 08.8	-0.1
URZ					SN	Sn	23 03 30.5	-0.1
BKZ	**Black Stump Fm**	**0.99**	**152**		PN	Pn	23 03 09.3	+0.1
BKZ					SN	Sn	23 03 31.1	+0.1
TUVZ	**Tukino**	**0.99**	**191**		PN	Pn	23 03 09.3	+0.2
WNVZ	**Wahianoa**	**1.06**	**193**		PN	Pn	23 03 09.8	+0.1
MOVZ	**Moawhango**	**1.12**	**186**		PN	Pn	23 03 09.8	-0.3
MTVZ	**Mangateitei**	**1.14**	**197**		PN	Pn	23 03 10.3	0.0
MWZ	**Matawai**	**1.28**	**92**	⇑PN		Pn	23 03 11.6	+0.1
MWZ					SN	Sn	23 03 35.2	+0.1
KNZ	**Kokohu**	**1.57**	**118**	⇑PN		Pn	23 03 14.3	+0.3
WPHZ	**Waipukurau**	**1.82**	**167**		PN	Pn	23 03 15.8	-0.6
PXZ	**Pawanui**	**1.89**	**157**		PN	Pn	23 03 16.6	-0.6
MXZ	**Matakaoa Point**	**2.04**	**70**		PN	Pn	23 03 19.1	+0.3
MRZ	**Mangatainoka R**	**2.38**	**186**		PN	Pn	23 03 20.4	-2.1
BFZ	**Birch Farm**	**2.40**	**174**		PN	Pn	23 03 21.1	-1.7
KIW	**Kapiti Island**	**2.67**	**196**		PN	Pn	23 03 23.4	-2.5
MTW	**Mount Morrison**	**2.88**	**186**		PN	Pn	23 03 25.4	-2.9
DUWZ	**D'Urville Isla**	**2.93**	**211**		PN	Pn	23 03 26.1	-2.9
MRW	**Makara Radio**	**3.07**	**197**		PN	Pn	23 03 27.7	-2.9
TRWZ	**Traveller**	**3.10**	**183**		PN	Pn	23 03 28.3	-2.8
SNZO	**South Karori**	**3.15**	**197**		PN	Pn	23 03 28.4	-3.1
MSWZ	**Moikau Station**	**3.15**	**189**		PN	Pn	23 03 28.5	-3.1
TCW	**Tory Channel**	**3.17**	**203**		PN	Pn	23 03 28.9	-3.0
NNZ	**Nelson**	**3.50**	**213**		PN	Pn	23 03 32.2	-3.8
QRZ	**Quartz Range**	**3.63**	**225**		PN	Pn	23 03 33.0	-4.5
KHZ	**Kahutara**	**4.49**	**203**		PN	Pn	23 03 44.7	-3.8
MQZ	**McQueen's Vall**	**5.94**	**203**		SN	Sn	23 05 05.0	-10

*CSEM **31** 23:06:35.3, 6720N×2067E, h7km, ML2.7, Mining explosion. After UPP*
*UPP **31** 23:06:35.3, 6720N×2067E, h7km, ML2.7, Mining explosion.*

HEL 31 23:06:35.7±0.1, 6719N×2069E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**213**	*i* P		Pg	23 06 37.0	-0.3
DUNU	**Dundret**	**0.09**	**213**	P		Pg	23 06 37.0	-0.4
MASU	**Masugnsbyn**	**0.57**	**62**	*i* P		Pg	23 06 46.2	-0.5
KUA	**Kurravaara**	**0.78**	**350**	*i* P		Pg	23 06 49.3	-1.3
SALU	**Saltoluokta**	**0.87**	**283**	*i* P		Pg	23 06 51.5	-0.8
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		Pg	23 06 52.5	-0.9
NIKU	**Nikkaluokta**	**0.93**	**318**	P		Pg	23 06 52.5	-1.0
PAJU	**Pajala**	**0.96**	**99**	*e*P		Pg	23 06 52.9	-1.3
PAJU	**Pajala**	**0.96**	**99**	P		Pg	23 06 52.9	-1.3
	baz=39							
LANU	**Lannavaara**	**0.99**	**29**	*e*P		Pg	23 06 53.5	-1.2
HARU	**Harads**	**1.04**	**174**	*e*P		Pg	23 06 54.4	-1.3
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		Pn	23 07 06.3	-0.7
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P		Pn	23 07 08.3	+0.1
KIF				*e*S		Sn	23 07 31.9	-0.1

MOS 31 23:24:01.1±0.2, 4304N×4547E, h17km, mb3.6/1, 3C-1D, Error ellipse: s-maj=51.3km s-min=13.1km az=1.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.48**	**273**	⇑*i*PG		Pg	23 24 11.9	+1.1
SNJR				*i* S		Sg	23 24 22.9	+5.5
VLKR	**Vladikavkaz**	**0.58**	**271**	*e*PG		Pg	23 24 13.5	+0.9
VLKR				*e*S		Sg	23 24 25.7	+5.2
ARNR	**Ardon**	**0.89**	**280**	*e*PG		Pg	23 24 18.3	0.0
ARNR				*e*S		Sb	23 24 34.0	+4.5
LACR	**Lac**	**0.89**	**256**	⇑*i*PG		Pg	23 24 18.4	0.0
LACR				*i* S		Sb	23 24 34.1	+4.4
KMSR	**Komsomolskaya**	**0.92**	**291**	*e*PG		Pg	23 24 18.6	-0.4
KMSR				*e*S		Sb	23 24 34.6	+4.0
KORR	**Kora**	**1.03**	**273**	⇓*i*PG		Pg	23 24 20.5	-0.6
KORR				*i* S		Sb	23 24 37.9	+4.2
ZEI	**Tsey**	**1.19**	**257**	⇑*i*PG		Pg	23 24 22.6	-1.5
ZEI				*i* S		Sb	23 24 41.5	+3.2
DIGR	**Digorskoe uzhe**	**1.40**	**265**	*e*PG		Pg	23 24 25.6	-2.4
DIGR				*e*S		Sn	23 24 46.7	+2.9

*ISCJB **31** 23:25:52.0±1.9, 4091N±009×74.1E±02, h10km, Error ellipse: s-maj=17.5km s-min=12.7km az=132.5*
*KNET **31** 23:25:52.1±0.6, 4106N×7426E, h0km, ml2.2, Error ellipse: s-maj=3.8km s-min=3.4km az=82.0*

ISC 31 23:25:52.1±1.8, 4092N±009×740E±02, h10km, n10, σ1°29/15, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.23**	**348**	⇑P		**Pn**	**23 26 14.2**	**-1.2**
	22nm,0.3s,SNR=22							
AML				⇑S		**Sb**	**23 26 31.7**	**+0.2**
	31nm,0.3s							
UCH	**Uchtor**	**1.36**	**15**	⇓P		**Pn**	**23 26 15.0**	**-2.1**
	5.3nm,0.2s,SNR=11							
UCH				⇑S		**Sb**	**23 26 33.0**	**-2.0**
	22nm,0.3s							
AAK	**Ala-Archa**	**1.75**	**11**	⇓P		**Pn**	**23 26 22.2**	**-0.3**
	9.6nm,0.3s,SNR=6.5							
AAK				⇑S		**Sn**	**23 26 45.7**	**+0.9**
	19nm,0.5s							
EKS2	**Erkin-Say**	**1.75**	**354**	⇓P		**Pn**	**23 26 23.1**	**+0.5**
	3.6nm,0.2s,SNR=17							
KBK	**Karagaybulak**	**1.87**	**21**	⇑P		**Pn**	**23 26 23.9**	**-0.2**
	4.9nm,0.1s,SNR=9.6							
KBK				⇑S		**Sn**	**23 26 48.8**	**+1.1**
	28nm,0.3s							
ULHL	**Ulahol**	**2.12**	**51**	⇑P		**Pn**	**23 26 26.9**	**-0.8**
	9.0nm,0.2s,SNR=9.8							
TKM2	**Tokmak 2**	**2.32**	**30**	⇑P		**Pn**	**23 26 32.0**	**+1.7**
	4.6nm,0.2s,SNR=7.7							
TKM2	**Tokmak 2**	**2.32**	**30**	⇑Pn		**Pn**	**23 26 32.0**	**+1.7**
	0.1nm,0.3s							
TKM2				⇑Lg			23 27 02.8	
	1.5nm,0.6s							
USP	**Ospenovka**	**2.37**	**8**	⇑P		**Pn**	**23 26 33.6**	**+2.5**
	12nm,0.3s,SNR=25							
USP				⇓S		**Sn**	**23 27 05.5**	**+5.3**
	25nm,0.6s							
KK31	**Karatay Array**	**3.41**	**311**	⇑Pn		**Pn**	**23 26 51.9**	**+6.5**
	0.7nm,0.5s,baz=125,slow=17,SNR=12							
KK31				⇑Lg			23 27 41.6	
	4.8nm,0.5s,baz=124,slow=27,SNR=16							

*ISCJB **31** 23:33:21.9±2.0, 4087N±010×74.1E±02, h10km, Error ellipse: s-maj=18.6km s-min=12.1km az=119.9*
*KNET **31** 23:33:22.4±0.7, 4105N×7424E, h0km, ml2.0, Error ellipse: s-maj=4.4km s-min=3.8km az=47.0*

ISC 31 23:33:22.8±1.9, 4091N±010×741E±02, h10km, n9, σ1°48/15, 8C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.26**	**346**	⇓P		**Pn**	**23 33 44.7**	**-1.8**
	5.6nm,0.2s,SNR=13							
AML				⇑S		**Sb**	**23 34 02.3**	**-0.6**
	20nm,0.2s							
UCH	**Uchtor**	**1.35**	**13**	⇓P		**Pn**	**23 33 45.6**	**-2.2**
	3.4nm,0.2s,SNR=7.3							
UCH				⇑S		**Sb**	**23 34 03.8**	**-1.8**
	7.3nm,0.2s							
AAK	**Ala-Archa**	**1.75**	**9**	⇓P		**Pn**	**23 33 52.8**	**-0.4**
	9.5nm,0.4s,SNR=15							
AAK				⇓S		**Sn**	**23 34 16.4**	**+0.9**
	6.1nm,0.2s							
EKS2	**Erkin-Say**	**1.77**	**352**	⇑P		**Pn**	**23 33 53.8**	**+0.3**
	1.7nm,0.2s,SNR=8.4							
EKS2				⇑S		**Sn**	**23 34 17.7**	**+1.7**
	9.2nm,0.4s							
ULHL	**Ulahol**	**2.09**	**49**	⇓P		**Pn**	**23 33 57.2**	**-0.6**
	5.6nm,0.2s,SNR=32							
TKM2	**Tokmak 2**	**2.30**	**28**	⇑P		**Pn**	**23 34 01.6**	**+0.9**
	3.0nm,0.2s,SNR=6.0							
TKM2				⇓S		**Sn**	**23 34 33.2**	**+4.1**
	6.8nm,0.2s							
TKM2	**Tokmak 2**	**2.30**	**28**	⇑Pn		**Pn**	**23 34 03.0**	**+2.3**
	0.1nm,0.3s							
TKM2				⇓Lg			23 34 33.3	
	0.9nm,0.6s							
USP	**Ospenovka**	**2.38**	**7**	⇓P		**Pn**	**23 34 04.3**	**+2.5**
	9.6nm,0.4s,SNR=12							
USP				⇑S		**Sn**	**23 34 36.0**	**+5.0**
	9.5nm,0.3s

1.3nm,0.6s,mb4.1
VNDA Vanda 57.34 186 *e*P **P 23 52 09.5 0.0**
0.5nm,0.6s,mb3.7
NWAO Narrogin (SRO) 60.59 243 *e*P **P 23 52 31.9 -0.1**
2.4nm,0.7s,mb4.4
QSPA South Pole Qui 68.72 180 P **P 23 53 25.0 0.0**
1.8nm,0.5s,mb4.3
MJAR Matsushiro Arr 72.65 322 P **P 23 53 49.9 +1.0**
2.3nm,0.8s,mb4.2,baz=156,slow=5.3,SNR=6.2
MJAR Matsushiro Arr 72.65 322 P **P 23 53 49.9 +1.0**
AKASG Malin Array Be 145.13 333 PKPbc PKPbc 00 01 56.9 -1.3
1.8nm,0.7s,baz=37,slow=4.2,SNR=8.8
BRTR Keskin Array B 149.55 313 PKPbc PKPbc 00 02 09.9 -0.6
1.0nm,0.8s,baz=90,slow=1.2,SNR=3.7
GERES GERESS Array B 151.72 348 PKPbc PKPbc 00 02 15.8 +0.1
2.2nm,1.0s,baz=72,slow=3.2,SNR=3.1

IDC 31 23:46:23.2±7.5, 1058N×9288E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=397.6km s-min=29.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.07**	**353**	*e*P	x	23 46 34.6	
PBA				*e*S	x	23 46 50.4	
PBA				*e*x	x	23 46 54.5	
	comp=E,1μm,0.4s						
PBA				*e*x	x	23 46 56.0	
	comp=N,1μm,0.9s						
MKAR	**Makanchi Array**	**37.19**	**348**	P	P	23 53 36.0	0.0
	comp=N,0.7nm,0.9s,baz=152,slow=9.7,SNR=4.0						
ZAL	**Zalesovo**	**43.72**	**353**	LR	LR	00 12 57.2	
	comp=N,32nm,20.1s,baz=273,slow=36						
WRA	**Warramunga Arr**	**50.85**	**127**	P	P	23 55 25.6	-0.1
	comp=N,0.4nm,0.6s,baz=305,slow=8.5,SNR=9.8						
ASAR	**Alice Springs**	**52.61**	**131**	P	P	23 55 39.8	+1.0
	comp=N,0.3nm,0.3s,baz=313,slow=6.9,SNR=5.9						

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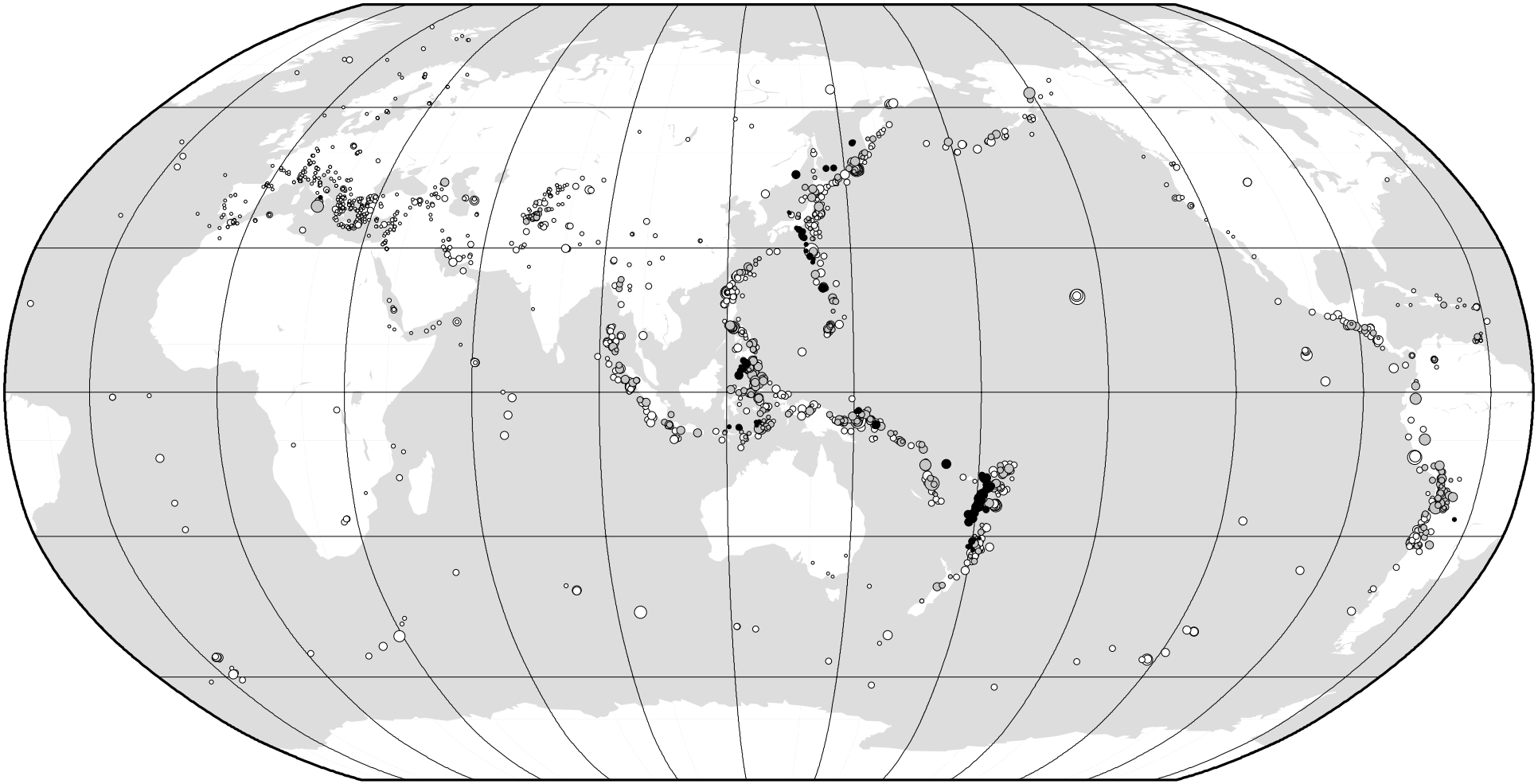
*ISCJB **31** 23:50:25.4±2.1, 408N±0.1×737E±0.1, h10km, Error ellipse: s-maj=17.1km s-min=12.4km az=132.3*
*KNET **31** 23:50:29.4±1.1, 4109N×7421E, h0km±8km, ml2.3, Error ellipse: s-maj=9.5km s-min=5.0km az=55.0*
ISC 31 23:50:27.3±2.0, 409N±01×737E±01, h10km, n8, σ1$23/12, 9C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.28**	**358**	⇑P	**Pn**	**23 50 50.8**	**-0.4**
	16nm,0.3s,SNR=11						
AML				⇓S	**Sb**	**23 51 08.3**	**+0.3**
	58nm,0.4s						
UCH	**Uchtor**	**1.49**	**23**	⇓P	**Pn**	**23 50 51.5**	**-2.6**
	5.4nm,0.2s,SNR=11						
AAK	**Ala-Archa**	**1.87**	**17**	⇑P	**Pn**	**23 50 58.9**	**-0.4**
	17nm,0.3s,SNR=31						
AAK				⇑S	**Sn**	**23 51 22.1**	**-0.9**
	21nm,0.5s						
KBK	**Karagaybulak**	**2.02**	**26**	⇓P	**Pn**	**23 51 00.7**	**-0.6**
	4.8nm,0.2s,SNR=8.2						
KBK				⇑S	**Sn**	**23 51 25.7**	**-0.9**
	22nm,0.3s						
USP	**Ospenovka**	**2.48**	**13**	⇑P	**Pn**	**23 51 10.6**	**+2.9**
	12nm,0.3s,SNR=32						
TKM2	**Tokmak 2**	**2.49**	**33**	⇑P	**Pn**	**23 51 09.1**	**+1.2**
	4.9nm,0.2s,SNR=9.4						
TKM2				⇑S	**Sn**	**23 51 40.1**	**+1.8**
	33nm,0.5s						
TKM2	**Tokmak 2**	**2.49**	**33**	⇓Pn	**Pn**	**23 51 08.9**	**+1.0**
	0.1nm,0.3s						
TKM2				⇓Lg		23 51 39.5	
	1.9nm,0.6s						
KK31	**Karatay Array**	**3.30**	**314**	⇑Pn	**Pg**	**23 51 30.8**	**+0.4**
	0.7nm,0.4s,baz=123,slow=16,SNR=17						
KK31				⇑Lg		23 52 18.4	
	6.3nm,0.5s,baz=128,slow=27,SNR=16						

ISC Computed Locations for October 2006



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2031 Events